

Environmental Report

Water System Name (Wastewater) City of St. Albans WSID No.

State Assigned Loan Number RF1-170 Date April 3, 2014

I.) Please provide below a brief description of the project including the purpose and need as detailed in the Preliminary Engineering Report.

Please see attached Project Description

The level of detail and the amount of information provided in this environmental report should be commensurate with the magnitude of construction activities and their potential impact on environmental and historical resources. If, for example, a project is likely to have no or very minimal effects, the project representative needs to formally request a Categorical Exclusion in Section V, make simple statements in the spaces provided in Section VI, and attach any additional information like a qualified consultant assessment or determination letters and permits from regulatory authorities. Projects limited to the existing footprint of a building (e.g., a UV disinfection project) will not need to submit an environmental report at all (not applicable to USDA funding).

A more involved and complex project will go through the same review checklist but there will need to be more analysis, explanation, and documentation provided before DWSRF staff can issue a Categorical Exclusion or a Finding of No Significant Impact (FNSI). Please note that if the project doesn't meet the Categorical Exclusion criteria mentioned in VII.d.1 of the State Environmental Review Process the project representative shall describe the consequences of a specific activity on a specific resource and establish and discuss any mitigation measure(s) necessary to avoid or minimize any adverse impacts to an environmental or historical resource (see Section VII of this report).

Even though applicants are required to integrate and consider environmental and historical values during a proposed project's planning and design, it is the DWSRF's ultimate responsibility to independently evaluate and verify accuracy of information supplied in this environmental report. The DWSRF takes final responsibility for the scope and content of this environmental report. In order to expedite the application process and DWSRF review and approval of a proposed project, applicants are strongly encouraged to consult early and frequently with our staff to ensure that all environmental issues are described, evaluated, and impacts appropriately considered. If a determination is made that an Environmental Impact Statement is required, the DWSRF will be responsible for initiating the preparation of this document by a third-party.

Through a memorandum of understanding between United States Department of Agriculture-Rural Development and the Vermont Agency of Natural Resources this environmental report format is acceptable to both funding agencies. However, please note that Categorical Exclusion eligibility, public comment, and public notice requirements may differ between the two funding agencies.

II.) Will the project expand capacity to serve more than 500 additional users or a 30% increase in the existing population, whichever is greater? ☐ YES ☒ NO

III.) Will the project take place in an area designated by the Environmental Protection Agency as a Sole Source Aquifer? ☐ YES ☒ NO

IV.) Does the project call for a new withdrawal of groundwater or surface water? ☐ YES ☒ NO

V.) Will the project result in a 30% increase in groundwater or surface water withdrawal at an existing site? ☐ YES ☒ NO

VI.) Do you believe your project qualifies for a Categorical Exclusion in accordance with the Environmental Review Procedures for projects funded through the Vermont/EPA Drinking Water Revolving Loan Program based on the following environmental information and documentation?
☒ YES ☐ NO

If yes, please fill out only Section VI below. If no, you must fill out Sections VI and VII for all affected environmental and historical considerations (essentially if you answer "yes" in Section VI you will need to follow-up with mitigation measures or an alternative action plan in Section VII)

VI.) Environmental and Archeological Checklist

Considerations	Yes or No	*Basis for Determination and Documentation
A.) <u>Wetlands/Water Resources</u> Will there be construction in Class II or III wetlands?	Yes	<i>A qualified consultant's assessment and/or the regulatory authority's determination must be attached for any construction in wetlands. For any new construction please provide the wetlands classification/delineation.</i> Printed Materials: A portion of the existing wastewater treatment facility is located within an area designated as Class II wetlands. All areas where there will be work will be in previously disturbed areas within the fenced in site. See attached Natural Resources Map. A wetlands delineation will also be performed for the project.

B.) <u>Floodplains</u> Will the project involve construction in a floodplain or impact floodplain development?	No	<i>A detailed description of floodplain construction and a qualified consultant's assessment and/or the regulatory authority's determination must be attached. Show locations of all utility infrastructure on the Flood Insurance Rate Map (FIRM).</i> Printed Materials: See attached Natural Resources Map. The existing WWTF is not located within a floodway based on the FEMA floodplain mapping for this area. The proposed project includes a berm adjacent to Stevens Brook and a portion of the treatment facility, as well as a stormwater pump station on the facility site, as shown in the attached proposed site plan. The purpose of the proposed berm and stormwater pump station is to reduce facility flooding, which has historically caused stormwater to enter the main operations building on occasion. Small beaver dams adjacent to the plant, and downstream from the facility, have caused the brook to occasionally back up into the grounds of the facility.
C.) <u>Stream Alterations</u> Will the project involve construction in a stream?	No	<i>A qualified consultant's assessment and/or the regulatory authority's determination must be attached for construction in streams.</i> Printed Materials: See attached natural resources map. All work will be within the existing WWTF site. The proposed project includes a berm adjacent to Stevens Brook and a portion of the treatment facility, as well as a stormwater pump station on the facility site, as shown in the attached proposed site plan. The purpose of the proposed berm and stormwater pump station is to reduce facility flooding, which has historically caused stormwater to enter the main operations building on occasion. Small beaver dams adjacent to the plant, and downstream from the facility, have caused the brook to occasionally back up into the grounds of the facility.
D.) <u>Endangered Species</u> Is the project likely to adversely affect an endangered or threatened species?	No	<i>A qualified consultant's assessment and/or the regulatory authority's determination must be attached demonstrating compliance with US Fish & Wildlife guidance.</i> (http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm) Printed Materials: See attached Natural Resources Map. No threatened/endangered species are identified by the ANR Resource Atlas within the project site.
E.) <u>Historic Preservation</u> Will the project adversely affect cultural resources such as archeological or historic sites?	No	<i>A qualified consultant's assessment and/or the State Historic Preservation Officer's determination must be attached. Please include copies of archeological reports and subsequent phases as needed.</i> Field Observation: All proposed work will be at the existing WWTF site in previously disturbed areas.

F.) <u>Wild and Scenic Recreational Rivers</u> Is the project within a quarter-mile of a river on the National Park Service's Nationwide Rivers Inventory? Will the project impact a wild, scenic or recreational river area and create conditions inconsistent with the character of the river?	No	<i>For a listing of rivers on the Nationwide Rivers Inventory please visit the following website:</i> http://www.nps.gov/ncrc/programs/rtca/nri/states/vt.html Printed Materials: The only river in Franklin County listed is the Missisquoi River, and the project site is greater than a quarter-mile from that River.
G.) <u>Public Lands</u> Will the project adversely impact formally-classified local, state, and federal lands (e.g., parks, natural areas, wildlife management areas, and wilderness areas)?	No	Field Observation: All work will be done within the site limits of the existing St. Albans WWTF.
H.) <u>Farmland</u> Will the project convert Agricultural Soils to non-agricultural uses?	No	<i>Projects that convert Agricultural soils will require a determination by both the Vermont State Department of Agriculture and the Natural Resource Conservation Service (Farmland Protection Policy Act; please reference the AD-1006 Farmland Conversion Impact Rating).</i> Printed Materials: The attached soil map shows the soil type as Prime (b) farmland classification. However, all work will be within the existing site boundaries of the WWTF.
I.) <u>NEPA</u> Is there a controversy with respect to environmental effects of the project based on reasonable and substantial issues?	No	Contributor Experience: This project is a typical age related refurbishment of an existing WWTF, and in the contributor's experience, is not associated with any controversy regarding environmental impacts.

J.) <u>NEPA</u> Is the project significantly greater in scope than normal projects for the area?	No	Contributor Experience: Based on the contributor's experience, this project is of average size as compared to other wastewater treatment facility refurbishment projects within the State.
K.) <u>NEPA</u> Does the project have significant unusual characteristics?	No	Contributor Experience: This project is a typical age related refurbishment of an existing wastewater treatment facility, based on the contributor's experience, has no unusual characteristics.
L.) <u>NEPA</u> Does the project establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects (cumulative impact based on current information)?	No	Contributor Experience: This project is an age related refurbishment of an existing WWTF and does not increase the treatment capacity of the WWTF.
M.) <u>NEPA</u> Does the project have significant adverse direct or indirect effects on parkland, other public lands, or areas of recognized scenic or recreational value?	No	Field Observation: All work will be within the site of the existing wastewater treatment facility.
N.) Will the project provide new water facilities to serve populations of over 2000 persons?	No	Contributor Experience: This project is an age related refurbishment of an existing wastewater treatment facility that does not increase the facility's current treatment capacity.

O.) Is the project known or expected to have a significant negative effect on the quality of the human environment? Is there potential for significant changes to the socio-economic make-up of the area? Is the project cost-effective?	No Yes	Contributor Experience: The age related wastewater treatment facility project will improve the reliability of existing facility by replacement/refurbishment of items that have exceeded their useful life. The project cost will be typical of any age related wastewater treatment facility project of similar capacity and age. Based on the number of wastewater system users sharing the cost, the project is considered cost effective.
P.) Is additional Land Use and Development Act (Act 250) review and approval necessary?	TBD	<i>A copy of the District Environmental Commission determination on Act 250 permit requirements must be attached.</i> Contributor Experience: It is anticipated that this project will receive an Act 250 write off as all work will be within the existing facility site and additional treatment capacity will not result from the project.
Q.) Will the project cause other significant environmental impacts?	No	Contributor Experience: Based on the contributor's experience, there are no significant environmental impacts which will result from the construction of this project.

VII.) Mitigation Measures and/or Alternative Plans of Action (if applicable, in order to minimize adverse effects)

Affected Environmental or Archeological Resources	Mitigation Measures or Alternative Plan of Action
A.)	

B.)	No
C.)	No
D.)	No
E.)	No

Wesley Elmer

3/27/14

Aré, Vice President

Prepared By

Date

Title

Reviewed By

Date

Authorized Representative

***Basis for Determination and Documentation**

The basis for determination and documentation information must be traceable and establish the factual data to support the response to each question. Any environmental concerns that are raised by federal, state, or local agencies or the public must be addressed as completely as possible and resolved before the environmental report will be considered complete. All supporting documentation (e.g., correspondence and exhibits) should be attached and easily cross-referenced back into the main body of the environmental report. Types of information to be included in this column are outlined below.

1. **FIELD OBSERVATION:** A site visit that does not usually involve any testing or measurements. FIELD OBSERVATION is an important method for initial screening of the issues, but for some of the categories it may be inadequate for final evaluation. Support documentation should include date of the site visit and by whom.
2. **PERSONAL CONTACT:** Personal contacts are useful when the individual contacted is an accepted authority on the subject(s) and the interview is documented. Supporting documentation should include the name, organization, and title of the person contacted and the date of the conversation. *Copies of written site inspection reports and determinations by regulatory authorities on applicability of regulations and permit requirements should be attached.*
3. **PRINTED MATERIALS:** These are useful sources of detailed information, materials such as comprehensive land use plans, maps, statistical surveys, and studies. Information must be current, i.e., not so old that changing conditions make them irrelevant and must represent accepted methodologies. Citations for the material should include enough information so that an outside reviewer can locate the specific reference.
4. **SPECIAL STUDY:** This is a study conducted for an individual factor or resource, and should be performed by a qualified person using accepted methodologies. Some tests are relatively simple to perform but others may require elaborate equipment or personnel with additional expertise. The preparer is responsible for obtaining assistance from others in order to have the appropriate test or studies conducted. Copy of the study must be appended or referenced as for Printed Materials.
5. **CONTRIBUTOR EXPERIENCE:** The professional judgment of the persons contributing to this environmental report can be useful provided their expertise is relevant. The contributor may have previous knowledge from familiarity with the area, or may have professional background to make judgments about a specific factor. Provide information of the person's qualification in addition to name, organization and position.

Honorable Peter Shumlin, Governor Deb Markowitz, ANR Secretary David Mears, DEC Commissioner

This guidance and related environmental information are available electronically via the internet. For information visit us through the Vermont Homepage at <http://www.vermont.gov> or visit VT WSD directly at <http://www.vermontdrinkingwater.org>

Drinking Water and Groundwater Protection Division
1 National Life Dr. Main floor 2
Montpelier, VT 05620-3521
Toll free 1-800-823-6500
Fax 1-802-828-1541

Project Description

The "City of St. Albans, Vermont, Wastewater Treatment Facility, Preliminary Engineering Study" dated February 2014 has been reviewed and in accordance with State/Federal regulations.

The proposed project is located in the City of St. Albans in Franklin County. The wastewater treatment facility is located on Rewes Drive. Refer to "Overall Map" in Attachment No. 1.

The proposed project consists of the refurbishment of the St. Albans wastewater treatment facility. Refer to the "Proposed Site Plan" for the wastewater treatment facility in Attachment No. 1. A brief description of the major project elements is as follows:

1. Headworks
 - a. Bucket elevator and dewatering screw replacement
 - b. Communitors replacement with grinder/screens
 - c. New 23' by 9' unclassified utility room addition to house the grit aeration blower and electrical
 - d. Mechanical/electrical upgrades
 - e. New 5,500 gallon HDPE chemical storage tank for odor control
 - f. Two (2) chemical feed hose pumps for odor control chemical feed
2. Septage Receiving
 - a. Dumping station/bar rack
 - b. Septage feed pumps replacement
 - c. Mechanical and electrical upgrades to meet NEC Class I, Division I, Group D requirements.
3. Primary Clarifier
 - a. Replacement of travelling bridges, sludge rakes, and skimmers in each tank with chain and scraper type clarifier mechanisms
 - b. Tank modifications to accommodate chain and scraper clarifier mechanisms
4. Primary Effluent Pumping
 - a. Replacement of the primary effluent pumps, piping, valves
5. Biological Treatment
 - a. Replacement of trickling filter recirculation pumps
 - b. Replacement of Ten (10) RBC units (media and shaft)
 - c. Aeration blowers replaced
6. Secondary Treatment
 - a. Clarifier No. 1 and 2 drive assembly to be replaced for both clarifiers
 - b. Density current baffles added for each clarifier
7. Filtration
 - a. Construction of a 10'x15' addition to the building to serve as an electrical room. The equipment inside the room would not be subjected to the damp atmosphere of the filter room and will serve the electrical needs for the westerly end of the site.

8. Anaerobic Digestion
 - a. Replacement of gas lines and appurtenances
 - b. Refurbishment or replacement of the Primary Digester Cover
 - c. Refurbishment or replacement of the Secondary Digester gas holder cover
 - d. New 40' Perth Gas Mixing system
 - e. New relocated waste gas burner
 - f. New gas collection safety equipment
9. Operations Building
 - a. Instrumentation upgrades
 - b. Motor control center upgrades
 - c. Transformers replaced
 - d. New PLC/SCADA system
 - e. Replacement of process water pumping system
10. Site
 - a. Use the lawn area north of the Maintenance Building for storm water treatment
 - b. Raise the entrance driveway, clean the existing drainage swale, and replace the original drive culvert.
 - c. Construct a new earth berm behind the Maintenance Building and continue along the north side of the brook to the Trickling Filter
 - d. Construct a storm water pump station in the parking area low point, southeast of the Operations Building
 - e. Replacement of the gravel sub base and new bituminous pavement of the driveway and parking areas
 - f. Replacement of the buried process water distribution system and yard hydrants
 - g. New electrical duct banks, conduits, etc.

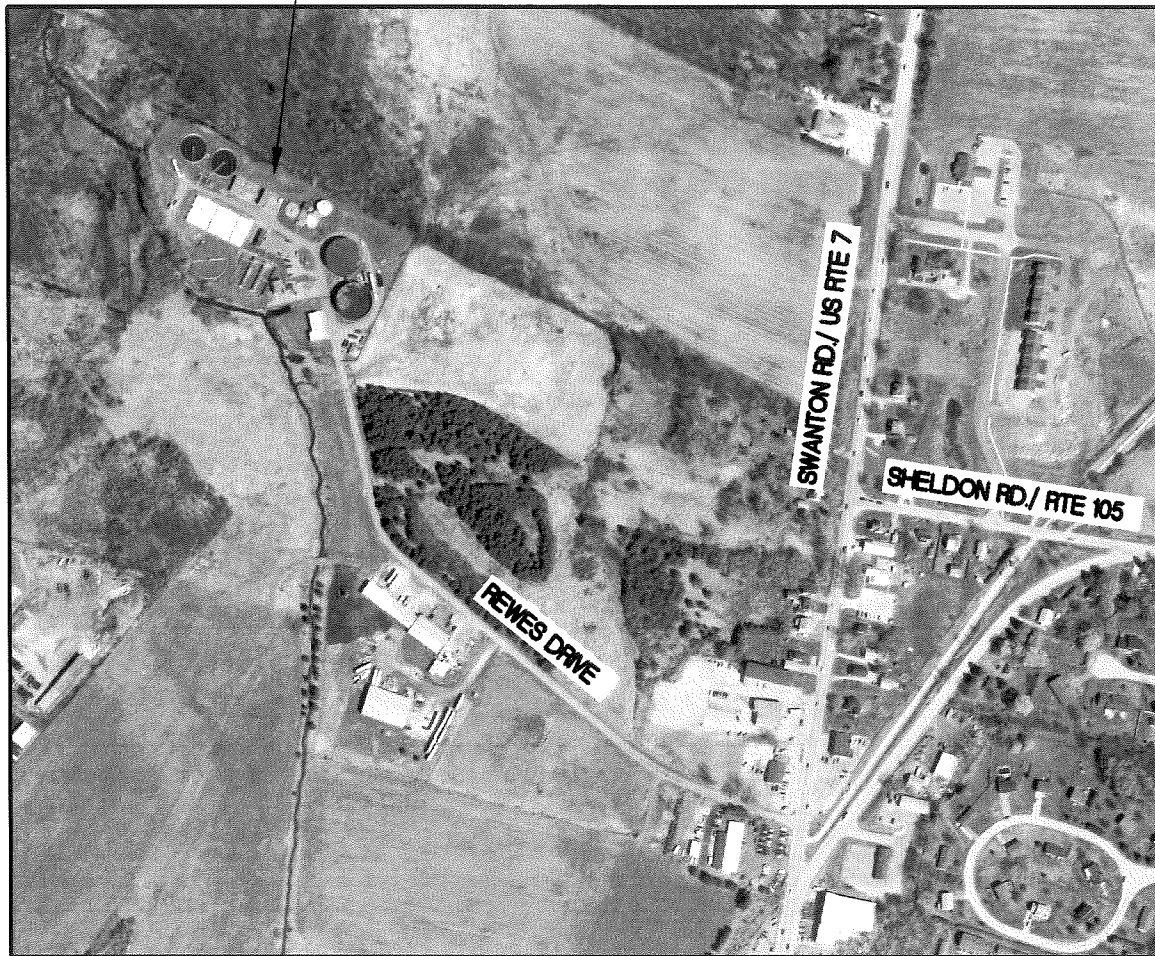
Purpose and Need

The treatment facility was originally constructed in the 1930's and upgraded to provide a level of advanced treatment in 1985 with a capacity of 4.0 mgd. The facility is operated by the City of St. Albans. The facility was designed for a 20 year life (2005), but if properly maintained, major equipment can continue to be reliable for 25-30 years. Other recent upgrades and expansion projects have been performed, but the facilities are now approximately 29 years old. Structures and equipment require refurbishment and/or replacement to continue to operate efficiently and provide reliable performance for the next 20 to 30 years.

Replacement of original equipment will improve the energy efficiency of the existing facility.

Over the past few years, continuing depreciation of the original equipment have contributed to increased operation and maintenance costs.

PROJECT LOCATION



LOCATION MAP

SCALE: 1"=400'



6 Market Place, Suite 2
Essex Jct., VT 05452
P: 802.879.7733
AEEngineers.com

PROJECT LOCATION MAP

ENVIRONMENTAL INFORMATION
DOCUMENT

CITY OF ST. ALBANS

ST. ALBANS

VERMONT

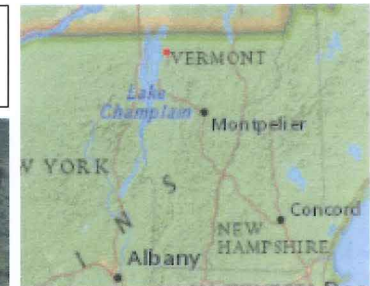
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CHECKED (PM) WAE
CHECKED (PE) WAE
SCALE AS SHOWN
DATE MARCH, 2014

PROJECT NO.

13105

FIGURE NO.

1



LEGEND

Rare Threatened Endangered

Threatened or Endangered

Rare

Uncommon Species and Other

Animal

Plant

Natural Community

Wetlands - VSWI

Class 1 Wetland

Class 2 Wetland

Wetlands - VSWI Advisory Lay

DFIRM Floodways

DFIRM Preliminary Floodways

Town Boundary



214.0 0 107.00 214.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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1" = 351 Ft. 1cm = 42 Meters

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. ANR 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

Map created using ANR's Natural Resources Atlas

Soil Map—Franklin County, Vermont
(St. Albans WWTF - NRCS Soil Map)



Map Scale: 1:1,740 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

3/26/2014
Page 1 of 3

Soil Map—Franklin County, Vermont
(St. Albans WWTF - NRCS Soil Map)

MAP LEGEND

Area of Interest (AOI)			Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Franklin County, Vermont
Survey Area Data: Version 16, Dec 22, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 28, 2010—Oct 8, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Franklin County, Vermont (VT011)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MeA	Massena stony loam, 0 to 3 percent slopes	6.6	100.0%
Totals for Area of Interest		6.6	100.0%

MeA: Massena stony loam, 0 to 3 percent slopes

MASSENA SOILS formed in loamy glacial till on uplands. They are very deep to bedrock and somewhat poorly drained to poorly drained. These soils have a water table at depths of 1.0 to 1.5 feet below the surface from late Fall through late Spring. Permeability is moderate in the surface layer and moderately slow to slow in the subsoil and substratum.

These soils are suited to cultivated crops if adequate drainage is provided. They are well suited to hay and pasture. Stones on the surface are troublesome in tillage and harvesting operations but in most cases they do not prohibit use. A seasonal high water table may inhibit the establishment of some crops. Areas of this soil may be classified as wetland and drainage may be regulated.

<u>Important Farmland Classification:</u> Prime (b)	Not highly erodible land	<u>Vermont Agricultural Value Group:</u> 3d
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Vermont Residential On-site Waste Disposal Group and Subgroup:

IIIc.- This unit is marginally suited as a site for on-site sewage disposal, based on a review of criteria set forth in the Vermont 2002 Environmental Protection Rules. The depth to the seasonal high water table in association with the minimal slope is the major limitation. A detailed, site-specific analysis is generally required. On-site groundwater level monitoring and determination of induced groundwater mounding is often necessary to establish the suitability of this unit. Curtain drains may help lower the water table to an acceptable level, however, the minimal slope may prevent their use in many areas.

PHYSICAL and CHEMICAL PROPERTIES							EROSION FACTORS		
Soil Name	Depth (In)	Typical Texture	Clay (Pct)	Soil Reaction (pH)	Permeability (In/Hr)	Organic Matter (Pct)	Kw	Kf	T
Massena	0-8	L	8-22	5.6 - 7.3	0.6-2	3.0-8.0	.28	.28	3
	8-25	SIL	7-18	5.6 - 7.3	0.06-0.6	0.0-1.0	.20	.24	
	25-44	GR-L	7-18	6.6 - 8.4	0.06-0.6	0.0-0.5	.20	.24	

WATER FEATURES				SOIL FEATURES			
Soil Name	Hydrologic Group	Depth to Seasonal High Water Table (Feet)	Flooding		Hydric Soil?	Depth to Bedrock (range in inches)	Land Capability Class and Subclass
			Frequency	Duration			
Massena	C	1.0-1.5	None		No	---	3 w

LAND USE LIMITATIONS				AGRICULTURAL YIELD DATA	
Soil Name	Land Use	Rating	Reason **	Crop Name	Yield / acre
MASSENA	Pond reservoir area	Slight		Corn silage	18 Tons
	Dwellings with basements	Severe:	wetness	Alfalfa hay	3.5 Tons
				Grass hay	4 Tons
				Pasture	6.5 AUM
				Grass-legume hay	4 Tons

WOODLAND MANAGEMENT						
Soil Name	Equipment Limitation	Erosion Hazard	Windthrow Hazard	Soil Name	Common Trees	Site Index
MASSENA	Moderate	Slight	Moderate	MASSENA	Eastern white pine	65
					Red maple	75
					Northern red oak	60