The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

VIA E-MAIL & US MAIL

December 13, 2021

Mr. Neil Cass, Town Administrator
Town of Hopkinton
330 Main Street
Hopkinton, NH 03229
E-mail: townadmin@hopkinton-nh.gov

RE: Septage Facility – Field Inspection Report #21-30 and **Facility Requirements**
Hopkinton Septage Lagoons, 491 East Pembroke Road Hopkinton, NH
NHDES Permit #: **SEF-00-001**; Groundwater Permit #: **GWP-198705021-H-006.**

Dear Mr. Cass:

The NH Department of Environmental Services, Wastewater Engineering Bureau (NHDES) inspected the above-referenced septage facility (SEF) on August 6, 2021, with Ms. Jolene Cochrane, Transfer Station Superintendent/Chief Operator; and Ms. Lori A. L. Cox, P.E., Project Manager with Nobis Group (Nobis). Prior to the field inspection, a meeting was held in the transfer station office to review the status of the information required by NHDES, as listed in the February 2021 comments letter on the submitted SEF Permit Modification/Renewal application. Attached please find the NHDES *Field Inspection Report (#21-30)*, that includes meeting notes and inspection findings, for your review and files.

In addition, staff from the NHDES Wastewater Engineering and the Dam Bureaus performed a subsequent inspection on October 6, 2021 to, among other things, assess each of the five lagoon cells to determine if jurisdictional dam structures (in accordance with NH RSA 482:2II) existed at the facility.

As a result of these meetings and field inspections, the following conclusions and requirements are provided:

Conclusions:

1. Additional information is still required to update and submit a revised Septage Management Plan, and to address all of the comments in the February 2021 letter to the Town. Ms. Cox stated that Nobis will review the additional septage hauler information provided by Ms. Cochrane on August 6th and include a summary in the revised Septage Management Plan, as requested in the February 2021 letter. (A complete NHDES review of the draft revised Septage Management Plan and revised Facility Plan provided by Nobis on August 6th, is forthcoming.)

2. Based on NHDES's brief review of the 2014 septage hauler information provided by Ms. Cochrane during the August 6th meeting, it appears that, over the years, **non**-residential (i.e. non-household) septage may have been discharged into the lagoons.

   In accordance with USEPA 40 CFR Part 503 - *Standards for the Use or Disposal of Sewage Sludge*, and the NHDES *Septage Management Rules*, Env-Wq 1600 (Rules), septage from non-household sources shall not be land applied on- or off-site for beneficial use; and therefore, must be disposed of at a facility that is permitted to receive such septage. Only septage/residuals that meet the requirements for a septage Exceptional

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Quality (EQ) Certification from NHDES, in accordance with Env-Wq 1613, may be land applied outside of the SEF fenced area.

3. As observed by NHDES, **many** tons of **untreated** residual solids from the lagoons have been stored in steep, high stockpiles/berms around the lagoons. Stockpiles were also evident within and, possibly, outside of the SEF fence line. Although the stockpiles/berms appeared to be heavily vegetated, the stability of some pile/berm faces is also in question. Some of the residual solids also appear to have been in-place for over 10 years, based on observed vegetative/tree growth.

4. The stockpiled/bermed residual solids at the Hopkinton SEF are regulated under Part 503 and the Rules. As the solids have not been removed from the property, they are defined as having been "disposed" on the property. [Per Env-Wq 1602.11"Disposal" means *"...the final discharge...dumping... or placing of septage into or onto any land so that such septage or any constituent thereof may enter the environment... or be discharged into any surface water or groundwater. Disposal includes any placement of septage onto land in excess of agronomic rates as determined pursuant to Env-Wq 1608.08(i)."*]

   Also, in accordance with Part 503, *"...any site where sludge remains on the ground for more than 2 years is considered to be a surface disposal site regulated under Part 503...If sewage sludge remains in a lagoon for longer than 2 years it is regarded as **surface disposal**..."*(bold added for emphasis); and, must be treated for pathogen reduction and vector attraction reduction (PR/VAR).[1]

   a. This facility is not permitted as a "disposal" facility for residual solids, but as a NH septage treatment facility.

   b. Based on information relayed by Ms. Cochrane, the stockpiled/bermed residual solids at the SEF have not been treated for PR/VAR.

5. The liquid septage received at the SEF is not screened by the haulers prior to discharge to the lagoons, to remove non-biodegradable debris (solid waste), as required by Env-Wq 1608.09(f); therefore, most of the debris remains within the lagoon or the residual solids surrounding the lagoons. In accordance with Env-Sw 302.02, this debris must be disposed of at a permitted solid waste facility, e.g. landfill or transfer station.

6. The procedures used by the SEF operator of: temporarily burying an inactive lagoon for several years, then digging it back out to put the lagoon back into service, and stockpiling the residual solids on the site **indefinitely**:

   - are not a permitted activity, and allow for concentrated contaminants to infiltrate into the subsurface/groundwater or runoff into adjacent wetland areas, with every rainfall and snowmelt;
   - are not in compliance with the Rules (Env-Wq 1608.11(a)) relative to requiring odor control cover if stockpiled over 7 days; and
   - do not meet Part 40 CFR 503 requirements.

7. According to Env-Wq 1609.09 – Facility Standards: *"...(d) All facilities shall... (4) Be maintained in a clean and orderly fashion to minimize attraction of vectors..."* Based on the amount of observed residual solids stockpiled around the lagoons, and the large amount of mosquitos present during the August 6th field inspection, the facility has not been maintained in a clean and orderly fashion to minimize vectors.

8. Lagoon 5 is also out of compliance with Env-Wq 1609.09(e)(2), which requires that all lagoons shall be *"(M)aintained to provide a minimum of 2 feet of freeboard at all times..."*.

[1] EPA/625/R-95/002, September 1995 - Process Design Manual, Surface Disposal of Sewage Sludge and Domestic Septage.

9. According to Env-Wq 1609.09(f), Table 1609-1, facilities are required to be at least 500 feet from property lines, unless the abutting property owner provides written consent. Based on measurements made on permitee-provided Facility Plans, the southerly facility fence corner is located approximately 300 feet from the south property line, and therefore, does not meet this required setback distance.

10. Pursuant to RSA 482:2II and RSA 482:5, artificial barriers which create surface impoundments for liquid industrial or liquid commercial wastes, septage, or sewage, regardless of height or storage capacity, shall be considered dams and must be formally permitted. Therefore, the Wastewater Engineering Bureau requested the NHDES Dam Bureau's input relative to any requirements under Env-Wr 303.

    The October 6th inspection by the Dam Bureau revealed that three of the five lagoons at the Hopkinton facility, include perimeter structures that qualify as jurisdictional dams. Short term requirements relative to the pertinent state statutes and NHDES Dam Bureau rules, will be provided to the Town, in separate correspondence. Subsequent to that, the Dam Bureau will issue a correspondence with more detailed information related to the dam structures, along with recommendations and schedules for addressing observed deficiencies.

Requirements:

Due to the following facts:

- the facility i**s not** being operated in compliance with the above-referenced NHDES rules and EPA regulations;
- the very large quantity of untreated and uncovered residual solids currently stockpiled on the property;
- the 2020 groundwater quality results exceeding the NHDES Ambient Groundwater Quality Standards (AGQS) for four Per- and Polyfluoroalkyl Substances (PFAS); and
- the on-going intermittent Nitrate exceedances in groundwater;

the Town of Hopkinton is herein required to perform the below activities by the dates indicated:

1. In order to continue with the SEF Permit renewal application process for the continued operation of the facility, submit written responses and additional/revised information, to address the February 2021 NHDES comments letter to the Town (copy attached), on the submitted Septage Facility Permit Renewal Application, **by January 14, 2022.**

2. Confirm the setback distance from the SEF limits to the closest southerly property line. If the distance is less than 500 feet, as required by Env-Wq 1609.09(f), Table 1609-1, the Town shall submit either a written consent to this reduced distance, signed by the affected abutter; or, an "*Application for Waiver from Septage Management Rules*" for relief from Env-Wq 1616, **by January 14, 2022.** (The waiver application form may be downloaded from the following NH government website: https://onlineforms.nh.gov/app/#/formversion/bc1ea497-8315-4f62-93cf-880f2d767639.)

3. **By January 31, 2022** submit a detailed, proposed **Scope of Work** for a qualified environmental consultant to: fully characterize the stockpiled/bermed residual solids located on the property, within and outside of the fenced SEF; and evaluate remedial alternatives to treat, remove, or contain the residual solids such that the remedial action meets the criteria of Env-Or 606.13, as applicable.

    Each remedial alternative should be evaluated relative to its: level of environmental protection; effectiveness and reliability; feasibility and ease of implementation; risk reduction and associated benefits; cost effectiveness using the net present worth of all future costs; and estimated time to achieve the remedial outcome.

The Scope of Work must include, but not necessarily be limited to, a description and approximate schedule to complete each of the following tasks:

a. Identify/locate and estimate the quantity of each residual solids stockpile/berm around each lagoon and on the property, and depict their approximate boundaries on an updated Facility Plan;

b. Develop and submit a "Residuals Solids Sampling and Analysis Plan" for NHDES prior review and approval, describing the proposed procedures/methods to fully characterize the identified residual solids stockpiles/berms, for the recommended removal alternative. At a minimum, composite samples of the residual solids in each stockpile/berm shall be collected in accordance with Env-Wq 1613.05, **plus**:

i. Polychlorinated Biphenyls (PCBs) by EPA Method SW846 - 8000 series;

ii. Dioxins per EPA Method 1613B; and

iii. PFAS constituents by LCMSMS using isotope dilution, for the following:

Perfluorobutanoic Acid (PFBA)	Perfluorooctanoic Acid (PFOA)	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)
Perfluoropentanoic Acid (PFPeA)	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	Perfluoroundecanoic Acid (PFUnA)
Perfluorobutanesulfonic Acid (PFBS)	Perfluoroheptanesulfonic Acid (PFHpS)	Perfluorodecanesulfonic Acid (PFDS)
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	Perfluorononanoic Acid (PFNA)	Perfluorooctanesulfonamide (FOSA)
Perfluorohexanoic Acid (PFHxA)	Perfluorooctanesulfonic Acid (PFOS)	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)
Perfluoropentanesulfonic Acid (PFPeS)	Perfluorodecanoic Acid (PFDA)	Perfluorododecanoic Acid (PFDoA)
Perfluoroheptanoic Acid (PFHpA)	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	Perfluorotridecanoic Acid (PFTrDA)
Perfluorohexanesulfonic Acid (PFHxS)	Perfluorononanesulfonic Acid (PFNS)	Perfluorotetradecanoic Acid (PFTA

Should off-site land application of the septage solids for beneficial use be considered, the Town must also apply to NHDES for an Exceptional Quality Certification, per Env-Wq 1613.01.

c. Prepare and submit a "Residuals Solids Characterization Report" for NHDES review and approval, to include, but not necessarily be limited to, the following:

i. A description of all field work, and residual solids sampling/analysis completed, per the approved Scope of Work.

ii. An updated Facility Plan depicting the locations/footprints of all residual solids stockiles/berms on the property, within and outside of the fenced SEF. (Each stockpile/berm shall also be uniquely identified.)

iii. A summary/description of each residual solids stockpile/berm, including approximate dimensions and volume.

iv. A summary table of all residual solids stockpile/berm laboratory results.

v. A description of the residual solids stockpiles/berms removal alternatives evaluation and outcomes.

vi. The consultant's recommendations for: (1) which residual solids stockpile/berm removal alternative the Town should implement, based on the aforementioned evaluation; and (2) any further remedial actions or future operational changes for the SEF to bring it into compliance with NHDES and Federal

requirements, e.g. septage hauler removal of debris; treatment and disposal of future removed residual solids; lagoon cleaning and/or closure(s); etc.

vii. A copy of all laboratory results reports.

4. Continue groundwater, drinking water, and surface water monitoring and reporting, as required by the NHDES Groundwater Management Permit #GWP-198705021-H-006, as issued, renewed, and directed by the NHDES Hazardous Waste Remediation Bureau.

If requested, a meeting with NHDES staff may be scheduled to discuss this letter and the observations cited, by contacting anthony.f.drouin@des.nh.gov or (603) 271-3571.

Sincerely,

Anthony F. Drouin, Administrator
Residuals Management Section
Wastewater Engineering Bureau

Attachments

Cc./Ec. File

Jolene Cochraine, Transfer Station Superintendent.; *E-mail:* transfersup@hopkinton-nh.gov
Lori Cox, P.E., Project Manager; Nobis Group; *E-mail:* LCox@nobis-group.com
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State of New Hampshire

DEPARTMENT OF ENVIRONMENTAL SERVICES
WASTEWATER ENGINEERING BUREAU
RESIDUALS MANAGEMENT SECTION
29 HAZEN DRIVE, P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03302-0095

FACILITY INSPECTION REPORT

Inspection Report #: 21-30

Type (Sludge/Septage): Septage

Name/Location: Hopkinton Septage (Lagoon) Facility (SEF)
491 East Penacook Rd, Contoocook, NH

Permit No: SEF-00-001

Date of Inspection: 08/06/2021

Inspector: Judith E. Sears Houston, P.E., RMS Permitting & Enforcement Engineer; and James Talvy, RMS Inspector

Person(s) On-Site: Jolene Cochrane, Transfer Station Superintendent/Chief Operator; and
Lori A. L. Cox, P.E., Project Manager, Nobis Group

Meeting:

The RMS inspectors arrived at the Hopkinton-Webster Transfer Station office at approximately 840 a.m. and met with the superintendent. Ms. Houston reviewed the February 2021 RMS comments letter (copy attached) on the SEF Permit Renewal Application with Ms. Cochrane. Most of the comments were on the Septage Management Plan and Facility Plan, currently on-file with the NHDES; they both need to be updated as indicated in the letter. RMS had also requested more details on the septage discharged into the lagoons over the past 5-15 years, as PFAS was found in the April 2020 groundwater monitoring results, exceeding the NHDES Ambient Groundwater Quality Standards (AGQS). RMS had also requested a revised sensitive receptor survey and additional drinking water sampling/analysis, but this was determined to not be necessary. Discussion ensued with Ms. Cochrane regarding the stockpiling of dewatered septage solids within the fence line of the lagoon facility, and how the contaminants in the solids would be concentrated and make their way into the groundwater.

Ms. Cox joined the meeting around 9 a.m. and provided the RMS inspectors and Ms. Cochrane with hardcopies of a revised Septage Management Plan and Facility Plan, in response to the RMS February 2021 comments letter. Ms. Houston quickly reviewed sections in the revised management plan, and indicated that letter comments #4a. and #4b. had requested more detailed information regarding the types and volumes of septage discharged into each of the lagoons and from what types of establishments, for the past 5 to 15 years; and the lagoon cleaning and septage land application/surface disposal activities for the last 15 years. The provided revised management plan did not include this requested information. Ms. Houston indicated that the NHDES HWRB feels that the lagoons are the source of the PFAS found in the groundwater at the facility, due to the highest PFAS concentrations being found in the monitoring wells immediately downgradient from the SEF. The types of septage, i.e. from domestic vs. non-domestic buildings, discharged to the lagoons, would give the NHDES more information towards determining the potential source of the PFAS in the groundwater around the SEF.

Ms. Houston asked Ms. Cochrane if she kept the hauler slips from those that discharged to the facility, with details on volume and source location. Ms. Cochrane then found a box of large envelopes (labeled by year) for the hauler slips from 2014 to present – each slip contained the hauler name, volumes collected, and brief septage generator descriptions/addresses. Ms. Houston randomly reviewed some of the slips from 2014 to see what kind of establishments had their septic tank pumped and the septage discharged to the lagoons – many **non-domestic** establishments were found, e.g. PrototeK (a sheet metals machine/prototyping shop), HMC (a sawmill equipment manufacturer), etc. She relayed that in addition to standard rest room septage, these businesses may also discharge commercial/industrial wastewater from their floor cleaning/wax stripping activities via a floor drain or janitor's sink, directly to their septage tank. RMS had requested this information in order to determine approximately what percentage of the disposed septage is domestic vs. non-domestic (non-residential). Ms. Houston asked Ms. Cochrane if Nobis Group could please borrow this information in order to

summarize the requested information to provide to RMS. Ms. Cochrane agreed.

Ms. Houston asked Ms. Cochrane to describe the Town's current practices when a septage lagoon "is full", and needs to be cleaned out. Ms. Cochrane relayed that they've always operated the lagoons in the same way, since she's worked there (about 15 years). She was instructed on the procedures by the prior operator, who has since passed away: when a lagoon "is full", it is left inactive for about a year to "dry out", then the side of the lagoon are pushed into the lagoon to "temporarily close it". It remains buried for about 2 to 3 years, until needed again, then they "dig out" the lagoon again for use - the excavated material is "pushed up" onto the sides around the lagoon. They move around the facility rotating to another lagoon, in this fashion, when needed.

According to Ms. Cochrane, no septage solids are/have ever been removed from the fenced SEF area or from the property, nor are the solids "…beneficially used on the property…" [as Ms. Houston found in the Septage Management Plan on-file at NHDES]. Ms. Houston stated that she has not heard of this type of lagoon management before. Usually, when a septage lagoon requires cleaning out of solids, it is allowed to dry out, then the solids are excavated, stockpiled near the lagoon and allowed to further dewater back into the lagoon; when the solids are sufficiently dewatered for transport, they are disposed off-site at a permitted facility, e.g. landfill, following quality analysis.

Following this meeting, the attendees proceeded to the SEF, located northeast of the closed landfill, along a gravel access road, to inspect the lagoons.

Findings:

Four unlined septage lagoons are shown on "Figure 2 – Site Plan…" (August 2021; copy attached) provided today by Nobis; however, according to Ms. Cox and Ms. Cochrane, there are actually 5 unlined lagoons at the facility (Lagoon 1 through 5). Nobis plans to revise the plan to include this 5th lagoon. The fenced facility is located northeast of the closed landfill and is accessed via a gravel driveway through an opening in the southeast corner of the fence.

The SEF entrance indicates tall, heavily vegetated lagoon berms/stockpiles on either side of the entrance driveway, with no observed gate across the entrance. A 3-foot wire fence is visible around the facility. A sign "Septage Treatment Facility…" including the Town's name, address and telephone number, was observed adjacent to the south side of the entrance; and a "Danger-Septic Lagoons-Keep Out" sign on the north side of the entrance. (Refer to attached **Photo #1**.) No spill control equipment or materials were noted anywhere within or outside the west or south sides of the fenced facility. A preponderance of mosquitoes was also noted by the RMS inspectors in and around the facility during the inspection.

The following was observed by the RMS inspectors, at each lagoon, as numbered in the attached Figure 2:

- Lagoon 1 is located in the northwest corner of the fenced facility, on the north side of the entrance. (See **Photo #2**, attached.) It is currently active with a hauler quick-disconnect coupling and hose noted in-place within a PVC culvert through the southerly lagoon berm (**Photo #3**). A puddle of water was noted in the gravel access road in front of the hauler discharge location (**Photo #4**). All berms are steep, heavily vegetated with very tall grass/weeds, with irregular crests – more like stockpiles side-by-side. The south berm is approximately 8 feet tall above the gravel access drive elevation; the other berms are approximately 25 to 40 feet high above the gravel access drive elevation.

  The interior lagoon contained a pool of liquid septage with a green algae surface. The water surface of this pool is approximately 20 feet below the access drive elevation. All interior berms and around the contained septage pool, are heavily vegetated. Some areas of the interior berm/slopes appeared to have sloughed off, exposing bare material. (Refer to attached **Photo #5**.) A 40-gallon plastic trash barrel was noted adjacent to the hauler discharge hose location, for disposal of any trash by the hauler.

  Some plastic debris was noted on the outside of the easterly berm. RMS also noted a couple of plastic pieces of debris on the gravel access drive between Lagoon 1 and 5. Ms. Houston asked Ms. Cochrane if there is any screening or removal of non-biodegradable debris performed by the haulers, as they discharge to an active lagoon – her response was "no – if there was anything like that… it would need to be moveable, between the lagoons…" Ms. Houston advised her that there are pre-made, movable bar racks available, and that the Town of Pittsburg had constructed their own, that is moved around their facility. The problem with allowing the debris to remain in the septage, Ms. Houston relayed, is that the options for septage solids disposal are limited to either disposal at a permitted landfill, or if debris can be screened out of the solids, it may be used as beneficial topsoil additive on or off the property if it meets quality/standards for land application.

Ms. Houston also asked Ms. Cochrane what she thought the Town Select Board's response would be if NHDES required that these lagoons be permanently and properly closed, and the haulers bring their septage to another facility. Ms. Cochrane stated it would be a "mixed response…" as this facility is a "money maker" for the Town, since "…there is little to no maintenance performed…"

- Lagoon 2 is located in the north-center part of the facility and is currently inactive and "temporarily filled in" (**Photo #6** and **#7**). The lagoon area and all of the steep side berms are heavily vegetated with tall grass/weeds, with irregular crests – appearing more like stockpiles of material set side-by-side. Lagoon 1's east berm is also Lagoon 2's west berm. The filled in, center of the lagoon, is relatively flat, also vegetated, although not as heavy as the side berms. Some sparsely vegetated areas were noted. There was no south berm remaining for this lagoon, and the north berm is only about 8 feet in height above the gravel access drive elevation - presumably this material was used to fill the lagoon in. There was no evidence of any piping/hose, or operational equipment for this lagoon.
- Lagoon 3 is located in the northeast corner of the SEF, and is inactive (**Photo #8**). According to Ms. Cochrane it is "drying out", and will be eventually filled-in using the material piled around it. All berms are steep, heavily vegetated with very tall grass/weeds, with irregular crests – like stockpiles side-by-side; approximately 8 feet to 25-30 feet high above the access drive elevation. (Refer to **Photo #9**.) No liquid septage pool was noted in the bottom of this lagoon from the inspector's available access point. Lagoon 2's east berm is the same as Lagoon 3's west berm. The back of a sign and the wire fence is visible on the north side of the lagoon. No piping/hose or operational equipment was noted near this lagoon.
- Lagoon 4 was essentially inaccessible by the RMS inspectors, due to steep, heavily vegetated berms/stockpiles. It is located in the south corner of the facility. It is assumed that this lagoon is currently inactive, as there did not appear to be available hauler access to it. A sign "Danger-Septic Lagoons – Keep Out" was found on the outside slope of the southwest berm/stockpile. These berms appeared to be approximately 5 to 30 feet in height, above the access drive elevation, also with irregular crests. The east berm has grown trees on it. (See **Photo #10**.)
- Lagoon 5 is located at the southwest corner of the SEF, near the south side of the entrance, and is active. Ms. Cochrane relayed that she thinks only one hauler discharges to this location. This lagoon did not appear to have a complete east berm, to allow placement of the hauler's hose on the ground in the northeast corner of the lagoon, for gravity discharge into the lagoon. (Refer to **Photo #11**.) There was no piping/hose or operational equipment noted near this lagoon. The berms for this lagoon are lower in height than the other lagoons, ranging from approximately 8 to 15 feet above the access drive elevation. All berms and the lagoon bottom are heavily vegetated with tall grass/weeds. A small pool of liquid septage was noted in the bottom of the lagoon with a "scum layer" evident on the surface. The pool surface appeared about 3 feet below the access drive elevation. No piping/hose or operational equipment was noted near this lagoon.

A relatively flat gravel area is located between Lagoons 4 and 5, in the south-central part of the facility, with an approximate 8-foot high grass-covered berm on the south end (**Photo #12**). The east berm of this gravel areas is also the west berm/stockpiles of Lagoon 4. The west berm of this area is also part of the east berm of Lagoon 5, and contains large bushes. Ms. Cochrane stated that this area had been used by the former operator for "clean fill" if needed, when lagoons were temporarily filled in.

RMS also inspected the exterior of the facility, along the southerly gravel access road. A grass and tree covered windrow-type berm about 8 to 10 feet in height above the access road elevation, is located along the south side of the facility, just within the wire fence line. (See **Photo #13**.) Mr. Talvy estimated that the cherry tree growth on this berm is about 20 years old, and stated that cherry trees require soil with a high nutrient content; therefore, it is assumed that this external windrow berm is also dewatered septage solids. Three groundwater monitoring wells are located between the fence and this berm, but were not visible to the RMS inspectors due to high grass/weeds, and were not inspected during this field visit.

Ms. Houston stated to Ms. Cochrane and Ms. Cox that the current lagoon operations at this SEF are not conventional or standard procedures. Any contaminants in the septage solids removed and bermed/piled next to the lagoons, are concentrated and eventually infiltrates into the soil and groundwater. The RMS inspectors will discuss with RMS supervisor, Anthony Drouin, and upper management, to determine recommendations and requirements for the SEF. These will likely include required revisions to the lagoon operations. Ms. Houston will also review the submittals received today from Nobis. RMS will get back to the Town and Nobis, accordingly.

The RMS inspectors left the facility at approximately 11:20 a.m.

Photographs:

Photo #1 – Entrance to Septage Facility (Looking Southeast)

Photo #2 – Lagoon 1 (Looking Northeast)

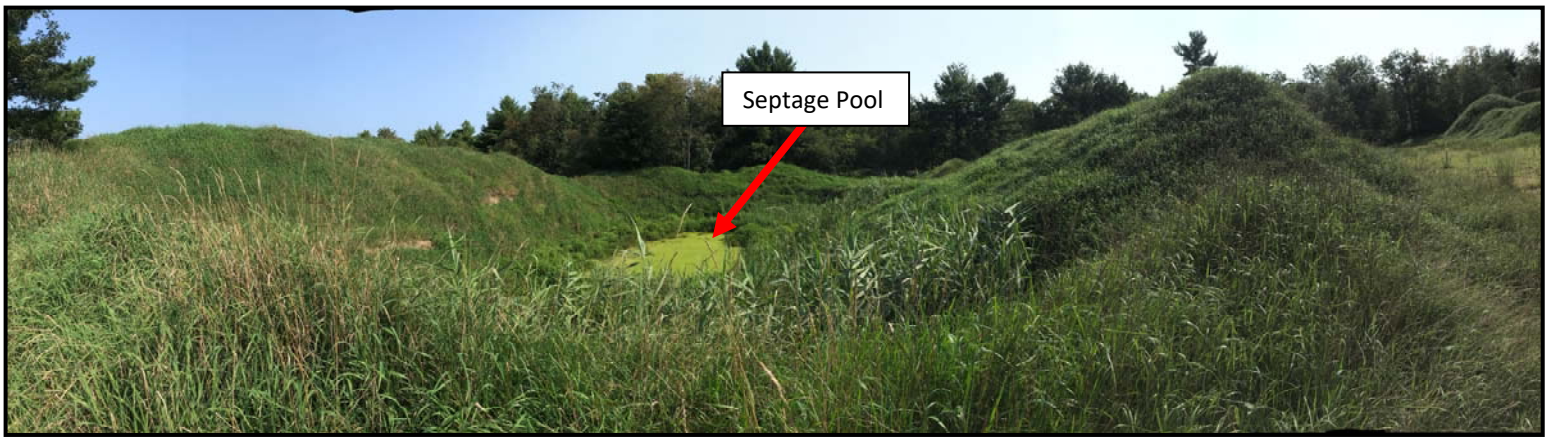

Photo #3 – Lagoon 1 Hauler Discharge Location
(Looking North)

Photo #4 – Puddle in Front of Lagoon 1
Hauler Discharge Location (Looking Southeast)

Photo #5 – Lagoon 1 Example of Eroded Interior Berm
(Looking North)

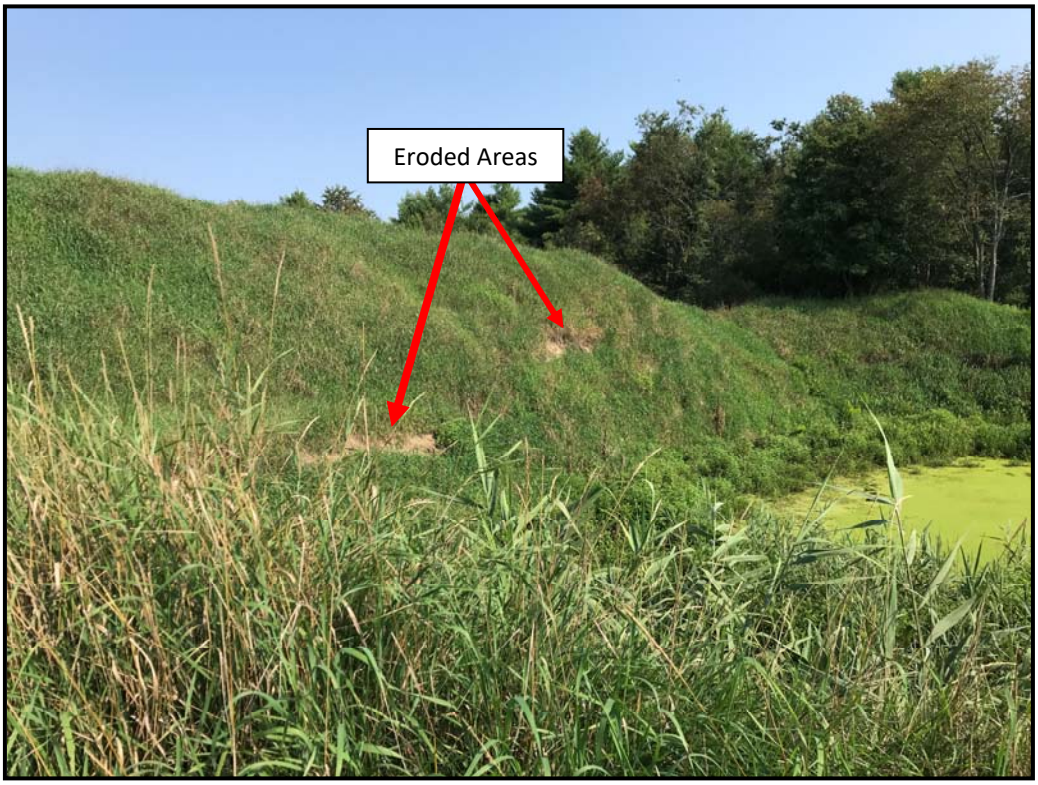

Photo #6 – Lagoon 2 (Looking Northwesterly)

Photo #7 – Lagoon 2 (Looking Northeasterly)

Photo #8 – Lagoon 3 (Looking North)

Photo #9 – Lagoon 3 (Looking Northwesterly)

Photo #10 – Lagoon 4 (Behind Sign & Stockpile)
(Looking Southeasterly)

Photo #11 – Lagoon 5 (Looking Southeasterly)

Photo #12 – Gravel Area (Looking South)

Photo #13 – Example of Facility – South Fence Line
Note: Windrow berm behind trees. (Looking Southeast)

VIA E-MAIL & US MAIL

February 23, 2021

Neil Cass, Town Administrator
Town of Hopkinton
330 Main Street
Hopkinton, NH 03229
E-mail: townadmin@hopkinton-nh.gov

RE: Septage Facility Permit Modification (Renewal) Application – Comments
Hopkinton Septage Lagoons, 491 East Pembroke Road Hopkinton, NH
NHDES Permit #: **SEF-00-001**; Groundwater Permit #: **GWP-198705021-H-006.**

Dear Mr. Cass:

The NH Department of Environmental Services, Wastewater Engineering Bureau (NHDES) has reviewed the above-referenced Septage Facility Permit Modification (Renewal) Application, received on October 29, 2020. In accordance with the NHDES *Septage Management Administrative Rules* (Rules), Env-Wq 1603.06, the application has been deemed **incomplete**. Please address the following comments, and submit the requested additional/revised information to NHDES, for the application review process to continue:

1. Application Form: as described below, the Septage Management Plan and Facility Plan both need to be revised/updated. Please indicate this in item #6 of the application form, and resubmit the form.

2. Management Plan: As part of this permit renewal process, the NHDES has reviewed the septage facility's March 7, 2000 Management Plan prepared by Nobis Group (formerly Nobis Engineering, Inc.) (Nobis), received on May 9, 2000, to confirm that it meets the current rules and is appropriately up-to-date.

   Please address the following comments and submit a revised/updated Septage Facility Management Plan for NHDES review and approval:

   a. Update all Town personnel's name and contact information, throughout the document, as necessary.

   b. Add the following:

      i. a description of how and how often the lagoons are cleaned and rotated for use, and the approximate quantity and disposition of the septage solids when excavated from the lagoon(s) during cleaning, e.g. on-site land application/surface disposal or stockpiles, or disposed of off-site at a permitted site or facility; and

      ii. a statement that only domestic septage/septage solids as defined by Env-Wq 1602.12, shall be land applied on the property or at a permitted site, in accordance with Env-Wq 1602.24. All other types of septage must be disposed of at an appropriately permitted wastewater treatment facility.

   c. Add a description of:

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i. the required treatment of the septage solids for pathogen reduction and vector attraction reduction (PR/VAR) in accordance with USEPA 40 CFR 503, prior to land application/surface disposal;

ii. the method of non-biodegradable material removal, and the disposition of the removed material; and

iii. the statement that the disposition and quantity of the removed septage solids shall be included in each Septage Facility Annual Report submitted to the NHDES (per Env-Wq 1609.13(c)(5)).

d. In accordance with Env-Wq 1609.08(g)(1), as part of the Odor Control Plan for the septage facility, please add:

i. the use of the existing vegetated mat on top of the septage surface, as a means of odor control, (in addition to the stated "distance to residences); and

ii. the notification and operational procedures the facility operator must follow if an odor complaint is actually received.

e. Please add the following to the Contingency Plan, per Env-Wq 1609.08(g):

i. a description of the equipment and septage spill containment/stabilization materials (e.g. lime) to be stored at the facility, and their location;

ii. the procedures to and who is responsible for, cleaning up a septage spill at the facility; and

iii. a statement that hazardous and toxic materials or substances shall not be accepted at the septage facility.

f. A description of how all operators of the facility were/shall be instructed on the applicable requirements prior to working at the facility, must also be included in the Management Plan.

3. Facility Plan: This permit renewal process also included the review of the septage facility's Facility Plans, Figures 2 and 3, dated June 2000, prepared by Nobis, received on July 10, 2000, to confirm that they meet the current rules (Env-Wq 1609.07), and are appropriately up-to-date.

Please address the following comments, and submit a revised/updated Facility Plan(s) to NHDES for review and approval, for this permit renewal:

a. Per Env-Wq 1609.07(b)(2), please indicate the total available land area, in acres, and the specific acres used for the septage lagoon facility operations, including land application/surface disposal area and temporary stockpile locations.

b. Label the access control measures (e.g. (locked) gate, signage, etc.) for the facility, in accordance with Env-Wq 1609.07(b)(3), as well as label the lagoons for reference, (e.g. Lagoon #1, #2, #3...).

c. Add the approximate locations of and distance to all dwellings, structures, and water supply wells (including the well located east of the facility on Tax Map Lot #244/11) within 600 feet of the facility.

d. In accordance with Env-Wq 1609.07(b)(10), the name and location of all surface waters within ¼ mile of the septage lagoon facility, must be shown on the Facility Plan. According to the on-line NHDES OneStop Data Mapper (http://nhdesonestop.sr.unh.edu/html5viewer/#), there appears to be freshwater wetland areas northwest and south of the facility within ¼ mile. Please show these areas on the Facility Plan(s), along with the appropriate setback distances as described in h., below.

e. Identify measures to control surface run-off to or from the facility and stockpile locations (a note on the plan(s), is acceptable).

f. Identify the surrounding land use within 600 feet of the facility (a note on the plan(s), is acceptable).

g. Indicate the approximate temporary stockpile/berm locations for septage solids, and the approximate limits of the aforementioned land application/surface disposal areas (labeled) used for septage solids, following lagoon cleaning.

   Include the limits for all currently utilized locations, as well as any (labeled) future disposal areas. These disposal areas must also meet the septage land application setback distances required by Env-Wq 1608.10(a), Table 1608-1.

   Please note *that if these areas meet NHDES requirements for temporary stockpile locations and land application/surface disposal, they shall be the only locations approved with this permit renewal; any revision to or additional proposed areas, must be submitted with a Septage Permit Modification application for NHDES prior review and approval.*

h. Show and label all of the setback distances for the facility as required by Env-Wq 1609.09(f), Table 1609-1, including, but not limited to, the following (if there is no sensitive receptor(s), please indicate as a note on the plan(s)):

Sensitive Receptor:	Setback:
Water Supplies: Nearest Well	500 ft.(1)
Surface Water: (including wetlands):	125 ft.
Non-Tidal Drainage Ditch:	100 ft.
Nearest Residential Off-site Dwelling:	600 ft.(2)
Property Line:	500 ft.(3)

(1) The distance to the nearest water supply may be reduced based on a hydrological evaluation performed by a professional geologist or professional engineer that demonstrates that a lesser distance will not result in any degradation to drinking water at the well or surface water source.

(2) The distance to the nearest residential off-site dwelling shall be as far as practical beyond 600 feet, but may be reduced below 600 feet with the owner's prior written consent.

(3) The distance to the nearest property line shall be as far as practical beyond 500 feet, but may be reduced below 500 feet with the owner's prior written consent.

4. Groundwater Quality: As required by Env-Wq 1615.01, *"…groundwater shall be monitored and regulated at all septage facilities, in accordance with the requirements of Env-Wq 402 or Env-Or 700, as applicable…"*

   Therefore, as a part of this permit modification (renewal) application process, the NHDES has reviewed the historical and most recent groundwater quality laboratory results for the April 15, 2020 samples, submitted to NHDES Hazardous Waste Remediation Bureau (HWRB), as required by the above-referenced groundwater management permit.

   In April 2020, the following groundwater monitoring wells had exceedances (shown in **bold**) to the current NHDES Ambient Groundwater Quality Standards (AGQS) for four Per- and Polyfluoroalkyl Substances (PFAS) and Nitrate:

Date	Parameter	AGQS	LMW-2	LMW-3	LMW-4	MW-1R	MW-3S
4/15/2020	PFAS (ng/l):						
	Perfluorohexanesulfonic acid (PFHxS)	**18**	**45**	10.9	< 4.26	5.57	< 4.53
	Perfluorooctanoic acid (PFOA)	**12**	**343**	**36.2**	7.19	10.3	**18.4**
	Perfluorooctanesulfonic acid (PFOS)	**15**	**190**	< 4.34	< 4.26	< 4.47	< 4.53
	Perfluorononanoic acid (PFNA)	**11**	9.76	< 4.34	< 4.26	< 4.47	< 4.53
	Nitrate (mg/l):	**10**	**26**	**57**			

According to information provided by the HWRB, the PFAS presence in groundwater in the discharge wells LMW-2 and LMW-3, and MW-3S, is suspected to be from the septage lagoon facility. In order to confirm this, NHDES requests the following information be submitted by the Town of Hopkinton:

a. A summary of the types of septage discharged into each of the lagoons at least for the past 5 years up to the past 15 years, differentiating between septage from domestic (household/residential), and commercial, industrial, and institutional establishments, and including: year, source type, and gallons. [The information for at least the past 5 years, should be available from each of the individual septage haulers, as required by Env-Wq 1605.11(c).]

b. Submit a summary of the lagoon cleaning and septage land application/surface disposal activities for the last 15 years, including: year, disposal location (correlated with the labeled locations on the revised Facility Plan, requested above), lagoon source, and approximate volume removed, applied/disposed.

c. In accordance with Env-Wq 402.25 – Response to Exceedances: "*(i)f any regulated contaminant is detected by the permittee's monitoring at a concentration that exceeds the applicable AGQS, the permittee shall:*

(1) Within 10 days of receiving the test results that show the exceedance, notify the department of the exceedance;

(2) Within 21 days of receiving the test results that show the exceedance, test water for the regulated contaminant that exceeds the AGQS from each private or public drinking water supply well within 1,000 feet of the location where the exceedance occurred; …" (underline added for emphasis)

Per the November 26, 2019 letter from the HWRB to the Town of Hopkinton, Nobis performed a "limited Receptor Survey" for the Town to confirm active water supply wells within 500 feet of the GMZ boundary to the west and south, and sampled/attempted to sample any identified active water supplies therein, for PFAS analysis. Those wells sampled did not contain PFAS above AGQS.

However, according to the aforementioned groundwater management rule, the receptor survey is required to include those drinking water wells within *1,000 feet of the location where the exceedance occurred*. Also, it does not appear that the drinking water well on Tax Map Lot # 244/11 (Well Id/WRB#: 121.0653), was included in the Receptor Survey, or that it was sampled for PFAS in April 2020. Therefore, **the Town is required to please:**

i. confirm that all drinking water wells within 1,000 feet of LMW-2 and LMW-3, and MW-3S were included in the receptor survey and PFAS sampling event(s), and submit a **Revised** Receptor Survey, as necessary, listing the wells (by tax map/lot #, physical address, and owner) that have been sampled and those yet to be sampled (both within 1,000 feet of the on-site PFAS exceedances, and within 500 feet of the GMZ). The revised Receptor Survey must also include the drinking water well located on Tax Map Lot # 244/11 (Well Id/WRB#: 121.0653); and

ii. sample and analyze the drinking water wells identified in the Revised Receptor Survey for PFAS, **by April 26, 2021**, for the following PFAS constituents at a NH-certified laboratory, using EPA Method 537 with isotope dilution:

Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)
Perfluorohexanesulfonic acid (PFHxS)	Perfluoroheptanoic acid (PFHpA)	Perfluorobutanesulfonic acid (PFBS)
Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)

Please submit a copy of all laboratory results to NHDES immediately upon receipt.

The Town's response to this letter and submittal of requested information, as soon as possible so that the septage facility renewal application review process may continue, is greatly appreciated.

Please feel free to contact me at (603) 271 – 7888 or judith.houston@des.nh.gov with any questions or comments, or if NHDES may provide you with further guidance or technical assistance.

Sincerely,

Judith E. Sears Houston, P.E.
Permitting & Enforcement Engineer
Residuals Management Section
Wastewater Engineering Bureau

Cc./Ec. File

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