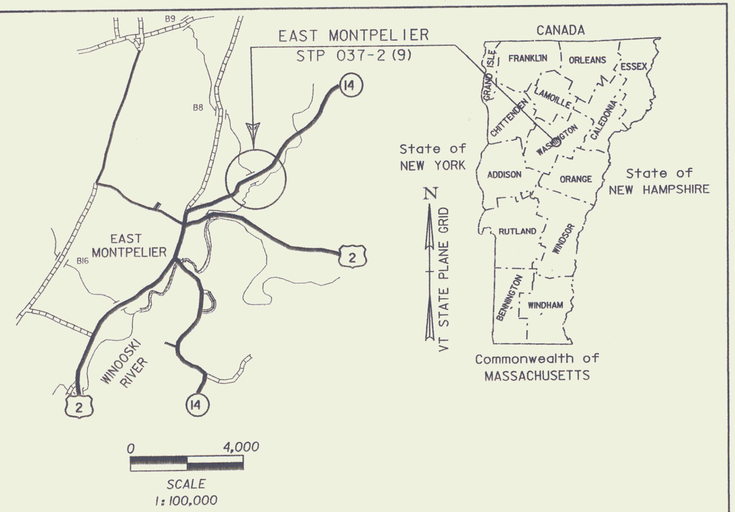
SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF EAST MONTPELIER

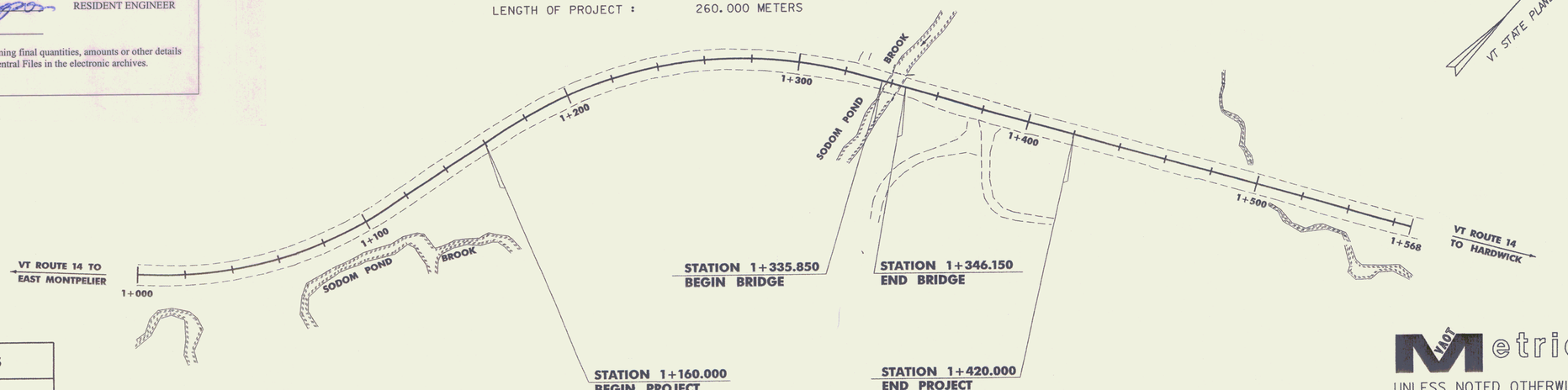
COUNTY OF WASHINGTON

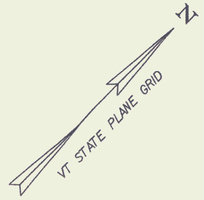
ROUTE NO : VT ROUTE 14 (MINOR ARTERIAL) BRIDGE NO: 69

PROJECT LOCATION : BEGINNING AT A POINT ON VT 14 APPROXIMATELY 800 METERS NORTH OF THE INTERSECTION OF VT 14 AND US 2 AND EXTENDING NORTH ALONG VT 14 FOR 260 METERS.

PROJECT DESCRIPTION : REPLACEMENT OF EXISTING BRIDGE ON EXISTING ALIGNMENT ALONG WITH NECESSARY APPROACH WORK.

LENGTH OF STRUCTURE :	10.300 METERS
LENGTH OF ROADWAY :	249.700 METERS
LENGTH OF PROJECT :	260.000 METERS





RECORD PLANS

CONTRACTOR: SD IRELAND CO. –WILLISTON, VT

RESIDENT ENGINEER: PETE HODGSON

CONSTRUCTION BEGAN: DECEMBER 7, 2009

CONSTRUCTION COMPLETE: AUGUST 24, 2011

RECORD PLANS BY: PETE HODGSON & JENNA HYDE

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

BY Peter Hodgson RESIDENT ENGINEER

DATE 7/26/12

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.

CONVENTIONAL SYMBOLS

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

SURVEYED BY : VAOT
SURVEYED DATE : 7/3/96, 10/8/98, 10/19/98, 10/24/04

DATUM
VERTICAL NAVD 1988
HORIZONTAL NAD 1983 (1992)

0 40 80 120
SCALE 1:1000

VAOT Metric
UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

78f200\str\sf200bdr.dgn sf200t1.1 PLOT DATE: 14-JUL-2009

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard Fetzer DATE 7-14-09

PROJECT MANAGER : KRISTIN HIGGINS

PROJECT NAME : EAST MONTPELIER
PROJECT NUMBER : STP 037-2(9)

SHEET 1 OF 67 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

LIST OF STANDARDS

B-5	06/01/94
B-71	07/08/05
D-6	06/01/94
D-8	01/03/00
D-16	06/01/94
D-33	03/12/07
E-100	01/02/04
E-101	05/30/03
E-102	06/30/03
E-102A	05/01/04
E-103	03/01/04
E-107	06/30/03
E-107A	06/08/09
E-108	06/08/09
E-110	08/08/95
E-121	08/08/95
E-138	05/30/03
E-142	09/20/95
E-151	05/01/04
E-153	05/01/04
E-163	05/20/99
G-1	01/03/00
G-1D	01/03/00
G-17A	09/27/02
G-17B	09/27/02
J-3	08/07/95

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 2/2004

DRAINAGE AREA : 25.4 sq. km
CHARACTER OF TERRAIN : Mixed open and forested areas with some wetlands
STREAM CHARACTERISTICS : Small, low relief, alluvial, meandering and equiwidth
NATURE OF STREAMBED : Sand, gravel and cobble

PEAK FLOW DATA

Q 2.33 =	10.0 cms	Q 50 =	37.0 cms
Q 10 =	22.5 cms	Q 100 =	43.5 cms
Q 25 =	30.0 cms	Q 500 =	60.0 cms

DATE OF FLOOD OF RECORD : November 1927
ESTIMATED DISCHARGE: unknown
WATER SURFACE ELEV.: unknown
NATURAL STREAM VELOCITY : @ Q50 = 3.2 mps
ICE CONDITIONS : moderate
DEBRIS: moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 4% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span concrete slab bridge
YEAR BUILT: 1924
CLEAR SPAN(NORMAL TO STREAM): 5.2 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.0 m
WATERWAY OF FULL OPENING: 9.6 sq. m
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Refer to boring logs

WATER SURFACE ELEVATIONS AT:

Q2.33 =	205.7 m	VELOCITY =	1.8 mps
Q10 =	206.3 m	"	3.5 mps
Q25 =	207.4 m	"	3.9 mps
Q50 =	207.7 m	"	2.8 mps
Q100 =	207.8 m	"	2.4 mps

LONG TERM STREAMBED CHANGES: Bridge inspection files note some local scour along the existing abutments.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q35
RELIEF ELEVATION: 207.5 m
DISCHARGE OVER ROAD @Q100: 10.1 cms

UPSTREAM STRUCTURE

TOWN: East Montpelier — DISTANCE: 0.85 km
HIGHWAY# : TH-39 — STRUCTURE #: 8
CLEAR SPAN: 3.0 m — CLEAR HEIGHT: 2.4 m
YEAR BUILT: Unknown — FULL WATERWAY: unknown
STRUCTURE TYPE: Single span slab bridge

DOWNSTREAM STRUCTURE

TOWN: East Montpelier — DISTANCE: 0.79 km
HIGHWAY# : US 2 — STRUCTURE #: 73
CLEAR SPAN: 4.6 m — CLEAR HEIGHT: 3.1 m
YEAR BUILT: 1974 — FULL WATERWAY: 11 sq. m
STRUCTURE TYPE: Structural Plate Pipe Arch

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span concrete slab bridge

CLEAR SPAN(NORMAL TO STREAM): 8.46 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.8 m
WATERWAY OF FULL OPENING: 21.4 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	205.6 m	VELOCITY=	1.3 mps
Q10 =	206.1 m	"	2.3 mps
Q25 =	206.4 m	"	3.0 mps
Q50 =	206.7 m	"	3.5 mps
Q100 =	206.9 m	"	3.7 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 207.9 m
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 207.1 m
VERTICAL CLEARANCE: @ Q50 = 0.4 m

SCOUR: 1.0 m of contraction scour at Q500

REQUIRED CHANNEL PROTECTION: Type III stone fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	0.6 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	0.3 cms	0.1 m (204.4 m)
ORDINARY HIGH WATER:	4.3 cms	0.5 m (204.8 m)

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge
CLEAR SPAN (NORMAL TO STREAM): 6.3 m
VERTICAL CLEARANCE ABOVE STREAMBED: 2.0 m (206.3 m)
WATERWAY AREA OF FULL OPENING: 10.9 sq. m minimum

ADDITIONAL INFORMATION

Note: Any new stone fill should not constrict the proposed waterway and should match upstream and downstream channel banks.

LRFR - LOAD RATING FACTORS (TONS)

LOADING LEVELS	TRUCK					
	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	1.26					
OPERATING	1.63	3.05	1.54	2.18	1.94	2.88

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2009	5700	640	74	8	550
2029	7300	820	74	12	1100

20 year ESAL for flexible pavement from 2009 to 2029 : 3,905,000
40 year ESAL for flexible pavement from 2009 to 2049 : 9,800,000
Design Speed : 80 km/h

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO HL-93
2. DESIGN SPAN 9.5 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL NA
   ON LEDGE NA
4. ALLOWABLE LOAD FOR PILING SEE GENERAL NOTES
   TYPE HP 310x79
   ESTIMATED LENGTH VARIES
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE NA
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 30 MPa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 MPa
8. DESIGN SOIL UNIT WEIGHT 22 kN
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? YES
   IF YES, ON EXISTING STRUCTURE?
   OR ON TEMPORARY BRIDGE? TEMPORARY BRIDGE
   ONE OR TWO-WAY TRAVEL? TWO-WAY TRAVEL
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE?

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\78f200pi.xls — PLOT DATE: 7/22/2009
PROJECT MANAGER: K. HIGGINS — DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX — CHECKED BY: J. LACROIX
PRELIMINARY INFORMATION SHEET — SHEET 2 OF 67

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT, AGENCY OF TRANSPORATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOURTH EDITION, AND ITS LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECOND EDITION, AND ITS LATEST REVISIONS.

2. THE BRIDGE IS DESIGNED FOR THE HL-93 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.

3. THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON THE PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 AND 720 FOR "GEOTEXTILE FOR ROAD BED SEPERATOR" SHALL BE PLACED BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ALL COSTS ASSOICIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE WILL BE INCLUDED IN THE UNIT PRICE BID FOR 203.31 "SAND BORROW".

4. THERE IS A WATER MAIN OWNED BY A PRIVATE WATER COMPANY (CRYSTAL SPRINGS WATER COMPANY) WHICH ENDS PRIOR TO STA 1+110. WHILE THIS SHOULD NOT IMPACT THE PROJECT, ALL INTERESTED PARTIES SHOULD BE AWARE OF ITS EXISTENCE.

5. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES C UNLESS OTHERWISE NOTED.

6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 301.06 REGARDING THE COMPACTION OF SUBBASE MATERIAL FOR THIS PROJECT.

7. SEE THE UTILITY SPECIAL PROVISIONS FOR A DESCRIPTION OF WHEN AND WHERE ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.) MAY BE REQUIRED.

TEMPORARY BRIDGE

8. TRAFFIC WILL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE LOCATED DOWNSTREAM OF THE EXISITNG STRUCTURE. THE AGENCY WILL PAY FOR THE CONSTRUCTION AND MAINTENANCE OF THE TEMPORARY BRIDGE AND ITS APPROACHES UNDER ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE."

9. THE ROADWAY APPROACHES TO THE TEMPORARY BRIDGE WILL BE PAVED WITH 50mm BITUMINOUS CONCRETE PAVEMENT.

10. A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 FOR "GEOTEXTILE FOR ROADBED SEPARATOR" SHALL BE PLACED BETWEEN ALL TEMPORARY DETOUR FILL AND EXISTING GROUND. ALL COSTS ASSOCIATED WITH THE GEOTEXTILE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE".

11. THE AREA DISTURBED BY THE TEMPORARY DETOUR SHALL BE SEEDED AND MULCHED AFTER ALL THE FILL IS REMOVED TO THE ORIGINAL GROUND SURFACE. THE COST OF THE SEED, FERTILIZER, AND MULCH WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

CONCRETE

12. THE AGENCY WILL PROVIDE THE BRIDGE PLAQUE FOR THE CONTRACTOR TO INSTALL AS SHOWN ON THE DETAILS ON THE PLANS. THE AGENCY WILL PAY FOR THIS WORK UNDER THE APPROPRIATE CONCRETE ITEM SUPPORTING THE PLAQUE.

13. THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS COMPLETE.

14. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm BY 25 mm.

15. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

16. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).

    REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING +/- 25 mm
    CLEARANCE +/- 5 mm

17. ALL CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS OTHERWISE NOTED.

18. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES.

STONE FILL

19. THE STONE FILL, TYPE III SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE DECK IS POURED.

TRAFFIC CONTROL

20. AS PART OF ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE), THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE ROADWAY, TRAFFIC, AND SAFETY ENGINEER FOR APPROVAL PER SUBSECTION 105.03. SEE SPECIAL PROVISIONS.

21. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN WILL NOT BE PAID FOR DIRECTLY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE). THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING

    ITEMS: TEMPORARY TRAFFIC BARRIER
    UNIFORMED TRAFFIC OFFICER/FLAGGER
    TEMPORARY PAVEMENT MARKINGS
    REMOVAL OF EXISTING PAVEMENT MARKINGS
    TEMPORARY CONSTRUCTION SIGNING

22. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE STANDARDS E-101, E-102A, E-107, E-107A AND E-121.

23. DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS AT ALL TIMES.

PILES

24. THE PILES SHALL BE HP 310X79.

25. THE PILES SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 10 METERS AND BE DRIVEN TO A NOMINAL RESISTANCE OF 1900 kN. TO PREVENT DAMAGE TO THE PILES, PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.

26. PILE TESTING AND SEQUENCE - A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED FOR EACH SUBSTRUCTURE UNIT. MORE TESTS MAY BE REQUIRED BY THE ENGINEER. THE FIRST PRODUCTION PILE DRIVEN FOR EACH SUBSTRUCTURE UNIT SHALL BE USED FOR THE FIRST PILE TEST. THE PILE SHALL BE DRIVEN AND TESTED IN ITS FINAL LOCATION. SEE THE GENERAL SPECIAL PROVISIONS FOR THE METHOD OF PAYMENT FOR THESE PILES AND TESTS.

27. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY.

GENERAL NOTES

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78f200\str\sf200gennotes		PLOT DATE:	14-JUL-2009
PROJECT LEADER:	K. HIGGINS	DRAWN BY:	R. PELLETT
DESIGNED BY:	G. LaROCHE	CHECKED BY:	G. LaROCHE
sf200gennotes.l		SHEET	3 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
ROADWAY		TRAINING		EROSION CONTROL	DRAINAGE		PAVING ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
1									1	1	LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
3210									3210	3230.2	CM	COMMON EXCAVATION	203.15				
					240				240	299.5	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
1410									1410	1397.8	CM	SOLID BORROW	203.71				
220									220	260.1	CM	TRENCH EXCAVATION OF EARTH	204.20				
1									1	0	CM	TRENCH EXCAVATION OF EARTH - EXPLORATORY (N.A.P.I.)	204.22				
					~~60~~ 40				~~60~~ 40	47.25	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30				
					204				204	196.39	CM	COFFERDAM EXCAVATION - EARTH	208.20				
					62				62	6.45	CM	COFFERDAM EXCAVATION - ROCK	208.25				
					1				1	1	LS	COFFERDAM (ABUTMENT #1)	208.40				
					1				1	1	LS	COFFERDAM (ABUTMENT #2)	208.40				
~~1000~~	550								~~1000~~ 550	520.4	SM	COLD PLANING BITUMINOUS PAVEMENT	210.10				
~~3220~~	2620								~~3220~~ 2620	2617.59	CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.25				
60									60	60.4	CM	AGGREGATE SURFACE COURSE	401.10				BITUMINOUS PAVEMENT BREAK DOWN BY TYPE
631									631	524.5	KG	EMULSIFIED ASPHALT	404.65	~~1000~~	T		TYPE I - BASE COURSE
~~1000~~	1705								~~1000~~ 1705	1801.93	T	BITUMINOUS CONCRETE PAVEMENT	406.25	2551	T		TYPE II - BINDER COURSE
80									80	1	T	BITUMINOUS CONCRETE PAVEMENT (SA/CO #5 DATED 8-25-09	406.25	340	T		TYPE III - TOP COURSE
1									1	80	LU	MAT DENSITY PAY ADJUSTMENT (N.A.D.U.)	406.29	40	T		TYPE III - BRIDGE DECK & APPROACH SLABS
1									1	~~1026~~	LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.D.U.)	406.80	~~1000~~	T		GRAVEL TOTAL
4	3.2 PLACED				300		196.93 PLACED		204	199.35	CM	CONCRETE, HIGH PERFORMANCE CLASS B	504.24				
1					1				1	1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
					300				200	62.1	M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 79	505.25				
					2				2	2	EACH	DYNAMIC PILE LOADING TEST	505.40				
340	240 PLACED				5300		5200 PLACED		5540	5540	KG	REINFORCING STEEL (FPG)	507.10				
					9000				9000	9000	KG	EPOXY COATED REINFORCING STEEL (FPG)	507.17				
					642.74				642.74	642.74	KG	EPOXY COATED REINFORCING STEEL (SA/CO #4 DATED 8-19-09	507.17				
					90				90	75.7	L	WATER REPELLENT, SILANE	514.10				
					98				98	98.58	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	516.20				
					27				27	26.45	M	BRIDGE RAILING, GALVANIZED NEW 2 RAIL	520.20				
					1				1	1	LS	TWO-WAY TEMPORARY BRIDGE (50.0M - EST)	522.11				
					1				1	1	EACH	REMOVAL OF STRUCTURE (50.0M - EST)	525.15				
												BEGIN OPTION AA					
20									20		M	450 CSP 1.63 (68 X 12)	601.C015				
20									20		M	450 CAAP 1.52 (68 X 12)	601.C215				
20									20		M	450 PCCSP 1.33 (68 X 12)	601.C415				
20									20	20	M	450 CPCP (G.I.)	601.2615				
												END OPTION AA					
												BEGIN OPTION BB					
34									34		M	450 CAAP 1.52 (68 X 12)	601.C215				
34									34		M	450 PCCSP 1.33 (68 X 12)	601.C415				
34									34	34	M	450 CPCP (G.I.)	601.2615				
												END OPTION BB					

QUANTITY SHEET #1

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: VAC quant 78f200.xls
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200q1.fl

PLOT DATE: 6-JUL-2009
DRAWN BY: K. PELLETT
CHECKED BY: J. LACROIX
SHEET 4 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAFFIC	EROSION CONTROL	DRAINAGE	MISC. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEM	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEM
													DESIGN OPTION CC					
					18					18		M	690 CAAP, L52 (66 X 12)	801.6225				
					19					19		M	690 PCCSPP, L22 (66 X 12)	801.6423				
					~~44.45~~					~~44.45~~	42.4	M	600 CPEPIPE)	601.7020				
					1					1	1	EA	600 CPEPES #5A/CO #7 DATED 9-5-08 END OPTION CC	601.7020				
													BEGIN OPTION D					
					1					1		EACH	450 CPEPES 1.63 (66 X 12)	801.6015				
					1					1		EACH	450 CAAPES 1.52 (59 X 12)	801.6215				
					1					1	1	EACH	450 CPEPES	801.7015				
													END OPTION DD					
					1					1	1	EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18				
					~~130~~					~~130~~	127.5	CM	STONE FILL, TYPE I	613.10				
					~~780~~					~~780~~	778.86	CM	STONE FILL, TYPE II	613.11				STONE FILL, TYPE II BREAKDOWN
					~~250~~					~~250~~	32.45	CM	STONE FILL, TYPE III	613.12		57	CM	DRAINAGE SHEET
																695	CM	ROADWAY SLOPE STABILIZATION
					24.4					24.4	24.4	M	CAST-IN-PLACE CONCRETE CURB, TYPE B (FPO)	616.26		23	CM	ROUNDING
					1					1	2	EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10		760	CM	GRAND TOTAL
					7					7	7	EACH	YELLOW MARKER POSTS	615.17				
					2					2	2	EACH	REMOVING AND RESETTING PROPERTY MARKERS	615.20				
					121					121	92	M	REMOVAL OF EXISTING FENCE	620.66				
					312					312	92	M	HD STEEL BEAM GUARDRAIL, GALVANIZED (FPO)	621.21				
										4	4	EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.60				
					2					2	2	EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETS 2 RAIL (STEEL BEAM)	621.72				
					2					2	2	EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETS 2 RAIL (THRIE BEAM)	621.73				
					142					142	~~45.23~~	M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					260					260	266	HR	FLAGGERS #5A/CO # 6 DATED 8-25-08 - REPAIR OF FLASH FLOOD DAMAGE	630.05				
									1	1	1	LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1	1	LS	TESTING EQUIPMENT, CONCRETE	631.15				
									1	1	1	LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
						520				520	520	HR	EMPLOYEE TRAINEESHIP	634.10				
					1					1	1	LS	MOBILIZATION/DEMOBILIZATION	635.11				
					777					777	1	M	100 MM WHITE LINE #5A/CO 33 DATED 8-19-08	646.20				
					~~230~~ 0					~~230~~ 0	0	M	DURABLE 100 MM WHITE LINE, THERMOPLASTIC (FPO)	646.402				
					754					754	1	M	100 MM YELLOW LINE #5A/CO 33 DATED 8-19-08	646.21				
					~~735~~ 0					~~735~~ 0	0	M	DURABLE 100 MM YELLOW LINE, THERMOPLASTIC (FPO)	646.412				
					~~1000~~2440					~~1000~~2440	2540.4	SM	GEOTEXTILE UNDER STONE FILL	648.21				
							300			300	294.6	SM	GEOTEXTILE FOR SILT FENCE	648.61				
							300			300	~~77.85~~	SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	648.615				
							160			160	206.9	SM	GEOTEXTILE FOR FILTER CURTAIN	648.61				
							~~15~~			~~15~~	40.4	KG	SEED	651.15				
							5			5	0	KG	SEED, WINTER RYE	651.17				
							~~130~~			~~130~~	336.75	KG	FERTILIZER	651.15				
							~~2~~			~~2~~	2.458	T	AGRICULTURAL LIMESTONE	651.20				
							~~2~~			~~2~~	2.39	T	HAY MULCH	651.25				

QUANTITY SHEET #2

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: VAC quant 78f200.xls
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200qt2.i

PLOT DATE: 6-JUL-2009
DRAWN BY: K. PELLETT
CHECKED BY: J. LACROIX
SHEET 5 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAFFING	EROSION CONTROL	DRAINAGE	MISCELLANEOUS ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							~~300~~			~~300~~	3008.5	SM	GRUBBING MATERIAL	201.40				
							1			1	1	LS	EPSC PLAN	652.10				
							199			199	33	HR	MONITORING EPSC PLAN	652.20				
							1			1	0	LU	MAINTENANCE OF EPSC P. (MIN. A.B.L.)	652.20				
							~~4480~~			~~4480~~	4473	SM	TEMPORARY EROSION MATTING	653.20				
							50			50	4.22	CM	TEMPORARY STONE CHECK DAM, TYPE	653.25				
							40			40	16.82	CM	VEHICLE TRACKING PAD	653.35				
							5			5	0	EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
							4			4	2	EACH	FILTER BAG	653.45				
							850			800	673.5	LF	BARRIER FENCE	653.50				
					17					17	17	EACH	REMOVING SIGNS	675.60				
					~~19~~ 13					~~19~~ 13	13	EACH	ERECTING SALVAGED SIGNS	675.60				
					2					2	2	EACH	REMOVAL OF EXISTING DELINEATOR	676.12				
					1					1	5009.17	LU	PRICE ADJUSTMENT, FUEL (M.A.B.L.)	900.60				
					1					1	0	LU	S.A. - ARRA WAGE ADJUSTMENT (SA/CO #2 DATED 3-10-10)	900.550~				
									5000	5000	1993.95	DL	SPECIAL PROVISION ("FIELD OFFICE TELEPHONE") (M.A.B.L.)	900.615				
					1					1	1	LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.615				
					1					1	1	LS	SA, FLASH FLOOD REPAIR LABOR & EQUIPMENT HOURS (SA/CO # 8 DATED 10-5-10	900.54~				

QUANTITY SHEET #3

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: VAOT quant 78f200.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: M. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
st200qt3.jl	SHEET 6 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

Metric

SUMMARY OF BRIDGE QUANTITIES														TOTALS		DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
					APPROACHES	SUPER STRUCTURE	ABUT #1	ABUT #2	CHANNEL		BRIDGE TOTAL		UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
									240		240	299.5	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
							40	40			80	67.25	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
							104	104			208	156.39	CM	COFFERDAM EXCAVATION, EARTH	208.20			
							26	26			52	6.45	CM	COFFERDAM EXCAVATION, ROCK	208.25			
							1				1	1	LS	COFFERDAM (ABUTMENT #1)	208.40			
								1			1	1	LS	COFFERDAM (ABUTMENT #2)	208.40			
			43		64		45	45			200	196.63	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.24			
							0.5	0.5			1	1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
							100	100			200	152.1	M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 79	508.25			
							1	1			2	2	EACH	DYNAMIC PILE LOADING TEST	509.40			
							3830	2970			6800	5200	KG	REINFORCING STEEL (FPC)	507.15			
			3080		5620		120	50			8900	8000	KG	EPOXY COATED REINFORCING STEEL (FPC)	507.17			
											642.74	642.74	KG	EPOXY COATED REINFORCING STEEL (SA/CO #4 DATED 9-9-10)	507.17			
					44		23	23			90	75.7	L	WATER REPELLENT, SILANE	514.10			
					90						90	90.56	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	516.20			
					27						27	26.45	M	BRIDGE RAILING, GALVANIZED METAL 2 RAIL	526.35			
					1						1	1	LS	TWO-WAY TEMPORARY BRIDGE (33.5M - EST)	528.11			
					1						1	1	EACH	REMOVAL OF STRUCTURE (69.5M - EST)	525.15			

QUANTITY SHEET #4

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: VAC quant 78f200.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200qt4.dgn

PLOT DATE: 6-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: J. LACROIX
SHEET 7 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

Metric

STATION (km + m)	DIST (m)	TOTAL EXCAVATION EARTH AND ROCK AREA (m²)	TOTAL EXCAVATION EARTH AND ROCK VOLUME (m³)	ROCK EXCAVATION AREA (m²)	ROCK EXCAVATION VOLUME (m³)	EMBANKMENT AREA (m²)	EMBANKMENT VOLUME (m³)	AREA (m²)	VOLUME (m³)
203.15 COMMON EXCAVATION (CM)									
1+120		0				0			
	10		22				5		
1+130		4				1			
	10		50				5		
1+140		6				0			
	10		63				2		
1+150		7				0			
	10		96				1		
1+160		12				0			
	10		121				4		
1+170		12				1			
	10		110				10		
1+180		10				1			
	10		97				16		
1+190		9				2			
	10		97				19		
1+200		10				2			
	10		101				21		
1+210		10				2			
	10		104				27		
1+220		11				3			
	10		105				27		
1+230		10				2		CUT	2125
	10		101				20	ROCK	0
1+240		10				2		R.FAC	1.00
	10		108				15	FILL	306
1+250		12				1		F.FAC	1.15
	10		123				11	EX. C	1773
1+260		13				1			.
	10		135				8		
1+270		14				1			
	10		133				7		
1+280		13				1			
	10		118				5		
1+290		11				0			
	10		103				11		
1+300		10				2			
	10		93				32		
1+310		9				4			
	10		95				39		
1+320		10				4			
	5		59				11		
1+325		14				1			
	5		56				5		
1+330		9				1			
	6		35				5		
1+336		5				1			
1+346		8				0			
	4		27				4		
1+350		9				2			
	7		62				16		
1+357		9				2			
	3		26				9		
1+360		9				4			
	10		90				31		
1+370		10				2			
	10		99				16		
1+380		10				1			
	10		108				5		
1+390		11				0		CUT	1080
	10		114				4	ROCK	0
1+400		11				0		R.FAC	1.000
	10		117				6	FILL	115
1+410		12				1		F.FAC	1.15
	10		143				7	EX. C	948
1+420		17				1			
	10		127				8		
1+430		9				1			
	10		77				5		
1+440		7				0			
	10		59				3		
1+450		5				0			
	10		31				2		
1+460		1				0			
208.30 COFFERDAM EXCAVATION,EARTH (CM)									
		TOTAL	204					CUT	204
								FAC	0.3
								FAC CUT	61

STATION (km + m)	DIST (m)	TOTAL EXCAVATION EARTH AND ROCK AREA (m²)	TOTAL EXCAVATION EARTH AND ROCK VOLUME (m³)	ROCK EXCAVATION AREA (m²)	ROCK EXCAVATION VOLUME (m³)	EMBANKMENT AREA (m²)	EMBANKMENT VOLUME (m³)	AREA (m²)	VOLUME (m³)
208.35 COFFERDAM EXCAVATION, ROCK (CM)									
ASSUME 10% COFFERDAM EXCAVATION EARTH IS ROCK									
		TOTAL	26					ROCK	26
								FAC	0.3
								FAC CUT	8
203.27 UNCLASSIFIED CHANNEL EXCAVATION (CM)									
4+965		0							
	5		0						
4+970		0							
	5		0						
4+975		0							
	5		0						
4+980		0							
	5		15						
4+985		6							
	0		0						
4+985		0							
	5		14						
4+990		6							
	5		30						
4+995		6							
	5		32						
5+000		7							
	5		35						
5+005		7							
	5		46						
5+010		12							
	5		45						
5+015		7							
	5		17						
5+015		0						CUT	234
	5		0					FAC	0.3
5+020		0						FAC CUT	70
							TOTAL	CUT	3681
							TOTAL	FILL	421

SUMMARY AND BALANCES

STATION TO STATION (km + m)	(km + m)	TOT EXC. EARTH & ROCK (m³)	ROCK EXCAV (m³)	EMBANK (m³)	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
1+120	1+336	2129	0	306	1778			
							1778	
1+346	1+460	1087	0	115	955			
							2733	

REMARKS

EARTH AND ROCK EXCAVATION	3707.00	
SOLID ROCK EXCAVATION	0.00	
EARTH EXCAVATION	3707.00	
PLANIMETERED FILL	421.00	
LESS FACTORED SOLID ROCK	0.00	
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0.00	
NET PLANIMETERED FILL	421.00	
FACTOR	1.15	
PLANIMETERED FILL INCLUDING FACTOR	484.00	
MATERIALS AVAILABLE FOR FILLS		
EARTH EXCAVATION	3205.00	
CHANNEL EXCAVATION	70.00	
TRENCH EXCAVATION	608.00	30%
COFFERDAM EXCAVATION	61.00	
TOTAL MATERIAL AVAILABLE FOR FILL	3334.00	
TOTAL FILL INCLUDING FACTOR	484.00	
TOTAL MATERIAL FOR FILL	3334.00	
BORROW	0.00	
EXCESS EXCAVATION	2850.00	

EARTHWORK SHEET

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\earthworks.xls
PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS
DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX
CHECKED BY: J. LACROIX
sf200ew.l

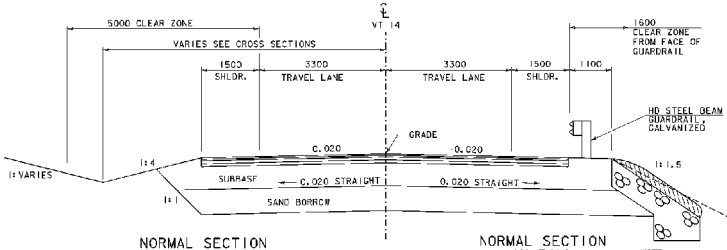
Metric

40 BITUMINOUS CONCRETE PAVEMENT (TYPE I I I)A
40 BITUMINOUS CONCRETE PAVEMENT (TYPE I I I)A
75 BITUMINOUS CONCRETE PAVEMENT (TYPE I OR I I)
75 BITUMINOUS CONCRETE PAVEMENT (TYPE I OR I I)
600 DENSE GRADED CRUSHED STONE
750 SAND BORROW (AS NECESSARY TO MEET SUBGRADE)

SHOULDERS: 230 BITUMINOUS CONCRETE PAVEMENT
(40 TYPE I I I)A OVER 40 TYPE I I I)A OVER 75 TYPE I I)
OVER 75 TYPE I OR I I)

PG BINDER GRADE: SEE SECTION 406 OF THE GENERAL SPEC AL PROVISIONS

MATERIAL TOLERENCES	
PAVEMENT (TOTAL DEPTH)	±6 mm
SUBBASE	±30 mm
SAND	±30 mm

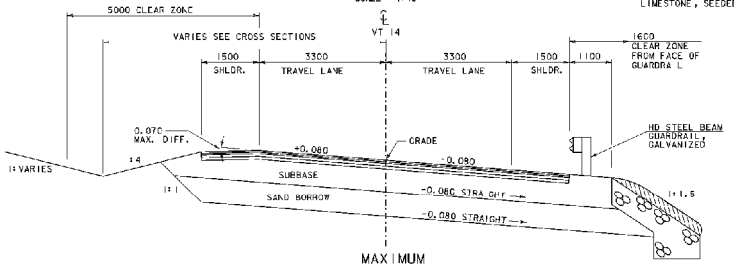


NORMAL SECTION IN CUT

NORMAL SECTION IN FILL

SCALE = 1:40

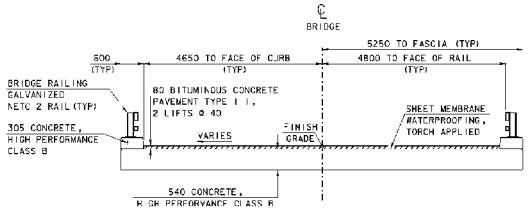
NOTE:
ALL SLOPES STEEPER THAN 1:2 SHALL HAVE A 600 BLANKET OF STONE FILL, TYPE I I I. THE STONE FILL BLANKET SHALL BE COVERED WITH A 300 LAYER OF GRUBBING MATERIAL, FERTILIZED, LIMESTONE, SEEDED AND MULCHED.



MAXIMUM BANKED SECTION

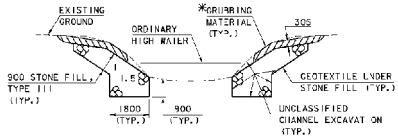
SCALE = 1:40

NOTE:
ALL SLOPES STEEPER THAN 1:2 SHALL HAVE A 600 BLANKET OF STONE FILL, TYPE I I I. THE STONE FILL BLANKET SHALL BE COVERED WITH A 300 LAYER OF GRUBBING MATERIAL, FERTILIZED, LIMESTONE, SEEDED AND MULCHED.



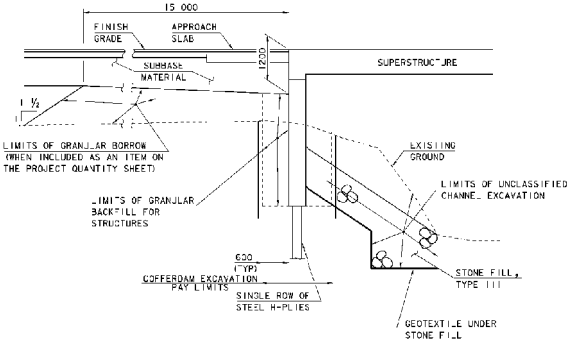
BRIDGE TYPICAL SECTION

SCALE = 1:40



TYPICAL CHANNEL SECTION
(NOT TO SCALE)

*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



TYPICAL ABUTMENT SECTION
NOT TO SCALE

COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" OR "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.

TYPICAL SECTIONS

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME:	78F200\s-r\s6f200typ.dgn	PLOT DATE:	14-JUL-2009
PROJECT LEADER:	K. HIGGINS	DRAWN BY:	M. MILLETT
DESIGNED BY:	J. LACROIX	CHECKED BY:	J. LACROIX
st200typ.l		SHEET	9 OF 67

GPS CONTROL POINTS

HVCTRL # 1

Stancard Disk Stamped

Barfield

NORTH = 194969.122
EAST = 501909.763

TO REACH FROM THE JUNCTION OF U.S.ROUTE 2 AND VERMONT ROUTE 14 SOUTH IN THE VILLAGE OF EAST MONTPELIER, PROCEED SOUTH ON ROUTE 14 FOR 1.2 MI (1.9 KM) TO A DIRT ROAD ON THE LEFT. TURN LEFT ONTO DIRT ROAD AND CONTINUE FOR 0.55 MI (0.89 KM) TO A T- INTERSECTION WITH THE ROAD, TURN LEFT AT INTERSECTION (COUNTRY CLUB ROAD) AND CONTINUE FOR 0.35 MI (0.56 KM) TO A POINT WHERE THE MAIN DIRT ROAD TURNS SHARPLY TO THE RIGHT. FROM THIS POINT TURN SHARPLY LEFT ON A LESSER DIRT ROAD FOR 0.05 MI (0.08 KM) TO A DIRT DRIVE ON THE RIGHT, TURN RIGHT ONTO DRIVE, TO A TWO STORY HOUSE, AND THE SITE OF THE MARK. THE MARK IS LOCATED ON THE NORTHEAST SIDE OF THE HOUSE. THE MARK IS A STATE OF VERMONT SURVEY DISK SET IN THE TOP OF A 6X6 INCH SQUARE CONCRETE MONUMENT, FLUSH WITH THE GROUND SURFACE. IT IS LOCATED 82.5 FT (25.1 M) NORTH OF THE NORTHEAST CORNER OF HOUSE / ATTACHED GARAGE, 54 FT (16.5 M) NORTHEAST OF A QUADRUPLE WHITE BIRCH, 45.5 FT (13.9 M) NORTHWEST OF A 36 INCH OAK TREE, 17.5 FT (5.3 M) EAST OF THE SOUTHEAST CORNER OF A LARGE EXPOSED BOULDER, 10 FT (3.0 M) NORTH OF THE SOUTHEAST CORNER OF A TELEPHONE BOX, AND 0.8 FT (24.4 CM) SOUTH OF A FIBERGLASS WITNESS POST. OWNERSHIP IS MR. AND MRS. EDWARD BARFIELD.

* Description provided by Vermont Agency of Transportation Geodetic Survey Unit

HVCTRL # 2

Standard Disk Stamped

Donnelly

NORTH = 198020.431
EAST = 502632.306

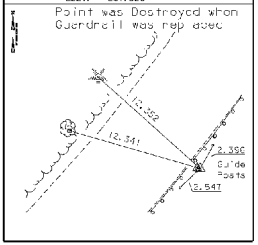
TO REACH FROM THE NORTH INTERSECTION OF U.S.ROUTE 2 AND VT ROUTE 14 PROCEED NORTHERLY ALONG ROUTE 14 FOR 1.2 MI (1.9 KM) TO A GRAVEL DRIVE ON THE RIGHT. PROCEED UP THE GRAVEL DRIVE FOR 0.5 MI (0.24 KM) TO A PAVED DRIVE ON THE LEFT AND A YELLOW RANCH WITH A ONE CAR GARAGE. PROCEED UP THE PAVED DRIVE TO THE YELLOW RANCH. THE MARK IS 28.8 M (94.5 FT) NORTH NORTHEAST OF AN IRON PIPE SEPERATING THE TWO ADJACENT PROPERTIES, 26.3 M (86.3 FT) NORTHWEST OF THE SOUTHWEST CORNER OF THE ADJACENT WHITE RANCH, 20.2 M (66.3 FT) EAST NORTHEAST OF THE SOUTHEAST CORNER OF THE YELLOW GARAGE, AND 13.0 M (42.7 FT) EAST OF THE NORTHEAST CORNER OF THE YELLOW GARAGE.

TRAVERSE TIES

HVCTRL # 6

NORTH = 197166.500
EAST = 50 553.153
ELEV. = 207.320

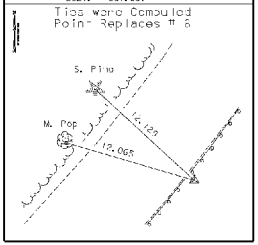
Point was Destroyed when Guardrail was rep aced



HVCTRL # 60

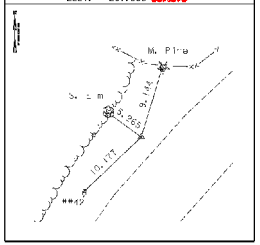
NORTH = 197166.523
EAST = 501552.872
ELEV. = 207.651

Tios were Computed Point Replaces # 6



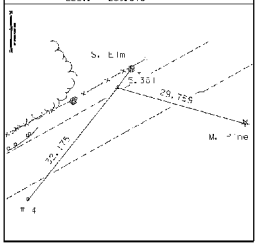
HVCTRL # 7

NORTH = 197383.441
EAST = 501629.087
ELEV. = ~~207.586~~ 207.813



HVCTRL # 8

NORTH = 197477.623
EAST = 501780.030
ELEV. = 209.610

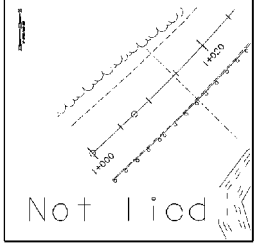


* Main Traverse Completed 01/04/ 995 by R. Gilman P. C. & T. Morse

ALIGNMENT TIES

POB 1+000.000

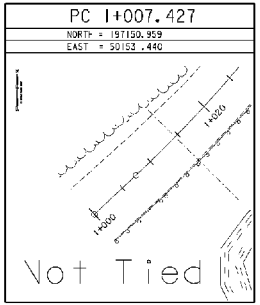
NORTH = 97145.881
EAST = 501526.020



ALIGNMENT TIES

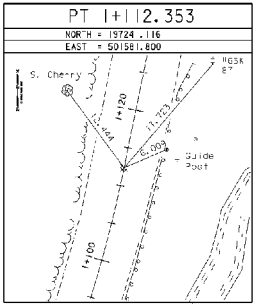
PC 1+007.427

NORTH = 197150.959
EAST = 50153 .440



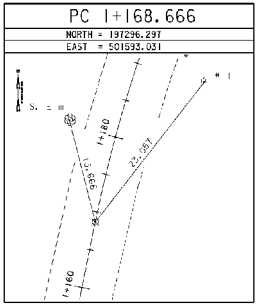
PT 1+112.353

NORTH = 19724 .116
EAST = 501581.800



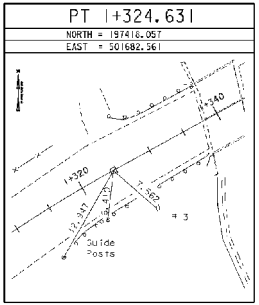
PC 1+168.666

NORTH = 197296.297
EAST = 501593.031



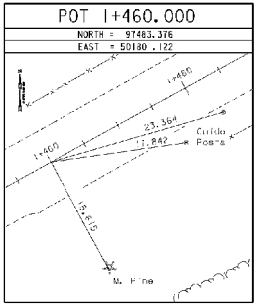
PT 1+324.631

NORTH = 197418.057
EAST = 501682.561



POT 1+460.000

NORTH = 97483.376
EAST = 50180 .122



* Alignment Staked 05/23/2003 by R. Gilman P. C. & P. Winters

TIE SHEET

DATUM

VERTICAL NAVD 88

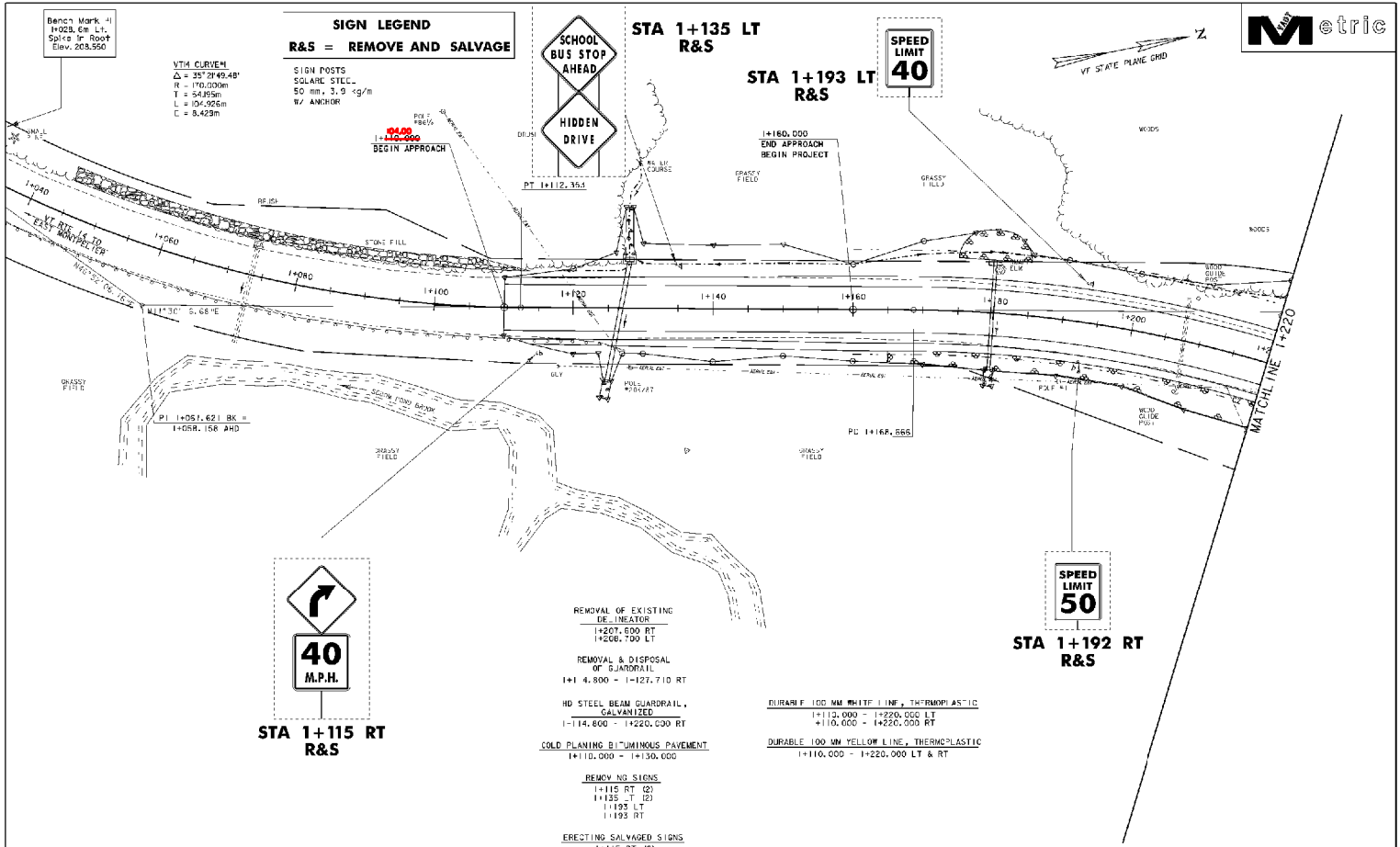
HORIZONTAL NAD 83 (92)

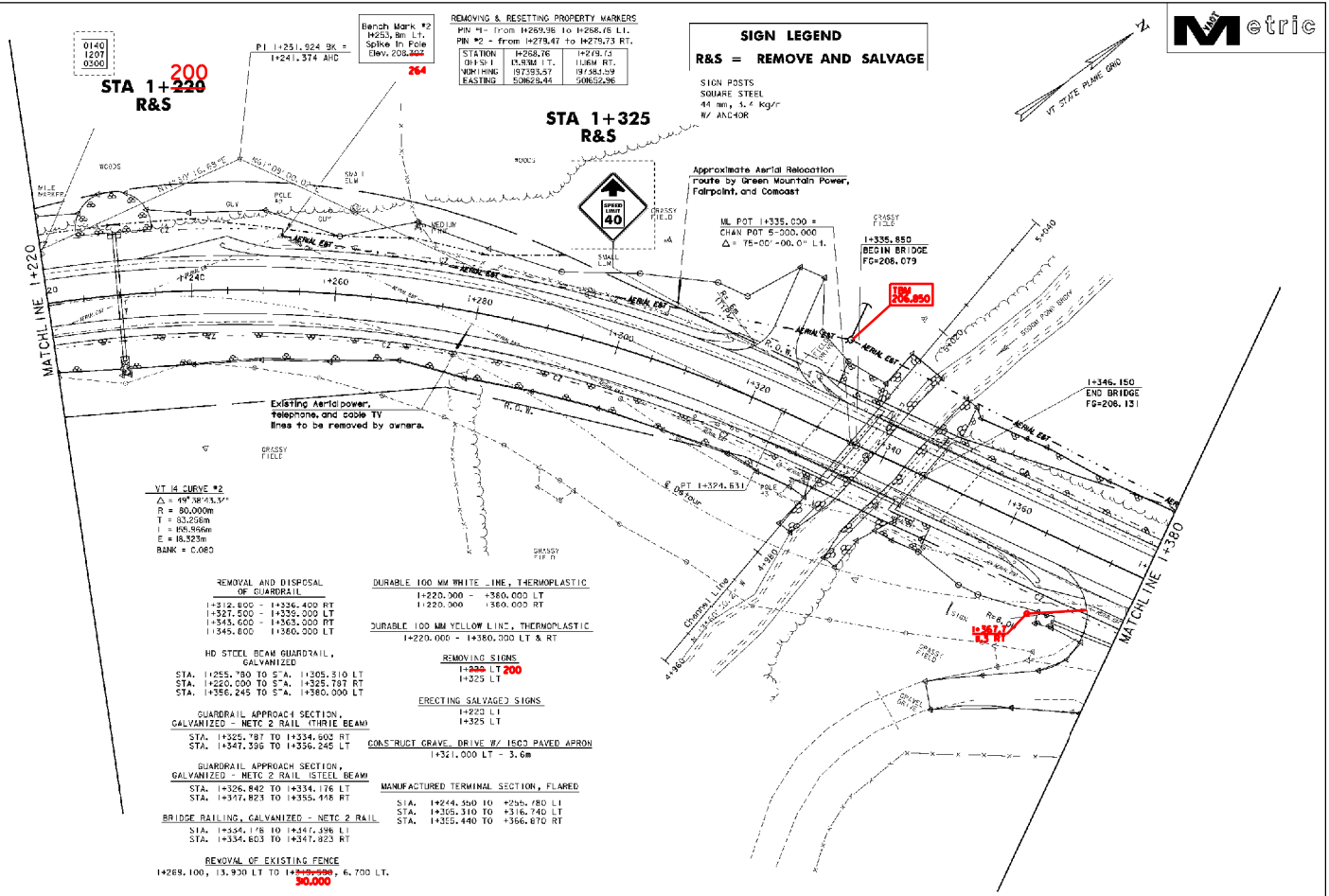
ADJUSTMENT Compass

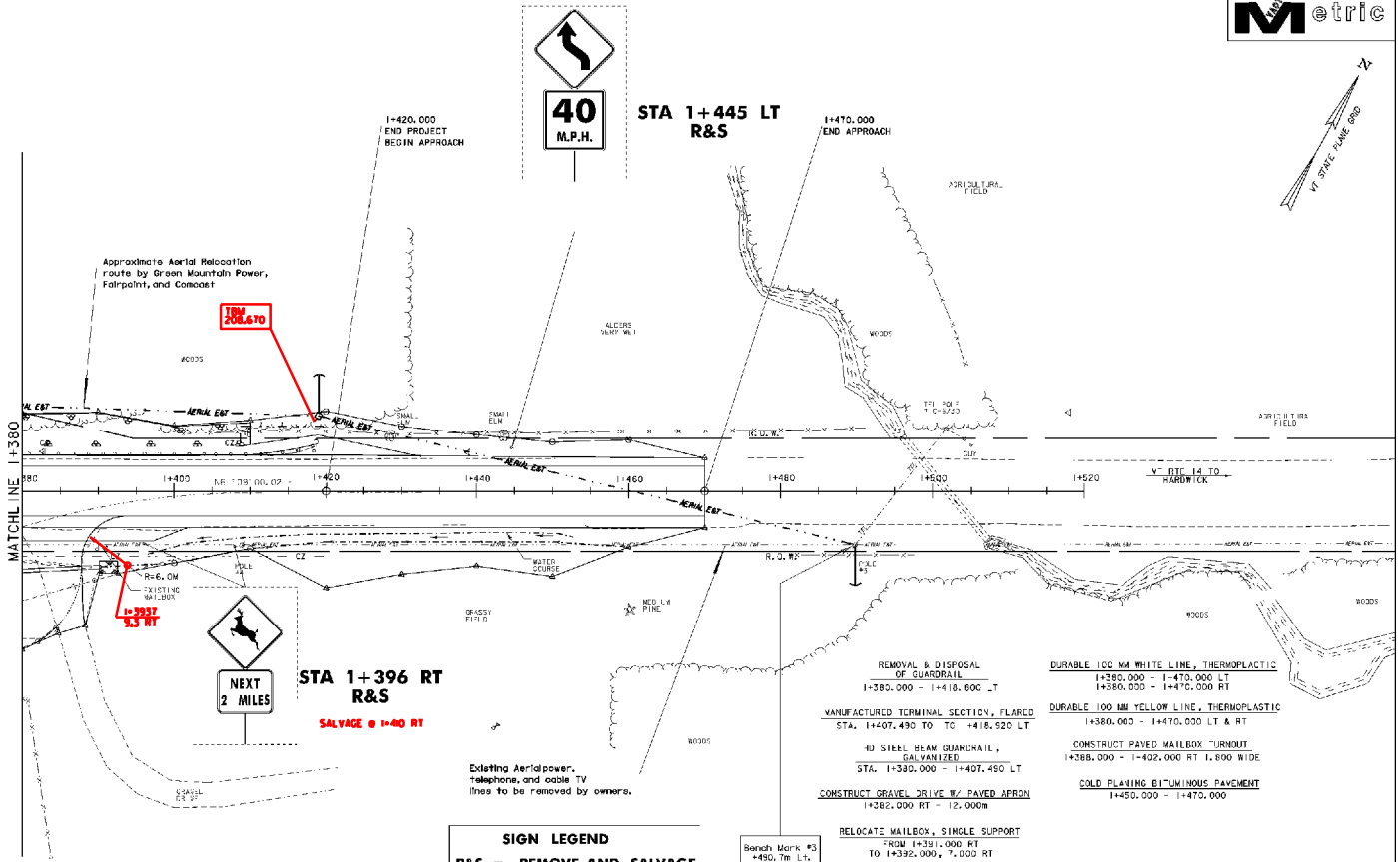
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: "8f200\survey\xf200tt.dgn"
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
8f200tie"

PLOT DATE: 14-JUL-2009
DRAWN BY: R. BULLOCK
CHECKED BY: J. LACROIX
SHEET NO OF 67


Bench Mark #1
1+023.6m Lt.
Spike in Root
Elev. 208.550
SIGN LEGEND
R&S = REMOVE AND SALVAGE
SIGN POSTS
SOLARC STEEL
50 mm, 3.9 kg/m
W/ ANCHOR
VTH CURVE#1
Δ = 35°29'49.48"
R = 170.000m
T = 54.195m
L = 104.926m
C = 8.429m
SCHOOL BUS STOP AHEAD
HIDDEN DRIVE
STA 1+135 LT
R&S
STA 1+193 LT
R&S
SPEED LIMIT 40
VT STATE PLANE GRID
N
#40
1+112.000
BEGIN APPROACH
PT 1+112.351
1+160.000
END APPROACH
BEGIN PROJECT
PC 1+168.866
PI 1+057.621 BK =
1+058.158 AHD
N11°30' E 68.68'
VT RTE 14 TO
EAST MONTPELIER
MATCHL INE 1+220
SPEED LIMIT 50
STA 1+192 RT
R&S
40
M.P.H.
STA 1+115 RT
R&S
REMOVAL OF EXISTING DELINEATOR
1+207.600 RT
1+208.700 LT
REMOVAL & DISPOSAL OF GUARDRAIL
1+1 4.800 - 1+127.710 RT
HD STEEL BEAM GUARDRAIL, GALVANIZED
1+114.800 - 1+220.000 RT
COLD PLANING BITUMINOUS PAVEMENT
1+110.000 - 1+130.000
REMOV NG SIGNS
1+115 RT (2)
1+135 LT (2)
1+193 LT
1+193 RT
ERECTING SALVAGED SIGNS
1+115 RT (2)
1+135 LT (2)
1+193 LT
1+193 RT
DURABLE 100 MM WHITE LINE, THERMOPLASTIC
1+110.000 - 1+220.000 LT
1+110.000 - 1+220.000 RT
DURABLE 100 MM YELLOW LINE, THERMOPLASTIC
1+110.000 - 1+220.000 LT & RT
NOTE: THERE IS A SIGN PROJECT CURRENTLY UNDER CONSTRUCTION THAT MAY CHANGE THE TYPE/LOCATION OF SIGNS. EACH SIGN SHALL BE REMOVED, SALVAGED, AND ERECTED AS CLOSE TO ITS EXISTING LOCATION AS POSSIBLE.
0 10 20 30
1:250 SCALE IN METERS
LAYOUT SHEET #1
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)
FILE NAME: 78f200\str\sf200bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200LL
PLOT DATE: 4-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHT 11 OF 87


0140
1207
0300
STA 1+220
R&S
200
PI 1+251.824 BK =
1+241.374 AHD
Bench Mark #2
1+253, 8m Lt.
Spike in Pole
Elev. 208.802
264
REMOVING & RESETTING PROPERTY MARKERS
PIN #4 - from 1+269.96 to 1+268.76 Lt.
PIN #2 - from 1+279.47 to 1+279.73 RT.
STATION 1+268.76 1+279.73
OFFSET 13.93M LT. 11.05M RT.
NORTHING 197393.57 197381.59
EASTING 50662.44 50655.96
STA 1+325
R&S
SIGN LEGEND
R&S = REMOVE AND SALVAGE
SIGN POSTS
SQUARE STEEL
44 mm, 1.4 Kg/m
W/ ANCHOR
VT STATE PLANE GRID N
Approximate Aerial Relocation
Route by Green Mountain Power,
Fairpoint, and Comcast
ML POT 1+335.000 =
CHAN POT 5-000.000
Δ = 75-00'-00.0" Lt.
1+335.850
BEGIN BRIDGE
FG=208.079
TBM
208.850
1+346.150
END BRIDGE
FG=208.131
MATCHLINE 1+220
MATCHLINE 1+380
Existing Aerial power,
telephone, and cable TV
lines to be removed by owners.
VT 14 CURVE #2
Δ = 49°18'43.3"
R = 80.000m
T = 83.298m
L = 165.966m
E = 18.523m
BANK = 0.080
PT 1+324.831
R=8.0m
L=36.7m
8.3 RT
REMOVAL AND DISPOSAL
OF GUARDRAIL
1+312.800 - 1+336.400 RT
1+327.500 - 1+339.000 LT
1+343.600 - 1+363.000 RT
1+345.600 - 1+360.000 LT
HD STEEL BEAM GUARDRAIL,
GALVANIZED
STA. 1+255.780 TO STA. 1+305.310 LT
STA. 1+220.000 TO STA. 1+325.787 RT
STA. 1+356.245 TO STA. 1+380.000 LT
GUARDRAIL APPROACH SECTION,
GALVANIZED - NETC 2 RAIL (THRIE BEAM)
STA. 1+325.787 TO 1+334.903 RT
STA. 1+347.396 TO 1+356.245 LT
GUARDRAIL APPROACH SECTION,
GALVANIZED - NETC 2 RAIL (STEEL BEAM)
STA. 1+326.842 TO 1+334.176 LT
STA. 1+347.823 TO 1+355.448 RT
BRIDGE RAILING, GALVANIZED - NETC 2 RAIL
STA. 1+334.176 TO 1+347.396 LT
STA. 1+334.603 TO 1+347.823 RT
REMOVAL OF EXISTING FENCE
1+269.100, 13.930 LT TO 1+235.500, 6.700 LT.
30.000
DURABLE 100 MM WHITE LINE, THERMOPLASTIC
1+220.300 - 1+380.000 LT
1+220.300 - 1+360.000 RT
DURABLE 100 MM YELLOW LINE, THERMOPLASTIC
1+220.000 - 1+380.300 LT & RT
REMOVING SIGNS
1+220 LT 200
1+325 LT
ERECTING SALVAGED SIGNS
1+220 LT
1+325 LT
CONSTRUCT GRAVEL DRIVE W/ 150Ø PAVED APRON
1+321.000 LT - 3.6m
MANUFACTURED TERMINAL SECTION, FLARED
STA. 1+244.350 TO +255.780 LT
STA. 1+305.310 TO +316.740 LT
STA. 1+355.440 TO +366.870 RT
NOTE: THERE IS A SIGN PROJECT CURRENTLY UNDER CONSTRUCTION
THAT MAY CHANGE THE TYPE/LOCATION OF SIGNS. EACH
SIGN SHALL BE REMOVED, SALVAGED, AND ERECTED AS
CLOSE TO IT'S EXISTING LOCATION AS POSSIBLE.
0 10 20 30
1:250 SCALE IN METERS
LAYOUT SHEET #2
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)
FILE NAME: TEF200\sht\sf200bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200L2.1
PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 12 OF 67



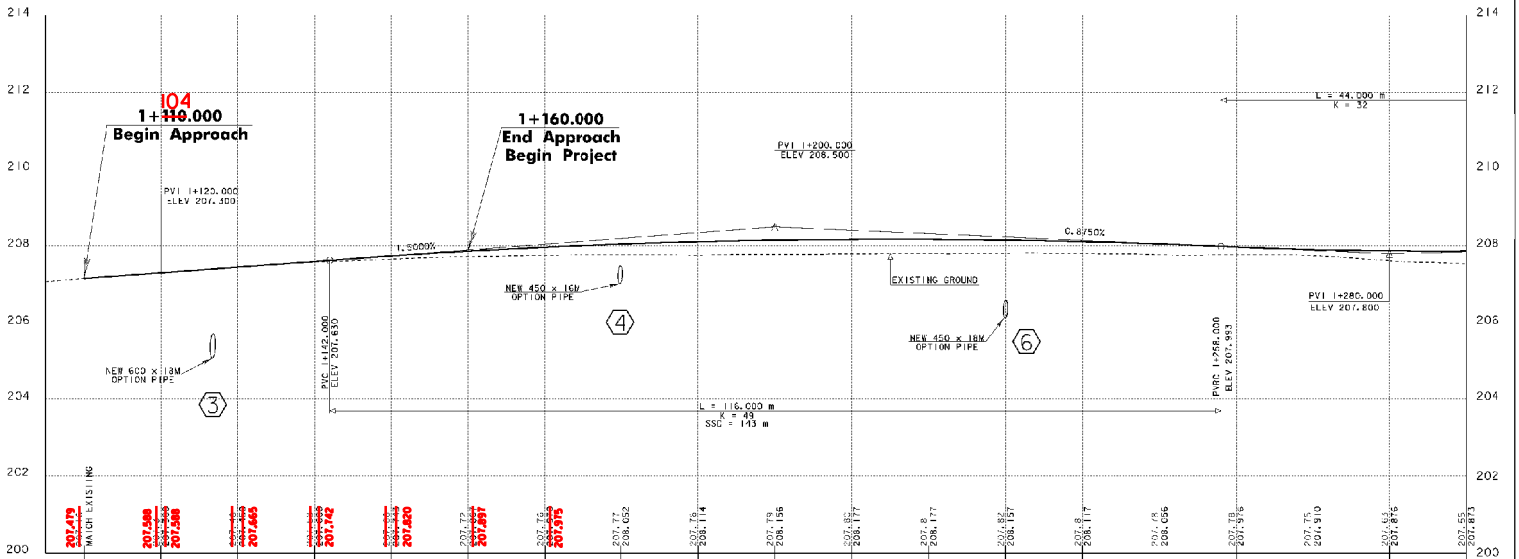
NOTE: THERE IS A SIGN PROJECT CURRENTLY UNDER CONSTRUCTION THAT MAY CHANGE THE TYPE/LOCATION OF SIGNS. EACH SIGN SHALL BE REMOVED, SALVAGED, AND ERECTED AS CLOSE TO ITS EXISTING LOCATION AS POSSIBLE.

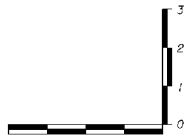
LAYOUT SHEET #3

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)
FILE NAME:	78f200\etc\sf200ldr.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	J. LACROIX
sf200L3J	
PLOT DATE:	14-JUL-2009
DRAWN BY:	R. PELLETT
CHECKED BY:	J. LACROIX
SHEET	13 OF 67

Metric

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.





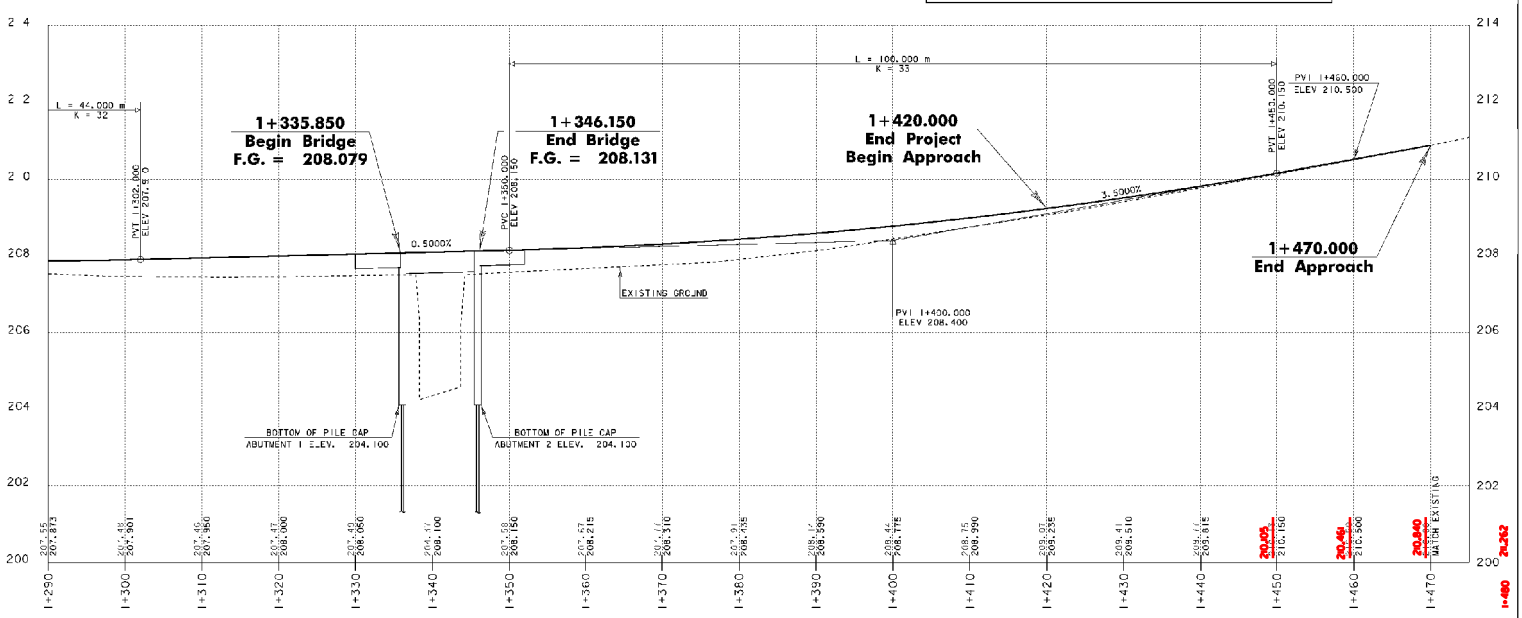
HORIZONTAL SCALE = 1:250
VERTICAL SCALE = 1:50

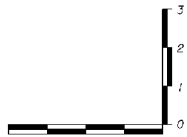
PROFILE SHEET #1

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78F200\s-r\s78F200xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200prfl.l
PLOT DATE: 6-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: J. LACROIX
SHEET 14 OF 67

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

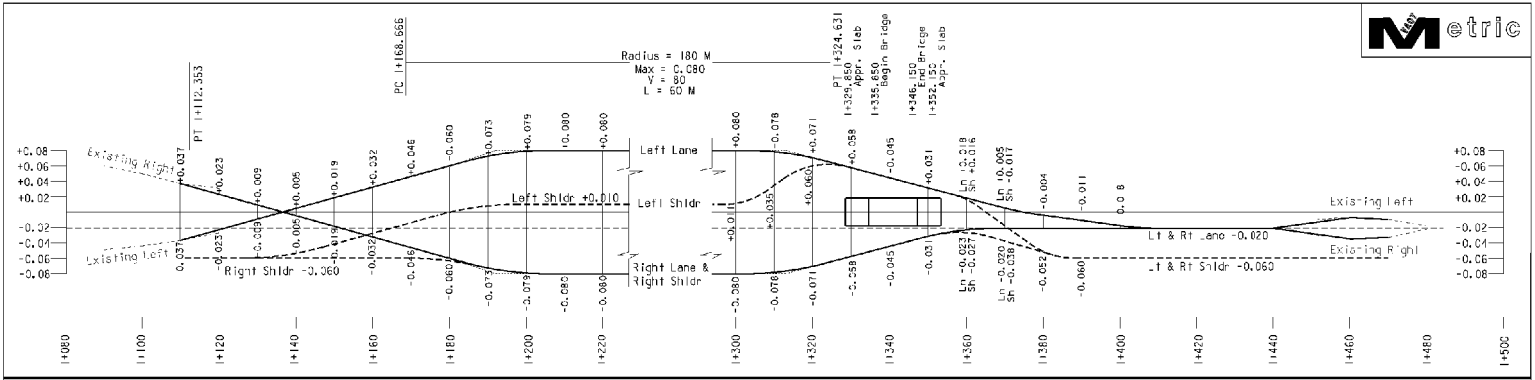


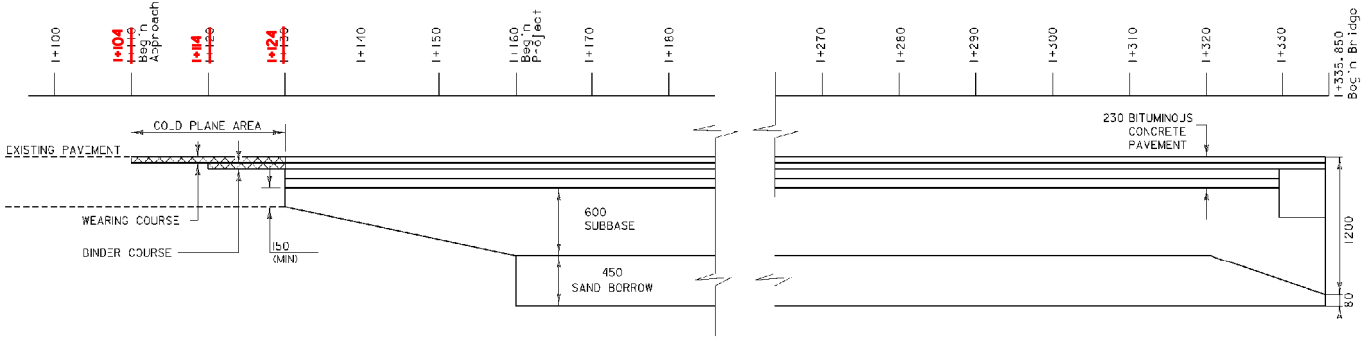


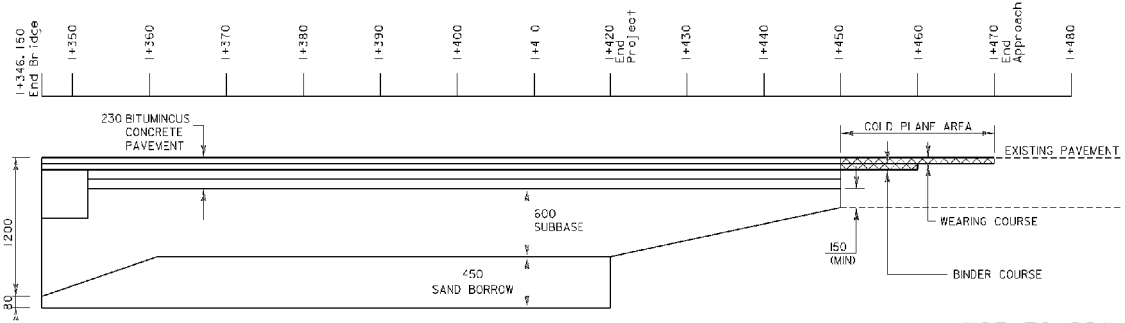
PROFILE SHEET #2

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78F200\s-r\s78F200xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200pr2.l
PLOT DATE: 14-JUL-2009
DRAWN BY: M. MELLETT
CHECKED BY: J. LACROIX
SHEET 15 OF 67





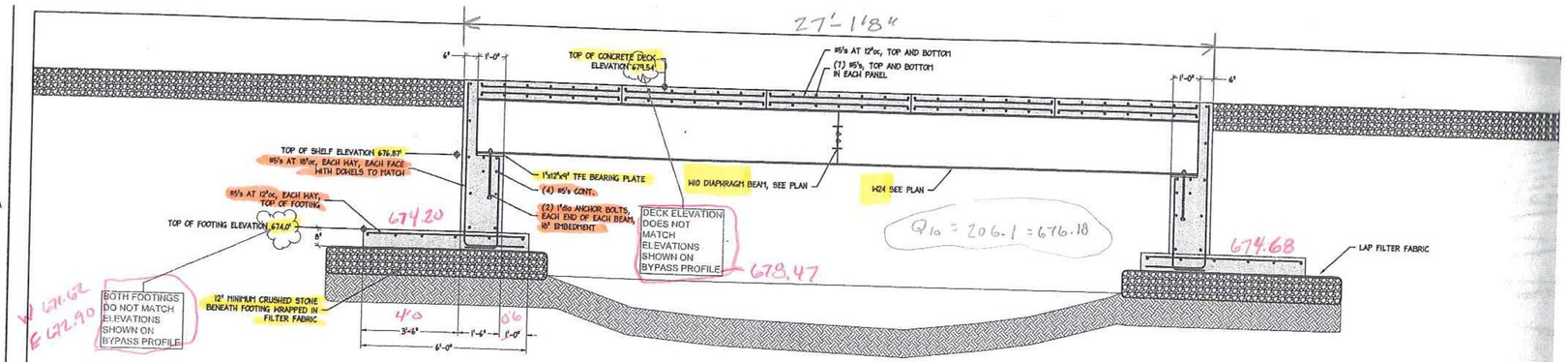


NOT TO SCALE

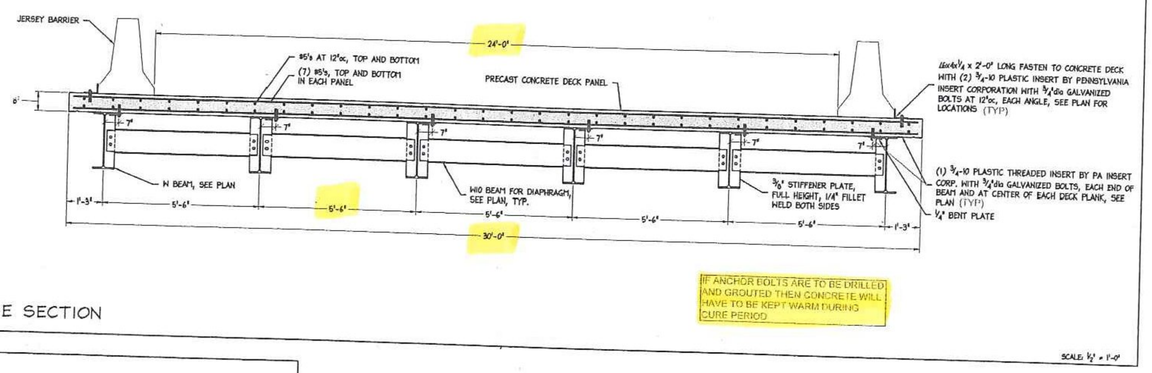
SUPERELEVATION DIAGRAM & MATERIAL TRANSITION DIAGRAM

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78F200\s-r\sf200xsldgr
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200sed.i
PLOT DATE: 6-JUL-2009
DRAWN BY: K. PELLETT
CHECKED BY: J. LACROIX
SHEET 16 OF 67

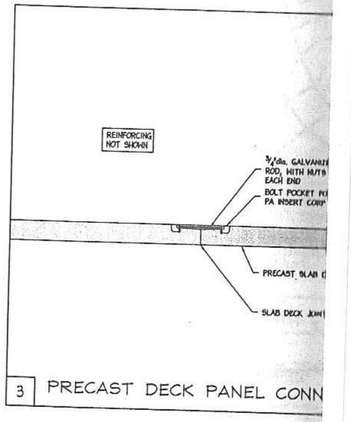


1 BRIDGE SECTION

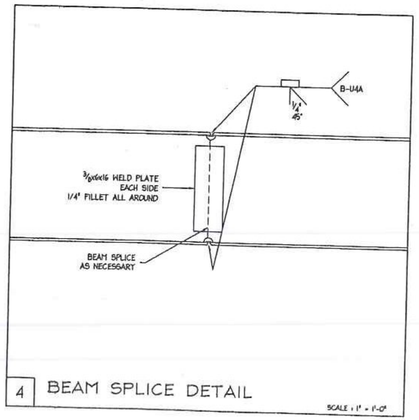


2 BRIDGE SECTION

SCALE: 1/2" = 1'-0"



3 PRECAST DECK PANEL CONN

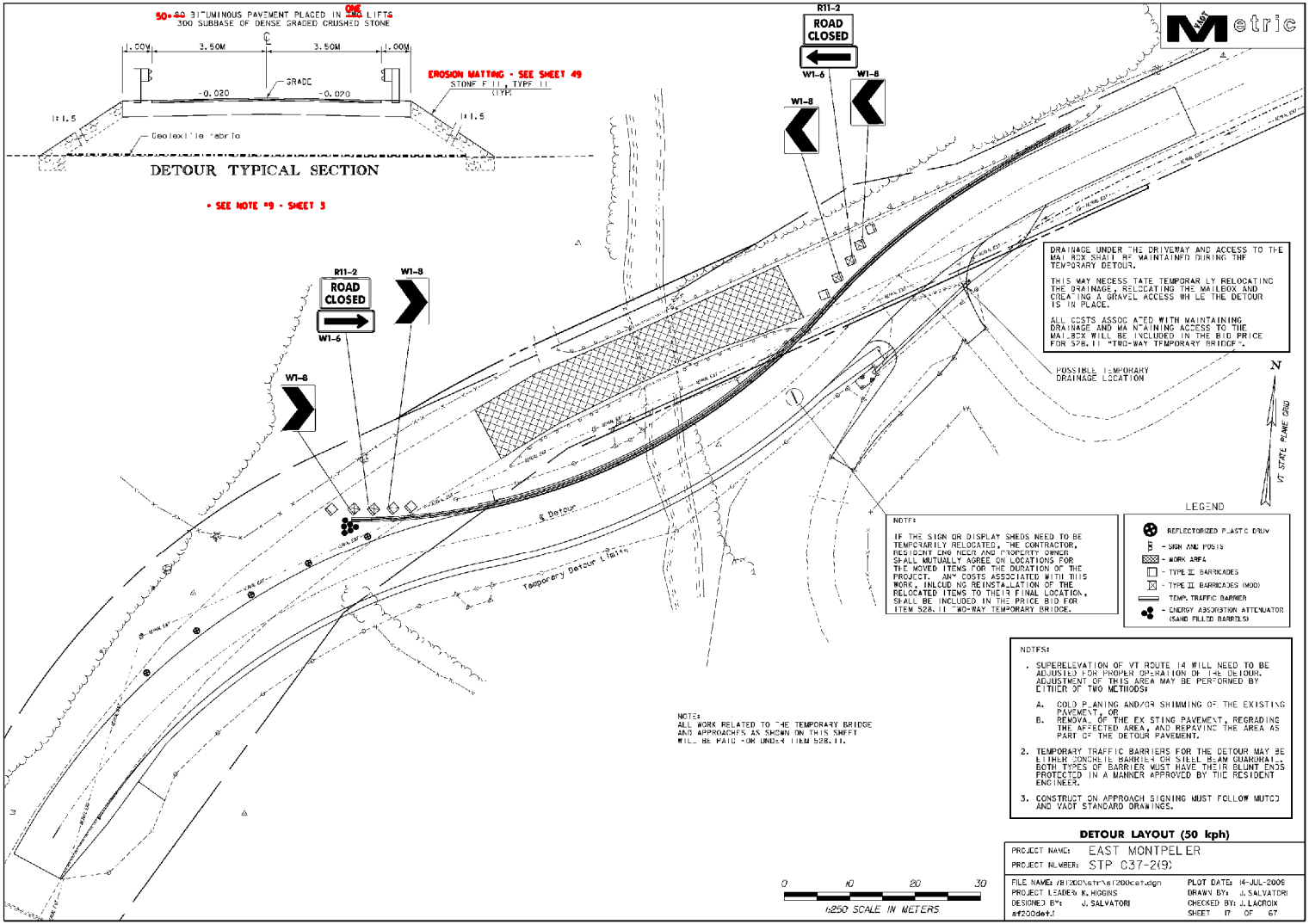


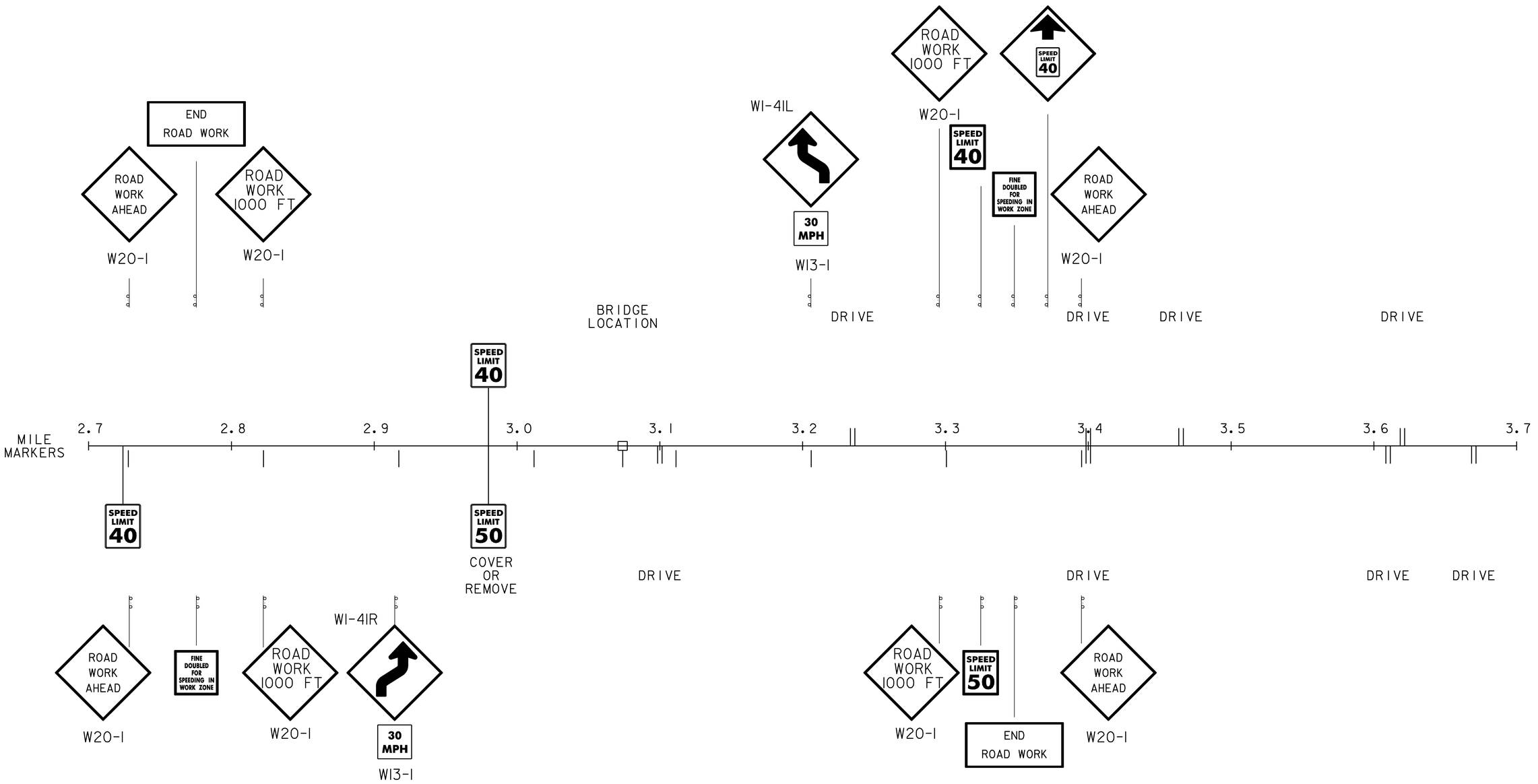
4 BEAM SPLICE DETAIL

SCALE: 1" = 1'-0"

SLAB LENGTH – (SPAN) – 26'-0 1/2"

BEAM LENGTH – 25'3"


50-~~60~~ BITUMINOUS PAVEMENT PLACED IN ~~TWO~~ ONE LIFTS
300 SUBBASE OF DENSE GRADED CRUSHED STONE
1.00M
3.50M
3.50M
1.00M
GRADE
-0.020
-0.020
EROSION MATTING - SEE SHEET 49
STONE FILL, TYPE II (TYP.)
1:1.5
1:1.5
Geotextile Fabric
DETOUR TYPICAL SECTION
• SEE NOTE #9 - SHEET 3
R11-2
ROAD CLOSED
W1-6
W1-8
DRAINAGE UNDER THE DRIVEWAY AND ACCESS TO THE MAILBOX SHALL BE MAINTAINED DURING THE TEMPORARY DETOUR.
THIS MAY NECESSITATE TEMPORARILY RELOCATING THE DRAINAGE, RELOCATING THE MAILBOX AND CREATING A GRAVEL ACCESS WHILE THE DETOUR IS IN PLACE.
ALL COSTS ASSOCIATED WITH MAINTAINING DRAINAGE AND MAINTAINING ACCESS TO THE MAILBOX WILL BE INCLUDED IN THE BID PRICE FOR 528.11 "TWO-WAY TEMPORARY BRIDGE".
POSSIBLE TEMPORARY DRAINAGE LOCATION
N
VT STATE PLANE GRID
NOTE:
IF THE SIGN OR DISPLAY SHEDS NEED TO BE TEMPORARILY RELOCATED, THE CONTRACTOR, RESIDENT ENGINEER AND PROPERTY OWNER SHALL MUTUALLY AGREE ON LOCATIONS FOR THE MOVED ITEMS FOR THE DURATION OF THE PROJECT. ANY COSTS ASSOCIATED WITH THIS WORK, INCLUDING REINSTALLATION OF THE RELOCATED ITEMS TO THEIR FINAL LOCATION, SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE.
LEGEND
REFLECTORIZED PLASTIC DRUM
- SIGN AND POSTS
- WORK AREA
- TYPE III BARRICADES
- TYPE III BARRICADES (MOD)
TEMP. TRAFFIC BARRIER
- ENERGY ABSORBTION ATTENUATOR (SAND FILLED BARRELS)
NOTE:
ALL WORK RELATED TO THE TEMPORARY BRIDGE AND APPROACHES AS SHOWN ON THIS SHEET WILL BE PAID FOR UNDER ITEM 528.11.
& Detour
Temporary Detour Limits
NOTES:
1. SUPERELEVATION OF VT ROUTE 14 WILL NEED TO BE ADJUSTED FOR PROPER OPERATION OF THE DETOUR. ADJUSTMENT OF THIS AREA MAY BE PERFORMED BY EITHER OF TWO METHODS:
A. COLD PLANING AND/OR SHIMMING OF THE EXISTING PAVEMENT, OR
B. REMOVAL OF THE EXISTING PAVEMENT, REGRADING THE AFFECTED AREA, AND REPAVING THE AREA AS PART OF THE DETOUR PAVEMENT.
2. TEMPORARY TRAFFIC BARRIERS FOR THE DETOUR MAY BE EITHER CONCRETE BARRIER OR STEEL BEAM GUARDRAIL. BOTH TYPES OF BARRIER MUST HAVE THEIR BLUNT ENDS PROTECTED IN A MANNER APPROVED BY THE RESIDENT ENGINEER.
3. CONSTRUCTION APPROACH SIGNING MUST FOLLOW MUTCD AND VAOT STANDARD DRAWINGS.
0 10 20 30
1:250 SCALE IN METERS
DETOUR LAYOUT (50 kph)
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP C37-2(9)
FILE NAME: s8t200\str\s8t200det.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
s8t200det.dgn
PLOT DATE: 14-JUL-2006
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 17 OF 67



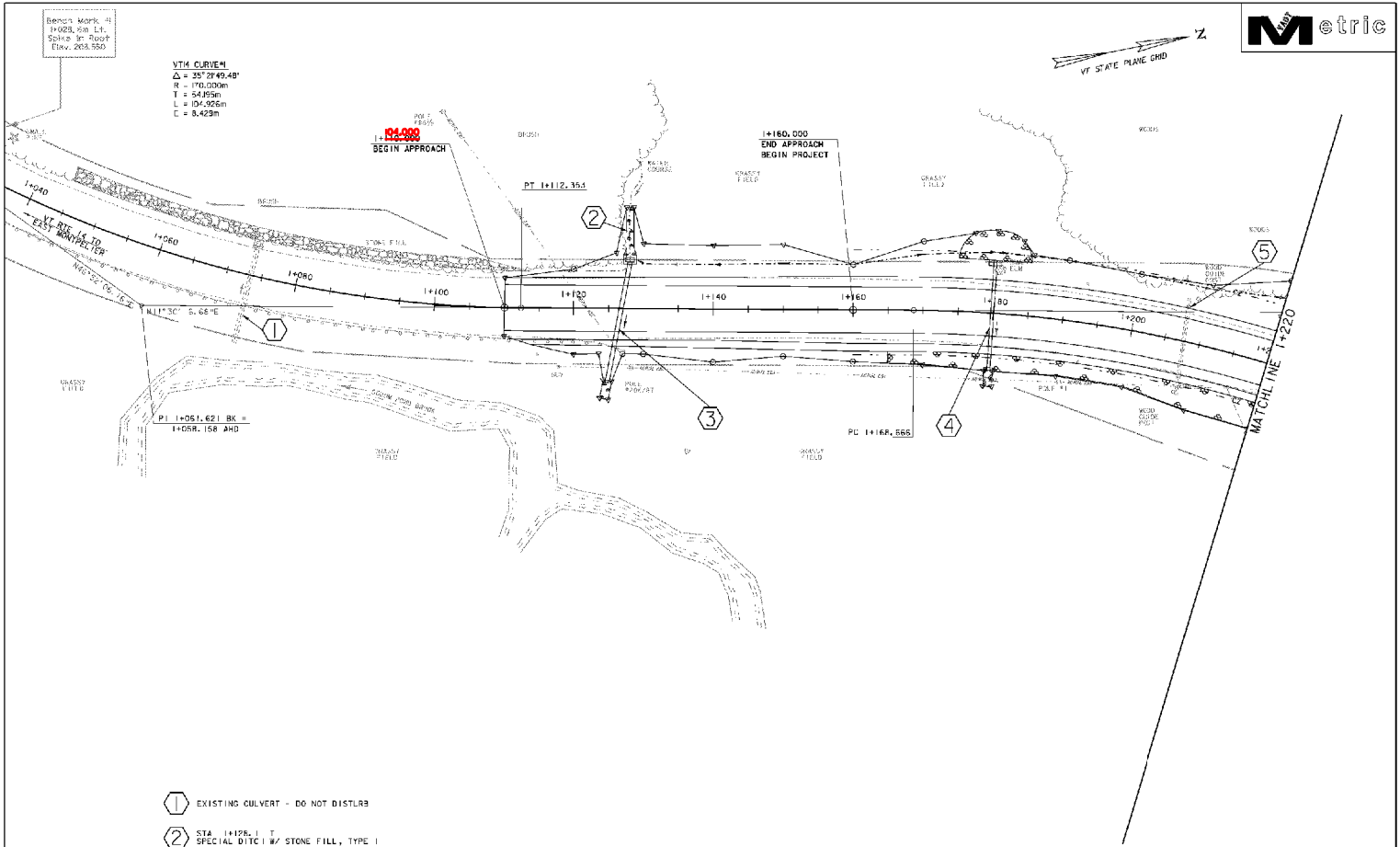
NOTE: THIS SHEET IS MEANT TO SHOW THE TYPES OF SIGNS REQUIRED FOR THE CONSTRUCTION SIGN LAYOUT. THE EXACT LOCATION OF THESE SIGNS SHALL BE DETERMINED IN THE FIELD IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND APPLICABLE AGENCY STANDARDS.

CONSTRUCTION SIGN LAYOUT

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200det.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
sf200csign.I

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 18 OF 67



DRAINAGE SHEET #1

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78f200\str\s\f200bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200bdr.lt

PLOT DATE: 4-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 19 OF 67

VAOT Metric

Bench Mark #2
1+253, 8m Lt.
Spike In Pole
Elev. 208.307

PI 1+251.924 BK =
1+241.374 AHD

N11°30' 16.68"E

N61°09' 00.02"E

MATCHLINE 1+220

VT STATE PLANE GRID

WOODS

MILE MARKER

GUY

POLE #2

SMALL ELM

MEDIUM PINE

GRASSY FIELD

CZ

AERIAL ENT

ML POT 1+335.000 =
CHAN POT 5+000.000
△ = 75-00'-00.0" Lt.

1+335.850
BEGIN BRIDGE
FG=208.079

RE 6M (TYP)

FIELD DRIVE

SODOM POND BROOK

1+346.150
END BRIDGE
FG=208.131

PT 1+324.631

Detour

POLE #3

SIGN

R=8.0M

GRAVEL DRIVE

Channel Line
N 13°50' 30.2" W

MATCHLINE 1+380

1+220 1+240 1+260 1+280 1+300 1+320 1+340 1+360 1+380

4+960 4+980 5+000 5+020 5+040

VT 14 CURVE #2
△ = 49°38'43.34"
R = 180.000m
T = 83.258m
L = 155.966m
E = 18.323m
BANK = 0.080

6 STA 1+230.0 LT.- RT.
NEW 450 x 18M OPTION PIPE W/ NEW CONCRETE HEADWALL @ INLET
NEW INLET DITCH W/ STONE FILL, TYPE I
NEW 1.0 X 2.0 STONE PAD @ OUTLET - STONE FILL, TYPE I

0 10 20 30
1:250 SCALE IN METERS

DRAINAGE SHEET #2

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78f200\str\sf200bdr.dgn		PLOT DATE:	14-JUL-2009
PROJECT LEADER: K. HIGGINS		DRAWN BY:	R. PELLETT
DESIGNED BY:	J. LACROIX	CHECKED BY:	J. LACROIX
sf200dr2.1		SHEET	20 OF 67

VAOT Metric

N

VT STATE PLANE GRID

1+420.000
END PROJECT
BEGIN APPROACH

1+470.000
END APPROACH

MATCHLINE 1+380

1+380 | 1+400 | 1+420 | 1+440 | 1+460 | 1+480 | 1+500 | 1+520

N61° 09' 00.02"E

VT RTE 14 TO HARDWICK

WOODS

ALDERS VERY WET

AGRICULTURAL FIELD

SMALL ELM

SMALL ELM

TEL POLE #10-6/30

GUY

TEL

AERIAL E&T

CZ

CZ

R=6.0M

EXISTING MAILBOX

7

7A

8

POLE #4

WATER COURSE

POLE #5

GRASSY FIELD

MEDIUM PINE

HABITAT

HABITAT

HABITAT

WOODS

WOODS

WOODS

GRAVEL DRIVE

Bench Mark #3
1+490, 7m Lt.
Spike In Pole
Elev. 211.632

7 STA 1+380.6 RT.
NEW 450 x 20.0M OPTION PIPE W/ END SECTION @ INLET W/ STONE PAD, TYPE I STONE FILL
NEW 1.0 X 2.0 OUTLET DITCH W/ STONE FILL PAD, TYPE I STONE FILL

7A REMOVE EXISTING

8 EXISTING CULVERT - DO NOT DISTURB

0 10 20 30
1:250 SCALE IN METERS

DRAINAGE SHEET #3

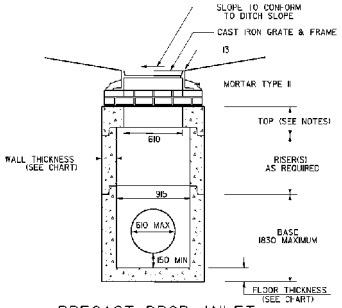
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200dr3.1

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 21 OF 67

SIZING CHART

DIAMETER	WALL THICKNESS	FLOOR THICKNESS
1220 OR SMALLER	130	150
1520	150	200
1830	175	200
2130	200	250
2440	230	250



PRECAST DROP INLET IN DITCH •

N. T. S.

•X - SECTIONS CALL FOR A 1.2 x 1.8 PRCD

NOTES

1. ALL PRECAST CONCRETE DROP INLETS AND CATCH BASINS SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH SUBSECTION 705.04.

2. THE CONTRACTOR S RESPONSIBLE FOR VERIFYING ALL INVERT ELEVATIONS, PIPE SIZES AND LOCATIONS SHOWN PRIOR TO ORDERING THE PRECAST COMPONENTS.

3. SEE STANDARD D-16 FOR CAST IRON FRAME AND GRATE DETAILS.

4. THE TOP SECTIONS MAY BE EITHER THE FLAT TOPS AS SHOWN OR CONE SECTIONS. IF CONE SECTIONS ARE USED THEY MAY EITHER BE CONCENTRIC OR ECCENTRIC. PIPES ARE NOT PERMITTED TO ENTER CONE SECTIONS.

5. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROVE JOINT 100 mm HIGH AT AN ANGLE OF 0 DEGREES CENTERED IN THE WIDTH OF THE JOINT. ALL SECTIONS SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT.

6. ALL SECTIONS WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 300 OF OUTSIDE SURFACE BETWEEN HOLES. NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES. HOLES SHALL BE NO CLOSER THAN 75 TO A JOINT.

PRECAST DROP INLET

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78-1200\plan\dd230-frm.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: T. FILLBACH	CHECKED BY: J. LACROIX
PRECAST DROP INLET	SHEET 22 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

STATION km + m	STATION km + m	POS.	ASKEW no. deg.	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW no. deg.	ES ea	CB ea	PCRCDI	DEPTH DI mm	CONC CLASS B m^3	REINF STEEL kg	DI GRATE type	CHAN ELEV ea	CRM m^3	TRENCH EXCAVATION		COMM EXC m^3	UNC CHAN EXC m^3	STRUCT EXCAV m^3	GRAN BKFILL STRUCT m^3	GRAN BORR m^3	EROS MATT m^2	STONE FILL		MARKER POSTS		GEO-TEXTILE m^2	CULVERT KEY NUMBER	REMARKS
				INLET	OUTLET	IN	OUT	SPAN mm	RISE mm	L m	D mm	L m	PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP SL mm	PCCSP PI mm											EARTH m^3	ROCK m^3							m^3	type	LT ea	RT ea			
1+073.0		CL																																							1	Existing culvert - Do not Disturb
1+128.1		LT		Ditch		x																						3.53							5.6	I			7.3	2	Inlet ditch with Stone Fill, type I
1+124.8	1+128.1	RT-LT		PCRCDI	Stone						600	18	x	x			x				x	1.8		2-B			80.7							3.0	II		1	3.3	3	1.2 x 1.8 PCRCDI with 2 type B grates
1+180.0		LT-RT		Hdwall	Stone	x					450	16	x	x			x					1.6	170				39.36							12	I	1	1	41	4	Concrete Headwall @ inlet & Stone pad @ Outlet
1+207.7		CL																										19.84												5	Existing culvert - REMOVE AND SALVAGE
1+230.0		LT-RT		Hdwall	Stone						450	18	x	x			x					1.6	170				68.26							15.5	I	1	1	52	6	Concrete Headwall @ Inlet & Stone Pad @ Outlet
1+380.6		RT		ES	Stone						450	20	x	x		x	x			1							24.24							3.2	I		2	6	7	End Section @ Inlet & Stone Pad @ Outlet
1+386.0		RT																																							7A	Existing Culvert - REMOVE AND DISPOSE
1+507.0	1+496.0	RT-LT																																							8	Existing Culvert - Do Not Disturb
								TOTALS			**600**	**18**								**1**		X		**3.2**	**340**			**235.93**							**36.3**	**I**	**2**	**5**	**109.6**		
								TOTALS			**450**	**54**																							**3.0**	**II**					

DRAINAGE DETAIL SHEET

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: /78f200/str/78f200 drn.xl
PROJECT LEADER: K. HIGGINS
DESIGNED BY: G. LaROCHE
sf200drn.l

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: G. LaROCHE
SHEET 23 OF 67

VT STATE PLANE GRID

N

SODOM POND BROOK

PAY LIMITS GUARD RAIL APPROACH SECTION, NETC 2 RAIL (STEEL BEAM)

R=16M (TYP)

13 220 BRIDGE RAILING, GALVANIZED NETC 2 RAIL

℄ POST 1

980

850

WW1

PAY LIMITS GUARD RAIL APPROACH SECTION - NETC 2 RAIL (THRIE BEAM)

457.5

457.5

WW3

HD STEEL BEAM GUARDRAIL, GALVANIZED

4 SPACES @ 952.50 = 3810

8 SPACES @ 476.25 = 3810

900

1200

1830 (MAX.)

4 SPACES @ 2206

915 (+/-)

4 SPACES @ 660=2640

6 SPACES @ 476.60=2859.6

3 SPACES @ 953=2859

STANDARD POST SPACING @ 1905 = 5125

1+320

1+340

1+360

STANDARD POST SPACES @ 1905 = 21 1000

3 SPACES @ 953=2859

6 SPACES @ 476.60=2859.6

4 SPACES @ 660=2640

915 (+/-)

4 SPACES @ 2206

1830

1200

900

8 SPACES @ 476.25 = 3810

4 SPACES @ 952.50 = 3810

11 430 ALONG FACE OF RAIL

1220*

WW2

WW4

457.5

457.5

850

980

℄ POST 1

℄ POST 1

HD STEEL BEAM GUARDRAIL, GALVANIZED

PAY LIMITS GUARD RAIL APPROACH SECTION - NETC 2 RAIL (THRIE BEAM)

13 220 BRIDGE RAILING, GALVANIZED NETC 2 RAIL

PAY LIMITS GUARD RAIL APPROACH SECTION, NETC 2 RAIL (STEEL BEAM)

MANUFACTURED TERMINAL SECTION, FLARED

* OFFSET VARIES BY MANUFACTURER

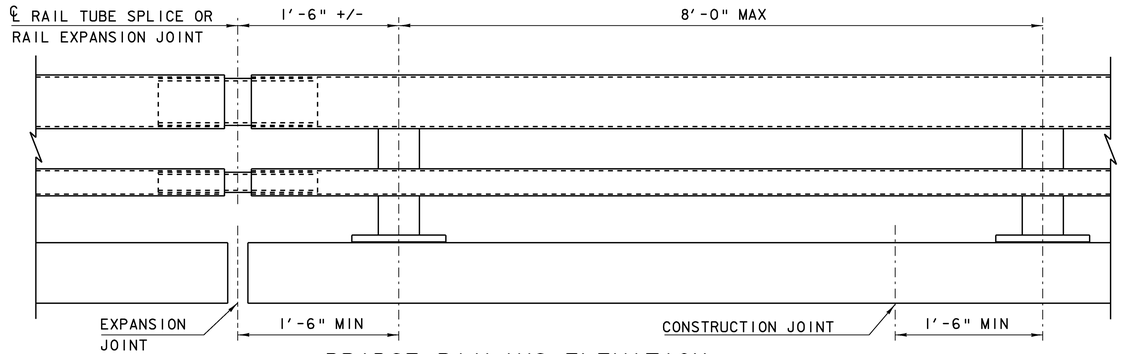
RAIL LAYOUT

PROJECT NAME: EAST MONTPELIER

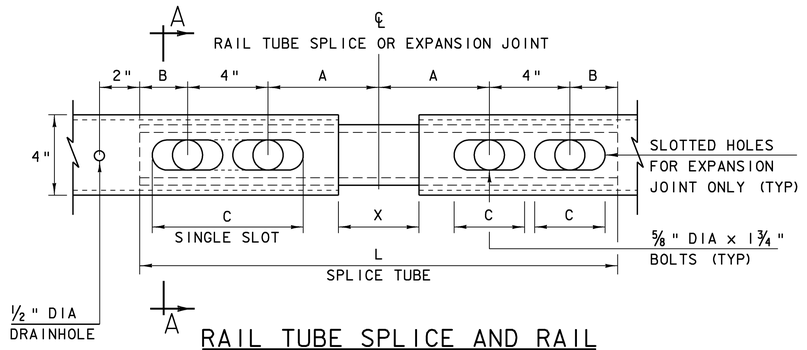
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200rallla.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200rail.i

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 24 OF 67



BRIDGE RAILING ELEVATION



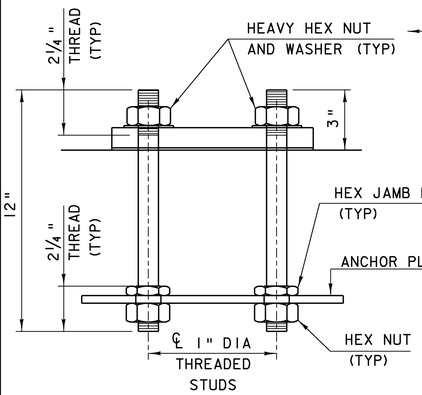
RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL

(BOTTOM VIEW)

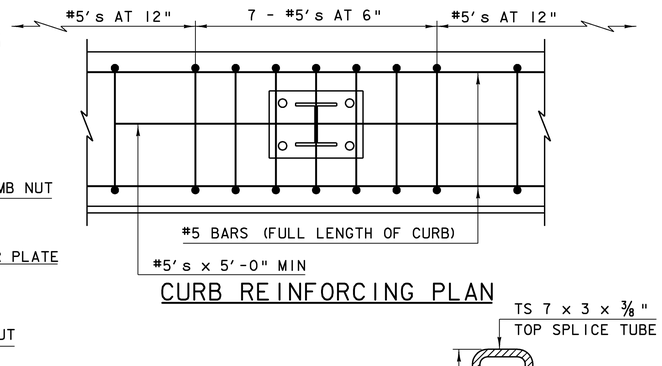
SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"
>4" <6 1/2"	5 1/2"	2 3/8"	3 1/2"	23 3/4"	4"
>6 1/2" <9"	6 1/2"	3 3/8"	9"*	27 3/4"	5"
>9" <13"	8 1/2"	4 3/8"	11"*	33 3/4"	7"

T = TOTAL MOVEMENT AT RAIL EXPANSION JOINT AS SHOWN IN THE CONTRACT PLANS. SEE NOTE 6.

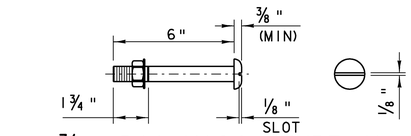
* = SINGLE SLOT



RAIL POST ANCHORAGE

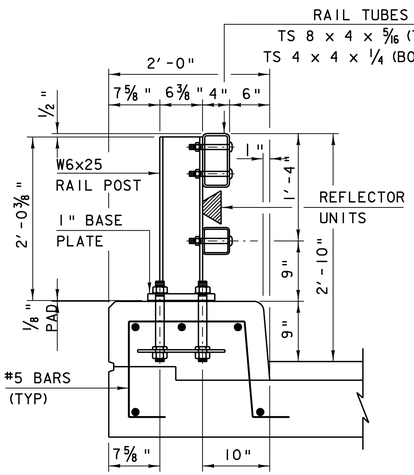


CURB REINFORCING PLAN

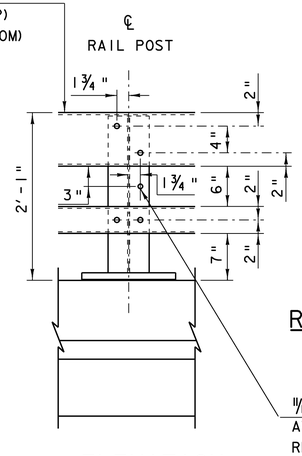


3/4" DIA M164 (TYPE I)
ROUND HEAD BOLT

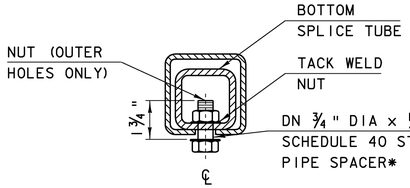
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



TYPICAL SECTION



ELEVATION

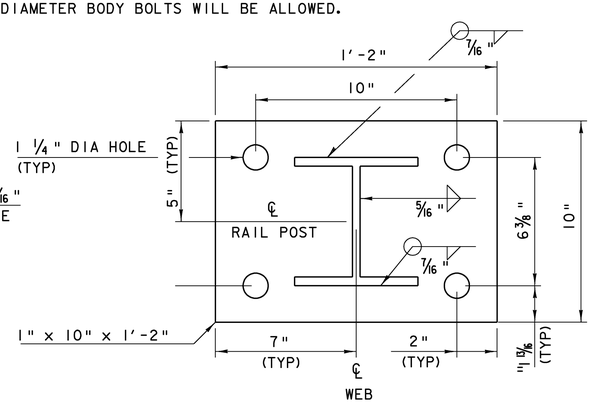


5/8" DIA TAPPED HOLE IN SPLICE TUBE
1 1/8" x 'C' SLOT* OR 3/4" DIA HOLE**
IN RAIL TUBE FOR 5/8" DIA
BOLT AND PLAIN HARDENED WASHER

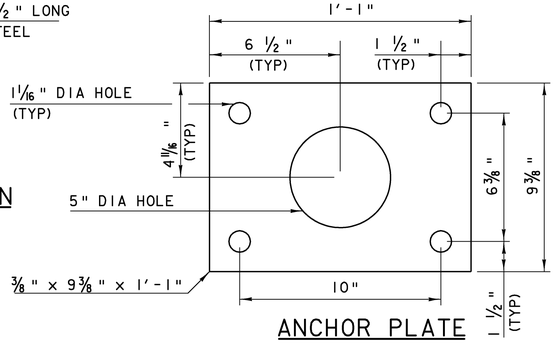
A-A RAIL TUBE SPLICE AND RAIL EXPANSION JOINT SECTION

*EXPANSION JOINT
** SPLICE

11/16" DIA HOLE FOR
ATTACHMENT OF
REFLECTOR UNITS
SEE NOTE 1, S-360c



POST BASE PLATE



ANCHOR PLATE

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. RAILING MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 732.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
6. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. RAIL POSTS ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE I) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
9. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
10. IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
11. ANY BENDING OF RAIL SHALL BE DONE AT A FABRICATION PLANT, ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
12. THE FABRICATOR SHALL SUBMIT DRAWINGS INCLUDING WELDING PROCEDURES IN ACCORDANCE WITH SECTION 105.

MATERIALS

1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

VERMONT AGENCY OF TRANSPORTATION

DETAIL

S-360a

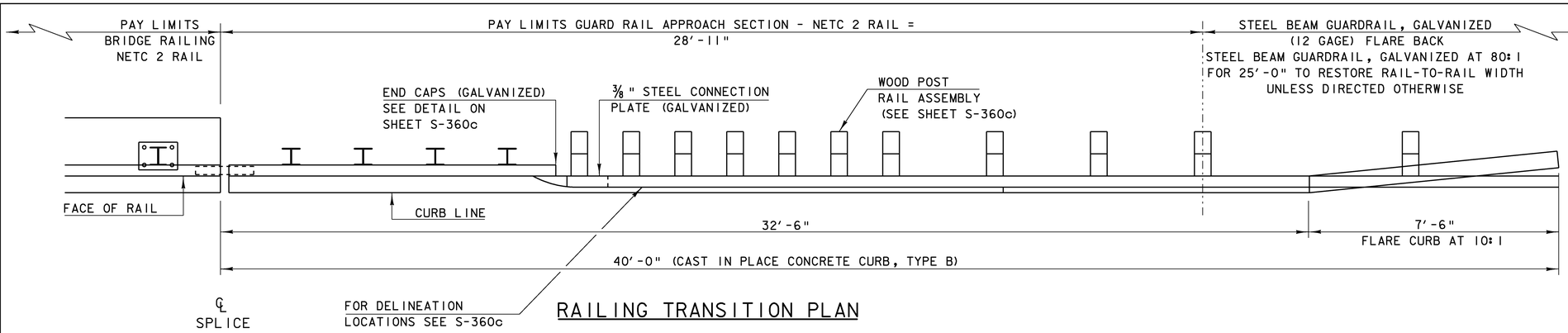
BRIDGE RAILING, GALVANIZED NETC 2 RAIL

OTHER DETAILS REQUIRED: S-360c

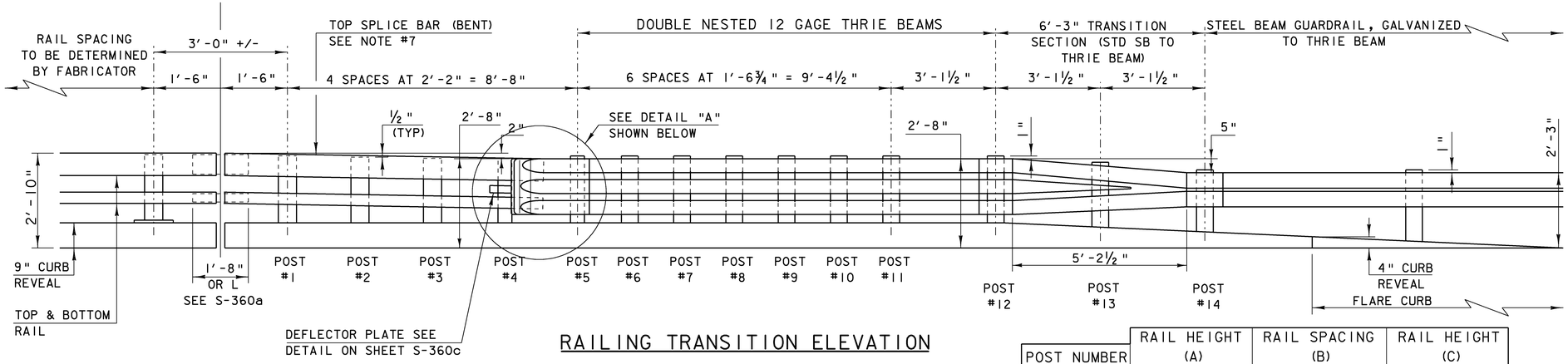
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ral.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: STRUCTURES
RAIL DETAIL SHEET

PLOT DATE: 14-JUL-2009
DRAWN BY: STRUCTURES
CHECKED BY: STRUCTURES
SHEET 25 OF 67

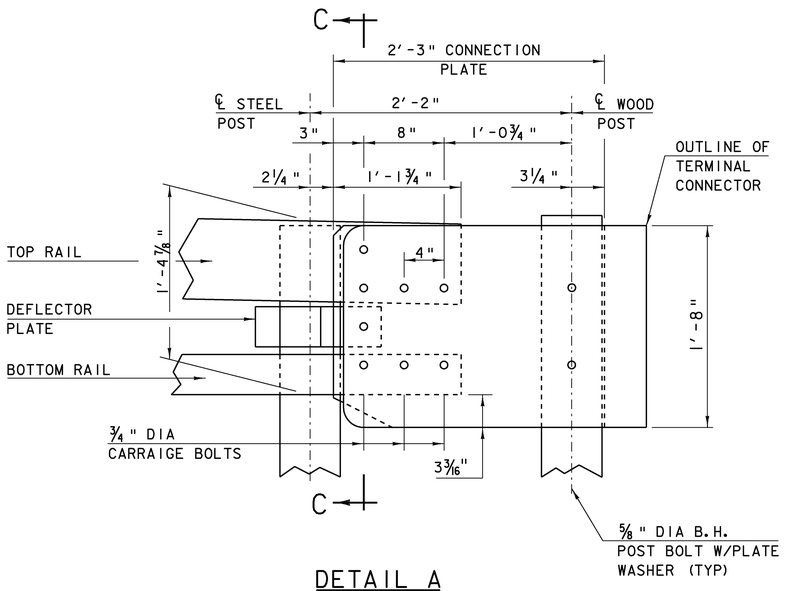


RAILING TRANSITION PLAN

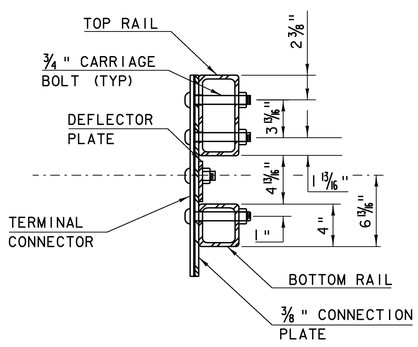


RAILING TRANSITION ELEVATION

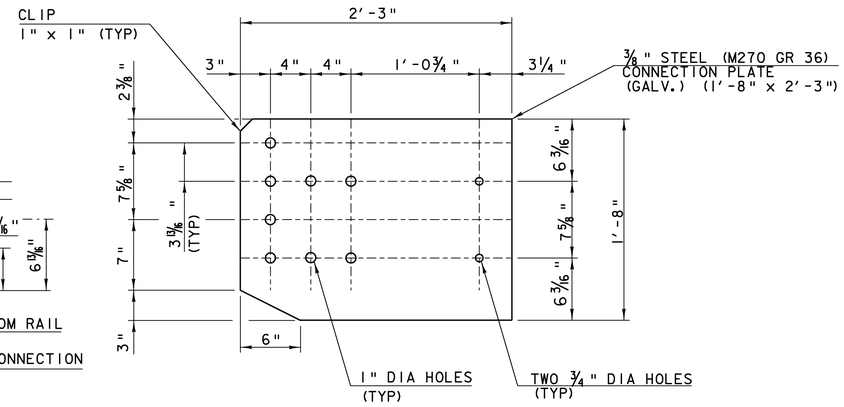
POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	RAIL HEIGHT (C)
1	2'-9 1/2"	1'-3 3/4"	1'-5 3/4"
2	2'-9"	1'-3 1/2"	1'-5 1/2"
3	2'-8 1/2"	1'-3 3/16"	1'-5 5/16"
4	2'-8"	1'-2 7/8"	1'-5 1/8"



DETAIL A



SECTION C-C (CONNECTION PLATE)



CONNECTION PLATE

RAIL POST SECTION (POSTS 1-4)

NOTES

1. REFER TO SHEET S-360a FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
2. PAYMENT FOR GUARD RAIL APPROACH SECTION - GALVANIZED NETC 2 RAIL (THRIE BEAM) SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
3. RETRO REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.
4. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
5. TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
6. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM A563 GRADE A OR BETTER (GALVANIZED). WASHERS SHALL BE ASTM F844.
7. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).
8. THE CONCRETE CURB WILL BE PAID FOR AS ITEM 616.28, "CAST-IN-PLACE CONCRETE CURB, TYPE B."

VERMONT AGENCY OF TRANSPORTATION

DETAIL S-360b

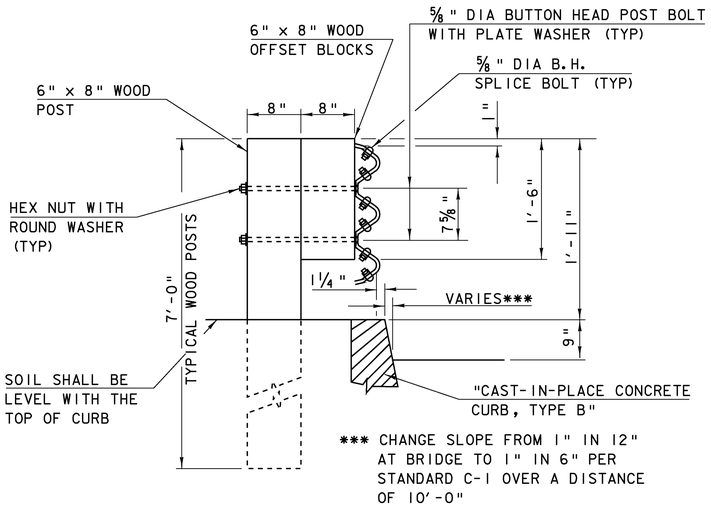
BRIDGE RAILING - NETC 2 RAIL THRIE BEAM APPROACH RAIL

OTHER DETAILS REQUIRED: S-360a, S-360c

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

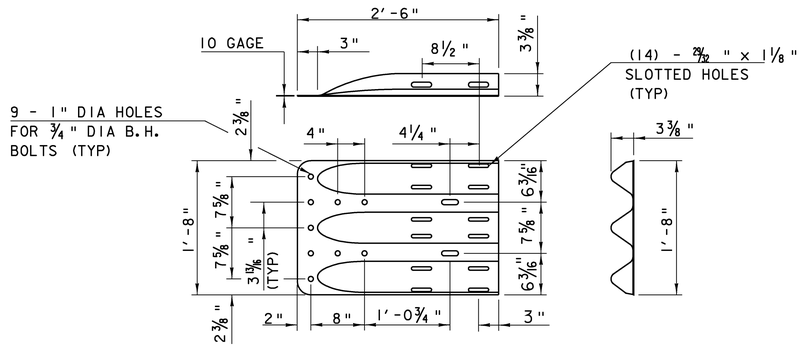
FILE NAME: 78f200\str\sf200rdl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: STRUCTURES
RAIL DETAIL SHEET

PLOT DATE: 14-JUL-2009
DRAWN BY: STRUCTURES
CHECKED BY: STRUCTURES
SHEET 26 OF 67



*** CHANGE SLOPE FROM 1" IN 12" AT BRIDGE TO 1" IN 6" PER STANDARD C-1 OVER A DISTANCE OF 10'-0"

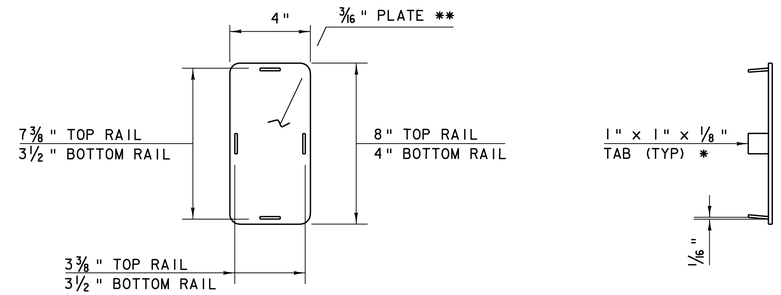
WOOD POST-RAIL ASSEMBLY (POSTS 5 -12)



THRIE-BEAM TERMINAL CONNECTOR (HM-TF-13/RE-67)

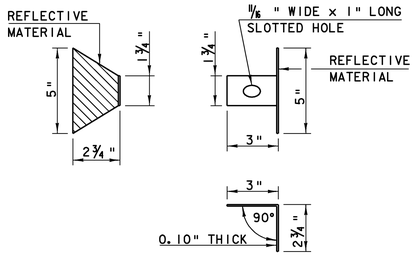
NOTES

1. THE RETRO REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 30' (OR CLOSEST POST) WITH A 5/8" DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
2. ON BRIDGES WITH A SIDWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH ON THE CURB SIDE). PAYMENT SHALL BE INCIDENTAL TO ALL OTHER ITEMS.

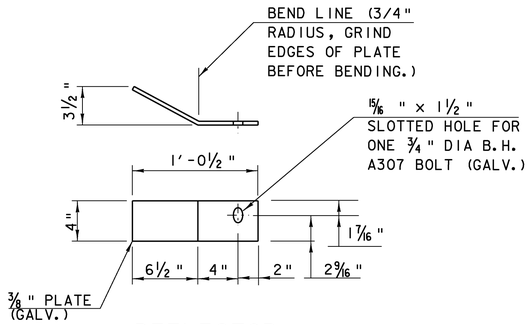


END CAP DETAIL

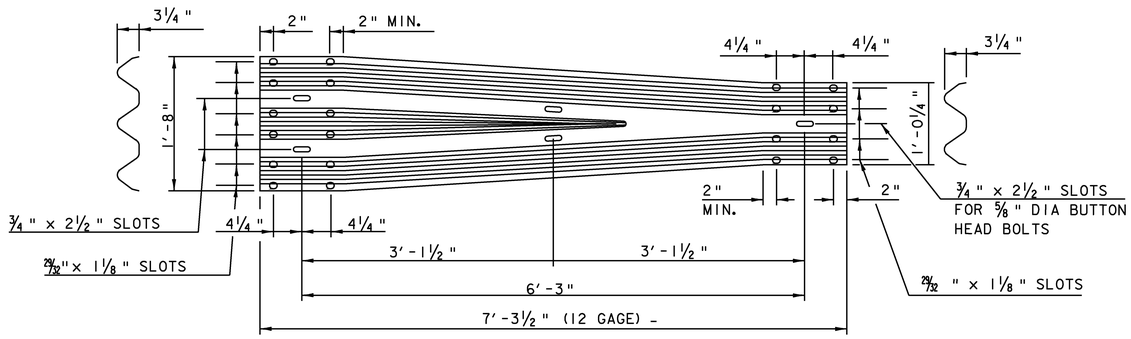
* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE.
** ROUND CORNERS 1/2" RADIUS (TYP)



DELINEATION DEVICE DETAILS



DEFLECTOR PLATE DETAIL



THRIE-BEAM TO STD SB TRANSITION SECTION (HM-TF-13/RE-69)

VERMONT AGENCY OF TRANSPORTATION

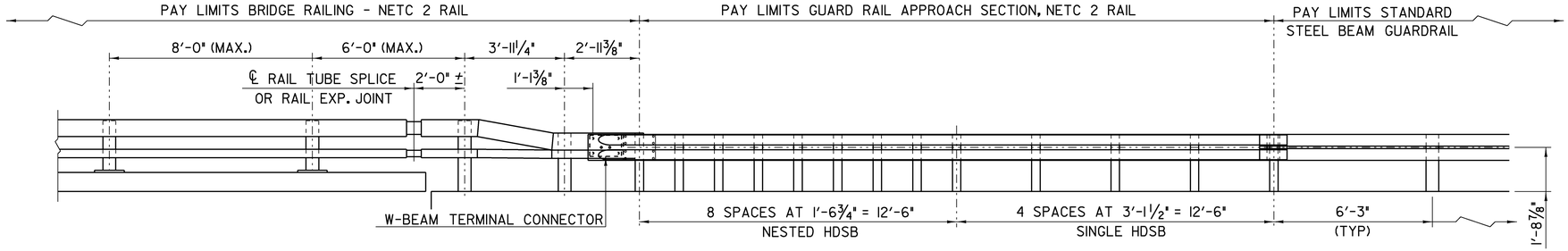
DETAIL S-36 0c

BRIDGE RAILING - NETC 2 RAIL
THRIE BEAM APPROACH RAIL

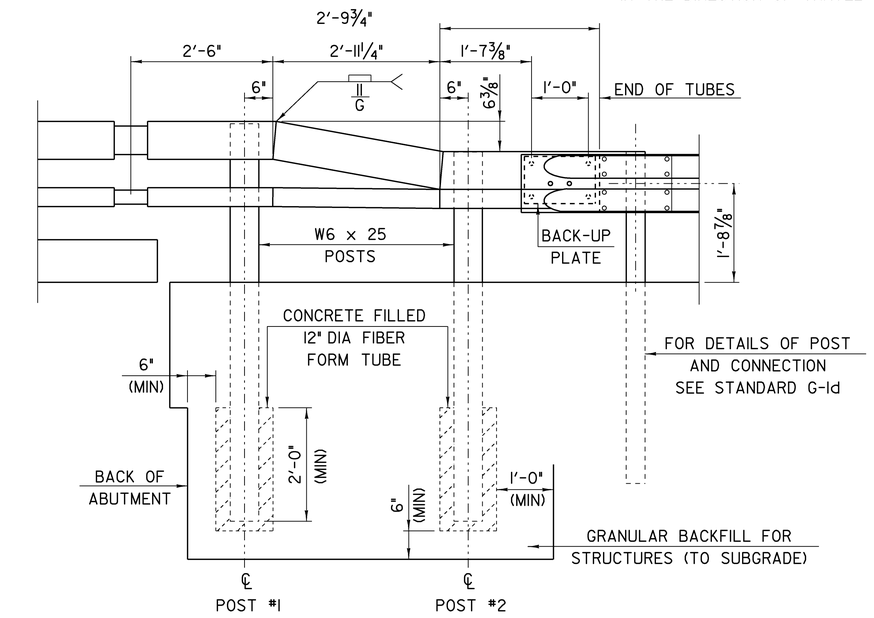
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ral.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: STRUCTURES
RAIL DETAIL SHEET

PLOT DATE: 14-JUL-2009
DRAWN BY: STRUCTURES
CHECKED BY: STRUCTURES
SHEET 27 OF 67



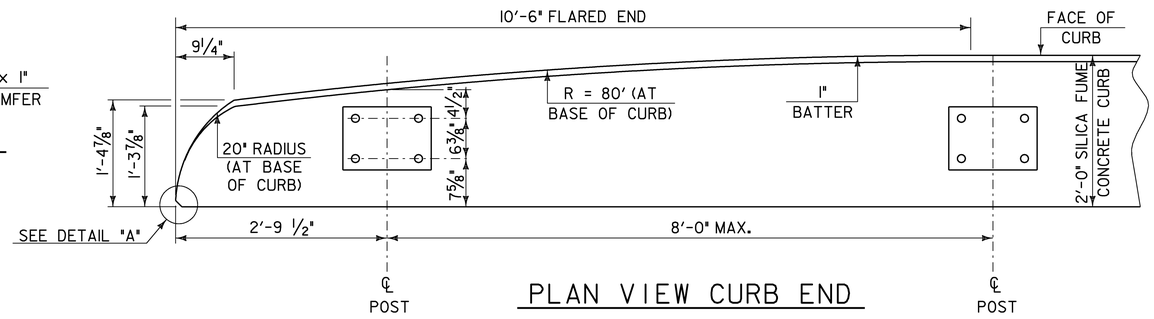
RAILING TRANSITION ELEVATION



ELEVATION

TYPICAL SECTION

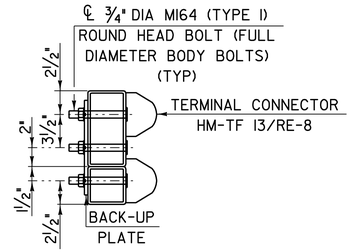
DETAIL "A"



PLAN VIEW CURB END

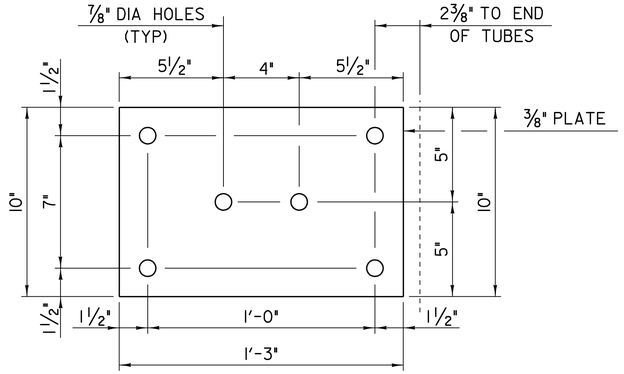
Notes:

1. REFER TO SHEET S-360a FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
2. TO FACILITATE FIELD FIT - UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKFILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE, AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO BRIDGE RAILING, GALVANIZED NETC 2 RAIL.
3. RETRO REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.
4. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
5. SEE STANDARDS G-1 AND G-1d FOR ADDITIONAL INFORMATION.



SECTION THROUGH GUARD RAIL CONNECTION AT TERMINAL CONNECTOR

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	2'-10"	1'-4"	7'-0"	1'-6"
2	2'-3⅝"	10"	6'-5"	1'-5⅝"



BACK-UP PLATE

VERMONT AGENCY OF TRANSPORTATION

DETAIL S-360d

BRIDGE RAILING - NETC 2 RAIL STEEL BEAM APPROACH RAIL

STANDARDS & OTHER DETAILS REQUIRED: G-1, G-1d, S-360a, S-360c

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200rail.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: STRUCTURES
RAIL DETAIL SHEET

PLOT DATE: 14-JUL-2009
DRAWN BY: STRUCTURES
CHECKED BY: STRUCTURES
SHEET 28 OF 67

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 kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) 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 300 mm For: 50.8 mm O. D. Sampler 35.0 mm I. D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
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 30.1mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
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 > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#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.

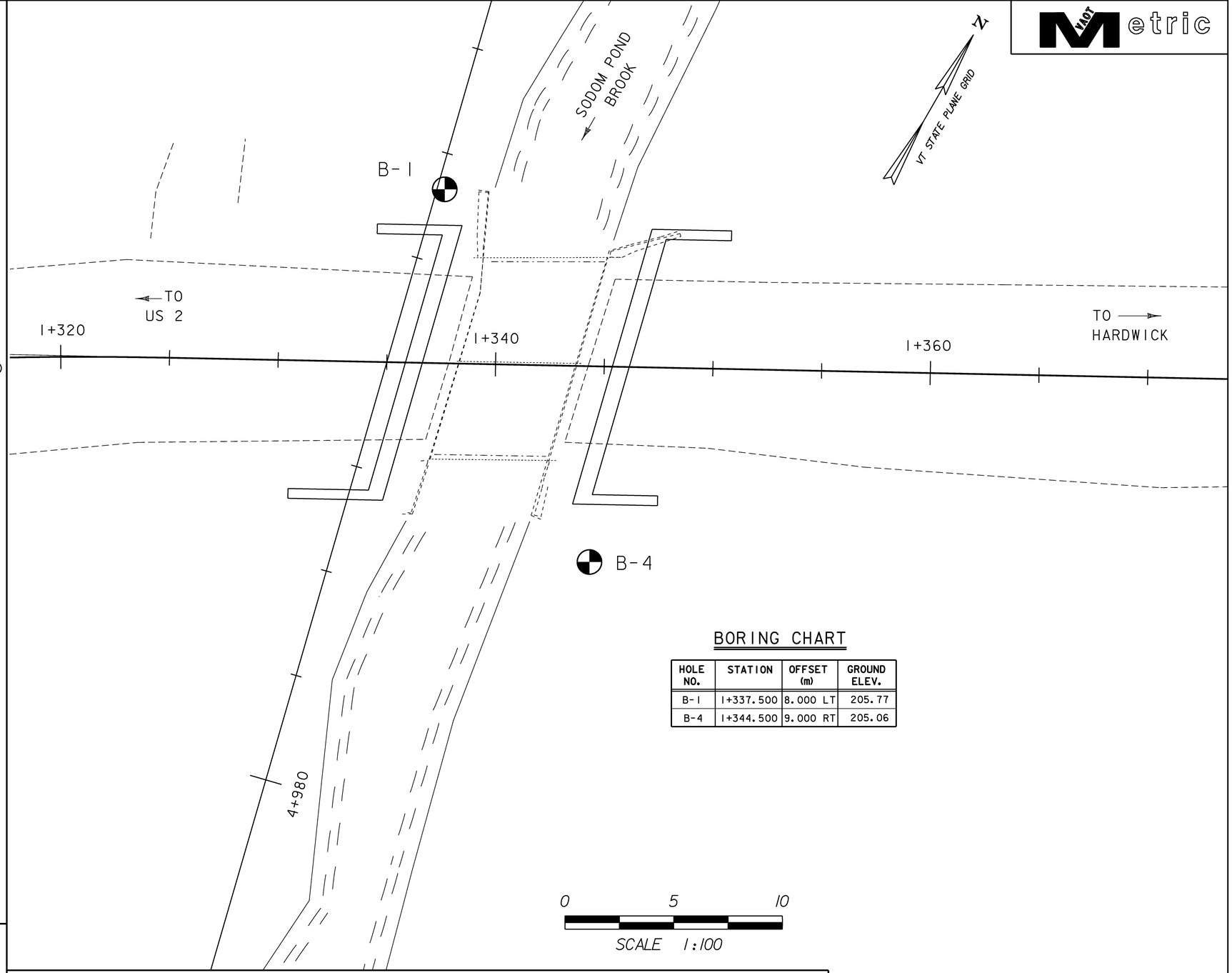
MUCK - Soft organic soil (containing > 10% organic material.

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

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.
B-1	1+337.500	8.000 LT	205.77
B-4	1+344.500	9.000 RT	205.06

GENERAL NOTES

1. The subsurface explorations shown herein were made between May 14, 2003 and May 19, 2003 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency 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.

BORING LAYOUT

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200bor.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
sf200bor.1	SHEET 29 OF 67

Metric

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

HOLE NO.: B- 1
SHEET 1 OF 2
DATE STARTED: 5/19/03
DATE COMPLETED: 5/22/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 69
STATION: 1+337.5
GROUND EL.: 205.77

PROJECT NUMBER: STP-EGC-FEGC 037-2(4)S
SITE NO.: VT 14
OFFSET: -8.0
G.W. DEPTH: 0.75

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		BXDC, 1.12m-1.5m, Cleaned casing							
		Not enough recovery, Appears to be SaGr	19						
		A-4, SaSi HP, gry, Moist, Rec. = 0.12m	R	10.6	13.8	28.3	57.9		
		BXDC, 4.1m-4.5m, Cleaned casing							
5		A-4, SaSi HP, gry, Moist Rec. = 0.50m	98	10.3	17.1	25.3	57.6		
		A-4, SaSi HP, gry, Moist Rec. = 0.60m	R	10.3	13.2	24.3	62.5		
		BXDC, 7.28m-7.50m, Cleaned casing							
		A-4, GrSaSi HP, gry, Moist Rec. = 0.56m	R	9.1	24.4	26.6	49		
		A-4, SaSi HP. gry, Moist Rec. = 0.60m	80	9.9	17.8	24.9	57.3		
10		A-4, SaSi HP. gry, Moist Rec. = 0.52m	62	10.7	19.6	24.2	56.2		
		A-4, SaGrSi HP. gry, Moist Rec. = 0.51m	R	9.1	32.3	21	46.7		
		A-4, SaGrSi HP. gry, Moist Rec. = 0.54m	R	8	31.3	29.4	39.3		
15									

BOTTOM OF CAP ELEV. 204.100

APPROXIMATE BOTTOM OF PILE ELEV. 176.100

GEOLOGISTS REPORT:

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

HOLE NO.: B- 1
SHEET 2 OF 2
DATE STARTED: 5/19/03
DATE COMPLETED: 5/22/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 69
STATION: 1+337.5
GROUND EL.: 205.77

PROJECT NUMBER: STP-EGC-FEGC 037-2(4)S
SITE NO.: VT 14
OFFSET: -8.0
G.W. DEPTH: 0.75

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, GrSiSa HP, gry, Moist Rec. = 0.51m	R	9.2	22.7	40	37.3		
		A-2-4, SiSaGr, gry, Moist Rec. = 0.43m	90	11	36.9	39.3	21.1		
		A-2-4, SiSa, gry, Moist Rec. = 0.60m	36	14.2	18.1	54.9	27		
20		A-2-4, SiSa, gry, Moist Rec. = 0.60m	28	16	12.7	58.5	28.8		
		A-4, SiSa, gry, Moist Rec. = 0.60m	26	16.2	9.9	53.4	36.7		
		A-2-4, GrSiSa, gry, Moist Rec. = 0.56m	R	13.4	30.4	35.8	33.8		
		A-2-4, GrSiSa, gry, Moist Rec. = 0.48m	50	14	29	38.7	32.3		
25		A-2-4, GrSiSa, gry, Moist Rec. = 0.59m	32	16.5	20.9	51	28.1		
		A-4, SiSa, gry, Moist Rec. = 0.56m	37	19.4	5	50.1	44.9		
		A-2-4, Sa, gry, W, Rec. = 0.33m	37	16.7	3.6	78.8	17.6		
		A-4, SaSi, gry, W, Rec. = 0.27m		20.5	0.6	37.2	62.2		
30		A-2-4, GrSiSa, gry, Moist Rec. = 0.13m	R	12.2	24.8	41.6	33.6		

Hole stopped @ 30.13m

GEOLOGISTS REPORT:

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

HOLE NO.: B- 4
SHEET 1 OF 2
DATE STARTED: 5/14/03
DATE COMPLETED: 5/19/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 69
STATION: 1+344.5
GROUND EL.: 205.06

PROJECT NUMBER: STP-EGC-FEGC 037-2(4)S
SITE NO.: VT 14
OFFSET: 9.0
G.W. DEPTH: 0.0 Ground Level

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	O.R.	A-4,SaSi with Trace of Organics brn-gry, Moist, Rec. = 0.42m	7 Sample	31.7 tested	17.1 2.9%	27.7 Organic	55.2		
		A-4, Si, gry, Moist Rec. = 0.36m	4	29.2	0.1	1.9	98		
		A-4, Si, gry, Moist Rec. = 0.30m	5	33.5	0.6	3.1	96.3		
		NXDC, 2.43m-2.89m, Boulder							
		A-4, SaGrSi, gry, Moist Rec. = 0.30m	6	11.4	33.1	24.1	42.8		
		A-4, SaSi, gry, Moist Rec. = 0.36m	17	11.7	18.2	27.7	54.1		
		A-4, SaGrSi, gry, Moist Rec. = 0.42m	14	12.6	23.9	23.7	52.4		
5		A-4, GrSaSi HP, gry, Moist Rec. = 0.45m	23	12.4	21.5	25	53.5		
		A-4, SaGrSi HP, Rec. = 0.24m	R	9.3	36.6	22.8	40.6		
		NXDC, 5.86m-6.0m, Cleaned out							
		A-4, SaGrSi HP, gry, Moist Rec. = 0.55m	R	10.4	28.8	25	46.2		
		NXDC, 7.23m-7.60m, Cleaned out							
		A-4, SaSi HP, gry, Moist Rec. = 0.59m	88	10.9	15.5	35.5	49		
		NXDC, 8.9m-9.1m, Cleaned out							
10		A-4, SaSi HP, gry, Moist Rec. = 0.58m	77	10.2	18.7	34.5	46.8		
		A-4, GrSaSi HP, gry, Moist Rec. = 0.48m	58	10	21.8	30.8	47.4		
		A-4, GrSaSi HP, gry, Moist Rec. = 0.60m	88	9.1	27.3	33.2	39.5		
		A-4, GrSaSi HP, gry, Moist Rec. = 0.60m	77	8.9	21.8	37.8	40.4		
15									

BOTTOM OF CAP ELEV. 204.100

APPROXIMATE BOTTOM OF PILE ELEV. 176.100

GEOLOGISTS REPORT:

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

HOLE NO.: B- 4
SHEET 2 OF 2
DATE STARTED: 5/14/03
DATE COMPLETED: 5/19/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 69
STATION: 1+344.5
GROUND EL.: 205.06

PROJECT NUMBER: STP-EGC-FEGC 037-2(4)S
SITE NO.: VT 14
OFFSET: 9.0
G.W. DEPTH: 0.0 Ground Level

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS
ADDITIONAL CREW:

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, GrSaSi, gry, Moist Rec. = 0.52m	R	9.7	21.1	30.6	48.3		
		A-4, GrSaSi, gry, Moist Rec. = 0.25m	R	9.3	21	26.4	52.6		
		BXDC, 17.8m-18.5m, Boulders, Cleaned out casing & cored ahead.							
20		NXDC, 19.2m-20.1m, Boulders, Cleaned out casing & cored ahead.							
		NXDC, 20.6m-21.36m, Boulders, Cleaned out casing & cored ahead, Encountered various seams.							
25									

Hole stopped @ 21.36m

GEOLOGISTS REPORT:

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200bor.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200log.1

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 30 OF 67

BORING LOGS

N

VT STATE PLANE GRID

R. O. W.

BEGIN BRIDGE
STA 1+335.850
FG = 208.079

ML POT 1+335.000 =
CHAN POT 5+000.000
△= 75-00'-00.0" Lt.

STONE FILL, TYPE II

STONE FILL, TYPE III

Channel Line

5+010

END BRIDGE
STA 1+346.150
FG = 208.131

STONE FILL, TYPE II

I-3

I-1.5

WW1

WW3

BEGIN APPROACH SLAB NO. 1
STA 1+329.850

END APPROACH SLAB NO. 2
STA 1+352.150

1+320

1+340

1+360

1+380

75° (TYP)

WW2

WW4

I-2

STONE FILL, TYPE II

STONE FILL, TYPE III

STONE FILL, TYPE II

PT 1+324.631

4+990

SODOM POND BROOK

PLAN

0 1 2 4 6 8 10

SCALE = 1:100

LIMITS HD STEEL BEAM GUARDRAIL

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL (THRIE BEAM) (WINGWALLS #2 &#3)

13 220 PAY LIMITS FOR BRIDGE RAILING, GALVANIZED NETC - 2 RAIL

10 300 BACK TO BACK OF ABUTMENTS ALONG ℄

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL (STEEL BEAM) (WINGWALL #1&#4)

LIMITS HD STEEL BEAM GUARDRAIL

210

205

200

Q_{100}=206.9

EXISTING GROUND

ELEVATION

0 1 2 4 6 8 10

SCALE = 1:100

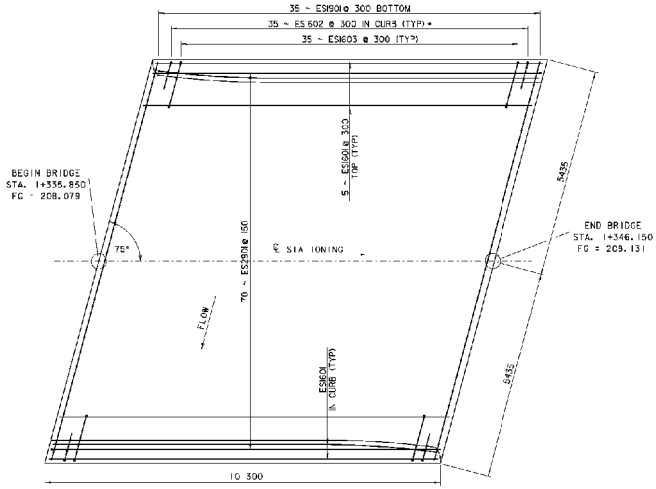
SEE BRIDGE RAILING LAYOUT & DETAIL SHEETS FOR COMPLETE BRIDGE & APPROACH RAIL DETAILS

PLAN & ELEVATION

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

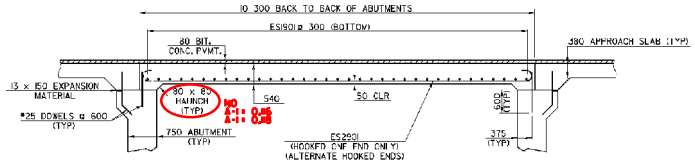
FILE NAME: 78f200\str\sf200pe.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200pe.1

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 31 OF 67



DECK PLAN

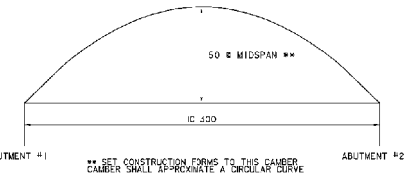
0 10 20 30 40 50
SCALE 1:50



ELEVATION ALONG ℄ OF ROADWAY

0 10 20 30 40 50
SCALE 1:50

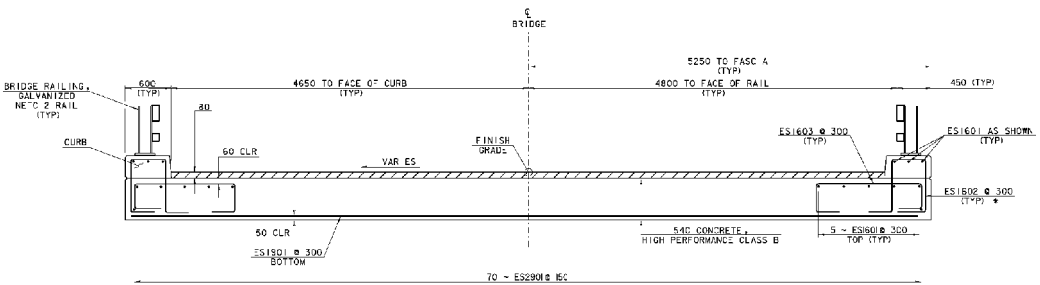
* 3 EXTRA ES1602 AT EACH BRIDGE RAIL POST.
SEE NETC DETAIL SHEETS FOR MORE INFORMATION.
A
SHEET 25



** SET CONSTRUCTION FORMS TO THIS CAMBER
CAMBER SHALL APPROXIMATE A CIRCULAR CURVE

CAMBER

NTS



BRIDGE TYPICAL SECTION

0 5 10 15 20 25
SCALE 1:25

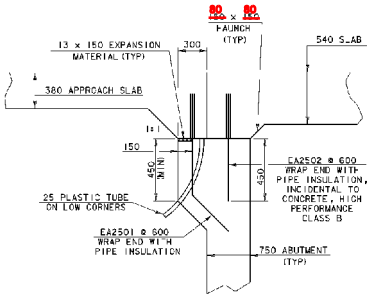
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN F FID
80 CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

DECK DETAILS

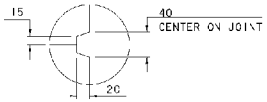
PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: f8f200s~1\s6f200sup.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: M. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
sf200dck.i	SHEET 32 OF 67



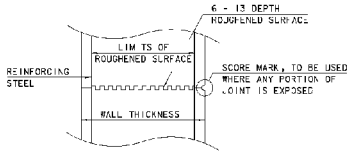
TYPICAL END SECTION

(NOT TO SCALE)



SCORE MARK DETAIL

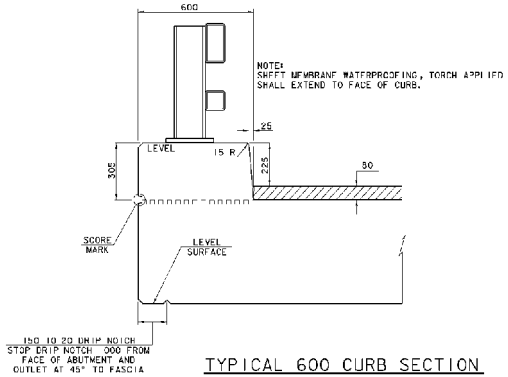
(NOT TO SCALE)



TYPICAL CONCRETE CONSTRUCTION JOINT

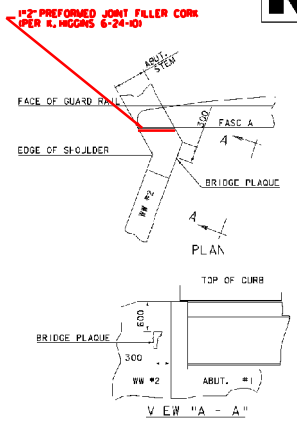
(NOT TO SCALE)

1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STAND NG WATER REMOVED.



TYPICAL 600 CURB SECTION

(NOT TO SCALE)



BRIDGE PLAQUE

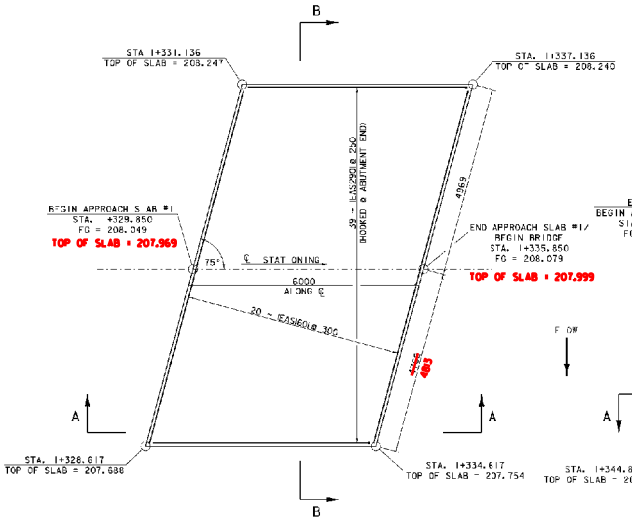
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

MISCELLANEOUS DETAILS

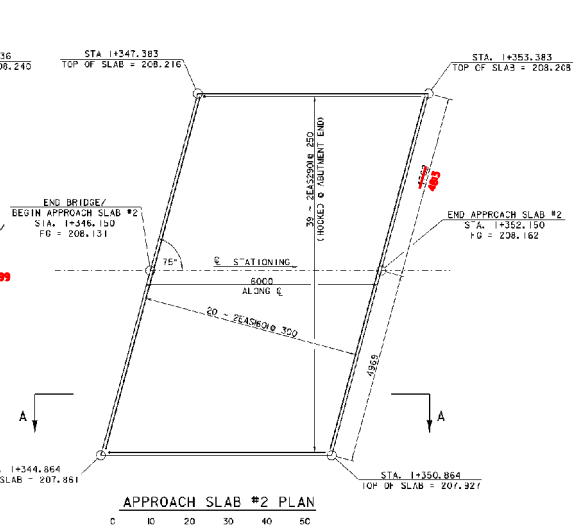
PROJECT NAME: EAST MONTPELIER	
PROJECT NUMBER: STP 037-2(9)	
FILE NAME: 78F200\s-f\s78f200supp.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: M. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
st200mis.dgn	SHEET 33 OF 67



APPROACH SLAB #1 PLAN

0 0 20 30 40 50

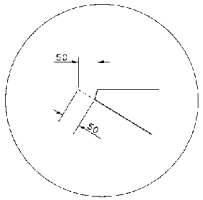
SCALE 1:50



APPROACH SLAB #2 PLAN

0 10 20 30 40 50

SCALE 1:50



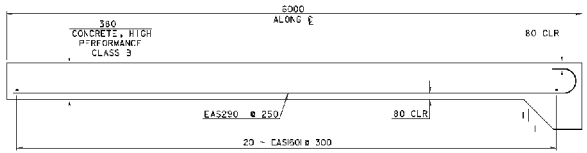
CORNER DETAIL

(TYPICAL FOR ACUTE ANGLES ONLY)

NTS

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.



SECTION A-A

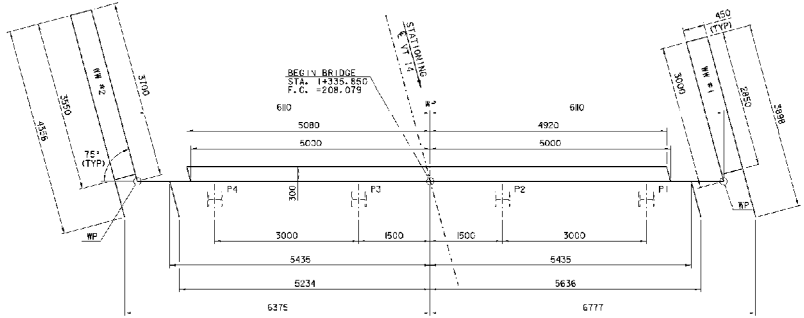
0 10 20

SCALE 1:20

APPROACH SLAB DETAILS

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

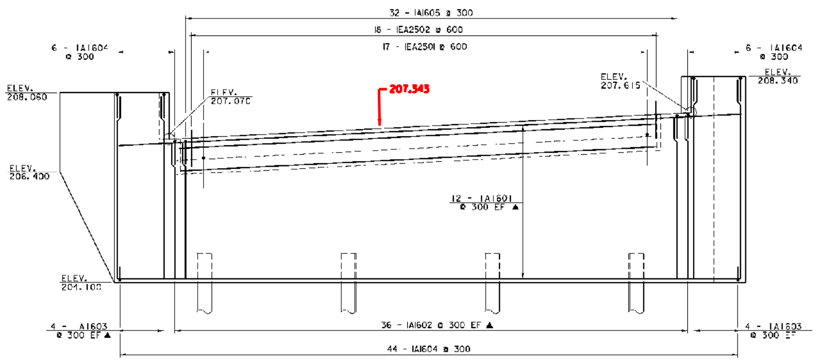
FILE NAME: 78F20\s-f\s78F20supdgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: M. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
st20dsd	SHEET 34 OF 67



ABUTMENT #1 PLAN

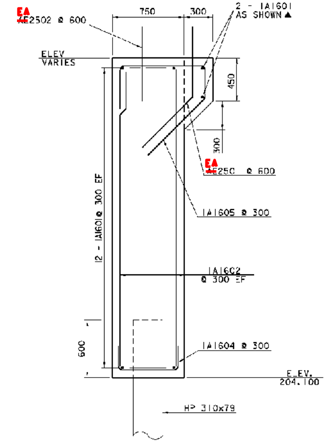
FLOW

SCALE = 1:40



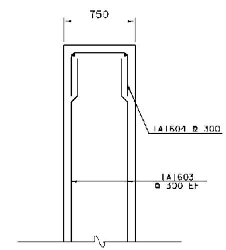
ABUTMENT #1 REINFORCING ELEVATION

SCALE = 1:40



ABUTMENT # 1 TYPICAL SECTION (ABUTMENT #2 SIMILAR)

SCALE = 1:20



ABUTMENT # 1 CORNER (ABUTMENT #2 SIMILAR)

SCALE = 1:20

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

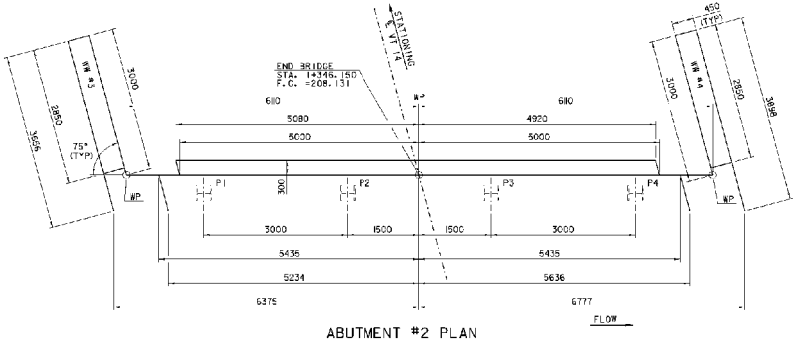
0 1 2
SCALE = 1:20

0 1 2 3 4
SCALE = 1:40

ABUTMENT #1 DETAILS

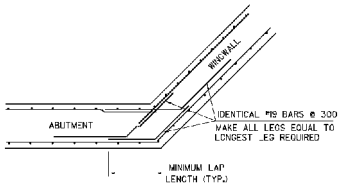
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\s-r\sf200sub.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200abl.1
PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: G. LaROCHE
SHEET 35 OF 67

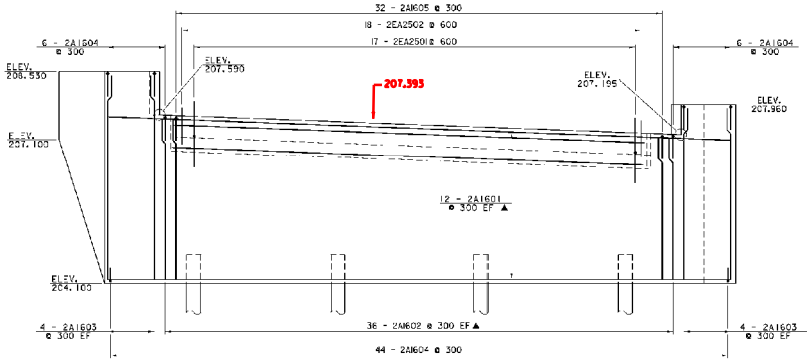


ABUTMENT #2 PLAN

SCALE = 1:40



WINGWALL CORNER DETAIL



ABUTMENT #2 REINFORCING ELEVATION

SCALE = 1:40

NOTE:
SEE APPROACH SLAB DETAILS SHEET
FOR ACUTE DETAIL

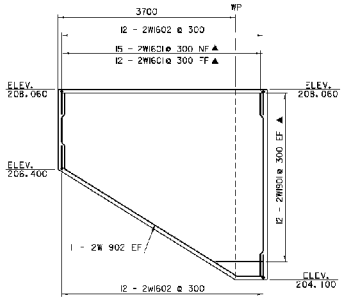
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
RO CIFAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
660 BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

0 1 2 3 4

SCALE = 1:40

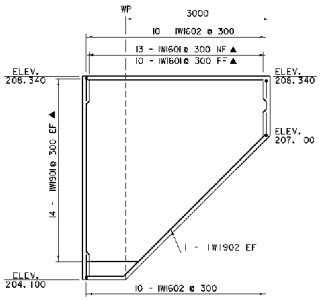
ABUTMENT #2 DETAILS

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)
FILE NAME:	T:\sf200\s-f\sf200sub.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	J. LACROIX
	sf200ab2.i
PLOT DATE:	14-JUL-2009
DRAWN BY:	M. KELLETT
CHECKED BY:	G. LaROCHE
SHEET	36 OF 67



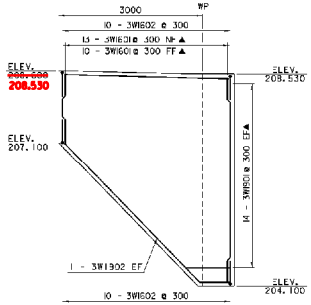
WINGWALL #2 ELEVATION

SCALE = 1:40



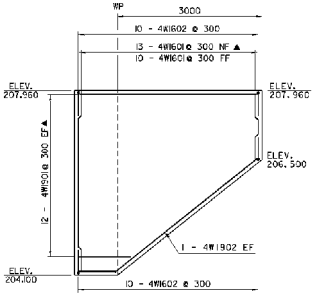
WINGWALL #1 ELEVATION

SCALE = 1:40



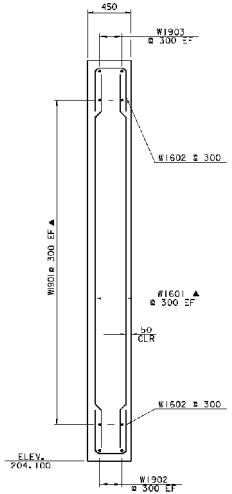
WINGWALL #3 ELEVATION

SCALE = 1:40



WINGWALL #4 ELEVATION

SCALE = 1:40



WINGWALL
TYPICAL SECTION

SCALE = 1:20

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
NO CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
#60 BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

0 1 2
SCALE = 1:20

0 1 2 3 4
SCALE = 1:40

WINGWALL DETAILS

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)
FILE NAME:	T:\st200\s-t\st200subs.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	J. LACROIX
	st200ww.'
PLOT DATE:	14-JUL-2009
DRAWN BY:	M. MILLETT
CHECKED BY:	G. LaROCHE
SHEET	37 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

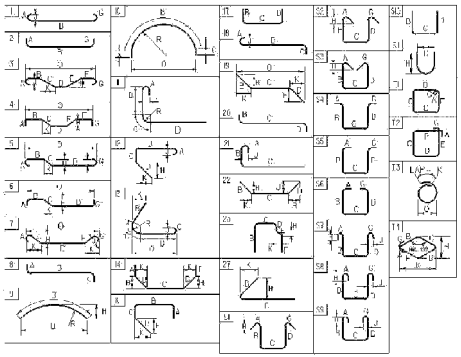
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
				DECK													
	17	16	10120	ES1501	STR	10120											
	100	19	2436	ES1502	50	250	700	491	700			250					
	70	10	2686	ES1503	50	250	836	1200	436			250					
▲	36	16	17700	ES1901	STR	17700											
	71	29	13640	ES2901	1	380	13130					---					
				APPROACH SLAB #1													
	20	16	957C	EAS1601	STR	957C											
	30	29	5210	EAS2901	1	380	5600					---					
				APPROACH SLAB #2													
	20	16	960C	2EAS1601	STR	960C											
	30	29	5210	2EAS2901	1	380	5630					---					
				ABUTMENT #1													
▲	20	16	12990	1A1601	STR	12990											
▲	72	16	3396	1A1602	STR	3396											
▲	16	16	4080	1A1603	STR	4080											
	96	16	1910	1A1621	S10		586	996	660								
	32	19	2736	1A1635	19	990	896	346	846			586			592		
	48	19	1770	1A1917	22		806	976	---			~~TTO~~	~~---~~	---	~~---~~	~~20~~	
	48	19	1770	1A1932	22		806	976	---			776			219		
	17	25	1270	1EA2534	22		806	676	---				402	---	526	---	
	18	25	900	1EA2535	STR	900											
				WINGWALL #1													
▲	23	16	4080	1WI1601	STR	4080											
	20	16	1910	1WI1602	S10		586	296	660								
▲	26	19	3730	1WI1901	STR	3730											
	2	19	4080	1WI1902	22		4100	596	---				2430	---	2400	---	
				WINGWALL #2													
▲	27	16	3800	2WI1601	STR	3800											
	24	16	1910	2WI1602	S10		886	296	660								
▲	26	19	4190	2WI1901	STR	4190											
	2	19	4700	2WI1902	22		4100	596	---				2210	---	2500	---	
▲	27	16	12990	2A1601	STR	12990											
▲	72	16	3396	2A1602	STR	3396											
	16	16	4296	2A1603	STR	4296											
	96	16	1910	2A1634	S10		886	696	660								
	32	19	2736	2A1635	19	990	896	346	846			586			592		
	48	19	1770	2A1932	22		806	976	---			~~TTO~~	~~---~~	---	~~---~~	~~20~~	
	48	19	1770	2A1932	22		806	976	---			776			219		
	17	25	1270	2EA2534	22		806	676	---				426	---	526	---	
	18	25	900	2EA2535	STR	900											
				WINGWALL #3													
▲	23	16	4296	3WI1601	STR	4296											
	20	16	1910	3WI1602	S10		586	296	660								
▲	26	19	3486	3WI1901	STR	3486											
	2	19	4096	3WI1902	22		4100	596	---				2400	---	2400	---	
				WINGWALL #4													
▲	23	16	3570	4WI1601	STR	3570											
	20	16	1910	4WI1602	S10		886	296	660								
▲	24	19	3730	4WI1901	STR	3730											
	2	19	4270	4WI1902	22		3680	596	---				2330	---	2575	---	

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING #19 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT" AASHTO M 31/M 31M (ASTM A 615/A 615M). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, TOGETHER WITH MINIMUM DIAMETER OF BENDS AND HOOKS, AND OF BENT STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE.
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "B" ON STANDARD 180 DEGREE END HOOKS.
5. "C" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO REFLECT SLOT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "F" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHEN SLOPE OF ITEMS FORMING DIRECTRIX, DIMENSIONS "H" AND "J" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ⅄ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. ⏃ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL WEIGHT, lb/ft	NOMINAL DIMENSIONS		
		DIAMETER, mm	CROSS SECTIONAL AREA, sq. mm	WEIGHT PER 100 LINEAR m
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

REINFORCING STEEL SCHEDULE SHEET

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78F200S-F\78F200rss.xls
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200rss.i

PLOT DATE: 14-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: G. LaROCHE
SHEET 38 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	SILBERBERG, LESLIE L.	15, 16	1+107.27 RT	1+279.73 RT.	0.19 HA		ALL R.T.& I.			WD	11/28/2006	E. MONTPELIER	96	197-	HWY EASE VT. RTE. 14; 0.48A±
	TRUSTEE OF THE LESLIE L. SILBERBERG		1+107.27 RT.	1+186.92 RT.			CONST.	(T)	218.0SM					199	INCLUDES PDF & EC; 2,347 SF±
	LIVING TRUST DATED NOVEMBER 24, 1999		1+123.90 RT.	1+125.67 RT.			CUL., DIT & DR.	(P)							
			1+179.00 RT.	1+180.46 RT.			DIT. & DR.	(P)							
			1+230.00 RT.				DRAINAGE	(P)							
			1+257.13 RT.	1+280.10 RT.			CONST.	(T)	50.5 SM						544 SF±; INCLUDES EROSION CONTROL & PDF
			1+266.69 RT.	1+280.22 RT.			DETOUR	(T)	30.3 SM						TWO WAY VEHICULAR; 326 SF±
			1+279.73 RT.				ALL R.T. & I.								FENCE
			1+279.47 RT.	1+279.73 RT.			REMOVE & RESET	(T)							IRON PIN
2A	FAULKNER, ABIGAIL D. &	15, 16	1+160.00 LT.	1+192.24 LT.	39.9 SM					WD	6/28/2006	E. MONTPELIER	93	109-	430 SF±
	GUION, HOBART G. JR.		1+107.80 LT.	1+234.62 LT.			CONST	(T)	341.2 SM					111	INCLUDES PDF & EC; 3,673 SF±
			1+127.04 LT.	1+128.71 LT.			DIT. & DI	(P)							INCLUDES EROSION CONTROL
			1+129.98 LT.	1+158.43 LT.			SLOPE	(T)	57.3 SM						617 SF±; INCLUDES EROSION CONTROL
			1+166.10 LT.	1+190.00 LT.			SLOPE	(T)	14.8 SM						159 SF±; INCLUDES EROSION CONTROL
			1+175.00 LT.	1+184.72 LT.			DITCH	(P)	26.3 SM						283 SF±
			1+268.76 LT.	1+269.96 LT.			REMOVE & RESET	(T)							IRON PIN
			1+123.60 LT.	1+126.00 LT.			SLOPE	(T)	1.85 SM						20 SF±
2B		15, 16	1+107.52 CL	1+268.76 CL	0.17 HA		ALL R.T. & I.								HWY. EASE. VT. RTE. 14; 0.42A±
3A	FROST, KENDAL & RUTH R.	16, 17	1+301.17 LT.	1+361.60 LT.	73.2 SM					WD	7/6/2006	E. MONTPELIER	94	212-214	788 SF±
			1+268.76 LT.	1+319.20 LT.			CONST.	(T)	103.5SM						INCLUDES PDF & EC; 1,114 SF±
			1+295.41LT.	1+319.20 LT.			SLOPE	(T)	61.3 SM						660 SF±
			1+295.41 LT.	1+444.23 LT.			UTILITY	(P)	0.07HA						0.18A±
			1+321.00 LT.				DRIVE	(T)							3.6M GRAVEL (12') MM 0306
			1+325.00 LT.	1+336.48 LT.			SLOPE	(P)	23.3 SM						251 SF±
			1+328.97 LT.				INSTALL	(P)							GUY WIRE
			1+322.33 LT.	1+343.35 LT.			CONST.	(T)	149.7 SM						INCLUDES PDF & EC; 1,611 SF±
			1+336.00 LT.	1+341.92 LT.			CHANNEL	(P)	23.9 SM						257 SF±
			1+345.35 LT.	1+349.67 LT.			CHANNEL	(P)	23.9 SM						257 SF±
			1+347.81 LT.	1+471.38 LT.			CONST.	(T)	357.6 SM						INCLUDES PDF & EC 3,849 SF±
			1+348.85 LT.	1+375.12 LT.			SLOPE	(P)	42.9 SM						462 SF±
			1+380.84 LT.	1+421.00 LT.			SLOPE	(P)	94.8 SM						1,020 SF±
			1+421.00 LT.	1+445.05 LT.			SLOPE	(T)	37.3 SM						401 SF±
			1+419.09 LT.				INSTALL	(P)							GUY WIRE
			1+400.00 LT.	1+470.00 LT.			ALL R.T. & I.								FENCE
			1+268.76 LT.	1+269.96 LT.			REMOVE & RESET	(T)							IRON PIN
			1+336.50 LT.	1+337.50 LT.			INSTALL & MAINTAIN	(P)							WING WALL FOOTING
			1+348.50 LT.	1+349.50 LT.			INSTALL & MAINTAIN	(P)							WING WALL FOOTING
3B		16, 17	1+268.76 CL	1+484.83 LT.	0.18 HA		ALL R. T. & I.								HWY EASE VT. RTE. 14; 0.44A±

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	13,15	PARCEL NO. 1 SILBERBERG. REMOVE SLOPE (P) AT STA.	9/13/2005
		1+145.18 RT. ~ 1+154.29 RT. PER C.O. 9436.	
		MADE BY: FM APPROVED BY: RD	
2	15,16,17	ALL PARCELS. SHOW EXISTING UTILITY POLES WITH POLE	9/13/2005
		NUMBERS ALSO DISPLAYED ON LAYOUTS. ALSO DEPICT	
		EXISTING TRAFFIC SIGNS ON LAYOUTS. PER C.O. 9437.	
		MADE BY: FM APPROVED BY: RD	
3	13	PARCEL NO. 3 FROST. CHANGE ENDING STA. OF SLOPE AT	9/13/2005
		STA. 1+421.00 LT. ~ 1+461.09 LT. TO 1+445.05 LT.; 37.3 SM±;	
		401 SF±. PER C.O. 9438.	
		MADE BY: FM APPROVED BY: RD	
4	14,16	PARCEL NO. 4 FONTAINE. ADD EXISTING COMMERCIAL SIGN	9/13/2005
		TOPO. ALSO ADD THE FOLLWING RIGHTS CONCERNING SIGN:	
		REMOVE & RESET (T) AT STA. 1+352.26 RT.	
		RELOCATE (T) AT STA. 1+360.00 RT.± ~ 1+375.00 RT.±	
		PER C.O. 9439.	
		MADE BY: FM APPROVED BY: RD	
5	16	PARCEL NO. 4 FONTAINE. CHANGE STYLE OF ACQUISITION	9/13/2005
		LINE TO A LINE THAT IS DOUBLED DASHED. PER C.O. 9440.	
		MADE BY: FM APPROVED BY: RD	
		ELECTRONIC FILES TO STRUCTURES	5/19/2009

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P / L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF ——— PDF)

EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 06-20-05
CHIEF, PLANS & TITLES

PLOT DATE: 7/13/2009

THIS PROJECT IS A/K/A EAST MONTPELIER STP FEGC F 037-2(4)S

PROJECT NAME: **EAST MONTPELIER**
PROJECT NUMBER: **STP 037-2 (9)**

FILE NAME: **78F200DETAILSHEET**
PROJECT LEADER: **K. HIGGINS**
DESIGNED BY: **J. LACROIX**
R.O.W. SHEET 13 OF 17

PLOT DATE:
DRAWN BY: **P. HARDIE**
CHECKED BY: **F. MALNATI**
SHEET 39 OF 67

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA ±	AREA ±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
4A	FONTAINE, MARC D.	16,17	1+319.00 RT.	1+420.00 RT.	71.2 SM					WD	12/6/2006	E. MONTPELIER	96	209-	766 SF±
			1+280.00 RT.	1+330.90 RT.			CONST.	(T)	157.2 SM					211	INCLUDES PDF & EC; 1,692 SF±
			1+279.73 RT.	1+400.00 RT.			DETOUR	(T)	0.12HA						TWO WAY VEHICULAR; 0.30A±
			1+279.47 RT.	1+279.73 RT.			REMOVE & RESET	(T)							IRON PIN
			1+279.73 RT.				ALL R.T. & I.								FENCE
			1+295.33 RT.				DRAINAGE	(T)							
			1+321.82 RT.	1+332.46 RT.			SLOPE	(P)	5.2 SM						56 SF±
			1+330.80 RT.	1+336.25 RT.			CHANNEL	(P)	13.4 SM						144 SF±
			1+336.04 RT.	1+370.20 RT.			CONST.	(T)	143.1 SM						INCLUDES PDF & EC; 1,540 SF±
			1+338.44 RT.	1+344.09 RT.			CHANNEL	(P)	16.1 SM						173 SF±
			1+343.28 RT.	1+350.00 RT.			SLOPE	(P)	9.1 SM						98 SF±
			1+357.26 RT.				REMOVE & RESET (T)								SIGN,PERSONAL
			1+350.00 RT.	1+368.62 RT.			SLOPE	(T)	57.1 SM						615 SF±
			1+360.00 RT.±	1+375.00 RT.±			RELOCATE (T)								SIGN, DURING CONSTRUCTION
			1+368.62 RT.	1+392.57 RT.			CUL., DIT. & DR.	(P)							
			1+382.00 RT.				ACCESS	(T)							FROM DETOUR TO HOUSE & SAWMILL
			1+382.00 RT.				DRIVE	(T)							12M GRAVEL (39') MM 0310
															TO HOUSE AND SAWMILL
			1+360.90 RT.	1+384.74 RT.			CONST.	(T)	72.3 SM						INCLUDES PDF & EC; 778 SF±
			1+388.23 RT.	1+470.49 RT.			CONST.	(T)	252.4 SM						INCLUDES PDF & EC; 2717 SF±
			1+392.57 RT.	1+405.01 RT.			SLOPE	(T)	15.2 SM						164 SF±
			1+411.79 RT.	1+440.00 RT.			SLOPE	(P)	83.4 SM						898 SF±
			1+440.00 RT.	1+458.42 RT.			SLOPE	(T)	39.8 SM						428 SF±
			1+484.83 RT.				INSTALL	(P)							GUY WIRE
4B		16,17	1+279.73 RT.	1+484.83 RT.	0.18 HA		ALL R.T. & I.								HWY EASE VT. RTE. 14; 0.44A±
			1+332.00 RT.	1+333.00 RT.			INSTALL & MAINTAIN	(P)	1.0 SM						WING WALL FOOTING; 11 SF±
5	GREEN MOUNTAIN POWER CORPORATION														UTILITY
6	VERIZON NEW ENGLAND, INC.														UTILITY
7	ADELPHIA CABLE COMMUNICATIONS														UYILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CZ — CLEAR ZONE
- P / L — PROPERTY LINE
- TOE OF SLOPE
- TOP OF CUT
- SR (P) — SLOPE RIGHT
- CONST.(T) — CONSTRUCTION RIGHT
- PDF ——— PDF — PROJECT DEMARCATION FENCE

EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: ROGER DUMAS DATE: 6-20-05
CHIEF, PLANS & TITLES

PLOT DATE: 7/13/2009

THIS PROJECT IS A/K/A EAST MONTPELIER STP FEGC F 037-2(4)S

PROJECT NAME: **EAST MONTPELIER**
PROJECT NUMBER: **STP 037-2 (9)**

FILE NAME: **78F200DETAILSHEET**
PROJECT LEADER: **K. HIGGINS**
DESIGNED BY: **J. LACROIX**
R.O.W. SHEET 14 OF 17

PLOT DATE:
DRAWN BY: **P. HARDIE**
CHECKED BY: **F. MALNATI**
SHEET **40** OF **67**

Bench Mark #1
1+028.6m Lt.
Spike In Root
Elev. 208.550

VT14 CURVE#1
△ = 35°21'49.48"
R = 170.000m
T = 54.195m
L = 104.926m
E = 8.429m

SIGN LEGEND
R&S = REMOVE AND SALVAGE

SIGN POSTS
SQUARE STEEL
50 mm, 3.9 kg/m
W/ ANCHOR

SCHOOL BUS STOP AHEAD

HIDDEN DRIVE

STA 1+135 LT
R&S

STA 1+193 LT
R&S

SPEED LIMIT 40

VT STATE PLANE GRID

FAULKNER, ABIGAIL D.
& GUION, HOBART G. JR.

1+110.000
BEGIN APPROACH

1+160.000
END APPROACH
BEGIN PROJECT

1+107.80LT.
6.93M(22.7')

1+160.00LT.
8.64M(28.3')

1+160.00LT.
7.04M(23.1')

1+192.24LT.
8.59M(28.2')

PT 1+112.353

PC 1+168.666

1+107.52CL

52.01M(170.6')

33.29M(109.2')

33.37M(109.5')

67.85M(222.6')

1.6M(5.2')

6.53M(22.7')

7.9M(26.0')

[82.72M(271.4')]

[158.84M(521.1')]

[95.53M(313.4')]

1+174.90RT.
7.94M(26.0')

P.I. 1+061.621 BK =
1+058.158 AHD

OLD SURVEY CURVE 1933 R=521.7'

N46°52'06.16"E
311°30'16.68"E

DITCH & DI.(P)

CONST.(T)

SR(T)

DIT.(P)

CUL., DIT. & DR.(P)

DITCH & DR.(P)

R.O.W.

P
L

MATCHLINE 1+220
TO R.O.W. SHEET 16 OF 17

FAULKNER, ABIGAIL D.
& GUION, HOBART G. JR.

LESLIE L. SILBERBERG-TRUST

VT RTE 14 TO EAST MONTPELIER

SODOM POND BROOK

SMALL PINE

BRUSH

STONE FILL

GRASSY FIELD

WOODS

WOOD GUIDE POST

ELM

POLE #86½

POLE #87K/87

AERIAL ENT

1+040
1+060
1+080
1+100
1+120
1+140
1+160
1+180
1+200

BEGIN ROW PROJECT
STP FEGC F 037-2(4)S
1+107.27RT. 7.94M (26.0')

SPEED LIMIT 40
M.P.H.

STA 1+115 RT
R&S

STA 1+192 RT
R&S

REMOVAL OF EXISTING DELINEATOR
1+207.600 RT
1+208.700 LT

REMOVAL & DISPOSAL OF GUARDRAIL
1+114.800 - 1+127.710 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
1+114.800 - 1+220.000 RT

COLD PLANING BITUMINOUS PAVEMENT
1+110.000 - 1+130.000

REMOVING SIGNS
1+115 RT (2)
1+135 LT (2)
1+193 LT
1+193 RT

ERECTING SALVAGED SIGNS
1+115 RT (2)
1+135 LT (2)
1+193 LT
1+193 RT

DURABLE 100 MM WHITE LINE, THERMOPLASTIC
1+110.000 - 1+220.000 LT
1+110.000 - 1+220.000 RT

DURABLE 100 MM YELLOW LINE, THERMOPLASTIC
1+110.000 - 1+220.000 LT & RT

1. EXISTING CULVERT - DO NOT DISTURB

2. STA 1+128.1 LT
SPECIAL DITCH W/ STONE FILL, TYPE I

3. STA 1+124.8 RT - 1+128.1 LT
NEW 600 x 18M OPTION PIPE
W/ NEW 1.2 x 1.8 PCRCDI W/ TYPE B GRATES(2)
NEW 1.2 x 2.4 STONE FILL PAD @ OUTLET - TYPE II STONE

4. STA 1+180.0 LT.- RT.
NEW 450 x 16M OPTION PIPE W/ NEW CONCRETE HEADWALL @ INLET
NEW INLET DITCH WITH STONE FILL, TYPE I
NEW 1.0 X 2.0 STONE FILL PAD @ OUTLET - TYPE I STONE

5. STA 1+207.7 EXISTING CULVERT - REMOVE AND DELIVER TO N. MONTPELIER DISTRICT GARAGE - TELEPHONE 454-7717

EROSION CONTROL DETAIL ON
R.O.W. SHEET 10 OF 17

NOTE: THERE IS A SIGN PROJECT CURRENTLY UNDER CONSTRUCTION THAT MAY CHANGE THE TYPE/LOCATION OF SIGNS. EACH SIGN SHALL BE REMOVED, SALVAGED, AND ERECTED AS CLOSE TO ITS EXISTING LOCATION AS POSSIBLE.

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES (P/L) ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 10 20 30
1:250 SCALE IN METERS

FOR R.O.W. USE ONLY

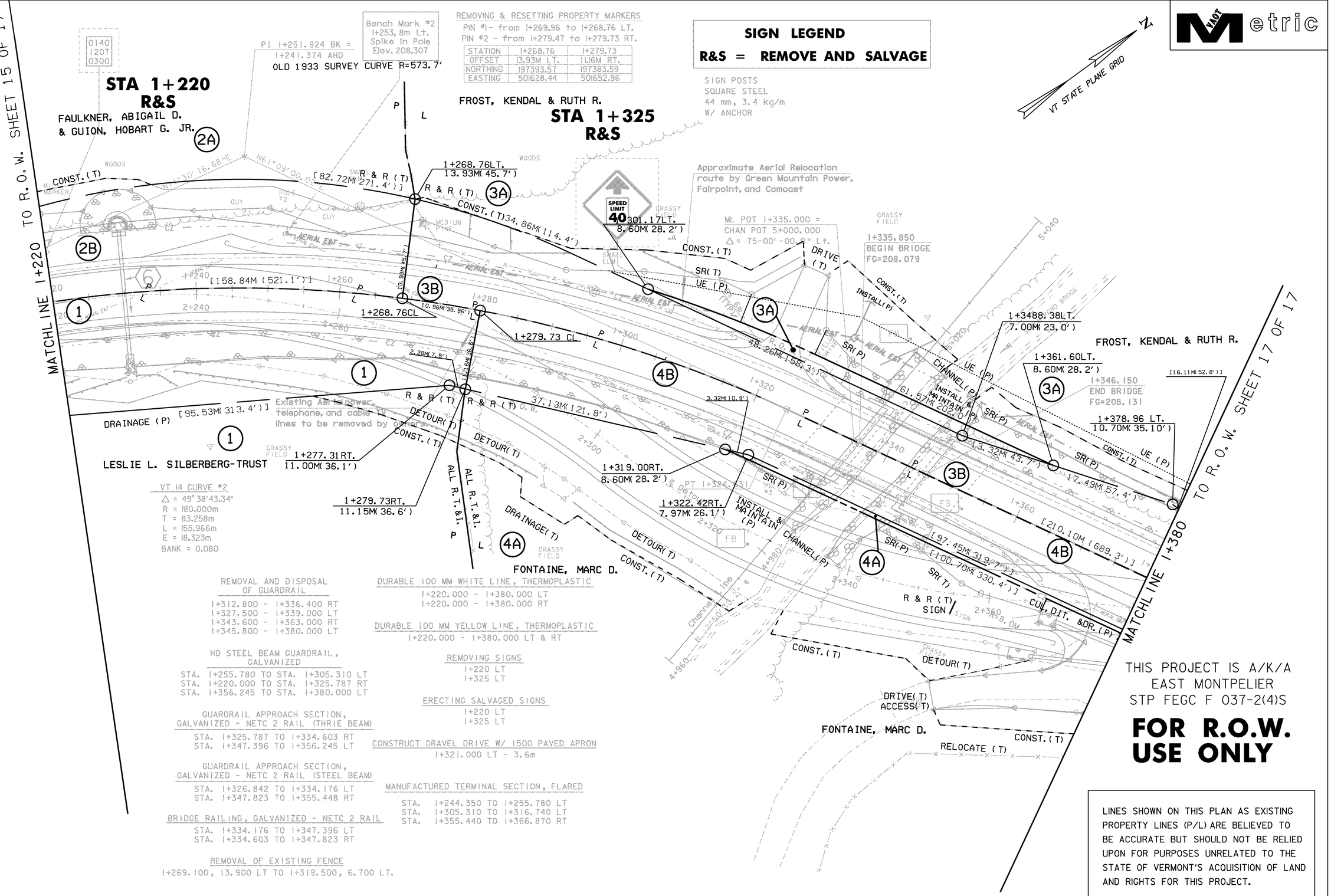
THIS PROJECT IS A/K/A
EAST MONTPELIER STP FEGC F 037-2(4)S

LAYOUT SHEET #1

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
R.O.W. SHEET 15 OF 17

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 41 OF 67



LAYOUT SHEET #2

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)
FILE NAME: 78f200\str\sf200bdr.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
R.O.W. SHEET 16 OF 17	SHEET 42 OF 67

VAOT Metric

MATCHLINE I+380 TO R.O.W. SHEET 16 OF 17

40 M.P.H.

STA 1+445 LT R&S

I+420.000 END PROJECT BEGIN APPROACH

I+470.000 END APPROACH

N

VT STATE PLANE GRID

END ROW PROJECT

STP FEGC F 037-2(4)S

1+484.83 CL

Approximate Aerial Relocation route by Green Mountain Power, Fairpoint, and Comcast

FROST, KENDAL & RUTH R.

3A

FROST, KENDAL & RUTH R.

3A

1+394.65LT. 7.00MLT.(23.')

INSTALL(P)

UE (P)

UE (P)

CONST.(T)

SR(P)

AERIAL E&T

SR(P)

[16.11M 52.8']

SR(T)

UE (P)

SMALL ELM

CONST.(T)

ALL R.T. & I.

1+484.83 LT. 7.00M(23.0')

95.18M(312.3')

AGRICULTURAL FIELD

WOODS

TEL POLE #10-6/30

GUY

AGRICULTURAL FIELD

3B

I+400

N61°09'00.02"E

I+420

I+440

I+460

3B

I+480

I+500

I+520

VT RTE 14 TO HARDWICK

7.00M 23.0')

P

L

[210.10M (689.3')]

2+400

4B

2+420

N60°47'55.4"E

2+440

4B

8.00M 26.2')

0.61M 2.0')

[97.45M(319.7')]

[100.70M(330.4')]

69.87M(229.2')

CUL DIT. &DR.(P)

DETOUR(T) SR(T)

CONST.(T)

SR(P)

SR(P)

SR(T)

SR(T)

CONST.(T)

WATER COURSE

EXISTING MAILBOX

GRASSY FIELD

MEDIUM PINE

4A

4A

FONTAINE, MARC D.

INSTALL(P)

1+484.83 RT. 8.00M(26.2')

HABITAT

HABITAT

WOODS

WOODS

CONST.(T) ACCESS(T) DRIVE(T)

NEXT 2 MILES

STA 1+396 RT R&S

1+420.00 RT. 8.04M.(26.4')

1+420.00 RT. 8.64M.(28.3')

GRAVEL DRIVE

WOODS

Existing Aerial power, telephone, and cable TV lines to be removed by owners.

Bench Mark #3
I+490, 7m Lt.
Spike in Pole
Elev. 211.632

REMOVAL & DISPOSAL OF GUARDRAIL
I+380.000 - I+418.800 LT

MANUFACTURED TERMINAL SECTION, FLARED
STA. I+407.490 TO TO I+418.920 LT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA. I+380.000 - I+407.490 LT

CONSTRUCT GRAVEL DRIVE W/ PAVED APRON
I+382.000 RT - 12.000m

RELOCATE MAILBOX, SINGLE SUPPORT
FROM I+391.000 RT
TO I+392.000, 7.000 RT

REMOVAL OF EXISTING FENCE
I+400.000 TO I+470.000 LT

REMOVING SIGNS
I+445 LT (2)
I+396 RT (2)

ERECTING SALVAGED SIGNS
I+445 LT (2)
I+396 RT (2)

DURABLE 100 MM WHITE LINE, THERMOPLACTIC
I+380.000 - I+470.000 LT
I+380.000 - I+470.000 RT

DURABLE 100 MM YELLOW LINE, THERMOPLASTIC
I+380.000 - I+470.000 LT & RT

CONSTRUCT PAVED MAILBOX TURNOUT
I+388.000 - I+402.000 RT 1.800 WIDE

COLD PLANING BITUMINOUS PAVEMENT
I+450.000 - I+470.000

SIGN LEGEND

R&S = REMOVE AND SALVAGE

SIGN POSTS
SQUARE STEEL
50 mm, 3.9 kg/m
W/ ANCHOR

NOTE: THERE IS A SIGN PROJECT CURRENTLY UNDER CONSTRUCTION THAT MAY CHANGE THE TYPE/LOCATION OF SIGNS. EACH SIGN SHALL BE REMOVED, SALVAGED, AND ERECTED AS CLOSE TO ITS EXISTING LOCATION AS POSSIBLE.

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES (P/L) ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

7 STA I+380.6 RT.
NEW 450 x 20.0M OPTION PIPE W/ END SECTION @ INLET W/ STONE PAD, TYPE I STONE FILL
NEW 1.0 X 2.0 OUTLET DITCH W/ STONE FILL PAD, TYPE I STONE FILL

7A REMOVE EXISTING

8 EXISTING CULVERT - DO NOT DISTURB

THIS PROJECT IS A/K/A
EAST MONTPELIER STP FEGC F 037-2(4)S

0 10 20 30

1:250 SCALE IN METERS

FOR R.O.W. USE ONLY

EROSION CONTROL DETAIL ON R.O.W. SHEET 12 OF 17

LAYOUT SHEET #3

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
R.O.W. SHEET 17 OF 17 SHEETS

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 43 OF 67

EPSC NARRATIVE

1.1 PROJECT DESCRIPTION

BEGINNING ON VT 14 IN EAST MONTPELIER AT A POINT APPROXIMATELY 176 METERS (0.11 MILES) SOUTH OF BRIDGE #69 OVER SODOM POND BROOK AND EXTENDING NORTHERLY ALONG VT 14 TO A POINT 120 METERS (0.07 MILES) NORTH OF THE BRIDGE.

WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES INSTALLATION OF A TEMPORARY BRIDGE, REPLACEMENT OF BRIDGE #69 ON A PROPOSED ALIGNMENT, WIDENING OF ROADWAY, NEW GUARDRAIL, PAVEMENT AND ASSOCIATED ROADWAY ITEMS.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 2.00 ACRES.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE WATER RUNOFF SHOULD BE MINIMAL AND BE LIMITED TO THE PROJECT AREAS DUE TO THE NATURE OF THE SURROUNDING TERRAIN.

THE OVERALL TOPOGRAPHY OF THE AREA IS RELATIVELY FLAT, WITH STEEP SLOPES OCCURRING ONLY AT VERMONT ROUTE 14 SIDE SLOPES.

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

SODOM POND BROOK IS THE ONLY WATERWAY WITHIN THE PROJECT LIMITS. SODOM POND BROOK IS CHARACTERIZED AS SMALL, LOW RELIEF, ALLUVIAL, MEANDERING AND EQUIWIDTH.

THERE WILL BE CHANNEL WORK AS PART OF THIS PROJECT.

THERE ARE CLASS II AND CLASS III WETLANDS THROUGHOUT THE PROJECT AREA. SEE SITE PLANS FOR FURTHER DETAIL.

THERE ARE SEVERAL EXISTING CULVERTS AND DRAINAGE WAYS WITHIN THE PROJECT LIMITS.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

VERMONT ROUTE 14 IS AN EXISTING PAVED ROAD.

THE MAJORITY OF THIS PROJECT IS CONSIDERED TO BE “IN A FILL TYPICAL”, MEANING THE EXISTING ROADWAY (VERMONT ROUTE 14) IS HIGHER THAN THE SURROUNDING MEAN GROUND ELEVATION.

THERE ARE TWO EXISTING GRAVEL DRIVES THAT WILL BE REDEVELOPED AS PART OF THIS PROJECT.

THERE ARE NO BUILDINGS LOCATED WITHIN THE PROJECT.

THERE WILL BE SOME RELOCATION OF THE EXISTING OVERHEAD UTILITIES AS PART OF THIS PROJECT.

FOR FINAL CONTOURS AND SLOPES SEE THE CROSS SECTIONS AND/OR EPSC - FINAL CONDITIONS SITE PLAN.

1.2.4 VEGETATION

THE VEGETATION SURROUNDING THE PROJECT IS A MIX OF GRASSY FIELDS, AGRICULTRUAL FIELDS AND WOODED AREAS WITH SCATTERED GROUPS OF SMALL TREES. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE ON THE EXISTING ALIGNMENT AND THE TEMPORARY BRIDGE.

FOLLOWING THE CONSTRUCTION OF THE NEW BRIDGE, THE SLOPES WILL BE STABILIZED WITH STONE FILL AND VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE WEB SOIL SURVEY FOR THE COUNTY OF ADDISON, VERMONT. SOILS IN THE PROJECT AREA ARE AS FOLLOWS:

SOILS NAME	SLOPE	EROSION FACOTR (K)
4A - SUNNY SILT LOAM	0-2%	0.32
41E - BUXTON SILT LOAM	25-45%	0.32
44B- LAMOINE SILT LOAM	3-8%	0.32
44C- LAMOINE SILT LOAM	8-15%	0.32
60A- WEIDER VERY FINE SANDY LOAM	0-3%	0.32

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

DUE TO ENGINEERING REQUIREMENTS FOR FILL MATERIAL, MUCH OF THE FILL MATERIAL WILL NEED TO BE BROUGHT IN FROM AN OUTSIDE SOURCE. SINCE IT IS UNKNOWN WHERE THIS SOURCE PIT WILL BE, EROSABILITY PROPERTIES ARE NOT PROVIDED HEREIN.

1.2.6 SENSITIVE RESOURCES AREAS

THERE ARE NO CRITICAL HABITATS, HISTORICAL AREAS, THREATENED AND ENDANGERED SPECIES EXISTING WITHIN THE PROJECT AREA.

THERE IS A WILDLIFE HABITAT AREA WITHIN CLOSE PROXIMITY TO THE PROJECT AREA, WHICH WILL NOT BE IMPACTED BY THIS PROJECT.

SENSITIVE RESOURCES LOCATED WITHIN THE PROJECT LIMITS ARE ARCHEOLOGICAL AREAS, AGRICULTURAL LAND, WATER RESOURCES (SODOM POND BROOK), FLOOD PLAIN, AND CLASS II AND CLASS III WETLANDS.

1.3 RISK EVALUATION

RISK DETERMINATION

THIS PROJECT HAS BEEN DETERMINED TO BE LOW RISK DUE TO THE FOLLOWING MITIGATION FACTORS.

A. THE PROJECT WILL BE LIMITED TO TWO ACRES OR LESS OF DISTURBED EARTH AT ANY ONE TIME.
B. THE PROJECT WILL HAVE A MAXIMUM OF 7 CONSECUTIVE DAYS OF DISTURBED EARTH EXPOSURE IN ANY LOCATION BEFORE TEMPORARY OR FINAL STABILIZATION IS IMPLEMENTED
C. THE PROJECT WILL INCLUDE LESS THAN TWO ACRES OF DISTURBANCE ON SOIL THAT IS GREATER THAN 5% SLOPE.

BASIC RISK EVALUATION RESULTED IN A MORE DETAILED ANALYSIS TO DETERMINE RISK, AND RESULTED IN THE FOLLOWING REQUIREMENTS:

1. IMPLEMENT THE LOW RISK SITE HANDBOOK AND FOLLOW THIS EPSC PLAN PREPARED FOR THIS PROJECT.
2. ALL AREAS MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN 21 DAYS OF THE INITIAL DISTURBANCE AND STABILIZED THEREAFTER ON A DAILY BASIS. THE FOLLOWING EXCEPTIONS APPLY:
   A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECASTED FOR THE NEXT 24 HOURS.
   B. STABILIZATION IS NOT REQUIRED IF THE WORK IS OCCURRING IN A SELF-CONTAINED EXCAVATION WITH A DEPTH OF 2 FEET OR GREATER.
3. INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT RESULTING IN THE DISCHARGE OF STORMWATER FROM THE CONSTRUCTION SITE.
4. IF THERE IS A DISCHARGE OF VISIBLY DISCOLORED STORMWATER FROM THE CONSTRUCTION SITE OR FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THE PERMITTEE SHALL TAKE IMMEDIATE CORRECTIVE ACTION.
5. IF THERE IS A DISCHARGE OF VISIBLY DISCOLORED STORMWATER FROM THE CONSTRUCTION SITE TO WATERS OF THE STATE, THE ON-SITE PLAN COORDINATOR SHALL, WITHIN 72 HOURS OF FIRST DISCOVERING THE DISCHARGE, SUBMIT A WRITTEN REPORT ABOUT THE DISCHARGE AND THE RESULTING CORRECTIVE ACTION TO THE VERMONT AGENCY OF NATURAL RESOURCES, DEPARTMENT OF ENVIRONMENTAL CONSERVATION DEC).

RISK RE-EVALUATION

SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN A POTENTIAL CHANGE IN THE RISK OR SHOULD THE PROJECT BECOME PART OF A COMMON DEVELOPMENT PLAN, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH THE DEC VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION PERMIT PROCESS.

BORROW AND STAGING EROSION PREVENTION AND SEDIMENT CONTROL SHALL BE PAID FOR IN ACCORDANCE WITH SUBSECTION 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

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

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

ADDITIONAL EROSION CONTROL DETAILS MAY ALSO BE FOUND ON THE FOLLOWING WEBSITE:
www.aot.state.vt.us/Caddhelp

COORDINATE THE INSTALLATION, USE AND REMOVAL OF EPSC MEASURES WITH THE CONSTRUCTION ACTIVITIES TO ENSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. THE CONTRACTOR WILL USE ADDITIONAL EPSC MEASURES AS NECESSIATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. SEE SUBSECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

INSTALL ALL EPSC MEASURES AS SHOWN IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE ENGINEER. DO NO MODIFY THE TYPE, SIZE OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT THE APPROVAL OF THE ENGINEER. ALL CHANGES SHALL BE APPROVED BY THE CONSTRUCTION ENVIRONMENTAL ENGINEER AND ALSO BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT AND IF NECESSARY, REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER.

DO NOT ALLOW ANY CONSTRUCTION EQUIPMENT TO OPERATE ON THE DOWN SLOPE SIDE OF THE PERIMETER CONTROL MEASURES.

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING, DENOTED -PDF- ON THE PLANS, IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

1.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZED CONSTRUCTION ENTRANCE

STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS SHOWN IN THE PLANS TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS AND REDUCE POTENTIAL RUNOFF OF SEDIMENT INTO RECEIVING WATERS. STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.

1.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS NECESSARY.

1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED WHEN UPLAND RUNOFF IS ENTERING THE PROJECT LIMITS.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK DAMS SHALL BE UTILIZED TO CONTROL CONCENTRATED FLOW OF STORMWATER WITHIN THE PROJECT LIMITS.

1.4.7 CONSTRUCT PERMANENT CONTROLS

USE STONE AS SHOWN IN THE PLANS FOR SLOPE LINING, INLET, OUTLET AND CHANNEL PROTECTION

RE-VEGETATE AREAS AS SHOWN ON THE FINAL CONDITIONS PLANS WITH SEED AND MULCH.

THE SLOPES ALONG CHANNEL BANKS ARE TO BE LINED WITH HEAVY STONE. STREAM BANK VEGETATION WILL THEN BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

1.4.8 STABILIZE EXPOSED SOILS

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION

SHOULD CONSTRUCTION PROCEDE PAST OCTOBER 15TH, SPECIFIC WINTER EPSC PROCEDURES SHALL BE FOLLOWED DURING CONSTRUCTION AND PRIOR TO ANY SHUT DOWN. SEE LOW RISK SITE HANDBOOK FOR FURTHER INFORMATION.

1.4.10 STABILIZE SOIL AT FINAL GRADE

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.11 DE-WATERING ACTIVITIES

FILTER BAGS SHALL BE USED DURING DEWATERING PUMPING OPERATIONS.

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

EPSC NARRATIVE

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: sf200epsc_nar.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_nar.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX

Bench Mark #1
1+028, 6m Lt.
Spike in Root
Elev. 208.550

VTI4 CURVE#1
△ = 35°21'49.48"
R = 170.000m
T = 54.195m
L = 104.926m
E = 8.429m

SOIL INFORMATION
41E - BUXTON SILT LOAM
25 - 45% SLOPES
"K" VALUE = 0.??

VT STATE PLANE GRID

1+110.000
BEGIN APPROACH

1+160.000
END APPROACH
BEGIN PROJECT

PT 1+112.353

PI 1+061.621 BK =
1+058.158 AHD

PC 1+168.666

MATCHLINE 1+220

SMALL PINE
POLE #86/2
BRUSH
WATER COURSE
GRASSY FIELD
WOODS
STONE FILL
SMALL ELM
WOOD GUIDE POST
GUY
POLE #20K/87
POLE #1
SODOM POND BROOK
FLOOD PLAIN
CLASS II WETLAND
ARCH
AERIAL E&T

Soils Classification Boundry

SOIL INFORMATION
4A - SUNNY SILT LOAM
0 - 2% SLOPES
"K" VALUE = 0.32

SOIL INFORMATION
60A-WEIDER VERY FINE SANDY LOAM
0 - 3% SLOPES
"K" VALUE = 0.32

EXISTING CONDITIONS LEGEND

	WETLAND BOUNDARY
FLOOD PLAIN	FLOOD PLAIN BOUNDARY
ARCH ARCH	ARCHAEOLOGICAL SENSITIVITY BOUNDARY
AG AG	AGRICULTURAL LANDS BOUNDARY
HABITAT	WILDLIFE HABITAT BOUNDARD

0 10 20 30
SCALE IN METERS

EPSC EXISTING CONDITIONS SITE PLAN #1

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_exl.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 45 OF 67

VAOT Metric

SOIL INFORMATION
41E - BUXTON SILT LOAM
25 - 45% SLOPES
"K" VALUE = 0.??

SOIL INFORMATION
60A-WEIDER VERY FINE SANDY LOAM
0 - 3% SLOPES
"K" VALUE = 0.32

SOIL INFORMATION
4A - SUNNY SILT LOAM
0 - 2% SLOPES
"K" VALUE = 0.32

Bench Mark #2
1+253.8m Lt.
Spike in Pole
Elev. 208.307

PI 1+251.924 BK =
1+241.374 AHD

N11°-47'-16.68"E

N6°-09'-00.02"E

MATCHLINE 1+220

MATCHLINE 1+380

Approximate Aerial Relocation route by Green Mountain Power, Fairpoint, and Comcast

1+335.850
BEGIN BRIDGE
FG=208.079

1+346.150
END BRIDGE
FG=208.13

PT 1+324.631

VT 14 CURVE #2
△ = 49°38'43.34"
R = 180.000m
T = 83.258m
L = 155.966m
E = 18.323m
BANK = 0.080

Existing Aerial power, telephone, and cable TV lines to be removed by owners.

Soils Classification Boundry

CLASS II WETLAND

FLOOD PLAIN

RIPARIAN BUFFER

AERIAL E&T

ARCH

AG

WOODS

GRASSY FIELD

SMALL ELM

MEDIUM PINE

MILE MARKER

GUY

POLE #2

POLE #3

SIGN

GRAVEL DRIVE

FIELD DRIVE

SODOM POND BROOK

1+220 1+240 1+260 1+280 1+300 1+320 1+340 1+360 1+380

EXISTING CONDITIONS LEGEND

	WETLAND BOUNDARY
FLOOD PLAIN	FLOOD PLAIN BOUNDARY
ARCH — ARCH	ARCHAEOLOGICAL SENSITIVITY BOUNDARY
AG — AG	AGRICULTURAL LANDS BOUNDARY
HABITAT	WILDLIFE HABITAT BOUNDARD

0 10 20 30
SCALE IN METERS

EPSC EXISTING CONDITIONS SITE PLAN #2

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200eosc_ex2.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 46 OF 67

VAOT Metric

SOIL INFORMATION
60A-WEIDER VERY FINE SANDY LOAM
0 - 3% SLOPES
"K" VALUE = 0.32

1+420.000
END PROJECT
BEGIN APPROACH

1+470.000
END APPROACH

N

VT STATE PLANE GRID

Approximate Aerial Relocation route by Green Mountain Power, Fairpoint, and Comcast

WOODS
CLASS II WETLAND

ALDERS VERY WET

SMALL ELM

SMALL ELM

AGRICULTURAL FIELD

WOODS

CLASS II WETLAND

TEL POLE #10-6/30

AGRICULTURAL FIELD

MATCHLINE 1+380

1+380

1+400

N61° 09' 00.02"E

1+420

1+440

1+460

1+480

1+500

1+520

FLOOD PLAIN

EXISTING MAILBOX

POLE #4

WATER COURSE

GRASSY FIELD

MEDIUM PINE

CLASS III WETLAND

POLE #5

HABITAT

HABITAT

WOODS

WOODS

HABITAT

FLOOD PLAIN

GRAVEL DRIVE

Existing Aerial power, telephone, and cable TV lines to be removed by owners.

SOIL INFORMATION
44C - LAMOINE SILT LOAM
8 -15% SLOPES
"K" VALUE = 0.32

Bench Mark #3
1+490, 7m Lt.
Spike In Pole
Elev. 211.632

SOIL INFORMATION
44B - LAMOINE SILT LOAM
3 -8% SLOPES
"K" VALUE = 0.32

EXISTING CONDITIONS LEGEND

	WETLAND BOUNDARY
FLOOD PLAIN	FLOOD PLAIN BOUNDARY
ARCH — ARCH	ARCHAEOLOGICAL SENSITIVITY BOUNDARY
AG — AG	AGRICULTURAL LANDS BOUNDARY
HABITAT	WILDLIFE HABITAT BOUNDARD

0 10 20 30

SCALE IN METERS

EPSC EXISTING CONDITIONS SITE PLAN #3

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_ex3.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 47 OF 67

VT14 CURVE #1
△ = 35° 21' 49.48"
R = 170.000m
T = 54.195m
L = 104.926m
E = 8.429m

1+110.000
BEGIN APPROACH

1+160.000
END APPROACH
BEGIN PROJECT

PT 1+112.353

PC 1+168.666

PI 1+061.621 BK =
1+058.158 AHD
OLD SURVEY CURVE 1933 R=521.7'

N46°52'06.16"E

N11°30'16.68"E

MATCHLINE 1+220

RIPARIAN BUFFER

CLASS II WETLAND

SODOM POND BROOK

VT STATE PLANE GRID

LEGEND

	CHECK DAM
	CUT/FILL LIMITS
	DROP INLET PROTECTION
FB	FILTER BAG
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
	ROLLED EROSION CONTROL PRODUCT (RECP)
	ROCK OUTLET PROTECTION
	SILT FENCE
	SILT FENCE, WIRE WOVEN REINFORCED
	STABILIZED CONSTRUCTION ENTRANCE
	TEMPORARY INLET PROTECTION
	TURBIDITY CURTAIN

0 10 20 30
SCALE IN METERS

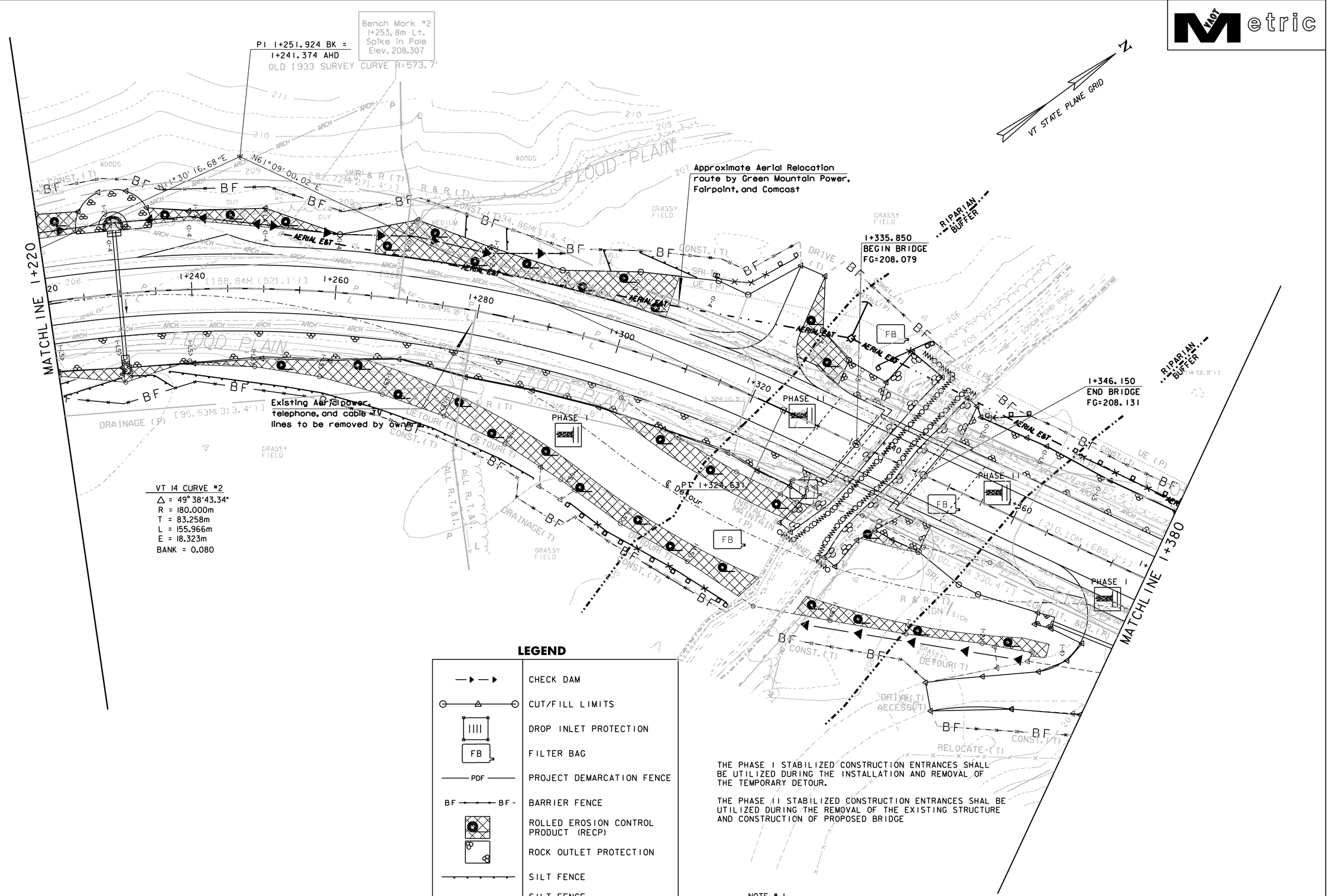
EPSC CONSTRUCTION SITE PLAN #1

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_durl.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 48 OF 67

VAOT Metric



VT 14 CURVE #2
△ = 49°38'43.34"
R = 180.000m
T = 83.258m
L = 155.966m
E = 18.323m
BANK = 0.080

LEGEND

	CHECK DAM
	CUT/FILL LIMITS
	DROP INLET PROTECTION
FB	FILTER BAG
PDF	PROJECT DEMARCATION FENCE
BF BF	BARRIER FENCE
	ROLLED EROSION CONTROL PRODUCT (RECP)
	ROCK OUTLET PROTECTION
	SILT FENCE
	SILT FENCE, WIRE WOVEN REINFORCED
	STABILIZED CONSTRUCTION ENTRANCE
	TEMPORARY INLET PROTECTION
	TURBIDITY CURTAIN

THE PHASE I STABILIZED CONSTRUCTION ENTRANCES SHALL BE UTILIZED DURING THE INSTALLATION AND REMOVAL OF THE TEMPORARY DETOUR.

THE PHASE II STABILIZED CONSTRUCTION ENTRANCES SHAL BE UTILIZED DURING THE REMOVAL OF THE EXISTING STRUCTURE AND CONSTRUCTION OF PROPOSED BRIDGE

NOTE # 1
THE CONTRACTOR HAS THE OPTION OF USING STONE FILL FOR SLOPE STABILIZATION ALONG THE TEMPORARY DETOUR FILL SLOPES. IF STONE FILL IS USED, THE TEMPORARY EROSION MATTING ALONG THAT AFFECTED AREA WILL NO LONGER BE REQUIRED. (STATIONS 1+215 TO 2+368 RT.)

0 10 20 30
SCALE IN METERS

EPSC CONSTRUCTION SITE PLAN #2

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_dur2.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 49 OF 67

VAOT Metric

1+420.000
END PROJECT
BEGIN APPROACH

1+470.000
END APPROACH

Approximate Aerial Relocation route by Green Mountain Power, Fairpoint, and Comcast

N

VT STATE PLANE GRID

MATCHLINE 1+380

CLASS II WETLAND

CLASS III WETLAND

RIPARIAN BUFFER

AERIAL E&T

R.O.W.

INSTALL (P)

CONST. (T)

ACCESS (T)

DRIVE (T)

HABITAT

WOODS

AGRICULTURAL FIELD

GRASSY FIELD

GRAVEL DRIVE

MEDIUM PINE

SMALL ELM

ALDERS VERY WET

TEL POLE #10-6730

Existing Aerial power, telephone, and cable TV lines to be removed by owners.

LEGEND

	CHECK DAM
	CUT/FILL LIMITS
	DROP INLET PROTECTION
FB	FILTER BAG
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
	ROLLED EROSION CONTROL PRODUCT (RECP)
	ROCK OUTLET PROTECTION
	SILT FENCE
	SILT FENCE, WIRE WOVEN REINFORCED
	STABILIZED CONSTRUCTION ENTRANCE
	TEMPORARY INLET PROTECTION
	TURBIDITY CURTAIN

0 10 20 30

SCALE IN METERS

EPSC CONSTRUCTION SITE PLAN #3

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_dur3.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 50 OF 67

Bench Mark #1
1+028, 6m Lt.
Spike in Root
Elev. 208.550

VTI4 CURVE#1
△ = 35°21'49.48"
R = 170.000m
T = 54.195m
L = 104.926m
E = 8.429m

1+110.000
BEGIN APPROACH

1+160.000
END APPROACH
BEGIN PROJECT

PI 1+112.353

PI 1+061.621 BK =
1+058.158 AHD

PC 1+168.666

VT RTE 14 TO
EAST MONTPELIER

MATCHLINE 1+220

RIPARIAN BUFFER

FLOOD PLAIN

SODOM POND BROOK

WATER COURSE

GRASSY FIELD

BRUSH

WOODS

SMALL PINE

ELM

WOOD GUIDE POST

POLE #86½

POLE #20K/87

POLE #1

GUYS

AERIAL E&T

ARCH

STONE FILL

N 46° 52' 06.16" E
N 11° 30' 16.68" E

1+040
1+060
1+080
1+100
1+120
1+140
1+160
1+180
1+200

THE FINAL CONDITIONS SITE PLANS REFLECT FINAL GROUND CONTOURS. THE GRAY SHADED AREAS DEPICT DISTURBED AREAS WHERE SEEDING & MUCHING WILL HAVE BEEN APPLIED.

0 10 20 30
SCALE IN METERS

EPSC FINAL CONDITIONS SITE PLAN #1

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_finl.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 51 OF 67

VAOT Metric

PI 1+251.924 BK =
1+241.374 AHD

N11°30' 16.68"E

N61°09' 00.02"E

MATCHLINE 1+220

VT 14 CURVE #2
△ = 49° 38' 43.34"
R = 180.000m
T = 83.258m
L = 155.966m
E = 18.323m
BANK = 0.080

1+335.850
BEGIN BRIDGE
FG=208.079

RIPARIAN BUFFER

1+346.150
END BRIDGE
FG=208.131

RIPARIAN BUFFER

PT 1+324.631

MATCHLINE 1+380

N

VT STATE PLANE GRID

THE FINAL CONDITIONS SITE PLANS REFLECT FINAL GROUND CONTOURS. THE GRAY SHADED AREAS DEPICT DISTURBED AREAS WHERE SEEDING & MUCHING WILL HAVE BEEN APPLIED.

0 10 20 30
SCALE IN METERS

EPSC FINAL CONDITIONS SITE PLAN #2

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_fin2.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 52 OF 67

VAOT Metric

N

VT STATE PLANE GRID

1+420.000
END PROJECT
BEGIN APPROACH

1+470.000
END APPROACH

MATCHL INE 1+380

1+380 1+400 1+420 1+440 1+460 1+480 1+500 1+520

N61°09'00.02"E

VT RTE 14 TO HARDWICK

FLOOD PLAIN

WOODS

ALDERS VERY WET

SMALL ELM

RIPARIAN BUFFER

AGRICULTURAL FIELD

TEL POLE #10-67-10

EXISTING MAILBOX

POLE #4

WATER COURSE

MEDIUM PINE

GRASSY FIELD

HABITAT

GRAVEL DRIVE

POLE #5

Bench Mark #3
1+490, 7m Lt.
Spike in Pole
Elev. 211.632

THE FINAL CONDITIONS SITE PLANS REFLECT FINAL GROUND CONTOURS. THE GRAY SHADED AREAS DEPICT DISTURBED AREAS WHERE SEEDING & MUCHING WILL HAVE BEEN APPLIED.

0 10 20 30

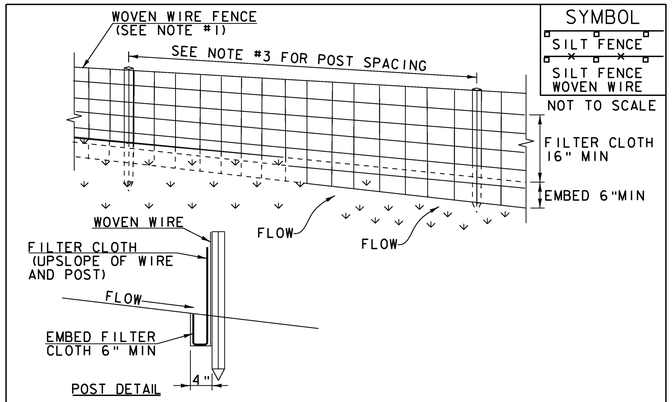
SCALE IN METERS

EPSC FINAL CONDITIONS SITE PLAN #3

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecbdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_fin3.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 53 OF 67



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.

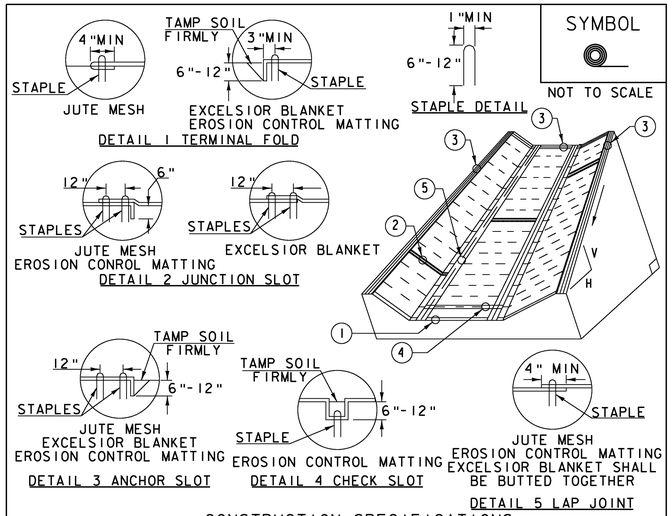
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



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.

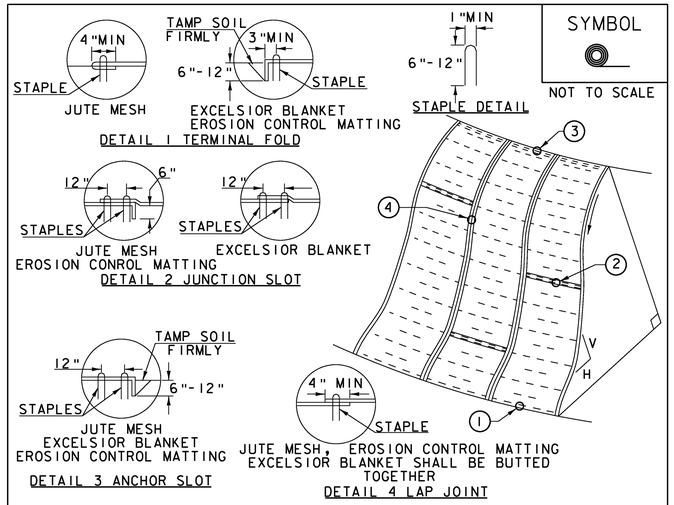
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

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

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

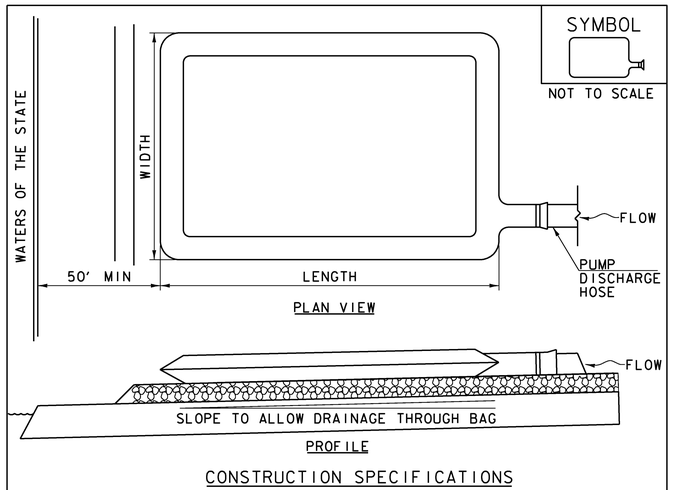
REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

EPSC DETAILS #1

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecd.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_detl.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 54 OF 67



CONSTRUCTION SPECIFICATIONS

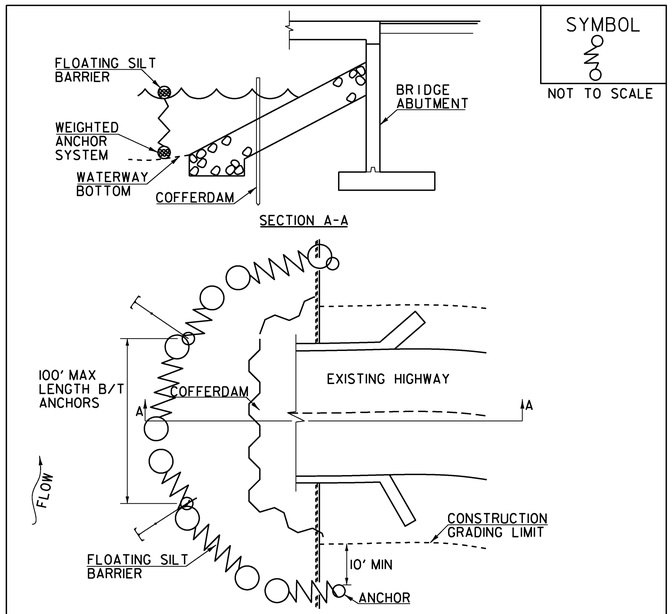
1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION 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



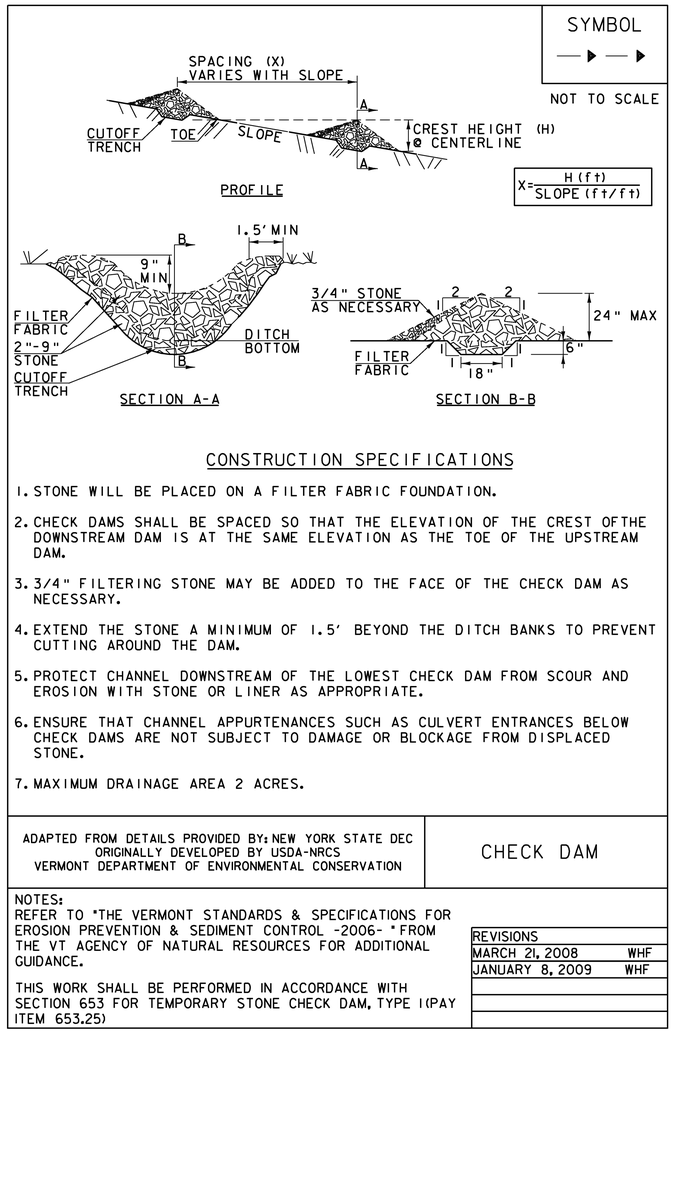
CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF



CONSTRUCTION SPECIFICATIONS

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

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

CHECK DAM

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

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

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

EPSC DETAILS #2

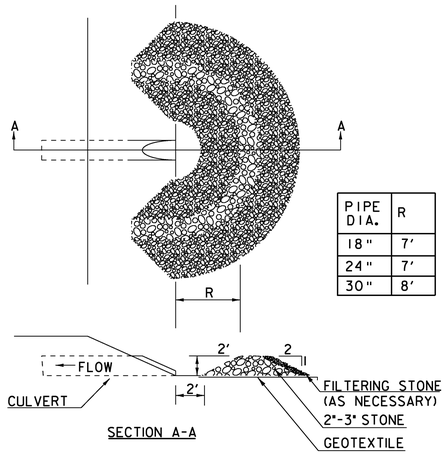
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecd.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_det2.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 55 OF 67

SYMBOL

NOT TO SCALE



PIPE DIA.	R
18"	7'
24"	7'
30"	8'

CONSTRUCTION SPECIFICATIONS

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE THE AREAS UPSTREAM FROM THE CHECK DAM ARE STABILIZED WITH VEGETATION, THE SEDIMENT TRAPPED BEHIND THE DAM SHAL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM(S) SHALL BE FLATTENED AND GRADED IN A MANNER WHICH PROTECTS THE AREA FROM EROSION AND CHANNEL BLOCKAGE . (GEOTEXTILE MUST BE REMOVED).
5. THE GEOTEXTILE MUST BE DISPOSED OF APPROPRIATELY.
6. THE AREA CONTRIBUTING TO THE CHECK DAM SHALL NOT EXCEED 4 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS

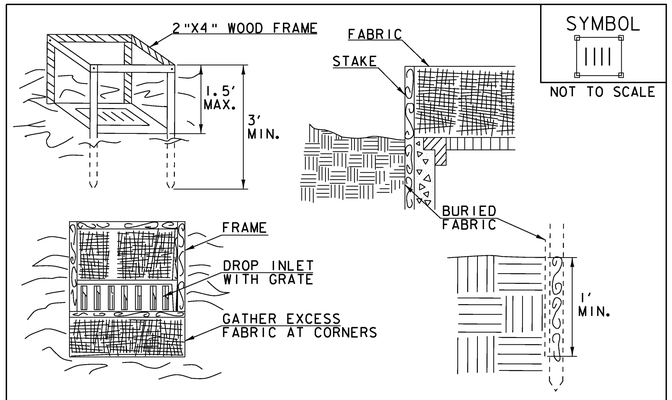
PIPE INLET PROTECTION

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

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

FILTER FABRIC DROP INLET PROTECTION

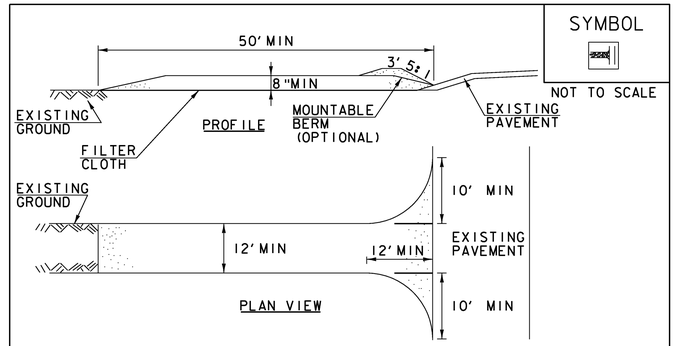
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	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

EPSC DETAILS #3

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecd.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_det3.i

PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 56 OF 67

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			

GENERAL GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10/20/2010	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

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.

SEED

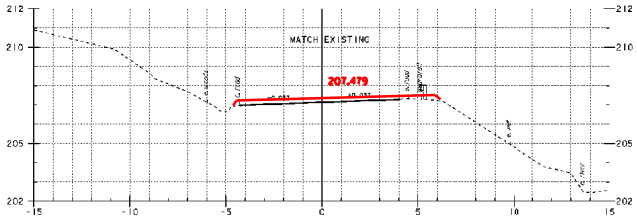
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

EPSC DETAILS #4

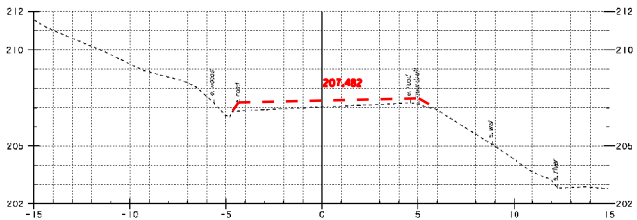
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200ecd.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
sf200epsc_det4.i

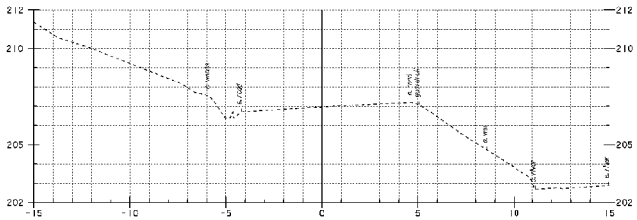
PLOT DATE: 14-JUL-2009
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 57 OF 67



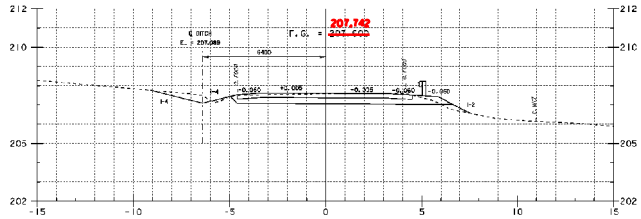
1+110
Begin Approach



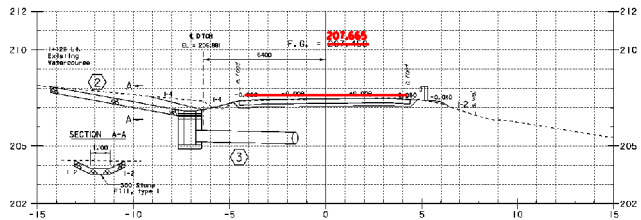
1+100



1+090

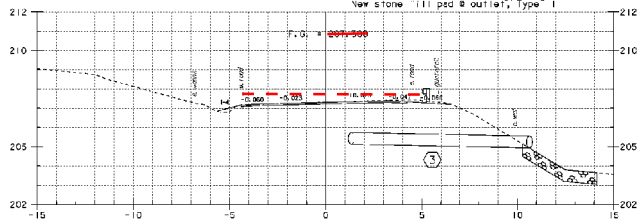


1+140



② Sta 1+128, Lt.
Special ditch w/ stone fill, type I

1+130



③ Sta 1+124.8 Rt. - 1+128. Lt.
New 600 x 8M Option Pipe
w/ New 1.2 x 1.8 PCRCDI w/type B grates (2)
New stone fill psd @ outlet, Type I

1+120

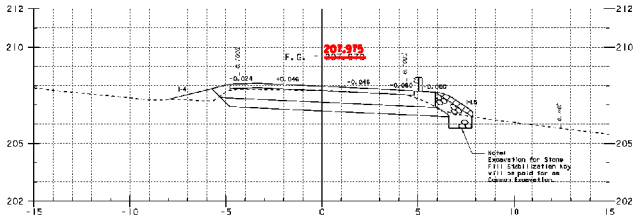
STA 1+090 – STA 1+140
MAINLINE CROSS SECTIONS #1

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78P200\s-r\s78p200xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200xsl1

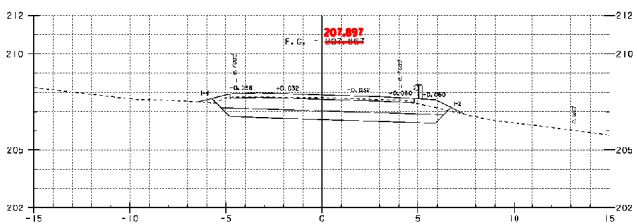
PLOT DATE: 14-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: J. LACROIX
SHEET 58 OF 67

0 1 2 4 6 8 10
SCALE = 1:100



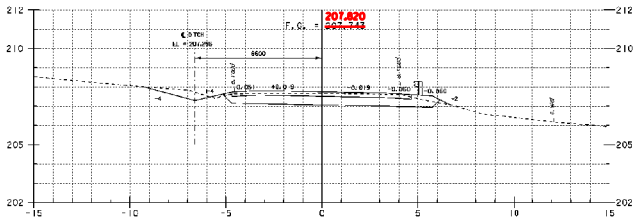
1+170

H 165, RT BEGIN STONE FILL, TYPE II

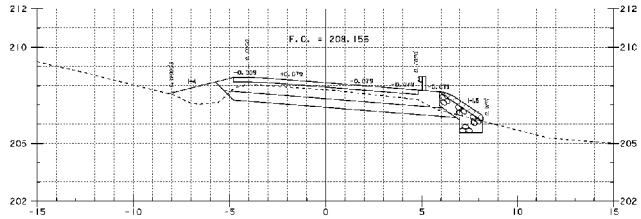


1+160

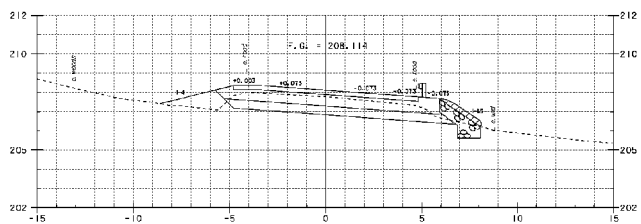
End Approach
Begin Project



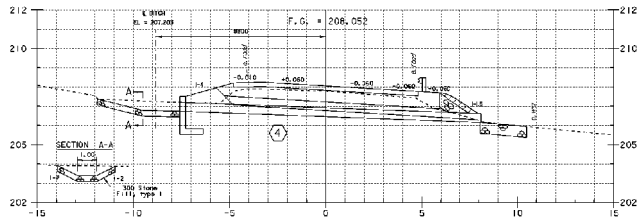
1+150



1+200



1+190



1+180

④ Sta 1+180.0 Lt. - 3'.
Now 450 x 16M Option Pipe w/ New concrete headwall & Inlet
New inlet and Outlet ditches w/stone fill, Type I

STA 1+150 – STA 1+~~120~~ 200

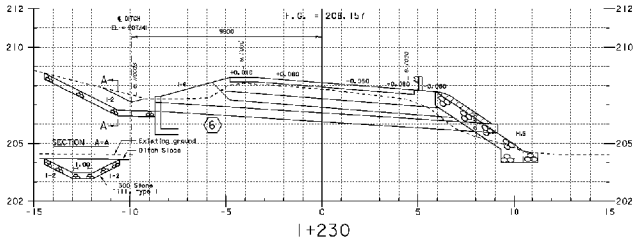
MAINLINE CROSS SECTIONS #2

0 1 2 4 6 8 10

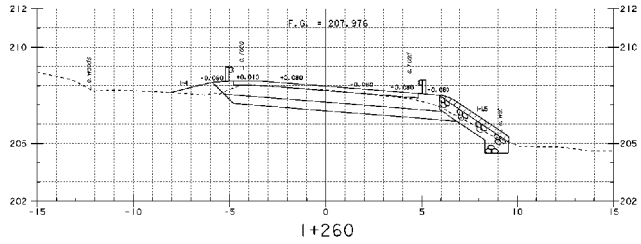
SCALE = 1:100

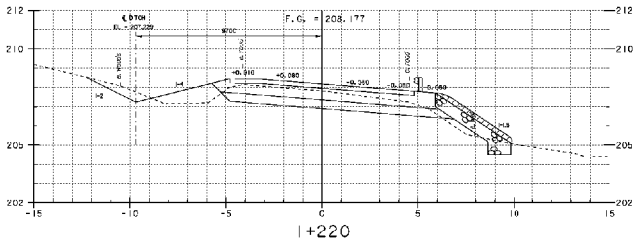
PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

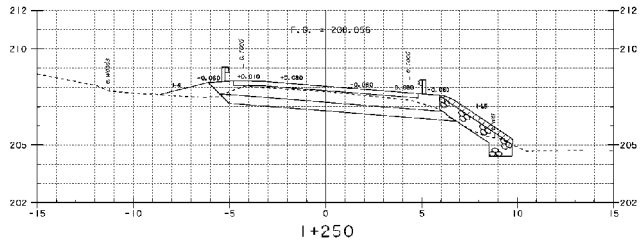
FILE NAME:	78F200\s-r\sf200xsl.dgn	PLOT DATE:	6-JUL-2009
PROJECT LEADER:	K. HIGGINS	DRAWN BY:	M. PELLETT
DESIGNED BY:	J. LACROIX	CHECKED BY:	J. LACROIX
sf200xs2.i		SHEET	59 OF 67

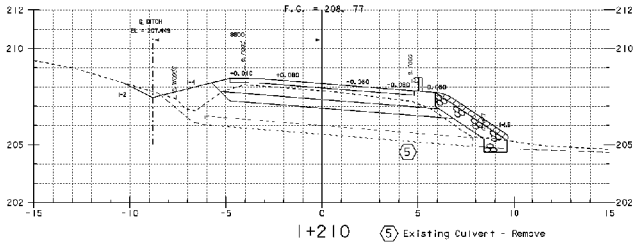


⑥ Sta 1+230.0 Lt. - Rt.
New 450 x .84 Option Pipe w/ New concrete headwall @ inlet
New inlet and outlet ditches w/ stone fill, Type I

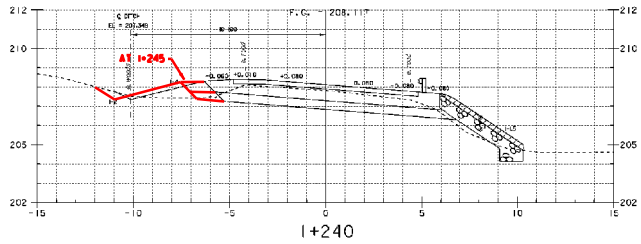








⑤ Existing Culvert - Remove



STA 1+210 - STA 1+260
MAINLINE CROSS SECTIONS #3

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

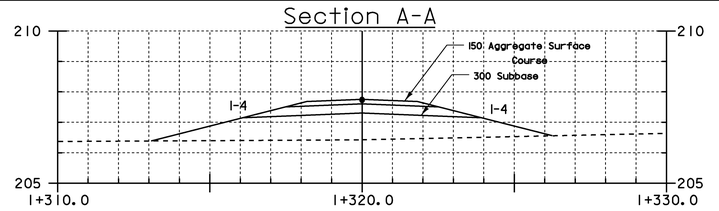
FILE NAME: 78f200xs-r:\sf200xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200xs3.l

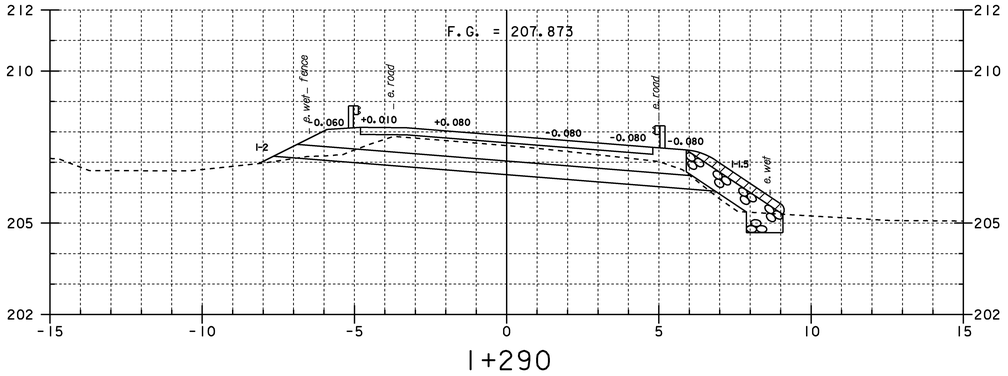
PLOT DATE: 6-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: J. LACROIX
SHEET 60 OF 67

0 1 2 4 6 8 10
SCALE = 1:100

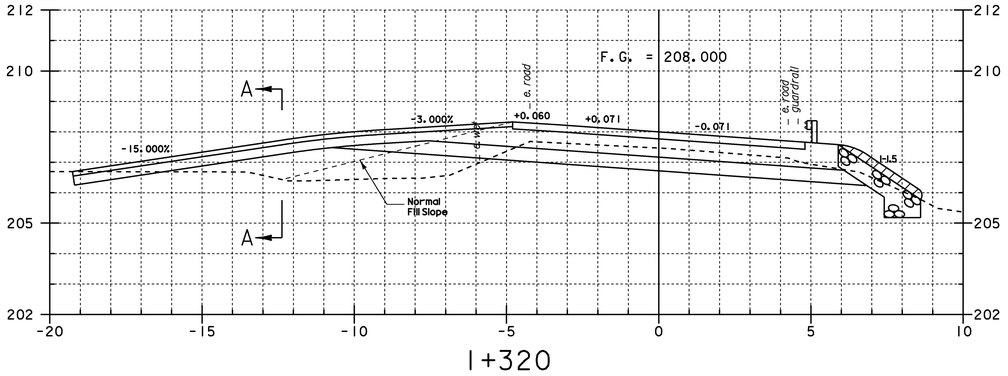
VAOT Metric

Section A-A

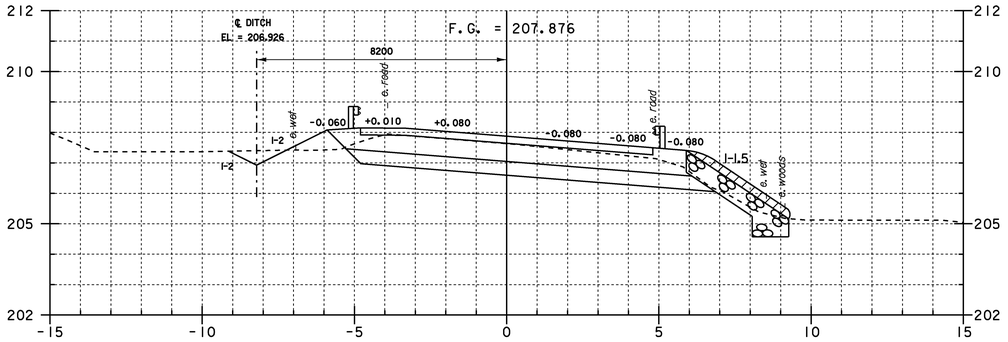




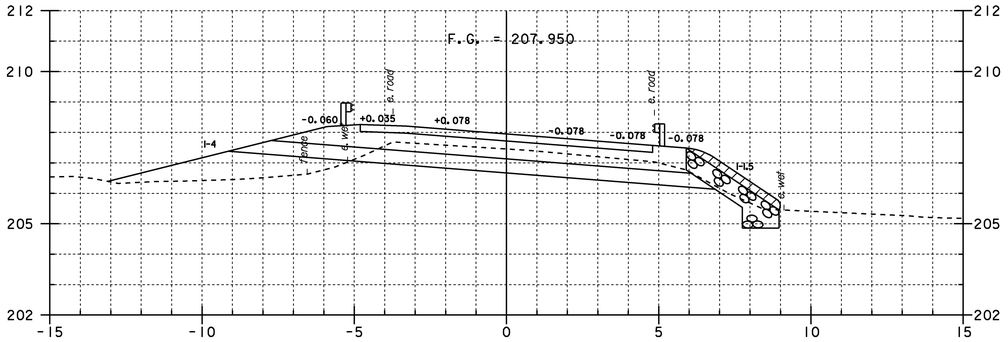
I+290



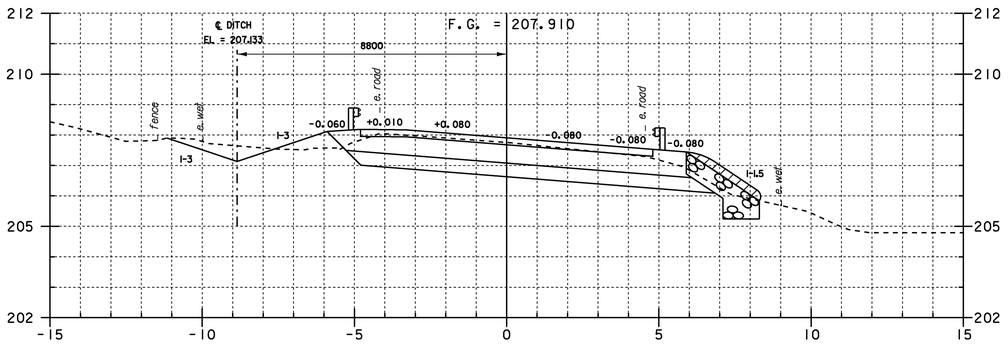
I+320



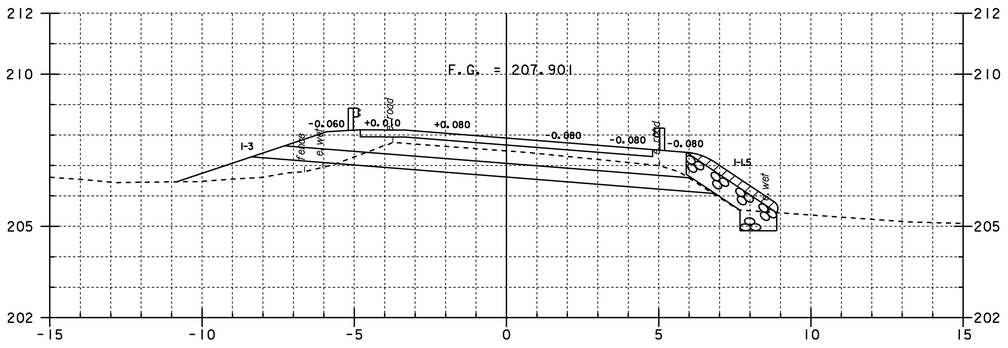
I+280



I+310



I+270



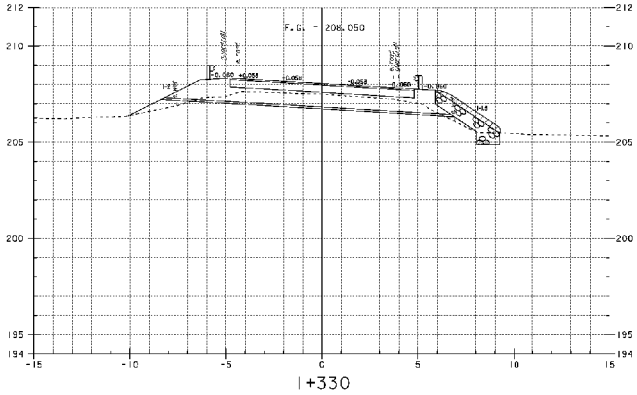
I+300

STA 1+270 – STA 1+320
MAINLINE CROSS SECTIONS #4

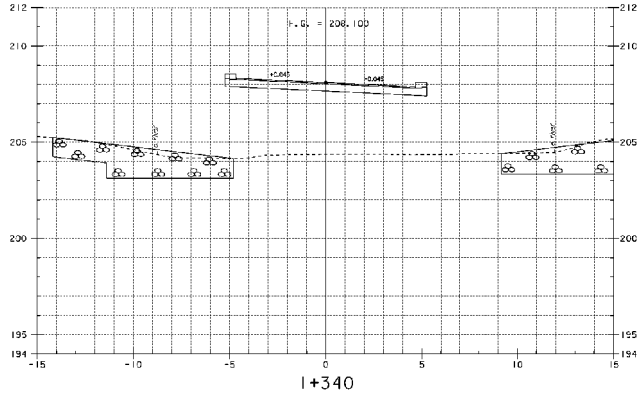
0 1 2 4 6 8 10
SCALE = 1:100

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

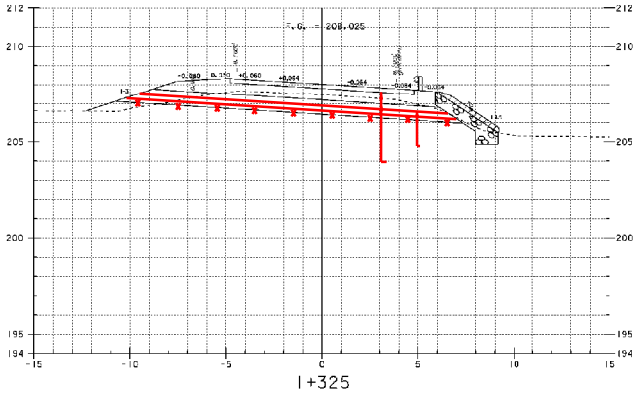
FILE NAME: 78f200\str\sf200xsl.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
sf200xs4.1	SHEET 61 OF 67



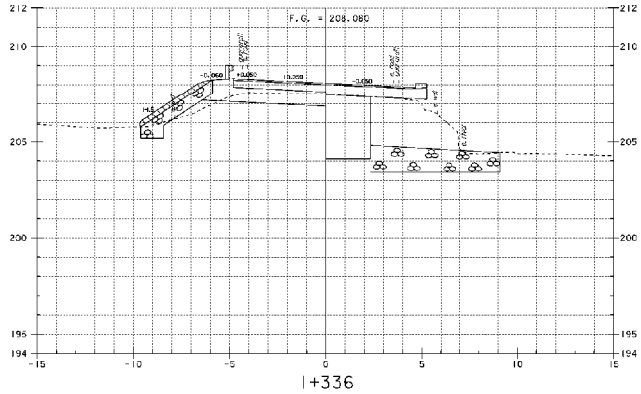
1+330



1+340



1+325



1+336

STA. 1+335.850 BEGIN BRIDGE

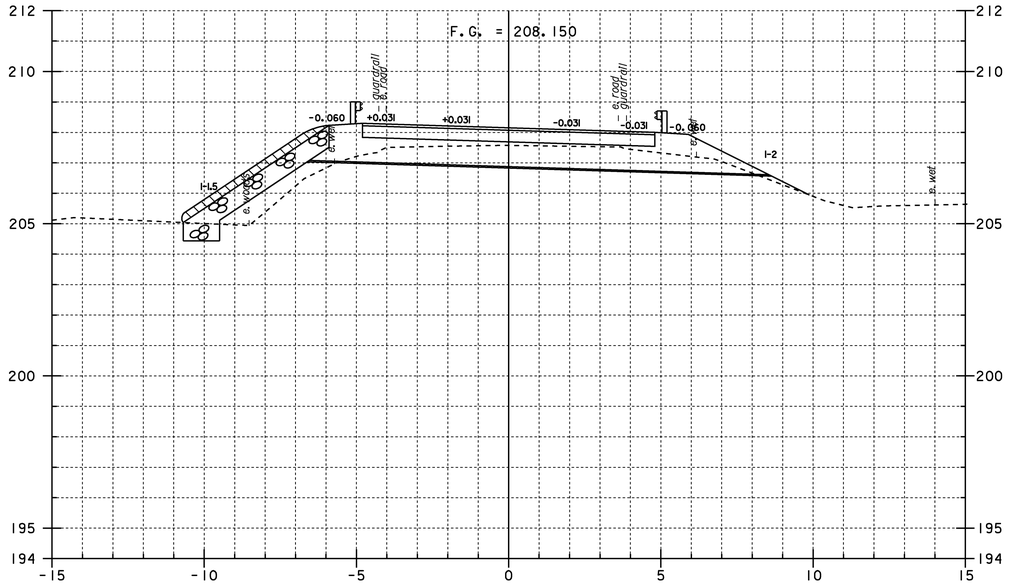
STA 1+325 – STA 1+340
MAINLINE CROSS SECTIONS #5

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78F200\s-r\s78200xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200xs5.l

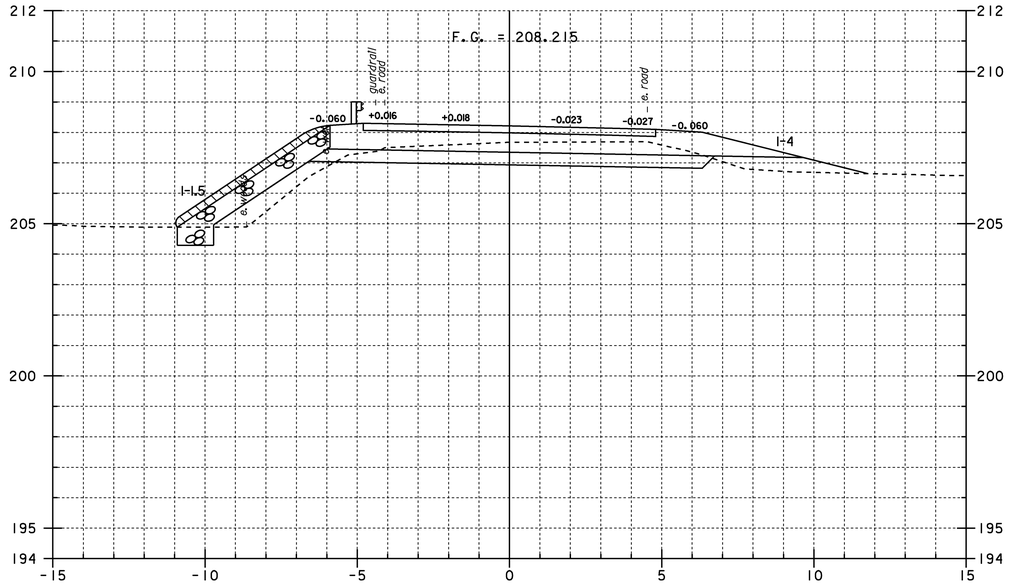
PLOT DATE: 6-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: J. LACROIX
SHEET 62 OF 67

0 1 2 4 6 8 10
SCALE = 1:100

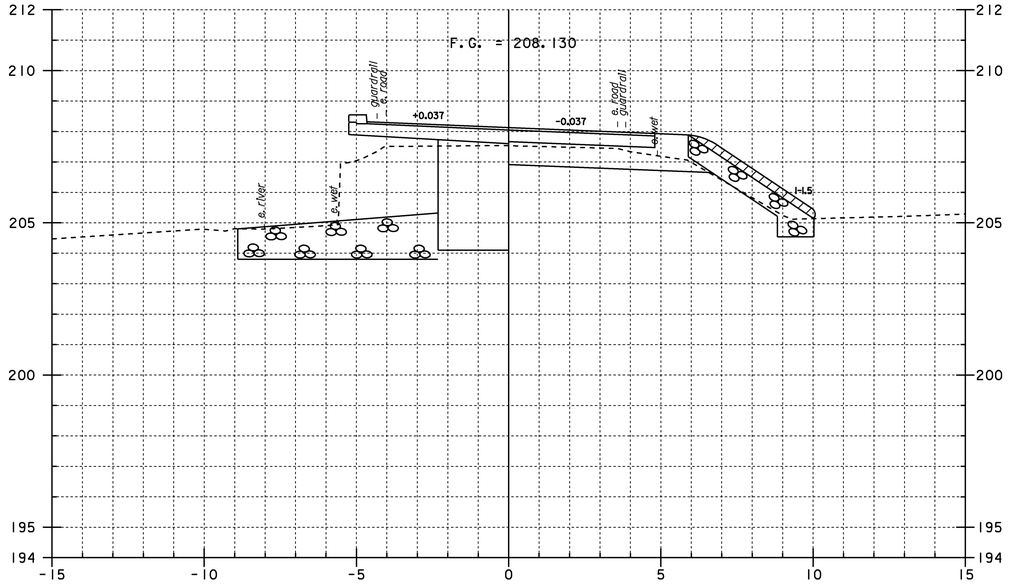


1+350

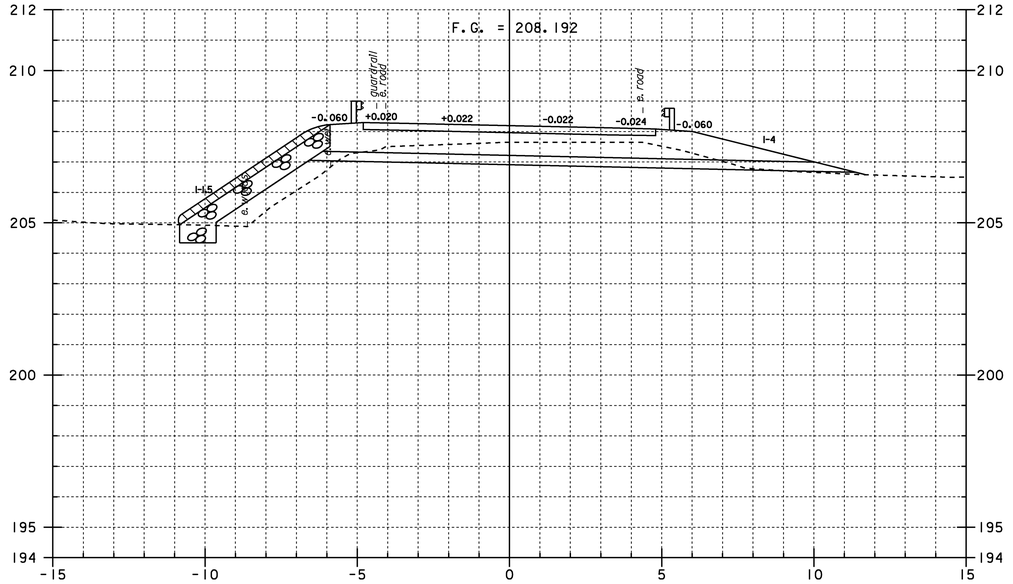
STA. 1+346.150 END BRIDGE



1+360



1+346



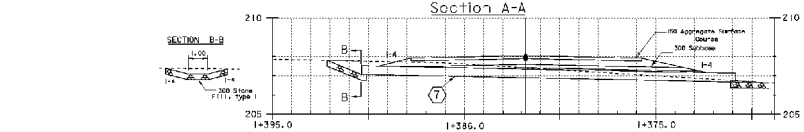
1+357

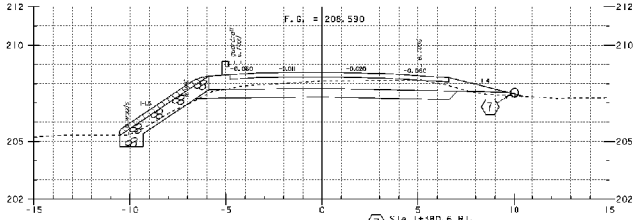
STA 1+346 – STA 1+360
MAINLINE CROSS SECTIONS #6

0 1 2 4 6 8 10

SCALE = 1:100

PROJECT NAME: EAST MONTPELIER	
PROJECT NUMBER: STP 037-2(9)	
FILE NAME: 78f200\str\sf200xsl.dgn	PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
sf200xs6.1	SHEET 63 OF 67

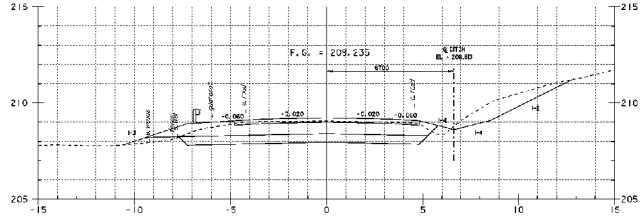




I+390

(7) Sta I+390.6 Rt.
New 450 x 20M Option pipe w/ end section & inlet
New inlet and Outlet ditches w/ stone fill, Type I

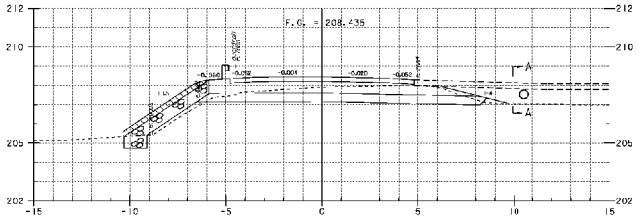
(7A) REMOVE EXISTING PIPE



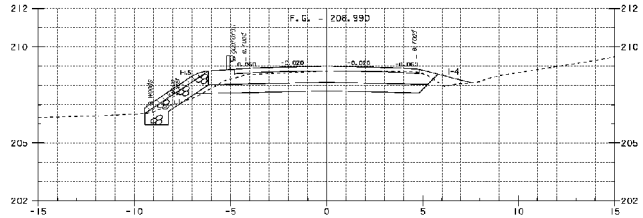
I+420

End Project
Begin Approach

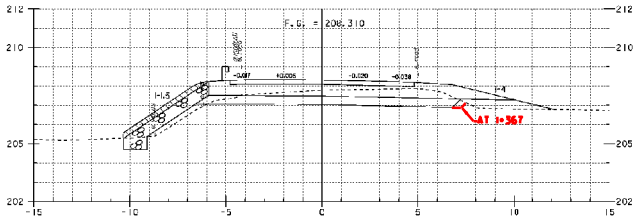
I+415 END STONE FILL TYPE II



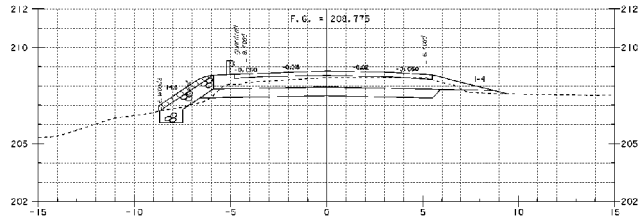
I+380



I+410



I+370



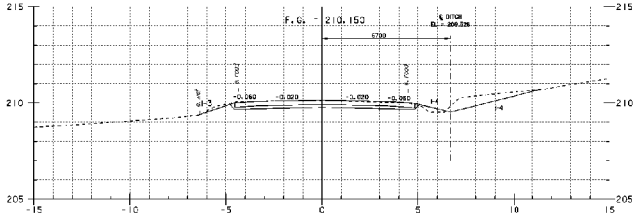
I+400

STA 1+370 – STA 1+420
MAINLINE CROSS SECTIONS #7

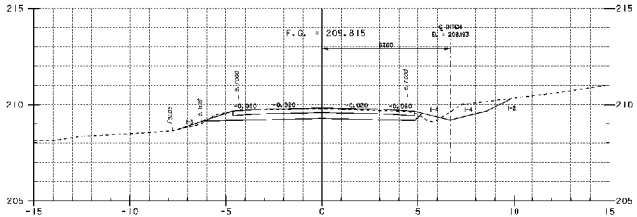
0 1 2 4 6 8 10
SCALE = 1:100

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

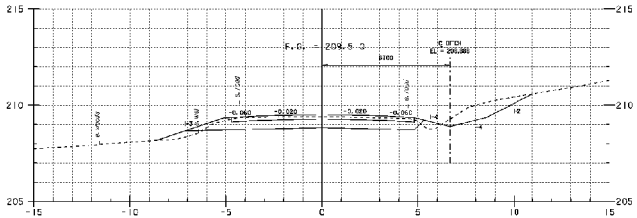
FILE NAME: 78F200\s-f\s5f200xsl.dgn	PLOT DATE: 6-JUL-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: M. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
sf200xs7.1	SHEET 64 OF 67



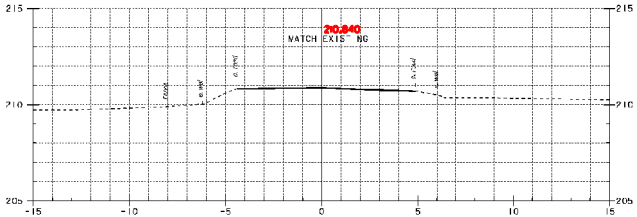
1+450



1+440

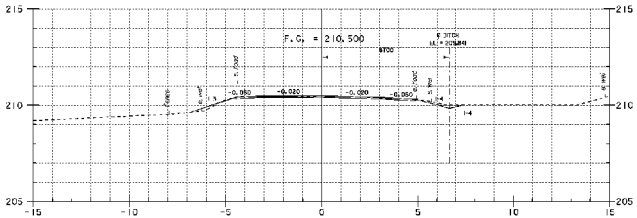


1+430



1+470

End Approach



1+460

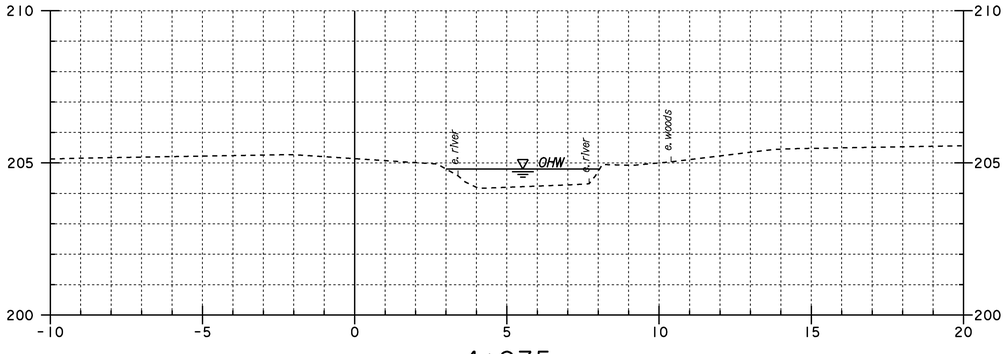
STA 1+430 – STA 1+470
MAINLINE CROSS SECTIONS #8

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

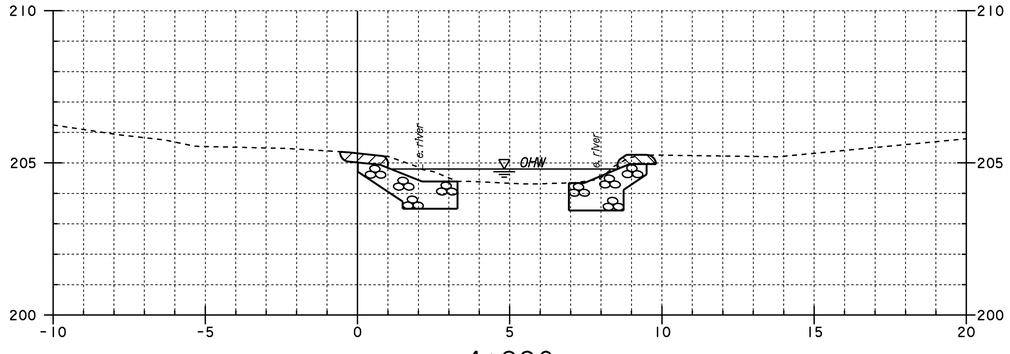
FILE NAME: 78f200\s-r\s78f200xs1.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
st200xs8.l

PLOT DATE: 6-JUL-2009
DRAWN BY: M. PELLETT
CHECKED BY: J. LACROIX
SHEET 65 OF 67

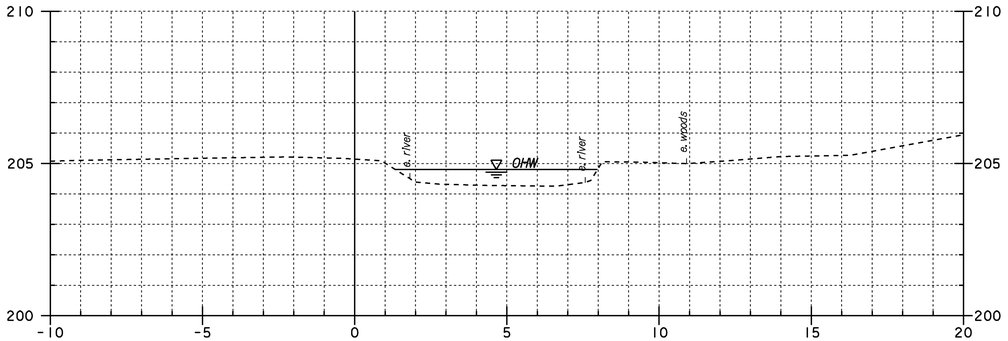
0 1 2 4 6 8 10
SCALE = 1:100



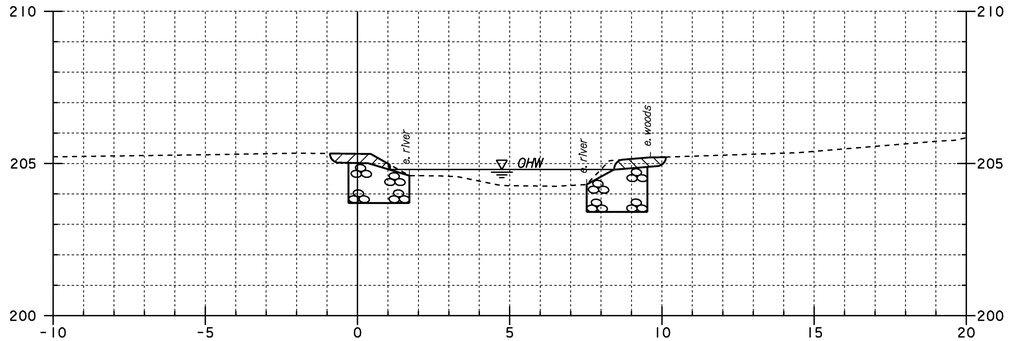
4+975



4+990



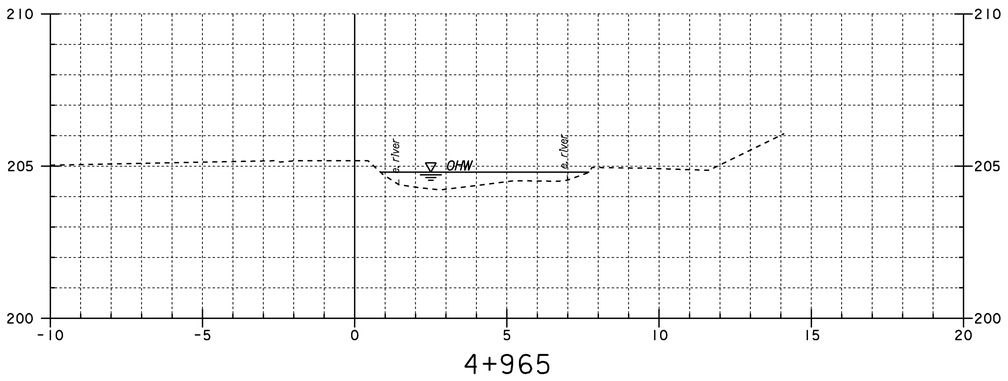
4+970



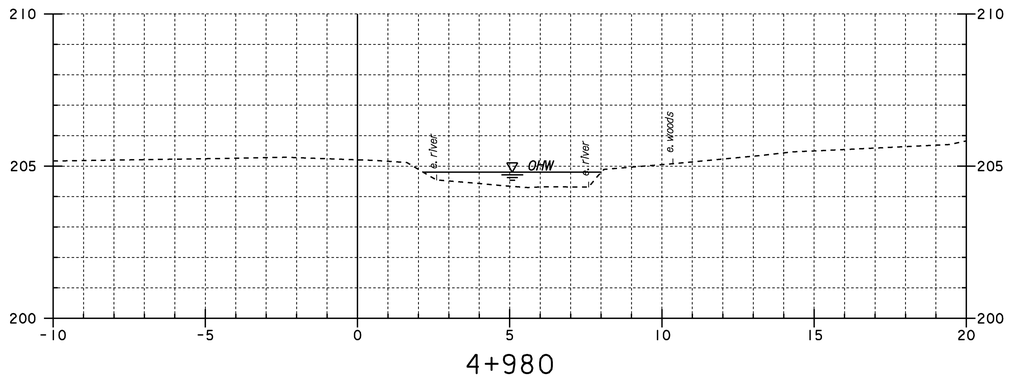
4+985

STA 4+985.01 LT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

STA 4+985.28 RT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



4+965



4+980

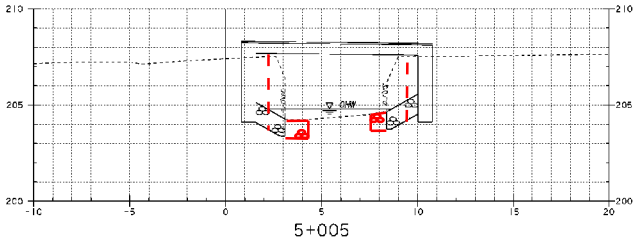
STA 4+965 – STA 4+990
CHANNEL CROSS SECTIONS #1

0 1 2 4 6 8 10
SCALE = 1:100

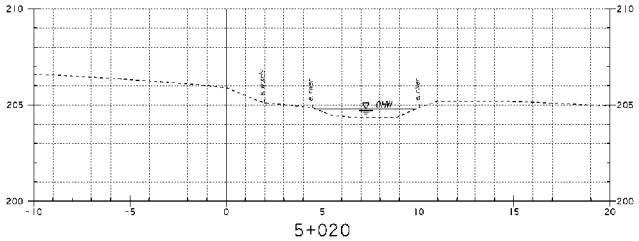
PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: STP 037-2(9)

FILE NAME: 78f200\str\sf200xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
sf200csl.1

PLOT DATE: 14-JUL-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 66 OF 67



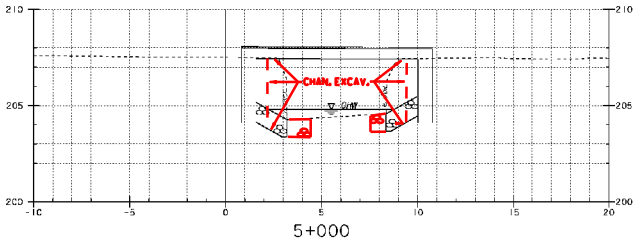
5+005



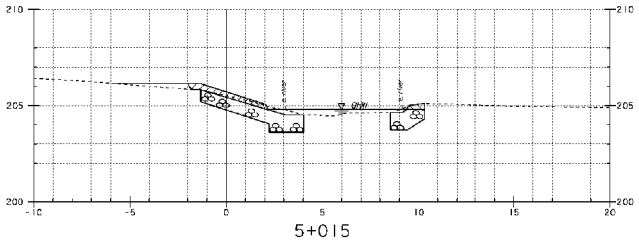
5+020

STA 5+15.02 LT.
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

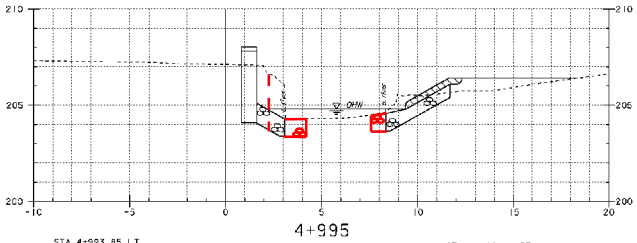
STA 5+15.02 RT.
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



5+000



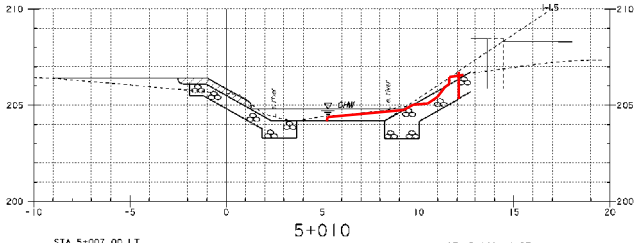
5+015



4+995

STA 4+993.85 LT.
STOP GRUBBING MATERIAL

STA 4+996.11 RT.
STOP GRUBBING MATERIAL



5+010

STA 5+007.00 LT.
RESUME GRUBBING MATERIAL

STA 5+009.26 RT.
RESUME GRUBBING MATERIAL

STA 4+995 – STA 5+020
CHANNEL CROSS SECTIONS #2

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	STP 037-2(9)

FILE NAME: 78P200\s-r\s78200xsl.dgn		PLOT DATE: 14-JUL-2009
PROJECT LEADER: K. HIGGINS		DRAWN BY: M. PELLETT
DESIGNED BY:	J. LACROIX	CHECKED BY: J. LACROIX
sf200cs2.l		SHEET 67 OF 67

0 1 2 4 6 8 10
SCALE = 1:100

VERMONT

Agency of Transportation

State of Vermont
PDD/Structures Design Section
National Life Building – Drawer 33
Montpelier, VT 05633-5001
www.aot.state.vt.us

[phone] 802-828-2621
[fax] 802-828-3566
[ttd] 800-253-0191

May 20, 2010

S.D. Ireland Concrete
Construction Corporation
PO Box 2286
South Burlington, VT 05407

Project Name: East Montpelier **Project #: STP 037-2(9)**

Structure Identification: Bridge #69 over Sodom Pond Brook

The field weld procedures received in this office on May 18, 2010 have been approved as noted. Please note comments in red.

Sincerely,

James Dalrix
for Kristin M. Higgins P.E.
Project Manager

Attachments
cc: [x] Resident Engineer – Pete Hodgeson w/prints
[x] Shop Inspector – Jeff Clark w/prints
[x] Construction Division – letter only
[x] Files (Structures & Central)

VTrans Working to Get You There
Vermont Agency of Transportation

S. D. IRELAND CONCRETE
CONSTRUCTION CORPORATION
P.O. Box 2286, S. Burlington, VT 05407
193 Industrial Ave., Williston, VT 05495
Ph. (802) 863-6222 • Fax (802) 658-6869

LETTER OF TRANSMITTAL

To:	State of Vermont PDD/Structures Design Section One National Life Drive Montpelier, VT 05633-5001	**Date:**	5-18-10
		Job Number:	SDI #6190
Attn:	Kristin Higgins	**Project:**	East Montpelier STP 037-2(9)

WE ARE SENDING YOU:
(**X**) Submittal (REVISED) ( ) Under separate cover via _____ following items:

( ) Shop Drawings ( ) Prints ( ) Plans ( ) Samples ( ) Specifications

( ) Copy of Letter ( ) Change Order ( ) _____

Copies	Item #	Date	Description
			505.25 – Steel Piling for Integral Abutments
5	1		• Welding Procedures for Pile Splices • Welding Procedures for Pile Points • Welding Certifications

THESE ARE TRANSMITTED as checked below:

(X) For approval ( ) Approved as submitted ( ) Resubmit____ copies for approval

( ) For your use ( ) Approved as noted ( ) Submit ____ copies for distribution

( ) As requested ( ) Returned for corrections ( ) Return ____ corrected prints

REMARKS:

If there are any questions or should additional information be required, please contact Matt Wheeler at (802) 863-6222 or (802) 316-7739.

If enclosures are not as noted, please inform us immediately. If checked below, please:
( ) Acknowledge receipt of enclosures.
( ) Return drawings to us.

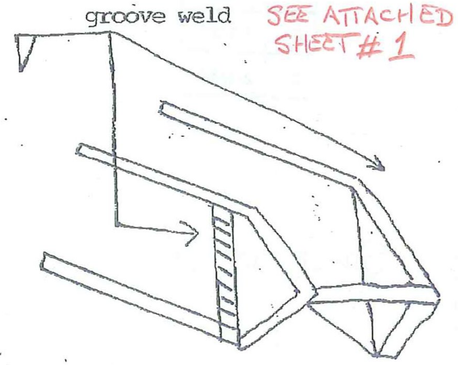
Submitted by: Ralph A. Darrah Welding Contractor
Telephone #802-748-5599

154/ Appendix IV

JOINT WELDING PROCEDURE SPECIFICATION

Material specification A-36
Welding process flux core wire
Manual or machine semi automatic
Position of welding flat
Filler metal specification NR-311
Filler metal classification AWS A5.20 E 70T-7
Flux core
Shielding gas n/a Flow rate n/a
Single or multiple pass as recuired
Single or multiple arc single
Welding current D-C R-P
Polarity R-P
Welding progression As required
Root treatment none
Preheat and interpass temperature 50-175
Postheat treatment n/a

WELDING PROCEDURE

Pass no.	Electrode size	Welding current		Travel speed	Joint detail
		Amperes	Volts		
1	5/64	350	28	n/a	groove weld SEE ATTACHED SHEET #1 

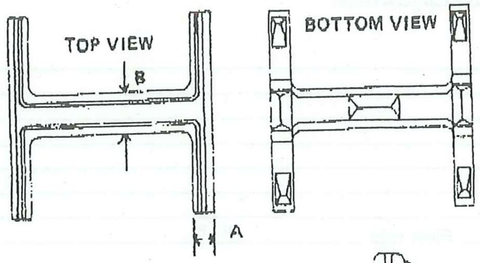
VTRANS
RECEIVED
CK'D BY ____ OK'D BY JWC
MAY 18 2010
RESUBMIT ____ APPROVED ✓ AS NOTED
BY JEL DATE 5/20/10

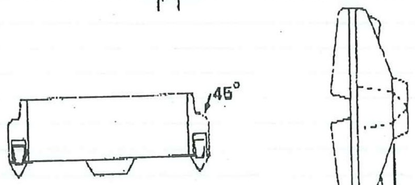
This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure no. ____ Contractor SD Ireland, Inc.
Revision no. ____ Authorized by ____
Form E-2. Date ____

Form E-2 — Sample Welding Procedure Specification

Dimensions





Material Cast Steel

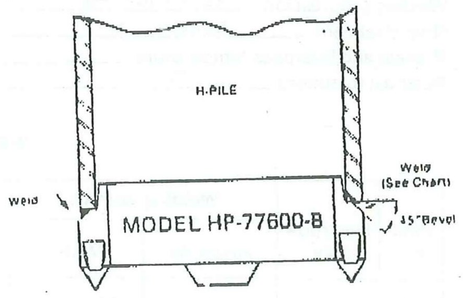
	14"
A	1-1/4"
B	1-1/2"
C	2-3/4"

SHEET # 1

Installation Instructions

HARD-BITE POINT MODEL HP-77600-B

1. Fit point onto the end of a square cut pile end.
2. Weld point to the pile in either flat or vertical position using E60 or E70XX electrodes.
3. Weld across full width of flange following chart below for minimum size weld.



Pile Size	Flange Thickness	Min. Size Groove Weld
HP 14 x 117	.805	7/16
x 102	.705	3/8
x 89	.615	3/8
x 73	.505	5/16
HP 12 x 84	.685	3/8
x 74	.610	3/8
x 63	.515	5/16
x 53	.435	5/16
HP 10 x 57	.565	5/16
x 42	.420	5/16
HP 8 x 36	.445	5/16

154/ Appendix IV

JOINT WELDING PROCEDURE SPECIFICATION

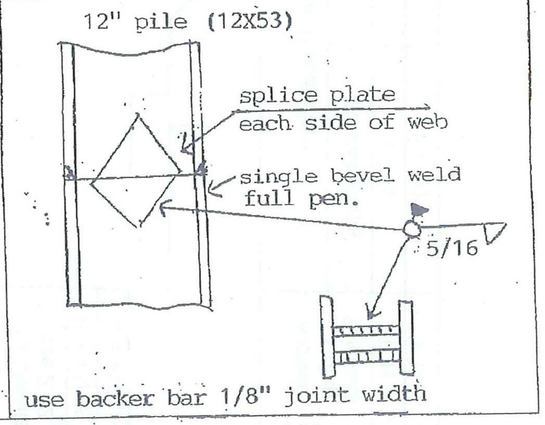
Material specification A-36
Welding process SMAW
Manual or machine Manual
Position of welding all
Filler metal specification AWS A5.5-A5.1
Filler metal classification E-7018
Flux n/a
Shielding gas n/a Flow rate n/a
Single or multiple pass as required
Single or multiple arc n/a
Welding current DC
Polarity R-P
Welding progression as required
Root treatment none.
Preheat and interpass temperature 50-175
Postheat treatment n/a

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
AS Req.	1/8	90-130	22-24	As Req.
	5/32	120-240	22-27	

SEE ATTACHED SHEET #2

Joint detail BU4a



VTRANS RECEIVED
MAY 18 2010

OK'D BY JWC
RESUBMIT APPROVED AS NOTED
BY JEL DATE 5/20/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure no.
Revision no.
Contractor S. D. Ireland, Inc.
Authorized by
Date

Form E-2

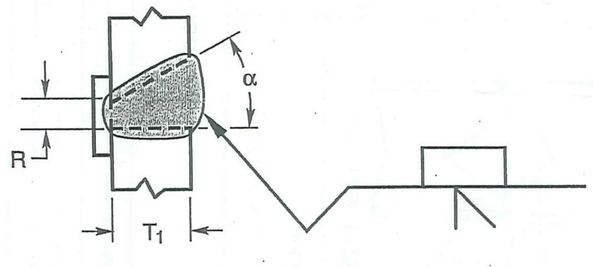
Form E-2—Sample Welding Procedure Specification

APPROVED JOINT DETAIL FOR COMPLETE JOINT PENETRATION GROOVE WELD OF H-PILE FLANGE SPLICES

SHEET #2

JOINT DESIGNATION : BU4a

Single-bevel-groove weld (4)
Butt joint (B)



Tolerances	
As Detailed (see 2.12.1)	As Fit-Up (see 3.3.4)
R = +1/16, –0	+1/4, –1/16
a = +10°, –0°	+10°, –5°

Welding Process	Joint Designation	Base Metal Thickness (U = unlimited)		Groove Preparation		Allowed Welding Positions	Gas Shielding for FCAW	Notes
		T_1	T_2	Root Opening	Groove Angle			
SMAW	B-U4a	U	—	R = 1/4	α = 45°	F, H	—	a, i, m
				R = 3/8	α = 30°	F, H	—	a, i, m

GREEN & WHITE MOUNTAINS SECTION
AMERICAN WELDING SOCIETY

VTRANS RECEIVED
CK'D BY _____ OK'D BY JWC
MAY 18 2010
RESUBMIT _____ APPROVED ✓
BY JEL DATE 5/20/10

WELD QUALIFICATION TEST REPORT

NAME :_RALPH DARRAH _____ SOCIAL SECURITY # :_009-44-4115_____

ADDRESS :_550 SEVERANCE HILL RD. TELEPHONE # :802-748-5599___(B)_____

CITY :__ST. JOHNSBURY_____ COUNTY :___CALADONIA_____

STATE :_VT_____ ZIP :_05838_ TEST DATE :_2/6/97

CO/ NAME :_DARRAH WELDING _____

****

TEST TYPE:___AWS D1.1-90 & D1.5-88___ AMBIENT TEMP:_70_F__

PROCESS:_SMAW_____ PREHEAT:_____ INTERPASS TEMP:_NA.___

POSITION:_4G_____ PASSES REQUIRED:_____17_____

BASE MATERIAL:_ASTM-A 36_____ AMPS:_160_____ VOLTS:_21_____

THICKNESS:_ONE INCH_____ TRAVEL SPEED:_____

EDGE PREPARATION:_SAW CUT_____ CLEANING:_CHIP & WIRE BRUSH_____

POWER SOURCE:_LINCOLN SAM 400_____

TYPE OF CURRENT:_DCRP_____

FILLER MAT'L TYPE:_E7018_____

FILLER MATERIAL DIA.:_.5/32"___

FLUX TYPE_____NA_____

SHIELD GAS:_____NA_____

GAS FLOW RATE:____NA_____

POSITIONS QUALIFIED BY THIS TEST
PLATE GROOVE: FLAT, OH,
FILLET: FLAT, OH, HORIZ.

PIPE GROOVE:F,OH, OVER 24" WITH BACKING/BACK GOUGING

FILLET: FLAT

THICKNESS: UNLIMITED

SPECIMEN TYPE:AWS D1.1-90 5.26.2
AWS D1.5 5.21

LAB NUMBER: 87021 DATE: 2/6/97

TEST RESULTS:

VISUAL: ACCEPTABLE

BEND TEST: ACCEPTABLE
(SIDE BENDS)

WITNESSED BY: G.H.PUTNAM

AWS QC 1 GEOFFREY H. PUTNAM 89081201 CWI

TESTED BY: _____

VTRANS
RECEIVED
OK'D BY _____ OK'D BY JLC
MAY 18 2010
RESUBMIT _____ APPROVED ✓
BY JEL DATE 5/20/10

GREEN & WHITE MOUNTAINS SECTION
AMERICAN WELDING SOCIETY

WELD QUALIFICATION TEST REPORT

NAME :_RALPH DARRAH _____ SOCIAL SECURITY # :_009-44-4115_____

ADDRESS :_550 SEVERANCE HILL RD. TELEPHONE # :802-748-5599___(B)_____

CITY :__ST. JOHNSBURY_____ COUNTY :___CALADONIA_____

STATE :_VT_____ ZIP :_05838_ TEST DATE :_2/6/97

CO/ NAME :_DARRAH WELDING _____

****

TEST TYPE:___AWS D1.1-90 & D1.5-88___ AMBIENT TEMP:_70_F__

PROCESS:_SMAW_____ PREHEAT:_____ INTERPASS TEMP:_NA.___

POSITION:_3G_____ PASSES REQUIRED:_____18_____

BASE MATERIAL:_ASTM-A 36_____ AMPS:_135_____ VOLTS:_21_____

THICKNESS:_ONE INCH_____ TRAVEL SPEED:_____

EDGE PREPARATION:_SAW CUT_____ CLEANING:_CHIP & WIRE BRUSH_____

POWER SOURCE:_LINCOLN SAM 400_____

TYPE OF CURRENT:_DCRP_____

FILLER MAT'L TYPE:_E7018_____

FILLER MATERIAL DIA.:_.5/32"___

FLUX TYPE_____NA_____

SHIELD GAS:_____NA_____

GAS FLOW RATE:____NA_____

POSITIONS QUALIFIED BY THIS TEST
PLATE GROOVE: FLAT, VERT, HORIZ.
FILLET: FLAT, VERT, HORIZ.

PIPE:
GROOVE:F, V, HORIZ. OVER 24" WITH BACKING/BACK GOUGING

FILLET: FLAT, HORIZ.

THICKNESS: UNLIMITED

SPECIMEN TYPE:AWS D1.1-90 5.26.2
AWS D1.5 5.21

LAB NUMBER: 87021 DATE: 2/6/97

TEST RESULTS:

VISUAL: ACCEPTABLE

BEND TEST: ACCEPTABLE
(SIDE BENDS)

WITNESSED BY: G.H.PUTNAM

TESTED BY: G H Putnam

[illegible] TESTING SERVICES
561 LINCOLN STREET
FRANKLIN, MA 02038
(508) 528-9896

AWS QC 1 William Bassignani, Jr. 96100024 CAWI

Welder and Welding Operator Qualification Test Record

Specification No. n/a Date 12/13/91

Welding Process flux core wire welding Manual or machine Manual

Material Spec. A36 to A36 of P No. 1 to P No. 1

Thickness (wall & pipe) 1"

Thickness Range Qualified Unlimited

Filler Metal Group AWS A5.29 ASME SFA-5.29 Weld Metal Analysis No. 3 to 3

WELDING PROCEDURE E70 T7-52 DC-

Single or Multiple Pass M Single or Multiple Arc S

Position of Groove 1G & 2G

FLUX OR ATMOSPHERE

Flux Composition

Inert Gas Composition ---- Flow rate ----

Backing strip Yes Preheat NO Postheat NO

WELDING DATA

Wire Size 5/64

Brand Name Lincoln NR311/NI Backing used 1/4" A36

VTRANS RECEIVED
OK'D BY ____ OK'D BY JLC
MAY 18 2010
RESUBMIT ____ APPROVED ✓
BY JEL DATE 5/20/10

Specimen Number	Position Groove	Type of Bend	Spec. No.	Defects	Results
SB1	1G	Side	5.10	None	Passed
SB2	1G	Side	5.10	None	Passed
SB1	2G	Side	5.10	None	Passed
SB2	2G	Side	5.10	None	Passed

Welder's Name Ralph A.Darrah S.S. No. 009-44-4115

Stamp No. 4115 RD Who by virtue of the tests meets welder performance requirements. Test was conducted by William Bassignani Jr.AWS-CWI

Laboratory Test No. 12912 12/13/91 (date).

We certify that the statements in this record are correct and that the test welds were prepared, welded and tested iin accordance with the AWS D1.1-90

Date 12/91 Signed William Bassignani Jr.

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: **ASTM A36, A709 Gr 36, A500 gr B, A53 gr B**

Welding process: **Gas Metal Arc Welding (GMAW)**

Manual, semi-automatic, or automatic: **Semi-Automatic**

Position of welding: **Flat (1F) or Horizontal (2F)**

Filler metal specification: **AWS A5.18**

Filler metal classification: **ER70S-3**

Electrode and manufacturer: **Lincoln Electric Lincoln Weld L-50**

Flux and manufacturer: **N/A**

Shielding gas: **85% Argon / 15% CO2** Flow rate: **19-27 L / min**

Single or multiple pass: **Single**

Single or multiple arc: **Single**

Welding current: **DCEP**

Polarity: **Reverse - electrode positive**

Welding progression: **Stringers**

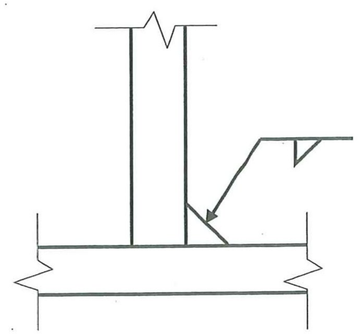
Root treatment: **clean base metal**

Preheat and interpass temperature: **base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) : over 1-1/2" thru 2-1/2" (225°F)**

Postheat treatment: **None**

Electrode extension: **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
1/8"	1	0.045"	300 A ± 30	29 V ± 2	28 ipm ± 2	TYPICAL ALL FILLET WELDS 
3/16"	1	0.045"	300 A ± 30	29 V ± 2	14 ipm ± 2	

RECEIVED
CK'D BY JEL OK'D BY
JUN 14 2010
RESUBMIT APPROVED ✓
BY DATE 6/24/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1 / D1.5

WPS no. **W-1757B**

Revision no. **0**

Supporting PQR no. **Pre-Qualified**

Project Name **East Montpelier, VT**

Fabricator **Highway Safety Corporation**

Prepared By: **Paul Radice**

Date **06-10-10**

Project Number **STP 037-2(9)**

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification **ASTM A500 gr B**

Welding process **Gas Metal Arc Welding (GMAW)**

Manual, semi-automatic, or automatic **Semi-Automatic**

Position of welding **Flat (1F) or Horizontal (2F)**

Filler metal specification **AWS A5.18**

Filler metal classification **ER70S-3**

Electrode and manufacturer **Lincoln Electric Lincoln Weld L-50**

Flux and manufacturer **N/A**

Shielding gas **85% Argon / 15% CO2** Flow rate **19-27 L / min**

Single or multiple pass **Single**

Single or multiple arc **Single**

Welding current **DCEP**

Polarity **Reverse - electrode positive**

Welding progression **Stringers**

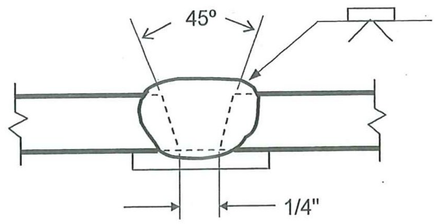
Root treatment **clean base metal**

Preheat and interpass temperature **base metal up to 3/4" (50°F)**

Postheat treatment **None**

Electrode extension **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
	1	**0.045"**	**300 A ± 30**	**29 V ± 2**	**14 ipm ± 2**	B-U2a 

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no. **W-1757C**

Revision no. **0**

Supporting PQR no. **Pre-Qualified**

Project Name **East Montpelier, VT**

Fabricator **Highway Safety Corporation**

Prepared By: **Paul Radice**

Date **06-10-10**

Project Number **STP 037-2(9)**

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: A572 gr 50, A709 Gr 50

Welding process: Gas Metal Arc Welding (GMAW)

Manual, semi-automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-3

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50

Flux and manufacturer: N/A

Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min

Single or multiple pass: Single or Multiple

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

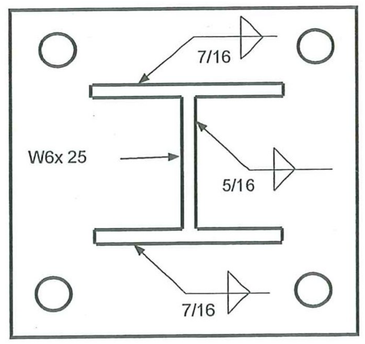
Root treatment: clean base metal

Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) : over 1-1/2" thru 2-1/2" (225°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
5/16"	1	0.062"	275 A ± 25	25 V ± 2	8-10 ipm	
7/16"	1 & 2	0.062"	↓	↓	8-10 ipm	

RECEIVED
CK'D BY JEL OK'D BY
JUN 14 2010
RESUBMIT APPROVED ✓
BY DATE 6/29/10

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.5

WPS no. W-1757A

Revision no. 0

Supporting PQR no. Pre-Qualified

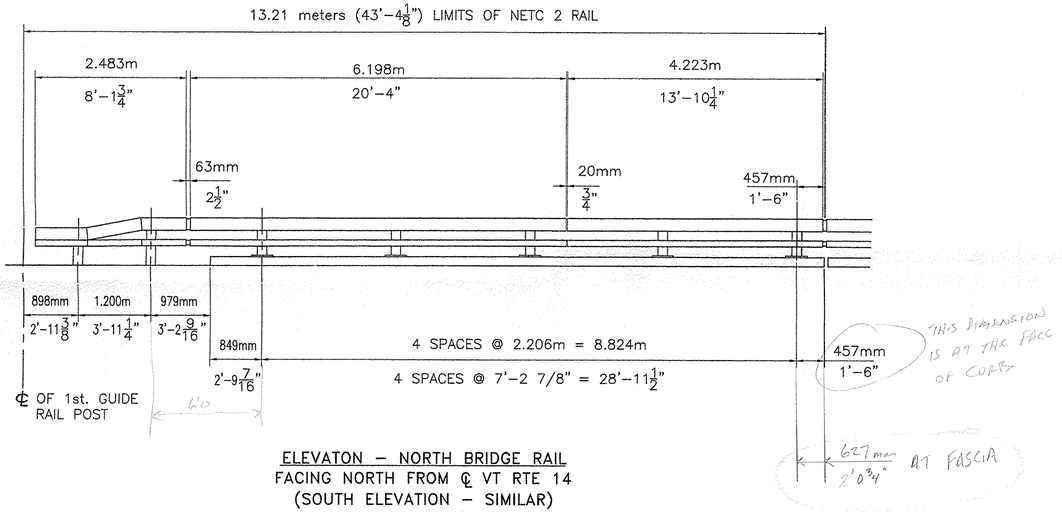
Project Name East Montpelier, VT

Fabricator Highway Safety Corporation

Prepared By: Paul Radice

Date 06-10-10

Project Number STP 037-2(9)



ELEVATON – NORTH BRIDGE RAIL
FACING NORTH FROM ℄ VT RTE 14
(SOUTH ELEVATION – SIMILAR)

BILL OF MATERIAL (BOTH SIDES OF BRIDGE)				
Qty.	Description	Size/Shape	length/qty. per unit	Material
10	BRIDGE RAIL PED POST 2'-0 3/8" OAH W/ BASE PLATE			
10	POST UPRIGHT	W6 x 25	1'-11 3/8"	A709 Gr. 50
10	POST BASE PLATE	1" x 10"	1'-2"	A709 Gr. 50
2	DRIVEN POST	W6 x 25	7'-0"	A709 Gr. 50
2	DRIVEN POST	W6 x 25	6'-5"	A709 Gr. 50
4	UPPER SPLICE TUBE FOR 8 x 4 RAIL			
4	TUBE	TS 7x3x3/8	1'-8"	A500 Gr. B
8	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	---	A563
4	LOWER SPLICE TUBE FOR 4 x4 RAIL			
4	TUBE	TS 3x3x5/16	1'-8"	A500 Gr. B
8	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	---	A563
2	DROP END UPPER RAIL	TS 8x4x5/16	8'-1.750"	A500 Gr. B
2	DROP END LOWER RAIL	TS 4x4x1/4	8'-1.750"	A500 Gr. B
2	UPPER RAIL	TS 8x4x5/16	13'-10.250"	A500 Gr. B
2	LOWER RAIL	TS 4x4x1/4	13'-10.250"	A500 Gr. B
2	UPPER RAIL	TS 8x4x5/16	20'-4"	A500 Gr. B
2	LOWER RAIL	TS 4x4x1/4	20'-4"	A500 Gr. B
2	BACK UP PLATE	3/8 x 10"	1'-3"	A709 gr 36
2	TERMINAL CONNECTOR			M180 B2
68	ROUND HEAD BOLT	3/4" DIA.	6"	M164 type 1
68	LOCK NUT	3/4" DIA.	– – –	A563DH
68	WASHER	3/4" DIA.	– – –	F436
32	CAP SCREW	5/8" DIA.	1.75"	A325
32	WASHER	5/8" DIA.	– – –	F436
10	ANCHOR PLATE	3/8 x 9 3/8	1'-1"	A36
40	ANCHOR BOLTS	1" DIA.	12"	A449
40	HEX NUT	1" DIA.	– – –	A563
40	HEAVY HEX NUT	1" DIA.	– – –	A563DH
40	HEX JAM NUT	1" DIA.	– – –	A563
40	WASHER	1" DIA.	– – –	F436
10	BEARING PAD	1/8"x10"	1'-2"	M251
16	SCH. 40 SPACER PIPE	3/4" ø	0.50"	M251

TOTAL PAY LIMIT = 87' (27m)

No.	Remarks	Date
0	Initial submittal	

REVISIONS

RECEIVED
CK'D BY JAE DIR'D BY JEL
JUN 14 2010
RESUBMIT ____ APPROVED ✓
BY DATE 6/29/10

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

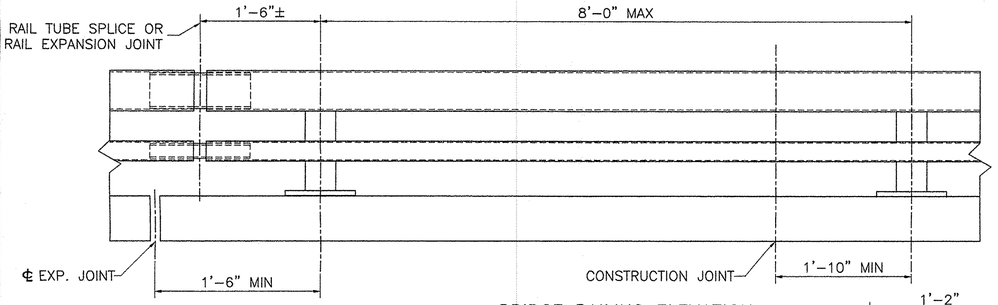
ITEM 525.33 BRIDGE RAILING – NETC 2 RAIL
VT RT 14 OVER SODOM POND BROOK
TOWN OF EAST MONTPELIER COUNTY OF WASHINGTON
BRIDGE NO. 69, PROJECT NO. STP 037-2(9)

AISC CERTIFIED FABRICATOR

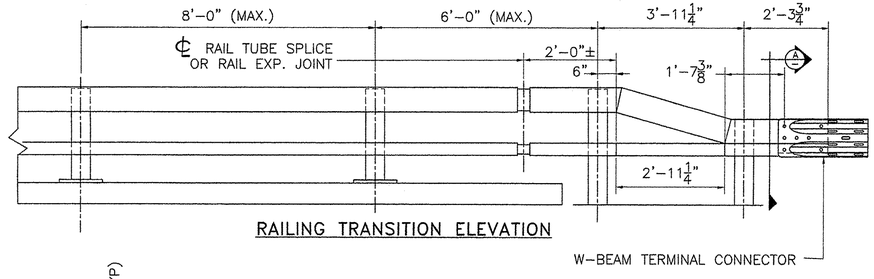
HSC JOB NO. 1757
SHEET NO. 1 of 3

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC.

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	6/8/2010	NONE	D



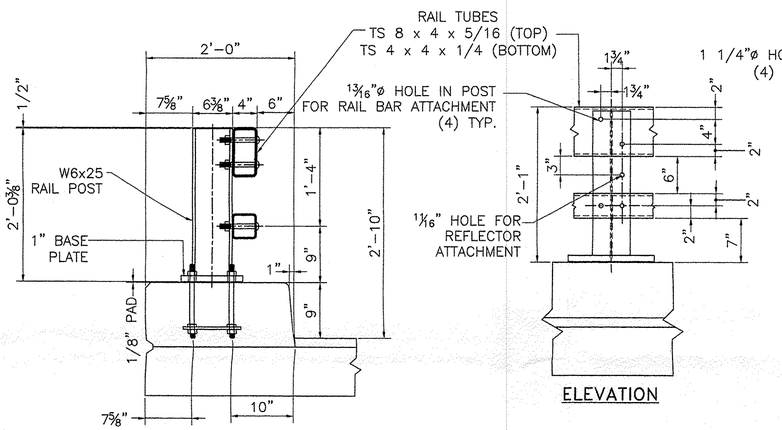
BRIDGE RAILING ELEVATION



RAILING TRANSITION ELEVATION

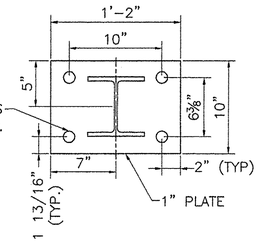
NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525 – "RAILINGS" OF THE STANDARD SPECIFICATION FOR CONSTRUCTION
2. RAILING MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 732.
3. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
6. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232.
8. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
9. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLT INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
11. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWNON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
13. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 506.04 OF THE STANDARD SPECIFICATIONS. ALL WELDING SHALL CONFORM WITH SUBSECTION 506.10.
14. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN
15. TO FACILITATE FIELD FIT – UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACK FILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE, AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO BRIDGE RAILING – NETC 2 RAIL.
16. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.

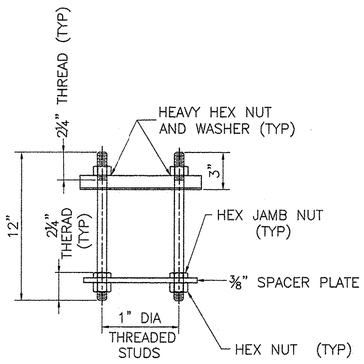


TYPICAL SECTION

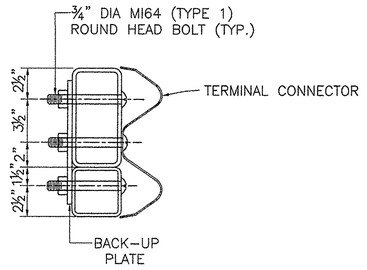
ELEVATION



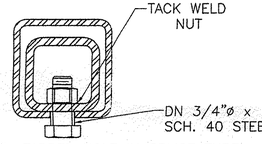
POST AND BASE PLATE



RAIL AND POST ANCHORAGE



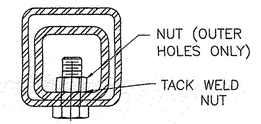
A SECTION



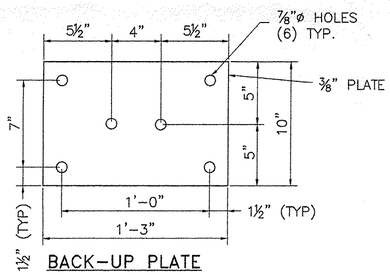
5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

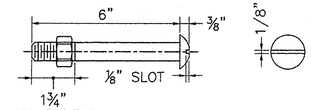
FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



5/8"ø TAPPED HOLE IN SPLICE TUBE & 3/4"ø HOLE IN RAIL TUBE FOR BOLT & PLAIN HARDENED WASHER

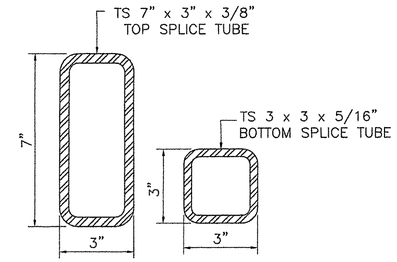


BACK-UP PLATE

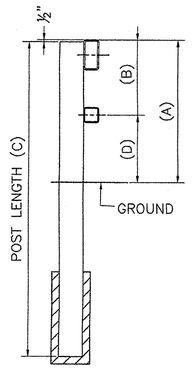


3/4" DIA. M164 (TYPE 1)
ROUND HEAD BOLT

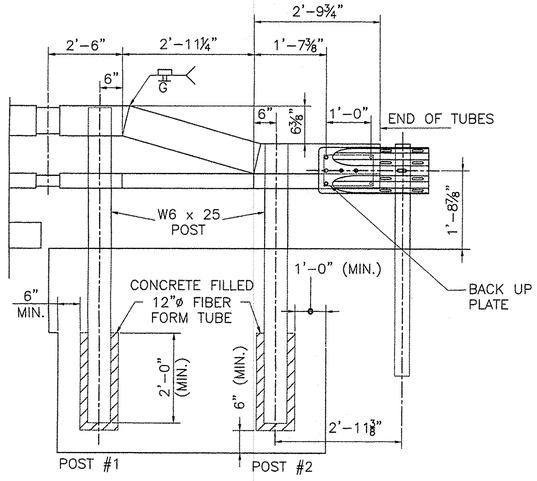
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



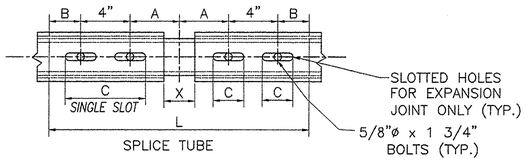
RAIL TUBE SPLICE SECTION



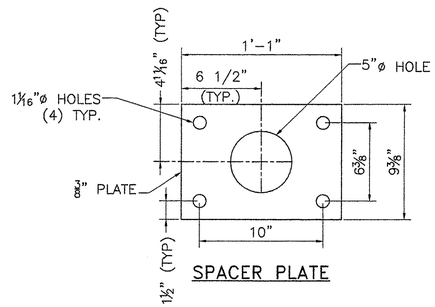
TYPICAL SECTION



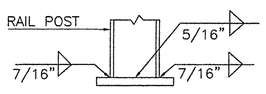
ELEVATION



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL



SPACER PLATE



BASE WELD DETAIL

	RAIL HEIGHT	RAIL SPACING	POST LENGTH	RAIL HEIGHT
POST NUMBER	(A)	(B)	(C)	(D)
1	2'-10"	1'-4"	7'-0"	1'-6"
2	2'-3 5/8"	10"	6'-5"	1'-5 5/8"

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6

* = SINGLE SLOT

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

MATERIALS

RAIL TUBES	ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES	ASTM A709A709M, GRADE 50
AALL OTHER SHAPRE AND PLATES	ASTM A709/A709M, GARDE 36
ANCHOR STUDS	ASTM A449
ALL OTHER BOLTS (UNLESS NOTED)	AASHTO M164, TYPE1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASTHO M291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFCATIONS.

1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

RECEIVED
BY JAC DATE BY JEL
JUN 14 2010
RESUBMIT APPROVED
BY DATE 6/29/10

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 BRIDGE RAILING – NETC 2 RAIL
VT RT 14 OVER SODOM POND BROOK
TOWN OF EAST MONTPELIER COUNTY OF WASHINGTON
BRIDGE NO. 69, PROJECT NO. STP 037-2(9)

AISC CERTIFIED FABRICATOR

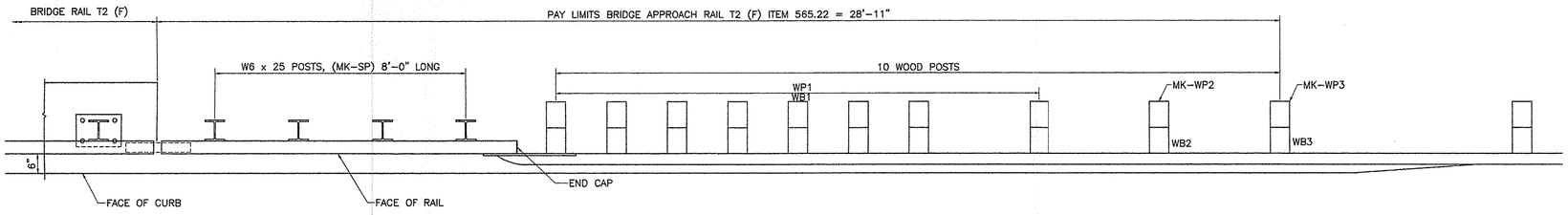
HSC JOB NO. 1757

GENERAL CONTRACTOR

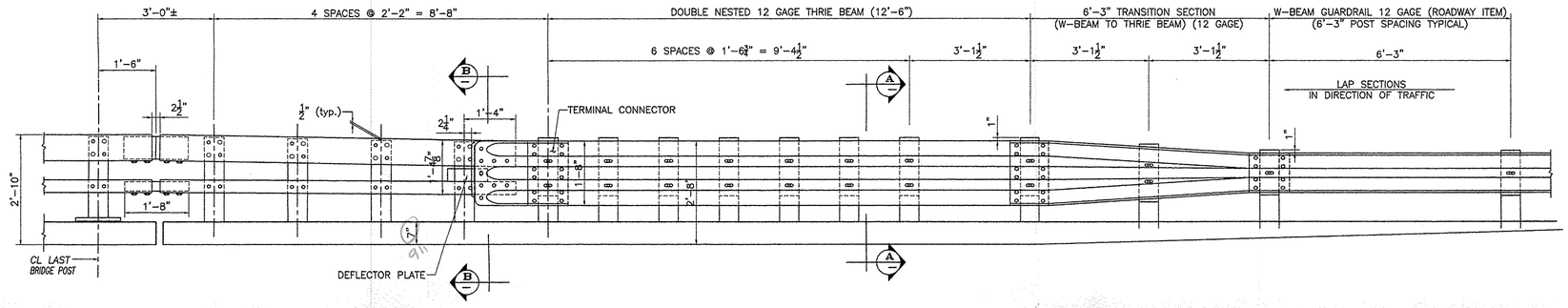
SUB CONTRACTOR F.R. LAFAYETTE, INC.

SHEET NO. 2 of 3

DRAWN	CHECKED	DATE	SCALE	SIZE
MHM	PAR	6/8/2010	NONE	D



PLAN



APPROACH RAIL ELEVATION
(TOTAL LIMIT ITEM 621.72 = 58 LF)

BILL OF MATERIAL (4 APPROACHES)					
MK.	Qty.	Description	Size/Shape	Length Qty. Per Unit	Material
	2	UPPER APPROACH RAIL	TS 8x4x0.313"	9'-2.750"	A500 Gr. B
	2	LOWER APPROACH RAIL	TS 4x4x0.25"	9'-2.750"	A500 Gr. B
SP	8	STEEL POST	W6 x 25	8'-0"	A572 Gr. 50
WP1	16	WOOD POST	6" x 8"	7'-0"	TIMBER
WP2	2	WOOD POST	6" x 8"	7'-0"	TIMBER
WP3	2	WOOD POST	6" x 8"	7'-0"	TIMBER
WB1	16	WOOD BLOCK	6" x 8"	1'-6"	TIMBER
WB2	2	WOOD BLOCK	6" x 8"	1'-6"	TIMBER
WB3	2	WOOD BLOCK	6" x 8"	1'-2"	TIMBER
	2	ANGLED SPLICE TUBE FOR TS 8x4x0.313"			
	2	TUBE	TS 7x3x0.375"	1'-8"	A500 Gr. B
	4	WELDED LOCK NUTS	0.625"ø	----	A563 Gr. A
	2	SPLICE TUBE FOR TS 4x4x0.250"			
	2	TUBE	TS 3x3x0.313"	1'-8"	A500 Gr. B
	4	WELDED LOCK NUTS	0.625"ø	----	A563 Gr. A
	2	TERMINAL CONNECTOR	10 Ga.	2'-6"	M180
	2	CONNECTION PLATE	0.375" x 1'-8"	2'-3"	A709 Gr. 36
	2	END CAP FOR TS 8x4 RAIL TUBE			
	2	PLATE	0.188" x 4"	8"	A709 Gr. 36
	8	PLATE	0.125" x 1"	1"	A709 Gr. 36
	2	END CAP FOR TS 4x4 RAIL TUBE			
	2	PLATE	0.188" x 4"	4"	A709 Gr. 36
	8	PLATE	0.125" x 1"	1"	A709 Gr. 36
	1	DEFLECTOR PLATE (LEFT)	0.375"x4"	12.5"	A709 Gr. 36
	1	DEFLECTOR PLATE (RIGHT)	0.375"x4"	12.5"	A709 Gr. 36
	2	0.75"ø x 2" LG. ROUND HEAD BOLT W/NUT			A307
	2	THRIE TRANSITION PANEL	12 Ga.	7'-3.50"	M180 A2
	2	THRIE BEAM	12 Ga.	12'-6"	M180 A2
	86	0.75ø x 6" ROUND HEAD BOLT W/NUT & ROUND WASHER			A325
	4	0.625"ø x 20" LG. POST BOLT W/DBL RECESSED NUT, PLATE & ROUND WASHER			A307
	34	0.625"ø x 18" LG. POST BOLT W/DBL RECESSED NUT, PLATE & ROUND WASHER			A307
	16	0.625"ø x 1.75" LG. CAP SCREW W/WASHER			A325
	64	0.625"ø x 1.25" LG. PANEL SPLICE BOLT W/DBL RECESSED NUT			A307
	16	0.75" x 0.5" LG. (SCH 40) SPACER PIPE			A53

NOTES:
1. PAYMENT FOR GUARDRAIL APPROACH SECTION – GALVANIZED NETC 2 RAIL (THRIE BEAM) SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.

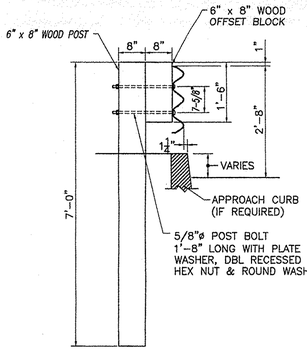
2. RETRO REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THE RIGHT.

3. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.

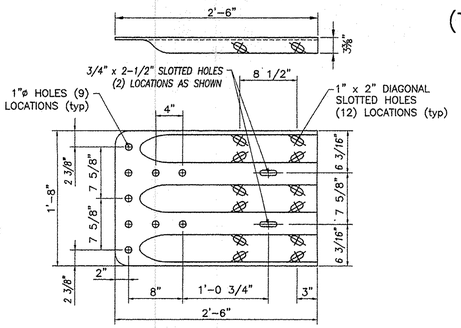
4. ALL APPROACH RAIL MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.

5. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM 563 GRADE A OR BETTER (GALVANIZED). WASHERS SHALL BE ASTM F844.

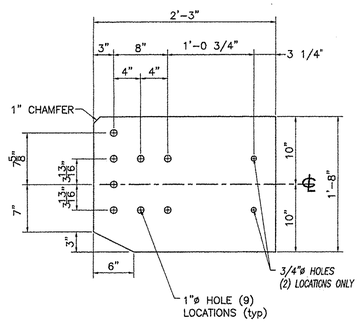
6. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).



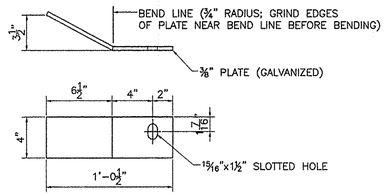
SECTION A-A



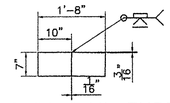
TERMINAL CONNECTOR
10 GAUGE (AASHTO M180 B2)



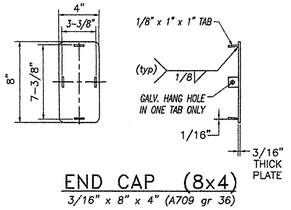
CONNECTION PLATE
3/8" x 1'-8" x 2'-3" (A709 gr 36)



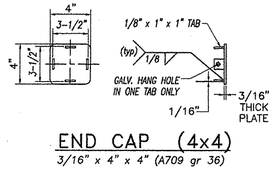
DEFLECTOR PLATE



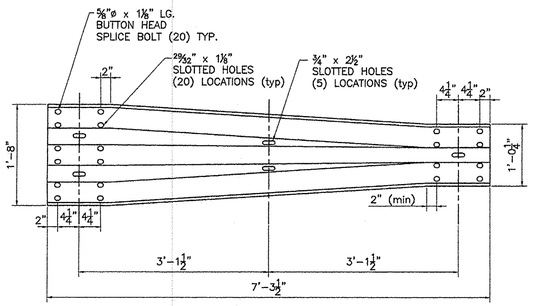
ANGLED RAIL TUBE
SPLICE DETAIL



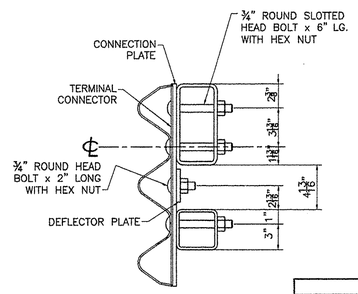
END CAP (8x4)
3/16" x 8" x 4" (A709 gr 36)



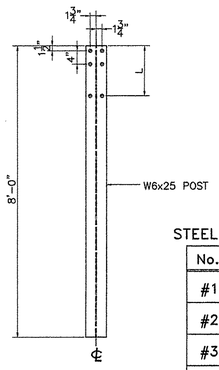
END CAP (4x4)
3/16" x 4" x 4" (A709 gr 36)



THRIE TRANSITION PANEL
12 GAUGE (AASHTO M180 A2)



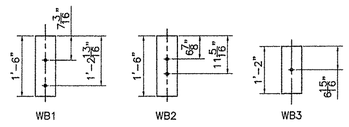
SECTION B-B



STEEL POST

STEEL POST CHART

No.	L
#1	1'-3.250"
#2	1'-3"
#3	1'-2.688"
#4	1'-2.375"



WOOD BLOCK DETAILS

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

RECEIVED
CK'D BY JAE DWG BY JEL
JUN 14 2010
RESUBMIT APPROVED As Noted
BY DATE 6/29/10

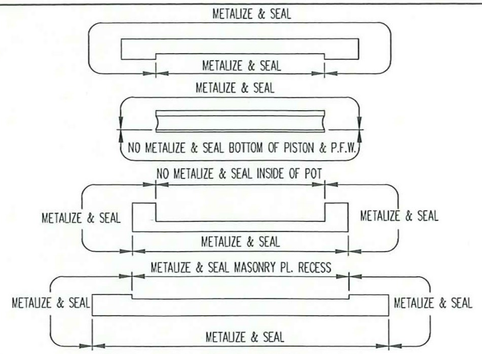
HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.72 BRIDGE APPROACH RAIL
VT RT 14 OVER SODOM POND BROOK
TOWN OF EAST MONTPELIER COUNTY OF WASHINGTON
BRIDGE NO. 69, PROJECT NO. STP 037-2(9)

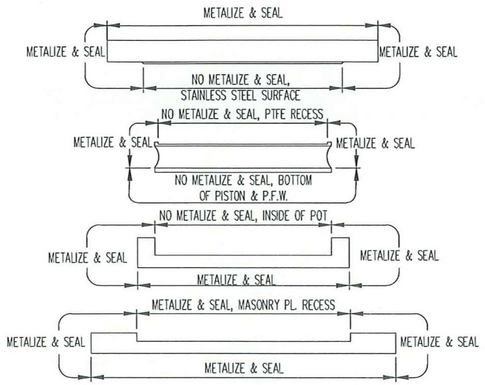
CERTIFIED FABRICATOR

GENERAL CONTRACTOR				HSC JOB NO.	
				1757	
SUB CONTRACTOR	F.R. LAFAYETTE, INC.			SHEET NO.	3 of 3
DRAWN	CHECKED	DATE	SCALE	SIZE	
MHM	PAR	6/8/2010	NONE	D	

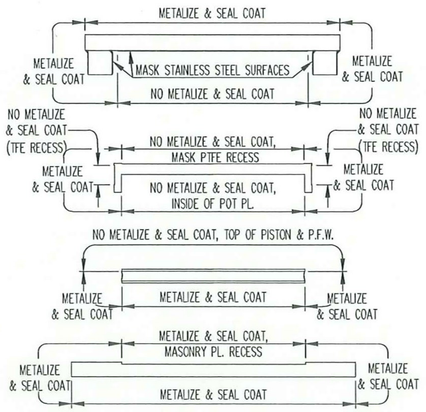
5th EDITION & ITS LATEST REVISIONS



FIXED BEARING COATING LIMITS



MULTI-DIRECTIONAL BEARING COATING LIMITS



UNI-DIRECTIONAL BEARING COATING LIMITS

GENERAL NOTES

1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN & CONSTRUCTION SPECIFICATIONS, THE VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 AS AMENDED BY THE SPECIAL PROVISIONS, AND THE CONTRACT PLANS.

2. PTFE SHALL BE VIRGIN, UNFILLED POLYTETRAFLUOROETHYLENE. GUIDE BAR PTFE SHALL 15% GLASS FILLED & PIGMENTED.

3. PTFE IS TO BE PURCHASED ETCHED ON ONE SIDE FOR BONDING INTO MACHINED RECESS. STEEL MATING SURFACES OF PTFE AND STEEL SHALL BE GRIT BLASTED AND DEGREASED PRIOR TO APPLICATION OF ADHESIVE. ADHESIVE SHALL BE APPLIED USING DIRECTIONS SUPPLIED BY THE ADHESIVE MANUFACTURER. THE PTFE RESIN SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4894.

4. STAINLESS STEEL SHALL CONFORM TO ASTM A240 – TYPE 304 AND SHALL BE 11 GA. (0.120"). STAINLESS STEEL SLIDING SURFACES IN CONTACT WITH PTFE SHALL HAVE A NO. 8 MIRROR FINISH AND ALL OTHERS SHALL HAVE A 2B FINISH.

5. WELDING SHALL CONFORM TO AWS-D1.5 BRIDGE WELDING CODE, AS WELL AS ANY STATE STANDARD.

6. THE TOP AND BOTTOM OF THE NEOPRENE DISC SHALL BE LUBRICATED WITH DOW CORNING #4 SILICONE COMPOUND.

7. ALL SHARP CORNERS OF STEEL MATERIALS SHALL BE REMOVED BY GRINDING OR SANDING.

8. THE BRASS SEALING RING ENDS SHALL BE CUT AT AN ANGLE OF 45° WITH A MAXIMUM GAP OF 0.05". THE RINGS SHALL BE STAGGERED 120° USING A QUANTITY OF THREE (3) RINGS.

9. EACH BEARING SHALL BE MARKED WITH THE MANUFACTURER'S NAME, THE BEARING TYPE OR MODEL NUMBER, THE BEARING NUMBER AND LOT NUMBER, UPSTATION, AND THE INSTALLED LOCATION. THE MARKING SHALL BE PERMANENT AND IN A LOCATION THAT WILL BE VISIBLE AFTER ERECTION OF STRUCTURE.

10. EACH BEARING SHALL HAVE MARKS PLACED ON THE SIDE OF THE MASONRY & SOLE PLATES TO INDICATE THE LOCATION OF THE CENTERLINE. IN ADDITION, EACH UNI-DIRECTIONAL BEARING SHALL HAVE THE SOLE PL. & MASONRY PL. MARKED TO INDICATE THE LOCATION OF THE TRANSVERSE CL OF THE STAINLESS STEEL. THE MARK ON THE MASONRY PL. SHALL EXTEND THE ENTIRE LENGTH ON THE TOP SURFACE PRIOR TO ASSEMBLY. THIS MARK CAN BE USED IN THE FIELD TO DETERMINE THE INITIAL OFFSET LOCATION OF THE SOLE PLATE (IF APPLICABLE). THE MARKS SHALL BE MADE IN INDELIBLE INK AND SHALL BE VISIBLE AFTER BEARING INSTALLATION.

11. BEARINGS ARE TO BE SHIPPED AS COMPLETE UNITS, STEEL BANDED, AND SHALL BE WRAPPED TO PROTECT FROM MOISTURE AND DIRT DURING TRANSIT AND STORAGE. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION WHILE AT JOBSITE. BEARINGS SHALL BE LIFTED FROM THEIR UNDERSIDES ONLY.

12. AT NO TIME MAY THE BEARINGS BE DISASSEMBLED WITHOUT AUTHORIZATION FROM D.S. BROWN OR WITHOUT THE PRESENCE OF A D.S. BROWN REPRESENTATIVE.

13. POT/PISTON INTERFACE SHALL BE CAULKED WITH SIKAFLEX 1A OR APPROVED EQUAL PRIOR TO SHIPMENT.

14. DS BROWN MAY SUBSTITUTE A709 GR 50W FOR A709 GR 50 DUE TO AVAILABILITY AT NO ADDITIONAL COST TO THE OWNER OR CONTRACTOR.

15. IN ACCORDANCE WITH AISC STEEL BRIDGE COMPONENT CERTIFICATION REQUIREMENTS, CALCULATIONS AND DRAWINGS HAVE BEEN REVIEWED BY PHILIP CASE P.E.

16. VERSIFLEX HLMR "POT" STYLE BEARING MANUFACTURING FACILITY AND REPRESENTATIVE FOR COORDINATING PRODUCTION:
THE D.S. BROWN COMPANY
300 EAST CHERRY STREET
NORTH BALTIMORE, OHIO 45872
CSR – BRYAN KRIDER

PROTECTIVE COATING NOTES

1. ALL MILL SCALE SHALL BE REMOVED FROM BEARINGS BY BLASTING (SSPC-SP5) PRIOR TO APPLYING PROTECTIVE COATING.

2. METALIZATION SHALL BE IN ACCORDANCE WITH ANSI/AWS C2.18-93 EXTERNAL STEEL SURFACES SHALL BE METALIZED TO A MINIMUM THICKNESS OF 6 MILS. PROVIDE WIRE MATERIAL FOR THE METALIZED PRIMER CONSISTING OF PURE ZINC (99.9% PURITY).

3. WITHIN 8 HOURS AFTER METALIZATION, THE EXTERNAL STEEL SURFACES SHALL RECEIVE A SEAL COAT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
SEAL COAT = CARBOLINE RUSTBOND, D.F.T. = 2 MILS MIN.

4. SEE COATING LIMIT DETAILS FOR COATING LOCATIONS.

5. PRIOR TO METALIZING ALL CORNERS AND EDGES OF THE STEEL PLATES, SHAPES, ETC., SHALL BE GROUND TO 0.063" RADIUS.

CONTRACTOR NOTES

1. THE LOCATIONS OF THE ANCHOR BOLTS SHALL BE CROSS-REFERENCED WITH SHOP DRAWINGS TO VERIFY THE LOCATIONS.

2. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE STAINLESS STEEL AND PTFE SLIDING SURFACES FROM DAMAGE AT ALL TIMES.

3. DUE TO DESIGN DIFFERENCES, THE OVERALL HEIGHTS OF THE BEARING BEING SUPPLIED MAY DIFFER FROM THE HEIGHTS SHOWN IN THE CONTRACT PLANS. THE ACTUAL BEARING HEIGHTS ARE GIVEN IN THE DATA TABLE ON THE INDIVIDUAL BEARING DETAIL SHEET. CONTRACTOR TO RECALCULATE AND MODIFY PEDESTAL ELEVATIONS ACCORDINGLY.

4. THE BEARINGS WILL BE SHIPPED CENTERED, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OFFSET THE SLIDE PLATE IN THE FIELD DURING INSTALLATION, IF APPLICABLE. OFFSET VALUES WERE NOT PROVIDED IN THE CONTRACT PLANS, SO IF REQUIRED, OFFSETS SHALL BE PROVIDED BY THE BRIDGE DESIGNER.

5. THE CONTRACTOR SHALL ENSURE THAT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH THE PTFE IS LIMITED TO 300°F (149°C), AND LIMITED TO 200°F (94°C) FOR SURFACES IN CONTACT WITH THE ELASTOMER. TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS. DURING FIELD WELDING, NO WELDING CURRENT SHALL BE PERMITTED TO PASS BETWEEN THE POT AND PISTON COMPONENTS.

SAMPLING AND TESTING NOTES

ELASTOMERIC DISCS SHALL BE SUBJECTED TO RANDOM IN-HOUSE TESTING OF THE APPLICABLE PHYSICAL PROPERTIES PER AASHTO LRFD CONSTRUCTION SPECIFICATIONS, SECTION 18.

BEARINGS SHALL BE SUBJECTED TO THE TESTS DESCRIBED BELOW AND IN ACCORDANCE WITH THE APPLICABLE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.

1. SAMPLE TEST – ONE (1) BEARING PER "LOT" SHALL BE TESTED AND SHALL BE CHOSEN AT RANDOM. A "LOT" SHALL CONSIST OF ONE OF THE FOLLOWING:
(1) NO MORE THAN 10 EXPANSION BEARINGS OF ONE "LOAD CATEGORY"
ONE LOAD CATEGORY MAY CONSIST OF BEARINGS OF A DIFFERING VERTICAL LOAD CAPACITY BUT THE BEARINGS MAY NOT EXCEED A RANGE OF CAPACITY DIFFERING BY MORE THAN 50KIPS.

2. PROCEDURE FOR TESTING EXPANSION BEARINGS–
   a.) LOAD THE BEARING WITH ITS DESIGN LOADING FOR AT LEAST 12 HOURS. MEASURE THE FORCE REQUIRED FOR THE FIRST MOVEMENT AND CALCULATE THE COEFFICIENT OF FRICTION. MEASURE THE FORCE REQUIRED FOR MOVEMENT UNDER DYNAMIC LOADING AND CALCULATE THE COEFFICIENT OF FRICTION.
   b.) LOAD THE BEARING AT 70% OF THE DESIGN LOAD BUT NOT LESS THAN 2000PSI. MEASURE THE STATIC AND DYNAMIC COEFFICIENTS OF FRICTION.
   c.) LOAD THE BEARING AT 150% OF THE DESIGN LOAD FOR 30 MINUTES, AT A 2% ROTATION, AND SUBJECT THE BEARING TO 100 CYCLES OF MOVEMENT, MEASURE THE STATIC AND DYNAMIC COEFFICIENTS OF FRICTION.
   d.) COEFFICIENTS OF FRICTION SHALL BE LESS THAN 4%

3. PROCEDURE FOR TESTING FIXED BEARINGS–
   a.) LOAD BEARING AT 150% OF ITS DESIGN LOAD FOR 30 MINUTES, AT A 2% ROTATION.

4. AFTER PERFORMING EACH TEST DESCRIBED IN (2) & (3) ABOVE, DISASSEMBLE THE BEARING AND INSPECT FOR:
   a.) ANY SIGN OF SEALING FAILURE.
   b.) ANY SIGN OF MATERIAL FAILURE.
   c.) ANY OTHER DEFECTS.

REFERENCE CONTRACT PLANS SHEET 22 / 52
INCLUDE BEARING NOTES: 1, 4 - 8, 12

Vermont Agency of Transportation
RECEIVED
CK'D BY GML OK'D BY JEL
2:43 pm, Feb 28, 2012
RESUBMIT X APPROVED
BY KMH DATE 3/9/12

TOLERANCE TABLE LRFD 18.1.4.2-1

DESCRIPTION	THICKNESS TOLERANCE	DIMENSION TOLERANCE	FLATNESS TOLERANCE	SURFACE FINISH (μ-in)
POT BEARING				
OVERALL DIMENSIONS	+1/4", -0"	+1/8", -0"	–	–
POT DEPTH (INSIDE)	–	+0.025", -0"	–	–
POT WALL: THICKNESS & AVE. I.D.	+1/8", -0"	+0.003", -0.003"	+0.001", -0.001"	32
POT BASE: TOP & BOTTOM SURFACES	+0.025", -0"	–	CLASS C	63
PISTON: RIM	+1/16", -0"	+0.003", -0.003"	+0.001", -0.001"	32
PISTON: TOP AND BOTTOM SURFACES	+0.025", -0"	–	CLASS C	63
ELASTOMERIC DISK (UNSTRESSED)	+1/8", -0"	+1/16", -0"	–	–
FLAT PTFE SLIDING SURFACES				
PTFE	+1/16", -0"	+0.030", -0"	CLASS A	–
STAINLESS STEEL	+1/16", -0"	+1/8", -0"	CLASS A	# 8 MIRROR
GUIDES				
CONTACT SURFACE	–	+1/8", -0"	CLASS A	32
DISTANCE BETWEEN GUIDES	–	+0.030", -0"	–	–
PARALLELISM OF GUIDES	–	+/- 0.005 RAD	–	–
LOAD PLATES				
OVERALL DIMENSIONS	+1/16", -1/16"	+1/4", -1/4"	*CLASS A	125
BEVEL SLOPE	+/- 0.002 RAD	–	–	–

* ONLY FOR SURFACES IN CONTACT WITH THE BEARING. TOP SURFACE OF SOLE PLATE AND BOTTOM SURFACE OF MASONRY PLATE SHALL BE CLASS B.

FLATNESS TOLERANCE	
CLASS	X NOM. DIM.
A	0.001
B	0.002
C	0.005

TOLERANCES

EXCEPT AS NOTED BELOW, THE DIMENSIONAL TOLERANCES AND SURFACE FINISHES OF THE BEARING SHALL SATISFY THE REQUIREMENTS OF AASHTO LRFD TABLE 18.1.4.2-1.

1. DIMENSIONS (LENGTH, WIDTH, THICKNESS, HOLE LOCATIONS AND POSITION OF WELDED COMPONENTS). THE TOLERANCE SHALL BE ± 0.063".

2. FLATNESS
   a.) SOLE PLATE – BEARING SURFACES SHALL BE FLAT WITH MAXIMUM PERMISSIBLE VARIATION OF 0.01" FROM A PLANE DETERMINED BY ANY THREE CORNERS OF THE PLATES.
   b.) MASONRY PLATE – BEARING SURFACES SHALL BE FLAT WITH MAXIMUM PERMISSIBLE VARIATION OF 0.04" FROM A PLANE DETERMINED BY ANY THREE CORNERS OF THE PLATE.
   c.) SLIDING SURFACES – FOR STAINLESS STEEL MATING WITH PTFE BONDED TO STEEL, THE TOLERANCE SHALL BE THE "NOMINAL DIMENSION" IN INCHES TIMES 0.0005. THE "NOMINAL DIMENSION" SHALL BE THE DISTANCE BETWEEN ANY DIAGONAL CORNERS OR OPPOSITE EDGES OF THE BEARING SURFACE. THE TOLERANCE IS APPLICABLE TO BOTH SURFACES.

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3551
FAX: 419.257.0332
WWW.DSBROWN.COM

	ITEM	QUANTITY
LOCATION — TOWN HIGHWAY 6 BRIDGE NO. 57	–	–
BRIDGE — 57	–	–
PROJECT NO. — BRO 1442(26)	–	–
PROJECT NAME — SPRINGFIELD	–	–
—	–	–
DESIGNER — VTDOT	–	–
CUSTOMER — T BUCK CONSTRUCTION, INC.	–	–
	–	–

DESCRIPTION: GENERAL NOTES & COATING LIMITS
WINDSOR CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	DA	KTG	1/26/12	–
PROJECT NUMBER	PROJECT CODE	RELEASE	SHEET	
35029	1112	1	GN1	

MK	QTY	DESCRIPTION
1A	2	PF-115
1sp1	2	SOLE PLATE
1ps1	2	PISTON
1pt1	2	POT PLATE
1ed1	2	ELASTOMERIC DISC
1br1	6	BRASS RING
1mp1	2	MASONRY PLATE
1FA	2	UNDERLAYMENT (*SL)
1B	4	SWEDGE ROD (*SL)
1C	4	HEAVY HEX NUT (*SL)
1D	4	WASHER PLATE (*SL)

HLMR BEARING ASSEMBLY LOCATION & LRFD DESIGN INFORMATION (PF)

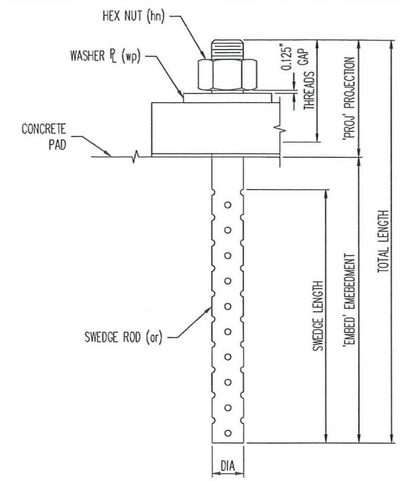
MK	QTY	STRUCTURE	BEARING TYPE	LOCATION	MAX VERT. SERVICE	MAX VERT. STRENGTH	MAX HORIZ. SERVICE	MAX HORIZ. STRENGTH	LONG MVMNT	TRANS MVMNT	ROTATION (RAD)	HEIGHT TO FABRICATE	HEIGHT IN PLANS	DIFFERENCE IN PLANS	UNDERLAYMENT IN HEIGHT (Y/N)
1A	2	Bridge No. 57	PF-115	ABUTMENT 2: G2, G3	115.0 kips	179.0 kips	29.0 kips	45.0 kips	0	0	0.03	5.382	9.000	-3.618	YES

ELASTOMERIC DISC SCHEDULE (PF)

ASSEM MK	PIECE MK	QTY	ELASTOMERIC DISC DIMENSIONS	ELASTOMER MATERIAL
1A	1ed1	2	0.750 X 6.500ø	Neoprene, 50+/-5 Duro Gr.3

BRASS RING SCHEDULE (PF)

ASSEM MK	PIECE MK	QTY	BRASS RING DIMENSIONS	BRASS MATERIAL
1A	1br1	6	0.094 X 0.375 X 6.500ø	B36 Half-Hard



ANCHOR ASSEMBLY DETAIL

ANCHOR ROD SCHEDULE (PF)

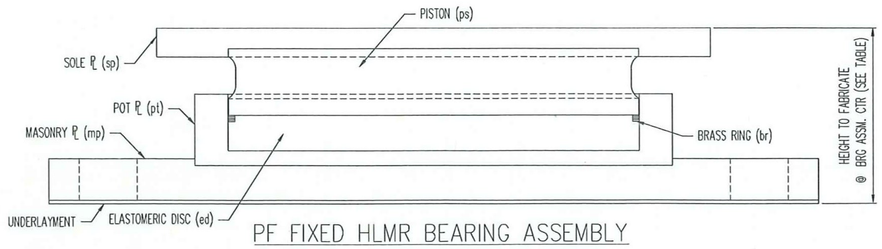
ASSEM MK	FOR BRG	PIECE MK	QTY	DIA	LENGTH	PROJ	EMBED	REMARKS	LOCATION	MATERIAL	COATING
1B	1A	1or1	2	1.500	20.000	5.000	15.000	4" threads, 14" swedge	ABUTMENT 2: G2	F1554 GR 36	A153-HDG
1B	1A	1or1	2	1.500	20.000	5.000	15.000	4" threads, 14" swedge	ABUTMENT 2: G3	F1554 GR 36	A153-HDG

NUT SCHEDULE (PF)

ASSEM MK	FOR BRG	PIECE MK	QTY	DIA	MATERIAL	COATING
1C	1A	1hn1	4	1.500	A563-DH or A194-2H	A153-HDG, Dry Lube & Dye

WASHER SCHEDULE (PF)

ASSEM MK	FOR BRG	PIECE MK	QTY	THICKNESS	WIDTH	LENGTH	REMARKS	MATERIAL	COATING
1D	1A	1wp1	4	0.375	3.000	3.000	ø1.625" HOLE @ CTR	A36	A123-HDG



PF FIXED HLMR BEARING ASSEMBLY

* SL = SHIPPED LOOSE
SEE SHT. 02 FOR SUB-ASSEMBLY DETAILS.
SEE SHT. GN1 FOR GENERAL NOTES & COATING LIMITS.
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED

Vermont Agency of Transportation
RECEIVED
CK'D BY GML OK'D BY JEL
2:43 pm, Feb 28, 2012
RESUBMIT X APPROVED
BY KMH DATE 3/9/2012

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
WWW.DSBROWN.COM

	ITEM	QUANTITY
LOCATION — TOWN HIGHWAY 6 BRIDGE NO. 57	35029-1112-3	2 OF 2
BRIDGE — 57	–	–
PROJECT NO. — BRO 1442(26)	–	–
PROJECT NAME — SPRINGFIELD	–	–
—	–	–
DESIGNER — VTDOT	–	–
CUSTOMER — T. BUCK CONSTRUCTION, INC.	–	–
	–	–
	–	–

DESCRIPTION	SCALE	DRAWN BY	CHECKED BY	DATE	
PF FIXED HLMR ASSEMBLY & DESIGN INFORMATION	N.T.S.	DA	KTG	1/26/12	–
WINDSOR CO., VT	PROJECT NUMBER 35029	PROJECT CODE 1112	RELEASE 1	SHEET 01	