STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

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Drinking Water Section

APPROVAL FOR CONSTRUCTION OR INSTALLATION OF WATER AND TREATMENT WORKS

November 1, 2023

MR. DANIEL WATSON
290 GREENWICH AVE
GREENWICH, CT 06830

Public Water System (PWS)/Applicant: PARKWAY SCHOOL
PWS ID (if applicable): CT0570212 **DPH Project #:** 2023-0158
Project Location: GREENWICH, CT

Project Name: PFOA Removal - Parkway School

Date of Project Submission: September 11 and 15, 2023 with additional information last received October 19, 2023

Project Description: Granular Activated Carbon (GAC) Vessels to remove elevated PFOA (to be installed after an existing softener but before existing pH injection) before atmospheric storage tank. Piping to be schedule 80, NSF-listed. The treatment system will be housed in an addition to the walk-in pump house. Water quality suitability for carbon treatment was verified with sampling conducted on September 26, 2023, with results received subsequently. The treatment system is being designed for a flow rate of 14 gallons per minute- gpm (2 wells at 7 gpm each). Usage at the school is being reported as 2500 gallons per week (equivalent to 357 gallons per day- gpd).

Project consists of the following:

- Four carbon vessels (non-backwashing, flow is split between two lead filters in parallel which is then in series with another set of parallel carbon vessels to achieve a minimum of 10 minutes Empty Bed Contact Time). Vessels are Pentair 24X65 at 13.4 cubic feet– NSF Listed. Carbon is ResinTech AGC-40 XA, NSF-listed (bituminous-based, mesh size of 12X40, Iodine number of >850)
- Empty Bed Contact Time (EBCT) calculations provided by CT WinnPump indicate that 10.68 minutes of contact time is provided in each pair of redundant parallel vessels. Filter loading rate is 4.5 gpm/square feet).
- Appropriate water meters (Badger), valves and smooth-nosed sampling taps are provided.
- The carbon system will be followed by a Viqua Pro-20 (NSF-listed) ultraviolet disinfection unit.

This project is approved for construction or installation in accordance with the following terms:

1. This project is approved for construction based on the project being constructed in accordance with received plans and specifications, project applications dated September 11, 2023, to October 19, 2023, and the Department of Public Health's (DPH) terms stated herein. Any substantial deviation from the approved design must be reviewed and approved by the DPH in accordance with Section 19-13-B102(d)(2) of the Regulations of Connecticut State Agencies (RCSA). Failure to do so may result in enforcement action and possible reconstruction of the project to conform to the DPH's technical approval.

2. This project approval is void 12 months after the date of this project approval if construction has not started. If no construction is started, the DPH must be notified and re-approval from the DPH must be sought and obtained.

3. All work implemented for this project must be effectively disinfected pursuant to Section 19-13-B47 of the RCSA. Upon completion of the project and prior to placing into active use, the water must be sampled and tested for at least total coliform bacteria to verify that the work completed was effectively disinfected. All test results must be in compliance of Section 19-13-B102(e) of the RCSA, indicate the water is safe for consumption and be submitted to the DPH.

4. After construction/installation is completed for this project and prior to placing the project into active use, a Certification of Completed Water or Treatment Works Construction/Installation form, which can be found on the DPH's website http://www.ct.gov/dph/publicdrinkingwater, must be completed and submitted to the DPH along with water test results as required.

5. The DPH must be contacted to make arrangements for a site visit of the project or project components prior to placing it into active use. Submission of photos may be substituted for the site visit upon concurrence with the DPH.

6. The project should not be placed into active use until an Acknowledgement of Project Completion correspondence is received from DPH.

7. A water treatment plant classification form (preliminarily indicates a Class I treatment plant) was submitted on October 20, 2023, to reflect changes in the treatment system at Parkway School. It has been forwarded to our Operator Certification Group. The system's current water system operator, Mr, Brian Lemke, holds a Class I treatment license.

8. This project approval is for a disinfection system which is not approved for 4-log inactivation of viruses. Assessment monitoring for total coliform at each active well prior to treatment will be required. The Department will notify the water system of any additional monitoring requirements.

9. Water chemistry related to corrosion is complex and changes in water quality that affect corrosion may result from the implementation of this project. The water system will be required to conduct standard distribution tap monitoring for lead and copper every six months starting with the first six-month period after the project has become active. The water system's water quality monitoring schedule will be updated to reflect this change and mailed to you under separate cover.

10. The smooth nosed sampling taps provided must be lead free.

11. Flow entering the carbon system must be restricted to 14 gallons per minute or less.

12. Carbon treatment system shall not have a bypass.

Treatment System Monitoring:

1. Immediately after filter installation-Water from the raw and both treated taps should be sampled and analyzed for bacteriological and PFAS compounds.

2. During filter operation until breakthrough (chemical detected in filtered water)-The raw and first treated tap must be sampled and analyzed for bacteriological and organic chemical parameters according to the following frequency:

a. Raw- Annually
b. Treated (after first filter) – Quarterly

3. After filter replacement - The second treated tap (after both filters) should be sampled and analyzed for bacteriological and organic chemical parameters. The raw and first treated tap must be sampled according to a frequency to be determined based upon a review of the data collected according to 2a, b, and c above.

Recommendations and Comments:

Spent media disposal must be considered as part of the design process as this can add substantial operation and maintenance costs over the lifetime of the treatment system. Currently, hazardous waste or municipal solid waste landfills, or hazardous waste combustion are recommended as the best available options.

This approval only covers applicable public drinking water regulations and guidelines of the DPH and the U.S. Environmental Protection Agency (EPA). The DPH's approval however does not guarantee that the proposed treatment and/or components to be installed as part of this project will operate as proposed or achieve the proposed treatment objectives. This approval additionally does not cover approvals or permits which may be necessary by other state or local agencies.

Sincerely,

Vicky Carrier, P.E.
Environmental Engineer 3
Drinking Water Section
TC

Cc: Mr. Brian Lemke, Certified Operator
Ms. Patricia Bisacky, CT DPH- ECU
Ms. Anne Ewert, CT DPH RIU
Ms, Caroline Baisley, DOH
Mr. William Sullivan, Operator Certification