



**APPLICATION FOR INDIVIDUAL SECTION
 401 WATER QUALITY CERTIFICATION**

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

For DEC Staff Use Only		
Date of Receipt: _____ Certification number: _____		
A. Pre-application Meeting: 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 <u>March 24, 2021</u> with DEC staff <u>Pete LaFlamme and Bethany Sargent</u>		
If you need to schedule a meeting, please call 802-490-1115 or email ANR.WSMD401@vermont.gov .		
B. Applicant Contact Information		
1. Name: Vermont Agency of Transportation c/o Glenn Gingras		
2. Mailing Address: 219 N. Main Street		
3. Town: Barre	4. State: Vermont	5. Zip: 05611
6. Phone: 802-279-0583	7. Email: Glenn.Gingras@Vermont.gov	
C. Representative: Consultant, engineer, or other representative that is responsible for filling out this application, if other than the applicant.		
1. Name: VHB (A. Slaney)		
2. Mailing Address: 40 IDX Drive; Building 100, Suite 200		
3. Town: South Burlington	4. State: Vermont	5. Zip: 05403
6. Phone: 802-497-6106	7. Email: aslaney@vhb.com	
D. Landowner: 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: Vermont Agency of Transportation		
2. Mailing Address:		
3. Town:	4. State:	5. Zip:
6. Phone:	7. Email:	
E. 1. Resource Proposed for Alteration:		E. 2. Type(s) of Proposed Alteration(s):
<input checked="" type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Stream / Rivers <input type="checkbox"/> Lake / Pond / Reservoir Name of Resource(s) (Please use consistent ID#s throughout the application for identification of unnamed resources.) <u>See list of resources in Appendix IA</u> _____ _____ _____		<input checked="" type="checkbox"/> Stream / River Crossing <input checked="" type="checkbox"/> Utility Line or Linear Transportation Project <input type="checkbox"/> Intake / Outfall Structure <input type="checkbox"/> Stream or Wetland Restoration <input checked="" type="checkbox"/> Wetland Fill / Excavation <input type="checkbox"/> Dredging <input type="checkbox"/> Launch Ramp <input checked="" type="checkbox"/> Bank Stabilization <input type="checkbox"/> Impoundment <input type="checkbox"/> Other: _____

F. Project Details		
1. Project/Site Name: Lamoille Valley Rail Trail Project– VTrans Project STP - LVRT(11): Cambridge to Sheldon; LVRT(12): Hardwick to Morrisville; LVRT(13)		
2. Address: Lamoille Valley Rail Trail	Please follow this link to the ANR Atlas Map	
3. Town/County: Cambridge, Fletcher, Bakersfield, Fairfield, Sheldon, Hardwick, Wolcott, Morristown, Danville, Walden	4. Longitude: See Appendix IB	5. Latitude: Varies- See Appendix IB
6. Compass Directions & Road(s): Compass direction of the project in relation to the road(s) or nearest intersection. Name the road(s) that the project is located on Locations adjacent to the existing rail bed; See Location Map in Appendix IC.		
7. Geographic Features: Identify any distinguishing geographic features near project location site The LVRT is the former Lamoille Valley Railroad running northwest to southeast through the northern section of the state; intersecting VT Route 15 in Cambridge and VT Route 105 in Sheldon.		
8. Project Description Summary: Give a short narrative summary describing what the project is Work under STP LVRT (11-13) includes trail resurfacing, ditch re-establish and cleaning, culvert repairs, culvert replacement, bridge repair, guardrail installation, and sign installation.		
9. Project Description Details: Give a detailed narrative description of the project, including phasing and a list of specific project components See a comprehensive Project Narrative in Appendix ID.		
10. 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 Lamoille Valley Railroad (“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 Lamoille Valley Rail Trail (“LVRT”) will run from northeastern Vermont in St. Johnsbury to the shores of Lake Champlain in Swanton.		
11. Project acres: ROW: 500.57 <hr/>	12. Site slope percent: (Please provide the maximum slope percent. For linear projects, please provide the minimum and maximum slope percentage across the project) <u>30 (0-60) %</u>	13. Total disturbed area associated with the project: LOD: 162.43 acres <hr/>

14. Physical description of project area:

The Project area is the former Lamoille Valley Railroad, beginning in northeastern Vermont in St. Johnsbury and ending along the shores of Lake Champlain in Swanton, an overall 93 mile corridor. The only sections of the LVRT still in need of permit authorizations are LVRT(11): Cambridge to Sheldon; LVRT(12): Hardwick to Morrisville; LVRT(13): Danville to Hardwick.

15. Soil K-Factor(s):

Soil K-factors vary and are included in map for in Appendix IE.

16. Hydrologic Soil Group(s)

- A, B, C, D, water (9 soils not rated). See Hydrologic Soil Group for each soil type in Appendix IF

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>)

Black Creek, Unnamed tributaries (UT) to Black Creek, Elm Brook, Lamoille River, UT to Lamoille River, Kate Brook, Wild Branch, Perkins Meadow Brook, UT to Perkins Meadow Brook, UT to Perkin Haynesville Brook, Stevens Brook, Greensboro Brook, and Joe's Pond.

18. Watershed Area Summary from Project Area to Receiving Waters

Watershed(s)	Watershed Area (acres)	Disturbed Area (acres)	% Area Disturbed
Lamoille (461606.89 Acres), Missisquoi (547486.52 Acres), Passumpsic (325126.39 Acres)	Lamoille – ROW (11) 11.08 Acres ROW(12) 107.62 Acres Row(13) 160.87 Acres Missisquoi –ROW(11) 201.48 Acres Passumpsic –ROW(13) 19.52 Acres	Lamoille – LOD (11) 3.31 Acres LOD (12) 42.87 Acres LOD (13) 51.47 Acres Missisquoi –LOD (11) 57.29 Acres Passumpsic – LOD(13) 7.49 Acres	0.012% (project site/watersheds total) = (162.43 acres/1334219.80 acres)

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: 5.8 (trail/ROW) surface % of property 3,695,846 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.

Roughly half of the rail corridor is already functioning as a shared-used recreational trail. Moreover, all impacts occur adjacent to the existing rail bed where function has already been compromised and land use is currently or is slated for recreation and transportation

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

The land use and land type will remain unchanged, as the location includes existing LVRT infrastructure. Trail reestablishment will only take place in areas necessary to make the trail durable and functional, & culverts/bridges will be repaired to the extent feasible, replaced in-kind as appropriate. There will be no trail expansion.

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

See Appendix IA for wetland impact summary. See Appendix IA.A for an overall summary of all assessed wetlands in the project area to include Cowardin description, delineated square footage, and VWR classification. In total VHB assessed approximately 230 wetlands features ranging from 131 to 814,572 sqft in size (within the ROW). Additionally, 189 Class II wetlands and/or wetland buffers were impacted and 7 Class III Wetlands were impacted.

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

The Project will take place within and adjacent to the existing trail where resource function has been compromised by past and current use. In addition, a site specific EPSC plan will be implemented as shown in Appendix IG.

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

See Appendix IA for work summary and impact calculations as designated by U.S. Army Corps of Engineers and the DEC Wetlands Program.

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.

Wetland cover types will not be permanently altered.

2. Stream/River Resources:

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

See perennial stream impact list in Appendix IH and a summary of all assessed channels in Appendix IH.A. In total, 50 perennial and 44 intermittent stream channels were impacted.

b. Stream/River Impact table: Fill out the following table with perennial streams impacted by the project, Appendix IV complete stream impact list in Appendix IA - 404 Impacts

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)
See Appendix IA and IG	8565	0.197	70394	1.616	78959	1.8

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

The existing LVRT alignment already intersects all streams where impacts are proposed. The existing location has been recognized as a transportation corridor since the 20th century. Many of the stream banks have been eroded and altered with culverts over time.

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.

Impacts to geomorphic condition and geomorphic sensitivity of the impacted streams is discussed in Appendix II.

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>

The Lamoille River in the vicinity of the Project is designated as Class B(2) waters for all uses. The list of the closest DEC monitoring stations that monitor conductivity and/or turbidity is included in Appendix IJ.

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>

The Project does not propose to introduce new pollutant sources that would impact the chemical conditions of the waters intersected by the LVRT. The list of the closest DEC monitoring stations locations that monitor nitrogen, phosphorus, pH, and/or chloride levels is included as Appendix IJ.

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.

The closest DEC monitoring station locations that provide macroinvertebrate and fish assessment data as recent as 2014 is included in Appendix IJ. The macroinvertebrate population assessment indicated excellent to fair conditions, and the fish assessment indicated very good to excellent conditions.

4. Fish & Wildlife Resources

The Vermont Fish and Wildlife Department was consulted at multiple times through the development of the project plans to ensure that fisheries resources were adequately addressed by the Project. Locations where Project improvements were anticipated to affect perennial waterways (i.e., culverts and bridges) were shared with FWD in order to identify sites where aquatic organism passage (AOP) needed to be considered. These recommendations were taken into consideration and structures that were replaced provide bankfull channel width and embedment criteria that allow for AOP. Fisheries resources include the Lamoille River, Black River and their tributaries. During their review, FWD identified several locations where species such as brook trout, rainbow trout, longnose dace, blacknose dace, and others have been identified. In addition, from the Lamoille River Basin Water Quality Management Plan identifies additional fisheries resources within the Lamoille River watershed include populations of brown trout, rainbow, and brook trout in the upper reaches of the watershed (general up river from Cambridge). Down river from Cambridge where the gradient is lower and the channel is wider, trout are less common, and warmwater species are more common including smallmouth bass, rock bass, fallfish, and very occasionally walleye.

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).

The application for and findings of Act 250 Permit (#7C1321, vacated) include a discussion of Necessary Wildlife Habitat. See NWH discussion on page 50, and 57-58 of Application Findings (Appendix IK). No active NWH areas are located within the LVRT right-of-way. Also see RTE section below. The Project area is primarily an existing rail embankment.

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.

The application for and findings of Act 250 Permit (#7C1321, vacated) include a discussion of Rare and Irreplaceable Natural Areas (RINA). See RINA discussion on page 49 (160.) of Application Findings supplied in Appendix IK. There are no designated rare or irreplaceable natural or fragile areas within the Project site ROW.

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.

State-threatened endangered plants are found in select locations in LVRT(11) only. A FWD Takings Permit has been issued for unavoidable impacts to RTE plants. In addition, a freshwater mussel survey was done at Bridge 48 over the Lamoille River in July 2020. No RTE mussels were found and no other mussel surveys are required at any other locations. See RTE summary & Takings Permit [EH-2012-21 (a1)] in Appendix IL.

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.

There are several beaver wetland complexes adjacent to the trail, however the overall land use would remain the same and therefore not significantly alter coverage types or wildlife habitat as currently present on or near the Project.

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	See document tracker attached			
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: Kallfelz-Werts, Patti Digitally signed by Kallfelz-Werts, Patti
Date: 2021.05.25 17:26:45 -04'00' Date: May 25, 2021

Print Name: Patti Kallfelz-Werts

Signor Contact Phone: 802-497-6016 Signor Contact email: pkallfelz-werts@vhb.com

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.
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

4/13/2021; REVISED 5/25/2021, 6/2/2021

Appendix	Document Title	Preparer	Date of Document with Original Filing (4/13/2021)	Revised Filing Date (5-25-2021)	Request for Additional Information (5/31/2021)	Brief Description
Appendix IA	Appendix IA_LVRT 401_404 Stream and Wetland Impacts	VHB	3/17/2021	5/19/2021	n/a	USACE CWA Section 404 Wetland and Waters impact Summary table
	Appendix IA_LVRT 401_VWP Class II Wetland and Buffer Impacts	VHB	2/18/2021	5/6/2021	n/a	VWP Class II Wetland and Buffer Impact Summary table
	Appendix IA.A_LVRT 401_Delineated Wetlands Summary	VHB	n/a	n/a	6/2/2021	Description of all assessed wetlands in the project area
Appendix IB	Appendix IB_LVRT 401_Project Coordinates	VHB	3/31/2021	5/20/2021	n/a	Trail "Start and Stop" coordinates for Sections 11, 12, & 13
Appendix IC	Appendix IC_LVRT 401_Location Maps	VHB	2/12/2021	n/a	n/a	Project location map and perennial stream crossings
Appendix ID	Appendix ID_LVRT 401_Project Narrative	VHB	3/31/2021	n/a	6/2/2021	Brief project description of proposed project and work activities
Appendix IE	Appendix IE_LVRT 401_Soil K Factor	VHB	4/7/2021	n/a	n/a	A color coded map of Soil K Factors along the LVRT
Appendix IF	Appendix IF_LVRT 401_Hydrologic Soil Groups	VHB	4/7/2021	n/a	n/a	A color coded map of HSG along the LVRT
Appendix IG	Appendix IG_LVRT 401_EPSC Plans	VHB	3/23/2021	5/11/2021	n/a	A complete set of updated Erosion Prevention Sediment Control Plans
Appendix IH	Appendix IH_LVRT 401_Perennial Stream Impact List	VHB	4/1/2021	n/a	n/a	Impacted perennial stream locations and associated structure number
	Appendix IH.A_LVRT 401_Delineated Streams Summary	VHB	n/a	n/a	6/2/2021	Summary of all stream crossings assessed in the project area
Appendix II	Appendix II_LVRT 401_Geomorphic Condition	VHB	4/1/2021	n/a	n/a	Geomorphic condition discussion at impacted areas
Appendix IJ	Appendix IJ_LVRT 401_Physical, Biological, Chemical Stream Conditions	VHB	11/25/2012	5/21/2021	n/a	Location and site name of water quality monitoring stations near the Project
Appendix IK	Appendix IK_LVRT 401_Findings of Facts 7C1321	VHB	4/1/2021	n/a	n/a	Act 250 Permit Findings of Facts and conclusion of law and order
Appendix IL	Appendix IL_LVRT 401_2020 Natural Resource Memos	VHB	2020/2021	n/a	n/a	A summary of the natural resource investigation work preformed in 2020 on Sections 11, 12, &13
Appendix IM	Appendix IM_LVRT 401_Potential Impacts to Recreation	VHB	n/a	5/25/2021	n/a	Potential impacts to recreation, both land-based and water-based