

PROJECT NARRATIVE

January 19, 2023

Applicant: Ross Kiely

Subject Property: 70 Cooleyville Road, (Map ZM Lot 15)

The existing single family home requires a new onsite septic system and well. The current septic system is in failure and consists of a septic tank and single lateral which daylights to grade within the 50' buffer to the bordering vegetated wetland, (BVW), down gradient of the existing septic tank.

The proposed new onsite septic system is proposed 55' from the BVW in a previously disturbed area and the limit of work is 50' from the BVW. Erosion controls consist of silt fence along the 50' buffer, as shown on attached plan. The proposed septic system is an innovative technology septic system which requires a 40% reduction in the footprint to minimize the area of disturbance. The proposed well is located greater than 100' from the proposed septic system and greater than 200' from the BVW.

Thank you for your consideration of this request.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Shutesbury
City/Town

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:
When filling out
forms on the
computer, use
only the tab key
to move your
cursor - do not
use the return
key.



1. Applicant:

Ross Kiely
Name

E-Mail Address

3011 NE Hoyt Street, Apt. B

Mailing Address

Portland

City/Town

(503) 778-0305

Phone Number

OR
State

97232
Zip Code

Fax Number (if applicable)

2. Representative (if any):

J & P Engineering Services

Firm

Neil Jackson

Contact Name

30 Mountain View Drive

Mailing Address

Belchertown

City/Town

(413) 896-6607

Phone Number

Jpengservices77@gmail.com
E-Mail Address

MA
State

01007
Zip Code

Fax Number (if applicable)

B. Determinations

1. I request the Shutesbury make the following determination(s). Check any that apply:
Conservation Commission

- ☐ a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- ☐ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- ☒ c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- ☒ d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Shutesbury

Name of Municipality

- ☐ e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



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C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

70 Cooleyville Road

Street Address

Shutesbury

City/Town

ZM

Assessors Map/Plat Number

15

Parcel/Lot Number

- b. Area Description (use additional paper, if necessary):

Existing 3 bedroom residential dwelling with bordering vegetated wetlands

- c. Plan and/or Map Reference(s):

Kiely - 70 Cooleyville Road, Shutesbury

Title

01/13/2023

Date

Title

Date

Title

Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

Repair of an onsite septic system within the 100' buffer to boardering vegetated wetland. Proposed repair of SAS is 55' from BVW with limit of work 50' from BVW. All proposed work is in previously disturbed area. Existing septic drains towards wetlands.



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C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

Repair of an onsite septic system with minimum impact.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☒ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



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D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Frank & Barbara Rehorka

Name

19 Thayer Street

Mailing Address

Amherst

City/Town

MA

State

01002

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Frank Rehorka
Signature of Applicant

01/19/2023

Date

Neil Jackson
Signature of Representative (if any)

01/19/2023

Date

Section II. Indicators of Hydrology

70 Cooleyville Road, Shutesbury, MA.

2 Jan 2023

Hydric Soil Interpretation
Soil Survey

DPI

Is there a published soil survey for this site? Yes ☒ No ☐

Title/date: Web Soil Survey

Map number:

Soil type mapped: Metacomet 368B

Hydric soil inclusions: Yes

Are field observations consistent with soil survey? Yes ☒ No ☐

Remarks:

I. Soil Description

Horizon	Depth	Matrix Color	Texture	Redox
A	0 - 8"	10yr 3/1	sl	8-9 " 2% 7.5yr 3/4
B	8 - 18"	10yr 4/4	sl	<1% 10yr 3/3
	18-25"	10yr 4/3	sl	<1% 10yr 3/3
	25-30"	2.5y 5/3	gcsl	
sl	sandy loam			
gcsl	gravelly coarse sandy loam			

Remarks:

Vegetation within the area primarily consisted of queen annes lace, Canadian cinquefoil, perennial rye, and dewberry.

This soil boring did not meet any criteria of the NEHSTC's 2019 Field Indicators for Identifying Hydric Soils in New England.

Other

Conclusion: Is soil hydric? Yes ☐ No ☒

Other Indicators of Hydrology: (check all that apply and describe)

<input type="checkbox"/>	Site inundated:	
<input checked="" type="checkbox"/>	Depth to free water in observation hole:	Perched water @ 4" *
<input type="checkbox"/>	Depth to soil saturation in observation hole:	*not during the growing season
<input type="checkbox"/>	Water marks:	
<input type="checkbox"/>	Drift lines:	
<input type="checkbox"/>	Sediment deposits:	
<input type="checkbox"/>	Drainage patterns in BVW:	
<input type="checkbox"/>	Oxidized rhizospheres:	
<input type="checkbox"/>	Water-stained leaves:	
<input type="checkbox"/>	Recorded data (stream, lake, or tidal gauge; aerial photo; other):	

Other:

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants \geq number of non-wetland indicator plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetland hydrology present: hydric soil present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
other indicators of hydrology present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample location is in a BVW	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Debra M. Comee

Section II. Indicators of Hydrology 70 Cooleyville Road, Shutesbury, MA.

2 Jan 2023

Hydric Soil Interpretation

DP2

2. Soil Survey

Is there a published soil survey for this site? Yes ☒ No ☐

Title/date: Web Soil Survey

Map number:

Soil type mapped: Metacomet 368B

Hydric soil inclusions: yes

Are field observations consistent with soil survey? Yes ☒ No ☐

Remarks:

3. Soil Description	Horizon	Depth	Matrix Color	Texture	Redox
A	0 - 8"	10yr 3/1	sl	8-9" gsl-	
B	8 - 23"	10yr 4/4	sl	1% 7.5yr 3/3	
				20-23" 5% 7.5yr 3/3	

sl sandy loam
gsl gravelly sandy loam

Remarks:

Vegetation within the area primarily consisted of sensitive fern, multiflora rose, sphagnum moss, apple, and unk. goldenrod.

This soil boring did not meet any criteria of the NEHSTC's 2019 Field Indicators for Identifying Hydric Soils in New England.

Other

Conclusion: Is soil hydric?

Yes ☐ No ☒

Other Indicators of Hydrology: (check all that apply and describe)

<input type="checkbox"/>	Site inundated:	
<input checked="" type="checkbox"/>	Depth to free water in observation hole:	Perched water @ 6" *
		*not during the growing season
<input type="checkbox"/>	Depth to soil saturation in observation hole:	
<input type="checkbox"/>	Water marks:	
<input type="checkbox"/>	Drift lines:	
<input type="checkbox"/>	Sediment deposits:	
<input type="checkbox"/>	Drainage patterns in BVW:	
<input type="checkbox"/>	Oxidized rhizospheres:	
<input type="checkbox"/>	Water-stained leaves:	
<input type="checkbox"/>	Recorded data (stream, lake, or tidal gauge; aerial photo; other):	
<input type="checkbox"/>	Other:	

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants \geq number of non-wetland indicator plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetland hydrology present: hydric soil present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
other indicators of hydrology present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample location is in a BVW	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Deborah M. Comee

Section II. Indicators of Hydrology

70 Cooleyville Road, Shutesbury, MA.

2 Jan 2023

Hydric Soil Interpretation

DP3

4. Soil Survey

Is there a published soil survey for this site? Yes ☒ No ☐

Title/date: Web Soil Survey

Map number: Metacomet 368B

Soil type mapped: yes

Hydric soil inclusions: Yes ☒ No ☐

Are field observations consistent with soil survey? Yes ☒ No ☐

Remarks:

5. Soil Description	Horizon	Depth	Matrix	Color	Texture	Redox
A	0 - 10"	10yr 3/1	sl			
B	10 - 12"	10yr 4/3	sl			5% 10yr 3/3
	12-20"	2.5y 5/2	sl			10% 10yr 3/6

sl sandy loam

Remarks:

Vegetation within the area primarily consisted of sensitive fern, red maple, sphagnum, willow leaf herb, multiflora, and spirea.

This soil boring meets the A11 criteria of the NEHSTC's 2019 Field Indicators for Identifying Hydric Soils in New England.

Other

Conclusion: Is soil hydric? Yes ☒ No ☐

Other Indicators of Hydrology: (check all that apply and describe)

<input type="checkbox"/>	Site inundated:	
<input checked="" type="checkbox"/>	Depth to free water in observation hole:	Perched water @ 6" *
<input type="checkbox"/>	Depth to soil saturation in observation hole:	*not during the growing season
<input type="checkbox"/>	Water marks:	
<input type="checkbox"/>	Drift lines:	
<input type="checkbox"/>	Sediment deposits:	
<input type="checkbox"/>	Drainage patterns in BVW:	
<input type="checkbox"/>	Oxidized rhizospheres:	
<input type="checkbox"/>	Water-stained leaves:	
<input type="checkbox"/>	Recorded data (stream, lake, or tidal gauge; aerial photo; other):	

Other:

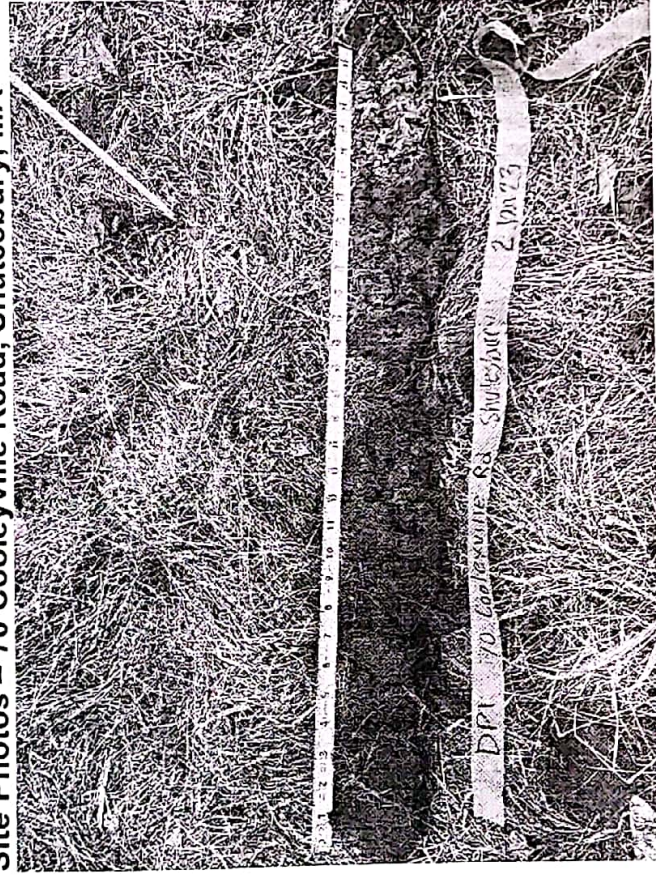
Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants \geq number of non-wetland indicator plants	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present: hydric soil present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
other indicators of hydrology present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample location is in a BVW	<input checked="" type="checkbox"/>	<input type="checkbox"/>

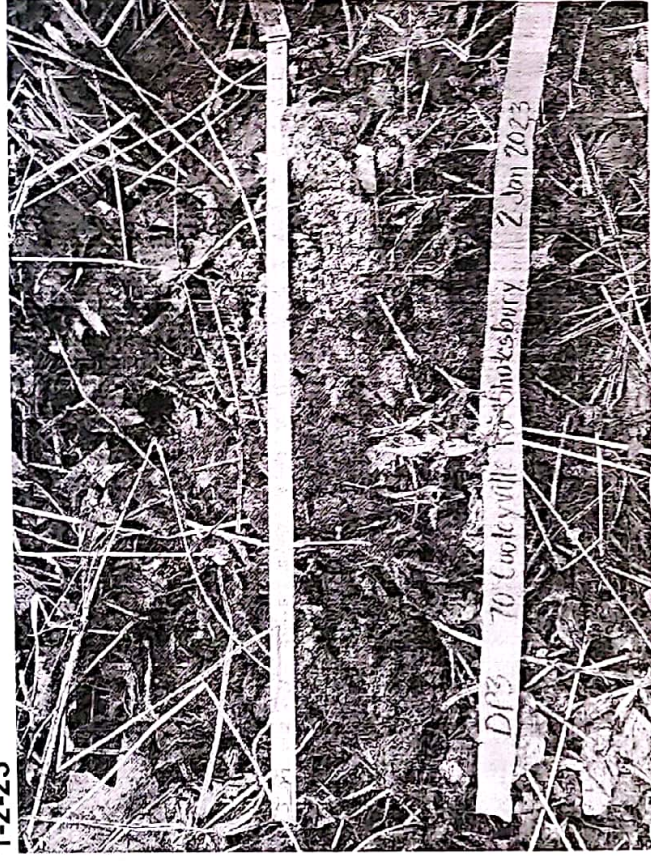
Submit this form with the Request for Determination of Applicability or Notice of Intent.

Deborah M. Conner

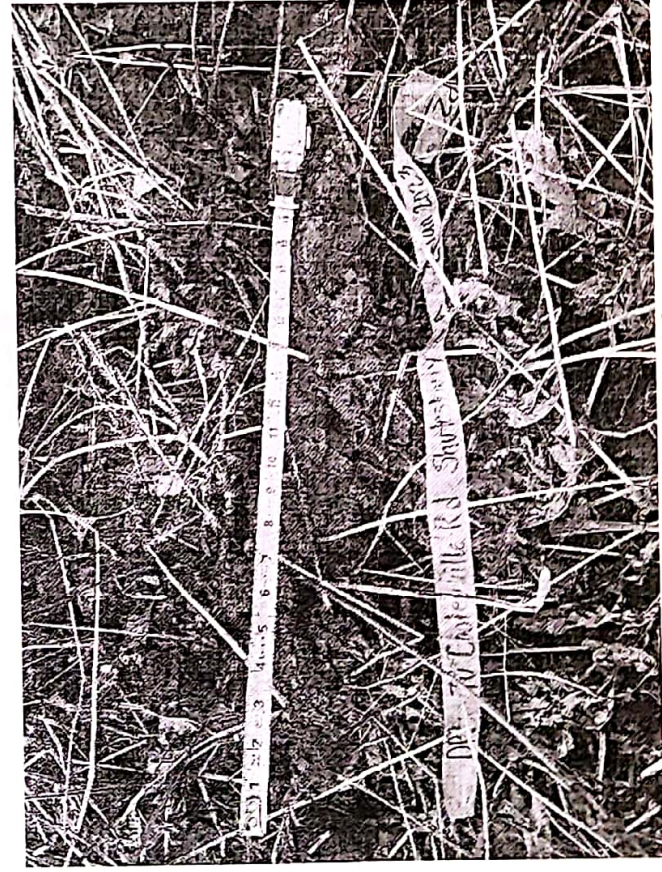
1-2-23



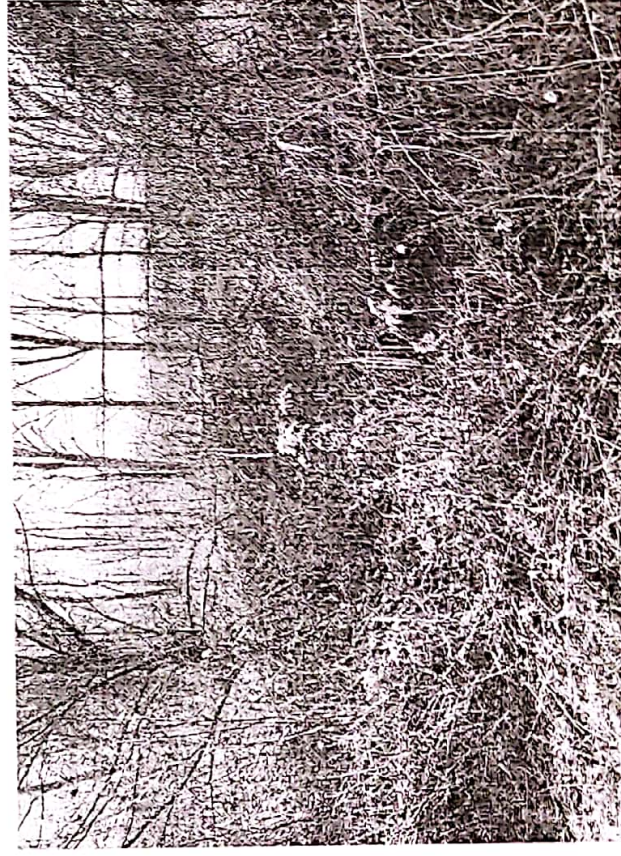
DP1 – non hydric



DP3 – hydric



DP2 – non hydric



Southerly view of DP3, W6, W7 & DP2 (from left to right)

StreamStats Report

Region ID: MA

Workspace ID: MA20221215001701374000

Clicked Point (Latitude, Longitude): 42.45236, -72.40271

Time: 2022-12-14 19:17:19 -0500



Collapse All

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM250	Mean basin slope computed from 1:250K DEM	3.746	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0	square mile per mile
DRNAREA	Area that drains to a point on a stream	0.086	square miles
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless

> Flow-Duration Statistics

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.086	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	3.746	percent	0.32	24.6

Flow-Duration Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
50 Percent Duration	0.0782	ft ³ /s
60 Percent Duration	0.0437	ft ³ /s

12/14/22, 7:20 PM

StreamStats

Statistic	Value	Unit
70 Percent Duration	0.0255	ft^3/s
75 Percent Duration	0.0191	ft^3/s
80 Percent Duration	0.0137	ft^3/s
85 Percent Duration	0.00935	ft^3/s
90 Percent Duration	0.00587	ft^3/s
95 Percent Duration	0.00311	ft^3/s
98 Percent Duration	0.00206	ft^3/s
99 Percent Duration	0.00134	ft^3/s

Flow-Duration Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.11.1

StreamStats Services Version: 1.2.22

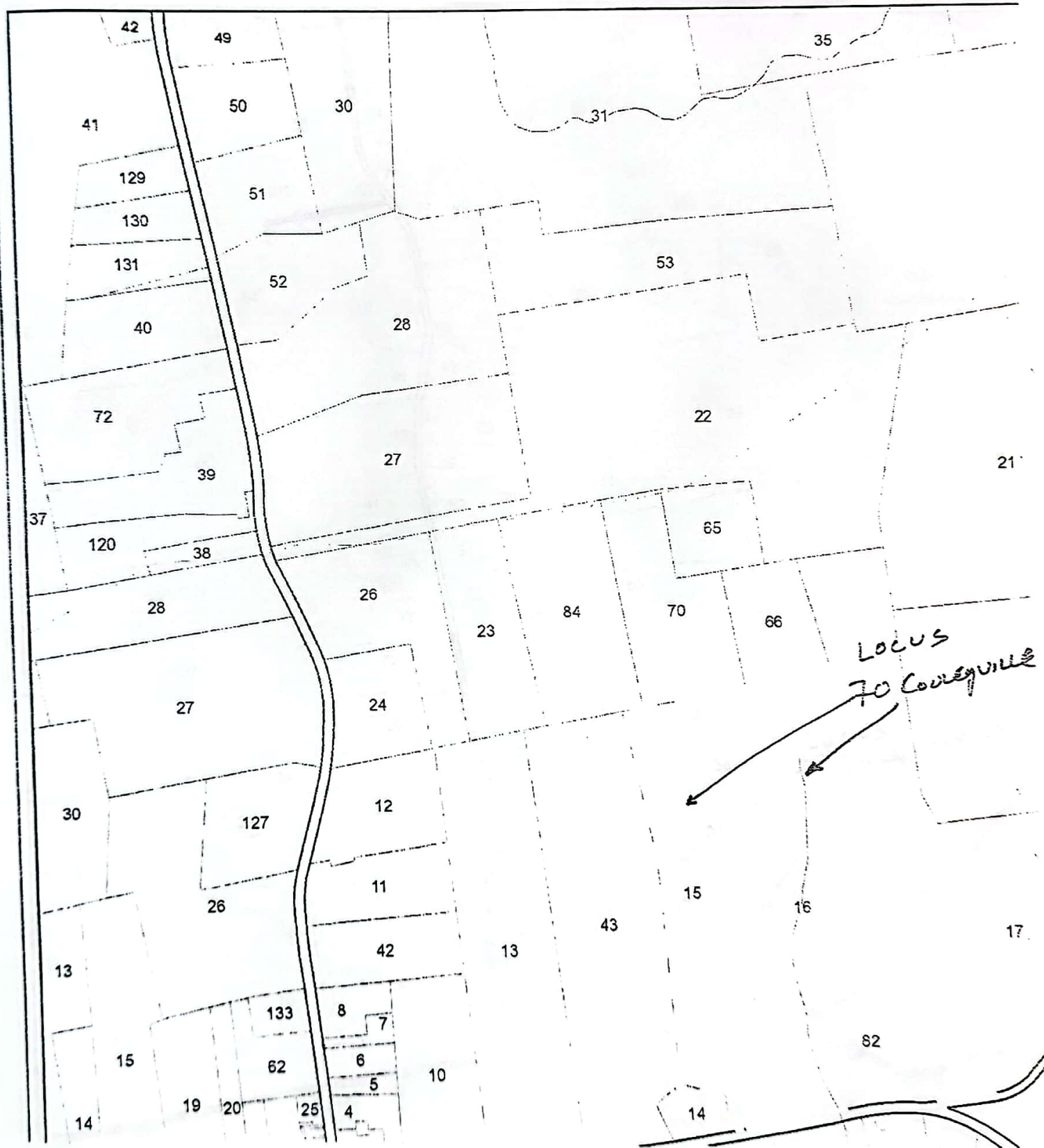
NSS Services Version: 2.2.1



Shutesbury, MA

1 inch = 500 Feet

October 5, 2022



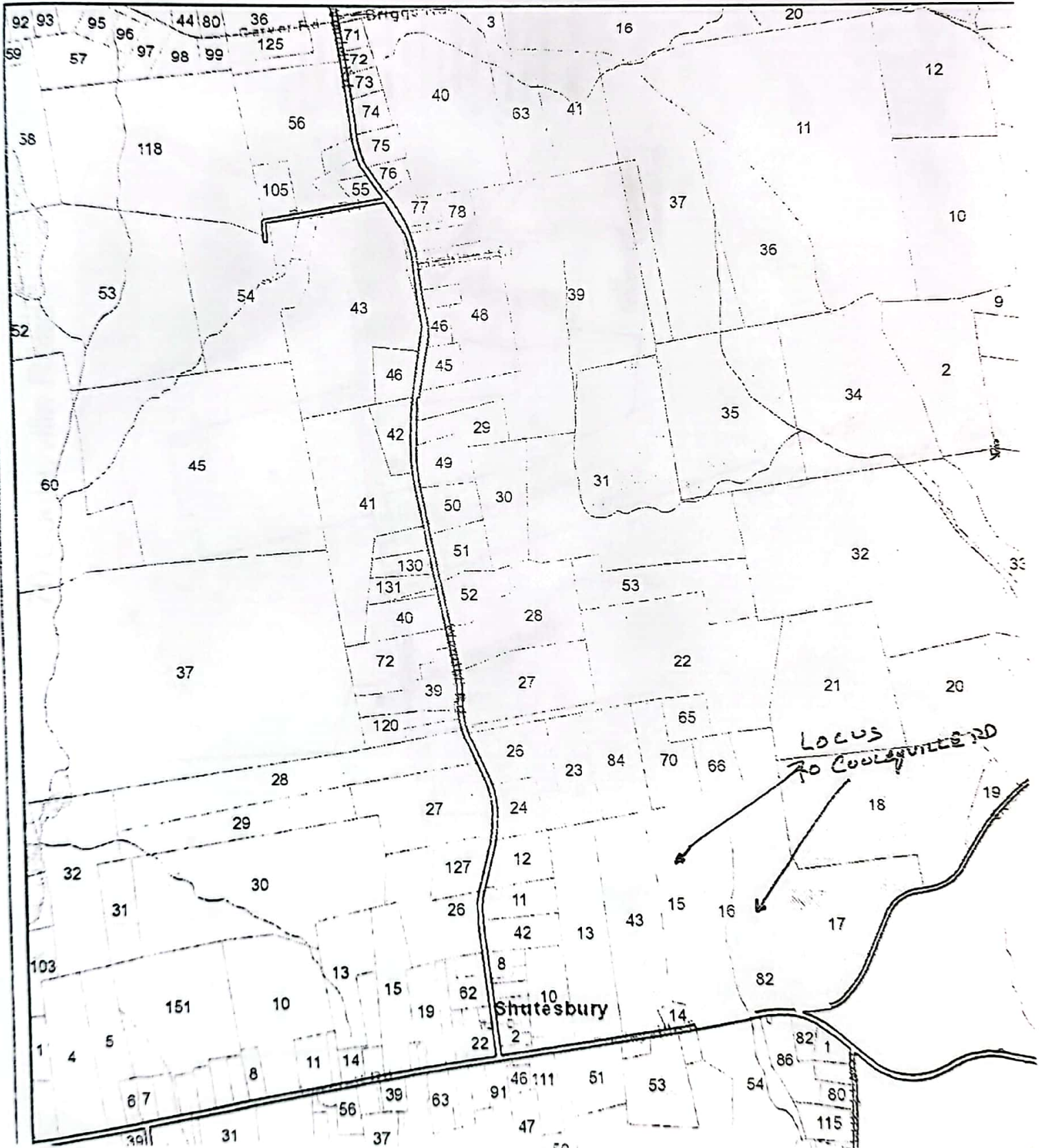


October 5, 2022

Shutesbury, MA

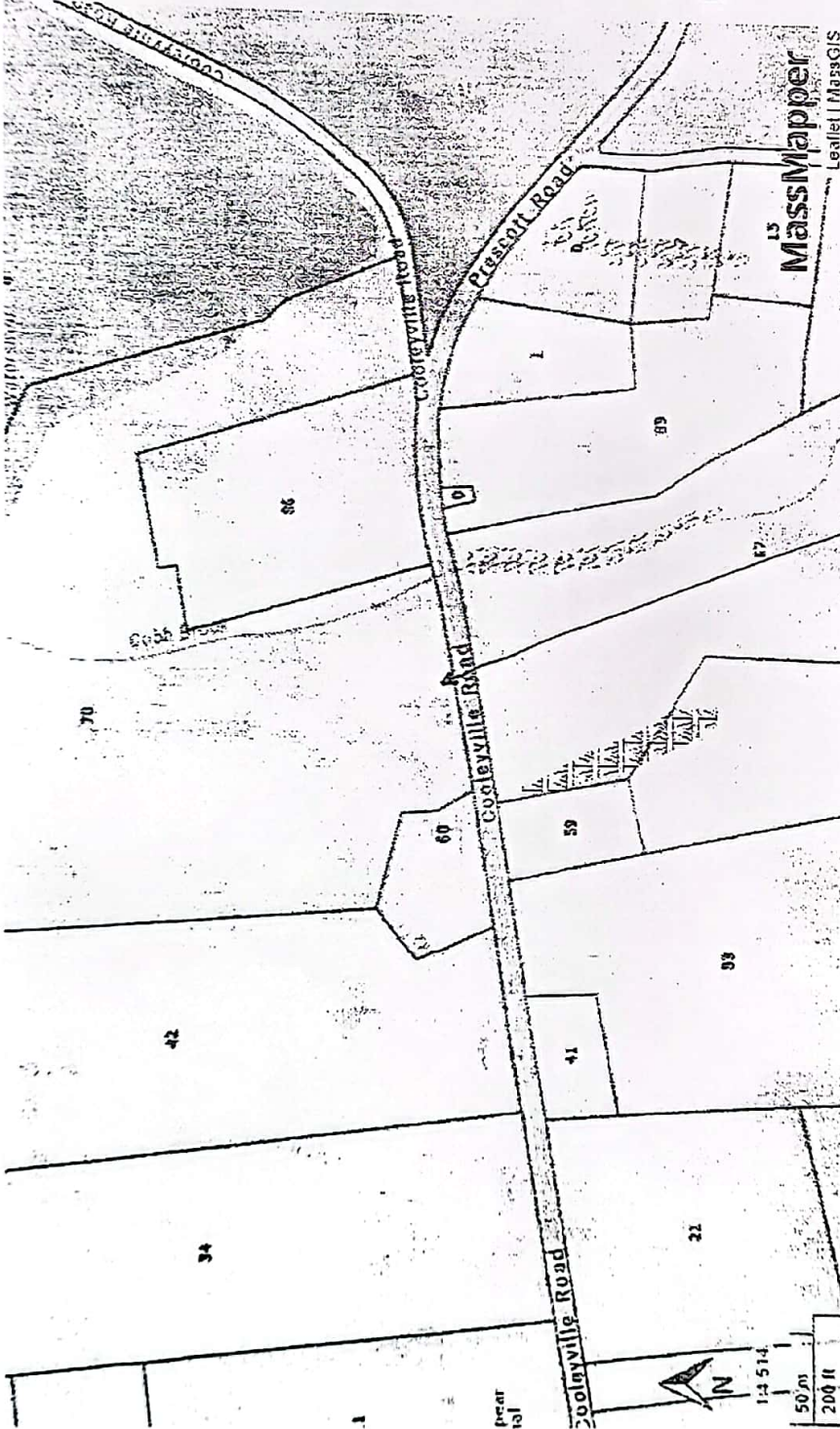
1 Inch = 1000 Feet

0 1000 2000 3000



70 Cooleyville Road

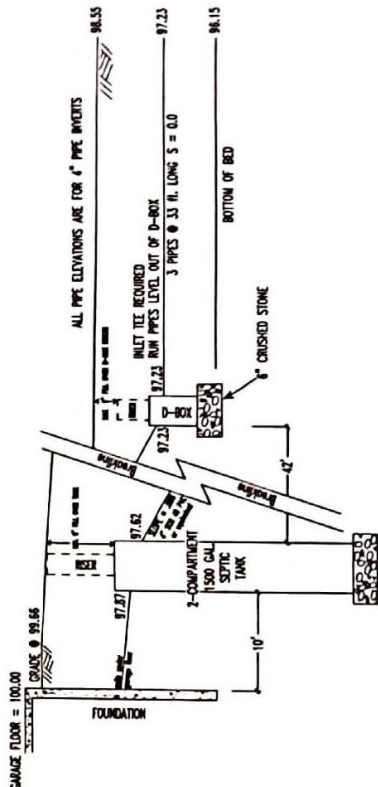
- DEP Wetlands Detailed**
- Barrier Beach System
 - Barrier Beach-Deep Marsh
 - Barrier Beach-Wooded Swamp Mixed Trees
 - Barrier Beach-Coastal Beach
 - Barrier Beach-Coastal Dune
 - Barrier Beach-Marsh
 - Barrier Beach-Salt Marsh
 - Barrier Beach-Shrub Swamp
 - Barrier Beach-Wooded Swamp Coniferous
 - Barrier Beach-Wooded Swamp Deciduous
 - Bog
 - Coastal Bank Bluff or Sea Cliff
 - Coastal Beach
 - Coastal Dune
 - Cranberry Bog
 - Deep Marsh
 - Barrier Beach-Open Water
 - Open Water
 - Rocky Intertidal Shore
 - Salt Marsh
 - Shallow Marsh Meadow or Fen
 - Shrub Swamp
 - Tidal Flat
 - Wooded Swamp Coniferous
 - Wooded Swamp Deciduous
 - Wooded Swamp Mixed Trees
- Property Tax Parcels**



SEPTIC SYSTEM PROFILE

ITEM ● GARAGE FLOOR = 100.00

SCALE: $\frac{1'' = 10'}$
 HORZ. $\frac{1'' = 2'}$
 VERT.



SITUATION:

REPAIR OF SAS AT 70 COOLEYVILLE ROAD.
3 BEDROOM DWELLING, NO GARBAGE GRINDER.
PERC RATE AT HOLE 3 DETERMINED TO BE 25 MINUTES PER INCH. DOP • 50"
SAMPLE TAKEN TO COSTA CONSULTING ENGINEERS, INC.

DEEP HOLE DATES: 10/08/22, 12/15/22
BOARD OF HEALTH WITNESS: CHARLIE KANIECKI
SOIL EVALUATOR: NEIL JACKSON, CERTIFIED MAY, 1998

3 BEDROOMS • 110 GAL ∴ TOTAL = 330 GAL

BED AREA (TABLE 5) = 600 FT² (B43 MODULES) ELJEN GSF

ESTIMATED AVERAGE DAILY FLOW BASED ON 1995 TITLE 6 REGULATIONS

DESIGN CALCULATIONS:

SOIL CLASS II -- 30 MIN./IN

BOTTOM AREA: LENGTH = 8 MODULES X 4 FT/MODULES + 1 FT = 33 FT

WIDTH = 600 FT² / 33 FT = 19 FT

CENTER TO CENTER SPACING OF MODULES: (19 FT WIDE / 3 ROWS = 6.33 FT
CENTER TO CENTER TO EDGE OF BED = 1/2 CENTER TO CENTER SPACING 3.17 FT

SPACING: 10 LBS - 1/2" CENTER TO CENTER SPACING = 10 LBS

TOTAL = 19 FT X 33 FT = 627 FT² DESI

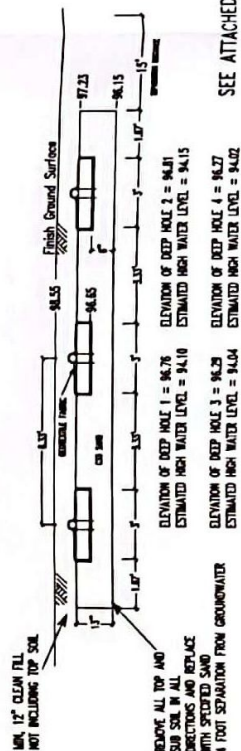
627 FT² DESIGN > 600 FT² REQUIRED

CROSS SECTION OF LEACHING BED

@ PIPE END

TOTAL GARAGE FLOOR = 100.00

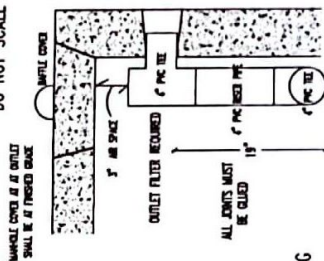
DO NOT SCALE



SEE ATTACHED SOIL LOG

GAS BAFFLE DETAIL

DO NOT SCALE



SYSTEM TO BE CONSTRUCTED IN COMPLIANCE WITH 310 CMR 15.000

KIELY
70 Cooleyville Road
Shutesbury, MA

SCALE:	AS NOTED	DRAWING NUMBER:
--------	----------	-----------------

DATE:	AS NOTED
-------	----------

DATE: 26OCT22 Kiley-Coolyville REV 2.dwg

13JAN23
SECOND
REVISION.

APPROVED BY:



2023

Site Photos – 70 Cooleyville Road, Shutesbury, MA



DP1 – non hydric

1-2-23



DP3 – hydric



DP2 – non hydric



Southerly view of DP3, W6, W7 & DP2 (from left to right)



Commonwealth of Massachusetts
City/Town of SHUTESBURY
Disposal System Construction Permit
Form 2A

2023 0201
Number

DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Permission is hereby granted to:

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Jason Lafleur
Name
44 Mercier Drive
Address
Belchertown
City/Town
MA
State
01007
Zip Code

Complete Septic Service
Name of Company

to perform the following work on an on-site sewage disposal system:

- ☐ Construction
☒ Repair or replacement
☐ Repair or replacement of system components

70 Cooleyville Road ZMA
Facility Address
Shutesbury
City/Town
MA
State
Ross Kiely
Owner
(503) 778-0305
Telephone Number
01072

The work to be performed is further described in the Application for Disposal System Construction Permit. The applicant recognizes his/her duty to comply with Title 5 and the following local provisions or special conditions:

Installation may not take place until after
consideration of RDA by Conservation
Commission. (2/9/23)

All construction must be completed within three years of the date below.

Shutesbury Board of Health 2/17/23
Approved by
Therese Hutton, Chair
Title