

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

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AUTHORIZATION TO CONDUCT STREAM ALTERATION ACTIVITIES

Pursuant to Section C.2.2.5 of the VT Stream Alteration General Permit (Reporting activities not requiring an application)

Project Number: **SA-05-013-2015 Dummerston Quarry Road Culvert**

Applicant Name: Dummerston Highway Department

Contact: Lee Chamberlain

Mailing Address: Town of Dummerston, 1523 Middle Rd, Vermont 05346

Phone: (802) 254-2411 or (802) 257-1496

Project Location: Quarry Road Culvert B2 over tributary to West River

Email: selectboard@dummerston.org

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

1. This project authorizes the replacement of a failed 5' x 6.5' arch pipe over an un-named tributary with an open bottom 18' x 5'-9" arch pipe with associated channel bed and bank stabilization to restore aquatic organism passage.
2. The proposed activity is eligible for coverage under the VT ANR Stream Alteration General Permit.
3. The proposed activity will meet the terms and conditions of the General Permit provided:
 - a) The project will be completed and approved as shown on the attached plans dated 9/1/14, prepared by Hammond Engineering, and approved by the VT ANR as attached herein.
 - b) The project will not adversely affect the public safety by increasing flood hazards.
 - c) The project will not significantly damage fish life or wildlife.
 - d) The project will not significantly damage the rights of riparian owners.
 - e) The project will not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction. The channel bed stone shall be Type E4 in the Stream Bed Stone Fill Design Guidance.
 - f) The project is conducted in a manner which minimizes or avoids any discharge of sediment or other pollutants to surface waters in violation of the VT Water Quality Standards.
 - g) The ANR River Management Engineer is notified by phone or email when construction begins and when the project is complete.
 - h) In-stream working dates for all GP activities are from July 1st through October 1st; any in-stream work outside these dates will require an Individual Stream Alteration Permit authorization by the River Management Engineer.
 - i) This authorization has been posted for three days public comment. This authorization constitutes final approval.

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 28th day of April, 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.

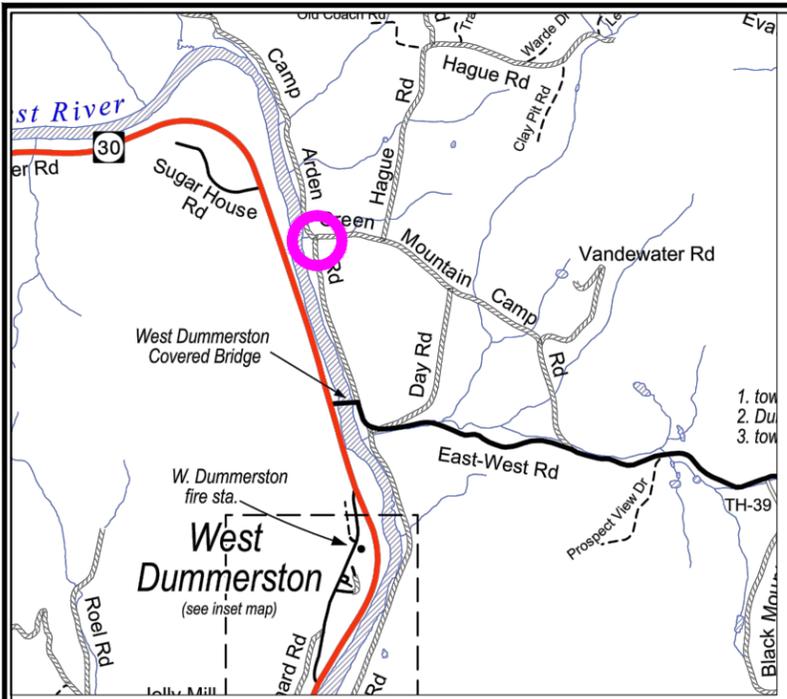
Type E2. The longest dimension of the stone shall be at least 24 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 18 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

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.

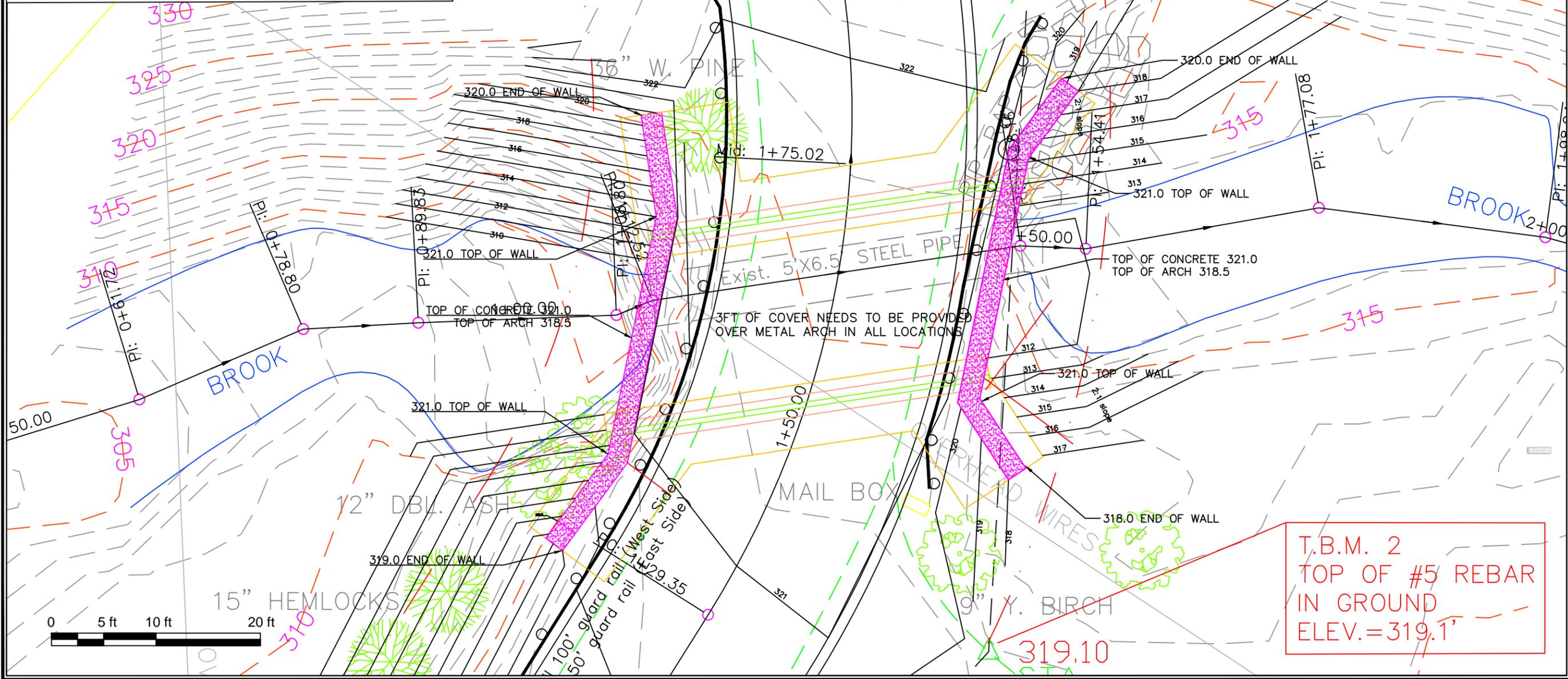
Type E4. The longest dimension of the stone shall be at least 48 inches, and at least 50 percent of the volume of the stone in place shall have a least dimension of 36 inches, and at least 25 percent of the particles shall have a maximum dimension of 2 inches and be well graded material.

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.



LOCATION MAP



T.B.M. 3
TOP OF #5 REBAR
IN GROUND
ELEV.=324.8'

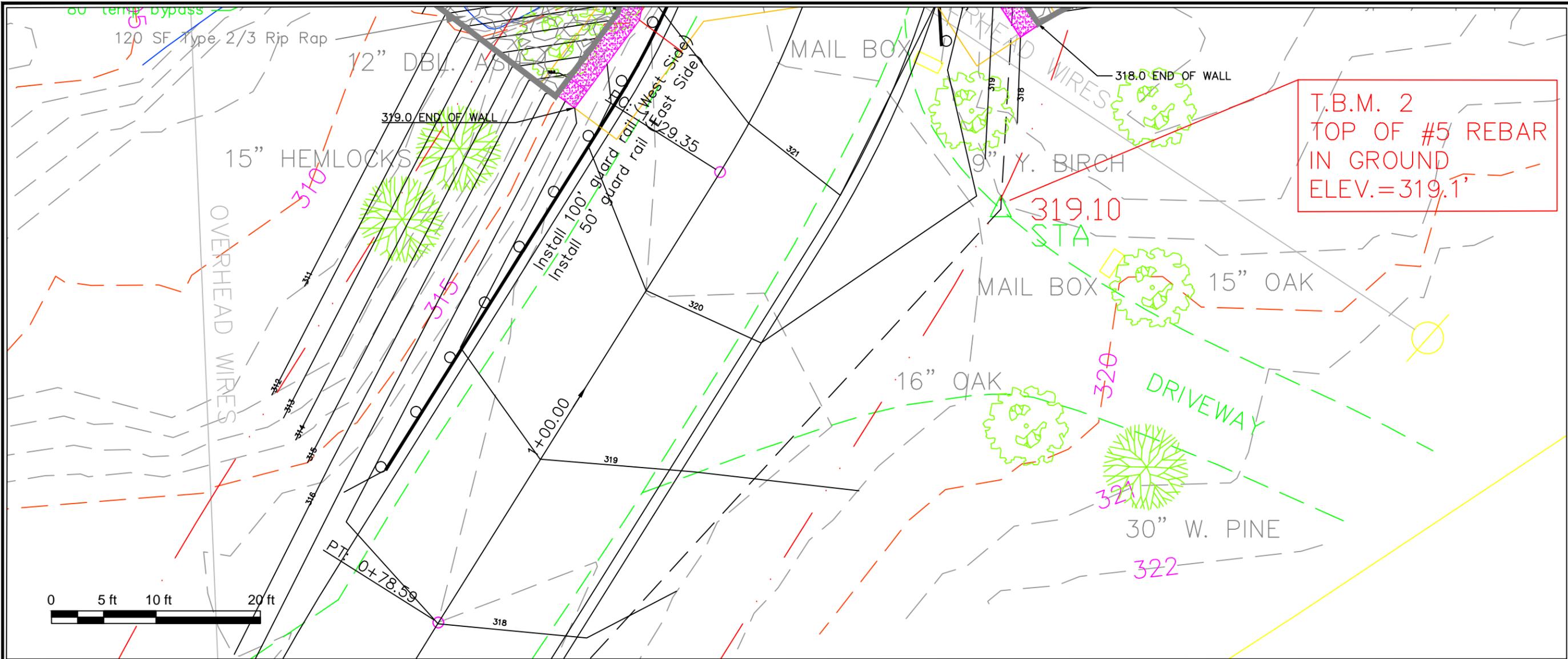
T.B.M. 2
TOP OF #5 REBAR
IN GROUND
ELEV.=319.1'



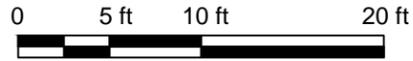
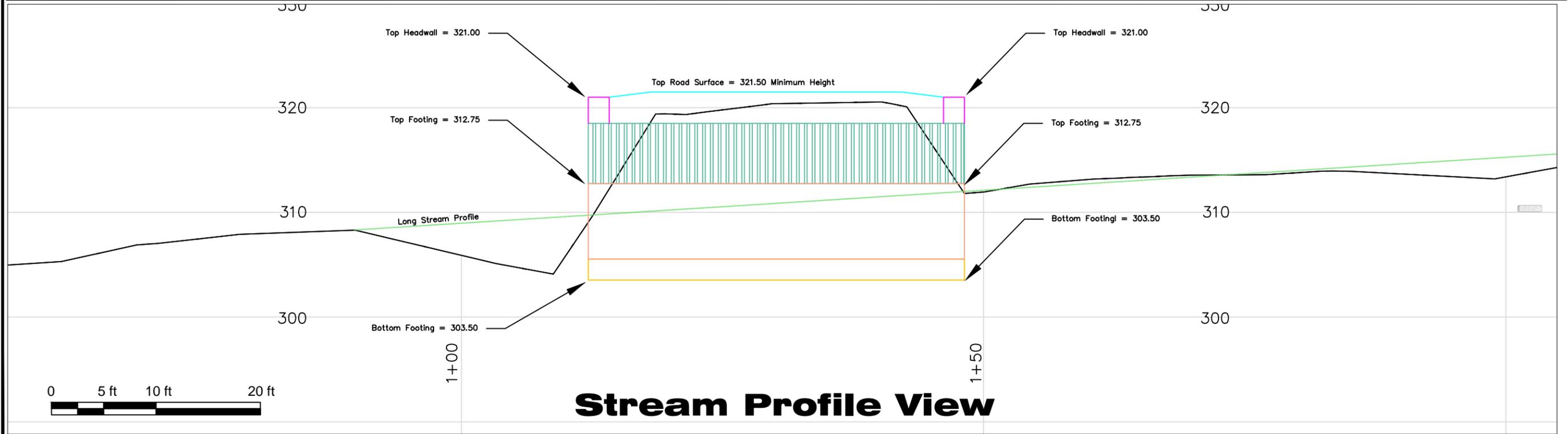
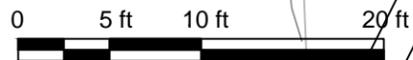
Project No.	DUMMERSTON QUARRY ROAD_BOX 08/14
Scale	1"=10'
Date	09/01/2014
Revision	
date	

Town of Dummerston, VT
1523 Middle Road, E Dummerston, VT 05346
Quarry Rd Culvert B2
Plan View

Hammond Engineering
Everett T. Hammond, PE
5 Lincoln St, Springfield, VT 05156
Phone: (802) 376-0042

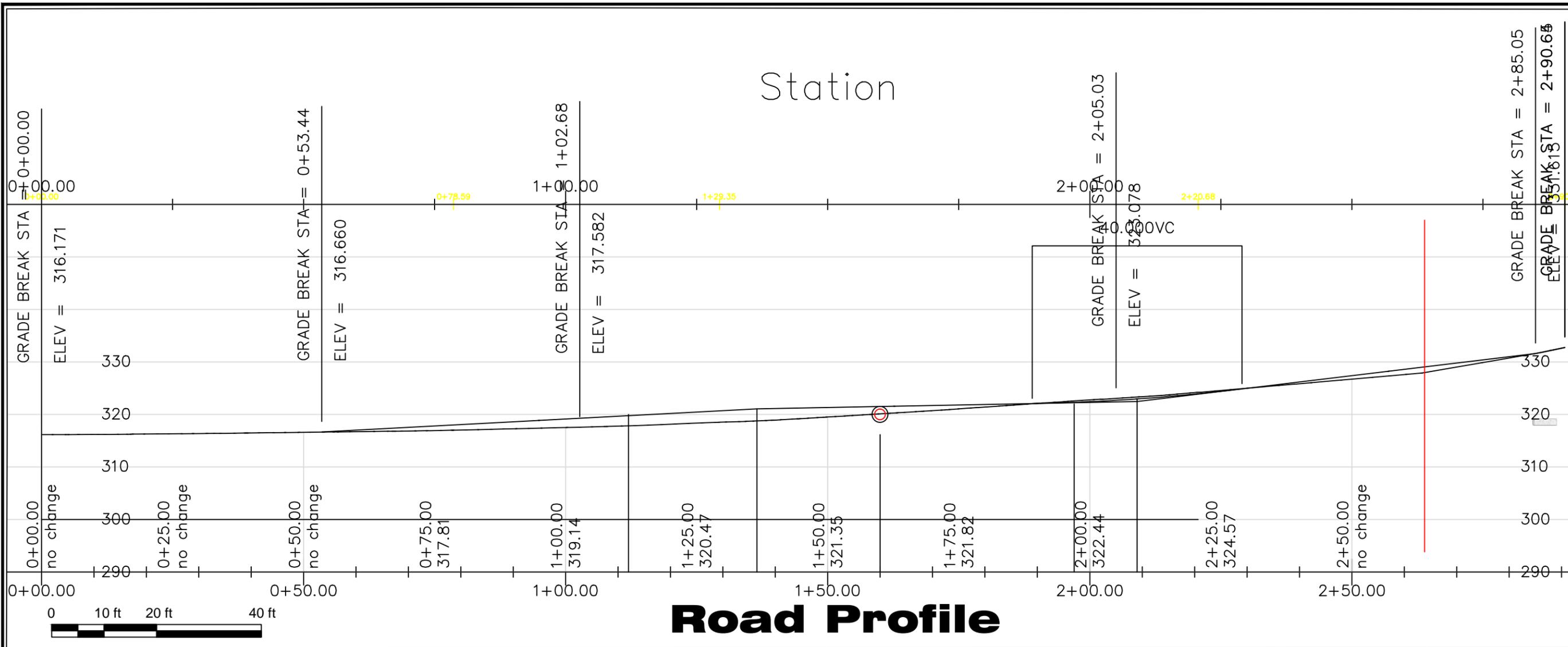


T.B.M. 2
TOP OF #5 REBAR
IN GROUND
ELEV.=319.1'



Stream Profile View

DUMERSTON QUARRY ROAD_BOX 08/14		Project No.	Scale 1"=10'	Date 09/01/2014
		2/4		
				Revision
				date
Town of Dummerston, VT 1523 Middle Road, E Dummerston, VT 05346 Quarry Rd Culvert B2 Road Profile/Typical Section				
Hammond Engineering Everett T. Hammond, PE 5 Lincoln St, Springfield, VT 05156 Phone: (802) 376-0042				



Road Profile

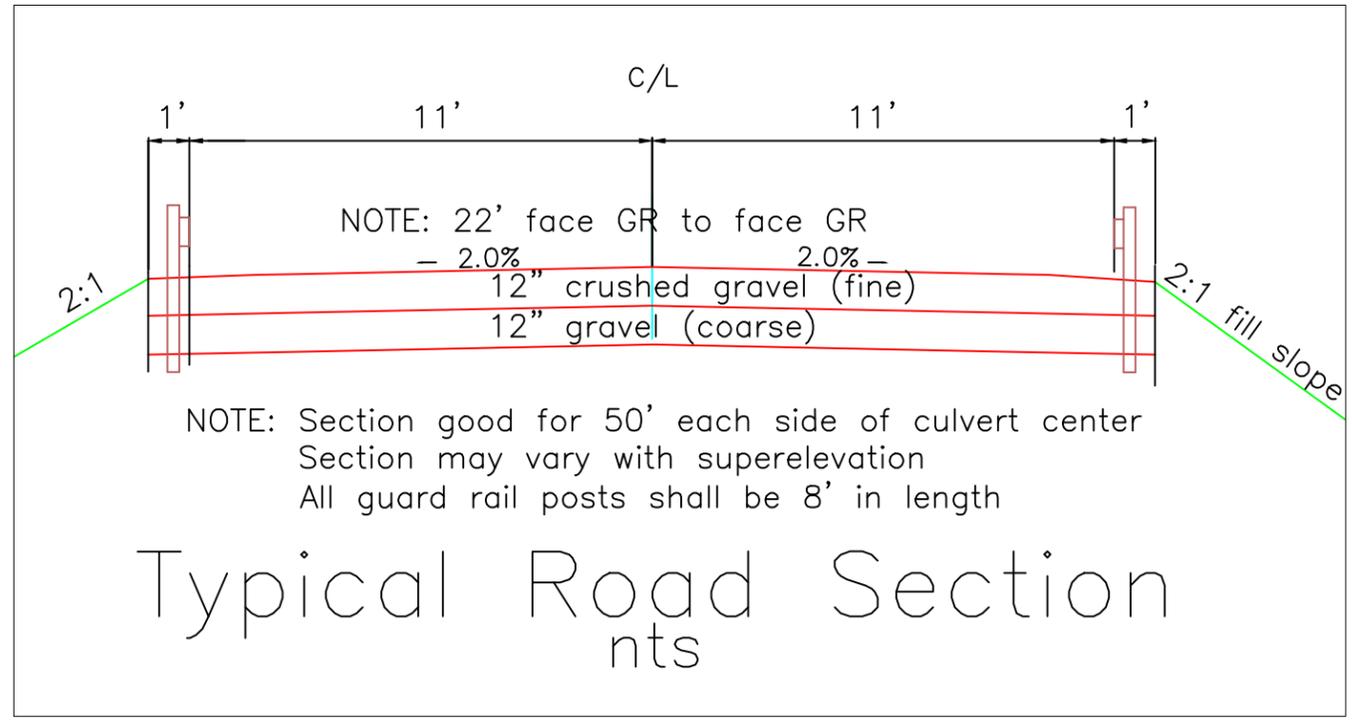
Station

Project No.	DUMMERSTON QUARRY ROAD_BOX 08/14
Scale	1"=20'
Date	09/01/2014

3/4

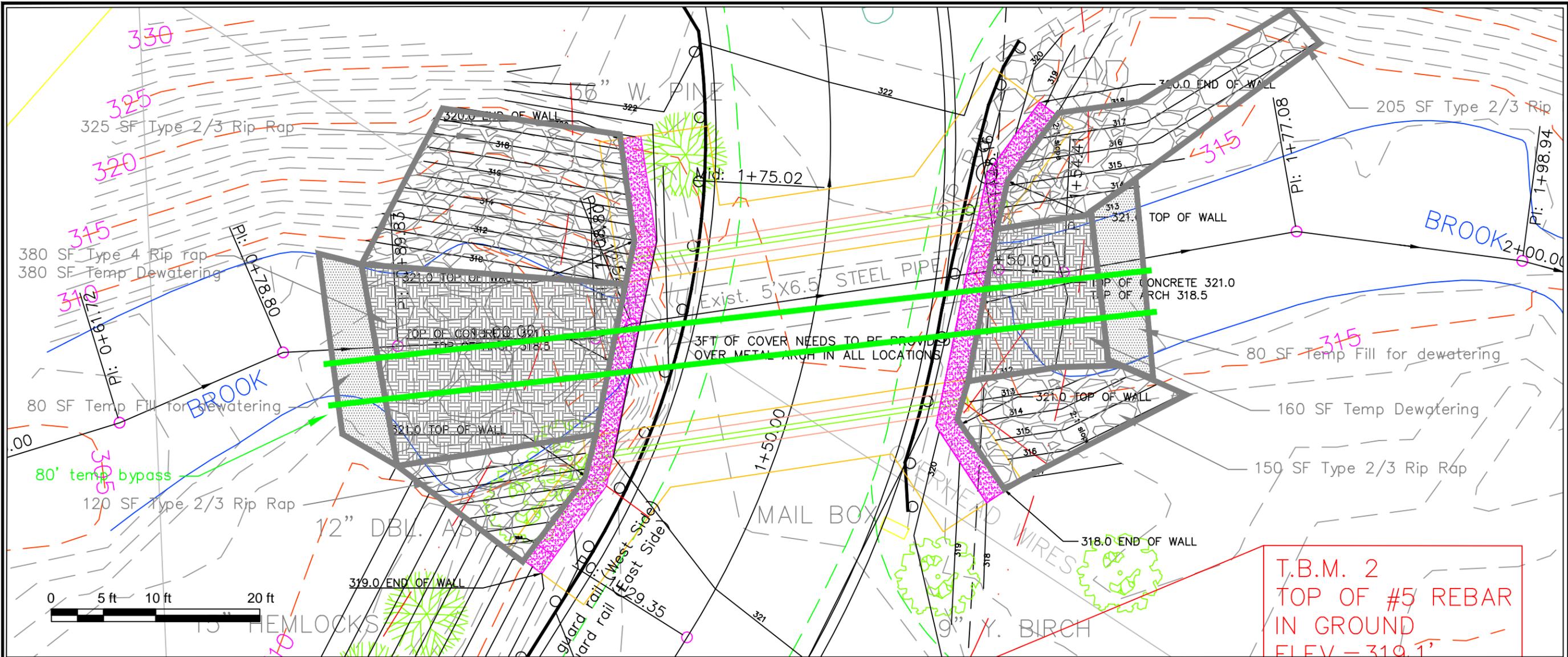
Town of Dummerston, VT
 1523 Middle Road, E Dummerston, VT 05346
Quarry Rd Culvert B2
Road Profile/Typical Section

Hammond Engineering
 Everett T. Hammond, PE
 5 Lincoln St, Springfield, VT 05156
 Phone: (802) 376-0042



Typical Road Section

- ### 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. Culvert footing design by Heritage Engineering
 7. Natural backfill material shall be placed around footings:
 Type 1/Type 2 rip rap shall be keyed in with the natural material to assure stability.
 8. Final stream bed shall remain on top of footing backfill when completed
 9. Fine Gravel and Course Gravel shall meet VTRANS Specification 704.05A
 10. Slope and gravel compaction shall be to 95% Standard Proctor

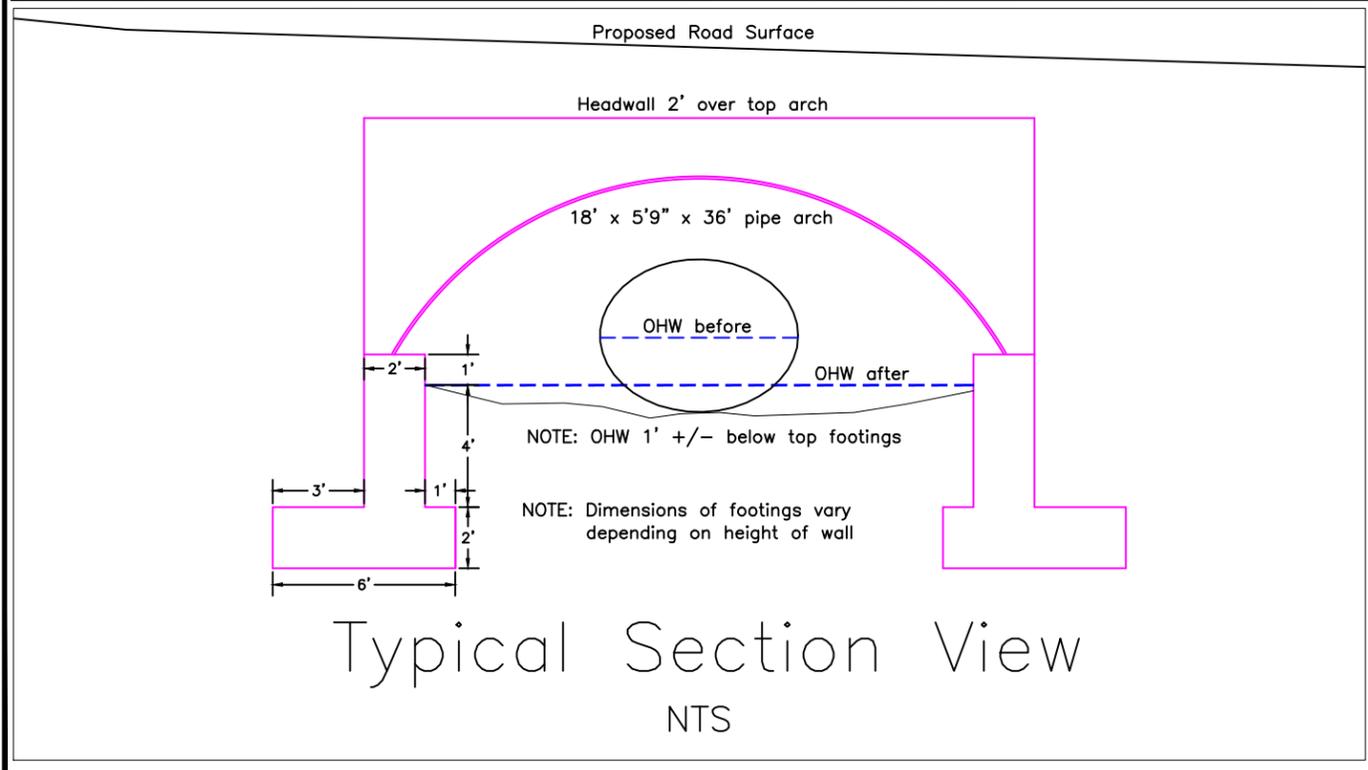


DUMMERSTON QUARRY ROAD BOX 08/14	Project No.	Scale 1"=10'	Date 09/01/2014
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4/4	
Revision	date

Town of Dummerston, VT
1523 Middle Road, E Dummerston, VT 05346
Quarry Rd Culvert B2
Permit Plans

Hammond Engineering
Everett T. Hammond, PE
5 Lincoln St, Springfield, VT 05156
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LEGEND

- PERMANENT Type 2/3 RIP RAP: 800 SF
- PERMANENT RIP RAP BELOW OHW: 380 sf Type 4
- TEMPORARY DEWATERING: 540 SF
- TEMPORARY FILL FOR DEWATERING: 160 SF
- ORDINARY HIGH WATER
- PROPOSED TEMPORARY BYPASS