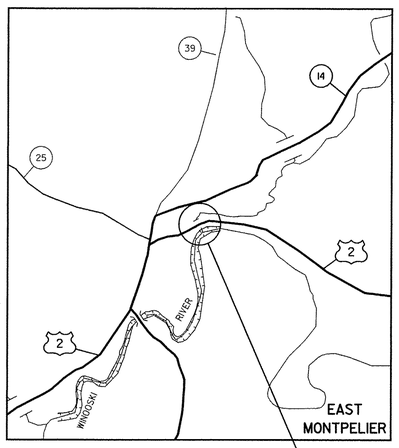
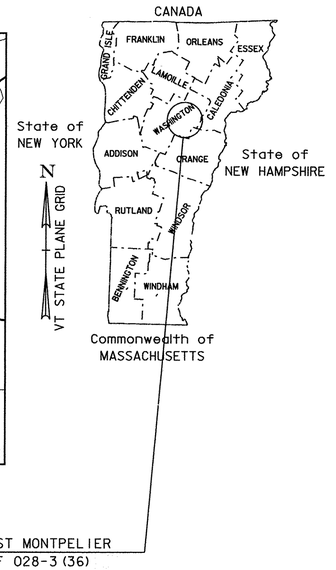
SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION





PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF EAST MONTPELIER

COUNTY OF WASHINGTON

ROUTE NO : U.S. ROUTE 2 PRINCIPAL ARTERIAL BRIDGE NO: 74

PROJECT LOCATION : BEGINNING ON U.S. ROUTE 2 AT A POINT 1.835 KILOMETERS EASTERLY OF THE INTERSECTION OF VT. ROUTE 14 AND U.S. ROUTE 2 AND EXTENDING EASTERLY ALONG U.S. ROUTE 2 0.125 KILOMETERS.

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

LENGTH OF STRUCTURE :	37.520 METERS
LENGTH OF ROADWAY :	87.480 METERS
LENGTH OF PROJECT :	125.000 METERS

RECORD PLANS

CONTRACTOR: WINTERSET, INC. - LYNDONVILLE, VT

RESIDENT ENGINEER: CHRIS JOLLY

CONSTRUCTION BEGAN: APRIL 20, 2009

CONSTRUCTION COMPLETE: NOVEMBER 11, 2010

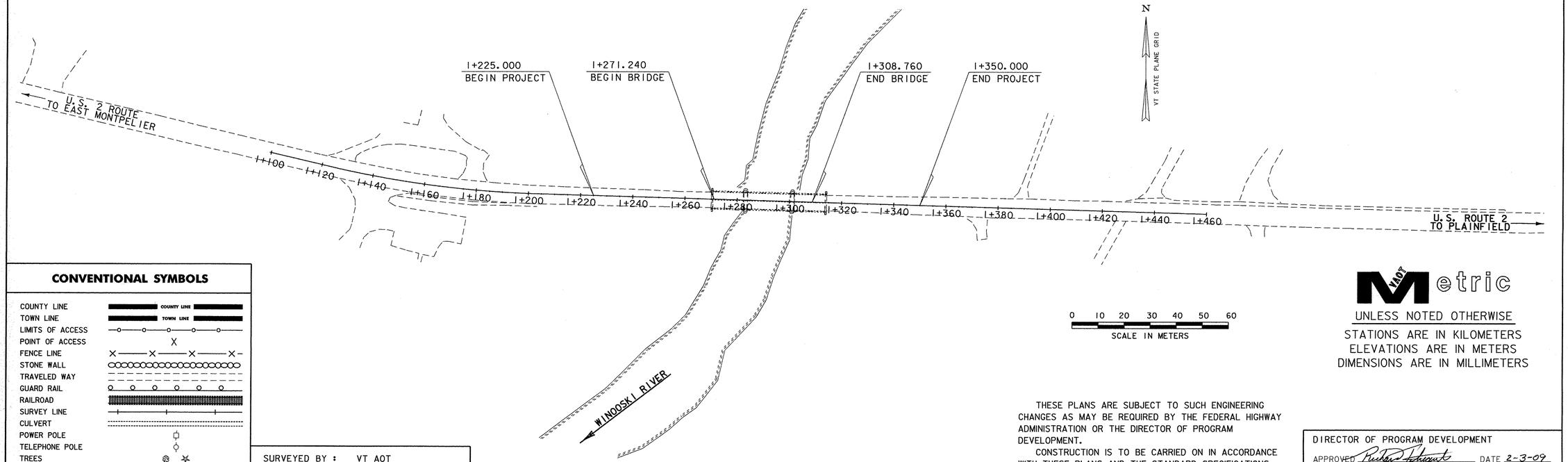
RECORD PLANS BY: CHRIS JOLLY

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

BY Chris Jolly RESIDENT ENGINEER

DATE 1-5-2012

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 : VT AOT
SURVEYED DATE : 7/3/96, 10/8/98 & 10/19/98

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

0 10 20 30 40 50 60
SCALE IN METERS

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.

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Richard Hoar DATE 2-3-09

PROJECT MANAGER : KRISTIN HIGGINS

PROJECT NAME : EAST MONTPELIER
PROJECT NUMBER : BRF 028-3(36)

SHEET 1 OF 68 SHEETS

/98b254/str/sb254ti.dgn sb254title.i 03-FEB-2009

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

LIST OF SHEETS

1.	TITLE SHEET	
2.	PRELIMINARY INFORMATION SHEET	
3.	GENERAL NOTES	
4. - 6.	QUANTITY SHEET #1 - #3	
7.	TYPICAL SECTIONS	
8.	TIE SHEET	
9. - 11.	LAYOUT SHEET #1 - #3	
12. - 14.	PROFILE SHEET #1 - #3	
15.	MAINLINE SUPERELEVATION DIAGRAM	
16. - 18.	SIGN & PAVEMENT MARKING SHEET #1 - #3	
19. - 22.	BRIDGE RAILING DETAIL SHEETS	
23.	BORING PLAN SHEET	
24. - 25.	BORING LOGS SHEET #1 - #2	
26.	PLAN AND ELEVATION	
27. - 30.	INSTRUMENTATION PLAN SHEETS	
31.	DECK DETAILS	
32.	MISCELLANEOUS DETAILS	
33.	FRAMING PLAN	
34.	CROSS FRAME DETAILS	
35.	JOINT DETAIL	
36.	APPROACH SLAB DETAILS	
37.	BRIDGE END DETAILS	
38.	ABUTMENT # 1	
39.	ABUTMENT #2	
40.	WINGWALLS	
41.	REINFORCING STEEL SCHEDULE SHEET	
42.	EPSC NARRATIVE	
43. - 44.	EROSION CONTROL EXISTING CONDITIONS #1 - #2	
45. - 46.	EROSION CONTROL DURING CONSTRUCTION #1 - #2	
47. - 48.	EROSION CONTROL FINAL CONDITIONS #1 - #2	
49. - 50.	EPSC DETAILS #1 - #2	
51. - 55.	R.O.W. SHEETS	
56.	MATERIAL TRANSITION DETAILS	
57. - 61.	MAINLINE CROSS SECTIONS #1 - #5	
62. - 68.	CHANNEL CROSS SECTIONS #1 - #7	

LIST OF STANDARDS

B-5	06/01/94
B-71	07/08/05
D-13	01/03/00
E-100	01/02/04
E-101	05/30/03
E-102	05/30/03
E-102A	05/01/04
E-107	06/30/03
E-107A	08/08/95
E-108	08/08/95
E-110	08/08/95
E-121	08/08/95
E-134	08/08/95
E-136A	08/08/95
E-138	05/30/03
E-160	05/20/99
E-193	08/18/95
G-1BM	06/13/97

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2004

DRAINAGE AREA : 432 sq. km
CHARACTER OF TERRAIN : Wide valley at site, with a hilly to mountainous watershed.
STREAM CHARACTERISTICS : Incised, alluvial and sinuous channel with steep eroding banks.
NATURE OF STREAMBED : Mostly sand and silt. See boring logs.

PEAK FLOW DATA

Q 2.33 =	95 cms	Q 50 =	327 cms
Q 10 =	200 cms	Q 100 =	385 cms
Q 25 =	269 cms	Q 500 =	573 cms

DATE OF FLOOD OF RECORD : November 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Approximately 207.0 m, per record plans.
NATURAL STREAM VELOCITY : @ Q50 = 1.7 mps
ICE CONDITIONS : Moderate to heavy
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Upstream ponds and reservoirs provide storage and reduce peak flood flows.

WATERSHED STORAGE: 3.0%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: 3 span contrete T-beam bridge
YEAR BUILT: 1930
CLEAR SPAN(NORMAL TO STREAM): 11.7 m + 16.2 m + 11.7 m = 39.6 m total
VERTICAL CLEARANCE ABOVE STREAMBED: 8.0 m (209.4m - 199.4m)
WATERWAY OF FULL OPENING: 205 sq. m
DISPOSITION OF STRUCTURE: Remove and replace
TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	202.4 m	VELOCITY =	2.9 mps
Q10 =	204.6 m	"	2.3 mps
Q25 =	205.1 m	"	2.6 mps
Q50 =	205.5 m	"	2.9 mps
Q100 =	205.9 m	"	3.1 mps

LONG TERM STREAMBED CHANGES: There is some scour through the bridge area and at the piers. Sheet piling has been placed around one pier due to scour problems.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 207.8 m, on the easterly approach.
DISCHARGE OVER ROAD @Q100: None

UPSTREAM STRUCTURE

TOWN:	East Montpelier	DISTANCE:	1.8 km
HIGHWAY # :	T.H. 30	STRUCTURE #:	CB 22
CLEAR SPAN:	17.7 m	CLEAR HEIGHT:	4.4 m
YEAR BUILT:	1851	FULL WATERWAY:	77 sq. m
STRUCTURE TYPE:	Single span covered bridge.		

DOWNSTREAM STRUCTURE

TOWN:	East Montpelier	DISTANCE:	4.0 km
HIGHWAY # :	VT 14	STRUCTURE #:	68
CLEAR SPAN:	36.3 m	CLEAR HEIGHT:	6.0 m
YEAR BUILT:	1936	FULL WATERWAY:	146 sq. m
STRUCTURE TYPE:	Two span steel beam bridge.		

LRFR - LOAD RATING FACTORS

LOADING LEVELS	TRUCK					
	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	1.34					
OPERATING	1.75	2.87	1.73	2.92	2.58	2.57

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2005	8400	1000	60	4	480
2025	11100	1200	60	4	740

20 year ESAL for flexible pavement from 2005 to 2025 : 5,300,000
40 year ESAL for flexible pavement from 2005 to 2045 : 13,889,000
Design Speed : 80 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Single span plate girder bridge.

CLEAR SPAN(NORMAL TO STREAM): 35.0 m
VERTICAL CLEARANCE ABOVE STREAMBED: 7.5 m (206.9 m - 199.4 m)
WATERWAY OF FULL OPENING: 198 sq. m

WATER SURFACE ELEVATIONS AT:

Q2.33 =	202.2 m	VELOCITY=	2.3 mps
Q10 =	204.4 m	"	1.9 mps
Q25 =	204.9 m	"	2.2 mps
Q50 =	205.3 m	"	2.4 mps
Q100 =	205.7 m	"	2.7 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: Above Q100
RELIEF ELEVATION: 207.9 m, on the easterly approach.
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 206.9 m
VERTICAL CLEARANCE: @ Q100 = 1.2 m

SCOUR: Calculated contraction scour depths are 0.5 m at Q100 and 1.0 m at Q500. Abutments will be founded on piles and protected with stone fill.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	5 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	3 cms	Elevation 200.8 m
ORDINARY HIGH WATER:	40 cms	Elevation 202.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge, downstream of existing bridge. *
CLEAR SPAN (NORMAL TO STREAM): 34 m minimum**
VERTICAL CLEARANCE ABOVE STREAMBED: Bottom of beam elev. 205.3m min.
WATERWAY AREA OF FULL OPENING: 140 sq. m minimum

ADDITIONAL INFORMATION

*The temporary bridge should be designed to resist high water and ice forces. The superstructure should be anchored and vented.
**The channel banks are steep and potentially unstable. The abutments should be far enough back from the banks to not cause a bank failure and to ensure the stability of the abutments.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO HL 93
2. DESIGN SPAN 37.0m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING SEE GENERAL NOTES (SHEET 3)
   TYPE HP 310 X 125
   ESTIMATED LENGTH 32-39m
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 345W
6. REINFORCING STEEL GRADE 525 (STAINLESS), 420 (BLACK)
7. CONCRETE, HIGH PERFORMANCE CLASS A fc: N/A
   CONCRETE, HIGH PERFORMANCE CLASS B fc: 25 Mpa
   CONCRETE, HIGH PERFORMANCE - NO SILICA FUME fc: 30 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL ------

TRAFFIC MAINTENANCE

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

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: BRF 028-3(36)

FILE NAME: /98b254/str/sb254pi.xls
PROJECT MANAGER: K. HIGGINS
DESIGNED BY: J. LACROIX
PRELIMINARY INFORMATION SHEET

PLOT DATE: 2/3/2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX

MOT Metric

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, DATED 2007 AND ITS LATEST REVISIONS.

2. THE BRIDGE IS DESIGNED FOR HL 93 LIVE LOAD WITH AN ALLOWANCE FOR 80mm (3") OF FUTURE PAVEMENT.

3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS UNLESS OTHERWISE NOTED.

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

5. ITEM 529.15 "REMOVAL OF STRUCTURE" IS FOR THE REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, PIER 1 DOWN TO THE ELEVATIONS SHOWN IN THE CHANNEL SECTIONS, ALL OF PIER 2, INCLUDING THE FOOTING, AND ANY PORTION OF THE ABUTMENTS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. ANY SHEET PILING THAT WAS PLACED TO PROTECT THE PIER(S) FROM SCOUR SHALL ALSO BE CUT OFF TO THE SAME ELEVATION OF THE PIERS OR COMPLETELY REMOVED AND PAYMENT SHALL BE INCIDENTAL TO CONTRACT ITEM 529.15.

6. 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.

7. THE STONE FILL, TYPE IV SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE STRUCTURAL STEEL HAS BEEN SET.

8. THIS BRIDGE SHALL BE INSTRUMENTED AS SHOWN ON THE INSTRUMENTATION PLAN SHEETS.

9. ANY IN-STREAM CONSTRUCTION WORK WILL TAKE PLACE BETWEEN JULY 1ST AND OCTOBER 1ST.

CONCRETE

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

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

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

13. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ANY ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM OF 96 HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF OTHER ADJACENT POURS. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END OF THE BRIDGE.

14. THE DECK AND SUBSTRUCTURE CONCRETE ABOVE THE CONSTRUCTION JOINT SHALL BE SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, NO SILICA FUME).

15. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THE DECK AND APPROACH SLAB SURFACES SHALL BE CLEANED BY BEING PRESSURE WASHED, AFTER GROOVING OPERATIONS, PRIOR TO TREATMENT. PRESSURE WASHING SHALL BE INCIDENTAL TO ITEM 514.10 "WATER REPELLENT, SILANE".

16. ALL ABUTMENT CONCRETE ABOVE THE CONSTRUCTION JOINT SHALL BE PLACED MONOLITHICALLY WITH THE DECK.

17. THE SUBSTRUCTURE CONCRETE BELOW THE JOINT SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.

18. THE TOP SURFACE OF THE PILE CAP SHALL INITIALLY BE GIVEN A FLOAT FINISH TO GRADE. THE CONCRETE WITHIN THE REINFORCING CAGE SHALL THEN BE ROUGHENED BY RAKING PARALLEL TO THE FACE OF THE ABUTMENT TO AN AMPLITUDE OF 12 mm. THE CONCRETE OUTSIDE THE REINFORCING CAGE AND UNDER THE BEARING PADS SHALL REMAIN SMOOTH.

19. IN ACCORDANCE WITH SUBSECTION 506.23 (A) OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.

20. THE DECK WILL HAVE A LONGITUDINAL GROOVED FINISH. THIS WORK WILL BE PAID FOR UNDER ITEM 900.675 SPECIAL PROVISION "LONGITUDINAL DECK GROOVING".

21. ALL REINFORCING STEEL DESIGNATED AS "SS" SHALL BE STAINLESS STEEL REINFORCING IN ACCORDANCE WITH THE SPECIFICATIONS FOR ITEM 900.635 "SPECIAL PROVISION (STAINLESS STEEL REINFORCING)".

22. THE TOP MAT OF REINFORCING STEEL IN THE DECK IS #13 BARS @ 300mm EACH WAY. EXTRA CHAIRS AND/OR PLYWOOD WALKING SURFACES WILL LIKELY BE REQUIRED TO PREVENT UNDESIRABLE DEFORMATION OF THE REINFORCING STEEL MAT PRIOR TO AND WHILE POURING THE DECK. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.635 SPECIAL PROVISION (STAINLESS STEEL REINFORCING).

STRUCTURAL STEEL

23. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

24. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

25. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10 "WELDING".

26. ANY BOLT HOLES IN THE WEBS OF THE FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS CONFORMING TO AASHTO M164M TYPE 3. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

27. ALL FIELD CONNECTIONS SHALL BE MADE WITH 22 DIAMETER BOLTS CONFORMING TO AASHTO M164M TYPE 3 IN 24 mm DIAMETER HOLES PER 506.19(a). ANY CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

28. AFTER THE GIRDERS HAVE BEEN SET ON THE ANCHOR BOLTS, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE GIRDERS, AS DIRECTED BY THE RESIDENT ENGINEER, TO DETERMINE IF THE ELEVATIONS AT THE END OF THE GIRDERS SHOULD BE ADJUSTED. AFTER ADJUSTMENT, MORE EXTENSIVE ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE GIRDERS FOR CALCULATING THE HAUNCH DEPTHS.

29. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 1 METER AND SHALL BEAR AT THE BOTTOM THIRD OF THE GIRDER AND BE ATTACHED TO THE TOP FLANGE. THE DESIGN OF THE FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

30. TEMPORARY BRACING FOR THE GIRDERS SHALL BE PROVIDED BY THE CONTRACTOR TO DISTRIBUTE LOAD WHILE THE DECK IS BEING POURED. THE SUPPORTS SHALL BE LOCATED MIDWAY BETWEEN THE BAYS OF PERMANENT CROSS FRAMES AND SHALL BE ABLE TO SUPPORT A 90 KN LATERAL LOAD AT THE TOP FLANGE. THE CONNECTION OF THE TEMPORARY BRACE TO THE GIRDER SHALL BE DETAILED IN THE CONTRACTOR'S ERECTION PLAN, BUT IN NO CASE SHALL THE CONNECTION INVOLVE FIELD WELDING OR CUTTING HOLES IN THE GIRDER. ONCE THE DECK REACHES DESIGN STRENGTH, THE TEMPORARY BRACES SHALL BE REMOVED. THE CONTRACTOR SHALL INCLUDE THE TEMPORARY SUPPORTS IN THE ERECTION PLAN. THE TEMPORARY BRACING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 506.55 "STRUCTURAL STEEL, PLATE GIRDER".

PILES

31. THE PILES SHALL BE HP 310X125.

32. THE PILES SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 15 METERS AND BE DRIVEN TO A NOMINAL RESISTANCE OF 3000 KN. TO PREVENT DAMAGE TO THE PILES, PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.

33. PILE TESTING AND SEQUENCE
    a. A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED FOR EACH SUBSTRUCTURE UNIT. MORE TESTS MAY BE REQUIRED BY THE ENGINEER. THE FIRST TEST PILE SHALL BE THE FIRST PRODUCTION PILE DRIVEN FOR THE SUBSTRUCTURE UNIT. THE PILE WILL BE DRIVEN AT THE PLAN LOCATION AND THE PILE SHALL BE MEASURED FOR PAYMENT UNDER CONTRACT ITEM 505.265.

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

35. ABUTMENT GAGES SHALL BE INSTALLED AND FUNCTIONING PROPERLY BEFORE BACKFILLING OPERATIONS.

TRAFFIC CONTROL

36. AS PART OF 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.

37. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (ALL-INCLUSIVE TRAFFIC CONTROL). 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
    TRAFFIC SIGNS, TYPE A

38. THE SPEED LIMIT SHALL BE REDUCED TO 35 MPH DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE REVISED SPEED LIMIT SIGNS AT MILE POST 3.80 EB AND 4.40 WB IN ACCORDANCE WITH THE LATEST REVISION OF THE MUTCD. ONCE WORK HAS BEEN COMPLETED THE SIGNS SHALL BE REMOVED. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (ALL-INCLUSIVE TRAFFIC CONTROL).

39. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE STANDARDS E-101, E-102, E102A, E-107, E-107A AND E-121.

40. THE CONTRACTOR SHALL MAINTAIN THE TEMPORARY DETOUR IN ACCORDANCE WITH SUBSECTION 104.01 MAINTENANCE OF TRAFFIC. THE WORK REQUIRED UNDER SUBPART (e), IF NECESSARY, WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (ALL-INCLUSIVE TRAFFIC CONTROL).

TEMPORARY BRIDGE AND APPROACHES

41. TRAFFIC WILL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE.

42. THE DETOUR CURVES SHALL BE DESIGNED FOR A MINIMUM OF 25 MPH. ADVISORY SIGNS SHALL BE POSTED IN ACCORDANCE WITH VAOT STANDARD E-107. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE".

43. LIMITS OF THE TEMPORARY DETOUR MUST BE WITHIN THE RIGHT-OF-WAY. ALL WORK NECESSARY TO MEET THIS CONDITION WILL BE INCIDENTAL TO ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE". SEE ROW SHEETS FOR LOCATION OF TEMPORARY CONSTRUCTION LIMITS.

44. THE TEMPORARY BRIDGE APPROACHES SHALL BE PAVED WITH A MINIMUM OF 80mm (2 LIFTS OF 40mm) OF BITUMINOUS CONCRETE PAVEMENT.

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254gennotes.dgn	
IPARM FILE NAME: sb254gennotes.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
GENERAL NOTES	SHEET: 3 OF 68

Metric

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, DATED 2007 AND ITS LATEST REVISIONS.

2. THE BRIDGE IS DESIGNED FOR HL 93 LIVE LOAD WITH AN ALLOWANCE FOR 80mm (3") OF FUTURE PAVEMENT.

3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS UNLESS OTHERWISE NOTED.

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

5. ITEM 529.15 "REMOVAL OF STRUCTURE" IS FOR THE REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, PIER 1 DOWN TO THE ELEVATIONS SHOWN IN THE CHANNEL SECTIONS, ALL OF PIER 2, INCLUDING THE FOOTING, AND ANY PORTION OF THE ABUTMENTS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. ANY SHEET PILING THAT WAS PLACED TO PROTECT THE PIER(S) FROM SCOUR SHALL ALSO BE CUT OFF TO THE SAME ELEVATION OF THE PIERS OR COMPLETELY REMOVED AND PAYMENT SHALL BE INCIDENTAL TO CONTRACT ITEM 529.15.

6. 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.

7. THE STONE FILL, TYPE IV SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE STRUCTURAL STEEL HAS BEEN SET.

8. THIS BRIDGE SHALL BE INSTRUMENTED AS SHOWN ON THE INSTRUMENTATION PLAN SHEETS.

9. ANY IN-STREAM CONSTRUCTION WORK WILL TAKE PLACE BETWEEN JULY 1ST AND OCTOBER 1ST.

CONCRETE

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

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

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

13. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ANY ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM OF 96 HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF OTHER ADJACENT POURS. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END OF THE BRIDGE.

14. THE DECK AND SUBSTRUCTURE CONCRETE ABOVE THE CONSTRUCTION JOINT SHALL BE SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, NO SILICA FUME).

15. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THE DECK AND APPROACH SLAB SURFACES SHALL BE CLEANED BY BEING PRESSURE WASHED, AFTER GROOVING OPERATIONS, PRIOR TO TREATMENT. PRESSURE WASHING SHALL BE INCIDENTAL TO ITEM 514.10 "WATER REPELLENT, SILANE".

16. ALL ABUTMENT CONCRETE ABOVE THE CONSTRUCTION JOINT SHALL BE PLACED MONOLITHICALLY WITH THE DECK.

17. THE SUBSTRUCTURE CONCRETE BELOW THE JOINT SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.

18. THE TOP SURFACE OF THE PILE CAP SHALL INITIALLY BE GIVEN A FLOAT FINISH TO GRADE. THE CONCRETE WITHIN THE REINFORCING CAGE SHALL THEN BE ROUGHENED BY RAKING PARALLEL TO THE FACE OF THE ABUTMENT TO AN AMPLITUDE OF 12 mm. THE CONCRETE OUTSIDE THE REINFORCING CAGE AND UNDER THE BEARING PADS SHALL REMAIN SMOOTH.

19. IN ACCORDANCE WITH SUBSECTION 506.23 (A) OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.

20. THE DECK WILL HAVE A LONGITUDINAL GROOVED FINISH. THIS WORK WILL BE PAID FOR UNDER ITEM 900.675 SPECIAL PROVISION "LONGITUDINAL DECK GROOVING".

21. ALL REINFORCING STEEL DESIGNATED AS "SS" SHALL BE STAINLESS STEEL REINFORCING IN ACCORDANCE WITH THE SPECIFICATIONS FOR ITEM 900.635 "SPECIAL PROVISION (STAINLESS STEEL REINFORCING)".

22. THE TOP MAT OF REINFORCING STEEL IN THE DECK IS #13 BARS @ 300mm EACH WAY. EXTRA CHAIRS AND/OR PLYWOOD WALKING SURFACES WILL LIKELY BE REQUIRED TO PREVENT UNDESIRABLE DEFORMATION OF THE REINFORCING STEEL MAT PRIOR TO AND WHILE POURING THE DECK. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.635 SPECIAL PROVISION (STAINLESS STEEL REINFORCING).

STRUCTURAL STEEL

23. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

24. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

25. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10 "WELDING".

26. ANY BOLT HOLES IN THE WEBS OF THE FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS CONFORMING TO AASHTO M164M TYPE 3. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

27. ALL FIELD CONNECTIONS SHALL BE MADE WITH 22 DIAMETER BOLTS CONFORMING TO AASHTO M164M TYPE 3 IN 24 mm DIAMETER HOLES PER 506.19(a). ANY CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

28. AFTER THE GIRDERS HAVE BEEN SET ON THE ANCHOR BOLTS, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE GIRDERS, AS DIRECTED BY THE RESIDENT ENGINEER, TO DETERMINE IF THE ELEVATIONS AT THE END OF THE GIRDERS SHOULD BE ADJUSTED. AFTER ADJUSTMENT, MORE EXTENSIVE ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE GIRDERS FOR CALCULATING THE HAUNCH DEPTHS.

29. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 1 METER AND SHALL BEAR AT THE BOTTOM THIRD OF THE GIRDER AND BE ATTACHED TO THE TOP FLANGE. THE DESIGN OF THE FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

30. TEMPORARY BRACING FOR THE GIRDERS SHALL BE PROVIDED BY THE CONTRACTOR TO DISTRIBUTE LOAD WHILE THE DECK IS BEING POURED. THE SUPPORTS SHALL BE LOCATED MIDWAY BETWEEN THE BAYS OF PERMANENT CROSS FRAMES AND SHALL BE ABLE TO SUPPORT A 90 KN LATERAL LOAD AT THE TOP FLANGE. THE CONNECTION OF THE TEMPORARY BRACE TO THE GIRDER SHALL BE DETAILED IN THE CONTRACTOR'S ERECTION PLAN, BUT IN NO CASE SHALL THE CONNECTION INVOLVE FIELD WELDING OR CUTTING HOLES IN THE GIRDER. ONCE THE DECK REACHES DESIGN STRENGTH, THE TEMPORARY BRACES SHALL BE REMOVED. THE CONTRACTOR SHALL INCLUDE THE TEMPORARY SUPPORTS IN THE ERECTION PLAN. THE TEMPORARY BRACING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 506.55 "STRUCTURAL STEEL, PLATE GIRDER".

PILES

31. THE PILES SHALL BE HP 310X125.

32. THE PILES SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 15 METERS AND BE DRIVEN TO A NOMINAL RESISTANCE OF 3000 KN. TO PREVENT DAMAGE TO THE PILES, PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.

33. PILE TESTING AND SEQUENCE
    a. A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED FOR EACH SUBSTRUCTURE UNIT. MORE TESTS MAY BE REQUIRED BY THE ENGINEER. THE FIRST TEST PILE SHALL BE THE FIRST PRODUCTION PILE DRIVEN FOR THE SUBSTRUCTURE UNIT. THE PILE WILL BE DRIVEN AT THE PLAN LOCATION AND THE PILE SHALL BE MEASURED FOR PAYMENT UNDER CONTRACT ITEM 505.265.

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

35. ABUTMENT GAGES SHALL BE INSTALLED AND FUNCTIONING PROPERLY BEFORE BACKFILLING OPERATIONS.

TRAFFIC CONTROL

36. AS PART OF 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.

37. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE BID PRICE 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
    CONSTRUCTION SIGNING

38. THE SPEED LIMIT SHALL BE REDUCED TO 35 MPH DURING CONSTRUCTION. THE CONTRACTOR SHALL PLACE REVISED SPEED LIMIT SIGNS AT MILE POST 3.80 EB AND 4.40 WB IN ACCORDANCE WITH THE LATEST REVISION OF THE MUTCD. ONCE WORK HAS BEEN COMPLETED THE SIGNS SHALL BE REMOVED. THIS WORK WILL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

39. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE STANDARDS E-101, E-102, E102A, E-107, E-107A AND E-121.

40. THE CONTRACTOR SHALL MAINTAIN THE TEMPORARY DETOUR IN ACCORDANCE WITH SUBSECTION 104.01 MAINTENANCE OF TRAFFIC. THE WORK REQUIRED UNDER SUBPART (e), IF NECESSARY, WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

TEMPORARY BRIDGE AND APPROACHES

41. TRAFFIC WILL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE.

42. THE DETOUR CURVES SHALL BE DESIGNED FOR A MINIMUM OF 25 MPH. ADVISORY SIGNS SHALL BE POSTED IN ACCORDANCE WITH VAOT STANDARD E-107. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE".

43. LIMITS OF THE TEMPORARY DETOUR MUST BE WITHIN THE RIGHT-OF-WAY. ALL WORK NECESSARY TO MEET THIS CONDITION WILL BE INCIDENTAL TO ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE". SEE ROW SHEETS FOR LOCATION OF TEMPORARY CONSTRUCTION LIMITS.

44. THE TEMPORARY BRIDGE APPROACHES SHALL BE PAVED WITH A MINIMUM OF 80mm (2 LIFTS OF 40mm) OF BITUMINOUS CONCRETE PAVEMENT.

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254gennotes.dgn	
IPARM FILE NAME: sb254gennotes.i	PLOT DATE: 13-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
GENERAL NOTES	SHEET: 3 OF 68

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
					1050					1050		CM	COMMON EXCAVATION	203.15				
					300					300		CM	SOLID ROCK EXCAVATION	203.16				
								1000		1000		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
					770					770		CM	SAND BORROW	203.31				
					100					100		CM	GRANULAR BORROW	203.32				
					10					10		CM	TRENCH EXCAVATION OF EARTH	204.20				
								340		340		CM	STRUCTURE EXCAVATION	204.25				
								550		550		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30				
					300					300		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
					1240					1240		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
					10					10		CM	AGGREGATE SURFACE COURSE	401.10				
					360					360		KG	EMULSIFIED ASPHALT	404.65				
					1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
					940					940		T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	490.30				
								150		150		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
								1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
								400		400		M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 125	505.265				
								2		2		EACH	DYNAMIC PILE LOADING TEST	505.45				
								76200		76200		KG	STRUCTURAL STEEL, PLATE GIRDER	506.55				
								11400		11400		KG	REINFORCING STEEL	507.15				
								1		1		LS	SHEAR CONNECTORS (1850 - 22 x 180)	508.15				
								270		270		L	WATER REPELLENT, SILANE	514.10				
								30		30		M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
					1					1		LS	TWO-WAY TEMPORARY BRIDGE (290 SM - EST)	528.11				
					320					320		SM	REMOVAL OF BRIDGE PAVEMENT	529.10				
					1					1		EACH	REMOVAL OF STRUCTURE (300 SM - EST)	529.15				
								10		10		EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14				
					10					10		M	450 CPEP	601.0915				
					2					2		EACH	450 CPEPES	601.7015				
					1					1		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
					910					910		CM	STONE FILL, TYPE II	613.11				
					1060					1060		CM	STONE FILL, TYPE IV	613.13				
					6					6		EACH	REMOVING AND RESETTING PROPERTY MARKERS	619.20				
					219					219		M	BOX BEAM GUARDRAIL	621.30				
					350					350		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25				

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/VAOT quant98b254.xls
IPARM FILE NAME: sb254qsi.I
PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX
DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS
CHECKED BY: J. LACROIX
QUANTITY SHEET #I
SHEET: 4 OF 68

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
1050					1050		CM	COMMON EXCAVATION	203.15	
300					300		CM	SOLID ROCK EXCAVATION	203.16	
			1000		1000		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
770					770		CM	SAND BORROW	203.31	
100					100		CM	GRANULAR BORROW	203.32	
10					10		CM	TRENCH EXCAVATION OF EARTH	204.20	
1					1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
			340		340		CM	STRUCTURE EXCAVATION	204.25	
			550		550		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
300					300		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
1240					1240		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
10					10		CM	AGGREGATE SURFACE COURSE	401.10	
360					360		KG	EMULSIFIED ASPHALT	404.65	
1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
940					940		T	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	490.30	
			150		150		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
			1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	
			400		400		M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 125	505.265	
			2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	
			76200		76200		KG	STRUCTURAL STEEL, PLATE GIRDER	506.55	
			11400		11400		KG	REINFORCING STEEL	507.15	
			1		1		LS	SHEAR CONNECTORS (1850 - 22 x 180)	508.15	
			270		270		L	WATER REPELLENT, SILANE	514.10	
			30		30		M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
1					1		LS	TWO-WAY TEMPORARY BRIDGE (290 SM - EST)	528.11	
320					320		SM	REMOVAL OF BRIDGE PAVEMENT	529.10	
1					1		EACH	REMOVAL OF STRUCTURE (300 SM - EST)	529.15	
			10		10		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11	
10					10		M	450 CPEP	601.0915	
2					2		EACH	450 CPEPES	601.7015	
1					1		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	
910					910		CM	STONE FILL, TYPE II	613.11	
1060					1060		CM	STONE FILL, TYPE IV	613.13	
6					6		EACH	REMOVING AND RESETTING PROPERTY MARKERS	619.20	
219					219		M	BOX BEAM GUARDRAIL	621.30	
350					350		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
				1	1		LS	FIELD OFFICE, ENGINEERS	631.10	
				1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	
				1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
1050	CM	COMMON EXCAVATION (1050 x 1.0)
255	CM	SOLID ROCK EXCAVATION (300 x 0.75)
750	CM	UNCLASSIFIED CHANNEL EXCAVATION (1000 x 0.75)
7.5	CM	TRENCH EXCAVATION OF EARTH (10 x 0.75)
2062.5	CM	SUBTOTAL
7.5	CM	ROUND
2070	CM	TOTAL FILL AVAILABLE
1350	CM	FILL REQUIRED
720	CM	WASTE

PROJECT: EAST MONTPELIER
PROJECT NO.: BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/VAOT quant98b254.xls
IPARM FILE NAME: sb254qsi.I
DESIGNED BY: J. LACROIX
SQUAD LEADER: K. HIGGINS
QUANTITY SHEET #I
PLOT DATE: 13-FEB-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET: 4 OF 68

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
						520				520		HR	EMPLOYEE TRAINEESHIP	634.10				
					1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
					450					450		M	DURABLE 100 MM WHITE LINE, THERMOPLASTIC	646.402				
					450					450		M	DURABLE 100 MM YELLOW LINE, THERMOPLASTIC	646.412				
					2350					2350		SM	GEOTEXTILE UNDER STONE FILL	649.31				
							130			130		SM	GEOTEXTILE FOR SILT FENCE	649.51				
							20			20		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
							50			50		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							30			30		KG	SEED	651.15				
							30			30		KG	SEED, WINTER RYE	651.17				
							250			250		KG	FERTILIZER	651.18				
							2			2		T	AGRICULTURAL LIMESTONE	651.20				
							2			2		T	HAYMULCH	651.25				
							215			215		CM	TOPSOIL	651.35				
					1380					1380		SM	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN	652.10				
							200			200		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							1745			1745		SM	TEMPORARY EROSION MATTING	653.20				
							10			10		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							120			120		CM	VEHICLE TRACKING PAD	653.35				
							1			1		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
							450			450		M	PROJECT DEMARCATION FENCE	653.55				
					0.08					0.08		SM	TRAFFIC SIGNS, TYPE A	675.20				
					4					4		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
					7					7		EACH	REMOVING SIGNS	675.50				
					1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
								190		190		CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE - NO SILICA FUME)	900.608				
					4					4		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM)	900.620				
								15800		15800		KG	SPECIAL PROVISION (STAINLESS STEEL REINFORCING)	900.635				
								76		76		M	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM)	900.640				
								1		1		LS	SPECIAL PROVISION (BRIDGE INSTRUMENTATION FOR INTEGRAL ABUTMENTS)	900.645				
					1					1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645				
								500		500		SM	SPECIAL PROVISION (LONGITUDINAL DECK GROOVING)	900.675				

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/VAOT quant98b254.xls	
IPARM FILE NAME: sb254qs2.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
QUANTITY SHEET #2	SHEET: 5 OF 68

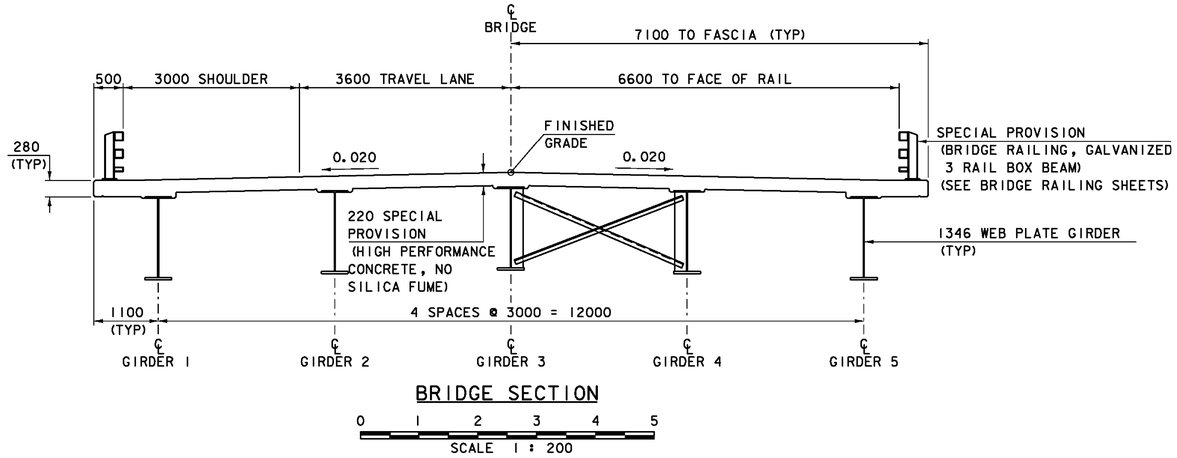
STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

Metric

SUMMARY OF BRIDGE QUANTITIES							TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
APP SLAB #1	APP SLAB #2	SUPER STRUCTURE	ABUT #1	ABUT #2	CHANNEL	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
					1000	1000	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
			275	65		340	CM	STRUCTURE EXCAVATION	204.25			
			275	275		550	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
35	35		40	40		150	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
			0.5	0.5		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
			200	200		400	M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 125	505.265			
			1	1		2	EACH	DYNAMIC PILE LOADING TEST	505.45			
		76200				76200	KG	STRUCTURAL STEEL, PLATE GIRDER	506.55			
			5700	5700		11400	KG	REINFORCING STEEL	507.15			
		1				1	LS	SHEAR CONNECTORS (1850 - 22 x 180)	508.15			
16	16	205	22	11		270	L	WATER REPELLENT, SILANE	514.10			
15	15					30	M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
			5	5		10	EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14			
		190				190	CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE - NO SILICA FUME)	900.608			
		11500	2150	2150		15800	KG	SPECIAL PROVISION (STAINLESS STEEL REINFORCING)	900.635			
		76				76	M	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM)	900.640			
		0.2	0.4	0.4		1	LS	SPECIAL PROVISION (BRIDGE INSTRUMENTATION FOR INTEGRAL ABUTMENTS)	900.645			
		500				500	SM	SPECIAL PROVISION (LONGITUDINAL DECK GROOVING)	900.675			

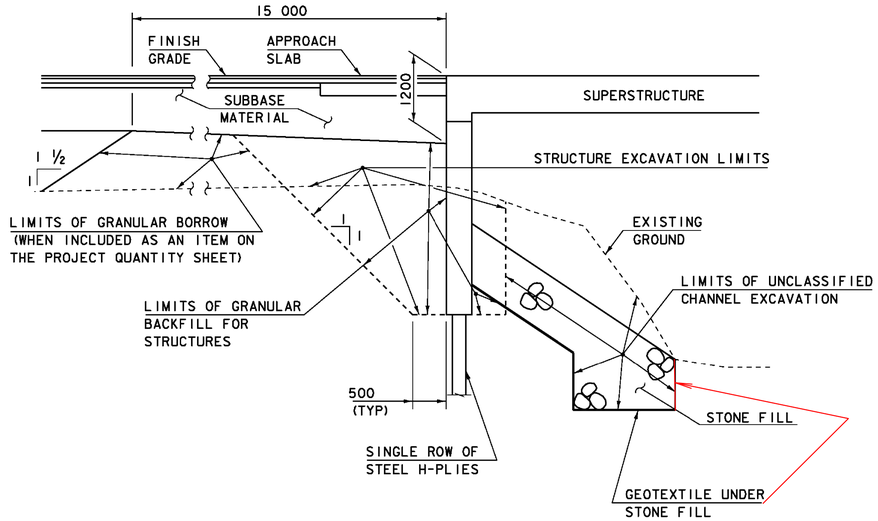
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/VAOT quant98b254.xls	
IPARM FILE NAME: sb254qs3.I	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
QUANTITY SHEET #3	SHEET: 6 OF 68



BRIDGE SECTION

0 1 2 3 4 5

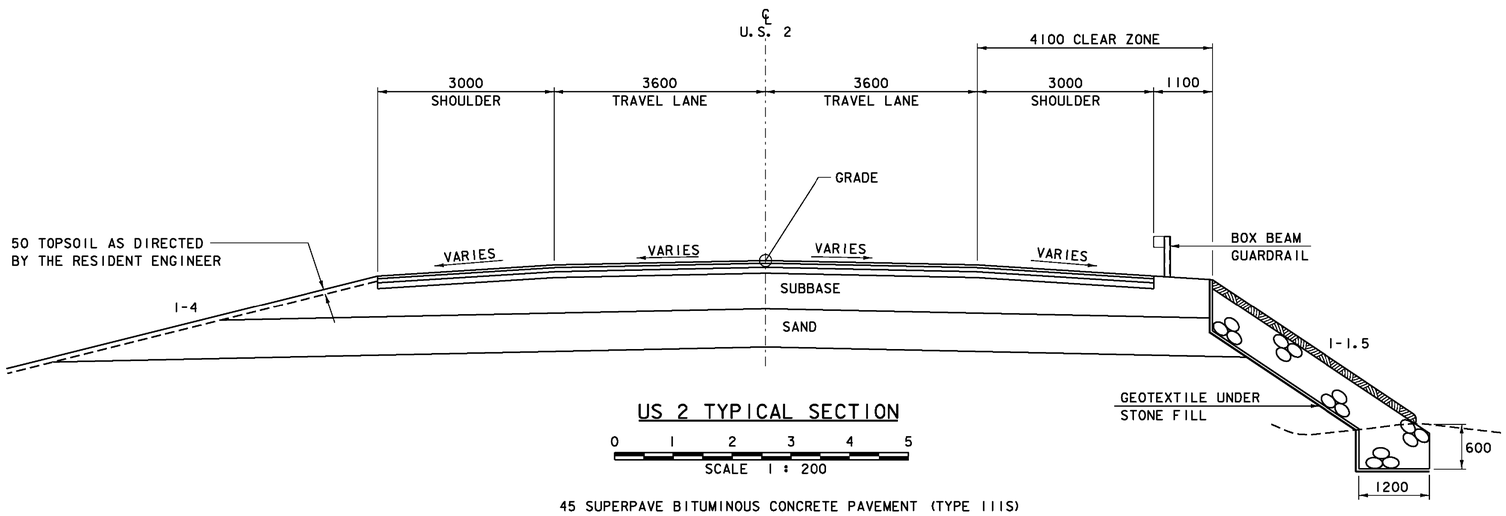
SCALE 1 : 200



TYPICAL INTEGRAL ABUTMENT SECTION

NOT TO SCALE

ACTUAL LIMITS OF STRUCTURE EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER THE ITEM 204.25 "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.



US 2 TYPICAL SECTION

0 1 2 3 4 5

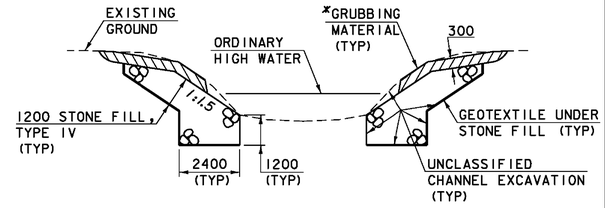
SCALE 1 : 200

45 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE III S)
75 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE II S)
85 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE II S)
600 SUBBASE OF DENSE GRADED CRUSHED STONE
500 SAND BORROW

NOTE: NUMBER OF GYRATION (N_{DESIGN}) = 75
FOR PG GRADE SEE SECTION 490 OF THE GENERAL SPECIAL PROVISIONS

ROADWAY BUILT AS DESIGNED

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



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.

MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
BASE COURSE	±10 mm
SUBBASE	±30 mm
SAND BORROW	±30 mm

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254typ.dgn	
IPARM FILE NAME: sb254typ.i	PLOT DATE: 13-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
TYPICAL SECTIONS	SHEET: 7 OF 68

GPS CONTROL POINTS

HVCTRL # 1

Standard Disk Stamped

Kingsbury
NORTH = 197200.859
EAST = 504349.789
ELEV. = 208.606

To reach from the junction of VT route 14 and US route 2 in East Montpelier, proceed east on route 2 for 2.2 mi to the mark on the left.
To reach from the intersection of US route 2 and VT route 14 in Plainfield go west along route 2 for 0.6mi to the mark on the right.
The mark is set 2cm (.75in) below ground surface in the top of a 25cm (8in) diameter concrete monument. It is 14.6m (47.9ft) north of and about 0.5m (1.6ft) lower than the centerline of route 2, 37.1m (121.7ft) west of the centerline of a gravel field drive, 16.7m (54.8ft) soutwest of a 90cm (3ft) pine, and 0.4m (1.3ft) south of a fiberglass witness post.

• Description provided by Vermont Agency of Transportation Geodetic Survey Unit

HVCTRL # 2

Standard Disk Stamped

Kingsbury Az Mk
NORTH = 196957.866
EAST = 503784.961
ELEV. = 222.952

To reach from the junction of VT route 14 and US route 2 in East Montpelier, proceed east on route 2 for 1.85mi to the mark on the left, in a grass triangle formed by the drives leading to the Plain-Mont Cemetery.
To reach from the intersection of US route 2 and VT route 14 in Plainfield go west along route 2 for 1.0mi to the mark on the right in a grass triangle formed by the paved drives leading to the Plain-Mont Cemetery
The mark is set flush with the ground surface in the top of a 30cm (1ft) diameter concrete monument. It is 22.8m (74.8ft) north of and about 1.5m (4.9ft) higher than the centerline of route 2, 7.3m (24.0ft) west of the most easterly paved entrance drive to the Plain-Mont Cemetery, 40.0m (131.2ft) soutwest of center of entrance gate to cemetery, and 20.3m (66.6ft) east of a fiberglass witness post at the angle point in a chain link and woven wire fence.

VTrans Metric

BM# 7

Standard Disk Stamped

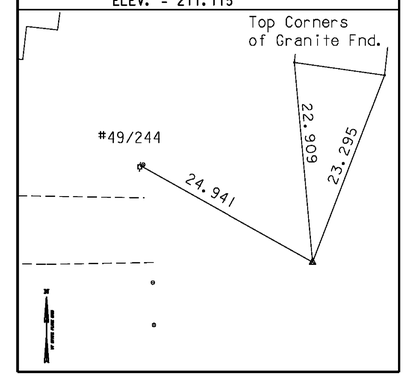
A96005
NORTH = 196501.901
EAST = 502755.485
ELEV. = 209.409

To reach from the intersection of U.S. route 2 and VT route 14 north in East Montpelier Village go east along route 2 for 1.1 mi to the Furniture Barn on the right and the mark on the right in a lawn east of the building. It is about 100m (328.1ft) west of the route 2 bridge over the Winooski River.
To reach from the intersection of U.S. route 2 and VT route 214 in Plainfield, go west along route 2 for 1.7mi to the site of mark.
The mark is set flush with ground surface in the top of a 30cm (1ft) diameter concrete monument. It is 33.0m (108.3ft) south of and about level with the centerline of route 2, 32.8m (107.6ft) east of the northeast foundation corner of the furniture barn, 24.9m (81.7ft) southeast of pole no. 59/01/234S, and 3.9m (12.8ft) west of a fiberglass witness post.
NOTE: This point is intervisible with mark A96004.

TRAVERSE TIES

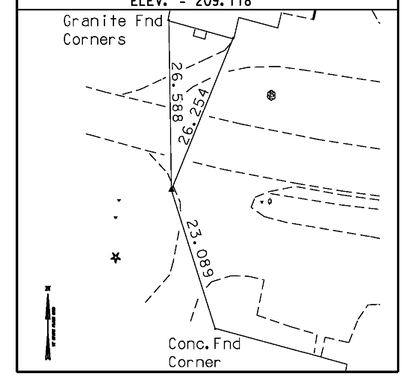
HVCTRL # 5

NORTH = 196520.742
EAST = 503176.627
ELEV. = 211.115



HVCTRL # 6

NORTH = 196534.619
EAST = 502691.685
ELEV. = 209.118

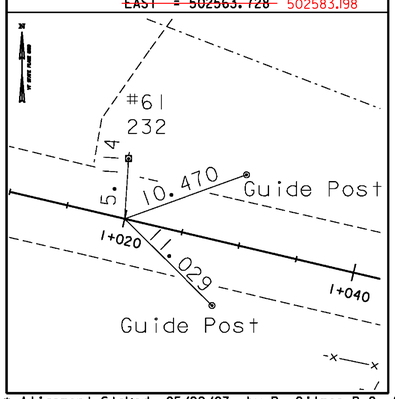


* Main Traverse Completed 10-12-99 by R. Gilman P.C. & R. Bullock & G. Hitchcock

ALIGNMENT TIES

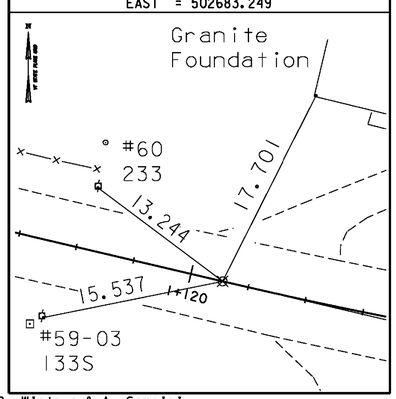
POT 1+020.000

~~NORTH = 196573.471~~ 196568.898
~~EAST = 502563.728~~ 502583.198



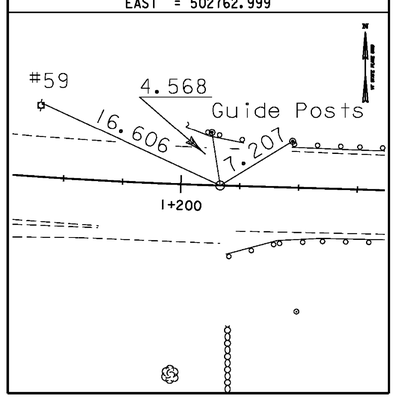
PC 1+122.774

NORTH = 196545.397
EAST = 502683.249



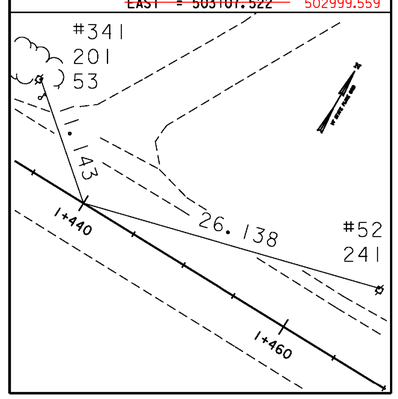
PT 1+203.339

NORTH = 196534.970
EAST = 502762.999



POT 1+440.000

~~NORTH = 196524.875~~ 196528.038
~~EAST = 503107.522~~ 502999.559



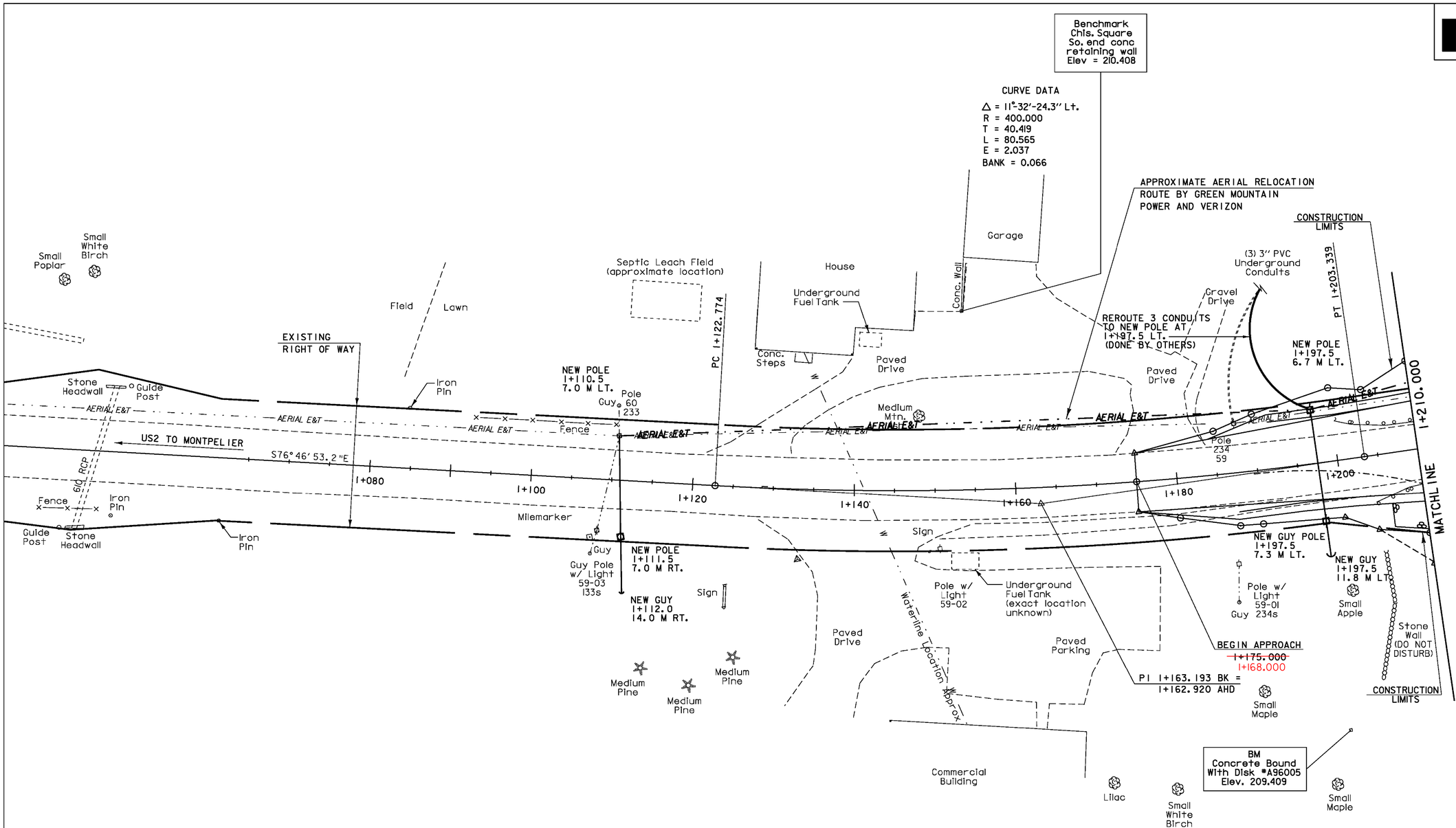
* Alignment Staked 05/22/03 by R. Gilman P.C. & P. Winters & A. Somaini

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

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254tie.dgn
IPARM FILE NAME: sb254tie.i
DESIGNED BY: R. GILMAN — PLOT DATE: 03-FEB-2009
SQUAD LEADER: K. HIGGINS — DRAWN BY: R. BULLOCK
TIE SHEET — CHECKED BY: J. LACROIX
SHEET: 8 OF 68

Metric



COLD PLANING, BITUMINOUS PAVEMENT
1+168 ~~1+175~~ to 1+195

REMOVAL AND DISPOSAL
OF EXISTING GUARDRAIL
1+200.4 Lt. - 1+210 Lt.
1+204.1 Rt. - 1+210 Rt.

BOX BEAM GUARDRAIL
1+188.43 Rt. to 1+210.00 Rt.
1+191.82 Lt. to 1+210.00 Lt.

SLOPE STABILIZATION W/ STONE FILL, TYPE II
1+206 Rt. to 1+210 Rt.

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

0 10 20
SCALE 1 : 250

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bdr.dgn	
IPARM FILE NAME: sb254lal.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
LAYOUT SHEET #1	SHEET: 9 OF 68

VAOT Metric

N

VT STATE PLANE GRID

- OLD ABUTMENT #1 REMOVED COMPLETELY
- OLD ABUTMENT #2 REMOVED TO EL. 206.600m

Woods

Agricultural Land

APPROXIMATE AERIAL RELOCATION ROUTE
BY GREEN MOUNTAIN POWER AND VERIZON

CONSTRUCTION LIMITS

ML POT 1+255.000 =
CHAN POT 5+000.000
Δ = 61°06'27" LT.

NEW POLE
1+254.0
14.0 M LT.

1200 STONE FILL,
TYPE IV (TYP.)

EXISTING
RIGHT OF WAY

NEW GUY
1+338.0
19.5 M LT.

NEW POLE
1+337.5
13.0 M LT.

Pole
341
235
58

Pole
57
236

Pole
56
237

ABANDONED
Underground
Telephone

Small
Boxelder

Guy

Sign

AERIAL E&T

CZ

MATCHLINE
1+210.000

MATCHLINE
1+340.000

S88° 19' 17.4"E

1+220
1+240
1+260
1+280
1+300
1+320

Iron Pin

℄ BRG ABUT #1
STA 1+271.500
F.G. = ~~209.047~~
209.207

℄ BRG ABUT #2
STA 1+308.500
F.G. = ~~208.492~~
208.652

600 STONE FILL,
TYPE II (TYP.)

Medium
Apple

END APPROACH
BEGIN PROJECT
1+225.000

BEGIN BRIDGE
1+271.240
F.G. = ~~209.051~~
209.211

END BRIDGE
1+308.760
F.G. = ~~208.489~~
208.649

℄ DETOUR

TEMPORARY CONSTRUCTION LIMITS

4+940
4+960
4+980
5+000
5+020
5+040
5+060

CHANNEL LINE
N30°34'15.4"E

WINOOSKI RIVER

PROPERTY PINS TO BE REMOVED AND RESET

STATION	OFFSET	POS.	NORTHING	EASTING
1+210.13	10.53	RT.	196524.241	502769.478
1+230.63	15.69	RT.	196518.492	502789.821
1+245.87	15.62	RT.	196518.115	502805.051
1+256.26	10.42	RT.	196523.005	502815.593
1+269.18	10.34	RT.	196522.701	502828.197
1+309.55	10.24	RT.	196521.627	502868.842

SLOPE STABILIZATION
w/ STONE FILL, TYPE II

1+210.0 Rt. to 1+266.5 Rt.
1+225.0 Lt. to 1+270.9 Lt.
1+309.1 Rt. to 1+335.0 Rt.
1+313.5 Lt. to 1+335.0 Lt.

REMOVAL AND DISPOSAL
OF EXISTING GUARDRAIL

1+210 Lt. to 1+270 Lt.
1+210 Rt. to 1+270 Rt.
1+314 Lt. to 1+340 Lt.
1+314 Rt. to 1+340 Rt.

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM)

1+259.89 Rt. to 1+269.49 Rt.
1+263.55 Lt. to 1+273.15 Lt.
1+306.85 Rt. to 1+316.45 Rt.
1+310.51 Lt. to 1+320.11 Lt.

BOX BEAM GUARDRAIL

1+210.00 Lt. to 1+263.55 Lt.
1+210.00 Rt. to 1+259.89 Rt.
1+320.11 Lt. to 1+340.00 Lt.
1+316.45 Rt. to 1+340.00 Rt.

SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM)

1+269.49 Rt. to 1+306.85 Rt.
1+273.15 Lt. to 1+310.51 Lt.

EXISTING BRIDGE DATA
1930 CONC. T BEAM
3-SPAN = 145'
ROADWAY 20'-0"
WATERWAY 2600 SF

0 10 20

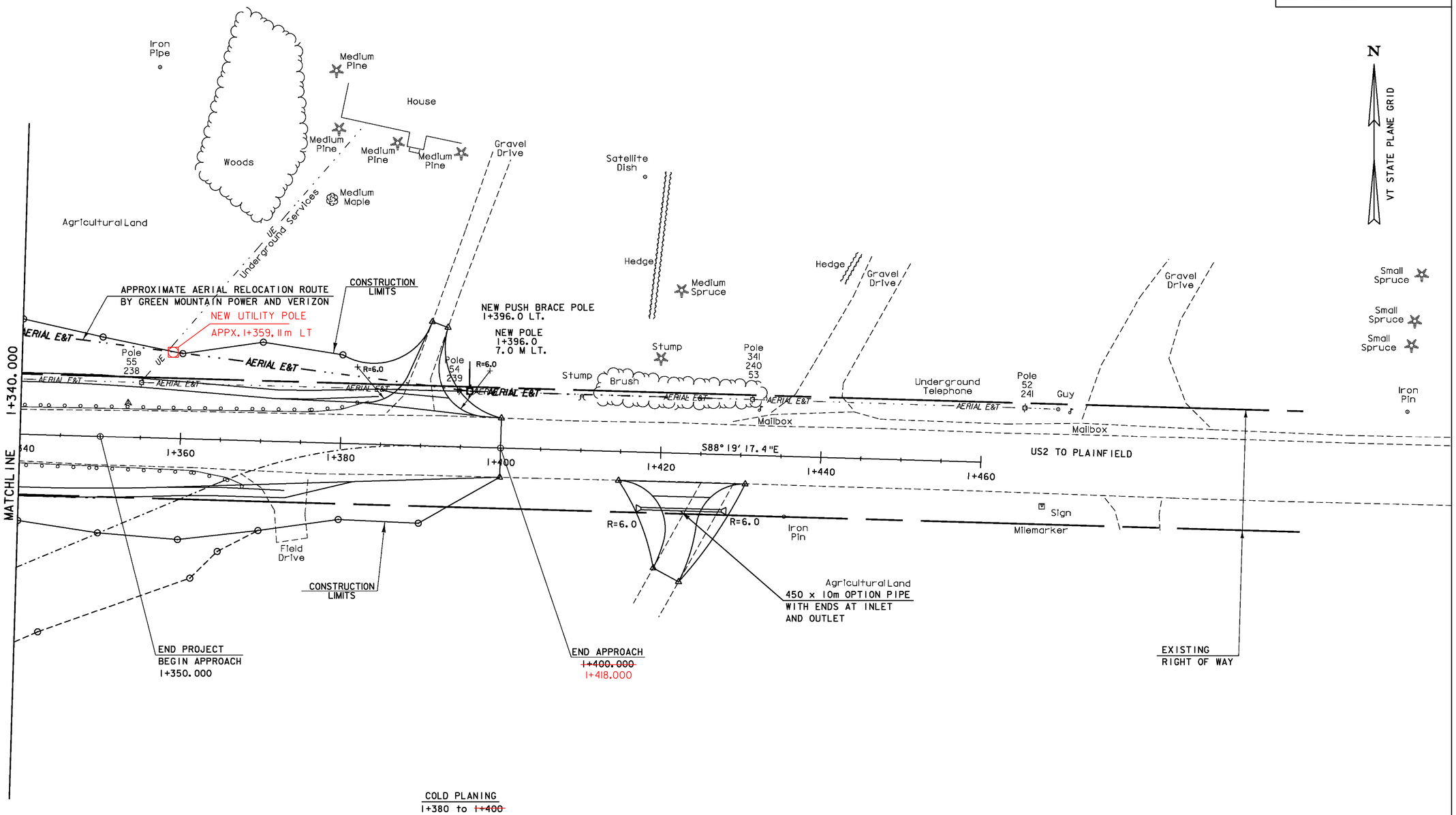
SCALE 1 : 250

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bdr.dgn	
IPARM FILE NAME: sb254la2.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
LAYOUT SHEET #2	SHEET: 10 OF 68

VTrans Metric



COLD PLANING
1+380 to ~~1+400~~
1+418

REMOVAL AND DISPOSAL
OF EXISTING GUARDRAIL
1+340 Rt. - 1+368 Rt.
1+340 Lt. - 1+383 Lt.

BOX BEAM GUARDRAIL
1+340.00 Lt. to 1+384.82 Lt.
1+340.00 Rt. to ~~1+366.41 Rt.~~
1+373.2 RT

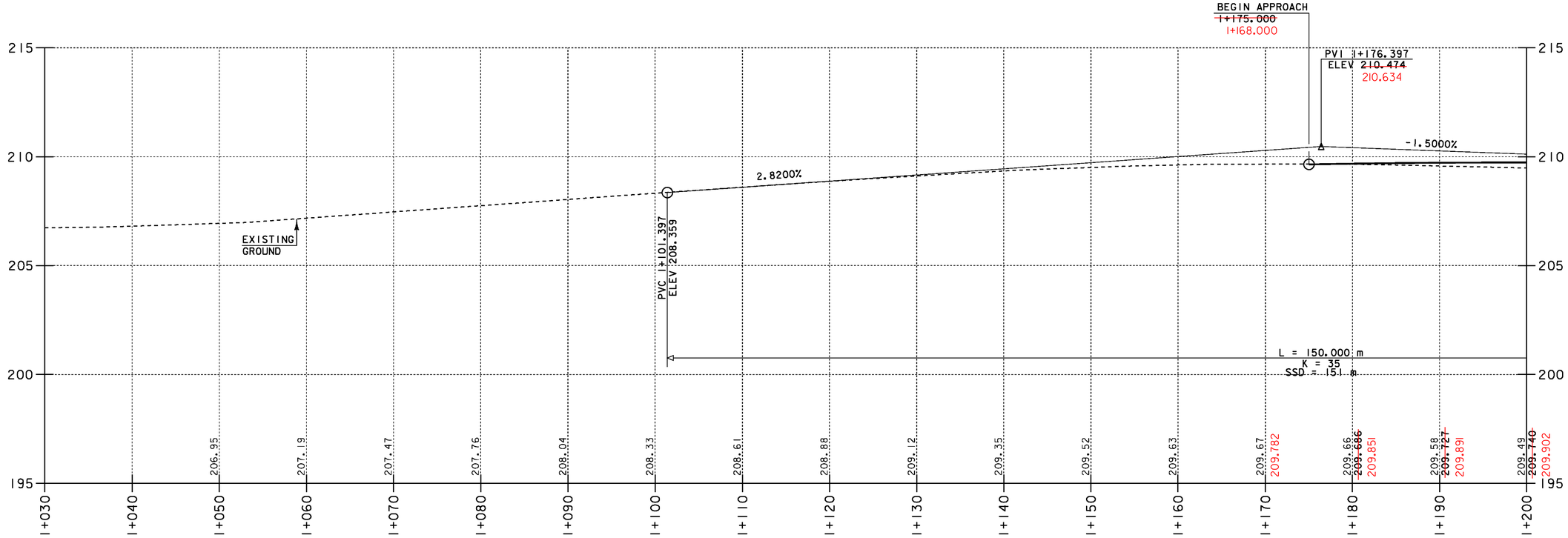
CONSTRUCT GRAVEL DRIVE W/ 1500 PAVED APRON
1+390.0 Lt. - GRAVEL
1+423.0 Rt. - GRAVEL (GRAVEL DRIVE SHALL BE CONSTRUCTED PRIOR TO TEMPORARY DETOUR)

REMOVE DRIVE
1+374 Rt.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

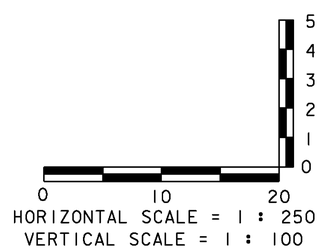
0 10 20
SCALE 1 : 250

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bdr.dgn	
IPARM FILE NAME: sb254la3.I	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
LAYOUT SHEET #3	SHEET: 11 OF 68

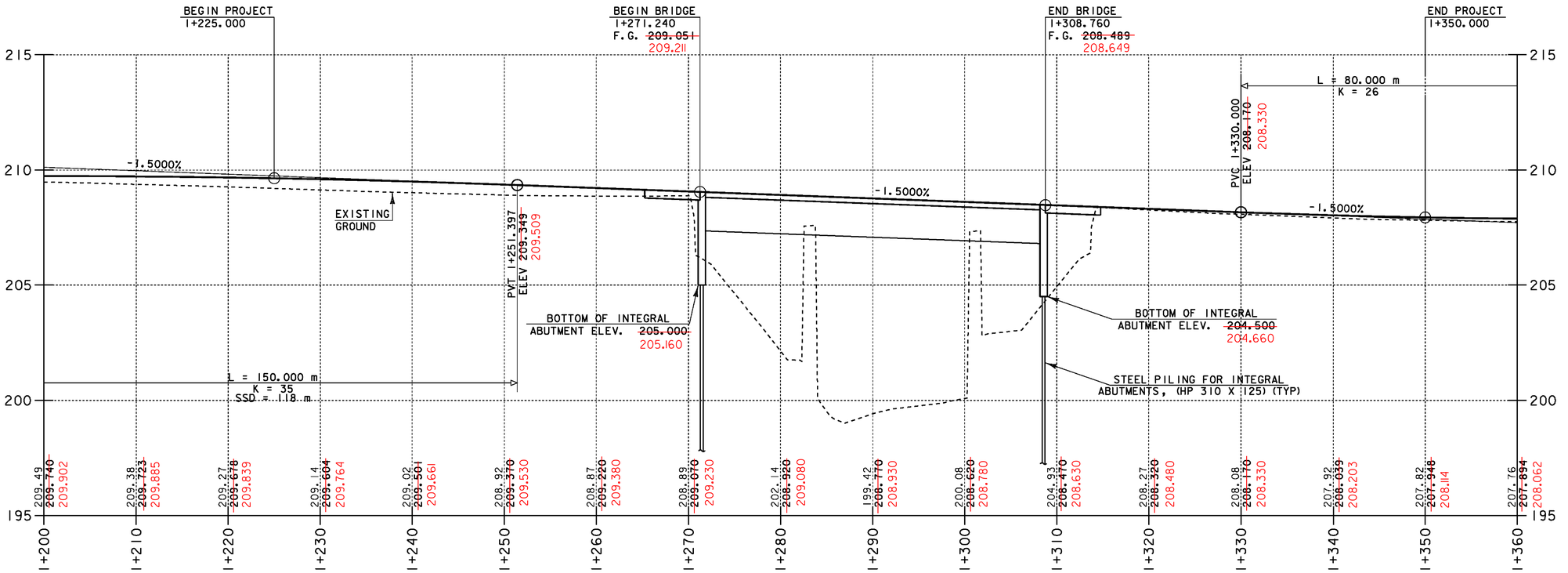


PROFILE US 2

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.

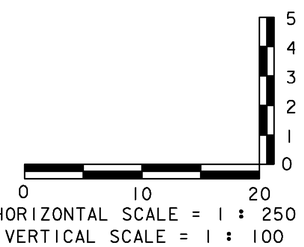


PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254pro1.1	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
PROFILE SHEET #1	SHEET: 12 OF 68

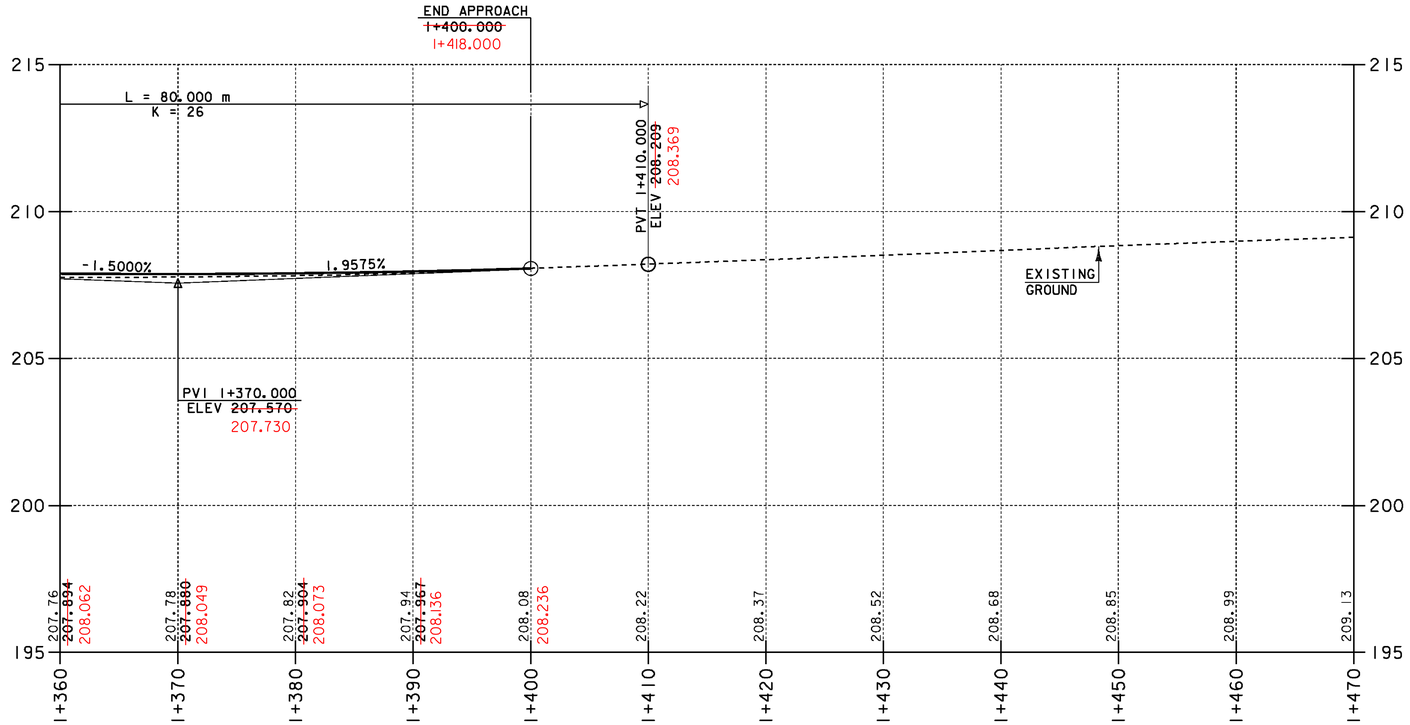


PROFILE US 2

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.

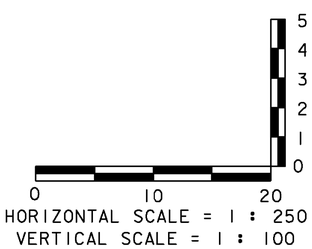


PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254pro2.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
PROFILE SHEET #2	SHEET: 13 OF 68



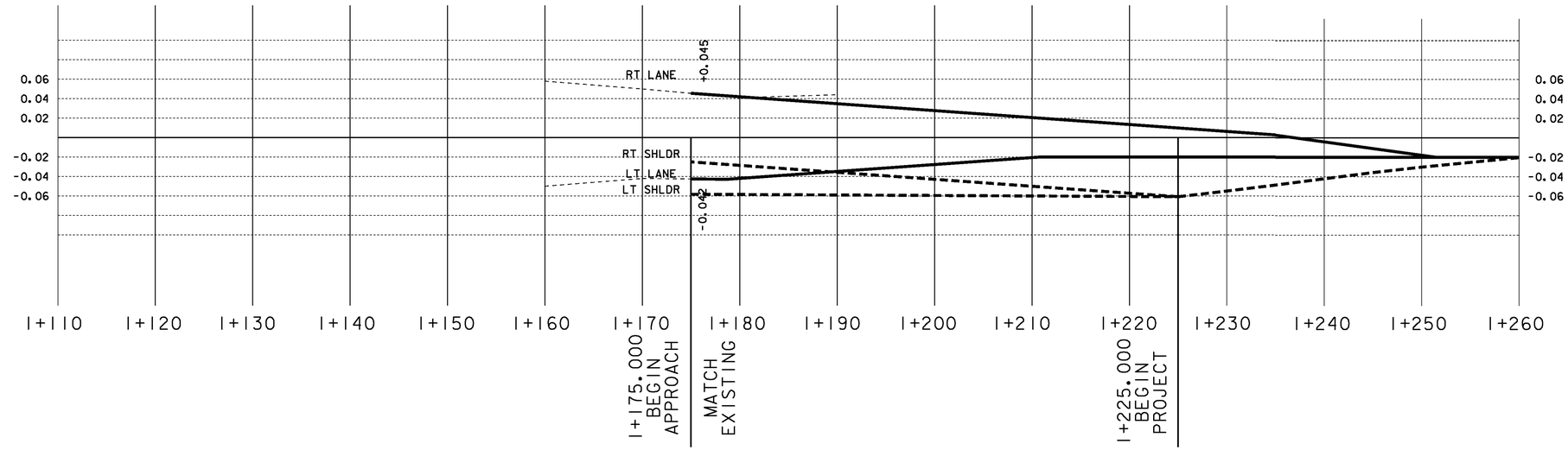
PROFILE US 2

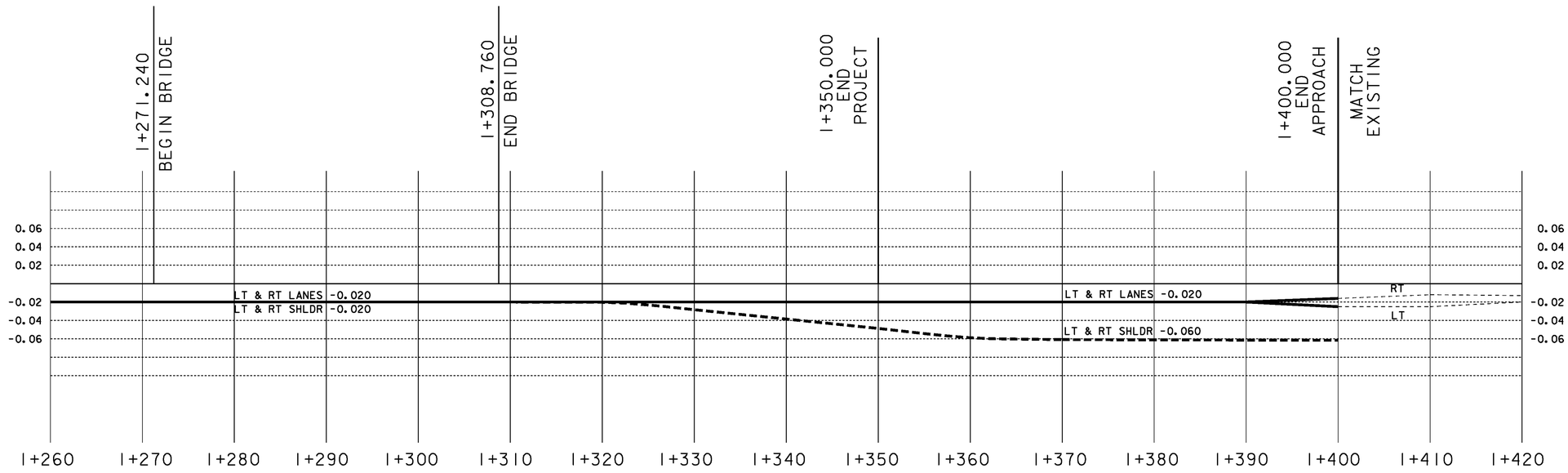
THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT. THE GRADES SHOWN TO THE NEAREST THOUSANDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.



HORIZONTAL SCALE = 1 : 250
VERTICAL SCALE = 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254pro3.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
PROFILE SHEET #3	SHEET: 14 OF 68

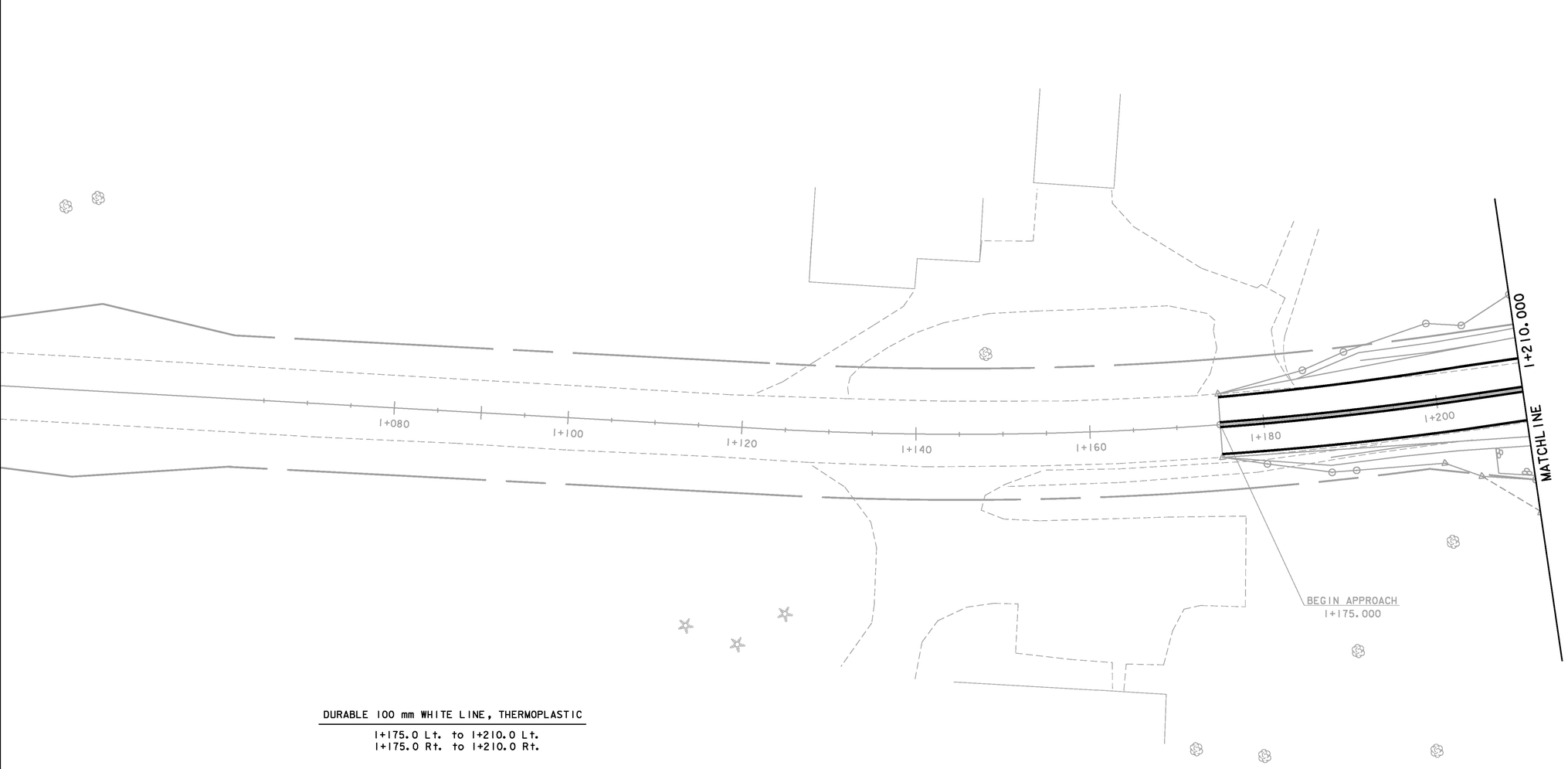




0 10 20

SCALE 1 : 250

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254sed.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE SUPERELEVATION DIAGRAM	SHEET: 15 OF 68



DURABLE 100 mm WHITE LINE, THERMOPLASTIC

1+175.0 Lt. to 1+210.0 Lt.
1+175.0 Rt. to 1+210.0 Rt.

DURABLE 100 mm YELLOW LINE, THERMOPLASTIC

1+175.0 to 1+210.0 CL-(DBL).

NOTE:
ADJUST NEW EDGE LINE TO MATCH EXISTING EDGE LINE @ BEGIN APPROACH

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

0 10 20
SCALE 1 : 250

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bdr.dgn	
IPARM FILE NAME: sb254pmi.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
SIGNS & PAVEMENT MARKINGS SHEET #1	SHEET: 16 OF 68

DURABLE 100 mm WHITE LINE, THERMOPLASTIC

1+210.0 Lt. to 1+340.0 Lt.
1+210.0 Rt. to 1+340.0 Rt.

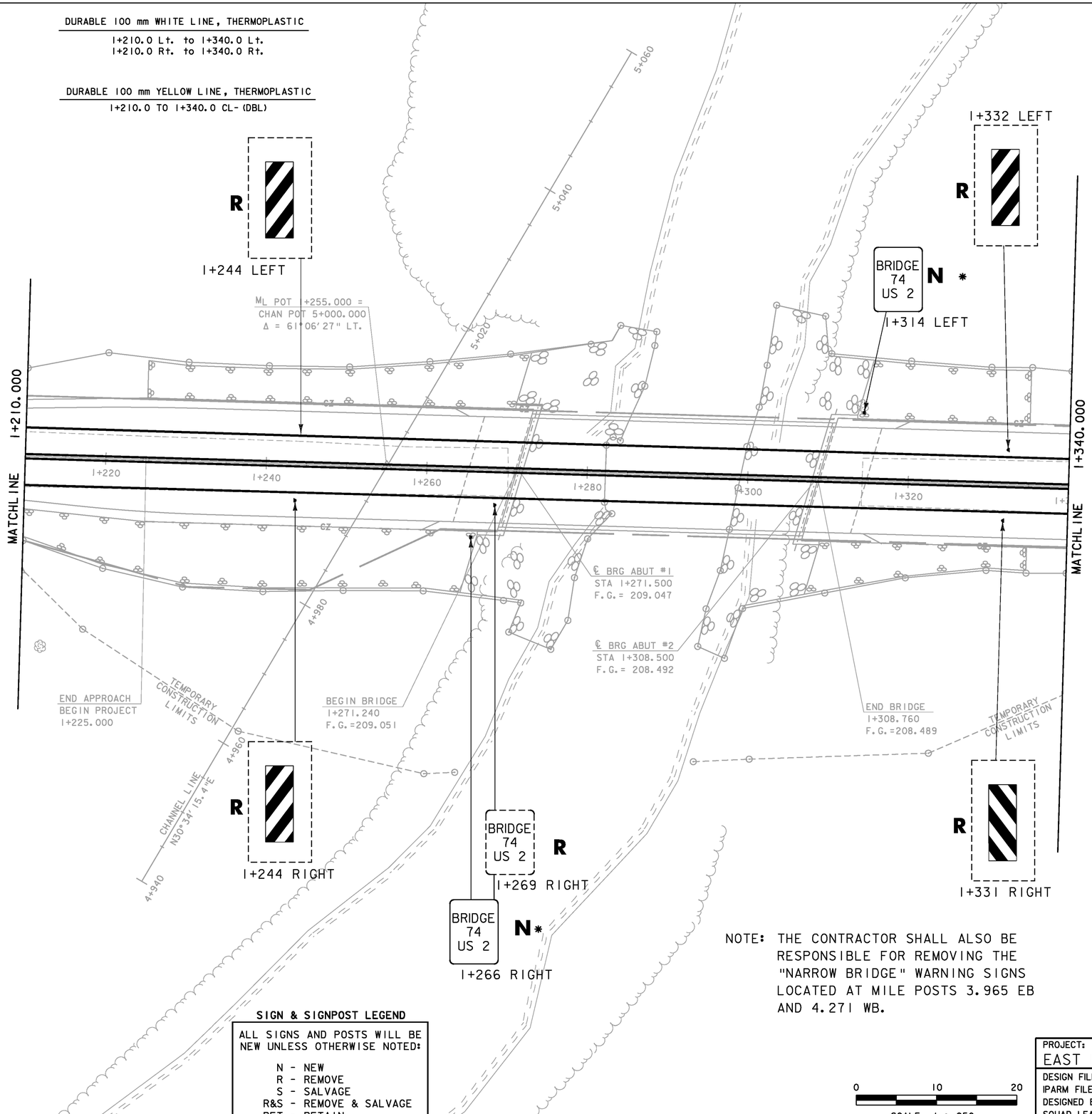
DURABLE 100 mm YELLOW LINE, THERMOPLASTIC

1+210.0 TO 1+340.0 CL- (DBL)

Metric

N

VT STATE PLANE GRID



NOTE: THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVING THE "NARROW BRIDGE" WARNING SIGNS LOCATED AT MILE POSTS 3.965 EB AND 4.271 WB.

SIGN & SIGNPOST LEGEND

ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

- N - NEW
- R - REMOVE
- S - SALVAGE
- R&S - REMOVE & SALVAGE
- RET - RETAIN

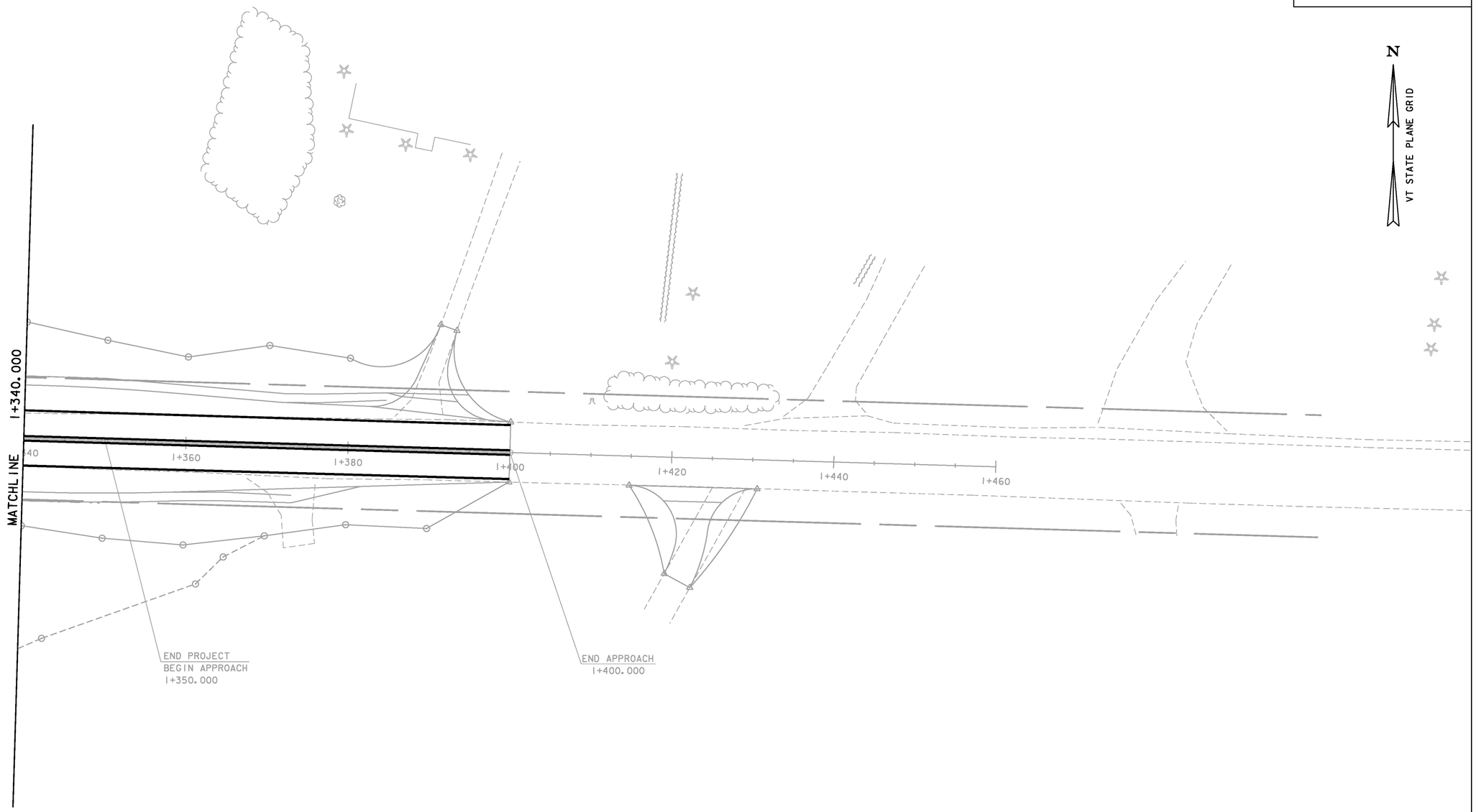
0 10 20

SCALE 1 : 250

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bdr.dgn	
IPARM FILE NAME: sb254pm2.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
SIGNS & PAVEMENT MARKINGS SHEET #2	SHEET: 17 OF 68



DURABLE 100 mm WHITE LINE, THERMOPLASTIC

1+340.0 Lt. TO 1+400.0 Lt.
1+340.0 Rt. TO 1+400.0 Rt.

DURABLE 100 mm YELLOW LINE, THERMOPLASTIC

1+340.0 TO 1+400.0 CL- (DBL)

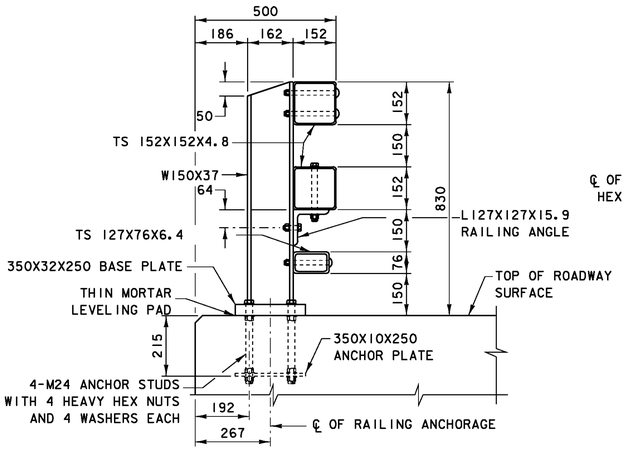
NOTE:
ADJUST NEW EDGE LINE TO MATCH
EXISTING EDGE LINE @ END
APPROACH

0 10 20
SCALE 1 : 250

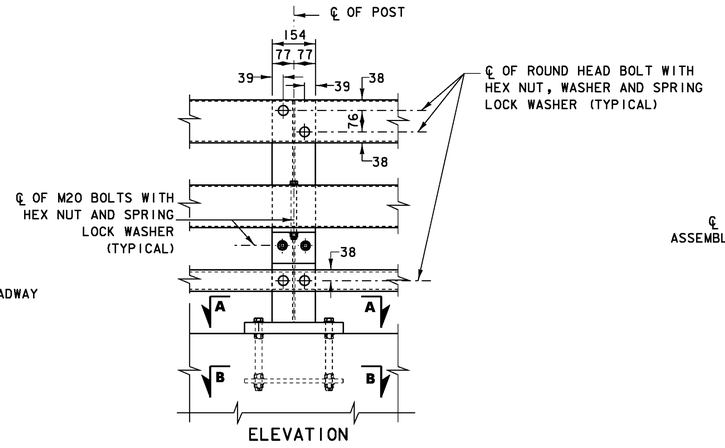
DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bdr.dgn	
IPARM FILE NAME: sb254pm3.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
SIGNS & PAVEMENT MARKINGS SHEET #3	SHEET: 18 OF 68

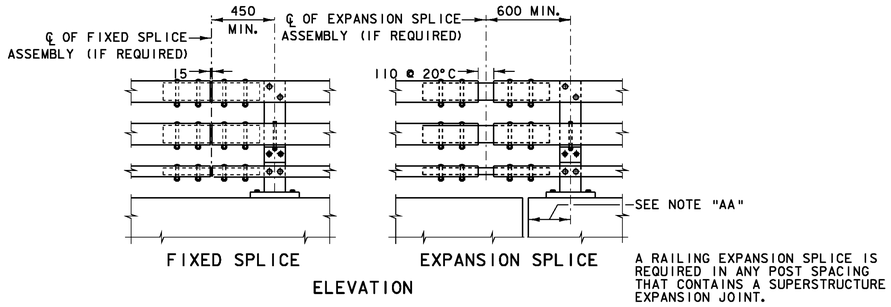


SECTION



ELEVATION

STEEL BRIDGE RAILING
(GALVANIZED 3 RAIL)

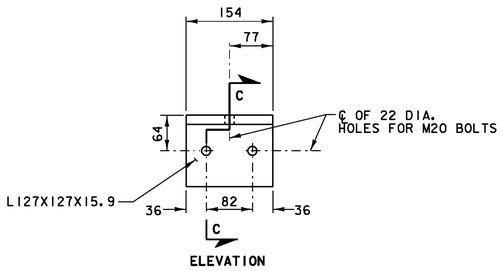


FIXED SPLICE EXPANSION SPLICE

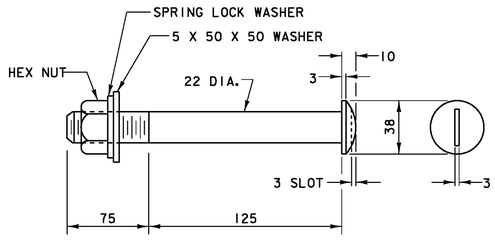
ELEVATION

A RAILING EXPANSION SPLICE IS REQUIRED IN ANY POST SPACING THAT CONTAINS A SUPERSTRUCTURE EXPANSION JOINT.

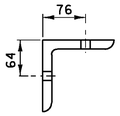
STEEL BRIDGE RAILING SPLICE DETAILS
(GALVANIZED 3 RAIL)



ELEVATION

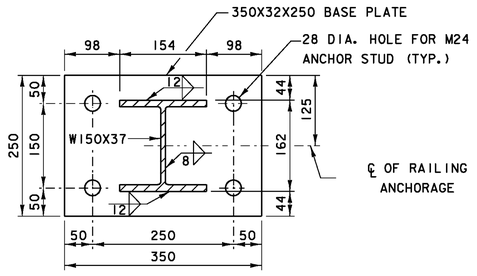


ROUND HEAD BOLT

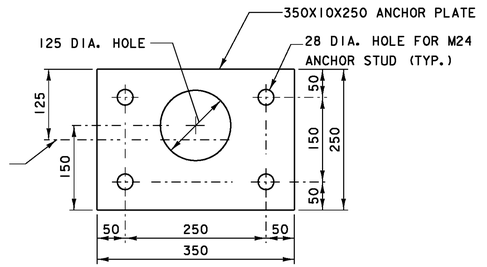


SECTION C-C

RAILING ANGLE DETAILS



SECTION A-A



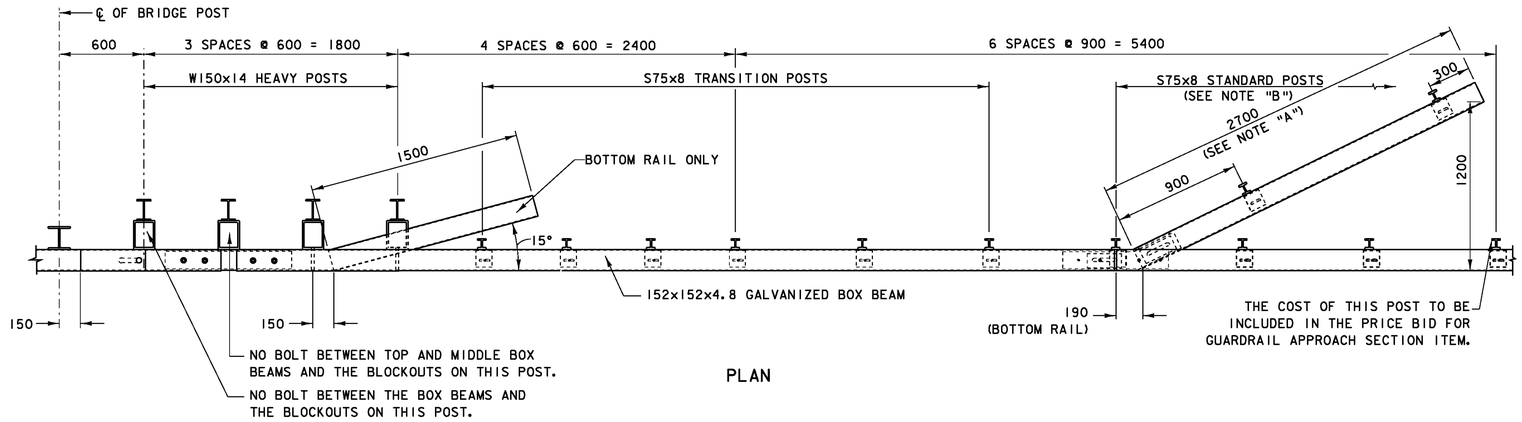
SECTION B-B

NOTES:

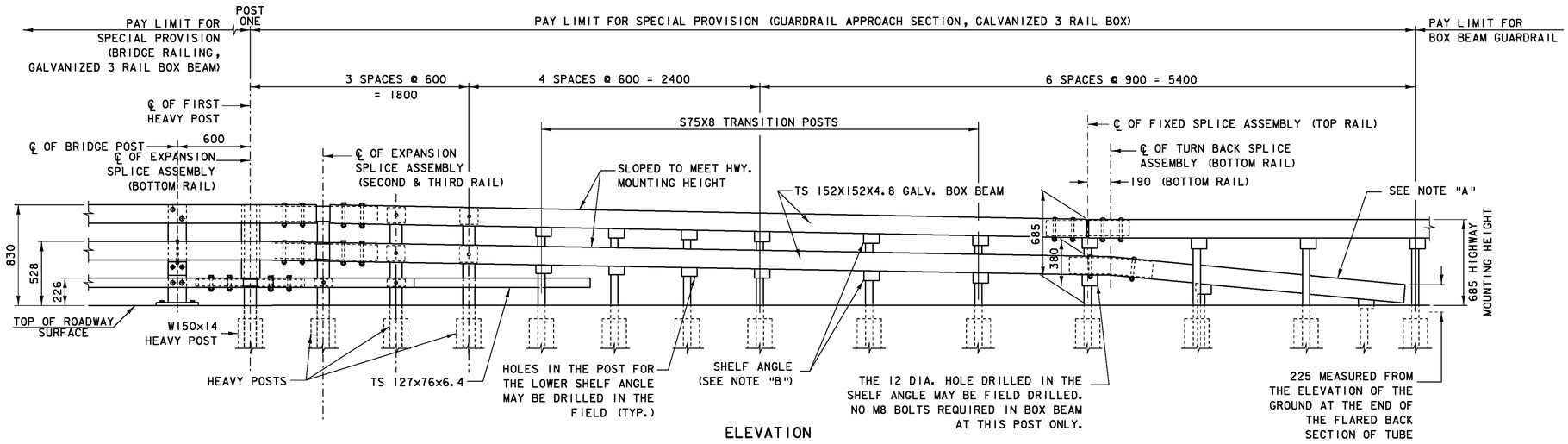
1. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 525 OF THE STANDARD SPECIFICATIONS.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 2.
3. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 135 N-m).
4. DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
5. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254ral.dgn	
IPARM FILE NAME: sb254ral11.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: VTRANS	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BRIDGE RAILING DETAILS SHEET #1	SHEET: 19 OF 68

MDOT Metric



PLAN



ELEVATION

NOTES:

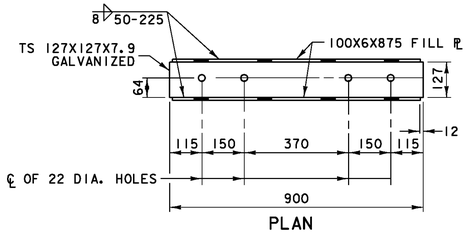
NOTE "A":
THE COST OF THE POSTS, SPLICE TUBE AND RAIL FOR THE LOWER TUBE FLARE SECTION IS INCLUDED IN THE PRICE BID FOR THE APPROACH SECTION ITEM.

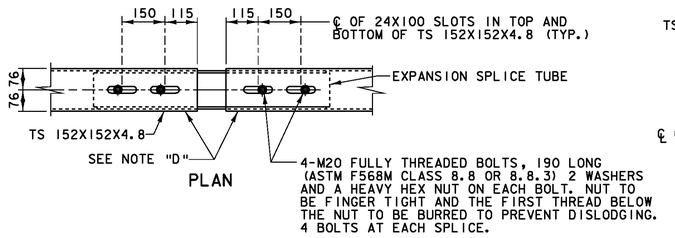
NOTE "B":
SEE TYPICAL RAIL TO POST CONNECTION DETAIL ON STANDARD GI-B.

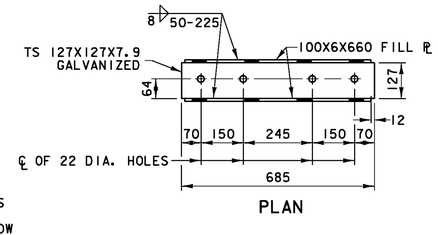
DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

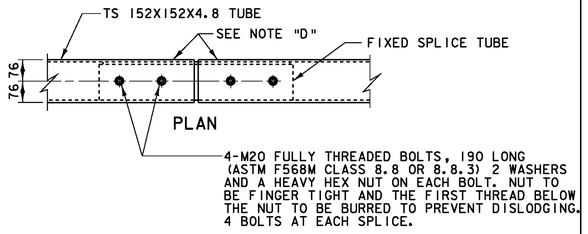
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

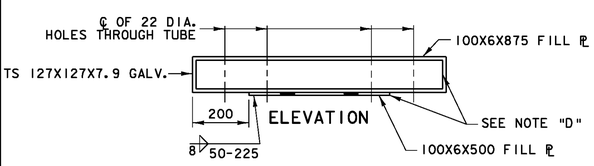
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254ral.dgn	
IPARM FILE NAME: sb254ral12.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: VTRANS	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BRIDGE RAILING DETAILS SHEET #2	SHEET: 20 OF 68



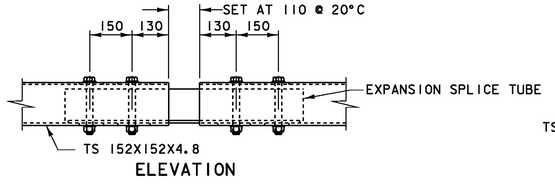




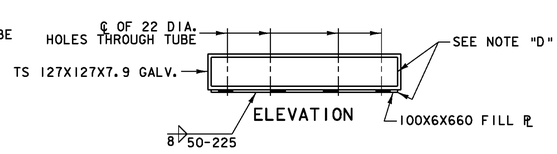




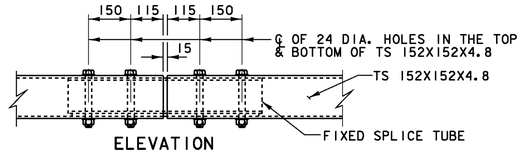
EXPANSION SPLICE TUBE
FOR TS 152x152x4.8



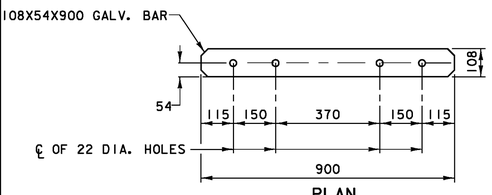
EXPANSION SPLICE ASSEMBLY
FOR TS 152x152x4.8

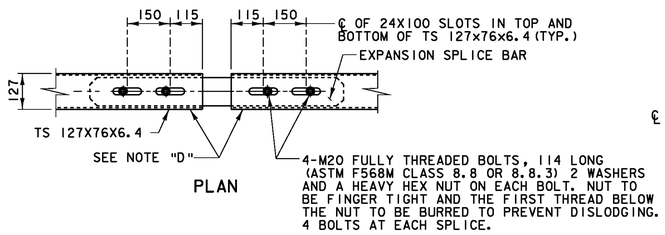


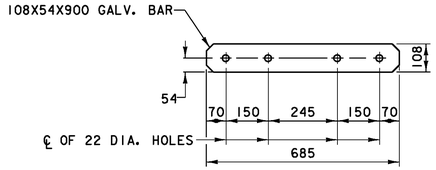
FIXED SPLICE TUBE
FOR TS 152x152x4.8

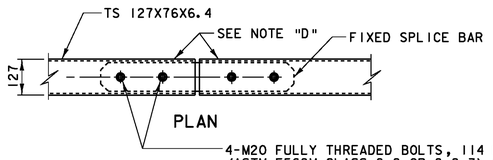


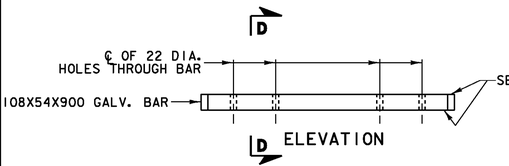
FIXED SPLICE ASSEMBLY
FOR TS 152x152x4.8



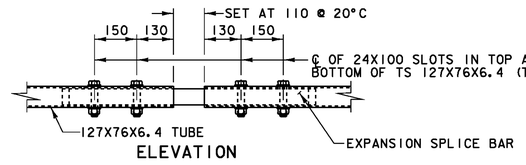




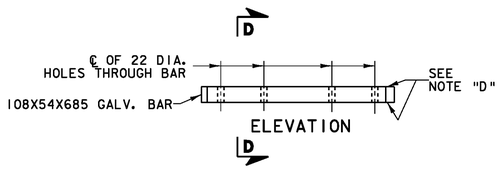




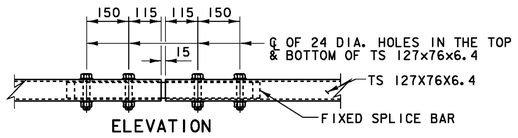
EXPANSION SPLICE BAR
FOR TS 127x76x6.4



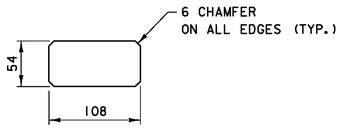
EXPANSION SPLICE ASSEMBLY
FOR TS 127x76x6.4



FIXED SPLICE BAR
FOR TS 127x127x6.4



FIXED SPLICE ASSEMBLY
FOR TS 127x76x6.4



SECTION D-D

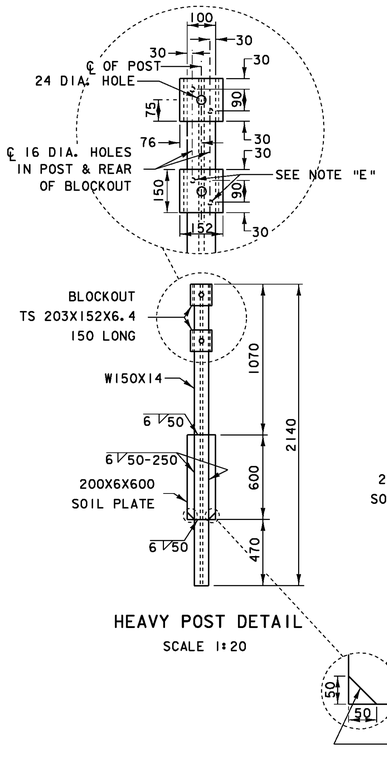
NOTES:

NOTE "D":
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.

DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.

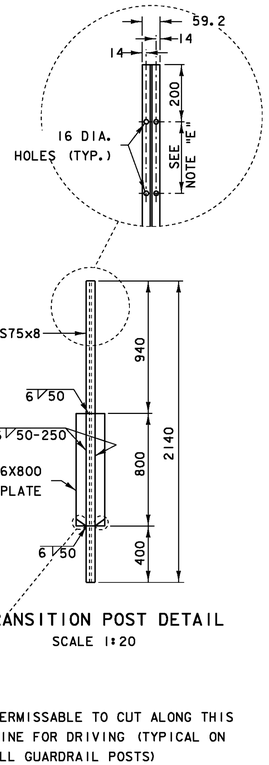
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254ral.dgn	
IPARM FILE NAME: sb254ral13.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: VTRANS	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BRIDGE RAILING DETAILS SHEET #3	SHEET: 21 OF 68



HEAVY POST DETAIL

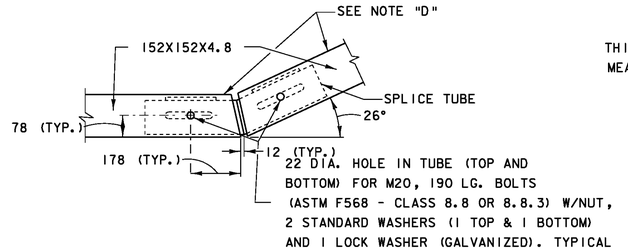
SCALE 1:20



TRANSITION POST DETAIL

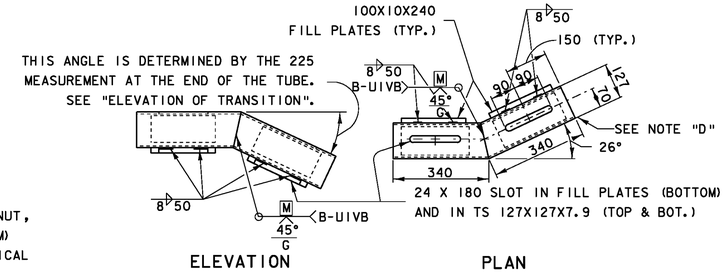
SCALE 1:20

PERMISSABLE TO CUT ALONG THIS LINE FOR DRIVING (TYPICAL ON ALL GUARDRAIL POSTS)



SPLICE DETAIL AT TURN BACK IN LOWER TRANSITION GUIDE RAIL

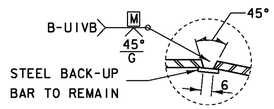
SCALE 1:10



ELEVATION PLAN

SPLICE TUBE DETAIL FOR TURN BACK

SCALE 1:10



WELD DETAIL FOR SPLICE TUBE

NOT TO SCALE

NOTES:

NOTE "D"
PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPLICE TUBES AND FILL PLATES.

NOTE "E":
HOLES IN THE POST FOR THE LOWER RAIL MAY BE LOCATED AND DRILLED IN THE FIELD. IF SO, THE GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH SECTION 505.

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254ral.dgn	
IPARM FILE NAME: sb254ral14.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: VTRANS	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BRIDGE RAILING DETAILS SHEET #4	SHEET: 22 OF 68

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
51to 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)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 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.

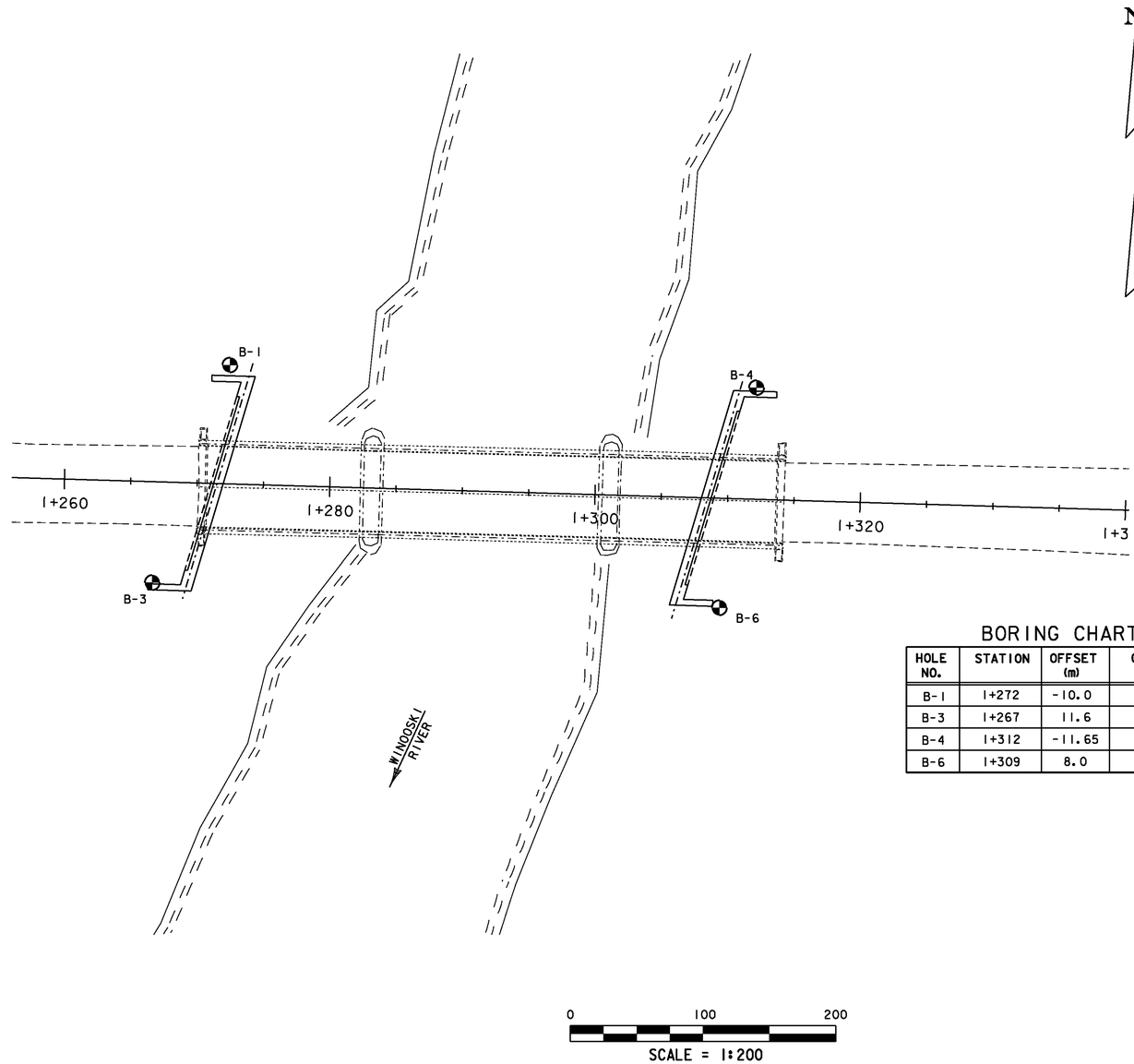
MUCK - Soft organic soil (containing > 10% organic material.

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.	LEDGE ELEV.
B-1	1+272	-10.0	205.26	BOULDERS
B-3	1+267	11.6	204.16	BOULDERS
B-4	1+312	-11.65	202.67	168.57
B-6	1+309	8.0	204.40	173.15

GENERAL NOTES

1. The subsurface explorations shown herein were made between 6/4/03 and 7/18/03 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.

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254bor.dgn	
IPARM FILE NAME: sb254bor.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BORING PLAN SHEET	SHEET: 23 OF 68

VTrans Working to Get You There — Vermont Agency of Transportation

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

BORING NUMBER: B-1
SHEET 1of 1
DATE STARTED: 6/09/03
DATE COMPLETED: 6/17/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 74
STATION: 1+272.00
OFFSET: -10.00

PROJECT NUMBER: BRF 028-3 (36)
SITE NUMBER: US 2
GROUND ELEVATION: 205.26 m
GROUNDWATER DEPTH: 3.50 m 6/17/03

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

ELEV. 205.000
BOTTOM OF CAP

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
2		BXGDC, Boulder, 1.50 m - 1.90 m					
4		Not enough sample, Appears to be SlSa, brn, Moist, 3.00 m - 3.60 m	5				
		Not enough sample, Appears to be SlSa, gry, Moist, 4.50 m - 5.10 m	4				
6		A-2-4, Sa, gry, Moist, Rec. = 0.35 m	11	20.2	0.1	89.1	10.8
8		A-3, Sa, gry, Moist, Rec. = 0.31m	12	21.5	1.9	92.0	6.1
10		A-1-b, Sa, gry, Moist, Rec. = 0.32 m	13	20.2	1.0	95.0	4.0
		A-1-b, Sa, gry, Moist, Rec. = 0.42 m	20	15.8	0.1	93.8	6.1
12		A-1-b, Sa, gry, Moist, Rec. = 0.14 m	13	18.6	0.7	91.8	7.5
14		A-1-b, Sa, gry, Moist, Rec. = 0.28 m	12	17.5	4.8	89.2	6.0
		A-1-b, Sa, gry, Moist, Rec. = 0.23 m	17	15.9	19.9	75.7	4.4
16		A-1-b, Sa, gry, Moist, Rec. = 0.33 m	16	14.2	19.5	73.5	7.0
18		A-1-a, SaGr, gry, Moist, Rec. = 0.30 m	14	9.0	51.7	43.3	5.0
20		A-1-a, SaGr, gry, Moist, Rec. = 0.27 m	19	9.8	52.2	43.4	4.4
		BXDC, Boulders, 20.77 m - 21.07 m					
22		A-1-a, SaGr, gry, Moist, Rec. = 0.27 m	15	6.6	72.7	23.4	3.9
24		BXDC, Boulders, 23.77 m - 24.03 m					
26		A-1-b, Sa, gry, Moist, Rec. = 0.27 m	26	14.3	11.0	80.3	8.7
		Not enough sample, Appears to be SaGr, gry, Moist, 27.00 m - 27.60 m	24				
28		BXGDC,Cleaned casing and cored ahead, No Rec. at 28.5m, Appears to be SaGr, 27.90 m - 29.40 m					
30		BXMDC, Boulders, 30.00 m - 36.30 m					
32							
34							
36		Hole stopped @ 36.30 m					
38							

APPROXIMATE
BOTTOM OF PILE
ELEV. 168.96

LOG OF BORING EAST MONTPELIER BRF028-3(36)SC.GPJ VT AOT.GDT 9/30/03

VTrans Working to Get You There — Vermont Agency of Transportation

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

BORING NUMBER: B-3
SHEET 1of 1
DATE STARTED: 7/10/03
DATE COMPLETED: 7/15/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 74
STATION: 1+267.00
OFFSET: 11.60

PROJECT NUMBER: BRF 028-3 (36)
SITE NUMBER: US 2
GROUND ELEVATION: 204.16 m
GROUNDWATER DEPTH: 4.20 m 7/15/03

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE:
CHECKED BY: DLG

ELEV. 205.000
BOTTOM OF CAP

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
2		No sampling was performed on this hole, 0.00 m - 31.50 m					
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32		BXGDC, Cobbles & Boulders, 31.50 m - 36.30 m					
34							
36		Hole stopped @ 36.30 m					
38							

APPROXIMATE
BOTTOM OF PILE
ELEV. 167.86

LOG OF BORING EAST MONTPELIER BRF028-3(36)SC.GPJ VT AOT.GDT 9/30/03

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254bor.dgn	
IPARM FILE NAME: sb254lgl.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: MATERIALS	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BORING LOGS SHEET #1	SHEET: 24 OF 68

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

BORING NUMBER: B-4
SHEET 1 of 1
DATE STARTED: 7/16/03
DATE COMPLETED: 7/18/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 74
STATION: 1+312.00
OFFSET: -11.65

PROJECT NUMBER: BRF 028-3 (36)
SITE NUMBER: US 2
GROUND ELEVATION: 202.67 m
GROUNDWATER DEPTH: 2.60 m 7/18/03

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE:
CHECKED BY: DLG

BOTTOM OF CAP
ELEV. 204.500

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (m/min)
2		No sampling was performed on this hole, 0.00 m - 34.10 m					
34		Top of Bedrock @ 34.10 m					
36		Dark gray, interbedded quartzite and slate with biotite porphyroblasts, Poor RQD, Moderately hard, Unweathered, BXGDC, 34.10 m - 35.30 m, Rec. = 0.71m	1	59	38	50	
38		Dark gray, interbedded quartzite and slate with biotite porphyroblasts, Poor RQD, Moderately hard, Unweathered, BXDC, 35.30 m - 36.50 m, Rec. = 0.70 m	2	58	0	50	
40		Dark gray, Slate, Poor RQD, Moderately hard, Unweathered, BXDC, 36.50 m - 38.00 m, Rec. = 0.63 m	3	42	0	50	
		Hole stopped @ 38.00 m					

APPROXIMATE
BOTTOM OF PILE
ELEV. 168.57

LOG OF BORING EAST MONTPELIER BRF028-3(36)SC.GPJ VT AOT.GDT 9/20/03

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

BORING NUMBER: B-6
SHEET 1 of 1
DATE STARTED: 6/04/03
DATE COMPLETED: 6/06/03

PROJECT NAME: EAST MONTPELIER
SITE NAME: BR 74
STATION: 1+309.00
OFFSET: 8.00

PROJECT NUMBER: BRF 028-3 (36)
SITE NUMBER: US 2
GROUND ELEVATION: 204.40 m
GROUNDWATER DEPTH: 3.55 m 6/09/03

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

BORING RIG: LAG TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

BOTTOM OF CAP
ELEV. 204.500

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (m/min)
2		A-2-4, Sa, brn, Moist, Rec. = 0.33 m	3	19.8	2.7	79.8	17.5
		A-2-4, SlSa, brn, Moist, Rec. = 0.35 m	3	27.6	0.2	64.7	35.1
4		A-4, SaSl, brn, Wet, Rec. = 0.60 m	1	36.1	0.1	40.3	59.6
		A-4, SlSa with Wood material, brn-gry, Moist, Rec. = 0.47 m	3	42.6	0.0	52.4	47.6
6		A-4, SaSl, gry, Moist, Rec. = 0.37 m	9	22.4	19.2	33.2	47.6
		A-4, Sl, gry, Moist, Rec. = 0.50 m	10	33.9	0.0	0.5	99.5
8		A-4, Sl, gry, Moist, Rec. = 0.43 m	9	34.0	0.1	1.3	98.6
		A-4, Sl, gry, Moist, Rec. = 0.44 m	12	31.2	0.0	1.8	98.2
10		A-4, Sl, gry, Moist, Rec. = 0.48 m	11	35.1	0.0	1.9	98.1
		A-4, Sl, gry, Moist, Rec. = 0.59 m	9	35.5	0.0	0.9	99.1
12		A-4, Sl, gry, Moist, Rec. = 0.60 m	9	35.6	0.0	1.4	98.6
		A-4, Sl, gry, Moist, Rec. = 0.60 m	9	34.5	0.0	0.8	99.2
14		A-4, Sl, gry, Moist, Rec. = 0.55 m	9	27.2	0.1	13.2	86.7
16		A-4, SaSl, gry, Moist, Rec. = 0.56 m	7	25.7	0.0	27.1	72.9
		A-4, SlSa, gry, Moist, Rec. = 0.55 m	21	24.3	0.0	55.7	44.3
18		A-2-4, SlSa, gry, Moist, Rec. = 0.55 m	29	21.7	0.3	67.3	32.4
20		A-2-4, SlSa, gry, Moist, Rec. = 0.60 m	31	21.0	0.0	78.1	21.9
		A-2-4, Sa, gry, Moist, Rec. = 0.33 m	29	21.4	0.0	80.4	19.6
22		A-1-b, Sa, gry, Moist, Rec. = 0.33 m	21	17.7	0.4	91.8	7.8
24		A-2-4, Sa, gry, Moist, Rec. = 0.30 m	23	17.1	0.4	83.1	16.5
26		A-2-4, Sa, gry, Moist, Rec. = 0.29 m	25	18.4	0.4	87.5	12.1
		A-1-b, Sa, gry, Moist, Rec. = 0.28 m	40	14.3	3.7	87.8	8.5
28		A-4, SaSl, gry, Moist, Rec. = 0.30 m		23.7	2.2	33.4	64.4
		A-1-b, GrSa, gry, Moist, Rec. = 0.41m	29	11.0	34.8	55.6	9.6
30		A-4, SlSa, gry, Moist, Rec. = 0.43 m	62	18.8	0.1	63.1	36.8
32		Top of Bedrock @ 31.25 m					
		Light gray, Meta-Limestone, Top 0.2m may be softer than rest of core, Massively bedded, Unable to determine dip of rock, Competent, Hard, Unweathered, NXGDC, 31.25 m - 32.75 m, Rec. = 1.49 m	1	99	85		
34		Light gray, Meta-Limestone, Top 0.2m may be softer than rest of core, Massively bedded, Unable to determine dip of rock, Competent, Hard, Unweathered, NXGDC, 32.75 m - 34.25 m, Rec. = 1.36 m	2	91	91		
36		Hole stopped @ 34.25 m					
38							

APPROXIMATE
BOTTOM OF PILE
ELEV. 173.15

LOG OF BORING EAST MONTPELIER BRF028-3(36)SC.GPJ VT AOT.GDT 9/20/03

PROJECT: EAST MONTPELIER
PROJECT NO.: BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254bor.dgn
IPARM FILE NAME: sb254lg2.1
DESIGNED BY: MATERIALS
SQUAD LEADER: K. HIGGINS
BORING LOGS SHEET #2

PLOT DATE: 03-FEB-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET: 25 OF 68

VAOT Metric

600 STONE FILL, TYPE II

Channel Line

1:1.5

WW#1

W. NOOSK I RIVER

1:2

BEGIN APPROACH SLAB NO. 1
1+265.240

℄ BRG
ABUT. NO. 1
1+271.500
F.G. ~~209.047~~
209.207

75° (TYP)

5+000

1+260

1+280

END APPROACH SLAB NO. 1
BEGIN BRIDGE
1+271.240
F.G. ~~209.051~~
209.211

WW#2

1:1.5

600 STONE FILL, TYPE II

1200 STONE FILL TYPE IV

600 STONE FILL, TYPE II

1:1.5

WW#3

℄ BRG
ABUT. NO. 2
1+308.500
F.G. ~~208.492~~
208.652

END APPRAOCH SLAB NO. 2
1+314.760

1+300

1+320

END BRIDGE
BEGIN APPRAOCH SLAB NO. 2
1+308.760
F.G. ~~208.489~~
208.649

WW#4

1:1.5

1200 STONE FILL, TYPE IV

600 STONE FILL, TYPE II

N

VT STATE PLANE GRID

PLAN

38 100 - SEE WO #13 DATED 10-29-2009

215
210
205
200

BOX BEAM GUARDRAIL (TYP)

SEE APPROACH RAILING DETAIL SHEETS (TYP)

600 TYP.

℄ POST TO ℄ POST

37 000 ℄ BEARING TO ℄ BEARING

L

PAY LIMITS SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM) = ~~39 154~~
(MAX POST SPACING 2500)

PAY LIMITS SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM) = 9600 (TYP)

BOX BEAM GUARDRAIL (TYP)

600 STONE FILL, TYPE II

1200 STONE FILL, TYPE IV

▽ Q 100 = 205.7

EXISTING GROUND

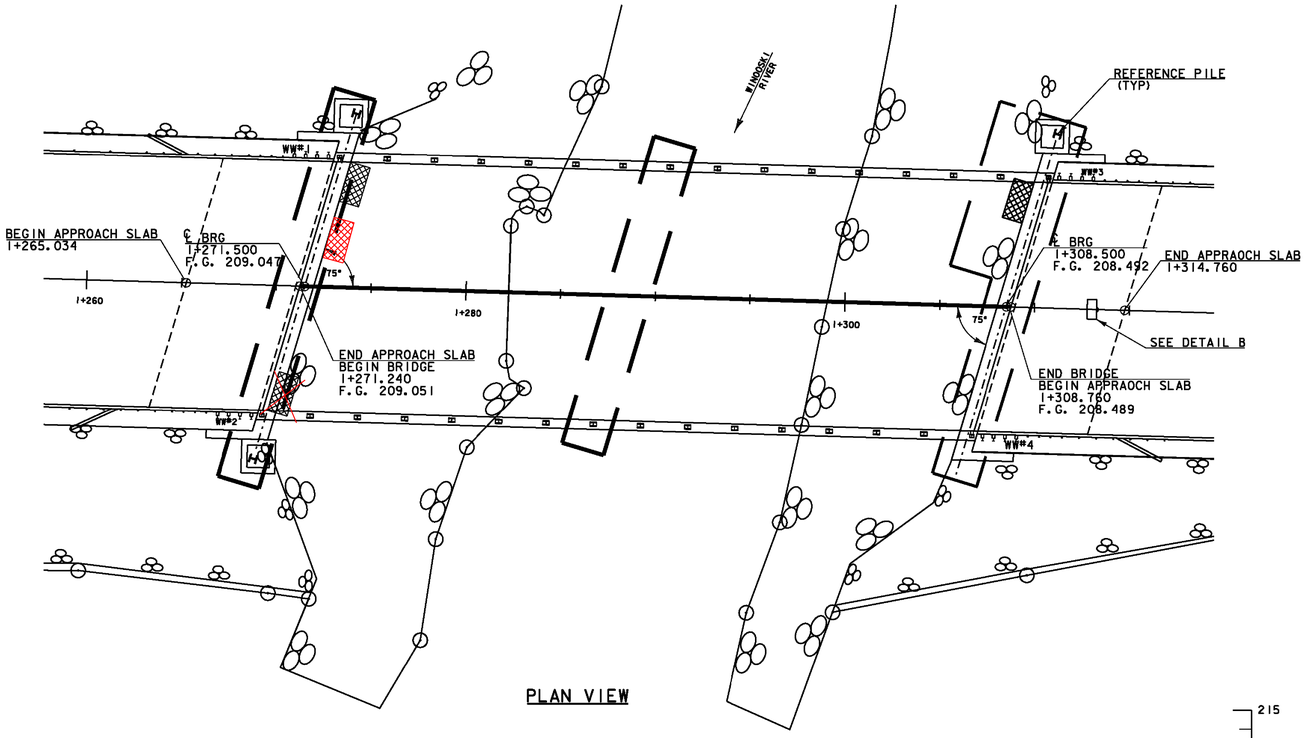
600 STONE FILL, TYPE II

1200 STONE FILL, TYPE IV

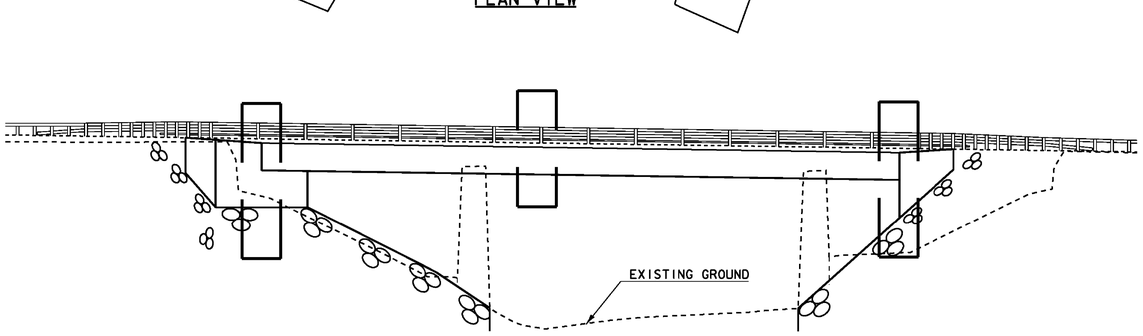
ELEVATION LOOKING UPSTREAM

0 2 4 6 8 10
SCALE 1 : 100

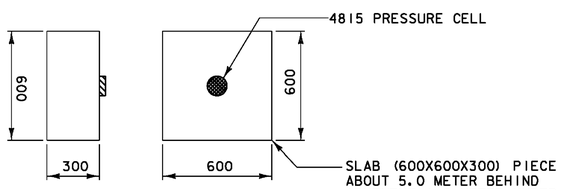
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254pe.dgn	
IPARM FILE NAME: sb254pe.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
PLAN AND ELEVATION	SHEET: 26 OF 68



PLAN VIEW



ELEVATION VIEW



DETAIL B
(REFERENCE PRESSURE TRANSDUCER)

INSTRUMENT ITEMS (PROVIDED BY CONTRACTOR)

DESCRIPTION	QUANTITY	UNITS
HP 310 x 125	20	M
STRUCTURAL STEEL	600	KG
REINFORCING STEEL	114	KG
CONCRETE, CLASS B	6	CM
BENTONITE GROUT	0.5	CM
CAST IRON COVER WITH FRAME	3	EACH
CONCRETE CATCH BASIN	3	EACH
CONDUIT (50 PVC)	220	M
ELECTRICAL BOX	3	EACH
EPOXY, WELDS, MISC. ATTACHMENT HARDWARE	VARIES	VARIES

QUANTITIES ARE APPROXIMATE

ITEMS AND ASSOCIATED WORK ARE INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (BRIDGE INSTRUMENTATION)

INSTRUMENT LIST (PROVIDED BY UMASS)

INSTRUMENT	LOCATION	MODEL	QUANTITY	DTL. SHEET
CABLING	ALL			
CASING	PILES	6400	4	29 & 30
CRACKMETER	ABUTMENT	4420	5	30
PRESSURE CELL	ABUTMENT	4815	12	29 & 30
PRESSURE CELL	WING WALL	4815	1	29
PRESSURE CELL	TEM. CORRECTION	4815	1	27
STRAIN GAGE	GIRDERS	4000	20	28
STRAIN GAGE	PILES	4000	32	29
TILTMETER	ABUTMENT	6350	2	29 & 30
TILTMETER	PILES	6150	16	N/A

STRAIN GAGE MOUNTING SHALL BE PROVIDED BY UMASS

NOTES:

1. SENSOR CONDUIT NOT SHOWN ON INSTRUMENTATION SHEETS FOR CLARITY.
2. CONDUIT SHALL BE FIRMLY ATTACHED TO THE GIRDERS, CROSSFRAMES, AND/OR SLAB WITH THE USE OF CONDUIT CLIPS OR OTHER MEANS APPROVED BY THE ENGINEER.
3. CONDUIT INSTALLATION SHALL INCLUDE ALL JOINTS AND ELBOWS REQUIRED AND ALL NON-WIRED CONDUIT SHALL BE INSTALLED WITH A PULL CORD.
4. THE INSTALLATION OF GIRDER GAGES AND ROUTING OF CABLING THROUGH CONDUIT SHALL BE PERFORMED AFTER THE GIRDER CROSS FRAMES HAVE BEEN INSTALLED AND PRIOR TO THE DECK POUR OR ABUTMENT BACKFILL.
5. CONTRACTOR SHALL PROVIDE TELEPHONE (2 LINES) AND ELECTRIC SERVICE TO ENCLOSURE LOCATION. ENCLOSURE AND ELECTRIC SERVICE SHALL BE GROUNDED. ELECTRIC SERVICE SHALL TERMINATE IN 4 OUTLET GFI PROTECTED BOX.
6. TELEPHONE SERVICE SHALL TERMINATE IN STANDARD RECEPTACLE WITHIN THE ENCLOSURE.
7. THERE SHOULD BE NO WELDING OF GAGES, BOXES OR ATTACHMENTS TO GIRDERS IN THE FIELD. ANY WELDING THAT OCCURS ON THE PILES IN THE FIELD SHALL ADHERE TO SUBSECTION 506.10.
8. THE FINAL LOCATION OF ALL GAGES, ENCLOSURES AND CONDUIT PLACED IN THE FIELD SHALL BE APPROVED BY THE RESIDENT ENGINEER AND UMASS.
9. ELECTRICAL BOXES SHALL BE NEMA TYPE 4X WATERPROOF, LOCKING ENCLOSURES INCLUDING ALUMINUM SUBPANEL. TWO ENCLOSURES SHALL BE WALL MOUNTABLE WITH MINIMUM INTERIOR DIMENSIONS OF 1500 x 900 x 350 . ONE ENCLOSURE SHALL BE FLOOR MOUNTABLE WITH MINIMUM INTERIOR DIMENSIONS OF 1500 x 900 x 400.

LEGEND:

DENOTES AREA OF INSTRUMENTATION INSTALLATION.

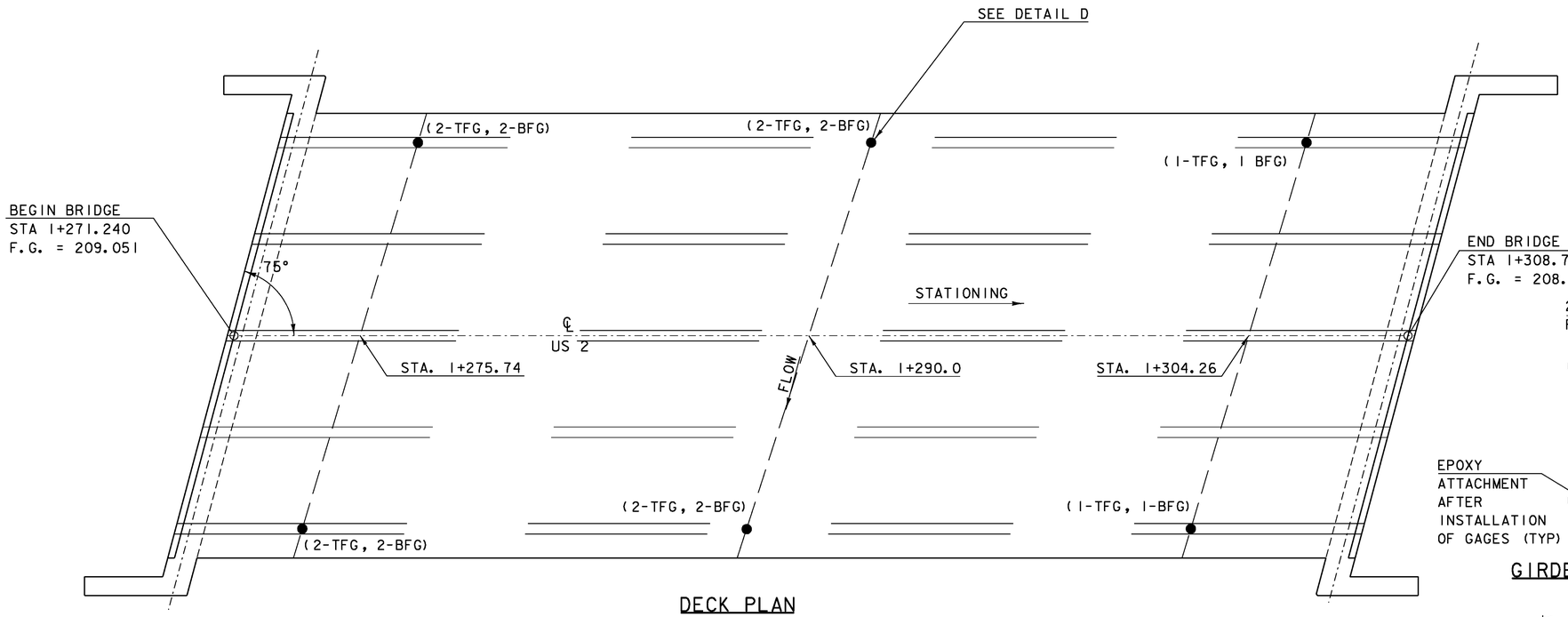
4815 PRESSURE CELL (1)

ELECTRICAL BOX ATTACHED TO ABUTMENT

NOT TO SCALE

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254instrum.dgn	
IPARM FILE NAME: sb254pls.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. SALVATORI	DRAWN BY: J. SALVATORI
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
INSTRUMENTATION PLAN SHEET #1	SHEET: 27 OF 68

Metric



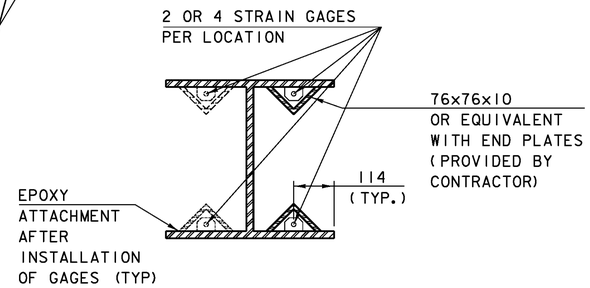
DECK PLAN

LEGEND:

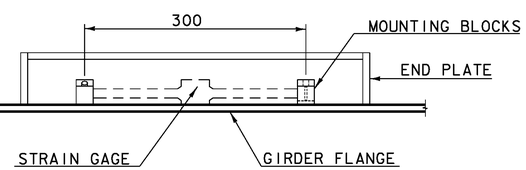
●S STRAIN GAGE GEOKON MODEL NO. 4050

TFG (TOP FLANGE OF GIRDER)

BFG (BOTTOM FLANGE OF GIRDER)



GIRDER STRAIN GAGE DETAIL



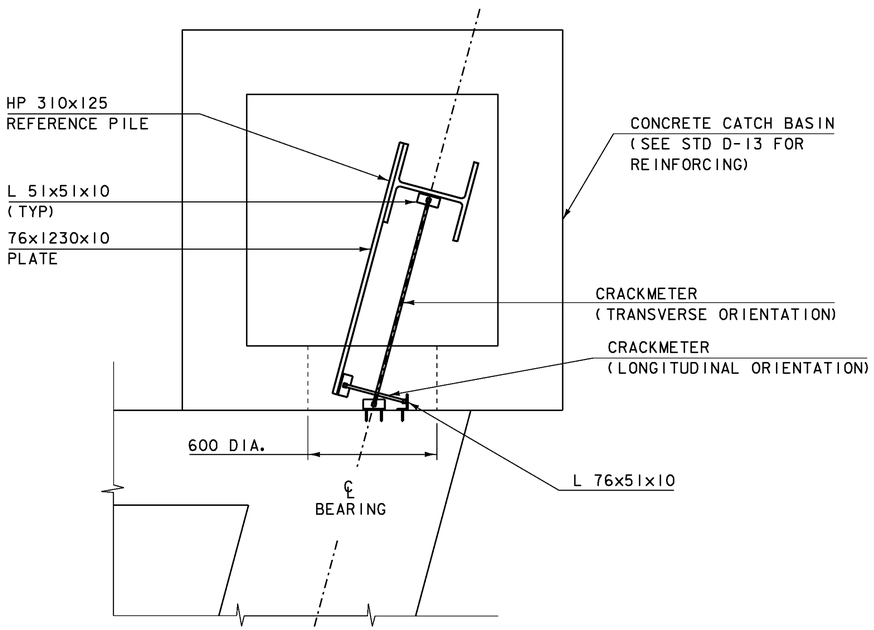
STRAIN GAGE ON GIRDER

STRAIN GAGE NOTES:

1. MOUNTING BLOCK TO BE ATTACHED BY STEEL FABRICATOR IN ACCORDANCE WITH GEOKON WELDING INSTALLATION INSTRUCTIONS.
2. MOUNTING BLOCKS TO BE SUPPLIED BY UMASS.
3. END PLATES TO BE FITTED WITH SLOT FOR 12 DIA CABLE EXITING GIRDER FLANGE AT ONE END OF ENCLOSER.

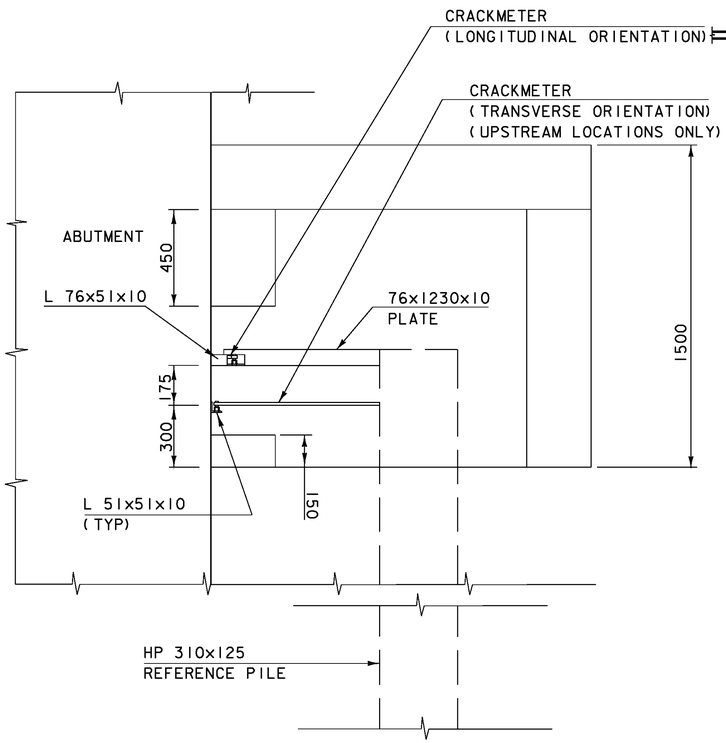
REFERENCE PILE NOTES:

1. SENSOR CONDUIT NOT SHOWN ON INSTRUMENTATION SHEETS FOR CLARITY.
2. CONTRACTOR SHALL ALSO PROVIDE ALL LABOR AND HARDWARE USED TO SECURE THE INSTRUMENTATION CONDUIT TO THE BRIDGE STRUCTURE.
3. GAGE LOCATION SHOULD BE ABOVE GROUND WATER TABLE.



REFERENCE PILE AND GAGE PLAN VIEW

NOTES:
1. MINIMUM OF 1500 HIGH.
2. 600 CAST IRON COVER WITH FRAME.
3. ALTERNATE ENCLOSURES MAY BE SUBMITTED FOR APPROVAL.
4. SEE STANDARD D-22 FOR COVER AND FRAME DETAILS.

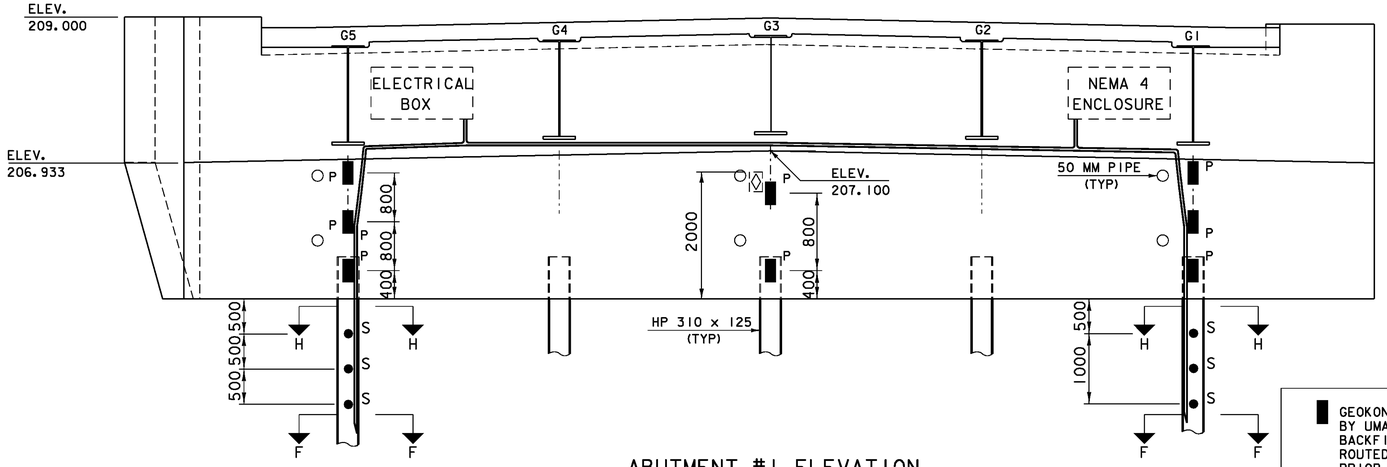


REFERENCE PILE AND GAGE ELEVATION VIEW

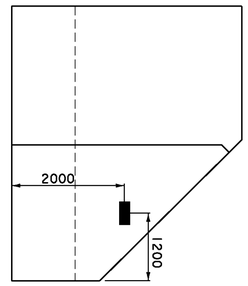
NOT TO SCALE

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254instrum.dgn
IPARM FILE NAME: sb254pls.i
PLOT DATE: 03-FEB-2009
DESIGNED BY: J. SALVATORI
DRAWN BY: J. SALVATORI
SQUAD LEADER: K. HIGGINS
CHECKED BY: J. LACROIX
INSTRUMENTATION PLAN SHEET #2
SHEET: 28 OF 68

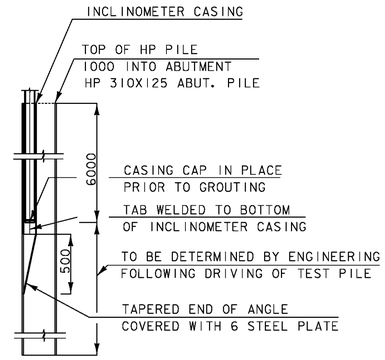


ABUTMENT #1 ELEVATION

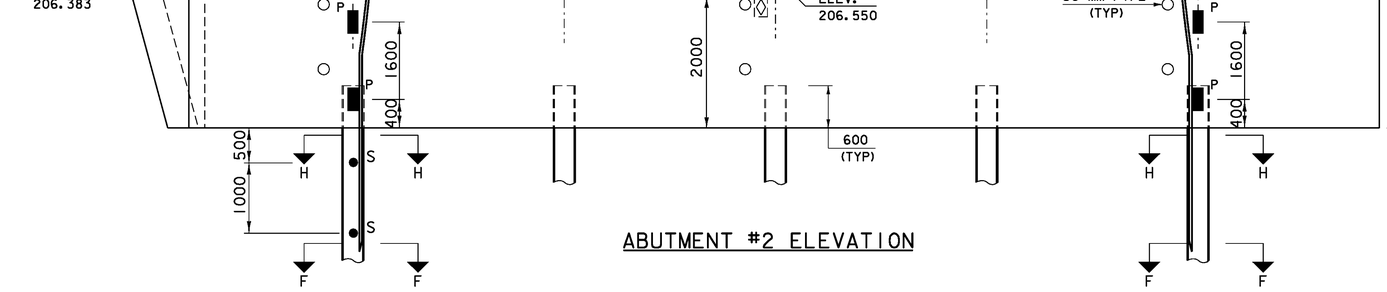


WINGWALL NO. 1 ELEVATION

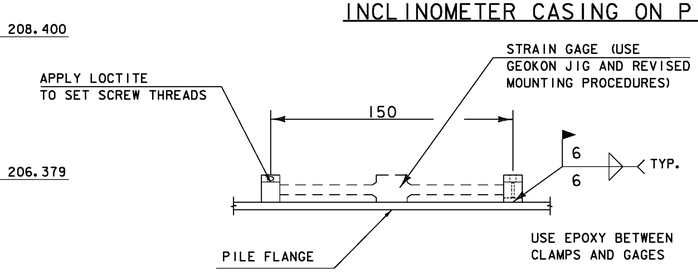
■ GEOKON MODEL 4815 EARTH PRESSURE CELL - PROVIDED BY UMASS ATTACH PRESSURE CELL TO FORMWORK ON BACKFILLED FACE OF WALL. CABLING SHALL EITHER BE ROUTED OUTSIDE OF FORM WORK OR PLACED IN A BOX OUT PRIOR TO CONCRETE PLACEMENT.



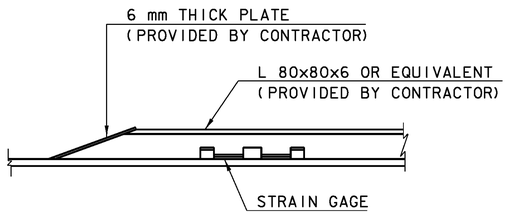
INCLINOMETER CASING ON PILE



ABUTMENT #2 ELEVATION



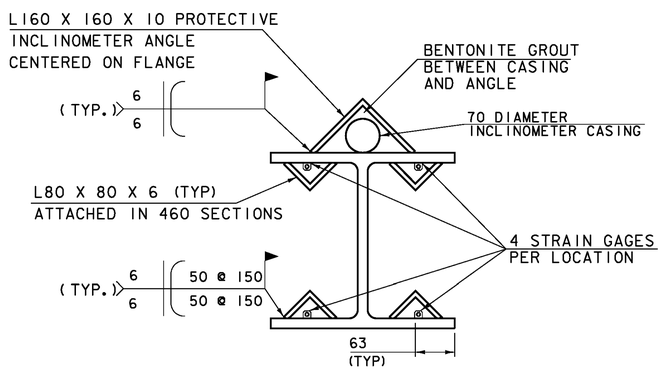
STRAIN GAGE ON PILE



SECTION F-F

1. STRAIN GAGES ARE TO BE INSTALLED AND TESTED FOR PROPER FUNCTIONING BEFORE ANGLE ARE ATTACHED TO PILES

2. WELD ANGLE AFTER INSTALLATION OF GAGES



SECTION H-H
(FOR PILES 1 & 5 ONLY)

LEGEND:

● S STRAIN GAGE GEOKON MODEL NO. 4000 INSTALL 4 AT EACH LOCATION

■ P GEOKON MODEL 4815 PRESSURE TRANSDUCER

◊ TILTMETER

NOTES:

1. CONTRACTOR SHALL DRIVE PILES 1, 3 & 5 AT ABUTMENT 1 PRIOR TO DRIVING PILES 2 & 4. STRAIN GAUGES AND THE L 3"x3"x3/8" (76x76x10) ARE INSTALLED AFTER THE PILES HAVE BEEN DRIVEN TO THE PROPER DEPTH.

2. ALL PRESSURE CELLS SHALL BE INSTALLED ON THE BACKFILLED SIDE OF THE ABUTMENT. PRESSURE CELL SHALL BE ATTACHED TO INSIDE OF CONCRETE FORMWORK PRIOR TO ABUTMENT CONCRETE PLACEMENT. CARE SHALL BE TAKEN TO ROUTE INSTRUMENTATION WIRING THROUGH FORM WORK.

3. THE FINAL LOCATION OF PVC TO BE APPROVED BY UMASS.

4. 6150 TILTMETERS TO BE PLACED IN CASING BY UMASS.

5. CONTRACTOR NOT TO PLACE UPPER ABUTMENT CONCRETE UNTIL TILTMETER READINGS ARE VERIFIED BY UMASS.

6. CONTRACTORS PLAN ON GROUT PROCEDURE TO BE APPROVED BY UMASS.

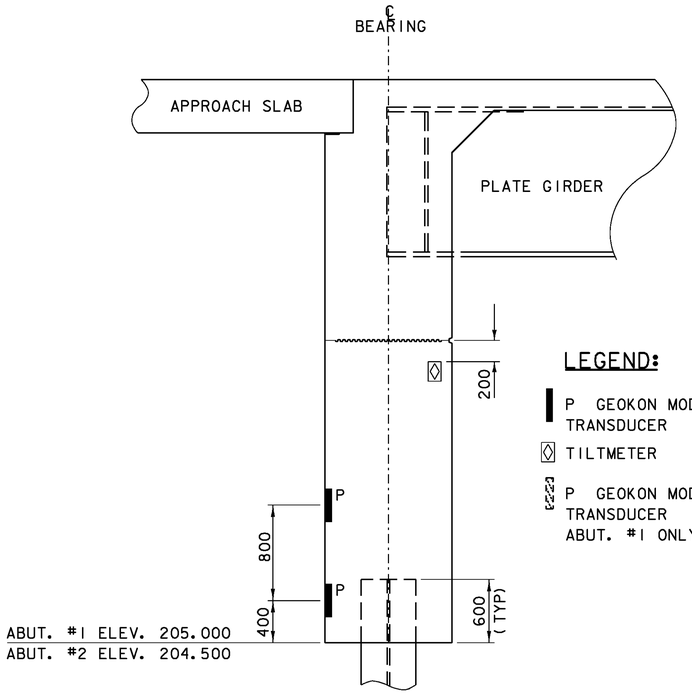
7. ALL ITEMS NOTED, "PROVIDED BY CONTRACTOR" SHALL BE INCIDENTAL TO PAY ITEM 900.645 SPECIAL PROVISION (BRIDGE INSTRUMENTATION)

8. THE CONTRACTOR SHALL PROVIDE A TOTAL OF 5 DAYS OF LAG TIME TO THE CONSTRUCTION SCHEDULE TO ACCOUNT FOR DELAYS ASSOCIATED WITH THE INSTALLATION, VERIFICATION AND/OR REPLACEMENT OF INSTRUMENTATION.

8. INCLINOMETER CASING CAN SWEEP A MAXIMUM OF 100 PER 1000

NOT TO SCALE

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254instrum.dgn	
IPARM FILE NAME: sb254pls.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. SALVATORI	DRAWN BY: J. SALVATORI
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
INSTRUMENTATION PLAN SHEET #3	SHEET: 29 OF 68



END SECTION AT GIRDER 3
ABUTMENT 1 (ONLY)

LEGEND:

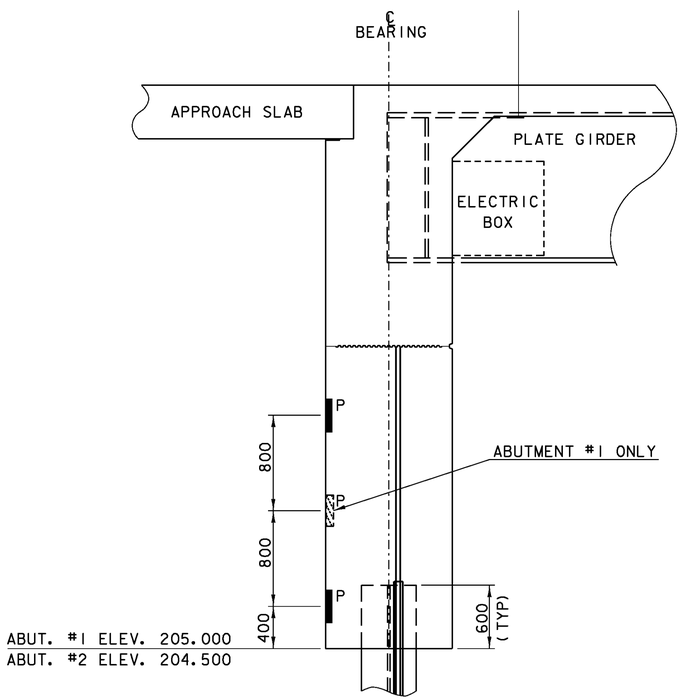
- P GEOKON MODEL NO. 4815 PRESSURE TRANSDUCER
- TILTMETER
- P GEOKON MODEL NO. 4815 PRESSURE TRANSDUCER ABUT. #1 ONLY

NOTES:

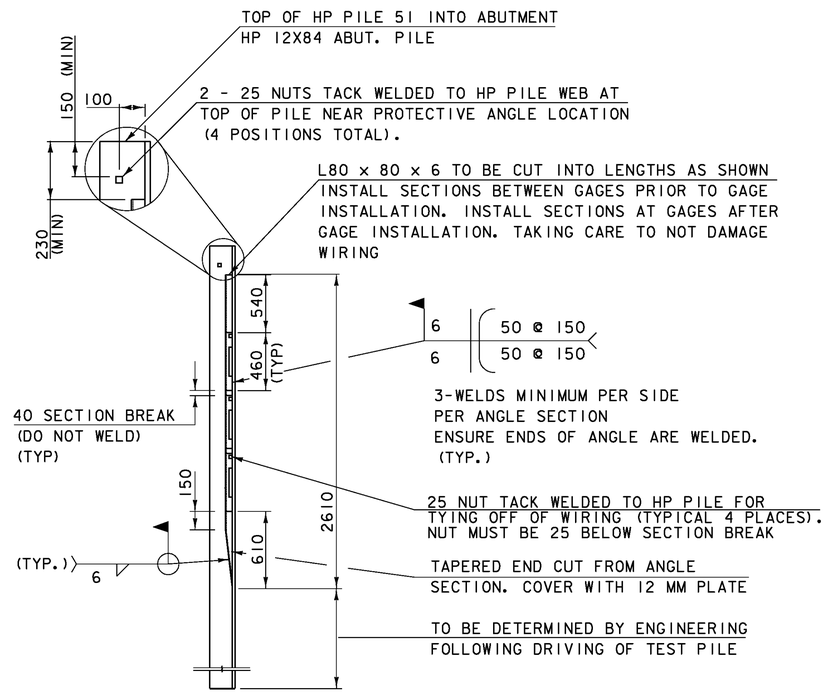
1. GAGES SHOULD BE ATTACHED BETWEEN 300 AND 600 ABOVE BOTTOM OF ABUTMENT. FINAL LOCATION DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER OR UMASS.
2. ONLY ONE TRANSVERSE CRACKMETER PER ABUTMENT, PLACED ON THE UPSTREAM PILES.
3. REFERENCE PILE SIZE SUBSTITUTIONS ARE ACCEPTABLE.

STRAIN GAGE PROTECTION NOTES:

1. CLAMP ALL ANGLE SECTIONS IN PLACE DURING WELDING OF ALTERNATE PIECES TO ENSURE PROPER FITUP. FITUP TOLERANCE IS +/- 2MM. ALL ANGLE CUTS MUST BE SAW CUT.
2. STRAIN GAUGE WIRES SHALL BE INSULATED USING NON-FLAMMABLE FIBERGLASS INSULATION COVERING LENGTH OF WIRE PRIOR TO WELDING PROTECTIVE ANGLES OVER THE GAUGE REGION. INSULATION SHALL BE SECURED TO AVOID SLIP DURING ANGLE INSTALLATION.
3. STRAIN GAUGE WIRES SHALL BE TIED TO NUTS WELDED BETWEEN STRAIN GAUGE LOCATIONS. THE GAUGE WIRES SHALL BE COILED AND PROPERLY SECURED PRIOR TO PILE DRIVING.
4. BENTONITE GROUT SHALL BE MIXED IN THE FOLLOWING RATIO: 1.3 GALLONS OF HIGH YIELD SODIUM BENTONITE CLAY (DRY), 7.5 GALLONS OF CEMENT AND 17.6 GALLONS OF WATER.
5. ALL BASE METAL FOR WELDS SHALL BE FREE OF DIRT AND GREASE. SURFACE PREPARATION METHODS MUST BE INCLUDED IN THE WELDING PROCEDURES AND APPROVED PRIOR TO WELDING.
6. EPOXY, PROPOXY 20 OR APPROVED EQUAL, WILL BE APPLIED TO THE GAUGE IN THE GROOVE WHERE IT ATTACHES TO THE VIBRATING WIRE ENCLOSURE AND UNDER A PEX CLAMP. SUFFICIENT TIME FOR CURING PER MANUFACTURER'S SPECIFICATIONS MUST BE PROVIDED PRIOR TO PILE DRIVING.
7. INCLINOMETER CASING MUST BE POSITIONED WITH ONE SET OF THE INSTRUMENT ALIGNMENT GROOVES RUNNING PERPENDICULAR TO THE CENTERLINE OF BEARING. DETAILS OF THE ALIGNMENT GROOVES CAN BE FOUND IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALLATION TO BE VERIFIED PRIOR TO GROUTING BY UMASS OR VTRANS.
8. PRIOR TO CONCRETE PLACEMENT INCLINOMETER GAUGES MUST BE INSTALLED IN CASING TO ENSURE FREE TRAVEL AROUND BENDS IN CASING.
9. INCLINOMETER PROTECTION ANGLE SHALL BE WELDED TO THE PILE BEFORE THE STRAIN GAUGE MOUNTING BLOCKS ARE WELDED TO THE PILE.
10. LOCTITE 222 THREADLOCKER OR APPROVED EQUAL SHALL BE USED ON THE STRAIN GAUGE SET SCREWS. ONCE INITIAL GAUGE READINGS ARE TAKEN, SUPER GLUE OR APPROVED EQUAL WILL BE APPLIED TO THE SET.
11. CONTRACTOR TO PROTECT WIRES DURING PILE CUTTING OPERATIONS.



TYPICAL END SECTION AT GIRDERS 1 & 5
ABUTMENT 1 & ABUTMENT 2

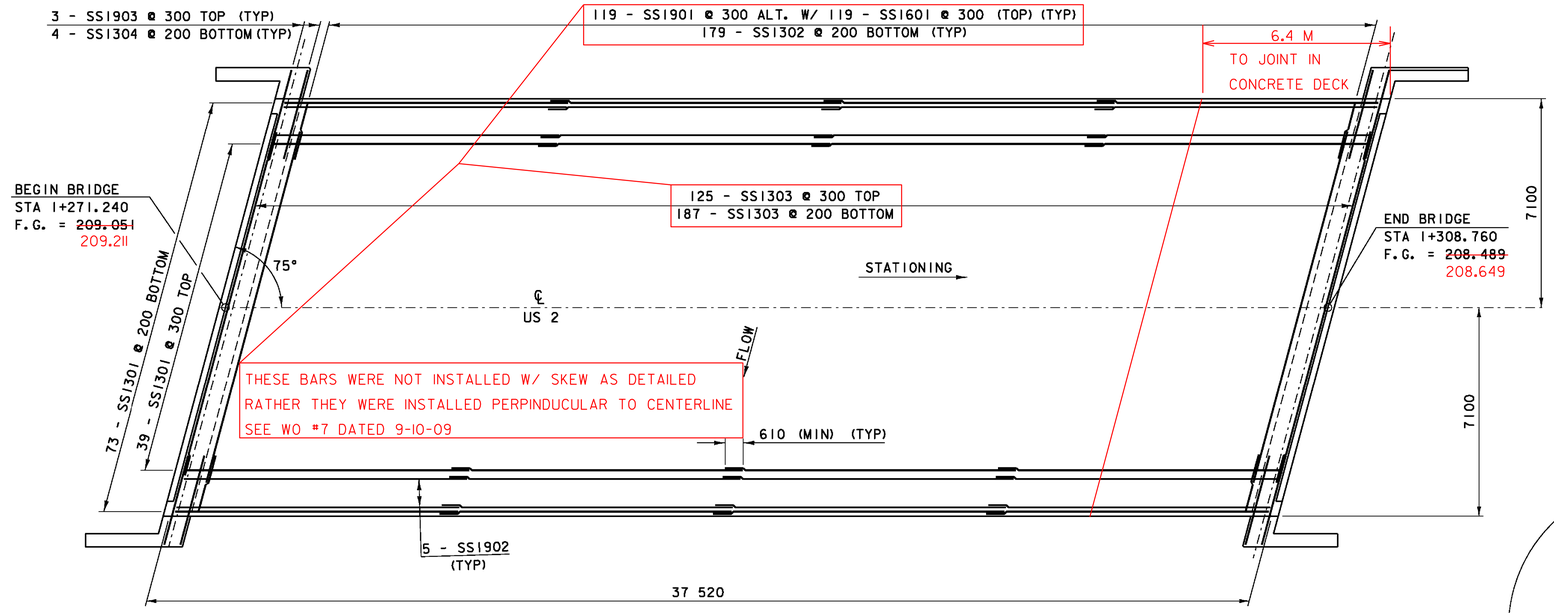


STRAIN GAGE PROTECTION ON PILE
(ONLY HALF OF THE H-PILE IS SHOWN FOR CLARITY)
(SEE INSTRUMENTATION PLAN SHEET #3 FOR NUMBER OF GAUGES)

NOT TO SCALE

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254instrum.dgn	
IPARM FILE NAME: sb254pis.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. SALVATORI	DRAWN BY: J. SALVATORI
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
INSTRUMENTATION PLAN SHEET #4	SHEET: 30 OF 68

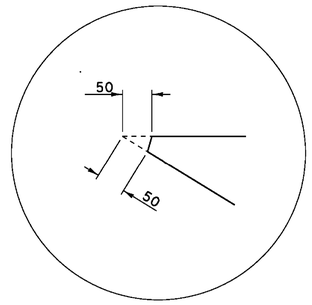
Metric



DECK REINFORCING PLAN

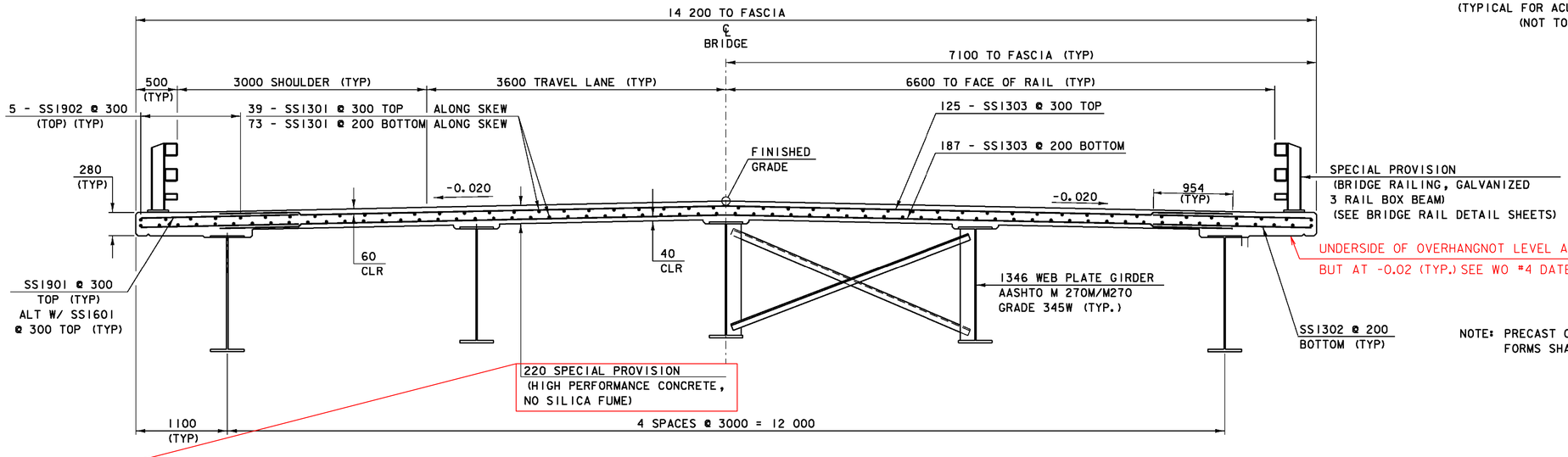
0 1 2 4 6 8 10

SCALE = 1:100



CORNER DETAIL

(TYPICAL FOR ACUTE ANGLES ONLY)
(NOT TO SCALE)



NOTE: PRECAST CONCRETE STAY-IN-PLACE FORMS SHALL NOT BE ALLOWED

APPROVED MIX DESIGN FOR HIGH PERFORMANCE CONCRETE, NO SILICA FUME HAD ONLY 20% FLY ASH, RATHER THAN THE 25% CALLED FOR IN THE SPECIAL PROVISION. THIS WAS AN ERROR IN APPROVING THE MIX DESIGN AND THE VTRANS CONCRETE ENGINNER REQUESTED THIS NOTE BE ADDED TO THE RECORD PLANS, AS THE REDUCED FLY ASH MAY ADVERSLY EFFECT THE CONCRETE THROUGH A.S.R.

DECK REINFORCING SECTION

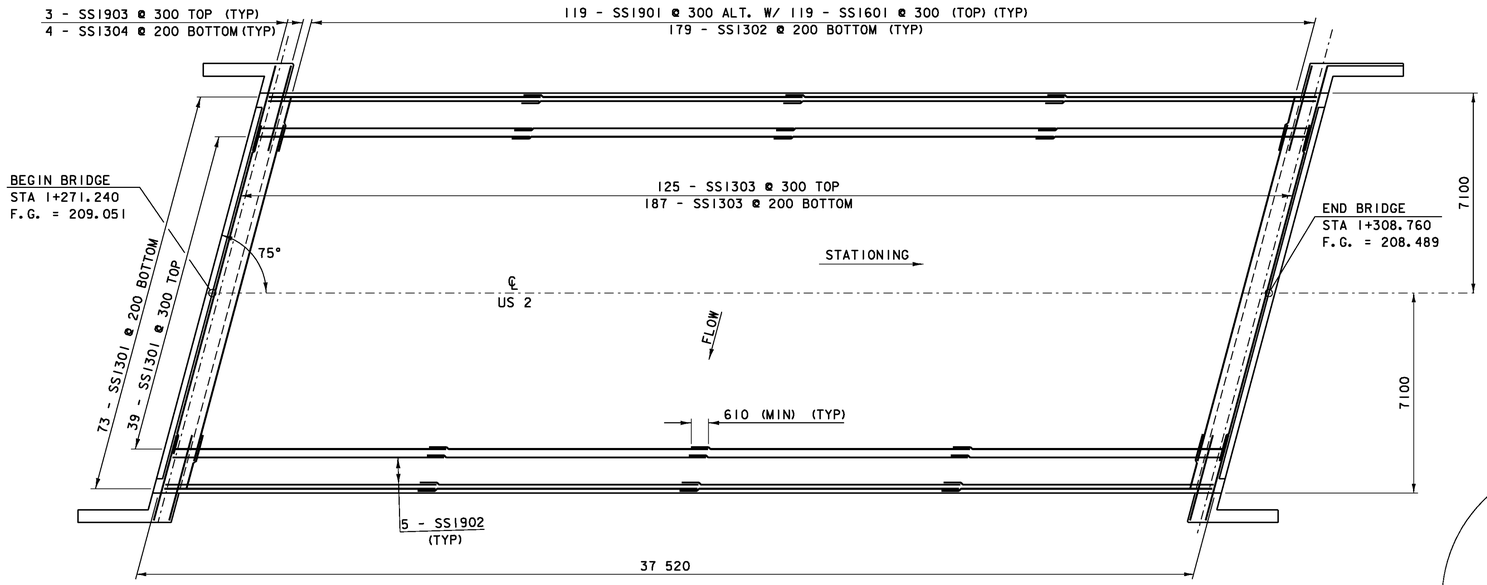
0 1 2 3

SCALE = 1:30

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.

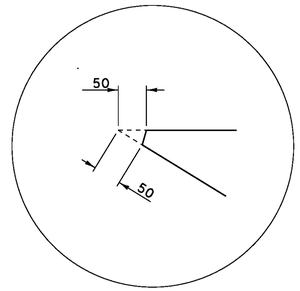
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254dck.i	PLOT DATE: 18-AUG-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
DECK DETAILS	SHEET: 31 OF 68



DECK REINFORCING PLAN

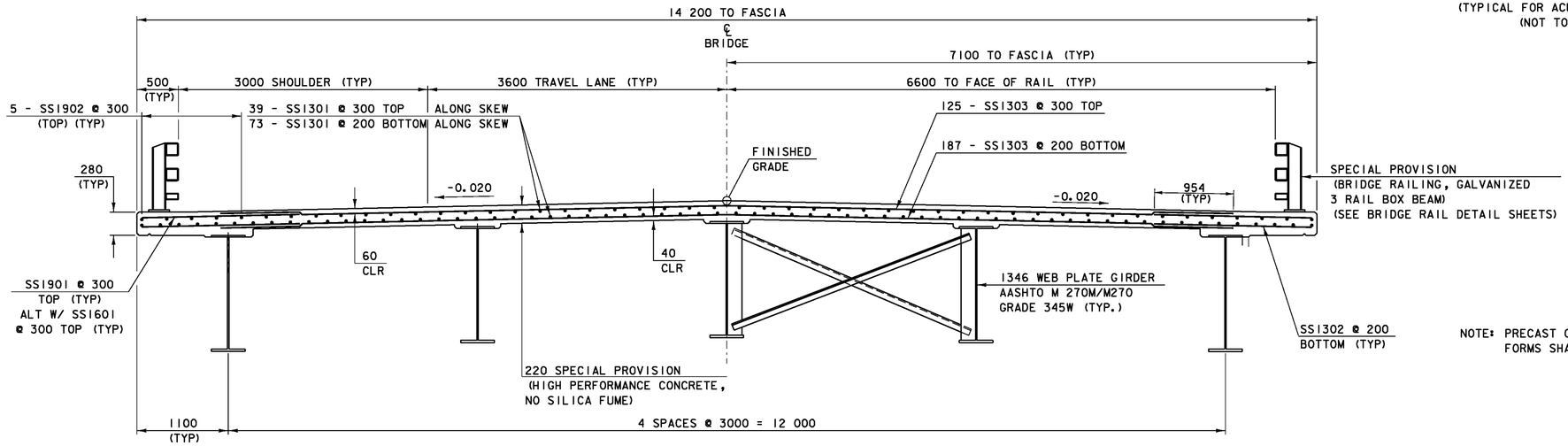
0 1 2 4 6 8 10

SCALE = 1:100



CORNER DETAIL

(TYPICAL FOR ACUTE ANGLES ONLY)
(NOT TO SCALE)



DECK REINFORCING SECTION

0 1 2 3

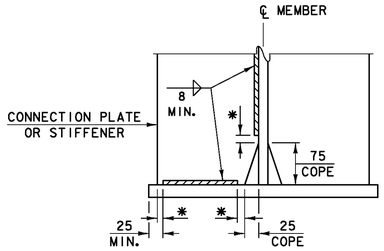
SCALE = 1:30

NOTE: PRECAST CONCRETE STAY-IN-PLACE FORMS SHALL NOT BE ALLOWED

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.

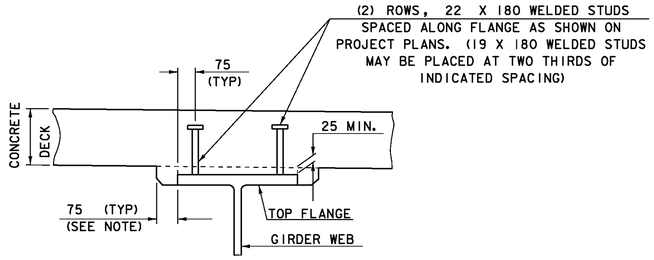
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254dck.i	PLOT DATE: 18-AUG-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
DECK DETAILS	SHEET: 31 OF 68



WELD TERMINATION AND COPING DETAIL FOR STEEL MEMBERS

(NOT TO SCALE)

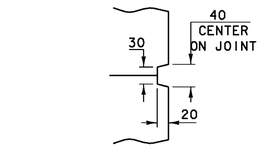
* NO WELD FOR 10 MIN., 22 MAX. (EXCEPT MUST MAINTAIN 25 MIN. FROM EDGE OF FLANGE)



NOTE: THE 75 HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. SYSTEMS SHALL BE SUBMITTED FOR APPROVAL TO THE STRUCTURES ENGINEER. ALL VOIDS SHALL BE FILLED WITH MORTAR, TYPE IV OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST.

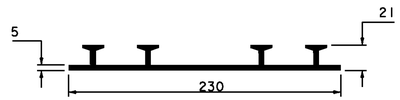
HAUNCH AND SHEAR CONNECTOR DETAILS

(NOT TO SCALE)



SCORE MARK DETAIL

(NOT TO SCALE)

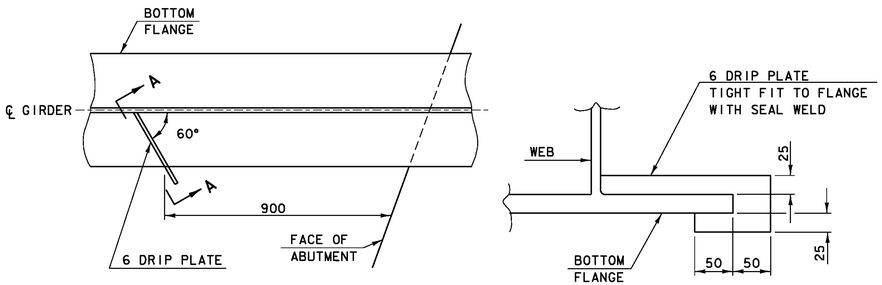


P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



PLAN DRIP PLATE

(NOT TO SCALE)

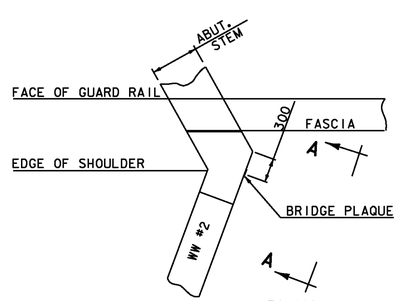
SECTION A - A

(NOT TO SCALE)

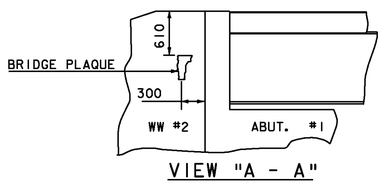
NOTE:
DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.

HORIZONTAL CONSTRUCTION JOINT

1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE AND SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" (6mm).
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



PLAN



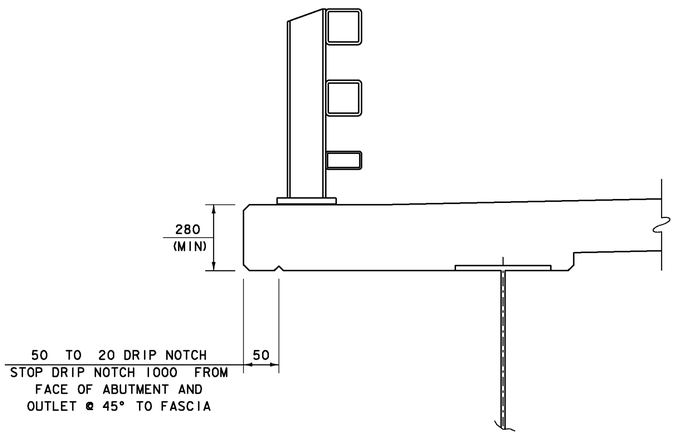
VIEW "A - A"

BRIDGE PLAQUE

(NOT TO SCALE)

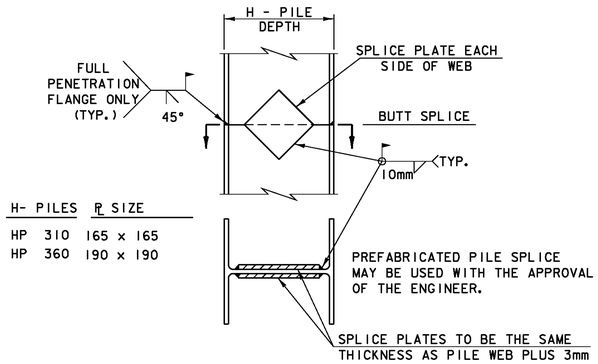
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

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



DRIP NOTCH DETAIL

(NOT TO SCALE)

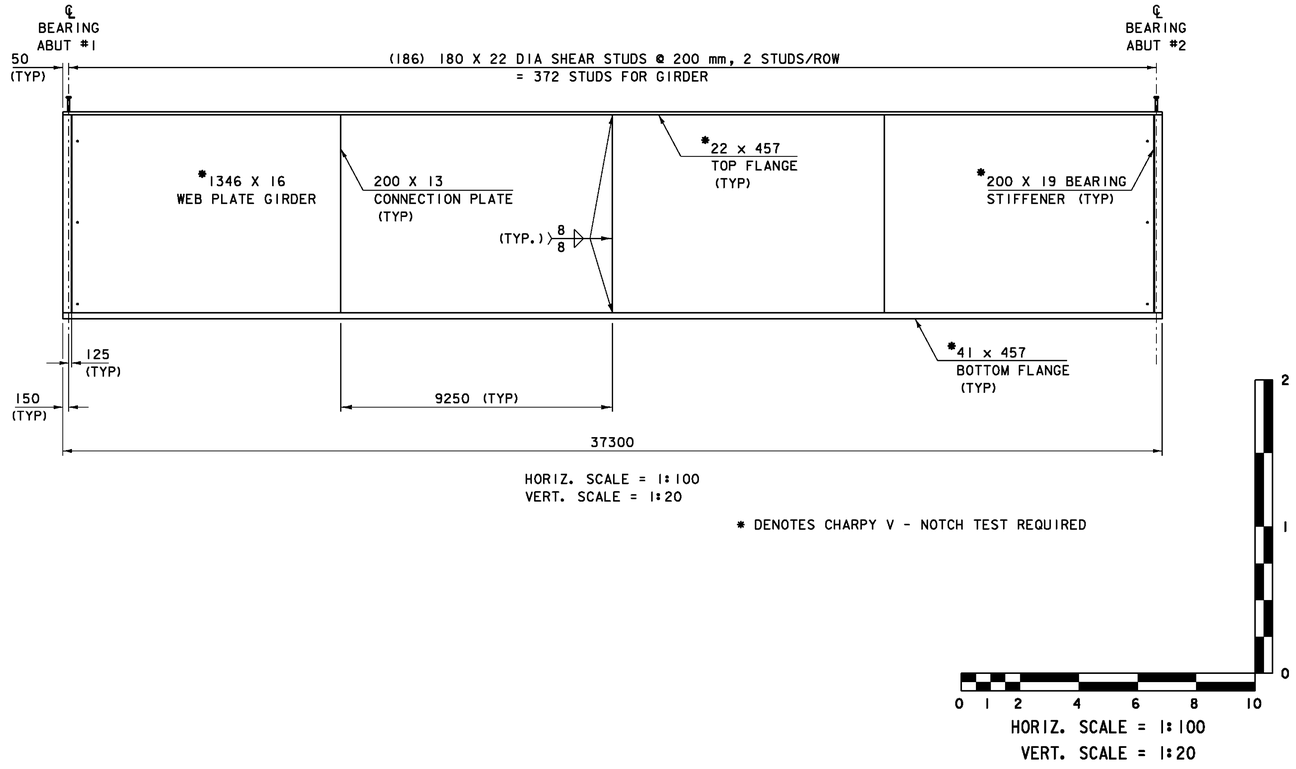


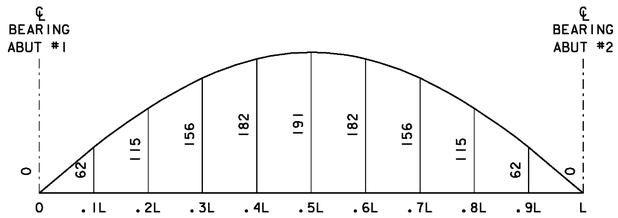
H- PILES	℄ SIZE
HP 310	165 x 165
HP 360	190 x 190

DETAIL OF PILE SPLICE

(NOT TO SCALE)

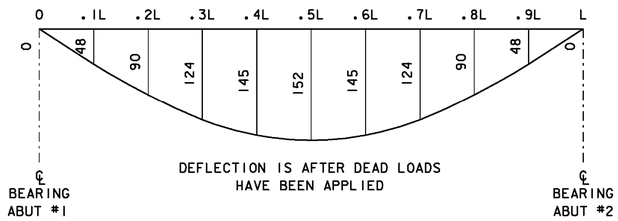
PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254mls.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MISCELLANEOUS DETAILS	SHEET: 32 OF 68





CAMBER DIAGRAM

HORIZ. SCALE = 1:200
VERT. SCALE = 1:40

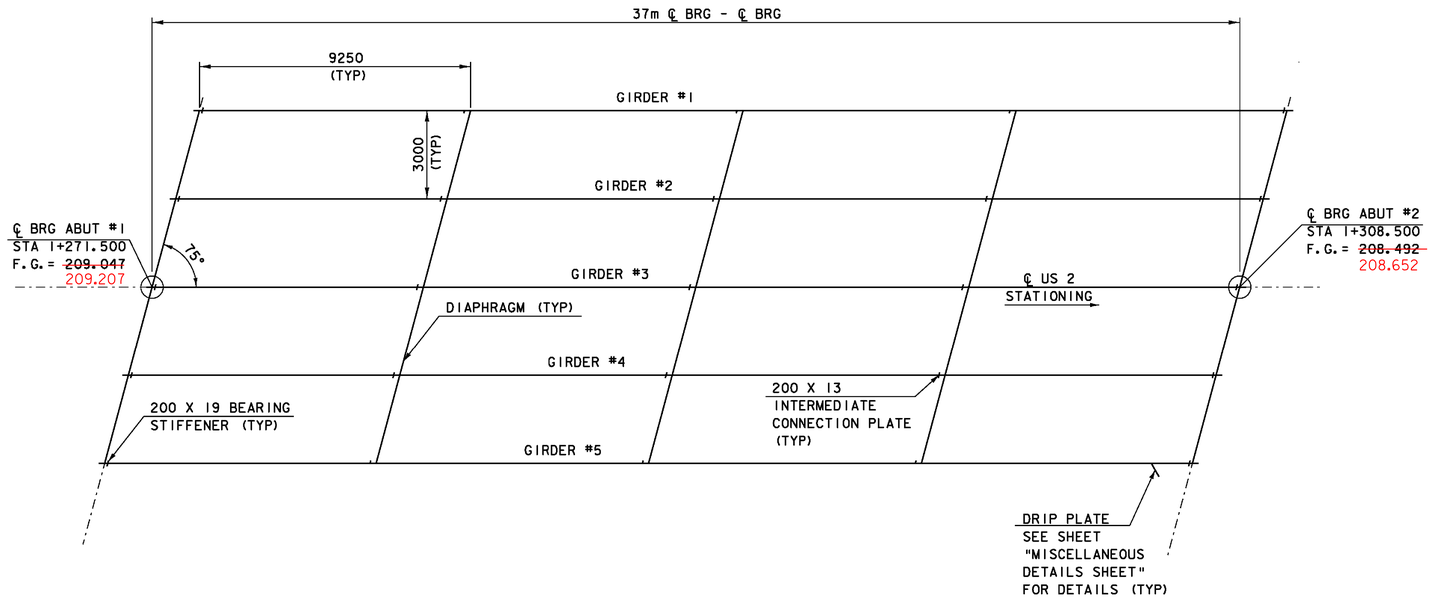


DEAD LOAD DEFLECTION DIAGRAM

HORIZ. SCALE = 1:200
VERT. SCALE = 1:40

NOTE: DEAD LOAD DEFLECTION INCLUDES
THE GIRDER SELF-WEIGHT.

SEE SHEET INSTRUMENTATION #4 FOR SIZE AND LOCATION OF HOLES
SEE SHEET INSTRUMENTATION #2 FOR LOCATION OF MOUNTING BLOCKS.

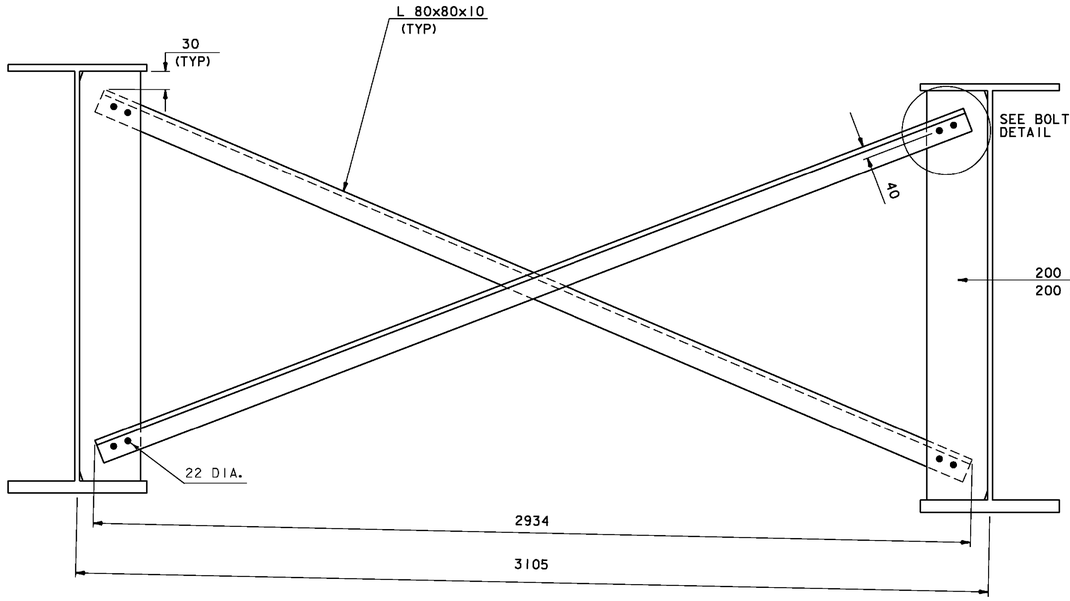


FRAMING PLAN

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

SEE SHEETS 34a and 34b FOR ADDITIONAL FRAMING DETAILS

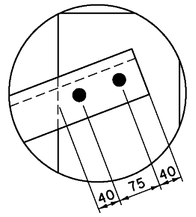
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254frm.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
FRAMING PLAN	SHEET: 33 OF 68



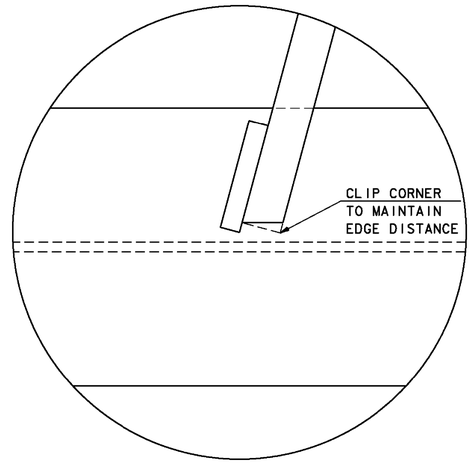
CROSSFRAME
(NOT TO SCALE)

0 1 2 4 6 8 10

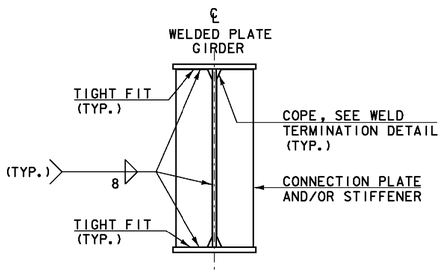
SCALE = 1:100



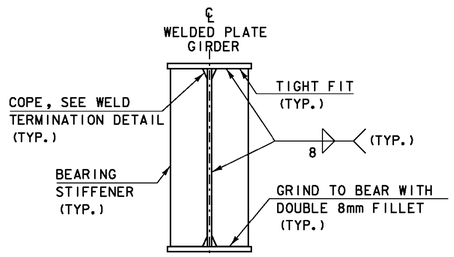
BOLT SPACING
(NOT TO SCALE)



CORNER DETAIL
(NOT TO SCALE)



INTERMEDIATE CONNECTION PLATES
AND/OR STIFFENERS FOR WELDED
PLATE GIRDERS
(NOT TO SCALE)

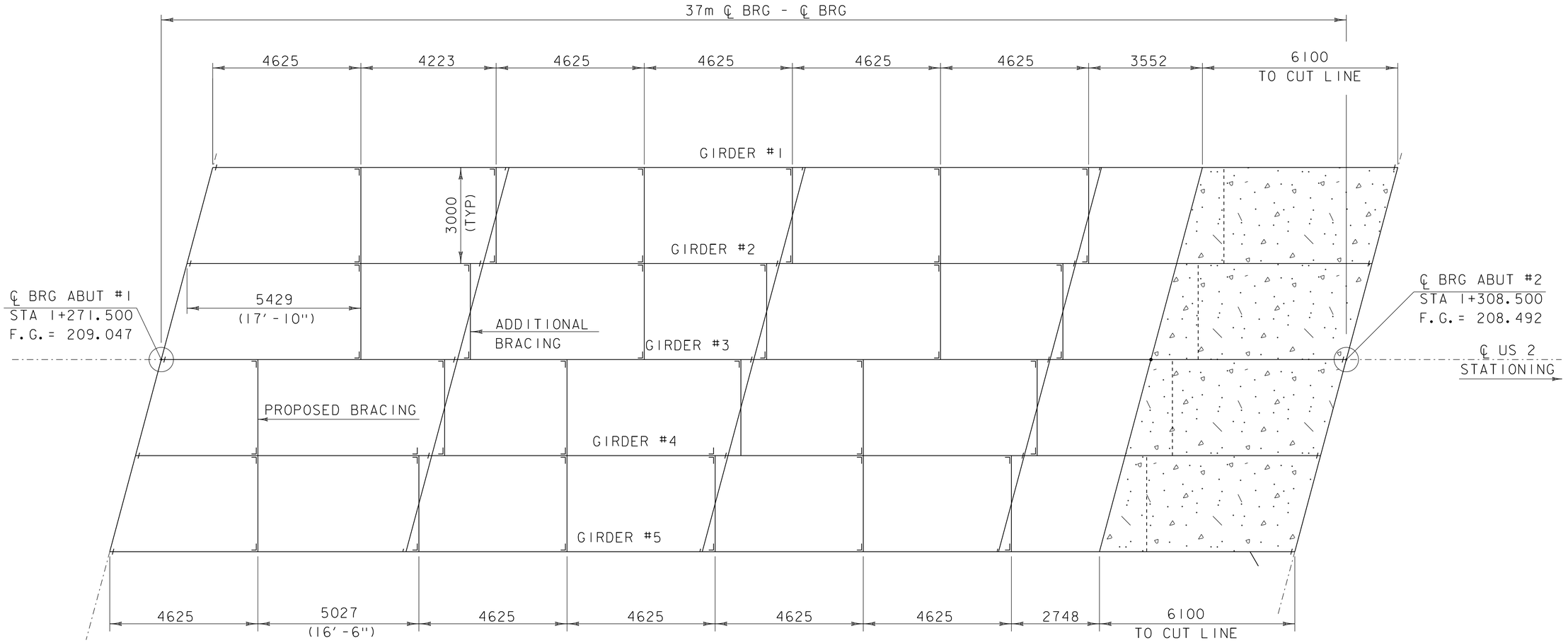


ABUTMENT BEARING STIFFENERS
FOR WELDED PLATE GIRDERS
(NOT TO SCALE)

NOTE: 22mm DIA A490 BOLTS IN 23.8mm HOLES
MIN. END AND EDGE DISTANCE IS 40mm MIN.
CENTER TO CENTER DISTANCE IS 70mm

SEE SHEETS 34a and 34b FOR ADDITIONAL FRAMING DETAILS

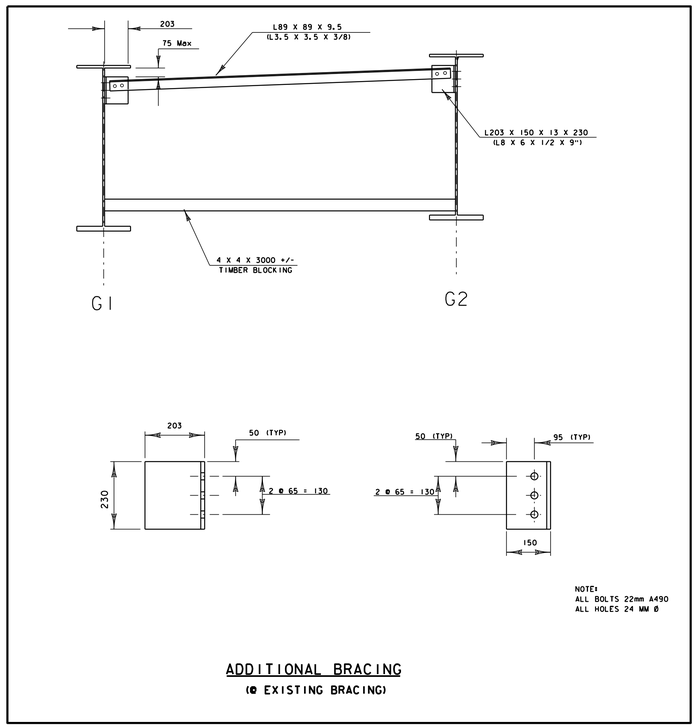
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254xfrm.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CROSS FRAME DETAILS	SHEET: 34 OF 68



PROPOSED FRAMING PLAN

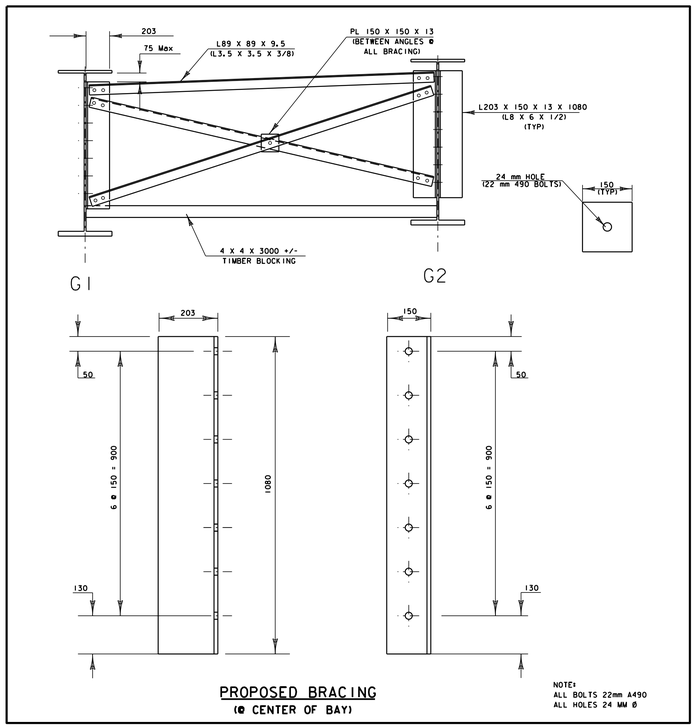
NOT TO SCALE

034a



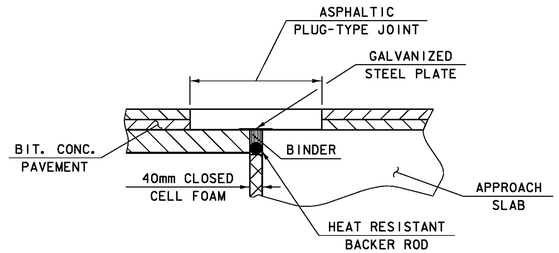
ADDITIONAL BRACING
(@ EXISTING BRACING)

NOT TO SCALE



PROPOSED BRACING
(@ CENTER OF BAY)

NOT TO SCALE



ASPHALTIC PLUG-TYPE
JOINT DETAIL
(NOT TO SCALE)

ASPHALTIC PLUG BRIDGE JOINT

INSTALLATION

1. THE JOINT SHALL BE LOCATED CENTRALLY OVER THE APPROACH SLAB EXPANSION GAP MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. THE APPROACH SLAB SHALL BE NOTCHED AS SHOWN ON THE PLANS.
3. THE JOINT AREA SHALL BE BLAST CLEANED OF DEBRIS AND ASPHALT. THE JOINT AREA SHALL BE THOROUGHLY DRIED USING HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. SPALLED AND DEFECTIVE CONCRETE SHALL BE REPAIRED WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.
5. PROPERLY SIZED HEAT RESISTANT BACKER ROD SHALL BE PLACED IN THE MOVEMENT GAP ALLOWING FOR 25 mm +/- OF BINDER ABOVE THE ROD.
6. THE BINDER MATERIAL SHALL BE HEATED AND PLACED AS RECOMMENDED BY THE MANUFACTURER.
7. PLACE 6 mm THICK BY 205 mm WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.
   a. THE STEEL PLATES MAY BE OMITTED WHERE THE APPROACH SLAB IS COVERED WITH A STONE BASE OR BITUMINOUS PAVEMENT AND VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
8. THE BINDER MATERIAL AND AGGREGATE SHALL BE HEATED AND MIXED AS RECOMMENDED BY THE MANUFACTURER.
9. THE INSTALLATION OF MATERIAL, COMPACTION, AND TOPCOATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOPCOATING, AN ANTI-SKID MATERIAL SHALL BE CAST OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. JOINT SHALL BE PROTECTED FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 125°F +/-.

WEATHER LIMITATIONS.

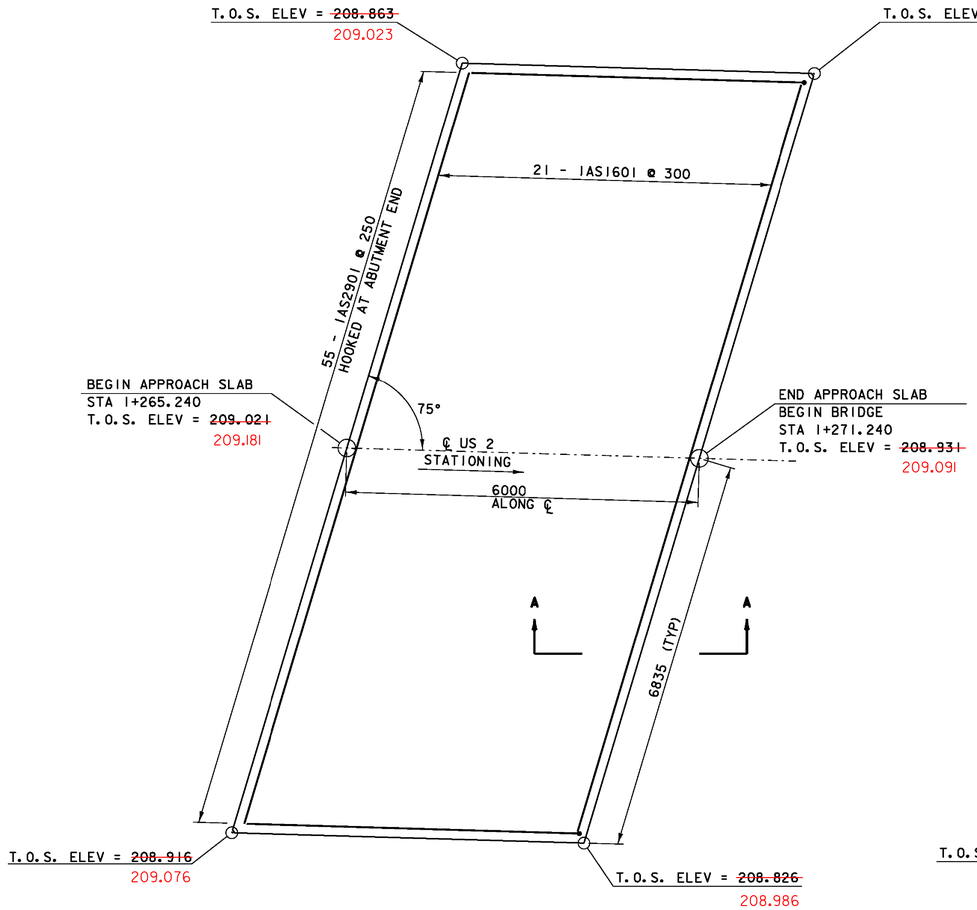
BINDER MATERIAL SHALL BE APPLIED ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL:

(a) THE AMBIENT AIR TEMPERATURE IS AT LEAST 50°F AND RISING.

(b) THE ROAD SURFACE IS SUFFICIENTLY DRY.

(c) WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

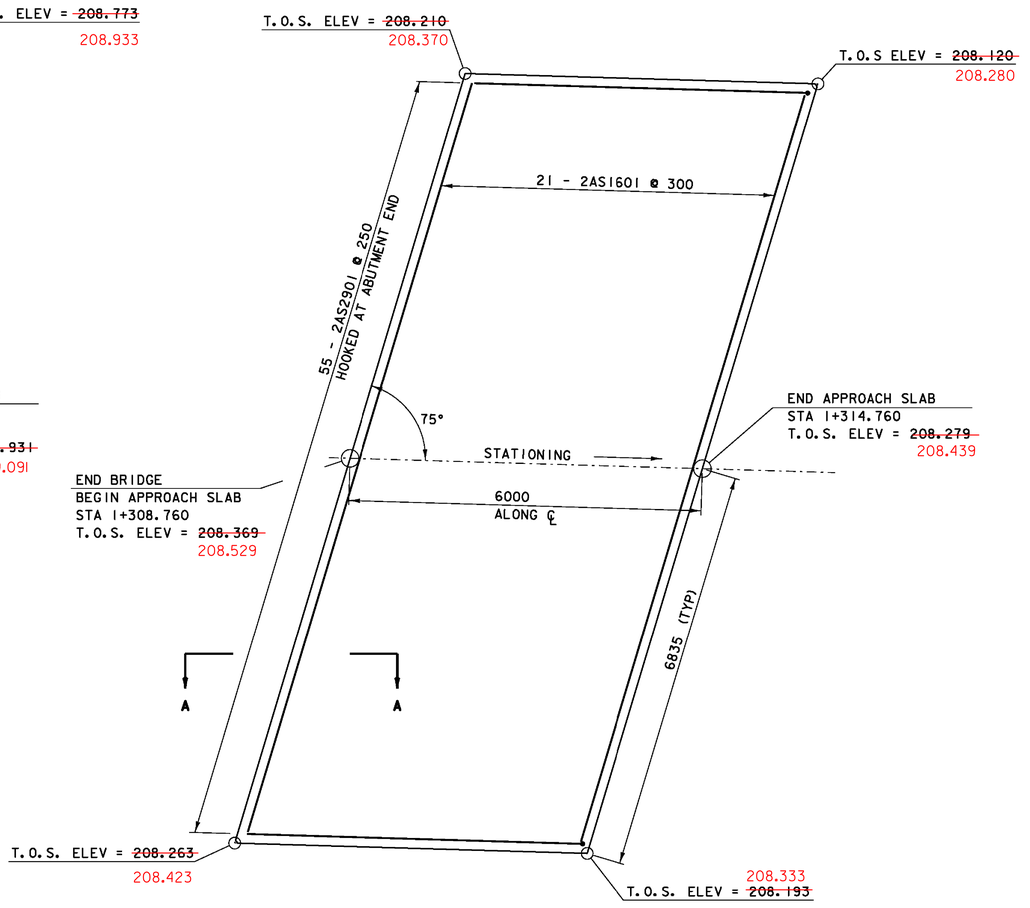
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254jtd.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
JOINT DETAIL	SHEET: 35 OF 68



APPROACH SLAB #1 PLAN

0 1 2 3 4 5

SCALE = 1:50

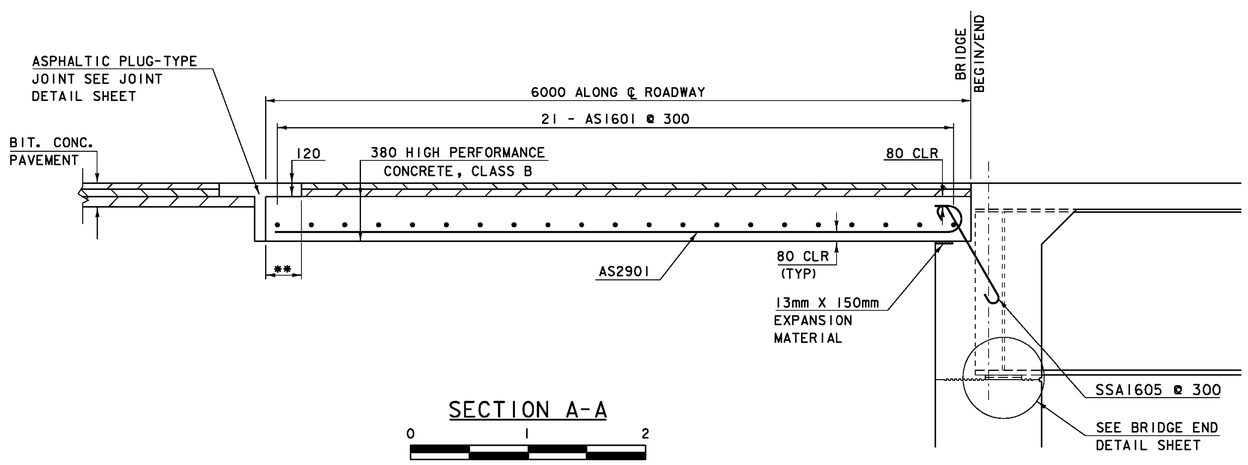


APPROACH SLAB #2 PLAN

0 1 2 3 4 5

SCALE = 1:50

SEE "CORNER DETAIL" ON DECK DETAIL SHEET FOR ACUTE ANGLE



SECTION A-A

0 1 2

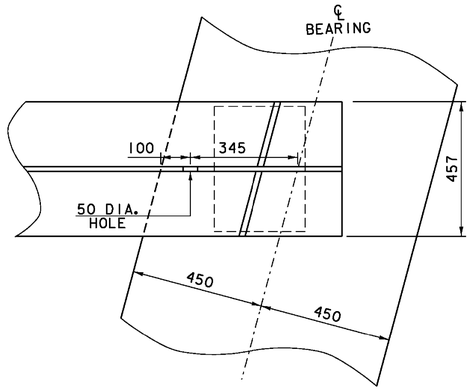
SCALE 1 : 25

** DISTANCES PER JOINT MANUFACTURER'S RECOMMENDATIONS. DESIGN BASED ON TEMPERATURE RANGE FROM -15°F TO 105°F, WITH 40 EXPANSION.

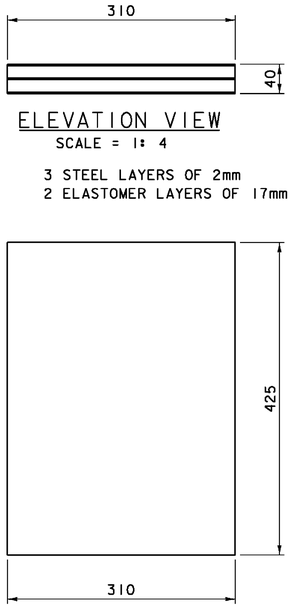
NOTE:

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.

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sup.dgn	
IPARM FILE NAME: sb254asd.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
APPROACH SLAB DETAILS	SHEET: 36 OF 68



PLAN VIEW - END OF
STEEL MEMBER AT ABUTMENT
SCALE = 1: 10

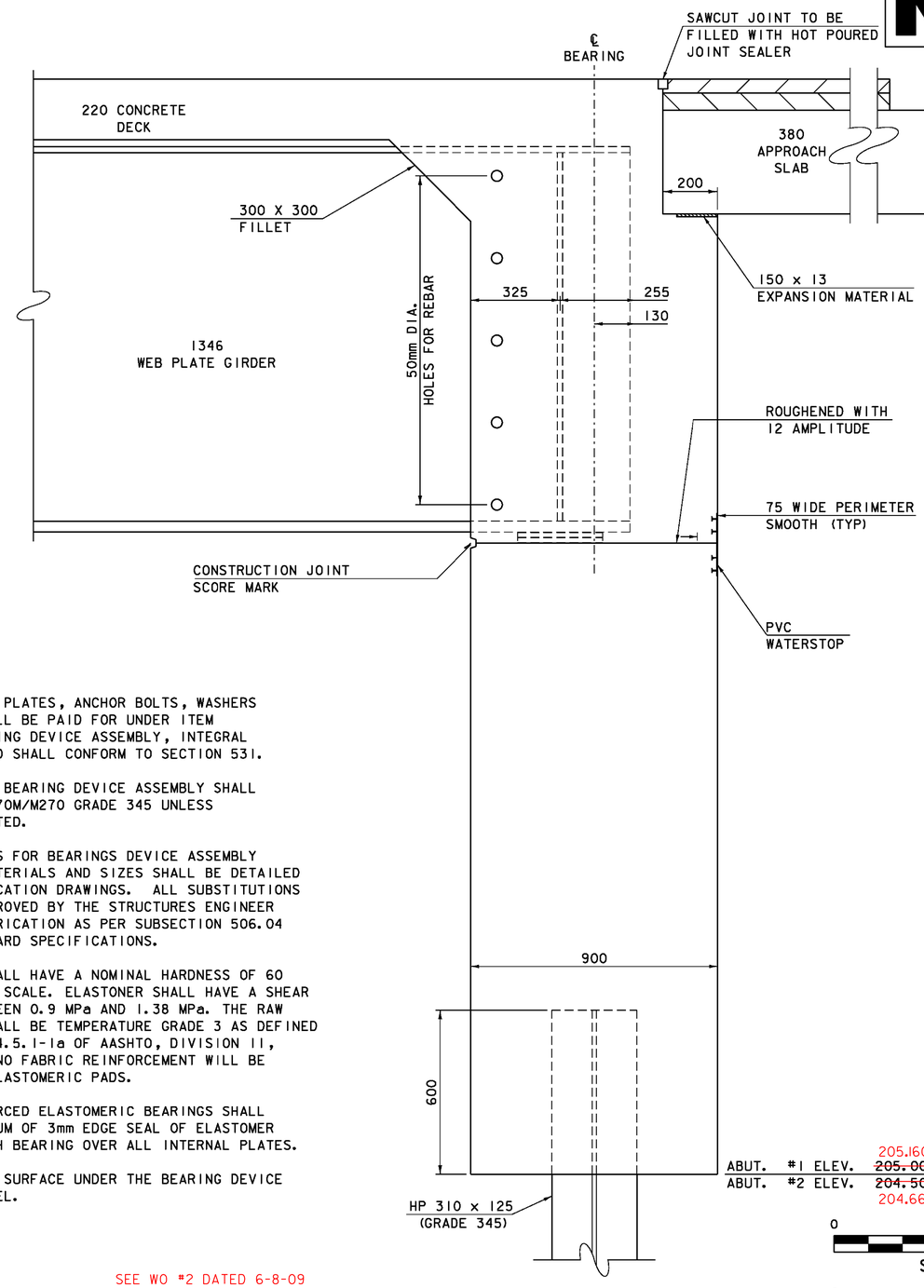


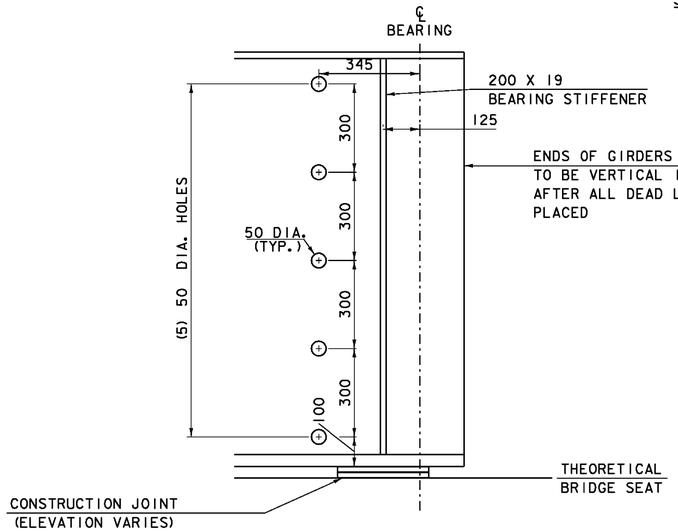
ELEVATION VIEW
SCALE = 1: 4

3 STEEL LAYERS OF 2mm
2 ELASTOMER LAYERS OF 17mm

PLAN VIEW
SCALE = 1: 4

STEEL REINFORCED ELASTOMER





ELEVATION VIEW - END OF
STEEL MEMBER AT ABUTMENT
SCALE = 1: 10

NOTES:

1. THE LEVELING PLATES, ANCHOR BOLTS, WASHERS AND NUTS SHALL BE PAID FOR UNDER ITEM 531.14 "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT" AND SHALL CONFORM TO SECTION 531.

2. ALL STEEL IN BEARING DEVICE ASSEMBLY SHALL BE AASHTO M270M/M270 GRADE 345 UNLESS OTHERWISE NOTED.

3. SUBSTITUTIONS FOR BEARINGS DEVICE ASSEMBLY COMPONENT MATERIALS AND SIZES SHALL BE DETAILED ON THE FABRICATION DRAWINGS. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE STRUCTURES ENGINEER PRIOR TO FABRICATION AS PER SUBSECTION 506.04 OF THE STANDARD SPECIFICATIONS.

4. ELASTOMER SHALL HAVE A NOMINAL HARDNESS OF 60 ON SHORE 'A' SCALE. ELASTONER SHALL HAVE A SHEAR MODULUS BETWEEN 0.9 MPa AND 1.38 MPa. THE RAW ELASTOMER SHALL BE TEMPERATURE GRADE 3 AS DEFINED IN TABLE 18.4.5.1-1a OF AASHTO, DIVISION II, SECTION 18. NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS.

5. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM OF 3mm EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.

6. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.

SEE WO #2 DATED 6-8-09

THEORETICAL BRIDGE SEAT CHART		
	ABUTMENT #1	ABUTMENT #2
BEAM 1	207.108	206.553
BEAM 2	207.215	206.660
BEAM 3	207.287	206.732
BEAM 4	207.239	206.684
BEAM 5	207.156	206.601

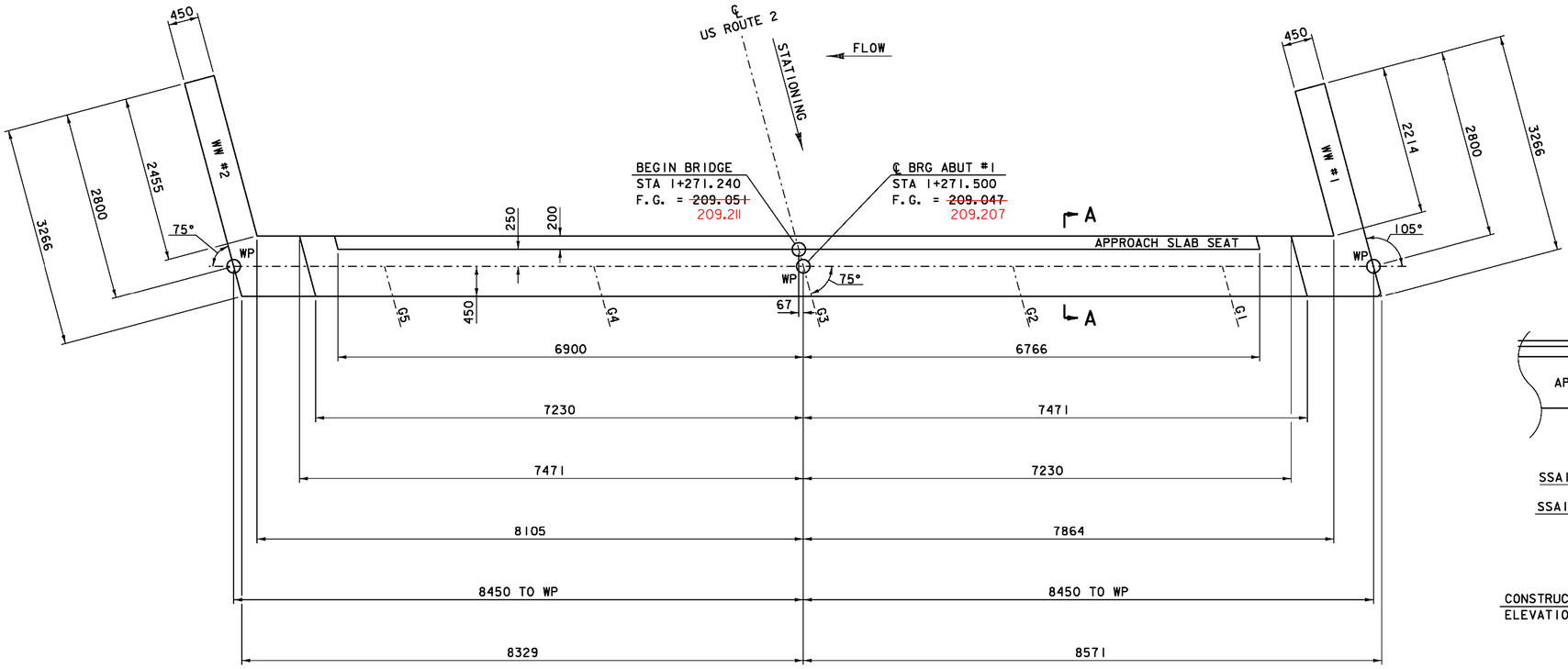
ELEVATION VIEW - END OF
STEEL MEMBER AT ABUTMENT
SCALE = 1: 10

ABUT. #1 ELEV. 205.160 ~~205.000~~
ABUT. #2 ELEV. ~~204.500~~ 204.660

0 0.5 1
SCALE = 1: 10

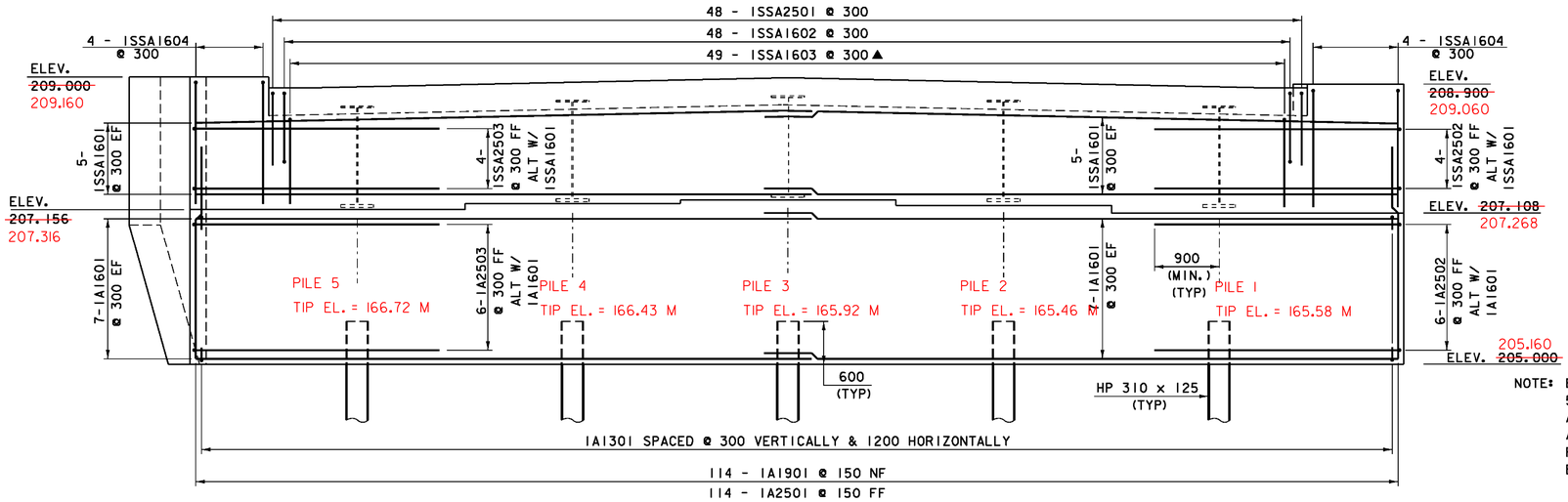
0 0.25 0.5
SCALE = 1: 5

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sub.dgn	
IPARM FILE NAME: sb254end.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
BRIDGE END DETAILS	SHEET: 37 OF 68



ABUTMENT #1 PLAN

SCALE = 1:40

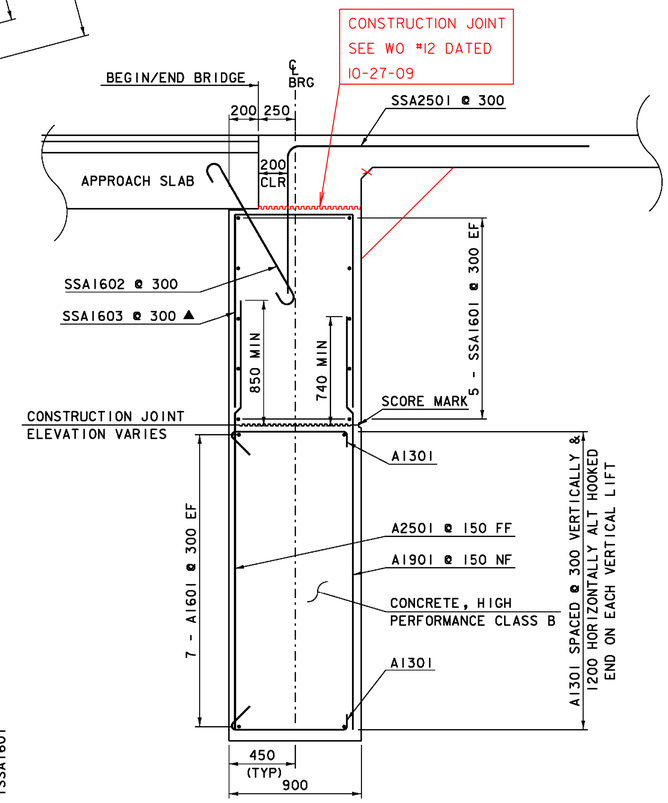


ABUTMENT #1 ELEVATION

SCALE = 1:40

ABUTMENT #1 PILES DRIVEN TO REFUSAL

SEE "CORNER DETAIL" ON DECK DETAILS SHEET FOR ACUTE ANGLE



SECTION "A-A"

BRIDGE END DETAIL AND ABUTMENT TYPICAL SECTION

SCALE = 1: 10

NOTE: BRIDGE SEATS REQUIRE A MINIMUM 500X500 LEVEL SURFACE CENTERED ABOUT THE ℄ OF THE BEARING STIFFENER AND ℄ OF EACH GIRDER. ALTERNATE FORMING CONFIGURATIONS MAY BE APPROVED BY THE RESIDENT ENGINEER.

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.

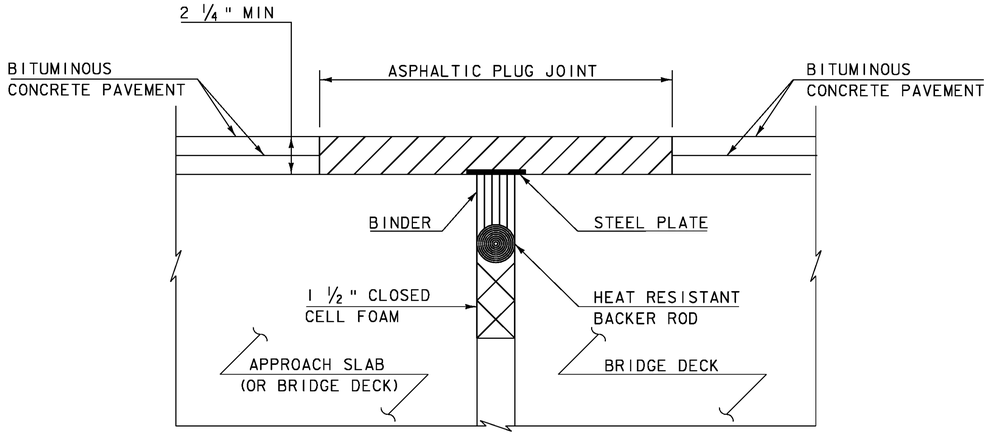
0 0.5 1

SCALE = 1:10

0 1 2 3 4

SCALE = 1:40

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sub.dgn	
IPARM FILE NAME: sb254db1.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
ABUTMENT #1	SHEET: 38 OF 68



ASPHALTIC PLUG-TYPE
JOINT DETAIL
(NOT TO SCALE)

ASPHALTIC PLUG JOINT NOTES

1. INSTALLATION

A. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

B. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.

C. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

D. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.

E. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.

F. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.

G. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.

H. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.

I. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

J. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

K. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAYBE USED TO EXPEDITE THE COOLING PROCESS.

L. PROTECTED JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

2. WEATHER LIMITATIONS. (APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER):

A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.

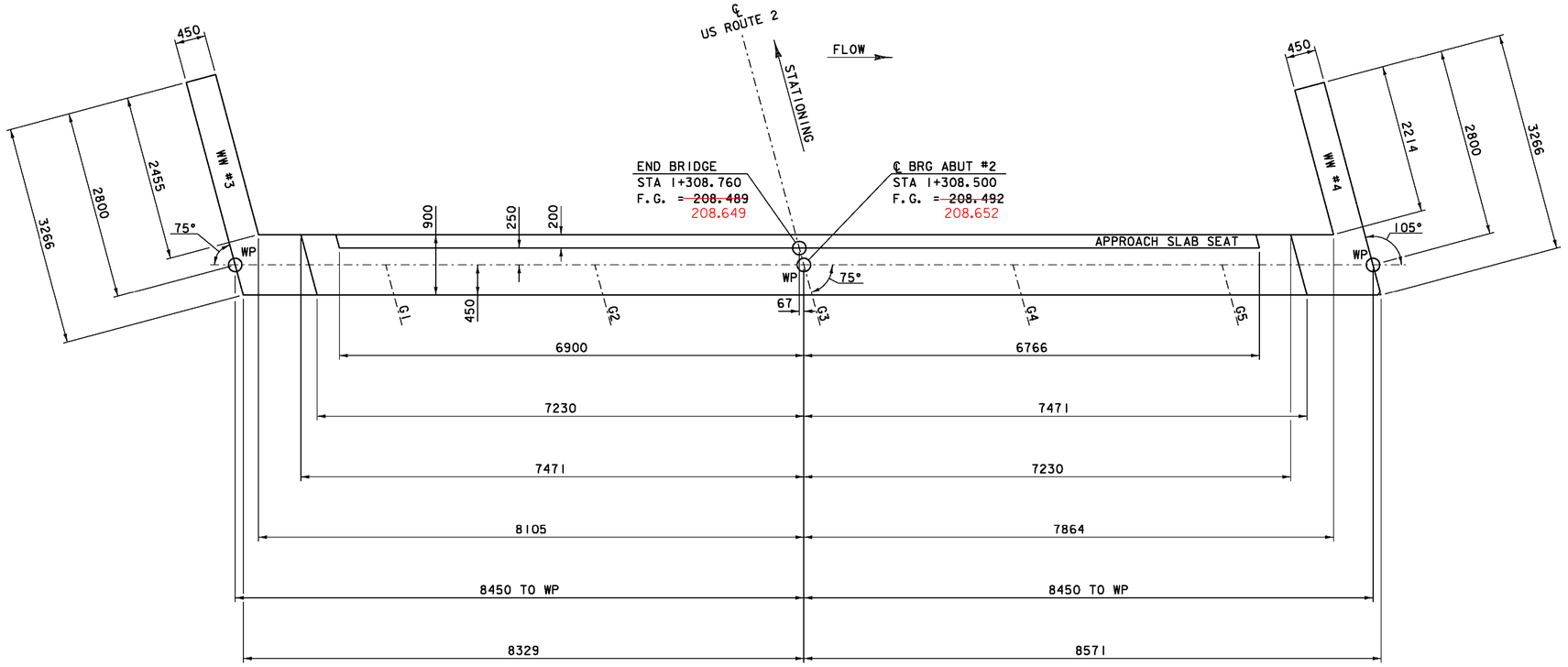
B. THE ROAD SURFACE IS DRY.

C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

PROJECT NAME: BRIDGEWATER
PROJECT NUMBER: BRS 0149(4)

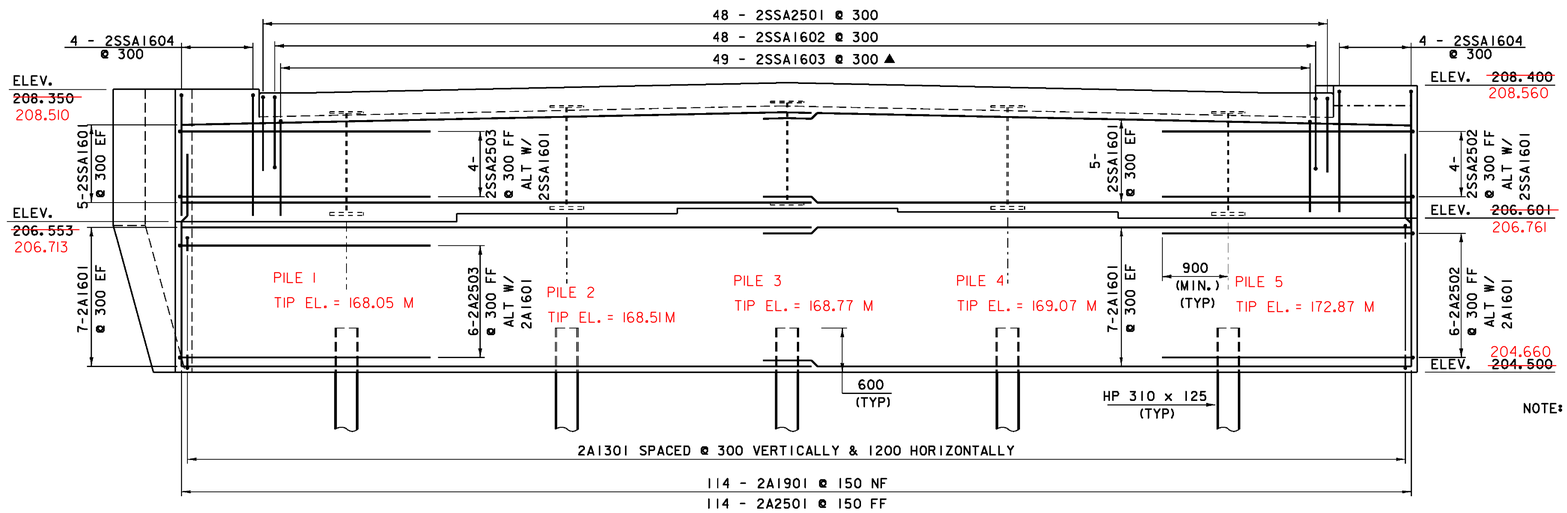
FILE NAME: s86e062bridgeend.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
BRIDGE END DETAILS

PLOT DATE: 16-SEP-2009
DRAWN BY: R. PELLETT
CHECKED BY:
SHEET 38 OF 58



ABUTMENT #2 PLAN

SCALE = 1:40

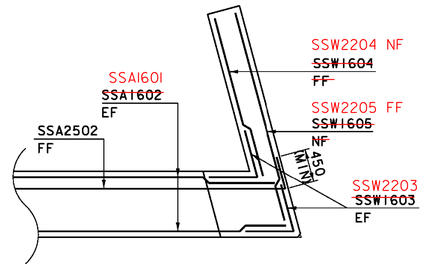


ABUTMENT #2 ELEVATION

SCALE = 1:40

ABUTMENT #2 PILES DRIVEN TO BEDROCK

NOTE: BRIDGE SEATS REQUIRE A MINIMUM 500X500 LEVEL SURFACE CENTERED ABOUT THE ℄ OF THE BEARING STIFFENER AND ℄ OF EACH GIRDER. ALTERNATE FORMING CONFIGURATIONS MAY BE APPROVED BY THE RESIDENT ENGINEER.



TYPICAL CORNER DETAIL

SCALE = 1:40

SEE "CORNER DETAILS" ON DECK DETAIL SHEET FOR ACUTE ANGLE

STAINLESS STEEL USED ABOVE CONSTRUCTION JOINT

BLACK STEEL USED BELOW CONSTRUCTION JOINT

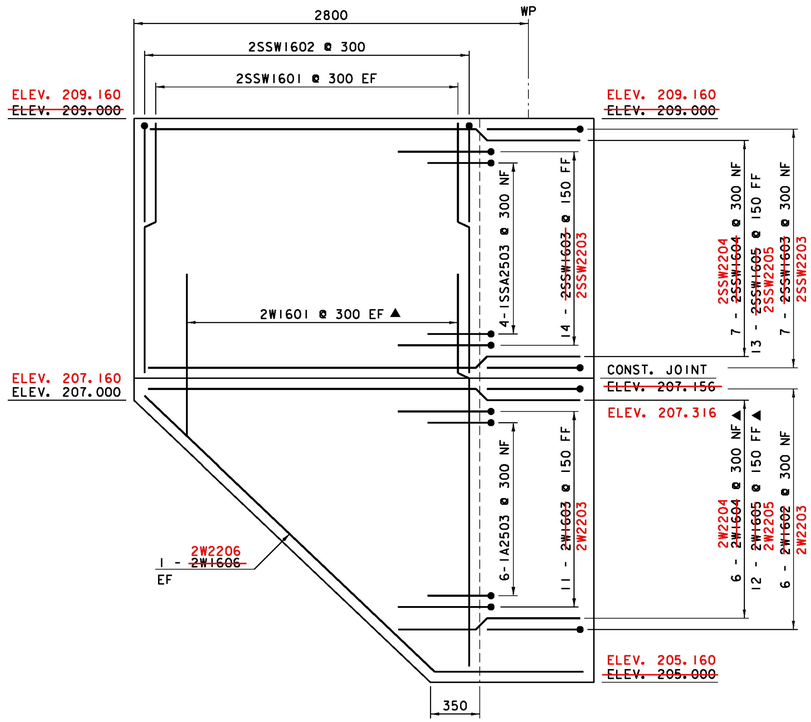
NOTE:

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.

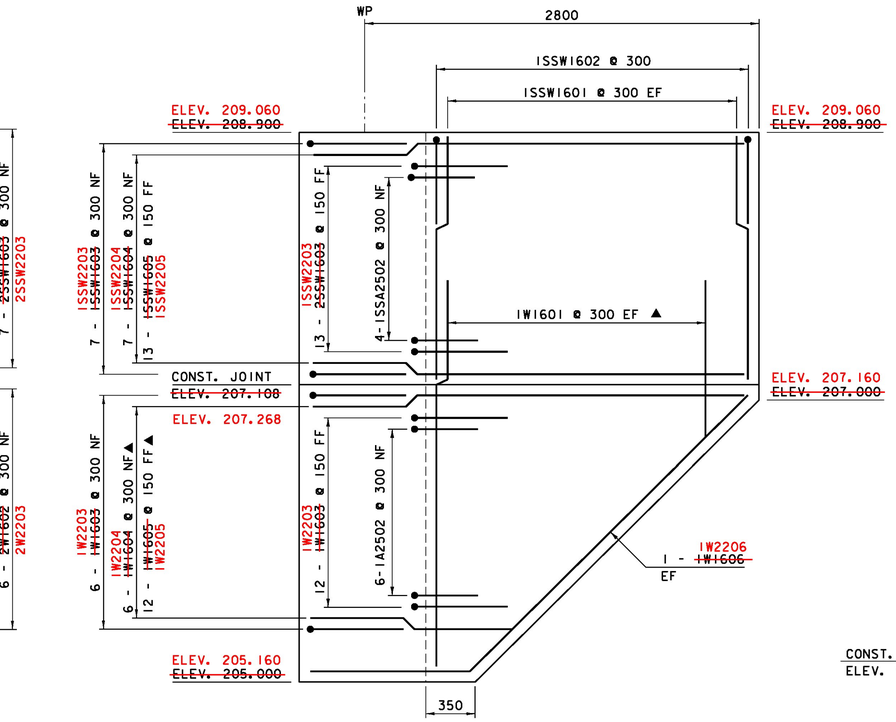
0 1 2 3 4

SCALE = 1:40

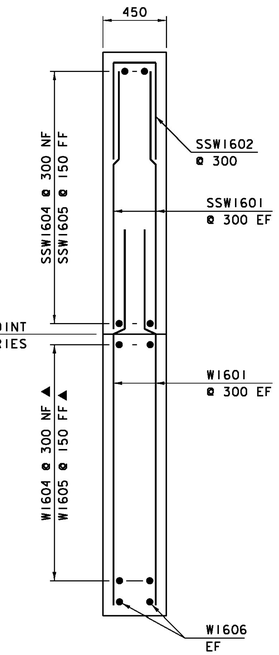
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sub.dgn	
IPARM FILE NAME: sb254ab2.1	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
ABUTMENT #2	SHEET: 39 OF 68



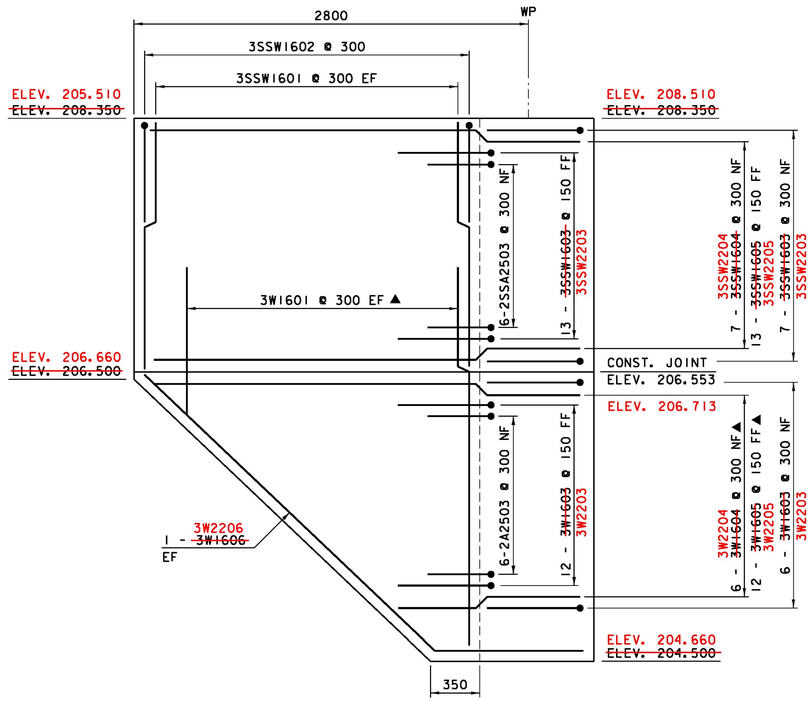
WINGWALL #2



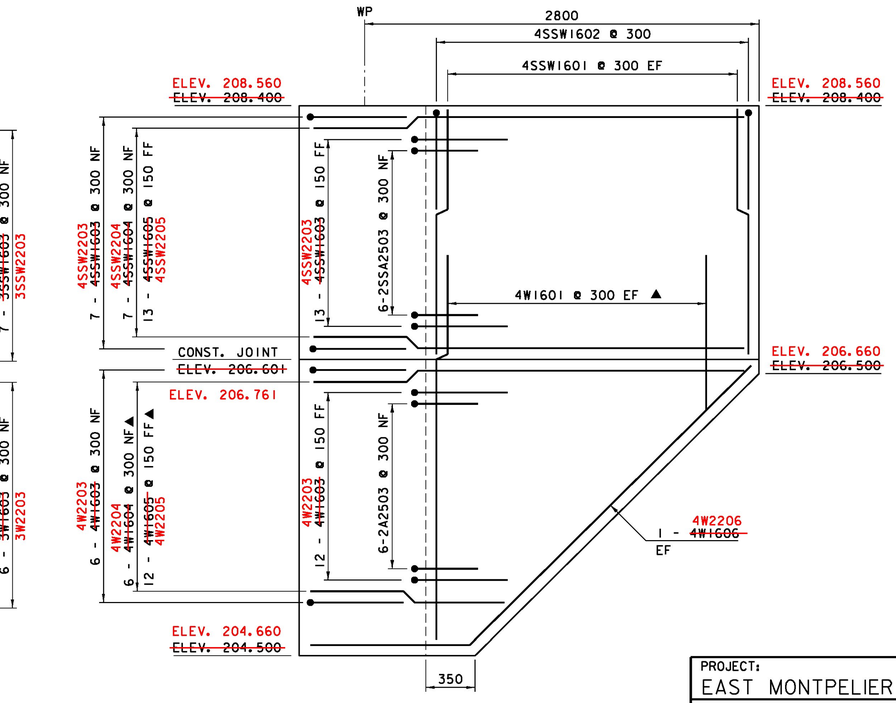
WINGWALL #1



WINGWALL
TYPICAL SECTION



WINGWALL #3



WINGWALL #4

0 1 2 3 4

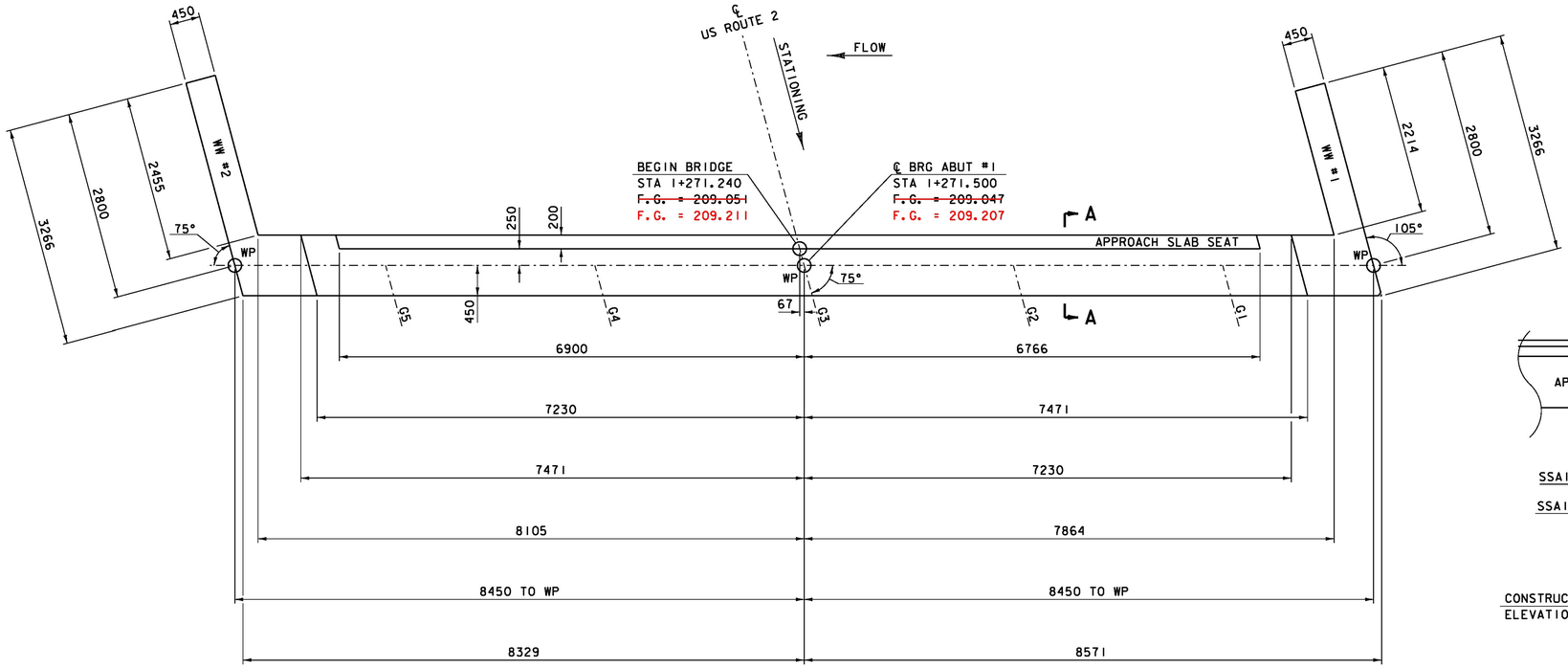
SCALE = 1:20

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.

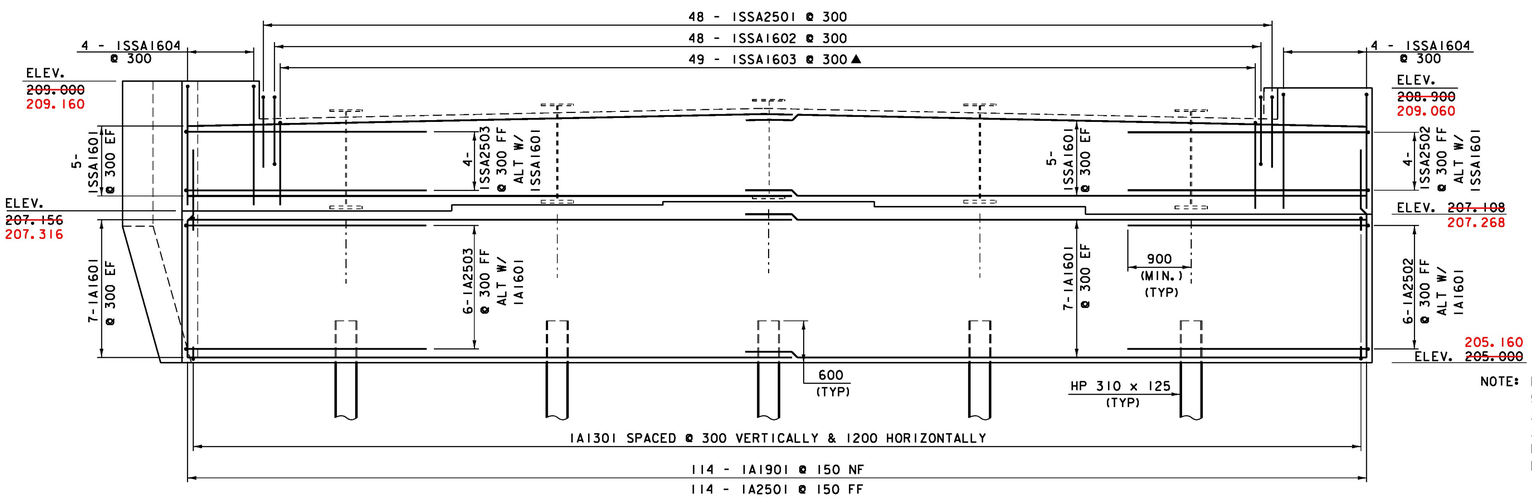
PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254sub.dgn
IPARM FILE NAME: sb254ww.i
PLOT DATE: 10-JUL-2009 0
DESIGNED BY: J. LACROIX
DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS
CHECKED BY: J. LACROIX
WINGWALLS
SHEET:$S#$ OF $T#$



ABUTMENT #1 PLAN

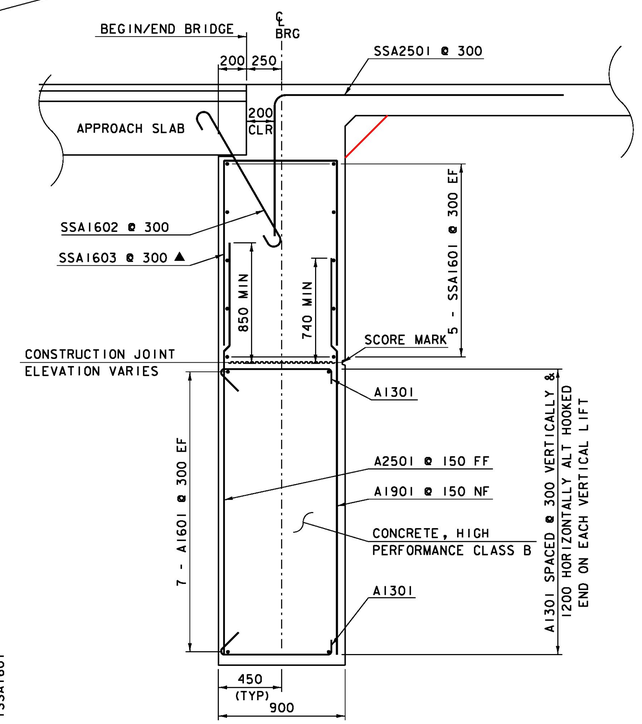
SCALE = 1:40



ABUTMENT #1 ELEVATION

SCALE = 1:40

SEE "CORNER DETAIL" ON DECK DETAILS SHEET FOR ACUTE ANGLE



SECTION "A-A"

BRIDGE END DETAIL AND ABUTMENT TYPICAL SECTION

SCALE = 1:10

NOTE: BRIDGE SEATS REQUIRE A MINIMUM 500X500 LEVEL SURFACE CENTERED ABOUT THE ℄ OF THE BEARING STIFFENER AND ℄ OF EACH GIRDER. ALTERNATE FORMING CONFIGURATIONS MAY BE APPROVED BY THE RESIDENT ENGINEER.

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 0.5 1

SCALE = 1:10

0 1 2 3 4

SCALE = 1:40

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254sub.dgn	
IPARM FILE NAME: sb254abl.i	PLOT DATE: 10-JUL-2009 0(
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
ABUTMENT #1	SHEET:$S#$ OF $T#$

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

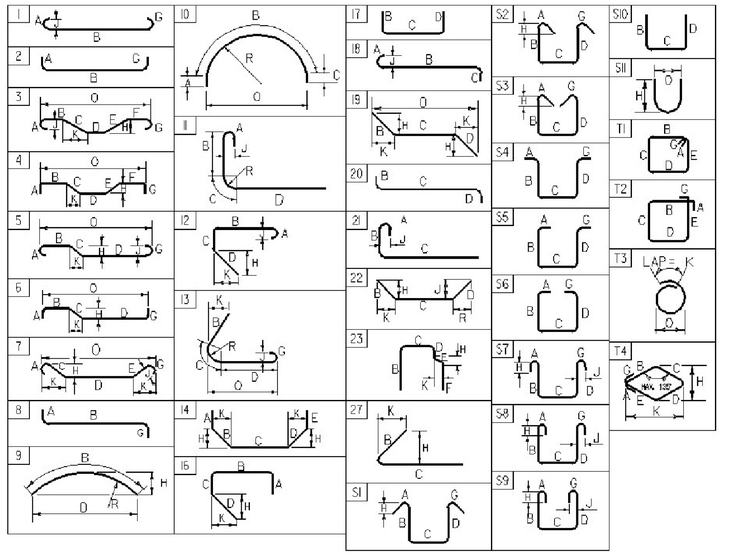
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	DECK																
	448	13	9800	SS1301	STR	9800											
△	360	13	1830	SS1302	STR	1830											
	312	13	12190	SS1303	STR	12190											
	16	13	3120	SS1304	STR	3120											
△	240	16	1830	SS1601	STR	1830											
△	240	19	1830	SS1901	STR	1830											
	40	19	9800	SS1902	STR	9800											
	12	19	3120	SS1903	STR	3120											
	APPRAOCH SLAB #1																
	21	16	13510	1AS1601	STR	13510											
	55	29	6220	1AS2901	1	380	5840					---		300			
	APPRAOCH SLAB #2																
	21	16	13510	2AS1601	STR	13510											
	55	29	6220	2AS2901	1	380	5840					---		300			
	ABUTMENT #1																
✳	29	16	8700	1A1601	STR	8700											
△	116	19	3060	1A1901	STR	3060											
△	116	25	3150	1A2501	STR	3150											
	6	25	3570	1A2503	16			3120	450				116		435		
	6	25	3570	1A2502	27		450	3120					435		116		
	105	13	1000	1A1301	S3	130		740				130	80				
✳	21	16	8700	1SSA1601	STR	8700											
	48	16	1350	1SSA1602	1	180	990					180		140			
	4	25	3570	1SSA2503	16	---	---	3120	450				116		435		
✳	49	25	3400	1SSA2501	17		1000	2400	---								
	4	25	3520	1SSA2502	27		400	3120					435		116		
▲	49	16	3480	1SSA1603	S10		1370	740	1370								
	8	16	4140	1SSA1604	S10		1900	340	1900								
	ABUTMENT #2																
✳	29	16	8700	2A1601	STR	8700											
△	116	19	3060	2A1901	STR	3060											
△	116	25	3150	2A2501	STR	3150											
	6	25	3570	2A2503	16	---	---	3120	450				116		435		
	6	25	3570	2A2502	27		450	3120					435		116		
	105	13	1000	2A1301	S3	130		740				130	80				
✳	21	16	8700	2SSA1601	STR	8700											
	48	16	1350	2SSA1602	1	180	990					180		140			
	4	25	3570	2SSA2503	16	---	---	3120	450				116		435		
✳	49	25	3050	2SSA2501	17		1000	2050	---								
	4	25	3570	2SSA2502	27		450	3120					435		116		
▲	49	16	3320	2SSA1603	S10		1290	740	1290								
	8	16	4140	2SSA1604	S10		1900	340	1900								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	WINGWALL #1																
▲	16	16	2690	1W1601	STR	2690											
▲	6	22	3105	1W2204	STR	3105											
▲	12	22	2135	1W2205	STR	2135											
	2	22	3885	1W2206	16	---	---	1050	2835					1952		1920	
	18	22	1710	1W2203	27		1050	660						1014		272	
	16	16	1740	1SSW1601	STR	1740											
	7	22	3105	1SSW2204	STR	3105											
	13	22	2135	1SSW2205	STR	2135											
	8	16	1610	1SSW1602	17		660	290	660								
	20	22	1710	1SSW2203	27		1050	660						1014		272	
	WINGWALL #2																
▲	16	16	2735	2W1601	STR	2735											
▲	6	22	3105	2W2204	STR	3105											
▲	12	22	2375	2W2205	STR	2375											
	17	22	1710	2W2203	16	---	---	660	1050					1014		272	
	2	22	3885	2W2206	16	---	---	1050	2835					1952		1920	
	16	16	1685	2SSW1601	STR	1685											
	7	22	3105	2SSW2204	STR	3105											
	13	22	2375	2SSW2205	STR	2375											
	20	22	1710	2SSW2203	16	---	---	660	1050					1014		272	
	8	16	1610	2SSW1602	17		660	290	660								
	WINGWALL #3																
▲	16	16	2635	3W1601	STR	2635											
▲	6	22	3105	3W2204	STR	3105											
▲	12	22	2375	3W2205	STR	2375											
	2	22	3885	3W2206	16	---	---	1050	2835					1952		1920	
	17	22	1710	3W2203	16	---	---	660	1050					1014		272	
	16	16	1640	3SSW1601	STR	1640											
	7	22	3105	3SSW2204	STR	3105											
	13	22	2375	3SSW2205	STR	2375											
	20	22	1710	3SSW2203	16	---	---	660	1050					1014		272	
	8	16	1610	3SSW1602	17		660	290	660								
	WINGWALL #4																
▲	16	16	2580	4W1601	STR	2580											
▲	6	22	3105	4W2204	STR	3105											
▲	12	22	2135	4W2205	STR	2135											
	2	22	3885	4W2206	16	---	---	1050	2835					1952		1920	
	17	22	1710	4W2203	27	---	1050	660						1014		272	
	16	16	1740	4SSW1601	STR	1740											
	7	22	3105	4SSW2204	STR	3105											
	13	22	2135	4SSW2205	STR	2135											
	8	16	1610	4SSW1602	17		660	290	660								
	20	22	1710	4SSW2203	27		1050	660						1014		272	

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS. AND OTHER 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 "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" 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 IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.
12. SS DENOTES STAINLESS STEEL REINFORCING BAR



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#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

REVISED 7-10-09
REVISED 6-23-09
REVISED 4-13-09

PROJECT NAME: **EAST MONTPELIER**
PROJECT NUMBER: **BRF 028-3(36)**

FILE NAME: /98b254/str/sb254rss.xls
PROJECT MANAGER: K. HIGGINS
DESIGNED BY: J. LACROIX
REINFORCING STEEL SCHEDULE SHEET

PLOT DATE: 7/10/2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 41 OF 68

1.1 PROJECT DESCRIPTION

BEGINNING ON U.S. ROUTE 2 AT A POINT 1.835 KILOMETERS EASTERLY OF THE INTERSECTION OF VT. ROUTE 14 N. AND U.S. ROUTE 2 AND EXTENDING EASTERLY ALONG U.S. ROUTE 2 0.125 KILOMETERS.

WORK TO BE PERFORMED UNDER THIS CONTRACT INCLUDES INSTALLATION OF A TEMPORARY BRIDGE, REPLACEMENT OF BRIDGE #74 ON EXISTING ALIGNMENT, NEW GUARDRAIL, PAVEMENT AND ASSOCIATED ROADWAY ITEMS.

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

TOTAL DISTURBED AREA (EXCLUDING WASTE, BORROW AND STAGING AREAS): 0.72 ha (1.8 acres).

1.2 SITE INVENTORY

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

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, WITH MODERATE TO STEEP SLOPES OF VARIOUS GRASSES, SHRUBS AND WILD FLOWERS. THE DRAINAGE WAYS ARE WELL DEFINED AND RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG ROADWAY DITCHES, AND THAT WHICH FOLLOWS ROUTE 2 ALONG THE 2.8% GRADE AT THE BEGINNING OF THE PROJECT LIMITS AND A 1.6% GRADE AT THE END OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE WELL DEFINED.

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

WINOOSKI RIVER IS LOCATED IN THE PROJECT AREA. THE WINOOSKI RIVER IS AN INCISED, ALLUVIAL AND SINUOUS CHANNEL WITH STEEP ERODING BANKS AND MOSTLY SAND AND SILT MAKE UP THE NATURE OF THE STREAMBED. UPSTREAM PONDS AND RESERVOIRS PROVIDE STORAGE AND REDUCE PEAK FLOOD FLOWS. THE WINOOSKI RIVER HAS A DRAINAGE AREA OF 432 SQUARE KILOMETERS (166 SQUARE MILES).

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE PROPOSED SLOPES ARE RELATIVELY FLAT UNTIL STA. 1+210, WHERE THE SOUTHERN SLOPE IS 1:-1.5 AND PROTECTED BY STONE FILL. THE NORTHERN SLOPE BECOMES 1:-1.5 AT STA. 1+230, AND IS PROTECTED BY STONE FILL.
AFTER THE BRIDGE BOTH SLOPES ARE 1:-1.5 AND ARE PROTECTED BY STONE FILL UNTIL STA. 1+340, AFTER WHICH THE SLOPES ARE 1:-2 OR FLATTER AND WILL BE VEGETATED.

THE SLOPES ALONG CHANNEL BANKS ARE LINED WITH HEAVY STONE AND ARE AT 1:-1.5 (67%).

FOR FINAL CONTOURS AND SLOPES SEE THE CROSS SECTIONS INSTEAD OF FINAL CONDITIONS SITE PLAN.

SEE PROJECT SPECIAL PROVISIONS FOR REQUIREMENTS REGUARDING THE EXISTING UTILITIES.

1.2.4 VEGETATION

THE VEGETATION SURROUNDING THE PROJECT SITE CONSISTS OF OPEN AREAS OF VARIOUS GRASSES, SHRUBS AND WILD FLOWERS. THERE ARE AGRICULTURAL FIELDS NEAR THE PROJECT LIMITS. 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 DETOUR.

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

A DESCRIPTION OF THE SOIL TYPES EXPECTED TO BE ENCOUNTERED IN THE PROJECT AREA IS INCLUDED IN THE PROJECT PLAN SHEET TITLED "EPSC EXISTING CONDITIONS."

SOILS NAME	DEPTH	EROSION FACOTR (K)
ADAMS LOAMY FINE SAND	0"-65"	0.17
SALMON VERY FINE SANDY LOAM	0"-68"	0.49

THE MAJORITY OF THIS PROJECT IS CONSIDERED TO BE "IN A FILL TYPICAL", MEANING THE ROADWAY IS HIGHER THAN THE SURROUNDING MEAN GROUND ELEVATION. DUE TO ENGINEERING REQUIREMENTS FOR SELECTIVE FILL MATERIAL DEPTHS, MUCH OF THIS FILL MATERIAL WILL NEED TO BE BROUGHT IN FROM AN OUTSIDE SOURCE. SINCE WE DO NOT KNOW WHERE THIS SOURCE PIT WILL BE, WE CAN NOT PROVIDE ITS ERODABILITY PROPERTIES.

1.2.6 SENSITIVE RESOURCE AREAS

NO "THREATENED & ENDANGERED SPECIES" HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS AND THERE WILL BE NO ADVERSE EFFECT TO HISTORIC OR ARCHAELOGICAL FEATURES. THE IDENTIFIED RESOURCES ARE THE WINOOSKI RIVER, THE FLOOD PLAIN, AGRICULTURAL LANDS, AND STRIP WETLANDS ALONG THE RIVER BANKS

1.3 RISK EVALUATION

RISK DETERMINATION

THIS PROJECT HAS BEEN DETERMINED TO BE LOW RISK. BASIC RISK EVALUATION RESULTED IN A MORE DETAILED ANALYSIS TO DETERMINE RISK, AND RESULTED IN THE FOLLOWING REQUIREMENTS:

1.IMPLEMENT THE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) FIELD GUIDE 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.

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.)

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 STABILIZE CONSTRUCTION EXIT

STABILIZED CONSTRUCTION ENTRANCE SHALL BE UTILIZED AS NECESSARY.

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

SWALE (STORM WATER FROM STREET COLLECTIONS DRAINAGE SYSTEM)

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK DAMS SHALL BE UTILIZED AS NECESSARY.
USE TEMPORARY INLET PROTECTION AT CULVERT ENTRANCES.

1.4.7 CONSTRUCT PERMANENT CONTROLS

USE STONE AS SPECIFIED IN THE EPSC PLAN FOR SLOPE LINING AND CHANNEL PROTECTION
SEED AND MULCH
DRAINAGE INLETS AND PIPING

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

1.4.8 STABILIZE EXPOSED SOILS

SEED AND MULCH
EROSION MATTING

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

VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.10 STABILIZE SOIL AT FINAL GRADE

SEED AND MULCH
EROSION MATTTING

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

N/A

1.4.12 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254ero nar.dgn	
IPARM FILE NAME: sb254ero nar.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: J. SALVATORI
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EPSC NARRATIVE	SHEET: 42 OF 68

VTrans Metric

LEGEND

- ARCH — ARCHEOLOGICAL SENSITIVE AREA
- FLOOD PLAIN — FLOOD PLAIN
- P/L — PROPERTY LINE
- RIGHT-OF-WAY LINE
- RIPARIAN BUFFER
- SLOPE LIMITS
- WETLANDS BOUNDARIES

N

VT STATE PLANE GRID

43D - SALMON
VERY FINE SANDY LOAM
15-25% SLOPES

43E - SALMON
VERY FINE SANDY LOAM
25-50% SLOPES

26A - ADAMS
LOAMY FINE SAND
0-3% SLOPES

W - WATER

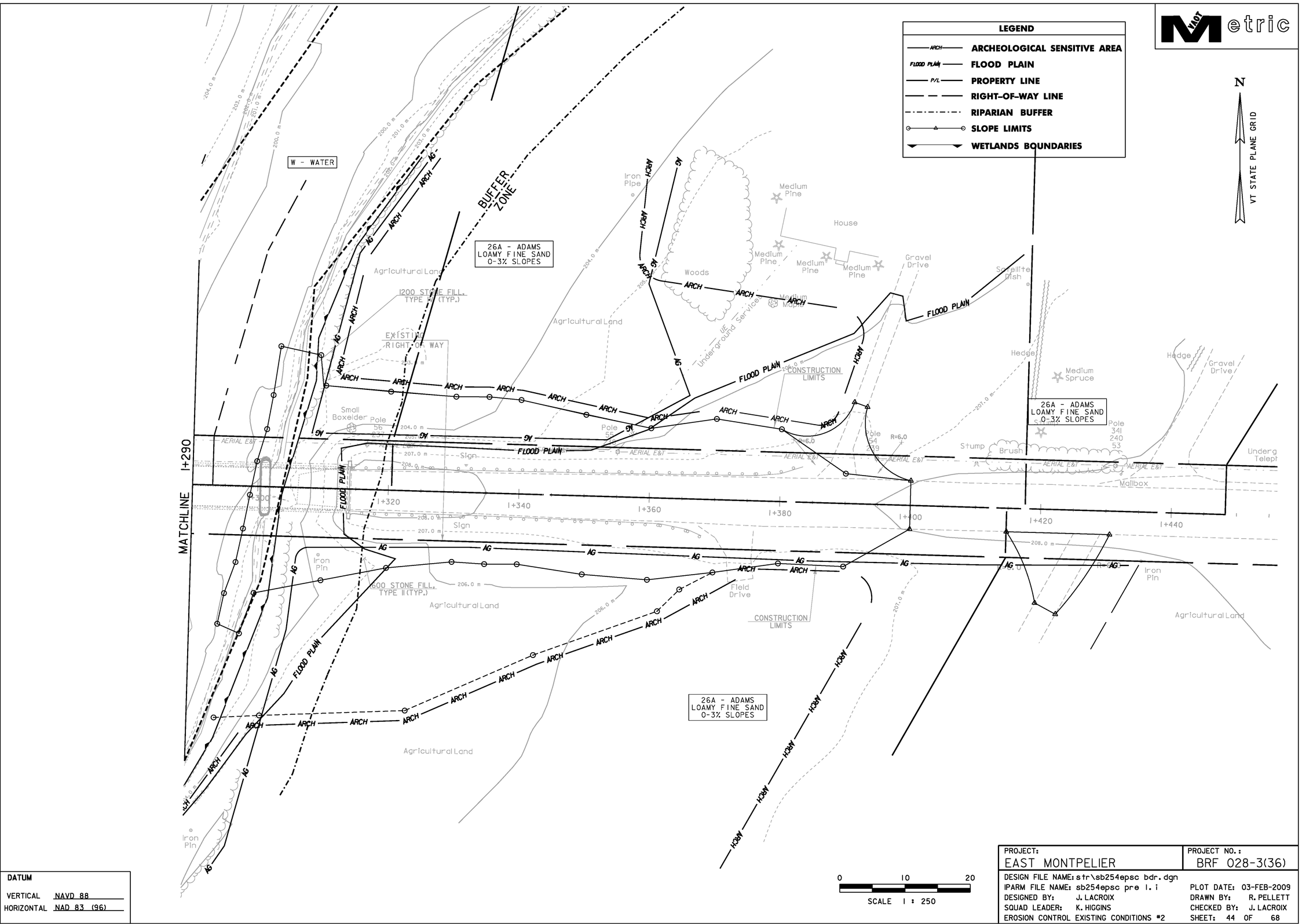
MATCHLINE I+290

Septic Leach Field (approximate location)
House
Underground Fuel Tank
Garage
Conc. Well
Conc. Steps
Paved Drive
Medium Mtn. Ash
Gravel Drive
Paved Drive
Gravel PVC Underground Conduits
CONSTRUCTION LIMITS
Pole 235 58
Pole 236
Pole 237
ABANDONED Underground Telephone
Guy
Sign
Woods
FLOOD PLAIN
AERIAL E&T
I+120
I+140
I+160
I+180
I+200
I+220
I+240
I+260
I+280
Pole w/ Light 59-02
Underground Fuel Tank (exact location unknown)
Waterline Location Approx
Paved Parking
Pole w/ Light 59-01
Guy 234s
Iron Pin
Small Apple
Stone Wall (DO NOT DISTURB)
Medium Apple
Small Maple
Commercial Building
Lilac
Small White Birch
Well
Detour Limits
ARCH
HCHW
BUFFER ZONE
WINOOSKI RIVER
Medium Pine
P L

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)

0 10 20
SCALE 1 : 250

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: str\sb254epsc bdr.dgn	
IPARM FILE NAME: sb254epsc pre 1.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EPSC EXISTING CONDITIONS #1	SHEET: 43 OF 68



DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (96)

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: str\sb254epsc bdr.dgn	
IPARM FILE NAME: sb254epsc pre 1.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EROSION CONTROL EXISTING CONDITIONS #2	SHEET: 44 OF 68

VTrans Metric

LEGEND

- CHECK DAMS IN DITCHLINE
- DUST CONTROL
- PDF — PROJECT DEMARCATION FENCE
- ROLLED EROSION CONTROL PRODUCT
- SILT FENCE
- SLOPE LIMITS
- STABILIZED CONSTRUCTION ENTRANCE
- STONE FILL
- TURBIDITY CURTAIN

N

VT STATE PLANE GRID

MATCHLINE 1+290

RECP OVER GRUBBING MATERIAL

TYPE II STONE UNDER RECP

TYPE IV STONE

PHASE 1

PHASE 2

TEMPORARY CONSTRUCTION LIMITS

BUFFER ZONE

CHANNEL LINE N30°34'15.4"E

FLOOD PLAIN

DETOUR

Benchmark Chis. Square So. end conc retaining wall Elev = 210.408

BM Concrete Bound With Disk #A96005 Elev. 209.409

Septic Leach Field (approximate location)

House

Garage

Underground Fuel Tank

Conc. Well

Conc. Steps

Paved Drive

Gravel Drive

(3) 3" PVC Underground Conduits

Woods

Medium Mtn. Ash

Aerial E&T

Pole w/ Light 59-02

Pole w/ Light 59-01 Guy 234s

Underground Fuel Tank (exact location unknown)

Paved Parking

Waterline Location Approx.

Commercial Building

Small Apple

Stone Wall DO NOT DISTURB

Small Maple

Lilac

Small White Birch

Medium Pine

Iron Pin

Sign

Guy

Well

W. INOOSK/ RIVER

0 10 20

SCALE 1 : 250

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (96)

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: str\sb254epsc bdr.dgn	
IPARM FILE NAME: sb254epsc dur 1.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EPSC DURING CONSTRUCTION #1	SHEET: 45 OF 68

LEGEND

- CHECK DAMS IN DITCHLINE
- DC — DUST CONTROL
- PDF — PROJECT DEMARCATION FENCE
- ROLLED EROSION CONTROL PRODUCT
- SILT FENCE
- SLOPE LIMITS
- STABILIZED CONSTRUCTION ENTRANCE
- STONE FILL
- TEMPORARY INLET PROTECTION
- CNNNO — TURBIDITY CURTAIN

VTrans Metric

N

VT STATE PLANE GRID

BUFFER ZONE

MATCHLINE I+290

TYPE II STONE UNDER RECP

TEMPORARY CONSTRUCTION LIMITS

PHASE 1

PHASE 2

& DETOUR

450 x 10m OPTION PIPE WITH ENDS AT INLET AND OUTLET

Agricultural Land

Woods

House

Medium Pine

Medium Maple

Gravel Drive

Satellite Dish

Hedge

Medium Spruce

Stump

Brush

Pole 341 240 53

Pole 341 239

Underg Telepl

Mailbox

Iron Pin

Iron Pipe

Sign

Underground Services

FLOOD PLAIN

ARCH

AG

AERIAL E&T

0 10 20

SCALE 1 : 250

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (96)

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: str\sb254epsc bdr.dgn	
IPARM FILE NAME: sb254epsc dur 2.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EPSC DURING CONSTRUCTION #2	SHEET: 46 OF 68

LEGEND

- P/L — PROPERTY LINE
- WETLANDS BOUNDARIES
- SLOPE LIMITS
- PDF — PROJECT DEMARCATION FENCE
- I-3 > SLOPE INDICATORS
- DISTURBED AREAS REQUIRING RE-VEGETATION

VTrans Metric

N

VT STATE PLANE GRID

MATCHLINE 1+290

1+120 1+140 1+160 1+180 1+200 1+220 1+240 1+260 1+280

5+060 5+040 5+020 5+000 4+980 4+960 4+940

FLOOD PLAIN

GZ

TEMPORARY CONSTRUCTION LIMITS

CHANNEL LINE N30°34'15.4"E

BUFFER ZONE

TYPE IV STONE

ABANDONED Underground Telephone

Septic Leach Field (approximate location)

House

Garage

Underground Fuel Tank

Conc. Well

Conc. Steps

Paved Drive

Gravel Drive

(3) 3" PVC Underground Conduits

Woods

Medium Mtn. Ash

AERIAL E&T

Pole 341 235 58

Pole 238 59

Sign

Guy

Pole w/ Light 59-02

Underground Fuel Tank (exact location unknown)

Pole w/ Light 59-01 234s

Paved Parking

Waterline Location Approx

Medium Pine

Small Apple

Stone Wall (DO NOT DISTURB)

Medium Apple

Small Maple

Commercial Building

Lilac

Small White Birch

Iron Pin

Well

FLOOD PLAIN

ARCH

WINOOSKI RIVER

0 10 20

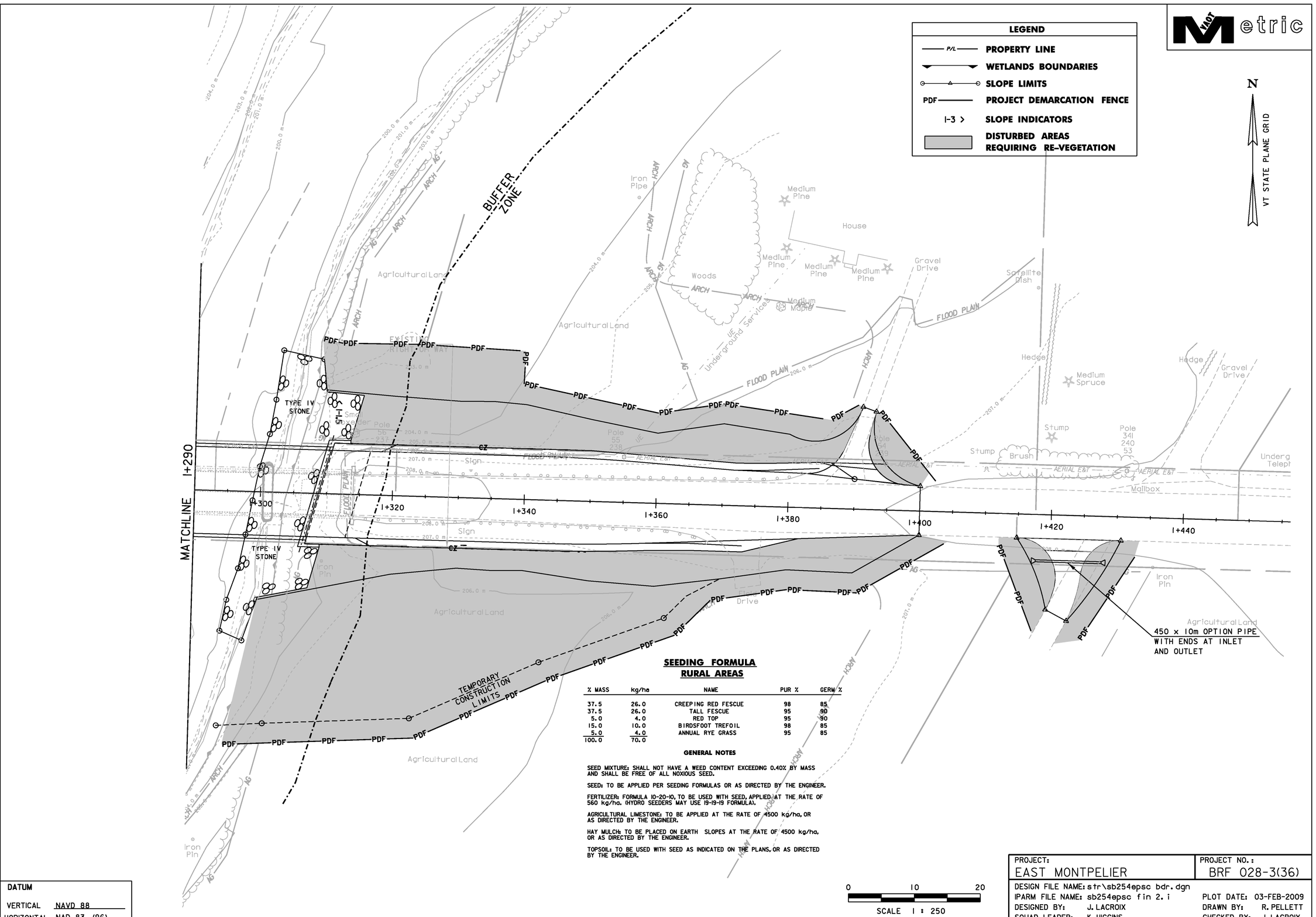
SCALE 1 : 250

DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83 (96)

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: str\sb254epsc bdr.dgn	
IPARM FILE NAME: sb254epsc fin 1.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EPSC FINAL CONDITIONS #1	SHEET: 47 OF 68



SEEDING FORMULA
RURAL AREAS

% MASS	kg/ha	NAME	PUR %	GERM %
37.5	26.0	CREEPING RED FESCUE	98	85
37.5	26.0	TALL FESCUE	95	90
5.0	4.0	RED TOP	95	90
15.0	10.0	BIRDSFOOT TREFOIL	98	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.0	70.0			

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY MASS AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

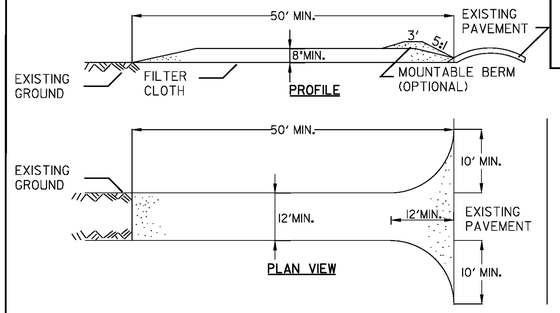
TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)
DESIGN FILE NAME: str\sb254epsc bdr.dgn	
IPARM FILE NAME: sb254epsc fin 2.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
EPSC FINAL CONDITIONS #2	SHEET: 48 OF 68

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH APPLIES).
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT 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

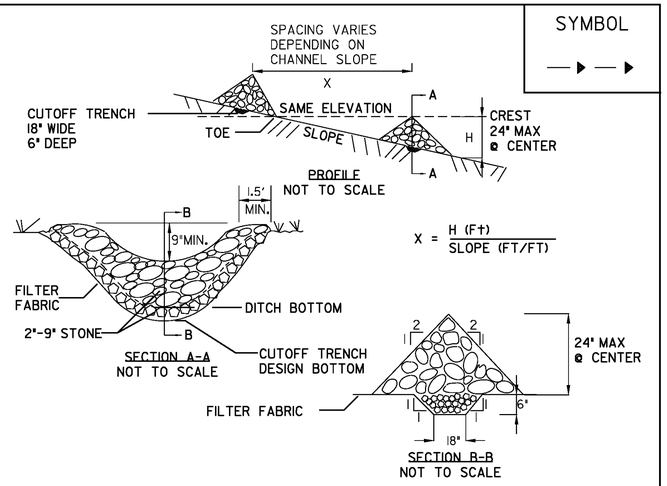
STABILIZED CONSTRUCTION ENTRANCE

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

THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.35 VEHICLE TRACKING PAD

REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. SET SPACING OF CHECK DAMS SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DECORIGINALLY DEVELOPED BY USDA-NRCSVERMONT 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 ITEM SHALL BE PAID FOR UNDER ITEM
653.25 TEMPORARY STONE CHECK DAM, TYPE I

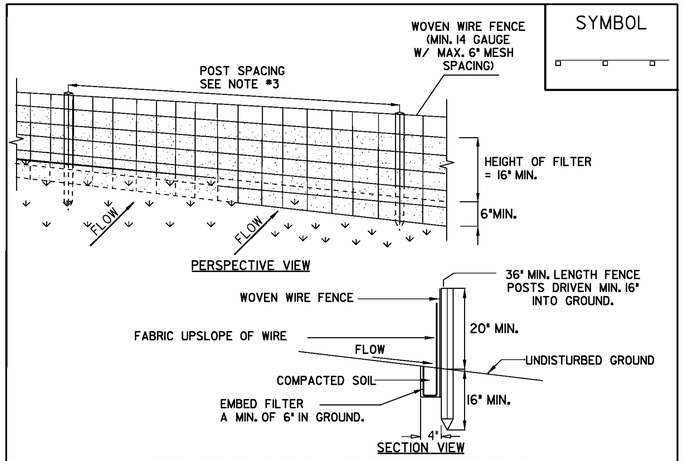
REVISIONS	
MARCH 8, 2007	JMF

STONE CHECK DAM PLACEMENT CHART

DITCH SLOPE	CHECK DAM HEIGHT					
	0'-6"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"
1%	50	100	150	200	250	300
2%	25	50	67	100	125	150
3%	17	33	50	65	83	100
4%	13	25	37	50	63	75
5%	10	20	30	40	50	60
6%	8	17	25	33	42	50
8%	7	13	19	25	31	38
10%	5	10	15	20	25	30

• ALL INTERVALS IN FEET •

SYMBOL



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE REINFORCEMENT IS ONLY REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATERS.
2. WHERE REQUIRED FENCE SHALL BE WOVEN WIRE, MIN. 14 GAUGE WITH A 6" MAXIMUM MESH OPENING. 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'. FOR FILTER-CLOTH FENCE, 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 SIX INCHES AND FOLDED.
6. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
7. 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

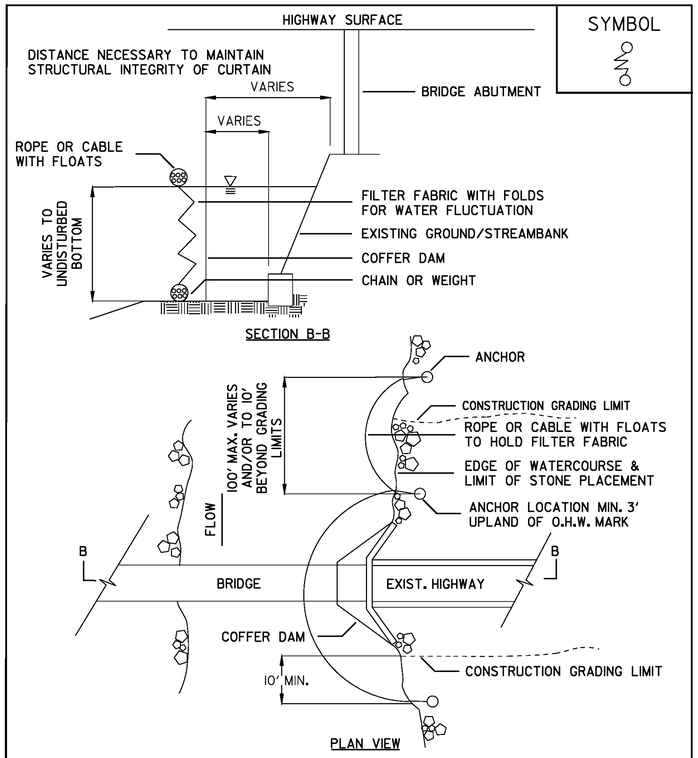
SILT FENCE

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

THIS ITEM SHALL BE PAID FOR UNDER ITEM
649.51 GEOTEXTILE FOR SILT FENCE OR
649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

DESIGN FILE NAME: /98b254/str/sb254epscdet.dgn
IPARM FILE NAME: sb254espscdet1.1
PLOT DATE: 03-FEB-2009
DESIGNED BY: J. SALVATORI
DRAWN BY: J. SALVATORI
SQUAD LEADER: K. HIGGINS
CHECKED BY: J. LACROIX
EPSC DETAILS #1
SHEET: 49 OF 68

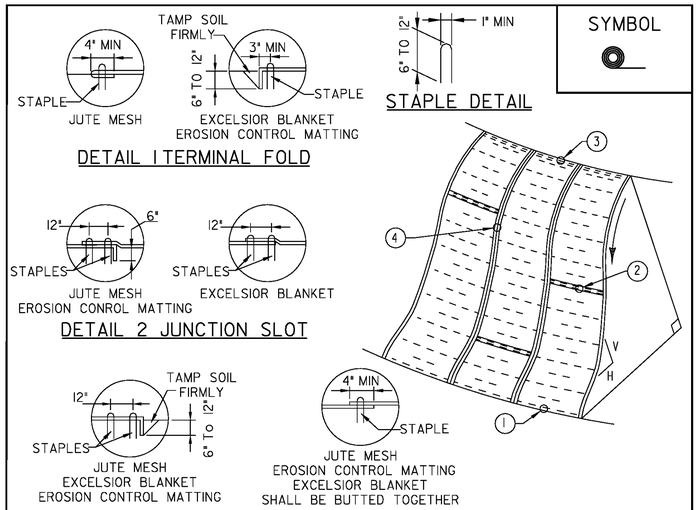


ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT AGENCY OF TRANSPORTATION

TURBIDITY CURTAIN

NOTES:

THIS ITEM SHALL BE PAID FOR UNDER ITEM 649.61 GEOTEXTILE FOR FILTER CURTAIN



CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.

2. APPLY FERTILIZER, LIME AND 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: ILLINOIS USDA-NRCS
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 ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING OR
~~653.21 PERMANENT EROSION MATTING~~

NEW		
APRIL 16, 2007		WHF
REVISIONS		

NOTES:

1. USE 2" TO 3" STONE.

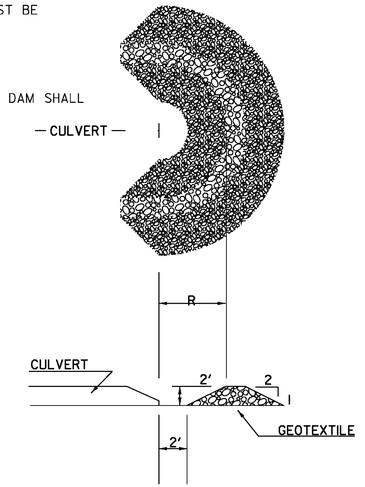
2. PLACE STONE OVER GEOTEXTILE.

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.



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

NOT TO SCALE

TEMPORARY INLET PROTECTION

THIS ITEM SHALL BE PAID UNDER ITEM 653.40, INLET PROTECTION DEVICE, TYPE I.

PROJECT: EAST MONTPELIER		PROJECT NO.: BRF 028-3(36)	
DESIGN FILE NAME: /98b254/str/sb254epscdet.dgn			
IPARM FILE NAME: sb254espscdet2.i		PLOT DATE:	03-FEB-2009
DESIGNED BY:	J. SALVATORI	DRAWN BY:	J. SALVATORI
SQUAD LEADER:	K. HIGGINS	CHECKED BY:	J. LACROIX
EPSC DETAILS #2		SHEET: 50	OF 68

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	COTE, BARBARA G.	18	1+112.00 RT.				INSTALL & MAINTAIN	(P)		WDOE	9/22/2008	EAST MONTPELIER	103	378-379	GUY WIRE & ANCHOR
2A	COTE, MICHAEL B. & ANITA	18,19	1+266.58 RT.	1+269.92 RT.	2.57 SM					WD	9/29/2008	EAST MONTPELIER	103	432-434	27 S.F.±
2B		18,19	1+178.21 RT.	1+264.15 RT.			CONST.	(T)	258.0 SM						INCLUDES EROSION CONTROL & PDF
															2,777 SF.+
			1+197.55 RT				INSTALL & MAINTAIN	(P)							GUY WIRE & ANCHOR
			1+202.58 RT.	1+289.39 RT.			DETOUR	(T)	0.13 HA						TWO WAY VEHICULAR; 0.32 A±
			1+203.35 RT.	1+208.90 RT.			SLOPE	(P)	0.83 SM						9 S.F.±
			1+210.13 RT.				REMOVE & RESET	(T)							IRON PIN
			1+210.16 RT	1+272.58 RT			SLOPE	(P)	152 SM						1636 S.F.+
			1+230.63 RT.				REMOVE & RESET	(T)							IRON PIN
			1+245.87 RT.				REMOVE & RESET	(T)							IRON PIN
			1+256.26 RT.				REMOVE & RESET	(T)							IRON PIN
			1+269.18 RT.				REMOVE & RESET	(T)							IRON PIN
			1+269.74 RT.	1+280.86 RT.			CHANNEL	(P)	102.3 SM						1101 S.F.+
2C		18,19	1+175.00 CL	1+289.39 RT.	0.12 HA		ALL R.T. & I.								HWY. EASE. U.S. RTE. 2 0.30 A+
3A	COTE, DONALD G.	19,20	1+305.76 RT.	1+309.58 RT.	2.2 SM					WD	9/22/2008	EAST MONTPELIER	103	380-382	24 S.F.±
			1+181.50 RT.												MONITOR WELL
			1+279.76 RT.	1+377.10 RT.			DETOUR	(T)	0.18 HA						TWO WAY VEHICULAR; 0.44 A±
			1+294.26 RT.	1+399.19 RT.			CONST.	(T)	399.6 SM						INCLUDES EROSION CONTROL & PDF;
															4,301 S.F.+
			1+294.47 RT.	1+306.01 RT.			CHANNEL	(P)	78.6 SM						846 S.F.+
			1+300.00 RT.	1+335.00 RT.			SLOPE	(P)	157 SM						1,690 S.F.±
			1+335.00 RT.	1+394.70 RT.			SLOPE	(T)	200 SM						2,153 S.F.±
			1+309.55 RT.				REMOVE & RESET	(T)							IRON PIN
			1+374.00 RT.				REMOVE	(T)							DRIVE
			1+423.00 RT.				DRIVE	(T)							4.5M (15') GRAVEL; IN COMMON WITH
															PARECL 11 MM 0419
			1+413.17 RT.	1+417.62 RT.			INSTALL	(T)							PDF & E.C.
			1+424.93 RT.	1+431.78 RT.			INSTALL	(T)							PDF & E.C.
3B		19,20	1+289.39 CL.	1+414.75 RT.	0.09 HA		ALL R T & I								HWY. EASE. US 2; 0.23A±
4A	RUNNALLS, DONALD S. & ROSEMARIE A.	18,19	1+270.41 LT.	1+274.16 LT.	2.2 SM							EAST MONTPELIER			24 S.F. ±
			1+186.36 LT	1+286.00 LT.			CONST.	(T)	295.46 SM						INCLUDES EROSION CONTROL & PDF
															3,180 SF.+
			1+186.36 LT.	1+295.30 LT.			UTILITY	(P)	0.12 HA						.30ACRE+
			1+187.65 LT.	1+190.23 LT			REMOVE & RESET	(T)							3 UNDERGROUND CONDUITS
			1+193.77 LT.	1+282.54 LT.			SLOPE	(P)	0.04 HA						.10 ACRE ±
			1+274.02 LT.	1+288.00 LT.			CHANNEL	(P)	44.8 SM						482 S.F. ±
4B		18,19	1+186.36 CL.	1+293.10 LT.	0.08 HA		ALL R. T. & I.								HWY EASE. U.S. RTE 2 .20 ACRE+

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	16, 19, 20	PARCEL 3 COTE. DEPICT COTE'S 60' ROW OWNED BY	6/16/2008
		FAIRMONT FARMS. ADJUST TAKING OF HWY EASEMENT.	
		CHANGE ENDING STATION OF ALL R.T. & I. FROM 1+435.58 RT.	
		TO 1+414.75 RT. CHANGE AREA FROM 0.11 HA. 0.27 A TO	
		0.09 HA., 0.23 A PER C.O. 9528.	
		MADE BY: BF APPROVED BY: HP	
2	17, 20	PARCEL 11 FAIRMONT FARMS. CREATE NEW PARCEL.	6/16/2008
		THIS PARCEL WILL CONSIST OF DRIVE (T) AT STA. 1+423.00	
		RT., 4.5 M (15') GRAVEL. IN COMMON WITH COTE. INSTALL (T)	
		AT STA. 1+413.17 RT. ~ 1+417.61 RT.; PDF & EC. INSTALL (T)	
		AT STA. 1+424.93 RT. ~ 1+431.87 RT.; PDF & EC.	
		PER C.O. 9529	
		MADE BY: BF APPROVED BY: HP	
		ELECTRONIC FILES TO STRUCTURES	1/15/2009

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: HARRY PETROVS DATE: 02-13-08
CHIEF, PLANS & TITLES

PLOT DATE 1/15/2009

PROJECT NAME: **EAST MONTPELIER**
PROJECT NUMBER: **BRF 028-3(36)**

FILE NAME: 98b254.xls
PROJECT LEADER: K. Higgins
DESIGNED BY: J. LaCroix
R.O.W. SHEET 16 OF 20

PLOT DATE:
DRAWN BY: MR
CHECKED BY: FM
SHEET 51 OF 68

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	
5A	WATSON, BRUCE G. & BARBARA L.	19,20	1+310.01 LT.	1+313.44 LT.	2.4 SM							EAST MONTPELIER			26 S.F. ±
			1+293.10 LT.	1+322.90 LT.			UTILITY	(P)	286.9 SM						3088 S.F. ±
			1+306.92 LT.	1+324.51 LT.			CONST.	(T)	113 SM						INCLUDES EROSION CONTROL & PDF
															1216 S.F.±
			1+309.69 LT.	1+322.39 LT.			SLOPE	(P)	87.6 SM						943 S.F.±
			1+300.71 LT.	1+310.26 LT.			CHANNEL	(P)	103.1 SM						1,110 S.F.±
5B		19	1+293.10 LT.	1+320.48 LT.	206.3 SM										HWY EASE U.S. RTE. 2; 2,221 S. F. ±
5C		20	1+417.62 LT.	1+448.31 LT.	233.4 SM										HWY EASE U.S. RTE. 2; 2,512 S.F.±
			1+435.00 LT.												MONTOR WELL IN COMMON WITH
															PARCEL # 6
6A	NOVOGROSKI, MARK S.	19,20	1+322.42 LT.	1+390.84 LT.			CONST.	(T)	303 SM			EAST MONTPELIER			INCLUDES EROSION CONTROL & PDF
															3262 S.F.±
			1+320.48 LT.	1+360.00 LT.			SLOPE	(P)	231 SM						2487 S.F.±
			1+320.48 LT.	1+417.62 LT.			UTILITY	(P)	0.06 HA						0.15 A ±
			1+338.05 LT.				INSTALL & MAINTAIN	(P)							GUY WIRE & ANCHOR
			1+355.00 LT.	1+382.00 LT.			REMOVE & RESET	(T)							UNDERGROUND ELECTRICAL SERVICE
			1+360.00 LT.	1+385.09 LT.			SLOPE	(T)	90 SM						969 S.F. ±
			1+390.00 LT.				DRIVE	(T)							3.6M (12') GRAVEL MM0417
			1+393.27 LT.	1+400.00 LT.			CONST.	(T)	28 SM						301 S.F.+ INCLUDES EROSION CONTROL
															& PDF
			1+436.00 LT.												MONITOR WELL IN COMMON W/PARCEL 5
6B		19,20	1+320.48 CL.	1+417.62 CL.	740.0 SM		ALL R T & I								HWY EASE U.S. RTE. 2; 7,966 S.F. ±
7	COTE, DONALD G. & BARBARA G.	18	1+106.66 LT.	1+186.85 LT.			UTILITY	(P)	.04 HA	WDOE	9/22/2008	EAST MONTPELIER	103	383-384	.10 ACRE
			1+119.33 LT.												MONTOR WELL
			1+182.12LT	1+186.36LT			SLOPE	(T)	1.3SM						14 SF+
			1+183.25 LT.	1+186.36 LT.			INSTALL	(T)							PDF INCLUDES EROSION CONTROL
8	GREEN MOUNTAIN POWER CORP.														UTILITY
9	VERIZON NEW ENGLAND INC.														UTILITY
10	COMCAST OF CONN. ETC. LLC.														UTILITY
11	FAIRMONT FARMS INC.	20	1+423.00RT.				DRIVE	(T)		GTR	9/26/2008	EAST MONTPELIER	103	407-410	4.5M (15') GRAVEL; IN COMMON WITH
															PARCEL 3A MM0419
			1+413.17 RT.	1+417.61RT.			INSTALL	(T)							PDF & EC
			1+424.93RT.	1+431.78RT.			INSTALL	(T)							PDF & EC

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

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)

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: HARRY PETROVS DATE: 02-13-08
CHIEF, PLANS & TITLES

PLOT DATE 1/15/2009

PROJECT NAME: **EAST MONTPELIER**
PROJECT NUMBER: **BRF 028-3(36)**

FILE NAME: **98b254.xls**
PROJECT LEADER: **K. Higgins**
DESIGNED BY: **J. LaCroix**
R.O.W. SHEET 17 OF 20

PLOT DATE:
DRAWN BY: **MR**
CHECKED BY: **FM**
SHEET **52** OF **68**

Metric

N/F
COTE, DONALD G.

COTE, DONALD G.
& BARBARA G.

RUNNALLS,
DONALD S. &
ROSEMARIE A.

COTE, BARBARA G.
(1)

COTE, MICHAEL B.
& ANITA

COTE, DONALD G.

MONITOR WELL

Benchmark
Chis. Square
So. end conc
retaining wall
Elev = 210.408

CURVE DATA
△ = 11°-32'-24.3" Lt.
R = 400.000
T = 40.419
L = 80.565
E = 2.037
BANK = 0.066

APPROXIMATE AERIAL RELOCATION
ROUTE BY GREEN MOUNTAIN
POWER AND VERIZON

CONSTRUCTION
LIMITS

3/3" PVC
Underground
Conduits

60' ROW FOR
RUNNALLS

REROUTE 3 CONDUITS
TO NEW POLE AT
197.5 LT.
(DONE BY OTHERS)

NEW POLE
1+197.5
6.7 M LT.

R&R (T)

INSTALL (T)
SR (T)

SR (P)

UE (P)

AERIAL E&T

[84.05M(275.75')]

[103.02M(338.99')]P

11.36M(37.27)

1+186.36
CL

1+175.00 CL

7.54M(24.75')

23.14M(75.91')

CONST. (T)

INSTALL
& MAINT. (P)

1+198.14
7.54M (24.75') RT.

1+175.00
7.54m (24.75') RT.

BEGIN APPROACH
1+175.000

PI 1+163.193 BK =
1+162.920 AHD

DO NOT
DISTURB
WALL

Stone
Wall
(DO NOT
DISTURB)

CONSTRUCTION
LIMITS
NOTE: DETOU
SPEED

BM
Concrete Bound
With Disk "A96005
Elev. 209.409

Small
Maple

Small
White
Birch

Lilac

Commercial
Building
(2B)

26A - ADAMS
LOAMY FINE SAND
0-3% SLOPES

Well

MONITOR

Septic Leach Field
(approximate location)

DETOUR POT 4+000.000
ML POC 1+128.508, 0.172 Lt.

Underground
Fuel Tank

Conc. Wall

ornamental
lighted gas pump

Garage

(7)

Gravel
Drive

Paved
Drive

Conc.
Steps

Paved
Parking

Waterline Location Approx.

PC 1+122.774

PT 1+203.339

EXISTING
RIGHT OF WAY

NEW POLE
1+110.5
7.0 M LT.

NEW POLE
1+111.5
7.0 M RT.

INSTALL
MAINT. (P)

NEW GUY
1+112.0
14.0 M RT.

Guy
Pole
w/ Light
59-03
183s

Pole w/
Light
59-02

Guy 234s

Underground
Fuel Tank
(exact location
unknown)

Pole w/
Light
59-01

Guy

Sign

Fence

Iron
Pin

Guide
Post

Stone
Headwall

Small
Poplar

Small
White
Birch

Field

Lawn

Medium
Pine

Medium
Mtn.

Mlemarker

US2 TO MONTPELIER

S76°46'53"E

1+080

1+100

1+120

1+140

1+160

1+180

1+200

4+080

(4A)

(4B)

(2C)

N

VT STATE PLANE GRID

MATCHLINE 1+210.000
TO ROW SHEET 19 OF 20

BEGIN R.O.W. PROJECT

BRF 028-3(36)SC 1+106.66
7.54M (24.75') LT.

FOR EROSION CONTROL DETAILS
SEE ROW SHEET 12 & 15 OF 20

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.

COLD PLANING, BITUMINOUS PAVEMENT
1+175 to 1+195

REMOVAL AND DISPOSAL
OF EXISTING GUARDRAIL
1+200.4 Lt. - 1+210 Lt.
1+204.1 Rt. - 1+210 Rt.

BOX BEAM GUARDRAIL
1+188.43 Rt. to 1+210.00 Rt.
1+191.82 Lt. to 1+210.00 Lt.

SLOPE STABILIZATION W/ STONE FILL, TYPE II
1+206 Rt. to 1+210 Rt.

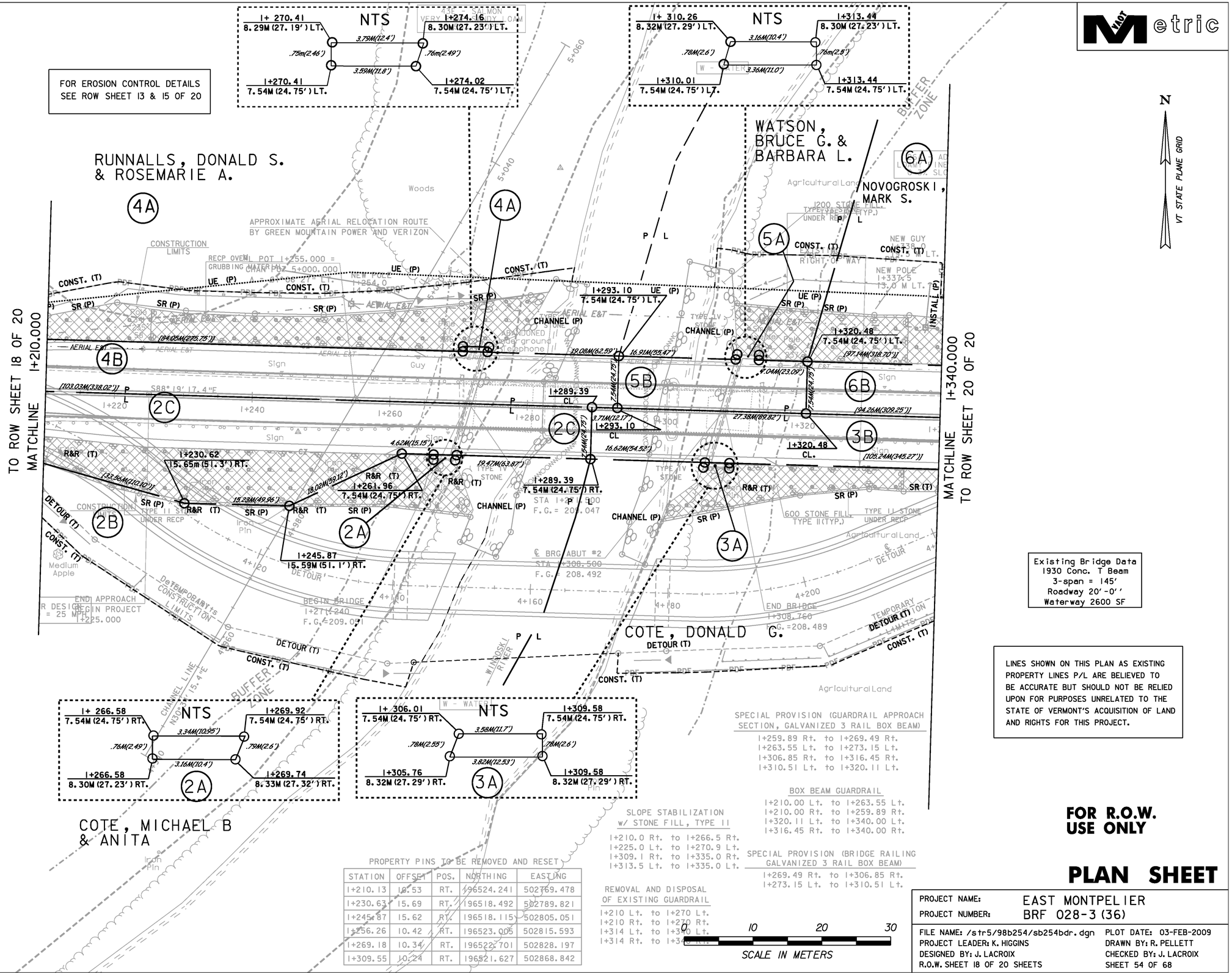
FOR R.O.W.
USE ONLY

0 10 20 30
SCALE IN METERS

PLAN SHEET

PROJECT NAME:	EAST MONTPELIER
PROJECT NUMBER:	BRF 028-3(36)

FILE NAME: /str5/98b254/sb254bdr.dgn	PLOT DATE: 03-FEB-2009
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
ROW SHEET 18 OF 20 SHEETS	SHEET 53 OF 68



PROPERTY PINS TO BE REMOVED AND RESET

STATION	OFFSET	POS.	NORTHING	EASTING
I+210.13	10.53	RT.	196524.241	502769.478
I+230.63	15.69	RT.	196518.492	502789.821
I+245.87	15.62	RT.	196518.115	502805.051
I+256.26	10.42	RT.	196523.005	502815.593
I+269.18	10.34	RT.	196522.701	502828.197
I+309.55	10.24	RT.	196521.627	502868.842

FOR R.O.W. USE ONLY

PLAN SHEET

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: BRF 028-3(36)

FILE NAME: /str5/98b254/sb254bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
R.O.W. SHEET 18 OF 20 SHEETS

PLOT DATE: 03-FEB-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 54 OF 68

VTRANS Metric

N
VT STATE PLANE GRID

TO ROW SHEET 19 OF 20
I+340.000
MATCHLINE

NOVOGROSKI, MARK S.
Agricultural Land

NOVOGROSKI, MARK S.

WATSON, BRUCE G. & BARBARA L.

COTE, DONALD G.

FAIRMONT FARMS, INC.

MONITOR WELL

Iron Pipe
Medium Pine
House
Woods
Medium Maple
Gravel Drive
Satellite Dish
Hedge
Medium Spruce
Small Spruce
Underground Telephone
Pole 52 241
Guy
Mailbox
Sign
Milemarker
Iron Pin
US2 TO PLAINFIELD

R & R (T) UE Underground Services

APPROXIMATE AERIAL RELOCATION ROUTE BY GREEN MOUNTAIN POWER AND VERIZON

CONSTRUCTION LIMITS

SR (P)
UE (P)
CONST. (T)
SR (T)
DRIVE (T)
NEW PUSH BRACE POLE I+396.0 LT.
NEW POLE I+396.0 7.0 M LT.
Pole 54 239
Pole 240 53
Stump
Brush
AERIAL E&T
[97.14M(318.70')]
[94.264M(309.25')]
[105.24M(345.27')]
REMOVE (T)
INSTALL (T)
DETOUR (T)
PDF
P L

I+414.75 7.54M (24.75') RT.
I+417.62 7.54M (24.75') LT.
I+448.31 7.54M (24.75') LT.
2.87M (9.41')
I+414.75 CL.
I+417.62 CL
S88° 19' 17" E
30.69M(100.68')
17.71M(100.75')
I+448.31 CL

60' ROW DONALD COTE OR ASSIGNS
60' RIGHT OF WAY
EXISTING RIGHT OF WAY

END PROJECT BEGIN APPROACH I+350.000
END APPROACH I+400.000

26A - ADAMS LOAMY FINE SAND 0-3% SLOPES

Agricultural Land
450 x 10m OPTION PIPE WITH ENDS AT INLET AND OUTLET

6A 6B 3B 3A 5C 11

END ROW PROJECT

BRF 028-3(36) SC I+448.31 CL

COLD PLANING
I+380 to I+400

REMOVAL AND DISPOSAL OF EXISTING GUARDRAIL
I+340 Rt. - I+368 Rt.
I+340 Lt. - I+383 Lt.

BOX BEAM GUARDRAIL
I+340.00 Lt. to I+384.82 Lt.
I+340.00 Rt. to I+366.41 Rt.

CONSTRUCT GRAVEL DRIVE W/ 150Ω PAVED APRON
I+390.0 Lt. - GRAVEL
I+423.0 Rt. - GRAVEL (GRAVEL DRIVE SHALL BE CONSTRUCTED PRIOR TO TEMPORARY DETOUR)

REMOVE DRIVE
I+374 Rt.

FOR EROSION CONTROL DETAILS SEE ROW SHEET 14 & 15 OF 20

FOR R.O.W. USE ONLY

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.

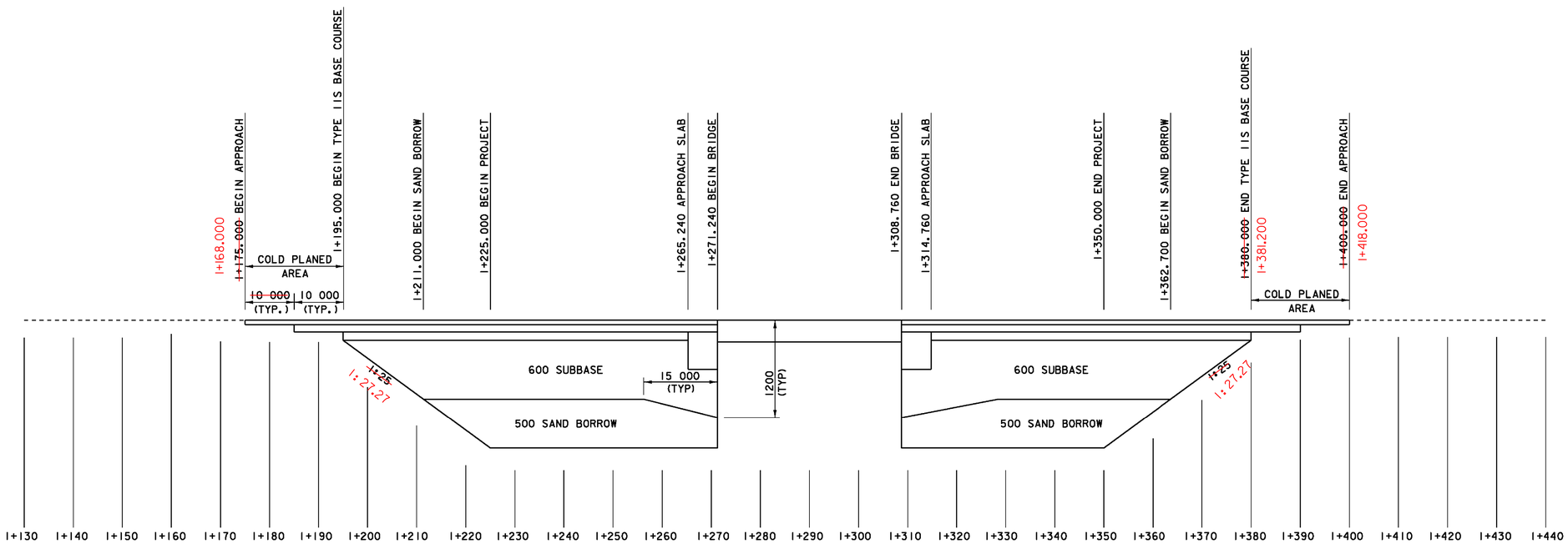
0 10 20 30
SCALE IN METERS

PLAN SHEET

PROJECT NAME: EAST MONTPELIER
PROJECT NUMBER: BRF 028-3(36)

FILE NAME: /str5/98b254/sb254bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
R.O.W. SHEET 20 OF 20 SHEETS

PLOT DATE: 03-FEB-2009
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 55 OF 68



MATERIAL TRANSITION DETAIL

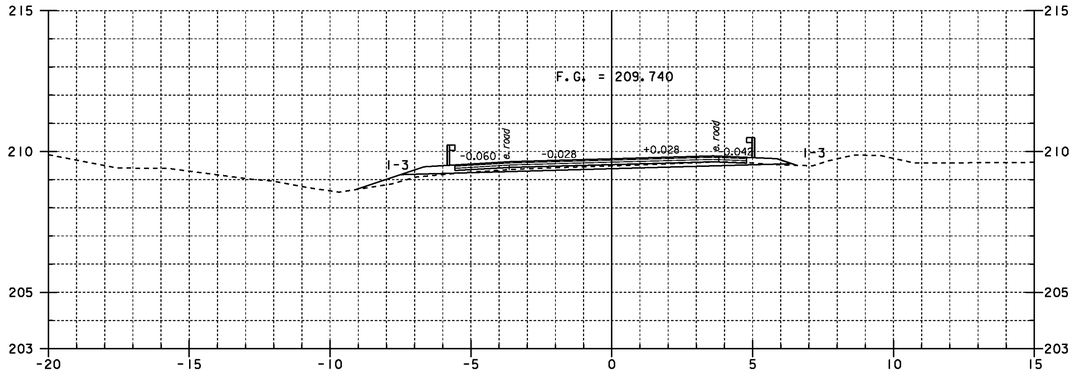
NOTE: SEE EARTHWORK TYPICAL FOR AREA AROUND BRIDGE

* DEPENDING ON THE LIMITS OF CONCRETE PAVEMENT REMOVAL, TYPE IIS BASE COURSE AND SUBBASE MAY NEED TO BE EXTENDED TO ESTABLISH PROPOSED FINISH GRADE

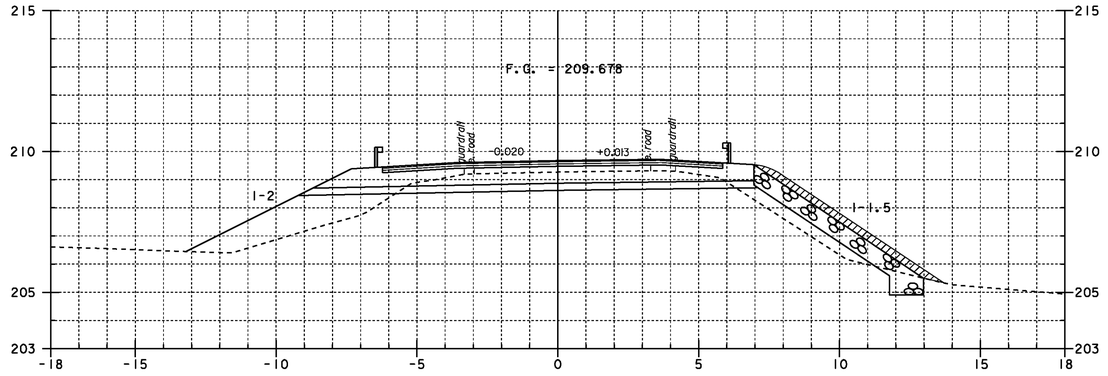
NOT TO SCALE

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254std.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MATERIAL TRANSITION DETAILS	SHEET: 56 OF 68

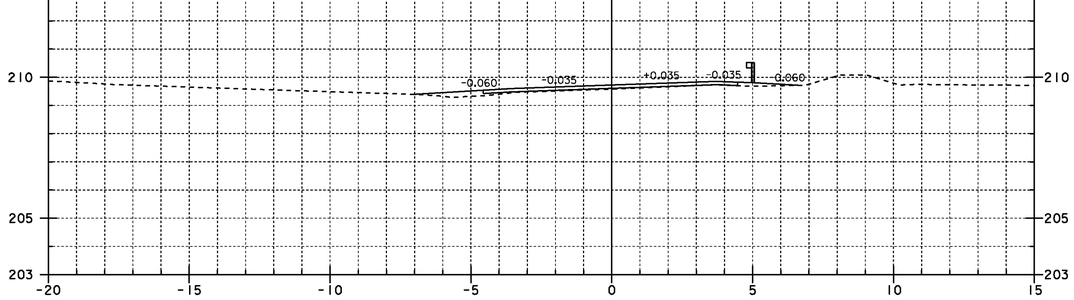
VTrans Metric



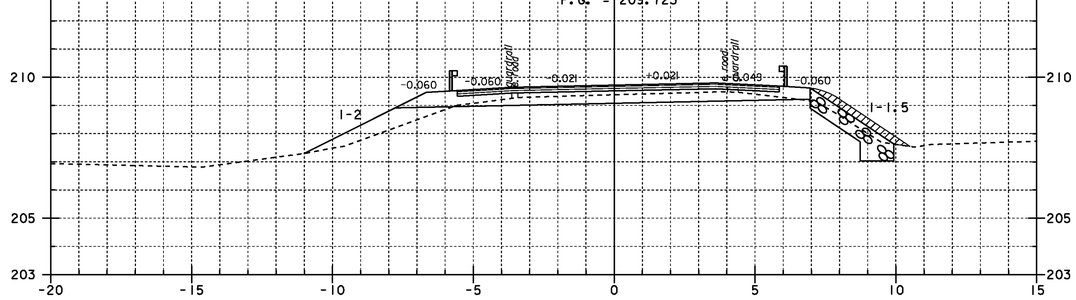
I+200



I+220

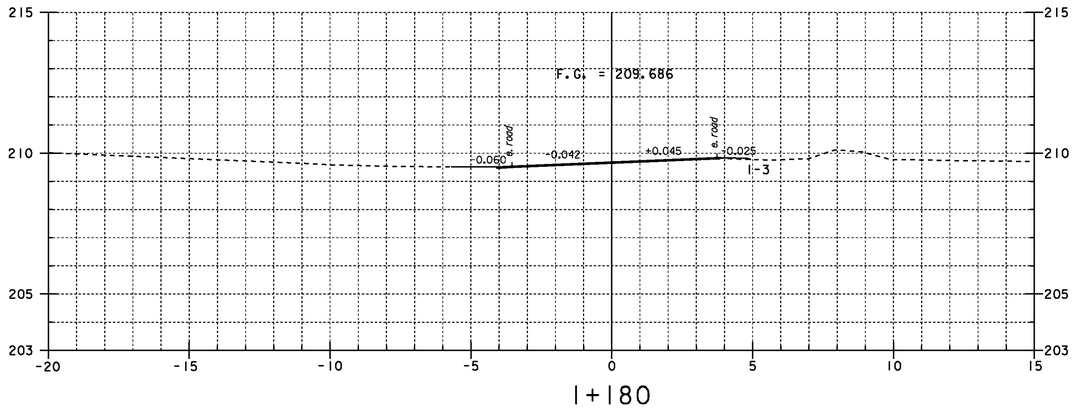


I+190

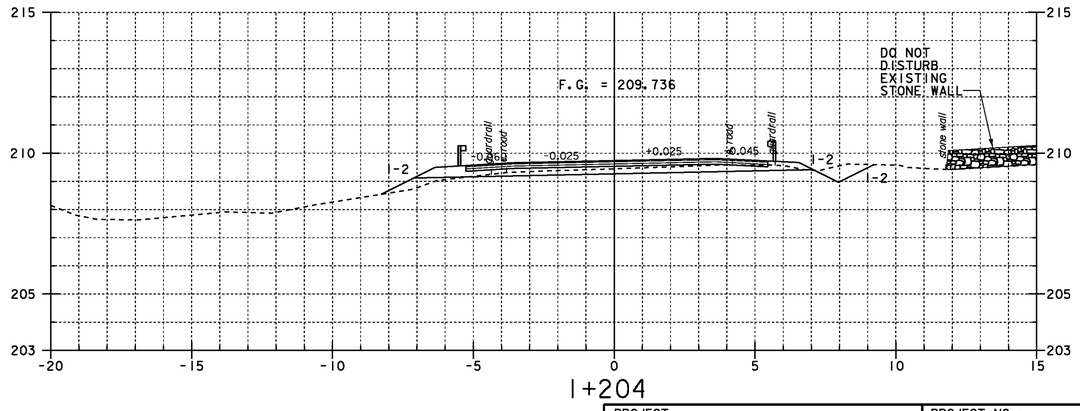


I+210

I+206.0 Rt.
Begin Slope Stabilization with
Stone Fill, Type II with
300 Grubbing Material.



I+180

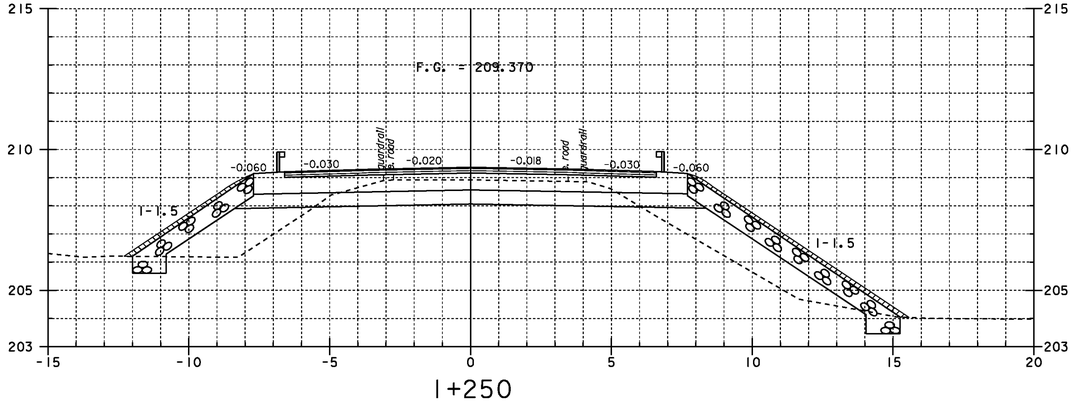


I+204

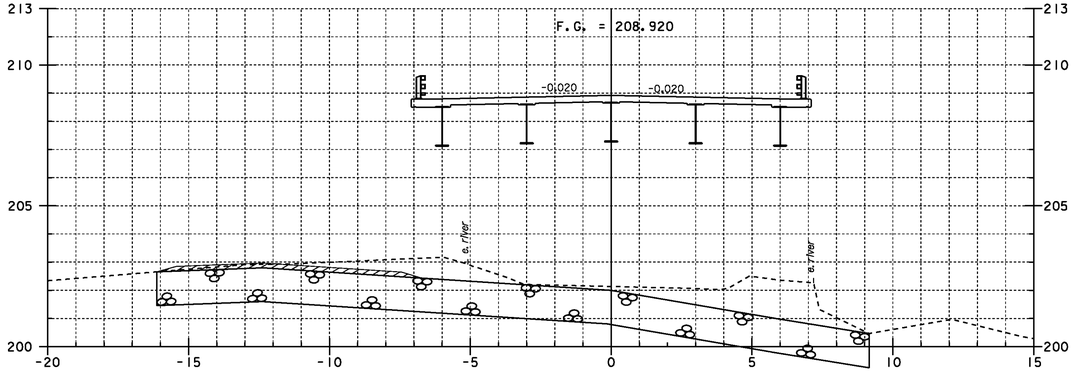
I+175
BEGIN
APPROACH

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x3.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #1	SHEET: 57 OF 68

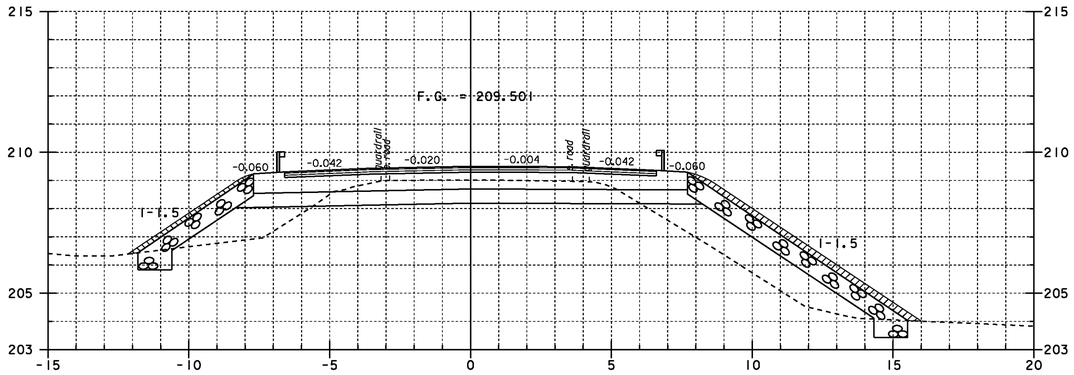


1+250

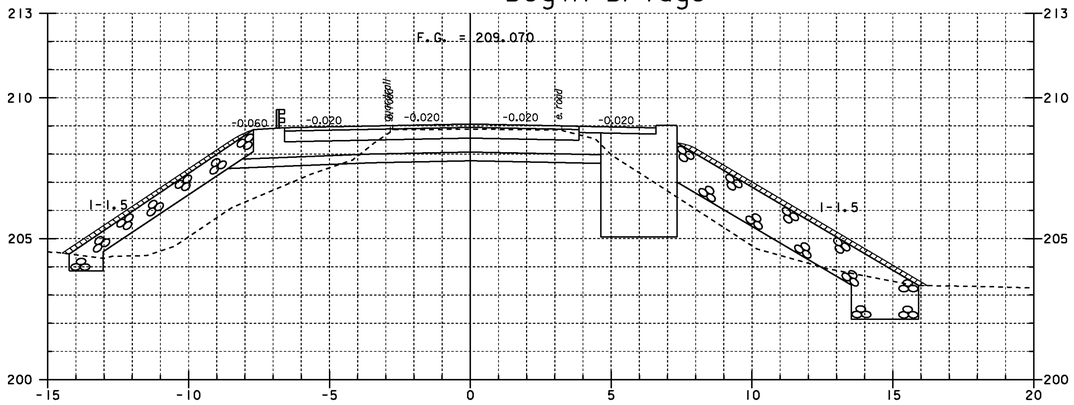


1+280

1+271.240
Begin Bridge



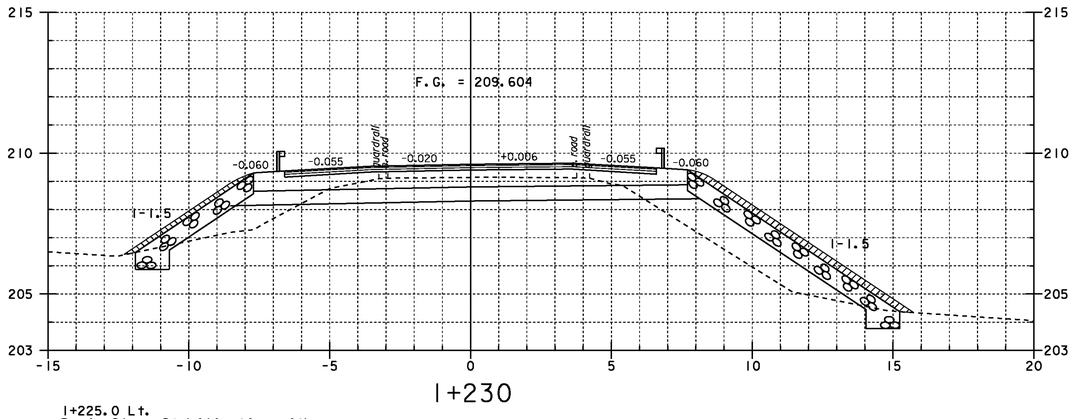
1+240



1+270

1+270.9 Lt.
End Slope Stabilization
with Stone Fill, type II
Begin Stone Fill, type IV.
See Layout

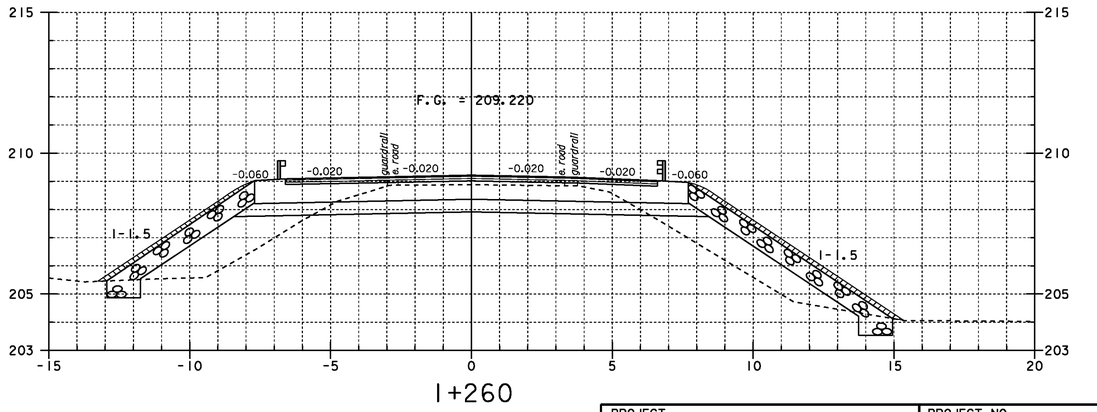
1+266.5 Rt.
End Slope Stabilization
with Stone Fill, type II
Begin Stone Fill, type IV.
See Layout



1+230

1+225.0 Lt.
Begin Slope Stabilization with
Stone Fill, Type II with
300 Grubbing Material.

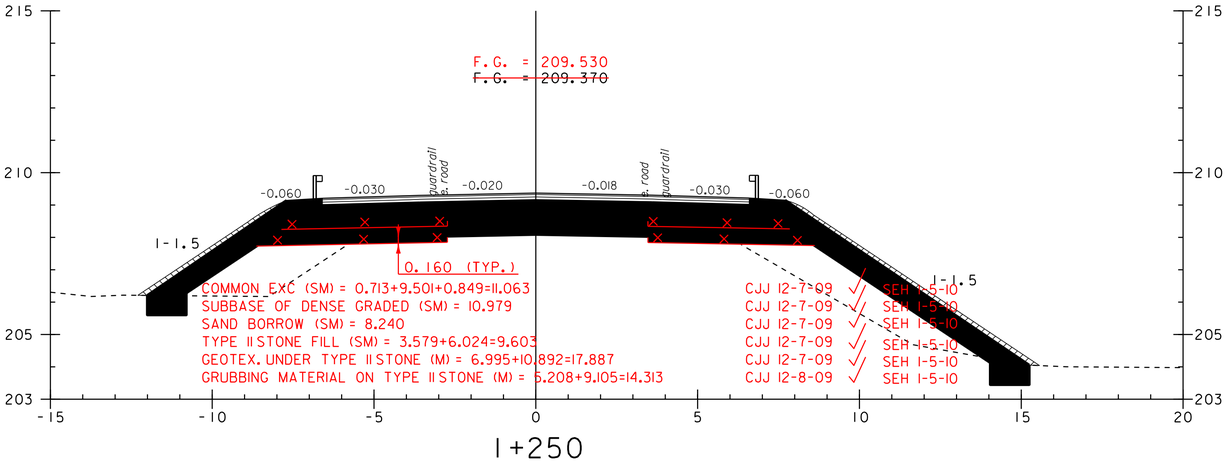
1+225
BEGIN
PROJECT



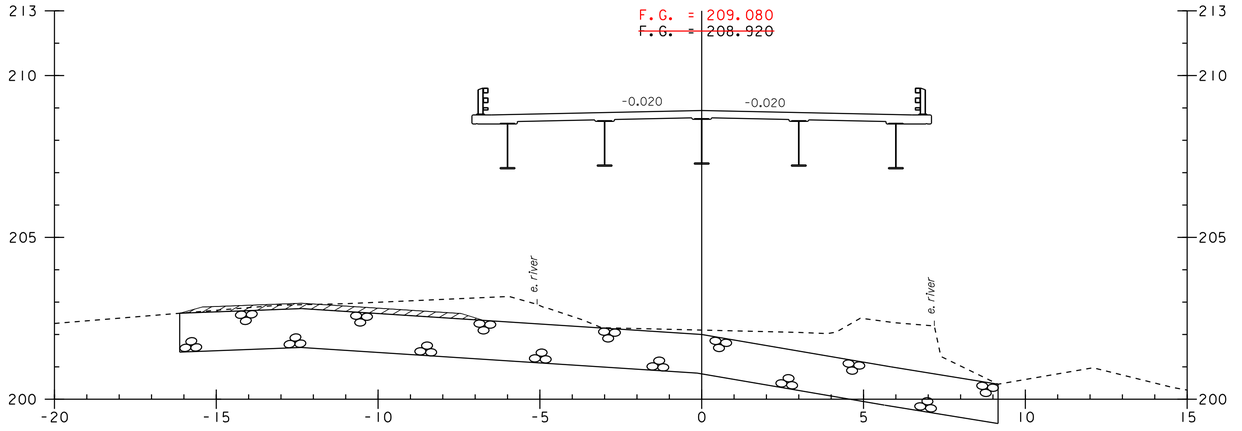
1+260

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x4.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #2	SHEET: 58 OF 68

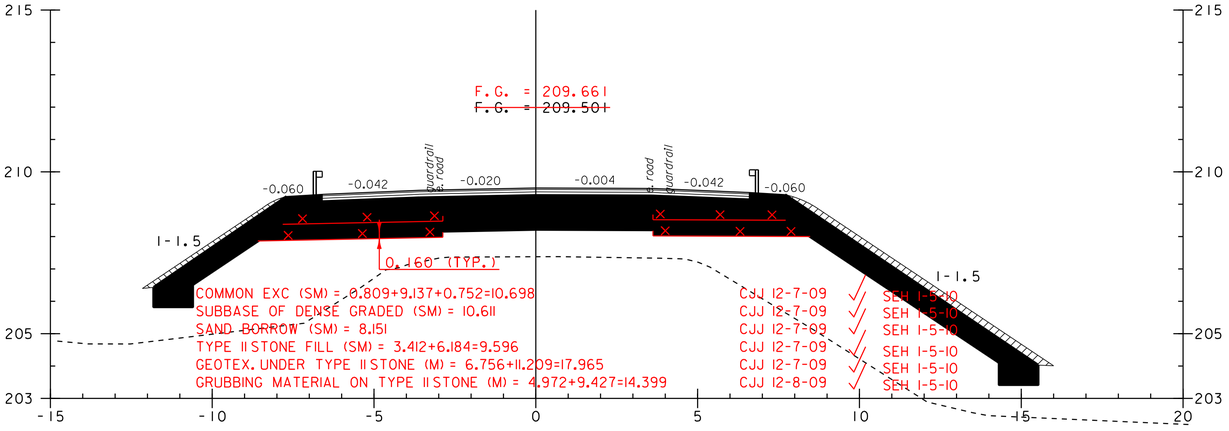


1+250

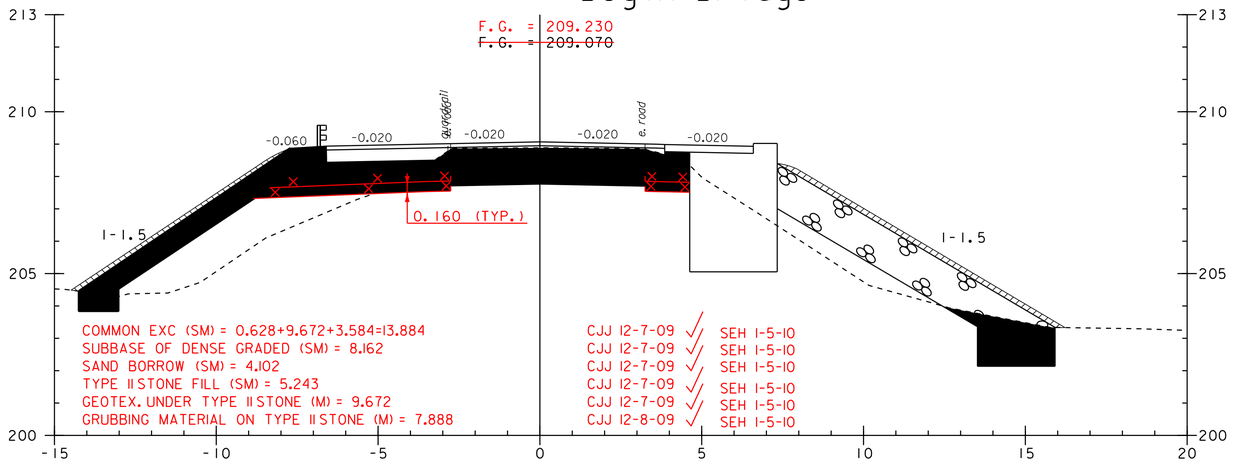


1+280

1+271.240
Begin Bridge



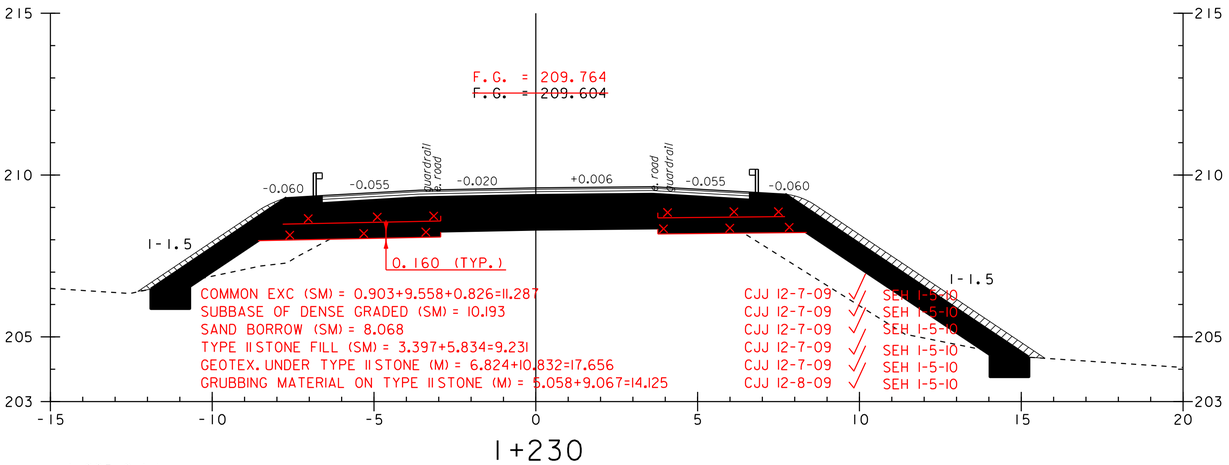
1+240



1+270

1+270.9 Lt.
End Slope Stabilization
with Stone Fill, type II
Begin Stone Fill, type IV.
See Layout

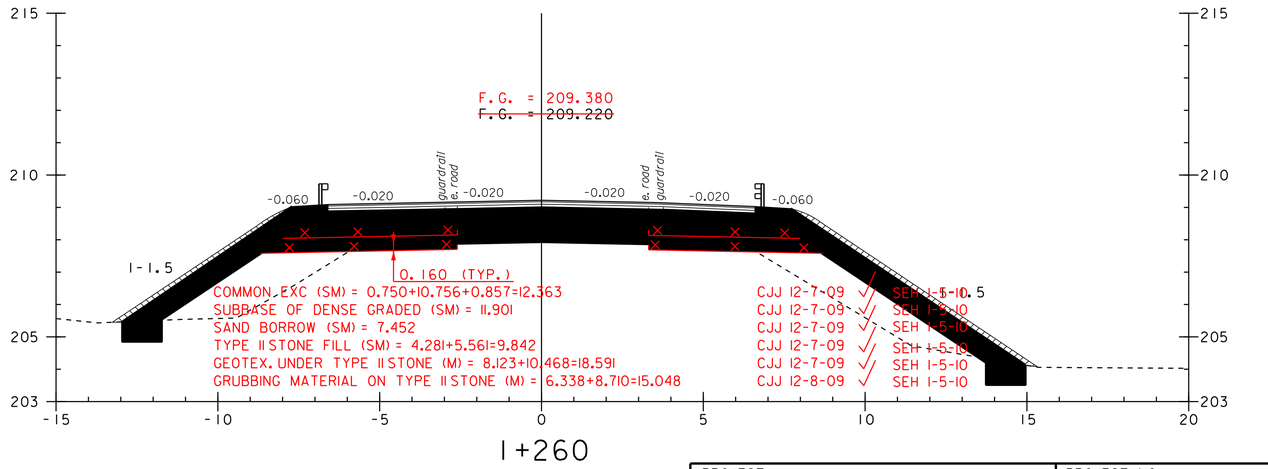
1+266.5 Rt.
End Slope Stabilization
with Stone Fill, type II
Begin Stone Fill, type IV.
See Layout



1+230

1+225.0 Lt.
Begin Slope Stabilization with
Stone Fill, Type II with
300 Grubbing Material.

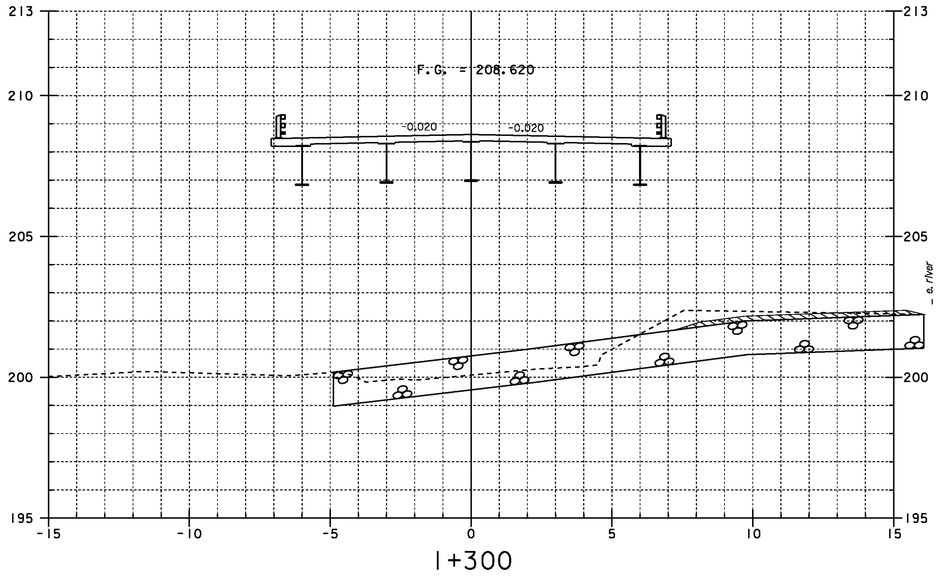
1+225
BEGIN
PROJECT



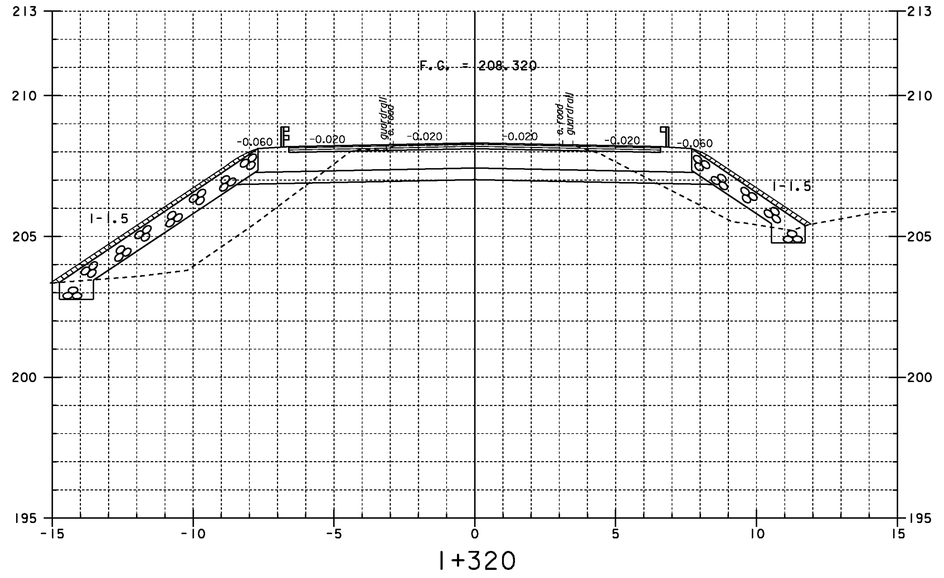
1+260

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x4.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #2	SHEET:$S#$ OF $T#$

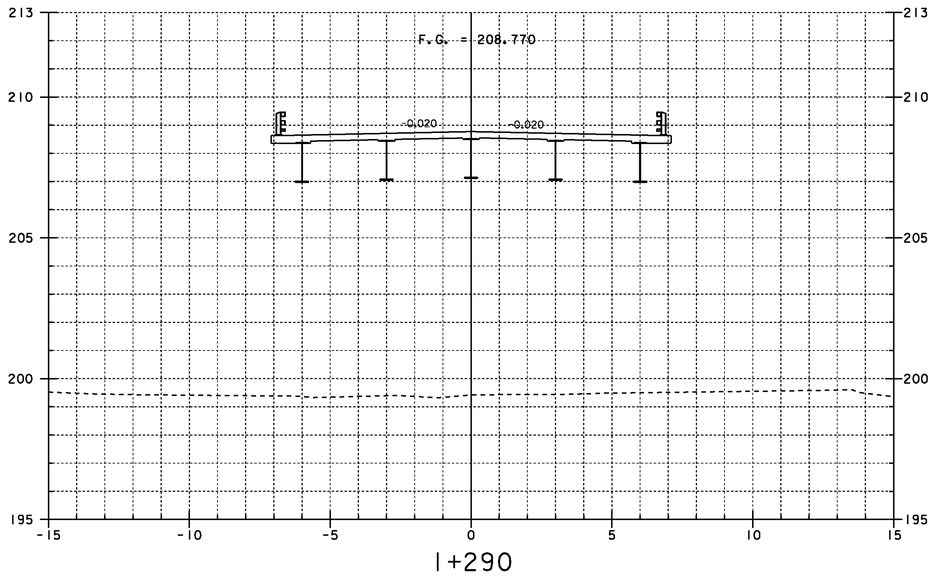


1+300

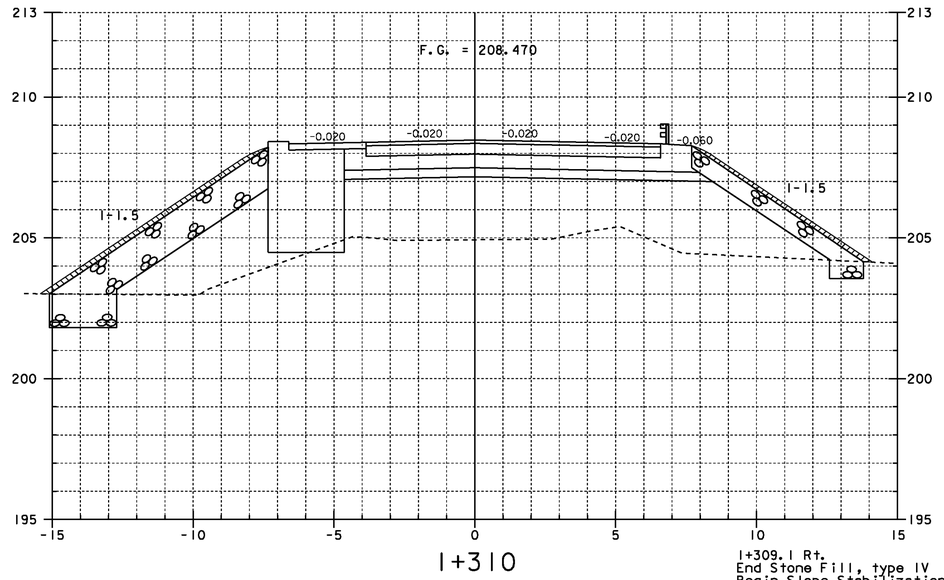


1+320

1+313.5 Lt.
End Stone Fill, type IV
Begin Slope Stabilization
with Stone Fill, type II
See Layout



1+290



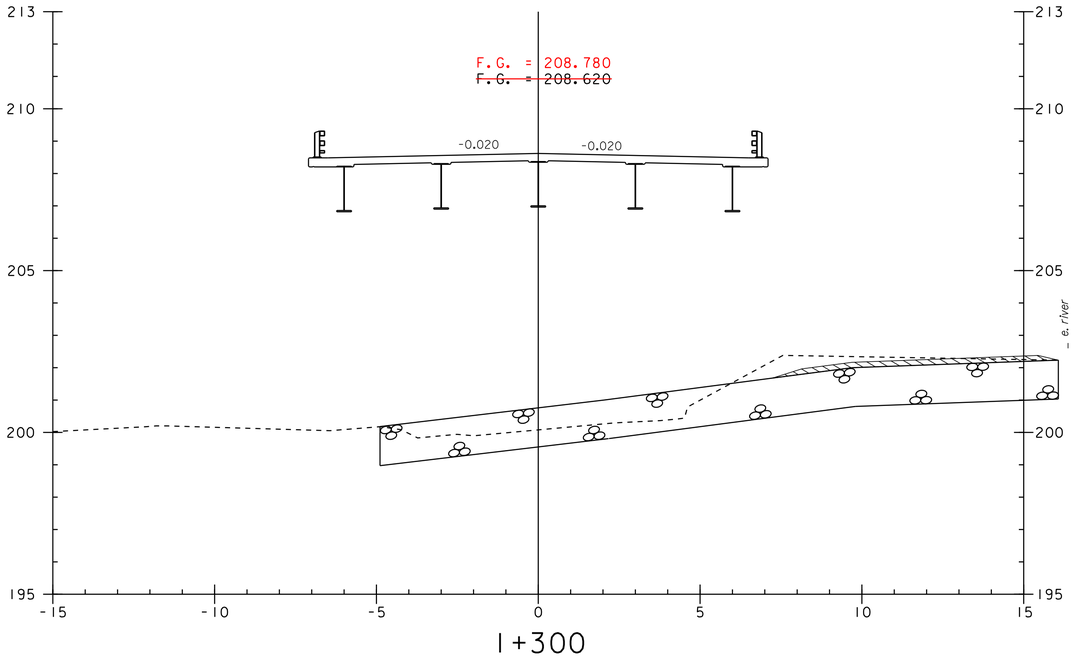
1+310

1+309.1 Rt.
End Stone Fill, type IV
Begin Slope Stabilization
with Stone Fill, type II
See Layout

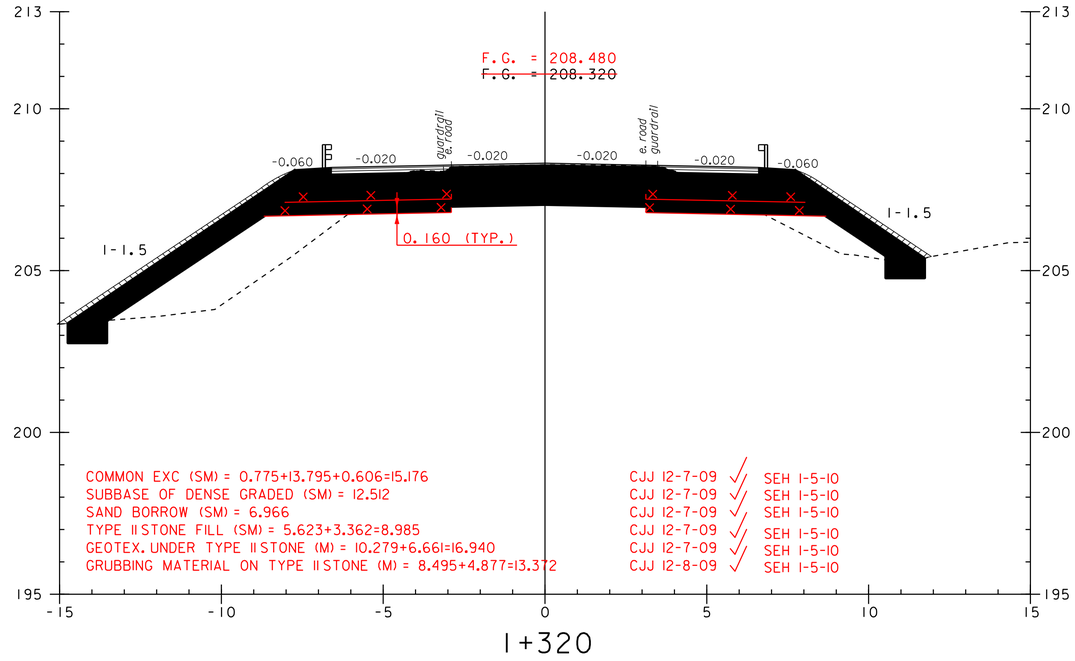
1+308.760
End Bridge

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x5.1	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #3	SHEET: 59 OF 68



1+300

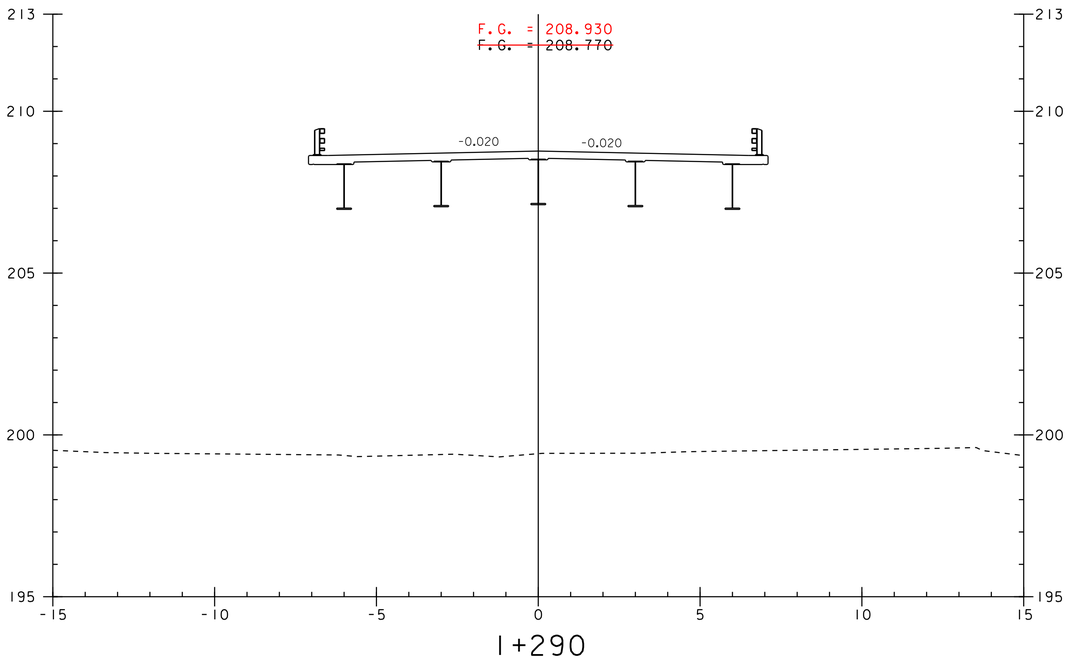


COMMON EXC (SM) = 0.775+13.795+0.606=15.176
SUBBASE OF DENSE GRADED (SM) = 12.512
SAND BORROW (SM) = 6.966
TYPE II STONE FILL (SM) = 5.623+3.362=8.985
GEOTEX. UNDER TYPE II STONE (M) = 10.279+6.661=16.940
GRUBBING MATERIAL ON TYPE II STONE (M) = 8.495+4.877=13.372

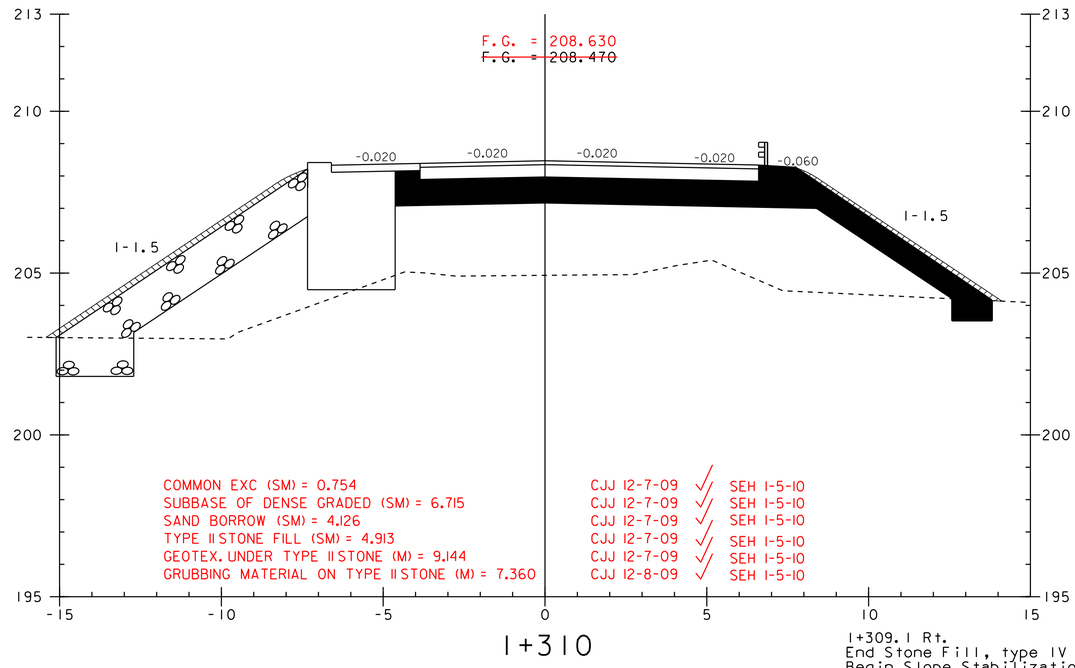
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-8-09 ✓ SEH 1-5-10

1+320

1+313.5 Lt.
End Stone Fill, type IV
Begin Slope Stabilization
with Stone Fill, type II
See Layout



1+290



COMMON EXC (SM) = 0.754
SUBBASE OF DENSE GRADED (SM) = 6.715
SAND BORROW (SM) = 4.126
TYPE II STONE FILL (SM) = 4.913
GEOTEX. UNDER TYPE II STONE (M) = 9.144
GRUBBING MATERIAL ON TYPE II STONE (M) = 7.360

CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-7-09 ✓ SEH 1-5-10
CJJ 12-8-09 ✓ SEH 1-5-10

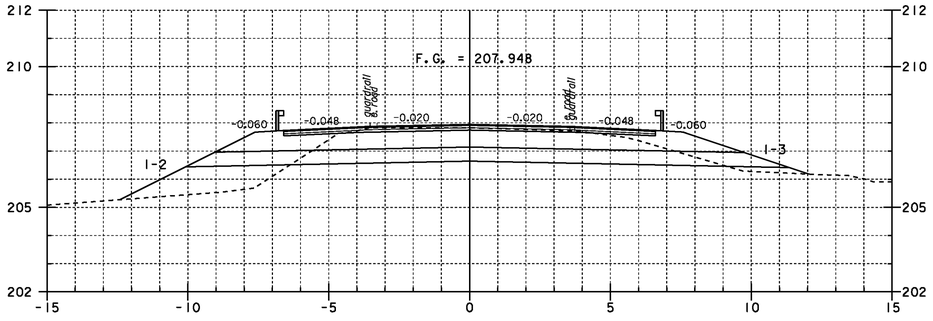
1+310

1+309.1 Rt.
End Stone Fill, type IV
Begin Slope Stabilization
with Stone Fill, type II
See Layout

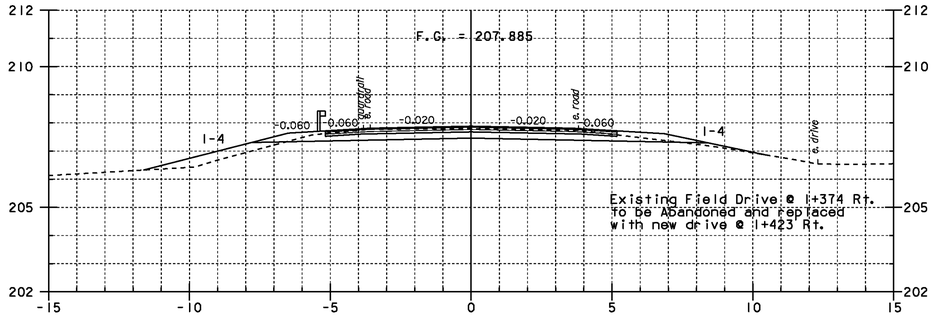
1+308.760
End Bridge

0 2 4 6 8 10
SCALE 1 : 100

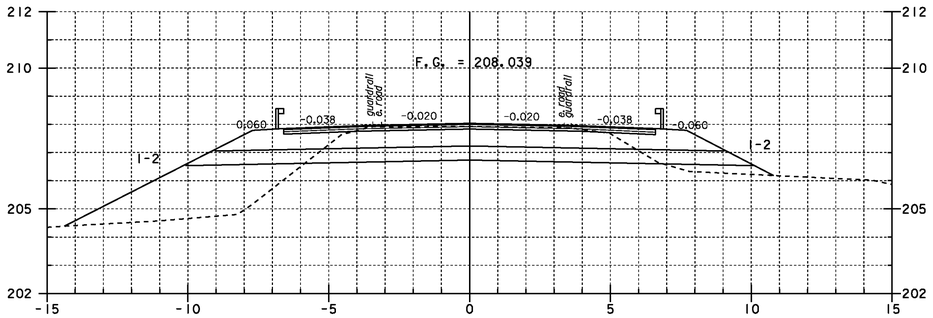
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #3	SHEET:$S#$ OF $T#$



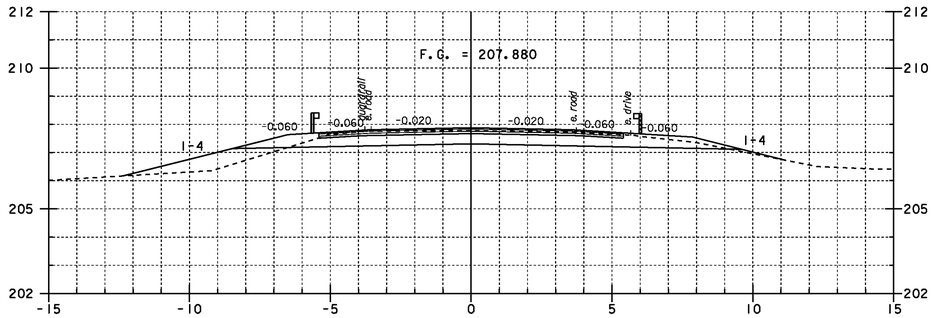
1+350
END
PROJECT



1+374



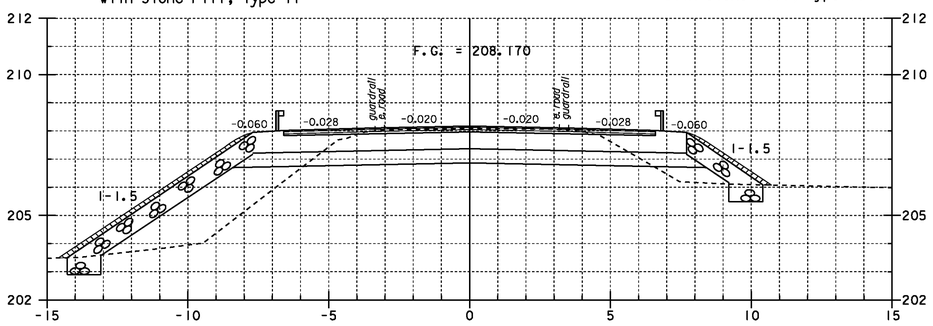
1+340



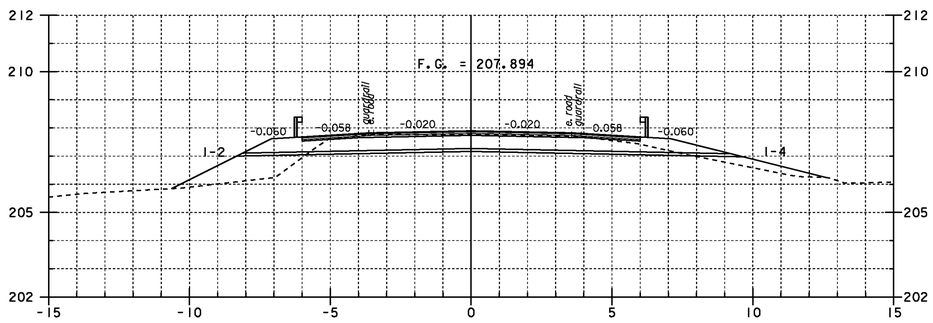
1+370

1+335.0 Lt.
End Slope Stabilization
with Stone Fill, type II

1+335.0 Rt.
End Slope Stabilization
with Stone Fill, type II



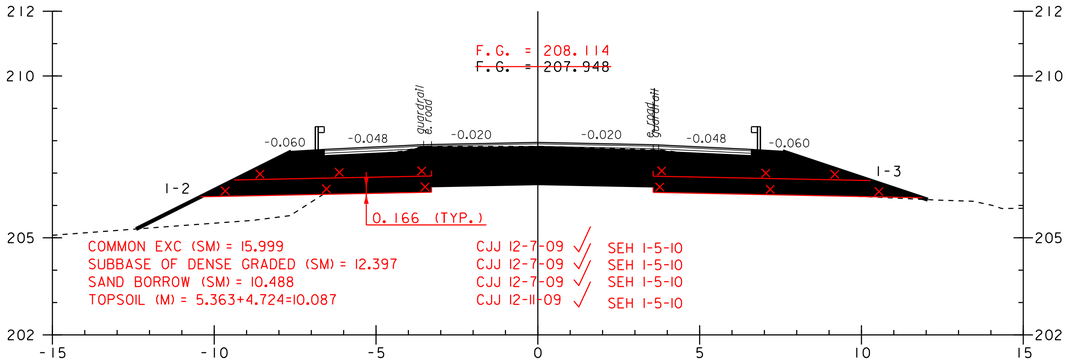
1+330



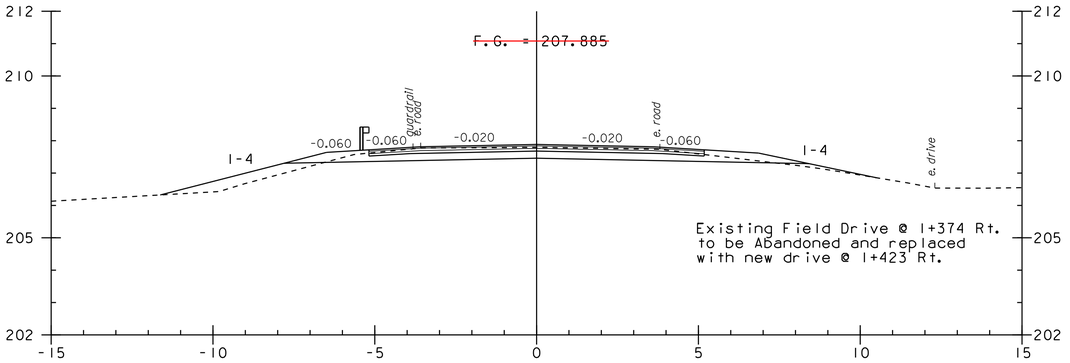
1+360

0 2 4 6 8 10
SCALE 1 : 100

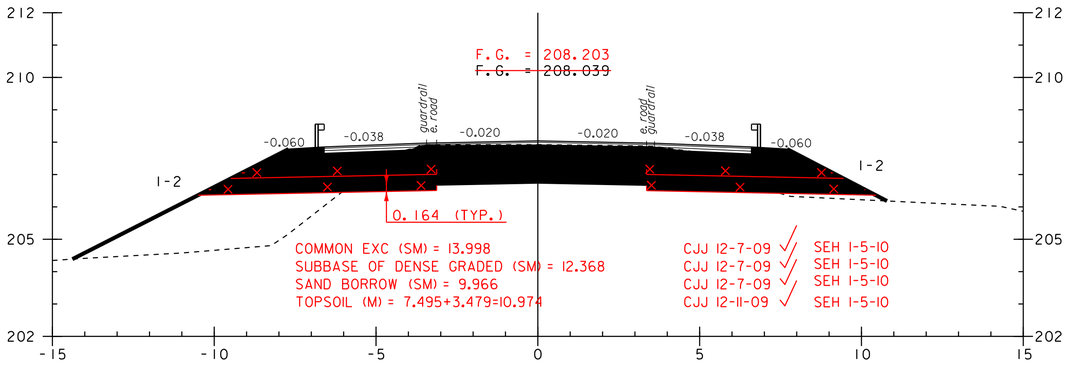
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x6.1	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #4	SHEET: 60 OF 68



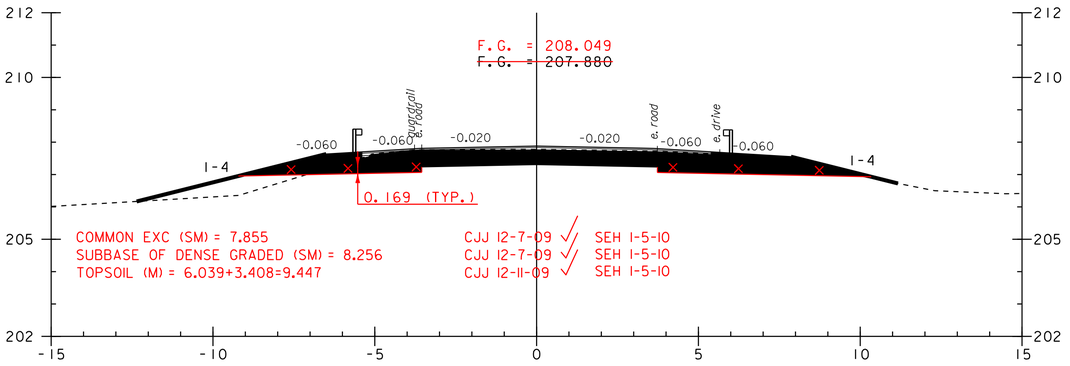
1+350
END
PROJECT



1+374



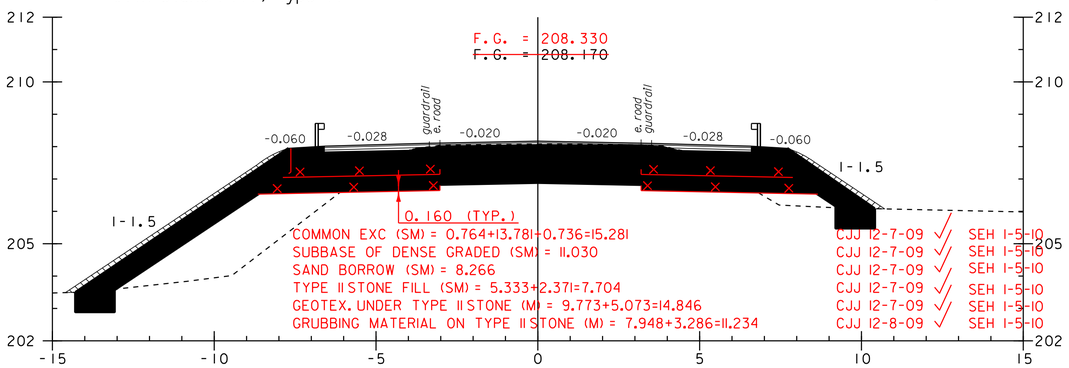
1+340



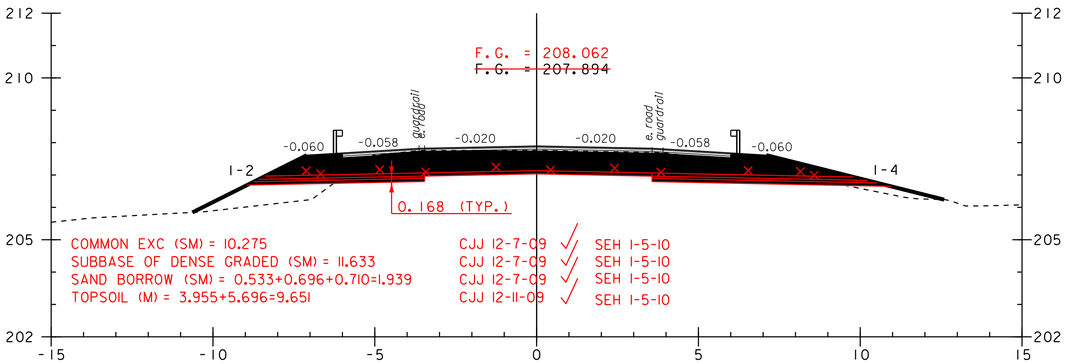
1+370

1+335.0 Lt.
End Slope Stabilization
with Stone Fill, type II

1+335.0 Rt.
End Slope Stabilization
with Stone Fill, type II



1+330



1+360

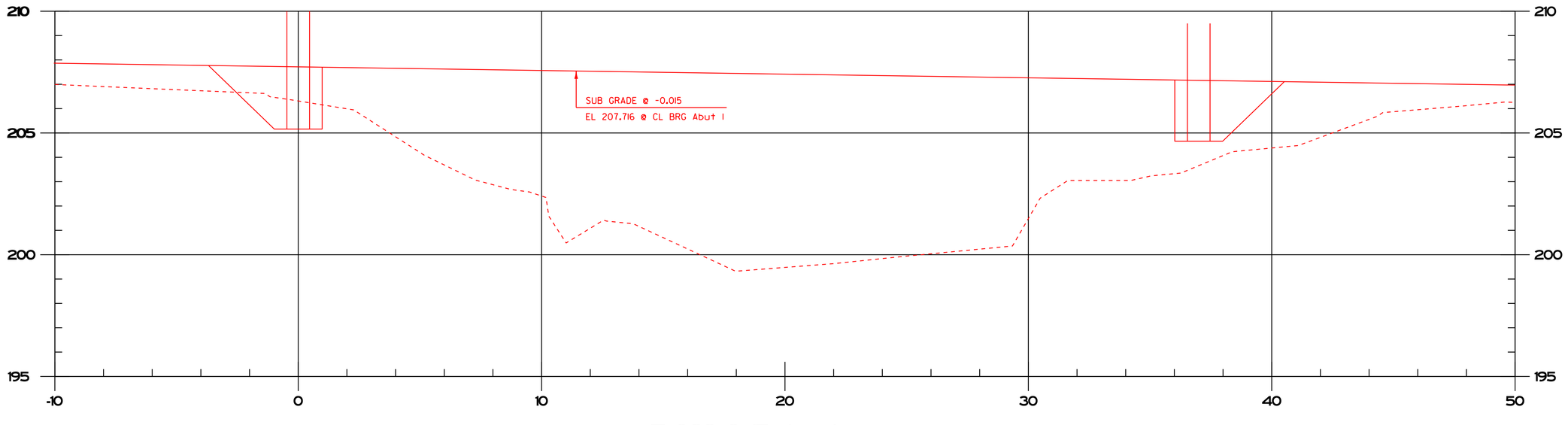
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x6.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

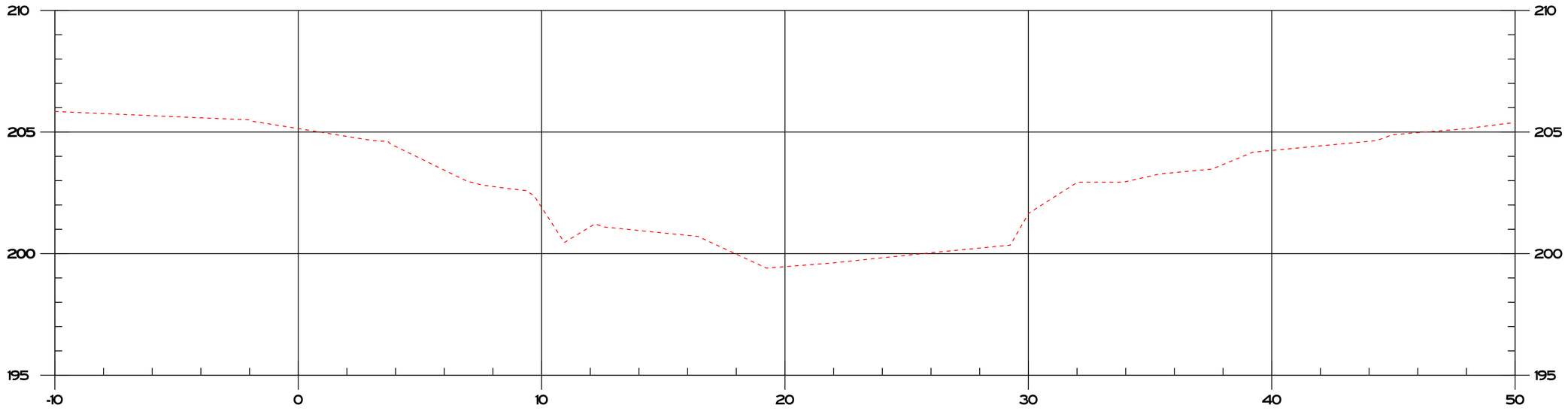
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.804 CJJ 12-3-09
STRUCTURE EXC. (SM) = 3.364 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. = 4.440 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



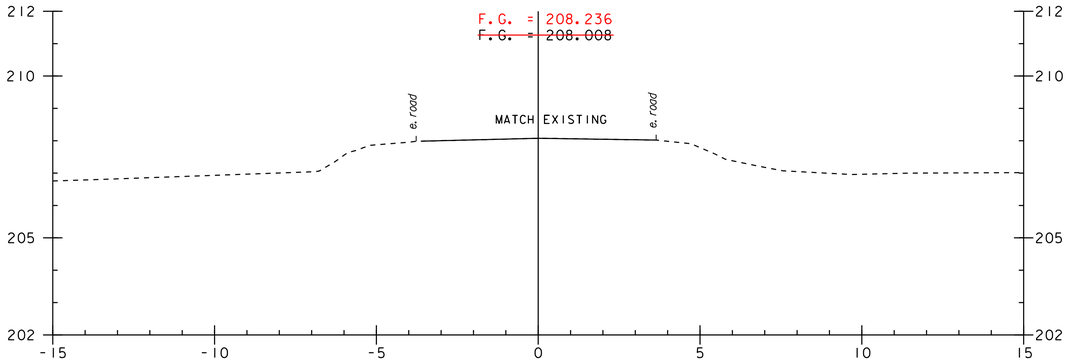
7+022 @ 15 deg skew



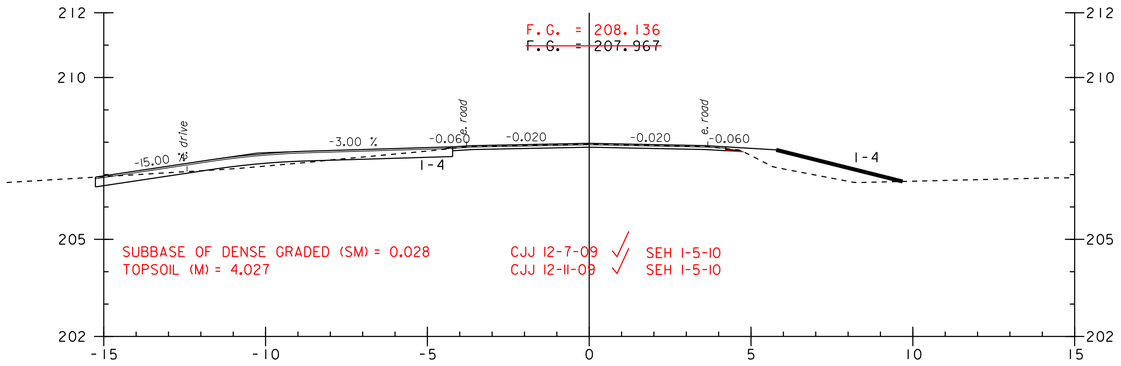
7+020 @ 15 deg skew

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x15.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: C.JOLLY	DRAWN BY: B.PELLETT
SQUAD LEADER: C.JOLLY	CHECKED BY: J.LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$



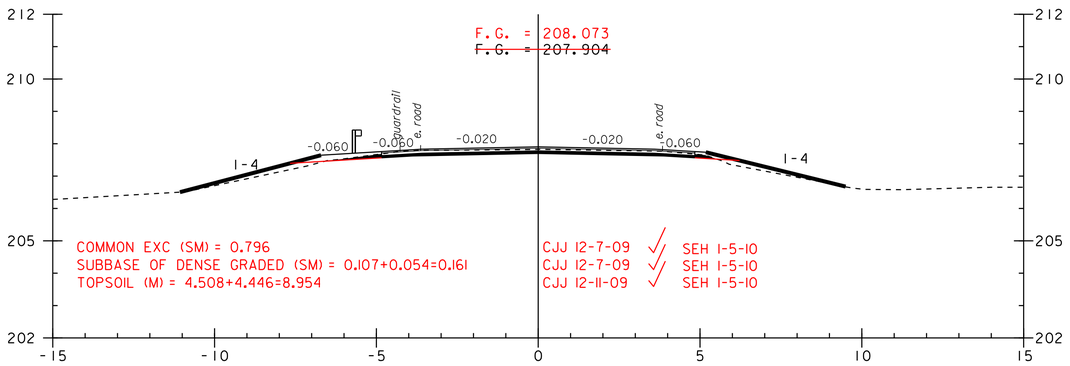
1+400
END
APPROACH



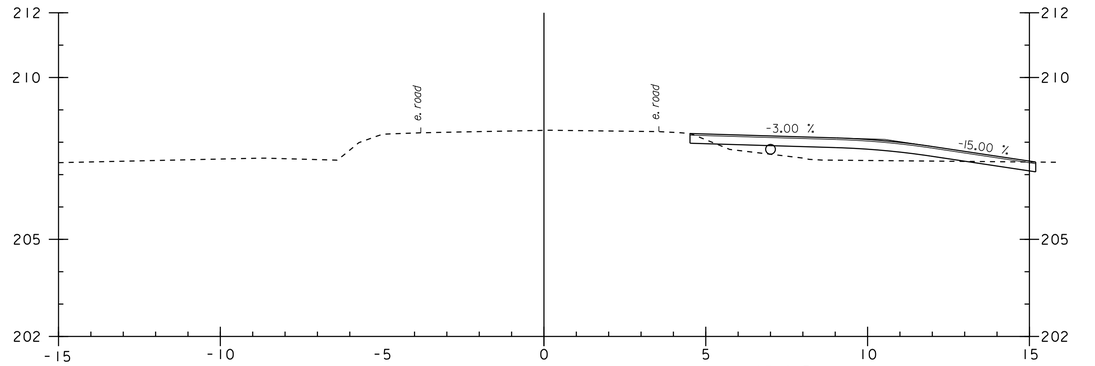
1+390.0 Lt.
Construct Gravel Drive w/ 1500 Paved Apron
3.6 meters wide
50 Aggregate Surface Course
over 300 Subbase of Dense Graded Crushed Stone

1+390

Gravel Drive Left

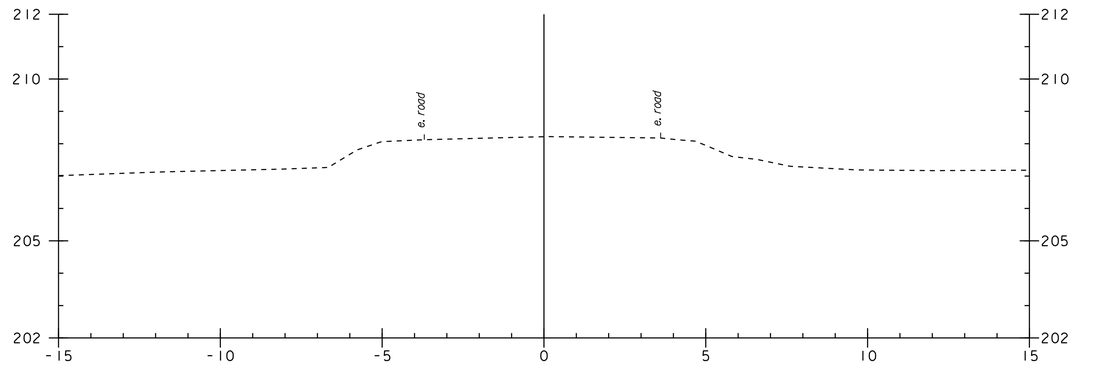


1+380



1+420

1+423.0 Rt.
Construct Gravel Drive w/ 1500 Paved Apron
3.6 meters wide
50 Aggregate Surface Course
over 300 Subbase of Dense Graded Crushed Stone



1+410

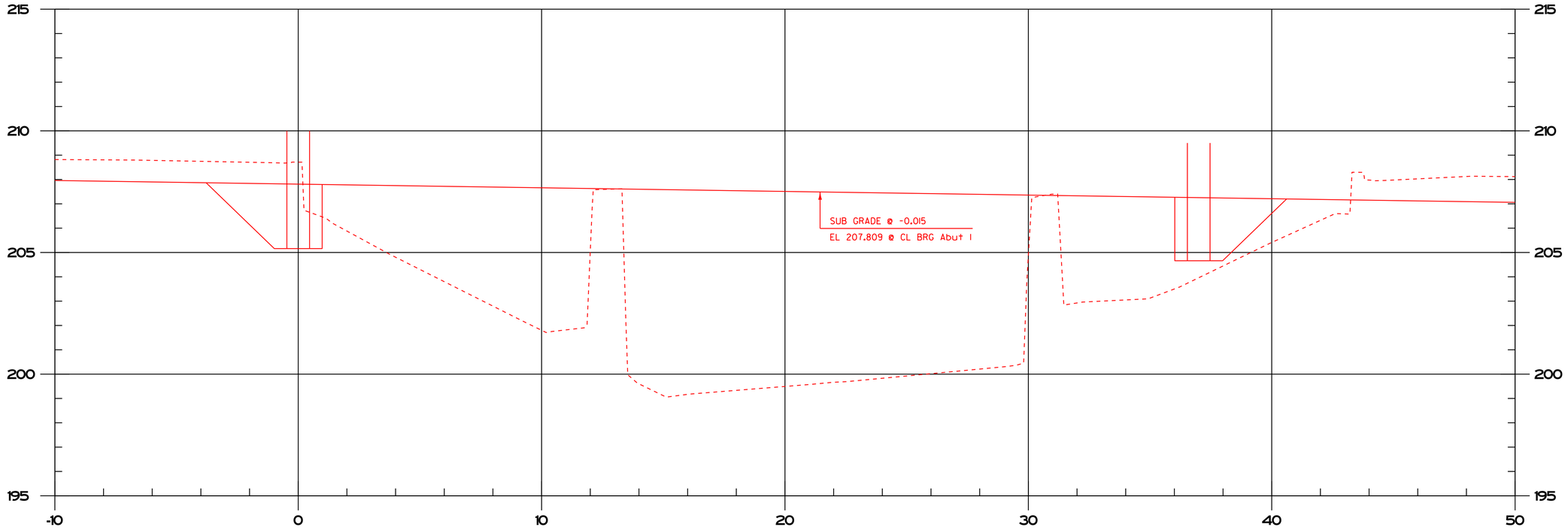
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x7.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
MAINLINE CROSS SECTIONS #5	SHEET:$S#$ OF $T#$

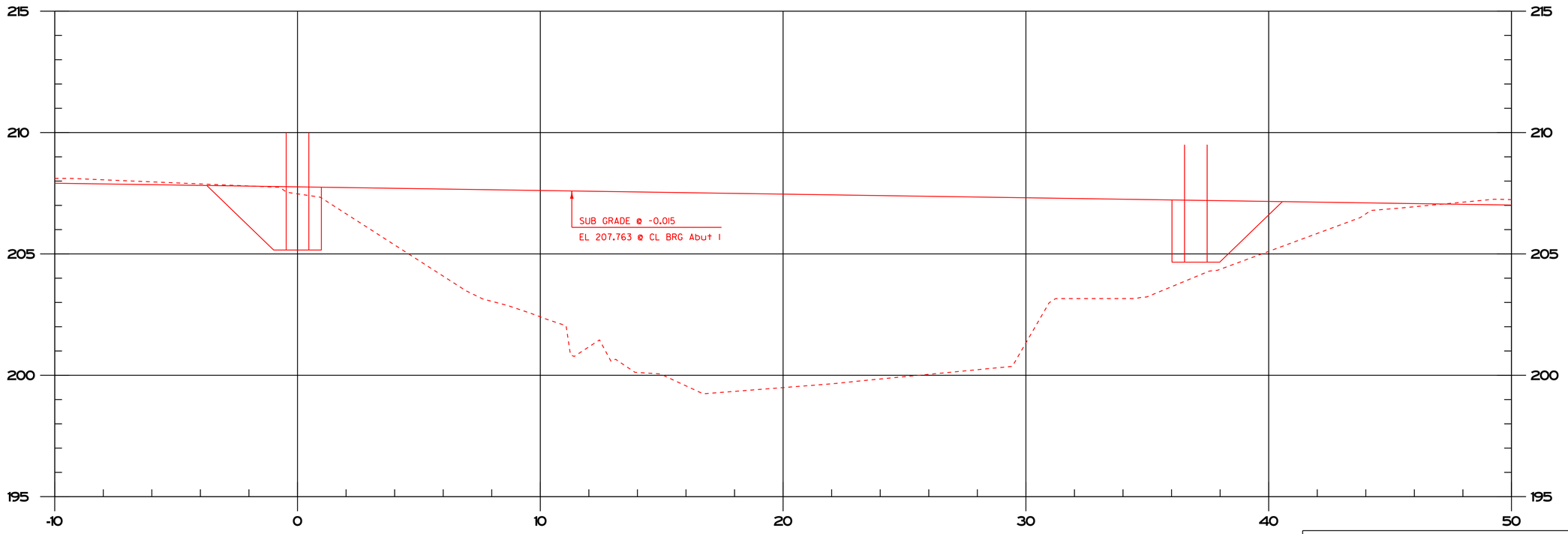
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.108 CJJ 12-3-09
STRUCTURE EXC. (SM) = 8.021 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.729 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



7+026 @ 15 deg skew



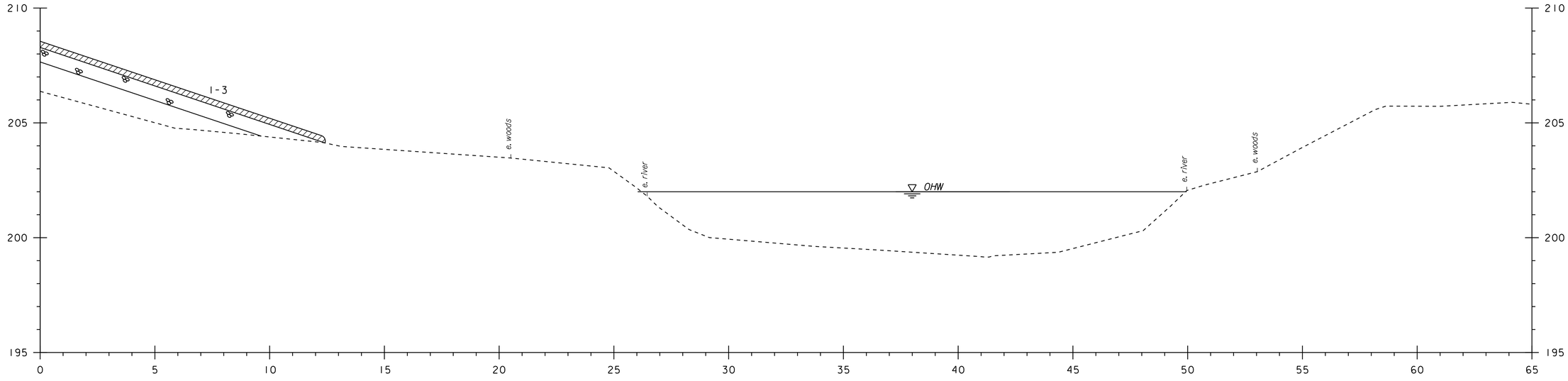
RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.956 CJJ 12-3-09
STRUCTURE EXC. (SM) = 8.206 CJJ 12-3-09

7+024 @ 15 deg skew

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.585 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09

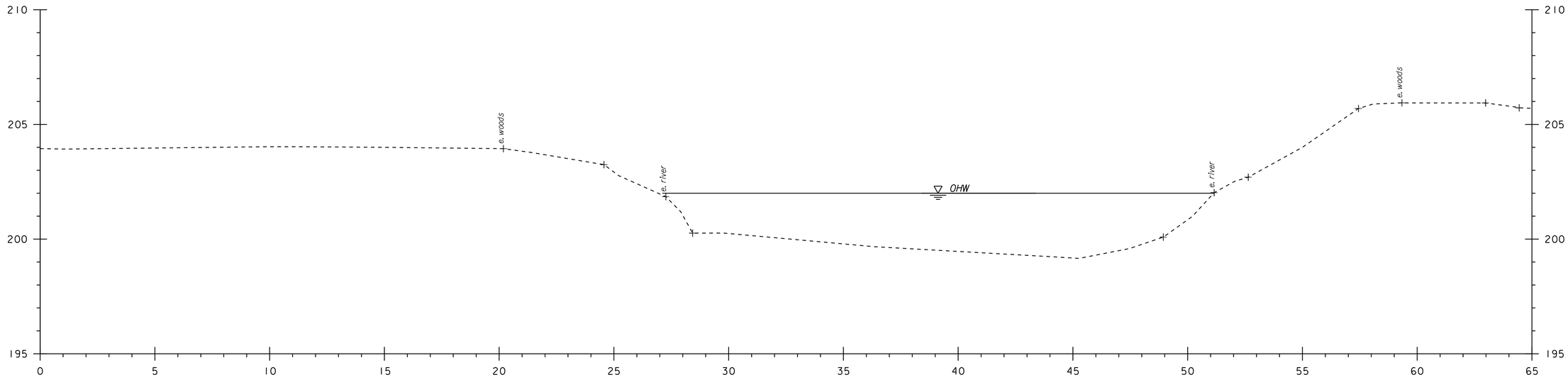
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x15.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J.LACROIX	DRAWN BY: B.PELLEII
SQUAD LEADER: K.HIGGINS	CHECKED BY: J.LACROIX
CHANNEL CROSS SECIONS #4	SHEET:$S#$ OF $T#$



4+990

STA 4+990 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



4+980

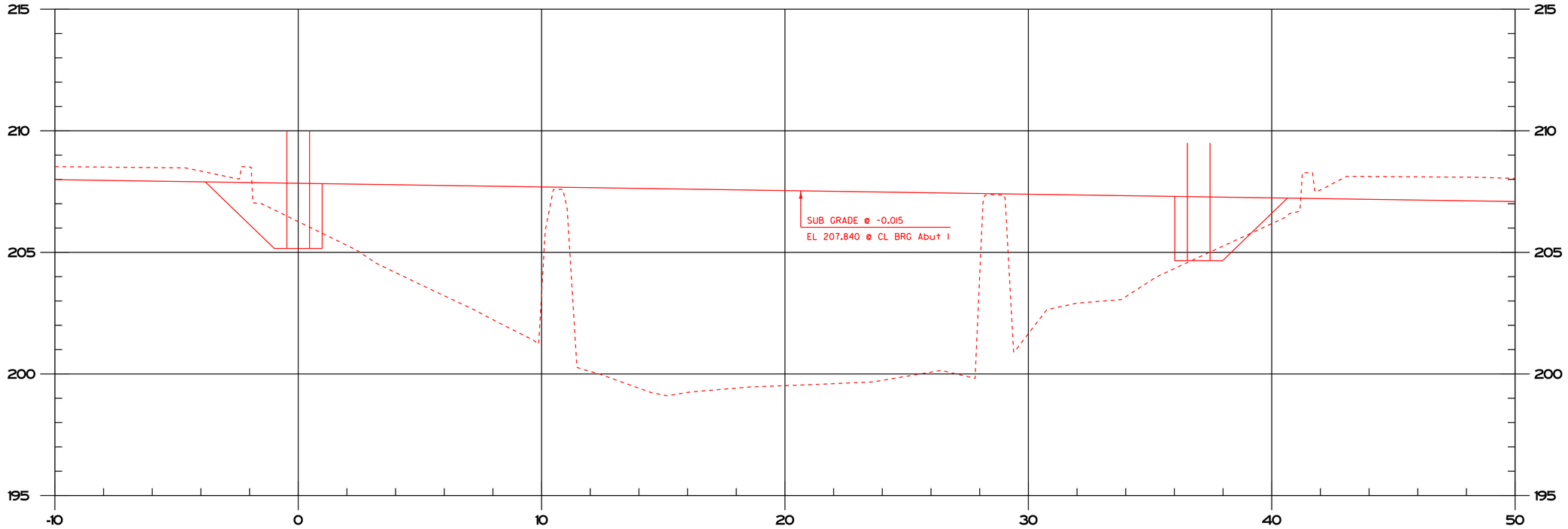
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x12.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #1	SHEET:$S#$ OF $T#$

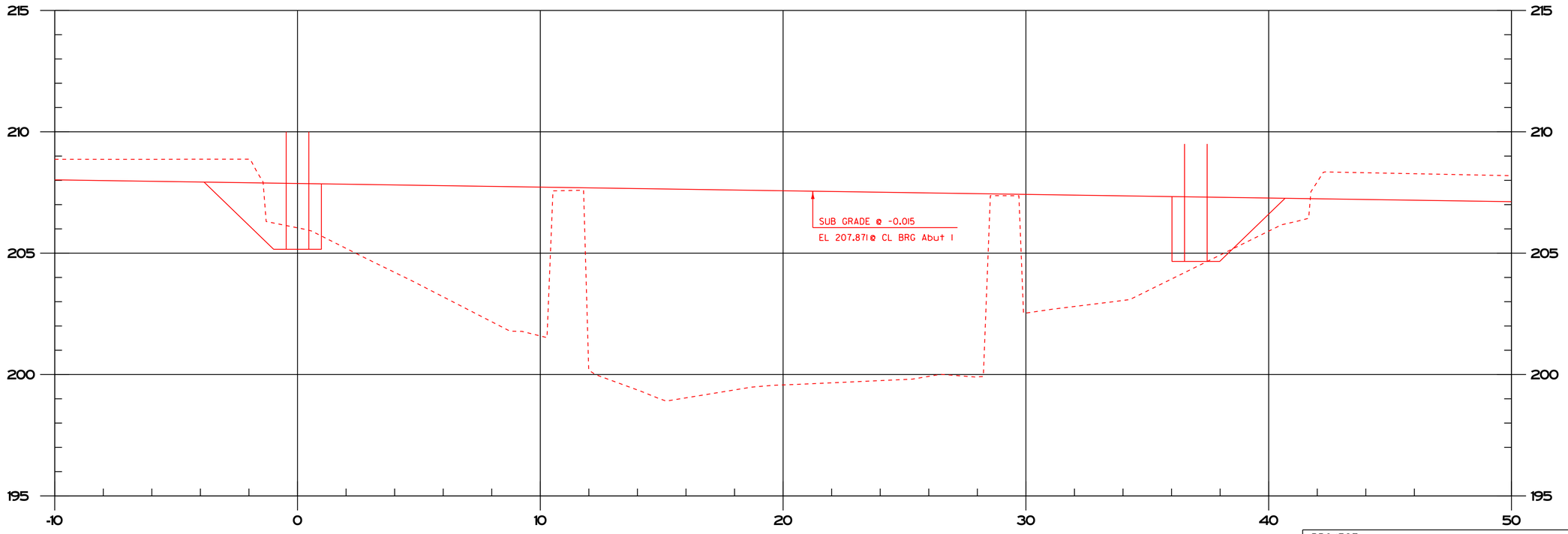
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.211 CJJ 12-3-09
STRUCTURE EXC. (SM) = 5.158 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.827 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.724 CJJ 12-3-09



7+034 @ 15 deg skew



RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.316 CJJ 12-3-09
STRUCTURE EXC. (SM) = 5.016 CJJ 12-3-09

7+032 @ 15 deg skew

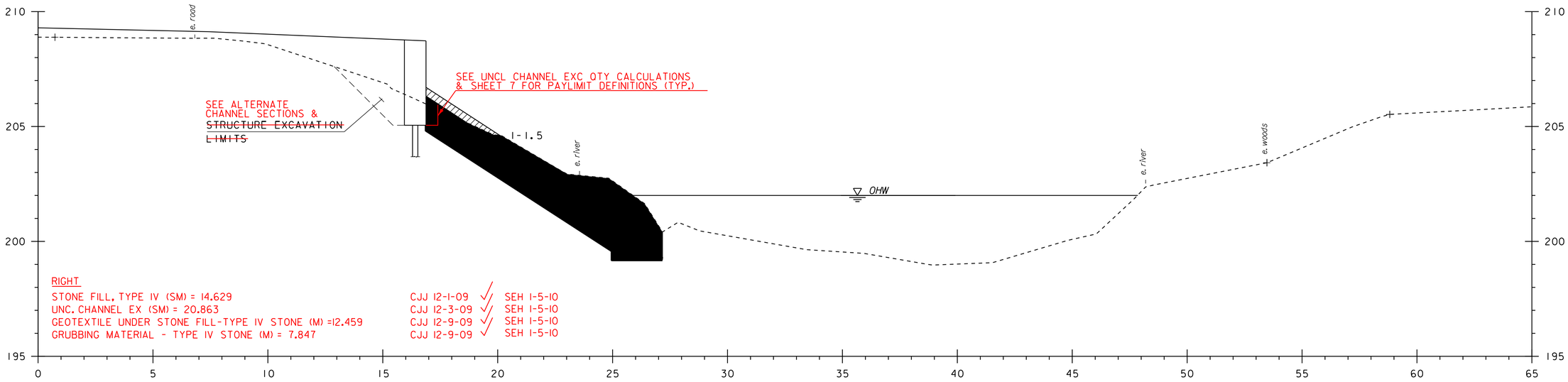
FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.926 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.133 CJJ 12-3-09

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x15.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J.LACROIX	DRAWN BY: B.PELLEII
SQUAD LEADER: K.HIGGINS	CHECKED BY: J.LACROIX
CHANNEL CROSS SECIONS #4	SHEET:$S#$ OF $T#$

7-31-09 jts

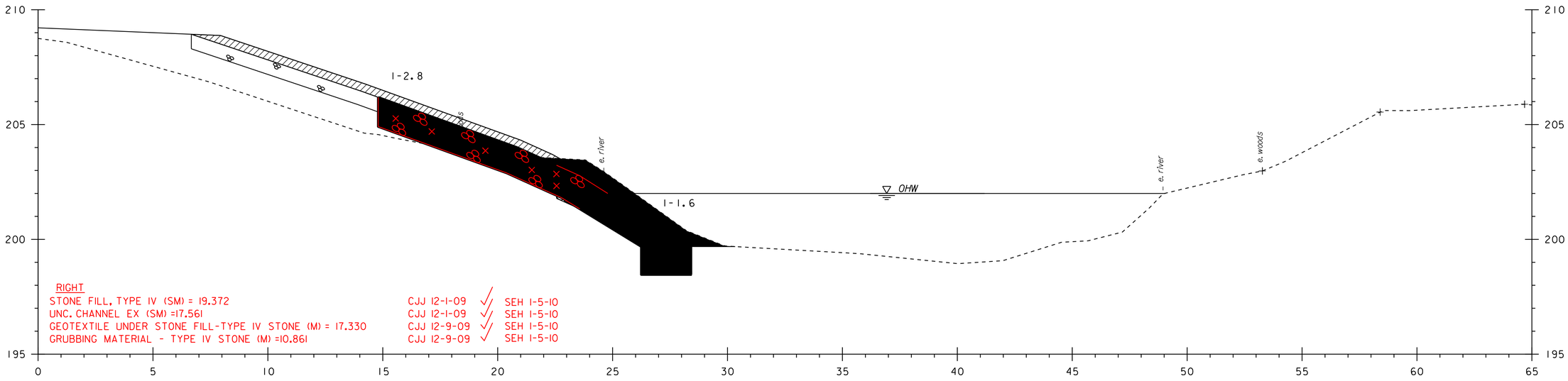
STA 5+001.112 RT
END GRUBBING MATERIAL



RIGHT

STONE FILL, TYPE IV (SM) = 14.629	CJJ 12-1-09 ✓	SEH 1-5-10
UNC. CHANNEL EX (SM) = 20.863	CJJ 12-3-09 ✓	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) =12.459	CJJ 12-9-09 ✓	SEH 1-5-10
GRUBBING MATERIAL - TYPE IV STONE (M) = 7.847	CJJ 12-9-09 ✓	SEH 1-5-10

5+000



RIGHT

STONE FILL, TYPE IV (SM) = 19.372	CJJ 12-1-09 ✓	SEH 1-5-10
UNC. CHANNEL EX (SM) =17.561	CJJ 12-1-09 ✓	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 17.330	CJJ 12-9-09 ✓	SEH 1-5-10
GRUBBING MATERIAL - TYPE IV STONE (M) =10.861	CJJ 12-9-09 ✓	SEH 1-5-10

4+995

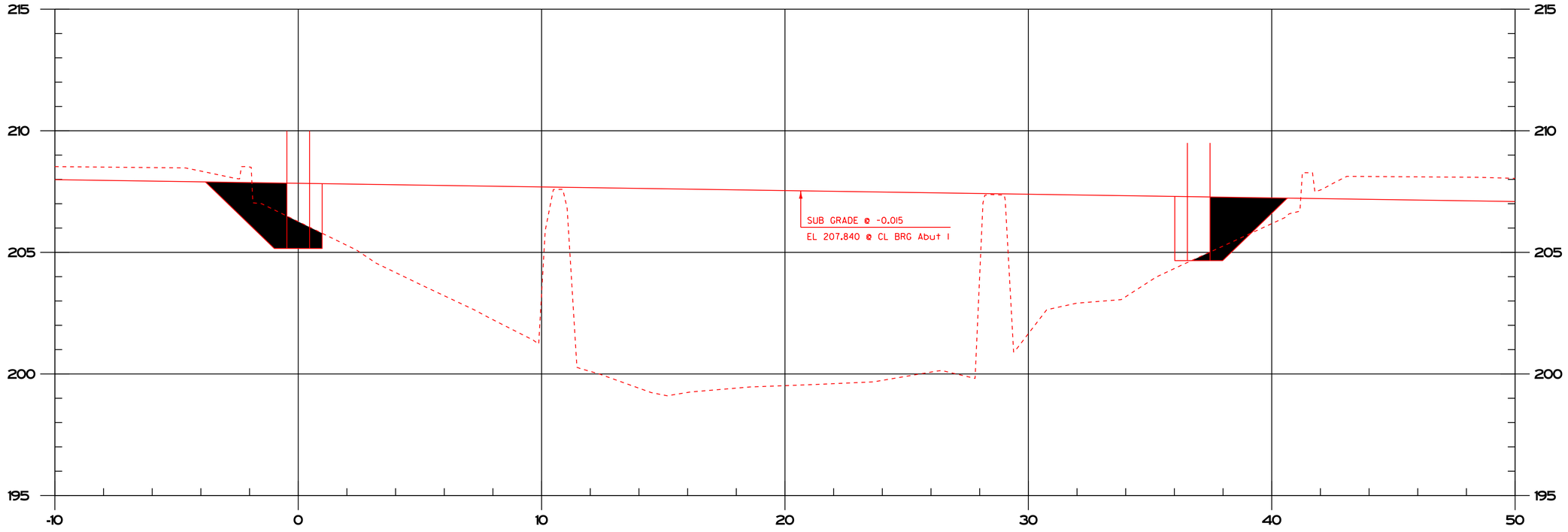
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl3.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #2	SHEET:$S#$ OF $T#$

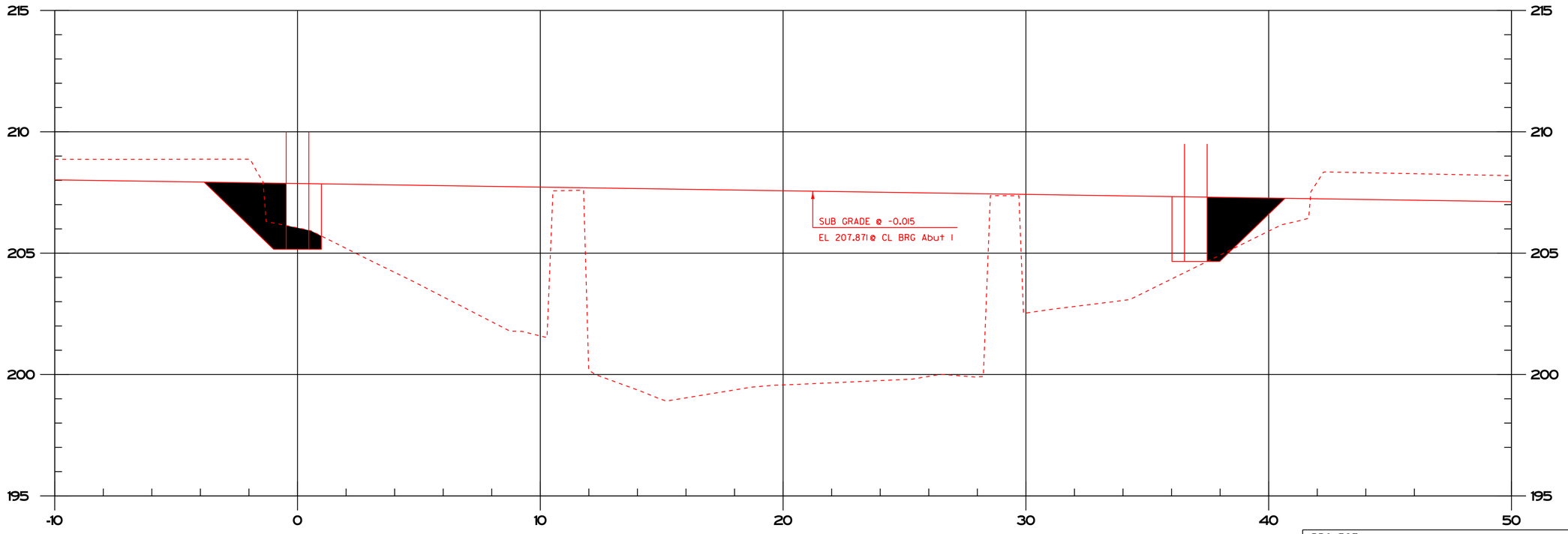
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.211 CJJ 12-3-09
STRUCTURE EXC. (SM) = 5.158 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.827 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.724 CJJ 12-3-09



7+034 @ 15 deg skew



RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.316 CJJ 12-3-09
STRUCTURE EXC. (SM) = 5.016 CJJ 12-3-09

7+032 @ 15 deg skew

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.926 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.133 CJJ 12-3-09

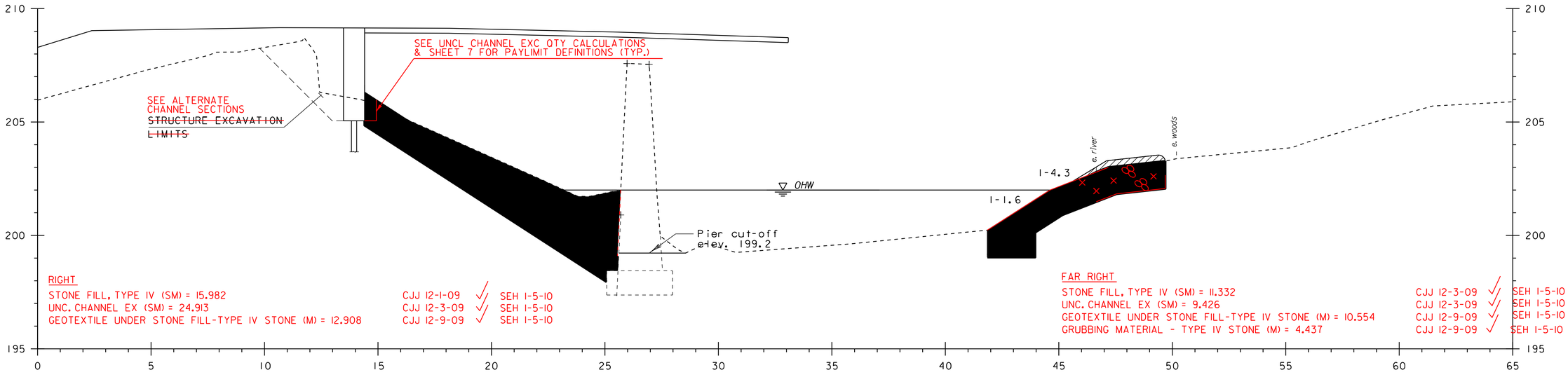
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x15.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J.LACROIX	DRAWN BY: B.PELLEII
SQUAD LEADER: K.HIGGINS	CHECKED BY: J.LACROIX
CHANNEL CROSS SECIONS #4	SHEET:$S#$ OF $T#$

7-31-09 jts

DO NOT PLACE GRUBBING MATERIAL UNDER THE BRIDGE

STA 5+014.513 FAR RT
END GRUBBING MATERIAL



RIGHT
STONE FILL, TYPE IV (SM) = 15.982
UNC. CHANNEL EX (SM) = 24.913
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 12.908

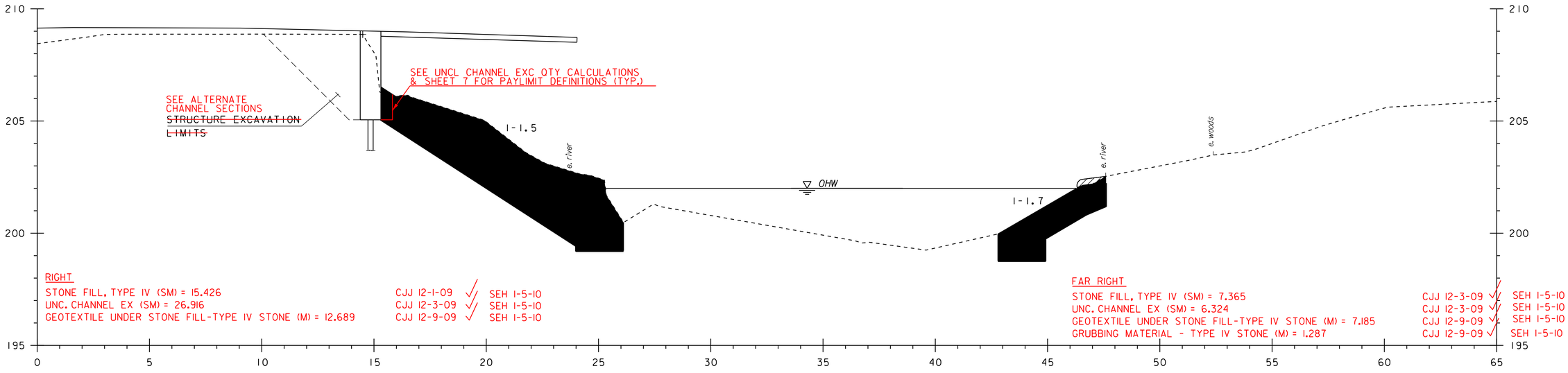
CJJ 12-1-09 ✓ SEH 1-5-10
CJJ 12-3-09 ✓ SEH 1-5-10
CJJ 12-9-09 ✓ SEH 1-5-10

FAR RIGHT
STONE FILL, TYPE IV (SM) = 11.332
UNC. CHANNEL EX (SM) = 9.426
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 10.554
GRUBBING MATERIAL - TYPE IV STONE (M) = 4.437

CJJ 12-3-09 ✓ SEH 1-5-10
CJJ 12-3-09 ✓ SEH 1-5-10
CJJ 12-9-09 ✓ SEH 1-5-10
CJJ 12-9-09 ✓ SEH 1-5-10

5+010

STA 5+000.431 FAR RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



RIGHT
STONE FILL, TYPE IV (SM) = 15.426
UNC. CHANNEL EX (SM) = 26.916
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 12.689

CJJ 12-1-09 ✓ SEH 1-5-10
CJJ 12-3-09 ✓ SEH 1-5-10
CJJ 12-9-09 ✓ SEH 1-5-10

FAR RIGHT
STONE FILL, TYPE IV (SM) = 7.365
UNC. CHANNEL EX (SM) = 6.324
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 7.185
GRUBBING MATERIAL - TYPE IV STONE (M) = 1.287

CJJ 12-3-09 ✓ SEH 1-5-10
CJJ 12-3-09 ✓ SEH 1-5-10
CJJ 12-9-09 ✓ SEH 1-5-10
CJJ 12-9-09 ✓ SEH 1-5-10

5+005

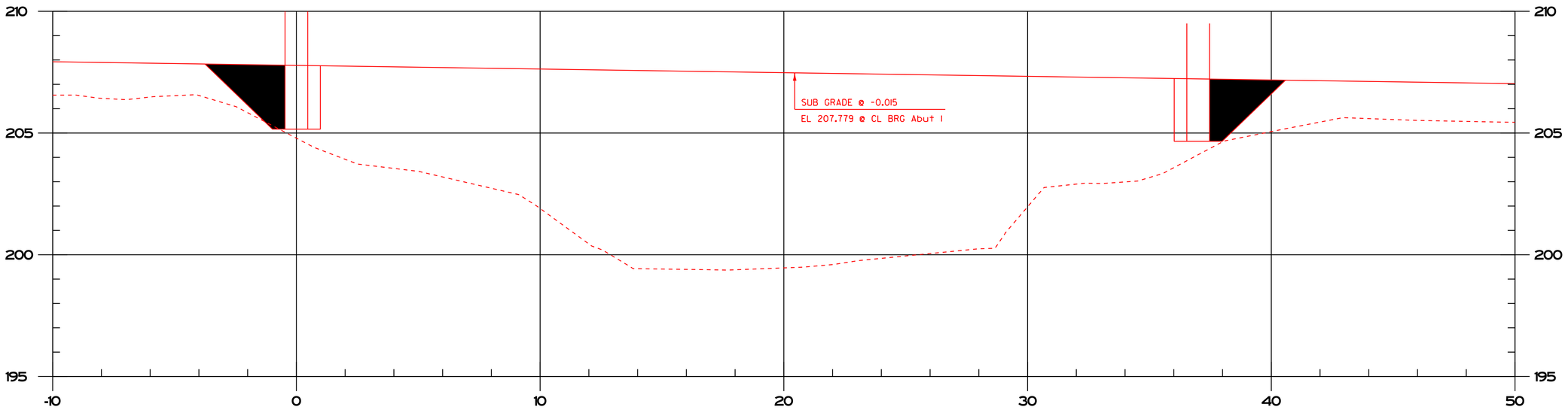
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x14.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #3	SHEET:$S#$ OF $T#$

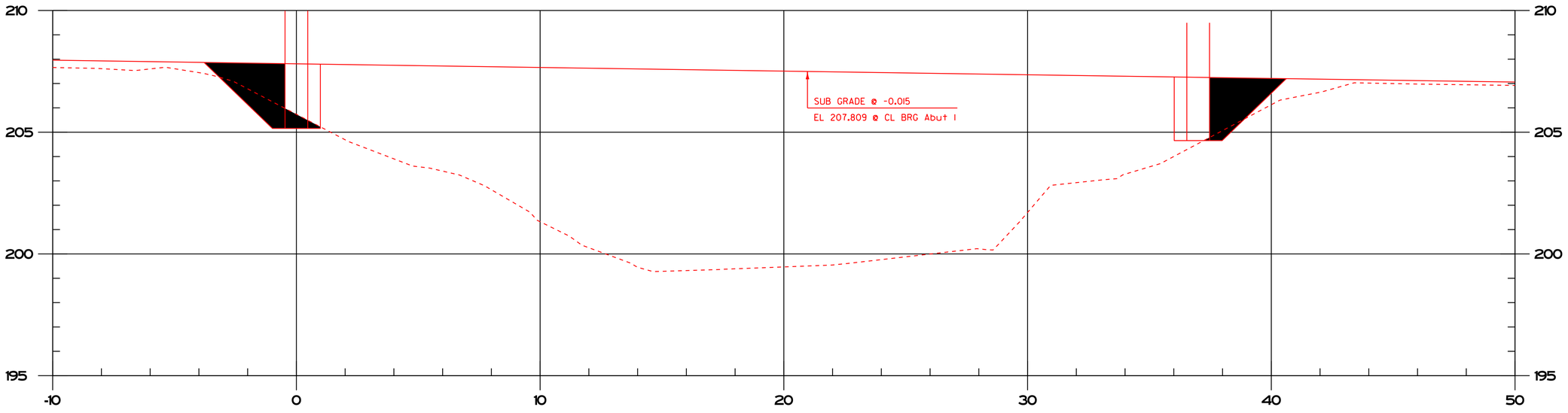
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.009 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.043 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.635 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



7+038 @ 15 deg skew



7+036 @ 15 deg skew

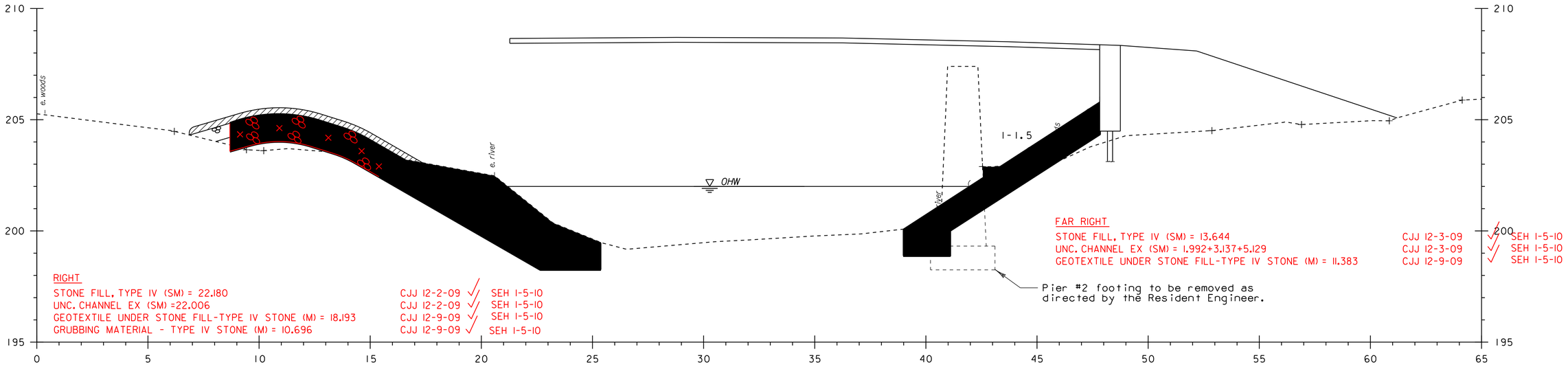
RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.124 CJJ 12-3-09
STRUCTURE EXC. (SM) = 2.440 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.745 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.339 CJJ 12-3-09

0 2 4 6 8 10
SCALE 1 : 100

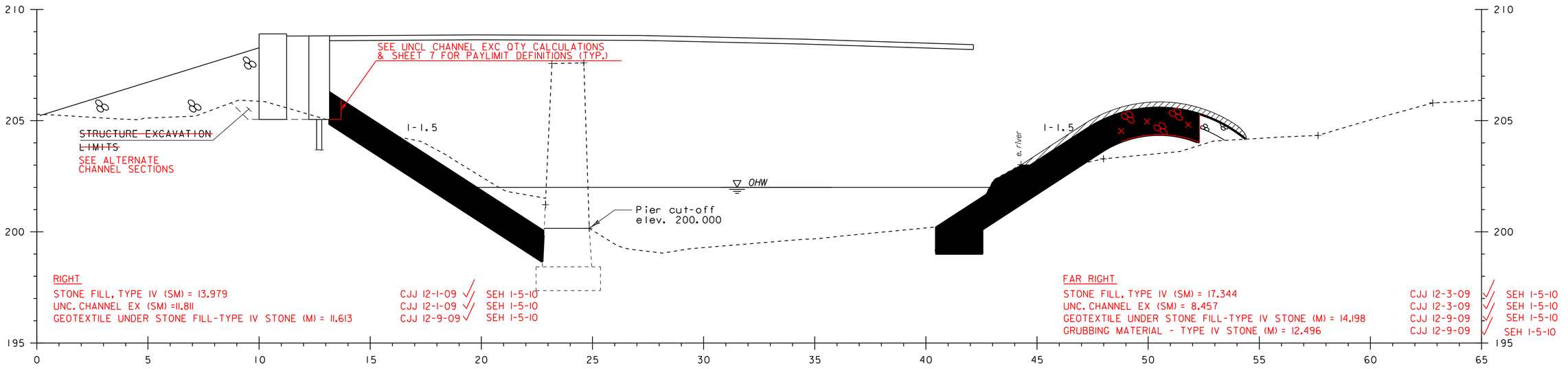
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x15.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J.LACROIX	DRAWN BY: B.PELLETT
SQUAD LEADER: K.HIGGINS	CHECKED BY: J.LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

7-31-09 jts



5+020

STA 5+015.282 RT
BEGIN GRUBBING MATERIAL

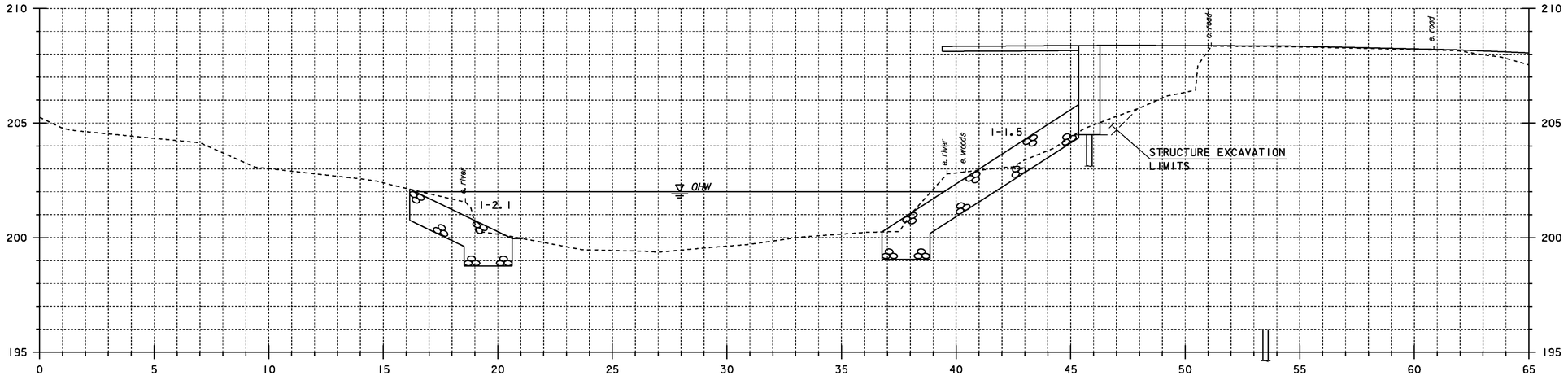


5+015

0 2 4 6 8 10
SCALE 1 : 100

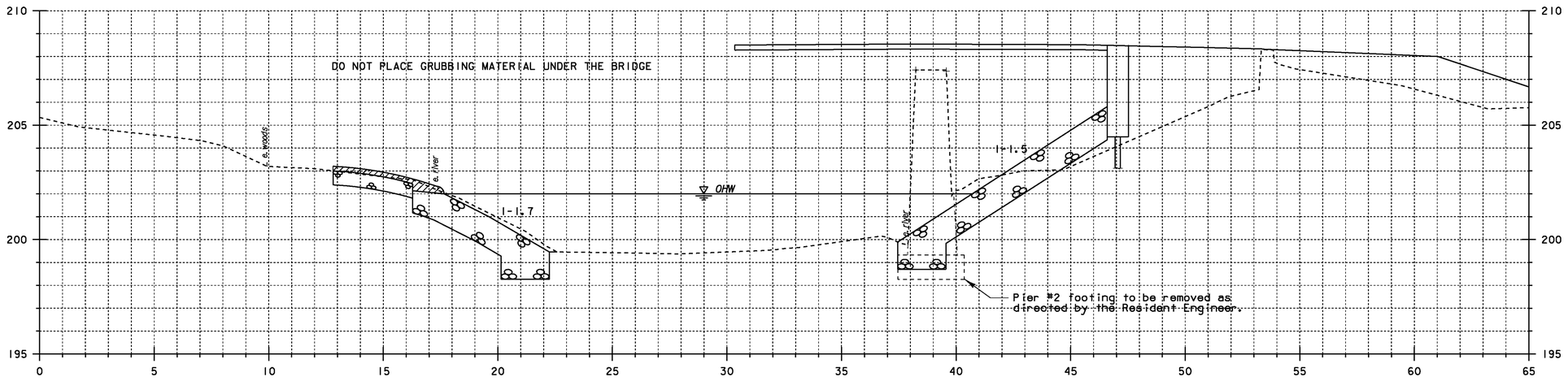
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x15.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

STA 5+031.613 RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



5+030

STA 5+028.247 FAR RT
BEGIN GRUBBING MATERIAL

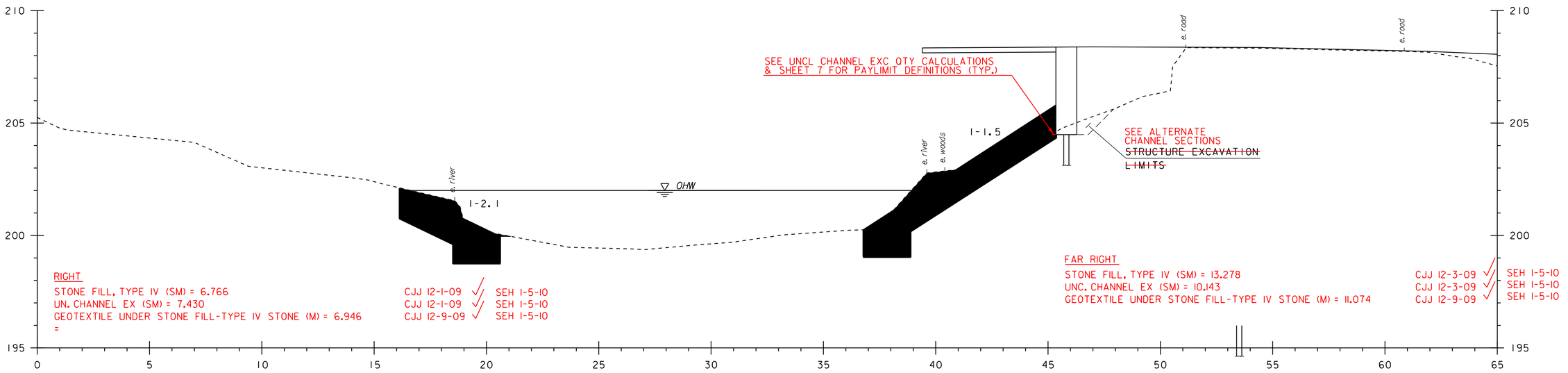


5+025

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl6.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #5	SHEET: 66 OF 68

STA 5+031.613 RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



RIGHT

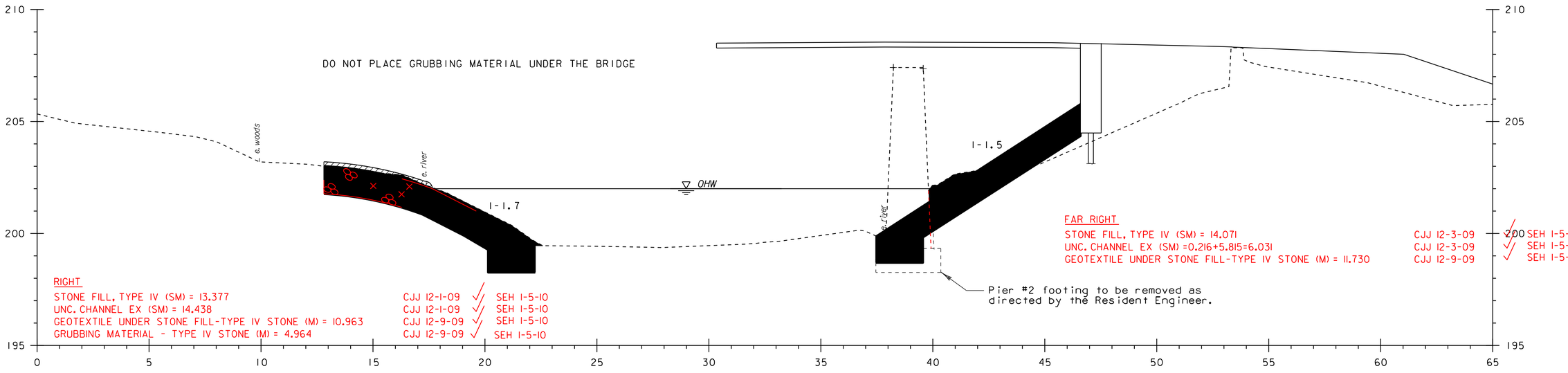
STONE FILL, TYPE IV (SM) = 6.766	CJJ 12-1-09 ✓	SEH 1-5-10
UN. CHANNEL EX (SM) = 7.430	CJJ 12-1-09 ✓	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 6.946	CJJ 12-9-09 ✓	SEH 1-5-10
=		

FAR RIGHT

STONE FILL, TYPE IV (SM) = 13.278	CJJ 12-3-09 ✓	SEH 1-5-10
UNC. CHANNEL EX (SM) = 10.143	CJJ 12-3-09 ✓	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 11.074	CJJ 12-9-09 ✓	SEH 1-5-10

5+030

STA 5+028.247 FAR RT
BEGIN GRUBBING MATERIAL



RIGHT

STONE FILL, TYPE IV (SM) = 13.377	CJJ 12-1-09 ✓	SEH 1-5-10
UNC. CHANNEL EX (SM) = 14.438	CJJ 12-1-09 ✓	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 10.963	CJJ 12-9-09 ✓	SEH 1-5-10
GRUBBING MATERIAL - TYPE IV STONE (M) = 4.964	CJJ 12-9-09 ✓	SEH 1-5-10

FAR RIGHT

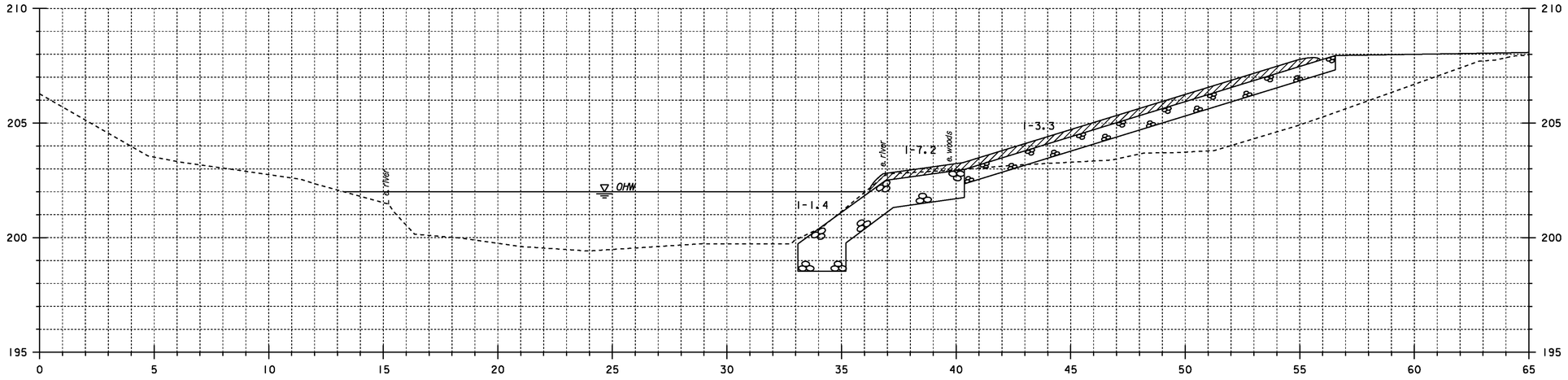
STONE FILL, TYPE IV (SM) = 14.071	CJJ 12-3-09	✓ SEH 1-5-10
UNC. CHANNEL EX (SM) =0.216+5.815=6.031	CJJ 12-3-09	✓ SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 11.730	CJJ 12-9-09	✓ SEH 1-5-10

5+025

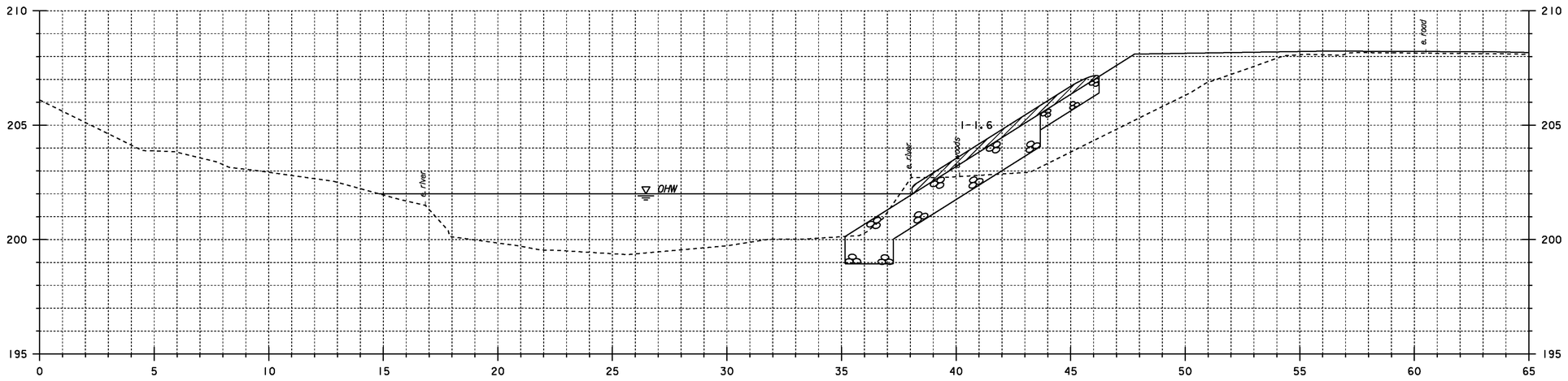
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x16.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #5	SHEET:$S#$ OF $T#$

STA 5+043.974 FAR RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



5+040

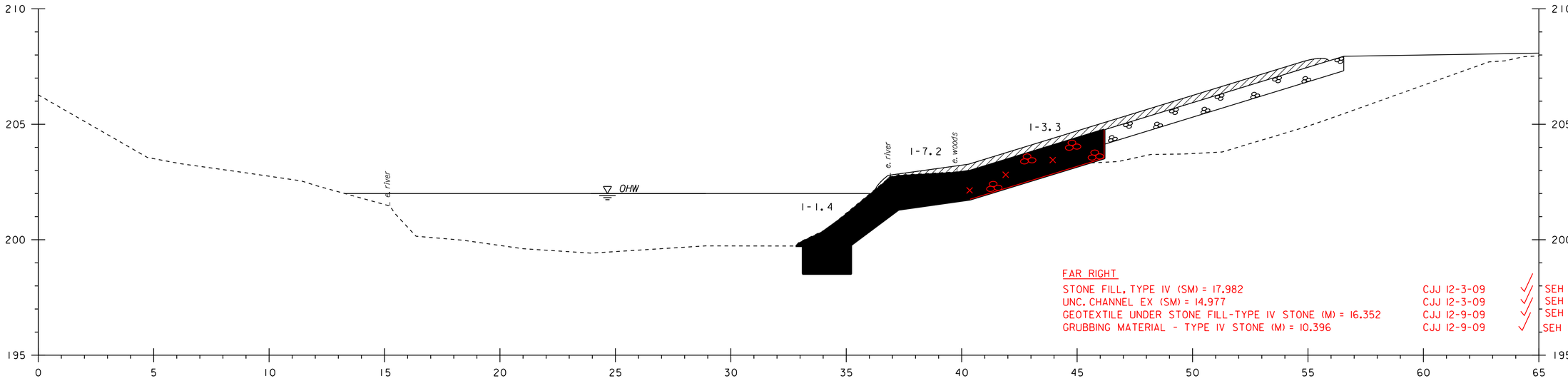


5+035

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl7.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #6	SHEET: 67 OF 68

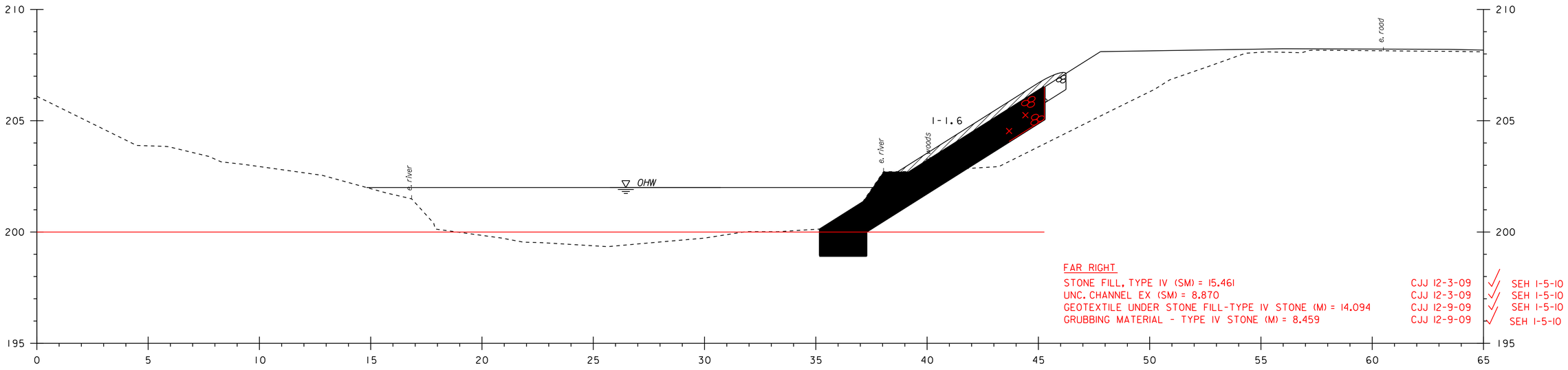
STA 5+043.974 FAR RT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL TYPE IV
GRUBBING MATERIAL



FAR RIGHT

STONE FILL, TYPE IV (SM) = 17.982	CJJ 12-3-09	SEH 1-5-10
UNC. CHANNEL EX (SM) = 14.977	CJJ 12-3-09	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 16.352	CJJ 12-9-09	SEH 1-5-10
GRUBBING MATERIAL - TYPE IV STONE (M) = 10.396	CJJ 12-9-09	SEH 1-5-10

5+040



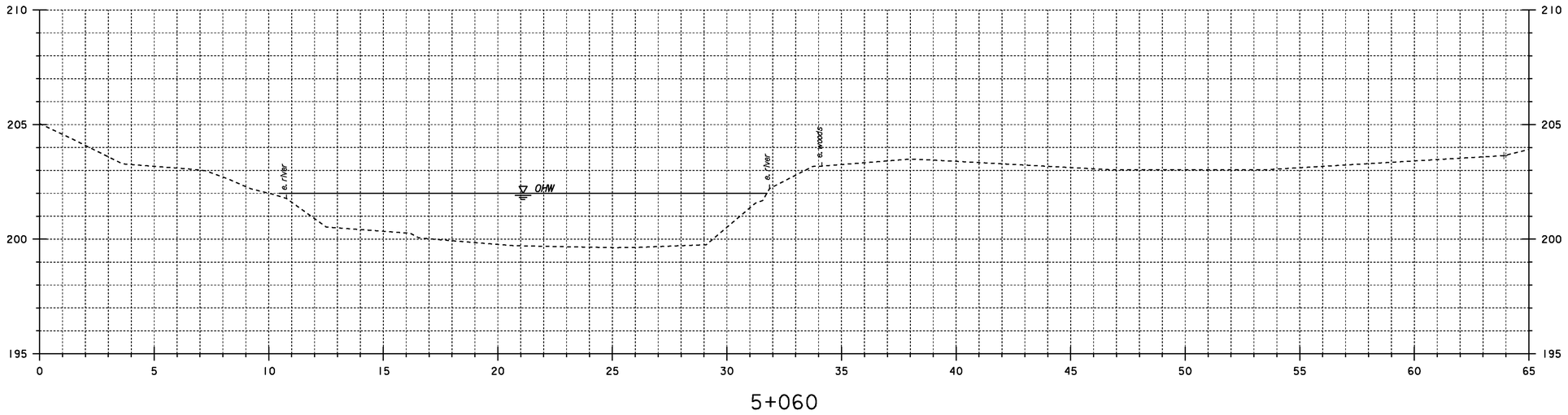
FAR RIGHT

STONE FILL, TYPE IV (SM) = 15.461	CJJ 12-3-09	SEH 1-5-10
UNC. CHANNEL EX (SM) = 8.870	CJJ 12-3-09	SEH 1-5-10
GEOTEXTILE UNDER STONE FILL-TYPE IV STONE (M) = 14.094	CJJ 12-9-09	SEH 1-5-10
GRUBBING MATERIAL - TYPE IV STONE (M) = 8.459	CJJ 12-9-09	SEH 1-5-10

5+035

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x17.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #6	SHEET:$S#$ OF $T#$



5+060

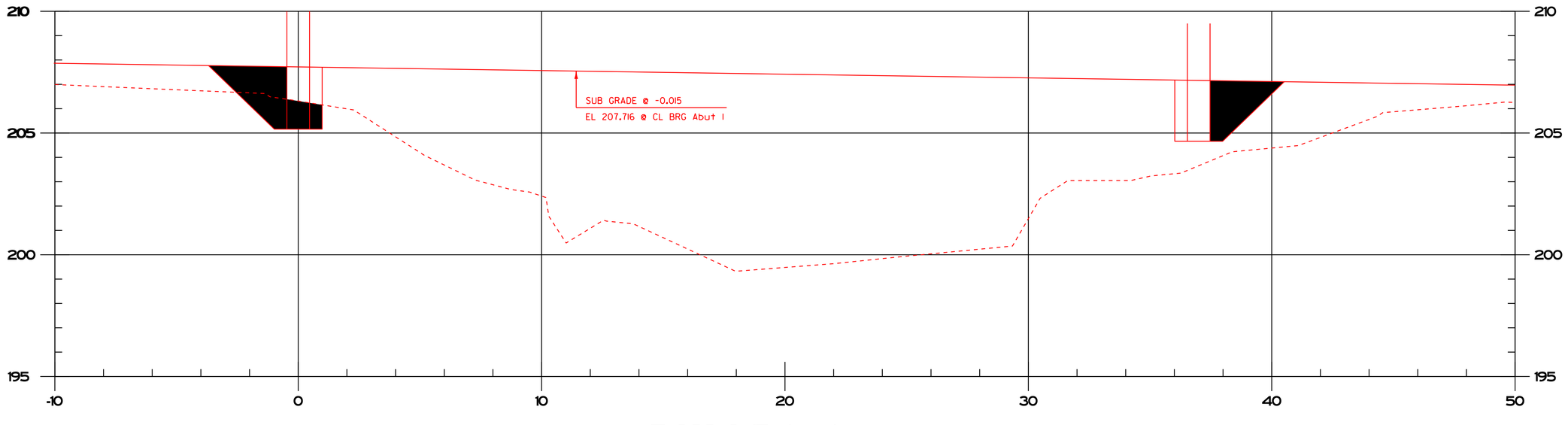
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254x18.i	PLOT DATE: 03-FEB-2009
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #7	SHEET: 68 OF 68

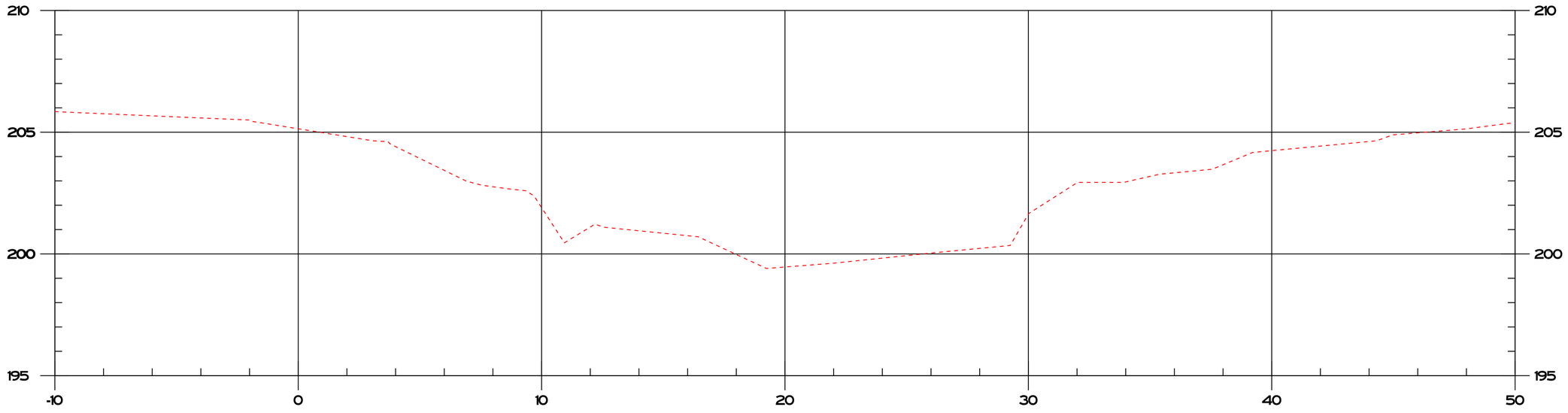
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.804 CJJ 12-3-09
STRUCTURE EXC. (SM) = 3.364 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. = 4.440 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



7+022 @ 15 deg skew



7+020 @ 15 deg skew

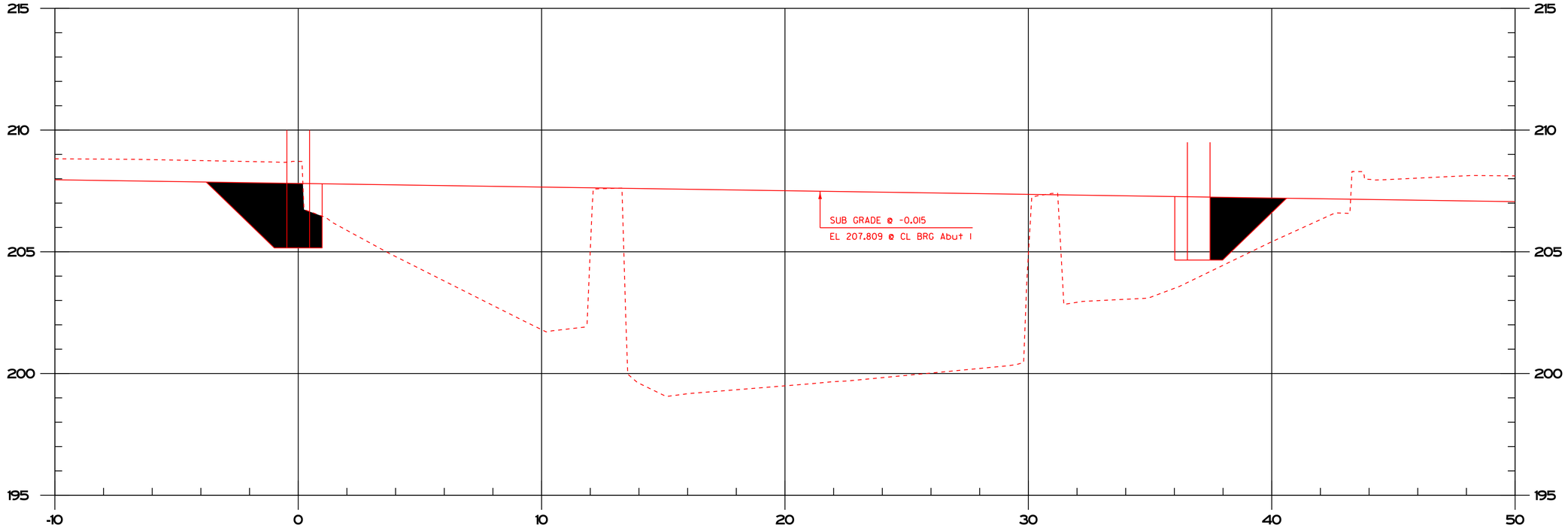
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: C.JOLLY	DRAWN BY: R. PELLETT
SQUAD LEADER: C.JOLLY	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

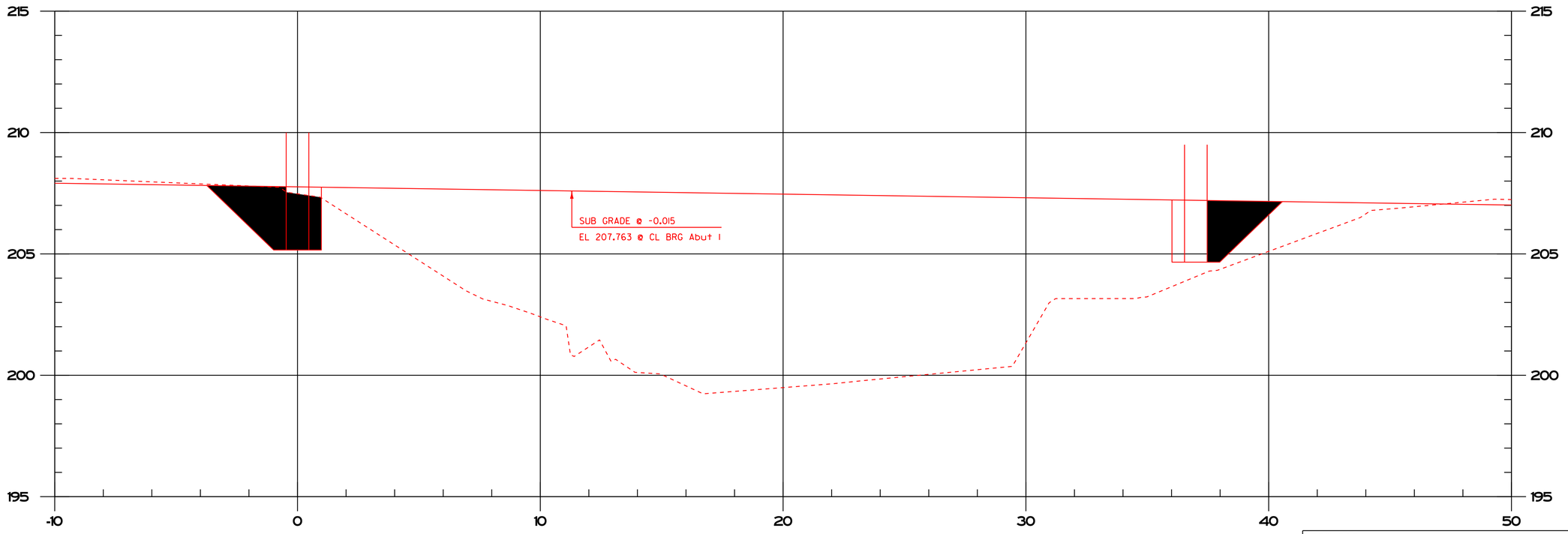
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.108 CJJ 12-3-09
STRUCTURE EXC. (SM) = 8.021 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.729 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



7+026 @ 15 deg skew



RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.956 CJJ 12-3-09
STRUCTURE EXC. (SM) = 8.206 CJJ 12-3-09

7+024 @ 15 deg skew

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.585 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09

0 2 4 6 8 10
SCALE 1 : 100

PROJECT:	PROJECT NO.:
EAST MONTPELIER	BRF 028-3(36)

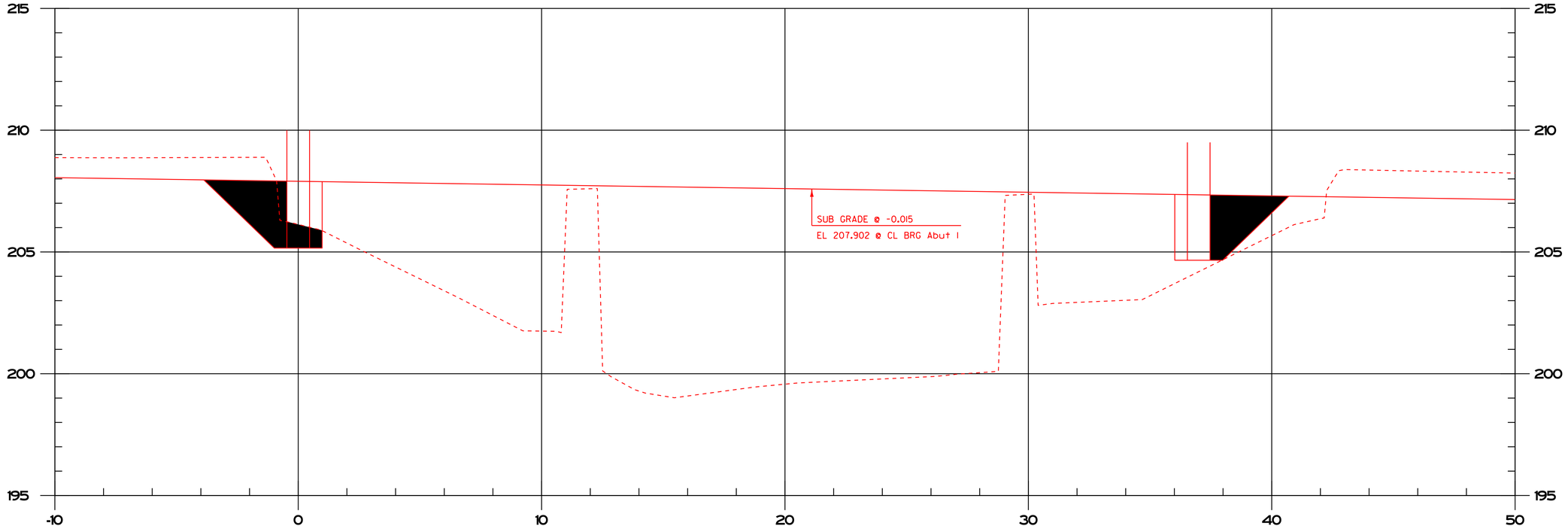
DESIGN FILE NAME: /98b254/str/sb254xs.dgn
IPARM FILE NAME: sb254xl5.i
DESIGNED BY: J. LACROIX
SQUAD LEADER: K. HIGGINS
CHANNEL CROSS SECTIONS #4

PLOT DATE: 21-MAY-2012 16:
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET:$S#$ OF $T#$

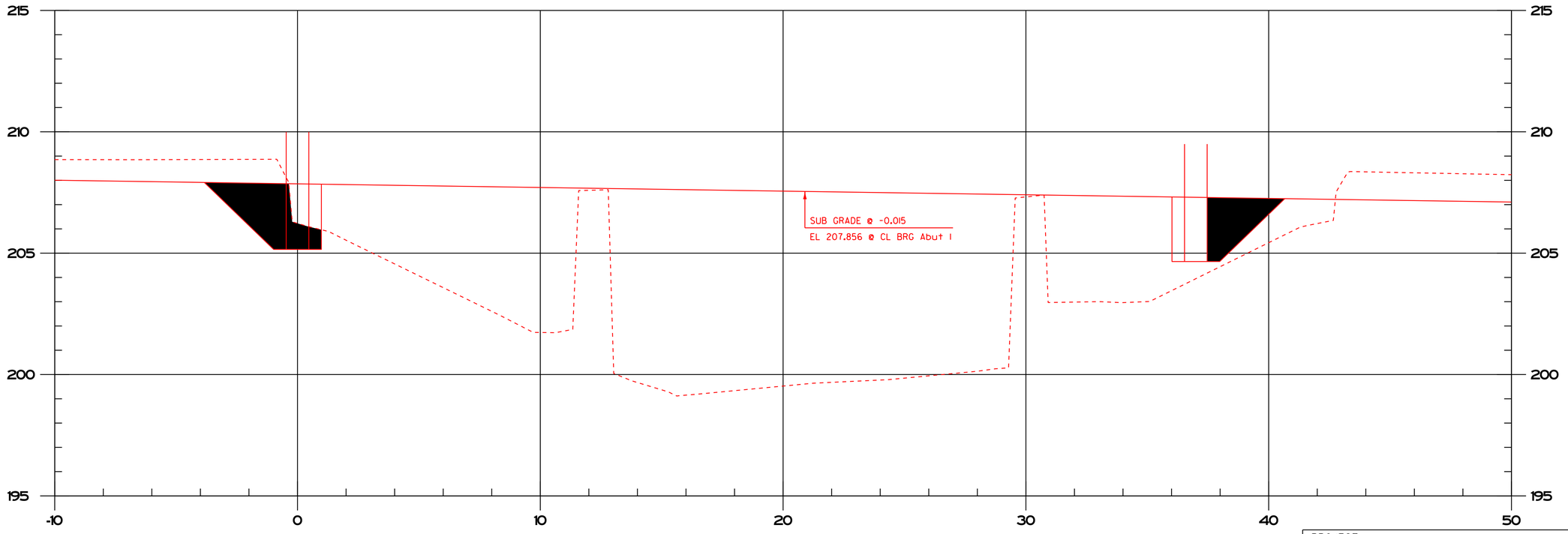
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.421 CJJ 12-3-09
STRUCTURE EXC. (SM) = 6.153 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.026 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



7+030 @ 15 deg skew



7+028 @ 15 deg skew

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.282 CJJ 12-3-09
STRUCTURE EXC. (SM) = 7.005 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.894 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09

0 2 4 6 8 10
SCALE 1 : 100

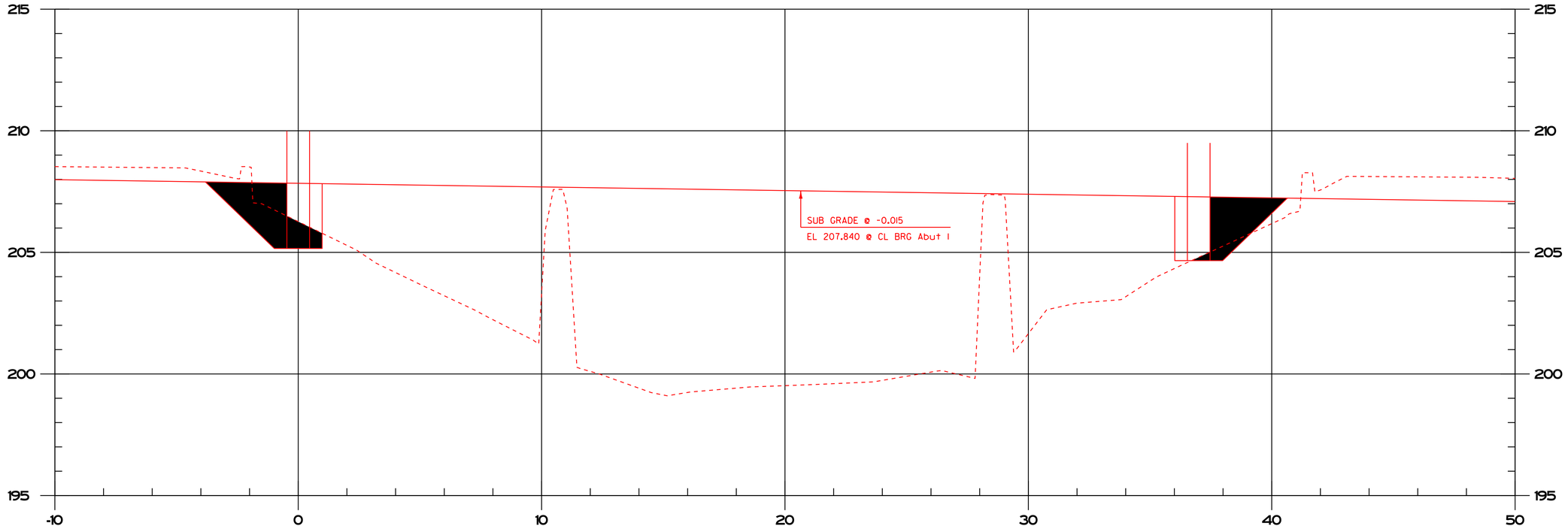
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

7-31-09 jts

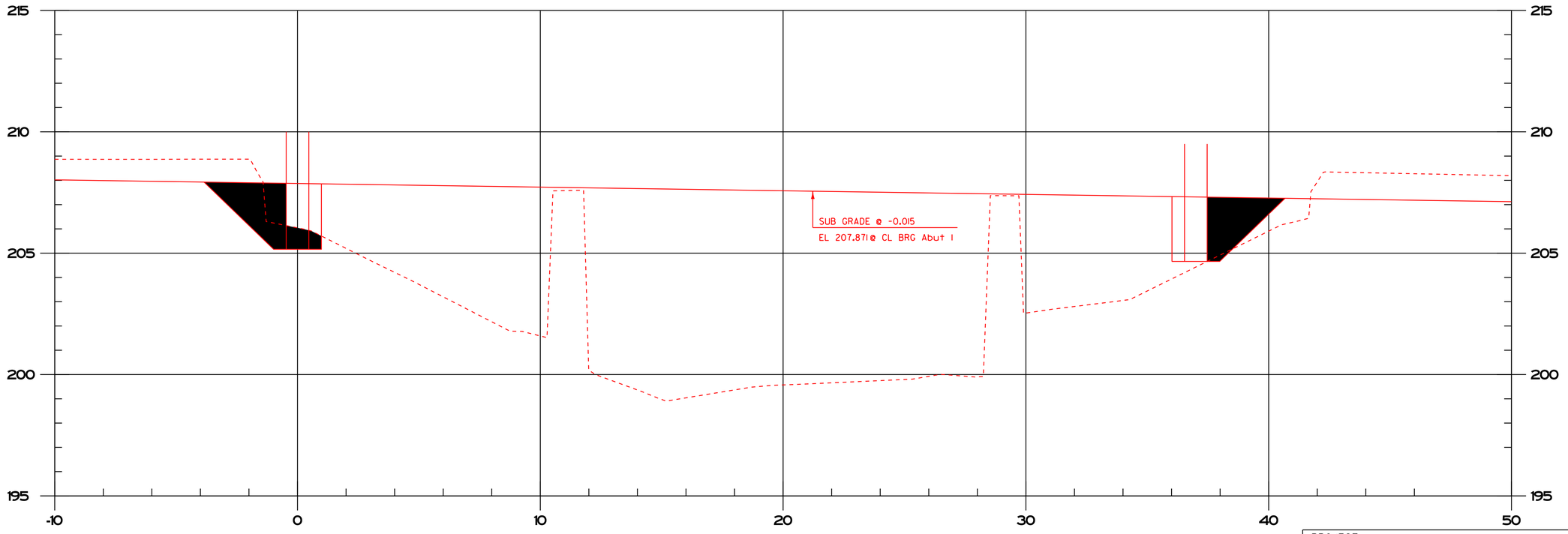
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.211 CJJ 12-3-09
STRUCTURE EXC. (SM) = 5.158 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.827 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.724 CJJ 12-3-09



7+034 @ 15 deg skew



RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.316 CJJ 12-3-09
STRUCTURE EXC. (SM) = 5.016 CJJ 12-3-09

7+032 @ 15 deg skew

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.926 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.133 CJJ 12-3-09

0 2 4 6 8 10
SCALE 1 : 100

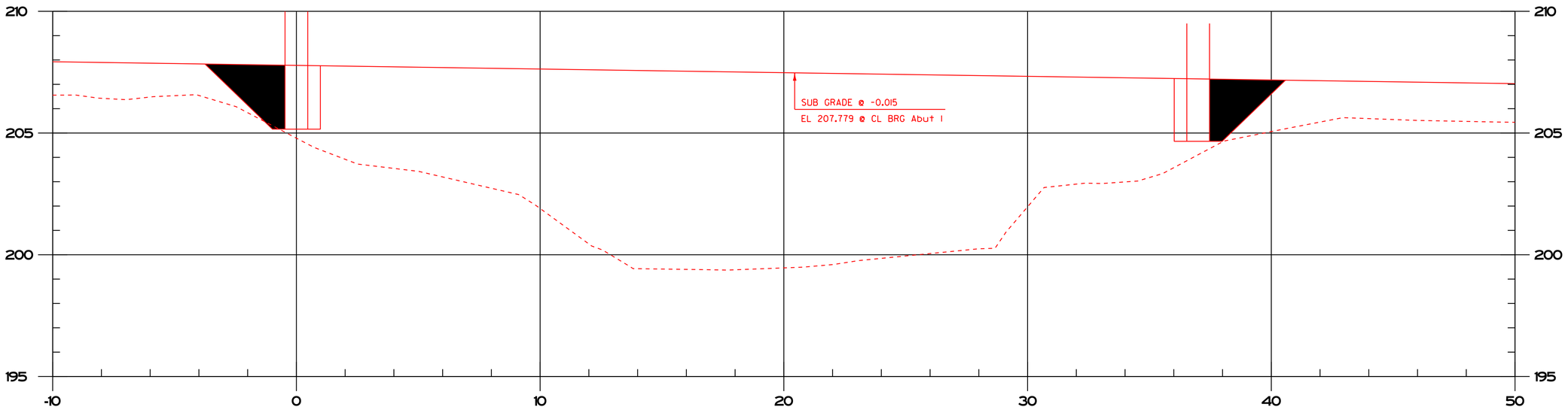
PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

7-31-09 jts

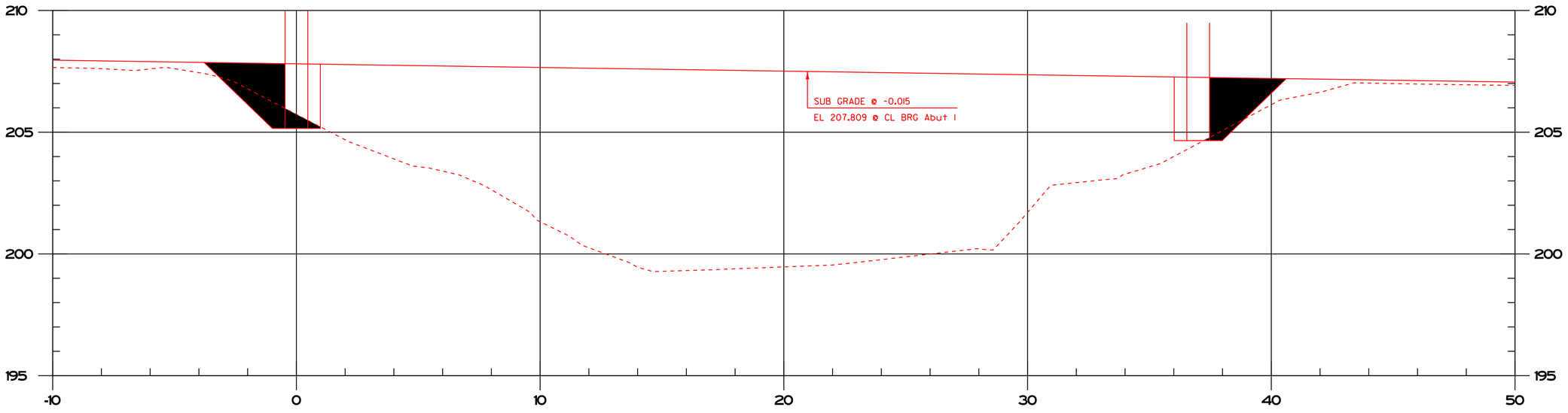
FINISH PRODUCTS DRAWN ON ALTERNATE CHANNEL SECTIONS ARE DRAWN ACCORDING TO REVISED GRADES (SEE WO #2 DATED 6-8-09) FOR USE IN DETERMING STRUCTURE EXCAVATION AND GRANULAR BACKFILL QUANTITIES
CJJ 12-3-09

RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.009 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.043 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.635 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0 CJJ 12-3-09



7+038 @ 15 deg skew



7+036 @ 15 deg skew

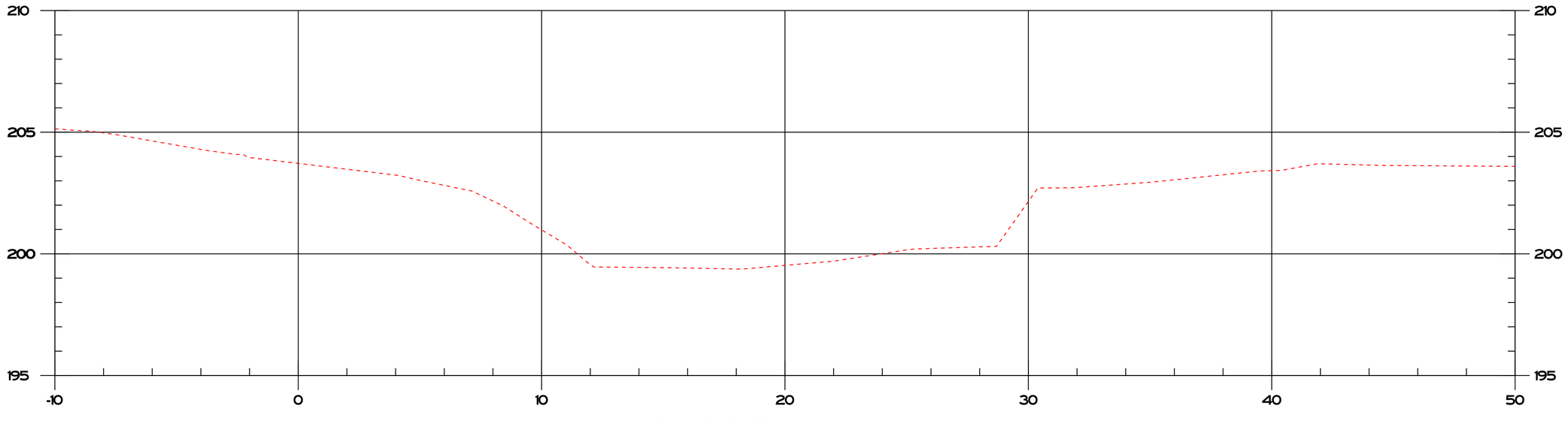
RIGHT
GRAN. BKFL. FOR STR. (SM) = 5.124 CJJ 12-3-09
STRUCTURE EXC. (SM) = 2.440 CJJ 12-3-09

FAR RIGHT
GRAN. BKFL. FOR STR. (SM) = 4.745 CJJ 12-3-09
STRUCTURE EXC. (SM) = 0.339 CJJ 12-3-09

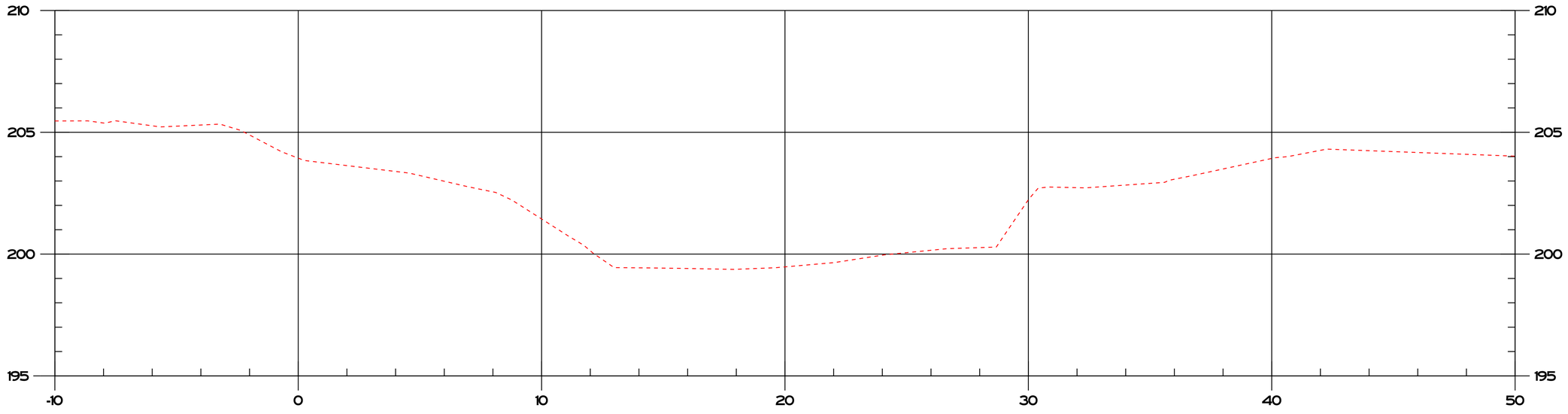
0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

7-31-09 jts



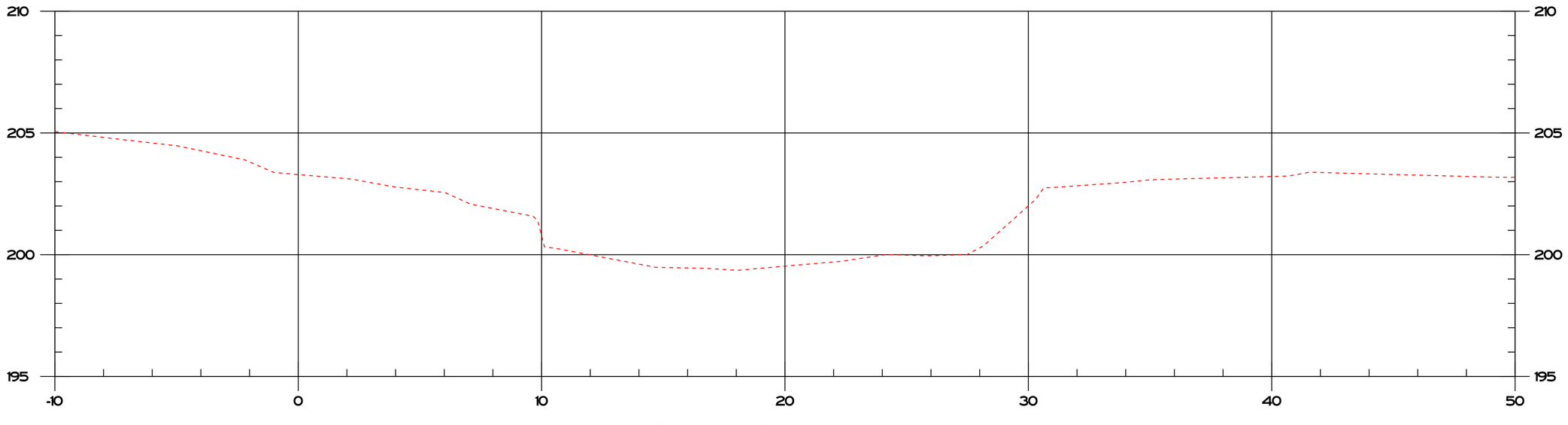
5+042 @ 15 deg skew



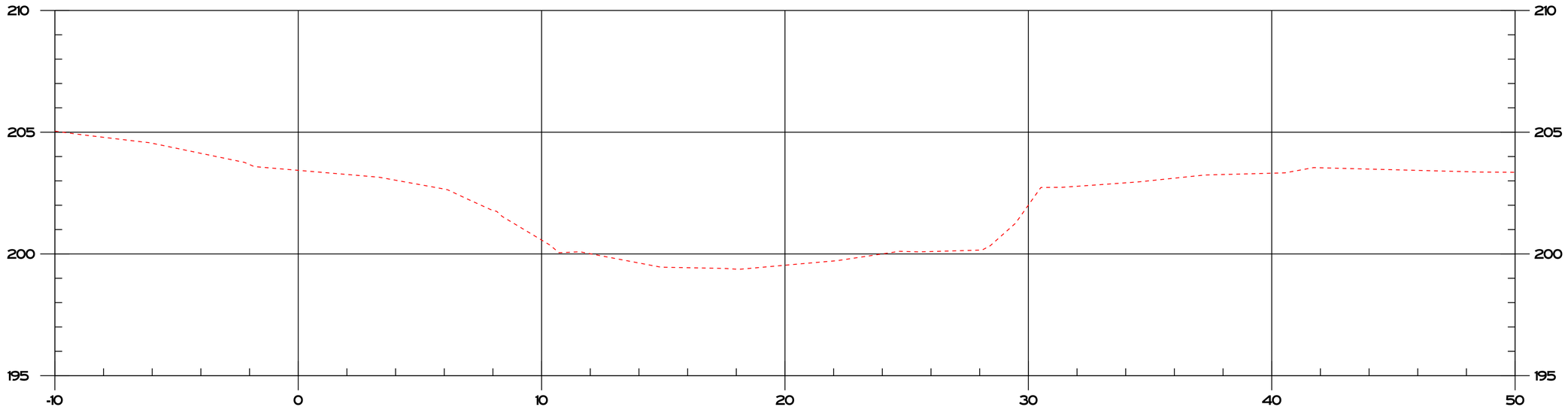
7+040 @ 15 deg skew

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$



5+046 @ 15 deg skew



5+044 @ 15 deg skew

0 2 4 6 8 10
SCALE 1 : 100

PROJECT: EAST MONTPELIER	PROJECT NO.: BRF 028-3(36)
DESIGN FILE NAME: /98b254/str/sb254xs.dgn	
IPARM FILE NAME: sb254xl5.i	PLOT DATE: 21-MAY-2012 16:
DESIGNED BY: J. LACROIX	DRAWN BY: R. PELLETT
SQUAD LEADER: K. HIGGINS	CHECKED BY: J. LACROIX
CHANNEL CROSS SECTIONS #4	SHEET:$S#$ OF $T#$

REINFORCED ELASTOMERIC BEARING FABRICATION SHEET 1103- Page #: 1

Project #: 26059-1103-1 (10 OF 10) Customer: WINTERSET INC. (PO # C-2251)

County: WASHINGTON State: VT Structure: 74

Pad I.D./Loc.: ABUTMENTS Quantity (Including Full Size Sample(s) - If Req'd): 10

Certifications Are Required — Testing Req'd: ☐ YES, see below ☑ NO, random in-house only — Sample Req'd: ☐ YES - (If not full size, create another sheet) ☑ NO

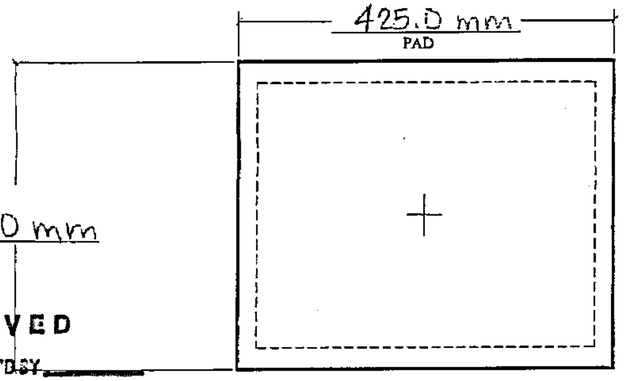
State D.O.T. Spec. Number (If Specified): SEC 581 Project # (req'd for cert.s) BRF 028-3(30)

Special Notes: _____

Shim Steel Spec. (Circle One): A709 GR.36(250) (A1011 GR.36(250)-Type 1) Other: —

Durometer Requirement (Circle One): 50±5 (60±5) Other: _____ Shear Modulus Requirement: 0.9-1.38 MPa

Neoprene Grade (Circle One): (3) 4 Other Grade or Natural Rubber: —



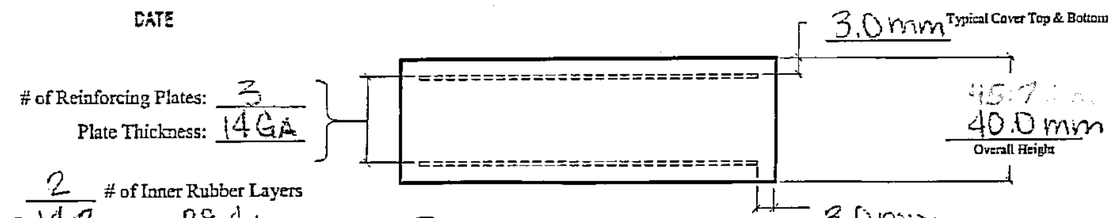
A PLAN

NOT TO SCALE

Note: A separate shim fabrication drawing will be required for shims that are not plain rectangular plates (i.e. require clipped corners, round shims, shims w/ non-centered holes or slots, etc.).

Shim Drawing Req'd: ☐ YES Reason: _____ ☑ NO

RECEIVED
CK'D BY _____ CK'D BY _____
APR 08 2009
RESUBMIT _____ APPROVED _____
BY DATE



B ELEVATION

NOT TO SCALE

Name: [signature] Date: 4-7-09

This shop drawing was prepared in accordance with the contract plans and specifications. The D.S. Brown Company does not accept liability for the design of the products detailed in the shop drawings.

The D.S. Brown Company • 300 East Cherry Street • North Baltimore, Ohio 45872-0158
Phone: (419) 257-3561 • Fax: (419) 257-2200

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 Gr36-50-50W (250-345-345W)
Welding process Submerged Arc Welding - AUTO (SAW)
Manual or machine Machine
Position of welding FLAT (1F), Horizontal (2F)
Filler metal specification AWS A5-17, AWS A5-23
Filler metal classification F8A2-EM1K-M1 Lincoln
Flux 960 Flux-Lincolnweld -LA-75 Electrode
Shielding gas NA Flow rate NA
Single or multiple pass both
Single or multiple arc Single
Welding current Direct
Polarity Reverse Electrode Positive
Welding progression
Root treatment Meet AWS specification
Preheat and interpass temperature To 3/4(19)-50°(10°) 3/4"(19°) 1½(38)-70°(20°) 1½"(38°) To 2½(63.5)-150°(65°) over 2½(63.5)-225°(110°)
Postheat temperature NA
Heat Input Min 41-65 Max 65.45 PQR# 1-59.5

VT. A.O.T.
E. Montpelier
Br#74-Proj#0283(36)
CBSS 400
V.T. RWS

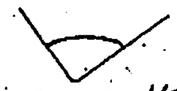
WELDING PROCEDURE

(Metric)

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	5/32	605 544.5 To 665.5	29.5 27.4 To 31.56	18.5 15.3 To 20.7
	3.9	Metric 605 544.5 To 665.5	29.5 27.4 To 31.56	457.2 384.6 To 525.8

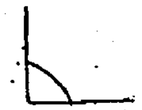
Joint detail AWS D1.5 FILLET

1F



5/16 To 1/2 (8 To 12.7)

2F



1/4 To 5/16 (6 To 8)

RECEIVED
CK'D BY ____ CK'D BY JWC
APR 29 2009
RESULT ____ APPROVED ✓
BY ____ DATE 5/11/09
VTrans - PDD
APR 29 2009
Structures Design Section

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 201
Revision no. ____
Form III-2

AWS QC1 PAUL E. WOODALE 03780201 CWI

Contractor Casco Bay Steel
Authorized By Paul E. Woodale
Date 3/2/00

Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072
Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 Gr 250 -345 - 345W
Welding process Submerged Arc Welding (SAW)
Manual or machine Machine
Position of welding Flat 1F - Horizontal 2F
Filler metal specification AWS A5-23
Filler metal classification Lincoln LA 75, FBA2.-EM11-M1
Flux Lincoln 960 Elec. EX 1/8 ± 3/4
Shielding gas NA Flow rate NA
Single or multiple pass Single and Multiple Pass
Single or multiple arc Single
Welding current DC
Polarity DCEN
Welding progression See joint Detail
Root treatment To meet AWS specification
Preheat and interpass temperature To 3/4-50, +3/4 To 1½-70°, +1½ To 2½-150°F over 2½ 225
Postheat temperature NA
Heat Input Min 30 KJ/in Max 4711 KJ/in PQR-FCM #9 4218 KJ/in

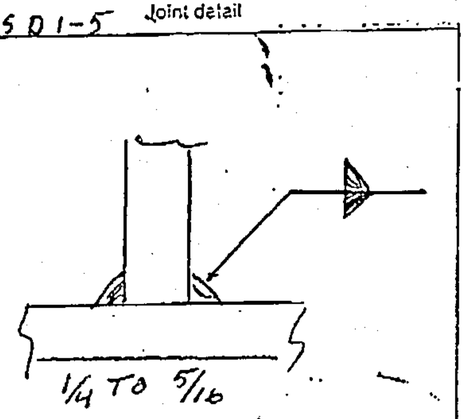
VT. A.O.T.
E. Montpelier
Br#74-Proj#0283(36)
CBSS 400.

WELDING PROCEDURE

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
		293	32	13 IPM
1	3/32	264 To 322	30 To 34	11 To 15

VTRANS
RECEIVED
CHKD BY ____ CKD BY JWC
APR 29 2009
REQUEST APPROVED ✓
BY DATE 5/11/09

Joint detail AWS D1-5



AWS QC 1 PAUL E GOODALE RESIDENT

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 250
Revision no. 1 new PQR
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Goodale
Date 11-1-06

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709 - Gr36-50-50W / A709M - Gr250-345-345W
Welding process Submerged Arc welding (SAW)
Manual or machine Machine
Position of welding Flat
Filler metal specification AWS A5-23
Filler metal classification F8A2-EN1LK-N1
Flux Lincoln 960 with LA75 Elec. - Elec Ex.
Shielding gas N/A Flow rate N/A
Single or multiple pass
Single or multiple arc
Welding current DC
Polarity DC EN
Welding progression See details
Root treatment wire brush area Tobe Free of loose Scale-Slag-rust and Moisture
Preheat and interpass temperature To 20mm (3/4) 10(50), 20-40 (3/4-1 1/2) 20(70), 40(1 1/2) To 60(2 1/2) 65 (150) over 60 (2 1/2) 110 (225)
Posfheat temperature N/A
Heat Input Min 41.1 Max 64.5 PQR-FCM3A-5B

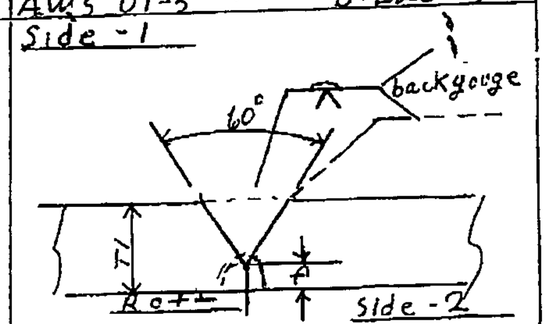
VT. A.O.T
E. Montpelier
Br# 74-Proj# 0283(36)
CBSS 400.

WELDING PROCEDURE

Pass no	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
	5/32	597	295	18IPM
		567 To 627	27 To 31	16 To 21

AWS 5-13
AWS D1-5 Joint detail B-L2C-5

Side - 1



T1	f
1/2 To 1"	1/4 Min
over 1 To 1 1/2	3/8 Min
over 1 1/2 To 2	1/2 Min

Backgouge side 2 Max heat 420 F

RECEIVED
APR 29 2009
CK'D BY JWC
APPROVED ✓
DATE 5/11/09
RESUBMIT
BY

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 2-02
Revision no. 1-Root 0±
Form III-2

Contractor Casco Bay St
Authorized By Paul E.
Date 12-6-06

CBSS QC
Paul Goudreau
CWI

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360 Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A709/A709M Gr 36 (250) -50(345) -50W(345W)
Welding process Flux Cored Arc welding
Manual or machine Semi-Auto
Position of welding Flat (1F) - Horizontal (2F)
Filler metal specification AWS-A5-29
Filler metal classification E81T1-Ni1
Flux NA
Shielding gas 75%AR/25%CO² Flow rate 35 CFH ±8.6
Single or multiple pass Single and multiple
Single or multiple arc Single
Welding current Direct
Polarity Reverse Electrode Positive
Welding progression
Root treatment To Meet AWS D1-5 Specification
Preheat and interpass temperature To 3/4(19) 50°F(10°)-3/4"(19") To 1 1/2 · 70°F(20°) 1 1/2(38) To 2 1/2(64) 150°F(65°C) over 2 1/2(64) 225°F(110°C)
Postheat temperature NA
Heat Input Min 28.6 (1.1 KJ/mm) Max 45.0 (1.8 KJ/mm) PQR, #2 = 4.0.9 · (1.15 KJ/mm) VT. A.O.T E. Montpelier Br# 74-Prj# 028-303 CBSS 400

(Metric) WELDING PROCEDURE

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
AS Req (metric)	1/16	275	28.8	11.6
		247 TO 302.5	26.8 TO 30.8	10.4 TO 12.8
	1.6	275	28.8	294.6
		247 TO 302.5	26.8 TO 30.8	264.2 TO 325.12

AWS D1.5 Joint detail Fillet

1F



2F



TRANS
RECEIVED
CK'D BY CK'D BY JLC
APR 29 2009
RESUBMIT APPROVED ✓
BY DATE 5/1/09

This procedure may vary due to fabrication sequence, fit up pass size, etc , within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no 101-A
Revision no 1

Contractor Casco Bay Steel
Authorized By J.C. Goodall
Date 9 2007

Form III 2

VTRANS
RECEIVED
APR 29 2009

Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

Phone. (207) 772-2533 Fax (207) 772-0580

CK'D BY _____ OK'D BY JUC
RESUBMIT _____ APPROVED ✓
BY _____ DATE 5/11/09

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709-Gr36-50-50W (250-345-345W)
Welding process Shielded Metal Arc welding (SMAW)
Manual or machine Manual
Position of welding Flat (1F), Horizontal (2F)
Filler metal specification ANSI/AWS A5.1 - A5.5
Filler metal classification E7018 - 8018 C1/C3 - 7028
Flux N/A
Shielding gas N/A Flow rate N/A
Single or multiple pass Single and multiple
Single or multiple arc Single
Welding current AC/DC
Polarity Straight / Reverse
Welding progression
Root treatment Meet AWS SPECIFICATION
Preheat and interpass temperature To 3/4(19) 50°F(10°) 3/4"(19) To 1 1/2(38) 70°F(20°) 1 1/2(38) To 2 1/2(63.5) 150°F(65°) over 2 1/2(63.5) 225°F(110°)
Postheat temperature N/A
Heat Input Min N/A Max N/A

VT AOT
E MONTPELIER
Br# 74-Proj# 0283(36)
CBSS WPS

WELDING PROCEDURE (METRIC)

Pass no	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
AS REQ	7018 1/8 (3.2)	70-170	22-26	AS REQ
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	170-300	24-27	
	8018 1/8 (3.2)	90-160	22-26	
	5/32 (3.9)	120-225	22-26	
	3/16 (4.8)	180-290	24-27	
	7028 5/32 (3.9)	170-270	22-26	
	3/16 (4.8)	210-330	24-27	

Joint detail AWS D1.5 FILLET

1F


3/16 To 3/8 (5 To 10)

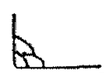

3/8 To 1/2 (10 To 13)


1/2 To 5/8 (13 To 16)

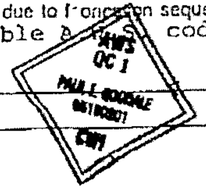
2F


3/16 To 5/16 (5 To 8)


3/8 (10)


7/16 To 5/8 (11 To 16)

This procedure may vary due to progression sequence, fit up pass size, etc., within the limitation of variables given in applicable ASME, AWS codes or contract specifications



Procedure no 401
Revision no
Form III 2

Contractor Casco Bay Steel
Authorized By Paul E. Hoodale
Date 3/2/00

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2007 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). UNLESS OTHERWISE NOTED, ALL STEEL TO BE AASHTO M270M (ASTM A709M) GRADE 345W.

2). MATERIAL NOTED "CVN", "H2-3" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3). HIGH STRENGTH BOLTS: $\frac{7}{8}$"ø ASTM A325 (AASHTO M164) TYPE 3 IN $\frac{15}{16}$"ø HOLES.
NUTS SHALL BE A563 (AASHTO M291) CLASS 10S3 FINISH = PLAIN. ⚠
BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.
DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE.

WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-08 ⚠ BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4). SEE DETAIL "WS1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

CLEANING

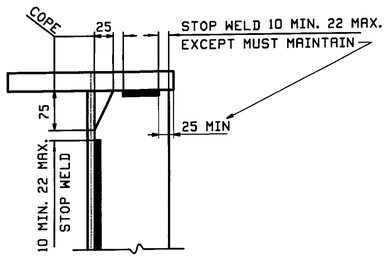
1. ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC SP-10.
2. STRUCTURAL STEEL SHALL NOT BE PAINTED.

FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-490 TYPE 3 BOLTS (UN), INSTALLED PER SECTION 506.19(c). SEE DWG E1 FOR FIELD BOLT SIZES.

2). BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.

3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.



DETAIL "WS1"

RECEIVED
CK'D BY JTL CK'D BY ✓
MAY 2 9 2009
APPROVED ✓
BY KMH DATE 6/1/09

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠ 1	5/19/2009	APPROVAL COMMENTS	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS

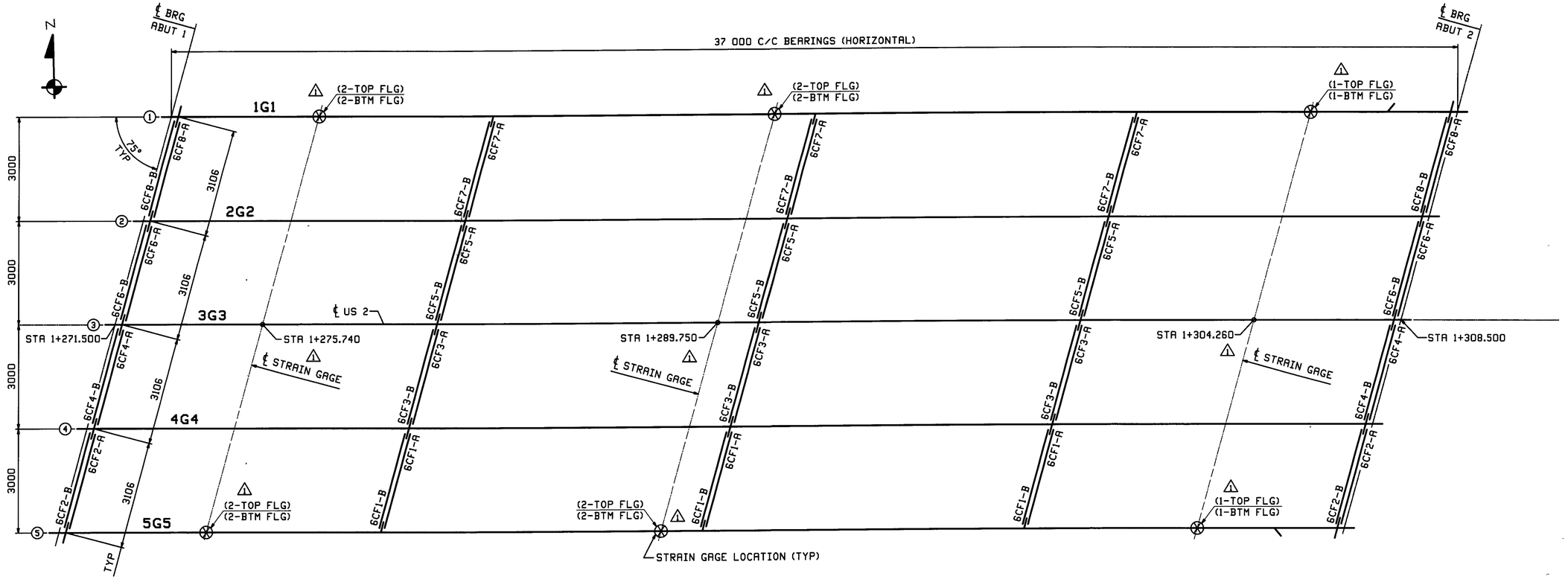
DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE: U S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO. 74 COUNTY OF WASHINGTON	DRAWN: JTB	DATE: 04/03
	CHK'D: ELC	DATE 04/06
LOCATION: TOWN OF EAST MONTPELIER, VERMONT	JOB NO.	DWG NO.
PROJ NO. BRF 028-3 (36)	400	GN1
CUSTOMER: WINTERSET, INC		REV. ⚠

NOTE TO ENGINEER
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

ELC Wed, May 20, 2009 07:28:01 AM J:\Jobs\2860\GN1.Rvt



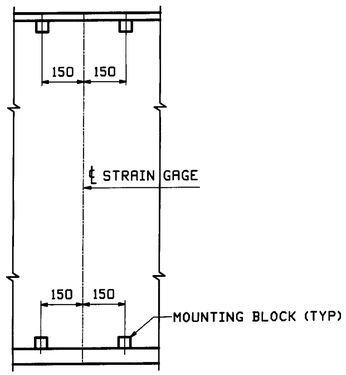
FRAMING PLAN

FIELD BOLT LIST							A490 Type 3 BOLTS						
LINE	NO REQ'D	BOLT DIAM	BOLT LEN	BOLTS /CONN.	# OF CONN	GRIP	THICKNESS OF PCS CONNECTED					WASH CODE	PIECES CONNECTED AND REMARKS
1													**INT. CROSSFRAMES**
2	64	7/8	2 1/2	2	32	29	10	19				1	DIAGONAL TO BRG STIFFENER
3	96	7/8	2 1/4	2	48	23	10	13				1	DIAGONAL TO INT STIFFENER

WASHER CODES

1 1 Hard Flat Washer

FIELD BOLT SUMMARY	EXACT COUNT - NONE EXTRA					
LINE	NO OF BOLTS	BOLT DIAM	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	96	7/8	A490 Type 3	2 1/4	96	
2	64	7/8	A490 Type 3	2 1/2	64	
3						
4	160	Hard Flat Washers for 7/8 ø BOLT			F436-3	
5						
6						
7						



⚠ **ELEVATION AT STRAIN GAGES**

STRAIN GAGES NOT SHOWN

NOTE:
SEE DWGS 1 & 5 FOR REQUIRED LOCATIONS
OF STRAIN GAGE MOUNTING BLOCKS.

RECEIVED
CK'D BY ____ CK'D BY ____
MAY 29 2
APPROVED ✓
BY KMH DATE 6/1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	5/20 2009	ADDED STRAIN GAGE LOCATION & ELEVATION VIEW	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

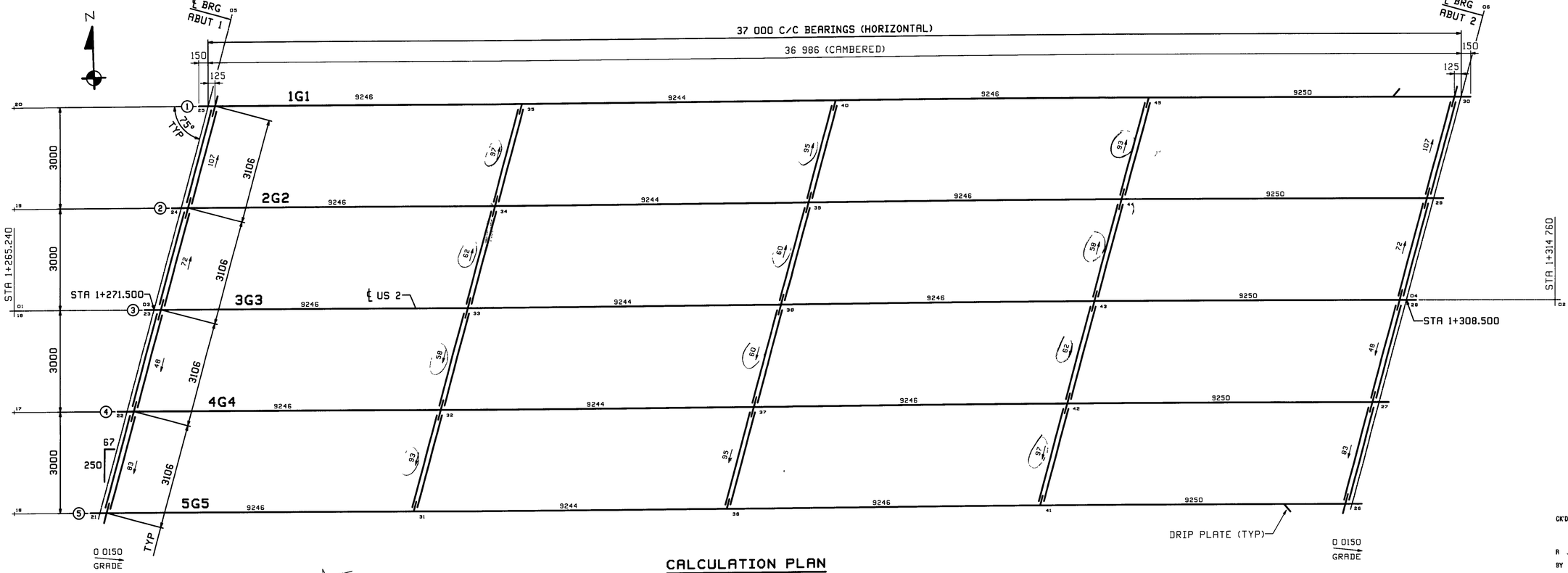
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

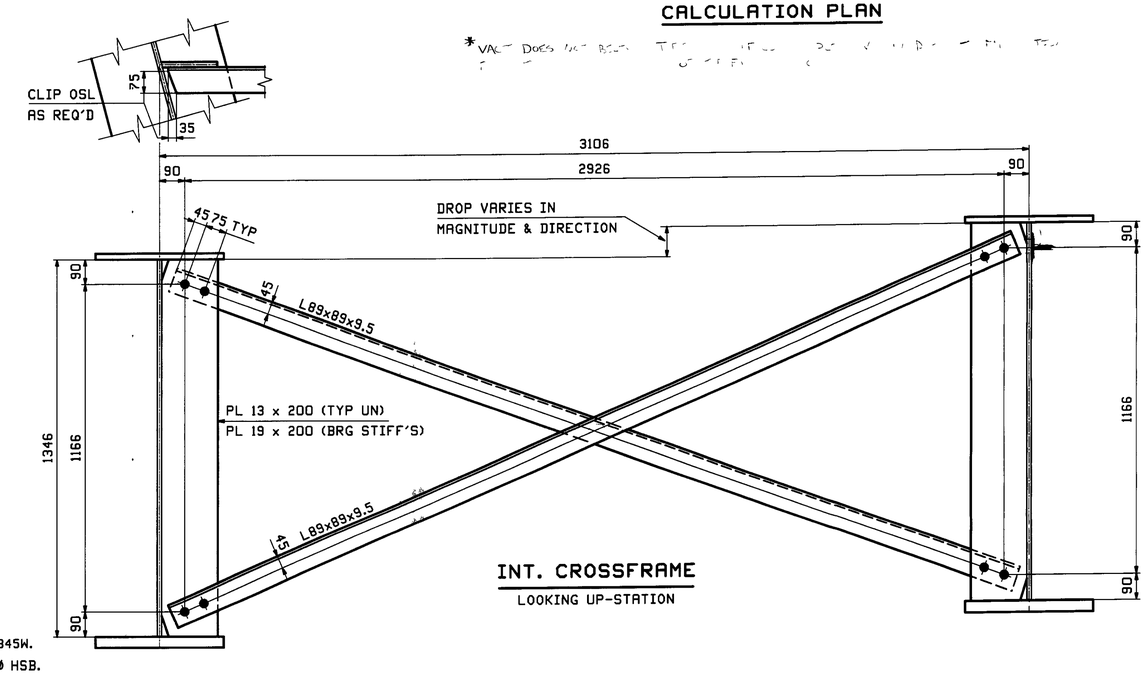
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE:	U.S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO 74 COUNTY OF WASHINGTON	DRAWN. JTB	DATE 04/03
		CHK'D. ELC	DATE 04/06
LOCATION:	TOWN OF EAST MONTPELIER, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRF 028-3 (36)	400	E1
CUSTOMER:	WINTERSET, INC		REV. ⚠

ELC Fri, May 22, 2009 08:08:50 AM //users/jobs/2860/dl1.Revit



CALCULATION PLAN



INT. CROSSFRAME

LOOKING UP-STATION

NOTES:

1. MATERIAL SHALL BE ASTM M270 GRADE 345W.
2. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"ø FOR $\frac{7}{8}$"ø HSB.

RECEIVED
CK'D BY JEL CK'D BY
MAY 29 2'
APPROVED As Noted
BY KMH DATE

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

CALCULATION PLAN NOTES:

1 LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF WEB WITH CORRECTIONS MADE FOR DL CAMBER, V.C. & GRADE (UN).
2 TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
3 ARROW POINTS TOWARD LOW END OF MEMBER.
4. ENDS OF GIRDERS ARE VERTICAL AFTER DL ROTATION.
5 CROSSFRAME STIFFENERS ARE NORMAL TO GRADE
6 BOTTOM POINT NUMBERS = TOP POINT NUMBERS + 100

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					MAY 27 2009 APR 15 2009	

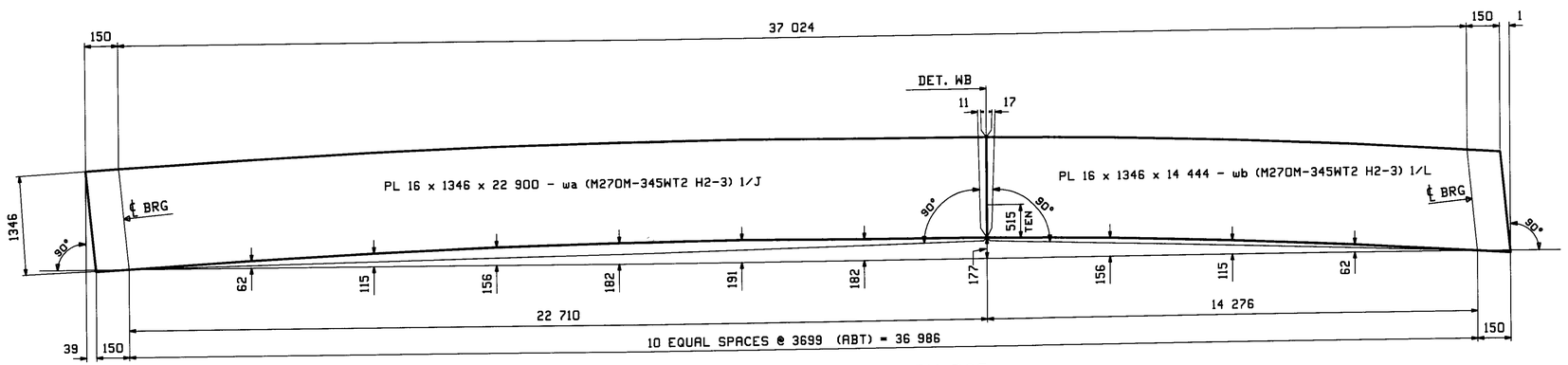
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS

DESCRIPTION: CALCULATION PLAN & CF LAYOUT

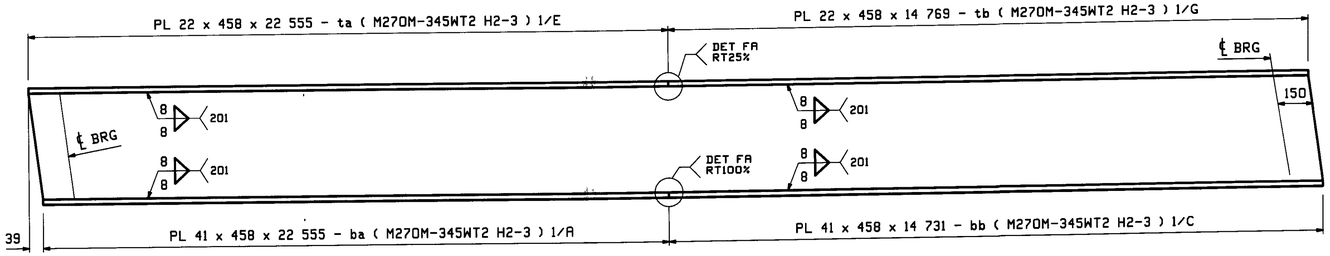
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE: U S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO 74 COUNTY OF WASHINGTON		DRAWN JTB	DATE 04/03
		CHK'D ELC	DATE 04/06
LOCATION: TOWN OF EAST MONTPELIER, VERMONT		JOB NO. 400	DWG NO. WS1
PROJ NO. BRF 028-3 (36)			REV. △
CUSTOMER: WINTERSET, INC			

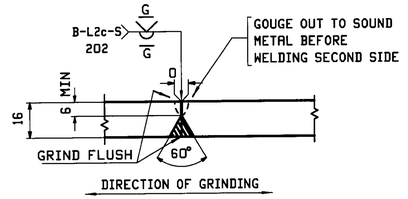
ELC Mon, Apr 13, 2009 08:05:02 PM J:\pw\jobs\2860\2851.0\w-0



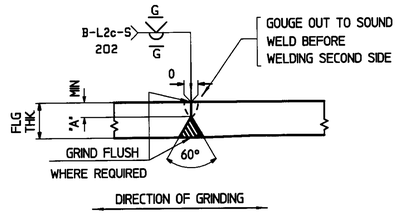
CAMBER DIAGRAM FOR 1G1 THRU 5G5



FLANGE DIAGRAM FOR 1G1 THRU 5G5



WEB PLATE SPLICE DETAIL "WA"



FLANGE PLATE SPLICE DETAIL "FA"

FLG THK	"A"
22	6
41	13

RECEIVED
CK'D BY JFL CK'D BY
MAY 29 2009
APPROVED
BY KMH DATE

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
						MAY 27 2009
0						APR 15 2009

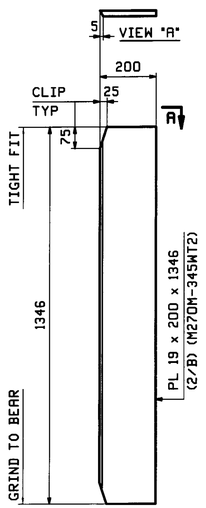
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	AS NOTED ON GN1		

DESCRIPTION: CAMBER & FLANGE DIAGRAM

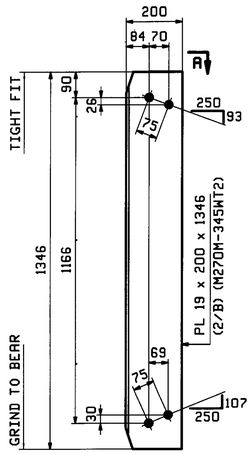
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE: U.S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO. 74 COUNTY OF WASHINGTON	DRAWN: JTB	DATE: 04/03
	CHKD: ELC	DATE: 04/06
LOCATION: TOWN OF EAST MONTPELIER, VERMONT	JOB NO.	DWG NO.
PROJ NO. BRF 028-3 (36)	400	C1
CUSTOMER: WINTERSET, INC		REV. △

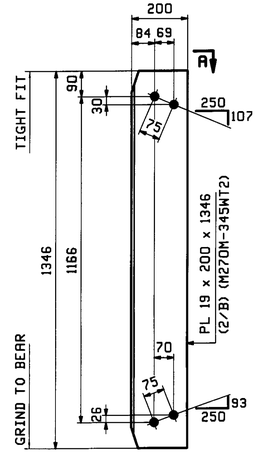
ELC Mon, Apr 13, 2009 08:08:48 AM //users/jobs/2860/C1.dwg



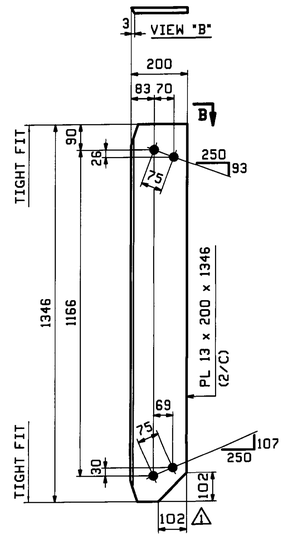
4 ~ x1a
BRG STIFF (FASCIA)



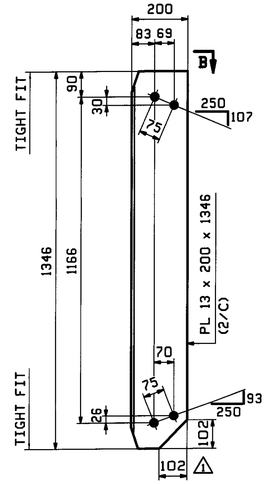
8 ~ x1b
ABUT CF CONN
(LOW END)



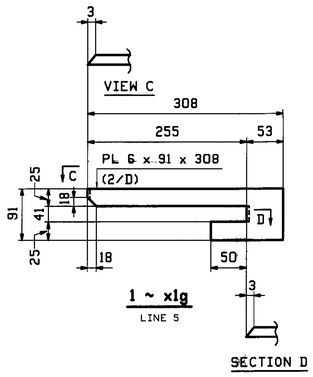
8 ~ x1c
ABUT CF CONN
(HIGH END)



12 ~ x1d
INT CF CONN
(LOW END)

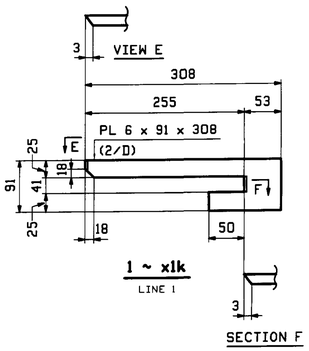


12 ~ x1f
INT CF CONN
(HIGH END)



1 ~ x1g
LINE 5

SECTION D



1 ~ x1k
LINE 1

SECTION F

RECEIVED
CK'D BY JEL CK'D BY
MAY 2021
APPROVED
BY KMH DATE 6/8/21

NOTES:
ALL MATERIAL SHALL BE M270M-345W (UN).
ALL BOLT HOLES SHALL BE $\frac{15}{16}$"ø FOR $\frac{7}{8}$"ø HSB.
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	5/19/2009	APPROVAL COMMENTS	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

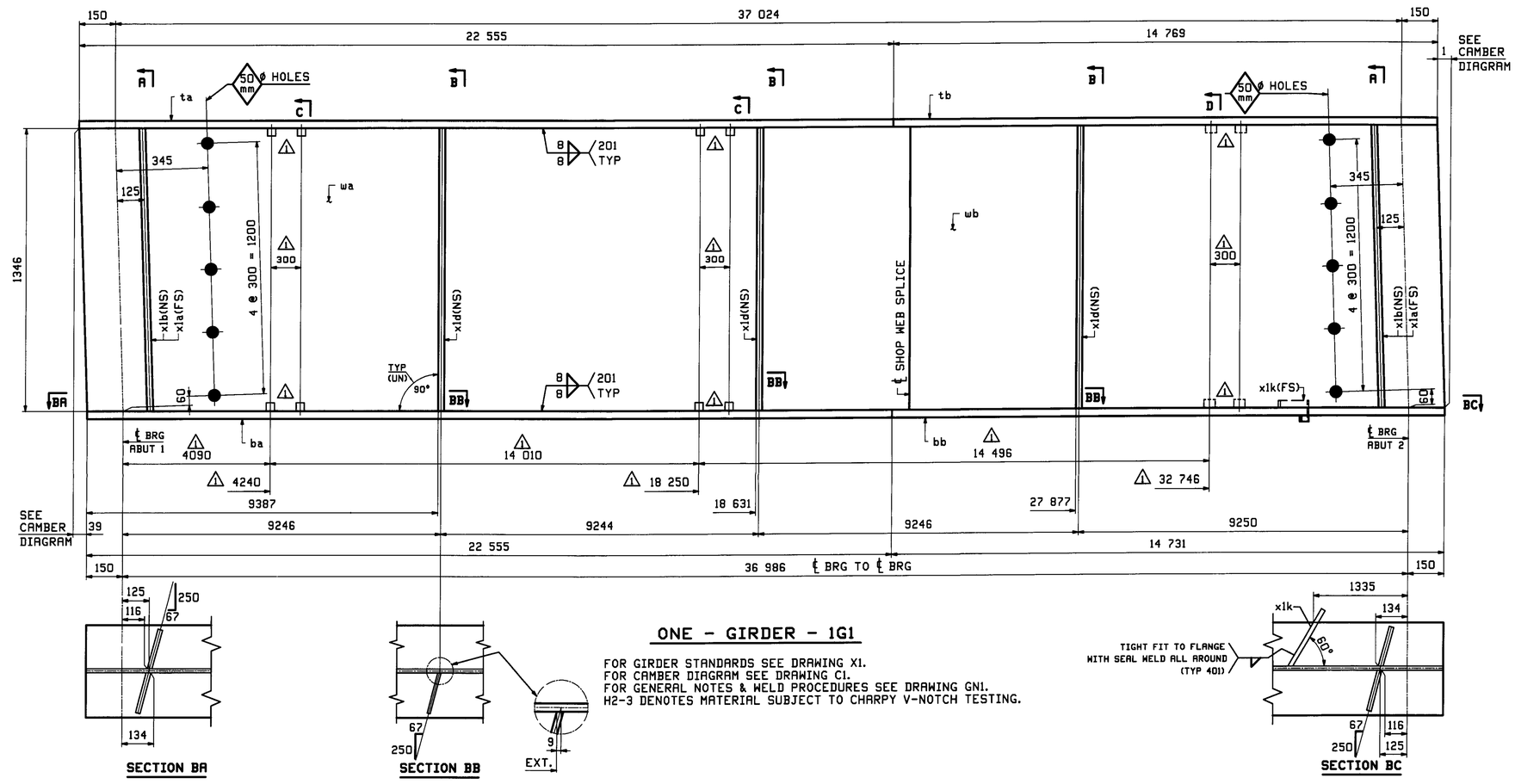
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	SEE GN1	$\frac{15}{16}$"ø	

DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2880

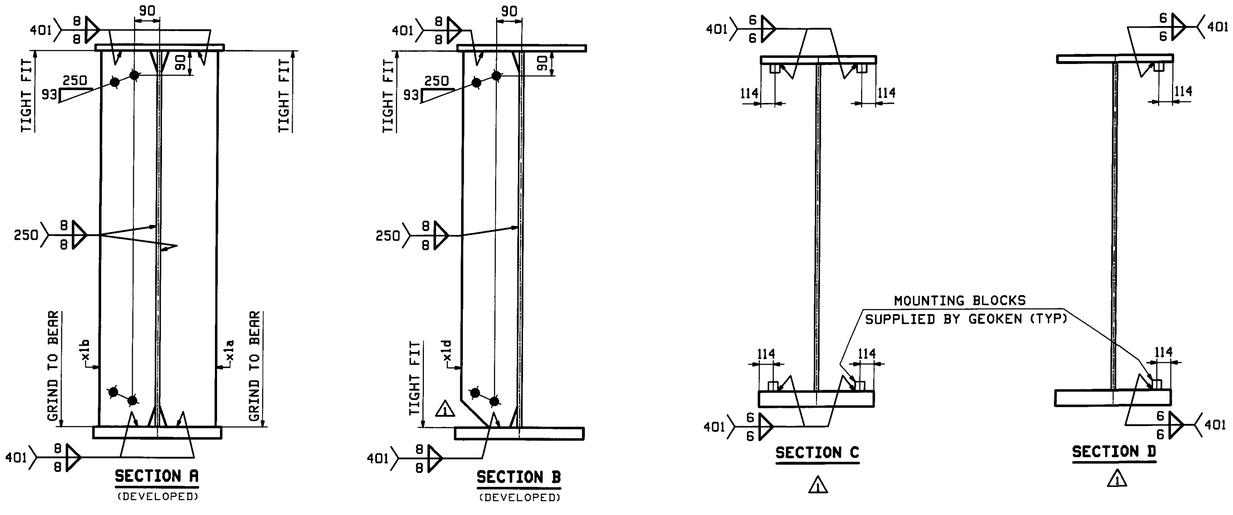
STRUCTURE: U S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO 74 COUNTY OF WASHINGTON	DRAWN	JTB	DATE 04/03
	CHK'D	ELC	DATE 04/06
LOCATION: TOWN OF EAST MONTPELIER, VERMONT	JOB NO.	400	DWG NO. X1
PROJ NO. BRF 028-3 (36)			
CUSTOMER: WINTERSET, INC			REV. 1

ELC Wed, May 26, 2021 07:28:13 PM /users/jobs/2880/X1.dwg



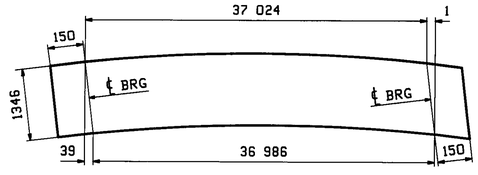
ONE - GIRDER - 1G1

FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								400	1	⚠1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER			15006 kg 33082 lbs		
1	J		1	wa	PL 16x1346	22	900	(M270M-345WT2)	(H2-3)	
1	L		1	wb	PL 16x1346	14	444	(M270M-345WT2)	(H2-3)	
1	E		1	ta	PL 22x458	22	555	(M270M-345WT2)	(H2-3)	
1	G		1	tb	PL 22x458	14	769	(M270M-345WT2)	(H2-3)	
1	A		1	ba	PL 41x458	22	555	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 41x458	14	731	(M270M-345WT2)	(H2-3)	
2	B		2	x1a	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	B		2	x1b	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	C		3	x1d	PL 13x200	1	346			
2	D		1	x1k	PL 6x91	0	308			

RECEIVED
CK'D by JEL OK'D BY
MAY 2021
APPROVED ✓
BY KMH DATE 6/1



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1 0	5/19 2009	APPROVAL COMMENTS & ADDED MOUNTING BLOCKS	ZAD	ELC	MAY 27 2009 APR 15 2009	

MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	SEE GN1	15/16"ϕ (UN)	NONE

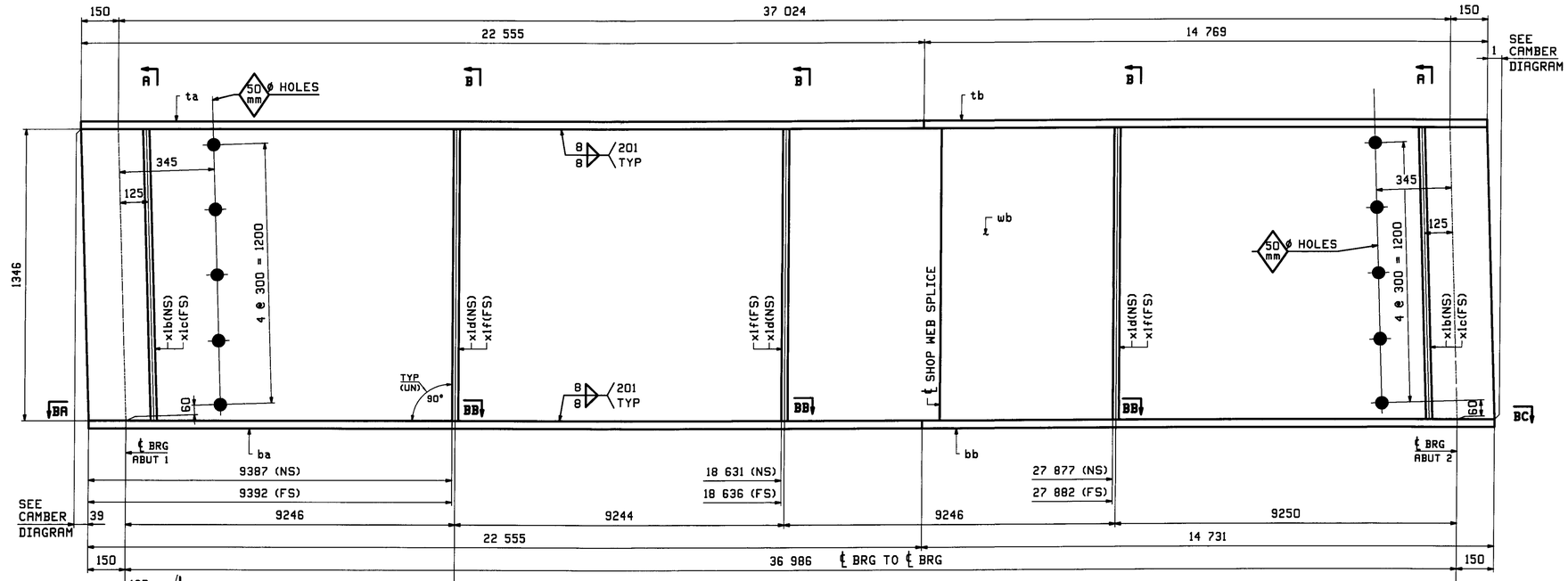
DESCRIPTION: GIRDER - 1G1

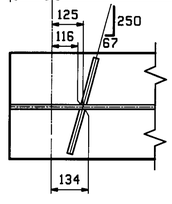
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 2860

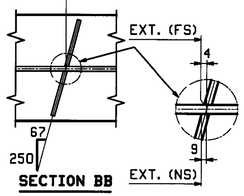
STRUCTURE: U.S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO. 74 COUNTY OF WASHINGTON		DRAWN JTB	DATE 04/03
		CHK'D ELC	DATE 04/06
LOCATION: TOWN OF EAST MONTPELIER, VERMONT		JOB NO. 400	DWG NO. 1
PROJ NO. BRF 028-3 (36)			
CUSTOMER: WINTERSET, INC			REV. ⚠1

ELC Fri May 28, 2021 08:46:28 AM J:\work\jobs\2860\1.dwg

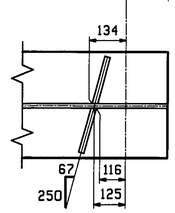




SECTION BA



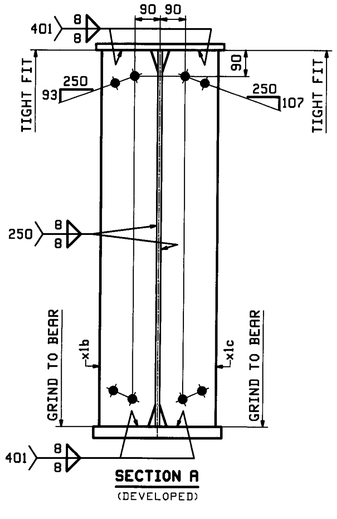
SECTION BB



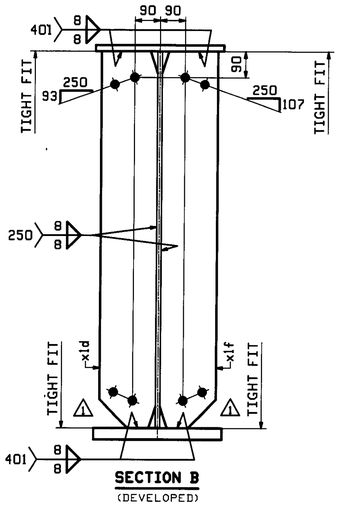
SECTION BC

ONE - GIRDER - 2G2

FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



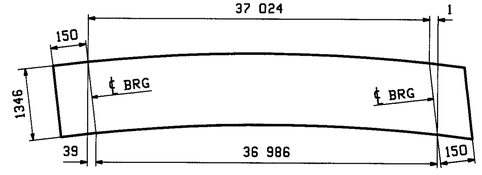
SECTION A
(DEVELOPED)



SECTION B
(DEVELOPED)

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								400	2	⚠1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				15087 kg 33261 lbs	
1	J		1	wa	PL 16x1346	22	900	(M270M-345WT2)	(H2-3)	
1	L		1	wb	PL 16x1346	14	444	(M270M-345WT2)	(H2-3)	
1	E		1	ta	PL 22x458	22	555	(M270M-345WT2)	(H2-3)	
1	G		1	tb	PL 22x458	14	769	(M270M-345WT2)	(H2-3)	
1	A		1	ba	PL 41x458	22	555	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 41x458	14	731	(M270M-345WT2)	(H2-3)	
2	B		2	x1b	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	B		2	x1c	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	C		3	x1d	PL 13x200	1	346			
2	C		3	x1f	PL 13x200	1	346			

RECEIVED
CK'D BY JFL OK'D BY
MAY 2021
APPROVED
BY KMH DATE 5/6/09



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	5/19 2009	APPROVAL COMMENTS	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

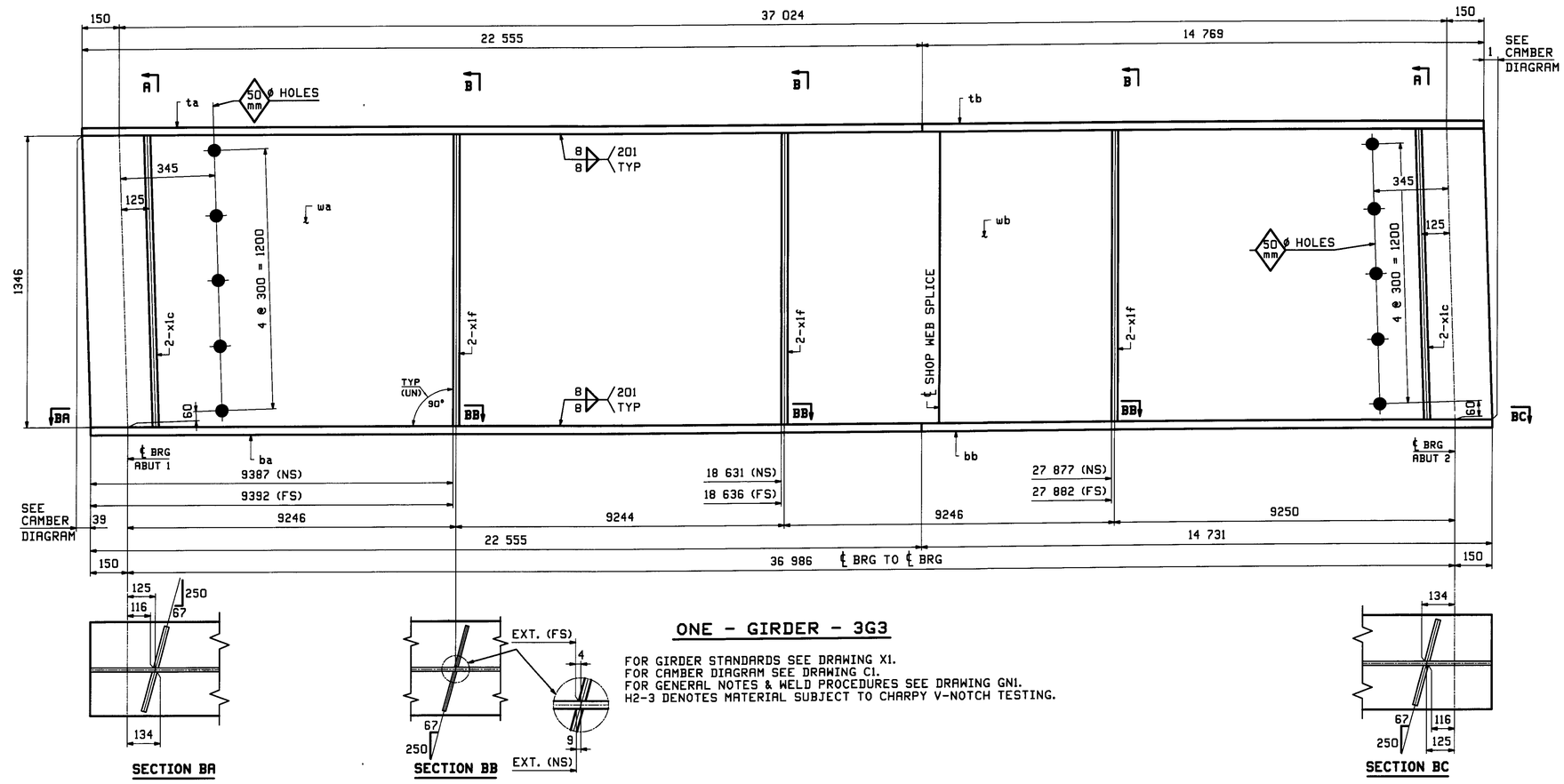
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	SEE GN1	15/16"ø (UN)	NONE

DESCRIPTION: GIRDER - 2G2

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE:	U.S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO 74 COUNTY OF WASHINGTON	DRAWN: JTB	DATE: 04/03
		CHK'D. ELC	DATE 04/06
LOCATION:	TOWN OF EAST MONTPELIER, VERMONT	JOB NO. 400	DWG NO. 2
PROJ NO.	BRF 028-3 (36)		REV. ⚠
CUSTOMER:	WINTERSET, INC		

Wed, May 20, 2009 11:08:42 PM //casco/Jobs/2860/2 - Rev1



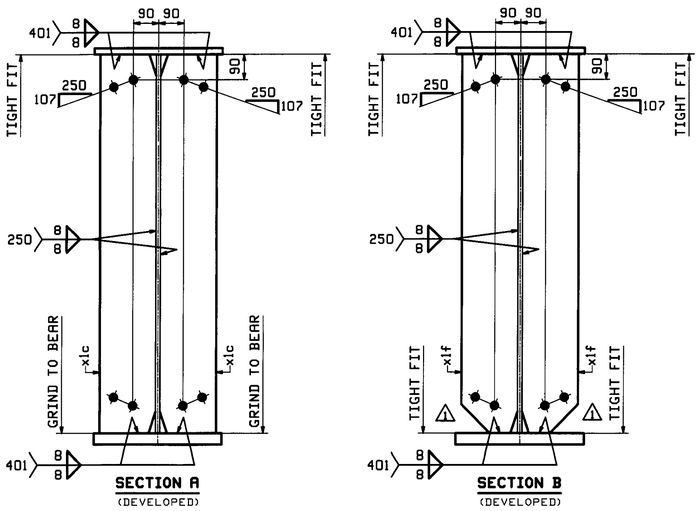
ONE - GIRDER - 3G3

FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

SECTION BA

SECTION BB

SECTION BC



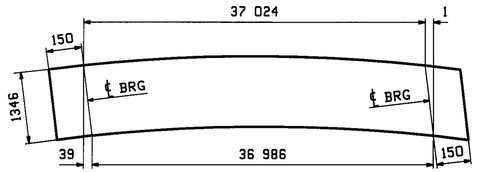
SECTION A
(DEVELOPED)

SECTION B
(DEVELOPED)

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER			15087 kg 33261 lbs		
1	J		1	wa	PL 16x1346	22	900	(M270M-345WT2)	(H2-3)	
1	L		1	wb	PL 16x1346	14	444	(M270M-345WT2)	(H2-3)	
1	E		1	ta	PL 22x458	22	555	(M270M-345WT2)	(H2-3)	
1	G		1	tb	PL 22x458	14	769	(M270M-345WT2)	(H2-3)	
1	A		1	ba	PL 41x458	22	555	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 41x458	14	731	(M270M-345WT2)	(H2-3)	
2	B		4	x1c	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	C		6	x1f	PL 13x200	1	346			

BILL OF MATERIAL — JOB NO. 400 — DRAWING NO. 3 — REV. 1

RECEIVED
CK'D BY JTB OK'D BY
MAY 29 2
R APPROVED
BY KMH DATE



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	5/19/2009	APPROVAL COMMENTS	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

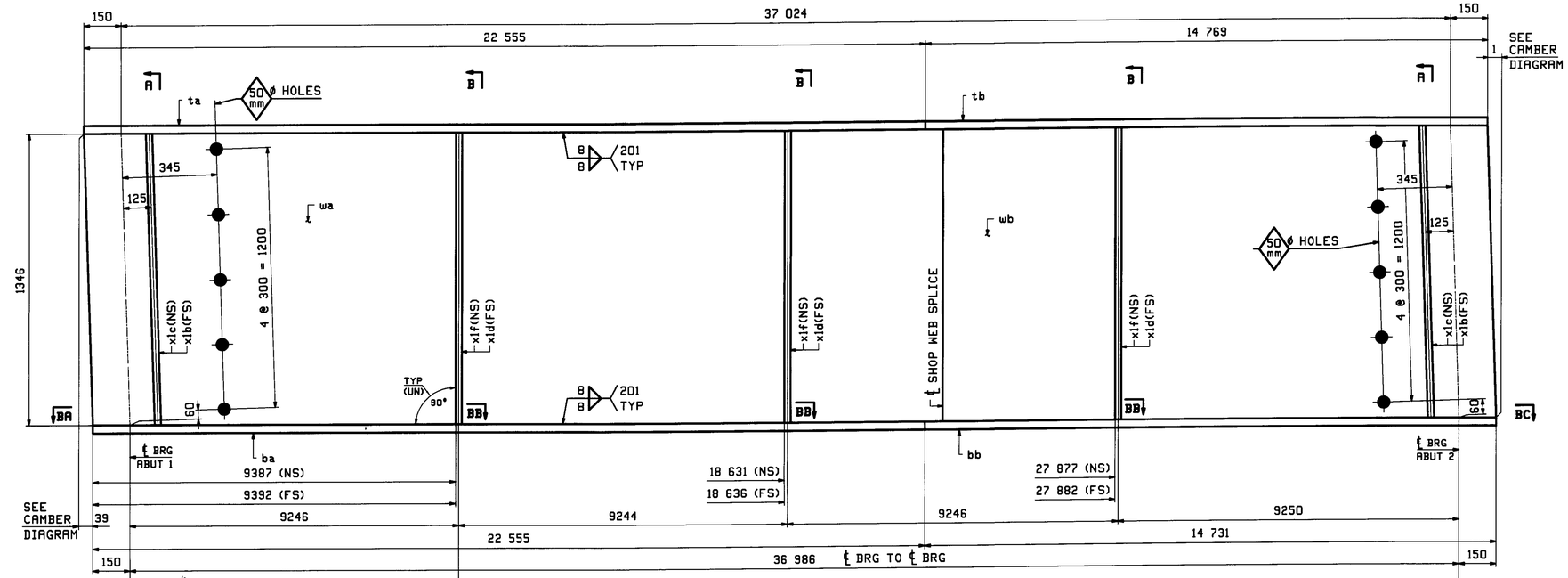
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	SEE GN1	15 16"ϕ (UN)	NONE

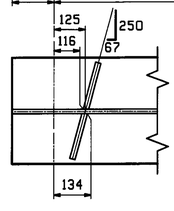
DESCRIPTION: GIRDER - 3G3

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

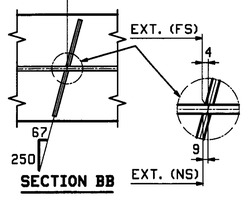
STRUCTURE: U.S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO 74 COUNTY OF WASHINGTON	DRAWN JTB	DATE 04/03	
	CHKD ELC	DATE 04/06	
LOCATION: TOWN OF EAST MONTPELIER, VERMONT	JOB NO. 400	DWG NO. 3	
PROJ NO. BRF 028-3 (36)		REV. 1	
CUSTOMER: WINTERSET, INC			

ELC Wed, May 20, 2009 07:08:18 AM c:\users\john\BRF28-3.dwg

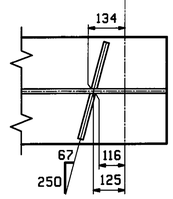




SECTION BA



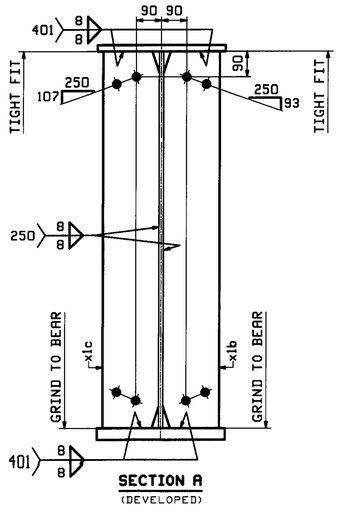
SECTION BB



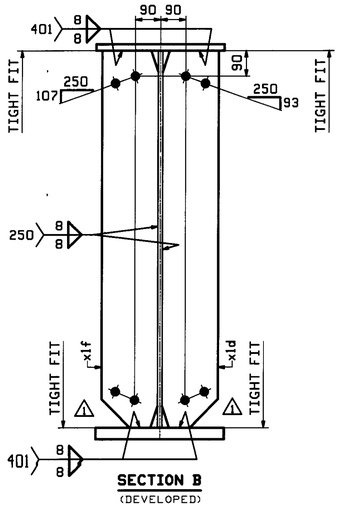
SECTION BC

ONE - GIRDER - 4G4

FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



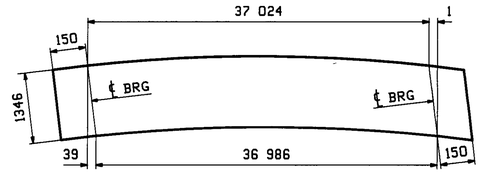
SECTION A
(DEVELOPED)



SECTION B
(DEVELOPED)

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								400	4	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER			15087 kg 33261 lbs		
1	J		1	wa	PL 16x1346	22	900	(M270M-345WT2)	(H2-3)	
1	L		1	wb	PL 16x1346	14	444	(M270M-345WT2)	(H2-3)	
1	E		1	ta	PL 22x458	22	555	(M270M-345WT2)	(H2-3)	
1	G		1	tb	PL 22x458	14	769	(M270M-345WT2)	(H2-3)	
1	A		1	ba	PL 41x458	22	555	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 41x458	14	731	(M270M-345WT2)	(H2-3)	
2	B		2	x1b	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	B		2	x1c	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	C		3	x1d	PL 13x200	1	346			
2	C		3	x1f	PL 13x200	1	346			

RECEIVED
CK'D BY JFL OK'D BY
MAY 2021
APPROVED
BY KMH DATE



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	5/19 2009	APPROVAL COMMENTS	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

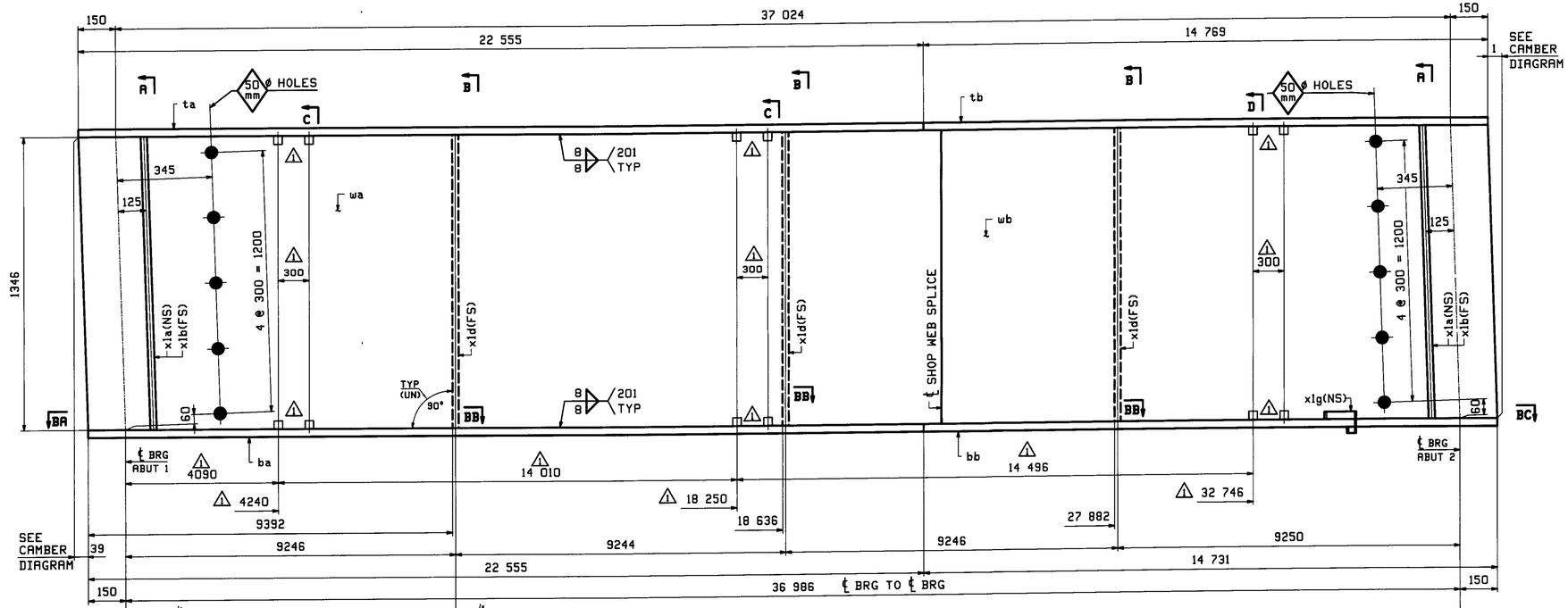
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	SEE GN1	15/16 ø (UN)	NONE

DESCRIPTION: GIRDER - 4G4

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE: U.S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO. 74 COUNTY OF WASHINGTON	DRAWN JTB	DATE 04/03	
	CHKD ELC	DATE 04/06	
LOCATION: TOWN OF EAST MONTPELIER, VERMONT	JOB NO. 400	DWG NO. 4	
PROJ NO. BRF 028-3 (36)			
CUSTOMER: WINTERSET, INC		REV. ⚠	

ELC Wed, May 20, 2009 07:38:43 PM /users/jobs/2860/4.1.dwg

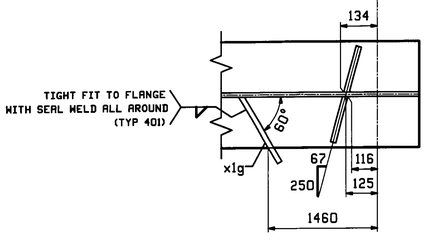


ONE - GIRDER - 5G5

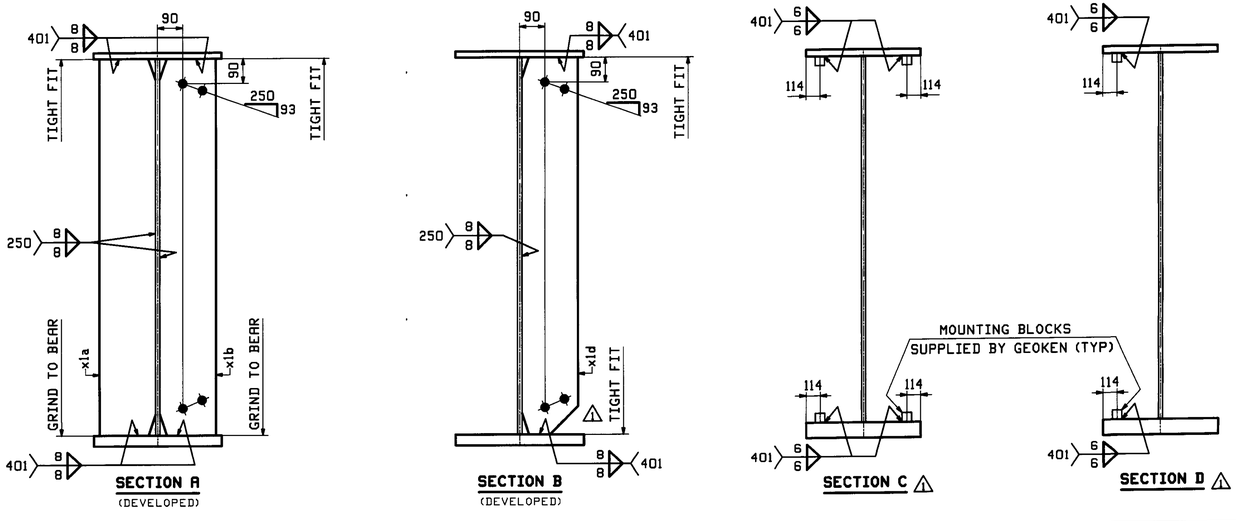
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

SECTION BA

SECTION BB



SECTION BC



SECTION A (DEVELOPED)

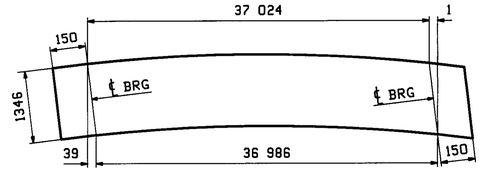
SECTION B (DEVELOPED)

SECTION C ⚠

SECTION D ⚠

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								400	5	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				15006 kg 33082 lbs	
1	J		1	wa	PL 16x1346	22	900	(M270M-345WT2)	(H2-3)	
1	L		1	wb	PL 16x1346	14	444	(M270M-345WT2)	(H2-3)	
1	E		1	ta	PL 22x458	22	555	(M270M-345WT2)	(H2-3)	
1	G		1	tb	PL 22x458	14	769	(M270M-345WT2)	(H2-3)	
1	A		1	ba	PL 41x458	22	555	(M270M-345WT2)	(H2-3)	
1	C		1	bb	PL 41x458	14	731	(M270M-345WT2)	(H2-3)	
2	B		2	x1a	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	B		2	x1b	PL 19x200	1	346	(M270M-345WT2)	(H2-3)	MIE
2	C		3	x1d	PL 13x200	1	346			
2	D		1	x1g	PL 6x91	0	308			

RECEIVED
CK'D BY JTL OK'D BY
MAY 2021
APPROVED
BY KMH DATE



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	5/19/2009	APPROVAL COMMENTS & ADDED MOUNTING BLOCKS	ZAD	ELC	MAY 27 2009	
0					APR 15 2009	

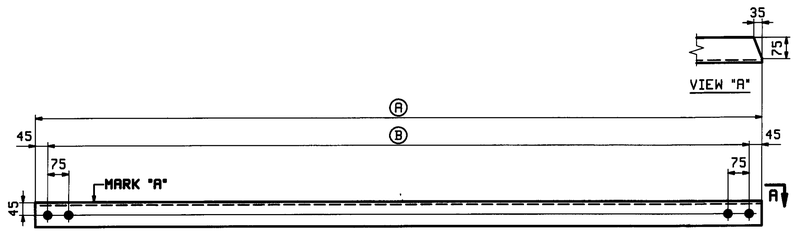
MATERIAL	SURFACE PREP & PAINT	HOLES	SHOP BOLTS
M270M-345W(UN)	SEE GN1	15/16"ø (UN)	NONE

DESCRIPTION: GIRDER - 5G5

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2860

STRUCTURE:	U S ROUTE 2 OVER WINOOSKI RIVER PRINCIPAL ARTERIAL BRIDGE NO 74 COUNTY OF WASHINGTON	DRAWN JTB	DATE 04/03
		CHKD ELC	DATE 04/06
LOCATION:	TOWN OF EAST MONTPELIER, VERMONT	JOB NO. 400	DWG NO. 5
PROJ NO.	BRF 028-3 (36)		REV. ⚠
CUSTOMER:	WINTERSET, INC		

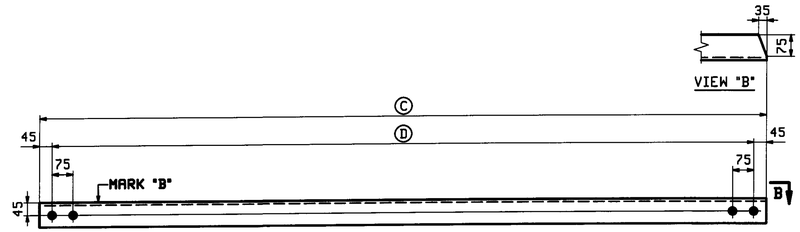
ELC Fri, May 22, 2009 09:04:49 AM c:\users\john\5G5-2.1.dwg



DIAGONALS ~ MARK "A"

LOOKING UP-STATION
FS DIAGONAL

MARK "A"	QTY	Ⓐ	Ⓑ	
6CF1-A	3	3276	3186	DROPS 97-93 (LINES 4-5)
6CF2-A	2	3271	3181	DROP 83 (LINES 4-5)
6CF3-A	3	3262	3172	DROPS 58-62 (LINES 3-4)
6CF4-A	2	3258	3168	DROP 48 (LINES 3-4)
6CF5-A	3	3218	3128	DROPS 58-62 (LINES 2-3)
6CF6-A	2	3214	3124	DROP 72 (LINES 2-3)
6CF7-A	3	3206	3116	DROPS 93-97 (LINES 1-2)
6CF8-A	2	3202	3112	DROP 107 (LINES 1-2)



DIAGONALS ~ MARK "B"

LOOKING UP-STATION
NS DIAGONAL

MARK "B"	QTY	Ⓒ	Ⓓ	
6CF1-B	3	3206	3116	DROPS 97-93 (LINES 4-5)
6CF2-B	2	3210	3120	DROP 83 (LINES 4-5)
6CF3-B	3	3218	3128	DROPS 58-62 (LINES 3-4)
6CF4-B	2	3222	3132	DROP 48 (LINES 3-4)
6CF5-B	3	3262	3172	DROPS 58-62 (LINES 2-3)
6CF6-B	2	3267	3177	DROP 72 (LINES 2-3)
6CF7-B	3	3276	3186	DROPS 93-97 (LINES 1-2)
6CF8-B	2	3281	3191	DROP 107 (LINES 1-2)

BILL OF MATERIAL

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					DIAGONALS					
2	G	6CF1-A	3		L 89x89x9.5	3	276		41 kg 90 lbs	
2	G	6CF2-A	2		L 89x89x9.5	3	271		41 kg 90 lbs	
2	G	6CF3-A	3		L 89x89x9.5	3	262		41 kg 90 lbs	
2	G	6CF4-A	2		L 89x89x9.5	3	258		41 kg 90 lbs	
2	H	6CF5-A	3		L 89x89x9.5	3	218		41 kg 90 lbs	
2	H	6CF6-A	2		L 89x89x9.5	3	214		40 kg 88 lbs	
2	H	6CF7-A	3		L 89x89x9.5	3	206		40 kg 88 lbs	
2	H	6CF8-A	2		L 89x89x9.5	3	202		40 kg 88 lbs	
2	H	6CF1-B	3		L 89x89x9.5	3	206		40 kg 88 lbs	
2	H	6CF2-B	2		L 89x89x9.5	3	210		40 kg 88 lbs	
2	H	6CF3-B	3		L 89x89x9.5	3	218		41 kg 90 lbs	
2	H	6CF4-B	2		L 89x89x9.5	3	222		41 kg 90 lbs	
2	G	6CF5-B	3		L 89x89x9.5	3	262		41 kg 90 lbs	
2	G	6CF6-B	2		L 89x89x9.5	3	267		41 kg 90 lbs	
2	G	6CF7-B	3		L 89x89x9.5	3	276		41 kg 90 lbs	
2	G	6CF8-B	2		L 89x89x9.5	3	281		41 kg 90 lbs	

JOB NO. 400 | DRAWING NO. 6 | REV.

RECEIVED
CK'D BY JTL OK'D BY 1
MAY 2 2 2009
APPROVED As Noted
BY KMH DATE 6/1/09

FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					MAY 27 2009	APR 15 2009

MATERIAL	SURFACE PREP. & PAINT	HOLES	SHOP BOLTS
M270M-345W	SEE GN1	15/16"ø	

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2850

STRUCTURE: U.S. ROUTE 2 OVER WINOOSKI RIVER
PRINCIPAL ARTERIAL
BRIDGE NO. 74
COUNTY OF WASHINGTON

LOCATION: TOWN OF EAST MONTPELIER, VERMONT
PROJ NO. BRF 028-3 (36)
CUSTOMER: WINTERSET, INC

DRAWN	DATE
JTB	04/06
CHKD	DATE
ELC	04/06
JOB NO.	DWG NO.
400	6
	REV. △

ZND Thu, May 21, 2009 03:57:12 PM /nasvr/jobs/2850/6 1 Rev1

NYSDOT
METALS ENGINEERING
REVIEW
X APPROVED
APPROVED AS NOTED
DISAPPROVED
R. Pinkowski
7/15/08

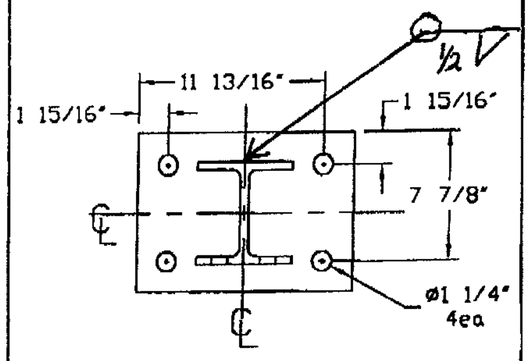
WELDING PROCEDURE SPECIFICATION

STOCK PQR # ELDERLEE #1

Material Specification	A572 GRD 50 /A992-06a
Welding Process	FCAW
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT
Filler Metal Specification	A5 20
Filler Metal Classification	E70 LINCOLN OUTERSHEILD
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50 CFM (45 TO 63 CFM)
Single or Multiple Pass	SINGLE
Single or Multiple Arc	N/A
Welding Current	DC
Polarity	DCEP
Welding Progression	STRINGER
Root Treatment	CLEAN AS PER SECTION 603 OF THE NYSSCM
Preheat and Interpass Temperature	PREHEAT AS PER TABLEL 708 OF THE NYSSCM
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

WELDING PROCEDURE

Pass no	Electrode size	Welding Current Amperes	Welding Current Volts	Travel speed	Joint detail
1	3/32	390	27	12	
Variable	LIMITS	351 TO 429	25 TO 29	11 TO 13	



VTRANS
RECEIVED
CK'D BY _____ OK'D BY JWC
JUL 15 2009
BY KmH APPROVED ✓
DATE 7-24-09

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

Procedure No 1010-1
Revision No _____

Contractor Elderlee Inc
Authorized By RANDY SCOTT
Date 6/18/2008

WELDING PROCEDURE SPECIFICATION

Material Specification	A53 TO A572
Welding Process	FCAW
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT
Filler Metal Specification	A5 20 - 95
Filler Metal Classification	E71T-1H8 E71T-9H8 LINCOLN ULTRACORE
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	(REVERSE) ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	CLEAN AS PER SECTION 603 OF THE NYSSCM
Preheat and Interpass Temperature	PREHEAT AS PER TABLEL 708 OF THE NYSSCM
Postheat Temperature	NONE
Heat Input	Min ____ Max ____

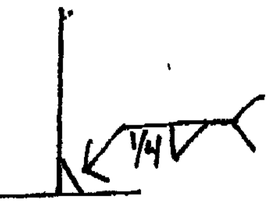
WELDING PROCEDURE

Pass no	Electrode size	Welding Current Amperes	Welding Current Volts	Travel speed	Joint detail
1	1/16	300	26	14	
Variable	LIMITS	270 TO 330	24 TO 28	12 6 TO 15 4	

NYSDOT METALS ENGINEERING REVIEW
X APPROVED
APPROVED AS NOTED
DISAPPROVED
R. Rinkewalle
1/12/09

RECEIVED
JUL 15 20
BY

OK D BY RWS
OK D BY JWC
APPROVED
DATE 7-11-09



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

Procedure No 1025
Revision No

Contractor Elderlee, Inc
Authorized By RANDY SCOTT
Date 12/4/2008

Form III-2

Form III-2-Sample Welding Procedure Specification

WELDING PROCEDURE SPECIFICATION

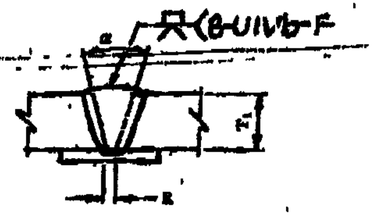
Material Specification	5X5X5/16 A500 GRADE B
Welding Process	FCAW
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT
Filler Metal Specification	A5 20 - 95
Filler Metal Classification	E71T-1H8 E71T-9H8 LINCOLN ULTRACORE
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	(REVERSE) ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	CLEAN AS PER SECTION 603 OF THE NYSSCM
Preheat and Interpass Temperature	PREHEAT AS PER TABLEL 708 OF THE NYSSCM
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

WELDING PROCEDURE

Pass no	Electrode size	Welding Current Amperes	Welding Current Volts	Travel speed	Joint detail
1	1/16	300	26	14	
Variable	LIMITS	270 TO 330	24 TO 28	12 6 TO 15 4	

NYSDOT METALS ENGINEERING REVIEW
X APPROVED
APPROVED AS NOTED
DISAPPROVED
R. Pinchelli
1/12/09

TRANS
RECEIVED
CK D BY _____ OK D BY JCC
JUL 15 20
APPROVED
DATE 1-11-09



FX(B-U1V6-F
ITEM 563 BRIDGE RAIL

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

Procedure No 1035
Revision No _____

Contractor Elderlee, Inc
Authorized By RANDY SCOTT
Date 12/4/2008

Form III-2

Form III-2-Sample Welding Procedure Specification

WELDING PROCEDURE SPECIFICATION

Material Specification	A500 GR B A36
Welding Process	FCAW
Manual or Machine	SEMAUTOMATIC
Position of Welding	FLAT
Filler Metal Specification	A5 20 - 95
Filler Metal Classification	E71T-1H8 E71T-9H8 LINCOLN ULTRACORE
Flux	N/A
Shielding Gas	CO 2 Dew Point -40DEG F Flow Rate 50CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	(REVERSE) ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	CLEAN AS PER SECTION 603 OF THE NYSSCM
Preheat and Interpass Temperature	PREHEAT AS PER TABLEL 708 OF THE NYSSCM
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

WELDING PROCEDURE

Pass no	Electrode size	Welding Current Amperes	Welding Current Volts	Travel speed	Joint detail
1	1/16	300	26	14	
Variable	LIMITS	270 TO 330	24 TO 28	12 6 TO 14	

NYSDOT METALS ENGINEERING REVIEW
X APPROVED
APPROVED AS NOTED
DISAPPROVED
E Pinkowski
1/12/09

RECEIVED
JUL 15 2009
CODED BY _____ OK'D BY JWC
APPROVED
BY _____ DATE 7-22-09

5/16

ITEM 568
POST TO BASE R

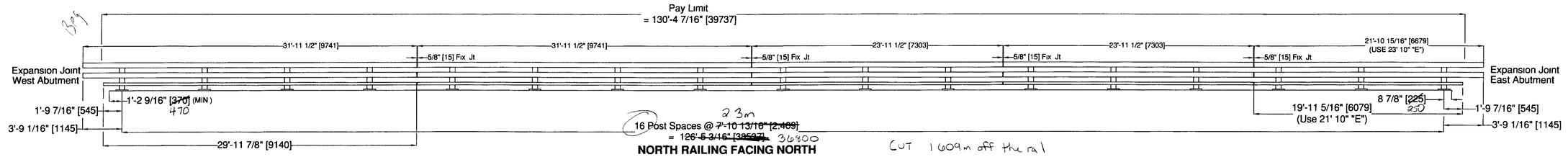
This procedure may vary due to fabrication sequence, fit-up, pass size etc within the limitation of variables given in Section 5

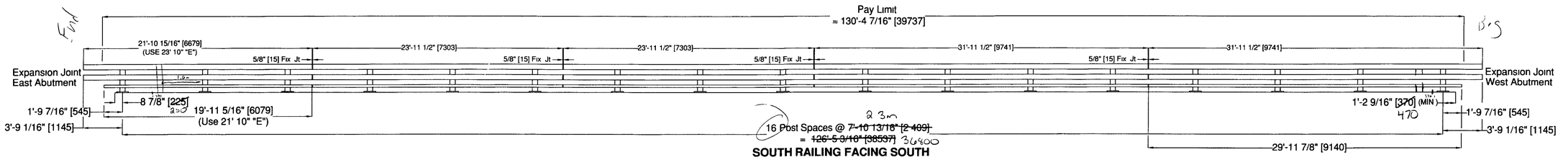
Procedure No 1037
Revision No _____

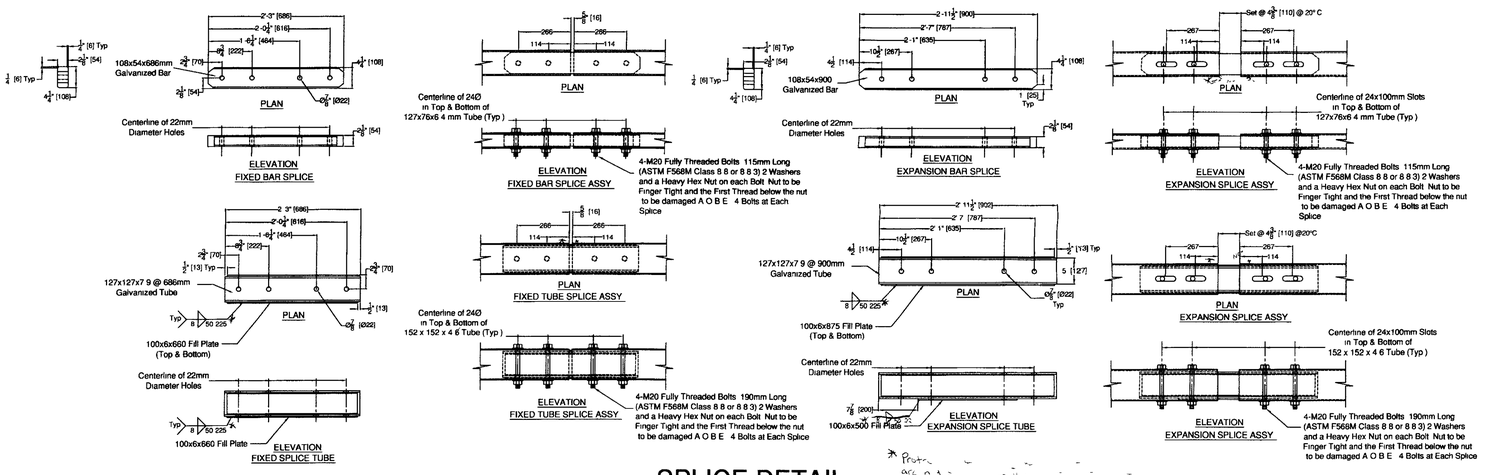
Contractor Elderlee, Inc
Authorized By RANDY SCOTT
Date 12/4/2008

Form III-2

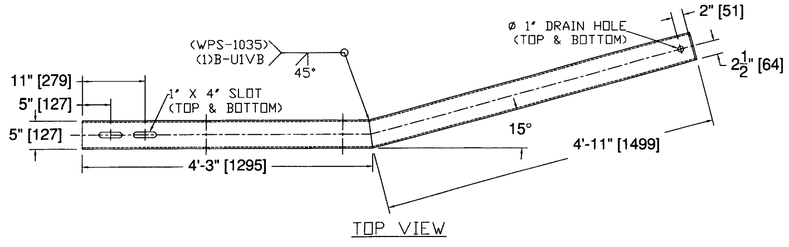
Form III-2-Sample Welding Procedure Specification

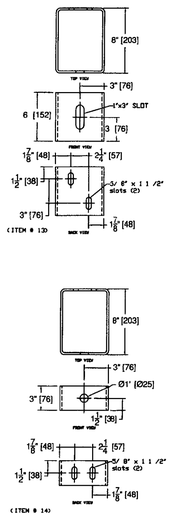






SPLICE DETAIL





40 767
38 540
2163
1600
40 767
36135
3.772

ITEM #: 900.640

GEN CONTR: F.R. LAFAYETTE, INC.

SHEET 1 OF 4

APPROVED BY:

RECEIVED
CK'D BY ___ CK'D BY KMH
JUL 06 2009
R.S.E.MT ___ APPROVED ___
BY KMH DATE

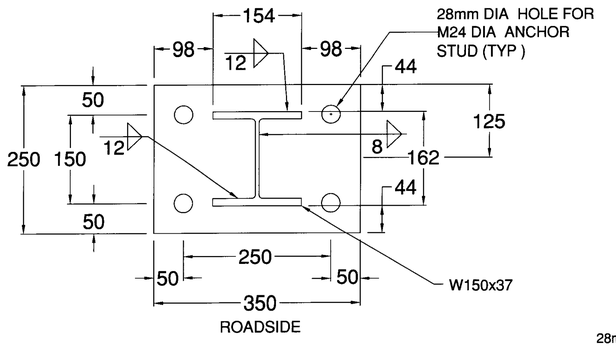
BRIDGE RAIL DETAILS SHEET

EAST MONTPELIER BRF 028-3(36)
VT AOT CONTRACT ID 98B254
G C WINTERSET. INC

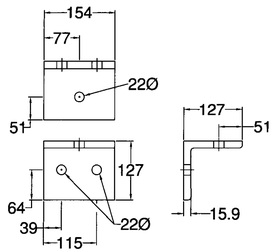
R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E					E				
V					V				

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail:dlong@elderlee.com
Tel 315-789-6670 Fax 315-789-6615

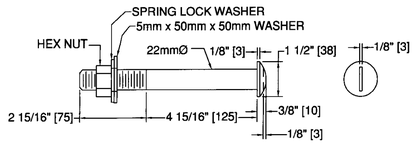
DRAWN	E P	6/24/09
CHECKED	D L	6/24/09
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	EM09-049 3R	



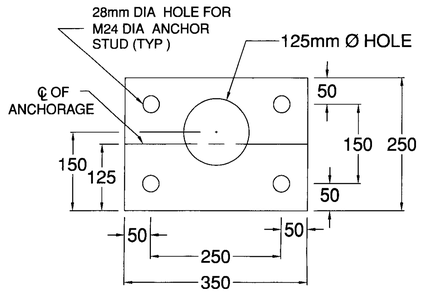
SECTION A-A
350 x 32 x 250
BASE PLATE



L127x127x15.9
RAILING ANGLE

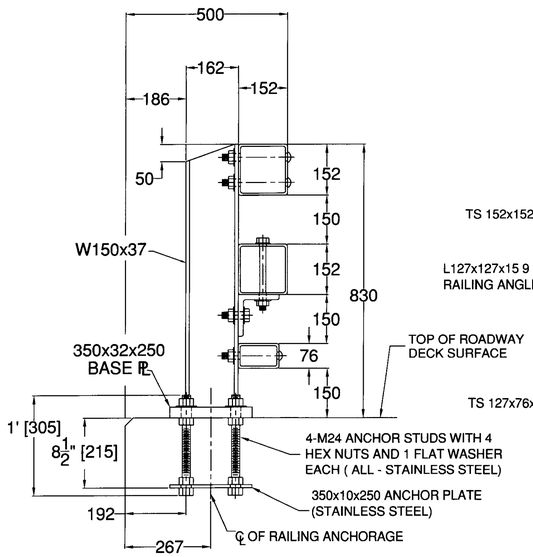


ROUND HEAD BOLT

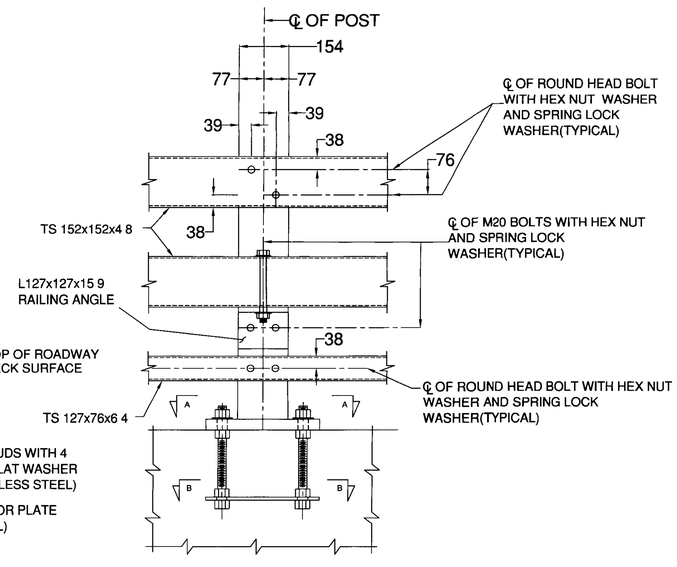


SECTION B-B
350 x 10 x 250
ANCHOR PLATE

4 ea.



TYPICAL SECTION



TYPICAL ELEVATION

3 RAIL STEEL BRIDGE RAILING DETAIL (TYP)

NOTES:

1) ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 528 OF THE STANDARD SPECIFICATIONS.
2) PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 2 mm.
3) BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 135 N-m)
4) DETAILS ON the DRAWING LABELED AS "NOT TO SCALE" ARE INTENIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS FOR WHICH NO SCALE IS SHOWN ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
5) ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.

BILL OF MATERIAL

QTY	DESCRIPTION	ASTM DESIGNATION
34	THREE RAIL POST	A572 GRADE 50
2	76 x 127 x 6 4 RAIL @ 9.140m	A500 GRADE B
2	76 x 127 x 6.4 RAIL @ 9.741m	A500 GRADE B
4	76 x 127 x 6 4 RAIL @ 7303m	A500 GRADE B
2	76 x 127 x 6 4 RAIL @ 6.079m (USE 21' 10" "E")	A500 GRADE B
8	152 x 152 x 4.8 RAIL @ 9.741m	A500 GRADE B
8	152 x 152 x 4.8 RAIL @ 7.303m	A500 GRADE B
4	152 x 152 x 4.8 RAIL @ 6 679m (USE 23' 10" "E")	A500 GRADE B
8	108 x 54 FIX. SPL. BAR @ 686mm	A572 GRADE 50
16	127 x 127 x 7.9 FIX. SPL. TUBE @ 686mm	A500 GRADE B / A36
136	25 Ø x 304.8 [12"] ANCHOR STUD (STAINLESS STEEL)	(NOT SUPPLIED BY ELDERLEE, INC.)
544	25 Ø NUTS (STAINLESS STEEL)	(NOT SUPPLIED BY ELDERLEE, INC.)
136	25 Ø FLAT WASHERS (STAINLESS STEEL)	(NOT SUPPLIED BY ELDERLEE, INC.)
136	M22 x 200 ROUND HEAD BOLT, NUT, SQ. W & L.W.	A449, A563, & ASME B18.21.1
34	M20 x 203 LG HEX. BOLT, NUT, 2-F.W. & L.W.	A325, A563, F436, & ASME B18.21.1
68	M20 x 70 LG HEX. BOLT, NUT, 2-F.W. & L.W.	A325, A563, F436, & ASME B18.21.1
64	M20 x 190 LG HEX. BOLT, NUT, & 2-F.W.	A325, A563, & F436
32	M20 x 115 LG HEX. BOLT, NUT, & 2-F.W.	A325, A563, & F436
34	L127 x 127 x 15.9 RAILING ANGLE	A36
34	350 x 10 x 250 ANCHOR PLATES (STAINLESS STEEL)	(~~NOT~~ SUPPLIED BY ELDERLEE, INC.)

BASE PLATE NOT LIST D

ITEM #: 900.640

GEN CONTR: F.R. LAFAYETTE, INC.

SHEET 2 OF 4

APPROVED BY:

RECEIVED
CK'D BY ___ OK'D BY KMH
JUL 06 2009
R SUBMIT ___ APPROVED As Noted
BY KMH DATE 7/

BRIDGE RAIL DETAILS SHEET
EAST MONTPELIER BRF 028-3(36)
VT AOT CONTRACT ID 98B254
G C WINTERSET INC

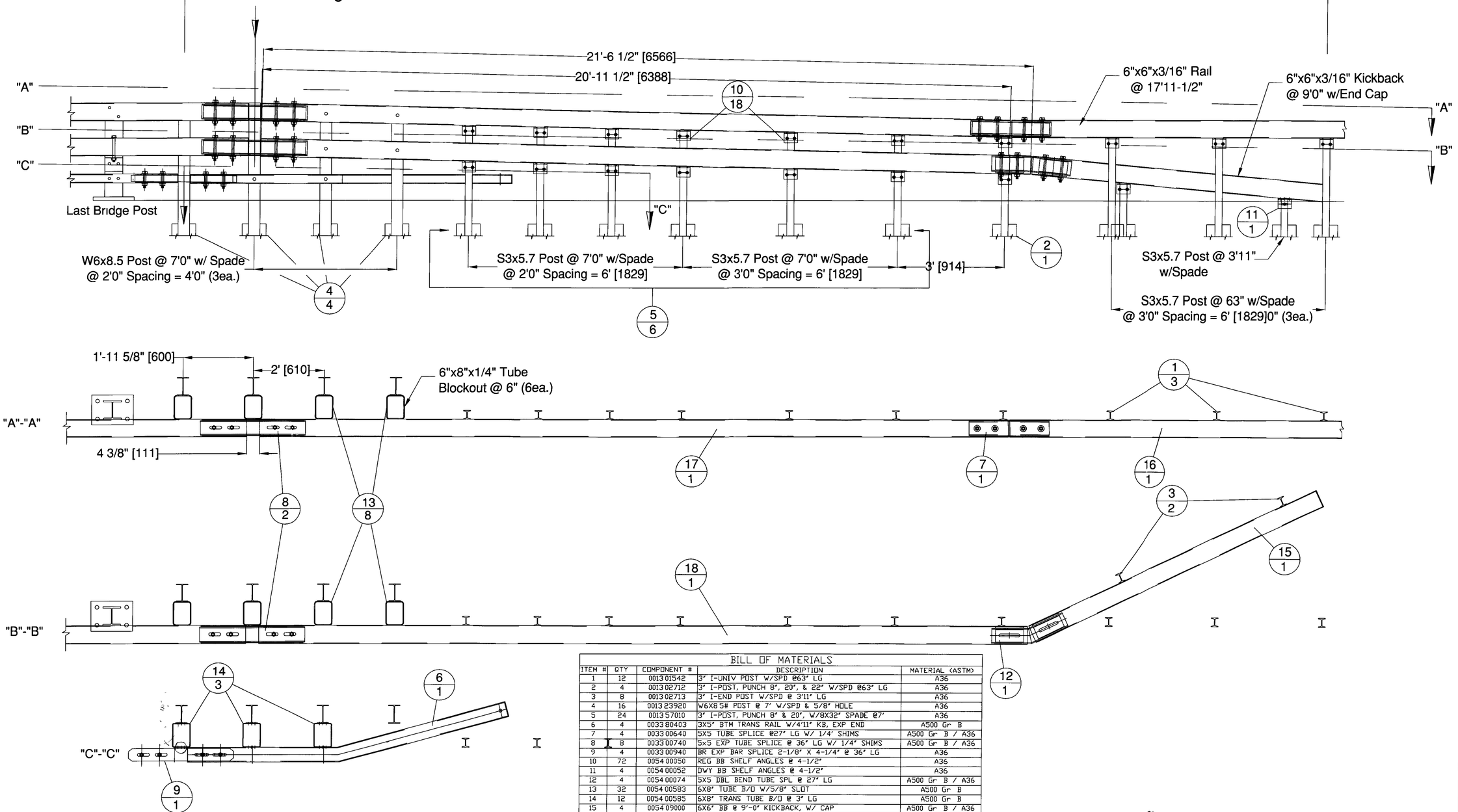
R E V	NO.	DATE	DESCRIPTION	BY

R E V	NO.	DATE	DESCRIPTION	BY

ELDERLEE, INC
OAKS CORNERS, NEW YORK 14518
E-Mail. dlong@elderlee com
Tel 315-789-6670 Fax 315-789-6615

ACTIVE MEMBER

DRAWN	E P	6/24/09
CHECKED	D L	6/24/09
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	EM09-049 3R	



BILL OF MATERIALS				
ITEM #	QTY	COMPONENT #	DESCRIPTION	MATERIAL (ASTM)
1	12	0013 01542	3' I-UNIV POST W/SPD @63' LG	A36
2	4	0013 02712	3' I-POST, PUNCH 8', 20', & 22' W/SPD @63' LG	A36
3	8	0013 02713	3' I-END POST W/SPD @ 3'11' LG	A36
4	16	0013 23920	W6X8.5# POST @ 7' W/SPD & 5/8" HOLE	A36
5	24	0013 57010	3' I-POST, PUNCH 8' & 20', W/8X32' SPADE @7'	A36
6	4	0033 80403	3X5' BTM TRANS RAIL W/4'11' KB, EXP END	A500 Gr B
7	4	0033 00640	5X5 TUBE SPLICE @27' LG W/ 1/4' SHIMS	A500 Gr B / A36
8	8	0033 00740	5X5 EXP TUBE SPLICE @ 36' LG W/ 1/4' SHIMS	A500 Gr B / A36
9	4	0033 00940	BR EXP BAR SPLICE 2-1/8' X 4-1/4' @ 36' LG	A36
10	72	0054 00050	REG BB SHELF ANGLES @ 4-1/2'	A36
11	4	0054 00052	DWY BB SHELF ANGLES @ 4-1/2'	A36
12	4	0054 00074	5X5 DBL BEND TUBE SPL @ 27' LG	A500 Gr B / A36
13	32	0054 00583	6X8' TUBE B/O W/5/8' SLOT	A500 Gr B
14	12	0054 00585	6X8' TRANS TUBE B/O @ 3' LG	A500 Gr B
15	4	0054 09000	6X6' BB @ 9'-0' KICKBACK, W/ CAP	A500 Gr B / A36
16	2	0054 18000	6X6' BB @ 17'-11 1/2', DRILL 3' CC	A500 Gr B
17	4	0054 90092	6X6' BB TOP TRANS @ 20'-11 1/2' LG W/EXP END	A500 Gr B
18	4	0054 90093	6X6' BB BTM TRANS @ 21'-6 1/2' LG W/EXP END	A500 Gr B
19	72	0080 03355	3/8' X 7 1/2' BOLT, NUT, & 2 FW	A307
20	76	0080 04100	1/2' x 1-1/2' BOLT, NUT, & FW	A307
21	88	0080 04120	1/2' x 1-1/2' BOLT, NUT, 2 FW & LW	A307
22	16	0080 06255	3/4' X 4-1/2' BOLT, NUT, 2 FW	A325
23	8	0080 06325	3/4' X 7' CARR BOLT, NUT, FW & LW	A307
24	48	0080 06340	3/4' X 7-1/2' BOLT, NUT, 2 FW	A325
25	16	0080 06370	3/4' X 8' CARR BOLT, NUT, FW & LW	A307
26	8	0080 06400	3/4' X 8' BOLT, NUT, 2 FW, & LW	A325

ITEM # 900 640 20

GEN CONTR F R LAFAYETTE, INC

SHEET 3 OF 4

APPROVED BY

RECEIVED

CK'D BY SFL OK'D BY

JUL 06 2009

R SUCHIT APPROVED AS NOTED

BY Kmh DATE 7/2/09

BRIDGE RAIL DETAILS SHEET

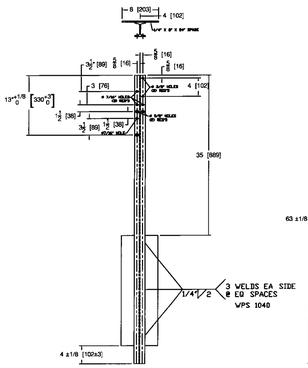
EAST MONTPELIER BRF 028-3(36)
VT AOT CONTRACT ID 988254
G.C. WINTERSET INC

R E V	NO.	DATE	DESCRIPTION	BY	R E V	NO	DATE	DESCRIPTION	BY

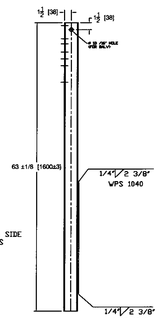
ELDERLEE, INC
OAKS CORNERS, NEW YORK 14518
E-Mail dlong@elderlee.com
Tel 315-789-6670 Fax 315-789-6615

DRAWN	EP	6/24/09
CHECKED	DL	6/24/09
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO	EM09-049 3R	

PLAN VIEW



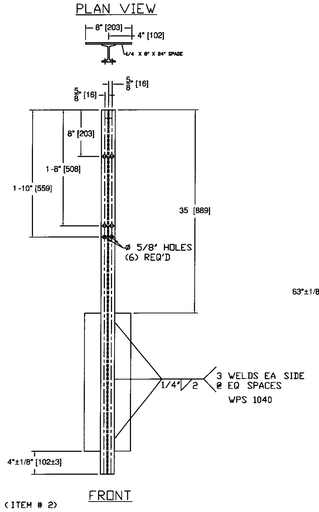
FRONT



SIDE

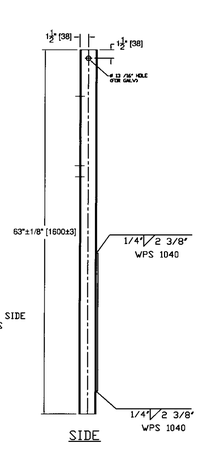
(ITEM # 1)

PLAN VIEW



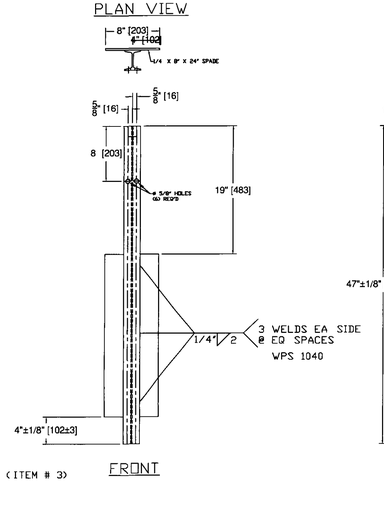
FRONT

(ITEM # 2)



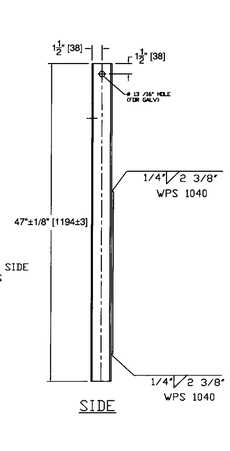
SIDE

PLAN VIEW



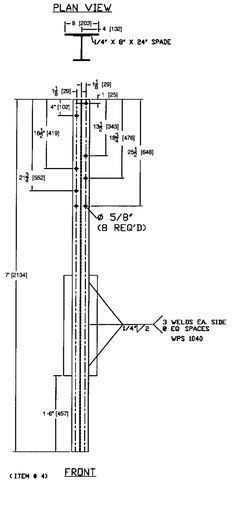
(ITEM # 3)

FRONT



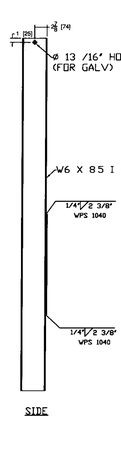
SIDE

PLAN VIEW

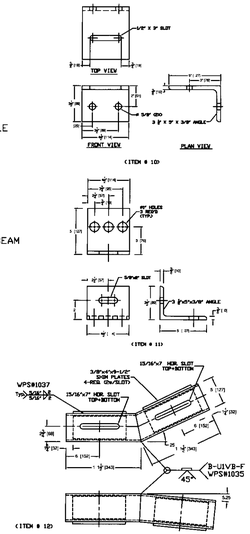


(ITEM # 4)

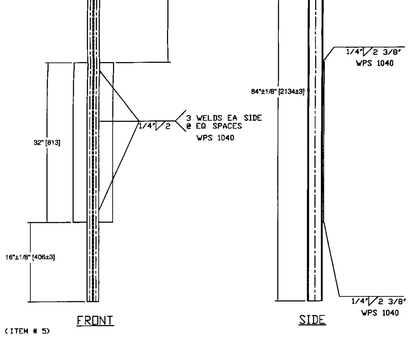
FRONT



SIDE



PLAN VIEW



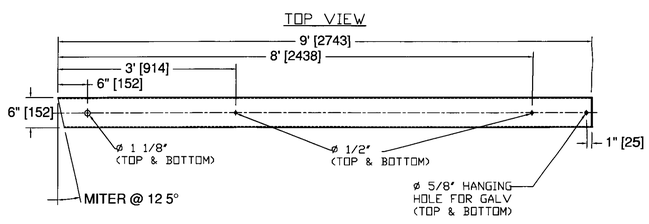
FRONT

SIDE

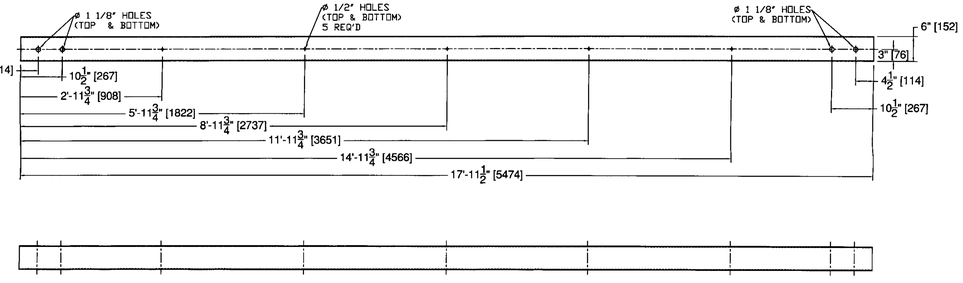
(ITEM # 5)

BACK VIEW

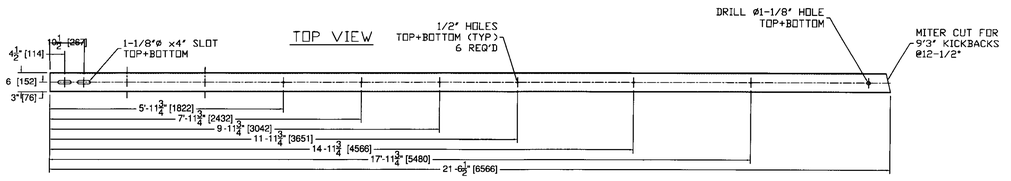
TOP VIEW

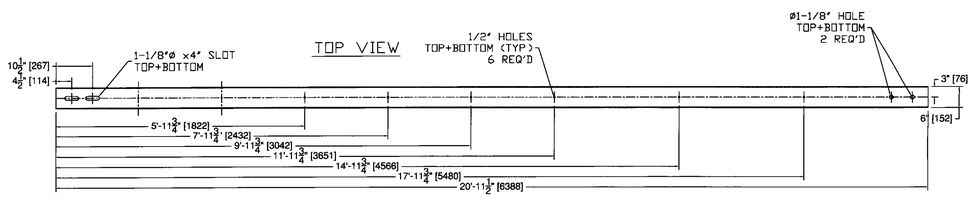


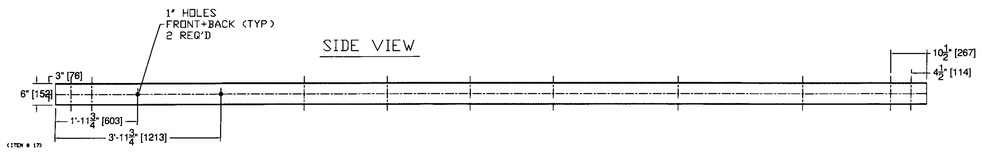
(ITEM # 15)



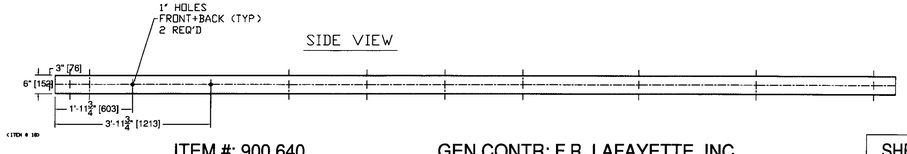
(ITEM # 16)







(ITEM # 17)



(ITEM # 18)

ITEM #: 900.640

GEN CONTR: F.R. LAFAYETTE, INC.

SHEET 4 OF 4

APPROVED BY:

RECEIVED
CK'D BY ___ OK'D BY KmH
JUL 06 2009
R S.E.M.T. ___ APPROVED ✓
BY KmH DATE 7/2

BRIDGE RAIL DETAILS SHEET

EAST MONTPELIER BRF 028-3(36)
VT AOT CONTRACT ID 98B254
G C WINTERSET INC

R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY
E					E				
V					V				

ELDERLEE, INC.
OAKS CORNERS, NEW YORK 14518
E-Mail. dlong@elderlee.com
Tel. 315-789-6670 Fax 315-789-6615

DRAWN	E P	6/24/09
CHECKED	D L	6/24/09
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	EM09-049 3R	