Erosion Prevention and Sediment Control (EPSC)
Phase 1

For

State of Vermont Agency of Transportation (VTrans)
Rochester BRF 0162 (16) - Bridge 15
Rochester, Vermont

Contractor and EPSC Contact:

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EPSC Plan Preparation Date:

June 4, 2014

Estimated Project Dates:
Project Start Date: June 9, 2014
Project Completion Date: October 31, 2014

DRAFT

Project No. 12455

Prepared By:

PATHWAYS CONSULTING, LLC
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APPENDICES

1.0 EROSION PREVENTION AND SEDIMENT CONTROL NARRATIVE

1.1 Project Description

The intent of this Phase 1 EPSC Plan is to address the initial scope of site work for the project site that will include mobilization to the site, preparation of on and off-site access and staging areas, installation of perimeter sediment and erosion controls, installation of crane pads, and removal of the existing bridge wingwalls, guardrails and other incidental work. A subsequent EPSC Plan will be provided to address the remaining work phases (bridge removal and replacement), stream diversion and dewatering, site restoration and final stabilization.

See Sheet 112 of the Contract Plans for information related to the project description prepared for the Vermont Agency of Transportation (VTrans) for this project.

1.2 Site Inventory

See Sheet 112 of the Contract Plans for information related to the site inventory, such as drainage characteristics, vegetation, soils, and sensitive areas, prepared for VTrans for this project.

1.3 Risk Evaluation

See Sheet 112 of the Contract Plans for information related to the risk evaluation prepared by the VTrans for this project. The project is not expected to disturb one or more acres of area and does not require coverage under Vermont Agency of Natural Resources (VANR) Construction General Permit No. 3-9020; therefore, a Risk Evaluation is not required. In the event that changes are made prior to or during construction that result in the disturbance of one or more acres, the contractor shall be responsible for additional permitting with the VANR.

Please see the updated EPSC Plans in Appendix B that depict the previously approved and additional impact areas for this Phase 1 work scope. The previously approved impacts include approximately 21,295 square feet (SF) of area, and the additional impacts beyond the permitted limits are approximately 1,331 SF, for a total impact area of approximately 22,626 SF. Since the total impact area is less than one acre, the project is not expected to require coverage under the VANR Construction General Permit.

1.4 Erosion Prevention and Sediment Control

See Sheets 112 to 118 of the Contract Plans for information related to general erosion prevention and sediment controls and typical details prepared for VTrans for this project. Please also refer to the VANR "Low Risk Site Handbook for Erosion Prevention and Sediment Control," dated August 2006, which is considered part of this EPSC Plan.

Section 1.5 provides a detailed construction sequence that identifies the type of work activity to be performed, the specific earth disturbances to be addressed, and

specific erosion control measures (relating to the typical measures discussed on Sheets 112 to 118 of the Contract Plans) that will be implemented during Phase 1 of the work to prevent erosion, control sediment transport, and achieve timely stabilization of disturbed areas.

See also Appendix B for updated EPSC Plans (Phase 1) that include detailed site-specific information provided by the Contractor to supplement the general EPSC Plan information provided in the Contract Plans, and document and address construction activities and related erosion and sediment controls to be implemented during Phase 1 of construction.

The proposed staging areas, access and other information for Phase 1 was provided by the Contractor. The EPSC plans should be updated in the event that any changes are made to this approach. Information on the subsequent work phases will be provided under a separate EPSC Plan submission at a later date.

1.5 Sequence and Staging

General Construction Sequence: The overall work related to this project involves the removal and replacement of Bridge #15 on Vermont (VT) Route 73 over the Brandon Brook in Rochester, VT, as depicted on the Site Location Map provided in Appendix A. The project includes complete removal and replacement of the existing concrete bridge superstructure and substructure, stream channel and bank stabilization, and approximately 500 feet of the roadway work on VT Route 73 and Bingo Road. The existing 44-foot span by 20-foot wide bridge will be replaced along the same alignment with a new 64-foot single span by 34-foot wide concrete bridge. The project also includes a new pile foundation, abutments, approach slabs, roadway widening and rehabilitation, associated traffic controls, temporary access and staging for the bridge work, guardrails, stone fill along the stream channel banks, earthwork, stream diversion measures, erosion and sediment controls, and site restoration. Phase 1 includes only the preliminary work necessary for site setup, establishing access and staging areas, removal of the existing bridge wingwalls, guardrail removal and initial erosion and sediment controls related to this limited work scope.

The following is a general summary of the overall project phases anticipated for completion of this project:

- Phase 1 - During this phase, traffic will continue over the existing bridge and on VT Route 73 during the initial site setup. Limited single-lane closures will be utilized on each side of the road to accommodate the necessary work.
- Phase 2 - This phase will involve complete removal and replacement of the existing bridge superstructure and substructure, stream channel work and associated stream diversion measures, and roadway and approach work. Limited duration road closures and a potential off-site detour will be implemented to accommodate the necessary work.
- Phase 3 - This phase will involve completion of any remaining roadway and approach work, final pavement, guardrail and shoulder treatments,

embankment restoration, and final site restoration. At the completion of Phase 2, the new bridge will be fully operational, allowing traffic to resume over the new bridge. During this phase, limited single-lane closures will be utilized on each side of the road to accommodate the necessary work.

Traffic Sequencing: Since a road closure is not allowed for the initial Phase 1 of this project, temporary single-lane closures will be implemented according to the approved traffic control plan to facilitate the preliminary work phase. While limited road closures will be necessary for subsequent work phases that include removal and replacement of the existing bridge, this will be addressed in subsequent phases of the EPSC Plan for this project.

Stream Diversion Sequencing: Although some limited stream diversion and dewatering measures may be necessary for Phase 2 and 3, Phase 1 does not involve any substantial work below the top of the stream banks along Brandon Brook. In fact, most work will take place outside of the brook, except where minor impacts are necessary during bridge wingwall removal and installation of staging, access and crane pads for future work. During Phase 1, geotextile filter curtains (a.k.a. turbidity barrier) will be installed along the stream banks on each side of the Brandon Brook to fully enclose and control sediment from any disturbed work areas during this phase.

Additional temporary perimeter erosion controls and stabilization (i.e., stone check dams, silt fence, etc.) will be installed in conjunction with impacts along the brook, as detailed in the EPSC Plans. Once Phase 1 has been completed, all disturbed areas will be temporarily stabilized in anticipation of the subsequent project phases.

Overall Project Phasing: The overall project phasing will be as follows:

1. Mobilization to the site, setup field office, and other facilities.
2. Establish construction limits.
3. Setup traffic controls on VT Route 73.
4. Establish perimeter erosion controls.
5. Tree clearing, as needed.
6. Setup Phase 1 staging and access areas, including any related traffic controls.
7. Establish temporary access and staging for bridge wingwall removal.
8. Remove existing bridge wingwalls, guardrail and any other structures that are part of this project phase.
9. Install temporary stabilization for all areas disturbed during this phase.

Within each work phase, it is important to limit the area of disturbance to locations where construction activities are underway and stabilize them as quickly as possible. The construction activities will be sequenced according to the construction sequencing provided below to minimize the duration and area of exposed soils within the limits of disturbance and to allow for efficient completion of work. Some variation in the sequence of construction activities and erosion control measures may eventually be necessary at each work area,

depending on the specific site conditions and progress of work. In this case, the EPSC Plans and narrative will be updated by the Contractor as necessary to document these changes for the project site and specific activities.

The intended construction sequence is as follows:

1. **Pre-Construction Meeting:** Conduct a pre-construction meeting, which should include the Contractor, the VTrans Resident Engineer, the construction environmental engineer, and any other parties deemed necessary.

2. **Clearing Limits:** Flag all clearing limits with survey tape where tree or vegetation removal will be necessary.

3. **Wetland Limits:** Flag all wetland areas, including top of stream bank, with survey tape within project limits.

4. **Limits of Construction:** Install project demarcation fencing to delineate the limits of construction, which the Contractor will access with vehicles or equipment, or disturb during completion of all required work. This task shall include clearly delineating jurisdictional wetland areas that are permitted for disturbance or to remain undisturbed. Project demarcation fencing will generally be installed along the top of slopes above areas of excavation or to cordon off areas and to prevent access during unsafe working conditions.

5. **Traffic Controls:** Install all necessary traffic controls along VT Route 73 per the Contract Plans and the VTrans requirements. Temporary traffic controls are anticipated to include separate temporary traffic barricades, jersey barriers, markings and signage for short-term lane closures as necessary during Phase 1 activities such as mobilization, installation of temporary facilities, stabilized construction entrances, material deliveries, structure removal or movement of equipment and vehicles. This access may vary during the progress of work depending on the side of the road that will be closed off, and the requirement to maintain thru-lanes for one-way or two-way traffic.

6. **Perimeter Controls:** Install silt fence perimeter controls at the limit of disturbance. This task will include, at a minimum, a line of silt fence down-gradient of all temporary or permanent disturbances within the project limits, as shown on the EPSC Plans for each project phase. Additional silt fence will also be installed along the top of the river banks, at the top of slopes above areas of excavation, at the toe of graded slopes, limits of work, or other areas as necessary to control erosion and prevent sediment from impacting adjacent undisturbed areas and surface waters. Silt fence may also be needed down-gradient of temporary travelways and access roads, since significant grading and surface disturbances are possible during access road and staging area setup and usage. Silt fence will be installed parallel with the existing contours and where appropriate to protect downstream undisturbed areas.

7. **Tree Clearing:** Clear all trees and significant vegetation, in accordance with the project clearing limits or as directed by the Resident Engineer, within previously flagged or fenced construction limits, and simultaneously install temporary stabilization measures, including temporary seed and mulch, wood chips, and/or crushed stone on disturbed areas. All disturbed slopes steeper than 3:1 will be protected with temporary erosion matting, where necessary.

8. **Stabilized Construction Entrances:** Grade and install stabilized construction entrances where needed within the work area, as shown on EPSC Plans. Since VT Route 73 is a paved roadway, stabilized construction entrances may only be required where the existing pavement and subbase materials have been removed, or during initial work to install access and staging areas. Stabilized construction entrances may only require short tracking pads where temporary access roads meet existing pavement as necessary to control tracking of sediment beyond the work areas, and to assist with dust control on each end of the work area. Full-length stabilized construction entrances may not be needed in most cases, and will be determined in the field. Some form of stabilized construction entrance or tracking pad is anticipated for temporary access and staging on the southeast and southwest sides of the work area during the initial project phase, and these may be left in place during subsequent project phases. Adequate traffic controls shall be in place along VT Route 73 in the vicinity prior to installing and using the stabilized construction entrances.

9. **Temporary Construction Access and Staging Areas (Phase 1):** Temporary construction access roads and staging areas are anticipated during Phase 1 for accessing the existing bridge wingwalls, and establishing crane pads, as shown on the EPSC Plans. All necessary temporary stabilization, erosion controls, and surface runoff measures shall be installed simultaneously with grading activities to prevent erosion on disturbed areas, contain sediment, and convey stormwater through the disturbed areas, especially in any areas of concentrated drainage. This process may include, in addition to perimeter controls already installed, diversion and stone-lined swales, stone check dams, temporary erosion matting on slopes, water bars, and temporary mulch. Where difficult or unsuitable soil conditions (wet, soft, etc.) are encountered within access roads or staging areas, temporary surface stabilization may require an application of crushed stone placed on geotextile fabric, as directed by the Resident Engineer. Stone fill or existing stone materials from areas to be excavated may be utilized for creating level staging pads adjacent to the work areas, if approved by the Resident Engineer.

   ***Temporary Access Roads*:** Where temporary access roads have to be benched into the existing slopes, stormwater runoff from up-gradient areas may concentrate along the perimeter silt fence at the toe of slope, and a temporary diversion ditch may be necessary along this silt fence to convey drainage to a discharge point into the existing stream channel. Stone check dams and/or stone lining shall be installed along the silt fence as

necessary to control flow velocity, contain sediment, and limit turbidity at the discharge point. Temporary erosion matting shall be installed on all cut and fill slopes steeper than 3:1 within 48 hours of slope grading and prior to any rain events. Water bars may be installed along the surface of the access road at 50-foot intervals as necessary to control runoff. All related erosion controls shall be in place prior to utilizing access roads. Any portion of the access roads that are installed below the ordinary high water level of the White River shall consist of clean stone fill with minimal fine materials. Geotextile filter fabric is also recommended below any stone fill that is placed in the river to minimize impacts to existing vegetation and river bed materials.

***Staging and Stockpiling*:** Where additional staging areas are located outside immediate work areas, such as on level terrain within the right-of-way (ROW), within lane closures, or on off-site areas, additional surface water, or erosion controls are required as the specific field conditions dictate. Earth stockpiles shall be temporarily stabilized with seed and mulch if the duration of exposure is expected to be greater than 14 days. Silt fence shall be placed on the down-gradient side only if necessary to contain stockpiled materials and prevent sediment from being washed into the existing ditches, stream, or onto undisturbed areas. The Contractor may utilize temporary lane closures along roads adjacent to the work areas for equipment or material delivery, such as concrete trucks, if approved by the Resident Engineer.

***Off-Site Staging and Disposal Area*:** Activities that will take place at approved off-site areas shall adhere to all applicable erosion and sediment control requirements contained in this EPSC Plan, property owner requirements, and other applicable requirements contained in the VTrans approval of this area. This may include installation of stabilized construction entrances, site perimeter controls, perimeter controls around stockpile areas, and stabilization measures, where necessary, at the off-site locations, as determined in the field. The off-site areas shall also be monitored in conjunction with on-site areas for the entire duration of usage and until all disturbed areas have been fully stabilized.

10. **Stream Diversion Measures:** Setup stream diversion measures for Phase 1 prior to any disturbances to the streambed or banks in accordance with the approved EPSC Plan. This task is anticipated to include turbidity barriers, as detailed on the EPSC Plans.

***Turbidity Barriers*:** Turbidity barriers and/or sand bag cofferdams shall be in place around all active work areas that will involve disturbances on the bed and/or banks of the Brandon Brook. These measures shall be installed prior to any upgradient disturbances, and shall be maintained until all disturbed areas are fully stabilized. The turbidity barriers shall be adequately secured in a fixed position within the river with anchors and lines as necessary to prevent excessive movement during varying flow levels and velocities. The turbidity barriers shall be long enough to extend from the water surface to the river bed during normal high water

conditions. It is critical that the Contractor maintains the turbidity barriers to ensure that they are functioning as intended, are maintained in a relatively fixed position, do not collect excessive debris, and are repaired in the event of damage from debris or other causes.

11. **Stream Channel and Bank Disturbances:** No significant channel or bank impacts are anticipated for Phase 1. However, prior to any disturbances within the river channel and banks, turbidity barriers, and/or cofferdams shall be in place around the work areas and functioning as intended. Excavated soil and stone materials shall be stockpiled in the construction staging areas for re-use or disposal, and shall only be placed in areas contained by adequate perimeter erosion and sediment controls.

12. **Bridge Wingwall Removal and Related Work:** Complete removal of bridge wingwalls, guardrails and any other Phase 1 work, as specified in the Contract Plans. Prior to any disturbances within the river channel or on the river banks, turbidity barriers and/or cofferdams shall be in place and operating to limit water within the respective work areas and contain sediment.

    During any demolition work, the Contractor shall also ensure that no excess concrete, or associated debris is allowed to pass into downstream surface waters during these operations.

13. **Temporary Stabilization of Disturbed Areas:** The disturbed portion of riverbed and banks will be temporarily stabilized in accordance with the Contract Plans. Turbidity barriers and/or cofferdams shall remain in place and functioning until all disturbed areas are stabilized.

    All disturbed surfaces in the river and on the banks below the ordinary high water line shall be stabilized, per the Contract Plans or as directed by the Resident Engineer, with stone fill, permanent seed, and mulch, or erosion matting, where required for slopes steeper than 3:1 or where erosion, washout, or scouring may be a concern. Once this condition is achieved, the turbidity barriers and/or cofferdams can be removed.

    Upon completion of work in each site area, all disturbed areas must be adequately stabilized.

14. **Remove Temporary Access Roads and/or Staging Areas:** Remove all temporary construction access roads, staging areas, cofferdams, and dewatering measures once work is completed in these areas, unless these measures will be utilized in subsequent project phases.

15. **Final Stabilization:** Installation of final stabilization measures are not anticipated during Phase 1, or until subsequent phases of this project.

16. **On-going Monitoring and Maintenance Activities:** The Contractor shall continuously inspect and maintain all erosion and sediment control measures. Additional inspections shall be required by the On-Site Plan

Coordinator and/or EPSC Plan Monitor on a weekly basis and after every rain event in which runoff is discharged from the site. The following Best Management Practices (BMPs) measures are recommended throughout duration of construction:

- The On-Site Plan Coordinator should utilize Accuweather website (www.accuweather.com) or other appropriate service to predict precipitation events that could impact stream flows and erosion controls. The Contractor shall be prepared to install all erosion and sediment controls prior to rain events.
- The Contractor shall have all necessary erosion control equipment and materials, including mulch and mulching equipment, on-site for the duration of work in order to stabilize disturbed slopes, inlets, outlets, and any other areas of potential concern.
- Maintain dust control in current work area at all times.
- Unpaved roadway areas intended for overnight travel shall be treated with water or another approved dust control product (e.g., Calcium Chloride) prior to the end of the work day.
- Continuously inspect and maintain all stormwater, erosion, and sediment control measures throughout construction, until disturbed areas have been stabilized.
- Remove trapped sediment from erosion and sediment control measures as appropriate for each type of BMP utilized, and as directed.
- Monitoring of the EPSC and erosion controls shall continue prior to, during, and after weather conditions that could cause erosion and or sedimentation issues. The Contractor shall also anticipate the need to return to the site to address any deficiencies, as directed, on a very short time frame.

Off-Site Activities: All work related to this project is anticipated to be within the bounds of the VTrans ROW with the exception of temporary access and staging areas where there is inadequate room for the necessary construction activities. It is the responsibility of the Contractor to secure authorization for access on adjacent properties as necessary to allow work to be undertaken outside the ROW.

The project will generate a limited amount of vegetation from tree clearing activities and typical construction related debris. Any debris that requires removal from the project site will be disposed of by the Contractor in accordance with any applicable laws and regulations. All excavated soil materials (such as topsoil, soil, boulders, rock, etc.) will remain on-site and shall be utilized in final grading and stabilization of disturbed areas, to the extent possible. It is anticipated that the Contractor will need to import limited volumes of stone fill to establish finished grades within the work areas.

The Contractor intends to utilize one off-site abutting area for construction access and staging of equipment and materials, as identified on the "Off-Site Activity Submittal" form included in Appendix D. The off-site area includes the Stover property, an off-site vacant field along the stream bank to the northeast of the

project area. This site has been reviewed and approved by VTrans, and the property owner has agreed to allow the Contractor to use this property. The Contractor shall adhere to all applicable conditions of this approval, including installation, maintenance, and monitoring of general erosion and sediment controls at this location, as necessary, and in accordance with this EPSC Plan. Additional erosion and sediment control requirements have been incorporated into the construction sequence in Item No. 9, 13 and 14 of Section 1.5 above.

EPSC Plan Updates: The EPSC Plan is a document that must be amended to reflect changes occurring at the site. Revisions to the EPSC Plan may include additions of new BMPs, replacement of failed BMPs, significant changes in the activities or their timing on the project, changes in personnel, changes in inspection and maintenance procedures, and updates to the site plans. All revisions to the EPSC Plan should be documented on the revision documentation form provided in Appendix E.

If construction activities or design modifications are made that could impact the measures shown on the enclosed EPSC Plans, this EPSC Plan and this narrative will be amended appropriately, and include a description of the new activities, and the planned erosion control measures to be implemented.

1.6 Contact Information/Responsible Parties

VTRANS PROJECT CONTACT	***PHONE/FAX/MOBILE***	***ADDRESS***
Chris Williams, Resident Engineer VTrans Construction	Mobile: (802) 498-4170	Field Office: 42 North Main Street Rochester, Vermont 05767
Jennifer Fitch, Project Manager VTrans Structures	Phone: (802) 828-3042 Fax: (802) 828-3566	One National Life Drive Montpelier, Vermont 05633-5001
William H. Farley, P.E., CPESC Assistant Construction Environmental Engineer VTrans Construction	Phone: (802) 828-5483 Fax: (802) 828-2795 Mobile: (802) 279-8143	
CONTRACTOR and EPSC CONTACT		
Kevin Ture, Project Manager W.M. Schultz Construction, Inc.	Phone: (518) 885-0060 X221 Fax: (518) 885-0744 Mobile: (518) 956-0255	Post Office Box 2620 Ballston Spa, New York 12020
ON-SITE PLAN COORDINATOR and EMERGENCY 24-HOUR CONTACT		
Tim Downes, Site Superintendent W.M. Schultz Construction, Inc.	Phone: (518) 885-0060 Fax: (518) 885-0744 Mobile: (518) 867-7425	Post Office Box 2620 Ballston Spa, New York 12020
Tom Jackson, On-Site Plan Coordinator W.M. Schultz Construction, Inc.	Phone: (518) 885-0060 Fax: (518) 885-0744 Mobile: (518) 867-5986	
EPSC PLAN PREPARER and MONITOR (AS NEEDED)		
Scott A. Williams, P.E. (VT#8952) Pathways Consulting, LLC	Phone: (603) 448-2200 Fax: (603) 448-1221 Mobile: (203) 722-5690	240 Mechanic Street, Suite 100 Lebanon, New Hampshire 03766

EPSC Responsibilities:

The On-Site Plan Coordinator shall be responsible for the following duties:

- Compliance with the EPSC Plan and other applicable documents.
- Implementing the EPSC Plan, committing resources to implement BMPs.

- Training of all staff and subcontractors as necessary to make them aware of the BMPs, control measures, and good-housekeeping procedures that must be implemented on the project site.
- Installing structural stormwater controls.
- Supervising and implementing good housekeeping programs, such as site cleanup and disposal of trash and debris, hazardous material management and disposal, and vehicle and equipment maintenance.
- Daily monitoring of the site conditions, erosion and stormwater controls, and BMPs in accordance with the Contract documents, VTrans Standard Specifications, and approved EPSC Plan requirements.
- Conducting routine inspections of the site to ensure all BMPs are being implemented and maintained, and follow-up reporting using the Inspection form provided in Appendix C.
- Maintaining the BMPs.
- Documenting changes to the EPSC Plan using the form in Appendix E.
- Communicating changes in the EPSC Plan to people working on the site.
- Subcontractor compliance with the EPSC Plan.

The EPSC Plan Monitor shall be responsible for the following duties:

- Conducting periodic (as needed) monitoring of the site conditions, erosion and stormwater controls, BMPs in accordance with the approved EPSC Plan requirements, and follow-up reporting using the Inspection form provided in Appendix C.
- Recommendations relating to EPSC Plan and BMPs.

1.7 Schedule

The project is scheduled for start with mobilization and site setup around early June 2014 with actual construction beginning shortly thereafter. Final completion is scheduled for October 31, 2014.

The specific schedule for construction activities at the site location are not known at this time, but the Contractor has provided a preliminary schedule of all project related activities. Once a more specific schedule is determined, dates should be added to this EPSC Plan, as appropriate.

1.8 Inspection Form

The site shall be monitored in accordance with the conditions of the approved EPSC Plan. The On-Site Plan Coordinator and/or EPSC Plan Monitor shall visit the site on a weekly basis and after every rain event to observe the conditions of surface water and erosion controls. The Inspection Form has been provided in Appendix C for use during all on-site inspections.

A maintenance inspection report will be made after each inspection by the On-Site Plan Coordinator and/or EPSC Plan Monitor. A copy of the completed form shall be filed with the VTrans, attached to this document for reference and tracking, and maintained on-site during the entire construction project. Following

construction, the completed forms will be retained at the construction manager's office for a minimum of three (3) years.

2.0 EROSION PREVENTION AND SEDIMENT CONTROL PLANS

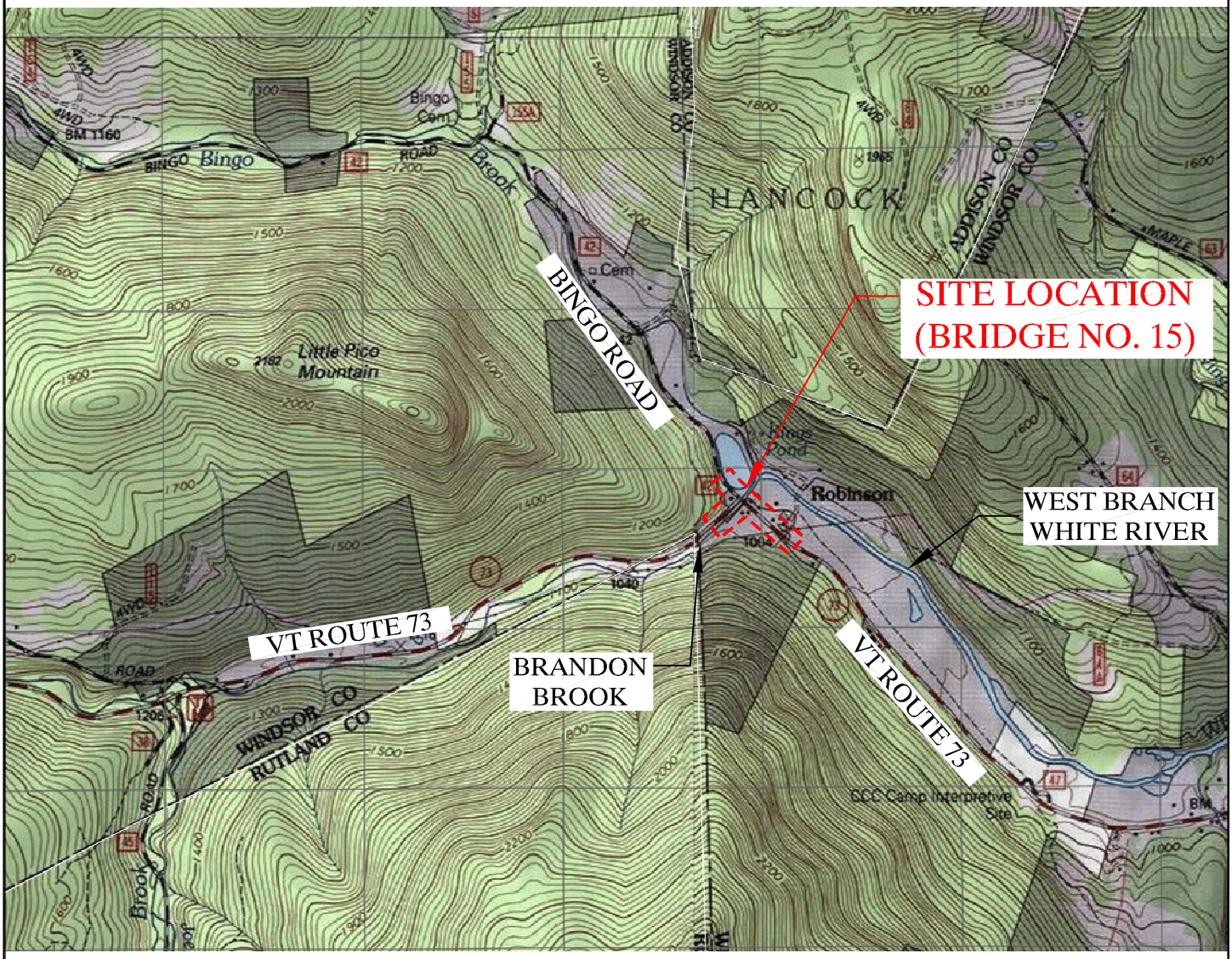
EPSC Plans for this project are included in Appendix B. The EPSC plans also include the following information:

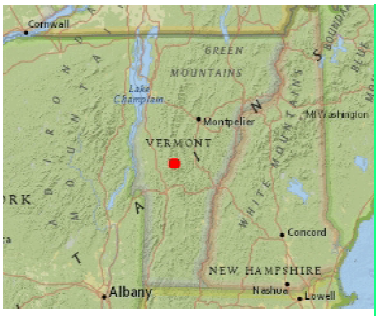
- Direction(s) of stormwater flow and approximate slopes before and after major grading activities;
- Areas of soil disturbance;
- Areas that will not be disturbed;
- Natural features to be preserved;
- Locations of major structural and non-structural BMPs identified in the EPSC;
- Locations and timing of stabilization measures;
- Locations of storm drain inlets;
- Standard Erosion Control Specifications;
- Construction Sequencing;
- Winter Construction Notes; and
- Erosion Control Details.

This EPSC Plan document shall be updated during construction activities in order to identify each type of erosion and sediment control BMP that will be utilized.

APPENDICES

APPENDIX A
SITE LOCATION MAP





1,219.0 0 610.00 1,219.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 2000 Ft. 1cm = 240 Meters

LEGEND

Pathways Consulting, LLC
240 Mechanic Street, Suite 100
Lebanon, New Hampshire 03766
(603) 448-2200 FAX: (603) 448-1221

SITE LOCATION MAP (BRIDGE 15) FOR

VTRANS ROCHESTER BRF 0162(16)

VERMONT ROUTE 73, ROCHESTER, VERMONT

SCALE:	AS SHOWN
DESIGNED BY:	SAW
DRAWN BY:	SAW
CHECKED BY:	SAW
DATE:	06/04/14
PROJ. NO.	12455

APPENDIX B
EPSC PLANS

APPENDIX C
INSPECTION FORM

VTrans Vermont Agency of Transportation	**EPSC Plan Inspection Report** (Non-Jurisdictional and Low Risk Projects)				
Project Name:			**Date:**	**Time Since Last Storm:**	
Inspector:			**On-Site Coordinator:**		
Measure Inspected	**Y**	**N**	**STA/Off**	**Corrective Action Taken (CAT)**	**Date CAT**
Boundary Limits					
Site boundary markers are up and visible					
Disturbance is only occurring within marked boundaries					
Limit Disturbance Area					
Only acreage listed on *Authorization to Discharge* is disturbed at one time					
Stabilize Construction Entrance/Exit					
Off site tracking of sediment prevented					
Sediment Barriers					
Silt fence trenched into ground					
Accumulated sediment < ½ height of measure					
Diversion					
All upland stormwater is diverted around the work area					
Check Dams					
Check dams are in place and stretch the width of the channel					
Channels are stable with no erosion					
Stabilize Exposed Soils					
Seed and mulch, and/or matting placed in accordance w/ permit requirements					
Soil is seeded and mulched or covered in erosion matting within 48 hours of final grade					
Winter Stabilization					
After Sept. 15, all disturbed areas are seeded & mulched to 3" deep or covered w/ matting					
For ongoing construction, exposed soil is mulched prior to forecasted events					
Dewatering Activities					
Accumulated sediment is removed to allow sufficient treatment					

* Additional Measures and Discharges shall be reported on the back side of this form.

VTrans Vermont Agency of Transportation	EPSC Plan Inspection Report (Non-Jurisdictional and Low Risk Projects)				
Measure Inspected	**Y**	**N**	**STA/Off**	**Corrective Action**	**Date Taken**
Additional Measures					
Discharges Noted					

* If there is a discharge of visibly discolored stormwater from the construction site to waters of the state, the On-Site Plan Coordinator shall inform the Resident Engineer and take corrective action and report the discharge in accordance with Section 6.1 of Permit 3-9020.

APPENDIX D
OFF-SITE ACTIVITY RECORDS

OFF-SITE ACTIVITY REVIEW

VTRANS ENVIRONMENTAL RESOURCE REVIEW

Project/District Name: Rochester BRF 0162(16) **Proposed Area Name:** Stover Access

☐ Waste ☐ Borrow ☒ ~~Staging~~/Access Rock: 470,122.787 Y: 151.037.329 (NAD83, meters)

Natural Resource Review Reviewer: Glenn Gingras

☒ Accepted ☐ Rejected Date 5/27/14 Signature [signature]

Comments Temporary access only. Material must be restored to original grades.

Cultural Resource Review Reviewer: Brennan Gauthier

☒ Accepted ☐ Rejected Date 5/23/14 Signature Brennan Gauthier

Comments _____

☐ **The Site has been REJECTED for use at this time**

The Contractor is advised to:

- ☐ Seek another site for use
- ☐ Hire an Environmental firm to _____
- ☐ Hire an Archeological consultant to clear Section106 issues

☐ **This site has been ACCEPTED** (Site does not warrant any special conditions)

☒ **This site has been ACCEPTED with the following conditions:**

- ☐ Maintain a minimum buffer of _____feet from _____
- ☐ Orange fencing must be installed to protect nearby resources _____
- ☐ Materials must be placed on geotextile fabric
- ☒ Use of this site must comply with applicable local/state/federal permitting regulations including but not limited to: Floodplain regulations (floodzone A) contact town of Rochester.
- ☐ Please contact the Construction Environmental Engineer prior to use of this site.
- ☐ Other: _____

Typically temporary fill is ok.

The VT ANR Low Risk Site Handbook for EPSC measures should be used as a minimum measure for best management practices at waste, borrow and staging sites.

A copy of this Review has been faxed to the Resident Engineer/District Tech ☒ Yes ☐ No

A copy of this Review has been delivered to the Construction Env Eng (CEE) ☒ Yes ☐ No

This clearance is for the Natural and Cultural Resources Only.

OFF-SITE ACTIVITY SUBMITTAL

- **This form is to be completed in its entirety by the Contractor/District Tech** when proposing any waste, borrow, or staging area or any work outside the defined Contract construction limits.
- **Submit to Karen Spooner:** karen.spooner@state.vt.us, Phone: (802)828-2169, Fax: (802)828-2334, VTrans Program Development Division, Environmental Section, One National Life Drive, Montpelier, VT 05633-5001
- **Submit a copy to the Resident Engineer**
- **Allow 21 calendar days (see Section 105.25 (c) of the VTrans Standard Specifications For Construction) for review once the application is administratively complete.**

received 5.15.14

- **SUBMITTAL INFORMATION** Bridge 15

Project Name/District: Rochester BRF 0162(16) **Contractor/District Tech:** WM Schultz Const.

Contact: Kevin Ture **Phone:** 518-956-0255 **Fax:** 518-885-0744 **E-mail:** KTure@wmschultz.com

Resident Engineer: Chris Williams **Phone:** _____ **Fax:** _____

- **PROPOSAL INFORMATION** (Select one type of area being proposed for use per submittal and describe associated characteristics)

☐ Waste ☐ Borrow ~~☐ Staging~~ ☒ Other (ex. dewatering location): Access Road

Material: Type (asphalt, concrete, earthen, etc.) Earthen Quantity (yds³) 100 cy +/-

Total Area of Land Disturbance (sq ft) 1400 SF +/-

Additional Info: Stone and Fill Material placed for access to piles

- **LANDOWNER/PROPERTY INFO** (Fill all applicable boxes; attach a Location Map and Sketch of Area)

Name: JUSTIN STOVER (Print Name) **Address:** 3882 BRANDON MTN RD Rochester VT **Phone:** 845 401-6620

☒ Private Residential/Commercial ☐ Town/State Owned Facility ☐ Other

Additional Info: _____

Are there other users of this site? ☐ Yes ☒ No

Known past uses: _____

☒ Location Map (must be USGS Geological Survey Map (7.5'))

☒ Sketch of Area: ☒ North arrow ☒ Approx scale ☒ Recognizable features

Permit Info:

Act 250 Permit Exists? ☐ Yes ☒ No If Yes, # _____ Copy Enclosed? ☐ Yes

List of Other Existing Permits: _____

Material staged only for temp road? How many cyds? → Recd 5/15/14

Landowner Agreement (Signature is required for all private-, town-, and state-owned properties)

I, JUSTIN A. STOVER, warrant that the information in the above permit application is accurate and agree
Landowner/Facility Manager Signature

to the use of the proposed area by Schultz as shown on the attached sketch. If acting as the agent of
Name of Contractor

the Landowner, I warrant (1) that the Landowner has the full right, power, and authority to authorize the proposed use, (2) that I am authorized to act as the Landowner's agent, and (3) that my authority to act as the Landowner's agent has not been revoked.

Date: 5/13/2014

This clearance is for the Natural and Cultural Resources Only.

SCHULTZ

received
5-15-14

Date: 5/14/14

To: Karen Spooner, VTRANS

From: Mike Garn

Subject: Rochester BFR 0162 (16) Bridge 15
Offsite Activity Submittal – Lands of Justin Stover

Karen,

Attached please find our Offsite Activity Submittal for the Lands of Justin Stover. This submittal is a request to use the area outside of the plan construction limits for Access and Staging. Earthen materials will be placed to build equipment access.

The area highlighted in Red on the plan sheet depicts the disturbance area outside the contract temporary construction limit line (approx. 1,400 sf). All disturbed areas will be returned to natural conditions at project completion.

Kindly let us know if any additional information will be required to process this submittal.

Thank you,

Mike Garn
Assist. Project Manager

PO Box 2620 · Ballston Spa, NY 12020 · Ph 518.885.0060 · Fx 518.885.0744 · www.wmschultz.com

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☐ Waste ☐ Borrow ☒ Other (ex. dewatering location): Access Road

Material: Type (asphalt, concrete, earthen, etc.) Earthen Quantity (yds³) _____

Total Area of Land Disturbance (sq ft) 1400 SF +/-

Additional Info: Stone and Fill Material placed for access to piles

- **LANDOWNER/PROPERTY INFO** (Fill all applicable boxes; attach a Location Map and Sketch of Area)

Name: Justin Stover **Address:** 3882 Brandon Mtn Rd **Phone:** 845 401-6620

Print Name Rochester VT

☒ Private Residential/Commercial ☐ Town/State Owned Facility ☐ Other

Additional Info: _____

Are there other users of this site? ☐ Yes ☒ No

Known past uses: _____

☒ Location Map (must be USGS Geological Survey Map (7.5'))

☒ Sketch of Area: ☒ North arrow ☒ Approx scale ☒ Recognizable features

Permit Info:

Act 250 Permit Exists? ☐ Yes ☒ No If Yes, # _____ Copy Enclosed? ☐ Yes ☐ No

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Landowner Agreement (Signature is required for all private-, town-, and state-owned properties)

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Landowner/Facility Manager Signature

to the use of the proposed area by Schultz as shown on the attached sketch. If acting as the agent of

Name of Contractor

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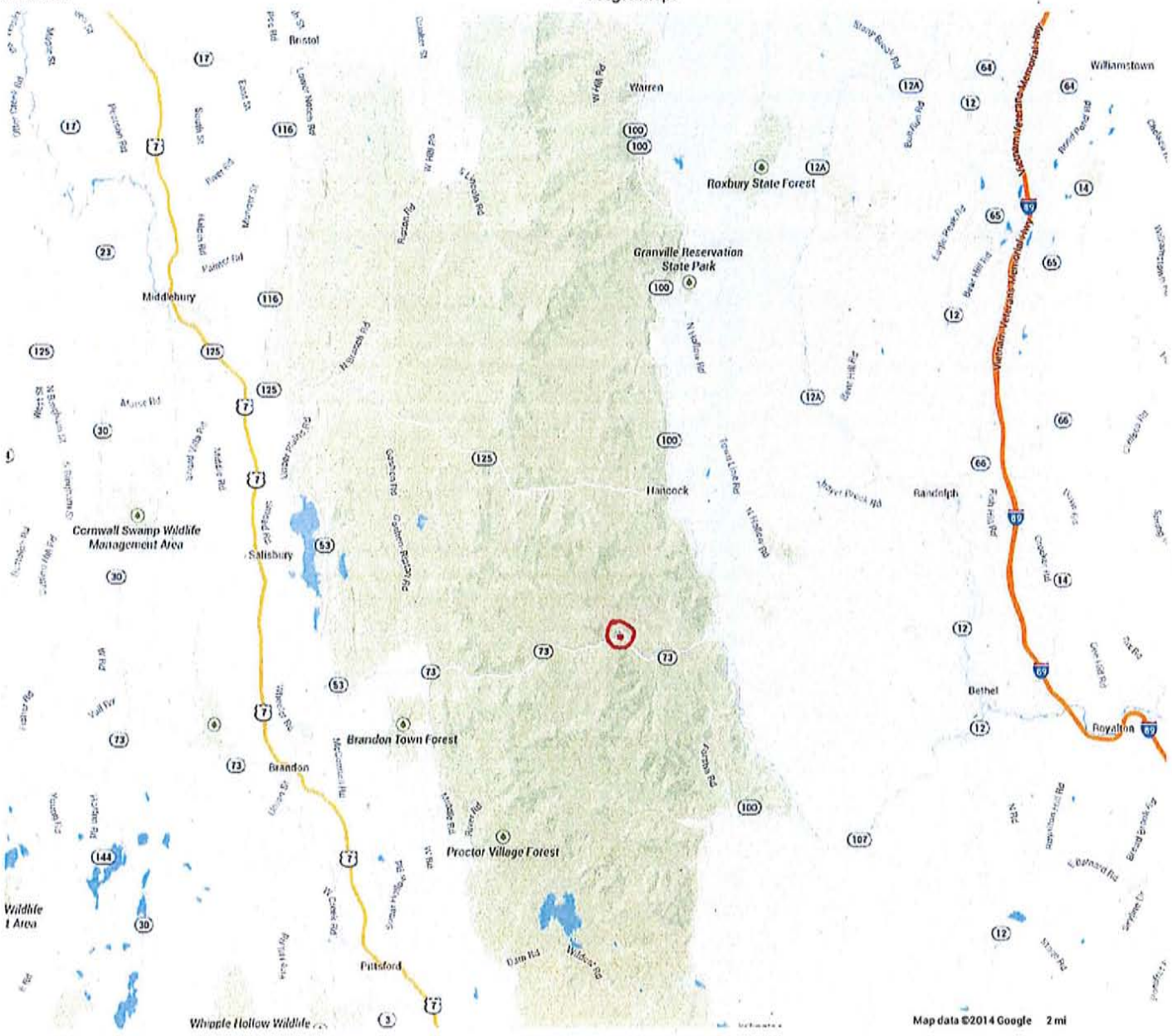
Date: 5/13/2014

This clearance is for the Natural and Cultural Resources Only.

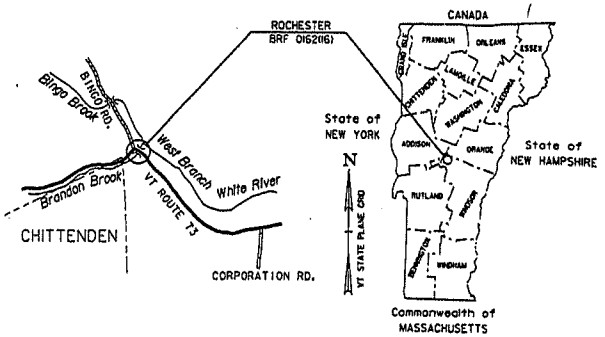


N

Rochester, VT

Bridge # 15 location

STATE OF VERMONT
AGENCY OF TRANSPORTATION



LOCATION MAP
NOT TO SCALE

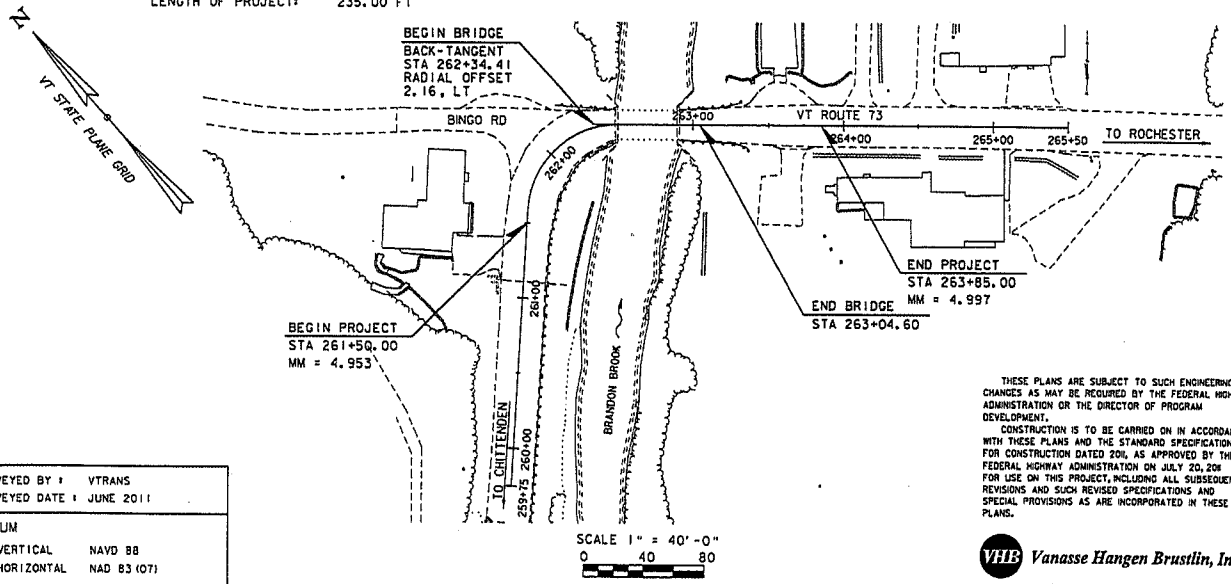
PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF ROCHESTER
COUNTY OF WINDSOR
VT ROUTE 73 (RURAL MAJOR COLLECTOR), BRIDGE NO 15

PROJECT LOCATION: LOCATED IN THE COUNTY OF WINDSOR, TOWN OF ROCHESTER, ON VT 73; BRIDGE NO 15 OVER BRANDON BROOK, APPROXIMATELY 4.00 MILES WEST OF THE INTERSECTION WITH VT ROUTE 73 AND VT ROUTE 100.

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REMOVAL AND REPLACEMENT OF EXISTING BRIDGE NO 15 ON THE EXISTING ALIGNMENT, WITH ASSOCIATED ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE: 71.12 FT
LENGTH OF ROADWAY: 163.88 FT
LENGTH OF PROJECT: 235.00 FT



SCALE 1" = 40'-0"
0 40 80

QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : VTRANS
SURVEYED DATE : JUNE 2011

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (07)

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 201 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

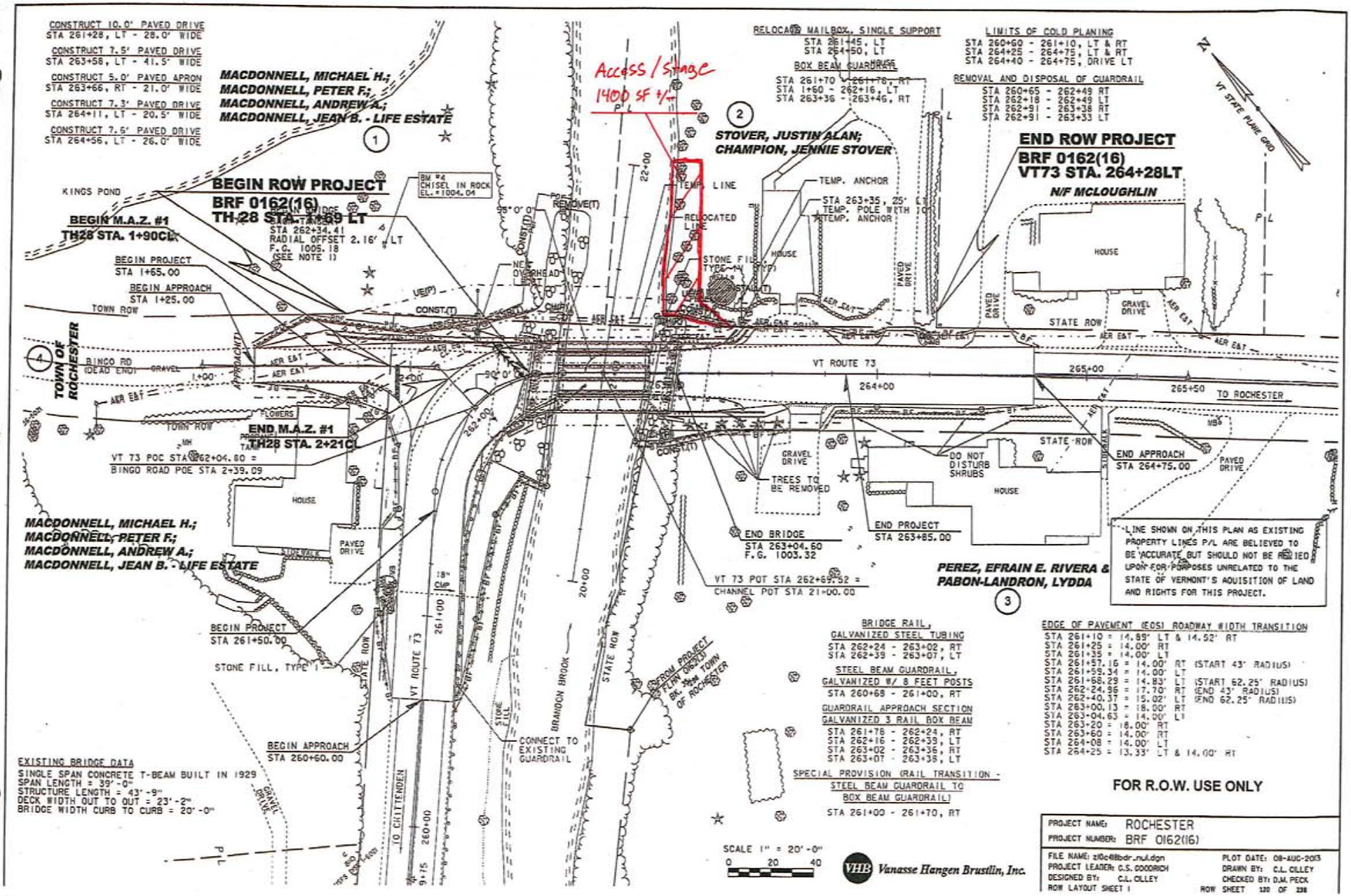
VHB Vanasse Hangen Brustlin, Inc.

PROJECT MANAGER : JENNIFER M.V. FITCH, P.E.

PROJECT NAME : ROCHESTER
PROJECT NUMBER : BRF 0162(16)

SHEET 59 OF 238 SHEETS

VHB 67402


CONSTRUCT 10.0' PAVED DRIVE
STA 261+28, LT - 28.0' WIDE
CONSTRUCT 7.5' PAVED DRIVE
STA 263+58, LT - 41.5' WIDE
CONSTRUCT 5.0' PAVED APRON
STA 263+66, RT - 21.0' WIDE
CONSTRUCT 7.3' PAVED DRIVE
STA 264+11, LT - 20.5' WIDE
CONSTRUCT 7.6' PAVED DRIVE
STA 264+56, LT - 26.0' WIDE
MACDONNELL, MICHAEL H.;
MACDONNELL, PETER F.;
MACDONNELL, ANDREW A.;
MACDONNELL, JEAN B. - LIFE ESTATE
1
BEGIN ROW PROJECT
BRF 0162(16)
TH28 STA. 1+69 LT
BEGIN M.A.Z. #1
TH28 STA. 1+90 LT
KINGS POND
BM #4
CHISEL IN ROCK
EL. = 1004.04
BEGIN BRIDGE
STA 262+34.41
RADIAL OFFSET 2.16' LT
F.G. 1005.18
(SEE NOTE 1)
BEGIN PROJECT
STA 1+65.00
BEGIN APPROACH
STA 1+25.00
TOWN ROW
TOWN OF ROCHESTER
BINCO RD
(DEAD END)
GRAVEL
APPROACH
AER E&T
FLOWERS
END M.A.Z. #1
TH28 STA. 2+21 LT
VT 73 POC STA 262+04.80 =
BINGO ROAD POE STA 2+39.09
HOUSE
PAVED DRIVE
SIDEWALK
MACDONNELL, MICHAEL H.;
MACDONNELL, PETER F.;
MACDONNELL, ANDREW A.;
MACDONNELL, JEAN B. - LIFE ESTATE
BEGIN PROJECT
STA 261+50.00
STONE FILL, TYPE I
STATE ROW
VT ROUTE 73
TO CRITTENDEN
BEGIN APPROACH
STA 260+60.00
GRAVEL DRIVE
EXISTING BRIDGE DATA
SINGLE SPAN CONCRETE T-BEAM BUILT IN 1929
SPAN LENGTH = 39'-0"
STRUCTURE LENGTH = 43'-9"
DECK WIDTH OUT TO OUT = 23'-2"
BRIDGE WIDTH CURB TO CURB = 20'-0"
REMOVE(T)
CONST.(T)
NEW OVERHEAD WIRE
UE(P)
CHIPTA
AER E&T
RELOCATED MAILBOX, SINGLE SUPPORT
STA 261+45, LT
STA 264+50, LT
BOX BEAM GUARDRAIL
STA 261+70 - 261+78, RT
STA 1+60 - 262+16, LT
STA 263+36 - 263+46, RT
LIMITS OF COLD PLANING
STA 260+60 - 261+10, LT & RT
STA 264+25 - 264+75, LT & RT
STA 264+40 - 264+75, DRIVE LT
REMOVAL AND DISPOSAL OF GUARDRAIL
STA 260+65 - 262+49 RT
STA 262+18 - 262+49 LT
STA 262+91 - 263+38 RT
STA 262+91 - 263+33 LT
VT STATE PLANE GRID
Access / Stage
1400 SF +/-
2
STOVER, JUSTIN ALAN;
CHAMPION, JENNIE STOVER
END ROW PROJECT
BRF 0162(16)
VT73 STA. 264+28 LT
N/F MCLOUGHLIN
TEMP. LINE
RELOCATED LINE
TEMP. ANCHOR
STA 263+35, 25' LT
TEMP. POLE WITH TEMP. ANCHOR
STONE FILL, TYPE I (T)
HOUSE
PAVED DRIVE
GRAVEL DRIVE
STATE ROW
VT ROUTE 73
264+00
265+00
265+50
TO ROCHESTER
TREES TO BE REMOVED
DO NOT DISTURB SHRUBS
END APPROACH
STA 264+75.00
END BRIDGE
STA 263+04.60
F.G. 1003.32
END PROJECT
STA 263+85.00
VT 73 POT STA 262+69.52 =
CHANNEL POT STA 21+00.00
PEREZ, EFRAIN E. RIVERA &
PABON-LANDRON, LYDDA
3
LINE SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE, BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.
BRIDGE RAIL,
GALVANIZED STEEL TUBING
STA 262+24 - 263+02, RT
STA 262+39 - 263+07, LT
STEEL BEAM GUARDRAIL,
GALVANIZED W/ 8 FEET POSTS
STA 260+68 - 261+00, RT
GUARDRAIL APPROACH SECTION
GALVANIZED 3 RAIL BOX BEAM
STA 261+78 - 262+24, RT
STA 262+16 - 262+39, LT
STA 263+02 - 263+36, RT
STA 263+07 - 263+38, LT
SPECIAL PROVISION (RAIL TRANSITION - STEEL BEAM GUARDRAIL TO BOX BEAM GUARDRAIL)
STA 261+00 - 261+70, RT
EDGE OF PAVEMENT (EOS) ROADWAY WIDTH TRANSITION
STA 261+10 = 14.89' LT & 14.52' RT
STA 261+25 = 14.00' RT
STA 261+35 = 14.00' LT
STA 261+57.16 = 14.00' RT (START 43' RADIUS)
STA 261+59.34 = 14.00' LT
STA 261+68.29 = 14.83' LT (START 62.25' RADIUS)
STA 262+24.96 = 17.70' RT (END 43' RADIUS)
STA 262+40.37 = 15.02' LT (END 62.25' RADIUS)
STA 263+00.13 = 18.00' RT
STA 263+04.63 = 14.00' LT
STA 263+20 = 18.00' RT
STA 263+60 = 14.00' RT
STA 264+08 = 14.00' LT
STA 264+25 = 13.33' LT & 14.00' RT
FOR R.O.W. USE ONLY
SCALE 1" = 20'-0"
0 20 40
VHB Vanasse Hangen Brustlin, Inc.
PROJECT NAME: ROCHESTER
PROJECT NUMBER: BRF 0162(16)
FILE NAME: z:\0c48bdr_nu1.dgn
PROJECT LEADER: G.S. GOODRICH
DESIGNED BY: C.L. OLLEY
ROW LAYOUT SHEET 1
PLOT DATE: 08-AUG-2013
DRAWN BY: C.L. OLLEY
CHECKED BY: D.M. PECK
ROW SHEET 120 OF 238

SCHULTZ

Date: 5/14/14

To: Karen Spooner, VTRANS

From: Mike Garn

Subject: Rochester BFR 0162 (16) Bridge 15
Offsite Activity Submittal – Lands of Justin Stover

Karen,

Attached please find our Offsite Activity Submittal for the Lands of Justin Stover. This submittal is a request to use the area outside of the plan construction limits for Access and Staging.

The area highlighted in Red on the plan sheet depicts the disturbance area outside the contract temporary construction limit line (approx. 1,400 sf). All disturbed areas will be returned to natural conditions at project completion.

Kindly let us know if any additional information will be required to process this submittal.

Thank you,

Mike Garn
Assist. Project Manager

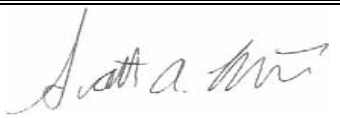
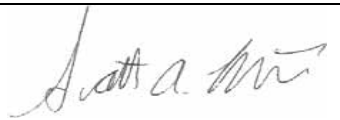
PO Box 2620 · Ballston Spa, NY 12020 · Ph 518.885.0060 · Fx 518.885.0744 · www.wmschultz.com

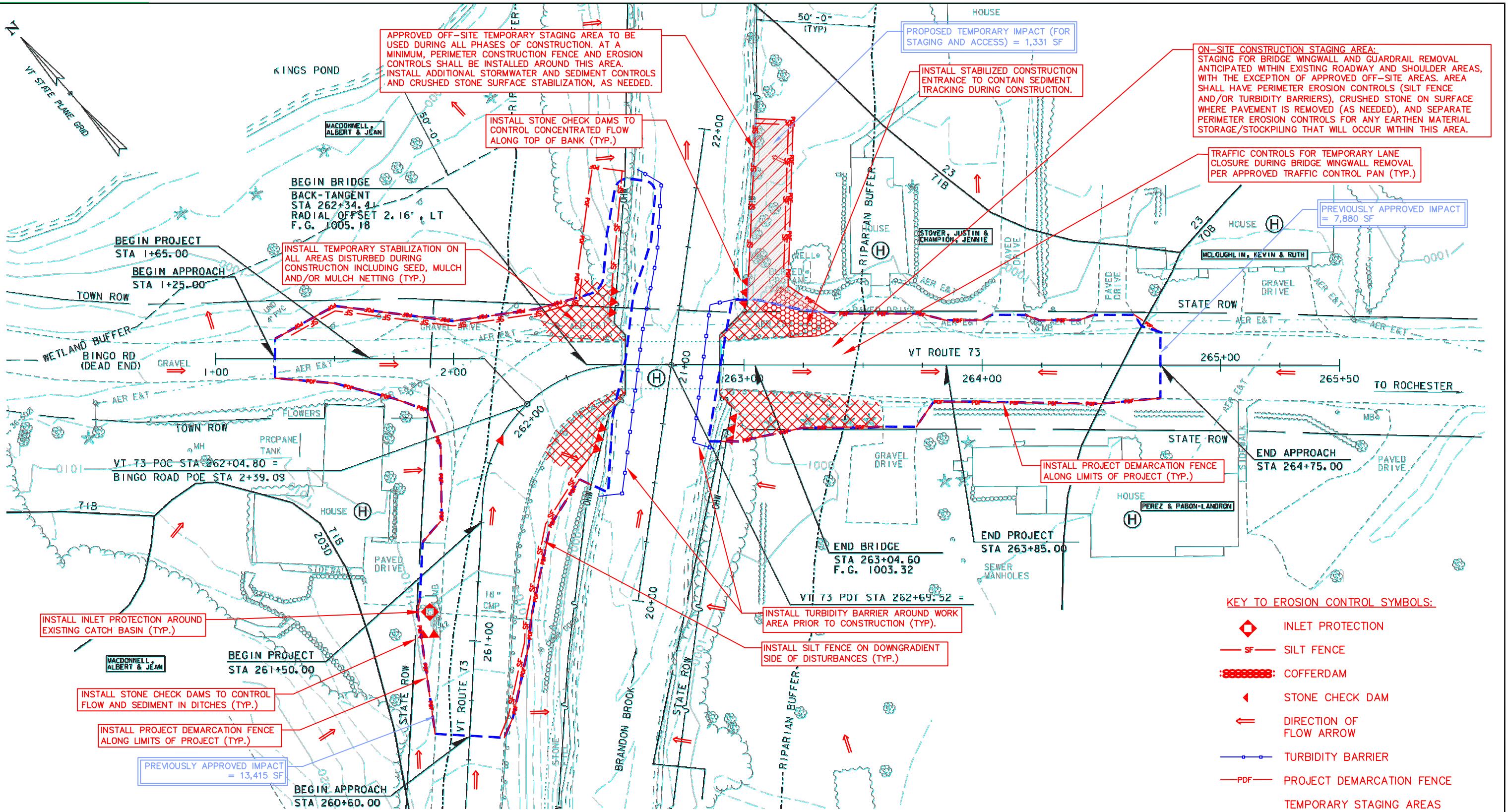
APPENDIX E
EPSC PLAN REVISION DOCUMENTATION FORM

EPSC Plan Revision Documentation Form

This Erosion Prevention and Sediment Control Plan (EPSC Plan) should be revised and updated to address changes in site conditions, new or revised government regulations, and additional on-site stormwater and erosion controls.

All revisions to the EPSC Plan must be documented on the EPSC Plan Revision Documentation Form, which should include the information shown below. The authorized facility representative who approves the EPSC Plan should be an individual at or near the top of the facility's management organization, such as the president, vice president, construction manager or supervisor, on-site coordinator, or environmental manager. The signature of this representative attests that the EPSC Plan revision information is true and accurate. Previous authors and facility representatives are not responsible for the revisions.

Revision Number	Description of the Revision	Date	Revision Preparer	Company Representative Signature
Originally Issued	Draft	June 4, 2014	Pathways Consulting, LLC	 Scott A. Williams, P.E.
1	Final Revisions per VTrans		Pathways Consulting, LLC	 Scott A. Williams, P.E.
2				
3				
4				
5				



KEY TO EROSION CONTROL SYMBOLS:

- INLET PROTECTION
- SF — SILT FENCE
- COFFERDAM
- STONE CHECK DAM
- DIRECTION OF FLOW ARROW
- TURBIDITY BARRIER
- PDF — PROJECT DEMARCATION FENCE
- TEMPORARY STAGING AREAS
- MULCH OR MULCH NETTING
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY/PERMANENT STONE FILL
- ADDITIONAL IMPACT AREAS
- PREVIOUSLY PERMITTED IMPACT LIMITS

GENERAL NOTES:

1. REFERENCE MADE TO PLANS PREPARED FOR THE STATE OF VERMONT AGENCY OF TRANSPORTATION BY VANASSE HANGEN BRUSTLIN, INC., "ROCHESTER, PROJECT NUMBER BRF 0162(16), 9/13/13," SHEET 112 OF 238.
2. IN THE EVENT OF CONFLICT BETWEEN DETAILS, EROSION CONTROLS AND/OR RELATED NOTES SHOWN ON PATHWAYS EPSC PLANS AND VTRANS CONTRACT DOCUMENTS, CONTRACT DOCUMENTS SHALL GOVERN EXCEPT WHERE MORE STRINGENT REGULATORY REQUIREMENTS APPLY.

PHASE 1: SITE PREPARATION AND EXISTING BRIDGE WINGWALL REMOVAL

REVISION NO.	DATE	DESCRIPTION	MADE BY	CHECKED BY	APPROVED BY

BRIDGE NO. 15 – PHASE 1 EROSION PREVENTION AND SEDIMENT CONTROL PLAN FOR W.M. SCHULTZ CONSTRUCTION, INC FOR

VERMONT AGENCY OF TRANSPORTATION - ROCHESTER BRF 0162 (16)

VERMONT ROUTE 73 & BINGO ROAD, ROCHESTER, VERMONT

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766
(603) 448-2200

SCALE: 1"= 40'	1
DESIGNED BY: SAW	
DRAWN BY: SAW	
CHECKED BY: SAW	
DATE: 06/04/14	
PROJ. NO. 12455	SHEET 1 OF 2

EROSION CONTROL SPECIFICATIONS

1. SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL," 2006, AND "LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL," AUGUST 2006. THE CONTRACTOR SHALL HAVE REFERENCE TO THESE PUBLICATIONS.
2. IMMEDIATE ATTENTION TO EROSION CONTROL PRACTICES DRAMATICALLY IMPROVES SOIL AND MOISTURE CONSERVATION AND REDUCES NEGATIVE IMPACTS ON WATER QUALITY. THE CONTRACTOR SHALL GIVE PRIORITY TO THE TIMELY INSTALLATION OF BOTH TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES.
3. THE EROSION AND SEDIMENT CONTROL PRACTICES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIRED FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE PRACTICES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS.
4. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE PLANS SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, AS SHOWN ON THE PLANS, PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION.
5. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AT ANY ONE TIME BEFORE STABILIZATION. A CONSTRUCTION SEQUENCE HAS BEEN DEVELOPED TO FACILITATE INSTALLATION OF EROSION CONTROL MEASURES AND THE COMPLETION OF GRADING, SEEDING, AND LANDSCAPING AS SOON AS POSSIBLE WITHIN A DISTURBED AREA.
6. INSTALL EROSION CONTROL MEASURES AS SHOWN. CLEAN ACCUMULATED SEDIMENT AS NECESSARY. LEAVE IN PLACE UNTIL DISTURBED AREAS HAVE BEEN ADEQUATELY STABILIZED. DISTURBED AREAS RESULTING FROM SILT FENCE REMOVAL SHALL BE PERMANENTLY SEEDED.
7. ALL DISTURBED AREAS SHALL HAVE TEMPORARY STABILIZATION MEASURES IN PLACE WITHIN 48 HOURS OF INITIAL DISTURBANCE, AND PERMANENT STABILIZATION MEASURES WITHIN 48 HOURS OF FINAL GRADING.
8. CUT AND FILL SLOPES MAY CALL FOR INTENSIVE EROSION CONTROL MEASURES. MULCH NETTING OR EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
9. MAINTENANCE: DURING THE CONSTRUCTION PERIOD UNTIL SUCH TIME AS LONG TERM VEGETATION IS ESTABLISHED.
   A. DISTURBED AREAS WILL BE FERTILIZED AND RESEEDED.
   B. CATCH BASINS WILL BE CHECKED AND CLEANED AS NECESSARY.
   C. DRAINAGE SWALES SHALL BE CHECKED FREQUENTLY AND CLEANED AS REQUIRED.
   D. THE SILT FENCES AND HAYBALE DIKES WILL BE CHECKED ON A REGULAR BASIS AND REPAIRED AS NECESSARY TO CORRECT ANY DAMAGE, DETERIORATION, AND SHORT CIRCUITING.
   E. THE BOTTOM OF SEDIMENT BASINS SHALL BE PERIODICALLY CLEANED, WITH THE SEDIMENT REMOVED TO A SECURE LOCATION.
   F. SEDIMENT DEPOSITS SHALL BE REMOVED AS NECESSARY.
10. EPSC PLAN MONITORING: THE ON-SITE COORDINATOR AND/OR EPSC PLAN MONITOR SHALL INSPECT THE SITE ON A REGULAR BASIS TO OBSERVE THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL PRACTICES. THE SITE EROSION CONTROLS SHALL BE INSPECTED ONCE EVERY 7 DAYS AND AFTER EVERY RAINFALL EVENT THAT RESULTS IN STORMWATER DISCHARGE OFF THE SITE.
11. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
12. WINTER CONSTRUCTION NOTES:
   A. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH NETTING SHALL OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
   B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS; AND
   C. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED STONE.
   D. FOR WORK AFTER OCTOBER 15TH: CONTRACTOR SHALL ADHERE TO "THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL" FOR ADDITIONAL WINTER CONSTRUCTION REQUIREMENTS.

CONSTRUCTION SEQUENCE

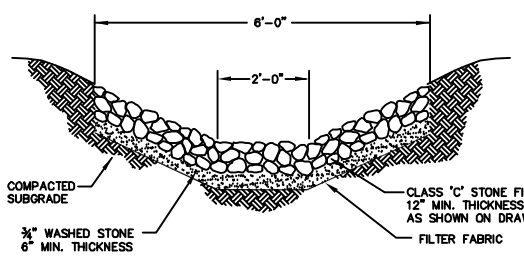
SEE SEPARATE EROSION PREVENTION AND SEDIMENT CONTROL PLAN NARRATIVE FOR DETAILED CONSTRUCTION SEQUENCING AND EROSION CONTROL MEASURES.

RISK EVALUATION – PROJECT SPECIFIC

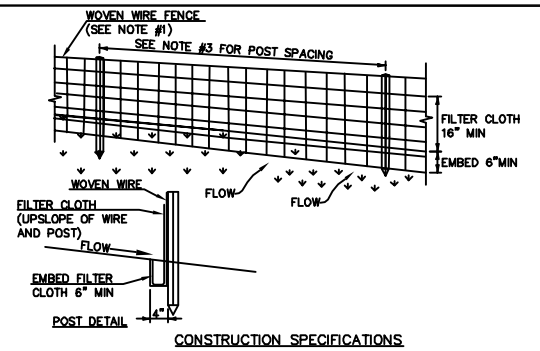
IN THE EVENT THAT CHANGES ARE MADE PRIOR TO OR DURING CONSTRUCTION THAT RESULT IN THE DISTURBANCE OF ONE OR MORE ACRES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR.

EROSION CONTROL SPECIAL NOTES:

1. SILT FENCE SHOWN ALONG TEMPORARY ACCESS ROADS AND STAGING AREAS ON PLAN FOR INDICATIVE PURPOSES ONLY, AND SHALL BE INSTALLED AS APPROPRIATE FOR FIELD CONDITIONS AND DOWN-GRADIENT OF DISTURBED AREAS. SILT FENCE SHALL ONLY BE INSTALLED PARALLEL TO SLOPE CONTOURS. WHERE THIS IS NOT POSSIBLE, RUNOFF FROM DISTURBED AREAS SHALL BE CONTAINED AND CONTROLLED USING DIVERSION SWALES WITH STONE CHECK DAMS, OR OTHER APPROVED EROSION CONTROL MEASURES.
2. IF TEMPORARY ACCESS PATHS ARE MODIFIED FROM LOCATIONS SHOWN ON THE APPROVED EPSC PLANS, ADDITIONAL REVIEW MAY BE NECESSARY WITH VTRANS TO APPROVE ALTERNATE ACCESS. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THIS ADDITIONAL REVIEW IS COMPLETED PRIOR TO IMPLEMENTING CHANGES IN THE FIELD.
3. DISCHARGING DEWATERING FLOWS TO ALTERNATE LOCATIONS NOT SHOWN ON THE APPROVED EPSC PLANS MAY REQUIRE ADDITIONAL REVIEW BY VTRANS, AND CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THIS REVIEW IS COMPLETED PRIOR TO IMPLEMENTING FIELD CHANGES.
4. ALTERNATE DEWATERING DISCHARGE LOCATIONS SHALL REQUIRE USE OF A FILTER BAG AND/OR HOSE OUTLET PROTECTION, AT A MINIMUM, PRIOR TO DEWATERING.
5. DEWATERING FLOWS FROM AREAS OF EXCAVATION WITHIN STREAM CHANNEL, OR EXPOSED TO OTHER CONTAMINATION (E.G. – CONCRETE, GROUT) SHALL ONLY BE DISCHARGED INTO APPROVED SETTLING BASIN UNLESS AN ALTERNATE LOCATION WITH FILTER BAG AND/OR HOSE OUTLET PROTECTION IS APPROVED BY RESIDENT ENGINEER.
6. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM, SEED AND MULCH, AT A MINIMUM. SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH TEMPORARY EROSION MATTING, OR EQUIVALENT GEOTEXTILE FABRIC, AS APPROVED BY RESIDENT ENGINEER.



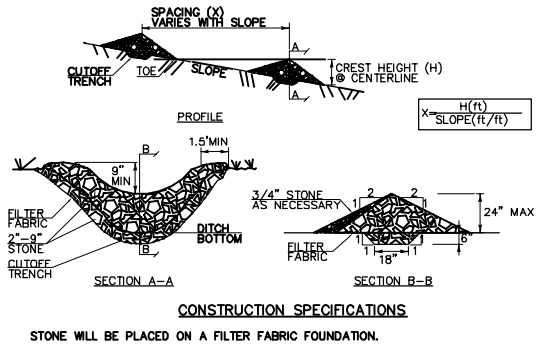
STONE LINED DITCH
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE–BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER–CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
6. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

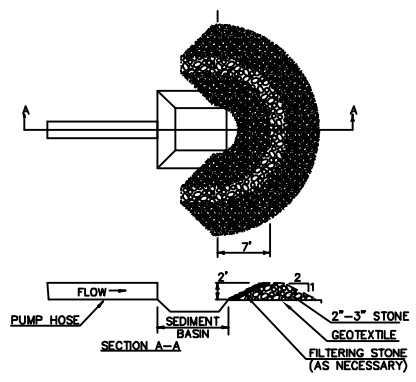
SILT FENCE
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

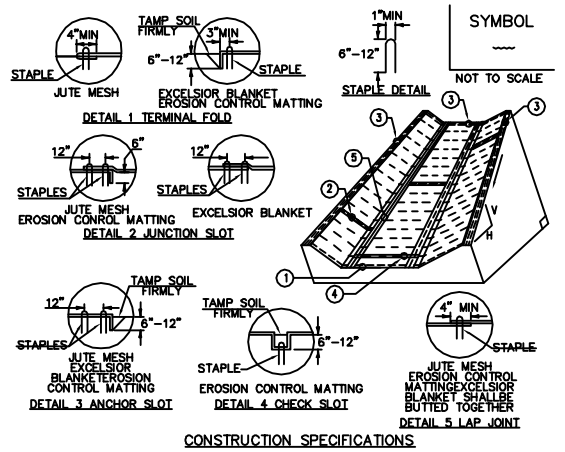
CHECK DAM
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE PUMPING IS COMPLETE FOR THE PROJECT, THE SEDIMENT TRAPPED BEHIND THE DAM SHALL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM(S) SHALL BE REMOVED AND THE AREA STABILIZED AND RESTORED TO NEAR PRE–CONSTRUCTION CONDITION.

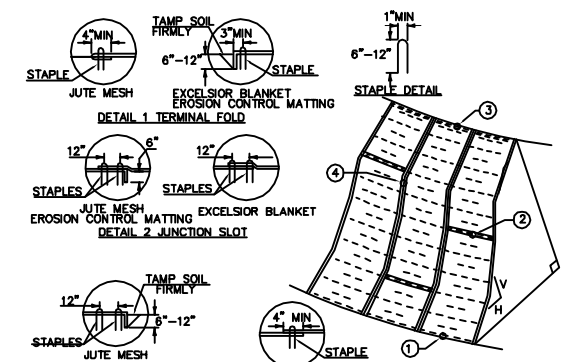
HOSE OUTLET PROTECTION
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6% ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

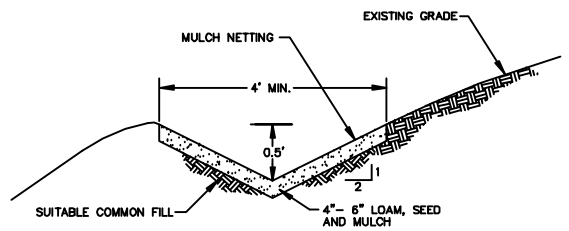
ROLLED EROSION CONTROL PRODUCT(RECP) DITCH
N.T.S.



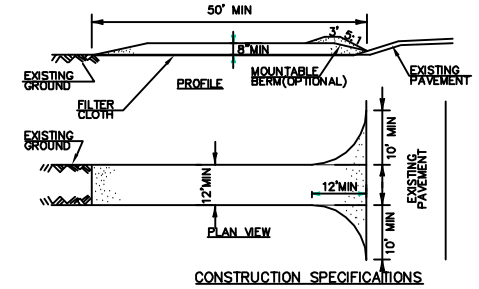
CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE
N.T.S.



DIVERSION DITCH
N.T.S.



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE– USE 1–4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH– NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS– NOT LESS THAN 8".
4. WIDTH– 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER– ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

VAOT RURAL AREA MIX

LBS/AC					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
27.5%	22.5	45	CREEPING RED FESCUE	85%	98%
27.5%	22.5	45	TALL FESCUE	90%	85%
5.0%	3	6	RED TOP	90%	85%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	85%
100%	60	120			

VAOT URBAN AREA MIX

LBS/AC					
%WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	*FOLLOW*	PELLETIZED	*FOLLOW*
500 LBS/AC	*MANUFACTURER*	2 TONS/AC	*MANUFACTURER*

CONSTRUCTION GUIDANCE

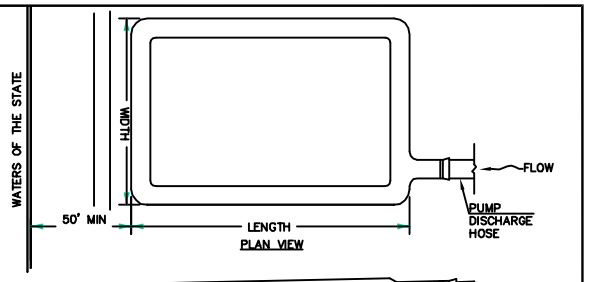
1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER.
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE FOR SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	
JULY 23, 2015	WHP
JANUARY 25, 2016	WHP
FEBRUARY 18, 2016	WHP

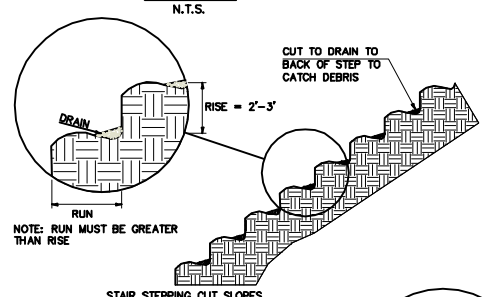
TURF ESTABLISHMENT
N.T.S.



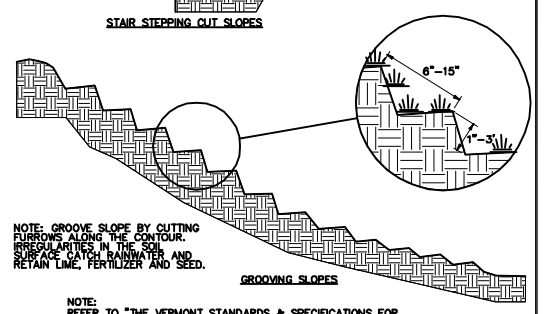
CONSTRUCTION SPECIFICATIONS

1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG
N.T.S.



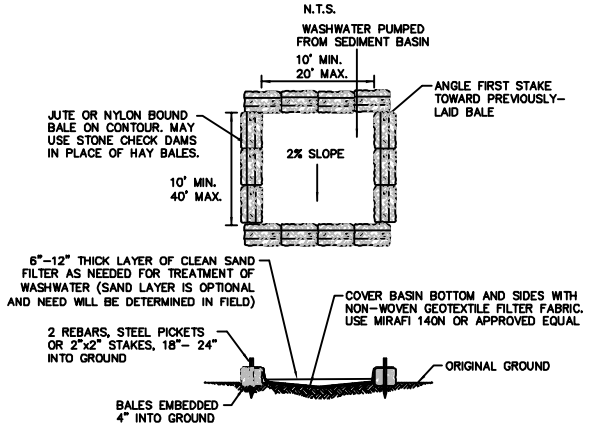
STAIR STEPPING CUT SLOPES



GROOVING SLOPES

NOTE:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL –2006– " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

SURFACE ROUGHENING DETAILS*
N.T.S.



NOTE:
1. GOAL IS FOR ALL CONTAMINATED WATER TO FLOW THROUGH NON–WOVEN FABRIC, AND SAND LAYER AS DEEMED NECESSARY, PRIOR TO EXITING BASIN.
2. BASIN SIZE TO VARY BASED ON EXPECTED VOLUME OF WASHWATER, BUT SHOULD NOT EXCEED LIMITS INDICATED ABOVE.
3. CONTRACTOR MAY USE MULTIPLE CELLS TO INCREASE TREATMENT CAPACITY.
4. DETAIL AS SHOWN IS INTENDED TO PROMOTE INFILTRATION INTO GROUND BELOW BASIN. WHERE INFILTRATION IS NOT DESIRED DUE TO UNSUITABLE SOIL CONDITIONS, CLOSE PROXIMITY TO SENSITIVE RESOURCES, OR OTHER CONDITIONS, CONTRACTOR SHALL USE IMPERVIOUS PLASTIC LINER ON BOTTOM AND THREE SIDES WITH NON–WVEN FABRIC ON DOWNGRADIENT END TO ALLOW WATER TO EXIT BASIN IN DESIRED DIRECTION AWAY FROM SENSITIVE RESOURCES.

ALTERNATE TREATMENT BASIN FOR DEWATERING
N.T.S.

REVISION NO.	DATE	DESCRIPTION	MADE BY	CHECKED BY	APPROVED BY

BRIDGE NO. 15 – MISCELLANEOUS DETAILS FOR W.M. SCHULTZ CONSTRUCTION, INC FOR

VERMONT AGENCY OF TRANSPORTATION - ROCHESTER BRF 0162 (16)

VERMONT ROUTE 73 & BINGO ROAD, ROCHESTER, VERMONT

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766
(603) 448–2200

SCALE:	1"= 40'
DESIGNED BY:	SAW
DRAWN BY:	SAW
CHECKED BY:	SAW
DATE:	06/04/14
PROJ. NO.	12455

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SHEET 2 OF 2