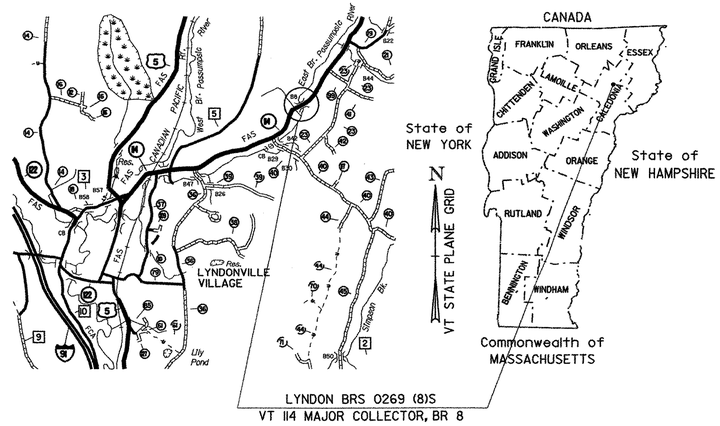
SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF LYNDON
COUNTY OF CALEDONIA

ROUTE NO : VT 114 MAJOR COLLECTOR BRIDGE NO : 8

PROJECT LOCATION : BEGINNING AT A POINT APPROXIMATELY 3.505 KILOMETERS NORTHEASTERLY FROM THE INTERSECTION OF US 5 AND VT 114 AND EXTENDING NORTHEASTERLY 0.120 KILOMETERS ALONG VT 114.

PROJECT DESCRIPTION : REPLACEMENT OF THE EXISTING BRIDGE INCLUDING RELATED APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE :	28.838 METERS.
LENGTH OF ROADWAY :	91.162 METERS.
LENGTH OF PROJECT :	120.000 METERS.

RECORD PLANS

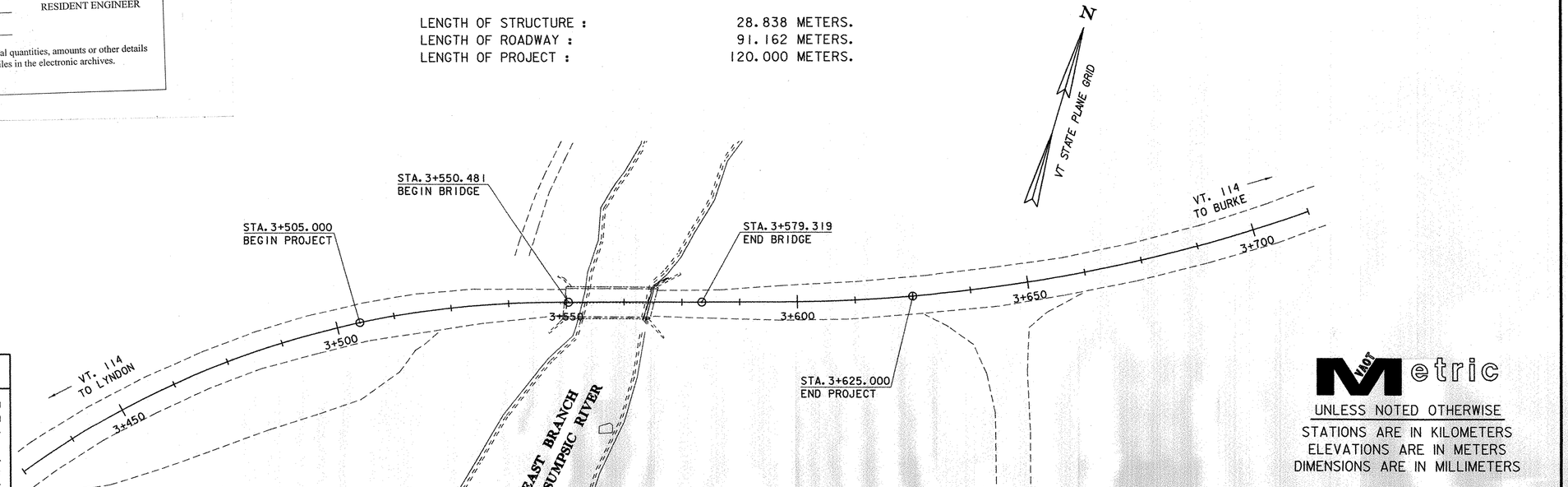
CONTRACTOR: WINTERSET, INC. – LYNDONVILLE, VT.
RESIDENT ENGINEER: KEVIN McCLURE
CONSTRUCTION BEGAN: FEBRUARY 24, 2006
CONSTRUCTION COMPLETE: NOVEMBER 08, 2006
RECORD PLANS BY: CHRIS JOLLY, KEVIN McCLURE, CHIP PIERCE

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

BY Kevin McClure RESIDENT ENGINEER

DATE 3-20-08

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.



0 10 20 30
SCALE = 1:500

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 : R. MOREAU
SURVEYED DATE : 01-31-1993

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)

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 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

85e041\Structures\se041bdr.dgn se041111.1

ACTING DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED Jeffrey R. Folk DATE 06-05

PROJECT MANAGER : ROGER R. WHITCOMB

PROJECT NAME : LYNDON
PROJECT NUMBER : BRS 0269 (8)S

SHEET 1 OF 68 SHEETS

SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS.

WINTERSET, INC.
Contractor

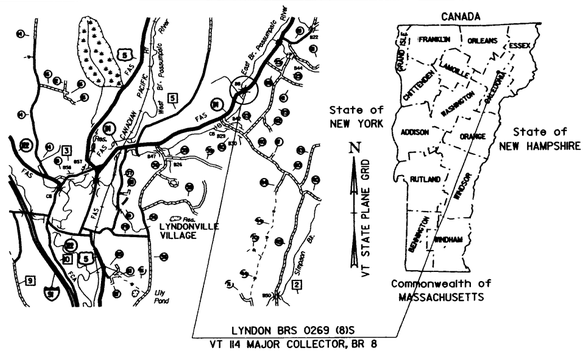
Glenn A Jaure
Signature

SR. VICE PRESIDENT
Title

David C Dix
Secretary of Transportation
or Duly Authorized Agent

1/20/06
Date

STATE OF VERMONT
AGENCY OF TRANSPORTATION



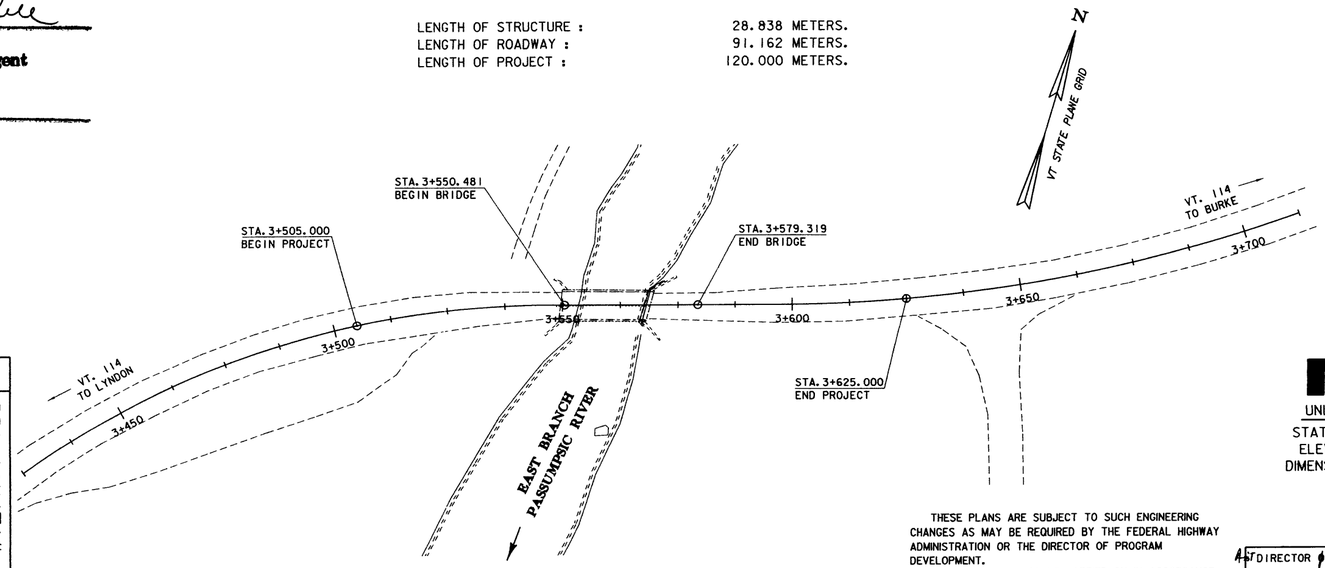
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85e041\Structural\se041dir.dgn se041111.1

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 1/26/06

PROJECT MANAGER : ROGER R. WHITCOMB

PROJECT NAME : LYNDON
PROJECT NUMBER : BRS 0269 (8)S

SHEET 1 OF 68 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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6-9. ROW SHEETS
10. TIE SHEET
11-12. LAYOUT SHEETS
13-14. PROFILE SHEETS
15-16. DRAINAGE, UTILITIES, TRAFFIC SIGNS & PAVEMENT MARKINGS SHEETS
17. GUARD RAIL LAYOUT SHEET
18-20. BORING INFORMATION SHEETS
21. PLAN AND ELEVATION
22-28. EROSION CONTROL SHEETS
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32. PROJECT NOTES
33. BRIDGE DECK DETAILS
34. DECK REINFORCING PLAN
35. FRAMING PLAN AND GIRDER ELEVATION
36. STRUCTURAL STEEL DETAILS
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40. EXPANSION BEARING DETAILS
41. FIXED BEARING DETAILS
42. SCUPPER DETAILS
43 APPROACH SLAB DETAILS
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45. ABUTMENT NO. 2 DETAILS
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47. FOOTING DOWEL PLAN
48. WINGWALL DETAILS
49. REINFORCING STEEL SCHEDULE
50. MATERIAL TRANSITION DETAIL AND BANKING DIAGRAM
51-60. MAINLINE CROSS SECTIONS
61-62. SIDELINE CROSS SECTIONS
63-68. CHANNEL LINE CROSS SECTIONS

LIST OF STANDARDS

B-71	02/01/2004
D-2M	06/13/1997
D-4M	06/13/1997
D-6M	06/13/1997
D-11M	06/13/1997
E-100	01/02/2004
E-101	05/30/2003
E-102A	05/01/2004
E-102	06/30/2003
E-106	03/01/2004
E-107A	08/08/1995
E-107	06/30/2003
E-108	08/18/1995
E-109	08/08/1995
E-121	08/08/1995
F-4M	01/03/2000
G-1M	01/03/2000
G-1dM	01/03/2000
G-17aM	09/27/2002
G-17bM	09/27/2002
G-18M	06/13/1997
G-19M	11/15/2002

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: Jan. 24 2005

DRAINAGE AREA : 200.00 sq. km
CHARACTER OF TERRAIN : Hilly to Mountainous
STREAM CHARACTERISTICS : Sinuous, Alluvial, probably incised
NATURE OF STREAMBED : Gravel, Cobbles, and Boulders

PEAK FLOW DATA

Q 2.33 =	52.4 cms	Q 50 =	134.5 cms
Q 10 =	90.6 cms	Q 100 =	157.2 cms
Q 25 =	113.3 cms	Q 500 =	212.4 cms

DATE OF FLOOD OF RECORD : November 1927, per FEMA, FIS, Town of Lyndon, 1988
ESTIMATED DISCHARGE: unknown
WATER SURFACE ELEV.: unknown
NATURAL STREAM VELOCITY : @ Q50 = 2.3 m/s
ICE CONDITIONS : Moderate
DEBRIS: Modetate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes
IS ORDINARY RISE RAPID? Yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel beam bridge
YEAR BUILT: 1928
CLEAR SPAN(NORMAL TO STREAM): 16.2 m
VERTICAL CLEARANCE ABOVE STREAMBED: 4.7 m (low steel E.L. = 228.0 m)
WATERWAY OF FULL OPENING: 62.4 sm
DISPOSITION OF STRUCTURE: Removal of old structure
TYPE OF MATERIAL UNDER SUBSTRUCTURE: unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	225.9 m	VELOCITY =	2.0 m/s
Q10 =	226.4 m	"	2.9 m/s
Q25 =	226.7 m	"	3.3 m/s
Q50 =	227.0 m	"	3.7 m/s
Q100 =	227.2 m	"	4.3 m/s

LONG TERM STREAMBED CHANGES: Large stream wide by 1m deep scour hole under bridge and downstream of bridge due to constriction of channel.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 229.1
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Burke
HIGHWAY#: T.H. # 2
CLEAR SPAN: 17.0 m
YEAR BUILT: 1940
STRUCTURE TYPE: Singal span steel beam bridge, concrete deck
DISTANCE: 3.7 km
STRUCTURE #: 19
CLEAR HEIGHT: 4.0 m
FULL WATERWAY: unknown

DOWNSTREAM STRUCTURE

TOWN: Lyndon
HIGHWAY#: T.H. # 40
CLEAR SPAN: 23.5 m
YEAR BUILT: 1965
STRUCTURE TYPE: Singal span steel beam bridge, concrete deck
DISTANCE: 0.8 km
STRUCTURE #: 42
CLEAR HEIGHT: 3.8 m
FULL WATERWAY: unknown

LOAD FACTOR - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	36	51					
POSTED	50	71	85		67	68	77
OPERATING		85	101	116	80	81	

COMMENTS: SERVICEABILITY GOVERNS RATING FOR ALL ENTRIES

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2005	4300	540	61	7	320
2025	6100	770	61	10	620

20 year ESAL for flexible pavement from 2005 to 2025 : 2,786,000
40 year ESAL for flexible pavement from 2005 to 2045 : 7,457,000
Design Speed : 80 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Singal span steel beam bridge, concrete deck

CLEAR SPAN(NORMAL TO STREAM): 25.9 m
VERTICAL CLEARANCE ABOVE STREAMBED: 3.6 m
WATERWAY OF FULL OPENING: 68.5 sm

WATER SURFACE ELEVATIONS AT:

Q2.33 =	225.9 m	VELOCITY=	1.6 m/s
Q10 =	226.4 m	"	2.1 m/s
Q25 =	226.6 m	"	2.4 m/s
Q50 =	226.8 m	"	2.6 m/s
Q100 =	227.0 m	"	2.9 m/s

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY: N/A
RELIEF ELEVATION: 229.0 m
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 227.4 m
VERTICAL CLEARANCE: @ Q100 = 0.4 m

SCOUR: Contraction scour 0.7 m @ Q 500

REQUIRED CHANNEL PROTECTION: Type IV Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW:	4.5 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	2.0 cms	Elev. 224.5 m
ORDINARY HIGH WATER:	14.6 cms	Elev. 225.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Single span bridge; remove before winter.
CLEAR SPAN (NORMAL TO STREAM): 15 m minimum
VERTICAL CLEARANCE ABOVE STREAMBED: Elevation 227.1m minimum
WATERWAY AREA OF FULL OPENING: 46 sm minimum

ADDITIONAL INFORMATION

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 28.2 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE 500 kPa
4. ALLOWABLE LOAD FOR PILING N/A
   TYPE N/A
   ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 30 Mpa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

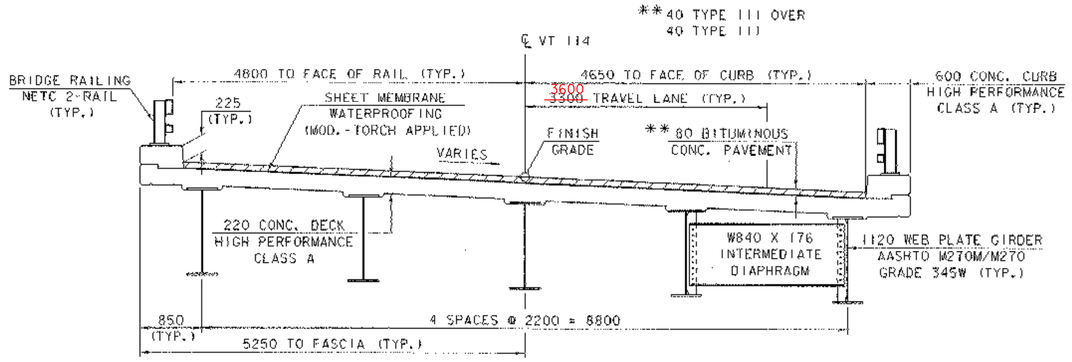
TRAFFIC MAINTENANCE

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

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8) S

FILE NAME: \85e041\Structures\se041pi.xls
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PRELIMINARY INFORMATION SHEET
PLOT DATE: 02/02/2005
DRAWN BY: G. ROY
CHECKED BY: J. PERRIGO
SHEET 2 OF 68

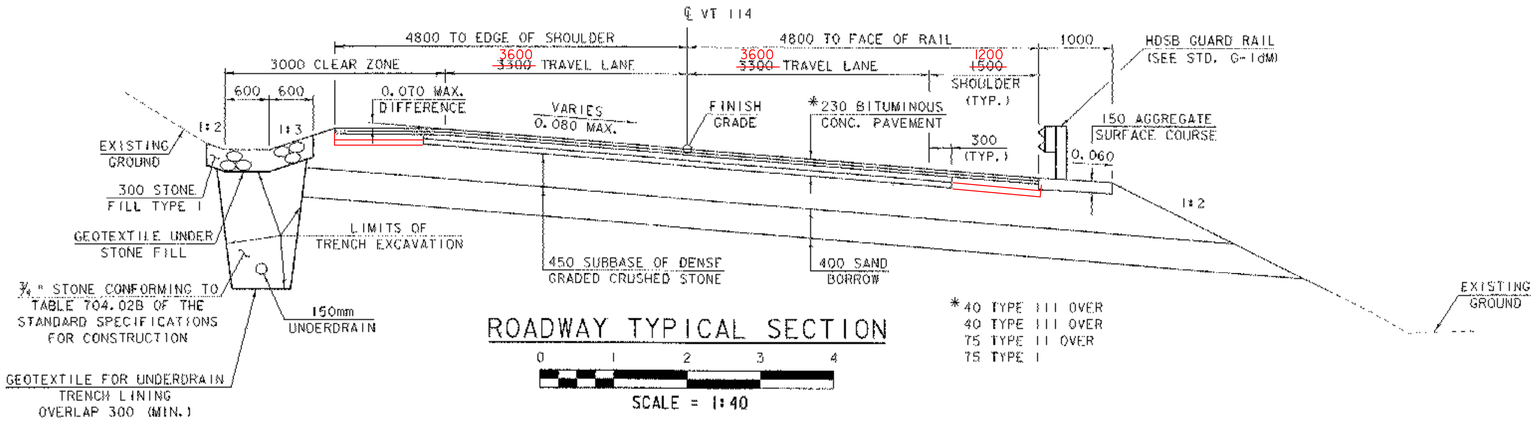
Metric



BRIDGE TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40



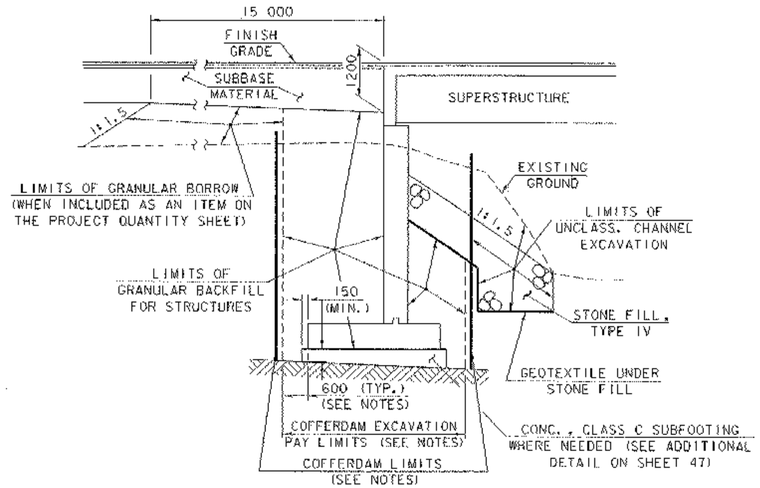
ROADWAY TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40

*40 TYPE III OVER
40 TYPE III OVER
75 TYPE II OVER
75 TYPE I

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

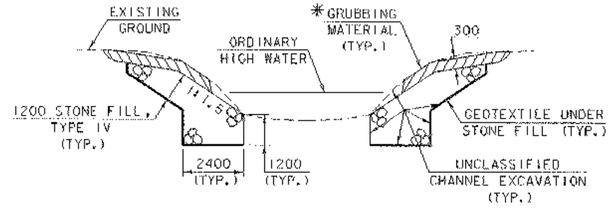


ABUTMENT TYPICAL SECTION

(NOT TO SCALE)

NOTES

1. COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 600 OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.



CHANNEL TYPICAL 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.

PROJECT TYPICAL SECTIONS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e04l\Structures\sc04typ.l
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

FULL C.E. ITEMS		ROADWAY	TRAINING	EROSION CONTROL		CHANNEL		ABUTMENT NO.1		ABUTMENT NO.2		APPROACH SLAB NO.1	APPROACH SLAB NO.2		DECK	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
		1																1	1	LS	CLEARING AND GRUBBING (INCL. INDV. TREES AND STUMPS)	201.10
		2160																2160	2157.9	CM	COMMON EXCAVATION	203.15
						850										850		850	850	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
		410																410	404.1	CM	SAND BORROW	203.31
								50		50						100		100	100	CM	GRANULAR BORROW	203.32
		230		10														240	263.3	CM	TRENCH EXCAVATION OF EARTH	204.20
								270		240						510		510	625.8	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
								230		270						500		500	840.7	CM	COFFERDAM EXCAVATION, EARTH	208.30
								120		140						260		260	130	CM	COFFERDAM EXCAVATION, ROCK	208.35
								1								1		1	1	LS	COFFERDAM (STA 3+650.800)	208.40
										1						1		1	1	LS	COFFERDAM (STA 3+679.000)	208.40
		360																360	390.0	SM	COLD PLANING-BIT.PAVEMENT	210.10
		930		10														940	927.8	CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
		210																210	176.9	CM	AGGREGATE SURFACE COURSE	401.10
		414										6	6		27	39		453	156	KG	EMULSIFIED ASPHALT	404.65
		774										11	11		52	74		848	849.84	T	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25
								19		24						43		43	99.43	CM	CONCRETE, CLASS C	501.30
															92	92		92	92.75	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33
		3						122		94		22	22			260		263	259.11	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
															48030	48030		48030	48072	KG	STRUCTURAL STEEL(PLATE GIRDER)	506.55
		160						8150		6320						14470		14830	15632	KG	REINFORCING STEEL	507.15
								30		24						54		54	52.8	M	DRILLING AND GROUTING DOWELS	507.16
												1590	1590		11170	14350		14350	14342	KG	EPOXY COATED REINFORCING STEEL	507.17
															1	1		1	1	LS	SHEAR CONNECTORS (1100 - 22 X 180)	508.15
								10		4					26	40		40	66.3	L	WATER REPELLENT (MOD. - SILANE)	514.10
															22	22		22	20.73	M	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	516.10
															271	271		271	263.5	SM	SHEET MEMBRANE WATERPROOFING (MOD. - TORCH APPLIED)	519.20
															70	70		70	69.88	M	BRIDGE RAILING - NETC 2 RAIL	525.33
		1																1	1	LS	TWO-WAY TEMPORARY BRIDGE (MOD.) (117 SM - EST.)	528.11
		120																120	115.3	SM	REMOVAL OF BRIDGE PAVEMENT	529.10
		1																1	1	EACH	REMOVAL OF STRUCTURE (140 SM - EST.)	529.15
								5		5						10		10	10	EACH	BEARING DEVICE ASSEMBLY (FABRIC)	531.10
																					*** BEGIN PIPE OPTIONS ***	
		15																15		M	~~450 mm CAAP 2.97mm (68mm X 12mm)~~	~~601.0217~~
		15																15		M	~~450 mm PCCSP 2.01mm (68mm X 12mm)~~	~~601.0416~~
		15																15		M	~~450 mm RCP CLASS III~~	~~601.0815~~
		15																16	14.63	M	450 mm CPEP (SL)	601.2615
		1																1		EACH	~~450 mm CSPES 1.52mm (68mm X 12mm)~~	~~601.6015~~
		1																1		EACH	~~450 mm CAAPES 1.52mm (68mm X 12mm)~~	~~601.6215~~
		1																1		EACH	~~450 mm RCPES CLASS III~~	~~601.6815~~
		1																1	1	EACH	450 mm CPEPES	601.7015
																					*** END PIPE OPTIONS ***	
		1																1	1	EACH	CAST IRON GRATE WITH FRAME, TYPE A	604.45

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		BITUMINOUS CONCRETE PAVEMENT
		ROADWAY:
220	T	LIFT 1: TYPE I
261	T	LIFT 2: TYPE II
151.5	T	LIFT 3: TYPE III
151.5	T	LIFT 4: TYPE III
774	T	TOTAL
		DECK
26	T	LIFT 3: TYPE III
26	T	LIFT 4: TYPE III
52	T	TOTAL
		APPROACH SLAB NO.1
5.5	T	LIFT 3: TYPE III
5.5	T	LIFT 4: TYPE III
11	T	TOTAL
		APPROACH SLAB NO.2
5.5	T	LIFT 3: TYPE III
5.5	T	LIFT 4: TYPE III
11	T	TOTAL
		TEMPORARY EROSION CONTROL ITEMS (INCLUDED IN EROSION CONTROL ITEMS)
10	CM	TRENCH EXCAVATION OF EARTH
10	CM	SUBBASE OF DENSE GRADED CRUSHED STONE
10	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I
10	CM	STONE FILL, TYPE I
400	SM	GEOTEXTILE FOR SILT FENCE
120	SM	GEOTEXTILE FOR FILTER CURTAIN
10	KG	SEED-WINTER RYE **
40	EACH	HAY BALES FOR EROSION CONTROL
1070	SM	EROSION MATTING
		** 50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) AND CEREAL (WINTER) RYE
		EARTHWORKS SUMMARY
10	CM	FILL REQUIRED
		FILL AVAILABLE:
2160	CM	COMMON EXCAVATION: 2160 X 1.0
510	CM	UNCLASSIFIED CHANNEL EXCAVATION: 850 X 0.6
144	CM	TRENCH EXCAVATION OF EARTH: 240 X 0.6
300	CM	COFFERDAM EXCAVATION, EARTH: 500 X 0.6
156	CM	COFFERDAM EXCAVATION, ROCK: 260 X 0.6
3270	CM	SUBTOTAL
0	CM	ROUNDING
3270	CM	TOTAL
3270	CM	FILL AVAILABLE
10	CM	FILL REQUIRED
3260	**CM**	**WASTE**

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)

FILE NAME: \85e041\Structures\se041qs.xls
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
QUANTITY SHEET (1)

PLOT DATE: 9/20/2005
DRAWN BY: J. PERRIGO
CHECKED BY: G. ROY
SHEET 4 OF 68

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

FULL C.E. ITEMS		ROADWAY	TRAINING	EROSION CONTROL		CHANNEL		ABUTMENT NO.1		ABUTMENT NO. 2		APPROACH SLAB NO.1	APPROACH SLAB NO.2		DECK	BRIDGE QUANTITY
		143														
		2														
		1														
				10												
		50		10												
				10												
				10												
						600										600
		4														
		2														
				450												
		44														
		4														
		4														
		103														
		1														
		200														
1																
1																
1																
1																
			520													
		1														
		1														
		420														
		420														
		220				530										530
		740														
				400												
				120												
				10												
				10												
				80												
				1												
				1												
				40												
				80												
						270										270
				1												
				50												
				1												
				1070												
		4														

TOTALS

ROUND	GRAND TOTAL	FINAL
	143	96.9
	2	1
	1	1
	10	23.5
	60	92.3
	10	58.3
	10	37.8
	600	600
	4	3.9
	2	2
	450	127
	44	44.4
	4	4
	4	4
	103	103
	1	1
	200	1022
	1	1
	1	1
	1	1
	1	0.393
	520	520
	1	1
	1	1
	420	0
	420	0
	750	886
	740	497
	400	188
	120	0
	10	20.1
	10	22.7
	80	161
	1	1.29
	1	1.87
	40	92
	80	129.3
	270	270
	1	1
	50	21
	1	0.202
	1070	968
	4	6

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
M	150 mm UNDERDRAIN	605.10
M	150 mm UNDERDRAIN CARRIER PIPE	605.20
EACH	UNDERDRAIN FLUSHING BASINS	605.95
HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25
CM	STONE FILL, TYPE I	613.10
CM	STONE FILL, TYPE I (MOD. - CHECK DAMS)	613.10
CM	STONE FILL, TYPE I (MOD. - CONSTRUCTION ENTRANCE)	613.10
CM	STONE FILL, TYPE IV	613.13
M	GATE FOR CHAIN-LINK FENCE, 1.2 M	620.15
EACH	BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.2 M	620.20
M	SNOW FENCE (MOD. - PDF)	620.70
M	HEAVY DUTY STEEL BEAM GUARD RAIL (GALVANIZED)	621.21
EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
EACH	GUARD RAIL APPR. SECTION METC 2 RAIL	621.72
M	REMOVL AND DISP OF GUARD RAIL	621.80
EACH	REMOVL AND DISP OF GUIDE POSTS	621.81
HR	FLAGGERS	630.15
LS	FIELD OFFICE-ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LS	TESTING EQUIPMENT - BITUMINOUS	631.17
LU	FIELD OFFICE - TELEPHONE (N.A.B.I)	631.25
HR	EMPLOYEE TRAINEESHIP	634.10
LS	MOBILIZATION/DEMOBILIZATION	635.11
LS	TRAFFIC CONTROL	641.10
M	DURABLE 100 mm WHITE LINE (THERMOPLASTIC)	646.40
M	DURABLE 100 mm YELLOW LINE (THERMOPLASTIC)	646.41
SM	GEOTEXTILE UNDER STONE FILL	649.31
SM	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING	649.41
SM	GEOTEXTILE FOR SILT FENCE	649.51
SM	GEOTEXTILE FOR FILTER CURTAIN	649.61
KG	SEED	651.15
KG	SEED-WINTER RYE	651.17
KG	FERTILIZER	651.18
T	AGRICULTURAL LIMESTONE	651.20
T	HAY MULCH	651.26
EACH	HAY BALES FOR EROSION CONTROL	651.26
CM	TOPSOIL	651.35
SM	GRUBBING MATERIAL	651.40
LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10
HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20
LU	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I)	652.30
SM	EROSION MATTING	654.10
EACH	REMOVING SIGNS	675.50

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

N.A.B.I. = NOT A BID ITEM

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)

FILE NAME: \65e041\Structures\se041qs.xls
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
QUANTITY SHEET (2)

PLOT DATE: 12/08/2004
DRAWN BY: J. PERRIGO
CHECKED BY: G. ROY
SHEET 5 OF 68

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1A	GAMBLE, MARTHA D.	10	3+544.5 RT.	3+550.5 RT.	15.0 SM±			WD	12-16-03	LYNDON	149	527-	161 S.F.±
			3+466.6 RT.	3+518.5 RT.			CONST. (T) 56.2 SM±					528	605 S.F.±
			3+475.0 RT.	3+530.0 RT.			SLOPE (T) 68.7 SM±						740 S.F.±
			3+513.0 RT.	3+545.5 RT.			DETOUR (T) 157.5 SM±						TWO-WAY VEHICULAR
													1695 S.F.±
			3+530.0 RT.	3+545.5 RT.			SLOPE (P) 34.4 SM±						370 S.F.±
			3+530.0 RT.	3+535.0 RT.			CULVERT (P)						
			3+535.0 RT.				CUL., DIT. & DR. (P)						
			3+453.6 RT.	3+545.0 RT.			INSTALL (T) 121.5 SM±						EROSION CONTROL 1308 S.F.±
1B		10	3+466.6 RT.	3+553.6 CL	0.14 HA±		ALL R. T. & I.						HWY. EASE. VT. RTE. 114
													.35A±
2A	CALKINS ROCK PRODUCTS INC.	10,11	3+546.8 LT.	3+556.6 LT.	35.3 SM±			WD	06-20-03	LYNDON	153	470-	380 S.F.±
												471	
			3+538.0 LT.				DRIVE (T)						2.5M (8.2') GRAVEL MM 0220
			SL 20+018.8 LT.				INSTALL (T)						GATE
			SL 20+016.6 RT.	SL 20+019 RT.			INSTALL (P)						GUARDRAIL
			3+548.5 LT.	3+556.6 LT.			INSTALL (T)						EROSION CONTROL
2B		10,11	3+572.6 LT.	3+580.6 LT.	36.4 SM±								392 S.F.±
			3+577.0 LT.	3+633.3 LT.			CONST. (T) 138.0 SM±						INCLUDES EROSION CONTROL
													1485 S.F.±
2C		10,11	3+467.5 CL	3+555.0 LT.	0.37 HA±		ALL R. T. & I.						HWY. EASE. VT. RTE. 114
													0.91A±
2D			3+567.9 CL	3+633.3 CL	0.08 HA±		ALL R. T. & I.						HWY. EASE. VT. RTE. 114
		10,11											0.20A±
3	WINTERSET INC.	10,11	3+566.5 RT	3+633.3 RT.	0.09 HA±		ALL R. T. & I.	WD	02-11-03	LYNDON	150	413-	HWY. EASE. VT. RTE. 114
												414	
			3+563.0 RT.	3+607.5 RT.			DETOUR (T) 352.0 SM±						0.22A±
			3+642.5 RT.										TWO-WAY VEHICULAR
													3789 S.F.±
			3+563.0 RT.	3+613.0 RT.			INSTALL (T) 151.5 SM±						DRIVE 12M (39') PAVED
													MM 0226
													EROSION CONTROL 1631 S.F.±
4	ROBARTS, DELISE	11	3+642.5 RT.										DRIVE 12M (39') PAVED
													MM 0226 ROW OVER PARCEL #3

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	10	PARCEL NO. 2A CALKINS ROCK PRODUCTS, INC. M.L. STA. 3+538.0 LT. CONSTRUCT DRIVE. MINIMUM WIDTH OF 3.01 METERS(10.0 FEET) AT PAVE. EDGE OF VT. RTE. 14 TO S.L. STA. 20+018.8LT., WIDTH 2.5 METERS(8.2 FEET INSTALL 12' WIDE DOUBLE GATE AT S. L. STA. 20+018.8 LT. PER C.O. 9265	01-15-03	M.J.R.	R.P.D.
2	10	PARCEL NO. 2 CALKINS ROCK PRODUCTS, INC. INCREASE THE WIDTH OF THE DRIVE ENTRANCE TO 3.66M PER C.O. 9299.	05-16-03	M.J.R.	R.P.D.
		PAPER PRINTS TO STRUCTURES 12-15-04			

THIS SHEET IS FOR R.O.W PURPOSES ONLY

ACCT.mryan
IP_PWP:dms02173\re04ld.dgn
DATE PLOTTED 14-DEC-2004

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
C&T (P) — CLEARING & TRIMMING
CZ (P) — CLEAR ZONE
CONST. (T) — CONSTRUCTION EASEMENT
SR — SLOPE RIGHTS
P — PROPERTY LINE
L — TOP OF CUT
TOE OF SLOPE
UE (P) — PERMANENT UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 11-29-00
CHIEF, PLANS & TITLES

R. O. W. PLANS

LYNDON
BRS 0269(8)S

SHEET 6 OF 68

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
5	VERIZON NEW ENGLAND, INC.												UTILITY
6	LYNDONVILLE ELECTRIC DEPARTMENT												UTILITY
7	CHARTER COMMUNICATIONS												UTILITY

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY

THIS SHEET IS FOR R.O.W PURPOSES ONLY

ACCT. GFunk
\\vaot_cadd\filingcabinet$\85e04l\RightOfWay\re04ld.dgn
DATE PLOTTED 04-DEC-2001

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

LEGEND
C&T (P) — CLEARING & TRIMMING
CZ (P) — CLEAR ZONE
CONSI. (T) — CONSTRUCTION EASEMENT
SR SR — SLOPE RIGHTS
P L — PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
UE (P) — PERMANENT UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 11-29-00
CHIEF, PLANS & TITLES

R. O. W. PLANS

LYNDON
BRS 0269(8) S

SHEET 7 OF 68

VT Metric

GUARDRAIL APPROACH SECTION, NETC 2 RAIL
3+537.7 RT ~ 3+545.5 RT
SL 1 20+011.8 RT ~ 3+549.4 LT
3+573.2 RT ~ 3+580.8 RT
3+577.0 LT ~ 3+584.6 LT

STEEL BEAM GUARDRAIL
3+503.5 RT ~ 3+537.7 RT
SL 1 20+011.8 RT ~ SL 1 20+019.1 RT
3+580.8 RT ~ 3+611.0 RT
3+584.6 LT ~ 3+615.0 LT

MODIFIED ECCENTRIC LOADER TERMINAL (MELT)
3+492.2 RT ~ 3+503.5 RT

BRIDGE RAILING - NETC 2 RAIL
3+545.5 RT ~ 3+573.2 RT
3+549.4 LT ~ 3+577.0 LT

BIT. CONC. GUTTER
3+465.0 RT ~ 3+534.4 LT

REMOVAL AND DISPOSAL OF GUARDRAIL
3+519 RT ~ 3+549 RT
3+543 LT ~ 3+550 LT
3+568 RT ~ 3+600 RT
3+570 LT ~ 3+596 LT

REMOVAL & DISPOSAL OF GUIDE POSTS
1 EA @ 3+542.6 LT.

DRIVE GATE FOR CHAIN-LINK FENCE, TYPE II
SL 1 20+018.8 (3.8m WIDE)
(2 - 1.9m GATES WITH OPENING IN THE MIDDLE)

100 mm YELLOW LINE
3+460 ~ 3+600 DOUBLE-SOLID

100 mm WHITE LINE
3+460 ~ 3+600
3+470 ~ 3+600

REMOVING SIGNS
4 EACH

DURABLE 100 mm WHITE LINE
3+460 ~ 3+600 LT
3+460 ~ 3+600 RT

DURABLE 100 mm YELLOW LINE
3+460 ~ 3+600 DOUBLE-SOLID

CONSTRUCT DRIVE
3+538 LT. (2.5 m GRAVEL)

COLD PLANING-BIT. PAVEMENT
3+460 ~ 3+480

BEGIN R.O.W. PROJECT
BRS 0269(8)S
STA. 3+553.6 21.5M (70.5') RT.

SL 1 20+000.0 =
ML 3+534.77
ASKEW 62.3° FROM TANGENT TO CURVE

STA 3+460
BEGIN APPROACH

STA 3+505
END APPROACH
BEGIN PROJECT

STA 3+550.481
BEGIN BRIDGE

STA 3+572.019
END BRIDGE

PI 3+451.155 bk = 3+427.481 ahd (PC 3+331.454)

N73° 11' 13.9"E

N11° 23' 09.7"E

3+468.0
50.2 M (164.7') LT.

3+515.0
50.2 M (164.7') LT.

59.0 M (193.6')

53.2M (174.5')

STA 3+535 LT - 3+550 LT
NEW 450MM X 7.3M OPTION PIPE W/END SECTION & STONE FILL PAD AT OUTLET

STA 3+535 LT - 3+550 LT
NEW 450MM X 15.2M UNDERDRAIN

STA 3+413.8 L 22 m X 0.91 m CONCRETE BOX DO NOT DISTURB

P L 50.2 M (164.7')

3+546.8
11.5M
(37.7') LT.
Drive Gate

3+551.2
11.5M (37.5') LT.

3+553.3
13.9M
(45.6') LT.

3+556.6
12.6M
(41.3') LT.

3+555.0
7.3M
(24') LT.
17.6M
(57.7')

3+572.6
7.3M
(24') LT.

3+577.0
13.5M
(44.3') LT.

3+580.6
13.5M
(44.3') LT.

3+580.6
7.0M
(23.0') LT.

3+551.6
7.3M (24') LT.

3+544.5
13M
(42.6') RT.

3+467.5 CL

3+566.5
8.7M
(28.5') RT.

3+550.5
8.3M (27.2') RT.

3+545.5
13.3M
(43.6') RT.

3+566.5 FIELD
14.2M (46.6') RT.

3+549 RT. REMOVE

3+568 RT. REMOVE

REMOVE 3+550.5 LT.

REMOVE 3+570 LT.

BENCHMARK #1
ELEV.=228.963

VT STATE PLANE GRID

CALKINS ROCK PRODUCTS INC.

CALKINS ROCK PRODUCTS INC.

WOODS DRIVE

DRIVE (T)

SEDIMENTATION BASINS

FIELD

MATCH LINE 3+600

PC 3+595.85

(51.3M) [168.3']

(65.3M) [214.2']

(68.3M) [224.1']

ML POT 3+550.0 = CHAN POT 10+000.0 ASKEW 70° LT

ML POT 3+550.0 =
CHAN POT 10+000.0
ASKEW 70° LT

CURVE DATA
Δ = 61°48' 04.2" Rt.
R = 200.000m
T = 119.700m
L = 215.727m
E = 33.084m
BANK = 0.080

HCTRL #2

HCTRL #300

HCTRL #350

GUIDE POST

GRAVEL TURNOUT

STEEL GATE POSTS

GUY #71 23 53

#72 54

#73 55

#506 6 52

1A

1B

2A

2B

2C

2D

3

SR(T)

CONST. (T)

INSTALL (T)

DETOUR (T)

AERIAL E&T

CULV. DIT. DR. (P)

WETLAND BOUNDARY

GRAVEL DRIVE

TEMPORARY DETOUR CONSTRUCTION LIMITS

AERIAL POWER, TELPHONE AND TELEVISION TO BE RELOCATED ON EXISTING ALIGNMENT TO ACCOMODATE CONSTRUCTION. SEE UTILITY SPECIAL PROVISIONS

GAMBLE, MARTHA D.

SILT FENCE

TEMPORARY DETOUR CONSTRUCTION LIMITS

VT 114 TO LYNDON

EAST BRANCH PASSUMPSIC RIVER

CHANNEL LINE

N 3° 11' 13.9"E

STA 3+460 RT - 3+535 RT
NEW 150MM X 76.2M UNDERDRAIN

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (92)

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 ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

THIS SHEET IS FOR R.O.W PURPOSES ONLY

0 10 20
SCALE IN METERS
1:250

LAYOUT SHEET 1

PROJECT: LYNDON
PROJECT NO.: BRS 0269(8)S
DESIGN FILE NAME: /str5/85e041/de041bdr.dgn
IPARM FILE NAME: de041101.i
SURVEYED BY: Moreau
SQUAD LEADER: C. Keller
PLOT DATE: 19-MAY-2003
SURVEY DATE: Sept. 93
DRAWN BY: M. Fowler

GUARDRAIL APPROACH SECTION
3+571 RT ~ 3+580.5 RT
3+574 LT ~ 3+584.2 LT

STEEL BEAM GUARDRAIL
3+600.0 RT ~ 3+611.0 RT
3+600.0 LT ~ 3+615.0 LT

MODIFIED ECCENTRIC LOADER TERMINAL (MELT)
3+611.0 RT ~ 3+622.4 RT
3+615.0 LT ~ 3+626.3 LT

REMOVAL AND DISPOSAL OF GUARDRAIL
3+600 RT ~ 3+607 RT

CONSTRUCT DRIVE
3+642.5 RT. (12 m PAVED)

COLD PLANING-BIT. PAVEMENT
3+650 ~ 3+670

DURABLE 100 mm WHITE LINE
3+600 ~ 3+670 LT
3+600 ~ 3+670 RT

DURABLE 100 mm YELLOW LINE
3+600 ~ 3+670 DOUBLE-SOLID

100 mm YELLOW LINE
3+600 ~ 3+670 DOUBLE-SOLID

100 mm WHITE LINE
3+600 ~ 3+670 LT
3+600 ~ 3+670 RT

END R.O.W. PROJECT
BRS 0269(8)S
STA. 3+633.3 13.5M (44.3') LT.

CALKINS ROCK PRODUCTS INC.

FIELD

STA 3+670
END APPROACH

STA 3+625
END PROJECT
BEGIN APPROACH

CURVE DATA
△ = 44°06' 37.9" LEFT
R = 350.000m
T = 141.802m
L = 269.456m
E = 27.634m
BANK = 0.071

MATCH LINE TO R.O.W. SHEET 10 OF 11 3+600 MATCH LINE

CONST. (T)
(51.3M) [168.3']
(65.3M) [214.2']
(68.3M) [224.1']
DETOUR (T)
INSTALL (T)
AERIAL E&T
10m R
15.6M (51.2') LT
15.6M (51.2') RT
3+633.3
0+160 3+640
3+600
3+620
3+640
3+660
3+680
3+700
3+720
3+740
3+760
3+780

VT 114 TO BURKE

GUY
GUY POLE
#57S
75S

GUY
#58
76

#6
57
12
75
14-1

WETLAND BOUNDARY

VT. STATE PLANE GRID

MB
HCTRL #4
STA 3+770.9
450 mm ACCGMP

PAVED DRIVE

N73° 11' 13.9"E
N29° 04' 36.1"E

1½STWFH

PI 3+737.653 bK =
3+723.505 ahd
(PT 3+865.307)

AERIAL POWER, TELPHONE AND TELEVISION TO BE RELOCATED ON EXISTING ALIGNMENT TO ACCOMODATE CONSTRUCTION. SEE UTILITY SPECIAL PROVISIONS

LIMIT OF PAVEMENT
3+633.3
15.6M (51.2') RT.

SILT FENCE

TEMPORARY DETOUR CONSTRUCTION LIMITS

WINTERSET INC.

WINTERSET INC.

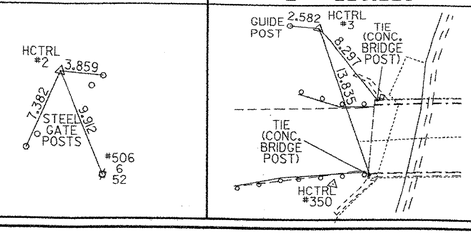
GRAVEL DRIVE
R.O.W. TO ROBARTS, DELISE
(4)

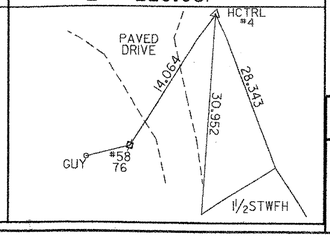
THIS SHEET IS FOR R.O.W PURPOSES ONLY

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 ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

HORIZONTAL CONTROL TIES (ALL DISTANCES IN METERS) N.T.S.

HCTRL #2	HCTRL #3	HCTRL #4
N = 228839.956	N = 228937.471	N = 229017.084
E = 542476.476	E = 542575.973	E = 542773.012
Z = 230.031	Z = 229.223	Z = 229.051





0 10 20
SCALE IN METERS
1:250

LAYOUT SHEET 2

DATUM
VERTICAL NAVD88
HORIZONTAL NAD83 (92)

PROJECT: LYNDON
PROJECT NO.: BRS 0269(8)S
DESIGN FILE NAME: /str5/85e041/de041bdr.dgn
IPARM FILE NAME: de04102.i
SURVEYED BY: Moreau
SQUAD LEADER: C. Keller
PLOT DATE: 26-JUL-2002
SURVEY DATE: Sept. 93
DRAWN BY: M. Fowler

GPS CONTROL POINTS

HVCTRL # 1

STANDARD DISK STAMPED

752 M 23 1928

NORTHING: 228933.048
EASTING: 542583.071
ELEVATION: 228.963

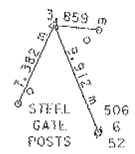
STATION MARK IS A SURVEY DISK SET INTO THE TOP OF THE NORTHWEST WINGWALL OF A 18.3 M CONCRETE BRIDGE OVER THE PASSUMPSIC RIVER, 3.66 M NORTH OF AND ABOUT THE SAME ELEVATION AS THE CENTER OF THE HIGHWAY. THE MARK IS STAMPED 752 M 23 1928.

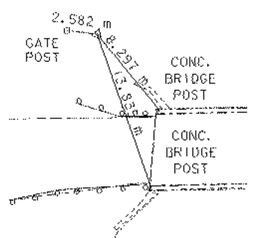
TO REACH FROM THE RAILROAD STATION AT LYNDONVILLE, GO NORTH 1.6 KM TO THE CROSSING OF THE CANADIAN PACIFIC RAILWAY TRACKS AND STATE HIGHWAY 114, CONTINUE EASTERLY ON 114 FOR 2.7 KM TO THE NEAR END OF THE BRIDGE AND THE MARK ON THE LEFT.

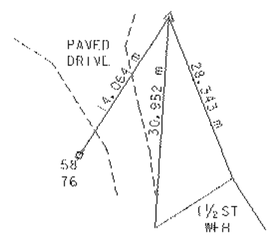
* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

TRAV. PT. 2	TRAV. PT. 3	TRAV. PT. 4
N = 228839.956	N = 228937.471	N = 229017.084
E = 542476.476	E = 542575.973	E = 542773.012
Z = 230.031	Z = 229.~~223~~ 199	Z = 229.051



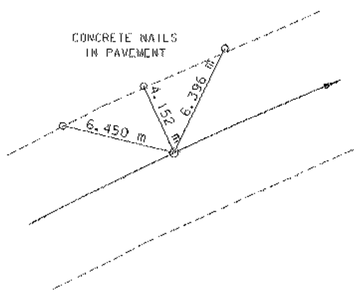


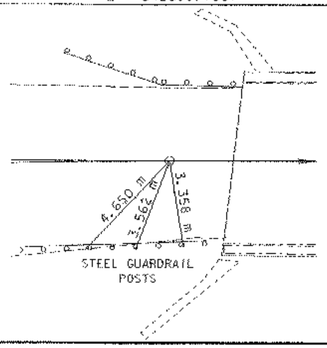


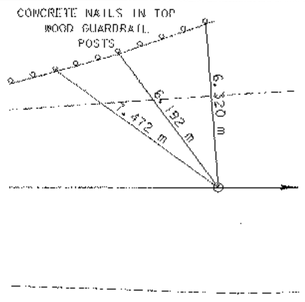
* MAIN TRAVERSE COMPLETED 06/13/91 by Sheridan

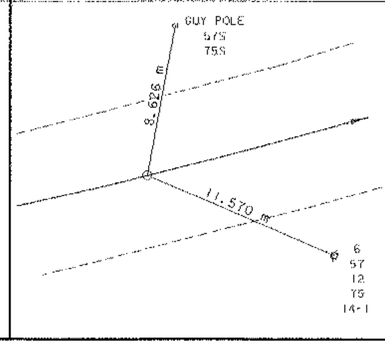
ALIGNMENT TIES

POC STA. 3+460.000	PT STA. 3+547.181	PC ST. 3+595.851	POC 3+680.000
N = 228886.2600	N = 228928.5888	N = 228942.6663	N = 228976.4090
E = 542505.3540	E = 542580.7807	E = 542627.3700	E = 542704.2365









* ALIGNMENT STAKED 01/99 by R. Gilman (P.C.), T. Gilman & D. Breer

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Least Squares

TIE SHEET

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041tie.l
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: VAOT SURVEY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 10 OF 68

Metric

CONSTRUCT STONE LINED DITCH
3+460.0 LT. - 3+530.0 LT.
~~20+002.7 LT. - 20+020.0 LT.~~
20+003 LT - 20+025 LT

CONSTRUCT GRAVEL TURNOUT
3+460.0 RT. - 3+520.0 RT.

CONSTRUCT PAVED APRON
3+531.8 LT. - 3+549.6 LT. (1.5m)

CONSTRUCT GRAVEL DRIVE
3+540 LT.

BRIDGE RAILING - NETC 2-RAIL
3+545.45 RT. - 3+580.~~49~~ RT. 39
3+549.31 LT. - 3+584.~~31~~ LT. 25

GATE FOR CHAIN-LINK FENCE, 1.2 M
SL 20+018.8 CL

BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.2 M
SL 20+018.8 LT. AND RT.

HEAVY DUTY STEEL BEAM GUARDRAIL
3+518.17 RT ~~3+518.21 RT.~~ - ~~3+537.64 RT.~~ 3+537.83 RT
3+588.01RT ~~3+588.11 RT.~~ - ~~3+595.61 RT.~~ 3+596.24 RT
3+591.87 LT ~~3+591.93 LT.~~ - ~~3+599.50 LT.~~ 3+600.10 LT
20+012.03 RT. - 20+019.40 RT.

ANCHOR FOR STEEL BEAM RAIL
3+520.11 RT.
3+593.82 RT.
3+597.63 LT.
20+017.1 RT.

GUARDRAIL APPROACH SECTION, NETC 2 RAIL
3+537.64 RT. - 3+545.45 RT.
20+012.03 RT. - 3+549.31 LT.
3+580.49 RT. - 3+588.31 RT.
3+584.31 LT. - 3+591.93 LT.

REMOVAL AND DISPOSAL OF GUARDRAIL
~~3+518.33 RT. - 3+549.22 RT.~~ 3+519 - 3+549 RT
~~3+543.25 LT. - 3+549.99 LT.~~ 3+542 - 3+550 LT
~~3+567.97 RT. - 3+606.77 RT.~~ 3+568 - 3+606 RT
~~3+569.87 LT. - 3+596.19 LT.~~ 3+570 - 3+597 LT

REMOVAL AND DISPOSAL OF GUIDE POST
20+012.9 RT.

CURVE NO. 1 DATA
Δ = 61°48'04" RT.
R = 200.000 m
T = 119.700 m
L = 215.727 m
E = 33.084 m
2T-L = 23.673 m
BANKING = 0.080

PI NO. 1
STA. 3+451.154 BK =
STA. 3+427.481 AH
Δ = 61°48'04" RT.
(PC STA. 3+331.454)

STA. 3+460.000
BEGIN APPROACH
MATCH EXISTING

STA. 3+505.000
END APPROACH
BEGIN PROJECT

ML POT STA. 3+550.000 =
CHAN. POT STA. 10+000.000
Δ = 70° LT.

ML POC STA. 3+53~~7~~.774 = 4
SL POT STA. 20+000.000
Δ = 62°20'42" LT. FROM
TANGENT TO CURVE

STA. 3+413.7 CL
EXISTING 1.22m X 0.91m CONC. BOX
(RETAIN)

BEGIN 150mm UD
3+502 RT

STA. 3+550.481
BEGIN BRIDGE
F.G. = 229.201

STA. 3+550.800
℄ BRG. ABUT. NO. 1
F.G. = 229.199
(EXP.)

STA. 3+547.181
PT NO. 1

STA. 3+579.319
END BRIDGE
F.G. = 229.055

STA. 3+579.000
℄ BRG. ABUT. NO. 2
F.G. = 229.055
(FIXED)

STA. 3+595.851
PC NO. 2

CHAN. STA. 10+045.000
POE

SL STA. 20+040.000
POE

CHAN. STA. 9+925.000
POB

BM NO. 1
USGS DISK M23
EL. 228.963

EXISTING BRIDGE DATA

DECK IS A SIMPLE SPAN CONCRETE DECK
WITH ASPHALT OVERLAY

SUPERSTRUCTURE CONSISTS OF 5 ROLLED BEAMS
0.711m DEEP X 0.362m WIDE X 246 kg/m

ABUTMENTS AND WINGWALLS ARE CAST-IN-PLACE
CONCRETE

BRIDGE LENGTH: 18.90m
BRIDGE WIDTH: 6.96m
VERTICAL CLEARANCE UNDER BRIDGE: 4.1m

0 10 20 30
SCALE = 1:250

MATCH LINE A-A

STA. 3+600

LAYOUT SHEET (1)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041101.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 11 OF 68

VAOT Metric

CONSTRUCT PAVED APRON
3+627.5 RT. - 3+657.5 RT. (7.3m)

N

VT STATE PLANE GRID

WETLAND BOUNDARY

STA. 3+770.9 CL
EXISTING 455mm ACCOMP
DO NOT DISTRUB

MATCH LINE A-A

STA. 3+625.000
END PROJECT
BEGIN APPROACH

STA. 3+670.000
END APPROACH
MATCH EXISTING

EXISTING R.O.W.

CONSTRUCTION LIMITS

VT. 114
TO BURKE

GUY

GUY POLE
57S
75S

FIELD

3+780
3+760
3+740
3+720
3+700
3+680
3+660
3+640
3+620
600

℄ VT 114

MB

TRAV
PT 4

DI

PAVED DRIVE

N29°04'36"E

GUY

58
76

CURVE NO. 2 DATA
Δ = 44°06'38" LT.
R = 350.000 m
T = 141.802 m
L = 269.456 m
E = 27.634 m
2T-L = 23.673 m
BANKING = 0.07I

6
57
12
75
14-1

N73°11'14"E

CZ

CZ

TEMP. ℄ DETOUR

74
56

R 10m (TYP.)

R 150 m

R 10m (TYP.)

LIMIT OF PAVEMENT

FIELD

EXISTING R.O.W.

TEMPORARY DETOUR CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

GRAVEL DRIVE

1½ ST WFH

PI NO. 2
STA. 3+737.653 BK =
STA. 3+723.505 AH
Δ = 44°06'38" LT.
(PT STA. 3+865.307)

STA. 3+600

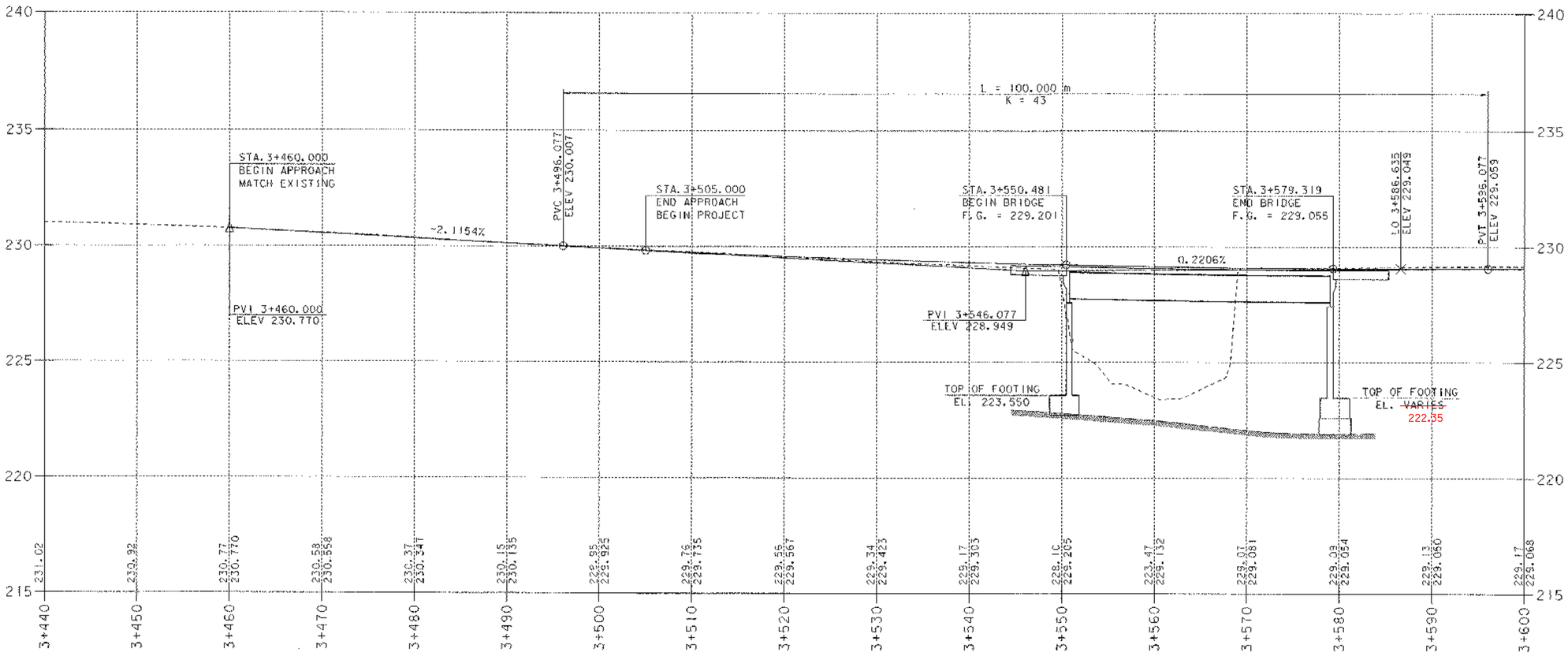
0 10 20 30
SCALE = 1:250

LAYOUT SHEET (2)

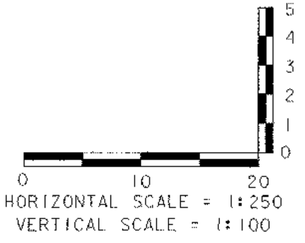
PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041102.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 12 OF 68

PROFILE ALONG PROPOSED CENTERLINE VT 114



NOTE:
ELEVATIONS TO THE NEAREST HUNDREDTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
ELEVATIONS TO THE NEAREST THOUSANDTH ARE FINISH GRADE ALONG PROPOSED CENTERLINE.



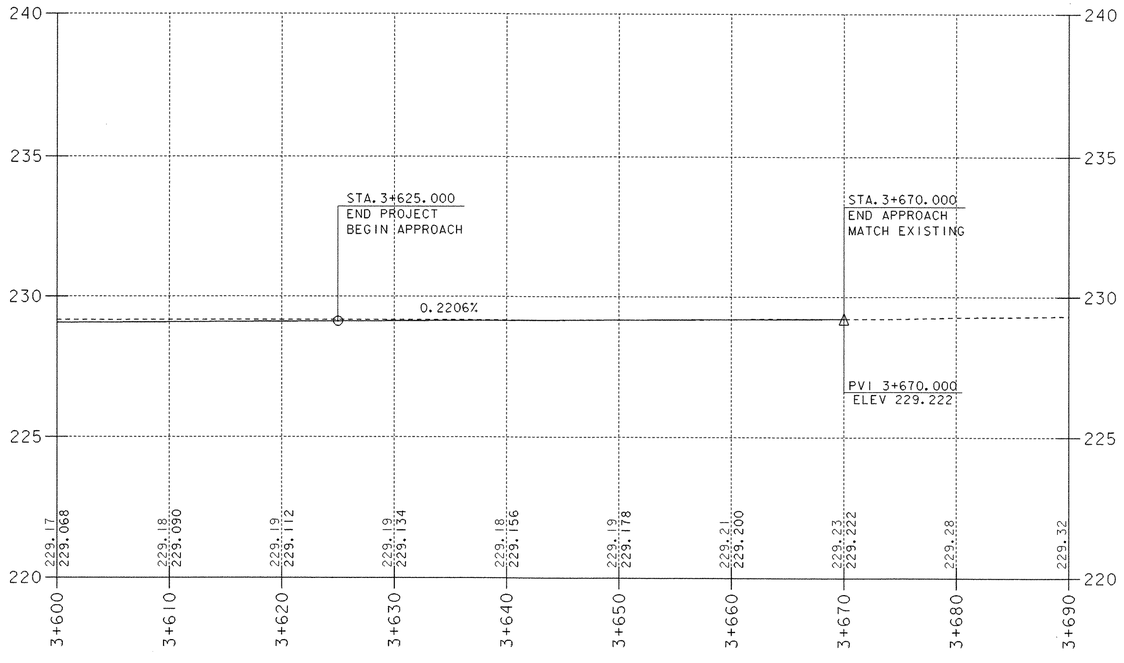
PROFILE SHEET (1)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

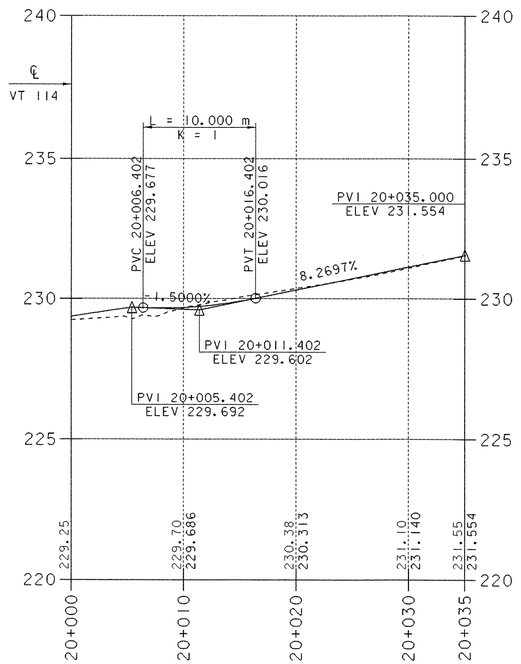
FILE NAME: 85e041\Structures\se041pf1.1
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 13 OF 68

Metric

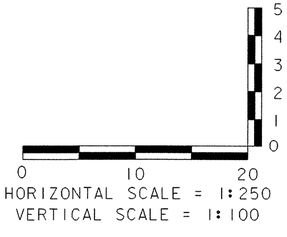
PROFILE ALONG PROPOSED CENTERLINE VT 114



DRIVE PROFILE STA. 3+540 LT.



NOTE:
ELEVATIONS TO THE NEAREST HUNDREDTH ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
ELEVATIONS TO THE NEAREST THOUSANDTH ARE FINISH GRADE ALONG PROPOSED CENTERLINE.



PROFILE SHEET (2)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04lpf2.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 14 OF 68

CAST IRON GRATE W/ FRAME, TYPE ~~A~~ D
3+530.0 LT.

150mm UNDERDRAIN
3+460.0 LT. - 3+529.7 LT.
~~3+460.0 RT.~~ - 3+529.2 RT.
3+502.0 RT

150mm UNDERDRAIN CARRIER PIPE
3+460.0 LT.

UNDERDRAIN FLUSHING BASIN (FB)
3+460.0 LT.

~~DURABLE~~ 100mm WHITE LINE
~~3+460.0 LT. - 3+670.0 LT.~~ 3+430.0 LT - 3+674.0 LT
~~3+460.0 RT. - 3+670.0 RT.~~ 3+421.0 LT - 3+669.0 LT

~~DURABLE~~ 100mm YELLOW LINE
~~3+460.0 CL - 3+670.0 CL~~ (DOUBLE)
3+408.0 CL - 3+678.0 CL

REMOVING SIGNS
3+548.8 RT.
3+548.8 LT.
3+569.5 RT.
3+570.9 RT.

LEGEND

EXISTING SIGN

R REMOVE

STA. 3+530.0 LT.
NEW 1200mm X 1200mm RCDI W/ CAST IRON GRATE W/ FRAME, TYPE ~~A~~ D (SEE STDS. D-6 AND D-11)
CONSTRUCT 1800 X 3000 PAD STONE FILL, TYPE I THIS END

STA. 3+530.0 CL
NEW 450mm X 14.63m OPTION PIPE W/ END SECTION
INLET INV. EL. = 227.185
OUTLET INV. EL. = 226.857
CONSTRUCT ~~1500~~ X ~~5300~~ PAD STONE FILL, TYPE I.
AT OUTLET 2300 15200

STA. 3+413.7 CL
EXISTING 1.22m X 0.91m CONC. BOX (RETAIN)

EXISTING AERIAL POWER, TELEPHONE AND TELEVISION TO BE ADJUSTED HORIZONTALLY OR VERTICALLY ON EXISTING ALIGNMENT TO ACCOMODATE CONSTRUCTION. SEE PROJECT SPECIAL PROVISIONS FOR MORE INFORMATION.

3+548.8 LT.
3+570.9 RT.
3+548.8 RT.
3+569.5 RT.

BM NO. 1
USGS DISK M23
EL. 228.963

MATCH LINE A-A

STA. 3+600

SCALE = 1:250

DRAINAGE, UTILITIES, TRAFFIC SIGNS & PAVEMENT MARKINGS SHEET (1)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041t01.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 15 OF 68

VAOT Metric

N

VT STATE PLANE GRID

WETLAND BOUNDARY

STA. 3+770, 3 CL
EXISTING 450mm ACCAMP
DO NOT DISTRUB

MATCH LINE A-A

EXISTING R.O.W.

FIELD

VT. 114
TO BURKE

GUY

GUY POLE
57S
75S

3+780
3+760
3+740
3+720
3+700
3+680
3+660
3+640
3+620

CZ

AERIAL E&T

TEMP.
DETOUR

74
56

R 150 m

6
57
12
75
14-1

N73° 11' 14"E

N29° 04' 36"E

MB

TRAV
PT 4

PAVED
DRIVE

GUY

58
76

DI

1½ ST
WFH

EXISTING AERIAL POWER, TELEPHONE AND TELEVISION
TO BE ADJUSTED HORIZONTALLY OR VERTICALLY ON
EXISTING ALIGNMENT TO ACCOMODATE CONSTRUCTION.
SEE PROJECT SPECIAL PROVISIONS FOR MORE INFORMATION.

FIELD

EXISTING R.O.W.

GRAVEL
DRIVE

STA. 3+600

0 10 20 30

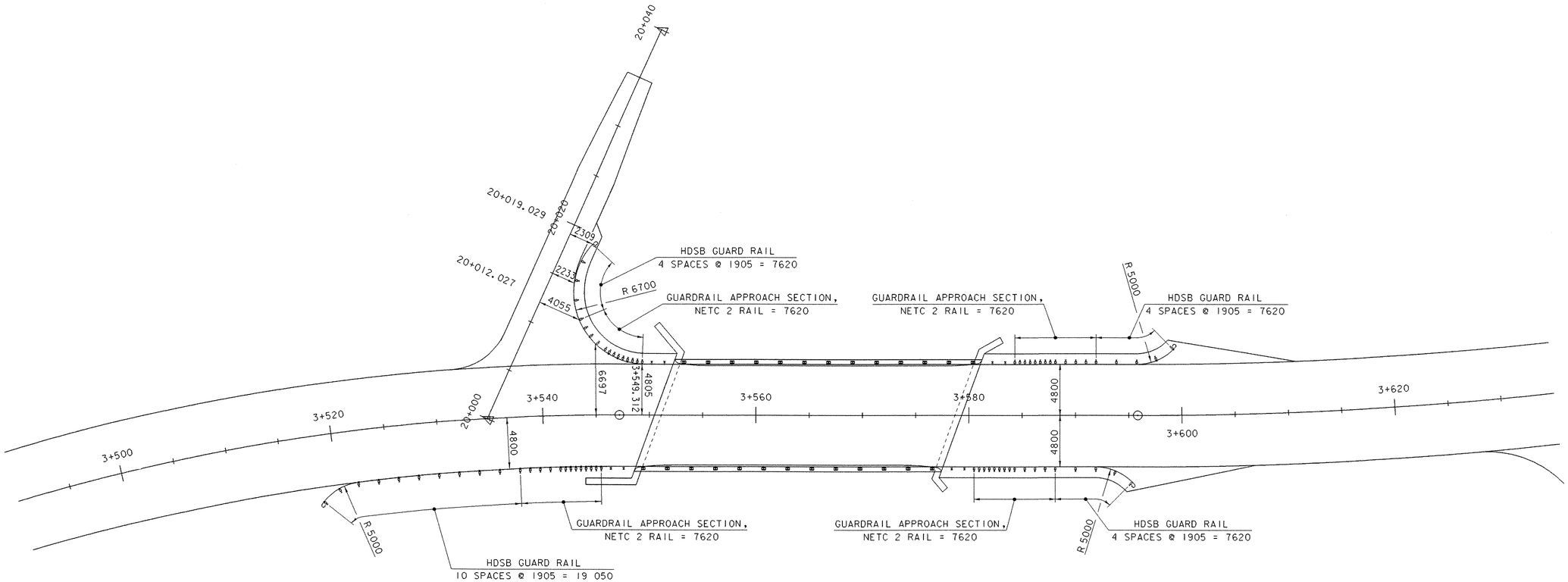
SCALE = 1:250

DRAINAGE, UTILITIES, TRAFFIC SIGNS & PAVEMENT MARKINGS SHEET (2)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041t02.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 16 OF 68



0 10 20

SCALE = 1:200

GUARD RAIL LAYOUT SHEET

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04lgrl.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 17 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
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS)		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 67.5 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
ROD	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.

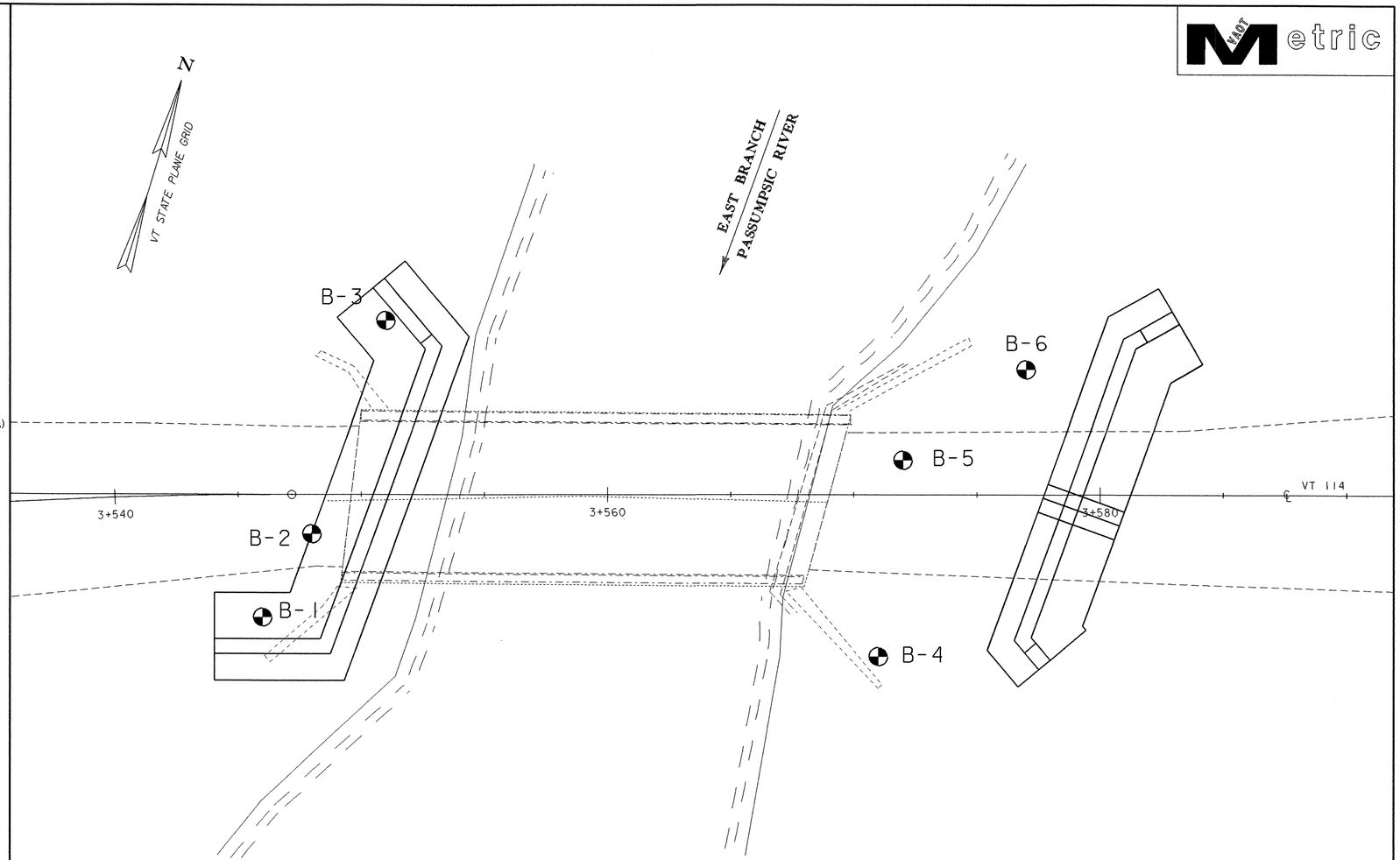
MUCK - Soft organic soil (containing > 10% organic material.

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 PLAN

0 1 2 4 6 8 10

SCALE = 1:100

GENERAL NOTES

1. The subsurface explorations shown herein were made between 09/07/99 and 09/27/99 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	TLOB ELEV.
B-1	3+546.00	5.0 RT.	228.500	222.100
B-2	3+548.00	1.6 RT.	229.091	222.811
B-3	3+551.00	7.0 LT.	226.836	222.576
B-4	3+571.00	6.6 RT.	227.854	221.304
B-5	3+572.00	1.4 LT.	229.107	222.137
B-6	3+577.00	5.0 LT.	228.418	222.518

BORING INFORMATION SHEET (1)

PROJECT NAME: LYNDON

PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041b01.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER

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

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 9/13/99
DATE COMPLETED: 9/14/99

PROJECT NAME: LYNDON
SITE NAME: BR-8
STATION: 3+546.00
GROUND EL.: 228.500

PROJECT NUMBER: BRS 0269 (8)S
SITE NO.: VT-114
OFFSET: 5.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG.
ABUT. NO. 1
EL. 223.550

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-1-a, SaGr, brn, Moist, Rec. = 0.10m	6	10.3	66.9	29.8	3.3		
		No Rec., Stone in sampler.	12						
		No sample, Boulder							
5		No sample, Boulder							
		Top of bedrock @ 6.40m							

	RUN	REC%	RQD%	Dip°
Run #1: BXDC, 6.40m-7.15m, Rec. = 0.42m, See Geologist's Report.	1	56	33	50
Run #2: BXDC, 7.15m-7.90m, Rec. = 0.68m, See Geologist's Report.	2	91	80	50
Run #3: BXDC, 7.90m-9.40m, Rec. = 1.50m, See Geologist's Report.	3	100	78	50

Hole stopped @ 9.40m

10

GEOLOGISTS REPORT:

Run #1: Gray quartzose limestone, Hard, Unweathered, Competent.

Run #2: Same as Run #1, Competent.

Run #3: Same as Run #1, But thin schist layering from 8.40m - 8.65m, Competent.

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

HOLE NO.: B-2
SHEET 1 OF 1
DATE STARTED: 9/7/99
DATE COMPLETED: 9/7/99

PROJECT NAME: LYNDON
SITE NAME: BR-8
STATION: 3+548.00
GROUND EL.: 229.091

PROJECT NUMBER: BRS 0269 (8)S
SITE NO.: VT-114
OFFSET: L60
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG.
ABUT. NO. 1
EL. 223.550

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	0.0m-0.21m, Asphalt 0.21m-0.49m, Concrete							
		A-1-b, GrSa, brn, Moist, Rec. = 0.40m	11	10.5	38.5	45.4	16.1		
		A-2-4, SiGrSa, brn, Moist, Rec. = 0.32m	7	15.2	23.8	55	21.2		
		A-2-4, Sa, brn, Moist, Rec. = 0.25m	18	17.2	17.2	67	18.8		
		A-1-b, SaGr, brn, MTW, Rec. = 0.13m	36	27.6	50.2	37.6	12.2		
5		A-1-b, Sa, brn, Moist, Rec. = 0.11m	41	18.5	16.4	73.6	10		
		Top of bedrock @ 6.28m							

	RUN	REC%	RQD%	Dip°
Run #1: BXDC, 6.28m-6.89m, Rec. = 0.60m, See Geologist's Report.	1	98	98	15
Run #2: BXDC, 6.89m-7.96m, Rec. = 0.72m, See Geologist's Report.	2	67	52	20-50
Run #3: BXDC, 7.96m-8.26m, Rec. = 0.23m, See Geologist's Report.	3	77	77	60
Run #4: BXDC, 8.26m-9.16m, Rec. = 0.90m, See Geologist's Report.	4	100	78	60

Hole stopped @ 9.16m

10

GEOLOGISTS REPORT:

Run #1: Light gray quartzose limestone, Hard, Unweathered, Competent. Dark gray in lower portion of core.

Run #2: Same as Run #1, But with quartz veins, Competent.

Run #3: Same as Run #1, Competent.

Run #4: Same as Run #1, But with quartz veins and thin phyllite partings at bottom of core, Competent.

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

HOLE NO.: B-3
SHEET 1 OF 1
DATE STARTED: 9/15/99
DATE COMPLETED: 9/16/99

PROJECT NAME: LYNDON
SITE NAME: BR-8
STATION: 3+551.00
GROUND EL.: 226.836

PROJECT NUMBER: BRS 0269 (8)S
SITE NO.: VT-114
OFFSET: -7.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG.
ABUT. NO. 1
EL. 223.550

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, gry, MTW, Rec. = 0.30m	12	38.8	1.1	74.8	24.1		
		BXDC, 2.8m-3.4m, Boulders, No Sample							
		BXDC, 3.6m-4.0m, Boulders, No Sample							
		Top of bedrock @ 4.26m							

	RUN	REC%	RQD%	Dip°
Run #1: BXMDC, 4.26m-5.76m, Rec. = 1.50m, See Geologist's Report.	1	100	53	30
Run #2: BXMDC, 5.76m-7.26m, Rec. = 1.45m, See Geologist's Report.	2	97	90	50

Hole stopped @ 7.26m

10

GEOLOGISTS REPORT:

Run #1: Gray quartzose limestone, Hard, Unweathered, Fair competency,. Large near vertical joint between 7.76m and 8.11m.

Run #2: Same as Run #1, But contains numerous quartz lenses, Competent.

BORING INFORMATION SHEET (2)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041b02.1
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: VAOT MATERIALS & RESEARCH

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER

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

HOLE NO.: B-4
SHEET 1 OF 1
DATE STARTED: 9/24/99
DATE COMPLETED: 9/27/99

PROJECT NAME: LYNDON
SITE NAME: BR-8
STATION: 3+571.00
GROUND EL.: 227.854

PROJECT NUMBER: BRS 0269 (8)S
SITE NO.: VT-114
OFFSET: 6.60
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG.
ABUT. NO.2
EL. 222.850

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, brn, Moist, Rec. = 0.28m	5	18.6	11.7	60.1	28.2		
	CONCRE	2.80m-3.72m, Concrete, No sample in concrete footing.							
5		4.50m-5.10m, No Rec. Stone in end of core barrel.	35						
		Top of bedrock @ 6.55m							
		Run #1: BXMDC, 6.55m-8.05m, Rec. = 1.40m, See Geologist's Report.	RUN 1	REC% 93	ROD% 90	Dip° 60			
		Run #2: BXMDC, 8.05m-9.55m, Rec. = 1.49m, See Geologist's Report.	2	99	99	60			
10		Hole stopped @ 9.55m							

GEOLOGISTS REPORT:

Run #1: Gray quartzose limestone, Hard, Unweathered, Competent.
Thin amphibolitic zone at 7.35m.

Run #2: Same as Run #1, But no amphibolitic zone, Competent.

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

HOLE NO.: B-5
SHEET 1 OF 1
DATE STARTED: 9/8/99
DATE COMPLETED: 9/8/99

PROJECT NAME: LYNDON
SITE NAME: BR-8
STATION: 3+572.00
GROUND EL.: 229.107

PROJECT NUMBER: BRS 0269 (8)S
SITE NO.: VT-114
OFFSET: -1.40
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG.
ABUT. NO.2
EL. 223.450

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, brn, Moist, Rec. = 0.29m	19	10.9	15.1	58.8	26.1		
		A-2-4, SiSa, brn, Moist, Rec. = 0.31m	18	18.5	6.5	67.7	29.8		
5		A-1-a, SaGr, brn, Moist, Rec. = 0.15m	32	10.2	70	23.4	6.6		
		A-4, Si, brn, MTW, Rec. = 0.36m	11	33.1	2.9	6.3	90.8		
		Top of bedrock @ 6.97m							
		Run #1: BXDC, 6.97m-8.19m, Rec. = 1.0m, Small seam @ 7.22m-7.30m. Very soft rock 7.30m-7.60m. See Geologist's Report.	RUN 1	REC% 82	ROD% 78	Dip° 30			
		Run #2: BXDC, 8.19m-9.56m, Rec. = 1.37m, Small seam @ 8.50m-8.58m. See Geologist's Report.	2	100	95	30			
10		Run #3: BXDC, 9.56m-10.17m, Rec.= 0.61m, See Geologist's Report.	3	100	95	30			
		Hole stopped @ 10.17m							

GEOLOGISTS REPORT:

Run #1: Gray quartzose limestone, Hard, Unweathered, Competent.
Drillers report soft rockand seams near top of core.

Run #2: Same as Run #1, Competent.

Run #3: Same as Run #1, Competent.

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

HOLE NO.: B-6
SHEET 1 OF 1
DATE STARTED: 9/16/99
DATE COMPLETED: 9/23/99

PROJECT NAME: LYNDON
SITE NAME: BR-8
STATION: 3+577.00
GROUND EL.: 228.418

PROJECT NUMBER: BRS 0269 (8)S
SITE NO.: VT-114
OFFSET: -5.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: YOUNG
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

TOP OF FTG.
ABUT. NO.2
EL. 223.450

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-2-4, SiSa, brn, Moist, Rec. = 0.17m	R	14.2	17.4	60.6	22		
		BXDC, 1.85m-2.50m, Boulder							
		BXDC, 2.50m-3.00m, Boulders							
		BXDC, 3.00m-4.00m, Boulders							
		BXDC, 4.15m-4.40m, Boulder							
5		A-2-4, Sa, brn, MTW, Rec. = 0.37m	9	25.5	1	79.2	19.8		
		Top of bedrock @ 5.90m							
		Run #1: BXMDC, 5.90m-7.40m, Rec. = 0.83m, Seam @ 6.20m-6.50m. Seam @ 6.67m-6.79m. See Geologist's Report.	RUN 1	REC% 55	ROD% 40	Dip° 60			
		Run #2: BXMDC, 7.40m-8.14m, Rec. = 0.33m, Seam @ 7.50m-7.65m. Seam @ 7.85m-8.00m. See Geologist's Report.	2	45	16	60			
		Run #3: BXMDC, 8.14m-9.67m, Rec. = 1.48m, See Geologist's Report.	3	99	90	60			
10		Hole stopped @ 9.67m							

GEOLOGISTS REPORT:

Run #1: Light gray quartzose limestone, Hard, Unweathered, Competent.
Fair ROD.

Run #2: Same as Run #1, But darker gray, Poor competency.

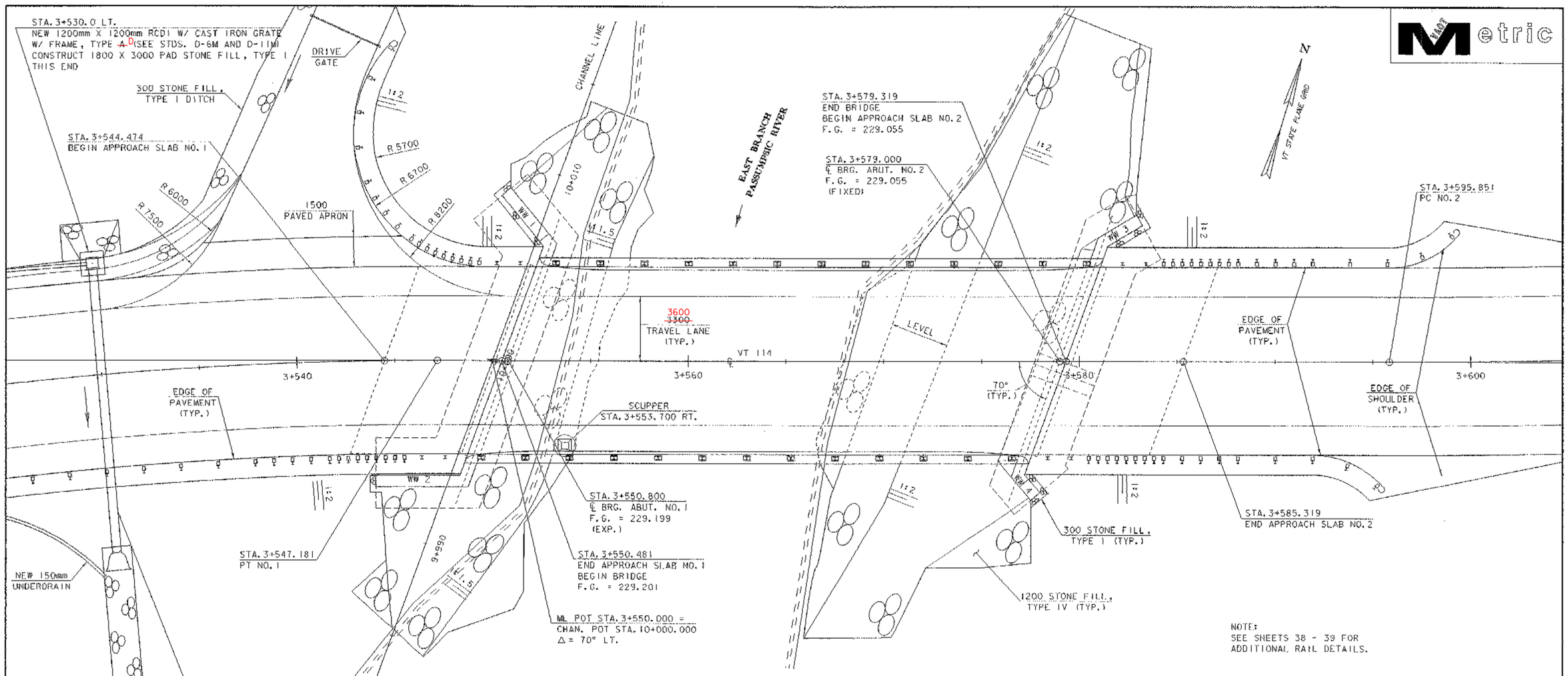
Run #3: Same as Run #1, Competent.

BORING INFORMATION SHEET (3)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041b03.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: VAOT MATERIALS & RESEARCH

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER

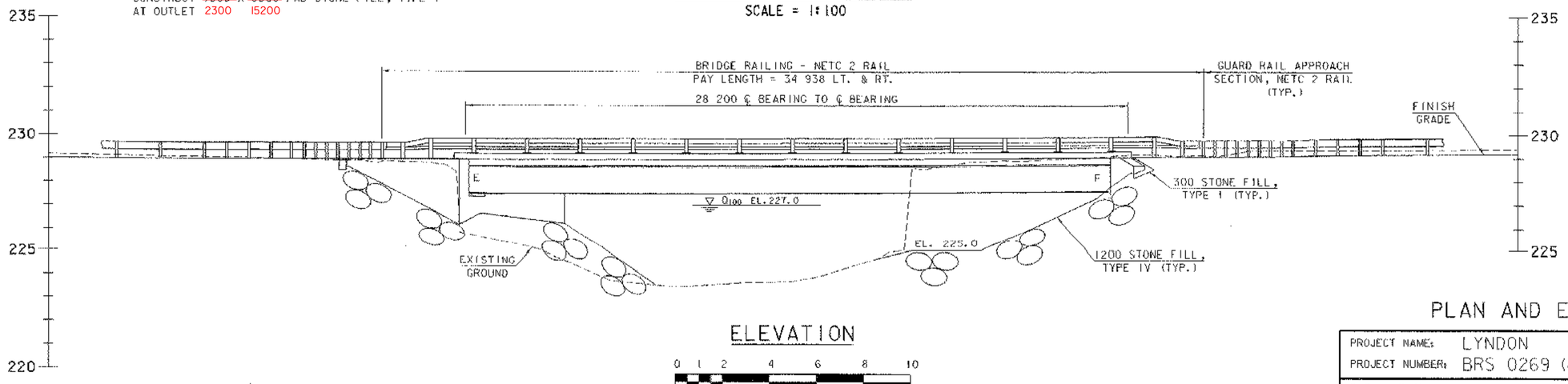


PLAN

0 1 2 4 6 8 10

SCALE = 1:100

NOTE:
SEE SHEETS 38 - 39 FOR ADDITIONAL RAIL DETAILS.



ELEVATION

0 1 2 4 6 8 10

SCALE = 1:100

PLAN AND ELEVATION

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04ipe.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 21 OF 68

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF A BRIDGE OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER. THE PROJECT IS ON VT 114, A PAVED, MAJOR COLLECTOR IN THE TOWN OF LYNDON. THE EXISTING STEEL BEAM BRIDGE WILL BE REMOVED ALONG WITH THE EXISTING ABUTMENTS. A NEW TWO-LANE, SINGLE SPAN STEEL GIRDER BRIDGE WILL BE CONSTRUCTED ON THE EXISTING ALIGNMENT WHILE TRAFFIC IS MAINTAINED ON A TEMPORARY TWO-WAY BRIDGE DOWN STREAM OF THE EXISTING BRIDGE. TOTAL ROADWAY APPROACH WORK INCLUDING BOTH APPROACHES IS APPROXIMATELY 120 METERS. THE LIMITS OF CONSTRUCTION DO NOT APPROACH ANY BUILDINGS OR OTHER STRUCTURES. NATURAL RESOURCES WITHIN THE PROJECT AREA HAVE BEEN CLEARLY IDENTIFIED AND SHOWN IN THE EXISTING CONDITIONS.

IT IS ANTICIPATED THAT THIS WILL BE COMPLETED IN ONE CONSTRUCTION SEASON.

TOTAL DISTURBED AREA (EXCLUDING WASTE, BORROW AND STAGING AREAS):
0.27 HA (0.68 AC.)

SITE INVENTORY & ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS MOSTLY OF WELL ESTABLISHED VEGETATION. THE DOWNSTREAM SIDE OF THE BRIDGE CONSISTS MOSTLY OF LOW GROWING SHRUBBERY WITH A FEW LARGER DECIDUOUS TREES ALONG THE STEEP RIVER BANKS. THE LEFT BANK OF THE UPSTREAM SIDE IS LONG AND STEEP AND CONSISTS MOSTLY OF MATURE DECIDUOUS TREES WHILE THE RIGHT BANK IS VERY FLAT WITH A MIX OF MATURE TREES AND LOW GROWING SHRUBBERY.

DRAINAGE, WATERWAYS, BODIES OF WATER:

THE PASSUMPSIC RIVER IS LOCATED WITHIN THE PROJECT AREA. THE PASSUMPSIC RIVER IS DESCRIBED AS STRAIGHT, ALLUVIAL, PROBABLY INCISED AND NOT BRAIDED OR ANABRANCHED. THE STREAMBED IS COMPOSED MOSTLY OF GRAVEL, COBBLES AND BOULDERS. THE LEFT BANK OF THE DOWNSTREAM SIDE AND THE RIGHT BANK OF THE UPSTREAM SIDE ARE RELATIVELY FLAT WITH LOTS OF PROTECTIVE VEGETATION. THE RIGHT BANK OF THE DOWNSTREAM SIDE AND THE LEFT BANK OF THE UPSTREAM SIDE ARE BOTH RELATIVELY STEEP AND ALSO ARE ABUNDANT IN VEGETATIVE COVER. THERE IS A CLASS III WETLAND IDENTIFIED WITHIN THE CONSTRUCTION LIMITS THAT IS CLEARLY IDENTIFIED WITHIN THE PLANS. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS APPROXIMATELY 200 SQ. KM.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

THE TOPOGRAPHY OF THE SITE IS DESCRIBED TO BE ROLLING HILLS TO MOUNTAINOUS. THE TOPOGRAPHY DIRECTLY AROUND THE SITE IS MOSTLY OPEN FIELDS AND GRASSLANDS ALONG THE SOUTH SIDE OF VT 114. TO THE NORTH MUCH OF THE LAND IS SLOPING WOODLANDS. VT 114 IS A PAVED MAJOR COLLECTOR. ELECTRICAL UTILITIES EXIST WITHIN THE AREA. DURING CONSTRUCTION THE EXISTING POLES WILL BE REPLACED WITH LARGER, TALLER POLES.

VEGETATION:

THE VEGETATION ALONG VT 114 IS A MIX OF GRASS, SMALL SHRUBS AND A FEW SMALL DECIDUOUS TREES WITH THE EXCEPTION OF THE NORTH EAST QUADRANT OF THE SITE. THIS AREA CONSISTS PRIMARILY OF LARGER MATURE DECIDUOUS TREES. THE RIVER BANKS ARE COVERED IN SMALL DECIDUOUS TREES MIXED IN WITH LOW GROWING SHRUBBERY. MUCH OF THE SURROUNDING AREA IS PRIMARILY GRASSLANDS.

SOILS:

THERE ARE TWO TYPES OF SOILS IDENTIFIED WITHIN THE PROJECT AREA. IN THE EASTERN HALF OF THE SITE THE SOILS PRIMARILY CONSIST OF PODUNK FINE SANDY LOAM. THESE SOILS ARE FORMED IN LOAMY OVER SANDY ALLUVIAL DEPOSITS ON FLOOD PLAINS THAT ARE OCCASIONALLY FLOODED FOR BRIEF DURATION. THEY ARE VERY DEEP TO BEDROCK AND MODERATELY WELL DRAINED. THESE SOILS HAVE A SEASONAL HIGH WATER TABLE AT DEPTHS OF 1.5 TO 3.0 FEET BELOW THE SURFACE. PERMEABILITY IS MODERATE TO MODERATELY RAPID IN THE SOLUM AND RAPID OR VERY RAPID IN THE SUBSTRATUM. IN THE WESTERN HALF OF THE SITE THE SOILS PRIMARILY CONSIST OF DUMMERSTON VERY FINE SANDY LOAM. THESE SOILS ARE FORMED IN LOAMY GLACIAL TILL ON UPLANDS. THEY ARE VERY DEEP TO BEDROCK AND WELL DRAINED. PERMEABILITY IS MODERATE.

THE LISTED SOIL ERODABILITY COEFFICIENT (K-VALUE) FOR THESE SOIL TYPES ARE: PODUNK = 0.24 AND DUMMERSTON = 0.28. THESE VALUES ARE IN THE RANGE OF SOILS THAT ARE CLASSIFIED AS LOW TO MODERATELY ERODABLE.

SENSITIVE RESOURCE AREAS:

THERE HAS BEEN A SINGLE WETLAND IDENTIFIED WITHIN THE PROJECT AREA. THIS AREA HAS BEEN CLEARLY IDENTIFIED IN THE PLANS. DURING CONSTRUCTION IT WILL BE TEMPORARILY DISTURBED DUE TO THE TEMPORARY DETOUR. DURING CONSTRUCTION, TEMPORARY EROSION CONTROL MEASURES WILL BE UTILIZED IN ORDER TO MINIMIZE EFFECTS TO THE WETLAND. FINAL EROSION CONTROL MEASURES SUCH AS SEEDING, MULCHING AND EROSION MATTING WILL BE USED WITHIN THE AREA WHEN CONSTRUCTION IS COMPLETE.

NO OTHER AREAS HAVE BEEN IDENTIFIED AS RESOURCES WITHIN THE PROJECT CONSTRUCTION LIMITS.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:

THE ONLY WATER FEATURE THAT WILL BE AFFECTED BY CONSTRUCTION WILL BE THE PASSUMPSIC RIVER. THE DISTURBANCE OF SOILS WILL BE NECESSARY TO REMOVE THE EXISTING CONCRETE ABUTMENTS. THE AREA AROUND THE NEW ABUTMENTS WILL BE STABILIZED WITH STONE FILL, TYPE IV ONCE THE CONSTRUCTION OF THE NEW ABUTMENTS IS COMPLETE.

TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES TO BE UTILIZED INCLUDE:

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

TRACKING OF ALL SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL ALSO BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. 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 GREATER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION.

DITCHES SHALL BE LINED WITH STONE FILL, TYPE I, IMMEDIATELY AFTER REACHING FINAL GRADE. TEMPORARY STONE CHECK DAMS SHALL ALSO BE USED IN DITCHES TO REDUCE FLOW VELOCITIES UNTIL DITCHES ARE COMPLETELY STONE LINED. STONE CHECK DAMS SHALL BE PLACED IN DITCHES SUCH THAT THE ELEVATION AT THE TOP OF EACH DAM CORRESPONDS TO THE SAME ELEVATION OF THE TOE OF THE PRECEDING UPSLOPE DAM AS SHOWN ON THE 'EROSION CONTROL DETAILS' SHEET. STONE CHECK DAMS SHALL REMAIN IN DITCHES UNTIL THE FULL LENGTH OF DITCHES HAVE BEEN STONE LINED.

SILT FENCE WILL BE INSTALLED ALONG SLOPES SO AS TO PREVENT SEDIMENT TRANSPORT TO DOWN GRADIENT AREAS. EACH LINE OF SILT FENCE WILL BE PLACED ALONG THE CONTOUR WITH THE LOWER EDGE BURIED 150 (6") TO PREVENT UNDERFLOW AND ENDS TURNED SLIGHTLY UP GRADE TO CREATE A PONDING EFFECT SHOULD WATER TRY TO RUN ALONG THE FENCING AND AROUND THE ENDS. SILT FENCE SHALL BE PLACED PRIOR TO ANY UPSLOPE EARTHWORK.

SAND BAGS FILLED WITH CLEAN, SMALL DIAMETER STONE, OR AN EQUIVALENT BARRIER WILL BE UTILIZED AROUND THE DROP INLET TO CREATE A TEMPORARY PONDING AREA FOR PARTICLES TO SETTLE OUT AS WATER DRAINS THROUGH BARRIER. INLET PROTECTION SHALL BE INSTALLED AS SOON AS THERE IS THE POSSIBILITY OF WATER FLOWING TO THE STRUCTURE. THE HEIGHT OF THE BARRIER SHALL BE LIMITED SUCH THAT THE PONDING AREA DOES NOT PRESENT A HAZARD TO THE TRAVELING PUBLIC. ALTERNATIVE INLET CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

STABILIZED CONSTRUCTION ENTRANCES TO THE PROJECT SITE, STAGING AREAS, AS WELL AS TO WASTE AND BORROW AREAS SHALL BE ESTABLISHED. THE MINIMUM SIZE OF A STABILIZED CONSTRUCTION ENTRANCE IS 3700 X 15000 (12'X50'). ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARDS A CONSTRUCTION ENTRANCE SHALL BE PIPED UNDER THE STONE. PIPES SHALL BE APPROPRIATELY SIZED FOR THE CONTRIBUTING AREA, HOWEVER, NO PIPES SMALLER THAN 150MM DIAMETER SHALL BE USED. SEE TYPICAL DETAIL ON 'EROSION & SEDIMENT CONTROL PLAN' SHEET FOR MATERIALS AND CONSTRUCTION METHOD TO BE UTILIZED WHEN CONSTRUCTING A STABILIZED ENTRANCE.

TEMPORARY SEDIMENT SETTLING BASINS WILL BE NECESSARY ON THIS PROJECT. SETTLING BASINS SHALL BE SIZED BASED UPON THE FOLLOWING CRITERIA:

PUMP FLOW RATE		REQUIRED SURFACE AREA		LENGTH / WIDTH = 2:1			
Q (gpm)	Q (m^3/s)	(ft^2)	(m^2)	L (ft)	W (ft)	L (m)	W (m)
50	0.0032	595	55	35.0	17.0	10.6	5.3
100	0.0063	1200	111	49.0	24.5	15.0	7.5
150	0.0095	1776	165	59.6	29.8	18.2	9.1
200	0.0126	2368	220	68.8	34.4	21.0	10.5
250	0.0158	2970	276	77.0	38.5	23.4	11.7
300	0.0189	3560	330	84.4	42.2	25.8	12.9
350	0.0221	4155	386	91.2	45.6	27.8	13.9

PERMANENT EROSION CONTROL MEASURES

SEVERAL PERMANENT EROSION CONTROL MEASURES WILL BE UTILIZED:

STONE LINING OF THE STREAM BANKS WITH STONE FILL, TYPE IV AS SPECIFIED BY THE VTRANS HYDRAULICS UNIT. THE STONE LINING WILL STABILIZE THE EXISTING BANK IN ORDER TO PROTECT IT FROM EROSION DURING STORM AND HIGH WATER EVENTS.

DITCHES WILL BE LINED WITH STONE FILL TYPE I TO PREVENT EROSION BY REDUCING FLOW VELOCITIES. STONE CHECK DAMS WILL SERVE THE SAME PURPOSE UNTIL DITCHES HAVE BEEN COMPLETELY LINED.

ALL DISTURBED AREAS WILL BE SEEDED AND MULCHED. SLOPES GREATER THAN 1:3 WILL UTILIZE EROSION CONTROL MATTING TO ALLOW VEGETATION TO BE ESTABLISHED.

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

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

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 TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. THE CONTRACTOR WILL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001.

INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE ENGINEER. DO NOT MODIFY THE TYPE, SIZE OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL OF THE ENGINEER. ANY CHANGES SHALL BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT, AND REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER. INSPECT ALL CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT. REPAIR MEASURES PROMPTLY ONCE DAMAGE IS DISCOVERED.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY VEGETATION SHALL BE ESTABLISHED IF THE AREA TO BE WITHOUT CONSTRUCTION ACTIVITY FOR A PERIOD OF 14 DAYS. PERIMETER CONTROL MEASURES SHALL BE INSTALLED FOLLOWING CLEARING, BUT PRIOR TO THE START OF ANY GRUBBING OR GRADING ACTIVITY. INSTALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

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

CONTROL ONLY SEDIMENT-LADEN RUNOFF GENERATED BY THE PROJECT SITE. COLLECT AND ROUTE CLEAN OFFSITE RUNOFF AROUND OR THROUGH THE PROJECT SITE USING DIVERSION BERMS, DIVERSION CHANNELS, CULVERTS AND/OR TEMPORARY PIPES.

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

VAOT Metric

EROSION CONTROL NARRATIVE

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04le01.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER

VAOT Metric

N

VT STATE PLANE GRID

MATCH LINE A-A

STA. 3+600

CALKINS ROCK PRODUCTS INC.

WOODS

WOODS DRIVE

BM NO. 1
USGS DISK M23
EL. 228.963

TRAV PT 3

GATE POST

FIELD

TRAV PT 350

HCTRL #350

STA. 3+413.7 CL
EXISTING 1.22m X 0.91m CONC. BOX
(RETAIN)

VT. 114 TO LYNDON

GRAVEL TURNOUT

GUY

GUY

TRAV PT 300

WETLAND BOUNDARY

WATERCOURSE

EAST BRANCH PASSUMPSIC RIVER

TRAV PT 2

STEEL GATE POSTS

GAMBLE, MARTHA D.

GRAVEL DRIVE

GRAVEL DRIVE

73 55

72 54

71 23 53

506 6 52

258 m
257 m
256 m
255 m
254 m
253 m
252 m
251 m
250 m
249 m
248 m
247 m
246 m
245 m
244 m
243 m
242 m
241 m
240 m
239 m
238 m
237 m
236 m
235 m
234 m
233 m
232 m
231 m
230 m
229 m
228 m
227 m
226 m
225 m
224 m

EXISTING BRIDGE DATA

DECK IS A SIMPLE SPAN CONCRETE DECK WITH ASPHALT OVERLAY

SUPERSTRUCTURE CONSISTS OF 5 ROLLED BEAMS 0.71m DEEP X 0.362m WIDE X 246 kg/m

ABUTMENTS AND WINGWALLS ARE CAST-IN-PLACE CONCRETE

BRIDGE LENGTH: 18.90m
BRIDGE WIDTH: 6.96m
VERTICAL CLEARANCE UNDER BRIDGE: 4.1m

0 10 20 30

SCALE = 1:250

EXISTING CONDITIONS SITE PLAN (1)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041e02.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: J. PERRIGO
SHEET 23 OF 68

VAOT Metric

N

VT STATE PLANE GRID

MATCH LINE A-A

STA. 3+600

CALKINS ROCK PRODUCTS INC.

WINTERSET INC.

227 m

228 m

229 m

228 m

WETLAND BOUNDARY

STA. 3+770.9 CL EXISTING 450mm ACCOMP DO NOT DISTRUB

DI

MB

TRAV PT 4

MB

FIELD

VT. 114 TO BURKE

GUY

GUY POLE 57S 75S

PAVED DRIVE

GUY

58 76

6 57 12 75 14-1

1½ ST WFH

74 56

FIELD

GRAVEL DRIVE

0 10 20 30

SCALE = 1:250

EXISTING CONDITIONS SITE PLAN (2)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041e03.i
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: G. ROY

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: J. PERRIGO
SHEET 24 OF 68

EROSION AND SEDIMENT CONTROL INDEX	
NO.	DESCRIPTION
1	INSTALL SILT FENCE TO CONTAIN EROSION AS INDICATED
2	ENDS OF FENCE TURNED UPHILL TO CREATE PONDING
3	PROJECT LIMITS DEMARCATION FENCE (SNOW FENCE (MOD.-PDF))
4	GRAVEL BAG DROP INLET PROTECTION, OR EQUIVALENT
5	STONE PAD OUTLET CONTROL
6	INSTALL FILTER CURTAIN TO CONTAIN EROSION AS INDICATED

NOTE: ALL DISTURBED AREAS WITH SLOPES GREATER THAN 1:3 WILL REQUIRE TEMPORARY EROSION MATTING (SEE EROSION CONTROL DETAILS SHEET)

LEGEND

- FILTER CURTAIN
- SILT FENCE
- DITCH WITH STONE CHECK DAMS
- HAY BALES
- OHW — ORDINARY HIGH WATER LINE
- STONE FILL, TYPE IV
- STONE FILL, TYPE V

VAOT Metric

MATCH LINE A-A

STA. 3+600

CALKINS ROCK PRODUCTS INC.

APPROXIMATE AREA OF EXCAVATED SETTLING BASIN OR HAY BALES STACKED TWO HIGH SURROUNDING SILT FENCE. (TYP.)

1.5m x 1.5m INLET PAD STONE FILL, TYPE I (TYP.)

CONSTRUCTION LIMITS

TEMPORARY DETOUR CONSTRUCTION LIMITS

BM NO. 1 USGS DISK M23 EL. 228.963

STA. 3+413.7 CL EXISTING 1.22m X 0.91m CONC. BOX (RETAIN)

WETLAND BOUNDARY

WATERCOURSE

EAST BRANCH PASSUMPSIC RIVER

CHANNEL LINE

GAMBLE, MARTHA D.

WOODS

GRAVEL TURNOUT

GRAVEL DRIVE

FIELD

STEEL GATE POSTS

TRAV PT 2

TRAV PT 300

VT. 114 TO LYNDON

N11°23'10"E

N73°11'14"E

N3°11'14"E

59.0 M (193.6')

50.2 M (164.7')

85.7M (281.2')

83.2M (273.0')

24.0 M (78.7')

17.6M (57.7')

8.0M (26.2')

(51.3M) [168.3']

(65.3M) [214.2']

(68.3M) [224.1']

R 150 m

0 10 20 30

SCALE = 1:250

EROSION & SEDIMENT CONTROL PLAN (1)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041e04.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: J. PERRIGO
	SHEET 25 OF 68

VAOT Metric

EROSION & SEDIMENT CONTROL PLAN (2)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e05l\Structures\se05le05.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: J. PERRIGO
	SHEET 26 OF 68

MATCH LINE A-A

STA. 3+600

CALKINS ROCK PRODUCTS INC.

WINTERSET INC.

N

VT STATE PLANE GRID

WETLAND BOUNDARY

STA. 3+770.9 CL EXISTING 450mm ACCAMP DO NOT DISTRUB

D1

MB

TRAV PT 4

MB

PAVED DRIVE

FIELD

VT. 114 TO BURKE

GUY

GUY POLE 57S 75S

GUY

58 76

6 57 12 75 14-1

N29° 04' 36"E

N73° 11' 14"E

1½ ST WFH

CONSTRUCTION LIMITS

GRAVEL DRIVE

TEMP. DETOUR

INSTALL (T) DETOUR

TEMPORARY DETOUR CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

CZ

PDF

TELD

R 150 m

227 m

228 m

229 m

228 m

3+600 3+620 3+640 3+660 3+680 3+700 3+720 3+740 3+760 3+780

NOTES:

SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE 'EROSION CONTROL DETAILS' SHEET. SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SILT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.

TEMPORARY STONE CHECK DAMS SHALL BE KEYED INTO THE GROUND AND CONSTRUCTED AS PER THE 'EROSION CONTROL DETAILS' SHEET. THE PURPOSE OF TEMPORARY CHECK DAMS IS TO REDUCE RUNOFF VELOCITIES THUS PREVENTING EROSION.

SURFACE ROUGHENING HELPS REDUCE RUNOFF VELOCITIES AND INCREASES INFILTRATION RATES. ROUGHENING MAY BE ACCOMPLISHED BY A NUMBER OF METHODS SUCH AS TRACKING UP AND DOWN THE SLOPE WITH A BULLDOZER, TRACKING ACROSS THE SLOPE WITH A WHEELED VEHICLE OR ANY METHOD OF SCARIFYING THE SLOPE SUCH THAT THE GROOVES CREATED RUN PERPENDICULAR TO THE DIRECTION OF WATER RUNOFF.

0 10 20 30

SCALE = 1:250

VAOT Metric

MATCH LINE A-A

STA. 3+600

CALKINS ROCK PRODUCTS INC.

CALKINS ROCK PRODUCTS INC.

WOODS

WOODS DRIVE

BM NO. 1
USGS DISK M23
EL. 228.963

N72° 17' 11"E

TRAV PT 3

GATE POST

FIELD

N73° 11' 14"E

STA. 3+413.7 CL
EXISTING 1.22m X 0.91m CONC. BOX
(RETAIN)

N11° 23' 10"E

WOODS

VT. 114
TO LYNDON

TRAV PT 1

HCTRE #350

TEMP. ℄ DETOUR

WETLAND BOUNDARY

GRAVEL TURNOUT

R 150 m

TRAV PT 300

GUY

GUY

WATERCOURSE

TRAV PT 2

STEEL GATE POSTS

506
6
52

GRAVEL DRIVE

GRAVEL DRIVE

GAMBLE, MARTHA D.

72
54

73
55

CHANNEL LINE

EAST BRANCH PASSUMPSIC RIVER

N3° 11' 14"E

FIELD

0 10 20 30

SCALE = 1:250

FINAL CONDITIONS SITE PLAN (1)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04le06.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: J. PERRIGO
	SHEET 27 OF 68

VAOT Metric

N

VT STATE PLANE GRID

MATCH LINE A-A

STA. 3+600

CALKINS ROCK PRODUCTS INC.

WINTERSET INC.

WETLAND BOUNDARY

STA 3+770.3 CL EXISTING 450mm ACCAMP DO NOT DISTRUB

FIELD

VT. 114 TO BURKE

GUY

GUY POLE 57S 75S

PAVED DRIVE

TRAV PT 4

MB

DI

N23° 04' 36"E

GUY 58 76

6 57 12 75 14-1

N73° 11' 14"E

1½ ST WFH

TEMP. DETOUR

74 56

GRAVEL DRIVE

R 150 m

227 m

228 m

229 m

CZ

3+600

3+620

3+640

3+660

3+680

3+700

3+720

3+740

3+760

3+780

0 10 20 30

SCALE = 1:250

FINAL CONDITIONS SITE PLAN (2)

PROJECT NAME: LYNDON

PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041e07.i

PROJECT MANAGER: R. R. WHITCOMB

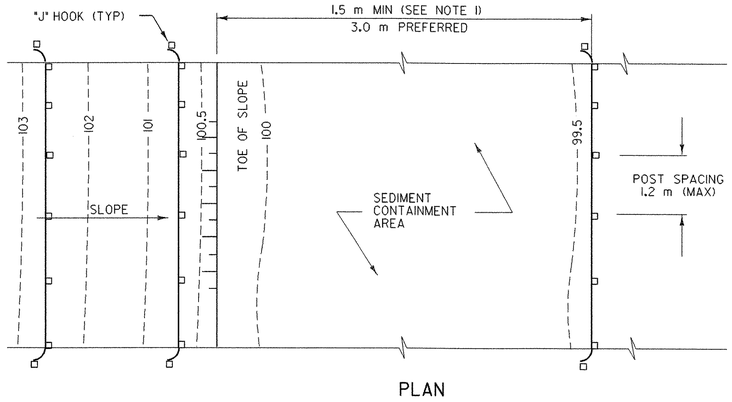
DESIGNED BY: G. ROY

PLOT DATE: 29-NOV-2005

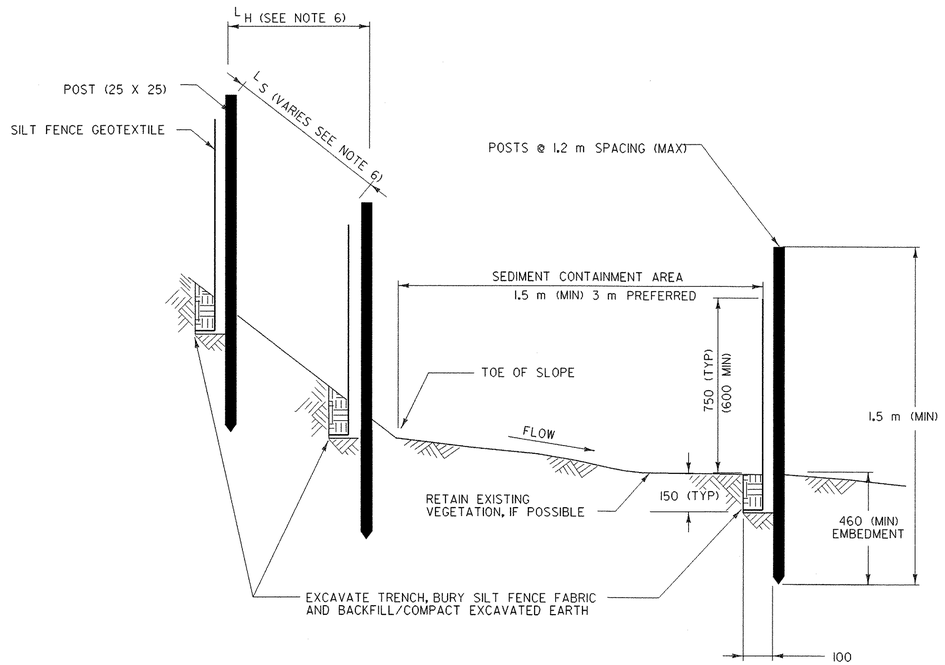
DRAWN BY: G. ROY

CHECKED BY: J. PERRIGO

SHEET 28 OF 68



PLAN



SECTION

SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

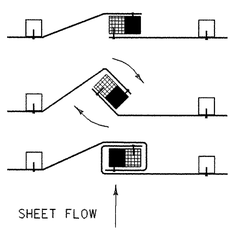
C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 1.5 m BEYOND TOE OF SLOPE, 3 m PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 150 mm BELOW GROUND, AND KEYED IN 100 mm. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 30 m OF SILT FENCE SHALL BE 0.1 Ha.
6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) m	HORIZONTAL LENGTH (LH) m
1:3	25	24
1:4	40	39
1:5	60	60
> 1:5	80	80

7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



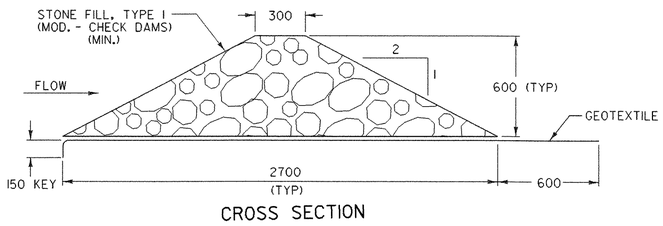
1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPLICING DETAIL

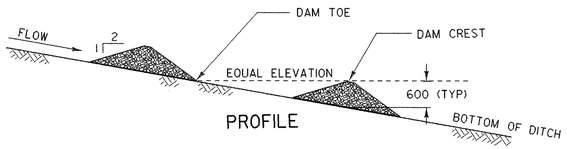
EROSION CONTROL DETAILS (1)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

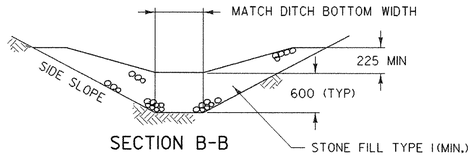
FILE NAME: 85e041\Structures\se04lecdl.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: J. PERRIGO
SHEET 29 OF 68



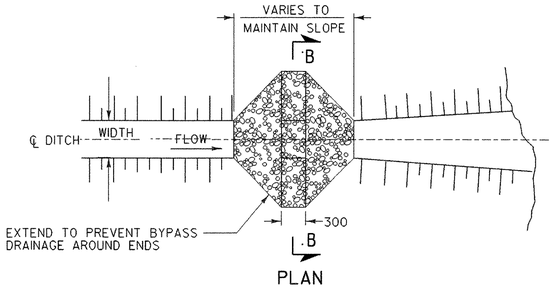
CROSS SECTION



PROFILE



SECTION B-B

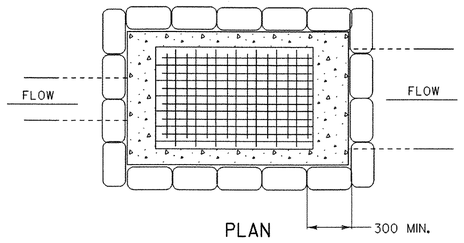


PLAN

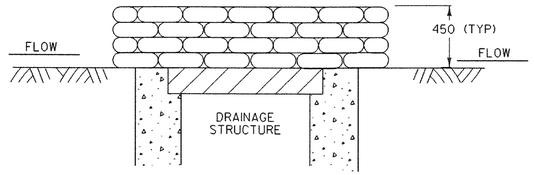
CHECK DAM - TEMPORARY (STONE)

STONE CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1%	60 m
2 %	30 m
3 %	20 m
4 %	15 m
5 %	12 m
6 %	10 m
8 %	7.5 m
10 %	6 m

** BASED ON 0.6 m TYPICAL HEIGHT



PLAN



SECTION

GRAVEL BAG DROP INLET PROTECTION

CHECK DAMS

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY.

B. CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.

C. CHECK DAMS ARE NOT INTENDED TO FILTER SEDIMENT FROM TURBID WATER.

D. DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.

E. GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 0.6 m BEYOND THE STONE ON THE DOWN HILL END.

F. CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I (MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.

G. AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.

DROP INLET PROTECTION

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.

B. THESE EXAMPLES OF DROP INLET PROTECTION ARE NOT INTENDED FOR USE ON GRADES. ON GRADE THEY MAY CAUSE WATER TO BYPASS THE STRUCTURE, CREATING ADDITIONAL EROSION OR FLOODING.

C. POSSIBLE MODIFICATIONS FOR USE ON GRADE INCLUDE ADDING A BERM DOWNSTREAM OF THE INLET TO CREATE PONDING. CHECK DAMS MAY ALSO BE USED UPSTREAM OF THE INLET TO SLOW VELOCITIES.

D. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.

E. GRAVEL BAGS SHALL BE FILLED WITH CLEAN STONE, RATHER THAN SAND, TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM IF BAGS ARE DAMAGED DURING USE.

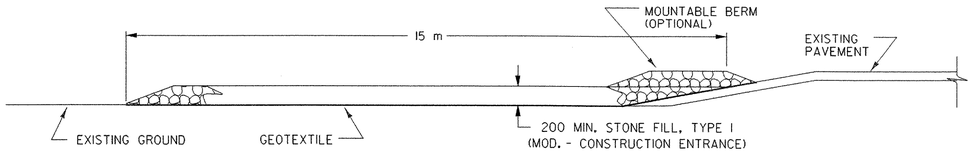
F. GRAVEL BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED.

G. GRAVEL BAGS SHALL LAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.

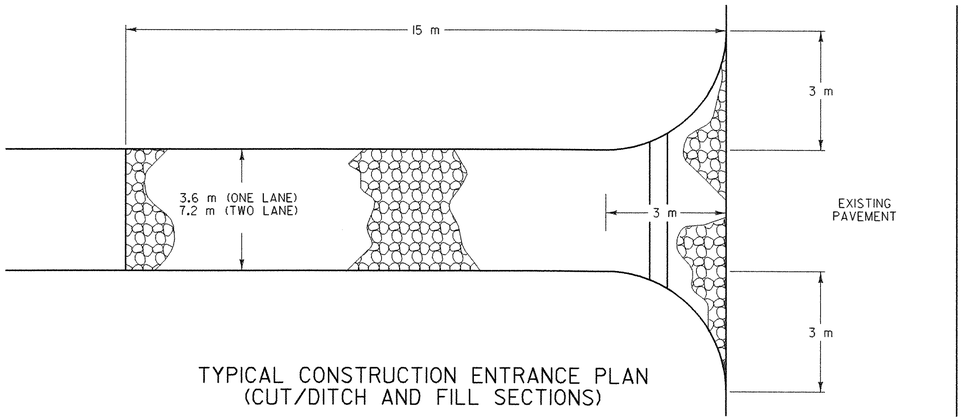
EROSION CONTROL DETAILS (2)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

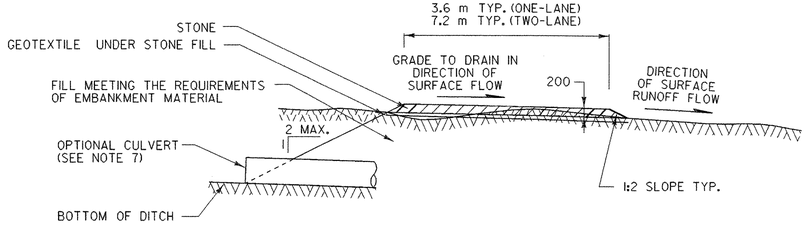
FILE NAME: 85e041\Structures\se04lecd2.I
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: J. PERRIGO
SHEET 30 OF 68



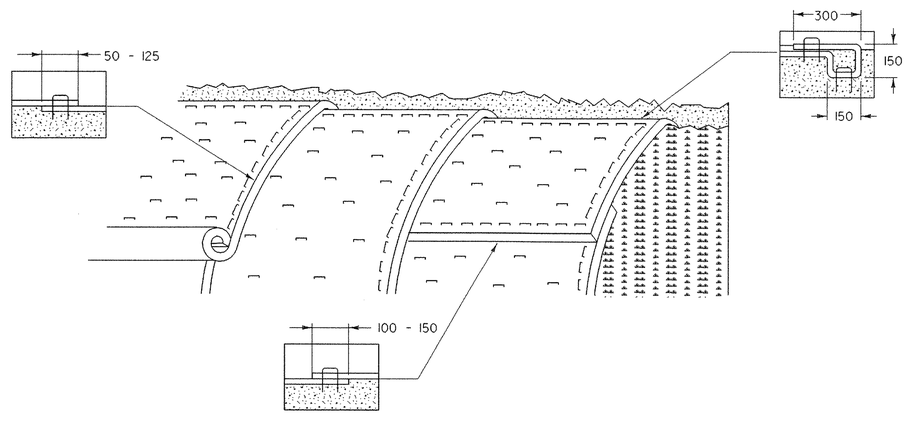
TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)



TYPICAL CONSTRUCTION ENTRANCE SECTION



EROSION PREVENTION FOR SIDE SLOPES

STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

B. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 50 mm AND 100 mm.

C. LENGTH - 15 m (MIN); THICKNESS - 200 mm (MIN); WIDTH - 3.6 m (MIN)

A. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

D. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 1:5 SLOPES WILL BE PERMITTED.

E. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.

F. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

G. 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.

H. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.

EROSION PREVENTION FOR SIDE SLOPES

APPLICATION NOTES:

A. THE PURPOSE OF MATTING ON SIDE SLOPESIS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION.

B. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:

- SIDE SLOPES > 1:3
- AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
- WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

C. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.

D. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.

E. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INTALLATION INSTRUCTIONS.

F. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.

G. OVERLAP UPPER MATTING OVER LOWER MATTING AND ADJACENT MATTING AS SHOWN.

H. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.

I. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.

GENERAL NOTES:

1. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.

2. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.

3. PAYMENT FOR INSTALLATION AND REMOVAL OF MEASURES SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

4. PAYMENT FOR MONITORING MEASURES SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

5. PAYMENT FOR MAINTAINING MEASURES SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

EROSION CONTROL DETAILS (3)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04lecd3.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: J. PERRIGO
SHEET 31 OF 68

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

2. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE CONSTRUCTED DOWNSTREAM OF THE EXISTING STRUCTURE. CONSTRUCTION AND MAINTENANCE OF THE TEMPORARY BRIDGE AND ITS APPROACHES SHALL BE PAID FOR UNDER ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE (MOD.)."

3. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."

4. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."

5. ANY EXISTING SIGNS, POSTS, BARRICADES OR OTHER SALVAGEABLE ITEMS NOT RE-USED SHALL REMAIN THE PROPERTY OF THE STATE OF VERMONT. THE CONTRACTOR SHALL STOCKPILE THESE ITEMS AT THE PROJECT SITE FOR REMOVAL BY THE STATE. THE CONTRACTOR SHALL CONTACT DTA, DALE PERRON (TELEPHONE NO. (802) 334-7934) WHEN THESE ITEMS ARE READY FOR REMOVAL FROM THE PROJECT SITE.

6. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, IN PARTICULAR THE DISCHARGE OF RAW CONCRETE INTO THE EAST BRANCH OF THE PASSUMPSIC RIVER, AS DIRECTED BY THE RESIDENT ENGINEER AND STANDARD SPECIFICATIONS SECTION 105.

7. THE LOCATION SHOWN IN THE PLANS FOR A NEW GATE AT THE HEAD OF THE EXISTING WOODS DRIVE (MAINLINE STA. 3+540 LT.) IS A PROPOSED LOCATION ONLY. AFTER CONSULTATION WITH THE PROPERTY OWNER, THE RESIDENT ENGINEER SHALL DETERMINE THE FINAL LOCATION OF THE GATE. PAYMENT FOR THE GATE AND ITS INSTALLATION SHALL BE MADE UNDER ITEMS 620.15, "GATE FOR CHAIN-LINK FENCE, 1.2 M" AND 620.20, "BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.2 M".

8. FOR INFORMATION REGARDING UTILITIES, SEE THE SPECIAL PROVISIONS.

9. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS.

EARTHWORK AND RELATED ITEMS

10. THE TEMPORARY BRIDGE AND ITS APPROACHES SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE (MOD.)". THE APPROACHES TO THE TEMPORARY BRIDGE SHALL BE PAVED WITH 80 MILLIMETERS OF PAVEMENT. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL DETAILS ON THIS ITEM.

11. TEMPORARY CONSTRUCTION FILLS WITHIN THE WATERCOURSE FOR ANY PURPOSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE STREAM ALTERATION ENGINEER.

12. REMOVAL OF THE EXISTING SUPERSTRUCTURE AND THOSE PORTIONS OF THE EXISTING SUBSTRUCTURES NOT REMOVED UNDER ITEM 208.35, "COFFERDAM EXCAVATION, ROCK" OR ITEM 203.27, "UNCLASSIFIED CHANNEL EXCAVATION" SHALL BE PAID FOR UNDER ITEM 529.15 "REMOVAL OF STRUCTURE".

13. COFFERDAMS ARE REQUIRED FOR THE CONSTRUCTION OF THE NEW SUBSTRUCTURE UNITS. COFFERDAMS SHALL CONSIST OF STEEL SHEETING ONLY. PAYMENT FOR COFFERDAM EXCAVATION WILL BE MADE ONLY FOR SUCH EXCAVATION WITHIN THE LIMITS SHOWN ON THE PLANS.

14. THE SUBSTRUCTURES HAVE BEEN DESIGNED FOR THE FOOTING ELEVATIONS SHOWN ON THE PLANS. THE INTENTION IS TO USE SUBFOOTINGS OF CONCRETE, CLASS "C" IN AREAS WHERE THE LEDGE IS MORE THAN 150 MILLIMETERS BELOW THE DESIGN BOTTOM OF FOOTING ELEVATIONS. AFTER THE LEDGE HAS BEEN EXPOSED, ADJUSTMENTS TO THE BOTTOM OF FOOTING ELEVATIONS MAY BE NECESSARY TO MINIMIZE THE LEDGE REMOVAL AND/OR REDUCE THE AMOUNT OF SUBFOOTING CONCRETE. CONTACT THE PROJECT MANAGER FOR POSSIBLE REDESIGN IF THE LEDGE PROFILES DIFFER FROM THOSE SHOWN ON THE PLANS. NO FURTHER WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED FROM THE STRUCTURES SECTION. A TURN-AROUND TIME OF UP TO FIVE BUSINESS DAYS MAY BE EXPECTED.

15. THE COST OF LEDGE EXCAVATION SHALL BE PAID UNDER ITEM 208.35,"COFFERDAM EXCAVATION, ROCK". ALL OVERBREAKAGE SHALL BE REPLACED WITH "CONCRETE, CLASS C". A MAXIMUM OF 150 MILLIMETERS AVERAGE OVERBREAKAGE DEPTH SHALL BE PAID FOR. ANY ADDITIONAL CONCRETE SHALL BE AT THE CONTRACTOR'S EXPENSE.

16. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW STEEL GIRDERS ARE SET.

17. "STONE FILL, TYPE I" SHALL BE USED FOR EROSION CONTROL AS SHOWN IN THE PLANS AND AT THE DISCRETION OF THE RESIDENT ENGINEER. PAYMENT FOR MATERIAL AND PLACEMENT SHALL BE MADE UNDER ITEM 613.10, "STONE FILL, TYPE I".

STRUCTURAL STEEL

18. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.

19. UNLESS OTHERWISE NOTED, ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270M/M270 GRADE 345W AND SHALL BE PAID FOR UNDER ITEM 506.55, "STRUCTURAL STEEL (PLATE GIRDER)".

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

21. ALL FIELD CONNECTIONS SHALL BE MADE USING M22 BOLTS MEETING AASHTO M164, TYPE 3. UNLESS OTHERWISE NOTED, HOLE DIAMETER SHALL BE 24 MILLIMETERS. ANY CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

22. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.

23. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 1200 MILLIMETERS. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

24. ANY BOLT HOLES IN THE WEBS OF FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

CONCRETE

25. SUBSTRUCTURE CONCRETE AND APPROACH SLABS SHALL BE HIGH PERFORMANCE CLASS B AND SHALL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". DECK (INCLUDING CURTAIN WALLS AND APPROACH SLAB BRACKETS) AND CURB CONCRETE SHALL BE HIGH PERFORMANCE CLASS A AND SHALL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

26. CONCRETE FOR SUBFOOTING SHALL BE PAID FOR UNDER ITEM 501.30, "CONCRETE, CLASS C". PAYMENT FOR SUBFOOTING CONCRETE WILL BE MADE ONLY FOR CONCRETE WITHIN THE LIMITS FOR SUBFOOTING SHOWN ON THE PLANS.

27. THE TOP SURFACE OF SUBFOOTING POURS SHALL BE ROUGHENED TO A RAKE FINISH TO HELP PREVENT SLIDING AT THE SUBFOOTING/FOOTING INTERFACE.

28. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. ALL OTHER AREAS OF BRIDGE SEATS SHALL BE SLOPED 40 MILLIMETERS PER METER. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A FLOAT FINISH.

29. CONCRETE PORTIONS OF ABUTMENTS AND WINGWALLS ABOVE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL FINISH GRADES HAVE BEEN DETERMINED BY THE RESIDENT ENGINEER.

30. IN ACCORDANCE WITH SUBSECTION 506.23(A) OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION 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.

31. THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT AS SHOWN ON SHEET 37 OF THE PLANS SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM NINETY-SIX (96) HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

32. LOADING ALLOWANCE ON THE NEW DECK SHALL BE IN ACCORDANCE WITH SUBSECTION 501.18(B) OF THE STANDARD SPECIFICATIONS.

33. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS X 25 MILLIMETERS.

34. WATER REPELLENT (MOD.-SILANE) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.

35. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

36. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

37. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL". CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04 OF THE STANDARD SPECIFICATIONS.

38. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

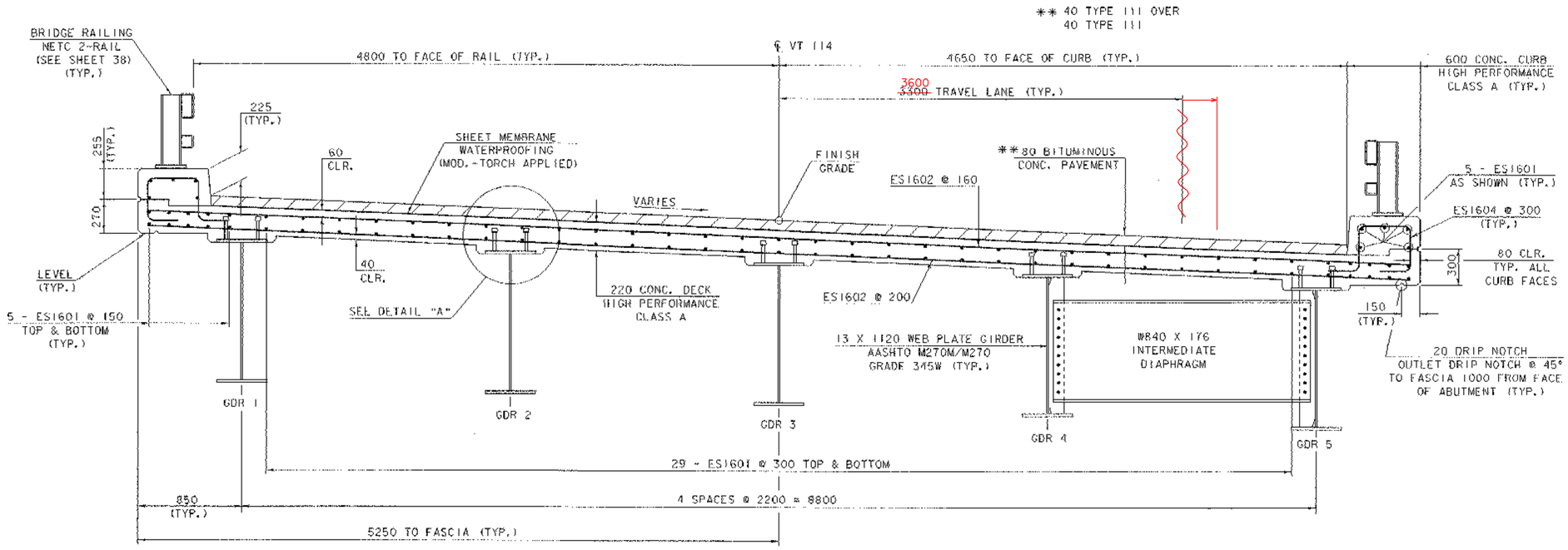
39. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
    SPACING: +/- 25 MILLIMETERS
    CLEARANCE: +/- 6 MILLIMETERS

PROJECT NOTES

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041pn.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 32 OF 68

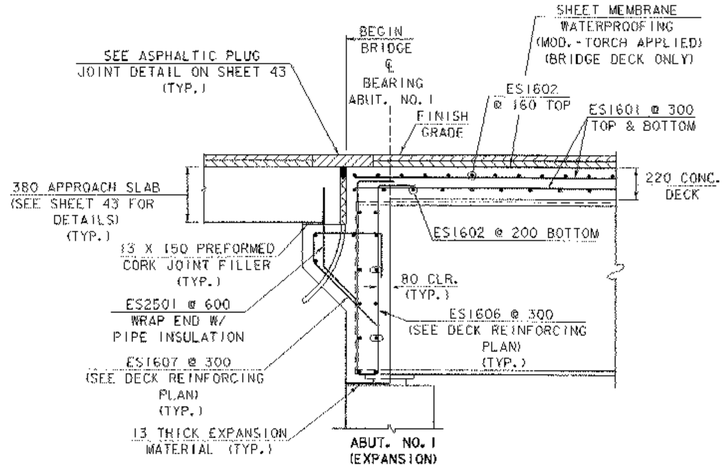
Metric

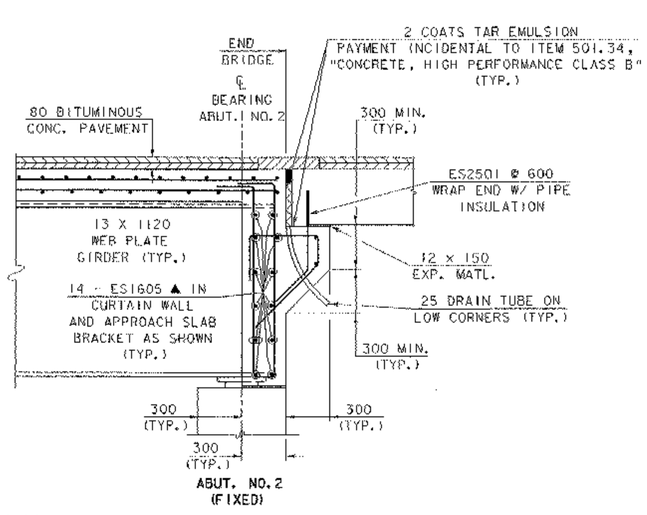


BRIDGE TYPICAL SECTION

0 1 2

SCALE = 1:20

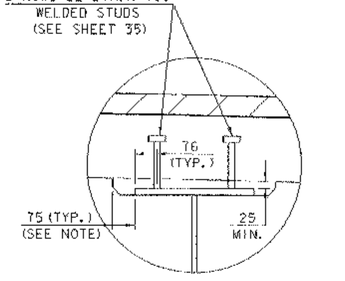




ABUTMENT END DETAIL
(NORMAL TO ℄ BEARING)

0 1 2

SCALE = 1:20



DETAIL "A"

0 0.5 1

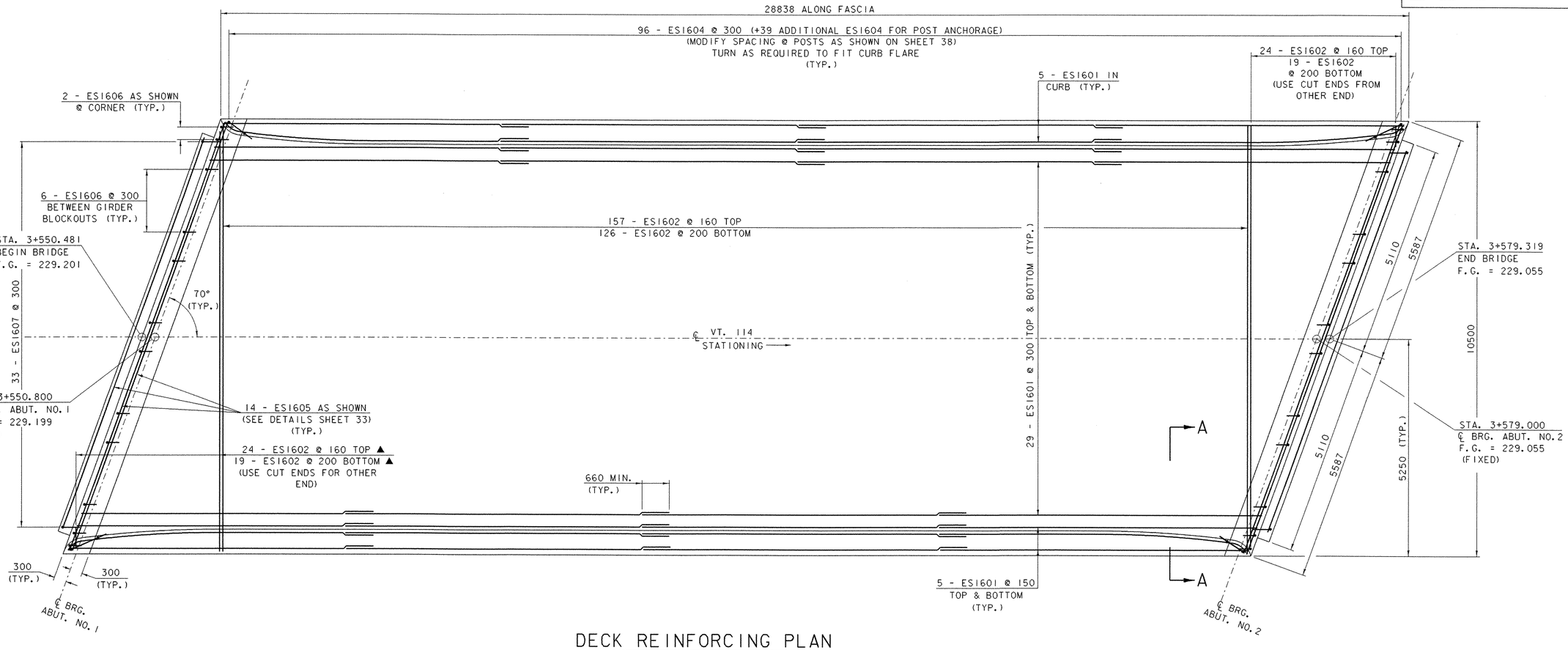
SCALE = 1:10

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.

BRIDGE DECK DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269(8)S

FILE NAME: 85e041\structures\se041ry2.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 33 OF 68

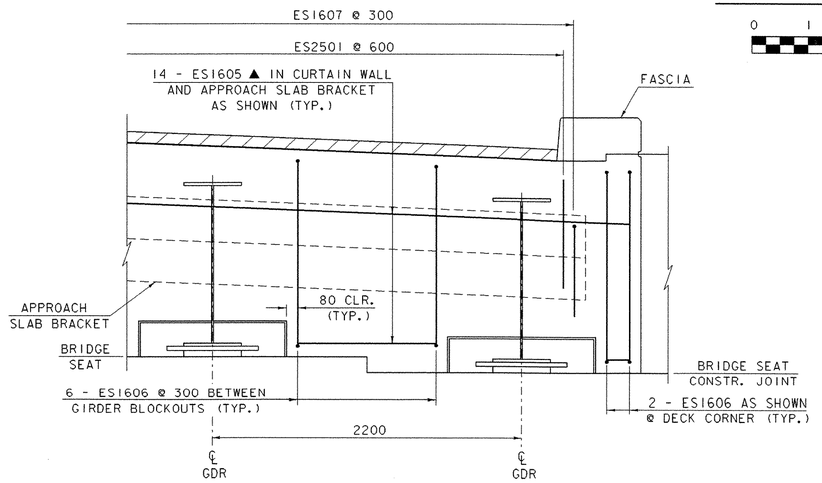


DECK REINFORCING PLAN

0 1 2 3 4 5

SCALE = 1:50

NOTE: ES2501 BARS NOT SHOWN
SEE SHEET 43 FOR DETAILS



SECTION A - A

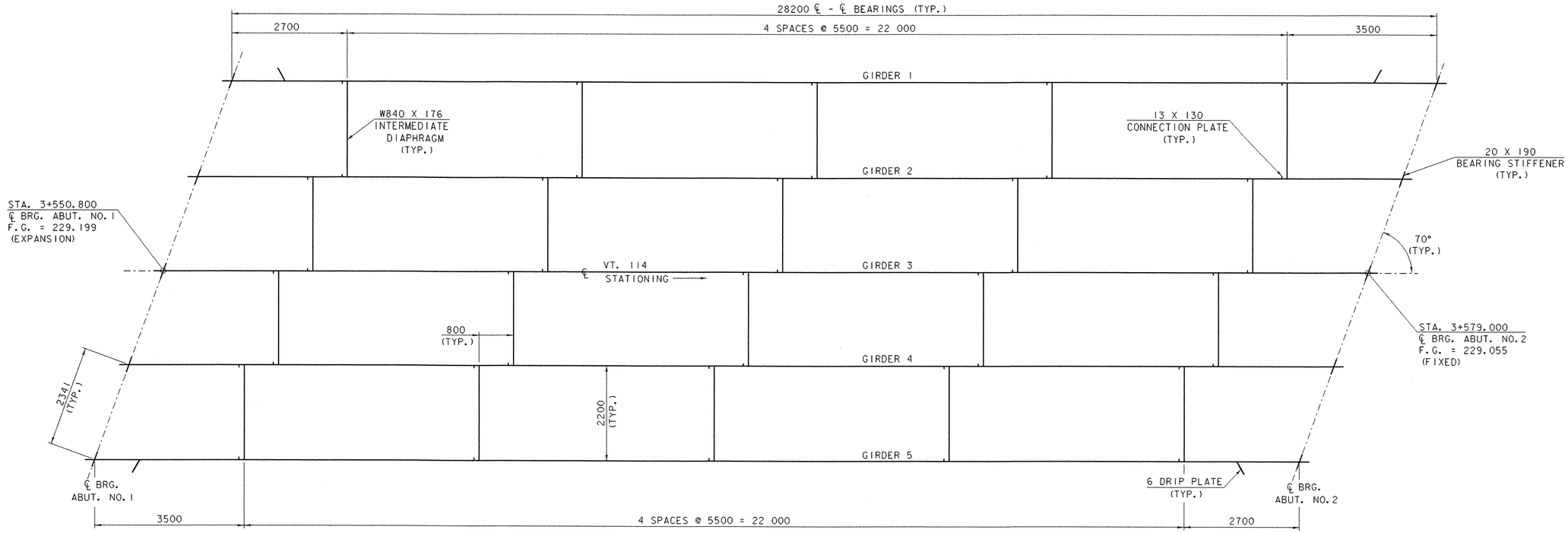
0 1 2

SCALE = 1:20

DECK REINFORCING PLAN

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269(8)S

FILE NAME: 85e041\Structures\se041dck.i		PLOT DATE:	29-NOV-2005
PROJECT LEADER:	R.R. WHITCOMB	DRAWN BY:	L. BULLOCK
DESIGNED BY:	S. SCRIBNER	CHECKED BY:	S. SCRIBNER
		SHEET	34 OF 68



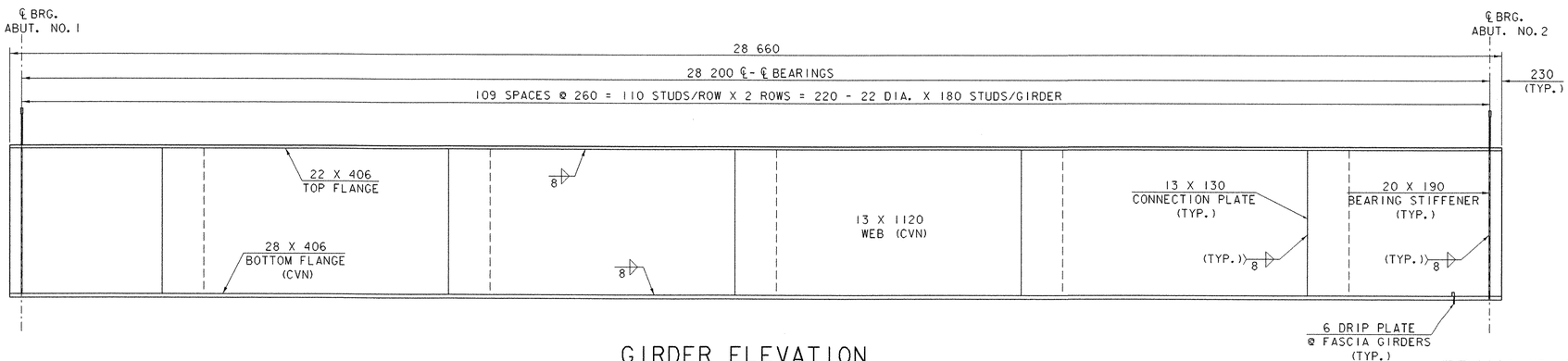
FRAMING PLAN

0 1 2 3 4 5

SCALE = 1:50

NOTES:

1. CVN - SHALL MEET CHARPY V-NOTCH REQUIREMENTS FOR MAIN MEMBERS AS INDICATED IN SECTION 714 OF STANDARD SPECIFICATIONS.
2. ALL STEEL SHALL BE AASHTO M270M/M270, GR 345W.
3. HOLES FOR TRANSVERSE ABUTMENT REINFORCING STEEL NOT SHOWN. SEE SHEET 36 FOR DETAILS.



GIRDER ELEVATION

0 1 2 3 4 5

HORIZONTAL SCALE = 1:50

0 1 2

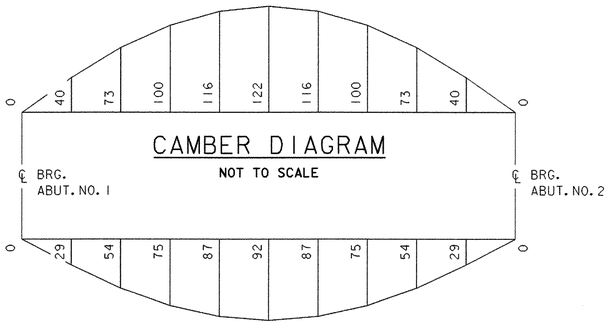
VERTICAL SCALE = 1:20

FRAMING PLAN AND GIRDER ELEVATION

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269(8)S

FILE NAME: 85e041\Structures\se041fr1.i
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: S. SCRIBNER

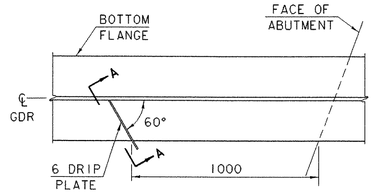
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER



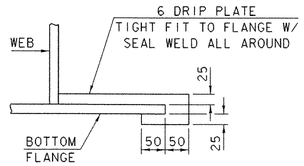
DEAD LOAD DEFLECTION DIAGRAM

NOT TO SCALE

NOTE: CAMBER AND DEFLECTION MEASUREMENTS ARE GIVEN IN MILLIMETERS AT TENTH POINTS. MEASUREMENTS INCLUDE GIRDER SELF-WEIGHT.



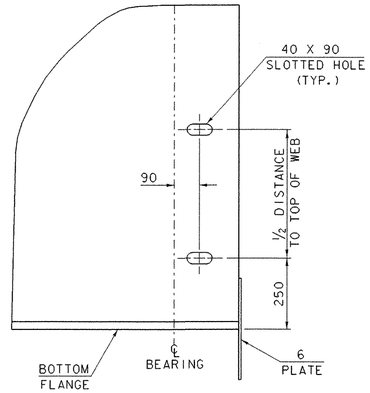
DRIP PLATE PLAN



SECTION A-A

NOTE:
DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS AS SHOWN IN FRAMING PLAN.

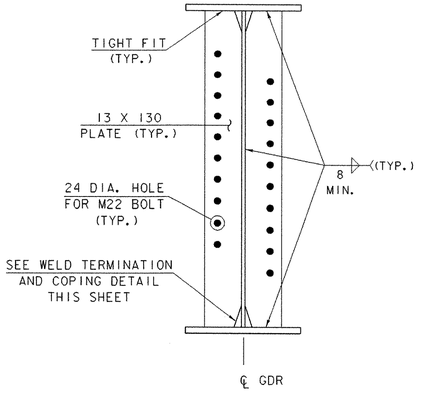
NOT TO SCALE



ELEVATION VIEW END OF GIRDER AT ABUTMENT

0 0.5 1

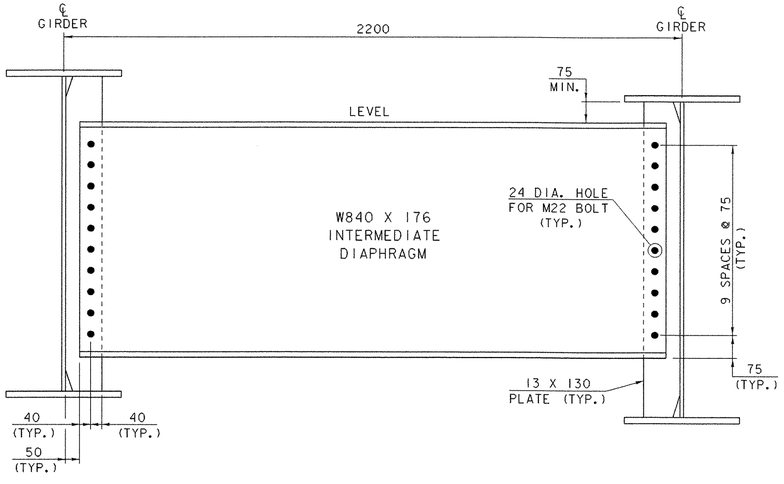
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INTERMEDIATE DIAPHRAGM CONNECTION PLATE DETAIL

0 0.5 1

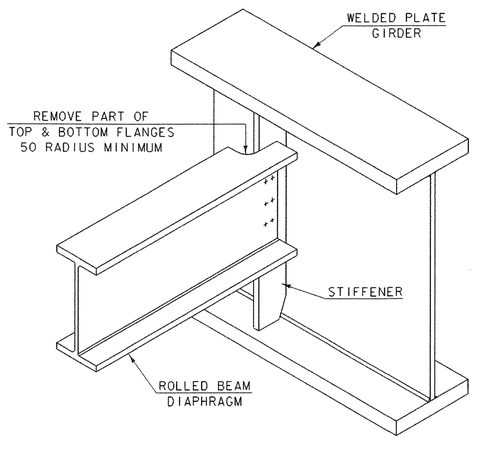
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INTERMEDIATE DIAPHRAGM

0 0.5 1

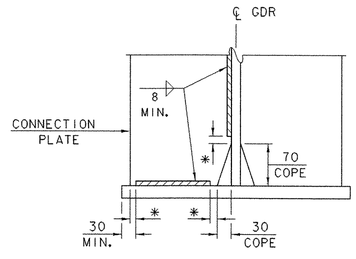
SCALE = 1:10



SEE THIS SHEET FOR SIZES OF MEMBERS AND CONNECTION DETAILS

ROLLED BEAM USED AS DIAPHRAGM

NOT TO SCALE



WELD TERMINATION AND COPING DETAIL FOR WELDED PLATE GIRDERS

NOT TO SCALE

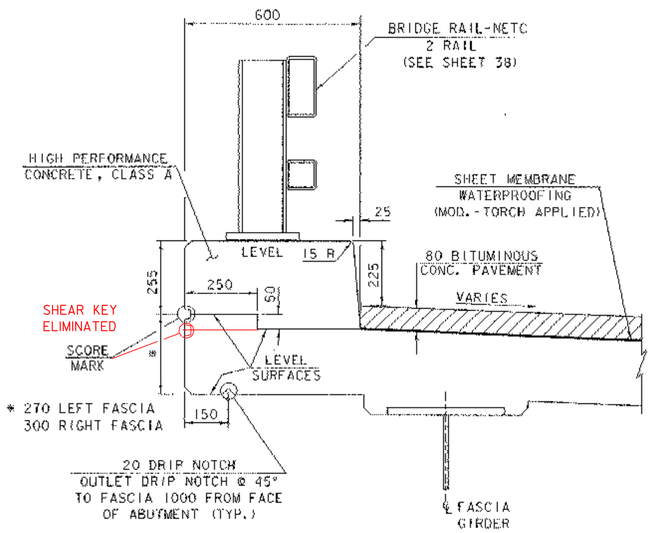
* NO WELD FOR 6 MIN., 13 MAX. (EXCEPT MUST MAINTAIN 30 MIN. FROM EDGE OF FLANGE)

STRUCTURAL STEEL DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269(8)S

FILE NAME: 85e041\Structures\se041fr2.i
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: S. SCRIBNER

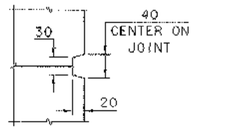
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 36 OF 68



BRIDGE CURB AND RAIL DETAIL

0 0.5 1

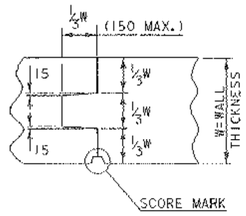
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SCORE MARK DETAIL

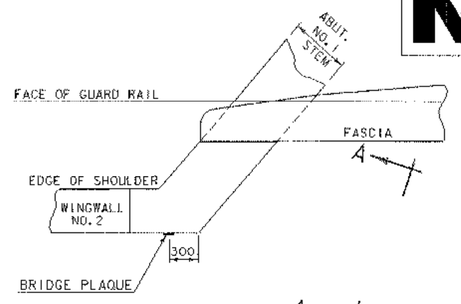
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TYPICAL CONCRETE CONSTRUCTION JOINT

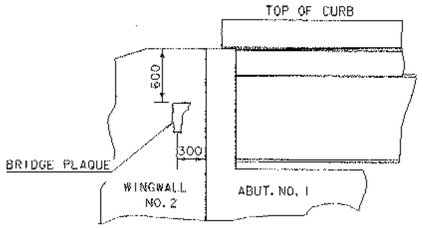
NOT TO SCALE





PLAN

NOT TO SCALE

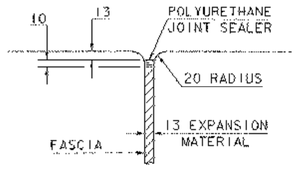


VIEW "A-A"

NOT TO SCALE

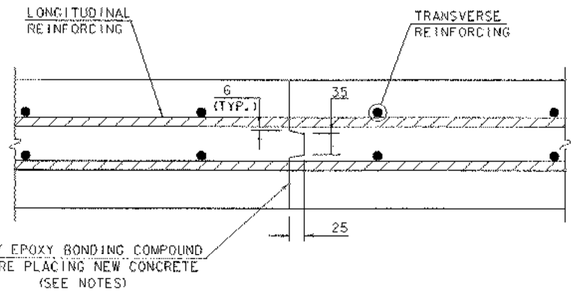
LOCATE BRIDGE PLAQUE

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER.



JOINT BETWEEN FASCIA AND WINGWALL

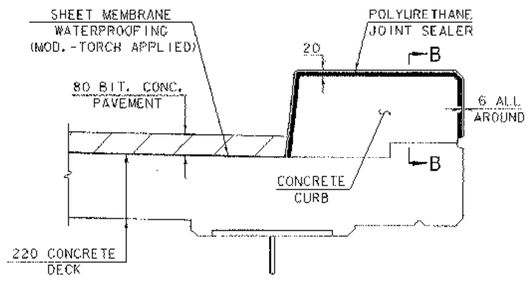
NOT TO SCALE



TRANSVERSE BRIDGE DECK CONSTRUCTION JOINT DETAILS

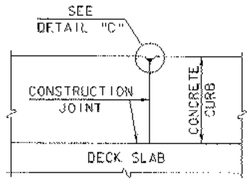
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SCALE = 1:5



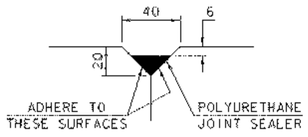
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE



SECTION B-B

NOT TO SCALE



DETAIL "C"

NOT TO SCALE

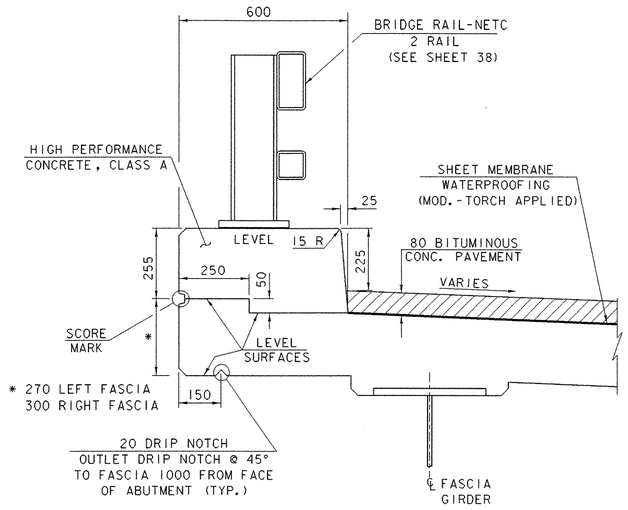
NOTES

1. SHEET MEMBRANE WATERPROOFING (MOD.-TORCH APPLIED) SHALL EXTEND TO FACE OF CURB.
2. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED A MAXIMUM OF 4500 CENTER TO CENTER AND SHALL BE 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
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5. EPOXY BONDING COMPOUND SHALL BE PAID INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

MISCELLANEOUS PROJECT DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

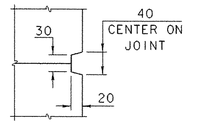
FILE NAME: 85e04\Structures\se04impd.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 37 OF 68



BRIDGE CURB AND RAIL DETAIL

0 0.5 1

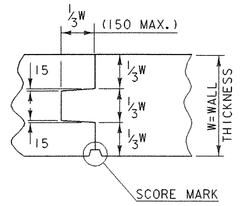
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SCORE MARK DETAIL

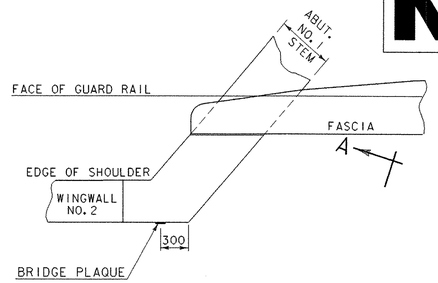
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TYPICAL CONCRETE CONSTRUCTION JOINT

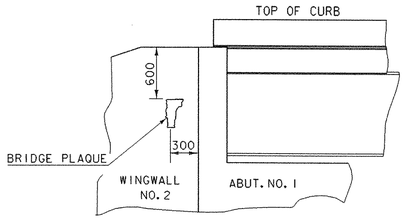
NOT TO SCALE





PLAN

NOT TO SCALE

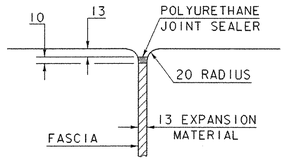


VIEW "A-A"

NOT TO SCALE

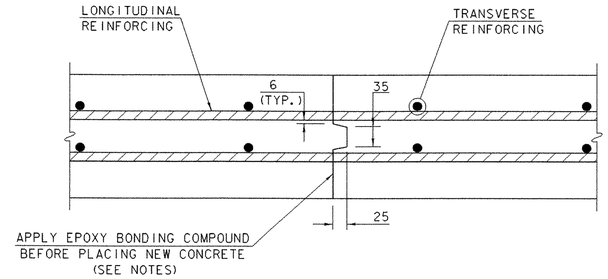
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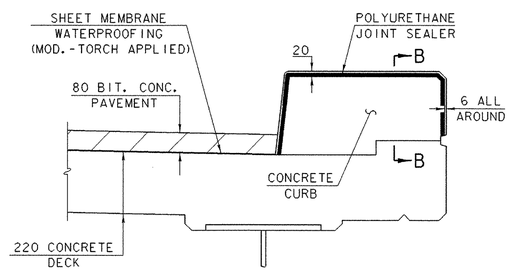
NOT TO SCALE



TRANSVERSE BRIDGE DECK CONSTRUCTION JOINT DETAILS

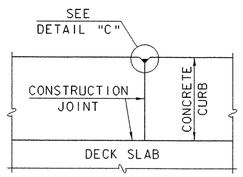
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SCALE = 1:5



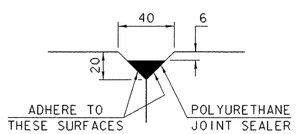
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE



SECTION B-B

NOT TO SCALE



DETAIL "C"

NOT TO SCALE

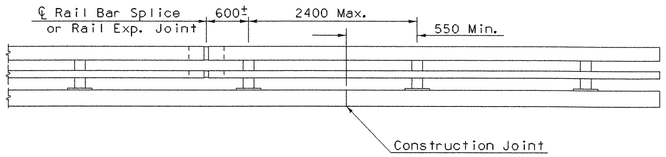
NOTES

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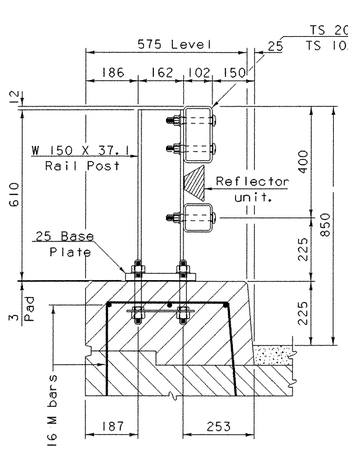
MISCELLANEOUS PROJECT DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

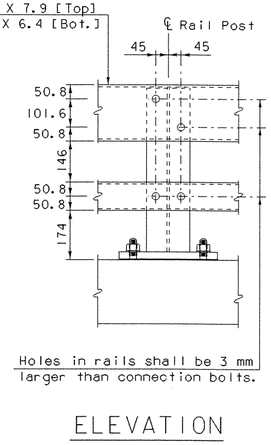
FILE NAME: 85e041\Structures\se04impd.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 37 OF 68



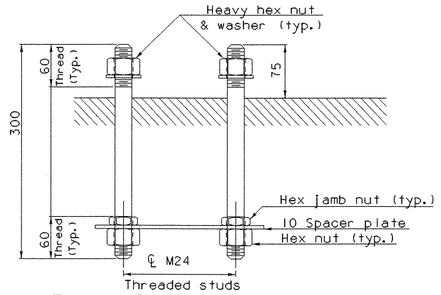
BRIDGE RAILING ELEVATION



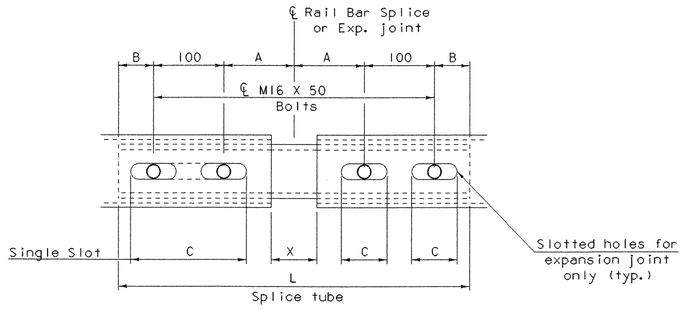
TYPICAL SECTION



ELEVATION

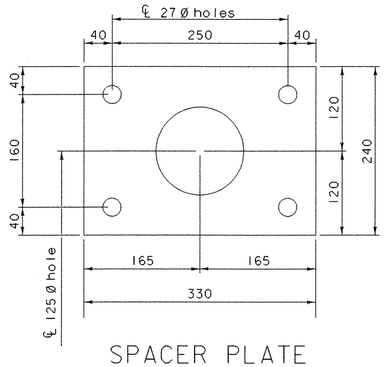


RAIL POST ANCHORAGE

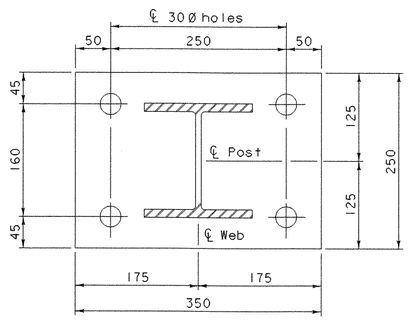


RAIL BAR SPLICE & RAIL EXP. JOINT DETAIL

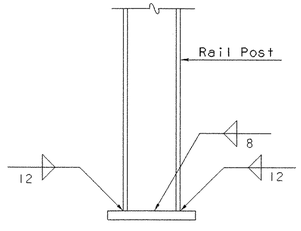
[Bottom View]



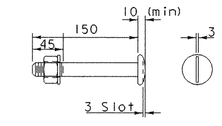
SPACER PLATE



POST & BASE PLATE



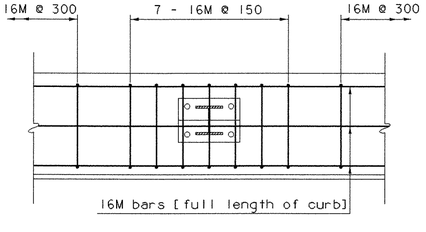
BASE WELD DETAIL



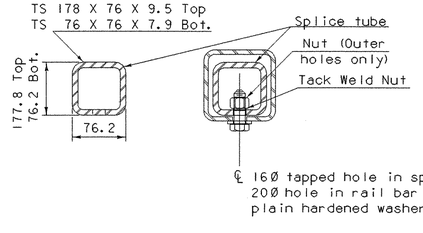
M20X2 M164M (TYPE 1) ROUND HEAD BOLT

[with washer & prevailing
torque type lock nut]
[See Note No. 9]

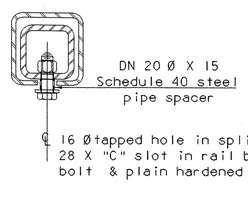
Note: Only full diameter body bolts will be allowed.



CURB REINFORCING PLAN



RAIL BAR SPLICE SECTION



EXPANSION JOINT SECTION

For details not shown, see
"Rail Bar Splice Section"

SPLICE & EXPANSION JOINT TABLE					
T	A	B	C	L	X
Splice	100	50	--	500	20
≤ 100	100	50	65	500	65
~~>100 ≤165~~	~~140~~	~~60~~	~~90~~	~~600~~	~~100~~
~~>165 ≤225~~	~~165~~	~~85~~	~~225*~~	~~700~~	~~125~~
~~>225 ≤330~~	~~215~~	~~110~~	~~275*~~	~~850~~	~~175~~

T = Total Movement * = Single Slot

Metric

NOTES

1. All work and materials shall conform to the provisions of Section 525 - Railings of the Standard Specifications for Construction.

2. Tubing and posts shall meet the requirements of Section 732 - Railing materials of the Standard Specifications for Construction.

3. All exposed cut or sheared edges shall be rounded to a 1.6 mm radius and be free of burrs.

4. Rail posts shall be set normal to grade.

5. Sections of rail bar shall be attached to a minimum of two [2] rail posts and preferably to at least four [4] posts.

6. Rail bar expansion joints shall be provided in any rail bay spanning a superstructure expansion joint. Expansion joint width shall be "X" at 7 °C and will be adjusted in the field by the Engineer.

7. All parts shall be galvanized after fabrication in accordance with AASHTO M111, except that hardware shall meet the requirements of AASHTO M232.

8. Rail posts anchoring nuts shall be tightened to a snug fit and given an additional 45 degree turn.

9. Rail bars shall be attached using M20 full diameter body AASHTO M164M (Type 1) round head bolts inserted through the face of the bar. Holes in posts shall be 2 mm larger than the bolt size.

10. Holes in rails for rail bar attachment may be field - drilled. Holes shall be coated with an approved zinc - rich paint prior to erection.

11. If there is a conflict between these Standard Details and the Design Drawings, the requirements of the Design drawings shall be followed.

12. Any bending of rail shall be by shop procedure only.

13. The fabricator shall submit shop drawings including welding procedures to the structures section for approval in accordance with the provision of 506.04, shop drawings. All welding shall conform with section 506.10.

14. The drop-weight tear test in section 732 shall not apply to the structural tubing on this standard.

MATERIALS

Rail bars.....ASTM A500, Grade B or ASTM A501
Rail posts.....ASTM A709/A709M, Grade 345
All other shapes & plates.....ASTM A709/A709M, Grade 250
Anchor studs.....ASTM F568M, Class 8.8
All other bolts [unless noted].....AASHTO M164M, Type 1

Nuts for AASHTO M164M bolts shall comply with AASHTO M291M. Nuts for anchor studs shall comply with ASTM A563.

Washers shall comply with AASHTO M293M (ASTM F436M) specification.

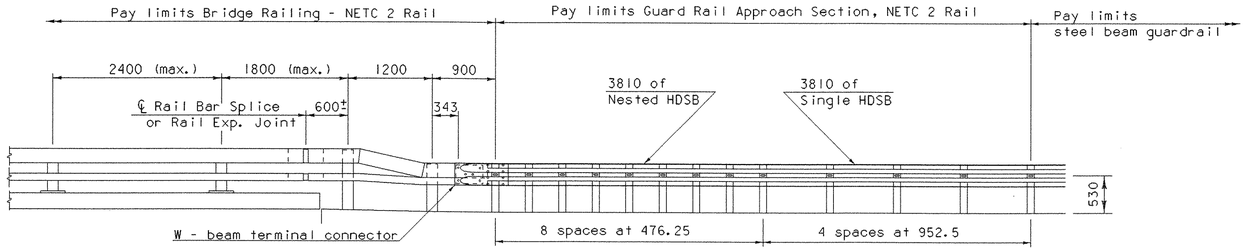
3 mm pad shall comply with standard specification subsection 731.01 or 731.02.

Set screws for delineation devices shall conform to ASTM F880M, Class A1-70, Condition CW, Alloy Type 304.

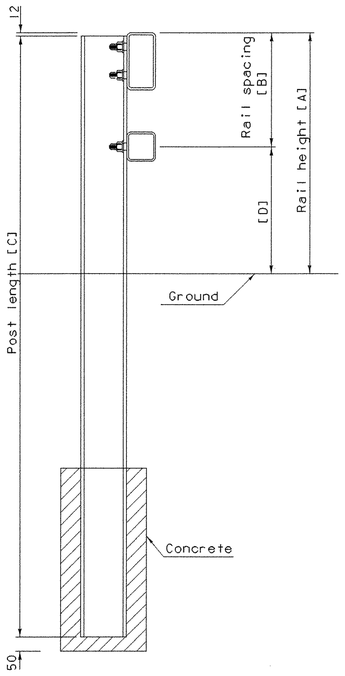
NETC BRIDGE RAIL SHEET ONE

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04rail.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 38 OF 68

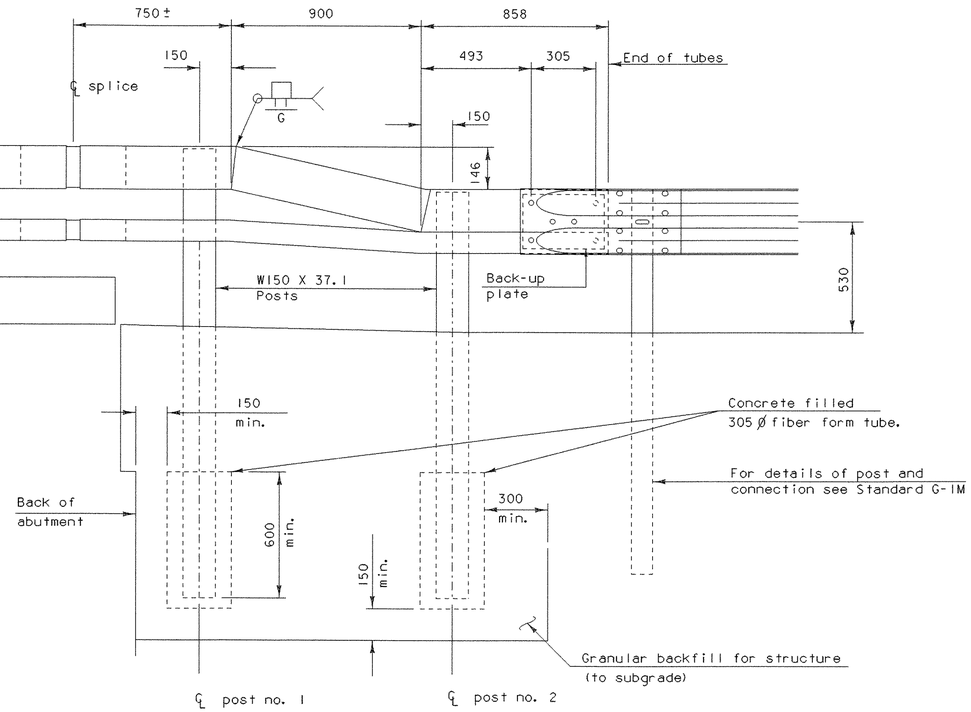


RAILING TRANSITION ELEVATION

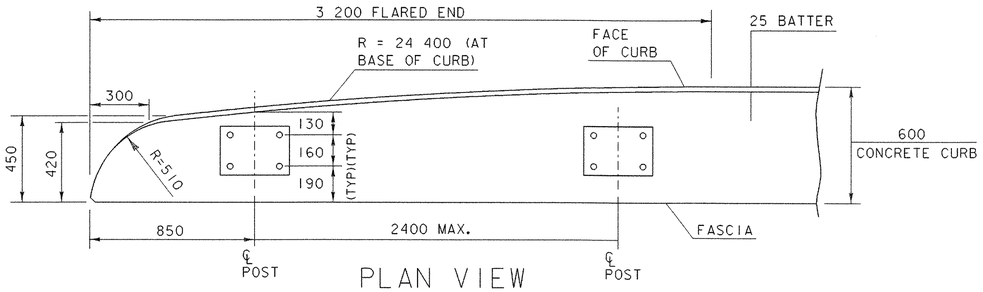


TYPICAL SECTION

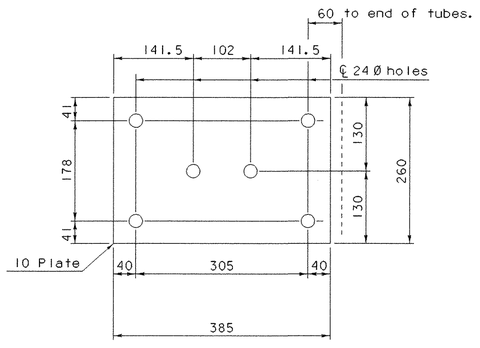
TABLE OF DIMENSIONS				
Post Number	Rail Height [A]	Rail Spacing [B]	Post Length [C]	Rail Height [D]
1	850	400	2135	450
2	704	254	1990	450



ELEVATION



PLAN VIEW



BACK - UP PLATE

Notes:

1. Refer to sheet 38 for additional details, notes and materials specifications.

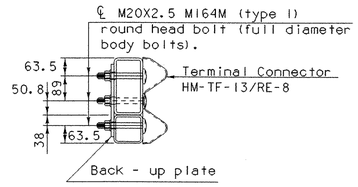
2. To facilitate field fit-up, the transition railing posts shall be set loosely into fiber form tubes while transition parts are being assembled. Post holes shall be backfilled with a concrete mix approved by the Engineer. Payment for components, including backup plate and end terminal connector for guard rail, augering, fiber-form & concrete, and installation shall be considered incidental to Bridge railing, N.E.T.C 2 rail.

3. The reflectorized aluminum delineation is to be erected every 9 m (or closet post) with 2 M4 X 0.7 X 20 set screws. Delineators shall meet specification requirements for ASTM B 209M alloy 5052-H32

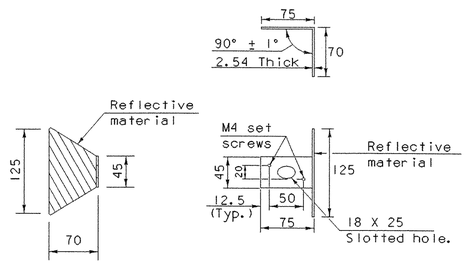
4. Reflective material shall meet requirements of subsection 750.08 and shall be ASTM Type III silver on both sides of the delineator device.

5. On bridges with a sidewalk, delineators are not to be installed on the sidewalk side of the bridge (i.e. delineators installed only on the curb side and on the approach on the curb side). Payment shall be incidental to all other items.

6. All approach rail splices shall be lapped in the direction of traffic flow.



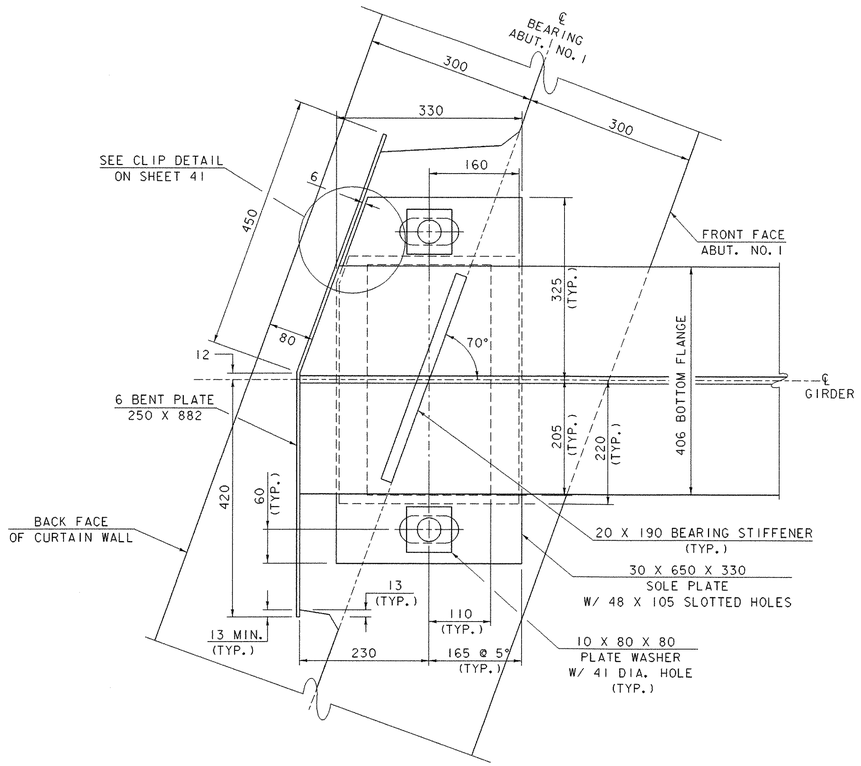
SECTION THROUGH GUARD RAIL CONNECTION AT TERMINAL CONNECTOR



DELINEATION DEVICE DETAILS

NETC BRIDGE RAIL SHEET TWO

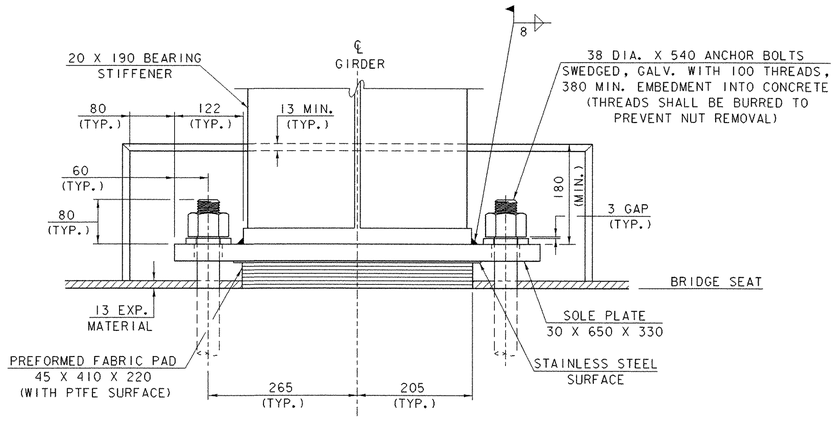
PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041ra2.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: L. BULLOCK
DESIGNED BY: S. SCRIBNER	CHECKED BY: S. SCRIBNER
	SHEET 39 OF 68



PLAN

0 0.25 0.5

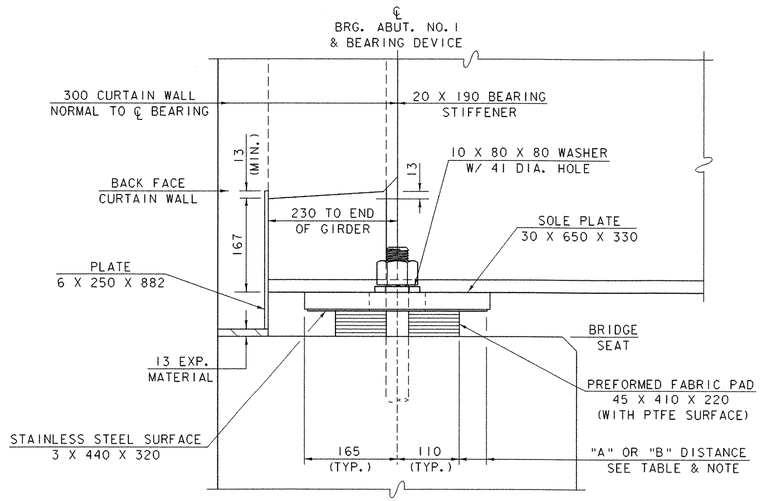
SCALE = 1:5



FRONT VIEW

0 0.25 0.5

SCALE = 1:5



SIDE ELEVATION

0 0.25 0.5

SCALE = 1:5

BEARING NOTES

1. BEARINGS SHALL BE PAID FOR UNDER ITEM 531.10, "BEARING DEVICE ASSEMBLY" AND SHALL CONFORM TO SECTIONS 531 AND 731 OF THE STANDARD SPECIFICATIONS.

2. SHOP DRAWINGS SHALL BE SUBMITTED AS PER SUBSECTION 531.03 OF THE STANDARD SPECIFICATIONS. THE SUBMITTAL SHALL INCLUDE ASSOCIATED WELDING AND BONDING PROCEDURES.

3. DESIGN CRITERIA:
   A. MAXIMUM ALLOWABLE BEARING ON CONCRETE OR MASONRY : 7 MPa
   B. MINIMUM ALLOWABLE DESIGN ROTATION: 0.015 RADIANS.
   C. DESIGN VERTICAL LOAD: 630 KN
   D. DESIGN HORIZONTAL LOAD: MINIMUM 10% OF VERTICAL LOAD.

4. THE "B" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, PAVEMENT, AND BRIDGE RAIL HAVE BEEN PLACED. THE "A" DISTANCE IS FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL "B" DISTANCE SHOWN IN THE TABLE MUST BE ATTAINED WITHIN 3 mm.

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

6. ANCHOR BOLTS SHALL HAVE A MINIMUM 380 EMBEDMENT INTO CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08 OF THE STANDARD SPECIFICATIONS.

7. ALL STEEL IN BEARING DEVICE ASSEMBLY (EXCEPT STAINLESS) SHALL BE AASHTO M270M/M270, GR 250.

8. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04 (b) AND 506.15 OF THE STANDARD SPECIFICATIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15 (b) OF THE STANDARD SPECIFICATIONS. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SUPPLEMENTAL SPECIFICATION 513.

9. ALL ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 10 PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND THEIR INSTALLATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY".

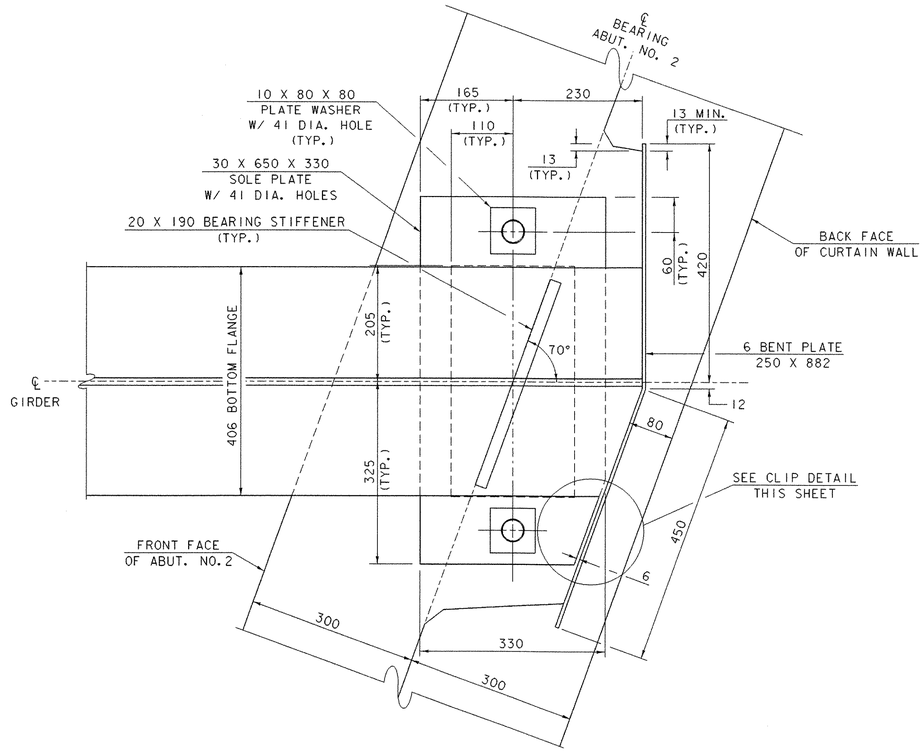
TEMPERATURE SETTING TABLE

TEMP	"B" DIST	"A" DIST
-25°C	64	77
-15°C	61	74
-5°C	58	71
5°C	55	68
15°C	52	65
25°C	49	62
35°C	46	59
45°C	43	56

EXPANSION BEARING DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

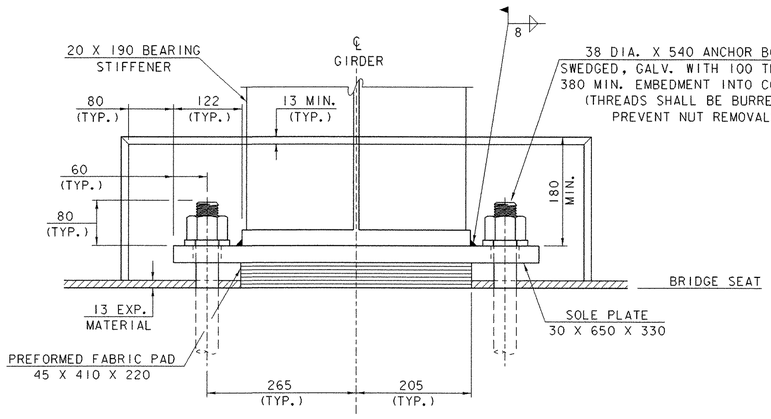
FILE NAME: 85e041\Structures\se041br1.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 40 OF 68



PLAN

0 0.25 0.5

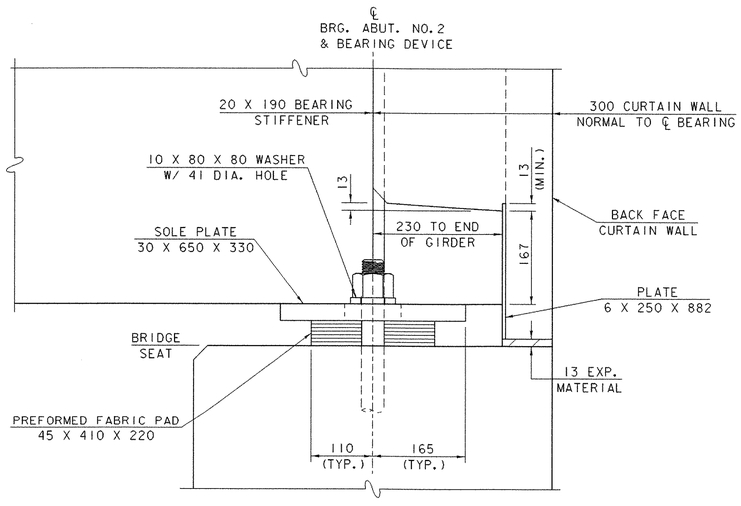
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FRONT VIEW

0 0.25 0.5

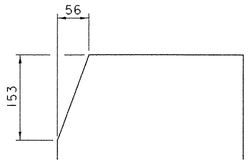
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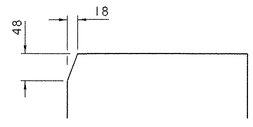
SIDE ELEVATION

0 0.25 0.5

SCALE = 1:5



SOLE PLATE



STAINLESS STEEL

BEARING CLIP DETAILS

0 0.25 0.5

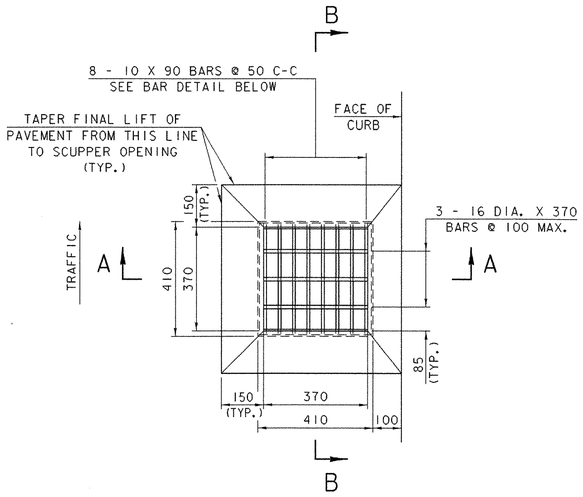
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FIXED BEARING DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04ibr2.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER

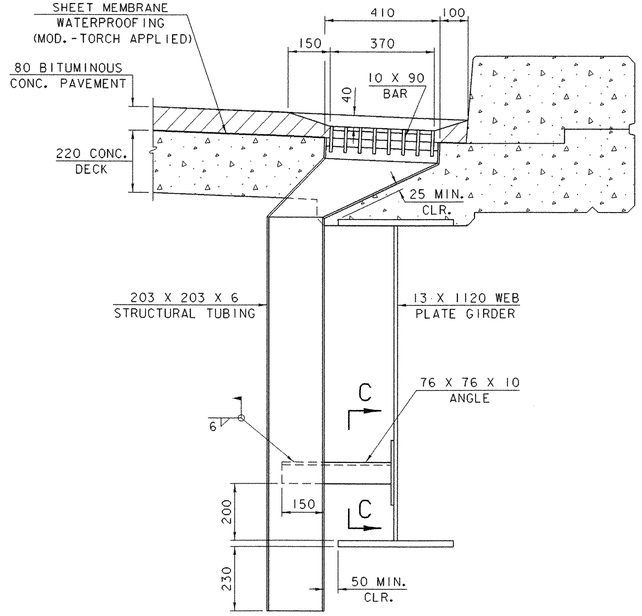
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 41 OF 68



PLAN

0 0.5 1

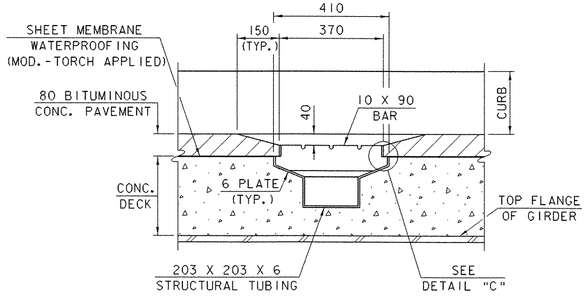
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SECTION A-A

0 0.5 1

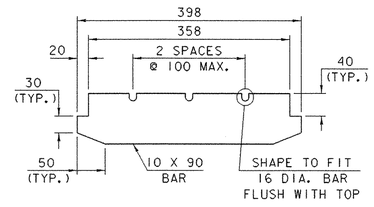
SCALE = 1:10



SECTION B-B

0 0.5 1

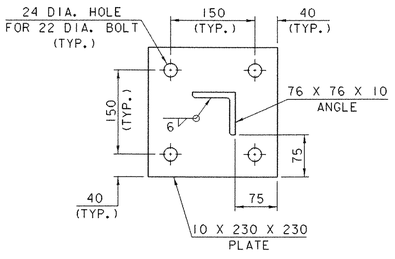
SCALE = 1:10



BAR DETAIL FOR GRATE

0 0.25 0.5

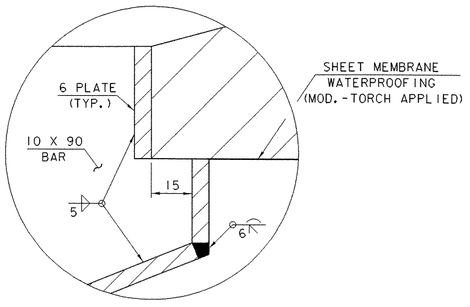
SCALE = 1:5



SECTION C-C

0 0.25 0.5

SCALE = 1:5



DETAIL "C"

0 0.05 0.1

SCALE = 1:1

NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500 GR.B OR A-501.
2. ALL PLATES, BARS AND ANGLES SHALL CONFOROM TO AASHTO M270M/M270 GR.250.
3. SCUPPER SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111 AFTER FABRICATION.
4. THE TOP SURFACE OF SCUPPER SHALL BE SLOPED TO MATCH ROADWAY SLOPE AND GRADE.
5. THE BAR AND GRATE SECTION MAY BE PREFABRICATED PROVIDING THE GEOMETRY AND SECTION PROPERTIES ARE EQUIVALENT TO THE DETAILS SHOWN.
6. SCUPPER SHALL BE PAID FOR UNDER ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".

SCUPPER LOCATION

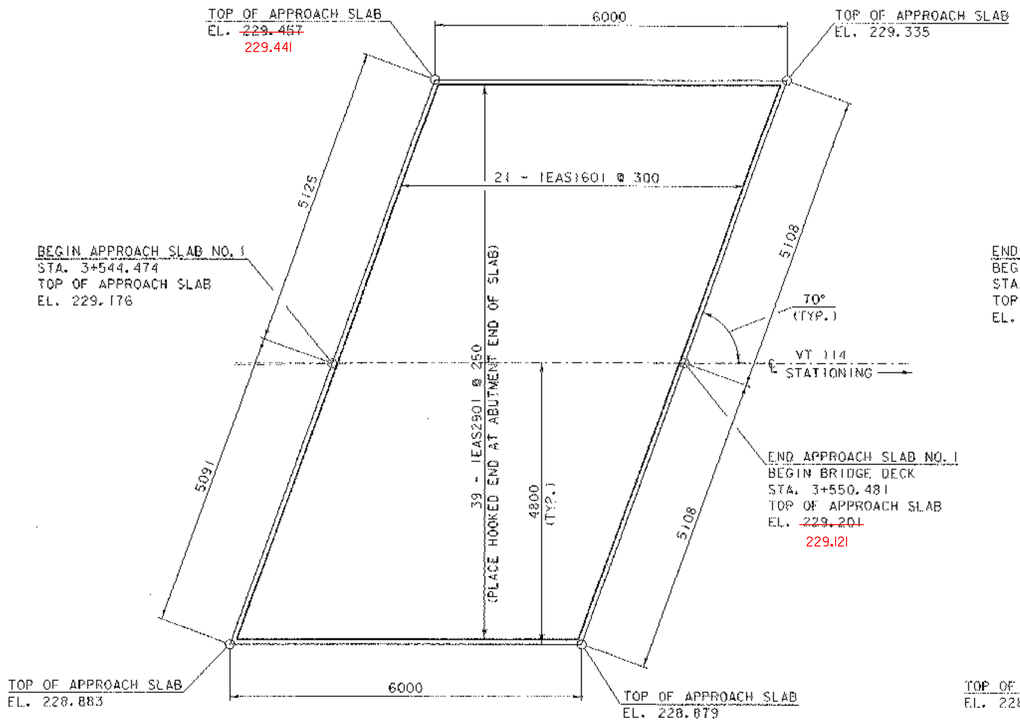
STA. 3+553.700 RT.
(SEE PLAN & ELEVATION SHEET)

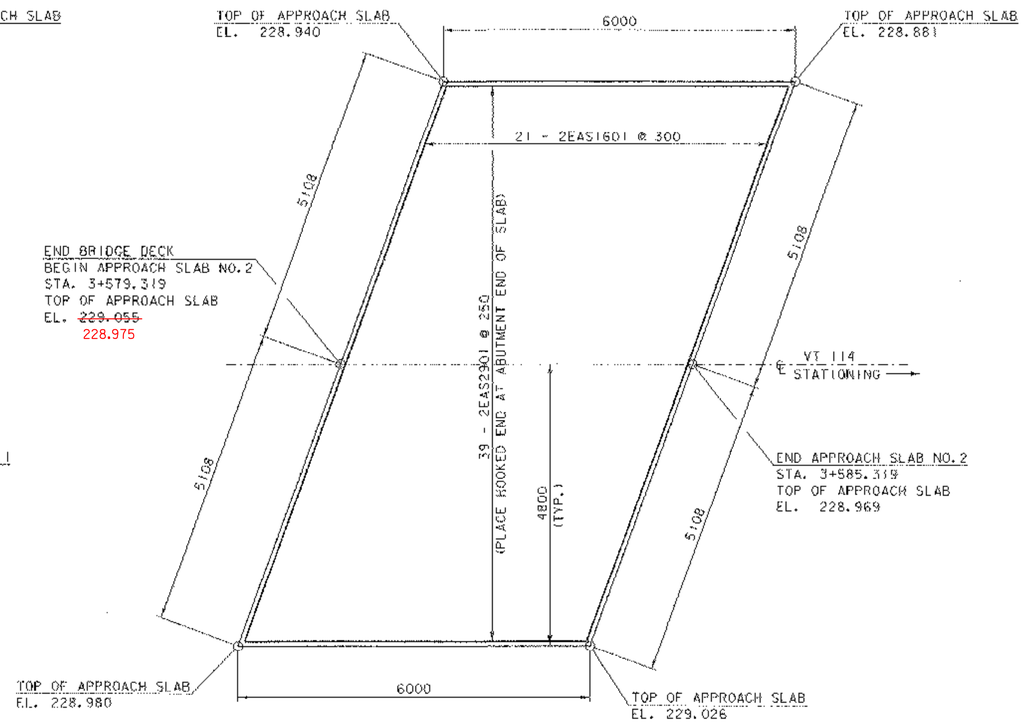
SCUPPER DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269(8)S

FILE NAME: 85e041\structures\se041scu.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: R. WHITCOMB
SHEET 42 OF 68

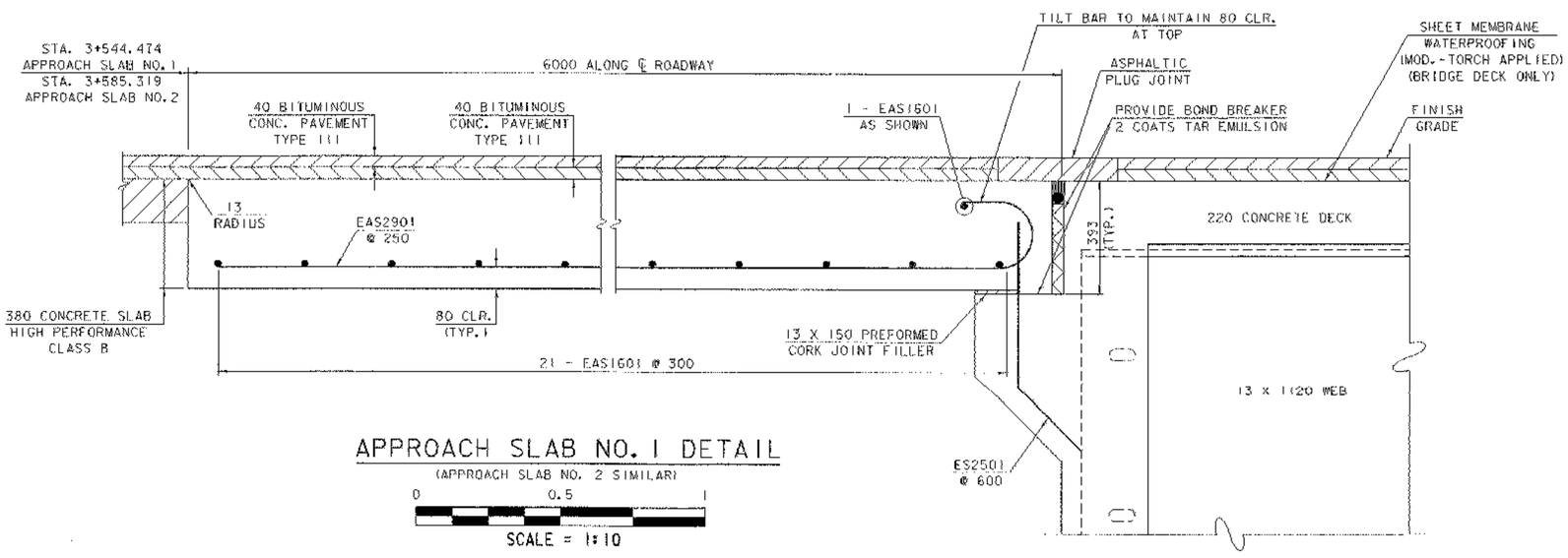




APPROACH SLAB PLAN

0 1 2 3 4 5

SCALE = 1:50

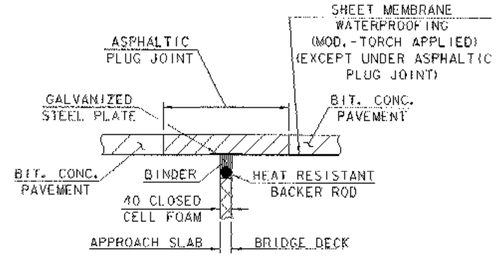


APPROACH SLAB NO. 1 DETAIL

(APPROACH SLAB NO. 2 SIMILAR)

0 0.5 1

SCALE = 1:10



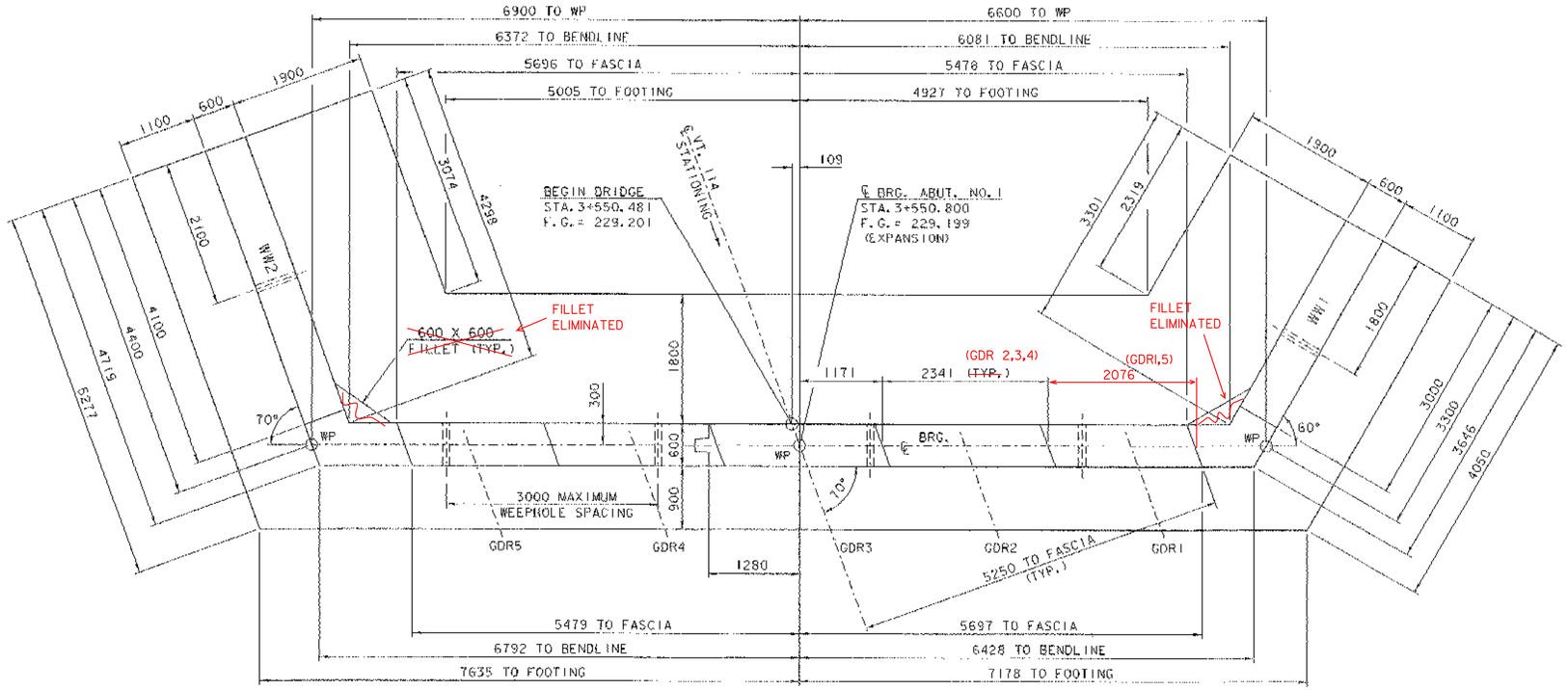
ASPHALTIC PLUG JOINT DETAIL AT EXPANSION END

NOT TO SCALE

APPROACH SLAB DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

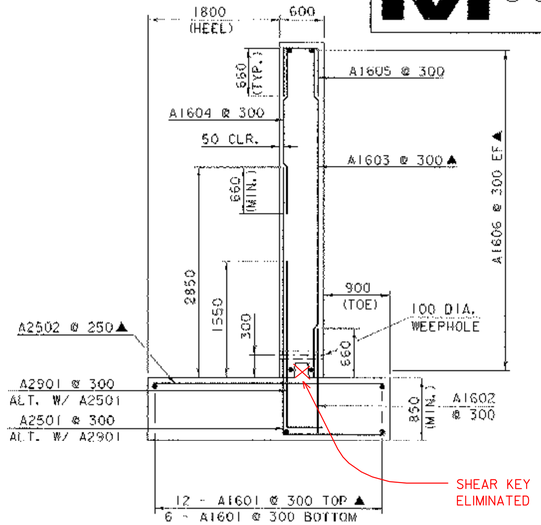
FILE NAME: 85e04\Structures\se04sb1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 43 OF 68



ABUTMENT NO. 1 PLAN

0 1 2 3 4

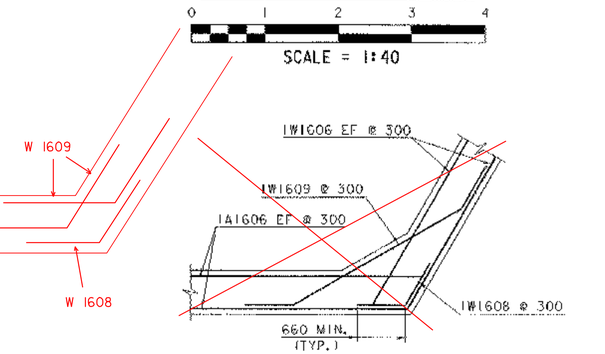
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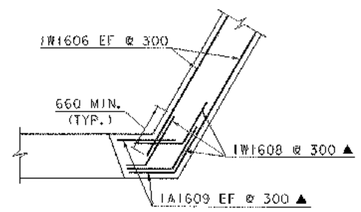
ABUTMENT TYPICAL

0 1 2 3 4

SCALE = 1:40



BELOW BRIDGE SEAT (SEE W.O. #1)



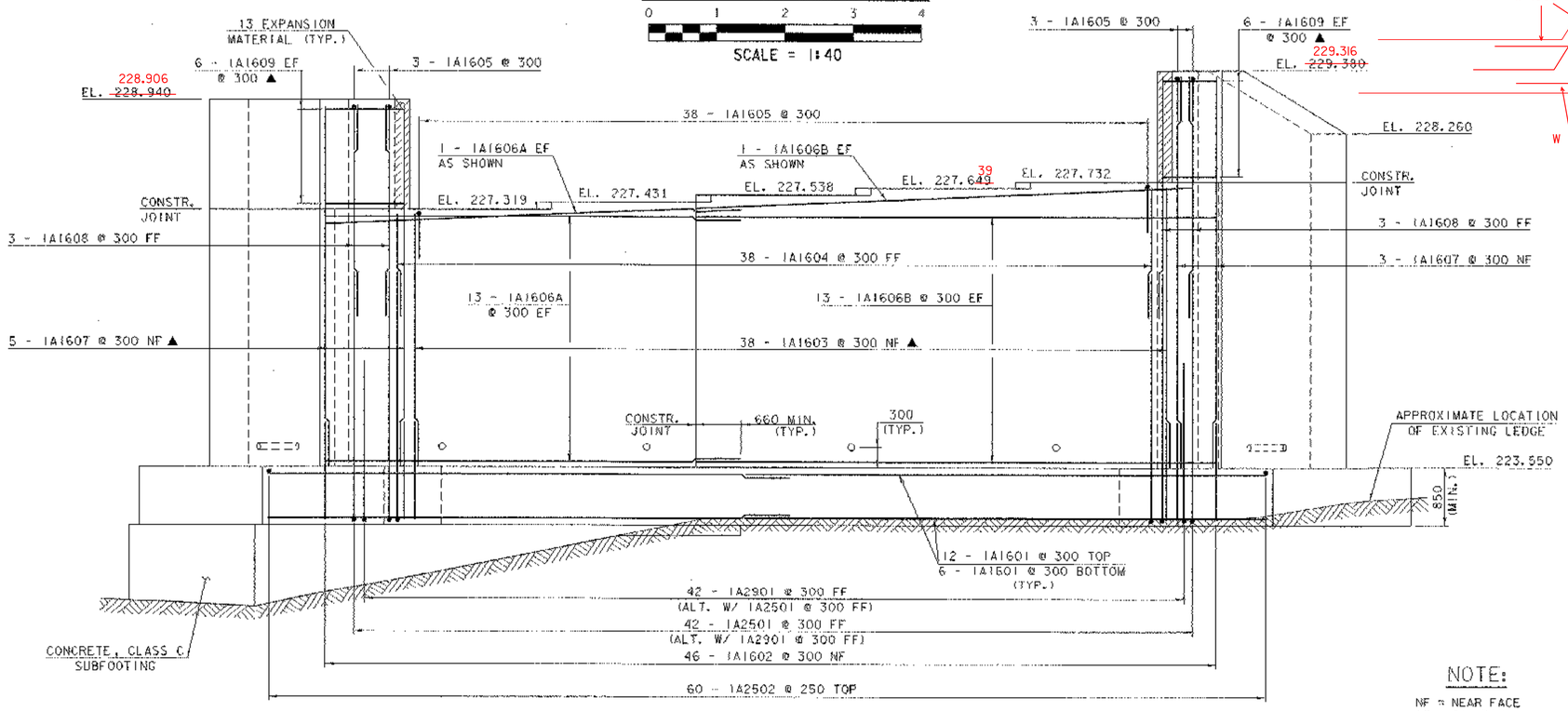
ABOVE BRIDGE SEAT

WINGWALL NO. 1 CORNER REINFORCING DETAILS

(WINGWALL NO. 2 AND NO. 4 SIMILAR)

0 1 2 3 4

SCALE = 1:40



ABUTMENT NO. 1 ELEVATION

0 1 2 3 4

SCALE = 1:40

NOTE:

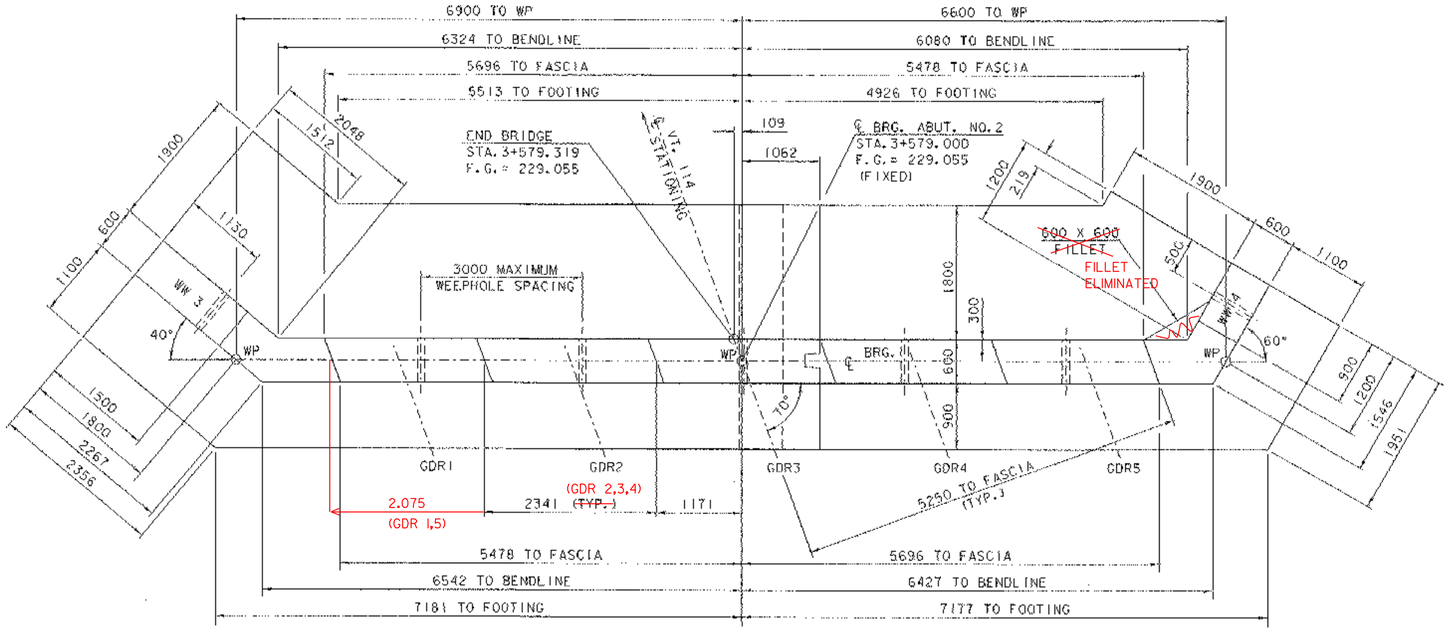
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ABUTMENT NO. 1 DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e04f\Structures\se04fab1.i
PROJECT MANAGER: H. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 44 OF 68

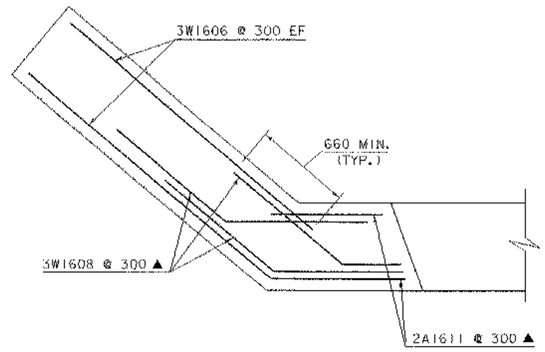
Metric



ABUTMENT NO. 2 PLAN

0 1 2 3 4

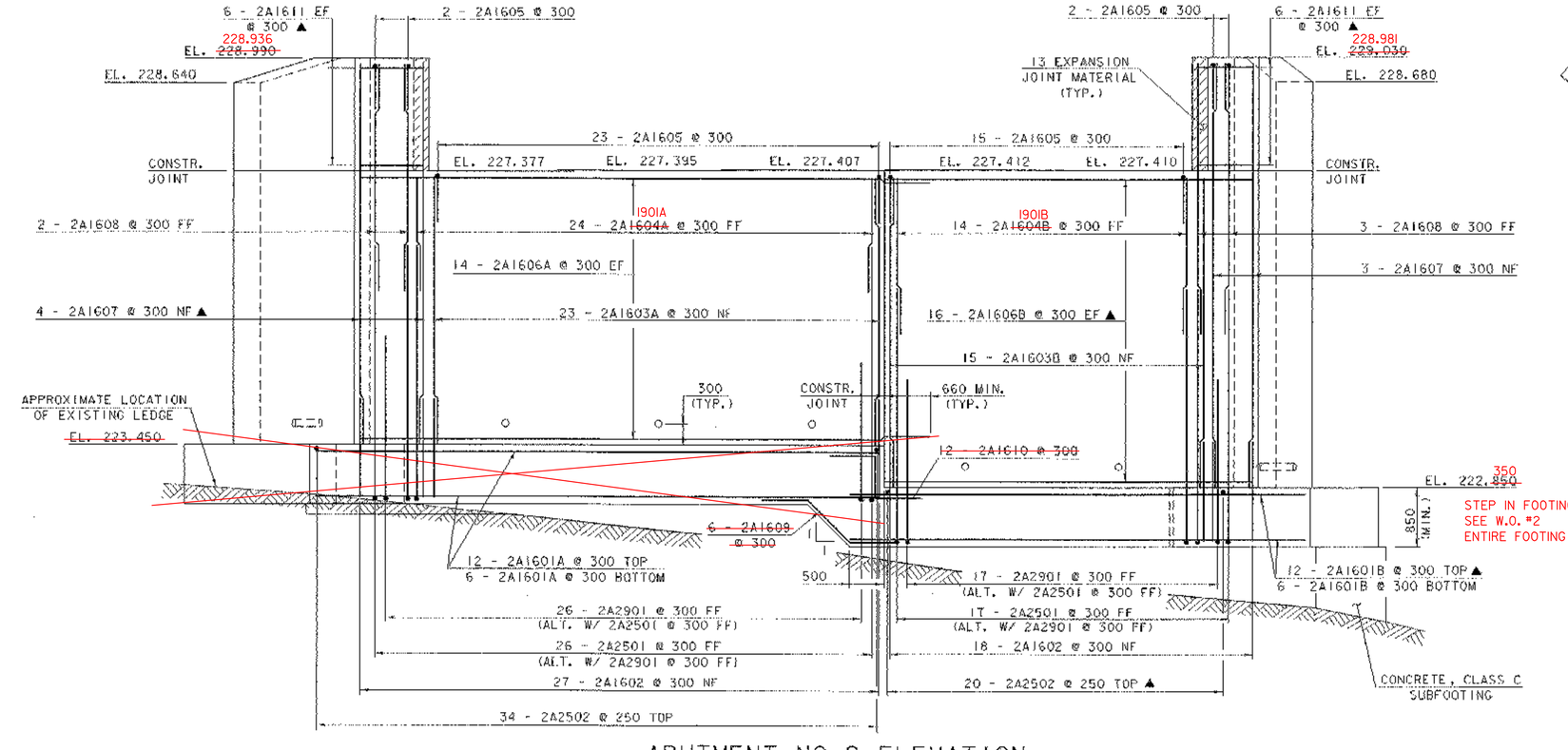
SCALE = 1:40



WINGWALL NO. 3
CORNER REINFORCING DETAIL
ABOVE BRIDGE SEAT

0 1 2

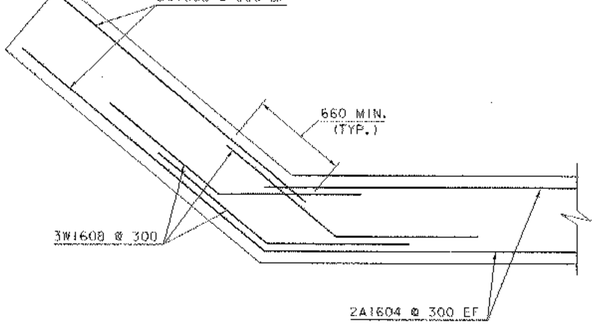
SCALE = 1:20



ABUTMENT NO. 2 ELEVATION

0 1 2 3 4

SCALE = 1:40



WINGWALL NO. 3
CORNER REINFORCING DETAIL
BELOW BRIDGE SEAT

0 1 2

SCALE = 1:20

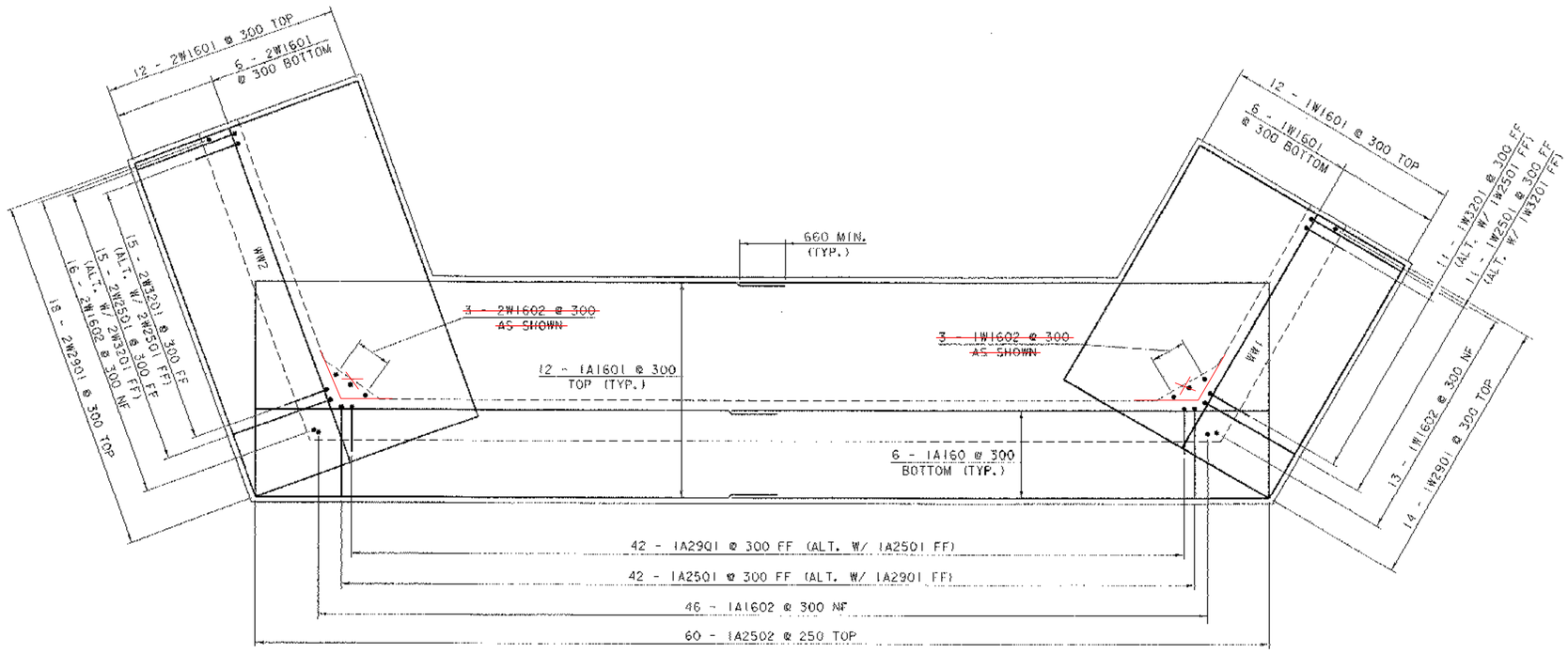
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

ABUTMENT NO. 2 DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

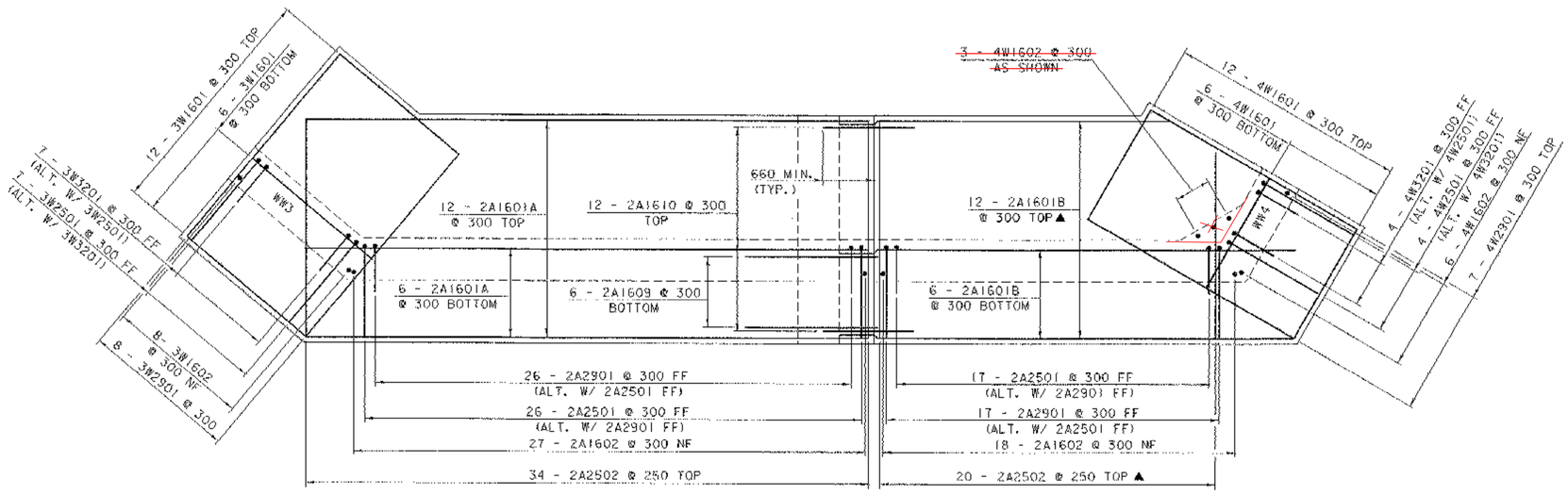
FILE NAME: 85e04N\Structures\se04lab2.J
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 45 OF 68



ABUTMENT NO. 1 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40



ABUTMENT NO. 2 FOOTING REINFORCING PLAN

0 1 2 3 4

SCALE = 1:40

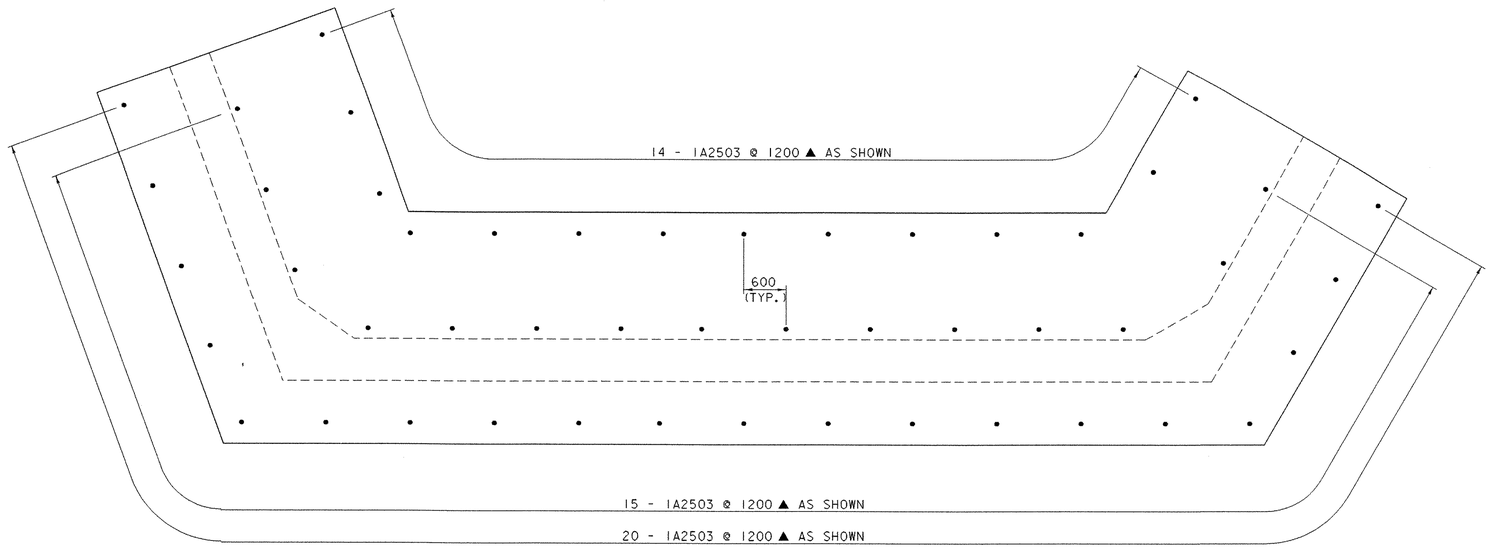
NOTE:

NF = NEAR FACE.
FF = FAR FACE.
EF = EACH FACE.
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

FOOTING REINFORCING PLAN

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

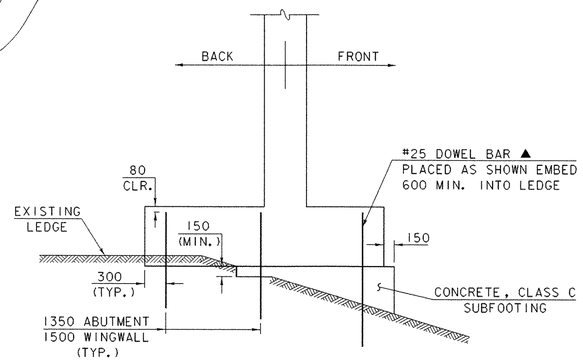
FILE NAME: 85s04f\Structures\se04ftg.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 46 OF 68



ABUTMENT NO. 1 DOWEL PLAN

0 1 2 3 4

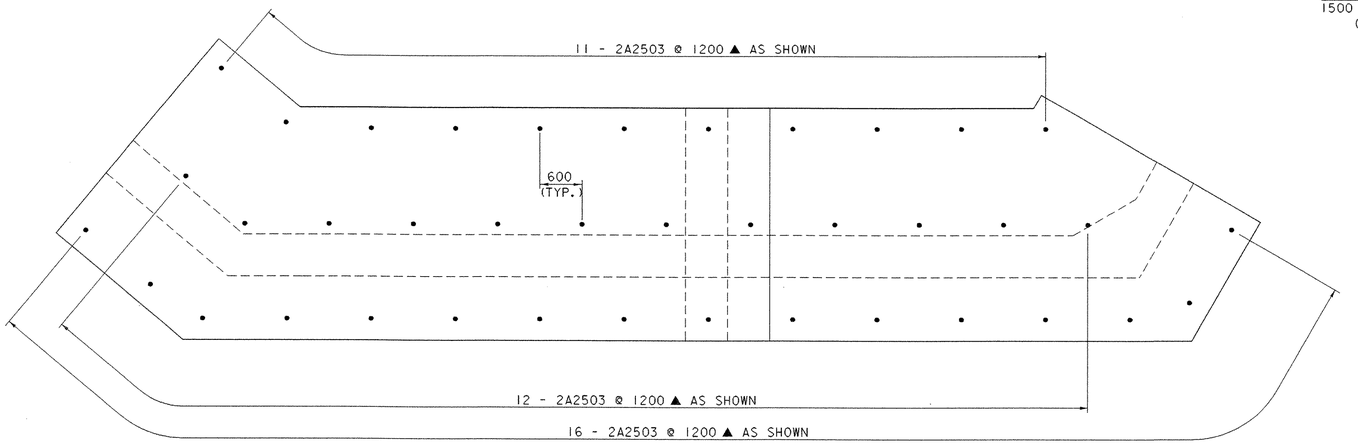
SCALE = 1:40



SUBSTRUCTURE FOOTING ANCHORAGE DETAIL

0 1 2 3 4

SCALE = 1:40



ABUTMENT NO. 2 DOWEL PLAN

0 1 2 3 4

SCALE = 1:40

NOTE:

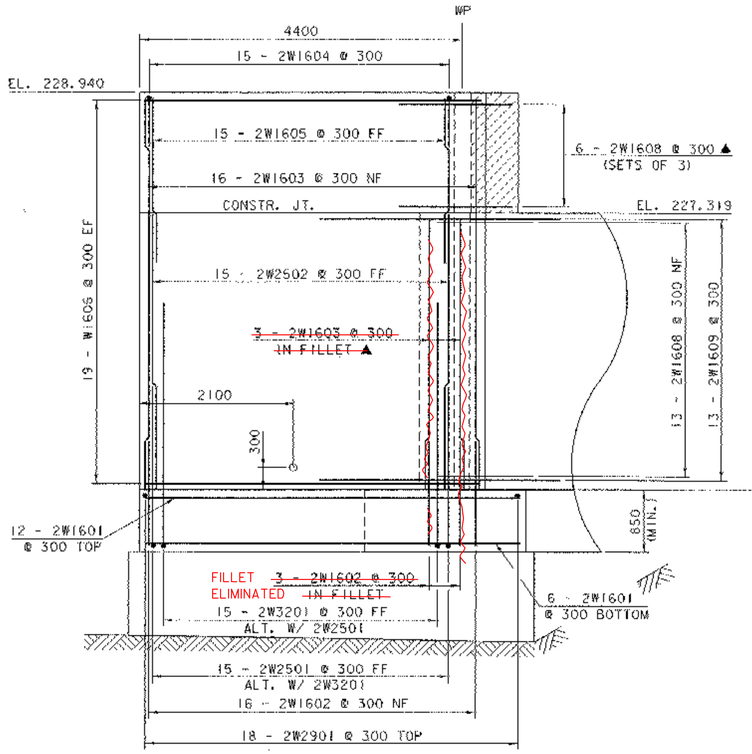
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

FOOTING DOWEL PLAN

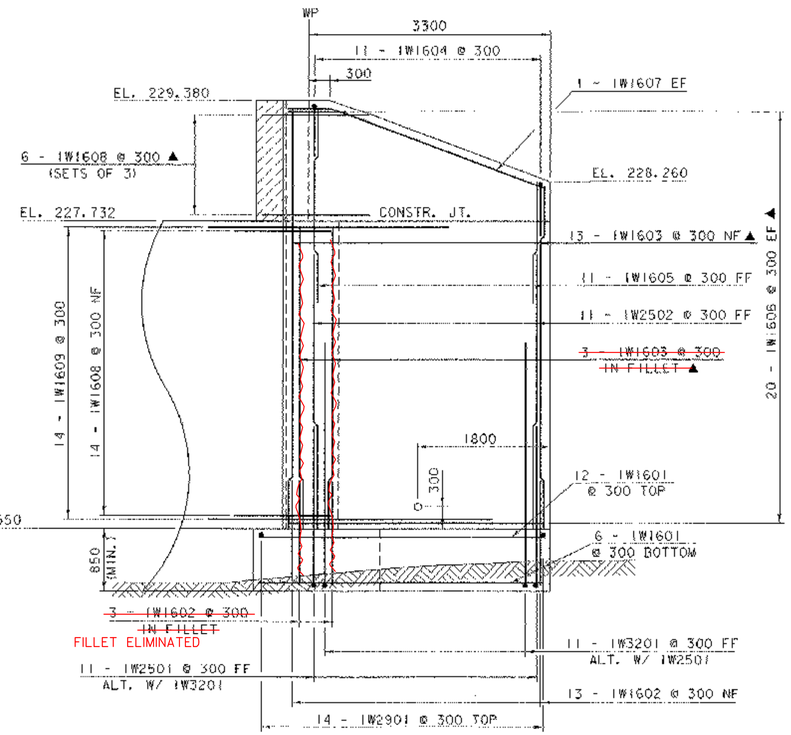
PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04ldwl.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 47 OF 68

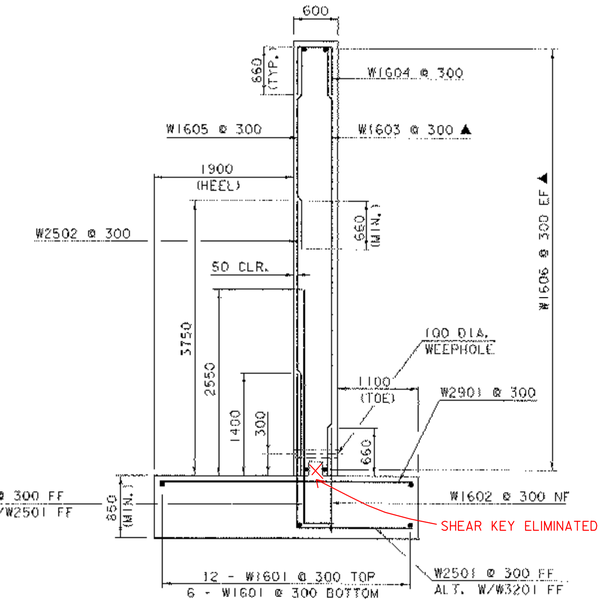
Metric



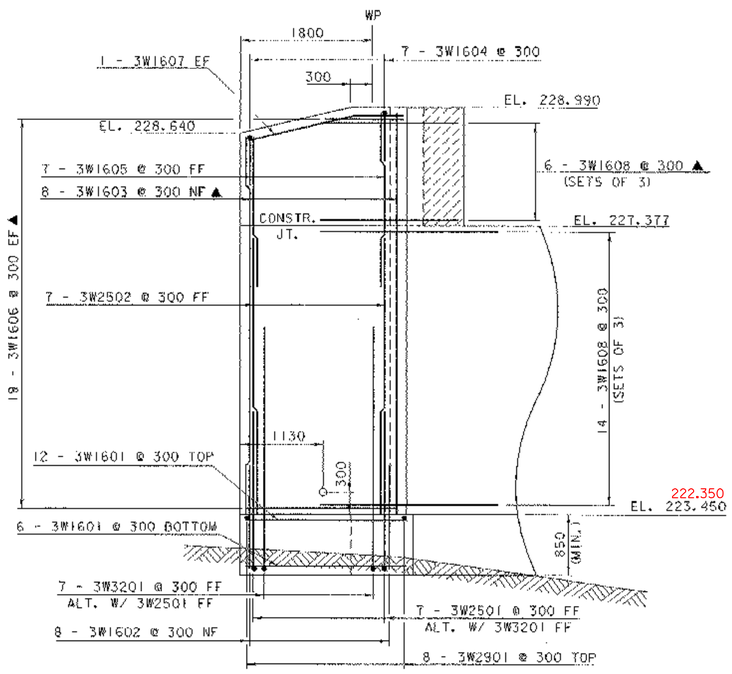
WINGWALL NO. 2 ELEVATION



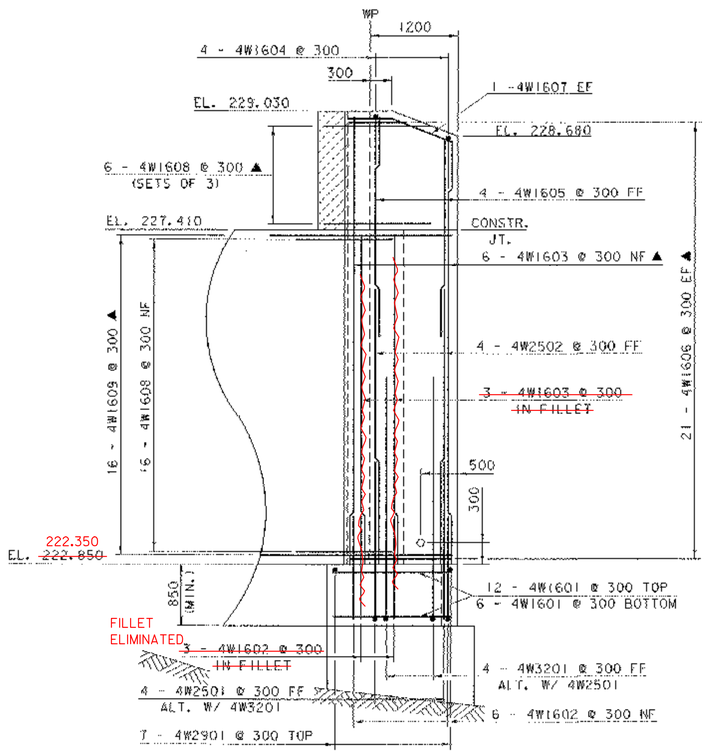
WINGWALL NO. 1 ELEVATION



WINGWALL TYPICAL



WINGWALL NO. 3 ELEVATION



WINGWALL NO. 4 ELEVATION

0 1 2 3 4

SCALE = 1:40

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

WINGWALL DETAILS

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e04l\structures\se04wwl.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
PLOT DATE: 29-NOV-2005
DRAWN BY: L. BULLOCK
CHECKED BY: S. SCRIBNER
SHEET 48 OF 68

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

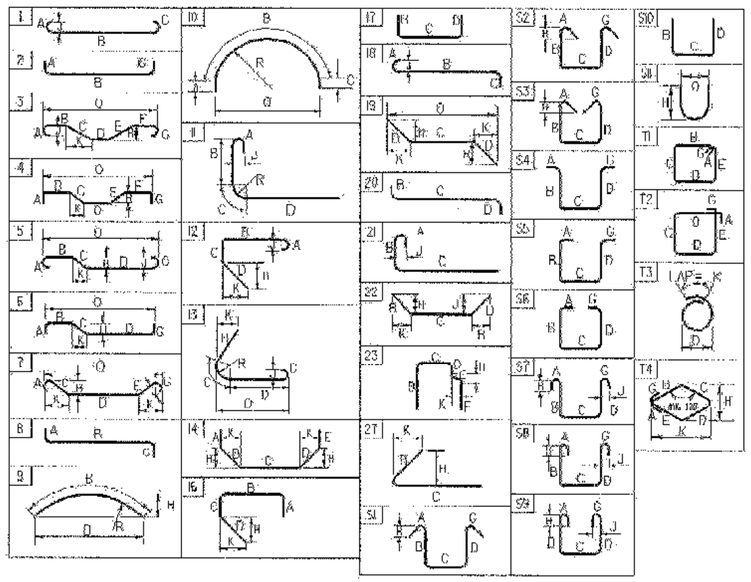
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
*	353	16	7670	ES1601	STR												
▲	326	16	10340	ES1602	STR												
				ES1603	NOT USED												
▲	28	16	11010	ES1605	STR												
	270	16	1610	ES1604	S5	250	350	410	360			250					
	56	16	3390	ES1606	S5	260	1410	150	1330			260					
	66	16	1560	ES1607	16	300	460	200	600								
	36	25	900	ES2501	19		300	600	---								
APPROACH SLAB NO. 1																	
*	23	16	10060	EAS160	STR												
	39	29	6220	EAS290	1	380	5840					---		300			
APPROACH SLAB NO. 2																	
*	23	16	10060	EAS160	STR												
	39	29	6220	EAS290	1	380	5840					---		300			
ABUTMENT NO. 1																	
	36	16	7690	1A1601	STR												
	46	16	1430	1A1602	STR												
▲	38	16	4100	1A1603	STR												
*	39	16	1920	1A1604	STR												
	28	16	5110	1A1606A	STR												
	28	16	7650	1A1606B	STR												
▲	8	16	5750	1A1607	STR												
	6	16	3560	1A1608	STR												
▲	24	16	1150	1A1609	STR												
*	61	25	3140	1A2502	STR												
▲	49	25	2500	1A2503	STR												
	44	16	1790	1A1605	S10		660	470	660								
	42	25	4990	1A2501	17		3620	1370	---								
*	43	29	2810	1A2901	17		2320	480	---								
WINGWALL NO. 1																	
	18	16	3920	1W1601	STR												
I3	~~10~~	16	1430	1W1602	STR												
▲	16	16	5750	1W1603	STR												
	11	16	2660	1W1605	STR												
* ▲	41	16	3510	1W1606	STR												
	11	25	3750	1W2502	STR												
	14	29	3440	1W2901	STR												
	11	16	1790	1W1604	S10		660	470	660								
	2	16	3710	1W1607	19		580	3130	---				250		520		
▲	32	16	1820	1W1608	19		910	910	---				790		460		
	14	16	4150	1W1609	22		660	2830	660				330	330	570	570	
*	12	25	3740	1W2501	17		2170	1570	---								
*	12	32	3870	1W3201	17		3320	550	---								
WINGWALL NO. 2																	
	18	16	5140	2W1601	STR												
I6	~~10~~	16	1430	2W1602	STR												
▲	19	16	5310	2W1603	STR												
	15	16	2220	2W1605	STR												
	38	16	4570	2W1606	STR												
	15	25	3750	2W2502	STR												
*	19	29	3440	2W2901	STR												
	15	16	1790	2W1604	S10		660	470	660								
				2W1607	NOT USED												
▲	31	16	1640	2W1608	19		820	820	---				770		280		
	13	16	3870	2W1609	22		660	2950	660				360	380	540	540	
	15	25	3740	2W2501	17		2170	1570	---								
*	16	32	3870	2W3201	17		3320	550	---								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO. 2																	
	18	16	8130	2A1601A	STR												
▲	18	16	6570	2A1601B	STR												
	45	16	1430	2A1602	STR												
	23	16	~~3660~~	2A1603A	STR			4950									
	16	16	~~4480~~	2A1603B	STR			4980									
*	25	~~16~~	~~1880~~	2A1604A	STR		I9	2760	2AI90IA								
	14	~~16~~	~~2290~~	2A1604B	STR		I9	2790	2AI90IB								
36	~~28~~	16	8230	2A1606A	STR												
36▲	~~32~~	16	5310	2A1606B	STR												
▲	7	16	~~6100~~	2A1607	STR			6600									
	5	16	~~3810~~	2A1608	STR			4410									
▲	24	16	910	2A1611	STR												
* ▲	60	25	3140	2A2502	STR												
▲	39	25	2500	2A2503	STR												
	42	16	1790	2A1605	S10		660	470	660								
	~~8~~	~~16~~	~~2170~~	2A1609	19		~~660~~	~~350~~	~~660~~					~~470~~	~~470~~	~~470~~	~~470~~
	~~12~~	~~16~~	~~1920~~	2A1610	20		~~660~~	~~600~~	~~660~~	ELIMINATED							ELIMINATED
	43	25	4990	2A2501	17		1370	3620	---								
*	44	29	2810	2A2901	17		490	2320	---								
WINGWALL NO. 3																	
	18	16	2250	3W1601	STR												
	8	16	1430	3W1602	STR												
▲	8	16	~~5460~~	3W1603	STR			6560									
	7	~~16~~	~~2370~~	3W1605	STR		I9	3470	3WI90I								
46▲	~~38~~	16	2150	3W1606	STR												
	7	25	3750	3W2502	STR												
	8	25	3440	3W2901	STR												
	7	16	1790	3W1604	S10		660	470	660								
	2	16	2150	3W1607	19		650	1500	---					150		630	
72▲	~~60~~	16	2340	3W1608	19		1170	1170	---					750		900	
*	9	25	3740	3W2501	17		2170	1570	---								
*	8	32	3870	3W3201	17		3320	550	---								
WINGWALL NO. 4																	
*	19	16	1820	4W1601	STR												
6	~~8~~	16	1430	4W1602	STR												
▲	9	16	~~6100~~	4W1603	STR			5600									
	4	~~16~~	~~1385~~	4W1605	STR		I9	3510	4WI90I								
46▲	~~42~~	16	1430	4W1606	STR												
	4	25	3750	4W2502	STR												
*	8	29	3440	4W2901	STR												
	4	16	1790	4W1604	S10		660	470	660								
	2	16	1490	4W1607	19		600	890	---					220		560	
▲	~~34~~	16	~~1820~~	4W1608	19	I860	~~910~~	~~910~~	---					~~790~~	~~810~~	~~460~~	~~470~~
	16	16	~~3240~~	4W1609	19	I860	~~660~~	~~2580~~	---					~~330~~	~~810~~	~~570~~	~~470~~
	4	25	3740	4W2501	17		2170	1570	---								
*	5	32	3870	4W3201	17		3320	550	---								

~ 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 M31M (ASTM A 615M-91). 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.



ASTM STANDARD REINFORCING BARS

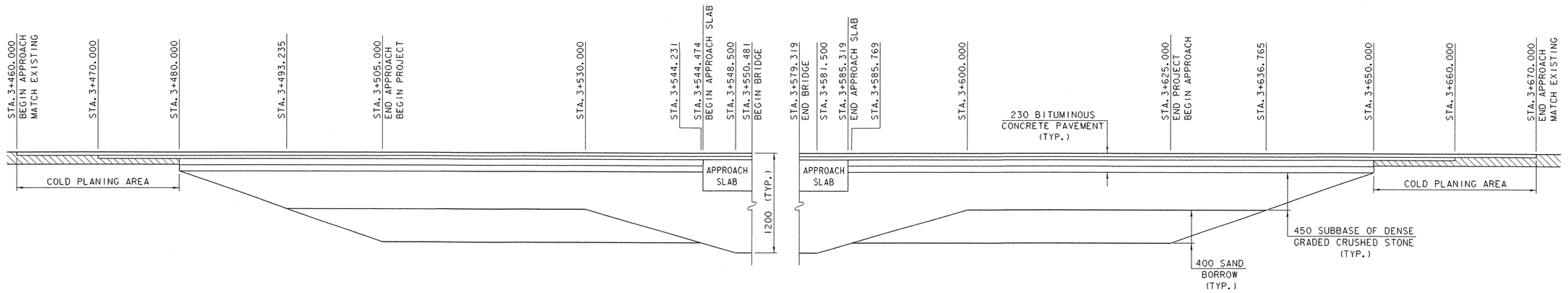
BAR SIZE	NOMINAL MASS (kg/m)	NOMINAL DIMENSIONS ROUND SECTION DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	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

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8) S

FILE NAME: \85e041\Structures\se041rt.xls
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: S. SCRIBNER
REINFORCING STEEL SCHEDULE SHEET (1)

PLOT DATE: 01/31/2005
DRAWN BY: J. PERRIGO
CHECKED BY: G. ROY
SHEET 49 OF 68

Metric



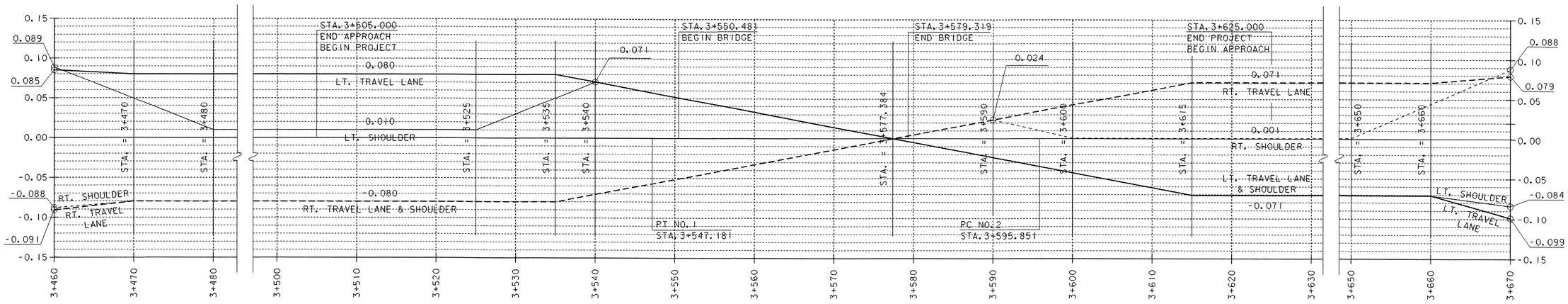
NOTES:

1. SEE MAINLINE CROSS SECTIONS TO DETERMINE CUT OR FILL.
2. SEE SHEET 3 OF THE PLANS FOR ADDITIONAL ABUTMENT EARTHWORK DETAILS.

MATERIAL TRANSITION DETAIL

HORIZ.: 0 10 20
SCALE = 1:250

VERT.: 0 1 2
SCALE = 1:25



BANKING DIAGRAM

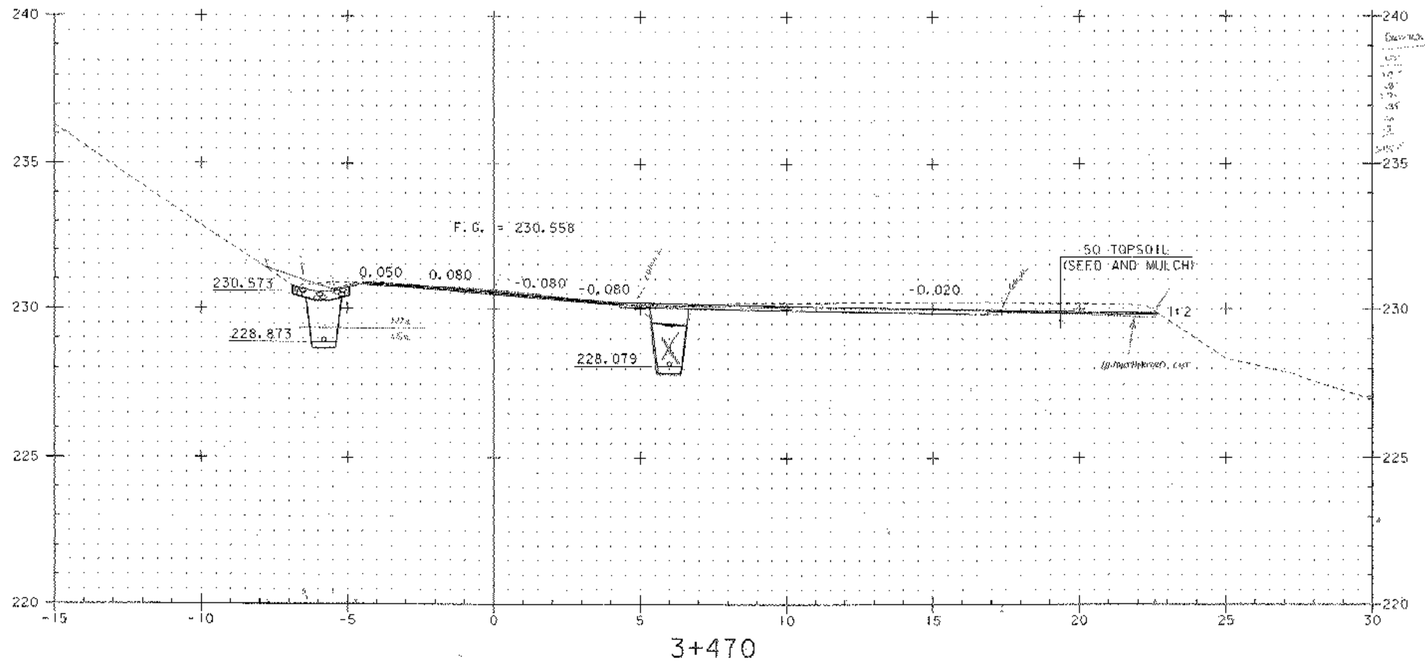
HORIZ.: 0 10 20
SCALE = 1:250

VERT.: 0 0.1 0.2
SCALE = 1:2.5

MATERIAL TRANSITION DETAIL AND BANKING DIAGRAM

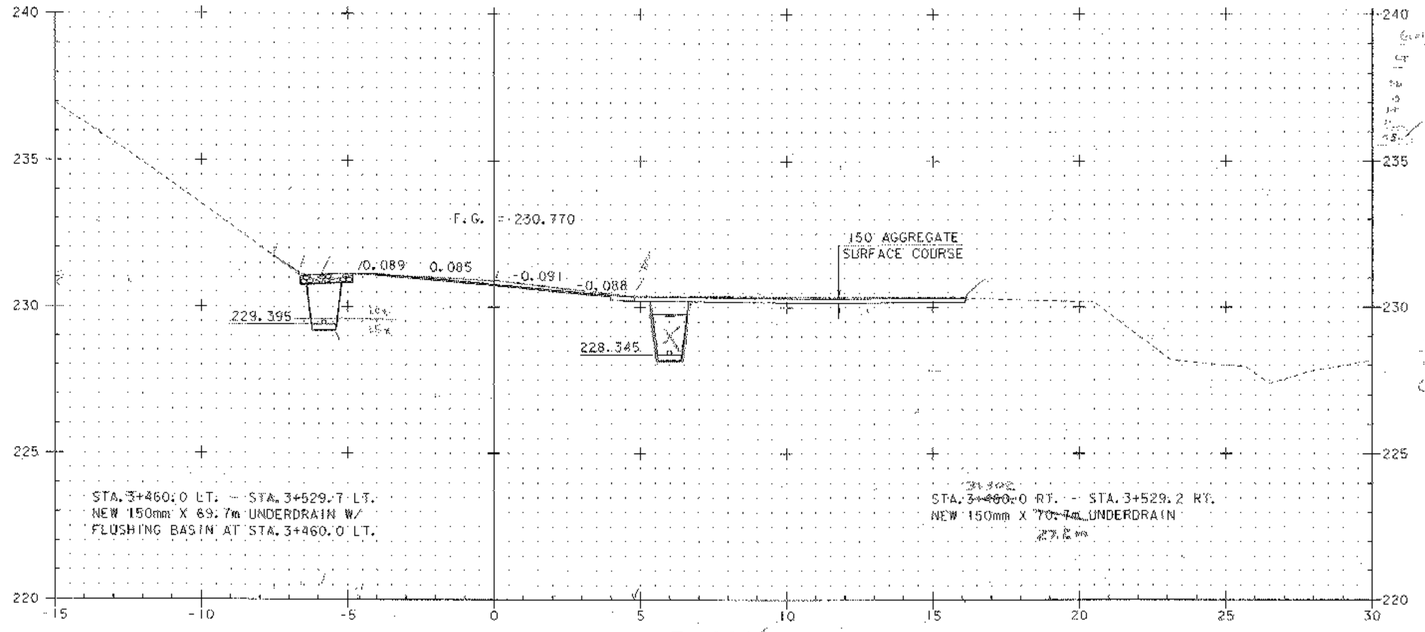
PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se04lmat.l	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
	SHEET 49 50 OF 68

Metric



3+470

SEE FULL SIZED
PLANS FOR RECORD
FINAL X-SECTIONS
(SHEETS 51-68)



3+460

STA. 3+460.0 LT. - STA. 3+529.7 LT.
NEW 150mm X 69.7m UNDERDRAIN W/
FLUSHING BASIN AT STA. 3+460.0 LT.

STA. 3+460.0 RT. - STA. 3+529.2 RT.
NEW 150mm X 70.7m UNDERDRAIN

STA. 3+460.000
BEGIN APPROACH
MATCH EXISTING GRADE AND BANKING

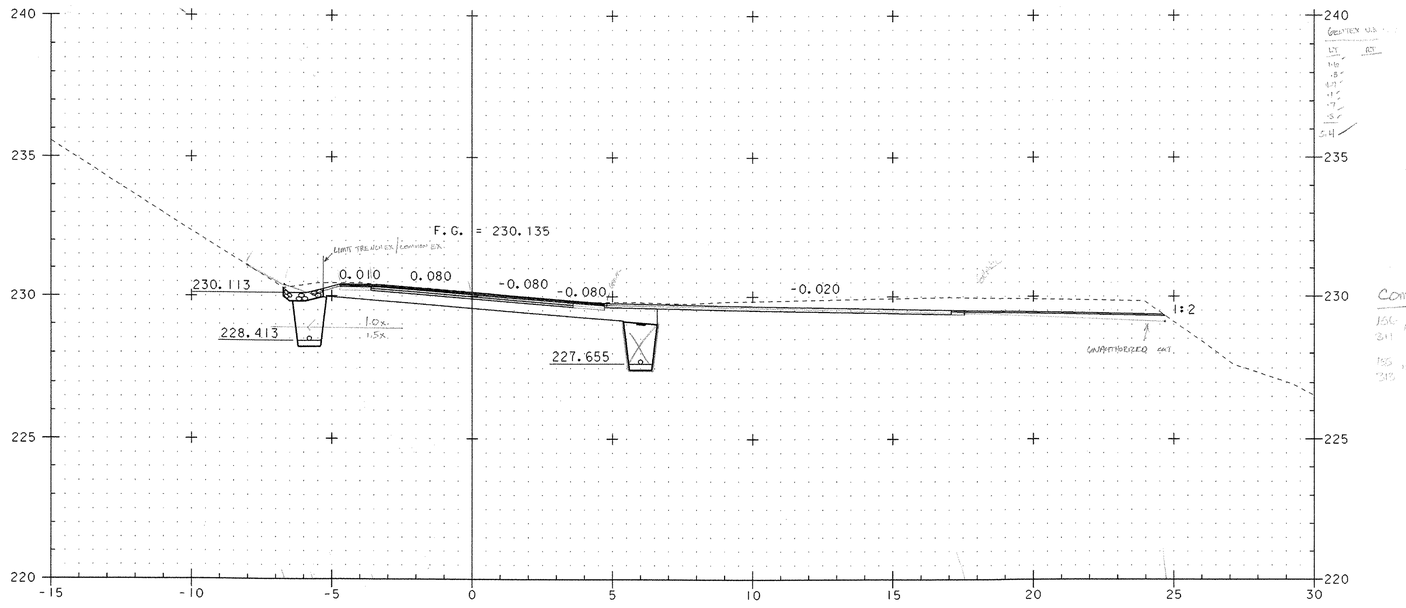
STA. 3+460.0 LT. - STA. 3+530.0 LT.
CONSTRUCT STONE LINED DITCH

STA. 3+460.0 RT. - STA. 3+540.0 RT.
CONSTRUCT GRAVEL TURNOUT

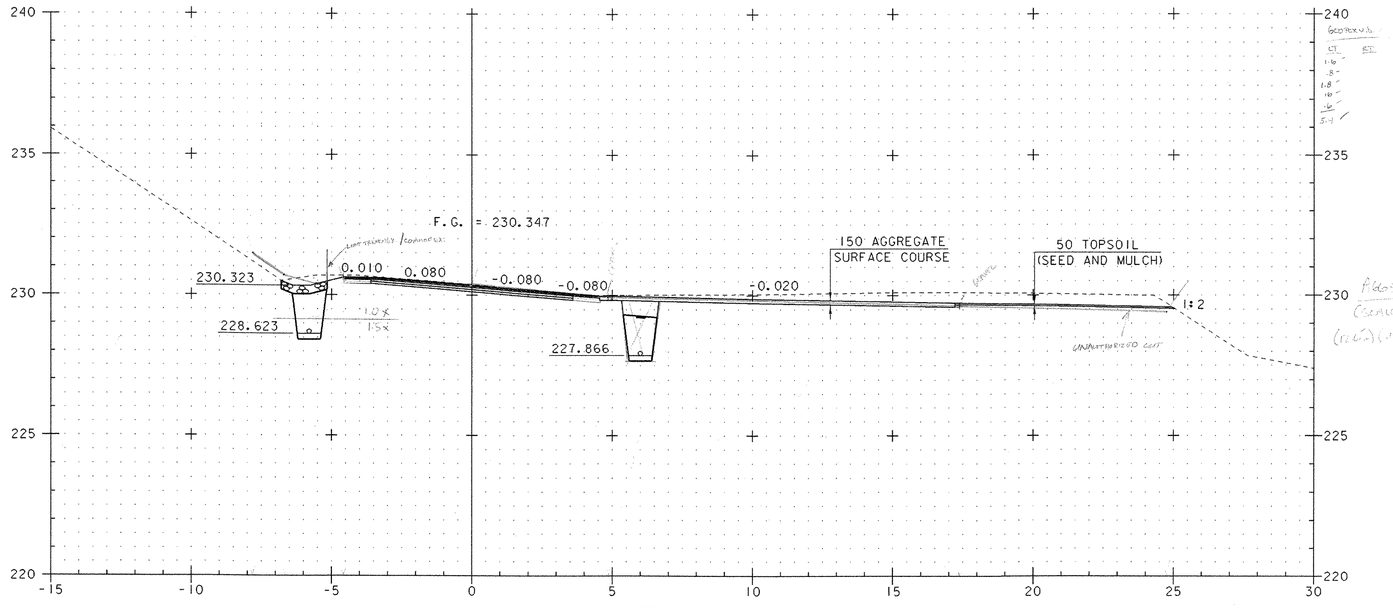
0 1 2 4 6 8 10
SCALE = 1:100

MAINLINE CROSS SECTIONS (1)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e04l\Structures\se04lm0l1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+460 TO STA. 3+470	SHEET 51 OF 68



3+490



3+480

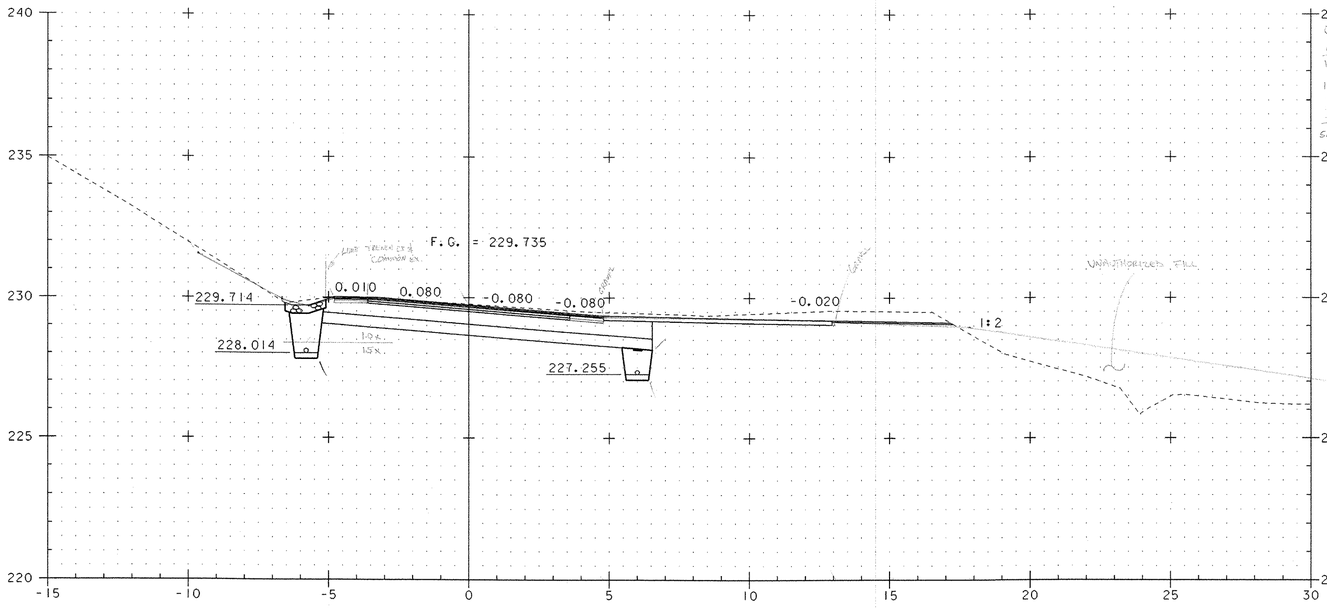
0 1 2 4 6 8 10

SCALE = 1:100

MAINLINE CROSS SECTIONS (2)

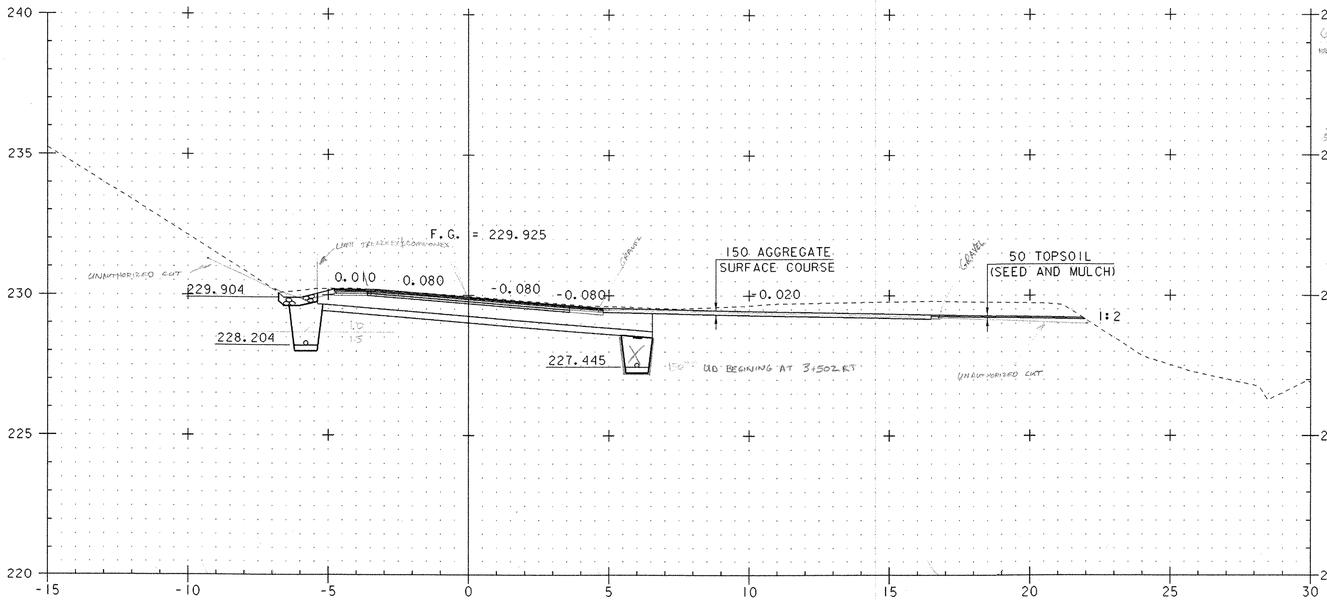
PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S

FILE NAME: 85e041\Structures\se04lm02.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+480 TO STA. 3+490	SHEET 52 OF 68



STA. 3+505.000
END APPROACH
BEGIN PROJECT

3+510



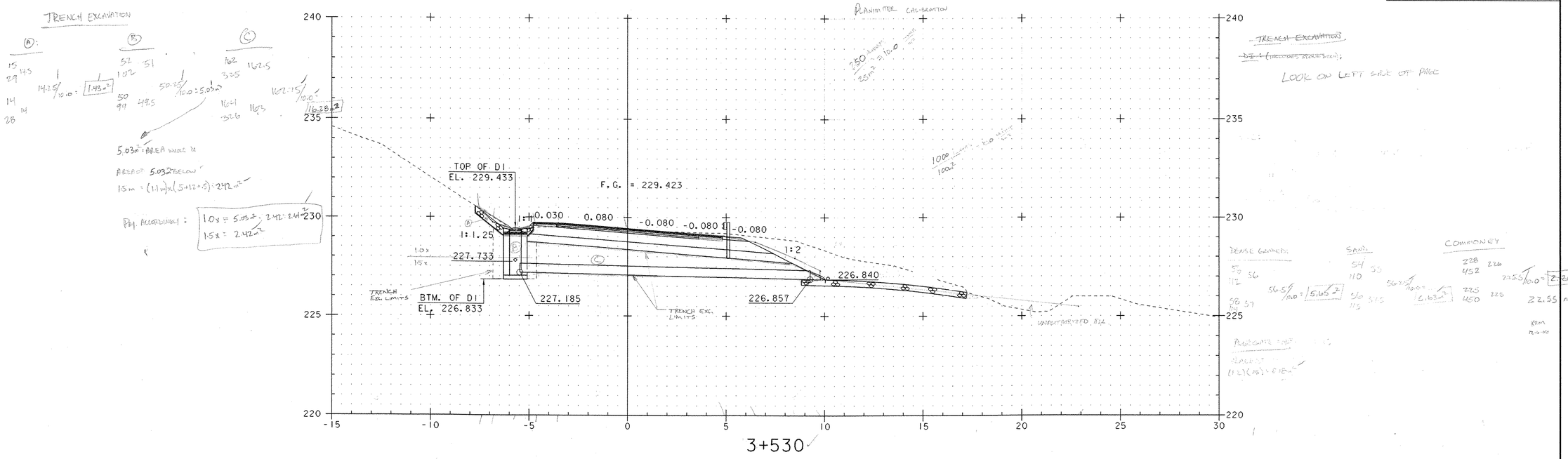
3+500

0 1 2 4 6 8 10

SCALE = 1:100

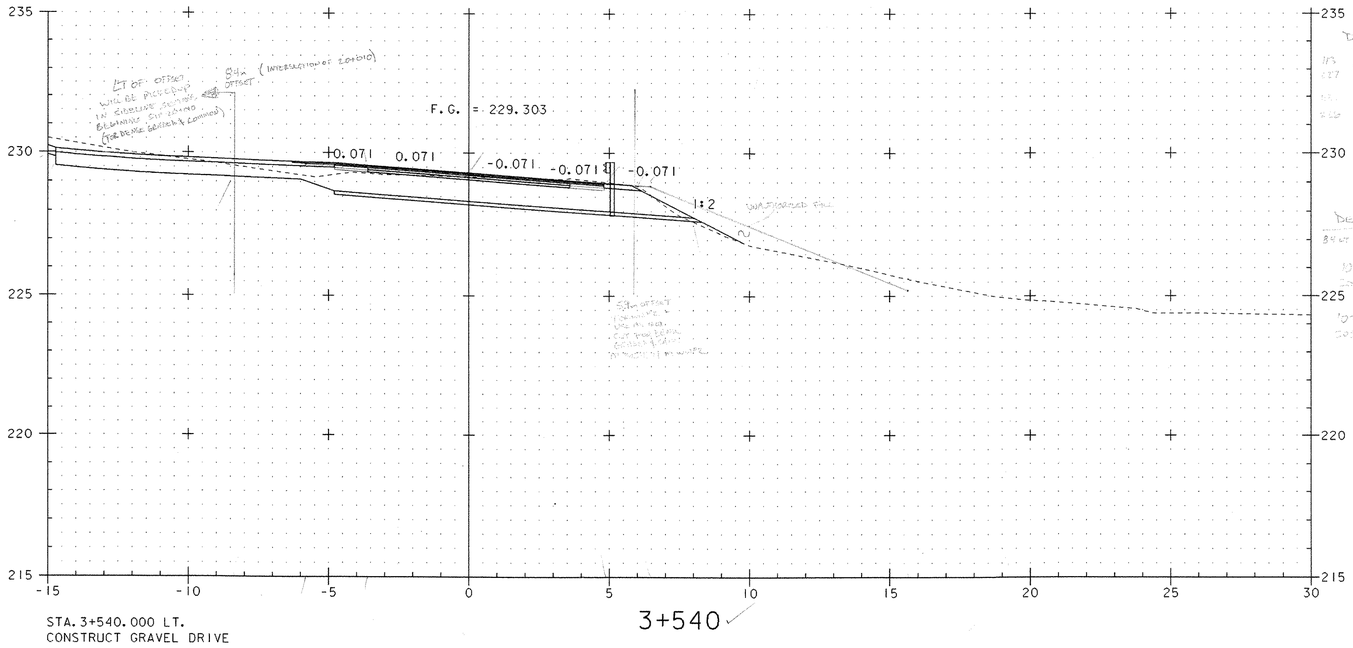
MAINLINE CROSS SECTIONS (3)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041m03.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+500 TO STA. 3+510	SHEET 53 OF 68

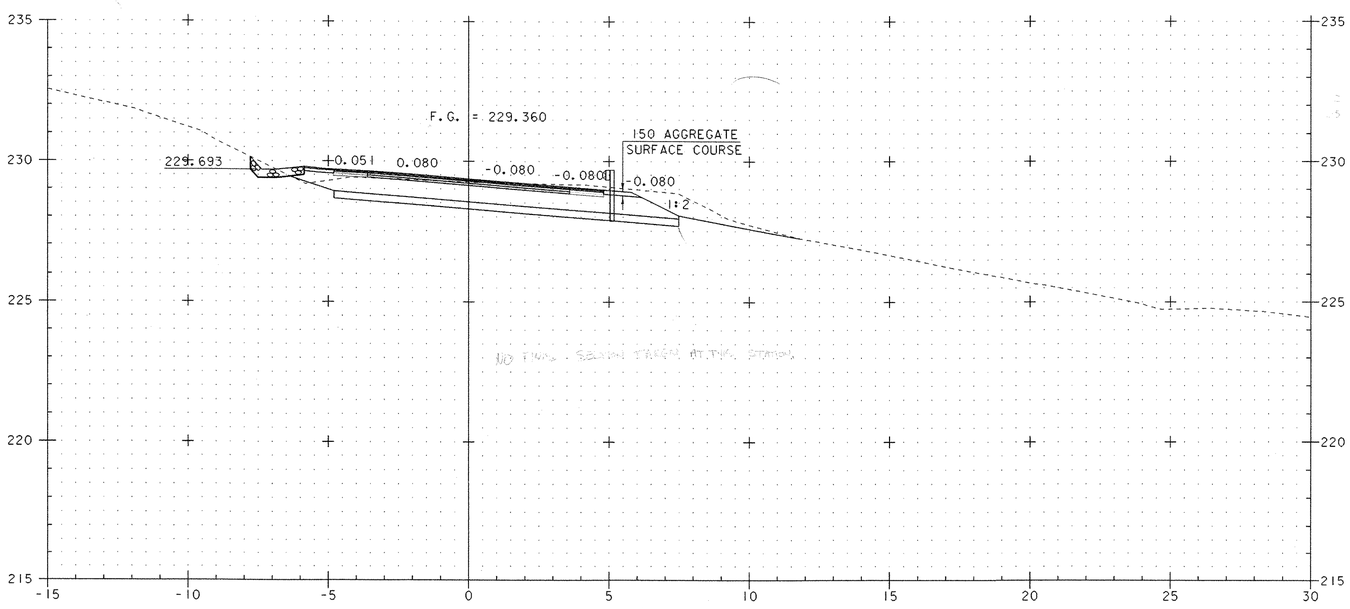


MAINLINE CROSS SECTIONS (4)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041m04.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+520 TO STA. 3+530	SHEET 54 OF 68



STA. 3+540.000 LT.
CONSTRUCT GRAVEL DRIVE



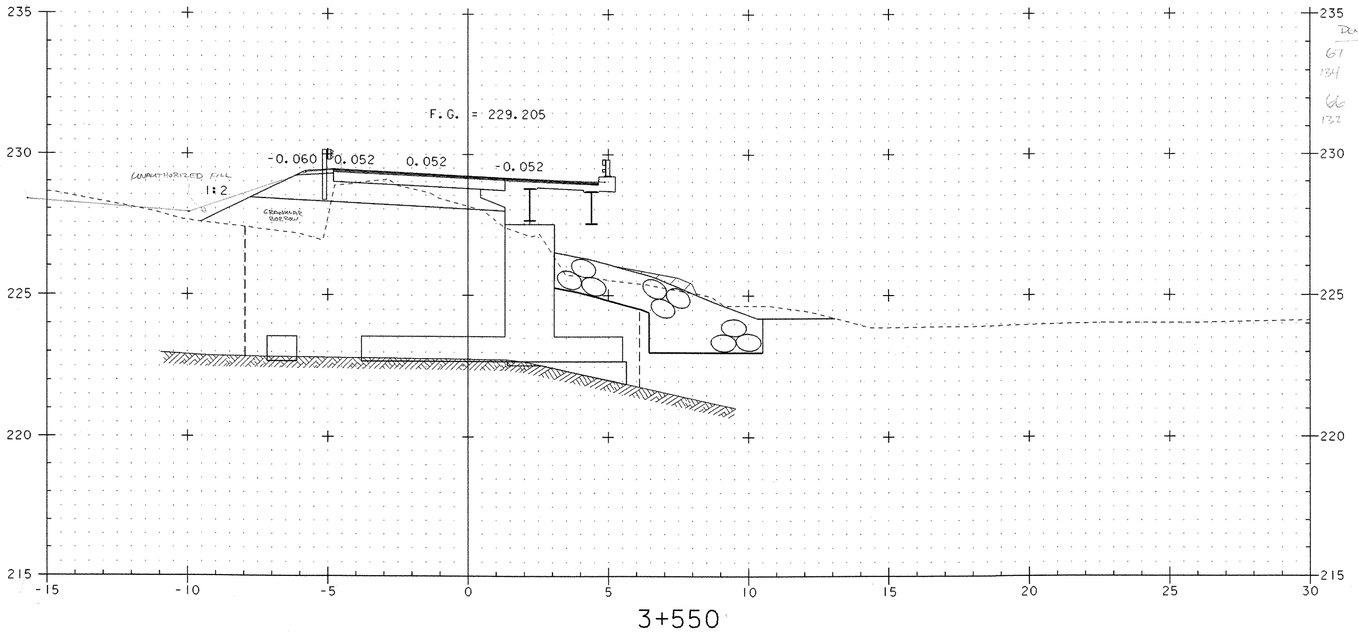
STA. 3+531.8 LT. - STA. 3+549.6 LT.
CONSTRUCT PAVED APRON

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

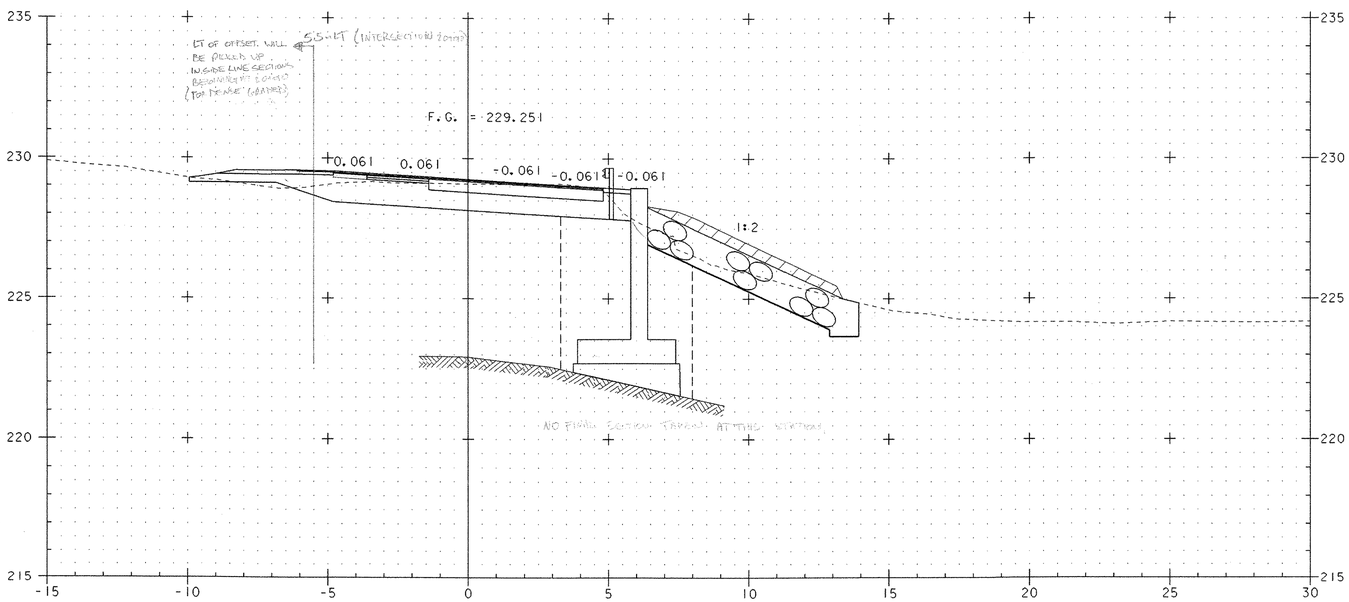
MAINLINE CROSS SECTIONS (5)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041m05.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+535 TO STA. 3+540	SHEET 55 OF 68



3+550



3+545

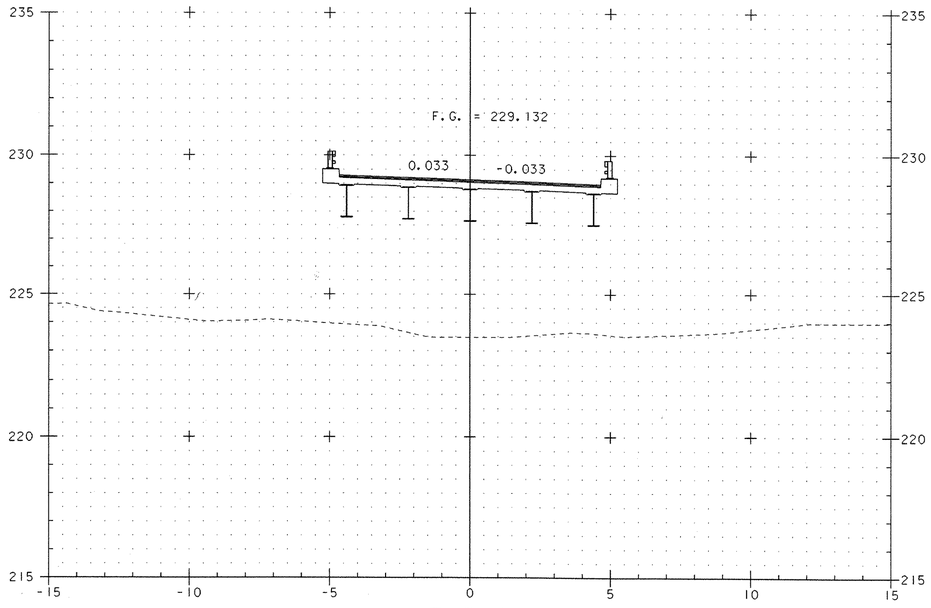
0 1 2 4 6 8 10

SCALE = 1:100

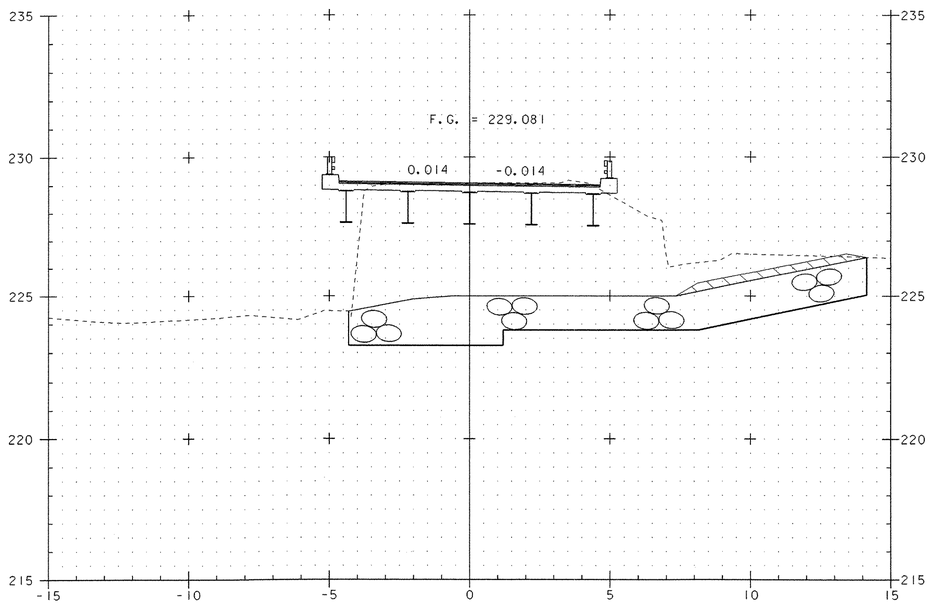
MAINLINE CROSS SECTIONS (6)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S

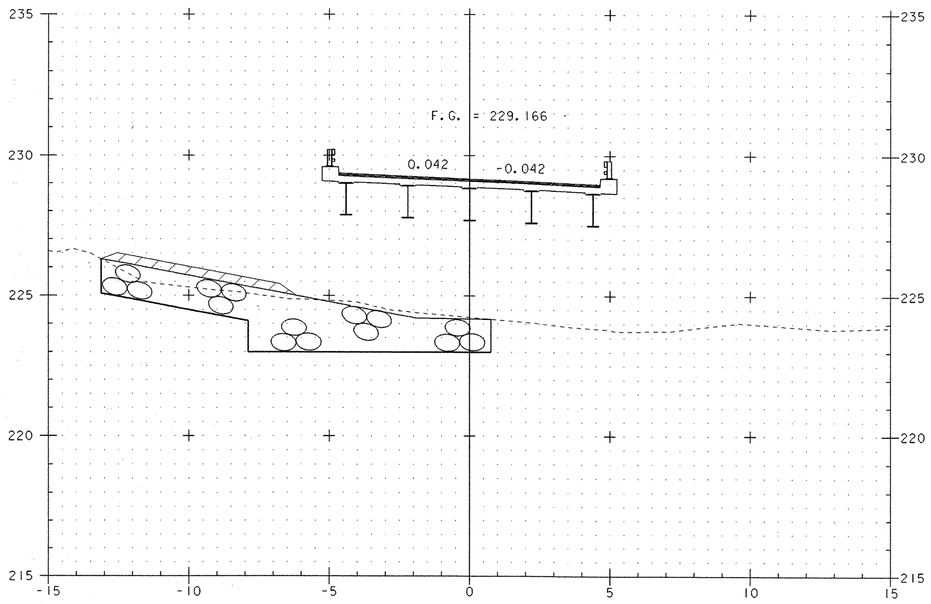
FILE NAME: 85e041\Structures\se041m06.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+545 TO STA. 3+550	SHEET 56 OF 68



3+560

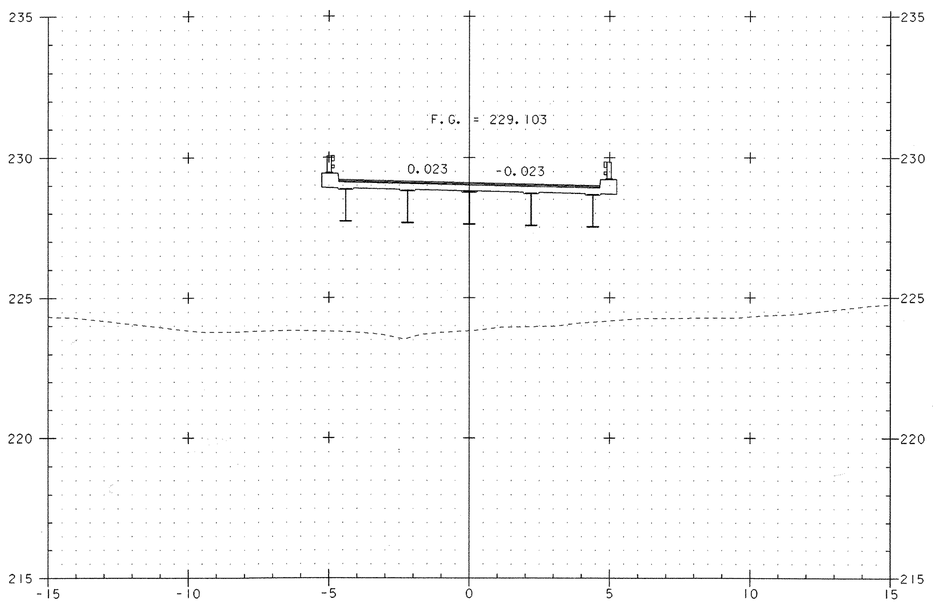


3+570



STA. 3+550.481
BEGIN BRIDGE

3+555



3+565

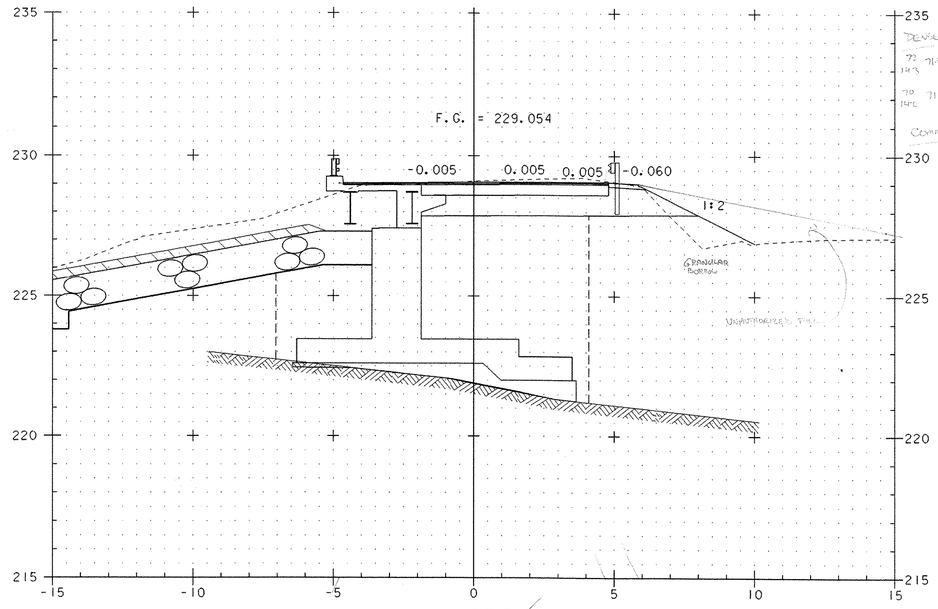
0 1 2 4 6 8 10

SCALE = 1:100

MAINLINE CROSS SECTIONS (7)

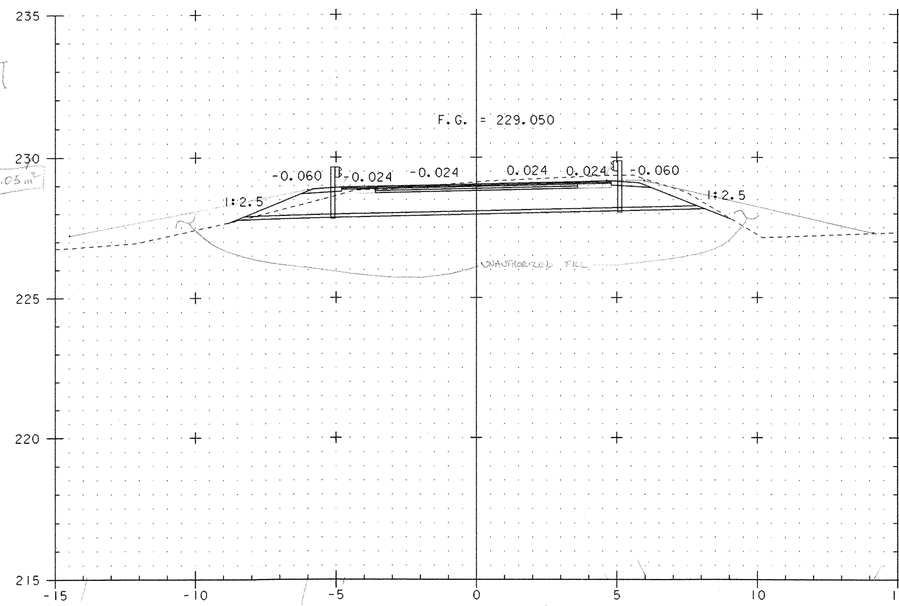
PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se04lm07.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+555 TO STA. 3+570	SHEET 57 OF 68

Metric

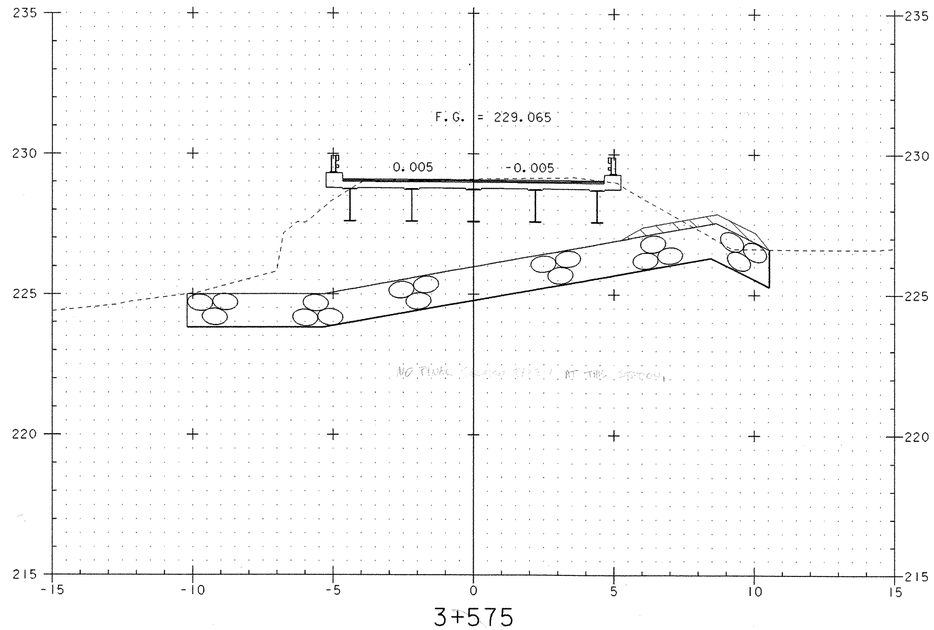


STA. 3+579.319
END BRIDGE

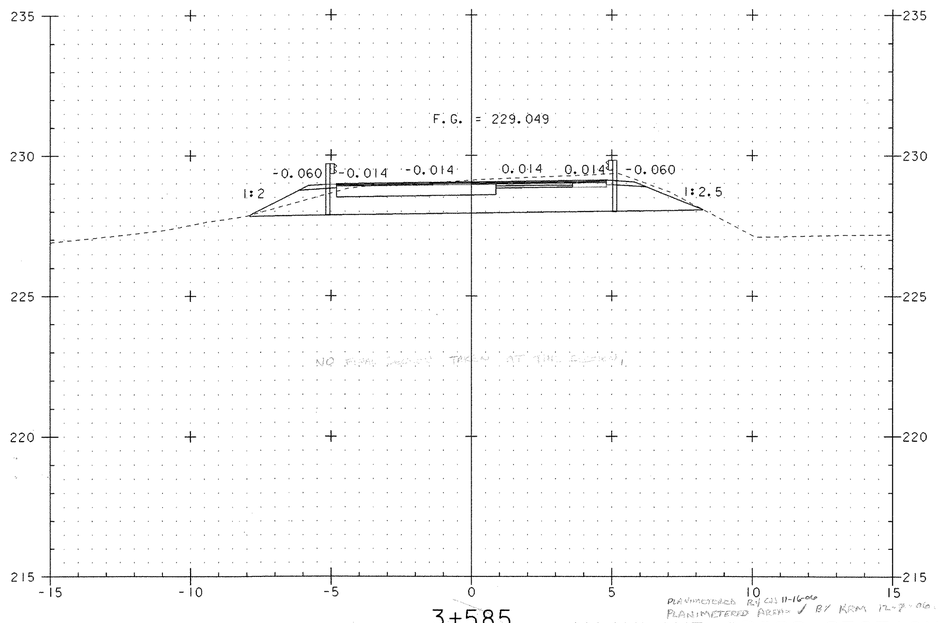
3+580



3+590



3+575



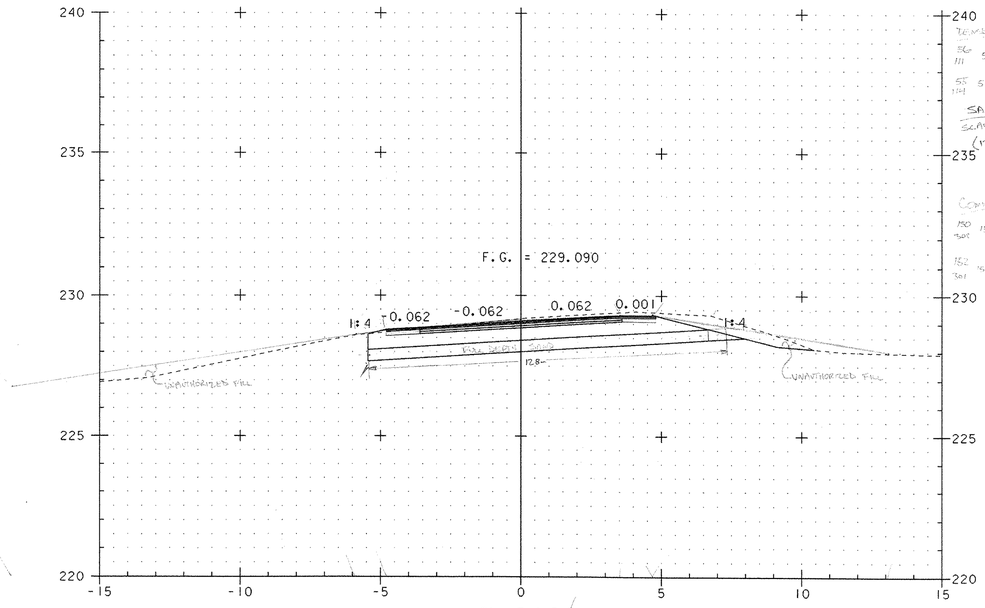
3+585

0 1 2 4 6 8 10

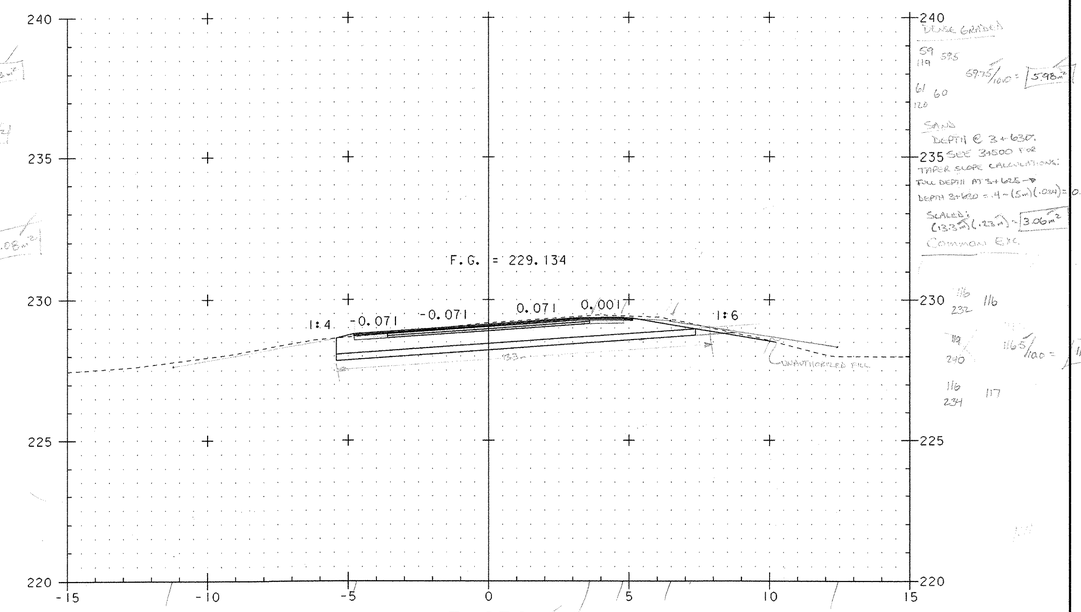
SCALE = 1:100

MAINLINE CROSS SECTIONS (8)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041m08.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+575 TO STA. 3+590	SHEET 58 OF 68



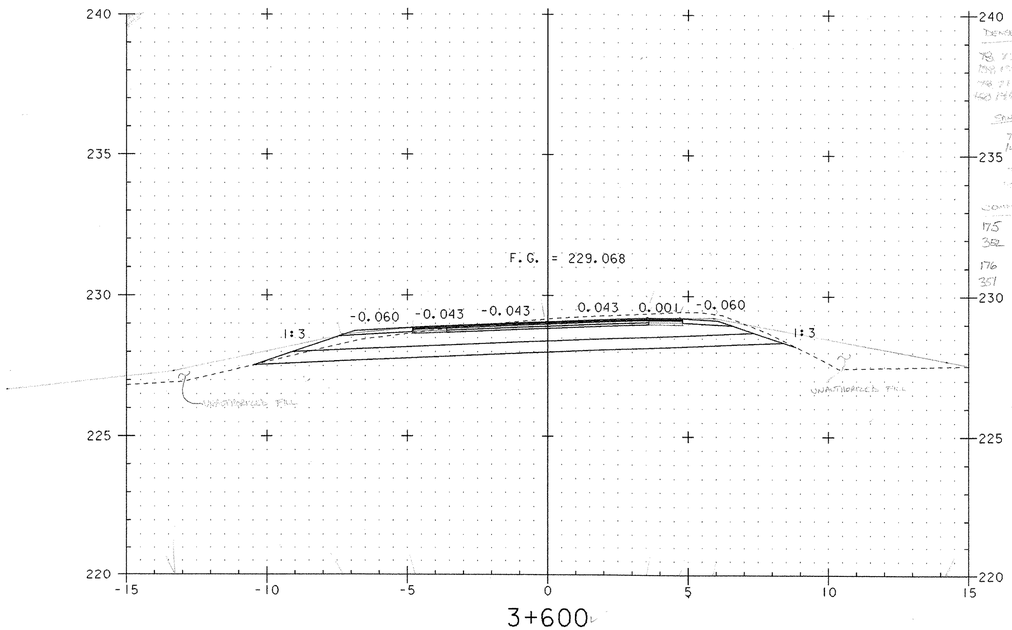
3+610



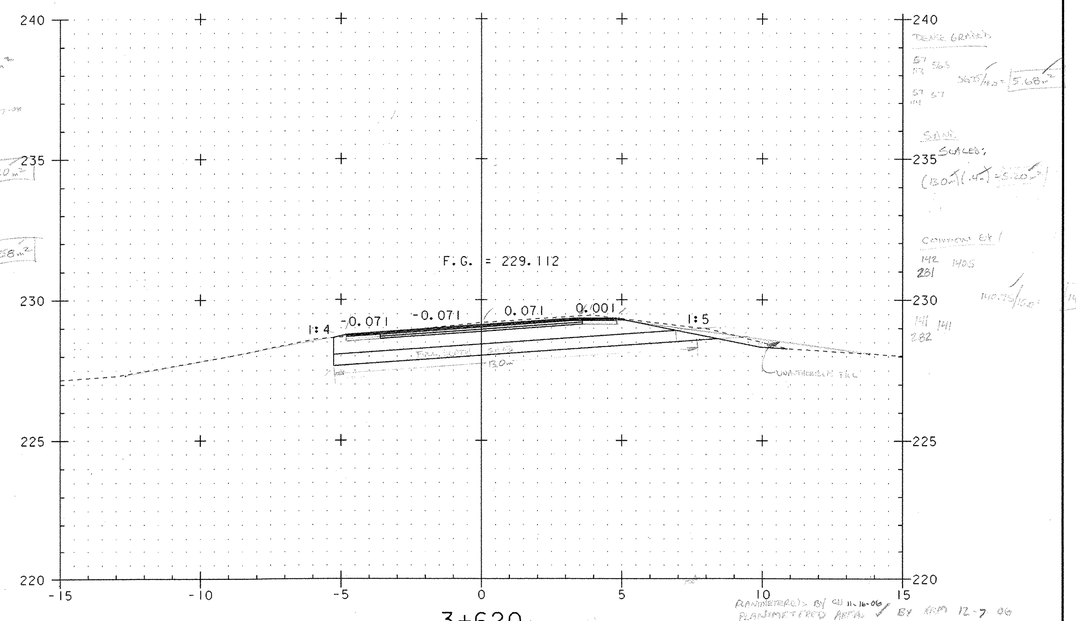
3+630

STA. 3+625.000
END PROJECT
BEGIN APPROACH

STA. 3+627.5 RT. - STA. 3+657.5 RT.
CONSTRUCT PAVED APRON



3+600



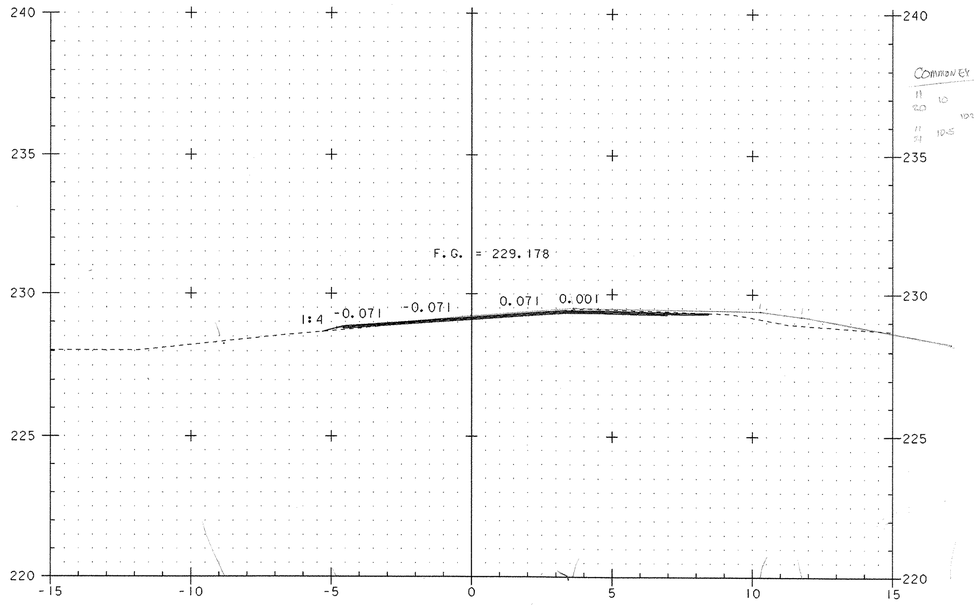
3+620

MAINLINE CROSS SECTIONS (9)

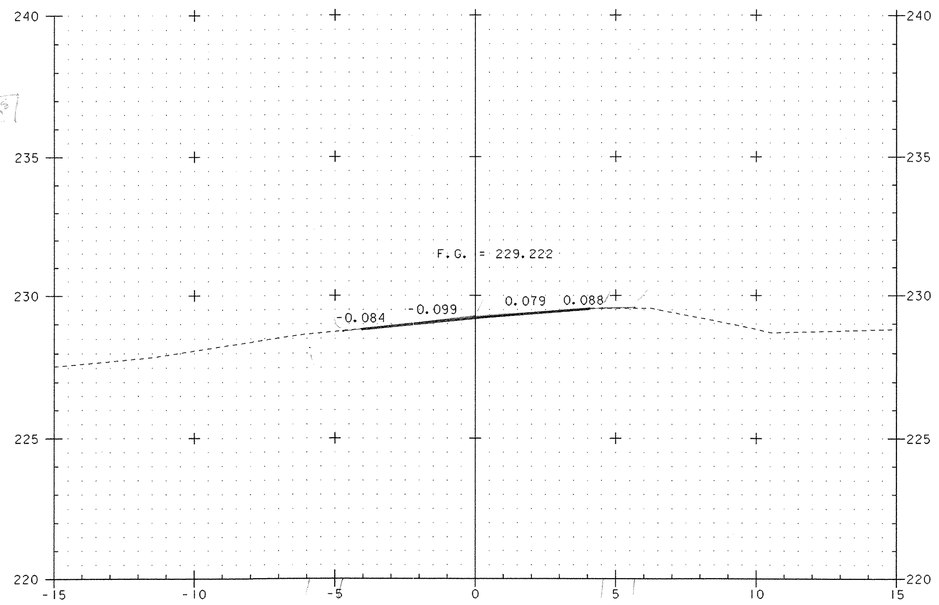
0 1 2 4 6 8 10

SCALE = 1:100

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se04lm09.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+600 TO STA. 3+670	SHEET 59 OF 68

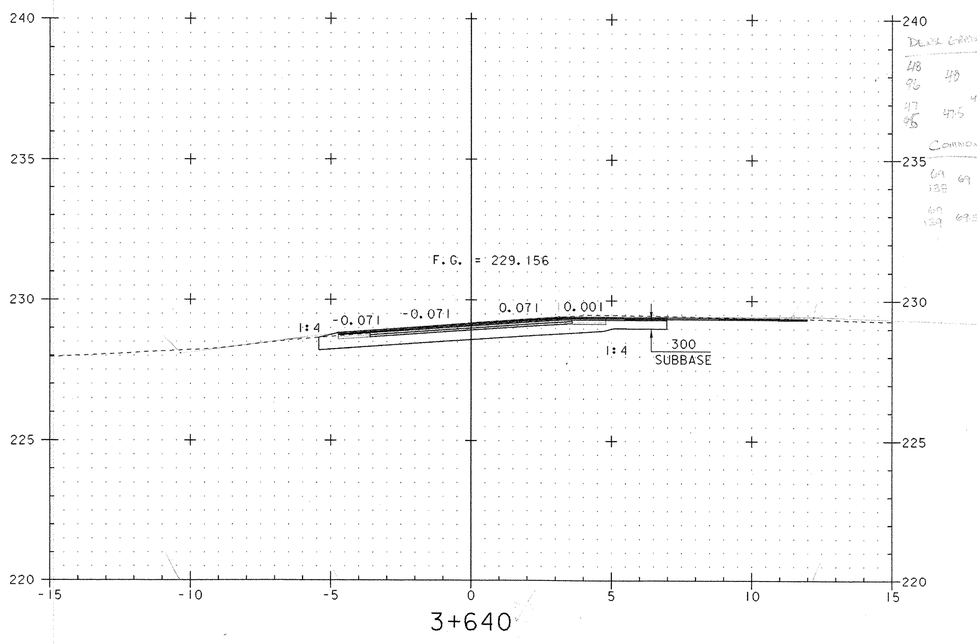


3+650

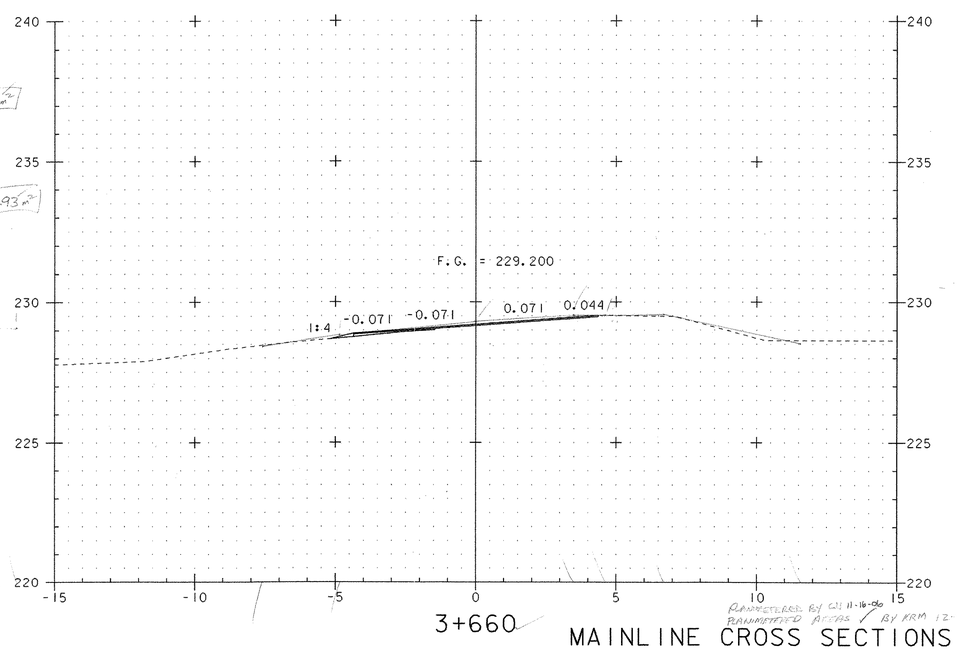


3+670

STA. 3+670.000
END APPROACH
MATCH EXISTING GRADE AND BANKING



3+640



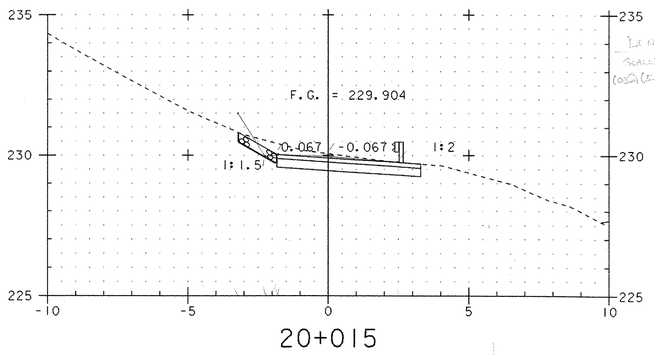
3+660

MAINLINE CROSS SECTIONS (10)

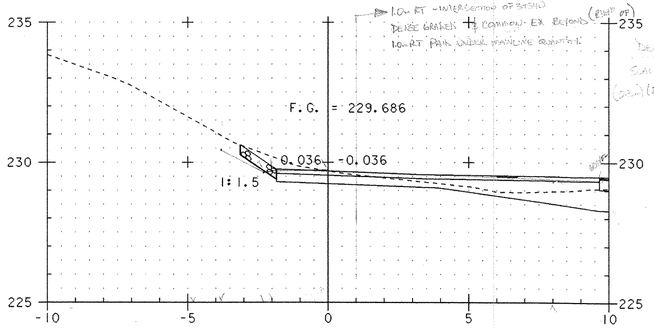
0 1 2 4 6 8 10

SCALE = 1:100

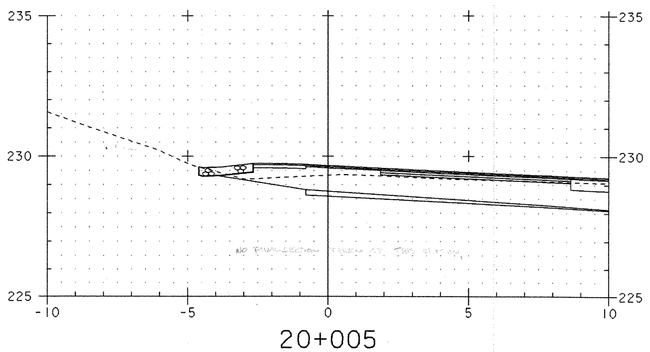
PROJECT NAME: LYNDON	
PROJECT NUMBER: BRS 0269 (8)S	
FILE NAME: 85e041\Structures\se041m10.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 3+670 TO STA. 3+670	SHEET 60 OF 68



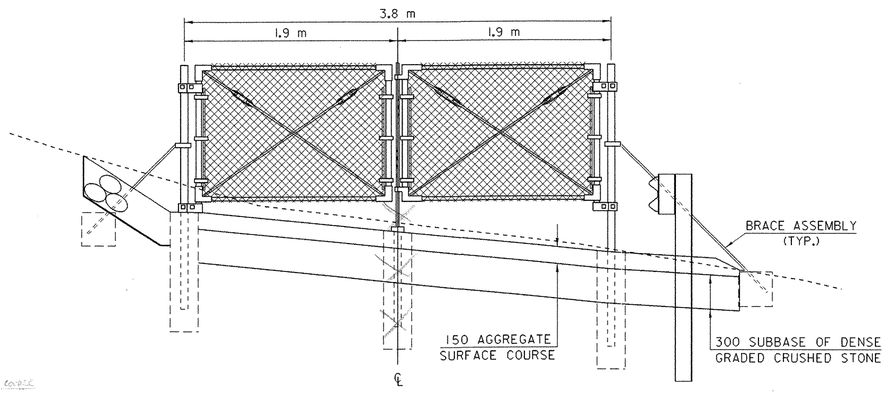
20+015



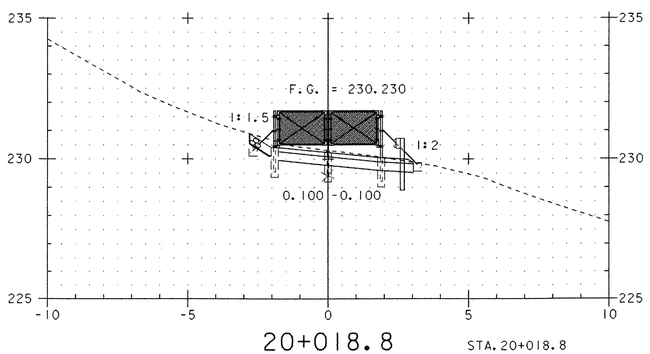
20+010



20+005



STA. 20+018.8 DRIVE GATE DETAIL
(SEE STANDARD F-4M)



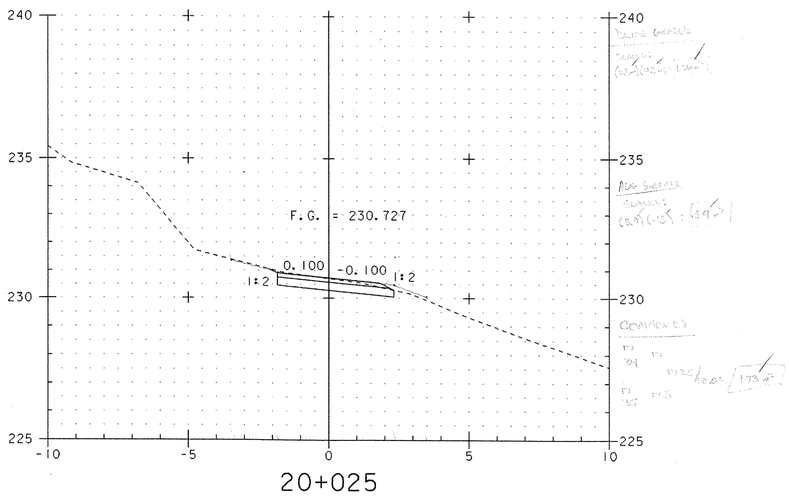
20+018.8

STA. 20+018.8
INSTALL DRIVE GATE
(SEE DETAIL ABOVE)

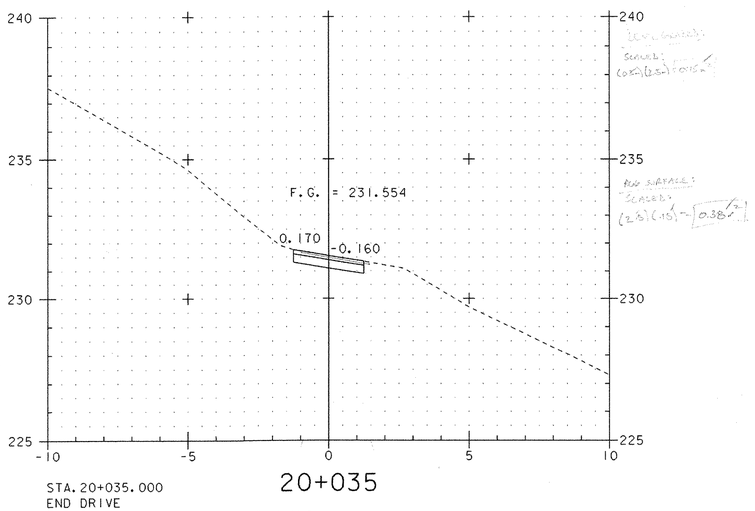
0 1 2 4 6 8 10
SCALE = 1:100

SIDELINE CROSS SECTIONS (1)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041s01.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 20+005 TO STA. 20+018.8 (GATE)	SHEET 61 OF 68

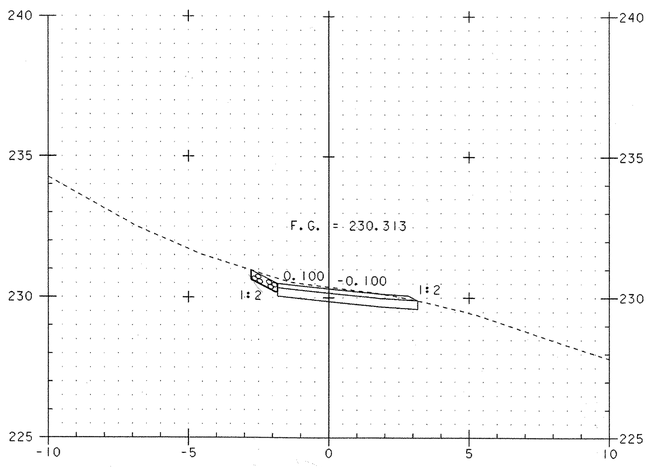


20+025

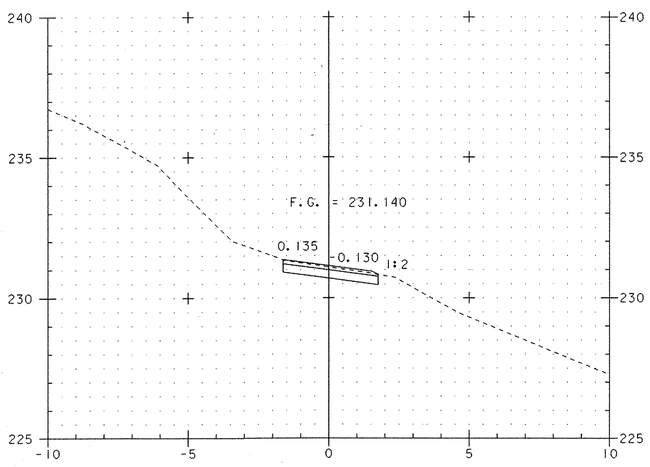


20+035

STA. 20+035.000
END DRIVE
MATCH EXISTING GRADE AND BANKING



20+020



20+030

0 1 2 4 6 8 10

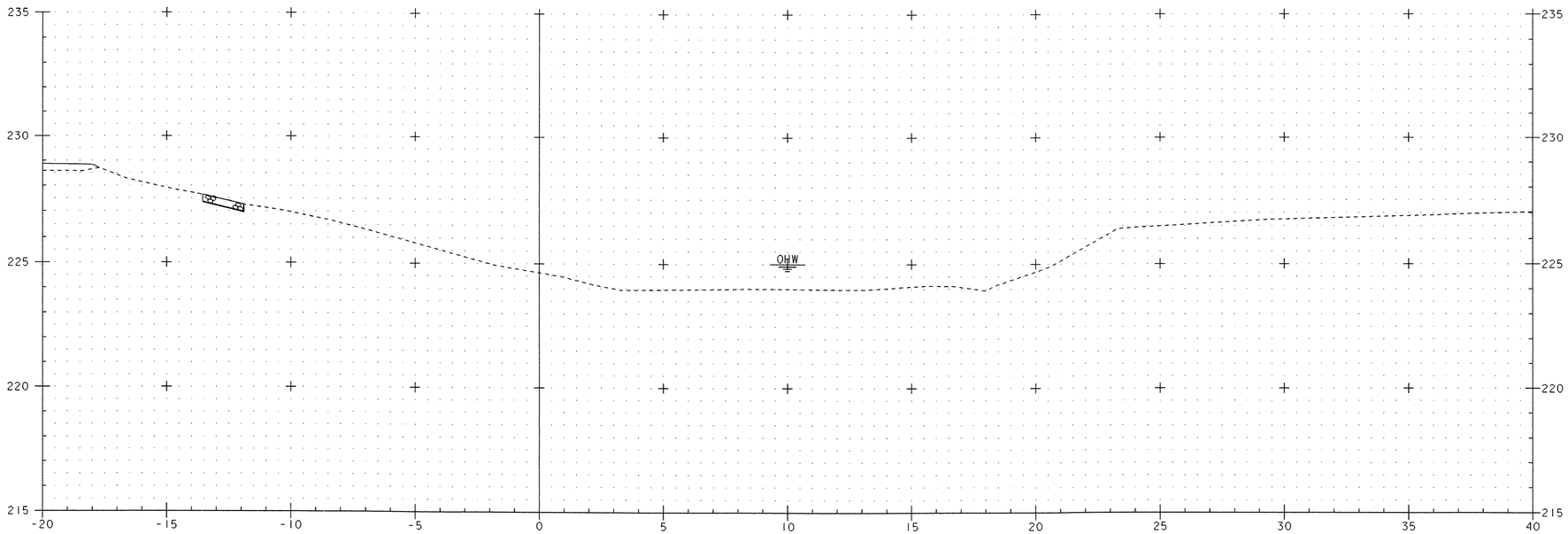
SCALE = 1:100

SIDELINE CROSS SECTIONS (2)

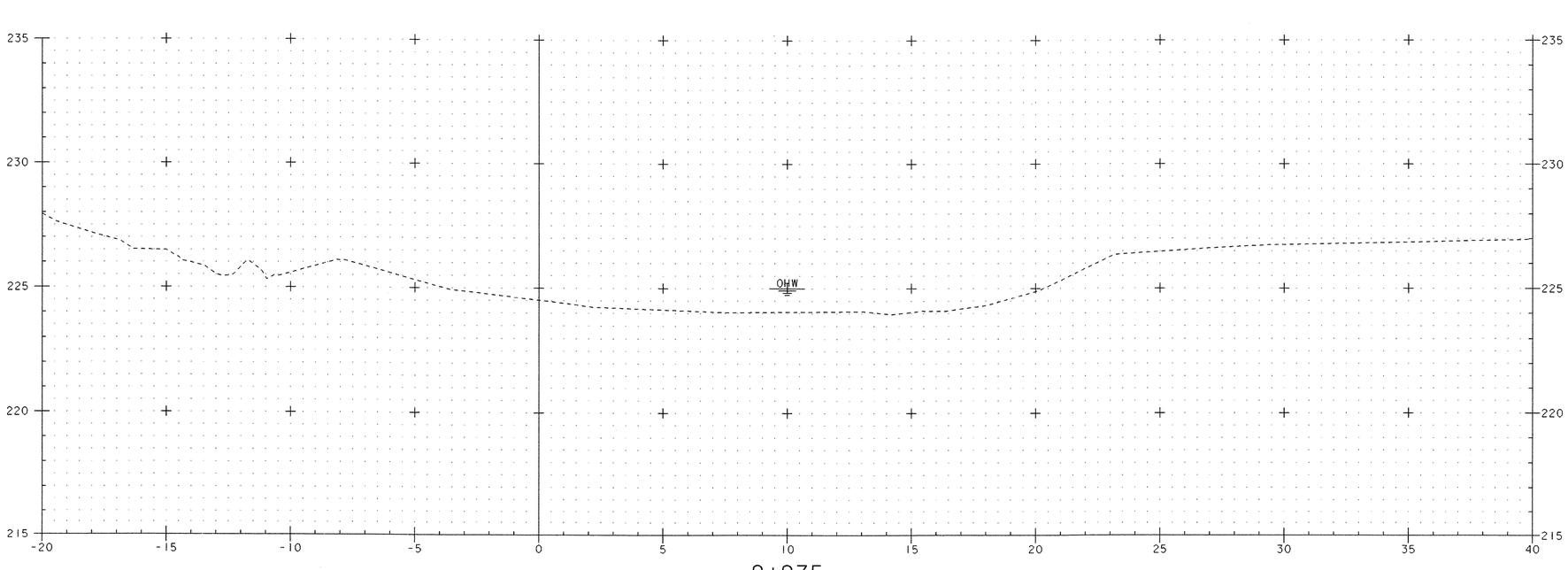
PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041s02.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 20+020 TO STA. 20+035	SHEET 62 OF 68

Metric



9+980



9+975

0 1 2 4 6 8 10

SCALE = 1:100

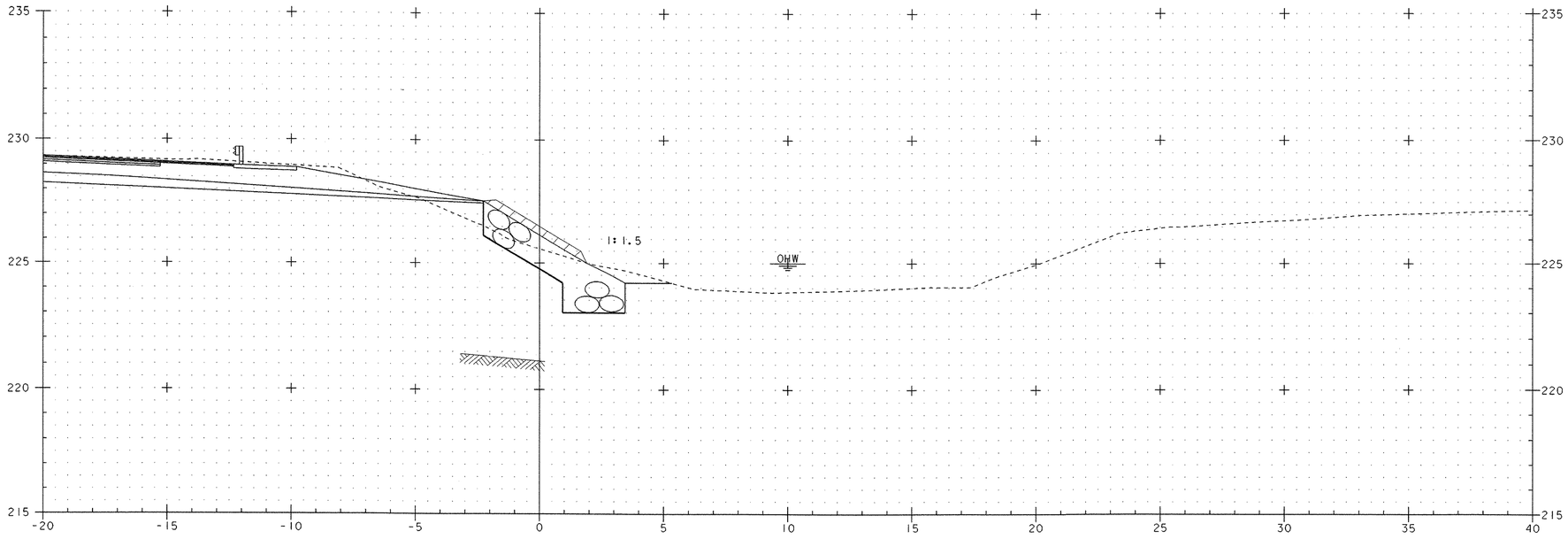
CHANNEL LINE CROSS SECTIONS (1)

PROJECT NAME: LYNDON

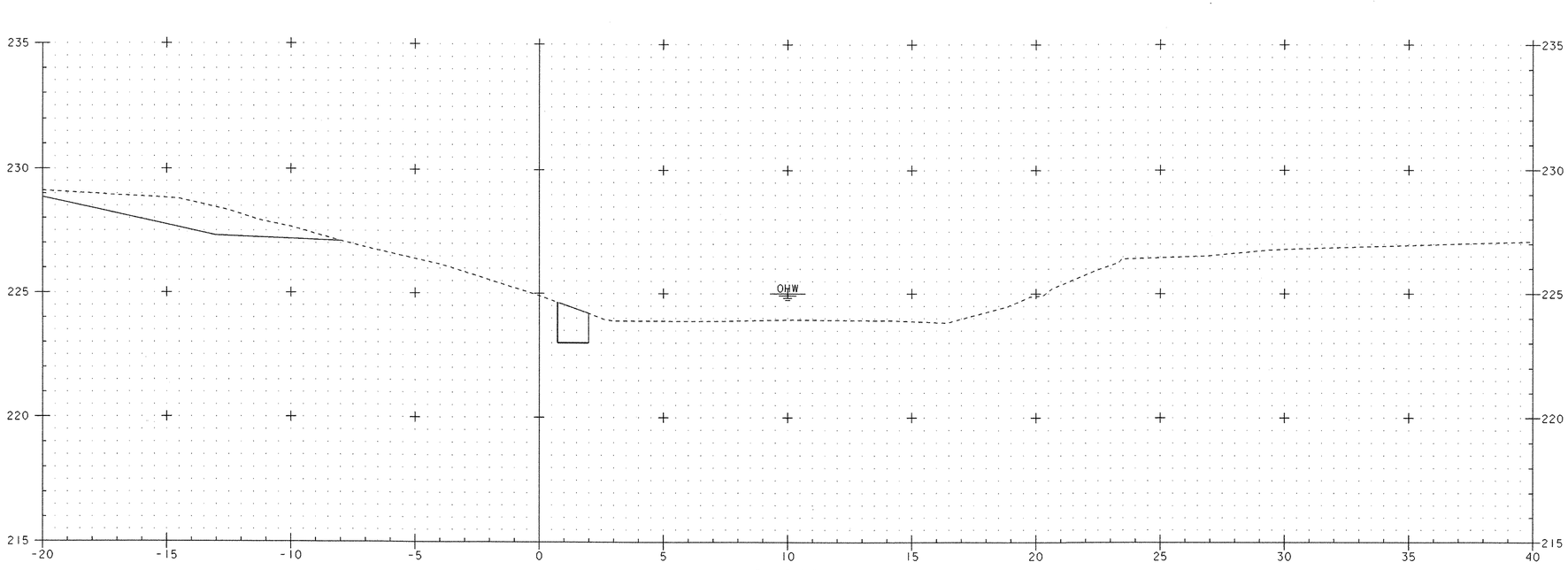
PROJECT NUMBER: BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041c01.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
STA. 9+975 TO STA. 9+980

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 63 OF 68



9+990



9+985

STA. 9+984.6 RT.
BEGIN UNCL. CHAN. EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

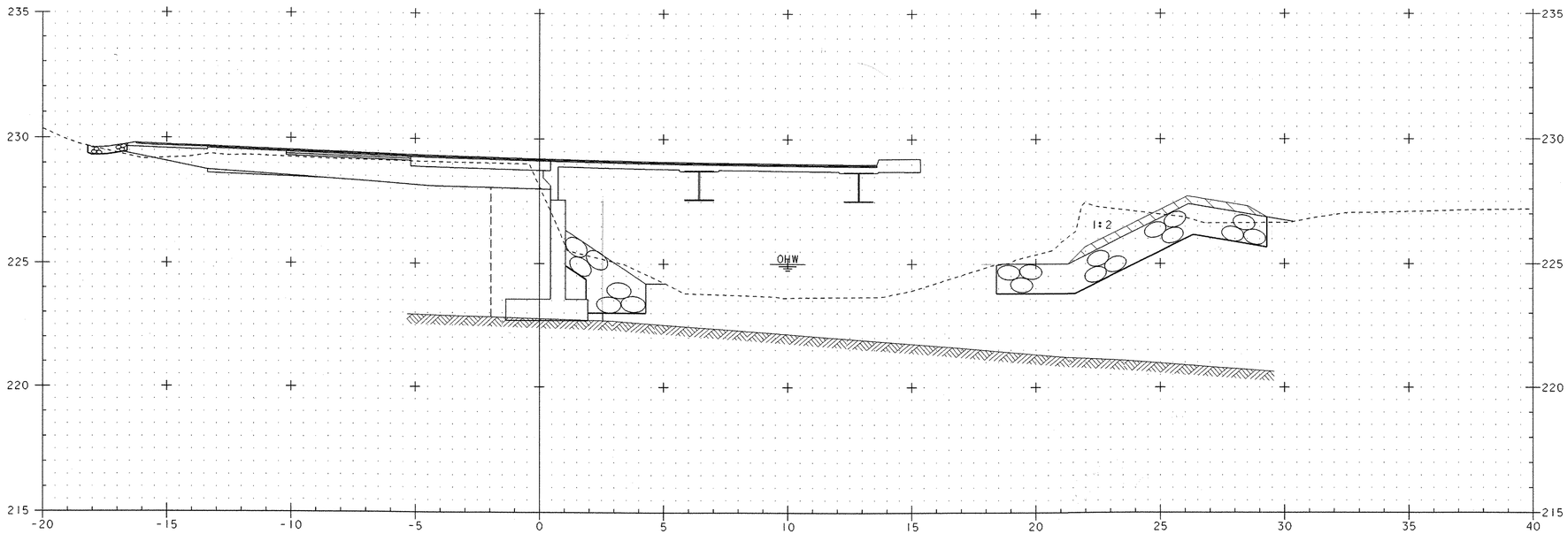
0 1 2 4 6 8 10

SCALE = 1:100

CHANNEL LINE CROSS SECTIONS (2)

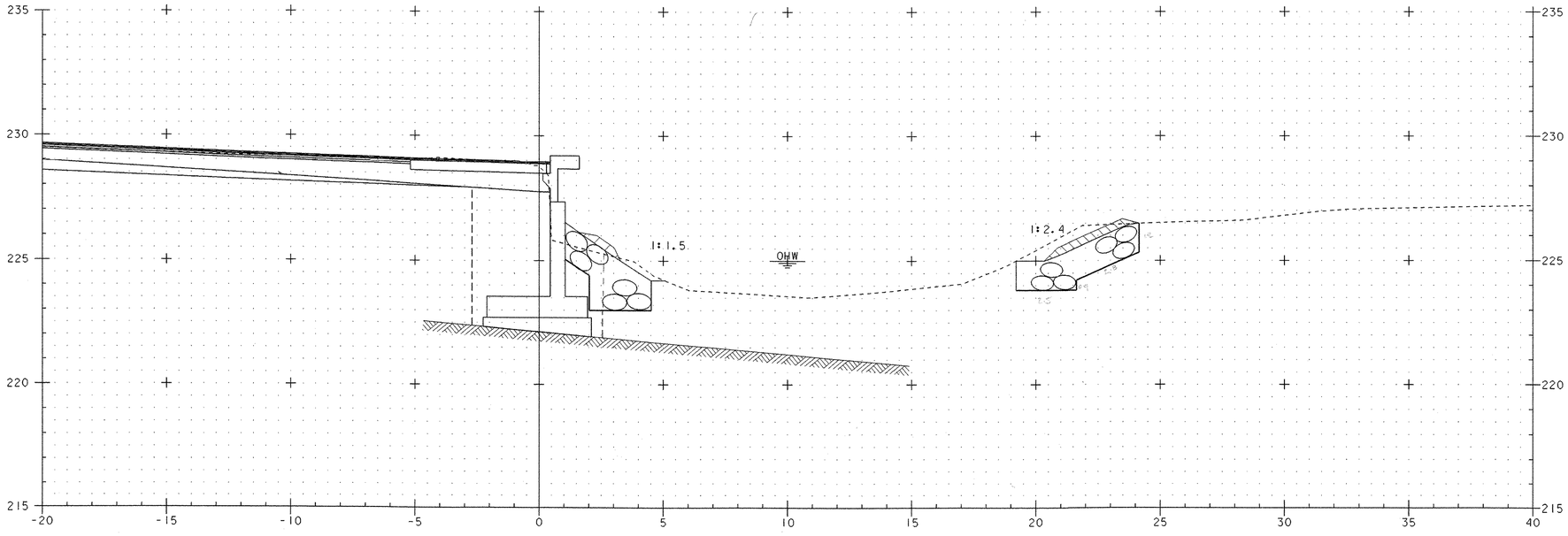
PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se041c02.i	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 9+985 TO STA. 9+990	SHEET 64 OF 68

Metric



STA. 9+996.4 RT.
END GRUBBING MATERIAL

10+000



9+995

STA. 9+992.1 FAR RT.
BEGIN UNCL. CHAN. EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

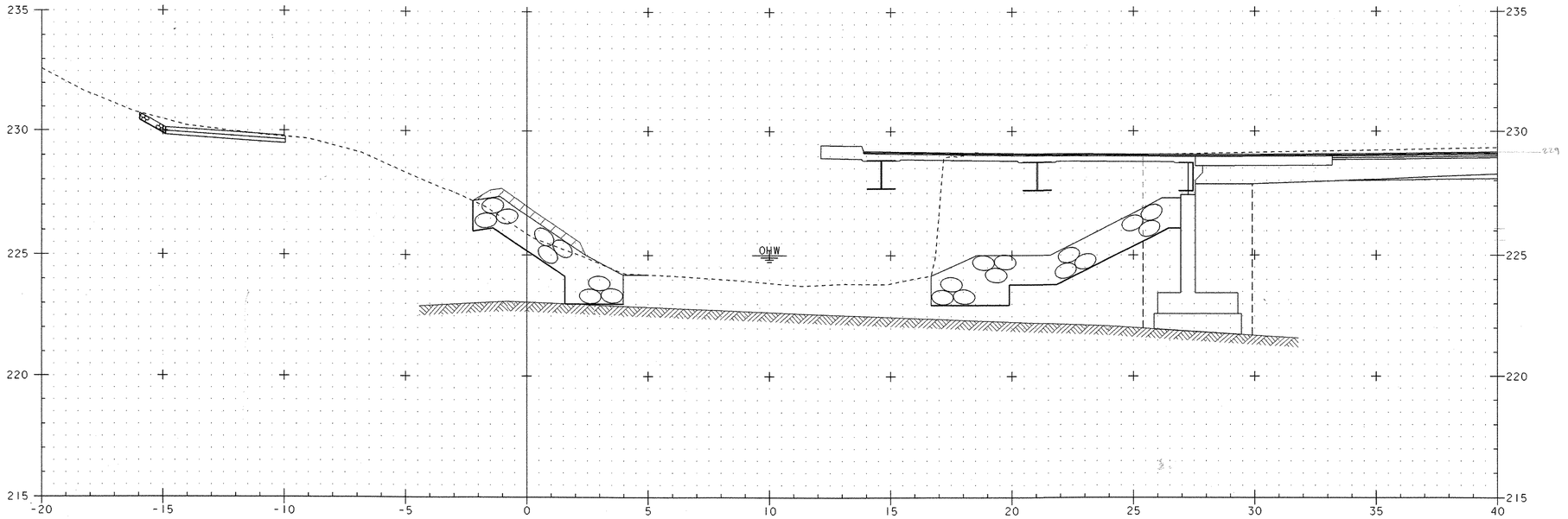
0 1 2 4 6 8 10
SCALE = 1:100

CHANNEL LINE CROSS SECTIONS (3)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

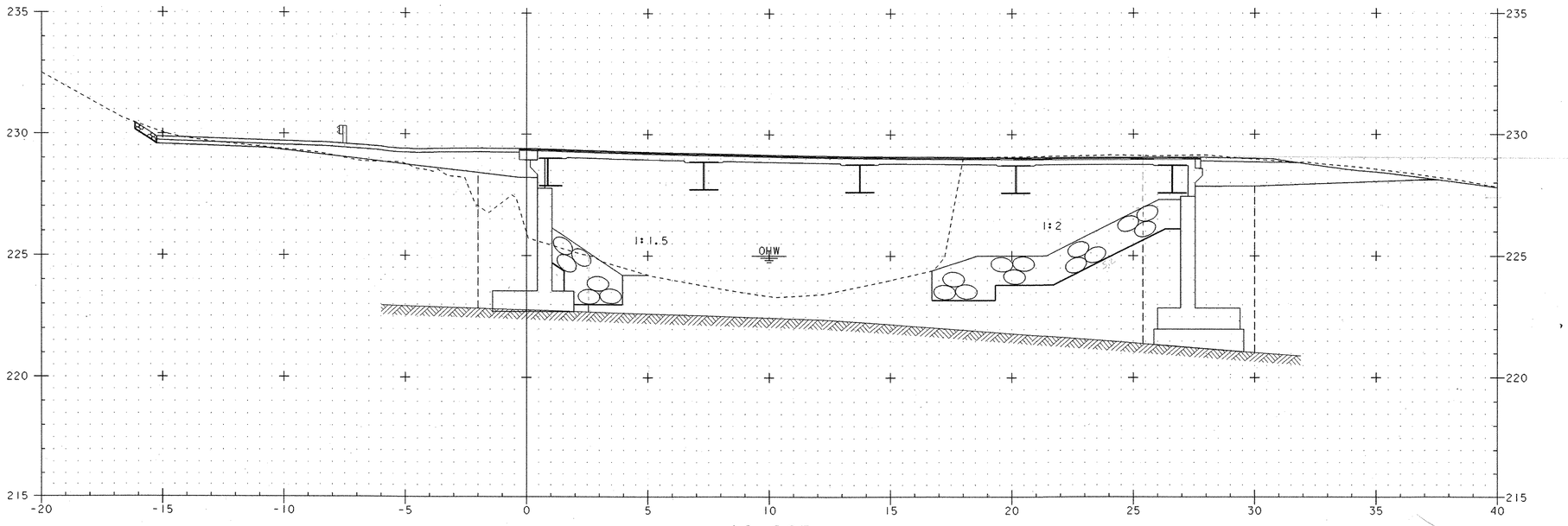
FILE NAME: 85e041\Structures\se041c03.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
STA. 9+995 TO STA. 10+000

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 65 OF 68



STA. 10+006.0 RT.
BEGIN GRUBBING MATERIAL

10+010



10+005

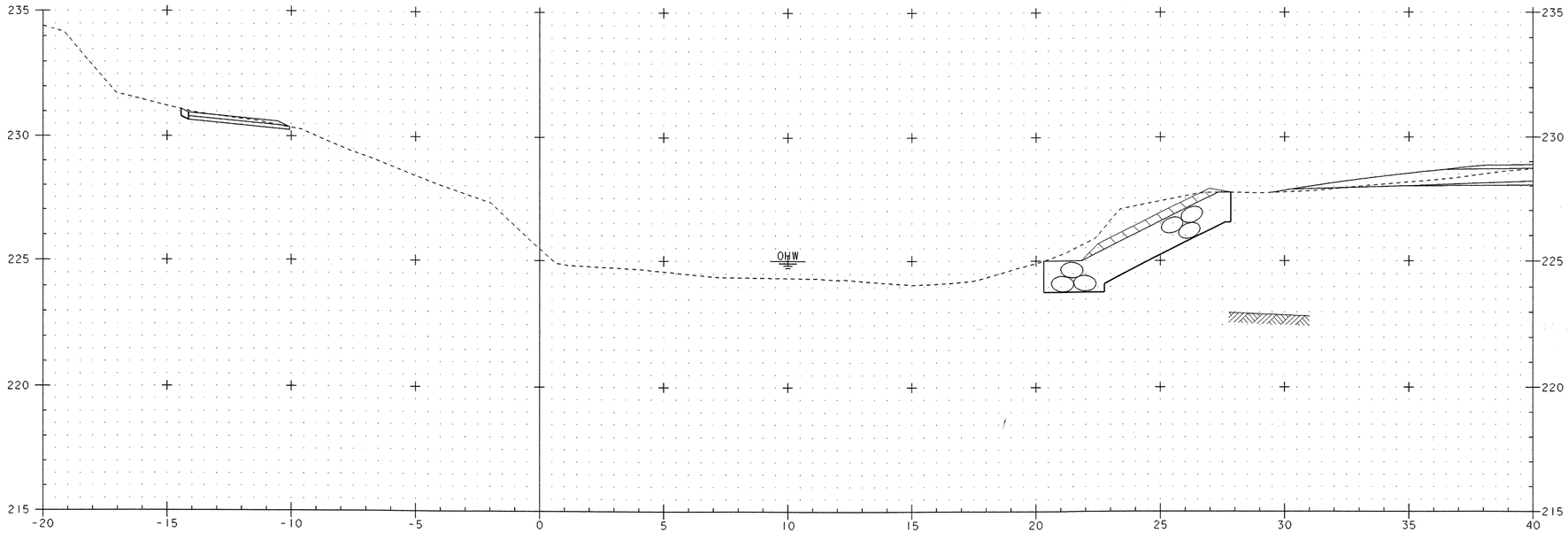
STA. 10+004.2 FAR RT.
END GRUBBING MATERIAL

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

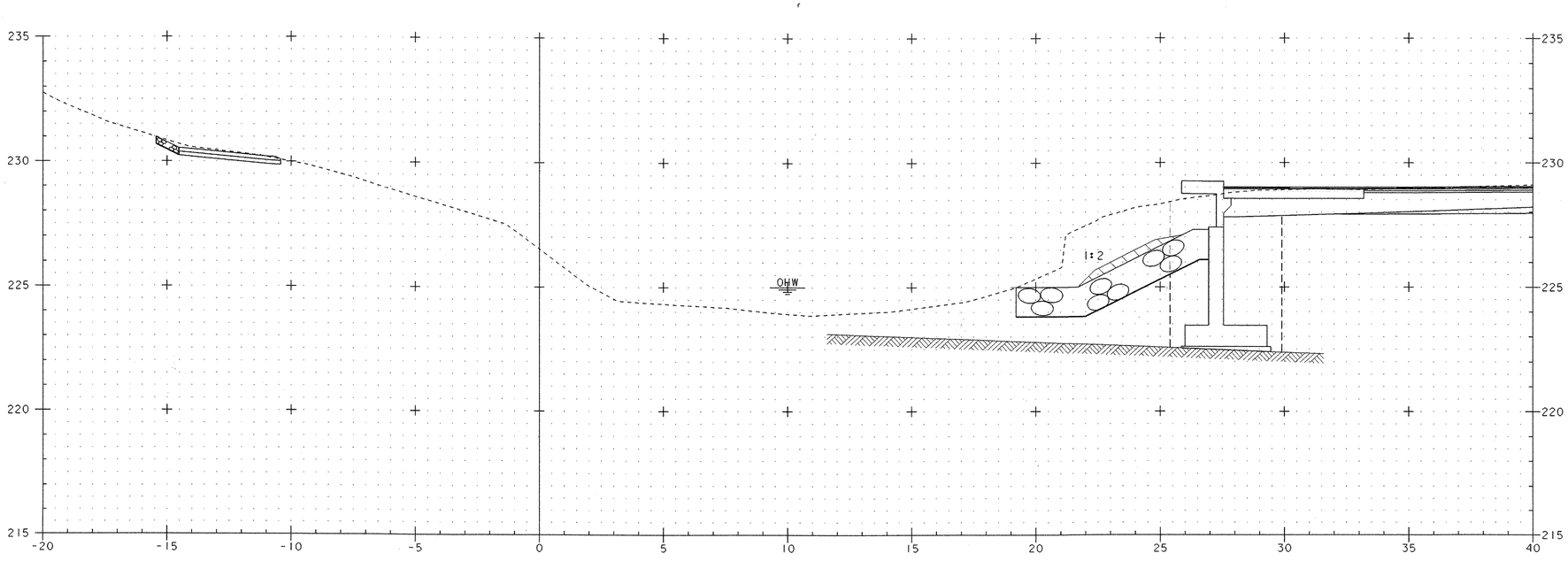
CHANNEL LINE CROSS SECTIONS (4)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S

FILE NAME: 85e041\Structures\se041c04.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 10+005 TO STA. 10+010	SHEET 66 OF 68



10+020



STA. 10+014.1 RT.
END UNCL. CHAN. EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

10+015

STA. 10+012.2 FAR RT.
BEGIN GRUBBING MATERIAL

0 1 2 4 6 8 10

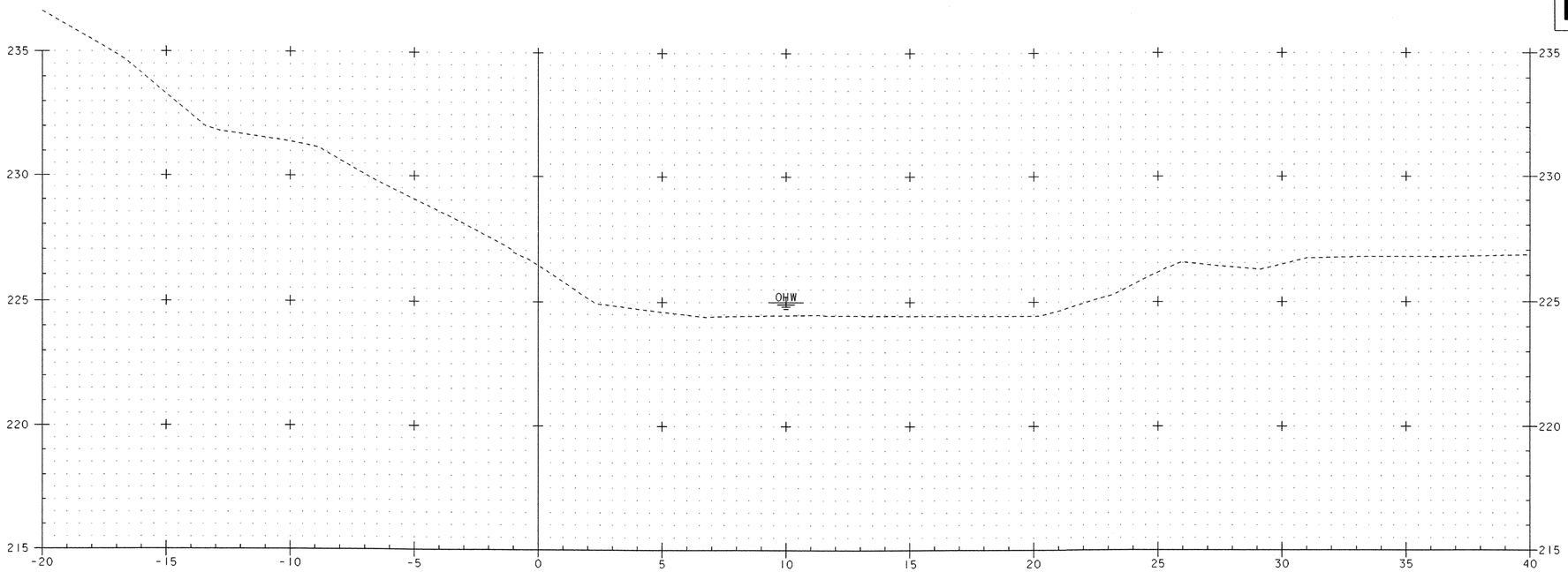
SCALE = 1:100

CHANNEL LINE CROSS SECTIONS (5)

PROJECT NAME: LYNDON
PROJECT NUMBER: BRS 0269 (8)S

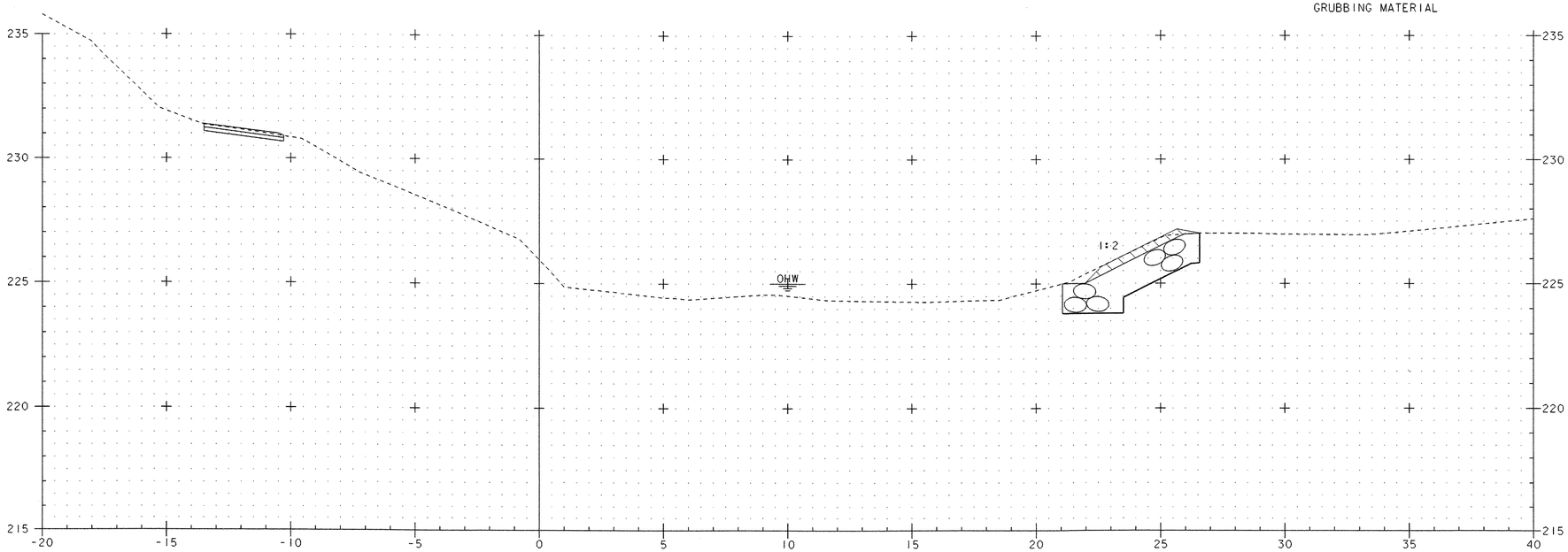
FILE NAME: 85e041\Structures\se041c05.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
STA. 10+015 TO STA. 10+020

PLOT DATE: 29-NOV-2005
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER
SHEET 67 OF 68



10+030

STA. 10+026.6 FAR RT.
END UNCL. CHAN. EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL



10+025

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

CHANNEL LINE CROSS SECTIONS (6)

PROJECT NAME:	LYNDON
PROJECT NUMBER:	BRS 0269 (8)S
FILE NAME: 85e041\Structures\se04lc06.1	PLOT DATE: 29-NOV-2005
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: G. ROY	CHECKED BY: M. LOZIER
STA. 10+025 TO STA. 10+030	SHEET 68 OF 68

RECEIVED
CK'D BY _____ CK'D BY JWC
MAR 1 0 2006
RESUBMIT _____ APPROVED ✓
BY RLW DATE 3/29/06

SEP

3/6/2006

Seismic Energy Products, L.P.
Bearings for Bridges & Buildings
518 Progress Way
Athens, TX 75751
(903) 675-8571 Fax: (903) 677-2875

RE: BONDING PROCEDURE – PTFE/FABRIC PAD

1. Wipe PTFE and fabric pad clean with acetone, or other solvent.

2. PTFE should be cut oversize, allowing ¼" overhang on all sides.

3. Use 3 parts "A" (white) epoxy to 1 part "B" (black). Mix thoroughly to an even paste. Epoxy should be used within one half hour of mixing.

4. Spread epoxy evenly on the fabric pad or the PTFE, approximately 0.003" to 0.004" thick. Use the etched side of the PTFE for bonding.

5. Hot bond the PTFE to the pad in a press heated to 210° F. for 15 minutes at approximately 36 psi.

6. Remove the excess PTFE and epoxy from the sides of the bearing with either a band saw or a knife. Sand the edges with #36 grit belt or disc sander.

7. Wipe clean with acetone, or other solvent.

8. Polish with a vibrating sander using 100 to 120 grit emory cloth. Remove all dirt and high spots to a smooth even finish.

IS THE PTFE ETCHED ON ONE SIDE FOR BONDING ?

069-BB

WELDING PROCEDURE SPECIFICATION (WPS) Yes (X)
PREQUALIFIED YES_____ QUALIFIED BY TESTING _____
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes ( )

Welding Process(es): GTAW
Type - Manual (X) Semi-Automatic ( )
Machine ( ) Automatic ( )

Identification # VT-114 MAJ
Revision: 0 Date: 3/06/06 By: MR
Authorized by: A. Brennan Date: 3/6/06

JOINT DESIGN USED
Type: Lap
Single (X) Double Weld ( )
Backing Yes ( ) No (X)

Backing Material:	NA
Root Opening:	NA
Root Face Dimension:	NA
Groove Angle:	NA
Radius (J-U):	NA
Back Gouging:	Yes ( ) No (X)
Method:	

BASE METALS

Material Spec:	A709 to A304 10 Ga. S.S.		
Type or Grade:	Gr. 36		
Thickness:	Groove: NA	Fillet: 3MM	
Diameter (Pipe):	NA		

FILLER METALS
AWS Specification: None Fusion
AWS Classification:

SHIELDING

Flux:	NA	Gas:	Argon 100%
		Compos:	NA
Electrode-Flux (Class)		Flow Rate:	45 CFH
		Cup Size:	1/2

PREHEAT
Preheat Temp (MIN): 70°
Interpass Temp (MIN): 70°
MIN: 70° MAX: 200°

POSITION
Position of Groove: NA Fillet: 2F
Vertical Progression: Up ( ) Down ( )

ELECTRICAL CHARACTERISTICS
Transfer Mode (GMAW) Short-Circuiting ( )
Globular ( ) Spray ( )
Current: AC ( ) DCEP ( ) DCEN (X) Pulsed ( )
Other:
Tungsten Electrode (GTAW)
Size: 1/8" (3MM)
Type: 2% Thoriated Tungsten
EWTH-2 AWS A5.12-97

TECHNIQUE

Stringer or Weave Bead:	Stringer
Multipass or Single Pass:	Single
Number of Electrodes:	One (1)
Electrode Spacing:	Longitudinal:
	Lateral
	Angle
Contact Tube Work Distance:	1/2"
Peening:	N/A
Interpass Cleaning:	N/A

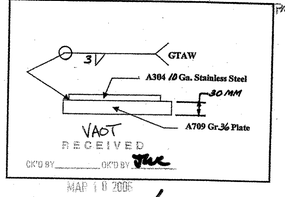
POSTWELD HEAT TREATMENT
Temp: NA
Time: NA

DO YOU HAVE A PROCEDURE USING A FILLER METAL? THIS WOULD BE PREFERED.

WELDING PROCEDURE

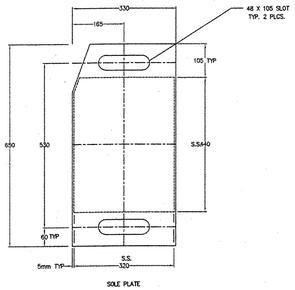
Pass or Weld Layers	Process	Filler Metal Class	Filler Metal Diameter
1	GTAW		

Current Polarity	Current Amps	Volts	Travel Speed
DCEN	150 Amps ± 25%	10 V ± 25%	10 IPM ± 50%



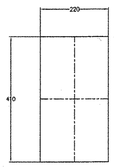
VAOT RECEIVED
MAR 10 2006
OK'D BY_____ OK'D BY JMR
RESUBMIT _____ APPROVED ✓
BY RW DATE 3/20/06

070 BB



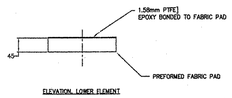
SOLE PLATE

PLAN VIEW UPPER ELEMENT

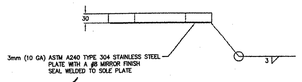


P.T.F.E. & FABRIC PAD

PLAN VIEW LOWER ELEMENT

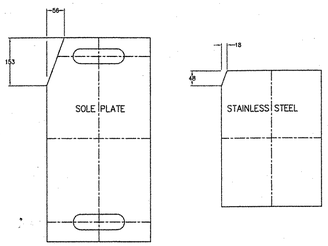


ELEVATION LOWER ELEMENT



ELEVATION UPPER ELEMENT
MK. 01, 5 REQUIRED AT ABUT 1
TYP. EXPANSION

HOW IS THE GALVANIZED SURFACE PREPED PRIOR TO WELDING OF THE SS PLATE TO THE SOLE PLATE?



BEARING CLIP DETAILS

2001

NOTES:

1. BEARING PADS TO BE MANUFACTURED IN ACCORDANCE WITH SECTIONS 531 AND 731 OF THE STATE OF VERMONT 1996 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE SPECIAL PROVISIONS FOR THIS PROJECT.
2. ONLY ITEMS SHOWN ON THIS DRAWING ARE TO BE PROVIDED BY SEISMIC ENERGY PRODUCTS, L.P.
3. TOLERANCES:

OVERALL HORIZONTAL DIMENSIONS	±1.6mm
DESIGN THICKNESS	±1.6mm
POSITION OF EXPOSED CONNECTION MEMBERS	±1.6mm
SIZE & POSITION OF HOLES/SLOTS	±1.6mm
BEVEL SLOPE	±0.005 RADIANS
FLATNESS OF TOP OF SOLE PLATE	0.005 X NOMINAL DIMENSION
FLATNESS OF STAINLESS STEEL & P.T.F.E.	0.030"

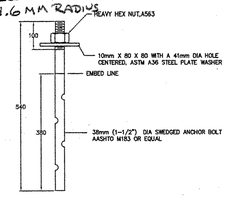
4. TEMPERATURE RANGE 27°C
   SHEAR RANGE IS 130-200 PSI.

PLATE MATL: AASHTO M270M/M270 GR 250.

ALL DEVICES TO BE GALVANIZED PER SUBSECTION 531.04 (b) & 506.15

ANCHOR BOLTS, NUTS, & WASHERS SHALL BE GALVANIZED, ALL WASHERS TO BE 10 PLATE MINIMUM.

PRIOR TO GALVANIZING ALL CORNERS AND EDGES OF STEEL PLATES SHALL BE GROUND TO A 1.6 MM RADIUS.



QTY REQ'D 20

VAOT
RECEIVED
CK'D BY G.Roy CK'D BY
3-10-06
MAR 1 8 2006
RESUBMIT APPROVED AS NOTED
BY SRW DATE 3/28/06

REV.	DESCRIPTION	DATE

TOWN OF LYNDON	BRIDGE NO. 8
PROJECT NAME: BRIDGE, TOWN OF LYNDON	PROJECT NUMBER BRS 0269 (03)
HIGHWAY NO. VT 114	COUNTY CALEDONIA
CONTRACTOR: WINTERSET INC.	

Seismic Energy Products, L.P.
STRUCTURAL BEARINGS FOR BRIDGES & BUILDINGS
ARMES, TEXAS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

STRUCTURAL BEARING DETAILS FOR:

VT 114 BRIDGE NO. 8 OVER
EAST BRANCH PASSUMPSIC RIVER

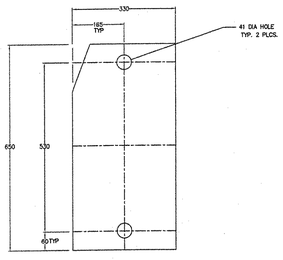
CAD FILE: 28853VT

DSN. JCB 02/02/06	P.O. NO.	S.O. NO.	
CHD. SLP 02/22/06	D-1685	28853	
Q.A. REVWD.	REV. DWG. NO.	28853	SHT 1 OF 2

CUSTOMER:
WINTERSET, INC.
128 WINTERSET DR.
LYNDONVILLE, VT. 05851

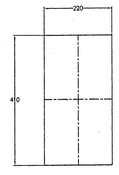
071 BB

SEE SHEET 1 FOR NOTES



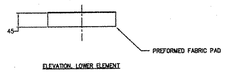
SOLE PLATE

PLAN VIEW, UPPER ELEMENT

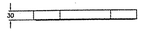


FABRIC PAD

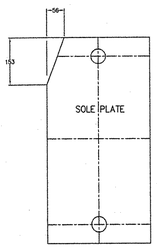
PLAN VIEW, LOWER ELEMENT



ELEVATION, LOWER ELEMENT



ELEVATION, UPPER ELEMENT
MK. 02, 5 REQUIRED AT ABUT 2
TYP. FIXED



BEARING CLIP DETAIL

VAOT
RECEIVED
CK'D BY G.R.P. CK'D BY
3-10-06
MAR 10 2006
RESUBMIT APPROVED X
BY RJW DATE 3/28/06

REV.	DESCRIPTION	DATE

TOWN OF LYNDON	BRIDGE NO. 8
PROJECT NAME: BRIDGE TOWN OF LYNDON	PROJECT NUMBER: BRS 0269 (8)S
HIGHWAY NO. VT 114	COUNTY CALEDONIA
CONTRACTOR: WINTERSET INC.	
Seismic Energy Products, L.P. STRUCTURAL BEARINGS FOR BRIDGES & BUILDINGS AUSTIN, TEXAS	
STATE OF VERMONT AGENCY OF TRANSPORTATION	
STRUCTURAL BEARING DETAILS FOR: VT 114 BRIDGE NO. 8 OVER EAST BRANCH PASSUMPSIC RIVER	

CAD FILE: 28853VT			
DESIGNED: WINTERSET, INC. 128 WINTERSET DR. LYNDONVILLE, VT. 05851	DRN. JKB 02/22/06	P.O. NO. 0-1605	S.O. NO. 28853
	CHKD. RLP 02/22/06		
	QA. REVWD.	REV. DWG. NO. 28853	SHT 2 OF 2

072 BB

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

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

WELDING PROCEDURE SPECIFICATION

Material specification ASTM 709-Gr.36-50-50W (250-345-345W)
Welding process Shielded Metal Arc welding (SMAW)
Manual or machine Manual
Position of welding Vertical UP (3F)
Filler metal specification AWS/ASME A5.1 - A5.5
Filler metal classification E7018 - R or B 1/2
Flux N.A
Shielding gas N.A Flow rate N.A
Single or multiple pass Single - multiple
Single or multiple arc Single
Welding current DC
Polarity Positive
Welding progression See Detail
Root treatment Arc-a Tobe Free of Loose Scale, Slag, Rust or Moisture
Preheat and interpass temperature To 3/4(19) 50°(10°), 3/4(19) to 1 1/2(38) 70°(20°) - 1 1/2(38) to 2 1/2(63) 150°(65°)
Postheat temperature N.A
Heat Input Min N.A Max N.A

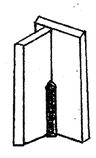
LYNDON VT
Dept RRS (7269 (B)-
BT 8 - CBSS 293

(Metric)

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	7018			
	1/8 (3.2)	70-170	22-26	
	5/32 (3.9)	120-190	22-26	
	8018			
	1/8 (3.2)	90-160	22-26	
	5/32 (3.9)	130-200	22-26	

AWS D1-5 Joint detail Fillet



VTRANS
RECEIVED
CK'D BY _____ OK'D BY JWC
MAR 14 2006
RESUBMIT _____ APPROVED V
BY _____ DATE 3/29/06

AWS QC 1 WELDER GOODALE 6/21/2001 CWI

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. 403
Revision no. _____
Form III-2

Contractor Casco Bay Steel
Authorized By Paul P. Goodale
Date 4-24-03

073-55

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

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

WELDING PROCEDURE SPECIFICATION

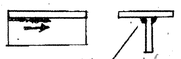
Material specification ASTM 709-Gr 36-250-50W (250-345-345W)
Welding process Shielded Metal Arc welding (SMAW)
Manual or machine Manual
Position of welding Overhead (4F)
Filler metal specification AWST/AWS A5.1-A5.5
Filler metal classification E7018 - 8018 C3
Flux NA
Shielding gas NA Flow rate NA
Single or multiple pass Single - multiple
Single or multiple arc Single
Welding current DC
Polarity Positive
Welding progression See Detail
Root treatment Area To be Free of Louse Scale - Slag - Rust or moisture
Preheat and interpass temperature 3/4(19) 50°(100), 3/4"(19) To 1 1/2(38) 70°(200), 1 1/2(38) To 2 1/2(63) 150°(65°C)
Postheat temperature NA
Heat Input Min NA Max NA

LYNDON CT
PO# RAS 02269 (B)-
BP B-C055293

(metric) WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	7018 1/8 (3.2)	95-160	22-26	
	5/32 (3.9)	120-190	22-26	
	8018 1/8 (3.2)	110-150	22-26	
	5/32 (3.9)	130-190	22-26	

AWS D1.5 Joint detail Fillet



TRANS
RECEIVED
MAR 14 2006

OK'D BY _____ OK'D BY JMC
RESUBMIT _____ APPROVED ✓
BY _____ DATE 3/23/06

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. 404
Revision no. _____
Form III-2

Contractor Casco Bay
Authorized By _____
Date 6-3-04

074-65

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 36-50-50W (250-345-345W)
Welding process Submerged Arc welding - Auto (SAW)
Manual or machine machine
Position of welding Flat (1G)
Filler metal specification AWS A5.17, AWS A5.23
Filler metal classification F7A2-EM12K-Nil Lincoln
Flux 960 Flux - Lincolnweld - LA-75 ElecTrade
Shielding gas N/A Flow rate N/A
Single or multiple pass Both
Single or multiple arc Single
Welding current Direct
Polarity Reverse ElecTrode Positive
Welding progression →
Root treatment Meet AWS Specification - Back gouge 1/4 deep
Preheat and interpass temperature To 3/4(19) 50°(10°) 3/4(19) 150°(65°) 1 1/2(38) 70°(20°) 1 1/2(38) 200°(95°C) over 2 1/2(63.5) 225°(105°C)
Postheat temperature N/A
Heat Input Min 41.65 Max 65.45 PQR#1-59.5

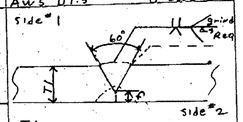
RECEIVED
MAR 14 2006
APPROVED
DATE 3/15/06

LYNCAW VT
DSG ABS (2269 (5)-
BF 8 - CASS 293

WELDING PROCEDURE (metric)

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
	5/32	605	29.5	18.5
		544.5 TO 665.5	27.4 TO 31.56	15.3 TO 20.7
	3.9	605	29.5	457.2
		544.5 TO 665.5	27.4 TO 31.56	388.6 TO 525.8

Joint detail AWS D1.5 B-L2c-S



T1	
1/2" To 1" (12.7 To 25.4)	1/4 min (6)
1" To 1 1/2" (25.4 To 38.1)	3/8 min (9.5)
1 1/2" To 2" (38.1 To 50)	1/2 min (12)

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

Procedure no. 202
Revision no.
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Bowden
Date 3/2/06

075-55

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 36-50-50W (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 F7A2-EM11K-M11 Lincolnweld
Flux 960 Flux - Lincolnweld - LA-75 Electrode
Shielding gas N/A Flow rate N/A
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) & over 2½(63.5)-150°(65°)
Postheat temperature N/A
Heat Input Min 41.65 Max 65.45 PQR # 1-59.5

LYNDAN VT
H/C BRS 0269 (B)-
AR 8 - CBSS 293

(metric)

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	
	5/32	605 544.5 To 665.5	29.5 29.4 To 31.56	18.5 15.3 To 20.7	AWS D1.5 Joint detail Fillet 1F 5/16 To 1/2 (8 To 12.7)
	3.9	Metric 605 544.5 TO 665.5	29.5 29.4 To 31.56	457.2 384.6 TO 525.8	2F 1/4 To 5/16 (6 To 8)

VTRANS RECEIVED MAR 14 2006

CK'D BY ____ OK'D BY JWH
RESUBMIT BY ____ APPROVED ✓ DATE 3/23/06

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 93100251 CWI

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

076-33

Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072
Phone: (207) 282-7360 Fax: (207) 282-1170

WELDING PROCEDURE SPECIFICATION

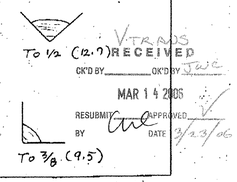
Material specification ASTM A709/A709M - Grade 36(250) 50(345) 50W(345W)
Welding process Flux Cored Arc welding (FCAW)
Manual or machine SEMI AUTO
Position of welding Fleet (1F) Horizontal (2F)
Filler metal specification AWS A5.20
Filler metal classification E71T-1
Flux N.A
Shielding gas 75% AR 25% CO2 Flow rate 40 CFH ±5
Single or multiple pass Single and multiple - Electrode Extension 5/8"±1/4"(15.87±6.35)
Single or multiple arc Single
Welding current DC
Polarity Reverse
Welding progression
Root treatment To meet AWS specification
Preheat and interpass temperature To 3/4 (19): 50°(10°) - 3/4 (19) To 1 1/2 (38): 70°(20) - 1 1/2 (38) To 2 1/2 (63) 150°(65)
Postheat temperature N.A over 2 1/2 (63) = 225° (110°)
Heat Input Min N.A Max N.A

LYNDA - VT
PEG ABS 0269 (B) -
BT-B - CLASS 293

WELDING PROCEDURE (METRIC)

Pass no.	Electrode size	Welding current Amperes	Welding current Volts	Travel speed
1F	1/16	205 247.5 TO 302.5	28.8 26.8 TO 30.8	11.6 10.4 TO 12.8
2F	1.6 (METRIC)	205 247.5 TO 302.5	28.8 26.8 TO 30.8	294.6 264.2 TO 325.12

AWS D1.5 Joint detail F111ST



VTRANS RECEIVED
CK'D BY OK'D BY JWC
MAR 14 2005
RESUBMIT APPROVED
BY DATE 3/23/00

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
Revision no.
Form III-2

Contractor Casco Bay Steel
Authorized By Peter L. Woodside
Date 3/23/00

079-55

Casco Bay Steel Structures, Inc.
5 Industry Road
South Portland, Maine 04106
ne: (207) 772-2533 Fax: (207) 772-0580

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A709-Gr 36-50-50W (250-345-345W)
Welding process SAW (Submerged Metal Arc Welding (SMAW)
Manual or machine Manual
Position of welding Flat (1F), Horizontal (2F)
Filler metal specification AWS/AWS A5.1 - A5.5
Filler metal classification E7018 - A1 B4 C1/C3 - T8 J8
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 3/16(4.8) 50°(10°) 3/16(4.8) TO 1 1/2(38) 70°(20°) 1 1/2(38) To 2 1/2(63.5) 150°(65°)
Postheat temperature N.A. over 2 1/2(63.5) 225°(110°)
Heat Input Min N.A. Max N.A.

LYNDON VT
Proj ARS 0269 (B)
BY B - CASS 293

(METRIC)

WELDING PROCEDURE

AWS D1.5 Joint detail Fillet

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed	1F		
	7018						
	1/8 (3.2)	70-170	22-26				
AS	5/32 (3.9)	120-225	22-26	AS			
REQ	3/16 (4.8)	170-300	24-27	REQ	3/16 TO 3/8 (5 TO 10)	3/8 TO 1/2 (10 TO 13)	1/2 TO 5/8 (13 TO 16)
	8018				2F		
	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)	190-290	22-26		3/16 TO 5/16 (5 TO 8)	3/8 (10)	7/16 TO 5/8 (11 TO 16)
	3/16 (4.8)	210-330	24-27				

VTRANS RECEIVED
CK'D BY JWC
MAR 14 2006
RESUBMIT
APPROVED
DATE 3/23/06

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

078-55

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 Gr 36-50-50W (250-345-345W)
Welding process Submerged Arc welding - AUTO (SAW)
Manual or machine Machine
Position of welding Flat (1-G & 2)
Filler metal specification AWS A5.17 AWS A5.23 LINCOLN
Filler metal classification F7AZ-EM11K-M11 Lincoln
Flux 860 Flux - Lincolnweld - LA-75 Electrode
Shielding gas N/A Flow rate N/A
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°C(10°), 3/4"(19) 1½"(38)-70°(20°)
Postheat temperature N/A
Heat Input Min 41.65 Max 65.45 PQR #1-59.8

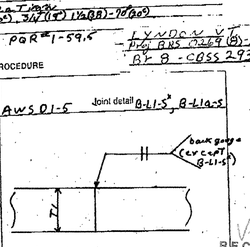
LYNDON VT
PWI RNS 0269 (B)
BY B-COSS 293

(METRIC)

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed
	5/32	605	29.5	18
		544.5 To 665.5	27.4 To 31.56	15.3 To 20.7
	3.9	605	29.5	457.2
		544.5 To 665.5	27.4 To 31.56	388.6 To 525.8

AWS D1-5 Joint detail B-L1-S*, B-L1a-S



T1: 3/8 (9.5) B-L1-S
T1: 5/8 (15.895) B-L1a-S

*Evidence of CVN is req.

VTRANS RECEIVED
CK'D BY ____ OK'D BY JSC
MAR 14 2005
RESUBMIT ____ APPROVED ____
DATE 3/29/05

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. 203
Revision no. ____
Form III-2

Contractor Casco Bay Steel
Authorized By Paul E. Woodside
Date 3/2/05

079-55

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 2001 WITH LATEST REVISIONS AND THE SPECIAL PROVISIONS.

2). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, ~~1996~~ 2002 EDITION WITH LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). ALL STRUCTURAL STEEL TO BE AASHTO M270M GRADE 345W (ASTM A709M-345W) (UNPAINTED).

2). MATERIAL NOTED "CVN" OR "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: AASHTO M164 TYPE 3 (ASTM A325).

FABRICATION

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

2). STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.

WELDING

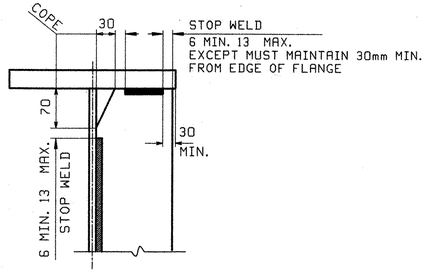
1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

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.

CLEANING

1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)



DETAIL "WS1"

FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 BOLTS, INSTALLED PER SECTION 506.19(c).

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

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

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

RECEIVED
OK'D BY SMP OK'D BY CWE
MAR 13 2006
RESUBMIT ____ APPROVED As noted
BY CWE DATE 4/10/06

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-7-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:

SURFACE PREP. & PAINT:

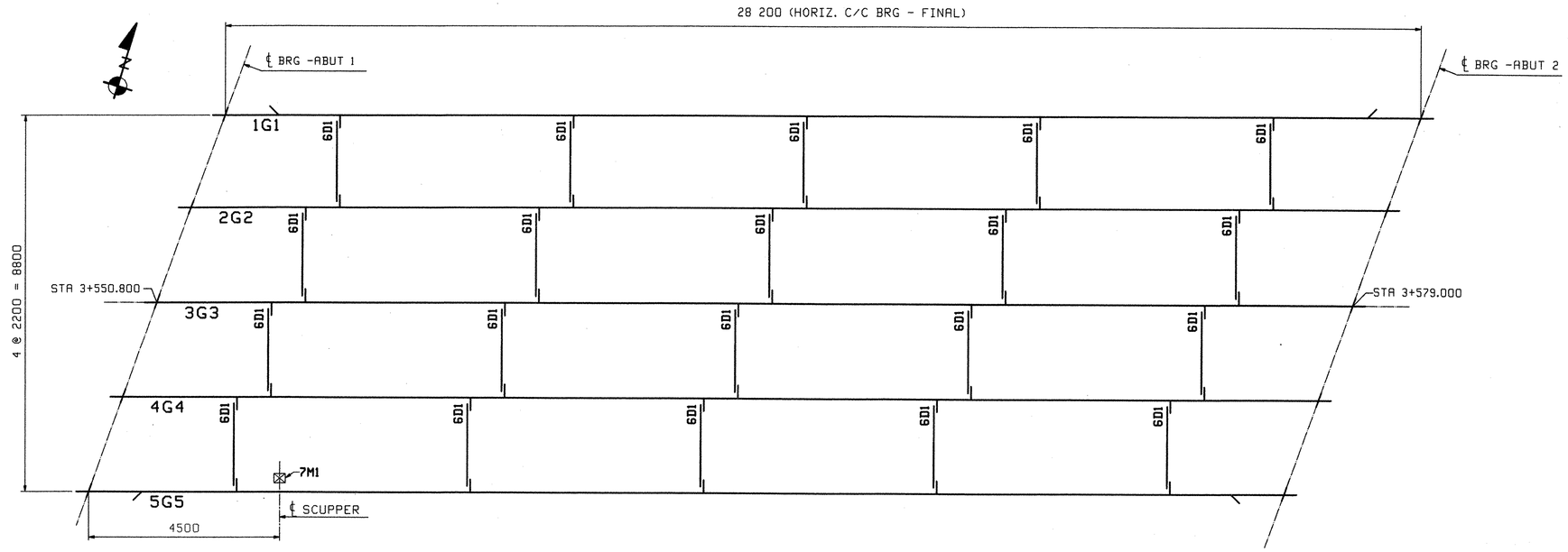
DESCRIPTION: GENERAL NOTES	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER	WL	02/01
BRIDGE NO. 8	CHKD BY	
LYNDON, VT. COUNTY OF CALEDONIA	DO	02/06
TENSOR 2025	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BRS 0269 (8)S	Q.A.	
CUSTOMER: WINTERSET, INC.		

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

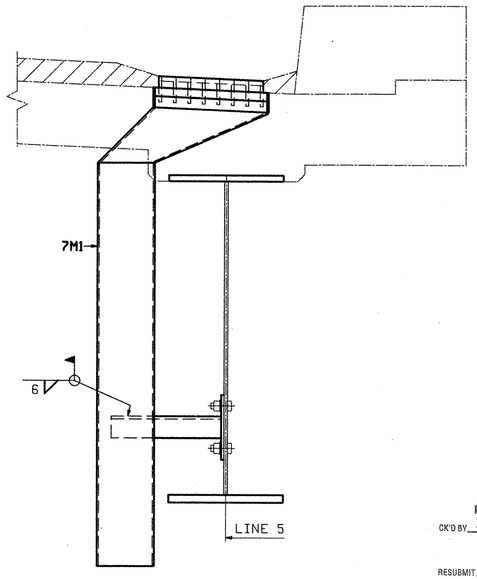
JOB NO.	DRG. NO.
293	GN1
	REV. △

080-55

Thu Feb 16 08:48:43 EST 2006 /users/jobs/2625/GN1.dwg



FRAMING PLAN



TYP. SCUPPER
LOOKING UPSTATION

FIELD BOLT LIST							A325 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 DIAPHRAGMS - 6D1**
2	400	$\frac{7}{8}$	$2\frac{1}{2}$	20	20	27	14	13					1	DIAPHRAGM WEB TO CONNECTION PLATE
WASHER CODES														
1: 1 Hard Flat Washer														

FIELD BOLT SUMMARY		2% ADDED, MIN. 2 EXTRA				
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	408	$\frac{7}{8}$	A325 Type 3	$2\frac{1}{2}$	400	
2						
3	408	Hard Flat Washers for $\frac{7}{8}\phi$ BOLT				TYPE 436W
4						
5						
6						

1. All bolt diameters and lengths are shown in inches (english unit of measurement).
2. All grip values are shown in metric units.

RECEIVED
CK'D BY JMP OK'D BY CWC
MAR 1 3 2006
RESUBMIT _____ APPROVED ✓
BY CWC DATE 4/11/06

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3/7/06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:

SURFACE PREP. & PAINT:

DESCRIPTION: FRAMING PLAN	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER BRIDGE NO. 8 LYNDON, VT. COUNTY OF CALEDONIA	JTB	02/16
	CHKD BY	
	PCP	03/02
	APPROV BY	
PROJ NO. BRS 0269 (8)S	SUPERVISOR	W. J. GATTI
	Q.A.	
CUSTOMER: WINTERSET, INC.		

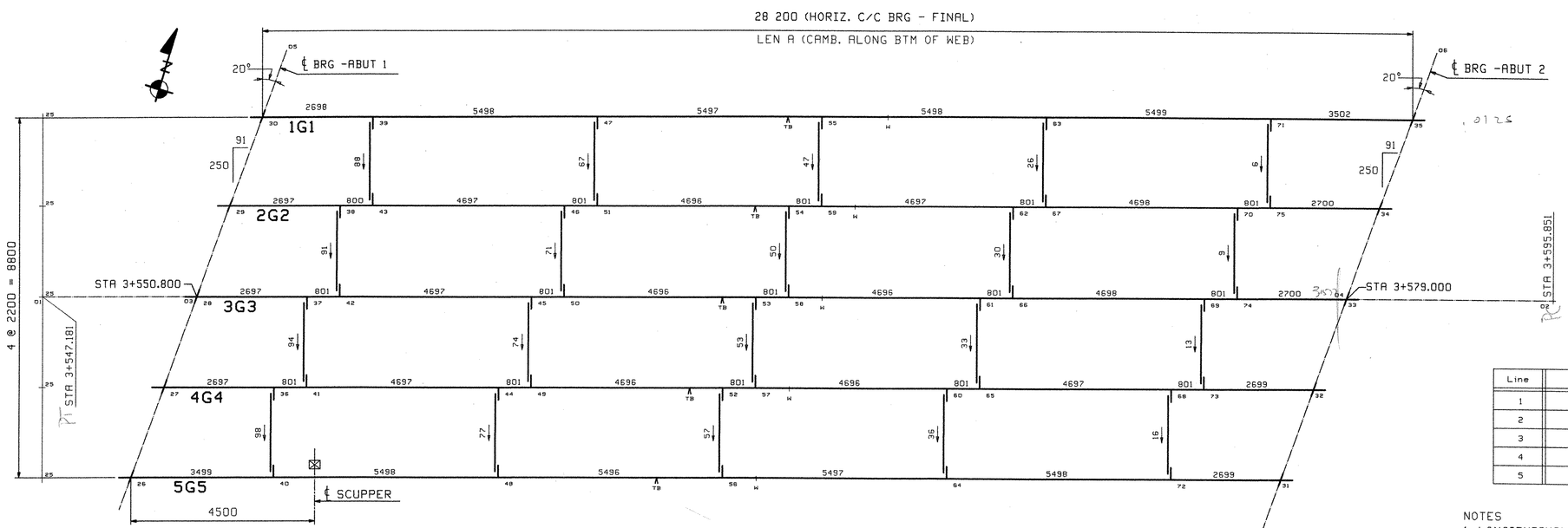
TENSOR 2625

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

JOB NO.	DRG. NO.
293	E1
	REV. △

081-55

PCP Fri Mar 3 08:48:56 EST 2006 /users/jobs/0293/E1.1 Rev0

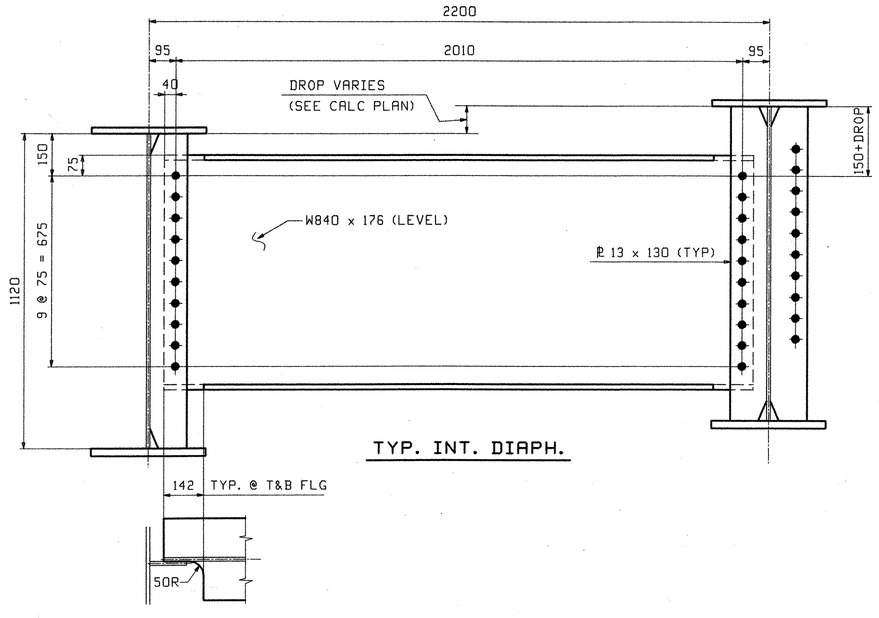


CALCULATION PLAN

		GRADE	
Line	LEN A	Abut 1	Abut 2
1	28 192	-.0089	-.0171
2	28 189	-.0050	-.0131
3	28 189	-.0010	-.0092
4	28 187	.0030	-.0052
5	28 187	.0069	-.0012

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 100.
7. DIAPH DROPS ARE CALCULATED IN THEIR FINAL POSITION.
8. DIAPH CONNECTIONS MAY BE COMBINED FOR DROPS WITHIN A RANGE OF ± 3 mm.

**** 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.



TYP. INT. DIAPH.

RECEIVED
OK'D BY JMS OK'D BY CWC
MAR 1 3 2006
RESUBMIT ____ APPROVED As Noted
BY CWC DATE 4/1/06

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-7-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		15/16(24 mm)ø (UN)	NONE

SURFACE PREP. & PAINT:

DESCRIPTION: CALCULATION PLAN	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER BRIDGE NO. 8 LYNDON, VT. COUNTY OF CALEDONIA	WL	01/31
	CHKD BY	
	DO	02/06
	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BRS 0269 (8)S	Q.A.	
CUSTOMER: WINTERSET, INC.		

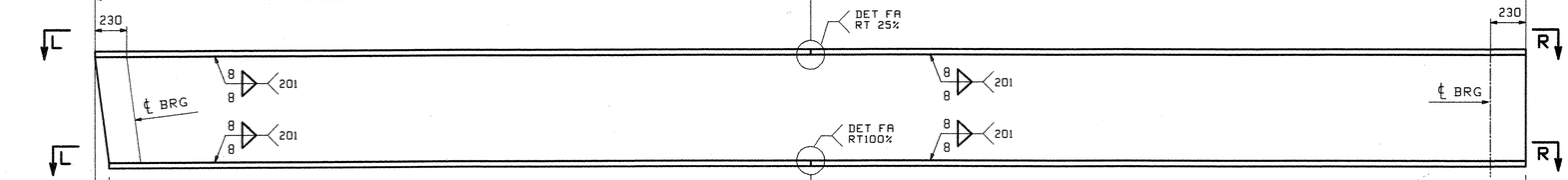
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 293 | DRG. NO. WS1 | REV. △

082-53

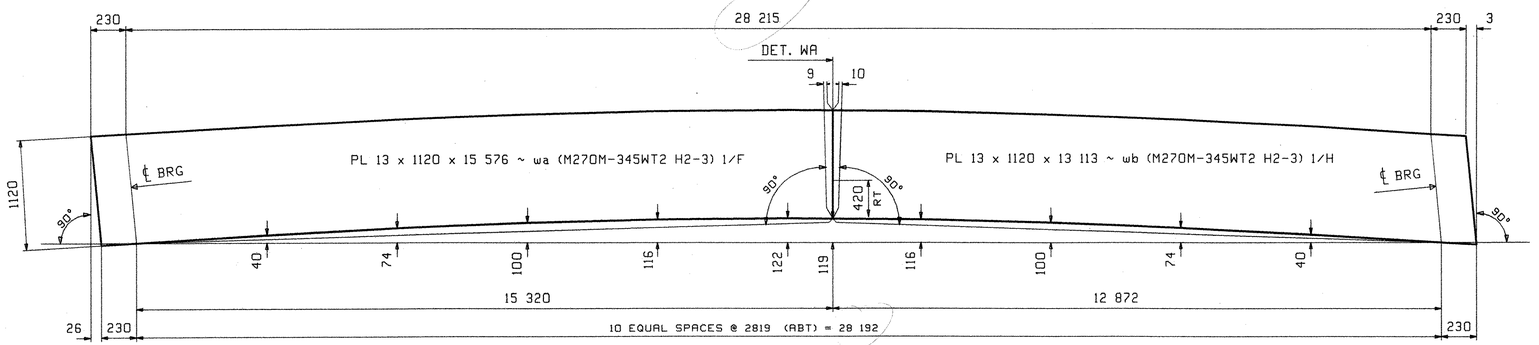
DO Thu Feb 16 08:45:06 EST 2006 /users/jobs/2625/ws1 Rev0

1G1	PL 22 x 406 x 13 124 - ta (M270M-345W) 1/M	PL 22 x 406 x 15 551 - tb (M270M-345W) 1/K
2G2	PL 22 x 406 x 13 123 - ta (M270M-345W) 1/M	PL 22 x 406 x 15 550 - tb (M270M-345W) 1/K
3G3	PL 22 x 406 x 13 122 - ta (M270M-345W) 1/M	PL 22 x 406 x 15 551 - tb (M270M-345W) 1/K
4G4	PL 22 x 406 x 13 122 - ta (M270M-345W) 1/M	PL 22 x 406 x 15 549 - tb (M270M-345W) 1/K
5G5	PL 22 x 406 x 13 122 - ta (M270M-345W) 1/M	PL 22 x 406 x 15 549 - tb (M270M-345W) 1/K

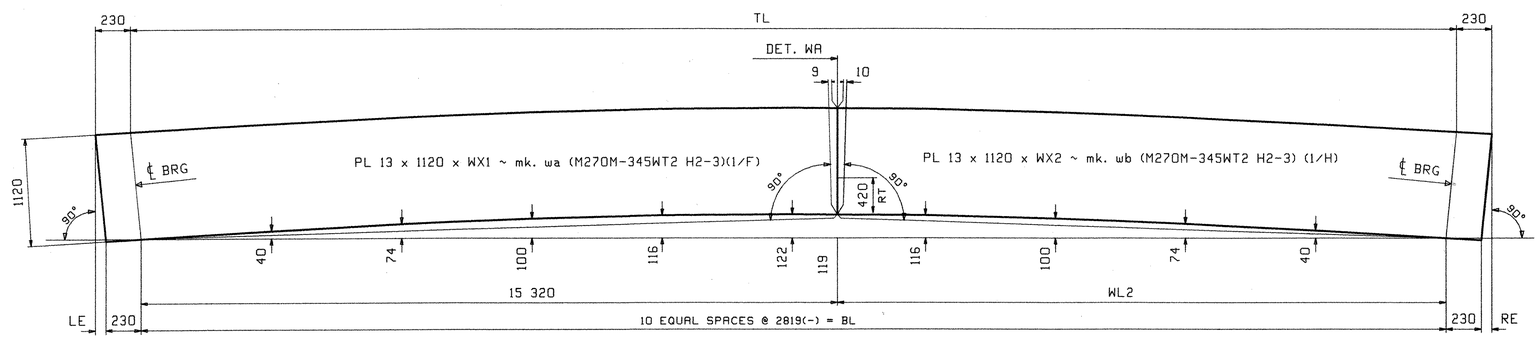


1G1	26	PL 28 x 406 x 13 102 - ba (M270M-345WT2 H2-3) 1/D	PL 28 x 406 x 15 550 - bb (M270M-345WT2 H2-3) 1/B
2G2	22	PL 28 x 406 x 13 100 - ba (M270M-345WT2 H2-3) 1/D	PL 28 x 406 x 15 549 - bb (M270M-345WT2 H2-3) 1/B
3G3	18	PL 28 x 406 x 13 100 - ba (M270M-345WT2 H2-3) 1/D	PL 28 x 406 x 15 549 - bb (M270M-345WT2 H2-3) 1/B
4G4	13	PL 28 x 406 x 13 099 - ba (M270M-345WT2 H2-3) 1/D	PL 28 x 406 x 15 548 - bb (M270M-345WT2 H2-3) 1/B
5G5	9	PL 28 x 406 x 13 100 - ba (M270M-345WT2 H2-3) 1/D	PL 28 x 406 x 15 547 - bb (M270M-345WT2 H2-3) 1/B

FLANGE DIAGRAM FOR 1G1 THRU 5G5

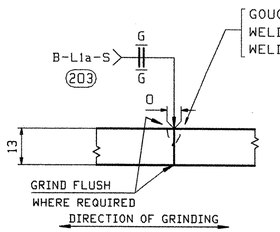


CAMBER DIAGRAM FOR 1G1

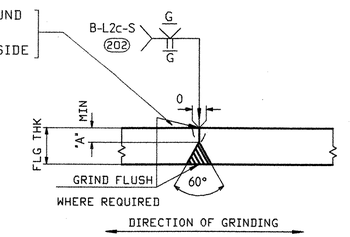


CAMBER DIAGRAM FOR 2G2 THRU 5G5

MARK	TL	BL	LE	RE	WL2	WX1	WX2
2G2	28 213	28 189	22	2	12 869	15 572	13 110
3G3	28 213	28 189	18	6	12 869	15 568	13 110
4G4	28 211	28 187	13	11	12 867	15 563	13 109
5G5	28 211	28 187	9	15	12 867	15 559	13 113

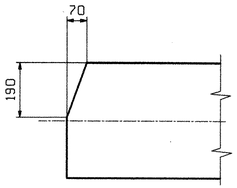


WEB PLATE SPLICE DETAIL "WA"

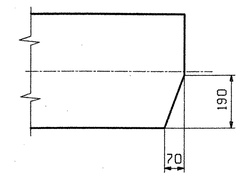


FLANGE PLATE SPLICE DETAIL "FA"

FLG THK	"A"
22	6
28	10



SECT "L"
FLG CLIP- TYP T&B FLG



SECT "R"
FLG CLIP- TYP T&B FLG

RECEIVED
OK'D BY JJP OK'D BY CWC
MAR 13 2006
RESUBMIT APPROVED ✓
BY CWC DATE 4/1/06

NOTES:

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

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-27-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W			

SURFACE PREP. & PAINT: SEE DRAWING GN1

DESCRIPTION: CAMBER AND FLANGE DIAGRAMS

JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER
BRIDGE NO. 8
LYNDON, VT. COUNTY OF CALEDONIA

TENSOR 2625

PROJ NO. BRS 0269 (8)S

CUSTOMER: WINTERSET, INC.

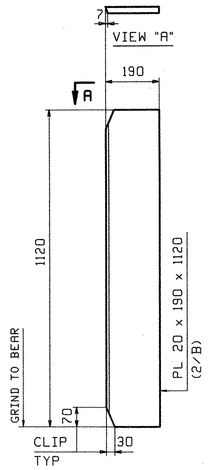
	DRAWN BY	DATE
	WL	01/31
	CHKD BY	
	DO	02/06
	APPROV BY	
	SUPERVISOR	W. J. GATTI
	Q.A.	

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

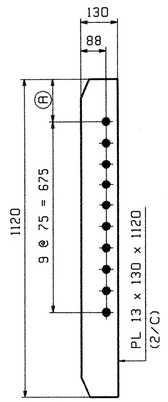
JOB NO.	DRG. NO.
293	C1
	REV. △

083-55

Thu Feb 16 09:46:33 EST 2006 /users/jpw/2625-C1.dwg

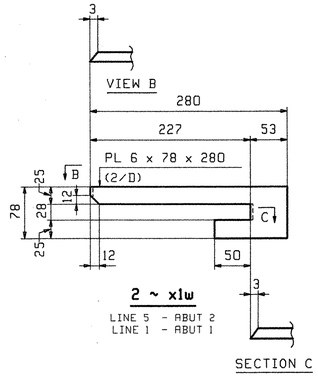


20 ~ x1a
BRG STIFF



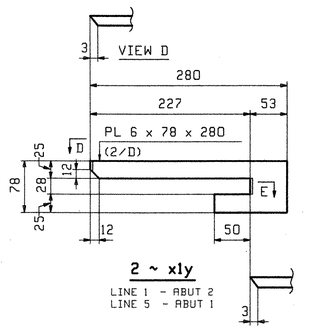
MARK "A"
CONN PL

MARK "A"	QTY	Ⓐ	
x1b	20	150	LOW END
x1c	2	158	DROPS 6 & 9
x1d	2	165	DROPS 13 & 16
x1f	2	178	DROPS 26 & 30
x1g	2	185	DROPS 33 & 36
x1k	2	199	DROPS 47 & 50
x1m	2	205	DROPS 53 & 57
x1n	2	219	DROPS 67 & 71
x1p	2	226	DROPS 74 & 77
x1t	2	240	DROPS 88 & 91
x1v	2	246	DROPS 94 & 98



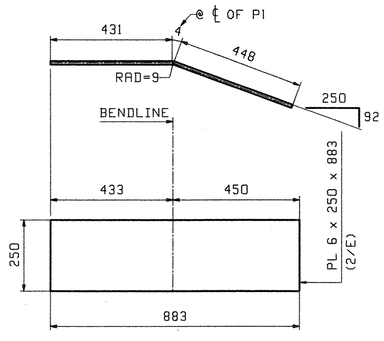
2 ~ x1w
LINE 5 - ABUT 2
LINE 1 - ABUT 1

SECTION C

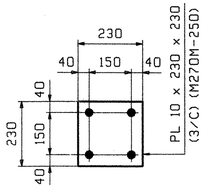


2 ~ x1y
LINE 1 - ABUT 2
LINE 5 - ABUT 1

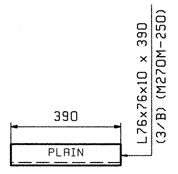
SECTION E



10 ~ x1aa
END PLATE



1 ~ x1ab
SCUPPER CONN



1 ~ x1ac
SCUPPER LAT CONN

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

RECEIVED
CK'D BY Cwc CK'D BY JMP
MAR 13 2006
RESUBMIT ____ APPROVED ✓
BY CWC DATE 4-11-06

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-7-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W		$\frac{15}{16}$"Ø	NONE

SURFACE PREP. & PAINT:
SEE DRAWING GN1

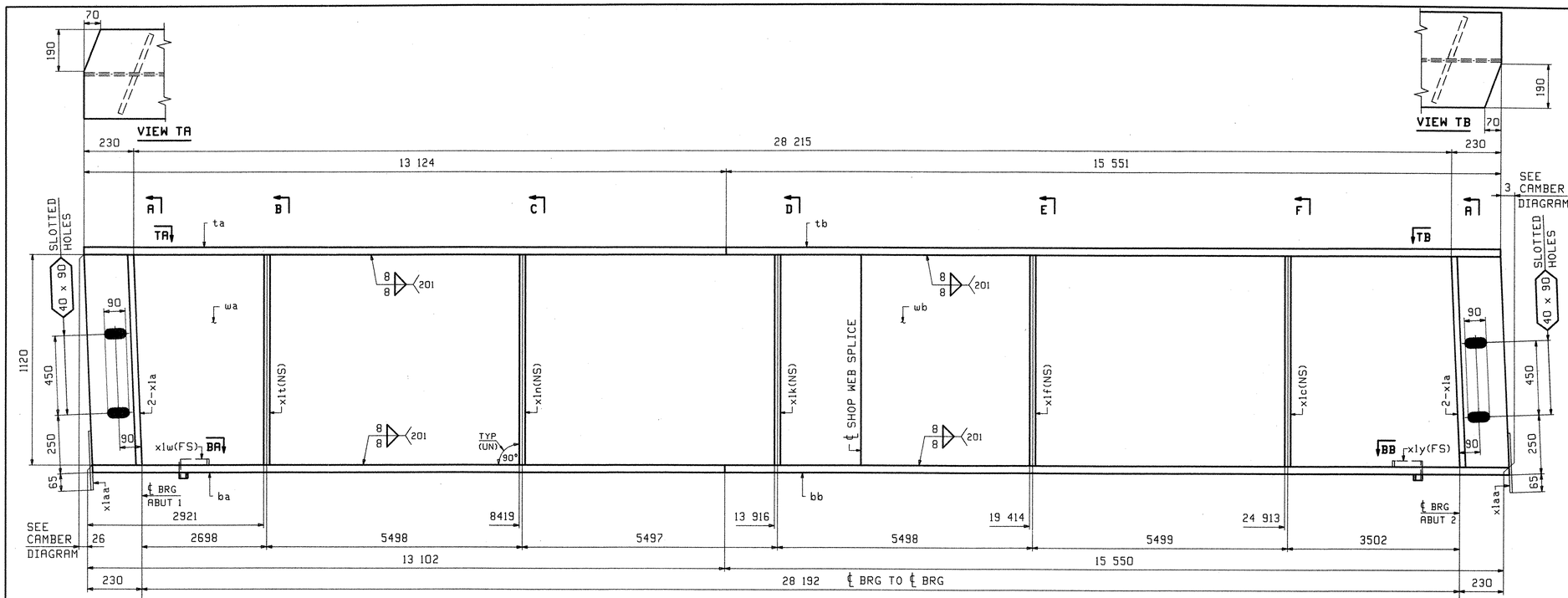
DESCRIPTION: GIRDER STANDARDS	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER BRIDGE NO. 8 LYNDON, VT. COUNTY OF CALEDONIA	JTB	02/16
	CHKD BY	
	PCP	03/02
	APPROV BY	
TENSOR 2625	SUPERVISOR	W. J. GATTI
PROJ NO. BRS 0269 (8)S	Q.A.	
CUSTOMER: WINTERSET, INC.		

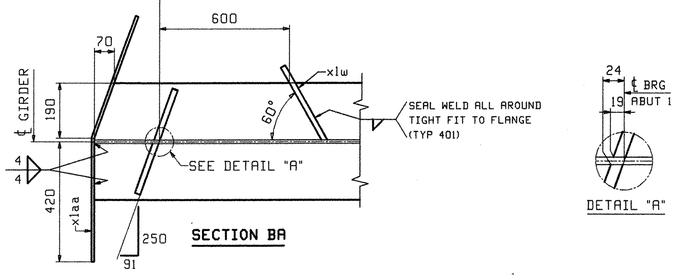
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
293	X1
	REV. △

084-85

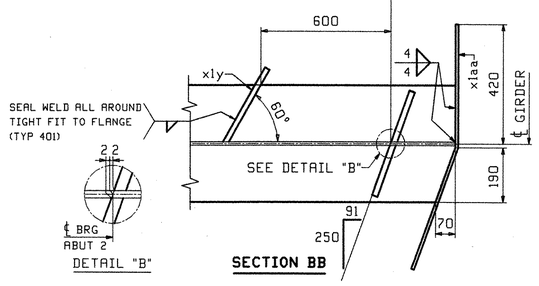
PCP Fri Mar 3 08:49:03 EST 2006 /users/jobs/2625/x1.dwg



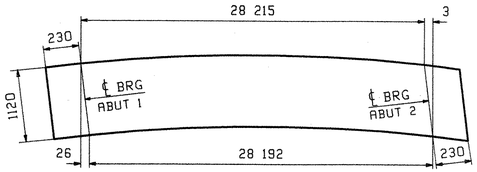


ONE - GIRDER - 1G1

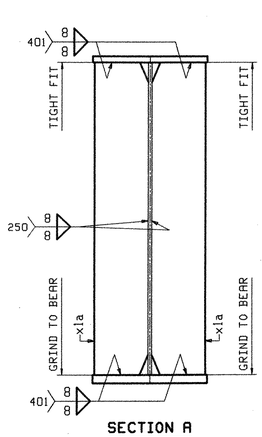
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



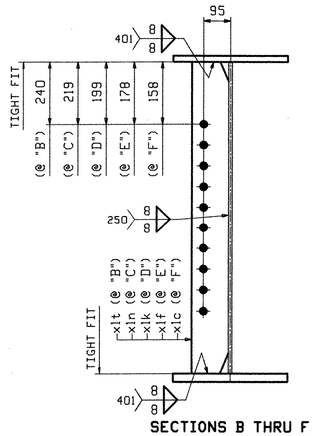
SECTION BB



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1



SECTION A
(DEVELOPED)



SECTIONS B THRU F

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				3027 kg 17806 lbs	
1	F		1	wa	PL 13x1120	15	576	(M270M-345WT2)	(H2-3)	
1	H		1	wb	PL 13x1120	13	113	(M270M-345WT2)	(H2-3)	
1	M		1	ta	PL 22x406	13	124			
1	K		1	tb	PL 22x406	15	551			
1	D		1	ba	PL 28x406	13	102	(M270M-345WT2)	(H2-3)	
1	B		1	bb	PL 28x406	15	550	(M270M-345WT2)	(H2-3)	
2	B		4	x1a	PL 20x190	1	120	MIE		
2	C		1	x1c	PL 13x130	1	120			
2	C		1	x1f	PL 13x130	1	120			
2	C		1	x1k	PL 13x130	1	120			
2	C		1	x1n	PL 13x130	1	120			
2	C		1	x1t	PL 13x130	1	120			
2	D		1	x1w	PL 6x78	0	280			
2	D		1	x1y	PL 6x78	0	280			
2	E		2	x1aa	PL 6x250	0	883	RENT		

BILL OF MATERIAL

JOB NO. 293 | DRAWING NO. 1 | REV.

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-7-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W (UN)
ELECTRODES:
HOLES: 15/16 Ø (UN)
SHOP BOLTS: NONE
SURFACE PREP. & PAINT: SEE DRAWING GN1

RECEIVED
OK'D BY CWC OK'D BY JMP
MAR 13 2006
RESUBMIT ____ APPROVED ✓
BY CWC DATE 4/1/06

DESCRIPTION: GIRDER - 1G1
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER
BRIDGE NO. 8
LYNDON, VT. COUNTY OF CALEDONIA
TENSOR 2625
PROJ NO. BRS 0269 (8)S
CUSTOMER: WINTERSET, INC.

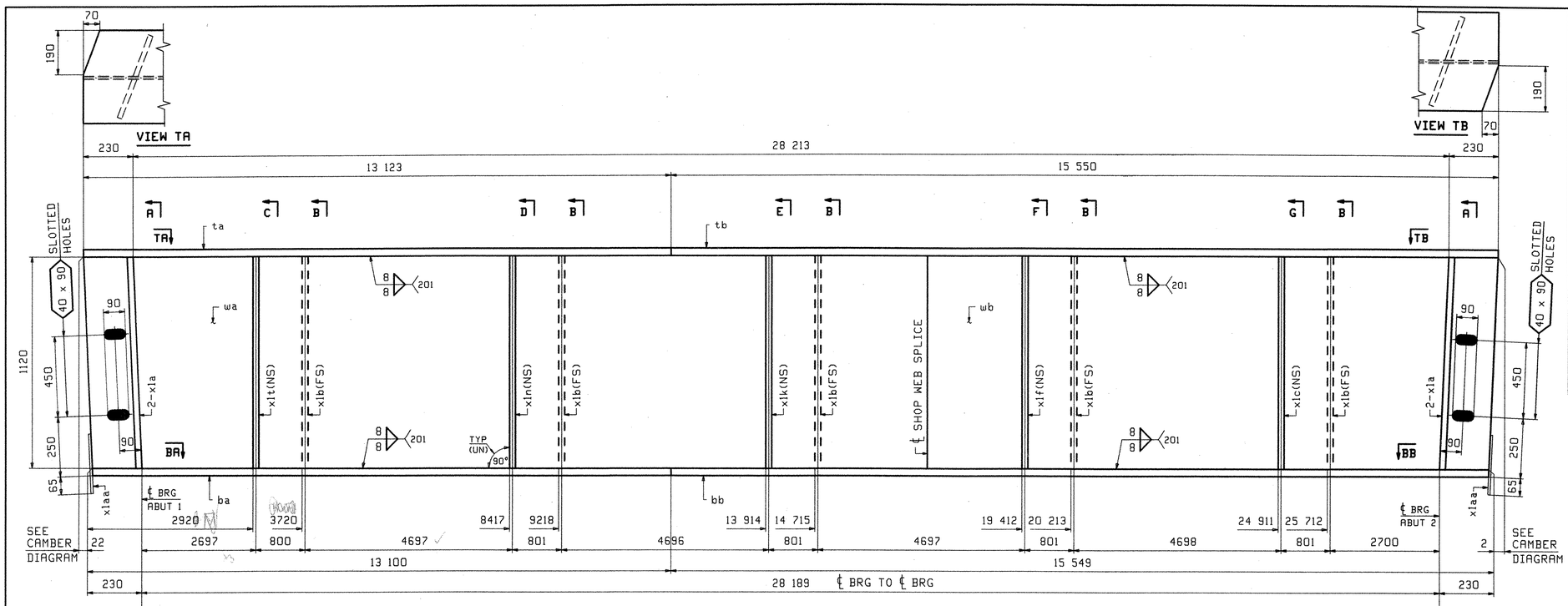
DRAWN BY: JTB 02/16
CHKD BY:
PCP 03/02
APPROV BY:
SUPERVISOR W. J. GATTI
Q.A.:

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

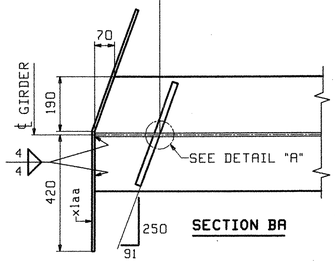
JOB NO. 293 | DRG. NO. 1 | REV. △

085-33

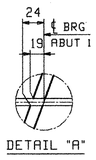
PCP Fri Mar 3 09:49:26 EST 2006 /users/jobs/2625/1 Rev0



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1



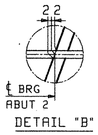
SECTION BA



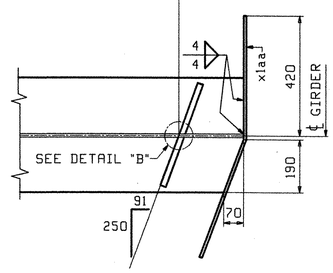
DETAIL "A"

ONE - GIRDER - 2G2

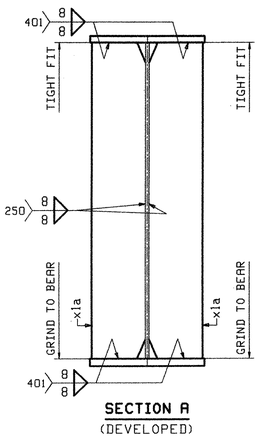
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



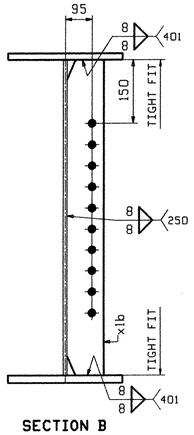
DETAIL "B"



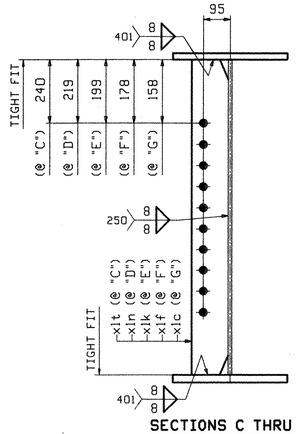
SECTION BB



SECTION A
(DEVELOPED)



SECTION B



SECTIONS C THRU G

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								293	2	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				8148 kg 17963 lbs	
1	F		1	wa	PL 13x1120	15	572	(M270M-345WT2)	(H2-3)	
1	H		1	wb	PL 13x1120	13	110	(M270M-345WT2)	(H2-3)	
1	M		1	ta	PL 22x406	13	123			
1	K		1	tb	PL 22x406	15	550			
1	D		1	ba	PL 28x406	13	100	(M270M-345WT2)	(H2-3)	
1	B		1	bb	PL 28x406	15	549	(M270M-345WT2)	(H2-3)	
2	B		4	x1a	PL 20x190	1	120	MIE		
2	C		5	x1b	PL 13x130	1	120			
2	C		1	x1c	PL 13x130	1	120			
2	C		1	x1f	PL 13x130	1	120			
2	C		1	x1k	PL 13x130	1	120			
2	C		1	x1n	PL 13x130	1	120			
2	C		1	x1t	PL 13x130	1	120			
2	E		2	x1aa	PL 6x250	0	883	BENT		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3.7.06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W (UN)		15/16ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

RECEIVED
CK'D BY CWC CK'D BY JWP
MAR 13 2006
RESUBMIT ____ APPROVED ✓
BY CWC DATE 4/11-06

DESCRIPTION: GIRDER - 2G2

JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER
BRIDGE NO. 8
LYNDON, VT. COUNTY OF CALEDONIA

TENSOR 2625

PROJ NO. BRS 0269 (8)S

CUSTOMER: WINTERSET, INC.

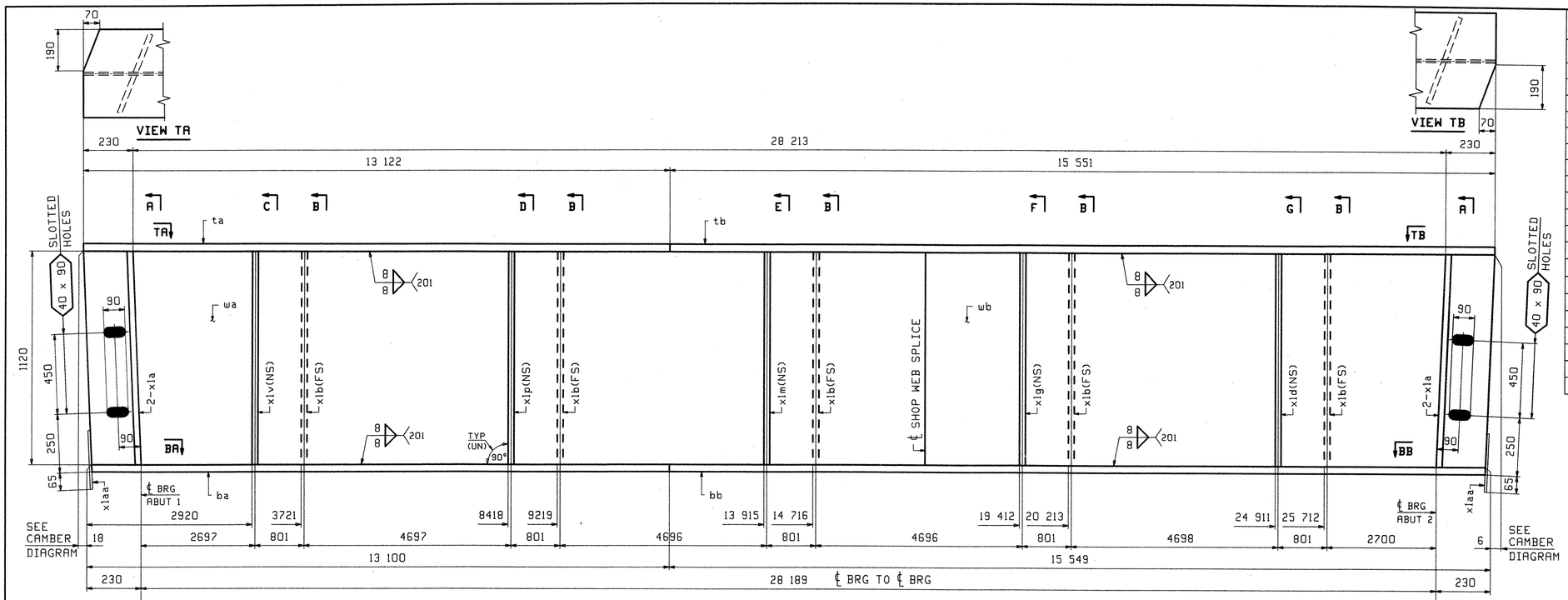
DRAWN BY	DATE
JTB	02/16
CHKD BY	
PCP	03/02
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

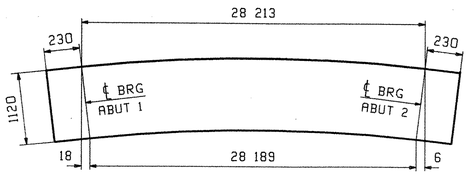
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

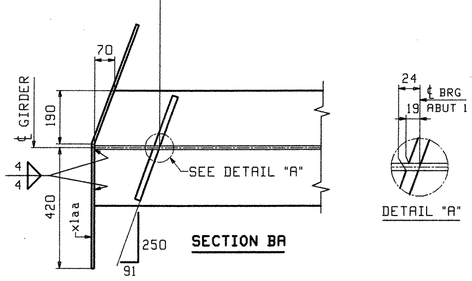
JOB NO.	DRG. NO.
293	2
	REV. △

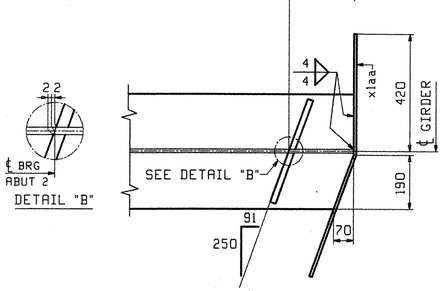
086-55

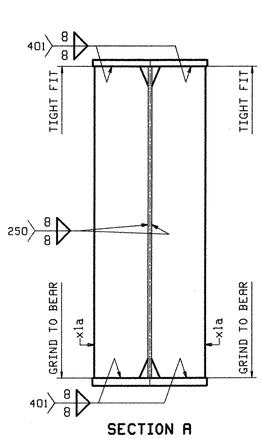
PCP Fri Mar 3 09:49:06 EST 2006 /users/jobs/2625/2 : Rev0

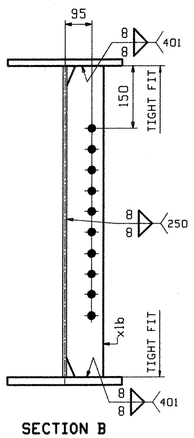


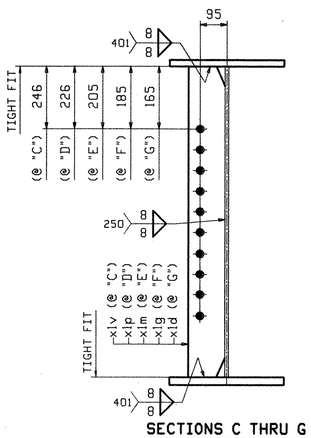












ONE - GIRDER - 3G3

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				8148 kg 17963 lbs	
1	F		1	wa	PL 13x1120	15	568	(M270M-345WT2)	(H2-3)	
1	H		1	wb	PL 13x1120	13	110	(M270M-345WT2)	(H2-3)	
1	M		1	ta	PL 22x406	13	122			
1	K		1	tb	PL 22x406	15	551			
1	D		1	ba	PL 28x406	13	100	(M270M-345WT2)	(H2-3)	
1	B		1	bb	PL 28x406	15	549	(M270M-345WT2)	(H2-3)	
2	B		4	x1a	PL 20x190	1	120	MIE		
2	C		5	x1b	PL 13x130	1	120			
2	C		1	x1d	PL 13x130	1	120			
2	C		1	x1g	PL 13x130	1	120			
2	C		1	x1m	PL 13x130	1	120			
2	C		1	x1p	PL 13x130	1	120			
2	C		1	x1v	PL 13x130	1	120			
2	E		2	x1aa	PL 6x250	0	883	BENT		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.
	OUT FOR APPROVAL	3-7-06				
	OUT FOR APPROVAL					
	ISSUED TO SHOP					
	FIELD & OFFICE					

NO.	DIA.	LGT	TYPE	WASHER

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

RECEIVED
CK'D BY CWC CK'D BY JNF
MAR 13 2006
RESUBMIT ____ APPROVED ✓
BY CWC DATE 4-11-06

DESCRIPTION: GIRDER - 3G3
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER
BRIDGE NO. 8
LYNDON, VT. COUNTY OF CALEDONIA
TENSOR 2625
PROJ NO. BRS 0269 (8)S
CUSTOMER: WINTERSET, INC.

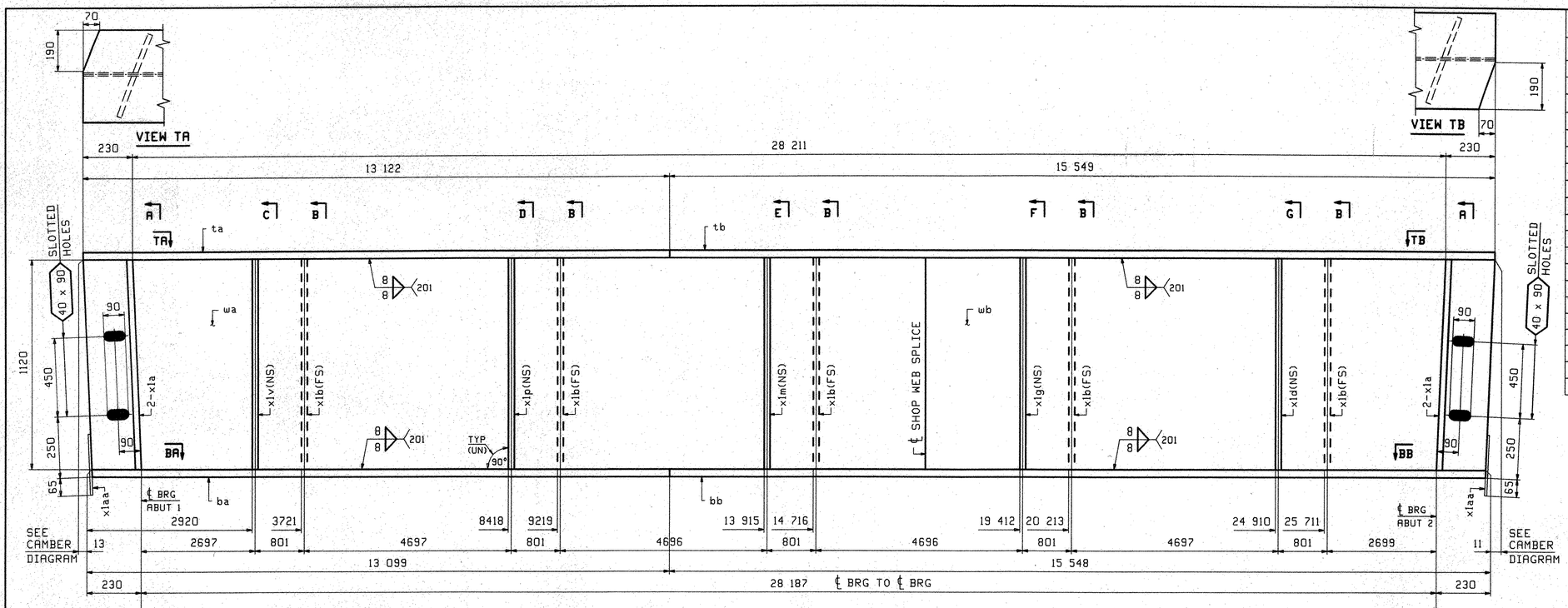
DRAWN BY	DATE
JTB	02/16
CHKD BY	
PCP	03/02
APPROV BY	
SUPERVISOR	W. J. GATTI
Q.A.	

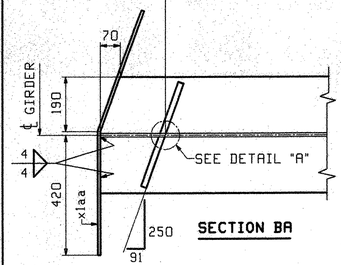
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
293	3
	REV. △

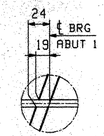
087-55

PCP Fri Mar 3 09:49:48 EST 2006 /users/pbw/2625/3 : Rev0





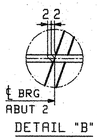
SECTION BA



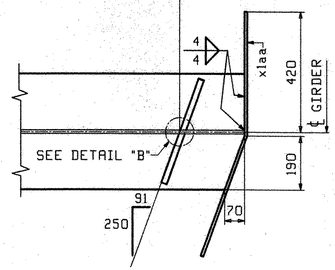
DETAIL "A"

ONE - GIRDER - 4G4

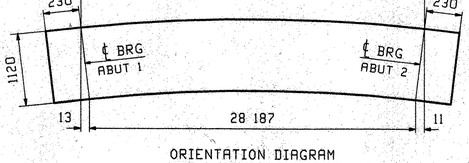
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



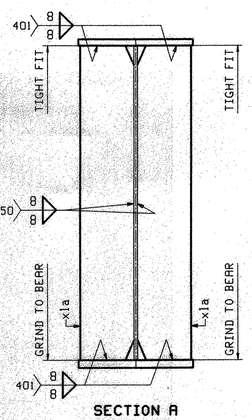
DETAIL "B"



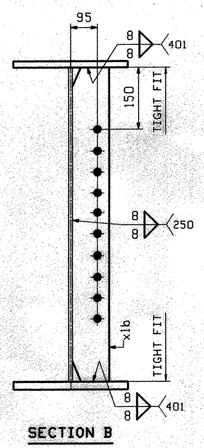
SECTION BB



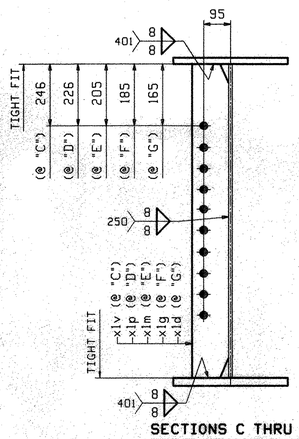
ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1



SECTION A
(DEVELOPED)



SECTION B



SECTIONS C THRU G

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								293	4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				8147 kg 17961 lbs	
1	F		1	wa	PL 13x1120	15	563	(M270M-345WT2)	(H2-3)	
1	H		1	wb	PL 13x1120	13	109	(M270M-345WT2)	(H2-3)	
1	M		1	ta	PL 22x406	13	122			
1	K		1	tb	PL 22x406	15	549			
1	D		1	ba	PL 28x406	13	099	(M270M-345WT2)	(H2-3)	
1	B		1	bb	PL 28x406	15	548	(M270M-345WT2)	(H2-3)	
2	B		4	x1a	PL 20x190	1	120	MIE		
2	C		5	x1b	PL 13x130	1	120			
2	C		1	x1d	PL 13x130	1	120			
2	C		1	x1g	PL 13x130	1	120			
2	C		1	x1m	PL 13x130	1	120			
2	C		1	x1p	PL 13x130	1	120			
2	C		1	x1v	PL 13x130	1	120			
2	E		2	x1aa	PL 6x250	0	883	BENT		

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-7-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL: M270M-345W (UN)
ELECTRODES:
HOLES: 15/16ø (UN)
SHOP BOLTS: NONE

SURFACE PREP. & PAINT:
SEE DRAWING GN1

RECEIVED
CK'D BY CWC CK'D BY JMP
MAR 13 2006
RESUBMIT ____ APPROVED ✓
BY CWC DATE 4-11-06

DESCRIPTION: GIRDER - 4G4
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER
BRIDGE NO. 8
LYNDON, VT. COUNTY OF CALEDONIA
TENSOR 2625
PROJ NO. BRS 0269 (8)S
CUSTOMER: WINTERSET, INC.

	DRAWN BY	DATE
	JTB	02/16
	CHKD BY	
	PCP	03/02
	APPROV BY	
	SUPERVISOR	W. J. GATTI
	Q.A.	

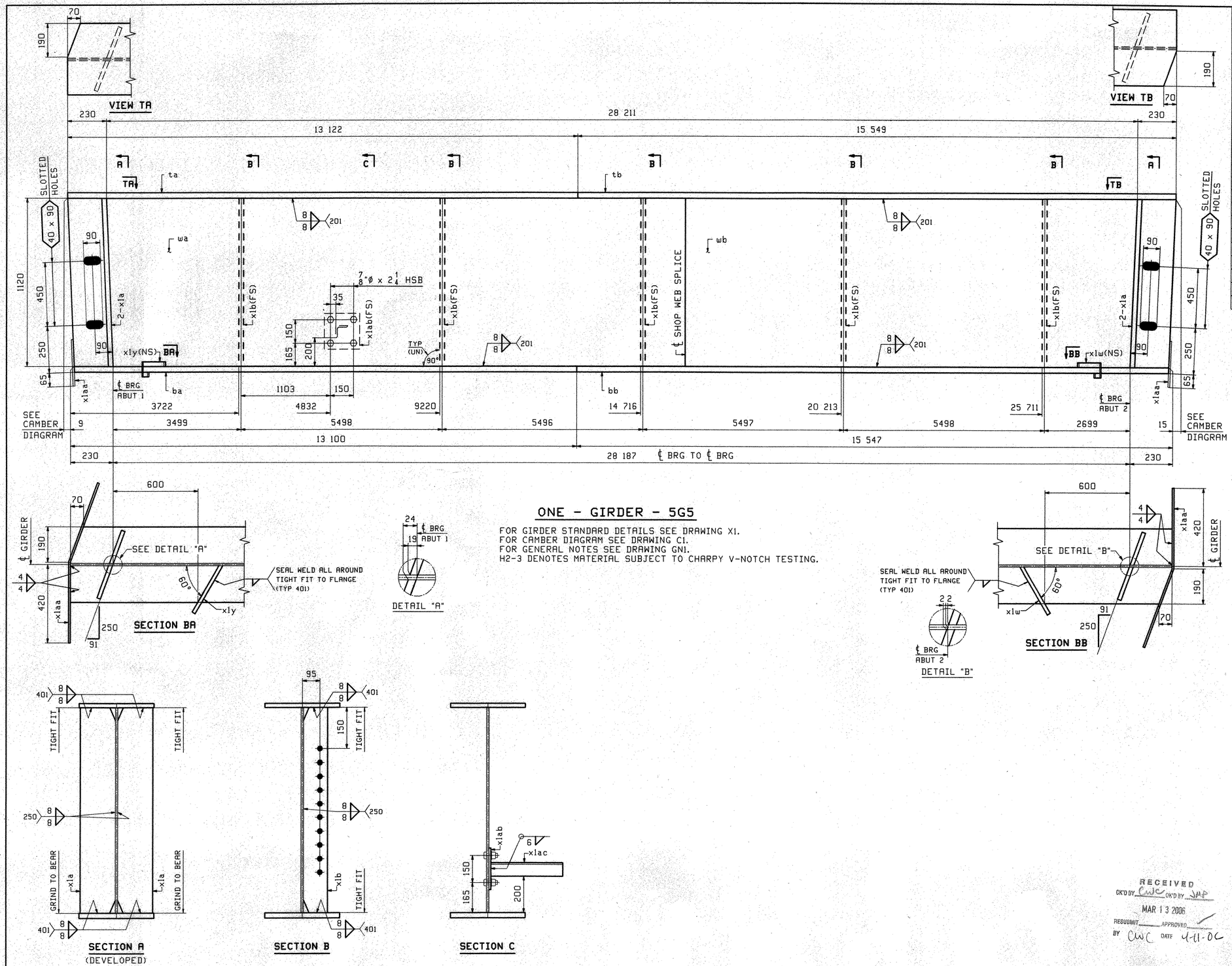
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO. 293 | DRG. NO. 4 | REV. △

088-55

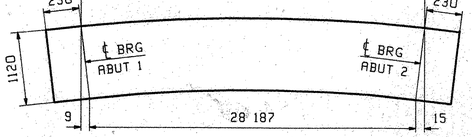
PCP Fri, Mar 3 09:50:01 EST 2006 /users/jmar2625/4 • Rev0

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								293	5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				8085 kg 17824 lbs	
1	F		1	wa	PL 13x1120	15	559	(M270M-345WT2)	(H2-3)	
1	H		1	wb	PL 13x1120	13	113	(M270M-345WT2)	(H2-3)	
1	M		1	ta	PL 22x406	13	122			
1	K		1	tb	PL 22x406	15	549			
1	D		1	ba	PL 28x406	13	100	(M270M-345WT2)	(H2-3)	
1	B		1	bb	PL 28x406	15	547	(M270M-345WT2)	(H2-3)	
2	B		4	xla	PL 20x190	1	120	MIE		
2	C		5	xlb	PL 13x130	1	120			
2	D		1	xlw	PL 6x78	0	280			
2	D		1	xly	PL 6x78	0	280			
2	E		2	xlaa	PL 6x250	0	883	BENT		
3	C		1	xlab	PL 10x230	0	230	(M270M-250)		
3	B		1	xlac	L 76x76x10	0	390	(M270M-250)		
3	T		4		7/8 ø HSB	0	2 1/4	(A325-3)		
3	U		4		7/8 ø HSW			(F436W)		



ONE - GIRDER - 5G5

FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	OUT FOR APPROVAL	3-7-06									
	OUT FOR APPROVAL										
	ISSUED TO SHOP										
	FIELD & OFFICE										

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M-345W (UN)		15/16ø (UN)	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

DESCRIPTION: GIRDER - 5G5	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER	JTB	02/16
BRIDGE NO. 8	CHKD BY	
LYNDON, VT. COUNTY OF CALEDONIA	PCP	03/02
TENSOR 2625	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BRS 0269 (8)S	Q.A.	
CUSTOMER: WINTERSET, INC.		

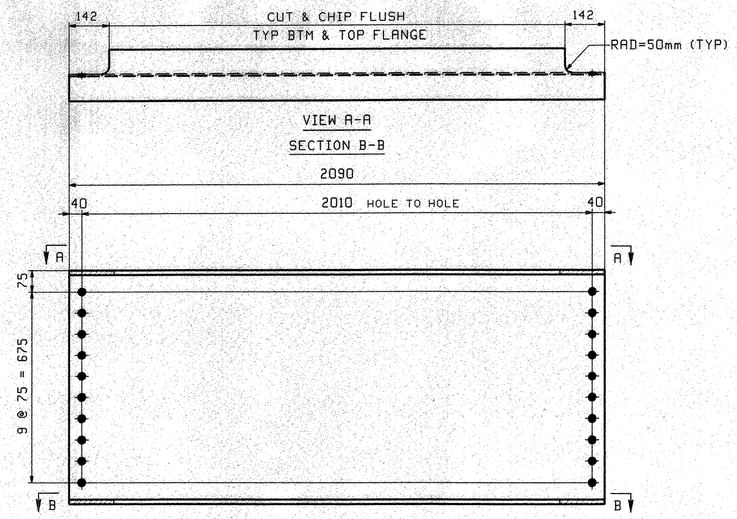
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
293	5
	REV. △

RECEIVED
CK'D BY CWC CK'D BY JMP
MAR 13 2006
RESUBMIT APPROVED
BY CWC DATE 4-11-06

089-55

PCP Fri Mar 3 09:50:10 EST 2006 /users/jobs/2625/5.1 Rev0



20 ~ INT. DIAPHRAGMS - 6D1

LOOKING UP-STATION

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								293	6	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					DIAPHRAGMS					
2	K	6D3	20		W 840x176	2	090		368 kg 811 lbs	

OUT FOR APPROVAL	3-7-06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270M GR 345W		15 16Ø	NONE

SURFACE PREP. & PAINT:

SEE DRAWING GN1

RECEIVED
CK'D BY CWC CK'D BY JWP
MAR 13 2006
RESUBMIT ____ APPROVED ✓
BY CWC DATE 4-11-06

DESCRIPTION: DIAPHRAGMS	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER	JTB	02/16
BRIDGE NO. 8	CHKD BY	
LYNDON, VT. COUNTY OF CALEDONIA	PCP	03/02
TENSOR 2625	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BRS 0269 (8)S	Q.A.	
CUSTOMER: WINTERSET, INC.		

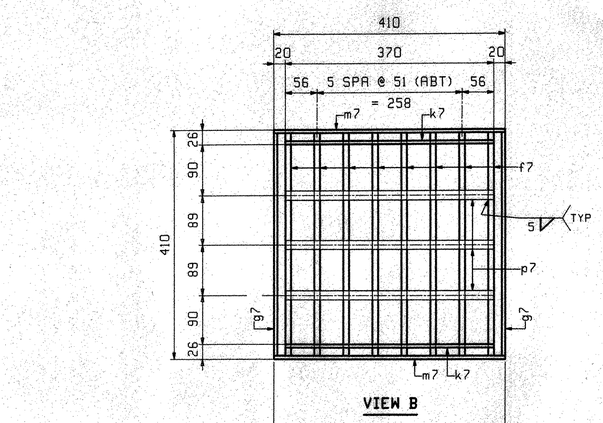
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

JOB NO.	DRG. NO.
293	6
	REV. △

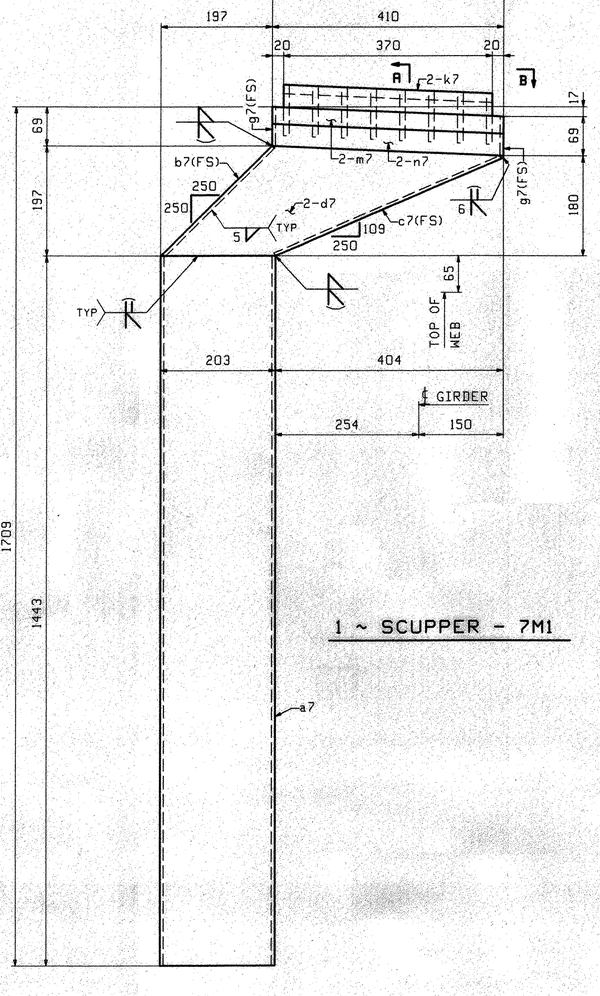
090-55

PCP Fri Mar 3 09:50:18 EST 2006 /users/jobs/2625/6.dwg

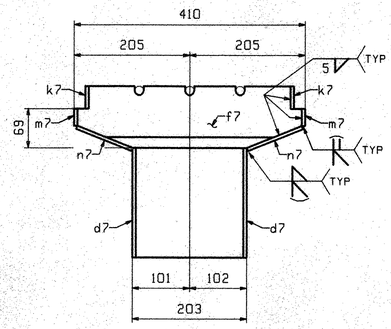
ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								293	7	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		7M1	1		SCUPPER				107 kg 235 lbs	
3	D		1	a7	TS203x203x6	1	443	(A500M-B) (GALV)		
3	E		1	b7	PL 6x191	0	274	(M270M-250) (GALV)		
3	E		1	c7	PL 6x191	0	437	(M270M-250) (GALV)		
3	F		2	d7	PL 6x197	0	607	(M270M-250) (GALV)		
3	L		8	f7	BR 10x90	0	398	(M270M-250) (GALV)		
3	G		2	g7	PL 6x69	0	398	(M270M-250) (GALV)		
3	H		2	k7	PL 6x40	0	372	(M270M-250) (GALV)		
3	J		2	m7	PL 6x30	0	411	(M270M-250) (GALV)		
3	K		2	n7	PL 6x105	0	412	(M270M-250) (GALV)		
3	M		3	p7	ROD 16 ø	0	375	(M270M-250) (GALV)		



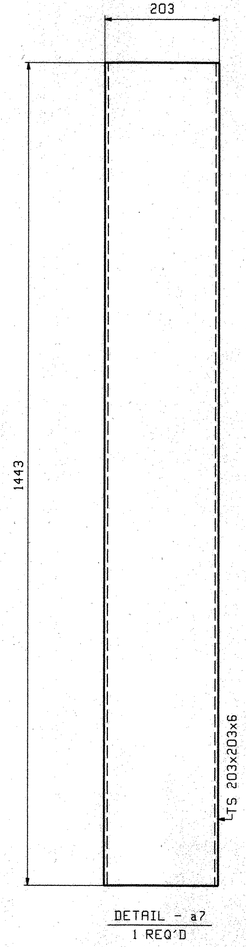
VIEW B



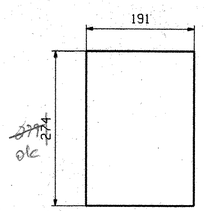
1 ~ SCUPPER - 7M1



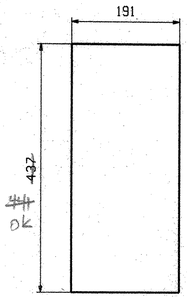
SECTION A



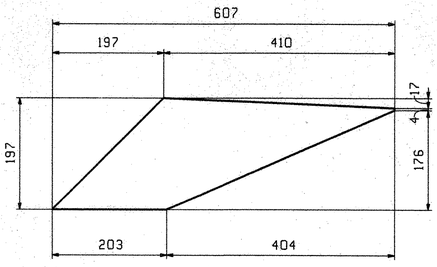
DETAIL - a7
1 REQ'D



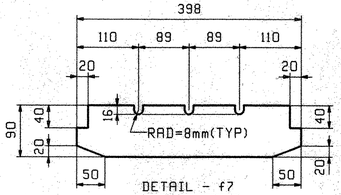
DETAIL - b7
1 REQ'D



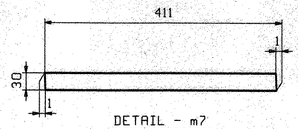
DETAIL - c7
1 REQ'D



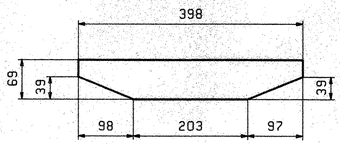
DETAIL - d7
2 REQ'D



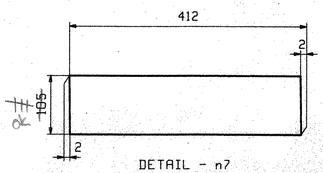
DETAIL - f7
8 REQ'D



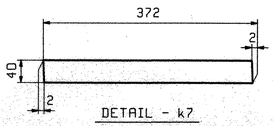
DETAIL - m7
2 REQ'D



DETAIL - g7
2 REQ'D



DETAIL - n7
2 REQ'D



DETAIL - k7
2 REQ'D

RECEIVED
CK'D BY JMP CK'D BY CWC
MAR 13 2008
RESUBMIT APPROVED
BY CWC DATE 4-11-08

NOTES:
1. DRAIN PIPES AND CONNECTION ANGLES/PL'S SHALL BE BLAST CLEANED PER SSPC-SP6/NACE 3 AND GALVANIZED IN ACCORDANCE WITH AASHTO M-111.
2. FOR GENERAL NOTES SEE DRAWING GN1.

OUT FOR APPROVAL	3-7-08									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:
M270-250(GALV)		NONE	NONE

SURFACE PREP. & PAINT:
SEE NOTES ABOVE & DRAWING GN1

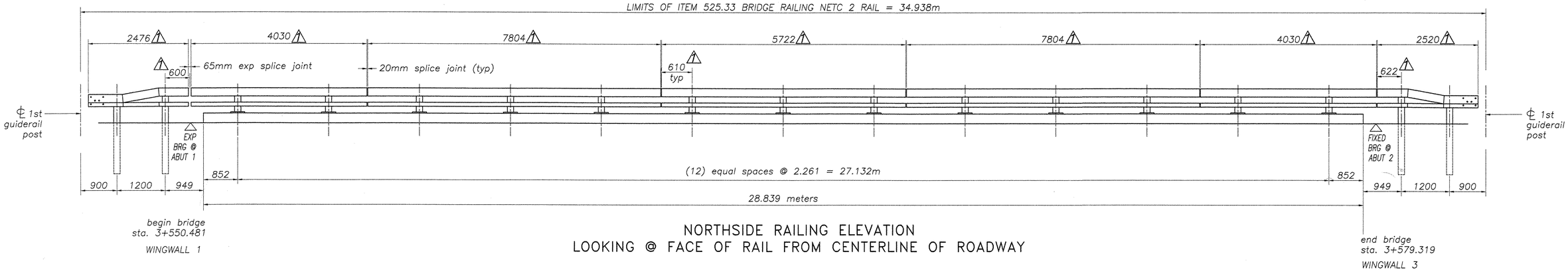
DESCRIPTION: SCUPPER	DRAWN BY	DATE
JOB: VT 114 OVER THE EAST BRANCH OF THE PASSUMPSIC RIVER	JTB	02/16
BRIDGE NO. 8	CHKD BY	
LYNDON, VT. COUNTY OF CALEDONIA	PCP	03/02
TENSOR 2625	APPROV BY	
	SUPERVISOR	W. J. GATTI
PROJ NO. BRS 0269 (8)S	Q.A.	
CUSTOMER: WINTERSET, INC.		

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

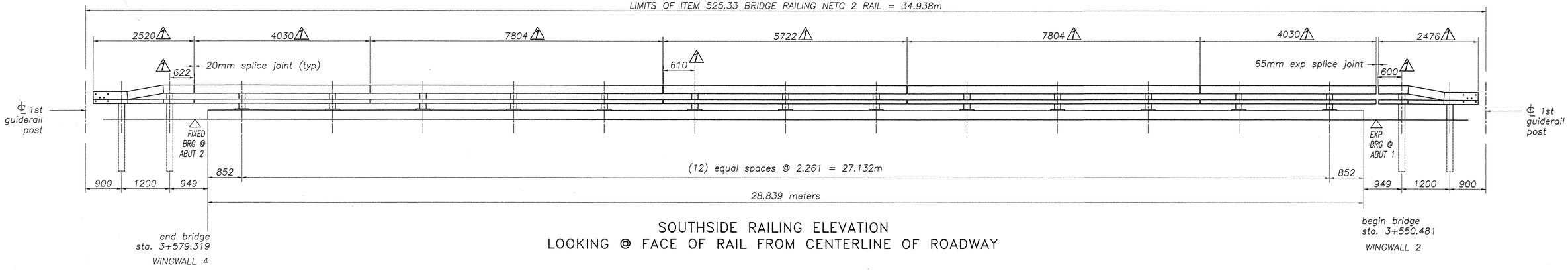
JOB NO.	DRG. NO.
293	7
	REV. △

091-55

PCP Fri Mar 7 09:35:26 EST 2008 /users/jobs/2625/7 : Rev3



NORTHSIDE RAILING ELEVATION
LOOKING @ FACE OF RAIL FROM CENTERLINE OF ROADWAY



SOUTHSIDE RAILING ELEVATION
LOOKING @ FACE OF RAIL FROM CENTERLINE OF ROADWAY

all dimensions shown are in millimeters (mm) unless otherwise noted

total pay limit (item 525.33) = 70 meters

REVISIONS		
No.	Remarks	Date
0	Initial submittal	xx.xx.xx
1	Final Copy w/Approved as Noted Corrections	06.20.06

VTrans - PDD
JUL 0 5 2006
Structures Design Section
RECORD PLANS

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

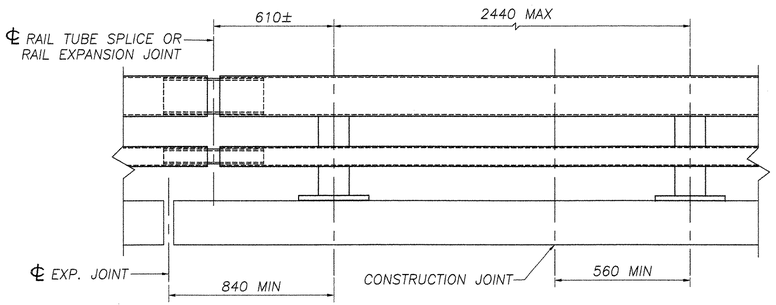
item 525.33 NETC 2-rail bridge railing
Town of Lyndon, Vermont
Caledonia County, Route VT 114
Bridge no. 8 over East Branch Passumpsic River
Proj. BRS 0269 (8) S

GENERAL CONTRACTOR

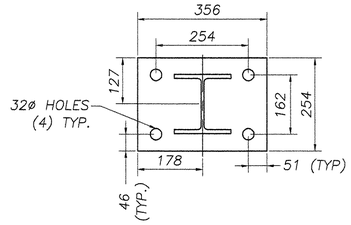
SUB CONTRACTOR
F.R. Lafayette

DRAWN	p. radice
CHECKED	
DATE	5-16-06
SCALE	1/4 = 12
HSC REFERENCE NO.	1549
SIZE	D
REVISION	1
SHEET NO.	1 of 2

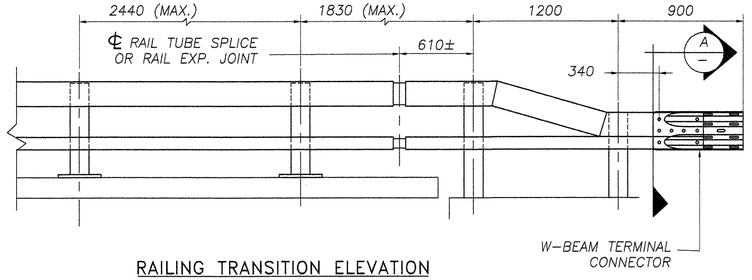
092-BR
RW



BRIDGE RAILING ELEVATION



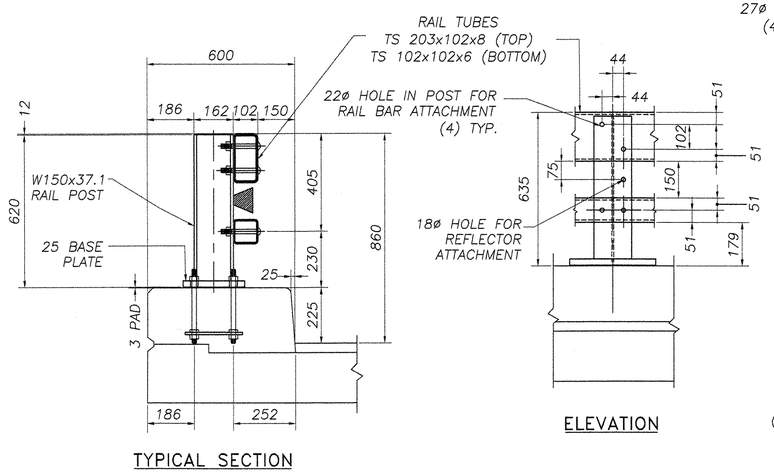
POST AND BASE PLATE



RAILING TRANSITION ELEVATION
(BOTHEND OF BRIDGE)

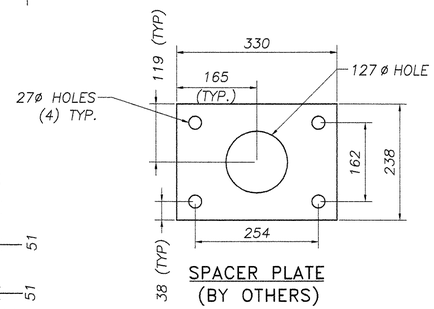
BILL OF MATERIAL (BOTH SIDES OF BRIDGE)	
Qty.	Description
26	W150x37.1 POST W/BASEPLATE (620mm) OAL
4	W150x37.1 DRIVEN POST (2.134m) OAL
4	W150x37.1 DRIVEN POST (1.956m) OAL
4	TS 203 x 102 x 8 (4.030m) OAL
2	TS 203 x 102 x 8 (5.722m) OAL
4	TS 203 x 102 x 8 (7.804m) OAL
4	TS 203 x 102 x 8 (4.030m) OAL
2	TS 203 x 102 x 8 (5.722m) OAL
4	TS 203 x 102 x 8 (7.804m) OAL
2	TS 203 x 102 x 8 (2.476m) OAL CUT AND WELD
2	TS 203 x 102 x 8 (2.520m) OAL CUT AND WELD
2	TS 203 x 102 x 8 (2.476m) OAL CUT AND WELD
2	TS 203 x 102 x 8 (2.520m) OAL CUT AND WELD
12	TS 178 x 76 x 10 SPLICE TUBE 510 LG.
12	TS 76 x 76 x 8 SPLICE TUBE 510 LG.
26	3mm BEARING PAD
4	BACK UP PLATE 381x254x10
4	TERMINAL CONNECTOR
160	M20 ROUND HEAD BOLT, 152 LONG W/NUT AND WASHER
96	M16 SPLICE BOLT, 44 LONG W/PLAIN HARDENED WASHER
* 96	M24 ANCHOR STUD, 305 LG. W/(2) HEX NUTS/(1) JAMB NUT/(1) WASHER
* 26	SPACER PLATE 330 x 238 x 10
16	M20 x 13 SCH. 40 PIPE SPACER

ITEMS MARKED "*" ARE NOT SUPPLIED BY HIGHWAY SAFETY CORPORATION, AND THEY ARE SHOWN ONLY FOR REFERENCE.

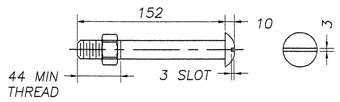


TYPICAL SECTION

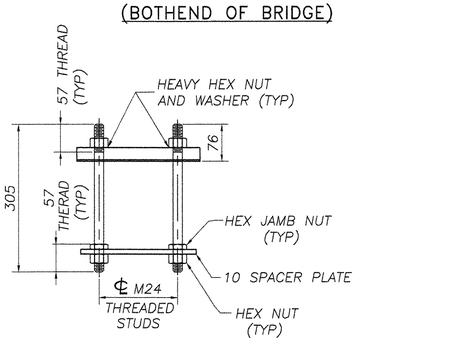
ELEVATION



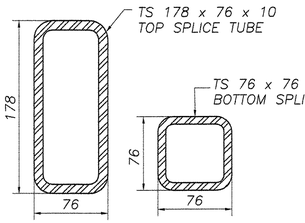
SPACER PLATE
(BY OTHERS)



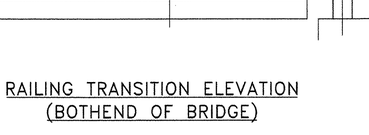
M20 DIA. M164M (TYPE 1)
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



RAIL POST ANCHORAGE
(BY OTHERS)



RAIL TUBE SPLICE SECTION

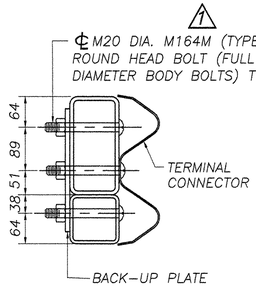


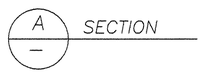
16ø TAPPED HOLE IN SPLICE TUBE &
19ø HOLE IN RAIL TUBE FOR M16
BOLT & PLAIN HARDENED WASHER

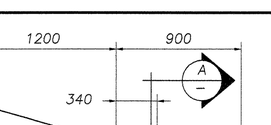
16ø TAPPED HOLE IN SPLICE TUBE
AND 29 x 'C' SLOT IN RAIL TUBE FOR
M16 BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

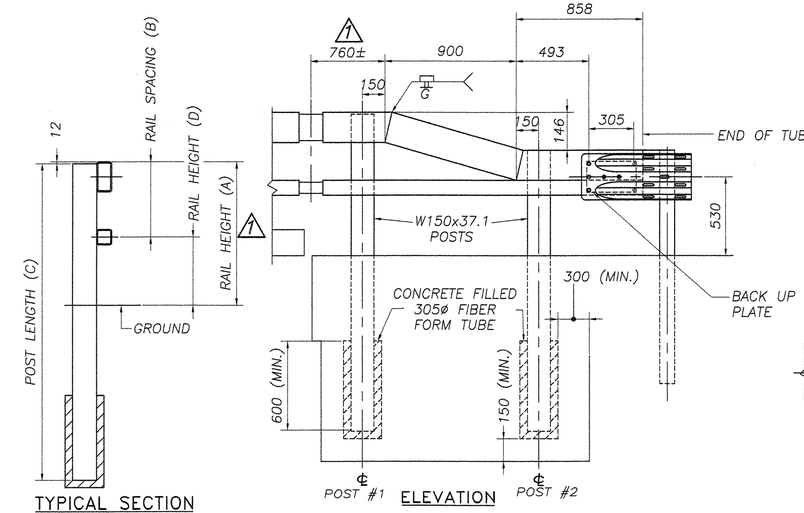
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."





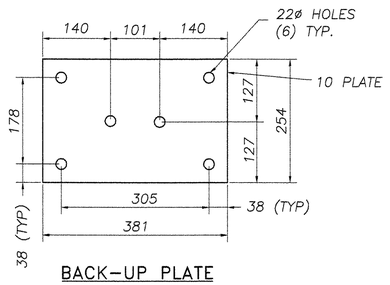


BASE WELD DETAIL

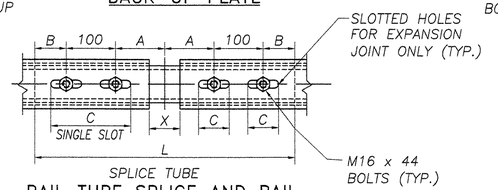


TYPICAL SECTION

ELEVATION



BACK-UP PLATE



RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL

	RAIL HEIGHT	RAIL SPACING	POST LENGTH	RAIL HEIGHT
POST NUMBER	(A)	(B)	(C)	(D)
1	860	405	2134	455
2	702	254	1956	448

SPLICE TABLE					
T	A	B	C	L	X
N/A	100	50	--	510	20
EXPANSION JOINT TABLE					
<100	100	50	65	510	65

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

* = SINGLE SLOT

NOTES:

1. ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525, "RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION".

2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OR THE STANDARD SPECIFICATION FOR CONSTRUCTION," EXCEPT THAT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING SHOWN ON THIS SHEET.

3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2mm RADIUS AND BE FREE OF BURRS.

4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.

5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.

6. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.

7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232M.

8. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.

9. RAIL TUBES SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLT INSERTED THOUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 2mm LARGER THAN THE BOLT SIZE.

10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.

11. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.

12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.

13. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.

14. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMENS.

15. TO FACILITATE FIELD FIT – UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKED FILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE , AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO ITEM 525.33, "BRIDGE RAILING – NETC 2 RAILING".

16. ALL APPROACH RAIL SPLICES SHALL BE LAPPED ON THE DIRECTION OF TRAFFIC FLOW.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES.....ASTM A709/A709M, GRADE 345
ALL OTHER SHAPRE AND PLATES.....ASTM A709/A709M, GARDE 250
ANCHOR STUDS.....ASTM FS68M CLASS 8.8
ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164M, TYPE1

NUTS FOR AASHTO M164M (ASTM A325M) BOLTS AND ANCHOR STUDS SHALL COMPLY WITH AASTHO M291M (ASTM A563M).

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFCATIONS.

3mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	
1	Final Copy w/Approved as Noted Corrections	06.20.06

VTrans - PDD
JUL 06 2006
Structures Design Section
RECORD PLANS

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

item 525.33 NETC 2-rail bridge railing
Town of Lyndon, Vermont
Caledonia County, Route VT 114
Bridge no. 8 over East Branch Passumpsic River
Proj. BRS 0269 (8) S

DRAWN	MHM
CHECKED	
DATE	5-16-06
SCALE	NONE
HSC REFERENCE NO.	1549
SIZE	D
REVISION	0
SHEET NO.	2 of 2

GENERAL CONTRACTOR

SUB CONTRACTOR F.R. Lafayette

093-BR