



Truro Board of Health

Tuesday February 7, 2023

Remote Meeting- 4:30 PM

AMENDED

Remote Meeting Access Instructions

This will be a remote meeting. Citizens in Truro can view the meeting on Channel 18 and on the web on the "Truro TV Channel 18" button found under "Helpful Links" on the homepage of the Town of Truro website. To view, click on the green "Watch" button in the upper right of the page. **To provide comment during the meeting, please call in toll free at 1-866-899-4679 and enter the following access code when prompted: 972-302-709; or access the meeting from your computer, tablet or smartphone. <https://global.gotomeeting.com/join/972302709>**

Please note that there may be a slight delay (15-30 seconds) between the meeting and the live-stream (and television broadcast). If you are watching the meeting and calling in, please lower the volume on your computer or television during public comment so that you may be heard clearly. We ask that you identify yourself when calling in to help us manage multiple callers effectively. Citizens may also provide public comment for this meeting by emailing the Health Agent Emily Beebe at ebeebe@truro-ma.gov with your comments.

I. PUBLIC COMMENT

Please note that the Commonwealth's Open Meeting Law limits any discussion by members of the Board of an issue raised to whether that issue should be placed on a future agenda

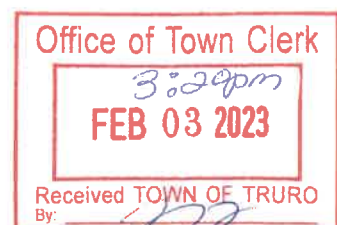
II. AGENDA ITEMS

1. **Mill Pond Road Discussion:** Jarrod Cabral, DPW Director
2. **Local Variance Request:** 2 Ryder Hollow Rd, Map 63, Parcel 14
3. **Discussion on DEP changes to Title 5**
4. **Re-Organization of the Board**

III. MINUTES:

IV. REPORTS

- o Report of the Chair
- o Health Agent's Report



Scott Horsley
Water Resources Consultant
65 Little River Road • Cotuit, MA 02635 • 508-364-7818

February 1, 2023

Jarrold J. Cabral
Director
Department of Public Works
Truro MA 02666

RE: Mill Pond Salt Marsh Restoration Project

Dear Jarrod:

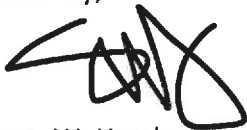
At your request I have reviewed the technical documents associated with the proposed Mill Pond Salt Marsh Restoration Project. These include "Mill Pond Salt Marsh Restoration Alternatives", prepared by Fuss & O'Neill dated June, 2022 and the "Mill Pond Restoration Conceptual Design Report Truro, Massachusetts", prepared by the Woods Hole Group dated June 22, 2022.

I concur with the recommended alternative (breach channel with a 65-foot top). In my opinion this is the best long-term solution and will provide the best water quality and ecological restoration results. With climate change and sea level rise in mind this solution will also provide the most resilience to these changing conditions. The removal of the road and its associated stormwater drainage will be a net reduction in pollutant loading to the salt marsh and estuary.

The project is based upon hydrologic modeling completed by the Woods Hole Group. I have over twenty years of experience working with this firm and highly respect their professional work in these types of projects.

Best wishes for the project moving forward. Please call me directly with any questions that you might have.

Sincerely,



Scott W. Horsley
Water Resources Consultant



TOWN OF TRURO

P.O. Box 2030, Truro MA 02666

Tel: (508) 349-7004 Fax: (508) 349-5505

Memorandum

To: Board and Committee Stake Holders
From: Jarrod J. Cabral, Department of Public Works Director
Date: February 2, 2023
Subject: Mill Pond

Currently, the Mill Pond Road culvert restricts tidal flow into Mill Pond from Pamet Harbor and, ultimately, Cape Cod Bay. The purpose of this project is to replace the damaged and undersized culvert at the Mill Pond Road dike with a larger structure or alternative breach design.

Structural, geotechnical analyses was developed by Fuss & O'Neill, in conjunction with a hydrologic/hydraulic analyses performed by Woods Hole Group. These analyses were completed to assess conditions and support development for the proposed alternatives to replace the existing 36-inch corrugated pipe culvert on Mill Pond Road. A total of four alternatives were considered in the development of this report including two larger open bottom precast culverts and two embankment breach formations.

To assess the severity of the restriction and the potential for ecological restoration, the anticipated effects of replacing the undersized culvert with a larger culvert structure or open channel entailing abandonment of the road were evaluated. The Woods Hole Group assessed the current and proposed alternative culvert and breach scenarios and provided recommendations for channel bed scour protection measures for respective alternatives.

- Alternative 1 – 10 foot wide by 8.5-foot-high open bottom culvert.
- Alternative 2 – 8 foot wide by 8.5-foot-high open bottom culvert.
- Alternative 3 – 65-foot-wide open channel “breach” with 2H:1V side slopes
- Alternative 4 – 95-foot-wide breach with a 10-foot-wide inner channel, 14-foot-wide saltmarsh benches, and 2H:1V and 4H:1V side slopes.

The earthen causeway supporting Mill Pond Road effectively functions as a dike restricting tidal flows to, and drainage flows from, the Mill Pond impoundment. A 36-inch corrugated pipe conveys drainage from Mill Pond to the Pamet River. In 1991 a large storm event completely breached the roadway and former railroad embankment. The existing 36-inch pipe was installed after the 1991 storm as a temporary measure, with the intent to subsequently install a larger timber bridge as a permanent structure. The bridge was never constructed, and the 36-inch pipe remains today.

The roadway embankment covering the culvert is subject to wave and roadway runoff erosion, resulting in a narrowing of the roadway shoulders over the culvert, and requiring regular repair and

replenishment of stone armor scour protection. Additionally, the embankment slopes behind the guardrails exhibit signs of erosion and steepening, providing inadequate lateral support to the guardrail system and roadway embankment.

Stormwater runoff north of the culvert generally flows along the roadway's curb at the edge of pavement, with a leaching catch basin on the southbound (west) lane providing partial drainage. The majority of runoff discharges from the road at the low point immediately north of the culvert and into Mill Pond.

The purpose of this project is to replace the undersized culvert that tidally restricts Mill Pond with a larger structure or channel breach alternative that will allow increased tidal flushing to restore degraded salt marsh resources, provide water quality improvements, and improve drainage runoff flows from the impounded system under both normal and storm flow conditions.

The alternative culvert opening sizes, and channel breaches provide improved tidal volumes and ranges to support restoration of salt marsh areas within Mill Pond, and improve post-storm drainage conditions (i.e., allowing impounded water to drain out more quickly vs. existing conditions). Additionally, the maximum storm surge water levels in Mill Pond are similar for all 4 alternatives as well and are increased over existing conditions; however, there does not appear to be any additional significant impacts to private property, dwellings, structure, wells, or septic systems. The roadway overtops during storms larger than the 10-year storm event, which reduces the contributions of storm flooding through the culvert for larger storms anyways.

Alternatives would allow increased inundation into Mill Pond during coastal storm events. Potential impacts to the Depot Road embankment and other adjacent properties, and potential protection / mitigation measures, would need to be evaluated in a future design phase. Public access accommodations including vehicle parking, pedestrian access and provisions for potential emergency response would need to be evaluated in a future design phase. There also does not appear to be any properties or dwellings that are significantly impacted by the alternatives as compared to existing conditions. The additional flooded areas tend to be low lying areas along the face of the coastal bank. According to the septic and well Plan that has been reviewed these systems are located a far enough distance away and elevation above these restored tides meaning that saltwater flooding or intrusion through the groundwater should not impact these systems.

After a review of the alternatives for Mill Pond is completed, the Select Board will need to decide which alternative to move forward with. The Select Board could decide to do nothing, and the Town could continue to provide maintenance above mean highwater, and continue to protect the roadway, and culvert area from undermining for as long as possible. Another option would be to install a new larger culvert to improve tidal flushing and water quality and elevate the road at a later date to mitigate against future sea level rise or install a new culvert and raise the road two feet present day to mitigate against future sea level rise.

My recommendation to the Select Board is to permanently close the road and install a 95' breach with a 10' wide inner channel for the following environmental considerations. Using the model, the Woods Hole Group developed for Massachusetts we can understand specific and far-reaching flood scenarios for Mill Pond. The Massachusetts flood risk model looks at both current and future storm risks with sea level rise, for the entire Massachusetts Coast line, and includes the 100-yr storm and larger storm events both with

and without sea level rise. As part of the Mill Pond alternative analysis several sea level rise scenarios were applied to each alternative that was analyzed. today Mill Pond Road is vulnerable to overtopping from 10-year storm events meaning, no matter which alternative is chosen the roadway will overtop unless the road is raised 2'. Raising the road two feet today will provide protection against the 100-yr storm event in present day. In 2070 the best-case scenario is that raising the road 2' would only provide protection from a 10-year storm event very similar to the vulnerabilities we see today. Additionally closing the roadway will have a positive impact on the environment and provide the best ecological and water quality results. In addition to the increased flushing, it would eliminate direct stormwater discharges from impervious surfaces which would reduce existing pollutant loading. If the roadway were permanently closed there could be recreational benefits applied to the area including but not limited to installing a small pedestrian bridge to accommodate walkers and bikers, provide drop off kayak areas, fishing and potentially shell fishing as the water quality improves overtime.

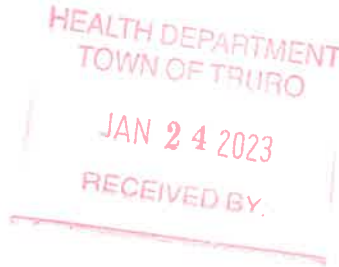
This recommendation directly ties into three Select Board Goals and objectives, Goal C: Protect and restore our fragile environment, Goal D: Use long term strategic planning to guarantee the future health and well-being of our community, Goal E: Proactively engage and involve the Town residents, property and business owners, and objective 5: The Select Board will support and encourage projects that protect and restore our coastal community, and Mill Pond is listed as one of those projects. Lasty over the last two budget cycles the Town Manager directed staff to include the Climate Action Committee, and the Energy Committee in the capital planning process to get their feedback and answer their questions as we work our way through the annual capital project budget cycle. This work directive from the Town Manager is also related to objective 10: The Select Board will provide support to and collaborate with the Climate Action Committee and the Energy Committee on the goals of creating a climate action plan.

Sincerely,
Jarrod J. Cabral
Director
Department of Public Works
Truro Ma 02666

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting
161 Cranberry Highway
P.O. Box 101
Orleans, MA 02653-0101
508-255-2098 - 508-240-1215 (fax)
E-mail: schobro@capecod.net

January 17, 2023

Truro Board of Health
24 Town Hall Road
Truro, MA 02666



RE: Two Ryder Hollow Road

Dear Members of the Board;

Enclosed please find the following with respect to a request for local variances from the Town of Truro Board of Health Regulations at the above referenced address:

- Town of Truro Application for Board of Health Variances Form
- Filing Fee in the amount of \$75.00
- Certified Abutters List from Truro Assessors Office
- Copy of Abutter Notification Letter sent by Certified Mail to abutters
- Floor Plan of Existing Dwelling and Proposed Dwelling (one bedroom addition)
- Copy of DEP Provisional Use Approval Renewal for NitROE Wastewater Treatment System
- Performance Graphs of Existing NitROE Installations – median and average
- Nitrogen Loading Calculations and Table of Input Values
- Septic System Modification Plan entitled “Proposed Sewage Disposal System Modification Plan for an existing two Bedroom Dwelling and a Proposed One Bedroom Addition at 2 Ryder Hollow Road in Truro, Massachusetts”

The subject property is a 36,155+/- square foot lot located easterly of the Ryder Beach parking lot. A two bedroom dwelling built in 1967 exists on the site. The dwelling had a cesspool with an overflow cesspool which was upgraded to a conventional Title 5 system in 2021. The current septic system is composed of a 1500 gallon septic tank, distribution box and soil absorption system sized for three bedrooms.

The new property owner, Mr. Bradley Bernstein, would like to add a third bedroom to the existing dwelling. The property is overlapped by several coastal wetland resource areas; there is not enough buildable upland pursuant to the Truro Board of Health Regulations to support a third bedroom at the property and therefore relief from Section VI – Local Septic Regulations to Supplement Title 5, State Environmental Code Articles 1, 9, 11 and 14 are respectfully requested. We are asking that Nitrogen Credit is allowed in this case to compensate for the additional design flow proposed. Additionally, relief from several local setbacks between system components and wetlands are also sought.

Variances requested from the Town of Truro Board of Health Regulations are as follows:

Article 1 – *General Provisions Nitrogen Credit* – *Nitrogen credit shall not be allowed for new construction, unless an ADU is being created.* Relief from this provision is requested to allow nitrogen credit for new construction.

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting

Article 9 – Required Setbacks for System Components

Relief from the following minimum setback distances are requested for the septic tank, NitROE tank and the reserve area as follows:

	<u>Setback to Wetlands Provided</u>	<u>Setback Required</u>
Septic Tank	77 feet	100 feet
NitROE Wastewater Treatment System	61 feet	100 feet
Reserve Area	50 feet	150 feet

Article 11 – Buildable Upland Calculations for Nitrogen Loading Limitations -When applying nitrogen loading limitations set forth in Title 5 and this Section VI of the Truro Board of Health Regulations, only Buildable Upland shall be included in the lot area calculations. Relief is requested from this section of the local regulations supplementing Title 5. Our nitrogen loading calculations for this property are applied to the whole property and not strictly the Buildable Upland as described in the local regulations.

Article 13 – Nitrogen Loading Limitations 1) The Truro Board of Health requires that all properties within the Town of Truro meet the loading restrictions set forth in 310 CMR 15.214 and contain at least ten thousand (10,000 square feet of Buildable Upland for every 110 gallons per day of design flow... ” A variance is requested from this regulation to allow for a three bedroom dwelling on a lot not containing at least ten thousand square feet of Buildable Upland for every 110 gallons per day of design flow. The lot does contain the minimum lot size Title 5 requires for a three bedroom system in a nitrogen sensitive area.

To comply with the purpose of the Local Regulations Supplementing Title 5, “*to provide a greater degree of protection to environmental and public health...and the need to protect the groundwater*” we are proposing to add an Enhanced Nitrogen Removing Innovative/Alternative Technology to the existing septic system, specifically the NitROE 2ks Wastewater Treatment System utilizing their Provisional Permit Approval from the Department of Environmental Protection (see attached).

To qualify as a candidate for utilizing the NitROE Wastewater Treatment System, an “enhanced” Innovative/Alternative Technology pursuant to their Provisional Permit, a fully complying Title 5 system for a 3 bedroom system must be capable of being installed. The plan shows a reserve area for three bedrooms meeting Title 5 setbacks to the coastal bank, the existing dwelling, private well and property lines. The plan calls for grading or a landscape wall to provide no more than 3 feet of cover over the existing leaching area (a local upgrade approval from Title 5 granted in 2021). The property contains 36,155 square feet of lot area, enough to provide 10,000 square feet of lot area per bedroom pursuant to Title 5 requirements.

The NitROE Wastewater Treatment System has a permit requirement of 11 mg/L, however, this woodchip based septic system technology has shown it is capable of and routinely provides greater nitrogen reducing performance between 5-8 mg/L. Please refer to the attached performance results.

To evaluate the impact of the addition and the additional wastewater flow generated by a third bedroom to the property with respect to nitrogen loading, Nitrogen Loading Calculations were prepared for the existing and proposed conditions. The calculations consider building roof area (existing and proposed), the impervious driveway area, natural areas on the property and the wastewater flow on site (existing and proposed). A table borrowed from the Brewster Board of Health explains the input values used in the Nitrogen Loading calculations and is attached.

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting

The results of the nitrogen loading calculations show that, even with additional wastewater flow and the additional roof area, by incorporating the NitROE Wastewater Treatment System the existing nitrogen loading at the site is more than halved if you utilize the provisional permit standard of 11 mg/L.

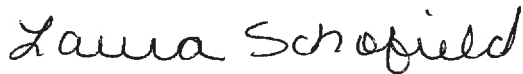
If the calculations are performed using the average of the actual performance of the NitROE system 7.6 mg/l, the nitrogen loading on site is reduced by 65% over existing conditions. Applying the median value of 5.7 mg/L to our proposed nitrogen loading calculations yields a nitrogen reduction over existing conditions of 72%.

In keeping with the intent and purpose of the Truro Board of Health Regulations, it is our opinion that the project as presented will provide a greater degree of environmental protection than existing conditions. On behalf of our client, we respectfully ask the Board for approval of our variance requests for this project.

Please do not hesitate to contact our office if you have questions or concerns. Thank you.

Sincerely,

Schofield Brothers of Cape Cod



Laura Schofield, RS, SE
Project Manager

cc: Bradley Bernstein

enc

Fee: \$75.00

V2023-01



APPLICATION FOR BOARD OF HEALTH VARIANCES

Date: January 6, 2023

Property Owner's Name: Bradley & Kimberly Bernstein

Mailing Address: 146 Larch Road Cambridge, MA 02138

Address of Property: 2 Ryder Hollow Road

Map and Parcel Number: Map # 63 Parcel # 14

Design Engineer/Sanitarian Laura A. Schofield, RS

Firm/Company Name: Schofield Brothers of Cape Cod Phone #: 508.255.2098

Address: PO Box 101 Orleans, MA 02653

Please check type of variance requested:

Title 5 Variance Request: Section _____

Board of Health Variance Request: Section/Article _____ Please refer to attached list of variances

Laura Schofield
Signature (Representative)

1/6/2023
Date

[Signature]
Signature (Property Owner)

1/8/23

Kimberly Bernstein 1/8/23

HEALTH DEPARTMENT
TOWN OF TRURO

JAN 24 2023

RECEIVED BY: _____

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting
161 Cranberry Highway
P.O. Box 101
Orleans, MA 02653-0101
508-255-2098 - 508-240-1215 (fax)
E-mail: schobro@capecod.net

Variations requested from the Town of Truro Board of Health Regulations are as follows:

Article 1 – *General Provisions Nitrogen Credit* – *Nitrogen credit shall not be allowed for new construction, unless an ADU is being created.* Relief from this provision is requested to allow nitrogen credit for new construction.

Article 9 – *Required Setbacks for System Components*

Relief from the following minimum setback distances are requested for the septic tank, NitROE Wastewater Treatment System and the reserve area as follows:

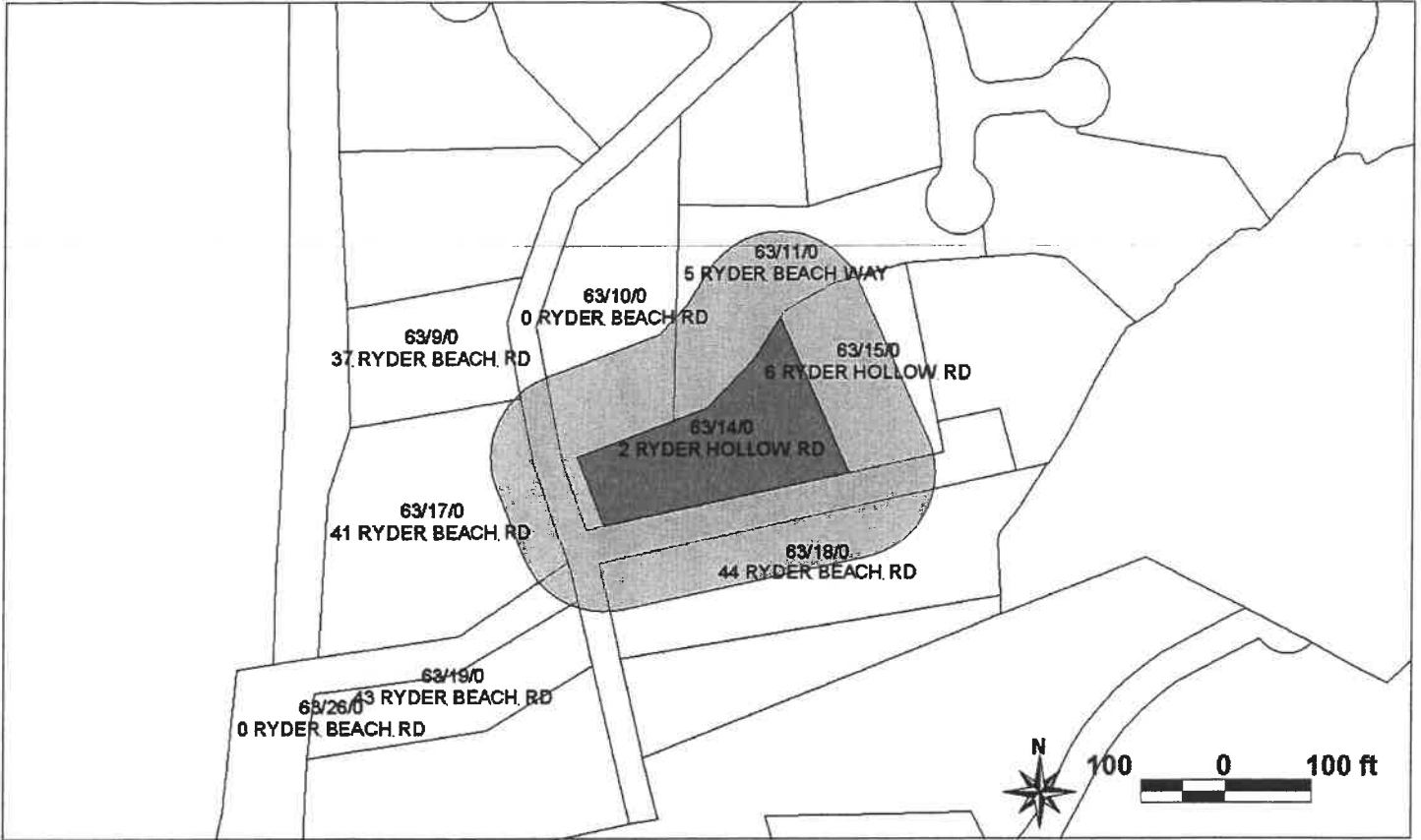
	<u>Setback to Wetlands Provided</u>	<u>Setback Required</u>
Septic Tank	77 feet	100 feet
NitROE Wastewater Treatment System	61 feet	100 feet
Reserve Area	50 feet	150 feet

Article 11 – *Buildable Upland Calculations for Nitrogen Loading Limitations* -*When applying nitrogen loading limitations set forth in Title 5 and this Section VI of the Truro Board of Health Regulations, only Buildable Upland shall be included in the lot area calculations.* Relief is requested from this section of the local regulations supplementing Title 5. Our nitrogen loading calculations for this property are applied to the whole property and not strictly the Buildable Upland as described in the local regulations.

Article 13 – *Nitrogen Loading Limitations 1) The Truro Board of Health requires that all properties within the Town of Truro meet the loading restrictions set forth in 310 CMR 15.214 and contain at least ten thousand (10,000 square feet of Buildable Upland for every 110 gallons per day of design flow...*” A variance is requested from this regulation to allow for a three bedroom dwelling on a lot not containing at least ten thousand square feet of Buildable Upland for every 110 gallons per day of design flow. The lot does contain the minimum lot size Title 5 requires for a three bedroom system in a nitrogen sensitive area.

TOWN OF TRURO, MA
 BOARD OF ASSESSORS
 P.O. BOX 2012, TRURO MA 02666

Abutters List Within 100 feet of Parcel 63/14/0



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
3625	63-9-0-R	MEISS HARRIET R TRUST TRS: MEISS HARRIET R	37 RYDER BEACH RD	333 WEST 86TH ST APT 705A	NEW YORK	NY	10024
3626	63-10-0-E	TOWN OF TRURO	0 RYDER BEACH RD	PO BOX 2030	TRURO	MA	02666-2030
3627	63-11-0-R	STRIAR FAMILY LLC MGR: MARIA STRIAR	5 RYDER BEACH WAY	C/O MGR: MARIA STRIAR 141 EAST 3RD ST 11H	NEW YORK	NY	10009
3630	63-14-0-R	BERNSTEIN KIMBERLY S & BRADLEY	2 RYDER HOLLOW RD	146 LARCH RD	CAMBRIDGE	MA	02138
3631	63-15-0-R	GRANT FREDERIC D JR & GRANT BARBARA LEMPERLY	6 RYDER HOLLOW RD	PO BOX 1127	TRURO	MA	02666
3633	63-17-0-R	SEXTON FAMILY NOM TR TRS: SEXTON JAMES A & MARY L	41 RYDER BEACH RD	PO BOX 1205	TRURO	MA	02666-1205
3634	63-18-0-R	OWNER UNKNOWN	44 RYDER BEACH RD	44 RYDER BEACH RD	TRURO	MA	02666
3635	63-19-0-R	OCONNELL NOEL VINCENT & SWANSON KATHERINE M	43 RYDER BEACH RD	C/O OCONNELL NOEL PO BOX 48	CRAFTSBURY COMMON	VT	05827-0048
6403	63-26-0-E	TOWN OF TRURO	0 RYDER BEACH RD	PO BOX 2030	TRURO	MA	02666-2030

LG 11/22/2022

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting
161 Cranberry Highway
P.O. Box 101
Orleans, MA 02653-0101
508-255-2098 - 508-240-1215 (fax)
E-mail: schobro@capecod.net

January 17, 2023

RE: Two Ryder Hollow Road, Truro

Dear Abutter;

Your neighbor at Two Ryder Hollow Road, Mr. Bradley Bernstein, would like to modify the septic system serving the existing dwelling to increase the design flow to three bedrooms (currently the house has 2 bedrooms) and by incorporating an enhanced innovative/alternative technology to reduce nitrogen; specifically, a NitROE Wastewater Treatment System.

You are being notified pursuant to the Truro Board of Health Regulations that the Board of Health will hold a public hearing to hear a request for variances from the Town of Truro Board of Health Regulations for the proposed septic system modification at the above referenced address. The variances requested are as follows:

Article 1 – General Provisions Nitrogen Credit – Nitrogen credit shall not be allowed for new construction, unless an ADU is being created. Relief from this provision is requested to allow nitrogen credit for new construction.

Article 9 – Required Setbacks for System Components

Relief from the following minimum setback distances are requested for the septic tank, NitROE Wastewater Treatment System and the reserve area as follows:

	<u>Setback to Wetlands Provided</u>	<u>Setback Required</u>
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Copies of the site plan are on file at the Board of Health and may be viewed prior to the public hearing to be held on February 7, 2023. The variance hearing begins at 4:30 pm and will be held remotely.

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting

Remote Meeting Access Instructions: For citizens in Truro the meeting may be viewed on Channel 18 and on the web on the “Truro TV Channel 18” button found under “Helpful Links” on the homepage of the Town of Truro website. To view, click on the green “Watch” button. To provide comment remotely during the meeting, call 1-866-899-4679. Or you may access the meeting from your computer, tablet, or smartphone at <https://global.gotomeeting.com>. Please refer to the published meeting agenda at the Town of Truro website for access codes and further information.

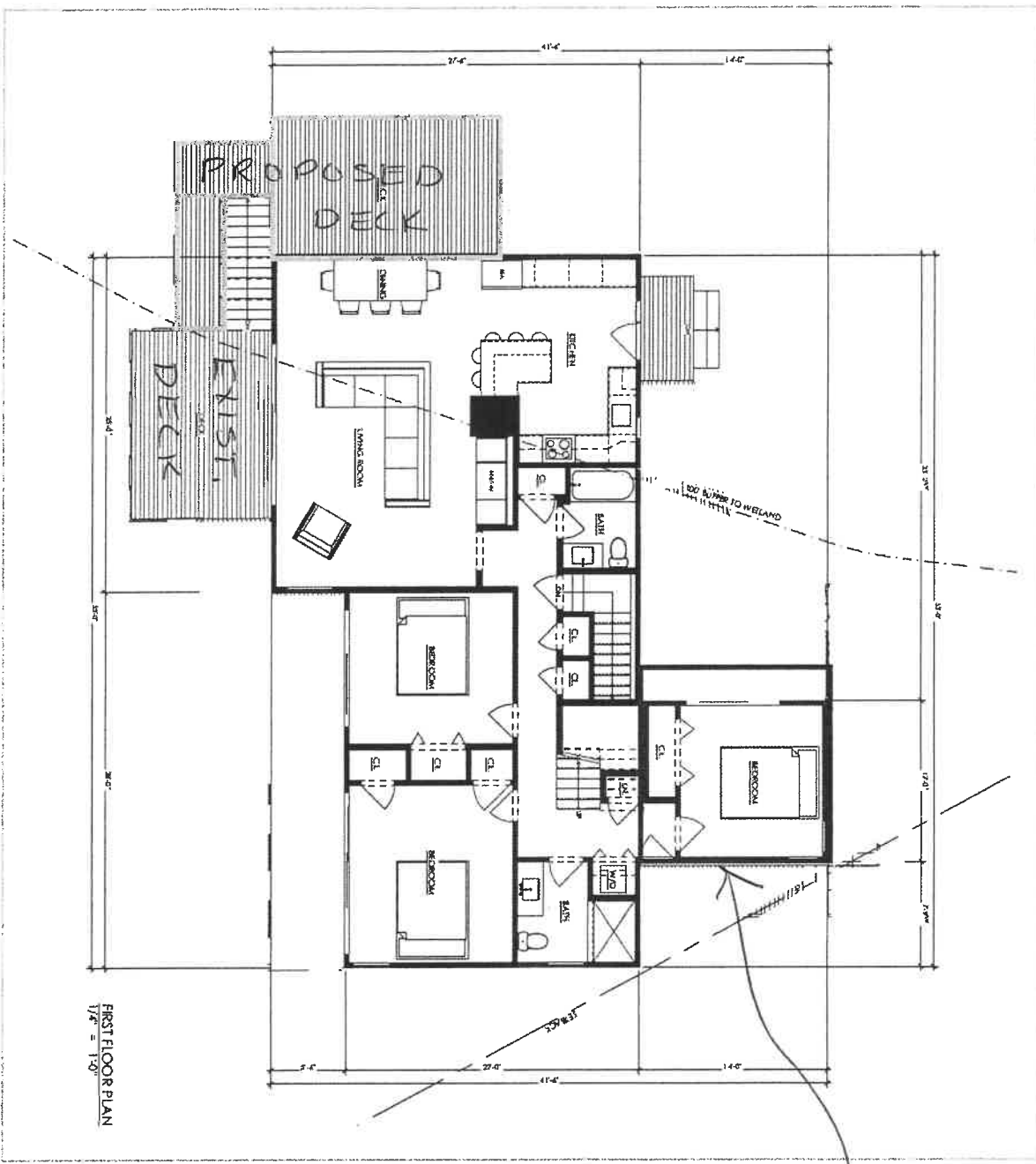
Sincerely,
Schofield Brothers of Cape Cod

Laura Schofield

Laura Schofield, RS, SE
Project Manager

enc

TWO RYDES HOLLOW RD
TRURO, MA



Proposed
one-story,
one bedroom
addition



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Kathleen A. Theoharides
Secretary

Karyn E. Polito
Lieutenant Governor

Martin Suuberg
Commissioner

PROVISIONAL USE APPROVAL RENEWAL

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

KleanTu LLC.
300 Old Pond Road, Ste# 206
Bridgeville, PA 15017

Trade name of technology and models:

NitROE® Waste-Water Treatment System (NitROE® WWTS) with unit sizing for design flows up to 2000 gpd (NitROE® 2KS WWTS and NitROE® 2KM WWTS) (hereinafter the 'System' or the 'Technology'). Owner and Operator manuals, installation manual, schematic drawings illustrating the System models and the technology inspection checklist are part of this Certification.

DEP Transmittal No.: X285590
Date of Issuance: May 12, 2020,
Expiration date: May 12, 2025

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection (hereinafter "the Department") hereby issues this Provisional Approval to: KleanTu LLC, located at 300 Old Pond Rd., Ste 206 in Bridgeville, PA (hereinafter "the Company"), NitROE® 2KS WWTS and NitROE® 2KM WWTS (hereinafter "the Technology" or "System") for use in the Commonwealth of Massachusetts subject to the conditions herein. Sale and use of the Technology is subject to compliance by the Company, the Designer, the System Installer, the Operator, and the System Owner with the terms and conditions herein. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

Marybeth Chubb, Section Chief
Wastewater Management Program
Bureau of Resource Protection

May 12, 2020
Date

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

I. PURPOSE

Subject to the conditions of this Approval and any other local requirements, the purpose of this Approval is to allow installation and operation of at least 50 on-site sewage disposal systems utilizing the technology in Massachusetts in order to conduct a performance evaluation of the capabilities of the Technology during the first 3 years of operation of each system, in accordance with Title 5 – 310 CMR 15.286 (7), *Provisional Approval of Alternative System*.

The specific goal of the Performance Evaluation is to determine if the Technology is capable of consistently meeting the concentration limits for total nitrogen (TN) of less than 11 milligrams per liter (mg/L) for installations with design flows less than 2,000 GPD in the effluent discharged to the soil absorption system. In areas subject to nitrogen loading limitations, increases in the discharge rate per acre may be allowed when the nitrogen concentration discharged to the soil is reduced.

The Company is responsible for oversight and sampling of the systems during the Performance Evaluation. The System Owner has responsibility for continued oversight and sampling of the system if the property served was allowed to increase the discharge rate per acre above 440 gallons per day per acre (gpda) in an area subject to Nitrogen Loading Limitations. The System Owner will be required to repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local approving authority determines that the System is not capable of meeting the required reduction in nitrogen in the effluent.

With the other applicable permits or approvals that may be required by Title 5, this Approval authorizes the installation and use of the Alternative System in Massachusetts. All the provisions of Title 5, including the General Conditions for all Alternative Systems (310 CMR 15.287), apply to the sale, design, installation, and use of the System, except those provisions that specifically have been varied by this Approval.

II. GENERAL DESCRIPTION OF THE TECHNOLOGY

The NitROE ® 2KS or 2KM WWTS (the ‘System’) is installed in series between a Title-5 system septic tank and a soil absorption system constructed in accordance with 310 CMR 15.100 – 15.279, subject to the provisions of this Approval to accommodate design flows of less than 2,000 GPD.

The System is comprised of two-unit processes which are sequentially performed in two different chambers. The first chamber is aerated, via an external air pump and airline header/hose arrangement, to achieve both organic carbon reduction along with the biological conversion of ammonia-N to nitrate-N. From the Aeration Chamber, the wastewater then gravity flows into a Denitrification Chamber where, in the presence of natural organics from wood chips, bacteria mediate the conversion of nitrate-N to inert N gas that exits to the atmosphere via the Title 5 system vent piping. Depending on design flow and availability of local tank structures, the sequential Aeration and Denitrification process steps can be performed in the same single tank, which is NitROE® 2KS WWTS, or each process could be performed in its own separate tank with the overall NitROE® WWTS comprised of multiple tank combinations, which is NitROE® 2KM WWTS.

The use of the Technology under this Approval requires:

- Disclosure Notice in the Deed to the property;
- Certifications by the Company, the Designer, and the Installer;
- System Owner Acknowledgement of Responsibilities;

- A certified operator under contract for periodic inspection and maintenance;
- Periodic sampling;
- Recordkeeping and reporting; and
- An external power supply

III. CONDITIONS OF APPROVAL

A. Basis for Conditions

1. The term "System" refers to the Technology in combination with any other components of an on-site treatment and disposal system that may be required to serve a Facility in accordance with 310 CMR 15.000.
2. The term "Approval" includes the Special Conditions, Standard Conditions, General Conditions of 310 CMR 15.287, and the approved Attachments.
3. Items required by this Approval include:
 - a) Performance Evaluation Plan (PEP) with sampling and analysis requirements and approved by the Department. The PEP must be submitted to the Department for review and approval within 60 days of issuance of this Approval and meet the requirements of the Department's *Guidance for the Preparation of Performance Evaluation Plans <2,000 GPD*;
 - b) Minimum System installation requirements;
 - c) Company schematic drawings and specifications;
 - d) Owner's Manual, including information on substances that should not be discharged to the System;
 - e) Operation and Maintenance manual, including but not limited to, operator qualification requirements, inspection requirements, sampling and analysis requirements, recordkeeping requirements, and/or reporting requirements; and
 - f) MassDEP Operation and Maintenance (O&M) checklist and I/A technology inspection checklist.

B. Special Conditions

1. Department review and approval of the System design and installation is not required unless the Department determines on a case-by-case basis pursuant to its authority at 310 CMR 15.003(2)(e) that the proposed System requires Department review and approval.
2. System installations must meet the specific siting conditions for Provisional Use provided in 310 CMR 15.286(4) and the facility must meet the siting requirements of this Approval.
3. Any System for which a complete Disposal System Construction Permit Application is submitted while this Approval is in effect, may be permitted, installed, and used in accordance with this Approval unless the Department, the local approval authority, or a court requires the System to be modified or removed or requires discharges to the System to cease.
4. The System Owner shall provide access to the site for purposes of sampling the System in accordance with the Company's technology Performance Evaluation Plan approved by the

Department, in addition to providing access for performing inspections, maintenance, repairs, and responding to alarm events.

5. The System Owner shall ensure that no permanent buildings or structures, other than the System, are constructed in the area for the installation of all the components of a fully conforming Title 5 system with a reserve area. The area for a fully conforming Title 5 system with a reserve area shall not otherwise be disturbed by the System Owner in any manner that will render it unusable for future installation of a fully conforming Title 5 system.
6. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sanitary sewer system.

If it is feasible to connect a new or existing facility to the sewer, the Designer shall not propose an Alternative System to serve the facility and the facility Owner shall not install or use an Alternative System.

When a sanitary sewer connection becomes feasible after an Alternative System has been installed, the System Owner shall connect the facility served by the System to the sewer within 60 days of such feasibility and the System shall be abandoned in compliance with 310 CMR 15.354, unless a later time is allowed in writing by the Department or the Local Approving Authority.

7. The control panel including alarms shall be mounted in a location accessible to the System Operator.
8. For any System that does not flow by gravity to the SAS, the System shall be equipped with sensors and high-level alarms to protect against high water due to pump failure, pump control failure, loss of power, or system freeze up. The control panel including alarms and controls shall be mounted in a location always accessible to the operator (or service contractor). Emergency storage capacity for wastewater above the high level alarm shall be provided equal to the daily design flow of the System and the storage capacity shall include an additional allowance for the volume of all drainage which may flow back into the System when pumping has ceased.

Instead of providing emergency 24-hour storage, an independent standby power source may be provided for operation during an interruption in power. With any interruption of the power supply the source must be capable of automatically activating in addition to manual start up capability. The standby power must be sufficient to handle peak flows for at least 24 hours and sufficient to meet all power needs of the System including, but not limited to, pumping, ventilation, and controls. Standby power installations must be inspected and exercised at least annually and all automatic and manual start up controls must be tested. Standby power installations must comply with all applicable state and local code requirements. Provided that a standby power installation complies with these requirements, no variance is required to the provisions of 310 CMR 15.231(2).

9. System unit malfunction and high water alarms shall be connected to circuits separate from the circuits to the operating equipment and pumps.
10. All System control units, valve boxes, conveyance lines and other System appurtenances shall be designed and installed to prevent freezing per the Company's recommendations.

11. Any System structures with exterior piping connections located within 12 inches or below the Estimated Seasonal High Groundwater elevation shall have the connections made watertight with neoprene seals or equivalent.
12. In compliance with 310 CMR 15.240(13), a minimum of one (1) inspection port shall be provided within the SAS consisting of a perforated four inch pipe placed vertically down into the stone to the naturally occurring soil or sand fill below the stone. The pipe shall be capped with a screw type cap and accessible to within three inches of finish grade.

Operation and Maintenance

13. Inspection, operation and maintenance (O & M), sampling, and field testing of the System required by this Approval shall be performed by a System Operator with the following qualifications:
 - a) is an approved System Inspector in accordance with 310 CMR 15.340;
 - b) has been trained by the Company and whose name appears on the Company's current list of qualified operators; and
 - c) has been certified at a minimum of Grade Level IV (four) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00. The name of the Operator shall be included in the O&M agreement required by paragraph B (14).
14. Prior to the use of the System, the System Owner shall enter into an O&M Agreement with a qualified contractor and submit the Agreement to the Approving Authority and the Company. The Agreement shall be at least for one year and include the following provisions:
 - a) The name of the qualified Operator that appears on the Company's current list of Service Contractors;
 - b) The System Operator must have the qualifications specified in paragraph B (13);
 - c) The System Operator must inspect the System in accordance with the Approval and anytime there is an equipment failure, System failure, or other alarm event;
 - d) In the case of a System failure, an equipment failure, alarm event, components not functioning as designed or in accordance with the Company specifications, or violations of the Approval, procedures and responsibilities of the Operator and System Owner shall be clearly defined for corrective measures to be taken immediately. The System Operator shall agree to provide written notification within five days describing corrective measures taken to the System Owner, the Company, and the local board of health;
 - e) The System Operator shall determine the cause of total nitrogen effluent limit violations if they occur and take corrective actions in accordance with the approved O & M Manual; and
 - f) Procedures and responsibilities for recording quarterly or monthly wastewater flows must be defined, see paragraph B (32) "*Flow Metering*".
15. At all times, the System Owner shall maintain an O&M Agreement that meets the requirements of paragraph B (20).
16. The System Owner and the System Operator shall properly operate and maintain the system in accordance with this Approval, the Designer's operation and maintenance requirements, and the requirements of the local approving authority.

17. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Operator shall notify the System Owner immediately.
18. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the System Operator shall be responsible for the notification of the local approving authority within 24 hours of such determination.
19. In the case of a System failure, an equipment failure, alarm event, components not functioning as designed or in accordance with the Company specifications, or any violations of the Approval, the System Owner and the System Operator shall be responsible for the written notification of the local approving authority and the Company within five days describing corrective measures taken.
20. Within 60 days of any site visit, the System Operator shall submit an O&M report and inspection checklist to the System Owner and the Company. The O&M report and inspection checklist shall include, at a minimum:
 - a) for a System failing, any corrective actions taken;
 - b) wastewater analyses, wastewater flow data, and field testing results;
 - c) any violations of the Approval;
 - d) any determinations that the System or its components are not functioning as designed or in accordance with the Company specifications; and
 - e) any other corrective actions taken or recommended.
21. By September 30th of each year, the System Owner and the Service Contractor shall be responsible for submitting to the local approving authority all monitoring results with all O&M reports and inspection checklists completed by the System Operator during the previous 12 months.
22. By September 30th of each year, the Service Contractor shall be responsible for submitting to the Company copies of all O&M reports including alarm event responses, all monitoring results, violations of the Approval, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons during the previous 12 months.
23. A copy of the wastewater analyses, wastewater flow data, field testing results, and System Operator O&M reports and inspection checklists shall be maintained by the Company. It is recommended the System Owner also maintain copies of these items.
24. The System Owner shall notify the Approving Authority in writing within seven days of any cancellation, expiration or other change in the terms and/or conditions of the O&M Agreement required by Paragraph B(14).
25. The System Owner and the Service Contractor shall maintain copies of the Service Contractor's O&M reports, inspection checklists, and all reports and notifications to the LAA for a minimum of five years.
26. The System may only be installed to serve facilities where a fully conforming Title 5 system with a reserve area exists on-site or could be built on-site in compliance with the design standards for new construction of 310 CMR 15.000, and for which a site evaluation in

compliance with 310 CMR 15.000 has been approved by the Approving Authority. A fully conforming Title 5 system may include other approved alternative technologies in accordance with the conditions imposed on the alternative technologies.

27. Subject to the provisions of this Approval, the Technology shall be installed in a manner which neither intrudes on, replaces a component of, or adversely affects the operation of all other components of the System designed and constructed in accordance with the standards for new construction of 310 CMR 15.200 - 15.279.

Effluent Limit and Monitoring Requirements.

28. For the new construction, unless the facility meets a TN effluent limit of 11 mg/l or less, the system shall not be designed to receive more than 440 gallons of design flow per day per acre (gpda) in an area that is subject to the Nitrogen Loading Limitations of 310 CMR 15.214. If the facility does not meet with the Nitrogen Loading Limitations pursuant to the aggregation provisions of 310 CMR 15.216, the System Owner shall repair, replace, modify or take any other action as required by the Department or the local approving authority to meet the total nitrogen concentration limits in the effluent.

Violation of the TN concentration in the System effluent shall not require notifications as required in paragraphs B (18) and (19).

29. Prior to Department approval of the Company's Performance Evaluation Plan, the Company shall be responsible for the following monitoring requirements for all System installations that are subject to a total nitrogen concentration limit in accordance with paragraph B (28). Sampling shall include pH, BOD5, TSS and Total Nitrogen, unless otherwise stated. Flow shall be recorded at each inspection, see "Flow Metering" section below.

- a) Year-round facilities shall be inspected and effluent sampled quarterly;
- b) Seasonal properties shall be inspected and effluent sampled a minimum of twice per year, with at least one annual sample taken 30 to 60 days after seasonal occupancy and a second sample taken no less than 2 months after the first sample; and
- c) After 12 rounds of monitoring, sampling may be reduced to TN only quarterly. Reduced sampling shall also include Field Testing of System wastewater when determined necessary by the operator, see *DEP Field Testing Protocol* at <http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf>.

Properties occupied at least 6 months per year are considered year-round properties.
Properties occupied less than 6 months per year are considered seasonal properties.

30. During the Performance Evaluation period, the Company shall follow the monitoring requirements specified in the Performance Evaluation Plan for installed Systems.
31. After the three (3) year Performance Evaluation period by the Company and approval by the Department, and until this Approval is modified, terminated, or superseded by a General Use Certification, the System Owner shall comply with the following monitoring requirements if the System is subject to a total nitrogen concentration limit in accordance with paragraph B? (28).

- a) Year-round properties shall be inspected and sampled for at least the TN parameter a minimum of twice/year, at least 5 months apart and with at least one sample taken between December 1 and March 1 of each year. Field testing shall be completed as determined necessary by the System operator, see *DEP Field Testing Protocol* at <http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf>.
Water meter readings shall be recorded at each inspection, see “Flow Metering” below.
 - b) Seasonal properties shall be sampled for at least the TN parameter a minimum of twice/year. At least one annual sample must be taken 30 to 60 days after each seasonal occupancy. A second sample must be taken no less than 2 months after the first sample. Field testing of the System shall be completed as determined necessary by the operator. Water meter readings shall be recorded at each inspection, see “Flow Metering” below.
32. Flow Metering - At a minimum, for all systems installed prior to this Approval, water meter flow data shall be recorded each time the system is inspected and sampled by the System Operator. For systems installed after the effective date of this Approval, wastewater flow data shall be recorded each time the system is inspected and sampled by the System Operator and may be based on:
- a) actual metering data of wastewater flow to the system; or
 - b) water meter data for the total facility with metered non-wastewater flows, if available, subtracted from the total facility water usage.
33. Field Testing: Turbidity, pH and Apparent Color - Turbidity, pH, DO and apparent color shall be measured and/or recorded in the field when when determined necessary by the operator. See applicable sections of the Department’s *Field Testing Protocol* at <http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/testsamp.pdf>.
34. At a minimum, the System Operator shall inspect the System:
- a) two times per year;
 - b) in accordance with the approved O&M manual, the Designer's operation and maintenance requirements, and the requirements of the local approving authority; and
 - c) any time there is an alarm event, equipment failure, or system failure
35. The System Operator shall collect samples and obtain analysis results from an approved lab, perform field testing required by the Approval and submit results within 60 days of the site visit to the System Owner.
36. If the Company successfully demonstrates the effectiveness of the System to reduce nitrogen loadings during the Performance Evaluation period, a minimum of three years, the System Owner shall operate the System subject to the requirements of the General Use Certification, if issued, for this technology.

C. Special Conditions Specific to the Company

1. The Approval shall only apply to model units with the same model designations specified in this approval and meet the same specifications, operating requirements, and plans, as provided by the manufacturer at the time of the application. Any proposed modifications of the units shall be subject to the review of the Department for coverage under the Approval.

2. Prior to submission of an application for a DSCP, the Company shall provide to the Designer and the System Owner:
 - a) All design and installation specifications and requirements;
 - b) An operation and maintenance manual, including:
 - i) an inspection checklist;
 - ii) recommended inspection and maintenance schedule;
 - iii) monitoring (i.e. water use and power consumption) and sampling procedures, if any;
 - iv) alarm response procedures, if any, and troubleshooting procedures;
 - c) An owner's manual, including proper system use and alarm response procedures, if any;
 - d) Estimates of the Owner's costs associated with System operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
 - e) A copy of the Company's warranty; and
 - f) Lists of Designers, Installers, and Service Contractors.
3. The Company shall implement the Performance Evaluation Plan, as submitted and approved by the Department, and shall be responsible for all data collection and submissions to the Department until a final determination on the Performance Evaluation has been made by the Department.
4. Until a final determination has been made by the Department on a completed Performance Evaluation, the Company shall submit to the Department an annual report by February 15th of each year that includes the following:
 - a) a table of all sample data collected for all systems installed to date and all information required by the Department as part of the approved Performance Evaluation Plan;
 - b) status of preparation of a Performance Evaluation Plan if not yet provided to MassDEP, or any recommended changes to the approved Performance Evaluation Plan;
 - c) a list of pending applications for system installations which have been submitted to local approving authorities;
 - d) identification of any System after start-up in violation of the Approval or not in compliance with any performance criteria at the time of the annual report, the reasons for the noncompliance and the status of any corrective actions that are needed; and
 - e) any recommendations and requests for changes to the system monitoring and reporting plan or the performance criteria of the Approval.

The report shall be signed by a corporate officer, general partner or the Company owner.

(Service Contractor records submitted to the Company should not be included with the annual report to the Department, but shall be made available to the Department within 30 days of a request by the Department.)

5. The Company shall institute and maintain a program of Installer training and continuing education that is at least offered annually. The Company shall maintain and annually update, and make available the list of qualified Installers by February 15th of each year. The Company shall certify that the Installers on the list have taken the training and passed the Company's training qualifications.

6. The Company shall institute and maintain a program of Designer training and continuing education, as approved by the Department. The Company shall maintain and annually update, and make available the list of qualified Designers by February 15th of each year. The Company shall certify that the Designers on the list have taken the training and passed the Company's training qualifications.
7. The Company shall institute and maintain a program of Operator training and continuing education, as approved by the Department. The Company shall maintain and annually update, and make available the list of qualified Operators by February 15th of each year. The Company shall certify that the Operators on the list have taken the training and passed the Company's training qualifications.
8. The Company shall not sell the Technology to an Installer unless the Installer is trained to install the System by the Company.
9. Prior to its sale of any System that may be used in Massachusetts, the Company shall provide the purchaser with a copy of the Approval with the System design, installation, O&M, and Owner's manuals. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of a System for use in Massachusetts with copies of these documents, prior to any sale of the System.
10. Within 60 days of issuance by the Department of a revised Approval, the Company shall provide written notification of changes to the Approval to all Service Contractors servicing existing installations of the Technology and all distributors and resellers of the Technology.
11. The Company shall provide written notification to the Department's Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the Technology for which the Approval is issued. Said notification shall include the name and address of the proposed owner containing a specific date of transfer of ownership, responsibility, coverage and liability between them.
12. The Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns, including but not limited to dealers, distributors, and resellers. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the Company unless the Department determines otherwise.

IV. CERTIFICATION AND NOTIFICATION REQUIREMENTS

1. Thirty (30) days prior to submitting an application for a DSCP, the Company or its representative shall provide to the Approving Authority a certification, signed by the owner of record for the property to be served by the unit, stating that the property owner:
 - a) has been provided a copy of the Provisional Use Approval and all attachments and agrees to comply with all terms and conditions;
 - b) has been informed of all the owner's costs associated with the operation including power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;

- c) understands the requirement for a contract with a company approved operator and has been provided a current list of all approved operators;
 - d) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval; and
 - e) agrees to fulfill his responsibilities to provide written notification of the Approval conditions to any new owner, as required by 310 CMR 15.287(5).
2. Upon submission of an application for a DSCP to the Approving Authority, the Company shall submit to the Approving Authority, with a copy to the Designer and the System Owner, a certification by the Company or its authorized agent that the design conforms to this Approval and that the proposed use of the System is consistent with the unit's capabilities and all Company requirements. The review shall include evaluation of the need for installation of water meter(s) at each facility. An authorized agent of the Company responsible for the design review shall have received technical training in the Company's products.
 3. The System Designer shall be a Massachusetts Registered Professional Engineer, or a Massachusetts Registered Sanitarian provided that such Sanitarian shall not design a system with a discharge greater than 2,000 gallons per day.
 4. Thirty (30) days prior to delivery of the treatment unit to the site for installation, the Company shall provide to the Approving Authority a copy of a signed contract for a minimum period of one year with a Company approved Operator and the initial Owner/Occupant of the property.
 5. Prior to the commencement of construction, the System Installer must certify in writing to the Designer and the System Owner that (s)he has taken the Company's training, passed the Company's training qualifications, and is listed on the Company's list of Installers.
 6. Prior to the issuance of a Certificate of Compliance by the Approving Authority:
 - a) In accordance with 310 CMR 15.021(3), the System Installer and Designer must certify in writing that the System has been constructed in compliance with 310 CMR 15.000, the approved design plans, and all local requirements, including any local approving authority site-specific requirements;
 - b) In accordance with 310 CMR 15.021(3), the Designer must certify in writing that any changes to the design plans have been reflected on as-built plans which have been submitted to the Approving Authority by the Designer;
 - c) As a condition of this Approval, the System Installer and Designer must certify to the Approving Authority in writing that the System has been constructed in compliance with the terms of this Approval;
 - d) An authorized agent of the Company must certify to the Approving Authority in writing that the installation was done by a qualified Installer approved by the Company and the installation conforms to this Approval. The authorized agent of the Company responsible for the inspection of the installation shall have received technical training in the Company's products; and
 - e) Prior to signing any agreement to transfer any or all interest in the property served by the system, or any portion of the property, including any possessory interest, the System Owner shall provide written notice, as required by 310 CMR 15.287(5) of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall be included as an exhibit attached thereto and made

a part thereof of a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the Local Approving Authority within 10 days of such notice to the transferee(s).

V. STANDARD CONDITIONS

1. The provisions of 310 CMR 15.000 are applicable to the design, installation, use and operation of a System utilizing an approved or certified alternative technology, except those provisions that specifically have been varied by the conditions of this Approval.
2. The design, installation, and use of the System must conform to the terms and conditions of the Approval and the Department approved attachments.
3. The facility served by the System and the System itself shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times. Standard Conditions Applicable to the System Owner.
4. This Approval shall be binding on the System Owner and on its agents, contractors, successors, and assigns. Violation of the terms and conditions of this Approval by any of the foregoing persons or entities, respectively, shall constitute violation of this Approval by the System Owner unless the Department determines otherwise.
5. The System Owner shall obtain all necessary permits and approvals required by 310 CMR 15.000 prior to the installation and use of the System in Massachusetts.
6. The System is approved for the treatment and disposal of sanitary sewage only. The System Owner shall not introduce any wastes that are not sanitary sewage into the System. The System Owner shall dispose of wastes generated or used at the facility that are not sanitary sewage by other lawful means.
7. Prior to issuance of the Certificate of Compliance and after recording and/or registering the Deed Notice required by 310 CMR15.287(10), the System Owner shall submit the following to the Local Approving Authority: (i) a certified Registry copy of the Notice bearing the book and page/or document number; and (ii) if the property is unregistered land, a Registry copy of the System Owner's deed to the property, bearing a marginal reference on the System Owner's deed to the property. The Notice to be recorded shall be in the form of the Notice provided by the Department.
8. The System Owner shall at all times have the installed System properly operated and maintained in accordance with the most recent O&M provisions of this Approval for the alternative technology and in accordance with any additional requirements of the Approving Authority. The most recent O&M provisions of this Approval for the alternative technology are available from the Department.
9. The System Owner shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.

Standard Conditions Applicable to the Designer

10. The Designer shall be a Massachusetts Registered Professional Engineer or a Massachusetts Registered Sanitarian, including when designing systems for repair, provided that such Sanitarian shall not design a system to discharge more than 2,000 gallons per day.
11. Prior to the application for a DSCP, the Designer shall provide the System Owner with a copy of this Approval.

Standard Conditions Applicable to the Company

12. This Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns. Violation of the terms and conditions of this Approval by any of the foregoing persons or entities, respectively, shall constitute violation of this Approval by the Company unless the Department determines otherwise.
13. The Company shall include copies of the Approval with each System that is sold. In any contract executed by the Company for distribution or re-sale of the System, the Company shall require all vendors, distributors, and resellers to provide each purchaser of the System with copies of the Approval.
14. The Company shall make available, in printed and electronic format, the approved Attachments and any approved updates associated with the Approval, to the System Owners, Operators, Designers, Installers, vendors, resellers, and distributors of the System.
15. The Company shall submit to the Department for approval any proposed updates or changes to the Attachments to the Approval.
16. The Company shall notify all System Owners, resellers, and distributors of changes to the Approval within 60 days of issuance by the Department.
17. The Company shall notify the Department's Director of the Wastewater Management Program at least 30 days in advance of the proposed transfer of ownership of the Technology for which the Approval is issued. Said notification shall include the name and address of the proposed owner containing a specific date of transfer of ownership, responsibility, coverage and liability between them. All provisions of the Approval applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
18. The Company shall furnish the Department any information that the Department requests regarding the Technology within 21 days of the date of receipt of that request.
19. If the Company wishes to continue the Approval after its expiration date, the Company shall apply for and obtain a renewal of the Approval. The Company shall submit a renewal application at least 180 days before the expiration date of the Approval, unless written permission for a later date has been granted in writing by the Department. Upon receipt of a timely and complete renewal application, the Approval shall continue in force until the Department has acted on the renewal application.

Reporting

20. All notices and documents required to be submitted to the Department by the Approval shall be submitted to:

Director
Wastewater Management Program
Department of Environmental Protection
One Winter Street - 5th floor
Boston, Massachusetts 02108

Rights of the Department

21. The Department may suspend, modify or revoke the Approval for cause, including, but not limited to, noncompliance with the terms of the Approval, non-payment of any annual compliance assurance fee, for obtaining the Approval by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Approval, or as necessary for the protection of public health, safety, welfare, or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to the Approval and/or a System utilizing the Technology against the Company, the Designer, the System Owner, the Installer, and/or the Operator of the System.

VI. GENERAL CONDITIONS

Title 5 Regulations 310 CMR 15.287: "General Conditions for Use of Alternative Systems Pursuant to 310 CMR 15.284 through 15.286"

"The following conditions shall apply to all uses of alternative systems pursuant to 310 CMR 15.284 through 15.286:

1. All plans and specifications shall be designed in accordance with 310 CMR 15.220.
2. Any required operation and maintenance, monitoring and testing plans shall be submitted to the Department and approved prior to initiation of the use. Monitoring and sampling shall be performed in accordance with a Department approved plan. Sample analysis shall be conducted by an independent U.S. EPA or Commonwealth of Massachusetts approved testing laboratory, or an approved independent university laboratory, unless otherwise provided in the Department's written approval. It shall be a violation of 310 CMR 15.000 to omit from a report or falsify any data collected pursuant to an approved testing plan.
3. The facility served by the alternative system and the system itself shall be open to inspection and sampling by the Department and the Local Approving Authority at all reasonable times.
4. The Department and/or the Local Approving Authority may require the owner or operator of the system to cease operation of the system and/or to take any other action necessary to protect public health, safety, welfare and the environment.
5. The owner or operator shall provide written notice to any new owner or operator that the system is an alternative system. Such notice shall include notice of the general conditions and any special conditions applicable to the system and its owner.

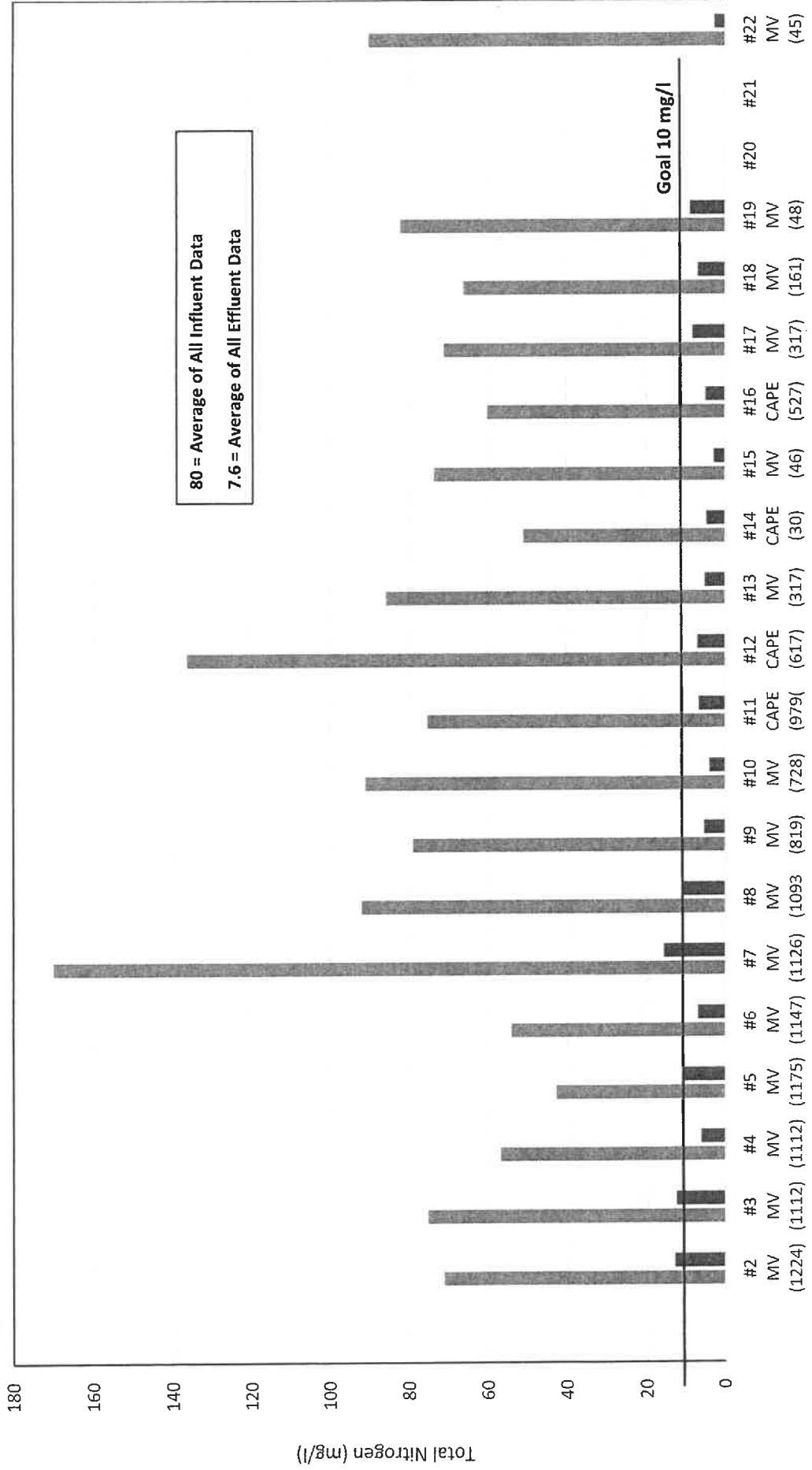
6. The owner or operator, or the proponent of the alternative system, shall obtain and provide the Department with a determination from the board of certification of operators of wastewater treatment facilities established pursuant to M.G.L. c. 21, § 34A as to whether a certified operator is required for operation of the alternative system. The Department shall waive this requirement if it has on file a determination for the alternative system, and shall notify the owner, operator, or proponent of the determination.
7. It is a violation of 310 CMR 15.000 to install, construct, or operate an alternative system except in full compliance with the written approval and 310 CMR 15.287.
8. The Department may require the issuance of a groundwater discharge permit pursuant to 314 CMR 5.00 (groundwater discharge program) for any alternative system.
9. The system owner shall maintain an operation and maintenance contract with a Massachusetts certified operator where one is required by 257 CMR 2.00, or otherwise with a person qualified to operate and maintain the system in accordance with the Department's written approval.
10. Prior to obtaining a Certificate of Compliance for installation of a new or upgraded system, the system owner shall record in the chain of title for the property served by the alternative system in the Registry of Deeds or Land Registration Office, as applicable, a Notice disclosing both the existence of the alternative on-site system and the Department's approval of the system. The system owner shall also provide evidence of such recording to the Local Approving Authority.



Average Total Nitrogen - Influent & Effluent

Installation #
Location - MV / Cape Cod
(Total Days of Operational Monitoring)

■ INFLUENT - Average - Total Nitrogen
■ EFFLUENT - Average - Total Nitrogen



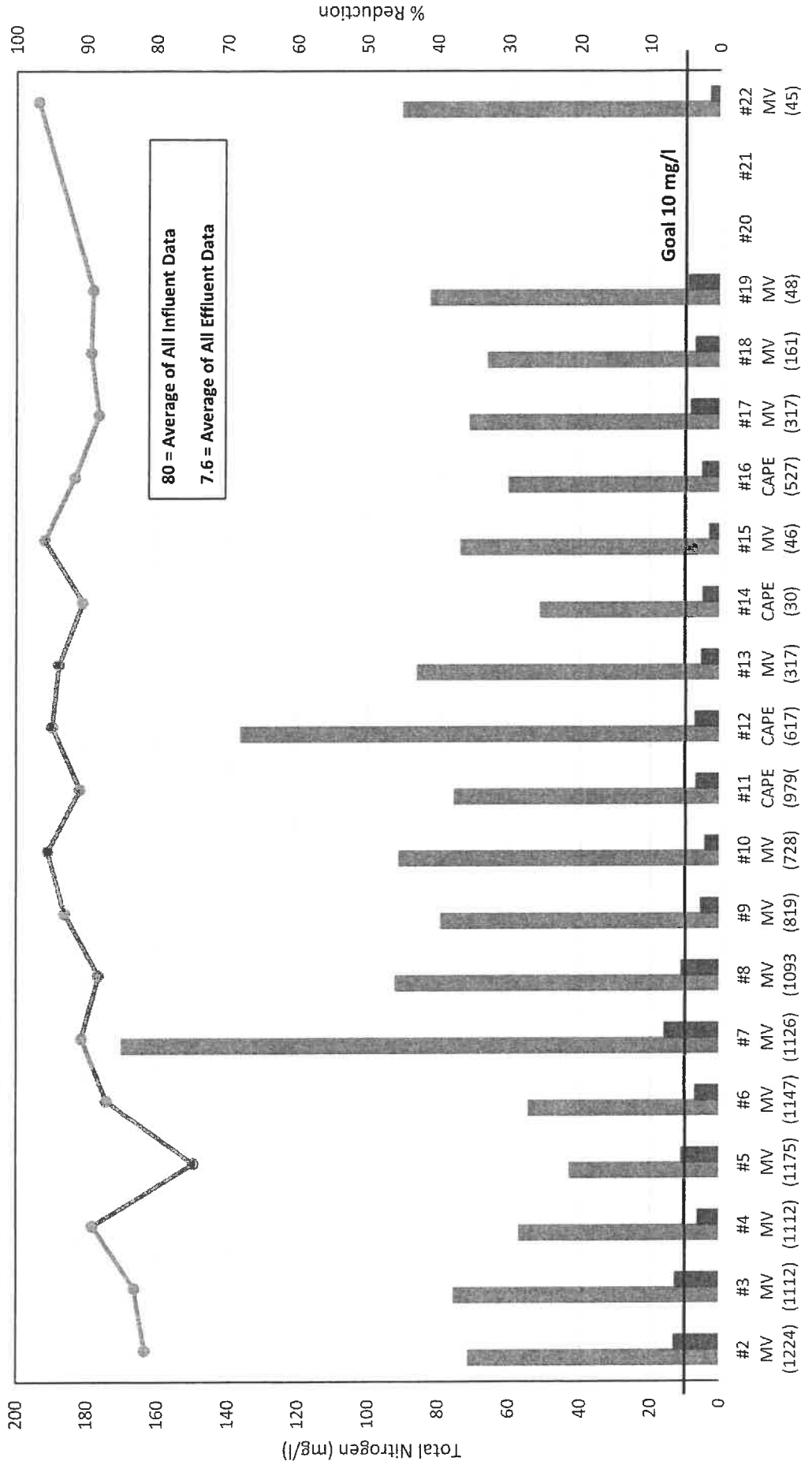
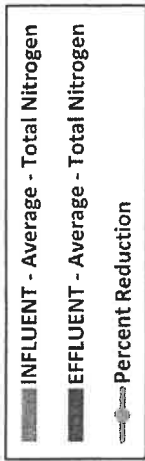
(No.) = Total Days of Operational Monitoring

80 = Average of All Influent Data
7.6 = Average of All Effluent Data



Average Total Nitrogen - Influent & Effluent

Installation #
Location - MV / Cape Cod
(Total Days of Operational Monitoring)



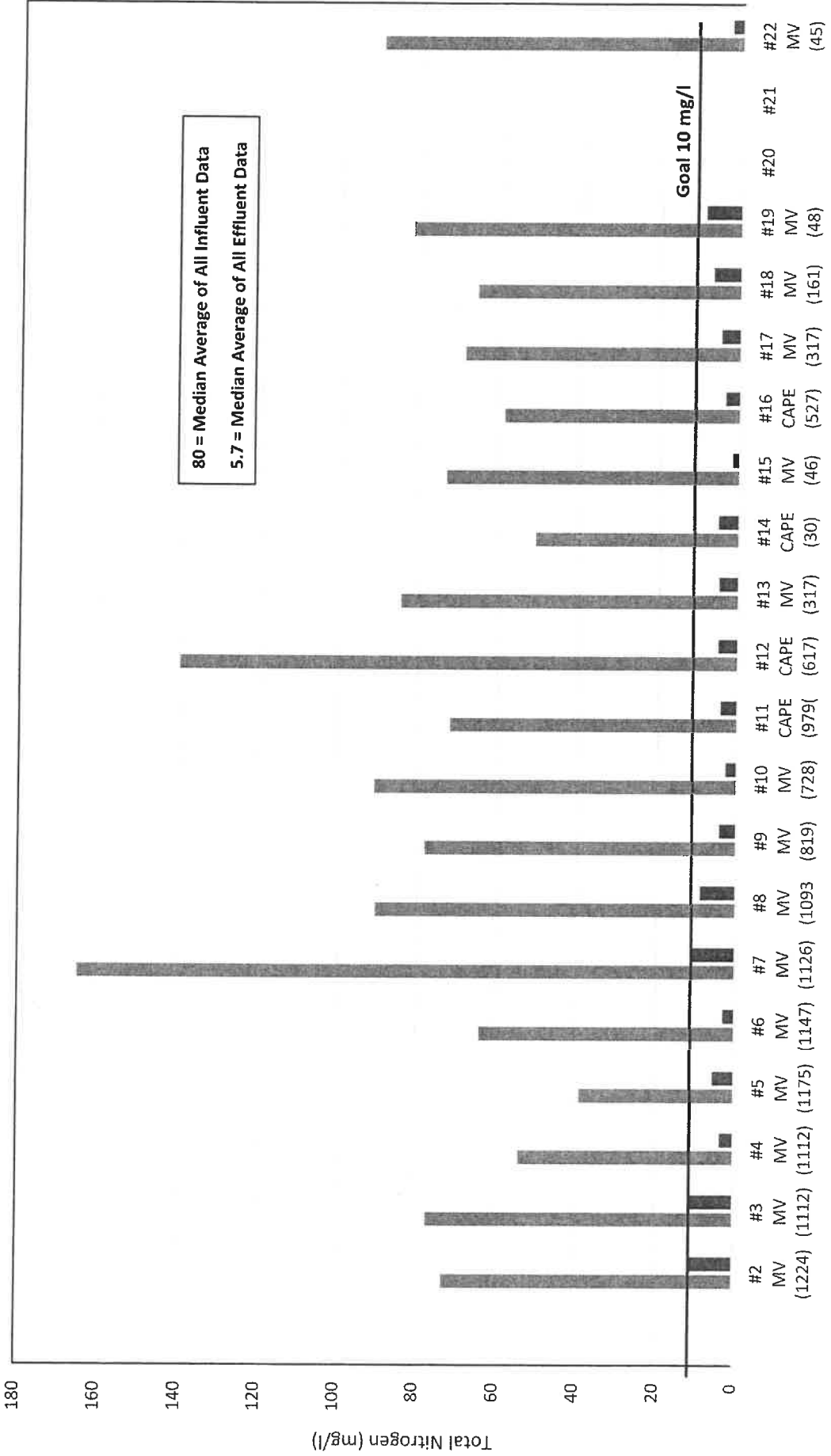
(No.) = Total Days of Operational Monitoring



Median Total Nitrogen - Influent & Effluent

Installation #
Location - MV / Cape Cod
(Total Days of Operational Monitoring)

■ INFLUENT - Median - Total Nitrogen
■ EFFLUENT - Median - Total Nitrogen

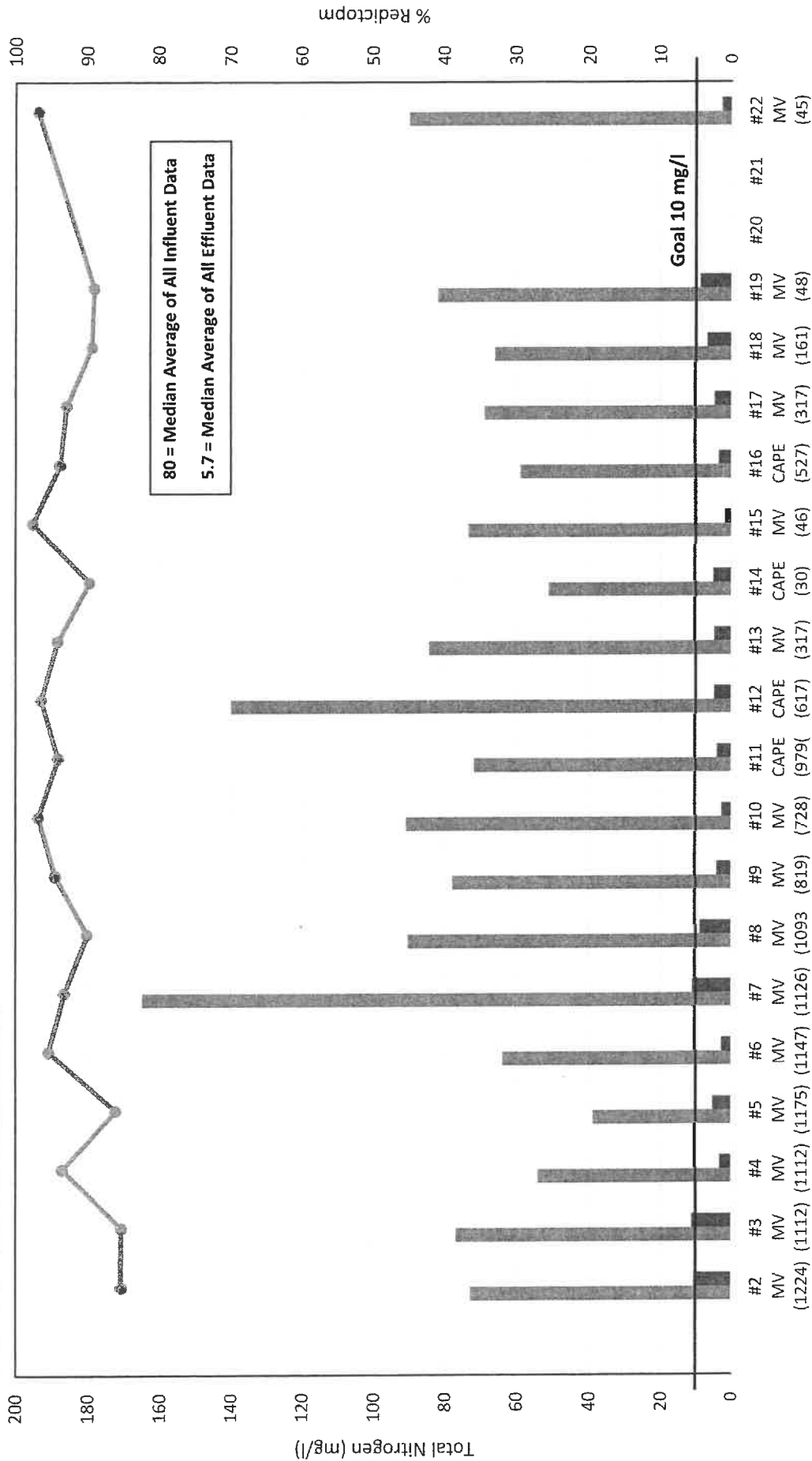
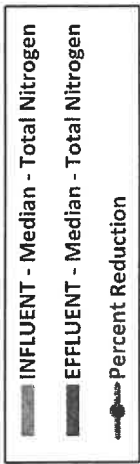


(No.) = Total Days of Operational Monitoring



Median Total Nitrogen - Influent & Effluent

Installation #
Location - MV / Cape Cod
(Total Days of Operational Monitoring)



(No.) = Total Days of Operational Monitoring

Existing Conditions at 2 Ryder Hollow Road - 2 Bedrooms
Nitrogen Loading Calculations Spreadsheet

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	36155				
Building Roof Area	1324	0.75 mg/L	40 inches/year	342.4	256.8
	<i>Total footprint of all buildings on the property.</i>				
Road/Driveway/Impervious Area	2700	1.5 mg/L	40 inches/year	698.2	1047.3
	<i>Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas.</i>				
Lawn Size		3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	0.0	0.0
	<i>Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft. .</i>				
Other/Miscellaneous	0	0 mg/L	17 inches/year	0.0	0.0
	<i>For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.</i>				
Natural/Undisturbed Areas	32131	0.05 mg/L	17 inches/year	3531.4	176.6
	<i>Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.</i>				
Subtotal: Runoff				4572.0	1480.7

Section 1: Runoff

Do you have an Innovative/Alternative Septic System (Yes/No)?	No	If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)		35
Section 2: Wastewater				
Title 5 Design Flow: Commercial	(Gallons per day)	Based on Title 5 (310 CMR 15.203). Calculate design flow based on the property features listed in table (3) (COMMERCIAL)	0.0	0.0
Title 5 Design Flow: Residential	Number of Bedrooms?	Based on Title 5 (310 CMR 15.203): Each bedroom is assumed to have associated with it 110 gallons per day of flow.	832.7	29144.5
Average Wastewater Flow	The average wastewater flow method assumes 2.3 people and an average flow of 55 gallons per day per person.		478.8	16758.1
Total nitrogen load (including runoff and wastewater)		Title 5	5404.7	5.7
		Average	5050.8	3.6
Average Nitrogen Load			4.64 ppm	

Proposed Conditions at 2 Ryder Hollow Road - 3 Bedrooms with NitROE using permit standard 11 mg/L
Nitrogen Loading Calculations Spreadsheet

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	36155				
Building Roof Area	1520	0.75 mg/L	40 inches/year	393.1	294.8
<i>Total footprint of all buildings on the property.</i>					
Road/Driveway/Impervious Area	2700	1.5 mg/L	40 inches/year	698.2	1047.3
<i>Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas.</i>					
Lawn Size		3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	0.0	0.0
<i>Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft. .</i>					
Other/Miscellaneous	0	0 mg/L	17 inches/year	0.0	0.0
<i>For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.</i>					
Natural/Undisturbed Areas	31935	0.05 mg/L	17 inches/year	3509.8	175.5
<i>Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.</i>					
Subtotal: Runoff					4601.1

Do you have an Innovative/Alternative Septic System (Yes - NitROE)		Yes	If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)		11
Section 2: Wastewater					
Title 5 Design Flow: Commercial	(Gallons per day)		Based on Title 5 (310 CMR 15.203). Calculate design flow based on the property features listed in table (3) (COMMERCIAL)		0.0
Title 5 Design Flow: Residential	Number of Bedrooms?	3	Based on Title 5 (310 CMR 15.203): Each bedroom is assumed to have associated with it 110 gallons per day of flow.		1249.1
Average Wastewater Flow	The average wastewater flow method assumes 2.3 people and an average flow of 55 gallons per day per person.				478.8
		Volume (L/day)	N-Load (mg/day)	Load (mg/day)	
Total nitrogen load (including runoff and wastewater)		Title 5	5850.2	15257.2	2.6
		Average	5079.9	6784.5	1.3
		Average Nitrogen Load		1.97 ppm	

Proposed Conditions at 2 Ryder Hollow Road - 3 Bedrooms with NitROE using average results 7.6 mg/L
Nitrogen Loading Calculations Spreadsheet

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	36155				
Building Roof Area	1520	0.75 mg/L	40 inches/year	393.1	294.8
<i>Total footprint of all buildings on the property.</i>					
Road/Driveway/Impervious Area	2700	1.5 mg/L	40 inches/year	698.2	1047.3
<i>Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas.</i>					
Lawn Size		3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	0.0	0.0
<i>Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft.</i>					
Other/Miscellaneous	0	0 mg/L	17 inches/year	0.0	0.0
<i>For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.</i>					
Natural/Undisturbed Areas	31935	0.05 mg/L	17 inches/year	3509.8	175.5
<i>Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.</i>					
Subtotal: Runoff					4601.1

Section 1: Runoff

Do you have an Innovative/Alternative Septic System (Yes - NitROE)	Yes	If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)	7.6
Title 5 Design Flow: Commercial	(Gallons per day)	Based on Title 5 (310 CMR 15.203). Calculate design flow based on the property features listed in table (3) (COMMERCIAL)	0.0
Title 5 Design Flow: Residential	Number of Bedrooms?	Based on Title 5 (310 CMR 15.203): Each bedroom is assumed to have associated with it 110 gallons per day of flow.	3
Average Wastewater Flow		The average wastewater flow method assumes 2.3 people and an average flow of 55 gallons per day per person.	478.8

Section 2: Wastewater

	Volume (L/day)	N-Load (mg/day)	Load (ppm)
Total nitrogen load (including runoff and wastewater)	Title 5	5850.2	11010.4
	Average	5079.9	5156.5
Average Nitrogen Load		1.45 ppm	

Proposed Conditions at 2 Ryder Hollow Road - 3 Bedrooms with NitROE using median results 5.7 mg/L
Nitrogen Loading Calculations Spreadsheet

Complete the highlighted cells as applicable.

Land Use/Nitrogen Source	Area (square feet)	Nitrogen Loading Input (units)	Recharge Rate (units)	Volume (L/day)	Nitrogen Load (mg/day)
Lot size (total)	36155	0.75 mg/L	40 inches/year	393.1	294.8
Building Roof Area	1520	Total footprint of all buildings on the property.			
Road/Driveway/Impervious Area	2700	1.5 mg/L	40 inches/year	698.2	1047.3
	Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios. Impervious areas include gravel, shell, and crushed stone pathways or driveways or parking areas.				
Lawn Size		3 lbs N/1,000 sq ft - 25% leaching rate	17 inches/year	0.0	0.0
	Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year. The minimum lawn size for nitrogen loading calculations is 1,000 sq. ft. .				
Other/Miscellaneous	0	0 mg/L	17 inches/year	0.0	0.0
	For any other potential sources of nitrogen on the property. Inputs must be approved by the health agent.				
Natural/Undisturbed Areas	31935	0.05 mg/L	17 inches/year	3509.8	175.5
	Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.				
	Subtotal: Runoff				4601.1

Section 1: Runoff

Do you have an Innovative/Alternative Septic System (Yes - NitROE)	Yes	If "Yes", what is the nitrogen concentration of the system (in units of mg/L), based on the DEP Alternative System Approval Letter? (See https://www.mass.gov/guides/innovative-technology-and-title-5-systems)	5.7
Section 2: Wastewater			
Title 5 Design Flow: Commercial	(Gallons per day)	Based on Title 5 (310 CMR 15.203). Calculate design flow based on the property features listed in table (3) (COMMERCIAL)	0.0
Title 5 Design Flow: Residential	Number of Bedrooms?	Based on Title 5 (310 CMR 15.203): Each bedroom is assumed to have associated with it 110 gallons per day of flow.	1249.1
Average Wastewater Flow	The average wastewater flow method assumes 2.3 people and an average flow of 55 gallons per day per person.		478.8
			2729.2

Volume (L/day)	N-Load (mg/day)	Load (ppm)
Title 5	5850.2	1.5
Average	5079.9	0.8
Average Nitrogen Load		1.16 ppm

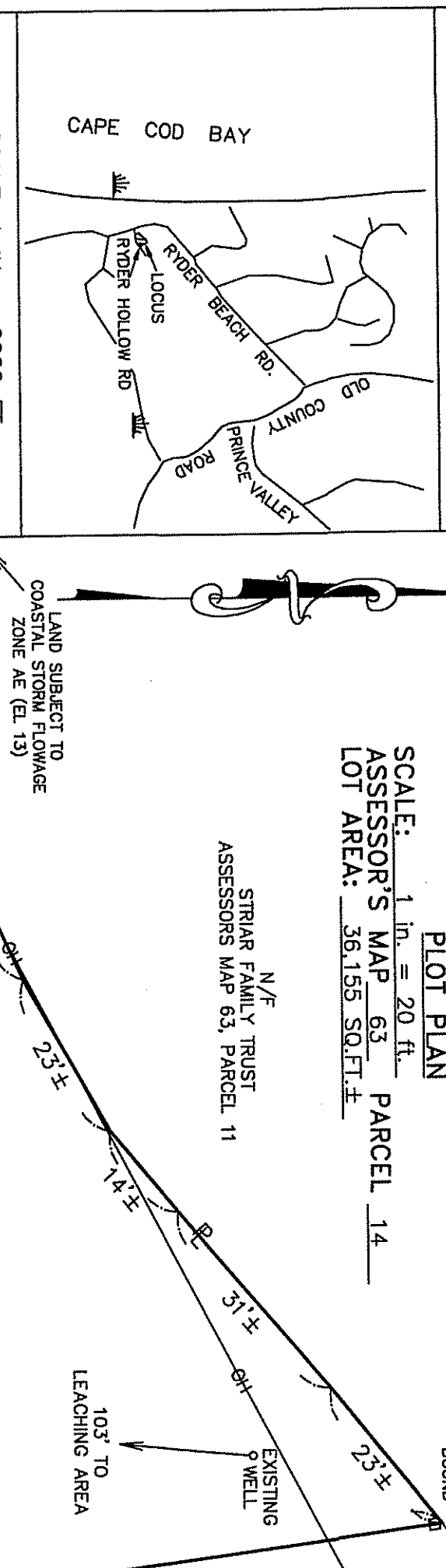
Total nitrogen load (including runoff and wastewater)

**TABLE 1: Input Values for Nitrogen Loading Calculations
Brewster Board of Health Nitrogen Loading Regulation**

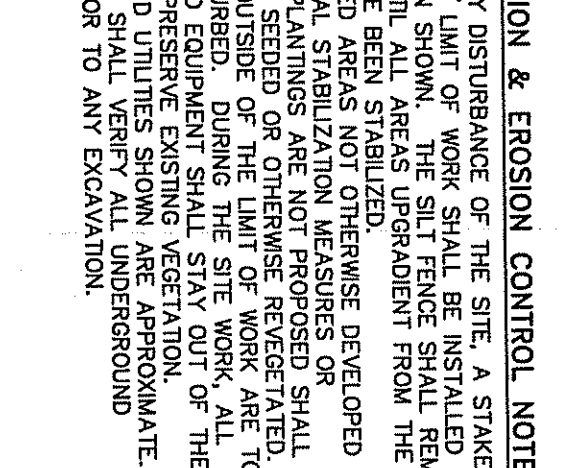
Land Use/Nitrogen Source	Nitrogen Loading Input	Recharge Rate*
Roofs, Driveways, Impervious Areas and Lawns		
Building Roof Area	0.75 mg/L	40 in/year Total footprint of all buildings on the property
Road/Driveway/Impervious Area	1.5 mg/L	40 in/year Footprint of paved/ impervious areas including driveways, parking areas, buildings and impervious patios*
Fertilizer Loading Rate for Lawns Minimum Lawn Size	3 lbs N/1,000 sq ft - 25% leaching rate 1,000 sq. ft.	17 in/year Lawn areas defined as ground covered with grass or other vegetation that is mowed more than twice a year.
Natural/Undisturbed Areas	0.05 mg/L	17 in/year Calculated by subtracting roof, road/impervious areas, and lawn areas from total lot size.
Wastewater - Residential Uses		
Standard Septic System		
Title 5 Design Flow	Based on Title 5 (310 CMR 15.203)	Innovative/Alternative (I/A) Septic System Based on Title 5 (310 CMR 15.203)
Average Wastewater Flow	2.3 people/house @ 55 gallon/day per person	2.3 people per house @ 55 gallon/day per person
Wastewater Nitrogen Concentration	35 mg/L	Nitrogen Concentration based on DEP Alternative System Approval Letter*
Wastewater - Non-Residential Uses		
Standard Septic System		
Title 5 Design Flow	Based on Title 5 (310 CMR 15.203)	Innovative/Alternative Septic System Based on Title 5 (310 CMR 15.203)
Wastewater Nitrogen Concentration	35 mg/L	Nitrogen Concentration based on DEP Alternative System Approval Letter* or approved by the Health Agent or their designee

Notes

- * Recharge Rate is the amount of annual rainfall that infiltrates into the ground for each type of land use area based on the Cape Cod Commission Nitrogen Loading Technical Bulletin 91-001, April, 1992
- * Impervious areas include paved, gravel, shell, and crushed stone pathways, patios, driveways and parking areas
- * The treated effluent nitrogen concentration for an il/A septic treatment system approved by the Massachusetts Department of Environmental Protection in their Pilot, Provisional or General Use Approval is found at: <https://www.mass.gov/guides/innovative-technology-and-title-5-systems>



CONSTRUCTION & EROSION CONTROL NOTES
 1. PRIOR TO ANY DISTURBANCE OF THE SITE A STAKED SILT FENCE / LIMIT OF WORK SHALL BE INSTALLED IN THE LOCATION SHOWN. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL ALL AREAS UPGRADIENT FROM THE BARRIER HAVE BEEN STABILIZED.
 2. ALL DISTURBED AREAS NOT OTHERWISE DEVELOPED OR LANDSCAPED PLANTINGS ARE NOT PROPOSED SHALL BE LOADED AND SEEDED OR OTHERWISE REVEGETATED. ALL AREAS OUTSIDE OF THE LIMIT OF WORK, ALL LEFT UNDISTURBED. DURING THE SITE WORK, ALL PERSONS AND EQUIPMENT SHALL STAY OUT OF THESE AREAS AND PRESERVE EXISTING VEGETATION.
 3. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.



DEEP TEST HOLE OBSERVATION LOG #1
 DATE: JULY 22, 2021
 PERFORMED BY: LAURA A. SCHOFIELD, RS, SE
 WITNESSED BY: ARDZYNA DAVIS, TRURO BOH
 ESTIMATED SEASONAL HIGH GROUNDWATER = BELOW 135'
 PERCOLATION TEST: TOP OF PERC. AT 40', 9"-9" DROP IN PERC IN 3.58 MIN. PERC RATE=2.4 MPI

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOISTURE (%)	OTHER
23.0-21.8	0-35	FILL	VARIABLE	10YR 5/2	NO	MASSIVE/FUSIBLE
21.8-21.1	35-47	OLD A	LOAMY SAND	10YR 5/6	NO	
19.4-14.0	67-132	C	SAND	10YR 6/6	NO	

DEEP TEST HOLE OBSERVATION LOG #2
 DATE: JULY 22, 2021
 PERFORMED BY: LAURA A. SCHOFIELD, RS, SE
 WITNESSED BY: ARDZYNA DAVIS, TRURO BOH
 ESTIMATED SEASONAL HIGH GROUNDWATER = BELOW 135'
 PERCOLATION TEST: TOP OF PERC. AT 40', 9"-9" DROP IN PERC IN 3.58 MIN. PERC RATE=2.4 MPI

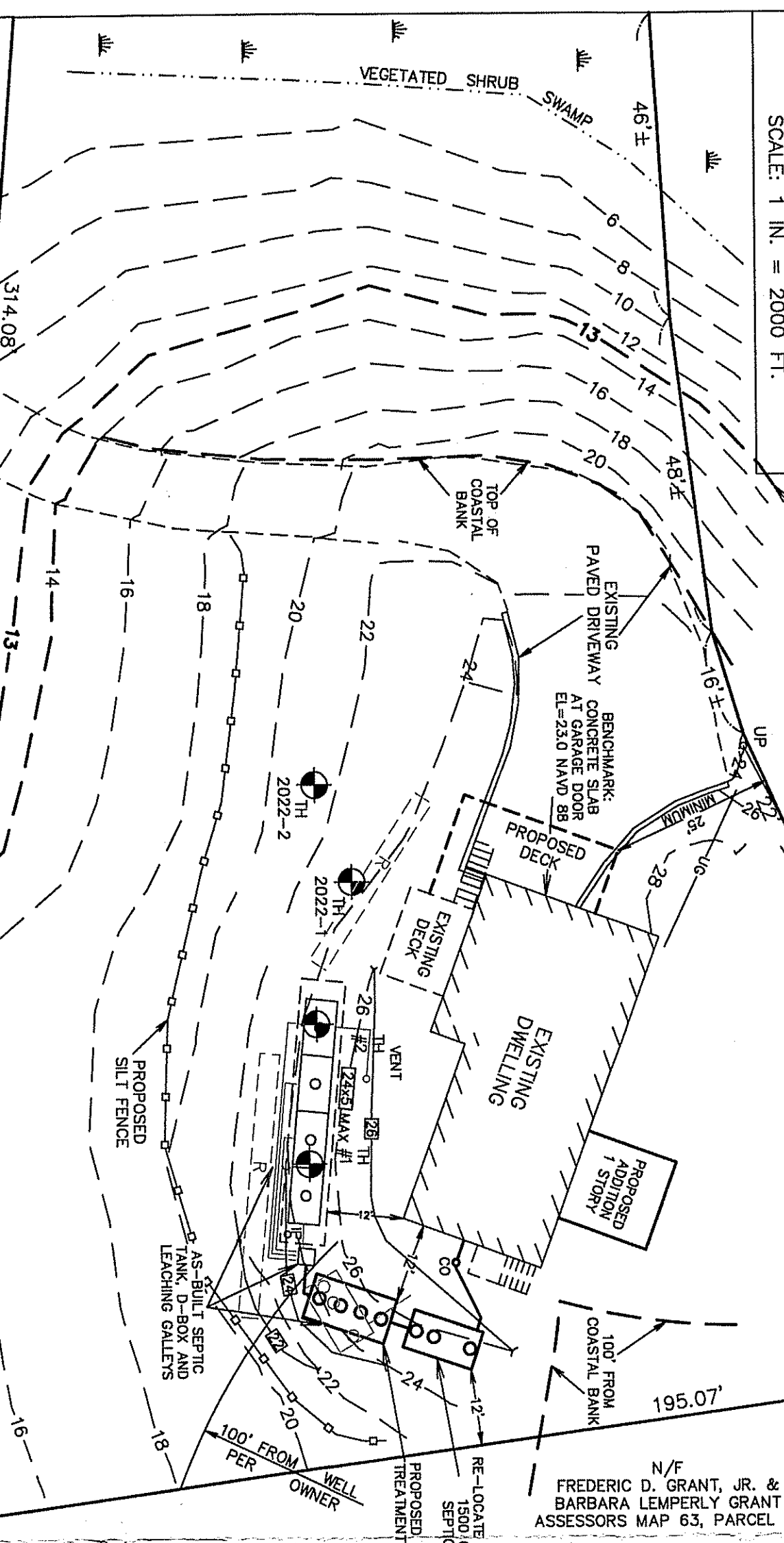
ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOISTURE (%)	OTHER
22.4-22.1	0-29	FILL	VARIABLE	10YR 5/2	NO	
21.8-21.6	29-35	OLD A	LOAMY SAND	10YR 5/6	NO	
19.8-13.2	59-135	C	SAND/COARSE	10YR 5/6	NO	

DEEP TEST HOLE OBSERVATION LOG #2022-1
 DATE: OCTOBER 13, 2022
 PERFORMED BY: LAURA A. SCHOFIELD, RS, SE
 WITNESSED BY: ARDZYNA DAVIS, TRURO BOH
 ESTIMATED SEASONAL HIGH GROUNDWATER = BELOW 135'
 PERCOLATION TEST: TOP OF PERC. AT 40', 9"-9" DROP IN PERC IN 3.15 MIN. PERC RATE=2.4 MPI

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOISTURE (%)	OTHER
23.5-22.5	0-12	FILL	LOAMY SAND	10YR 6/6	NO	
21.8-14.8	21-105	C	SAND/COARSE	10YR 6/6	NO	

DEEP TEST HOLE OBSERVATION LOG #2022-2
 DATE: OCTOBER 13, 2022
 PERFORMED BY: LAURA A. SCHOFIELD, RS, SE
 WITNESSED BY: ARDZYNA DAVIS, TRURO BOH
 ESTIMATED SEASONAL HIGH GROUNDWATER = BELOW 135'
 PERCOLATION TEST: TOP OF PERC. AT 36', 9"-9" DROP IN PERC IN 3.15 MIN. PERC RATE=2.4 MPI

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOISTURE (%)	OTHER
21.5-20.9	0-7	FILL	LOAMY SAND	10YR 6/6	NO	
20.9-18.9	7-18	A	LOAMY SAND	10YR 6/6	NO	
18.9-11.5	35-120	C	SAND/COARSE	10YR 6/6	NO	

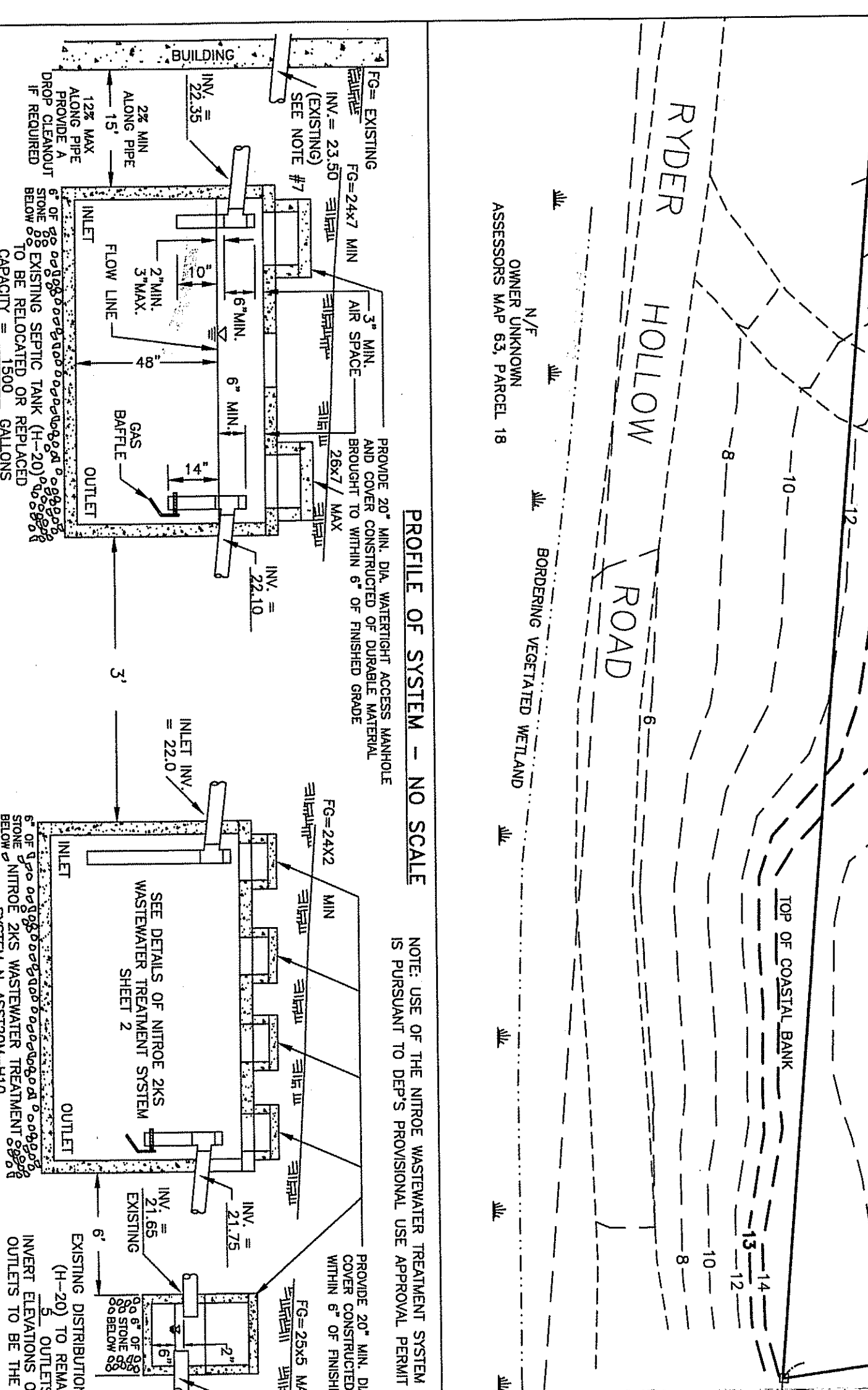


DESIGN CALCULATIONS
 1. ESTIMATED HYDRAULIC LOADING: 330 GPD PER BEDROOM = 330 GPD
 2. SEPTIC TANK SIZE: 330 GPD x 2 DAYS = 660 GALLONS
 3. DESIGN PERCOLATION RATE = 330 GPD / 1500 SQ.FT. = 0.22 GPD/SF
 4. EXISTING LEACHING AREA TO REMAIN: 187.2 SF x 0.74 GPD/SF = 138.5 GPD
 5. TOTAL SIDERALL AREA PROVIDED = 272.0 SF x 0.74 GPD/SF = 201.2 GPD
 6. MAXIMUM ALLOWABLE LEACHING UNDER TITLE 5 (SEE 17) = 330 GPD
 7. ACTUAL HYDRAULIC LOADING = 330 GPD
 8. DESIGNED LEACHING AREA EXCEEDS LEACHING AREA REQUIRED UNDER BOTH TITLES 5 AND THE TOWN OF TRURO BOARD OF HEALTH REGULATIONS
 9. TITLE 5 NITROGEN LOADING NOTE: 3 BEDROOMS x 10000 SQ.FT./BEDROOM = 30000 SQ.FT. MINIMUM
 10. RESERVE AREA 3' WIDE x 2' DEEP TRENCH = 750 SQ.FT./LF
 11. 70 LF (TOTAL) x 7 SQ.FT./LF = 490 SQ.FT. PROVIDED
 12. 446 SQ.FT. MIN. REQUIRED

GENERAL NOTES
 1. ELEVATIONS REFER TO NAVD 1988 DATUM, SEE BENCHMARK ON PLAN.
 2. ALL CONSTRUCTION AND MATERIALS TO CONFORM TO TITLE 5 OF THE MASSACHUSETTS STATE ENVIRONMENTAL CODE AND THE BOARD OF HEALTH REQUIREMENTS FOR THE TOWN OF TRURO.
 3. ANY CHANGES TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND SCHOFFIELD BROTHERS OF CAPE COD.
 4. FOR PROPER PERFORMANCE, THE SEPTIC TANK SHOULD BE INSPECTED AT LEAST ONCE PER YEAR. THE TANK SHOULD BE PUMPED WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 OF ITS LIQUID DEPTH.
 5. SCHOFFIELD BROTHERS OF CAPE COD DOES NOT ASSUME RESPONSIBILITY FOR MATERIALS ENCOUNTERED DURING EXCAVATION.
 6. INSTALLATION CONTRACTOR SHALL CONTACT SCHOFFIELD BROTHERS PRIOR TO BACKFILLING FOR SYSTEM CERTIFICATION.
 7. EXISTING BUILDING FOR SEWER INVERTS SHALL BE VERIFIED IN FIELD PRIOR TO COMPONENT INSTALLATION. CONTACT SCHOFFIELD BROTHERS IF SIGNIFICANT DISCREPANCIES EXIST.
 8. ALL SEPTIC SYSTEM COMPONENTS ARE DESIGNED FOR A MINIMUM H-10 LOADING. ANY COMPONENT THAT WILL BE SUBJECT TO VEHICLE OR OTHER HEAVY EQUIPMENT TRAFFIC SHALL BE INSTALLED WITH H-20 LOADING CAPACITY.
 9. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION. EXCEPT THOSE THAT ARE SHOWN.
 10. NO KNOWN WELLS EXIST WITHIN 100' OF THE PROPOSED LEACHING AREA.
 11. FUTURE LANDSCAPING IN THE VICINITY OF THE SEPTIC SYSTEM WILL MAINTAIN MINIMUM AND MAXIMUM GRADES OVER THE SYSTEM.
 12. CONTRACTOR SHALL USE SHORING AS REQUIRED TO PROTECT STRUCTURE(S) AND EXISTING LEACHING AREA DURING CONSTRUCTION.

PROPOSED SEWAGE DISPOSAL SYSTEM MODIFICATION PLAN
 FOR: AN EXISTING TWO BEDROOM DWELLING & PROPOSED ONE BEDROOM ADDITION
 AT: TWO RYDER HOLLOW ROAD
 TRURO, MASSACHUSETTS
 ASSESSOR'S MAP: 63
 PARCEL: 14
 APPLICANT: BRADLEY BERNSTEIN
 146 LARCH ROAD
 CAMBRIDGE, MA 02138
 TEL. NO.: (617) 256-5520
 DATE: JANUARY 12, 2023
 DESIGNED BY: L.S.
 DRAWN BY: L.S.
 CHECKED BY: L.S.

PROFILE OF SYSTEM - NO SCALE
 NOTE: USE OF THE NITROSE WASTEWATER TREATMENT SYSTEM IS PURSUANT TO DEP'S PROVISIONAL USE APPROVAL PERMIT
 PROVIDE 20" MIN. DIA. WATER TIGHT ACCESS MANHOLE AND COVER CONSTRUCTED OF DURABLE MATERIAL BROUGHT TO WITHIN 6" OF FINISHED GRADE
 PROVIDE 20" MIN. DIA. WATER TIGHT ACCESS MANHOLE AND COVER CONSTRUCTED OF DURABLE MATERIAL BROUGHT TO WITHIN 6" OF FINISHED GRADE
 PROVIDE 20" MIN. DIA. WATER TIGHT ACCESS MANHOLE AND COVER CONSTRUCTED OF DURABLE MATERIAL BROUGHT TO WITHIN 6" OF FINISHED GRADE



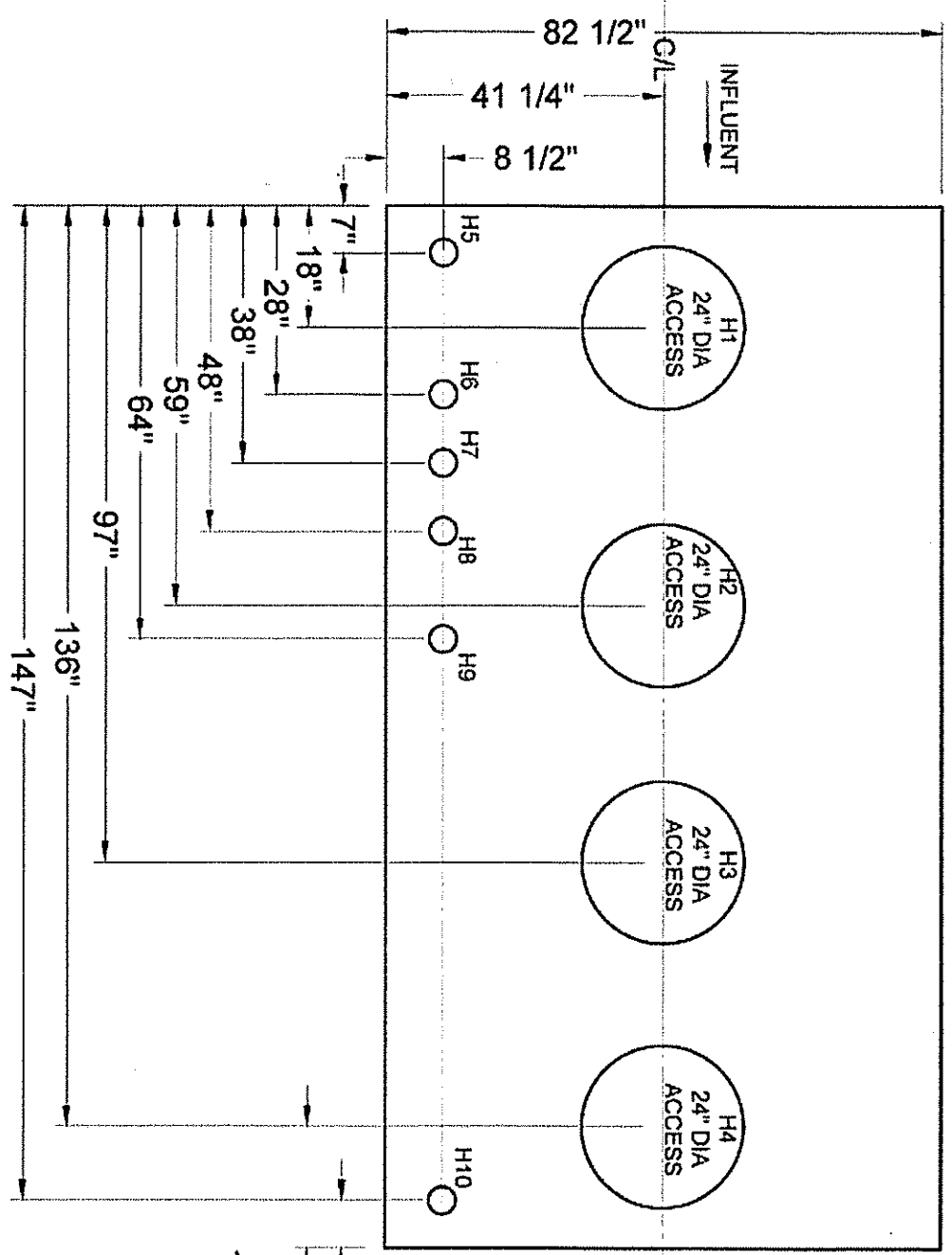
LEGEND
 --- PROPOSED CONTOUR LINE
 --- EXISTING CONTOUR
 --- WATER LINE
 --- PROPOSED 1500 GALLON SEPTIC TANK
 --- PROPOSED NITROSE TREATMENT SYSTEM
 --- PROPOSED DISTRIBUTION BOX
 --- EXISTING LEACHING AREA
 --- PROPOSED RESERVE AREA
 --- EXISTING SPOT ELEVATIONS
 --- TEST HOLE LOCATIONS
 --- PROPOSED SPOT ELEVATION
 --- OVERHEAD UTILITIES
 --- UNDERGROUND UTILITIES
 --- FINISHED GRADE
 --- INSPECTION PORT

HEALTH DEPARTMENT
 TOWN OF TRURO
 JAN 24 2023
 RECEIVED BY:

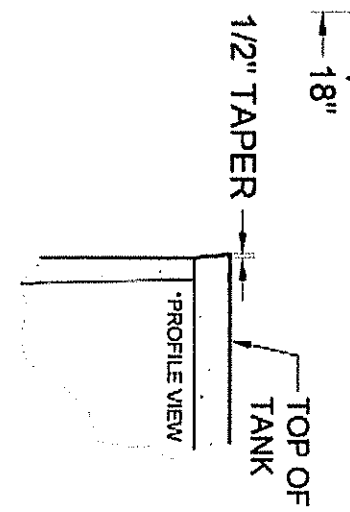
COMMERCIAL CONTRACT
 SCHOFFIELD BROTHERS OF CAPE COD
 ENGINEERING - SURVEYING - PRINTING
 P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
 (508) 253-2098

NOTE: ALL PIPE TO BE 4" DIA. PVC TIGHT JOINT SCH. 40
 PRECAST REINFORCED CONCRETE
 CAPACITY = 1500 GALLONS
 TO BE RELOCATED OR REPLACED
 EXISTING SEPTIC TANK (H-20)
 EXISTING 2KS WASTEWATER TREATMENT SYSTEM N-ASSISTION-H10
 PRECAST REINFORCED CONCRETE

TANK TOP (FOR TOP FABRICATION)



- GENERAL NOTES:**
1. ALL MEASUREMENTS FROM OUTSIDE EDGE OF TANK TOP.
 2. CONFIRM ALL HOLE LOCATIONS PRIOR TO FABRICATION.
 3. HOLES H1 THROUGH H4 ARE 24" DIAMETER ACCESS HOLES WITH NO TAPER.
 4. HOLES H5 THROUGH H10 ARE 4" DIAMETER PVC COUPLING INSERTS. PROVIDE RUBBER GASKETS ON ALL INFLUENT AND EFFLUENT HOLES.
 5. SIDES AND ENDS OF TANK.



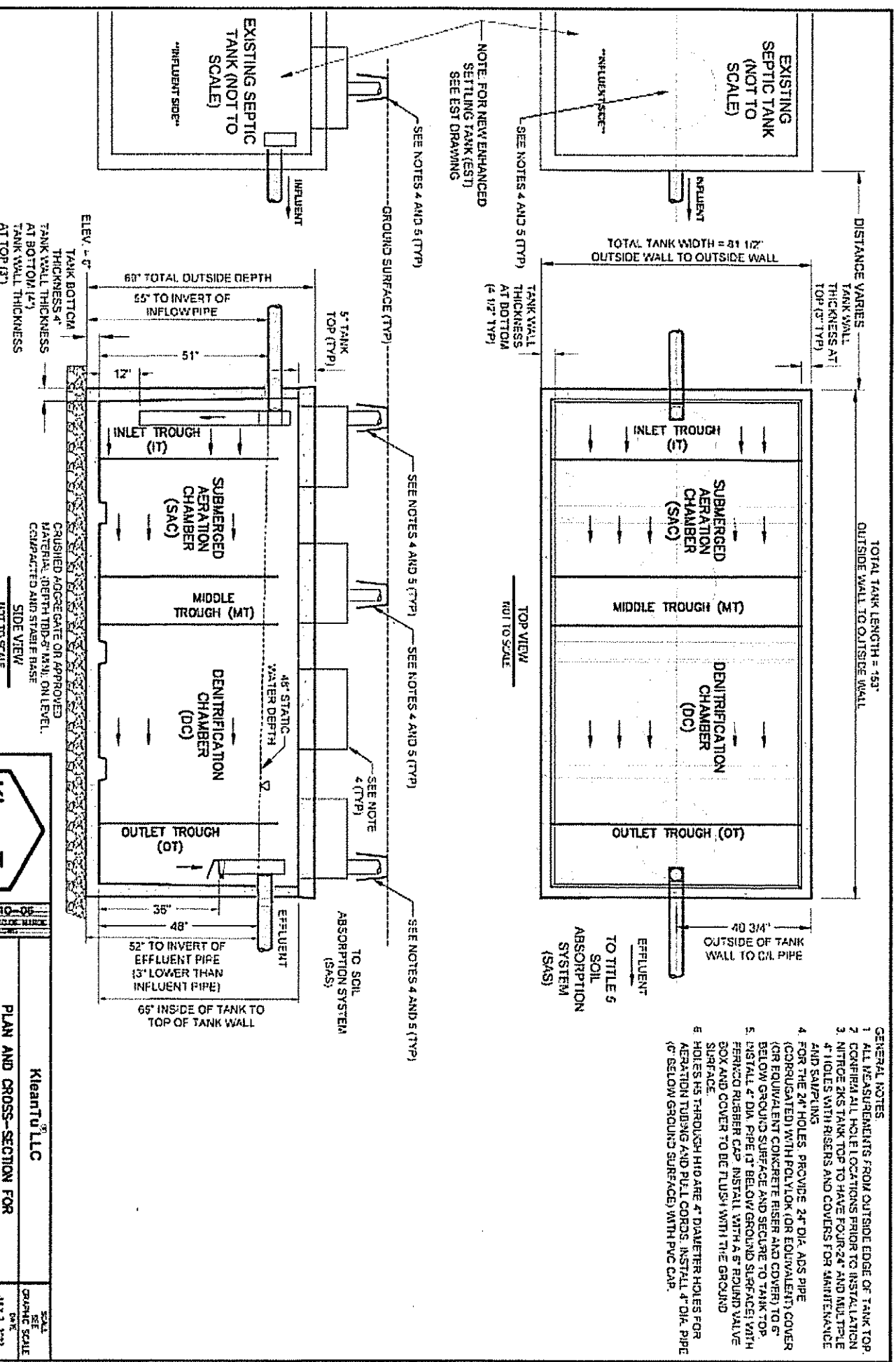
Kleantū[®] LLC
 TANK TOP FABRICATION PLAN
 NITROE[®] 2NS WASTEWATER TREATMENT SYSTEM (NWS)
 N-ASST20M-H10

DATE: JAN 12, 2023
 DRAWN BY: LAS
 CHECKED BY: LAS

SCALE: 1/8" = 1'-0"

PROJECT: PARCEL 14
 LOCATION: 146 LARCH ROAD, CAMBRIDGE, MA 02138

(FOR ENGINEERING DESIGN)



- GENERAL NOTES:**
1. ALL MEASUREMENTS FROM OUTSIDE EDGE OF TANK TOP.
 2. CONFIRM ALL HOLE LOCATIONS PRIOR TO FABRICATION.
 3. HOLES WITH RUBBER GASKETS AND COVERS FOR AMBIENT AIR AND EXHAUST.
 4. CONCRETE TROUGH PROFILES: 4" DIA. 405 PIPE (FOR EQUIVALENT CONCRETE RISER AND COVER) TO 6" BELOW GROUND SURFACE AND SECURE TO TANK TOP.
 5. FRENCH RUBBER GASKET: INSTALL WITH A 1/2" RADIUS BOX AND COVER TO BE FLUSH WITH THE GROUND SURFACE.
 6. FRENCH RUBBER GASKET: INSTALL WITH A 1/2" RADIUS SURFACE. FRENCH RUBBER GASKETS ARE 4" DIA. HOLES FOR AERATION TROUGH AND PULL CORDS. INSTALL 4" DIA. PIPE (OR BELOW GROUND SURFACE) WITH PVC CAP.

NOTE: A 4-OUTLET GF BOX SHALL BE PROVIDED ON A SEPARATE CIRCUIT NEAR THE NITROE UNIT TO PROVIDE POWER TO THE AIR PUMP AND REMOTE SENSOR.

PROPOSED SEWAGE DISPOSAL SYSTEM MODIFICATION PLAN

FOR: AN EXISTING TWO BEDROOM DWELLING & PROPOSED ONE BEDROOM ADDITION
 AT: TWO RYDER HOLLOW ROAD
 TRURO, MASSACHUSETTS

ASSESSOR'S MAP: 63
 PARCEL: 14

APPLICANT: BRADLEY BERNSTEIN
 146 LARCH ROAD
 CAMBRIDGE, MA 02138

TEL. NO.: (617) 256-5520


DATE: JANUARY 12, 2023
 JOB #: O-12630
 DESIGNED BY: LAS
 DRAWN BY: LAS
 CHECKED BY: LAS

SCHOFIELD BROTHERS OF CAPE COD
 ENGINEERING - SURVEYING - PERMITTING
 P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
 (508) 255-2098

TOWN OF TRURO



HEALTH & CONSERVATION DEPARTMENT

Memo to: Darrin Tangeman, Truro Town Manager
Truro Board of Health
From: Emily Beebe, Truro Health & Conservation Agent 
Date: January 30, 2023
Re: DEP's proposed changes to Title 5 and impacts to Truro residents

To reduce eutrophication of our estuaries from nitrogen and nutrient loading and to accelerate compliance with the requirements of the Clean Water Act, MA DEP proposes amendments to Title 5- the on-site septic system regulations for those Massachusetts communities not served by a municipal sewer.

The new regulations will classify all watersheds where nitrogen loads have adversely impacted a waterbody as *nitrogen sensitive areas*, or NSA's. The adverse impact is described as a nitrogen TMDL- or Total Maximum Daily Load of nitrogen. What has engaged the public is the aggressive schedule for septic upgrades to the standard of enhanced treatment using the Best available technology (BAT) within 5 years. Simply put, this would require **enhanced I/A at all locations under a nitrogen TMDL within 5 years, unless** a watershed plan is developed to address the TMDL with a variety of targeted strategies that can be brought on-board over a 20-year period to reduce the nitrogen load. (please see more discussion on enhanced I/A systems, [or BAT]further below)

There are many watersheds in Truro for the surrounding estuarine resource areas, including East Harbor, the Pamet River, the Bound Brook tributary to the Herring River and Cape Cod Bay. Although all of Truro is served by on-site septic systems, the precise impacts of the regulatory changes are not immediately clear, but the impacts will not be immediate. We are preparing for the changes to come, with a planning effort to evaluate the issues we have within a matrix of possible solution alternatives.

- Truro itself does not have any TMDL's for nitrogen, although the Wellfleet Harbor TMDL will impact some Truro residents.
- Truro has 6 areas to address with our wastewater management planning initiative:
 - East Harbor/Pilgrim Lake- a tidally restricted estuary in a state of cultural eutrophication;
 - Municipal Zone II's for Provincetown Water System;
 - Private wells on properties served by on-site septic systems across Town;
 - Pamet River watershed;
 - Pond watersheds;
 - Wellfleet Harbor ACEC and watershed.
- The Town has contracted with the wastewater engineering firm GHD to develop a comprehensive wastewater management plan (CWMP). Their scope of work includes developing a plan of study, which requires DEP approval. It is anticipated that as the wastewater management planning process wraps up, it may segue toward a watershed management plan likely for Pamet with input from DEP. After the initial assessment of current conditions /needs assessment/problem identification GHD will explore the option of partnering with Provincetown to treat wastewater from Beach Point (Shore Road/6A); these conversations are time sensitive as Provincetown has authorization to expand their wastewater treatment plant. Sewering, or partial sewerage will be included in the alternatives analysis screening for Beach Point. Other alternatives such as cluster

systems and enhanced I/A will also be reviewed.

- Ultimately, with information from the CWMP, the Town can move toward completing a watershed plan for the Pamet River. In the absence of a nitrogen TMDL, wastewater planning will pursue at least 25% removal of Nitrogen, which is the EPA standard expressed in the Cape Cod 208 plan prepared by the Cape Cod Commission.
- Residents on the south side of the Pamet River may be within one of the many sub-watersheds for the Herring River, or Wellfleet Harbor. Wellfleet Harbor has been issued a TMDL for nitrogen, and therefore the many sub watersheds of Wellfleet Harbor are automatically NSA's.
- Wellfleet has filed a draft Targeted watershed plan for Wellfleet Harbor, and residents of Truro in the Wellfleet Harbor watershed will need to comply with those requirements. The watershed plan has been filed with the DEP and Wellfleet awaits comments from the State.

The availability and cost of installing enhanced IA systems has also raised concerns. The approximate cost to install a standard title 5 septic system is approximately \$5300/bedroom, and a 3-bedroom title 5 would cost about \$16,000. That cost is doubled for a standard I/A system and is approximately \$32,000. The additional cost to add enhanced I/A treatment (providing BAT) for that 3-BR home would cost approximately \$45,000.

Not only is the cost a concern, but only 2 systems "Nitroe" and "Nitrex" are approved by the State for this purpose. Considering that there will be considerable demand for more, and more affordable systems that can perform to meet the BAT criteria, we expect the marketplace to produce more options as the 5-year planning horizon approaches.

The Board of Health will continue review and update their local regulations to broadly reduce nutrient loading from septic systems and protect our Zone II's and private wells, until such time as a more targeted approach is prescribed by either our Water Resources consultant Scott Horsley, or GHD. We are currently sitting at the wastewater planning table with Wellfleet concerning our property owners in the Wellfleet Harbor watershed, and we will provide informational updates as that scenario develops.



Massachusetts Association of Health Boards

63 Shore Road
Winchester, MA 01890
(781) 572-5639
www.mahb.org

VIA EMAIL ATTACHMENT

To: DEP.talks@mass.gov

January 30, 2023

Commonwealth of Massachusetts
Department of Environmental Protection
1 Winter Street
Boston, MA 02108

Re: Proposed Regulations governing Nitrogen Sensitive Areas (NSA), 310 CMR 15.000 and 314 CMR 21.00, Comments on behalf of Massachusetts Association of Health Boards, a Member of the Title 5/Groundwater Discharge Stakeholder Group

Dear Acting Commissioner Moran,

As you are aware, in 2017, MassDEP created and began engaging with a Title 5/Groundwater Discharge stakeholder group, representing a diverse range of interests, to review comments received on the Title 5 regulations and consider potential revisions, including discussion of a solution to address excessive nitrogen in embayments and estuaries. Although The Massachusetts Association of Health Boards (MAHB) is listed in your online FAQ sheet as a member of the Title 5/Groundwater Discharge Stakeholder Group,¹ we cannot locate any correspondence where we were informed of such inclusion and have no record of our participation to this point.

In any event, since we were vested with membership, this letter is submitted on behalf of the MAHB, as a Member of the Title 5/Groundwater Discharge Stakeholder Group.

Scope of MAHB Comments:

MAHB is the Legal Technical Assistance Provider contracted by the State Department of Public Health to assist and support boards of health in meeting their statutory and service responsibilities through programs of education, technical assistance and resource development.

¹ <https://www.mass.gov/doc/310-cmr-15000-314-cmr-2100-g-a/download>

We have exhaustively reviewed every one of your public fora held on this issue and wish to offer the following comments. In addition, we have conferred with several of our constituent members as noted below, and have reviewed several submissions by various boards of health, selectboards and other municipal bodies in the formation of these comments. As such, while we support the other commentors and incorporate their concerns insofar as they address issues of concern as to enforcement of sound regulations, we are confining the scope of our comments to the most pressing issues affecting our 351 local boards of health, and, in particular, those on the coastal areas of the Southcoast Region, Plymouth County and the Cape and Islands as identified in your map showing "Natural Resource Area, Nitrogen Sensitive Areas: Status as of November 2022."

At the outset, it must be acknowledged as a matter of utmost concern to MAHB that issues of environmental pollution, abatement of the existential threat of global warming and the toxic pollution of our estuaries and water supply are of utmost important to our members as a matter of threat to the public health of the Commonwealth. We share in former Commissioner Suuberg's concern that the issues addressed in the proposed regulations must be properly addressed before they "harm the Cape's (and Islands') economy through a decline in fishing, shellfishing (SIC), tourism and property values,"² but are extremely concerned that these effects have ramifications far more serious than those economic issues raised by the former Commissioner in that letter.

While others have called on DEP to show the economic analysis upon which the former Commissioner's statements were made, that is of no impact to the concerns of MAHB which is viewing the issues through a public health lens.

From our review of data upon which this proposed regulation is based, we cannot see any evidence of analysis addressing social determinants of public health flowing from the proposed regulations.

Our concerns center around the shifting of substantial economic burdens of implementing the proposed regulations to local boards of health without any anticipated resource allocation allowing local public health to recapture the extraordinary expenses that will be incurred in establishing the mandated programs. While DEP is mandating many steps by local health department staff to both initiate these programs, and to later enforce them, there is no mention of the potential additional hundreds of millions of dollars that will likely be obligated, nor is there any evidence of financial analysis to determine what those additional resources will likely involve.

We are at a crossroads in public health. The DPH has raised and invested literally hundreds of millions of dollars in a changing infrastructure of local public health. They have rolled out over 50 grant programs for shared services. They have allocated over \$100 Million to data collection and workforce development. Coming off of COVID-19, the ranks of our 351 boards of health have thinned considerably from what they were at the time this program was conceived by DEP. The strains on staff that did not exist and were not even imaginable in 2017 when this idea was first advanced (although our institutional memory is that the roots of this issue go back as

² Letter dated June 1, 2022 to "Municipal Officials"

far as the 1980's). The reality of the day is that the funding streams and ideas that formed the inception of this proposal are no longer feasibly based upon those "old assumptions." To quote an old saying, "That was then, this is now."

Equity:

The assumption that individual homeowners will be minimally impacted because they can attain interest free financing is as inhumane as it is shortsighted. Throughout the process, the role of the individual homeowner has been downplayed, and the public health impacts have been totally ignored. The discussion on the record is top heavy with concerns for fisheries, travel and tourism and void of any public health analysis.

As homeowners on fixed incomes are confronted with the potential of a \$35,000 (a number that is used repeatedly as the base cost of a per-home upgrade, but for which we can find no support either way) "interest free" improvement, we cannot find a single public health impact analysis and that raise several questions.

Hypothetically, for the purposes of this discussion, we will address a family who bought their house 25 years ago and is now living on a fixed income. The family has an interest-free loan for a new boiler installed 2 years ago. This family is living "on the edge." They have paid off their house, but need a new (used) car, and they have health needs.

- How can they pay for their groceries if that base cost for an upgrade is drawn from their fixed income?
- Since this will end up as a "betterment," the repayment will be accomplished through a property tax hike. How can they afford that difference?
- Since the household income is diverted from heat, hot water, home repair and maintenance needed to maintain safe living conditions, where will that come from if they are paying higher real estate taxes?
- What considerations have been given to the mental health of people put under additional strain when they are already "on the edge?"

These are all issues of public health, that local boards of health deal with day-in and day-out and to which we can find no consideration by DEP in any of its materials.

BOH Enforcement of Reasonable Health Regulations:

In Massachusetts local boards of health have never had a single "rational health regulation" overturned by a court and sustained on appeal. This regulation, if adopted and enforced by our boards, would certainly change all of that!

Boards of health are empowered by G.L. c. 111, § 31 to make reasonable health regulations.³ The courts have held that "The right to engage in business must yield to the paramount right of

³ *Tri-Nel Management, Inc. v. Board of Health of Barnstable*, 433 Mass 217 (2001).

government to protect the public health by any rational means.”⁴ The courts recognize that board of health regulations “stand on the same footing as would a statute, ordinance or by-law.”⁵ That case goes on to hold, “All rational presumptions are made in favor of the validity of [the regulations].” In this state, courts will only strike a board of health regulation when the challenger proves, on the record, “the absence of any conceivable ground upon which [the regulation] may be upheld.”⁶ In Massachusetts, in order to overturn a health regulation, “A party challenging a board of health regulation must prove that it is illegal, arbitrary, or capricious, and must establish an absence of any conceivable grounds upon which the regulation may be upheld.”⁷

While it is true that, “When applying the arbitrary and capricious standard, the reviewing court is not authorized to weigh evidence, find facts, exercise discretion, or substitute its judgment for that of the administrative body,”⁸ there must be a rational underpinning to the regulation or action by the board of health.

The case, *Glass v. Town of Marblehead Bd. Of Health*,⁹ is a decision by a trial judge that comes from the Marblehead Board of Health attempting to enforce a DEP regulation from which the CMR issued a regulation that was not based upon a quantifying definition of the underlying amount of noise that would constitute a violation of a regulation. The similarities are striking and chilling in the implementation of this proposed regulation.

The proposed regulation by the Department mandates that all on-sight systems installed must be a “Best Available Nitrogen Reducing Technology,” with no definition or other quantification of what that is.

The sole court decision that has overturned a board of health regulation in Massachusetts jurisprudence comes from a local board of health attempting to enforce an ill-conceived regulation emanating from the Department of Environmental Protection! Dr. Einstein postulated on the wisdom of trying a failed endeavor a second time, and MAHB implores the DEP to not proceed with the proposed regulation without thoroughly defining all standards that are to be enforced by local boards! DEP has itself, stated in public presentations that while it has proposed or provided no standard today (as of 11/25/22), and “the Department is not leaning towards a standard,”¹⁰

Funding and Miscellaneous Issues

The regulation as proposed is a textbook example of an unfunded mandate. DEP is proposing a program that will require hundreds of thousands if not millions of dollars to establish on a local

⁴ *Druzik et al v. Board of Health of Haverhill*, 324 Mass. 129 (1949).

⁵ *Druzik v. Board of Health of Haverhill*, 324 Mass. 129, 138 (1949).

⁶ *Arthur D. Little, Inc. v. Com’r of Health for Cambridge*, 395 Mass. 535 (1985).

⁷ *Padden v. West Boylston*, 445 Mass. 1104 (2005).

⁸ *United Comb v. Leominster Board of Health*, 17 Mass. L.R. 233

⁹ 25 Mass L.R. 288

¹⁰ See, <https://www.youtube.com/watch?v=W7xFF6qqNM>. Illustrating that uncertainty, it was stated, that “communities that want to utilize these technologies will be looking for a certain level of removal. So it may not be 10 that is enough. They may need 8, they may need seven...” 1:05:57 on video

level, and is placing enforcement within local boards of health, as they are statutorily obligated to. The agency is foisting a program upon local boards without any consideration for the actual, real-life, foreseeable hardships that this proposed regulation will bring to local boards.

No consideration has been given to funding the staff for education, community outreach, or other staff-driven functions. There is nothing in the DEP regulation to establish any revenue sources to carry out what is arguably the largest undertaking aimed at local public health ever, even considering the demands COVID placed upon our boards. On the Cape and Islands, as well as other coastal communities, this undertaking will be unprecedented. This is on top of the extraordinary demands placed on local public health by COVID, modernization of public health delivery, and new programs currently being rolled out by DPH.

The legal enforcement responsibility needs more clear enunciation. How much legal staff will DEP supply, vs. town counsel for the enforcement. Clearly not everyone will comply. There are going to be as many good reasons not to comply as there are homeowners in the affected areas. One commentator has raised the possibility of a 70% compliance rate and has made a case for how the remaining 30% can overwhelm municipal finances, not to mention an already badly backlogged court docket. We fail to see any indemnity provision where DEP is obligating itself to enforce judicial actions. This is unsatisfactory.

Not everyone living in the affected area owns their property as a second, or beach house. The overwhelming majority of properties are nowhere near the beach, and belong to those living “on the edge,” discussed above. The reality is that adding this obligation to their cycle of monthly bills will destroy their household in many ways. MAHB is especially concerned with potential instances of depression, emotional health, financial health, and the general health of the population who will have to make a hard choice – keeping their home or a septic system.

The proposed regulation fails to consider the exceptions to public health regulatory authority surrounding agriculture. The board of health has no authority over agricultural properties in most instances. Nothing in the proposed regulation appears to acknowledge that.

Under G.L. c. 111, § 31A local boards of health are limited to on-site disposal systems. This proposed regulation does not deal with that reality.

Similarly, the proposed regulation seems to be blind to G.L. c. 40B affordable housing exemptions. Again, those residents are at risk from a public health/environmental justice standpoint.

Finally, attention is drawn to the lack of discussion of G.L. c. 111, §127P’s grandfathering provisions that essentially block board of health actions in some cases.

In conclusion, the MAHB cannot endorse this proposed regulation as it stands. It has been driven by a need for the DEP to meet a settlement of ancillary litigation and because of impending deadlines in that litigation. MAHB respectfully submits that DEP has put its needs ahead of the science, an economic analysis and the good of the public health.

Respectfully Submitted,
Mass. Assoc. of Health Boards,

By: Cheryl Sbarra /mH
Cheryl Sbarra, J.D., Executive Director and
Senior Staff Attorney

and,

By: Michael R. Hugo
Michael Hugo, J.D., Director of Policy
And Director of Government Relations

Minutes of the Truro Board of Health, Tuesday December 20, 2022

This was a remote meeting.

Board members in attendance:

Chair Tracey Rose, Vice Chair Jason Silva; Board Members: Helen Grimm, Brian Koll; Alternate Candida Monteith; Absent: Tim Rose; Also Present: Health Agent Emily Beebe

The meeting was called to order at 4:11 PM by the Vice Chair, who described the remote meeting procedures and the process for public participation.

PUBLIC COMMENT:

No Public Comment.

Change of Manager: Shoreline Beach Condominiums, 556 Shore Road

Karen Potts and Mark Plasse were representing the change of manager request. Chair Tracey Rose asked Mr. Plasse before information about the new manager of Shoreline Beach Condominiums. He stated that the previous manager recently sold their unit and that since he is an owner who helps take care of the property it made sense for him to become manager. Karen Potts is the owner of TJF property services, and would be the offsite manager. Board Member Tracey Rose reiterated the importance of having emergency contact information on site.

Motion: Board Member Brian Koll moved to approve the change of manager request for Shoreline Beach Condominium. Second: Jason Silva; Vote: 5-0-0; the motion passed.

Variance Request/Local Upgrade Approval: 108 Slough Pond Road (continued from 11/15/2022)The Health Agent stated that an email had been sent requesting a continuance until the January 17, 2023 meeting. **Motion: Board Member Jason Silva moved to approve continuance request to January 17, 2023. Second: Helen Grimm; Vote: 5-0-0; the motion passed unanimously.**

Variance request :Truro Board of Health regulations 97 Castle Road.

Chair Tracy Rose stated that there was some important paperwork needed to be submitted to make an educated decision on this request. She said that an abutter had emailed concerns since they had not been notified. The Health Agent stated that this was not a traditional variance, but is a request for an extension to the timeframe for the required cesspool upgrade; she noted that she had visited the site in the summer of 2022 and observed that this property is a unique circumstance with non-traditional elements. Owner Clark DeCiantis was on the call to represent the request and summarized the unique elements of the site. Board member Jason Silva suggested that the Board would require a water analysis and a septic system inspection report. Alternate Candida Monteith asked if kitchen appliances were present in the home. Mr. DeCiantis stated that there is a refrigerator and small oven with four burners but no sink. He compared the dwelling to a “wooden tent” with no insulation. Chair Tracey Rose mentioned that it is important to consider the nearby water resources before making a definitive decision. **Motion: Board Member Jason Silva moved to continue the discussion until the January 3, 2023, meeting pending a cesspool inspection report and water analysis; Second: Brian Koll; Vote: 5-0-0; the motion passed.**

Mr. DeCiantis added that the water at the home is currently turned off. The Chair suggested that Mr. DeCiantis work with the Agent about the required testing; she further acknowledged abutter

James Nash and asked if he would like to add anything to the discussion. Mr. Nash did not wish to add any comment at this time.

Due to a schedule conflict with a Select Board meeting, the Board of Health was unable to address all of the items on the agenda at this meeting.

Motion: Board Member Helen Grimm moved to continue the Water Resources Update, Minutes, and Reports of the Chair and Agent until the January 3, 2023 meeting.

Second: Brian Koll; Vote: 5-0-0; the motion passed.

Board member Brian Koll moved to adjourn the meeting: Second: Board member Jason Silva; Vote: 4-0-0, the motion passed.

The meeting was adjourned at 5:06 P.M.

Respectfully submitted by Nina Richey