

Water Investment Division

**Environmental Information Document  
and Environmental Report**

Project Name Hands Mill Dam Removal in Washington - Final Design

Address \_\_\_\_\_

Project Location Woodchuck Hollow Road and West Corinth Road, Washington, Vermont. Dam coordinates are 44.10549N, 72.42982W

Drinking Water System Name N/A WSID No. N/A  
State Assigned Drinking Water Revolving Loan (DWSRF) Number RF3- \_\_\_\_\_

Wastewater and/or Stormwater System Name N/A  
List Existing Permit Numbers: N/A

State Assigned Clean Water Revolving Loan (CWSRF) Number RF1- \_\_\_\_\_

All Projects: USEPA Grant (STAG) Number \_\_\_\_\_  
Federal Fiscal Years (s) of USEPA Grant Appropriation \_\_\_\_\_

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

Hands Mill Dam, located in and owned by the Town of Washington, impounds a segment of the Jail Branch, a tributary to the Winooski River. Constructed to impound more than 500,000 cubic feet, it is subject to regulation under 10 V.S.A. §1082 and falls under the jurisdiction of the Vermont Dam Safety Program. State ID number is 225.01. Hands Mill is classified as a Significant Hazard potential dam and recent Dam Safety reports indicate that a sudden failure could cause "probable loss of life and property damage." This potential loss of life may trigger a reclassification to "High Hazard" under Vermont's new Dam Safety regulations which are scheduled to launch in 2020 and 2022. Compounding the hazard classification risks is the dam's current condition. The overall condition of the dam is poor, partially breached and continues to deteriorate and progressively breach. Since at least 1984, consistent Dam Safety inspection reports emphasize that the dam is in poor condition and continues to deteriorate. Reports recommend the owner take actions to either reconstruct or remove the dam and restore the upstream channel. Over the course of 2020, the Town of Washington and Winooski NRCD coordinated with partners to complete a 30% Preliminary Design for dam removal. Proposed activities include removal of Hands Mill dam, removal of impounded sediment, restoration of the upstream channel for floodplain access and stream equilibrium, and historical documentation. It is expected that complete removal of the dam combined with upstream channel restoration will completely mitigate the flooding and dam breach risks associated with this failing infrastructure. In its current condition the dam provides no flood storage capabilities, but with upstream restoration and installation of a floodplain bench, the project will introduce roughly 17,859 square feet (0.41 acres) of new floodplain storage to enhance community flood resilience into the future, and 0.84 acres of riparian buffer plantings. Over the course of 2020, the Winooski Natural Resources Conservation District hosted two site visits and several stakeholder meetings (7.24.20, 8.25.20, 9.28.20, 10.28.20, 12.9.20), to coordinate work and solicit partner and public input on the preliminary 30% Design Plans and historic and archeological

resources studies. Partners who participated in these meetings include: 1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service; 10) Central Vermont Regional Planning Commission; 11) The Town of Washington staff and select board; 12) The Nature Conservancy; 13) Vermont Natural Resources Council; and 14) Central Vermont and Mad Dog Chapters of Trout Unlimited. The long list of partners reflects great enthusiasm for the project and its potential to address multiple benefits from hazard mitigation to water quality, trout habitat connectivity and stream equilibrium. Regulatory agencies have actively voiced comments throughout preliminary design such that we are very confident the design addresses all legal permitting obligations from an environmental and historical review perspective. We closed the preliminary design phase with finalized 30% design plans, a Draft Historic Resource Review and Archeological Resources Assessment Report by the University of Vermont Consulting Archeology Program under review by the State Historic Preservation Offices, and a benefit cost analysis which determined full project costs are outweighed by benefits.

WNRCD consulted with Dubois & King and Stone Environmental to develop a preliminary estimate on phosphorus and sediment removal benefits. Potential sediment removal ranges in estimate from 428,740 lbs to roughly 2,656,800 lbs. From the lower estimate, Stone Environmental surmised a removal of 375 lbs of total phosphorus or 112 lbs of bioavailable phosphorus based on a conservative methodology provided from an Agency of Natural Resource's working group.

Importantly, removal of Hands Mill Dam promises additional co-benefits which make it a priority project. The Vermont Fish and Wildlife Department recently identified the Jail Branch as a critical cold water tributary which supports high trout populations and which will serve as a temperature refuge as our water bodies statewide are impacted by climate change. Barring any natural bedrock barriers, removal of Hands Mill Dam would reconnect almost 15 miles of instream feeding and spawning habitat. Should the dam fail, vulnerable populations and infrastructure are located adjacent to and downstream from the dam all within the Town of Washington. East Barre Dam on the Stevens Branch prevents damage further downstream. A 2020 DSS Wise Lite Dam Flood Mapping Report from the Vermont Department of Environmental Conservation Dam Safety Division includes a Dam Failure Flood Inundation Map which reveals that a dam failure could potentially impact several road crossings, several homes and businesses, and a school downstream. Areas which could be inundated are Route 110, Creamery Road, the Town Clerk's office, and Washington Village School. This is the project benefiting area. The Division's analysis concludes a daytime population at risk (PAR) of 94 individuals which is roughly 9% of the total population of the Town (according to the 2010 US Census). Critically, three individuals live on the property immediately adjacent to and downstream of the dam and may experience loss of life if this hazard is not swiftly addressed. Please note this is a very conservative number. Recognizing that the town owns the dam, technically all town tax payers would be affected should the dam fail and the town be held liable for damages, and therefore all town tax payers benefit from the removal of this hazard. Since financial risk and impacts are not quantified, we must underestimate and assume only PAR from inundation would be impacted by the failure of Hands Mill Dam.

This EID is submitted as part of a CWSRF loan application to fund activities under final design (not construction). Throughout the course of 2021 we expect to finalize a 100% design plan, coordinate further public outreach and solicitation of comments, apply for and secure match funds, perform a Phase 1 archeological study for up to three sites that are listed as sensitive for pre-Contact Native American Archeological site within the project area (Phase 2 archeological study as well, if determined to be necessary), and secure some local permits.

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, permits from regulatory authorities, and mapping when available. Projects limited to the existing footprint of a building (e.g., a UV disinfection project) will not generally 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 SRF staff can issue a Categorical Exclusion or a Finding of No Significant Impact (FNSI). Please note that if the project does not meet the Categorical Exclusion criteria mentioned in VII.d.1 of the DWSRF State Environmental Review Process and/or Section VIII of the SRF Environmental Review Procedures, the authorized 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 responsibility of SRF review staff to independently evaluate and verify accuracy of information supplied in this environmental report. The SRF staff takes final responsibility for the scope and content of this environmental report. In order to expedite the application process and SRF 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 and mitigated. If a determination is made that an Environmental Assessment or an Environmental Impact Statement is required, the SRF staff will be responsible for initiating the preparation of this document internally or 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 among the funding agencies.

II.) Drinking Water Projects: 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

Wastewater projects: Will the project increase hydraulic (flow) treatment capacity by more than 20%, or increase influent 5-day biochemical oxygen demand (BOD5) organic treatment capacity by more than 30% ?  Yes  No Provide a capacity statement with a chart indicating the existing and proposed hydraulic and organic capacities and indicate the percent change. If there are differences in the permitted vs. physical capacities, include all capacity information.

III.) All projects: Will the project take place in an area designated by the Environmental Protection Agency as a Sole Source Aquifer?  Yes  No

IV.) Drinking water projects: Does the project call for a new withdrawal of groundwater or surface water?  Yes  No

Wastewater or stormwater projects: Does the project include a new discharge to surface water or groundwater?  Yes  No

V.) DRINKING WATER PROJECTS: 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 and/or the Vermont/EPA Clean Water Revolving Loan Program, based on the following environmental information and documentation?  Yes  No

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

VII.) Environmental Resource and Archeological Checklist

<u>Considerations</u>	<u>Yes or No</u>	<u>*Basis for Determination and Documentation</u>
<p><b>A.) Air Quality:</b>            Will there be any changes to air quality: emissions, noise, dust, odor, etc?            Is an Air Pollution Control Permit required? Is your digester unequipped and operated without a flare?            Other than the digester flare noted above, are there any other combustion devices at your facility, including but not limited to: stationary internal combustion engines such as diesel generators/ pumps, boilers or space heaters greater than 3 million BTU, or combustion turbines and/or boilers?</p> <p>Note: Emergency generators/pumps are only subject to limited requirements provided they are used strictly for emergency purposes (includes limited emergency demand response programs) and do not participate in peak shaving programs.</p>	No	<p><i>How has the project been designed to address air quality concerns? Attach Air Pollution Control Permit, if required. List agencies and groups consulted.</i></p> <p>We do not anticipate the project will impact air quality.</p>
<p><b>B.) Water Quality and Quantity:</b> Will there be negative direct impacts to water quality or quantity?</p>	No	<p><i>Discuss positive and negatives impacts to erosion, sedimentation, nutrients, groundwater, existing drinking water supplies</i></p> <p>We do not anticipate the project will have negative direct impacts to water quality or quantity. The project will restore natural flow and sediment transport throughout the Jail Branch in the project vicinity via dam removal. This will most likely result in reduced erosion in the area downstream of the existing dam, and sedimentation upstream of the dam.</p>
<p><b>C.) Wetlands/Water Resources:</b> Will there be construction in Class II or III wetlands?</p>	Yes	<p><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. List agencies and groups consulted.</i></p> <p>Wetlands delineation was completed summer 2020 and wetland boundaries are included in</p>

		<p>the 30% Design Plans. The dam impounds a roughly 2 acre pond which is now heavily sedimented in providing ideal wetland habitat. There are no mapped wetlands from the National Wetlands Inventory within the APE but the Vermont State Wetlands Program determined that a regulated Class 2 wetland is present. Removal of Hands Mill Dam is likely to significantly alter the hydrology of these wetlands. Project will likely qualify as an Allowed Use under Section 6 of the Vermont Wetland Rules. Project includes roughly 13386 cubic yards of sediment excavation and haul.</p>
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<p>D.) <u>Floodplains, Floodways and Fluvial Erosion Hazard Zones</u>(Flood Hazard Areas): Will the project involve construction in a 500 or 100 year floodplain, floodway or fluvial erosion hazard zone, or impact floodplain development?</p>	<p>Yes</p>	<p><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). Note: TR-16 and other standard require that Critical Infrastructure is expected to be protected from a 500-year flood event. List agencies and groups consulted. All projects must comply with EO 11988.</i></p> <p>Project will include stream channel and stream bank restoration to install a floodplain bench for natural flood control and is not expected to negatively impact the floodplain zone. The project includes construction of 0.41 acres of floodplain bench located directly adjacent to the pilot channel. This bench will contain the majority of floods post dam removal, and will also provide a means to minimize impacts to adjacent properties and infrastructure. There is no alternative to operating within the floodplain and wetland as the dam is currently located in the floodplain and is surrounded by the wetlands. The project purpose is to remove the dam. Project partners including the State Floodplain Manager and Wetlands staff have provided input on the designs to ensure construction activities minimize long-term impacts to the wetlands and floodplains. Project involves dam removal and dam is currently mapped by approximate methods as Zone A.</p>
<p>E.) <u>Stream Alterations</u>: Will the project involve construction in a stream?</p>	<p>Yes</p>	<p><i>A qualified consultant's assessment and/or the regulatory authority's determination must be attached for construction in streams. List agencies and groups consulted.</i></p>

		<p>Yes, the project involves the removal of a dam and construction components listed in D above. The dam has historically been an impediment to surface water flows and sediment transport, and aquatic organism passage and these natural processes will be restored with dam removal. The dam is currently categorized as a Significant Hazard dam by the VTDEC Dam Safety Program due to the potential for loss of life if the dam were to breach, and is recommended for removal. Project is located within the Jail Branch, a small stream tributary to the Winooski River. There are two unnamed tributaries that merge with the Jail Branch immediately upstream of the extent of ground disturbance. The first merges about 645 feet upstream from the dam, the second merges with the Jail Branch about 826 feet upstream from the dam. Both confluences are within 200 feet of the APE. Project will establish a new pilot channel for the Jail Branch within the project impact extent to include new streambank contours and a floodplain bench. Stream will also receive several grade control rock steps to control for any rapid change in elevation and prevent upstream migration of a head cut. No impact is expected for the upstream tributaries. Stone Environmental's September 2020 Field Memo (pg 6) provides geomorphic study of Jail Branch in and around the area of impact.</p> <p>Vermont Rivers Program and Vermont Dam Safety Division staff were consulted, letters attached.</p>
<p>F.) <u>Stream Crossings</u>: Will the project involve directional drilling under a stream and/or an aerial crossing over a stream?</p>	<p>No</p>	<p><i>How has the project been designed to address flood resiliency? List agencies and groups consulted.</i></p> <p>Dam removal will eliminate the existing risk of flooding due to dam failure. Design includes a 30ft wide floodplain bench on river left to match existing grades at bench limits as well as some additional floodplain storage on river right located where the dam currently sits. In total this adds roughly 0.41 acres or 17,859 square feet of new floodplain storage.</p> <p>Removal of the dam will lower the 100-year recurrence interval flood peak water surface elevation by approximately 14.64 feet in the vicinity of the dam, which greatly reduces the risk of flooding adjacent properties in the</p>

		<p>project area. The estimated Finished Floor Elevation (FFE) for the property adjacent to and immediately downstream of the dam (16 Woodchuck Hollow Road) is 1,269.40'. Under existing conditions the 100 and 500 year water surface elevations (WSE) for the site are 1,265.48' and 1,266.29' respectively. Under proposed conditions (dam removal and floodplain restoration) these values become 1,264.24' for the 100 year peak WSE and 1,265.33' for the 500 year peak WSE. Given this property is closest to the dam, we can assume that there is minimal to no residual risk expected because the 500 year WSE for proposed conditions is still below the existing FFE.</p>
G.) <u>Dam Safety</u> : Does the project involve impoundment of more than 500,000 CF of water?	No	<p>The current dam impounds more than 500,000 CF of water and sediment and is subject to the 10 V.S.A Chapter 43 dam regulations. Project proposes to remove this impoundment.</p>
H.) <u>Endangered Species</u> : Is the project likely to adversely affect an endangered or threatened species?	No	<p><i>A qualified consultant's assessment and/or the regulatory authority's determination must be attached demonstrating compliance with US Fish &amp; Wildlife guidance.</i>  <a href="http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm">http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm</a> List agencies and groups consulted.</p> <p>Vermont Fish and Wildlife Department (VFWD) and the USFWS staff were consulted to identify listed species. On 12.29.20 we consulted the Vermont Natural Resource Atlas - Natural Heritage Inventory (NHI) which includes a database of rare, threatened and endangered species and natural (plant) communities in Vermont. There are no mapped occurrences of rare, threatened or endangered species within the APE and VFWD correspondence attached indicates no concerns for aquatic or terrestrial species. The dam site is approximately 6.67 miles from the nearest known occurrence of federally listed Northern Long-eared Bats. The project site is considered "potential summer habitat" but not "known summer or winter habitat." There are 1213 acres of forested habitat within a mile of the project site and proposed vegetation clearing at the project site falls below threshold of concern (1%) for impact. VFWD supports the project to connect 14.7 miles of Eastern Native Brook Trout habitat.</p>
I.) Fish and Wildlife Coordination Act of		<p><a href="#">Fish and Wildlife Coordination Act (March 10,</a></p>

1934.		<a href="#">1934</a> ) (last updated July 9, 1965). See above.
J.) Magnuson–Stevens Fishery Conservation and Management: Will the project affect coastal fishing?	<b>No</b>	<b><i>Vermont does not have Exclusive Economic Zones.</i></b>
K.) Migratory Bird Treaty Act: Will the project affect migratory birds?	No	<i>For information about the MBTA please visit the following website:</i> <a href="https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php">https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php</a>
L.) <u>Historic Preservation</u> : Will the project adversely affect cultural resources such as archeological or historic sites and/or National Landmark?	Yes	<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. List agencies and groups consulted.</i>  The Area of Potential Effect (APE) includes or is in close proximity to the following buildings and structures older than 50 years: 1) Hands Mill Dam; 2) 16 Woodchuck Hollow Road, 3) a shed that is now part of 39 Woodchuck Hollow Road, 4) 110 Woodchuck Hollow Road; 5) 273 West Corinth Road, 6) 53 Vermette Lane, and 7) 111 Vermette Lane. Photos and original dates of construction are provided in the 2020 Draft Historic Resource Review and Archeological Resources Assessment Report (pgs 39 - 54). Diagram of property locations in relation to the APE is on page 41. Only the dam is recommended for significance and National Register eligibility and dam removal will result in an Adverse Effect so scope of work includes a Historic Resources Documentation Package and Historic Resource Mitigation (pg 64). 30% Design Plans (pg 6) show extent of ground disturbance totaling 1.45 acres largely instream and along graded contours. Total excavation volume is 13,940 CY, average depth of excavation is 5.97'. Designs show spatial relationship with three areas delineated as sensitive for pre-Contact Native American Archeological sites. Project is



		proceeding with Phase 1 and (if necessary) Phase 2 archeological work for these sites in 2021. The APE is recommended as not sensitive for historic period archaeological resources. Formal concurrence of State Historic Preservation Office is pending but attached is correspondence.
M.) <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	<p><i>For a listing of rivers on the Nationwide Rivers Inventory please visit the following website: <a href="http://www.nps.gov/ncrc/programs/rtca/nri/states/vt.html">http://www.nps.gov/ncrc/programs/rtca/nri/states/vt.html</a>) List agencies and groups consulted.</i></p> <p>1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>
N.) <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	<p><i>List agencies and groups consulted.</i></p> <p>1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>
O.) <u>Farmland</u> : Will the project convert Agricultural Soils to non-agricultural uses?	No	<p><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). List agencies and groups consulted.</i></p>
P.) <u>NEPA</u> : Is there a controversy with respect to environmental effects of the project based on reasonable and substantial issues?	No	<p><i>List agencies and groups consulted.</i></p> <p>Project has not undergone official NEPA review but We expect this project to meet criteria for a DHS-FEMA categorical exclusion (CATEX -N9) from NEPA based on communication with USACE. The following partners have been consulted throughout the project and this can be further explored during</p>

		<p>the 100% design phase.</p> <p>1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>
<p>Q.) <u>NEPA</u>: Is the project significantly greater in scope than normal projects for the area?</p>	No	<p><i>List agencies and groups consulted.</i></p> <p>Project has not undergone official NEPA review but We expect this project to meet criteria for a DHS-FEMA categorical exclusion (CATEX -N9) from NEPA based on communication with USACE. The following partners have been consulted throughout the project and this can be further explored during the 100% design phase.</p> <p>1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>
<p>R.) <u>NEPA</u>: Does the project have significant unusual characteristics?</p>	No	<p><i>List agencies and groups consulted.</i></p> <p>Project has not undergone official NEPA review but We expect this project to meet criteria for a DHS-FEMA categorical exclusion (CATEX -N9) from NEPA based on communication with USACE. The following partners have been consulted throughout the project and this can be further explored during the 100% design phase.</p> <p>1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>

<p>S.) <u>NEPA</u>: Does the project establish a precedent in principle about future action or represent a decision in principle about future actions with potentially significant environmental effects (cumulative impact based on current information)?</p>	<p>No</p>	<p><i>List agencies and groups consulted.</i>  Project has not undergone official NEPA review but We expect this project to meet criteria for a DHS-FEMA categorical exclusion (CATEX -N9) from NEPA based on communication with USACE. The following partners have been consulted throughout the project and this can be further explored during the 100% design phase.  1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>
<p>T.) <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?</p>	<p>No</p>	<p><i>List agencies and groups consulted.</i>  Project has not undergone official NEPA review but We expect this project to meet criteria for a DHS-FEMA categorical exclusion (CATEX -N9) from NEPA based on communication with USACE. The following partners have been consulted throughout the project and this can be further explored during the 100% design phase.  1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service</p>
<p>U.) <u>Population</u>: Will the project provide new drinking water facilities to serve populations of over 2000 persons, and/or wastewater or stormwater facilities in communities of over 10,000 persons?</p>	<p>No</p>	<p><i>Population data must be based on most recent US Census Data. List agencies and groups consulted.</i>  1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife</p>

		Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service
V.) <u>Socio-economics</u> : 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 and Yes	<i>List agencies and groups consulted.</i> No significant effects on quality of human environment. Project is cost-effective and has a BCR of 3.32. Vermont emergency management was consulted during the development of the Benefit Cost Analysis which was created using FEMA tools.
W.) <u>Land Use</u> : Is additional Land Use and Development Act (Act 250) review and approval necessary?	No	<i>A copy of the Project Review Sheet including the District Environmental Commission determination on Act 250 permit requirements must be attached.</i>  We don't believe this project falls under Act 250 but will explore this further and consult with Act 250 staff during the final design phase.
X.) <u>Growth</u> : Does the project contribute to growth outside of designated growth centers?	No	<i>Is the project located in a designated growth area? Attach copies of the Town Plan. Discuss using the Growth Center and Growth Management Document. List agencies and groups consulted.</i>  This is not a development project.
Y.) <u>Cumulative Impacts</u> : Will the project cause other significant environmental impacts, including secondary impacts?	No	<i>List agencies and groups consulted.</i>  1) The Vermont Department of Environmental Conservation (DEC) - Dam Safety Division; 2) DEC - Floodplains Manager; 3) DEC - River Management Program; 4) DEC - Wetlands Program; 5) Vermont State Historical Preservation Office; 6) Vermont Emergency Management; 7) Vermont Fish and Wildlife Department; 8) United States Army Corps of Engineers; 9) United States Fish and Wildlife Service

VIII.) Mitigation Measures and/or Alternative Plans of Action (if applicable, in order to minimize adverse effects) Explain how mitigation measures will be achieved and monitored (Special Grant Condition or review of Plans and Specifications). Remember to consider structural and non-structural methods.

<u>Affected Environmental or Archeological Resources</u>	<u>Mitigation Measures or Alternative Plan of Action</u>
A.) Floodplains and Wetlands	There is no alternative to operating within the floodplain and wetland as the dam is currently located in the floodplain and is surrounded by the wetlands. The project purpose is to remove the dam. Project partners including the State Floodplain Manager and Wetlands staff have provided input on the designs to ensure construction activities minimize long-term impacts to the wetlands and floodplains. VT Wetlands staff performed an in-field bio-assessment to determine whether the species community was likely to tolerate longer periods of drought given the lower flood elevation level and also confirmed the presence of several groundwater seeps from uphill that may continue to keep the site wet in the absence of the dam. Correspondence attached.
B.) Stream Alteration	The dam has historically been an impediment to surface water flows and sediment transport, and aquatic organism passage and these natural processes will be restored with dam removal. As such we believe removal of the dam will serve as a mitigation to a prior stream alteration.
C.) Historic and Archeological Resources	Only the dam is recommended for significance and National Register eligibility and dam removal will result in an Adverse Effect so scope of work includes a Historic Resources Documentation Package and Historic Resource Mitigation. Mitigation includes installation of a public-facing interpretive panel near the dam site that provides history on the dam, mill, and removal project. Designs show spatial relationship with three areas delineated as sensitive for pre-Contact Native American Archeological sites. Project is proceeding with Phase 1 and (if necessary) Phase 2 archeological work for these sites in 2021 to determine whether any other archeological resources are at risk.

Gianna Petito

3/3/2021

Winooski NRCD District Manager

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Prepared By

Date

Title

Karen Bates

3/3/2021

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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.