Civil Engineering • Environmental Engineering • Land Surveying • Wetlands • Transportation • Permitting

September 21, 2016

Tina Heath
District Wetlands Ecologist
Vermont Wetlands Program
Watershed Management Division
One National Life Drive, Main 2
Montpelier, VT 05620-3522

RE:

Hiland Property, 8297 Williston Road, Williston

Vermont Wetland Permit Application

Dear Tina,

On behalf of Travis and Stephanie Hiland, we are submitting an application for the construction of a sewer forcemain to serve their home in Williston. You, Stephanie Hiland, and Doug Goulette from our office met onsite on September 7, 2016 to review the wetlands and the proposed impacts.

As discussed during your site visit, we had originally proposed at that time to directional bore about 85' of the proposed forcemain under Allen Brook to reduce wetland impacts, with the remaining forcemain to be open trenched. Since we met, the design has been modified to now include almost the entire forcemain (about 230' of the total 256') to be directionally bored. This greatly reduced the impacts to the wetland buffers from what was reviewed in the field. The resulting impacts are associated only with the very ends of the forecemain, which need to be open trenched as the forcemain pie connects into a manhole at the west end, and a pump station at the east end. Wetland buffer impacts now total only 1,258 sq. ft., and there are no wetland impacts.

Enclosed are the application, check for the application fee, supporting documentation, and the revised project plan. As discussed at the field visit, the Hilands now have a failing wastewater system, which this new forcemain sewer will replace. Anything your office can do to process this simple application in a timely manner would be greatly appreciated, as the applicant would like to perform the work as soon as possible. If you have any questions or need additional information, please don't hesitate to contact me.

Sincerely,

Brian Tremback

Certified Professional Soil Scientist

Licensed Designer, Class B

Arian Tremback

Wetland Scientist

brian@LDengineering.com

Enclosures

cc: Travis & Stephanie Hiland

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Vermont Wetlands Program General Permit Qualification Form

Under Sections 9 of the Vermont Wetland Rules



 General Permit Eligibility Checklist: If you cannot verify all of the following, stop and proceed to the Individual Permit Application. 			
■The activity does not qualify as an Allowed Use under Section 6 of the Vermont Wetland Rules.			
■The activity does not need additional conditions to protect functions and values.			
All impacts have been avoided and minimized to the greatest extent possible.			
■The wetland complex is not significant for Function 5.5 Exemplary Wetland Natural Community or 5.6 Rare, Threatened and Endangered Species Habitat, or applicant has received a waiver letter from VT Fish and Wildlife. (attach waiver)			
■The activity is not located in or adjacent to a vernal pool, fen, or bog.			
■The wetland is not at or above 2,500' in elevation (headwaters wetland).			
■The project is not located in a Class I wetland or associated buffer zone.			
■The activity is not an as-built project that constitutes a violation of the Vermont Wetland Rules.			
■The activity is not associated with an activity which received a Wetland Permit.			
2. Project Type (as described in the General Permit)			
Linear Project (linear facilities)			
3. Wetland Type Proposed for Impact			
Managed AreaManaged Area			
4. 50ft Wetland Buffer Proposed for Impact			
Managed Area Managed Area			
5. Activity Threshold based on the selections above, select the appropriate threshold. If the activity is greater than the thresholds below, stop and proceed to the Individual Permit Application. eg: Project type is non-linear, wetland and buffer type is managed and natural, and total impacts are 700 sqft → choose option (d) below.			
(a) The total activity impacts proposed are <3,000 square feet of managed wetland or buffer and will not exceed 999 square feet of natural wetland or buffer and will not exceed 149 square feet of surface water margins.			
(b) The activity is associated with a linear project and total activity impacts proposed are <5,000 square feet of managed wetland or buffer and will not exceed 2,999 square feet of natural wetland or buffer and will not exceed 149 square feet of surface water margins.			
6. Section 8B Specific Activity Best Management Practices All permittees covered under the VT Wetland General Permit must implement best management practices (BMP) under section V. of the permit. Here, identify if the proposed activity must implement special BMPs in accordance with Section 8B 8B(a) Placement, relocation, removal, or upgrade of overhead utility lines			
■ 8B(b) Installation of underground facilities including utilities, dry hydrants, foundation drains, and wells			
☐ 8B(c) Activities in surface water body margins			
□ None Apply			

The Secretary may require a person applying for an authorization under a general permit to apply for an individual permit. VWR §9.8. Contact your District Ecologist to verify eligibility before submittal.

Vermont Wetlands Program Permit Application Database Form

Under Sections 8 and 9 of the Vermont Wetland Rules



Application Subm	

If submitting via US post, include a check in the correct fee amount made payable to the "State of Vermont," and a CD for applications that contain large files (1 MB or greater).

Mail to: Vermont Wetlands Program
Watershed Management Division
One National Life Drive, Main 2
Montpelier, VT 05620-3522

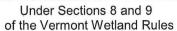
- Applications can also be submitted via email to the following address: anr.wsmdwetlands@vermont.gov
 - If submitting via email, please mail a check in the correct fee amount, made payable to the "State of Vermont," and a copy of the Vermont Wetlands Program Application Database Form (this page) to the address provided above. It is not necessary to mail in a copy of the complete application.

mail in a copy of the complete application.				
Applicant Name: Travis and Stephanie Hiland Application Preparer Name: Brian Tremback				
Town where project is located: Williston	County: Chittenden			
Span#: 759-241-11285	Vermont Wetlands Project (VWP)# if Known:			
	on Road, Williston, VT 05495			
Brief Project Summary: This project involves the installation of a sewer forcemain alignment goes through a Class II wetlan by directional bore.	cemain to tie into a municipal sewer collection system to replace a failing on-site wastewater system. The nd buffer, but is entirely within managed lawn areas, except for the portion that will cross under Allen Brook			
Application Type: Undividual Permit (multiple wetlands)	☐After the Fact Permit ☐Wetland Determination			
☐Individual Permit (single wetland) ■General Permit Covera	age Authorization Permit Amendment: VWP Project #			
Existing Land Use Type(s): (Check all that apply)	ential (single family) Residential (subdivision) Undeveloped			
□Agriculture □Transportation □Forestry □Par	rks/Rec/Trail			
Proposed Land Use Type(s): (Check all that apply) Reside	ential (single family) □Residential (subdivision) □Undeveloped			
☐Agriculture ☐Transportation ☐Forestry ☐Par	rks/Rec/Trail			
Proposed Impact Type(s): (Check all that apply) ☐ Buildings	■Utilities □Parking □Septic/Well □Stormwater			
□Driveway □Park/Path □Agriculture □Pond □Lav	wn □Dry Hydrant □Beaver Dam Alteration □Silviculture			
□Road □Aesthetics □No Impact □Other:				
Wetland and Buffer Impact Type: (Check all that apply)	Dredge □Drain □Cut Vegetation □Stormwater			
■Trench/Fill □Other:	_			
Wetland Delineation Date(s):				
Wetland Improvements Buffer Z	One Improvements Reason for Improvements			
Restoration: s.f. Restoration:	s.f. Correction of Violation			
Creation: s.f. Creation:	s.f. To offset permit impacts			
Enhancement: s.f. Enhancement:	s.f. □Voluntary			
Conservation: s.f. Conservation: s.f.				
Wetland Impact Fee Calculations: Round to the neares	t square foot. Fees will auto-calculate.			
Total Wetland Impact of square feet (s.f. (minus linear clear, including ATF)	0.00			
Total Wetland Clearing of square feet (s.f. (qualified linear projects only)	f.) Wetland Clearing Fee:(\$0.25/sf) \$ 0.00			
After The Fact Wetland square feet (s.)	Fact Wetland square feet (s.f.) After the Fact Wetland Fee: (0.75/sf) \$ 0.00			
Impact (to correct a violation) (Required for after the fact permit applications) Total Buffer Zone Impacts and Calculations: Round to the nearest square foot				
Total Buffer Zone Impacts and Calculations: Round to the Hearest square foot Total Buffer Zone Impact 1258 square feet (s.f.) Buffer Impact Fee: (\$0.25/sf) \$314.50				
Additional Fees				
	Agricultural Crop Conversion Check here: \$ 0.00			
Minimum Application Fee: (\$50.00) \$0.00 Required when total impact fee is less than \$50.00				
Administrative Fee: \$240.00				
Make Checks Payable to: State of Vermont	Total Check Amount: \$ 554.50			

Applicant Name: Travis & Stephanie Hiland

Address: 8297 Williston Road

Application for Authorization Under the Vermont General Wetland Permit and Determination Petition





State VT

Zip: 05495

Phone Number:	Email Address:		
Applicant Certification:	The state of the s		
By signing this application you are certifying that all of the information	mation contained within is true,	accurate, and comp	lete to the best of
your knowledge. Original signature is required.			
7 10			
		OI/	111
Applicant Signature:	4 NC	Date:	116
		/ /	
Landowner Information: Landowner must sign the application.	If landowner is different from the ar	plicant this section mu	est he filled out
		piloani inis secilon mi	ist be illed out
Check this box if landowner is the same as the app	olicant		
Landowner Name:	Lou T	Louis	1 70
Address:	City/Town	State:	Zip:
Phone Number:	Email Address:		
Landowner Easement: Attach copies of any easements, agreement			
landowner stating who will be responsible for meeting the terms and co		chment for this info	rmation in this
section. Describe the nature of the agreement or easement in the	space provided below:		
Landowner Certification:	,		
By signing this application you are certifying that all the informa	ition contained within is true, acc	curate, and complet	e to the best of
your knowledge. Original signature is required.	,	,	
	111		
~ N U ~		~!	. 11.
Landowner Signature:	the She	Date: 7/	1/16
	7-4-4-9		7
Application Preparer Information: Consultant, engineer, or		ble for filling out the a	oplication, if other
than the applicant or land	downer.		
的复数形式 医凝整性外丛 经常工厂 医毒素的 人名英格兰			
Application Preparer Name; Brian Tremback, Lamoureux & Dickinson Con	sulting Engineers		
Address: 14 Morse Drive	City/Town Essex Junction	State: vT	Zip:05452
Phone Number: 802-878-4450	Email Address: brian@ldengineering	.com	
Application Preparer Certification:	0		
By signing this application you are certifying that all of the information contained within is true, accurate, and complete to the best of			
your knowledge. Original signature is required.		,	
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White and Keller	4 MAN	0/1	1/1/
Application Preparer Signature:	V WIL	Date: 7/2/	116

Applicant Information: If the applicant is someone other than the landowner, the landowner information must be included below

City/Town: Williston

Handwritten signatures are also accepted.

Location of wetland and project: (Individual Permit App Location description should include the road the wetlan- relation to the road, 911 street address if available, and	d is located on, the compass direction of the wetland in
8297 Williston Road in Williston	
2. Program Contact: (IPA Section2) Indicate here if you have been in contact with the Wetla	ands Program before the application submittal
2.1 Date of Interaction with State Wetland Ecologist	2.2. State Wetland Ecologist Name
Sept. 7, 2016	Tina Heath
3. Wetland Classification: (IPA Section 3)	
3.1. The wetland is a class II wetland because: (IPA Section 3.1)
The wetland is mapped on the VSWI 3.2. Section 4.6 Presumption (IPA Section 3.2) If the wetland meets the Section 4.6 Presump	tion, it does so because:
<pre><choose one=""> </choose></pre>	
<choose one=""></choose>	
4. Description of Entire Wetland: (IPA Section 4) Answer the following questions regarding the entire wetland area proposed for impact. Answers may be estimates base investigation area (parcel boundary). Specific questions ab	
estimation based on review of aerial photograph	he Wetland Inventory Map for mapped wetlands, or best hy or site visit. This is not the size of the of the delineated ety of the wetland is represented in the delineation.
4.2. Vegetation Cover Types Present: (IPA Section List all wetland types in the entire wetland and	
70% emergent, 15% scrub, 15% forested	amp, or 50% scrub swamp, 10% emergent wetiand
Examples include but are not limited to: We	le of the proposed project that may influence the wetland. tland encroachments on and off the subject property, atland, or development that influences hydrology or water
Pre-project impacts include hydrology changes that have resconstruction, and limiting the brook's lateral movement with t	
5. Context of Subject Wetland: (IPA Section 5.1) Describe where the subject wetland is in the context of the For example: Upslope/downslope, narrow eastern "finge"	
The wetland is a portion of a larger riparian wetland that bore	ders Allen Brook and its tributaries.
6. Subject Wetland Vegetation: (IPA Section 5.3) List dominant wetland vegetation cover type and associated with cattails; forested swamp dominated by red maple and y peat moss; wet meadow dominated by reed canary grass.	d dominant plant species. For example: emergent marsh vellow birch; shrub swamp dominated by speckled alder and
Near the pump station-Emergent wetland with reed canary g wetland is sparsely forested w/ boxelder, reed canary grass,	rass, cattails, sweetflag, and spotted touch-me-not. Riparian ostrich fern, and spotted joe pye weed.

The control of the second seco

Describe the buffer zone of the subject wetland	
7.1 Buffer Land Use: (IP Section 5.6.1)	
For example: Mowed shoulder, fores Describe any previous and ongoing d	sted, old field, paved road, and residential lawns, etc.
In the project area, the buffer zone is mowed lawn.	
8. Wetland Function Summary: (IPA Section 6)	
Check which functions are present in the wetland ■ Flood/Storm Storage	Complex
■ Surface & Groundwater Protection	☐ Education & Research
■ Fish Habitat	☐ Recreation/Economic
Wildlife Habitat	Open Space/Aesthetics
☐ Exemplary Natural Community	☐ Erosion Control
O Occupil Publicat Deposintions //DA Section 47)	
9. Overall Project Description: (IPA Section 17) 9.1. Overall Project Purpose: (IPA Section 17)	4 1
Description of the basic project.	
For example: six-lot residential subdivis	sion; expansion of an existing commercial building, building
a single family residence.	
This project involves construction of about 256' of new	sewer piping to serve a single family house. The existing on-site
	lled so that the house can pump sewage to the nearby municipal
sewer main. 230' of the pipe will be directional bored u	inder Allen Brook, with the remaining pipe being open-trenched.
10 Project Detaile: (IDA Section 18)	
10. Project Details: (IPA Section 18) Provide details regarding specific impacts to the w	retland and buffer zone.
Provide details regarding specific impacts to the w	
Provide details regarding specific impacts to the water 10.1. Specific Impacts to Wetland and Buff	er Zone Dimensions: (IPA Section 18.1)
Provide details regarding specific impacts to the water 10.1. Specific impacts to Wetland and Buff List portions of the project that will specific impacts.	er Zone Dimensions: (IPA Section 18.1) eifically impact the wetland or buffer zone and their dimensions.
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12. Mitigation Sequence: (IPA Section 20)
Please refer to Section 9.5b of the rules on Mitigation Sequencing for this section. 12.1. Avoidance of Wetland Impacts: (IPA Section 20.1)
12.1.1. Can the activity be located on another site owned or controlled by the applicant, or reasonably available to satisfy the basic project purpose? If not, indicate why. Cite any alternative sites and explain why they were not chosen.
Because of the site-specific nature of the project, there are no other sites relevant to the project purpose.
12.1.2. Can the proposed activity be practicably located outside the wetland/buffer zone? If not, indicate why. Explain the alternatives you have explored for avoiding the wetland and buffer onsite, And why they are not feasible.
Because of the location of the wetlands and buffers, there is no way to access the municipal sewer without crossing them.
12.2. Avoidance to the Impact to Functions and Values: (IPA Section 20.2)
12.2.1. If the proposed activity cannot be practicably located outside the wetland/buffer zone, have all practicable measures been taken to avoid adverse impacts on protected functions?
■ Yes □ No
12.2.2. What design alternatives were examined to avoid impacts to wetland function? For example: Use of matting, relocation of footprint, etc.
Open trenching across the brook and the riparian wetlands was considered but was felt to be a less predictable and potentially more destructive method than directional boring.
12.2.3. What steps have been taken to minimize the size and scope of the project to avoid impacts to wetland functions and values? Include information on project size reduction and relocation.
Directional boring will be used to cross under Allen Brook, with the remaining pipe installed in an open trench. Buffer disturbance will be minimized by limiting the work zone with barrier and silt fence. At the completion of work, disturbed soil will be returned to prior grade and revegetated so that there should be no effect on wetland and buffer functions and values.
12.2.4. Explain how the proposed project represents the least impact alternative design. Explain why other alternatives, which you described above, were not chosen.
Connection to the municipal sewer is the best long term solution. Directional boring will avoid impact to the Class II wetland. Open trenching only in existing lawn areas will avoid Class II wetland impact, minimize buffer impact, and be temporary. Installing a new on-site wastewater system on the east side of Allen Brook was considered, but given the close proximity of the municipal sewer, an on-site system is a less desirable solution and one that would require more maintenance. Although additional directional boring could have reduced buffer impact, its high cost makes using it for more than the wetland crossing prohibitively expensive.

	etermination: (IP Sec cation involves a wet	ction 21) land determination plea	se answer the followir	ng.
		ntiguous to the Vermon n or contiguous to the V		
	eason for Petition: lease choose one fro	(IP Section 21.1) om the dropdown menu.		
<cr< td=""><td>noose One></td><td></td><td></td><td></td></cr<>	noose One>			
F F th a _l	previous decisions by ne functions and valu pplication and descri	arrative to support the p the Secretary or Water es present. Here add n bed in section 5 of the \	Board. Determinatio arrative description of ermont Wetland Rule	letermination here, including ns are made based on an evaluation of n the functions listed in section 8 of this es. For example: Wetland provides te, concave, and naturally vegetated.
14. Supporting	Materials: (IP Section	on 22)		
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			TEIOATION COMITE	
P T		o that is 8 ½" x 11" and Resources Atlas is appr		e plans. opography map base layer,
	Date			Title
	8/30/2016			Natural Resources Map
P aı		te of last revision, autho		st include wetland delineation by elopes, and any permanent
	Title	<u> </u>	Author	Date Last Revision Date
Site Plan		Lamourue	x & Dickinson	9-19-16
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7				
				,
		cuments: (IP Section 22		
E				s, agreements, restoration/plan,
Date	Last Revision	Author		Title
8-24-2016		Lamoureux & Dickinson		Photos of the Project Site
	- nyo qo samena			

Photos of the Project Site (1 of 2)



Photo 1. View to the south towards Williston Road from the pump station. The house is just off the left edge of the photo. The proposed force main would run to a directional boring staging area in the lawn and then angle to the right and cross the brook just this side of the tree at the right side of the photo. (August 24, 2016)



Photo 2. View eastward towards the house. The force main would cross the brook in line with the visible portion of the house to a directional boring receiving area in the lawn a short distance in front of the camera. (August 24, 2016)

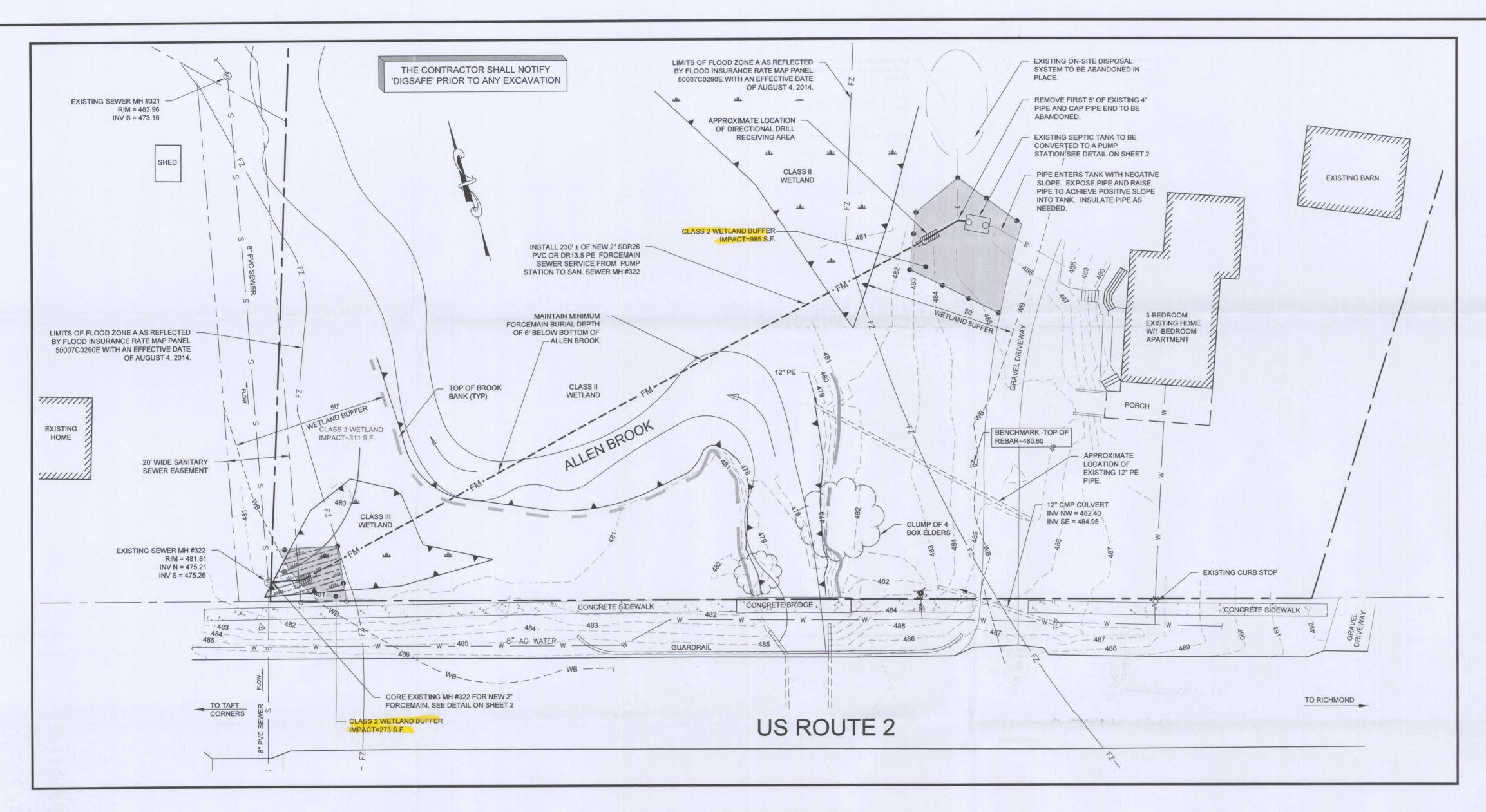
Photos of the Project Site (2 of 2)



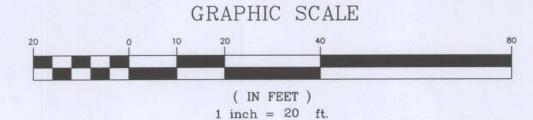
Photo 3. View westward from the Allen Brook pedestrian bridge. Williston Road is on the left. The proposed force main would be directional bored under Allen Brook and its riparian wetlands. Open trenching for force mian installation would begin in the lawn and run to the sewer manhole beyond the tree to the right of the sidewalk. (August 24, 2016)

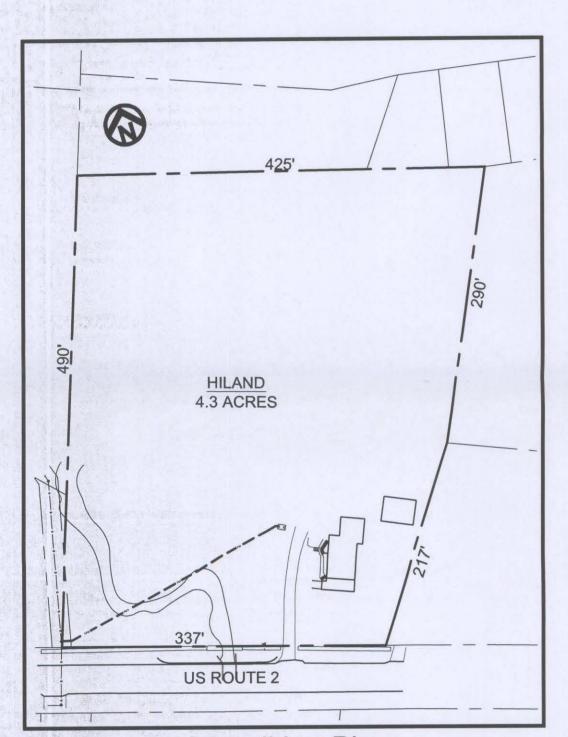


Photo 4. This is the sewer manhole that will be the connection point for the proposed force main. (August 24, 2016)



Sewer Service Site Plan





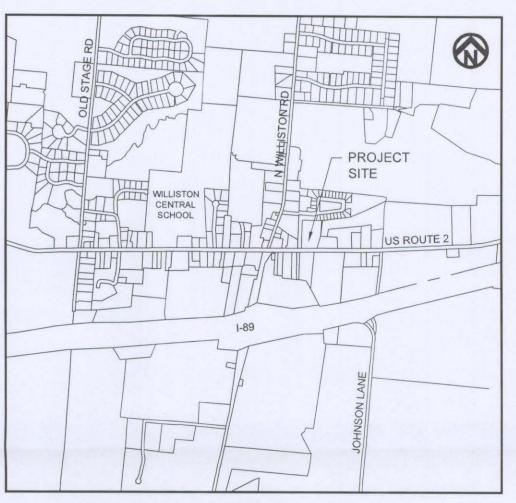
Overall Lot Plan
SCALE: 1" = 100'

GENERAL CONSTRUCTION SPECIFICATIONS

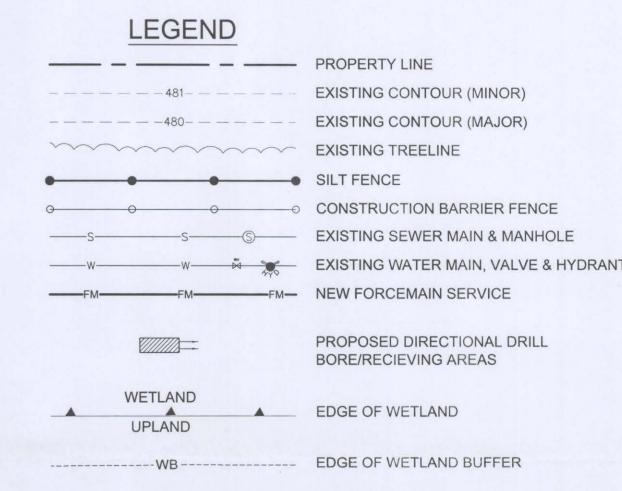
- A PORTION OF THE PROPOSED SANITARY FORCE MAIN SHALL BE INSTALLED BY MEANS OF DIRECTIONAL BORING UNDER THE BROOK. THE LOCATION OF DIRECTIONAL DRILL BORE & RECEIVING PITS ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION OF 6' BELOW ALLEN BROOK BED AND THE
- UTILITY INFORMATION SHOWN HEREON WAS OBTAINED FROM BEST AVAILABLE SOURCES AND MAY
 OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT
 LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY,
 PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT, AND STRUCTURES NECESSARY TO COMPLETE THE WORK, UNLESS NOTED ON THESE PLANS. THE CONTRACTOR SHALL REMOVE ALL TRASH FROM SITE UPON COMPLETION OF CONSTRUCTION. ANY SURFACES, LINES OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO BEGINNING OF CONSTRUCTION AT THE CONTRACTOR'S OWN EXPENSE.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF WILLISTON PUBLIC WORKS STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE PROJECT APPROVALS AND PERMITS, AND THIS PLAN.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR SAFETY HAZARD. WHERE AND WHEN DEEMED NECESSARY, THE CONTRACTOR WILL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF STARTING ANY WORK IN ORDER TO ENSURE COMPLIANCE WITH THE PLANS.
- 7. PRIOR TO BEGINNING CONSTRUCTION, ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER.
- LAMOUREUX & DICKINSON WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT
 MAY ARISE FROM THE FAILURE OF THE CONTRACTOR TO FOLLOW THESE PLANS, SPECIFICATIONS
 AND THE DESIGN INTENT THAT THE PLANS CONVEY.

NOTES

- THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT TO BE USED FOR CONVEYANCE. THE BASEMAP WAS PREPARED USING INFORMATION GATHERED FROM TAX MAPS, RECORD PLANS, AERIAL IMAGERY, AND A
- UTILITIES SHOWN ARE BASED ON PHYSICAL EVIDENCE FOUND DURING A FIELD SURVEY AND RECORD INFORMATION AS SHOWN ON SHEET 66 OF AS-BUILT DRAWINGS BY ENGINEERS INCORPORATED OF VERMONT, WITH A DATE OF JULY 1981.
- PROPERTY LINES ARE BASED ON PHYSICAL EVIDENCE FOUND AT THE PROPERTY CORNERS, RIGHT-OF-WAY MONUMENTATION, AND A BOUNDARY SURVEY OF THE PROPERTY PREPARED BY PALMER COMPANY, LTD. WITH A DATE OF JULY 16,1980.



Location Map



DESIGN DATA

- THIS DESIGN DEPICTS THE CONNECTION OF AN EXISTING BUILDING TO MUNICIPAL SEWER. THE EXISTING ON-SITE WASTEWATER SYSTEM WILL BE ABANDONED WHEN THE MUNICIPAL CONNECTION IS MADE.
- 2. BASIS OF DESIGN

3 BEDROOM HOME @ 210 GPD = 210 GPD

1 BEDROOM APARTMENT
1 BEDROOM @ 2 PERSONS/BEDROOM = 2 PERSONS
2 PERSONS @ 70 GPD/PERSON = 140 GPD

TOTAL DESIGN FLOW = 350 GPD

9.19.16 Revised directional bore alignment and length Revision These plans shall only be used for the purpose shown below: Sketch/Concept Act 250 Review Construction Preliminary Record Drawing Final 16085 HILAND PROPERTY L&D 8297 WILLISTON ROAD Design NDS WILLISTON, VT 05495 **NEW MUNICIPAL SEWER** Drawn NDS FORCEMAIN CONNECTION Checked DG SITE PLAN Date







8-23-16

AS SHOWN

Sheet number

1 of 2

Scale

