

SECTION 17 WASTEWATER DISPOSAL

There will be no commercial or industrial wastewater discharged from the Project and wastewater will be limited to domestic wastewater associated with the use of the O&M building. The wastewater generated by the O&M building, as designed, will involve discharge of approximately 120 gallons per day of wastewater. The Applicant intends to construct a new subsurface wastewater disposal system in accordance with the standards of 10-144A CMR 241, Maine's Subsurface Wastewater Disposal Rules.

The Project's new wastewater disposal system (Exhibit 17-1 [HHE 200 Form]) has been designed on soils suitable for treatment of wastewater discharge and will be located greater than 100 feet from the existing water supply well present on the property which will be repurposed for use by the O&M building, or any new water supply well, should it be determined that one is necessary.

During the Project's construction phase, temporary toilet facilities will be provided and serviced by a licensed wastewater transporter. Wash water from concrete deliveries during construction of turbine foundations will be disposed of on the turbine pad or in upland disturbed areas.

Exhibits

- Exhibit 17-1 HHE 200 Form

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From: [Hadlock, Parker](#)
To: [Cassida, Jim](#); [Waddle, Kelly](#)
Cc: [Todd Presson](#); [Waddle, Kelly](#); [John Kennedy](#)
Subject: FW: WMRE SSWDS
Date: Monday, May 17, 2021 2:39:43 PM
Attachments: [Aerial with disposal location c.pdf](#)
[WMRE HEE200 w cover.pdf](#)

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

From: Hadlock, Parker
Sent: Friday, May 7, 2021 9:39 AM
To: moscow@myfairpoint.net
Subject: FW: WMRE SSWDS

Mr Beane -

The attached HHE 200 form needs to be signed by the Town of Moscow Plumbing Inspector for approval.

We then need a copy of the signed form sent back from the Town for the permit file.

Can we ask for you to usher this thru as you see fit and return it no later than early next week?

Thanks!

Broadwater Environmental, LLC

18 Grand St., South Portland, ME 04106

April 30, 2021

Mr. Jim Cassida - Senior Program Director
Tetra Tech
451 Presumpscot Street
Portland, ME 04103

Subject: HEE-200 Form for Applying for a Subsurface Wastewater Disposal System; Operations and Maintenance Building; Western Maine Renewable Energy Project; Moscow, Maine

Broadwater Environmental, LLC (BE-LLC) was retained by Tetra Tech to assist in obtaining permits to construct and operate the proposed Western Maine Renewable Energy Project, a 58.5 MW wind farm on a former U.S. Air Force radar station site and some of the surrounding land in Moscow, Maine. The designed project includes 14 wind turbines and associated infrastructure including a new electrical substation.

An existing building at the former radar site is proposed to be repurposed for use as the project's Operation and Maintenance (O&M) Building and requires an approved Subsurface Wastewater Disposal System (SWDS). Observations made in 2020 and data gathered from a local vendor indicates there is likely not an existing SWDS at the building. There is evidence of a potential system including a raised mound and vent stacks east of the building. However, discussion with an official from the Town of Moscow indicated they had no record of a permit issued for a SWDS.

A local vendor who conducts inspections, maintenance, and installations of SWDS's was contacted to arrange for an inspection. They had personal knowledge of the system at the site and indicated they had pumped it once per year until the U.S. Air Force installation closed. They indicated that the system was only holding tanks and that it had no disposal field associated with it.

After gaining this knowledge, it was decided to forego an inspection and design a new SWDS for the building and its proposed future use. On April 23, 2021 I visited the site and located a suitable area for a disposal field and other required system components. In the design, I specified that the septic tank and dosing chamber, if required, can be relocated if placed in locations meeting the minimum setbacks specified in the SWDS Rules. Minimum setbacks are stated in the design. It should also be noted that pumping to the disposal field may be required and, if needed, will require a power source.

It should also be noted that the two holding tanks on-site should be removed or properly abandon per the SDWS Rules to prevent a safety hazard.

Broadwater  **Environmental, LLC**

18 Grand St., South Portland, ME 04106

I hope this design meets the project needs. If you have any questions about the contents of this letter or the design, please call me at 207-653-8737.

Sincerely,



Ian Broadwater

Owner; Broadwater Environmental, LLC

Maine Licensed Site Evaluator No. 230/Maine Certified Soil Scientist No. 305

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept. Health & Human Services
 Div of Environmental Health, 11 SHS
 (207) 287-2070 Fax: (207) 287-4172

PROPERTY LOCATION		>> CAUTION: LPI APPROVAL REQUIRED <<	
City, Town, or Plantation		Town/City _____	Permit # _____
Street or Road		Date Permit Issued ___/___/___	Fee: \$ _____ Double Fee Charged []
Subdivision, Lot #		L.P.I. # _____	
OWNER/APPLICANT INFORMATION		Local Plumbing Inspector Signature _____	
Name (last, first, MI) _____		<input type="checkbox"/> Owner <input type="checkbox"/> Town <input type="checkbox"/> State	
Mailing Address of Owner/Applicant _____		The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.	
Daytime Tel. # _____			
OWNER OR APPLICANT STATEMENT		CAUTION: INSPECTION REQUIRED	
I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.		I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____	
Signature of Owner or Applicant _____ Date _____		Local Plumbing Inspector Signature _____ (1st) date approved _____	
		Municipal Tax Map # _____ Lot # _____	
		Local Plumbing Inspector Signature _____ (2nd) date approved _____	

PERMIT INFORMATION			
TYPE OF APPLICATION <input type="checkbox"/> 1. First Time System <input type="checkbox"/> 2. Replacement System Type replaced: _____ Year installed: _____ <input type="checkbox"/> 3. Expanded System <input type="checkbox"/> a. <25% Expansion <input type="checkbox"/> b. >25% Expansion <input type="checkbox"/> 4. Experimental System <input type="checkbox"/> 5. Seasonal Conversion	THIS APPLICATION REQUIRES <input type="checkbox"/> 1. No Rule Variance <input type="checkbox"/> 2. First Time System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 3. Replacement System Variance <input type="checkbox"/> a. Local Plumbing Inspector Approval <input type="checkbox"/> b. State & Local Plumbing Inspector Approval <input type="checkbox"/> 4. Minimum Lot Size Variance <input type="checkbox"/> 5. Seasonal Conversion Permit	DISPOSAL SYSTEM COMPONENTS <input type="checkbox"/> 1. Complete Non-engineered System <input type="checkbox"/> 2. Primitive System (graywater & alt. toilet) <input type="checkbox"/> 3. Alternative Toilet, specify: _____ <input type="checkbox"/> 4. Non-engineered Treatment Tank (only) <input type="checkbox"/> 5. Holding Tank, _____ gallons <input type="checkbox"/> 6. Non-engineered Disposal Field (only) <input type="checkbox"/> 7. Separated Laundry System <input type="checkbox"/> 8. Complete Engineered System (2000 gpd or more) <input type="checkbox"/> 9. Engineered Treatment Tank (only) <input type="checkbox"/> 10. Engineered Disposal Field (only) <input type="checkbox"/> 11. Pre-treatment, specify: _____ <input type="checkbox"/> 12. Miscellaneous Components	TYPE OF WATER SUPPLY <input type="checkbox"/> 1. Drilled Well <input type="checkbox"/> 2. Dug Well <input type="checkbox"/> 3. Private <input type="checkbox"/> 4. Public <input type="checkbox"/> 5. Other
SIZE OF PROPERTY <input type="checkbox"/> SQ. FT. <input type="checkbox"/> ACRES	DISPOSAL SYSTEM TO SERVE <input type="checkbox"/> 1. Single Family Dwelling Unit, No. of Bedrooms: _____ <input type="checkbox"/> 2. Multiple Family Dwelling, No. of Units: _____ <input type="checkbox"/> 3. Other: _____ (specify) Current Use <input type="checkbox"/> Seasonal <input type="checkbox"/> Year Round <input type="checkbox"/> Undeveloped		
SHORELAND ZONING <input type="checkbox"/> Yes <input type="checkbox"/> No			

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)			
TREATMENT TANK <input type="checkbox"/> 1. Concrete <input type="checkbox"/> a. Regular <input type="checkbox"/> b. Low Profile <input type="checkbox"/> 2. Plastic <input type="checkbox"/> 3. Other: _____ CAPACITY: _____ GAL.	DISPOSAL FIELD TYPE & SIZE <input type="checkbox"/> 1. Stone Bed <input type="checkbox"/> 2. Stone Trench <input type="checkbox"/> 3. Proprietary Device <input type="checkbox"/> a. cluster array <input type="checkbox"/> c. Linear <input type="checkbox"/> b. regular load <input type="checkbox"/> d. H-20 load <input type="checkbox"/> 4. Other: _____ SIZE: _____ sq. ft. <input type="checkbox"/> lin. ft.	GARBAGE DISPOSAL UNIT <input type="checkbox"/> 1. No <input type="checkbox"/> 2. Yes <input type="checkbox"/> 3. Maybe If Yes or Maybe, specify one below: <input type="checkbox"/> a. multi-compartment tank <input type="checkbox"/> b. ___ tanks in series <input type="checkbox"/> c. increase in tank capacity <input type="checkbox"/> d. Filter on Tank Outlet	DESIGN FLOW _____ gallons per day BASED ON: <input type="checkbox"/> 1. Table 4A (dwelling unit(s)) <input type="checkbox"/> 2. Table 4C (other facilities) SHOW CALCULATIONS for other facilities
SOIL DATA & DESIGN CLASS PROFILE _____ CONDITION _____ at Observation Hole # _____ Depth _____" of Most Limiting Soil Factor _____	DISPOSAL FIELD SIZING <input type="checkbox"/> 1. Medium---2.6 sq. ft. / gpd <input type="checkbox"/> 2. Medium---Large 3.3 sq. f. t / gpd <input type="checkbox"/> 3. Large---4.1 sq. ft. / gpd <input type="checkbox"/> 4. Extra Large---5.0 sq. ft. / gpd	EFFLUENT/EJECTOR PUMP <input type="checkbox"/> 1. Not Required <input type="checkbox"/> 2. May Be Required <input type="checkbox"/> 3. Required Specify only for engineered systems: DOSE: _____ gallons	<input type="checkbox"/> 3. Section 4G (meter readings) ATTACH WATER METER DATA
LATITUDE AND LONGITUDE at center of disposal area Lat. _____d _____m _____s Lon. _____d _____m _____s if g.p.s, state margin of error: _____			

SITE EVALUATOR STATEMENT		
I certify that on _____ (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).		
_____ Site Evaluator Signature	_____ SE #	_____ Date
_____ Site Evaluator Name Printed	_____ Telephone Number	_____ E-mail Address

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
 Division of Environmental Health
 (207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation

Street, Road, Subdivision

Owner's Name

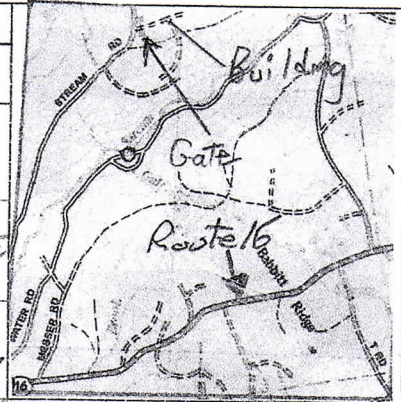
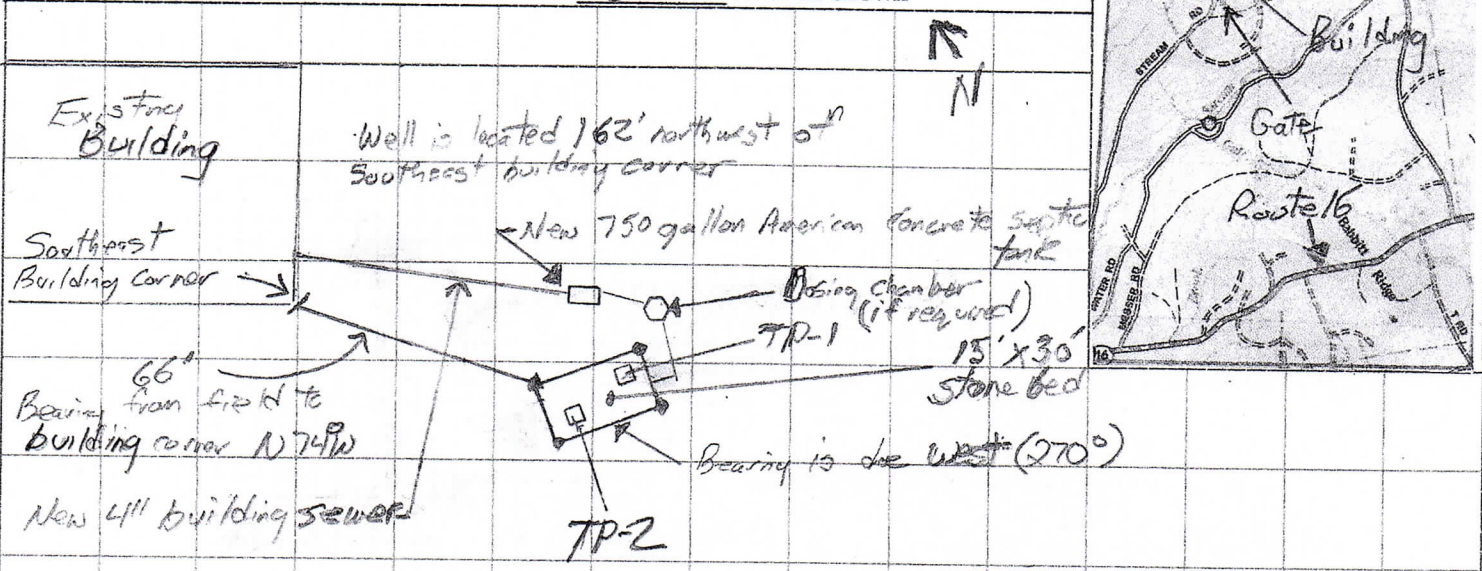
Moscow

Unnamed road off of Stream Road

Western Maine Renewables, LLC

SITE PLAN

Scale 1" = 50 ft. or as shown



Note: ① New septic tank and dosing chamber may have the location adjusted as long as they are > 8' from foundation and > 10' apart from each other and the stone bed. Building sewer slope of #1/4" / foot must be maintained.
 ② All components to be installed in accordance with Maine SWD Rules.

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-1 Test Pit Boring
 _____ " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0	Loamy sand	V. friable	10YR 4/3	None
10	M-C sand with 10% c.p. as stones and gravel	S. grain	10YR 4/3	near
30	S. lt loam	firm	10YR 4/2	common R 2.5
40	Seep to 34"; Fet string at 33"			
50	↓			

Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Ground Water
5 C	5.7 %	33 "	<input type="checkbox"/> Restrictive Layer
Profile Condition			<input type="checkbox"/> Bedrock
			<input type="checkbox"/> Pit Depth

Observation Hole TP-2 Test Pit Boring
 _____ " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0	Loamy sand	V. friable	10YR 4/3	None
10	M-C sand with 10% c.p. as stones and gravel	S. grain	10YR 4/3	None
30	Silt loam	V. firm	2.5Y 4/2	common R 2.5
40				7.5YR 6/6
50	↓			

Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Ground Water
5 C	4 %	25 "	<input type="checkbox"/> Restrictive Layer
Profile Condition			<input type="checkbox"/> Bedrock
			<input type="checkbox"/> Pit Depth

Inhabit

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4/29/2021

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 HHE-200 Rev. 02/11

Site Evaluator Signature

SE #

Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
 Division of Environmental Health
 (207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation

Street, Road, Subdivision

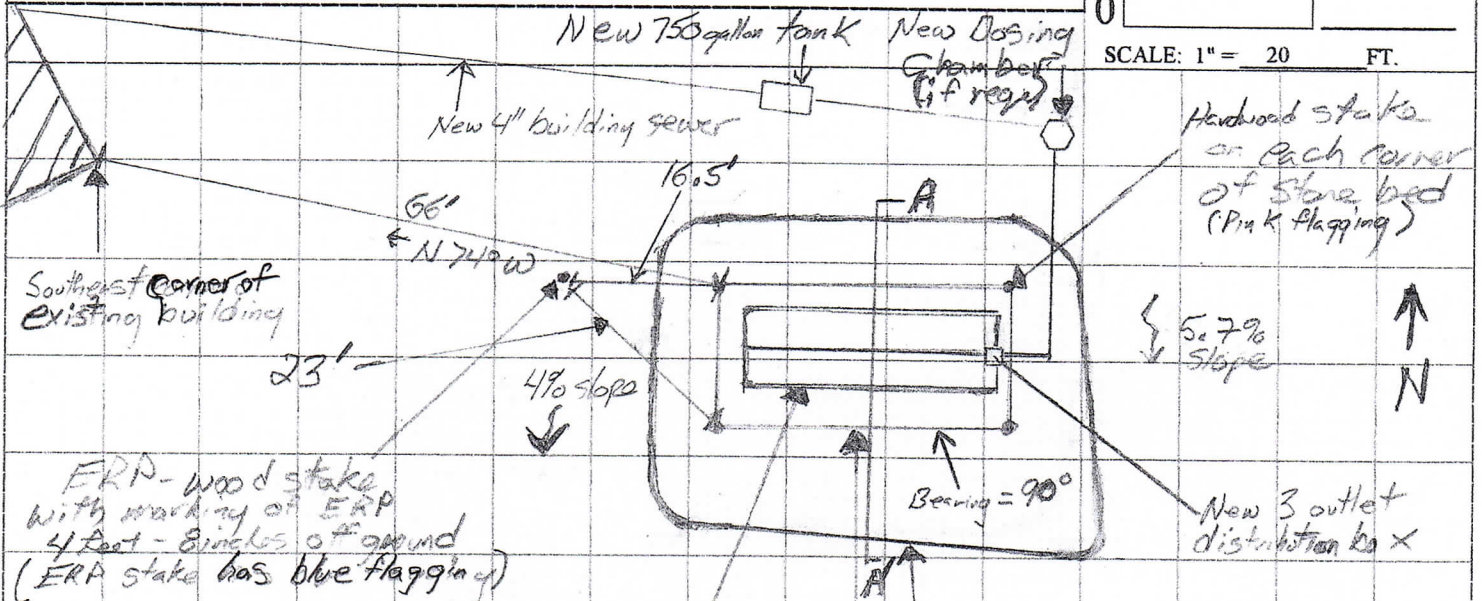
Owner's Name

Moscow

Unnamed road off of Stream Road

Western Maine Renewables, LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN



ERP - wood stake with marking of ERP 4 feet - 8 inches of ground (ERP stake has blue flagging)

4" PVC Perforated Pipe in three rows 3' apart

Limit of clean loamy sand fill - Limit of 15' x 30' stone bed

- Notes:
- The location of the tank is flexible but must be > 8' from building.
 - Protect tank and distribution box from freezing with 2" poly-styrene insulation board.

FILL REQUIREMENTS

CONSTRUCTION ELEVATIONS

ELEVATION REFERENCE POINT

Depth of Fill (Upslope) $11.5''$

Finished Grade Elevation

-56"

Location & Description:

Depth of Fill (Downslope) $19.5''$

Top of Distribution Pipe or Proprietary Device

-64"

Reference Elevation: -0-

Bottom of Disposal Area

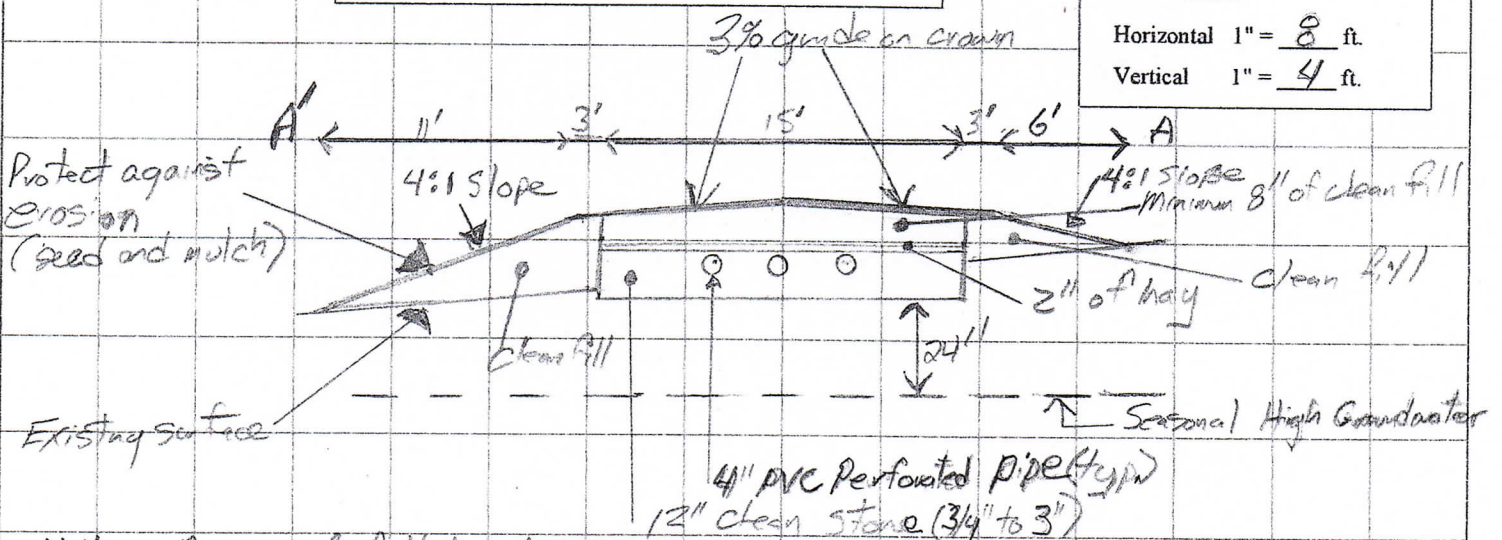
-76"

DISPOSAL AREA CROSS SECTION

Scale

Horizontal 1" = 8 ft.

Vertical 1" = 4 ft.



Note: Depth of fill based on average existing slope.

Site Evaluator Signature

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SE #

4/29/2021

Date

Western Maine Renewable Energy Project-HEE 200
O&M Building Moscow, Maine

1. This system is not designed for the use of a garbage disposal.
2. This system is not designed for backwash from a water softener.
3. Maintain wood stakes used to locate the stone bed and Elevation Reference Point.
4. The organic soil layer must be removed from the bed area and slope extension areas prior to fill placement. It has been observed to be approximately 1" in the bed area.
5. Scarify subsoil prior to fill placement.
6. Backfill material shall meet Section 11(E) Table 11A of the Maine Rules. All backfill material shall be clean bank run sand, free of topsoil or humus and dredging directly beneath the EDA.
7. Prevent future tracking by vehicles over system's proposed stone bed location and after construction.
8. Protect distribution box and pump chamber (if required) from freezing using 2" polyethylene form board.
9. If septic tank or dosing chamber are to be below pavement, H-20 rated components should be used.
10. This design does not allow for the disposal area to be constructed under paved or trafficked areas.
11. There are limits on the minimum distance from stormwater features to the disposal field and the septic tank per the table below:

Feature	Distance from Disposal Field	Distance from Septic Tank
Stormwater infiltration systems	100 feet	100 feet
Wetponds, retention ponds, and detention basins (excavated belowgrade); Soil filters, underdrained swales, underdrained outlets, and similar structures	50 feet ^[i]	50 feet ^[i]
Stormwater detention basins (basin bottom at or above predevelopment grade)	25 feet	25 feet

[i] The setback may be reduced to 25 feet if the stormwater structure has an impervious liner and the fill extensions do not encroach onto the stormwater structure.




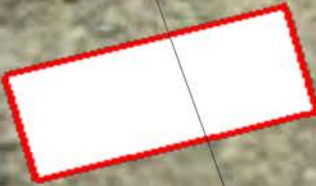
Site Evaluator 230 4/29/2021

Proposed Disposal Bed Location

WMRE-Moscow, Maine

Legend

 Proposed Disposal Bed



66'

Bearing is N76W
mag from field
corner to building
corner.



60 ft