

EXCESS SOIL MANAGEMENT PLAN

**BENNINGTON PFOA REMEDIATION PHASE II: WATERLINE EXTENSION
WORK IN CORRECTIVE ACTION AREA II OPERATIONAL UNIT A
SOILS DISPOSAL SITES**

Prepared For:

VTANR/DEPT OF ENVIRONMENTAL CONSERVATION
Waste Management and Prevention DIV
1 National Life Drive - Davis 1
Montpelier, VT 05620-3704

Prepared By:

MS&K, Inc.
P.O. Box 139
Bennington, VT 05201

June 25, 2019

EXCESS SOIL MANAGEMENT PLAN

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1.0 INTRODUCTION

1.1 PROJECT BACKGROUND AND OVERVIEW

This Excess Soils Management Plan provides for the disposal of excess trench soils generated by construction related to the installation of water main and service lines in the Town of Bennington to properties affected by the presence of perfluorooctanoic acid (PFOA) and other per- and polyfluoroalkyl compounds (PFAS) in private drinking wells. All such soils are presumed to contain PFOA.

The construction of the water mains will run under three (3) separate projects: all three (3) are to be serviced by the Town of Bennington municipal water system. Construction for the projects is scheduled to commence in July of 2019 and will continue for approximately one (1) year.

Construction of the water mains will involve trenching and/or directional drilling and will generate excess soils which require disposal. The presence of PFOA in the soils is assumed based on the results of the site investigation work that has taken place for the areas where water lines will be expanded.

Proposed is the permanent placement of up to 25,000 cubic yards (CY) total soils at the Town of Bennington property adjacent to the capped Town Landfill at Houghton Lane, in the Town of Bennington, Bennington County, Vermont.

1.2 PURPOSE AND NEED

Purpose:

The purpose of the project is to ensure a suitable location for disposal of excess soils presumed to contain PFOA from trenches dug during construction of new water mains and service lines in Bennington, VT.

Need:

Although the preferred alternative for soils removed during water line installation is to put these soils back into the water line trench, there will be excess soils. For this reason, suitable locations are needed for excess soils generated during the waterline extension work.

2.0 EXCESS SOILS SITES CONSIDERED

2.1 VT ANR CRITERIA

The Vermont Agency of Natural Resources (VT ANR) identified the need to manage the disposal of the construction excess soils generated by the three (3) construction projects. VT ANR has determined that the following siting criteria:

1. Areas where water lines are being expanded or already existing within Corrective Action Area II (CAA II) as identified in the Consent Order;
2. On public land/in public right of way area, if possible;
3. Areas with limited erosion potential;
4. Greater than 50 feet from wetlands, river corridor, and Federal Emergency Management Agency (FEMA) floodplains (changed from 100 feet to 50 feet due to proximal wetlands being Class II, per Vermont Wetland Rule);
5. Outside of public water supply source protection areas; and
6. Distal from homes with private wells that will not be replaced with municipal water.

Construction of the water main lines will include the excavation of trenches approximately seven (7) feet deep and four (4) to six (6) feet wide. Where possible, soil will be backfilled into trenches, but excess soils will be generated and will require proper disposal. At this time, one location has been identified to be acceptable to receive excess soils from the waterline project in CAA II OU A.

2.2 TOWN OF BENNINGTON LANDFILL EXCESS SOILS SITE

This potential permanent disposal area is located within the western portion of CAA II OU B. The proposed excess soils site provides a central location for all OU A waterline installation soils and estimated volumes. Transportation of soils to the site will stay within CAA II. In addition, the proposed site is located on Town of Bennington Land and is distal from homes with private water supplies that will be replaced by municipal water. The site is located directly to the west of the capped Bennington landfill and directly to the east of Vermont Route 7, and any potential future developments within OU A and OU B will remain distal from the site. This location has limited access via a gated Town of Bennington access road and is not accessible to the general public.

Vegetation:

The proposed area is partially vegetated with scrub vegetation at the northern end. The southern end of the site is wooded and will require clearing and grubbing (approximately 0.75 acres).

Wetlands and Aquatic Features:

A qualified environmental scientist assessed the site for potential state and federal wetlands utilizing the methodology set forth in the U.S. Army Corps Federal Manual for Identifying and Delineating Jurisdictional Wetlands, as amended, and in supplemental guidance documents. Immediately southeast and to the northeast of the proposed excess soils area exists non-forested wetlands. These are mapped as Vermont Class II wetlands. The wetland boundaries have been flagged at the site and all project activities will occur 50 feet from the wetland boundaries (outside of the 50 ft. buffer). These wetland systems drain southeast around the capped wetland via stone lined swales and into an intermittent stream channel located to the east of the capped landfill. Streams and other aquatic features were not found at the proposed site.

Topography and Soils:

This proposed excess soils site topography slopes to the east with a grade ranging between 3% and 8%. The Natural Resources Conservation Service (NRCS) has mapped this site to include Galway-Nellis-Farmington Complex, 3% to 8% percent slopes rocky (100.0% of proposed site). Erosion potential is moderate for 100% proposed site. (The NRCS Erosion Hazards are described as “slight”, “moderate”, “severe”, and “very severe”.)

Best Management Practices:

All applicable standards and conditions in the Vermont Construction General Permit 3-9020 will be met and best management practices will be utilized for this project. A construction entrance will be constructed, and silt fence will be installed on the eastern downslope side of the proposed excess soils area upslope of the wetland areas prior to any site disturbance.

VT ANR Criteria:

1. Although this proposed location is outside CAA II OU A (the area receiving new waterlines), it meets the intent of this criteria because the homes and water supplies that are in the presumed groundwater flow direction are either receiving new waterlines or have existing waterlines. In addition, nearby monitoring wells associated with the landfill show that targeted PFAS above the Vermont Groundwater Enforcement are present in the groundwater in this area already;
2. This is public land (met criteria);
3. This area has a gentle slope and is rocky with moderate erosion potential. The Natural Resources Conservation Service maps 100% of this proposed site as moderately erosive and rocky (met criteria);
4. This area has no wetlands, streams, rivers and is not with a FEMA Flood Hazard Area (met criteria);
5. This area is outside of public water supply source protection areas (met criteria); and
6. Distal from homes with private wells that will not be connected to municipal water (met criteria).

Soils accommodated by the site: 25,000 to 30,000 CY

2.3 CONCLUSION

The purpose of the project is to ensure a suitable location for disposal of excess soils presumed to contain PFOA and other PFAS compounds from trenches dug during construction of new water mains and service lines in Bennington, VT. This Excess Soils Management Plan addresses a permanent location that is suitable for the excess soil for this water main and service line project. The site has met 5 of the 6 VT ANR siting criteria. In the VT ANR guidance, Criteria 1.0 includes the wording, "Areas where water lines are being expanded within Corrective Action Area II." The proposed excess soils location is within Corrective Action Area (CAII), Operational Unit B (OU B). However, as stated in the subsection immediately above, this location meets the intent of Criteria 1.0. The proposed excess soils site provides a central location for all OU A waterline installation soils

and estimated volumes. Also, the proposed site is located next to the Bennington Landfill on Town of Bennington Land and is distal from homes within OU A and OU B. This site was selected due to its proximity to the generation of the excess soils material and is distal from homes that are already connected to municipal water or will be as part of the waterline extension project in CAA II OU A.

APPENDIX A

MAP OF FINAL CORRECTIVE ACTION AND OPERABLE UNIT AREAS

FINAL CORRECTIVE ACTION AND OPERABLE UNIT AREAS

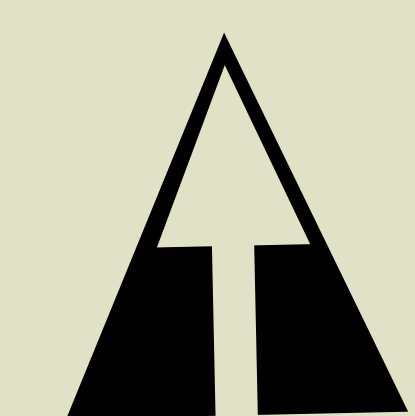
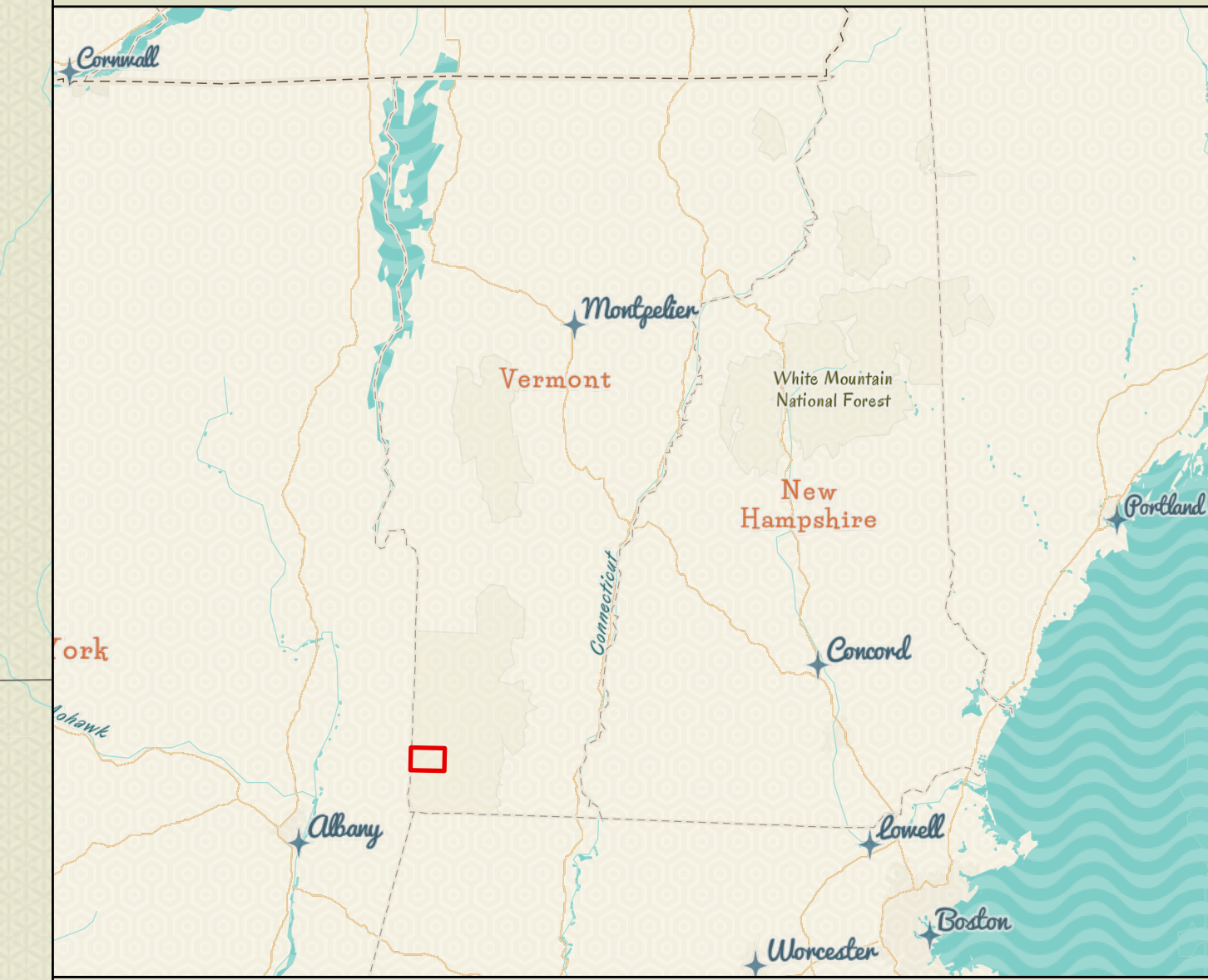
0 1,000 2,000 4,000 6,000 Feet



LEGEND

- | | |
|--|---|
| <p>Sampling Locations</p> <p>Sample Results (ODL - 04/11/2019)</p> <ul style="list-style-type: none"> ● <6.7 ppt (Original Detection Limit) ● 6.7 - 20 ppt (VDH Advisory) ● 20 - 100 ppt ● 100 - 1000 ppt ● >1000 ppt Building Footprints | <p>Waterlines</p> <p>Municipal Waterlines Status</p> <ul style="list-style-type: none"> — Existing — Installed 2017-2018 — Proposed Waterlines |
| <p>Parcels</p> <ul style="list-style-type: none"> Parcel Boundary <p>OU Boundary (March 28, 2019)</p> <ul style="list-style-type: none"> CAAL, OUA - Waterlines Connected Per Corrective Action CAAL, OUB - Includes Existing Connections AND Parcels Without Connections CAAL, OUA - Proposed Waterline Connections CAAL, OUB - Includes Existing Connections AND Parcels Without Connections CAAL, OUC - Proposed Waterline Connections Outside CAA Boundary | |

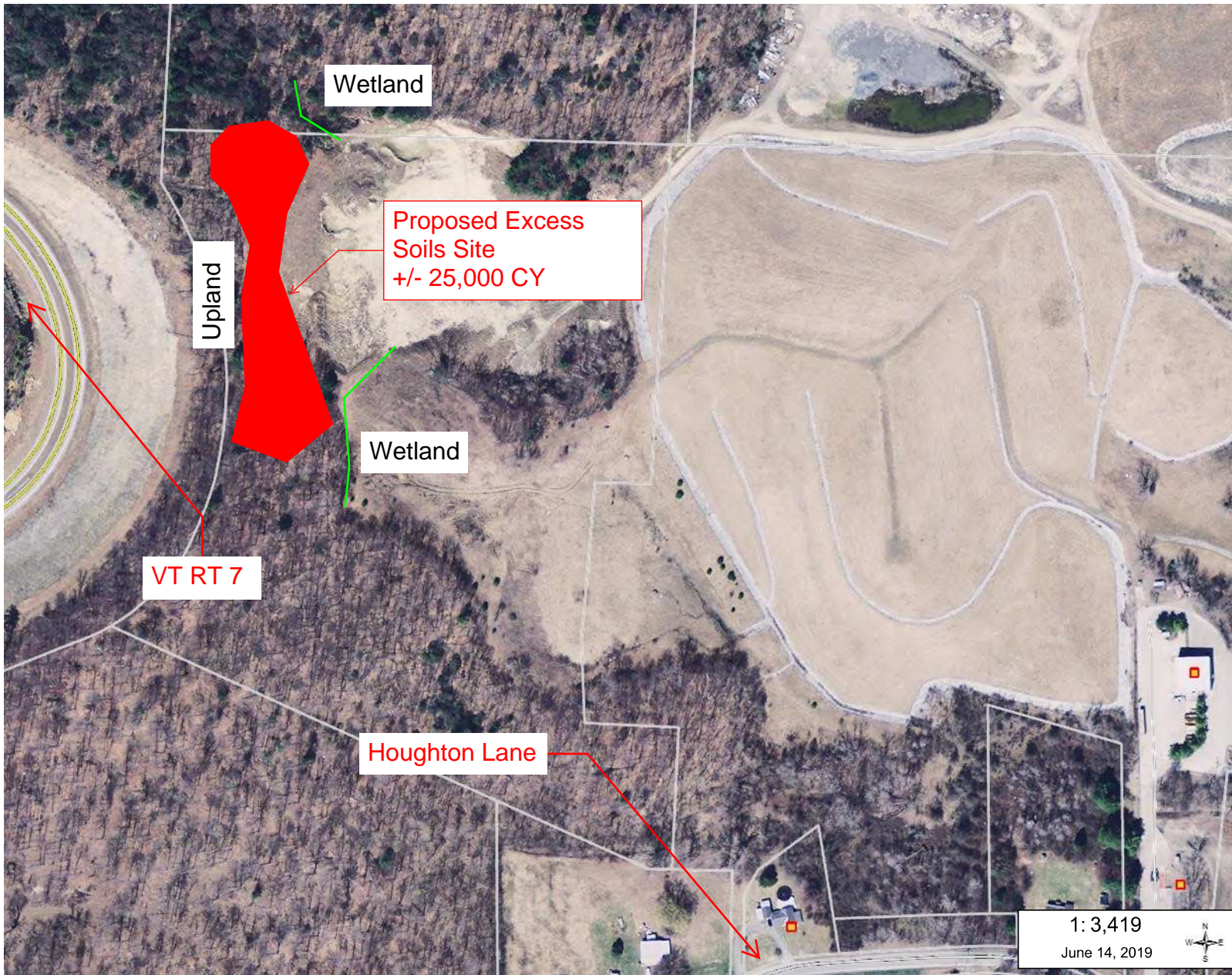
Location of
Proposed
Excess Soils Site



Map Author: Erik Engstrom (VTANRGIS)
Map Date: 4/12/2019

APPENDIX B

**VERMONT ANR MAP OF EXCESS SOILS SITE
LOCATION**



LEGEND

- Parcel polygons
- Parcels (non-standardized)
- Buildings
- VT Significant Wetlands Invent
- National Wetlands Inventory
- DFIRM X-Sections
- DFIRM - Letter of Map Revisio
- DFIRM Floodways
- Flood Hazard Areas (Only FEM)**
- AE (1-percent annual chance flood)
- A (1-percent annual chance floodpl
- AO (1-percent annual chance zone feet)
- 0.2-percent annual chance flood ha
- .5 - 2 sqmi.
- .25-.5 sqmi.
- Groundwater**
- Active
- Interim
- Proposed
- Surface water**
- Active
- Interim
- Proposed
- Class A points
- Class A polygons
- Whitewater Rivers
- Airports

1:3,419
June 14, 2019

0.11 0 0.05 0.11 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere
© Vermont Center For Geographic Information

THIS MAP IS NOT TO BE USED FOR NAVIGATION

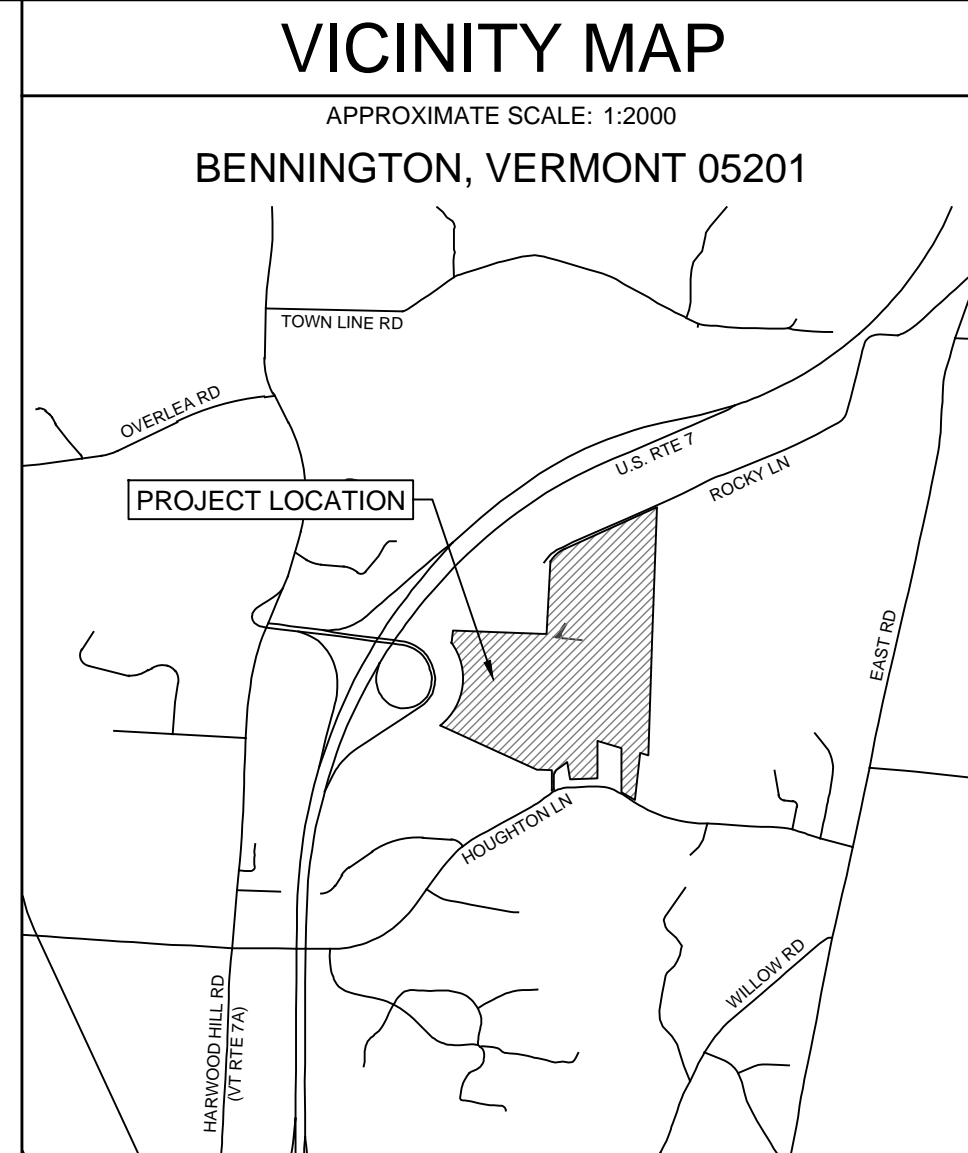
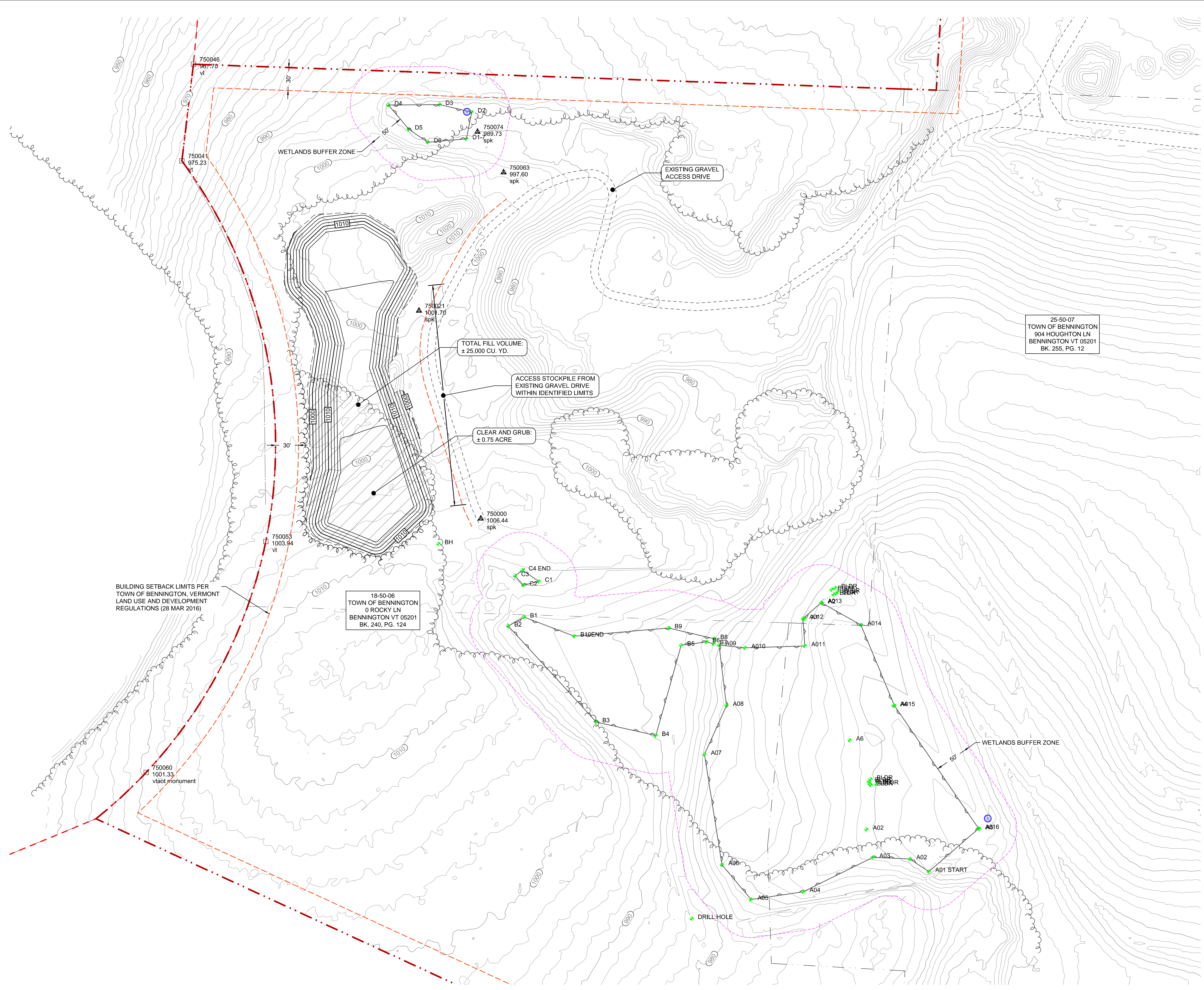
DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. VCGI and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

NOTES

This map was created with the VT Interactive Map Viewer.

 Wetland Boundary

APPENDIX C
PROPOSED EXCESS SOILS SITE EXHIBIT



GENERAL NOTES

PARCEL IDS: 18-50-06 (0 ROCKY LANE) 20.48 A [DEED]
18-50-07 (0 ROCKY LANE) 28.75 A [DEED]
25-50-07 (904 HOUGHTON LANE) 35.71 A [DEED]
TOTAL 84.94 ACRES

PROPERTY OWNER: TOWN OF BENNINGTON
205 SOUTH STREET
BENNINGTON, VERMONT 05201

NOTE:
EXISTING CONDITIONS ARE BASED ON GIS TAX MAP DATA, INFORMATION SUPPLIED BY THE TOWN OF BENNINGTON, AND A FIELD SURVEYS CONDUCTED BY MSK ENGINEERING AND DESIGN IN THE SPRING OF 2019. THE PARCEL BOUNDARIES ARE APPROXIMATE ONLY. A BOUNDARY SURVEY WAS NOT INCLUDED IN THE DEVELOPMENT OF THIS PLAN.

1. ZONING NOTES

DISTRICT: RURAL CONSERVATION (RC)

STANDARD	MIN/MAX	LOT
a. LOT AREA (MIN)	80,000 SF	3,699,987 SF
b. LOT WIDTH (MIN)	200 FT	FT
c. FRONT YARD SETBACK (MIN)	50 FT	FT
d. SIDE YARD (MIN)	30 FT	FT
e. REAR YARD (MIN)	50 FT	FT
f. BUILDING HEIGHT (MAX)	30 FT	N/A
g. BUILDING COVERAGE (MAX)	10%	N/A

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 139, 150 DEPOT STREET
BENNINGTON, VERMONT 05201
PH: (802) 447-1402 FAX: (802) 445-1291

NO.	DATE	DESCRIPTION
1	06-25-2019	FOR REVIEW

TOWN OF BENNINGTON
MUNICIPAL WATER SYSTEM
REMEDIATION EXPANSION PHASE II
BENNINGTON, VERMONT

DRAWINGS THIS SHEET

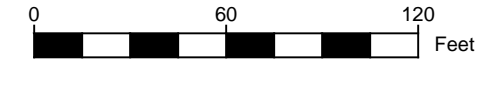
PROPOSED SPOILS SITE

NUMBER	DATE
1001-019.7	(ISSUE DATE)
DRAWN	CHECKED
MSK	JMD

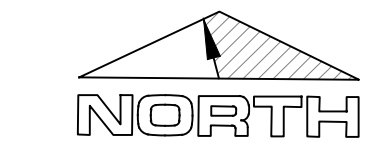
SHEET NUMBER

EXB2

1 PROPOSED TOWN OF BENNINGTON LANDFILL EXCESS SOILS SITE



Scale: 1:60



PLANNING DRAWING FOR 1001-019.7 PROPOSED REMEDIATION PROJECTS, COMMENTS FOR 0112 1100 LAMPHILL SPONSOR FOR 02.09.2019
 24 JUN 2019 10:09 AM