

April 13, 2021

Ref: 57294.11, 57294.12, and 57294.13



Ms. Bethany Sargent  
Vermont Department of Environmental Conservation – Watershed Management Division  
1 National Life Drive, Main 2  
Montpelier, VT 05620-3522

Re: Vermont Agency of Transportation  
Lamoille Valley Rail Trail Project – VTrans Project STP - LVRT(11): Cambridge to Sheldon; LVRT(12):  
Hardwick to Morrisville; LVRT(13): Danville to Hardwick  
Individual Section 401 Water Quality Certification Application

Dear Bethany:

On behalf of Vermont Agency of Transportation (“VTrans” “Applicant” or “Project proponent”), VHB is submitting the enclosed certification request and supporting materials to request an Individual Section 401 Water Quality Certification (“WQC”), pursuant to 40 CFR §121, for the purpose of conducting work within Waters of the U.S. and State, associated with the proposed Lamoille Valley Rail Trail (“LVRT”) rehabilitation project (“Project”). The Project will involve repair and refurbishment of the remaining segments of the former Lamoille Valley Railroad (“LVRR”) to complete its conversion to the LVRT. Roughly half of the LVRT’s total length of 93 miles has already been completed. The current Project includes segments from Cambridge to Sheldon [LVRT(11)], Hardwick to Morrisville [LVRT(12)], and Danville to Hardwick [LVRT(13)].

The purpose of the Project is to provide a year-round alternative transportation and recreation trail by converting the rail bed of the former LVRR in to the LVRT. VHB has prepared design plans and environmental permit applications to complete the remaining portions of the LVRT on behalf of VTrans. Design is near complete and permitting is well underway, and construction is planned to occur with available federal and state funding during fiscal years (FY) 2021 and 2022. Upon completion of trail construction, operation and maintenance of the LVRT will be the responsibility of VAST in accordance with the terms and conditions of a Lease Agreement and Amendments between the State of Vermont and the Vermont Associated of Snow Travelers (“VAST”).

This request is being made while the following environmental permit applications are under review:

- request to amend Clean Water Act (“CWA”) Section 404 Permit NAE-2008-03594, U.S. Army Corps of Engineers (Vermont Office), submitted March 19, 2021;
- request to amend Vermont Individual Wetland Permit 2008-402, DEC Wetlands Program, submitted February 18, 2021;
- request to amend Individual Construction Stormwater Discharge Permit 6852-INDC.1, DEC Stormwater Program, submitted February 12, 2021;

40 IDX Drive, Building 100  
Suite 200

**Engineers | Scientists | Planners | Designers**

South Burlington, Vermont 05403

**P** 802.497.6100

**F** 802.495.5130



- Flood Hazard Area and River Corridor Rule Registrations, DEC Rivers Management Program (River Corridor and Floodplain Protection section), [LVRT(11) submitted March 25, 2021; LVRT(12) submitted February 16, 2021; LVRT(13) submitted January 21, 2021]; and
- Title 19 Reviews, DEC Rivers Management Program, on-going.

VHB submitted the pre-filing meeting request letter on March 10, 2021, and the required pre-filing meeting was held via teleconference on March 24, 2021 including representatives from VTrans, the DEC Watershed Management Division, USACE, US Environmental Protection Agency and VHB. Since a 30-day time period is required between submittal of the pre-filing meeting request letter and the application submittal, this timeframe was met as of April 9, 2021.

As discussed during the meeting, VHB has prepared a comparison of impacts proposed for both the Section 404 and VWP permit applications. Table 1, below, provides a complete summary of all impacts proposed under both permit programs.

**Table 1. CWA Section 404/ Vermont Wetland Permit - Proposed Impact Comparison**

Section 404 Permit Application - Proposed Impacts Summary:	Proposed Impacts					
	Permanent		Temporary		Total	
	Square Feet	Acres	Square Feet	Acres	Square Feet	Acres
LVRT(11) Wetland Impact Subtotals:	9,771	0.224	49,284	1.131	59,055	1.356
LVRT(11) Waters Impact Subtotals:	942	0.022	19,112	0.439	20,054	0.460
<i>Total LVRT(11) Impact Subtotals:</i>	<i>10,713</i>	<i>0.246</i>	<i>68,396</i>	<i>1.570</i>	<i>79,109</i>	<i>1.816</i>
LVRT(12) Wetland Impact Subtotals:	8,560	0.197	23,618	0.542	32,178	0.739
LVRT(12) Waters Impact Subtotals:	2,527	0.058	37,999	0.872	40,526	0.930
<i>Total LVRT(12) Impact Subtotals:</i>	<i>11,087</i>	<i>0.255</i>	<i>61,617</i>	<i>1.415</i>	<i>72,704</i>	<i>1.669</i>
LVRT(13) Wetland Impact Subtotals:	3,039	0.070	10,145	0.233	13,184	0.303
LVRT(13) Waters Impact Subtotals:	2,298	0.053	6,240	0.143	8,538	0.196
<i>Total LVRT(13) Impact Subtotals:</i>	<i>5,337</i>	<i>0.123</i>	<i>16,385</i>	<i>0.376</i>	<i>21,722</i>	<i>0.499</i>
<b>Total Proposed Section 404 Wetland Impacts:</b>	<b>21,370</b>	<b>0.491</b>	<b>83,047</b>	<b>1.906</b>	<b>104,417</b>	<b>2.397</b>
<b>Total Proposed Section 404 Waters Impacts:</b>	<b>5,767</b>	<b>0.132</b>	<b>63,351</b>	<b>1.454</b>	<b>69,118</b>	<b>1.587</b>
<b>TOTAL PROPOSED SECTION 404 IMPACTS:</b>	<b>27,137</b>	<b>0.623</b>	<b>146,398</b>	<b>3.361</b>	<b>173,535</b>	<b>3.984</b>

Vermont Individual Wetland Permit Application - Proposed Impact Summary:	Proposed Impacts					
	Permanent		Temporary		Subtotals	
	Square Feet	Acres	Square Feet	Acres	Square Feet	Acres
LVRT(11) Class II Wetland Impact Subtotals:	15,664	0.360	51,944	1.192	67,608	1.552
LVRT(11) Class II Buffer Impact Subtotals:	17,578	0.404	30,704	0.705	48,282	1.108
LVRT(12) Class II Wetland Impact Subtotals:	8,729	0.200	22,864	0.525	31,593	0.725
LVRT(12) Class II Buffer Impact Subtotals:	11,269	0.259	19,840	0.455	31,109	0.714
LVRT(13) Class II Wetland Impact Subtotals:	6,487	0.149	11,486	0.264	17,973	0.413
LVRT(13) Class II Buffer Impact Subtotals:	9,229	0.212	16,141	0.371	25,370	0.582
<b>Total Class II Wetland Impacts:</b>	<b>30,880</b>	<b>0.709</b>	<b>86,294</b>	<b>1.981</b>	<b>117,174</b>	<b>2.690</b>
<b>Total Class II Buffer Impacts:</b>	<b>38,076</b>	<b>0.874</b>	<b>66,685</b>	<b>1.531</b>	<b>104,761</b>	<b>2.405</b>

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The impact analyses for both the Section 404 and the VWP Applications used the same Project limit of disturbance to calculate proposed impacts for each of the resource types included in the application. The differences in impact totals, specifically wetland impacts, are the result of the differences in each programs' regulated activities requiring permit authorization. However, on an overall basis, the applicable state permits noted above cover the overall magnitude, type and extent of Project-related impacts.

The attached certification request and appendices provide detail regarding the proposed Project, existing conditions, water bodies and other natural resources studied, and analyses conducted to determine the extent of potential impacts to water quality. A list of the supporting appendices is provided with this permit certification request submittal. VHB, on behalf of the Project proponent and as represented by the undersigned, hereby certifies that all information contained herein is true, accurate, and complete to the best of our knowledge and belief.

On behalf of the Project proponent, VHB hereby requests that the DEC review and take action on this CWA 401 certification request within the applicable reasonable period of time. In order to meet the Project milestones in a timely manner, both the Applicant and VHB appreciate your timely review of this request. As discussed during the pre-filing meeting, and as summarized above, the Project has undertaken extensive regulatory coordination and has applied for all of the applicable environmental permits to ensure the Project will comply with the various environmental regulations and protect water quality. The fee of \$20,000, which represents the maximum fee for the 401 WQC, is being provided by VTrans concurrently with the submittal of this request.

Thank you for your time and attention in this matter. Please do not hesitate to contact us if you have any questions, comments, or require further information regarding the WQC certification request or supporting materials.

Sincerely,

  
Patti B. Kallfelz-Werts  
Environmental Scientist

  
Allison L. Slaney  
Environmental Scientist

cc (electronic copy only):

Pete Laflamme, Director, Watershed Management Division  
Billy Coster, Director of Planning, ANR  
Amanda Sayles, Project Engineer, USACE  
Glenn Gingras, Senior Biologist, VTrans  
Jeff Ramsey, Environmental Permitting Coordinator, VTrans  
Ken Brown, VAST LVRT Project Manager  
Joel Perrigo, VTrans Project Manager  
Julie Follensbee, DEC District Wetlands Ecologist (cover letter only)

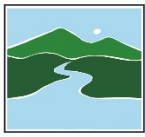
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List of Appendices:

- Appendix IA\_LVRT 401\_404 Impact Summary
- Appendix IA\_LVRT 401\_VWP Impact Summary
- Appendix IB\_LVRT 401\_Project Coordinates
- Appendix IC\_LVRT 401\_Location Maps
- Appendix ID\_LVRT 401\_Project Narrative
- Appendix IG\_LVRT 401\_EPSC Plans
- Appendix IH\_LVRT 401\_Perennial Stream Impact List
- Appendix II\_LVRT 401\_Geomorphic Condition
- Appendix IJ\_LVRT 401\_Physical Biological Chemical Conditions
- Appendix IK\_LVRT 401\_Findings of Facts 7C1321
- Appendix IL\_LVRT 401\_2020 Natural Resource Memos

\\vhb\gbl\proj\SBurlington\57294.06 LVRT Trail Design CSS\docs\Permits\401\401 WQC\STP LVRT (11-13)\_401 WQC Cover Letter 4-13-2021.docx



## APPLICATION FOR INDIVIDUAL SECTION 401 WATER QUALITY CERTIFICATION

Vermont Water Pollution Control Permit Regulation 10 VSA. 1258(6) Section 13.11 (b)

<b>For DEC Staff Use Only</b>		
Date of Receipt: _____ Certification number: _____		
<b>A. Pre-application Meeting:</b> Have you had your meeting yet? The Department of Environmental Conservation strongly encourages applicants to schedule and attend a pre-application meeting with affected programs prior to submitting an application.		
Yes, the meeting was held on _____ with DEC staff _____		
If you need to schedule a meeting, please call 802-490-1115 or email <a href="mailto:ANR.WSMD401@vermont.gov">ANR.WSMD401@vermont.gov</a> .		
<b>B. Applicant Contact Information</b>		
1. Name: _____		
2. Mailing Address: _____		
3. Town: _____	4. State: _____	5. Zip: _____
6. Phone: _____	7. Email: _____	
<b>C. Representative:</b> Consultant, engineer, or other representative that is responsible for filling out this application, if other than the applicant.		
1. Name: _____		
2. Mailing Address: _____		
3. Town: _____	4. State: _____	5. Zip: _____
6. Phone: _____	7. Email: _____	
<b>D. Landowner:</b> If the applicant is not the landowner, please provide a list of all landowners owning property that is part of the project site		
1. Name: _____		
2. Mailing Address: _____		
3. Town: _____	4. State: _____	5. Zip: _____
6. Phone: _____	7. Email: _____	
<b>E. 1. Resource Proposed for Alteration:</b>		<b>E. 2. Type(s) of Proposed Alteration(s):</b>
Wetlands      Stream / Rivers      Lake / Pond / Reservoir  Name of Resource(s) (Please use consistent ID#s throughout the application for identification of unnamed resources.)  _____ _____ _____		Stream / River Crossing      Utility Line or Linear Transportation Project  Intake / Outfall Structure      Stream or Wetland Restoration  Wetland Fill / Excavation      Dredging  Launch Ramp      Bank Stabilization  Impoundment  Other: _____

F. Project Details		
1. Project/Site Name:		
2. Address:	Please follow this link to the <a href="#">ANR Atlas Map</a>	
3. Town/County:	4. Longitude:	5. Latitude:
6. <b>Compass Directions &amp; Road(s):</b> Compass direction of the project in relation to the road(s) or nearest intersection. Name the road(s) that the project is located on		
7. <b>Geographic Features:</b> Identify any distinguishing geographic features near project location site		
8. <b>Project Description Summary:</b> Give a short narrative summary describing what the project is		
9. <b>Project Description Details:</b> Give a detailed narrative description of the project, including phasing and a list of specific project components		
10. <b>Project Purpose:</b>		
11. <b>Project acres:</b>  _____	12. <b>Site slope percent:</b> (Please provide the maximum slope percent. For linear projects, please provide the minimum and maximum slope percentage across the project)  _____ %	13. <b>Total disturbed area associated with the project:</b>  _____

**14. Physical description of project area:**

**15. Soil K-Factor(s):**

**16. Hydrologic Soil Group(s)**

**17. Receiving Waters:** Identify all surface waters within the major basins (including streams/rivers, wetlands, and lakes) that drain from the project, beginning with waters within the proposed project area and progressing downstream. If the waterbody does not have a formal name, a descriptive name should be provided (e.g. unnamed tributary of the Mad River). (There are 17 major watershed basins defined by VTDEC in: <https://dec.vermont.gov/watershed/map/assessment>)

**18. Watershed Area Summary from Project Area to Receiving Waters**

Watershed(s)	Watershed Area (acres)	Disturbed Area (acres)	% Area Disturbed

**G. Cumulative Impacts:** For help identifying environmental features regarding your property use the VTANR Natural Resources Atlas: <https://dec.vermont.gov/maps>

**1. Impervious surface:** \_\_\_\_\_ surface % of property \_\_\_\_\_ sq. ft All existing impervious trail surface

**2. Land Use:** Describe current and prior uses of the project property, including activities such as logging and agriculture or other uses that may have impacted water quality.

**3. Land Cover:** Percent and type of change in land cover associated with the project relative to natural cover

If the Agency finds that additional information on the current condition of the receiving water(s) beyond what is available is needed to adequately assess potential impacts from the proposed activity, the applicant will be required to supply that information.

**H. Resource Descriptions:**

**1. Wetland Resources**

**a. Type of wetland(s):** Describe the wetland(s) in the project area including the total number of wetlands in the area, the square footage of each wetland, the number of Class II and III wetlands (according to the Vermont Wetland Rules). If more than two wetlands will be affected by the project, fill out Wetland Resource Table 2, Appendix II

**b. Wetland Pre-Project Cumulative Impacts:** Describe any known pre-project cumulative impacts to wetlands from land use, agriculture, forestry, development, etc.

**c. Wetlands Impacted:** Describe the proposed impacts to the wetlands and buffer area (include impacts from fill, clearing, temporary trenching, etc.)

**d. Wetland Impact Table:** Fill out the Wetland Impact Table, Appendix III

**e. Converted Wetlands:** List the square footage of wetlands converted from one type of wetland to another. Example would be conversion of forested wetland to shrub wetland for power line right of way clearing. Submit table if needed as an appendix.

**2. Stream/River Resources:**

**a. Streams/Rivers Impacted:** Describe the perennial streams impacted by the project.

**b. Stream/River Impact table:** Fill out the following table with perennial streams impacted by the project, Appendix IV

**c. Summary of Physical Impacts to Streams/Rivers**

**Proposed Stream Area Impacts**

Project Component	Permanent (s.f.)	Permanent (acres)	Temporary (s.f.)	Temporary (acres)	Total (s.f.)	Total (acres)

**d. Stream/Rivers Pre-project Cumulative Impacts:** Describe any known pre-project cumulative impacts to streams and rivers from land use and development, etc.



**e. Impacts to the Geomorphic Condition and Geomorphic Sensitivity of the Stream:** Describe using phase I & phase II stream geomorphic stream assessment protocols. Geomorphic condition means the degree of departure, if any, from the dimensions, pattern, and profile associated with the naturally stable channel that results from the unique set of natural stream processes or dynamic equilibrium conditions of a stream or river segment. Geomorphic sensitivity means the potential of a river, given its inherent characteristics and present geomorphic conditions, to be subject to a high rate of fluvial erosion and other river channel adjustments, including erosion, deposit of sediment, and flooding.

### 3. Physical, Chemical, & Biological Conditions.

**a. Physical Water Conditions:** Summarize the physical conditions of the waters the project impacts or discharges into, including, temperature regime, conductivity, pH, turbidity, suspended sediment, and substrate type. Document source of data, geo-referenced to sampling location. If data are from the Bio-monitoring Sites Layer or the DEC Watershed Data Portal on the VTANR Atlas <https://dec.vermont.gov/maps>, please reference specific station identification numbers. Data are also available at <https://dec.vermont.gov/watershed/business-support/water-quality-certification-section-401>

**b. Chemical Water Conditions:** Summarize the chemical conditions of the waters the project impacts or discharges into, including, as available, total phosphorus and nitrogen, biochemical & chemical oxygen demand, hardness, metals, *E. coli*, and other data relevant to evaluation of the chemical condition of waters. If data are from the Bio-monitoring Sites Layer or the DEC Watershed Data Portal on the VTANR Atlas <https://dec.vermont.gov/maps> please reference specific station identification numbers. Data are also available at <https://dec.vermont.gov/watershed/business-support/water-quality-certification-section-401>

**c. Biological Water Conditions:** Summarize the biological water conditions of the waters the project impacts or discharges into. If data are available, summarize biological condition in relation to DEC biological assessment endpoints as described by <https://dec.vermont.gov/watershed/map/monitor/biomonitoring>. Document the occurrence or absence of aquatic rare, threatened, or endangered plant or animal species. If data are from the DEC Watershed Data Portal on the VTANR Atlas <https://dec.vermont.gov/maps>, please reference specific station identification numbers. Follow-up with the Fish & Wildlife Department's Natural Heritage Inventory (802-371-7333) if any such species are present.

#### 4. Fish & Wildlife Resources

**a. Fisheries Resource(s):** Provide a description of the existing fish resources within the waters that the project impacts or discharges into. There are several fishing access areas and fishing restriction areas along and/or adjacent to the existing trail. Fishing access locations adjacent or abutting existing trail include Rotary (350 feet north of trail, Morristown,VT), Fisher Bridge (abutting trail, Wolcott, VT), Upper Lamoille River (550 feet south west of trail, Wolcott, VT). All fishing access areas are located on Lamoille River. The Project will secure Title 19 prior to the start of Project construction start. The Project will protect against impacts to this function by incorporating construction Best Management Practices, including installing EPSC measures at the edge of the work area to provide temporary, protected workspace during construction, to prevent unintended impacts to adjacent resources. In-stream work will be completed during the dry period to the maximum extent feasible; alternatively, the stream flow will be diverted around the work area during construction. The Project work will improve flow and hydrological connection between both sides of the existing rail bed. Temporarily disturbed areas will be restored and revegetated following construction.

Wildlife: For help identifying wildlife habitat, natural communities, and rare, threatened, or endangered species use the VTANR Natural Resources Atlas: <https://dec.vermont.gov/maps>

**b. Habitat:** Provide an assessment of wildlife habitat within the project area. This must include a description of the methods employed to identify, map, and assess the habitats. Include a map that depicts all the wildlife habitat resources of the area (e.g., deer wintering habitat, riparian habitat, floodplain forest natural communities, wetland types).

**c. Natural Communities:** Provide an assessment of significant natural communities within the project area. This must include a description of the methods employed to identify, map and assess the communities. Include a map that depicts the natural communities.

**d. Rare, Threatened, and Endangered Species:** Provide a description of the anticipated and other possible impacts of the proposed project on the foregoing wildlife resources and how those will be avoided or minimized.

**e. Wildlife Affects & Minimization:** Provide a description of the anticipated and other possible impacts of the proposed project on the foregoing wildlife resources and how those will be avoided or minimized.

**I. Additional Permits and Supporting Documents:** Supporting Documents (Appendix I). Please list any additional Supporting Documents and attach to application labeled Appendix I. This should include, but not be limited to Memorandum of Understanding (MOU)'s with the Vermont Agency of Natural Resources (if applicable), applicable state and federal permits and permit applications, federal 404 permit application including alternatives analysis and mitigation package, site maps and plans, vegetation management plans, easement information, etc. Complete on an attached sheet if more room is needed. In the brief description column include page numbers for each appendix for quick reference. **\*\*Note, this section needs to be updated as supporting documents are updated.**

<u>Appendix</u>	<u>Document Title</u>	<u>Preparing Agent</u>	<u>Date of Last Revision</u>	<u>Brief Description</u>
Appendix IA				
Appendix IB				
Appendix IC				
Appendix ID				
Appendix IE				
Appendix IF				
Appendix IG				
Appendix IH				

**J. Fee:**

Pursuant to 3 V.S.A. § 2822(j)(30), use the following formula to calculate the certification fee: 1% of project cost with a minimum of \$200.00 and a maximum of \$20,000.00.

Project Cost: \$ \_\_\_\_\_ Total Enclosed: \$ \_\_\_\_\_  Exempt

**K. Refund Policy**

- If an application is modified, withdrawn or denied after technical review has commenced, all fees are retained.
- If an application is withdrawn prior to administrative review, all fees will be refunded.
- If an application is withdrawn after administrative review but prior to commencement of technical review, deemed administratively incomplete and returned to the applicant, or determined that a permit is not required; administrative fees are retained, and permit application review fees will be refunded.

**By checking this box, the applicant certifies that they have read and understands the refund policy**

**L. Signature** (Original Signature Required):

I certify under penalty of law that this document and all attachments were prepared at my request or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person who manages the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I recognize that by signing this application, I am giving consent for the Commissioner of the Department, or a duly authorized representative, at reasonable times and upon presentation of credentials, to enter upon and inspect the subject property to verify information in and process the Section 401 application.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

Signor Contact Phone: \_\_\_\_\_ Signor Contact email: \_\_\_\_\_

**Follow the Transfer of State Funds instructions memo to submit the application fee, or Submit this form and application fee to:**

**State of Vermont - Vermont Department of Environmental Conservation Watershed Management Division  
1 National Life Drive, Davis 3  
Montpelier, VT 05620-3522**

Direct all correspondence or questions to 401 Certification at: [ANR.WSMD401@vermont.gov](mailto:ANR.WSMD401@vermont.gov).

For additional information visit: <https://dec.vermont.gov/watershed>

**Lamoille Valley Rail Trail - Rehabilitation Project - STP LVRT(11) (12) (13)**

Vermont Agency of Transportation

**401 Water Quality Certification Application - Document Tracking Table**

Prepared by VHB

April 13, 2021

Appendix	Document Title	Preparer	Date of Last Revision	Brief Description
<b>Appendix IA</b>	Appendix IA_LVRT 401_Stream and Wetland Impacts	VHB	4/8/2021	USACE CWA Section 404 Wetland and Waters impact Summary table
	Appendix IA_LVRT 401_Stream and Wetland Impacts	VHB	4/8/2021	VWP Class II Wetland and Buffer Impact Summary table
<b>Appendix IB</b>	Appendix IB_LVRT 401_Project Coordinates	VHB	3/31/2021	Trail Centroid coordinates for Sections 11, 12, & 13
<b>Appendix IC</b>	Appendix IC_LVRT 401_Location Maps	VHB	2/12/2021	Project location map and perennial stream crossings
<b>Appendix ID</b>	Appendix ID_LVRT 401_Project Narrative	VHB	3/31/2021	Brief project description of proposed project and work activities
<b>Appendix IE</b>	Appendix IE_LVRT 401_Soil K Factor	VHB	4/7/2021	A color coded map of Soil K Factors along the LVRT
<b>Appendix IF</b>	Appendix IF_LVRT 401_Hydrologic Soil Groups	VHB	4/7/2021	A color coded map of HSG along the LVRT
<b>Appendix IG</b>	Appendix IG_LVRT 401_EPSC Plans	VHB	3/23/2021	A complete set of Erosion Prevention Sediment Control Plans
<b>Appendix IH</b>	Appendix IH_LVRT 401_Perennial Stream Impact List	VHB	4/1/2021	Impacted perennial stream locations and associated structure number
<b>Appendix II</b>	Appendix II_LVRT 401_Geomorphic Condition	VHB	4/1/2021	Geomorphic condition discussion at impacted areas
<b>Appendix IJ</b>	Appendix IJ_LVRT 401_Findings of Facts 7C1321	VHB	11/25/2012	Act 250 Permit Findings of Facts and conclusion of law and order
<b>Appendix IK</b>	Appendix IJ_LVRT 401_Physical, Biological, Chemical Stream Conditions	VHB	4/1/2021	Location and site name of water quality monitoring stations near the Project
<b>Appendix IL</b>	Appendix IL_LVRT 401_2020 Natural Resource Memos	VHB	2020/2021	A summary of the natural resource investigation work preformed in 2020 on Sections 11, 12, &13



To: Lamoille Valley Rail Trail Project  
VTrans Project STP - LVRT(11-13)

Date: March 19, 2021

Memorandum

Project #: 57893.00

From: Allison Slaney,  
Environmental Scientist

Re: Alternative Analysis; USACE Section 404 Individual Permit,  
File No. NAE-2008-03594 Permit Applications

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## **INTRODUCTION**

On behalf of the Vermont Agency of Transportation ("VTrans"), VHB has prepared an Alternative Analysis pursuant to 33 C.F.R. §325.1, in support of construction of the remaining portions of the Lamoille Valley Rail Trail ("LVRT"), VTrans Projects STP - LVRT(11), LVRT(12), and LVRT(13) as described below. This Alternative Analysis will support the application for a Department of the Army Individual Permit under Section 404 of the Clean Water Act ("CWA") to authorize unavoidable impacts to Waters of the United States ("WOTUS"). Included with this analysis is an overview of the proposed Project, the Project Purpose and Need, and the various Project alternatives that were considered during the Project development process. The selection of the preferred Project design is discussed, including our recommendation that it satisfies the requirements of Section 404 (b)(1) of the CWA as the least environmentally damaging practicable alternative ("LEDPA").

## **PROJECT OVERVIEW**

The remaining portions of the LVRT that require Section 404 authorization are located in the towns of Cambridge to Sheldon (LVRT 11), Hardwick to Morrisville (LVRT 12), and Danville to Hardwick (LVRT 13) (see Site Location Map, in Attachment Block 18). Roughly half of the rail corridor is already functioning as a shared-used recreational trail. Establishing an unbroken trail along the entire 93-mile length of the proposed LVRT would require that these maintenance issues, such as trail resurfacing and installation/repairs of culverts and bridges, be addressed along the remaining portions of the trail in the towns listed above. This is necessary to provide a safe environment for the public and to enhance the viewshed from the trail surface, both of the surrounding landscape and of the original Lamoille Valley Railroad ("LVRR") structures, many of which are considered historic and eligible for the National Register of Historic Places. In partnership with the Vermont Association of Snow Travelers, Inc. ("VAST"), VTrans, has developed the plans necessary to rehabilitate the remaining rail line accordingly.

## **PROJECT PURPOSE**

The purpose of the Project is to provide a year-round alternative transportation / recreation trail by converting the rail bed of the former LVRR; allow widespread access for the types of recreation identified in Chapter IV of Vermont's Statewide Comprehensive Outdoor Recreation Plan, 2014 - 2018 (FPR 2013); and promote the goals of the State of Vermont outlined in the "Vermont Pedestrian and Bicycle Policy Plan. When complete, the LVRT will run from northeastern Vermont in St. Johnsbury to the shores of Lake Champlain in Swanton.

## **PROJECT NEED**

When the St. Johnsbury & Lake Champlain Railroad Company ("SJ&LC") was constructed in the 1870s, many of the culverts, cattle passes, and some bridges were constructed in squared rubble and ashlar masonry using cut granite and fieldstone. Most of the steel bridges over streams and rivers were installed during the early 20<sup>th</sup> Century. Over the



## Memorandum

years subsequent to the cessation of LVRR operations, many of these structures were neglected and poorly maintained. Vegetation, sediment, and debris have collected at the upstream ends of virtually all drainage structures, diminishing their capacity or damaging their structural integrity. Likewise, bridge supports have deteriorated over time. The need for infrastructure repair and modification along these sections of trail are essential to maintain public safety and trail connectivity.

### **PROJECT ALTERNATIVES CONSIDERED**

The proposed Project location, along the existing LVRR, is recommended as the LEDPA, as it is the only location to satisfy the Project purpose to rehabilitate an existing rail bed for use as a year-round recreational trail. Furthermore, many segments of the LVRR to LVRT conversion has been carried out. The existing location has been recognized as a transportation corridor since the 20<sup>th</sup> century. Establishing a new trail of the same size and scope would result in a much larger area of impact to a wide variety of resources, including and beyond WOTUS.

#### Least Impact Design Alternative

All impacts occur adjacent to the existing rail bed where function has already been compromised and land use is currently or slated for recreation and transportation. In addition, impacts will only take place in areas necessary to make the trail durable and functional, and culverts/bridges will be repaired to the extent feasible, replaced in-kind as appropriate, and work will take place from the existing trail ballast to the maximum extent feasible. Each structure and trail segment was inspected in the field to ensure the appropriate level of maintenance, repair, or replacement is proposed at each location. There will be no expansion of the trail for the Project. Moreover, the LVRT will be used as a multimodal recreational transportation path and create far less pollution than its transportation counterpart, the LVRR, which has been decommissioned since 1995.

#### Measures to avoid adverse impact to WOTUS

Erosion Prevention and Sediment Control ("EPSC") measures will be installed around the proposed work areas, near WOTUS to prevent unintended impacts to adjacent resources. Areas disturbed during construction will be re-vegetated following construction. In order to minimize the spread of non-native invasive species, all construction equipment will be cleaned such that it is free of observable soil and vegetation prior to entering the Project area, in order reduce the introduction of seeds and plant material. Where timber mats are used in temporary work areas, they will be cleaned prior to working within WOTUS. Erosion matting or straw instead of hay mulch will be used in resource areas, and topsoil and seed mix for temporary or permanent stabilization will be free of noxious weeds (per the 2019, Vermont Standards and Specifications for EPSC). Furthermore, all proposed Pause Place locations, where excavated soil will be stockpiled, will be placed outside of all wetlands and buffers. This avoidance measure took many design iterations and strategic planning due to the amount of WOTUS present adjacent to the Project corridor.

#### Measures to Restore WOTUS Function and Value

Proposed Project work including culvert cleaning, repairing, and/or replacement, is in certain instances anticipated to restore hydrology to adjacent wetlands areas, potentially decreasing the risk of flood-related damage, decreasing bank erosion and sedimentation resulting from impounded water and bank over-topping, as well as improve water quality and flow for fish and amphibian habitat.

In VHB's opinion, the proposed Project design, along the existing trail, represents the least environmentally damaging practicable alternative.