

Vermont Department of Environmental Conservation

Watershed Management Division
Springfield Regional Office
100 Mineral Street, Suite 303
Springfield, VT 05156
www.watershedmanagement.vt.gov

Agency of Natural Resources

[phone] 802-885-8855
[fax] 802-885-8890
[cell] 802-345-3510

AUTHORIZATION TO CONDUCT NEXT FLOOD MEASURES

Pursuant to Section F of the Vermont Stream Alteration General Permit

Project Number: **SA-05-028-2015 Townshend Grafton Rd TH 1 BR 2**

Applicant Name: Townshend Highway Department

Contact: Kurt Bostrom

Mailing Address: Town of Townshend, PO Box 223, Townshend, VT 05353

Phone: 802-365-4260

Project Location: Grafton Rd TH 1 BR 2 over North of Branch Saxtons River

Email: townshendgarage@svcable.net

The Secretary of the Vermont Agency of Natural Resources (VT ANR) has determined that:

1. This project authorizes replacement of an 8' CMP culvert damaged by T.S. Irene with a four sided 10' x 7' x 60' concrete box culvert over the North Branch of the Saxtons River. The sediment retentions sills shall be filled with Type E2 Stone Fill per the attached Appendix M Stream Stone Bed Fill Design Guidance.
2. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit – Next Flood Measures.
3. The proposed activity will meet the terms and conditions of Section F of the General Permit provided:
 - a) The project will be completed and approved as shown on the plan dated 5/21/14, prepared by Hammond Engineering, and approved by the Vermont Agency of Natural Resources as attached herein.
 - b) The project is proportional to the threat and conditioned to cease when the threat to life or to improved property has ended.
 - c) The project will not result in a threat to life, public health or safety.
 - d) The project will meet the standards detailed in subsection E.2.1 and E.2.2 of the General Permit.
 - e) The project will meet Stream Alteration Standards to the greatest extent possible.
 - f) A pre-construction meeting is held between the contractor, owner/applicant, and the ANR River Management Engineer.
 - g) The River Management Engineer is notified by phone or email when construction begins and when the project is complete.

If there are any changes in the project plan or deviation in construction from the plan, the Permittee must notify the River Management Engineer immediately.

If the project is constructed as you have described, as shown on the above referenced approved plans and according to the above conditions, there is no reason to expect any violation of Vermont Water Quality Standards.

Signed this 11th day of August, 2015

This permit expires October 1, 2015.

David K. Mears, Commissioner
Department of Environmental Conservation

by: 

Todd Menees, P.E., P.H., River Management Engineer

Streambed Stone Fill Design Guidance

Type	Velocity Range (fps)*	Embeddedness (in)
E1	$V \leq 9$	18
E2	$9 < V \leq 11$	24
E3	$11 < V \leq 13$	36
E4	$13 < V \leq 15$	48

*Maximum velocity should be based on a minimum 50-year design flow rate and calculated at the structure outlet.

Item xxx.xxx CY Streambed Stone Fill Specification

Type E1. The longest dimension of the stone shall be at least 18 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 12 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

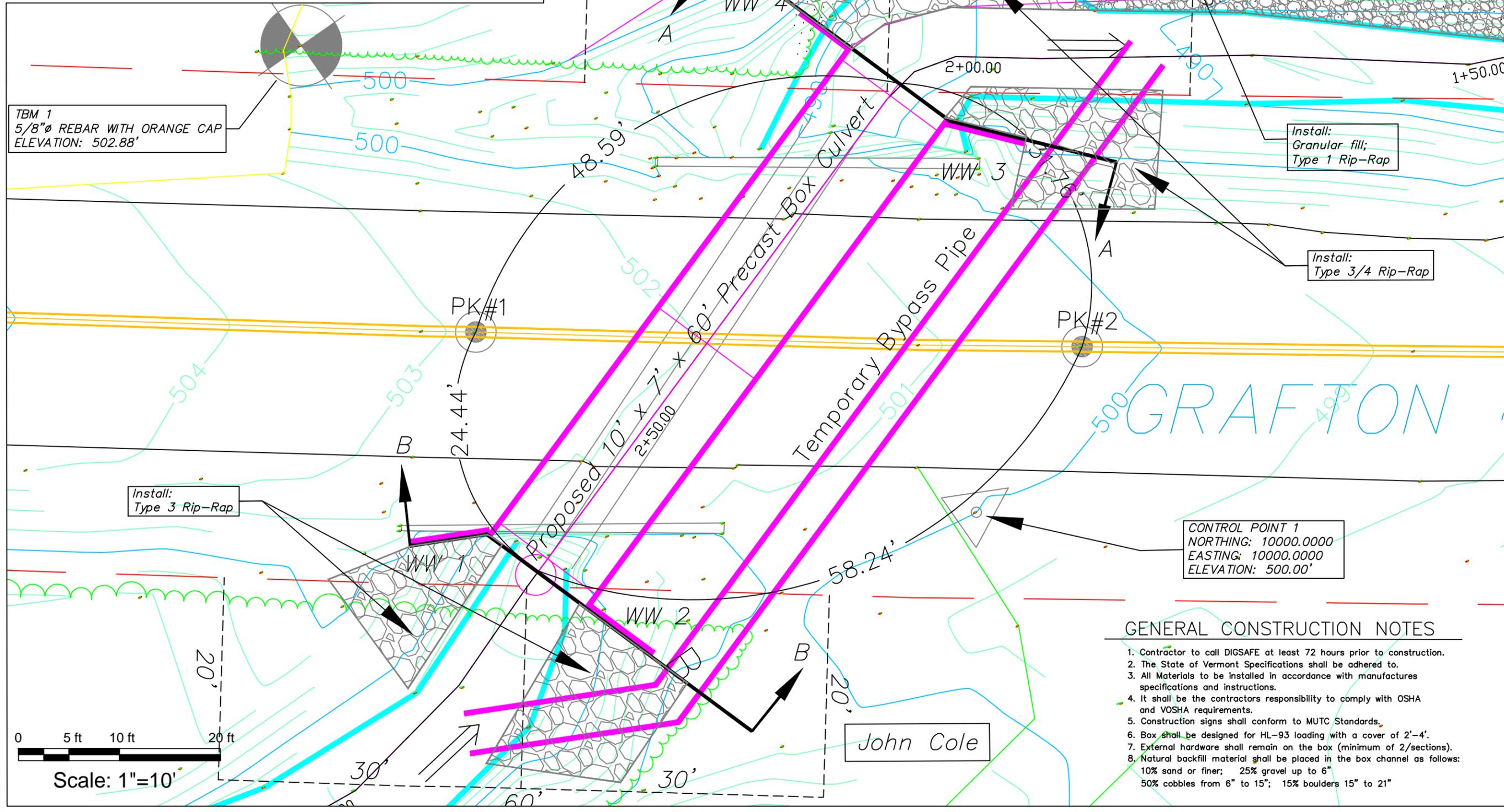
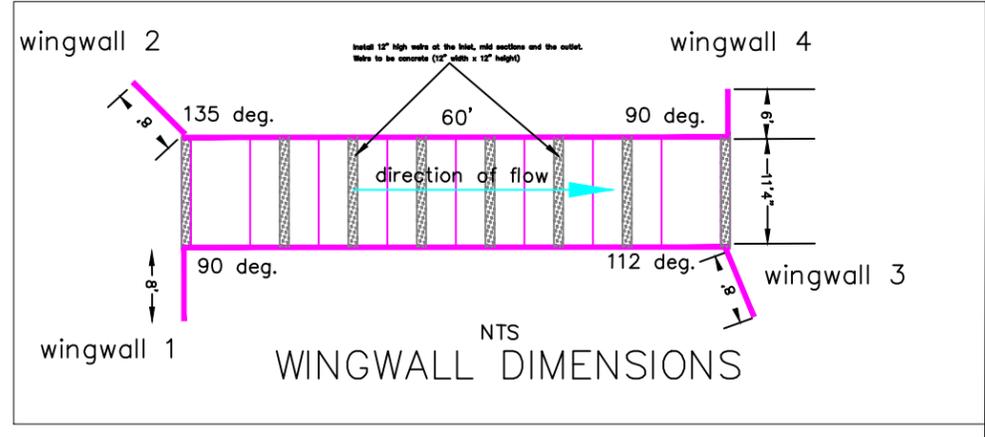
Type E2. The longest dimension of the stone shall be at least 24 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 18 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E3. The longest dimension of the stone shall be at least 36 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 24 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Type E4. The longest dimension of the stone shall be at least 48 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 36 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

Notes

- The streambed stone fill shall be hard, blasted, angular rock other than serpentine rock containing the fibrous variety chrysotile (asbestos). Similar sized river sediment is an acceptable alternative as is a mixture of angular material and river sediment.
- Stone placed inside of a closed structure shall be placed such that the structure is not damaged.
- Care shall be taken to limit segregation of the materials.
- Add sand borrow item as needed to seal the bed and prevent subsurface flow.
- There shall be no subsurface flow upon final inspection.



CONTROL POINT 1
 NORTHING: 10000.0000
 EASTING: 10000.0000
 ELEVATION: 500.00'

GENERAL CONSTRUCTION NOTES

1. Contractor to call DIGSAFE at least 72 hours prior to construction.
2. The State of Vermont Specifications shall be adhered to.
3. All Materials to be installed in accordance with manufactures specifications and instructions.
4. It shall be the contractors responsibility to comply with OSHA and VOSHA requirements.
5. Construction signs shall conform to MUTC Standards.
6. Box shall be designed for HL-93 loading with a cover of 2'-4'.
7. External hardware shall remain on the box (minimum of 2/sections).
8. Natural backfill material shall be placed in the box channel as follows:
 10% sand or finer; 25% gravel up to 6"
 50% cobbles from 6" to 15"; 15% boulders 15" to 21"

TOWNSHEND_GRAFTON ROAD_BOX_060114	Project No.	Scale 1"=10'	Date 05/21/2014
		1/2	
Town of Townshend, VT PO Box 223, Townshend, VT 05353 Grafton Road Culvert Plan View			
Hammond Engineering Everett T. Hammond, PE 5 Lincoln St, Springfield, VT 05156 Phone: (802) 376-0042			

