South Lake Champlain Basin Water Quality Council (BWQC)
May 29, 2024, at 3:00 PM

Online
https://tinyurl.com/msbfh3b7
Phone 802-440-1368 Conference ID: 351 402 136##
In Person
67 Merchants Row, Downtown Rutland, 3rd Floor Conference Room, Rutland Regional Planning Commission

Welcome

Approval of the Agenda

Approval of Minutes – February 28, 2024

Review of six RFP Round 5 projects

- Addison Gully, Addison
- Butler Gully, Fair Haven
- Macomber Gullies, Fair Haven
- Macomber Stream Restoration, Fair Haven
- West Crystal Haven, Castleton
- 133 On the Green, East Poultney

Rolling RFPs for Projects?

Rolling RFQs for Pre-Qualified Subgrantees and Subcontractors

BWQC term renewals

Operations & Maintenance training
(https://dec.vermont.gov/water-investment/cwi/projects/verification)

Public Comment

Next meeting – August?

Adjournment

South Lake Champlain Basin Water Quality Council (BWQC)
February 28, 2024, 3:00 pm
Online and in-person at the Rutland Regional Planning Commission offices.

Meeting Minutes

Council Members present: Erin Rodgers, chair (TU); Mike Winslow (ACRPC); Katy Crumley (PMNRCD), Dan Redondo (Town of Orwell), and Paul Donaldson (Town of Poultney)

Staff present: Hilary Solomon (PMNRCD/CWSP), Barbara Noyes Pulling (RRPC/CWSP), and Devon Neary (RRPC/CWSP)

VTDEC present: Angie Allen, Basin Planner

CALL TO ORDER
The meeting was called to order by Erin Rodgers at 3:03 pm.

APPROVE AGENDA
Motion to approve the agenda was made by Dan Redondo and seconded by Mike Winslow. The agenda was approved as written.

APPROVE MINUTES
Dan Redondo moved to approve the minutes from the November 21, 2023, meeting, and Katy Crumley seconded. The minutes were approved as written.

REVIEW of RFP ROUND PROJECT
Castleton Village School Stormwater Treatment, Castleton

This project was from the Round 4 RFP for South Lake CWSP funding. The Town of Castleton submitted the project application. Hilary Solomon introduced the project, which had been identified by a downtown Castleton stormwater scoping study in 2022-2023. Fuss and O'Neill was the contractor, and Poultney Mettowee NRCD managed the project. The project was the highest-ranking project from the stormwater study and the town is enthusiastic to implement it, as they are considering retrofitting the entire stormwater drainage system in that downtown area. The project consists of infiltration modules being installed under the Castleton Village School basketball courts. The project is a final design, and the request is for $26,000. The projected phosphorus reduction is 7.2 kg/yr.

Barbara Noyes Pulling explained the staff and DEC review process. Angie Allen had requested several changes to the Eligibility Screening Form. Those changes were made by staff and she now supports the project. Barbara Noyes Pulling performed the staff review and explained in scoring the project she used a very conservative approach by adding the expected implementation costs into the scoring. That is a departure from our scoring for most earlier projects which did not have implementation estimates. As a result, the overall score is 40 out of 100. It is 10 (out of 50) for cost benefit due to the high cost of stormwater projects, 10 (out of 10) for relatively straightforward Operations and Maintenance, and 10 (out of 10) for local importance (listed in SWMP). The co-benefits score is estimated to be another 10 (out of 20). Despite the low score, she indicated staff nevertheless supports this project and anticipates a higher overall score due to more phosphorus reduction than projected.

During the BWQC discussion, Dan Redondo asked if the school was still using the property and if we limiting the uses of the property if we install this project and do not know what the final uses will be? Staff said that the town had submitted the application, and they own the land, so we assume they are in favor of the project, no matter what the final use of the property is.

Katy Crumley wondered if there are other pots of funds that we might use, if this project is too expensive and does not meet our efficiency goals? Options like the LCBP Healthy Ecosystems Funds were discussed, which Angie noted had increased their per project limits, so that they might offer substantial funds for a project like this.

Mike Winslow made a motion to give the CWSP the option to fund the project and Dan Redondo seconded. The motion passed unanimously and the CWSP will work with the Town of Castleton to secure a contract.

UPDATE ON EARLY-STAGE FUNDS

Hilary Solomon informed the group that five projects have been identified as appropriate for the early-stage funds. An RFP went out to four approved/qualified contractors last week and three of them bid on the projects. Staff will review the bids and notify the consultants by the end of this week. The projects include multiple gullies from Pawlet to Addison, and a stormwater project near Crystal Beach on Lake Bomoseen. The gullies are a little tricky as only one definition or gully project type exists in the CWIP funding policy and that is for a stormwater practice, with the focus being slowing or stopping the water flowing to the gully. This will be part of the focus of the early-stage work, figuring out if the project is fundable.

ROLLING RFQs for PRE-QUALIFIED SUBGRANTEES AND SUBCONTRACTORS

Staff explained that we have several potential subgrantees and one subcontractor interested in submitting their qualifications. We are accepting them on a rolling basis but are making a concerted effort to reach out to groups who have expressed interest in February and March, while we are between grant rounds.

THRESHOLD for PROJECT COST EFFICIENCY

Staff explained to the group that DEC is aware that its formula to score the cost efficiency of projects does not always take into account the actual costs of projects. As an alternative, it has asked CWSPs and BWQCs to come up with thresholds for how much they are willing to spend on projects.

Mike Winslow suggested we wait until we have more projects.

Katy Crumley said that we did not have enough information about implementation project types and costs, nor did we have enough projects to make this decision. She wondered if we should at least consider creating a threshold that we could adjust over time?

Erin Rodgers noted that we should either wait or set a limit so high that it would not exclude projects, so that we could at least discuss them as a group and make individual decisions.

Barbara Noyes Pulling suggested funding the potentially cost-effective projects and then waiting to fund the more expensive ones until we see if we will have money remaining at the end of the grant.

Mike Winslow reminded us that we had one implementation project so far and did not think that was enough information to determine a threshold. He suggested that we make a motion to not consider a threshold until we have funded at least ten implementation projects. Dan Redondo seconded and acknowledged the need to get more projects completed before setting a limit on projects we will discuss. He also asked about how to get towns more involved, and we discussed methods to market the grant rounds. The motion to wait until we had funded ten implementation projects before setting an efficiency threshold passed unanimously.

CWSP SUMMIT – APRIL 5, WATERBURY
Barbara Noyes Pulling informed members that they were invited to the Clean Water Service Network Summit on April 5 in Waterbury. It is an all-day event, in-person only, and will cover such topics as the vision of Act 76 in 2019 and where we are now, comments from each CWSP, projects toward phosphorus targets and capacity building, project segment updates, and identifying and developing projects.

PUBLIC COMMENT
None.

NEXT MEETING
A poll will be sent out to set a meeting during the last half of May.

ADJOURNMENT
The meeting was adjourned by Erin Rodgers at 3:58 PM.

Following the meeting, BWQC member Mike Winslow emailed to staff some additional thoughts on the threshold discussion:
I was thinking more about the P cost efficiency thresholds this morning. I thought, as a BWQC member, how do I make decisions about which projects to fund. The answer is really that I follow the recommendation of the CWSP, unless something comes up in the discussion to steer me in another direction. It's the CWSP that's responsible for meeting P reduction goals with the funds available, so if the CWSP says we should fund a project, chances are I'll vote to fund the project. In practical terms, that means it would be the CWSP that sets the P reduction threshold, at least for this one member.

Respectfully submitted by Barbara Noyes Pulling & Hilary Solomon

PROJECT APPLICATION FOR THE SOUTH LAKE CWSP
ROUND 5: MAY 2024

Cover Page Information

Contact Information: South Lake Champlain (SLC) CWSP; Hilary Solomon and Barbara Noyes-Pulling

Hilary Solomon, PMNRCD
Po Box 209, Poultney, VT 05764
(802) 558-3515 / hilary@pmnrcd.org

Barbara Noyes-Pulling, RRPC
PO Box 430, Rutland, VT 05702
(802) 775-0871 x207 / barbara@rutlandrpc.org

Project Name: Addison Gully and Stormwater Infiltration Project

Project ID number: In progress

Project Location: South Lake Champlain Direct Watershed, Lake Champlain, 3256 Lake St, Addison

Project Type: Stormwater – Conceptual Design

Project Sector: Developed Lands and Ag Lands

Project Stage: Conceptual (30%) Design

Funds being requested: $27,840
Matching funds: $0

Project Summary

This project consists of two drainage areas, two gullies, and a wetland. The South Lake CWSP used their early-stage funds to hire Watershed Consulting Associates (WCA), Andres Torizzo, quantify the potential phosphorus mitigation through project installations at this site and to estimate the cost of those potential projects.

The total watershed area for this project is quite large, encompassing 104 mostly agricultural areas and crossing Lake Street in two locations. The initial phosphorus treatment estimate is roughly 35.29 kg per year at a potential cost of $880,000 ($24,000 average per kg reduction).

Project Description

The project includes building a sand filter upstream of the cross culverts on Lake Street to mitigate nutrients and attenuate some stormwater flow before sending water through the culverts to the former gullies. The gullies will be stabilized to protect against farther erosion. There is a small wetland at the bottom of the gullies, which join at the wetland and then discharge to Lake Champlain.

The South Lake CWSP will hire a consultant to create a conceptual stormwater design that maximizes the volume of water and nutrients treated. CWSP staff will work with local DEC regulators to permit the project and will get a signed site access agreement (written documentation allowing access would precede any design work). The landowners are very enthusiastic about this project.

The goals of this project include:

- Create a conceptual design to maximize phosphorus mitigation and stormwater infiltration,
- Get a signed site access agreement from involved landowners Lori and Tom Thompson.
- Finalize the potential project efficiencies (cost per kg phosphorus reduced) based on DEC recommendations and the CWIP funding policy. The design will include phosphorus calculation/interim phosphorus calculator outputs with some detail about the parameters used and major assumptions. The CWSP will use accepted DEC tools, such as the DEC Stormwater Treatment Practice Calculator.
- Additionally, the CWSP will manage, track, and report the results of this project per DEC requirements and will interface with Vermont DEC technical staff as needed.

Applicable strategies from the 2022 South Lake Tactical Basin Plan:

- Strategy 13: Provide technical assistance and funding to develop high and medium priority projects.
- Strategy 15: Implement high and medium priority stormwater projects from SWMPs and stormwater mapping reports.

Conceptual Design Definition: Preliminary design of high priority Tier 1 or Tier 2 stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient, sediment and/or other contaminant pollution from hard surfaces associated with developed/urban/suburban areas. Work must result in at least 30% design of project. Refer to most updated Vermont Stormwater Management Manual for more information on Tier 1 and Tier 2 practices.

Applicable Milestones from the 2023 CWIP Funding Policy:

- Project initiated; proposal/bid solicitations issued and contractor selected (if applicable)
- Conceptual site plan drafted
- Stakeholder meetings
- **Other permit-required assessments or plans completed** (if applicable)
- Preliminary (30%) design complete
- **Preliminary VDHP Project Review** (if applicable)
- Project complete

Project Budget

Table 1: Budget for the Addison Gully Preliminary Design

Category	Amount	Match	Total
Personnel	$3840	Potentially, yes	$3840
Fringe	Included in rate		$0
Travel	N/A		$0
Supplies	N/A		$0
Professional Services	$24,000		$24,000
Indirect	Included in rate		$0
Total	$27,840		$27,840

Budget Narrative

Personnel: The South Lake CWSP will provide staff to manage this project. The project management costs will be up to 15% of the project budget.

Professional services: Up to $24,000 will be used to hire a consultant to complete a conceptual design with needed permitting, VDHP review, and operations and maintenance planning steps included.

Match will occur when partners and stakeholders are involved with site visits, meetings, and stakeholder meetings. Match will be recorded and submitted for DEC use, as requested.

Indirect: Indirect is included in staff hourly rates. RRPC has an approved indirect rate and the PMNRCD indirect rate is 10%.

Project Eligibility Screening from CWIP Funding Policy Appendix A

- Please find the CWIP project eligibility screening form attached.
- In addition, a memo from WCA begins on the next page.

Memorandum

To: Barbara Noyes-Pulling, Senior Planner, Rutland Regional Planning Commission
Hilary Solomon, District Manager, Poultney-Mettowee Natural Resources Conservation District

From: Watershed Consulting

Date: May 15, 2024

Re: ***Addison Gully Existing Conditions Review***

Attachments:

A. *Addison Gully Map*
B. *Addison Gully Permitting Correspondence*
C. *Addison Gully Cost Effectiveness Table*

Dear Barbara,

This memorandum serves to summarize the work completed to date by Watershed Consulting on the gully erosion occurring at 3256 Lake Street in Addison and the associated findings. A summary of the site visit completed on April 25th, 2024, drainage summary, soils description, recommended interventions, cost estimate, and phosphorus reduction calculations are detailed below.

Sincerely,

Andres Torizzo, Principal

Site Visit

Watershed Consulting completed a site visit to the gully located at 3256 Lake Street in Addison on April 25th, 2024. Watershed Consulting was met by Alison Marchione of the Vermont Lake Wise Program and Hilary Solomon of the Poultney-Mettowee Natural Resources Conservation District (PMNRCD). The group walked the edge of the gully and descended to the gully mouth to view the outlet into the lake. It was found that the original gully converges with a neighboring stream/gully area originating at the next culvert crossing to the north. Sediment deposition was noted at the convergence of the two gullies.

The two culverts passing beneath Lake Street and outleting into the two gully heads were located and inspected. The group then walked along the eastern edge of Lake Street to view the upper drainage areas to the two gullies to consider potential best management practice locations and landowner engagement opportunities.

Soil Characterization

The soils on-site are mapped as Vergennes clay of varying slope ranges (VgB, VgD), Hydrologic Soil Group D. A brief soils characterization was completed during the site visit, where 8 inches of soil were removed via hand auger from the top of the gully bank. The soil was confirmed to be dry, brown clay. There was not a clear organic layer present, despite the sample being taken on the forest floor.

Vergennes clay is a poorly drained soil with a high runoff potential. This means that infiltration practices using the native soils are likely infeasible.

Proposed Interventions

Four main intervention areas are proposed. An underdrained sand filter is recommended on the west side of the road culvert leading into the main gully. Another underdrained sand filter is recommended adjacent to the next road culvert to the north to manage the stream gully. Both filters will work to capture and filter stormwater flows so that sediment can be removed before runoff drains further into the channel. This will allow the perennial channels to remain while reducing erosive velocities and sediment loading into Lake Champlain. The stream culvert to the north is also recommended to be upsized to 1.2x bankfull width to reduce the concentrated high energy flows due to channel constrictions. The stream appears healthy upstream of the culvert, implying that the culvert constricting flow may be a cause of downstream issues. Finally, it is recommended that the gully bottom has stream stone applied to trap sediment and to fill the erosion caused by previous high flows. This multi-layered stone application will function as a stream bottom restoration, filling in gradually and naturally. See Attachment A for a map of the area and proposed interventions.

Permitting Summary

VT DEC Wetlands has visited the site and identified a Class II wetlands in the lower reaches of the southern gully at the toe of the slope, where the channel meets a larger stream from the north. Wetlands concerns were not identified in the upper portions of the project area. The Vermont Significant Wetlands Inventory (VSWI) identified a wetland to the east of Lake Street in one of the proposed sand filter areas, however this wetland has yet to be reviewed. Impacts to these areas of the site within the wetland and buffer will likely

require a wetland permit, however it is still possible that the design may be able to avoid these natural resource conflicts entirely. Additionally, stabilization of the south channel/gully is proposed to be done with naturalized streambed stone and vegetated soft armoring techniques to replicate a natural stream channel. Permit requirements for this proposed work will need to be verified. It is anticipated that the State and potentially United States Army Corps of Engineers (USACE) Wetlands permits will be required for the culvert upgrade along the north channel. DEC Rivers and Floodplains may need to be engaged with the culvert replacement as the north channel contains a stream in the NHD database. See Appendix B for correspondence regarding permitting for the site.

Phosphorus Reduction Calculations and Cost Estimate

The Developed Lands methodology was used to calculate the phosphorus reduction for the gully restoration as the gully is primarily a result of stormwater from developed lands. This methodology considered the gully's size (linear length, average depth, and average width) and age of approximately 30 years. The phosphorus reduction is estimated to be 24.22 kg/yr.

The two proposed sand filters, located at the north and south culverts crossing Lake Street, will remove 2.2 kg/yr and 4.84 kg/yr respectively.

The culvert replacement for the north channel/gully is estimated to remove 4.04 kg/yr.

The preliminary cost estimate for the proposed suite of interventions, including design and implementation costs, is $880,000.

Proposed Intervention	30/60/90/100 Design	Implementation
Sand Filter N		$150,000
Sand Filter S		$150,000
S Channel Armor		$250,000
N Channel culvert upgrade		$250,000
	$80,000	$800,000
		$880,000

The table below shows the estimated costs, phosphorus reductions, predicted design life, and estimated cost effectiveness ($/kg/yr/design life) of each proposed intervention. See Attachment C for the complete cost effectiveness table.

Proposed Intervention	30/60/90/100 Design	Implementation	P Reduction (kg/yr)	Design Life	Cost Effectiveness ($/kg/yr/lifespan)
Sand Filter N		$150,000	2.2	20	$3,409.09
Sand Filter S		$150,000	4.84	20	$1,549.59
S Channel Armor		$250,000	24.22	8	$1,290.49
N Channel culvert upgrade		$250,000	4.04	10	$6,192.77
	$80,000	$800,000			
Total		**$880,000**	**35.29**		

Attachment A

DA_5

DA_4

DA_3

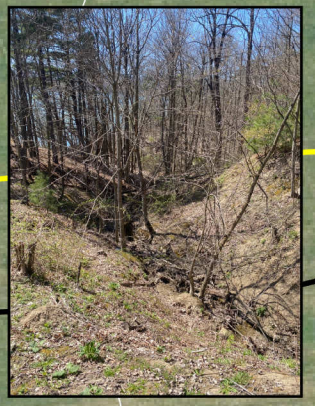
DA_2

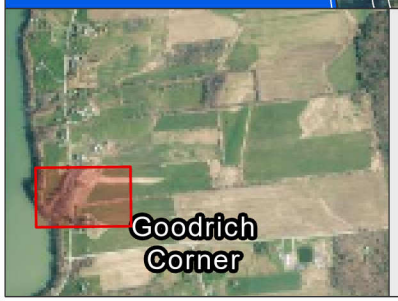
DA_1

Bridge culvert upgraded to 1.2x bankfull to reduce concentrated flows.

Under-drained sand filters discharging to stream gullies.

Stream stone application along gully bottom to trap sediment and fill erosion.





Addison Gully

3256 Lake Street, Addison, VT

Map Date: 5/15/2024

Legend

- Drainage Area
- Lake Champlain
- Stream
- VSWI Wetlands
- Culverts
- Proposed Feature Footprint
- Gully Centerline

0 90 180 Feet

Scale: 1" = 140'

N

VWATERSHED CONSULTING

Hilary – I just sent you the follow up e mail I had from Zapata about the wetland. NRCS's engineer was pretty sure that all the work would be done upstream and wouldn't impact the wetland.

Shannon Pytlik from the Rivers program also did a site visit. I don't have anything written from her so you may want to send this sheet her way too for any additional info. I believe she determined this to not be a perennial stream and not jurisdictional but that was more than a year ago so there may have been more that she said about it.

As far as the project types go, I think this project fits the type, except possibly the requirement to address upstream water flow. The water is coming from the road ditch, which is outletting in a bad spot, but the water going into the road ditch comes mainly from the ag field across the street, which is a different landowner (some parcel maps show them as the same owner, but they have been subdivided). When I was out there with NRCS we discussed what the potential cause of the draining ag field might be (possible tile drains? Though we didn't see any concrete evidence). We also discussed the possibility that the issue is more/more frequent/more intense weather which is something that we will obviously not be able to address and something our clean water policy also doesn't acknowledge.

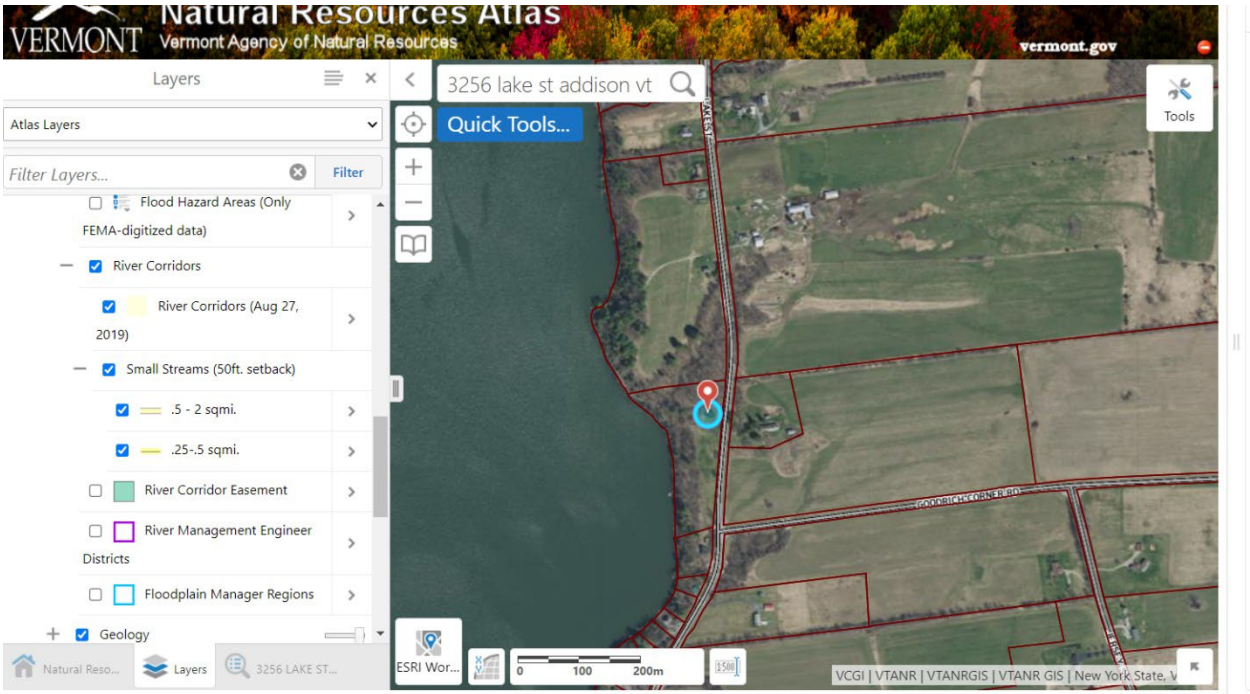
Hope that info is helpful! I think that the field sheet looks good and has all the other info that I have.

Let me know if you get in touch with Tom,
Alison

From: Courage, Zapata <Zapata.Courage@vermont.gov>
Sent: Thursday, April 13, 2023 2:14 PM
To: Marchione, Alison <Alison.Marchione@vermont.gov>; Pytlik, Shannon <Shannon.Pytlik@vermont.gov>; Allen, Angie <Angie.Allen@vermont.gov>
Cc: Lori Thompson <lori.thompson@arvig.net>
Subject: RE: Gully Erosion #2023-0074

Hello ladies,
Lori, sorry not to have connected with you, but you had a beehive of activity happening at the house and wasn't sure how to even let you know that I was there. So, I just went ahead and walked down the gully to the lake. Here is my site visit report.

There is a wetland at the toe-of-slope where the small stream comes together with the gully runoff. It is approximately here as shown in green. I have also hung wetland delineation flagging along this boundary in the field, so that the points can be picked up if needed.



So, depending on what your design is, any proposed activities within the wetland or 50-ft might require a wetland permit. As I mentioned before, typically we can approve gully erosion projects as an allowed use (no wetland permit) if soft techniques are used instead of hard techniques like armoring. Once you have a final design, I can review and we can discuss further if needed.

Thank you,
Zapata

Zapata Courage | District Wetland Ecologist
Addison & Rutland Counties and the Towns of Rupert, Peru, Dorset, Landgrove, Manchester, Winhall, Sandgate of Bennington Co. and Stockbridge and Rochester of Windsor Co.

The Department of Environmental Conservation supports telework, and there are times when I may be working from another office location or out in the field. I am available to connect by phone and email. I am also available to connect in-person upon request.

Vermont Department of Environmental Conservation
Watershed Management Division | Wetlands Program
450 Asa Bloomer State Office Building
88 Merchants Row | Rutland, VT 05701
802-490-6179 (cell)
https://dec.vermont.gov/watershed/wetlands

From: Marchione, Alison
Sent: Thursday, April 6, 2023 3:36 PM

To: Pytlik, Shannon <Shannon.Pytlik@vermont.gov>; Courage, Zapata <Zapata.Courage@vermont.gov>; Allen, Angie <Angie.Allen@vermont.gov>
Subject: RE: Gully Erosion #2023-0074

Hi Folks – Looks like the NRCS engineer will be on site on April 11th. I am going to try and be out there for that, I don't have a time yet though. I realize this is short notice so if either Shannon or Angie can join – great. If not we will figure something out a little further down the road. Zapata I just sent another email to you about the 12th, looping Lori, the landowner, in on your visit.

From: Marchione, Alison <Alison.Marchione@vermont.gov>
Sent: Tuesday, March 28, 2023 4:19 PM
To: Courage, Zapata <Zapata.Courage@vermont.gov>; Pytlik, Shannon <Shannon.Pytlik@vermont.gov>
Cc: Allen, Angie <Angie.Allen@vermont.gov>
Subject: RE: Gully Erosion #2023-0074

Hi Folks –

As we inch closer and closer to spring I am hoping to make some progress on this project. I was wondering if we could schedule a site visit for some time in April or early May to visit this property. The landowner is working with NRCS to use RCPP funds to stabilize the gully. Their next step is to have an engineer visit the site. If desired, I can coordinate with them so we can visit at the same time as the engineer.

Please let me know,
Thank you!
Alison

From: Courage, Zapata <Zapata.Courage@vermont.gov>
Sent: Tuesday, February 7, 2023 4:14 PM
To: Pytlik, Shannon <Shannon.Pytlik@vermont.gov>; Marchione, Alison <Alison.Marchione@vermont.gov>
Cc: Allen, Angie <Angie.Allen@vermont.gov>
Subject: RE: Gully Erosion #2023-0074

Hello ladies,
My project star was in review of a potential addition on the south side of the existing house. In doing so I looked at the gully area that runs right behind the house and this is what I had to say with street view photos as part of my review.

There may be wetlands at toe of slope in the gully that runs on the north side of the house where it enters the lake, and at the toe of slope at lake edge. I don't have wetland concerns at the top of the gully near the road.

We would want to evaluate the areas closest to the lake and where you might be proposing fill or other ground disturbance to see if wetlands are present (need to do this during the growing season). Typically we can approve gully erosion projects as an allowed use (no wetland permit) if soft techniques are used instead of hard techniques like armoring.

I will assign this a new star, so please reference 2023-0074 in the future.

Alison, you may also want to check with ACOE because of the direct connectivity to the Lake regarding approvals or permits. They make take jurisdiction even if the stream is only intermittent/ephemeral.

Let me know if you have questions and Cheers,
Zapata

Zapata Courage | District Wetland Ecologist
Addison & Rutland Counties and the Towns of Rupert, Peru, Dorset, Landgrove, Stockbridge and Rochester

The Department of Environmental Conservation supports telework, and there are times when I may be working from another office location or out in the field. I am available to connect by phone and email. I am also available to connect in-person upon request.

Vermont Department of Environmental Conservation
Watershed Management Division | Wetlands Program
450 Asa Bloomer State Office Building
88 Merchants Row | Rutland, VT 05701
802-490-6179 (cell)
https://dec.vermont.gov/watershed/wetlands

From: Pytlik, Shannon <Shannon.Pytlik@vermont.gov>
Sent: Monday, January 30, 2023 12:43 PM
To: Marchione, Alison <Alison.Marchione@vermont.gov>
Cc: Allen, Angie <Angie.Allen@vermont.gov>; Courage, Zapata <Zapata.Courage@vermont.gov>
Subject: RE: Gully Erosion

Hi Alison – Thanks for the email. I did a little digging and I found some info on that site that may be helpful. I attached two maps.

- The first map shows the 1' contours and you can see the gully, and the stream/gully it flows into, very clearly

- The other map shows the lakeshore protections zone, mapped wetlands and the star indicates this site is in the wetlands database. It's project 2022-0242 and Zapata Courage is the wetlands ecologist for that region so may know something about the gully erosion. I included Zap on this email so she is aware of a potential project.

The gully does not show up as a stream on the Atlas. It is impossible to know it is not a stream for sure without visiting the site. Do you happen to have any pictures? Either way I believe the water quality funds can be used on gullies that are not a stream as well.

For funding sources I think the ACRPC has an rfp out now for projects and maybe a scoping grant would be a good place to start. Here is the link to that application: https://acrpc.org/wp-content/uploads/2023/01/Otter_Creek_CWSP_RFP_Application.pdf

I included Angie Allen, the watershed planner, on this email so she is aware and may have additional ideas for funding.

Take Care, Shannon

Shannon Pytlik
Vermont Department of Environmental Conservation
Watershed Management Division, Rivers Program
88 Merchants Row
450 Asa Bloomer State Bldg | Rutland, VT 05701
802-490-6158
website.vermont.gov

Division staff contact information can be found online here: https://dec.vermont.gov/watershed/contacts.

Marchione, Alison Jan 17, 2024, 2:02 PM

Hi Lori, Hope you're doing well! I know we haven't spoken about your gully erosion issues in awhile but I think we may have come up with a potential funding sol

M

Marchione, Alison Jan 24, 2024, 11:35 AM (12 days ago)

to Lori, hilary, Barbara

Hi Lori – just checking in on this to see if we can find some time to meet? We might need to push it back into February depending on everyone's schedule. I'm going to look around to see if I still have your number and try giving you a call too. Hope you're well!

Alison

Alison Marchione
Shoreland Restoration Ecologist
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermont.gov
www.watershedmanagement.vermont.gov

From: Marchione, Alison
Sent: Wednesday, January 17, 2024 2:02 PM
To: Lori Thompson <lori.thompson@arvig.net>
Cc: Hilary <hilary@pmnrcd.org>; Barbara Noyes-Pulling <barbara@rutlandrpc.org>
Subject: Gully Erosion

Hi Lori,

Hope you're doing well! I know we haven't spoken about your gully erosion issues in awhile but I think we may have come up with a potential funding solution for you. The Rutland Regional Planning Commission (Rutland RPC) along with Poultney Mettowee Natural Resource Conservation District (PMNRCD) make up the South Lake Champlain Clean Water Service Provider (CWSP) and they may have potential funding to look at your gully and others in the area heading into Lake Champlain and potentially find some solutions. I have copied Barbara Noyes-Pulling with Rutland RPC and Hilary Solomon with PMNRCD on this email. We'd like to set up a time in the next few weeks (weather and snow permitting) to come take a look at the gully. Are you around in the next two weeks? Between Jan 22nd and Feb 2?

Let us know,
Alison

Alison Marchione
Shoreland Restoration Ecologist
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermont.gov
www.watershedmanagement.vermont.gov

M

Marchione, Alison — Jan 26, 2024, 11:20 AM (10 days ago)

to hilary, Barbara

I got this from Lori yesterday. I suspected they might not be in Vermont right now. Just some more info for you.

Alison Marchione
Shoreland Restoration Ecologist

1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermont.gov
www.watershedmanagement.vermont.gov

From: lori.thompson@arvig.net <lori.thompson@arvig.net>
Sent: Thursday, January 25, 2024 3:31 PM
To: Marchione, Alison <Alison.Marchione@vermont.gov>
Subject: Re: Gully Erosion

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.
Hi again.

Tom will respond. However u indicated this was time sensitive. We are not in Vermont at the current time so we may need to have our neighbor Fred Jaquish meet you or wait until Tom is flying back to Vermont. The other option is for you to a site visit with those individuals. I certainly feel okay with that.

Other option is to have Randy from Earth Works our excavator meet with you since he has been working on the project that we started last fall. I am not sure if he would do this or not but if so we can work something out.

Let me know what you think.

Lori

Get Outlook for iOS

From: Marchione, Alison <Alison.Marchione@vermont.gov>
Sent: Wednesday, January 24, 2024 10:35 AM
To: Lori Thompson <lori.thompson@arvig.net>
Cc: hilary <hilary@pmnrcd.org>; Barbara Noyes-Pulling <barbara@rutlandrpc.org>
Subject: RE: Gully Erosion

Hi Lori – just checking in on this to see if we can find some time to meet? We might need to push it back into February depending on everyone's schedule. I'm going to look around to see if I still have your number and try giving you a call too. Hope you're well!

Alison

Alison Marchione
Shoreland Restoration Ecologist
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermontgov
www.watershedmanagement.vermont.gov

802-490-6128 / Alison.Marchione@vermontgov
www.watershedmanagement.vermont.gov

PMNRCD <pmnrcd@gmail.com> Jan 26, 2024, 11:41 AM (10 days ago)

to Alison, hilary, Barbara

Thanks, Alison! Barbara and I meet on Mondays, so we'll try to pick a time to meet then... and I'll get you the field sheet that we are making for that location. It will be draft until we visit the site and collect some more photos and info. I'm hoping to finish it today.

best,
Hilary
--
Hilary Solomon, District Manager
Poultney Mettowee Natural Resources Conservation District
PO Box 209, Poultney, VT 05764
(802) 558-3515
www.pmnrcd.org, hilary@pmnrcd.org

Cost Effectiveness Table: Addison Gully

Addison Gully	30/60/90/100 Design	Implementation	P Reduction (kg/yr)	Design Life	Cost Effectivness ($/kg/yr/lifespan)
Sand Filter N		$ 150,000	2.2	20	$ 3,409.09
Sand Filter S		$ 150,000	4.84	20	$ 1,549.59
S Channel Armor		$ 250,000	24.22	8	$ 1,290.49
N Channel culvert upgrade		$ 250,000	4.04	10	$ 6,192.77
	$ 80,000	$ 800,000			
Total		**$ 880,000**	**35.29**		

NOTE: Construction costs derived from likeness project costs and best professional judgement. Costs are intended for order of magnitude planning efforts only.

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Potentially, this project identification fund could help identify projects that collectively meet all of the listed project purposes.	Minimize anthropogenic nutrient and organic pollution

Step 2: Conduct Eligibility Criteria #2 Screening: Project Types and Standards

Table 2A: Project Types and Standards		
Please select the most representative project type from the drop-down list to the right.[1,2] If multiple BMPs are included in the project, please list below:	Floodplain/Stream Restoration - Preliminary Engineering D	
Is the project type an eligible project type for the funding program you are applying to as listed in column B of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ◉	No ○
Does the project meet the project type definitions and minimum standards as provided in column C of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ◉	No ○
Will the project result in the standard performance measures, milestones, and deliverables as defined by project type in columns D-F of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ◉	No ○
Is the project listed as an ineligible project or activity in the CWIP Funding Policy? If Yes, please explain below how project meets the allowable exceptions within the CWIP Funding Policy. Work will need to be approved by DEC - gully project. (Answer must be NO to proceed, unless reasonable justification is provided above)	Yes ○	No ◉

Step 3: Conduct Eligibility Criteria #3 Screening: Watershed Projects Database

Verify project has been recorded in the Watershed Project Database (WPD). Each project must have a Watershed Project Database number specific to the proposed project phase (for example,

[1] Note that Road/Stormwater Gully project-types must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program and therefore project proponent must show documentation of this determination in order to select this project type.

[2] One project may include multiple best management practices (BMPs) that cross "project types." For example, a single project may include both stormwater and lake shoreland BMPs. Proponents should use their best judgement in selecting the most representative project type for the purposes of eligibility screening and reporting.

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see CWIP Funding Policy for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	Number in process
Watershed Project Database Project Name	Thompson Gully Restoration and Stormwater Project

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts[3]

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. [4]

1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. [5] Please note that "project site" may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
    a. Proponents should send the identified permitting staff the following:
        i. The watersheds project database identification number (WPD-ID) (if available),
        ii. Project location (GPS coordinates)
        iii. Summary of proposed scope of work, and
        iv. Any other relevant information they request that will be utilized in their review.
    b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
    c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

[3] Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

[4] In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

[5] Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The ANR Permit Navigator and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
   a. Which permits or permit amendment are needed or might be needed? [6]
   b. What type might be needed? (e.g., a general or individual permit[7])?
   c. What concerns were voiced by permitting staff?
   d. How will the proposed scope of work address these concerns?[8]

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont's Land Use and Development Control Law) Permits been issued in the project site's parcel location?[9]	Yes ○	No ◉
If ***yes,*** please provide the permit number and list any water resource issues or natural resource issues found[10]: **PermitNumber:** **ResourceIssues:** _____ If ***yes,*** use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. **Regulatory Point of Contact Name/Position:**		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	Yes ◉	No ○

[6] Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

[7] Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

[8] Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

[9] An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[10] Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? [11]	
If ***yes***, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region. **Regulatory Point of Contact Name/Position:** Laura Dlugolecki	
III. Rivers, River Corridors, and Flood Hazard Areas	
1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area[12]? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.	Yes ○ No ◉
If ***yes***, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region. **Regulatory Point of Contact Name/Position:** Kyle Medash	
2. Is any portion of the project site within a perennial river or stream channel? [13]	Yes ◉ No ○
If ***yes***, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region. **Regulatory Point of Contact Name/Position:** Josh Carvajal and Shannon Pytlik	
IV. Wetland	

[11] The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[12] FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: https://msc.fema.gov/portal/home. ANR Floodplain Managers are available to provide technical assistance if needed.

[13] Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

1. Does the Wetland Screening Tool[14] provide a result of wetlands likely, very likely, or present at the project site?	Yes ○ No ◉
2. Does your project site involve land that is in or near an area that has any of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)	Yes ◉ No ○ Not Sure ○

If you answered ***yes*** or ***not sure*** to either of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered ***yes*** or ***not sure*** to either of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.

Regulatory Point of Contact Name/Position:

Zapata Courage

1. Is your project a Wetland Restoration project type?	Yes ○ No ◉

If you answered yes, under the Vermont Wetland Rules you will need an "allowed use" determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.

Regulatory Point of Contact Name/Position: Zapata Courage, DEC Wetlands Specialist

V. Fish and Wildlife

State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit. 1. **Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns?** Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting	Yes ○ No ◉

[14] To view the Wetland Screening Tool introduction video, see https://youtu.be/6lv5en0AB1o

2. Is the project site within 1 mile of a mapped[15] Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes ○ No ◉
If *yes* to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes ○ No ◉
If *yes*, forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. **Regulatory Point of Contact Name/Position:**	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? [16]	Yes ○ No ◉
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
Provide below or attach a narrative summary of Table 4 findings. Please include: a. Which permits or permit amendment are needed or might be needed? b. What type might be needed? (e.g. a general or individual permit)? c. What concerns were voiced by permitting staff? d. How will the proposed scope of work address these concerns?	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes ◉ No ○

[15] Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

[16] If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a licensed solid waste hauler and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes ◉ No ○
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes ○ No ◉
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes ○ No ○ N/A ◉
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: Water Quality Restoration Formula Grant (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes ◉ No ○

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See CWIP Project Types Table for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation[17]? Complete a preliminary review to	○ **Yes** - Proceed to next question below.

[17] Jurisdictional farm operations are required to meet Vermont's Required Agricultural Practices (RAPs).

determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.	◉ **No**[18] - There is no additional requirements related to agricultural review for these projects.
2. Is the proposed project an agricultural project? Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.	○ **Yes** - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization. ◉ **No** - The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below. **Step 1** - Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFM at AGR.WaterQuality@Vermont.gov . **Step 2** - Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.

Agricultural Project Review Status & Summary:	
Check as Applicable	**Status**
☐	Submitted/ Pending
☐	Approved
☐	Denied

[18] Note CWIP's Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the Appendix B. Project Types Table are not subject to review by VAAFM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status "submitted/pending" will be "approved" prior to a project approval for funding.

PROJECT APPLICATION FOR THE SOUTH LAKE CWSP
ROUND 5: MAY 2024

Cover Page Information

Contact Information: South Lake Champlain (SLC) CWSP; Hilary Solomon and Barbara Noyes-Pulling

Hilary Solomon, PMNRCD
Po Box 209, Poultney, VT 05764
(802) 558-3515 / hilary@pmnrcd.org

Barbara Noyes-Pulling, RRPC
PO Box 430, Rutland, VT 05702
(802) 775-0871 x207 / barbara@rutlandrpc.org

Project Name: Butler Gully and Wetland Restoration

Project ID number: In progress

Project Location: South Lake Watershed, Tributary to the Poultney River, 2148 22A, Fair Haven

Project Type: Stormwater – Conceptual Design

Project Sector: Developed Lands and Ag Lands

Project Stage: Conceptual (30%) Design

Funds being requested: $41,400
Matching funds: $0

Project Summary

This project consists of three small drainage areas, a very large gully, and a wetland. Watershed Consulting Associates (WCA), Andres Torizzo, was hired to quantify the amount of phosphorus that could be mitigated through projects at this site and to estimate the cost of those potential projects.

The total watershed area for this project is quite large, encompassing a hillside and crossing Route 22A in two locations. The initial phosphorus treatment estimates range between 34.2 and 792.91 kg per year, depending on DEC's interpretation of the landuse and project type. The total cost of all four project components related to this massive gully may be as high as $1,100,000. Depending on the phosphorus reduction numbers used, the cost effectiveness will vary between $32,164 per kg to $1387 per kg (or better if the project costs are below 1.1 million).

Project Description

The project includes manipulating an existing wetland and rerouting a small drainage into a nearby drainage that outlets at the same location in the Poultney River. This project has some potential permitting hurdles to work out prior to initiating the conceptual design.

The South Lake CWSP will hire a consultant to create a conceptual stormwater design that maximizes the volume of water treated. CWSP staff will work with local DEC regulators to permit the project and will get a signed site access agreement (written documentation allowing access would precede any design work).

The goals of this project include:

- Create a conceptual design to maximize phosphorus mitigation and stormwater infiltration,
- Get a signed site access agreement from involved landowners Lilly and Pepper Butler.
- Finalize the potential project efficiencies (cost per kg phosphorus reduced) based on DEC recommendations and the CWIP funding policy. The design will include phosphorus calculation/interim phosphorus calculator outputs with some detail about the parameters used and major assumptions. The CWSP will use accepted DEC tools, such as the DEC Stormwater Treatment Practice Calculator.
- Additionally, the CWSP will manage, track, and report the results of this project per DEC requirements and will interface with Vermont DEC technical staff as needed.

Applicable strategies from the 2022 South Lake Tactical Basin Plan:

- Strategy 13: Provide technical assistance and funding to develop high and medium priority projects.
- Strategy 15: Implement high and medium priority stormwater projects from SWMPs and stormwater mapping reports.

Conceptual Design Definition: Preliminary design of high priority Tier 1 or Tier 2 stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient, sediment and/or other contaminant pollution from hard surfaces associated with developed/urban/suburban areas. Work must result in at least 30% design of project. Refer to most updated Vermont Stormwater Management Manual for more information on Tier 1 and Tier 2 practices.

Applicable Milestones from the 2023 CWIP Funding Policy:

- Project initiated; proposal/bid solicitations issued and contractor selected (if applicable)
- Conceptual site plan drafted
- Stakeholder meetings
- **Other permit-required assessments or plans completed** (if applicable)
- Preliminary (30%) design complete
- **Preliminary VDHP Project Review** (if applicable)
- Project complete

Project Budget

Table 1: Preliminary budget for the Castleton Village School Infiltration Project Design.

Category	Amount	Match	Total
Personnel	$5400	Potentially, yes	$5400
Fringe	Included in rate		$0
Travel	N/A		$0
Supplies	N/A		$0
Professional Services	$36,000		$36,000
Indirect	Included in rate		$0
Total	$41,400		$41,400

Budget Narrative

Personnel: The South Lake CWSP will provide staff to manage this project.

Professional services: Up to $36,000 will be used to hire a consultant to complete a conceptual design with needed permitting, VDHP review, and operations and maintenance planning steps included.

Match will occur when partners and stakeholders are involved with site visits, meetings, and stakeholder meetings. Match will be recorded and submitted for DEC use, as requested.

Indirect: Indirect is included in staff hourly rates. RRPC has an approved indirect rate and the PMNRCD indirect rate is 10%.

Project Eligibility Screening from CWIP Funding Policy Appendix A

- Please find the CWIP project eligibility screening form attached.
- In addition, a memo from WCA begins on the next page.

Memorandum

To: Barbara Noyes-Pulling, Senior Planner, Rutland Regional Planning Commission
Hilary Solomon, District Manager, Poultney-Mettowee Natural Resources Conservation District

From: Watershed Consulting

Date: May 15, 2024

Re: ***Butler Gully Existing Conditions Review***

Attachments:

A. *Butler Gully Map*
B. *Butler Gully Drainage Overview Map*
C. *Butler Gully Permitting Correspondence*
D. *Butler Gully Cost Effectiveness Table*

Dear Barbara,

This memorandum serves to summarize the work completed to date by Watershed Consulting on mitigation of the gully erosion occurring at 2148 VT-22A in Fair Haven and the associated findings. A summary of the site visit completed on April 25th, 2024, drainage summary, soils description, proposed recommendations, preliminary cost estimates, and phosphorus reduction calculations are detailed below.

Sincerely,

Andres Torizzo, Principal

Site Visit

Watershed Consulting completed a site visit to the gully located at 2148 VT-22A in Fair Haven on April 25th, 2024. Watershed Consulting was met by Barbara Noyes-Pulling of the Rutland Regional Planning Commission, Sadie Brown of the Poultney-Mettowee Natural Resources Conservation District (PMNRCD), and Pepper Butler, the landowner.

The group walked the edge of the gully to the property line with the neighboring agricultural fields to the south. The gully's downstream end is in excess of 70 feet across at the top and 40 feet deep. Actively eroding sides were noted, as well as trees sliding in. Upstream, the gully became shallower and narrower quickly, and remained approximately 10 to 15 feet deep for most of its length. The group entered the gully at a midpoint to view the soil profile. It appears that the gully bottom is stabilizing in a gravelly clay, while the overlying sand continues to erode in. It was noted that groundwater seeps, now exposed by the erosion, are further undermining the bank.

The group then walked east along the property line to a known stream passing through a culvert under VT-22A to further refine the drainage area. Matted grass and sediment deposition along the property line indicated that the stream appears to be overflowing during storm events and flowing overland into the gully area. The group then followed this stream south along the neighboring property and came to a farm pond that also flows into the stream. Later desktop review revealed that the collection area for this stream and farm pond are quite large, collecting a portion of VT-22A and the mountainside above it.

The site visit revealed the source of the high flows shaping the gully, which appears to be the constricted nature of the stream running along the Butler property.

Soil Characterization

The soils on-site are mapped as primarily Raynham and Belgrade silt loams in the open fields, belonging to Hydrologic Soil Group (HSG) C/D and B/D respectively, and Duchess silt loam (HSG B) along the streambed. The majority of the upper drainage area on the mountainside above VT-22A is mapped as various HSG D soils, including Taconic-Hubbardton-Macomber complex and Kingsbury silty clay loam. The prevalence of HSG D soils may help explain the concentration of high flows in the area, given D soils' high runoff potential and low infiltration capacity.

Brief soil characterizations were completed during the site visit at what was determined to be a representative location along the side of the gully. Soil samples were taken at the top of the bank, at the groundwater seep approximately 8-10 feet down, and in the flowing water at the bottom of the gully.

The soil at the top of the bank was loose, dry, and granular. At the groundwater seep, the soils were

characteristic of a sandy clay loam. The very bottom of the gully consisted of silty clay with gravel layers. The photos below show the three soil samples in order.



Proposed Interventions

This gully restoration proposes a suite of interventions to stabilize and restore the gully, improve floodplain connectivity, and reduce erosive velocities throughout the drainage system. An underdrained sand filter is proposed to be sited along the property line to manage runoff coming from the agricultural fields to the south. This filter will be designed to drain east to the proposed floodplain and wetland restoration, rather than continuing north into the existing gully.

A large floodplain and wetland restoration, currently estimated to restore 3.91 acres, is recommended in the field area along the stream. Drainage patterns noted during the site visit already indicate that the stream is overflowing into this area, which was likely part of its historic floodplain prior to the agricultural land use. Fill would be removed, and native wetland vegetation would be restored. This way, the stream would be able to overflow during high flow events without flowing toward the gully.

Limiting stream flow to the newly restored area would require that the undersized driveway culvert connecting the Butler property to VT-22A to be upsized. The upgraded culvert would need to be approximately 1.2x bankfull width to accommodate flows without constriction.

Finally, it is recommended that the upper reach of the gully is filled to prevent additional erosion from groundwater seeps and the remaining limited surface runoff. See Attachment A for a map of the site and proposed interventions.

Permitting Summary

To date, VT DEC Wetlands has visited the site and has identified two Class II and one Class III wetland at the project site. A delineation was subsequently completed. The project will need State and potentially United States Army Corps of Engineers (USACE) wetland permits for impacts within these jurisdictional wetlands and/or buffers. It is anticipated that the proposed sand filter feature can be located outside of regulated wetland areas but may require some buffer impacts depending on design requirements. Floodplain restoration will require working directly in the wetland and will require coordination with the DEC Rivers

and Floodplains Programs. The driveway culvert upgrade will require some impact to the stream and wetlands at that location. See Attachment C for correspondence regarding permitting for the site.

Phosphorus Reduction Calculations and Cost Estimate

The gully stabilization phosphorus reduction was calculated using the Developed Lands methodology, given that collection area drains VT-22A. The road culverts in use on 22A have constricted and presumably altered the flow of the streams west of the road, causing encroachment onto the altered natural floodplain such that the stream has been forced to overflow into the gully. Using the gully size (considering linear length, average depth, and average width) and age of approximately 30 years, a reduction of 764.84 kg/yr was determined.

Alternatively, if the "Stabilize Gully on Perennial Stream" methodology is preferred, the estimated load reduction is 6.13 kg/yr.

The associated floodplain restoration of 3.91 acres in the Southern Lake Champlain basin removes an additional 19.86 kg/yr.

The culvert replacement, estimating 0.4 acres restored and a floodplain connectivity restoration from low to high connectivity, removes 1.81 kg/yr.

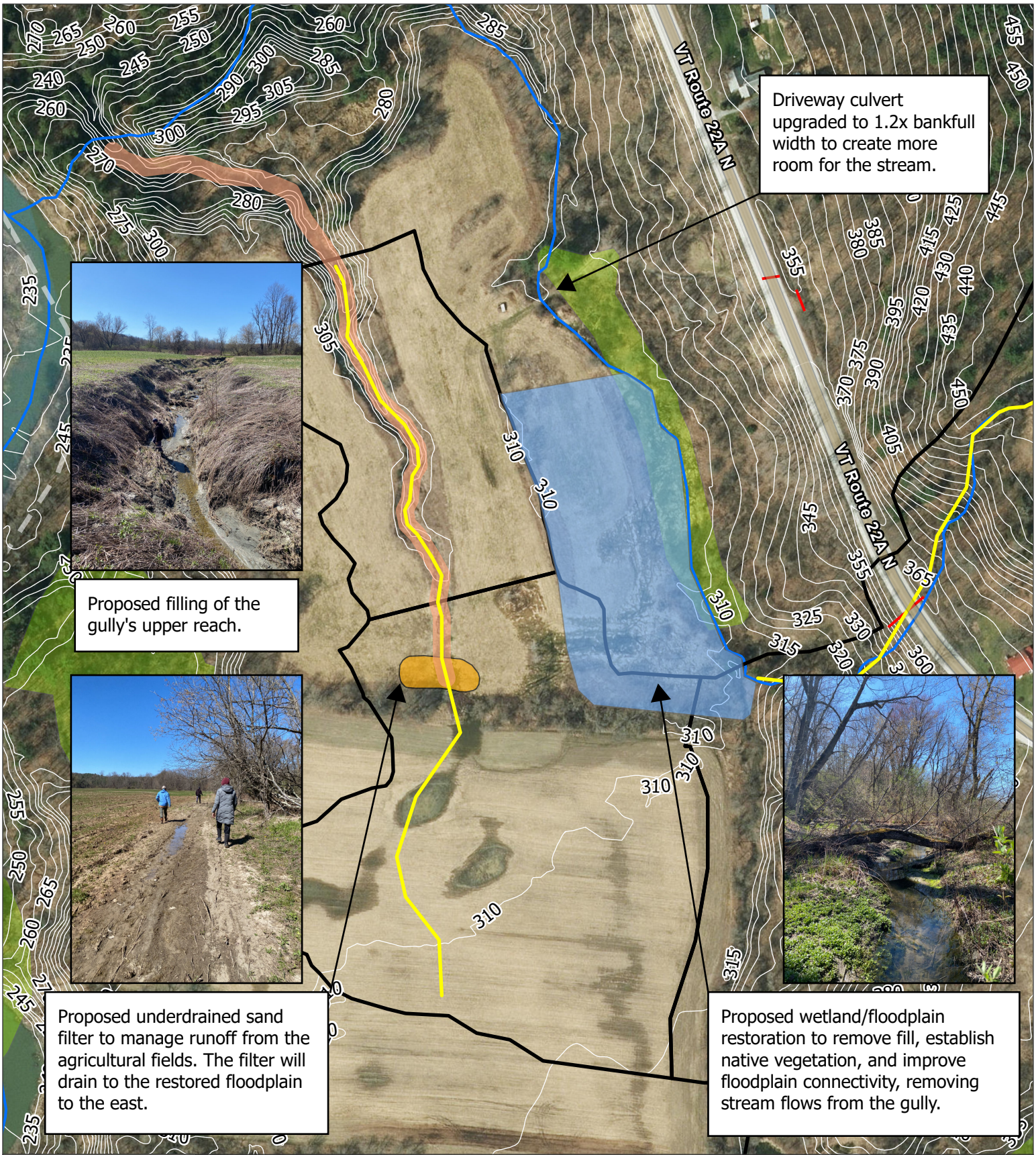
The proposed sand filter implementation removes 6.39 kg/yr.

The cost estimate for the proposed suite of interventions, including design and implementations costs, is $1,100,000.

Proposed Intervention	30/60/90/100 Design	Implementation
Sand filter		$150,000
Floodplain Restoration		$600,000
Driveway culvert upgrade		$150,000
Fill upper end of channel		$80,000
	$120,000	$980,000
		$1,100,000

The table below shows the estimated costs, phosphorus reductions, predicted design life, and estimated cost effectiveness ($/kg/yr/design life) of each proposed intervention. Note that both methodologies for calculating the gully restoration P credit are included in the table. See Attachment C for the complete cost effectiveness table.

Butler Gully	30/60/90/100 Design	Implementation	P Reduction (kg/yr)	Design Life	Cost Effectivness ($/kg/yr/lifespan)
Sand filter		$ 150,000	6.39	20	$ 1,173.71
Floodplain		$ 600,000	19.86	40	$ 755.15
Driveway culvert upgrade		$ 150,000	1.81	10	$ 8,267.34
Gully Restoration (Fill upper end of channel)		$ 80,000	6.134 (stream gully calculation); 764.839 (developed lands gully methodology)	10 (stream gully calculation); 8 (developed lands gully methodology)	$1,304.21 (stream gully calculation); $13.07 (developed lands gully methodology)
	$ 120,000	$ 980,000			
Total		**1,100,000**	**34.2 / 792.91**		



Butler Gully

2148 VT-22A,
Fair Haven, VT

Map Date: 5/15/2024

Fair Haven

Attachment A

Legend

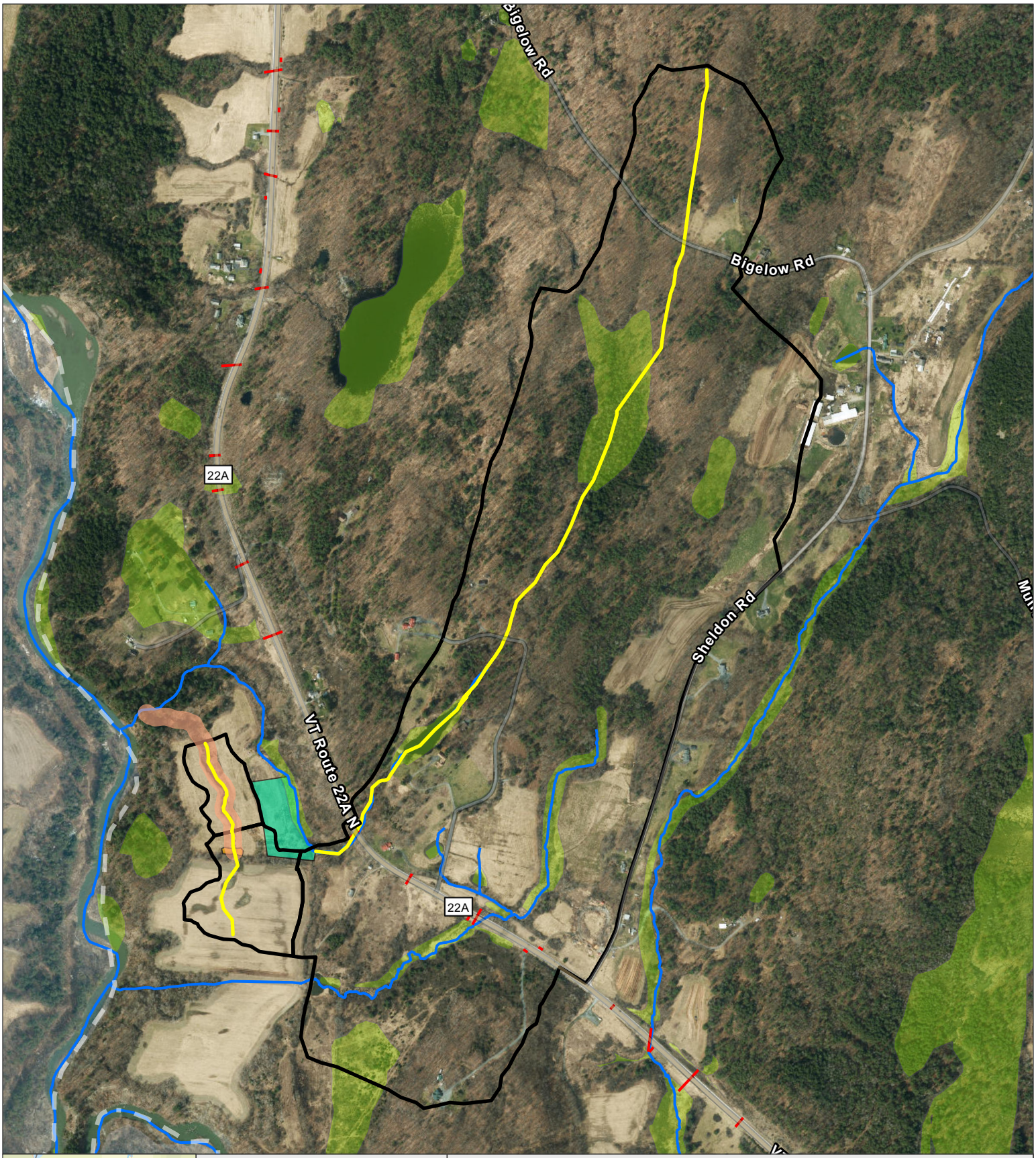
- Drainage Area
- Underdrained Sand Filter
- Wetland/Floodplain Restoration
- VSWI Wetlands
- Gully Centerline
- Time of Concentration (TC) Lines
- Storm line
- Stream

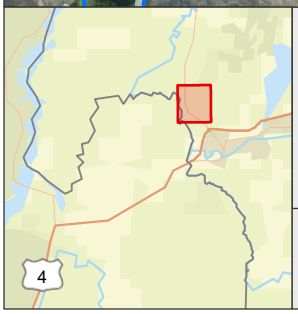
0 160 320 Feet

Scale: 1 in = 238 ft

N

VWATERSHED CONSULTING





Butler Gully Drainage Map
Fair Haven, VT

Map Date: 5/15/2024

Attachment B

Legend

- Drainage Area
- Undrained Sand Filter
- Wetland/Floodplain Restoration
- VSWI Wetlands
- Gully Centerline
- Time of Concentration (TC) Lines
- Storm line
- Stream

0 630 1,260 Feet

Scale: 1 in = 906 ft

N

VWATERSHED CONSULTING

C

Courage, Zapata <Zapata.Courage@vermont.gov> Jul 12, 2023, 10:39 AM
to Pepper, Patricia, Shannon, me

Hi Pepper and Patti,
I have confirmed the delineation on site. There are three wetlands on site at 2148 Route 22A N-Fair Haven.

The one located at toe-of-slope at the very end of the large head cut ravine is a Class II wetland as is the wetland that your driveway will be crossing. This second wetland extends down along the eastern side of the property, wrapping along the southern boundary. The third wetland is a small isolated wetland in the south-west corner of the property and it is considered a Class III wetland.

Any proposed activity to a Class II wetland or its 50-ft buffer requires a wetland permit. Based on what you will likely need for a driveway, Patti and I calculated preliminary impact area. There is an existing access road comprised of slate and gravel. This can be maintained without a permit; however expansion into the field and likely widening of the drive will require a permit.

Lastly, I have copied Hilary and Shannon on this email to see if there might be options to address the massive head cut ravine that has formed across the field, which in some places exceeds 30-ft deep. To be honest I have no idea how to address this issue. It is naturally revegetating, but it is also continuing to erode. There may be clean water grant funding available for this type of project, and you also asked about wetland restoration. There really isn't mush opportunity for actual restoration, but plenty of opportunity for enhancement: planting the wetland area and its buffer with native plantings. Hilary and Shannon may have some advice on funding for this type of work also. Perhaps a robust planting plan along the edges of the ravine might assist in stabilization, however, I am not an engineer to assess the condition of those slopes.

Patti can complete and submit a wetland application on your behalf, let me know if there are any questions,
Cheers,
Zapata

From: Pepper Butler <butlerpl10@gmail.com>
Sent: Thursday, March 30, 2023 1:44 PM
To: Courage, Zapata <Zapata.Courage@vermont.gov>
Subject: Re: Residential Driveway Permit: Wetland project #2023-0197

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.
Hi Zapata,

Thank you for all the helpful information regarding the wetlands. I really appreciate the links, roughly how much things may be, and understanding the time frame to perform these evaluations. When we were working with our septic designer, they made sure everything was 100ft away from any earth disturbance and the wetlands. I've already contacted a few of the environmental consultants you pointed out in the email, so far some have an opening in May.

I wanted to clarify some things from your email. Are you saying before we do any improvements to the current driveway, I need to have a wetland delineation performed? Could I fill out the driveway application for James before the wetland delineation? How would I obtain a wetland permit for my project? Are there any programs in Vermont that help landowners restore wetlands on their property?

Thank you for your help and time,
Pepper Butler

On Tue, Mar 28, 2023 at 4:15 PM Courage, Zapata <Zapata.Courage@vermont.gov> wrote:
Hello folks,
Pepper, because you already know that there is wetland and that the driveway upgrades will require a wetland permit, you will need to work with an environmental consultant. But not only should they be looking at the wetlands associated with the driveway, but there is some funky geology and hydrology patterns on your property (fascinating gully). They should be evaluating at least 100 ft in all directions from any areas of proposed earth disturbance or change in use, including buildings, septic and its maintenance area, driveway and related grading, utility tie-in corridors if applicable, and what areas that will be managed as lawn (mowing weekly-bi-weekly) as opposed to hayfield (2-4 times mowing /summer).

Based on my desktop review of the property in question, you will need a wetland delineation to determine the boundary of the wetland in relation to your comprehensive project. You can find a list of consultants who perform that work here: https://dec.vermont.gov/watershed/wetlands/what/id/wetland-consultant-list. Once this delineation has been obtained, they should send their delineation to me and/or schedule a site visit with our office to review the delineation. This assures the landowner of the accuracy of the delineation and that we are all on the same page as a project is planned for.

You will want to have them come during the growing season; typically between May 1-Nov 1. We assess for wetland presence and boundaries during the growing season, after plants begin to grow and leaves come out but before they have died back- so we can do plant identification, take soil samples and evaluate hydrology under normal conditions.

Cost Effectiveness Table: Butler Gully

Butler Gully	30/60/90/100 Design	Implementation	P Reduction (kg/yr)	Design Life	Cost Effectivness ($/kg/yr/lifespan)
Sand filter		$ 150,000	6.39	20	$ 1,173.71
Floodplain		$ 600,000	19.86	40	$ 755.15
Driveway culvert upgrade		$ 150,000	1.81	10	$ 8,267.34
Gully Restoration (Fill upper end of channel)		$ 80,000	6.134 (stream gully calculation); 764.839 (developed lands gully methodology)	10 (stream gully calculation); 8 (developed lands gully methodology)	$1,304.21 (stream gully calculation); $13.07 (developed lands gully methodology)
	$ 120,000	$ 980,000			
Total		**1,100,000**	**34.2 / 792.91**		

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Potentially, this project identification fund could help identify projects that collectively meet all of the listed project purposes.	Minimize anthropogenic nutrient and organic pollution

Step 2: Conduct Eligibility Criteria #2 Screening: Project Types and Standards

Table 2A: Project Types and Standards	
Please select the most representative project type from the drop-down list to the right.[1,2] If multiple BMPs are included in the project, please list below:	Floodplain/Stream Restoration - Preliminary Engineering D
Is the project type an eligible project type for the funding program you are applying to as listed in column B of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Does the project meet the project type definitions and minimum standards as provided in column C of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Will the project result in the standard performance measures, milestones, and deliverables as defined by project type in columns D-F of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Is the project listed as an ineligible project or activity in the CWIP Funding Policy? If Yes, please explain below how project meets the allowable exceptions within the CWIP Funding Policy. Work will need to be approved by DEC - gully project. (Answer must be NO to proceed, unless reasonable justification is provided above)	Yes ○ No ○

Step 3: Conduct Eligibility Criteria #3 Screening: Watershed Projects Database

Verify project has been recorded in the Watershed Project Database (WPD). Each project must have a Watershed Project Database number specific to the proposed project phase (for example,

[1] Note that Road/Stormwater Gully project-types must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program and therefore project proponent must show documentation of this determination in order to select this project type.

[2] One project may include multiple best management practices (BMPs) that cross "project types." For example, a single project may include both stormwater and lake shoreland BMPs. Proponents should use their best judgement in selecting the most representative project type for the purposes of eligibility screening and reporting.

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see CWIP Funding Policy for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	Number in process
Watershed Project Database Project Name	Thompson Gully Restoration and Stormwater Project

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts[3]

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. [4]

1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. [5] Please note that "project site" may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
    a. Proponents should send the identified permitting staff the following:
        i. The watersheds project database identification number (WPD-ID) (if available),
        ii. Project location (GPS coordinates)
        iii. Summary of proposed scope of work, and
        iv. Any other relevant information they request that will be utilized in their review.
    b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
    c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

[3] Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

[4] In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

[5] Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The ANR Permit Navigator and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
   a. Which permits or permit amendment are needed or might be needed? [6]
   b. What type might be needed? (e.g., a general or individual permit[7])?
   c. What concerns were voiced by permitting staff?
   d. How will the proposed scope of work address these concerns?[8]

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont's Land Use and Development Control Law) Permits been issued in the project site's parcel location?[9]	**Yes** ◯	**No** ◯
If ***yes***, please provide the permit number and list any water resource issues or natural resource issues found[10]: **PermitNumber:** **ResourceIssues:** _____ If ***yes***, use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. **Regulatory Point of Contact Name/Position:**		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	**Yes** ◯	**No** ◯

[6] Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

[7] Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

[8] Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

[9] An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[10] Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? [11]	
If ***yes***, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region. **Regulatory Point of Contact Name/Position:** Laura Dlugolecki	
III. Rivers, River Corridors, and Flood Hazard Areas	
1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area[12]? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.	Yes ◯ No ◯
If ***yes***, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region. **Regulatory Point of Contact Name/Position:** Kyle Medash	
2. Is any portion of the project site within a perennial river or stream channel? [13]	Yes ◯ No ◯
If ***yes***, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region. **Regulatory Point of Contact Name/Position:** Josh Carvajal and Shannon Pytlik	
IV. Wetland	

[11] The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[12] FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: https://msc.fema.gov/portal/home. ANR Floodplain Managers are available to provide technical assistance if needed.

[13] Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

1. Does the Wetland Screening Tool[14] provide a result of wetlands likely, very likely, or present at the project site?	Yes ◯ No ◯
2. Does your project site involve land that is in or near an area that has any of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)	Yes ◯ No ◯ Not Sure ◯

If you answered ***yes*** or ***not sure*** to either of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered ***yes*** or ***not sure*** to either of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.

Regulatory Point of Contact Name/Position:

Zapata Courage

1. Is your project a Wetland Restoration project type?	Yes ◯ No ◯

If you answered yes, under the Vermont Wetland Rules you will need an "allowed use" determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.

Regulatory Point of Contact Name/Position: Zapata Courage, DEC Wetlands Specialist

V. Fish and Wildlife

State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit. 1. **Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns?** Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting	Yes ◯ No ◯

[14] To view the Wetland Screening Tool introduction video, see https://youtu.be/6lv5en0AB1o

2. Is the project site within 1 mile of a mapped[15] Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes ◯ No ◯
If *yes* to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes ◯ No ◯
If *yes*, forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. **Regulatory Point of Contact Name/Position:**	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? [16]	Yes ◯ No ◯
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
Provide below or attach a narrative summary of Table 4 findings. Please include: a. Which permits or permit amendment are needed or might be needed? b. What type might be needed? (e.g. a general or individual permit)? c. What concerns were voiced by permitting staff? d. How will the proposed scope of work address these concerns?	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes ◯ No ◯

[15] Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

[16] If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a licensed solid waste hauler and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes ◯ No ◯
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes ◯ No ◯
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes ◯ No ◯ N/A ◯
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: Water Quality Restoration Formula Grant (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes ◯ No ◯

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See CWIP Project Types Table for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation[17]? Complete a preliminary review to	◯ **Yes** - Proceed to next question below.

[17] Jurisdictional farm operations are required to meet Vermont's Required Agricultural Practices (RAPs).

determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.	◯ **No**[18] - There is no additional requirements related to agricultural review for these projects.
2. Is the proposed project an agricultural project? Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.	◯ **Yes** - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization. ◯ **No** - The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below. **Step 1** - Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFM at AGR.WaterQuality@Vermont.gov . **Step 2** - Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.

Agricultural Project Review Status & Summary:	
Check as Applicable	**Status**
☐	Submitted/ Pending
☐	Approved
☐	Denied

[18] Note CWIP's Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the Appendix B. Project Types Table are not subject to review by VAAFM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status "submitted/pending" will be "approved" prior to a project approval for funding.

Memorandum

To: Barbara Noyes-Pulling, Senior Planner, Rutland Regional Planning Commission
Hilary Solomon, District Manager, Poultney-Mettowee Natural Resources Conservation District

From: Watershed Consulting

Date: May 15, 2024

Re: ***Addison Gully Existing Conditions Review***

Attachments:

A. *Addison Gully Map*
B. *Addison Gully Permitting Correspondence*
C. *Addison Gully Cost Effectiveness Table*

Dear Barbara,

This memorandum serves to summarize the work completed to date by Watershed Consulting on the gully erosion occurring at 3256 Lake Street in Addison and the associated findings. A summary of the site visit completed on April 25th, 2024, drainage summary, soils description, recommended interventions, cost estimate, and phosphorus reduction calculations are detailed below.

Sincerely,

Andres Torizzo, Principal

Site Visit

Watershed Consulting completed a site visit to the gully located at 3256 Lake Street in Addison on April 25th, 2024. Watershed Consulting was met by Alison Marchione of the Vermont Lake Wise Program and Hilary Solomon of the Poultney-Mettowee Natural Resources Conservation District (PMNRCD). The group walked the edge of the gully and descended to the gully mouth to view the outlet into the lake. It was found that the original gully converges with a neighboring stream/gully area originating at the next culvert crossing to the north. Sediment deposition was noted at the convergence of the two gullies.

The two culverts passing beneath Lake Street and outleting into the two gully heads were located and inspected. The group then walked along the eastern edge of Lake Street to view the upper drainage areas to the two gullies to consider potential best management practice locations and landowner engagement opportunities.

Soil Characterization

The soils on-site are mapped as Vergennes clay of varying slope ranges (VgB, VgD), Hydrologic Soil Group D. A brief soils characterization was completed during the site visit, where 8 inches of soil were removed via hand auger from the top of the gully bank. The soil was confirmed to be dry, brown clay. There was not a clear organic layer present, despite the sample being taken on the forest floor.

Vergennes clay is a poorly drained soil with a high runoff potential. This means that infiltration practices using the native soils are likely infeasible.

Proposed Interventions

Four main intervention areas are proposed. An underdrained sand filter is recommended on the west side of the road culvert leading into the main gully. Another underdrained sand filter is recommended adjacent to the next road culvert to the north to manage the stream gully. Both filters will work to capture and filter stormwater flows so that sediment can be removed before runoff drains further into the channel. This will allow the perennial channels to remain while reducing erosive velocities and sediment loading into Lake Champlain. The stream culvert to the north is also recommended to be upsized to 1.2x bankfull width to reduce the concentrated high energy flows due to channel constrictions. The stream appears healthy upstream of the culvert, implying that the culvert constricting flow may be a cause of downstream issues. Finally, it is recommended that the gully bottom has stream stone applied to trap sediment and to fill the erosion caused by previous high flows. This multi-layered stone application will function as a stream bottom restoration, filling in gradually and naturally. See Attachment A for a map of the area and proposed interventions.

Permitting Summary

VT DEC Wetlands has visited the site and identified a Class II wetlands in the lower reaches of the southern gully at the toe of the slope, where the channel meets a larger stream from the north. Wetlands concerns were not identified in the upper portions of the project area. The Vermont Significant Wetlands Inventory (VSWI) identified a wetland to the east of Lake Street in one of the proposed sand filter areas, however this wetland has yet to be reviewed. Impacts to these areas of the site within the wetland and buffer will likely

require a wetland permit, however it is still possible that the design may be able to avoid these natural resource conflicts entirely. Additionally, stabilization of the south channel/gully is proposed to be done with naturalized streambed stone and vegetated soft armoring techniques to replicate a natural stream channel. Permit requirements for this proposed work will need to be verified. It is anticipated that the State and potentially United States Army Corps of Engineers (USACE) Wetlands permits will be required for the culvert upgrade along the north channel. DEC Rivers and Floodplains may need to be engaged with the culvert replacement as the north channel contains a stream in the NHD database. See Appendix B for correspondence regarding permitting for the site.

Phosphorus Reduction Calculations and Cost Estimate

The Developed Lands methodology was used to calculate the phosphorus reduction for the gully restoration as the gully is primarily a result of stormwater from developed lands. This methodology considered the gully's size (linear length, average depth, and average width) and age of approximately 30 years. The phosphorus reduction is estimated to be 24.22 kg/yr.

The two proposed sand filters, located at the north and south culverts crossing Lake Street, will remove 2.2 kg/yr and 4.84 kg/yr respectively.

The culvert replacement for the north channel/gully is estimated to remove 4.04 kg/yr.

The preliminary cost estimate for the proposed suite of interventions, including design and implementation costs, is $880,000.

Proposed Intervention	30/60/90/100 Design	Implementation
Sand Filter N		$150,000
Sand Filter S		$150,000
S Channel Armor		$250,000
N Channel culvert upgrade		$250,000
	$80,000	$800,000
		$880,000

The table below shows the estimated costs, phosphorus reductions, predicted design life, and estimated cost effectiveness ($/kg/yr/design life) of each proposed intervention. See Attachment C for the complete cost effectiveness table.

Proposed Intervention	30/60/90/100 Design	Implementation	P Reduction (kg/yr)	Design Life	Cost Effectiveness ($/kg/yr/lifespan)
Sand Filter N		$150,000	2.2	20	$3,409.09
Sand Filter S		$150,000	4.84	20	$1,549.59
S Channel Armor		$250,000	24.22	8	$1,290.49
N Channel culvert upgrade		$250,000	4.04	10	$6,192.77
	$80,000	$800,000			
Total		**$880,000**	**35.29**		

Attachment A

DA_5

DA_4

DA_3

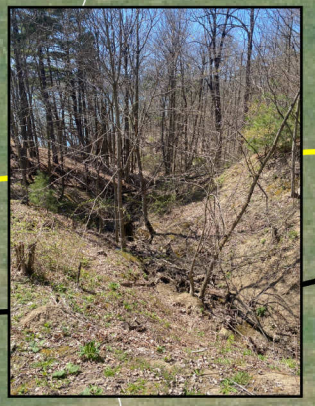
DA_2

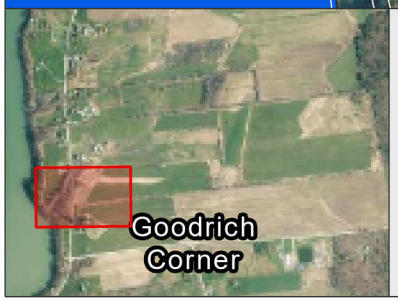
DA_1

Bridge culvert upgraded to 1.2x bankfull to reduce concentrated flows.

Under-drained sand filters discharging to stream gullies.

Stream stone application along gully bottom to trap sediment and fill erosion.





Addison Gully

3256 Lake Street, Addison, VT

Map Date: 5/15/2024

Legend

- Drainage Area
- Lake Champlain
- Stream
- VSWI Wetlands
- Culverts
- Proposed Feature Footprint
- Gully Centerline

0 90 180 Feet

Scale: 1" = 140'

N

VWATERSHED CONSULTING

Hilary – I just sent you the follow up e mail I had from Zapata about the wetland. NRCS's engineer was pretty sure that all the work would be done upstream and wouldn't impact the wetland.

Shannon Pytlik from the Rivers program also did a site visit. I don't have anything written from her so you may want to send this sheet her way too for any additional info. I believe she determined this to not be a perennial stream and not jurisdictional but that was more than a year ago so there may have been more that she said about it.

As far as the project types go, I think this project fits the type, except possibly the requirement to address upstream water flow. The water is coming from the road ditch, which is outletting in a bad spot, but the water going into the road ditch comes mainly from the ag field across the street, which is a different landowner (some parcel maps show them as the same owner, but they have been subdivided). When I was out there with NRCS we discussed what the potential cause of the draining ag field might be (possible tile drains? Though we didn't see any concrete evidence). We also discussed the possibility that the issue is more/more frequent/more intense weather which is something that we will obviously not be able to address and something our clean water policy also doesn't acknowledge.

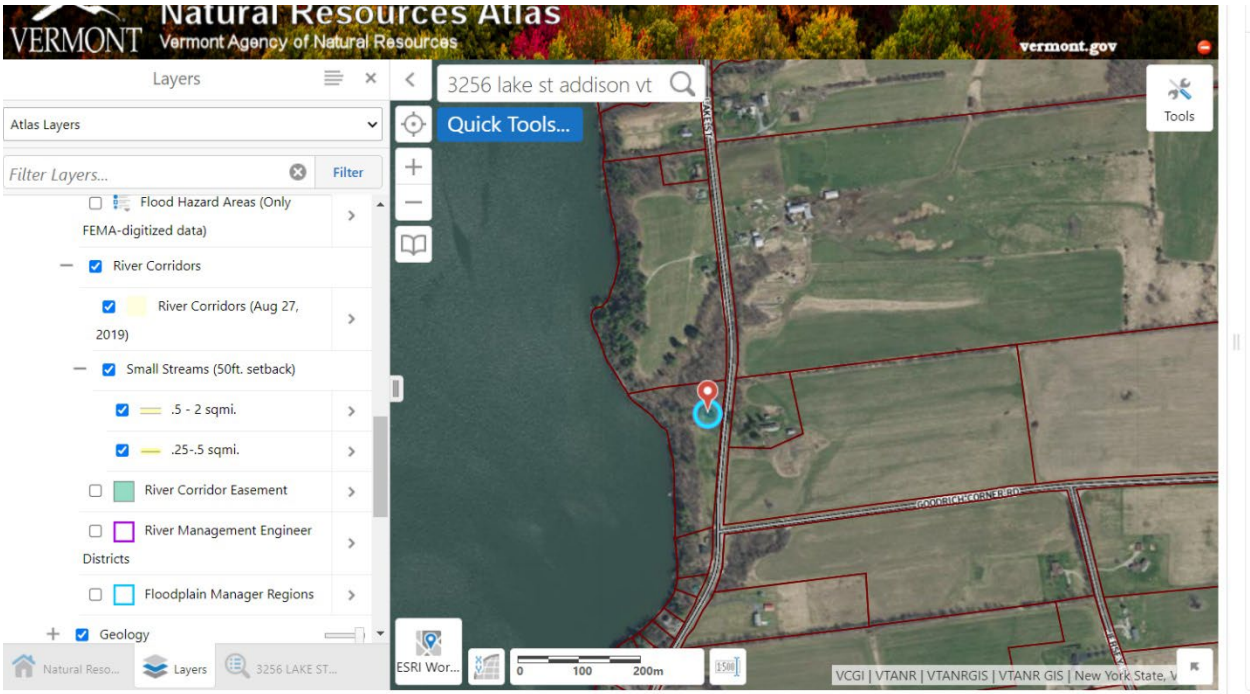
Hope that info is helpful! I think that the field sheet looks good and has all the other info that I have.

Let me know if you get in touch with Tom,
Alison

From: Courage, Zapata <Zapata.Courage@vermont.gov>
Sent: Thursday, April 13, 2023 2:14 PM
To: Marchione, Alison <Alison.Marchione@vermont.gov>; Pytlik, Shannon <Shannon.Pytlik@vermont.gov>; Allen, Angie <Angie.Allen@vermont.gov>
Cc: Lori Thompson <lori.thompson@arvig.net>
Subject: RE: Gully Erosion #2023-0074

Hello ladies,
Lori, sorry not to have connected with you, but you had a beehive of activity happening at the house and wasn't sure how to even let you know that I was there. So, I just went ahead and walked down the gully to the lake. Here is my site visit report.

There is a wetland at the toe-of-slope where the small stream comes together with the gully runoff. It is approximately here as shown in green. I have also hung wetland delineation flagging along this boundary in the field, so that the points can be picked up if needed.



So, depending on what your design is, any proposed activities within the wetland or 50-ft might require a wetland permit. As I mentioned before, typically we can approve gully erosion projects as an allowed use (no wetland permit) if soft techniques are used instead of hard techniques like armoring. Once you have a final design, I can review and we can discuss further if needed.

Thank you,
Zapata

Zapata Courage | District Wetland Ecologist
Addison & Rutland Counties and the Towns of Rupert, Peru, Dorset, Landgrove, Manchester, Winhall, Sandgate of Bennington Co. and Stockbridge and Rochester of Windsor Co.

The Department of Environmental Conservation supports telework, and there are times when I may be working from another office location or out in the field. I am available to connect by phone and email. I am also available to connect in-person upon request.

Vermont Department of Environmental Conservation
Watershed Management Division | Wetlands Program
450 Asa Bloomer State Office Building
88 Merchants Row | Rutland, VT 05701
802-490-6179 (cell)
https://dec.vermont.gov/watershed/wetlands

From: Marchione, Alison
Sent: Thursday, April 6, 2023 3:36 PM

To: Pytlik, Shannon <Shannon.Pytlik@vermont.gov>; Courage, Zapata <Zapata.Courage@vermont.gov>; Allen, Angie <Angie.Allen@vermont.gov>
Subject: RE: Gully Erosion #2023-0074

Hi Folks – Looks like the NRCS engineer will be on site on April 11th. I am going to try and be out there for that, I don't have a time yet though. I realize this is short notice so if either Shannon or Angie can join – great. If not we will figure something out a little further down the road. Zapata I just sent another email to you about the 12th, looping Lori, the landowner, in on your visit.

From: Marchione, Alison <Alison.Marchione@vermont.gov>
Sent: Tuesday, March 28, 2023 4:19 PM
To: Courage, Zapata <Zapata.Courage@vermont.gov>; Pytlik, Shannon <Shannon.Pytlik@vermont.gov>
Cc: Allen, Angie <Angie.Allen@vermont.gov>
Subject: RE: Gully Erosion #2023-0074

Hi Folks –

As we inch closer and closer to spring I am hoping to make some progress on this project. I was wondering if we could schedule a site visit for some time in April or early May to visit this property. The landowner is working with NRCS to use RCPP funds to stabilize the gully. Their next step is to have an engineer visit the site. If desired, I can coordinate with them so we can visit at the same time as the engineer.

Please let me know,
Thank you!
Alison

From: Courage, Zapata <Zapata.Courage@vermont.gov>
Sent: Tuesday, February 7, 2023 4:14 PM
To: Pytlik, Shannon <Shannon.Pytlik@vermont.gov>; Marchione, Alison <Alison.Marchione@vermont.gov>
Cc: Allen, Angie <Angie.Allen@vermont.gov>
Subject: RE: Gully Erosion #2023-0074

Hello ladies,
My project star was in review of a potential addition on the south side of the existing house. In doing so I looked at the gully area that runs right behind the house and this is what I had to say with street view photos as part of my review.

There may be wetlands at toe of slope in the gully that runs on the north side of the house where it enters the lake, and at the toe of slope at lake edge. I don't have wetland concerns at the top of the gully near the road.

We would want to evaluate the areas closest to the lake and where you might be proposing fill or other ground disturbance to see if wetlands are present (need to do this during the growing season). Typically we can approve gully erosion projects as an allowed use (no wetland permit) if soft techniques are used instead of hard techniques like armoring.

I will assign this a new star, so please reference 2023-0074 in the future.

Alison, you may also want to check with ACOE because of the direct connectivity to the Lake regarding approvals or permits. They make take jurisdiction even if the stream is only intermittent/ephemeral.

Let me know if you have questions and Cheers,
Zapata

Zapata Courage | District Wetland Ecologist
Addison & Rutland Counties and the Towns of Rupert, Peru, Dorset, Landgrove, Stockbridge and Rochester

The Department of Environmental Conservation supports telework, and there are times when I may be working from another office location or out in the field. I am available to connect by phone and email. I am also available to connect in-person upon request.

Vermont Department of Environmental Conservation
Watershed Management Division | Wetlands Program
450 Asa Bloomer State Office Building
88 Merchants Row | Rutland, VT 05701
802-490-6179 (cell)
https://dec.vermont.gov/watershed/wetlands

From: Pytlik, Shannon <Shannon.Pytlik@vermont.gov>
Sent: Monday, January 30, 2023 12:43 PM
To: Marchione, Alison <Alison.Marchione@vermont.gov>
Cc: Allen, Angie <Angie.Allen@vermont.gov>; Courage, Zapata <Zapata.Courage@vermont.gov>
Subject: RE: Gully Erosion

Hi Alison – Thanks for the email. I did a little digging and I found some info on that site that may be helpful. I attached two maps.

- The first map shows the 1' contours and you can see the gully, and the stream/gully it flows into, very clearly

- The other map shows the lakeshore protections zone, mapped wetlands and the star indicates this site is in the wetlands database. It's project 2022-0242 and Zapata Courage is the wetlands ecologist for that region so may know something about the gully erosion. I included Zap on this email so she is aware of a potential project.

The gully does not show up as a stream on the Atlas. It is impossible to know it is not a stream for sure without visiting the site. Do you happen to have any pictures? Either way I believe the water quality funds can be used on gullies that are not a stream as well.

For funding sources I think the ACRPC has an rfp out now for projects and maybe a scoping grant would be a good place to start. Here is the link to that application: https://acrpc.org/wp-content/uploads/2023/01/Otter_Creek_CWSP_RFP_Application.pdf

I included Angie Allen, the watershed planner, on this email so she is aware and may have additional ideas for funding.

Take Care, Shannon

Shannon Pytlik
Vermont Department of Environmental Conservation
Watershed Management Division, Rivers Program
88 Merchants Row
450 Asa Bloomer State Bldg | Rutland, VT 05701
802-490-6158
website.vermont.gov

Division staff contact information can be found online here: https://dec.vermont.gov/watershed/contacts.

Marchione, Alison Jan 17, 2024, 2:02 PM

Hi Lori, Hope you're doing well! I know we haven't spoken about your gully erosion issues in awhile but I think we may have come up with a potential funding sol

M

Marchione, Alison Jan 24, 2024, 11:35 AM (12 days ago)

to Lori, hilary, Barbara

Hi Lori – just checking in on this to see if we can find some time to meet? We might need to push it back into February depending on everyone's schedule. I'm going to look around to see if I still have your number and try giving you a call too. Hope you're well!

Alison

Alison Marchione
Shoreland Restoration Ecologist
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermont.gov
www.watershedmanagement.vermont.gov

From: Marchione, Alison
Sent: Wednesday, January 17, 2024 2:02 PM
To: Lori Thompson <lori.thompson@arvig.net>
Cc: Hilary <hilary@pmnrcd.org>; Barbara Noyes-Pulling <barbara@rutlandrpc.org>
Subject: Gully Erosion

Hi Lori,

Hope you're doing well! I know we haven't spoken about your gully erosion issues in awhile but I think we may have come up with a potential funding solution for you. The Rutland Regional Planning Commission (Rutland RPC) along with Poultney Mettowee Natural Resource Conservation District (PMNRCD) make up the South Lake Champlain Clean Water Service Provider (CWSP) and they may have potential funding to look at your gully and others in the area heading into Lake Champlain and potentially find some solutions. I have copied Barbara Noyes-Pulling with Rutland RPC and Hilary Solomon with PMNRCD on this email. We'd like to set up a time in the next few weeks (weather and snow permitting) to come take a look at the gully. Are you around in the next two weeks? Between Jan 22nd and Feb 2?

Let us know,
Alison

Alison Marchione
Shoreland Restoration Ecologist
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermont.gov
www.watershedmanagement.vermont.gov

M

Marchione, Alison — Jan 26, 2024, 11:20 AM (10 days ago)

to hilary, Barbara

I got this from Lori yesterday. I suspected they might not be in Vermont right now. Just some more info for you.

Alison Marchione
Shoreland Restoration Ecologist

1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermont.gov
www.watershedmanagement.vermont.gov

From: lori.thompson@arvig.net <lori.thompson@arvig.net>
Sent: Thursday, January 25, 2024 3:31 PM
To: Marchione, Alison <Alison.Marchione@vermont.gov>
Subject: Re: Gully Erosion

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.
Hi again.

Tom will respond. However u indicated this was time sensitive. We are not in Vermont at the current time so we may need to have our neighbor Fred Jaquish meet you or wait until Tom is flying back to Vermont. The other option is for you to a site visit with those individuals. I certainly feel okay with that.

Other option is to have Randy from Earth Works our excavator meet with you since he has been working on the project that we started last fall. I am not sure if he would do this or not but if so we can work something out.

Let me know what you think.

Lori

Get Outlook for iOS

From: Marchione, Alison <Alison.Marchione@vermont.gov>
Sent: Wednesday, January 24, 2024 10:35 AM
To: Lori Thompson <lori.thompson@arvig.net>
Cc: hilary <hilary@pmnrcd.org>; Barbara Noyes-Pulling <barbara@rutlandrpc.org>
Subject: RE: Gully Erosion

Hi Lori – just checking in on this to see if we can find some time to meet? We might need to push it back into February depending on everyone's schedule. I'm going to look around to see if I still have your number and try giving you a call too. Hope you're well!

Alison

Alison Marchione
Shoreland Restoration Ecologist
1 National Life Drive, Davis 3
Montpelier, VT 05620-3522
802-490-6128 / Alison.Marchione@vermontgov
www.watershedmanagement.vermont.gov

802-490-6128 / Alison.Marchione@vermontgov
www.watershedmanagement.vermont.gov

PMNRCD <pmnrcd@gmail.com> Jan 26, 2024, 11:41 AM (10 days ago)

to Alison, hilary, Barbara

Thanks, Alison! Barbara and I meet on Mondays, so we'll try to pick a time to meet then... and I'll get you the field sheet that we are making for that location. It will be draft until we visit the site and collect some more photos and info. I'm hoping to finish it today.

best,
Hilary
--
Hilary Solomon, District Manager
Poultney Mettowee Natural Resources Conservation District
PO Box 209, Poultney, VT 05764
(802) 558-3515
www.pmnrcd.org, hilary@pmnrcd.org

Cost Effectiveness Table: Addison Gully

Addison Gully	30/60/90/100 Design	Implementation	P Reduction (kg/yr)	Design Life	Cost Effectivness ($/kg/yr/lifespan)
Sand Filter N		$ 150,000	2.2	20	$ 3,409.09
Sand Filter S		$ 150,000	4.84	20	$ 1,549.59
S Channel Armor		$ 250,000	24.22	8	$ 1,290.49
N Channel culvert upgrade		$ 250,000	4.04	10	$ 6,192.77
	$ 80,000	$ 800,000			
Total		**$ 880,000**	**35.29**		

NOTE: Construction costs derived from likeness project costs and best professional judgement. Costs are intended for order of magnitude planning efforts only.

PROJECT APPLICATION FOR THE SOUTH LAKE CWSP
ROUND 5: MAY 2024

Cover Page Information

Contact Information: South Lake Champlain (SLC) CWSP; Hilary Solomon and Barbara Noyes-Pulling

Hilary Solomon, PMNRCD
Po Box 209, Poultney, VT 05764
(802) 558-3515 / hilary@pmnrcd.org

Barbara Noyes-Pulling, RRPC
PO Box 430, Rutland, VT 05702
(802) 775-0871 x207 / barbara@rutlandrpc.org

Project Name: Macomber Gullies 1-4

Project ID number: In progress

Project Location: South Lake Champlain Watershed, Mud Brook Tributary, Scotch Hill Rd, Fair Haven

Project Type: Stream/Gully Restoration

Project Sector: Developed lands, former slate quarries, and agricultural lands

Project Stage: Implementation

Funds being requested: $35,075
Matching funds: $0

Project Summary

This project consists of four drainage areas and four gullies. The South Lake CWSP used their early-stage funds to hire Stone Environmental, Branden Martin P.E., quantify the potential phosphorus mitigation through project installations at this site and to estimate the cost of those potential projects.

The total watershed area for this project contains 4.84 agricultural acres which drains to four gullies that flow to tributaries to Mud Brook. The initial phosphorus treatment estimate is roughly 41.18 kg per year at a potential cost of $30,500 ($740.65 average per kg reduction).

Project Description

The project includes stabilizing four gullies that drain to Mud Brook and the Castleton River. The projects are in agricultural land use and may not qualify for CWSP funds at this time. CWSP staff will submit this project to the Natural Resources Conservation Service (NRCS) and to Vermont Agency of Farms, Food, and Markets (VAAFM) as well as to our own Formula Grant and BWQC for review. Ideally, one of these three entities will have the ability to fund this phosphorus reducing project. In addition to threatening water quality, these gullies threaten hay lands and pasture that are vital to the farmer who stewards the land.

The landowner will likely implement these projects himself and the grant funds will pay for time and materials. If the landowner chooses not to implement the project himself, CWSP staff will put the project out to bid. CWSP staff will work with local DEC regulators to permit the project (if needed) and will get a signed site access agreement and operations and maintenance plan. The landowners are very enthusiastic about this project.

The goals of this project include:

- Get a signed site access agreement from involved landowner, Al Macomber.
- Finalize the potential project efficiencies (cost per kg phosphorus reduced) based on DEC recommendations and the CWIP funding policy.
- Implement the project
- Additionally, the CWSP will manage, track, and report the results of this project per DEC requirements and will interface with Vermont DEC technical staff as needed.

Applicable strategies from the 2022 South Lake Tactical Basin Plan:

- Strategy 13: Provide technical assistance and funding to develop high and medium priority projects.
- Strategy 15: Implement high and medium priority stormwater projects from SWMPs and stormwater mapping reports.

Stormwater Gully Implementation Definition: Implementation of high priority practices that stabilize an eroding stormwater gully from outlet through a flow path to connection with a surface water. Outlet and gully stabilization projects restore eroding channels to a state where sediment loss is minimized or eliminated. Restoration techniques include but are not limited to rock aprons, plunge pools, riprap, step pools, check dams, armored turnouts, outlet headwalls, seeding/mulching, and vegetated or structural bank and slope stabilization techniques. Stormwater and road outlet gully channels must be caused or exacerbated by human activity that concentrates stormwater flow onto steep slopes and channels must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program. Project must address upstream stormwater flow for in-gully work to be eligible. Permit(s), access license(s)/easement(s), and operation and maintenance plan(s) are in place prior to construction.

Applicable Milestones from the 2023 CWIP Funding Policy:

- Project initiated
- 10-year (minimum) DEC O&M Plan signed by O&M responsible party

- 10-year (minimum) access license or easement (if applicable) signed by landowner
- Bid solicitations issued, pre-bid site visits, and contractors selected/contracted (if applicable)
- Required permits secured, including VDHP review
- Pre-construction kick-off meeting, walk through of the site with plans, evaluate any needs/issues/considerations for plan adjustments
- Clean Water Project Sign installed during construction
- Stormwater BMP(s) implemented, final construction walkthrough
- Other permit-required activities completed or elements installed (if applicable), VDHP Treatment Plan implementation (if applicable)
- Return of Clean Water Project sign to host site
- Project complete

Project Budget

Table 1: Preliminary budget for the Castleton Village School Infiltration Project Design.

Category	Amount	Match	Total
Personnel	$4575	Potentially, yes	$4575
Fringe	Included in rate		$0
Travel	N/A		$0
Supplies	N/A		$0
Professional Services	$30,500		$30,500
Indirect	Included in rate		$0
Total	$35,075		$35,075

Budget Narrative

Personnel: The South Lake CWSP will provide staff to manage this project. The project management costs will be up to 15% of the project budget. This will include overseeing all necessary permit and/or VDHP reviews.

Professional services: Up to $30,500 will be used to implement the project.

Match will occur when partners and stakeholders are involved with site visits, meetings, and stakeholder meetings. Match will be recorded and submitted for DEC use, as requested.

Indirect: Indirect is included in staff hourly rates. RRPC has an approved indirect rate and the PMNRCD indirect rate is 10%.

Project Eligibility Screening from CWIP Funding Policy Appendix A

- Please find the CWIP project eligibility screening form attached.
- In addition, four design sheets from Stone Environmental begin on the next page.

Macomber Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Fair Haven	Responsible Party:	Private Landowner
Project Name:	Macomber Gully 1		
Project Latitude and Longitude:	43.615106, -73.263797		

STP Type: Rock Stabilization

STP description:

Stabilize gully through addition of stone to prevent continued erosion.

Feasibility constraints and comments:

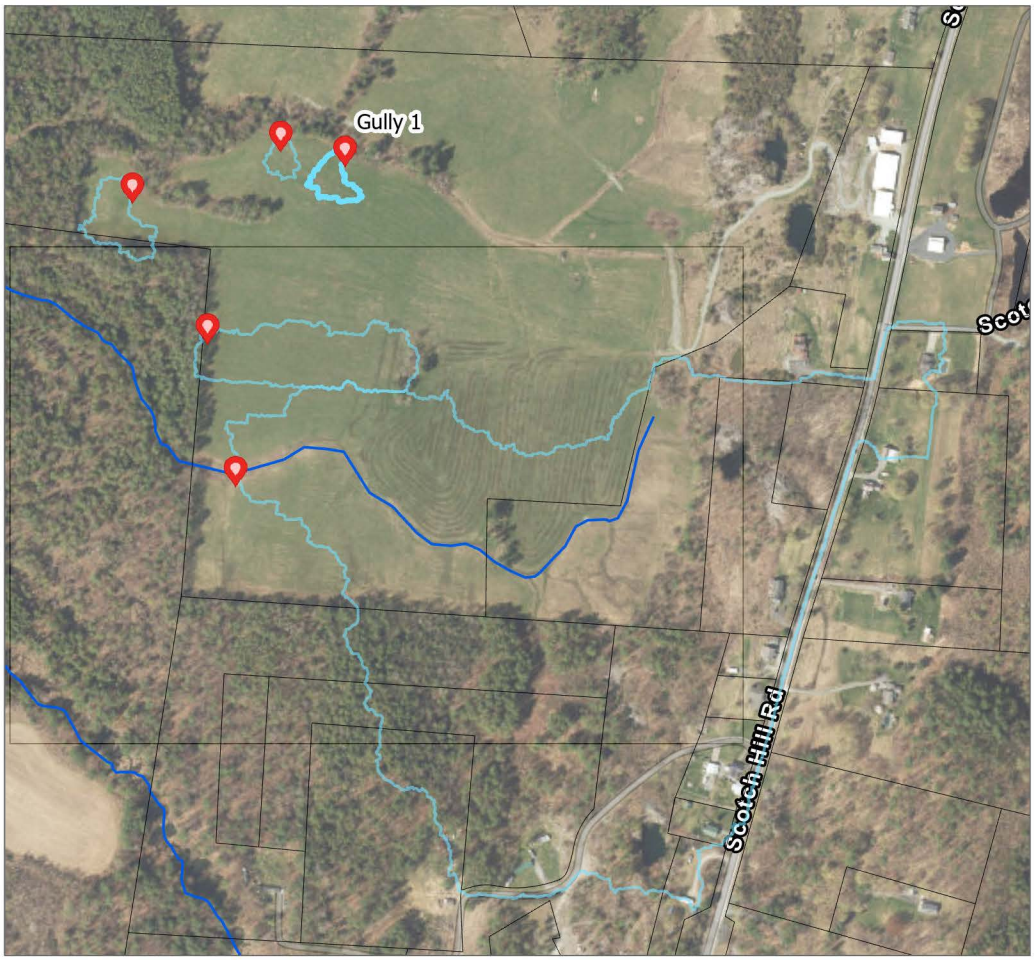
Constraints: None known

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$2,300
Total Drainage Area (acres)	0.392
Impervious area managed (acres)	0
Pervious area managed (acres)	0.392
Percent Impervious (%)	0
Base P Load (kg/yr)	3.90
Hydrologic Soil Group (HSG)	D
Water Quality volume managed (cubic feet)	NA
P Credit (kg/yr)	3.12
$ per kg of P managed	$740
Extent of Erosion managed (cubic feet)	480

Site map



LEGEND

- Field-Verified Gully Location
- Gully 1 Watershed
- Parcels
- Streams and Rivers

Photo: Gully 1 undercutting below the fence.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx Gully1
Modified: 5/17/2024 11:28 AM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

Macomber Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Fair Haven	Responsible Party:	Private Landowner
Project Name:	Macomber Gully 2		
Project Latitude and Longitude:	43.615239, -73.264624		

STP Type: Rock Stabilization

STP description:

Stabilize gully through addition of stone to prevent continued erosion.

Feasibility constraints and comments:

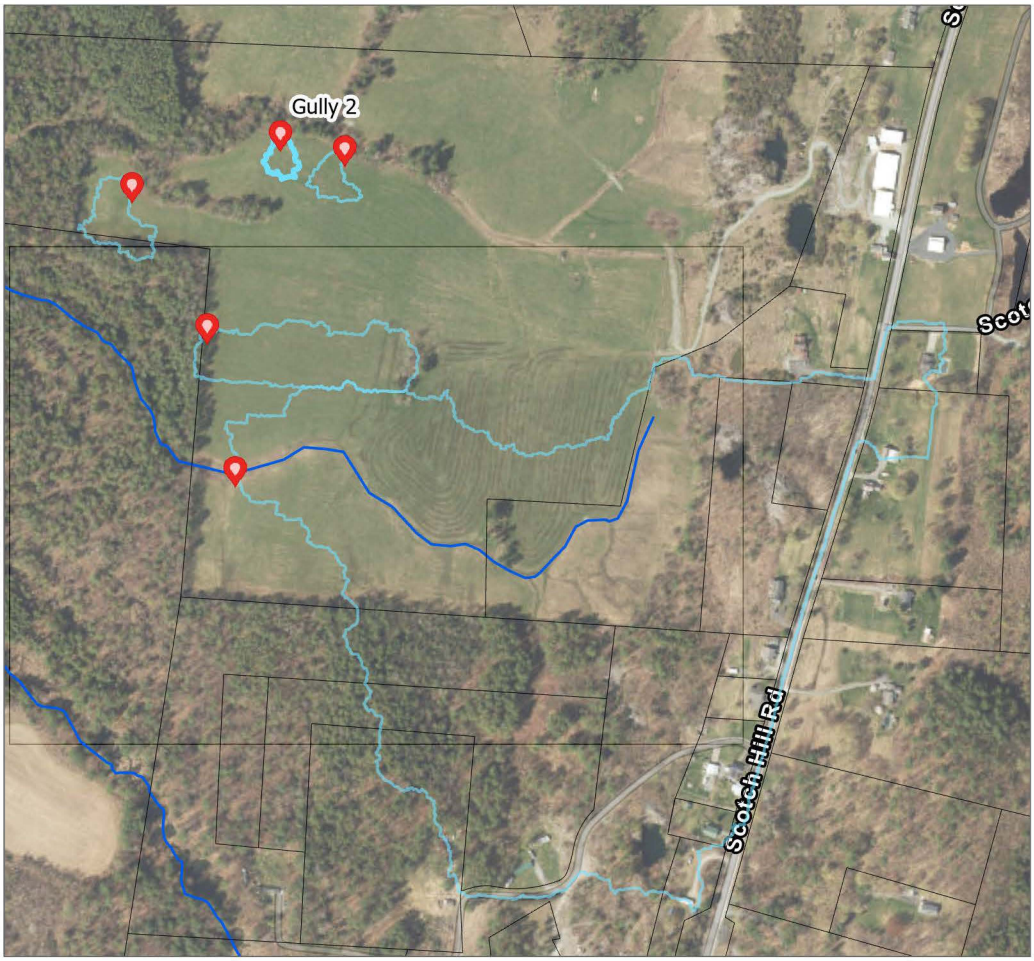
Constraints: None known

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$300
Total Drainage Area (acres)	0.277
Impervious area managed (acres)	0
Pervious area managed (acres)	0.277
Percent Impervious (%)	0
Base P Load (kg/yr)	0.487
Hydrologic Soil Group (HSG)	D
Water Quality volume managed (cubic feet)	NA
P Credit (kg/yr)	0.390
$ per kg of P managed	$770
Extent of Erosion managed (cubic feet)	60

Site map



LEGEND

- Field-Verified Gully Location
- Gully 2 Watershed
- Parcels
- Streams and Rivers

Photo: Gully 2 starting to form.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx Gully2
Modified: 5/17/2024 11:27 AM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

Macomber Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Fair Haven	Responsible Party:	Private Landowner
Project Name:	Macomber Gully 3		
Project Latitude and Longitude:	43.614746, -73.266516		

STP Type: Rock Stabilization

STP description:

Stabilize gully through addition of stone to prevent continued erosion.

Feasibility constraints and comments:

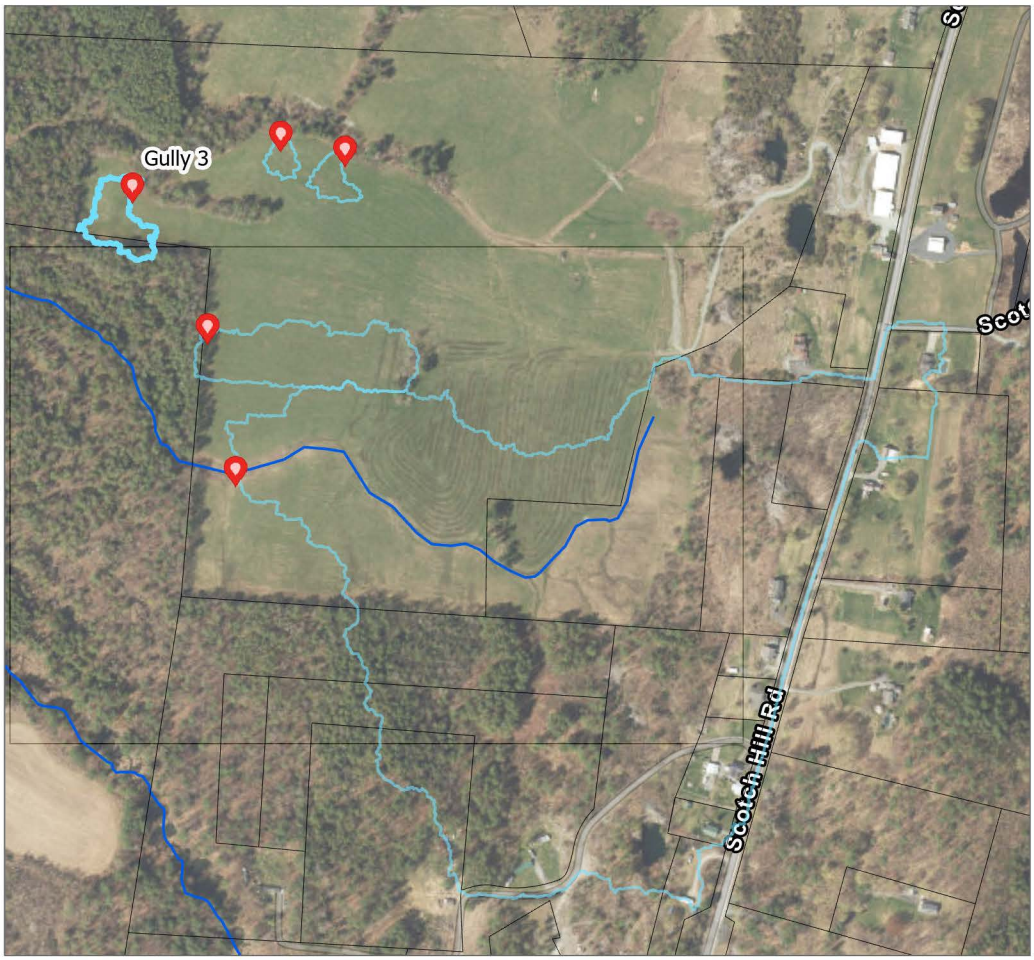
Constraints: None known

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$27,000
Total Drainage Area (acres)	0.920
Impervious area managed (acres)	0
Pervious area managed (acres)	0.920
Percent Impervious (%)	0
Base P Load (kg/yr)	45.6
Hydrologic Soil Group (HSG)	D
Water Quality volume managed (cubic feet)	NA
P Credit (kg/yr)	36.5
$ per kg of P managed	$740
Extent of Erosion managed (cubic feet)	5,600

Site map



LEGEND

- Field-Verified Gully Location
- Gully 3 Watershed
- Parcels
- Streams and Rivers

Photo: Gully 3 as it leaves the farm field and enters the woods.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx Gully3
Modified: 5/17/2024 11:26 AM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

Macomber Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Fair Haven	Responsible Party:	Private Landowner
Project Name:	Macomber Gully 4		
Project Latitude and Longitude:	43.613442, -73.265537		

STP Type: Rock Stabilization

STP description:

Stabilize gully through addition of stone to prevent continued erosion.

Feasibility constraints and comments:

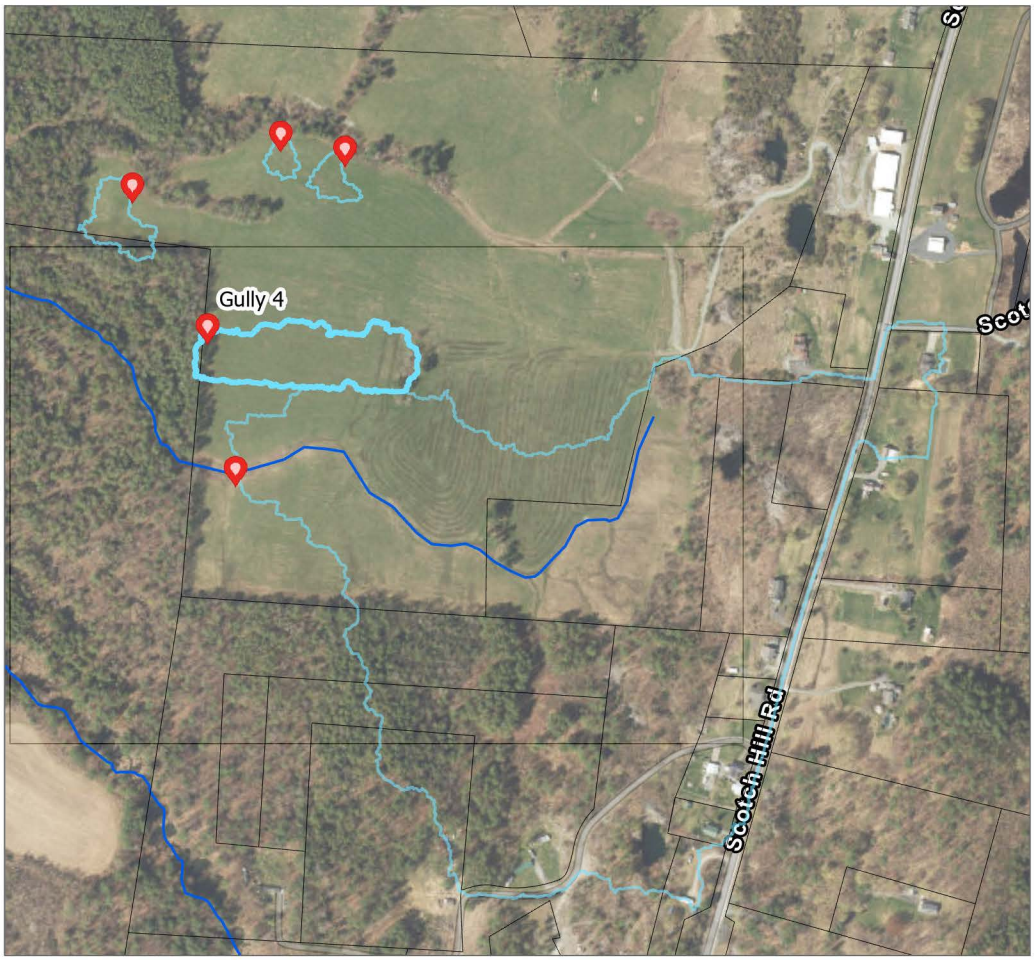
Constraints: None known

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$900
Total Drainage Area (acres)	3.26
Impervious area managed (acres)	0
Pervious area managed (acres)	3.26
Percent Impervious (%)	0
Base P Load (kg/yr)	1.46
Hydrologic Soil Group (HSG)	D
Water Quality volume managed (cubic feet)	NA
P Credit (kg/yr)	1.17
$ per kg of P managed	$770
Extent of Erosion managed (cubic feet)	180

Site map



LEGEND

- Field-Verified Gully Location
- Gully 4 Watershed
- Parcels
- Streams and Rivers

Photo: Gully 4 as it leaves the farm field and enters the woods.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx Gully4
Modified: 5/17/2024 11:22 AM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Potentially, this project identification fund could help identify projects that collectively meet all of the listed project purposes.	Minimize anthropogenic nutrient and organic pollution

Step 2: Conduct Eligibility Criteria #2 Screening: Project Types and Standards

Table 2A: Project Types and Standards	
Please select the most representative project type from the drop-down list to the right.[1,2] If multiple BMPs are included in the project, please list below:	Floodplain/Stream Restoration - Preliminary Engineering D
Is the project type an eligible project type for the funding program you are applying to as listed in column B of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Does the project meet the project type definitions and minimum standards as provided in column C of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Will the project result in the standard performance measures, milestones, and deliverables as defined by project type in columns D-F of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Is the project listed as an ineligible project or activity in the CWIP Funding Policy? If Yes, please explain below how project meets the allowable exceptions within the CWIP Funding Policy. Work will need to be approved by DEC - gully project. (Answer must be NO to proceed, unless reasonable justification is provided above)	Yes ○ No ○

Step 3: Conduct Eligibility Criteria #3 Screening: Watershed Projects Database

Verify project has been recorded in the Watershed Project Database (WPD). Each project must have a Watershed Project Database number specific to the proposed project phase (for example,

[1] Note that Road/Stormwater Gully project-types must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program and therefore project proponent must show documentation of this determination in order to select this project type.

[2] One project may include multiple best management practices (BMPs) that cross "project types." For example, a single project may include both stormwater and lake shoreland BMPs. Proponents should use their best judgement in selecting the most representative project type for the purposes of eligibility screening and reporting.

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see CWIP Funding Policy for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	Number in process
Watershed Project Database Project Name	Thompson Gully Restoration and Stormwater Project

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts[3]

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. [4]

1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. [5] Please note that "project site" may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
    a. Proponents should send the identified permitting staff the following:
        i. The watersheds project database identification number (WPD-ID) (if available),
        ii. Project location (GPS coordinates)
        iii. Summary of proposed scope of work, and
        iv. Any other relevant information they request that will be utilized in their review.
    b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
    c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

[3] Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

[4] In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

[5] Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The ANR Permit Navigator and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
   a. Which permits or permit amendment are needed or might be needed? [6]
   b. What type might be needed? (e.g., a general or individual permit[7])?
   c. What concerns were voiced by permitting staff?
   d. How will the proposed scope of work address these concerns?[8]

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont's Land Use and Development Control Law) Permits been issued in the project site's parcel location?[9]	**Yes** ◯	**No** ◯
If ***yes***, please provide the permit number and list any water resource issues or natural resource issues found[10]: **PermitNumber:** **ResourceIssues:** _____ If ***yes***, use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. **Regulatory Point of Contact Name/Position:**		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	**Yes** ◯	**No** ◯

[6] Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

[7] Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

[8] Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

[9] An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[10] Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? [11]	
If ***yes***, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region. **Regulatory Point of Contact Name/Position:** Laura Dlugolecki	
III. Rivers, River Corridors, and Flood Hazard Areas	
1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area[12]? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.	Yes ◯ No ◯
If ***yes***, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region. **Regulatory Point of Contact Name/Position:** Kyle Medash	
2. Is any portion of the project site within a perennial river or stream channel? [13]	Yes ◯ No ◯
If ***yes***, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region. **Regulatory Point of Contact Name/Position:** Josh Carvajal and Shannon Pytlik	
IV. Wetland	

[11] The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[12] FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: https://msc.fema.gov/portal/home. ANR Floodplain Managers are available to provide technical assistance if needed.

[13] Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

1. Does the Wetland Screening Tool[14] provide a result of wetlands likely, very likely, or present at the project site?	Yes ◯ No ◯
2. Does your project site involve land that is in or near an area that has any of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)	Yes ◯ No ◯ Not Sure ◯

If you answered ***yes*** or ***not sure*** to either of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered ***yes*** or ***not sure*** to either of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.

Regulatory Point of Contact Name/Position:

Zapata Courage

1. Is your project a Wetland Restoration project type?	Yes ◯ No ◯

If you answered yes, under the Vermont Wetland Rules you will need an "allowed use" determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.

Regulatory Point of Contact Name/Position: Zapata Courage, DEC Wetlands Specialist

V. Fish and Wildlife

State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit. 1. **Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns?** Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting	Yes ◯ No ◯

[14] To view the Wetland Screening Tool introduction video, see https://youtu.be/6lv5en0AB1o

2. Is the project site within 1 mile of a mapped[15] Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes ◯ No ◯
If *yes* to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes ◯ No ◯
If *yes*, forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. **Regulatory Point of Contact Name/Position:**	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? [16]	Yes ◯ No ◯
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
Provide below or attach a narrative summary of Table 4 findings. Please include: a. Which permits or permit amendment are needed or might be needed? b. What type might be needed? (e.g. a general or individual permit)? c. What concerns were voiced by permitting staff? d. How will the proposed scope of work address these concerns?	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes ◯ No ◯

[15] Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

[16] If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a licensed solid waste hauler and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes ◯ No ◯
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes ◯ No ◯
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes ◯ No ◯ N/A ◯
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: Water Quality Restoration Formula Grant (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes ◯ No ◯

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See CWIP Project Types Table for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation[17]? Complete a preliminary review to	◯ **Yes** - Proceed to next question below.

[17] Jurisdictional farm operations are required to meet Vermont's Required Agricultural Practices (RAPs).

determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.	◯ **No**[18] - There is no additional requirements related to agricultural review for these projects.
2. Is the proposed project an agricultural project? Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.	◯ **Yes** - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization. ◯ **No** - The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below. **Step 1** - Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFM at AGR.WaterQuality@Vermont.gov . **Step 2** - Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.

Agricultural Project Review Status & Summary:	
Check as Applicable	**Status**
☐	Submitted/ Pending
☐	Approved
☐	Denied

[18] Note CWIP's Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the Appendix B. Project Types Table are not subject to review by VAAFM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status "submitted/pending" will be "approved" prior to a project approval for funding.

PROJECT APPLICATION FOR THE SOUTH LAKE CWSP
ROUND 5: MAY 2024

Cover Page Information

Contact Information: South Lake Champlain (SLC) CWSP; Hilary Solomon and Barbara Noyes-Pulling

Hilary Solomon, PMNRCD
Po Box 209, Poultney, VT 05764
(802) 558-3515 / hilary@pmnrcd.org

Barbara Noyes-Pulling, RRPC
PO Box 430, Rutland, VT 05702
(802) 775-0871 x207 / barbara@rutlandrpc.org

Project Name: Macomber Stream Restoration Project

Project ID number: In progress

Project Location: South Lake Champlain Watershed, Mud Brook, Scotch Hill Rd, Fair Haven

Project Type: Stream Restoration – conceptual design

Project Sector: Developed Lands and Ag Lands

Project Stage: Conceptual (30%) Design

Funds being requested: $34,500
Matching funds: $0

Project Summary

This project consists of a large agricultural drainage area, 59.7 acres, and a stream with erosion, incision, and headcuts. The South Lake CWSP used their early-stage funds to hire Stone Environmental, Branden Martin, to quantify the potential phosphorus mitigation through project installations at this site and to estimate the cost of those potential projects.

The initial phosphorus treatment estimates roughly 156 kg per year at a potential cost of $580,000 ($3,700 average per kg reduction).

Project Description

The project includes developing a stream restoration design to stabilize a small ephemeral stream channel and its banks, mitigate erosion and high-velocity stream flows, and reconnect its floodplain. The design will include wetland delineation and consultations with the DEC rivers scientist and stream alterations engineer.

The South Lake CWSP will hire a consultant to create a conceptual stream restoration design that minimizes future erosion in this tributary. CWSP staff will work with local DEC regulators to permit the project and will get a signed site access agreement (written documentation allowing access would precede any design work). The landowners are very enthusiastic about this project.

The goals of this project include:

- Create a conceptual design to maximize phosphorus mitigation and stream restoration,
- Get a signed site access agreement from involved landowner, Al Macomber.
- Finalize the potential project efficiencies (cost per kg phosphorus reduced) based on DEC recommendations and the CWIP funding policy. The design will include phosphorus calculation/interim phosphorus calculator outputs with some detail about the parameters used and major assumptions. The CWSP will use accepted DEC tools, such as the DEC Stormwater Treatment Practice Calculator.
- Additionally, the CWSP will manage, track, and report the results of this project per DEC requirements and will interface with Vermont DEC technical staff as needed.

Applicable strategies from the 2022 South Lake Tactical Basin Plan:

- Strategy 13: Provide technical assistance and funding to develop high and medium priority projects.
- Strategy 15: Implement high and medium priority stormwater projects from SWMPs and stormwater mapping reports.

Preliminary design of high priority stream/river and floodplain restoration projects to restore the stream/river to least erosive condition (i.e., equilibrium condition) and improve habitat. Restoration work includes channel/floodplain modification to improve equilibrium dimensions/connections OR removal/retrofit of river corridor/floodplain encroachments or instream structures. Work must result in at least 30% design of project.

Applicable Milestones from the 2023 CWIP Funding Policy:

- Project initiated; proposal/bid solicitations issued and contractor selected (if applicable)
- Conceptual site plan drafted
- Stakeholder meetings
- DEC Programmatic Staff Engagement
- Other permit-required assessments or plans completed (if applicable)
- Preliminary (30%) design complete
- Preliminary VDHP Project Review
- Project complete

Project Budget

Table 1: Preliminary budget for the Macomber Stream Restoration Conceptual Design.

Category	Amount	Match	Total
Personnel	$4500	Potentially, yes	$4500
Fringe	Included in rate		$0
Travel	N/A		$0
Supplies	N/A		$0
Professional Services	$30,000		$30,000
Indirect	Included in rate		$0
Total	$34,500		$34,500

Budget Narrative

Personnel: The South Lake CWSP will provide staff to manage this project. The project management costs will be up to 15% of the project budget.

Professional services: Up to $30,000 will be used to hire a consultant to complete a conceptual design with needed permitting, VDHP review, and operations and maintenance planning steps included.

Match will occur when partners and stakeholders are involved with site visits, meetings, and stakeholder meetings. Match will be recorded and submitted for DEC use, as requested.

Indirect: Indirect is included in staff hourly rates. RRPC has an approved indirect rate and the PMNRCD indirect rate is 10%.

Project Eligibility Screening from CWIP Funding Policy Appendix A

- Please find the CWIP project eligibility screening form attached.
- In addition, an engineering sheet from Stone Environmental begins on the next page.

Macomber Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Fair Haven	Responsible Party:	Private Landowner
Project Name:	Mud Brook Unnamed Tributary		
Project Latitude and Longitude:	43.612118, -73.265161		

STP Type: Stream Restoration

STP description:

Mud Brook Unnamed Tributary is a mapped blue-line stream and will require a stream restoration design to stabilize the channel and its banks, mitigate erosion and high-velocity storm flows, and reconnect its floodplain. Implementation will require wetland delineation, stream alteration permitting, and consultation with Vermont river engineers.

Feasibility constraints and comments:

Constraints: Stream Alteration Permit

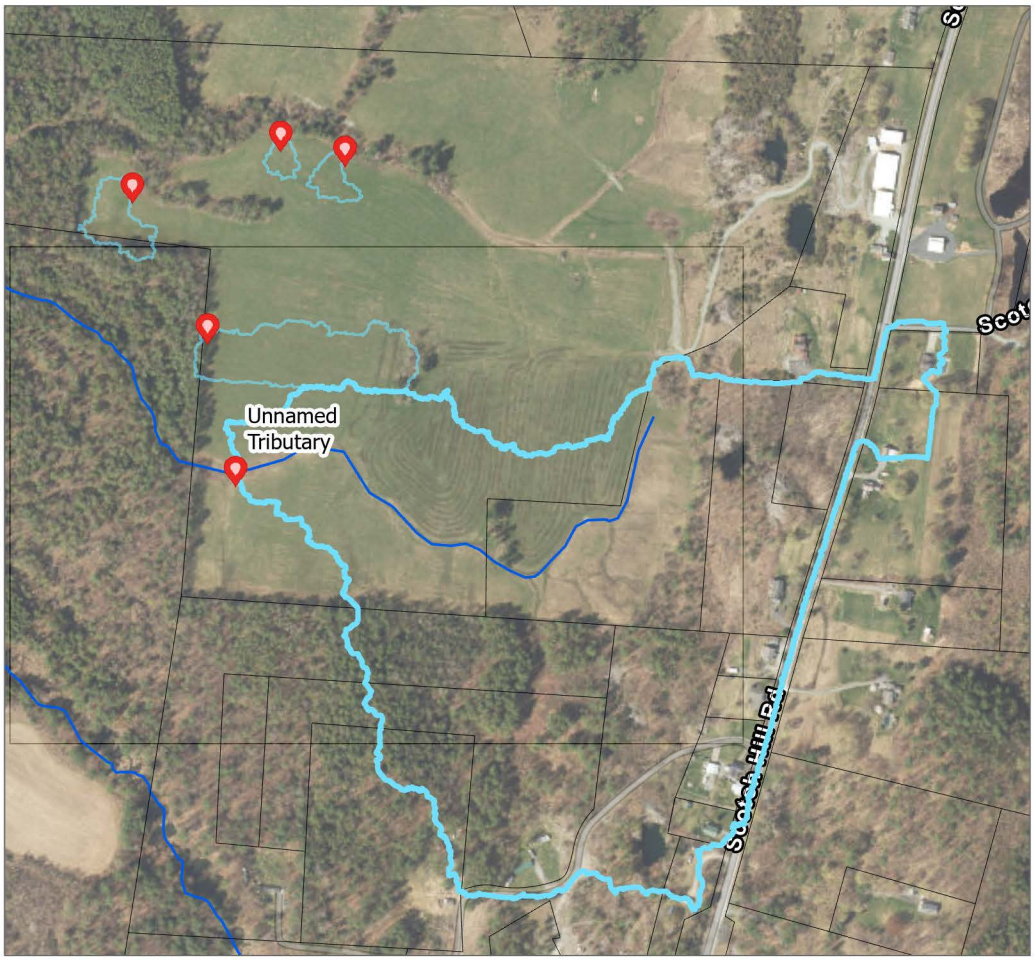
Additional Project Benefits: Aquatic and wildlife habitat, improved water quality, flood resilience

Comments: P load calculated based on extent of erosion, method will be refined should a stream restoration project be advanced.

Proposed STP details:

Estimated Project Cost (2025 dollars)	$580,000
Total Drainage Area (acres)	59.7
Impervious area managed (acres)	3.21
Pervious area managed (acres)	56.6
Percent Impervious (%)	5.4
Base P Load (kg/yr)	195
Hydrologic Soil Group (HSG)	D
Water Quality volume managed (cubic feet)	NA
P Credit (kg/yr)	156
$ per acre of impervious managed	$180,000
$ per kg of P managed	$3,700
Extent of Erosion managed (cubic feet)	120,000

Site map



LEGEND

- Field-Verified Gully Location
- Mud Brook Unnamed Tributary Watershed
- Parcels
- Streams and Rivers

Photo: The Unnamed Tributary to the Mud Brook has experienced extensive erosion.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx Gully5
Modified: 5/17/2024 1:04 PM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Potentially, this project identification fund could help identify projects that collectively meet all of the listed project purposes.	Minimize anthropogenic nutrient and organic pollution

Step 2: Conduct Eligibility Criteria #2 Screening: Project Types and Standards

Table 2A: Project Types and Standards	
Please select the most representative project type from the drop-down list to the right.[1,2] If multiple BMPs are included in the project, please list below:	Floodplain/Stream Restoration - Preliminary Engineering D
Is the project type an eligible project type for the funding program you are applying to as listed in column B of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Does the project meet the project type definitions and minimum standards as provided in column C of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Will the project result in the standard performance measures, milestones, and deliverables as defined by project type in columns D-F of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Is the project listed as an ineligible project or activity in the CWIP Funding Policy? If Yes, please explain below how project meets the allowable exceptions within the CWIP Funding Policy. Work will need to be approved by DEC - gully project. (Answer must be NO to proceed, unless reasonable justification is provided above)	Yes ○ No ○

Step 3: Conduct Eligibility Criteria #3 Screening: Watershed Projects Database

Verify project has been recorded in the Watershed Project Database (WPD). Each project must have a Watershed Project Database number specific to the proposed project phase (for example,

[1] Note that Road/Stormwater Gully project-types must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program and therefore project proponent must show documentation of this determination in order to select this project type.

[2] One project may include multiple best management practices (BMPs) that cross "project types." For example, a single project may include both stormwater and lake shoreland BMPs. Proponents should use their best judgement in selecting the most representative project type for the purposes of eligibility screening and reporting.

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see CWIP Funding Policy for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	Number in process
Watershed Project Database Project Name	Thompson Gully Restoration and Stormwater Project

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts[3]

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. [4]

1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. [5] Please note that "project site" may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
    a. Proponents should send the identified permitting staff the following:
        i. The watersheds project database identification number (WPD-ID) (if available),
        ii. Project location (GPS coordinates)
        iii. Summary of proposed scope of work, and
        iv. Any other relevant information they request that will be utilized in their review.
    b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
    c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

[3] Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

[4] In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

[5] Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The ANR Permit Navigator and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
   a. Which permits or permit amendment are needed or might be needed? [6]
   b. What type might be needed? (e.g., a general or individual permit[7])?
   c. What concerns were voiced by permitting staff?
   d. How will the proposed scope of work address these concerns?[8]

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont's Land Use and Development Control Law) Permits been issued in the project site's parcel location?[9]	**Yes** ◯	**No** ◯
If ***yes***, please provide the permit number and list any water resource issues or natural resource issues found[10]: **PermitNumber:** **ResourceIssues:** _____ If ***yes***, use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. **Regulatory Point of Contact Name/Position:**		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	**Yes** ◯	**No** ◯

[6] Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

[7] Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

[8] Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

[9] An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[10] Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? [11]	
If ***yes***, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region. **Regulatory Point of Contact Name/Position:** Laura Dlugolecki	
III. Rivers, River Corridors, and Flood Hazard Areas	
1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area[12]? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.	Yes ◯ No ◯
If ***yes***, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region. **Regulatory Point of Contact Name/Position:** Kyle Medash	
2. Is any portion of the project site within a perennial river or stream channel? [13]	Yes ◯ No ◯
If ***yes***, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region. **Regulatory Point of Contact Name/Position:** Josh Carvajal and Shannon Pytlik	
IV. Wetland	

[11] The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[12] FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: https://msc.fema.gov/portal/home. ANR Floodplain Managers are available to provide technical assistance if needed.

[13] Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

1. Does the Wetland Screening Tool[14] provide a result of wetlands likely, very likely, or present at the project site?	Yes ◯ No ◯
2. Does your project site involve land that is in or near an area that has any of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)	Yes ◯ No ◯ Not Sure ◯

If you answered ***yes*** or ***not sure*** to either of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered ***yes*** or ***not sure*** to either of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.

Regulatory Point of Contact Name/Position:

Zapata Courage

1. Is your project a Wetland Restoration project type?	Yes ◯ No ◯

If you answered yes, under the Vermont Wetland Rules you will need an "allowed use" determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.

Regulatory Point of Contact Name/Position: Zapata Courage, DEC Wetlands Specialist

V. Fish and Wildlife

State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit. 1. **Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns?** Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting	Yes ◯ No ◯

[14] To view the Wetland Screening Tool introduction video, see https://youtu.be/6lv5en0AB1o

2. Is the project site within 1 mile of a mapped[15] Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes ◯ No ◯
If *yes* to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes ◯ No ◯
If *yes*, forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. **Regulatory Point of Contact Name/Position:**	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? [16]	Yes ◯ No ◯
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
Provide below or attach a narrative summary of Table 4 findings. Please include: a. Which permits or permit amendment are needed or might be needed? b. What type might be needed? (e.g. a general or individual permit)? c. What concerns were voiced by permitting staff? d. How will the proposed scope of work address these concerns?	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes ◯ No ◯

[15] Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

[16] If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a licensed solid waste hauler and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes ◯ No ◯
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes ◯ No ◯
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes ◯ No ◯ N/A ◯
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: Water Quality Restoration Formula Grant (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes ◯ No ◯

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See CWIP Project Types Table for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation[17]? Complete a preliminary review to	◯ **Yes** - Proceed to next question below.

[17] Jurisdictional farm operations are required to meet Vermont's Required Agricultural Practices (RAPs).

determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.	◯ **No**[18] - There is no additional requirements related to agricultural review for these projects.
2. Is the proposed project an agricultural project? Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.	◯ **Yes** - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization. ◯ **No** - The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below. **Step 1** - Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFM at AGR.WaterQuality@Vermont.gov . **Step 2** - Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.

Agricultural Project Review Status & Summary:	
Check as Applicable	**Status**
☐	Submitted/ Pending
☐	Approved
☐	Denied

[18] Note CWIP's Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the Appendix B. Project Types Table are not subject to review by VAAFM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status "submitted/pending" will be "approved" prior to a project approval for funding.

PROJECT APPLICATION FOR THE SOUTH LAKE CWSP
ROUND 5: MAY 2024

Cover Page Information

Contact Information: Town of Castleton, Mike Jones, Town Manager

Mike Jones, Manager
Town of Castleton
263 Rte 30 North, Bomoseen, VT 05732
(802) 468-5319 x2 / manager@castletonvt.org

Project Name: West Crystal Haven Stormwater Treatment

Project ID number: In progress

Project Location: South Lake Watershed, West Crystal Haven Rd, Castleton, VT 05735

Project Type: Stormwater – Conceptual Design

Project Sector: Developed Lands

Project Stage: Conceptual (30%) Design

Funds being requested: $27,000
Matching funds: $500

Project Summary

The northernmost stormwater outfall in West Crystal Haven was identified by the Town of Castleton, PMNRCD, and local landowners as a potential location to site multiple stormwater remediation projects to intercept dirty water draining from roads and other impervious surfaces to Lake Bomoseen. Stone Environmental engineer, Branden Martin, was hired to quantify the amount of phosphorus that could be mitigated through projects at this site and to estimate the cost of those potential projects.

The total watershed area for this project is 18 acres and the initial phosphorus treatment estimates are 5.66 kg per year. The total cost of all three projects in this area is $185,000.

Project Description

This location has long been an issue for the local landowners, with obvious dirty water entering Lake Bomoseen from upland runoff and more recently with flooding and local erosion of the road and nearby properties. The site is a high priority for the Town of Castleton, which is committed to maintaining good water quality in Lake Bomoseen.

The project includes installing multiple infiltration practices in open areas of land within the drainage area and a deep sump at the entrance of the cross culvert that drains to the lake.

The Town of Castleton will hire a consultant to create a conceptual stormwater design that maximizes the volume of water treated. The town will work with local DEC staff to permit the project (if needed) and to get a signed operations and maintenance agreement (written documentation naming an O&M responsible party would precede any design work).

The goals of this project include:

- Create a conceptual design to maximize phosphorus mitigation and stormwater infiltration,
- Get a signed operations and maintenance agreement from involved landowners, including Tom Kearns, the landowner who hosts the culvert that drains to the lake,
- Finalize the potential project efficiencies (cost per kg phosphorus reduced) to inform implementation. The design will include phosphorus calculation/interim phosphorus calculator outputs with some detail about the parameters used and major assumptions. The town will use accepted DEC tools, such as the DEC Stormwater Treatment Practice Calculator.
- Additionally, the town will manage, track, and report the results of this project per DEC requirements and will interface with Vermont DEC technical staff as needed.

Applicable strategies from the 2022 South Lake Tactical Basin Plan:

- Strategy 13: Provide technical assistance and funding to develop high and medium priority projects.
- Strategy 15: Implement high and medium priority stormwater projects from SWMPs and stormwater mapping reports.

Conceptual Design Definition: Preliminary design of high priority Tier 1 or Tier 2 stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient, sediment and/or other contaminant pollution from hard surfaces associated with developed/urban/suburban areas. Work must result in at least 30% design of project. Refer to most updated Vermont Stormwater Management Manual for more information on Tier 1 and Tier 2 practices.

Applicable Milestones from the 2023 CWIP Funding Policy:

- Project initiated; proposal/bid solicitations issued and contractor selected (if applicable)
- Conceptual site plan drafted
- Stakeholder meetings
- **Other permit-required assessments or plans completed** (if applicable)

- Preliminary (30%) design complete
- **Preliminary VDHP Project Review** (if applicable)
- Project complete

Project Budget

Table 1: Preliminary budget for the Castleton Village School Infiltration Project Design.

Category	Amount	Match	Total
Personnel	$0	Potentially, yes	$500
Fringe	Included in rate		$0
Travel	N/A		$0
Supplies	N/A		$0
Professional Services	$27,000		$27,000
Indirect	Included in rate		$0
Total	$27,000		$27,500

Budget Narrative

Personnel: The Town of Castleton will cover staff costs to administer the project. Typical activities will include putting the project out to bid, writing the subcontract for an engineer to initiate the design, and outreach to neighboring properties.

Professional services: Up to $27,000 will be used to hire a consultant to complete a conceptual design with needed permitting, VDHP review, and operations and maintenance planning steps included.

Match will occur when partners are involved with site visits, meetings, and stakeholder meetings. Match will be recorded and submitted for DEC use, as requested.

Indirect: N/A

Project Eligibility Screening from CWIP Funding Policy Appendix A

- Please find the CWIP project eligibility screening form attached.
- In addition, three field sheets begin on the next page.

Crystal Haven Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Crystal Haven	**Responsible Party:**	Town of Castleton
Project Name:	Gravel Wetland 1		
STP Latitude and Longitude:	43.666463, -73.192862		
STP Type:	Gravel Wetland		

STP description:

This gravel wetland will treat runoff from 10 properties on East and West Crystal Haven Roads, reducing stormwater flows to an overwhelmed culvert and decreasing pollution entering Lake Bomoseen.

Feasibility constraints and comments:

Constraints: Potential utility conflicts (buried and overhead), existing residential infrastructure, private property owners

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$60,000
Total Drainage Area (acres)	4.19
Impervious area managed (acres)	0.715
Pervious area managed (acres)	3.47
Percent Impervious (%)	17
Base P Load (kg/yr)	2.47
Hydrologic Soil Group (HSG)	D, A, C
Water Quality volume managed (cubic feet)	3,095
Practice Efficiency (%)	55.52
P Credit (kg/yr)	1.37
$ per acre of impervious managed	$83,937
$ per kg of P managed	$43,795

Site map

LEGEND

- Gravel Wetland 1 Approximate Location
- Gravel Wetland 1 Watershed
- Untreated Area
- Parcels

Photo: Possible treatment location for Gravel Wetland 1.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx GW1
Modified: 5/17/2024 3:31 PM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

Crystal Haven Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Crystal Haven	Responsible Party:	Town of Castleton
Project Name:	Gravel Wetland 2		

STP Latitude and Longitude: 43.667017, -73.192285

STP Type: Gravel Wetland

STP description:

This gravel wetland will treat runoff from 13 properties and part of VT Route 30, reducing stormwater flows to an overwhelmed culvert and decreasing pollution entering Lake Bomoseen.

Feasibility constraints and comments:

Constraints: Potential utility conflicts (buried and overhead), existing residential infrastructure, private property owners

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$100,000
Total Drainage Area (acres)	13.1
Impervious area managed (acres)	1.41
Pervious area managed (acres)	11.7
Percent Impervious (%)	11
Base P Load (kg/yr)	7.80
Hydrologic Soil Group (HSG)	C, D, A
Water Quality volume managed (cubic feet)	6,993
Practice Efficiency (%)	54.07
P Credit (kg/yr)	4.22
$ per acre of impervious managed	$70,922
$ per kg of P managed	$23,697

Site map

LEGEND

- Gravel Wetland 2 Approximate Location
- Gravel Wetland 2 Watershed
- Untreated Area
- Parcels

Photo: Possible location for Gravel Wetland 2.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx GW2
Modified: 5/17/2024 3:32 PM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

Crystal Haven Stormwater Project Development

Lake Segment:	South Lake Basin		
Project Location:	Town of Crystal Haven	**Responsible Party:**	Town of Castleton
Project Name:	Deep Sump Catch Basin		
STP Latitude and Longitude:	43.667055, -73.192969		
STP Type:	Deep Sump Catch Basin		

STP description:

This deep sump catch basin will provide substantial sediment retention and prevent it from entering Lake Bomoseen.

Feasibility constraints and comments:

Constraints: Potential utility conflicts (buried and overhead), existing residential infrastructure, private property owners

Additional Project Benefits: Improved water quality, flood resilience

Proposed STP details:

Estimated Project Cost (2025 dollars)	$25,000
Total Drainage Area (acres)	0.719
Impervious area managed (acres)	0.0993
Pervious area managed (acres)	0.620
Percent Impervious (%)	14
Base P Load (kg/yr)	0.12
Hydrologic Soil Group (HSG)	D, C
Water Quality volume managed (cubic feet)	455
Practice Efficiency (%)	62
P Credit (kg/yr)	0.07
$ per acre of impervious managed	$250,000
$ per kg of P managed	$210,000

Site map

LEGEND

- Catch Basin Approximate Location
- Catch Basin Watershed
- Untreated Area
- Parcels

Photo: 18" CPEP Pipe that would flow into the deep sump catch basin.

Path: O:\PROJ-24\WRM\20241049 Early Stage Development for Macomber Gullies and W. Crystal Haven\Design\GIS and Data\Macomber_Crystal_Haven_Gullies\Macomber_Crystal_Haven_Gullies.aprx CB
Modified: 5/17/2024 3:29 PM by sbailey

Source: Esri World Imagery

STONE ENVIRONMENTAL

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Potentially, this project identification fund could help identify projects that collectively meet all of the listed project purposes.	Minimize anthropogenic nutrient and organic pollution

Step 2: Conduct Eligibility Criteria #2 Screening: Project Types and Standards

Table 2A: Project Types and Standards	
Please select the most representative project type from the drop-down list to the right.[1,2] If multiple BMPs are included in the project, please list below:	Floodplain/Stream Restoration - Preliminary Engineering D
Is the project type an eligible project type for the funding program you are applying to as listed in column B of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Does the project meet the project type definitions and minimum standards as provided in column C of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Will the project result in the standard performance measures, milestones, and deliverables as defined by project type in columns D-F of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Is the project listed as an ineligible project or activity in the CWIP Funding Policy? If Yes, please explain below how project meets the allowable exceptions within the CWIP Funding Policy. Work will need to be approved by DEC - gully project. (Answer must be NO to proceed, unless reasonable justification is provided above)	Yes ○ No ○

Step 3: Conduct Eligibility Criteria #3 Screening: Watershed Projects Database

Verify project has been recorded in the Watershed Project Database (WPD). Each project must have a Watershed Project Database number specific to the proposed project phase (for example,

[1] Note that Road/Stormwater Gully project-types must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program and therefore project proponent must show documentation of this determination in order to select this project type.

[2] One project may include multiple best management practices (BMPs) that cross "project types." For example, a single project may include both stormwater and lake shoreland BMPs. Proponents should use their best judgement in selecting the most representative project type for the purposes of eligibility screening and reporting.

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see CWIP Funding Policy for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	Number in process
Watershed Project Database Project Name	Thompson Gully Restoration and Stormwater Project

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts[3]

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. [4]

1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. [5] Please note that "project site" may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
    a. Proponents should send the identified permitting staff the following:
        i. The watersheds project database identification number (WPD-ID) (if available),
        ii. Project location (GPS coordinates)
        iii. Summary of proposed scope of work, and
        iv. Any other relevant information they request that will be utilized in their review.
    b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
    c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

[3] Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

[4] In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

[5] Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The ANR Permit Navigator and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
   a. Which permits or permit amendment are needed or might be needed? [6]
   b. What type might be needed? (e.g., a general or individual permit[7])?
   c. What concerns were voiced by permitting staff?
   d. How will the proposed scope of work address these concerns?[8]

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont's Land Use and Development Control Law) Permits been issued in the project site's parcel location?[9]	**Yes** ◯	**No** ◯
If ***yes***, please provide the permit number and list any water resource issues or natural resource issues found[10]: **PermitNumber:** **ResourceIssues:** _____ If ***yes***, use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. **Regulatory Point of Contact Name/Position:**		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	**Yes** ◯	**No** ◯

[6] Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

[7] Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

[8] Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

[9] An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[10] Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? [11]	
If ***yes***, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region. **Regulatory Point of Contact Name/Position:** Laura Dlugolecki	
III. Rivers, River Corridors, and Flood Hazard Areas	
1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area[12]? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.	Yes ◯ No ◯
If ***yes***, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region. **Regulatory Point of Contact Name/Position:** Kyle Medash	
2. Is any portion of the project site within a perennial river or stream channel? [13]	Yes ◯ No ◯
If ***yes***, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region. **Regulatory Point of Contact Name/Position:** Josh Carvajal and Shannon Pytlik	
IV. Wetland	

[11] The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[12] FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: https://msc.fema.gov/portal/home. ANR Floodplain Managers are available to provide technical assistance if needed.

[13] Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

1. Does the Wetland Screening Tool[14] provide a result of wetlands likely, very likely, or present at the project site?	Yes ◯ No ◯
2. Does your project site involve land that is in or near an area that has any of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)	Yes ◯ No ◯ Not Sure ◯

If you answered ***yes*** or ***not sure*** to either of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered ***yes*** or ***not sure*** to either of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.

Regulatory Point of Contact Name/Position:

Zapata Courage

1. Is your project a Wetland Restoration project type?	Yes ◯ No ◯

If you answered yes, under the Vermont Wetland Rules you will need an "allowed use" determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.

Regulatory Point of Contact Name/Position: Zapata Courage, DEC Wetlands Specialist

V. Fish and Wildlife

State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit. 1. **Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns?** Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting	Yes ◯ No ◯

[14] To view the Wetland Screening Tool introduction video, see https://youtu.be/6lv5en0AB1o

2. Is the project site within 1 mile of a mapped[15] Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes ◯ No ◯
If *yes* to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes ◯ No ◯
If *yes*, forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. **Regulatory Point of Contact Name/Position:**	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? [16]	Yes ◯ No ◯
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
Provide below or attach a narrative summary of Table 4 findings. Please include: a. Which permits or permit amendment are needed or might be needed? b. What type might be needed? (e.g. a general or individual permit)? c. What concerns were voiced by permitting staff? d. How will the proposed scope of work address these concerns?	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes ◯ No ◯

[15] Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

[16] If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a licensed solid waste hauler and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes ◯ No ◯
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes ◯ No ◯
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes ◯ No ◯ N/A ◯
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: Water Quality Restoration Formula Grant (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes ◯ No ◯

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See CWIP Project Types Table for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation[17]? Complete a preliminary review to	◯ **Yes** - Proceed to next question below.

[17] Jurisdictional farm operations are required to meet Vermont's Required Agricultural Practices (RAPs).

determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.	◯ **No**[18] - There is no additional requirements related to agricultural review for these projects.
2. Is the proposed project an agricultural project? Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.	◯ **Yes** - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization. ◯ **No** - The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below. **Step 1** - Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFM at AGR.WaterQuality@Vermont.gov . **Step 2** - Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.

Agricultural Project Review Status & Summary:	
Check as Applicable	**Status**
☐	Submitted/ Pending
☐	Approved
☐	Denied

[18] Note CWIP's Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the Appendix B. Project Types Table are not subject to review by VAAFM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status "submitted/pending" will be "approved" prior to a project approval for funding.

PROJECT APPLICATION FOR THE SOUTH LAKE CWSP
ROUND 5: MAY 2024

Cover Page Information

Contact Information: Town of Poultney, Paul Donaldson, Town Manager

Paul Donaldson, Manager
Town of Poultney
9 Main St, Poultney, VT 05764
(802) 287-5761/ poultneymanager@comcast.net

Project Name: On The Green Stormwater Treatment

Project ID number: In progress

Project Location: 133 On The Green Rd, East Poultney, VT 05764

Project Type: Stormwater – Implementation

Project Sector: Developed Lands

Project Stage: Implementation

Funds being requested: $5,000
Matching funds: ~$5,000 (matching funds will be documented and submitted to the CWSP for reporting to DEC)

Project Summary

This stormwater treatment site is in the heart of historic East Poultney Village and will treat runoff from approximately an acre of mostly impervious, developed lands, including On The Green Road and the village green itself. The project is a simple rain garden with no underdrain. The Town of Poultney will manage this grant and oversee project installation, as it is near the Thrall Road Bridge, which was recently replaced, and the Town is committed to mitigating stormwater runoff to the Poultney River near the bridge. The project will treat approximately 0.26 Kg of phosphorus and the Town is requesting $5,000, which is less than a Kg of phosphorus reduction costs from the DEC cost formula data ($15,000 is the average cost per kg of phosphorus reductions for stormwater projects according to the DEC phosphorus target data).

Project Description

This project was identified during the 2023 installation of the Thrall Road Bridge. The site is one of two identified near the bridge and is the one with the highest infiltration and pollution remediation capacity. The project was designed by Fitzgerald Environmental Associates (FEA) and meets the criteria of the Formula Grant. The project will mitigate runoff to the Poultney River from approximately one acre of mostly impervious surfaces.

The project will be located on Jane Williams' property and includes installing a simple raingarden. Because of the lack of depth to bedrock, the rain garden is feasible, but FEA chose not to include an underdrain. The rain garden will be simple and low-tech and can be planted in grasses or herbaceous plants, as preferred by the homeowner.

FEA will finish the practice design and will be onsite during construction to oversee the work. FEA and the town will work with DEC staff to permit the project. According to Kyle Medash, DEC Floodplain Manager, it will not need a floodplain permit. The project partners will get a signed site access license agreement and operations and maintenance plan (O&M) prior to starting any construction work or charging any funds toward this grant.

The goals of this project include:

- Get a signed site access and O&M agreement (prior to work starting),
- Install the project this summer,
- Additionally, the town and FEA staff will manage, track, and report the results of this project per DEC requirements and will interface with Vermont DEC technical staff as needed.

Applicable strategies from the 2022 South Lake Tactical Basin Plan:

- Strategy 13: Provide technical assistance and funding to develop high and medium priority projects.
- Strategy 15: Implement high and medium priority stormwater projects from SWMPs and stormwater mapping reports.

Stormwater Implementation Definition: Implementation of high priority Tier 1 or Tier 2 stormwater management practice(s) that collect, store, infiltrate, and filter runoff that contains nutrient, sediment and/or other contaminant pollution from existing impervious, hard (e.g., paved) surfaces associated with developed/urban/suburban areas. Permit(s), access license(s)/easement(s), and operation and maintenance plan(s) are in place prior to construction. Refer to the most updated Vermont Stormwater Management Manual for more information on Tier 1 and Tier 2 practices.

Applicable Milestones from the 2023 CWIP Funding Policy:

- Project initiated
- 10-year (minimum) DEC O&M Plan signed by O&M responsible party
- 10-year (minimum) access license or easement (if applicable) signed by landowner
- Bid solicitations issued, pre-bid site visits, and contractors selected/contracted (if applicable)
- Required permits secured, including VDHP review

- Pre-construction kick-off meeting, walk through of the site with plans, evaluate any needs/issues/considerations for plan adjustments
- Clean Water Project Sign installed during construction
- Stormwater BMP(s) implemented, final construction walkthrough
- Other permit-required activities completed or elements installed (if applicable), VDHP Treatment Plan implementation (if applicable)
- Return of Clean Water Project sign to host site
- Project complete

Project Budget

Table 1: Preliminary budget for the On The Green Infiltration Project.

Category	Amount	Match	Total
Personnel	$0	$1000	$1000
Fringe	Included in rate		$0
Travel	N/A		$0
Supplies	N/A		$0
Professional Services	$5000	$4000	$9000
Indirect	N/A		$0
Total	$5000	$5000	$10,000

Budget Narrative

Personnel: The Town of Poultney will cover costs of administering the project.

Supplies: N/A

Professional services: Up to $5,000 will be used to install the project.

Match will be generated through overages spent on the project, as the town is asking for about 50% of the total project price. Match will be recorded and submitted for DEC use, as requested. Match amounts are approximate.

Indirect: N/A

Project Eligibility Screening from CWIP Funding Policy Appendix A

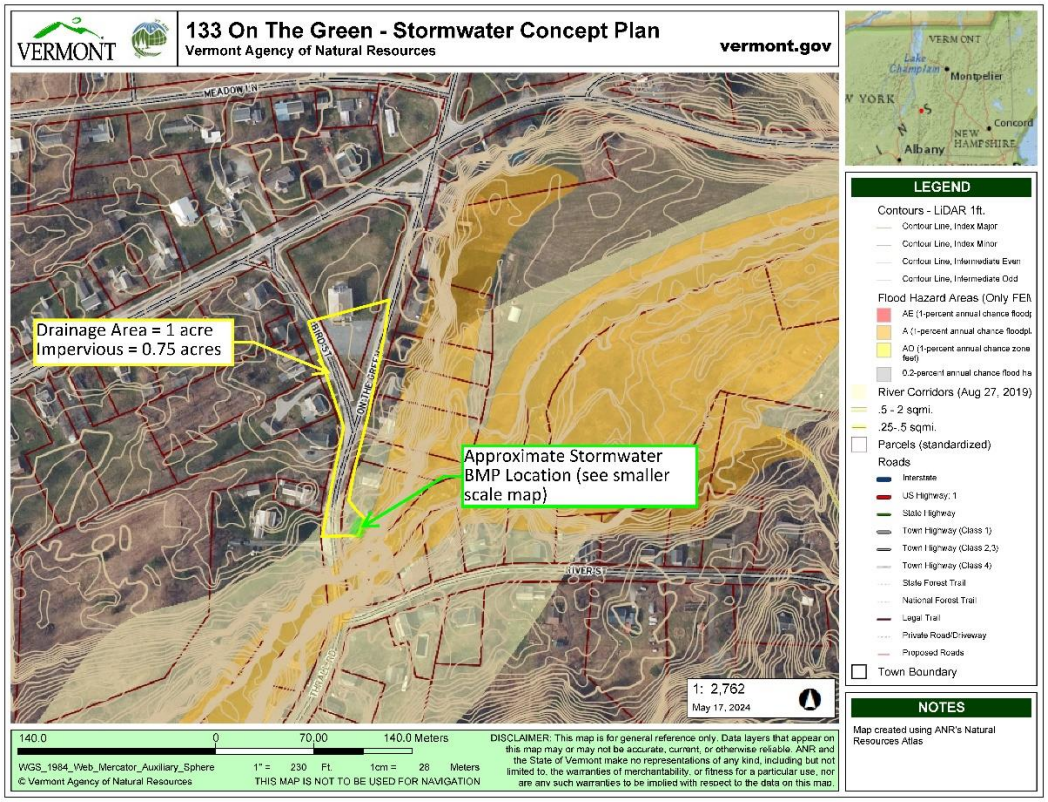
- Please find maps and photos of the site attached.
- In addition, the CWIP project eligibility screening form is attached.
- STP calculator output also attached.

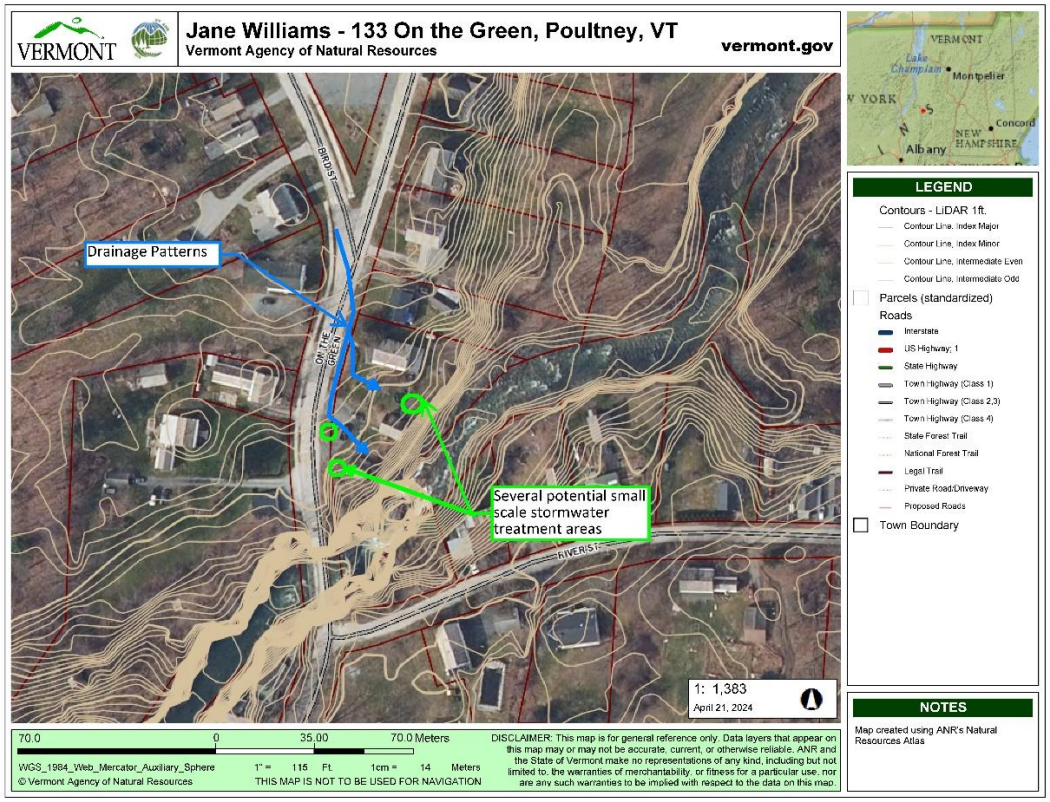
Site Photos

Stormwater from On the Green Road enters Jane Williams' yard in East Poultney.

Stormwater enters multiple areas from the road, and there are several areas that would be suitable for stormwater treatment.

Site Maps and Conceptual Plans





Stormwater Treatment Practice Calculator

The STP Calculator is a tool developed by the Department of Environmental Conservation (DEC) to estimate total phosphorus load reductions achieved by stormwater treatment practices (STPs). The user enters STP data into the tool and the tool calculates the estimated annual average total phosphorus load reduction. Calculations are based on the same methods DEC will use to track progress reducing phosphorus pollution loading into Lake Champlain and Lake Memphremagog. The tool can currently only be applied to estimate total phosphorus reductions in the Lake Champlain and Lake Memphremagog watersheds, as pollutant loading rates are currently unavailable outside these basins in Vermont. The calculator tool focuses on STPs treating runoff from developed lands, only, and should not be used for agricultural, forested, or other types of land use. The calculator may not be suited for complex STP systems or retrofit projects. The STP calculator should only be used for planning purposes to understand pollutant reduction potential for STPs. Data entered in the STP calculator will not be stored in a database. DEC retains the right to verify the data input and will provide final phosphorus load reduction crediting based on data reported to and stored in DEC's Watershed Projects Database.

Instructions can be found Here (https://anrweb.vt.gov/PubDocs/DEC/WSMD/CWIP/2018-07-20%20STP%20Calculator%20Instructions.pdf).

Please direct any questions to Claire.Madden@vermont.gov (mailto:claire.madden@vermont.gov) or 802-636-7536.

STP Calculator

Loading Information

Drainage Area	1 - Poultney River	
Impervious Area	0.75	acres
Pervious Area	0.25	acres

STP Information

STP Type	Rain Garden / Bioretention (no underdrains)	(STPHelp.aspx)
Storage Volume	200	ft^3
Infiltration Rate	0.27 (Silt Loam, HSG - C)	in/hr

Estimated Phosphorus Reduction

Compute

Load	0.95	kg/year
STP Capacity	0.07	in
Efficiency	26.95	%
Reduction	0.26	kg/year

To Report

Identification

WPD ID	
STP Name	

Changes

- 11/30/2018 - Please note "Sand Filter w/ underdrain" efficiencies have been updated based on input from EPA.

APPENDIX A. CLEAN WATER INITIATIVE PROGRAM - PROJECT ELIGIBILITY SCREENING FORM

This fillable PDF form is designed to assist with project review by systematically walking through all eligibility criteria. It should be completed for all projects seeking funding for 30% + design or implementation work. It may be applied to projects seeking funding for assessment or development if helpful for determining their alignment with eligibility criteria 2, 3, 6, and 8.

Step 1: Conduct Eligibility Criteria #1 Screening: Project Purpose

Table 1A: Project Purpose	
From the drop-down list to the right, please select which of the four objectives of Vermont's Surface Water Management Strategy this project addresses. If multiple, please list below: Potentially, this project identification fund could help identify projects that collectively meet all of the listed project purposes.	Minimize anthropogenic nutrient and organic pollution

Step 2: Conduct Eligibility Criteria #2 Screening: Project Types and Standards

Table 2A: Project Types and Standards	
Please select the most representative project type from the drop-down list to the right.[1,2] If multiple BMPs are included in the project, please list below:	Floodplain/Stream Restoration - Preliminary Engineering D
Is the project type an eligible project type for the funding program you are applying to as listed in column B of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Does the project meet the project type definitions and minimum standards as provided in column C of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Will the project result in the standard performance measures, milestones, and deliverables as defined by project type in columns D-F of the CWIP Project Types Table? (Answer must be YES to proceed)	Yes ○ No ○
Is the project listed as an ineligible project or activity in the CWIP Funding Policy? If Yes, please explain below how project meets the allowable exceptions within the CWIP Funding Policy. Work will need to be approved by DEC - gully project. (Answer must be NO to proceed, unless reasonable justification is provided above)	Yes ○ No ○

Step 3: Conduct Eligibility Criteria #3 Screening: Watershed Projects Database

Verify project has been recorded in the Watershed Project Database (WPD). Each project must have a Watershed Project Database number specific to the proposed project phase (for example,

[1] Note that Road/Stormwater Gully project-types must not otherwise be considered intermittent or perennial streams by the DEC Rivers Program and therefore project proponent must show documentation of this determination in order to select this project type.

[2] One project may include multiple best management practices (BMPs) that cross "project types." For example, a single project may include both stormwater and lake shoreland BMPs. Proponents should use their best judgement in selecting the most representative project type for the purposes of eligibility screening and reporting.

a final design will have a different WPD-ID from a preliminary design even if for the same project). If the project, or the specific phase, is not yet in the Watershed Project Database, follow directions provided in the CWIP Funding Policy to secure a WPD-ID. Please see CWIP Funding Policy for more information on the WPD-ID.

Table 3A. WPD-ID	
Watershed Project Database ID number assigned	Number in process
Watershed Project Database Project Name	Thompson Gully Restoration and Stormwater Project

Step 4: Conduct Eligibility Criteria #4 Screening: Natural Resource Impacts[3]

Agency of Natural Resources (ANR) permit screening for natural resource impacts includes 1) an initial desktop review to identify which ANR permitting programs should be contacted, 2) a review by the relevant ANR permitting staff, and 3) a response summary from the project proponent addressing any permitting staff concerns. [4]

1) **Table 4. Natural Resource Impacts** facilitates a high-level desktop review of the most likely ANR permits to apply to clean water projects. Project proponents should answer all the questions to identify likely permit needs. [5] Please note that "project site" may include both the active restoration location as well as any additional impact footprint related to staging, site access, or storage of waste or disposed materials.
2) If responses to the **Table 4. Natural Resource Impacts** desktop review trigger a permitting staff consultation, **Table 4** provides appropriate contact information.
    a. Proponents should send the identified permitting staff the following:
        i. The watersheds project database identification number (WPD-ID) (if available),
        ii. Project location (GPS coordinates)
        iii. Summary of proposed scope of work, and
        iv. Any other relevant information they request that will be utilized in their review.
    b. **Proponents should clarify they are seeking permitting staff input on potential permitting needs, permit-ability of proposed scope of work, and other design considerations but they are NOT seeking a formal permit determination.**
    c. Project proponents must attempt to communicate with the permitting staff and provide them with at least thirty days to review the project and provide a

[3] Easements and Riparian Buffer Plantings are excluded from this eligibility requirement/step.

[4] In cases where this screening may have already occurred in a prior project phase, project proponents may supply attachments or links to relevant permit needs assessment documents in place of completing Table 4.

[5] Entities selected for funding are expected to perform due diligence to ensure all applicable permits (including non-ANR state, local, and federal permits) are discovered and secured prior to implementation. The ANR Permit Navigator and an Environmental Compliance Division Community Assistance Specialist can help confirm ANR permitting needs for any projects once selected for funding.

response. Project proponents are encouraged to perform this screening during a project development phase as opposed to during a project solicitation round to allow for more time for feedback. Permitting feedback may be up to one year old.

3) Proponents should summarize permitting staff feedback and how the proposed scope of work will address this at the bottom of **Table 4**. Specifically, please include:
   a. Which permits or permit amendment are needed or might be needed? [6]
   b. What type might be needed? (e.g., a general or individual permit[7])?
   c. What concerns were voiced by permitting staff?
   d. How will the proposed scope of work address these concerns?[8]

Table 4A: Natural Resource Impacts		
I. Act 250 Permits		
1. Have any Act 250 (Vermont's Land Use and Development Control Law) Permits been issued in the project site's parcel location?[9]	**Yes** ◯	**No** ◯
If ***yes***, please provide the permit number and list any water resource issues or natural resource issues found[10]: **PermitNumber:** **ResourceIssues:** _____ If ***yes***, use the Water Quality Project Screening Tool to identify the appropriate regulatory contact for an Act 250 consultation. **Regulatory Point of Contact Name/Position:**		
II. Lake and Shoreland		
1. Is the project site located within 250 feet of the mean water	**Yes** ◯	**No** ◯

[6] Occasionally permit staff may indicate they need a field visit or to see more completed designs prior to making a permit need determination.

[7] Design phase projects that require an individual wetlands permit must have the permit in hand at the close of the final design phase. Implementation phase projects must have the individual permit in hand to be eligible for funding.

[8] Examples could include planned design changes or inviting permitting staff to stakeholder meetings.

[9] An Act 250 Permit is required for certain categories of development, such as subdivisions of 10 lots or more, commercial projects on more than one acre or ten acres (depending on whether the town has permanent zoning and subdivision regulations), and any development above the elevation of 2,500 feet. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located on an Act 250 parcel. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[10] Note that Act 250 permit amendments may require more extensive review of project impacts to natural resources including wildlife habitat, significant natural communities, and riparian zones. Please consult with the Act 250 District Coordinator regarding the nature and scope of that review and what bearing it may have on your project design.

level (shoreline) of a lake or pond? [11]	
If ***yes***, you might need either a Shoreland Protection Act Permit or a Lake Encroachment Permit. Use the Water Quality Project Screening Tool to find the Lakes and Ponds Program contact for your project's region. **Regulatory Point of Contact Name/Position:** Laura Dlugolecki	
III. Rivers, River Corridors, and Flood Hazard Areas	
1. Is there any portion of the project site located within 100' of a river corridor and/or mapped Federal Emergency Management Agency (FEMA) flood hazard area[12]? (e.g. a stormwater pond's pipe draining into a river corridor area)? Any permanent excavation/filling or construction within a flood hazard area or river corridor may trigger regulatory requirements through municipal bylaws or through state authorities.	Yes ◯ No ◯
If ***yes***, you will need to speak with a Floodplain Manager. Use the Water Quality Project Screening Tool to find the Floodplain Manager for your project's region. **Regulatory Point of Contact Name/Position:** Kyle Medash	
2. Is any portion of the project site within a perennial river or stream channel? [13]	Yes ◯ No ◯
If ***yes***, you will need to speak with a Stream Alteration Engineer. Use the Water Quality Project Screening Tool to find the Stream Alteration Engineer for your project's region. **Regulatory Point of Contact Name/Position:** Josh Carvajal and Shannon Pytlik	
IV. Wetland	

[11] The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Lakeshore permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

[12] FEMA mapped Flood Hazard Areas are not available statewide on the ANR Natural Resources Atlas. For projects located in Grand Isle, Franklin, Lamoille, Addison, Essex, Orleans, Caledonia, and Orange Counties, maps are available via the FEMA Flood Map Service Center: https://msc.fema.gov/portal/home. ANR Floodplain Managers are available to provide technical assistance if needed.

[13] Stream Alteration Permits regulate all activities that take place within perennial river and stream channels. Examples of regulated activities include streambank stabilization, dam removal, road improvements that encroach on streams, and bridge/culvert construction or repair. The ANR Atlas Clean Water Initiative Program Grant Screening tool can help answer this yes/no question. Follow the instructions on the link above to identify whether your project is located in the jurisdictional zone to trigger a Stream Alteration permit. Note that the layer to activate in ANR Atlas is now named "Clean Water Initiative Program Grant Screening."

1. Does the Wetland Screening Tool[14] provide a result of wetlands likely, very likely, or present at the project site?	Yes ◯ No ◯
2. Does your project site involve land that is in or near an area that has any of the following characteristics: o Water is present – ponds, streams, springs, seeps, water filled depressions, soggy ground under foot, trees with shallow roots or water marks? o Wetland plants, such as cattails, ferns, sphagnum moss, willows, red maple, trees with roots growing along the ground surface, swollen trunk bases, or flat root bases when tipped over? o Wetland Soils – soil is dark over gray, gray/blue/green? Is there presence of rusty/red/dark streaks? Soil smells like rotten eggs, feels greasy, mushy or wet? Water fills holes within a few minutes of digging? (See Landowners Guide to Wetlands for additional information on identifying wetlands onsite.)	Yes ◯ No ◯ Not Sure ◯

If you answered ***yes*** or ***not sure*** to either of the above questions, you will need to contact your District Wetlands Ecologist using the Wetland Inquiry Form. The District Wetlands Ecologist can help determine the approximate locations of wetlands and whether you need to hire a Wetland Consultant to conduct a wetland delineation. Alternatively, if you answered ***yes*** or ***not sure*** to either of the above questions, you can simply budget for a Wetland Consultant in the proposed scope of work. Any activity within a Class I or II wetland or wetland buffer zone (minimum of 100 feet and 50 feet respectively) which is not exempt or considered an "allowed use" under the Vermont Wetland Rules requires a permit. All permits must go through review and public notice process, which takes at minimum 6 weeks for a General Permit and 5 months for an Individual Permit.

Regulatory Point of Contact Name/Position:

Zapata Courage

1. Is your project a Wetland Restoration project type?	Yes ◯ No ◯

If you answered yes, under the Vermont Wetland Rules you will need an "allowed use" determination from the DEC Wetlands Program. Contact your District Wetlands Ecologist using the Wetland Inquiry Form.

Regulatory Point of Contact Name/Position: Zapata Courage, DEC Wetlands Specialist

V. Fish and Wildlife

State law protects endangered and threatened species. No person may take or possess such species without a Threatened & Endangered Species Takings permit. 1. **Does your project involve cutting down trees larger than 5 inches in diameter in any of the following towns?** Addison, Arlington, Benson, Brandon, Bridport, Bristol, Charlotte, Cornwall, Danby, Dorset, Fair Haven, Ferrisburgh, Hinesburg, Manchester, Middlebury, Monkton, New Haven, Orwell, Panton, Pawlet, Pittsford, Rupert, Salisbury, Sandgate, Shoreham, Starksboro, St. George, Sudbury, Sunderland, Vergennes, Waltham, West Haven, Weybridge, Whiting	Yes ◯ No ◯

[14] To view the Wetland Screening Tool introduction video, see https://youtu.be/6lv5en0AB1o

2. Is the project site within 1 mile of a mapped[15] Significant Natural Community or Rare, Threatened, or Endangered Species?	Yes ◯ No ◯
If *yes* to either of the above questions, connect with the VT Fish and Wildlife department (everett.marshall@vermont.gov 802-371-7333) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
VI. Stormwater	
1. Will the project disturb more than an acre of land during construction, add or redevelop impervious surface, create new development or otherwise require a Stormwater permit?	Yes ◯ No ◯
If *yes*, forward to the appropriate Stormwater specialist to ensure necessary permitting. Use the Water Quality Project Screening Tool to find the Stormwater specialist for your project's region. **Regulatory Point of Contact Name/Position:**	
VII. Solid Waste	
2. Will you be creating any debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry, and mortar) with your project that you intend to bury on site? [16]	Yes ◯ No ◯
If yes, connect with the Waste Management & Prevention Division (dennis.fekert@vermont.gov 802-522-0195) to discuss your project and any necessary permitting. **Regulatory Point of Contact Name/Position:**	
Provide below or attach a narrative summary of Table 4 findings. Please include: a. Which permits or permit amendment are needed or might be needed? b. What type might be needed? (e.g. a general or individual permit)? c. What concerns were voiced by permitting staff? d. How will the proposed scope of work address these concerns?	
Is the project, as proposed, reasonably considered permit-able by all applicable	Yes ◯ No ◯

[15] Find both of these layers on the ANR Atlas under Atlas Layers/Fish and Wildlife. Use the Measurement tool to 1) Plot Coordinates for your project 2) select the coordinates from the left panel 3) select the Radius Tool 4) click on your project location 5) Indicate 1 mile distance 6) look for overlap with either of these mapped layers.

[16] If your project will result in the transfer and disposal of debris (including construction and demolition waste, stumps, brush, untreated wood, concrete, masonry and mortar), you do not need a permit from this office as long as you hire a licensed solid waste hauler and bring the material to a certified facility.

ANR permitting programs? (Answer must be Yes to continue)	

Step 5: Conduct Eligibility Criteria #5-8 Screenings

Table 5A. Eligibility Criteria 5-8	
Landowner and Operation and Maintenance Responsible Party Support. Project identifies and demonstrates commitment from a qualified and willing operation and maintenance responsible party. Project demonstrates landowner support for the proposed project phase. (Answer must be YES to proceed)	Yes ◯ No ◯
Budget. Project budget includes ineligible expenses. (Answer must be NO to proceed)	Yes ◯ No ◯
Leveraging. Proposed leveraging meets required leveraging levels (if applicable), meets the definition of leveraging, and comes from eligible sources (Answer must be YES or N/A to proceed)	Yes ◯ No ◯ N/A ◯
Funding Program Specific Eligibility. Project meets additional funding program eligibility requirements*. Please list applicable funding program below: Water Quality Restoration Formula Grant (Answer must be YES to proceed) *If Water Quality Restoration Formula Grant, complete Step 6 below	Yes ◯ No ◯

Step 6: Screening Projects on Agricultural Lands (Water Quality Restoration Formula Grants Only)

For Water Quality Restoration Formula Grant projects, please complete the following information as part of your Funding Program Specific Eligibility Screening (Criteria 8). Please note this must be completed for all projects located on agricultural lands regardless of project type. See CWIP Project Types Table for eligible project types.

Table 6A. Screening Projects on Agricultural Lands	
1. Is the proposed project located on a jurisdictional farm operation[17]? Complete a preliminary review to	◯ **Yes** - Proceed to next question below.

[17] Jurisdictional farm operations are required to meet Vermont's Required Agricultural Practices (RAPs).

determine if it is a jurisdictional farm operation, and any case that requires consultation with AAFM will occur via the farm determination process. Please note this form must be submitted by the farm operation/landowner seeking the determination.	◯ **No**[18] - There is no additional requirements related to agricultural review for these projects.
2. Is the proposed project an agricultural project? Examples of agricultural projects include but are not limited to Production Area Practices – (e.g. Waste Storage Facilities, Heavy Use Area, Diversion) Fence, Livestock Exclusion, Filter Strip, Cover Crop, Reduced Tillage, Manure Injection, Rotational Grazing. Please note this is not an exhaustive list of all agricultural practices.	◯ **Yes** - Agricultural Projects on jurisdictional farms are not an eligible project type. You can provide a referral to an applicable state or federal agricultural assistance program, or a local organization. ◯ **No** - The natural resource, innovative, or other project type will require an agricultural project review and approval from the Vermont Agency of Agriculture, Food and Markets (VAAFM) to ensure a consistent approach on farms statewide that follows rules, regulations, and laws in place. Please follow Steps 1 & 2 below. **Step 1** - Please submit a detailed description of the project, project site, project details, landowner, farm operation, and any other relevant information to VAAFM at AGR.WaterQuality@Vermont.gov . **Step 2** - Once you complete this Agricultural Project Review, please allow 30 days for a response. Once that response has been received, please include a summary of the response in the next section.

Agricultural Project Review Status & Summary:	
Check as Applicable	**Status**
☐	Submitted/ Pending
☐	Approved
☐	Denied

[18] Note CWIP's Agricultural Pollution Prevention project type eligibility is limited to land where owner or operator is not a jurisdictional farm (i.e., not required to meet the Required Agricultural Practices (RAPs)). As such, projects that meet the definition of the Agricultural Pollution Prevention project type in the Appendix B. Project Types Table are not subject to review by VAAFM.

Please include a summary of the response here:

Please note that it is expected that all projects with the status "submitted/pending" will be "approved" prior to a project approval for funding.