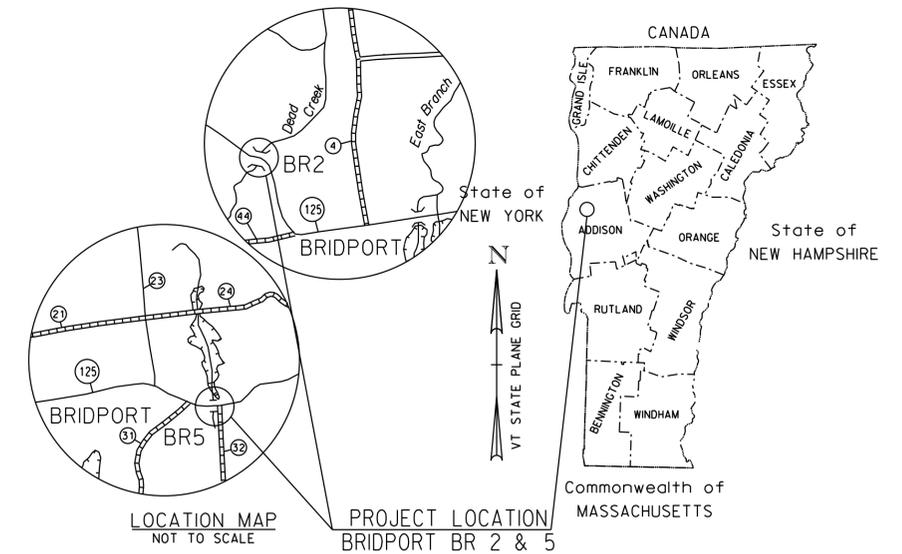


STATE OF VERMONT AGENCY OF TRANSPORTATION



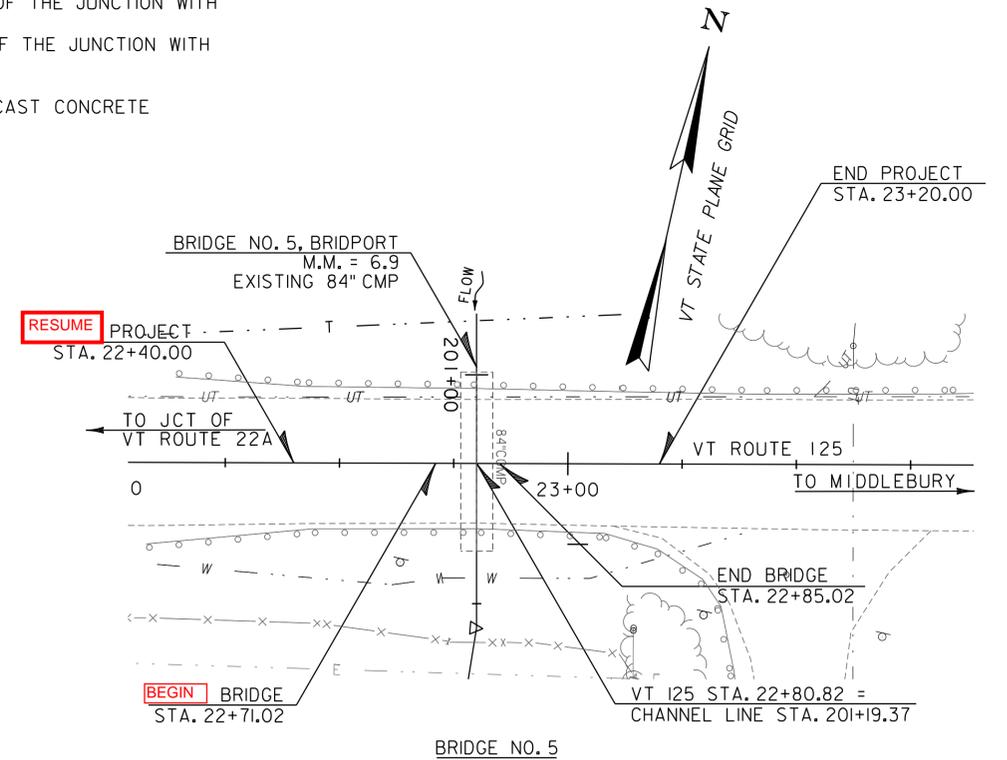
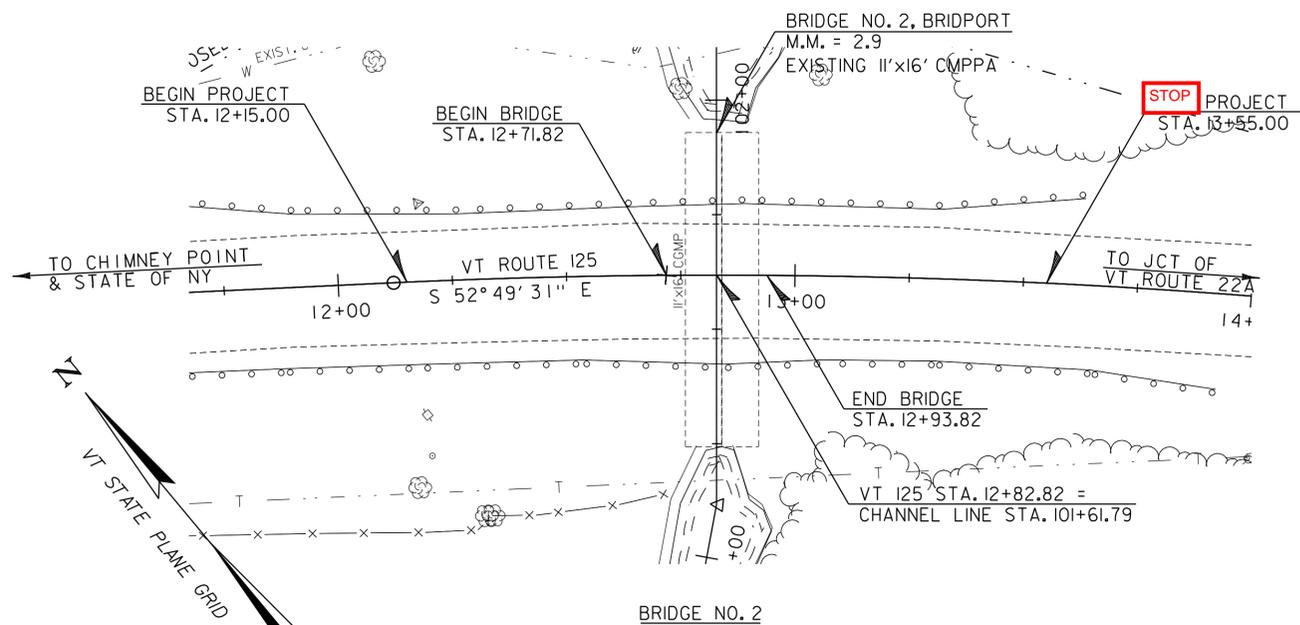
PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF BRIDPORT COUNTY OF ADDISON VT ROUTE 125 (MAJOR COLLECTOR) BRIDGE NUMBERS 2 AND 5



PROJECT LOCATION: BRIDGE NO. 2 IS LOCATED ON VERMONT ROUTE 125, 2.3 MILES WEST OF THE JUNCTION WITH VERMONT ROUTE 22A. BRIDGE NO. 5 IS LOCATED ON VERMONT ROUTE 125, 1.6 MILES EAST OF THE JUNCTION WITH VERMONT ROUTE 22A.

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING CORRUGATED STEEL CULVERTS WITH PRECAST CONCRETE STRUCTURES ALONG WITH RELATED ROADWAY AND CHANNEL WORK.

LENGTH OF PROJECT: BRIDGE 2: 140 FEET
BRIDGE 5: 80 FEET
TOTAL PROJECT LENGTH = 220 FEET



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, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY : VTRANS	
SURVEYED DATE : FEBRUARY 2012	
DATUM	
VERTICAL	(SEE SURVEY CONTROL AND TIE SHEETS)
HORIZONTAL	(SEE SURVEY CONTROL AND TIE SHEETS)



PRE-CONTRACT PLANS
5/16/2014



Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington VT U.S.A. 05403
Phone: (802) 864-0223
Fax: (802) 864-0165
www.stantec.com

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED _____	DATE _____
PROJECT MANAGER : MARK SARGENT, P. E.	
PROJECT NAME : BRIDPORT	
PROJECT NUMBER : STP CULV (29)	
SHEET 1 OF 53 SHEETS	

PRELIMINARY INFORMATION SHEET (BRIDGE)

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FINAL HYDRAULIC REPORT - BRIDGE NO. 2

PLAN SHEETS

STANDARDS LIST

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3	PRELIMINARY INFORMATION SHEET - BR5
4	PROJECT NOTES
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6	QUANTITY SHEET 2 - QS2
7	CONVENTIONAL SYMBOLOLOGY LEGEND
8	TYPICAL SECTIONS - BR2
9	SURVEY CONTROL AND TIES - BR2
10	PLAN LAYOUT SHEET - BR2
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24	CHANNEL CROSS SECTIONS - CXS1 - BR2
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28	EPSC CONSTRUCTION SITE PLAN - ECPI - BR2
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STRUCTURE DETAIL SHEETS

SD-366.00 LONGSPAN STEEL BEAM GUARDRAIL, GALVANIZED 01/03/14

HYDROLOGIC DATA

Date: 1 November 2013

DRAINAGE AREA : 7.57 sq. mi.
 CHARACTER OF TERRAIN : Lowland agricultural with some wooded areas
 STREAM CHARACTERISTICS : Perennial, sinuous
 NATURE OF STREAMBED : Flat, clay streambed material

PEAK FLOW DATA

Q 2.33 =	175 cfs	Q 50 =	690 cfs
Q 10 =	435 cfs	Q 100 =	800 cfs
Q 25 =	585 cfs	Q 500 =	1120 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ Q50 = 4.5 fps
 ICE CONDITIONS : Light
 DEBRIS : Light
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE:

WATERSHED STORAGE: <1% HEADWATERS:
 UNIFORM: X
 IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 17' x 11'-2" corrugated multi-plate pipe arch (CMPPA)
 YEAR BUILT: 1956
 CLEAR SPAN(NORMAL TO STREAM): 17'
 VERTICAL CLEARANCE ABOVE STREAMBED: 11'-2"
 WATERWAY OF FULL OPENING: 146 sq. ft.
 DISPOSITION OF STRUCTURE: Remove and replace
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	137.8'	VELOCITY =	6.2 fps
Q10 =	139.9'	"	7.7 fps
Q25 =	141.0'	"	8.5 fps
Q50 =	141.7'	"	9.1 fps
Q100 =	142.4'	"	9.6 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 155.7'
 DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN: Bridport DISTANCE: 6,300'
 HIGHWAY #: TH 44 STRUCTURE #: BR 22
 CLEAR SPAN: 39'-8" CLEAR HEIGHT: 6'-11"
 YEAR BUILT: Unknown FULL WATERWAY: 194 sf
 STRUCTURE TYPE: Wood deck on steel beams with concrete abutments; upstream confluence

DOWNSTREAM STRUCTURE

TOWN: Bridport DISTANCE: 11,500'
 HIGHWAY #: TH 5 STRUCTURE #: BR 26
 CLEAR SPAN: 11' CLEAR HEIGHT: 11'
 YEAR BUILT: Unknown FULL WATERWAY: 95 sf
 STRUCTURE TYPE: Culvert

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	10 year ESAL for flexible pavement from 2013 to 2033 : 397000
2013	1400	190	64	10	130	20 year ESAL for flexible pavement from 2013 to 2033 : 869000
2023	1400	190	64	11.8	150	Design Speed : 50 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast Concrete Box Culvert
 CLEAR SPAN(NORMAL TO STREAM): 20.0'
 VERTICAL CLEARANCE ABOVE STREAMBED: 8.0'
 WATERWAY OF FULL OPENING: 160 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	137.0'	VELOCITY=	2.9 fps
Q10 =	138.9'	"	4.4 fps
Q25 =	139.8'	"	5.1 fps
Q50 =	140.4'	"	5.5 fps
Q100 =	141.0'	"	6.0 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 156.8'
 DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 141.9'
 VERTICAL CLEARANCE: @ Q50 = 1.5'

SCOUR: Replacement structure is a box culvert so scour is not a concern.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II

PERMIT INFORMATION

AVERAGE DAILY FLOW: 15 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 7 cfs Depth = 0.5'
 ORDINARY HIGH WATER: 75 cfs Depth = 2.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Temporary Bridge not Required
 CLEAR SPAN (NORMAL TO STREAM): N/A
 VERTICAL CLEARANCE ABOVE STREAMBED: N/A
 WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD HL-93
2. FUTURE PAVEMENT d_p : 3.0 INCH
3. DESIGN SPAN L: 0.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ : - - -
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX) f_y : ~~270 KSI~~
6. PRESTRESSED CONCRETE STRENGTH f'_{ci} : ~~6.0 KSI~~
7. PRESTRESSED CONCRETE RELEASE STRENGTH f'_{cr} : ~~4.0 KSI~~
8. CONCRETE, HIGH PERFORMANCE CLASS AA f'_{ci} : ~~4.0 KSI~~
9. CONCRETE, HIGH PERFORMANCE CLASS A f'_{ci} : 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B f'_{ci} : 3.5 KSI
11. CONCRETE, CLASS C f'_{ci} : 3.0 KSI
12. REINFORCING STEEL f_y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270 f_y : - - -
14. NOMINAL BEARING RESISTANCE OF SOIL q_n : * 10 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ : * 0.45
16. NOMINAL BEARING RESISTANCE OF ROCK q_n : - - -
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ : - - -

18. PILE RESISTANCE FACTOR ϕ : - - -
19. LATERAL PILE DEFLECTION Δ : - - -
20. BASIC WIND SPEED V_{3s} : - - -
21. MINIMUM GROUND SNOW LOAD p_g : - - -
22. SEISMIC DATA PGA : 0 S_s : - - -
23. * SEE GEOTECHNICAL REPORT S_f : - - -
24. - - -
25. - - -
26. - - -

PROJECT NAME: Bridport
 PROJECT NUMBER: STP CULV(2)
 FILE NAME: z11c264_BR2_Pi.xls PLOT DATE: 11/4/2013
 PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON
 DESIGNED BY: A. LACHANCE CHECKED BY: M. CHENETTE
 PRELIMINARY INFORMATION SHEET - BR2 SHEET 2 OF 53

PROVIDING GEOTECH REPORT?

Keep one for optional CIP cut-off walls.

INDEX OF SHEETS

FINAL HYDRAULIC REPORT - BRIDGE NO. 5

PLAN SHEETS

STANDARDS LIST

SEE SHEET 2

HYDROLOGIC DATA

Date: 29 October 2013

DRAINAGE AREA : 0.76 sq. mi.
 CHARACTER OF TERRAIN : Lowland agricultural with some wooded areas
 STREAM CHARACTERISTICS : Perennial, flat, straight
 NATURE OF STREAMBED : Clay streambed

PEAK FLOW DATA

Q 2.33 =	30 cfs	Q 50 =	150 cfs
Q 10 =	90 cfs	Q 100 =	180 cfs
Q 25 =	125 cfs	Q 500 =	250 cfs

DATE OF FLOOD OF RECORD : Unknown
 ESTIMATED DISCHARGE : Unknown
 WATER SURFACE ELEV. : Unknown
 NATURAL STREAM VELOCITY : @ Q50 = 2.6 fps
 ICE CONDITIONS : Light
 DEBRIS : Light
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
 IS ORDINARY RISE RAPID? Yes
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
 IF YES, DESCRIBE : Downstream Payne Road crossing creates a backwater condition at the subject culvert, making the structure outlet controlled.

WATERSHED STORAGE : <1% HEADWATERS :
 UNIFORM : X
 IMMEDIATELY ABOVE SITE :

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : 7'-0" corrugated metal pipe (CMP)
 YEAR BUILT : 1949
 CLEAR SPAN(NORMAL TO STREAM) : 7'-0"
 VERTICAL CLEARANCE ABOVE STREAMBED : 7'-0"
 WATERWAY OF FULL OPENING : 38.5 sq. ft.
 DISPOSITION OF STRUCTURE : Remove and replace
 TYPE OF MATERIAL UNDER SUBSTRUCTURE : See borings

WATER SURFACE ELEVATIONS AT:

Q2.33 =	238.8 ft	VELOCITY =	1.5 fps
Q10 =	240.5 ft	"	3.0 fps
Q25 =	241.5 ft	"	3.6 fps
Q50 =	242.2 ft	"	3.9 fps
Q100 =	242.7 ft	"	2.6 fps

LONG TERM STREAMBED CHANGES : None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Q50
 RELIEF ELEVATION: 242.0 ft
 DISCHARGE OVER ROAD @Q100: 79.0 cfs

UPSTREAM STRUCTURE

TOWN: Bridport DISTANCE: 1,500'
 HIGHWAY #: TH 24 STRUCTURE #: -
 CLEAR SPAN: 4'-0" CLEAR HEIGHT: 4'-0"
 YEAR BUILT: Unknown FULL WATERWAY: 12.6 sq. ft.
 STRUCTURE TYPE: 48" dia. corrugated metal pipe

DOWNSTREAM STRUCTURE

TOWN: Bridport DISTANCE: 950'
 HIGHWAY #: TH 32 STRUCTURE #: BR 28
 CLEAR SPAN: 5'-6" CLEAR HEIGHT: 5'-6"
 YEAR BUILT: Unknown FULL WATERWAY: 23.8 sq. ft.
 STRUCTURE TYPE: 66" dia. corrugated metal pipe

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	ESAL
2013	1900	210	66	7.5	150	385000
2023	2000	230	66	9	190	882000

10 year ESAL for flexible pavement from 2013 to 2023 : 385000
 20 year ESAL for flexible pavement from 2013 to 2033 : 882000
 Design Speed : 50 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Precast Concrete Box Culvert
 CLEAR SPAN(NORMAL TO STREAM): 12'-0"
 VERTICAL CLEARANCE ABOVE STREAMBED: 7'-0" / 5'-0"
 WATERWAY OF FULL OPENING: 76.0 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	238.7 ft	VELOCITY=	0.9 fps
Q10 =	240.3 ft	"	1.7 fps
Q25 =	241.2 ft	"	2.0 fps
Q50 =	241.9 ft	"	2.2 fps
Q100 =	242.6 ft	"	1.8 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: N/A
 RELIEF ELEVATION: 242.0 ft
 DISCHARGE OVER ROAD @Q100: 48.9 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 242.3 ft
 VERTICAL CLEARANCE: @ Q50 = 0.4'

SCOUR: Replacement structure is a box culvert so scour is not a concern.

REQUIRED CHANNEL PROTECTION: Stone Fill, Type II

PERMIT INFORMATION

AVERAGE DAILY FLOW: 1.5 cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 0.8 cfs Depth = 1.5'
 ORDINARY HIGH WATER: 8 cfs Depth = 2.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Temporary Bridge not Required
 CLEAR SPAN (NORMAL TO STREAM): N/A
 VERTICAL CLEARANCE ABOVE STREAMBED: N/A
 WATERWAY AREA OF FULL OPENING: N/A

ADDITIONAL INFORMATION

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD HL-93
2. FUTURE PAVEMENT d_p : 3.0 INCH
3. DESIGN SPAN L : 0.00 FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ : ---
5. PRESTRESSING STRAND (0.60 INCH DIAMETER - LOW RELAX) f_y : ~~270 KSI~~
6. PRESTRESSED CONCRETE STRENGTH f'_{ci} : ~~6.0 KSI~~
7. PRESTRESSED CONCRETE RELEASE STRENGTH f'_{cr} : ~~5.0 KSI~~
8. CONCRETE, HIGH PERFORMANCE CLASS AA f'_c : ~~4.0 KSI~~
9. CONCRETE, HIGH PERFORMANCE CLASS A f'_c : 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B f'_c : 3.5 KSI
11. CONCRETE, CLASS C f'_c : 3.0 KSI
12. REINFORCING STEEL f_y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270 f_y : ---
14. NOMINAL BEARING RESISTANCE OF SOIL q_n : * 1.36 KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ : * 0.45
16. NOMINAL BEARING RESISTANCE OF ROCK q_n : ---
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) ϕ : ---

Keep one for optional CIP cut-off walls.

PROVIDING GEOTECH REPORT

18. PILE RESISTANCE FACTOR ϕ : ---
19. LATERAL PILE DEFLECTION Δ : ---
20. BASIC WIND SPEED V_{3s} : ---
21. MINIMUM GROUND SNOW LOAD p_g : ---
22. SEISMIC DATA PGA : 0 S_s : --- S_1 : ---
23. * SEE GEOTECHNICAL REPORT
24. ---
25. ---
26. ---

PROJECT NAME: **Bridport**
 PROJECT NUMBER: **STP CULV(29)**
 FILE NAME: z11c264_BR5_P1.xls PLOT DATE: 11/4/2013
 PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON
 DESIGNED BY: A LACHANCE CHECKED BY: M. CHENETTE
 PRELIMINARY INFORMATION SHEET - BR5 SHEET 3 OF 53

PROJECT NOTES

D 4956

GENERAL

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION AND ITS LATEST REVISIONS AND THE 5TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND ITS LATEST REVISIONS.
- THE CONTRACTOR WILL BE ALLOWED TO CLOSE BRIDGE BR2 FOR ONE FIVE DAY (120 HOUR) PERIOD AND WILL BE ALLOWED TO CLOSE BRIDGE BR5 FOR ONE THREE DAY (72 HOUR) PERIOD. DURING THAT TIME THE CONTRACTOR WILL BE ALLOWED TO WORK 24 HOURS PER DAY. THE CONTRACTOR SHALL SCHEDULE THEIR WORK SUCH THAT THE BRIDGE IS NOT CLOSED DURING THE HOLIDAY PERIODS. SEE SPECIAL PROVISIONS FOR FURTHER **ADDITIONAL INFORMATION AND REQUIREMENTS.**
- THE CONTRACTOR SHALL ENSURE ACCESS TO ALL DRIVES AND SIDE ROADS AT ALL TIMES DURING CONSTRUCTION.
- ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F.
- SPECIFIED** CONSTRUCTION SHALL OCCUR ONLY WITHIN THE TIMEFRAME OUTLINED IN THE PROJECT PERMITS **INCLUDED IN THE CONTRACT DOCUMENTS.** IF THE CONTRACTOR PROPOSES TO PERFORM IN STREAM WORK OUTSIDE OF THESE TIMEFRAMES, THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE APPROPRIATE REGULATING ENTITIES PRIOR TO PERFORMING THE WORK.

Closure periods reversed based on submitted information? See draft special provisions.

SIMULATED STREAM BED

- BED MATERIAL TO BE PLACED IN THE RECONSTRUCTED CHANNEL AND BOX CULVERT IS INTENDED TO MIMIC THE NATIVE CHANNEL. THE MATERIAL SHALL BE STONE FILL TYPE II SUPPLEMENTED WITH THE TAILINGS OF A TOPSOIL SCREENING OPERATION WITH GRADATION ADJUSTED TO CONFORM TO THE FOLLOWING TABLE:

STONE/SIEVE SIZE	% FINER, BY WEIGHT
36"	100
12"	30-85
#4	4-30
#200	4-12

- INSTALLATION OF THE BED MATERIAL MAY REQUIRE INDIVIDUAL PLACEMENT OF LARGE STONES AT SPECIFIC LOCATIONS, AS DIRECTED BY THE ENGINEER. THE MATERIAL ACCEPTANCE AND PLACEMENT WILL BE PER THE STREAM ALTERATIONS ENGINEER, AND WILL BE IN ACCORDANCE WITH ITEM 900.608, SPECIAL PROVISION (STONE FILL, CULVERT LINING).

Some of this information appears to conflict with the submitted Utility special provisions. Please verify. Requirements in the special provisions do not need to be reiterated here.

TRAFFIC CONTROL

- SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM HIGHWAYS OR DRIVES.
- ORANGE SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.
- SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
- FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL. EACH POST SHALL HAVE 2 (MIN.) BOLTS WHERE ATTACHED TO SIGN.
- PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
- WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED, STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
- THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER **AND** IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD.

PRECAST CONCRETE BOX CULVERTS AND WINGWALLS

- THE BOX CULVERT INCLUDING THE SILLS, HEADWALLS AND **WINGWALL STEMS** SHALL BE PRECAST. THE CUT-OFF-WALL MAY BE EITHER PRECAST OR CAST IN PLACE. THE DESIGN OF THESE CULVERTS SHALL BE THE RESPONSIBILITY OF THE FABRICATOR. CULVERT SHALL BE DESIGNED FOR AN HL-93 LIVE LOAD. **CAST-IN-PLACE CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 501 FOR CONCRETE, HIGH PERFORMANCE CLASS X. (See comment Sheets 2-3).**
- THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS FOR THE BOX CULVERTS AND ALL ASSOCIATED DETAILS FOR THE APPROVAL OF THE STRUCTURES ENGINEER IN ACCORDANCE WITH SUBSECTION 105.03 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. **Subsection 105.03 requires two separate submittals to two individuals other than the Structures Engineer.**
- THE BOX CULVERT TYPICAL SECTIONS SHOWN IN SCHEMATIC PURPOSES ONLY. THE ACTUAL SHAPE AND ITS COMPONENTS WILL BE DEPENDENT ON THE FABRICATOR.
- ALL BOX CULVERT JOINTS **Does not exist.** BE STRENGTHENED WITH PERMANENT CLOSURE HARDWARE. **ALL HARDWARE COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH SUBSECTION 506.15 OF THE STANDARD SPECIFICATIONS.**
- ALL REINFORCING TO BE LEVEL I (UNCOATED). **PAYMENT FOR REINFORCING WILL BE INCLUDED UNDER THE APPROPRIATE SECTION 540 CONTRACT ITEM.**
- AFTER BOX CULVERT SECTIONS HAVE BEEN SET IN THEIR FINAL POSITION, THE EXTERIOR (TOP AND SIDES) AND INTERIOR (SIDES AND BOTTOM) OF ALL BOX CULVERT JOINTS, AND ALL LIFTING HOLES, SHALL BE **GROUTED** WITH MORTAR, TYPE IV. **ALL MORTAR SHALL BE WET CURED A MINIMUM OF 12 HOURS OR UNTIL THE COMPRESSIVE STRENGTH HAS REACHED 2000 psi. PRIOR TO THE APPLICATION OF ANY WATERPROOFING.** **PRIOR TO THE APPLICATION OF ANY WATERPROOFING.**
- A TWO FOOT WIDE STRIP OF MEMBRANE WATERPROOFING SHALL BE APPLIED AT EACH SIDE JOINT. THE MEMBRANE SHALL BE CENTERED ON THE JOINT AND SHALL RUN THE ENTIRE HEIGHT OF THE JOINT. THE ENTIRE TOP OF THE BOX CULVERT SHALL THEN BE COVERED WITH **TORCH APPLIED** MEMBRANE. THE MEMBRANE SHEETS SHALL OVERLAP THE EDGES OF THE CULVERT BY ONE FOOT ON EACH SIDE AS SHOWN IN THE PLANS.
- WATER REPELLENT IN ACCORDANCE WITH ITEM 514.10 SHALL BE APPLIED TO ALL EXPOSED SURFACES EXCEPT THE INSIDE OF THE BOX. **SHEET IN ACCORDANCE WITH SUBSECTION 540.10.**

AND WINGWALL FOOTINGS See Sheet 13

UTILITY COORDINATION

- THE CONTRACTOR IS ADVISED TO EXERCISE CAUTION WHILE WORKING IN AREAS OF OVERHEAD UTILITIES. OVERHEAD UTILITIES WILL BE RELOCATED BY THE UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR COORDINATION WITH THE UTILITIES IS ENCOURAGED FOR THE CONTRACTORS CONVENIENCE. THE FOLLOWING UTILITY CONTACT INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. UTILITIES INCLUDE BUT ARE NOT LIMITED TO:
 - GREEN MOUNTAIN POWER: 1-888-835-4672
 - WAITSFIELD AND CHAMPLAIN VALLEY TELECOM: 1-802-793-2785
 - TRI-TOWN WATER DISTRICT #1: 1-802-758-2202
- THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. EXISTING UNDERGROUND UTILITIES TO BE LOCATED WITH EXPLORATORY EXCAVATION AS DIRECTED BY THE ENGINEER. IF RELOCATION IS REQUIRED IT WILL BE THE RESPONSIBILITY OF THE UTILITY OWNER.

ALL DIG SAFE REQUIREMENTS ARE STILL APPLICABLE.
3. SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

TORCH APPLIED MEMBRANE WILL BE PAID SEPARATELY UNDER CONTRACT ITEM 519.20.



PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264frm.dgn	CHECKED BY:	M. CHENETTE
PROJECT LEADER:	M. CHENETTE	SHEET	4 OF 53
DESIGNED BY:	J. HUNGERFORD		
PROJECT NOTES			

QUANTITY SHEET 1

General Comment: Re-organize the estimate and (Quantity Sheets) as follows:
Provide single ROADWAY and EROSION CONTROL categories (columns) as rolled up quantities for both Bridge locations. Certain Roadway items by Bridge location are already separated via supplemental description; other Roadway items for which it is desired to show quantity by Bridge location shall be summarized under DETAILED SUMMARY OF QUANTITIES at right.
Provide a single FULL C.E. ITEMS category (column) as already proposed.
Provide separate Bridge categories (columns) as BRIDGE NO. 2 BEIDGE NO. 5.

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY ITEMS - BRIDGE #2	EROSION CONTROL ITEMS -	BRIDGE ITEMS - BRIDGE #2	FULL C.E. ITEMS	ROADWAYS ITEMS - BRIDGE #5	EROSION CONTROL ITEMS -	BRIDGE ITEMS - BRIDGE #5	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1							1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS (VT 125 - BRIDGE NO. 2)	201.10				
				1			1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS (VT 125 - BRIDGE NO. 5)	201.10				
780				550			1330		CY	COMMON EXCAVATION	203.15				
		430				140	570		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
1				25			1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
		1930				570	2500		CY	STRUCTURE EXCAVATION	204.25				
		1070				330	1400		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
340				320			660		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
570				400			970		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
		5				2	7		GAL	WATER REPELLENT, SILANE	514.10				
		200				100	300		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
		1					1		EACH	REMOVAL OF STRUCTURE (16' X 11' X 68" CMPPA) (VT 125 - BRIDGE NO. 2)	529.15				
						1	1		EACH	REMOVAL OF STRUCTURE (4'-0" X 41'-0" CMP) (VT 125 - BRIDGE NO. 5)	529.15				
						1	1		LS	PRECAST CONCRETE STRUCTURE (12'-0" X 9'-0" X 41'-0" BOX) (VT 125 - BRIDGE NO. 5)	540.10				
		1					1		LS	PRECAST CONCRETE STRUCTURE (20'-0" X 10'-0" X 66'-0" BOX) (VT 125 - BRIDGE NO. 2)	540.10				
0.5				0.5			1		MGAL	DUST CONTROL WITH WATER	609.10				
0.5				0.5			1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
				115			115		CY	STONE FILL, TYPE I	613.10				
		700				30	730		CY	STONE FILL, TYPE II	613.11				
				1			1		EACH	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12				
67							67		LF	REMOVAL OF EXISTING FENCE	620.55				
				463			463		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20				
650							650		LF	STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS	621.205				
				188			188		LF	STEEL BEAM GUARDRAIL, GALVANIZED/NESTED	621.206				
4				4			8		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
538				363			901		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
		140					140		TON	CRUSHED STONE BEDDING	629.54				
100				100			200		HR	FLAGGERS	630.15				
				1			1		LS	FIELD OFFICE, ENGINEERS	631.10				
				1			1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
				3000			3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
1							1		LS	MOBILIZATION/DEMOBILIZATION (VT 125 - BRIDGE NO. 2 & BRIDGE NO. 5)	635.11				
7				6			13		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
680				560			1240		LF	4 INCH WHITE LINE	646.20				
680				560			1240		LF	4 INCH YELLOW LINE	646.21				
340				160			500		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
		1050				40	1090		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	60					40	100		SY	GEOTEXTILE FOR SILT FENCE	649.51				

Does not match size callout on Layout Sheets?

Add item 406.50 1 LU @\$1/LU (Under Roadway)

Verify - Durable pay items specified on Sheet 35.



QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY ITEMS - BRIDGE #2	EROSION CONTROL ITEMS -	BRIDGE ITEMS - BRIDGE #2	FULL C.E. ITEMS	ROADWAYS ITEMS - BRIDGE #5	EROSION CONTROL ITEMS -	BRIDGE ITEMS - BRIDGE #5		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				10				30		LB	SEED	651.15				
				70				160		LB	FERTILIZER	651.18				
				1				2		TON	AGRICULTURAL LIMESTONE	651.20				
				1				2		TON	HAY MULCH	651.25				
				50				120		CY	TOPSOIL	651.35				
				35				985		SY	GRUBBING MATERIAL	651.40				
	1							1		LS	EPSC PLAN (VT 125 - BRIDGE NO. 2)	652.10				
					1			1		LS	EPSC PLAN (VT 125 - BRIDGE NO. 5)	652.10				
	40				40			80		HR	MONITORING EPSC PLAN	652.20				
	1							1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (VT 125 - BRIDGE NO. 2)	652.30				
					1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (VT 125 - BRIDGE NO. 5)	652.30				
	1500				350			1850		SY	TEMPORARY EROSION MATTING	653.20				
	10							10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
	30				30			60		CY	VEHICLE TRACKING PAD	653.35				
	1				1			2		EACH	FILTER BAG	653.45				
	810				640			1450		LF	PROJECT DEMARCATION FENCE	653.55				
						180		270		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING) (VT 125 - BRIDGE NO. 5)	900.608				
						180		180		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING) (VT 125 - BRIDGE NO. 2)	900.608				
				225				225		LF	SPECIAL PROVISION (WILDLIFE GUIDE FENCE)	900.640				
						1		1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM) (VT 125 - BRIDGE NO. 2)	900.645				
							1	1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM) (VT 125 - BRIDGE NO. 5)	900.645				
1								1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) (VT 125 - BRIDGE NO. 2)	900.645				
							1	1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) (VT 125 - BRIDGE NO. 5)	900.645				
						1		2		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.) (VT 125 - BRIDGE NO. 2)	900.650				
								1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.) (VT 125 - BRIDGE NO. 5)	900.650				
						1		2		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.) (VT 125 - BRIDGE NO. 2)	900.650				
								1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.) (VT 125 - BRIDGE NO. 5)	900.650				
								810		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

Add item 690.50 1 LU @\$1/LU (Under Roadway)

Add items:
900.650 SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(VT 125 - BRIDGE NO. 2)
900.650 SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(VT 125 - BRIDGE NO. 5)

Move to respective BRIDGE categories (columns).



GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R. O. W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
□	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊠	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
□	BM BENCH MARK
□	BND BOUND
⊕	CB CATCH BASIN
⊕	COMB COMBINATION POLE
⊕	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
○	GASFIL GAS FILLER
○	GP GUIDE POST
×	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
×	GV GATE VALUE
⊕	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
⊕	HYD HYDRANT
○	IP IRON PIN
○	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
○	MH MANHOLE (MH)
□	MM MILE MARKER
○	PM PARKING METER
□	PMK PROJECT MARKER
POST	POST STONE/WOOD
RRSIG	RAILROAD SIGNAL
RRSL	RAILROAD SWITCH LEVER
S	TREE SOFTWOOD
SAT	SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
TEL	TELEPHONE POLE
TIE	TIE
TSIGN	SIGN W/DOUBLE POST
VCTRL	CONTROL VERTICAL
WELL	WELL
WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— CZ —	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△	TOP OF CUT SLOPE
○	TOE OF FILL SLOPE
⊗	STONE FILL
—	BOTTOM OF DITCH
—	CULVERT PROPOSED
—	STRUCTURE SUBSURFACE
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
XXXXXX	TREE PROTECTION ZONE (TPZ)
////	STRIPING LINE REMOVAL
~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

— TOWN LINE —	TOWN BOUNDARY LINE
— COUNTY LINE —	COUNTY BOUNDARY LINE
— STATE LINE —	STATE BOUNDARY LINE
—	PROPOSED STATE R.O.W. (LIMITED ACCESS)
—	PROPOSED STATE R.O.W.
—	STATE ROW (LIMITED ACCESS)
—	STATE ROW
—	TOWN ROW
—	PERMANENT EASEMENT LINE (P)
—	TEMPORARY EASEMENT LINE (T)
—	SURVEY LINE
— P —	PROPERTY LINE (P/L)
— SR —	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLGY**

**EPSC MEASURES**

ONNOONNOONNO	FILTER CURTAIN
—	SILT FENCE
—	SILT FENCE WOVEN WIRE
—	CHECK DAM
—	DISTURBED AREAS REQUIRING RE-VEGETATION
—	EROSION MATTING

**ENVIRONMENTAL RESOURCES**

—	WETLAND BOUNDARY
—	RIPARIAN BUFFER ZONE
—	WETLAND BUFFER ZONE
—	SOIL TYPE BOUNDARY
— T&E —	THREATENED & ENDANGERED SPECIES
— HAZ —	HAZARDOUS WASTE AREA
— AG —	AGRICULTURAL LAND
— HABITAT —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN —	FLOOD PLAIN
— OHW —	ORDINARY HIGH WATER (OHW)
—	STORM WATER
—	USDA FOREST SERVICE LANDS
—	WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
⊕	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

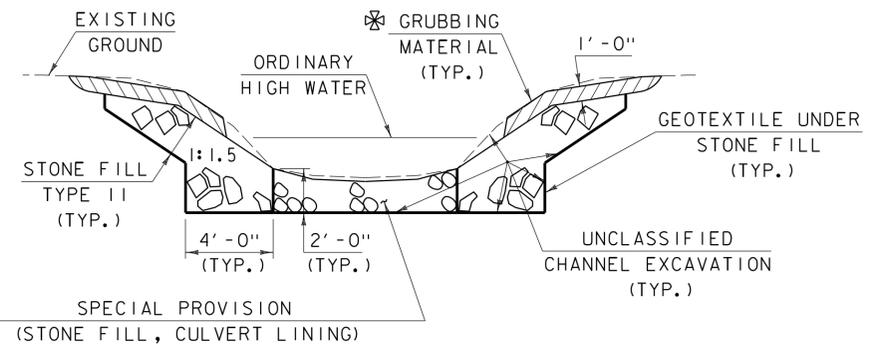
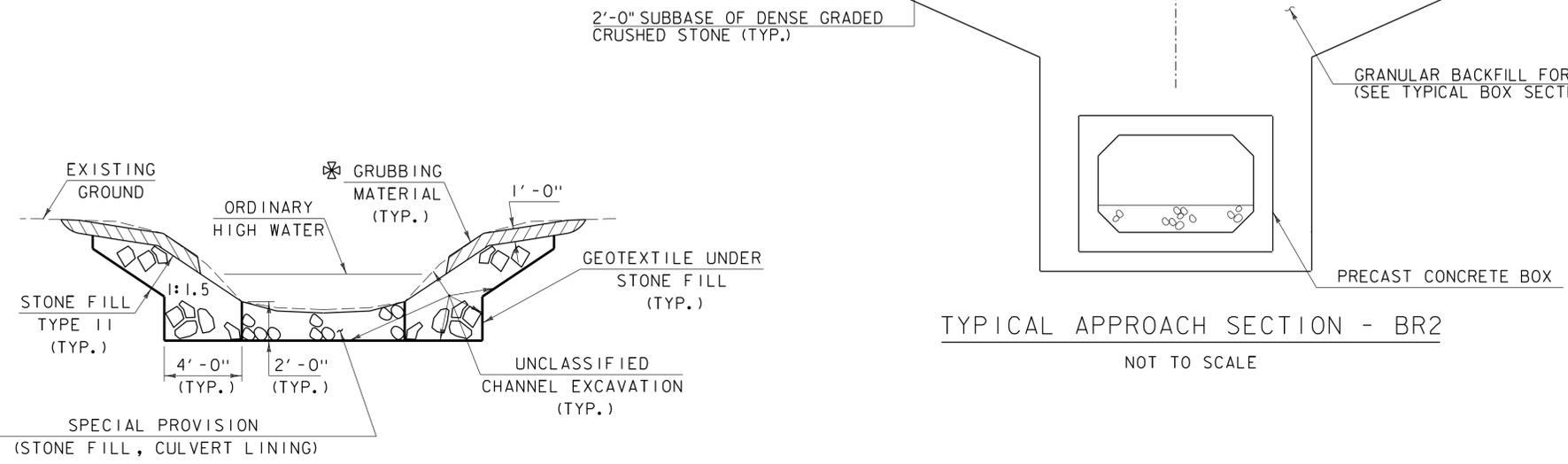
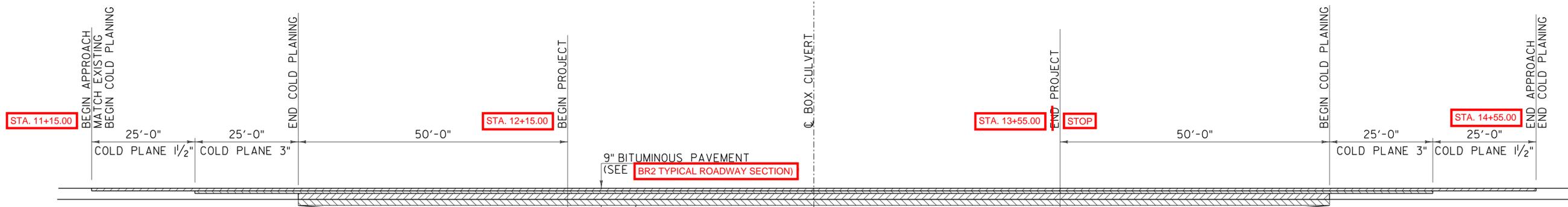
—	ROAD EDGE PAVEMENT
—	ROAD EDGE GRAVEL
—	DRIVEWAY EDGE
—	DITCH
—	FOUNDATION
—	FENCE (EXISTING)
—	FENCE WOOD POST
—	FENCE STEEL POST
—	GARDEN
—	ROAD GUARDRAIL
—	RAILROAD TRACKS
—	CULVERT (EXISTING)
—	STONE WALL
—	WALL
—	WOOD LINE
—	BRUSH LINE
—	HEDGE
—	BODY OF WATER EDGE
—	LEDGE EXPOSED

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

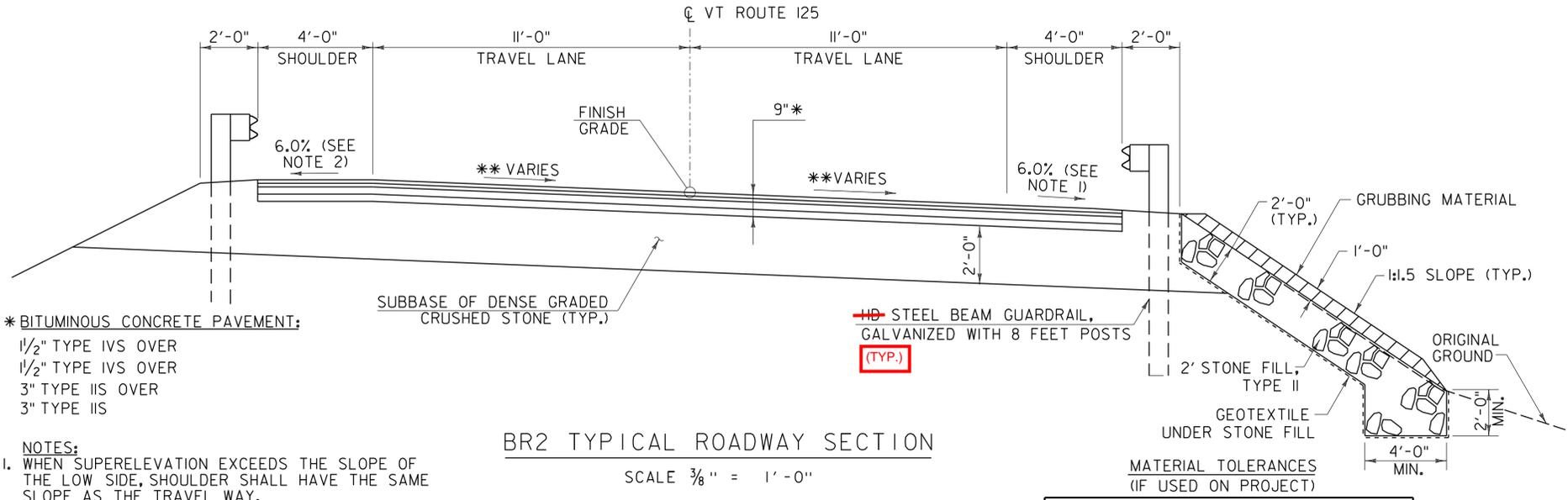
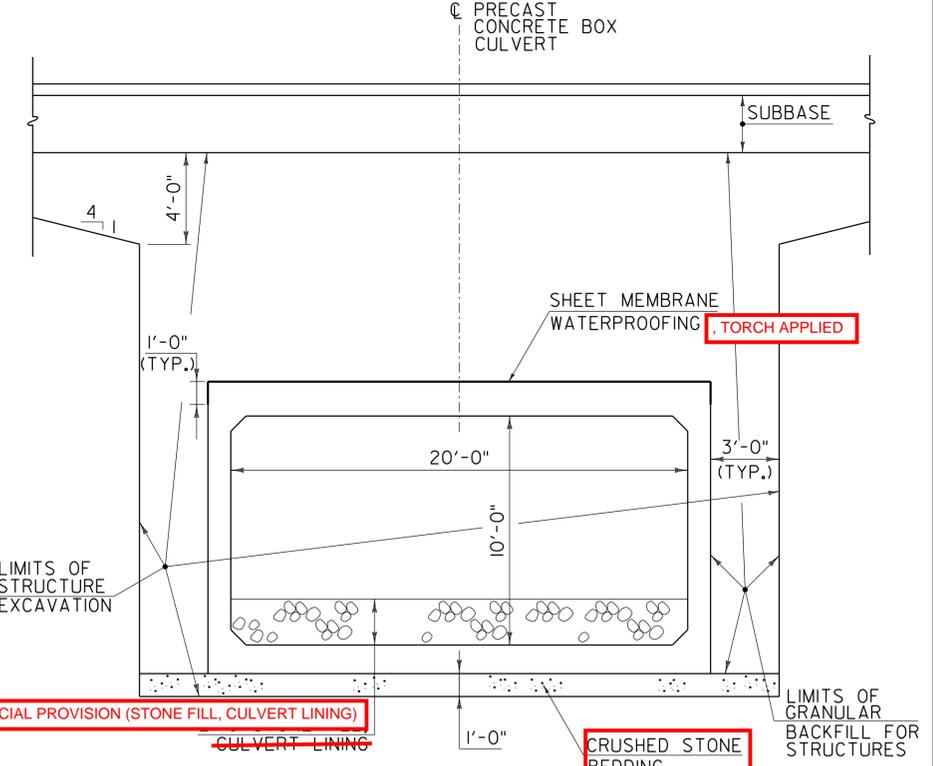
FILE NAME: zllc264legend.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: VTRANS  
CONVENTIONAL SYMBOLGY LEGEND

PLOT DATE: 5/16/2014  
DRAWN BY: VTRANS  
CHECKED BY: VTRANS  
SHEET 7 OF 53





✂ WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



* BITUMINOUS CONCRETE PAVEMENT:  
 1/2" TYPE IVS OVER  
 1/2" TYPE IVS OVER  
 3" TYPE IIS OVER  
 3" TYPE IIS

NOTES:  
 1. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE, SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVEL WAY.  
 2. MAXIMUM HIGHSIDE SHOULDER ROLLOVER SHALL NOT EXCEED 7%.

** SEE BANKING DIAGRAM ON SHEET II, MATCH EXISTING CROSS SLOPE ON APPROACHES.

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COARSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

Change to GRANULAR BACKFILL FOR STRUCTURES in fabric as on Sheet 33?



PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264typsec.dgn	DESIGNED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	CHECKED BY:	M. CHENETTE
TYPICAL SECTIONS - BR2			SHEET 8 OF 53

GPS CONTROL POINTS

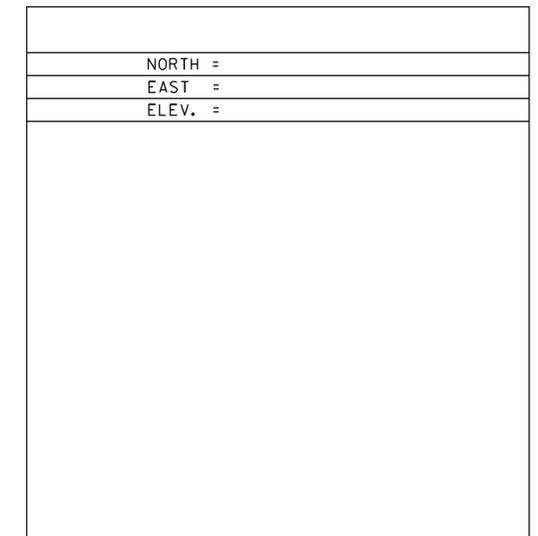
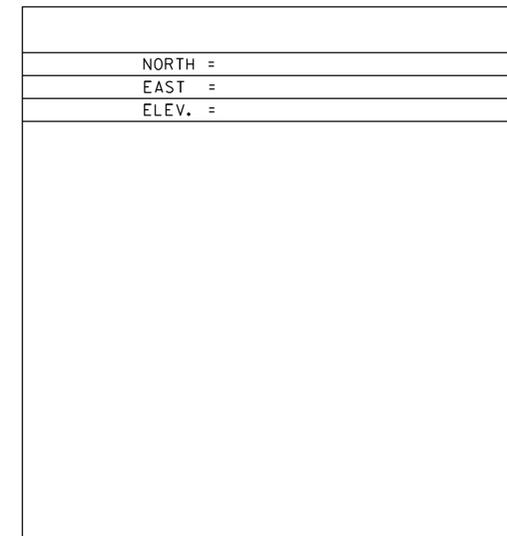
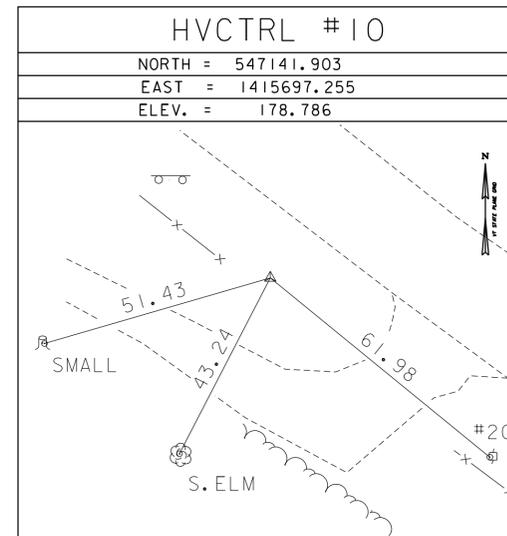
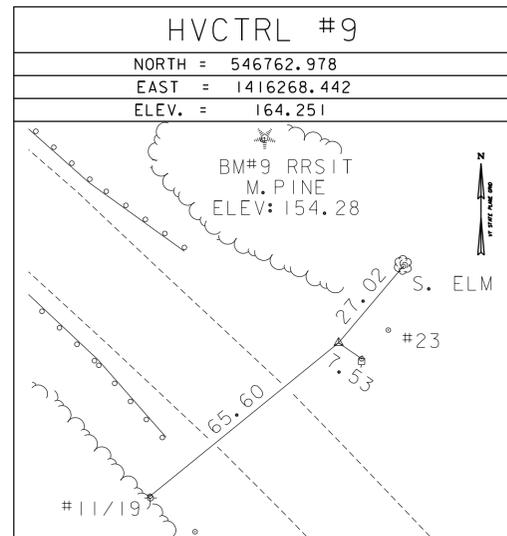
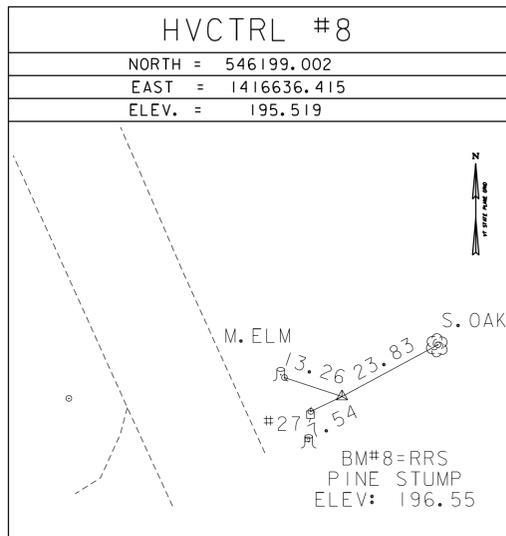
HVCTRL #1  
 DIG HARD AZ MK  
 NORTH = 544657.447  
 EAST = 1418699.138  
 ELEV. = 214.710

HVCTRL #2  
 DIG HARD  
 NORTH = 545190.812  
 EAST = 1422015.220  
 ELEV. = 171.234

GENERAL LOCATION, BRIDPORT, VERMONT.  
 TO REACH FROM THE INTERSECTION OF VT. ROUTES 22A AND 125 WEST IN BRIDPORT GO WEST ALONG VT. ROUTE 125 FOR 1.6 MI (2.6 KM) TO THE MARK ON THE LEFT. IT IS ABOUT 0.5 MI (0.8 KM) WEST OF THE VT. ROUTE 125 BRIDGE OVER THE EAST BRANCH DEAD CREEK. THE MARK IS SET FLUSH WITH THE GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT SET 1.4 M (4.6 FT) DEEP. IT IS 4.1 M (13.5 FT) SOUTH OF AND ABOUT 0.3 M (1.0 FT) LOWER THAN THE SOUTH EDGE OF PAVEMENT OF VT. ROUTE 125, 28.2 M (92.5 FT) SOUTHWEST OF POLE NO. 21, 18.1 M (59.4 FT) EAST OF A 50 CM HICKORY, 9.6 M (31.5 FT) EAST OF THE CENTERLINE OF A GRAVEL DRIVE, AND 0.3 M (1.0 FT) NORTH OF A FIBERGLASS WITNESS POST

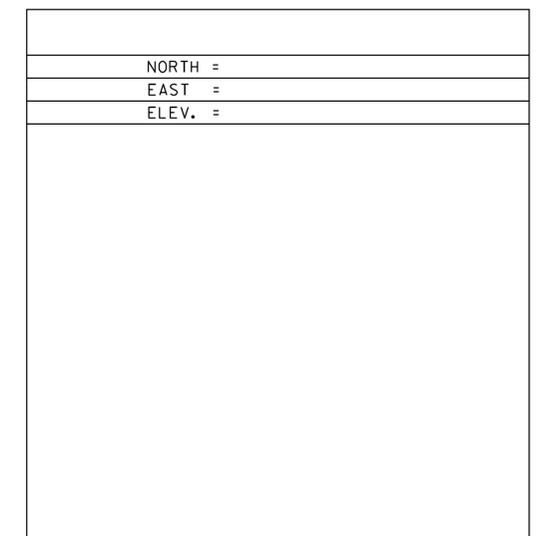
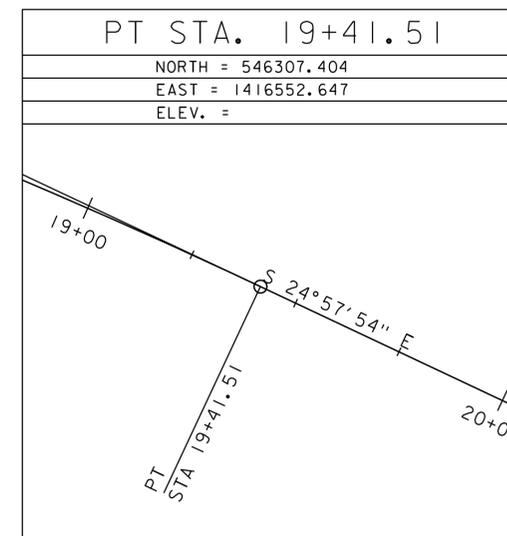
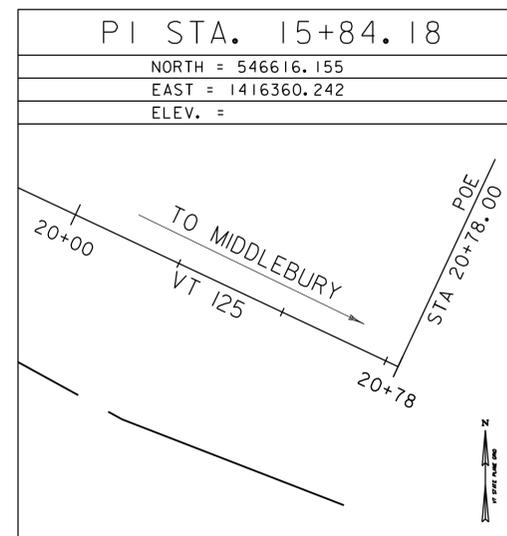
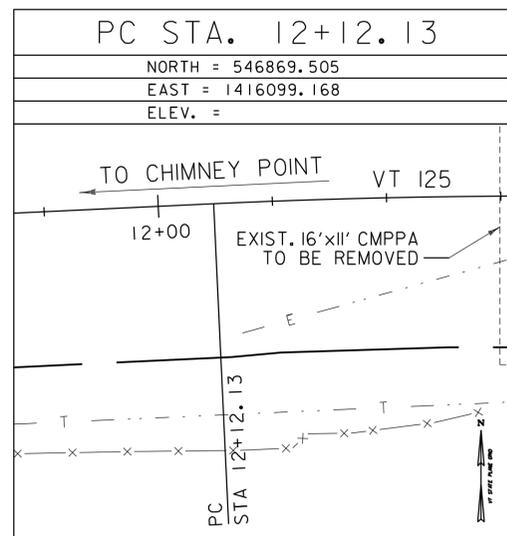
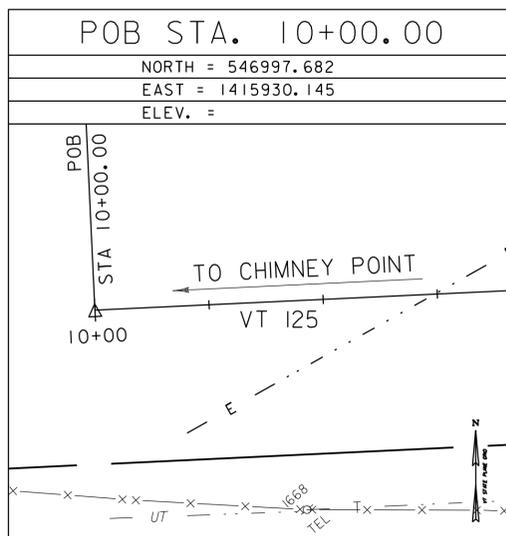
GENERAL LOCATION, BRIDPORT, VERMONT.  
 TO REACH FROM THE INTERSECTION OF VT. ROUTES 22A AND 125 WEST IN BRIDPORT GO WEST ALONG VT. ROUTE 125 FOR 0.9 MI (1.4 KM) TO THE MARK ON THE RIGHT. IT IS ABOUT 0.15 MI (0.24 KM) EAST OF THE VT. ROUTE 125 BRIDGE OVER THE EAST BRANCH DEAD CREEK. THE MARK IS SET 0.1 M (0.3 FT) BELOW THE GROUND SURFACE IN THE TOP OF A 30 CM (12") DIAMETER CONCRETE MONUMENT SET 1.4 M (4.6 FT) DEEP. IT IS 4.6 M (15.1 FT) NORTH OF AND ABOUT 0.3 M (1.0 FT) LOWER THAN THE NORTH EDGE OF PAVEMENT OF VT. ROUTE 125, 20.4 M (66.9 FT) NORTHEAST OF UNDERGROUND TELEPHONE BOX NO. L111/7, 44.1 M (144.7 FT) SOUTHEAST OF A 90 CM OAK, AND 0.5 M (1.6 FT) SOUTH OF A WIRE FENCE AND A FIBERGLASS WITNESS POST.

TRAVERSE TIES



* MAIN TRAVERSE COMPLETED 1/25/2012 BY L. ORVIS P. C. & G. HITCHCOCK

ALIGNMENT TIES



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)
ADJUSTMENT	COMPASS



PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264tie_br2.dgn	PLOT DATE: 5/16/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
SURVEY CONTROL AND TIES - BR2	
SHEET 9 OF 53	

621.205 - STEEL BEAM GUARDRAIL, GALVANIZED WITH 8 FEET POSTS

STA. 10+62.70, RT. TO 14+01.00, RT.

STA. 11+05.5, LT. TO 14+02.5, LT.

621.60 - ANCHOR FOR STEEL BEAM RAIL

STA. 10+62.7, RT.

STA. 11+05.5, LT.

STA. 14+01.0, RT.

STA. 14+02.5, LT.

621.80 - REMOVAL AND DISPOSAL OF GUARDRAIL

STA 10+65.20 TO 13+92.53, RT.

STA. 11+63.86 TO 13+61.58, LT.

620.55 - REMOVAL OF EXISTING FENCE

STA 12+32.00 RT. TO 12+99.00, RT.

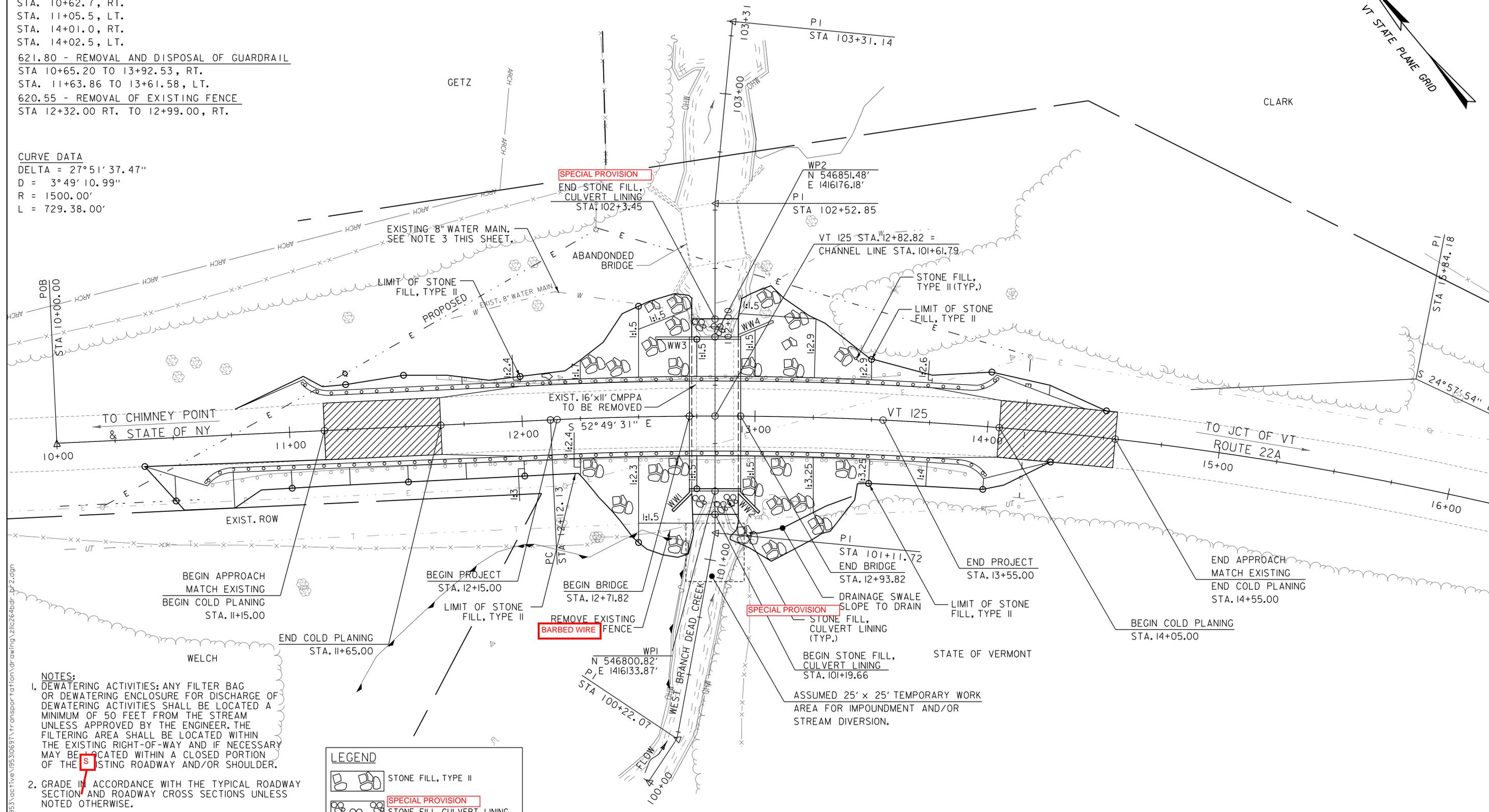
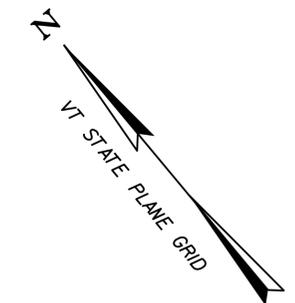
CURVE DATA

DELTA = 27°51'37.47"

D = 3°49'10.99"

R = 1500.00'

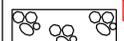
L = 729.38.00'



5/16/2014 2:03:13 PM V:\1953\loc\live\19530697\Transportation\Drawings\zllc264bdr_br2.dgn

- NOTES:**
- DEWATERING ACTIVITIES: ANY FILTER BAG OR DEWATERING ENCLOSURE FOR DISCHARGE OF DEWATERING ACTIVITIES SHALL BE LOCATED A MINIMUM OF 50 FEET FROM THE STREAM UNLESS APPROVED BY THE ENGINEER. THE FILTERING AREA SHALL BE LOCATED WITHIN THE EXISTING RIGHT-OF-WAY AND IF NECESSARY MAY BE LOCATED WITHIN A CLOSED PORTION OF THE EXISTING ROADWAY AND/OR SHOULDER.
  - GRADE IN ACCORDANCE WITH THE TYPICAL ROADWAY SECTION AND ROADWAY CROSS SECTIONS UNLESS NOTED OTHERWISE.
  - THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS TO VERIFY THE DEPTH AND LOCATIONS OF UNDERGROUND UTILITIES, AS DIRECTED BY THE ENGINEER. THE EXPLORATORY WORK SHALL BE PAID FOR UNDER ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY.

**LEGEND**

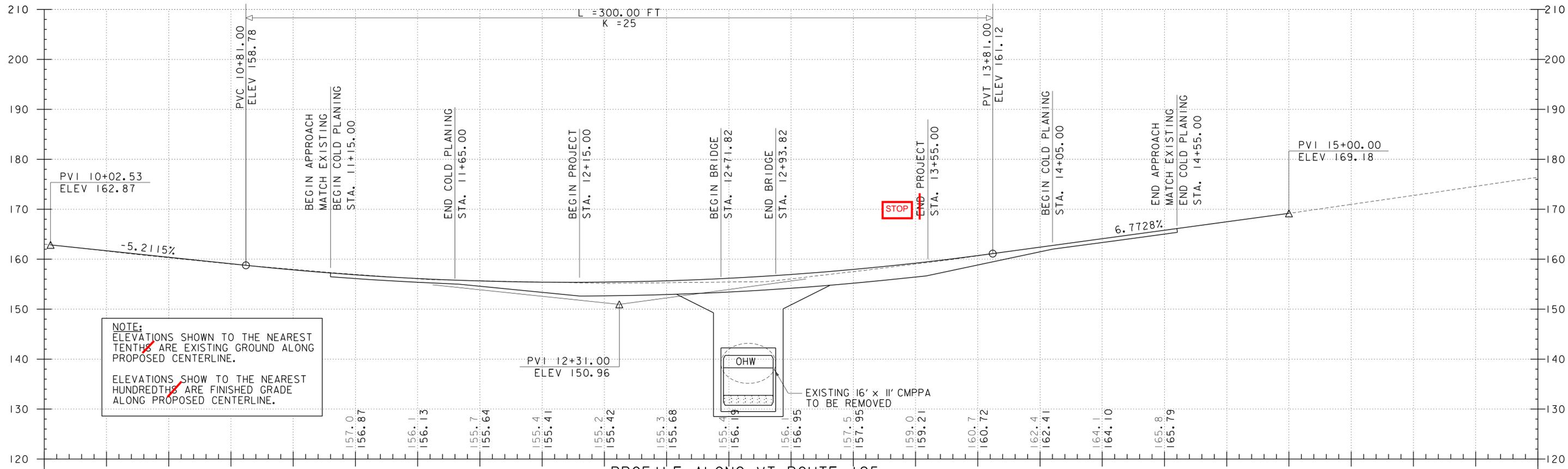
-  STONE FILL, TYPE II
-  **SPECIAL PROVISION** STONE FILL, CULVERT LINING

**PLAN**

SCALE: 1" = 20'-0"

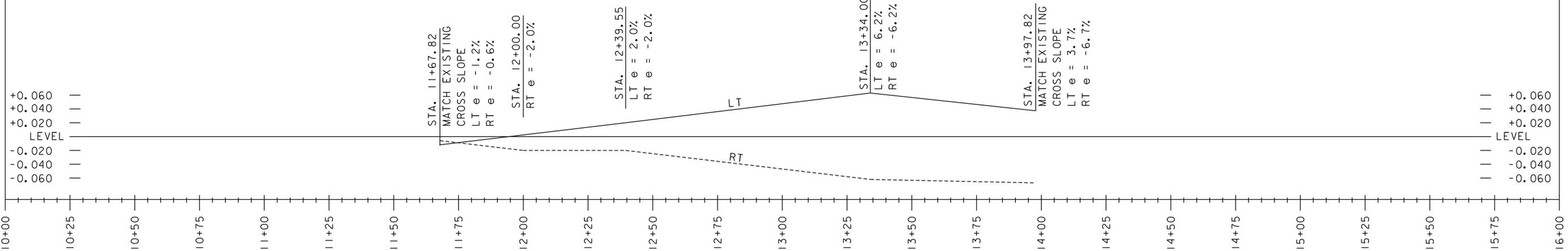
PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264bdr_br2.dgn	PLOT DATE: 5/16/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
PLAN LAYOUT SHEET - BR2	SHEET 10 OF 53





PROFILE ALONG VT ROUTE 125

HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 10'



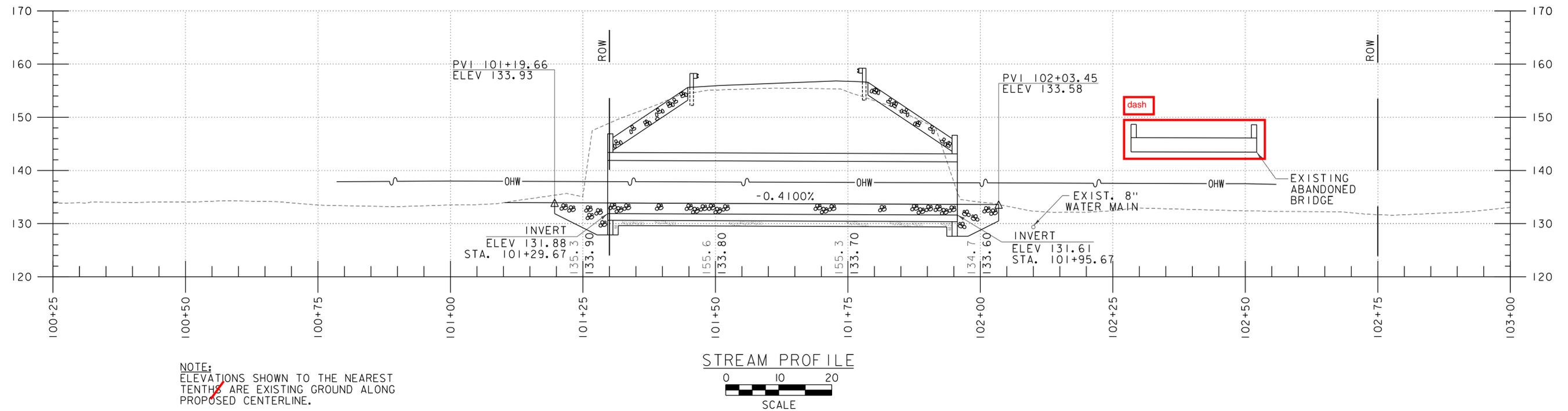
BANKING DIAGRAM

HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: N. T. S.

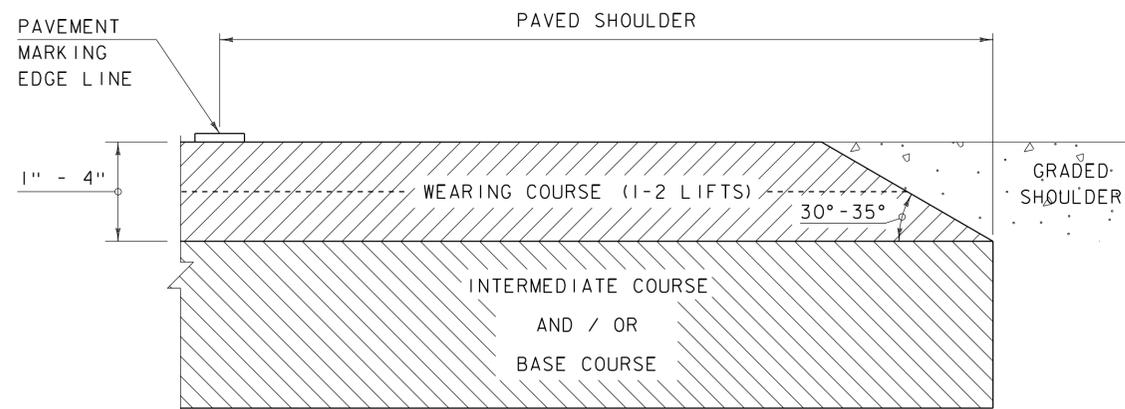
NOTE:  
STATIONING IN FEET AND  
SUPERELEVATIONS IN PERCENTAGES

PROJECT NAME:	BRIDPORT	FILE NAME:	zllc264pro.dgn	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	PROJECT LEADER:	M. CHENETTE	DRAWN BY:	L. BUXTON
		DESIGNED BY:	J. HUNGERFORD	CHECKED BY:	M. CHENETTE
		ROADWAY PROFILE - BR2		SHEET	II OF 53



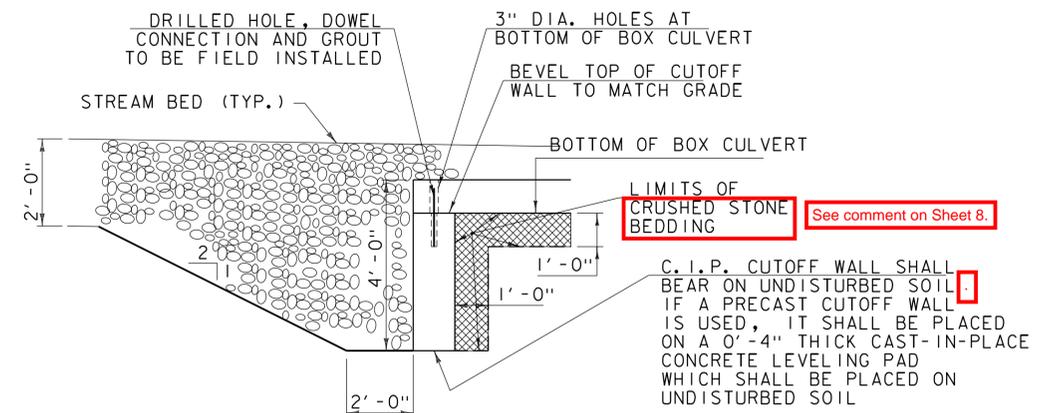


NOTE:  
ELEVATIONS SHOWN TO THE NEAREST TENTHS ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.  
ELEVATIONS SHOW TO THE NEAREST HUNDREDTHS ARE FINISHED GRADE ALONG PROPOSED CENTERLINE.



**SAFETY EDGE DETAIL**  
NOT TO SCALE

- NOTE: 1. ~~LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.~~  
2. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.

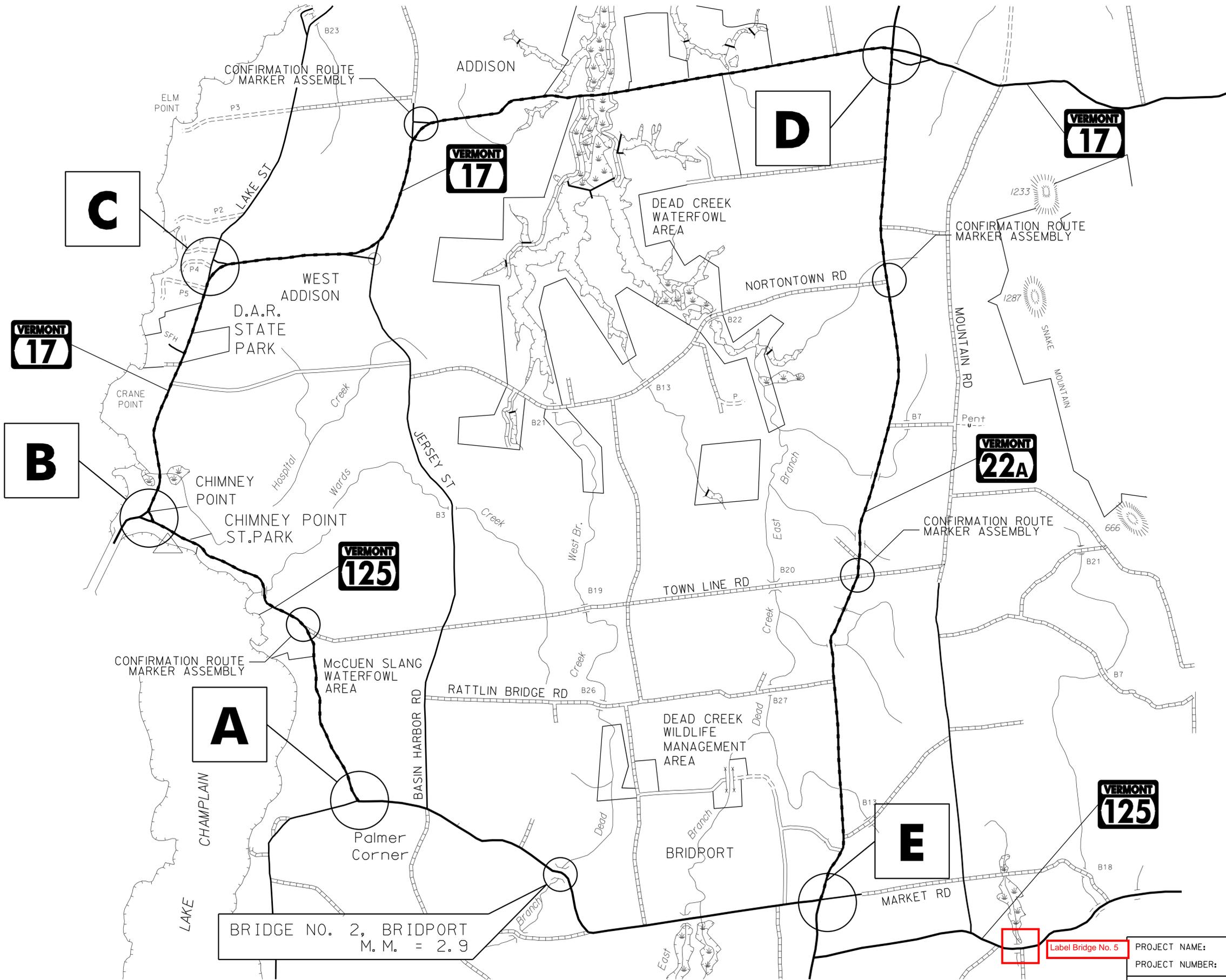
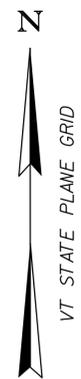


**CUTOFF WALL DETAIL**  
NOT TO SCALE

PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264xs_br2.dgn	DESIGNED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	CHECKED BY:	M. CHENETTE
STREAM PROFILE - BR2			SHEET 12 OF 53







BRIDGE NO. 2, BRIDPORT  
M.M. = 2.9

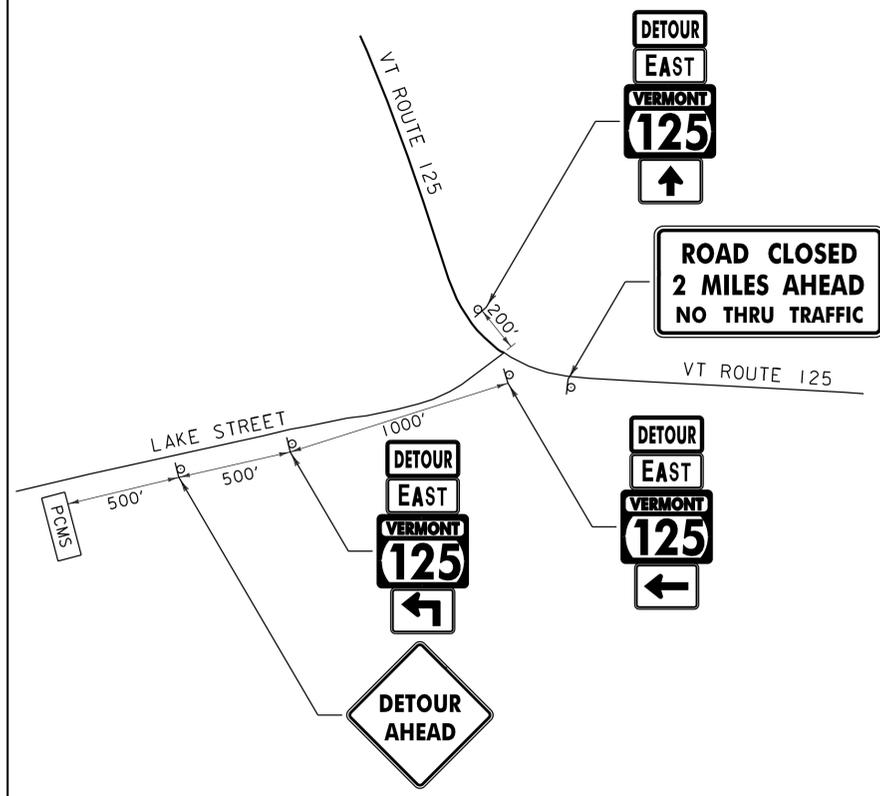
Label Bridge No. 5

----- DETOUR ROUTE

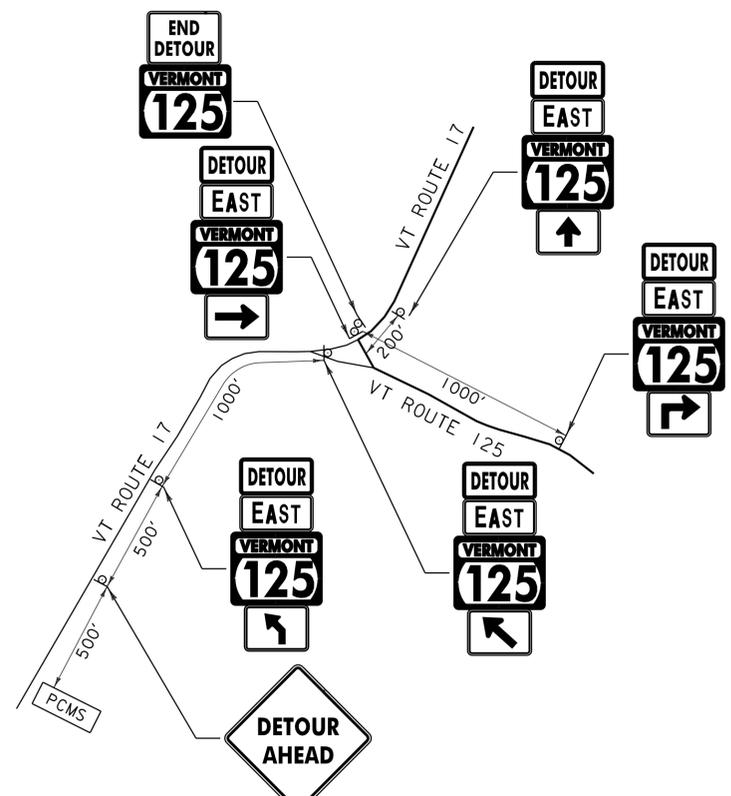
BRIDPORT DETOUR PLAN - BR2  
NOT TO SCALE



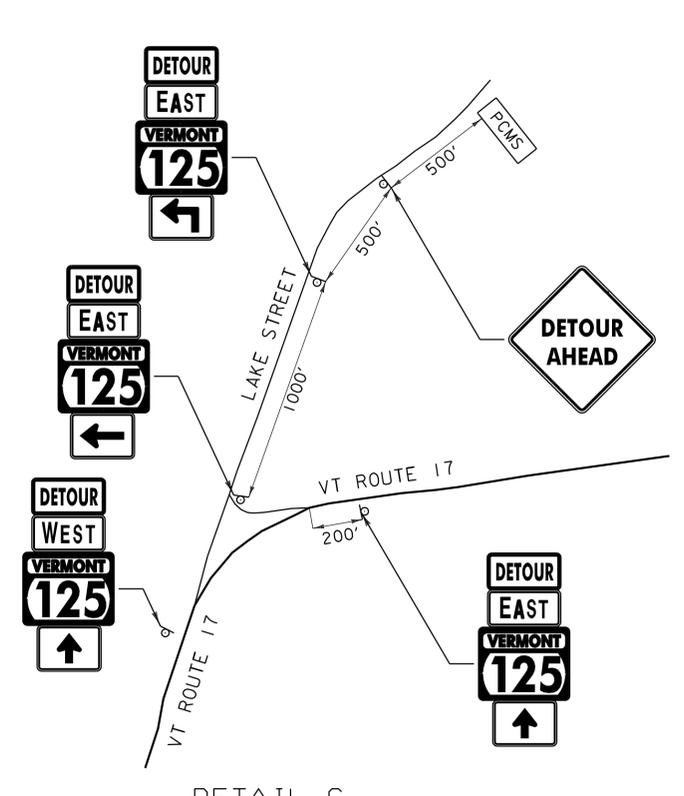
PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	J. SOTER
FILE NAME:	zllc264+tpl.br2.dgn	DESIGNED BY:	I. MAYNARD
DETOUR PLAN - BR2		CHECKED BY:	J. HUNGERFORD
		SHEET	14 OF 53



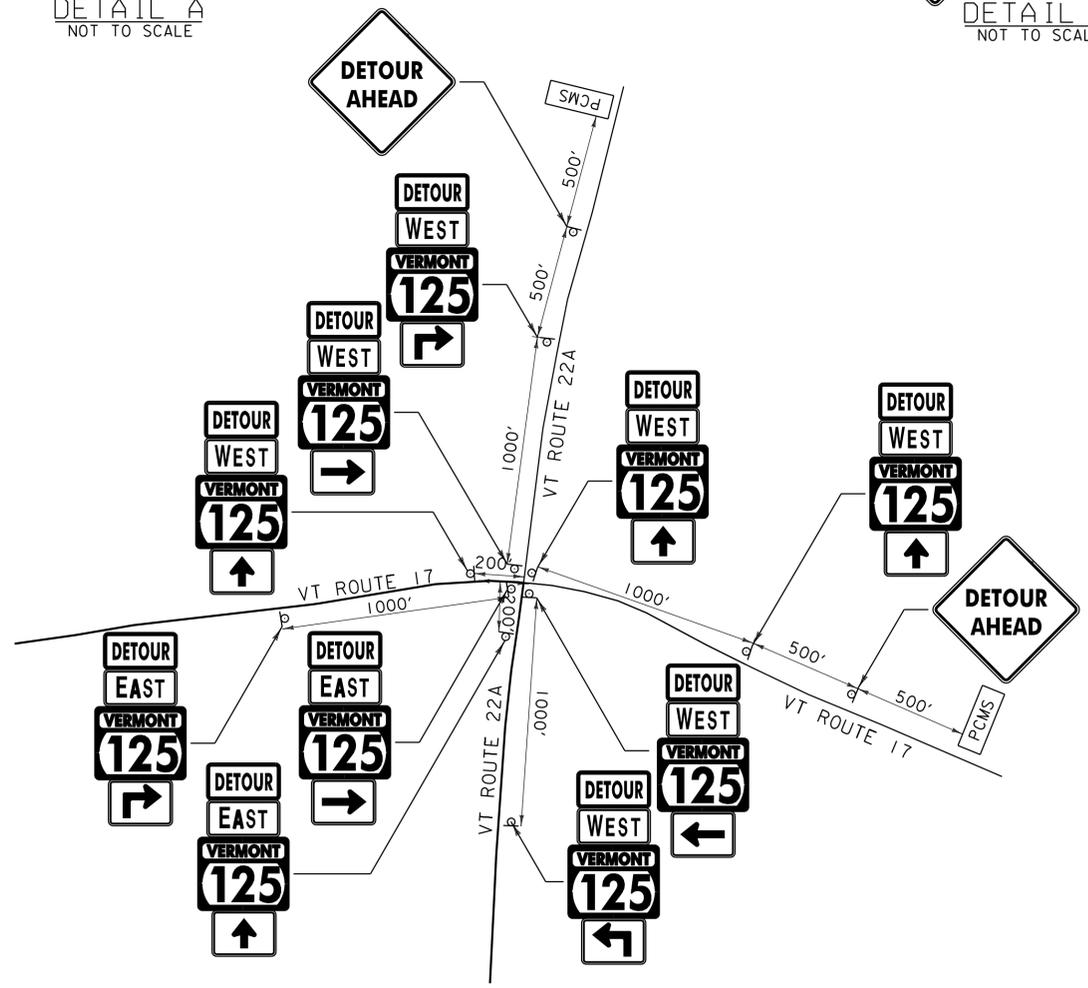
DETAIL A  
NOT TO SCALE



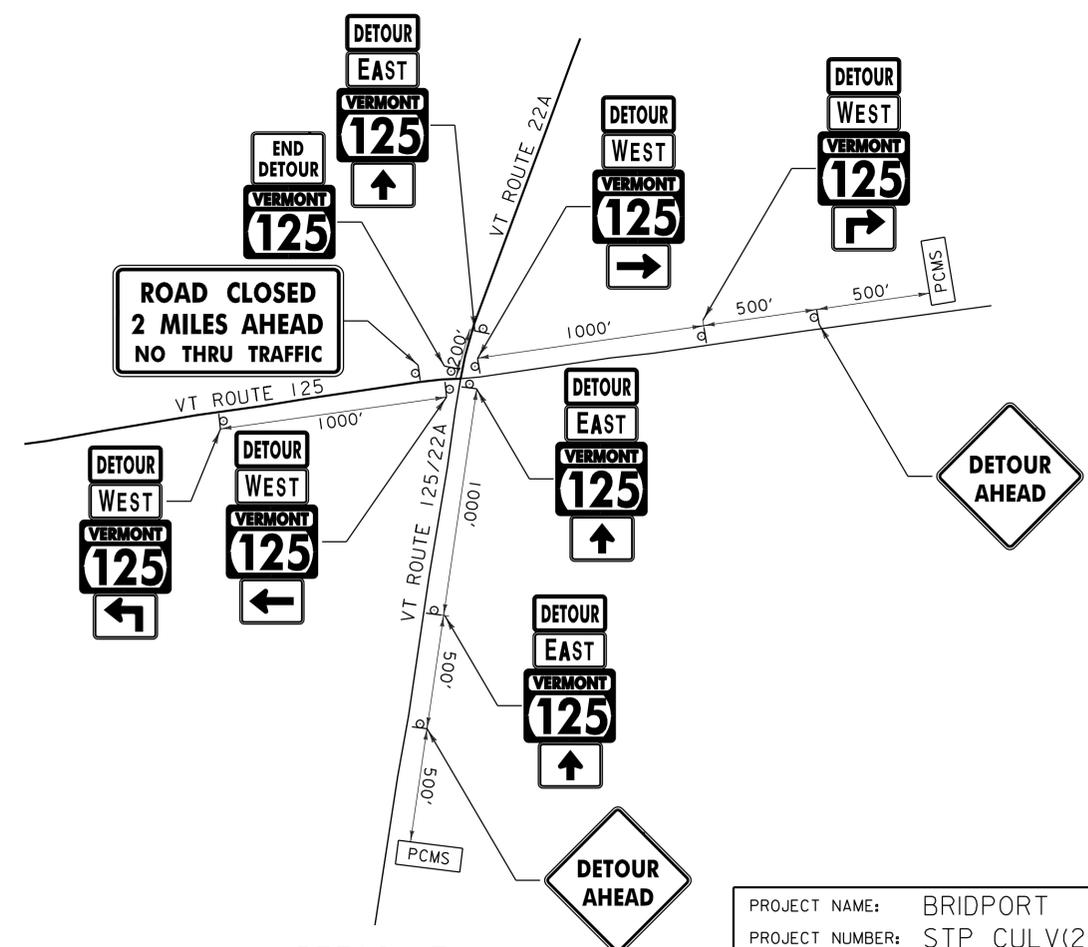
DETAIL B  
NOT TO SCALE



DETAIL C  
NOT TO SCALE



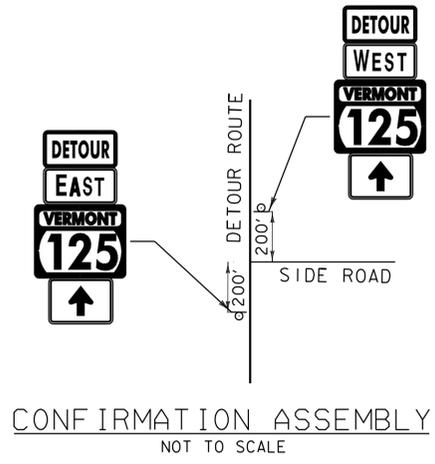
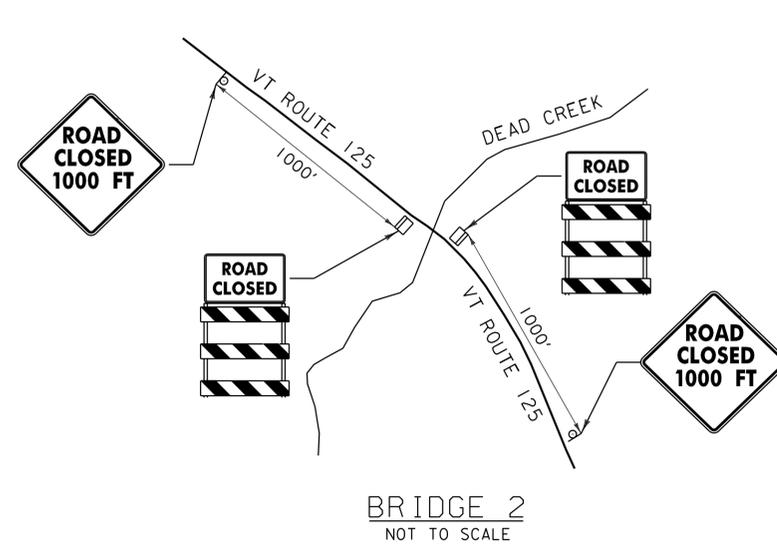
DETAIL D  
NOT TO SCALE



DETAIL E  
NOT TO SCALE

PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	I. MAYNARD
FILE NAME:	zllc264tcdet_br2.l.dgn	CHECKED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	SHEET	15 OF 53
DESIGNED BY:	I. MAYNARD		
TRAFFIC CONTROL DETAILS I - BR2			





CONFIRMATION ASSEMBLY  
NOT TO SCALE

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN Not used here; more appropriate for Sheet 15.

ID NUMBER	SIGN TEXT	SIZE OF SIGN		NUMBER OF SIGNS REQ'D.	AREA OF EACH SIGN (SF)	COLOR	REMARKS
		WIDTH	HEIGHT				
W20-2	DETOUR AHEAD	48"	48"	7	16.00	B/F0	
W20-3	ROAD CLOSED 1000 FT	48"	48"	2	16.00	B/F0	
M6-3	↑	21"	15"	19	2.19	B/F0	MOUNT BELOW MI-6A
M6-1R	→	21"	15"	4	2.19	B/F0	MOUNT BELOW MI-6A
M6-1L	←	21"	15"	4	2.19	B/F0	MOUNT BELOW MI-6A
M6-2L	↖	21"	15"	1	2.19	B/F0	MOUNT BELOW MI-6A
M5-1L	↙	21"	15"	4	2.19	B/F0	MOUNT BELOW MI-6A
M5-1R	↘	21"	15"	4	2.19	B/F0	MOUNT BELOW MI-6A
M5-2L	↖	21"	15"	1	2.19	B/F0	MOUNT BELOW MI-6A
M4-8	DETOUR	24"	12"	37	2.00	B/F0	MOUNT ABOVE M3-2 OR M3-4
M4-8a	END DETOUR	24"	18"	2	3.00	B/F0	MOUNT BELOW MI-6A
M3-2	EAST	24"	12"	21	2.00	G/W	
M3-4	WEST	24"	12"	16	2.00	G/W	
M1-6B	VERMONT 125	30"	24"	39	5.00	G/W	
R11-2C	ROAD CLOSED	48"	30"	2	10.00	B/W	
R11-3B	ROAD CLOSED 2 MILES AHEAD NO THRU TRAFFIC	60"	30"	2	12.50	B/W	

Please verify quantities.

- NOTES:
- ALL COSTS OF INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). SEE SPECIAL PROVISIONS.
  - ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
  - "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON RETROREFLECTIVE TYPE III BARRICADES.
  - TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.
  - WHEN POSSIBLE LOCATE THE "ROAD CLOSED 1000 FT" SIGN NEAR A LOCATION WHERE DRIVERS CAN TURN AROUND. #5
  - THE M1-6B, THE M3-2 AND THE M3-4 SIGNS SHALL BECOME THE PROPERTY OF THE STATE AFTER THEY ARE REMOVED FROM THE DETOUR. THE CONTRACTOR SHALL DELIVER THE SIGNS TO THE STATE AT THE DISTRICT GARAGE.
  - WHERE POSSIBLE LOCATE DETOUR ROUTE MARKER ASSEMBLIES ADJACENT TO EXISTING ROUTE MARKER ASSEMBLIES.
  - SIGN SPACING IS FOR REFERENCE ONLY, FIELD ADJUSTMENTS AS APPROVED BY THE ENGINEER.
  - EXISTING SIGNS IN CONFLICT WITH THIS DETOUR PLAN SHALL BE COVERED WHEN NECESSARY, AS APPROVED BY THE ENGINEER.

MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) - REGIONAL DETOUR

STARTING 2 WEEK PRIOR TO CLOSURE

(ROUTE) **	MESSAGE 1 <b>VT 125 ROAD CLOSED</b>	MESSAGE 2 <b>MMMM DD</b>	(DATE) *
		<b>TO</b>	
		<b>MMMM DD</b>	(DATE) *

DURING CLOSURE

(ROUTE) **	MESSAGE 1 <b>VT 125 ROAD CLOSED</b>	MESSAGE 2 <b>EAST OF BASIN HARBR RD</b>
------------	------------------------------------------------	----------------------------------------------------

* - DATE SHALL BE SPELLED OUT (I.E. JUNE 10 NOT 6/10)  
** - ROUTE 125 SHALL SPECIFY E (EAST) OR W (WEST) AS APPROPRIATE FOR THE DETOUR.

B/F0 = BLACK ON RETROREFLECTIVE ORANGE BACKGROUND  
G/W = GREEN ON RETROREFLECTIVE WHITE BACKGROUND  
B/W = BLACK ON RETROREFLECTIVE WHITE BACKGROUND

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264tcdet_br2.2.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	I. MAYNARD
TRAFFIC CONTROL DETAILS 2 - BR2	
PLOT DATE:	5/16/2014
DRAWN BY:	I. MAYNARD
CHECKED BY:	J. HUNGERFORD
SHEET	16 OF 53



**SOIL CLASSIFICATION**

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

**ROCK QUALITY DESIGNATION**

R.O.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

**SHEAR STRENGTH**

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

**CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY**

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

**COMMONLY USED SYMBOLS**

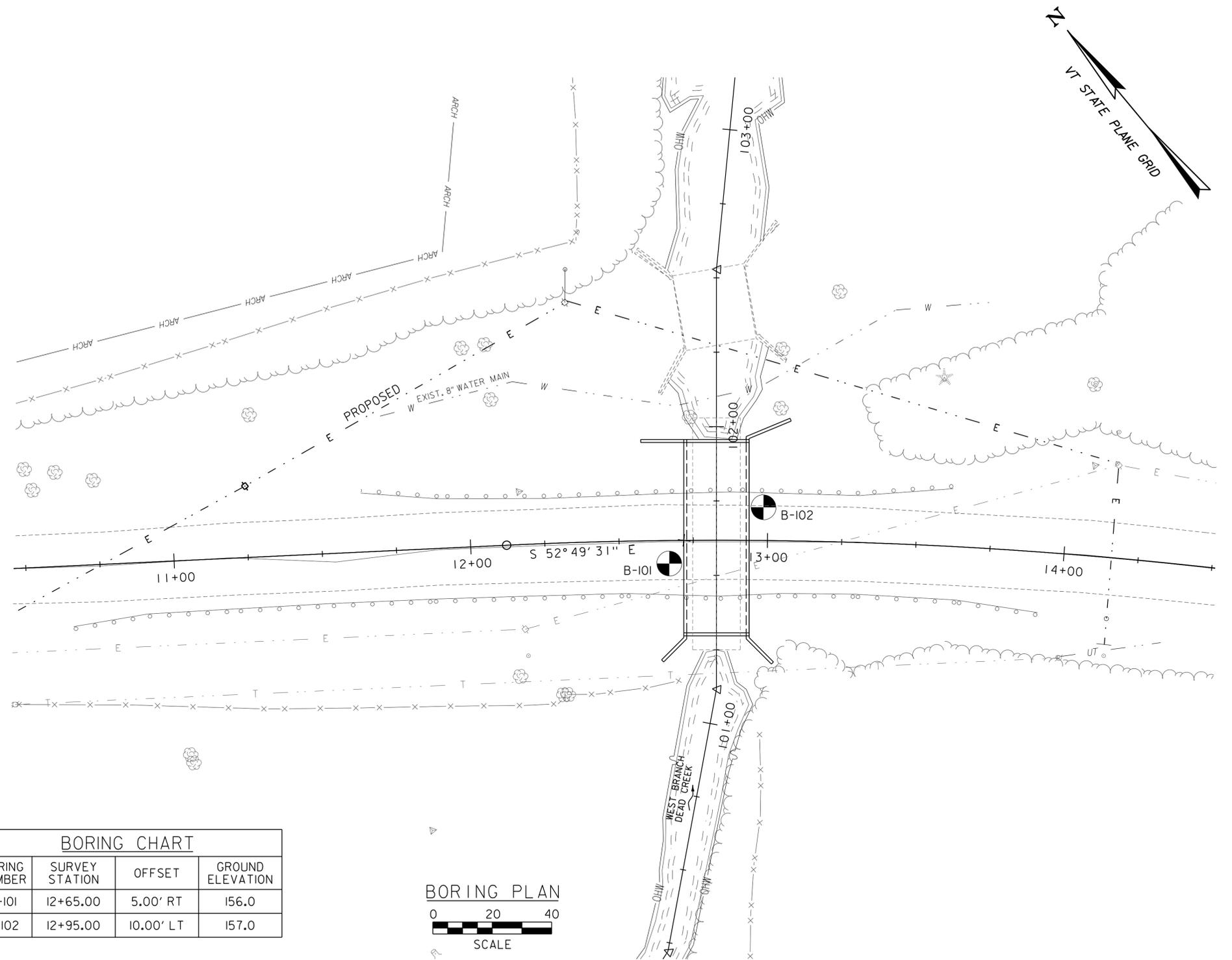
- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊕ Auger Boring
- ⊕ Rod Sounding
- ⊕ Sample
- N Standard Penetration Test
- Blow Count Per Foot For:
  - 2" O.D. Sampler
  - 1 3/8" I.D. Sampler
  - Hammer Weight Of 140 Lbs.
  - Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 5/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- SI Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB To Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- RQD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)

**COLOR**

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

**DEFINITIONS (AASHTO)**

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).
- SILT** - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.



BORING CHART			
BORING NUMBER	SURVEY STATION	OFFSET	GROUND ELEVATION
B-101	12+65.00	5.00' RT	156.0
B-102	12+95.00	10.00' LT	157.0



**GENERAL NOTES**

- The subsurface explorations shown herein were made on Oct. 25, 2012 by N.H. Boring.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

**LEGEND:**



PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264bdr_bor_pl.br2.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
BORING PLAN - BR2

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 17 OF 53



STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-101						
		BRIDPORT STP CULV(29) VT-125 BR-2&5		Page No.: 1 of 2						
				Pin No.: 11C264						
				Checked By: LAR						
Boring Crew: GARROW, WHITLOCK		Type: WB	Casing: SS	Groundwater Observations						
Date Started: 9/19/12	Date Finished: 9/21/12	I.D.: 4 in	Sampler: 1.5 in	Date	Depth (ft)					
VTSPG NAD83: N 546829.94 ft E 1416137.25 ft		Hammer Wt: N.A.	140 lb.	09/21/12	19.4					
Station: 12+65	Offset: 5.00	Hammer Fall: N.A.	30 in.	AM, Casing in HP						
Ground Elevation: 156.0 ft		Hammer/Rod Type: Auto/AWJ								
		Rig: CME 45C SKID	CE = 1.33							
Depth (ft)	Strata (')	CLASSIFICATION OF MATERIALS (Description)		Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt Pavement, 0.0 ft - 1.7 ft								
		Field Note: GrSa with a lot of Asphalt Pavement, blk-brn, Moist, Rec. = 0.5 ft		9-14-11-7 (25)						
5		A-7-6, Cl, gry, Moist, Rec. = 0.4 ft		2-2-1-2 (3)	32.2	17.5	5.9	76.6	66	38
		Shelby Tube, gry, Moist, Rec. = 1.6 ft, 9.0 ft - 11.0 ft								
		Shelby Tube, gry, Moist, Rec. = 1.7 ft, 11.0 ft - 13.0 ft								
10		A-7-6, Cl, gry, Moist, Rec. = 1.8 ft		WH-3-3-3 (6)	38.1	1.1	2.1	96.8	65	38
		A-1-a, SaGr, brn, Moist, Rec. = 0.4 ft		4-5-6-3 (11)	10.5	55.2	36.8	8.0		
20		A-4, GrSaSi, gry, Moist, Rec. = 0.3 ft		R@5.0"	7.9	23.3	29.7	47.0		
		A-4, SaGrSi, gry, Moist, Rec. = 0.4 ft		28-R@5.0"	7.1	31.1	29.7	39.2		
		Field Note: Cobble, Clean out casing								
30		A-4, SaSi, gry, Moist, Rec. = 0.7 ft		44-R@5.0"	7.0	19.1	30.7	50.2		
		A-4, GrSaSi, gry, Moist, Rec. = 0.6 ft		25-43-R@3.5"	8.0	24.2	28.1	47.7		
35										
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										

BOTTOM OF CULVERT  
APPROX. EL. 130.8

BORING LOG: 2 BRIDPORT STP CULV(29) VERMONT AOT.GDT 1/10/13

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-101						
		BRIDPORT STP CULV(29) VT-125 BR-2&5		Page No.: 2 of 2						
				Pin No.: 11C264						
				Checked By: LAR						
Boring Crew: GARROW, WHITLOCK		Type: WB	Casing: SS	Groundwater Observations						
Date Started: 9/19/12	Date Finished: 9/21/12	I.D.: 4 in	Sampler: 1.5 in	Date	Depth (ft)					
VTSPG NAD83: N 546829.94 ft E 1416137.25 ft		Hammer Wt: N.A.	140 lb.	09/21/12	19.4					
Station: 12+65	Offset: 5.00	Hammer Fall: N.A.	30 in.	AM, Casing in HP						
Ground Elevation: 156.0 ft		Hammer/Rod Type: Auto/AWJ								
		Rig: CME 45C SKID	CE = 1.33							
Depth (ft)	Strata (')	CLASSIFICATION OF MATERIALS (Description)		Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		A-4, SaSi, gry, Moist, Rec. = 1.1 ft		22-33-40-R (73)	6.9	19.4	31.0	49.6		
45		A-4, SaGrSi, gry, Moist, Rec. = 0.6 ft		26-37-R@5.0"	7.3	28.9	27.1	44.0		
		A-4, SaGrSi, gry, Moist, Rec. = 1.2 ft		18-29-30-R (59)	7.3	31.2	27.5	41.3		
		Visual Description: SaGrSi, gry, Moist, Rec. = 0.3 ft, Insufficient sample for testing. Similar material to 52.0 - 53.8 ft.		16-30-39-R (69)	8.6					
60		Field Note: No Recovery. Appears to be the same material		26-37-R@5.0"						
		Visual Description: SaGrSi HP, gry, Moist, Rec. = 0.3 ft, Insufficient sample for testing. Similar material to 52.0 - 53.8 ft.		28-32-36-R (68)	6.3					
70		Visual Description: SaSiGr with Broken Rock, gry, Moist, Rec. = 0.2 ft, Insufficient sample for testing.		21-24-33-R (57)	6.2					
75		Hole stopped @ 73.9 ft								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										

BORING LOG: 2 BRIDPORT STP CULV(29) VERMONT AOT.GDT 1/10/13

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264bor_log_br2.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: VTRANS  
BORING LOG I- BR2

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: VTRANS  
SHEET 18 OF 53



STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-102					
		BRIDPORT STP CULV(29) VT-125 BR-2&5		Page No.: 1 of 2					
				Pin No.: 11C264					
				Checked By: LAR					
Boring Crew: GARROW, WHITLOCK		Type: WB	Casing: SS	Groundwater Observations					
Date Started: 9/10/12 Date Finished: 9/12/12		I.D.: 4 in	Sampler: 1.5 in	Date	Depth (ft)				
VTSPG NAD83: N 546823.89 ft E 1416173.72 ft		Hammer Wt: N.A.	140 lb.	09/12/12	6.0				
Station: 12+95 Offset: -10.00		Hammer Fall: N.A.	30 in.						
Ground Elevation: 157.0 ft		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 45C SKID	CE = 1.33						
Depth (ft)	Strata (1)	Classification of Materials (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt Pavement, 0.0 ft - 1.8 ft							
		Field Note: SaGr with a lot of Asphalt Pavement, blk, Moist, Rec. = 0.5 ft	4-2-1-3 (3)						
5		A-7-6, SaCl, gry, Moist, Rec. = 0.6 ft	WH-1-2-3 (3)	28.7	6.4	40.9	52.7	56	33
10		Field Note: Roller Coned ahead in Clay							
		Field Note: CI Shelby Tube, gry, Moist, Rec. = 1.8 ft							
15		Field Note: Roller Coned ahead in Clay							
		Field Note: CI Shelby Tube, gry, Moist, Rec. = 2.0 ft							
		A-7-6, Cl, gry, Moist, Rec. = 0.8 ft	2-6-10-12 (16)	34.1	1.8	3.4	94.8	49	21
		A-1-b, GrSa, brn, Moist, Rec. = 0.4 ft		11.7	33.7	56.9	9.4		
20		A-4, GrClSi, gry, Moist, Rec. = 0.4 ft	8-22-28-19 (50)	32.8	32.2	18.0	49.8	35	10
		A-4, SaGrSi, gry, Moist, Rec. = 1.5 ft		8.8	35.4	28.8	35.8		
		A-4, GrSaSi, gry, Moist, Rec. = 1.3 ft	8-17-25-50 (42)	8.4	27.2	35.7	37.1		
25		A-2-4, SiSaGr, gry, Moist, Rec. = 0.8 ft	44-R R@5.0"	7.5	41.9	30.5	27.6		
		Visual Description: SiSaGr, gry, Moist, Rec. = 0.2 ft, Insufficient sample for testing. Material similar to 26-26.9 ft.	R@2.5"	7.1					
30		A-4, SaSi, gry, Moist, Rec. = 0.6 ft	35-R R@5.0"	7.1	19.6	33.7	46.7		
		A-4, GrSaSi, gry, Moist, Rec. = 0.8 ft	10-39-45-R (84)	7.2	20.4	32.1	47.5		
35		A-2-4, SaSiGr, gry, Moist, Rec. = 0.4 ft	R@5.0"	7.0	46.0	25.7	28.3		
		A-4, GrSaSi, gry, Moist, Rec. = 0.5 ft	28-R R@5.0"	6.7	28.5	31.3	40.2		
		Field Note: Cleaned out Cobble							
		A-4, GrSaSi, gry, Moist, Rec. = 0.9 ft	49-R R@5.0"	7.0	26.3	30.9	42.8		
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.									

BOTTOM OF CULVERT  
APPROX. EL. 130.8

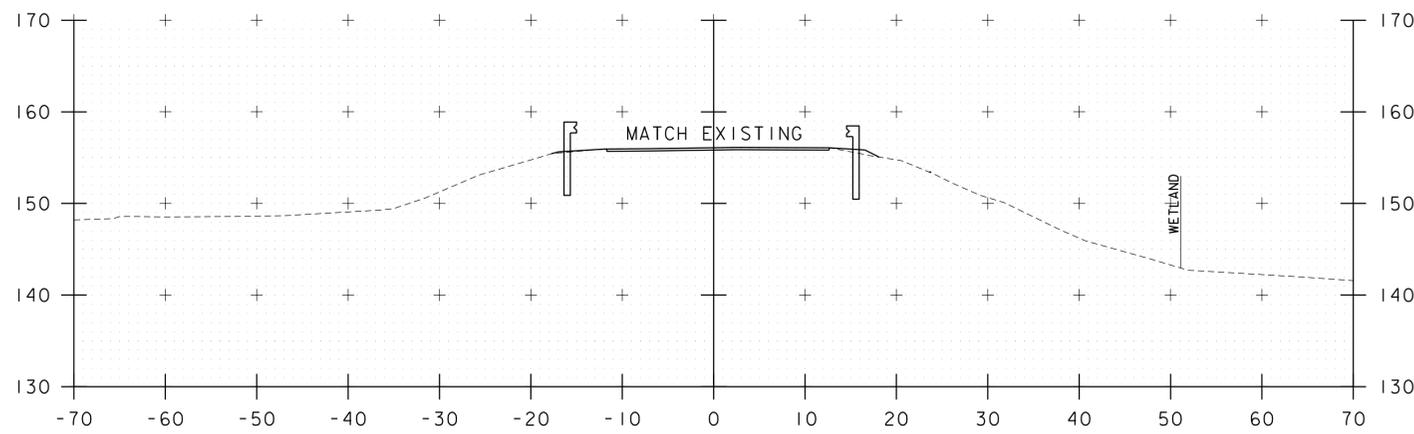
BORING LOC: 2 BRIDPORT STP CULV(29) GPJ VERMONT AOT.GDT 1/10/13

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-102					
		BRIDPORT STP CULV(29) VT-125 BR-2&5		Page No.: 2 of 2					
				Pin No.: 11C264					
				Checked By: LAR					
Boring Crew: GARROW, WHITLOCK		Type: WB	Casing: SS	Groundwater Observations					
Date Started: 9/10/12 Date Finished: 9/12/12		I.D.: 4 in	Sampler: 1.5 in	Date	Depth (ft)				
VTSPG NAD83: N 546823.89 ft E 1416173.72 ft		Hammer Wt: N.A.	140 lb.	09/12/12	6.0				
Station: 12+95 Offset: -10.00		Hammer Fall: N.A.	30 in.						
Ground Elevation: 157.0 ft		Hammer/Rod Type: Auto/AWJ							
		Rig: CME 45C SKID	CE = 1.33						
Depth (ft)	Strata (1)	Classification of Materials (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		A-4, GrSaSi, gry, Moist, Rec. = 0.4 ft	5-16-46-R (62)	7.2	21.8	35.2	43.0		
45		A-4, SaGrSi, gry, Moist, Rec. = 1.2 ft	28-33-R R@6.0"	6.6	29.6	28.5	41.9		
50		A-4, SaGrSi, gry, Moist, Rec. = 1.4 ft	18-35-R R@6.0"	6.8	28.0	27.4	44.6		
55		A-4, GrSaSi, gry, Moist, Rec. = 0.5 ft	15-34-R R@5.0"	7.3	28.1	29.0	42.9		
60		A-4, SaGrSi, gry, Moist, Rec. = 1.1 ft	12-24-41-R (65)	7.2	32.8	26.8	40.4		
65		A-4, GrSaSi, gry, Moist, Rec. = 1.0 ft	20-28-37-R (65)	7.8	24.8	30.1	45.1		
70		Field Note: No Recovery. Appears to be the same material	13-31-R R@5.0"						
75		Hole stopped @ 74.4 ft							
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.									

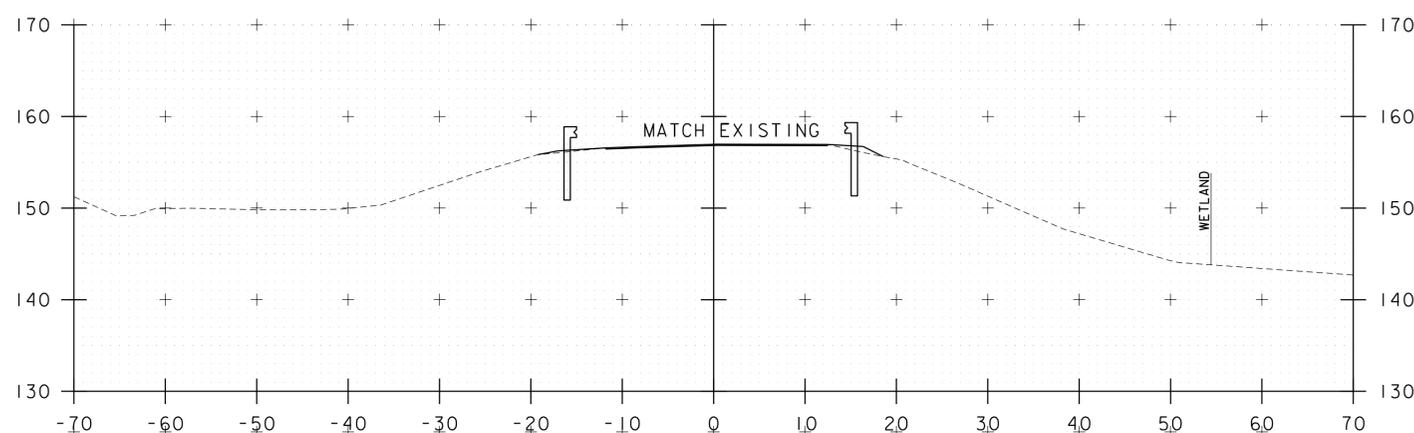
BORING LOC: 2 BRIDPORT STP CULV(29) GPJ VERMONT AOT.GDT 1/10/13

PROJECT NAME: BRIDPORT  
 PROJECT NUMBER: STP CULV(29)  
 FILE NAME: z11c264bor_log_br2.dgn PLOT DATE: 5/16/2014  
 PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON  
 DESIGNED BY: VTRANS CHECKED BY: VTRANS  
 BORING LOG 2 - BR2 SHEET 19 OF 53

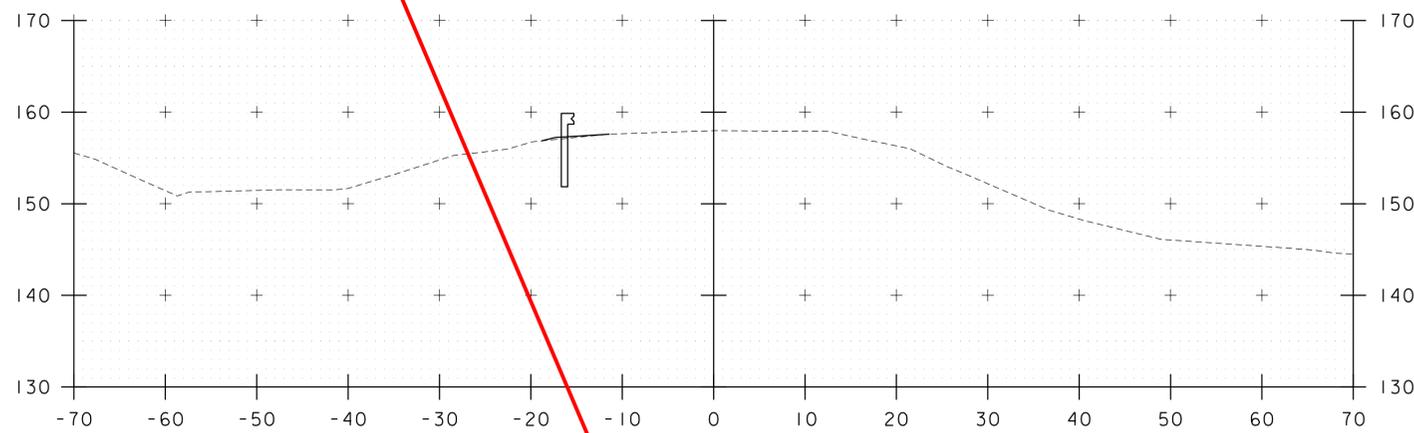




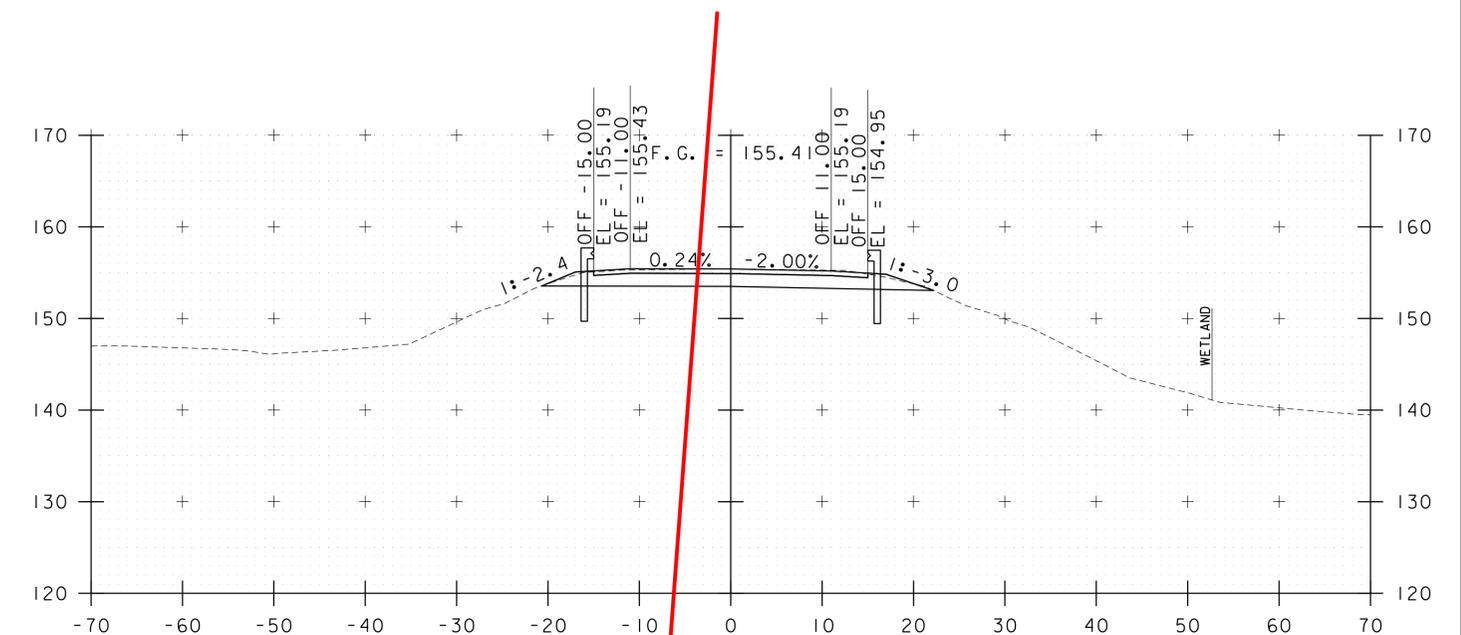
11+50



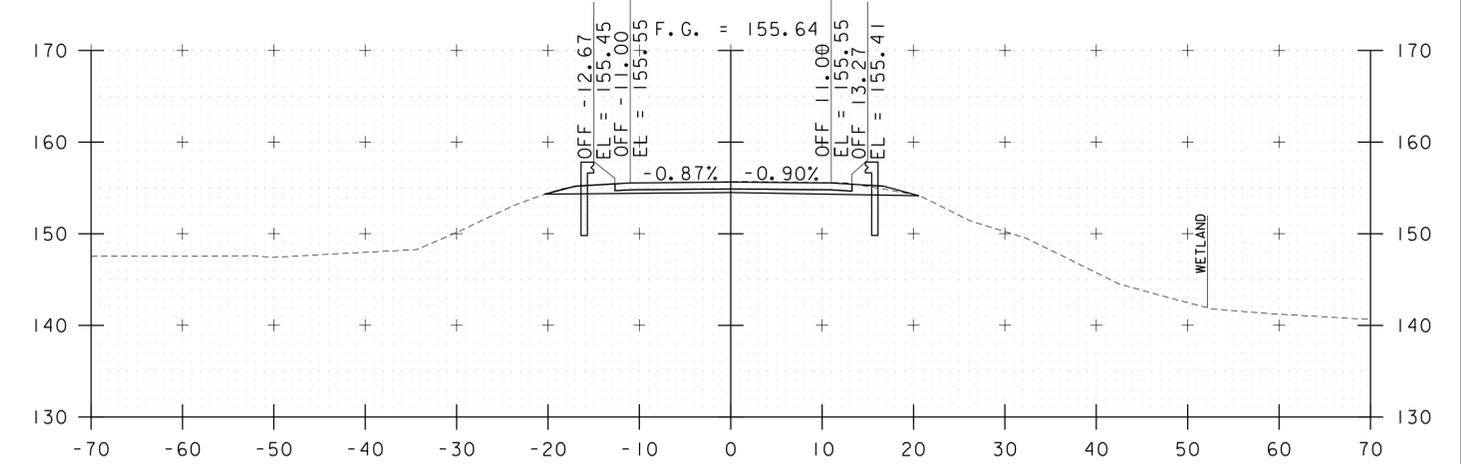
11+25



11+15  
BEGIN APPROACH  
11+00



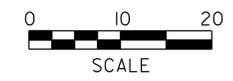
12+15  
BEGIN PROJECT  
12+00



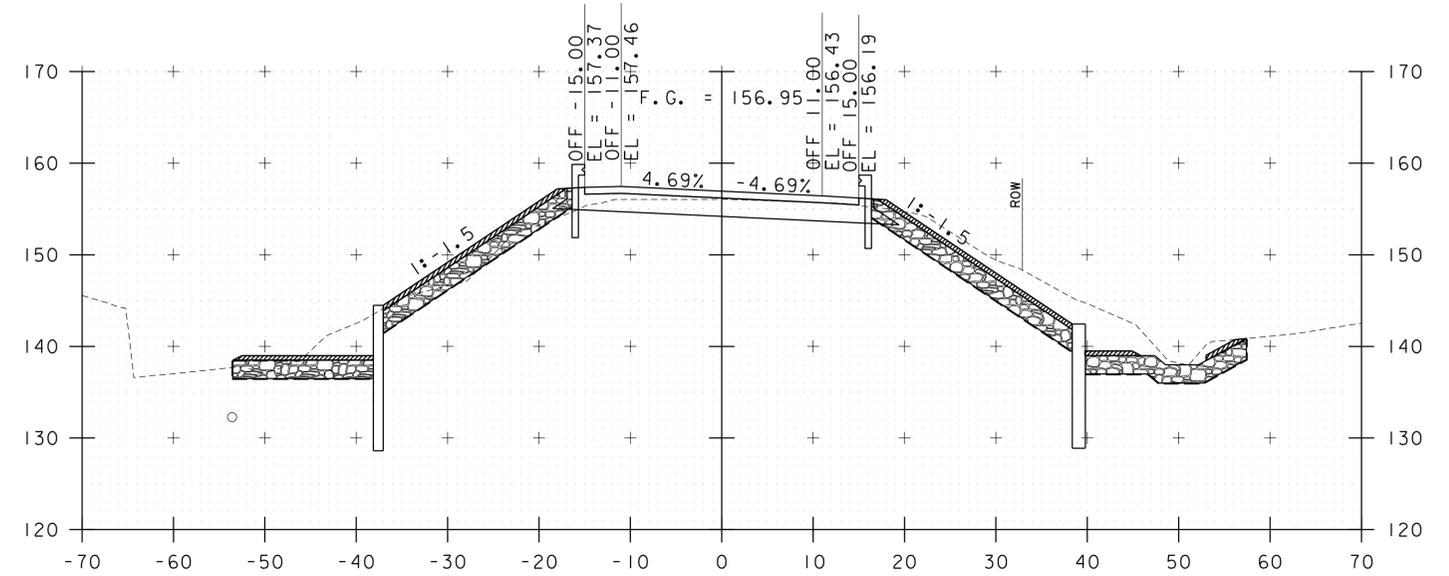
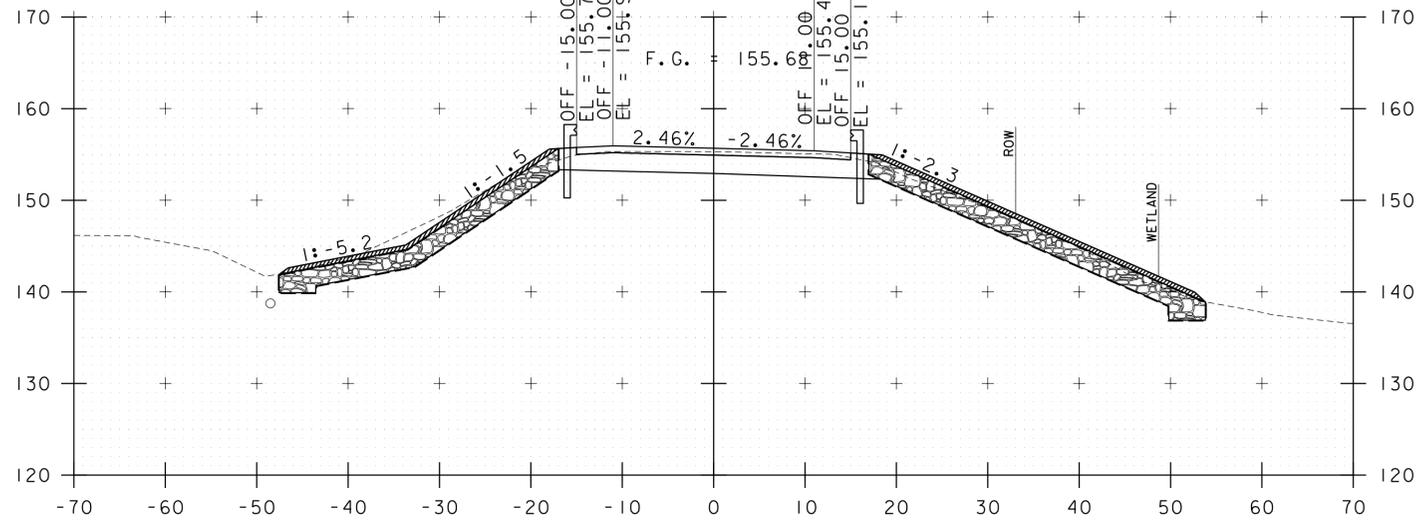
11+75

STA. 11+00 TO STA. 12+00

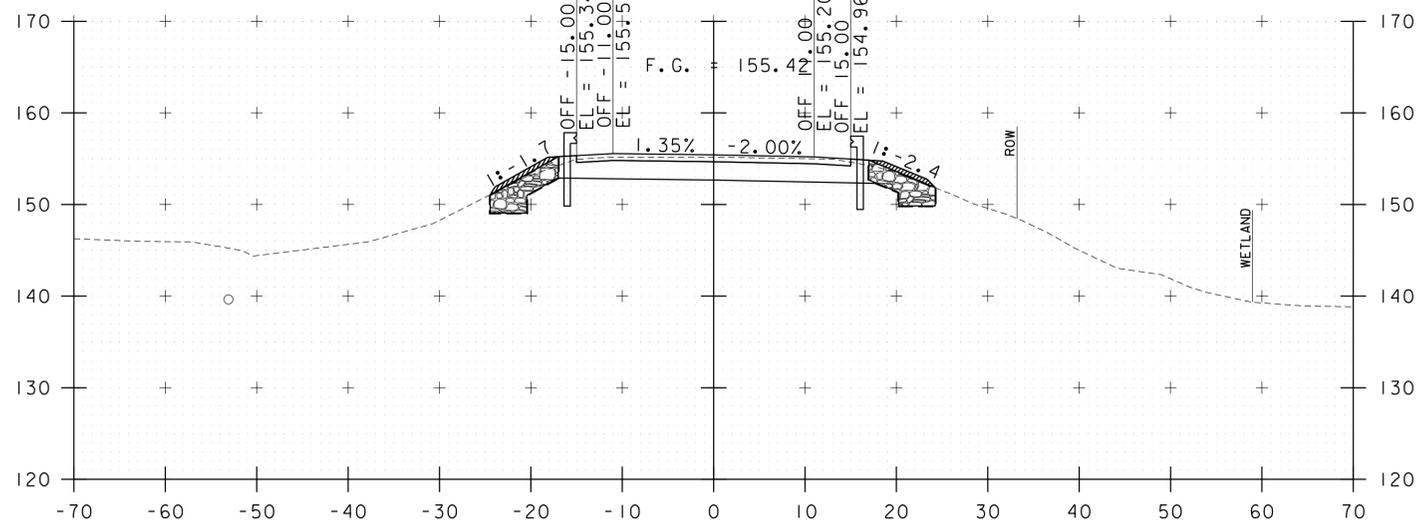
PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264xs_br2.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
ROADWAY CROSS SECTIONS - RXSI - BR2	
PLOT DATE:	5/16/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	20 OF 53



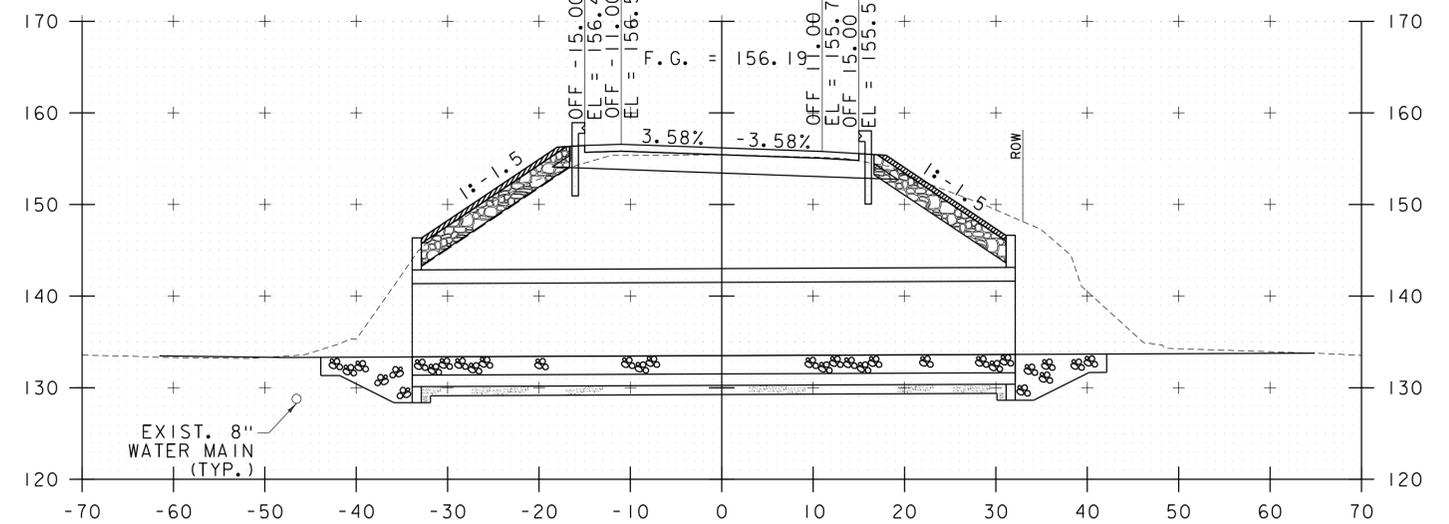
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12+50



13+00  
12+93.82  
END BRIDGE



12+25

12+75

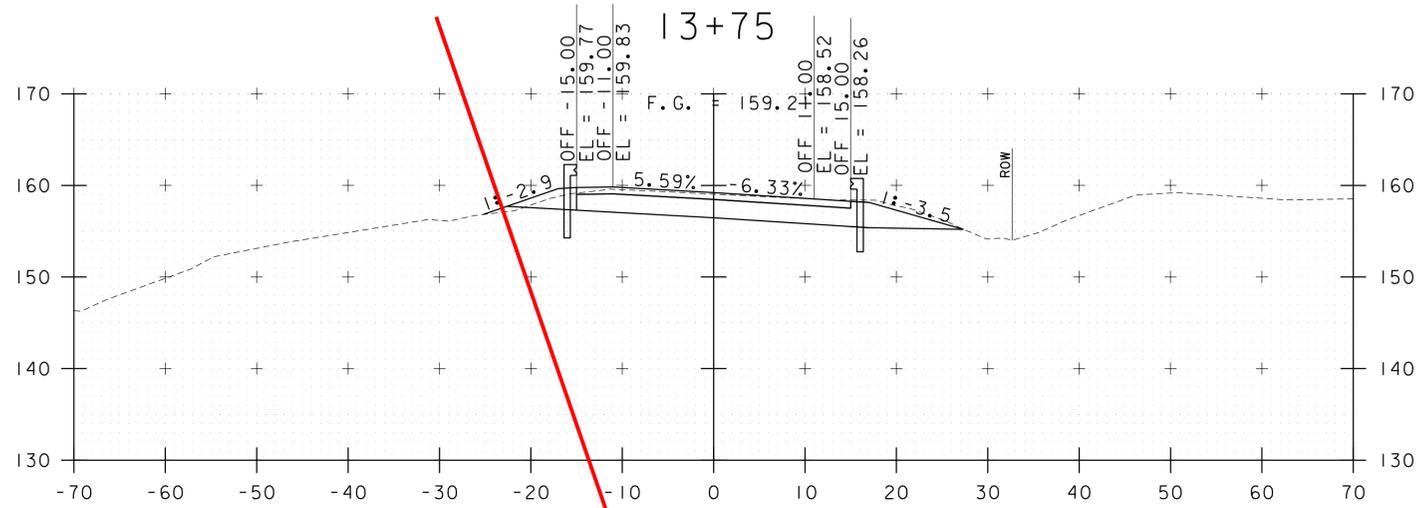
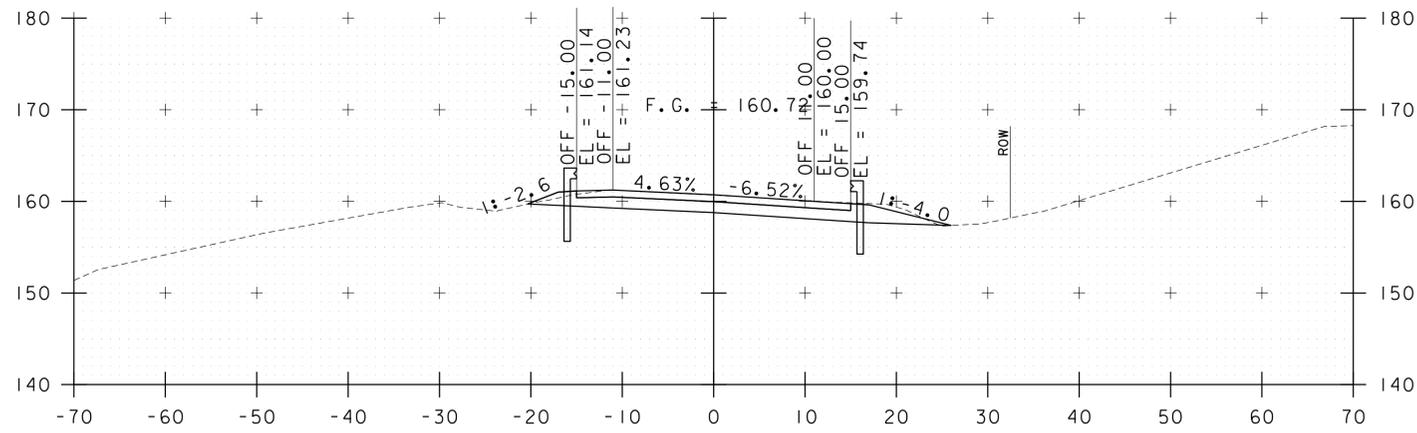
STA. 12+25 TO STA. 13+00

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

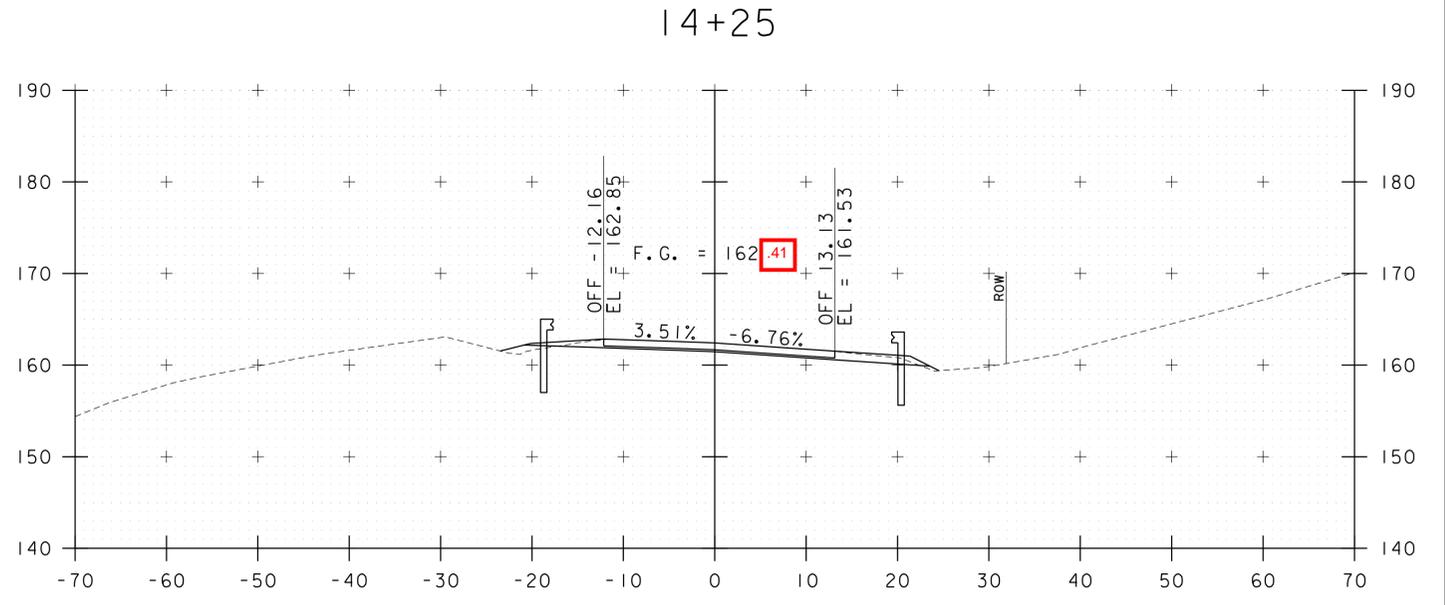
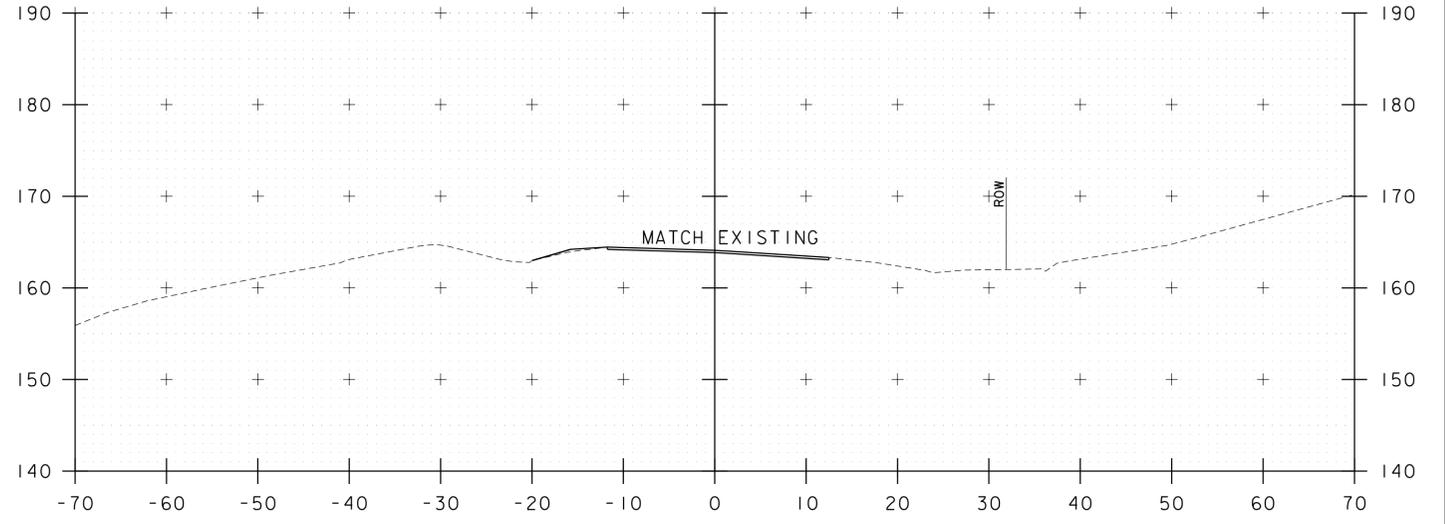
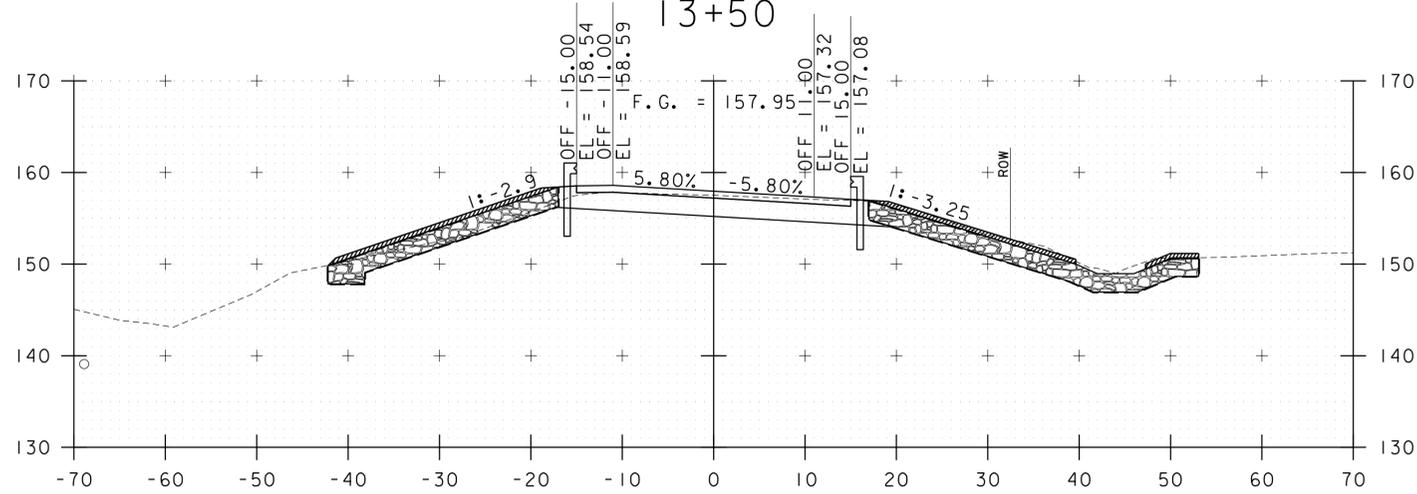
FILE NAME: zllc264xs_br2.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
ROADWAY CROSS SECTIONS - RXS2 - BR2

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 21 OF 53





13+55  
END PROJECT  
13+50

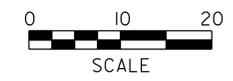


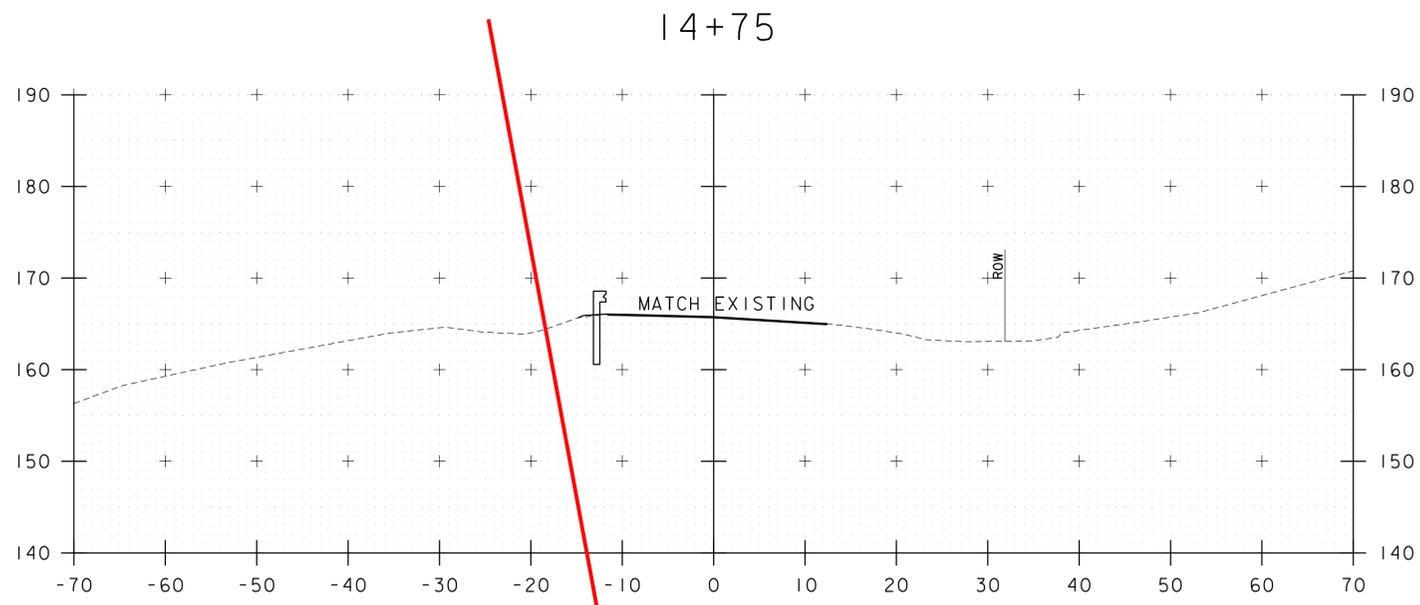
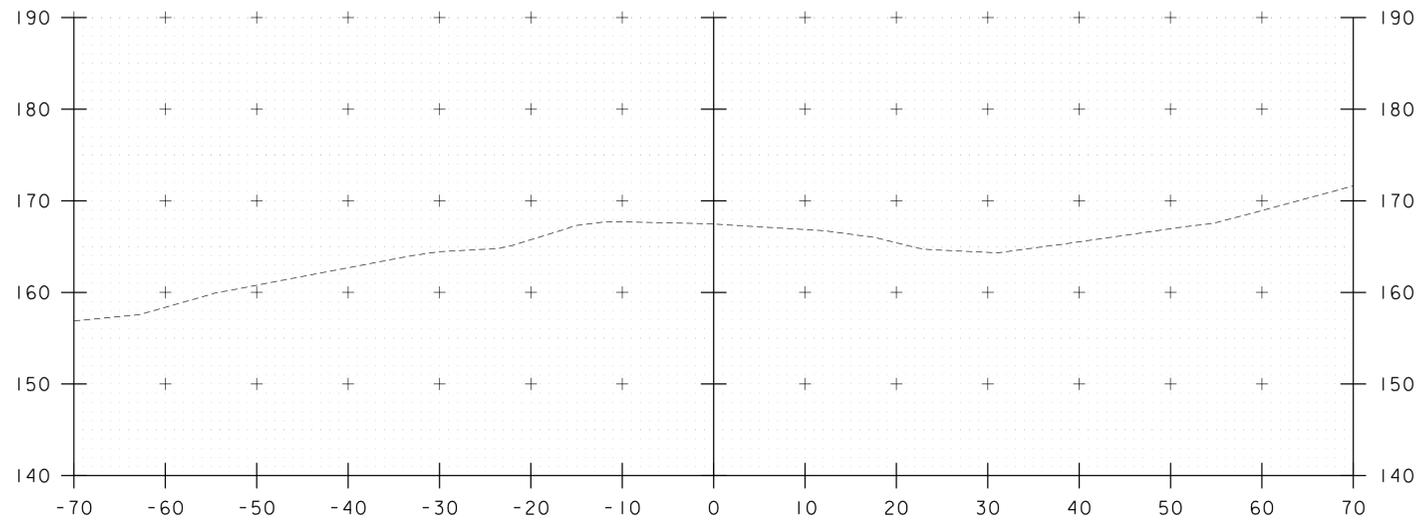
13+25

14+00

STA. 13+25 TO STA. 14+25

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264xs_br2.dgn	PLOT DATE: 5/16/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
ROADWAYCROSS SECTIONS - RXS3 - BR2	SHEET 22 OF 53

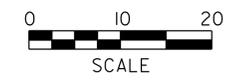


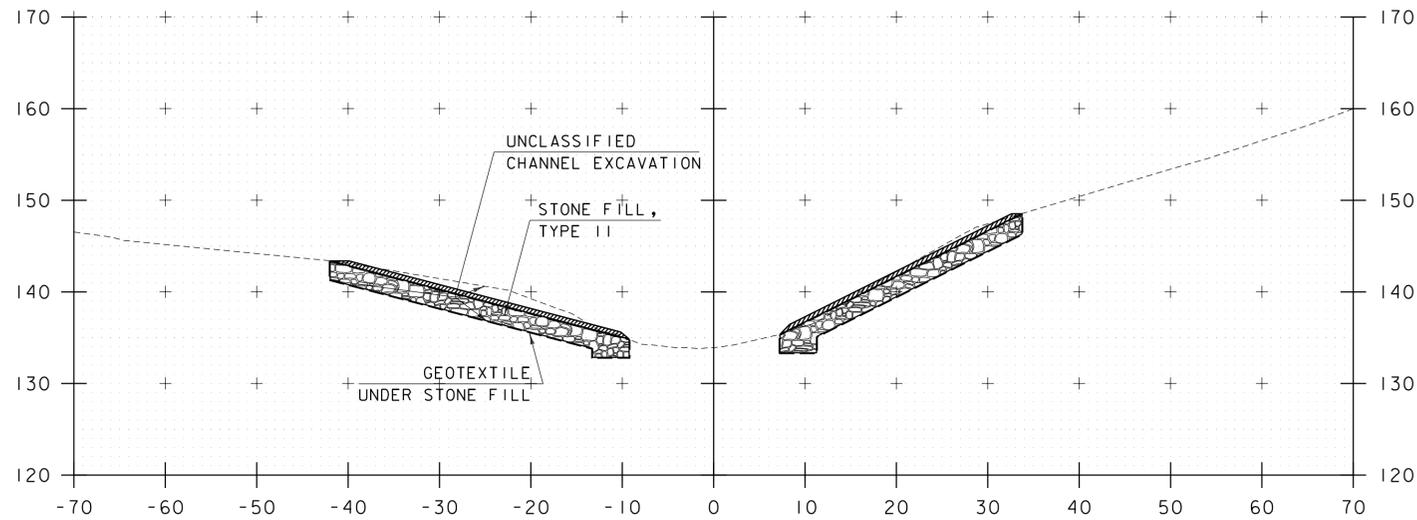


14+55  
END APPROACH  
14+50

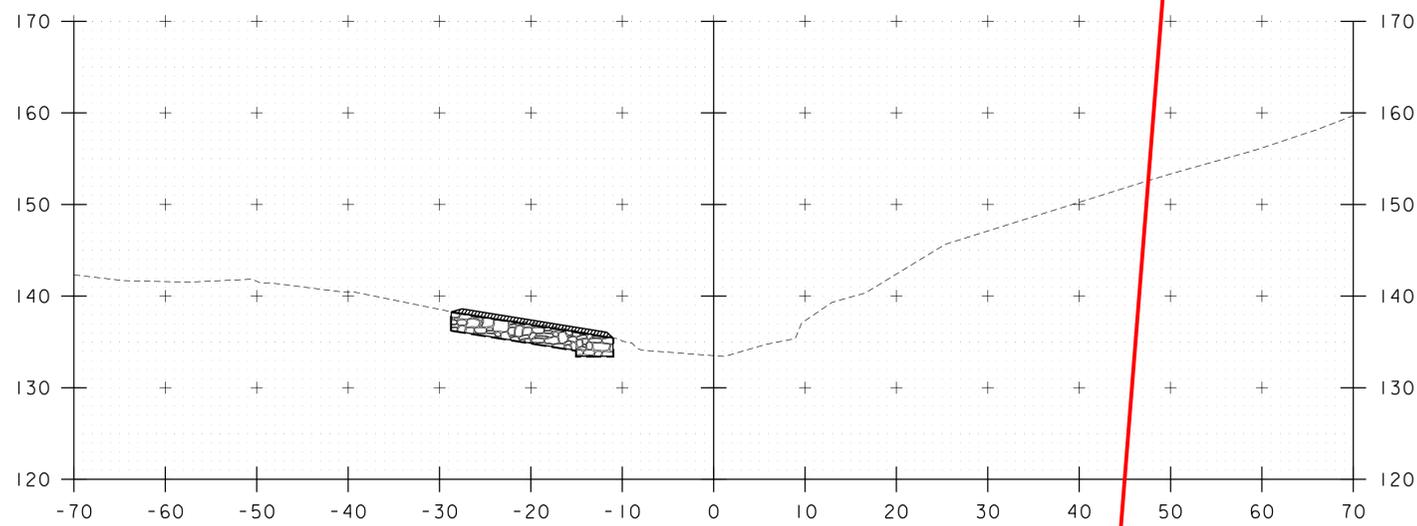
STA. 14+50 TO STA. 14+75

PROJECT NAME: BRIDPORT	PLOT DATE: 5/16/2014
PROJECT NUMBER: STP CULV(29)	DRAWN BY: L. BUXTON
FILE NAME: zllc264xs_br2.dgn	CHECKED BY: M. CHENETTE
PROJECT LEADER: M. CHENETTE	SHEET 23 OF 53
DESIGNED BY: J. HUNGERFORD	
ROADWAY CROSS SECTIONS - Rxs4 - BR2	





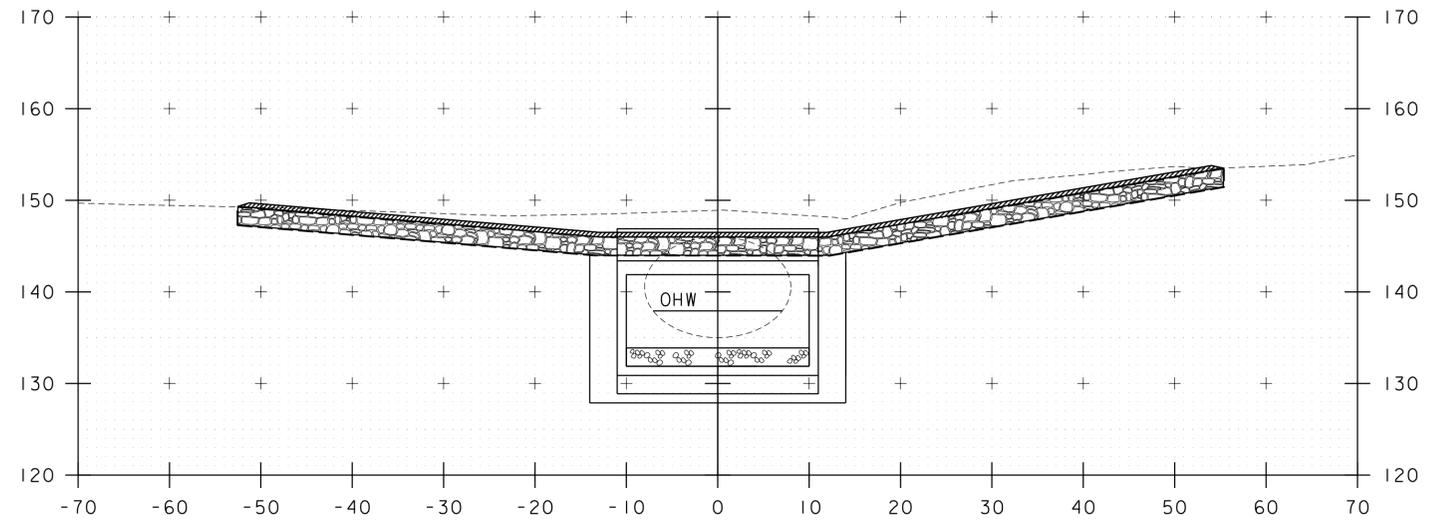
101+10



101+00

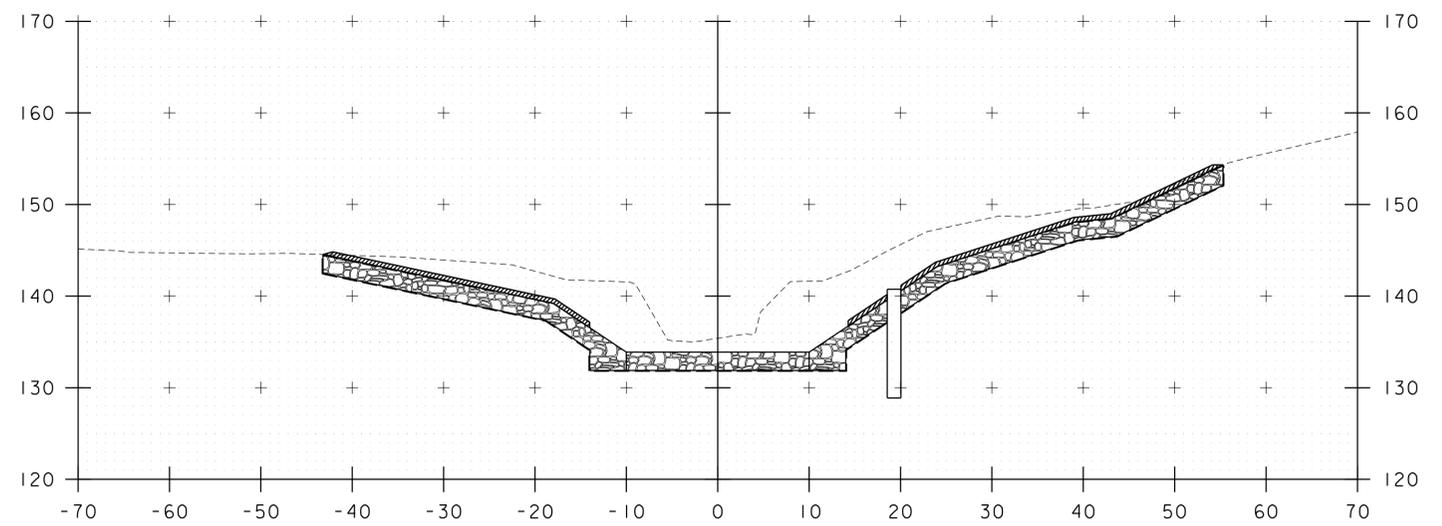
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BEGIN GEOTEXTILE UNDER STONE FILL  
BEGIN STONE FILL, TYPE II  
BEGIN GRUBBING MATERIAL

STA. 101+04 RT  
BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
BEGIN GEOTEXTILE UNDER STONE FILL  
BEGIN STONE FILL, TYPE II  
BEGIN GRUBBING MATERIAL



101+30

STA. 101+30 LT  
END UNCLASSIFIED CHANNEL EXCAVATION  
STA. 101+30 RT  
END UNCLASSIFIED CHANNEL EXCAVATION

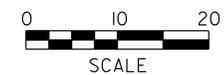


101+20

STA. 101+19 LT  
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STA. 101+19 RT  
BEGIN SPECIAL PROVISION (STONE FILL, CULVERT LINING)

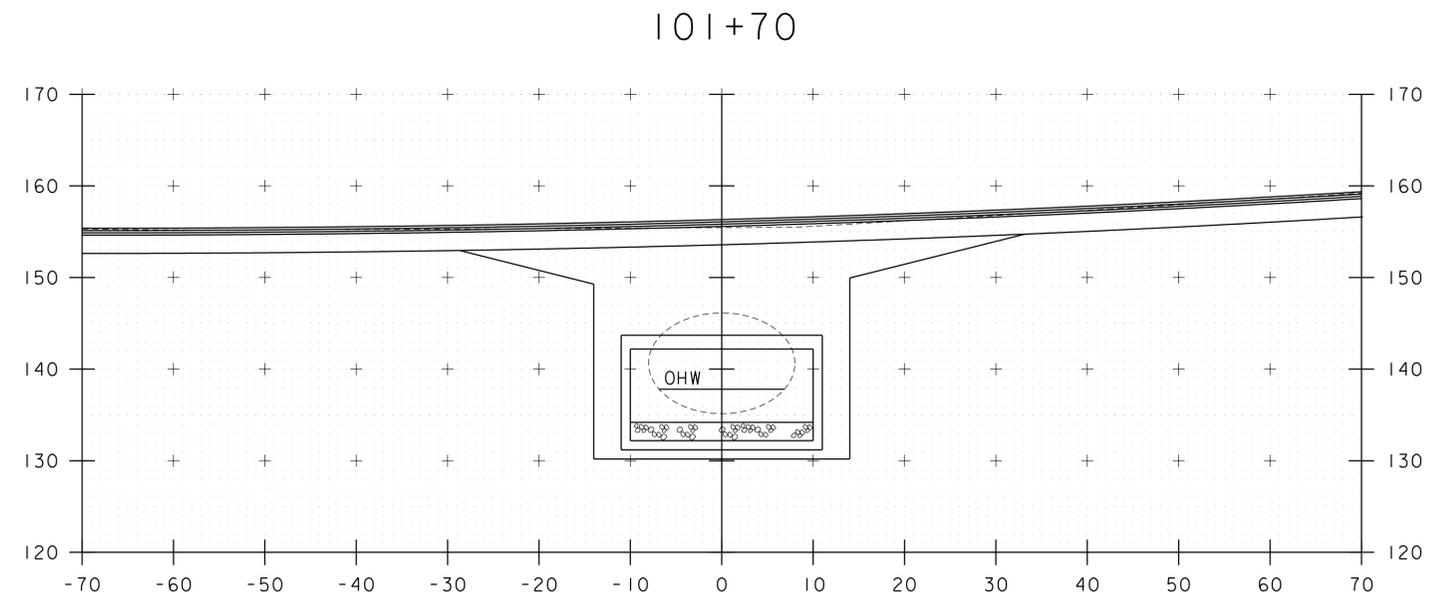
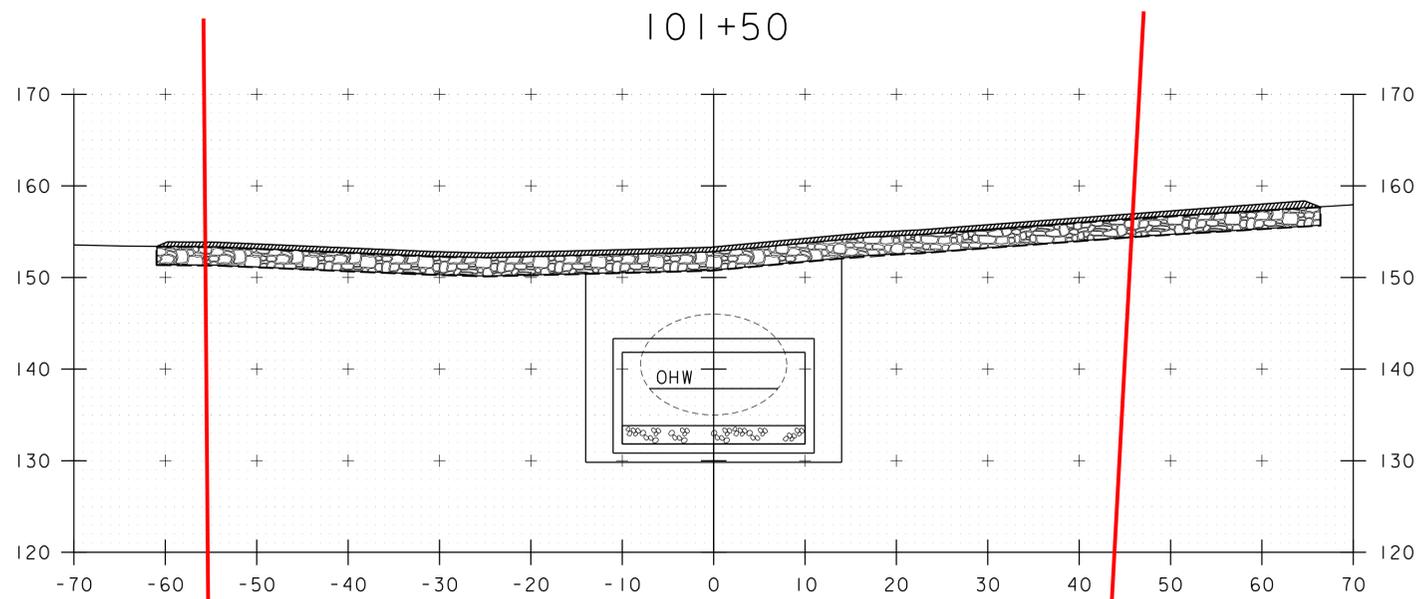
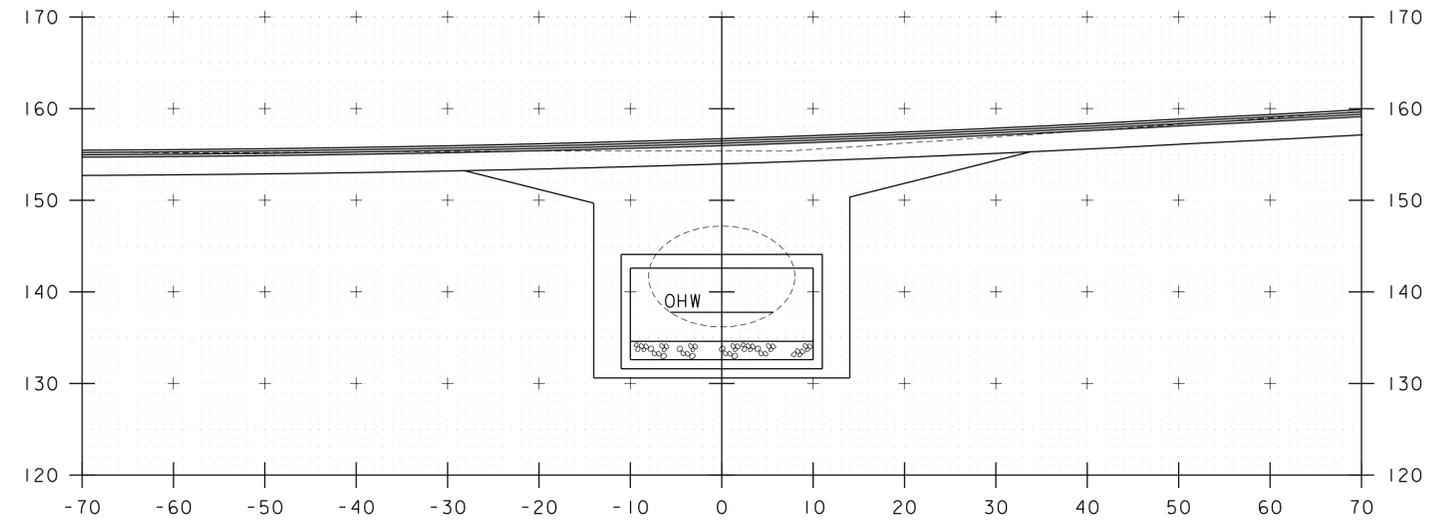
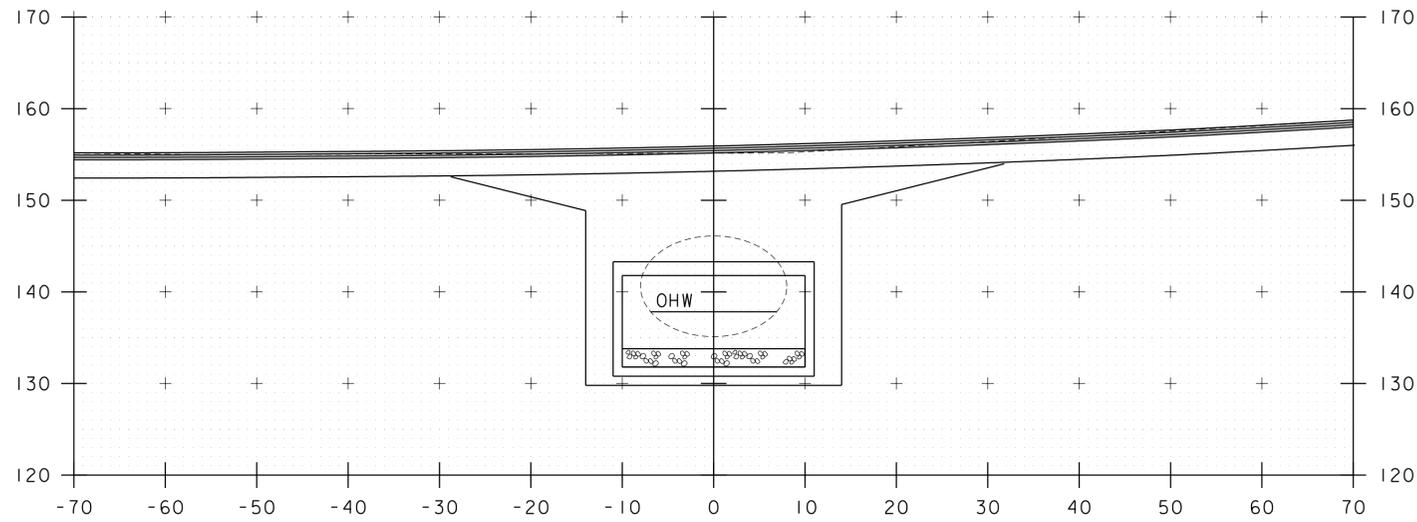
STA. 101+00 TO STA. 101+30



PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264xs_br2.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
CHANNEL CROSS SECTIONS - CXSI - BR2

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 24 OF 53

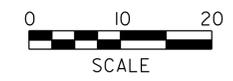


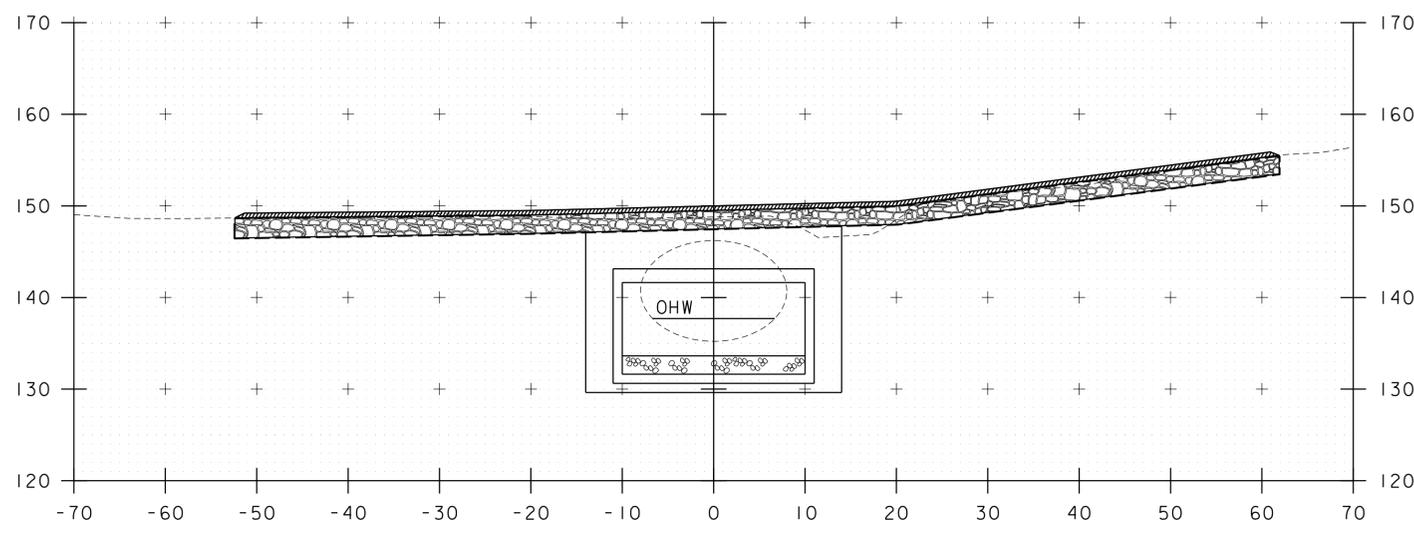
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 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL

STA. 101+45 RT  
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 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL

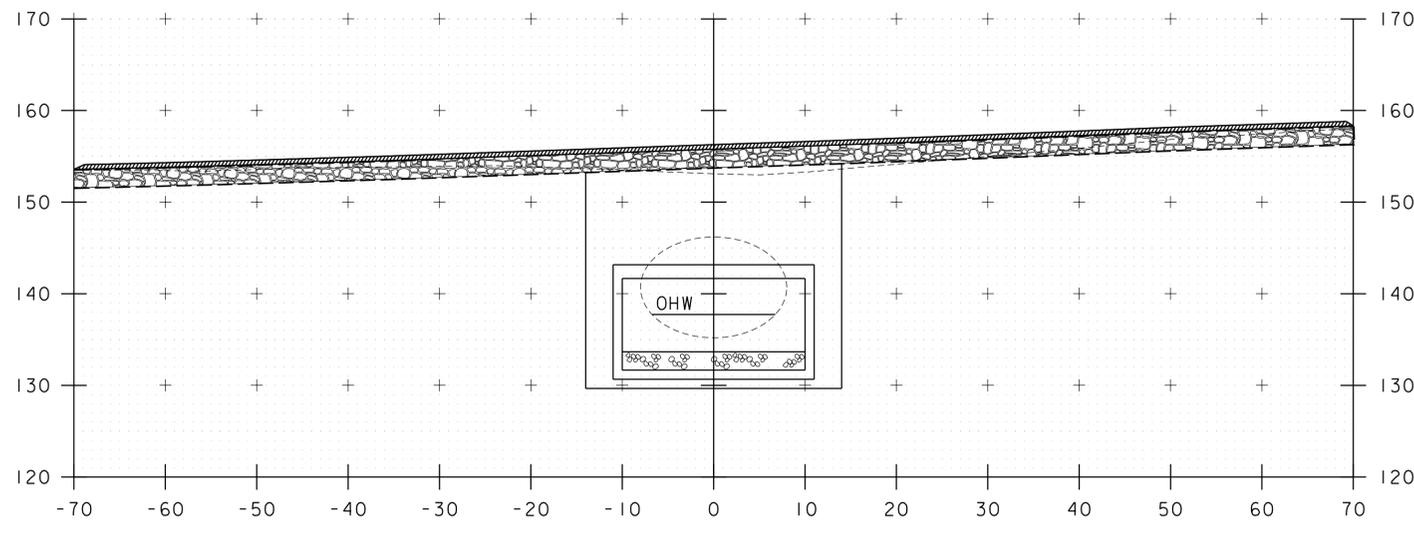
STA. 101+40 TO STA. 101+70

PROJECT NAME: BRIDPORT  
 PROJECT NUMBER: STP CULV(29)  
 FILE NAME: zllc264xs_br2.dgn  
 PROJECT LEADER: M. CHENETTE  
 DESIGNED BY: J. HUNGERFORD  
 CHANNEL CROSS SECTIONS - CXS2 - BR2  
 PLOT DATE: 5/16/2014  
 DRAWN BY: L. BUXTON  
 CHECKED BY: M. CHENETTE  
 SHEET 25 OF 53





101+90



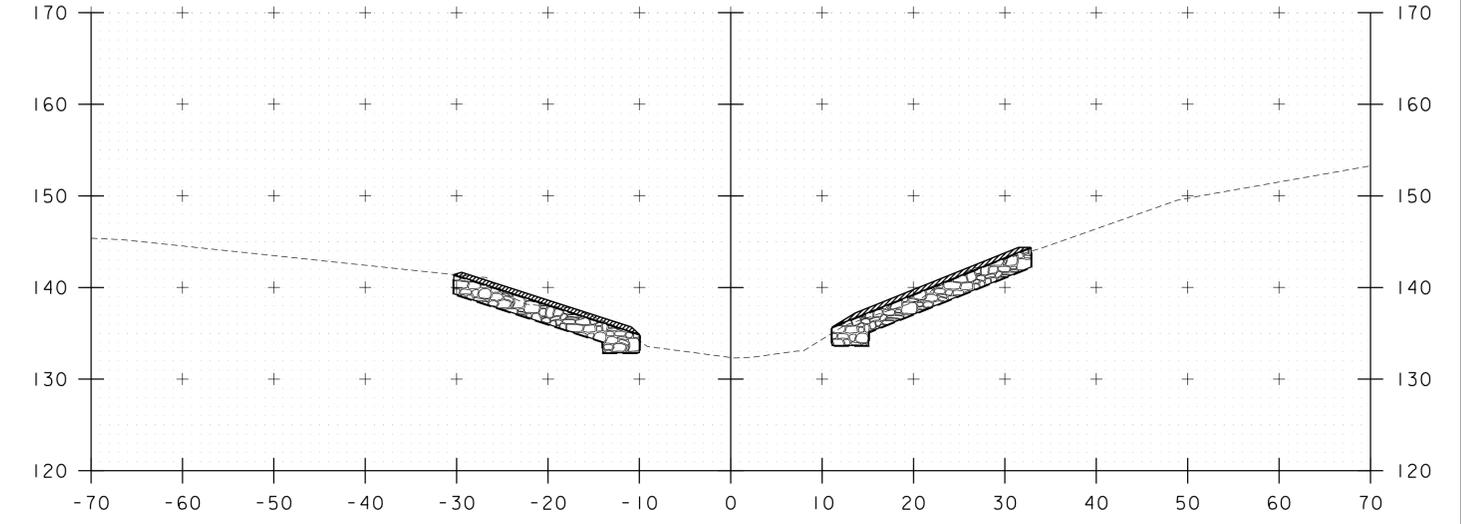
101+80

STA. 101+79 LT  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II  
 BEGIN GRUBBING MATERIAL

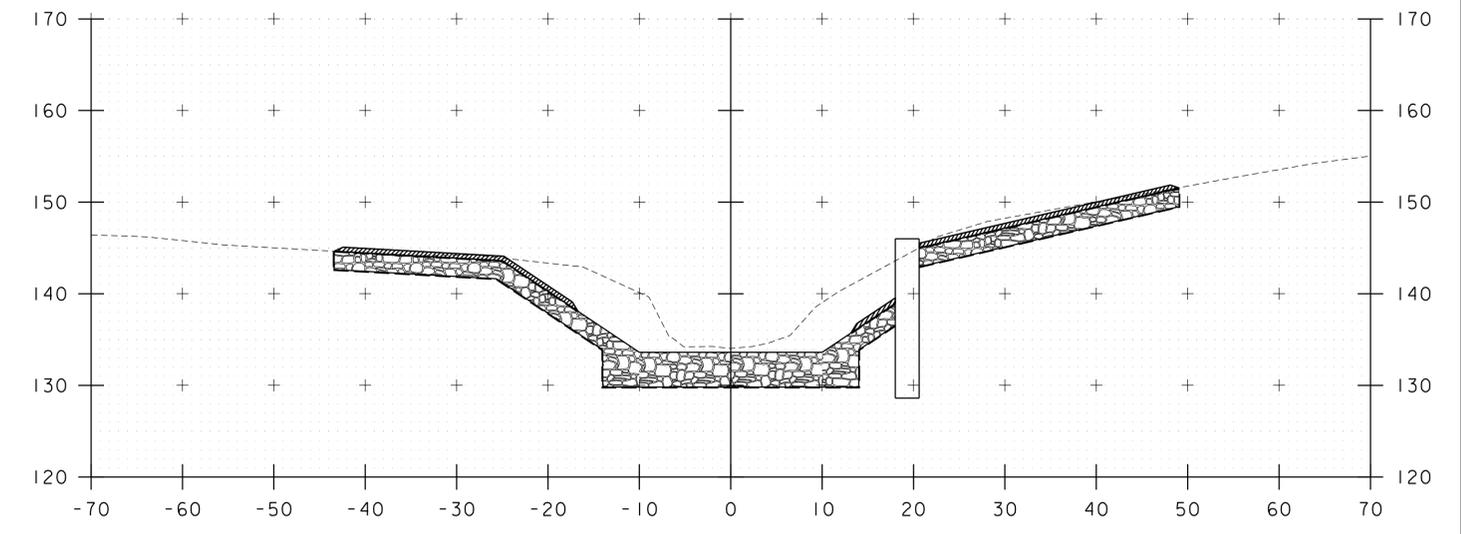
STA. 101+79 RT  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II  
 BEGIN GRUBBING MATERIAL

STA. 102+04 LT  
 END SPECIAL PROVISION (STONE FILL, CULVERT LINING)  
 STA. 102+07 LT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL

STA. 102+04 RT  
 END SPECIAL PROVISION (STONE FILL, CULVERT LINING)  
 STA. 102+18 RT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL



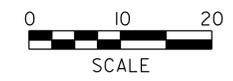
102+10



102+00

STA. 101+96 LT  
 BEGIN UNCLASSIFIED EXCAVATION

STA. 101+96 RT  
 BEGIN UNCLASSIFIED EXCAVATION



PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264xs_br2.dgn	PLOT DATE: 5/16/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
CHANNEL CROSS SECTIONS - CXS3 - BR2	SHEET 26 OF 53

# EPSC PLAN NARRATIVE

## 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE #2, RELATED CHANNEL WORK AND INCIDENTALS. BRIDGE #2 IS AN EXISTING 11'x16' CORRUGATED METAL PLATE PIPE CULVERT, WHICH WILL BE REPLACED WITH A 20' SPAN PRECAST CONCRETE CULVERT TO CONVEY THE WEST BRANCH DEAD CREEK BENEATH VT ROUTE 125. BRIDGE #2 IS LOCATED IN THE TOWN OF BRIDPORT ON VT ROUTE 125, 2.3 MILES WEST OF THE JUNCTION WITH VERMONT ROUTE 22A.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.67 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

## 1.2 SITE INVENTORY

### 1.2.1 TOPOGRAPHY

THE SITE IS MOSTLY LOWLAND AGRICULTURAL LANDS WITH SOME WOODED AREAS. THE STREAM BANKS ARE VEGETATED GRASSY UNDERGROWTH WITH GRASSY VEGETATION. VT ROUTE 125 IS WITHIN THE PROJECT SITE. THERE IS AN ABANDONED BRIDGE NORTH OF THE PROJECT SITE THAT SHOULD NOT BE IMPACTED BY THE PROJECT. THERE ARE OVERHEAD UTILITIES THAT WILL BE RELOCATED PRIOR TO START OF THE PROJECT.

### 1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE WATER SOURCE ON THE PROJECT SITE IS THE WEST BRANCH DEAD CREEK. THE PROJECT IS IN THE OTTER CREEK DRAINAGE BASIN. THE TOTAL CONTRIBUTING DRAINAGE AREA IS 7.06 SQ. MI. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF FROM THE SURROUNDING SLOPES, ROADWAY DITCHES, AND THE ROADWAY OVERTOP THE CULVERT. THERE ARE CLASS II WETLANDS ON THE NORTH AND SOUTH SIDE OF THE PROJECT. SEE THE ATTACHED PROJECT IMPACT PLANS.

### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASSY FARMLAND AND SOFTWOOD FOREST. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS RELATED TO THE EXCAVATION REQUIRED FOR THE INSTALLATION OF THE CULVERT, HEADWALLS, WINGWALLS, STONE FILL, AND TEMPORARY ACCESS. UPON PROJECT COMPLETION, THE CHANNEL AND DISTURBED AREAS WITH SLOPES GREATER THAN 2:1 WILL BE ARMORED WITH STONE FILL TYPE II AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ORLEANS, VERMONT. SOILS ON THE PROJECT SITE ARE VERGENNES CLAY, "K FACTOR" = 0.49. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO K-VALUE.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:

0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

### 1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: YES, FRESHWATER MUSSELS PRESENT, AOP REQUESTED, INDIANA BAT TERRITORY  
HISTORICAL OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: YES, FRESHWATER MUSSELS PRESENT, AOP REQUESTED, INDIANA BAT TERRITORY  
WATER RESOURCE: WEST BRANCH DEAD CREEK  
WETLANDS: YES, THERE ARE WETLANDS AT THE INLET AND OUTLET OF THE STRUCTURE. SEE THE ATTACHED PROJECT IMPACT PLANS.

## 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

This is permitted as a single project with total greater than 1 acre of disturbance (0.67+ 0.43)?

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND SUBMITTING AN EPSC PLAN IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS.

IN ADDITION, THE CONTRACTOR SHALL DESIGN AND IMPLEMENT A TEMPORARY STREAM DIVERSION, INCLUDING EPSC MEASURES IN ACCORDANCE WITH ITEM 900.645, SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM).

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

### 1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

### 1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

### 1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

### 1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS SHOWN ON THE EPSC PLAN.

### 1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT WITH MINIMAL OFF-SITE RUNOFF FLOWING THROUGH THE SITE. THEREFORE DIVERSION MEASURES WILL NOT BE NECESSARY.

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS SHOWN ON THE EPSC PLAN.

### 1.4.7 CONSTRUCT PERMANENT CONTROLS

THERE ARE NO PERMANENT STORMWATER TREATMENT DEVICES TO BE INSTALLED WITH THIS PROJECT.

### 1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

### 1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

### 1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

SEDIMENT CONTAINMENT BAGS (FILTER BAGS) FOR HEADWALL WORK WILL BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER. SEE SHEET 28 FOR DETAIL.

### 1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS.

## 1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

### 1.5.1 CONSTRUCTION SEQUENCE

### 1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

### 1.5.3 UPDATES

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264epsc_nar_br2.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
EPSC NARRATIVE - ECN 1- BR2

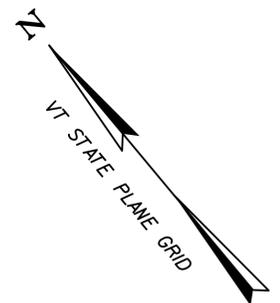
PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 27 OF 53



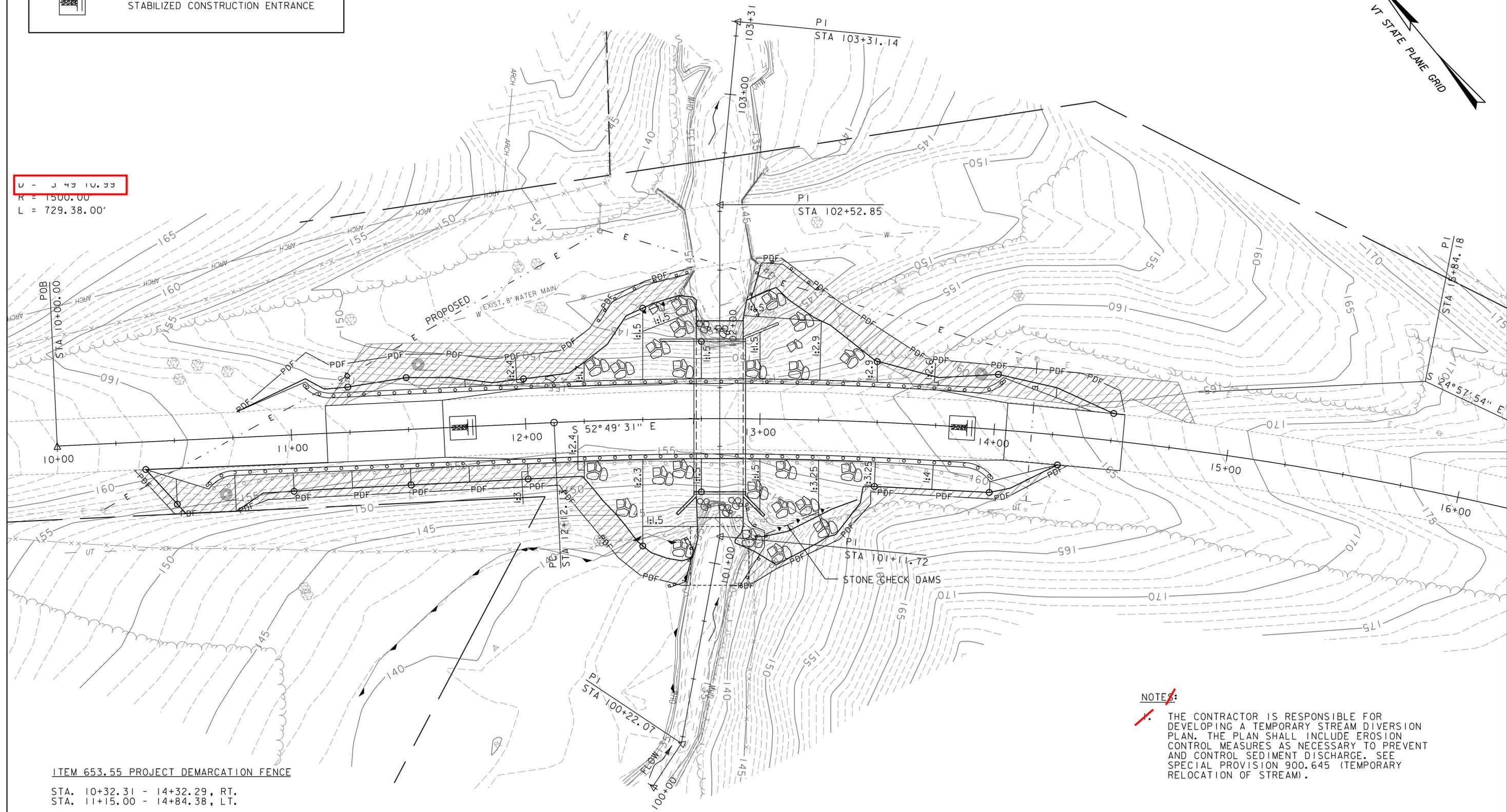
**LEGEND**



STABILIZED CONSTRUCTION ENTRANCE



U - J 43 10.33  
 R = 1500.00'  
 L = 729.38.00'



**NOTE:**  
 THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A TEMPORARY STREAM DIVERSION PLAN. THE PLAN SHALL INCLUDE EROSION CONTROL MEASURES AS NECESSARY TO PREVENT AND CONTROL SEDIMENT DISCHARGE. SEE SPECIAL PROVISION 900.645 (TEMPORARY RELOCATION OF STREAM).

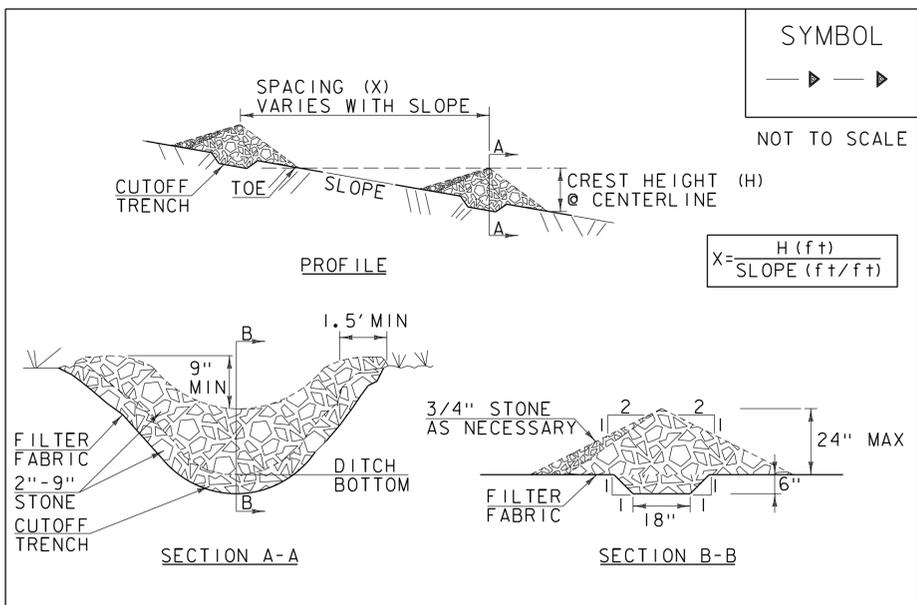
**ITEM 653.55 PROJECT DEMARCATION FENCE**  
 STA. 10+32.31 - 14+32.29, RT.  
 STA. 11+15.00 - 14+84.38, LT.

**ITEM 649.51 GEOTEXTILE FOR SILT FENCE**  
 SEE LOCATIONS, THIS SHEET.



PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264bdr_ero_br2.dgn	CHECKED BY:	M. CHENETTE
PROJECT LEADER:	M. CHENETTE	SHEET	28 OF 53
DESIGNED BY:	J. HUNGERFORD		
EPSC CONST. SITE PLAN - ECP 1 - BR2			





SYMBOL  
  
 NOT TO SCALE

**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' 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.

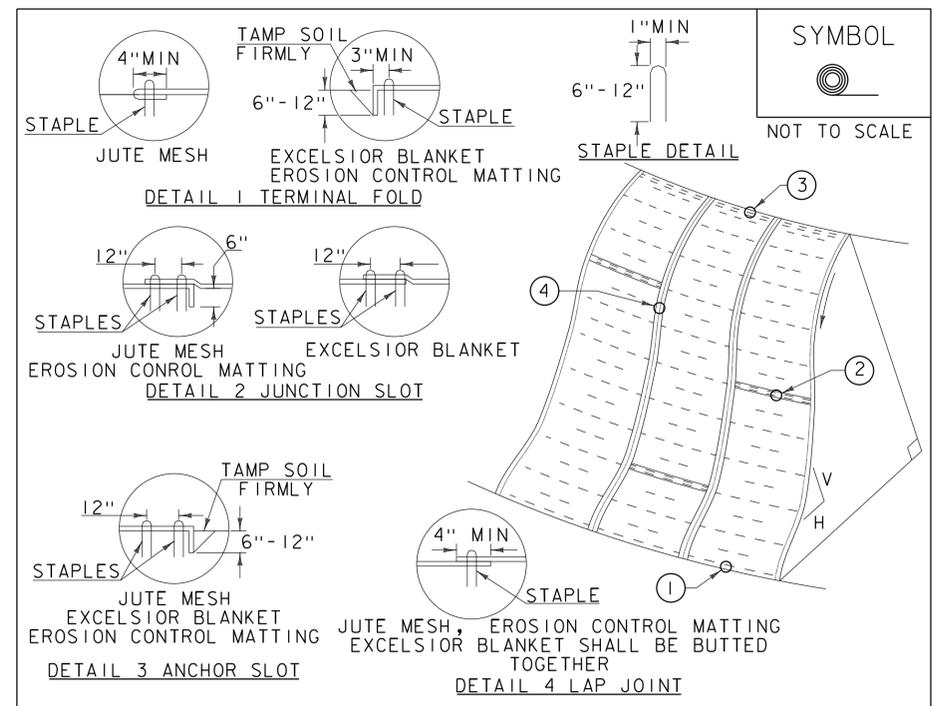
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
 ORIGINALLY DEVELOPED BY USDA-NRCS  
 VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**CHECK DAM**

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF



SYMBOL  
  
 NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

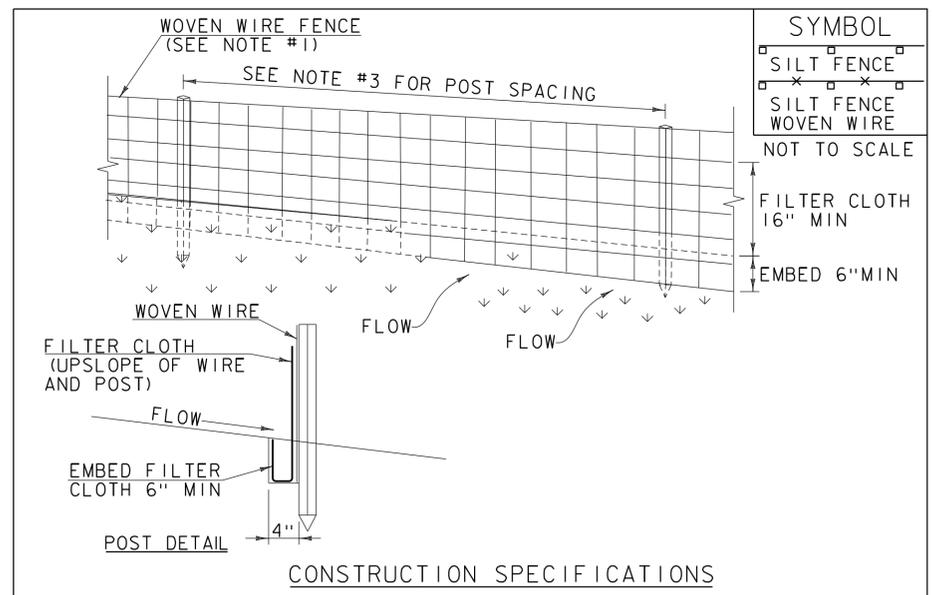
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
 ORIGINALLY DEVELOPED BY USDA-NRCS  
 VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE**

NOTES:  
 REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.  
 THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



SYMBOL  
  
  
 NOT TO SCALE

**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, MIRAF1100X, 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 OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
 ORIGINALLY DEVELOPED BY USDA-NRCS  
 VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**SILT FENCE**

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: BRIDPORT	PLOT DATE: 5/16/2014
PROJECT NUMBER: STP CULV(29)	DRAWN BY: L. BUXTON
FILE NAME: zllc264epsc det_br2.dgn	CHECKED BY: M. CHENETTE
PROJECT LEADER: M. CHENETTE	DESIGNED BY: J. HUNGERFORD
EROSION CONTROL DETAILS - ECD 1 - BR2	SHEET 29 OF 53



VAOT RURAL AREA MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
37.5%	22.5	45	CREeping RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
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

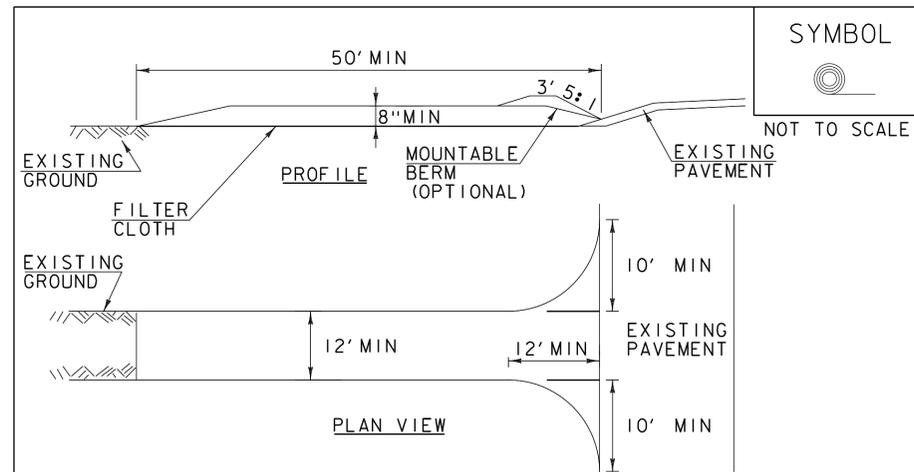
**CONSTRUCTION GUIDANCE**

- RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
- ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
- 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.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
- 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	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



**CONSTRUCTION SPECIFICATIONS**

- STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
- THICKNESS- NOT LESS THAN 8".
- WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
- GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
- 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.
- 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.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

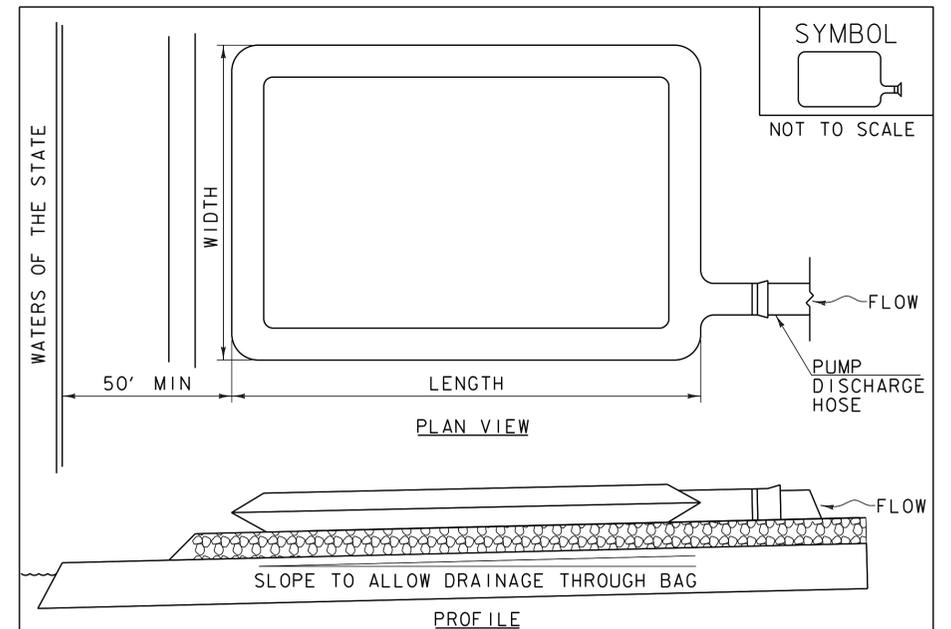
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ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**STABILIZED CONSTRUCTION ENTRANCE**

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



**CONSTRUCTION SPECIFICATIONS**

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

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

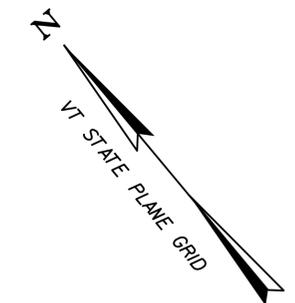
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264epsc det_br2.dgn PLOT DATE: 5/16/2014  
PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON  
DESIGNED BY: J. HUNGERFORD CHECKED BY: M. CHENETTE  
EROSION CONTROL DETAILS - ECD 2 - BR2 SHEET 30 OF 53



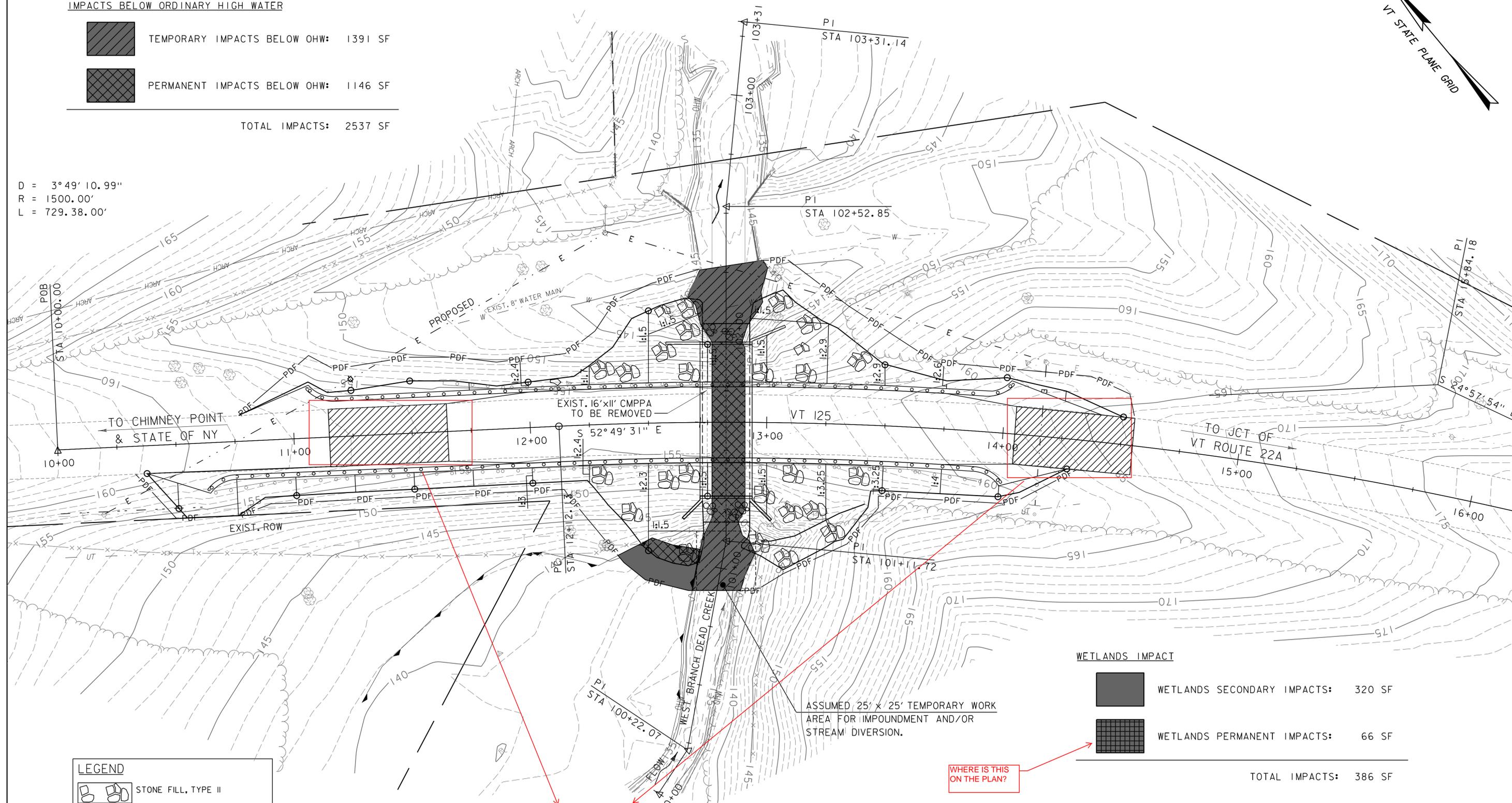


IMPACTS BELOW ORDINARY HIGH WATER

- TEMPORARY IMPACTS BELOW OHW: 1391 SF
- PERMANENT IMPACTS BELOW OHW: 1146 SF

TOTAL IMPACTS: 2537 SF

D = 3° 49' 10.99"  
 R = 1500.00'  
 L = 729.38.00'



**LEGEND**

- STONE FILL, TYPE II
- SPECIAL PROVISION (STONE FILL, CULVERT LINING)

LABEL COLD PLANING



WHERE IS THIS ON THE PLAN?

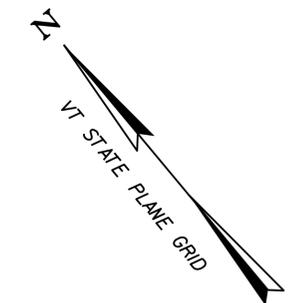
**WETLANDS IMPACT**

- WETLANDS SECONDARY IMPACTS: 320 SF
- WETLANDS PERMANENT IMPACTS: 66 SF

TOTAL IMPACTS: 386 SF

PROJECT NAME: BRIDPORT  
 PROJECT NUMBER: STP CULV(29)  
 FILE NAME: zllc264bdr_impacts_br2.l.dgn PLOT DATE: 5/16/2014  
 PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON  
 DESIGNED BY: J. HUNGERFORD CHECKED BY: M. CHENETTE  
 PROJECT IMPACTS PLAN I - BR2 SHEET 31 OF 53

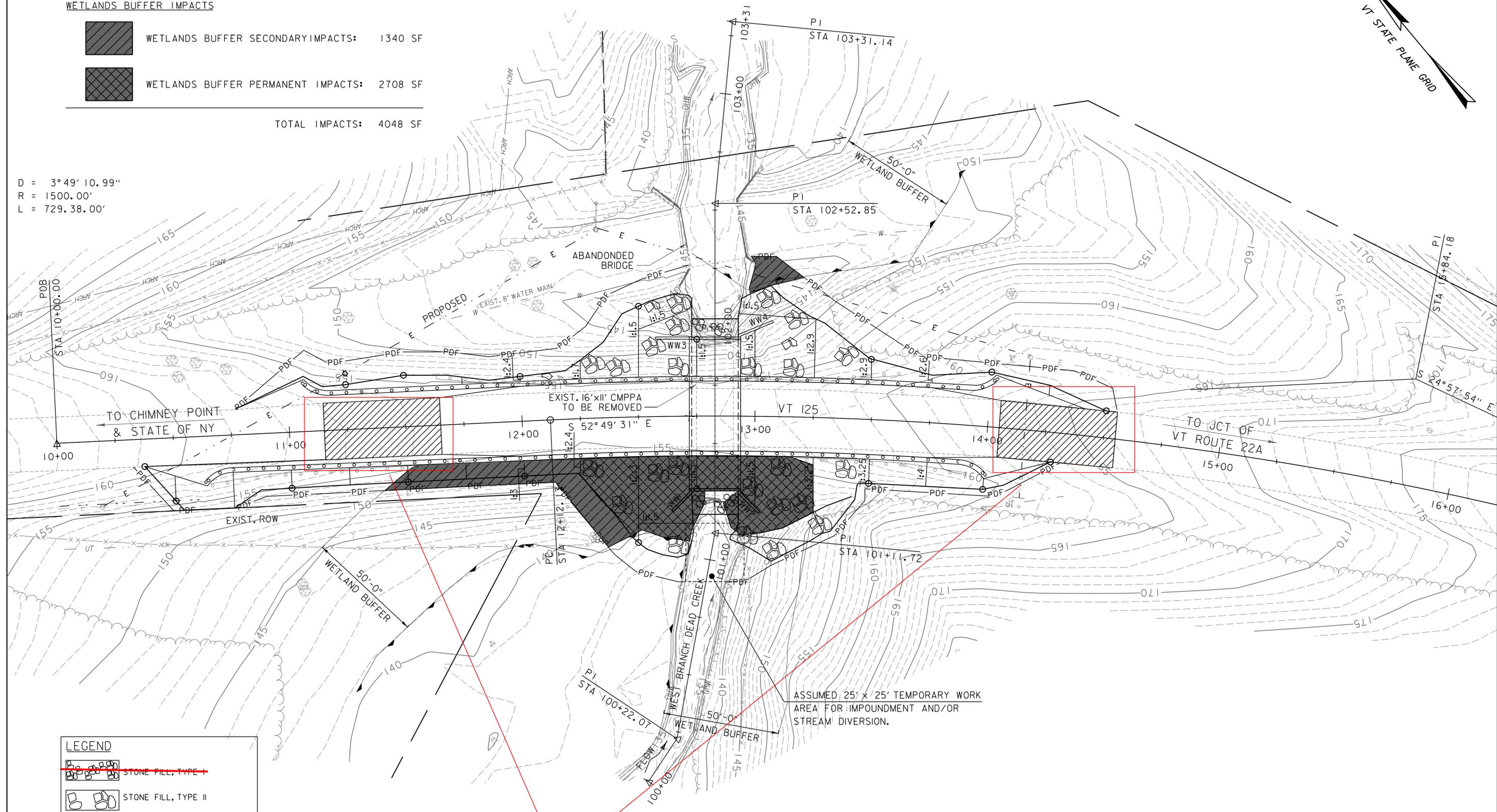




**WETLANDS BUFFER IMPACTS**

	WETLANDS BUFFER SECONDARY IMPACTS:	1340 SF
	WETLANDS BUFFER PERMANENT IMPACTS:	2708 SF
<b>TOTAL IMPACTS:</b>		<b>4048 SF</b>

D = 3° 49' 10.99"  
 R = 1500.00'  
 L = 729.38.00'



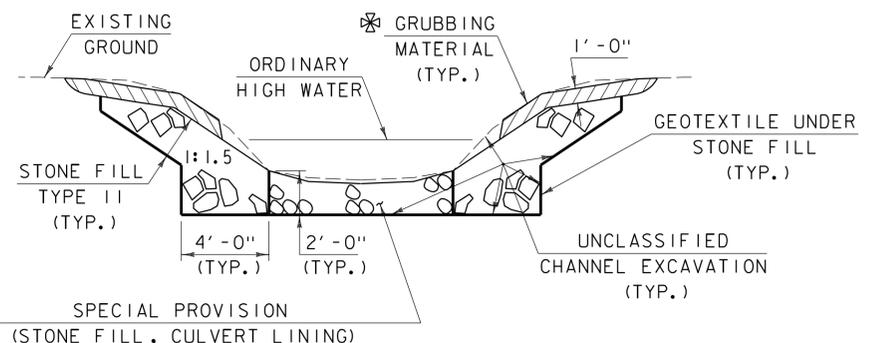
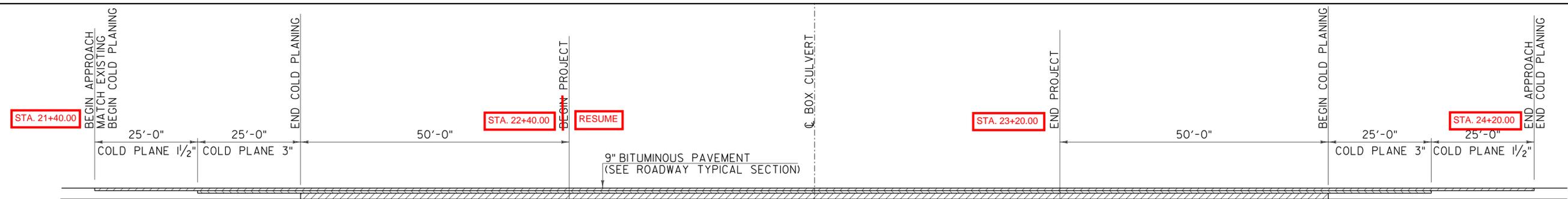
LEGEND	
	STONE FILL, TYPE I
	STONE FILL, TYPE II
	SPECIAL PROVISION (STONE FILL, CULVERT LINING)

LABEL COLD PLANING



PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264bdr_impacts_br2.2.dgn	CHECKED BY:	M. CHENETTE
PROJECT LEADER:	M. CHENETTE	SHEET	32 OF 53
DESIGNED BY:	J. HUNGERFORD		
PROJECT IMPACTS PLAN 2 - BR2			

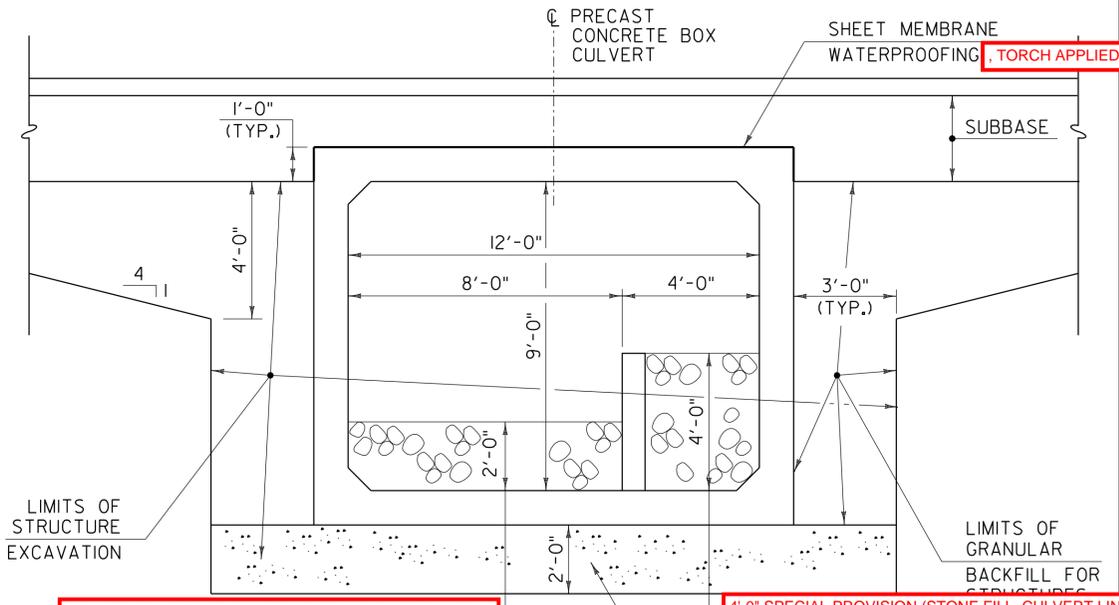




CHANNEL TYPICAL SECTION  
NOT TO SCALE

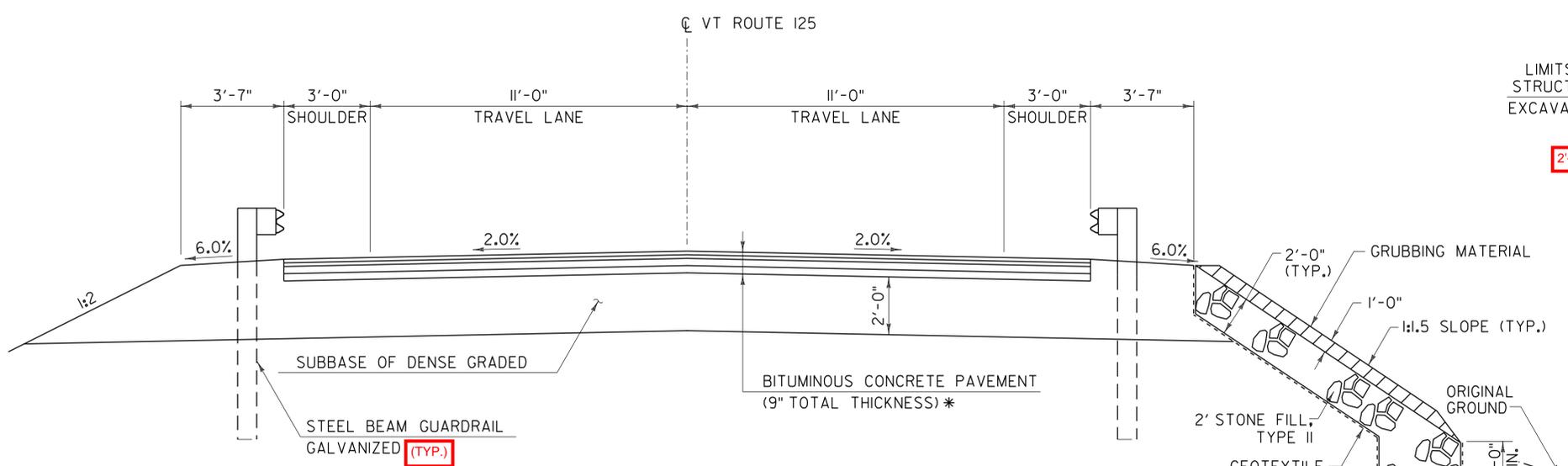
⊗ WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

TYPICAL APPROACH SECTION - BR5  
NOT TO SCALE



PRECAST CONCRETE BOX TYPICAL SECTION - BR5

SCALE 3/8" = 1'-0"



BR5 TYPICAL ROADWAY SECTION

SCALE 3/8" = 1'-0"

* BITUMINOUS CONCRETE PAVEMENT:  
1/2" TYPE IVS OVER  
1/2" TYPE IVS OVER  
3" TYPE IIS OVER  
3" TYPE IIS

MATERIAL TOLERANCES  
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COARSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"



PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264+ypsec.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
TYPICAL SECTIONS - BR5	
PLOT DATE:	5/16/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	33 OF 53

GPS CONTROL POINTS

HVCTRL #1

LEMON FAIR  
 NORTH = 542755.824  
 EAST = 1442527.781  
 ELEV. = 207.150

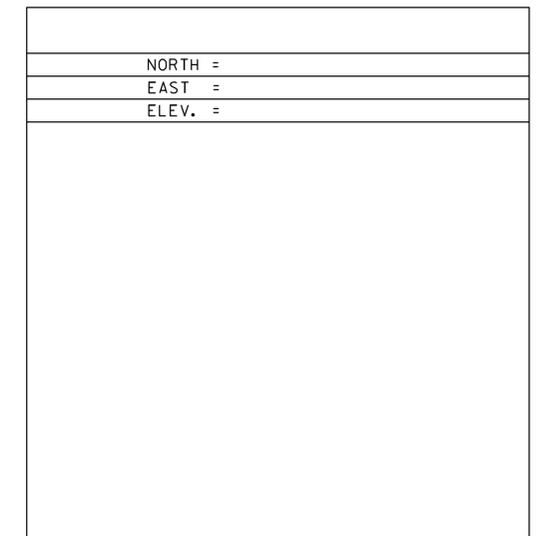
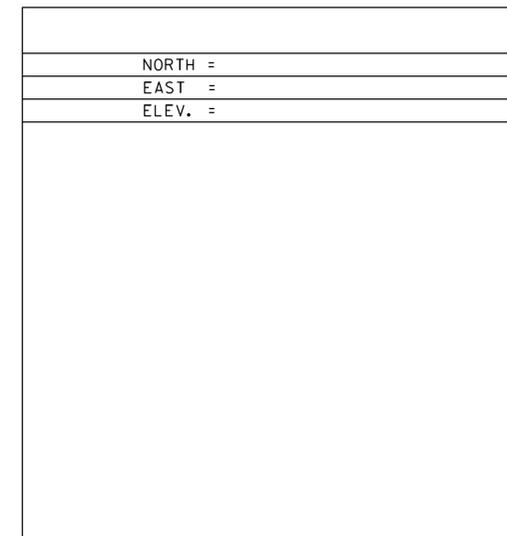
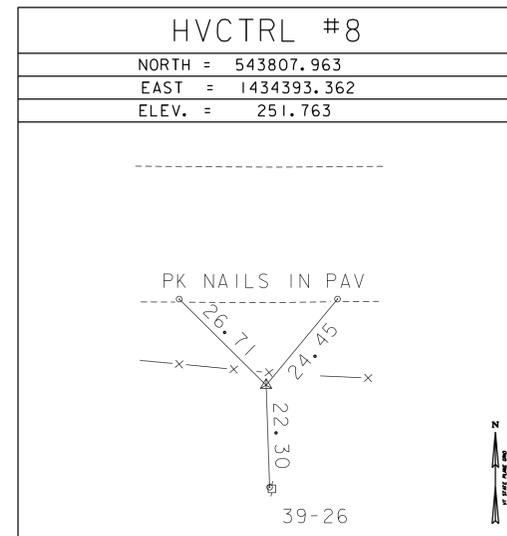
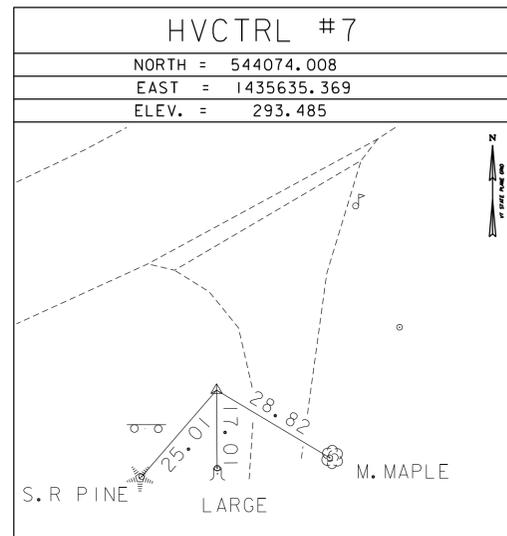
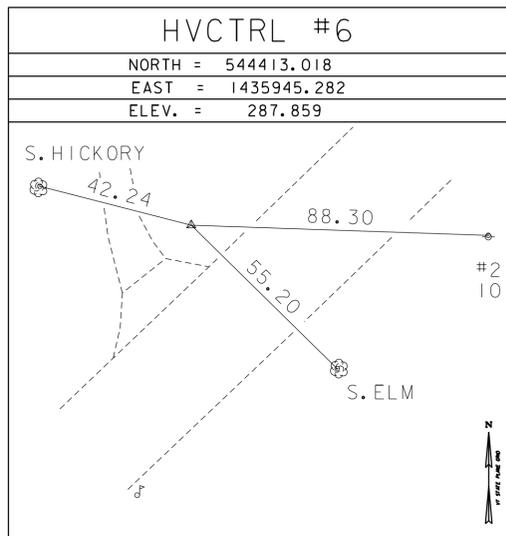
HVCTRL #2

LEMON FAIR AZ MK  
 NORTH = 546363.025  
 EAST = 1440861.554  
 ELEV. = 196.000

GENERAL LOCATION, 5 MI (8.0 KM) WEST OF MIDDLEBURY.  
 TO REACH FROM THE JUNCTION OF VT ROUTE 30 AND VT ROUTE 125 IN MIDDLEBURY, PROCEED WEST ON ROUTE 125 FOR 4.7 MI (7.6 KM) TO A SIDE ROAD LEFT CALLED WEST ST. PROCEED SOUTH ON WEST ST FOR 0.3 MI (0.5 KM) TO A GRAVEL DRIVE AND THE MARK ON THE LEFT AND EAST. THE MARK IS LOCATED 25 FT (7.6 M) EAST OF THE CENTERLINE OF THE ROAD, 18 FT (5.5 M) NORTH OF THE CENTERLINE OF THE GRAVEL DRIVE 4 FT (1.2 M) WEST OF A FENCE CORNER, AND 2 FT (0.6 M) WEST OF A FIBERGLASS WITNESS POST.

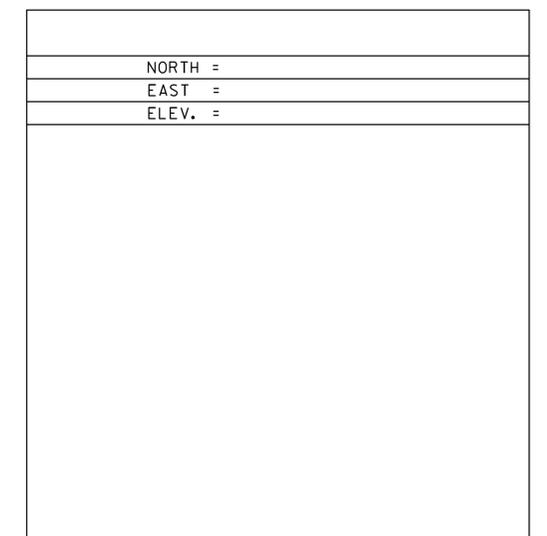
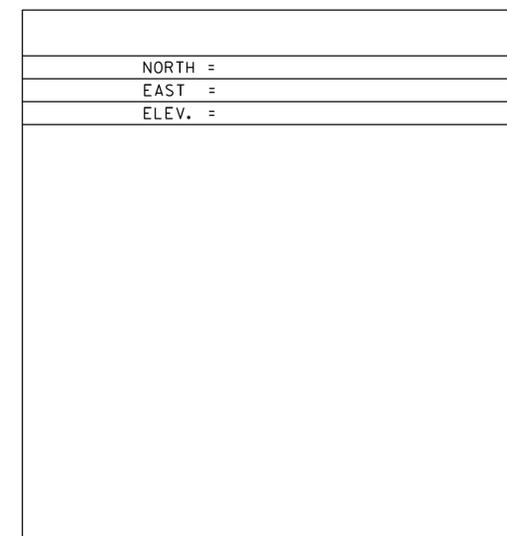
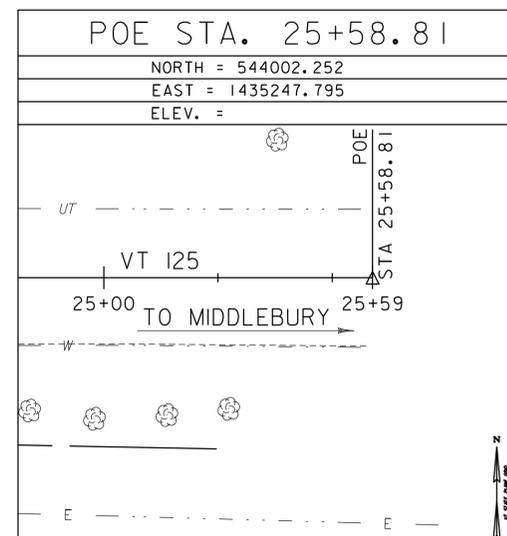
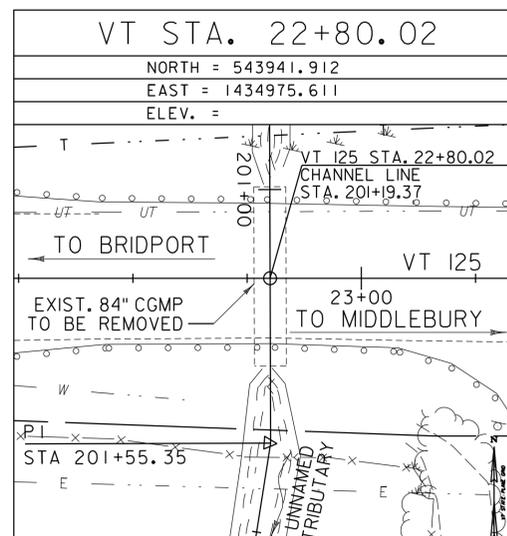
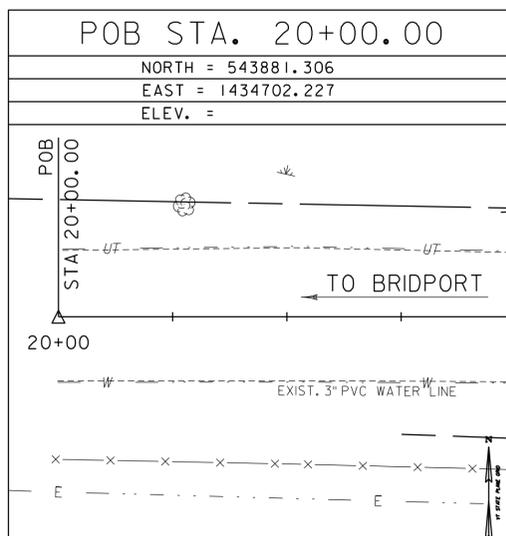
GENERAL LOCATION, 5 MI (8.0 KM) WEST OF MIDDLEBURY.  
 TO REACH, FROM THE JUNCTION OF VT ROUTE 30 AND VT ROUTE 125 IN MIDDLEBURY, PROCEED WEST ON ROUTE 125 FOR 5.3 MI (8.5 KM) TO THE MARK ON THE LEFT. THE MARK IS LOCATED 315 FT (96.0 M) WEST OF THE CORNWALL/BRIDPORT TOWN LINE, 96.1 FT (29.3 M) SOUTHEAST OF UTILITY POLE NUMBER 49, 25.6 FT (7.8 M) SOUTH OF THE CENTERLINE OF ROUTE 125, AND 1 FT (0.3 M)

TRAVERSE TIES



*MAIN TRAVERSE COMPLETED 1/23/2012 BY L. ORVIS P.C & G. HITCHCOCK

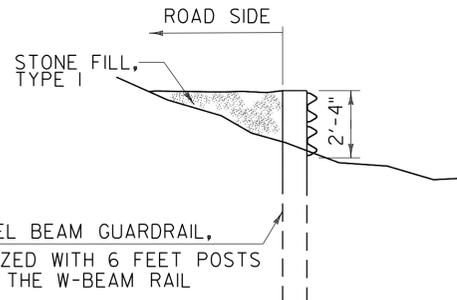
ALIGNMENT TIES



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(92)
ADJUSTMENT	COMPASS



PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264tie_br5.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
SURVEY CONTROL AND TIES - BR5	
PLOT DATE:	5/16/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	34 OF 53



**SPECIAL PROVISION (WILDLIFE GUIDE FENCE) DETAIL**  
NOT TO SCALE

**SPECIAL PROVISION**  
BEGIN STONE FILL, CULVERT LINING  
STA. 200+88.00

WPI  
N 543962.40'  
E 1434970.99'

VT I25 STA. 22+80.02 =  
CHANNEL LINE STA. 20+19.37

BEGIN BRIDGE  
STA. 22+71.02

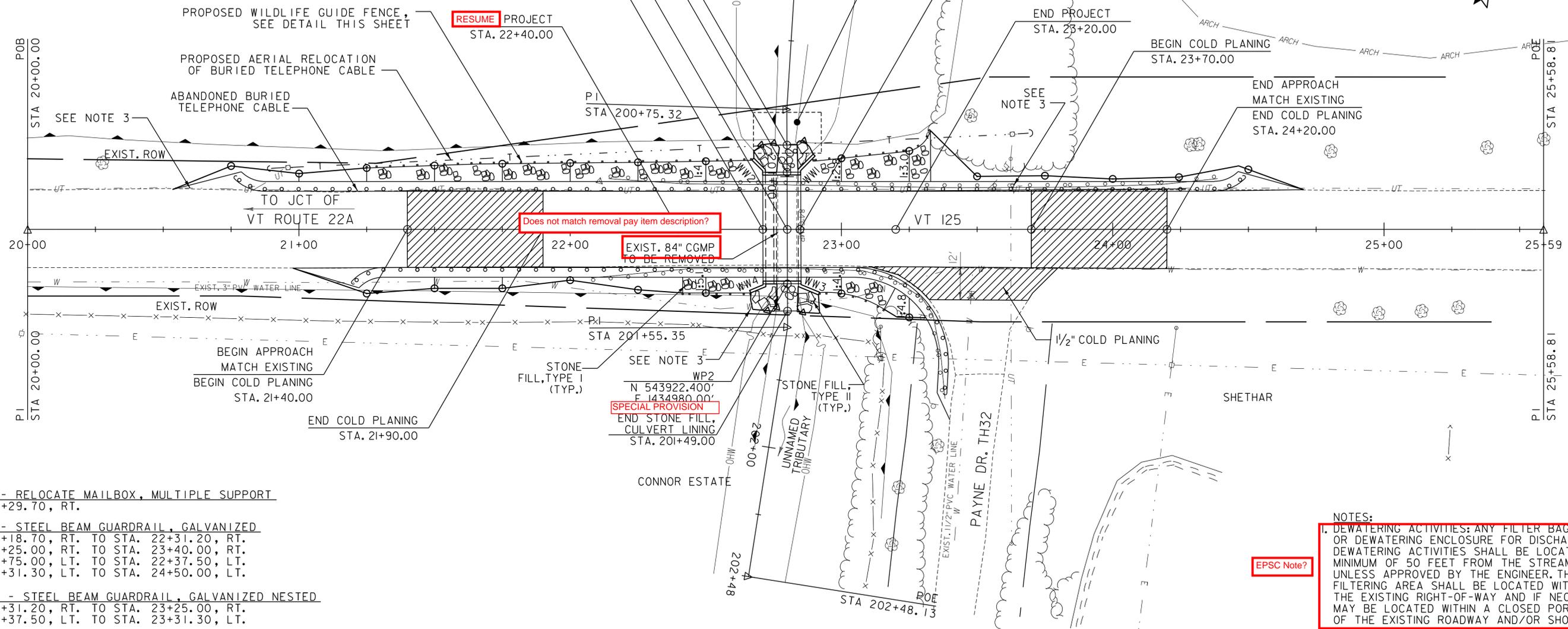
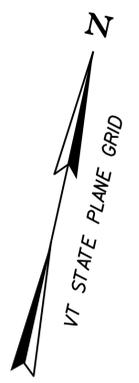
**RESUME** PROJECT  
STA. 22+40.00

PI  
STA 200+75.32

Does not match removal pay item description?  
EXIST. 84" CGMP  
TO BE REMOVED

WP2  
N 543922.400'  
E 1434980.00'  
**SPECIAL PROVISION**  
END STONE FILL, CULVERT LINING  
STA. 201+49.00

ASSUMED 25' x 15' TEMPORARY WORK  
AREA FOR IMPOUNDMENT AND/OR  
STREAM DIVERSION.



617.12 - RELOCATE MAILBOX, MULTIPLE SUPPORT  
STA. 23+29.70, RT.

621.20 - STEEL BEAM GUARDRAIL, GALVANIZED  
STA. 21+18.70, RT. TO STA. 22+31.20, RT.  
STA. 23+25.00, RT. TO STA. 23+40.00, RT.  
STA. 20+75.00, LT. TO STA. 22+37.50, LT.  
STA. 23+31.30, LT. TO STA. 24+50.00, LT.

621.206 - STEEL BEAM GUARDRAIL, GALVANIZED NESTED  
STA. 22+31.20, RT. TO STA. 23+25.00, RT.  
STA. 22+37.50, LT. TO STA. 23+31.30, LT.

621.60 - ANCHOR FOR STEEL BEAM GUARDRAIL  
STA. 21+18.70, RT.  
STA. 20+75.00, LT.  
STA. 23+40.00, RT.  
STA. 24+50.00, LT.

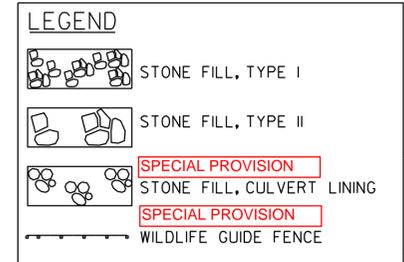
621.80 - REMOVAL AND DISPOSAL OF GUARDRAIL  
STA. 22+07.79, RT. TO STA. 23+38.17, RT.  
STA. 22+14.18, LT. TO STA. 24+38.64, LT.

646.400 - DURABLE 4 INCH WHITE LINE  
STA. 21+40.00, RT. TO STA. 24+20.00, RT.  
STA. 21+40.00, LT. TO STA. 24+20.00, LT.

646.410 - DURABLE 4 INCH YELLOW LINE  
STA. 21+40.00, CL. TO STA. 24+20.00, CL. (DYEL)

900.640 - SPECIAL PROVISION (WILDLIFE GUIDE FENCE)  
STA. 22+41.50, RT. TO STA. 22+66.50, RT.  
STA. 22+92.00, RT. TO STA. 23+17.00, RT.  
STA. 21+25.00, LT. TO STA. 22+62.50, LT.  
STA. 22+90.00, LT. TO STA. 23+27.50, LT.

ADD THESE TWO ITEMS TO  
THE QUANTITY SHEET?  
PLEASE VERIFY - PAINT  
ITEMS ENTERED ON  
QUANTITY SHEET.



NOTES:

1. DEWATERING ACTIVITIES: ANY FILTER BAG OR DEWATERING ENCLOSURE FOR DISCHARGE OF DEWATERING ACTIVITIES SHALL BE LOCATED A MINIMUM OF 50 FEET FROM THE STREAM UNLESS APPROVED BY THE ENGINEER. THE FILTERING AREA SHALL BE LOCATED WITHIN THE EXISTING RIGHT-OF-WAY AND IF NECESSARY MAY BE LOCATED WITHIN A CLOSED PORTION OF THE EXISTING ROADWAY AND/OR SHOULDER.

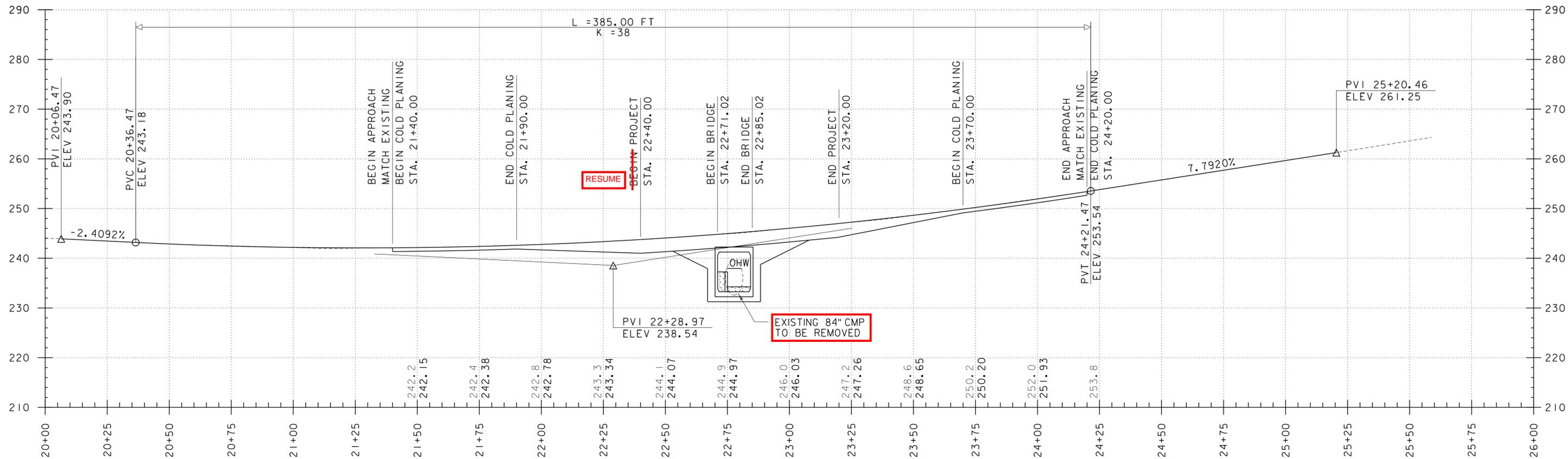
EPSC Note?

2. GRADE IN ACCORDANCE WITH THE TYPICAL ROADWAY SECTION AND ROADWAY CROSS SECTIONS UNLESS NOTED OTHERWISE.
3. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS TO VERIFY THE DEPTH AND LOCATIONS OF UNDERGROUND UTILITIES, AS DIRECTED BY THE ENGINEER. THE EXPLORATORY WORK SHALL BE PAID FOR UNDER ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY.

SEE THE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264bdr_br5.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
PLAN LAYOUT SHEET -	BR5
PLOT DATE:	5/16/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	35 OF 53





PROFILE ALONG VT ROUTE 125

HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 10'

NOTE:  
 ELEVATIONS SHOWN TO THE NEAREST TENTHS ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

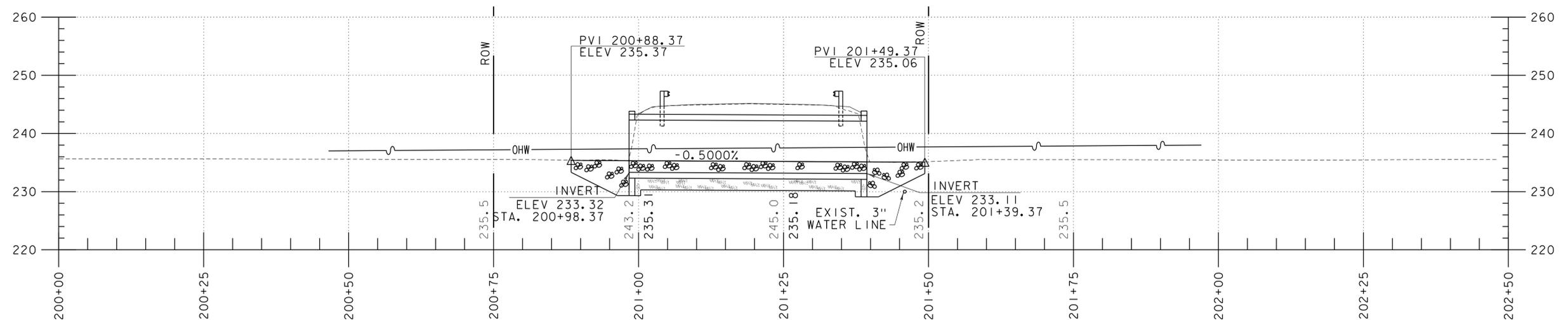
ELEVATIONS SHOW TO THE NEAREST HUNDREDTHS ARE FINISHED GRADE ALONG PROPOSED CENTERLINE.

PROJECT NAME: BRIDPORT  
 PROJECT NUMBER: STP CULV(29)

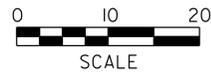
FILE NAME: zllc264pro.dgn  
 PROJECT LEADER: M. CHENETTE  
 DESIGNED BY: J. HUNGERFORD  
 ROADWAY PROFILE - BR5

PLOT DATE: 5/16/2014  
 DRAWN BY: L. BUXTON  
 CHECKED BY: M. CHENETTE  
 SHEET 36 OF 53



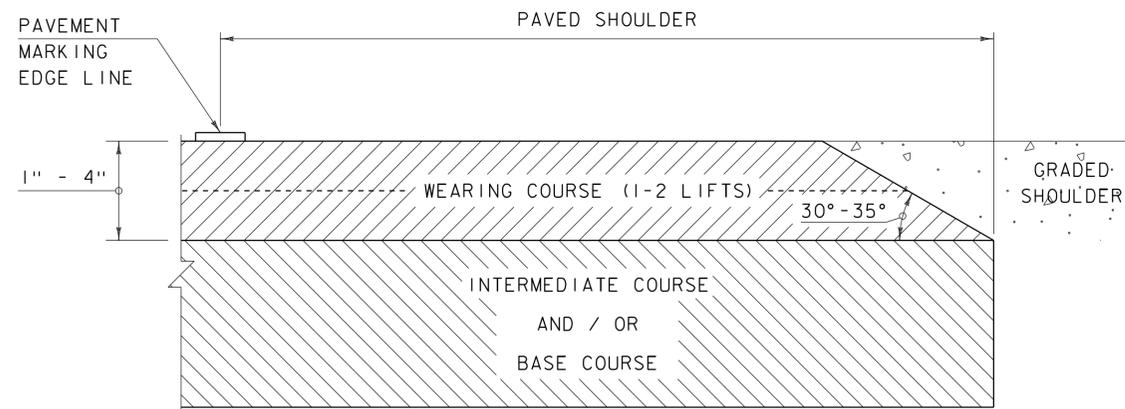


STREAM PROFILE



NOTE:  
ELEVATIONS SHOWN TO THE NEAREST TENTHS ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.

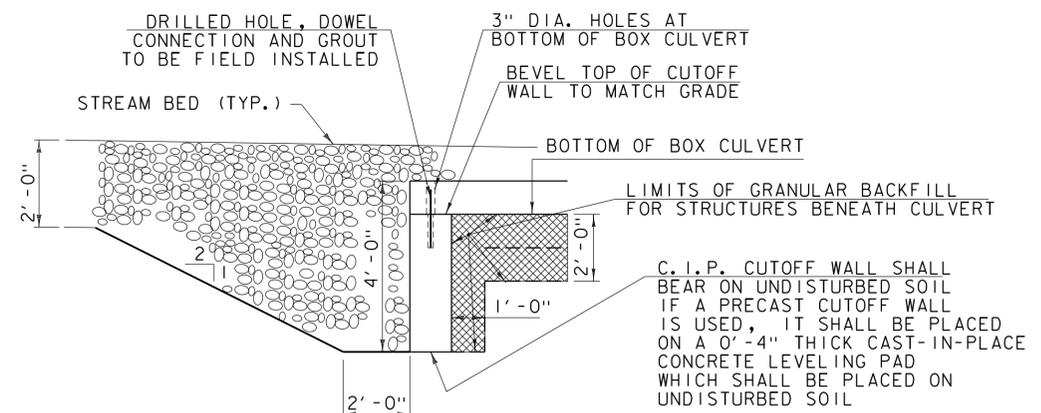
ELEVATIONS SHOW TO THE NEAREST HUNDREDTHS ARE FINISHED GRADE ALONG PROPOSED CENTERLINE.



SAFETY EDGE DETAIL

NOT TO SCALE

- NOTE:
- ~~1. LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.~~
  2. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.



CUTOFF WALL DETAIL

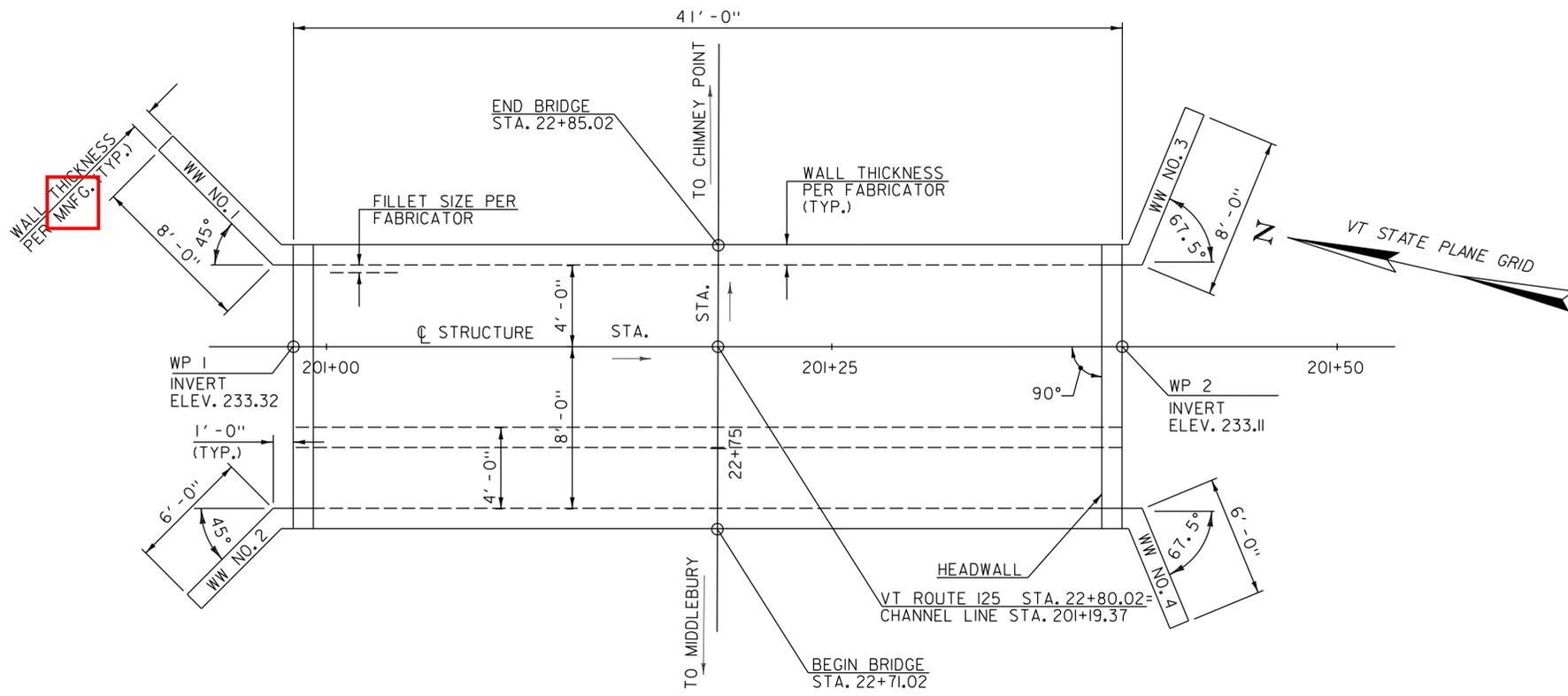
NOT TO SCALE

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

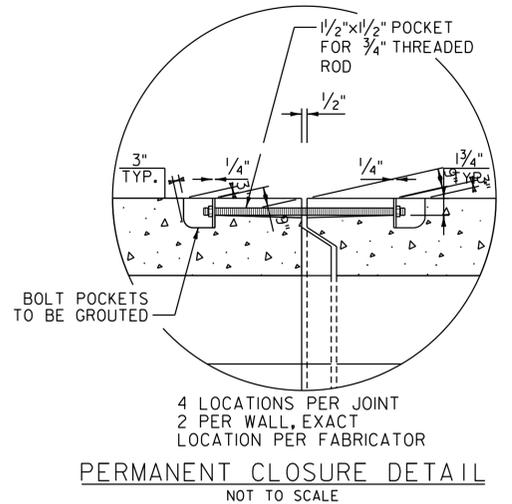
FILE NAME: zllc264xs_br5.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
STREAM PROFILE - BR5

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 37 OF 53

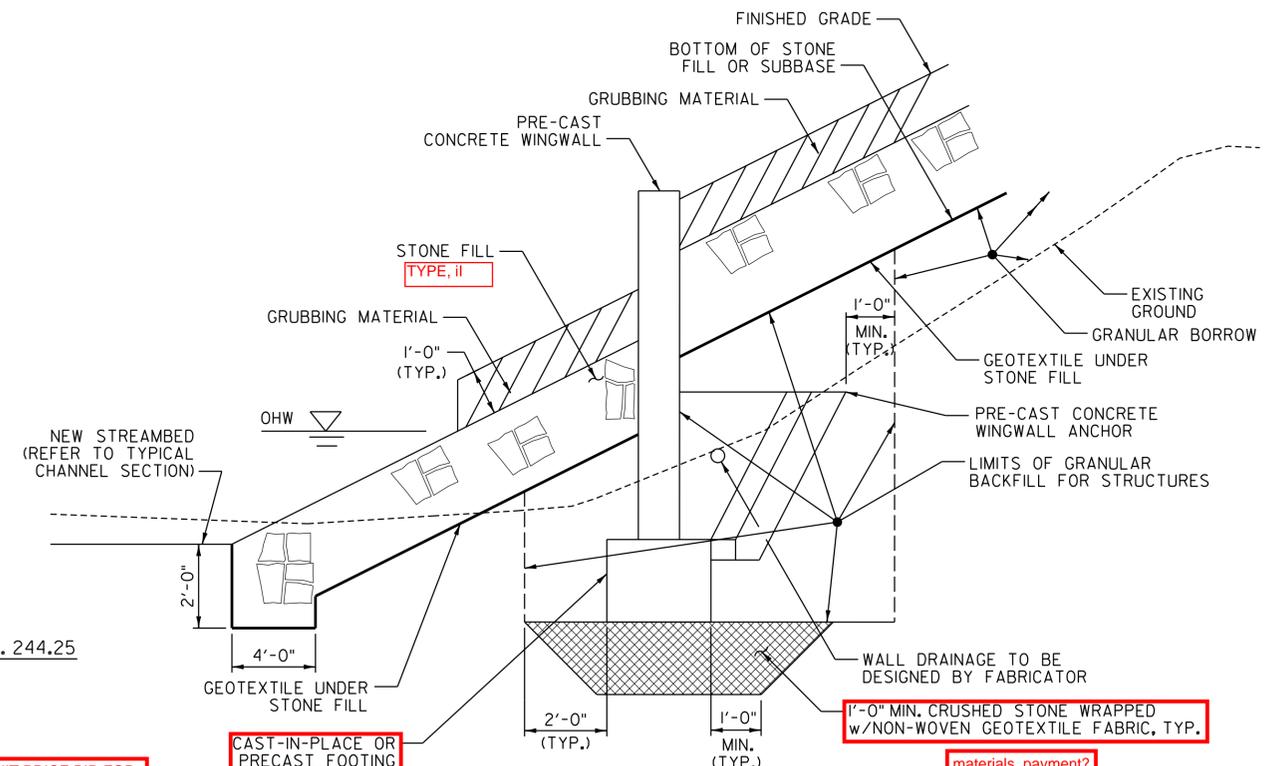




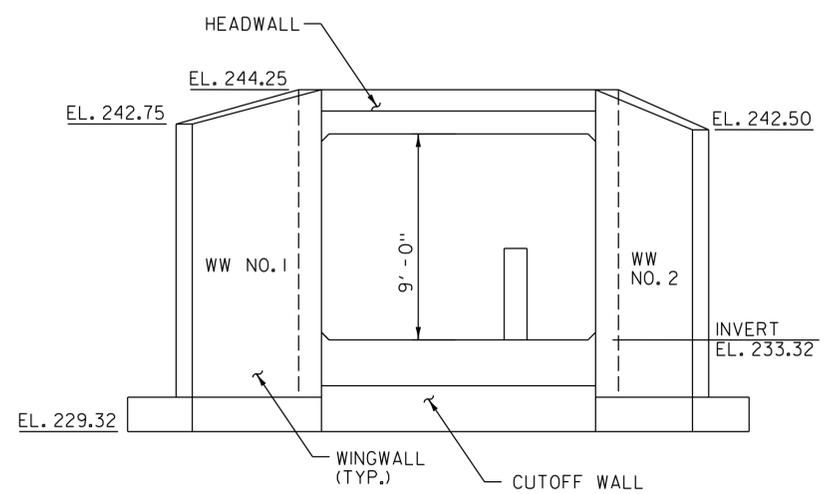
PRECAST CONCRETE STRUCTURE PLAN  
SCALE: 1/4" = 1'-0"



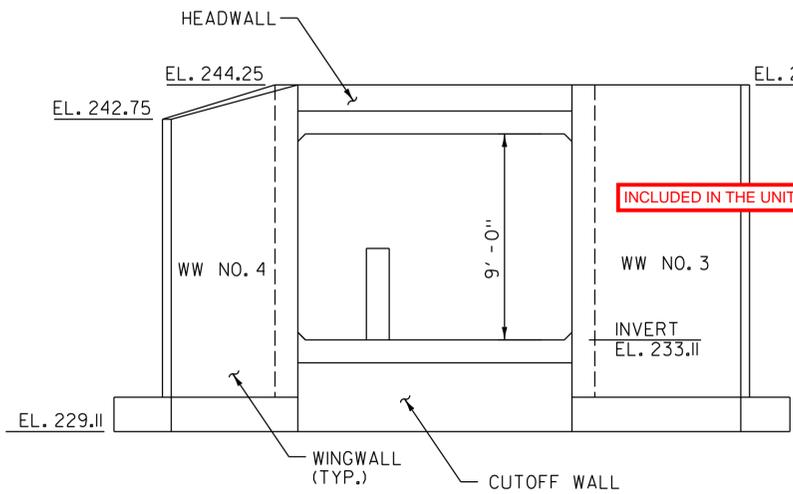
PERMANENT CLOSURE DETAIL  
NOT TO SCALE



WINGWALL EARTHWORK SECTION  
NOT TO SCALE



INLET ELEVATION  
SCALE: 1/4" = 1'-0"



OUTLET ELEVATION  
SCALE: 1/4" = 1'-0"

INCLUDED IN THE UNIT PRICE BID FOR

CAST-IN-PLACE OR PRECAST FOOTING  
INCIDENTAL TO ITEM 540.10  
(PRECAST CONCRETE STRUCTURE)

Option not mentioned in precast concrete notes on Sheet 4?

NOTE: ANCHOR TYPE WALLS SHOWN, OTHER APPROVED WALL SYSTEM MAY BE USED, SEE SPECIAL PROVISIONS.

Should be on Sheet 8.

materials, payment?



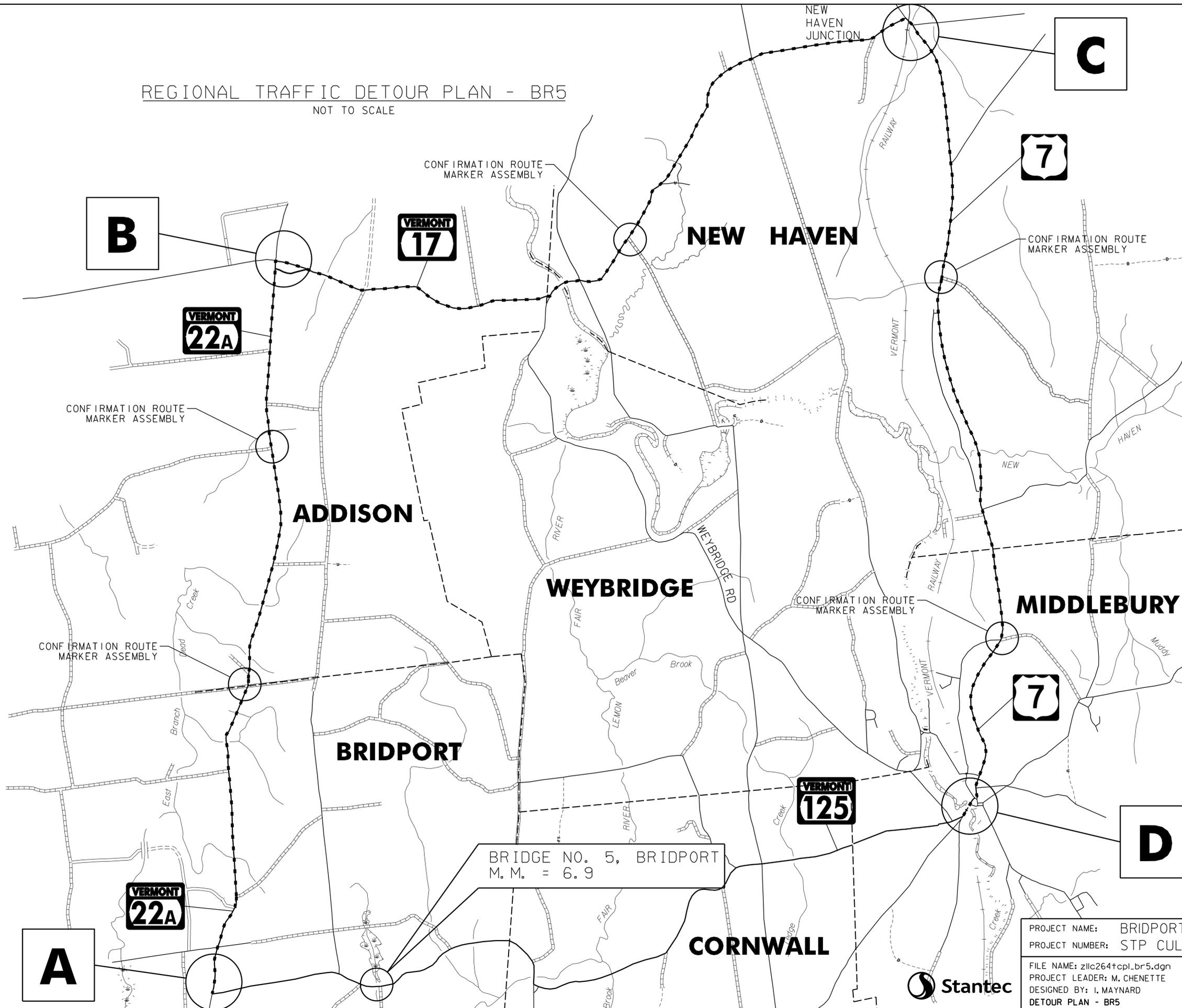
PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264strpl_br5.dgn	DESIGNED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	CHECKED BY:	M. CHENETTE
STRUCTURAL PLAN AND DETAILS - BR5		SHEET	38 OF 53



# REGIONAL TRAFFIC DETOUR PLAN - BR5

NOT TO SCALE

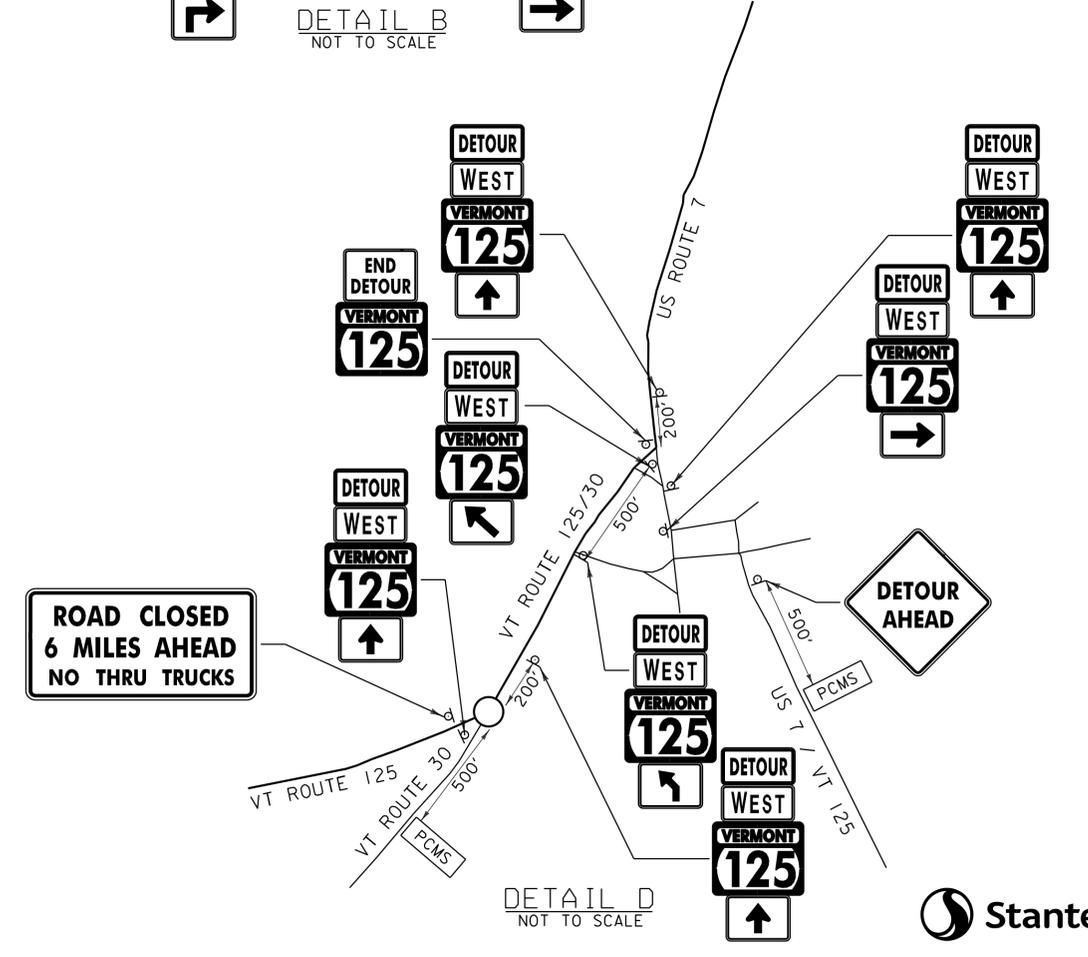
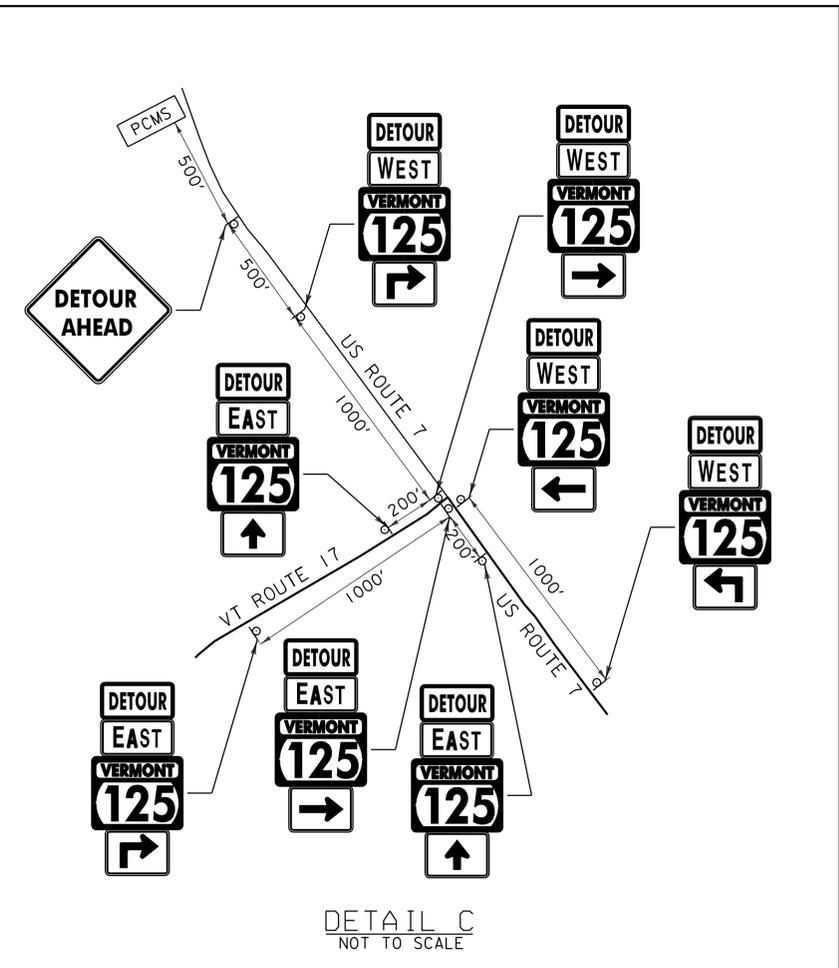
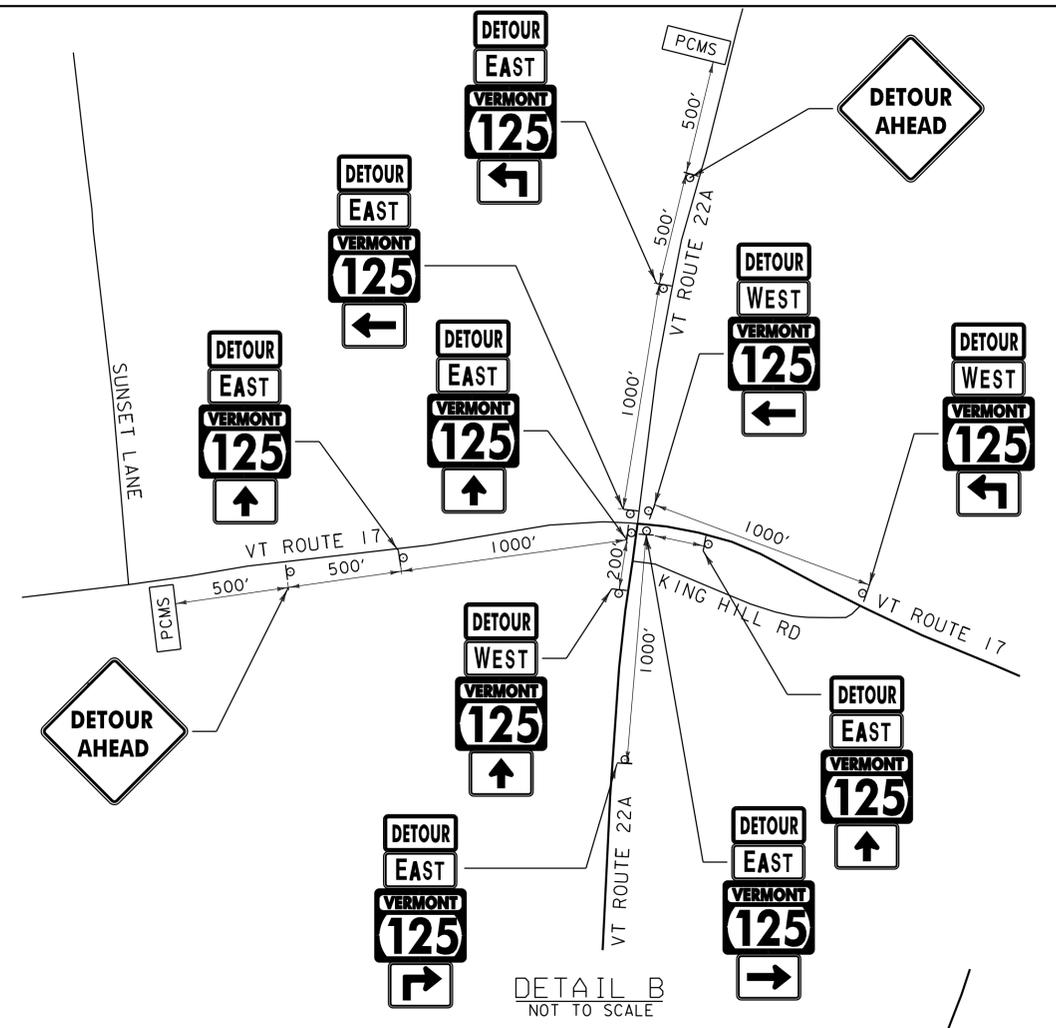
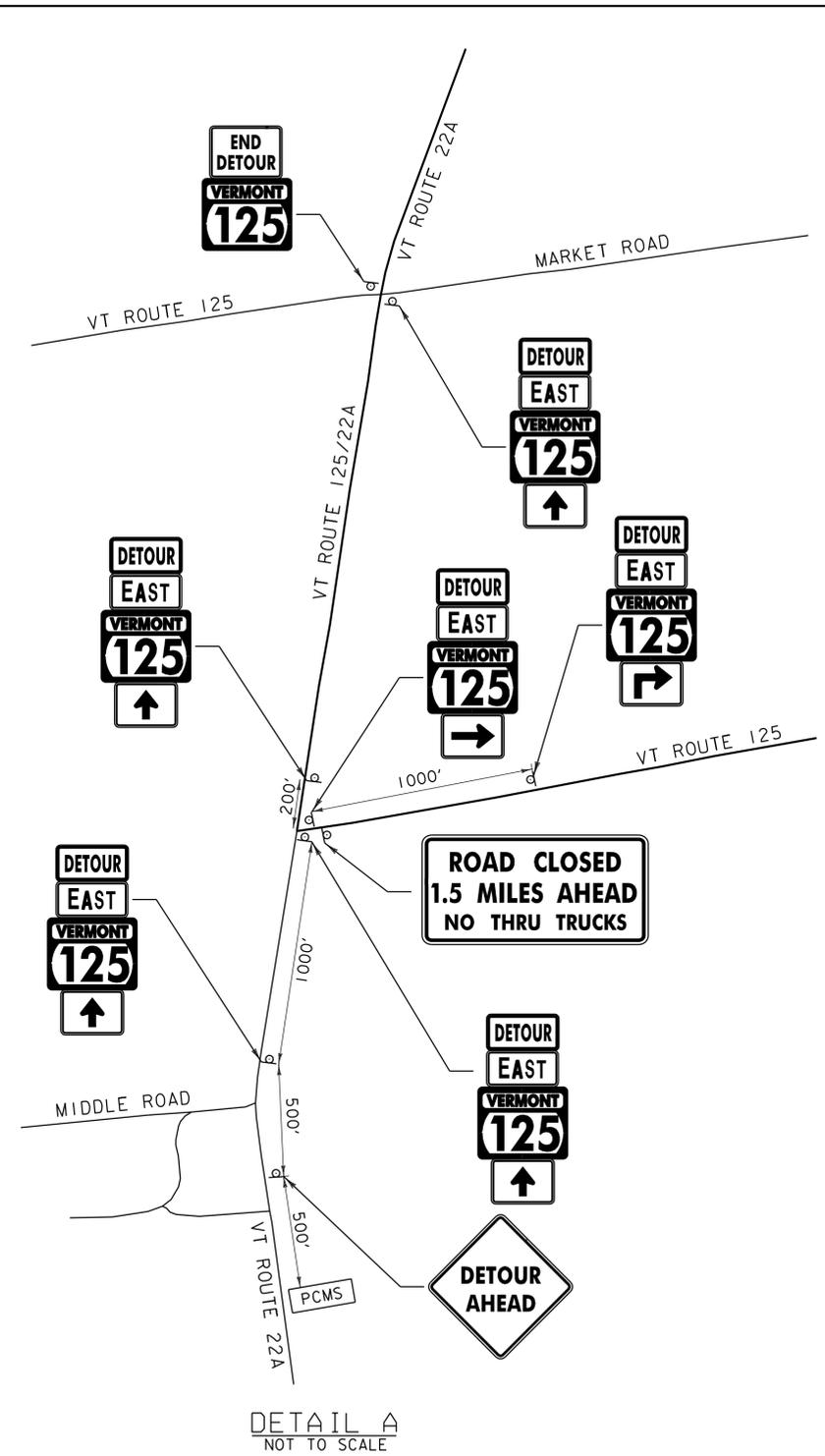
-----DETOUR ROUTE



BRIDGE NO. 5, BRIDPORT  
M.M. = 6.9

PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	I. MAYNARD
FILE NAME:	zllc264+tpl.br5.dgn	CHECKED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	SHEET	39 OF 53
DESIGNED BY:	I. MAYNARD		
DETOUR PLAN - BR5			





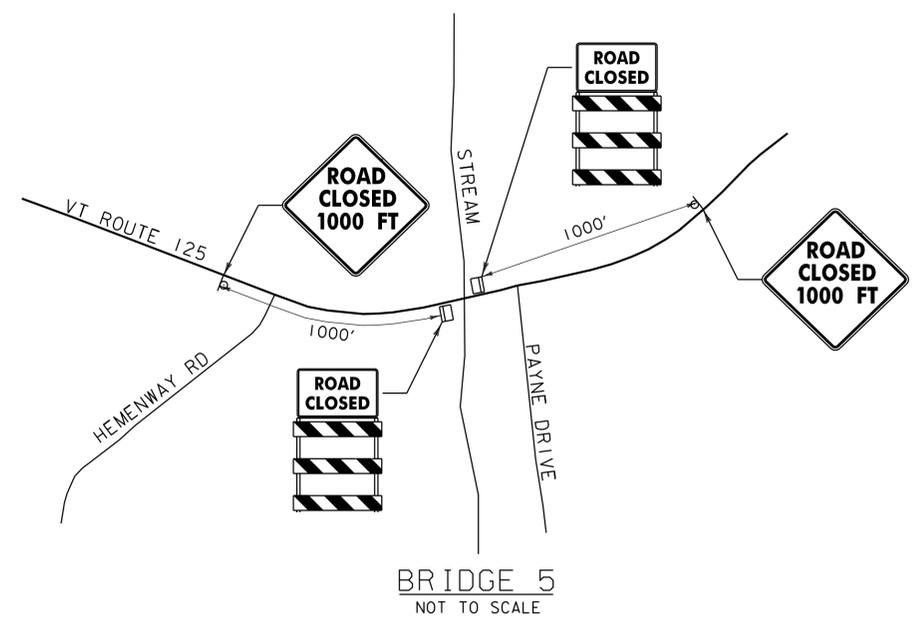
PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	I. MAYNARD
FILE NAME:	zllc264tcdet_br5_l.dgn	CHECKED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	SHEET	40 OF 53
DESIGNED BY:	I. MAYNARD		
TRAFFIC CONTROL DETAILS I - BR5			



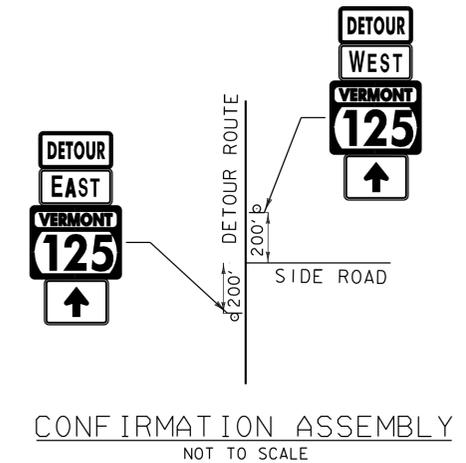
PCMS = PORTABLE CHANGEABLE MESSAGE SIGN Not used here; more appropriate for Sheet 40.

ID NUMBER	SIGN TEXT	SIZE OF SIGN		NUMBER OF SIGNS REQ'D.	AREA OF EACH SIGN (SF)	COLOR	REMARKS
		WIDTH	HEIGHT				
W20-2		48"	48"	5	16.00	B/F0	
W20-3		48"	48"	2	16.00	B/F0	
M6-3		21"	15"	24	2.19	B/F0	MOUNT BELOW MI-6A
M6-1R		21"	15"	5	2.19	B/F0	MOUNT BELOW MI-6A
M6-1L		21"	15"	3	2.19	B/F0	MOUNT BELOW MI-6A
M5-1L		21"	15"	3	2.19	B/F0	MOUNT BELOW MI-6A
M5-1R		21"	15"	4	2.19	B/F0	MOUNT BELOW MI-6A
M5-2L		21"	15"	1	2.19	B/F0	MOUNT BELOW MI-6A
M6-2L		21"	15"	1	2.19	B/F0	MOUNT BELOW MI-6A
M4-8		24"	12"	41	2.00	B/F0	MOUNT ABOVE M3-2 OR M3-4
M4-8A		24"	18"	2	3.00	B/F0	MOUNT BELOW MI-6A
M3-2		24"	12"	22	2.00	G/W	
M3-4		24"	12"	19	2.00	G/W	
M1-6B		30"	24"	43	5.00	G/W	
R11-2C		48"	30"	2	10.00	B/W	
R11-3B		60"	30"	1	12.50	B/W	
R11-3B		60"	30"	1	12.50	B/W	

B/F0 = BLACK ON RETROREFLECTIVE ORANGE BACKGROUND  
 G/W = GREEN ON RETROREFLECTIVE WHITE BACKGROUND  
 B/W = BLACK ON RETROREFLECTIVE WHITE BACKGROUND



BRIDGE 5  
NOT TO SCALE



CONFIRMATION ASSEMBLY  
NOT TO SCALE

S  
 MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) - REGIONAL DETOUR

- NOTES:
- ALL COSTS OF INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). SEE SPECIAL PROVISIONS.
  - ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
  - "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON RETROREFLECTIVE TYPE III BARRICADES.
  - TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.
  - WHEN POSSIBLE LOCATE THE "ROAD CLOSED 1000 FT" SIGN NEAR A LOCATION WHERE DRIVERS CAN TURN AROUND. #5
  - THE M1-6B, THE M3-2 AND THE M3-4 SIGNS SHALL BECOME THE PROPERTY OF THE STATE AFTER THEY ARE REMOVED FROM THE DETOUR. THE CONTRACTOR SHALL DELIVER THE SIGNS TO THE STATE AT THE DISTRICT GARAGE.
  - WHERE POSSIBLE LOCATE DETOUR ROUTE MARKER ASSEMBLIES ADJACENT TO EXISTING ROUTE MARKER ASSEMBLIES.
  - SIGN SPACING IS FOR REFERENCE ONLY, FIELD ADJUSTMENTS AS APPROVED BY THE ENGINEER.
  - EXISTING SIGNS IN CONFLICT WITH THIS DETOUR PLAN SHALL BE COVERED WHEN NECESSARY, AS APPROVED BY THE ENGINEER.

STARTING 2 WEEK PRIOR TO CLOSURE

MESSAGE 1	MESSAGE 2
(ROUTE) ** <b>VT 125</b>	<b>MMMM DD</b> (DATE) *
<b>ROAD TO</b>	
<b>CLOSED</b>	<b>MMMM DD</b> (DATE) *

DURING CLOSURE

MESSAGE 1	MESSAGE 2
(ROUTE) ** <b>VT 125</b>	<b>BRIDPORT</b>
<b>ROAD</b>	<b>1 MILE E</b>
<b>CLOSED</b>	<b>OF VT 22A</b>

* - DATE SHALL BE SPELLED OUT (I.E. JUNE 10 NOT 6/10)  
 ** - ROUTE 125 SHALL SPECIFY E (EAST) OR W (WEST) AS APPROPRIATE FOR THE DETOUR.

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264+cdet_br5.2.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	I. MAYNARD
TRAFFIC CONTROL DETAILS:	2 - BR5
PLOT DATE:	5/16/2014
DRAWN BY:	I. MAYNARD
CHECKED BY:	J. HUNGERFORD
SHEET	41 OF 53



**SOIL CLASSIFICATION**

**AASHTO**

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

**ROCK QUALITY DESIGNATION**

R.O.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

**SHEAR STRENGTH**

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

**CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY**

DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

**COMMONLY USED SYMBOLS**

- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊕ Auger Boring
- ⊕ Rod Sounding
- ⊕ Sample
- N Standard Penetration Test
- Blow Count Per Foot For:
- 2" O.D. Sampler
- 1 3/8" I.D. Sampler
- Hammer Weight Of 140 Lbs.
- Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 5/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- Sl Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB To Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- RQD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)

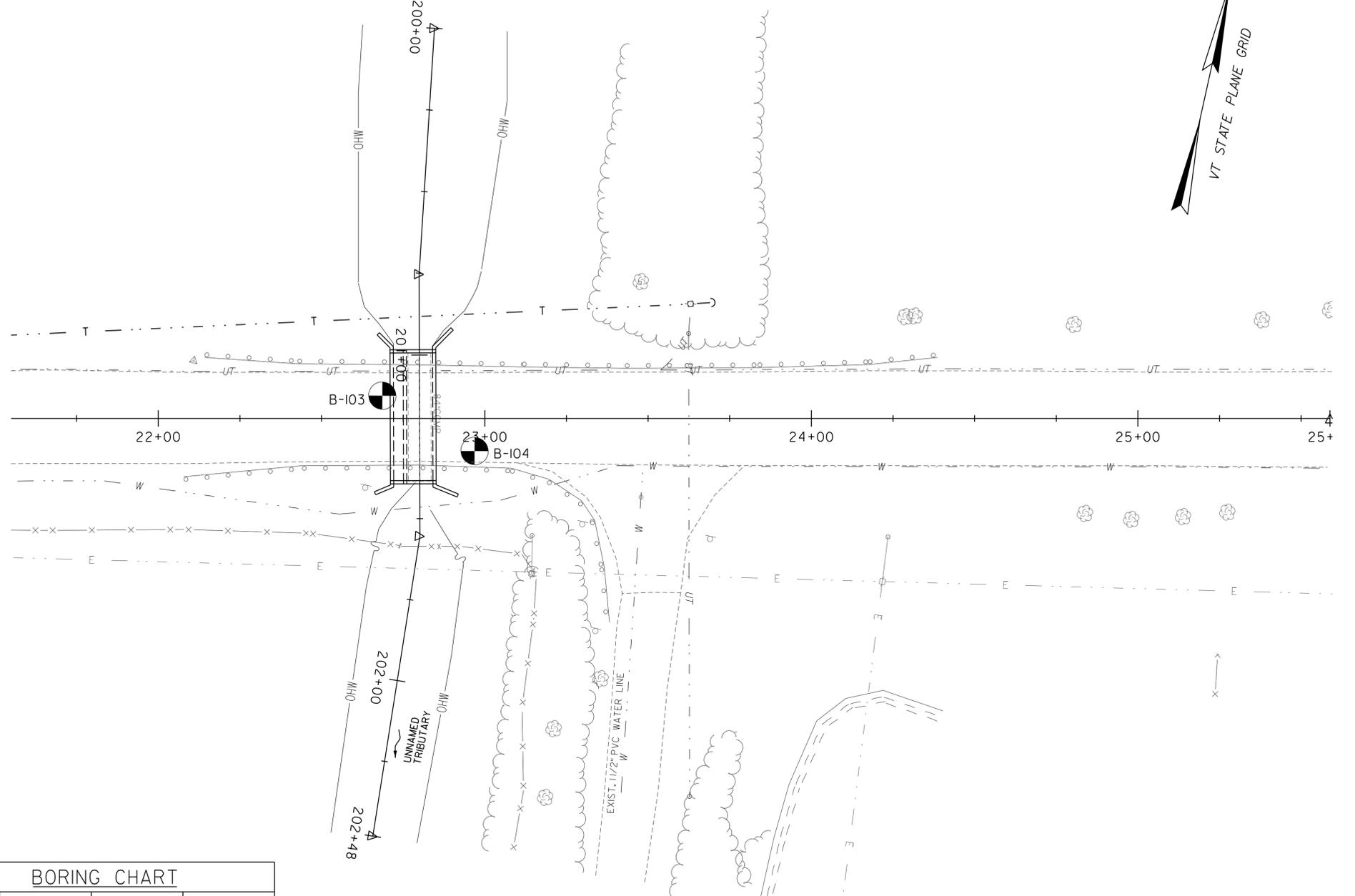
**COLOR**

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

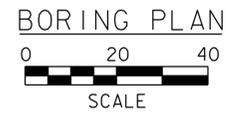
**DEFINITIONS (AASHTO)**

**BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.  
**BOULDER** - A rock fragment with an average dimension > 12 inches.  
**COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.  
**GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).  
**SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).  
**SILT** - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.  
**CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

**VARVED** - Alternate layers of silt and clay.  
**HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.  
**MUCK** - Soft organic soil (containing > 10% organic material).  
**MOISTURE CONTENT** - Weight of water divided by dry weight of soil.  
**FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.  
**STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.  
**DIP** - Inclination of bed with a horizontal plane.



BORING CHART			
BORING NUMBER	SURVEY STATION	OFFSET	GROUND ELEVATION
B-103	22+69.00	7.00' LT	244.2
B-104	22+88.00	11.00' RT	245.0



**GENERAL NOTES**

- The subsurface explorations shown herein were made on Oct. 25, 2012 by N.H. Boring.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

**LEGEND:**



PROJECT NAME: BRIDPORT  
 PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264bdr_bor_pl.br5.dgn  
 PROJECT LEADER: M. CHENETTE  
 DESIGNED BY: J. HUNGERFORD  
 BORING PLAN - BR5

PLOT DATE: 5/16/2014  
 DRAWN BY: L. BUXTON  
 CHECKED BY: M. CHENETTE  
 SHEET 42 OF 53



STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-103						
		BRIDPORT STP CULV(29) VT-125 BR-2&5		Page No.: 1 of 1						
				Pin No.: 11C264						
				Checked By: LAR						
Boring Crew: GARROW, WHITLOCK, JUDKINS		Casing		Groundwater Observations						
Date Started: 9/26/12 Date Finished: 9/26/12		WB SS		Date Depth (ft) Notes						
VTSPG NAD83: N 543946.30 ft E 1434962.90 ft		4 in 1.5 in								
Station: 22+69 Offset: -7.00		Hammer Wt: N.A. 140 lb.		None taken.						
Ground Elevation: 244.2 ft		Hammer Fall: N.A. 30 in.								
		Hammer/Rod Type: Auto/AWJ								
		Rig: CME 45C SKID CE = 1.33								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %	
0.0		Asphalt Pavement, 0.0 ft - 0.7 ft								
5		A-4, SaSi, gry, Moist, Rec. = 0.2 ft, Lab Note: Clay was noticeable. Insufficient sample for extra testing.	2-2-2-3 (4)	33.8	8.5	38.3	53.2			
10		A-7-6, Cl, gry, Moist, Rec. = 1.9 ft	WH-WH-2-2 (2)	47.2	1.4	1.7	96.9	68	42	
		A-7-6, Cl, gry, Moist, Rec. = 1.3 ft, Shelby Tube sample U1		38.9				67	42	
15		Cl Shelby Tube, gry, Moist, Rec. = 1.9 ft, 14.0 ft - 16.0 ft								
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	2-2-3-2 (5)	42.4		1.2	98.8	60	36	
20		Visual Description: Cl, gry, Moist, Rec. = 1.9 ft, Material similar to 16-18 ft.	WH-1-2-WH (3)	47.2						
		Visual Description: Cl, gry, Moist, Rec. = 2.0 ft, Material similar to 16-18 ft.	(WH)	45.8						
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	(WH)	57.9		0.8	99.2	53	31	
25		Visual Description: Cl, gry, Moist, Rec. = 2.0 ft, Material similar to 22-24 ft.	(WH)	51.5						
		Visual Description: Cl, gry, Moist, Rec. = 2.0 ft, Material similar to 28-30 ft.	(WH)	65.6						
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	(WH)	51.7		0.7	99.3	52	30	
30										
35		Visual Description: Cl, gry, Moist, Rec. = 2.0 ft, Material similar to 38-40 ft.	WR-WR-WH-WH (WH)	47.9						
40		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	(WH)	71.6		0.5	99.5	54	32	
40		Hole stopped @ 40.0 ft								
45		Remarks: Hole collapsed at 26.0 ft.								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										

BOTTOM OF CULVERT  
APPROX. EL. 232.2

BORING LOG: 2 BRIDPORT STP CULV(29).GPJ VERMONT AOT.GDT 1/10/13

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-104						
		BRIDPORT STP CULV(29) VT-125 BR-2&5		Page No.: 1 of 1						
				Pin No.: 11C264						
				Checked By: LAR						
Boring Crew: GARROW, JUDKINS		Casing		Groundwater Observations						
Date Started: 9/27/12 Date Finished: 9/27/12		WB SS		Date Depth (ft) Notes						
VTSPG NAD83: N 543935.50 ft E 1434996.60 ft		4 in 1.5 in								
Station: 22+88 Offset: 11.00		Hammer Wt: N.A. 140 lb.		None taken.						
Ground Elevation: 245.0 ft		Hammer Fall: N.A. 30 in.								
		Hammer/Rod Type: Auto/AWJ								
		Rig: CME 45C SKID CE = 1.33								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %	
0.0		Asphalt Pavement, 0.0 ft - 0.9 ft								
5		A-2-4, SiSaGr, gry, Moist, Rec. = 0.7 ft	6-4-4-4 (8)	13.6	36.7	36.3	27.0			
10		A-7-6, Cl, brn-gry, Moist, Rec. = 1.3 ft	2-2-3-3 (5)	38.2	0.1	6.1	93.8	59	30	
		A-7-6, Cl, brn-gry, Moist, Rec. = 1.2 ft, Shelby Tube sample U1		36.2				65	38	
15		Cl Shelby Tube, gry, Moist, Rec. = 1.9 ft, 14.0 ft - 16.0 ft								
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	2-2-2-3 (4)	43.8		1.2	98.8	70	42	
20		Visual Description: Cl, gry, Wet, Rec. = 2.0 ft, Lab Note: Very wet sample.	(WH)	59.0	2.1	1.9	96.0	68	38	
		Visual Description: Cl, gry, Moist, Rec. = 1.7 ft, Material similar to 22-24 ft.	WH-WH-2-2 (2)	56.6						
		A-7-6, Cl, gry, Moist, Rec. = 2.0 ft	(WH)	53.4		0.6	99.4	68	38	
25		Visual Description: Cl, gry, Moist, Rec. = 2.0 ft, Material similar to 22-24 ft.	(WH)	59.1						
		Visual Description: Cl, gry, MTW, Rec. = 2.0 ft, Material similar to 28-30 ft.	(WH)	56.6						
		A-7-5, Cl, gry, Moist, Rec. = 2.0 ft	(WH)	68.6		0.5	99.5	72	42	
30										
35		Visual Description: Cl, gry, MTW, Rec. = 2.0 ft, Material similar to 28-30 ft.	(WH)	70.9						
40		Visual Description: Cl, gry, MTW, Rec. = 2.0 ft, Material similar to 28-30 ft.	WR-WR-WH-WH (WH)	72.3						
40		Hole stopped @ 40.0 ft								
45		Remarks: Hole collapsed at 26.0 ft.								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										

BOTTOM OF CULVERT  
APPROX. EL. 232.2

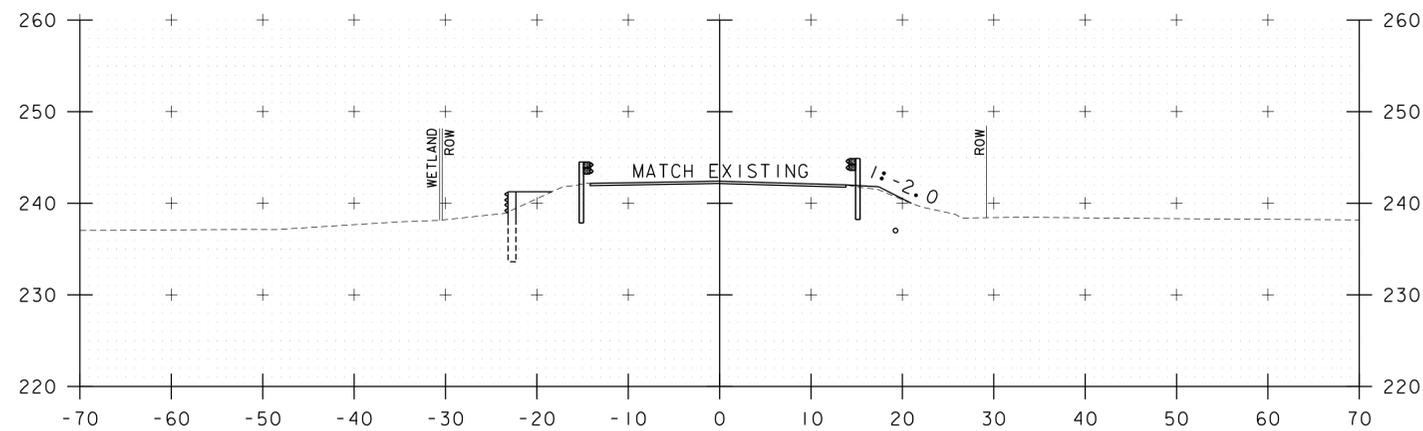
BORING LOG: 2 BRIDPORT STP CULV(29).GPJ VERMONT AOT.GDT 1/10/13

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

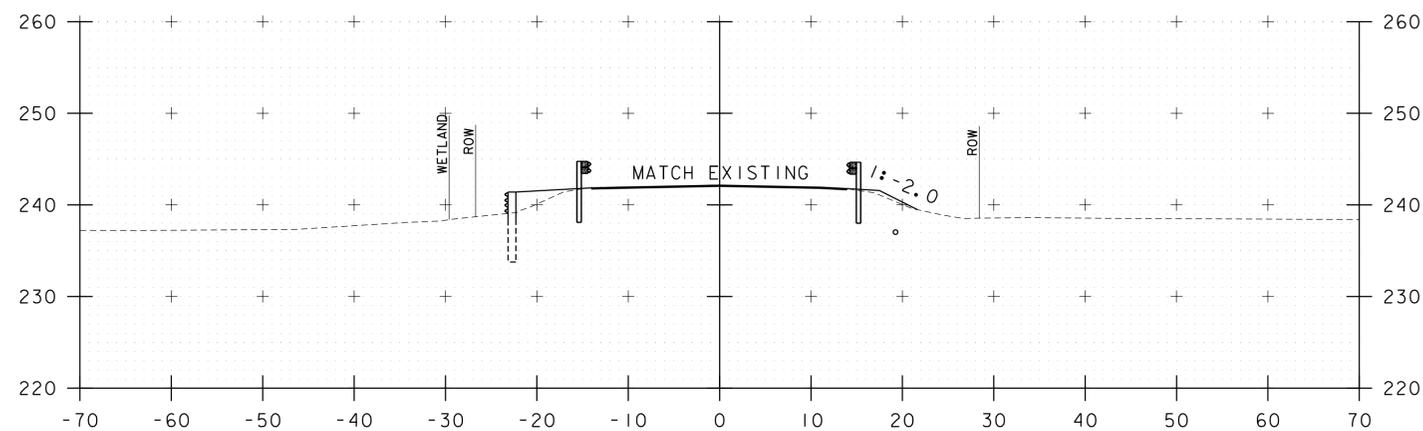
FILE NAME: zllc264bor_log_br5.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: VTRANS  
BORING LOG I - BR5

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: VTRANS  
SHEET 43 OF 53

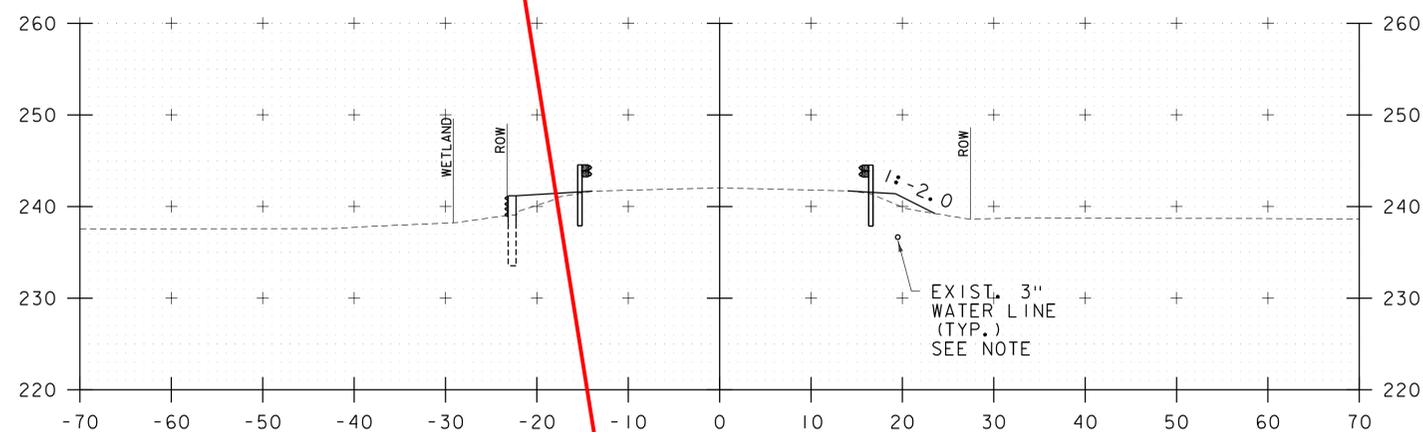




21+75



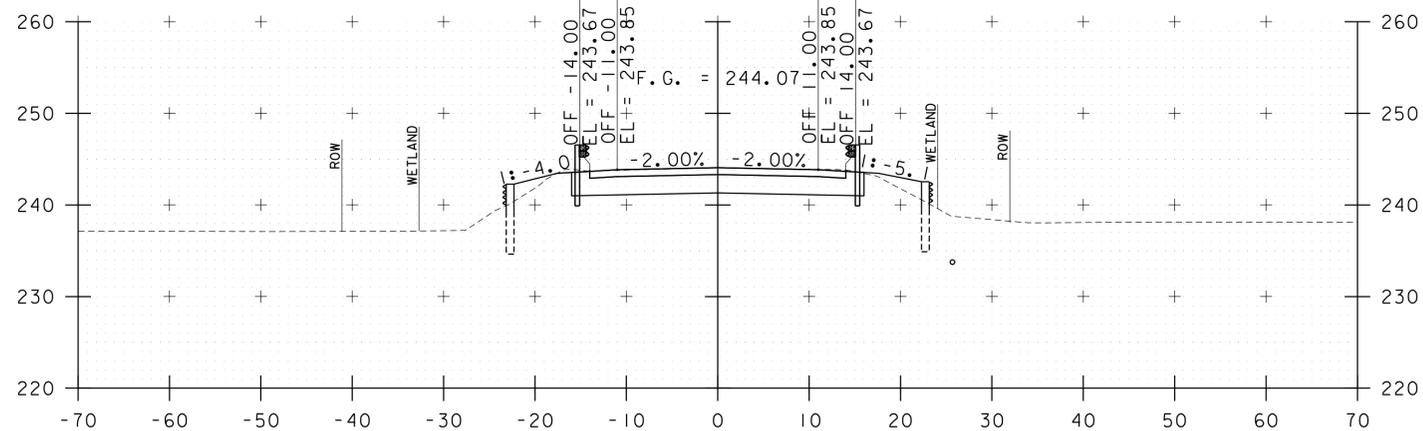
21+50



EXIST. 3"  
WATER LINE  
(TYP.)  
SEE NOTE

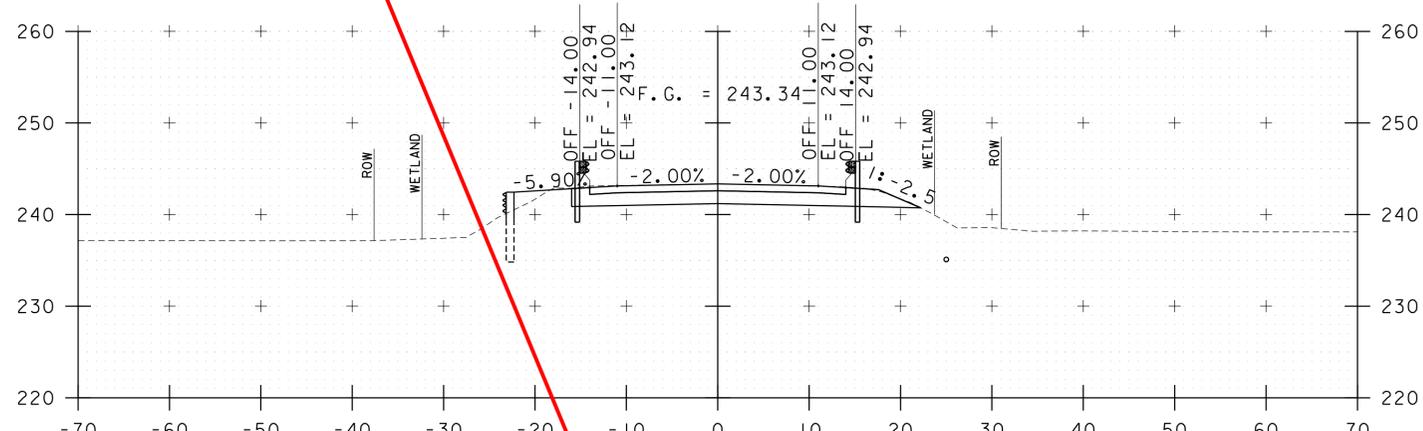
21+40  
BEGIN APPROACH  
21+25

NOTE:  
EXISTING 3" WATERLINE  
LOCATION IS APPROXIMATE.  
TO BE VERIFIED IN THE  
FIELD AND POST LOCATIONS  
MODIFIED, IF NEEDED.

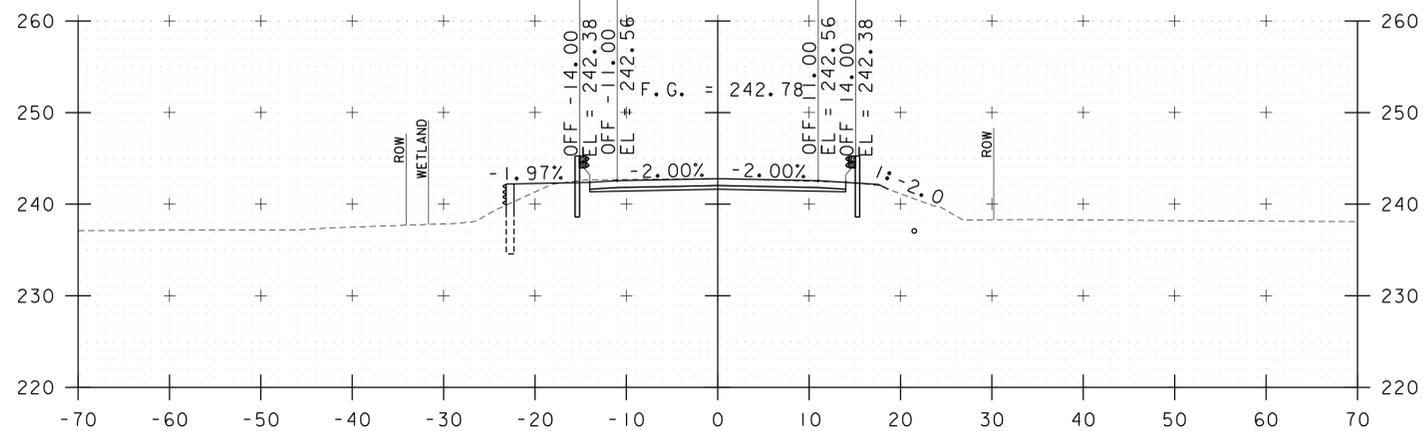


22+71.02  
BEGIN BRIDGE  
22+50

Next Sheet



22+40  
RESUME PROJECT  
22+25



22+00

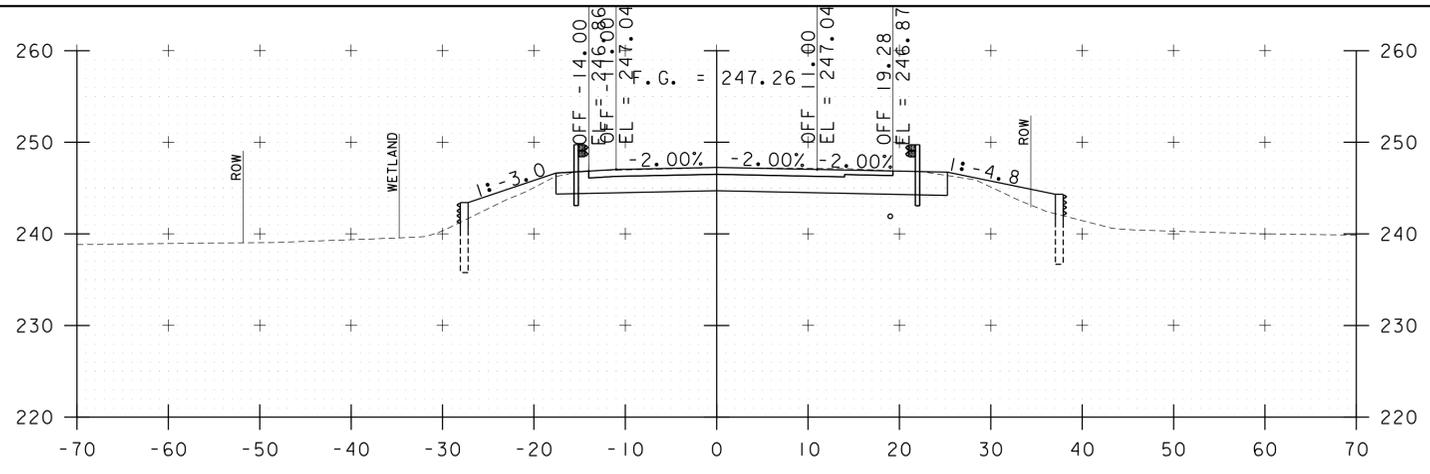
STA. 21+25 TO STA. 22+50

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

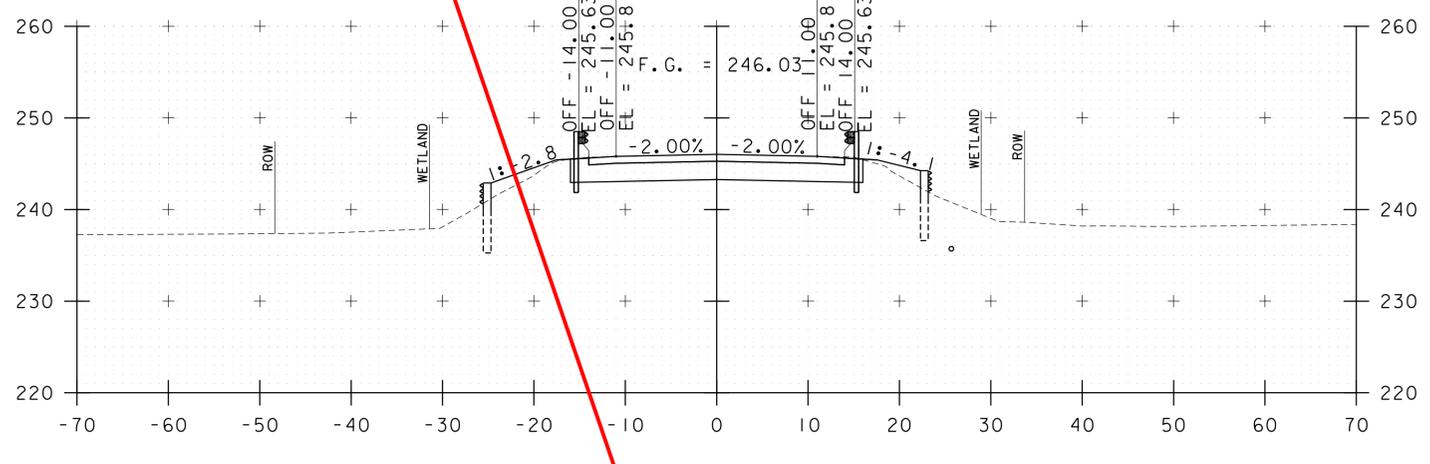
FILE NAME: zllc264xs_br5.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
ROADWAY CROSS SECTIONS - RXSI - BR5

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 44 OF 53

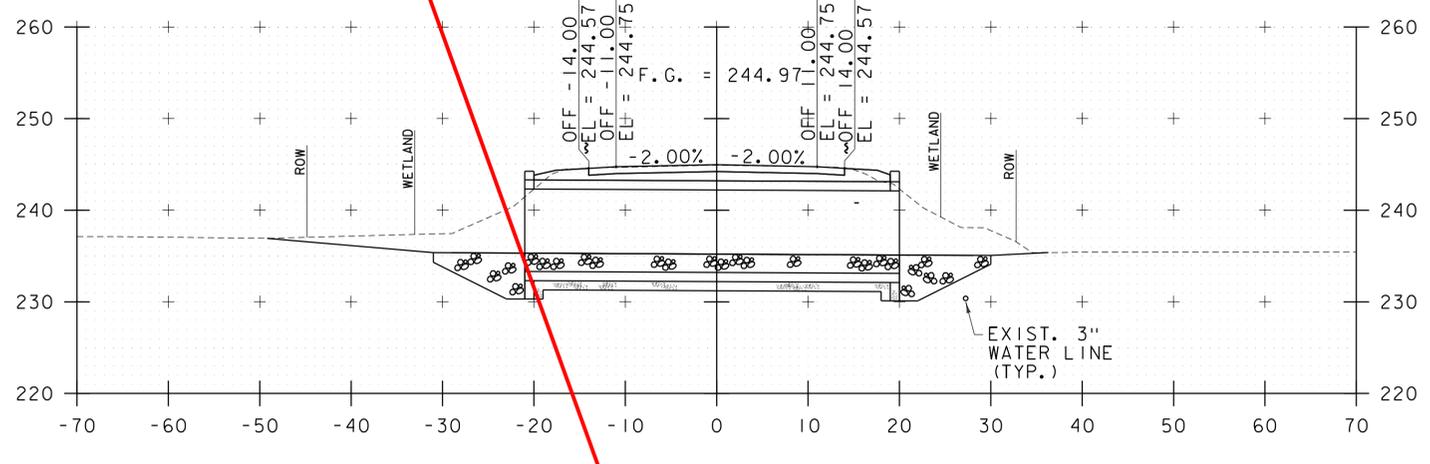




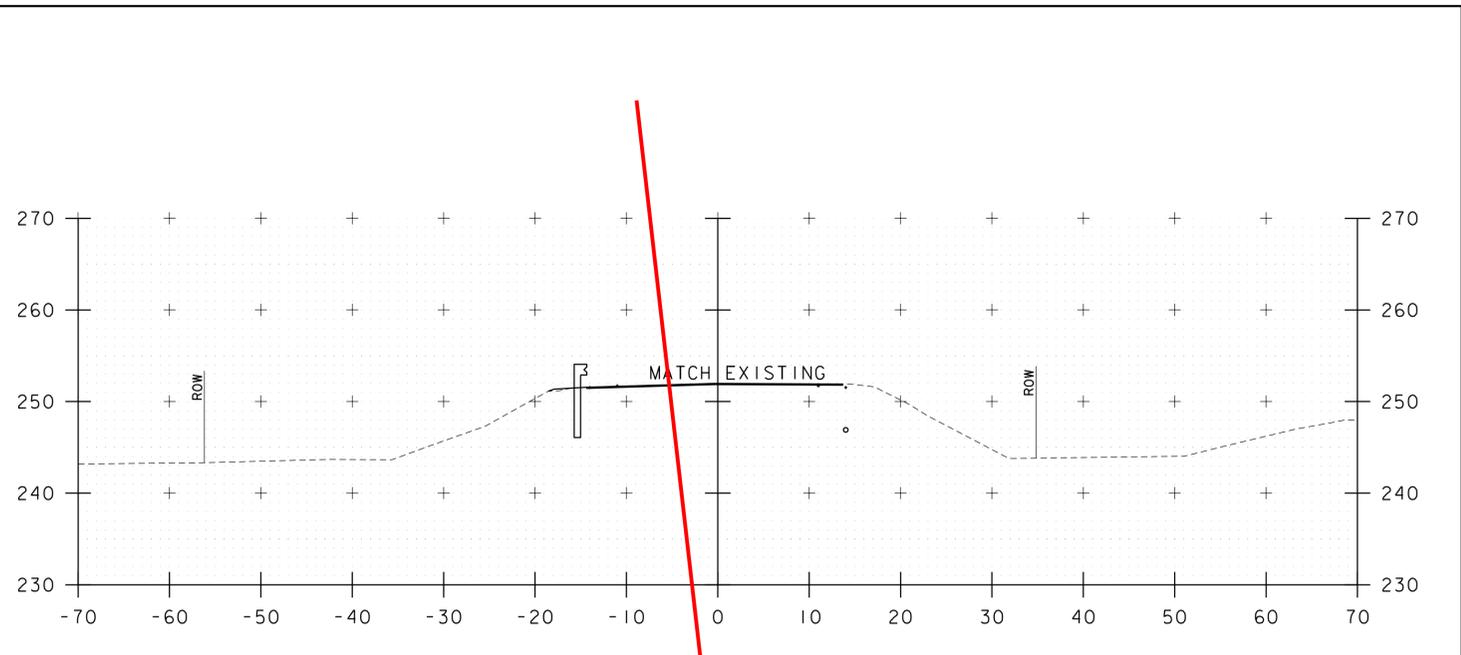
23+25



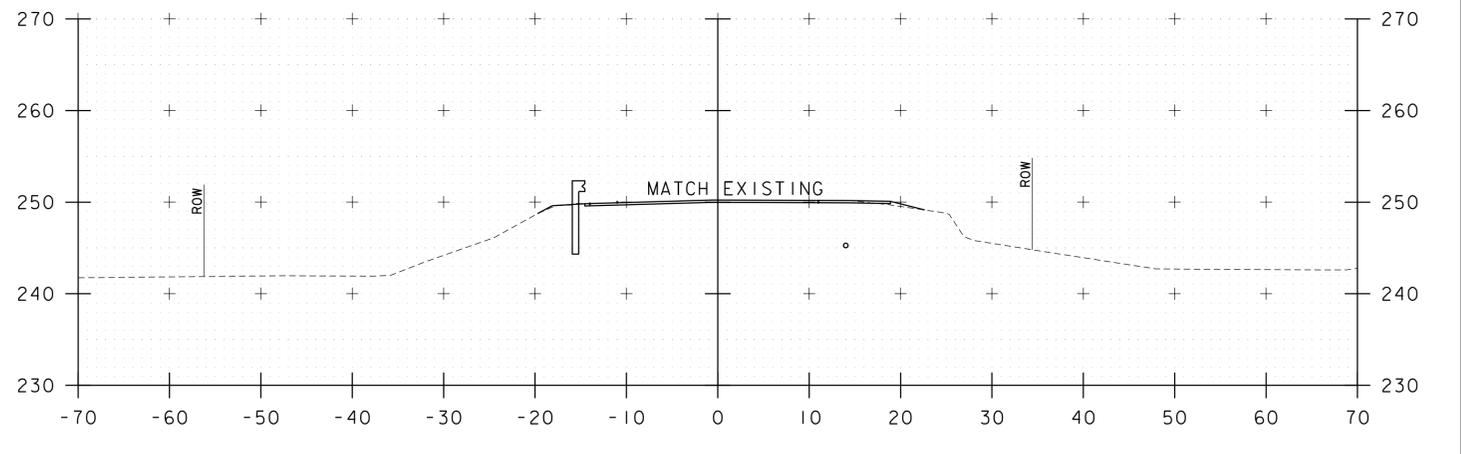
23+20  
END PROJECT  
23+00



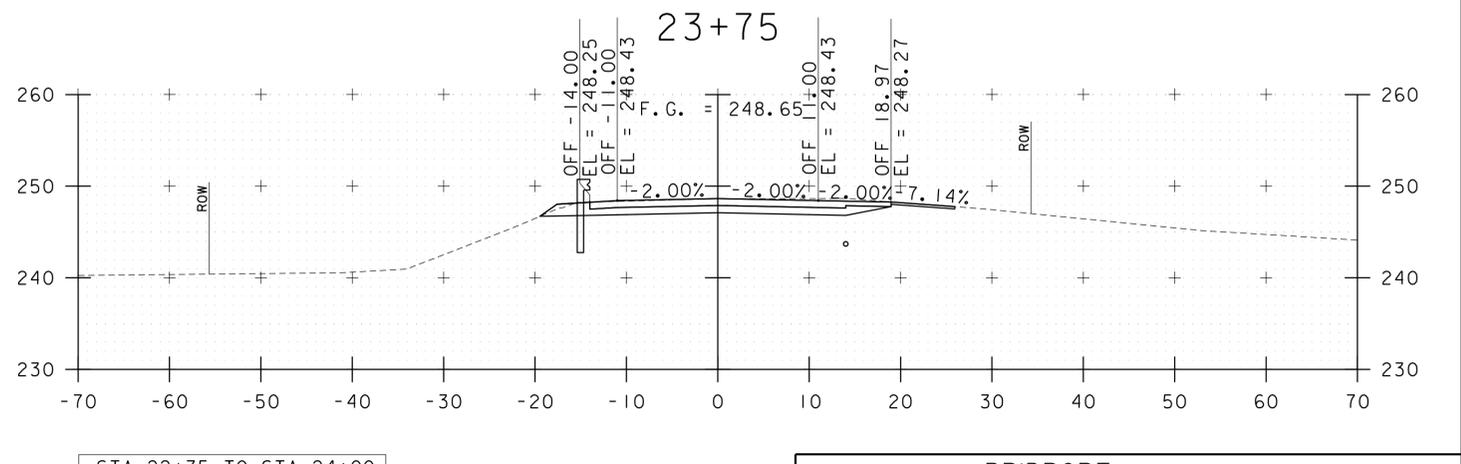
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END BRIDGE  
22+75



24+20  
END APPROACH  
24+00

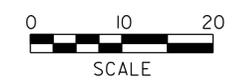


23+75

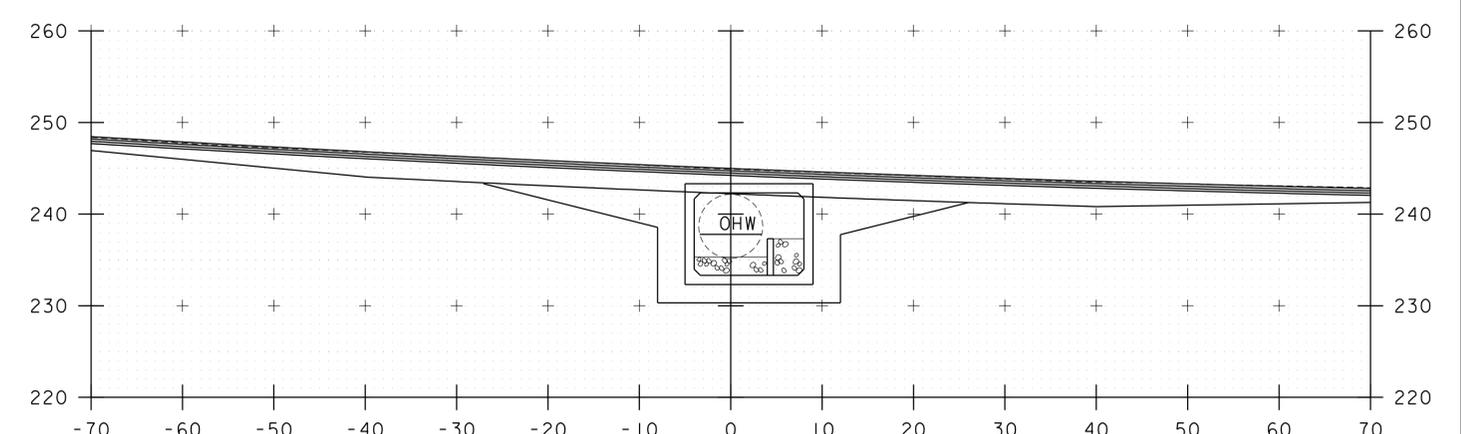
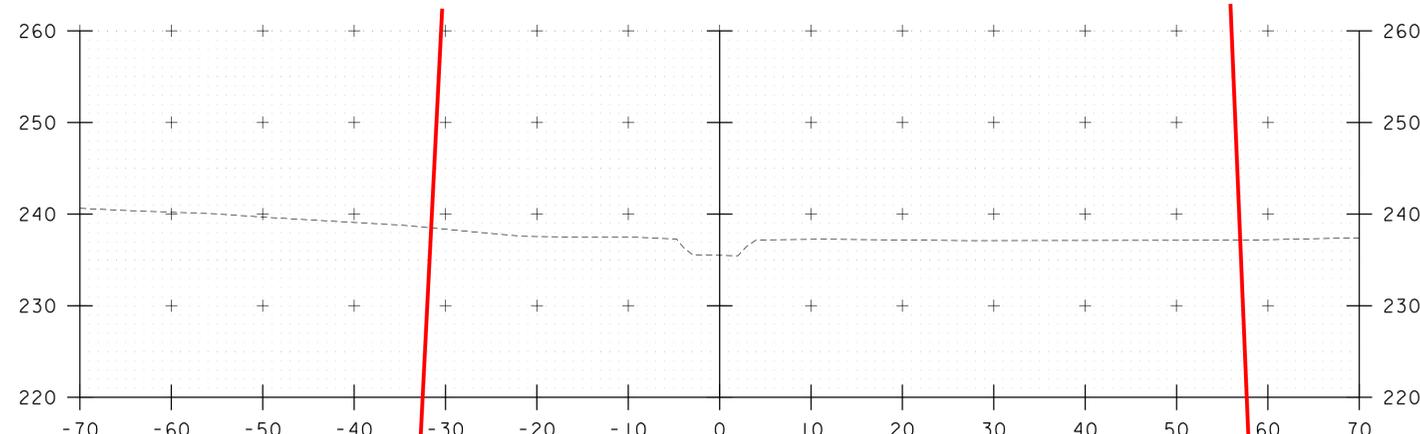
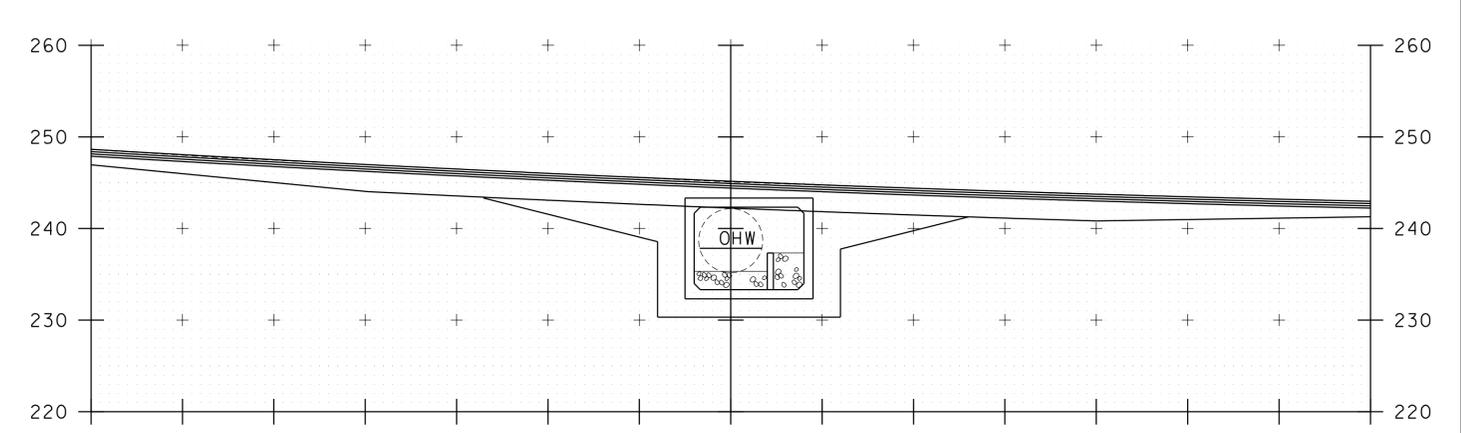
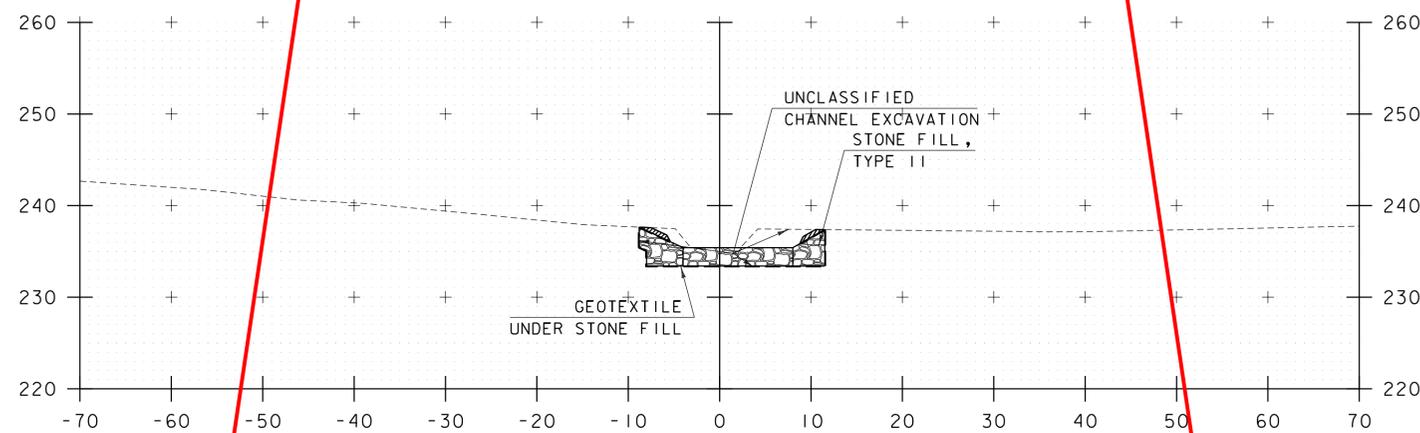
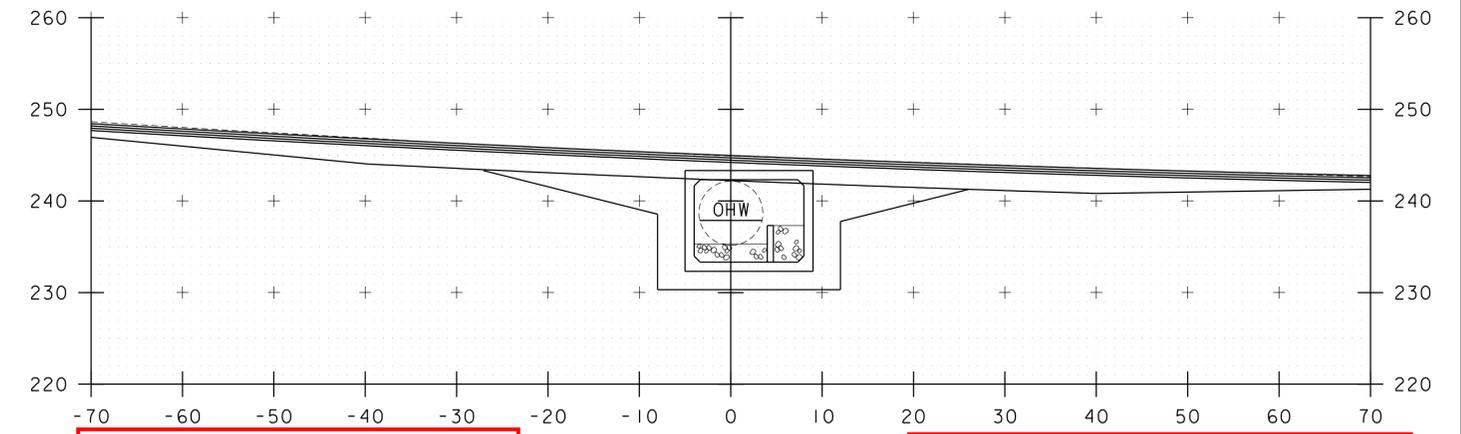
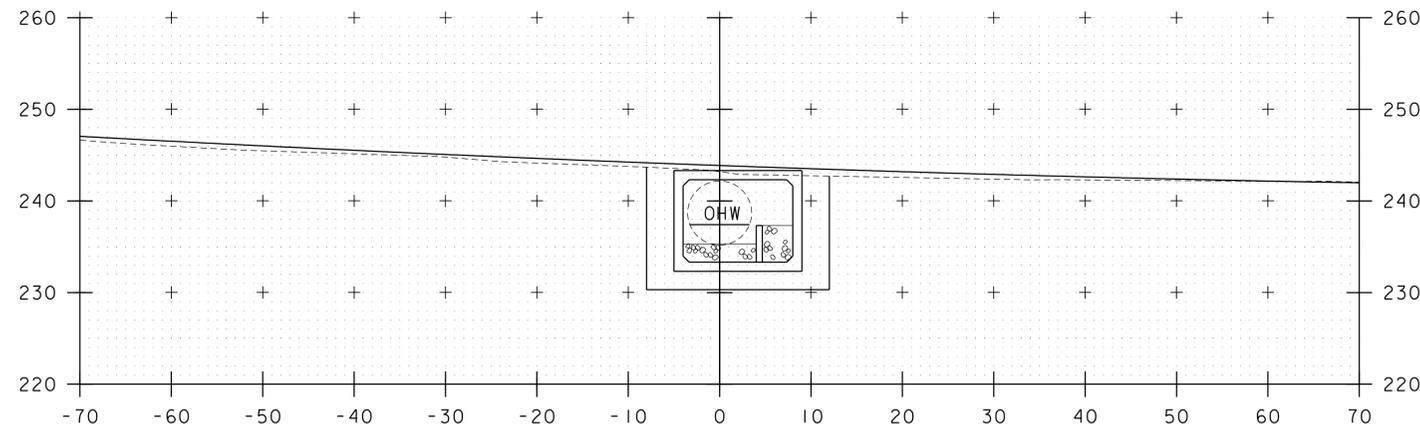


23+50

STA. 22+75 TO STA. 24+00



PROJECT NAME:	BRIDPORT	PLOT DATE:	5/16/2014
PROJECT NUMBER:	STP CULV(29)	DRAWN BY:	L. BUXTON
FILE NAME:	zllc264xs_br5.dgn	DESIGNED BY:	J. HUNGERFORD
PROJECT LEADER:	M. CHENETTE	CHECKED BY:	M. CHENETTE
ROADWAY CROSS SECTIONS - RXS2 - BR5		SHEET	45 OF 53



Next Sheet

STA. 201+39.35 LT  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II  
 BEGIN GRUBBING MATERIAL

Next Sheet

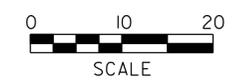
STA. 201+39.35 RT  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II  
 BEGIN GRUBBING MATERIAL

STA. 200+98.35 LT  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL

STA. 200+98.35 RT  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL

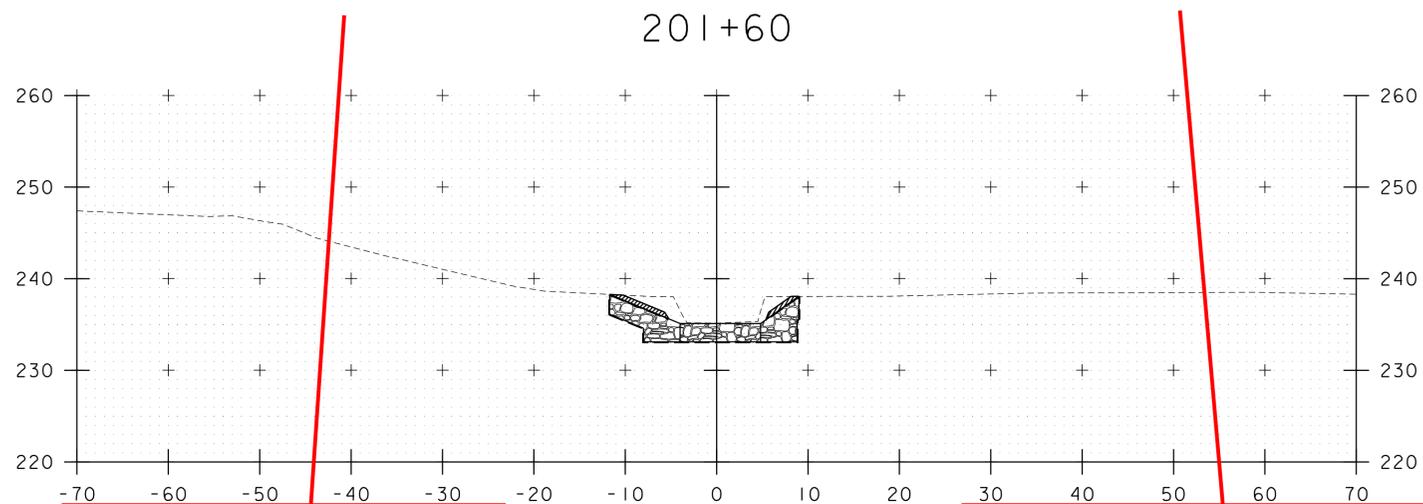
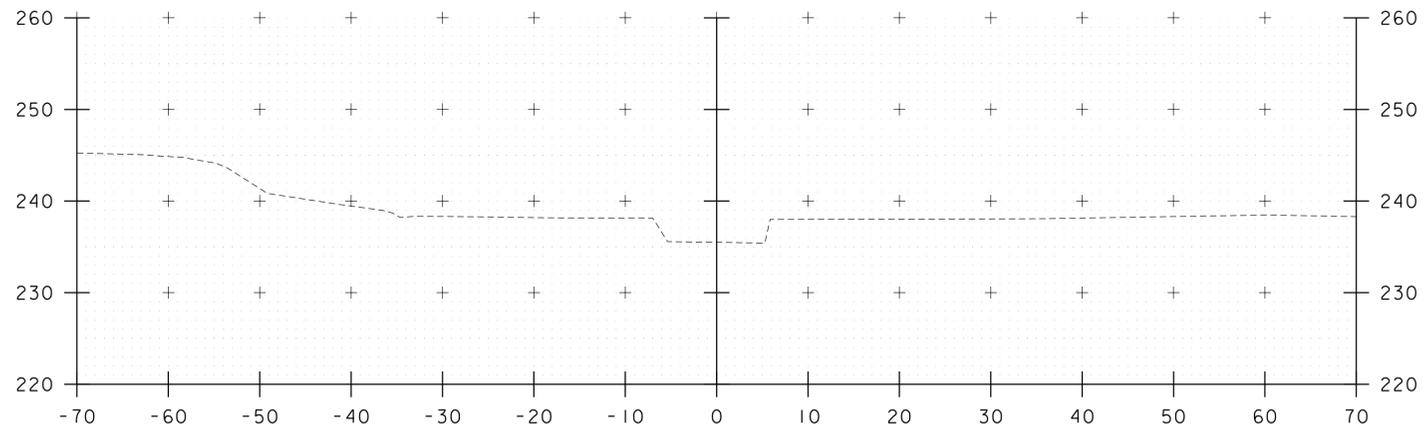
STA. 200+86 LT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II  
 BEGIN GRUBBING MATERIAL  
 STA. 200+88 LT  
 BEGIN STONE FILL CULVERT LINING

STA. 200+87 RT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II  
 BEGIN GRUBBING MATERIAL  
 STA. 200+88 RT  
 BEGIN STONE FILL, CULVERT LINING



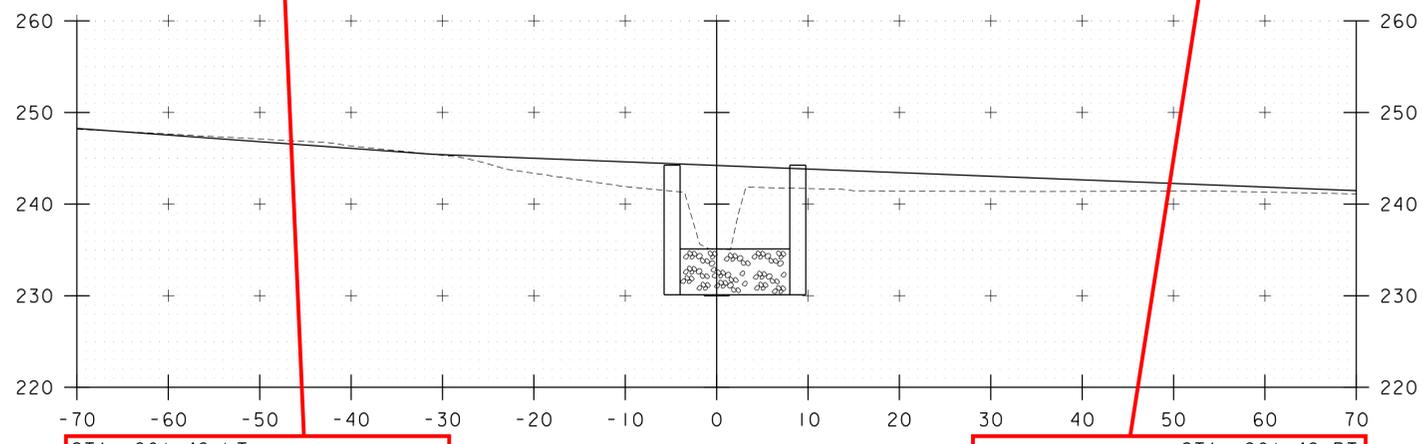
PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264xs_br5.dgn	PLOT DATE: 5/16/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
CHANNEL CROSS SECTIONS - CXSI - BR5	SHEET 46 OF 53

STA. 200+80 TO STA. 201+30



STA. 201+51 LT  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL

STA. 201+50 RT  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE II  
 END GRUBBING MATERIAL



STA. 201+49 LT  
 END STONE FILL CULVERT LINING

STA. 201+49 RT  
 END STONE FILL, CULVERT LINING

201+60

201+50

201+40

STA. 201+40 TO STA. 201+60

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264xs_br5.dgn	PLOT DATE: 5/16/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
CHANNEL CROSS SECTIONS - CXS2 - BR5	SHEET 47 OF 53



# EPSC PLAN NARRATIVE

## 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE #5, RELATED CHANNEL WORK AND INCIDENTALS. BRIDGE #5 IS AN EXISTING 84" CORRUGATED METAL PIPE CULVERT, WHICH WILL BE REPLACED WITH A 12' SPAN PRECAST CONCRETE CULVERT TO CONVEY AN UNNAMED TRIBUTARY TO THE LEMON FAIR RIVER BENEATH VT ROUTE 125. BRIDGE #5 IS LOCATED IN THE TOWN OF BRIDPORT ON VT ROUTE 125, 1.6 MILES EAST OF THE JUNCTION WITH VERMONT ROUTE 22A.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.43 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

## 1.2 SITE INVENTORY

### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF PROJECT SITE IS A LOW LYING WETLAND / MARSHY AREA WITH GRASSY UNDERGROWTH. THE SURROUNDING LAND IS MOSTLY LOW LYING AGRICULTURAL LANDS WITH SOME WOODED AREAS. VT ROUTE 125 AND THE INTERSECTION OF TH-32 PAYNE ROAD ARE WITHIN THE PROJECT SITE. THERE IS A CULVERT BENEATH TH-32 PAYNE ROAD 950' DOWNSTREAM OF BRIDGE #5. THE LOW AREA BETWEEN THE CULVERTS HAS STANDING WATER IN NORMAL CONDITIONS.

### 1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE WATER SOURCE ON THE PROJECT SITE IS AN UNNAMED TRIBUTARY TO THE LEMON FAIR RIVER. THE PROJECT IS IN THE OTTER CREEK DRAINAGE BASIN. THE TOTAL CONTRIBUTING DRAINAGE AREA IS 0.76 SQ. MI. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF FROM THE SURROUNDING SLOPES, ROADWAY DITCHES, AND THE ROADWAY OVERTOP THE CULVERT. THERE ARE CLASS II WETLANDS ON THE NORTH AND SOUTH SIDE OF THE PROJECT. SEE THE ATTACHED PROJECT IMPACT PLANS.

### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASSY FARMLAND AND MARSHY AREA. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS RELATED TO THE EXCAVATION REQUIRED FOR THE INSTALLATION OF THE CULVERT, HEADWALLS, WINGWALLS, STONE FILL, AND TEMPORARY ACCESS. UPON PROJECT COMPLETION, THE CHANNEL AND DISTURBED AREAS WITH SLOPES GREATER THAN 2:1 WILL BE ARMORED WITH STONE FILL TYPE II AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ORLEANS, VERMONT. SOILS ON THE PROJECT SITE ARE LIVINGSTON CLAY, "K FACTOR" = 0.49. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO K-VALUE.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:  
0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

### 1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: YES, FRESHWATER MUSSELS PRESENT, AOP REQUESTED, INDIANA BAT TERRITORY  
HISTORICAL OR ARCHEOLOGICAL AREAS: NO  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: YES, FRESHWATER MUSSELS PRESENT, AOP REQUESTED, INDIANA BAT TERRITORY  
WATER RESOURCE: UNNAMED TRIBUTARY TO THE LEMON FAIR RIVER  
WETLANDS: YES, THERE ARE WETLANDS AT THE INLET AND OUTLET OF THE STRUCTURE. SEE THE ATTACHED PROJECT IMPACT PLANS.

## 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

This is permitted as a single project with total greater than 1 acre of disturbance (0.67+ 0.43)?

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND SUBMITTING AN EPSC PLAN IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS.

IN ADDITION, THE CONTRACTOR SHALL DESIGN AND IMPLEMENT A TEMPORARY STREAM DIVERSION, INCLUDING EPSC MEASURES IN ACCORDANCE WITH ITEM 900.645, SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM).

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

### 1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

### 1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

### 1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

### 1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS SHOWN ON THE EPSC PLAN.

### 1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT WITH MINIMAL OFF-SITE RUNOFF FLOWING THROUGH THE SITE. THEREFORE DIVERSION MEASURES WILL NOT BE NECESSARY.

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS SHOWN ON THE EPSC PLAN. Verify - item not on quantity sheet and not detailed in EPSC plan?

### 1.4.7 CONSTRUCT PERMANENT CONTROLS

THERE ARE NO PERMANENT STORMWATER TREATMENT DEVICES TO BE INSTALLED WITH THIS PROJECT.

### 1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

### 1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

### 1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

SEDIMENT CONTAINMENT BAGS (FILTER BAGS) FOR HEADWALL WORK WILL BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER. SEE SHEET 51 FOR DETAIL.

### 1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS.

## 1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

### 1.5.1 CONSTRUCTION SEQUENCE

### 1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

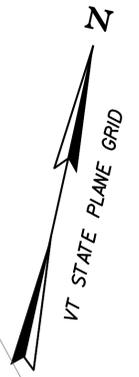
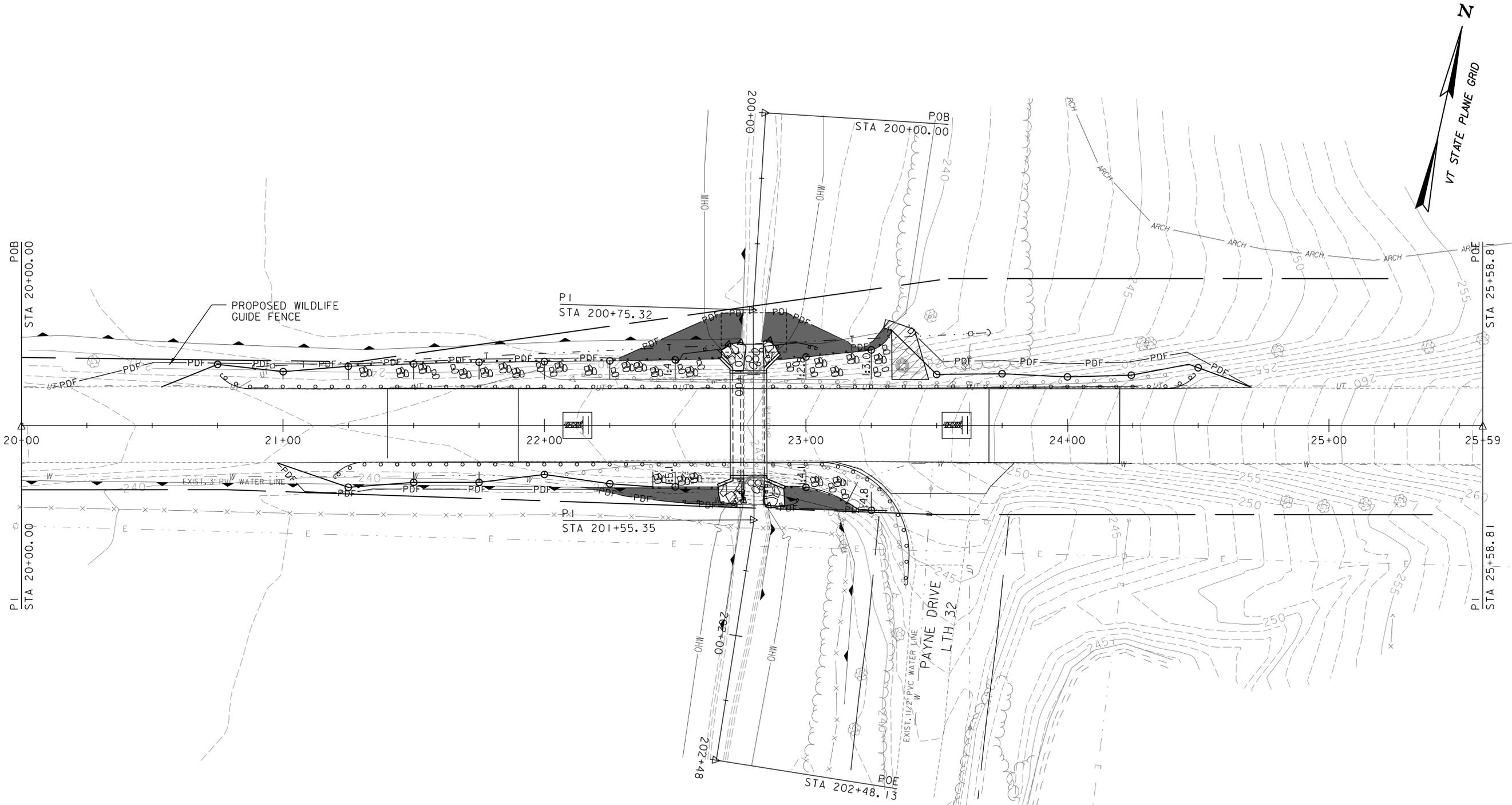
### 1.5.3 UPDATES

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264epsc nar_br5.dgn  
PROJECT LEADER: M. CHENETTE  
DESIGNED BY: J. HUNGERFORD  
EPSC NARRATIVE - ECN I - BR5

PLOT DATE: 5/16/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: M. CHENETTE  
SHEET 48 OF 53





**LEGEND**

 STABILIZED CONSTRUCTION ENTRANCE

**ITEM 653.55 PROJECT DEMARCATION FENCE**  
 STA. 20+37.32 - 23+39.36, RT.  
 STA. 20+42.71 - 23+46.84, LT.

**ITEM 649.51 GEOTEXTILE FOR SILT FENCE**  
 SEE LOCATIONS, THIS SHEET.

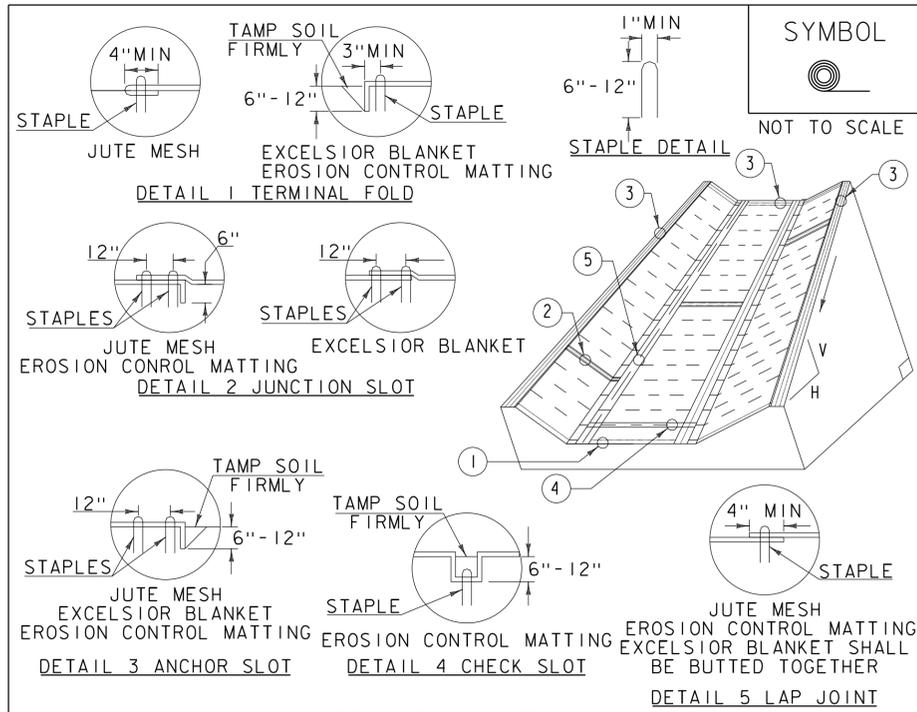
**PLAN**  
 SCALE: 1" = 20'-0"  


**NOTE:**

1. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A TEMPORARY STREAM DIVERSION PLAN. THE PLAN SHALL INCLUDE EROSION CONTROL MEASURES AS NECESSARY TO PREVENT AND CONTROL SEDIMENT DISCHARGE. SEE SPECIAL PROVISION 900.645 (TEMPORARY RELOCATION OF STREAM).

PROJECT NAME: BRIDPORT	PLOT DATE: 5/16/2014
PROJECT NUMBER: STP CULV(29)	DRAWN BY: L. BUXTON
FILE NAME: zllc264bdr_ero_br5.dgn	CHECKED BY: M. CHENETTE
PROJECT LEADER: M. CHENETTE	SHEET 49 OF 53
DESIGNED BY: J. HUNGERFORD	
EPSC CONST. SITE PLAN - ECP 1 - BR5	





**CONSTRUCTION SPECIFICATIONS**

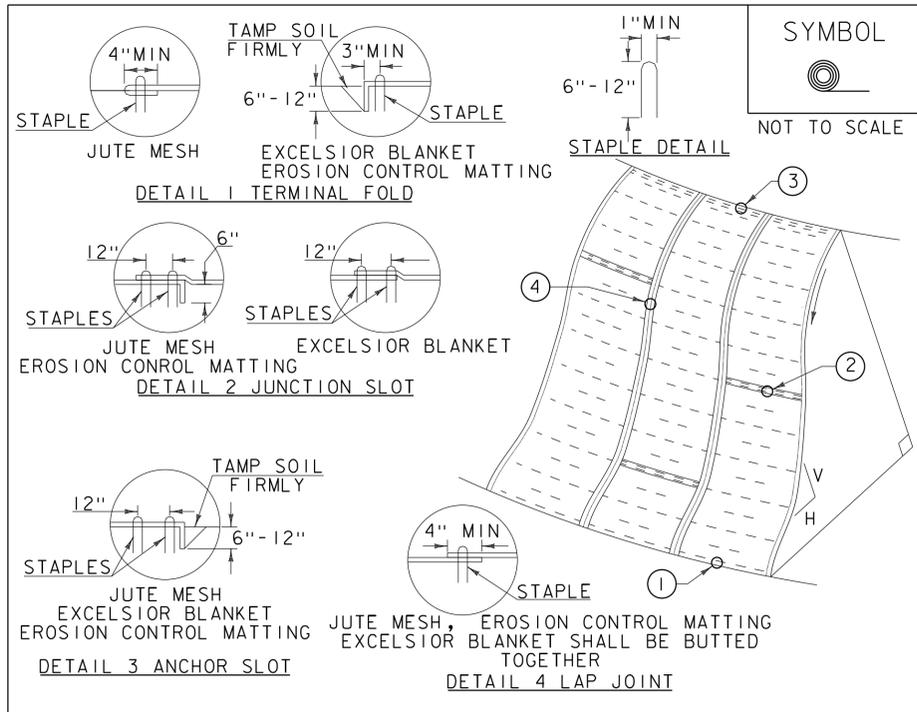
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO 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.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**ROLLED EROSION CONTROL PRODUCT (RECP) DITCH**

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF



**CONSTRUCTION SPECIFICATIONS**

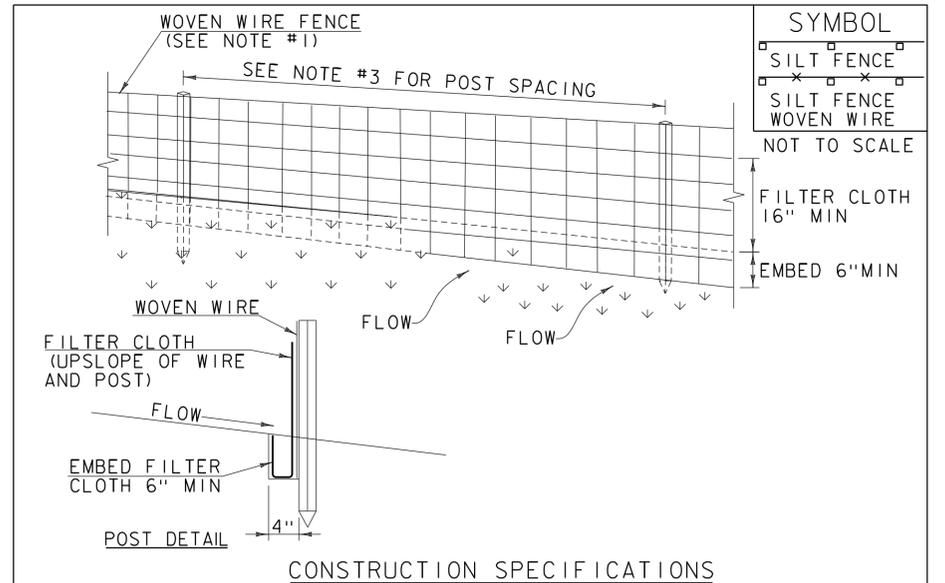
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE**

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



**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, MIRAF1100X, 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 OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**SILT FENCE**

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264epsc det_br5.dgn PLOT DATE: 5/16/2014  
PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON  
DESIGNED BY: J. HUNGERFORD CHECKED BY: M. CHENETTE  
EROSION CONTROL DETAILS - ECD 1 - BR5 SHEET 50 OF 53



VAOT RURAL AREA MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
37.5%	22.5	45	CREeping RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
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

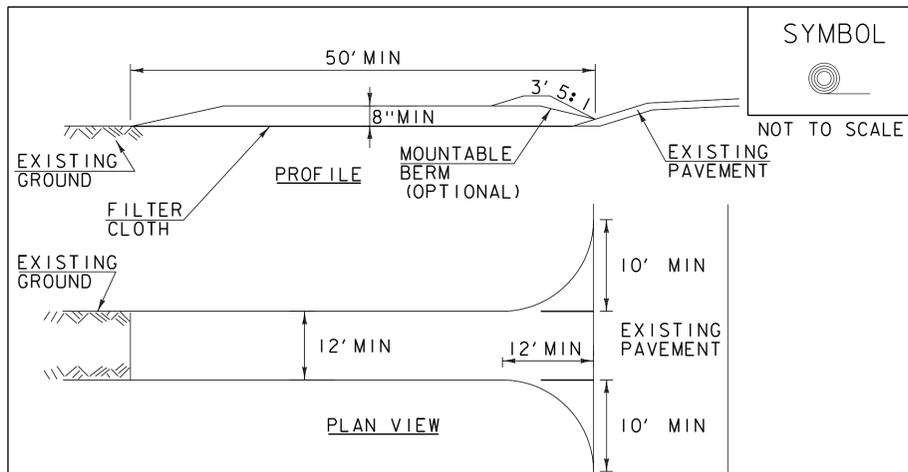
**CONSTRUCTION GUIDANCE**

- RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
- ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
- 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.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
- 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	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



**CONSTRUCTION SPECIFICATIONS**

- STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
- THICKNESS- NOT LESS THAN 8".
- WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
- GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
- 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.
- 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.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

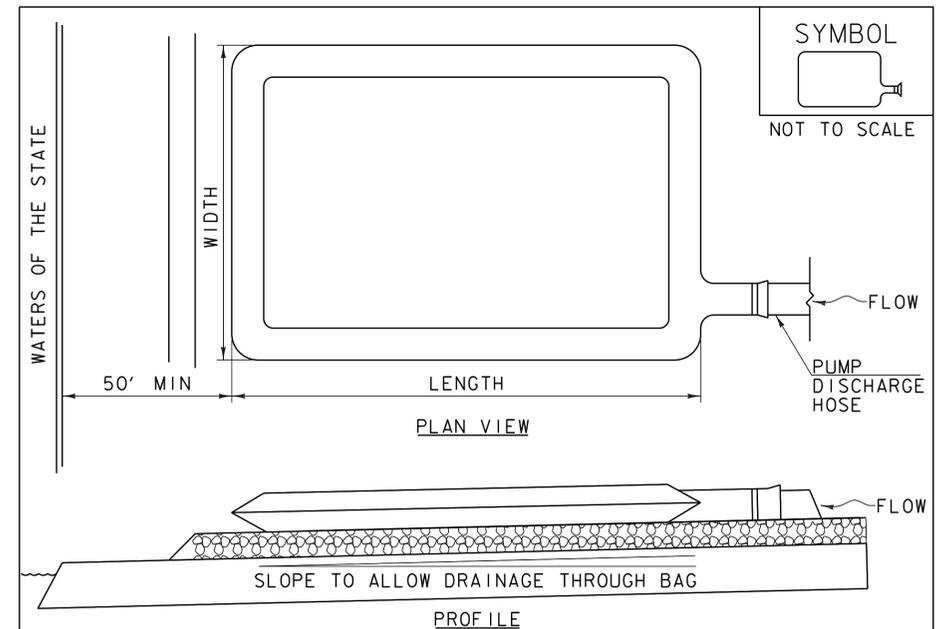
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**STABILIZED CONSTRUCTION ENTRANCE**

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



**CONSTRUCTION SPECIFICATIONS**

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

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

PROJECT NAME: BRIDPORT  
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264epsc_def_br5.dgn PLOT DATE: 5/16/2014  
PROJECT LEADER: M. CHENETTE DRAWN BY: L. BUXTON  
DESIGNED BY: J. HUNGERFORD CHECKED BY: M. CHENETTE  
EROSION CONTROL DETAILS - ECD 2 - BR5 SHEET 51 OF 53

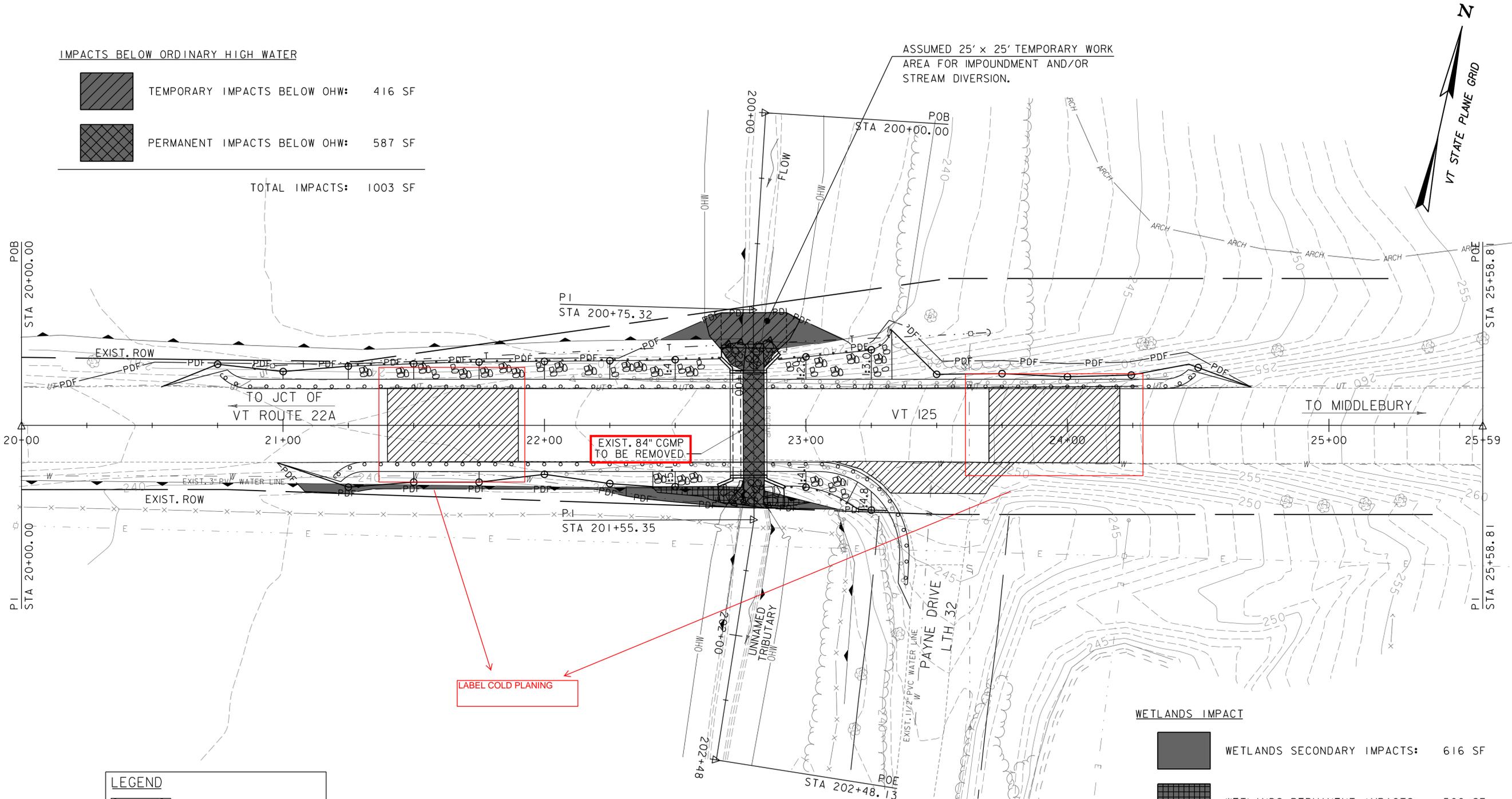


IMPACTS BELOW ORDINARY HIGH WATER

	TEMPORARY IMPACTS BELOW OHW:	416 SF
	PERMANENT IMPACTS BELOW OHW:	587 SF

TOTAL IMPACTS: 1003 SF

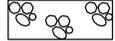
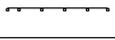
ASSUMED 25' x 25' TEMPORARY WORK AREA FOR IMPOUNDMENT AND/OR STREAM DIVERSION.



LABEL COLD PLANING

EXIST. 84" CGMP TO BE REMOVED

**LEGEND**

	STONE FILL, TYPE I
	STONE FILL, TYPE II
	SPECIAL PROVISION (STONE FILL, CULVERT LINING)
	SPECIAL PROVISION (WILDLIFE GUIDE FENCE)



**WETLANDS IMPACT**

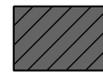
	WETLANDS SECONDARY IMPACTS:	616 SF
	WETLANDS PERMANENT IMPACTS:	566 SF

TOTAL IMPACTS: 1182 SF

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	zllc264bdr_impacts_br5.lgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
PROJECT IMPACTS PLAN I - BR5	
PLOT DATE:	5/16/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	52 OF 53



WETLANDS BUFFER IMPACTS

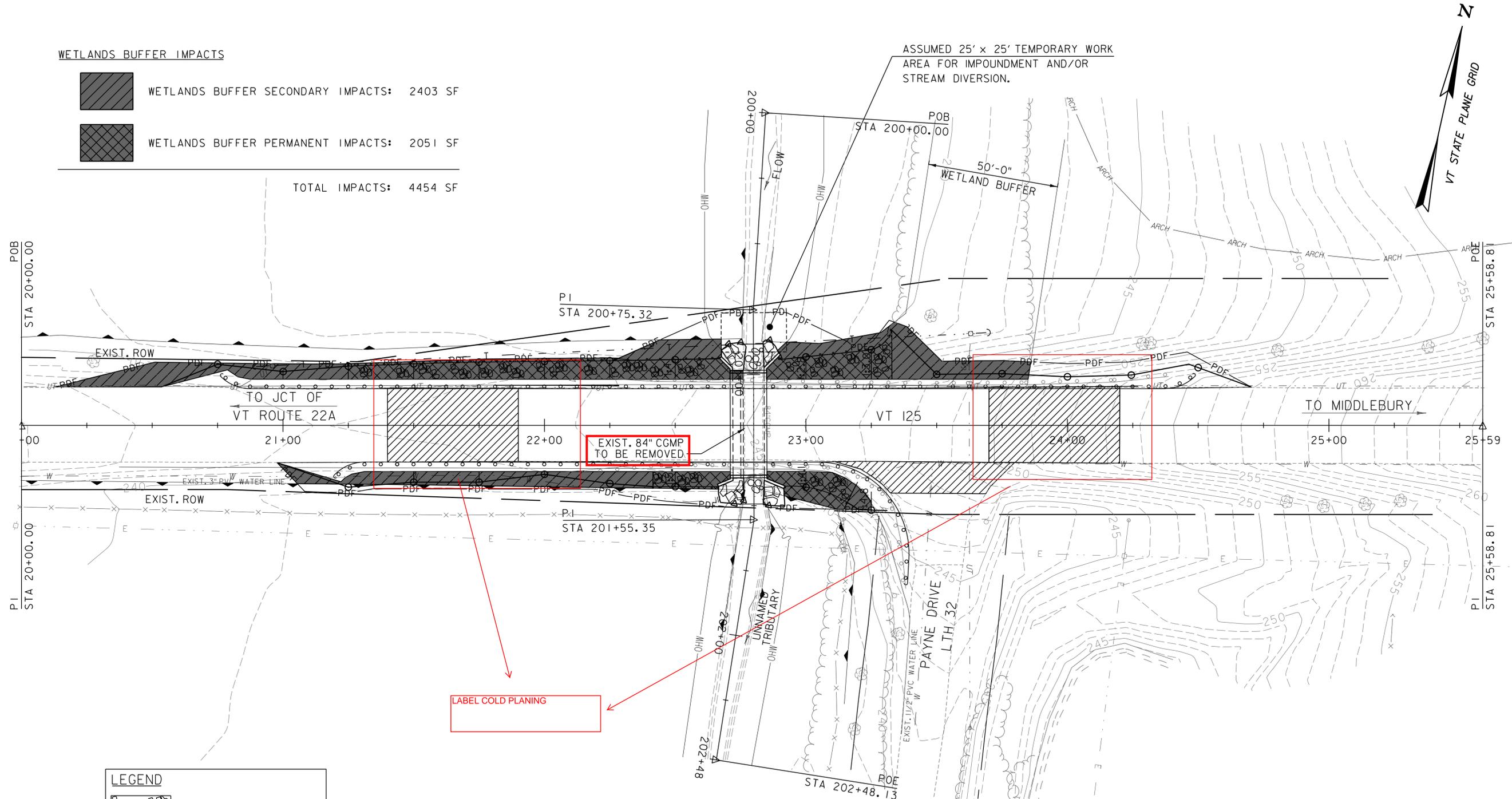


WETLANDS BUFFER SECONDARY IMPACTS: 2403 SF



WETLANDS BUFFER PERMANENT IMPACTS: 2051 SF

TOTAL IMPACTS: 4454 SF

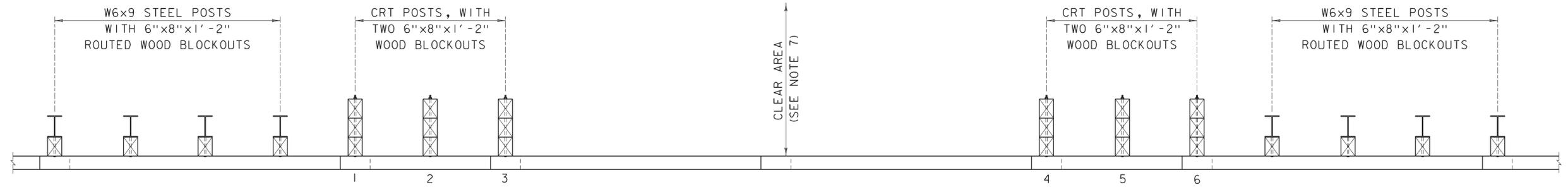


LEGEND	
	STONE FILL, TYPE I
	STONE FILL, TYPE II
	SPECIAL PROVISION (STONE FILL, CULVERT LINING)
	SPECIAL PROVISION (WILDLIFE GUIDE FENCE)

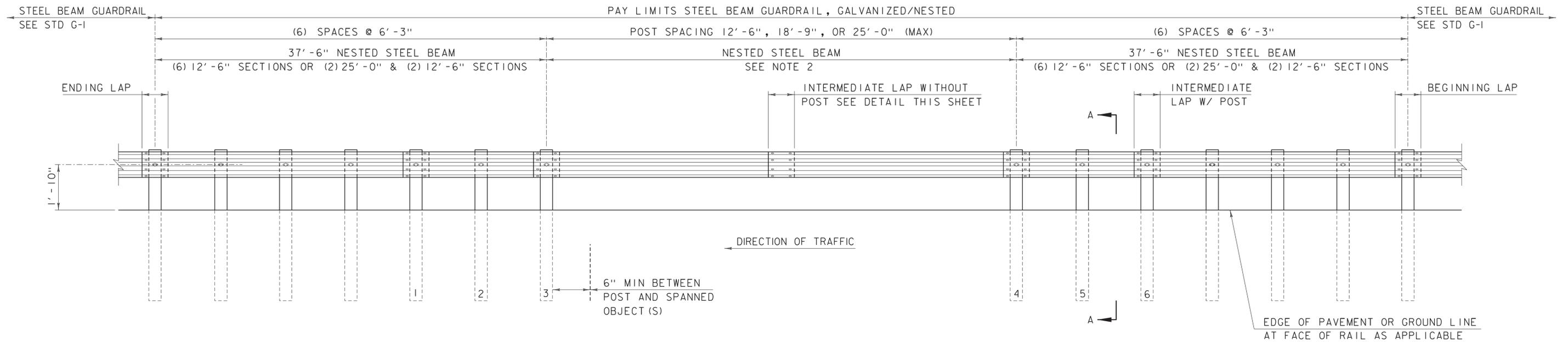


PROJECT NAME: BRIDPORT	PLOT DATE: 5/16/2014
PROJECT NUMBER: STP CULV(29)	DRAWN BY: L. BUXTON
FILE NAME: zllc264bdr_impacts_br5.2.dgn	CHECKED BY: M. CHENETTE
PROJECT LEADER: M. CHENETTE	SHEET 53 OF 53
DESIGNED BY: J. HUNGERFORD	
PROJECT IMPACTS PLAN 2 - BR5	

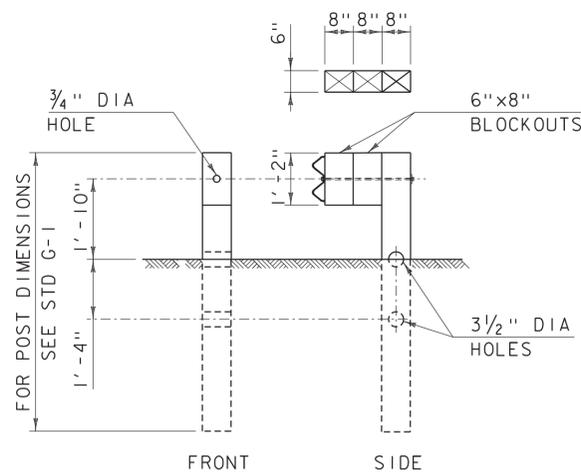




LONGSPAN STEEL BEAM GUARDRAIL PLAN

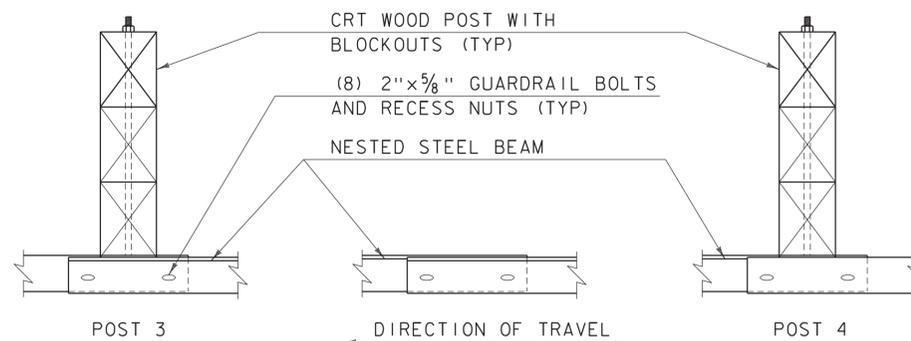


LONGSPAN STEEL BEAM GUARDRAIL ELEVATION



SECTION A-A

SECTION A-A TYPICAL FOR POST 1-6.  
SEE NOTES 3 AND 4



INTERMEDIATE LAP WITHOUT POST

NOTES:

1. RAIL MEETS TEST LEVEL 3 REQUIREMENTS OF NCHRP REPORT 350.
2. THERE SHALL BE NO MORE THAN ONE SPLICE IN THE LONGSPAN LOCATION.
3. POSTS 1 THRU 6 ARE BREAKAWAY CONTROLLED RELEASING TERMINAL (CRT) POSTS.
4. POSTS 1 THRU 6 HAVE TWO 6"x8" BLOCKOUTS.
5. ON POSTS 1 THRU 6, GUARDRAIL BOLT "D", AS SHOWN ON STD G-1, SHALL BE 26" LONG.
6. ON ALL POSTS WHERE THE RAIL IS NESTED GUARDRAIL BOLT "A", AS SHOWN ON STD G-1, SHALL BE 2" LONG.
7. CLEAR AREA BEHIND BACK OF RAIL SHALL BE:  
5'-0" MINIMUM FOR OBSTRUCTIONS LESS THAN OR EQUAL TO THE HEIGHT OF RAIL.  
6'-0" FOR OBSTRUCTIONS TALLER THAN THE TOP OF RAIL.
8. W6x9 STEEL POST MAY BE REPLACED WITH CRT WOOD POST WITH THE APPROVAL OF THE ENGINEER.
9. ALL MATERIALS NECESSARY FOR THE ASSEMBLY OF THE RAIL MUST MEET THE REQUIREMENTS OF STD G-1 UNLESS OTHERWISE NOTED.
10. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL.

REVISIONS

NOVEMBER 25, 2013	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JANUARY 3, 2014	APPROVED FOR USE BY VAOT STRUCTURES SECTION

LONGSPAN  
STEEL BEAM GUARDRAIL,  
GALVANIZED



STRUCTURES  
DETAIL  
SD-366.00