



Otter Creek Natural Resource Conservation District

REQUEST FOR PROPOSALS

BREADLOAF DAM REMOVAL FEASIBILITY AND PRELIMINARY ENGINEERING AND CONCEPT DESIGN

The Vermont Natural Resources Council (VNRC) is requesting that engineers who are licensed to practice in Vermont submit proposals for a comprehensive geomorphological assessment, preliminary (30%) design and sediment management plan for removal of Breadloaf Dam, located on Brandy Brook in Ripton, Vermont. **Proposals must be submitted in pdf format and emailed to kdailey@vnrc.org no later than 6:00 p.m. on October 15, 2021. Late proposals will not be considered.**

Background:

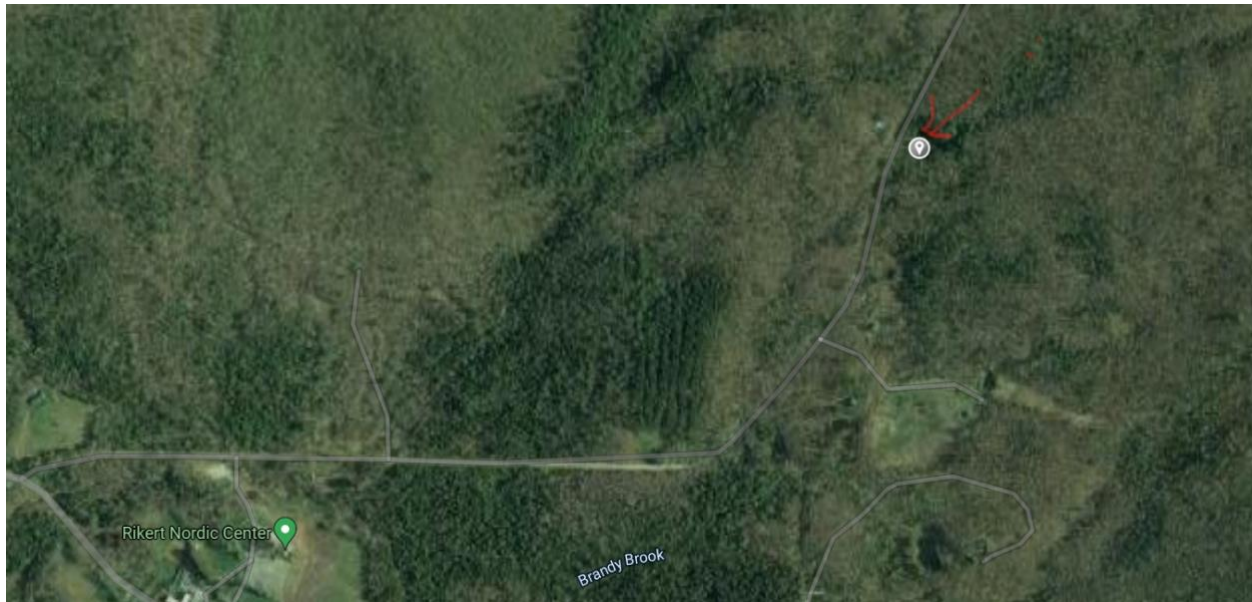
A removal design for the Breadloaf Dam is being undertaken as part of the Vermont Dam Removal Initiative, a project of VNRC funded by the U.S. Fish and Wildlife Service and by the Great Lakes Fishery Commission to the New England Interstate Water Pollution Control Commission (NEIW PCC) in partnership with the Lake Champlain Basin Program (LCBP). The goal of the initiative is to improve aquatic connectivity throughout the Lake Champlain watershed through identification and removal of dams that no longer serve a useful purpose. The Breadloaf Dam project is being undertaken by VNRC in partnership with the Otter Creek Natural Resources Conservation District (OCNRCD) and support from the landowner, Middlebury College. The consultant will work under the direction of VNRC.

Safety and Site Conditions: The dam sites have not been evaluated for safety. VNRC is not responsible for the safety of the Contractor. The Contractor assumes the risks of working in an outdoor environment.

Location:

The Breadloaf Dam (VT# 167.01) is located on Brandy Brook in Ripton, Vermont, approximately 1 mile up Steam Mill Rd. on the east side of the road. See the aerial photo below.

Coordinates: 43.961031 N, - 72.977634 W



Description:

A review of information on file at the Vermont Dam Safety Section was conducted for the Breadloaf Dam.

The Breadloaf Dam is the only dam located on Brandy Brook. The dam is a concrete gravity structure and is approximately 65 feet long and 16 feet high. The dam was built in 1937 to supply water for the Bread Loaf Campus of Middlebury College and for snowmaking at Rikert Nordic Center. The Outlet works does not appear to be operable and the impoundment is heavily silted in (VT Dam Safety). The college supports dam removal as the water supply is no longer used.

The removal of this dam will reconnect approximately 3.1 miles of high-quality brook trout spawning habitat and allow natural sediment transport to downstream waters.



Project:

VNRC would like to bring about the complete removal of this dam and associated structure, restoration of a free-flowing natural stream channel, and restoration of adjacent wetlands in order to improve in-stream and riparian habitat, water quality, flood resilience, and public access to river-based education and recreation opportunities.

Staff from US Fish and Wildlife Service, Green Mountain National Forest, VT DEC, and OCNRC have visited the dam, along with VNRC staff, to assess the potential to improve aquatic organism passage by removing the dam. It was concluded that the passage benefit supports removal of the dam. Additionally, the large volume of sediment impounded behind the dams and its possible release to receiving water bodies is of concern. Determining the volume of this sediment is a critical aspect of this project phase as it helps identify sediment management costs for the future dam removal phase.

The goals and objectives of the dam removal are to:

1. Restore dynamic stream equilibrium (i.e., stream's least erosive state) in the former impoundment and proximity of the former dam;
2. Improve the water quality of the stream or river in the project area and in downstream receiving waters such as ponds and lakes in the watershed; and
3. Restore wetlands in the former impoundment if present in the landscape.
4. Restore floodplain connectivity to lower flood water elevations to alleviate potential community flood hazards and risks of bank erosion and inundation;
5. Restore aquatic organism passage (AOP) for fish and aquatic organisms and wildlife; and
6. Restore connectivity of habitat blocks for bird life and terrestrial wildlife.

The Dam Removal Feasibility Study and Preliminary Engineering Design (conceptual - 30% design), funded by the LCBP, would be subject to broad public and stakeholder outreach to gather input for incorporation into the final design report. That report would serve as the foundation for completion of the 100% design in the next phase and, finally, removal of the dam.

Please provide a bid proposal for 30% design and basis of design report for removal of the dam structure to achieve AOP and restore stream equilibrium.

Scope of Work:

Feasibility Study and Preliminary Design

Review all existing information and complete required fieldwork and initial analysis for preliminary dam removal design, which is defined broadly as: *Preliminary determination of feasibility and design of a dam removal project to restore hydrologic connectivity of surface waters. Work includes determining landowner interest, site/design considerations, permitting needs, and overall suitability for implementing project. May involve feasibility or alternatives analysis.* This phase should include the following tasks.

1. Perform the surveying and probing necessary to determine if removing the dam structure will likely improve passage for brook trout (i.e. presence of natural bedrock barrier).
2. Determine the channel's natural bankfull width at the site of each dam.

3. Prepare a memorandum summarizing results and conclusions regarding the potential of removal to improve AOP.
4. Survey and characterize the longitudinal profile of the channel's thalweg and cross sections for the affected upstream and downstream reaches. The longitudinal profile should extend upstream past the end of the impoundment and downstream to a distance of 20-30x the bankfull width including well below the Steam Mill Road culvert.
5. Delineate wetlands adjacent to the channel throughout project limits.
6. Identify potential natural resource conflicts.
7. Document the extent and approximate dimensions of the wedges of deposited sediment upstream of each dam. Include an estimate of sediment volume for each dam, and outline sediment management alternatives for the dam removal. Recommend sediment sampling protocol for final design phase to characterize sediment and identify potential contaminants.
8. Model changes in floodplain inundation, channel patterns, and stream velocities that are likely to occur following dam removal.
9. Determine, using existing information, additional field investigations, and modeling results, the effect dam removal will have on the stability of any upstream or downstream infrastructure.
10. Prepare a conceptual (30%) design for the removal. The design would include items such as project boundary definition; adjoining landowner information; location of relevant utilities; extent of excavation; extent of mature woody vegetation in project area including a draft species list; estimate of each dam's concrete removal volume; estimate of sediment removal volume(s); location of likely access points and potential access stabilization measures.
11. Prepare a final report, including preliminary design drawings and design memorandum (30% completion level)
12. Opinion of probable costs for final design and implementation phases
13. Stakeholder meetings. Meetings with landowners, regulators, funders, and other interested parties may be required as part of the process; please include your cost for preparation, travel to and attendance at four such meetings.
14. Permit Consultation. The contractor will identify all local, state, and federal permits that would be required for implementation.

Funding and Method of Payment:

Funding for this RFP has been secured. Funding originates from an agreement between the LCBP and VNRC. All payments will be made after satisfactory completion of each deliverable as outlined in an agreement between VNRC and the selected entity.

Project Timeline:

Date	Item
October 1, 2021	Request for Proposals issued
October 8, 2021	Deadline for submission of questions in writing
October 12, 2021	Response to questions issued by VNRC
October 15, 2021	Proposals Due by email
October 23, 2021	Contractor Notification
October 27, 2021	Contract Start
February 5, 2022	Work Complete

Proposal Content:

All proposals must include the following information:

- Proposals must clearly address each of the selection criteria identified in this RFP.
- A detailed scope of work describing how the deliverables will be met. Specific tasks need to be thoroughly described.
- A complete and detailed deliverables table.
- A schedule identifying major project milestones.
- A statement identifying individuals and related qualifications (i.e. resumes or CVs) of those who were involved in the preparation of the proposal as well as a single point of contact.
- A detailed description of the organization’s experience with similar engineering work.
- A description of any tasks that will be subcontracted, including the names of possible subcontractors.
- A cost breakdown sheet in response to the scope of work:
 - Itemized breakdown of labor/equipment rates;
 - Estimated hours, materials, subcontractor costs (if applicable) per item;
 - Cumulative total of direct expenses.

All questions are required to be submitted via email to Karina Dailey at kdailey@vnrc.org by October 8, 4:00 p.m. using the subject line “Breadloaf RFP Questions.” Answers will be emailed to all recipients of this RFP and any additional entities that submitted questions by October 12, 4:00 p.m.

All proposals must be submitted via email in pdf format to Karina Dailey (kdailey@vnrc.org) no later than 6:00 p.m. on October 15, 2021, using the subject line “Breadloaf RFP. Late proposals will not be considered. Evaluations will be completed by October 23, 2021 and all respondents will be promptly notified.

Type of Contract:

It is proposed that, if a contract is entered into as a result of this RFP, it would be a fixed price

contract for the Scope of Work, above. Negotiations may be undertaken with those engineers whose proposals, as cost and other factors show them to be qualified, responsive, responsible and capable of performing the work.

Selection:

Proposals will be reviewed by a Selection Committee, and will be read by VNRC's Restoration Ecologist. Selection will be based on the following criteria:

- Summary of qualifications, timing (schedule), cost, and references
- Prior river restoration experience in Vermont
- Successfully designed and implemented dam removal projects.

VNRC reserves the right to amend, modify or withdraw this RFP, require supplemental information from candidates, reject any or all proposals received, and negotiate separately with competing candidates.