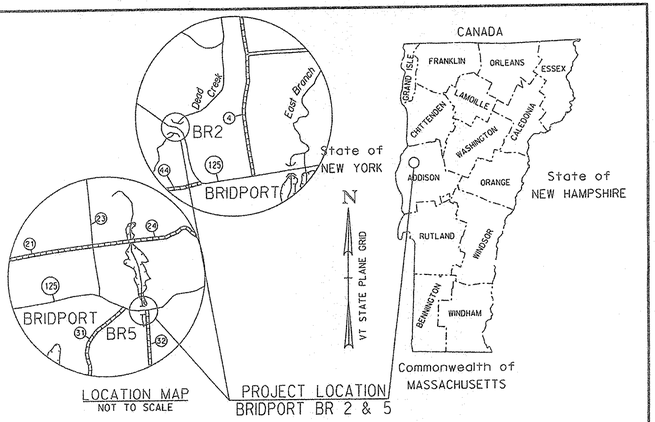
STATE OF VERMONT
AGENCY OF TRANSPORTATION



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

RECORD PLANS

CONTRACTOR: PECKHAM ROAD CORPORATION. –WHITE PLAINS, NY

RESIDENT ENGINEER: CHRIS LAVALETTE

CONSTRUCTION BEGAN: MAY 21, 2015

CONSTRUCTION COMPLETE: AUGUST 6, 2015

RECORD PLANS BY: CHRIS LAVALETTE & AARON JAMES

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

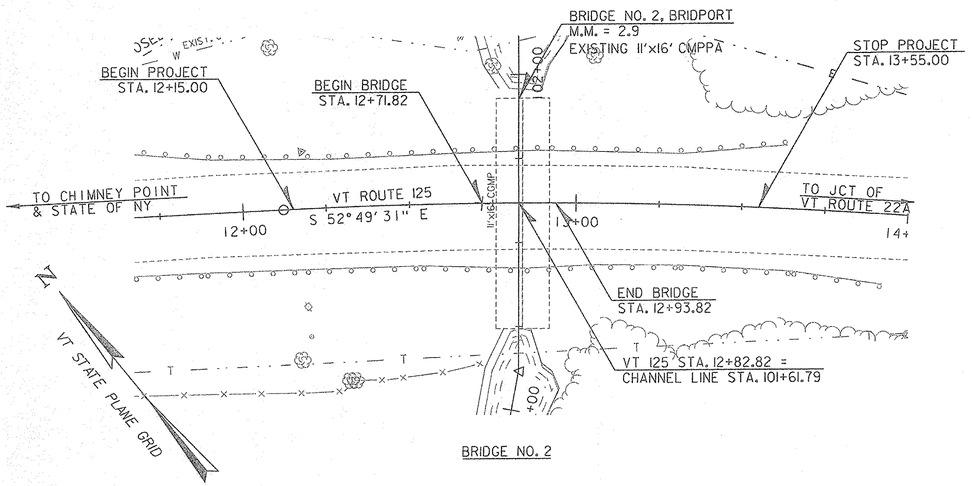
DATE 9.7.16

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

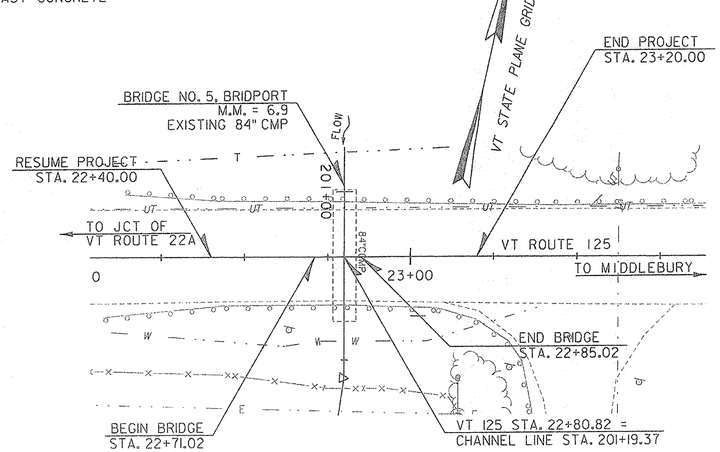
PROJECT LOCATION: BRIDGE NO. 2 IS LOCATED ON VERMONT ROUTE 125, 2.3 MILES WEST OF THE JUNCTION WITH VERMONT ROUTE 22A.
BRIDGE NO. 5 IS LOCATED ON VERMONT ROUTE 125, 1.6 MILES EAST OF THE JUNCTION WITH VERMONT ROUTE 22A.

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



BRIDGE NO. 2



BRIDGE NO. 5

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)

0 20 40
SCALE IN FEET

STATE OF VERMONT RICHARD H. DUNNE III ENGINEER NO. 2259 PROFESSIONAL ENGINEER

Stantec

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 PROJECT DELIVERY
APPROVED _____ DATE 9/11/2014

PROJECT MANAGER : MARK SARGENT

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

SHEET 1 OF 57 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

INDEX OF SHEETS

PAGE NO.	SHEET TITLE
1	TITLE SHEET
2	PRELIMINARY INFORMATION SHEET - BR2
3	PRELIMINARY INFORMATION SHEET - BR5
4	PROJECT NOTES
5-10	QUANTITY SHEETS - QS1 - QS6
11	CONVENTIONAL SYMBOLOGY LEGEND
12	TYPICAL SECTIONS - BR2
13	SURVEY CONTROL AND TIES - BR2
14	PLAN LAYOUT SHEET - BR2
15	ROADWAY PROFILE - BR2
16	STREAM PROFILE - BR2
17	STRUCTURAL PLAN AND DETAILS - BR2
18	DETOUR PLAN - BR2
19	TRAFFIC CONTROL DETAILS 1 - BR2
20	TRAFFIC CONTROL DETAILS 2 - BR2
21	BORING PLAN - BR2
22	BORING LOG 1 - BR2
23	BORING LOG 2 - BR2
24	ROADWAY CROSS SECTIONS - RXS1 - BR2
25	ROADWAY CROSS SECTIONS - RXS2 - BR2
26	ROADWAY CROSS SECTIONS - RXS3 - BR2
27	ROADWAY CROSS SECTIONS - RXS4 - BR2
28	CHANNEL CROSS SECTIONS - CXS1 - BR2
29	CHANNEL CROSS SECTIONS - CXS2 - BR2
30	CHANNEL CROSS SECTIONS - CXS3 - BR2
31	EPSC NARRATIVE - ECN1 - BR2
32	EPSC CONSTRUCTION SITE PLAN -ECP1 - BR2
33	EROSION CONTROL DETAILS - ECD1 - BR2
34	EROSION CONTROL DETAILS - ECD2 - BR2
35	PROJECT IMPACTS PLAN 1 - BR2
36	PROJECT IMPACTS PLAN 2 - BR2
37	TYPICAL SECTIONS - BR5
38	SURVEY CONTROL AND TIES - BR5
39	PLAN LAYOUT SHEET - BR5
40	ROADWAY PROFILE - BR5
41	STREAM PROFILE - BR5
42	STRUCTURAL PLAN AND DETAILS - BR5
43	DETOUR PLAN - BR5
44	TRAFFIC CONTROL DETAILS 1 - BR5
45	TRAFFIC CONTROL DETAILS 2 - BR5
46	BORING PLAN - BR-5
47	BORING LOG 1 - BR5
48	ROADWAY CROSS SECTIONS - RXS1 - BR5
49	ROADWAY CROSS SECTIONS - RXS2 - BR5
50	CHANNEL CROSS SECTIONS - CSX1 - BR5
51	CHANNEL CROSS SECTIONS - CXS2 - BR5
52	EPSC NARRATIVE - ECN1 - BR5
53	EPSC CONSTRUCTION SITE PLAN - ECP1 - BR5
54	EROSION CONTROL DETAILS - ECD1 - BR5
55	EROSION CONTROL DETAILS - ECD2 - BR5
56	PROJECT IMPACTS PLAN 1 - BR5
57	PROJECT IMPACTS PLAN 2 - BR5

STRUCTURE DETAIL SHEETS

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

STANDARDS LIST

VAOT STANDARD SHEETS

E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/08/95
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	03/16/04
E-171A	TRAFFIC CONTROL SIGNALS GENERAL NOTES & DETAILS	08/09/95
E-172	VEHICLE LOOP DETAILS	08/09/95
E-191	PAVEMENT MARKING DETAILS	02/01/99
E-192	PAVEMENT MARKING DETAILS	10/12/00
E-193	PAVEMENT MARKING DETAILS	08/18/95
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS STEEL BEAM GUARDRAIL WITH WOOD POSTS	02/10/14
G-1D	STEEL BEAM GUARDRAIL APPROACH END TERMINAL STEEL BEAM GUARDRAIL TRAILING END TERMINAL ANCHOR FOR STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER	02/10/14
T-1	TRAFFIC CONTROL GENERAL NOTES	08/06/12
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08/06/12
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08/06/12
T-28	CONSTRUCTION SIGN DETAILS	08/06/12
T-29	CONSTRUCTION SIGN DETAILS	08/06/12
T-30	CONSTRUCTION SIGN DETAILS	08/06/12
T-31	CONSTRUCTION SIGN DETAILS	08/06/12
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08/06/12
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08/06/12
T-42	BRIDGE NUMBER PLAQUE	04/09/14
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01/02/13

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2013	1400	190	64	10	130
2023	1400	190	64	11.8	150

10 year ESAL for flexible pavement from 2013 to 2023 : 397000

20 year ESAL for flexible pavement from 2013 to 2033 : 869000

Design Speed : 50 mph

AS BUILT "REBAR" DETAIL

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

FINAL HYDRAULIC REPORT – **BRIDGE NO. 2**

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:							

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	
ORDINARY LOW WATER:	7 cfs	DEPTH OR ELEVATION:
ORDINARY HIGH WATER:	75 cfs	Depth = 0.5'
		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	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	- - -
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	- - -
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	- - -
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:	- - -
	S_1:	- - -
23. * SEE GEOTECHNICAL REPORT		- - -
24.		- - -
25.		- - -
26.		- - -

PROJECT NAME: **Bridport**
PROJECT NUMBER: **STP CULV (29)**

FILE NAME: **z11c264_BR2_PI.xls**
PROJECT LEADER: **M. CHENETTE**
DESIGNED BY: **A. LACHANCE**
PRELIMINARY INFORMATION SHEET – BR2

PLOT DATE: 3/18/2014
DRAWN BY: **L. BUXTON**
CHECKED BY: **M. CHENETTE**
SHEET **2** OF **57**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
LRFD

INDEX OF SHEETS

PLAN SHEETS

SEE SHEET 2

STANDARDS LIST

FINAL HYDRAULIC REPORT – BRIDGE NO. 5

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. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

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	f_y:	- - -
6. PRESTRESSED CONCRETE STRENGTH	f'_c:	- - -
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	- - -
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'_c:	- - -
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'_c:	- - -
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'_c:	3.5 KSI
11. CONCRETE, CLASS C	f'_c:	- - -
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:	- - -
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.		- - -

AS BUILT "REBAR" DETAIL

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

TRAFFIC DATA

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

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

PROJECT NAME: **Bridport**
PROJECT NUMBER: **STP CULV(29)**

FILE NAME: **z11c264_BR5_PI.xls**
PROJECT LEADER: **M. CHENETTE**
DESIGNED BY: **A LACHANCE**
PRELIMINARY INFORMATION SHEET – BR5
PLOT DATE: 3/18/2014
DRAWN BY: **L. BUXTON**
CHECKED BY: **M. CHENETTE**
SHEET 3 OF 57

PROJECT NOTES

GENERAL

1. 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.

2. 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 HOLIDAY PERIODS. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

3. THE CONTRACTOR SHALL ENSURE ACCESS TO ALL DRIVES AND SIDE ROADS AT ALL TIMES DURING CONSTRUCTION.

4. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F.

5. IN-STREAM CONSTRUCTION SHALL OCCUR ONLY WITHIN THE TIMEFRAME 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.

PRECAST CONCRETE BOX CULVERTS AND WINGWALLS

1. THE BOX CULVERT INCLUDING SILLS, HEADWALLS, CUT-OFF WALLS, AND WINGWALLS WILL BE PAID FOR UNDER THE APPROPRIATE SECTION 540 CONTRACT ITEM.

2. THE BOX CULVERT INCLUDING THE SILLS, HEADWALLS AND WINGWALL STEMS SHALL BE PRECAST. THE CUT-OFF-WALL AND WINGWALL FOOTINGS 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 B.

3. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS FOR THE BOX CULVERTS AND ALL ASSOCIATED DETAILS IN ACCORDANCE WITH SUBSECTION 105.03.

4. THE BOX CULVERT TYPICAL SECTIONS SHOWN IN THE DRAWINGS ARE FOR SCHEMATIC PURPOSES ONLY. THE ACTUAL SHAPE OF THE BOX CULVERT AND ITS COMPONENTS WILL BE DEPENDENT ON THE FABRICATOR.

5. ALL BOX CULVERT JOINTS SHALL BE STRENGTHENED WITH PERMANENT CLOSURE HARDWARE. ALL HARDWARE COMPONENTS SHALL BE GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08.

6. ALL REINFORCING TO BE LEVEL I (UNCOATED). PAYMENT FOR REINFORCING WILL BE INCLUDED UNDER THE APPROPRIATE SECTION 540 CONTRACT ITEM.

7. 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. PRIOR TO THE APPLICATION OF ANY WATERPROOFING, ALL MORTAR SHALL BE WET CURED A MINIMUM OF 12 HOURS OR UNTIL THE COMPRESSIVE STRENGTH HAS REACHED 2000 psi.

8. A TWO FOOT WIDE STRIP OF SHEET MEMBRANE WATERPROOFING SHALL BE APPLIED AT EACH SIDE JOINT IN ACCORDANCE WITH SUBSECTION 540.10. 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. TORCH APPLIED MEMBRANE WILL BE PAID SEPARATELY UNDER CONTRACT ITEM 519.20. THE MEMBRANE SHEETS SHALL OVERLAP THE EDGES OF THE CULVERT BY ONE FOOT ON EACH SIDE AS SHOWN IN THE PLANS.

9. WATER REPELLENT IN ACCORDANCE WITH ITEM 514.10 SHALL BE APPLIED TO ALL EXPOSED SURFACES EXCEPT THE INSIDE OF THE BOX.

SIMULATED STREAM BED

1. 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

2. 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).

UTILITY COORDINATION

1. 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: 1-802-747-5460

   -WAITSFIELD AND CHAMPLAIN VALLEY TELECOM: 1-802-496-8323

   -TRI-TOWN WATER DISTRICT #1: 1-802-758-2202

2. 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.

TRAFFIC CONTROL

1. SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS OR CORNER SIGHT DISTANCE FROM HIGHWAYS OR DRIVES.

2. ORANGE SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM D 4956) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: zllc264frm.dgn	PLOT DATE: 9/12/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
PROJECT NOTES	SHEET 4 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES								TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	EROSION CONTROL	BRIDGE NO. 2	BRIDGE NO. 5	FULL C.E. ITEMS	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				
					1330					1330		CY	COMMON EXCAVATION	203.15				
							400	140		540		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
					1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
							1900	570		2470		CY	STRUCTURE EXCAVATION	204.25				
							1100	330		1430		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
					660					660		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
					970					970		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
					1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
							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)	529.15				
								1		1		EACH	REMOVAL OF STRUCTURE (84" X 41'-0" CGMP)	529.15				
								1		1		LS	PRECAST CONCRETE STRUCTURE (12'-0" X 9'-0" X 41'-0" BOX)	540.10				
							1			1		LS	PRECAST CONCRETE STRUCTURE (20'-0" X 10'-0" X 66'-0" BOX)	540.10				
					1					1		MGAL	DUST CONTROL WITH WATER	609.10				
					1					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				
					8					8		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
					901					901		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					200					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	635.11				
					13					13		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
					1240					1240		LF	DURABLE 4 INCH WHITE LINE	646.400				
					1240					1240		LF	DURABLE 4 INCH YELLOW LINE	646.410				
					775					775		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
							1050	40		1090		SY	GEOTEXTILE UNDER STONE FILL	649.31				
						100				100		SY	GEOTEXTILE FOR SILT FENCE	649.51				
					30					30		LB	SEED	651.15				

NOTE: FOR DETAILED BREAKDOWN OF QUANTITIES BETWEEN BR2 AND BR5 SEE BR2 AND BR5 QUANTITY SHEETS

Stantec

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

FILE NAME: z11c264frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
QUANTITY SHEET 1

PLOT DATE: 9/12/2014
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 5 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE NO. 2	BRIDGE NO. 5	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
160					160		LB	FERTILIZER	651.18				
2					2		TON	AGRICULTURAL LIMESTONE	651.20				
2					2		TON	HAY MULCH	651.25				
120					120		CY	TOPSOIL	651.35				
985					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				
	80				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				
	1850				1850		SY	TEMPORARY EROSION MATTING	653.20				
	10				10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
	60				60		CY	VEHICLE TRACKING PAD	653.35				
	2				2		EACH	FILTER BAG	653.45				
	1450				1450		LF	PROJECT DEMARCATION FENCE	653.55				
1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
		160	90		250		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING)	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			1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(VT 125 - BRIDGE NO. 2)	900.650				
			1		1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(VT 125 - BRIDGE NO. 5)	900.650				
		1	1		2		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
		1	1		2		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
		470	340		810		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

NOTE: FOR DETAILED BREAKDOWN OF QUANTITIES BETWEEN BR2 AND BR5 SEE BR2 AND BR5 QUANTITY SHEETS

Stantec

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

FILE NAME: z11c264frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
QUANTITY SHEET 2

PLOT DATE: 9/12/2014
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 6 OF 57

BR2 QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES				TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	BRIDGE NO. 2	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
780				780		CY	COMMON EXCAVATION	203.15				
		400		400		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
0.5				0.5		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
		1900		1900		CY	STRUCTURE EXCAVATION	204.25				
		1100		1100		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
340				340		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
570				570		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
		5		5		GAL	WATER REPELLENT, SILANE	514.10				
		200		200		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
		1		1		EACH	REMOVAL OF STRUCTURE (16' X 11' x 68' CMPPA)	529.15				
		1		1		LS	PRECAST CONCRETE STRUCTURE (20'-0" X 10'-0" X 66'-0" BOX)	540.10				
0.5				0.5		MGAL	DUST CONTROL WITH WATER	609.10				
0.5				0.5		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
		700		700		CY	STONE FILL, TYPE II	613.11				
67				67		LF	REMOVAL OF EXISTING FENCE	620.55				
650				650		LF	STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS	621.205				
4				4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
538				538		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
100				100		HR	FLAGGERS	630.15				
			0.5	0.5		LS	FIELD OFFICE, ENGINEERS	631.10				
			0.5	0.5		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
			1500	1500		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
0.5				0.5		LS	MOBILIZATION/DEMOBILIZATION	635.11				
7				7		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
680				680		LF	DURABLE 4 INCH WHITE LINE	646.400				
680				680		LF	DURABLE 4 INCH YELLOW LINE	646.410				
525				525		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
		1050		1050		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	60			60		SY	GEOTEXTILE FOR SILT FENCE	649.51				
20				20		LB	SEED	651.15				
90				90		LB	FERTILIZER	651.18				
1				1		TON	AGRICULTURAL LIMESTONE	651.20				
1				1		TON	HAY MULCH	651.25				
70				70		CY	TOPSOIL	651.35				
950				950		SY	GRUBBING MATERIAL	651.40				
	1			1		LS	EPSC PLAN	652.10				
	40			40		HR	MONITORING EPSC PLAN	652.20				
	1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
	1500			1500		SY	TEMPORARY EROSION MATTING	653.20				

Stantec

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

FILE NAME: zllc264frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
BR2 QUANTITY SHEET 1

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 7 OF 57

BR2 QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE NO. 2	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1500			1500		SY	TEMPORARY EROSION MATTING	653.20				
							10			10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							30			30		CY	VEHICLE TRACKING PAD	653.35				
							1			1		EACH	FILTER BAG	653.45				
							810			810		LF	PROJECT DEMARCATION FENCE	653.55				
								160		160		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING)	900.608				
								1		1		LS	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)(VT 125 - BRIDGE NO. 2)	900.645				
						1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)(VT 125 - BRIDGE NO. 2)	900.645				
								1		1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(VT 125 - BRIDGE NO. 2)	900.650				
								1		1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I)	900.650				
								1		1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I)	900.650				
								470		470		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264frm.dgn	PLOT DATE: 9/12/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: J. HUNGERFORD
BR2 QUANTITY SHEET 2	SHEET 8 OF 57

BR5 QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAYS		EROSION CONTROL	BRIDGE NO. 5	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
						550					550		CY	COMMON EXCAVATION	203.15				
									140		140		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
						0.5					0.5		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
									570		570		CY	STRUCTURE EXCAVATION	204.25				
									330		330		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
						320					320		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
						400					400		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
									2		2		GAL	WATER REPELLENT, SILANE	514.10				
									100		100		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
									1		1		EACH	REMOVAL OF STRUCTURE (84" X 41'-0" CGMP)	529.15				
									1		1		LS	PRECAST CONCRETE STRUCTURE (12'-0" X 9'-0" X 41'-0" BOX)	540.10				
						0.5					0.5		MGAL	DUST CONTROL WITH WATER	609.10				
						0.5					0.5		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
						115					115		CY	STONE FILL, TYPE I	613.10				
									30		30		CY	STONE FILL, TYPE II	613.11				
						1					1		EACH	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12				
						463					463		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20				
						188					188		LF	STEEL BEAM GUARDRAIL, GALVANIZED/NESTED	621.206				
						4					4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60				
						363					363		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
						100					100		HR	FLAGGERS	630.15				
										0.5	0.5		LS	FIELD OFFICE, ENGINEERS	631.10				
										0.5	0.5		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
										1500	1500		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26				
						0.5					0.5		LS	MOBILIZATION/DEMOBILIZATION	635.11				
						6					6		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
						560					560		LF	DURABLE 4 INCH WHITE LINE	646.400				
						560					560		LF	DURABLE 4 INCH YELLOW LINE	646.410				
						250					250		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11				
									40		40		SY	GEOTEXTILE UNDER STONE FILL	649.31				
								40			40		SY	GEOTEXTILE FOR SILT FENCE	649.51				
						10					10		LB	SEED	651.15				
						70					70		LB	FERTILIZER	651.18				
						1					1		TON	AGRICULTURAL LIMESTONE	651.20				
						1					1		TON	HAY MULCH	651.25				
						50					50		CY	TOPSOIL	651.35				
						35					35		SY	GRUBBING MATERIAL	651.40				
								1			1		LS	EPSC PLAN	652.10				
								40			40		HR	MONITORING EPSC PLAN	652.20				

Stantec

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

FILE NAME: z11c264frm.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
BR5 QUANTITY SHEET 1

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: J. HUNGERFORD
SHEET 9 OF 57

BR5 QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
						ROADWAY	EROSION CONTROL	BRIDGE NO. 5	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							40			40		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (VT 125 - BRIDGE NO. 5)	652.30				
							350			350		SY	TEMPORARY EROSION MATTING	653.20				
							30			30		CY	VEHICLE TRACKING PAD	653.35				
							1			1		EACH	FILTER BAG	653.45				
							640			640		LF	PROJECT DEMARCATION FENCE	653.55				
								90		90		CY	SPECIAL PROVISION (STONE FILL, CULVERT LINING)	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. 5)	900.645				
						1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)(VT 125 - BRIDGE NO. 5)	900.645				
								1		1		LU	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(VT 125 - BRIDGE NO. 5)	900.650				
								1		1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT)(N.A.B.I)	900.650				
								1		1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)	900.650				
								340		340		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264frm.dgn	PLOT DATE: 9/12/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: J. HUNGERFORD
BR5 QUANTITY SHEET 2	SHEET 10 OF 57

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY 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. SYMBOLOGY 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 SYMBOLOGY

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 SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- 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 — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

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/L — PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6F — 6F — 6F PROPERTY BOUNDARY
- 4F — 4F — 4F PROPERTY BOUNDARY
- HAZ — HAZ — HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- 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 — 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
- (H) HISTORIC STRUCTURE

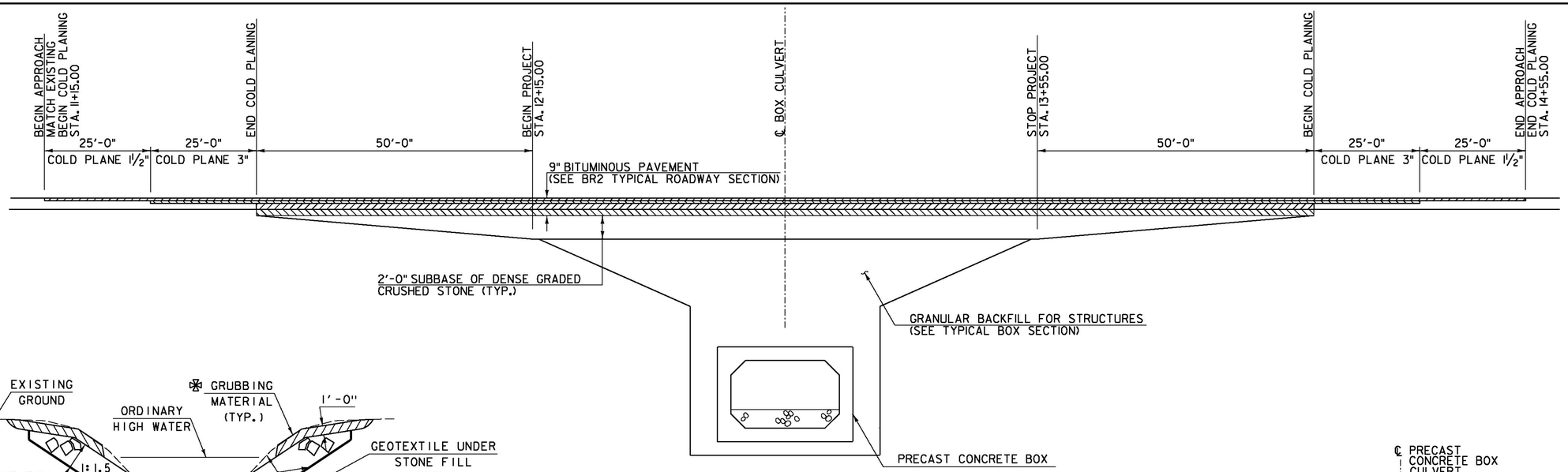
CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

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

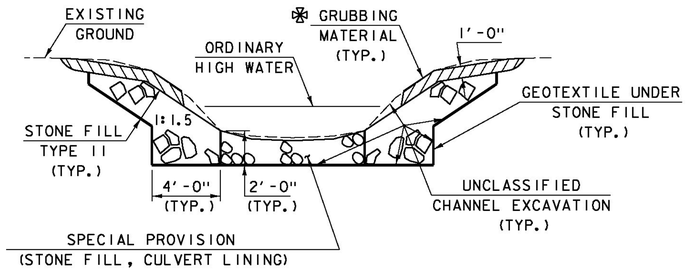
Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264legend.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: VTRANS
DESIGNED BY: VTRANS	CHECKED BY: VTRANS
CONVENTIONAL SYMBOLOGY LEGEND	SHEET II OF 57



TYPICAL APPROACH SECTION - BR2

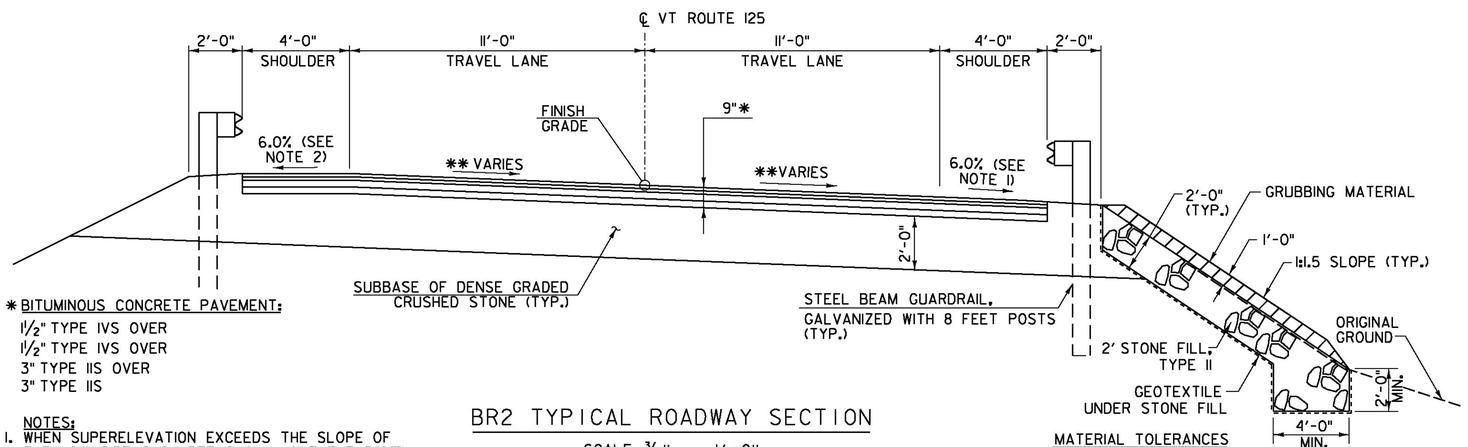
NOT TO SCALE



CHANNEL TYPICAL SECTION

NOT TO SCALE

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



* BITUMINOUS CONCRETE PAVEMENT:
- 1½" TYPE IVS OVER
- 1½" 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% .

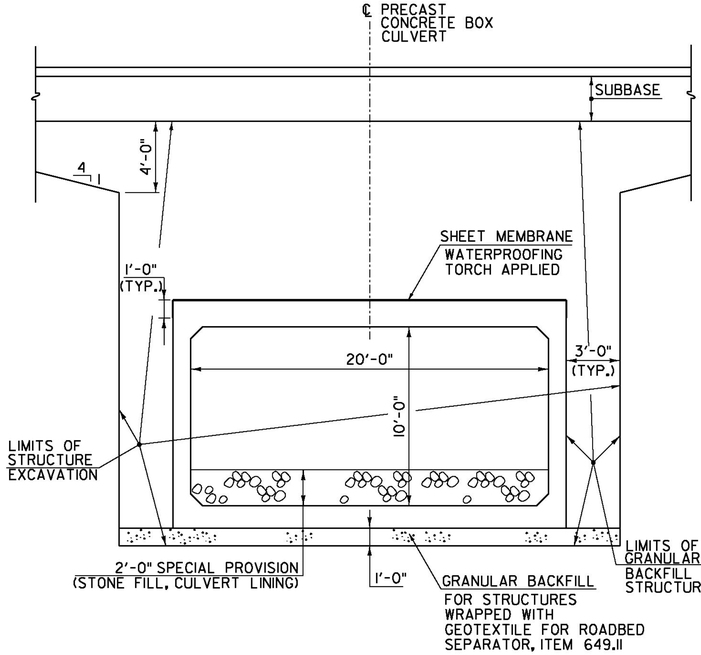
BR2 TYPICAL ROADWAY SECTION

SCALE ⅜" = 1'-0"

** SEE BANKING DIAGRAM ON SHEET 11, MATCH EXISTING CROSS SLOPE ON APPROACHES.

MATERIAL TOLERANCES
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COARSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"



PRECAST CONCRETE BOX TYPICAL SECTION - BR2

SCALE: ¼" = 1'-0"

NOTE:
FOR WINGWALL EARTHWORK SECTION,
SEE STRUCTURAL PLAN AND DETAILS - BR2.

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264typsec.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
TYPICAL SECTIONS - BR2	SHEET 12 OF 57

GPS CONTROL POINTS

HVCTRL #1

DIG HARD AZ MK

NORTH = 544657.447
EAST = 1418699.138
ELEV. = 214.710

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

HVCTRL #2

DIG HARD

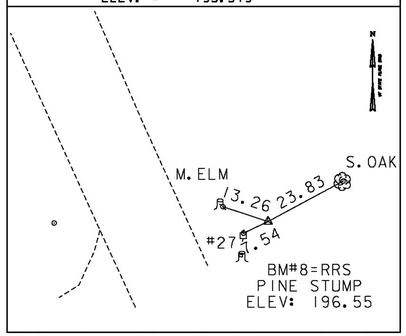
NORTH = 545190.812
EAST = 1422015.220
ELEV. = 171.234

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 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. L11/7, 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

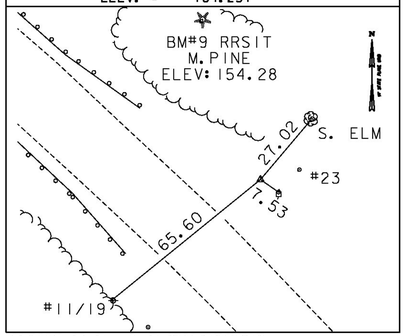
HVCTRL #8

NORTH = 546199.002
EAST = 1416636.415
ELEV. = 195.519



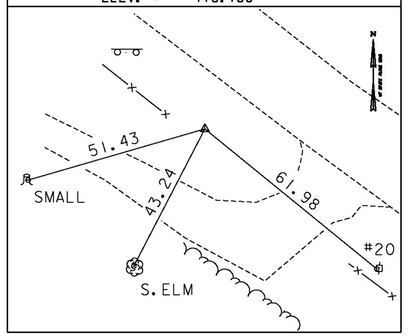
HVCTRL #9

NORTH = 546762.978
EAST = 1416268.442
ELEV. = 164.251



HVCTRL #10

NORTH = 547141.903
EAST = 1415697.255
ELEV. = 178.786



NORTH =
EAST =
ELEV. =

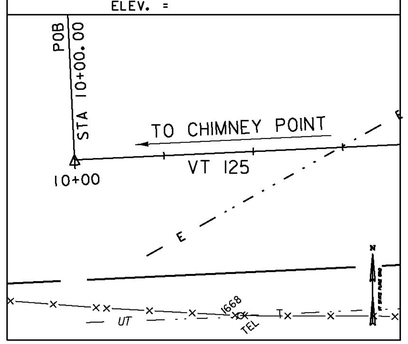
NORTH =
EAST =
ELEV. =

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

ALIGNMENT TIES

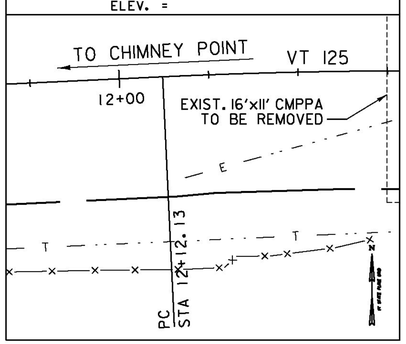
POB STA. 10+00.00

NORTH = 546997.682
EAST = 1415930.145
ELEV. =



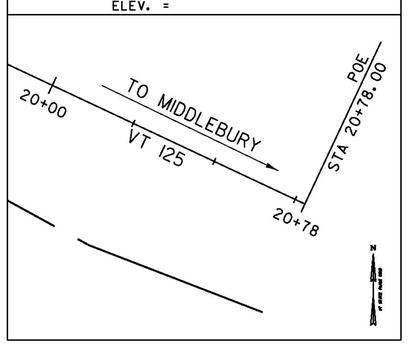
PC STA. 12+12.13

NORTH = 546869.505
EAST = 1416099.168
ELEV. =



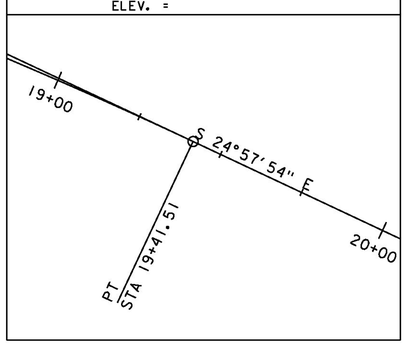
PI STA. 15+84.18

NORTH = 546616.155
EAST = 1416360.242
ELEV. =



PT STA. 19+41.51

NORTH = 546307.404
EAST = 1416552.647
ELEV. =



NORTH =
EAST =
ELEV. =

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)
ADJUSTMENT COMPASS

Stantec

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

FILE NAME: z11c264tie_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
SURVEY CONTROL AND TIES - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 13 OF 57

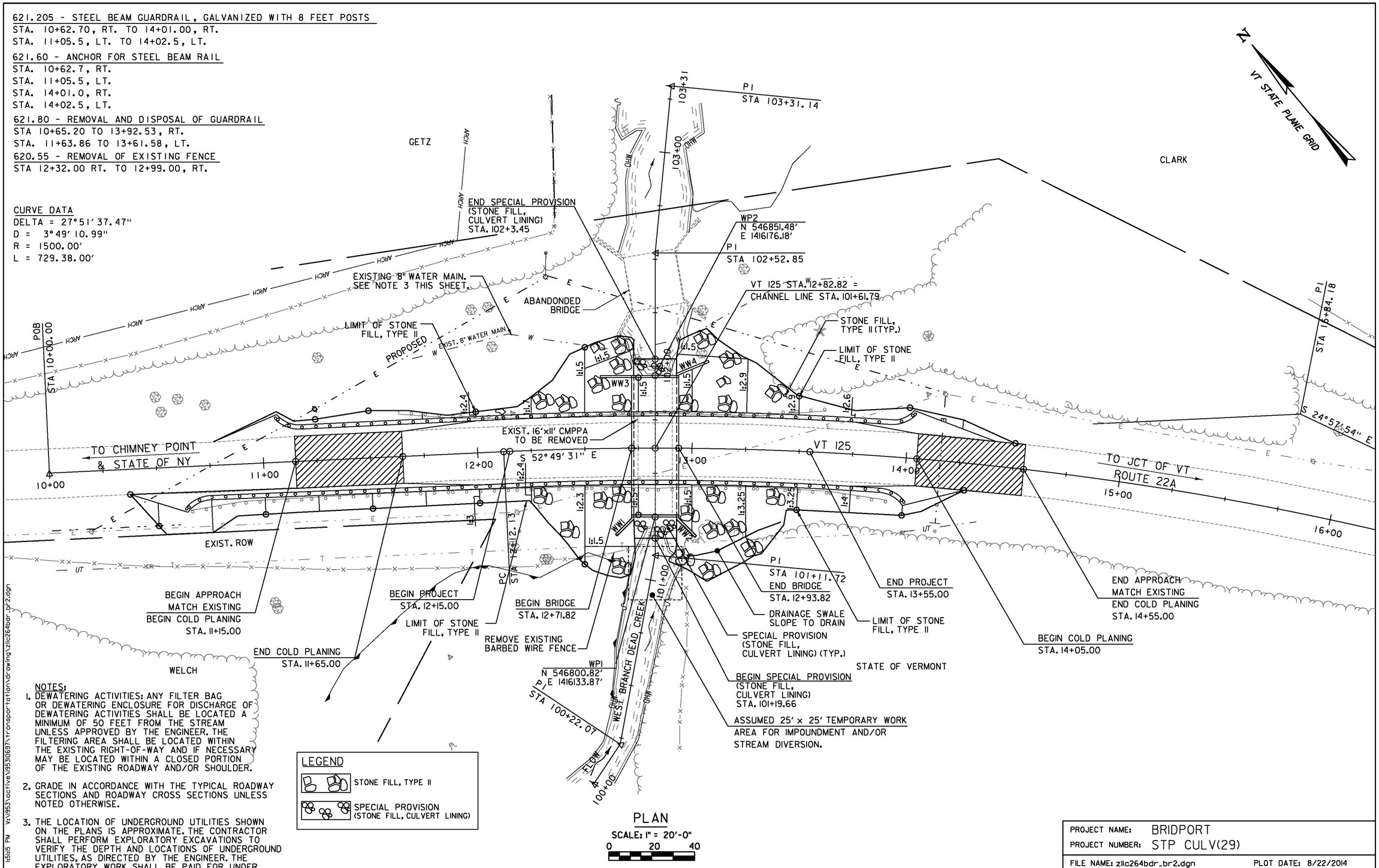
621.205 - STEEL BEAM GUARDRAIL, GALVANIZED WITH 8 FEET POSTS
STA. 10+62.70, RT. TO 14+01.00, RT.
STA. 11+05.5, LT. TO 14+02.5, LT.

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'



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.
2. GRADE IN ACCORDANCE WITH THE TYPICAL ROADWAY SECTIONS 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.

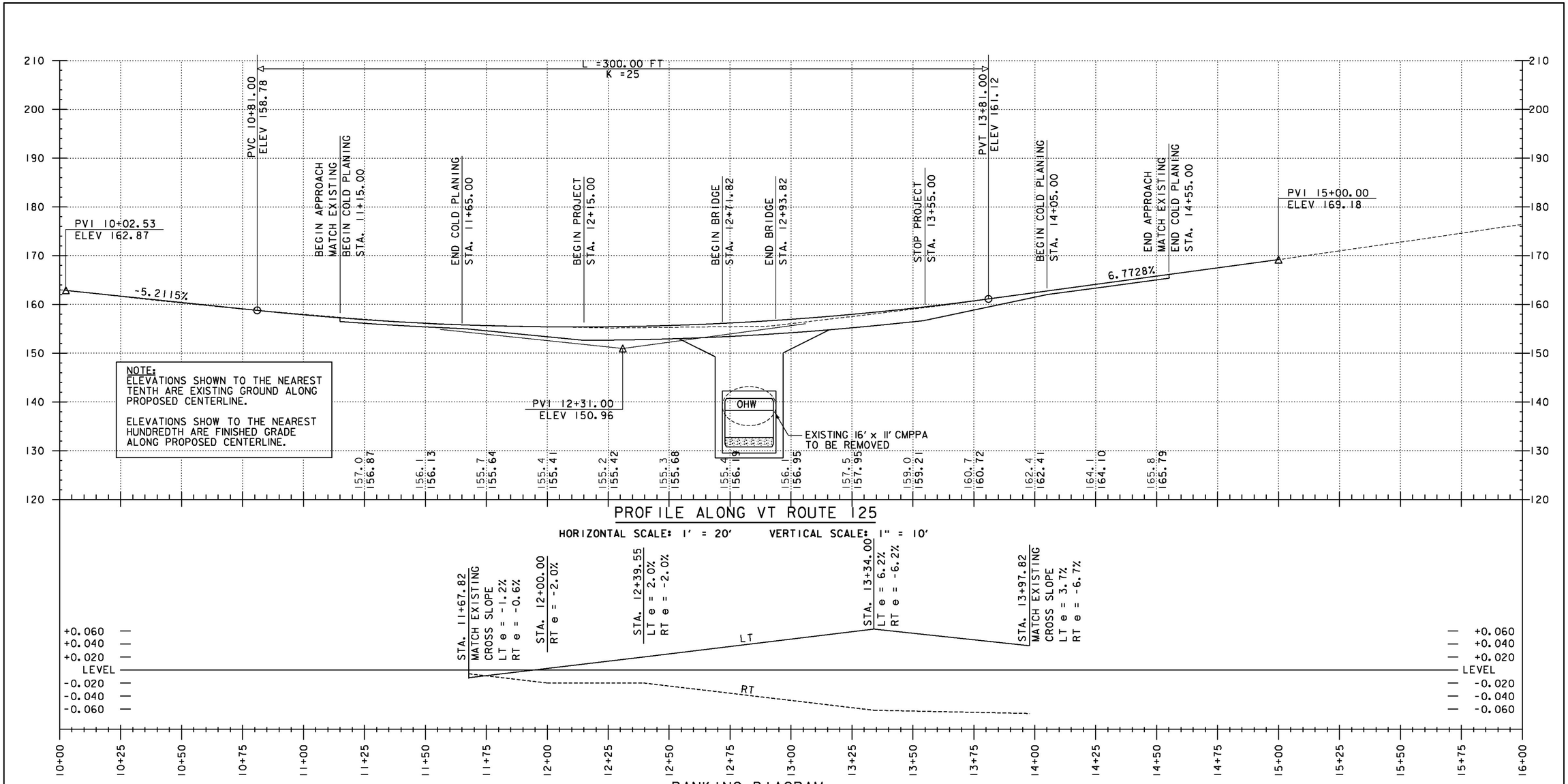
LEGEND
STONE FILL, TYPE II
SPECIAL PROVISION (STONE FILL, CULVERT LINING)

PLAN
SCALE: 1" = 20'-0"
0 20 40

Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264bdr_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
PLAN LAYOUT SHEET - BR2	SHEET 14 OF 57

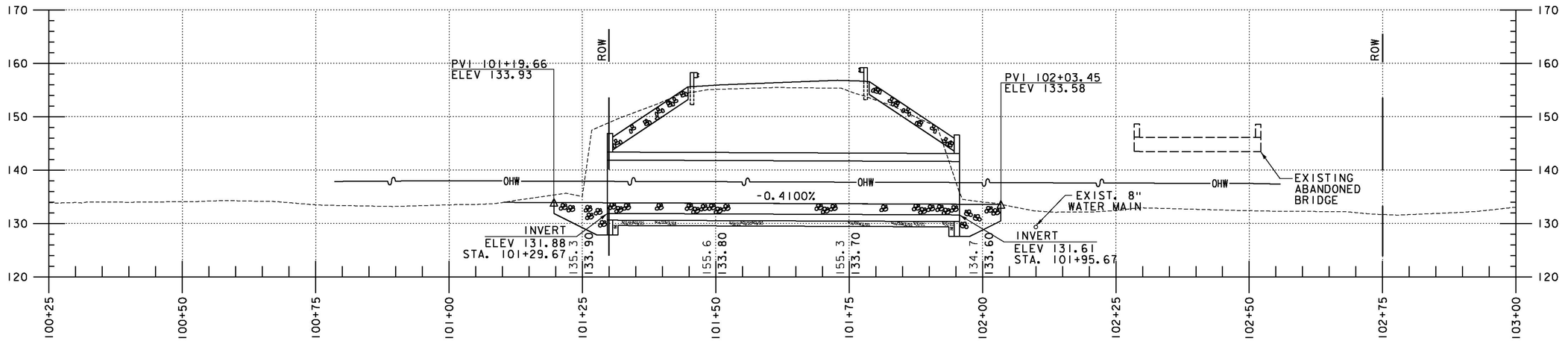
8/22/2014 1:5:15 PM V:\1953\active\19531069?\transportation\drawing\z11c264bdr_br2.dgn



NOTE:
STATIONING IN FEET AND
SUPERELEVATIONS IN PERCENTAGES

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264pro.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
ROADWAY PROFILE - BR2	SHEET 15 OF 57



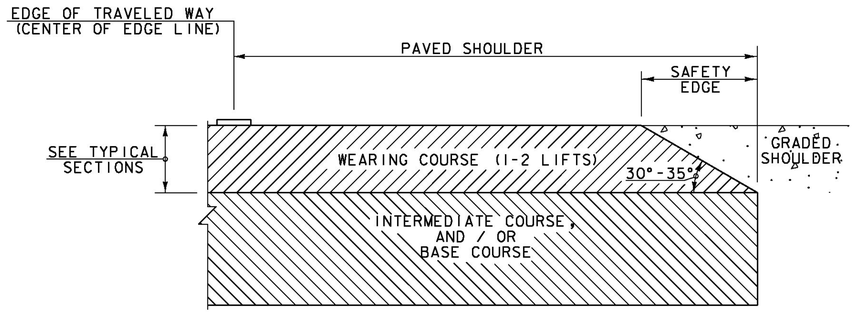
STREAM PROFILE

0 10 20

SCALE

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

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



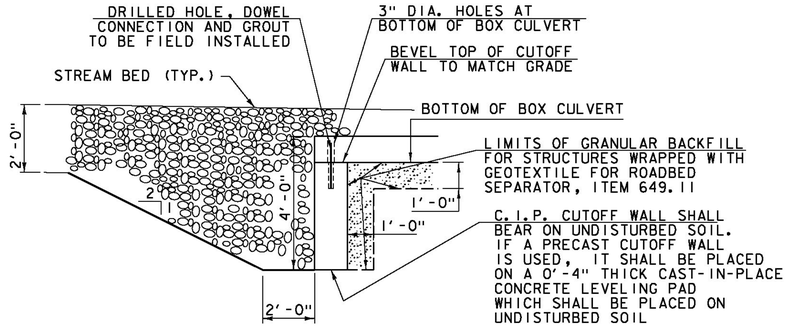
SAFETY EDGE DETAIL

NOT TO SCALE

NOTES:

1. 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.

2. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

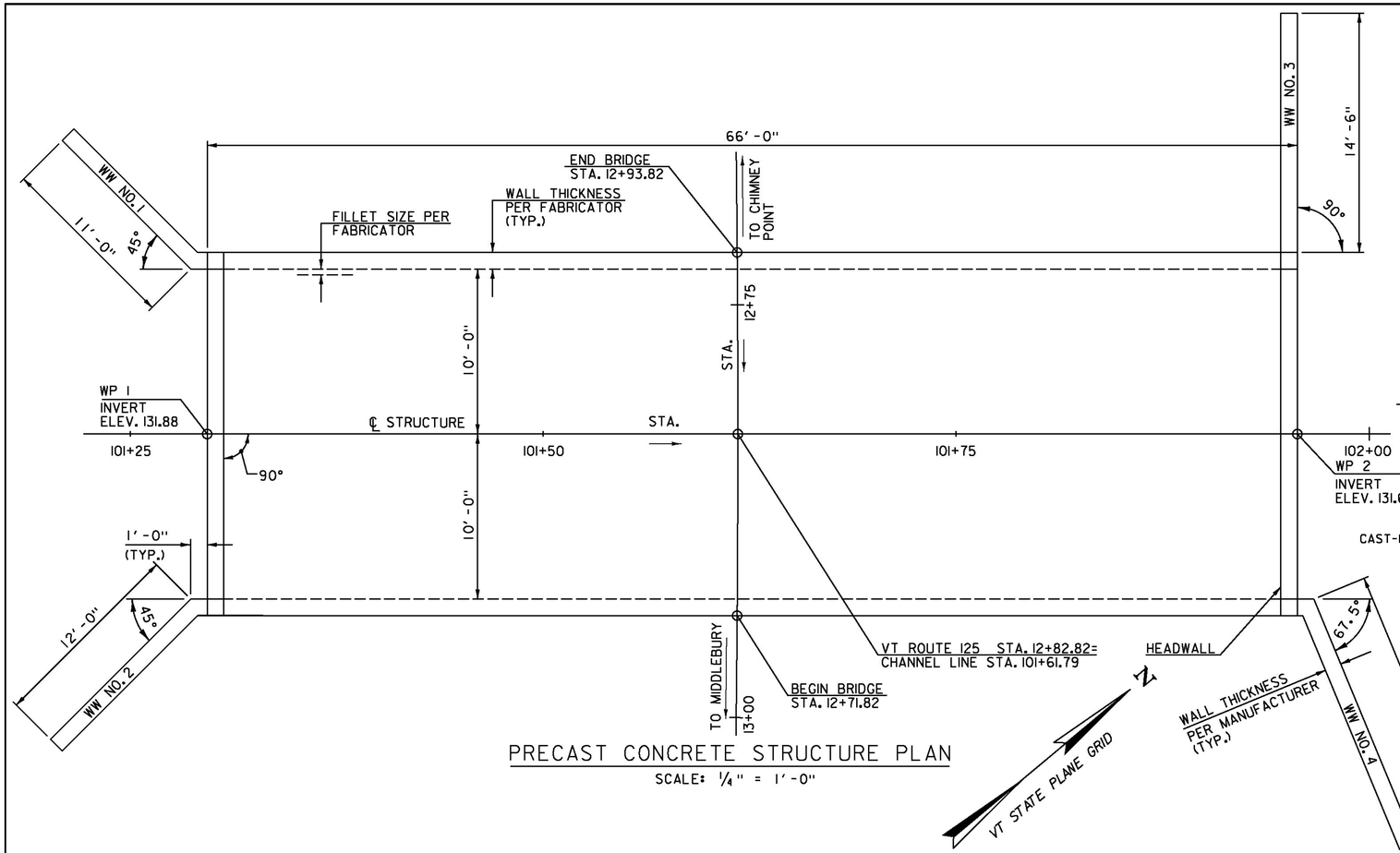


CUTOFF WALL DETAIL

NOT TO SCALE

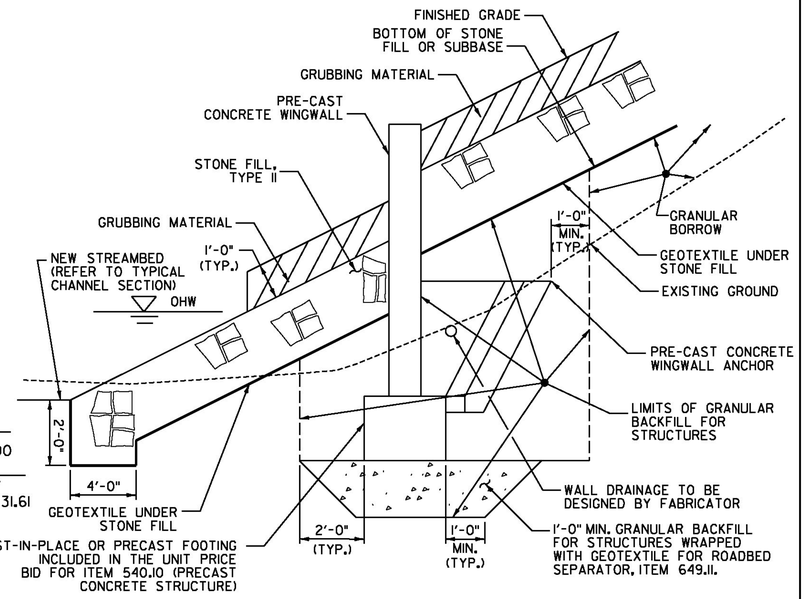
Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264xs_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
STREAM PROFILE - BR2	SHEET 16 OF 57



PRECAST CONCRETE STRUCTURE PLAN

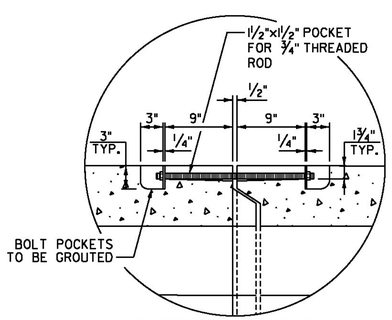
SCALE: 1/4" = 1'-0"



NOTES:
1. ANCHOR TYPE WALLS SHOWN, OTHER APPROVED WALL SYSTEM MAY BE USED, SEE SPECIAL PROVISIONS.
2. FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF STRUCTURE EXCAVATION HAVE BEEN ASSUMED AS SHOWN ABOVE. ONLY THE EXCAVATION INCLUDED WITHIN THESE LIMITS SHALL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION". THE CONTRACTOR SHALL DETERMINE THE ACTUAL LIMITS OF STRUCTURE EXCAVATION.

WINGWALL EARTHWORK SECTION

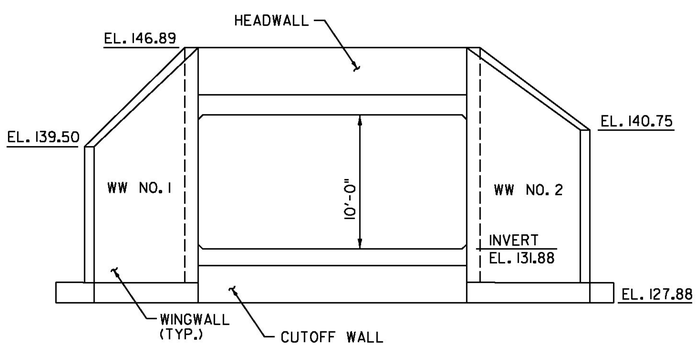
NOT TO SCALE



4 LOCATIONS PER JOINT
2 PER WALL, EXACT
LOCATION PER FABRICATOR

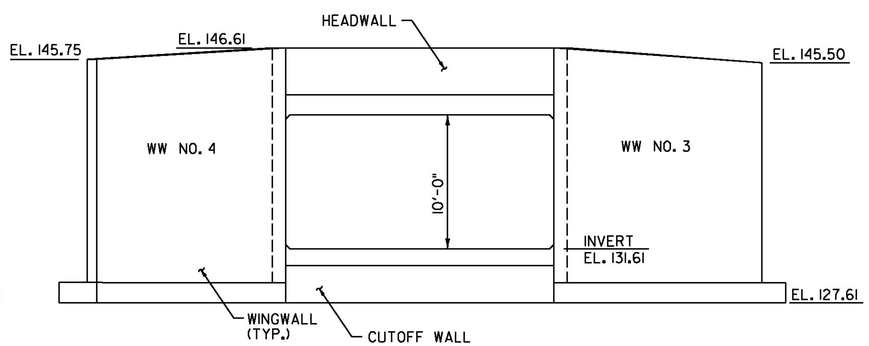
PERMANENT CLOSURE DETAIL

NOT TO SCALE



INLET ELEVATION

SCALE: 3/16" = 1'-0"



OUTLET ELEVATION

SCALE: 3/16" = 1'-0"

Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264strpl_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
STRUCTURAL PLAN AND DETAILS - BR2	SHEET 17 OF 57

N

VT STATE PLANE GRID

CONFIRMATION ROUTE MARKER ASSEMBLY

ELM POINT

P3

LAKE ST

P2

P

P4

P5

WEST ADDISON

D.A.R. STATE PARK

SFH

CRANE POINT

Creek

Hospital

Wards

JERSEY ST

B3

Creek

West Br.

B19

TOWN LINE RD

B20

East Branch

Creek

B21

B7

Pent

B22

B13

P

B21

B23

ADDISON

VERMONT 17

DEAD CREEK WATERFOWL AREA

NORTONTOWN RD

CONFIRMATION ROUTE MARKER ASSEMBLY

1233

1287

SNAKE MOUNTAIN

MOUNTAIN RD

VERMONT 22A

CONFIRMATION ROUTE MARKER ASSEMBLY

666

B21

B7

CHIMNEY POINT

CHIMNEY POINT ST.PARK

VERMONT 125

CONFIRMATION ROUTE MARKER ASSEMBLY

McCUEN SLANG WATERFOWL AREA

RATTLIN BRIDGE RD

B26

B27

Creek

Dead

DEAD CREEK WILDLIFE MANAGEMENT AREA

BASIN HARBOR RD

CHAMPLAIN

LAKE

Palmer Corner

BRIDRORT

Dead

Branch

Branch

East

B13

VERMONT 125

MARKET RD

B18

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

BRIDGE BR 5

A

B

C

D

E

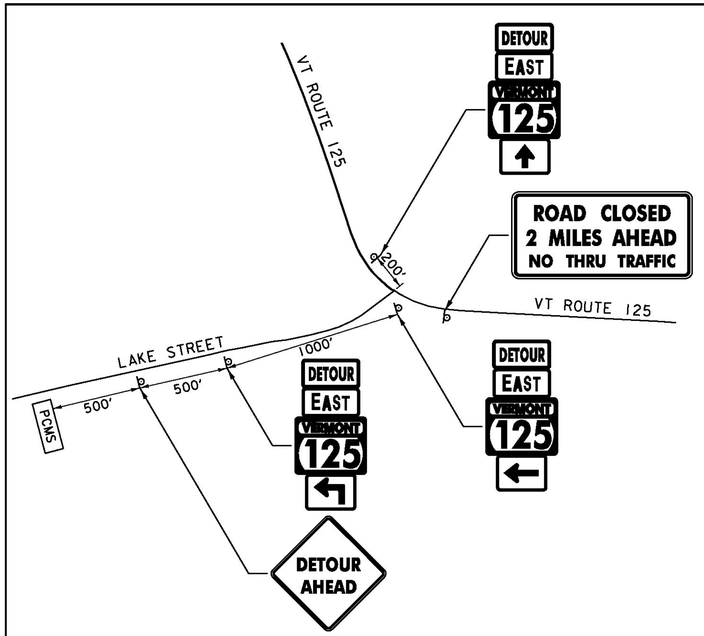
DETOUR ROUTE

BRIDPORT DETOUR PLAN - BR2

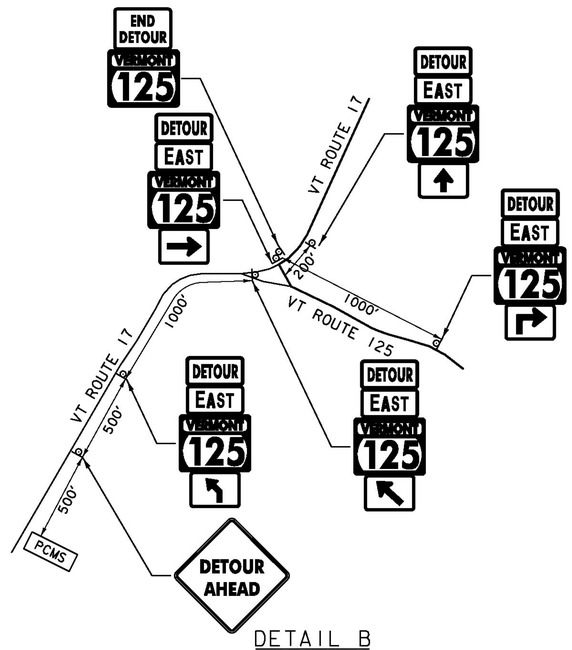
NOT TO SCALE

Stantec

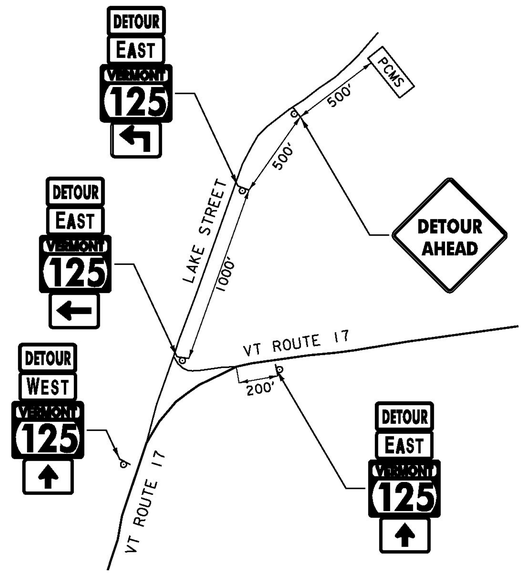
PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: zllc264tcpl_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. SOTER
DESIGNED BY: I. MAYNARD	CHECKED BY: J. HUNGERFORD
DETOUR PLAN - BR2	SHEET 18 OF 57



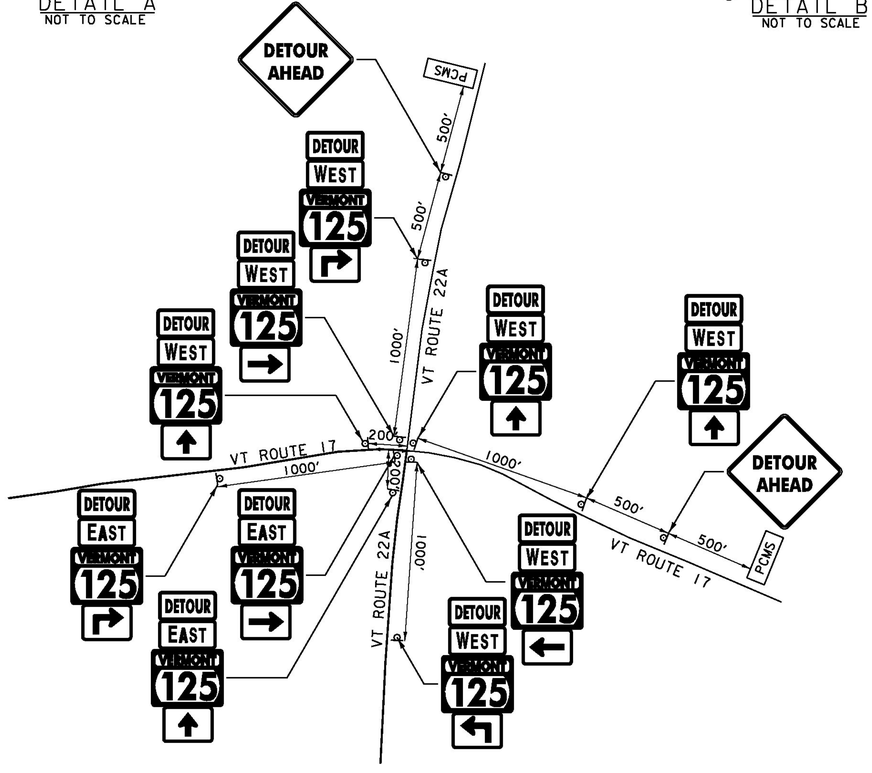
DETAIL A
NOT TO SCALE



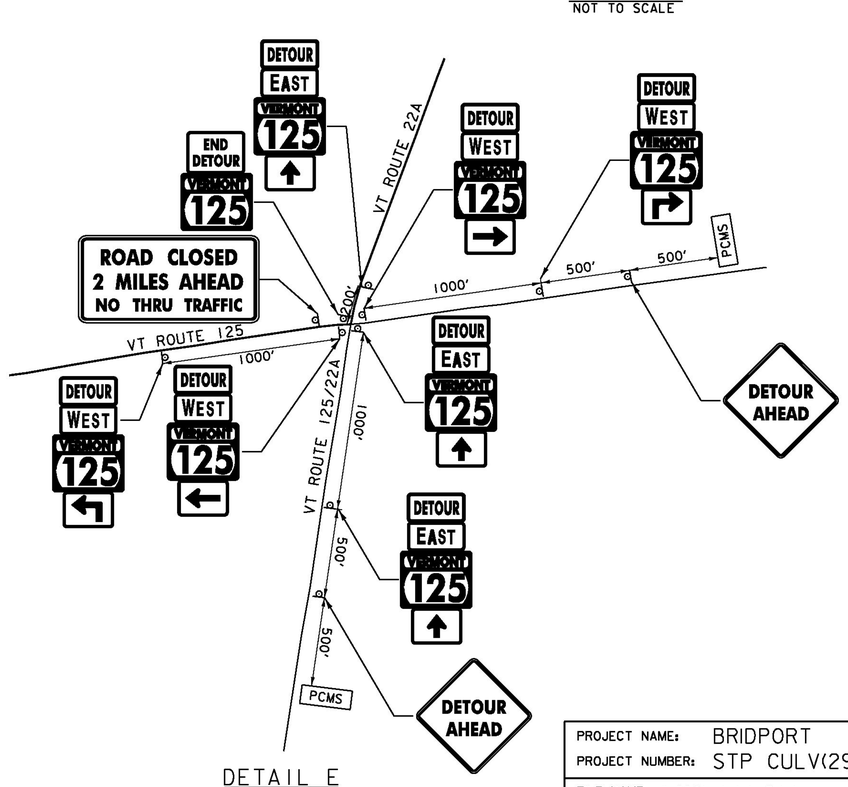
DETAIL B
NOT TO SCALE



DETAIL C
NOT TO SCALE



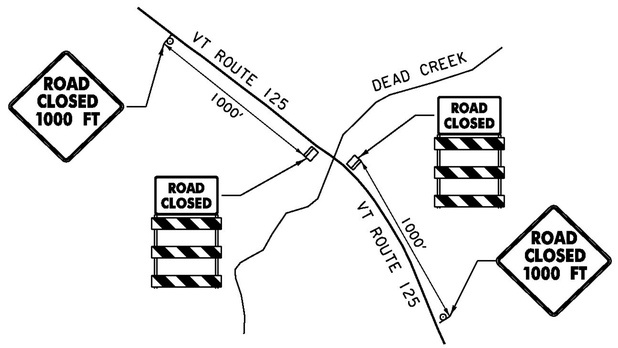
DETAIL D
NOT TO SCALE



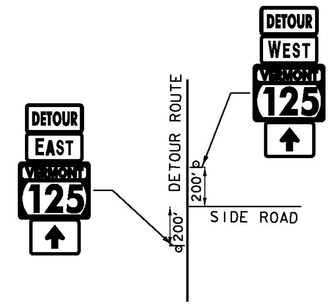
DETAIL E
NOT TO SCALE

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264tcdet_br2_1.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: J. HUNGERFORD
TRAFFIC CONTROL DETAILS 1- BR2	SHEET 19 OF 57



BRIDGE 2
NOT TO SCALE



CONFIRMATION ASSEMBLY
NOT TO SCALE

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

ID NUMBER	SIGN TEXT	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	NUMBER OF SIGNS REQ'D.	AREA OF EACH SIGN (SF)	COLOR	REMARKS
W20-2	DETOUR AHEAD	48"	48"	7	16.00	B/FO	
W20-3	ROAD CLOSED 1000 FT	48"	48"	2	16.00	B/FO	
M6-3	↑	21"	15"	13	2.19	B/FO	MOUNT BELOW MI-6A
M6-1R	→	21"	15"	4	2.19	B/FO	MOUNT BELOW MI-6A
M6-1L	←	21"	15"	4	2.19	B/FO	MOUNT BELOW MI-6A
M6-2L	↖	21"	15"	1	2.19	B/FO	MOUNT BELOW MI-6A
M5-1L	↰	21"	15"	4	2.19	B/FO	MOUNT BELOW MI-6A
M5-1R	↱	21"	15"	4	2.19	B/FO	MOUNT BELOW MI-6A
M5-2L	↖	21"	15"	1	2.19	B/FO	MOUNT BELOW MI-6A
M4-8	DETOUR	24"	12"	31	2.00	B/FO	MOUNT ABOVE M3-2 OR M3-4
M4-8a	END DETOUR	24"	18"	2	3.00	B/FO	MOUNT BELOW MI-6A
M3-2	EAST	24"	12"	18	2.00	G/W	
M3-4	WEST	24"	12"	13	2.00	G/W	
MI-6B	VERMONT 125	30"	24"	33	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	

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

NOTES:

1. 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-INLCUSIVE). SEE SPECIAL PROVISIONS.
2. ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
3. "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON RETROREFLECTIVE TYPE III BARRICADES.
4. 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.
5. WHEN POSSIBLE LOCATE THE "ROAD CLOSED 1000 FT" SIGN NEAR A LOCATION WHERE DRIVERS CAN TURN AROUND.
6. THE MI-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 #5 GARAGE.
7. WHERE POSSIBLE LOCATE DETOUR ROUTE MARKER ASSEMBLIES ADJACENT TO EXISTING ROUTE MARKER ASSEMBLIES.
8. SIGN SPACING IS FOR REFERENCE ONLY, FIELD ADJUSTMENTS AS APPROVED BY THE ENGINEER.
9. 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 WEEKS PRIOR TO CLOSURE

(ROUTE) **	MESSAGE 1	MESSAGE 2	(DATE) *
	VT 125	MMMM DD	
	ROAD	TO	
	CLOSED	MMMM DD	(DATE) *

DURING CLOSURE

(ROUTE) **	MESSAGE 1	MESSAGE 2
	VT 125	EAST OF
	ROAD	BASIN
	CLOSED	HARBR RD

* - 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.

Stantec

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

FILE NAME: z11c264tcdet_br2_2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: I. MAYNARD
TRAFFIC CONTROL DETAILS 2 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: I. MAYNARD
CHECKED BY: J. HUNGERFORD
SHEET 20 OF 57

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.Q.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
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1⅜" 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 > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#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.

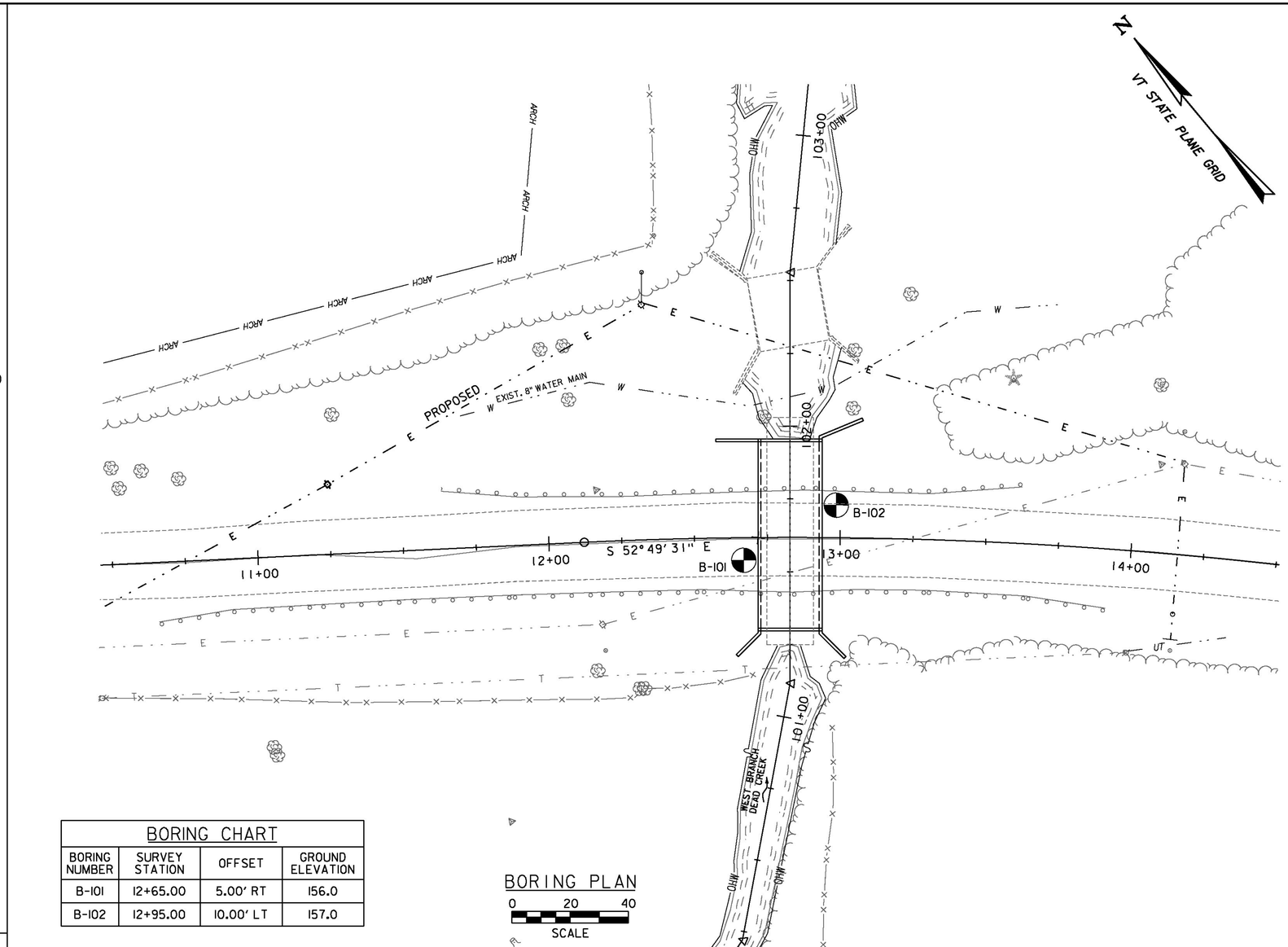
MUCK - Soft organic soil (containing > 10% organic material.

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

BORING PLAN

0 20 40

SCALE

GENERAL NOTES

1. The subsurface explorations shown herein were made on Oct. 25, 2012 by N.H. Boring.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.

Stantec

LEGEND:

BRIDGE BORING

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

FILE NAME: z:\c264bdr_bor_pl_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
BORING PLAN - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 21 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

BRIDPORT
STP CULV(29)
VT-125 BR-2&5

Boring No.: B-101
Page No.: 1 of 2
Pin No.: 11C264
Checked By: LAR

Boring Crew: GARROW, WHITLOCK
Date Started: 9/19/12 Date Finished: 9/21/12
VTSPG NAD83: N 546829.94 ft E 1416137.25 ft
Station: 12+65 Offset: 5.00
Ground Elevation: 156.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID	CE = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
09/21/12	19.4	AM, Casing in HP

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt Pavement, 0.0 ft – 1.7 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
10		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							
		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
15									
		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		
BOTTOM OF CULVERT APPROX. EL. 130.8									
25									
		A-4, SaGrSi, gry, Moist, Rec. = 0.4 ft	28-R@5.0"	7.1	31.1	29.7	39.2		
30		Field Note:, Cobble, Clean out casing							
		A-4, SaSi, gry, Moist, Rec. = 0.7 ft	44-R@5.0"	7.0	19.1	30.7	50.2		
35									
		A-4, GrSaSi, gry, Moist, Rec. = 0.6 ft	25-43-R@3.5"	8.0	24.2	28.1	47.7		

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.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

BRIDPORT
STP CULV(29)
VT-125 BR-2&5

Boring No.: B-101
Page No.: 2 of 2
Pin No.: 11C264
Checked By: LAR

Boring Crew: GARROW, WHITLOCK
Date Started: 9/19/12 Date Finished: 9/21/12
VTSPG NAD83: N 546829.94 ft E 1416137.25 ft
Station: 12+65 Offset: 5.00
Ground Elevation: 156.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:		Auto/AWJ
Rig:	CME 45C SKID	CE = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
09/21/12	19.4	AM, Casing in HP

Depth (ft)	Strata (1)	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		
50									
		A-4, SaGrSi, gry, Moist, Rec. = 1.2 ft	18-29-30-R (59)	7.3	31.2	27.5	41.3		
55									
		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"						
65									
		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:, SaSlGr 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).GPJ VERMONT AOT.GDT 1/10/13

Stantec

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

FILE NAME: z11c264bor_log_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VTRANS
BORING LOG 1- BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: VTRANS
SHEET 22 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

BRIDPORT
STP CULV(29)
VT-125 BR-2&5

Boring No.: B-102
Page No.: 1 of 2
Pin No.: 11C264
Checked By: LAR

Boring Crew: GARROW, WHITLOCK
Date Started: 9/10/12 Date Finished: 9/12/12
VTSPG NAD83: N 546823.89 ft E 1416173.72 ft
Station: 12+95 Offset: -10.00
Ground Elevation: 157.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.33

Groundwater Observations		
Date	Depth (ft)	Notes
09/12/12	6.0	AM, Casing in HP

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-1-2-2 (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							
		Field Note:, Roller Coned ahead in Clay							
15		Field Note:, CI Shelby Tube, gry, Moist, Rec. = 2.0 ft							
		A-7-6, CI, 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, GrClSl, 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									
BOTTOM OF CULVERT APPROX. EL. 130.8		A-2-4, SlSaGr, gry, Moist, Rec. = 0.8 ft	44-R@5.0"	7.5	41.9	30.5	27.6		
		Visual Description:, SlSaGr, 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@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		
		A-2-4, SaSiGr, gry, Moist, Rec. = 0.4 ft	R@5.0"	7.0	46.0	25.7	28.3		
35									
		A-4, GrSaSi, gry, Moist, Rec. = 0.5 ft	28-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@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.

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
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BORING LOG

BRIDPORT
STP CULV(29)
VT-125 BR-2&5

Boring No.: B-102
Page No.: 2 of 2
Pin No.: 11C264
Checked By: LAR

Boring Crew: GARROW, WHITLOCK
Date Started: 9/10/12 Date Finished: 9/12/12
VTSPG NAD83: N 546823.89 ft E 1416173.72 ft
Station: 12+95 Offset: -10.00
Ground Elevation: 157.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.33

Groundwater Observations		
Date	Depth (ft)	Notes
09/12/12	6.0	AM, Casing in HP

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
45		A-4, GrSaSi, gry, Moist, Rec. = 0.4 ft	5-16-46-R (62)	7.2	21.8	35.2	43.0		
		A-4, SaGrSi, gry, Moist, Rec. = 1.2 ft	28-33-R@6.0"	6.6	29.6	28.5	41.9		
50									
		A-4, SaGrSi, gry, Moist, Rec. = 1.4 ft	18-35-R@6.0"	6.8	28.0	27.4	44.6		
55									
		A-4, GrSaSi, gry, Moist, Rec. = 0.5 ft	15-34-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@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.

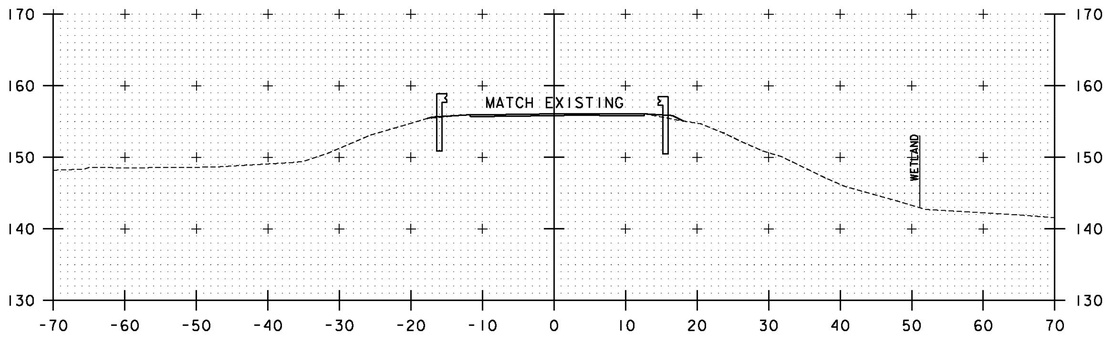
BORING LOG 2 BRIDPORT STP CULV(29).GPJ VERMONT ADT.GDT 1/10/13

Stantec

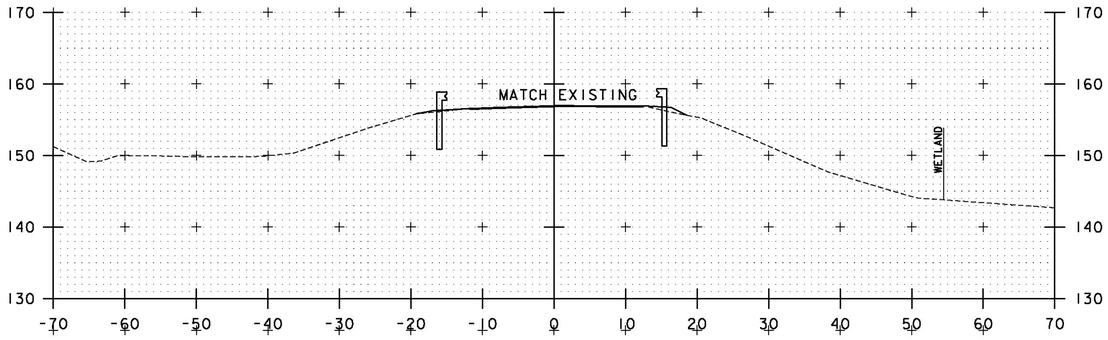
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264bor_log_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VTRANS
BORING LOG 2 - BR2

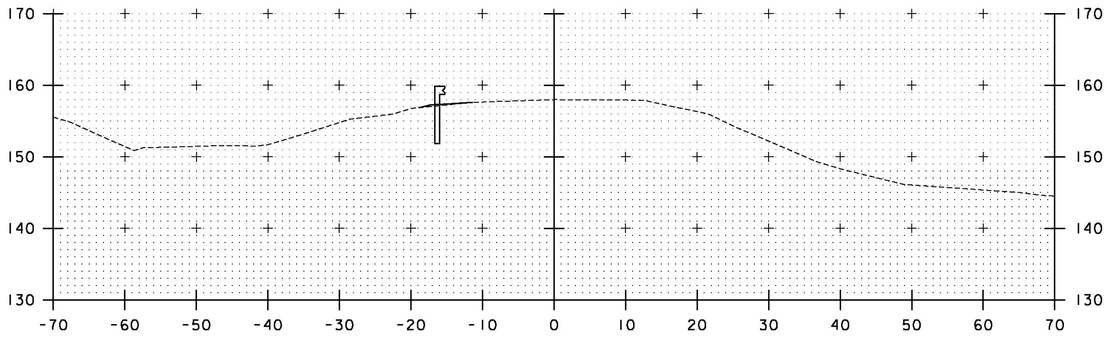
PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: VTRANS
SHEET 23 OF 57



11+50



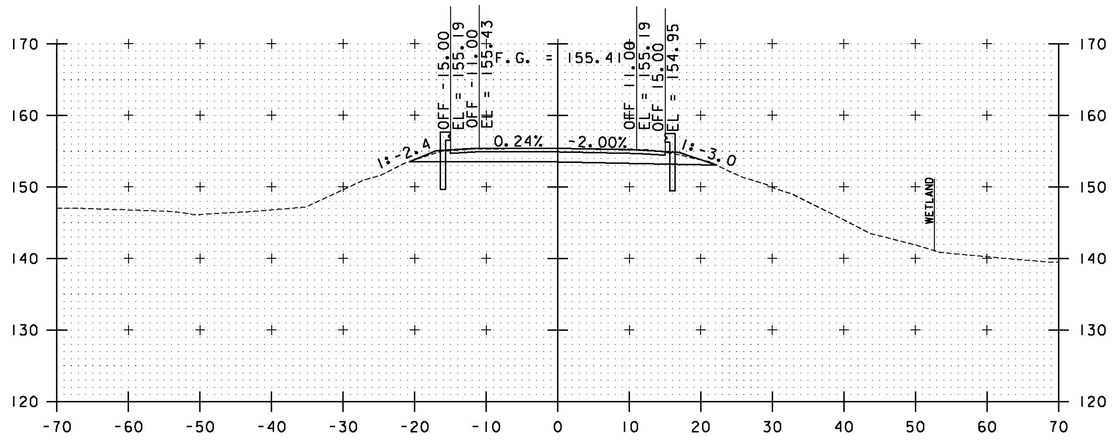
11+15
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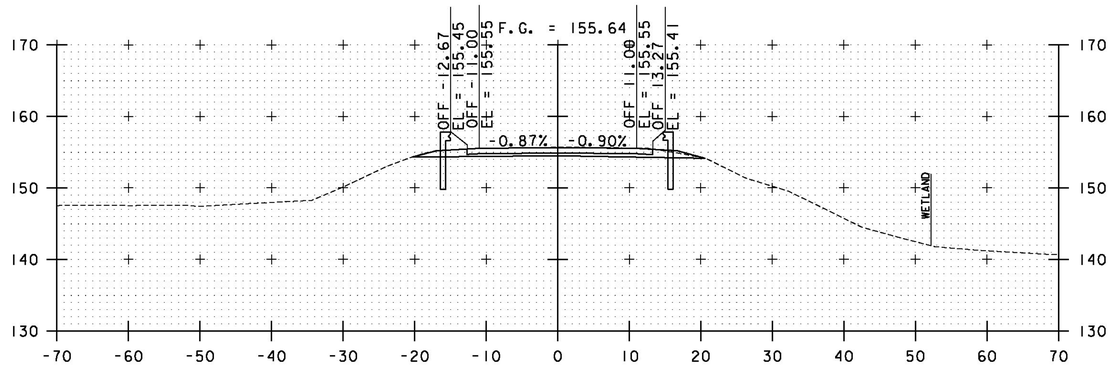
11+00

11+25

12+15
BEGIN PROJECT



12+00



11+75

STA. 11+00 TO STA. 12+00

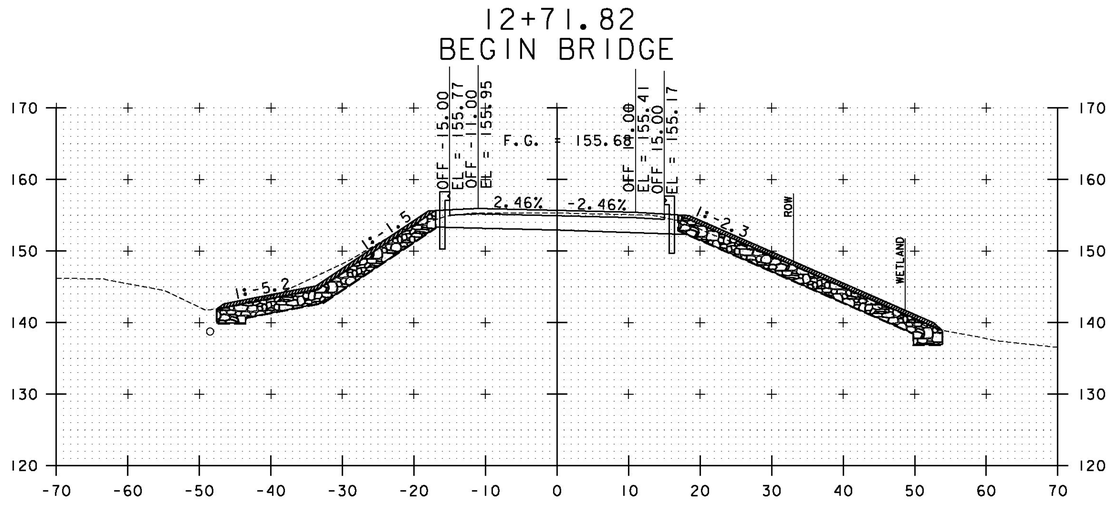
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

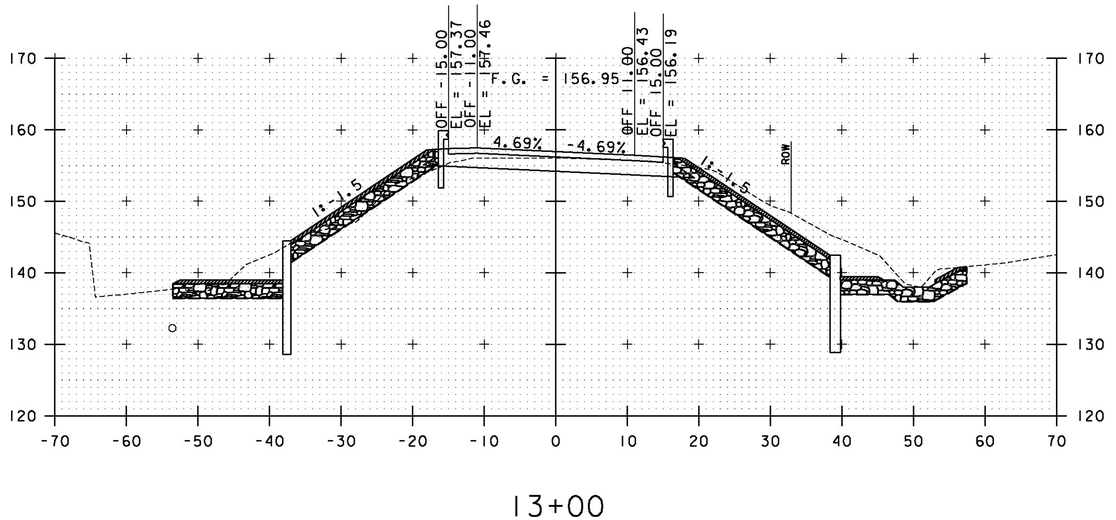
FILE NAME: z11c264xs_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
ROADWAY CROSS SECTIONS - RXSI - BR2

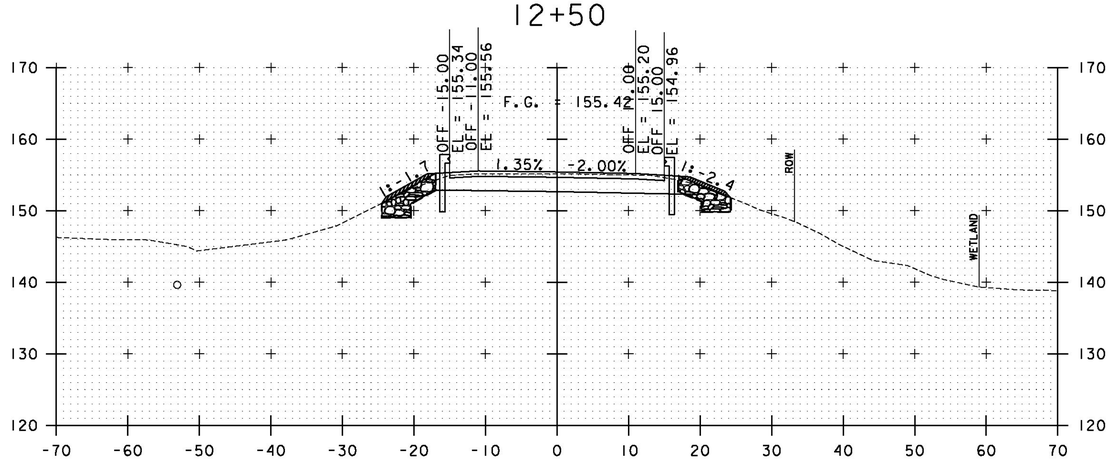
PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 24 OF 57

0 10 20
SCALE

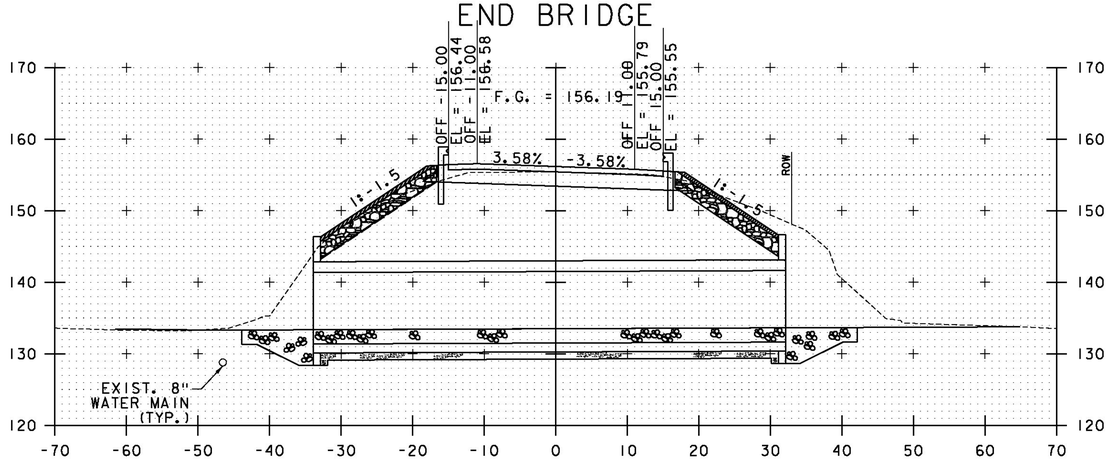
Stantec







12+25



12+75

STA. 12+25 TO STA. 13+00

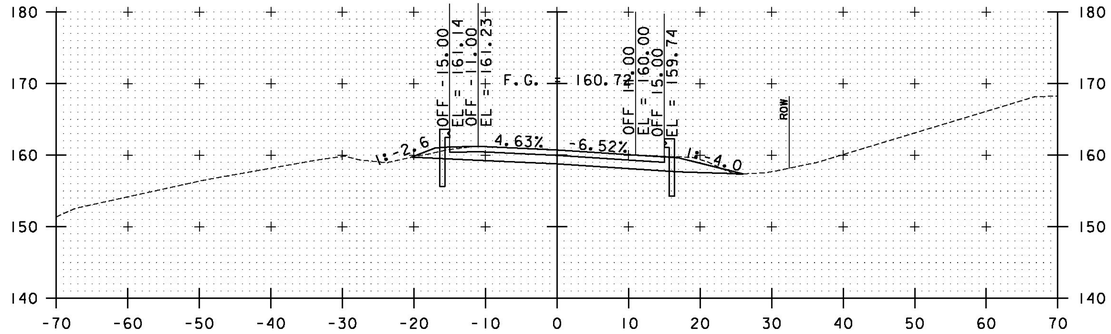
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264xs_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
ROADWAY CROSS SECTIONS - RXS2 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 25 OF 57

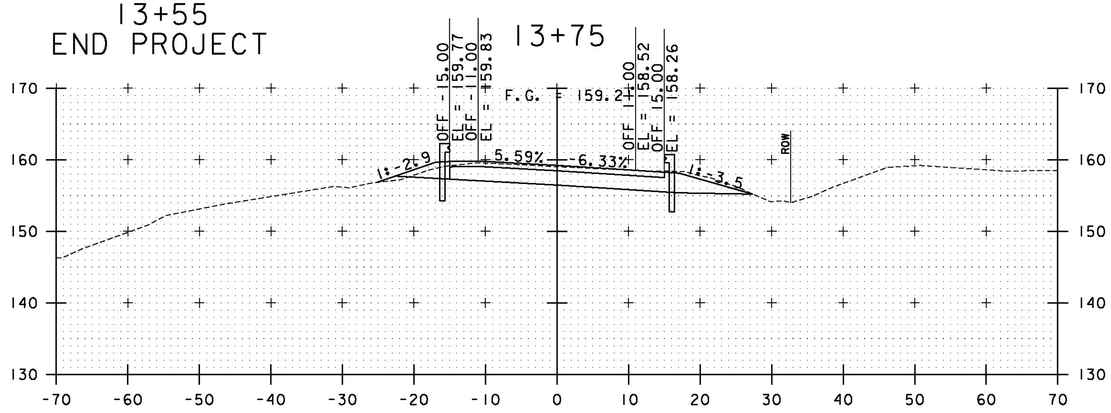
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SCALE

Stantec

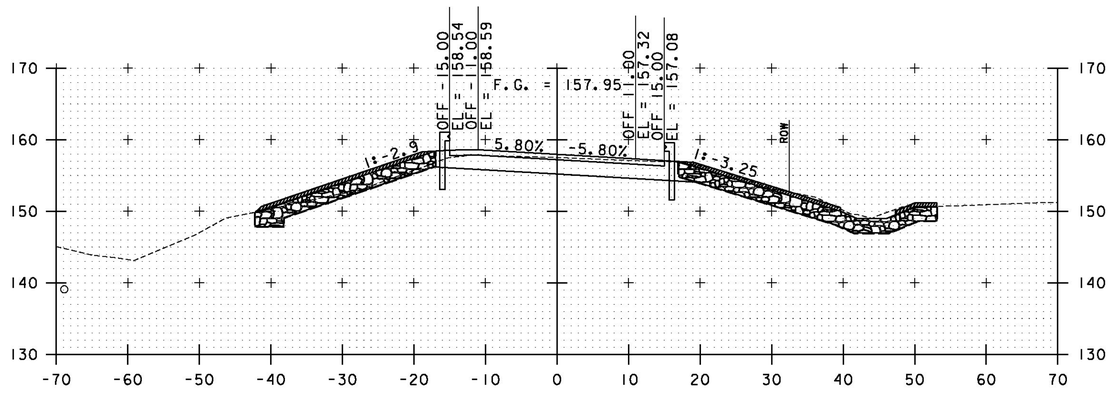


13+55
END PROJECT

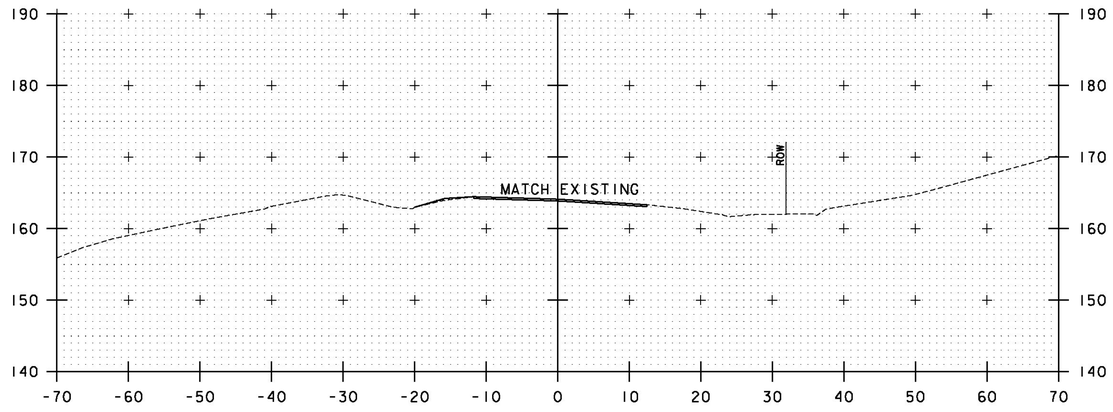
13+75



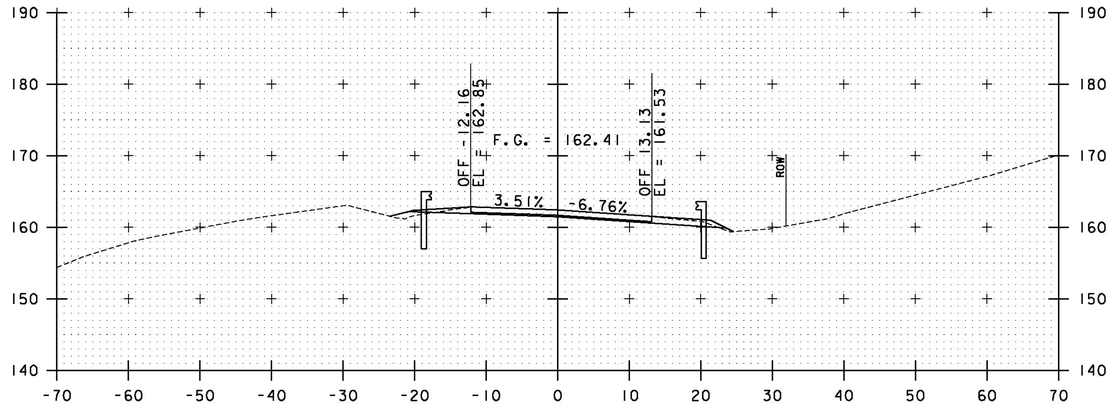
13+50



13+25



14+25



14+00

STA. 13+25 TO STA. 14+25

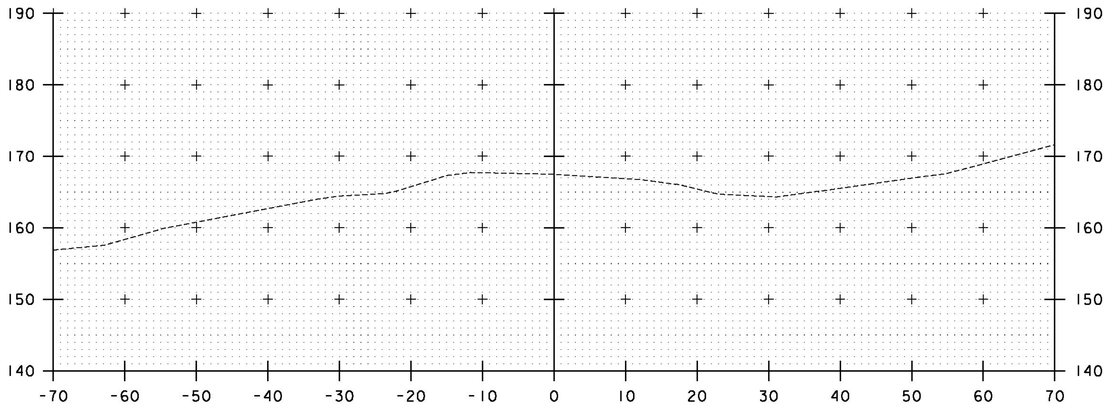
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264xs_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
ROADWAYCROSS SECTIONS - RXS3 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 26 OF 57

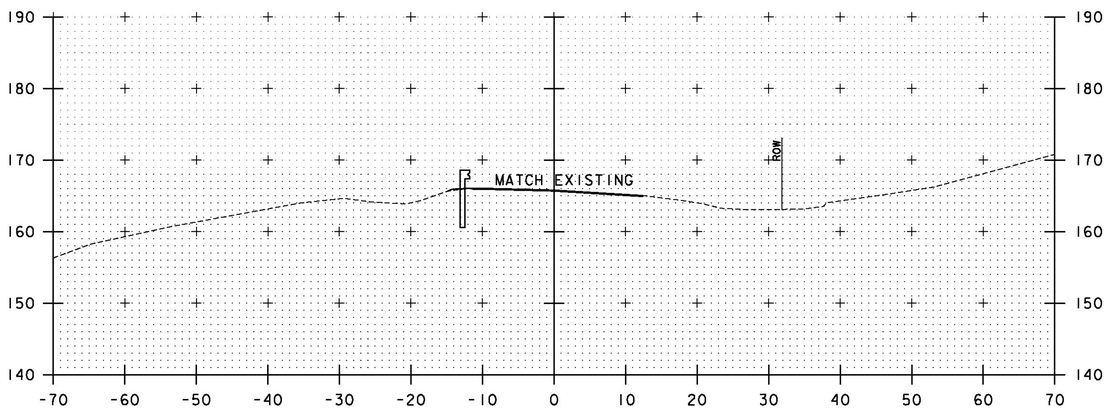
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SCALE

Stantec



14+55
END APPROACH

14+75



14+50

STA. 14+50 TO STA. 14+75

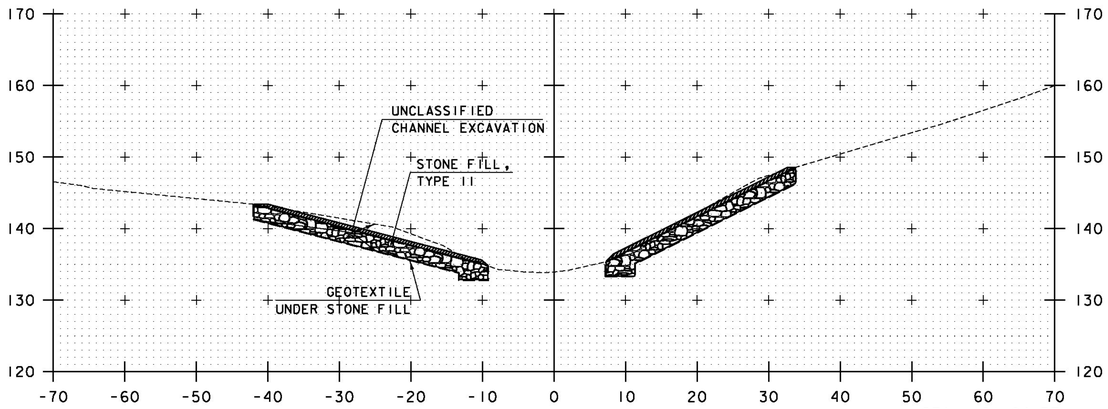
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: zllc264xs_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
ROADWAY CROSS SECTIONS - RXS4 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 27 OF 57

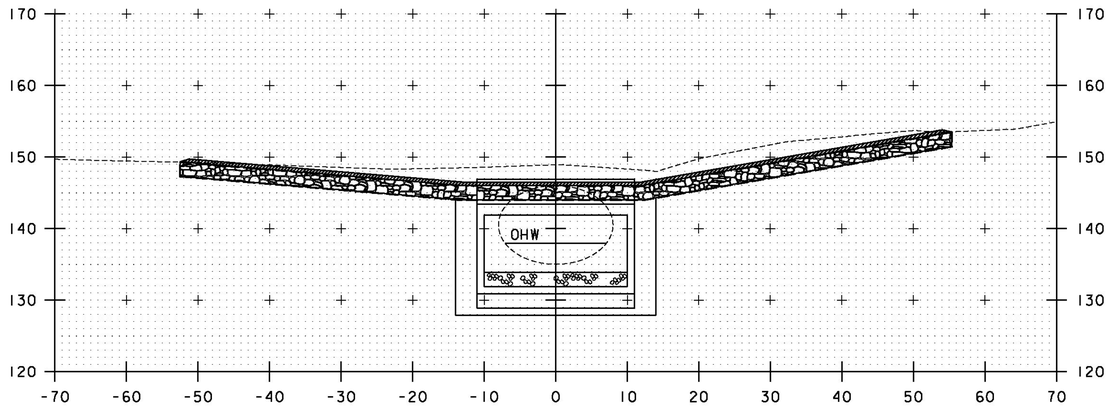
0 10 20
SCALE

Stantec



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

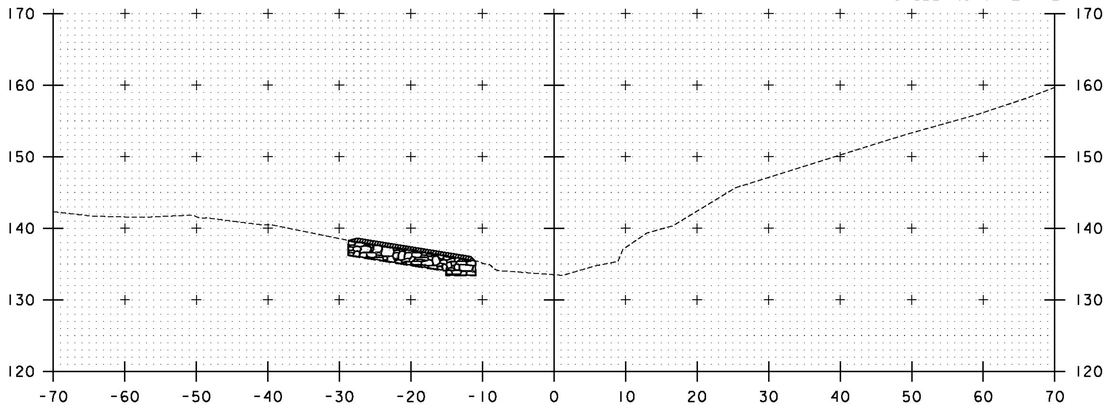
101+10



STA. 101+30 LT
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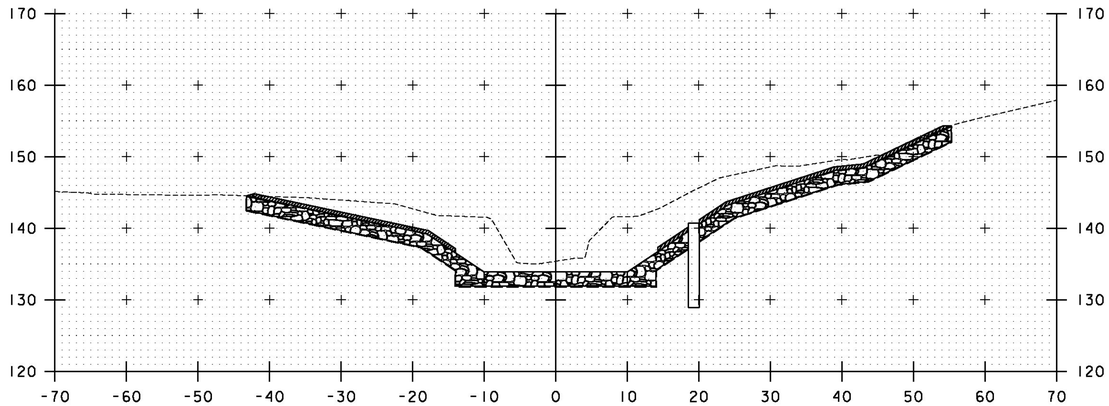
101+30

STA. 101+30 RT
END UNCLASSIFIED CHANNEL EXCAVATION



STA. 100+98 LT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE II
GRUBBING MATERIAL

101+00



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

101+20

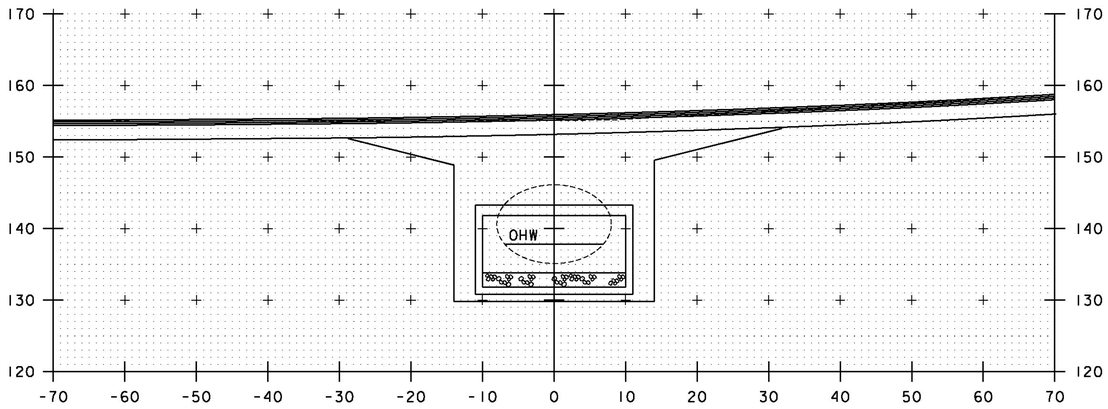
STA. 101+19 RT
BEGIN SPECIAL PROVISION
(STONE FILL, CULVERT LINING)

STA. 101+00 TO STA. 101+30

0 10 20
SCALE

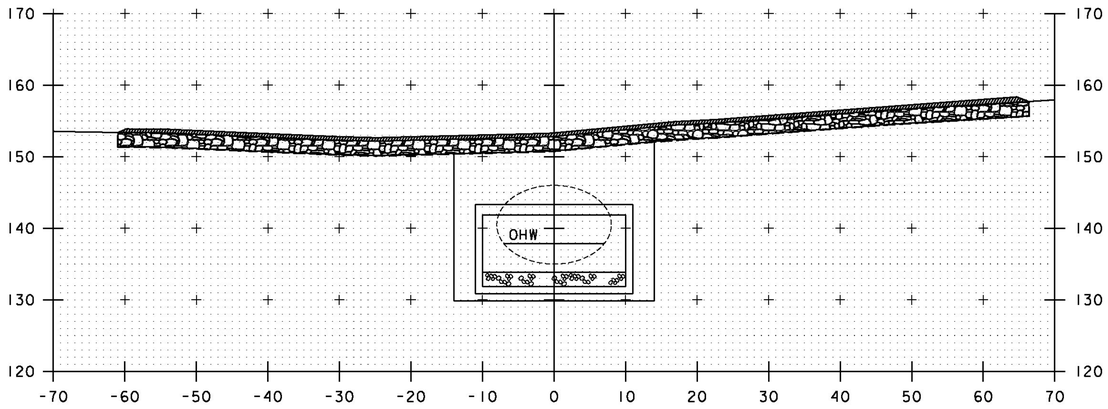
Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264xs_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
CHANNEL CROSS SECTIONS - CXSI - BR2	SHEET 28 OF 57

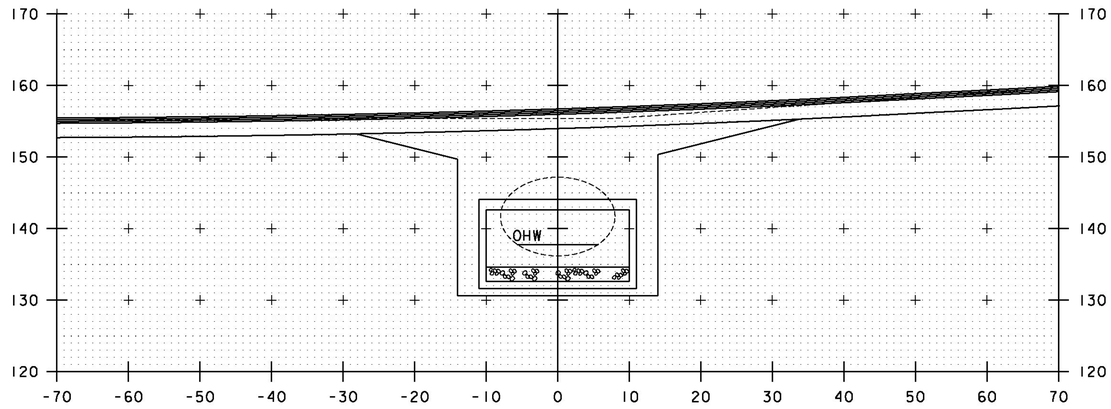


STA. 101+45 LT
END GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE II
GRUBBING MATERIAL

101+50

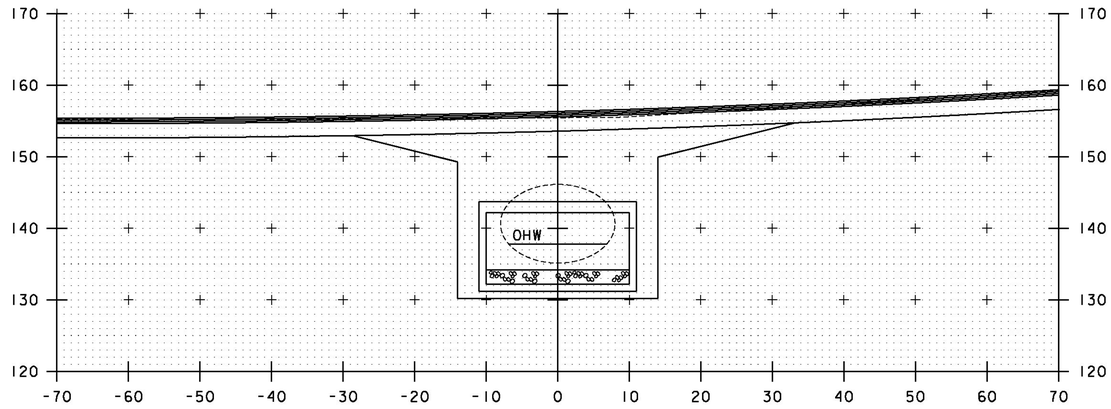


101+40



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

101+70



101+60

STA. 101+40 TO STA. 101+70

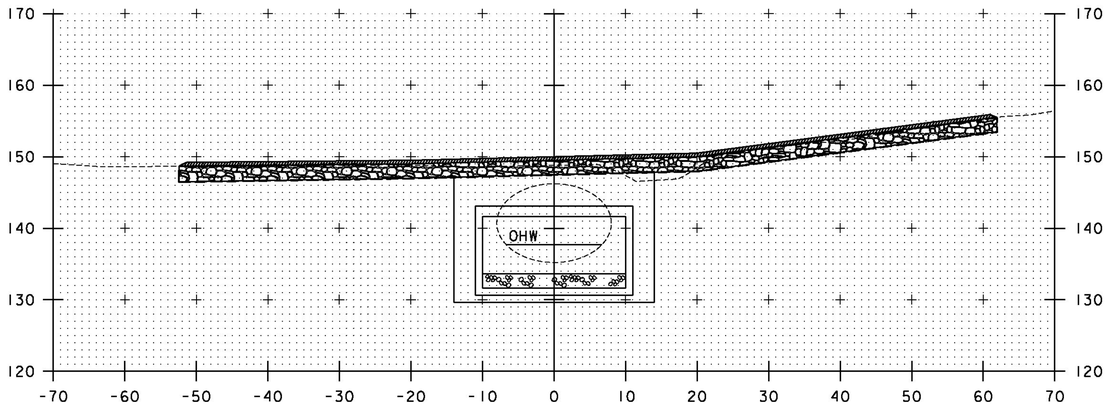
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264xs_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
CHANNEL CROSS SECTIONS - CXS2 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 29 OF 57

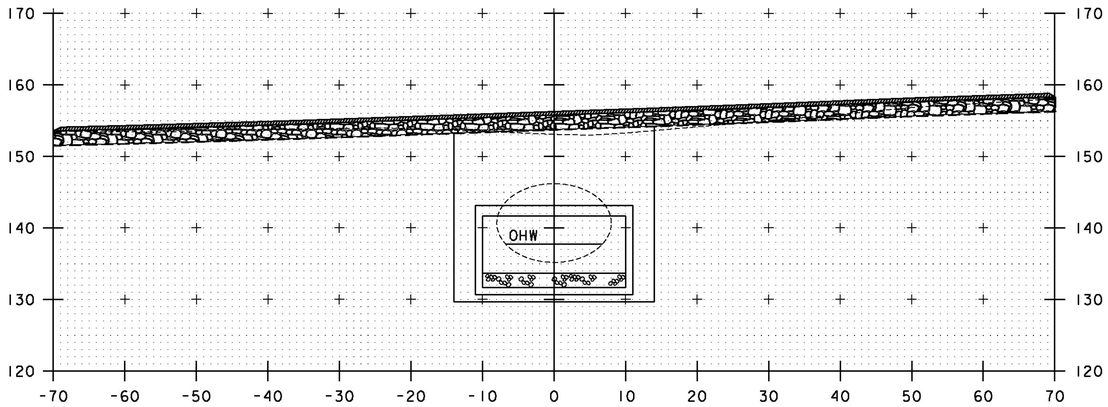
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SCALE

Stantec



101+90

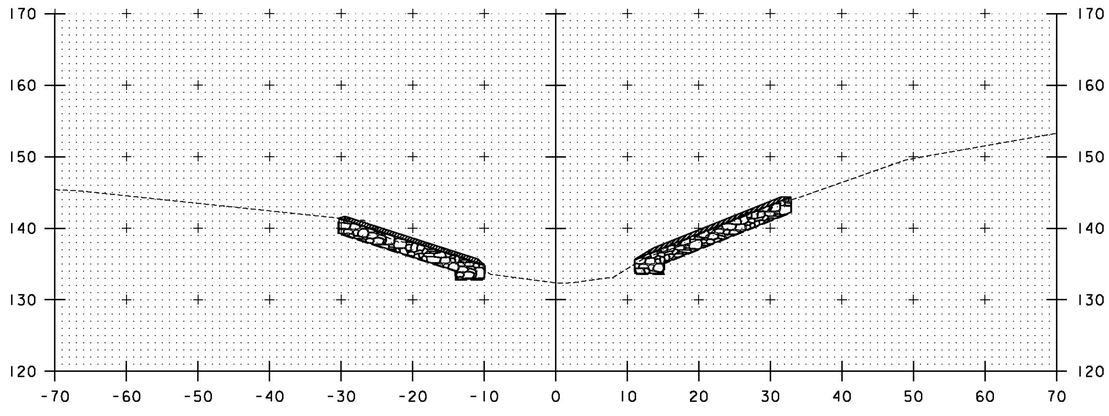
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STONE FILL, TYPE II
GRUBBING MATERIAL



101+80

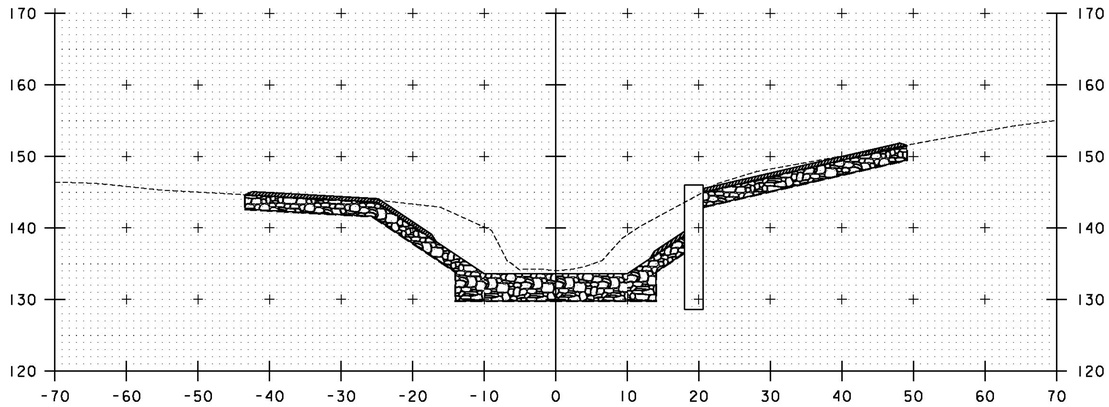
STA. 101+79 RT
BEGIN GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE II
GRUBBING MATERIAL

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



102+10

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



102+00

STA. 101+96 LT
BEGIN UNCLASSIFIED EXCAVATION

STA. 101+96 RT
BEGIN UNCLASSIFIED EXCAVATION

STA. 101+80 TO STA. 102+10

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

FILE NAME: z11c264xs_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
CHANNEL CROSS SECTIONS - CXS3 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 30 OF 57

0 10 20
SCALE

Stantec

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 SIDES OF THE PROJECT. SEE THE PROJECT IMPACTS 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 PROJECT IMPACTS 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.

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 CONTRACTOR'S 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 CONSTRUCITON SITE.

THE PROJECT AREA IS RELATIVELY FLAT WITH MINIMAL OFF-SITE RUNOFF FLOWING THROUGH THE SITE. THERFORE 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 EROSIVE 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 ENGINEEER. SEE SHEET 34 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.

1.5.2 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.

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: zllc264epsc nar_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
EPSC NARRATIVE - ECN 1- BR2	SHEET 31 OF 57

LEGEND

STABILIZED CONSTRUCTION ENTRANCE

N

VT STATE PLANE GRID

P.O.B. STA 10+00.00

P.I. STA 103+31.14

P.I. STA 102+52.85

P.I. STA 15+84.18

P.I. STA 101+11.72

P.I. STA 100+22.07

S 52° 49' 31" E

S 24° 57' 54" E

PROPOSED 8" WATER MAIN

EXIST. 8" WATER MAIN

STONE CHECK DAMS

10+00 11+00 12+00 13+00 14+00 15+00 16+00

100+00 101+00 102+00 103+00

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.

PLAN

SCALE: 1" = 20'-0"

0 20 40

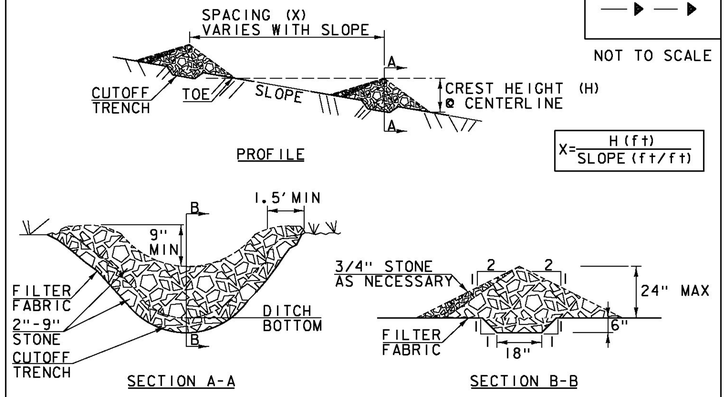
NOTE:
THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A TEMPORARY STREAM DIVERSION PLAN. THE PLAN SHALL INCLUDE EROSION CONTROL MEASURES AS NECESSARY TO PREVENT AND CONTROL SEDIMENT DISCHARGE. SEE SPECIAL PROVISION 900.645 (TEMPORARY RELOCATION OF STREAM).

Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264bdr_ero_br2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
EPSC CONST. SITE PLAN - ECP 1- BR2	SHEET 32 OF 57

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 OFTHE 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.

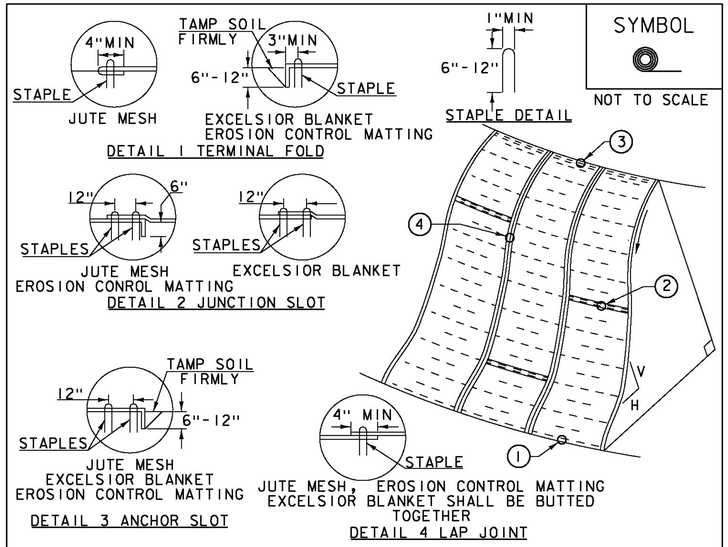
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

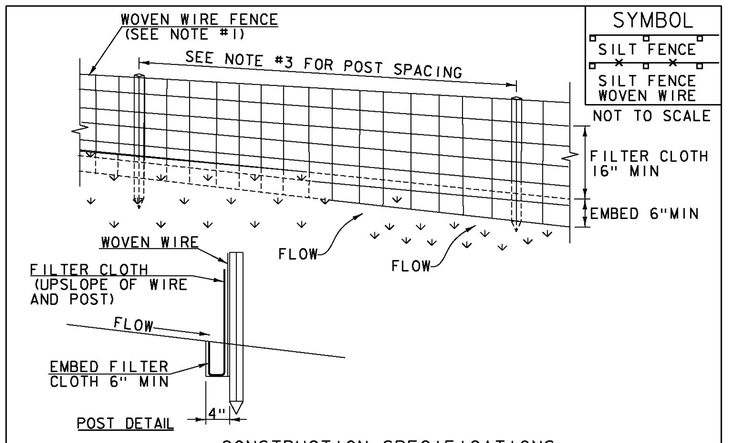
1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

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, MIRAFI100X, 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

Stantec

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

FILE NAME: z11c264epsc det_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
EROSION CONTROL DETAILS - ECD 1- BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 33 OF 57

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

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

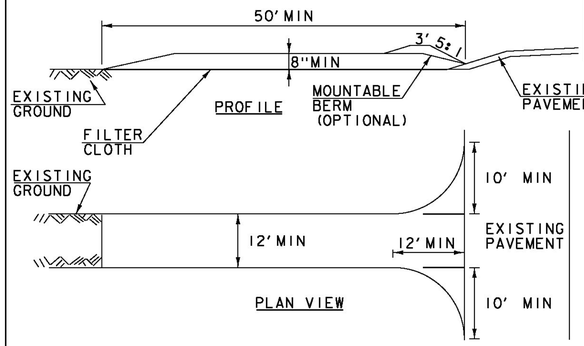
CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

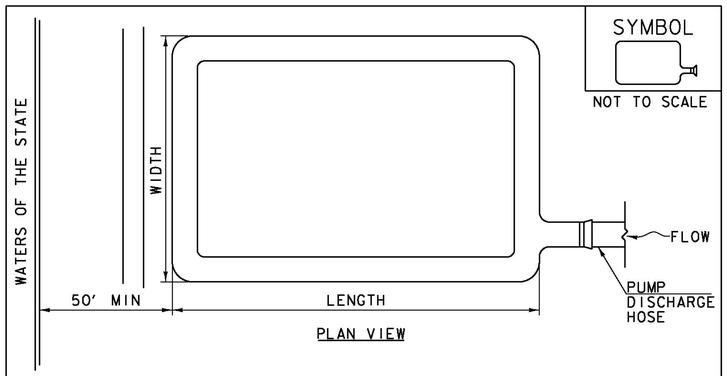
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

FILTER BAG

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

Stantec

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

FILE NAME: z11c264epsc det_br2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
EROSION CONTROL DETAILS - ECD 2 - BR2

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 34 OF 57

IMPACTS BELOW ORDINARY HIGH WATER

TEMPORARY IMPACTS BELOW OHW:	1391 SF
PERMANENT IMPACTS BELOW OHW:	1146 SF
TOTAL IMPACTS:	2537 SF

N

VT STATE PLANE GRID

P1
STA 103+31.14

P1
STA 102+52.85

P1
STA 15+84.18

POB
STA 10+00.00

PROPOSED 12" W EXIST. 8" WATER MAIN

EXIST. 16'x11' CMPPA
TO BE REMOVED

S 52° 49' 31" E

S 34° 57' 54" E

TO CHIMNEY POINT
& STATE OF NY

TO JCT OF
VT ROUTE 22A

VT 125

EXIST. ROW

P1
STA 101+11.72

P1
STA 100+22.07

WEST BRANCH DEAD CREEK

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

LEGEND

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

WETLANDS IMPACT

WETLANDS SECONDARY IMPACTS:	320 SF
WETLANDS PERMANENT IMPACTS:	160 SF
TOTAL IMPACTS:	480 SF

PLAN

SCALE: 1" = 20'-0"

0 20 40

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	z11c264bdr_impacts_br2_1.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
PROJECT IMPACTS PLAN 1 - BR2	
PLOT DATE:	8/22/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	35 OF 57

WETLANDS BUFFER IMPACTS

WETLANDS BUFFER SECONDARY IMPACTS:	1340 SF
WETLANDS BUFFER PERMANENT IMPACTS:	2708 SF
TOTAL IMPACTS:	4048 SF

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

N
VT STATE PLANE GRID

P1
STA 103+31.14

P1
STA 102+52.85

P1
STA 15+84.18

WETLAND BUFFER 50'-0"

ABANDONDED BRIDGE

PROPOSED 8" EXIST. WATER MAIN

POB STA 10+00.00

EXIST. 16'x11' CMPPA TO BE REMOVED

S 52° 49' 31" E

S 34° 57' 54" E

TO CHIMNEY POINT & STATE OF NY

TO JCT OF VT ROUTE 22A

VT 125

EXIST. ROW

P1
STA 101+11.72

P1
STA 100+22.07

WEST BRANCH DEAD CREEK

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

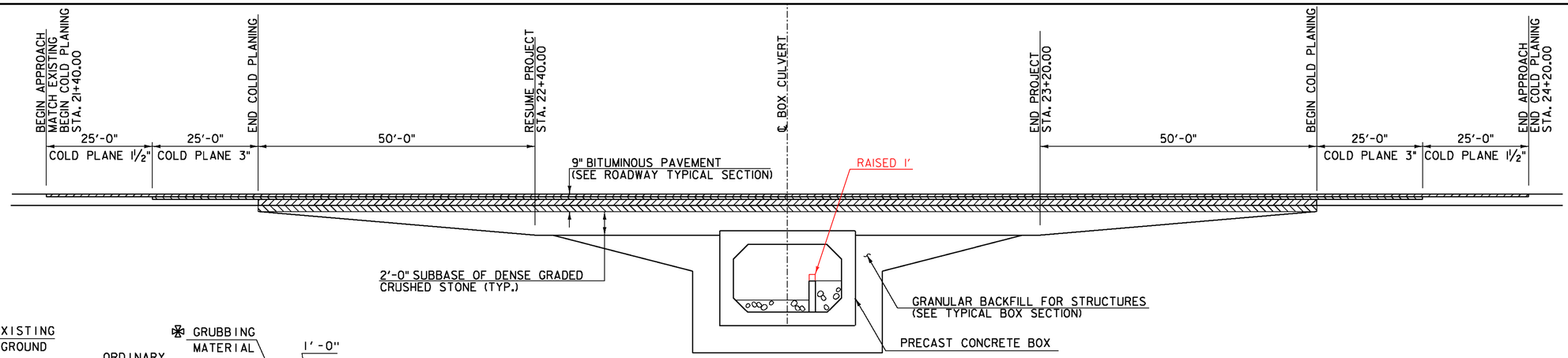
LEGEND

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

PLAN
SCALE: 1" = 20'-0"
0 20 40

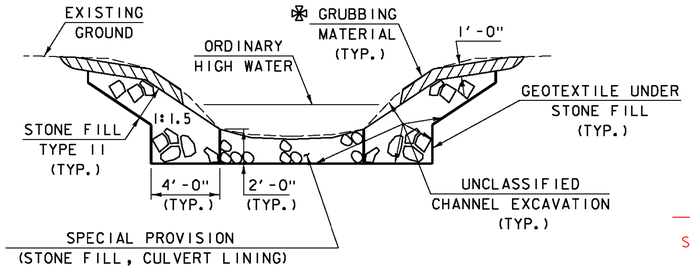
Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: zllc264bdr_impacts_br2_2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
PROJECT IMPACTS PLAN 2 - BR2	SHEET 36 OF 57



TYPICAL APPROACH SECTION - BR5

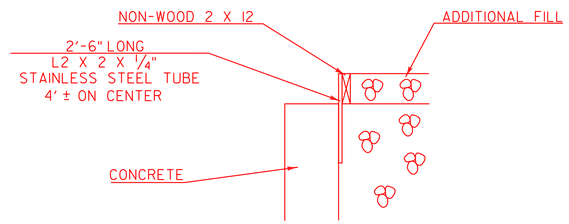
NOT TO SCALE



CHANNEL TYPICAL SECTION

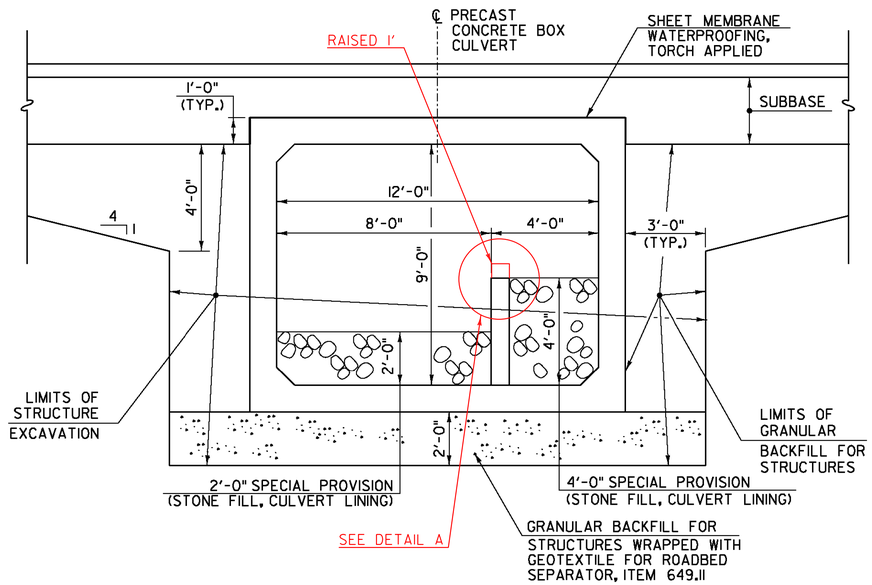
NOT TO SCALE

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



DETAIL A

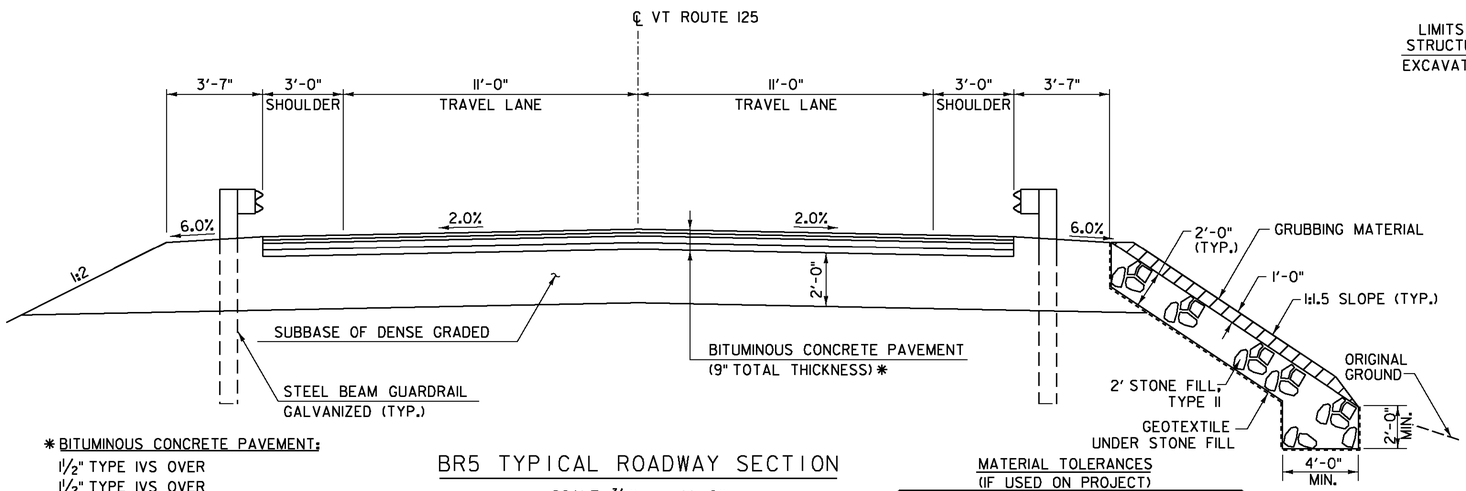
NOT TO SCALE



PRECAST CONCRETE BOX TYPICAL SECTION - BR5

SCALE ⅜" = 1'-0"

NOTE:
FOR WINGWALL EARTHWORKS SECTION,
SEE STRUCTURAL PLAN AND DETAILS - BR5.



✱ BITUMINOUS CONCRETE PAVEMENT:
1½" TYPE IVS OVER
1½" TYPE IVS OVER
3" TYPE IIS OVER
3" TYPE IIS

BR5 TYPICAL ROADWAY SECTION

SCALE ⅜" = 1'-0"

MATERIAL TOLERANCES
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COARSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264typsec.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
TYPICAL SECTIONS - BR5	SHEET 37 OF 57

GPS CONTROL POINTS

HVCTRL #1

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

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.

HVCTRL #2

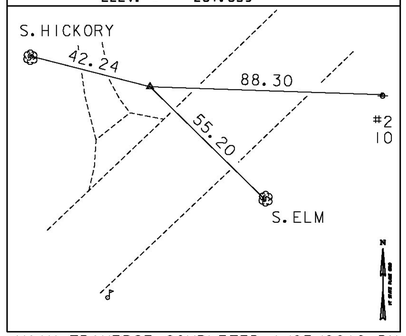
LEMON FAIR AZ MK
NORTH = 546363.025
EAST = 1440861.554
ELEV. = 196.000

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 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

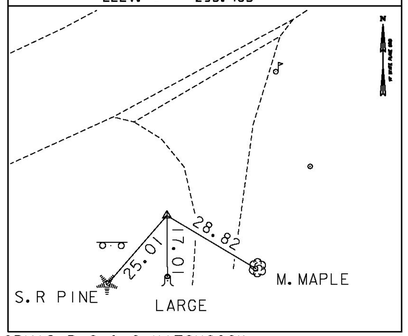
HVCTRL #6

NORTH = 544413.018
EAST = 1435945.282
ELEV. = 287.859



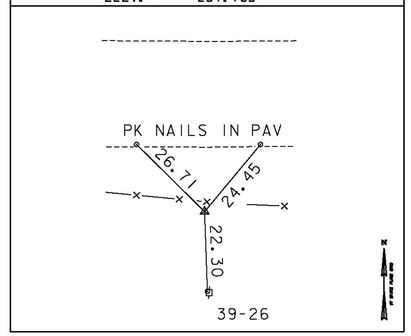
HVCTRL #7

NORTH = 544074.008
EAST = 1435635.369
ELEV. = 293.485



HVCTRL #8

NORTH = 543807.963
EAST = 1434393.362
ELEV. = 251.763



NORTH =
EAST =
ELEV. =

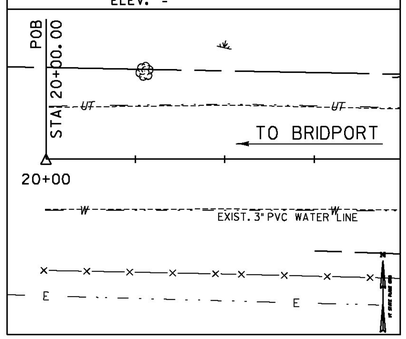
NORTH =
EAST =
ELEV. =

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

ALIGNMENT TIES

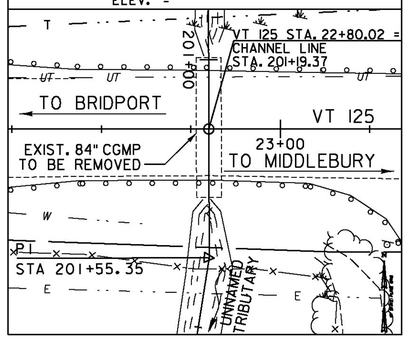
POB STA. 20+00.00

NORTH = 543881.306
EAST = 1434702.227
ELEV. =



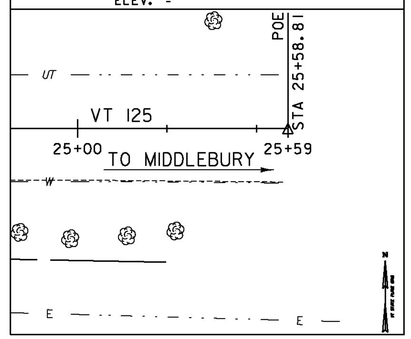
VT STA. 22+80.02

NORTH = 543941.912
EAST = 1434975.611
ELEV. =



POE STA. 25+58.81

NORTH = 544002.252
EAST = 1435247.795
ELEV. =



NORTH =
EAST =
ELEV. =

NORTH =
EAST =
ELEV. =

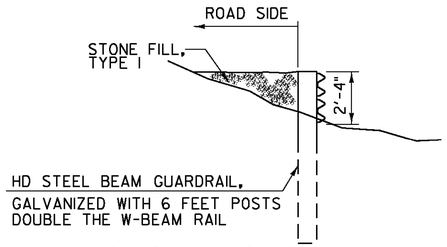
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83(92)
ADJUSTMENT COMPASS

Stantec

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

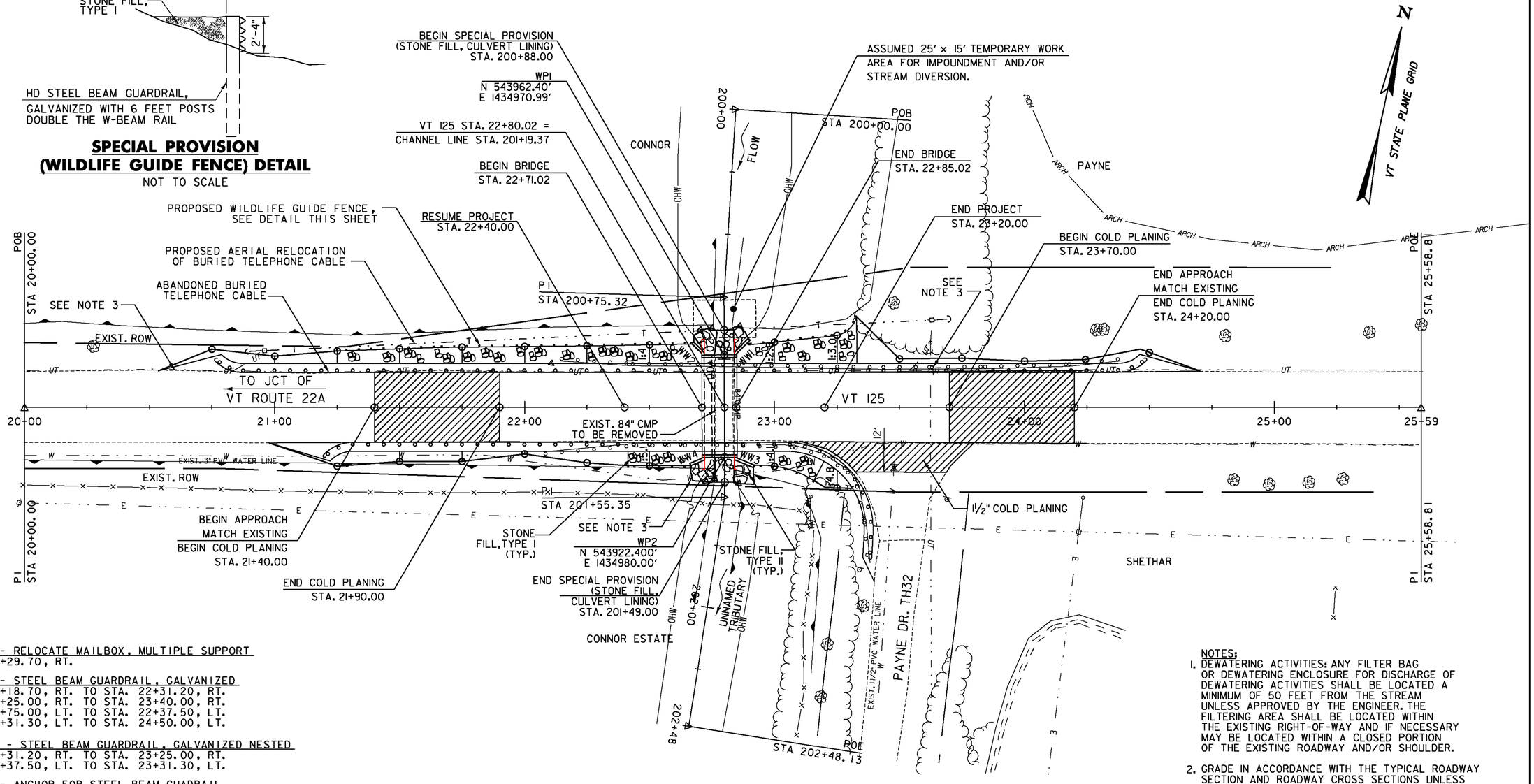
FILE NAME: z11c264tie_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
SURVEY CONTROL AND TIES - BR5

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 38 OF 57



SPECIAL PROVISION (WILDLIFE GUIDE FENCE) DETAIL

NOT TO SCALE



PLAN

SCALE: 1" = 20'-0"

0 20 40

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 GUADRAIL
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.

LEGEND

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

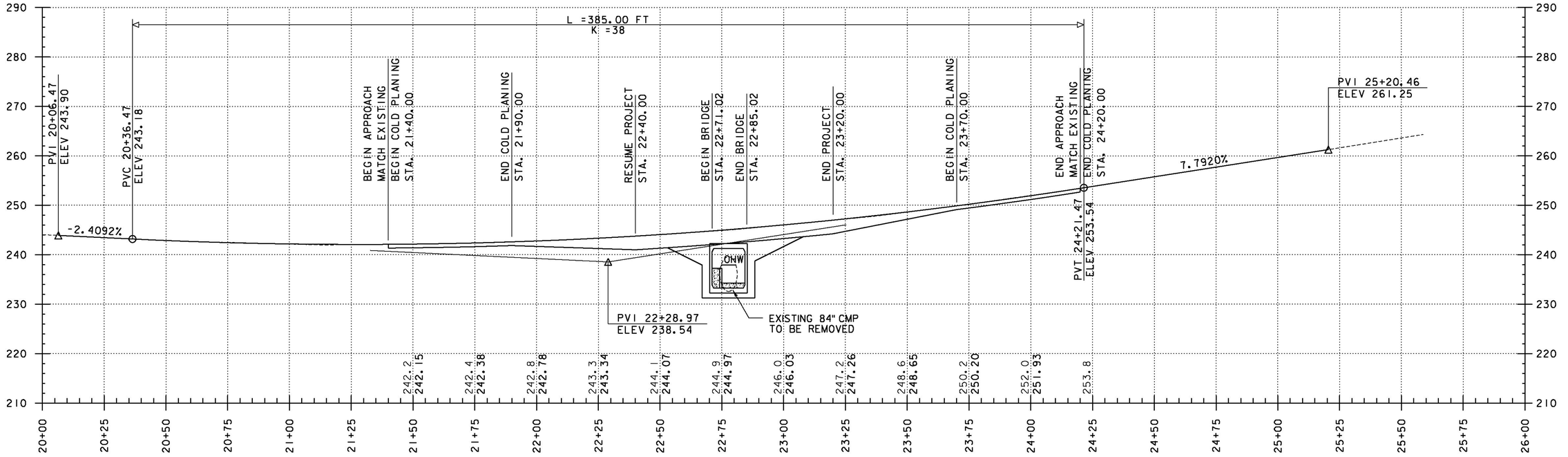
NOTES:

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.
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.

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: zllc264bdr_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
PLAN LAYOUT SHEET - BR5	SHEET 39 OF 57

8/22/2014 1:51:45 PM V:\1953\active\195310691\transportation\drawing\zllc264bdr_br5.dgn



PROFILE ALONG VT ROUTE 125

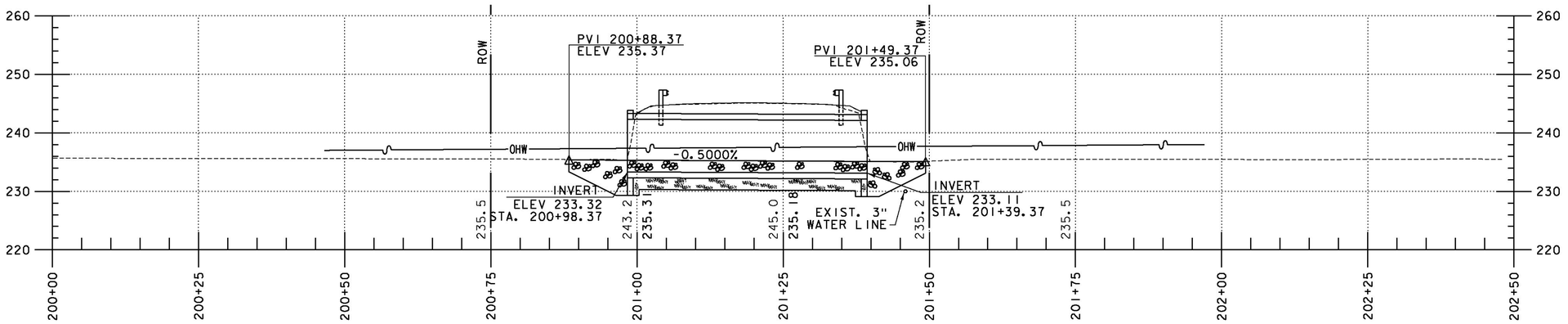
HORIZONTAL SCALE: 1' = 20' VERTICAL SCALE: 1" = 10'

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

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

Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264pro.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
ROADWAY PROFILE - BR5	SHEET 40 OF 57



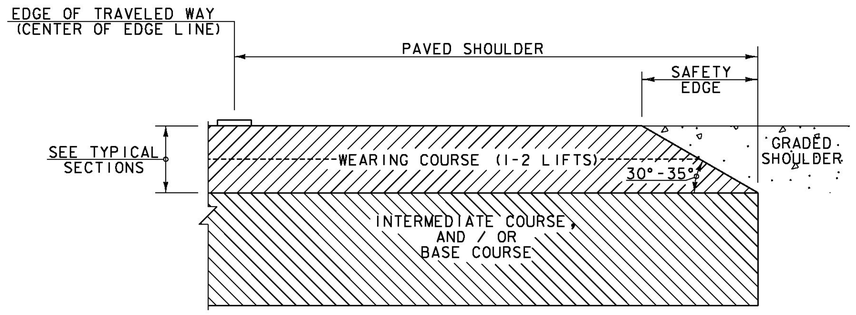
STREAM PROFILE

0 10 20

SCALE

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.



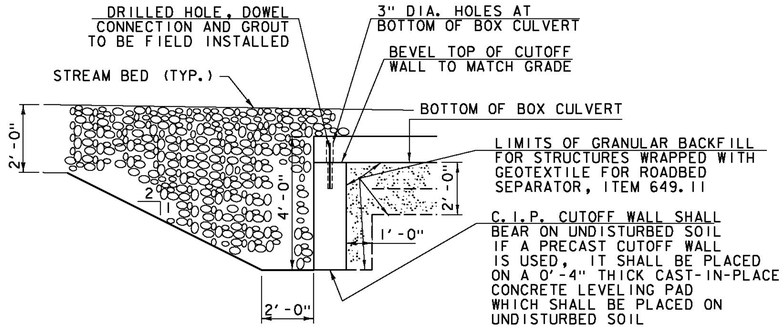
SAFETY EDGE DETAIL

NOT TO SCALE

NOTES:

1. 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.

2. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

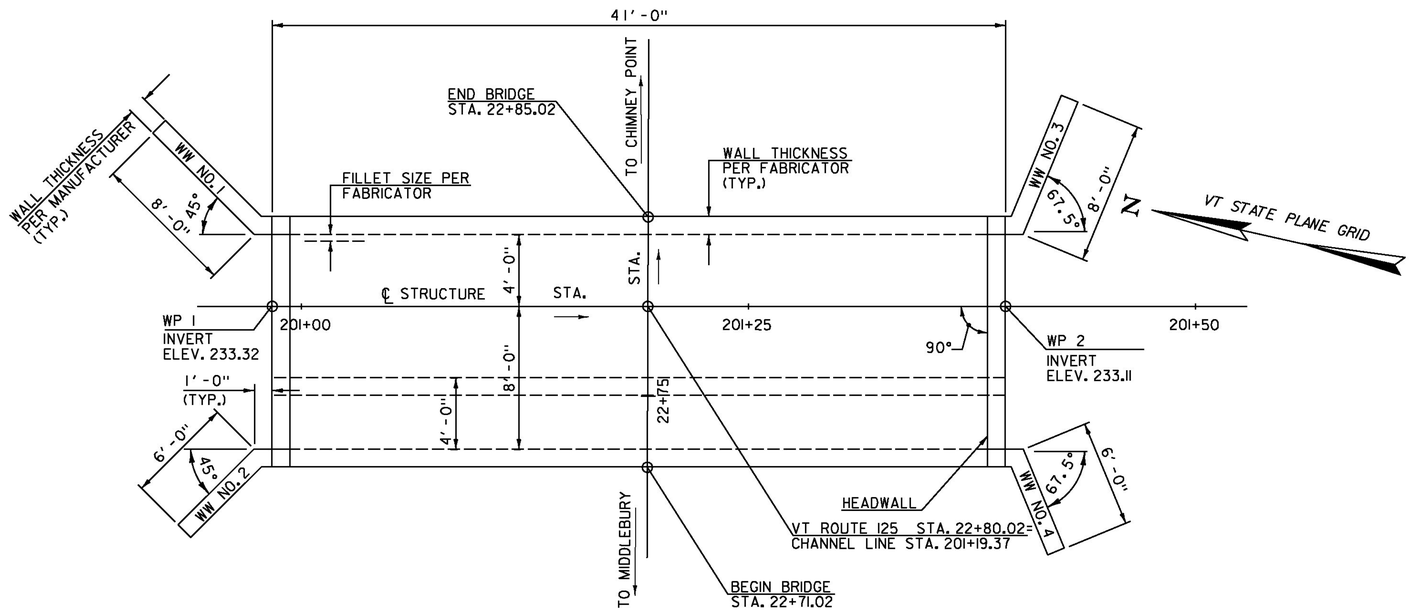


CUTOFF WALL DETAIL

NOT TO SCALE

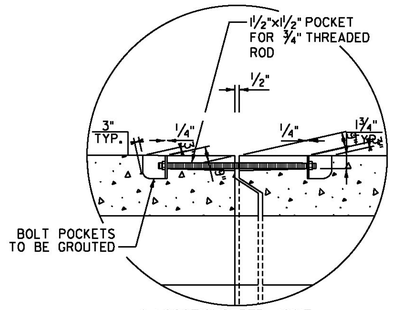
Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264xs_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
STREAM PROFILE - BR5	SHEET 41 OF 57



PRECAST CONCRETE STRUCTURE PLAN

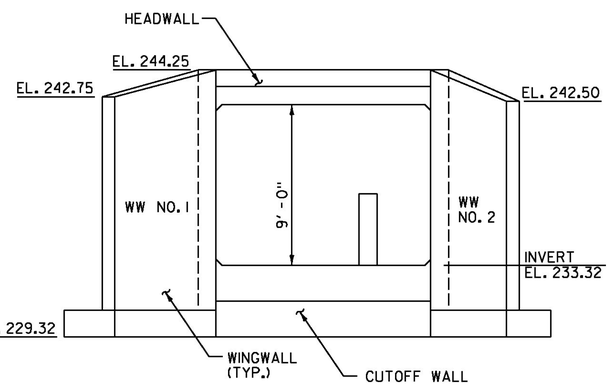
SCALE: 1/4" = 1'-0"



4 LOCATIONS PER JOINT
2 PER WALL, EXACT
LOCATION PER FABRICATOR

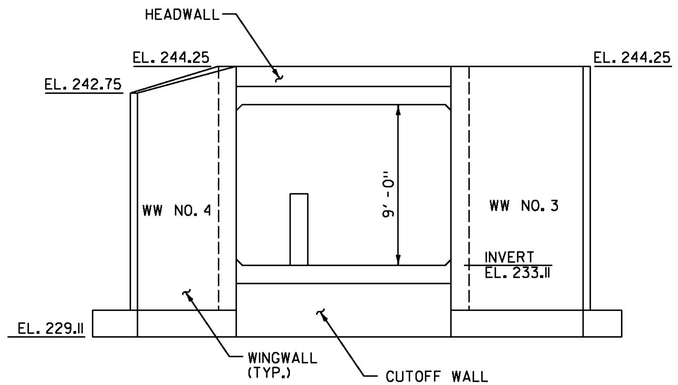
PERMANENT CLOSURE DETAIL

NOT TO SCALE



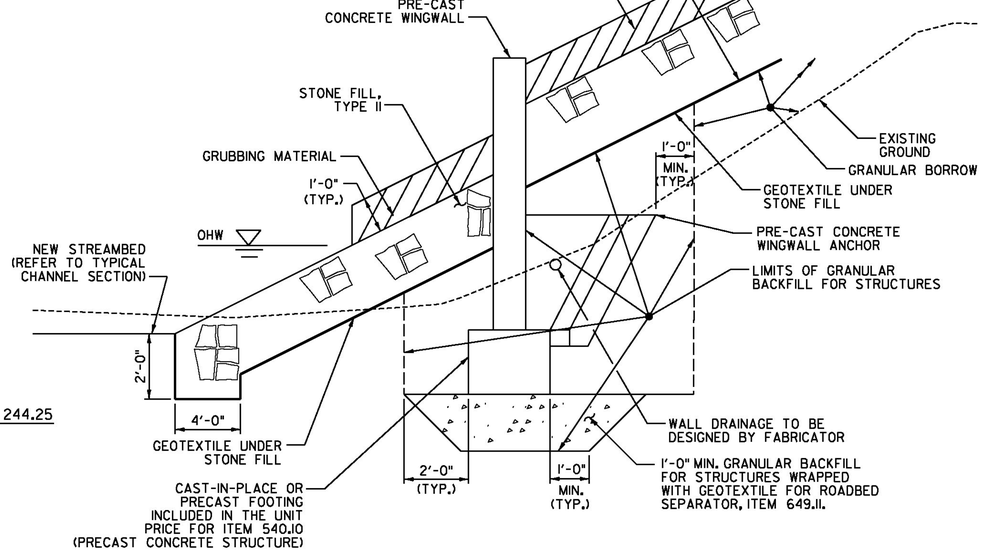
INLET ELEVATION

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



OUTLET ELEVATION

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



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

WINGWALL EARTHWORK SECTION

NOT TO SCALE

Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264strpl_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
STRUCTURAL PLAN AND DETAILS - BR5	SHEET 42 OF 57

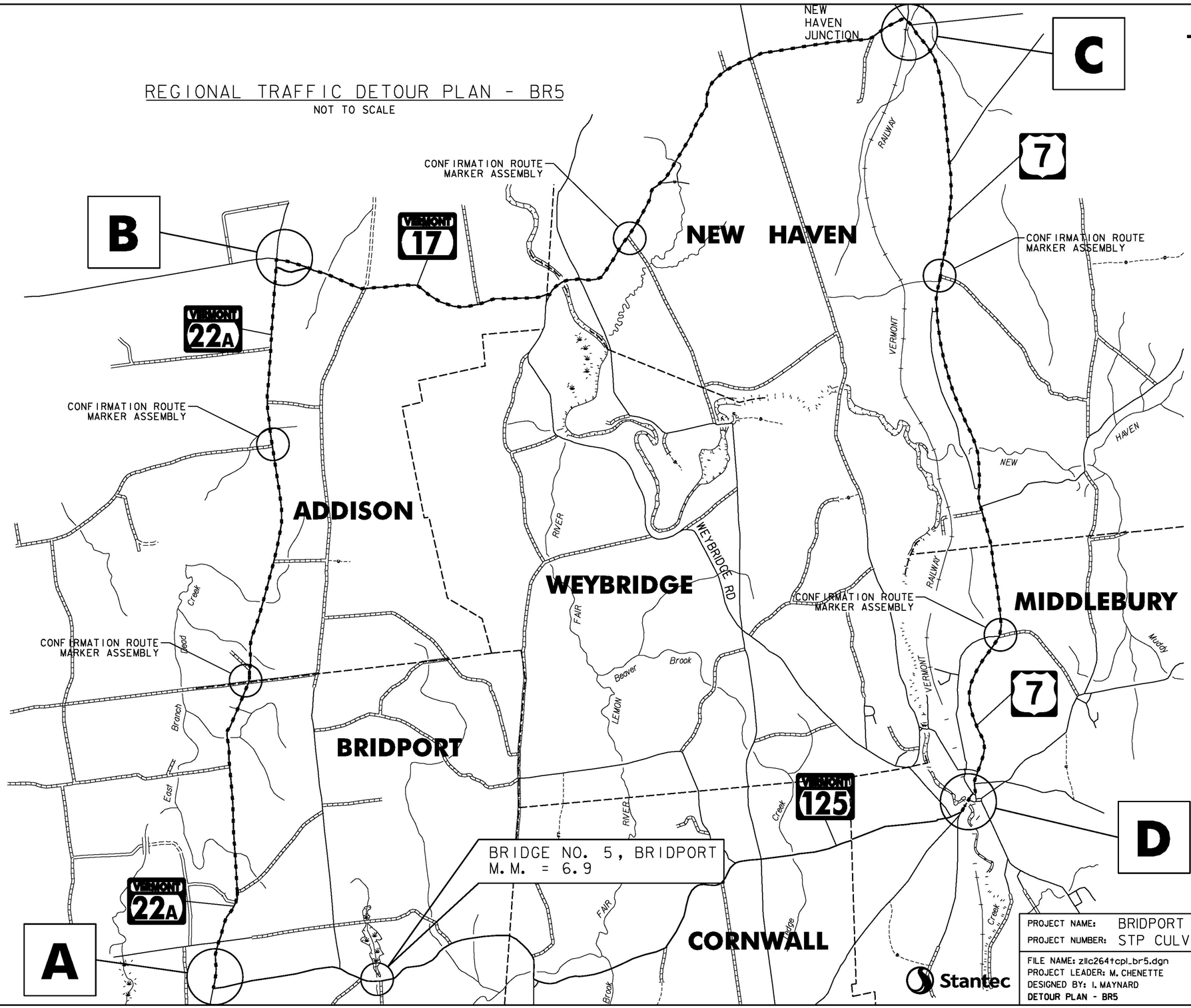
REGIONAL TRAFFIC DETOUR PLAN - BR5

NOT TO SCALE

N

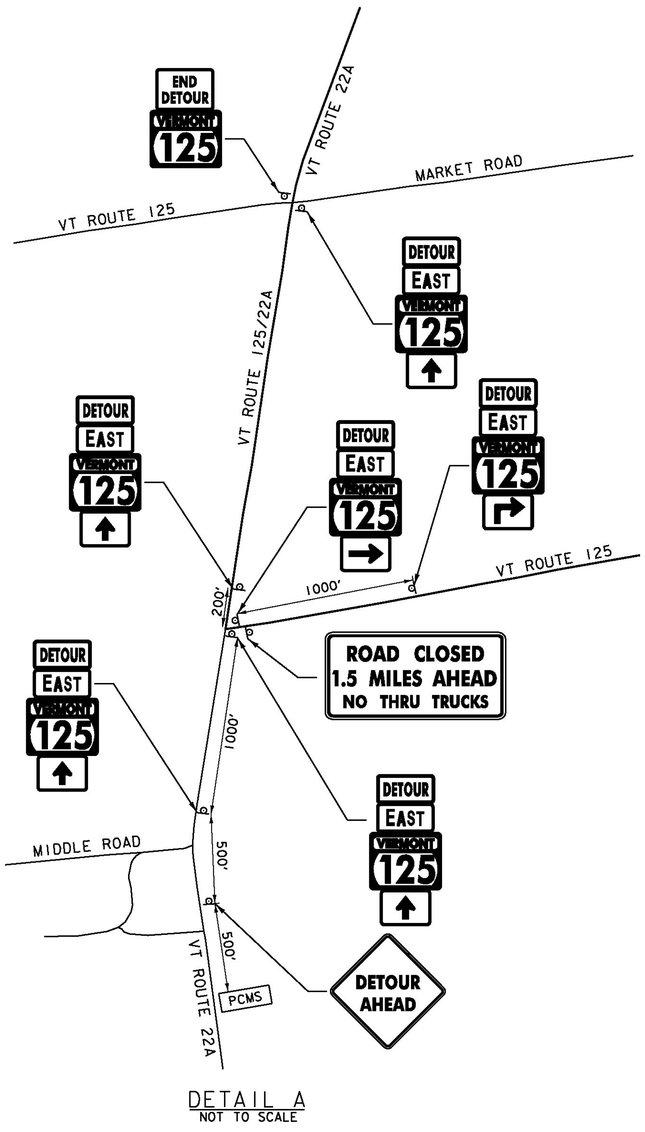
VT STATE PLANE GRID

DETOUR ROUTE

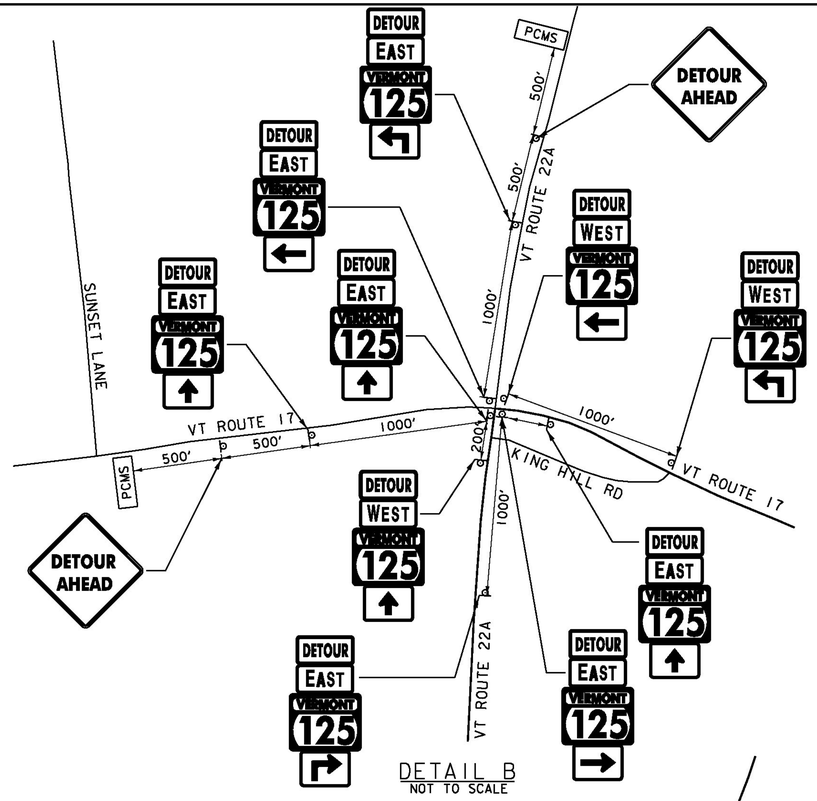


PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264tcpl_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: J. HUNGERFORD
DETOUR PLAN - BR5	SHEET 43 OF 57

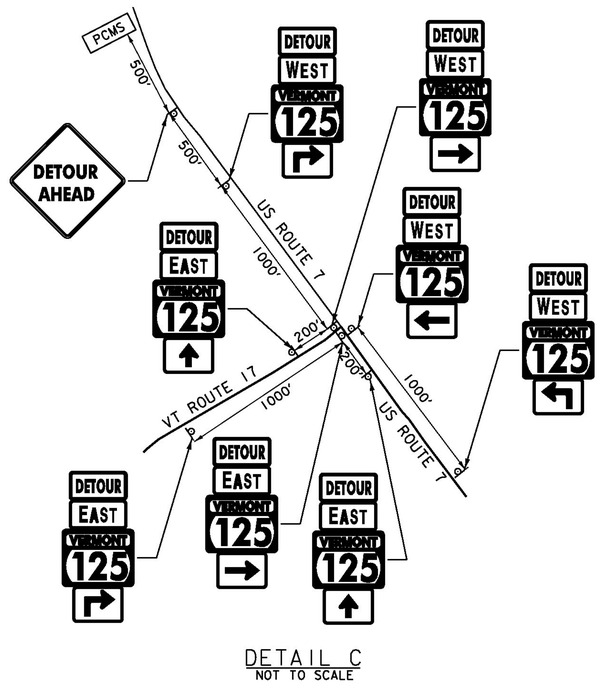
Stantec



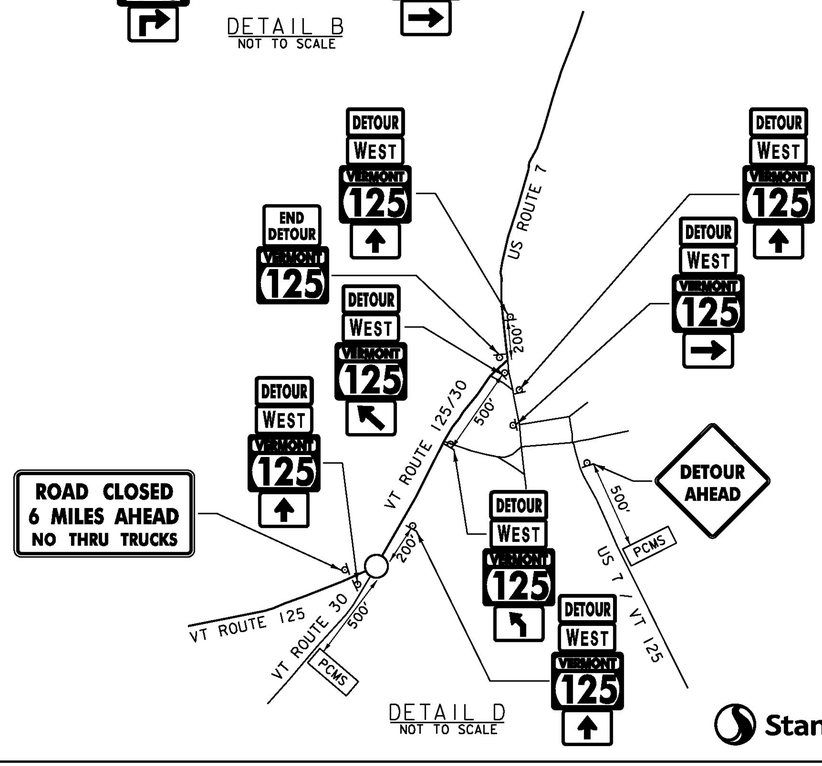
DETAIL A
NOT TO SCALE



DETAIL B
NOT TO SCALE



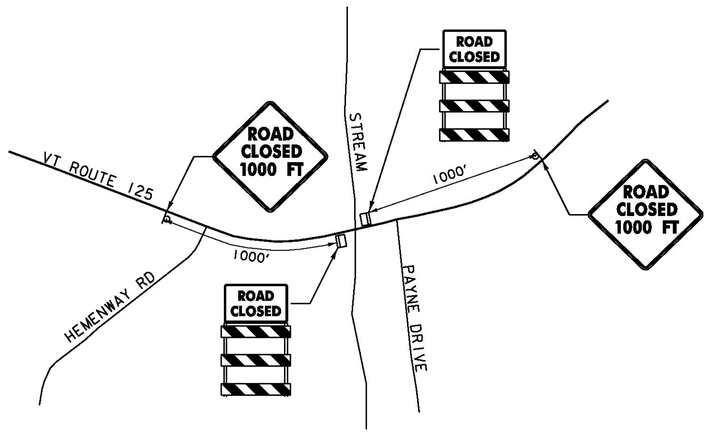
DETAIL C
NOT TO SCALE



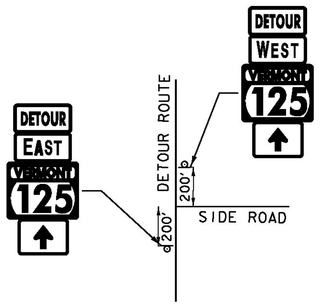
DETAIL D
NOT TO SCALE

Stantec

PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: z11c264tcdet_br5_1.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: I. MAYNARD
DESIGNED BY: I. MAYNARD	CHECKED BY: J. HUNGERFORD
TRAFFIC CONTROL DETAILS I- BR5	SHEET 44 OF 57



BRIDGE 5
NOT TO SCALE



CONFIRMATION ASSEMBLY
NOT TO SCALE

NOTES:

1. 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-INLCUSIVE). SEE SPECIAL PROVISIONS.
2. ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
3. "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON RETROREFLECTIVE TYPE III BARRICADES.
4. 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.
5. WHEN POSSIBLE LOCATE THE "ROAD CLOSED 1000 FT" SIGN NEAR A LOCATION WHERE DRIVERS CAN TURN AROUND.
6. 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 #5 GARAGE.
7. WHERE POSSIBLE LOCATE DETOUR ROUTE MARKER ASSEMBLIES ADJACENT TO EXISTING ROUTE MARKER ASSEMBLIES.
8. SIGN SPACING IS FOR REFERENCE ONLY, FIELD ADJUSTMENTS AS APPROVED BY THE ENGINEER.
9. 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 WEEKS PRIOR TO CLOSURE

	MESSAGE 1	MESSAGE 2	
(ROUTE) **	VT 125	MMMM DD	(DATE) *
	ROAD	TO	
	CLOSED	MMMM DD	(DATE) *

DURING CLOSURE

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

* - 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.

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

ID NUMBER	SIGN TEXT	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	NUMBER OF SIGNS REQ'D.	AREA OF EACH SIGN (SF)	COLOR	REMARKS
W20-2	DETOUR AHEAD	48"	48"	5	16.00	B/FO	
W20-3	ROAD CLOSED 1000 FT	48"	48"	2	16.00	B/FO	
M6-3	↑	21"	15"	16	2.19	B/FO	MOUNT BELOW M1-6A
M6-1R	→	21"	15"	5	2.19	B/FO	MOUNT BELOW M1-6A
M6-1L	←	21"	15"	3	2.19	B/FO	MOUNT BELOW M1-6A
M5-1L	↰	21"	15"	3	2.19	B/FO	MOUNT BELOW M1-6A
M5-1R	↱	21"	15"	4	2.19	B/FO	MOUNT BELOW M1-6A
M5-2L	↖	21"	15"	1	2.19	B/FO	MOUNT BELOW M1-6A
M6-2L	↖	21"	15"	1	2.19	B/FO	MOUNT BELOW M1-6A
M4-8	DETOUR	24"	12"	33	2.00	B/FO	MOUNT ABOVE M3-2 OR M3-4
M4-8A	END DETOUR	24"	18"	2	3.00	B/FO	MOUNT BELOW M1-6A
M3-2	EAST	24"	12"	18	2.00	G/W	
M3-4	WEST	24"	12"	15	2.00	G/W	
M1-6B	VERMONT 125	30"	24"	35	5.00	G/W	
R11-2C	ROAD CLOSED	48"	30"	2	10.00	B/W	
R11-3B	ROAD CLOSED 1.5 MILES AHEAD NO THRU TRUCKS	60"	30"	1	12.50	B/W	
R11-3B	ROAD CLOSED 6 MILES AHEAD NO THRU TRUCKS	60"	30"	1	12.50	B/W	

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

Stantec

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

FILE NAME: z11c264tcdet_br5_2.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: I. MAYNARD
TRAFFIC CONTROL DETAILS 2 - BR5

PLOT DATE: 8/22/2014
DRAWN BY: I. MAYNARD
CHECKED BY: J. HUNGERFORD
SHEET 45 OF 57

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.Q.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
S	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 > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#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.

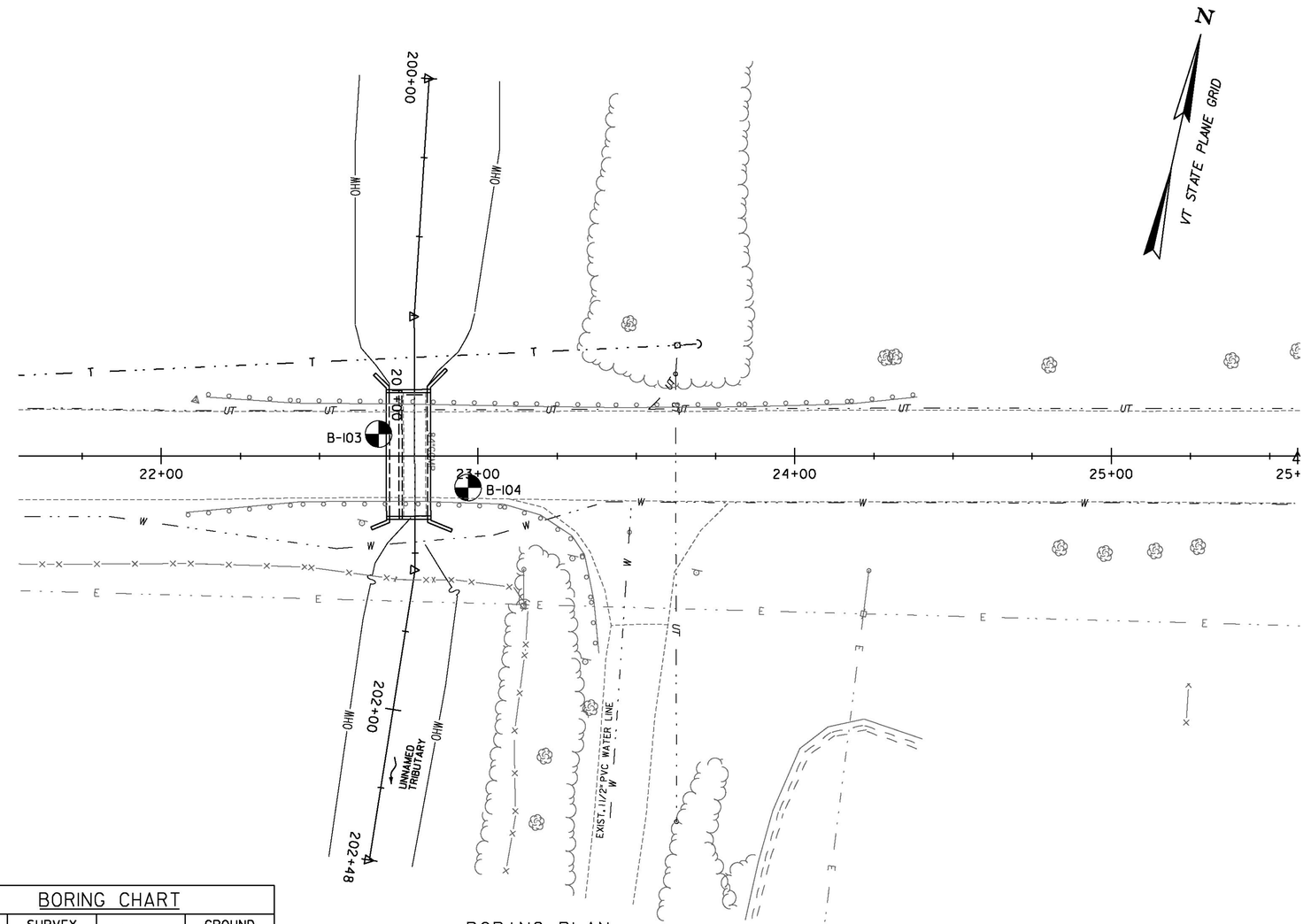
MUCK - Soft organic soil (containing > 10% organic material.

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 PLAN

0 20 40

SCALE

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

1. The subsurface explorations shown herein were made on Oct. 25, 2012 by N.H. Boring.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.

Stantec

LEGEND:

BRIDGE BORING

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

FILE NAME: z11c264bdr_bor_pl_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
BORING PLAN - BR5

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 46 OF 57

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH SECTION
SUBSURFACE INFORMATION

BORING LOG

BRIDPORT
STP CULV(29)
VT-125 BR-2&5

Boring No.: B-103
Page No.: 1 of 1
Pin No.: 11C264
Checked By: LAR

Boring Crew: GARROW, WHITLOCK, JUDKINS
Date Started: 9/26/12 Date Finished: 9/26/12
VTSPG NAD83: N 543946.30 ft E 1434962.90 ft
Station: 22+69 Offset: -7.00
Ground Elevation: 244.2 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
		None taken.

BOTTOM OF CULVERT
APPROX. EL. 232.2

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		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					
		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.

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

BRIDPORT
STP CULV(29)
VT-125 BR-2&5

Boring No.: B-104
Page No.: 1 of 1
Pin No.: 11C264
Checked By: LAR

Boring Crew: GARROW, JUDKINS
Date Started: 9/27/12 Date Finished: 9/27/12
VTSPG NAD83: N 543935.50 ft E 1434996.60 ft
Station: 22+88 Offset: 11.00
Ground Elevation: 245.0 ft

	Casing	Sampler
Type:	WB	SS
I.D.:	4 in	1.5 in
Hammer Wt:	N.A.	140 lb.
Hammer Fall:	N.A.	30 in.
Hammer/Rod Type:	Auto/AWJ	
Rig:	CME 45C SKID	CE = 1.33

Groundwater Observations

Date	Depth (ft)	Notes
		None taken.

BOTTOM OF CULVERT
APPROX. EL. 232.2

Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %	LL %	PI %
		Asphalt Pavement, 0.0 ft - 0.9 ft							
5		A-2-4, SlSaGr, 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
		A-7-6, Cl, gry, Wet, Rec. = 2.0 ft, Lab Note: Very wet sample.	(WH)	59.0	2.1	1.9	96.0	68	38
20		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					
		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.

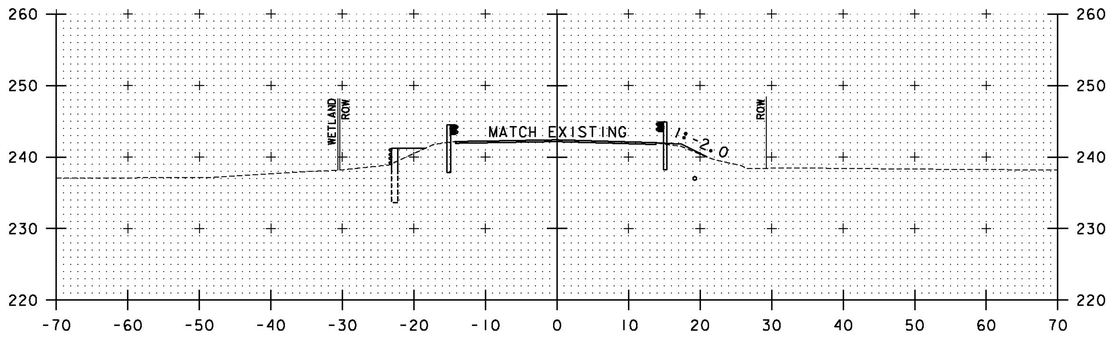
BORING LOG 2 BRIDPORT STP CULV(29).GPJ VERMONT AOT.GDT 1/10/13

Stantec

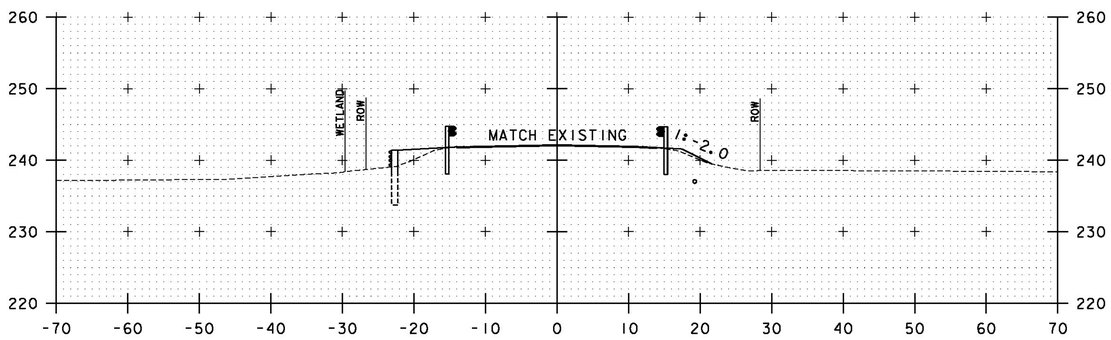
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264bor_log_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: VTRANS
BORING LOG 1 - BR5

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: VTRANS
SHEET 47 OF 57

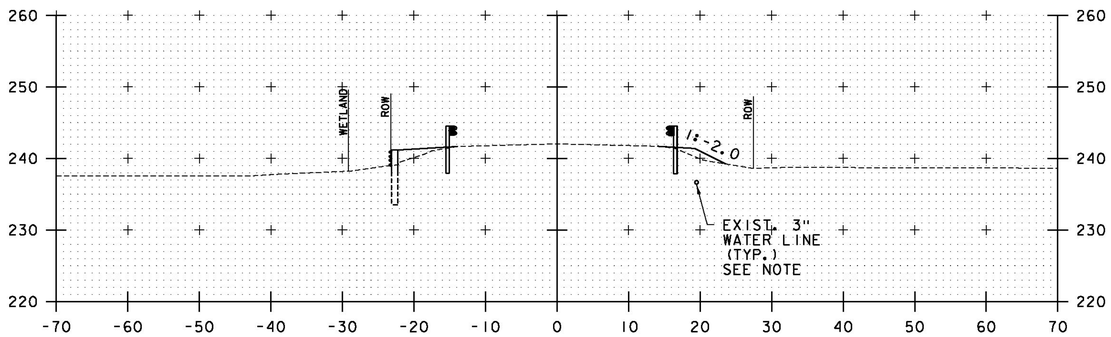


21+75



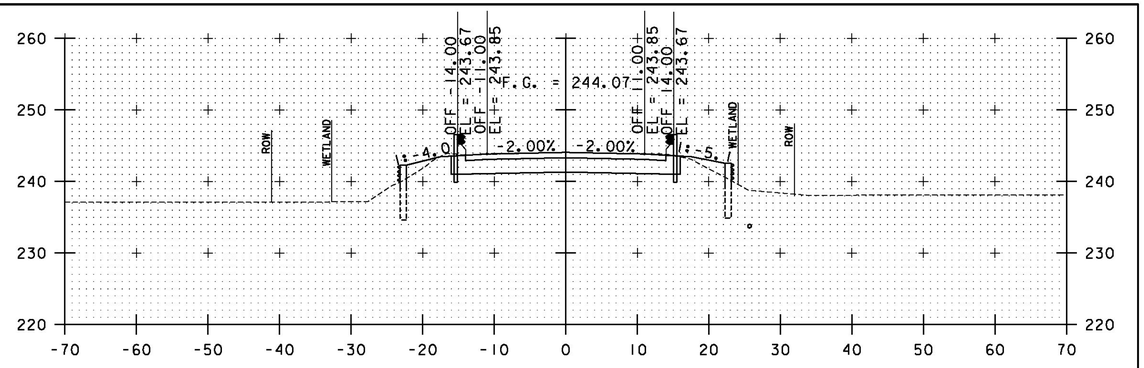
21+40
BEGIN APPROACH

21+50



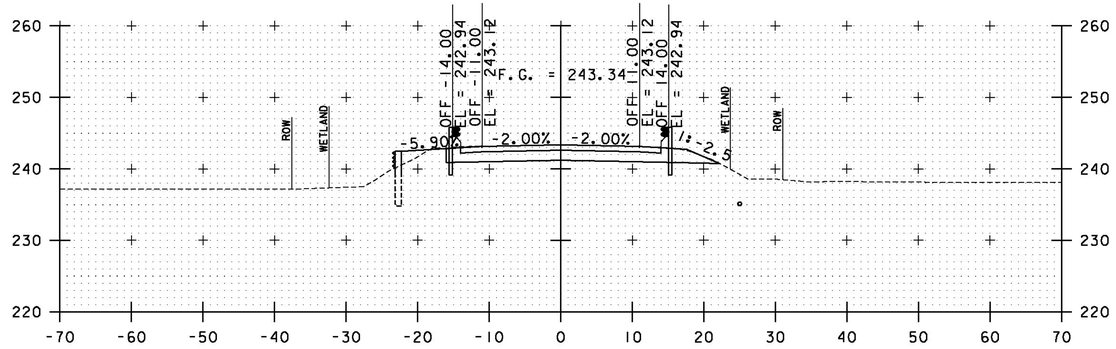
NOTE:
EXISTING 3" WATERLINE LOCATION IS APPROXIMATE. TO BE VERIFIED IN THE FIELD AND POST LOCATIONS MODIFIED, IF NEEDED.

21+25

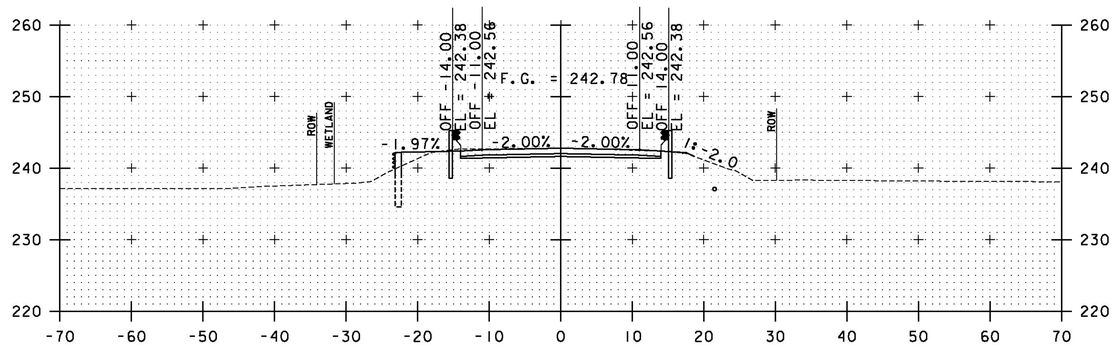


22+40
RESUME PROJECT

22+50



22+25



22+00

STA. 21+25 TO STA. 22+50

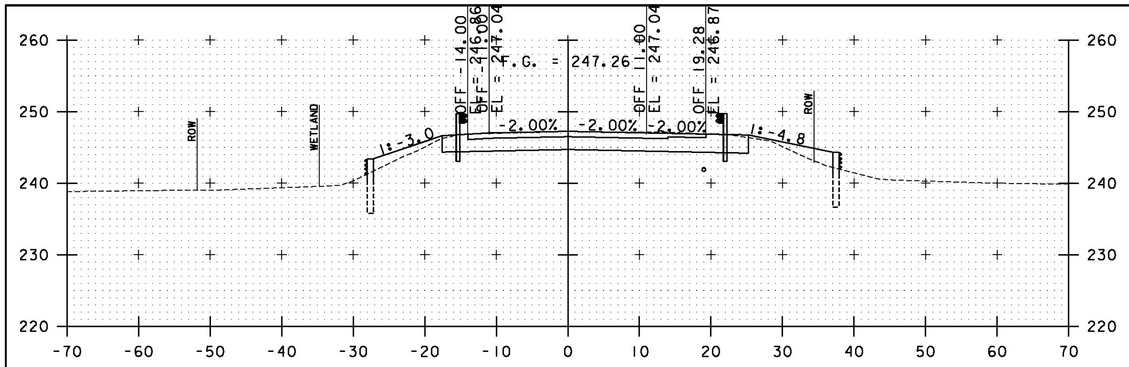
PROJECT NAME: BRIDPORT
PROJECT NUMBER: STP CULV(29)

FILE NAME: z11c264xs_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
ROADWAY CROSS SECTIONS - RXSI - BR5

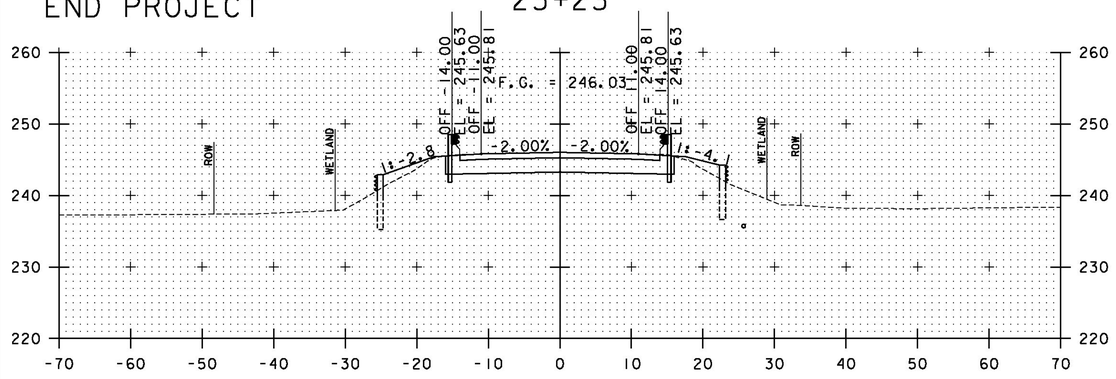
PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 48 OF 57

0 10 20
SCALE

Stantec

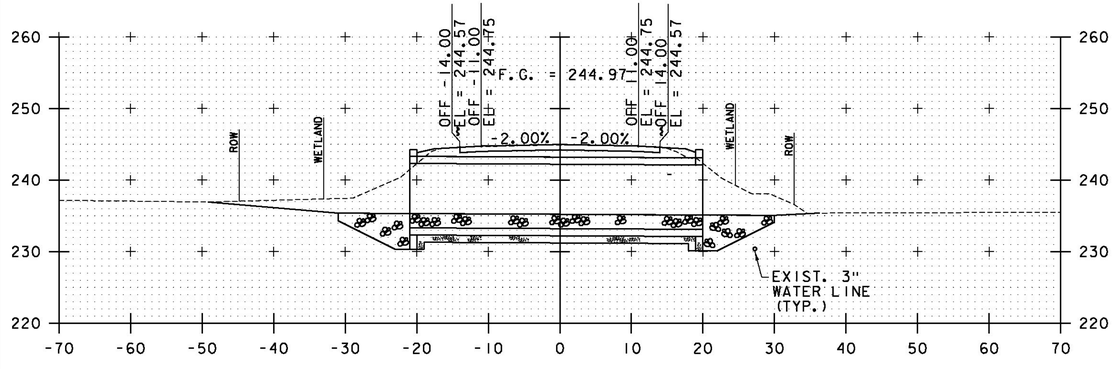


23+20
END PROJECT



23+00

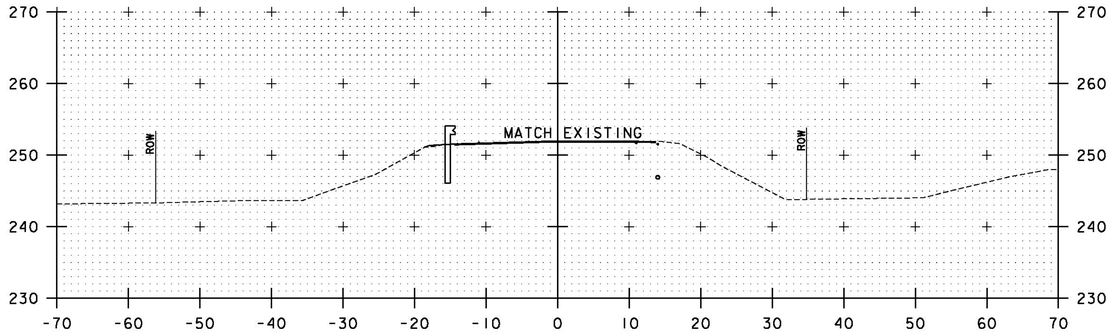
22+85.02
END BRIDGE



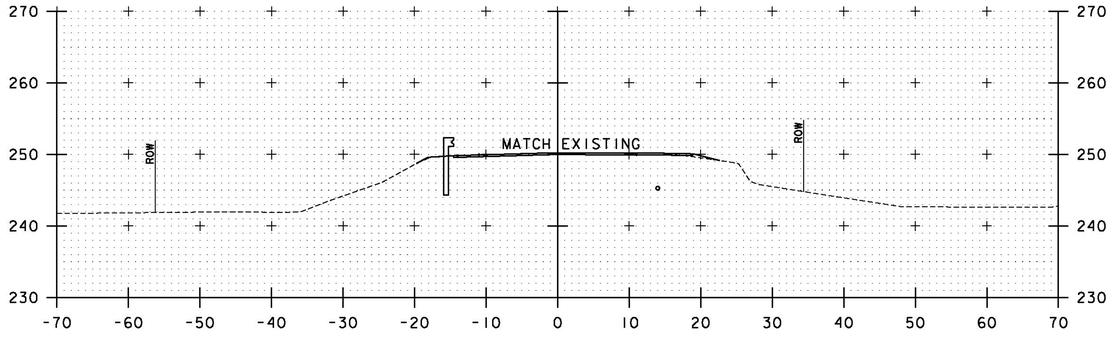
22+71.02
BEGIN BRIDGE

22+75

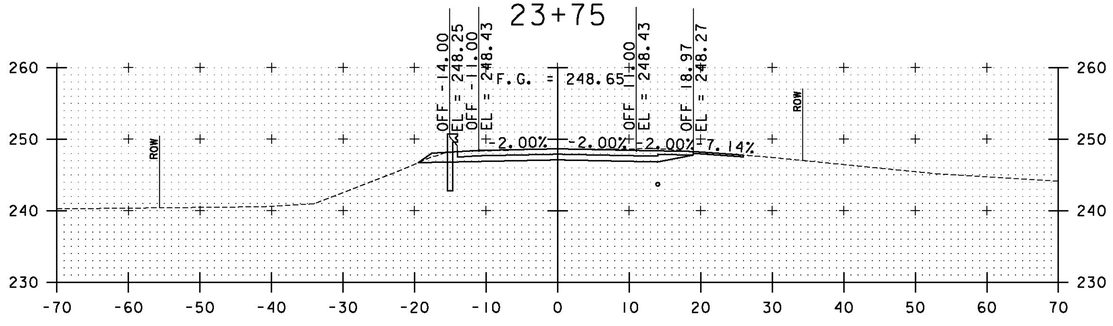
24+20
END APPROACH



24+00



23+75



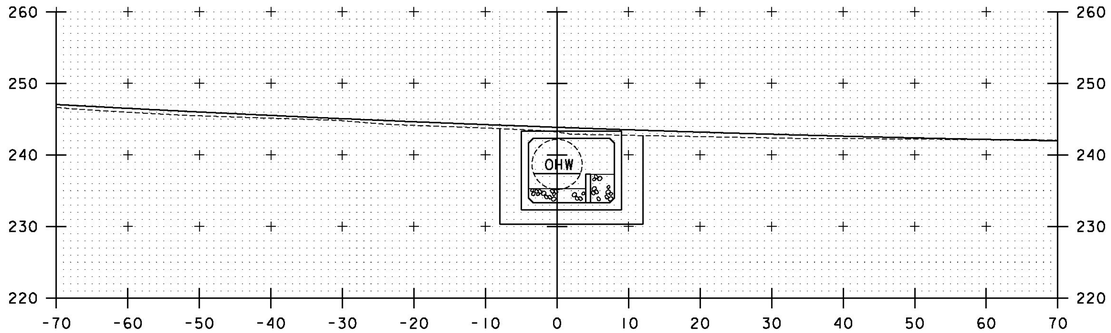
STA. 22+75 TO STA. 24+00

23+50

0 10 20
SCALE

Stantec

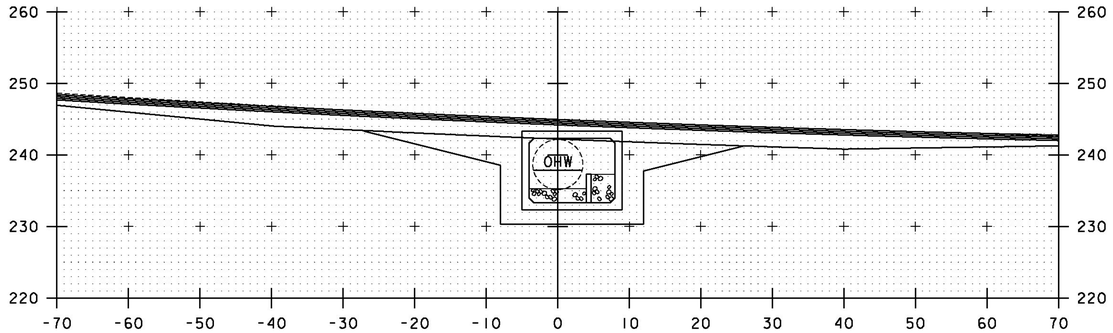
PROJECT NAME: BRIDPORT	
PROJECT NUMBER: STP CULV(29)	
FILE NAME: zllc264xs_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
ROADWAY CROSS SECTIONS - RXS2 - BR5	SHEET 49 OF 57



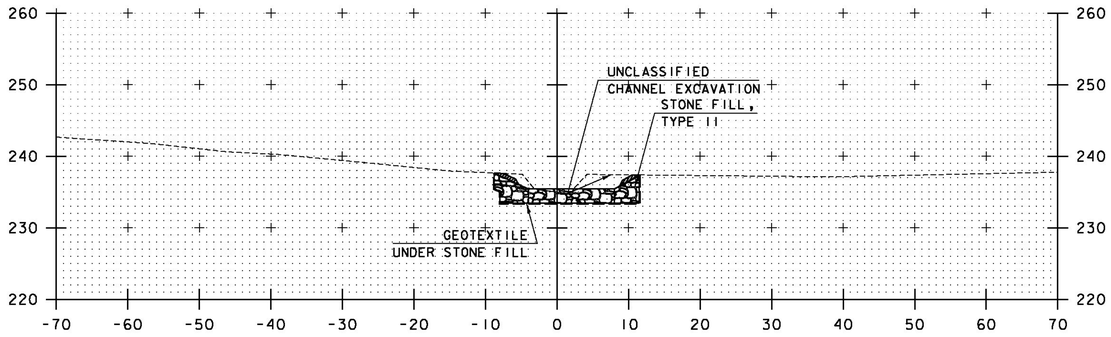
STA. 200+98.35 LT
END GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE II
GRUBBING MATERIAL

201+00

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



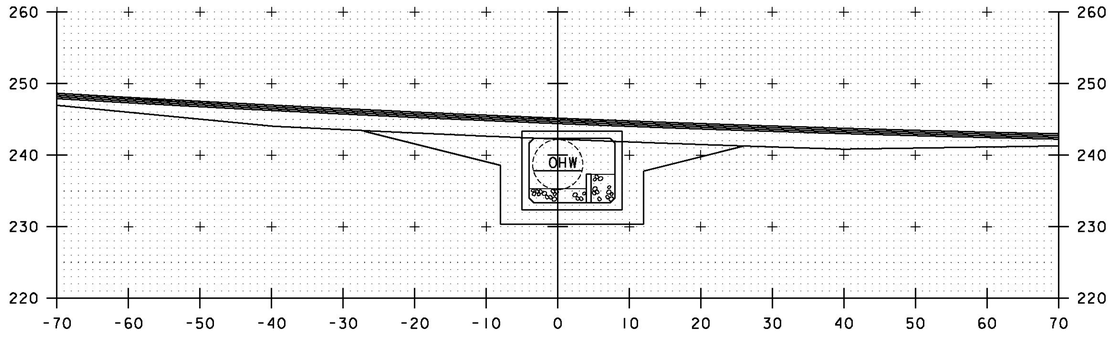
201+30



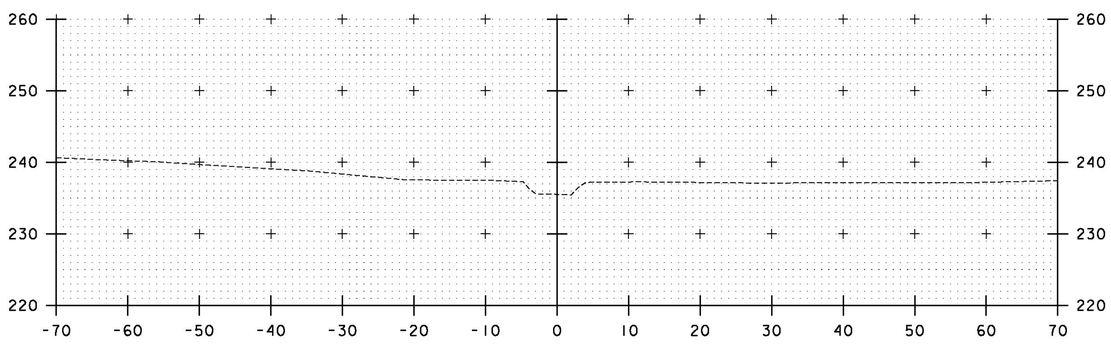
STA. 200+88 LT
BEGIN STONE FILL CULVERT LINING

200+90

STA. 200+88 RT
BEGIN STONE FILL, CULVERT LINING



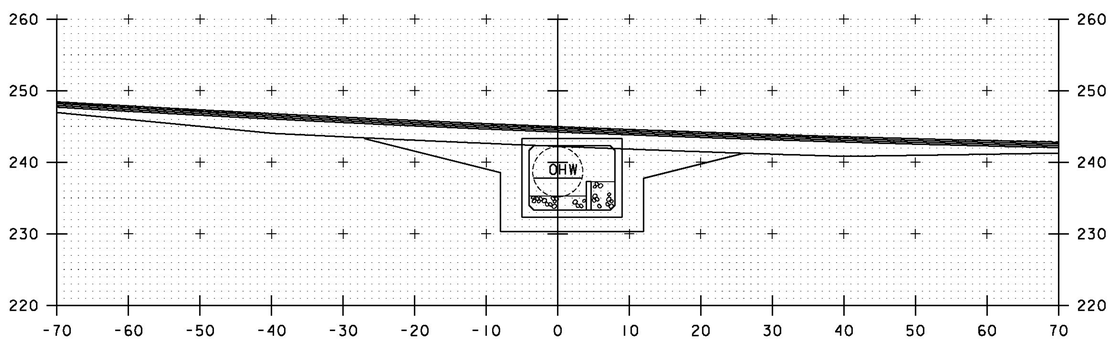
201+20



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

200+80

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



201+10

STA. 200+80 TO STA. 201+30

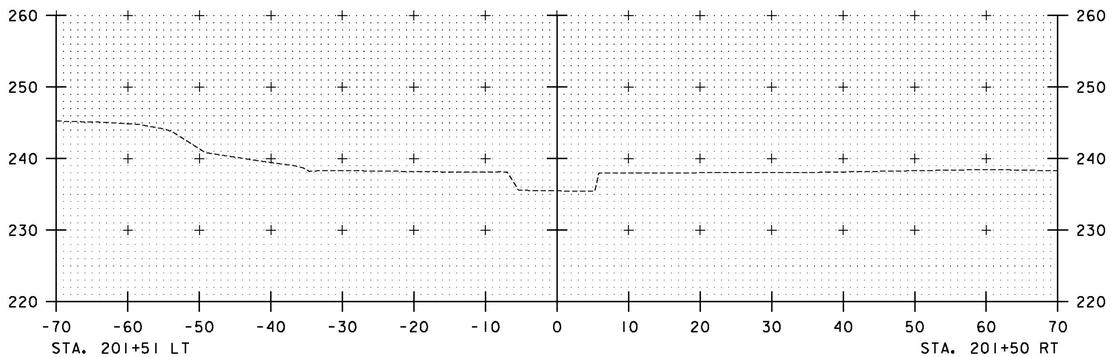
0 10 20
SCALE

Stantec

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

FILE NAME: z11c264xs_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
CHANNEL CROSS SECTIONS - CXSI - BR5

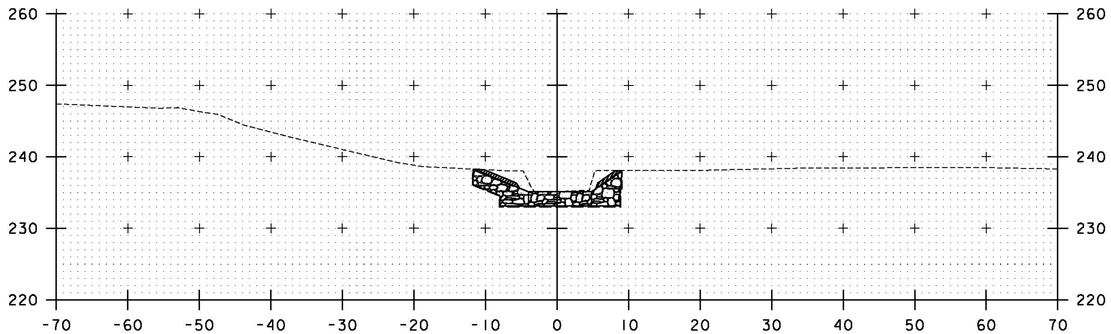
PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 50 OF 57



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

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

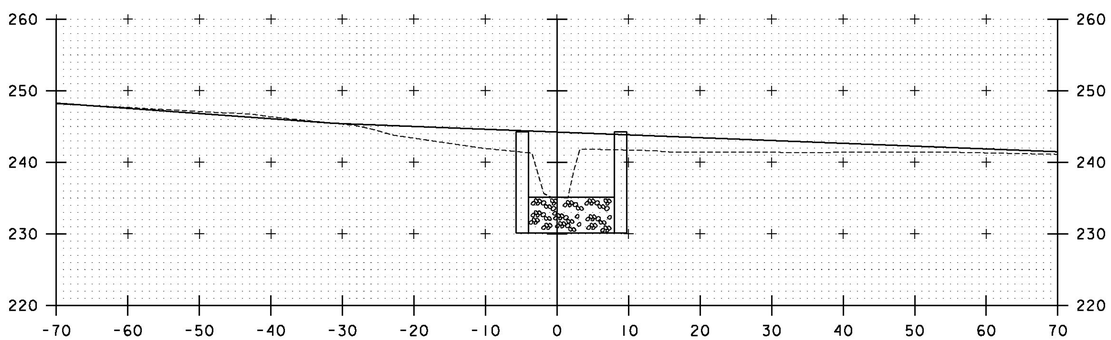
201+60



STA. 201+49 LT
END STONE FILL CULVERT LINING

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

201+50



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

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

201+40

STA. 201+40 TO STA. 201+60

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

FILE NAME: z11c264xs_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
CHANNEL CROSS SECTIONS - CXS2 - BR5

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 51 OF 57

0 10 20
SCALE

Stantec

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 SIDES OF THE PROJECT. SEE THE PROJECT IMPACTS 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 PROJECT IMPACTS 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.

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 CONTRACTOR'S 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 CONSTRUCITON SITE.

THE PROJECT AREA IS RELATIVELY FLAT WITH MINIMAL OFF-SITE RUNOFF FLOWING THROUGH THE SITE. THERFORE 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 EROSIVE POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

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 ENGINEEER. SEE SHEET 55 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.

1.5.2 OFF-SITE ACTIVITIES

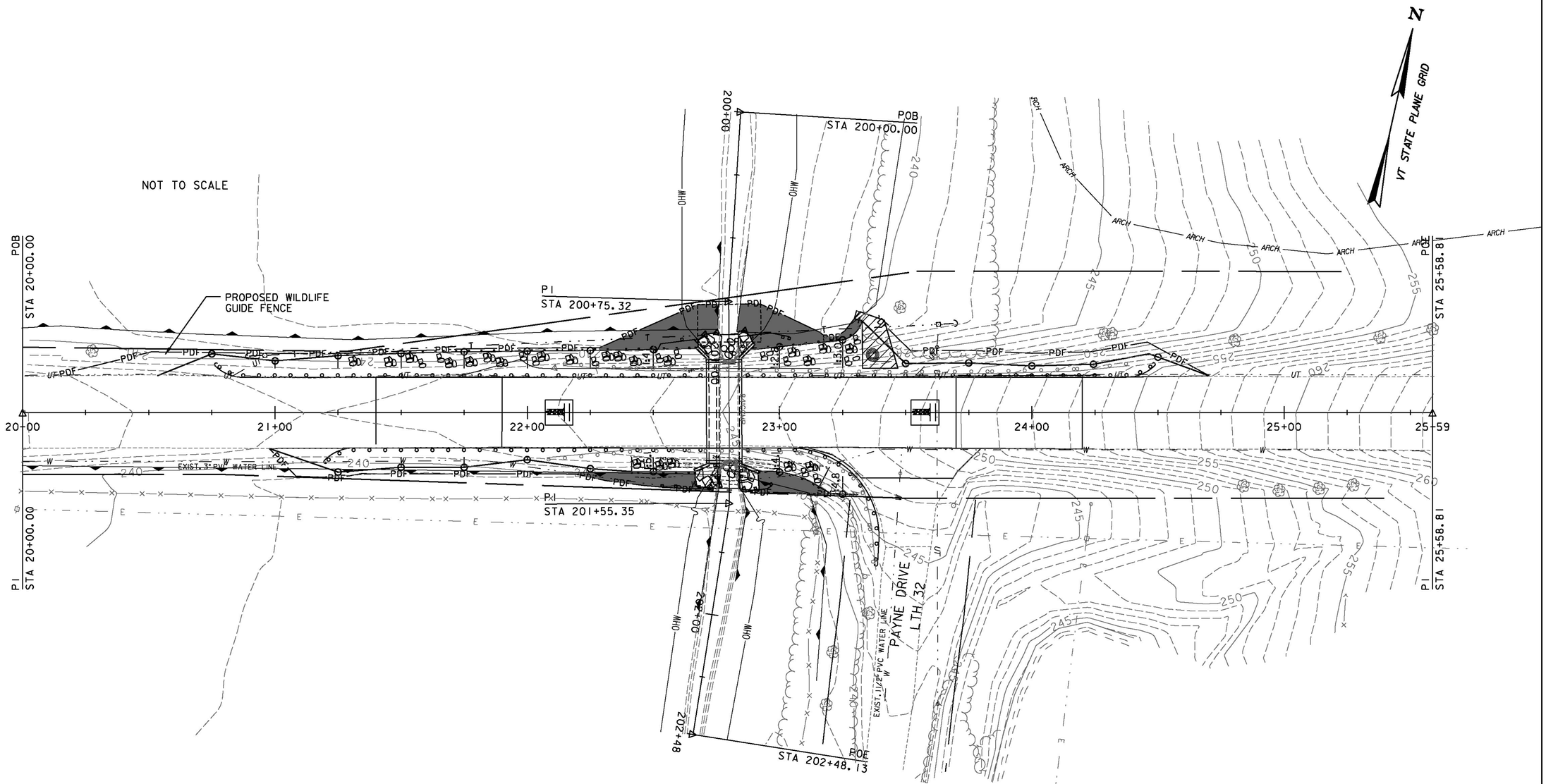
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

Stantec

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

FILE NAME: z:\c264epsc nar_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
EPSC NARRATIVE - ECN 1 - BR5

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 52 OF 57



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

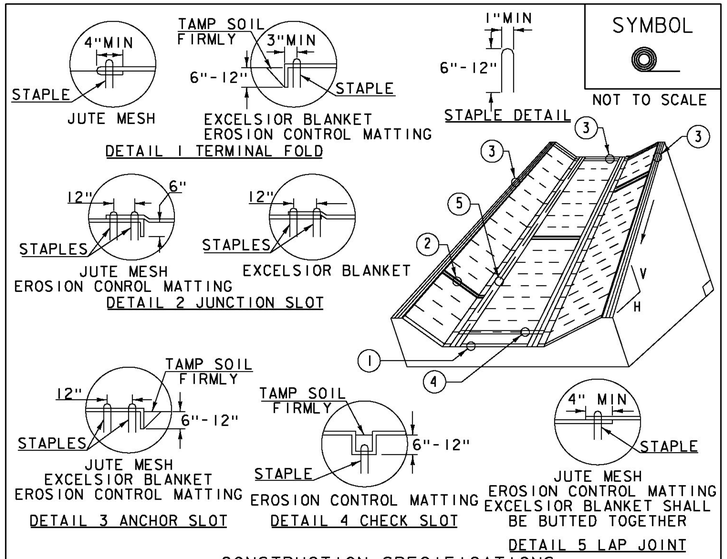
SEE LOCATIONS, THIS SHEET.

PLAN
SCALE: 1" = 20'-0"
0 20 40

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).

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264bdr_ero_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
EPSC CONST. SITE PLAN - ECP 1- BR5	SHEET 53 OF 57



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

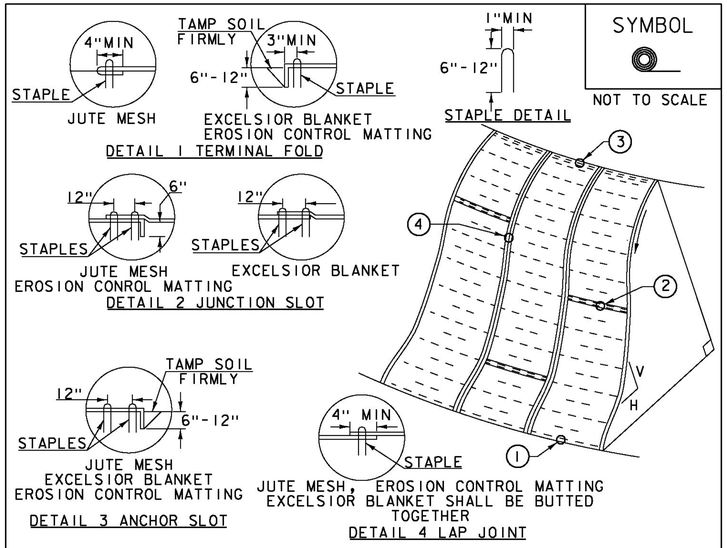
1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

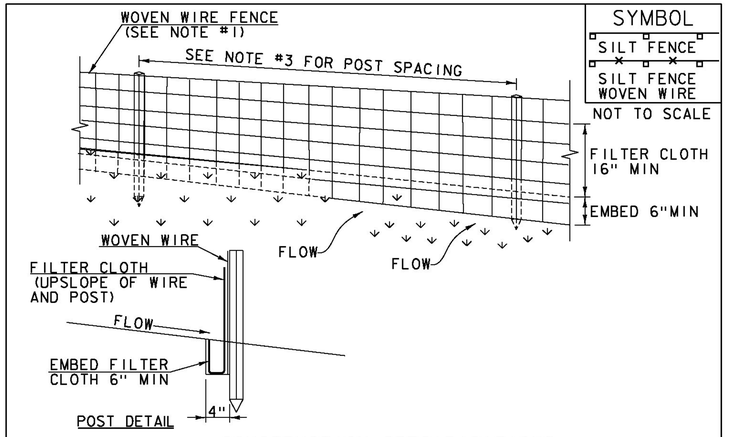
1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

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, MIRAFI100X, 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

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: z11c264epsc det_br5.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
EROSION CONTROL DETAILS - ECD 1- BR5	SHEET 54 OF 57

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

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

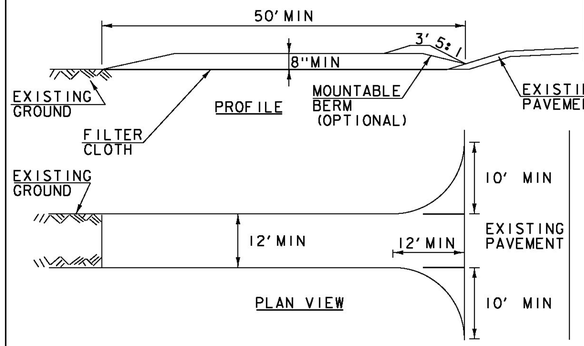
CONSTRUCTION GUIDANCE

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

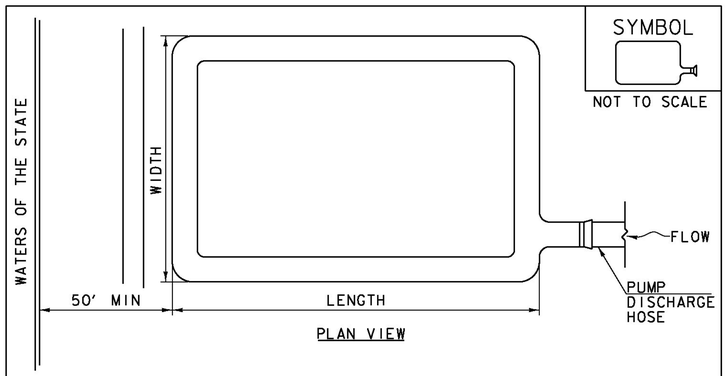
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

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

FILTER BAG

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

Stantec

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

FILE NAME: z11c264epsc det_br5.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: J. HUNGERFORD
EROSION CONTROL DETAILS - ECD 2 - BR5

PLOT DATE: 8/22/2014
DRAWN BY: L. BUXTON
CHECKED BY: M. CHENETTE
SHEET 55 OF 57

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.

N

VT STATE PLANE GRID

POB STA 20+00.00

PI STA 200+75.32

POB STA 200+00.00

PI STA 201+55.35

PI STA 20+00.00

PI STA 25+58.81

POE STA 25+58.81

POE STA 202+48.13

EXIST. ROW

TO JCT OF VT ROUTE 22A

VT 125

TO MIDDLEBURY

EXIST. 84" CMP TO BE REMOVED

EXIST. 3" PVC WATER LINE

EXIST. 12" PVC WATER LINE

PAYNE DRIVE LTH 32

UNNAMED TRIBUTARY

FLOW

OHW

ARCH

PDF

UT

E

W

20+00 21+00 22+00 23+00 24+00 25+00 25+59

200+00 202+48

240 245 250 255 260

PLAN

SCALE: 1" = 20'-0"

0 20 40

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

Stantec

PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME:	z11c264bdr_impacts_br5_1.dgn
PROJECT LEADER:	M. CHENETTE
DESIGNED BY:	J. HUNGERFORD
PROJECT IMPACTS PLAN 1- BR5	
PLOT DATE:	8/22/2014
DRAWN BY:	L. BUXTON
CHECKED BY:	M. CHENETTE
SHEET	56 OF 57

WETLANDS BUFFER IMPACTS

WETLANDS BUFFER SECONDARY IMPACTS:	2403 SF
WETLANDS BUFFER PERMANENT IMPACTS:	2051 SF
TOTAL IMPACTS:	4454 SF

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

N

VT STATE PLANE GRID

POB STA 200+00.00

50'-0" WETLAND BUFFER

POB STA 20+00.00

POE STA 25+58.81

PI STA 200+75.32

PI STA 201+55.35

PI STA 20+00.00

PI STA 25+58.81

EXIST. ROW

TO JCT OF VT ROUTE 22A

VT 125

TO MIDDLEBURY

EXIST. 84" CMP TO BE REMOVED

EXIST. 3" PVC WATER LINE

EXIST. ROW

UNNAMED TRIBUTARY

PAYNE DRIVE - LTH 32

EXIST. 1 1/2" PVC WATER LINE

STA 202+48.13

PLAN

SCALE: 1" = 20'-0"

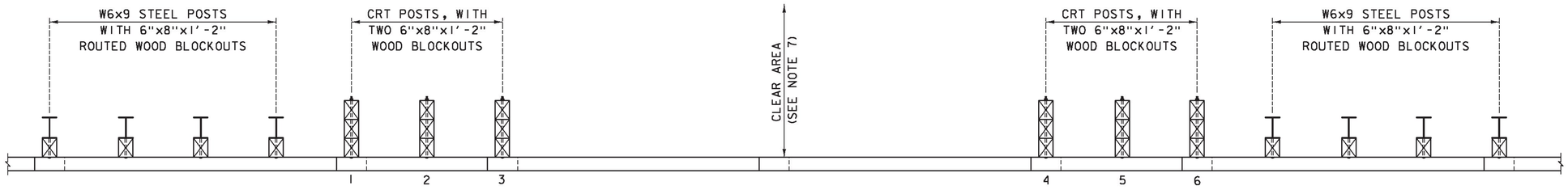
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LEGEND

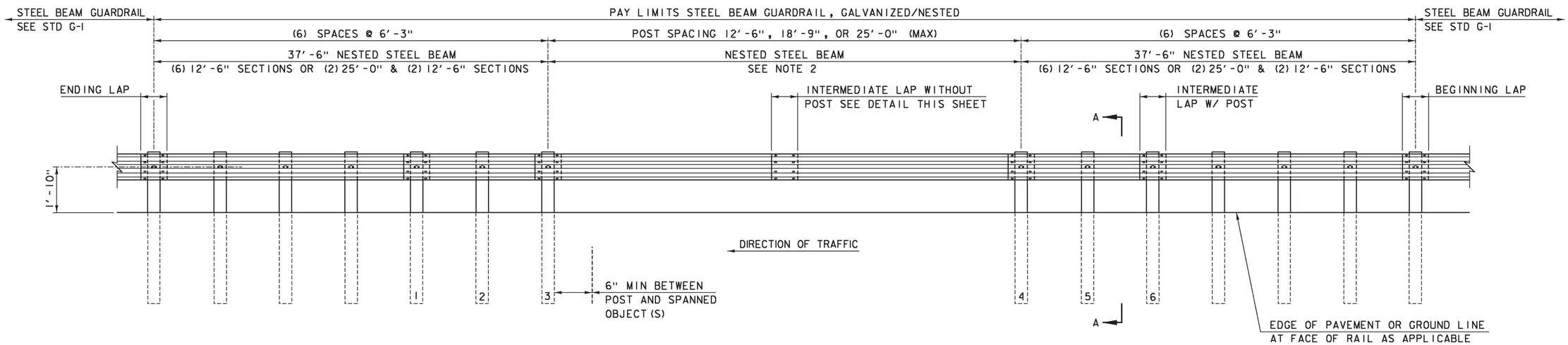
- STONE FILL, TYPE I
- STONE FILL, TYPE II
- SPECIAL PROVISION (STONE FILL, CULVERT LINING)
- SPECIAL PROVISION (WILDLIFE GUIDE FENCE)

Stantec

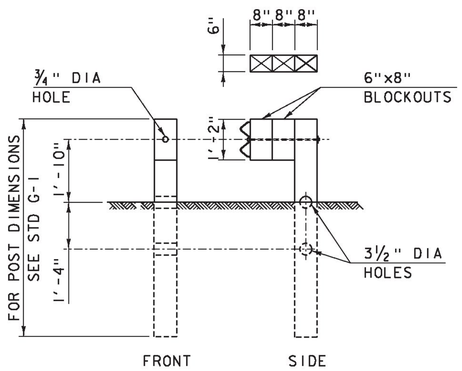
PROJECT NAME:	BRIDPORT
PROJECT NUMBER:	STP CULV(29)
FILE NAME: zllc264bdr_impacts_br5_2.dgn	PLOT DATE: 8/22/2014
PROJECT LEADER: M. CHENETTE	DRAWN BY: L. BUXTON
DESIGNED BY: J. HUNGERFORD	CHECKED BY: M. CHENETTE
PROJECT IMPACTS PLAN 2 - BR5	SHEET 57 OF 57



LONGSPAN STEEL BEAM GUARDRAIL PLAN

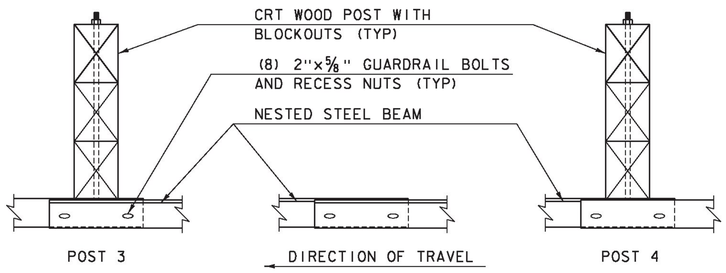


LONGSPAN STEEL BEAM GUARDRAIL ELEVATION



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 1THRU 6 ARE BREAKAWAY CONTROLLED RELEASING TERMINAL (CRT) POSTS.
4. POSTS 1THRU 6 HAVE TWO 6"x8" BLOCKOUTS.
5. ON POSTS 1THRU 6, GUARDRAIL BOLT "D", AS SHOWN ON STD G1, SHALL BE 26" LONG.
6. ON ALL POSTS WHERE THE RAIL IS NESTED GUARDRAIL BOLT "A", AS SHOWN ON STD G1, 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 NECCISSARY 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

VERMONT AGENCY OF TRANSPORTATION
STRUCTURES - SECTION

STRUCTURES DETAIL

SD-366.00

Proposed Bridge Improvement Project

Bridport STP CULV(29)

Bridge #2

Vermont Agency of Transportation
RECEIVED
ON: April 28, 2015
and Checked for
CONFORMANCE
BY: Mark Sargent DATE: 04/29/2015

Concrete:

Mix Designation: P60TER
1. Specified Mix Design - 5000 PSI
2. Proposed Mix Design - 6000 PSI
3. Striping Strength - 3000 PSI
4. Handling Strength - 3000 PSI
5. Shipping Strength - 5000 PSI
6. Install Strength - 5000 PSI
7. Traffic Loading - 5000 PSI

Fabrication Tolerances:
1. Width ±1/4"
2. Height ±1/4"
3. Length ±1/2"
4. Rebar Cover 2" Min. (Unless Noted Otherwise)
5. Rebar Spacing ±1"
6. Rebar Clearance ±1/4"
7. Insert Placement ±1/4"

Design Notes:
1. Design is in accordance w/ ASTM C1577, PCI MNL135, VAOT540 & AASHTO 2012 LRFD bridge design specs fifth edition
2. Any conflict between tolerances listed above shall result in the usage of the stricter tolerance
3. Design live load = HL-93
4. Materials and manufacturing shall conform to ASTM C1433
5. Earth Cover: ± 15'-0"

Installation:

1. Sub Base for Box Culvert / Cut Off Walls to be Compacted and Level
2. Precast Cut Off Walls + Wing Walls to be installed
3. All Elevations are to be Checked and Verified they Match Those of Plan Set
4. Begin Sequence of Installing All Box Culvert Sections
5. Clean Granular Backfill for structures used for Backfill of Footers & of Box Culvert so water can reach weep holes if applicable
6. Fill all Lifting Holes, Bolt Pockets and Box Culvert grooves and seams w/ non-shrink grout. Applied by Site Contractor.
7. ASTM C1675-11 Box culvert installation guidelines shall be followed.

Reinforcing:

General Notes:
1. Reinforing Steel -
   a. Precast box sections, headwalls, wing walls, & cut off walls shall be level I uncoated bar ASTM A615

2. Materials and manufacturing shall conform to ASTM C1433

Tolerances:
1. Spacing ±1"
2. Clearance +1/4"

Lap Lengths:
1. Per AASHTO 5.11.2.1.1 & 5.11.5.3.1

Joint Treatment:

Vertical Seams:
Per VTrans approved product list 780.02
Overhead & vertical concrete repair mortar
Applied by site contractor

Horizontal Seams / Grout:
Per VTrans approved product list 707.03
Mortar, type IV
Applied by site contractor

REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/24/2015

By: Nathan Tirk

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Waterproofing:

1. Silane sealer applied in precast yard on all exposed surfaces (headwalls and top of wingwalls.)

Miscellaneous:

1. All bolt pocket hardware & wingwall hardware to be uncoated, black steel & shall remain in place.
2. All exposed edges of concrete shall be chamfered.
3. Concrete leveling pad for the cutoff walls is to be poured on site by the site contractor.
4. All lift anchors and embedded items will be made in America.

Legend:

(A) 3"Ø PVC Sleeve
(B) 4"Ø PVC Sleeve
(C) Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
(D) Oxford A750-7 Lifting Device -Allow 6" movement to avoid rebar conflicts
(E) 1"Ø x 5½" F56 Coil Loop Insert
(F) 1 1/2" x 3 1/2" Continuous Keyway
(G) Solid Lines Indicate ¾" Chamfer
(H) ⅝" F64 Ferrule Loop Insert

4/28/15

STATE OF VERMONT GARY K. MUNKELT NO. 6291 REGISTERED PROFESSIONAL ENGINEER

STRUCTURAL DESIGN ONLY

CONTRACTORS VTSPE:		Rev.	Date	By	Description
		1	03/25/15	IBA	Changes per Stantec & State Review
		2	04/23/15	IBA	Changes for Production Purposes

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)
SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt
PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

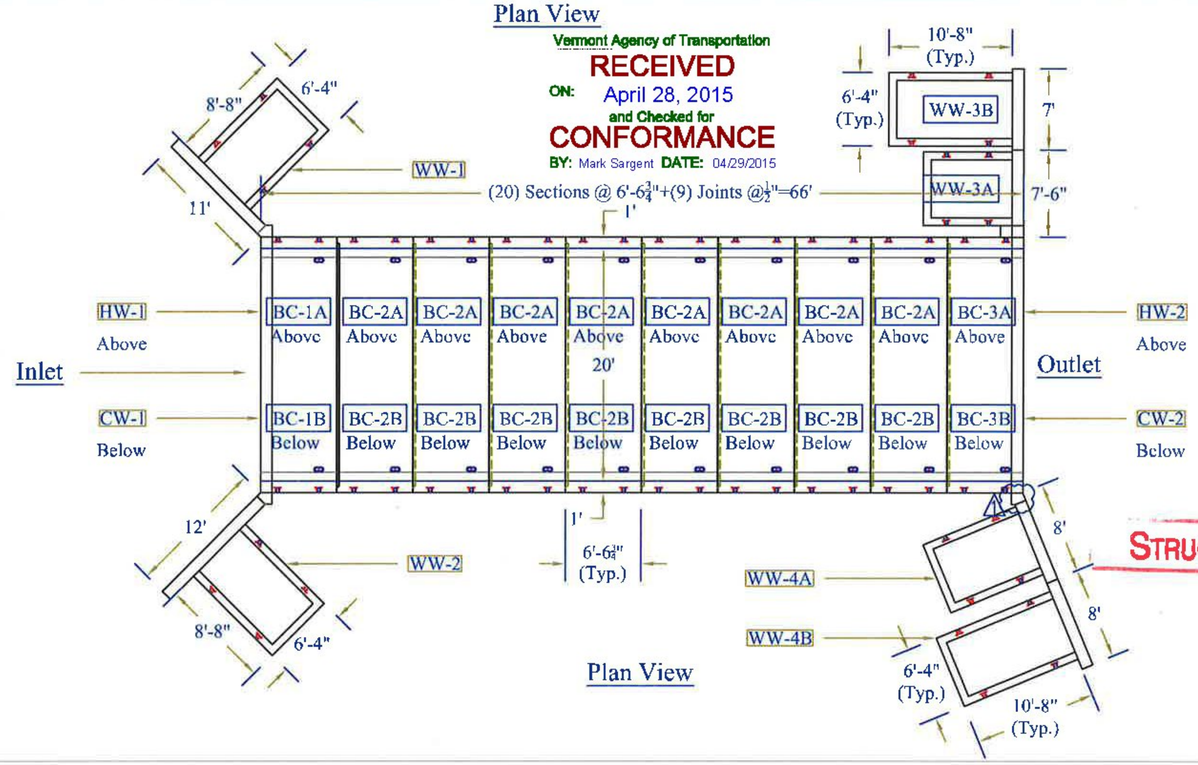
SD Ireland PRECAST

02/12/15 | COVER_PAGE | 1_OF_8

Table of Units				
Name	Qty	Length	Vol.(CY)	Wt.(lbs.)*
BC-1A*	1	6'-6¾"	12.17	50,000
BC-1B	1	6'-6¾"	9.11	37,500
BC-2A	8	6'-6¾"	9.11	37,500
BC-2B	8	6'-6¾"	9.11	37,500
BC-3A*	1	6'-6¾"	12.17	50,000
BC-3B	1	6'-6¾"	9.11	37,500
WW-1	1	11'-0"	10.94	45,000
WW-2	1	12'-0"	11.81	48,500
WW-3A	1	7'-6"	10.35	42,500
WW-3B	1	7'-0"	9.78	40,100
WW-4A	1	8'-0"	10.80	44,250
WW-4B	1	8'-0"	10.38	42,600
CW-1	1	22'-0"	2.24	9,000
CW-2	1	22'-0"	2.24	9,000

* Headwall Included in BC-1A and BC-3A

Plan View



Culvert Specifications

Inside Dimensions	10'-0"x20'-0"
Waterway Area	160 Sq. Ft.
Top Slab Thickness	15"
Side Wall Thickness	12"
Bottom Slab Thickness	15"

REVIEWED	X	Stantec
REVIEWED AS MODIFIED		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/24/2015

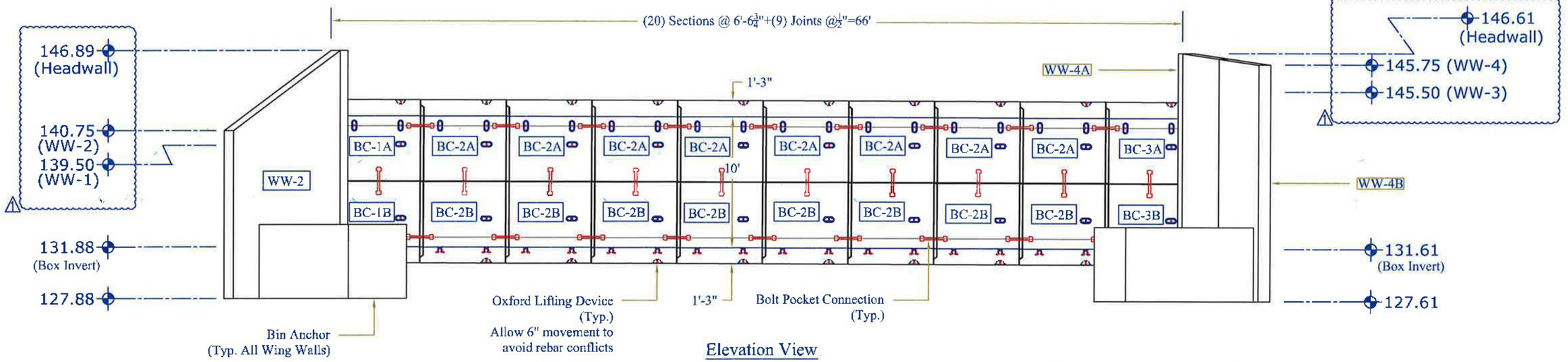
By: Nathan Tirk

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not be construed to relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or techniques of construction and installation and for coordination of the work of all subtrades.

STRUCTURAL DESIGN ONLY
STATE OF VERMONT
GARY K. MUNKELT
NO. 6291
REGISTERED PROFESSIONAL ENGINEER
4/28/15

Plan View

Elevation View



CONTRACTORS VTSPE:	Rev.	Date	By	Description
	1	03/25/15	IBA	Changes per Stantec & State Review
	2	04/23/15	IBA	Changes for Production Purposes

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

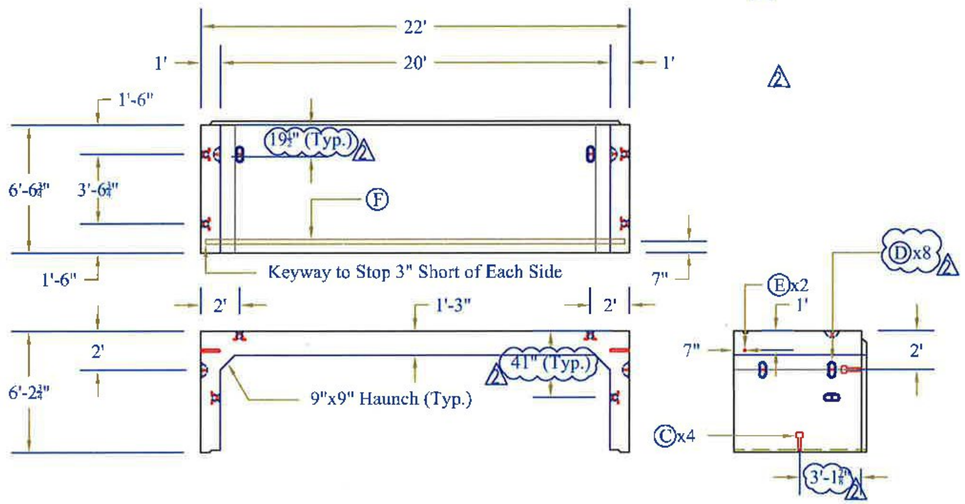
FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

SD Ireland PRECAST

02/12/15 | PLAN_ELEVATION | 2_OF_8

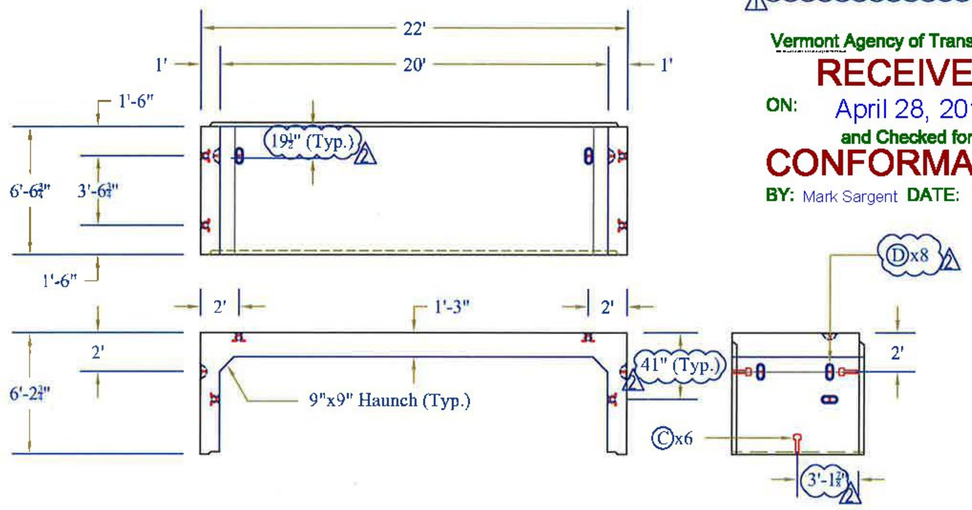
BC-1A Detail

Note: See Sh. 8 for Additional Details



BC-2A Detail

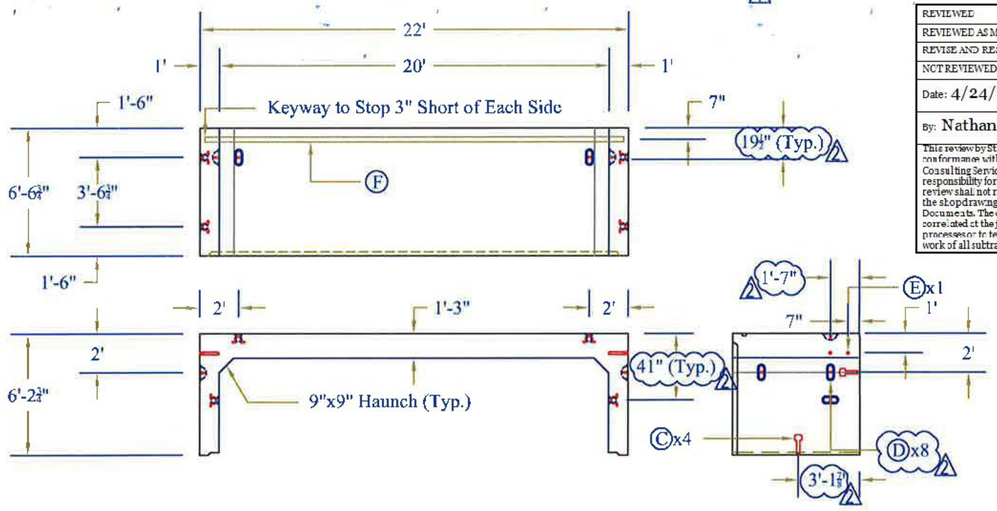
Note: See Sh. 8 for Additional Details



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BY: Mark Sargent DATE: 04/29/2015

BC-3A Detail

Note: See Sh. 8 for Additional Details



Notes: -2" Clear Typical Unless Noted Otherwise

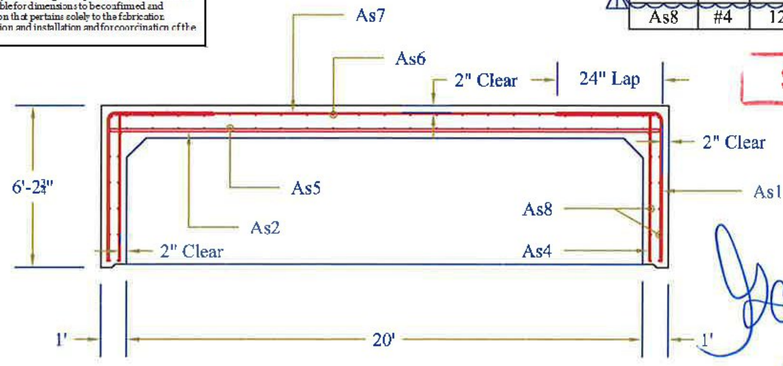
REVIEWED	X	Stantec
REVIEWED AS MODIFIED		
REVISE AND RESUBMIT		
NOT REVIEWED		

Date: 4/24/2015

By: Nathan Tirk

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Box Secion Reinforcement Detail



Rebar Schedule

Mark	Size	Max Spacing	Length	Type	A	B	
As1	#4	6"	94¾"	Bent	24"	70¾"	
As2	#7	4"	260"	Str	260"		
As4	#4	8"	70¾"	Str	70¾"		
As5	#5	8"	74¾"	Str	74¾"		
As6	#5	8"	74¾"	Str	74¾"		
As7	#4	6"	260"	Str	260"		
As8	#4	12"	74¾"	Str	74¾"		

STRUCTURAL DESIGN ONLY

STATE OF VERMONT GARY K. MUNKELT NO. 15291 REGISTERED PROFESSIONAL ENGINEER

CONTRACTORS VTSPE:

- Ⓐ 3"Ø PVC Sleeve
- Ⓑ 4"Ø PVC Sleeve
- Ⓒ Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- Ⓓ Oxford A750-7 Lifting Device
- Ⓔ 1"Øx54" F56 Coil Loop Insert
- Ⓕ 1 1/2" x 3 1/2" Continuous Keyway
- Ⓖ Solid Lines Indicate ¾" Chamfer
- Ⓗ ¾" F64 Ferrule Loop Insert

Rev.	Date	By	Description
1	03/25/15	IBA	Changes per Stantec & State Review
2	04/23/15	IBA	Changes for Production Purposes

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

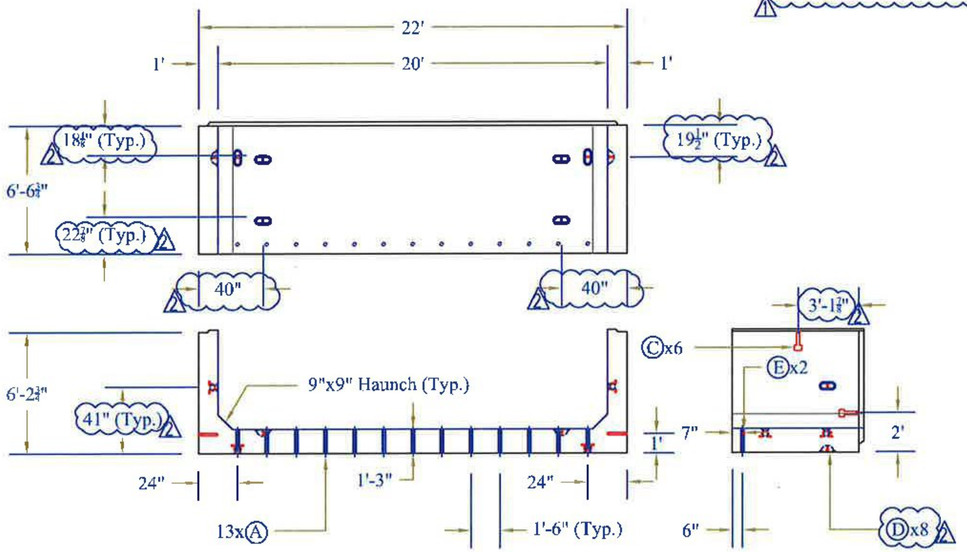
FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

SD Ireland PRECAST

02/12/15 | BOX_SECTIONS_1 | 3_OF_8

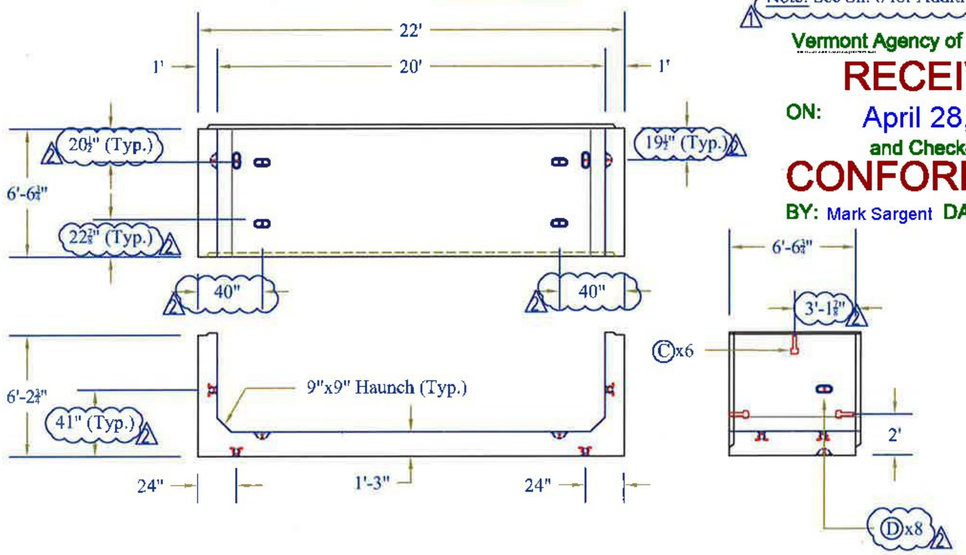
BC-1B Detail

Note: See Sh. 8 for Additional Details



BC-2B Detail

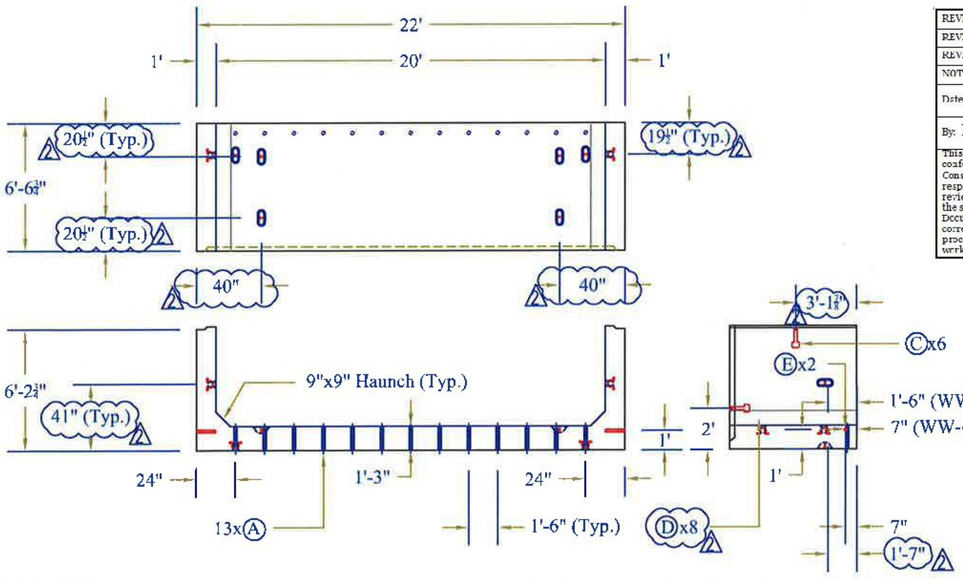
Note: See Sh. 8 for Additional Details



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BY: Mark Sargent DATE: 04/29/2015

BC-3B Detail

Note: See Sh. 8 for Additional Details



REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

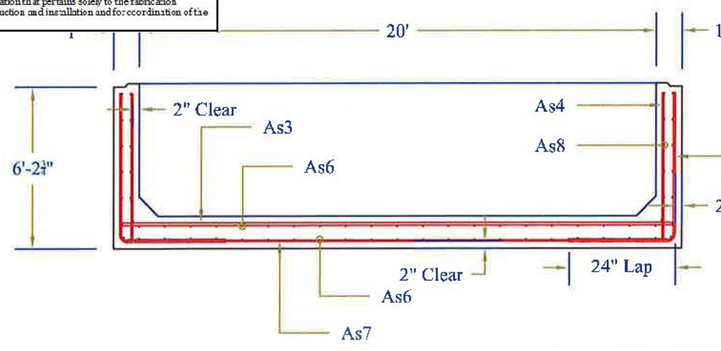
Date: 4/24/2015

By: Nathan Tirk

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Box Secion Reinforcement Detail

Notes: 2" Clear Typical Unless Noted Otherwise



Rebar Schedule

Mark	Size	Max Spacing	Length	Type	A	B
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As6	#5	8"	74½"	Str	74½"	
As7	#4	6"	260"	Str	260"	
As8	#4	12"	74¼"	Str	74¼"	

STRUCTURAL DESIGN ONLY

STATE OF VERMONT GARY K. MUNKELT NO. 8291 REGISTERED PROFESSIONAL ENGINEER 4-28-15

CONTRACTORS VTSPE:

- Ⓐ 3"Ø PVC Sleeve
- Ⓑ 4"Ø PVC Sleeve
- Ⓒ Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- Ⓓ Oxford A750-7 Lifting Device
- Ⓔ 1"Øx5½" F56 Coil Loop Insert
- Ⓕ 1 1/2" x 3 1/2" Continuous Keyway
- Ⓖ Solid Lines Indicate ¾" Chamfer
- Ⓗ ¾" F64 Ferrule Loop Insert

Rev.	Date	By	Description
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PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

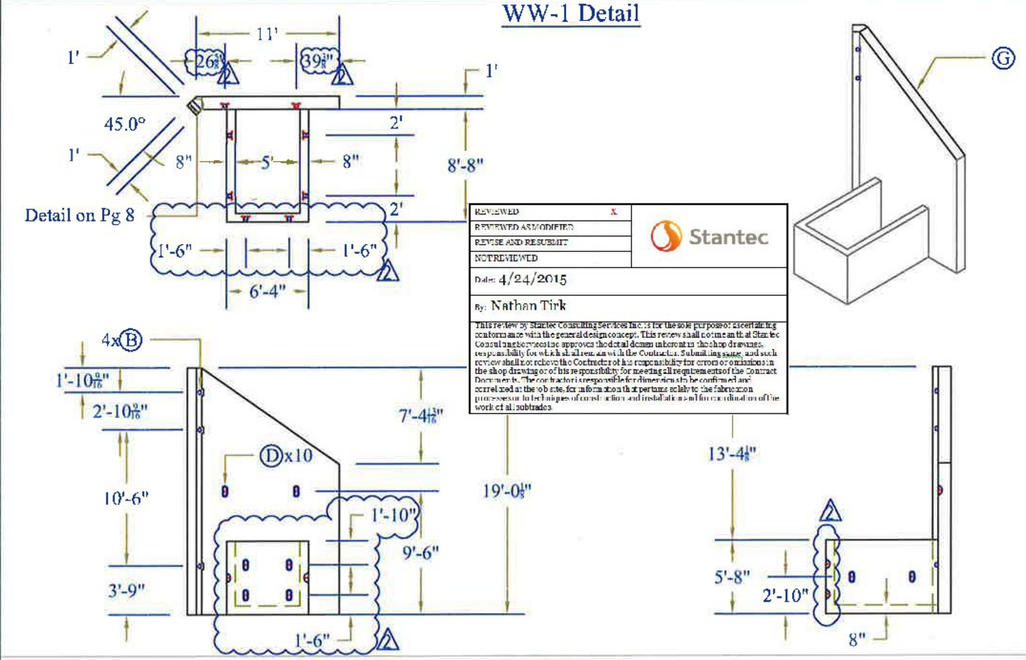
Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

SD Ireland PRECAST

02/12/15 | BOX_SECTIONS_2 | 4_OF_8

WW-1 Detail



REVIEWED X
REVIEWED AS NOTED
REVISE AND RESUBMIT
NOT REVIEWED

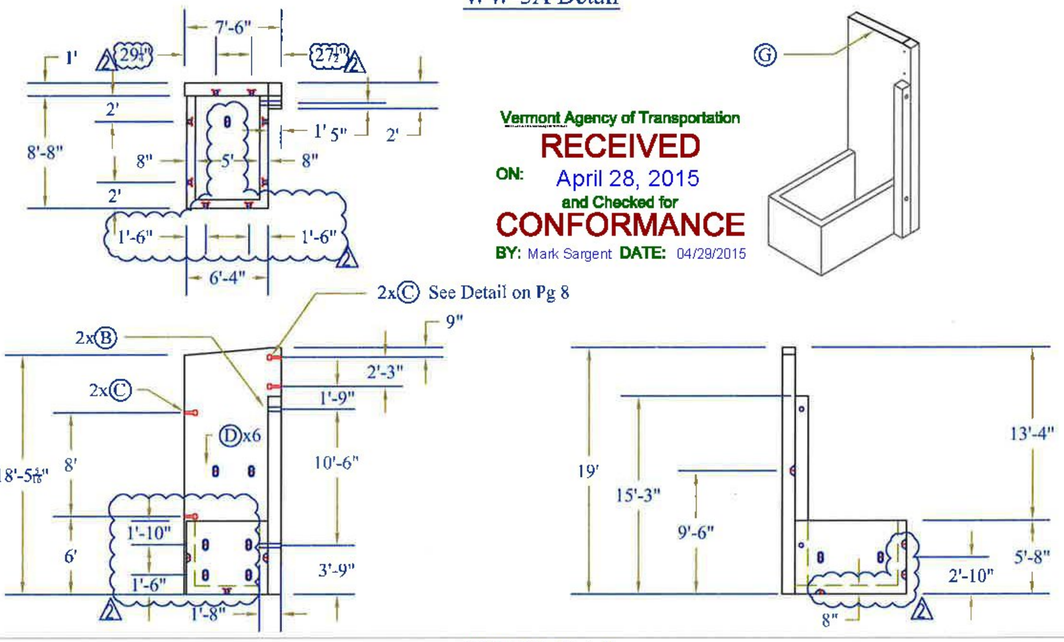
Stantec

Date: 4/24/2015

By: Nathan Tirk

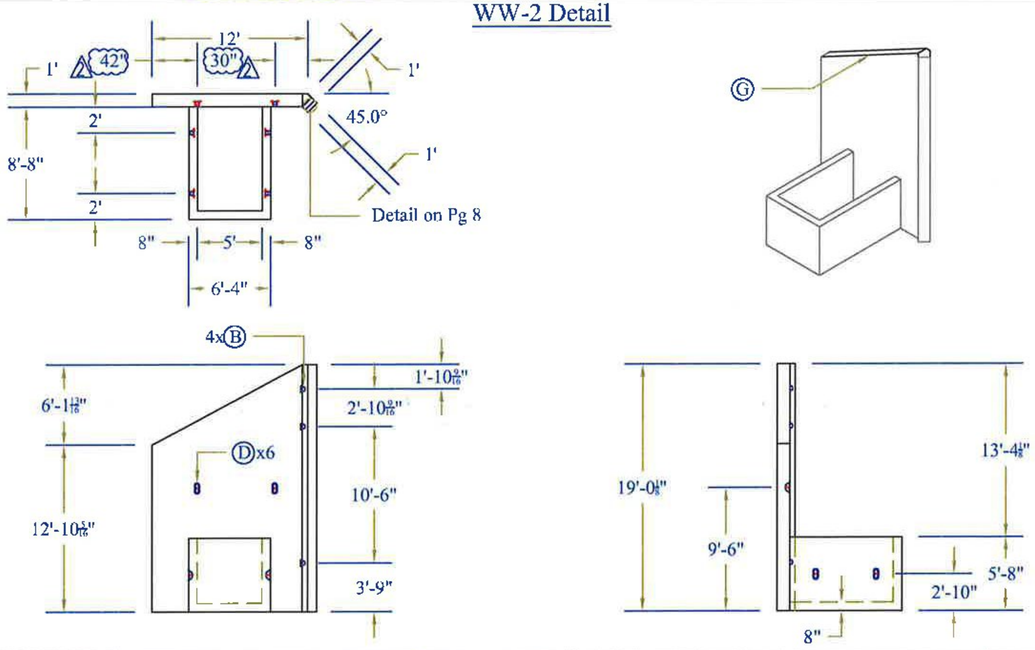
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WW-3A Detail

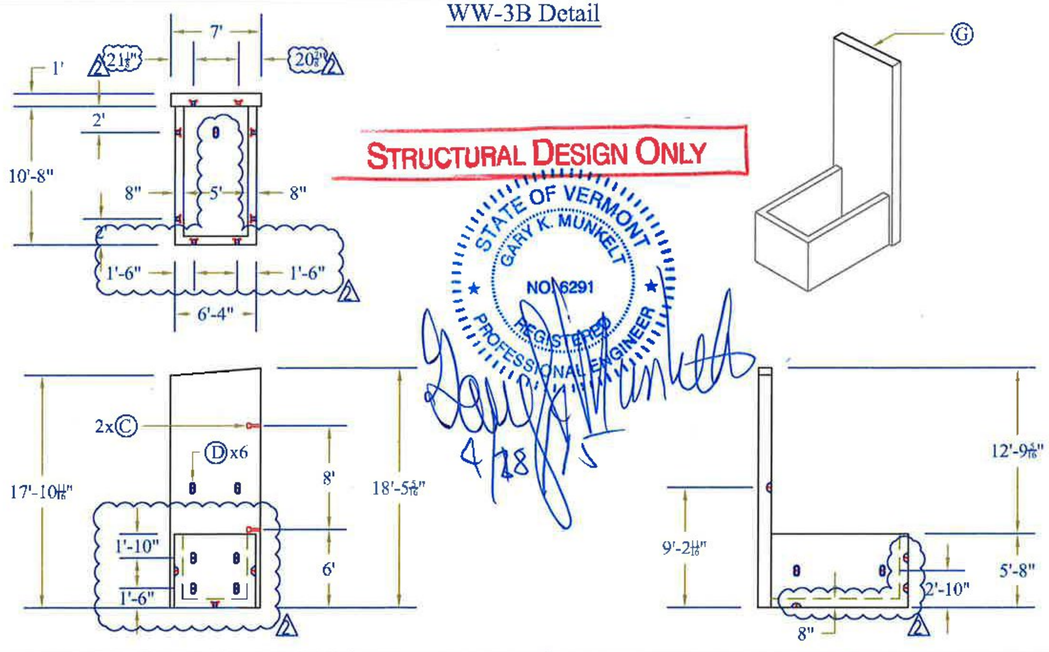


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BY: Mark Sargent DATE: 04/29/2015

WW-2 Detail



WW-3B Detail



STRUCTURAL DESIGN ONLY

STATE OF VERMONT
GARY K. MUNKELT
NO. 6291
REGISTERED
PROFESSIONAL ENGINEER

4/28

CONTRACTORS VTSPE:

- Ⓐ 3"Ø PVC Sleeve
- Ⓑ 4"Ø PVC Sleeve
- Ⓒ Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- Ⓓ Oxford A750-7 Lifting Device
- Ⓔ 1"Øx5½" F56 Coil Loop Insert
- Ⓕ 1 1/2" x 3 1/2" Continuous Keyway
- Ⓖ Solid Lines Indicate ¾" Chamfer
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PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

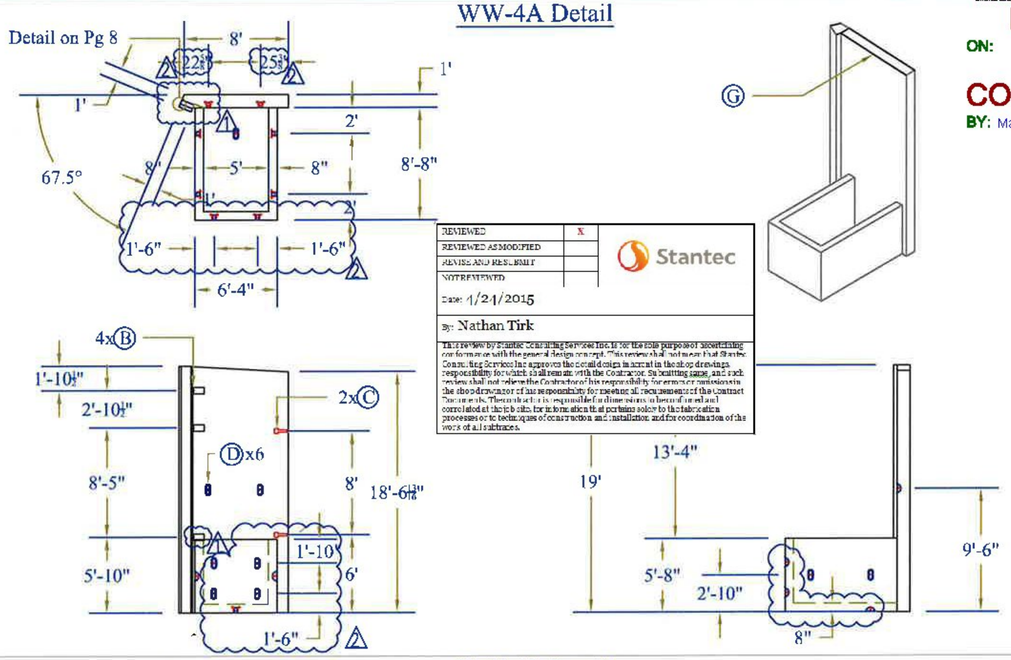
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02/12/15 | WING_WALLS_1 | 5_OF_8

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BY: Mark Sargent DATE: 04/29/2015

WW-4A Detail



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NOT REVIEWED	

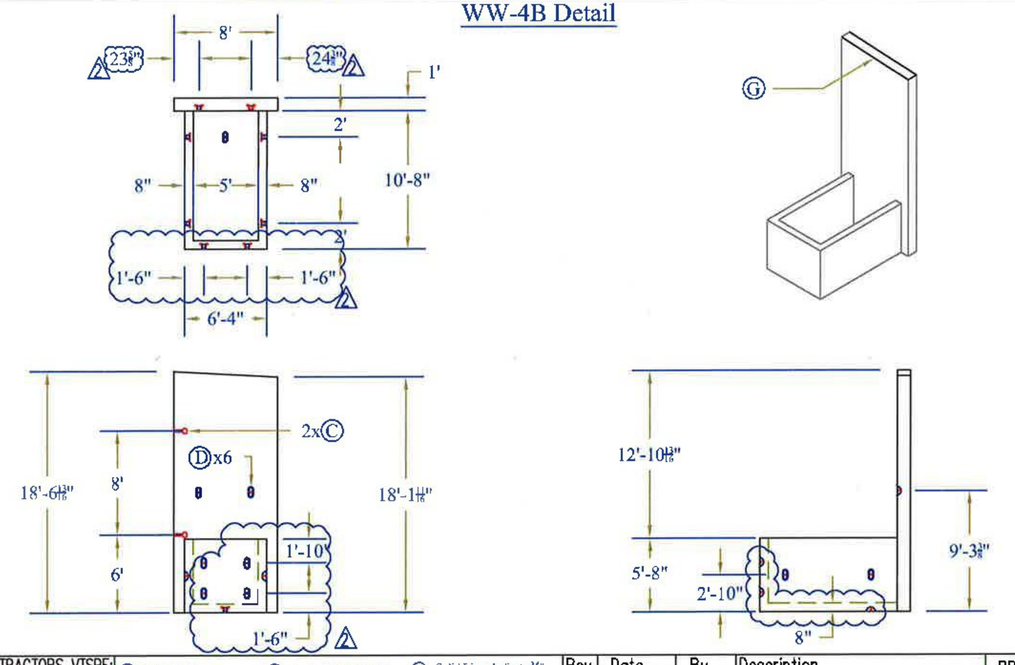
Stantec

Date: 1/21/2015

By: Nathan Tirk

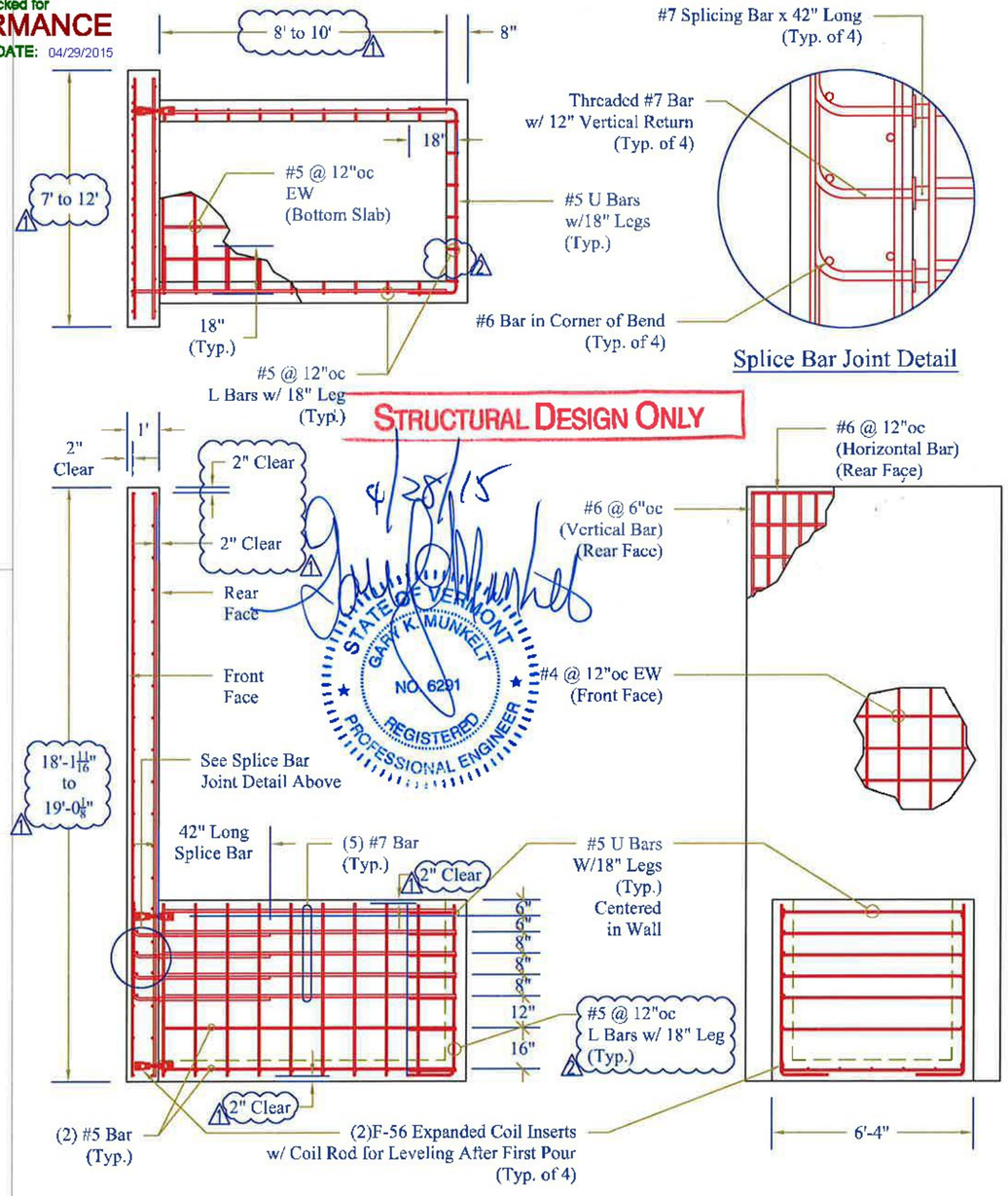
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WW-4B Detail



WW-Reinfocing Detail

Notes: Bar Tied at Every Intersection



CONTRACTORS VTSPE:

- Ⓐ 3"Ø PVC Sleeve
- Ⓑ 4"Ø PVC Sleeve
- Ⓒ Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- Ⓓ Oxford A750-7 Lifting Device
- Ⓔ 1"Ø x 5½" F56 Coil Loop Insert
- Ⓕ 1 1/2" x 3 1/2" Continuous Keyway
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PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

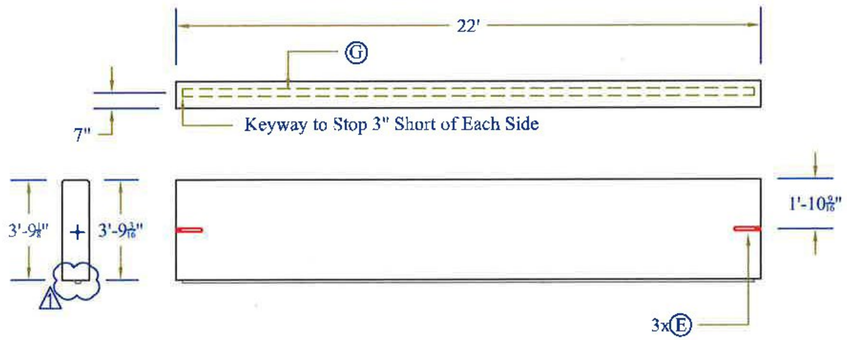
Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

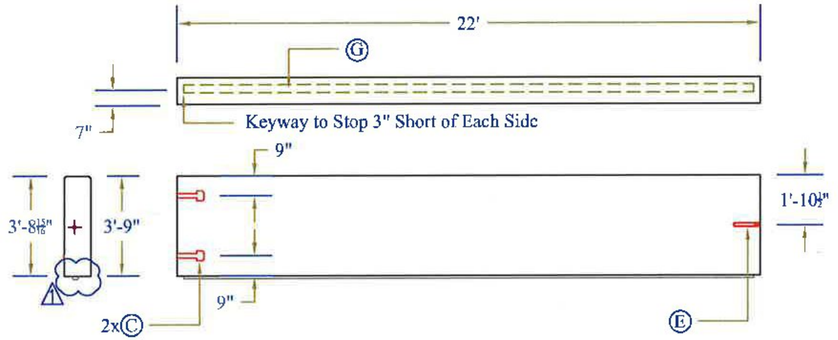
SD Ireland PRECAST

02/12/15 | WING_WALLS_2 | 6_OF_8

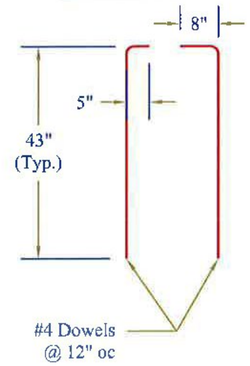
Headwall 1 Detail



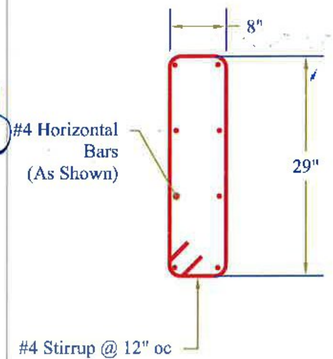
Headwall 2 Detail

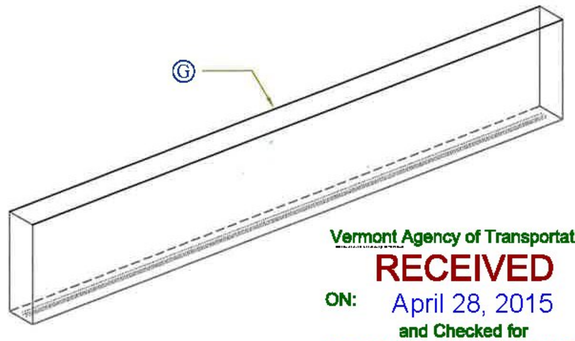


Headwall Reinforcing



Cutoff Wall Reinforcing





Vermont Agency of Transportation
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BY: Mark Sargent DATE: 04/29/2015

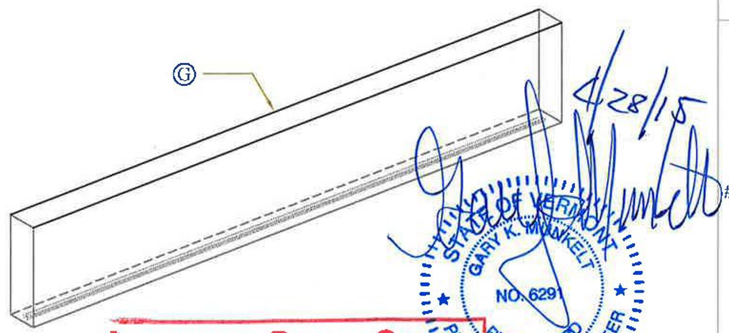
REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/24/2015

By: Nathan Tirk

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4/28/15

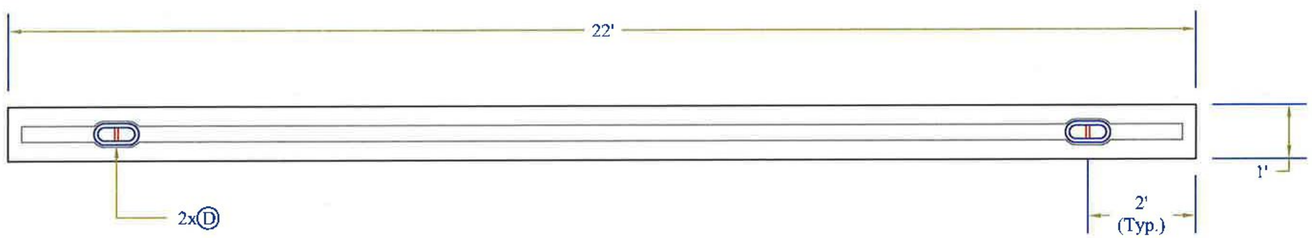
STATE OF VERMONT
GARY K. MUNKELT
NO. 6291
REGISTERED
PROFESSIONAL ENGINEER

STRUCTURAL DESIGN ONLY

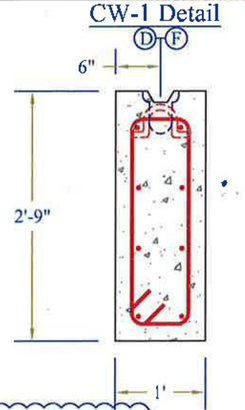
Note: Secondary Pour

Note: Secondary Pour

CW-1/2 Detail

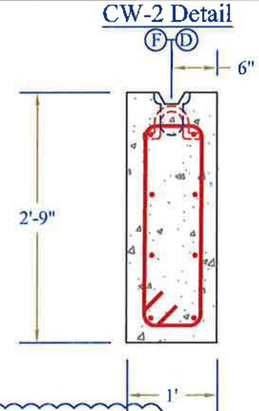


CW-1 Detail



Note: 2" Clear Cover

CW-2 Detail



Note: 2" Clear Cover

CONTRACTORS VTSPE:

- A 3"Ø PVC Sleeve
- B 4"Ø PVC Sleeve
- C Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- D Oxford A750-7 Lifting Device
- E 1"Ø x 5½" F56 Coil Loop Insert
- F 1 1/2" x 3 1/2" Continuous Keyway
- G Solid Lines Indicate ¾" Chamfer
- H ¾" F64 Ferrule Loop Insert

Rev.	Date	By	Description
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DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

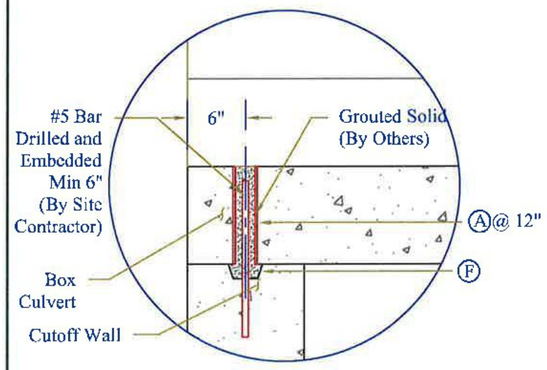
Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
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Ph: (802) 658-0201

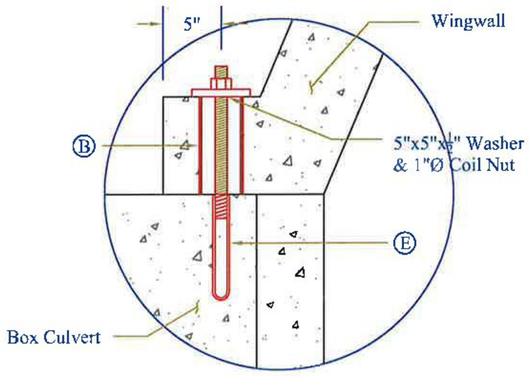
SD Ireland PRECAST

02/12/15 | HW_CW_DETAILS | 7_OF_8

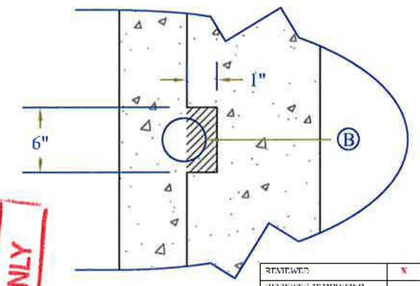
CW to BC Connection Detail



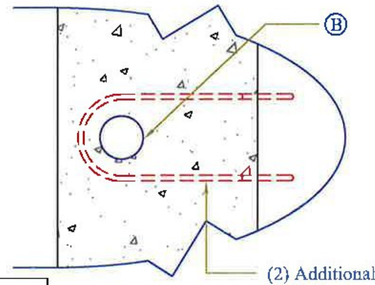
WW to BC Connection Detail



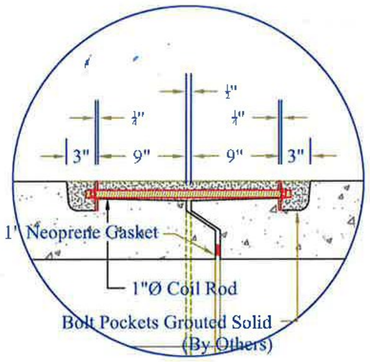
WW Sleeve Blockout Elevation Detail



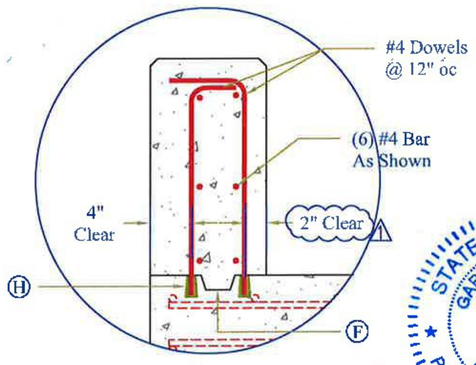
WW Sleeve Reinfrocement Detail



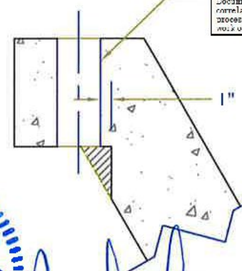
Bolt Pocket Connection Detail -Ⓒ



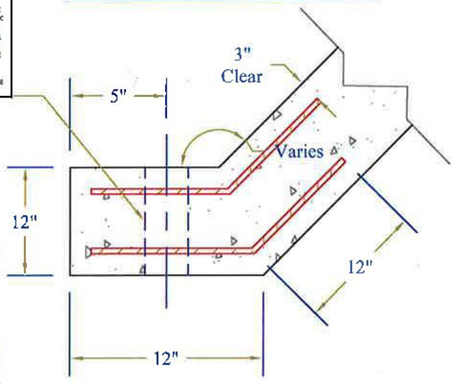
HW to BC Connection Detail



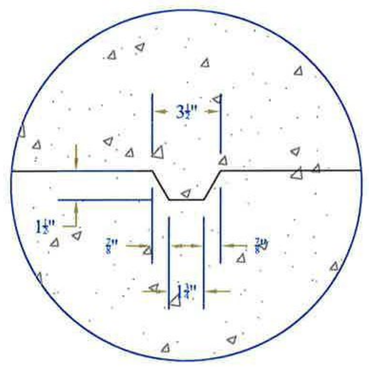
WW Sleeve Blockou



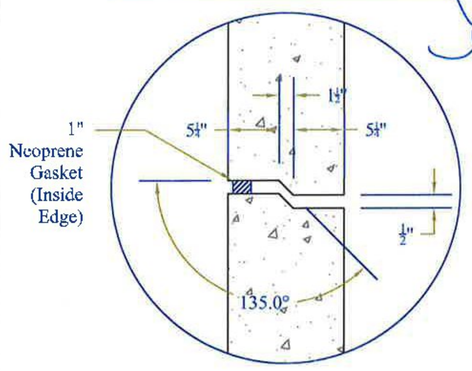
WW Angle Reinforcing Detail



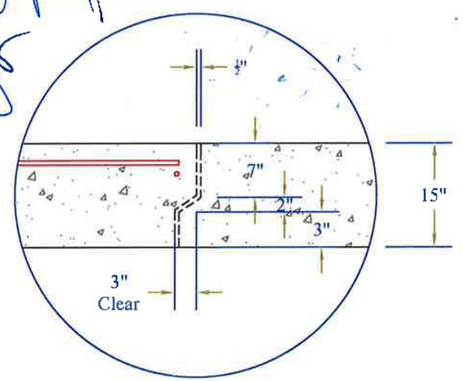
Keyway Connection Detail -Ⓕ



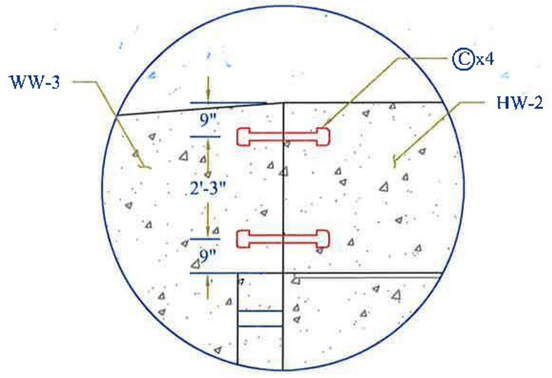
BC Horizontal Shear Key Detail



BC Vertical Shear Key Detail



WW-3A to HW-2 Connection Detail



STRUCTURAL DESIGN ONLY

STATE OF VERMONT
GARY K. MUNKELT
NO. 6291
REGISTERED
PROFESSIONAL ENGINEER

4/28/15

REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 4/24/2015

By: Nathan Tirk

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc. approves the detail design inherent in these shop drawings, responsibility for which shall remain with the Contractor. Determining same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Vermont Agency of Transportation
RECEIVED
ON: April 28, 2015
and Checked for
CONFORMANCE
BY: Mark Sargent DATE: 04/29/2015

CONTRACTORS VTSPEC:

- Ⓐ 3"Ø PVC Sleeve
- Ⓑ 4"Ø PVC Sleeve
- Ⓒ Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- Ⓓ Oxford A750-7 Lifting Device
- Ⓕ 1"Øx5¾" F56 Coil Loop Insert
- Ⓕ 1 1/2" x 3 1/2" Continuous Keyway
- Ⓖ Solid Lines Indicate ½" Chamfer
- Ⓗ ¾" F64 Ferrule Loop Insert

Rev.	Date	By	Description
1	03/25/15	IBA	Changes per Stantec & State Review

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#2
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

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02/12/15 | CONNECTION_DETAILS | 8_OF_8

Proposed Bridge Improvement Project

Bridport STP CULV(29)

Bridge #5

Vermont Agency of Transportation

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ON: May 14, 2015

and Checked for

CONFORMANCE

BY: Mark Sargent DATE: 5/20/2015

Concrete:

Mix Designation: P60TER

1. Specified Mix Design - 5000 PSI
2. Proposed Mix Design - 6000 PSI
3. Striping Strength - 3000 PSI
4. Handling Strength - 3000 PSI
5. Shipping Strength - 5000 PSI
6. Install Strength - 5000 PSI
7. Traffic Loading - 5000 PSI

Fabrication Tolerances:

1. Width ±1/4"
2. Height ±1/4"
3. Length ±1/2"
4. Rebar Cover 2" Min. (Unless Noted Otherwise)
5. Rebar Spacing ±1"
6. Rebar Clearance ±1/4"
7. Insert Placement ±1/4"

Design Notes:

1. Design is in accordance w/ ASTM C1577, PCI MNL135, VAOT540 & AASHTO 2012 LRFD bridge design specs fifth edition
2. Any conflict between tolerances listed above shall result in the usage of the stricter tolerance
3. Design live load = HL-93
4. Materials and manufacturing shall conform to ASTM C1433
5. Earth Cover: ±1'-9" Soil Cover

Installation:

1. Sub Base for Box Culvert / Cut Off Walls to be Compacted and Level
2. Precast Cut Off Walls + Wing Walls to be installed
3. All Elevations are to be Checked and Verified they Match Those of Plan Set
4. Begin Sequence of Installing All Box Culvert Sections
5. Clean Granular Backfill for structures used for Backfill of Footers & of Box Culvert so water can reach weep holes if applicable
6. Fill all Lifting Holes, Bolt Pockets and Box Culvert grooves and seams w/ non-shrink grout. Applied by Site Contractor.
7. ASTM C1675-11 Box culvert installation guidelines shall be followed.

Reinforcing:

General Notes:

1. Reinforing Steel -
   a. Precast box sections, headwalls, wing walls, & cut off walls shall be level I uncoated bar ASTM A615
2. Materials and manufacturing shall conform to ASTM C1433

Tolerances:

1. Spacing ±1"
2. Clearance +1/4"

Lap Lengths:

1. Per AASHTO 5.11.2.1.1 & 5.11.5.3.1

Joint Treatment:

Vertical Seams:
Per VTrans approved product list 780.02
Overhead & vertical concrete repair mortar
Applied by site contractor

Horizontal Seams / Grout:
Per VTrans approved product list 707.03
Mortar, type IV
Applied by site contractor

REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 5/15/15

By: Michael J. Chenette

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Waterproofing:

1. Silane sealer applied in precast yard on all exposed surfaces (headwalls and top of wingwalls.)

Miscellaneous:

1. All bolt pocket hardware & wingwall hardware to be uncoated, black steel & shall remain in place.
2. All exposed edges of concrete shall be chamfered.
3. Concrete leveling pad for the cutoff walls is to be poured on site by the site contractor.
4. All lift anchors and embedded items will be made in America.

Legend:

- (A) 3"Ø PVC Sleeve
- (B) 4"Ø PVC Sleeve
- (C) Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
- (D) Oxford A750-7 Lifting Device - Allow 6" movement to avoid rebar conflict
- (E) 1 1/2" x 3 1/2" Continuous Keyway
- (F) Solid Lines Indicate ¾" Chamfer
- (G) ½" FX-5 Ferrule Loop Insert

5/12/15

STRUCTURAL DESIGN ONLY

STATE OF VERMONT GARY K. MUNKELT NO. 6291 REGISTERED PROFESSIONAL ENGINEER

CONTRACTORS VTSPE:	Rev.	Date	By	Description
	1	05/06/15	IBA	Changes per Redesign
	2	05/11/15	IBA	Inlet/Outlet BC Change

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#5
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

SD Ireland PRECAST

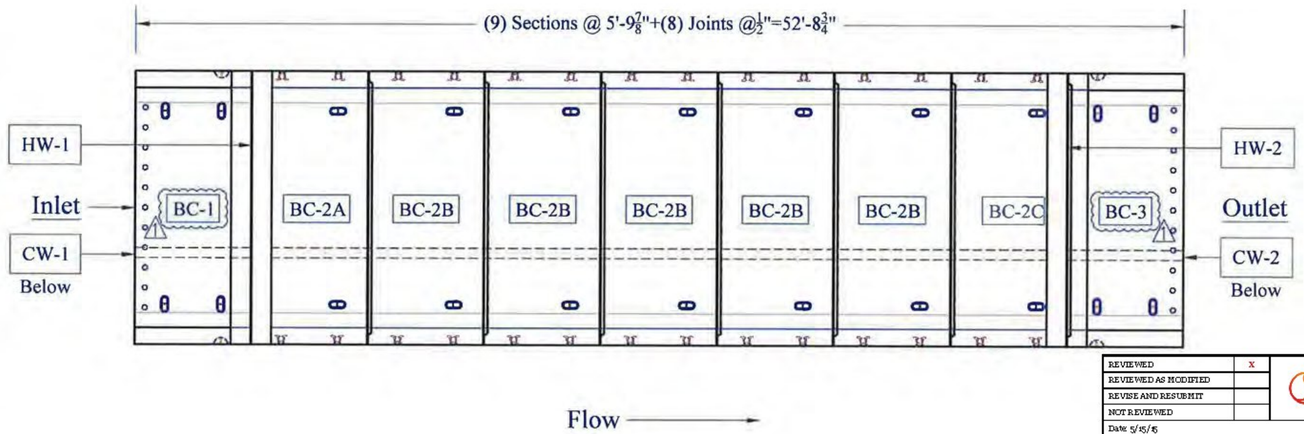
04/20/15 | COVER_PAGE | 1_OF_6

Plan View

Table of Units				
Name	Qty	Length	Vol.(CY)	Wt.(lbs.)*
BC-1	1	5'-9 7/8"	7.73	30,930
BC-2A*	1	5'-9 7/8"	9.38	37,510
BC-2B	5	5'-9 7/8"	8.82	35,285
BC-2C*	1	5'-9 7/8"	9.38	37,510
BC-3	1	5'-9 7/8"	7.73	30,930
CW-1	1	13'-8"	1.60	6,410
CW-2	1	13'-8"	1.60	6,410

* Headwall Included in BC-2A and BC-2C

Note: Baffle weight included in all BC sections



Vermont Agency of Transportation

RECEIVED

ON: May 14, 2015

and Checked for

CONFORMANCE

BY: Mark Sargent DATE: 5/20/2015

Culvert Specifications	
Inside Dimensions	12'-0"Wx9'-0"H
Waterway Area	76 Sq. Ft.
Top Slab Thickness	10"
Side Wall Thickness	10"
Bottom Slab Thickness	10"

REVIEWED	x
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

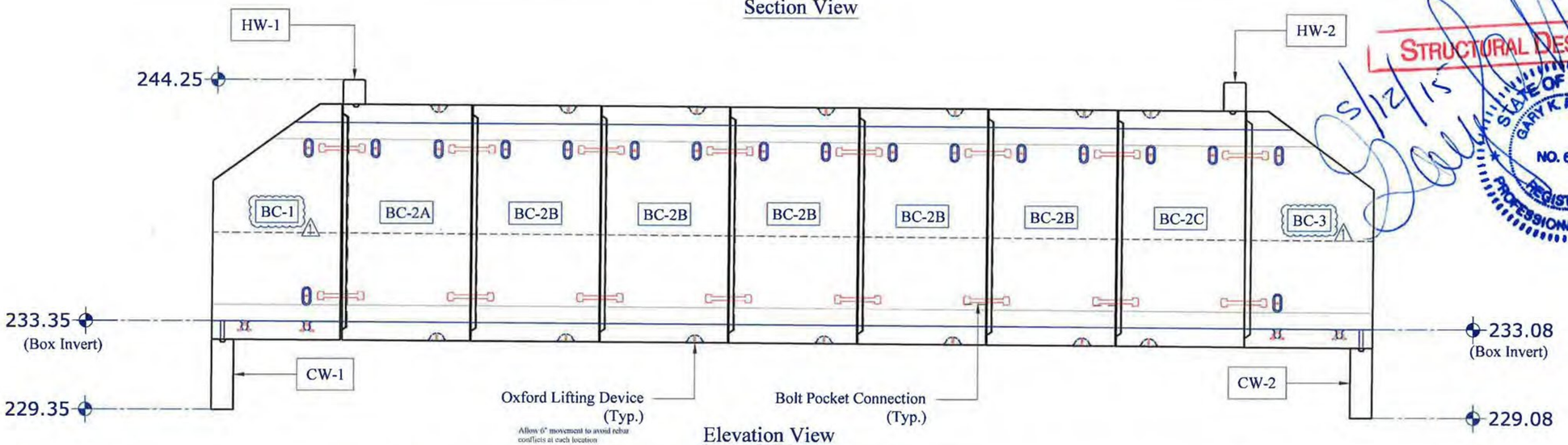
Stantec

Date: 5/15/15

By: Michael J. Chenette

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Section View



Elevation View

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GARY K. MUNKELT
NO. 6291
REGISTERED
PROFESSIONAL ENGINEER

5/12/15

CONTRACTORS VTSPE:

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ENGINEER: G. K. Munkelt

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PROJECT #: CULV(29) Br.#5
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

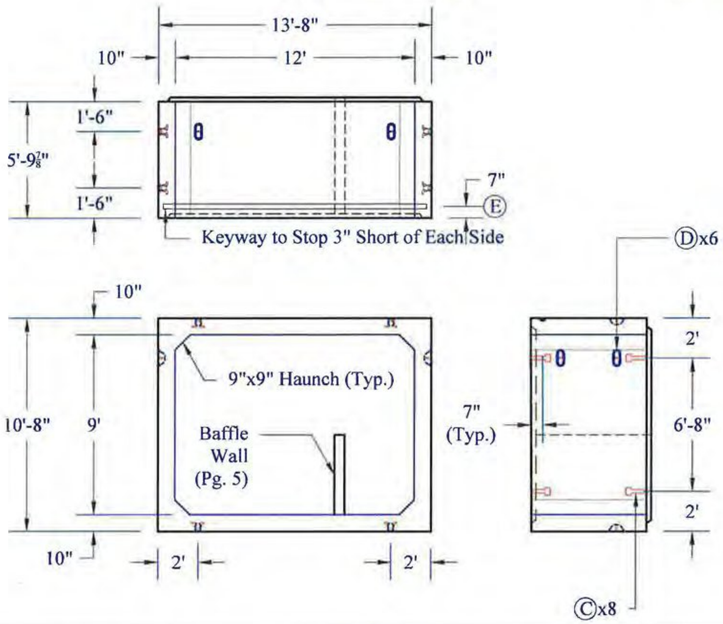
FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

SD Ireland PRECAST

04/20/15 | PLAN_ELEVATION | 2_OF_6

BC-2A Detail

Note: See Sh. 8 for Additional Details



Vermont Agency of Transportation

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ON: May 14, 2015

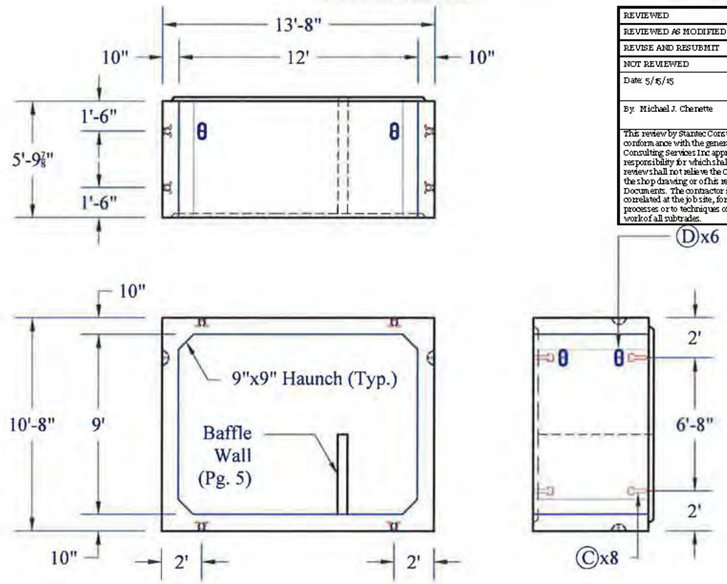
and Checked for

CONFORMANCE

BY: Mark Sargent DATE: 5/20/2015

BC-2B Detail

Note: See Sh. 8 for Additional Details



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NOT REVIEWED	

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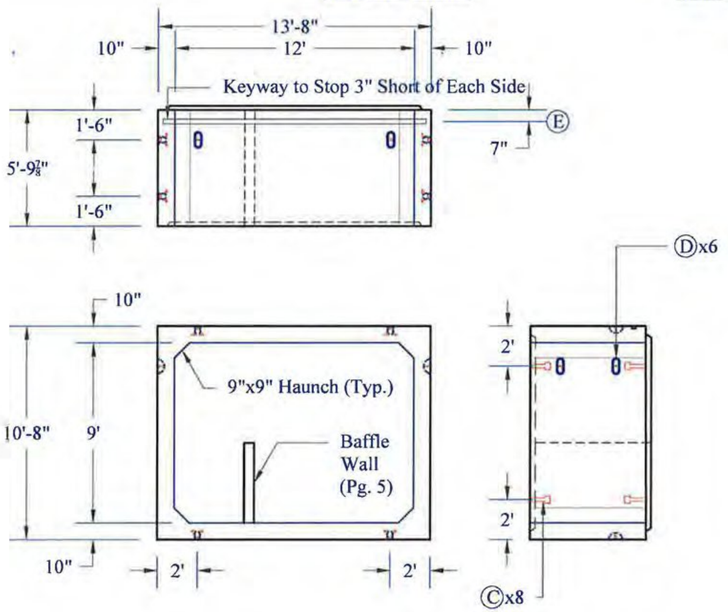
Date: 5/6/15

By: Michael J. Chenette

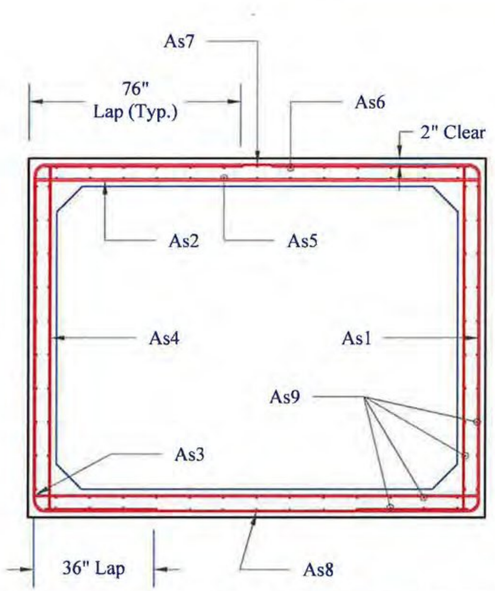
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BC-2C Detail

Note: See Sh. 8 for Additional Details



Box Section Reinforcement Detail



Rebar Schedule							
Mark	Size	Max Spacing	Length	Type	A	B	
As1	#5	6"	236"	Bent	36"	124"	76"
As2	#5	5"	160"	Str	160"		
As3	#5	6"	160"	Str	160"		
As4	#4	9"	124"	Str	124"		
As5	#5	10"	65"	Str	65"		
As6	#4	9"	65"	Str	65"		
As7	#4	9"	160"	Str	160"		
As8	#4	9"	160"	Str	160"		
As9	#4	12"	65"	Str	65"		

Notes: 2" Clear Typical Unless Noted Otherwise

STRUCTURAL DESIGN ONLY

STATE OF VERMONT
GARY K. MUNKELT
NO. 6291
REGISTERED
PROFESSIONAL ENGINEER

5/12/15

CONTRACTORS VTSPE:

Ⓐ 3"Ø PVC Sleeve
Ⓑ 4"Ø PVC Sleeve
Ⓒ Mechanical Bolt Pocket (w/ 1"O Coil Rod)
Ⓓ Oxford A750-7 Lifting Device
Ⓔ 1 1/2" x 3 1/2" Continuous Keyway
Ⓕ Solid Lines Indicate ¾" Chamfer
Ⓖ ½" FX-5 Ferrule Loop Insert

Rev.	Date	By	Description
1	05/06/15	IBA	Changes per Redesign
2	05/11/15	IBA	Inlet/Outlet BC Change

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#5
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

SD Ireland PRECAST

04/20/15 | BOX_SECTIONS_1 | 3_OF_6

Vermont Agency of Transportation

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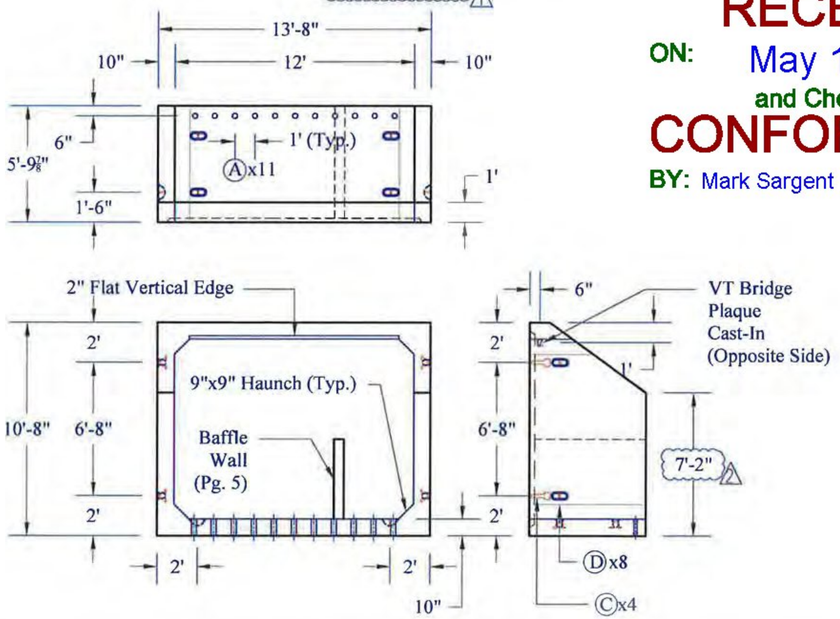
ON: May 14, 2015

and Checked for

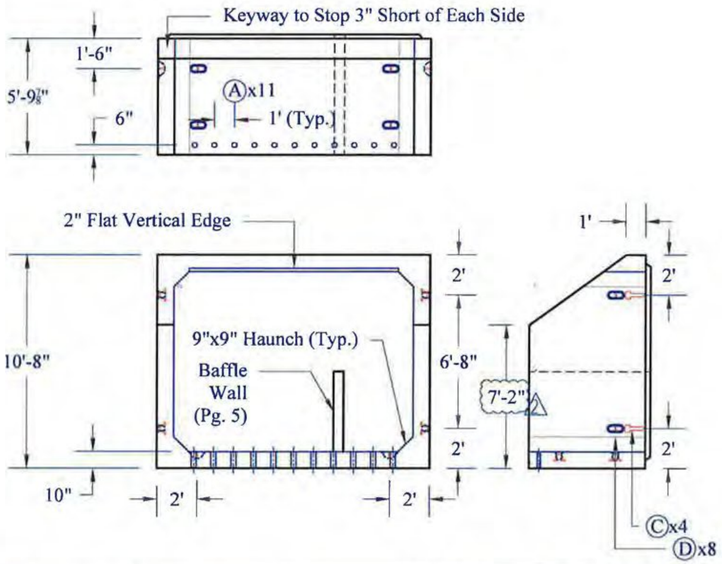
CONFORMANCE

BY: Mark Sargent DATE: 5/20/2015

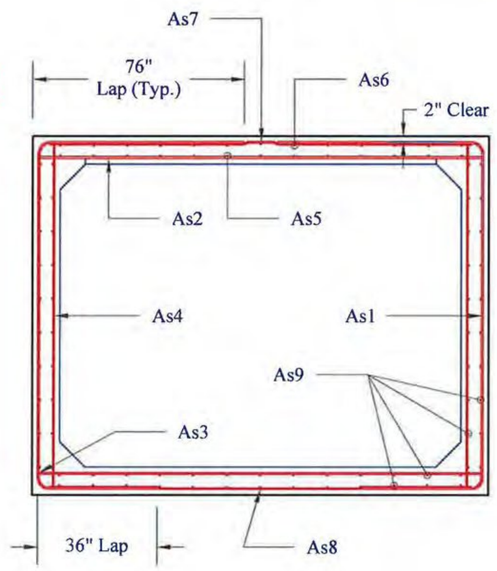
BC-1 Detail



BC-3 Detail



End Box Section Reinforcement Detail



Rebar Schedule							
Mark	Size	Max Spacing	Length	Type	A	B	
As1	#5	6"	Varies	Bent	36"	Vrs	76"
As2	#5	5"	160"	Str	160"		
As3	#5	6"	160"	Str	160"		
As4	#4	9"	Varies	Str	Vrs		
As5	#5	10"	Varies	Str	Vrs		
As6	#4	9"	Varies	Str	Vrs		
As7	#4	9"	160"	Str	160"		
As8	#4	9"	160"	Str	160"		
As9	#4	12"	Varies	Str	Vrs		

Notes: 2" Clear Typical Unless Noted Otherwise

REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

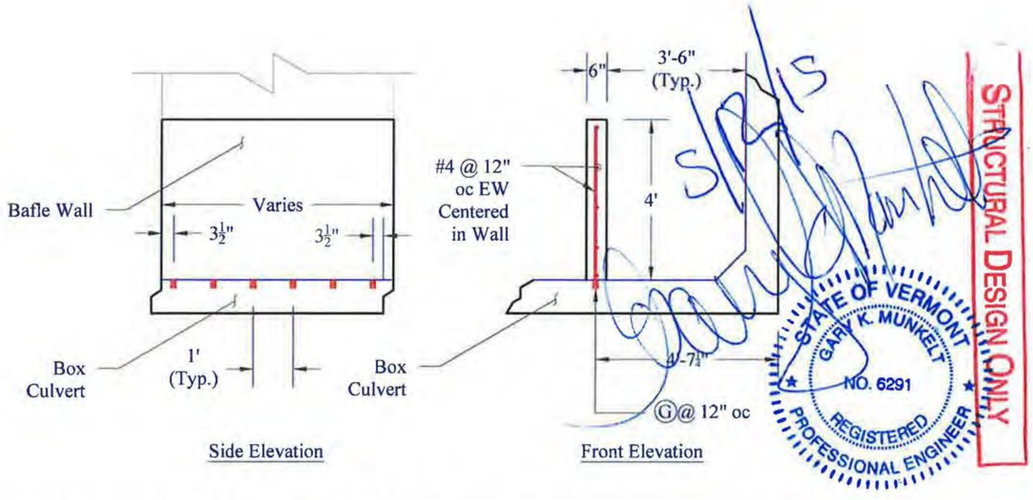
Stantec

Date: 5/15/15

By: Michael J. Chenette

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Baffle Wall Detail



STRUCTURAL DESIGN ONLY

STATE OF VERMONT
GARY K. MUNKELT
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PROFESSIONAL ENGINEER

5/15/15

CONTRACTORS VTSPE:

Ⓐ 3"Ø PVC Sleeve
Ⓑ 4"Ø PVC Sleeve
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Ⓔ 1 1/2" x 3 1/2" Continuous Keyway
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PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#5
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
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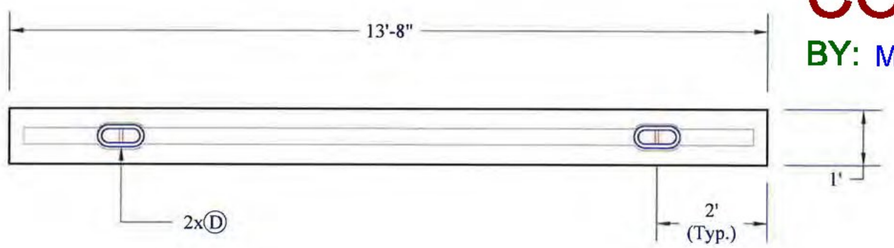
SD Ireland PRECAST

04/20/15 | WING_WALLS_1 | 4_OF_6

Vermont Agency of Transportation

RECEIVED
ON: May 14, 2015
and Checked for
CONFORMANCE
BY: Mark Sargent DATE: 5/20/2015

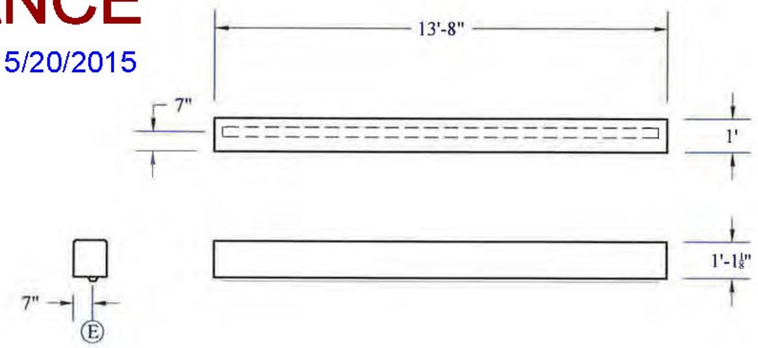
CW-1/2 Detail



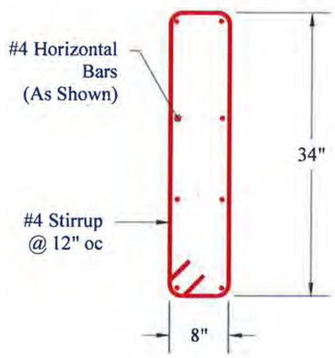
Headwall 1 Detail

(See Reinforcing Details on Sheet 7)

Note: - Secondary Pour
- Not Battered

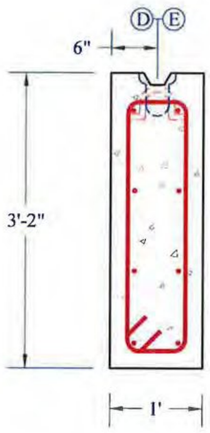


Cutoff Wall Reinforcement Detail



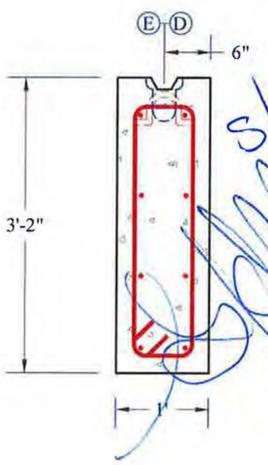
CW-1 Detail

Note: 2" Clear Cover



CW-2 Detail

Note: 2" Clear Cover



REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	
Date: 5/15/15	
By: Michael J. Chenette	

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Stantec

5/12/15

STATE OF VERMONT
GARY K. MUNKELT
NO. 6291
REGISTERED
PROFESSIONAL ENGINEER

STRUCTURAL DESIGN ONLY

CONTRACTORS VTSPE:

Ⓐ 3"Ø PVC Sleeve
Ⓑ 4"Ø PVC Sleeve
Ⓒ Mechanical Bolt Pocket (w/ 1"Ø Coil Rod)
Ⓓ Oxford A750-7 Lifting Device
Ⓔ 1 1/2" x 3 1/2" Continuous Keyway
Ⓕ Solid Lines Indicate ¾" Chamfer
Ⓖ ½" FX-5 Ferrule Loop Insert

Rev.	Date	By	Description
1	05/06/15	IBA	Changes per Redesign
2	05/11/15	IBA	Inlet/Outlet BC Change

PRECAST CONCRETE BOX CULVERT SHOP DRAWINGS (SDI JOB #15428)

SUPERVISOR: E. Barendse
DETAILER: I. ADAMS
CHECKER: E. Barendse
ENGINEER: G. K. Munkelt

PROJECT NAME: Bridport
PROJECT #: CULV(29) Br.#5
LOCATION: Bridport, VT

Peckham Road Corp.
1557 St. Rt. 9, #3
Lake George, NY 12845
Ph: (518) 747-3353

FABRICATOR:
193 INDUSTRIAL AVE.
WILLISTON, VT 05495
Ph: (802) 658-0201

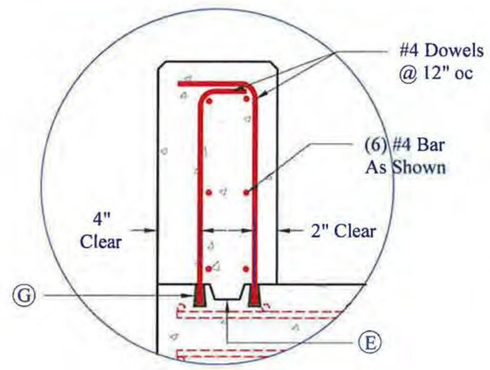
SD Ireland PRECAST

04/20/15 | HW_CW_DETAILS | 5_OF_6

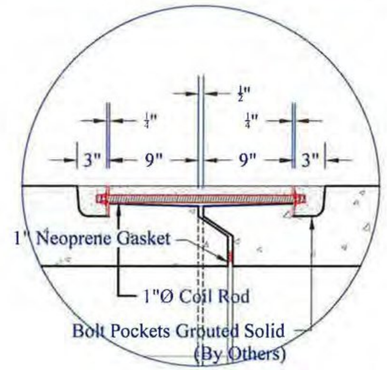
HW - Rebar Schedule						
Mark	Size	Max Spacing	Length	Type	A	B
As1	#4	12"	14"	Bent	5"	9"
As2	#4	12"	17"	Bent	8"	9"
As3	#4	12"	17"	Bent	5"	12"
As4	#4	12"	20"	Bent	8"	12"

Vermont Agency of Transportation
RECEIVED
ON: May 14, 2015
and Checked for
CONFORMANCE
BY: Mark Sargent DATE: 5/20/2015

HW to BC Connection Detail



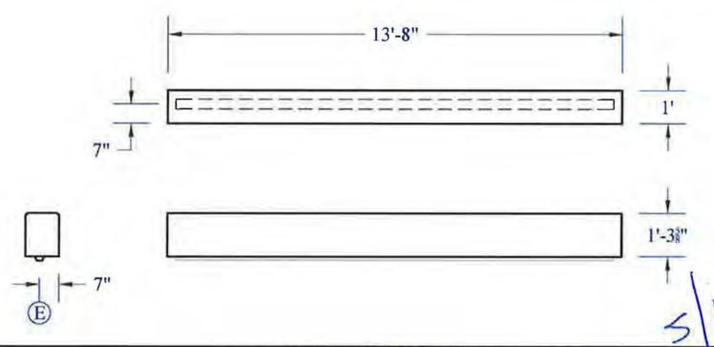
Bolt Pocket Connection Detail -Ⓒ



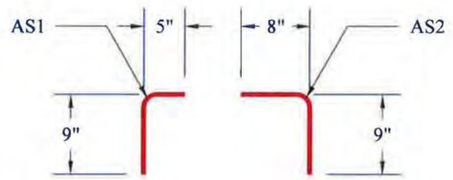
Headwall 2 Detail

(See Reinforcing Details on Sheet 7)

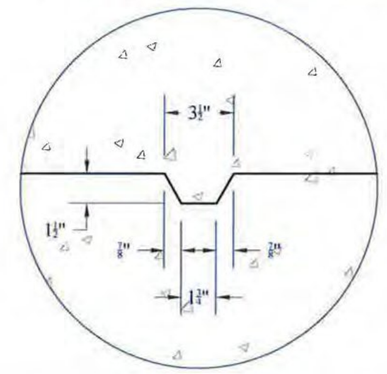
Note: - Secondary Pour
- Not Battered



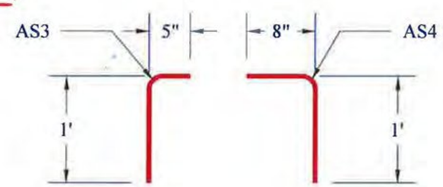
HW-1 Reinforcement Detail



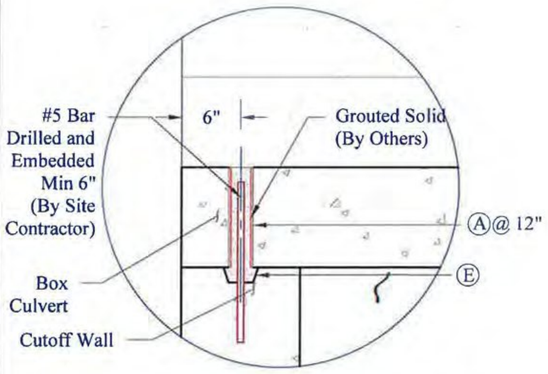
Keyway Connection Detail -Ⓔ



HW-2 Reinforcement Detail



CW to BC Connection Detail



REVIEWED	X
REVIEWED AS MODIFIED	
REVISE AND RESUBMIT	
NOT REVIEWED	

Stantec

Date: 5/15/15

By: Michael J. Clemens

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04/20/15 | CONNECTION_DETAILS | 6_OF_6