

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



IN THE MATTER OF : *APPLICATION NO.*
200903162

THE STANWICH SCHOOL, INC. : *AUGUST 9, 2010*

PROPOSED FINAL DECISION

I

SUMMARY

The Stanwich School, Inc. (applicant/Stanwich) has applied to the Department of Environmental Protection (DEP/department) for a permit to discharge to the waters of the state. General Statutes §22a-430. The requested permit would allow the applicant to construct and operate an on-site wastewater renovation system (OWRS) to serve the wastewater disposal needs of the applicant's proposed school facilities and the proposed new facility for the Greenwich Reform Synagogue located on Stanwich Road in Greenwich.

The department published its tentative determination to approve the application on January 14, 2010. A timely petition for a hearing was submitted to the DEP on February 10, 2010. The hearing was held over two days. An evening hearing was held at Greenwich Town Hall on June 2, 2010 and the hearing was completed in Hartford on June 22, 2010. The applicant and DEP jointly submitted an Agreed Draft Decision with proposed findings of fact and conclusions of law for my consideration as part of this decision (See Attachment A).

I have reviewed the record in this matter, including the documentary evidence, oral testimony, and the public comment. Following this review, I conclude that the applicant, through the presentation of substantial evidence, has demonstrated that the proposed activity, if conducted in accordance with the proposed draft permit, complies with the relevant statutory and

regulatory requirements. General Statutes § 22a-430, Regs. Conn. State Agencies §§22a-430-3 and 4.

The Agreed Draft Decision, as supplemented herein, sets forth findings that support the conclusion that the proposed treatment system, if constructed, operated, and monitored in accordance with the conditions of the proposed draft permit, would protect the waters of the state from pollution in accordance with General Statutes § 22a-430. The proposed activity would also be consistent with all applicable goals and policies of the Coastal Management Act, General Statutes §22a-92(a). I recommend that the Commissioner authorize the applicant to submit plans and specifications of the proposed water treatment system for approval and that upon approval and construction of the facility according to the approved plans and specifications, the proposed water discharge permit be issued.

II

DECISION

A

FINDINGS OF FACT

I adopt the findings of fact presented in the Agreed Draft Decision as supplemented by this decision as part of my proposed final decision.

1

Corrections to Proposed Findings of Fact

The following corrects or supplements specific proposed findings of fact submitted by the applicant and DEP staff. Italicized notations and strikethroughs represent additions or deletions deemed necessary after my review of the record. The numbered paragraphs correspond to the proposed findings of fact as they are numbered in Attachment A.

3. On February 10, 2010, the CTDEP received a petition signed by more than 25 persons requesting a hearing. (DEP-2) The CTDEP staff submitted a request for *a* hearing *officer* to the

Office of Adjudications. On _____, 2010, the CTDEP Office of Adjudications appointed Kenneth M. Collette *was assigned* as the Hearing Officer and *he* scheduled a Status Conference to be held on March 30, 2010.

12. The Public Hearing was held on June 2, 2010, commencing at 7:00 p.m. in the Greenwich Town Hall Meeting Room, as scheduled. The parties, petitioners, and members of the general public offered oral and written testimony. Mark E. Lancor, P.E. and James R. Fogarty, Esq. offered testimony and exhibits on behalf of the Applicant. Ms. Jennifer Perry Zmijewski, P.E. offered testimony on behalf of the CTDEP. Petitioners Andrew Healy, James Healy, Mary Lou Lange and others offered comment; they did not request that their testimony be sworn and did not request status as intervenors or intervening parties *The hearing was continued in Hartford on June 22, 2010 for the presentation of evidence by the parties and their experts.*^{1 2}

32. The Applicant's Professional Engineer determined that 61.2 percent of the *maximum daily flow in the initial year ADF* will be recycled and used for the toilets and urinals within the School and Synagogue. *Therefore, the maximum daily flow to the disposal field in the initial year will be 2908 gallons per day (gpd). The average daily flow in subsequent design years will be 6557 gpd. In subsequent design years, an estimated 52 percent of the flow will be recycled and used for the toilets and urinals within the School and Synagogue. Therefore, approximately 3200 gpd on average will flow to the disposal field. The maximum daily discharge designed in subsequent design years to the disposal field of 4800 gpd is 150 percent of this average estimated discharge to the disposal field.*

¹ The testimony and proceedings in this matter were recorded. No written transcript has been prepared. The audio recording of this hearing is on file with the Office of Adjudications and is the official record of this proceeding.

² Mr. Lancor affirmed that the remarks he made at the evening hearing on 6/2/10 were true to the best of his knowledge and belief while under oath at the continued hearing on 6/22/10. As such, I consider all of his oral testimony to be sworn testimony. Mr. Fogarty's remarks, as counsel for the applicant, are supported by the documentary evidence admitted into the record.

Additional References to the Record

The following supplements the proposed findings of fact by providing additional references to the record in italics as deemed necessary. The numbered paragraphs correspond to the proposed findings of fact as they are numbered in Attachment A.

- 13. *Ex. APP-1*
- 14. *Ex. APP-1, Section 2*
- 15. *Ex. APP-1, Section 1*
- 17. *Exs. APP-15, 16, 17, 29, and 32*
- 19. *Ex. APP-30*
- 23. *Exs. APP-1, 16*
- 24. *Ex. APP-1, Section 3; test. 6/22/10, M. Lancor.*
- 25. *Ex. DEP-7*
- 26. *Test. 6/22/10, J. Zmijewski*
- 43. *Test. 6/22/10, J. Zmijewski*
- 44. *Test. 6/22/10, J. Zmijewski*
- 45. *Test. 6/22/10, J. Zmijewski*
- 46. *Test. 6/22/10, J. Zmijewski*

Additional Findings of Fact

The following are additional findings of fact to support the recommendation to approve this application.

- 47. DEP staff member Jennifer Perry Zmijewski is a professional engineer in the State of Connecticut with over 17 years of experience reviewing application materials, including engineering reports, technical data, and plans and specifications, for on-site wastewater

renovation systems, including those utilizing alternate treatment technologies. (Exs. DEP-6, 7; test. 6/22/10, J. Zmijewski.)

48. The proposed permittee is responsible for complying with the proposed permit terms and conditions. The permittee will be required to address any violations. The DEP has the legal right to bring an enforcement action against the permittee to require compliance with the permit terms and conditions. The DEP is in the process of providing the public with access to a searchable electronic database of discharge monitoring reports. The public will be able to read the reports submitted by any permittee and determine if the permittee is in compliance with its permit terms and conditions. (Ex. DEP-5; test. 6/22/10, J. Zmijewski.)

49. The pumping of the effluent to the drip irrigation system on the west side of the property is necessary because the area in which the subsurface soil absorption system is located lacks the hydraulic capacity to transmit effluent a sufficient distance without surfacing or breakout. In order to avoid premature discharge to the ground surface in this area and meet the DEP definition of a nonpoint source, the final discharge point through the drip irrigation system will be underground to the natural soils and groundwater of the Greenwich Creek watershed. This area has the required hydraulic capacity to transmit effluent a sufficient distance without surfacing or breakout (Exs. APP-1, DEP-7.)

50. The proposed flow into the OWRS is based on the combined student population of Stanwich School and the Greenwich Reform Synagogue, which may not exceed 750 students, and the combined administrative staff and faculty of both entities for a total user population estimated to be approximately 900 individuals. The school and synagogue operations cannot operate a summer program. There will be no residential facilities, hockey rink, or swimming pool on site. The water usage per student and overall per capita is based on recommended usage rates from the Department of Public Health. The applicant made reasonable assumptions and used appropriate safety factors to estimate the combined water usage for the school and synagogue facilities. (Exs. APP-1, 32, 35; test. 6/22/10, M. Lancor.)

51. The current septic system serving the site is failing. Efforts to repair the system have not been successful. The proposed system would resolve the environmental issues resulting from the current system. DEP and the applicant have not been provided any information on and are not aware of any impact to nearby wells from the currently failing system. (Test. 6/22/10, M. Lancor and J. Zmijewski.)

52. Upon leaving the wastewater treatment plant, the wastewater will be a high quality effluent that is required to meet numeric standards for total nitrogen, total suspended solids, e-coli, and biochemical oxygen demand. (Exs. APP-1, DEP-5, 7.)

B

PUBLIC COMMENT

The scope of this hearing is limited by the proposed activity in the permit application and by relevant statutory and regulatory provisions. Although these statutes and regulations grant the Commissioner broad authority, they do not give the Commissioner unlimited discretion to impose permit terms or to accommodate all public concerns in the scope of a permit proceeding.

Those concerns within the scope of this proceeding and relevant to the requested permit are addressed by the application materials and supplemental submittals made by the applicant to the DEP and by direct testimony offered by the applicant's experts and DEP staff. Those concerns outside the scope of this hearing, including zoning matters, are more appropriately addressed by local authorities.

Several comments referenced concerns about the effect of the proposed discharge on residential wells. The evidence shows that when the effluent leaves the pretreatment plant it will already meet numeric standards for total nitrogen, total suspended solids, e-coli, and biochemical oxygen demand. DEP's regulations require the effluent to undergo another layer of treatment in the subsurface system, which in this case will be an engineered system that will direct flow away from residential areas and keep the wastewater contained in the system with an impermeable liner and a layer of material with low permeability to ensure adequate travel time for bacteria and

virus renovation. This “belt and suspenders” approach, when compared to a traditional septic tank and leach field system will ensure the waters of the state, including residential wells are not impacted.

Although several individuals have expressed concerns about the proposed system, the absence of concern about impacts from the failing septic system currently servicing the school and the synagogue is notable. The proposed system will rectify the problem and remove a current source of pollution from the Greenwich Creek watershed. Neither DEP staff nor representatives of the applicant could identify any complaints from abutting residents about contamination of wells from the currently failing system. There was no public comment referencing any problems with the currently failing system except one to say that the proposed system represents a dramatic improvement over existing conditions.

Some individuals questioned who is responsible for non-compliance or any performance failure during the term of the permit. The terms of the permit are clear that the Stanwich School, Inc. is responsible for rectifying any non-compliance and curing any environmental harm caused by any non-compliance. The monitoring, reporting, and auditing requirements of the proposed permit will allow DEP to adequately monitor compliance with the permit terms. DEP has the authority to enforce the terms of the permit should required reporting reveal any non-compliance. In addition, DEP can bring other enforcement actions deemed necessary to protect the environment.

Other comments questioned whether the selected design flow is too low. These comments compared the selected design flow with flows at other permitted school facilities in Greenwich. Unlike these schools, there are legal limitations on operations at the Stanwich School and significant differences in the facilities to be constructed. Stanwich School will have a smaller athletic program and is not allowed to run a summer program or camp. There are also no residential facilities, swimming pools, or hockey rinks on-site. These factors were all considered in selecting an appropriate design flow using the published standards from the Department of Public Health.

Those individuals that sought an independent expert’s review of the application failed to recognize the DEP permit analyst’s expertise in OWRS applications, including the use of advanced treatment technologies such as the Zenon system, and her status as a licensed

professional engineer. The requests for additional analysis failed to demonstrate any flaws or irregularities in DEP's initial analysis that served as the basis for the tentative determination to approve the application.

Finally, the petitioner offered a copy of a letter from Mr. Gary Dufel provided to the Greenwich Conservation Commission on January 3, 2008 as a final comment. Although Mr. Dufel has impressive credentials, the letter provided is over two years old and does not reflect the current plans for the wastewater treatment system. Because these comments are not reflective of the project as currently proposed, I cannot give them much weight within this hearing process. The project has undergone significant alterations since Mr. Dufel's comments to the Greenwich Conservation Commission, some of which address the concerns stated in that letter. Not only does the application provide significant information on the on-site soils, but it also shows that the leaching field was moved from the original location on the eastern portion of the property to a location under a proposed parking lot and that the final discharge was moved to a separate watershed via the proposed drip irrigation system on the western edge of the property. I have no knowledge whether Mr. Dufel has even reviewed the application that was eventually submitted to the DEP in 2009 and served as the basis for its notice of tentative determination to approve the proposed OWRS or whether he would maintain the same concerns after reviewing that application.

In short, I have heard the concerns expressed by the public and more specifically by the petitioner. However, I have not received anything to overcome the substantial evidence presented by the applicant that the proposed system is adequately sized and will provide the necessary treatment to protect the waters of the state, including any neighboring residential wells, from pollution.

C

CONCLUSIONS OF LAW

I adopt the conclusions of law presented jointly by the applicant and DEP staff in Attachment A.

D

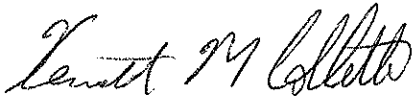
CONCLUSION

The applicant has met its burden and demonstrated that the on-site wastewater renovation system will protect the waters of the state from pollution by ensuring any discharge is compliant with applicable state water quality standards and that the proposed activity is consistent with the applicable policies outlined in the Coastal Management Act, General Statutes § 22a-92.

III

RECOMMENDATION

I recommend that the Commissioner authorize the applicant to submit plans and specifications of the proposed wastewater treatment system for approval and that upon approval and construction of the facility according to the approved plans and specifications, the proposed water discharge permit (Attachment B) be issued.



Kenneth M. Collette, Hearing Officer

SERVICE LIST

Proposed Final Decision concerning The Stanwich School, Inc.
Application No. 200903162

PARTY

REPRESENTED BY

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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ADJUDICATIONS

IN THE MATTER OF : APPLICATION NO. 200903162

THE STANWICH SCHOOL, INC. : July 19, 2010

AGREED DRAFT DECISION

FINDINGS OF FACT

Taking into consideration and giving due regard to all of the substantial evidence in the record, I make the following findings of fact:

A. Procedural History

1. On August 23, 2009, the Connecticut Department of Environmental Protection ("CTDEP") received an application (the "Application") on behalf of The Stanwich School, Inc. (the "Applicant") for a permit to discharge to the waters of the State, pursuant to Connecticut General Statutes § 22a-430. (App-1)

2. Following a technical review of the Application and all supplemental materials, CTDEP staff made a tentative determination to approve the Application and issue a permit to discharge. On January 14, 2010, the Commissioner published a notice of tentative determination in the Greenwich Time. (DEP-1)

3. On February 10, 2010, the CTDEP received a petition signed by more than 25 persons requesting a hearing. (DEP-2) The CTDEP staff submitted a request for hearing to the Office of Adjudications. On _____, 2010, the CTDEP Office of

Adjudications appointed Kenneth M. Collette as Hearing Officer and scheduled a Status Conference to be held on March 30, 2010.

4. At the request of Petitioner Andrew Healy, the Status Conference was rescheduled for April 8, 2010.

5. On April 8, 2010, a Status Conference was held to discuss the public hearing process. A Prehearing Conference was scheduled for May 26, 2010. The Public Hearing was scheduled for June 2, 2010 at 7:00 p.m. in the Town Meeting Room at Greenwich Town Hall in Greenwich, with a site visit prior thereto, commencing at 4:00 p.m. Additional hearings, if necessary, were scheduled for June 22-23, 2010 at 10:30 a.m. in the Russell Room at CTDEP Headquarters in Hartford. Present at the Status Conference were representatives of the Applicant, CTDEP staff, and Petitioners Andrew Healy and James Healy.

6. On April 9, 2010, the Hearing Officer emailed to the Applicant's representatives, CTDEP Staff and Petitioner Andrew Healy a Status Conference Summary, Ruling on Discovery and Notice of Hearing and Prehearing Schedule (the "Summary"). Among other things, the Summary stated instructions for any Petitioner who wished status as an intervening party or as an intervenor and required the submission of prehearing information on or before May 12, 2010, including a list of any party's proposed witnesses and a list of all exhibits that any party intended to offer at the Public Hearing. Pursuant to the Summary, the Applicant and CTDEP staff caused copies of their lists of witnesses and exhibits and of all of their proposed exhibits to be

delivered to all parties and the Petitioner Andrew Healy prior to the Prehearing Conference. No prehearing information was provided by Mr. Healy.

7. On May 26, 2010 commencing at 1:00 p.m. a Prehearing Conference was held. In attendance were Hearing Officer Collette, representatives of the Applicant and CTDEP staff. Petitioner Andrew Healy was not in attendance. Discussion ensued regarding information that had been exchanged between the parties, including the lists of witnesses and exhibits and the proposed exhibits. There being no objection, all of the parties' proposed exhibits were admitted into the record in this matter. The date and time for the site visit and hearing were confirmed for June 2, 2010 at 4:00 p.m. and 7:00 p.m., respectively.

8. On May 26, 2010, Hearing Officer Collette emailed a summary of what had been discussed at the Prehearing Conference to the Applicant's representatives, CTDEP staff and to Petitioner Andrew Healy.

9. On May 31, 2010, Petitioner Andrew Healy requested that Hearing Officer Collette confirm that the site visit was still scheduled for June 2, 2010 at 4:00 p.m. and the Public Hearing for later that evening.

10. On June 1, 2010, Hearing Officer Collette responded to Petitioner Andrew Healy, confirming that the site visit and Public Hearing would commence on June 2, 2010 at 4:00 p.m. and 7:00 p.m., respectively, as previously scheduled.

11. Commencing at approximately 4:00 p.m. on June 2, 2010, Hearing Officer Collette conducted the site visit. Representatives of the Applicant, including Mark E.

Lancor, P.E., and CTDEP were present. Also in attendance were Petitioners Andrew Healy, James Healy, Mary Lou Lange and others.

12. The Public Hearing was held on June 2, 2010, commencing at 7:00 p.m. in the Greenwich Town Hall Meeting Room, as scheduled. The parties, petitioners and members of the general public offered oral and written testimony. Mark E. Lancor, P.E. and James R. Fogarty, Esq. offered testimony and exhibits on behalf of the Applicant. Ms. Jennifer Perry Zmijewski, P.E. offered testimony on behalf of the CTDEP. Petitioners Andrew Healy, James Healy, Mary Lou Lange and others offered comment; they did not request that their testimony be sworn and did not request status as intervenors or intervening parties.

B. Project Overview

13. The Application relates to certain real property, encompassing approximately 37.25 acres, known as 257 Stanwich Road in Greenwich (the "Subject Property").

14. For many years, the Subject Property has been used as a school and place(s) of worship. Beginning in or about 1963, it was occupied by St. Mary's High School for Girls which had a student enrollment of up to 600 students. Subsequently, it was occupied by the Greenwich Catholic Middle School, in part by St. Agnes Church for religious education purposes and the Greenwich Reform Synagogue. For the past several years, the Stanwich School has operated, through a lease with Greenwich

Reform Synagogue, certain classrooms on the Subject Property, together with the Greenwich Reform Synagogue. (Remarks of Mr. Fogarty at 6/2/10 Hearing)

15. The Applicant proposes to develop the Subject Property into a co-educational primary and secondary school campus facility from kindergarten through twelfth grade. The School will occupy the Subject Property together with the Greenwich Reform Synagogue under the Common Interest Ownership Act. The School, the Synagogue and St. Agnes Church will exchange reciprocal easements, so that each can use the other's property for vehicular access and egress. (*Id.*)

16. The proposed improvements include additions and alterations to the existing Lower School building; construction of a new Upper School building; construction of a new Synagogue to replace the existing facility; construction of two multi-purpose synthetic turf athletic fields; construction of driveways and parking areas; and, of particular relevance to this Application, construction and installation of a new wastewater collection system and disposal facilities. (App-1 section 1; remarks of Mr. Fogarty at 6/2/10 Hearing)

17. Each local land use agency, committee and department that considered the proposed development of the Subject Property approved the plans unanimously. (Remarks of Mr. Fogarty at 6/2/10 Hearing)

18. From the granting of a Special Exception by the Greenwich Planning and Zoning Board of Appeals in September 2008 and from the granting of Final Site Plan and Special Permit Approvals by the Greenwich Planning and Zoning Commission in

January 2009, Petitioner Mary Lou Lange filed two separate zoning appeals in the Superior Court for the Judicial District of Stamford. (App-17, paras. 7 and 16)

19. Each of the aforementioned zoning appeals included the same, or substantially the same, claims made by the Petitioners in opposition to the Application. Each of the aforementioned appeals was withdrawn by Ms. Lange on May 13, 2010. Trial had been scheduled to commence before Hon. William J. Lavery, J.T.R. on May 26, 2010. (Remarks of Mr. Fogarty at 6/2/10 Hearing)

20. After the Greenwich Inland Wetlands and Watercourses Agency approved the proposed development of the Subject Property in December 2007 under IWWA Permit #2007-142, and, subsequently, in June 2008 to authorize the placement of the proposed leaching bed in its current location, the Application was reviewed by the Agency's Director, Michael N. Chambers, who concluded that the recent changes to the wastewater treatment facility's design, which introduced the use of drip irrigation, were minor in scope and did not present a material change. Therefore, Mr. Chambers concluded that no formal action of the Agency was necessary to modify its approval.

(APP-29)

C. Subject Property

21. The Subject Property is several miles north of Route One and the Coastal Boundary, as defined in Connecticut General Statutes § 22a-94. (App-26) It lies within Flood Zone "X," which is unregulated. (APP-25)

22. The Subject Property is part of the Mianus River drainage basin and the Greenwich Creek drainage basin. Surface waters are classified as "AA" for streams and wetlands tributary to these watercourses. This classification indicates an existing or potential public drinking supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other purposes. (APP-1, page 3-6) The groundwater quality standard for the Subject Property is "GA," which indicates existing private and potential public drinking water supply. (*Id.*) There is no municipal sewer system available to the project

23. Of the 37.25 acres, the Applicant presently holds title to 25+ acres, and the Greenwich Reform Synagogue holds title to the balance. More than nine acres of the School's property has been dedicated as "open space." [REDACTED] (Remarks of Mr. Fogarty at 6/2/10 Hearing)

24. Ridges on the Subject Property running North-South separate the Mianus River drainage basin on the East from the Greenwich Creek drainage basin on the West. All of the discharge from the wastewater treatment system described herein will occur on the West side of the Subject Property and will not affect either the Mianus River drainage basin or any of those Petitioners residing on White Birch Lane. (Remarks of Mr. Lancor, P.E. at 6/2/10 Hearing)

25. The Water Quality Standards set objectives for existing and future water quality and establish a program based on a system of groundwater classifications to implement these objectives. (DEP-8) The proposed onsite wastewater renovation

system ("OWRS") must be designed so that effluent from the OWRS will meet water quality concerns prior to contacting any point of concern ("POC"), which may be a body of water, well, property line or other feature determined by the CTDEP to require protection from pollution. (DEP-11)

26. The nearest POC in this instance is the street line along Stanwich Road, which lies within the Greenwich Creek watershed. (APP-1, section 8, Site Vicinity Plan)

27. The project includes the installation of a public water supply line from its present terminus at the intersection of Hill Road and Stanwich Road. The line will be extended northerly to the intersection of Cat Rock Road and Stanwich Road, then easterly to the intersection of Frontier Road and Cat Rock Road, a total distance of approximately 4150 feet. The extension of this public water line will serve the Subject Property and provide an opportunity for any resident whose property abuts the extension to connect to the public water line. (APP-1, p. 1-2; remarks of Mr. Fogarty at 6/2/10 Hearing)

D. Septic System Design

28. The CTDEP evaluates both the hydraulic capacity and the pollutant renovation capacity of a proposed site and OWRS. An applicant must be able to demonstrate that a selected site will be large enough to install an appropriately sized OWRS and that the system's location and extent adequately address both capacity thresholds. (CTDEP-7, CTDEP-8)

29. The site must have hydraulic capacity to move effluent below the ground for a sufficient distance to also meet the treatment criteria, which are based on the Water Quality Standards and applicable CTDEP regulations. The CTDEP also requires a pollution renovation analysis that addresses bacteria and viral removal, nitrogen reduction and the removal of phosphorus that is not naturally occurring. The soils must be able to move the effluent underground in the soil for at least 21 days, the travel time necessary to allow the system to successfully renovate bacteria from the waste stream.

The CTDEP requires that a minimum of two feet of vertical separating distance (recommended 3 feet) be provided between the bottom of subsurface soil absorption system and the mounded seasonal high ground water elevation to renovate bacteria and viruses. Soils at the site must be able to accept the design flow discharge without premature breakout, and must be able to absorb at least six months phosphate discharged in the effluent from the system. Total nitrogen concentrations must be treated or diluted to 10 mg/1 or less at the point of concern and prior to it leaving the site. (APP-1, Remarks of Mr. Lancor, P.E. and Ms. Zmijewski, P.E. at 6/2/10 Hearing; CTDEP-7; CTDEP-8)

1. **Hydraulic Capacity**

30. An evaluation completed by the Applicant indicates that a combined maximum design wastewater flow of 10,000 gallons per day ("gpd") at the pretreatment facility and 4,800 gpd at the subsurface disposal system will be generated by the activities of the School and the Synagogue. (APP-1)

31. The Applicant's Professional Engineer determined that, based upon an enrollment of 750 students, the maximum allowed under the zoning permits, plus all staff and personnel on the site for a design population of 900, the average daily flow ("ADF") to the wastewater treatment system will be 3,513 gpd for the School and 1,000 gpd for the Synagogue for the initial year. For subsequent design years, the ADF will be 5,557 gpd for the School and 1,000 gpd for the Synagogue. The maximum daily flow designed of 10,000 gpd is greater than 150 percent of the aforementioned ADF. (APP-1, section 5) (Remarks of Mr. Lancor, P.E. at 6/2/10 Hearing)

32. The Applicant's Professional Engineer determined that 52 percent of the ADF will be recycled and used for the toilets and urinals within the School and Synagogue, reducing the maximum daily discharge to the disposal field to 2,908 gpd. The maximum daily discharge designed of 4,800 gpd is greater than 150 percent of this estimated discharge. (APP-1, section 5; Remarks of Mr. Lancor, P.E. at 6/2/10 Hearing)

2. Treatment Facilities

33. Prior to any discharge in the disposal field, all wastewater will be treated in eight steps through three treatment facilities. The first is the pretreatment stage, where gross solids are collected in septic tanks adjacent to the School and Synagogue buildings, which are pumped periodically by a licensed septic hauler and taken to appropriately licensed treatment and/or disposal facilities. The tanks are equipped with probes to monitor effluent pH. After pretreatment, the wastewater flows by gravity to a

central pump station, then to an equalization tank/influent pump adjacent to the Wastewater Treatment Building. The equalization tank provides storage for uneven flows so that the treatment process can operate on a more consistent level (APP-1, section 6; Remarks of Mr. Lancor, P.E. at 6/2/10 Hearing)

34. When the wastewater enters the Wastewater Treatment Plant Building, it passes through Pre-Anoxic, Aerobic and Post-Anoxic Chambers and Membrane Filtration, which are biological processes through which denitrification occurs, aided by two recirculation loops. The pH of the wastewater is monitored within the Aerobic Chamber. The Membrane Filtration has two chambers that separate organic material, bacteria and viruses. (APP-1, section 6 and Figure No. 13)

35. The wastewater is then treated through carbon filters within the Wastewater Treatment Plant for the removal of any noticeable color or odor and to enhance the overall acceptability of the recycled water. (*Id.*)

36. From the carbon filters, the wastewater is treated in the ultraviolet disinfection unit prior its storage in a recycling tank, from which it is re-circulated back through the UV process, resulting in the treatment for removal of pathogenic organisms, ensuring adequate disinfection of the recycled water. The system is equipped with sensors and monitoring devices designed to alert the Plant Manager to any problem. (*Id.*)

37. Approximately 52 percent of the wastewater is then recycled from the Wastewater Treatment Plant Building for the flush water within the School and

Synagogue buildings. The water return system has a low pressure alarm, which activates an automatic telephone dialer to notify the School's superintendent and the plant service company operator of a system malfunction. (APP-1, section 4)

38. The remaining 48 percent of the wastewater is discharged from the Wastewater Treatment Plant to an effluent pump station, which is also equipped with an alarm – in this case, for high level. (*Id.*)

39. From the effluent pump station, the wastewater enters its third treatment facility – a sand bed measuring 32 feet wide, 134 feet long and seven feet deep, descending in depth from the intake end to the output end, consisting of a rock seepage revetment. The sand bed is completely enclosed within a synthetic EPDM liner and underneath the synthetic EPDM liner, there is a cushion of low permeable fill. It is covered with at least eight inches of common earth. The sand is specified to have permeability of 30-60 feet per day after placement and compaction. It is designed to satisfy CTDEP criteria for mounding and travel time of 21 days for sufficient removal of any enteric bacteria and virus in the treated wastewater. (APP-1, section 6 and Figure No. 12A; Remarks of Mr. Lancor, P.E. at 6/2/10.

3. **Subsurface Drip Irrigation System**

40. After compliance with CTDEP water quality standards, the wastewater will be collected by the subsurface pump station near the Treatment Plant and conveyed to the crest of the Subject Property at or near its highest elevation, east of the Synagogue. It will then flow by gravity to a dosing chamber which regulates release of the

wastewater into a drip irrigation system underneath the multi-purpose athletic field along Stanwich Road. In compliance with the CTDEP standards, the flow will be conveyed through the naturally occurring soils without discharging to the ground surface. (APP-1, section 6; APP-20)

41. The Applicant's analyses have demonstrated the systems described above have the capabilities to treat and renovate the effluent for the pollutants most likely to occur in the domestic sewage: bacteria and viruses, phosphorus and nitrogen. (APP-1; Remarks of Mr. Lancor, P.E. and Ms. Zmijewski, P.E. at 6/2/10 Hearing)

E. Coastal Area Management

42. Since the Subject Property is located within the coastal area, such permit must be consistent with the goals and policies of the Connecticut Coastal Management Act (CGS sections 22a-92). The proposed activities were found consistent with the Connecticut Coastal Management Act. (FOF 23-28)

F. Operation and Maintenance

43. The permit contains an enforceable compliance schedule which requires the Applicant to: (1) verify in writing 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, and (2) submit the results of a detailed permit compliance audit every two years. (DEP 5)

44. The Permittee shall ensure that the alternative sewage treatment system is operated by a person with a valid and effective certification in the State of Connecticut, at a minimum, as a facility Class III operator pursuant to C.G.S. 22a-416(d) 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. (DEP 5)

45. The permit requires the Applicant to regularly monitor the untreated effluent and the treated effluent. The Applicant must maintain records of the total flow for each day of discharge and must report on a 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. Copies of all DMRs must be submitted to the CTDEP and the Greenwich Health Department. (DEP 5)

46. Groundwater monitoring is also required by the permit and must be conducted in accordance with a plan approved by the CTDEP. Groundwater monitoring wells will be located down gradient of subsurface soil absorption system. Quarterly samples from the wells will be analyzed for fecal coliform, various nitrogen compounds, pH and phosphorus to ensure that this system operates within the limits of the permit. (DEP 5)

G. Proposed Conclusions of Law

Before any person may discharge any substance into the waters of the state they must obtain a permit from the Commissioner pursuant to the provisions of Section 22a-430 of the Connecticut General Statutes ("CGS").

No such permit can be issued unless the Commissioner determines that the proposed system to treat such discharge will protect the waters of the state from pollution. (CGS Section 22s-430(b)) The Commissioner may establish appropriate procedures, criteria and standards for determining if a discharge would cause pollution to the waters of the state and if a proposed treatment system is adequate to protect the waters of the state from pollution. (CGS Section 22a-430(b)) See, Regulations of Connecticut State Agencies ("RCSA"), Sections 22a-430-1 through 22a-430-8.

The Commissioner must also consider whether the proposed discharge would be consistent with the Water Quality Standards (WQS). Section 22a-430-4(1)(4)(E) The WQS specifically allow certain discharges into groundwater as long as such discharges pose no pollution threat. (Finding of Fact ("FOF") 22-27)

The WQS set standards for the quality of the discharge. In this case, the wastewater generated by the proposed facilities must be treated to meet drinking water standards at the nearest POC (i.e., water body or property line). (FOF 22-27)

The Applicant proposes to treat 10,000 gallons per day and to discharge approximately 4,800 gallons per day of domestic sewage to the ground water within the Greenwich Creek watershed. (FOF 31-46)

The Applicant has demonstrated that the Subject Property will accommodate the proposed OWRS and will transport the treated effluent for sufficient distance below ground without surfacing or breakout so the bacteria will be removed before the effluent reaches a POC. The design of the subsurface soil absorption system will eliminate viruses from the effluent before it reaches a POC. The existing soils of the site will absorb at least six months of phosphorus production and nitrogen will be treated to acceptable concentration levels prior to reaching a POC.

The proposed treatment and renovation system will protect the waters of the state from pollution. The discharge from the systems will be consistent with the WQS. The design of the system is such that effluent from the subsurface soil absorption system will meet drinking water quality standards prior to encountering any POC. The permit will require ongoing monitoring and regular maintenance to ensure that this treatment and renovation system operates within the limits of the permit. The evidence presented by the Applicant and reviewed by CTDEP staff demonstrates that any discharge will not cause pollution to the waters of the State of Connecticut.

The Applicant has demonstrated that the Application is consistent with all applicable goals and policies set forth in Section 22a-92 in that such activity

incorporates all reasonable measures for mitigating any adverse impacts of said actions on coastal resources.

This application for a water discharge permit meets all relevant statutory and regulatory criteria and water quality standards. The proposed sewage treatment and renovation system will treat the discharge and protect the waters of the state from pollution.

INTENTIONALLY LEFT BLANK

H. Agreement

Based on the foregoing the undersigned hereby agree that the Commissioner authorize staff to require the Applicant to submit plans and specifications of the proposed system and such additional information as may be required to ensure protection of the waters of the State from pollution, and to review and approve the proposed system to treat the discharge. Once such system has been installed in full compliance with the approval, the Commissioner shall authorize staff to prepare the discharge permit for her signature.

THE STANWICH SCHOOL, INC.

By: 

James R. Fogarty Juris No.: 18292
Fogarty Cohen Selby & Nemiroff, LLC
88 Field Point Road, P.O. Box 2508
Greenwich, CT 06836-2508
T (203) 629-7351 - F (203) 629-7319
jfogarty@fcsn.com

THE STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

By:  7/21/10

Oswald Inglese, Jr., Director
Bureau of Materials Management
and Compliance Assurance
Water Permitting and Enforcement Division

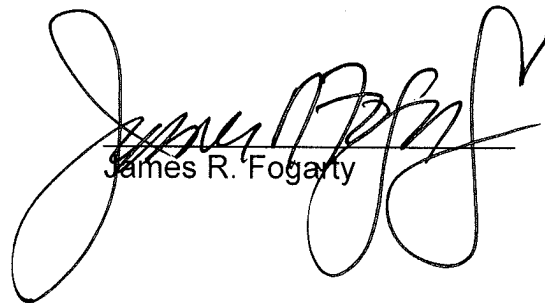
July 22, 2010
Page 19

CERTIFICATION

I certify that a copy of the foregoing was sent via Federal Express this 22nd day of July, 2010 to the following:

Jennifer Perry Zmijewski, P.C.
Sanitary Engineer
State of Connecticut
Bureau of Materials Management
and Compliance Assurance
79 Elm Street
Hartford, CT 06106
Email Jennifer.perry@ct.gov

Mr. Andrew Healy
33 White Birch Lane
Cos Cob, CT 06807



James R. Fogarty

Attachment B

UIC PERMIT

issued to

The Stanwich School, Inc.
257 Stanwich Road
Greenwich, CT 06830

Location Address:
257 Stanwich Road
Greenwich, CT 06830

Facility ID: 057-167

Permit ID: UI0000367

Permit Expires:

Watershed: Greenwich Creek

Basin Code: 7408

SECTION 1: GENERAL PROVISIONS

- (A) This permit is issued in accordance with section 1421 of the Federal Safe Drinking Water Act 42 USC 300h et. seq. and section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended.
- (B) The Stanwich School, Inc., ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

Section 22a-430-3 General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations (Upsets)
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
 - (b) Duty to Reapply
 - (c) Application Requirements
 - (d) Preliminary Review
 - (e) Tentative Determination
 - (f) Draft Permits, Fact Sheets
 - (g) Public Notice, Notice of Hearing
 - (h) Public Comments
 - (i) Final Determination
 - (j) Public Hearings
 - (k) Submission of Plans and Specifications. Approval.
 - (l) Establishing Effluent Limitations and Conditions
 - (m) Case by Case Determinations
 - (n) Permit issuance or renewal
 - (o) Permit Transfer
 - (p) Permit revocation, denial or modification
 - (q) Variances
 - (r) Secondary Treatment Requirements
 - (s) Treatment Requirements for Metals and Cyanide
 - (t) Discharges to POTWs - Prohibitions
- (C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action, including but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.
- (D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157 of the CGS.
- (E) The Permittee shall comply with Section 22a-416-1 through Section 22a-416-10 of the RCSA concerning operator certification.
- (F) No provision of this permit and no action or inaction by the Commissioner of Environmental Protection (“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.
- (G) 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 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(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.
- (H) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- (I) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the RCSA.

- (J) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the CGS).

SECTION 2: DEFINITIONS

- (A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA.

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

“Average Monthly Discharge Limitation” means the highest allowable average of all grab samples taken during any calendar month.

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

“Maximum Daily Limit” in the context of this permit is defined as the maximum allowable “Daily Concentration” (defined above) when expressed as a concentration (e.g. mg/l)

“Maximum Concentration” in the context of this permit is defined as the maximum concentration at any time as determined by a grab sample.

"Quarterly", in the context of a sampling frequency, shall mean sampling is required in the months of February, May, August, and November.

"3 times per year", in the context of a maintenance frequency, shall mean the maintenance must be performed at least 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 12 days apart.

“Twelve Month Rolling Average” in the context of this permit is defined as the average of the current month’s samples (the current month average) averaged with the average from the previous eleven months.

SECTION 3: COMMISSIONER'S DECISION

- (A) 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. 200903162** for permit issuance received on August 27, 2009 and the administrative record established in the processing of that application.
- (B) The Commissioner hereby authorizes the Permittee to discharge 4,800 gallons per day of domestic sewage in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner’s authorized agent for the discharges and/or activities authorized by, or associated with, this permit.

- (C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which 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.

SECTION 4: EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- (A) The use of sewage system additives, as defined in section 22a-460(g) of the CGS, are prohibited unless such additive is registered with the Commissioner in accordance with section 22a-462-3 of the RCSA. The Commissioner in no way certifies the safety or effectiveness of any registered additive.
- (B) Oils, greases, industrial or commercial wastes, toxic chemicals, wastes from water treatment systems, 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.
- (C) The Permittee shall assure that groundwater affected by the subject discharge shall conform to the Connecticut Water Quality Standards.
- (D) Any limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

The monitoring requirements of this permit begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

- (E) The Permittee shall operate and maintain all processes as installed in accordance with the approved plans and specifications and as outlined in the associated operation and maintenance manual. This includes but is not limited to all recycle pumping systems, aeration equipment, aeration tank cycling, mixing equipment, anoxic tanks, chemical feed systems, effluent filters, disinfection systems or any other process equipment necessary for the optimal removal of pollutants. The Permittee shall not bypass or fail to operate any of the approved equipment or processes without the written approval of the Commissioner.
- (F) The discharge shall not exceed and shall otherwise conform to specific terms and conditions listed in this permit. The discharge is restricted by, and shall be monitored in accordance with, the Table(s) A through (C) which are incorporated into this permit as Attachment 1.
- (G) The pH of the discharge shall not be less than 6.0 nor greater than 9.0 Standard Units at any time and shall be monitored on a continuous basis. The Permittee shall report pH values, specifically maximum and minimum, for each day of sample collection and the pH range for each month. The pH range for each month is defined as the highest and lowest single pH reading during all operating days of the month including periods when sampling is not performed.
- (H) The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report on the discharge monitoring report the total flow and number of hours of discharge for the day of sample collection and the average daily flow for each sampling month.
- (I) The permittee is authorized to discharge up to 4,800 gallons per day of domestic sewage in accordance with the

provisions of this permit to the groundwaters in the watershed of Greenwich Creek.

- (J) All samples shall be comprised of only those wastewaters described in this schedule, therefore, samples shall be taken prior to combination 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.
- (K) 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 Department of Environmental Protection personnel, the Permittee, or other parties.
- (L) 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 3 operator pursuant to C.G.S. 22a-416(d) 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.
- (M) The Permittee shall monitor inspect and maintain the treatment facilities in accordance with Table (C), which is incorporated into this permit as Attachment 2.
- (N) The Permittee shall perform ground water monitoring in accordance with Table (D), which is incorporated into this permit as Attachment 3.
- (O) The Permittee shall monitor the performance of the treatment process in accordance with the Pretreatment Monthly Monitoring Report, the Onsite Wastewater Renovation System Quarterly Monitoring Report and the Groundwater Monitoring Report incorporated into this permit as Attachment 4, Tables E through J.
- (P) The monitoring and sampling required within this permit is a minimum for reporting purposes only. More frequent monitoring and sampling of the treatment system may be required to operate the facility to obtain acceptable results for the parameters being monitored as required by the Operation and Maintenance Manual approved by the Commissioner.

SECTION 5: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES AND REPORTING REQUIREMENTS

- (A) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall employ 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.
- (B) The results of chemical analysis and treatment facilities monitoring required by Section 4 shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance, at the following address, by the end of the month following the month in which the samples are taken. The report shall also include a detailed explanation of any violations of the limitations specified and corrective actions performed, and a schedule for the completion of any corrective actions remaining.

Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement Division (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

- (C) If any sample analysis indicates that an effluent limitation specified in Section 4 of this permit has been exceeded, a second sample of the effluent shall be collected and analyzed for the parameter(s) in question and

the results reported to the Commissioner within 30 days of the exceedance. Resampling for permit violations is in addition to routine required sampling.

- (D) Copies of all DMRs shall be submitted concurrently to the local Water Pollution Control Authority (hereinafter "WPCA").
- (E) Copies of all DMRs shall be submitted concurrently to the local Health Department.

SECTION 6: COMPLIANCE SCHEDULE

- (A) On or before three (3) months after issuance of this permit the Permittee shall verify in writing to the Commissioner that the alternative treatment technology is operating in accordance with the approved plans and specifications and is achieving compliance with all permit limits and conditions. The Permittee shall obtain written concurrence from the design engineer, the technology provider and the wastewater treatment facility operator who will be responsible for the operation of the wastewater treatment facility.
- (B) On or before seven (7) days after issuance of this permit, the Permittee shall record on the land records of the Town of Greenwich 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 Greenwich.
- (C) On or before seven (7) days after issuance of this permit, the Permittee shall record a copy thereof on the land records in the Town of Greenwich. On or before one (1) month after issuance of this permit, the Permittee shall submit written verification to the Commissioner that this permit has been recorded in the land records in the Town of Greenwich.
- (D) Every two years, on or before the anniversary date of the issuance of this permit, the Permittee shall submit the results of a detailed permit compliance audit to the Commissioner. Such audits shall be performed within sixty (60) days prior to the anniversary date. The compliance audits shall be performed by a qualified professional engineer licensed to practice in Connecticut with the appropriate education, experience and training which is relevant to the work required.

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 Discharge Monitoring Reports (DMRs); laboratory reports; operations and maintenance plans and performance logs/records; equipment specifications and maintenance schedules; engineering drawings; and spare parts inventory.

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 discovery.

(E) A copy of each audit shall be submitted concurrently to the local WPCA and to the local Health Department.

This permit is hereby issued on

Amey W. Marrella
Commissioner

cc: Local Health Dept.
DMR

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ATTACHMENT 1

TABLE A		
Discharge Serial No. 301-2		Monitoring Location: G
Wastewater Description: Domestic sewage influent to Zenon system		
Monitoring Location Description: EQ Sump (raw influent)		
Average Daily Flow: 6,700 gallons per day		Maximum Daily Flow: 10,000 gallons per day
PARAMETER	INSTANTANEOUS MONITORING	
	Sample Type	Sample Frequency
Biochemical Oxygen Demand	Grab	Twice per month
Total Suspended Solids	Grab	Twice per month
Total Nitrogen		
Ammonia		
Nitrate Nitrogen		
Nitrite Nitrogen		
Total Kjeldahl Nitrogen	Grab	Twice per month
Orthophosphate		
Total Phosphorus		
pH		
Oils & Grease		

TABLE B		
Discharge Serial No. 301-2		Monitoring Location: P
Wastewater Description: Domestic sewage influent to Zenon system		
Monitoring Location Description: Zenon Process tank		
Average Daily Flow: 6,700 gallons per day		Maximum Daily Flow: 10,000 gallons per day
PARAMETER	INSTANTANEOUS MONITORING	
	Sample Type	Sample Frequency
Biochemical Oxygen Demand		
Total Suspended Solids		
Total Nitrogen		
Ammonia		
Nitrate Nitrogen		
Nitrite Nitrogen		
Total Kjeldahl Nitrogen		
Temperature	Grab	Twice per month
pH	Grab	Twice per month
Alkalinity	Grab	Twice per month
Turbidity	Grab	Twice per month

TABLE C					
Discharge Serial No. 301-2			Monitoring Location: E		
Wastewater Description: Domestic sewage effluent from Zenon system					
Monitoring Location Description: Post-disinfection					
Average Daily Flow: 6,700 gallons per day			Maximum Daily Flow: 10,000 gallons per day		
PARAMETER	INSTANTANEOUS MONITORING				
	Average Monthly Limit	Maximum Daily Limit	Sample Type	Maximum Concentration	Sample Frequency
Biochemical Oxygen Demand	20 mg/l	30 mg/l	Grab		Twice per month
Total Suspended Solids	20 mg/l	30 mg/l	Grab		Twice per month
Total Nitrogen		10 mg/l ⁽¹⁾	Grab		Twice per month
Ammonia			Grab		Twice per month
Nitrate Nitrogen			Grab		Twice per month
Nitrite Nitrogen			Grab		Twice per month
Total Kjeldahl Nitrogen			Grab		Twice per month
Orthophosphate			Grab		Twice per month
Total Phosphorus			Grab	15 mg/l	Twice per month
pH					Weekly
<i>Escherichia coli</i>	4 col/100ml				Weekly
Ethanol			Grab		Twice per month
Methanol					Twice per month
Alkalinity					Twice per month
Oils & Grease					Twice per month
Turbidity			Continuous		Weekly
Footnotes:					
(1) Limit is based on a twelve month rolling average.					

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ATTACHMENT 2

TABLE D
INSPECTION, MONITORING OR MAINTENANCE REQUIREMENTS

<u>INSPECTION, MONITORING, or MAINTENANCE</u>	<u>DISCHARGE SERIAL NO.</u>	<u>MINIMUM FREQUENCY</u>
Depth of sludge in septic tanks	301-2	During pump-out
Pump out septic tanks	301-2	Annually
Pump out grease trap	301-2	Quarterly
Mechanical inspection of septic tank and grease trap baffles	301-2	During pump-out
Mechanical inspection of septic tank effluent filters	301-2	During pump-out
Clean septic tank effluent filters	301-2	During pump-out
Mechanical inspection of pump station	301-2	Monthly
Pump out pump chamber	301-2	Annually
Pump out equalization tank	301-2	Annually
Test run of emergency generator	301-2	Monthly
Pump out holding tank	301-2	As needed
Water meter readings of water usage	301-2	Weekly
Visual inspection of Zenon system	301-2	Monthly
Mechanical inspection of alarm conditions	301-2	As needed
Mechanical inspection of blowers	301-2	Monthly
Mechanical inspection of {ethanol/methanol/other carbon} feed system	301-2	Monthly
Mechanical inspection of alkalinity feed system	301-2	Monthly
Visual inspection of UV-disinfection system	301-2	Monthly
Clean UV bulbs	301-2	As-needed
Mechanical inspection of valve chamber(s)	301-2	Monthly
Visual inspection of surface condition of leaching field(s)	301-2	Quarterly
Depth of ponding in leaching field(s)	301-2	Quarterly
Mow grass over leaching field(s)	301-2	3 times per year
NOTE: The Greenwich Sanitarian shall be notified at least one week prior to pumping of septic tanks and grease traps. Verification of all pump outs shall be attached to the monitoring report and a copy of the report shall be sent to the Greenwich Director of Health.		

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ATTACHMENT 3

TABLE E GROUNDWATER MONITORING			
DISCHARGE SERIAL NO. 301 A, 301 B, 301 C, 301 D		MONITORING LOCATION: W	
GROUND WATER MONITORING WELL NO.: <i>{as named on AS BUILT}</i>		DESCRIPTION: Downgradient monitoring wells	
PARAMETER	UNITS	MINIMUM FREQUENCY OF SAMPLING	SAMPLE TYPE
Coliform, Fecal	col/100ml	Quarterly	Grab
Groundwater Depth	Ft, in	Quarterly	Instantaneous
Nitrogen, Ammonia	mg/l	Quarterly	Grab
Nitrogen, Nitrate	mg/l	Quarterly	Grab
Nitrogen, Nitrite	mg/l	Quarterly	Grab
Nitrogen, Total Kjeldahl	mg/l	Quarterly	Grab
Nitrogen, Total	mg/l	Quarterly	Grab
pH	S.U.	Quarterly	Instantaneous
Phosphorus, Total Dissolved	mg/l	Quarterly	Grab

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ATTACHMENT 4

This and the following 5 pages have been left blank to reserve page numbers for the DMR forms you will be editing for the facility.

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DATA TRACKING AND TECHNICAL FACT SHEET

PERMIT #: UI0000367

APPLICATION #: 200903162

DEP/WPC#: 057-167

DISCHARGER NAME AND ADDRESS DATA

Permittee: The Stanwich School, Inc.

Mailing Address:

Street: 257 Stanwich Road

City: Greenwich ST: CT Zip 06830

Location Address:

Street: 257 Stanwich Road

City: Greenwich St. CT Zip: 06830

Contact Name:

Contact Name:

PERMIT DURATION

5 YEAR () 10 YEAR (xx) 30 YEAR ()

DISCHARGE CATEGORIZATION

POINT() NON-POINT(X) GIS # _____

NPDES() PRETREAT() GROUND WATER(UIC)(X) GROUND WATER (OTHER)()

MAJOR() SIGNIFICANT MINOR() MINOR(X)

COMPLIANCE SCHEDULE YES X NO

POLLUTION PREVENTION() TREATMENT REQUIREMENT() WATER CONSERVATION()

PERMIT STEPS () WATER QUALITY REQUIREMENT() REMEDIATION() AUDIT LANGUAGE(X)

OTHER()

OWNERSHIP CODE

Private(X) Federal() State() Municipal(town only)() Other public()

UIC PERMIT INFORMATION

Total Wells 1

Well Type 5W12

PERMIT FEES

DISCHARGE CODE 312000a REPRESENTING DSN 301-2 ANNUAL FEE \$

DISCHARGE CODE REPRESENTING DSN ANNUAL FEE \$

DISCHARGE CODE REPRESENTING DSN ANNUAL FEE \$

DISCHARGE CODE REPRESENTING DSN ANNUAL FEE \$

DEP STAFF ENGINEER/ANALYST

Jennifer Perry Zmijewski

PERMIT TYPE

New (X)

Reissuance ()

Modification ()

Subsection-e ()

NATURE OF BUSINESS GENERATING DISCHARGE

The Stanwich School proposes to treat a maximum flow of 10,000 gallons per day and discharge 4,800 gallons per day of domestic sewage wastewaters to the groundwaters in the watershed of Greenwich Creek from the operation of a private school consisting of two main buildings to serve students from kindergarten through grade twelve and a synagogue. The remaining 5,200 gallons per day of treated wastewater will be recycled to the buildings for reuse.

PROCESS AND TREATMENT DESCRIPTION (by DSN)

DSN 301-2 represents the treatment process consisting of a grease trap, flow equalization tank and Zenon Municipal Systems wastewater treatment and recycling system. This system will consist of aerobic and anoxic biological treatment processes, membrane filtration, phosphorus reduction, and disinfection. Treated effluent will be further treated through a constructed lateral sand filter and discharged to a subsurface drip irrigation system with a portion of the total treated effluent being recycled for use as flush water.

RESOURCES USED TO DRAFT PERMIT

- Federal Effluent Limitation Guideline 40CFR
name of category
- Performance Standards
- Federal Development Document
name of category
- Treatability Manual
- Department File Information
- Connecticut Water Quality Standards
- Anti-degradation Policy
- Coastal Management Consistency Review Form
- Other - Explain

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

- Case by Case Determination (See Other Comments)

OTHER COMMENTS

Project will utilize a treatment plant, which will be required to meet limits on BOD, TSS, Total Nitrogen and bacteria prior to discharge to a pressure-distributed leach field in a lateral sand filter, after which it will be collected and discharged to a subsurface drip irrigation system. The lateral sand filter will be designed to renovate pathogens and provide additional polishing of the treated effluent. A portion of the treated wastewater will be recycled back to the buildings for use as flushwater.

PROJECT HISTORY

Application received on August 27, 2009.

Tentative Determination signed *****, published *****.

Final Determination signed *****.
Approval(s) to construct issued on *****.

DRAFT