

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF LINCOLN

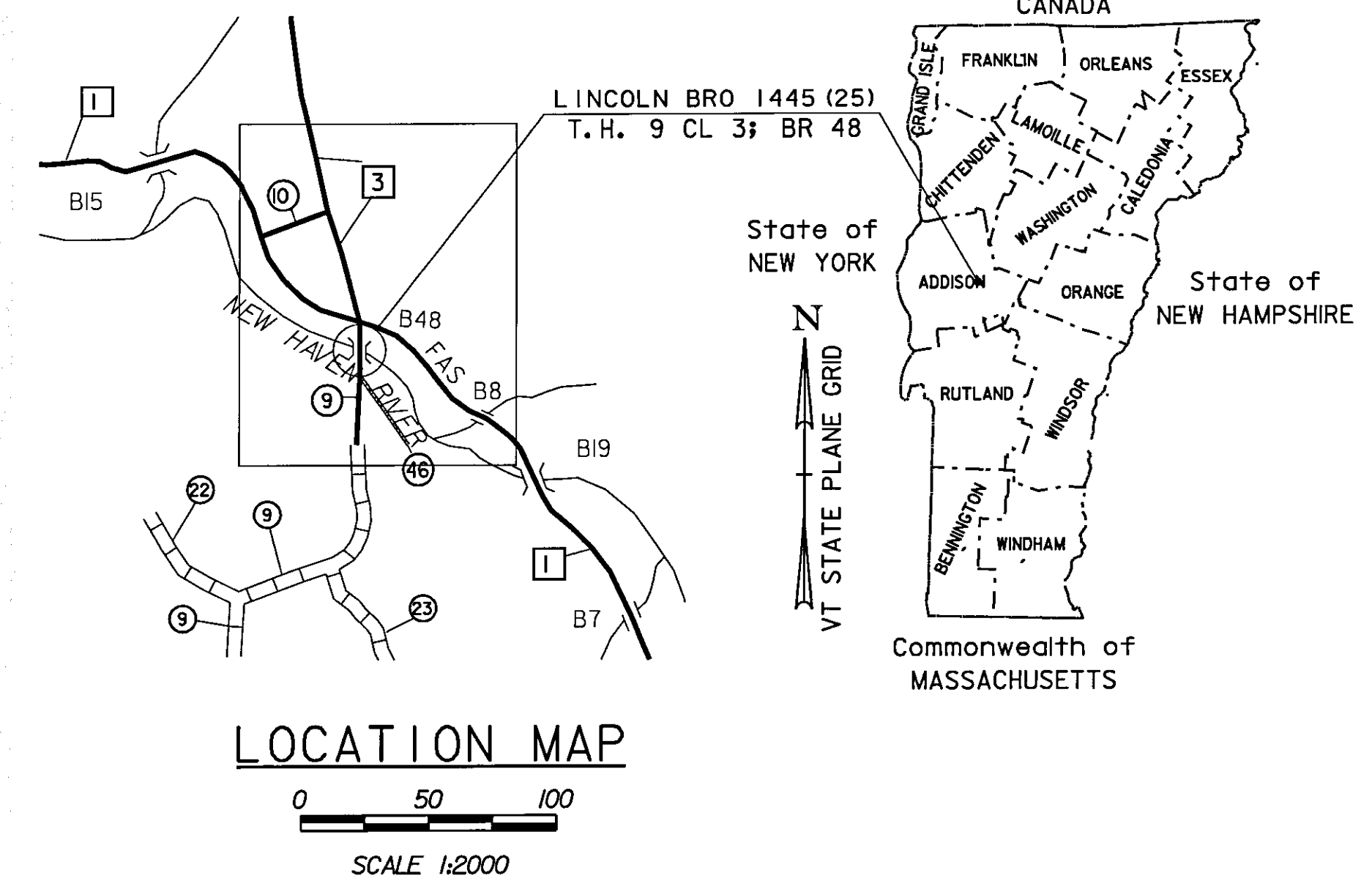
COUNTY OF ADDISON

ROUTE NO : T.H. 9 CL 3 (LOCAL ROAD) BRIDGE NO : 48

PROJECT LOCATION : BEGINNING FROM A POINT ON T.H. 9 APPROXIMATELY 0.066 KM FROM THE INTERSECTION OF T.H. 1 AND T.H. 9 PROCEEDING NORTHERLY APPROXIMATELY 0.066 KM ALONG T.H. 9.

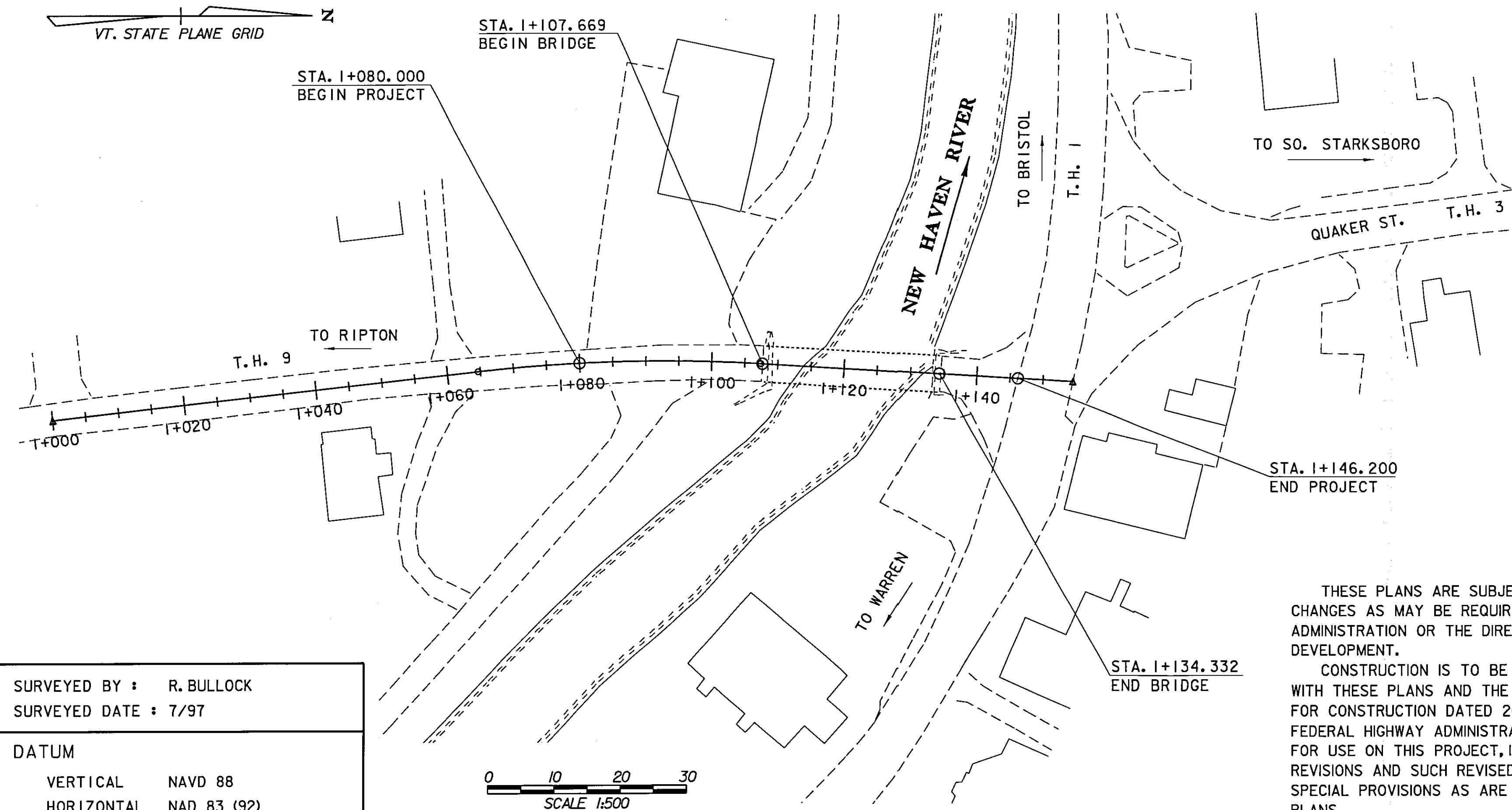
PROJECT DESCRIPTION : BRIDGE REPLACEMENT WITH ROADWAY APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE : 26.663 METERS.
LENGTH OF ROADWAY : 39.537 METERS.
LENGTH OF PROJECT : 66.200 METERS.



SEE SHEET 2 FOR INDEX OF SHEETS

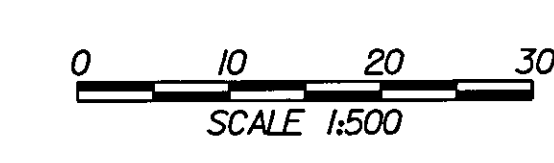
RECORD PLANS	
CONTRACTOR:	PARENT CONSTRUCTION INC.- HINESBURG, VT
RESIDENT ENGINEER:	JOE KNIPES
CONSTRUCTION BEGAN:	MAY 4, 2009
CONSTRUCTION COMPLETE:	NOVEMBER 13, 2009
RECORD PLANS BY:	JOE KNIPES & NICK GARBACIK
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY:	RESIDENT ENGINEER
DATE:	6-12-11
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	



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

SURVEYED BY : R. BULLOCK
SURVEYED DATE : 7/97

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)



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

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

29-JAN-2009

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

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED	DATE 1-29-09
PROJECT MANAGER : R. WHITCOMB	
PROJECT NAME : LINCOLN	
PROJECT NUMBER : BRO 1445 (25)	
SHEET 1 OF 58 SHEETS	

PRELIMINARY INFORMATION SHEET



INDEX OF SHEETS

1. TITLE SHEET	B-71	RESIDENTIAL AND COMMERCIAL DRIVES	07/08/05
2. PRELIMINARY INFORMATION SHEET			
3. GENERAL NOTES	C-10	CURBING	02/11/08
4. TYPICAL CROSS SECTIONS			
5. QUANTITY SHEET 1	C-2A	PORTLAND CEMENT CONCRETE SIDEWALK	10/14/05
6. QUANTITY SHEET 2		DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	
7. QUANTITY SHEET 3			
8. QUANTITY SHEET 4	C-3A	SIDEWALK RAMPS	03/10/08
9. SURVEY TIES			
10. LAYOUT PLAN	E-100	CONSTRUCTION APPROACH SIGNS	01/02/04
11. PROFILE			
12. MATERIAL TRANSITION DETAILS	E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	01/02/04
13. RESOURCE PLAN			
14. EPSC NARRATIVE	E-101	CONSTRUCTION SIGN DETAILS	05/30/03
15. EPSC EXISTING SITE PLAN			
16. EPSC CONSTRUCTION SITE PLAN	E-102	CONSTRUCTION SIGN DETAILS	06/30/03
17. EPSC FINAL SITE PLAN			
18. EPSC DETAILS 1	E-102A	CONSTRUCTION SIGN DETAILS	05/01/04
19. EPSC DETAILS 2			
20. TRAFFIC CONSTRUCTION SITE PLAN	E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	03/01/04
21. TRAFFIC FINAL SITE PLAN			
22. TRAFFIC SIGN SUMMARY	E-107	DELINEATION, BARRICADES AND DETOURS	06/30/03
23. GEOTECHNICAL PLAN		FOR CONSTRUCTION AREAS	
24. GEOTECHNICAL BORING LOGS 1	E-107A	BREAKAWAY BARRICADE DETAILS	08/08/95
25. GEOTECHNICAL BORING LOGS 2			
26. GEOTECHNICAL BORING LOGS 3	E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	12/08/08
27. GEOTECHNICAL BORING LOGS 4			
28. PLAN & ELEVATION	E-109	TRAFFIC CONTROL DEVICES FOR TEMPORARY	08/08/95
29. SUPERSTRUCTURE TYPICAL SECTIONS		TERMINATION OF FREEWAY FACILITIES	
30. SUPERSTRUCTURE PLAN	E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	08/08/95
31. SUPERSTRUCTURE CURB DETAILS			
32. SUPERSTRUCTURE FRAMING PLAN	E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/08/95
33. SUPERSTRUCTURE FRAMING DETAILS			
34. SUPERSTRUCTURE BEARING DETAILS 1	E-121A	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08/08/95
35. SUPERSTRUCTURE BEARING DETAILS 2			
36. APPROACH SLAB DETAILS 1	E-136A	U.S. ROUTE MARKER SIGN DETAILS	08/08/95
37. APPROACH SLAB DETAILS 2			
38. SUBSTRUCTURE ABUTMENT 1 DETAILS	E-141	REGULATORY SIGN DETAILS	09/20/95
39. SUBSTRUCTURE ABUTMENT 2 DETAILS			
40. SUBSTRUCTURE WINGWALL 2 DETAILS	E-143	REGULATORY SIGN DETAILS	06/15/04
41. SUBSTRUCTURE WINGWALLS 3&4 DETAILS			
42. SUBSTRUCTURE FOOTING PLAN	E-150	WARNING SIGN DETAILS	05/01/04
43. REINFORCING STEEL SCHEDULE			
44. ALUMINUM BRIDGE RAILING DETAILS 1	E-164	SQUARE STEEL SIGN POST	05/20/99
45. ALUMINUM BRIDGE RAILING DETAILS 2			
46. ALUMINUM BRIDGE RAILING DETAILS 3	E-191	PAVEMENT MARKING DETAILS	02/01/99
47. APPROACH RAILING LAYOUT PLAN			
48. ROADWAY CROSS SECTIONS 1	E-193	PAVEMENT MARKING DETAILS	08/18/95
49. ROADWAY CROSS SECTIONS 2			
50. ROADWAY CROSS SECTIONS 3	G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	06/01/94
51. CHANNEL CROSS SECTIONS 1			
52. CHANNEL CROSS SECTIONS 2	J-3	MAIL BOX SUPPORT DETAILS	08/07/95
53. CHANNEL CROSS SECTIONS 3			
54. CHANNEL CROSS SECTIONS 4			
55. CHANNEL CROSS SECTIONS 5			
56. CHANNEL CROSS SECTIONS 6			
57. ROW LAYOUT SHEET			
58. ROW DETAIL SHEET			

VTRANS STANDARD DRAWINGS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA Date: 09/19/01
 DRAINAGE AREA : 77 sq. km
 CHARACTER OF TERRAIN : wooded, mountainous, rural
 STREAM CHARACTERISTICS : semi-alluvial, straight, not braided or anabranching
 NATURE OF STREAMBED : mostly cobbles

PEAK FLOW DATA
 Q 2.33 = 45 cms Q 50 = 130 cms
 Q 10 = 85 cms Q 100 = 150 cms
 Q 25 = 110 cms Q 500 = 200 cms

DATE OF FLOOD RECORD : unknown
 ESTIMATED DISCHARGE : unknown
 WATER SURFACE ELEV. : unknown
 NATURAL STREAM VELOCITY : @ Q25 = 3.2 mps
 ICE CONDITIONS : light to moderate
 DEBRIS : moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? yes
 IS ORDINARY RISE RAPID? yes
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? no
 IF YES, DESCRIBE:

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Steel beam bridge
 YEAR BUILT: 1939 (recon. 1973)
 CLEAR SPAN(NORMAL TO STREAM): 17.6 m
 VERTICAL CLEARANCE ABOVE STREAMBED: 3.9 m (ave. low bm. el. = 296.3m)
 WATERWAY OF FULL OPENING: 62.2 sq. m
 DISPOSITION OF STRUCTURE: removal
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Refer to borings if available.

WATER SURFACE ELEVATIONS AT:
 Q2.33 = 294.0 m VELOCITY = 2.4 mps
 Q10 = 294.6 m " 2.9 mps
 Q25 = 295.0 m " 3.2 mps
 Q50 = 295.2 m " 3.6 mps
 Q100 = 295.5 m " 3.8 mps

LONG TERM STREAMBED CHANGES: none noted

IS THE ROADWAY OVERTOPPED BELOW Q100: no
 FREQUENCY: greater than Q100
 RELIEF ELEVATION: approx. 295.7 m
 DISCHARGE OVER ROAD @Q100: none

UPSTREAM STRUCTURE

TOWN: Lincoln DISTANCE: 800 m
 HIGHWAY #: TH 1 (SA - 1) STRUCTURE #: BR 19
 CLEAR SPAN: 35 m CLEAR HEIGHT: 4.3 m
 YEAR BUILT: 1934 FULL WATERWAY: unknown
 STRUCTURE TYPE: 2 - span steel beam bridge

DOWNSTREAM STRUCTURE

TOWN: Lincoln DISTANCE: 2600 m
 HIGHWAY #: TH 6 STRUCTURE #: BR 46
 CLEAR SPAN: 18 m CLEAR HEIGHT: 4.8 m
 YEAR BUILT: 1899 FULL WATERWAY: unknown
 STRUCTURE TYPE: Pony truss bridge

PROPOSED STRUCTURE

STRUCTURE TYPE: steel beam bridge
 CLEAR SPAN(NORMAL TO STREAM): 20.7 m
 VERTICAL CLEARANCE ABOVE STREAMBED: 3.2 m
 WATERWAY OF FULL OPENING: 55.1 sq. m

WATER SURFACE ELEVATIONS AT:
 Q2.33 = 294.0 m VELOCITY = 2.7 mps
 Q10 = 294.6 m " 2.9 mps
 Q25 = 294.9 m " 3.0 mps
 Q50 = 295.1 m " 3.3 mps
 Q100 = 295.3 m " 3.6 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: no
 FREQUENCY: greater than Q100
 RELIEF ELEVATION: approx. 296.0 m
 DISCHARGE OVER ROAD @Q100: none

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 295.6 m
 VERTICAL CLEARANCE: @ Q25 = 0.7 m

SCOUR: 0.1 m contraction scour at Q500

REQUIRED CHANNEL PROTECTION: Type III Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW: 1.7 cms DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 0.8 cms 0.3 m
 ORDINARY HIGH WATER: 19.3 cms 1.0 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: single span bridge (to be removed before winter)
 CLEAR SPAN (NORMAL TO STREAM): 14 m min.
 VERTICAL CLEARANCE ABOVE STREAMBED: Low beam el. = 295.2 m min.
 WATERWAY AREA OF FULL OPENING: 35.5 sq. m min.

ADDITIONAL INFORMATION

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO MS 22.5
- DESIGN SPAN 28m CENTER TO CENTER OF BEARINGS
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 190 kPa
ON LEDGE N/A
- ALLOWABLE LOAD FOR PILING N/A
TYPE N/A
ESTIMATED LENGTH N/A
- STRUCTURAL STEEL AASHTO M270/MM270 GRADE 345W
- REINFORCING STEEL GRADE 420
- CONCRETE, HIGH PERFORMANCE CLASS A fc: 30 Mpa
CONCRETE, HIGH PERFORMANCE CLASS B fc: 25 Mpa
- DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL 177 kPa

TRAFFIC MAINTENANCE

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

LOAD FACTOR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	47	64					
POSTED	66	90	107		83	85	98
OPERATING		108	128	153	99	101	

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2003	410	55	59	<1	5
2023	540	75	59	<1	10

20 year ESAL for flexible pavement from 2003 to 2023 : 53,000
 40 year ESAL for flexible pavement from 2003 to 2043 : 121,000
 Design Speed : 30 km/h

PROJECT NAME: LINCOLN

PROJECT NUMBER: BRO 1445 (25)

FILE NAME: s96j266pi.xls PLOT DATE: 2/5/2009
 PROJECT MANAGER: R. WHITCOMB DRAWN BY: T. LACKEY
 DESIGNED BY: S. SCRIBNER CHECKED BY: R. WHITCOMB
 PRELIMINARY INFORMATION SHEET SHEET 2 OF 58

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO: THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ITS LATEST REVISIONS; AND THE 2002 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION AND ITS LATEST INTERIM REVISIONS.
2. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AT 68 °F (20 °C).

CONSTRUCTION

1. WATER QUALITY. PREVENT POLLUTION, AND DISCHARGE OF SILT OR RAW CONCRETE INTO THE WATERWAY AS DIRECTED BY THE RESIDENT ENGINEER.
2. IN-STREAM CONSTRUCTION. PERMITS DESIGNATE AND LIMIT THE PERIOD FOR IN-STREAM CONSTRUCTION. THE AGENCY OF NATURAL RESOURCES MUST APPROVE ANY DEVIATION FROM THIS PERIOD IN WRITING.

TRAFFIC CONTROL

1. ITEM 528.10 "ONE-WAY TEMPORARY BRIDGE". MAINTAIN TRAFFIC DURING CONSTRUCTION ON A ONE-WAY TEMPORARY BRIDGE WITH PAVED APPROACHES CONSTRUCTED UPSTREAM OF THE EXISTING STRUCTURE. PAYMENT FOR THIS ITEM SHALL INCLUDE THE DESIGN, DETAIL, AND IMPLEMENTATION OF THE METHOD OF SEPARATING THE TRAVELING PUBLIC FROM THE NEW BRIDGE CONSTRUCTION.
2. ITEM 641.10 "TRAFFIC CONTROL". ERECT AND MAINTAIN ALL TEMPORARY ON AND OFF-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. MAINTAIN FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS AT ALL TIMES.

UTILITIES

1. THE TELEPHONE LINES IN CONDUIT ON THE BRIDGE ARE NO LONGER IN SERVICE.

PARTIAL REMOVAL OF STRUCTURE

1. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE THE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND ANY PORTION OF THE EXISTING SUBSTRUCTURES NOT REMOVED UNDER OTHER CONTRACT ITEMS.
2. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE". EXISTING BEAMS WILL REMAIN THE PROPERTY OF THE TOWN OF LINCOLN. THE CONTRACTOR SHALL REMOVE THE BEAMS AND PLACE THEM ON TRANSPORT EQUIPMENT PROVIDED BY THE TOWN. CONTACT ART PIXLEY, LINCOLN ROAD COMMISSIONER AT (802) 453-3703. COSTS ASSOCIATED WITH THIS WORK SHALL BE INCIDENTAL TO ITEM 529.20.

REINFORCED CONCRETE

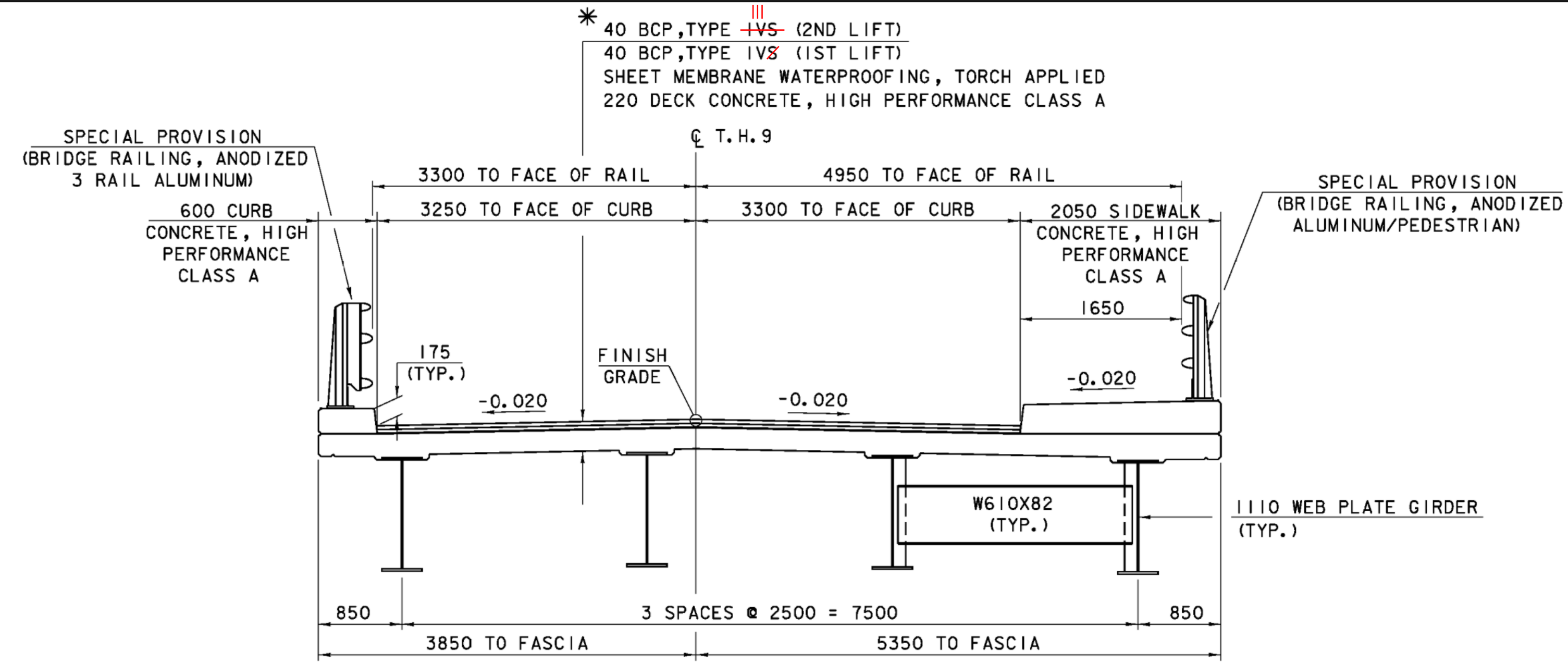
1. ITEM 501.33 "CONCRETE, HIGH PERFORMANCE CLASS A". USE THIS CONCRETE FOR THE BACK WALLS, DECK, CURB, AND SIDEWALK.
2. ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". USE THIS CONCRETE FOR THE APPROACH SLABS, AND SUBSTRUCTURES. PAYMENT FOR THIS ITEM SHALL INCLUDE INSTALLING THE BRIDGE PLAQUE PROVIDED BY THE AGENCY.
3. CONCRETE JOINTS. CONSTRUCT CONCRETE JOINTS AS INDICATED ON THE PLANS OR DIRECTED BY THE RESIDENT ENGINEER. CONSTRUCT SHEAR KEYS MONOLITHICALLY AND CONTINUOUSLY UNLESS OTHERWISE INDICATED. TERMINATE SHEAR KEYS 6" (150 MM) FROM ENDS OF JOINTS. IN HORIZONTAL JOINTS, PLACE SHEAR KEYS UPWARD.
4. CHAMFERS. CHAMFER ALL EXPOSED EDGES OF CONCRETE WITH 1" X 1" (25 MM BY 25 MM) CHAMFERS, UNLESS OTHERWISE NOTED. ROUND THE TOP INSIDE CORNER OF CURBS WITH A ½" (15 MM) RADIUS.
5. SCORE MARKS. CONSTRUCT SCORE MARKS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
6. SUPPLEMENTAL SPECIFICATION 514.10 "WATER REPELLENT, SILANE". APPLY REPELLENT TO ALL EXPOSED SURFACES OF CONCRETE ON THE BRIDGE, EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES.

STRUCTURAL STEEL

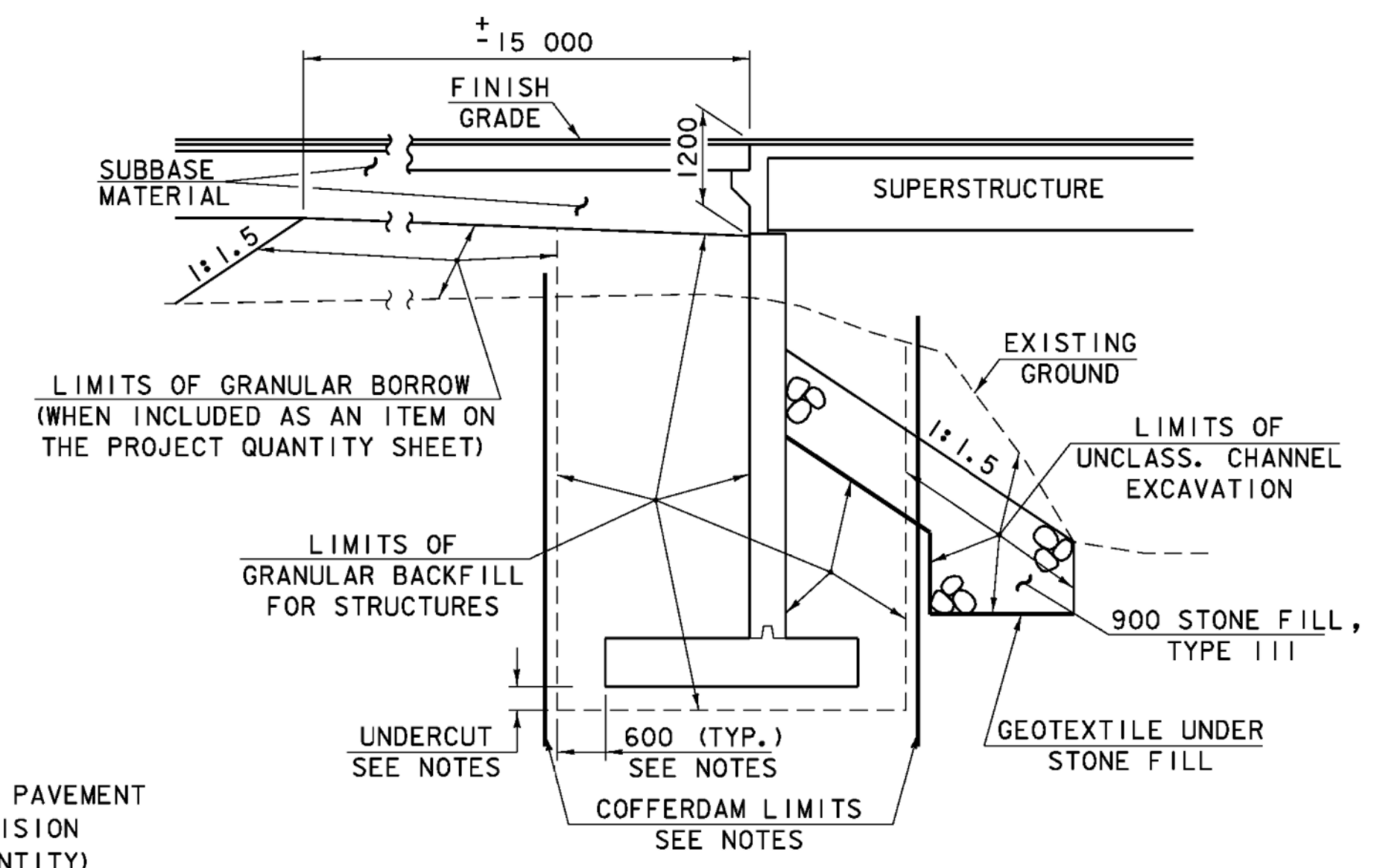
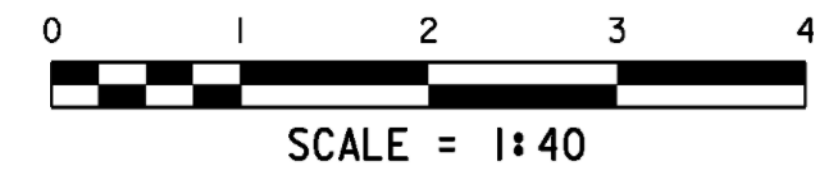
1. NEW STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50W (AASHTO M270M, GRADE 345W) UNLESS OTHERWISE NOTED.
2. ITEM 506.55 "STRUCTURAL STEEL, PLATE GIRDER". PAYMENT FOR THIS ITEM SHALL INCLUDE ALL COMPONENTS OF PLATE GIRDERS, AND CROSS FRAMES.
3. CHARPY V-NOTCH TEST. TEST STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS IN ACCORDANCE WITH SUBSECTION 714.01.
4. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 7/8" (22 MM) DIAMETER HIGH STRENGTH BOLTS IN 15/16" (24 MM) DIAMETER HOLES UNLESS OTHERWISE NOTED.
5. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.
6. GIRDER PROFILES. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN SET ON THE ANCHOR BOLTS, TAKE ELEVATIONS ALONG THE TOP OF THE GIRDERS AS DIRECTED BY THE RESIDENT ENGINEER FOR DETERMINING HAUNCH DEPTHS.
7. FLEMING BRACKETS OR SIMILAR FALSEWORK. SPACE FLEMING BRACKETS OR SIMILAR FALSEWORK AS REQUIRED BY DESIGN WITH A MAXIMUM SPACING OF 4' (1200 MM). THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL NOTES

PROJECT NAME:	LINCOLN	FILE NAME:	s96j266gen.dgn	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	T. LACKEY
		DESIGNED BY:	T. LACKEY	CHECKED BY:	R. WHITCOMB
		GENERAL NOTES		SHEET 3	OF 58

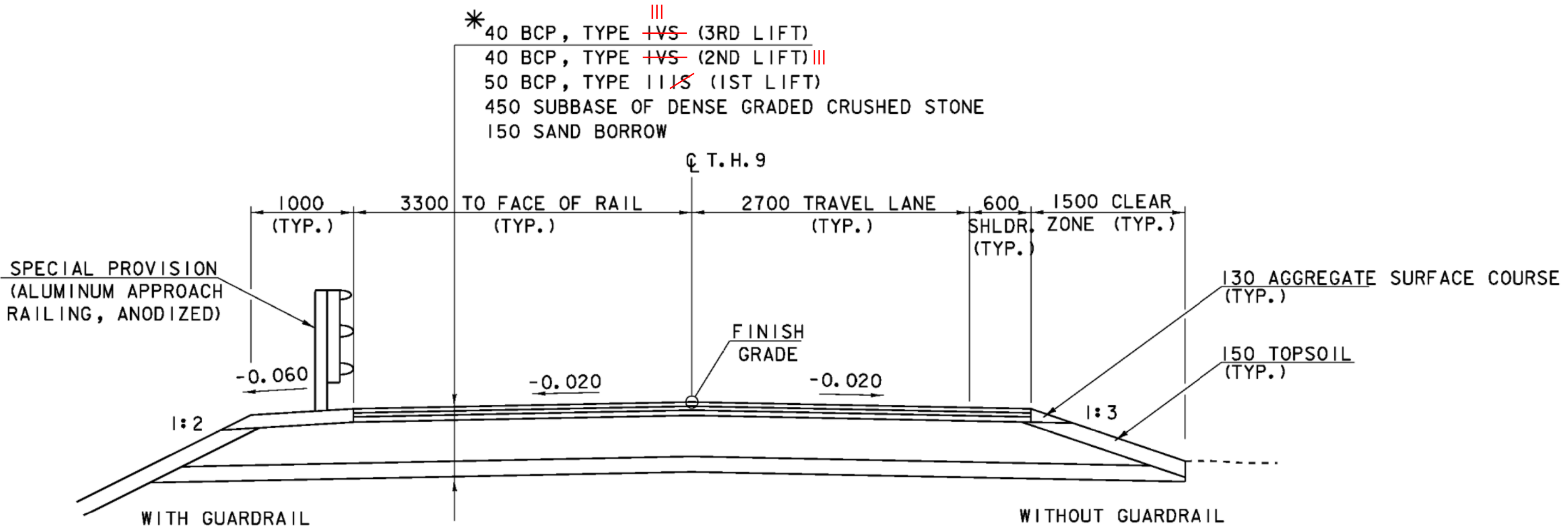


BRIDGE TYPICAL SECTION

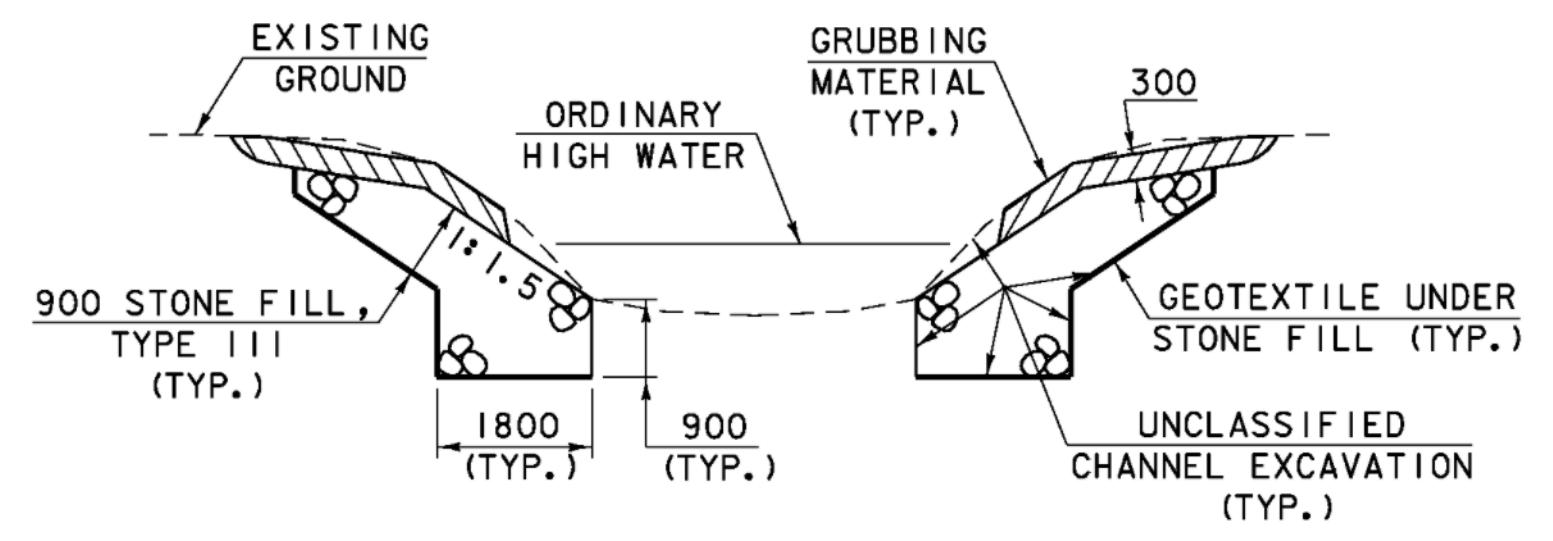


TYPICAL ABUTMENT SECTION
(NOT TO SCALE)

* BCP SHALL BE READ AS BITUMINOUS CONCRETE PAVEMENT AND SHALL BE PAID FOR UNDER SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

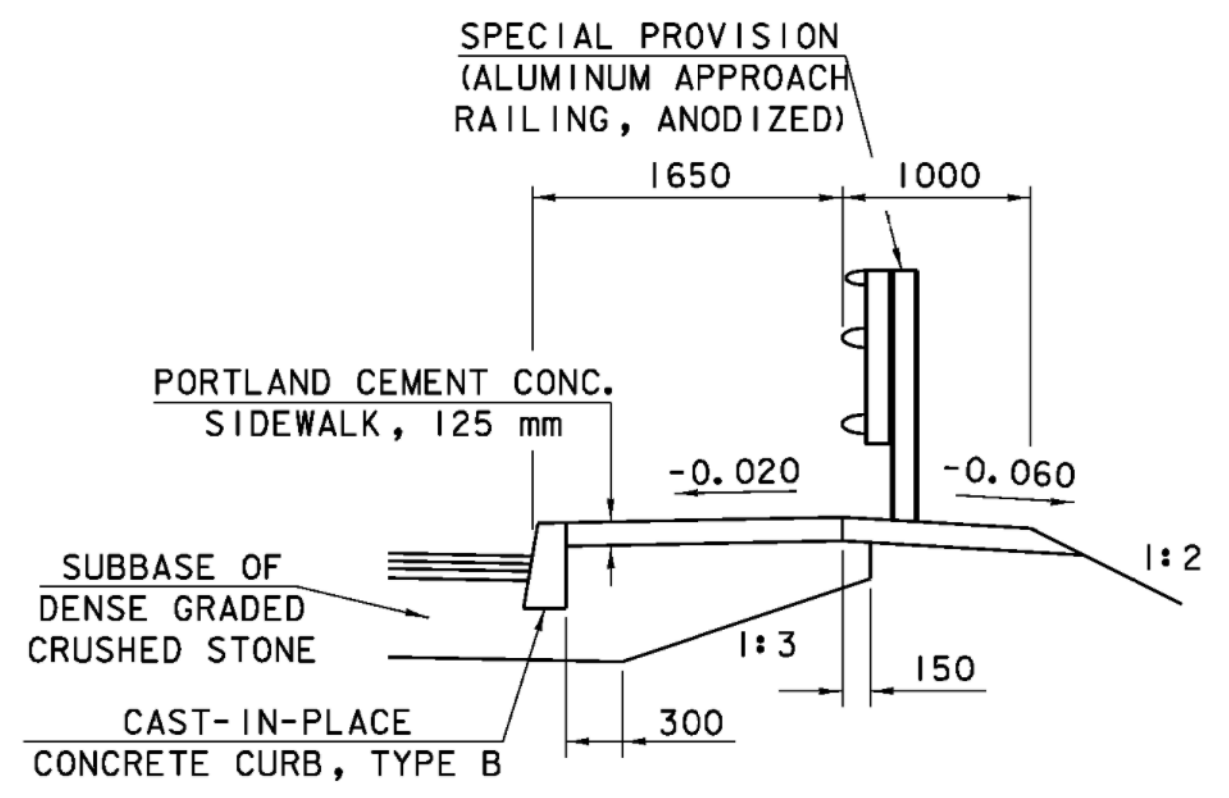


ROADWAY TYPICAL SECTION

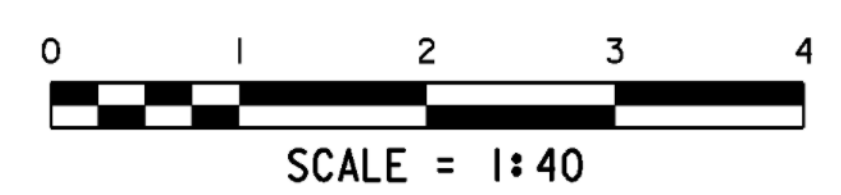


TYPICAL CHANNEL SECTION
(NOT TO SCALE)

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



SIDEWALK TYPICAL SECTION



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

TYPICAL CROSS SECTIONS

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	S. SCRIBNER
FILE NAME:	s96j266typ.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	TYPICAL CROSS SECTIONS	SHEET 4 OF 58
DESIGNED BY:	S. SCRIBNER		

QUANTITY SHEET 1



SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				EARTHWORKS SUMMARY
							380				380		CM	COMMON EXCAVATION	203.15				FILL REQUIRED
									270		270		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27		58	CM	COMMON FILL (1.15*50 CM)
							20				20		CM	SAND BORROW	203.31				FILL AVAILABLE
							90				90		CM	GRANULAR BORROW	203.32		304	CM	203.15 COMMON EXCAVATION (0.8*380 CM)
								10			10		CM	TRENCH EXCAVATION OF EARTH	204.20		3	CM	204.20 TRENCH EXCAVATION OF EARTH (0.3*10 CM)
							1				1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		204	CM	208.30 COFFERDAM EXCAVATION, EARTH (0.3*680 CM)
									550		550		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30		81	CM	203.27 UNCLASSIFIED CHANNEL EXCAVATION (0.3*270 CM)
									680		680		CM	COFFERDAM EXCAVATION, EARTH	208.30		--		
									90		90		CM	COFFERDAM EXCAVATION, ROCK	208.35		592	CM	TOTAL
									1		1		LS	COFFERDAM (STA. 1+108.000)	208.40		58	CM	FILL REQUIRED
									1		1		LS	COFFERDAM (STA. 1+134.000)	208.40		592	CM	FILL AVAILABLE
							680				680		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10		--		
							380	30			410		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35		534	CM	WASTE
							10				10		CM	AGGREGATE SURFACE COURSE	401.10				TEMPORARY EROSION CONTROL ITEMS
							220				220		KG	EMULSIFIED ASPHALT	404.65				
							1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50		10	CM	204.20 TRENCH EXCAVATION OF EARTH
									101		101		CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33		30	CM	301.35 SUBBASE OF DENSE GRADED CRUSHED STONE
									203		203		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34		1	HR	608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I
									34310		34310		KG	STRUCTURAL STEEL, PLATE GIRDER	506.55		10	CM	613.10 STONE FILL, TYPE I
									15058		15058		KG	REINFORCING STEEL	507.15		10	SM	649.51 GEOTEXTILE FOR SILT FENCE
									10830		10830		KG	EPOXY COATED REINFORCING STEEL	507.17		100	SM	649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORC
									1		1		LS	SHEAR CONNECTORS (960 - 22 X 180)	508.15		130	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
									29		29		L	WATER REPELLENT, SILANE	514.10		10	KG	651.17 SEED, WINTER RYE
									15		15		M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10		1	LS	652.10 EPSC PLAN
									224		224		SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20		100	HR	652.20 MONITORING EPSC PLAN
							17				17		M	JOINT SEALER, HOT POURED	524.11		1	LU	652.30 MAINTENANCE OF EPSC PLAN (N.A.B.I.)
							1				1		LS	ONE-WAY TEMPORARY BRIDGE (123 SM - EST.)	528.10		150	SM	653.20 TEMPORARY EROSION MATTING
							1				1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20		30	CM	653.35 VEHICLE TRACKING PAD
									8		8		EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10		91	M	653.50 BARRIER FENCE
								1			1		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
							1				1		CM	DUST CONTROL WITH WATER	609.10				
							1				1		T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
								10	10		20		CM	STONE FILL, TYPE I	613.10				
									410		410		CM	STONE FILL, TYPE III	613.12				
							26				26		M	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28				
							2				2		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10				
							2				2		EACH	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12				
							41				41		SM	PORTLAND CEMENT CONCRETE SIDEWALK, 125 MM	618.10				
							2				2		SM	DETECTABLE WARNING SURFACE	618.30				

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME:	s96j266qty.dgn
PROJECT MANAGER:	R. WHITCOMB
DESIGNED BY:	T. LACKEY
QUANTITY SHEET #1	
PLOT DATE:	02/03/2009
DRAWN BY:	C. MOONEY
CHECKED BY:	R. WHITCOMB
SHEET	5 OF 58

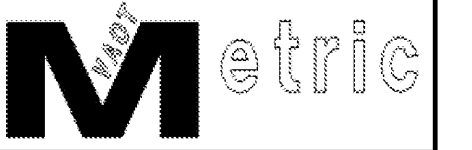
QUANTITY SHEET 2



SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							23.2				23.2		M	REMOVE AND RESET GUARDRAIL	621.75				
							23				23		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
							100				100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
							600				600		HR	FLAGGERS	630.15				
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
										1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
										1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25				
							1				1		LS	MOBILIZATION/DEMobilIZATION	635.11				
							1				1		LS	TRAFFIC CONTROL	641.10				
							236				236		M	100 MM YELLOW LINE	646.21				
							6				6		M	600 MM STOP BAR	646.26				
							4				4		EACH	LETTER OR SYMBOL	646.30				
							100				100		EACH	LINE STRIPING TARGETS	646.76				
									330		330		SM	GEOTEXTILE UNDER STONE FILL	649.31				
							10				10		SM	GEOTEXTILE FOR SILT FENCE	649.51				
							100				100		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
							130				130		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							10				10		KG	SEED	651.15				
							10				10		KG	SEED, WINTER RYE	651.17				
							100				100		KG	FERTILIZER	651.18				
							1				1		T	AGRICULTURAL LIMESTONE	651.20				
							1				1		T	HAYMULCH	651.25				
							10				10		CM	TOPSOIL	651.35				
									160		160		SM	GRUBBING MATERIAL	651.40				
							1				1		LS	EPSC PLAN	652.10				
							100				100		HR	MONITORING EPSC PLAN	652.20				
							1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							150				150		SM	TEMPORARY EROSION MATTING	653.20				
							30				30		CM	VEHICLE TRACKING PAD	653.35				
							91				91		M	BARRIER FENCE	653.50				
							2.4				2.4		SM	TRAFFIC SIGNS, TYPE A	675.20				
							36				36		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
							5				5		EACH	REMOVING SIGNS	675.50				
							2				2		EACH	ERECTING SALVAGED SIGNS	675.60				
							42				42		M	SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)	900.640				
									27		27		M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)	900.640				
									27		27		M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)	900.640				
							1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.)	900.650				
							1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.)	900.650				

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME:	s96j266qty.dgn
PROJECT MANAGER:	R. WHITCOMB
DESIGNED BY:	T. LACKEY
QUANTITY SHEET #2	
PLOT DATE:	02/03/2009
DRAWN BY:	C. MOONEY
CHECKED BY:	R. WHITCOMB
SHEET	6 OF 58

QUANTITY SHEET 4



SUMMARY OF BRIDGE QUANTITIES										TOTALS		DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
						DECK	APP SLAB 1	APP SLAB 2	ABUT 1	ABUT 2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
									130	140	270	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
									330	220	550	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
									360	320	680	CM	COFFERDAM EXCAVATION, EARTH	208.30			
									50	40	90	CM	COFFERDAM EXCAVATION, ROCK	208.35			
									1		1	LS	COFFERDAM (STA. 1+108.000)	208.40			
										1	1	LS	COFFERDAM (STA. 1+134.000)	208.40			
						101					101	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
							15	17	85	86	203	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
						34310					34310	KG	STRUCTURAL STEEL, PLATE GIRDER	506.55			
							1586	1817	5955	5700	15058	KG	REINFORCING STEEL	507.15			
						10830					10830	KG	EPOXY COATED REINFORCING STEEL	507.17			
						1					1	LS	SHEAR CONNECTORS (960 - 22 X 180)	508.15			
						27			1	1	29	L	WATER REPELLENT, SILANE	514.10			
							7.5	7.5			15	M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
						224					224	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
									4	4	8	EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10			
										10	10	CM	STONE FILL, TYPE I	613.10			
									205	205	410	CM	STONE FILL, TYPE III	613.12			
									170	160	330	SM	GEOTEXTILE UNDER STONE FILL	649.31			
									70	90	160	SM	GRUBBING MATERIAL	651.40			
						27					27	M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)	900.640			
						27					27	M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)	900.640			
						35					35	T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680			

GPS CONTROL POINTS

LINCOLN AZ MK
 STATION MARK IS A SURVEY DISK SET INTO THE TOP OF A METAL PIPE EMBEDDED IN THE GROUND. THE MARK IS STAMPED LINCOLN AZ MK 1997.

APPROX. LATITUDE: 440602 N
 APPROX. LONGITUDE: 0725947 W
 APPROX. ELEVATION: 325 M

LOCATION: LINCOLN, VT

FROM THE INTERSECTION OF NORTH AND SOUTH STREETS AT THE TRAFFIC LIGHT IN BRISTOL VILLAGE, GO EAST ALONG VT ROUTES 17 AND 116 FOR 1.6 MI (2.6 KM). TURN LEFT AND GO SOUTHEAST ALONG WEST RIVER ROAD FOR 3.4 MI (5.5 KM) TO THE INTERSECTION OF QUAKER STREET LEFT, EAST RIVER ROAD STRAIGHT, AND GOVE HILL ROAD RIGHT IN LINCOLN VILLAGE. TURN RIGHT AND GO SOUTH ALONG GOVE HILL ROAD FOR 0.4 MI (0.6 KM) TO THE SITE OF THE MARK ON THE RIGHT ON THE EAST EDGE OF A FIELD, JUST SOUTH OF A 1½ STORY HOUSE WITH GAMBREL ROOF ON THE LEFT. THE MARK IS A STATE OF VERMONT SURVEY MARK SET 3 CM BELOW GROUND SURFACE IN THE TOP OF A CAST ALUMINUM MONUMENT. IT IS 7.1 M (23.3 FT) WEST OF AND ABOUT 0.5 M (1.6 FT) HIGHER THAN THE CENTERLINE OF GOVE HILL ROAD, 37.5 M (123.0 FT) WEST SOUTHWEST OF THE SOUTHWEST CORNER OF THE GAMBREL ROOFED HOUSE, 44.8 M (147.0 FT) NORTH OF POLE NO. 5X, AND 11.8 M (38.7 FT) SOUTH OF POLE NO. 7/104/7 AND A FIBERGLASS WITNESS POST.

LINCOLN
 STATION MARK IS A SURVEY DISK SET INTO THE TOP OF A METAL PIPE EMBEDDED IN THE GROUND. THE MARK IS STAMPED LINCOLN 1997.

APPROX. LATITUDE: 440636 N
 APPROX. LONGITUDE: 0725952 W
 APPROX. ELEVATION: 310 M

LOCATION: LINCOLN, VT

FROM THE INTERSECTION OF NORTH AND SOUTH STREETS AT THE TRAFFIC LIGHT IN BRISTOL VILLAGE, GO EAST ALONG VT ROUTES 17 AND 116 FOR 1.6 MI (2.6 KM). TURN LEFT AND GO SOUTHEAST ALONG WEST RIVER ROAD FOR 3.4 MI (5.5 KM) TO THE INTERSECTION OF QUAKER STREET LEFT, EAST RIVER ROAD STRAIGHT, AND GOVE HILL ROAD RIGHT IN LINCOLN VILLAGE. TURN LEFT AND GO NORTH ALONG QUAKER STREET FOR 0.2 MI (0.3 KM) TO THE LEE CEMETERY AND THE SITE OF THE MARK ON THE LEFT IN A GRASS STRIP BETWEEN THE CEMETERY AND THE ROAD. THE MARK IS A STATE OF VERMONT SURVEY MARK SET 3 CM BELOW GROUND SURFACE IN THE TOP OF A CAST ALUMINUM MONUMENT. IT IS 6.5 M (21.3 FT) WEST OF AND ABOUT 1 M (3.3 FT) HIGHER THAN THE CENTERLINE OF QUAKER STREET, 6.4 M (21.0 FT) SOUTH OF THE CENTER OF A GATE LEADING INTO THE CEMETERY, 0.5 M (1.6 FT) EAST OF THE CEMETERY FENCE, AND 21.9 M (71.9 FT) NORTH OF POLE NO. 7/90/81 AND A FIBERGLASS WITNESS POST.

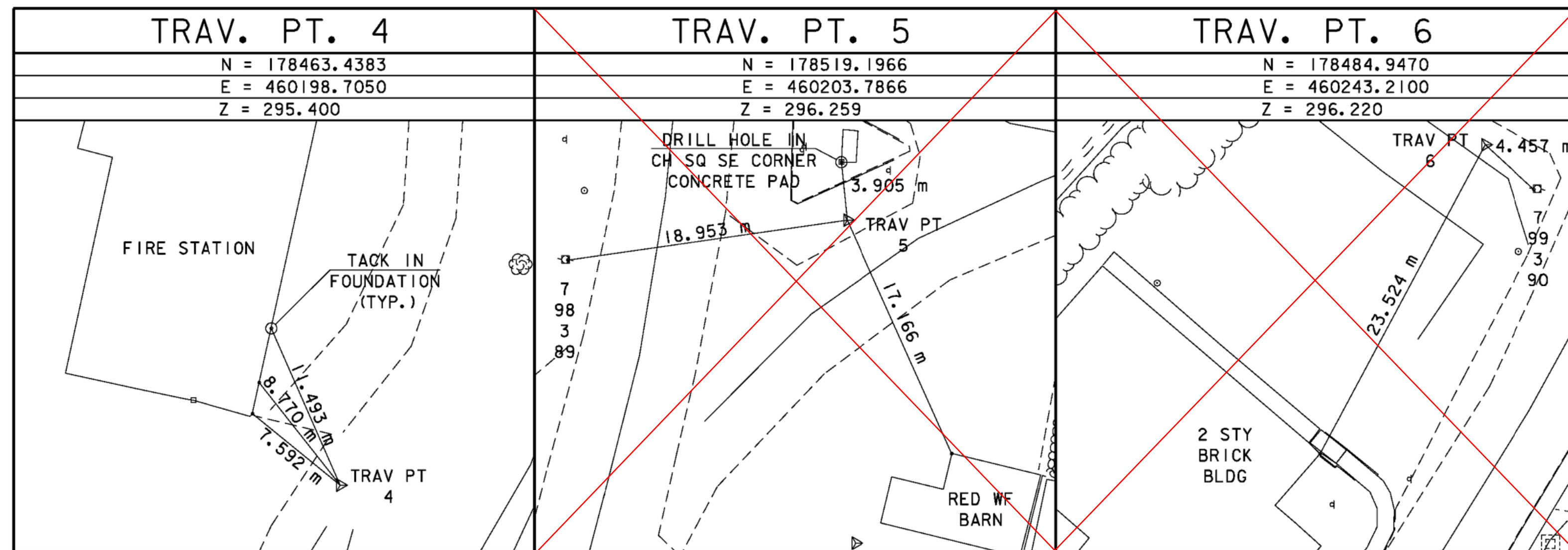
971
 STATION MARK IS A BENCH MARK DISK SET INTO AN ABUTMENT. THE MARK IS STAMPED 971 MONTPELLIER.

APPROX. LATITUDE: 440620 N
 APPROX. LONGITUDE: 0725948 W
 APPROX. ELEVATION: 296 M

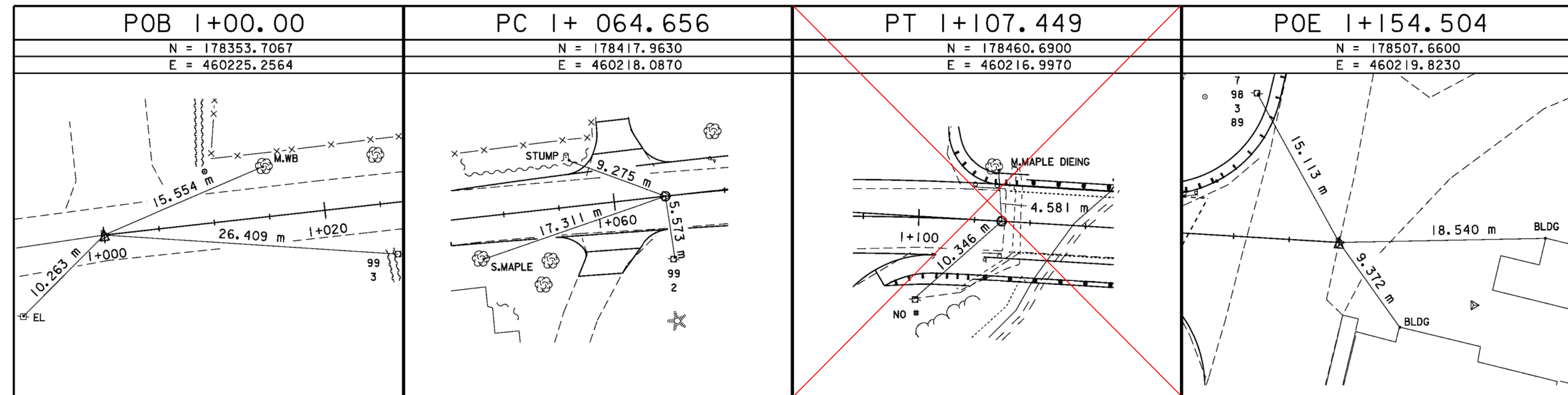
LOCATION: LINCOLN, VT

FROM THE INTERSECTION OF NORTH AND SOUTH STREETS AT THE TRAFFIC LIGHT IN BRISTOL VILLAGE, GO EAST ALONG VT ROUTES 17 AND 116 FOR 1.6 MI (2.6 KM). TURN LEFT AND GO SOUTHEAST ALONG WEST RIVER ROAD FOR 3.4 MI (5.5 KM) TO THE INTERSECTION OF QUAKER STREET LEFT, EAST RIVER ROAD STRAIGHT, AND GOVE HILL ROAD RIGHT IN LINCOLN VILLAGE. TURN RIGHT AND GO SOUTH ALONG GOVE HILL ROAD FOR ABOUT 15 M (49.2 FT) TO THE NORTH END OF THE GOVE HILL ROAD BRIDGE OVER THE NEW HAVEN RIVER AND THE MARK ON THE LEFT IN THE TOP OF THE ABUTMENT AT THE NORTHEAST CORNER OF THE BRIDGE. THE MARK IS SET IN THE TOP OF THE ABUTMENT DIRECTLY UNDER A L-SHAPED CUTOUT IN THE SOUTH END OF THE NORTHEAST CONCRETE WINGWALL. THE CUTOUT IN THE WINGWALL WAS CONSTRUCTED SPECIFICALLY TO PRESERVE THE MARK. IT IS 3.1 M (10.2 FT) EAST OF AND ABOUT 1.2 M (3.9 FT) LOWER THAN THE CENTERLINE OF GOVE HILL ROAD, 16.0 M (52.5 FT) SOUTH OF THE CENTERLINE OF EAST RIVER ROAD, 3.6 M (11.8 FT) SOUTH OF A GOVE HILL ROAD AND STOP SIGN, 0.3 M (1.0 FT) NORTH OF THE SOUTH FACE OF THE ABUTMENT, AND 0.3 M (1.0 FT) WEST OF THE EAST EDGE OF THE ABUTMENT.

TRAVERSE TIES



ALIGNMENT TIES



SURVEY TIES

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	S. SCRIBNER
FILE NAME:	s96j266+1e.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	SURVEY TIES	SHEET 9 OF 58
DESIGNED BY:	S. SCRIBNER		

CONSTRUCT GRAVEL DRIVE
W/ 1.5m WIDE PAVED APRON
I+060 RT
I+061 LT

CONSTRUCT GRAVEL ROAD
W/ 3.0m WIDE PAVED APRON
I+090 RT

CONSTRUCT PAVED DRIVE
I+093 LT

REPAVE PAVED DRIVE
I+135 RT

PORTLAND CEMENT CONCRETE
SIDEWALK, 125mm
I+096.14 RT - I+106.11 RT
I+132.02 RT - I+143.23 RT

CAST-IN-PLACE
CONCRETE CURB, TYPE B
I+096.14 RT - I+106.11 RT
I+132.79 RT - I+143.23 RT

SIDEWALK RAMP, TYPE I
I+096.60 RT - I+098.70 RT
I+140.90 RT - I+142.40 RT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
I+109.54 LT - I+136.06 LT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
I+105.20 RT - I+131.76 RT

SPECIAL PROVISION
(ALUMINUM APPROACH RAILING, ANODIZED)
I+103.12 LT - I+109.54 LT
I+097.63 RT - I+105.20 RT
I+136.05 LT - I+148.07 LT
I+131.76 RT - I+138.38 RT

RELOCATE MAILBOX, SINGLE SUPPORT
I+068.8 LT TO I+070.0 LT
I+081.0 LT TO I+081.0 LT

RELOCATE MAILBOX, MULTIPLE SUPPORT
I+079.5 RT TO I+079.5 RT
I+080.0 RT TO I+080.0 RT

REMOVE AND RESET GUARDRAIL
I+120.65 RT - I+135.66 RT (2-CABLE)

REMOVAL AND DISPOSAL OF GUARDRAIL
I+104.70 LT - I+107.70 LT
I+101.30 RT - I+107.70 RT
I+134.60 LT - I+141.50 LT
I+134.40 RT - I+137.60 RT

~~COLD PLANING, BITUMINOUS PAVEMENT~~
I+040.00 - I+050.00
I+080.00 - I+110.00
I+146.20 - I+154.50

CURVE DATA

$\Delta = 9^{\circ}48'27''$
R = 250.000
T = 21.449
L = 42.793
E = 0.918
2T-L = 0.105
BANKING = N.C.

~~COLD-PLANE AND PAVE~~
WITH TYPE IVS
AS NEEDED TO
MATCH EXISTING

PI STA. I+086.105 AH=
STA. I+086.000 BK
 $\Delta = 9^{\circ}48'27''$ RT.

~~COLD-PLANE AND PAVE~~
STA. I+040.000
BEGIN APPROACH

PAVED DR.
ML POST STA. I+105.000=
CHAN. STA. 5+050.000
 $\Delta = 65^{\circ}$ LT.

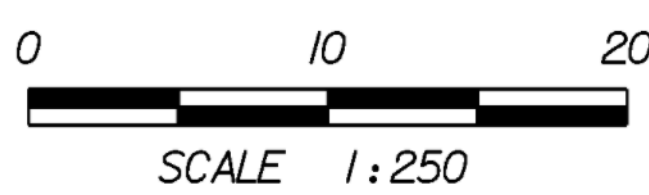
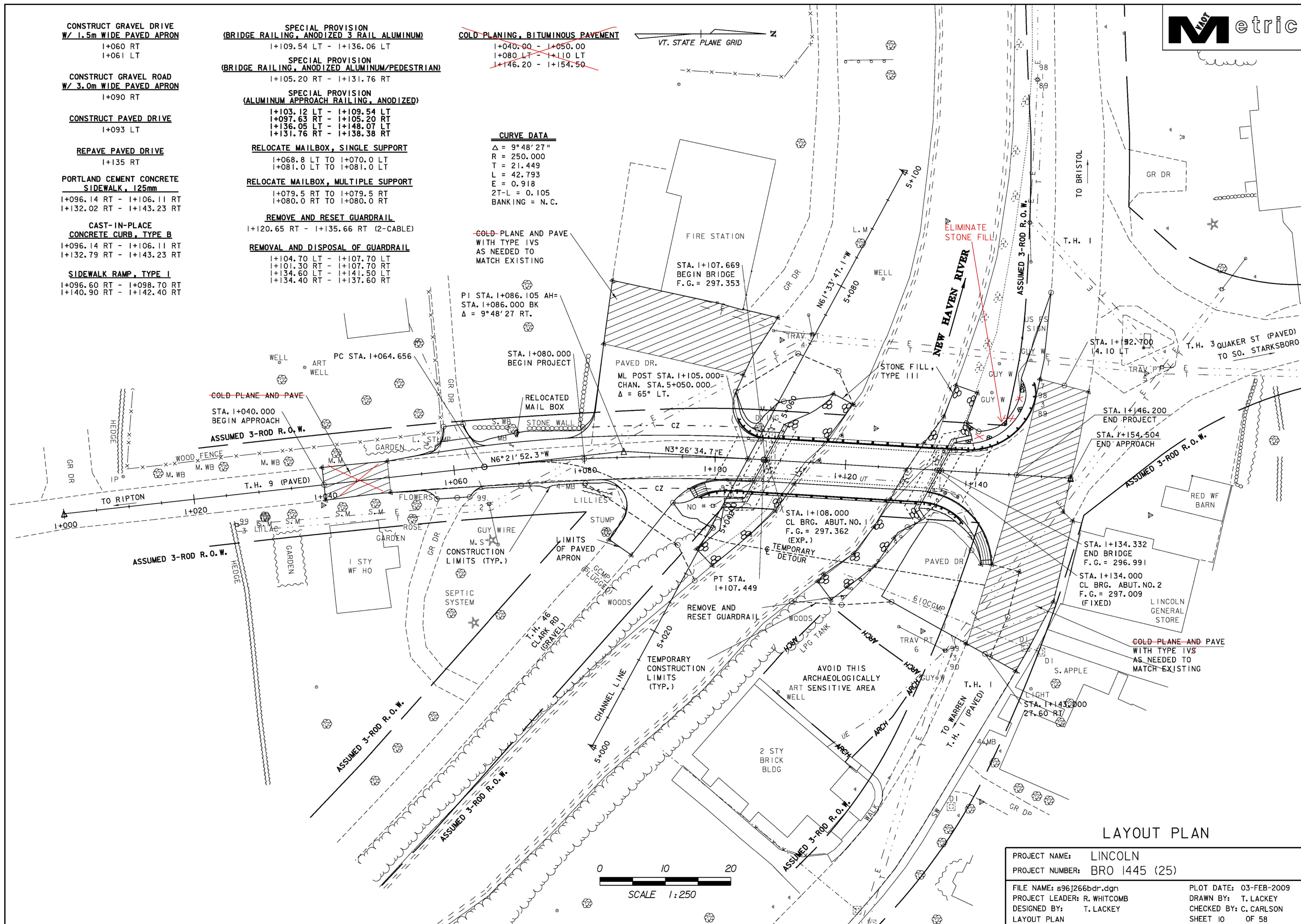
STA. I+146.200
END PROJECT

STA. I+154.504
END APPROACH

STA. I+134.332
END BRIDGE
F.G. = 296.991

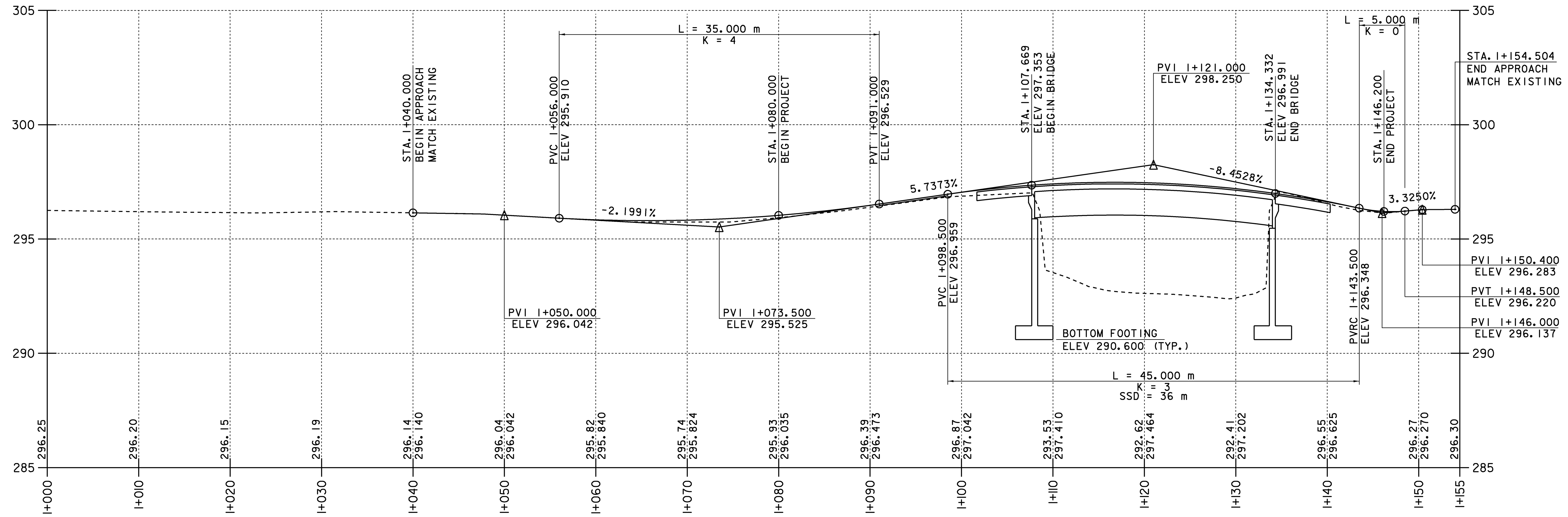
STA. I+134.000
CL BRG. ABUT. NO. 2
F.G. = 297.009
(FIXED)

~~COLD-PLANE AND PAVE~~
WITH TYPE IVS
AS NEEDED TO
MATCH EXISTING

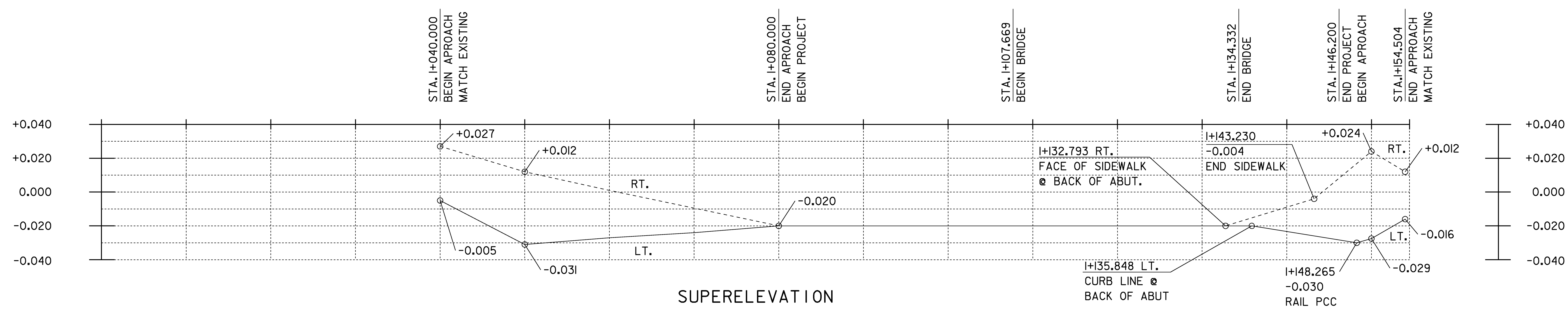


LAYOUT PLAN

PROJECT NAME:	LINCOLN	PLOT DATE:	03-FEB-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266bdr.dgn	CHECKED BY:	C. CARLSON
PROJECT LEADER:	R. WHITCOMB	LAYOUT PLAN	SHEET 10 OF 58
DESIGNED BY:	T. LACKEY		

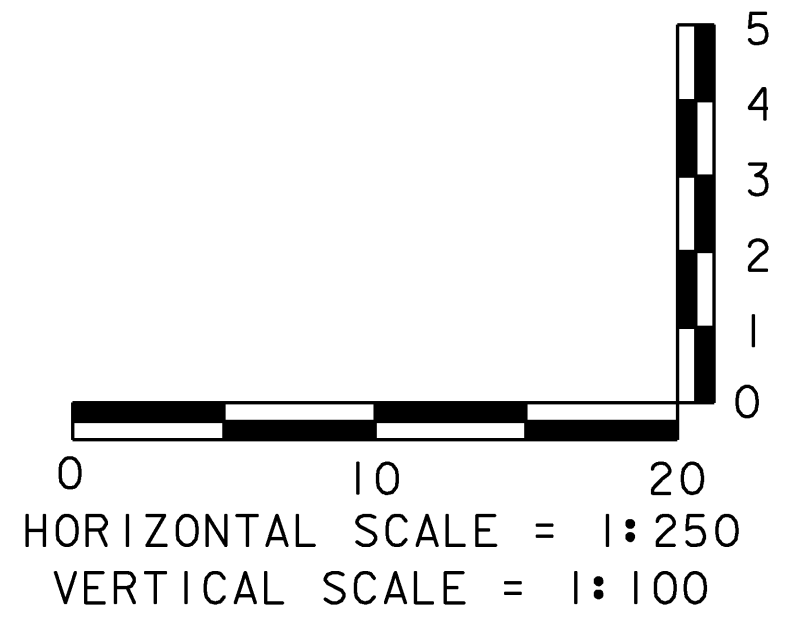


PROFILE



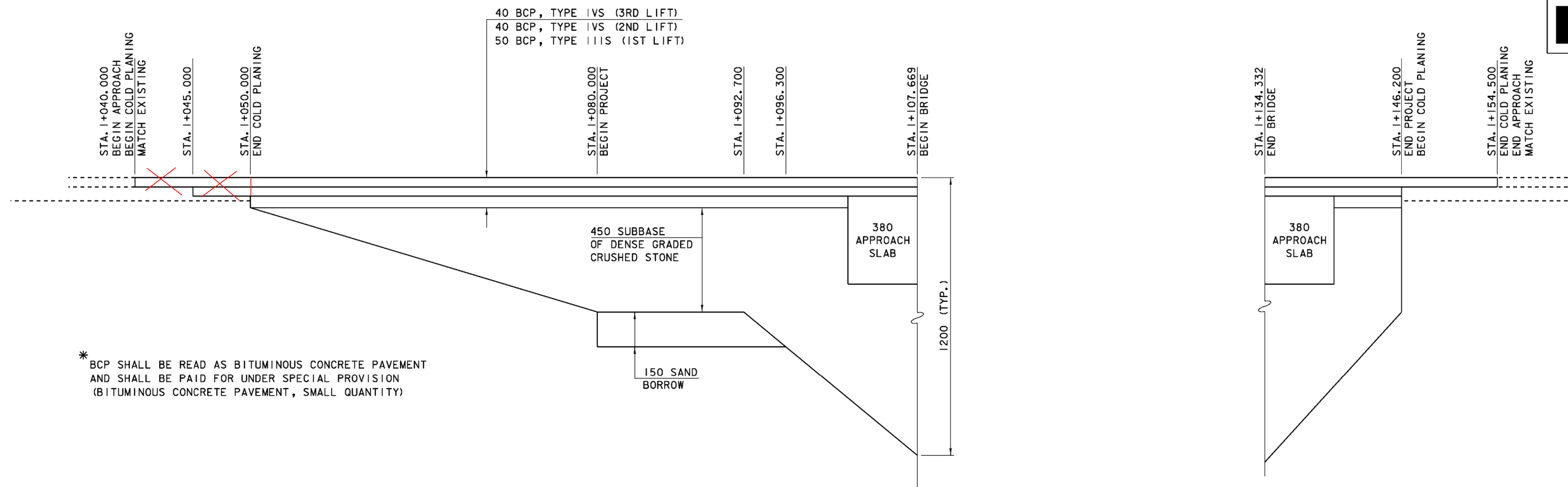
SUPERELEVATION

NOTES:
 1. ELEVATIONS TO THE NEAREST 0.01 ARE EXISTING GROUND ALONG PROPOSED CENTERLINE.
 2. ELEVATIONS TO THE NEAREST 0.001 ARE FINISH GRADE ALONG PROPOSED CENTERLINE.



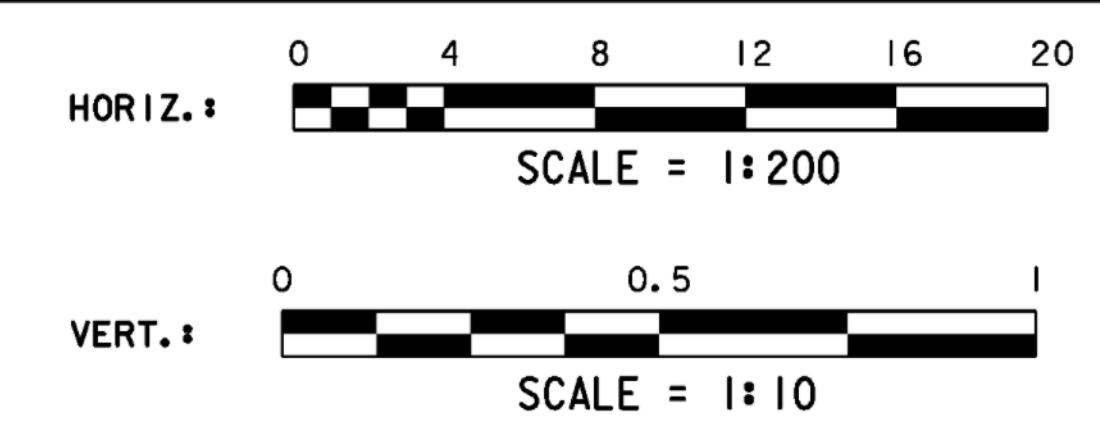
PROJECT NAME: LINCOLN	
PROJECT NUMBER: BRO 1445 (25)	
FILE NAME: s96j266xs.dgn	PLOT DATE: 29-JAN-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: S. SCRIBNER
DESIGNED BY: S. SCRIBNER	CHECKED BY: C. CARLSON
PROFILE	SHEET II OF 58

PROFILE



* BCP SHALL BE READ AS BITUMINOUS CONCRETE PAVEMENT AND SHALL BE PAID FOR UNDER SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

MATERIAL TRANSITION DETAIL



- NOTES
1. SEE ROADWAY CROSS SECTIONS TO DETERMINE CUT OR FILL.
 2. SEE PROJECT TYPICAL SECTIONS SHEET FOR ADDITIONAL ABUTMENT EARTHWORK DETAILS.

MATERIAL TRANSITION DETAILS

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445(25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266xs.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	SHEET	12 OF 58
DESIGNED BY:	S. SCRIBNER		
MATERIAL TRANSITION DETAILS			

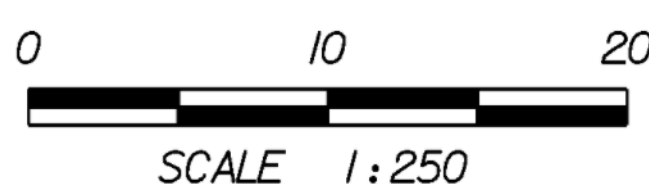
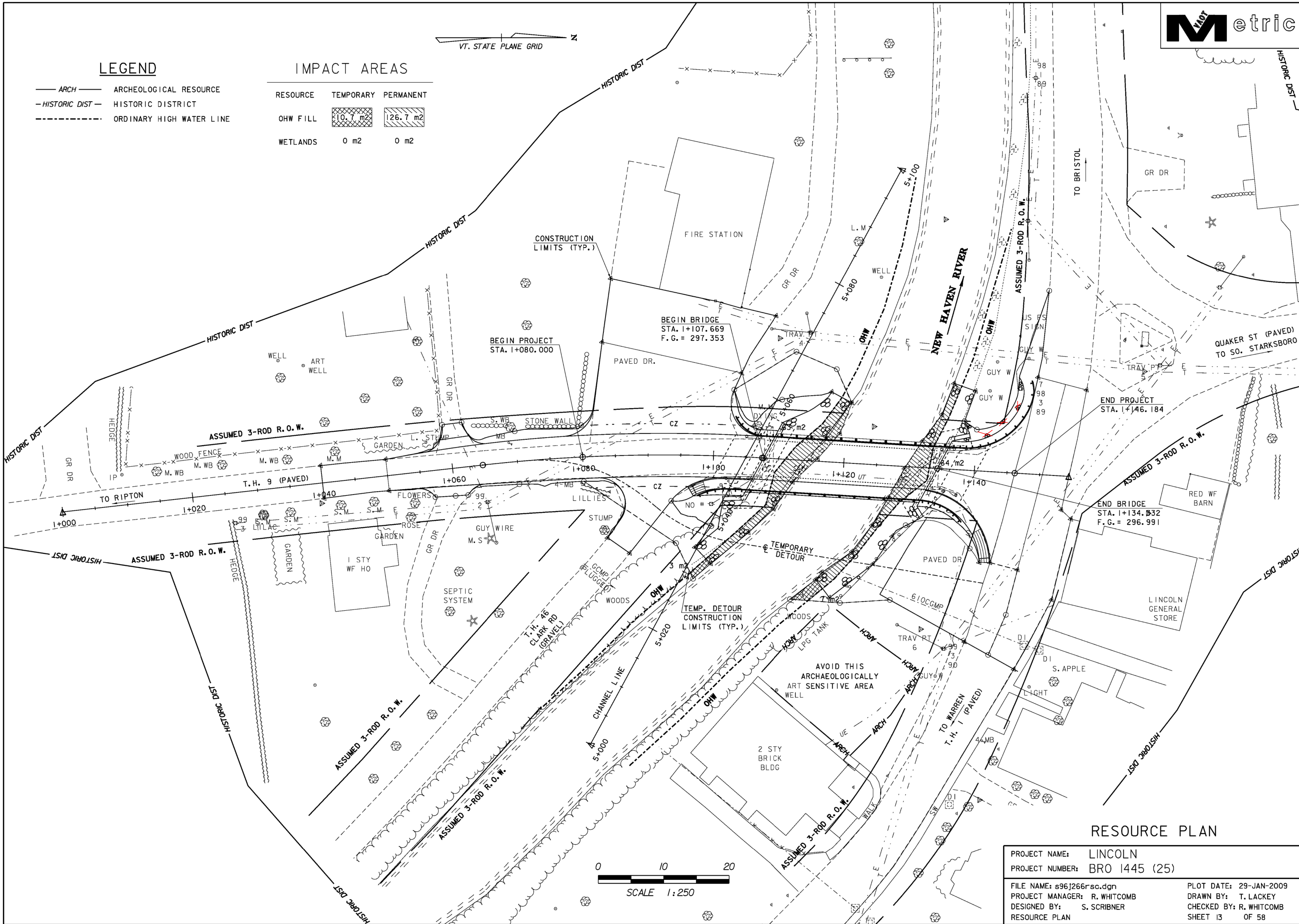
LEGEND

- ARCH — ARCHEOLOGICAL RESOURCE
- HISTORIC DIST - HISTORIC DISTRICT
- - - - - ORDINARY HIGH WATER LINE

IMPACT AREAS

RESOURCE	TEMPORARY	PERMANENT
OHW FILL	10.7 m ²	126.7 m ²
WETLANDS	0 m ²	0 m ²

VT. STATE PLANE GRID



RESOURCE PLAN

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266rsc.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	RESOURCE PLAN	SHEET 13 OF 58
DESIGNED BY:	S. SCRIBNER		

1. EROSION PREVENTION & SEDIMENT CONTROL NARRATIVE

1.1. PROJECT DESCRIPTION

- 1.1.1. Scope of Work. Lincoln BRO 1445(25) will replace Bridge 48 on Town Highway 9 over the New Haven River in the Town of Lincoln on existing alignment. The new bridge will be a two lane, single span, concrete deck and steel girder bridge. The project will maintain traffic during construction on a temporary bridge 15 m upstream of the existing bridge.
- 1.1.2. Length. The total length of roadway work, including both approaches, drives and existing roadway is approximately 100 m.
- 1.1.3. Area. The total disturbed area (excluding waste, borrow and staging areas) is approx. 0.17 ha (0.42 ac.). The disturbed area for the temporary bridge is approx. 0.02 hectares (0.05 ac.).
- 1.1.4. Duration. This project should last one construction season. This Erosion Prevention and Sediment Control Plan is intended for use during the construction season. A separate winter plan shall be submitted for approval if work is to occur from Oct 15th to April 15th, or if vegetation has not been sufficiently established after the completion of construction and by Oct 15th.

1.2. SITE INVENTORY & ANALYSIS

- 1.2.1. Off Site Drainage Characteristics (Up And Down Gradient). The project site lies within the village of Lincoln. Much of the surrounding area consists of paved roads and buildings. The area is relatively flat with little vegetation except along the river banks.
- 1.2.2. Drainage, Waterways, Bodies of Water. The New Haven River is located within the project area. The New Haven River is described as semi-alluvial, straight and not braided or anabranching. The streambed is made up primarily of cobblestones. The banks along both sides of the river both upstream and downstream are high and appear to be stable. They are well protected with vegetation consisting of grass, ferns, low growing shrubbery and some small deciduous trees and boulders. The watershed area is 77 sq km.
- 1.2.3. Topography, Existing Roads, Buildings, Utilities.
- 1.2.3.1. Topography. The project site is a quiet village center. It has clapboarded cape buildings from the 1800s on a relatively level land.
- 1.2.3.2. Existing Roads. The project site is on TH 9, a paved Class III town highway, leading to the intersection of TH 1 & 3, paved Class II town highways.
- 1.2.3.3. Buildings. Four homes, a store, fire station, and town hall are near the project.
- 1.2.3.4. Utilities. Power and Utility poles run along the mainline from 1+050 to 1+045 right.
- 1.2.4. Vegetation. The vegetation along T.H. 9 is a mix of grass, small shrubs and a few small deciduous trees. The majority of the vegetation present on the site is grass and ferns mixed in with small shrubs.
- 1.2.5. Soils. The USDA Natural Resources Conservation Service identifies two soil types in the project site.
- 1.2.5.1. Adams loamy fine sand. This soil is on the north side of the river. It is described as very deep, strongly sloping, 0-70%, and excessively drained soil. The soil profile is typically: 0-100 mm black humus in a mat of soil; 100-200 mm pinkish gray sand; 200-350 mm brown loamy sand; 350-1800 mm brown sand. Its erodibility rating is low (kw = 0.17) suggesting low erodibility.
- 1.2.5.2. Limerick silt loam. This soil is on the south side of the river. It is described as very deep, poorly drained soils on flood plains with a slope from 0-3%. The soil profile is typically: 0-200 mm dark grayish brown silt loam; 200-900 mm olive gray silt loam; 900-1625 mm dark greenish gray silt loam. Its erodibility rating is high (kw = 0.49) suggesting high erodibility.
- 1.2.6. Sensitive Resource Areas
- 1.2.6.1. Waterways. The New Haven River runs through the project area. The project impacts it at the existing bridge and eastern detour. A Stream Alteration Permit (#HD-1-0296) dated 06/25/01 has been issued for this project.
- 1.2.6.2. Wetlands. Not Present
- 1.2.6.3. Archaeological Sites. A terrace near Sta 1+120 Right 30 on the northeast side of the bridge is Archaeologically Sensitive. The project will avoid this area. BARRIER FENCE & SPECIAL PROVISION (GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED) protect this area.
- 1.2.6.4. Historic Features. The project is located centrally in the Lincoln Village Historic District. The project will avoid historic features.
- 1.2.6.5. Critical Habitat. Not Present
- 1.2.6.6. Threatened & Endangered Species. Not Present
- 1.2.6.7. Prime Agricultural Land. Not Present

1.3. RISK EVALUATION

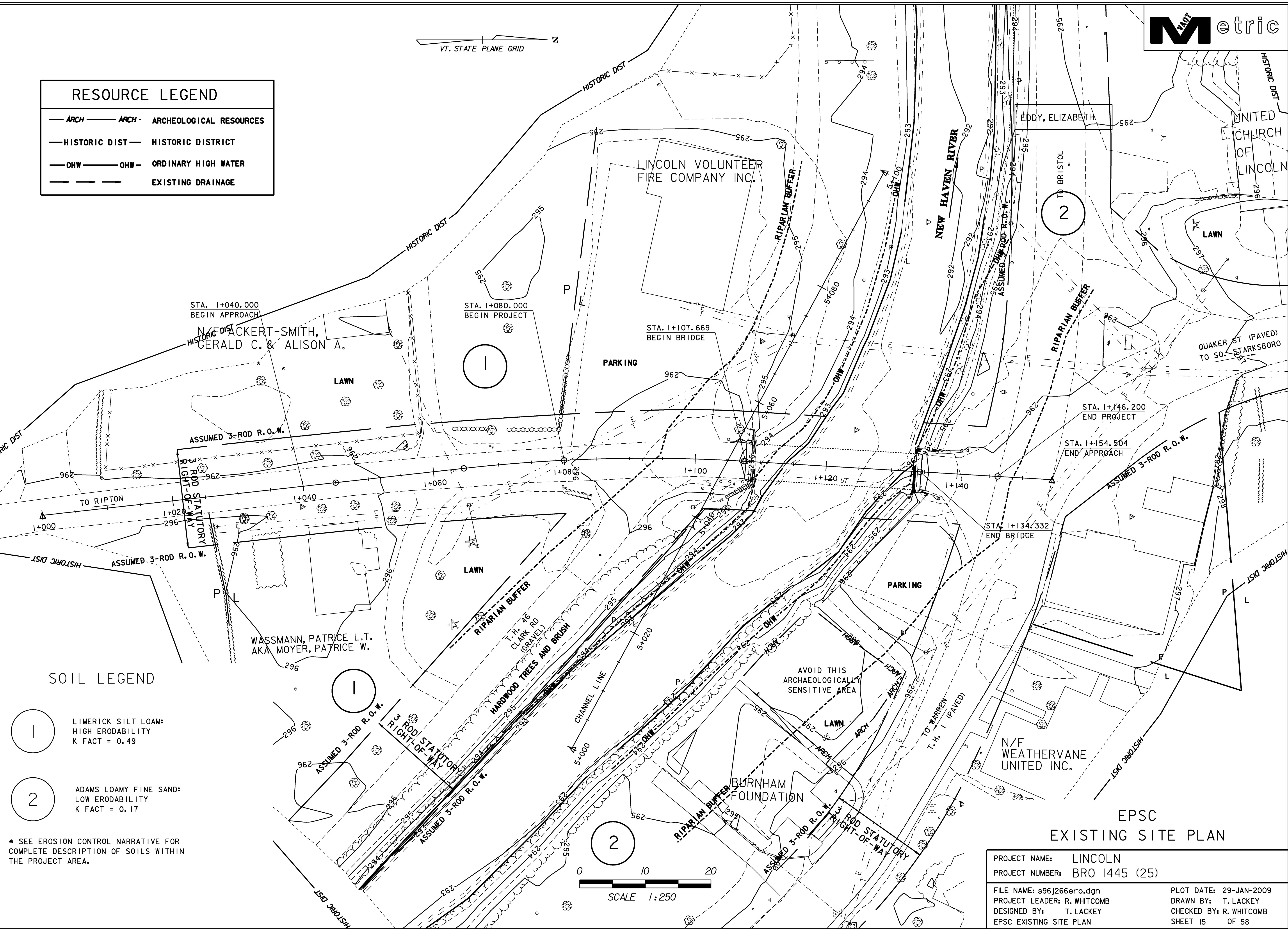
- 1.3.1. The project area is less than 1 acre. Therefore the project does not fall under the jurisdiction of Construction General Permit 3-9020.
- 1.3.2. Should changes prior to or during construction result in one or more acres of earth disturbance or should the project become part of a larger plan of development then the selected contractor will be responsible for additional permitting with VANR via filing of the appropriate Notice Of Intent under the Construction General Permit process.

1.4. EROSION PREVENTION & SEDIMENT CONTROL

- 1.4.1. Mark Site Boundaries
- 1.4.1.1. BARRIER FENCE will delineate the construction area for construction equipment. This measure limits the area that can be disturbed and exposed to erosion.
- 1.4.2. Limit Disturbance Area
- 1.4.2.1. BARRIER FENCE will delineate the construction area for construction equipment. These measures limit the area that can be disturbed and exposed to erosion. Use BARRIER FENCE within 30 m upslope of receiving waters and to protect sensitive areas.
- 1.4.3. Stabilize Construction Entrance
- 1.4.3.1. VEHICLE TRACKING PAD will control tracking of sediment transport on to public roads. The entrance is a stabilized pad of crushed stone located wherever construction vehicles leave construction areas. The sites include: the project site; staging areas; and waste and borrow areas. The minimum area is 3700 x 15 000 (12' x 50'). Pipe all surface water flowing to or diverted towards a construction entrance under the stone. Size pipes for their watersheds. The minimum pipe diameter is 150 mm.
- 1.4.4. Install Silt Fence
- 1.4.4.1. SILT FENCE and GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED placed level on slopes will control sheet flow sediment transport. Place silt fences level and 1500 to 3000 mm (5'-10') from the toe of slopes. Turn the ends of silt fence slightly uphill to stop concentrated water from flowing around the ends. The maximum slope length between separate runs of silt fence is 30 000 (100'). Place silt fence before beginning upslope earthwork. Use GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED for silt fence within 30 m upslope of receiving waters.
- 1.4.5. Divert Upland Runoff
- 1.4.6. Slow Down Channelized Runoff
- 1.4.6.1. GEOTEXTILE FOR FILTER CURTAIN will control concentrated flow sediment transport around abutments and piers.
- 1.4.7. Construct Permanent Controls
- 1.4.7.1. Roadway Typical Section
- 1.4.7.1.1. SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) on the road surface will prevent erosion.
- 1.4.7.1.2. AGGREGATE SURFACE COURSE on the shoulder will allow runoff to infiltrate and prevent erosion.
- 1.4.7.2. Channel Typical Section
- 1.4.7.2.1. STONE FILL, TYPE I at the ends of the wing walls will prevent erosion and control sediment transport.
- 1.4.7.2.2. STONE FILL, TYPE III around the abutments on slopes greater than 66% will prevent erosion and control sediment transport.
- 1.4.7.2.3. GEOTEXTILE UNDER STONE FILL will prevent erosion and control sediment transport.
- 1.4.8. Stabilize Exposed Soils
- 1.4.8.1. TRACKING & MULCHING will temporarily stabilize slopes. Use tracking for short term (two weeks) exposed slopes. Drive heavy equipment up and down slopes to leave level tracks (small check dams) that will catch water flow. Stabilize slopes within 48 hours or sooner considering rain.
- 1.4.8.2. SEEDING & MULCHING will establish vegetation on side slopes less than 66% that will prevent erosion and control sediment transport. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%.
- 1.4.9. Winter Stabilization
- 1.4.10. Stabilize Soil at Final Grade
- 1.4.10.1. SEEDING & MULCHING will stabilize slopes ranging from 0% to 66%. Add TEMPORARY EROSION MATTING (with 100% natural fibers) to slopes ranging from 33% to 66%. Use seeding for long term exposed slopes. Allow Grass 2 weeks to establish itself. Stabilize slopes within 48 hours or sooner considering rain.
- 1.4.11. Dewatering Activities
- 1.4.11.1. COFFERDAMS will separate exposed earth and the waterway.
- 1.4.11.2. A Sediment Basin at Sta 1+110 Left will intercept, trap and retain sediment laden runoff from cofferdams.
- 1.4.12. Inspect your Site
- 1.4.12.1. Inspect all control measures weekly and after each rainfall event. Repair measures promptly once damage is discovered.
- 1.4.12.2. Note any changes on the plans, in the weekly inspection report, and report them to the appropriate authority in a timely manner.
- 1.4.12.3. Check temporary measures regularly for accumulation of sediment. Remove sediment build-up when the level of sediment reaches one-half the height of the control measure. Dispose of sediments in an approved area where they will not be subject to erosion.

VT. STATE PLANE GRID

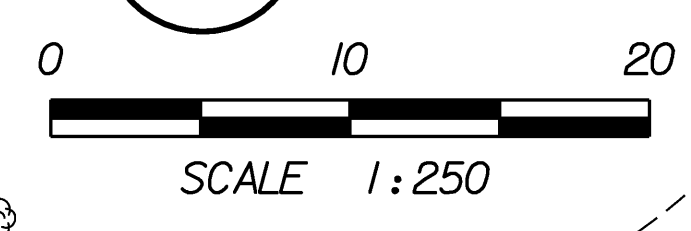
RESOURCE LEGEND	
— ARCH —	— ARCH — ARCHEOLOGICAL RESOURCES
— HISTORIC DIST —	— HISTORIC DIST — HISTORIC DISTRICT
— OHW —	— OHW — ORDINARY HIGH WATER
— —	— — EXISTING DRAINAGE



SOIL LEGEND

- 1 LIMERICK SILT LOAM:
HIGH ERODABILITY
K FACT = 0.49
- 2 ADAMS LOAMY FINE SAND:
LOW ERODABILITY
K FACT = 0.17

* SEE EROSION CONTROL NARRATIVE FOR COMPLETE DESCRIPTION OF SOILS WITHIN THE PROJECT AREA.



EPSC EXISTING SITE PLAN

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266e0.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	EPSC EXISTING SITE PLAN	SHEET 15 OF 58
DESIGNED BY:	T. LACKEY		

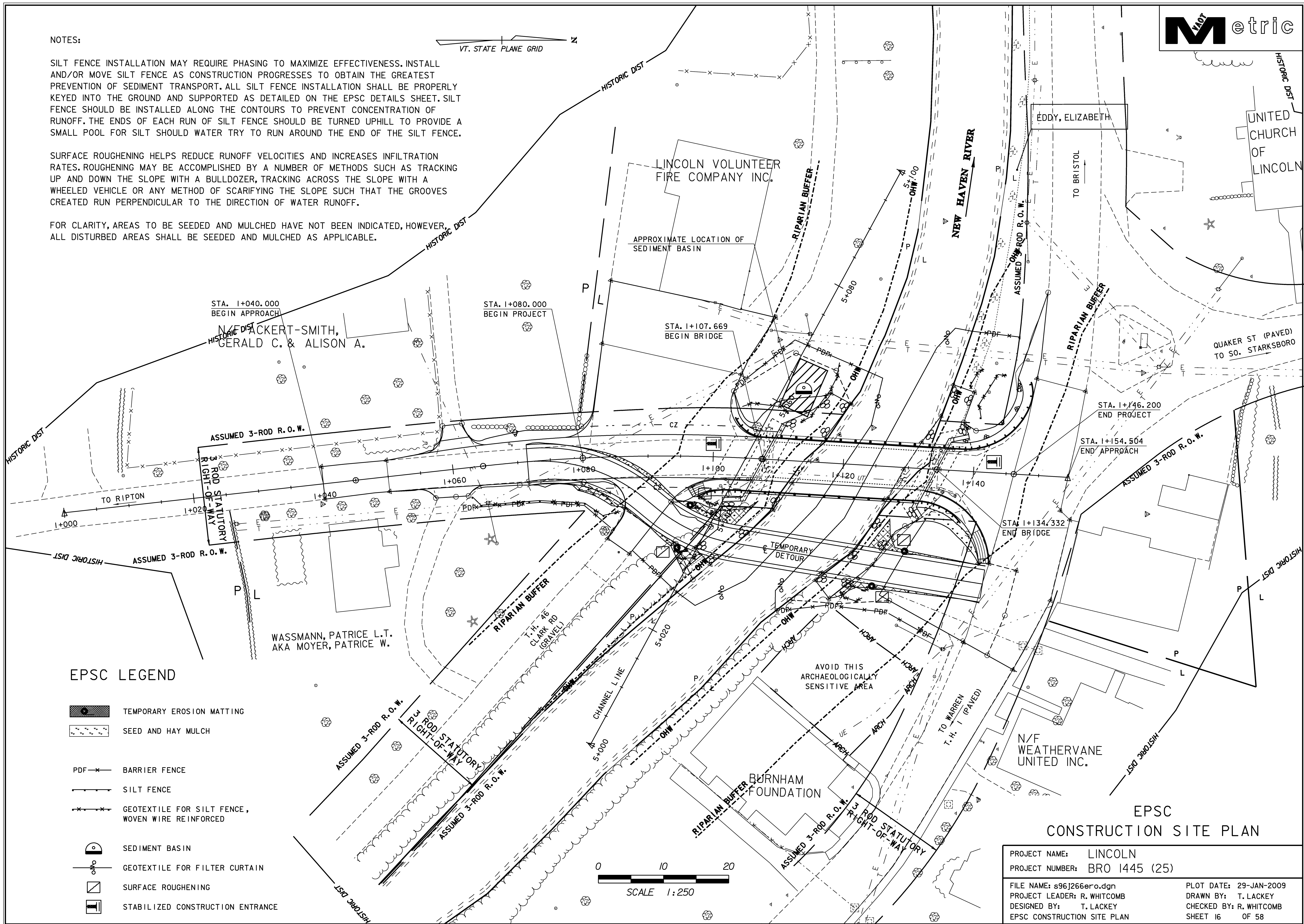
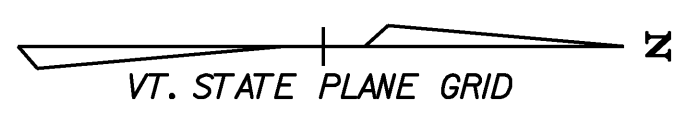


NOTES:

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 EPSC 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.

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.

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED, HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.



EPSC LEGEND

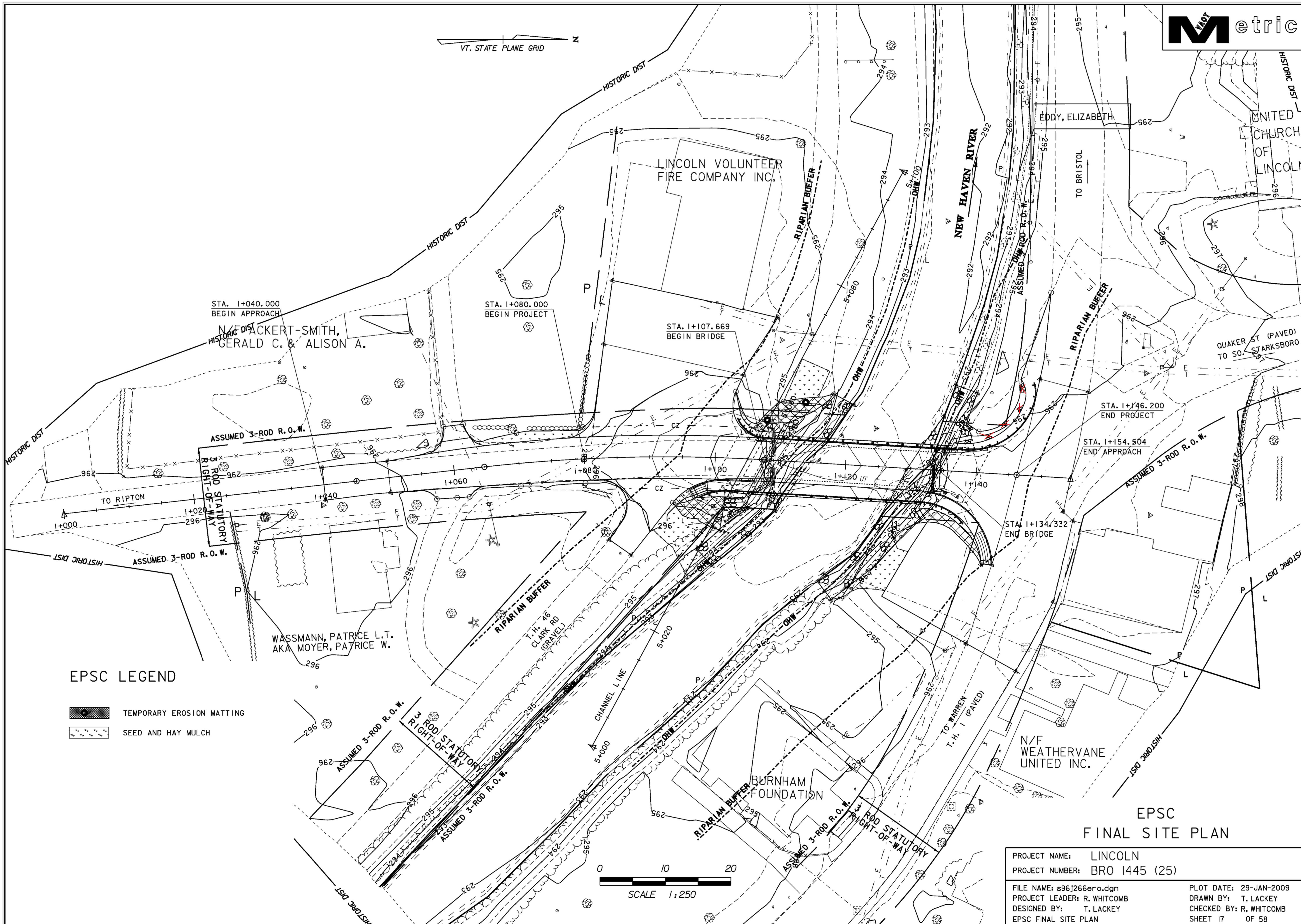
- TEMPORARY EROSION MATTING
- SEED AND HAY MULCH
- BARRIER FENCE
- SILT FENCE
- GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
- SEDIMENT BASIN
- GEOTEXTILE FOR FILTER CURTAIN
- SURFACE ROUGHENING
- STABILIZED CONSTRUCTION ENTRANCE




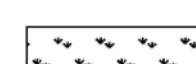
EPSC CONSTRUCTION SITE PLAN

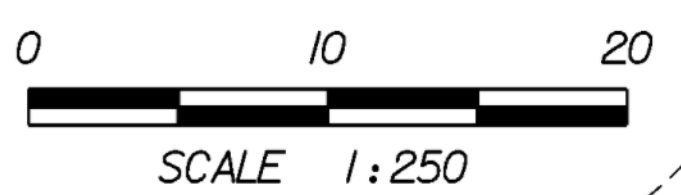
PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96J266ero.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	SHEET	16 OF 58
DESIGNED BY:	T. LACKEY		
EPSC CONSTRUCTION SITE PLAN			

VT. STATE PLANE GRID



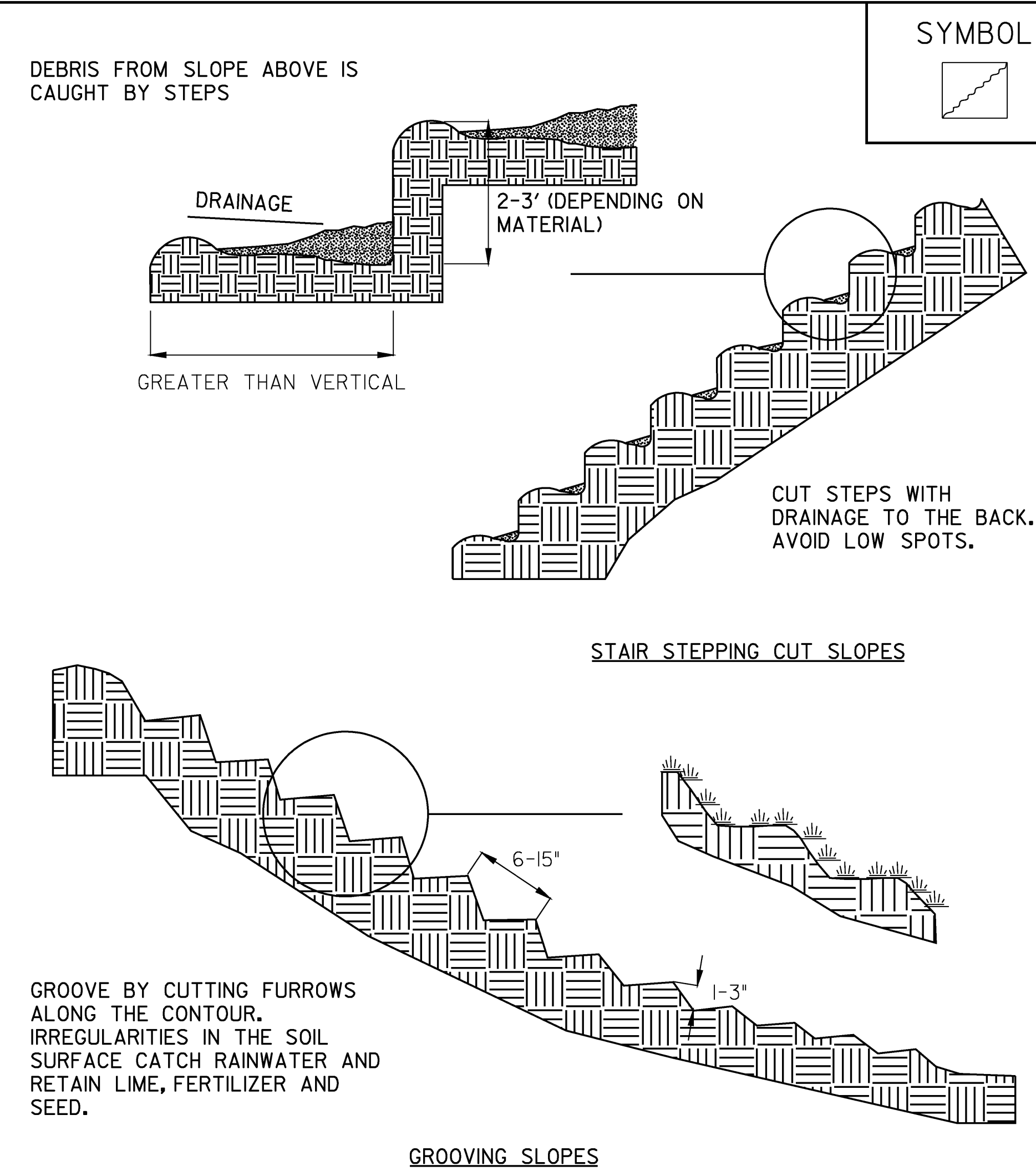
EPSC LEGEND

-  TEMPORARY EROSION MATTING
-  SEED AND HAY MULCH



**EPSC
FINAL SITE PLAN**

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266ero.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	DESIGNED BY:	T. LACKEY
DESIGNED BY:	T. LACKEY	EPSC FINAL SITE PLAN	SHEET 17 OF 58



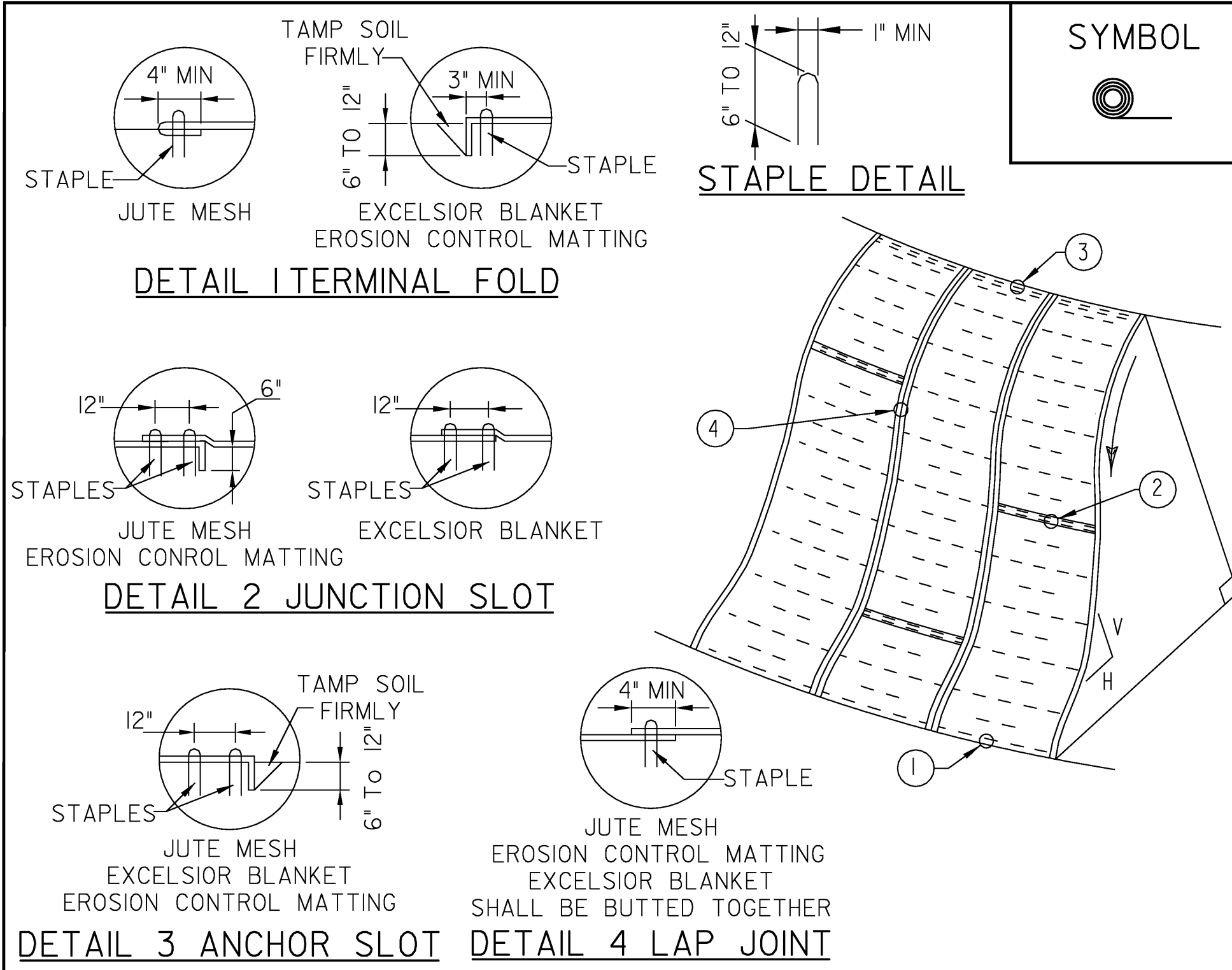
SYMBOL

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

SURFACE ROUGHENING DETAILS

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

THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO THE MATERIAL ITEM SPECIFIED



SYMBOL

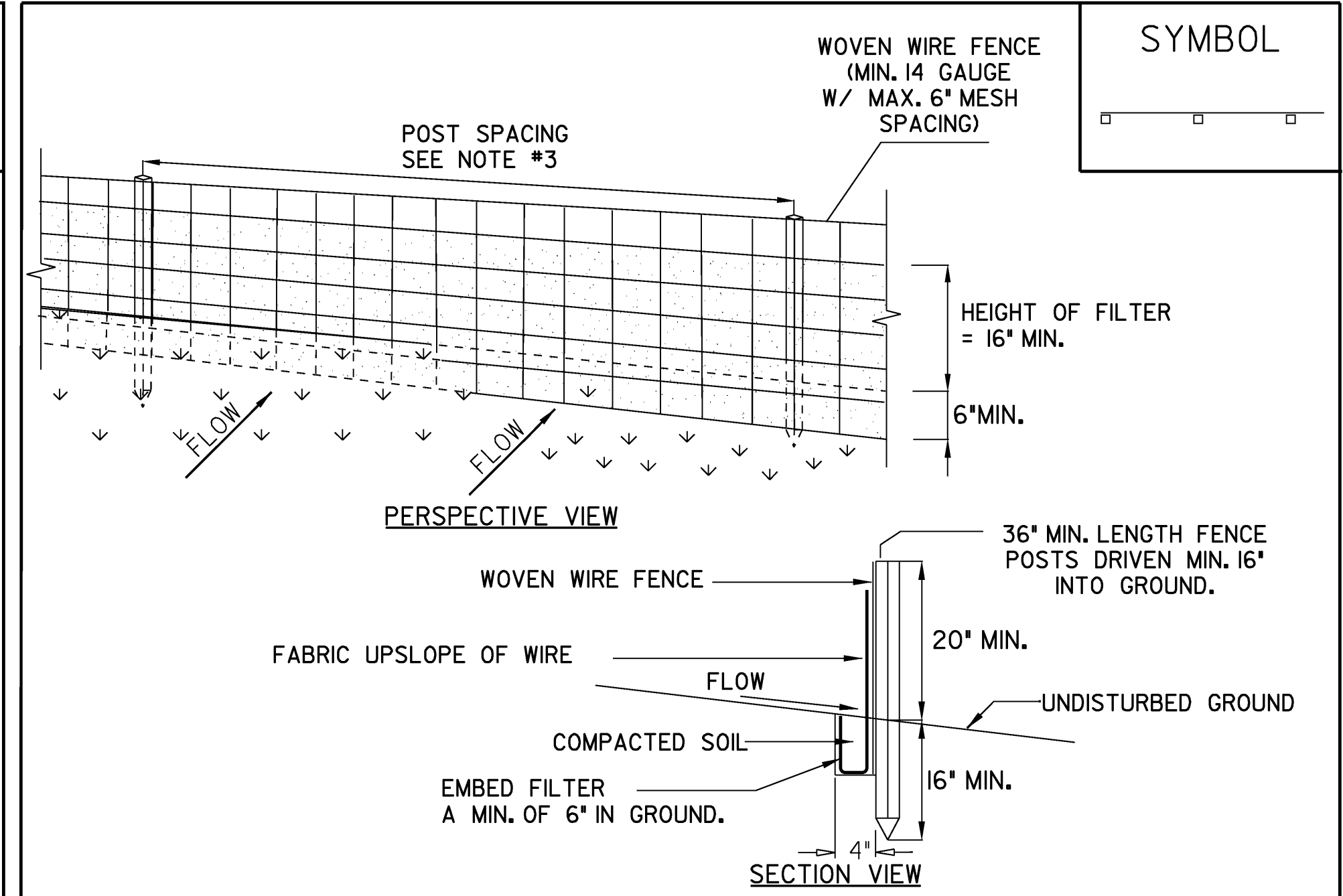
ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.20 TEMPORARY EROSION MATTING

USE ONLY MATTING WITH 100% NATURAL FIBERS.



SYMBOL

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

SILT FENCE

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

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

SEEDING FORMULA
URBAN AREAS

% WT.	LBS./AC.	NAME	PUR %	GERM %
42.5	34.0	CREeping RED FESCUE	98	85
10.0	8.0	PERENNIAL RYE GRASS	95	90
42.5	34.0	KENTUCKY BLUE GRASS	85	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.00	80.0			

SEEDING NOTES

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

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

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

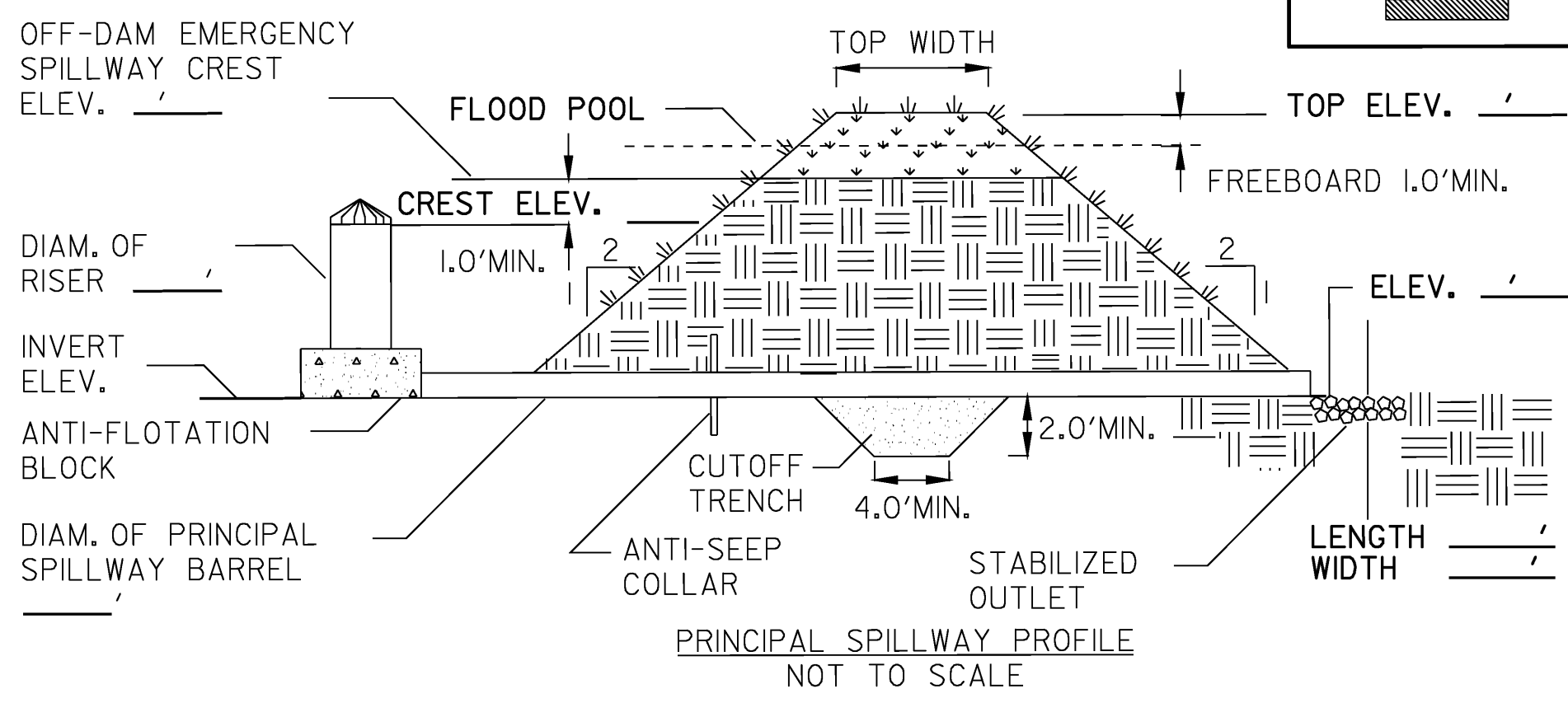
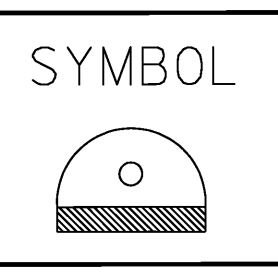
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

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

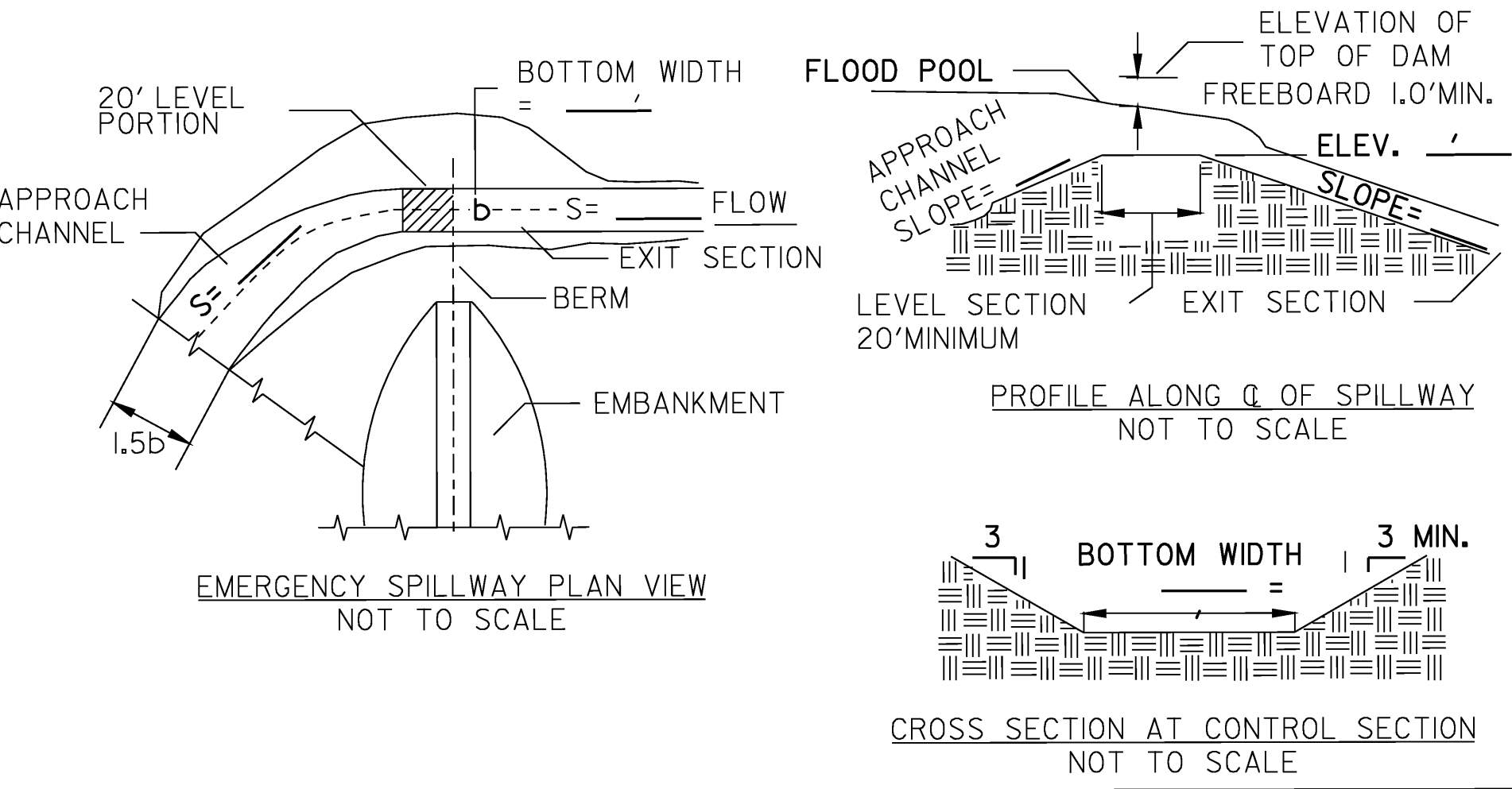
EPSC
DETAILS I

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKY
FILE NAME:	s96J266ero.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	SHEET	18 OF 58
DESIGNED BY:	T. LACKY		
EPSC DETAILS I			

NOTE: DETAILS NOT TO SCALE



MAXIMUM DRAINAGE AREA = 100 ACRES

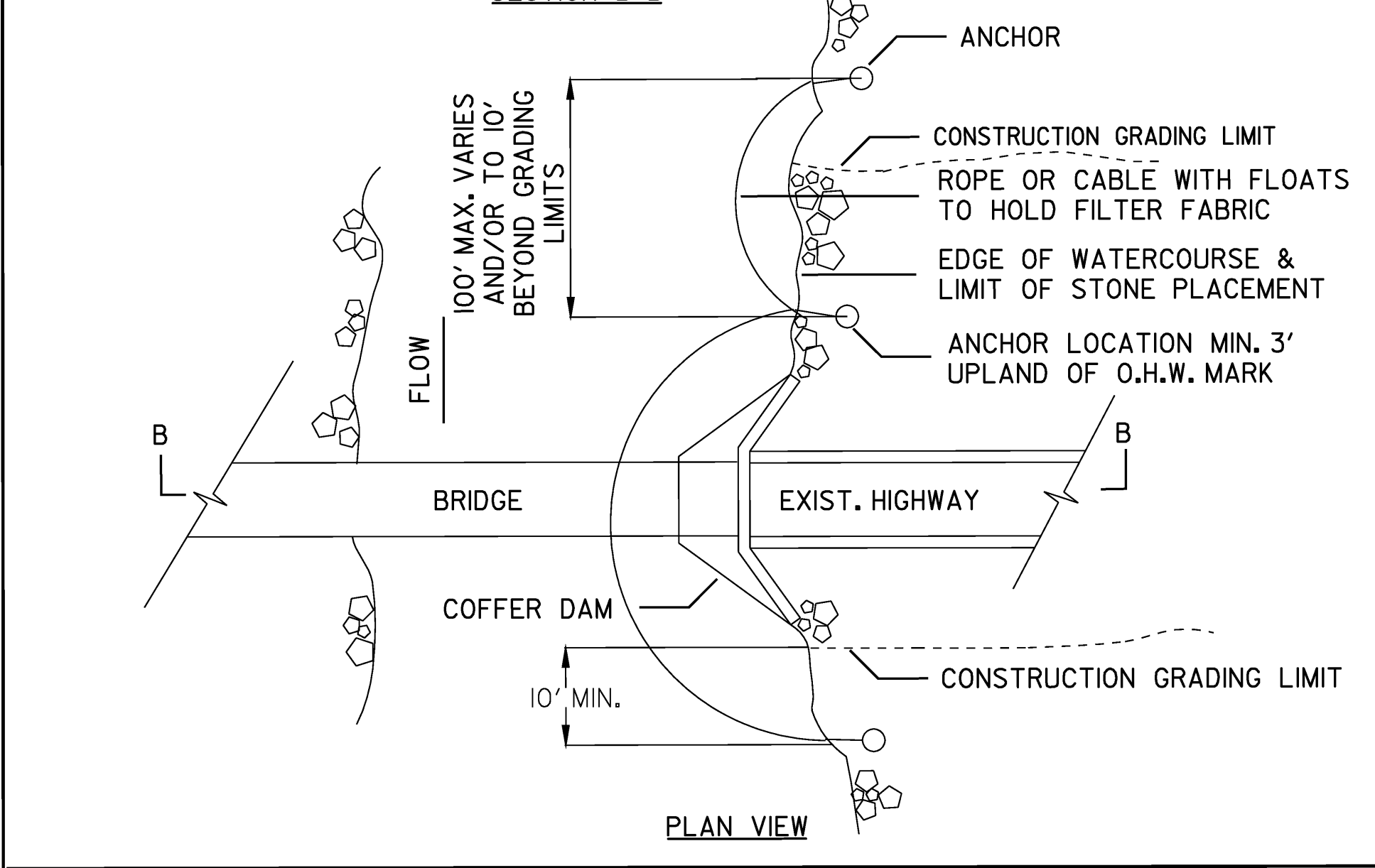
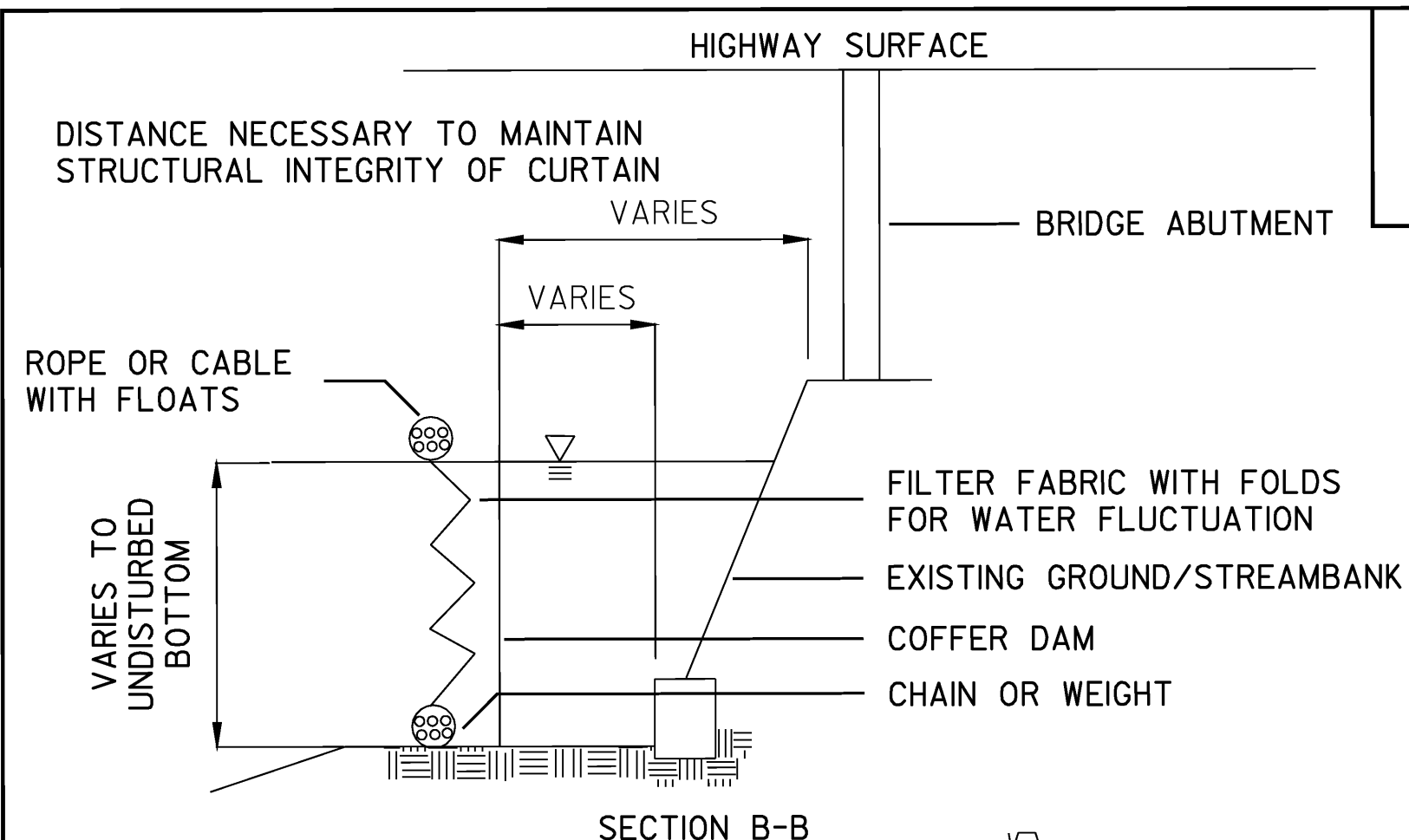
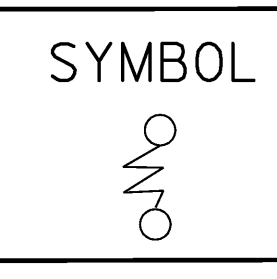


ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SEDIMENT BASIN
DETAILS

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

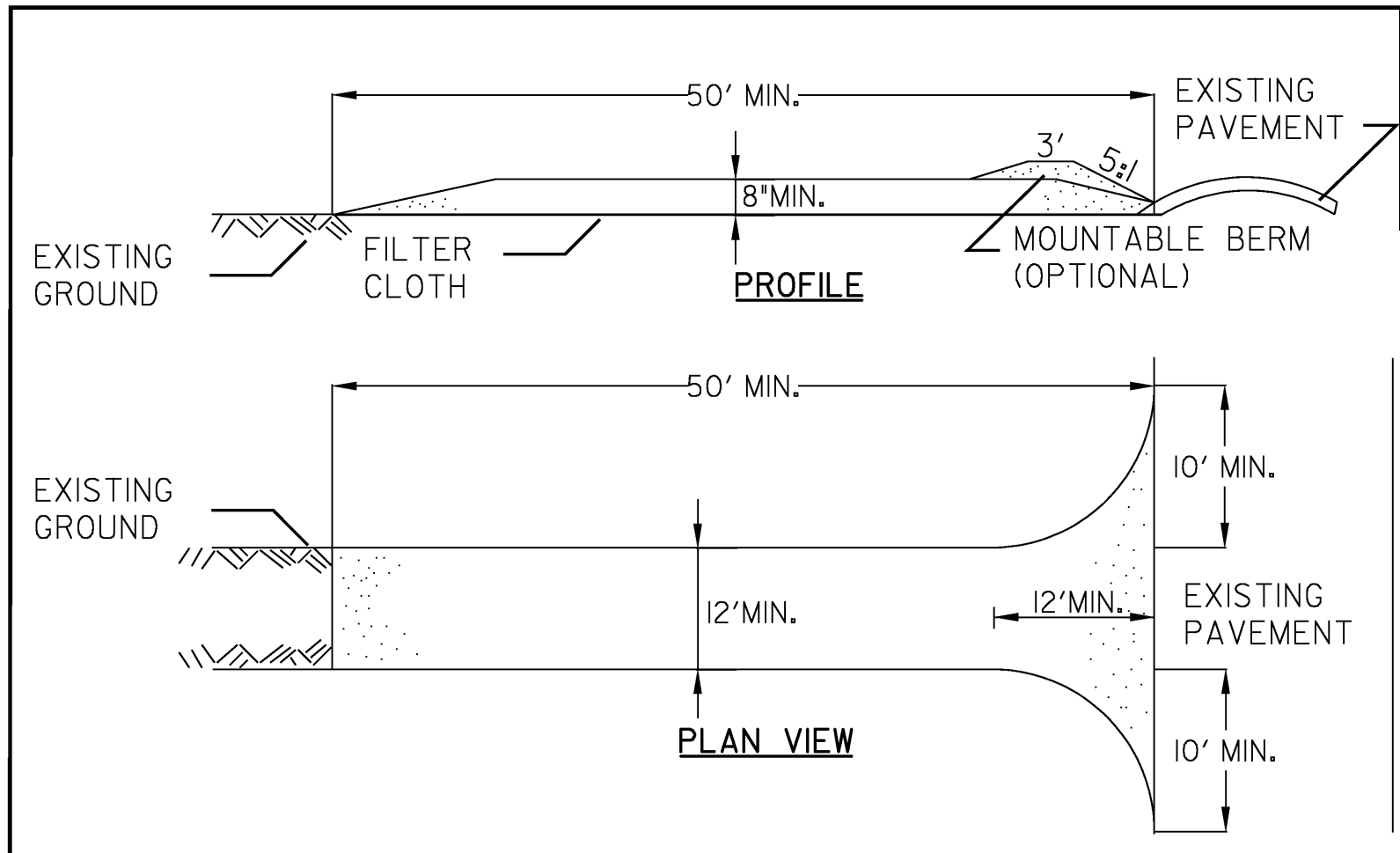
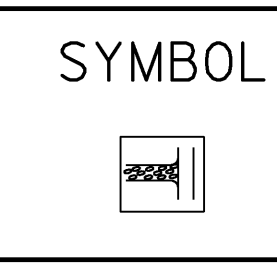
THIS ITEM SHALL BE PAID FOR UNDER ITEM 208.40 COFFERDAM, IF IT IS USED AS A DEWATERING DEVICE FOR A COFFERDAM. IF THIS ITEM IS NOT USED AS A DEWATERING DEVICE IT SHALL BE PAID FOR UNDER A 900 SERIES SPECIAL PROVISION.



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

TURBIDITY CURTAIN

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



CONSTRUCTION SPECIFICATIONS

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

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

STABILIZED
CONSTRUCTION
ENTRANCE

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

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

REVISIONS		
FEBRUARY 9, 2007	WHF	
MARCH 8, 2007	JMF	

SEDIMENT SETTLING BASIN
SIZING CRITERIA

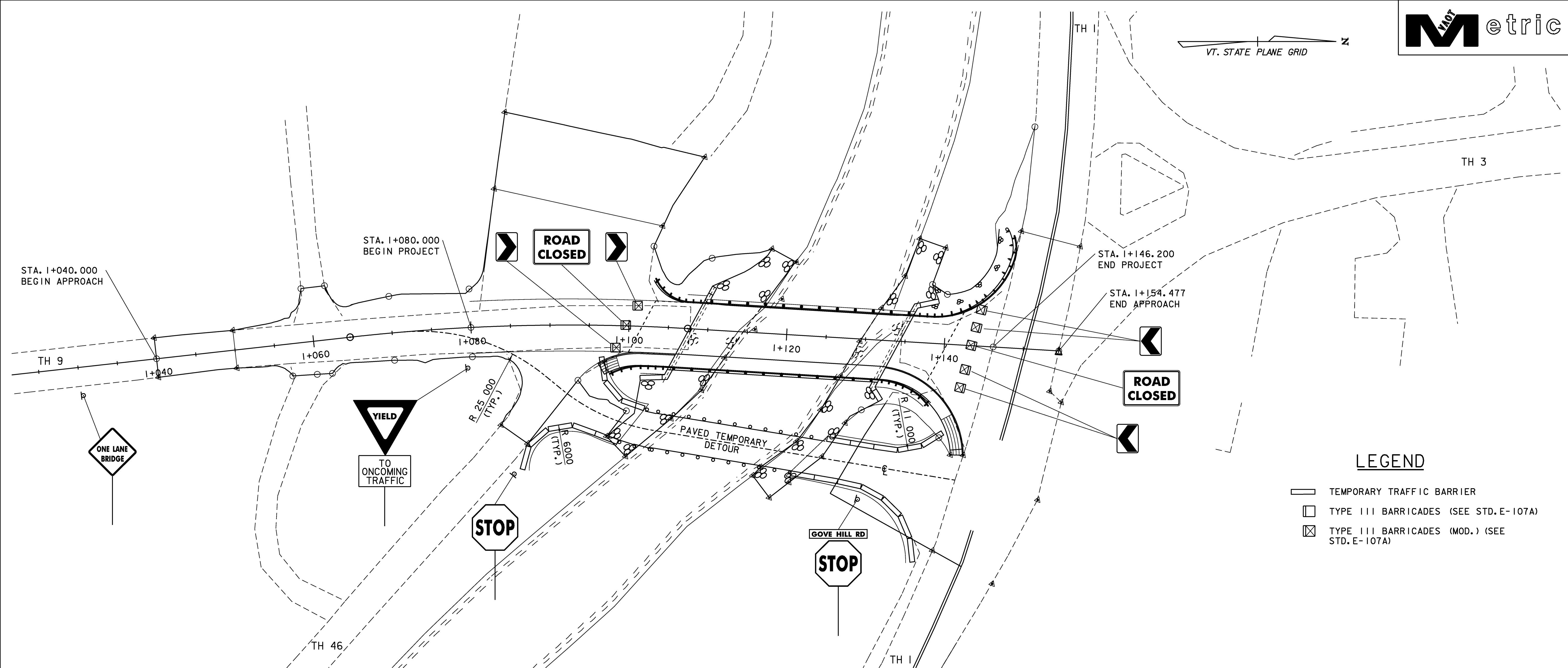
PUMP FLOW RATE	REQUIRED SURFACE AREA	LENGTH WIDTH = 2:1			
		Q (gpm)	Q (m ³ /s)	L (ft)	W (ft)
50	595	55	35.0	17.0	5.3
100	1200	111	49.0	24.5	7.5
150	1776	165	59.6	29.8	9.1
200	2368	220	68.8	34.4	10.5
250	2970	276	77.0	38.5	11.7
300	3560	330	84.4	42.2	12.9
350	4155	386	91.2	45.6	13.9

Target Particle Size is 0.01 mm

EPSC
DETAILS 2

PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445 (25)	DRAWN BY: T. LACKY
FILE NAME: s96J266ero.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 19 OF 58
DESIGNED BY: T. LACKY	
EPSC DETAILS 2	

NOTE: DETAILS NOT TO SCALE



LEGEND

- TEMPORARY TRAFFIC BARRIER
- TYPE III BARRICADES (SEE STD. E-107A)
- ⊠ TYPE III BARRICADES (MOD.) (SEE STD. E-107A)

TRAFFIC CONTROL NOTES

1. THIS TRAFFIC CONTROL SHEET IS TO BE USED AS AN EXAMPLE OF THE MINIMUM REQUIREMENTS FOR ONE-WAY TRAFFIC WITHOUT TRAFFIC SIGNAL CONTROL. MODIFICATION OF, OR ADDITIONS TO, THE TRAFFIC CONTROL DEVICES SHOWN HERE MAY BE REQUIRED BY THE RESIDENT ENGINEER BASED ON FIELD CONDITIONS.

2. THE CONTRACTOR SHALL FURNISH FLAG PERSONS AT THE DIRECTION OF THE ENGINEER AND PROVIDE THE APPROPRIATE SIGNING FOR THEIR PROTECTION, REFER TO STANDARD E-102 "CONSTRUCTION SIGN DETAILS" FOR DETAILS. ANY SUCH SIGNING SHALL BE COVERED OR REMOVED WHEN FLAG PEOPLE ARE NO LONGER CONTROLLING TRAFFIC. PAYMENT SHALL BE INCIDENTAL TO ITEM 630.15.

3. FOR ADDITIONAL DETAILS OF SIGNING AND TRAFFIC CONTROL DEVICES, SEE THE CURRENT MUTCD SECTION 6 AND STANDARD SHEETS:

- E-100 "CONSTRUCTION APPROACH SIGNS"
- E-100A "SIDE ROAD CONSTRUCTION - APPROACH SIGNS"
- E-101 "CONSTRUCTION SIGN DETAILS"
- E-102 "CONSTRUCTION SIGN DETAILS"
- E-102A CONSTRUCTION SIGN DETAILS"
- E-106 "TRAFFIC CONTROL - MISCELLANEOUS DETAILS"
- E-107 "DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS"
- E-107A "BREAKAWAY BARRICADE DETAILS"

4. WHERE EXISTING PAVEMENT MARKINGS ARE NOT APPROPRIATE TO THE MOVEMENT OF TRAFFIC THROUGH THE CONSTRUCTION AREA, THEY SHALL BE REMOVED IN AN APPROVED MANNER. TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED AS CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER. ALL WORK ASSOCIATED WITH REMOVING PAVEMENT MARKINGS AND PLACING TEMPORARY MARKINGS WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 528.10.

5. ANY FILL REQUIRED TO EXTEND THE TEMPORARY TRAFFIC BARRIER OUTSIDE THE CLEAR ZONE SHALL BE NEATLY PLACED AND COMPACTED FOR THE SUPPORT OF THE BARRIER AND SHALL BE PROVIDED WITH ADEQUATE COVER TO PREVENT EROSION. THE RESIDENT ENGINEER SHALL APPROVE THE FILL MATERIAL PRIOR TO PLACEMENT. SIDE SLOPES OF THE FILL SHALL BE NO STEEPER THAN 1:4.

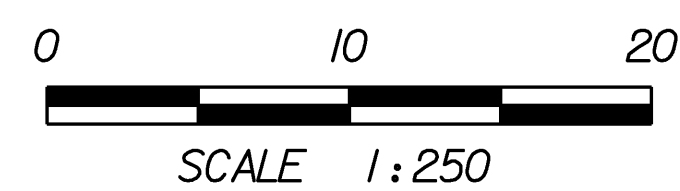
6. ANY EXCAVATION REQUIRED TO EXTEND THE TEMPORARY TRAFFIC BARRIER SHALL BE LIMITED TO THE POINT AT WHICH THE END OF BARRIER IS FULLY BURIED OR THE CLEAR ZONE LIMIT, WHICHEVER IS SHORTER. ONCE THE BARRIER HAS BEEN PLACED, IT SHALL BE PROPERLY BACKFILLED TO PROVIDE A SMOOTH CONTINUOUS TRANSITION FROM THE EMBANKMENT TO THE BARRIER.

7. ALL TEMPORARY FILL OR EXCAVATION REQUIRED TO INSTALL TEMPORARY BARRIER SHALL BE REMOVED OR REPLACED TO THE PRE-CONSTRUCTION CONDITION AFTER THE BARRIER IS NO LONGER REQUIRED FOR A PARTICULAR PHASE OF CONSTRUCTION.

8. THE EXPOSED END OF THE TEMPORARY BARRIER SHALL BE PLACED BEYOND THE "CLEAR ZONE" OR PROTECTED BY AN APPROPRIATE CRASH CUSHION OR IMPACT ATTENUATOR AS OUTLINED IN THE AASHTO "ROAD SIDE DESIGN GUIDE". THE MINIMUM CLEAR ZONE IS 1.500 m FROM THE EDGE OF TRAVELLED WAY.

9. TEMPORARY TRAFFIC BARRIER AND PROTECTIVE END DEVICES SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621. PAYMENT FOR TEMPORARY TRAFFIC BARRIER AND FOR ALL WORK ASSOCIATED WITH BARRIER AS DESCRIBED ON THIS SHEET, INCLUDING PROTECTIVE DEVICES, WILL BE INCLUDED IN THE UNIT PRICE FOR CONTRACT ITEM 528.10.

TRAFFIC CONSTRUCTION SITE PLAN



PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445 (25)	DRAWN BY: T. LACKEY
FILE NAME: s96j266trrf.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	TRAFFIC CONSTRUCTION SITE PLAN
DESIGNED BY: T. LACKEY	SHEET 20 OF 58

100 MM YELLOW LINE
 1+040 - 1+086 CL DOUBLE
 1+098 - 1+140 CL DOUBLE
 5+041 - 5+063 CL DOUBLE
 5+075 - 5+083 CL DOUBLE

600 MM STOP BAR
 1+139 RT - 1+140 RT

LETTER OR SYMBOL
 1+135 - 1+138 RT (STOP)

DETECTABLE WARNING SURFACE
 1+097 RT (YELLOW)
 1+142 RT (YELLOW)

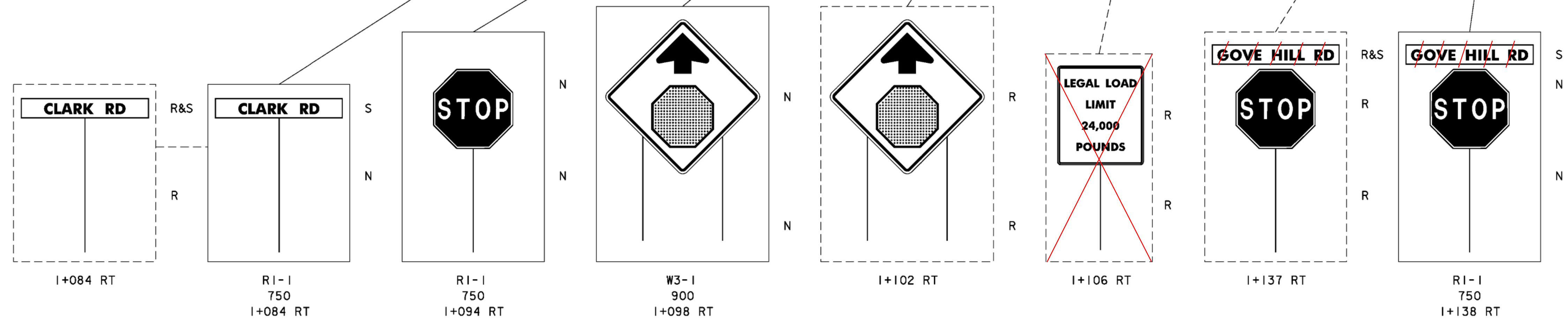
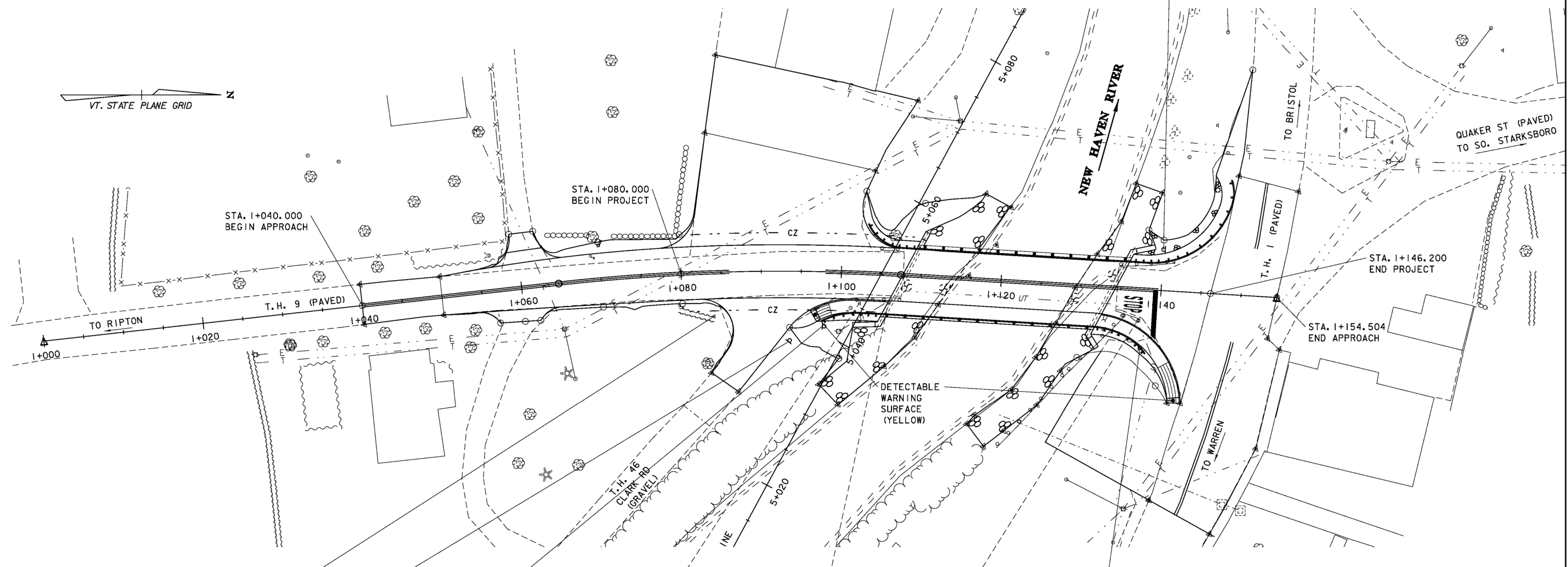
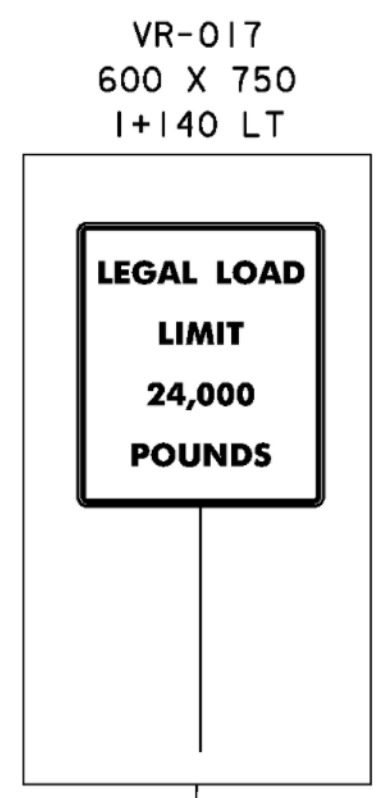
REMOVING SIGNS
 1+084 RT (1)
 1+102 RT (1)
 1+106 RT (1)
 1+137 RT (2)

TRAFFIC SIGNS, TYPE A
 1+094 RT (1)
 1+098 RT (1)
 1+138 RT (1)
 1+140 LT (1)

ERECTING SALVAGED SIGNS
 1+084 RT (1)
 1+138 RT (1)

LEGEND

- EXISTING SIGNS
- NEW SIGNS
- R REMOVE
- R&S REMOVE AND SALVAGE
- N NEW
- S SALVAGE



**TRAFFIC
FINAL SITE PLAN**

PROJECT NAME:	LINCOLN	PLOT DATE:	03-FEB-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266trf.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	TRAFFIC FINAL SITE PLAN	SHEET 21 OF 58



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

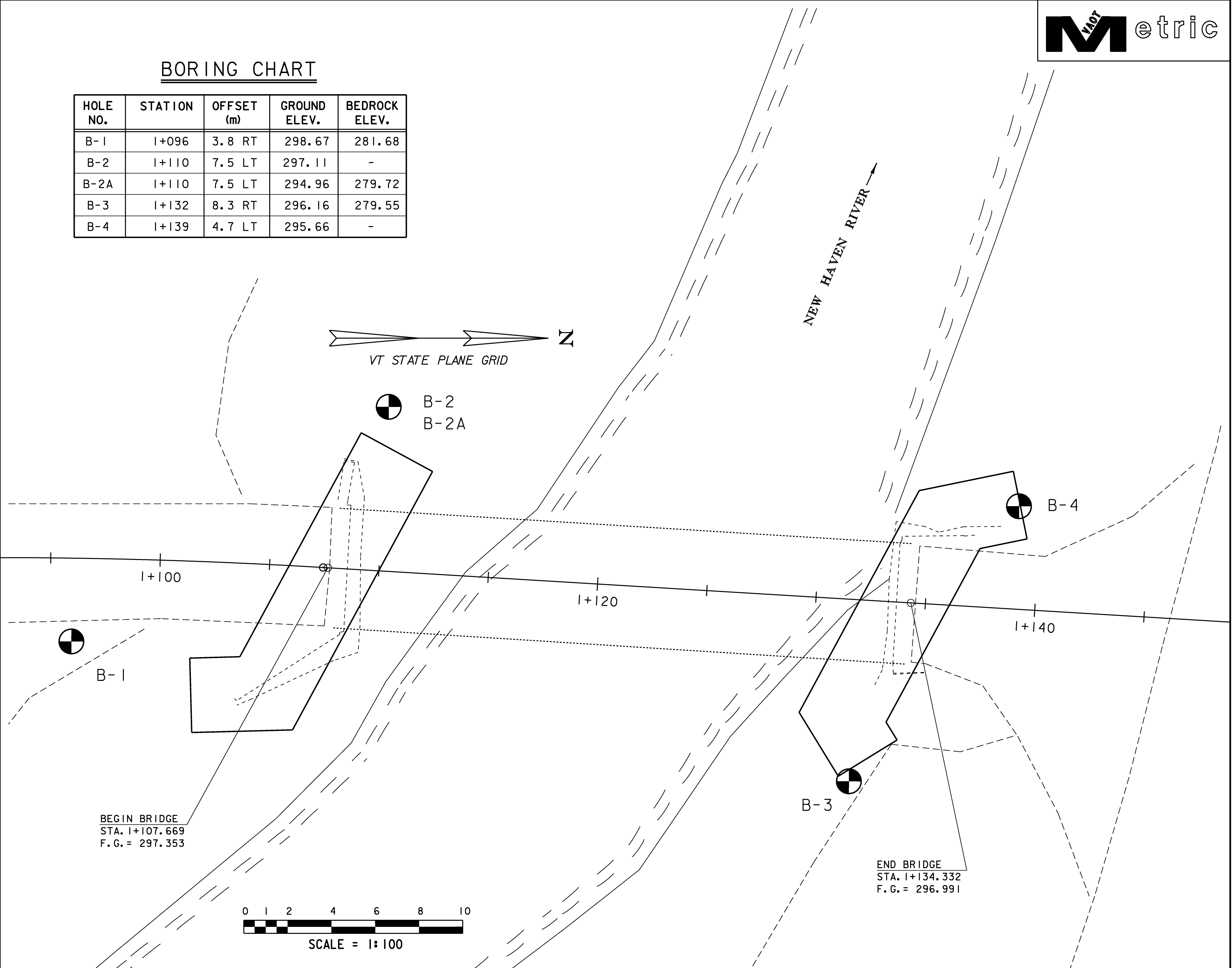
- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊙ Auger Boring
- ⊖ Rod Sounding
- S Sample
- N Standard Penetration Test
- Blow Count Per 300 mm For:
 - 50.8 mm O.D. Sampler
 - 35.0 mm I.D. Sampler
 - Hammer Weight Of 63.5 kg.
 - Hammer Fall Of 762 mm
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 30.1mm
- BX Core Size 42.0 mm
- NX Core Size 54.7 mm
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- SI Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB To Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- RQD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)

COLOR

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

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	BEDROCK ELEV.
B-1	1+096	3.8 RT	298.67	281.68
B-2	1+110	7.5 LT	297.11	-
B-2A	1+110	7.5 LT	294.96	279.72
B-3	1+132	8.3 RT	296.16	279.55
B-4	1+139	4.7 LT	295.66	-



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.

GENERAL NOTES

- The subsurface explorations shown herein were made between 09-12-2000 and 09-19-2000 by the Agency.
- 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.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

GEOTECHNICAL PLAN

PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445 (25)	DRAWN BY: S. SCRIBNER
FILE NAME: s96J266bor.dgn	CHECKED BY: R. WHITCOMB
PROJECT MANAGER: R. WHITCOMB	SHEET 23 OF 58
DESIGNED BY: S. SCRIBNER	
GEOTECHNICAL PLAN	



B-1

EXIST. GROUND EL. 298.67

BOTTOM FTG. ABUT. 1 EL. 290.60

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG									
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-1								
		PAGE NO.	1 OF 3								
		FILE NO.	750-03.1								
		REVIEWER	JEL								
BORING CO.	M & W Soils Engineering	CASING									
FOREMAN	Myron Domingue	H.S.A.									
INSPECTOR	Robert Marshall	LD.O.D.	35/51 mm								
DATE START	09/18/2000	HAMMER	63.5 Kg								
DATE END	09/19/2000	FALL	0.76 m								
GROUND EL.	298.67 m	OTHER									
DEPTH CASING BLOW	SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAY.	% SAND	% FINES	L.Q. LIM.	U.L. LIM.	REMARKS
	NO.	PEN./REC.									
			Augered through gravelly cobbles to 0.91 m before first sample.								
	S-1	0.61 0.30	2 3	S-1 (0.91-1.52m): Loose, brown fine to coarse SAND, little fine to coarse Gravel, trace Silt (A-1-b)	FILL						
1.5			4 8		+/- 1.52 m						
	S-2	0.61 0.41	8 12	S-2 (1.52-2.13m): Medium Dense, brown fine to coarse SAND, little fine to coarse Gravel, little Silt (A-1-b)							
			10 9								
	S-3	0.61 0.38	15 13	S-3 (2.13-2.74m): Dense, brown fine to coarse SAND, some fine to coarse Gravel, little Silt (A-1-b)							
			17 17								
3.0											
	S-4	0.61 0.45	18 21	S-4 (3.05-3.66m): Similar to above except gray brown (A-1-b)							
			19 39								
4.6											
	S-5	0.61 0.36	15 19	S-5 (4.57-5.18m): Very Dense, brown fine to coarse SAND, little Silt, little fine to coarse Gravel (A-1-b)	SILTY GRAVELLY SANDS						1.
			36 15								2.
6.1						7.4	18.5	31.0	50.5		
	S-6	0.61 0.43	9 8	S-6 (6.10-6.71m): Medium Dense, brown fine to coarse SAND, little Silt (A-1-b)							
			7 8								
7.6											
	S-7	0.61 0.30	6 4	S-7 (7.62-8.23m): Medium Dense, some brown fine to coarse SAND, some fine to coarse Gravel, little Silt.							
			9 12		+/- 8.54 m						
9.1											
REMARKS	1. Augers deflecting off inferred cobbles and boulders between 1.52 and 4.57 m depths. 2. Hydraulic head maintained in augers below 4.57 m depth to minimize potential blowing cards. 3. Spoon sampler and auger refusal at 16.99 m depth. 4. Roller bit advanced 0.076 m to 17.07 m depth into probable bedrock prior to rock coring.										
NOTES	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.										
GEODESIGN, Inc.	54 Main Street	Windsor, VT 05089	TEL: (802) 674-2033	FAX: (802) 674-5943	BORING NO.	B-1					

BEDROCK EL. 281.68

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG									
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-1								
		PAGE NO.	2 OF 3								
		FILE NO.	750-03.1								
		REVIEWER	JEL								
BORING CO.	M & W Soils Engineering	CASING									
FOREMAN	Myron Domingue	H.S.A.									
INSPECTOR	Robert Marshall	LD.O.D.	35/51 mm (SEE PAGE 1)								
DATE START	09/18/2000	HAMMER	63.5 Kg								
DATE END	09/19/2000	FALL	0.76 m								
GROUND EL.	298.67 m	OTHER									
DEPTH CASING BLOW	SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAY.	% SAND	% FINES	L.Q. LIM.	U.L. LIM.	REMARKS
	NO.	PEN./REC.									
	S-8	0.61 0.41	8 9	S-8 (9.15-9.76m): Medium Dense, brown fine SAND, some Silt (A-2-4)							
			12 10								
10.7											
	S-9	0.61 0.45	8 12	S-9 (10.67-11.28m): Similar to above except dense (A-2-4)							
			14 18								
12.2											
	S-10	0.61 0.45	12 16	S-10 (12.20-12.81m): Similar to above (A-2-4)	FINE SAND						
			16 19								
13.7											
	S-11	0.61 0.56	11 16	S-11 (13.72-14.33m): Similar to above (A-4)							
			24 28								
15.2											
	S-12	0.61 0.51	16 26	S-12 (15.24-15.85m): Very Dense, gray brown fine SAND, little Silt (A-2-4)							
			28 31								
16.8											
	S-13	0.23 0.23	18 39/1m	S-13 (16.77-16.99m): Very Dense (spoon refusal), gray brown fine to coarse SAND, some Silt, some fine to coarse Gravel (A-2-4)							
					+/- 16.99m						
18.3											
	C-1	1.52 1.32	11	C-1 (17.07-18.60m): Moderately fractured, light to dark gray micaceous Gneiss	BEDROCK						
			8								
			8								
REMARKS	REC: 1.52 / 1.54 = 87% ROD: 0.84 / 1.54 = 55%										
NOTES	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.										
GEODESIGN, Inc.	54 Main Street	Windsor, VT 05089	TEL: (802) 674-2033	FAX: (802) 674-5943	BORING NO.	B-1					

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG									
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-1								
		PAGE NO.	3 OF 3								
		FILE NO.	750-03.1								
		REVIEWER	JEL								
BORING CO.	M & W Soils Engineering	CASING									
FOREMAN	Myron Domingue	H.S.A.									
INSPECTOR	Robert Marshall	LD.O.D.	35/51 mm (SEE PAGE 1)								
DATE START	09/18/2000	HAMMER	63.5 Kg								
DATE END	09/19/2000	FALL	0.76 m								
GROUND EL.	298.67 m	OTHER									
DEPTH CASING BLOW	SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION	STRATUM CHANGES	% M.C.	% GRAY.	% SAND	% FINES	L.Q. LIM.	U.L. LIM.	REMARKS
	NO.	PEN./REC.									
			25								
			48								
	C-2	1.52 1.30	5	C-2 (18.60-20.12m): Moderately fractured, light to dark gray micaceous Gneiss.	BEDROCK						
			7								
19.8											
			7								
			8								
			11								
21.3											
22.9											
24.4											
25.9											
27.4											
REMARKS	END OF BORING (20.12 m)										
NOTES	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.										
GEODESIGN, Inc.	54 Main Street	Windsor, VT 05089	TEL: (802) 674-2033	FAX: (802) 674-5943	BORING NO.	B-1					

GEOTECHNICAL BORING LOGS I

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266bor.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	SHEET	24 OF 58
DESIGNED BY:	S. SCRIBNER		
GEOTECHNICAL BORING LOGS I			

B-2

B-2A

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG																		
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-2																	
		PAGE NO.	1 OF 1																	
		FILE NO.	750-03.1																	
		REVIEWER	JEL																	
BORING CO.	M & W Soils Engineering	CASING	H.S.A.																	
FOREMAN	Myron Domingue	TYPE	S.S.																	
INSPECTOR	Jason Gaudette	LD/O.D.	35/51 mm																	
DATE START	09/12/2000	HAMMER	63.5 Kg																	
DATE END	SAME	FALL	0.76 m																	
GROUND EL.	297.11 m	OTHER	-																	
SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION		STRATUM CHANGES		% M.C.		% GRAY		% SAND		% FINES		L.O. LIM.		PL. LIM.		REMARKS		
DEPTH	CASING	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING	DESCRIPTION & CLASSIFICATION	CHANGES	% M.C.	% GRAY	% SAND	% FINES	L.O. LIM.	PL. LIM.	REMARKS						
	S-1	0.61	0.10	2	8	S-1 (0-0.61m): Medium Dense, dark TOPSOIL with trace roots.	TOPSOIL													1.
	S-2	0.61	0.10	2	1	S-2 (0.61-1.22m): Loose, light to dark brown fine to medium SAND, little Gravel, trace Silt dry(A-1-b)	SAND AND GRAVEL													2.
1.5	S-3	0.41	0.20	18	26	S-3 (1.22-1.63m): Very Dense, light gray to orange brown fine to medium SAND, little Gravel, trace Silt, dry. Contained small pieces of fractured rock(A-1-b)	GRAVEL WITH BOULDERS													3.
	S-4	0.61	0.30	7	11	S-4 (3.66-3.66m): Medium Dense, orange to dark brown, micaceous fine to coarse SAND, some Gravel, trace Silt, wet(A-1-b)	END OF BORING (3.66 m)													
4.6																				
6.1																				
7.6																				
9.1																				
REMARKS: 1. Boring Location - Station 1+110 m, 8.0 m left. 2. High drilling and grinding resistance on inferred boulders through 1.22 - 2.44 m depth during SSA advance. Boulders estimated to be > 0.30 m nominal diameter. 3. HSA and SSA refusal at 2.44 m depth prior to removing casing. Hole abandoned and moved 0.91 m left.																				
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.																				
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943		BORING NO.		B-2																

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG																		
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-2A																	
		PAGE NO.	1 OF 2																	
		FILE NO.	750-03.1																	
		REVIEWER	JEL																	
BORING CO.	M & W Soils Engineering	CASING	H.S.A.																	
FOREMAN	Myron Domingue	TYPE	S.S.																	
INSPECTOR	Jason Gaudette	LD/O.D.	35/51 mm																	
DATE START	09/12/2000	HAMMER	63.5 Kg																	
DATE END	Same	FALL	0.76 m																	
GROUND EL.	297.11 m	OTHER	-																	
SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION		STRATUM CHANGES		% M.C.		% GRAY		% SAND		% FINES		L.O. LIM.		PL. LIM.		REMARKS		
DEPTH	CASING	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING	DESCRIPTION & CLASSIFICATION	CHANGES	% M.C.	% GRAY	% SAND	% FINES	L.O. LIM.	PL. LIM.	REMARKS						
1.5		S-1				S-1 (1.52-3.05m): Dark brown, fine to coarse SAND, little Silt, trace Gravel with root fibers, moist. (Sample obtained from Solid Stem auger flights.)														
		S-2	0.61	0.46	5	7	S-2 (3.66-4.27m): Medium Dense, TOP 0.30m orange brown fine to coarse SAND, trace Silt and Gravel, BOT 0.15m brown fine to coarse SAND, little Silt and Gravel, wet.													
4.6		S-3	0.61	0.30	11	9	S-3 (4.27-4.88m): Medium Dense, TOP 0.25m orange brown fine to coarse SAND, little Gravel, little Silt (generally grading from fine to coarse), BOT 0.05m brown fine SAND, little Silt, wet.													
6.1		S-4	0.61	0.36	8	13														
7.6		S-5	0.61	0.46	6	25														
9.1		S-6	0.61	0.30	5	8														
REMARKS: 1. 2. 3.																				
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.																				
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943		BORING NO.		B-2A																

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG																		
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-2A																	
		PAGE NO.	2 OF 2																	
		FILE NO.	750-03.1																	
		REVIEWER	JEL																	
BORING CO.	M & W Soils Engineering	CASING	H.S.A.																	
FOREMAN	Myron Domingue	TYPE	S.S.																	
INSPECTOR	Robert Marshall	LD/O.D.	35/51 mm																	
DATE START	9/12/00	HAMMER	63.5 Kg																	
DATE END	9/12/00	FALL	0.76 m																	
GROUND EL.	294.964 m	OTHER	-																	
SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION		STRATUM CHANGES		% M.C.		% GRAY		% SAND		% FINES		L.O. LIM.		PL. LIM.		REMARKS		
DEPTH	CASING	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING	DESCRIPTION & CLASSIFICATION	CHANGES	% M.C.	% GRAY	% SAND	% FINES	L.O. LIM.	PL. LIM.	REMARKS						
						S-6 (8.84-9.45m): Medium dense, layered fine to coarse SAND, trace Silt with brown beige fine Sand, some Silt, wet (A-4)														5.
																				6.
10.7		S-7	24	12	8	23	S-7 (10.37-10.98m): Dense, TOP 0.15m Dense brown fine to coarse SAND, little Gravel, trace Silt; BOT 0.15m Brown micaceous completely weathered Rock (mica schist?) wet (A-1-a)	SANDY GRAVEL WITH SILTY SAND		10.6	50.5	40.4	9.1							
12.2		S-8	24	18	10	13	S-8 (11.89-12.50m): Dense, TOP 0.30m Light to dark brown fine to coarse SAND, trace Silt and Gravel; BOT 0.15m Brown beige fine Sand, some Silt, wet (A-4)													
13.7		S-9	24	10	8	5	S-9 (13.41-14.02m): Medium dense, TOP 0.15m Similar to top of S-8; BOT 0.10m Similar to bottom of S-8 (A-2-4)			18.6	8.1	57.6	34.3							
15.2		S-10	8.00	8.00	10	70/2	S-10 (14.04-15.15m): Very dense, orange brown to green gray fine to coarse SAND, little Silt and Gravel, fractured Rock in spots top, wet (A-2-4)	ROCK		15.24 m										7.
																				8.
16.8																				
18.3																				
REMARKS: 5. Difficulty retrieving drill rods/plug at 8.84m depth prior to sampling. Sample not attempted - hole flushed out with water due to flowing fine Sands. 6. Drilling resistance increased at approximately 10.06m depth (Gravel, possible Cobbles). 7. Drilling resistance increased at approx 15.24m depth, possible bedrock. HSA used to slowly penetrate 0.76m of probable rock, refusal at 15.86m.																				
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.																				
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943		BORING NO.		B-2A																

EXIST. GROUND EL. 297.11

EXIST. GROUND EL. 294.96

BOTTOM FTG. ABUT. 1 EL. 290.60

BOTTOM FTG. ABUT. 1 EL. 290.60

BEDROCK EL. 279.72

GEOTECHNICAL BORING LOGS 2

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266bor.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	SHEET	25 OF 58
DESIGNED BY:	S. SCRIBNER		
GEOTECHNICAL BORING LOGS 2			



B-3

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG																					
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-3																				
		PAGE NO.	1 OF 3																				
		FILE NO.	750-03.1																				
		REVIEWER	JEL																				
BORING CO.	CASING	SAMPLER	GROUNDWATER READINGS																				
M & W Soils Engineering	H.S.A.	S.S.	DATE/TIME	DEPTH	STAR TIME																		
FOREMAN Myron Domingue																							
INSPECTOR Robert Marshall	83/115 mm	35/51 mm	9/13/00 1645	4.27 m	5 Minutes																		
DATE START 9/13/00	-	HAMMER	63.5 Kg																				
DATE END 9/14/00	-	FALL	0.76 m																				
GROUND EL.	296.165 m	-	OTHER	-																			
SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION		STRATUM CHANGES	% M.C.			% GRAV.			% SAND			% FINES			I.O. LIM.			P.L. LIM.			REMARKS
DEPTH	CASING	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	DESCRIPTION & CLASSIFICATION		CHANGES	% M.C.	% GRAV.	% SAND	% FINES	I.O. LIM.	P.L. LIM.	REMARKS								
	S-1	0.61	0.2	11	1	S-1 (0-0.61m): TOP 0.05m ASPHALT, BOT 0.15m Very loose brown fine to coarse SAND, some fine to coarse Gravel, little Silt (A-1-b).	0.05m ASPHALT 0.2m GRAVEL BASE								1.								
	S-2	0.61	0.25	3	2	S-2 (0.61-1.22m): Very loose, brown fine to coarse SAND, little fine to coarse Gravel, little Silt (A-1-b).																	
1.5	S-3	.61	.08	3	2	S-3 (1.22-1.83m): Similar to above (A-1-b).	FILL W/ COBBLES AND BOULDERS																
	S-4	.61	.41	12	17	S-4 (1.83-2.44m): Augered through Cobbles and Boulders from 1.83 to 2.44m.	+/- 2.44 m																
3.0	S-5	0.61	0.41	11	17	S-5 (2.44-3.05m): Dense brown, fine to coarse SAND, little fine to coarse Gravel, little Silt, trace possible Concrete fragments (A-4-b).		7.8	43.6	37.0	19.4												
	S-6	.61	.23	12	11	S-6 (3.05-3.66m): Dense, brown fine to coarse SAND, little fine to coarse Gravel, little Silt (A-1-b).	SILTY SANDY																
4.6	S-7	.61	.38	17	44	S-7 (3.66-4.27m): Dense, brown fine to coarse SAND, some fine to coarse Gravel, little Silt (A-1-b).																	
	S-8	.61	.61	12	12	S-8 (4.27-4.88m): Similar to above except medium dense (A-1-b).	GRAVEL	16.4	42.8	43.5	13.7				2.								
	S-9	.61	.23	12	11	S-9 (4.88-5.49m): Similar to above except medium dense (A-1-b).																	
6.1	S-10	.61	.38	17	44	S-10 (5.49-6.10m): Very dense, gray brown fine to coarse SAND, some fine to coarse Gravel, little Silt (A-1-b).																	
	S-11	.61	.38	17	44	S-11 (6.10-6.71m): Very dense, gray brown fine to coarse SAND, some fine to coarse Gravel, little Silt (A-1-b).																	
7.6	S-12	.61	.61	12	12	S-12 (6.71-7.32m): Dense, brown fine SAND, some Silt with lower bottom gray brown SILT, trace fine Sand (A-4).	SILTY SAND	28.7	1.7	8.4	89.9												
9.1	S-13	.61	.61	12	12	S-13 (7.32-7.93m): Dense, brown fine SAND, some Silt with lower bottom gray brown SILT, trace fine Sand (A-4).																	
REMARKS: 1. Boring advanced open hole through boulder fill using 0.10m solid stem augers from zero to 3.05m depth. 2. Hydraulic head supplemented with polymer drilling fluid maintained inside augers below 4.57m depth in effort to minimize potential of running sands.																							
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.																							
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943 BORING NO. B-3																							

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG																					
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-3																				
		PAGE NO.	2 OF 3																				
		FILE NO.	750-03.1																				
		REVIEWER	JEL																				
BORING CO.	CASING	SAMPLER	GROUNDWATER READINGS																				
M & W Soils Engineering	H.S.A.	S.S.	DATE/TIME	DEPTH	STAR TIME																		
FOREMAN Myron Domingue																							
INSPECTOR Robert Marshall	83/115 mm	35/51 mm	9/13/00 1645	4.27 m	5 Minutes																		
DATE START 9/13/00	-	HAMMER	63.5 Kg																				
DATE END 9/14/00	-	FALL	0.76 m																				
GROUND EL.	296.165 m	-	OTHER	-																			
SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION		STRATUM CHANGES	% M.C.			% GRAV.			% SAND			% FINES			I.O. LIM.			P.L. LIM.			REMARKS
DEPTH	CASING	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	DESCRIPTION & CLASSIFICATION		CHANGES	% M.C.	% GRAV.	% SAND	% FINES	I.O. LIM.	P.L. LIM.	REMARKS								
	S-9	0.61	0.41	9	12	S-9 (8.15-9.76m): Dense, gray brown fine to coarse SAND, some fine to coarse Gravel, little Silt (A-1-b).																	
10.7	S-10	0.61	0.45	17	21	S-10 (10.67-11.28m): Similar to above (A-1-b).																	
	S-11	0.61	0.43	5	7	S-11 (12.20-12.81m): Medium dense brown fine SAND, trace Silt, trace (-) fine Gravel (A-4).																	
12.2	S-12	0.61	0.30	16	17	S-12 (13.72-14.33m): Dense, brown fine to coarse SAND, some (+) fine to coarse Gravel, trace (-) Silt (A-2-4).																	
13.7	S-13	0.30	0.30	17	30	S-13 (15.24-15.85m): Very dense (spoon refusal) brown fine SAND, little fine to coarse Gravel, little Silt (A-2-4).																	
15.2	C-1	1.52	1.34	16	77	C-1 (16.77-18.29m): Moderately fractured gray GNEISS with near vertical fracture between 18.00 and 18.29m depth. REC = 1.32/1.52 = 87% RQD = 0.97/1.52 = 64%																	
16.8	C-2	1.52	1.37	18	29																		
18.3	C-2	1.52	1.37	18	29																		
REMARKS: 3. Sands "blew" 1.2m into HSA during plug withdrawal from 12.20m depth. Sands washed out prior to sampling with the possibility that blow counts are erroneously low. 4. Difficult advance of augers approximately 0.76m into probable rock to auger refusal at 16.62m depth, then advanced roller bit 0.15m to 16.77m depth into probable bedrock prior to rock coring.																							
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.																							
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943 BORING NO. B-3																							

PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG																					
Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-3																				
		PAGE NO.	3 OF 3																				
		FILE NO.	750-03.1																				
		REVIEWER	JEL																				
BORING CO.	CASING	SAMPLER	GROUNDWATER READINGS																				
M & W Soils Engineering	H.S.A.	S.S.	DATE/TIME	DEPTH	STAR TIME																		
FOREMAN Myron Domingue																							
INSPECTOR Robert Marshall	83/115 mm	35/51 mm	9/13/00 1645	4.27 m	5 Minutes																		
DATE START 9/13/00	-	HAMMER	63.5 Kg																				
DATE END 9/14/00	-	FALL	0.76 m																				
GROUND EL.	296.165 m	-	OTHER	-																			
SAMPLE INFORMATION		SAMPLE DESCRIPTION & CLASSIFICATION		STRATUM CHANGES	% M.C.			% GRAV.			% SAND			% FINES			I.O. LIM.			P.L. LIM.			REMARKS
DEPTH	CASING	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)	DESCRIPTION & CLASSIFICATION		CHANGES	% M.C.	% GRAV.	% SAND	% FINES	I.O. LIM.	P.L. LIM.	REMARKS								
	C-2	1.52	1.37	18	29	16	C-2 (18.29-19.82m): Intact gray GNEISS. REC = 1.37/1.52 = 90% RQD = 1.37/1.52 = 90%																
19.8																							
21.3																							
22.9																							
24.4																							
25.9																							
27.4																							
REMARKS: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.																							
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943 BORING NO. B-3																							

GEOTECHNICAL BORING LOGS 3

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266bor.dgn	CHECKED BY:	R. WHITCOMB
DESIGNED BY:	S. SCRIBNER	SHEET	26 OF 58
GEOTECHNICAL BORING LOGS 3			

B-4

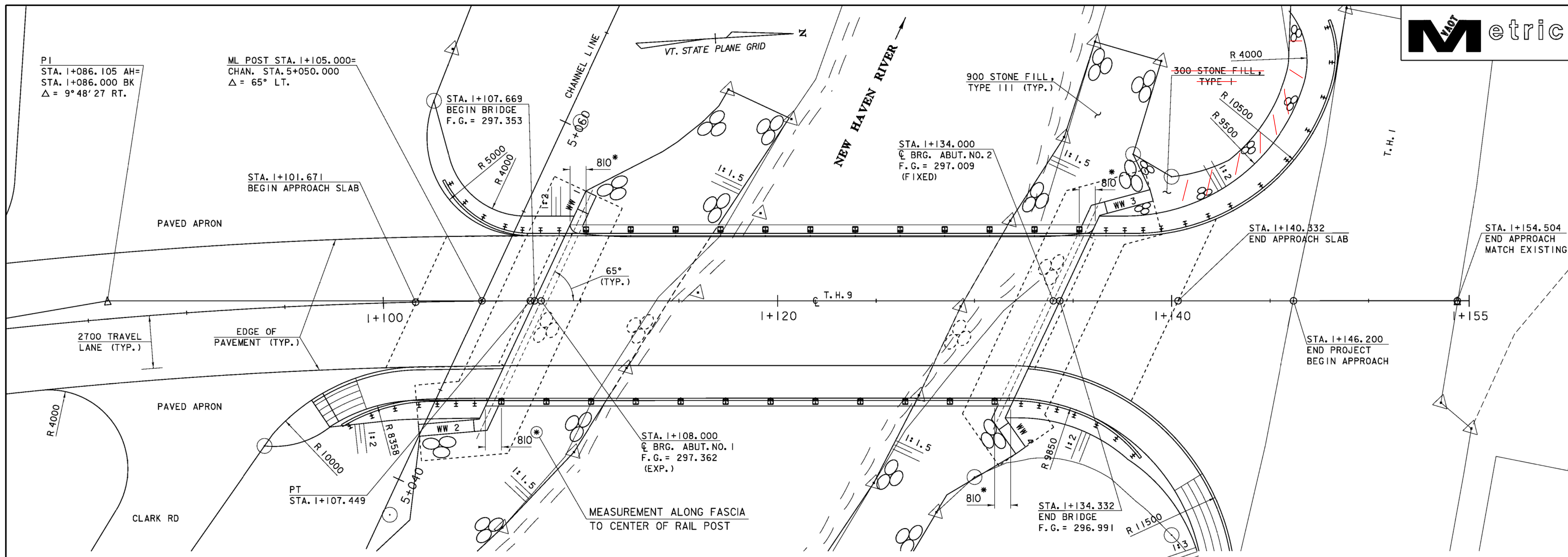
 Geotechnical Engineers and Environmental Consultants		PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG								
		Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-4							
				PAGE NO.	1 OF 3							
				FILE NO.	750-03.1							
		REVIEWER	JEL									
BORING CO.	M & W Soils Engineering	CASING	SAMPLER	GROUNDWATER READINGS								
FOREMAN	Myron Domingue	H.S.A.	S.S.	DATE/TIME	DEPTH	STAB. TIME						
INSPECTOR	Robert Marshall	83/115 mm	LD/O.D. 35/51 mm	9/13/00 0930	3.66 m	5 Minutes						
DATE START	9/13/00	-	HAMMER 63.5 Kg									
DATE END	SAME	-	FALL 0.76 m									
GROUND EL.	295.665 m	-	OTHER -									
DEPTH (m)	SAMPLE INFORMATION				STRATUM CHANGES	% M.C.	% GRAY	% SAND	% FINES	L.Q. LIM.	P.L. LIM.	REMARKS
	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)								
	S-1	0.61	0.2	1	1							1.
	S-1 (0-0.61m): TOP 0.10m Loose dark brown TOPSOIL, BOT 0.10m Loose brown fine to coarse SAND, little Silt, trace fine Gravel (A-1-b)											
	S-2	0.61	0	5	7							
	S-2 (0.61-1.22m): No Recovery											
1.5	S-3	.03	0	50	0.03							
	S-3 (1.22-1.25m): Refusal and no recovery											
	S-4	.36	.13	7	17							
	S-4 (1.52-2.13m): Very dense (refusal) brown fine to coarse SAND, little fine to coarse Gravel, trace Silt (A-1-b)											
3.0	S-5	0.61	0.28	17	12							2.
	S-5 (3.05-3.66m): Medium dense gray brown fine to coarse SAND, little Silt, trace fine to coarse Gravel (A-2-4)											
4.6	S-6	0.61	0.25	12	14							
	S-6 (4.57-5.18m): Dense brown fine to coarse angular GRAVEL, some coarse to fine Sand, some Silt (A-2-4)											
6.1	S-7	0.61	0.43	17	24							3.
	S-7 (6.10-6.71m): Very dense brown fine to medium SAND, some fine to coarse Gravel, some Silt (A-2-4)											
7.6	S-8	0.61	0.25	26	31							
	S-8 (7.62-8.23m): Similar to above (A-2-4)											
9.1												4.
	S-9 (8.15-9.76m): Very dense brown fine SAND, trace Silt (A-3)											
10.7												
	Sands blew 1.3m into augers following plug removal from 10.67m depth. Flushed sands out, then sands blew 1.1m into auger while lowering sampler. No sample taken and augers advanced to 12.20m interval											
12.2	S-10	0.46	0.20	30	32							
	S-10 (12.20-12.66m): Very dense brown fine to coarse SAND, trace Silt (A-1-b)											
13.7	S-11	0.61	0.48	18	13							5.
	S-11 (13.72-14.33m): Dense, brown fine to coarse SAND, some (+) fine to coarse Gravel, trace Silt (A-2-4)											
15.2	S-12	0.61	0.51	17	21							
	S-12 (15.24-15.85m): Very dense, brown fine to coarse SAND, little (+) fine to coarse Gravel, little (+) Silt (A-2-4)											
16.8	S-13	0.31	0.31	48	170							
	S-13 (16.77-17.08m): Very dense (spoon refusal) brown fine to coarse SAND, trace fine to coarse Gravel, trace Silt (A-2-4)											
18.3												
	5. Advanced sampler through 0.15m of sands in auger at start of S-10 sample interval.											
REMARKS:	1. Boring advanced open hole with significant difficulty through boulder fill using 0.10m solid stem augers from zero to 3.05m depth. 2. Hydraulic head maintained in augers below 3.05m depth in effort to prevent sample disturbance. 3. Petroleum odor observed in auger cuttings below 6.10m depth. Odor not noticed in spoon samples. 4. Sands blew 1m into augers following plug removal from 9.15m depth. Sands washed out prior to S-9.											
NOTES:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.											
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943		BORING NO.		B-4								

 Geotechnical Engineers and Environmental Consultants		PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG								
		Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-4							
				PAGE NO.	2 OF 3							
				FILE NO.	750-03.1							
		REVIEWER	JEL									
BORING CO.	M & W Soils Engineering	CASING	SAMPLER	GROUNDWATER READINGS								
FOREMAN	Myron Domingue	H.S.A.	S.S.	DATE/TIME	DEPTH	STAB. TIME						
INSPECTOR	Robert Marshall	83/115 mm	LD/O.D. 35/51 mm	(SEE PAGE 1)								
DATE START	9/13/00	-	HAMMER 63.5 Kg									
DATE END	SAME	-	FALL 0.76 m									
GROUND EL.	295.665 m	-	OTHER -									
DEPTH (m)	SAMPLE INFORMATION				STRATUM CHANGES	% M.C.	% GRAY	% SAND	% FINES	L.Q. LIM.	P.L. LIM.	REMARKS
	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)								
	S-9	0.61	0.56	17	24							
	S-9 (9.15-9.76m): Very dense brown fine SAND, trace Silt (A-3)											
10.7												
	Sands blew 1.3m into augers following plug removal from 10.67m depth. Flushed sands out, then sands blew 1.1m into auger while lowering sampler. No sample taken and augers advanced to 12.20m interval											
12.2	S-10	0.46	0.20	30	32							
	S-10 (12.20-12.66m): Very dense brown fine to coarse SAND, trace Silt (A-1-b)											
13.7	S-11	0.61	0.48	18	13							5.
	S-11 (13.72-14.33m): Dense, brown fine to coarse SAND, some (+) fine to coarse Gravel, trace Silt (A-2-4)											
15.2	S-12	0.61	0.51	17	21							
	S-12 (15.24-15.85m): Very dense, brown fine to coarse SAND, little (+) fine to coarse Gravel, little (+) Silt (A-2-4)											
16.8	S-13	0.31	0.31	48	170							
	S-13 (16.77-17.08m): Very dense (spoon refusal) brown fine to coarse SAND, trace fine to coarse Gravel, trace Silt (A-2-4)											
18.3												
	5. Advanced sampler through 0.15m of sands in auger at start of S-10 sample interval.											
REMARKS:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.											
NOTES:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.											
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943		BORING NO.		B-4								

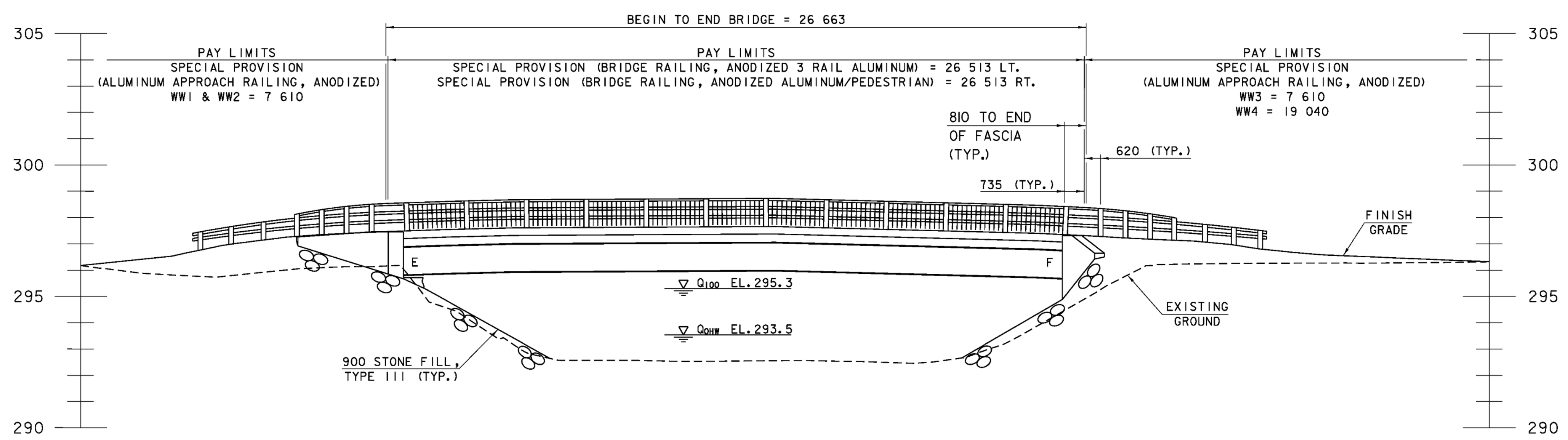
 Geotechnical Engineers and Environmental Consultants		PROJECT NAME AND LOCATION		GEODESIGN, INC. SOIL BORING LOG								
		Lincoln BRO 1445 (25) Lincoln, Vermont		BORING NO.	B-4							
				PAGE NO.	3 OF 3							
				FILE NO.	750-03.1							
		REVIEWER	JEL									
BORING CO.	M & W Soils Engineering	CASING	SAMPLER	GROUNDWATER READINGS								
FOREMAN	Myron Domingue	H.S.A.	S.S.	DATE/TIME	DEPTH	STAB. TIME						
INSPECTOR	Robert Marshall	83/115 mm	LD/O.D. 35/51 mm	(SEE PAGE 1)								
DATE START	9/13/00	-	HAMMER 63.5 Kg									
DATE END	SAME	-	FALL 0.76 m									
GROUND EL.	295.665 m	-	OTHER -									
DEPTH (m)	SAMPLE INFORMATION				STRATUM CHANGES	% M.C.	% GRAY	% SAND	% FINES	L.Q. LIM.	P.L. LIM.	REMARKS
	NO.	PEN./REC.	BLOWS PER 0.15 m	CORING (min/0.3m)								
	S-14	0.08	0.08	60	0.08							
	S-14 (18.29-18.38m): Very dense (spoon refusal) gray-brown fine to coarse SAND, little fine to coarse Gravel, little Silt (A-2-4)											
19.8												
	END OF BORING											
21.3												
22.9												
24.4												
25.9												
27.4												
REMARKS:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.											
NOTES:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES. ACTUAL TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.											
GEODESIGN, Inc. 54 Main Street Windsor, VT 05089 TEL: (802) 674-2033 FAX: (802) 674-5943		BORING NO.		B-4								

GEOTECHNICAL BORING LOGS 4

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266bor.dgn	CHECKED BY:	R. WHITCOMB
DESIGNED BY:	S. SCRIBNER	SHEET	27 OF 58
GEOTECHNICAL BORING LOGS 4			

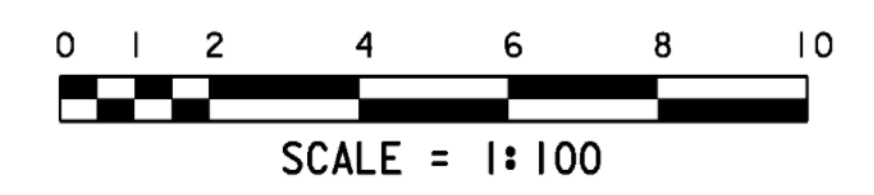


PLAN

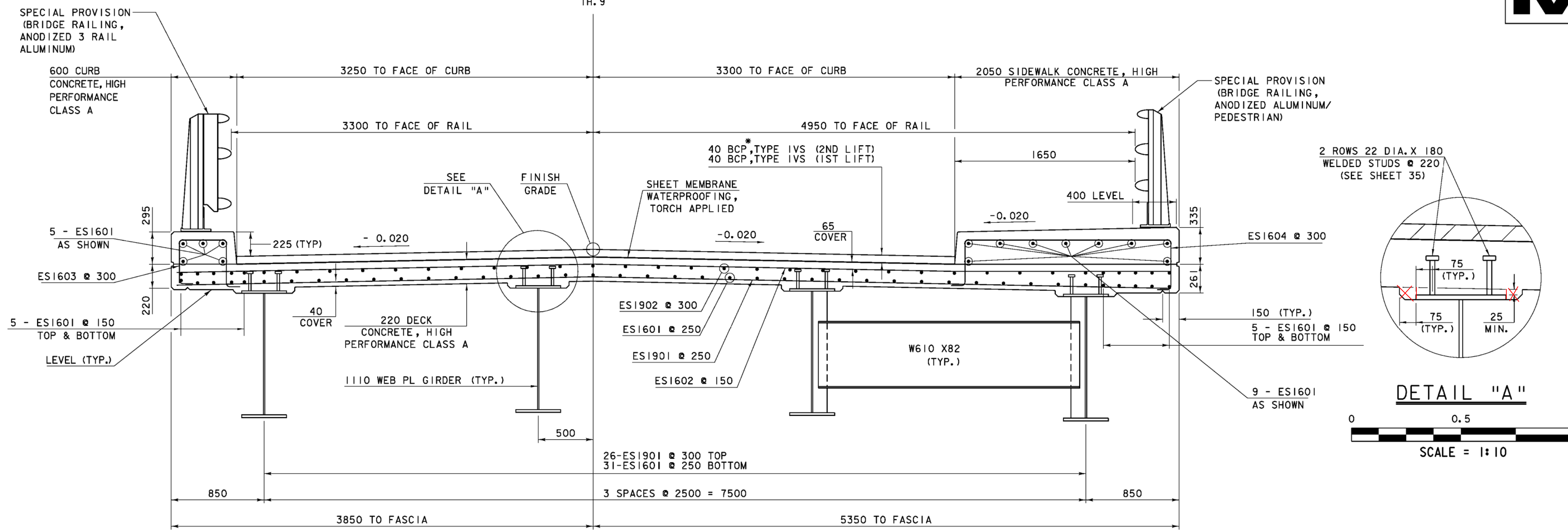


ELEVATION

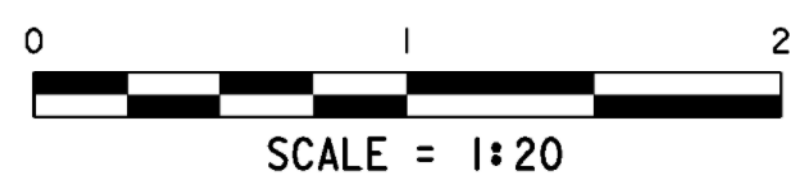
PLAN & ELEVATION



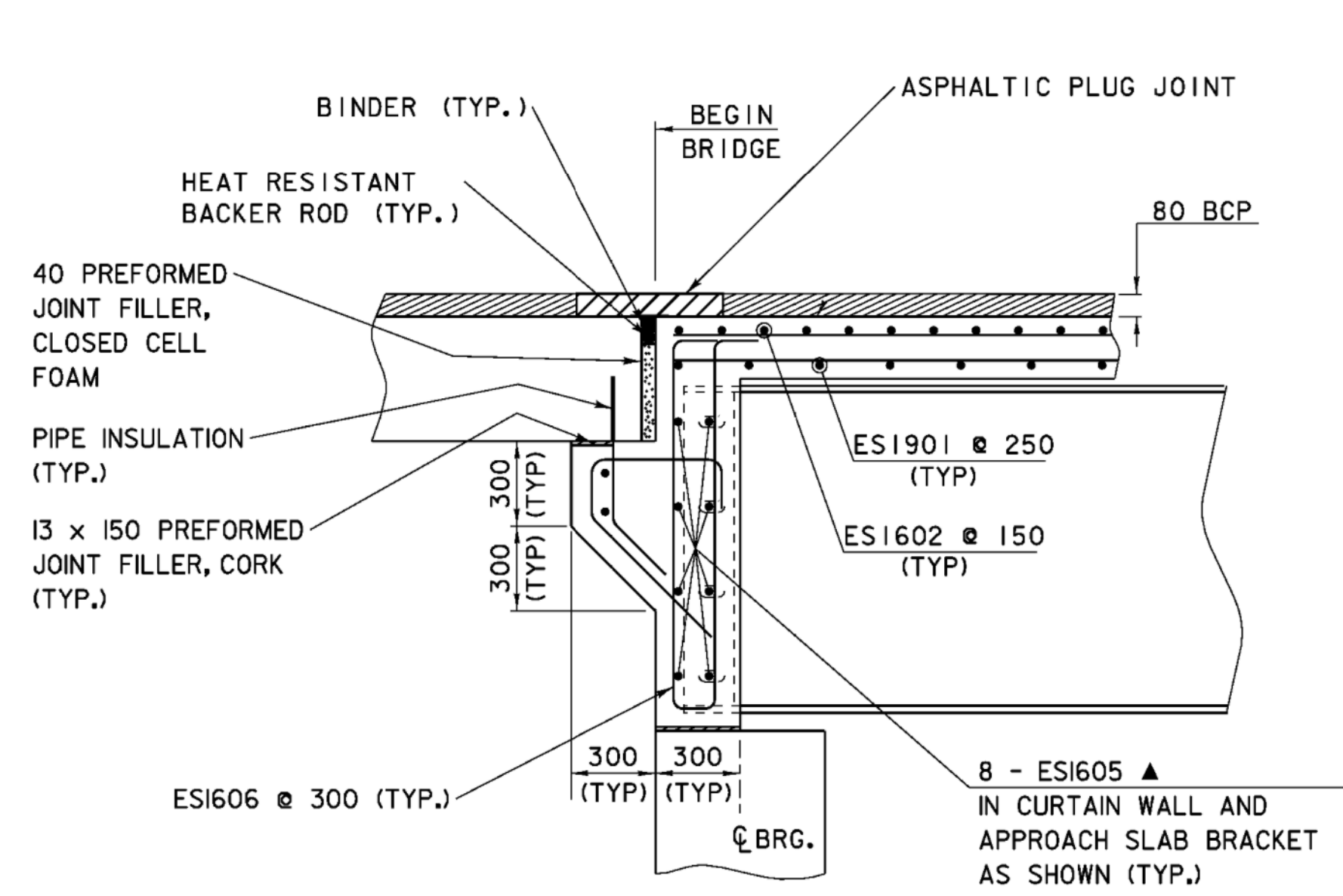
PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266pe.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	PLAN & ELEVATION	SHEET 28 OF 58
DESIGNED BY:	S. SCRIBNER		



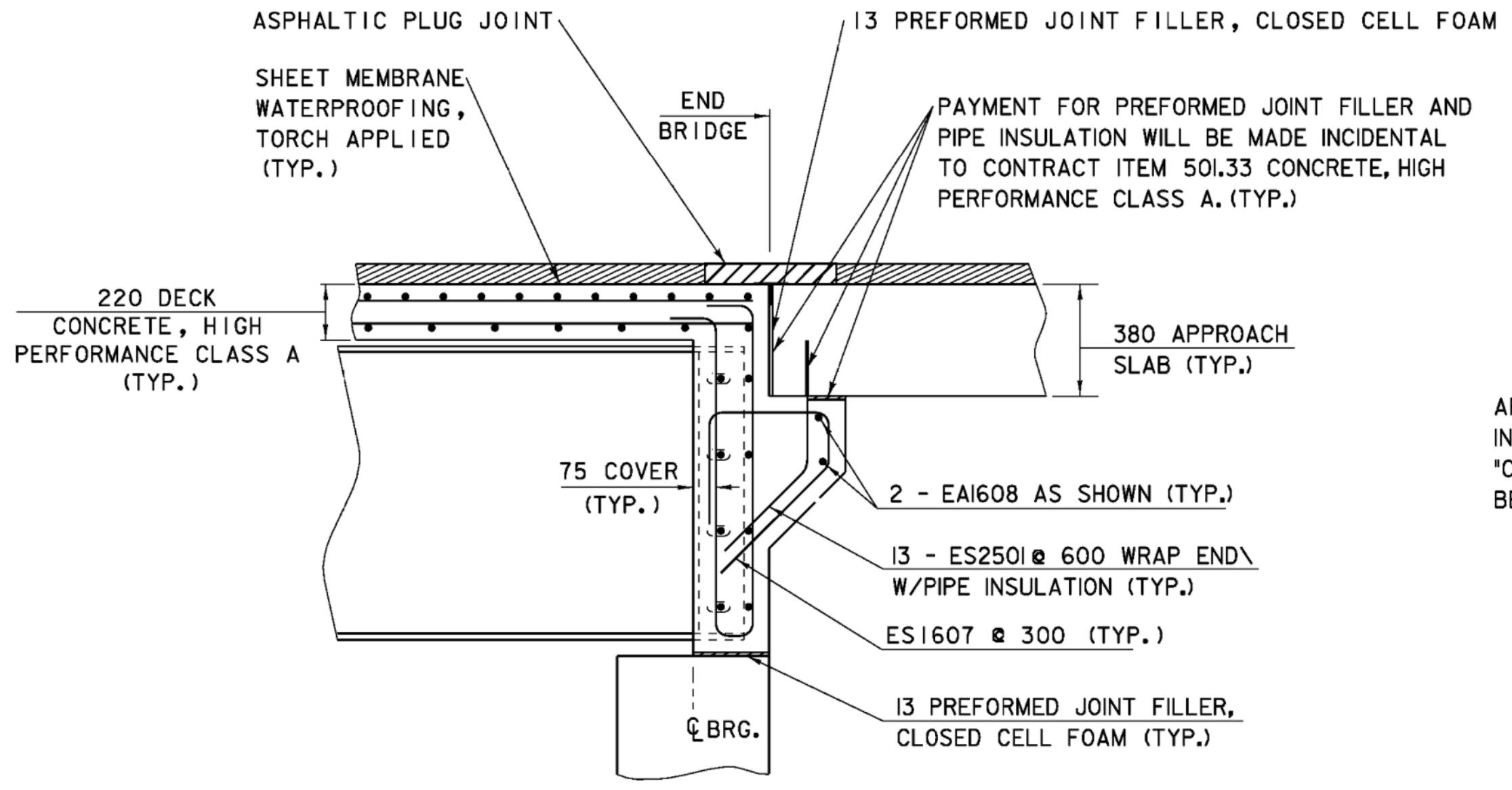
BRIDGE TYPICAL SECTION



* BCP = SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)

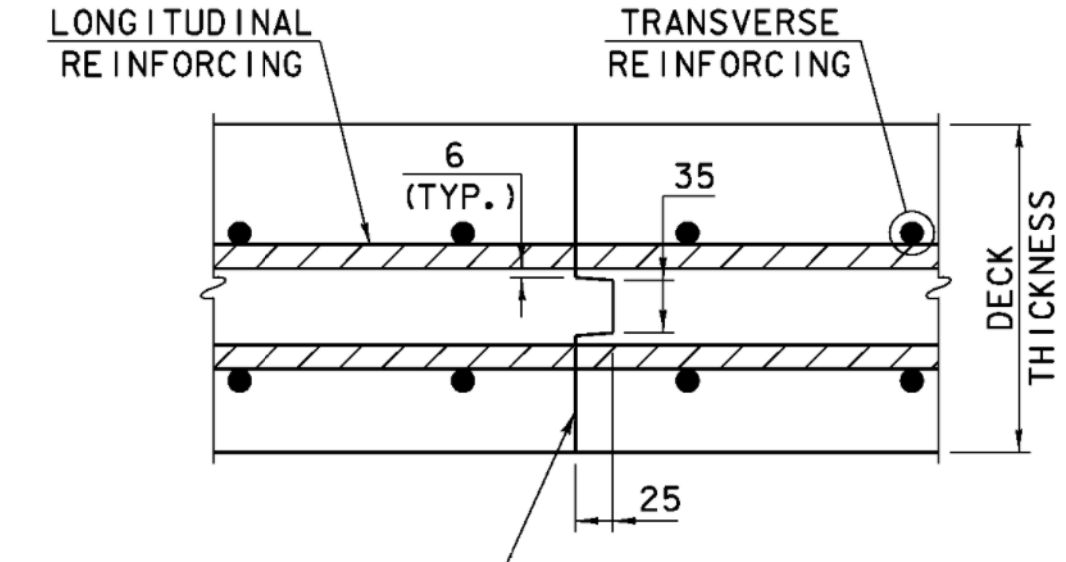
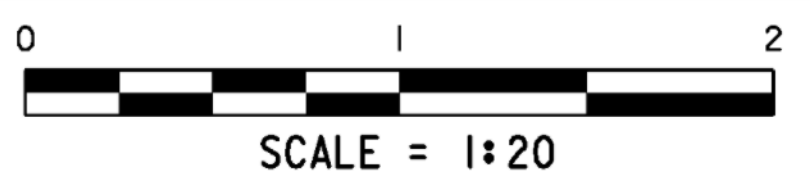


ABUTMENT NO. 1



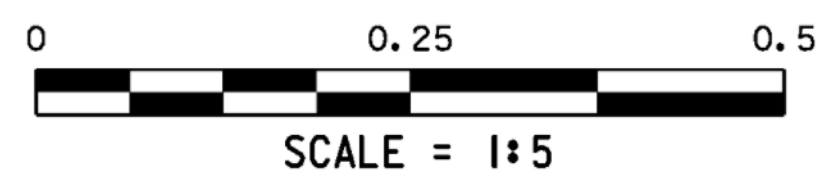
ABUTMENT NO. 2

ABUTMENT END DETAILS



APPLY EPOXY BONDING COMPOUND INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A" BEFORE PLACING NEW CONCRETE.

TRANSVERSE BRIDGE DECK CONSTRUCTION JOINT DETAILS

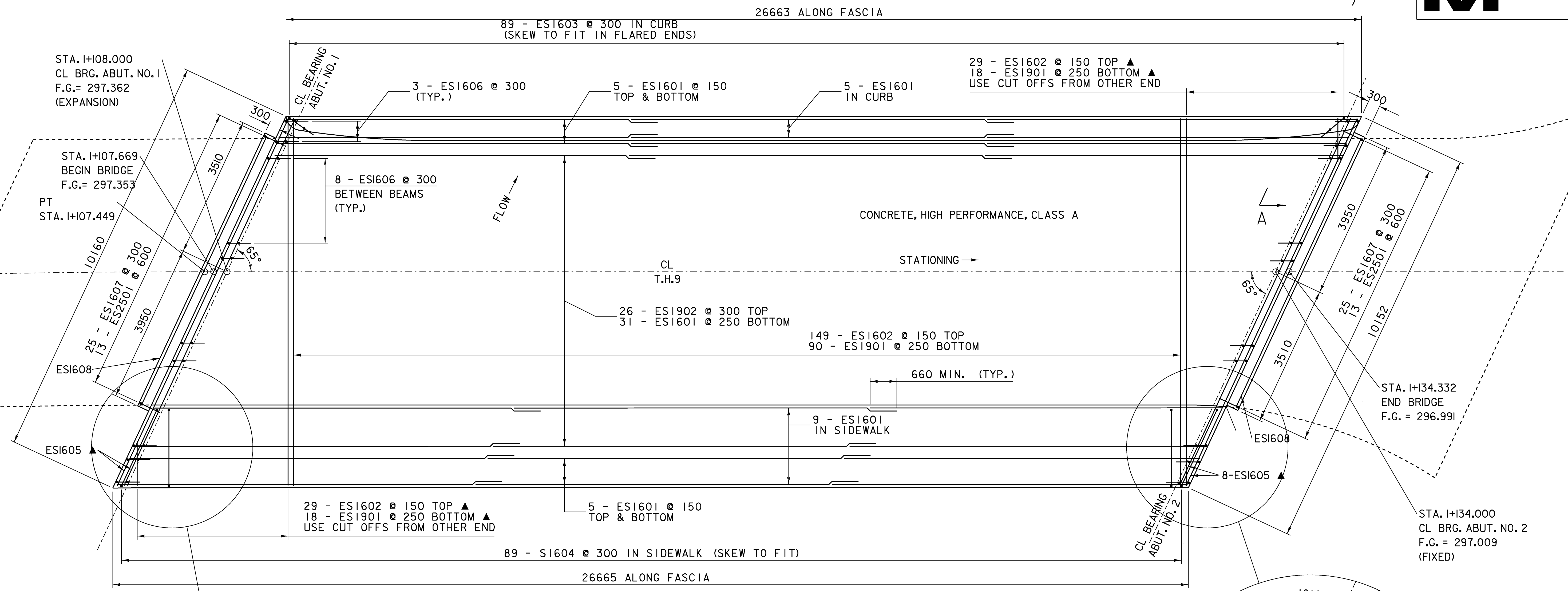


NOTES:

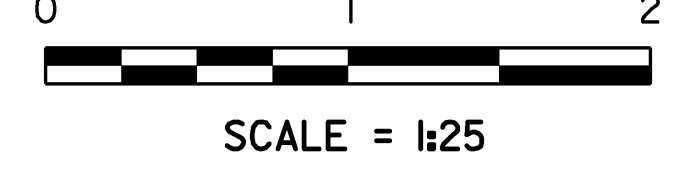
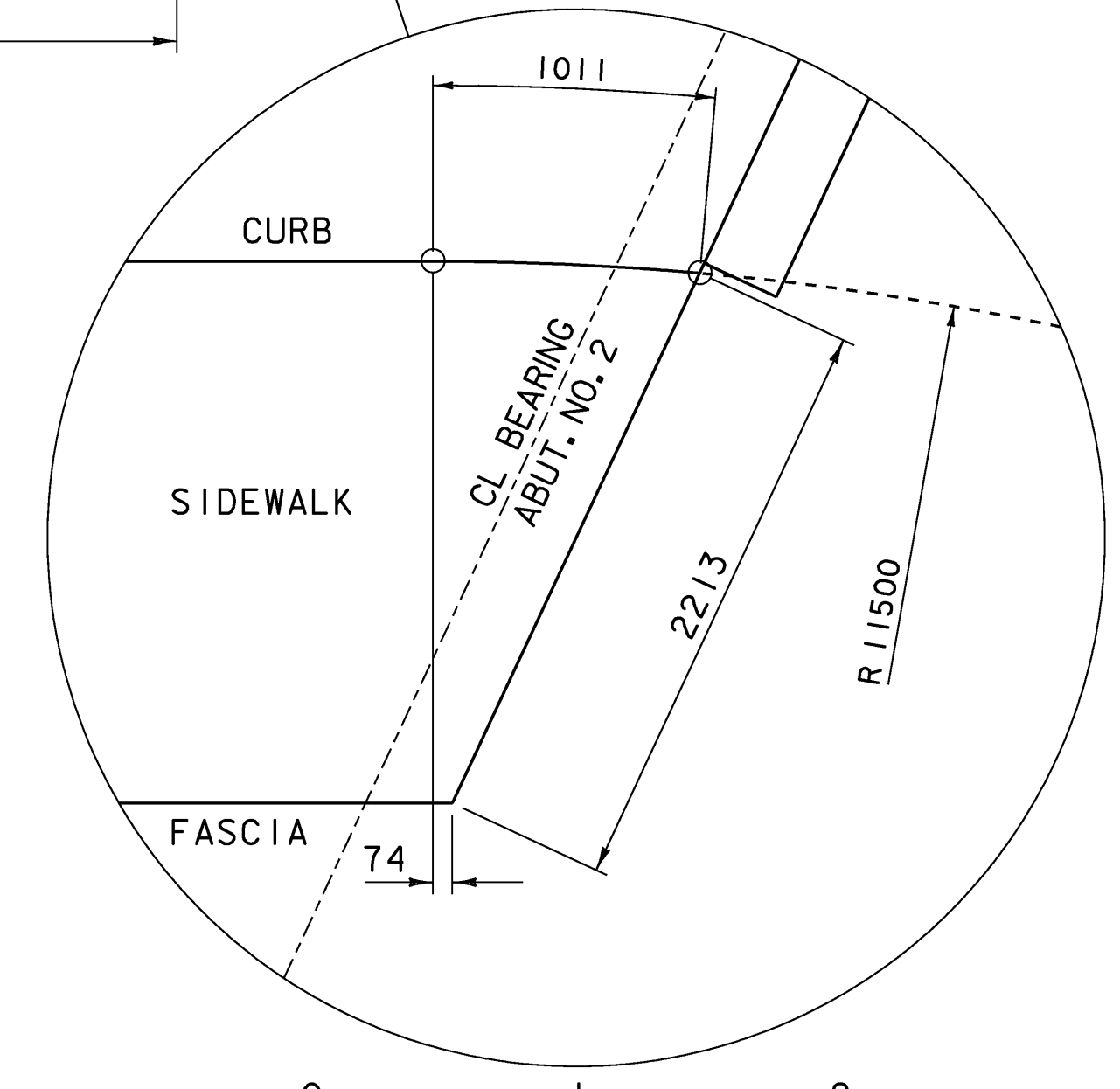
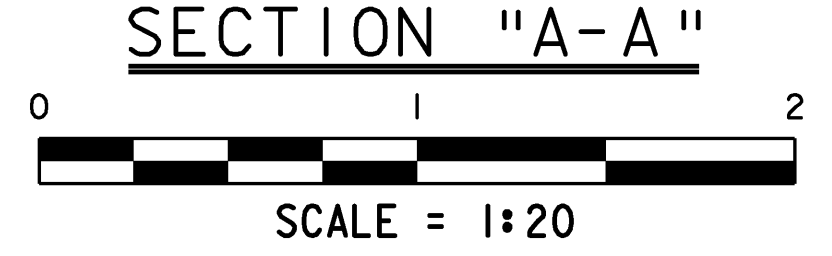
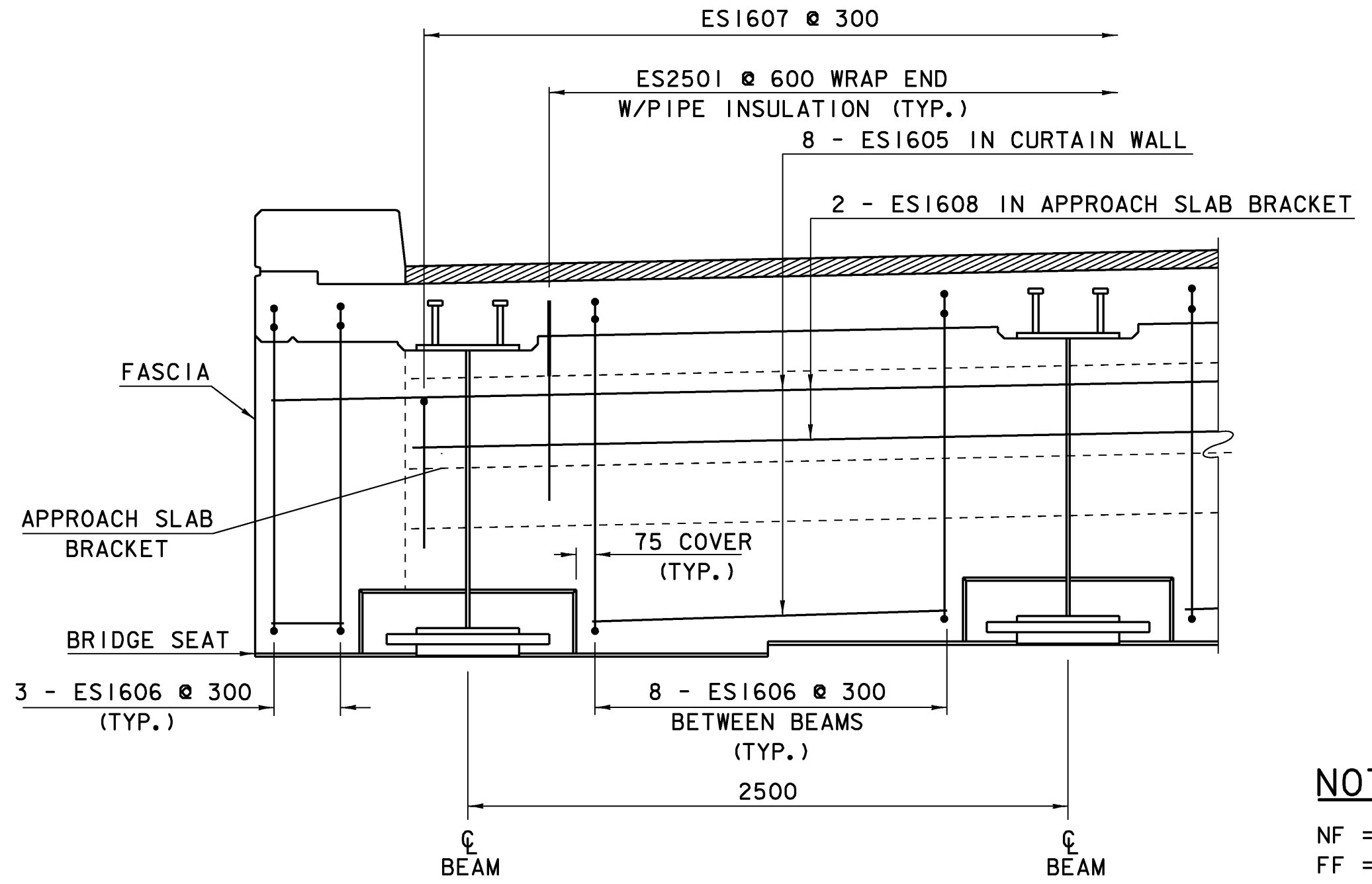
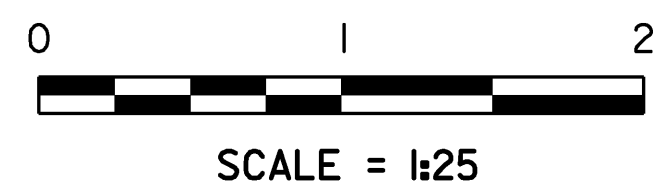
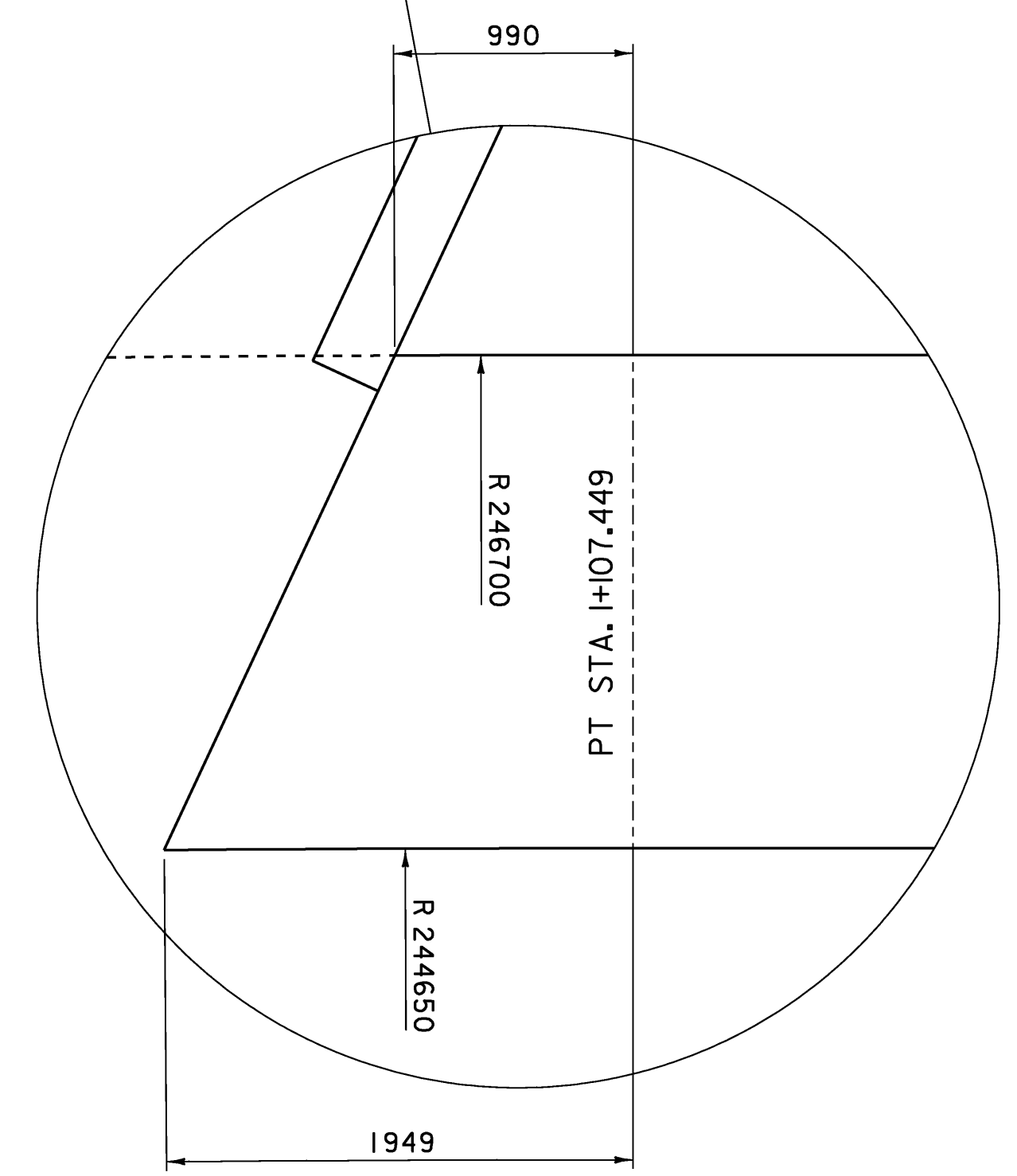
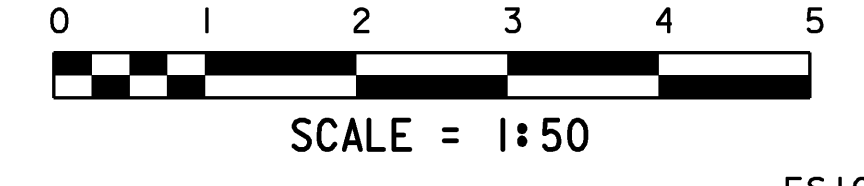
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUPERSTRUCTURE TYPICAL SECTIONS

PROJECT NAME:	LINCOLN	PLOT DATE:	03-FEB-2009
PROJECT NUMBER:	BRO 1445(25)	DRAWN BY:	C. MOONEY
FILE NAME:	s96j266str.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	SHEET	29 OF 58
DESIGNED BY:	S. SCRIBNER		
SUPERSTRUCTURE TYPICAL SECTIONS			



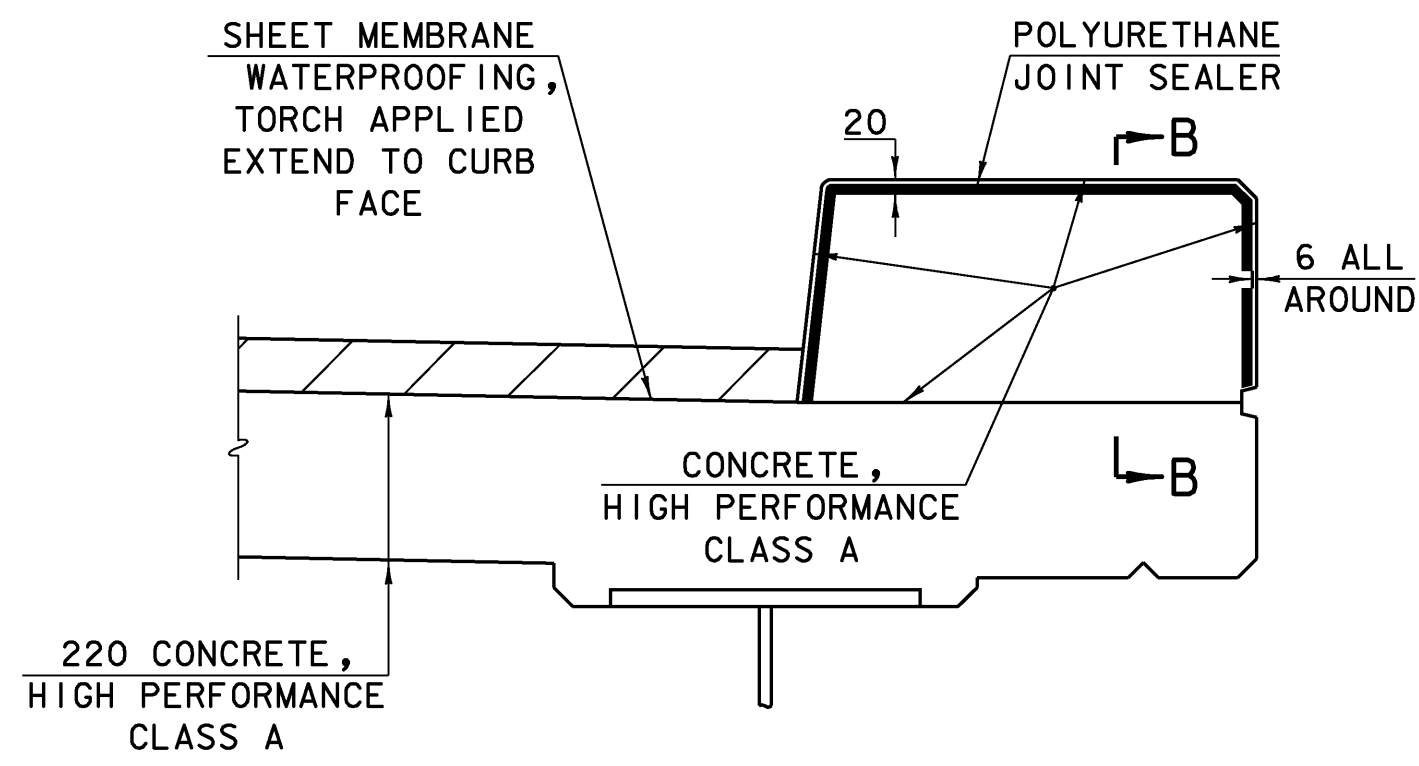
DECK REINFORCING PLAN



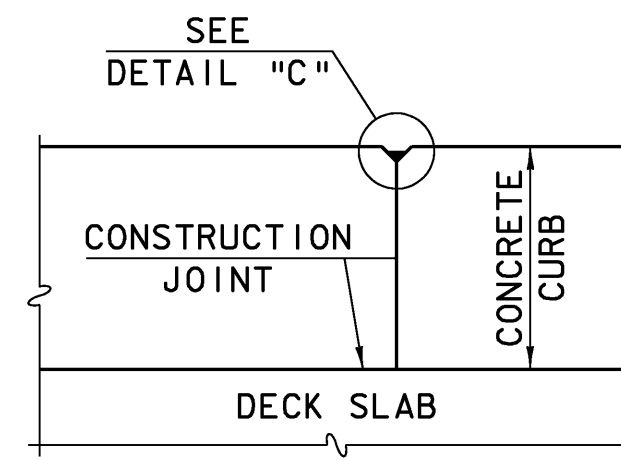
SUPERSTRUCTURE PLAN

NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

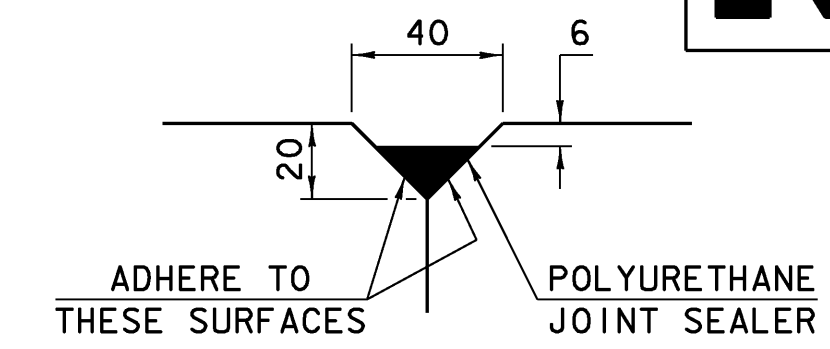
PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 30 OF 58
DESIGNED BY: S. SCRIBNER	
SUPERSTRUCTURE PLAN	



TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT
NOT TO SCALE



SECTION B-B
NOT TO SCALE

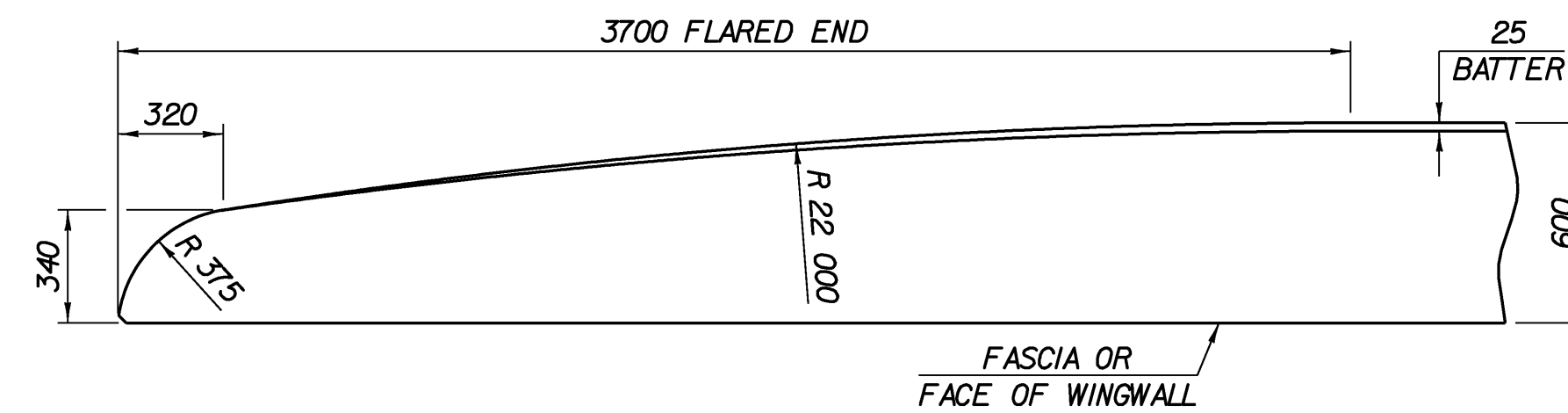


DETAIL "C"
NOT TO SCALE

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06 (d). COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".

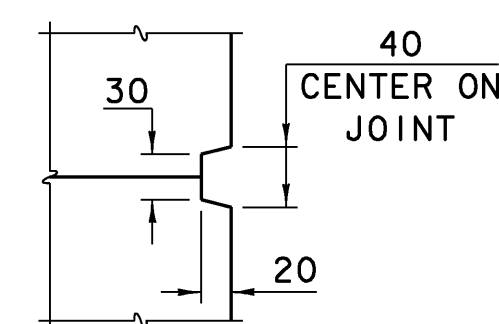
NOTES

1. CONCRETE CURBS AND SIDEWALK MAY BE POURED IN ONE CONTINUOUS POUR IF ONE OF THE APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED. PAYMENT FOR ADMIXTURE WILL BE INCIDENTAL TO PAY ITEM 501.33 CONCRETE, HIGH PERFORMANCE CLASS A.
2. IF CONTRACTOR CHOOSES TO USE CONSTRUCTION JOINTS IN CURB, THE JOINTS SHALL BE SPACED AT A MAXIMUM OF 4500 CENTER TO CENTER AND 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. PLACE CONCRETE CURBS IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
3. PASS LONGITUDINAL REINFORCING THROUGH CONCRETE CONSTRUCTION JOINTS.
4. TURN CURB REINFORCING STIRRUP BARS AS NECESSARY TO FIT FLARED ENDS.

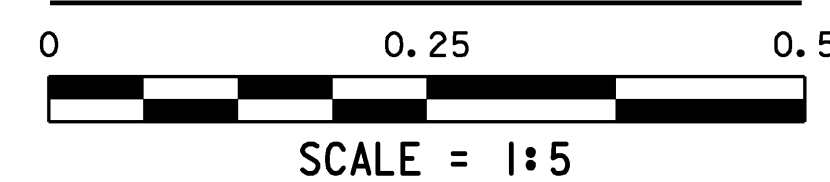


FLARED END FOR 600 CURB

BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS



SCORE MARK DETAIL

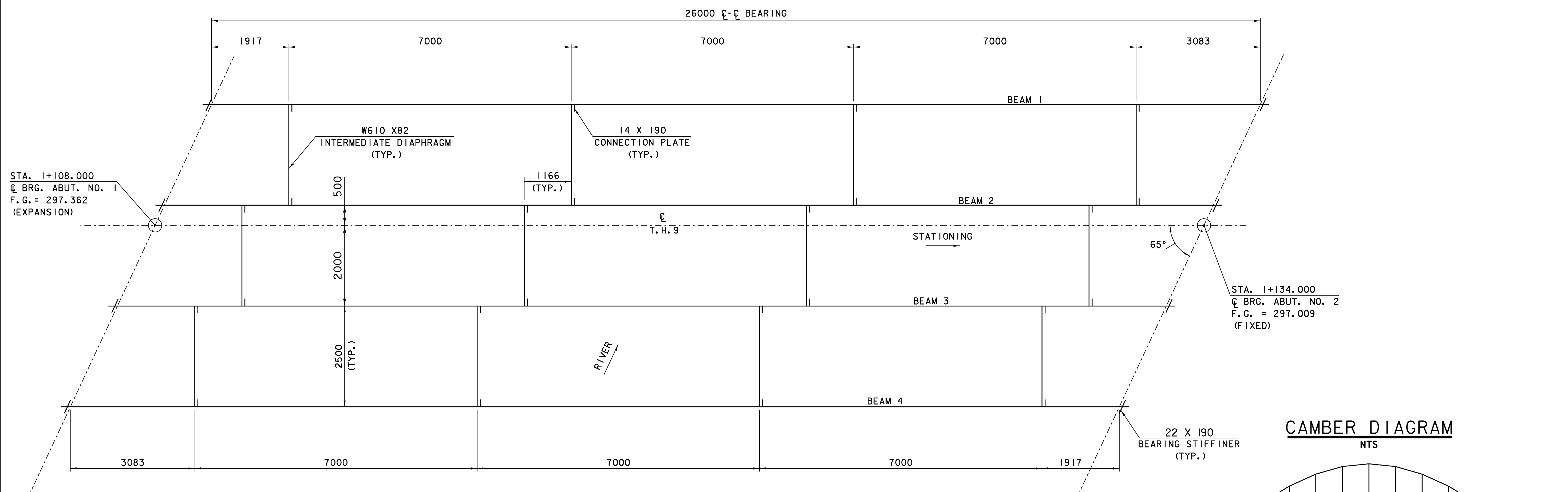


NOTES:

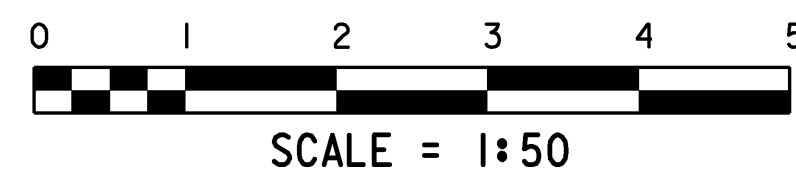
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUPERSTRUCTURE CURB DETAILS

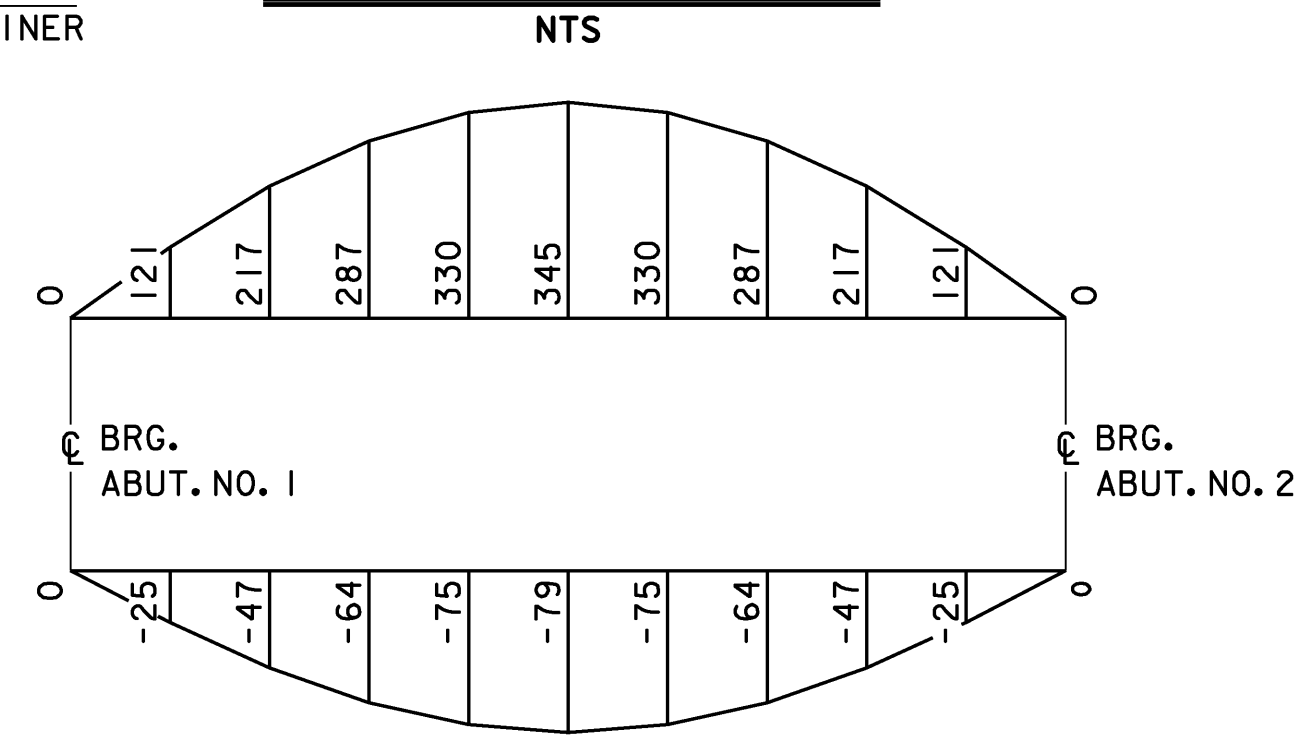
PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 31 OF 58
DESIGNED BY: S. SCRIBNER	
SUPERSTRUCTURE CURB DETAILS	



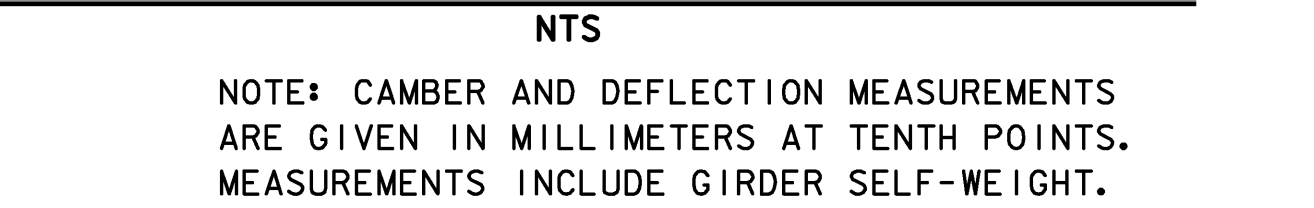
FRAMING PLAN



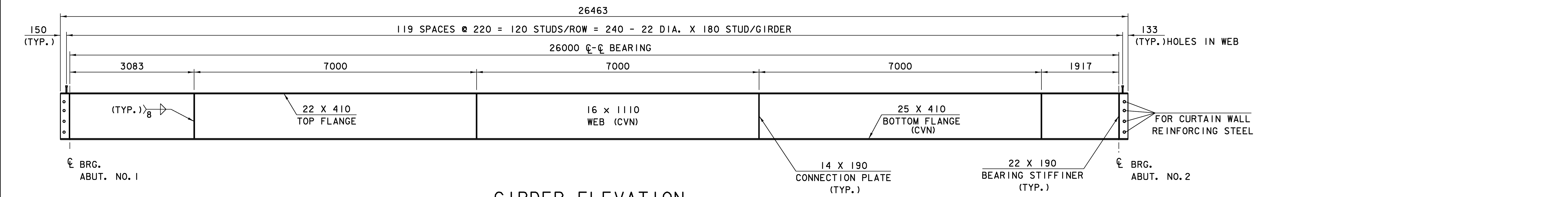
CAMBER DIAGRAM



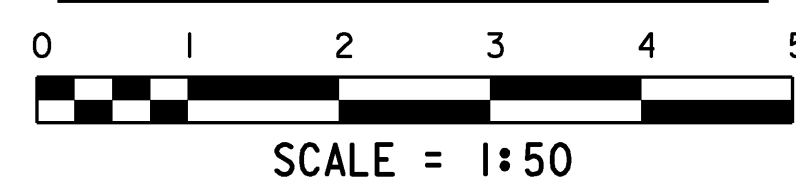
DEAD LOAD DEFLECTION DIAGRAM



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

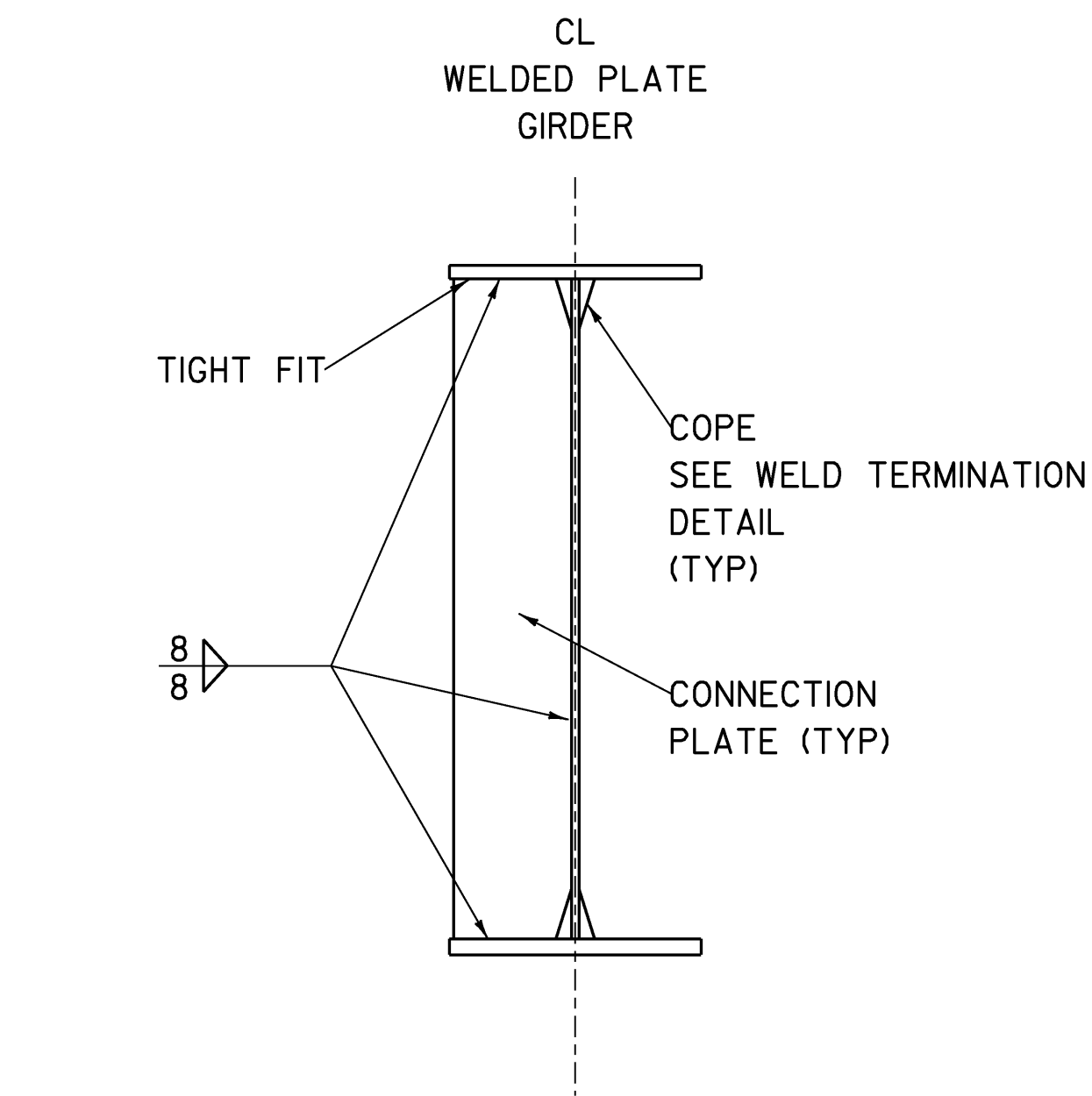


GIRDER ELEVATION



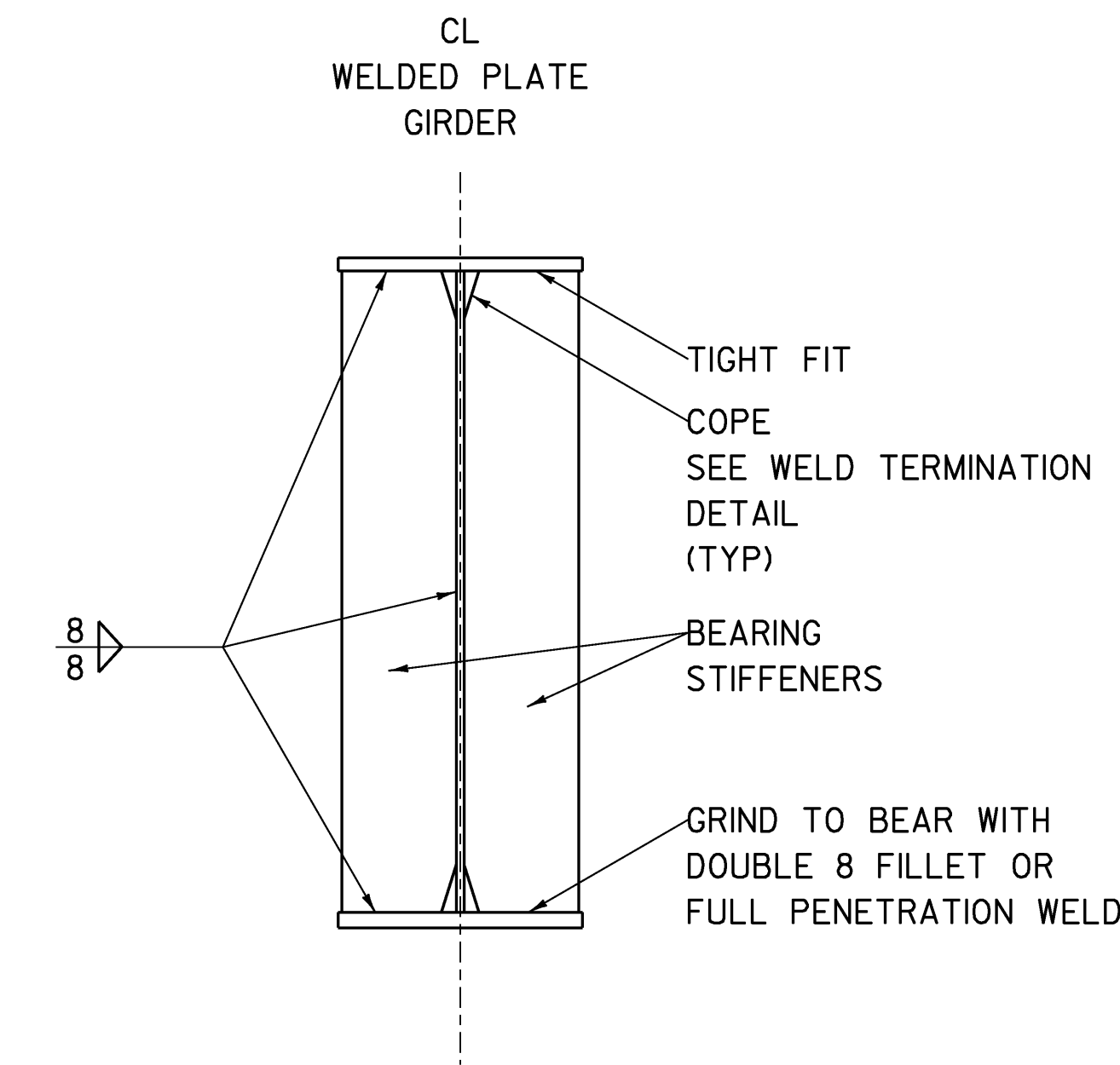
SUPERSTRUCTURE FRAMING PLAN

PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 32 OF 58
DESIGNED BY: S. SCRIBNER	
SUPERSTRUCTURE FRAMING PLAN	



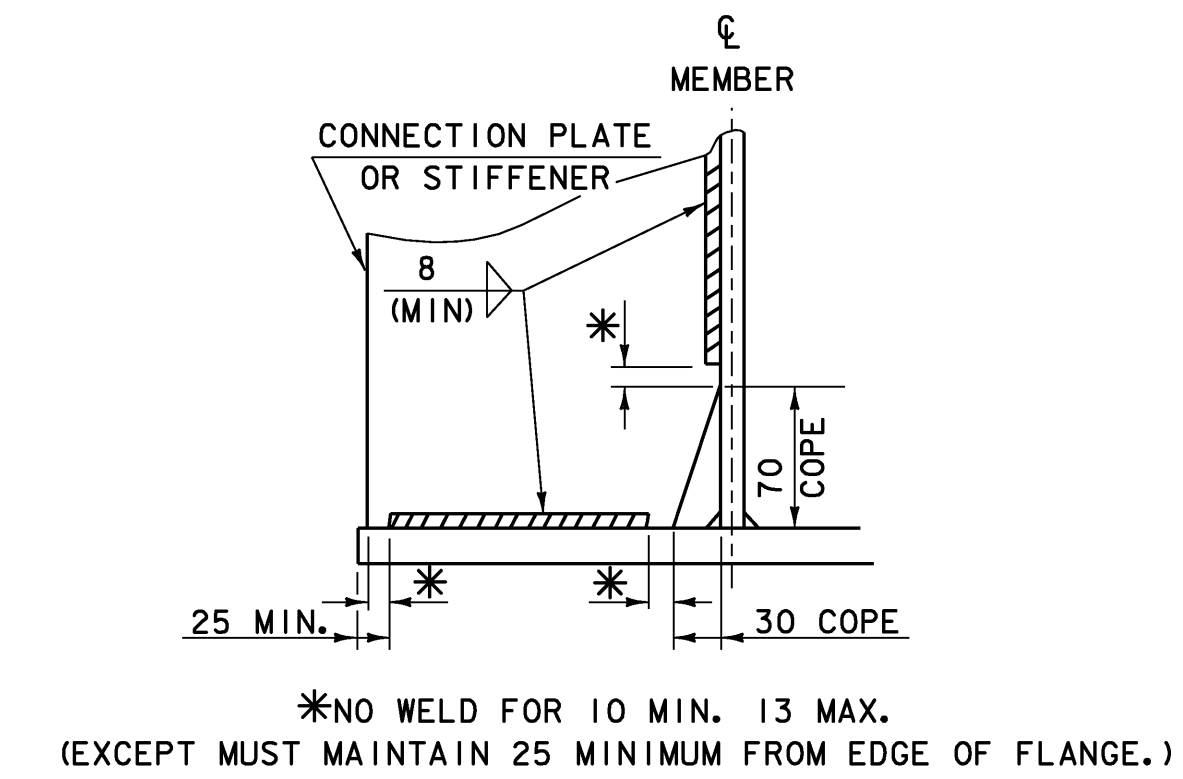
**INTERMEDIATE CONNECTION
PLATES FOR WELDED PLATE GIRDERS**

NOT TO SCALE



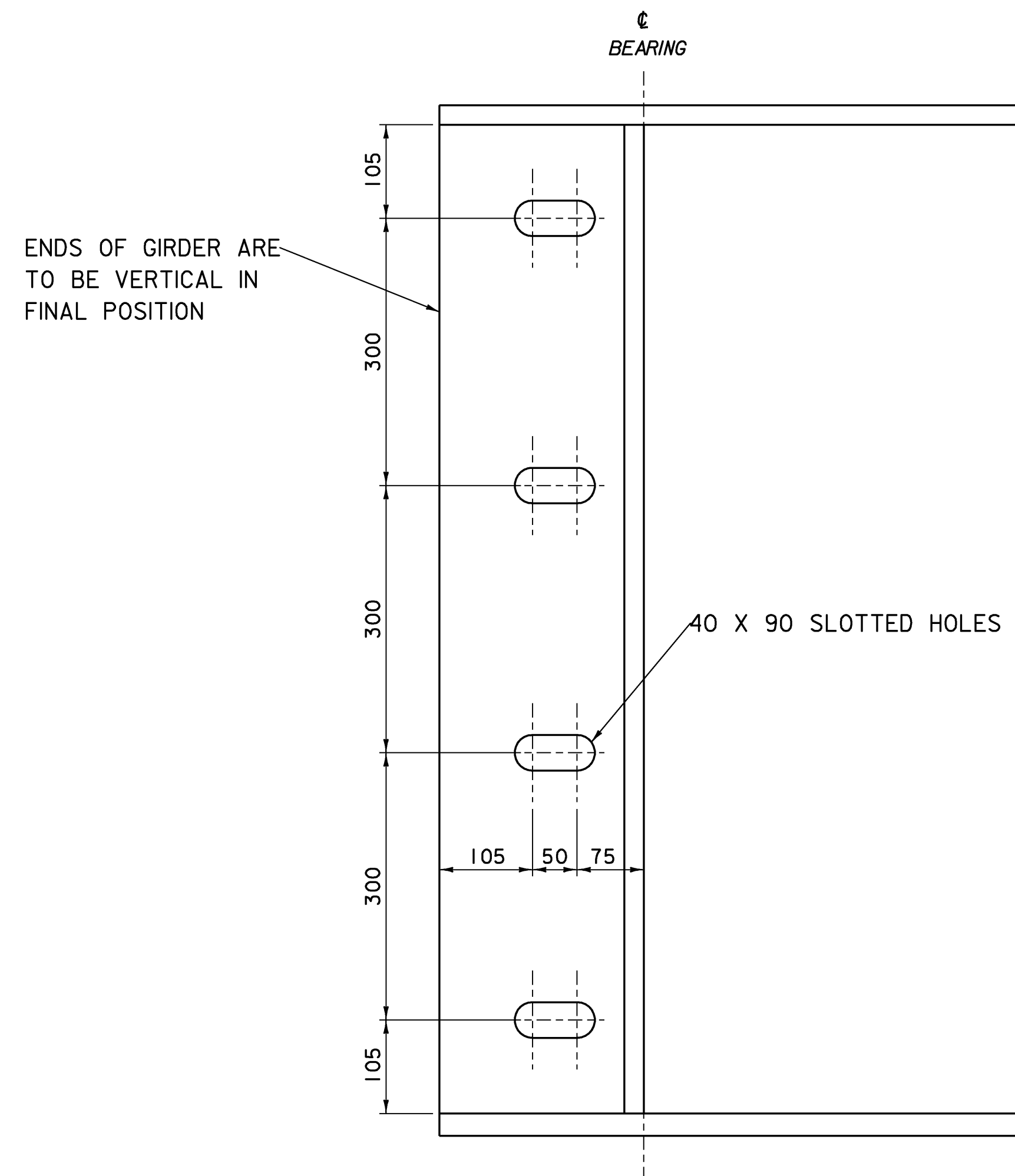
**ABUTMENT BEARING STIFFENERS
FOR WELDED PLATE GIRDERS**

NOT TO SCALE



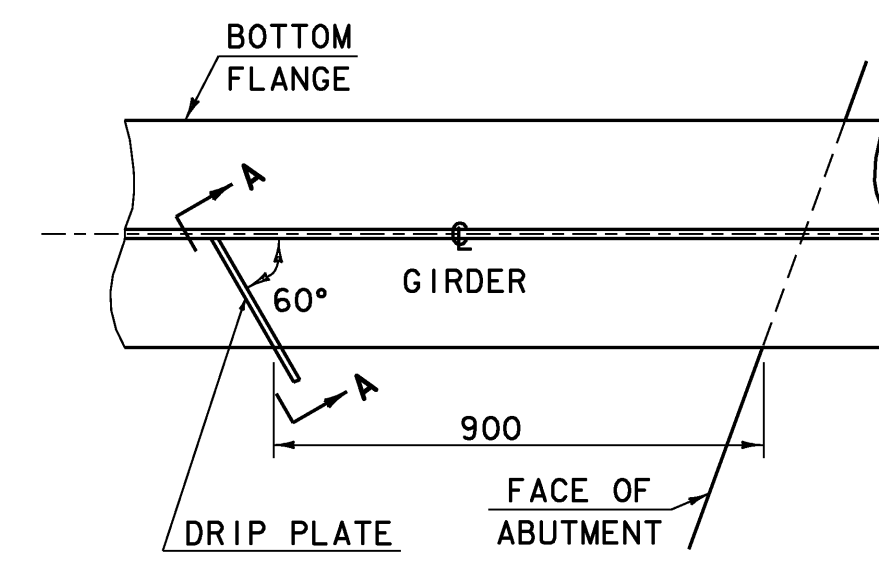
**WELD TERMINATION AND COPING
DETAILS FOR STEEL MEMBERS**

NOT TO SCALE



**ELEVATION VIEW END OF STEEL
MEMBER AT ABUTMENT**

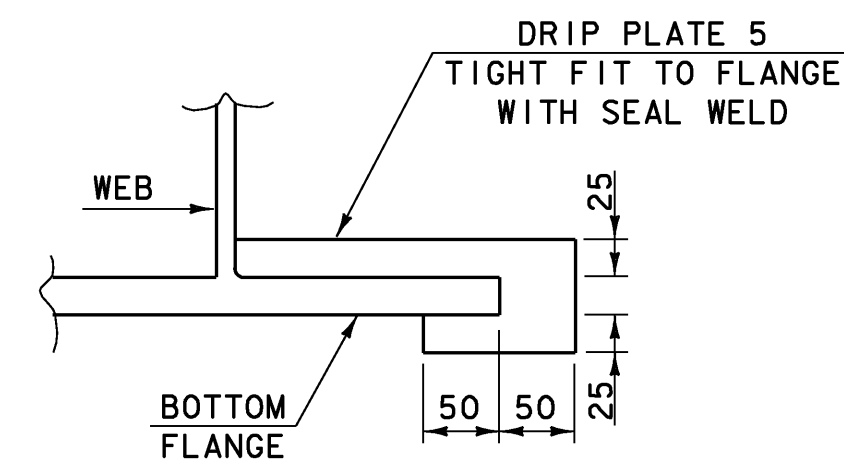
NOT TO SCALE



PLAN DRIP PLATE

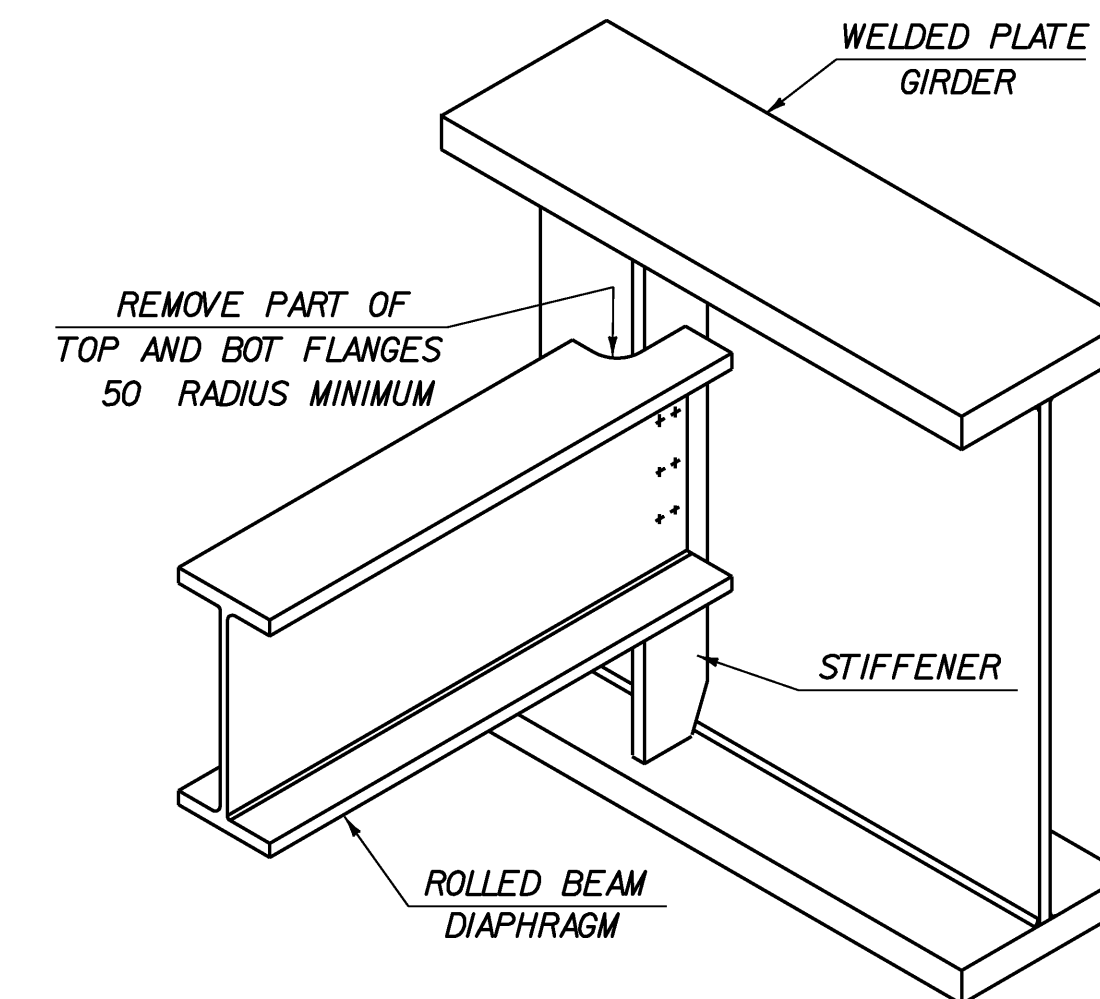
NOT TO SCALE

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF THE TWO FASCIA GIRDERS ON EACH END OF THE BRIDGE, FOUR DRIP PLATES TOTAL.



SECTION A - A

NOT TO SCALE



ROLLED BEAM USED AS DIAPHRAGM

NOT TO SCALE

**SUPERSTRUCTURE
FRAMING DETAILS**

PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 33 OF 58
DESIGNED BY: S. SCRIBNER	
SUPERSTRUCTURE FRAMING DETAILS	

ABUTMENT BEARING NOTES

- BEARINGS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTIONS 531 AND 731.
- BEARINGS AT ABUTMENTS SHALL BE PAID FOR UNDER ITEM 531.10 "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".
- FABRICATION DRAWINGS SHALL BE SUBMITTED AS PER SUBSECTION 531.03. THE SUBMITTAL SHALL INCLUDE ASSOCIATED WELDING AND BONDING PROCEDURES.
- DESIGN CRITERIA:
 - DESIGN FABRIC PAD TO CONCRETE PRESSURE: 7 MPa MAXIMUM
 - DESIGN ROTATION: 0.015 RADIAN MINIMUM
 - DESIGN VERTICAL LOAD: 672 kN
 - DESIGN HORIZONTAL LOAD: MINIMUM 10% OF VERTICAL LOAD
- 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.
- THE CONCRETE SURFACE UNDER BEARING DEVICES SHALL BE LEVEL.
- ANCHOR BOLTS SHALL HAVE A MINIMUM 380 mm EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08. IF ANCHOR BOLTS ARE NOT CAST INTO CONCRETE, DRILLED HOLES SHALL BE A MINIMUM OF 25mm DIAMETER LARGER THAN BOLT DIAMETER.
- ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 AND 531.04 (b). IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 506.15. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SECTION 513.
- ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 10 mm PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS, AND THEIR INSTALLATIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 531.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".

TEMPERATURE SETTING TABLE

TEMP.	"B" DIST.	"A" DIST.
-13°F -25°C	64	78
5°F -15°C	61	75
23°F -5°C	58	72
* 41°F 5°C	55	69
59°F 15°C	52	66
77°F 25°C	49	63
95°F 35°C	46	60
113°F 45°C	43	57

* DENOTES THEORETICAL NEUTRAL POSITION

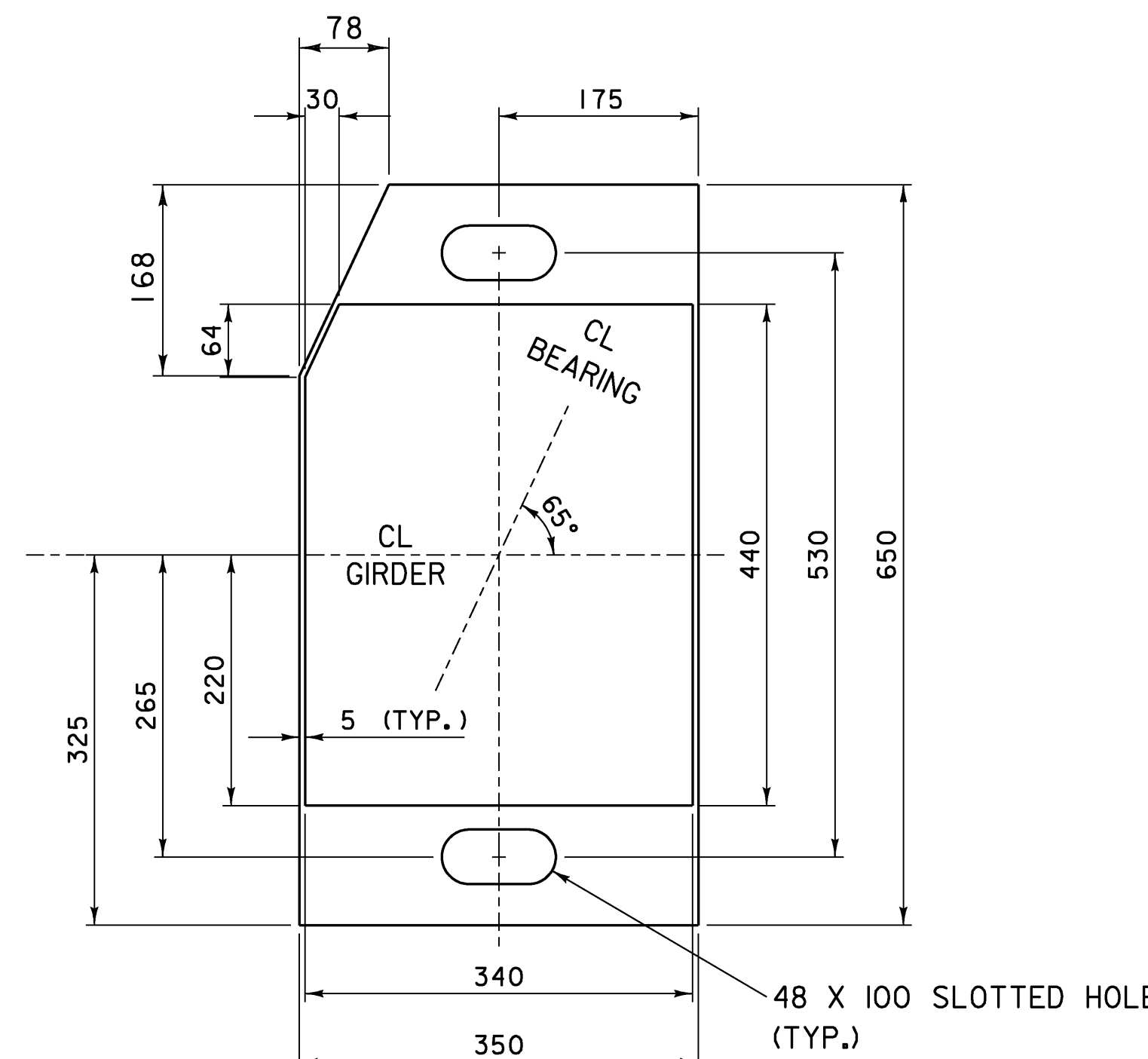
SUPERSTRUCTURE BEARING DETAILS I

PROJECT NAME: LINCOLN
PROJECT NUMBER: BRO 1445(25)

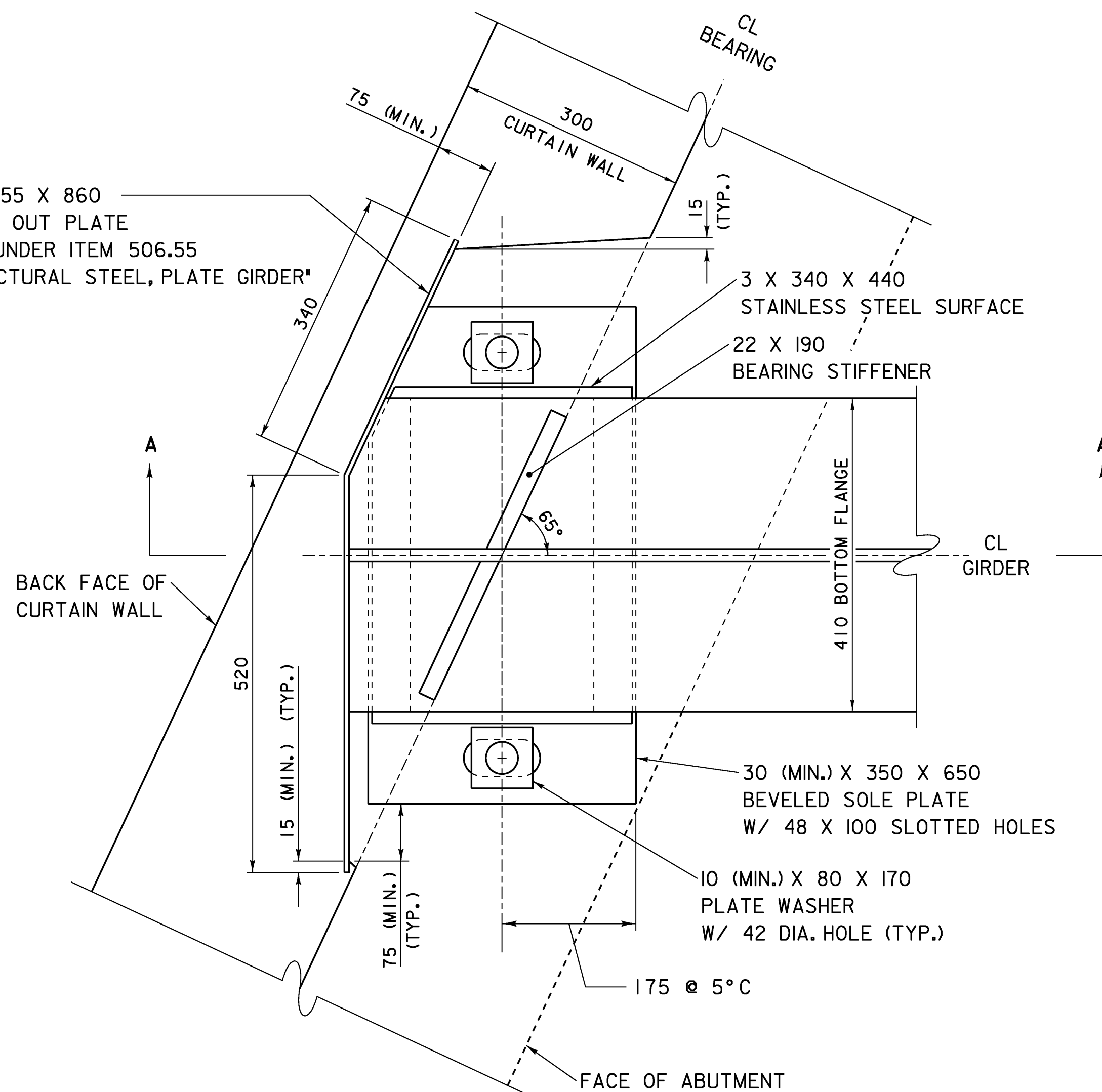
FILE NAME: s96J266str.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: S. SCRIBNER
SUPERSTRUCTURE BEARING DETAILS I

PLOT DATE: 03-FEB-2009
DRAWN BY: C. MOONEY
CHECKED BY: R. WHITCOMB
SHEET 34 OF 58

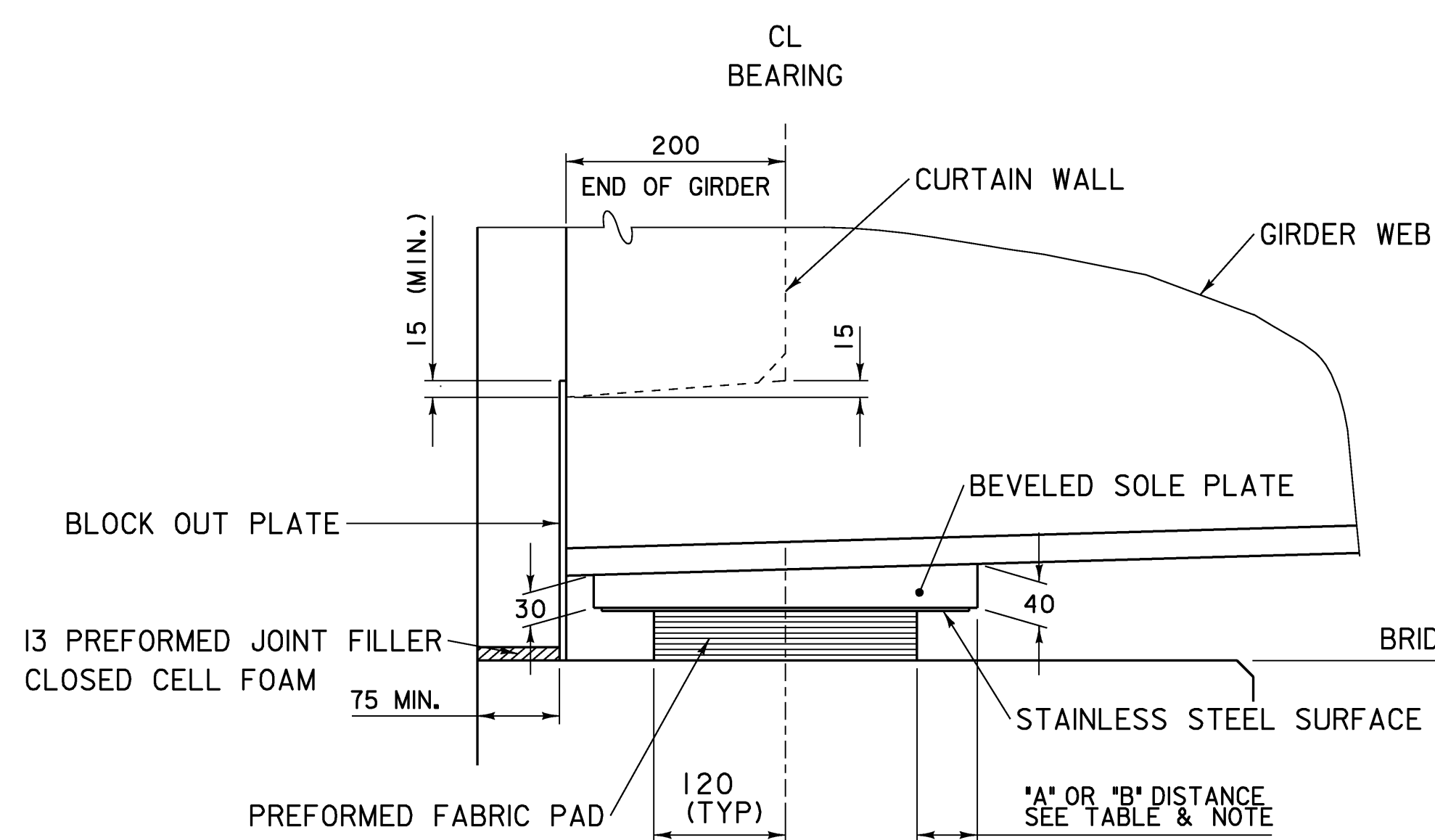
SOLE PLATE & STAINLESS STEEL SURFACE DETAIL



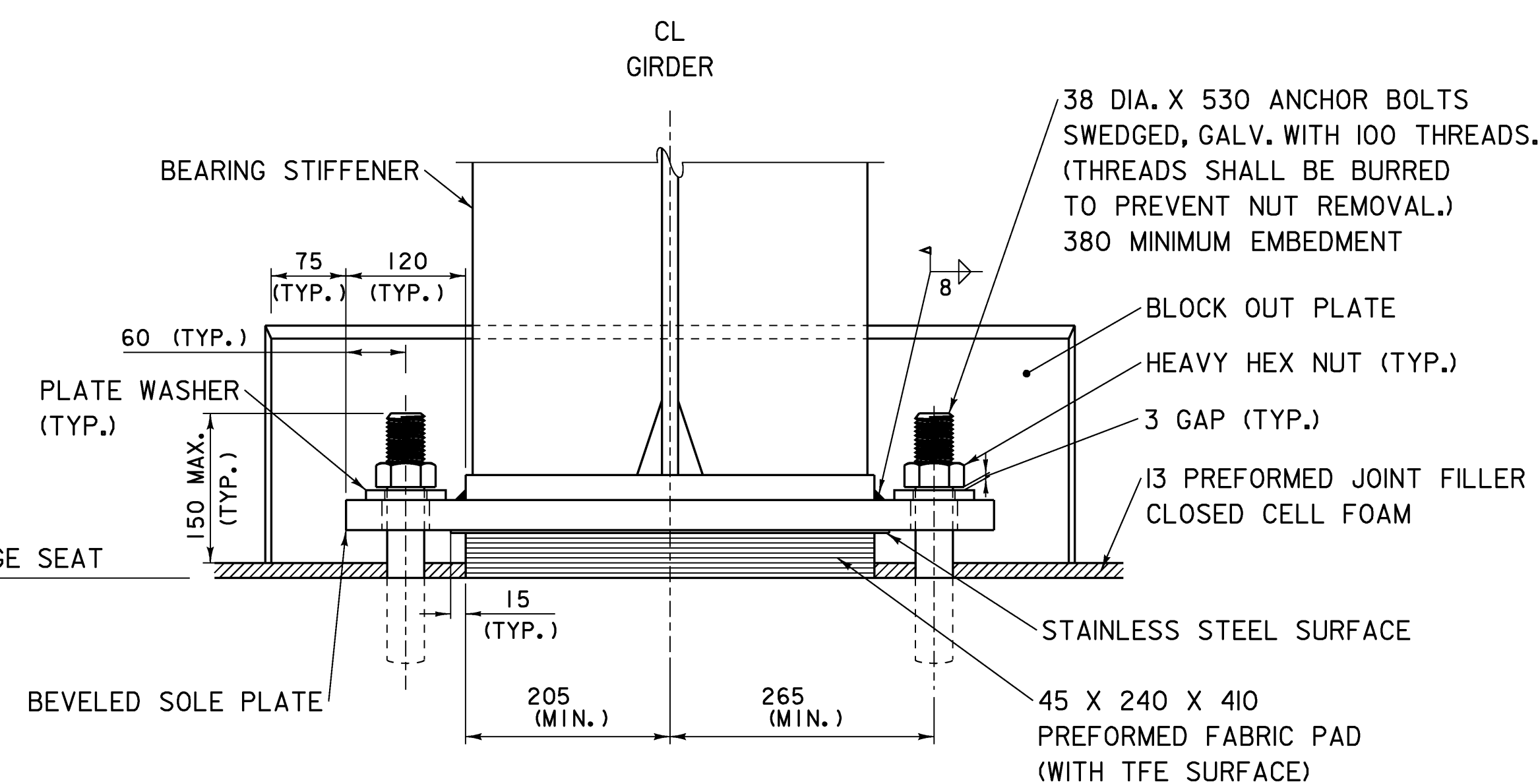
PLAN VIEW



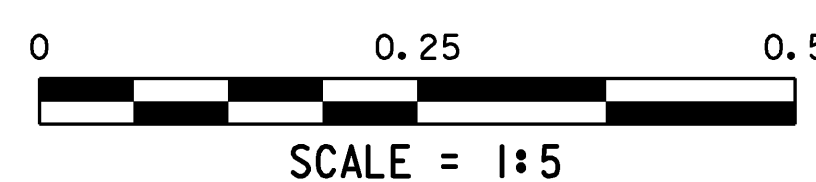
SECTION A-A

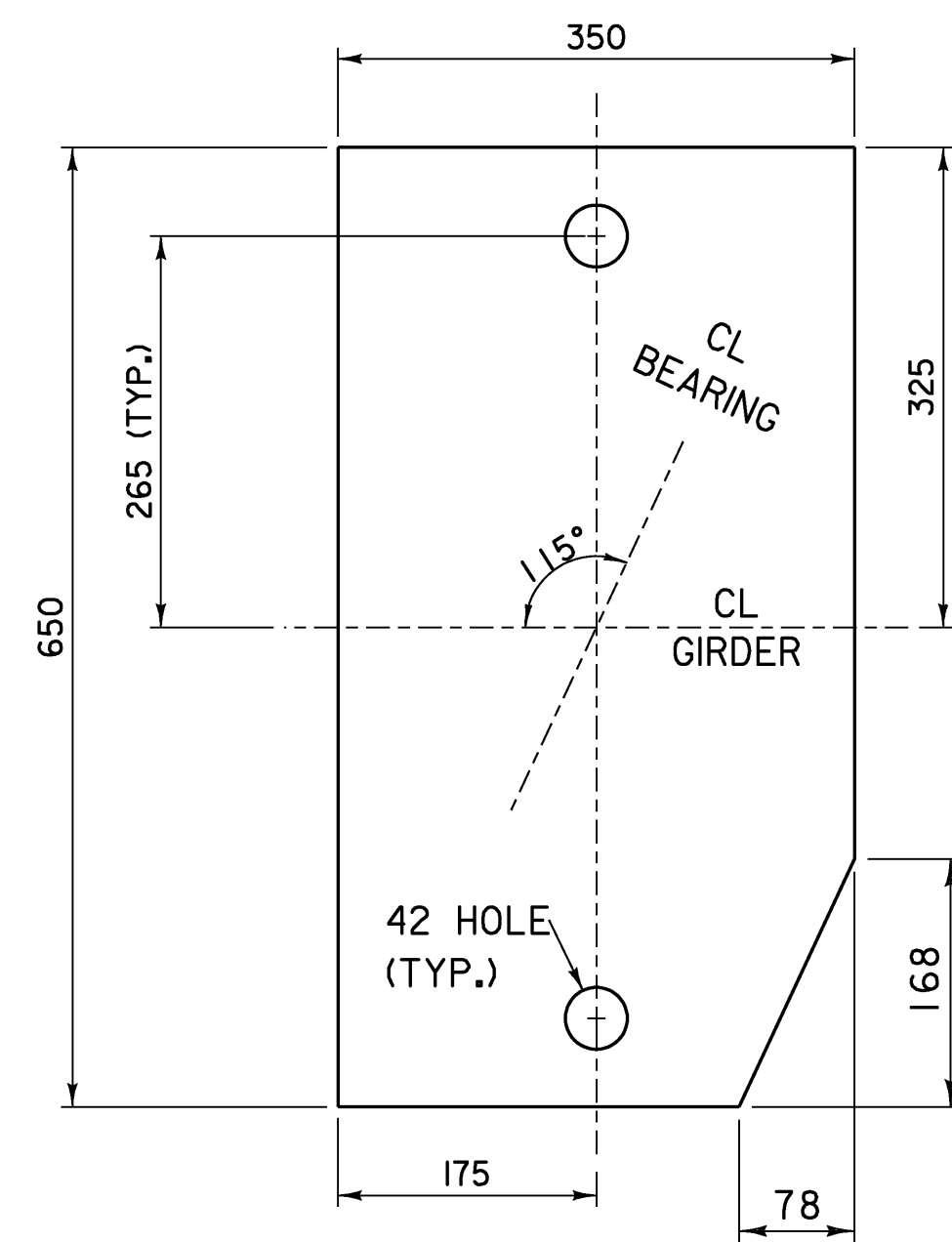


FRONT ELEVATION

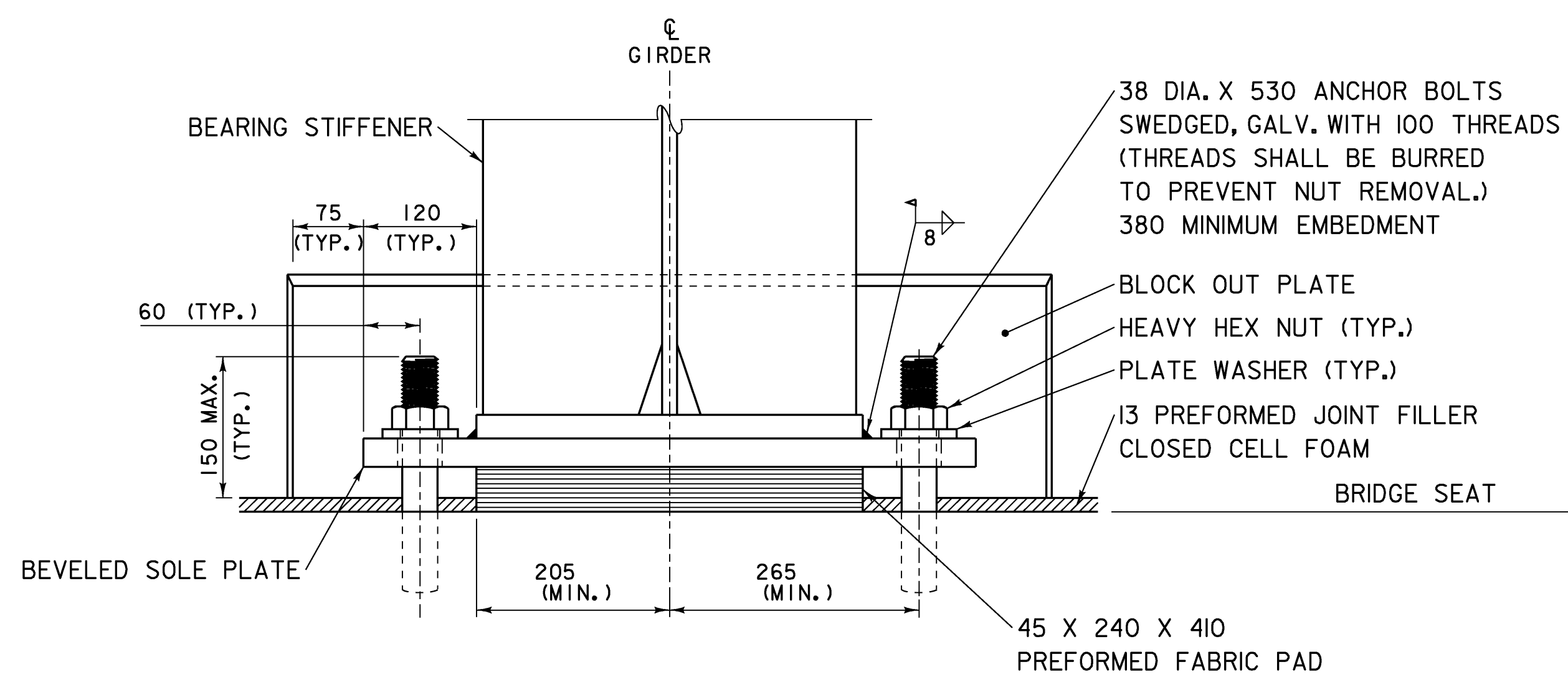
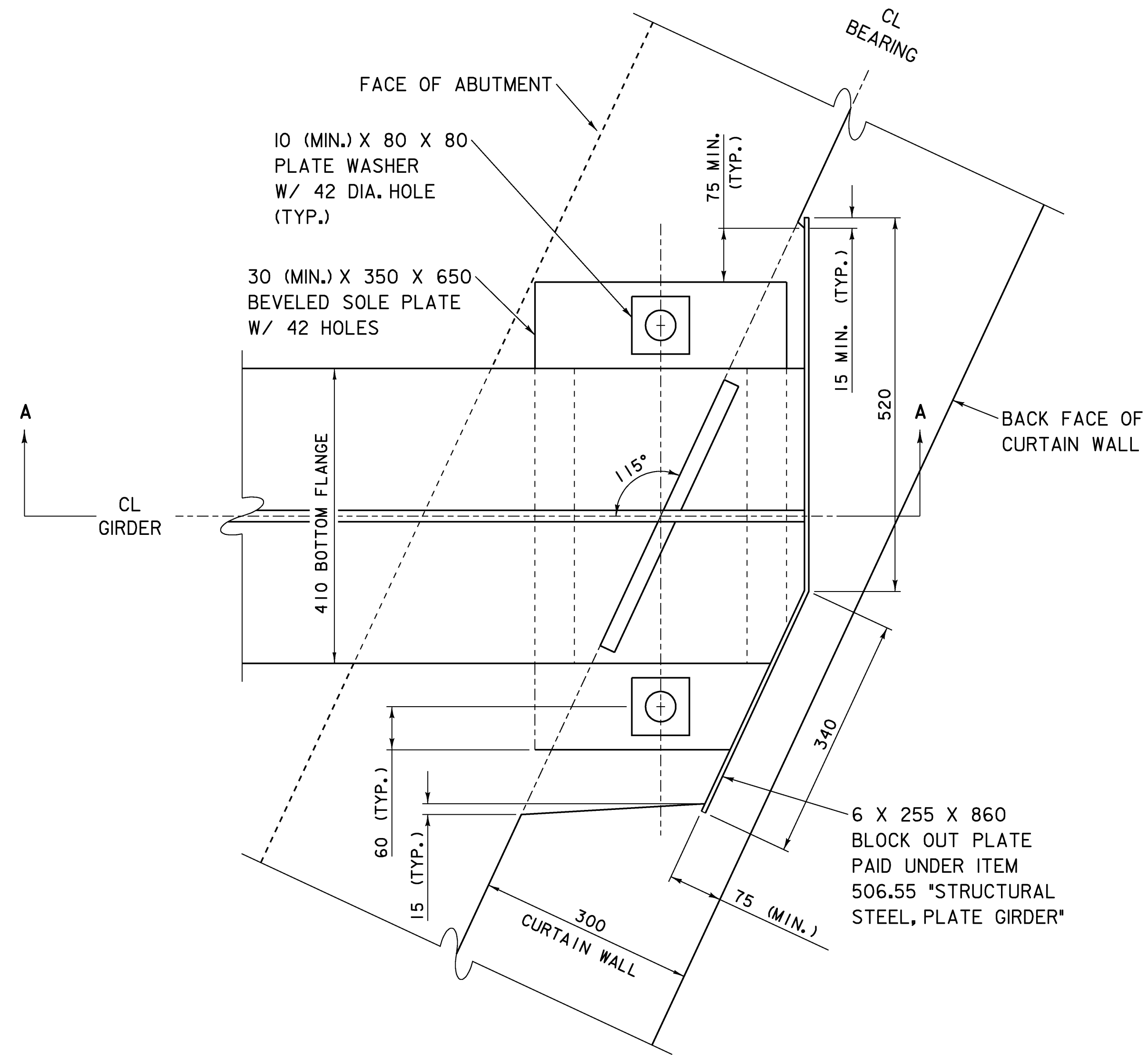


EXPANSION BEARING @ ABUTMENT NO. 1



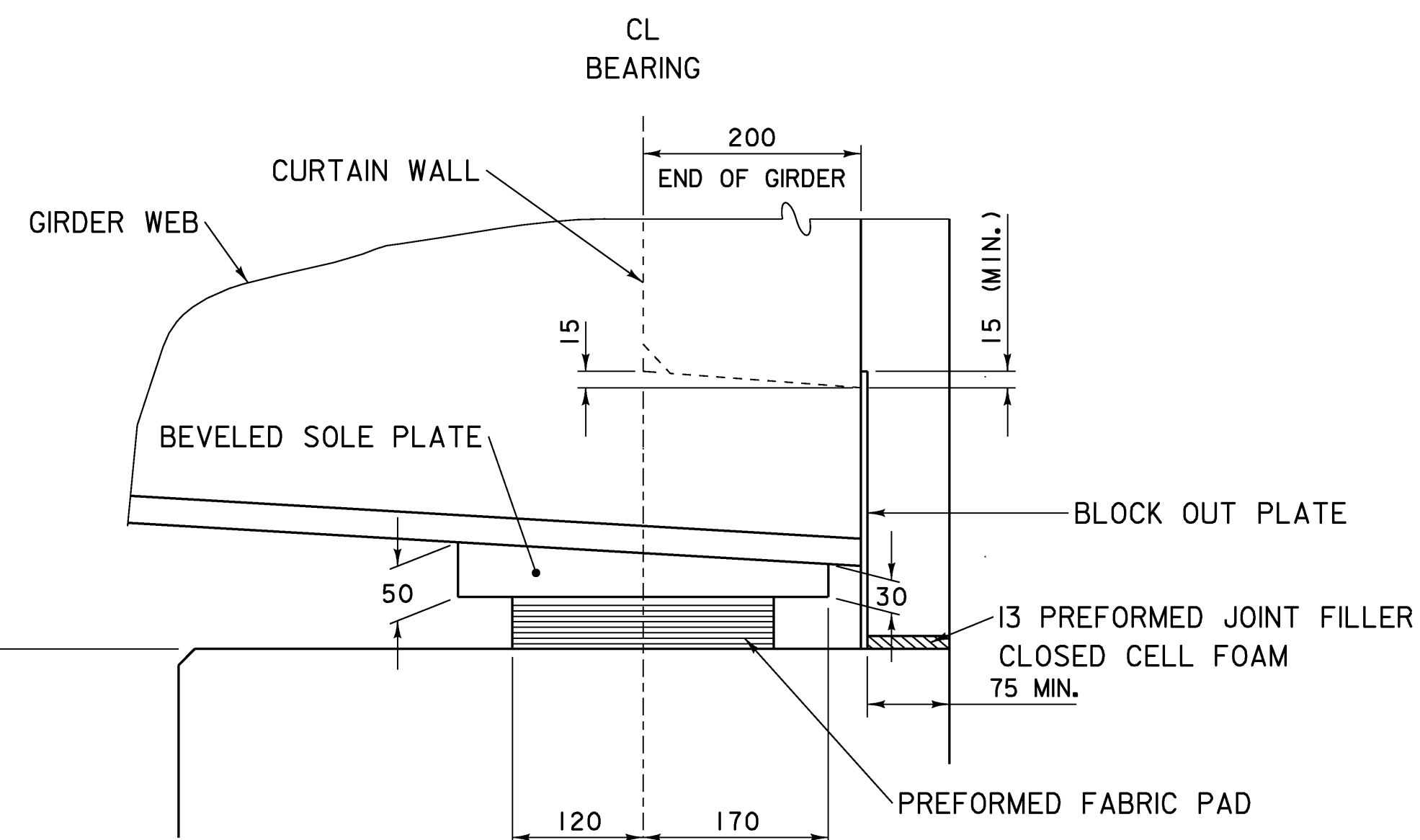
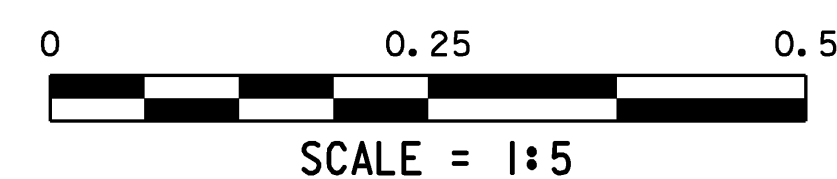


SOLE PLATE DETAIL



FRONT ELEVATION

PLAN VIEW



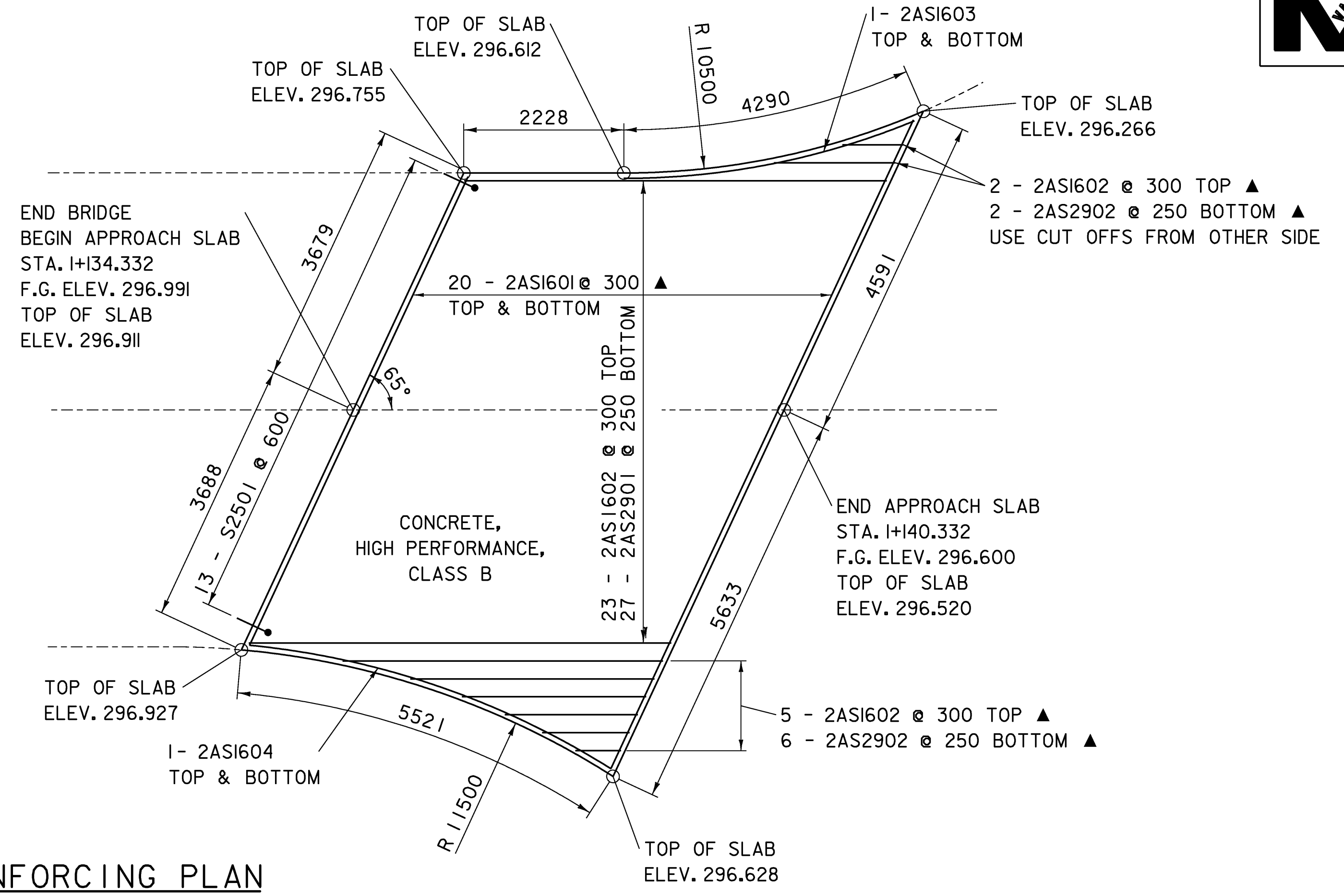
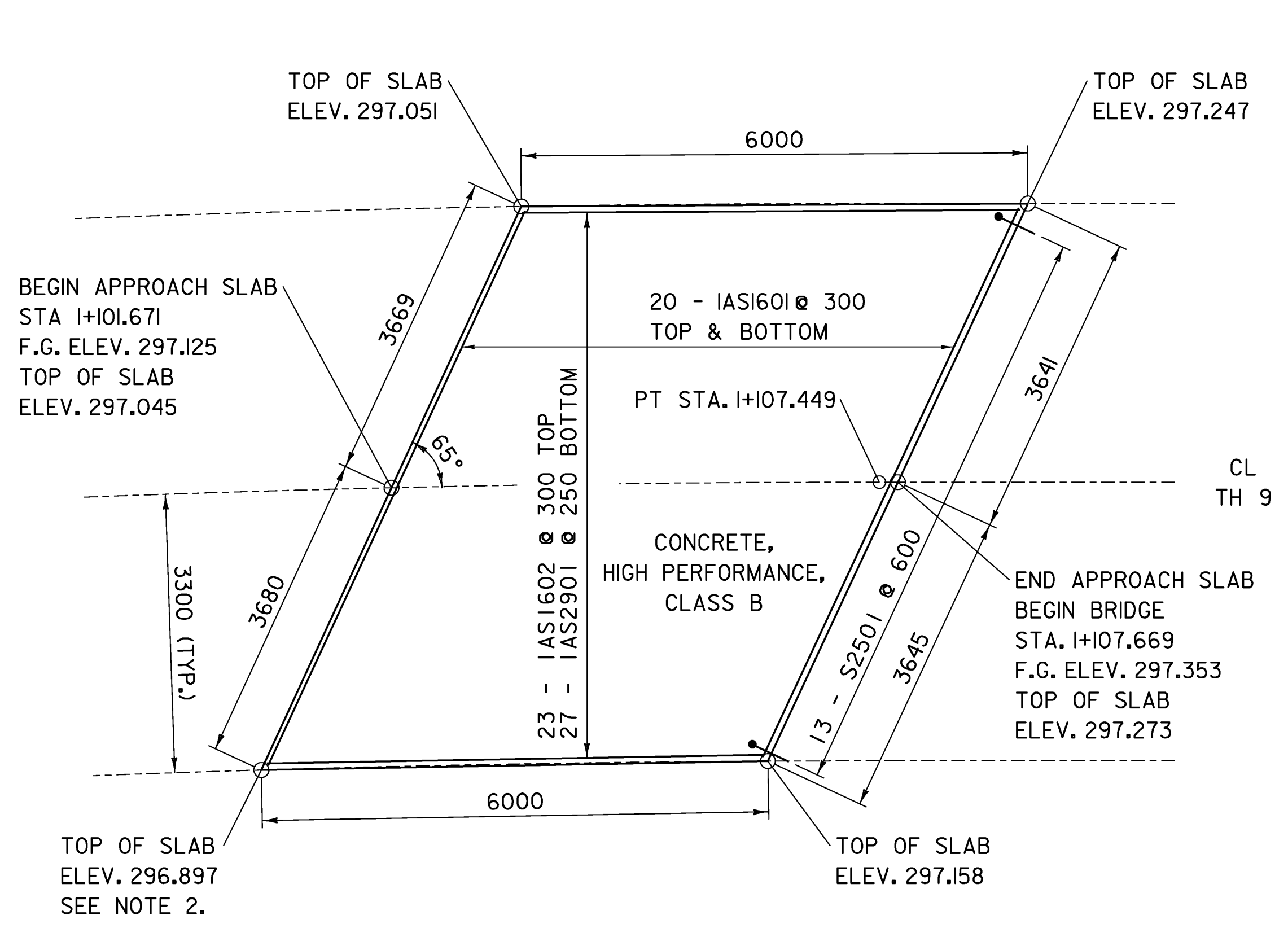
SECTION A-A

FIXED BEARING @ ABUTMENT NO. 2

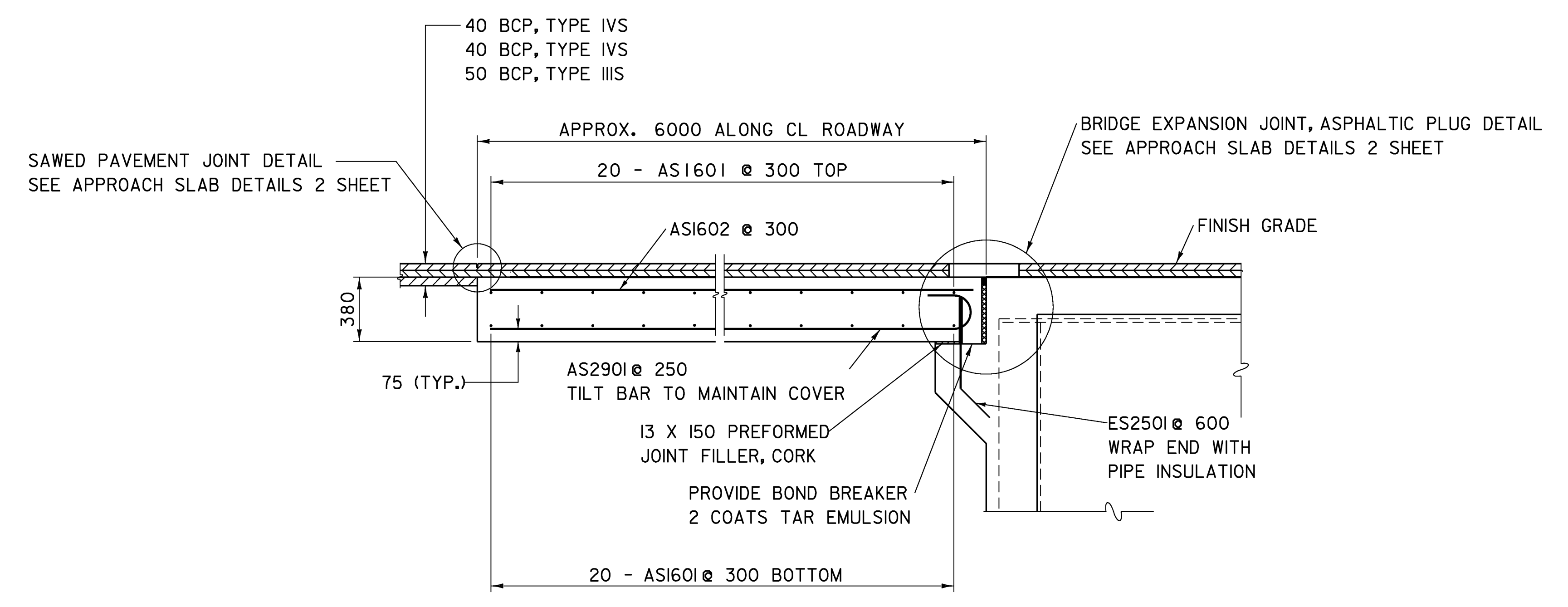
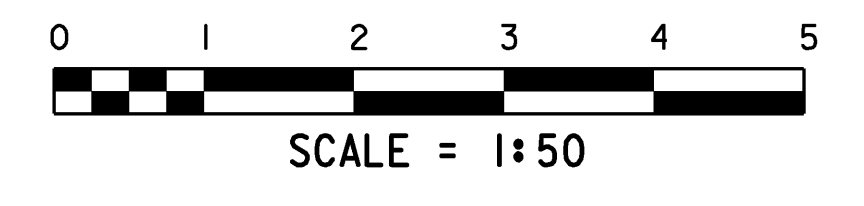


SUPERSTRUCTURE BEARING DETAILS 2

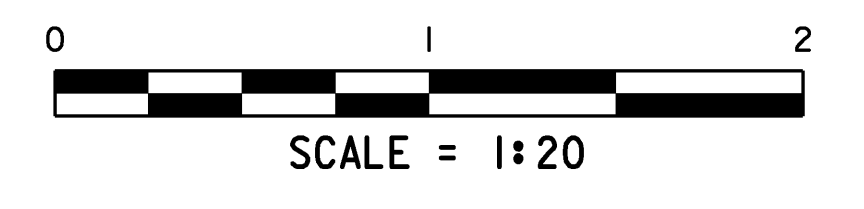
PROJECT NAME:	LINCOLN	PLOT DATE:	03-FEB-2009
PROJECT NUMBER:	BRO 1445(25)	DRAWN BY:	C. MOONEY
FILE NAME:	s96j266str.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	DESIGNED BY:	S. SCRIBNER
SUPERSTRUCTURE BEARING DETAILS 2		SHEET	35 OF 58



APPROACH SLAB REINFORCING PLAN



APPROACH SLAB DETAIL



NOTES:

1. ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS ASSOCIATED WITH THE INSTALLATION OF THE ASPHALTIC PLUG -TYPE JOINT, INCLUDING THE FOAM AND STRUCTURAL ADHESIVE, SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM 516.10, "BRIDGE EXPANSION JOINT, ASPHALTIC PLUG".
2. SEE THE APPROACH SLAB DETAILS 2 SHEET FOR NOTES ABOUT THE INSTALLATION OF THE ASPHALTIC PLUG JOINT.
3. "TOP OF SLAB" ELEVATIONS ARE AT THE TOP OF CONCRETE, NOT FINISH GRADE.
4. PAYMENT FOR PREFORMED JOINT FILLERS AND PIPE INSULATION WILL BE MADE INCIDENTAL TO CONTRACT ITEM 501.33.

NOTES:

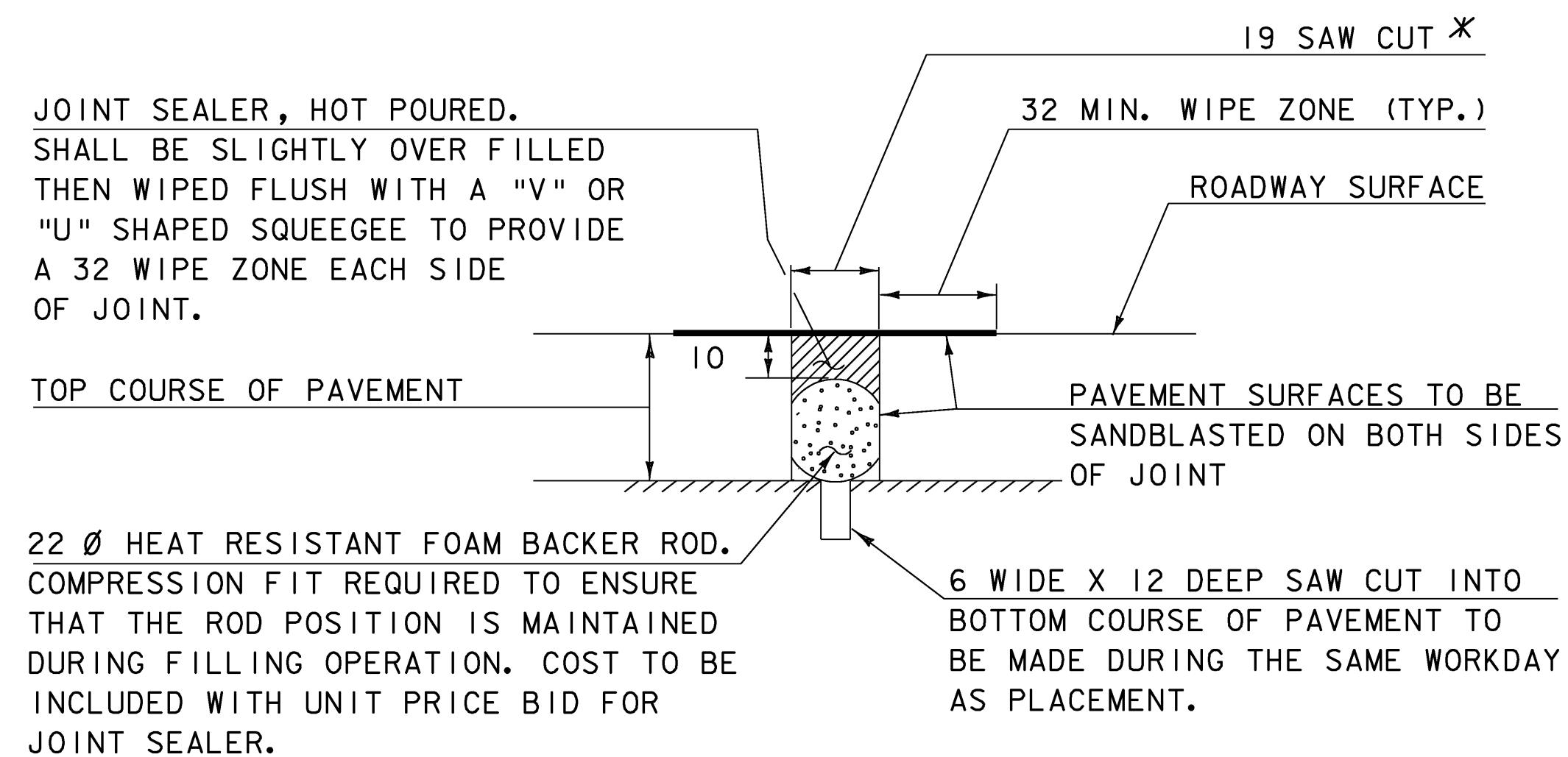
- NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

APPROACH SLAB DETAILS I

PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 36 OF 58
DESIGNED BY: S. SCRIBNER	
APPROACH SLAB DETAILS I	

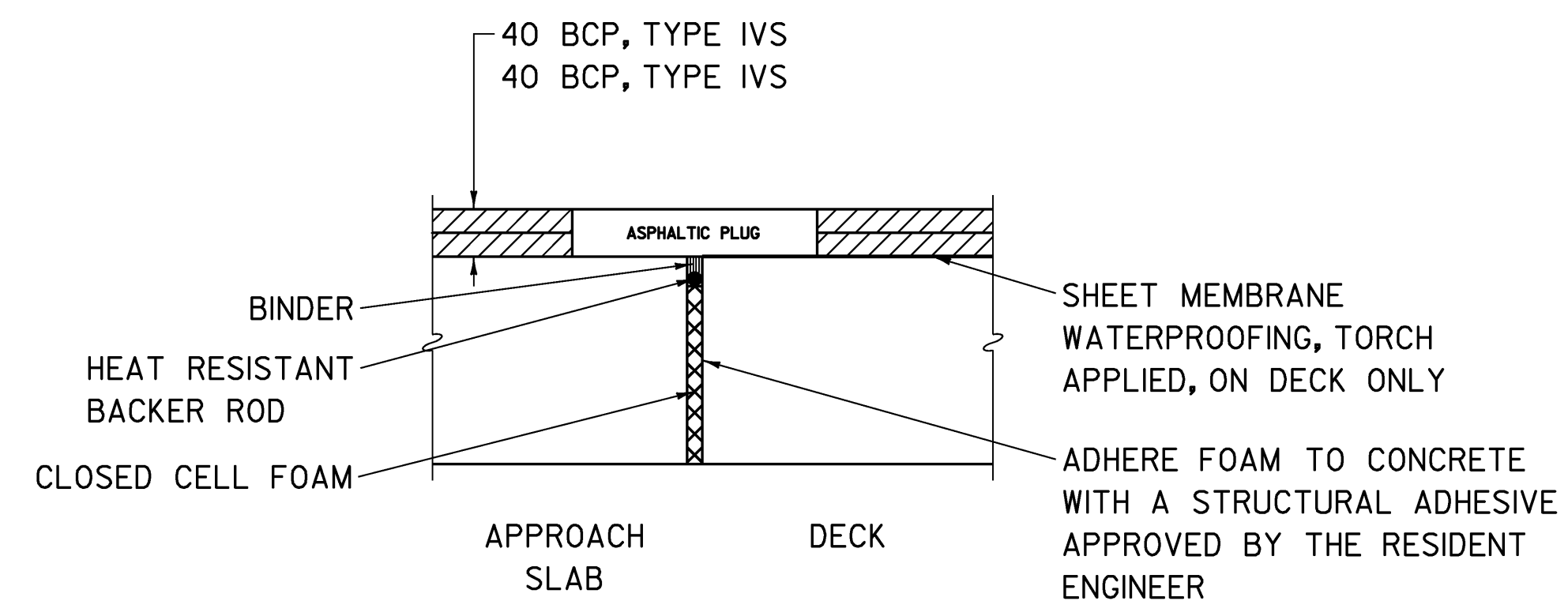
ASPHALTIC PLUG BRIDGE JOINT

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. EXCAVATE THE JOINT AS SHOWN ON THE PLANS WITH SAWS AND PNEUMATIC HAMMER OR A HAMMER AND CHISEL.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS AND ASPHALT. THOROUGHLY DRY THE JOINT AREA WITH HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.
5. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
6. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
7. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
8. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 125 ° F (51 ° C) +/-.
9. WEATHER LIMITATIONS. APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL:
 THE AMBIENT AIR TEMPERATURE IS AT LEAST 50 ° F (10 ° C) AND RISING;
 THE ROAD SURFACE IS SUFFICIENTLY DRY; AND
 WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

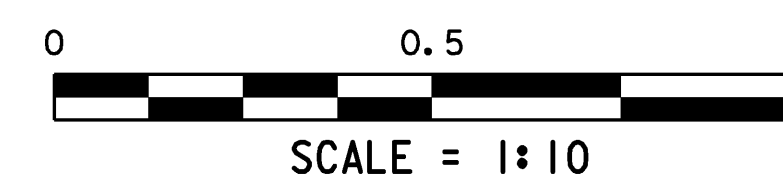


SAWED PAVEMENT JOINT DETAIL
(NOT TO SCALE)

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF APPROACH SLABS. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER.

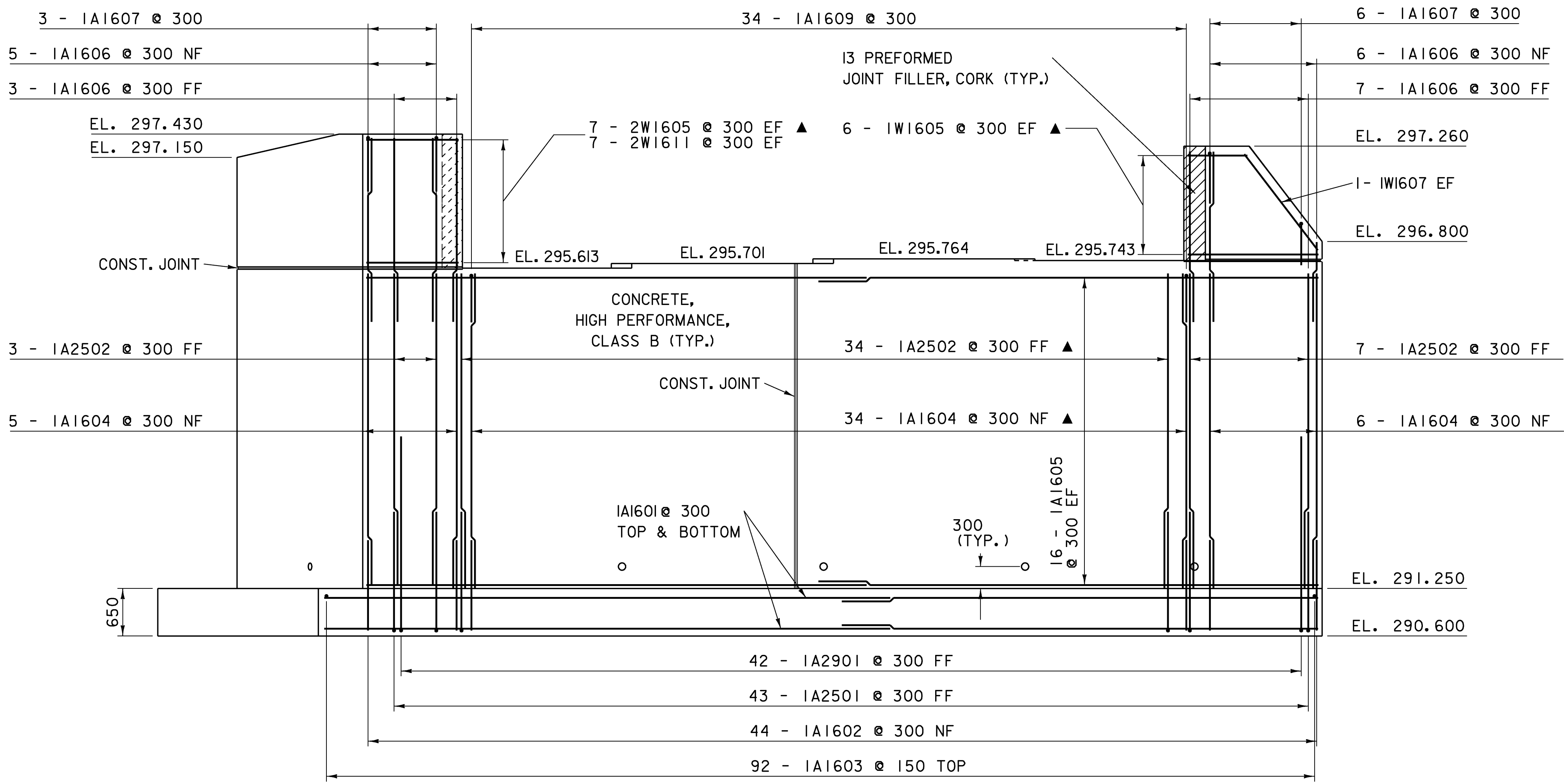


BRIDGE EXPANSION JOINT,
ASPHALTIC PLUG DETAIL

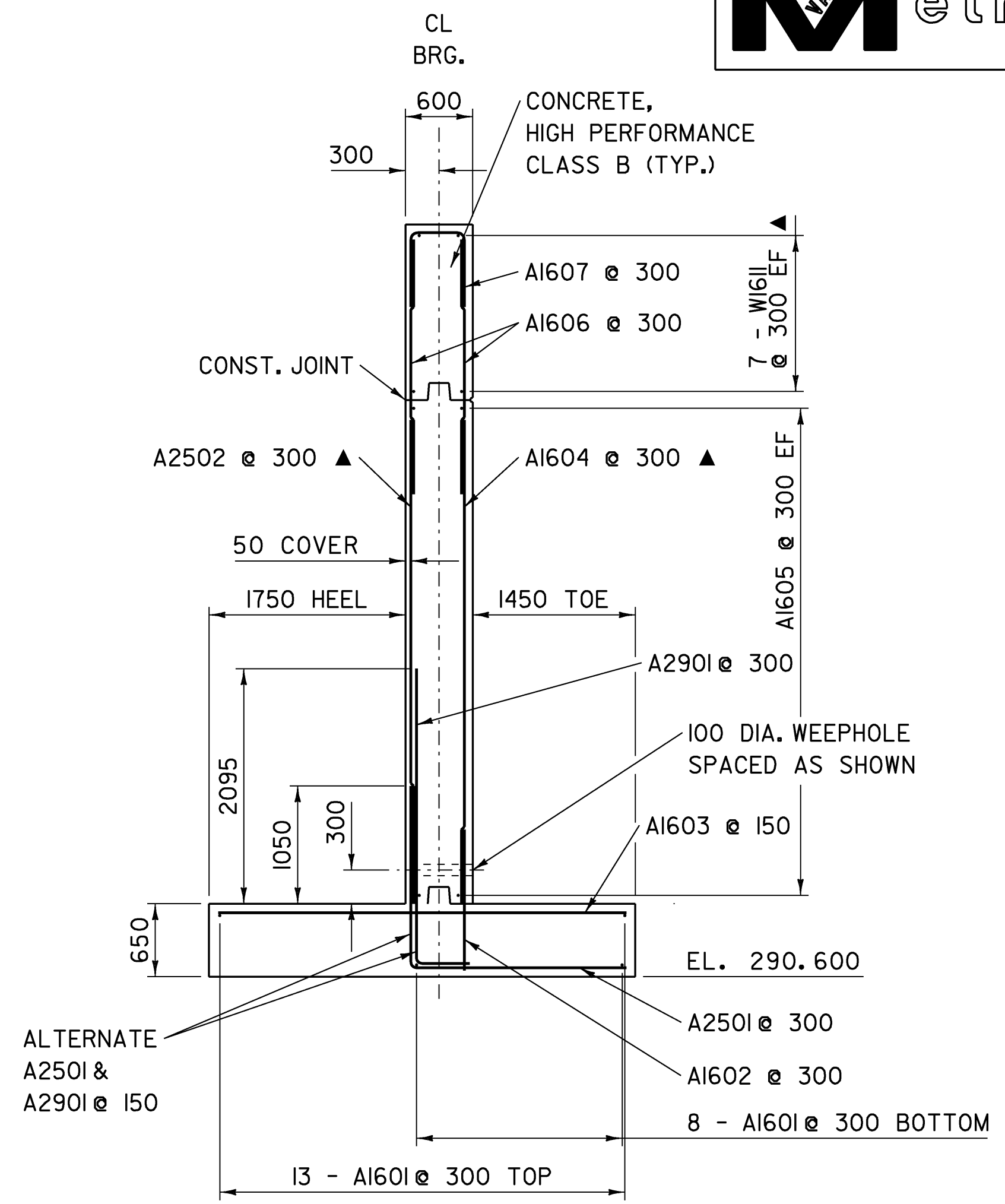
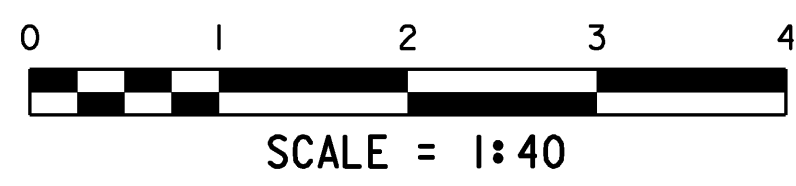


APPROACH SLAB
DETAILS 2

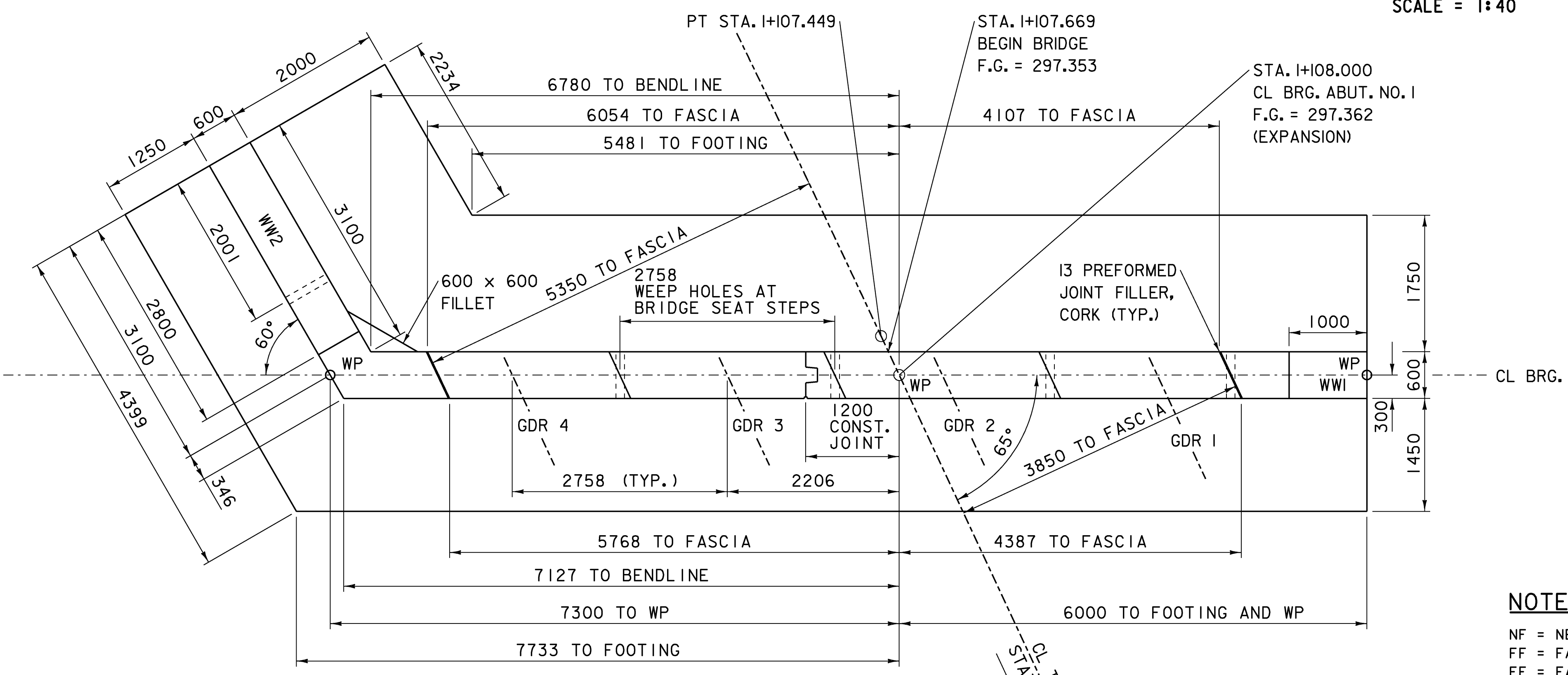
PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445(25)
FILE NAME:	s96j266str.dgn
PROJECT LEADER:	R. WHITCOMB
DESIGNED BY:	S. SCRIBNER
APPROACH SLAB DETAILS 2	
PLOT DATE:	29-JAN-2009
DRAWN BY:	C. MOONEY
CHECKED BY:	R. WHITCOMB
SHEET 37	OF 58



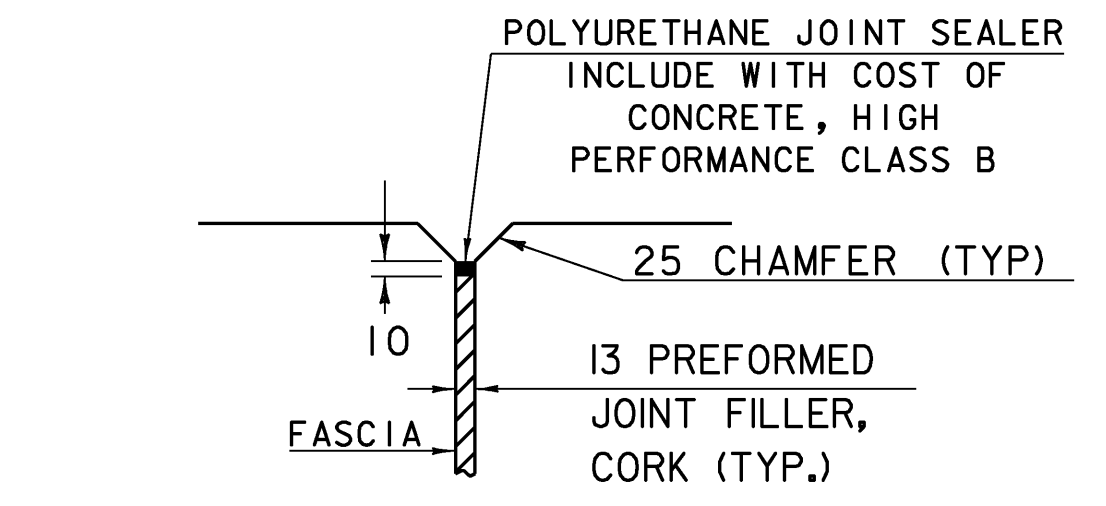
ABUTMENT I ELEVATION



ABUTMENT TYPICAL SECTION



ABUTMENT I PLAN

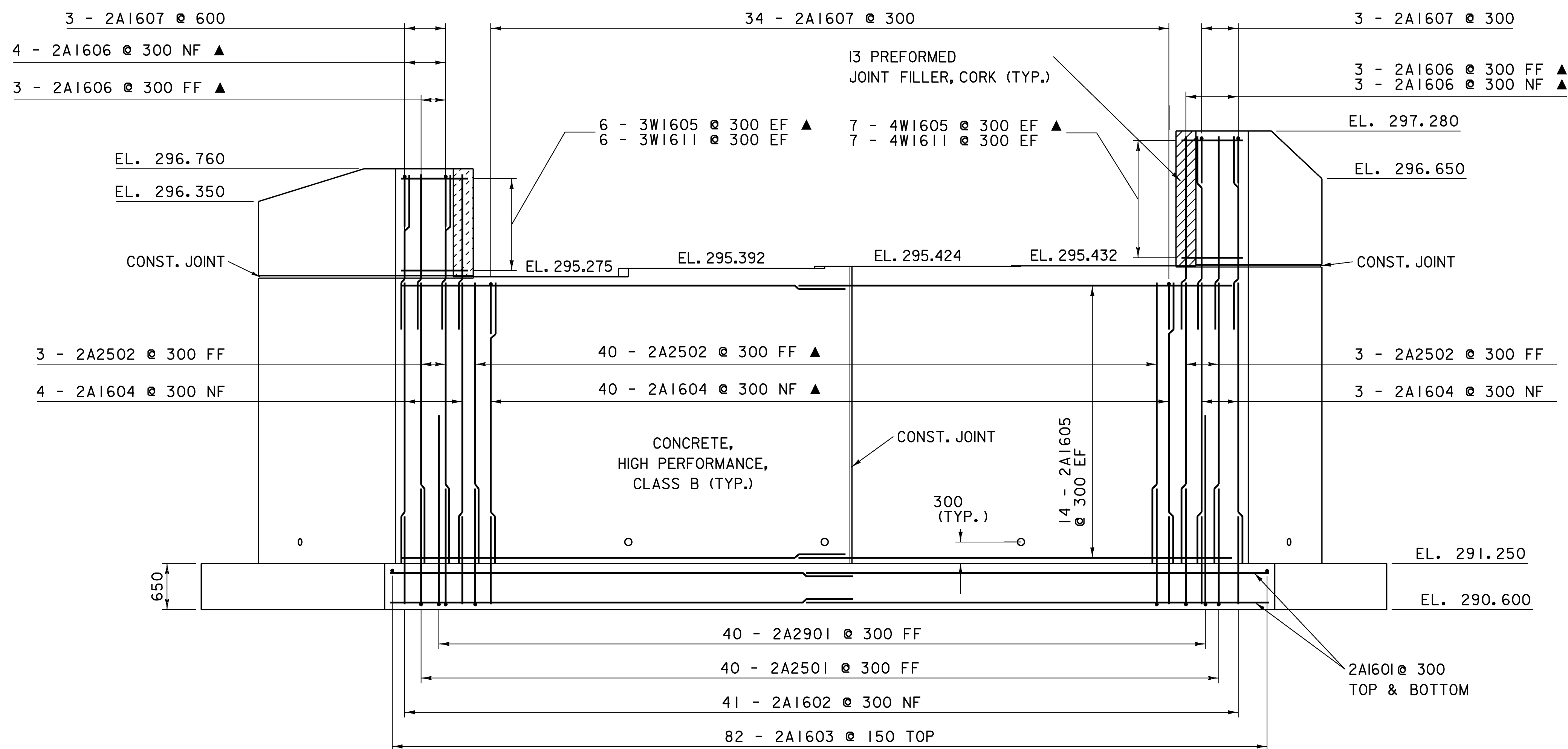


JOINT BETWEEN FASCIA AND WINGWALL
NOT TO SCALE

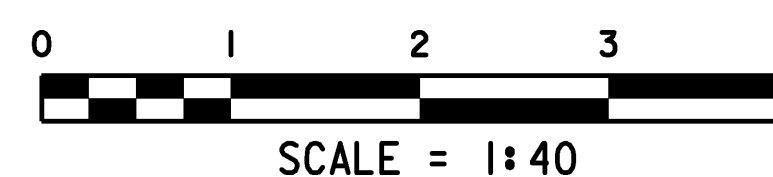
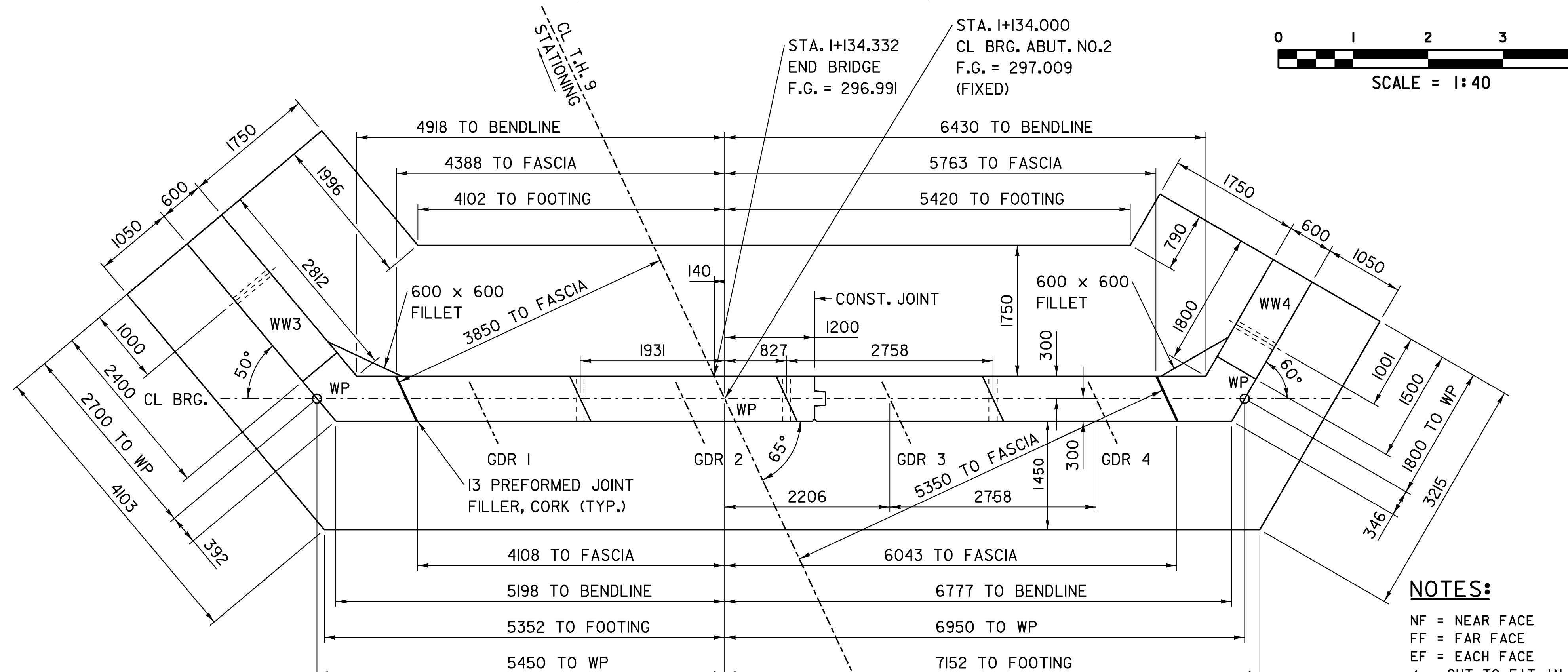
NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE
 ABUTMENT I DETAILS

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445(25)	DRAWN BY:	C. MOONEY
FILE NAME:	s96j266str.dgn	CHECKED BY:	R. WHITCOMB
PROJECT LEADER:	R. WHITCOMB	SHEET	38 OF 58
DESIGNED BY:	S. SCRIBNER		
SUBSTRUCTURE ABUTMENT I DETAILS			



ABUTMENT 2 ELEVATION

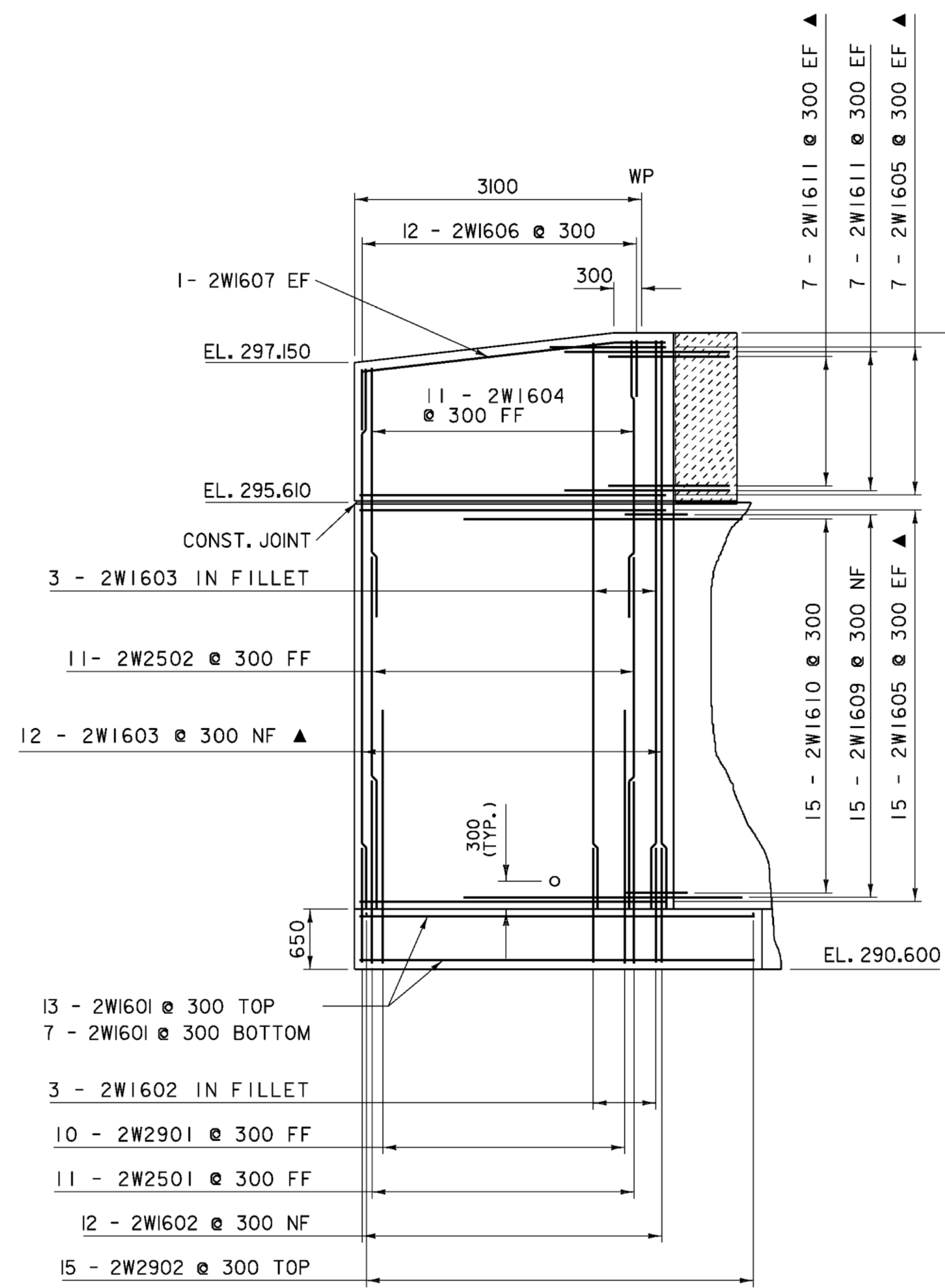


NOTES:

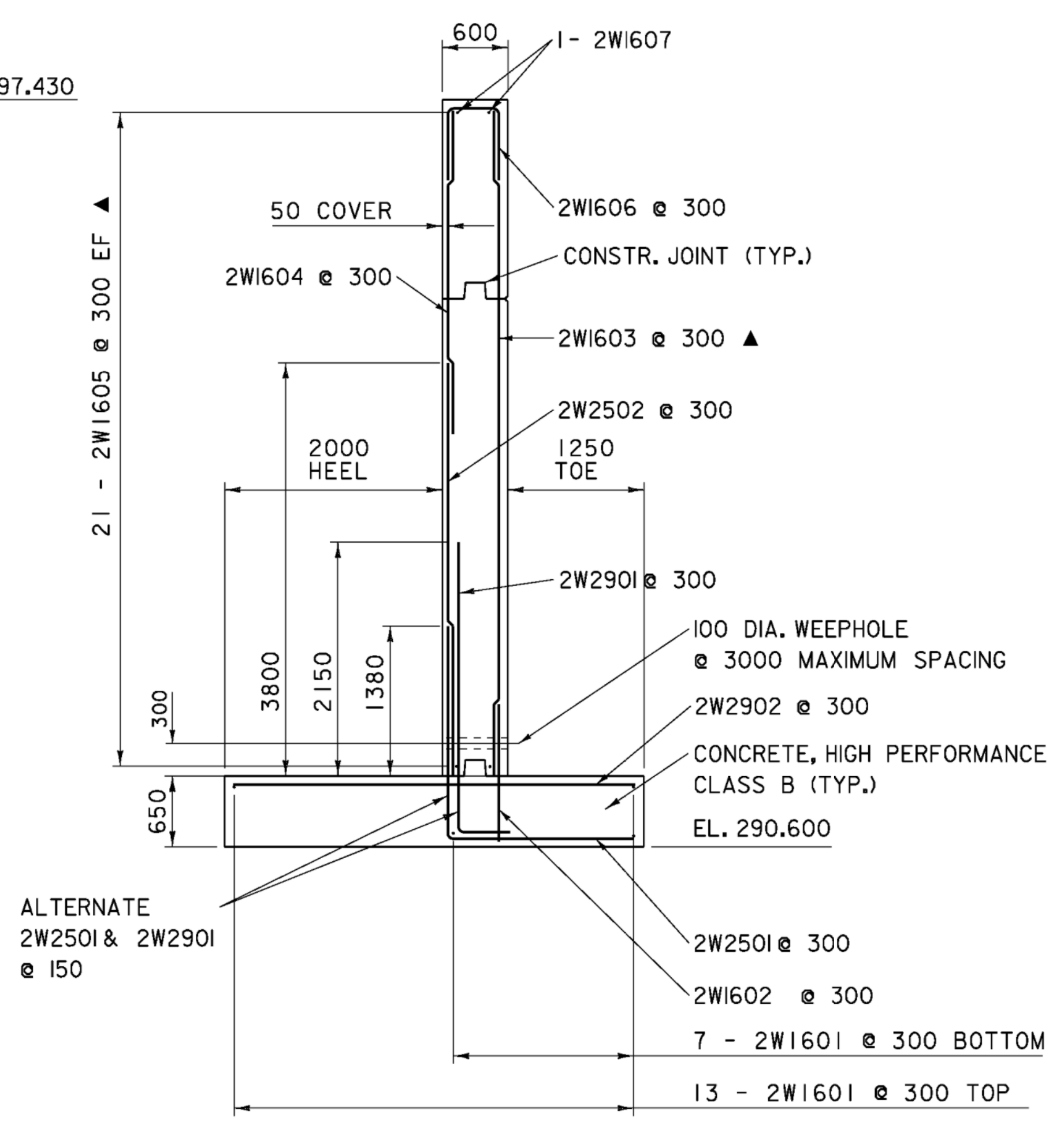
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE ABUTMENT 2 DETAILS

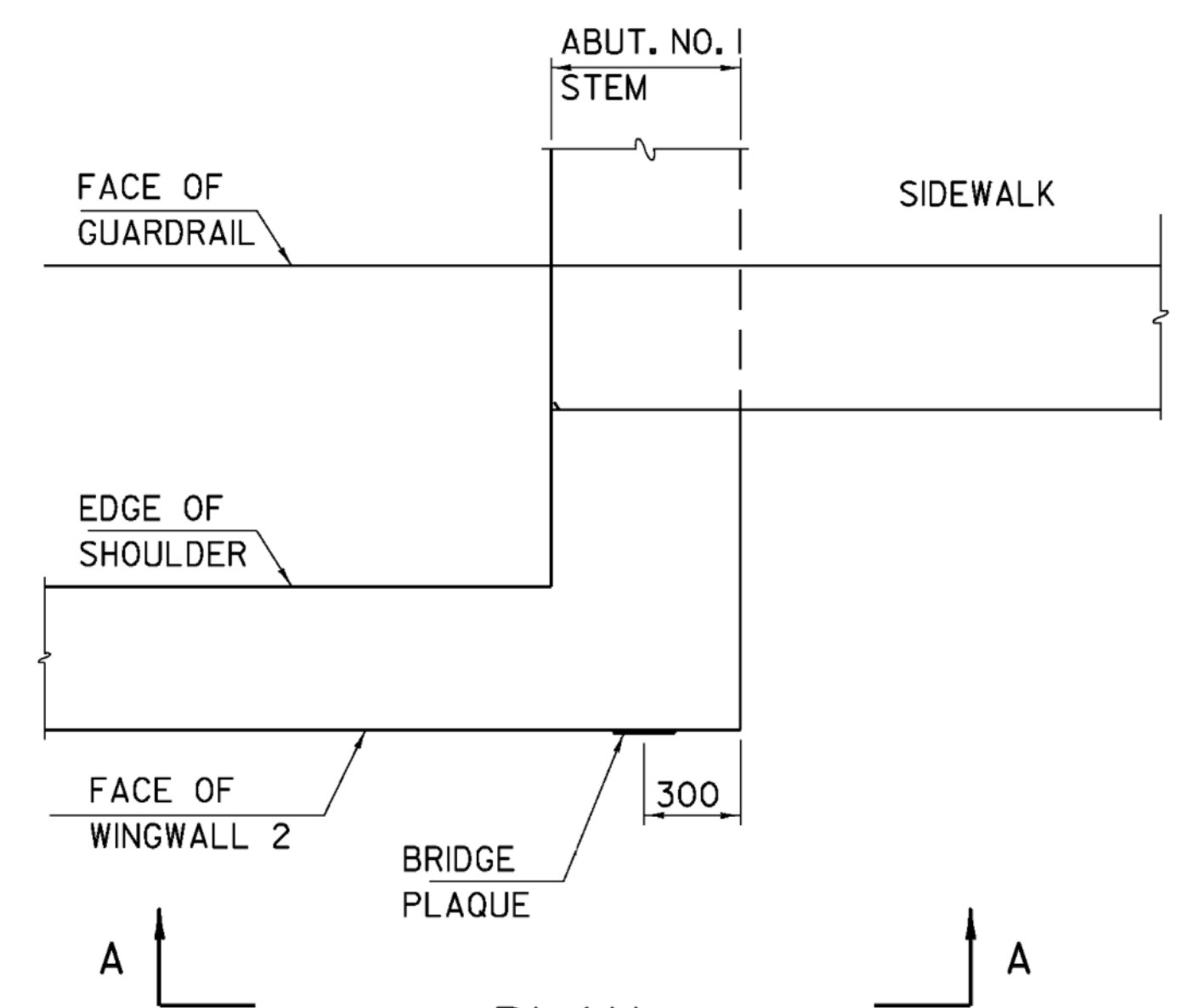
PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 39 OF 58
DESIGNED BY: S. SCRIBNER	
SUBSTRUCTURE ABUTMENT 2 DETAILS	



WINGWALL 2 ELEVATION
 0 1 2 3 4
 SCALE = 1:40

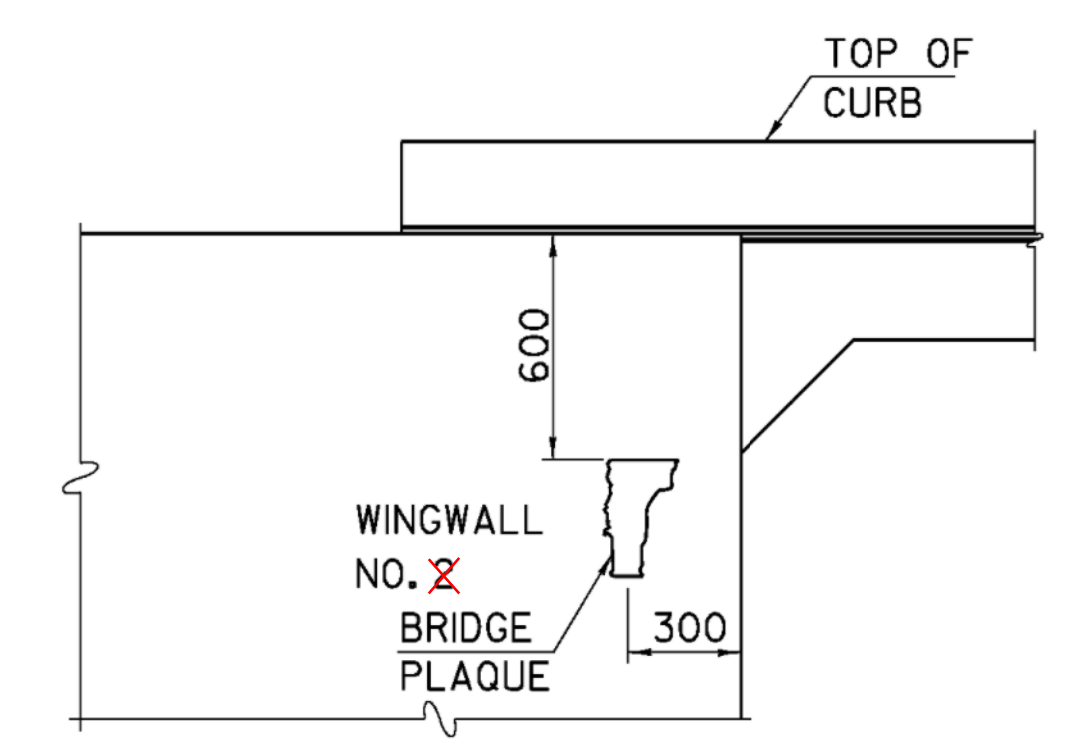


WINGWALL 2 TYPICAL



PLAN

NOT TO SCALE



VIEW "A-A"
LOCATE BENCH MARK
AND BRIDGE PLAQUE

NOT TO SCALE

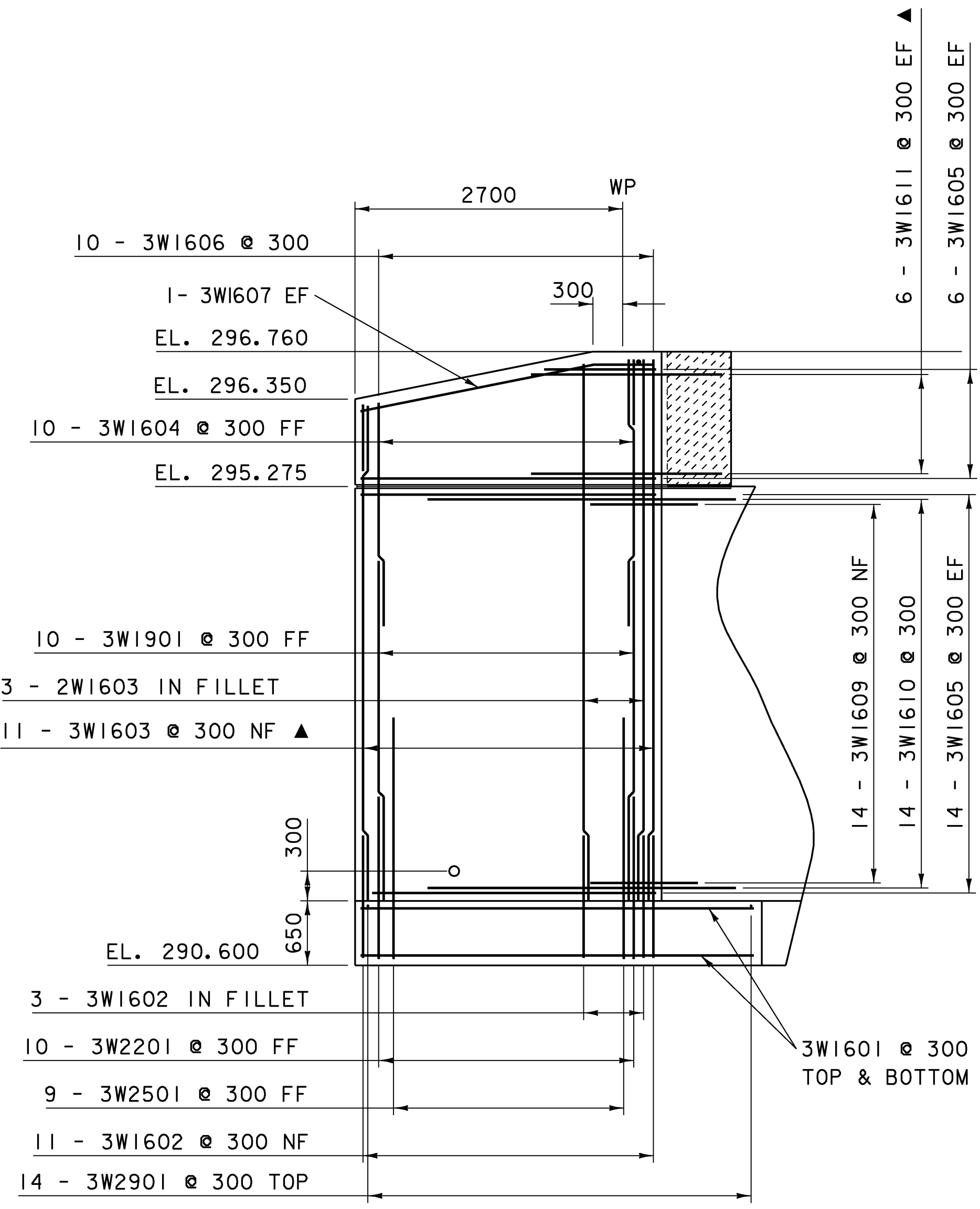
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN OR AS DIRECTED BY THE ENGINEER.

NOTES:

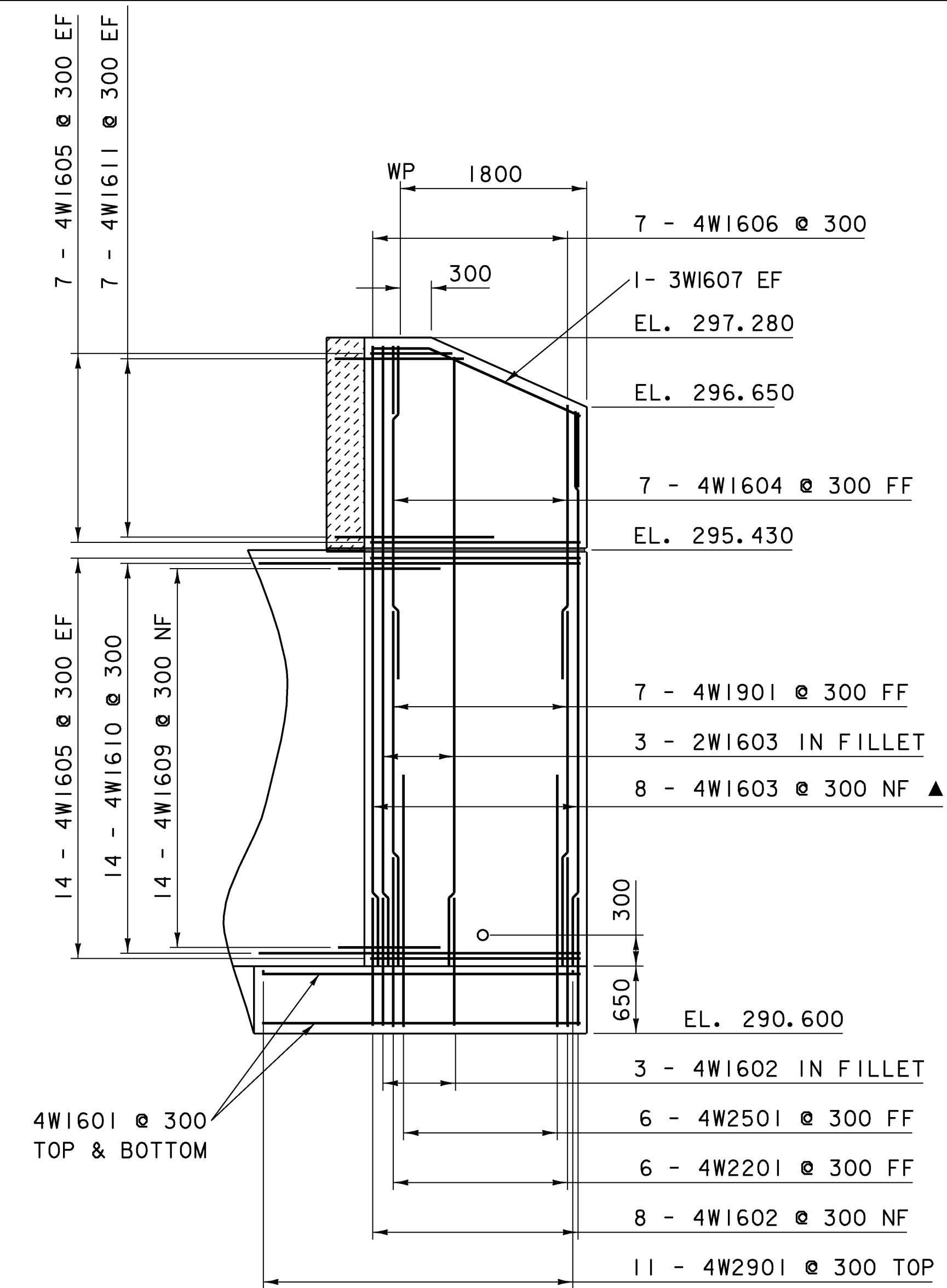
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE WINGWALL 2 DETAILS

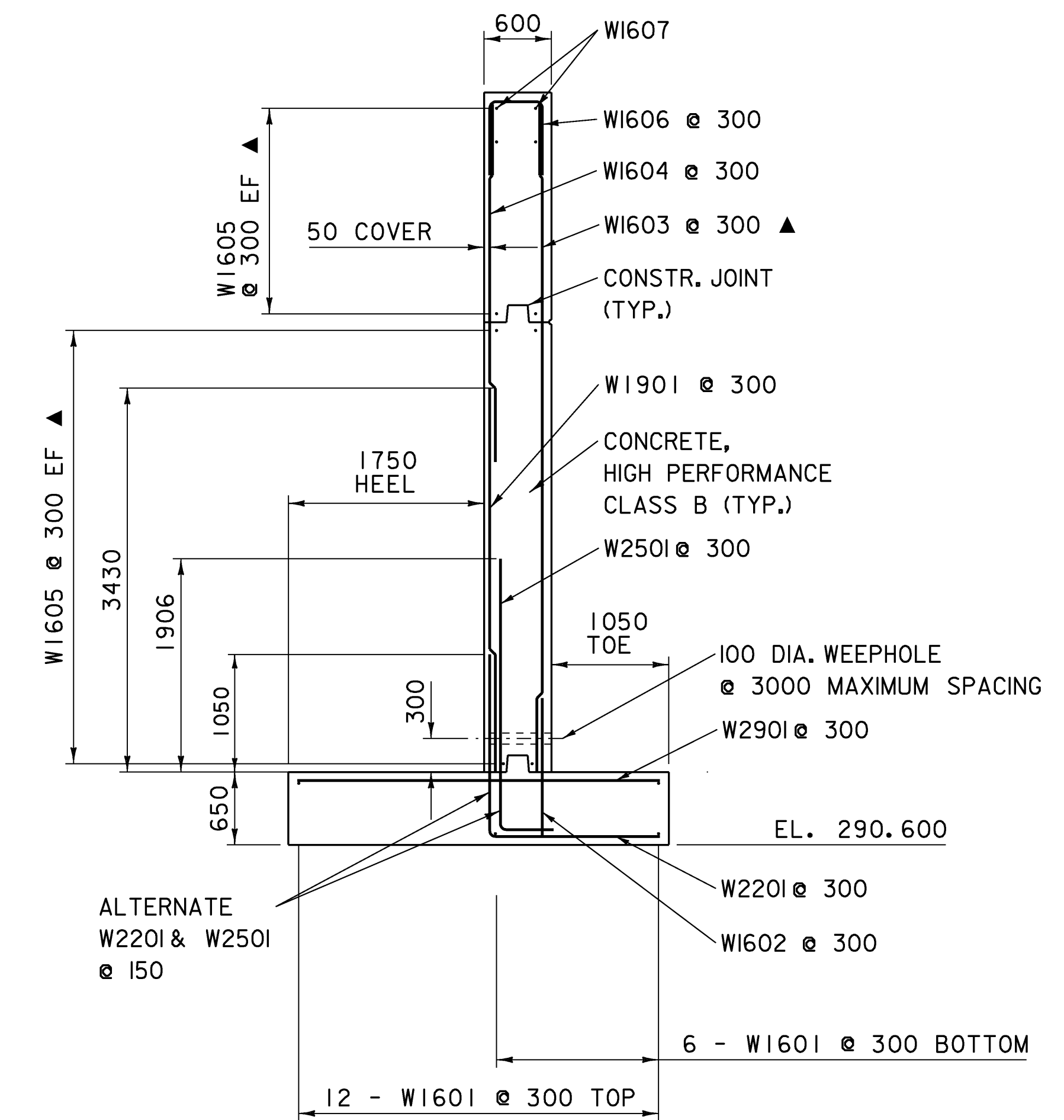
PROJECT NAME:	LINCOLN	FILE NAME:	s96j266str.dgn	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445(25)	PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	C. MOONEY
		DESIGNED BY:	S. SCRIBNER	CHECKED BY:	R. WHITCOMB
		SUBSTRUCTURE WINGWALL 2 DETAILS		SHEET 40	OF 58



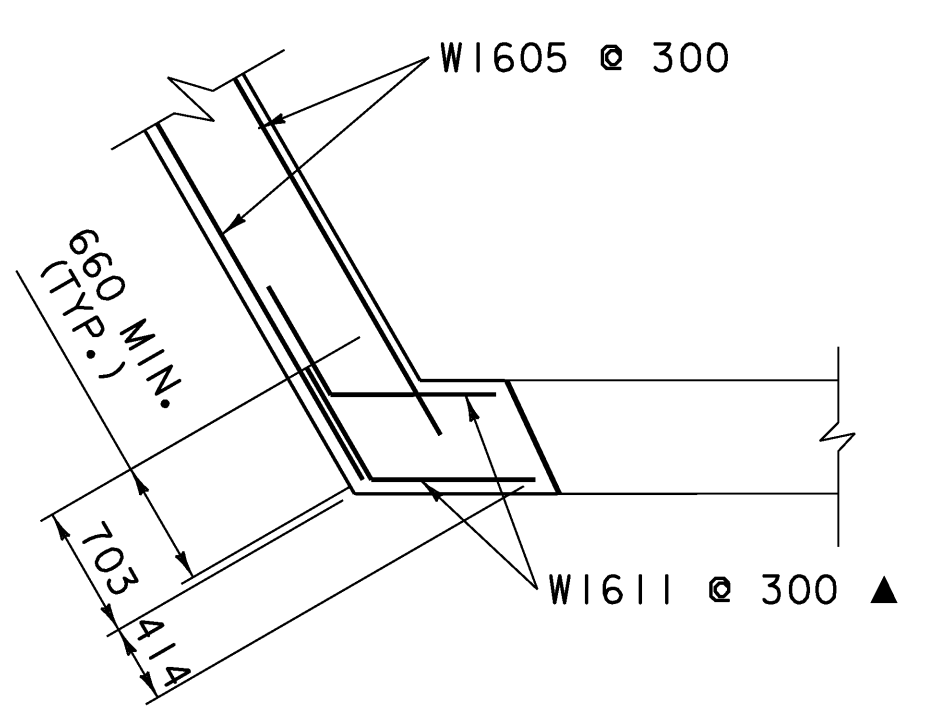
WINGWALL 3 ELEVATION



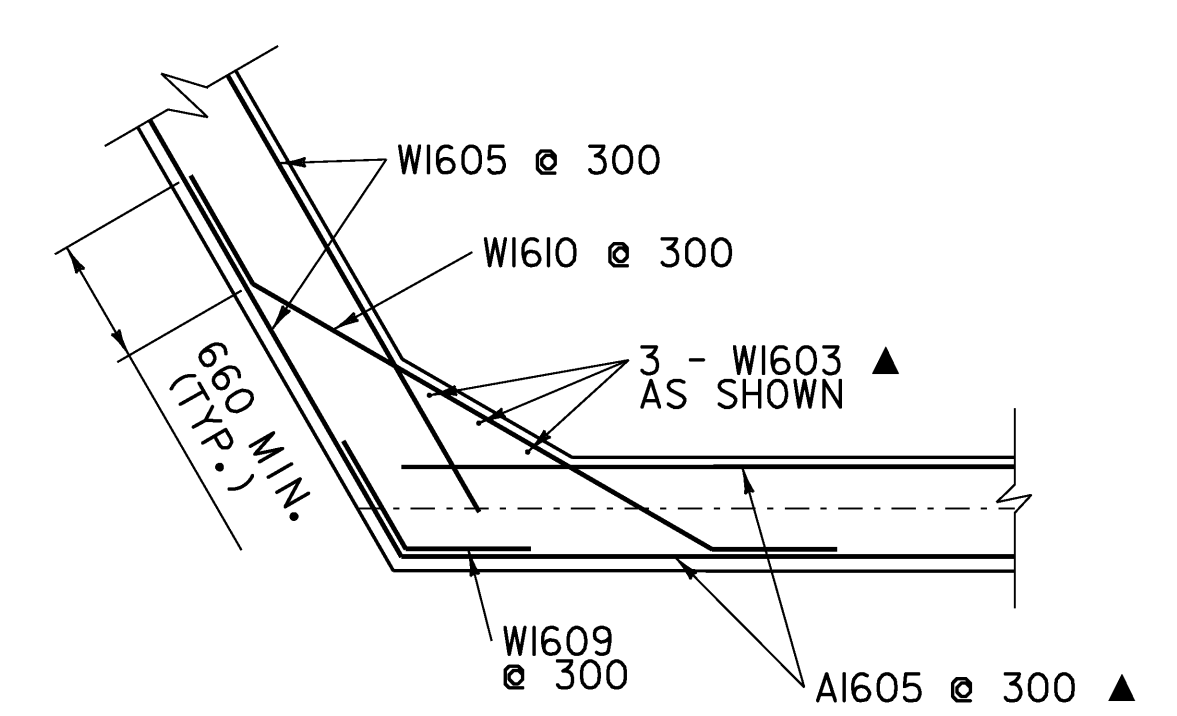
WINGWALL 4 ELEVATION



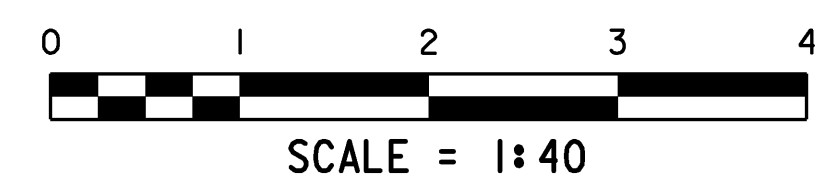
WINGWALLS 3 & 4 TYPICAL SECTION



WINGWALL CORNER REINFORCING ABOVE BRIDGE SEAT



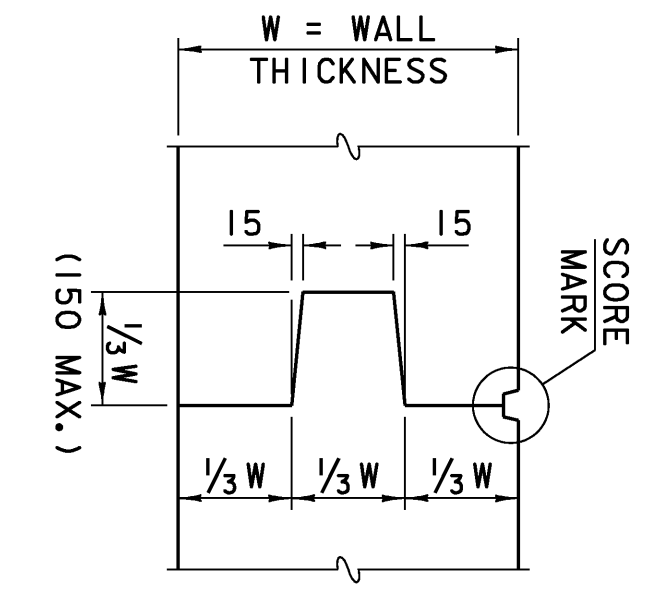
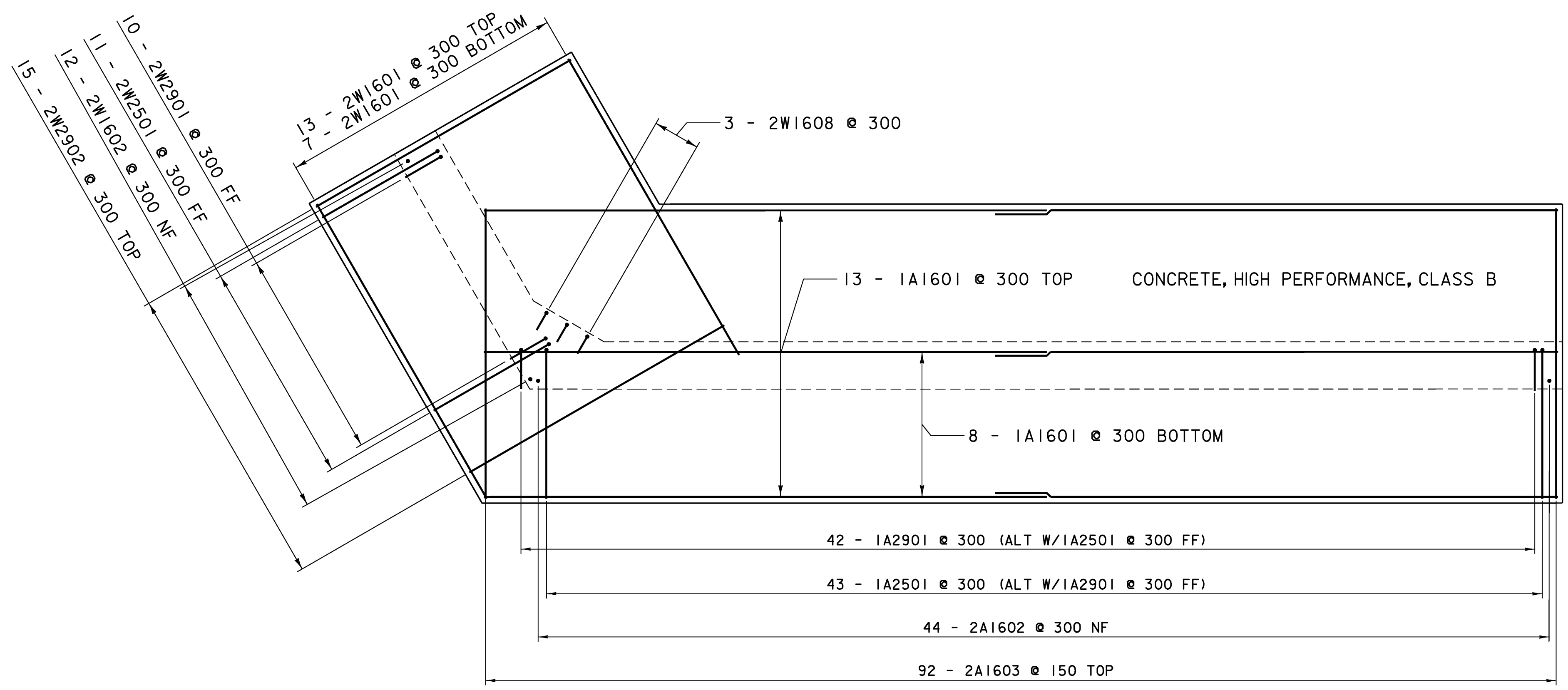
WINGWALL CORNER REINFORCING BELOW BRIDGE SEAT



NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE WINGWALLS 3 & 4 DETAILS

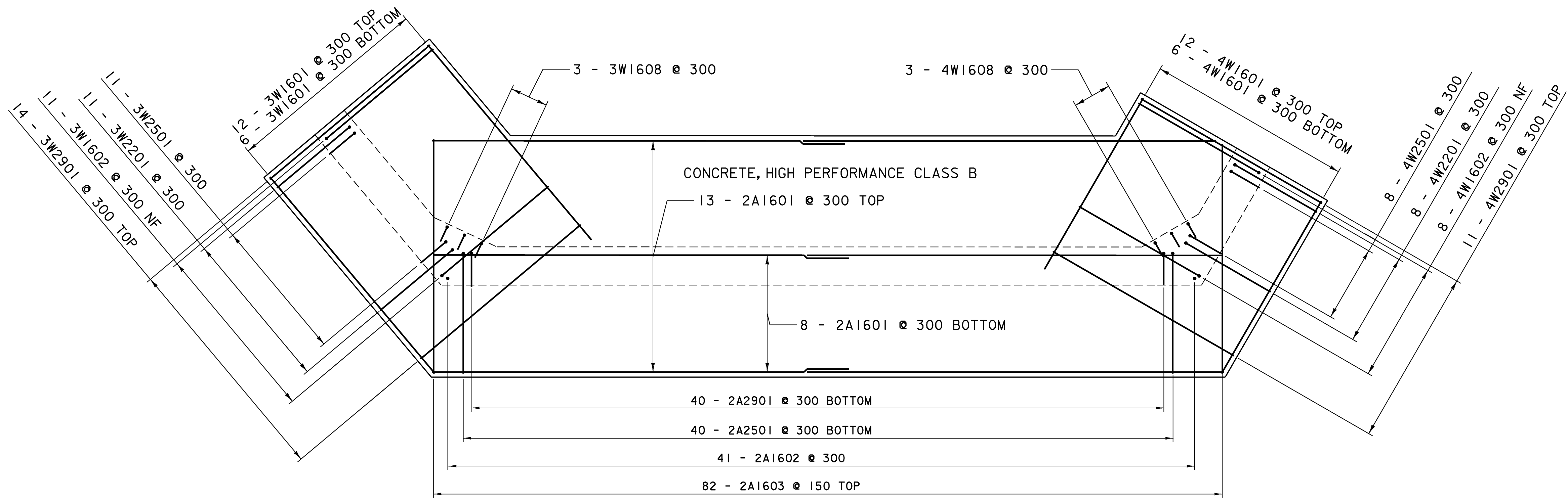
PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
DESIGNED BY: S. SCRIBNER	SHEET 41 OF 58
SUBSTRUCTURE WINGWALLS 3&4 DETAILS	



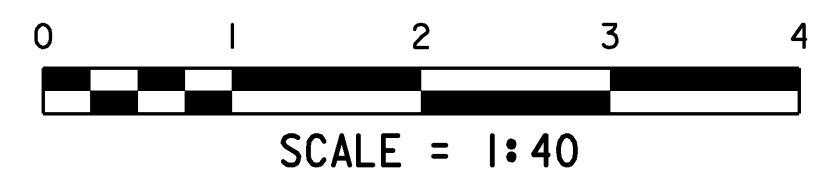
TYPICAL CONCRETE CONSTRUCTION JOINT

NOT TO SCALE

ABUTMENT 1 FOOTING REINFORCING PLAN



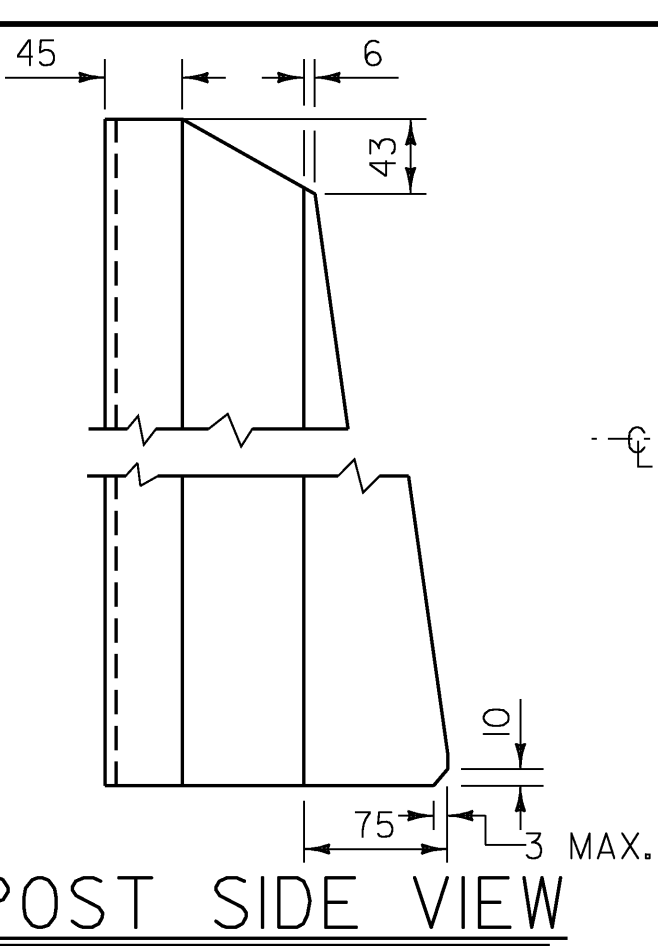
ABUTMENT 2 FOOTING REINFORCING PLAN



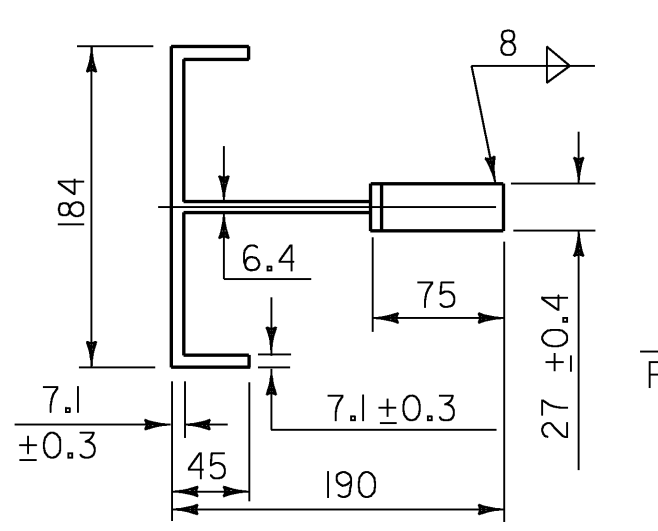
NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 75 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 660 MIN. LAP SPLICE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SUBSTRUCTURE FOOTING PLAN

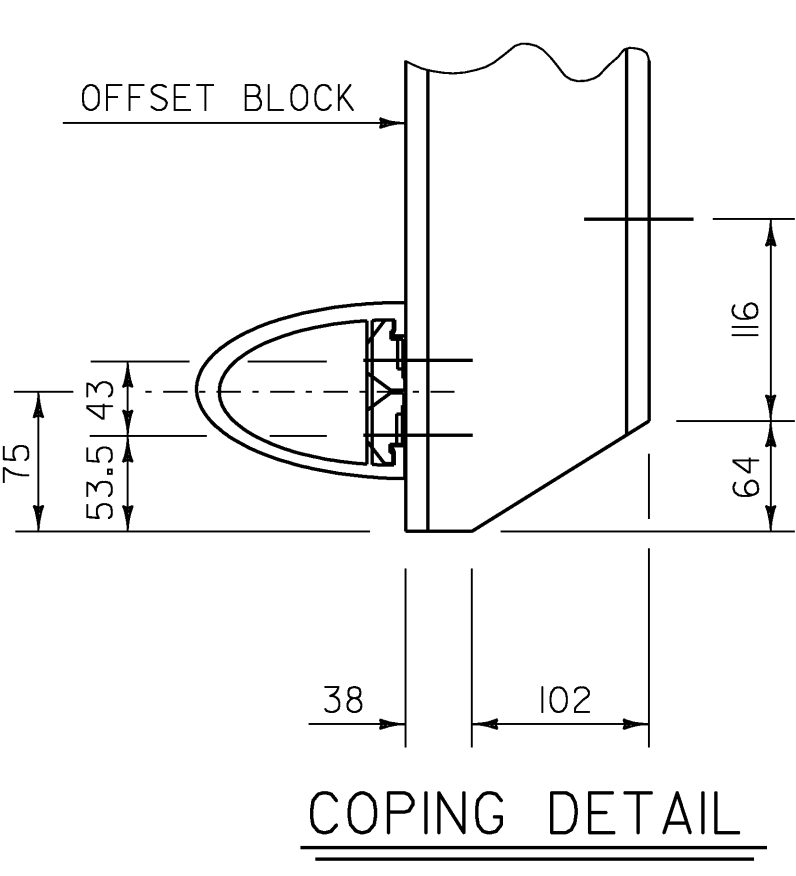
PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445(25)	DRAWN BY: C. MOONEY
FILE NAME: s96j266str.dgn	CHECKED BY: R. WHITCOMB
PROJECT LEADER: R. WHITCOMB	SHEET 42 OF 58
DESIGNED BY: S. SCRIBNER	
SUBSTRUCTURE FOOTING PLAN	



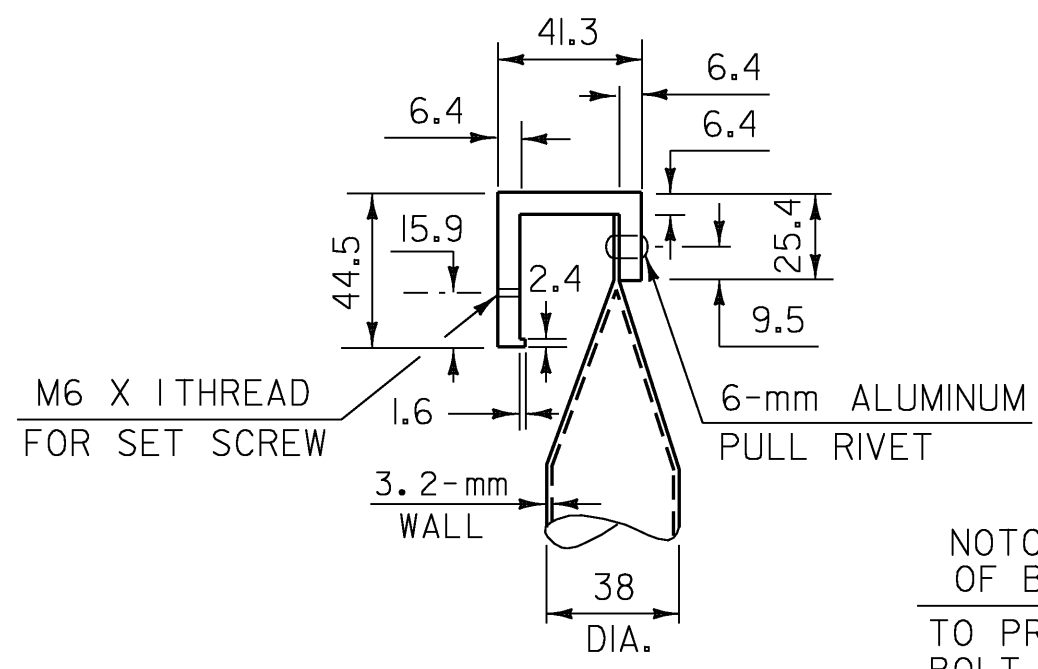
POST SIDE VIEW



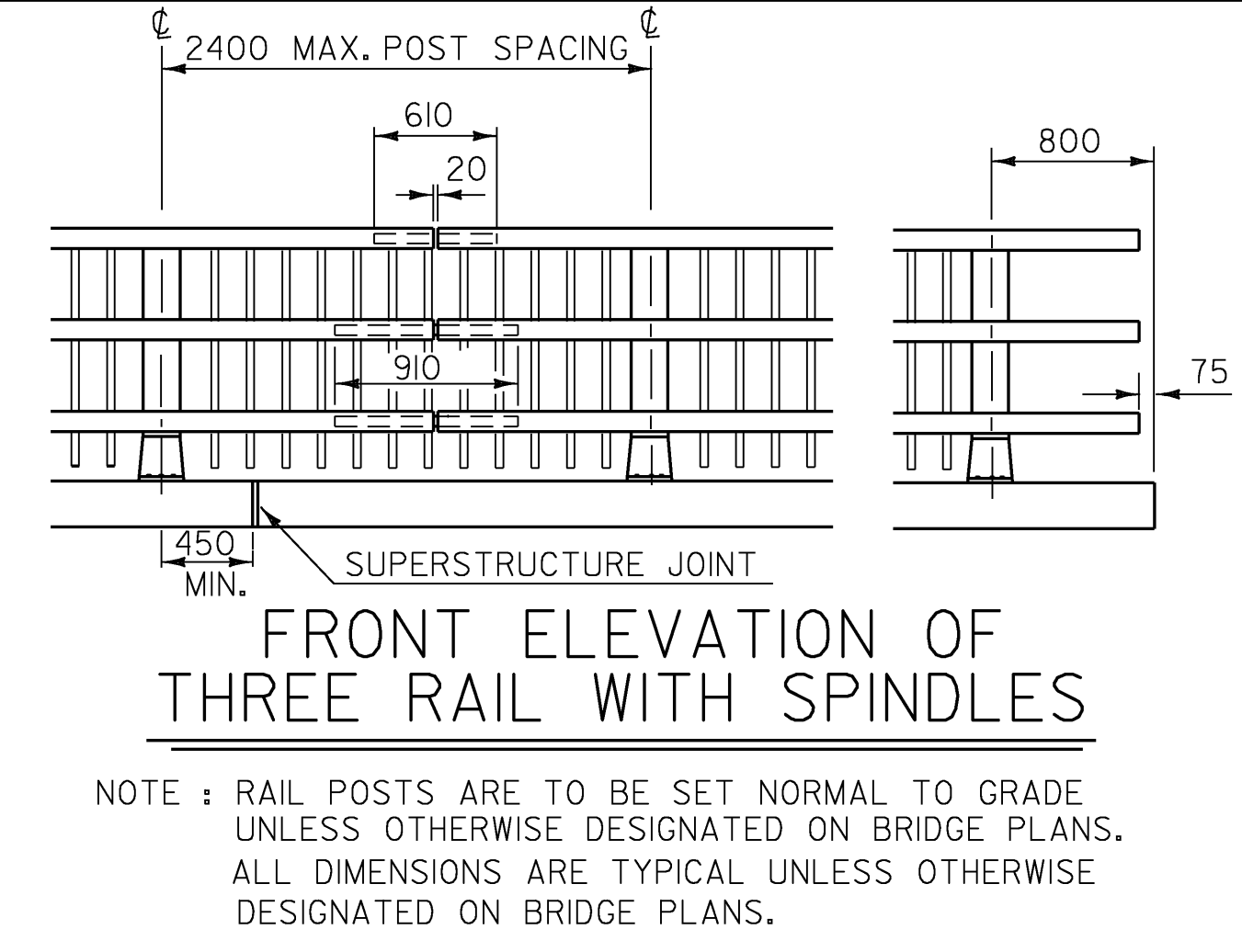
POST PLAN VIEW



COPING DETAIL

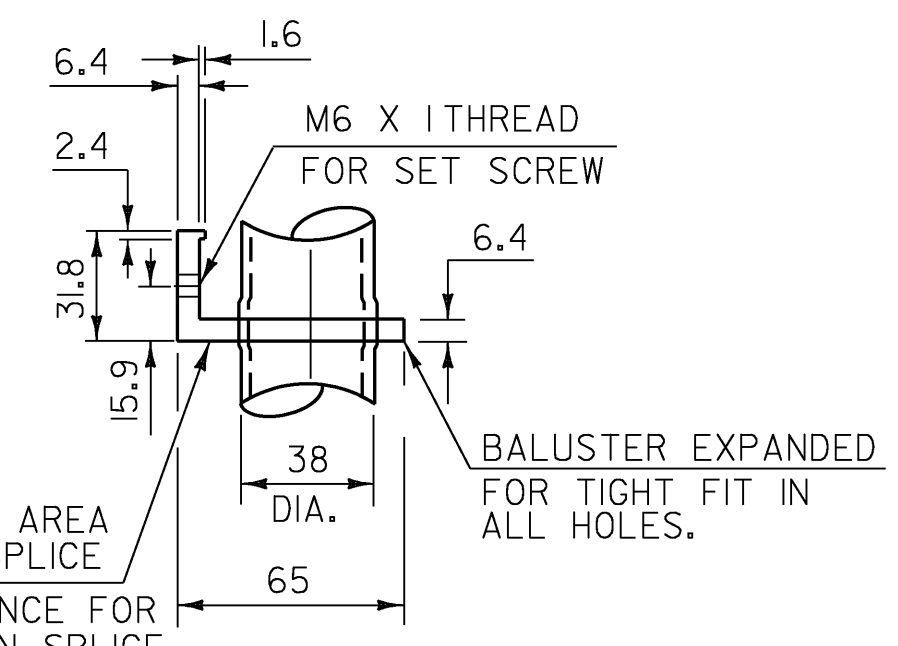


DETAIL A

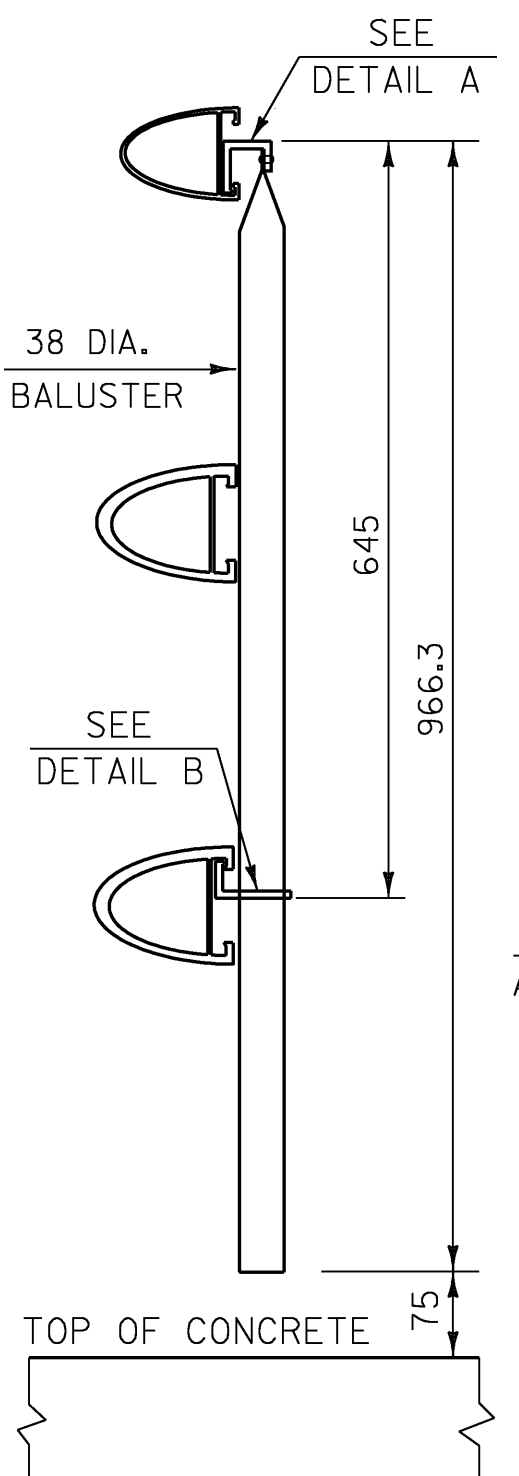


FRONT ELEVATION OF THREE RAIL WITH SPINDLES

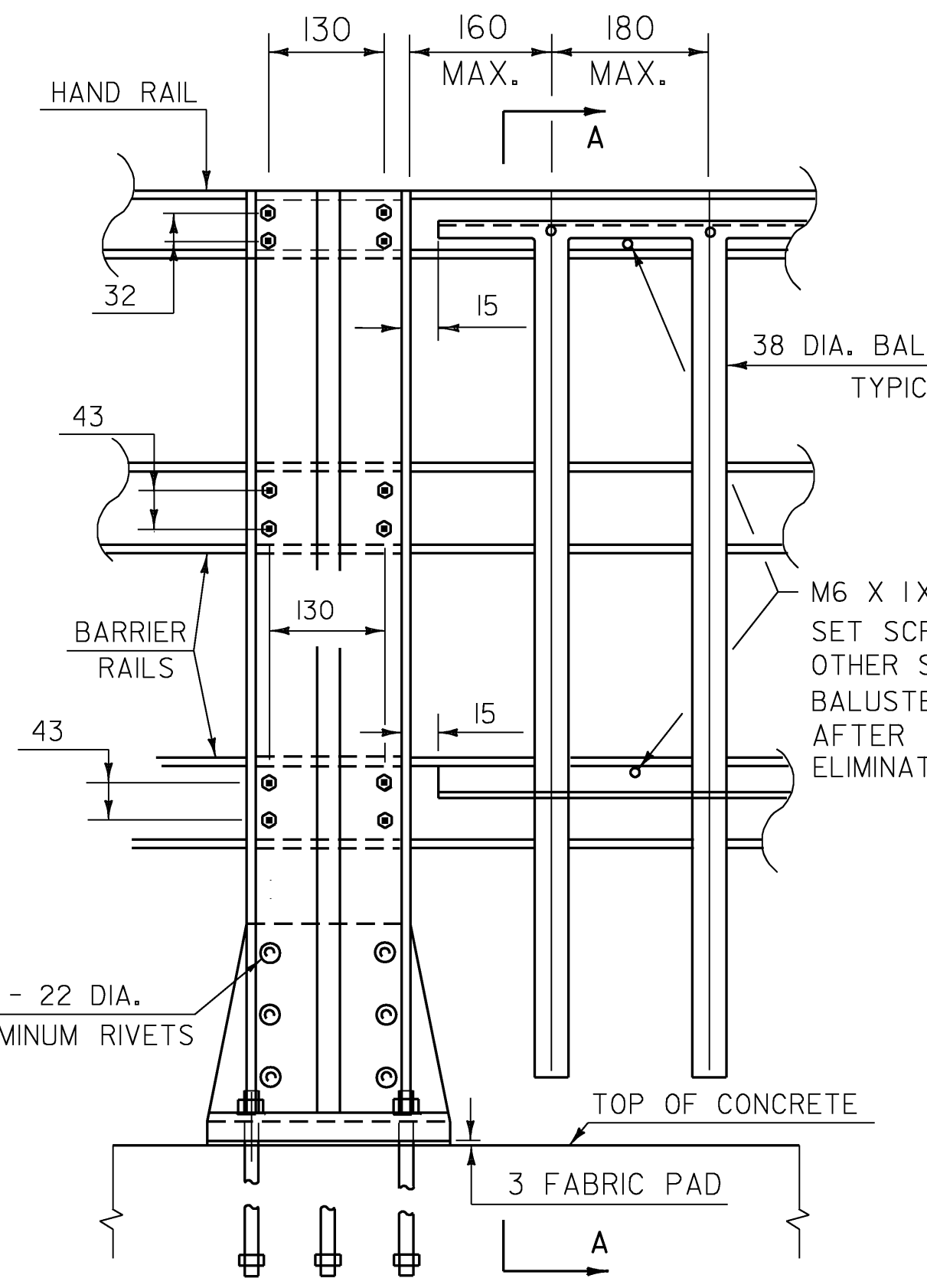
NOTE: RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS. ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.



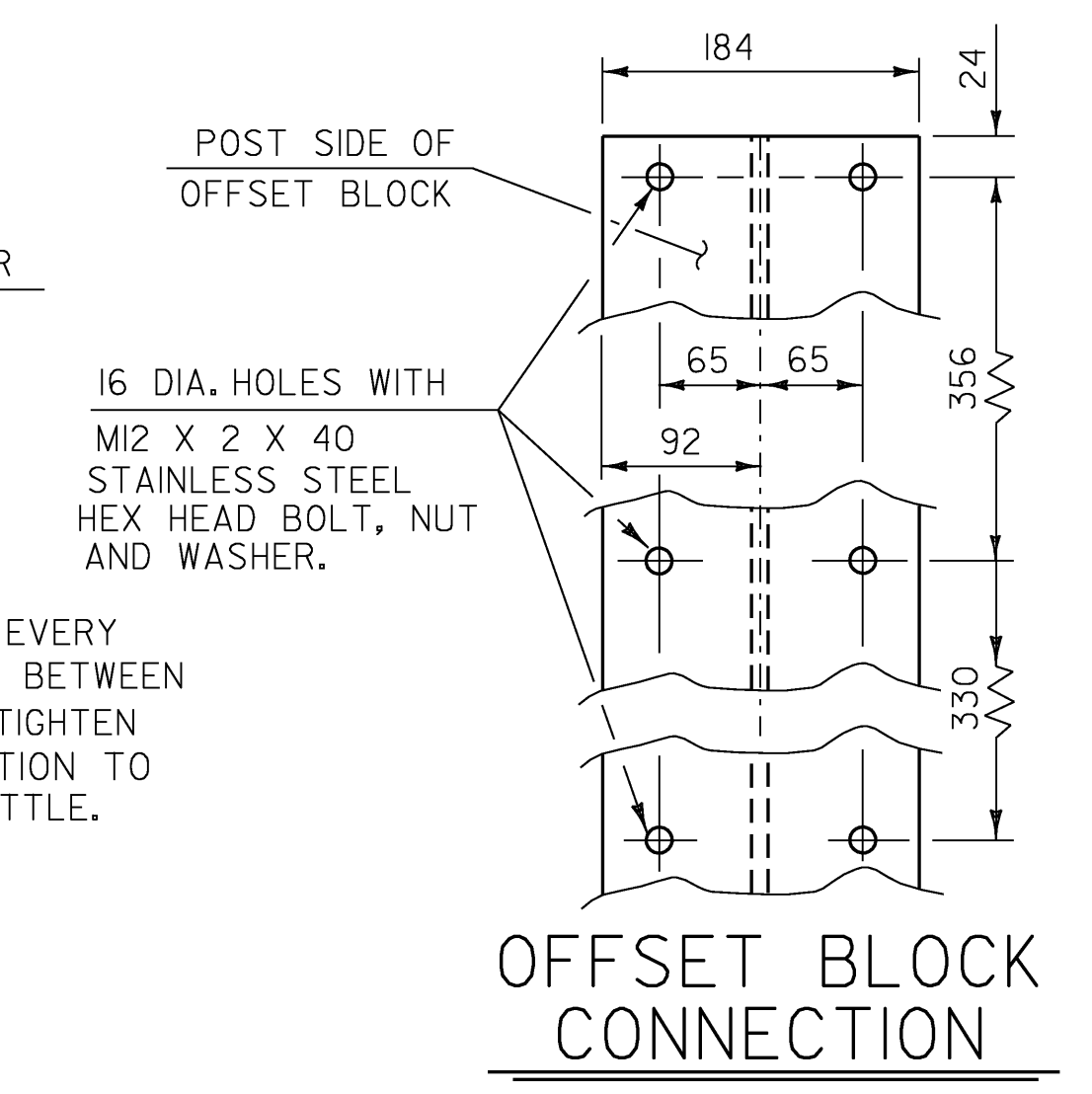
DETAIL B



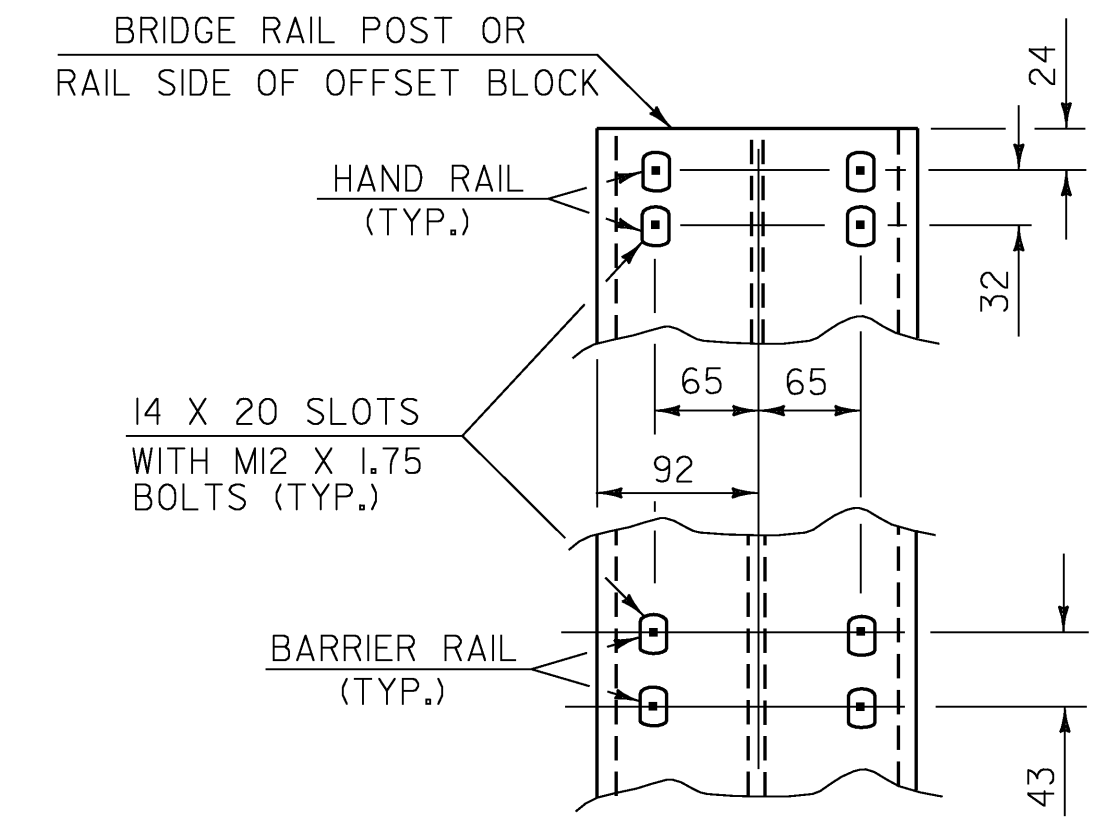
SECTION AA



OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES

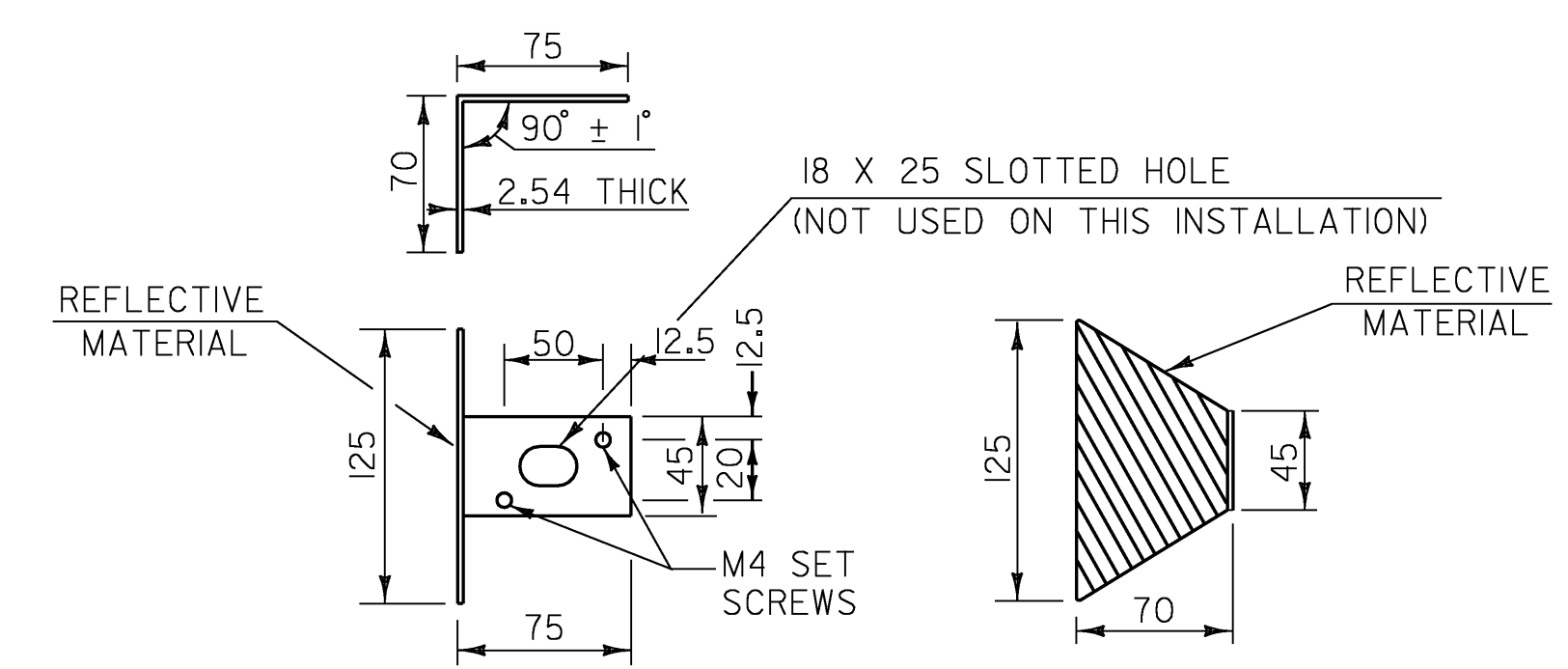


OFFSET BLOCK CONNECTION

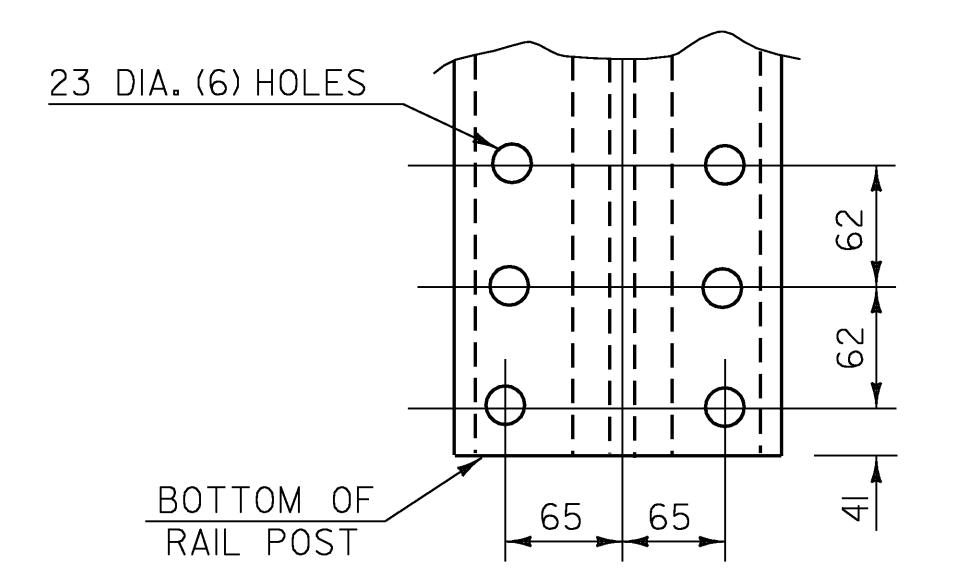


RAIL CONNECTION

DETAILS OF SPINDLES FOR ALUMINUM RAILING



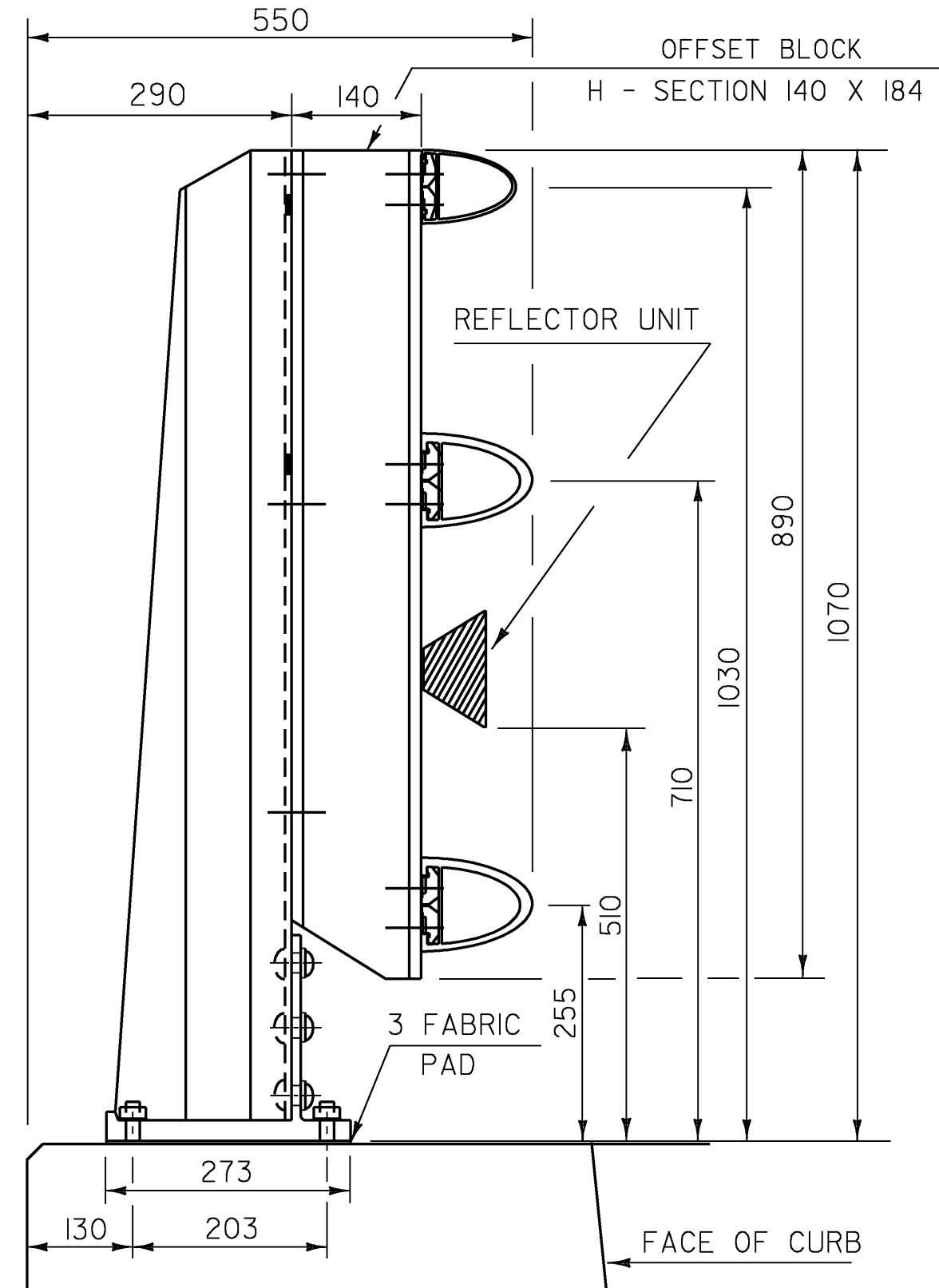
REFLECTOR DETAILS



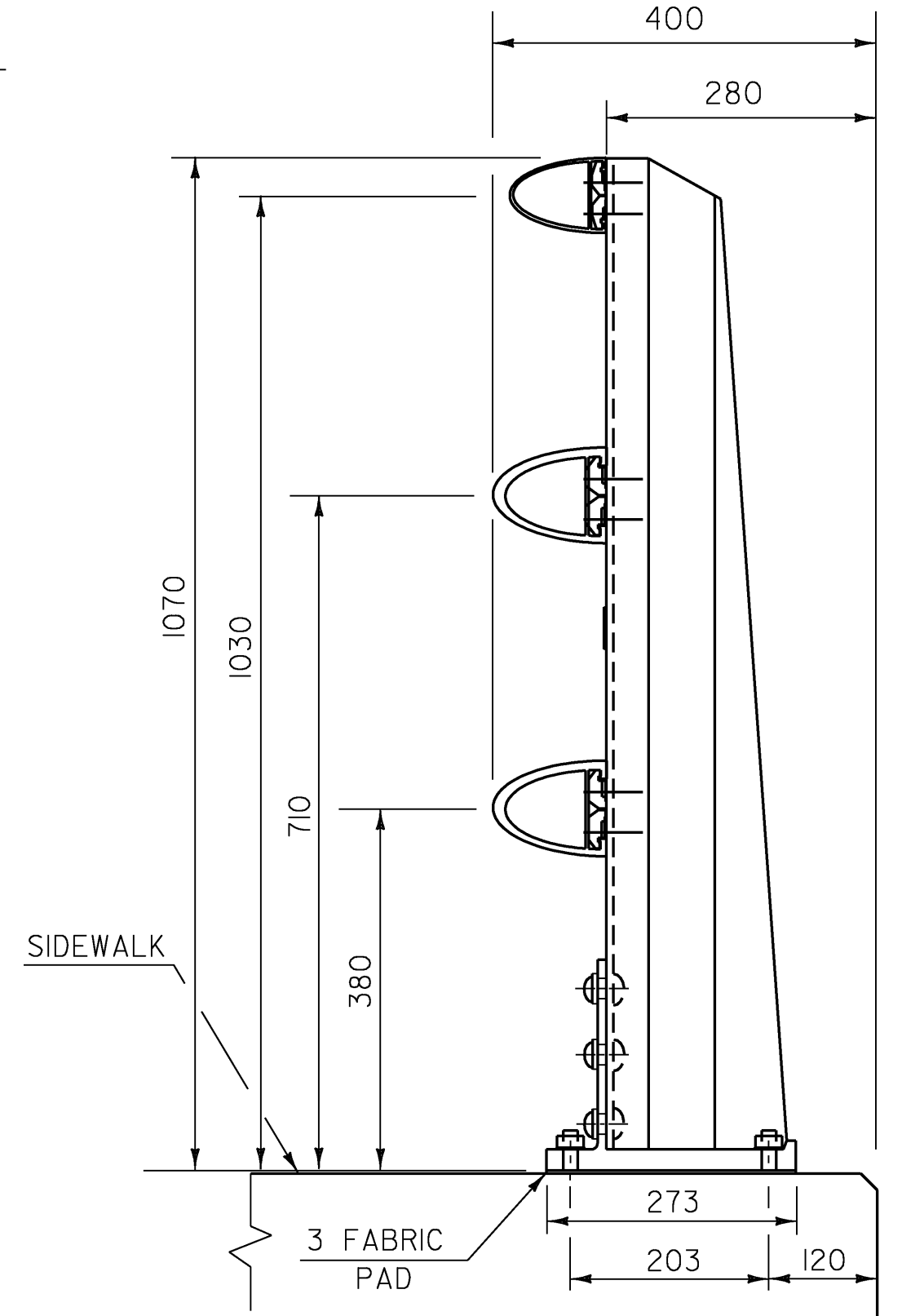
POST BASE BOLT HOLE DETAILS

NOTES

1. THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 9 m (OR CLOSEST POST) WITH 2-M4 X 0.7 X 20 SET SCREWS.
2. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B 209M ALLOY 5052-H32.
3. RETROREFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER.
4. 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 RAIL ON THE CURB SIDE).
5. PAYMENT SHALL BE INCIDENTAL TO APPLICABLE 900.640 SPECIAL PROVISION ITEMS.



SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE



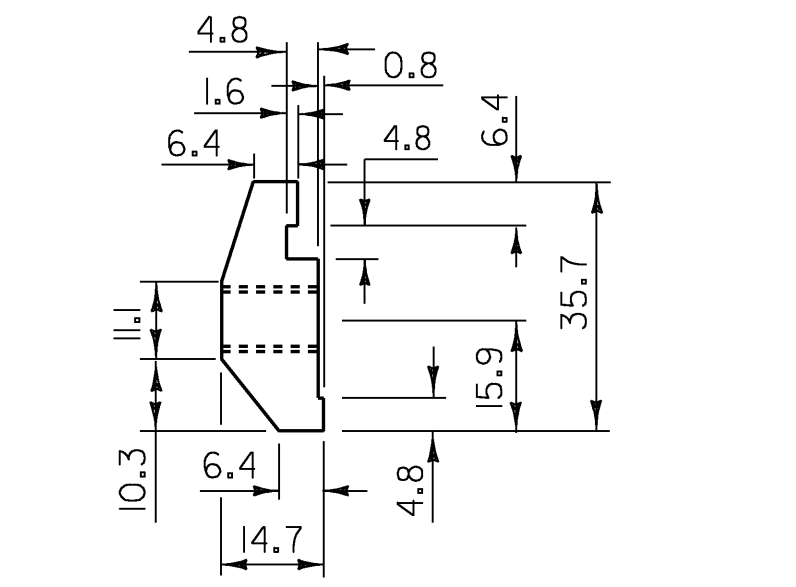
SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDE

RAIL POST DETAILS ON SUPERSTRUCTURE

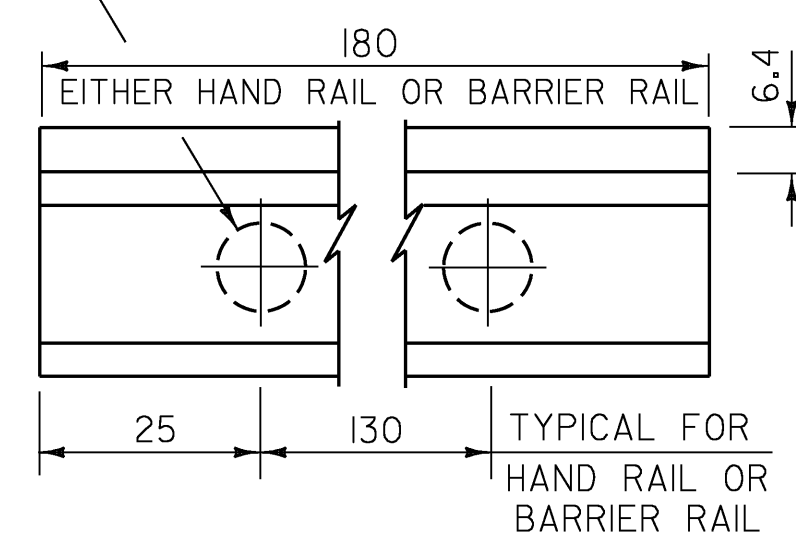
ALUMINUM BRIDGE RAILING DETAILS I

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	C. MOONEY
FILE NAME:	s96j266r-all.dgn	CHECKED BY:	T. LACKEY
PROJECT LEADER:	R. WHITCOMB	SHEET	44 OF 58
DESIGNED BY:	T. LACKEY		
ALUMINUM BRIDGE RAILING DETAILS I			

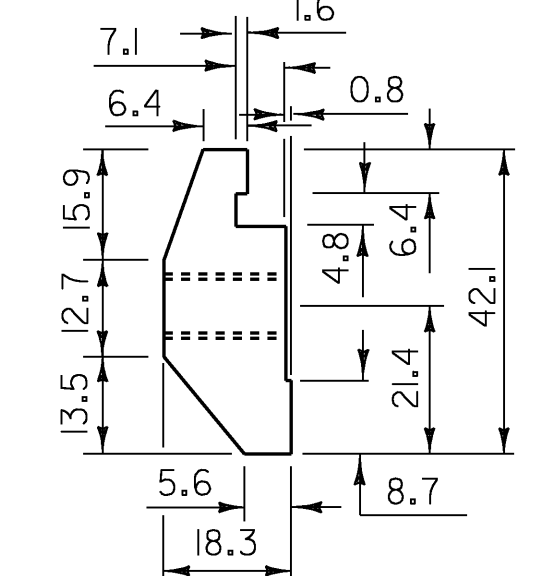
(2) M12 X 1.75 THREADED HOLES FOR (2) M12 X 1.75 X 25 STAINLESS STEEL HEX HEAD BOLTS WITH ANSIM12, REGULAR, ALUMINUM WASHERS. FOR HAND RAIL, USE EXTRA WASHERS OR M12 X 1.75 X 20 STAINLESS STEEL HEX HEAD BOLTS



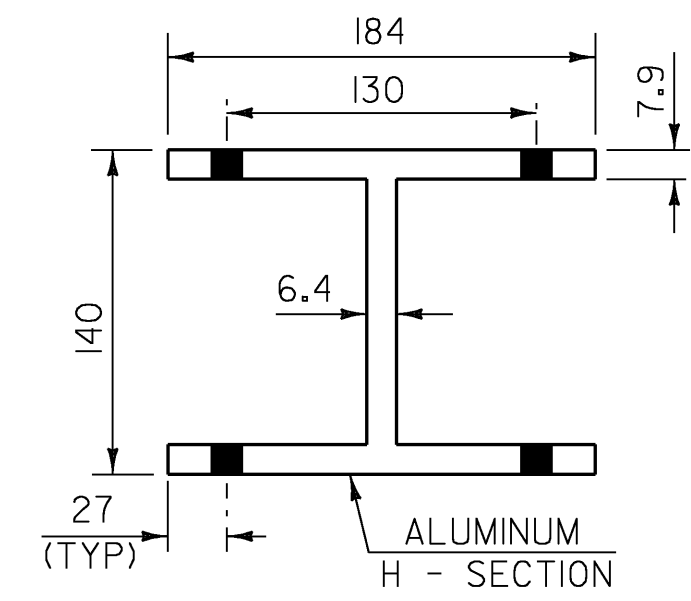
**POST CONNECTION
HAND RAIL SECTION**



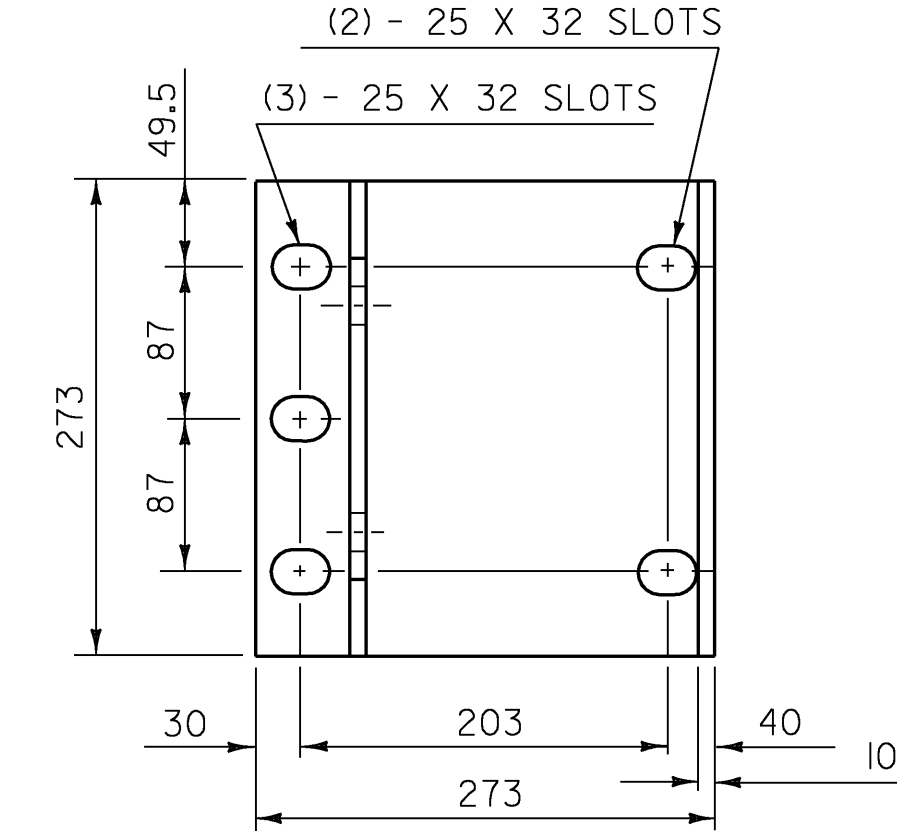
**POST CONNECTION
ELEVATION**



**POST CONNECTION
BARRIER RAIL SECTION**



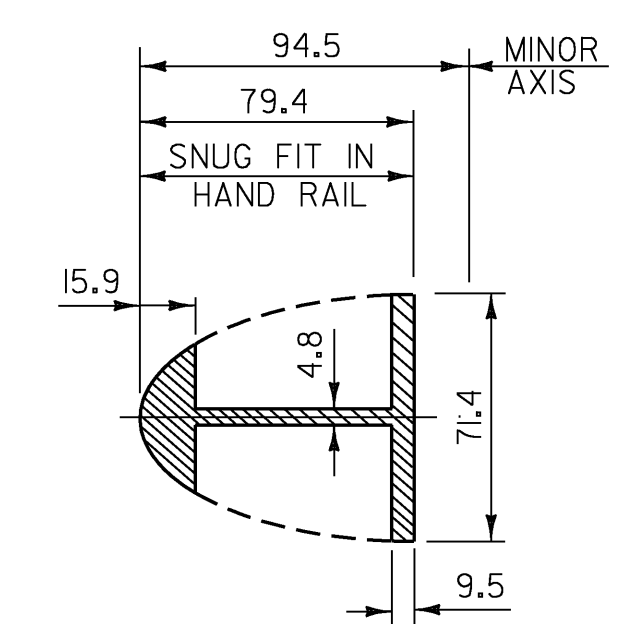
**PLAN VIEW OF
OFFSET BLOCK
(TO BE USED ON
SUPERSTRUCTURE
ON CURB SIDE)**



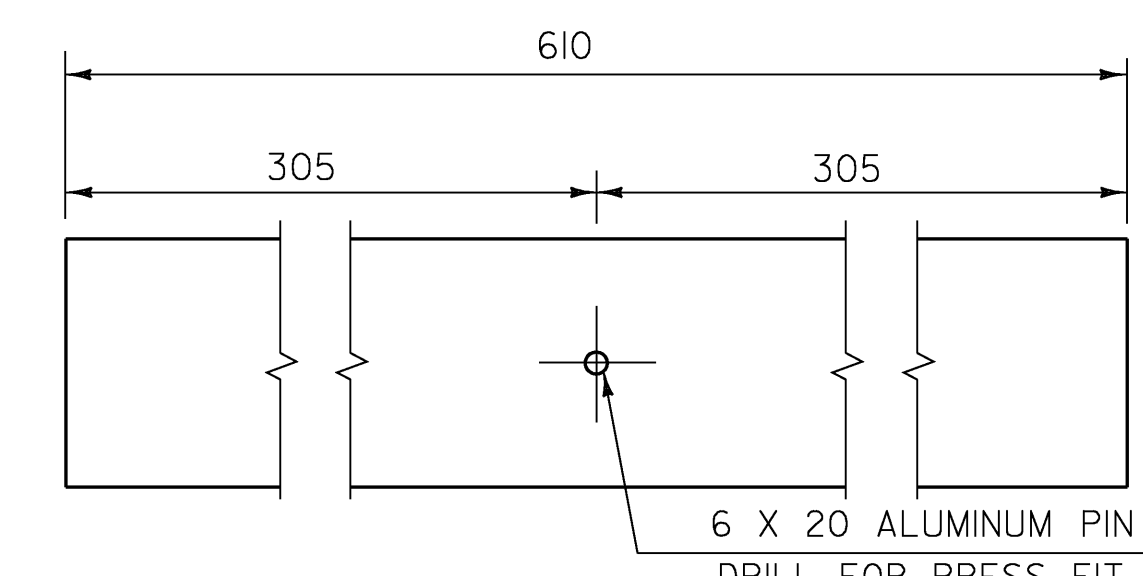
**POST BASE
PLAN**

NOTES

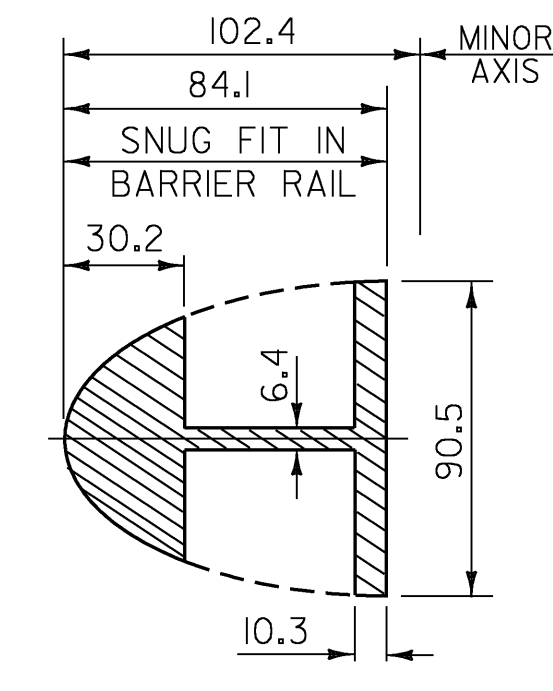
- ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO SUBSECTION 714.07.
- ALUMINUM POSTS, POST BASES, SPLICE BARS, OFFSET BLOCKS, CONNECTION BARS, RAILS, AND BALUSTER FRAMES SHALL CONFORM TO ASTM B 221M ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM YIELD STRENGTH $F_y = 240$ MPa.
- ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B 210M ALLOY 6061-T4 OR 6063-T4.
- ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B 26/B 26M ALLOY 356-T6.
- THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS AND SET SCREWS SHALL CONFORM TO SUBSECTION 732.02 (b).
- THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE AASHTO M 270M/M 270 GRADE 250 OR HIGHER STRUCTURAL STEEL.
- WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10.
- UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
- WHENEVER FEASIBLE, BARRIER RAIL AND HAND RAIL SECTIONS SHALL BE FULL LENGTH SECTIONS (12 m +) AND WHEN PRACTICAL SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
- ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
- THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 6 mm SHALL BE WITH 2-mm AND 3-mm SHIMS. CORRECTIONS EXCEEDING 6 mm SHALL BE WITH EPOXY MORTAR. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
- SHIMS AND 3-mm FABRIC BEARING PADS SHALL BE 273 mm SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209M ALLOY 1100-0.
- EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
- ALUMINUM WASHERS SHALL BE ASTM B209M ALLOY ACLAD 2024-T4.
- THE RAILING SYSTEM AND ASSOCIATED HARDWARE SHALL BE ANODIZED TO A BLACK SATIN FINISH, SEE SPECIAL PROVISIONS.



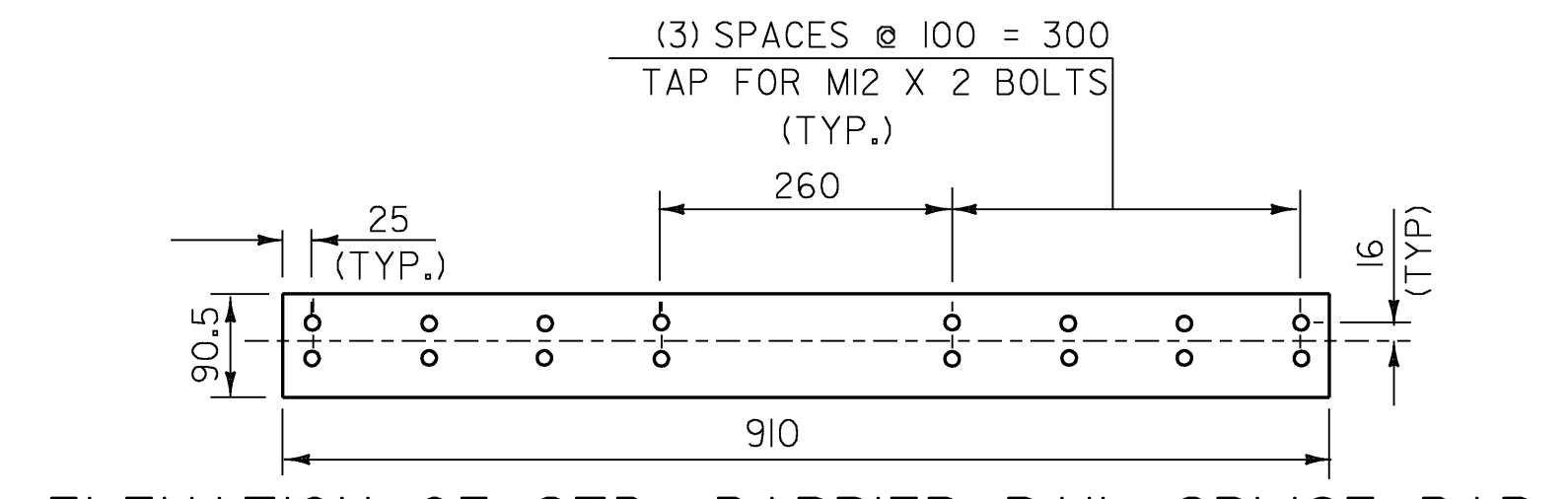
**HAND RAIL
SPLICE SECTION**



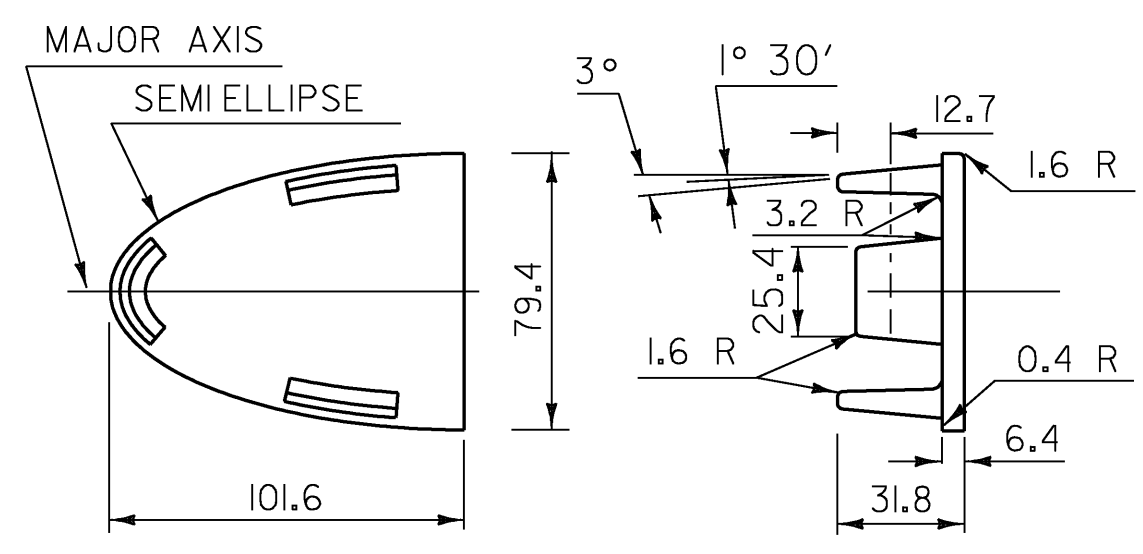
**ELEVATION OF
HAND RAIL SPLICE BAR**



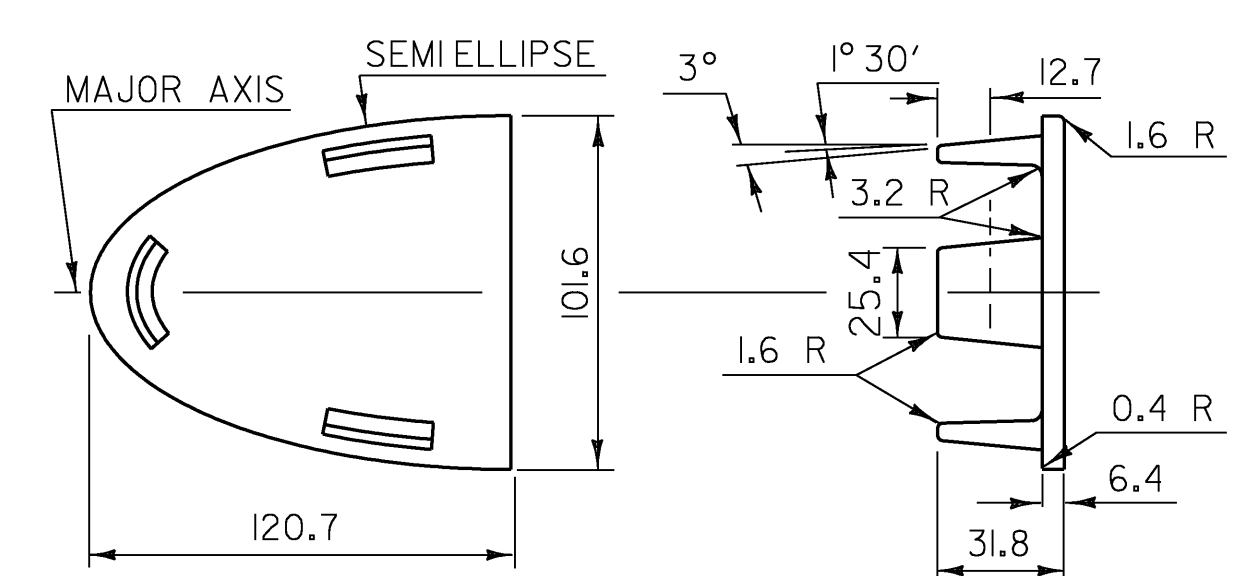
**BARRIER RAIL
SPLICE SECTION**



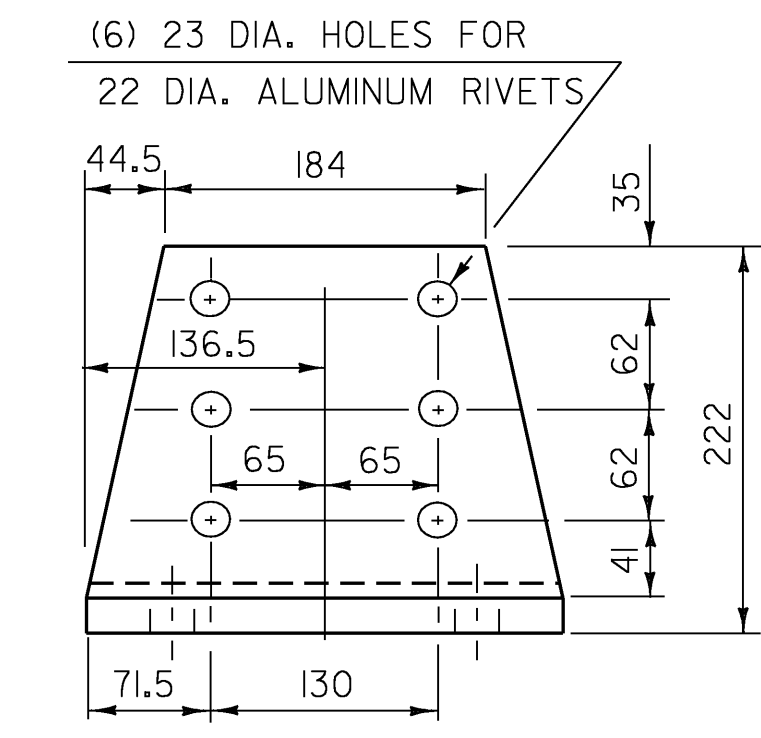
**ELEVATION OF STD. BARRIER RAIL SPLICE BAR
(FROM BACK)**



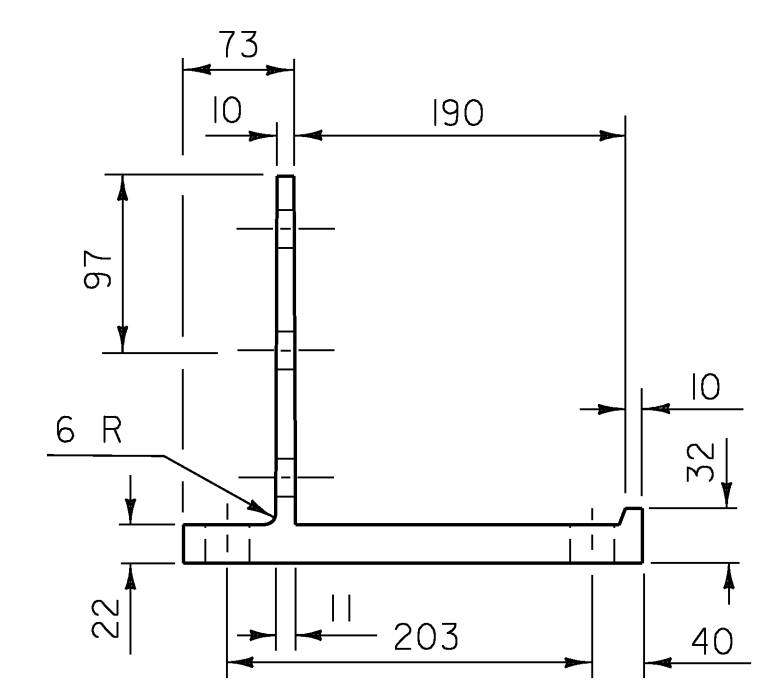
HAND RAIL END CAP



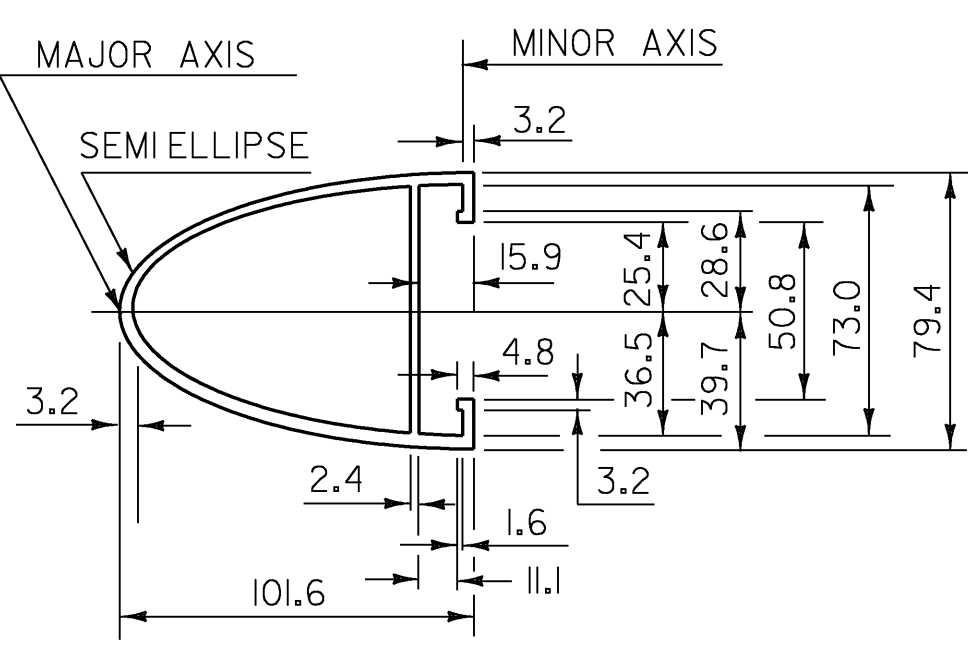
BARRIER RAIL END CAP



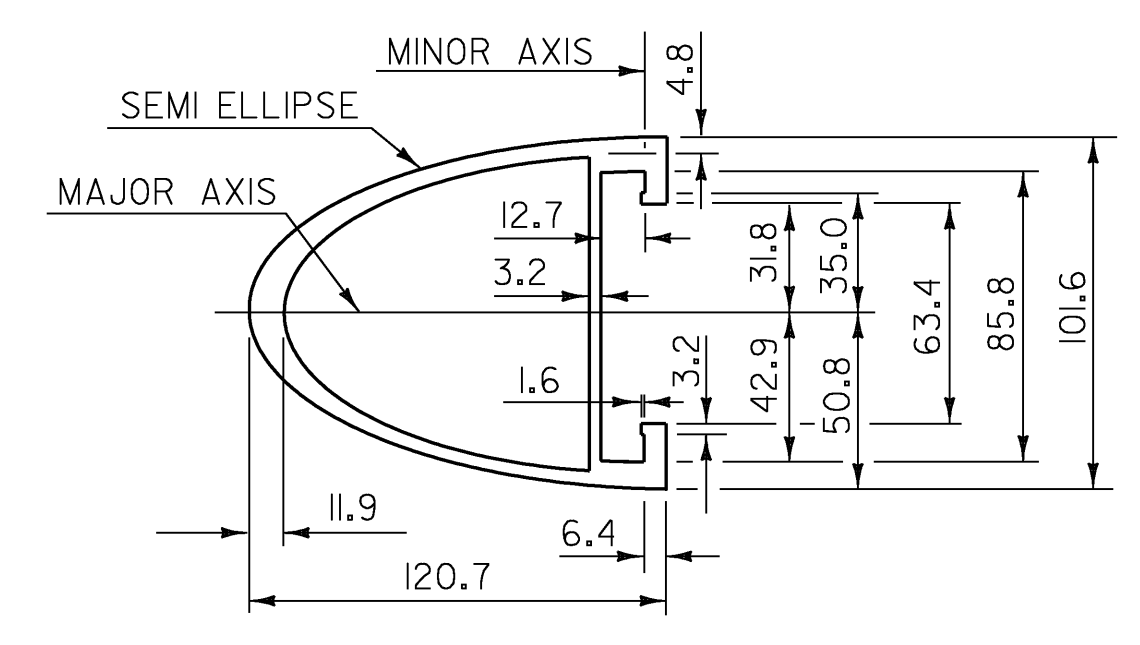
**POST BASE
FRONT ELEVATION**



**POST BASE
SECTION**

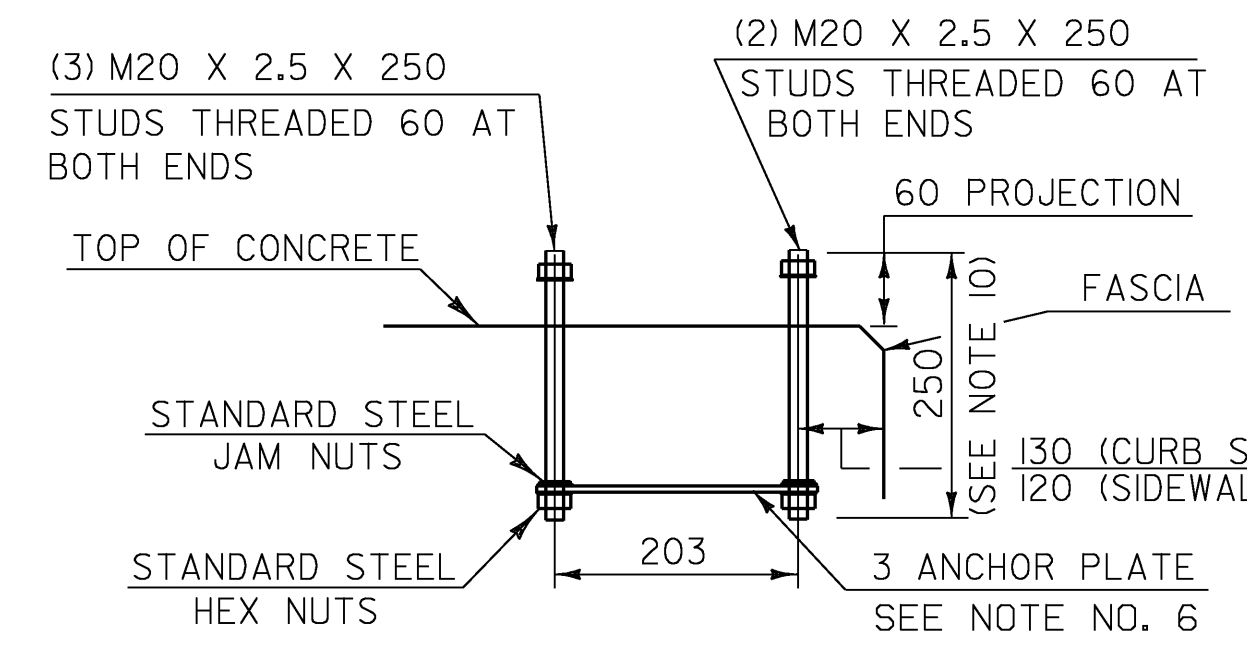


HAND RAIL SECTION

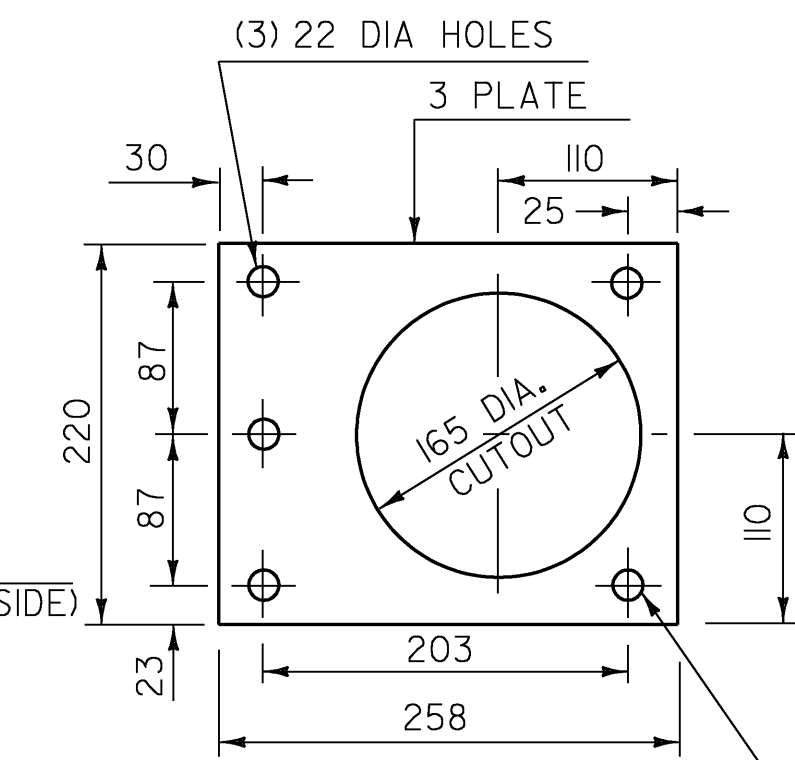


BARRIER RAIL SECTION

(SEE NEXT SHEET FOR ELEVATION OF BARRIER RAIL)



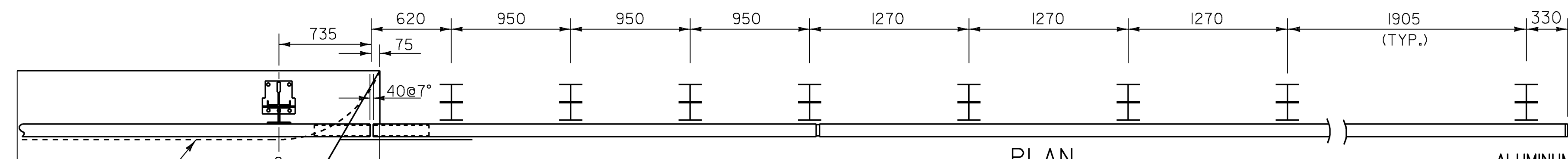
POST ANCHOR ASSEMBLY



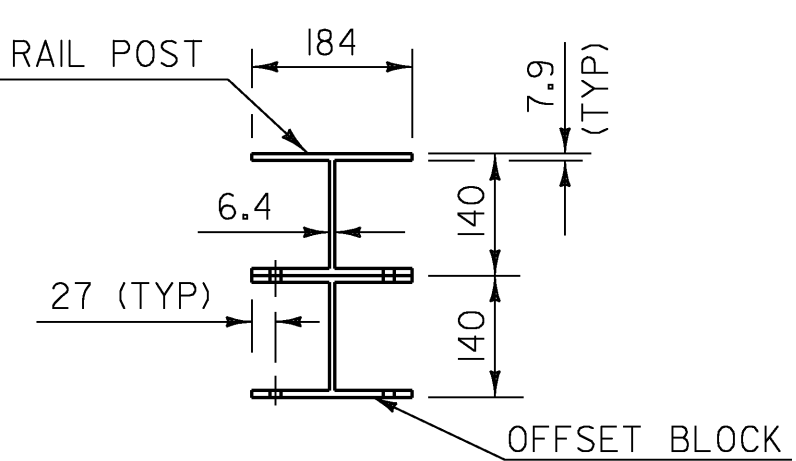
ANCHOR PLATE

**ALUMINUM BRIDGE RAILING
DETAILS 2**

PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	C. MOONEY
FILE NAME:	s96J266r-all.dgn	CHECKED BY:	T. LACKEY
PROJECT LEADER:	R. WHITCOMB	ALUMINUM BRIDGE RAILING DETAILS 2	SHEET 45 OF 58
DESIGNED BY:	T. LACKEY		



PLAN



PLAN

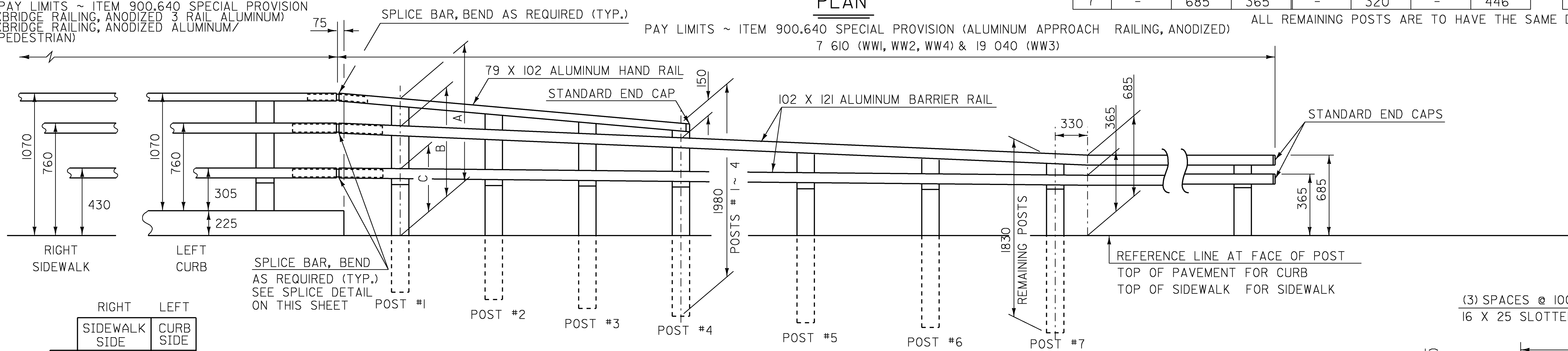
ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1241	959	516	293	444	851	-
2	1158	920	494	249	426	789	-
3	1075	881	473	205	408	728	-
4	992	842	451	162	391	667	-
5	-	790	423	-	367	-	493
6	-	737	394	-	344	-	470
7	-	685	365	-	320	-	446

ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

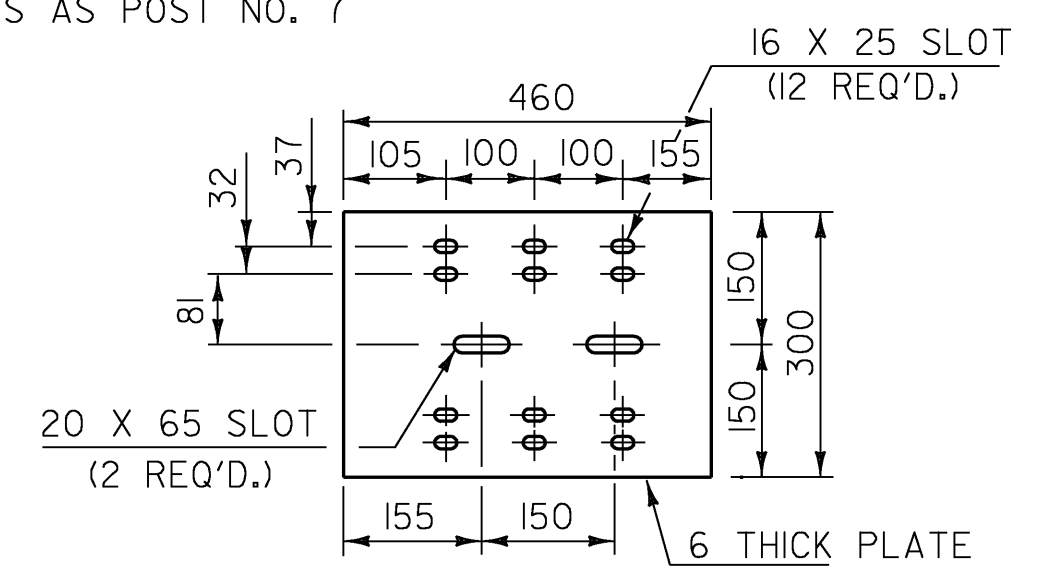
POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1035	754	424	293	329	737	-
2	981	744	416	249	328	691	-
3	928	734	408	205	327	646	-
4	874	724	399	162	325	601	-
5	-	711	388	-	323	-	449
6	-	698	376	-	322	-	448
7	-	685	365	-	320	-	446

PAY LIMITS ~ ITEM 900.640 SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
(BRIDGE RAILING, ANODIZED ALUMINUM/
PEDESTRIAN)

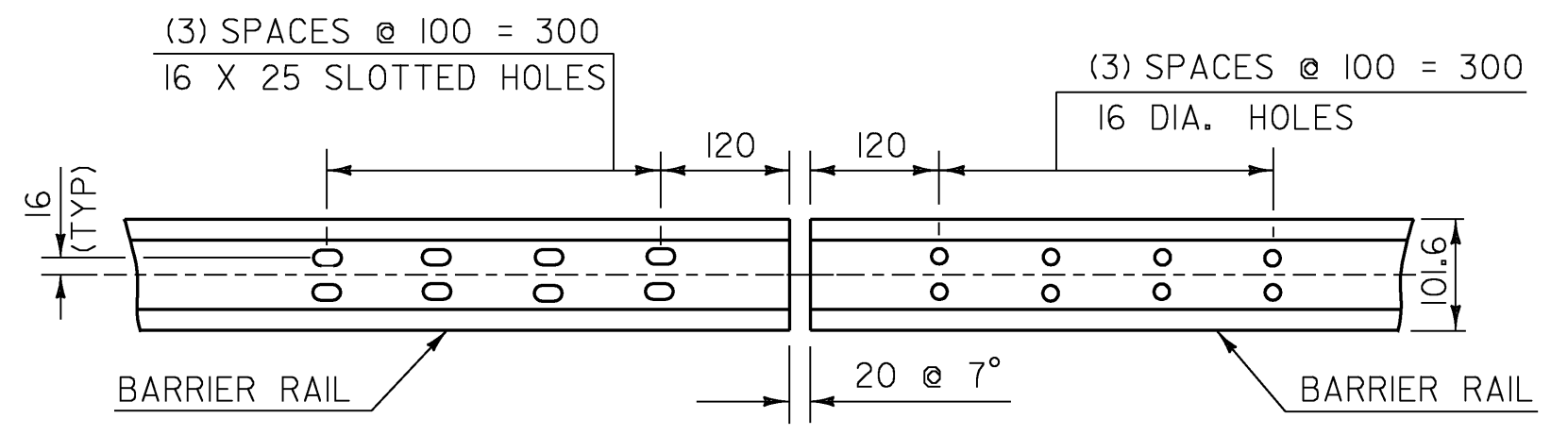


ELEVATION

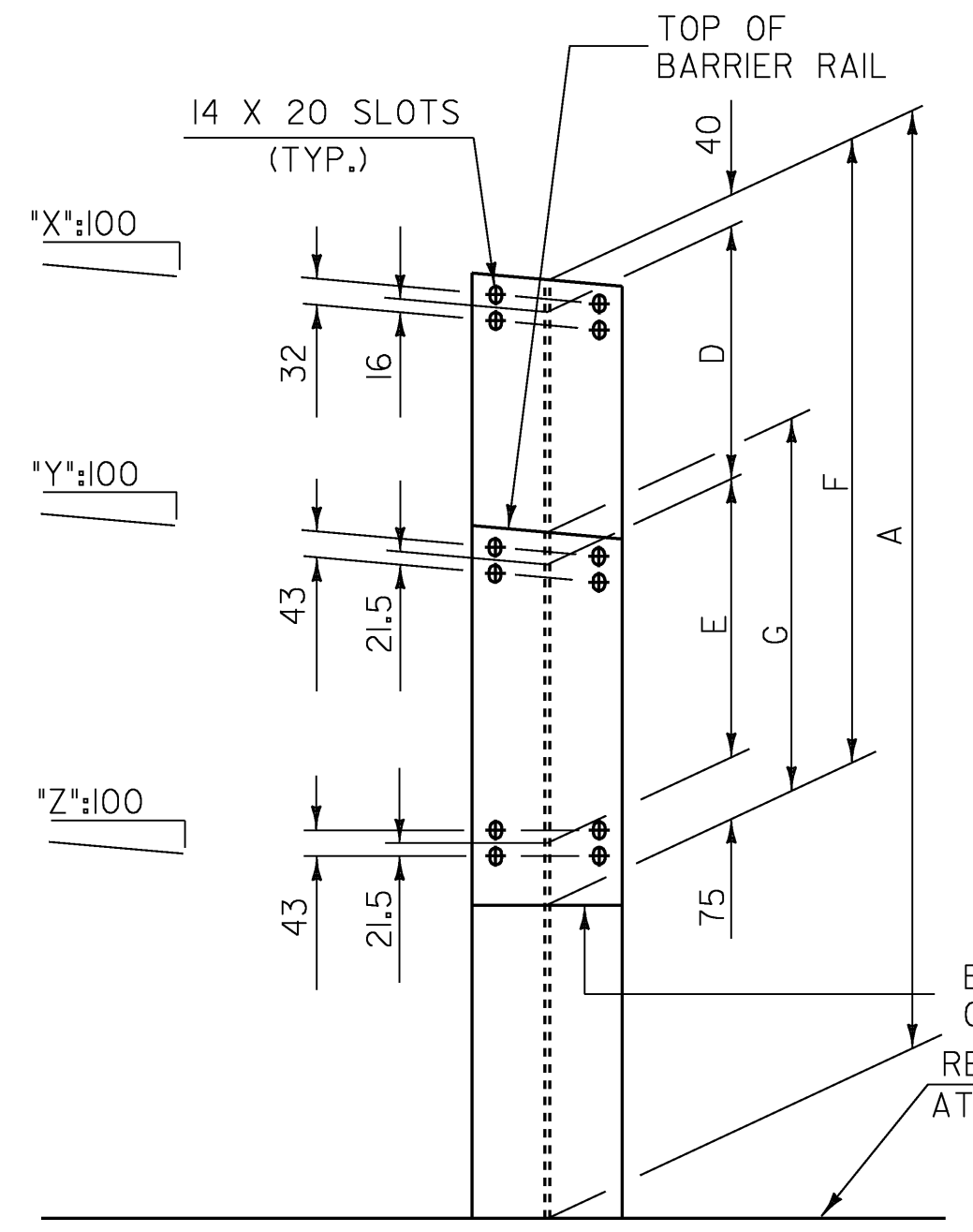
	RIGHT SIDEWALK	LEFT CURB SIDE
X	-6	-9
Y	-1	-4
Z	-1	-2



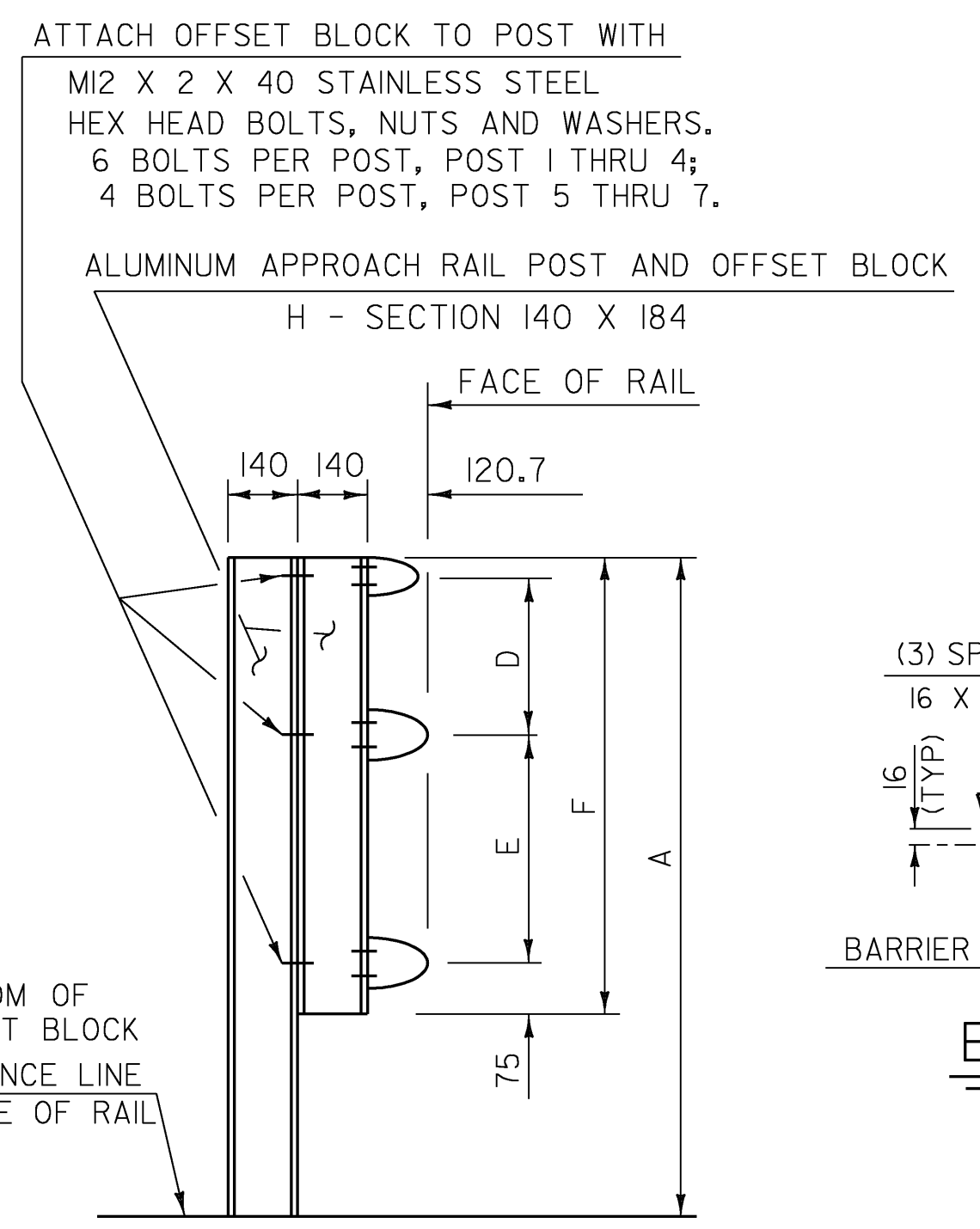
BACK-UP PLATE DETAILS



ELEVATION OF BARRIER RAIL (FROM BACK) AT ALL INTERMEDIATE RAIL SPLICES

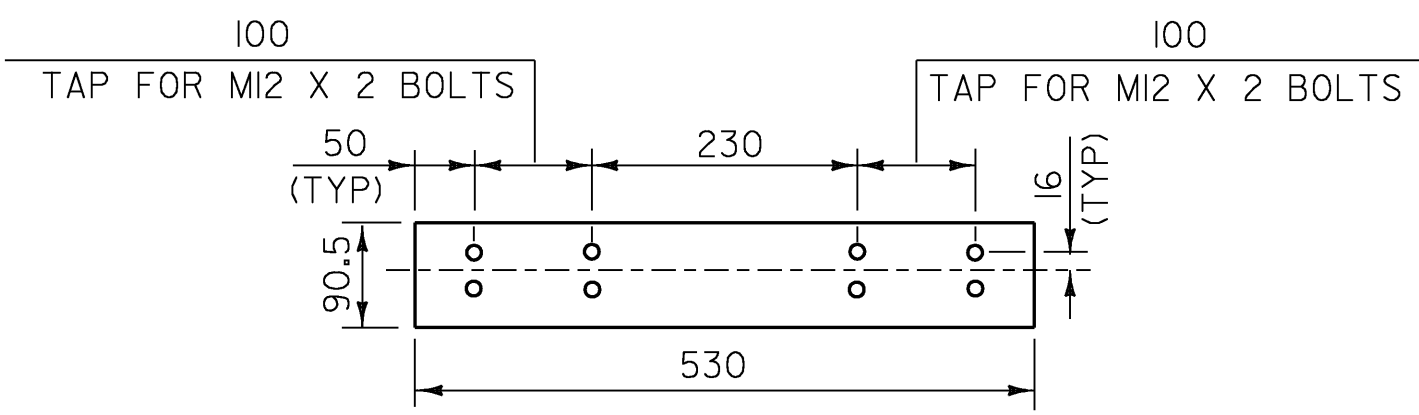


FRONT ELEVATION

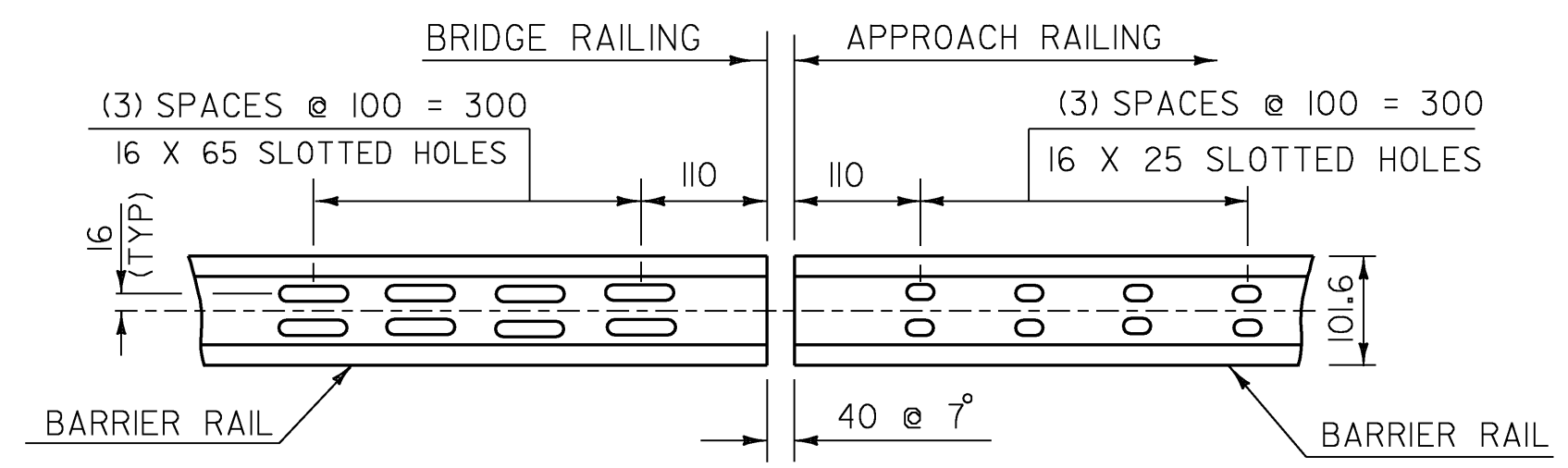


SIDE ELEVATION

APPROACH RAIL DETAILS



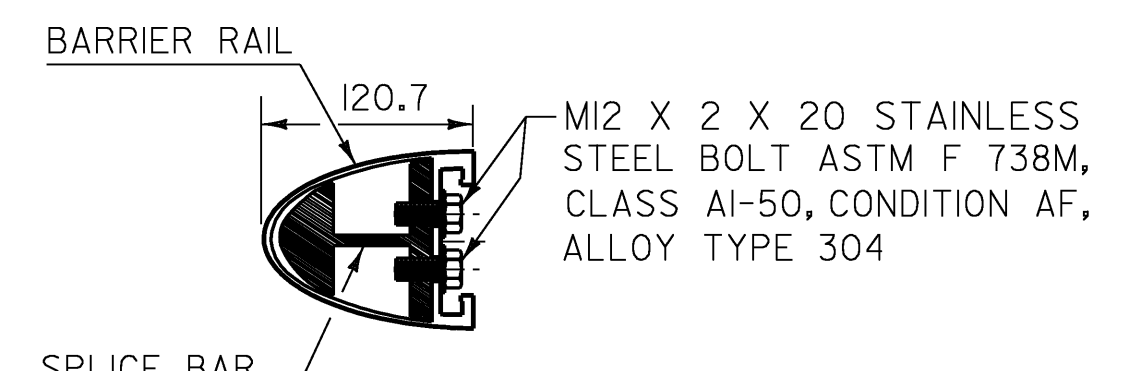
ELEVATION OF BARRIER RAIL SPLICE BAR TO BE USED AT TRANSITION BETWEEN APPROACH RAIL & GUARD RAIL (FROM BACK)



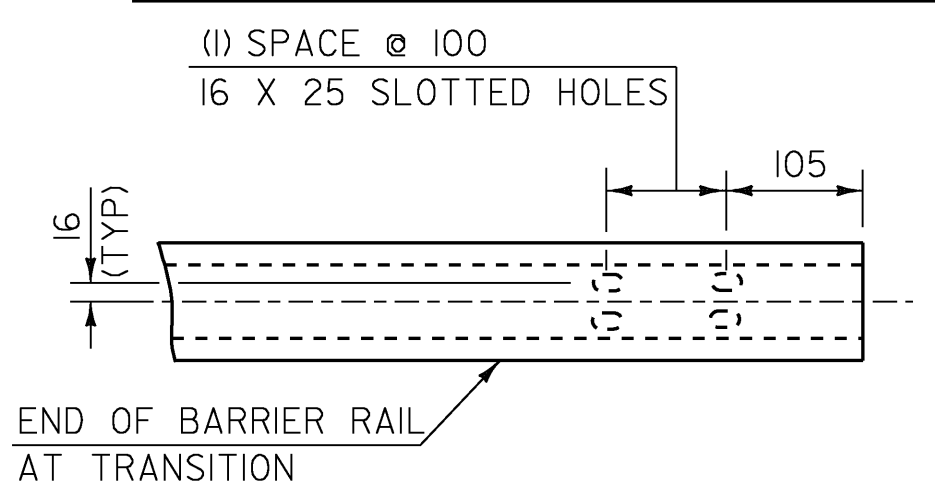
ELEVATION OF BARRIER RAIL (FROM BACK)

NOTES

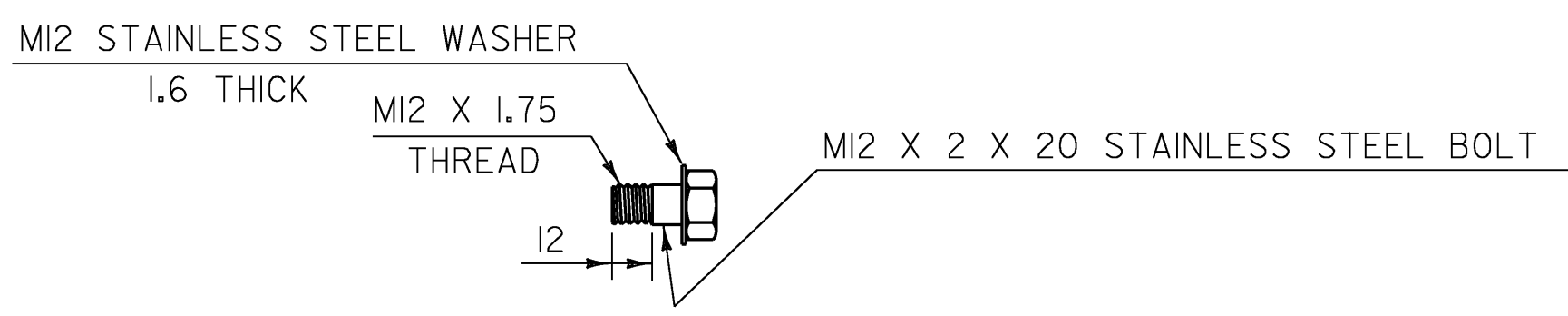
- POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
- DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
- DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE



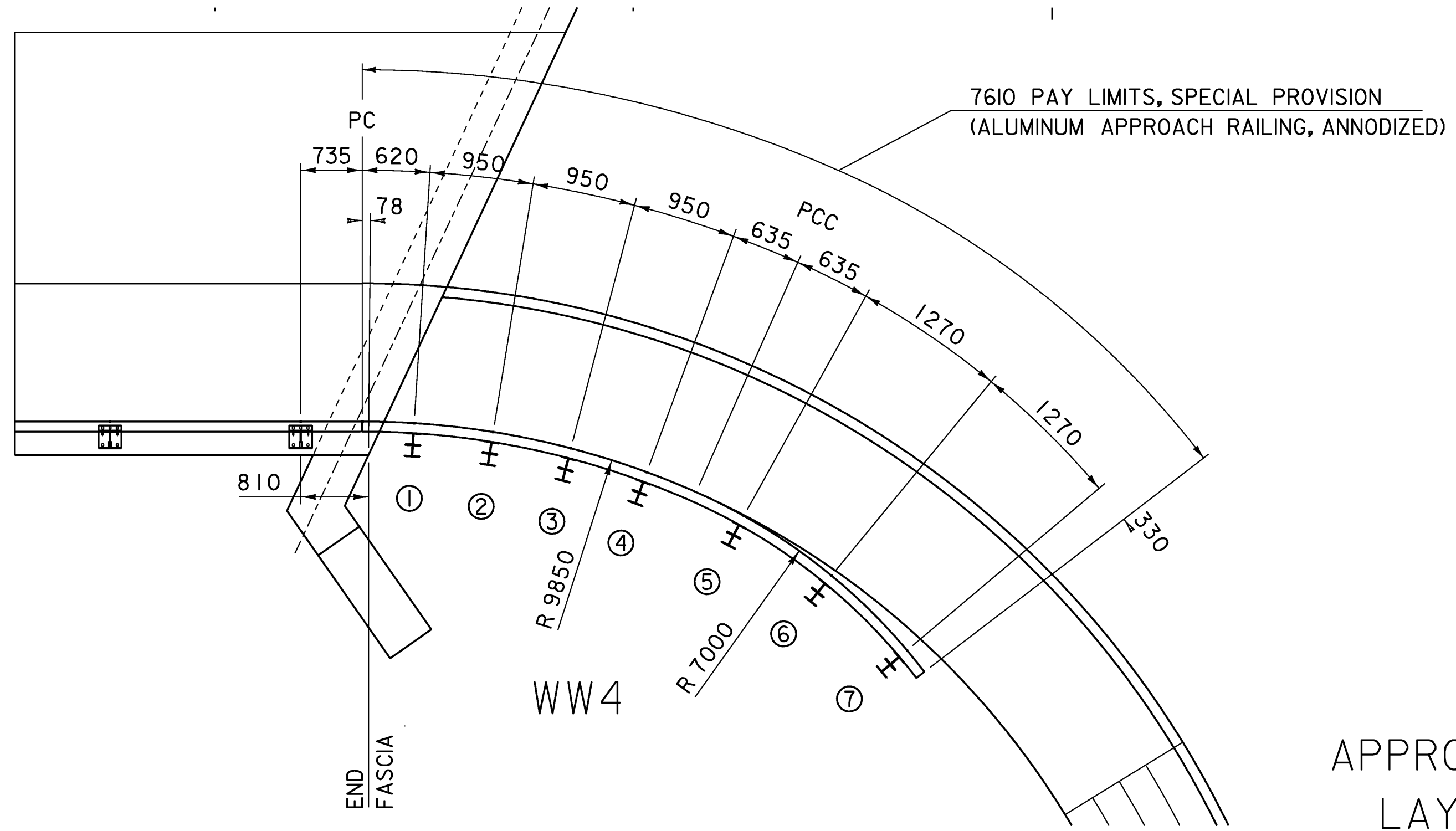
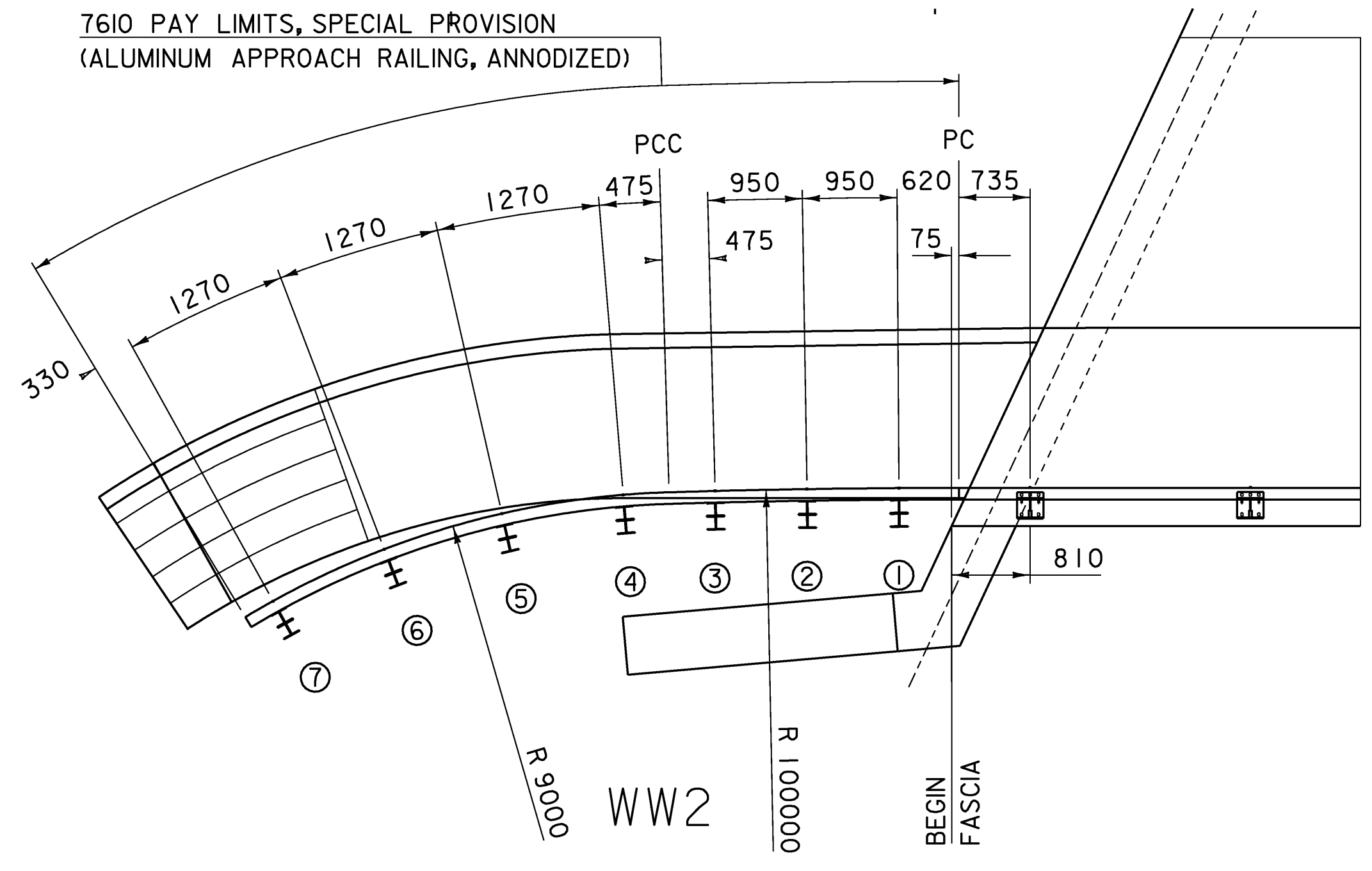
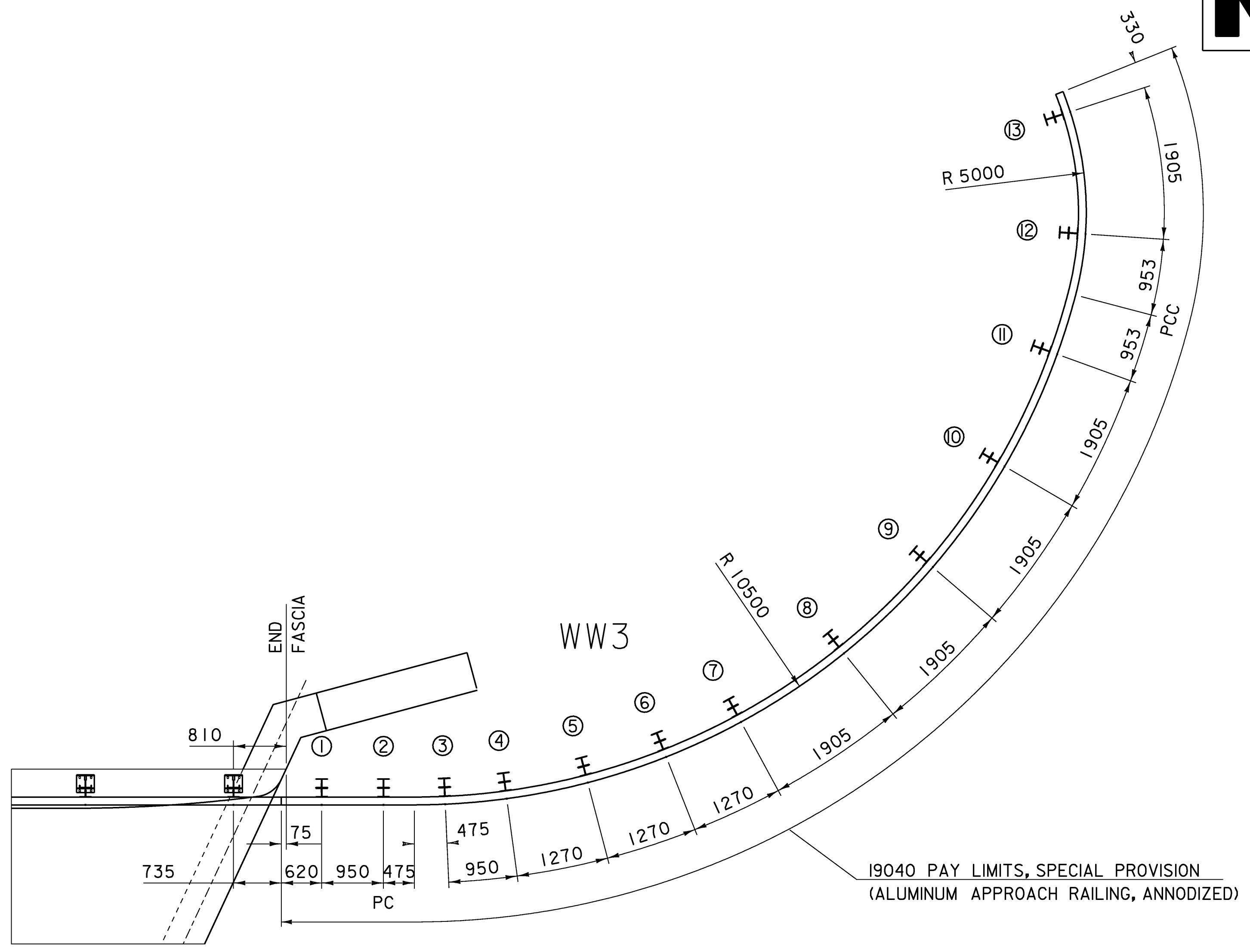
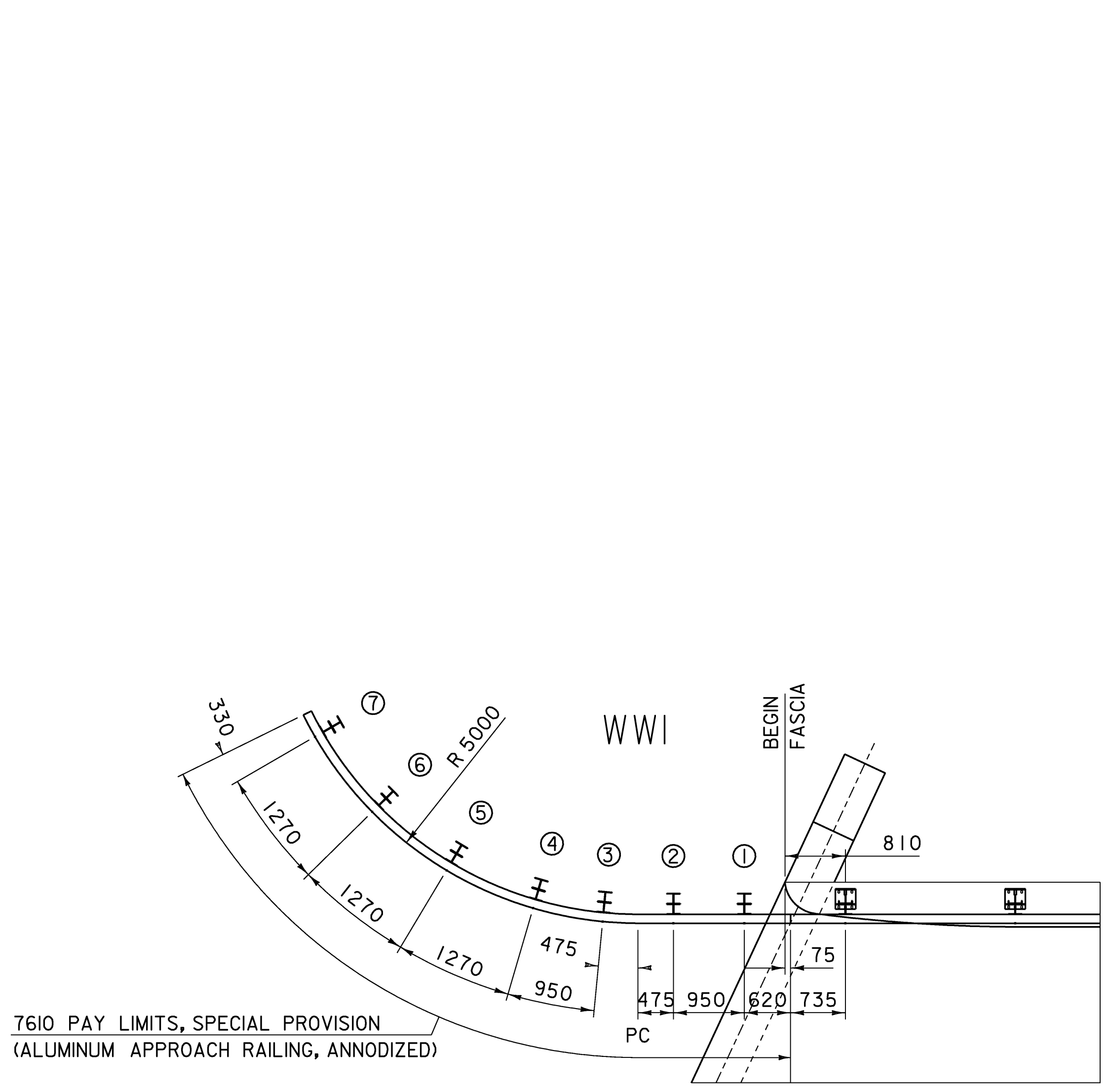
ELEVATION OF BARRIER RAIL (FROM FRONT) AT TRANSITION



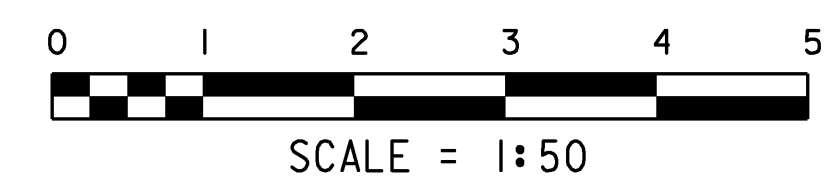
STAINLESS STEEL BOLT DETAILS (FOR SPLICE BARS)

ALUMINUM BRIDGE RAILING DETAILS 3

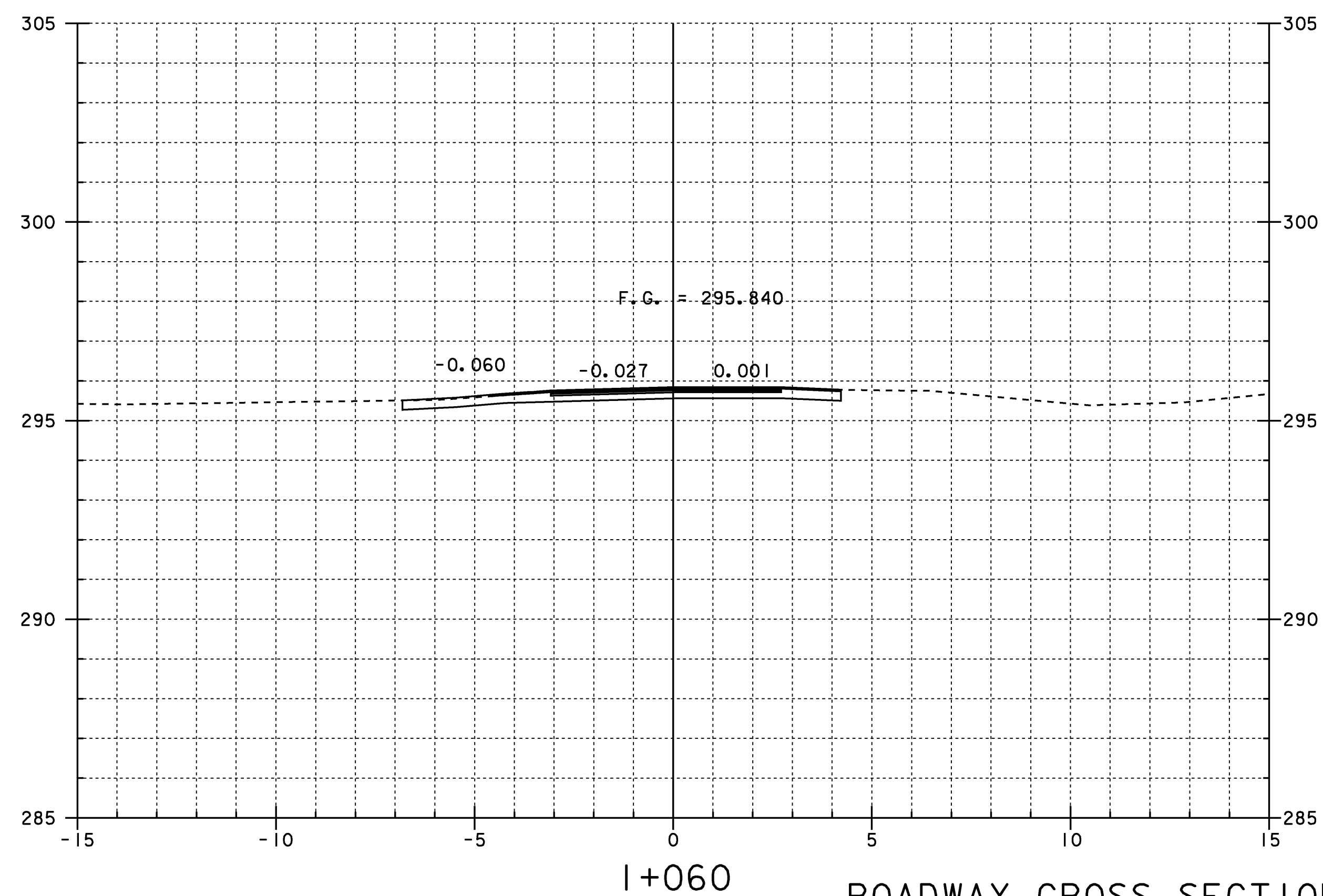
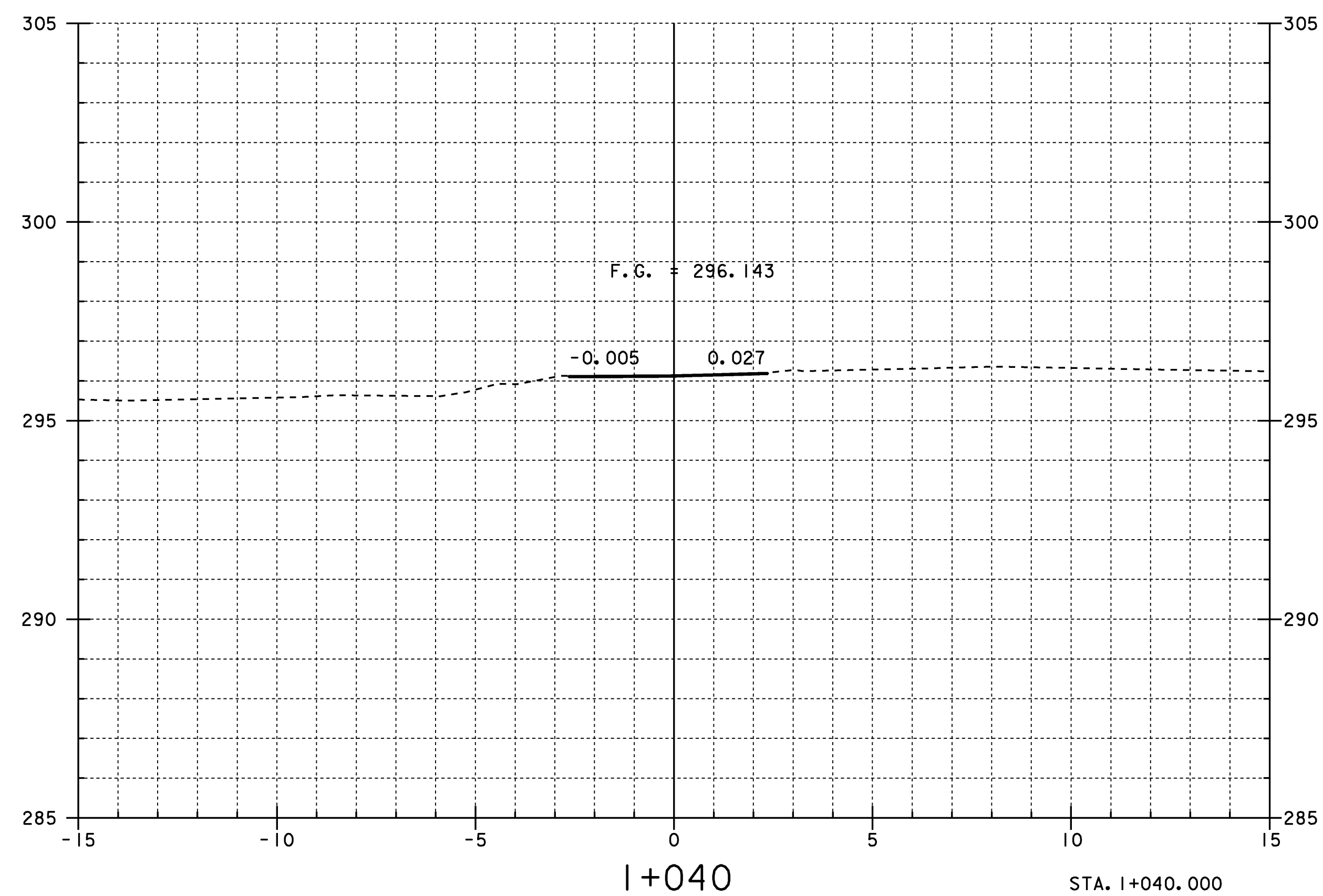
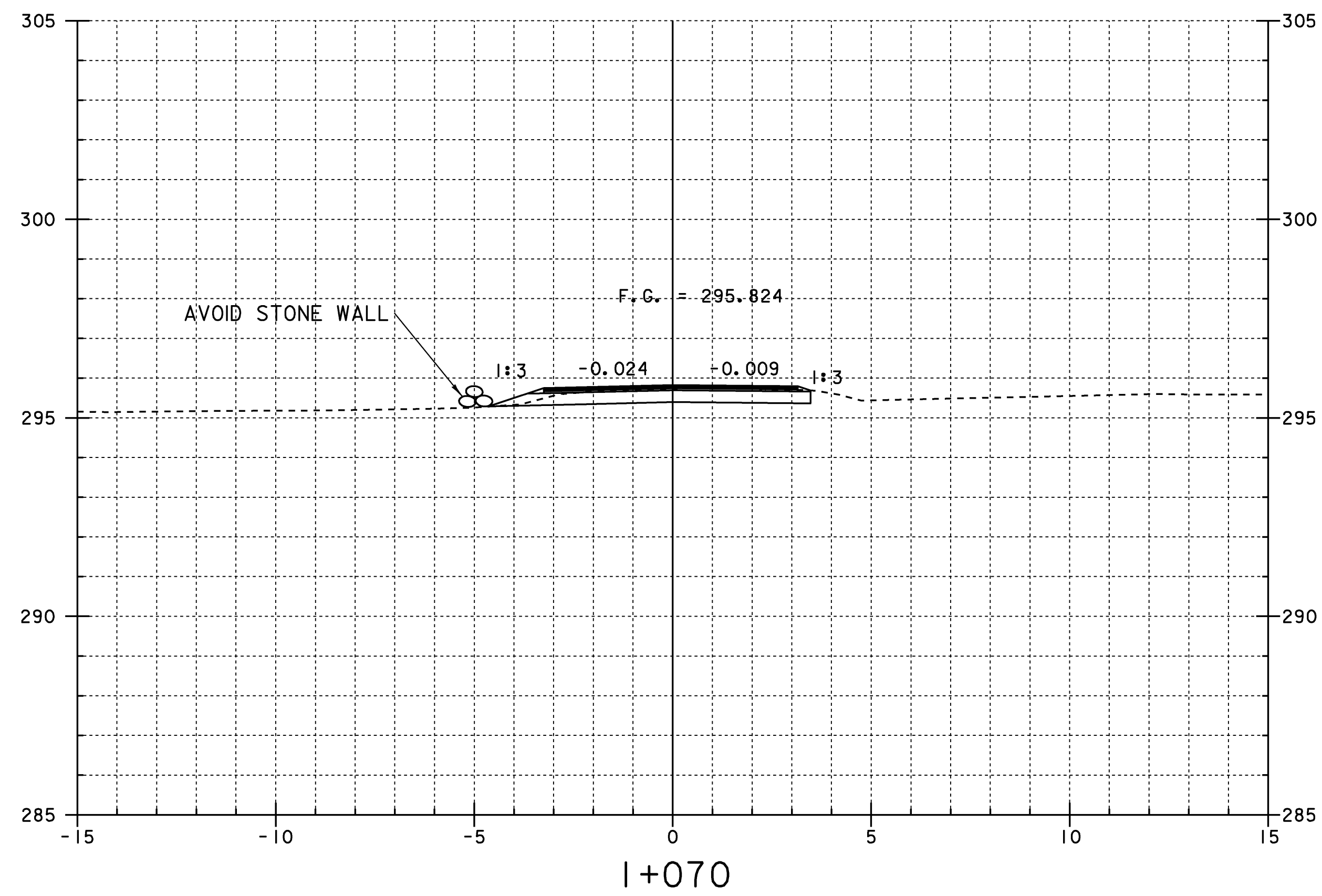
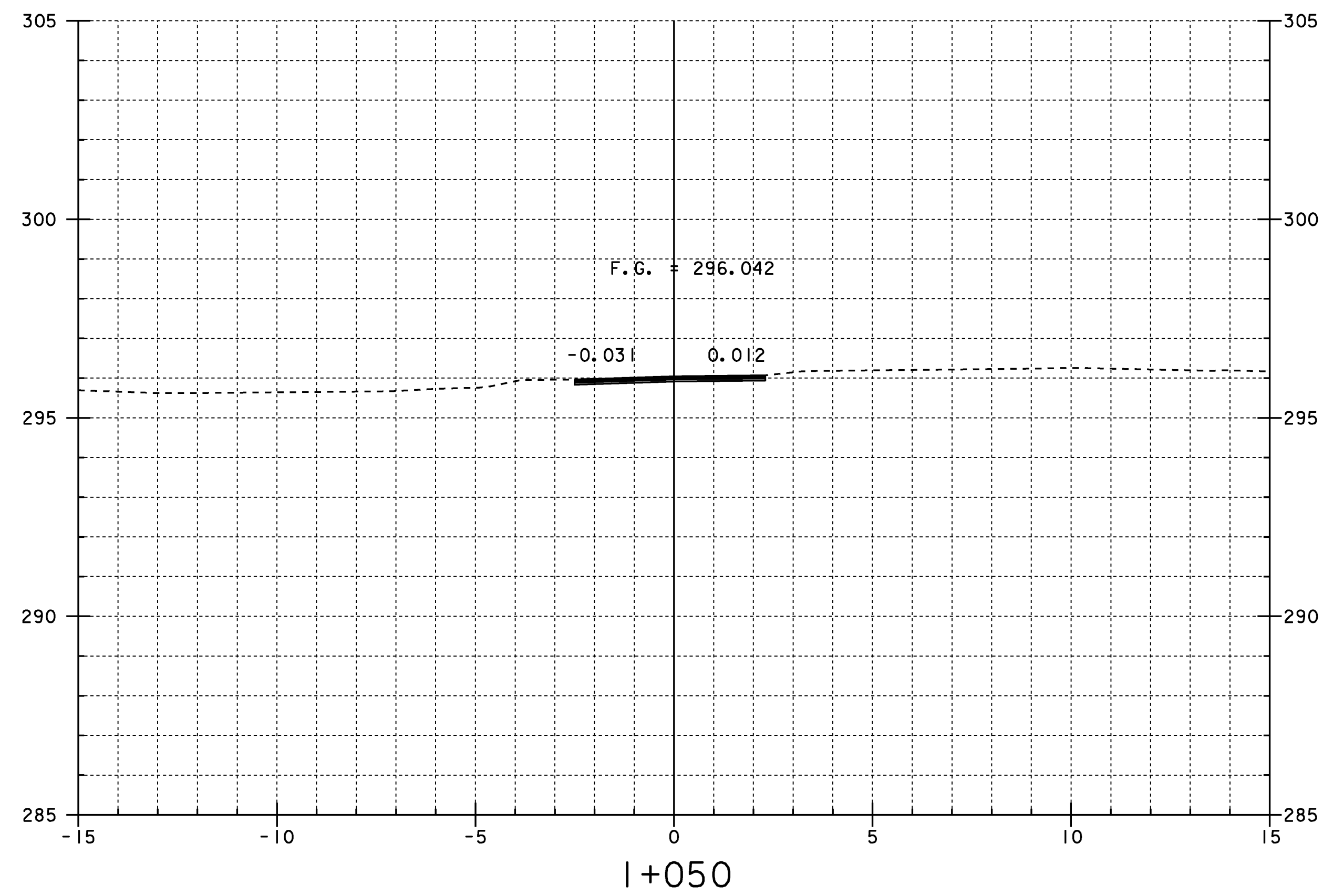
PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	C. MOONEY
FILE NAME:	s96J266r-all.dgn	CHECKED BY:	T. LACKEY
PROJECT LEADER:	R. WHITCOMB	ALUMINUM BRIDGE RAILING DETAILS 3	SHEET 46 OF 58
DESIGNED BY:	T. LACKEY		



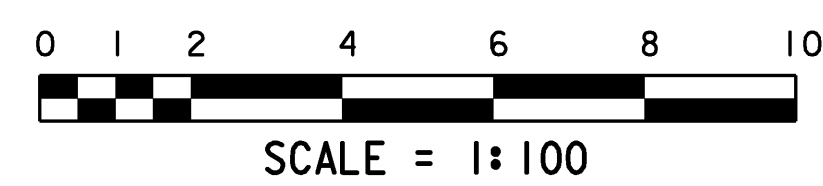
APPROACH RAILING
LAYOUT PLAN



PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	C.MOONEY
FILE NAME:	s96j266r-all.dgn	CHECKED BY:	T.LACKEY
PROJECT LEADER:	R. WHITCOMB	APPROACH RAILING LAYOUT PLAN	SHEET 47 OF 58
DESIGNED BY:	T.LACKEY		

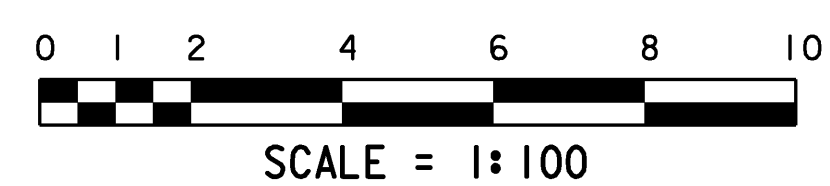
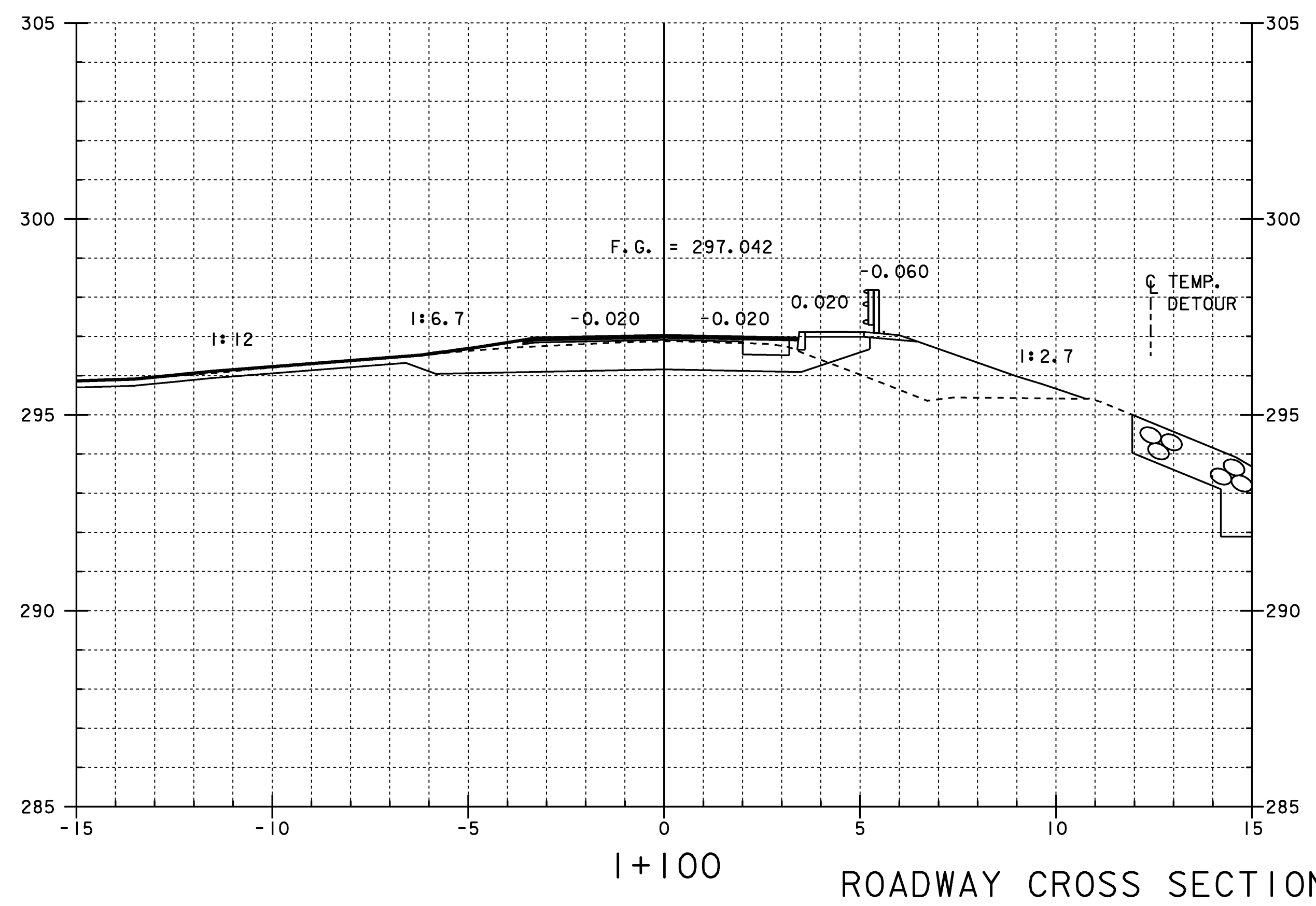
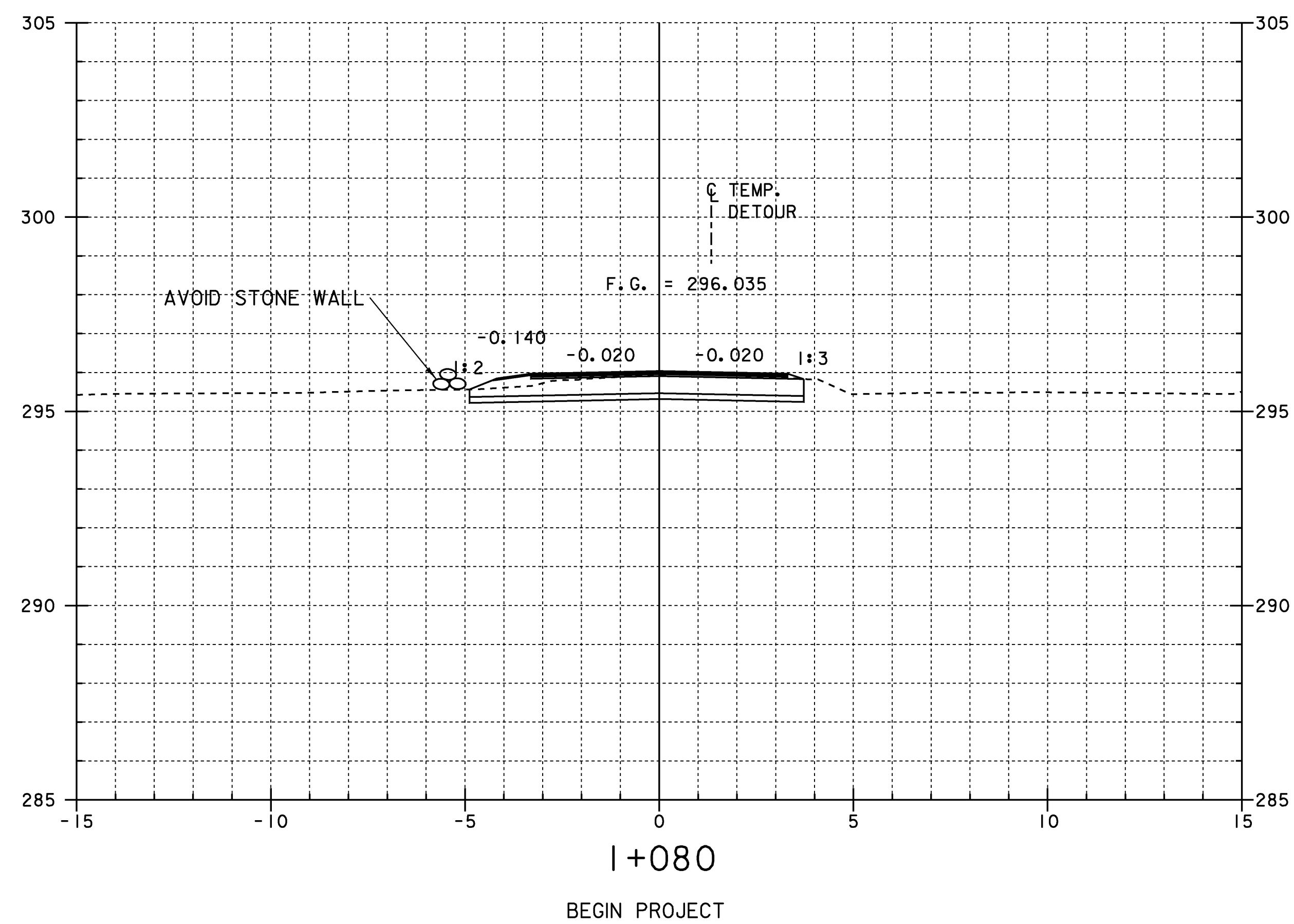
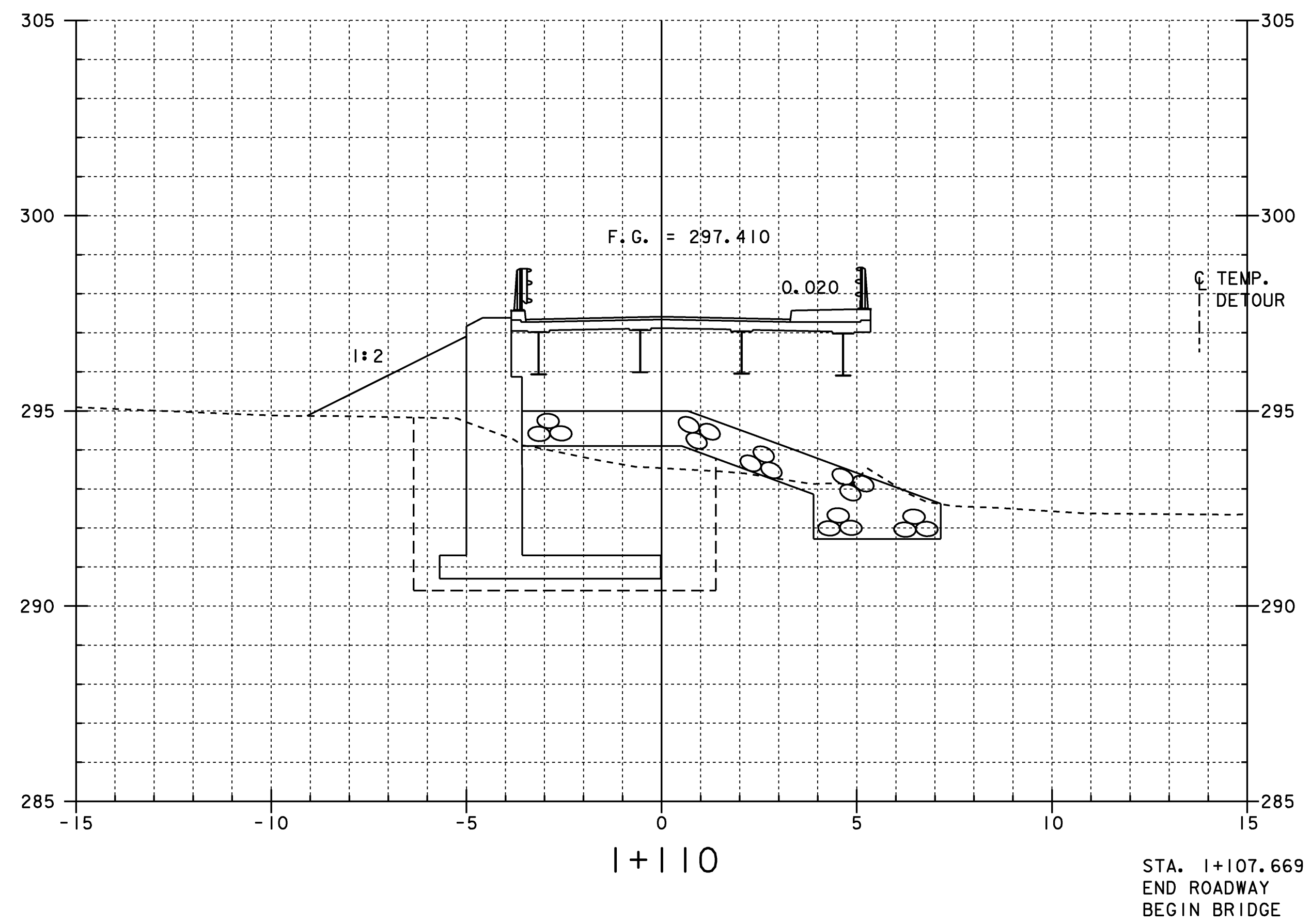
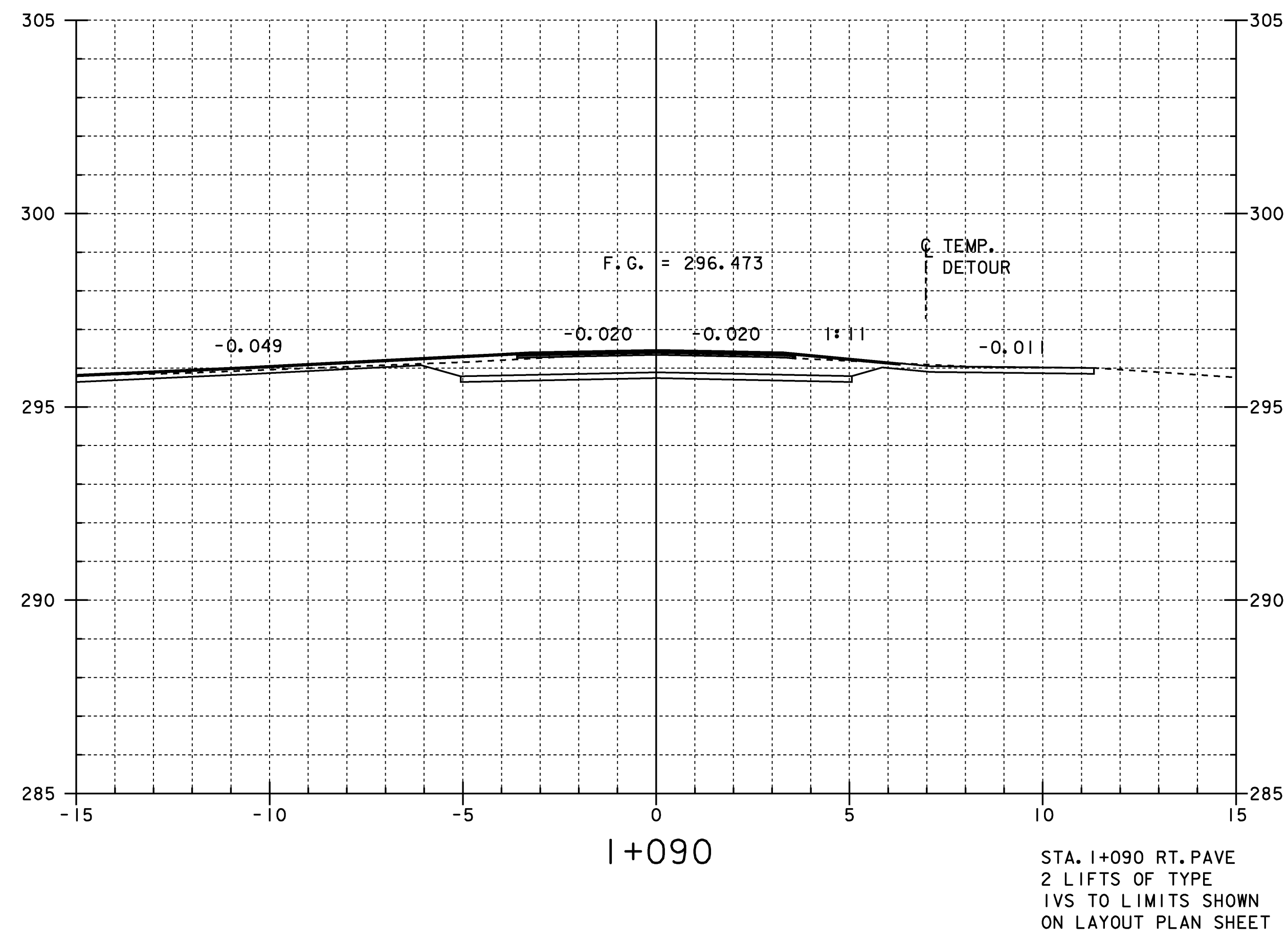


STA. I+040.000
BEGIN APPROACH
MATCH EXISTING

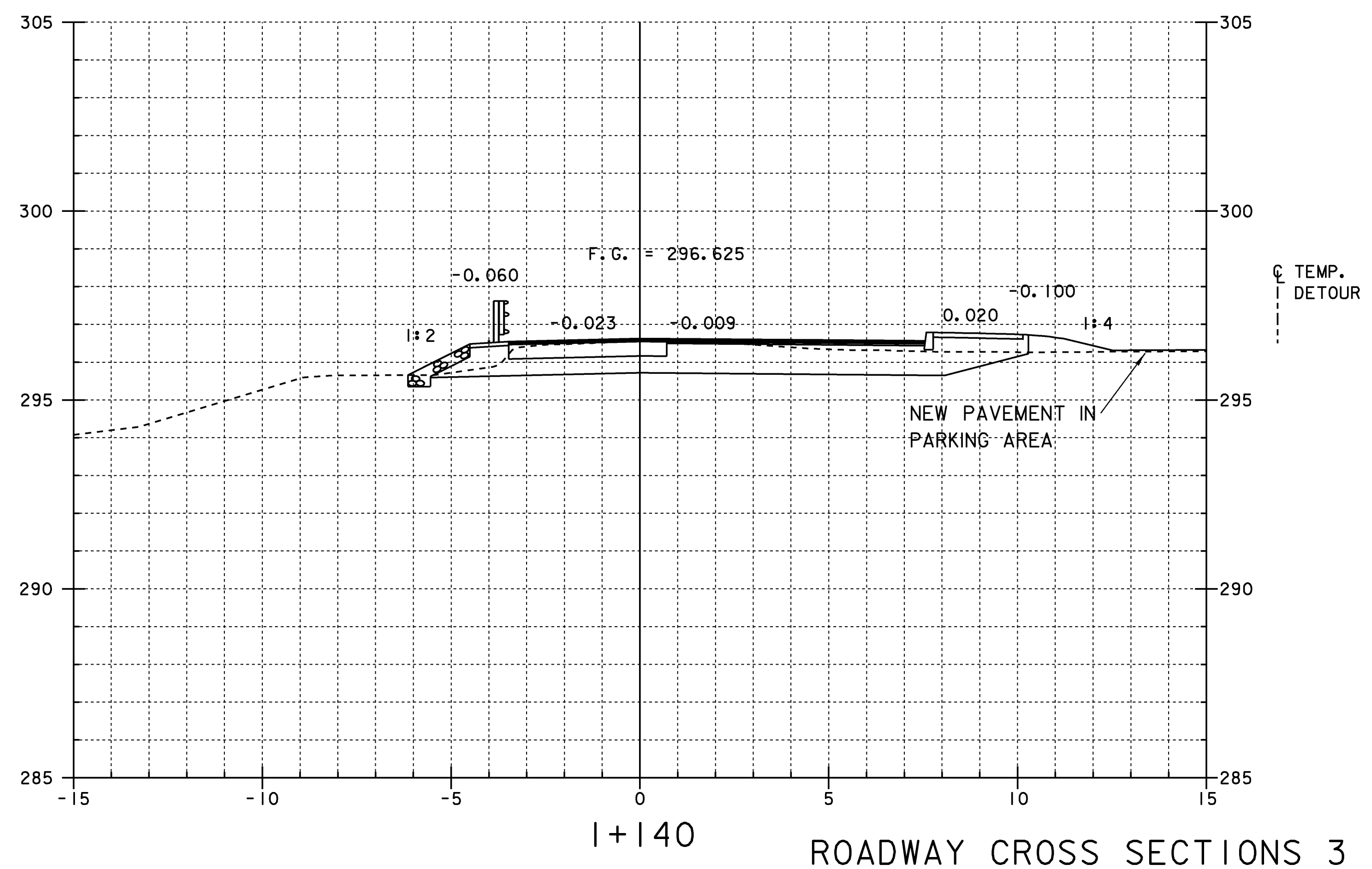
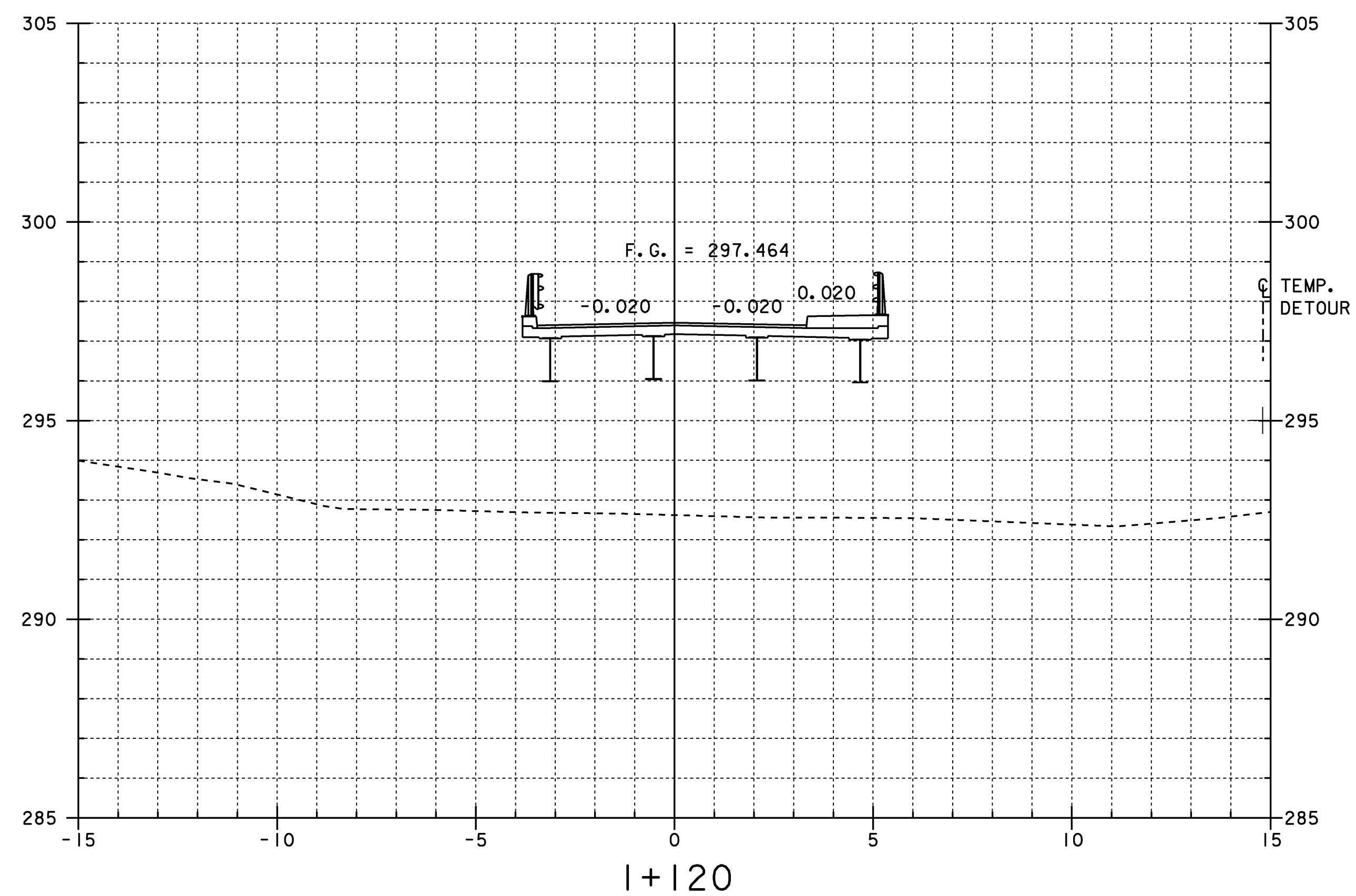
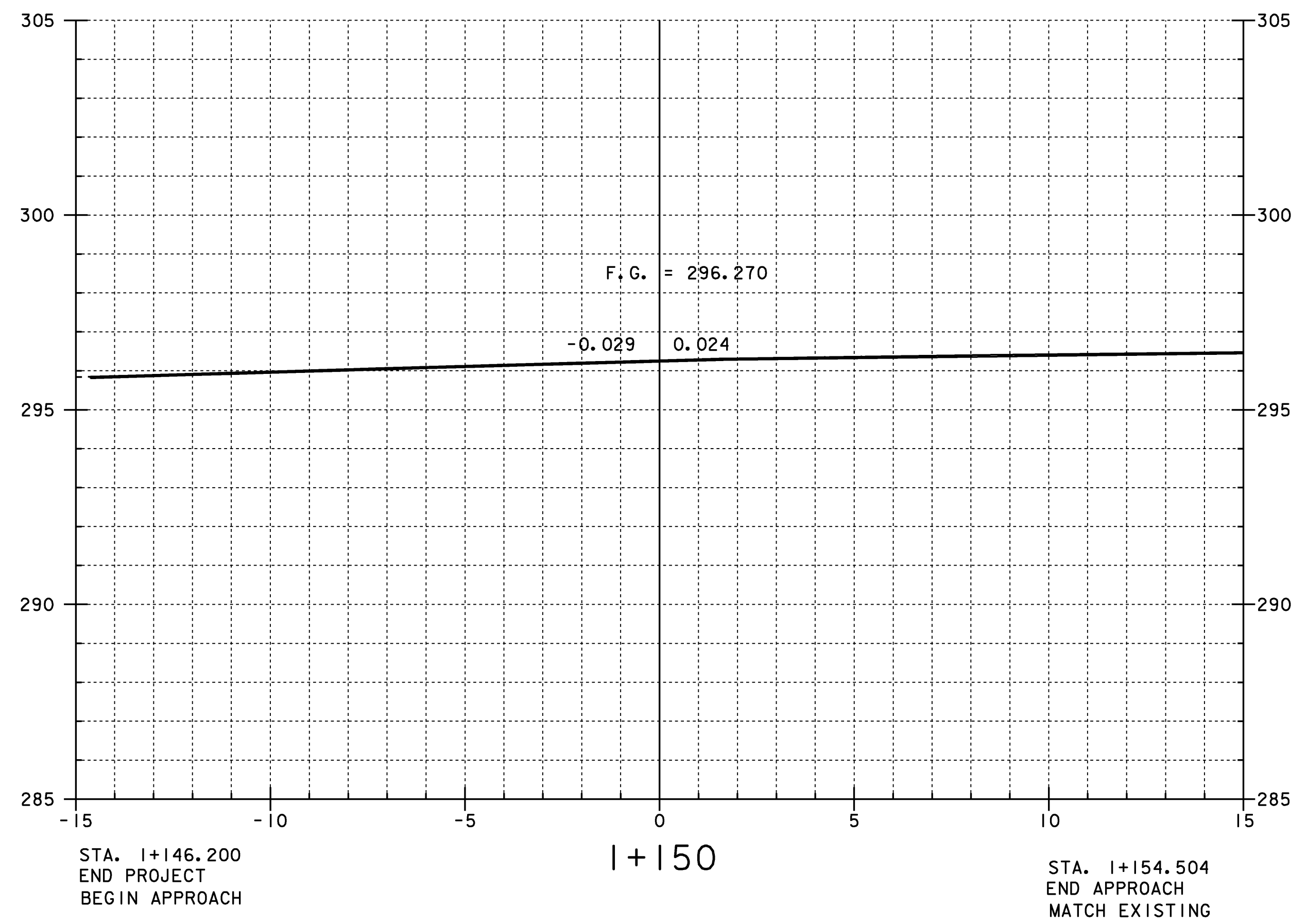
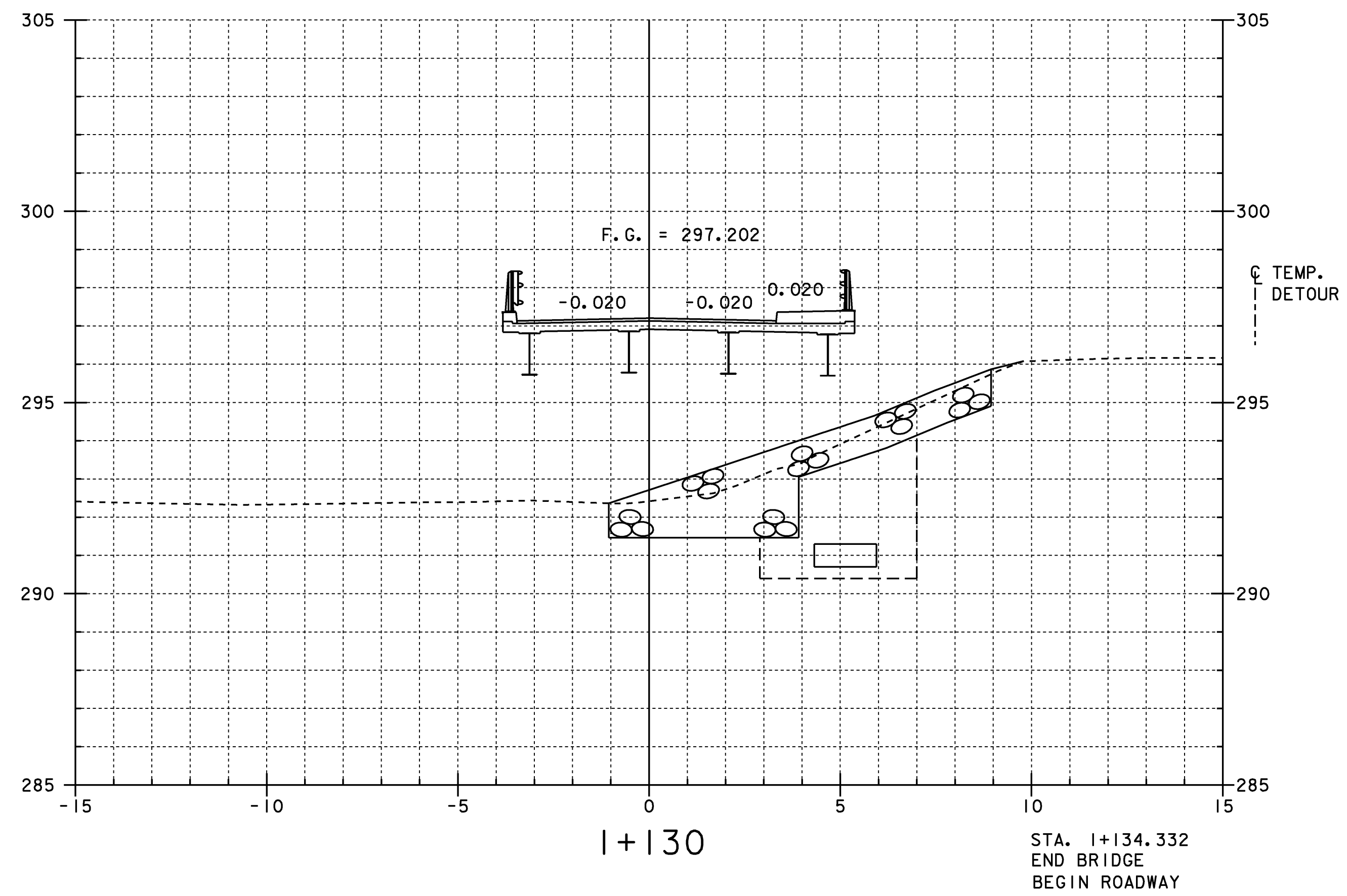


ROADWAY CROSS SECTIONS I

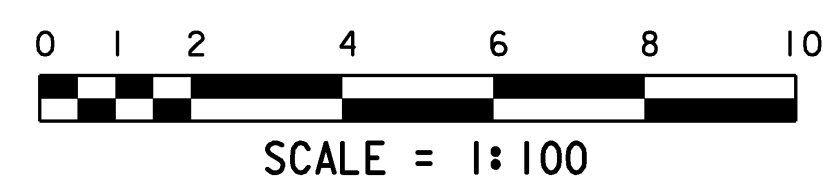
PROJECT NAME: LINCOLN	
PROJECT NUMBER: BRO 1445 (25)	
FILE NAME: s96j266xs.dgn	PLOT DATE: 29-JAN-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: T. LACKEY
DESIGNED BY: S. SCRIBNER	CHECKED BY: R. WHITCOMB
ROADWAY CROSS SECTIONS I	SHEET 48 OF 58



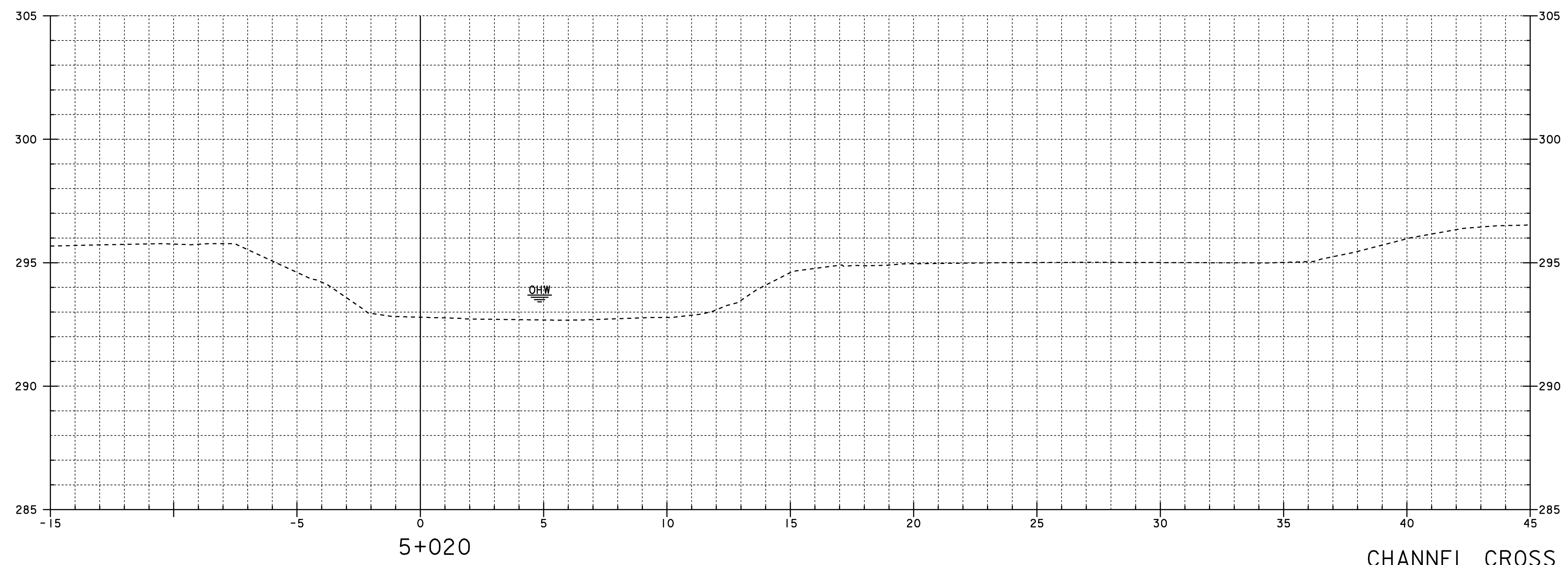
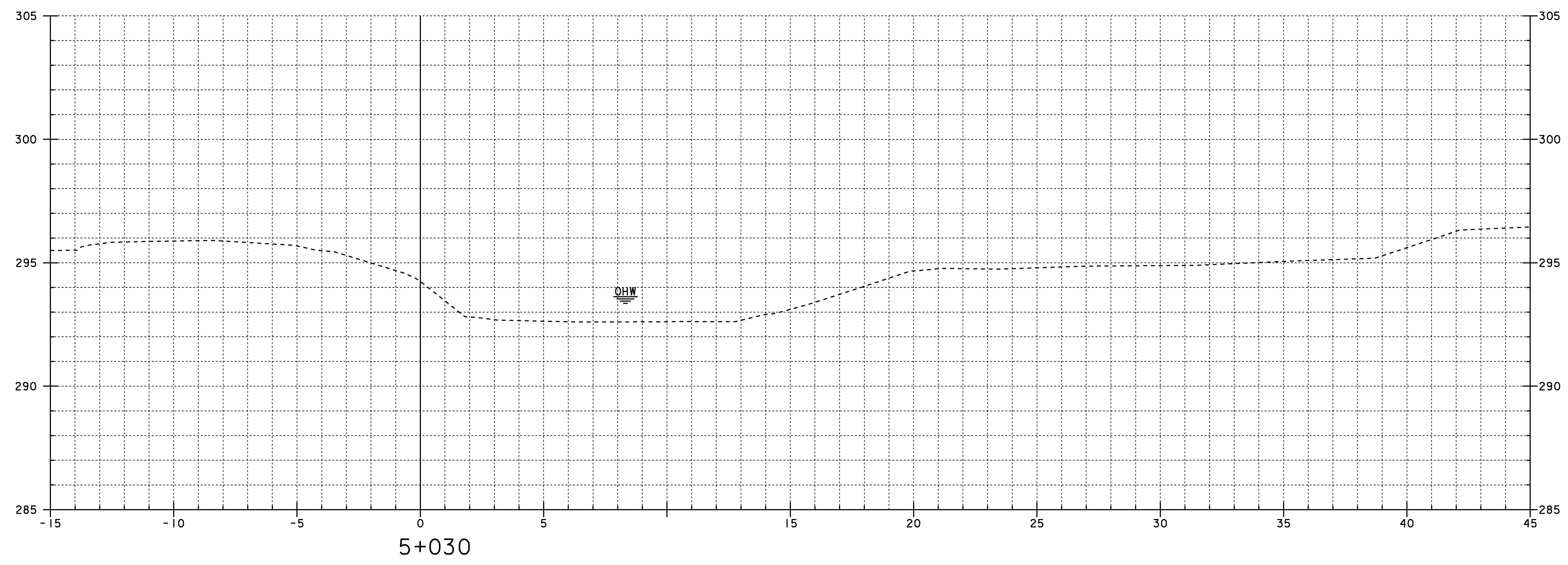
PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME:	s96j266xs.dgn
PROJECT MANAGER:	R. WHITCOMB
DESIGNED BY:	S. SCRIBNER
ROADWAY CROSS SECTIONS 2	
PLOT DATE:	29-JAN-2009
DRAWN BY:	T. LACKEY
CHECKED BY:	R. WHITCOMB
SHEET 49	OF 58



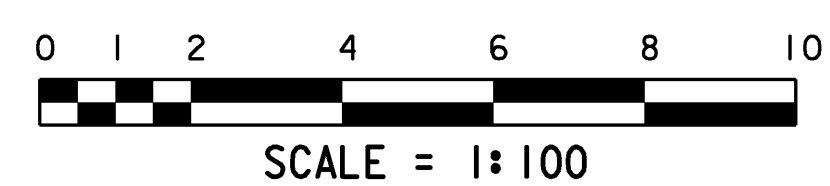
ROADWAY CROSS SECTIONS 3



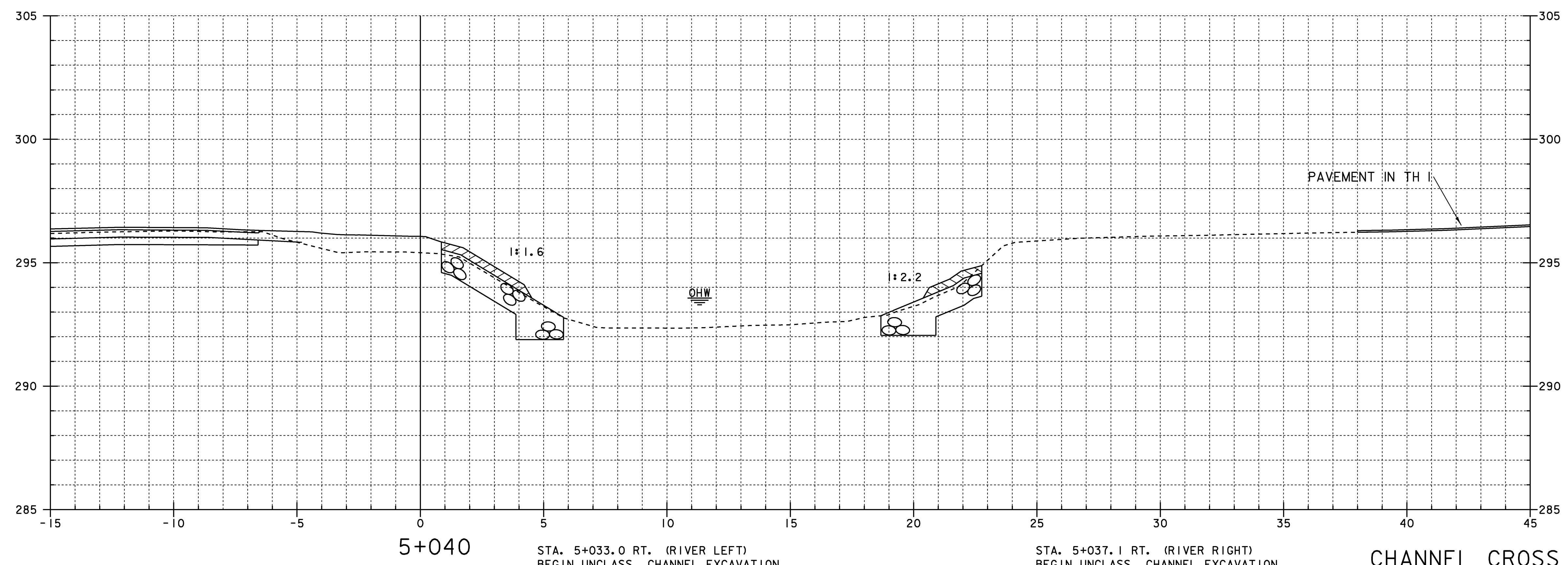
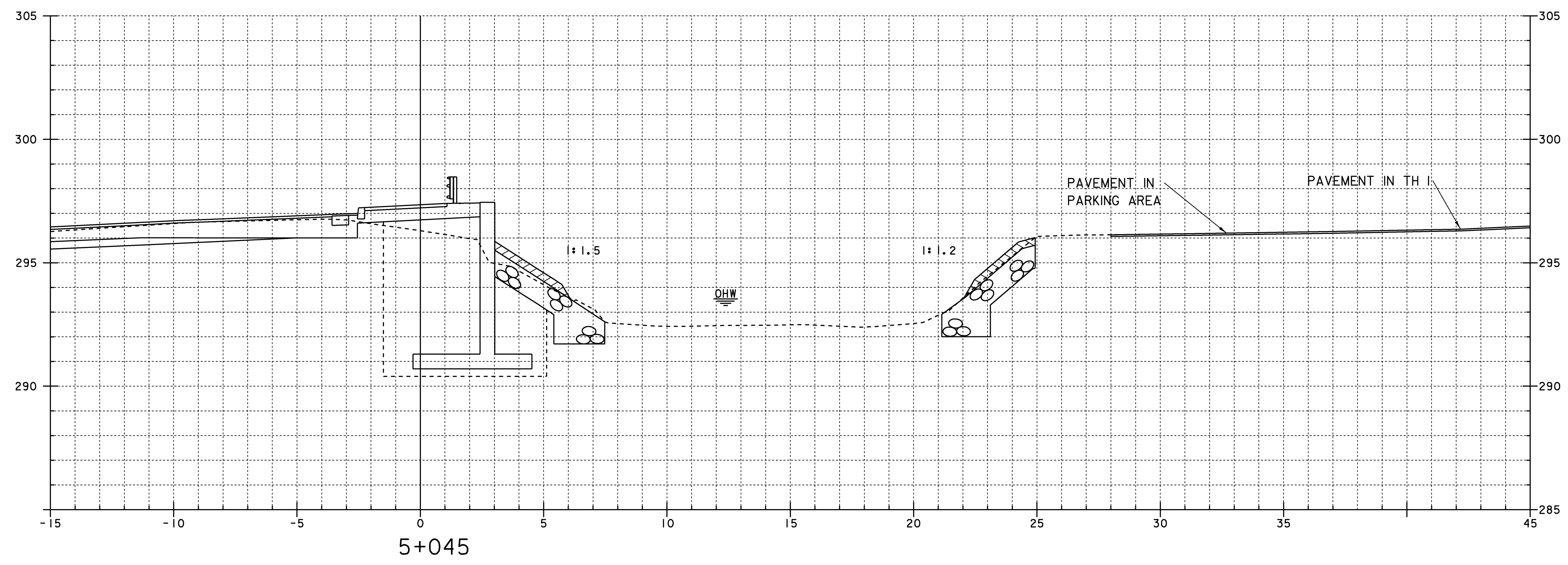
PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266xs.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	ROADWAY CROSS SECTIONS 3	SHEET 50 OF 58
DESIGNED BY:	S. SCRIBNER		



CHANNEL CROSS SECTIONS I

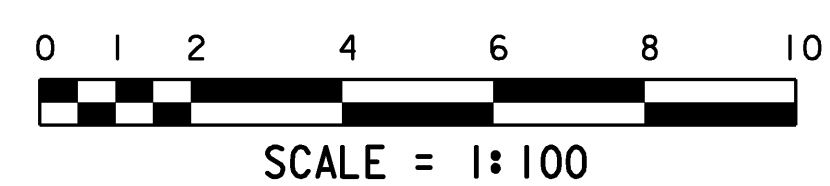


PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445 (25)	DRAWN BY: T. LACKEY
FILE NAME: s96j266xs.dgn	CHECKED BY: R. WHITCOMB
PROJECT MANAGER: R. WHITCOMB	SHEET 51 OF 58
DESIGNED BY: S. SCRIBNER	
CHANNEL CROSS SECTIONS I	



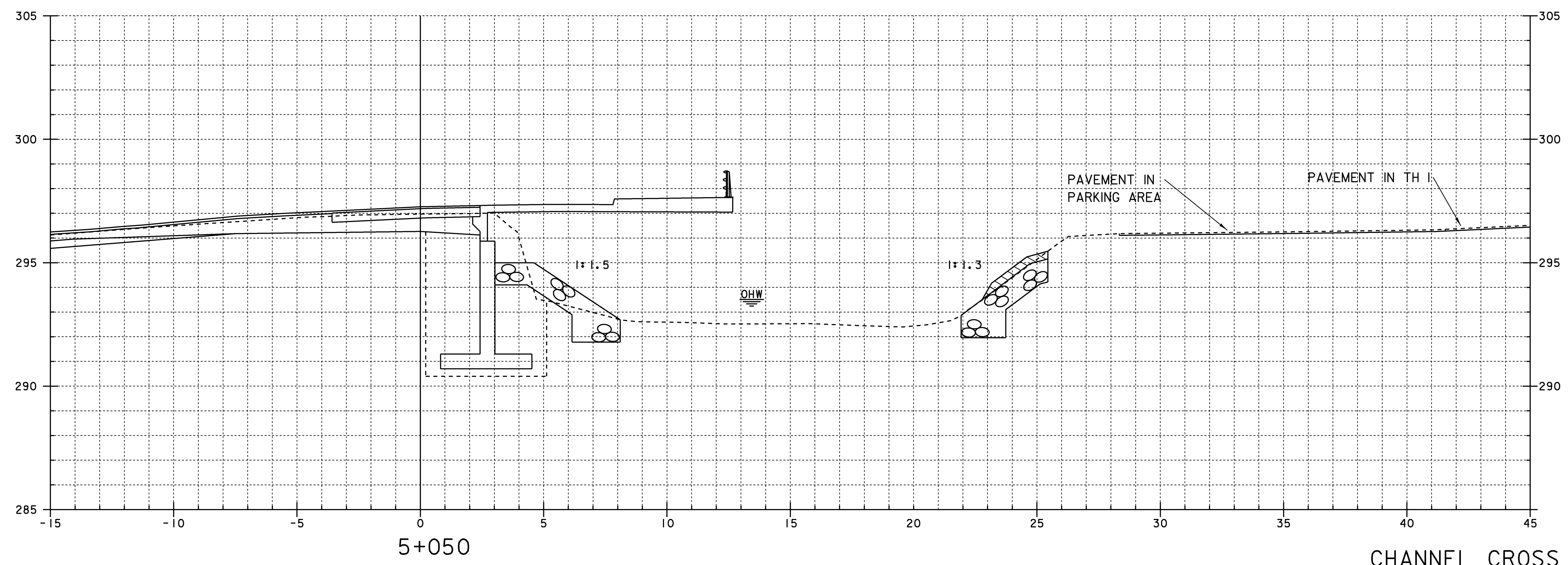
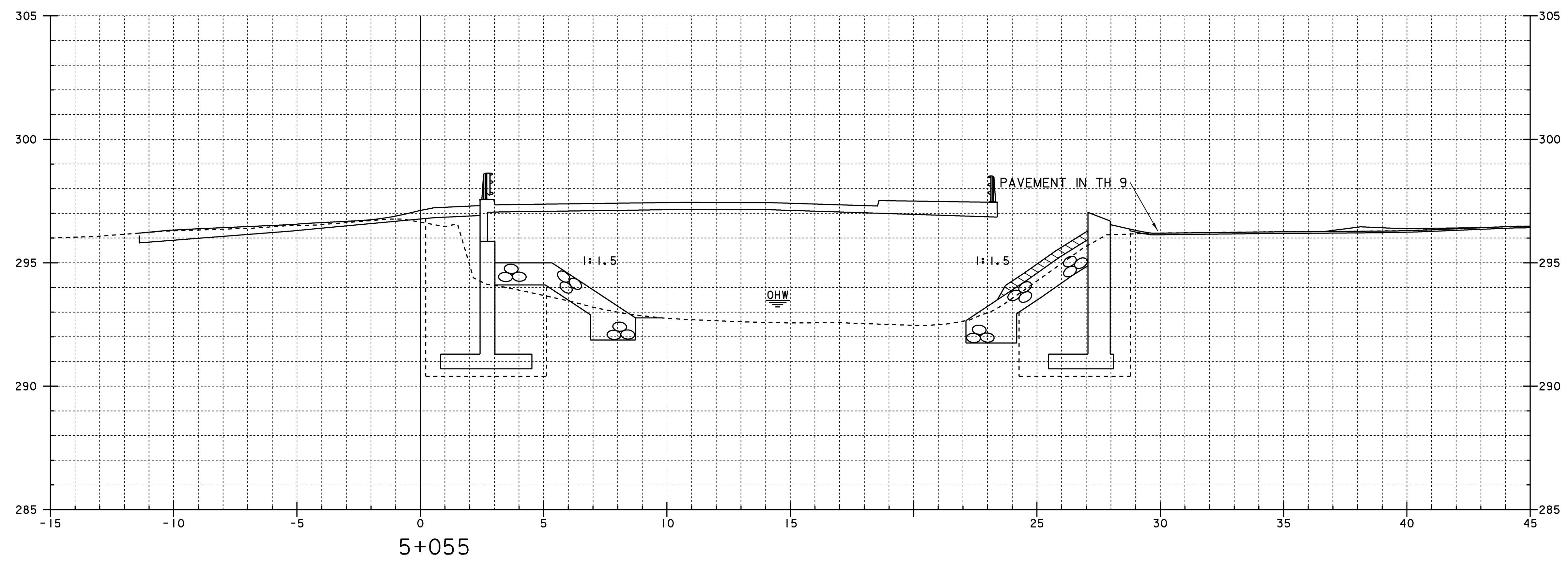
STA. 5+033.0 RT. (RIVER LEFT)
 BEGIN UNCLASS. CHANNEL EXCAVATION
 GEOTEXTILE UNDER STONE FILL
 STONE FILL, TYPE III
 GRUBBING MATERIAL

STA. 5+037.1 RT. (RIVER RIGHT)
 BEGIN UNCLASS. CHANNEL EXCAVATION
 GEOTEXTILE UNDER STONE FILL
 STONE FILL, TYPE III
 GRUBBING MATERIAL

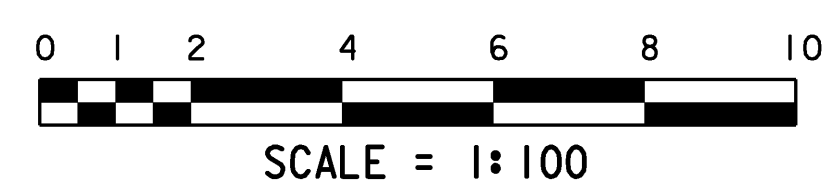


CHANNEL CROSS SECTIONS 2

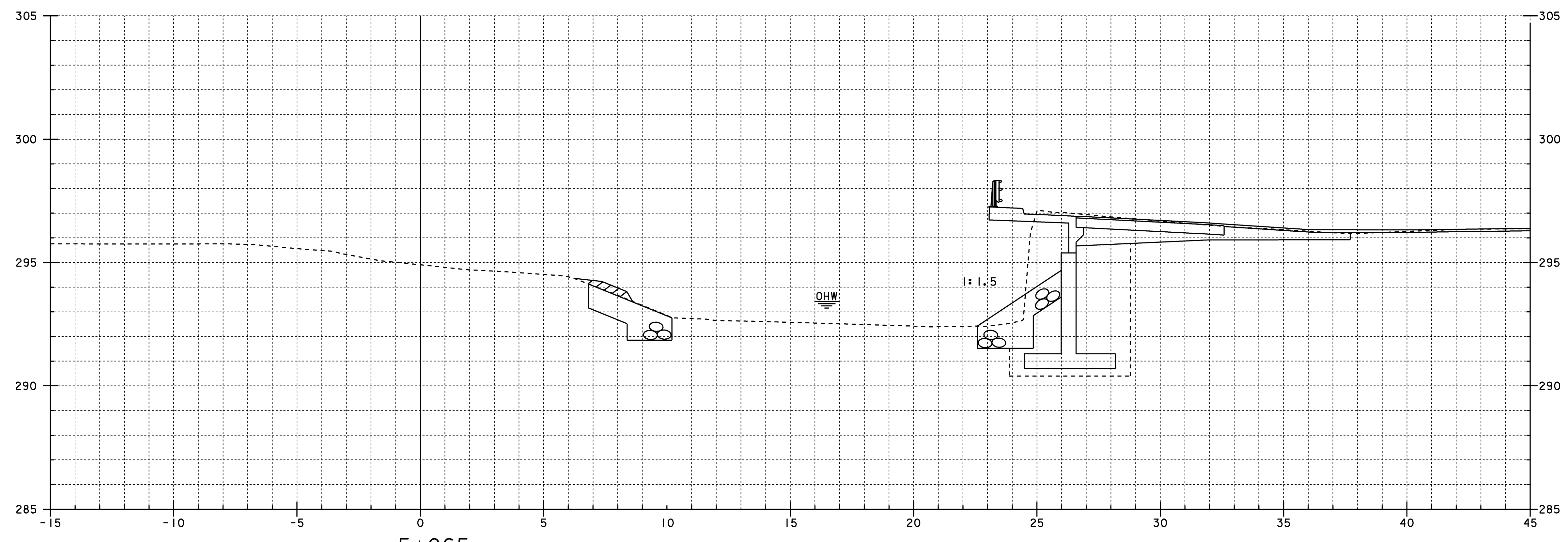
PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266xs.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	SHEET	52
DESIGNED BY:	S. SCRIBNER	OF	58
CHANNEL CROSS SECTIONS 2			



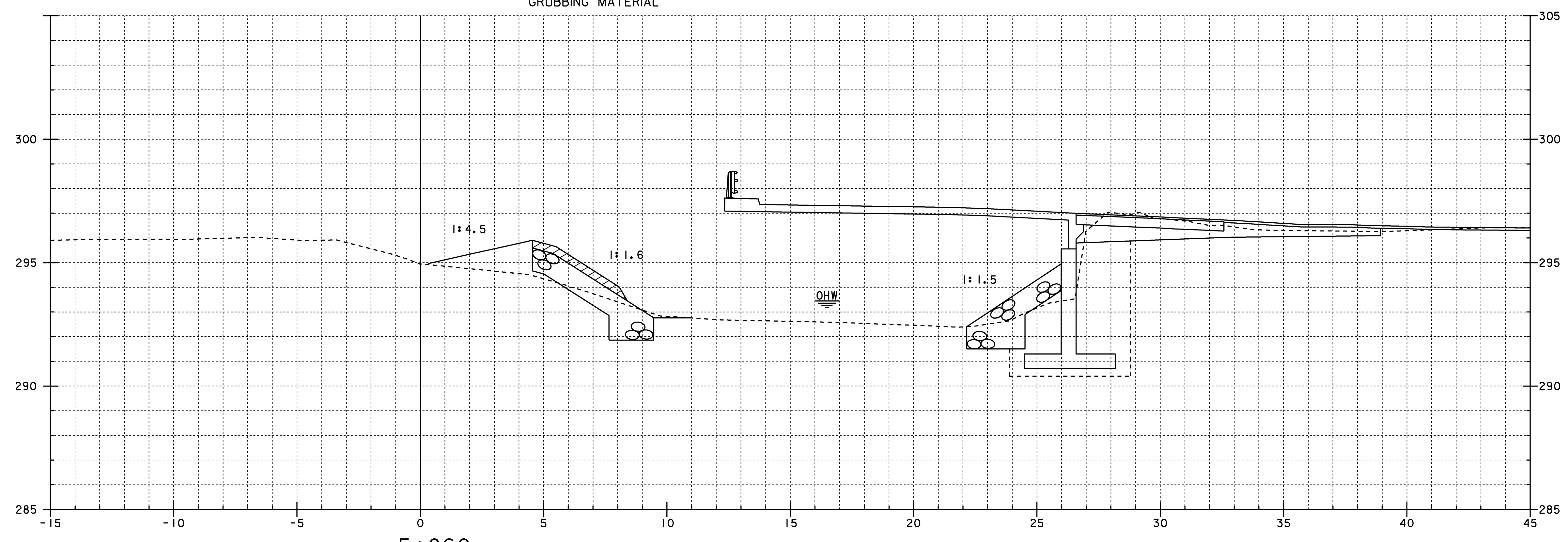
CHANNEL CROSS SECTIONS 3



PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266xs.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	CHANNEL CROSS SECTIONS 3	SHEET 53 OF 58
DESIGNED BY:	S. SCRIBNER		

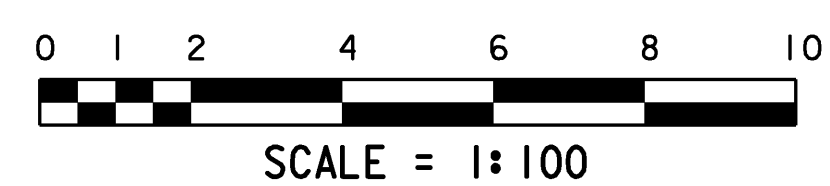


5+065 STA. 5+065RT. (RIVER LEFT)
 END UNCLASS. CHANNEL EXCAVATION
 GEOTEXTILE UNDER STONE FILL
 STONE FILL, TYPE III
 GRUBBING MATERIAL

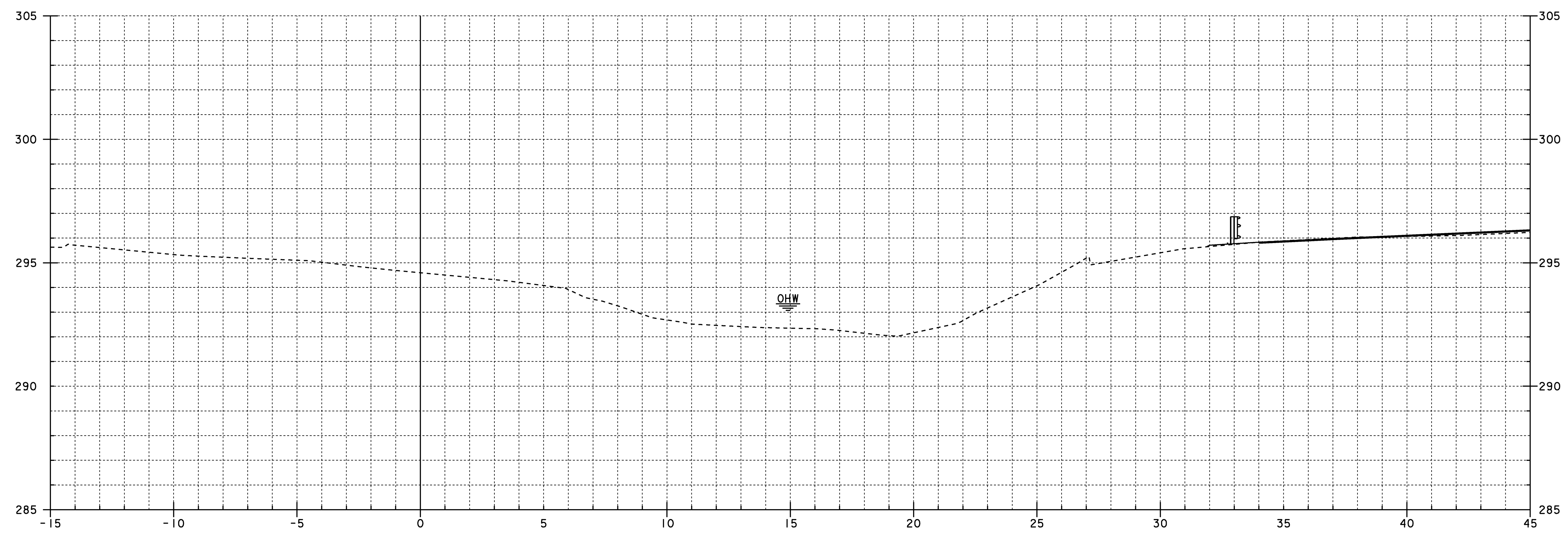


5+060

CHANNEL CROSS SECTIONS 4

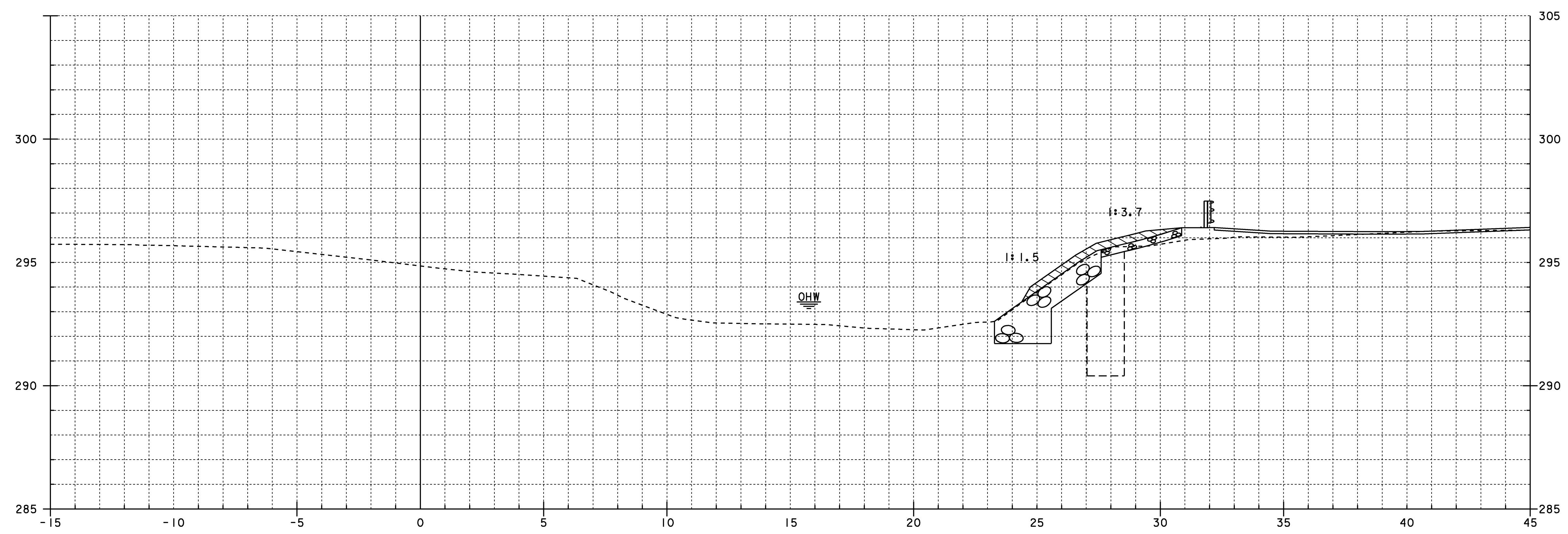


PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266xs.dgn	CHECKED BY:	R. WHITCOMB
DESIGNED BY:	S. SCRIBNER	CHANNEL CROSS SECTIONS 4	SHEET 54 OF 58



5+080

STA. 5+075.1 RT. (RIVER RIGHT)
 END UNCLASS. CHANNEL EXCAVATION
 GEOTEXTILE UNDER STONE FILL
 STONE FILL, TYPE III
 GRUBBING MATERIAL

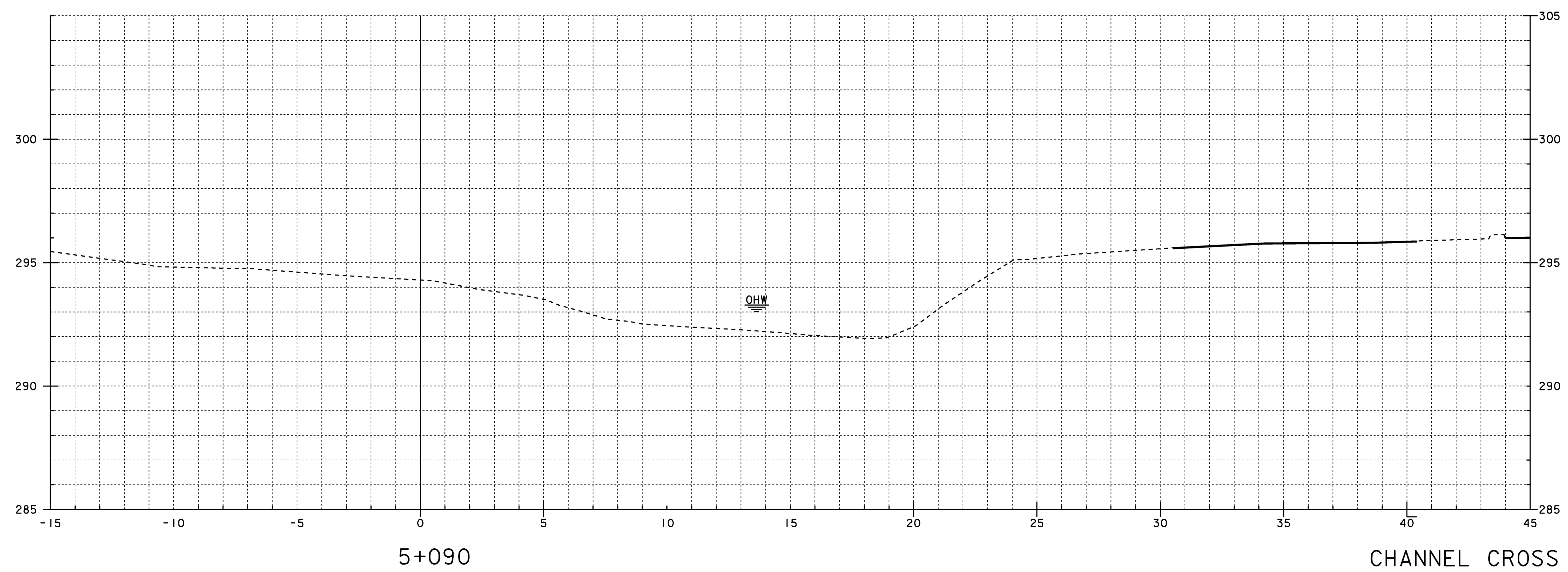
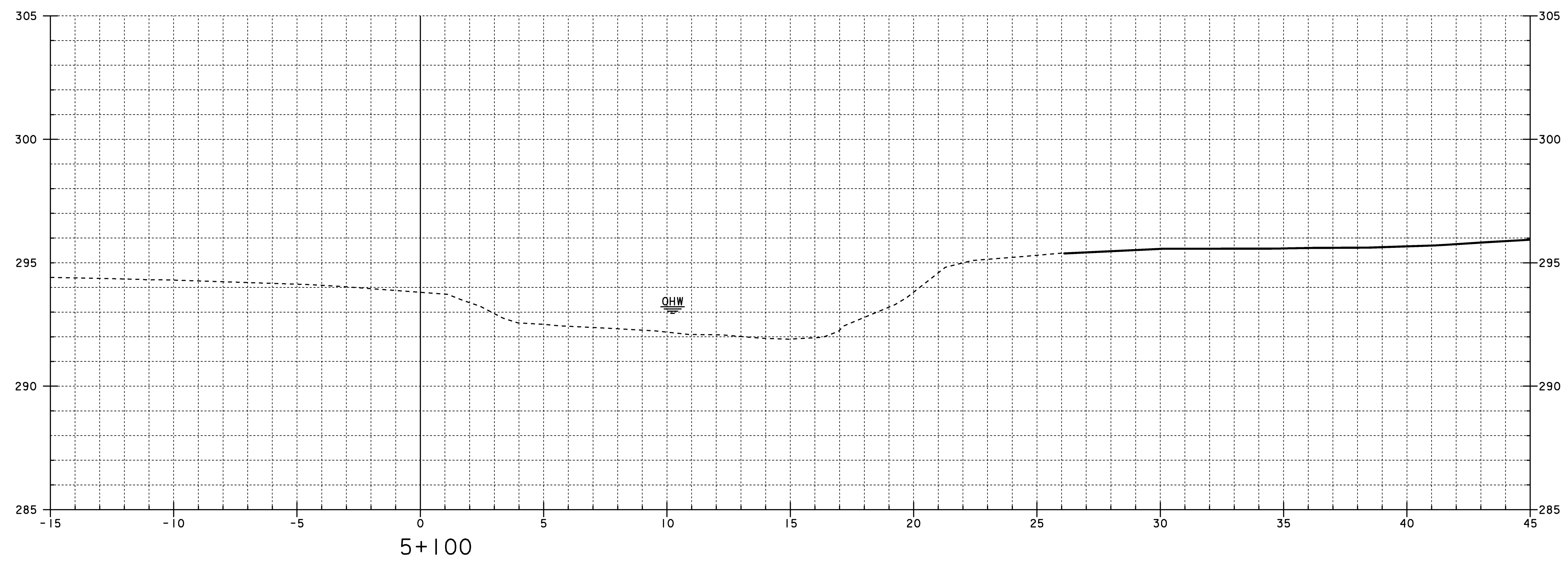


5+070

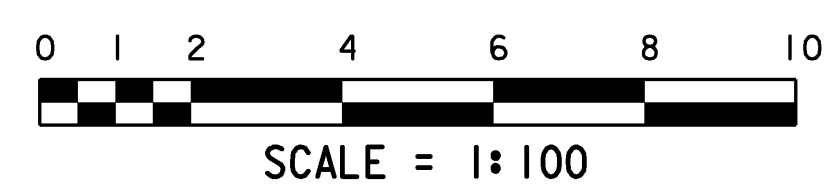
CHANNEL CROSS SECTIONS 5



PROJECT NAME:	LINCOLN	PLOT DATE:	29-JAN-2009
PROJECT NUMBER:	BRO 1445 (25)	DRAWN BY:	T. LACKEY
FILE NAME:	s96j266xs.dgn	CHECKED BY:	R. WHITCOMB
PROJECT MANAGER:	R. WHITCOMB	CHANNEL CROSS SECTIONS 5	SHEET 55 OF 58
DESIGNED BY:	S. SCRIBNER		



CHANNEL CROSS SECTIONS 6



PROJECT NAME: LINCOLN	PLOT DATE: 29-JAN-2009
PROJECT NUMBER: BRO 1445 (25)	DRAWN BY: T. LACKEY
FILE NAME: s96j266xs.dgn	CHECKED BY: R. WHITCOMB
PROJECT MANAGER: R. WHITCOMB	SHEET 56 OF 58
DESIGNED BY: S. SCRIBNER	
CHANNEL CROSS SECTIONS 6	



BM NO. 1
CH 50 IN SE CORNER
OF WAR MONUMENT
EL. 296.292

END R. O. W. PROJECT

BRO 1445(25)
STA 1+145.8
21.1M (69') LT.

CONSTRUCT GRAVEL DRIVE
W/ 1.5m WIDE PAVED APRON
I+060 RT
I+061 LT

CONSTRUCT GRAVEL ROAD
W/ 3.0m WIDE PAVED APRON
I+090 RT

CONSTRUCT PAVED DRIVE
I+093 LT

REPAVE PAVED DRIVE
I+135 RT

PORTLAND CEMENT CONCRETE
SIDEWALK, 125mm
I+096.14 RT - I+106.11 RT
I+132.02 RT - I+143.23 RT

CAST-IN-PLACE
CONCRETE CURB, TYPE B
I+096.14 RT - I+106.11 RT
I+132.79 RT - I+143.23 RT

SIDEWALK RAMP, TYPE I
I+096.60 RT - I+098.70 RT
I+140.90 RT - I+142.40 RT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
I+109.54 LT - I+136.06 LT

SPECIAL PROVISION
(BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
I+105.20 RT - I+131.76 RT

SPECIAL PROVISION
(ALUMINUM APPROACH RAILING, ANODIZED)
I+103.12 LT - I+109.54 LT
I+097.63 RT - I+105.20 RT
I+136.05 LT - I+148.07 LT
I+131.76 RT - I+138.38 RT

ANCHOR FOR STEEL BEAM RAIL
I+147.92 LT

RELOCATE MAILBOX, SINGLE SUPPORT
I+068.8 LT TO I+070.0 LT
I+081.0 LT TO I+081.0 LT

RELOCATE MAILBOX, MULTIPLE SUPPORT
I+079.5 RT TO I+079.5 RT
I+080.0 RT TO I+080.0 RT

REMOVE AND RESET GUARDRAIL
I+120.65 RT - I+135.66 RT (2-CABLE)

REMOVAL AND DISPOSAL OF GUARDRAIL
I+104.70 LT - I+107.70 LT
I+101.30 RT - I+107.70 RT
I+134.60 LT - I+141.50 LT
I+134.40 RT - I+137.60 RT

COLD PLANING, BITUMINOUS PAVEMENT
I+040.00 - I+050.00
I+080 LT - I+110 LT
I+146.20 - I+154.50

VT. STATE PLANE GRID

CURVE DATA
Δ = 9°48'27"
R = 250.000
T = 21.449
L = 42.793
E = 0.918
2T-L = 0.105
BANKING = N.C.

COLD PLANE AND PAVE
WITH TYPE IVS
AS NEEDED TO
MATCH EXISTING

PI STA. I+086.105 AH=
STA. I+086.000 BK00
Δ = 9°48'27" RT. ECT

STA. I+040.00
BEGIN APPROACH

N/F ACKERT-SMITH,
GERALD C. & ALISON A.
PC STA. I+064.656

COLD PLANE AND PAVE
STA. I+040.000
BEGIN APPROACH

STA. I+080.000
BEGIN PROJECT

PAVED DR.
ML POST STA. I+105.000=
CHAN. STA. 5+050.000
Δ = 65° LT.

RELOCATED
MAIL BOX

LINCOLN VOLUNTEER
FIRE COMPANY INC.

APPROXIMATE AREA OF EXCAVATED
SETTLING BASIN OR HAY BALES STACKED
TWO HIGH SURROUNDING SILT FENCE.
FIRE STATION

STA. I+107.669
BEGIN BRIDGE
F.G. = 297.353

1.5m X 1.5m INLET PAD
STONE FILL, TYPE I

STA. I+107.669
BEGIN BRIDGE
DRIVE (T)

CONST (T)
SR (T)

STONE FILL,
TYPE III
CHANNEL (P)

I+125.90
7.54M (24.7') RT

STA. I+152.700
14.10 LT

STA. I+146.200
END PROJECT

STA. I+154.504
END APPROACH

STA. I+108.000
CL BRG. ABUT. NO. 1
F.G. = 297.362
(EXP.)

I+140.92
7.61M (24.9') RT

STA. I+134.332
END BRIDGE
F.G. = 296.991

STA. I+134.000
CL BRG. ABUT. NO. 2
F.G. = 297.009
(FIXED)

I+138.96
P
L
15.00M (49.2') RT

COLD PLANE AND PAVE
WITH TYPE IVS
AS NEEDED TO
MATCH EXISTING

WASSMANN, PATRICE L.T.
AKA MOYER, PATRICE W.

BM NO. 2
USGS DISK STAMPED
"MONTPELIER 271"
EL. 295.956

N/F WEATHERVANE
UNITED INC.

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
TOWN OF LINCOLN'S ACQUISITION OF LAND
AND RIGHTS FOR THIS PROJECT.

R. O. W. LAYOUT SHEET

PROJECT NAME:	LINCOLN
PROJECT NUMBER:	BRO 1445 (25)
FILE NAME:	961266\Structures\26610.LI
PROJECT MANAGER:	
DESIGNED BY:	
R. O. W. SHEET 7 OF 7 SHEETS	
PLOT DATE:	29-JAN-2009
DRAWN BY:	
CHECKED BY:	
SHEET 57 OF 58	

**FOR R.O.W.
USE ONLY**

BEGIN R. O. W. PROJECT

BRO 1445(25)
STA. 1+082.8
7.0M (23.0') LT.

EROSION CONTROL LEGEND

- FILTER CURTAIN
- SILT FENCE
- HAY BALES
- DITCH W/ CHECK DAMS

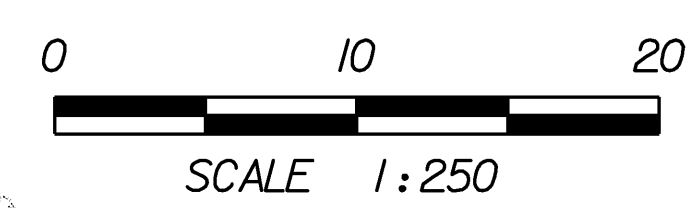
EXISTING BRIDGE DATA

DECK IS A CONCRETE FILLED STEEL GRID
WITH ASPHALT OVERLAY

SUPERSTRUCTURE CONSISTS OF 6 (W27 X 106)
ROLLED BEAMS WITH 2 DIAPHRAMS PER BAY

ABUTMENTS AND WINGWALLS ARE LAID UP
STONE WITH CONCRETE CAPS AND BACKWALLS

BRIDGE LENGTH: 26.52m
BRIDGE WIDTH: 5.70m
VERTICAL CLEARANCE UNDER BRIDGE: 3.5m





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

TABLE OF PROJECT PROPERTY ACQUISITION

ALL STATIONS ARE FROM THE REVISED C

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS		
1	WASSMANN, PATRICE L. T. AKA MOYER, PATRICE W.	7	1+091.8 RT.	1+097.28 RT.			CONST. (T) 15.11 SM±	WDOE	06-07-05	LINCOLN	62	161	163 S.F. ± INCLUDES EROSION CONTROL & PDF		
			1+095.2 RT.	1+098.1 RT.			DETOUR (T) 67.1 SM±							722 S.F. ±	
			1+097.5 RT.	1+109.8 RT.			CHANNEL (P) 45.7 SM±								492 S.F. ±
2	BURNHAM FOUNDATION	7	1+125.90 RT.	1+140.92 RT.	55.4 SM±			WDOE	04-03-06	LINCOLN	63	470-471	596 S.F. ±		
			1+113.0 RT.	1+138.96 RT.			DETOUR (T) 263.9 SM±							2,841 S.F. ±	
			1+110.9 RT.	1+135.7 RT.			CONST. (T) 45.0 SM±							484 S.F. ± INCLUDES EROSION CONTROL & PDF	
			1+116.8 RT.	1+129.4 RT.			CHANNEL (P) 51.9 SM±								559 S.F. ±
			1+120.65 RT.	1+129.97 RT.			REMOVE & RESET (T)						GUARDRAIL		
3	EDDY, ELIZABETH	7	1+134.4 LT.	1+139.5 LT.			CHANNEL (P) 19.0 SM±	WDOE	01-21-05	LINCOLN	61	498	205 S.F. ±		
			1+135.0 LT.	1+145.6 LT.			UTILITY (P) 81.5 SM±							877 S.F. ±	
			1+136.1 LT.	1+145.8 LT.			CONST. (T) 99.5 SM±								INCLUDES EROSION CONTROL & PDF
															1,071 S.F. ±
			1+143.3 LT.	1+144.2 LT.			SLOPE (P) 0.3 SM±						3 S.F. ±		
4	LINCOLN VOLUNTEER FIRE COMPANY, INC.	7	1+093 LT.	1+123.0 LT.			DRIVE (T)	WDOE	07-28-05	LINCOLN	62	364-365	21M (69') PAVED		
			1+102.8 LT.				CONST. (T) 42.6 SM±							459 S.F. ± INCLUDES EROSION CONTROL & PDF	
			1+114.2 LT.	1+120.6 LT.			CHANNEL (P) 11.0 SM±							118 S.F. ±	
			1+102.8 LT.	1+120.6 LT.			SLOPE (T) 99.9 SM±								1,075 S.F. ± INCLUDES EROSION CONTROL
5	CENTRAL VERMONT PUBLIC SERVICE CORPORATION											UTILITY			
6	CHAMPLAIN VALLEY TELECOM											UTILITY			

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	6, 7	PARCEL NO. 3 EDDY. CHANGED PARCEL NAME FROM EDDY, ROBERT O. & ELIZABETH TO EDDY, ELIZABETH. PER C.O. 9268.	01-23-03	P. J. H.	R. P. D.
2	6, 7	PARCEL NO. 1 WASSMANN. PARCEL NO. 2 BURNHAM FOUNDATION. PARCEL NO. 3 EDDY. PARCEL NO. 4 LINCOLN FIRE COMPANY, INC. ADD PDF DESIGN TO LAYOUTS. REFER TO PDF IN THE REMARKS COLUMN FOR ALL CONSTRUCTION EASEMENTS THAT HAVE EROSION CONTROL. PER C.O. 9386.	09-20-04	M. J. R.	R. P. D.
3	7	PARCEL NO. 4 VOLUNTEER FIRE COMPANY, INC. EXTEND PAVING LIMITS FOR DRIVE AT STA. 1+093 LT. PER C.O. 9407.	01-31-05	M. J. R.	R. P. D.
		ELECTRONIC FILES TO STRUCTURES	01-29-09		

**FOR R.O.W.
USE ONLY**

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
--- CONST. (T) --- CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P PROPERTY LINE
L TOP OF CUT
△ TOE OF SLOPE

--- UE (P) --- PERMANENT UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 10-01-02
CHIEF, PLANS & TITLES

R. O. W. PLANS

**LINCOLN
BR0 1445(25)
ROW SHEET 6 OF 7
SHEET 58 OF 58**

DSBROWN Production Joint Welding Procedure Specification (D1.5-02)

Procedure No A-GTF-01 Date Issued 1-9-04 Revision No 0 Rev Date _____
 Contractor (Fabricator) D S Brown Company Prepared by James R. Connor, Quality Assurance Manager

1 Non-Fracture Critical Fracture Critical WPS Expiration Date _____
 2 Qualified in accordance with AWS D1.5:2002, AWS D1.6:99
 Referenced PQR No(s) PQR-GTAW-01(03)
 Referenced FWST No(s) PQR-GTAW-01(03)

3 Material specification(s) ASTM A709 Gr. 36, 50, 50W, 304SS, 316SS For DOT Approval
 4 Material Thickness (es) Unlimited **RECEIVED**
 5 Welding process GTAW
 6 Manual machine or semiautomatic OK'D BY _____ OK'D BY JWC
 7 Position(s) of welding 1E, 2F **MAY 04 2009**
 8 Filler metal specification AWS A5.9 APPROVED _____
 9 Filler metal class and brand name ER309L (Murrex) BY RJC DATE 5/14/09
 10 Flux class & brand N/A, Type N/A
 11 Shielding gas 100% Argon Flow rate 20 CFH
 12 Single pass Or multiple pass
 13 Single arc Or multiple arc
 14 Welding Current DCEN
 15 Polarity Straight
 16 Welding progression stringers
 17 Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
 18 Postheat treatment N/A
 19 Calculated Heat Input (KJ/in) Min 10.9 KJ Max 20.4 KJ
 20 Electrode extension (electrical stickout) N/A

Weld size (in)	Passes (N/A)	Electrode Size (in)	Welding Process Variables		Travel Speed (in/min)	Joint Detail (Flare Bevel)
			AMPS/WFS*	VOLTS		
20 ga	1	1/8"	170-200	15-17	10-14	<p>T₁ = Varies S = Fillet Weld Size (Fillet weld must not exceed thickness of stainless steel)</p>
16 ga	1	1/8"	170-200	15-17	10-14	
14 ga	1	1/8"	170-200	15-17	10-14	
12 ga	1	1/8"	170-200	15-17	10-14	
11 ga	1	1/8"	170-200	15-17	10-14	
10 ga	1	1/8"	170-200	15-17	10-14	
8 ga	1	1/8"	170-200	15-17	10-14	
3/16"	1	1/8"	170-200	15-17	10-14	

Wire feed speed may be used along with amperage (include chart)

Base Metal Thickness range	Preheat and Interpass Temperature Chart	
	Minimum Preheat (°F)	Max Preheat & Interpass (°F)
≤3/4"	50°F	450°F
>3/4" to ≤1.5"	70°F	450°F
>1.5" to ≤5"	150°F	450°F
>2.5"	225°F	450°F

Prepared By James R. Connor DSB QA Manager
 Project _____
 DSB Job 26169-1106-VT

Note: When this procedure is used for A709Gr50W materials, it shall be limited to 5/16" single pass or material be coated



The D.S. Brown Company
300 E. Cherry Street
North Baltimore Ohio 45872
419.257.3561
Fax: 419.257.2200
e-mail: dsb@dsbrown.com
www.dsbrown.com

Bonding Procedure

Leves Engineering Company
4221 Novus Drive
Chaska Minnesota 55318
952.368.3000
Fax: 952.448.7000

International Division
57 Pioneer Road
Singapore 628508
65.862.9288
Fax: +65 862 6255
e-mail
dsbrown@mboc2.singnet.com.sg

The bonding process for laminating PTFE to the fabric pad is as follows

The fabric pad surface to be bonded is prepared for lamination. A two-part structural grade epoxy is then applied per the manufacture's instructions. The PTFE is cut slightly oversize to account for the possible drift. The PTFE is then applied to the fabric pad and put into a vacuum press at the appropriate pressure for the necessary time period.

Once the fabric pad PTFE is removed from the press, the PTFE is trimmed to plan size and the pads are submitted for quality control review.

RECEIVED
VIRANS
OK'D BY JWC
MAY 04 2009
APPROVED
BY RRW DATE 5/18/09

TOLERANCE TABLE	
SOLE PL. PLAN DIMENSIONS	±1.6
SOLE PL. THICKNESS	±1.6
HOLE LOCATION	±1.6
PTFE THICKNESS	±1.6
PTFE PLAN DIMENSION, TOTAL DESIGN AREA	±1.6
STAINLESS STEEL FINISH	≤20 μ" RMS #8 MIRROR

GENERAL NOTES

1. MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE VERMONT AGENCY OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2006 EDITION", SPECIAL PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, THE CONTRACT PLANS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002 AND ITS LATEST REVISIONS. GENERAL SHOP PRACTICES, STRUCTURAL FABRICATION, WELDING AND ASSEMBLY SHALL BE GOVERNED BY ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.
2. THESE SHOP DRAWINGS WERE PREPARED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. THE D.S. BROWN COMPANY DOES NOT ACCEPT LIABILITY FOR THE DESIGN OF THE PRODUCTS DETAILED IN THESE SHOP DRAWINGS.
3. THE D.S. BROWN COMPANY TO SUPPLY ONLY THE PARTS SHOWN ON THIS DRAWING.
4. ALL STEEL SHALL BE PRODUCED IN THE UNITED STATES OF AMERICA.
5. PTFE (TEFLON) SHALL BE VIRGIN, UNFILLED POLYTETRAFLUOROETHYLENE SATISFYING THE REQUIREMENTS OF ASTM D4894.
6. PTFE IS TO BE PURCHASED ETCHED ON ONE SIDE FOR BONDING. THE BONDING PROCESS FOR LAMINATING PTFE TO THE FABRIC PAD IS AS FOLLOWS: THE FABRIC PAD SURFACE TO BE BONDED IS PREPARED FOR LAMINATION. A TWO-PART STRUCTURAL GRADE EPOXY IS THEN APPLIED PER THE MANUFACTURER'S INSTRUCTIONS. THE PTFE IS CUT SLIGHTLY OVERSIZE TO ACCOUNT FOR POSSIBLE DRIFT. THE PTFE IS THEN APPLIED TO THE FABRIC PAD AND PUT INTO A VACUUM PRESS AT THE APPROPRIATE PRESSURE FOR THE NECESSARY TIME PERIOD. ONCE THE FABRIC PAD AND PTFE IS REMOVED FROM THE PRESS, THE PTFE IS TRIMMED TO PLAN SIZE AND THE PADS ARE SUBMITTED FOR QUALITY CONTROL REVIEW.
7. STAINLESS STEEL SHALL CONFORM TO ASTM A240 - TYPE 304 AND SHALL BE 11GA. (3.0 mm). STAINLESS STEEL SLIDING SURFACES IN CONTACT WITH PTFE SHALL HAVE A NO. 8 MIRROR FINISH AND ALL OTHERS SHALL HAVE A 2B FINISH.
8. ALL CORNERS AND EDGES OF STEEL PLATES SHALL BE GROUND TO A 16mm RADIUS FOR GALVANIZING.
9. THE TEMPERATURE OF THE STEEL SHALL NOT EXCEED 250°F (121°C) FOR SURFACES IN CONTACT WITH THE PTFE, WHERE APPLICABLE. TEMPERATURE SHALL BE CONTROLLED BY THE USE OF TEMPERATURE INDICATING CRAYON OR OTHER DEVICES APPROVED BY THE ENGINEERS.

PROTECTIVE COATING NOTES:

1. ALL STRUCTURAL STEEL SURFACES TO BE GALVANIZED SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP10.
2. ALL EXTERNAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123. GALVANIZATION LIFTING DEVICES MAY BE WELDED TO PARTS IF NECESSARY. WHEN THEIR USE IS COMPLETE, REMOVE AND GRIND FLUSH ALL CONNECTION LOCATIONS. REPAIR ALL GALVANIZATION IN ACCORDANCE WITH ASTM A780. GALVANIZING REPAIR PAINTS CONTAINING ALUMINUM SHALL NOT BE USED ON SURFACES TO BE IN CONTACT WITH FRESH CONCRETE.
3. ALL SURFACES DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH SUBSECTION 513.06 (f).

TOLERANCE NOTES

BEARING SURFACES SHALL BE FLAT WITH A MAXIMUM PERMISSIBLE VARIATION OF 0.25mm FROM A PLANE DETERMINED BY ANY THREE CORNERS OF THE PLATE.

FOR STAINLESS STEEL MATING TO PTFE BONDED TO FABRIC BEARING PAD MATERIAL THE TOLERANCE SHALL BE 0.25mm FROM A PLANE DETERMINED BY ANY THREE CORNERS OF THE PLATE.

RECEIVED
 OK'D BY *WRC* OK'D BY _____
 MAY 04 2009
 R. L. WITTE APPROVED *✓*
 BY *RKW* DATE 5/19/09

Structures Copy

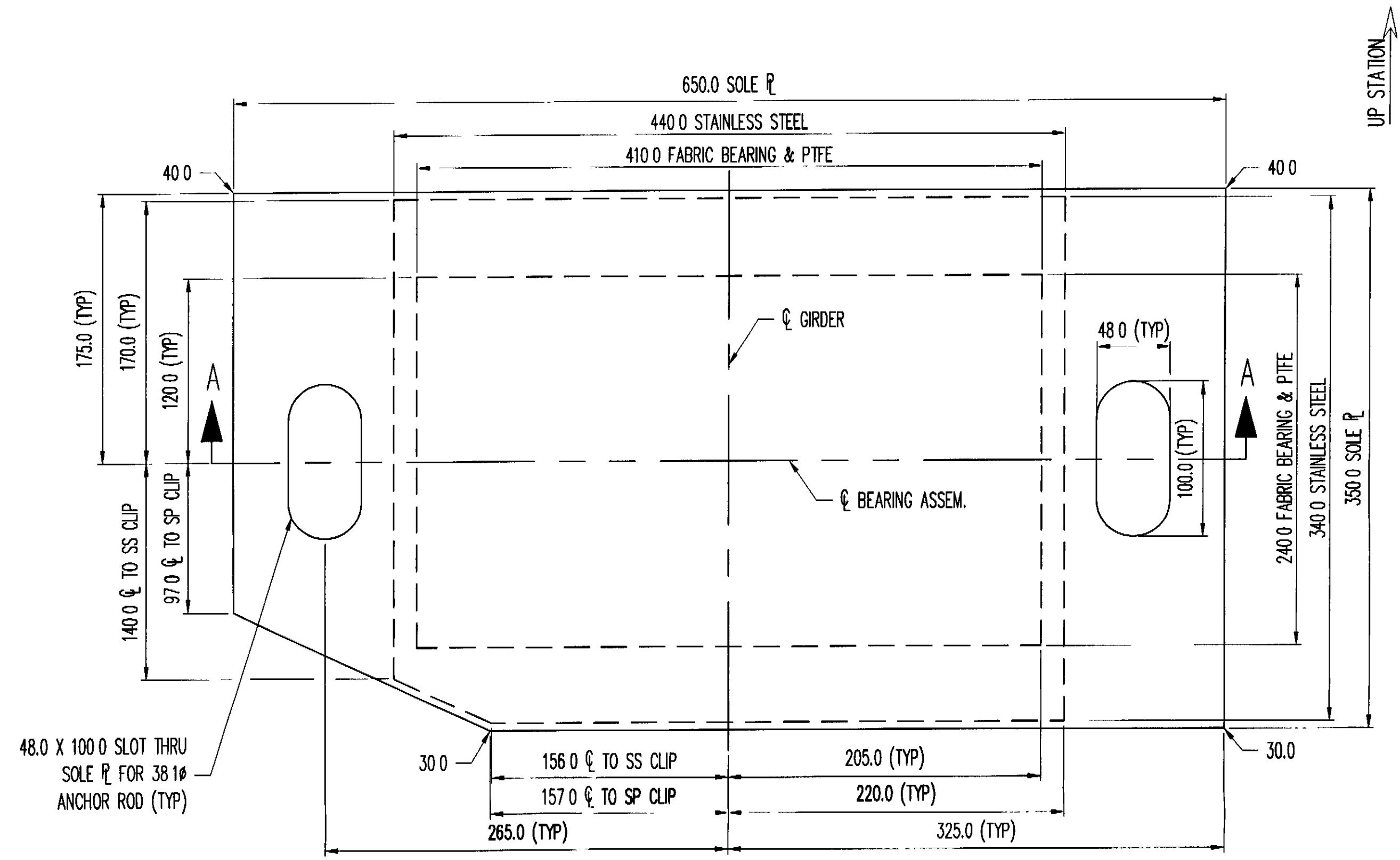
REV	DESCRIPTION	DATE	DET	CHKD
	LOCATION - T.H. 9 CL 3 (LOCAL ROAD)			
	BRIDGE - 48			
	PROJECT - BRO 1445 (25)			
	DESIGNER - VTDOT			
	CUSTOMER - PARENT CONSTRUCTION INC			



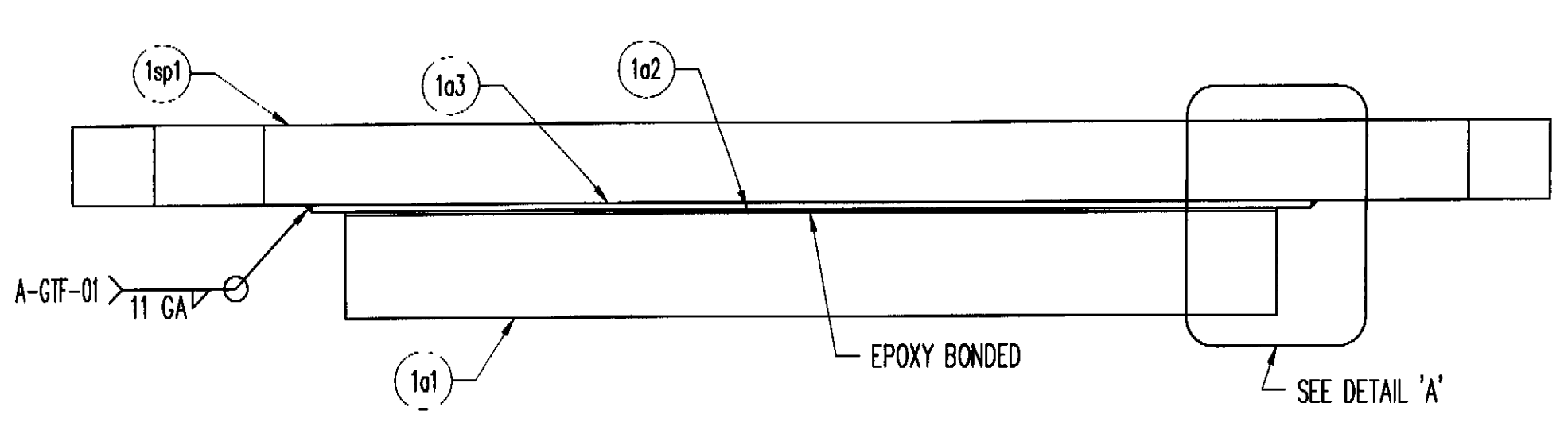
THE D.S. BROWN COMPANY
 300 E. CHERRY STREET
 NORTH BALTIMORE, OHIO 45072
 419.257.3561
 FAX 419.257.0332
 WWW.DSBROWN.COM



DESCRIPTION	SCALE	DRAWN BY	CHECKED BY	DATE
GENERAL NOTES	NTS	NRA	DAE	4/24/09
ADDISON CO., VT	PROJECT NUMBER	PRODUCT CODE	RELEASE	*SHEET
	26169	1106	1	GN1

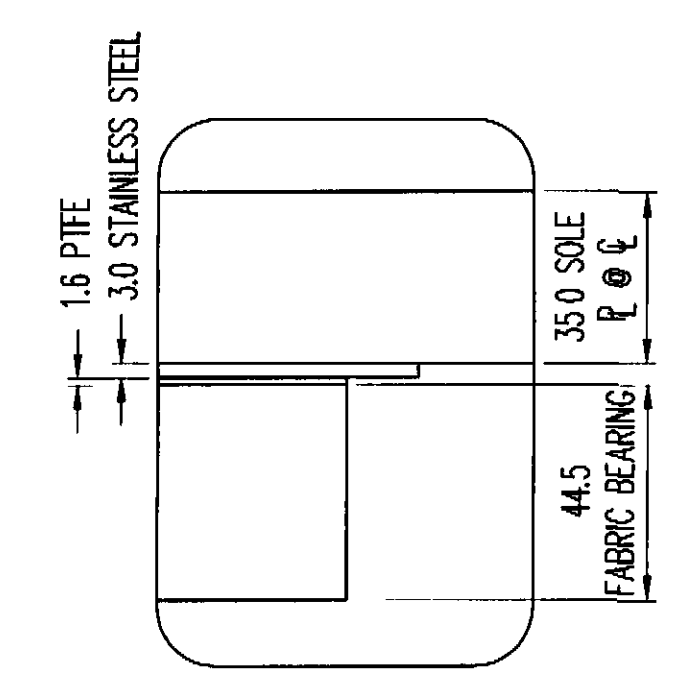


PLAN VIEW
EXPANSION FABRIC BEARING
(4) REQ'D @ ABUTMENT 1

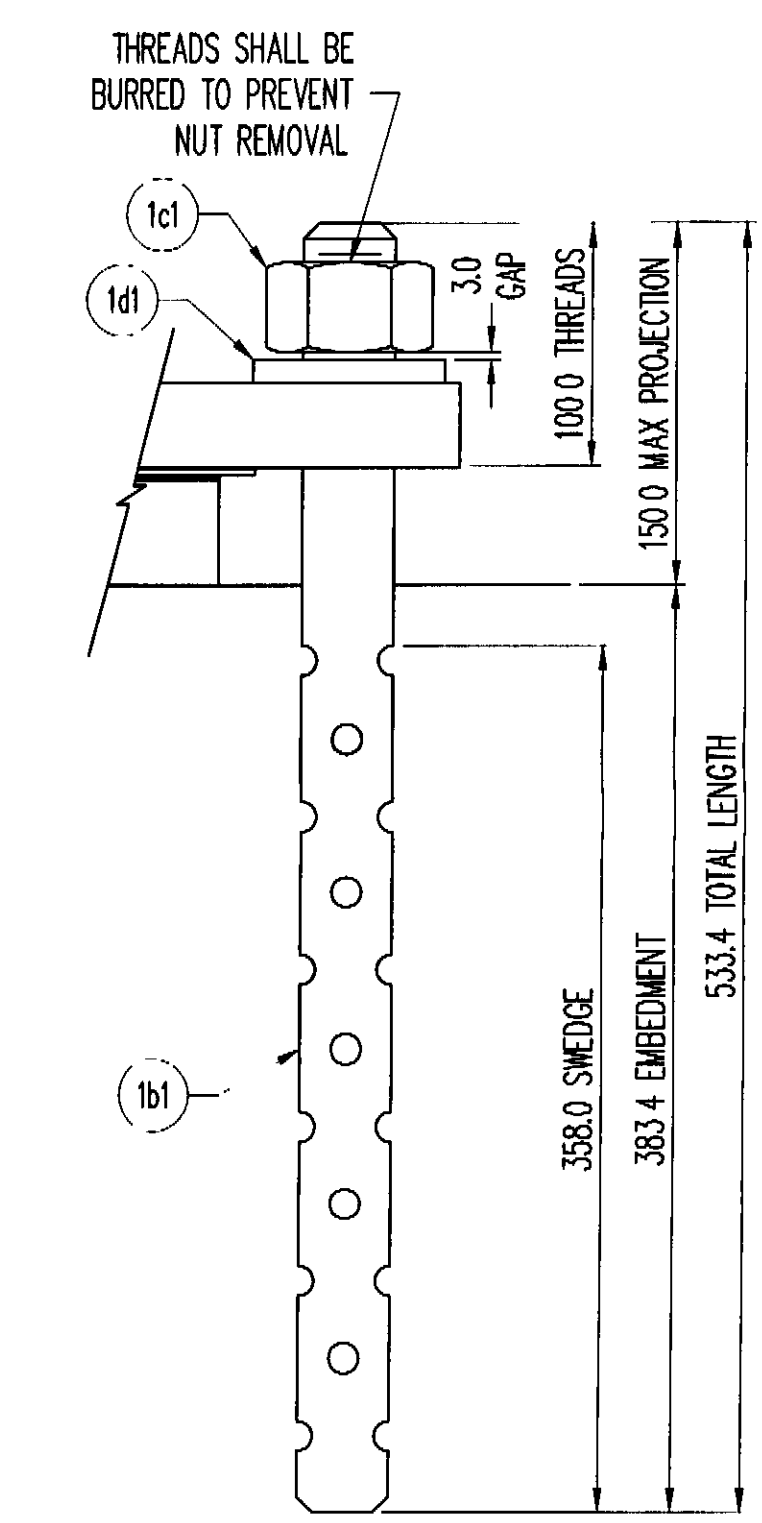


SECTION 'A-A'

LOAD DATA	26169-1106-1
VERTICAL DESIGN LOAD	672.0 kN



DETAIL 'A'



ANCHOR ROD DETAIL

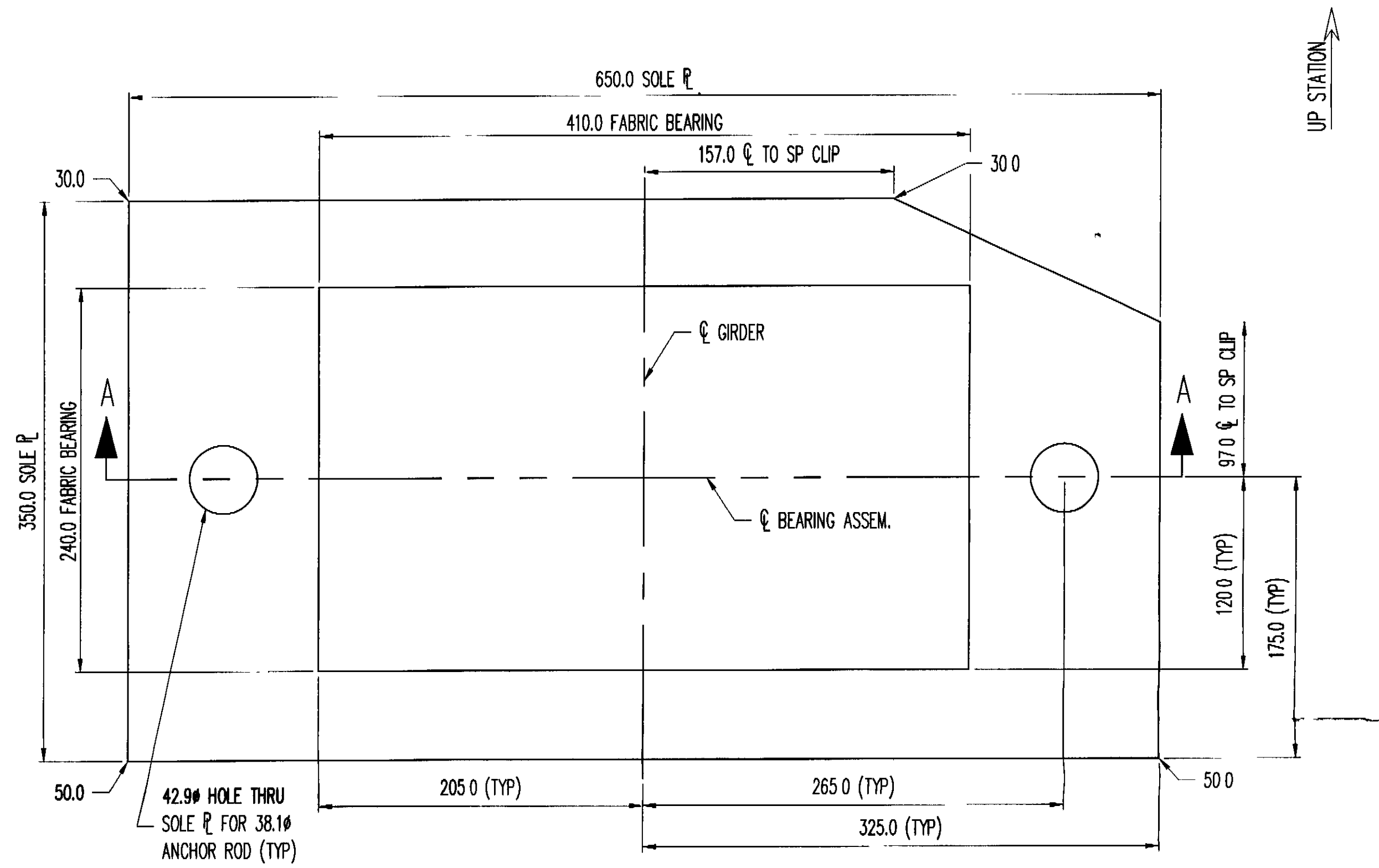
MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
1A	4	EXPANSION FABRIC BEARING				-
1a1	4	44.5 X 410.0	VT 731.01	240.0		-
1a2	4	1.6 X 410.0	PTFE	240.0	PURE VIRGIN UNFILLED	-
1a3	4	11 GA. X 440.0	A240 T304, #8 & 2B	340.0	PLAIN	-
1sp1	4	40.0 X 650.0	A709 GR 345W	350.0	A123-HDC	-
1B	8	SWEDGED ROD				-
1b1	8	Ø38.1 X 533.4 SWEDGED ROD	F1554 GR 250		100.0 THREADS, 358.0 SWEDGE, A153-HDC	-
1C	8	HEAVY HEX NUT				-
1c1	8	Ø38.1 HEX NUT	A563-DH OR A194-2H		A153-HDC	-
1D	8	WASHER PLATE				-
1d1	8	9.5 X 170.0	A36	80.0	42.9 DIA HOLE CENTERED, A123-HDC	-
					4/27/2009 9 03 21 AM	

SEE SHEET G01 FOR GENERAL NOTES

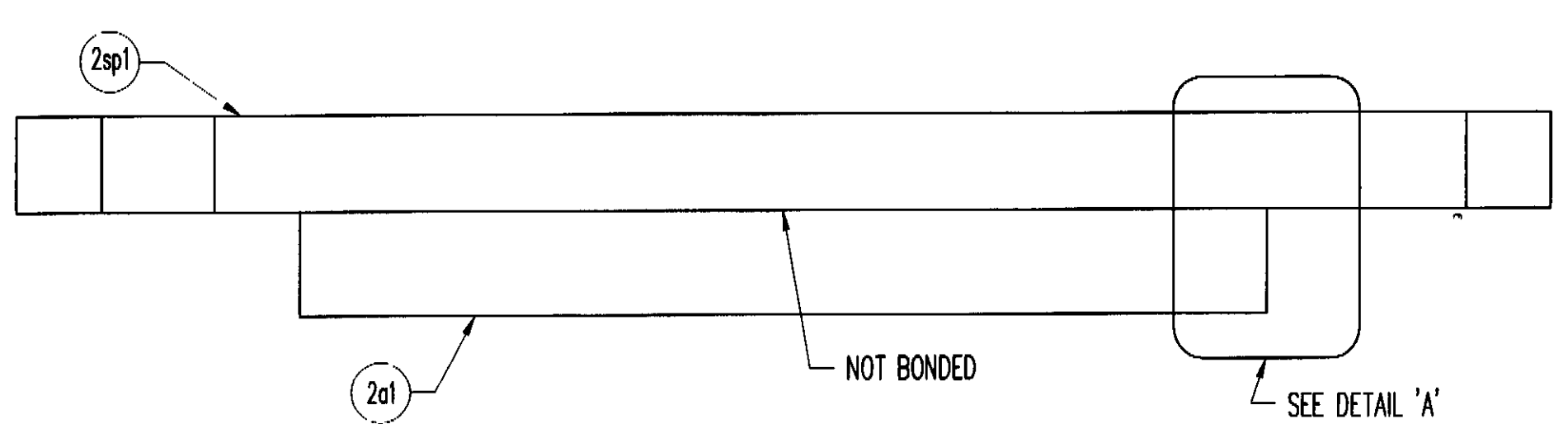
RECEIVED
OK'D BY: *U/L* OK'D BY: _____
MAY 04 2009
APPROVED: *RLW* DATE 5/19/09

D.S. BROWN
THE D.S. BROWN COMPANY
300 F CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419 257 3561
FAX 419 257 0332
WWW.DSBROWN.COM

REV	DESCRIPTION	DATE	DFT	CPD
	LOCATION — T.H. 9 CL 3 (LOCAL ROAD) BRIDGE — 48 PROJECT — BRO 1445 (25)			
	ITEM QUANTITY			
	26169-1106-1 4 OF 4			
	DESIGNER — VTDOT			
	CUSTOMER — PARENT CONSTRUCTION INC			
	SCALE: N.T.S. DRAWN BY: NRA CHECKED BY: DAE DATE: 4/24/09			
	PROJECT NUMBER: 26169 PRODUCT CODE: 1106 RELEASE: 1 YEAR: 01			

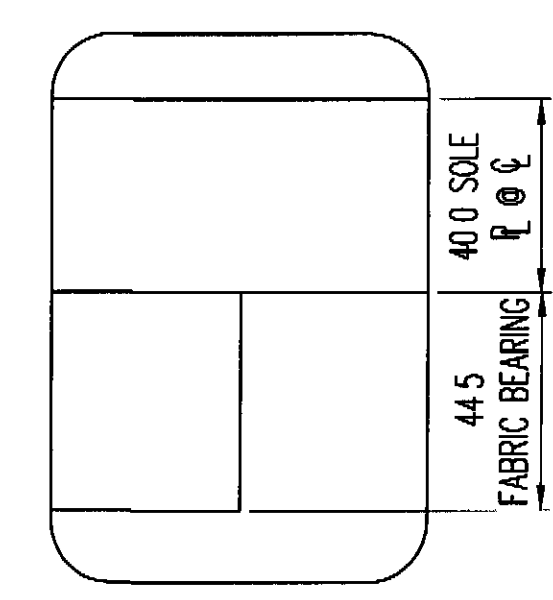


PLAN VIEW
FIXED FABRIC BEARING
(4) REQ'D @ ABUTMENT 2

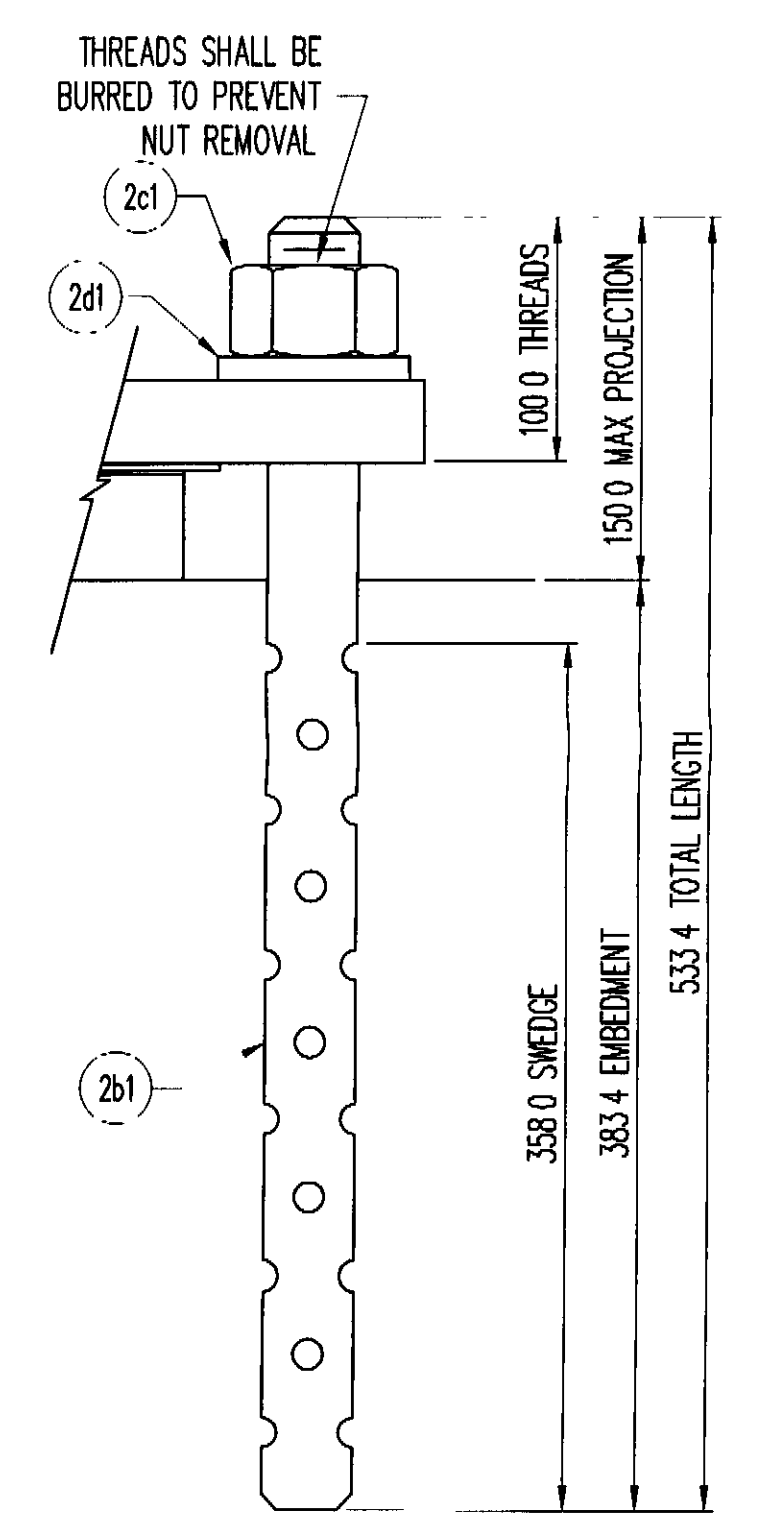


SECTION 'A-A'

LOAD DATA	26169-1106-2
VERTICAL DESIGN LOAD	672.0 kN



DETAIL 'A'



ANCHOR ROD DETAIL

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
2A	4	FIXED FABRIC BEARING				-
2a1	4	44.5 X 410.0	VT 731.01	240.0		-
2sp1	4	50.0 X 650.0	A709 GR 345W	350.0	A123-HDG	-
2B	8	SWEDGED ROD				-
2b1	8	Ø38.1 X 533.4 SWEDGED ROD	F1554 GR 250		100.0 THREADS, 358.0 SWEDGE, A153-HDG	-
2C	8	HEAVY HEX NUT				-
2c1	8	Ø38.1 HEX NUT	A563-DH OR A194-2H		A153-HDG	-
2D	8	WASHER PLATE				-
2d1	8	9.5 X 80.0	A36	80.0	42.9 DIA HOLE CENTERED, A123-HDG	-
					4/27/2009 9:03:21 AM	

SEE SHEET G01 FOR GENERAL NOTES

RECEIVED
OK'D BY: *WEL* OK'D BY: _____
MAY 04 2009
APPROVED: *plw* DATE 5/19/09

D.S. BROWN
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.1561
FAX 419.257.0332
WWW.DSBROWN.COM

REV	DESCRIPTION	DATE	DET	CPD
	LOCATION — TH 9 CL 3 (LOCAL ROAD) BRIDGE — 48 PROJECT — BRO 1445 (25)			
	ITEM	QUANTITY		
	26169-1106-2	4 OF 4		
	DESIGNER — VT DOT			
	CUSTOMER — PARENT CONSTRUCTION INC.			
	DESCRIPTION	SCALE	DRAWN BY	CHECKED BY
	FIXED FABRIC BEARING	N T S	NRA	DAE
	ADDISON CO., VT	PROJECT NUMBER	PRODUCT CODE	RELEASE
		26169	1106	1
				02



State of Vermont
Program Development
One National Life Drive
Montpelier, VT 05633-5001
www.aot.state.vt.us

Agency of Transportation

(phone) 802-828-6621
(fax) 802-828-3366
(toll) 800-253-0191

August 26, 2009

Auciello Iron Works Inc.
560 Main St.
Hudson, MA 01749

Re: Lincoln BRO 1445(25) - BR 48 on TH 9 over New Haven River
Auciello Iron Works Job No. AB97048-1001

Dear Auciello Iron Works Inc;

Thank you for sending us your Fabrication Drawings and Welding Procedures for this project. We received them by mail from F.R. Lafayette, Inc. on August 20, 2009.

The drawings are for Contract Items:
Item 900.640 SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)
Item 900.640 SPECIAL PROVISION (BRIDGE RAILING, ANODIZED 3 RAIL ALUMINUM)
Item 900.640 SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)

Please find enclosed Approved As Noted Fabrication Drawings. Please revise the drawings as noted and submit white prints for our record plans.

Please find enclosed Approved Welding Procedures.

Please notify our Fabrication Inspector, Jeff Clark, at least seven days in advance of fabrication. You may contact him by phone at (802)828-0044 or email at jeff.clark@state.vt.us. He will acknowledge your notice. Any material fabricated prior to the notification date is subject to rejection without further cause. See VTRANS Standard Specification 506.03.

Please contact Tom Lackey, Project Engineer at (802) 828-0505 if you have any questions.

Sincerely,

Carolyn Carlson, P.E.
Structures Project Manager

cc: [X] Resident Engineer Joe Knipes Letter & Plans
[X] Shop Inspector Jeff Clark Letter & Plans
[X] Contractor Parent Construction Letter & Plans
[X] Subcontractor F.R. Lafayette Letter & Plans
[X] Materials & Research (C&IA Unit) Letter
[X] Construction Division Letter
[X] Files (CC)



WELDING PROCEDURE SPECIFICATION (WPS)

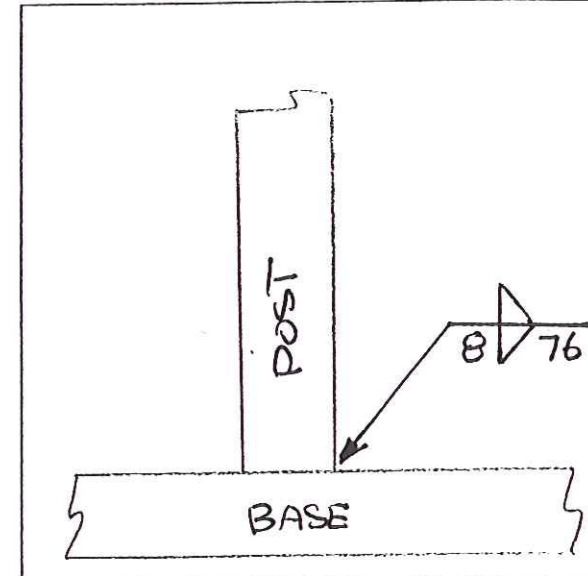
Welding Procedure Specification No. 2009-01 Date 8/13/2009 Approved Philippe Lefebvre

Revisions _____ Date _____ Approved _____

Supporting PQR Numbers 40

Joints

Groove Design Sketch



Backing

Type N/A

Permanent -

Removed -

Other -

Base Metals

M No. 23 Thickness 3mm to 25mm

Alloy and Temper 6061-T6

Filler Metal

F-No. 23 AWS No. ER 5356

Size of electrode 3/64"

Type of electrode ALUMINUM

Other _____

Shielding Gas

Shielding gas(es) HELIUM - ARGON

Percent composition 75% - 25%

Flow rate 40 TO 75 CFH

Other _____

Position

Position of groove FILLET = 2F

Welding progression FORWARD

Other _____

Preheat

Preheat temperature 150° F

Interpass temperature -

TRANS RECEIVED
OK'D BY JWC
AUG 24 2009
APPROVED [Signature]
DATE 8/13/09

WELDING PROCEDURE SPECIFICATION (WPS) 2009-01

Cleaning
 Initial cleaning oxide SS WIRE BRUSH
 Initial cleaning oil and dirt SOLENT
 Interpass cleaning

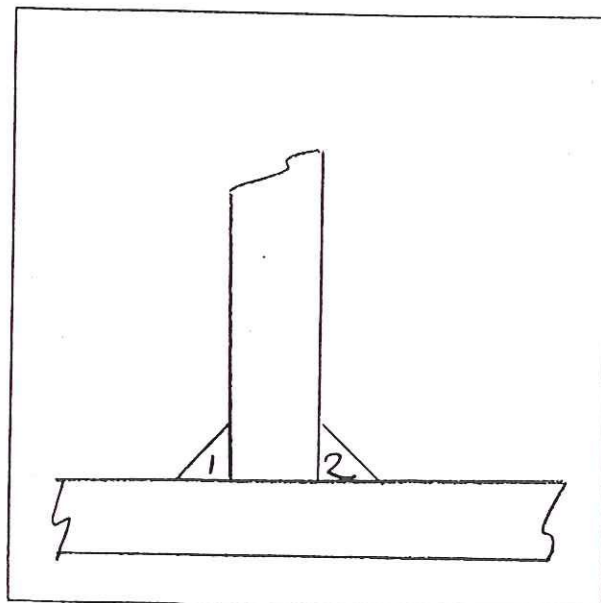
Pass No.	Welding Process	Amps	Volts	Travel Speed
ALL	GMAW	148-200	22-30	24-36

Postweld Heat Treatment
 Original temper _____
 Final temper _____
 Temperature _____
 Time _____
 Quench _____

Process(es)
 Process GMAW Type SEMI-AUTO
 Process _____ Type _____
 Electrode (GTAW) _____

RECEIVED
 AUG 24 2009
 BY DATE 8/25/09

Technique
 Stringer or weave bead STRINGER
 Orifice or gas cup size 5/8"
 Oscillation _____
 Contact tube to work distance 1/2"
 Single pass or multipass SINGLE per side
 Tungsten extension _____
 Method of backgouging _____
 Other _____

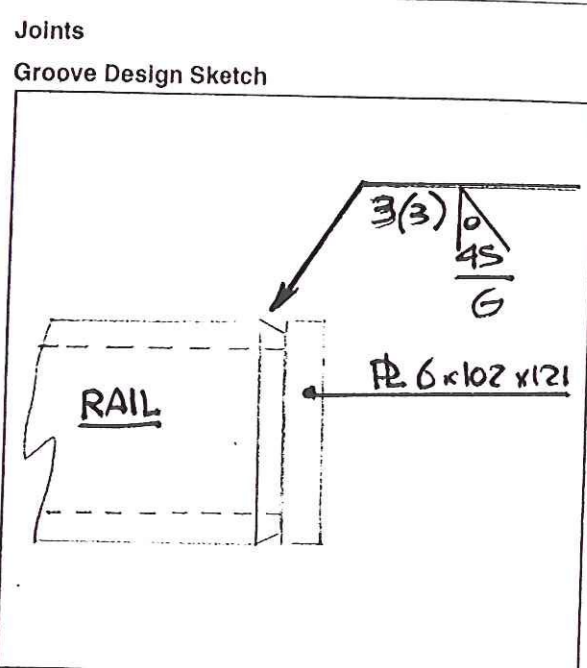


Sketch of Welding Sequence

*Manual, automatic, polarity, pulse, etc.

WELDING PROCEDURE SPECIFICATION (WPS)

Welding Procedure Specification No. 2009-02 Date 8/13/2009 Approved Philippe Lefebvre
 Revisions _____ Date _____ Approved _____
 Supporting PQR Numbers 40



Filler Metal
 F-No. 23 AWS No. ER5356
 Size of electrode 3/64"
 Type of electrode ALUMINUM
 Other _____
 Shielding Gas
 Shielding gas(es) HELIUM - ARGON
 Percent composition 75% - 25%
 Flow rate 40 TO 75 CFH
 Other _____

Backing
 Type N/A
 Permanent _____
 Removed _____
 Other _____

Position
 Position of groove = 6G
 Welding progression FOREHAND
 Other _____

Base Metals
 M No. 23 Thickness 3mm to 25mm
 Alloy and Temper 6061-T6

Preheat
 Preheat temperature 150° F
 Interpass temperature VT TRANS

RECEIVED
 CK'D BY _____ OK'D BY JLUC
 AUG 24 2009
 BY me APPROVED ✓
 DATE 8/14/09

AUCIELLO IRON WORKS INC.

MISCELLANEOUS METALS FABRICATOR

WELDING PROCEDURE SPECIFICATION (WPS) 2009-02

Cleaning
 Initial cleaning oxide SS - WIREBRUSH
 Initial cleaning oil and dirt SOLVENT
 Interpass cleaning SS - WIRE BRUSH

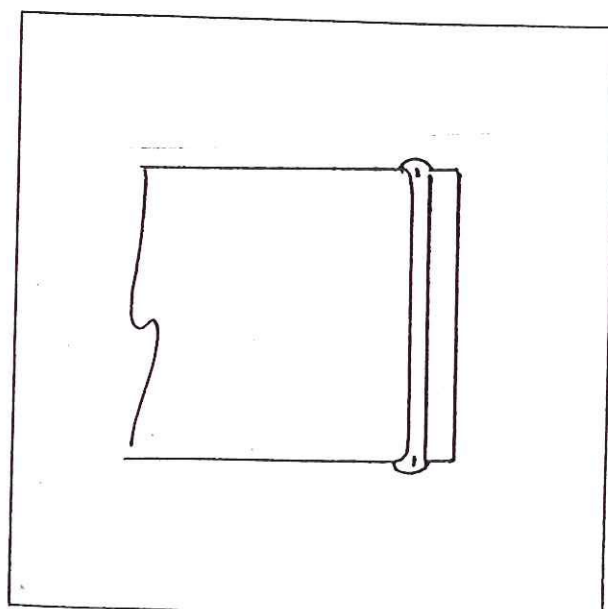
Pass No.	Welding Process	Amps	Volts	Travel Speed
ALL	GMAW	148-200	22-30	24-36

Postweld Heat Treatment
 Original temper _____
 Final temper _____
 Temperature _____
 Time _____
 Quench _____

Process(es)
 Process GMAW Type SEMI-AUTO
 Process _____ Type* _____
 Electrode (GTAW) _____

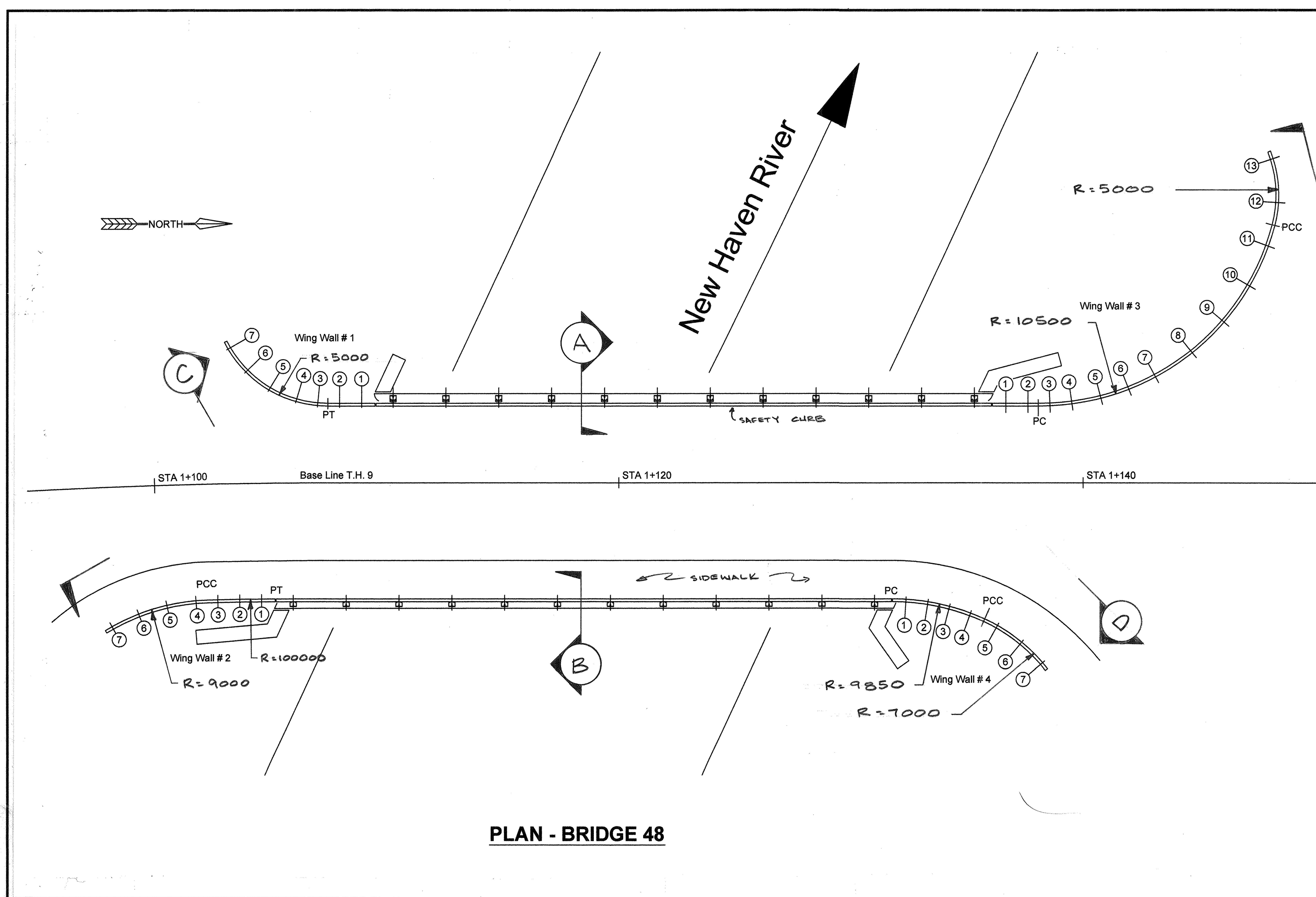
VT TRANS
 RECEIVED
 CK'D BY _____ OK'D BY JUC
 AUG 24 2009
 REQUESTED _____ APPROVED ✓
 BY auc DATE 8/25/09

Technique
 Stringer or weave bead STRINGER
 Orifice or gas cup size 5/8"
 Oscillation _____
 Contact tube to work distance 1/2"
 Single pass or multipass MULTIPASS
 Tungsten extension _____
 Method of backgouging _____
 Other _____

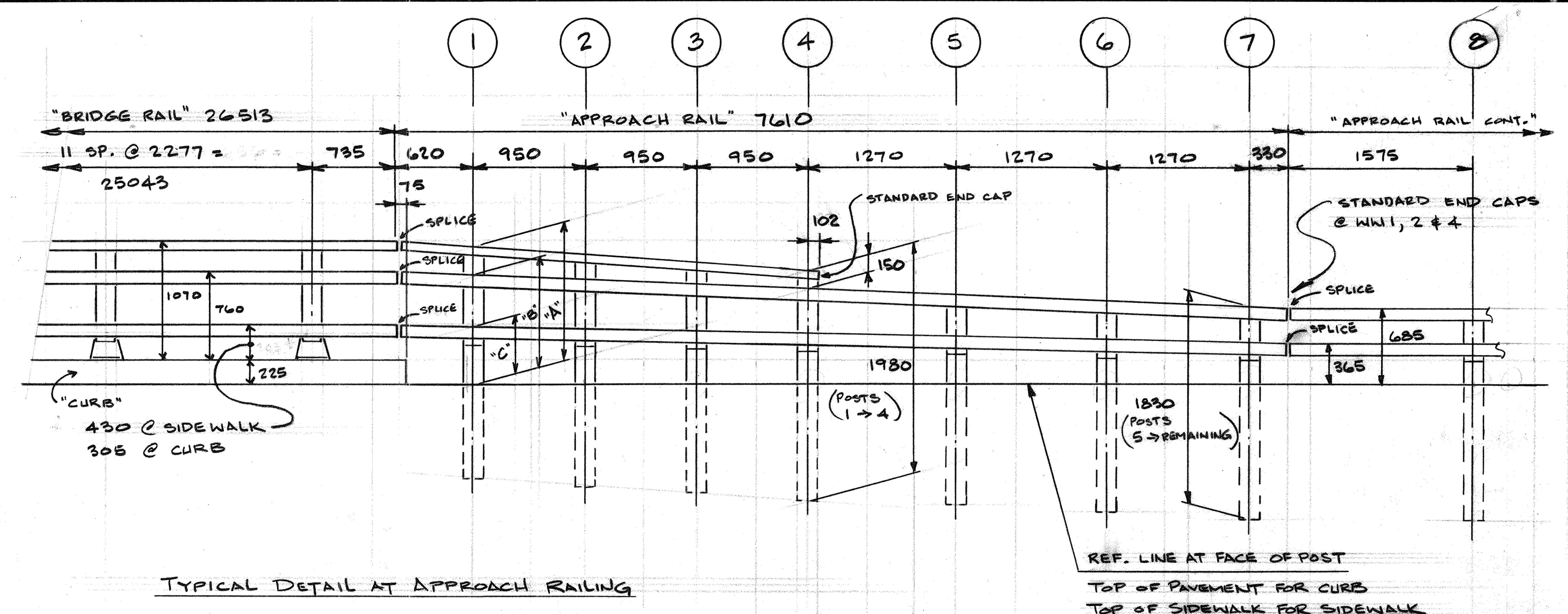


Sketch of Welding Sequence

*Manual, automatic, polarity, pulse, etc.



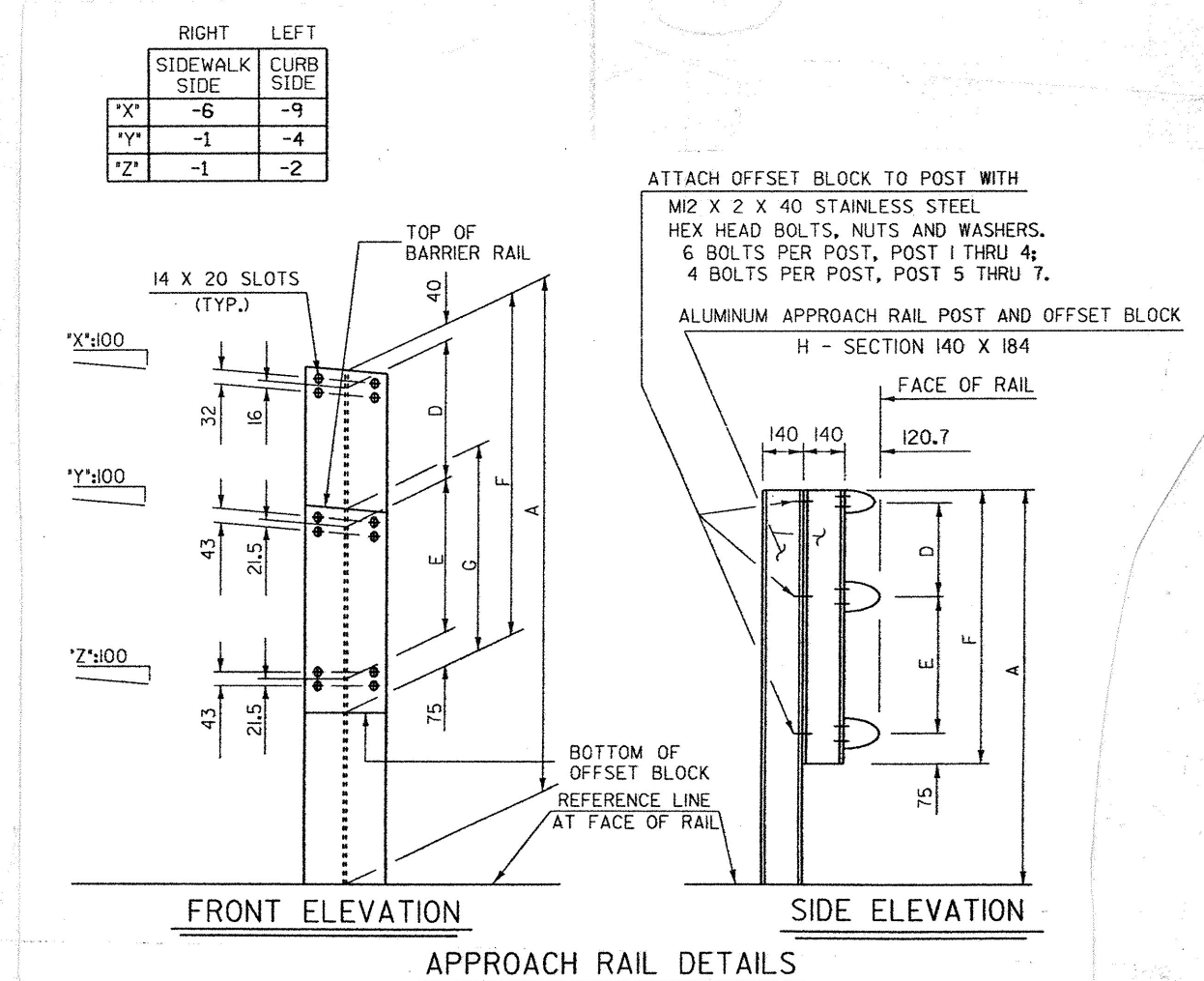
PLAN - BRIDGE 48



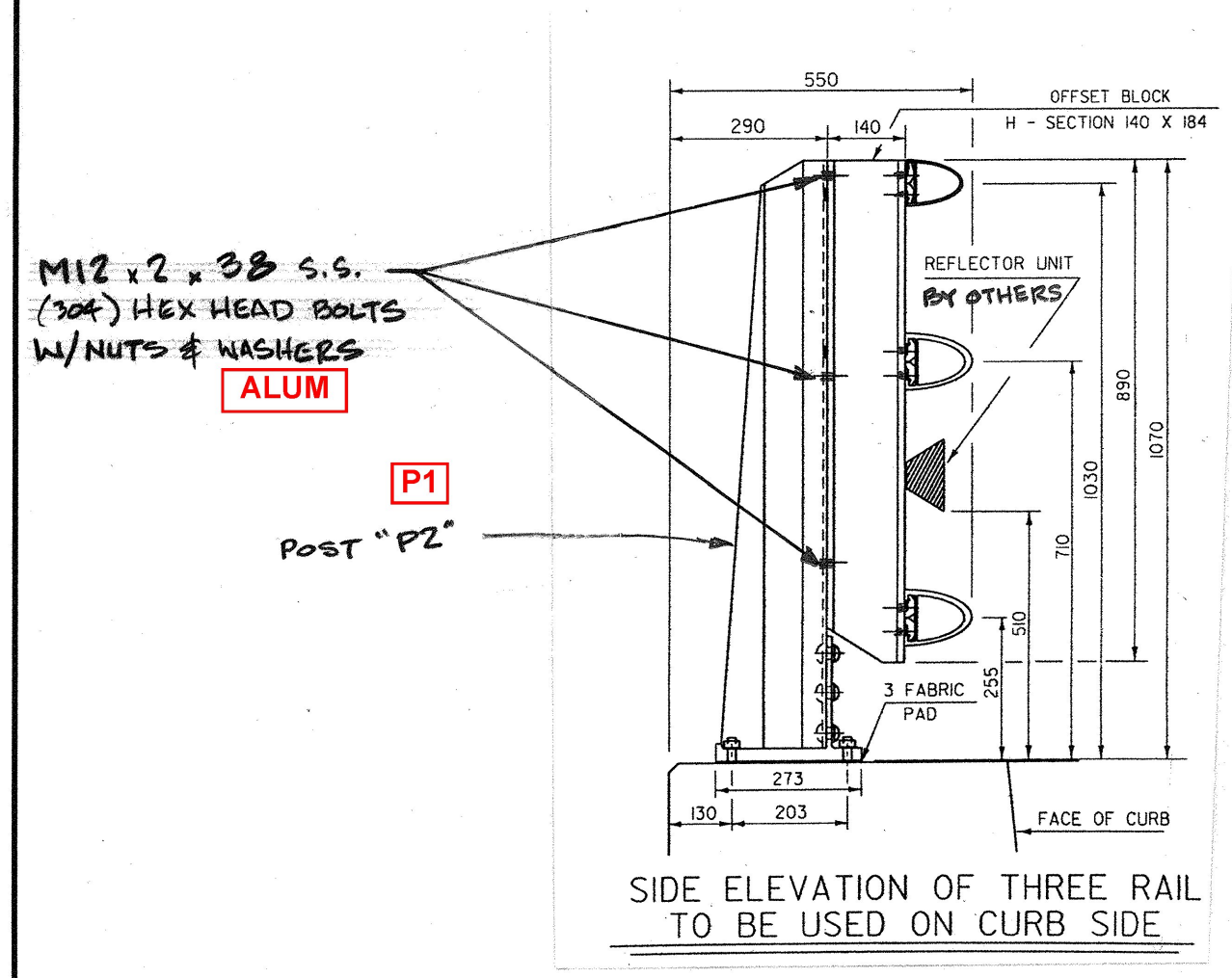
TYPICAL DETAIL AT APPROACH RAILING

ALUMINUM APPROACH RAIL RAIL DIMENSIONS FOR A CURB CONDITION								ALUMINUM APPROACH RAIL RAIL DIMENSIONS FOR A SIDEWALK CONDITION							
POST NO.	A	B	C	D	E	F	G	POST NO.	A	B	C	D	E	F	G
1	1241	959	516	293	444	851	-	1	1035	754	424	293	329	737	-
2	1058	920	494	249	426	789	-	3	928	734	408	205	327	646	-
3	1075	881	473	205	408	728	-	4	874	724	399	162	325	601	-
4	992	842	451	162	391	667	-	5	-	71	388	-	323	-	449
5	-	790	423	-	367	-	493	6	-	698	376	-	322	-	448
6	-	737	394	-	344	-	470	7	-	685	365	-	320	-	446
7	-	685	365	-	320	-	446								

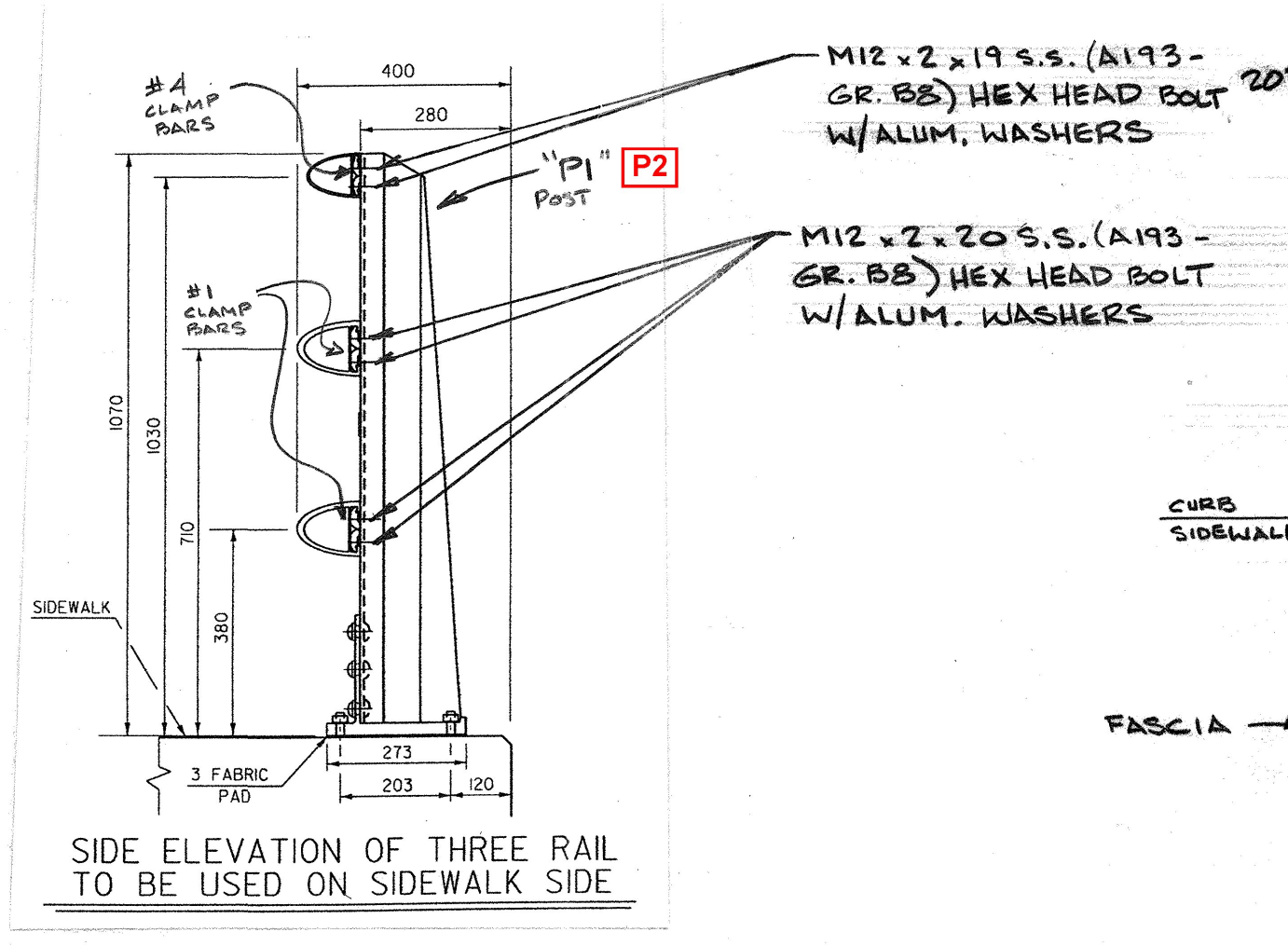
ALL REMAINING POSTS ARE TO HAVE THE SAME DIMENSIONS AS POST NO. 7



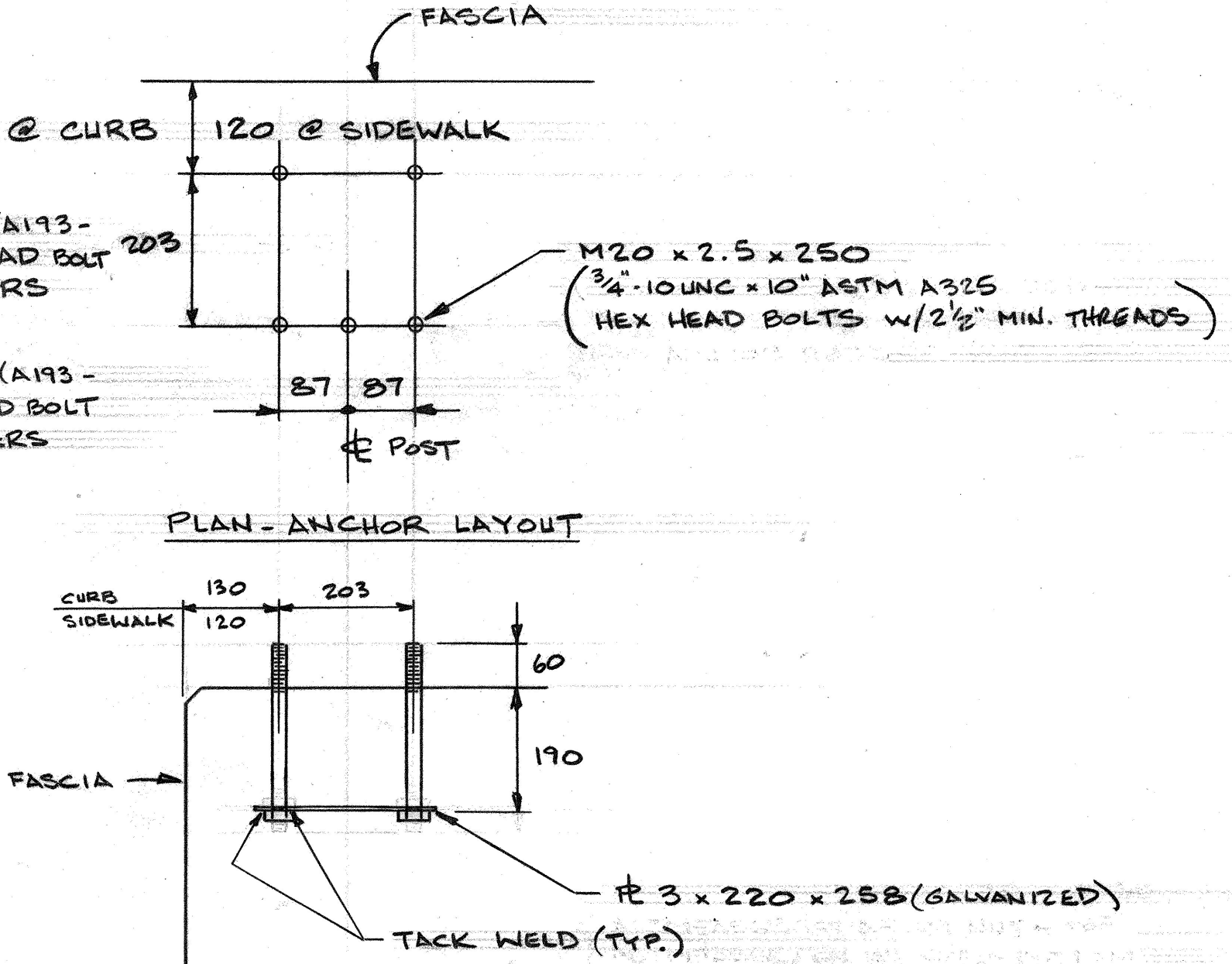
APPROACH RAIL DETAILS



SECTION A



SECTION B (SPINDLE PANEL NOT SHOWN FOR CLARITY)

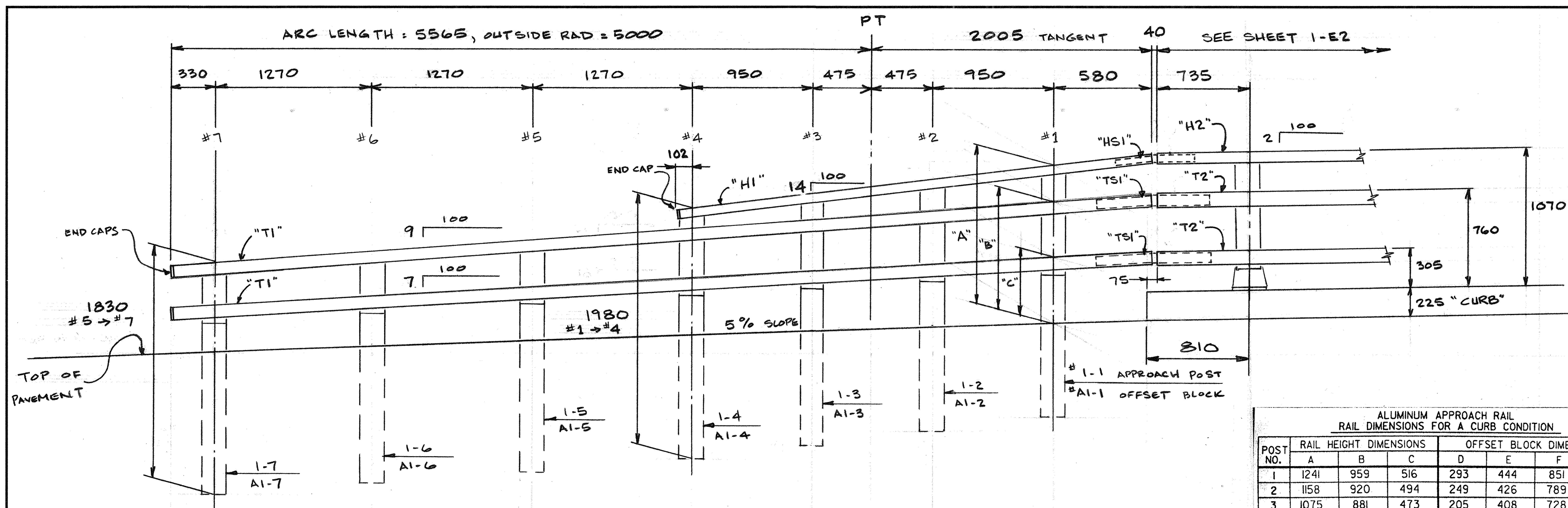


SECTION - ANCHOR ASSEMBLY

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECEIVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382			
VERMONT AGENCY OF TRANSPORTATION TOWN OF LINCOLN COUNTY OF ADDISON ROUTE NO.: T.H. 9 CL 3 BRIDGE No.: 48 PROJECT No.: BRO 1445 (25)			
ALUMINUM BRIDGE RAILING W/APPROCH.			
SURFACE PREP: NONE		FINISH: ANODIZED - BLACK SATIN FINISH	
FOR: F.R. LAFAYETTE, INC.			
DR: PFD 5/16/09		DWG. NO.	
CHK: LJM 5/12/09		BR-2959	
JOB NO.		BY	
1	8.12.09	FOR APPROVAL	AB97048-1001 SHEET 1-EI OF 4

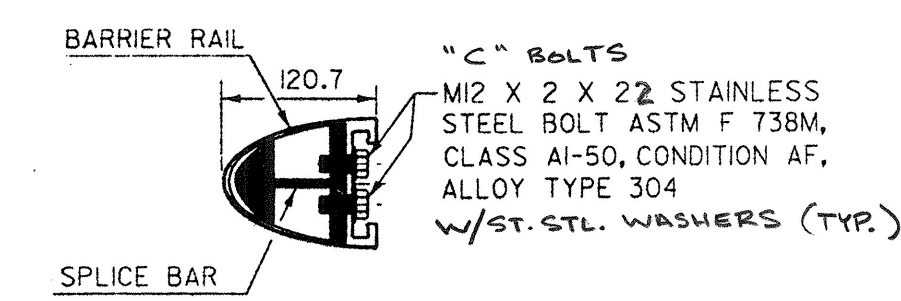
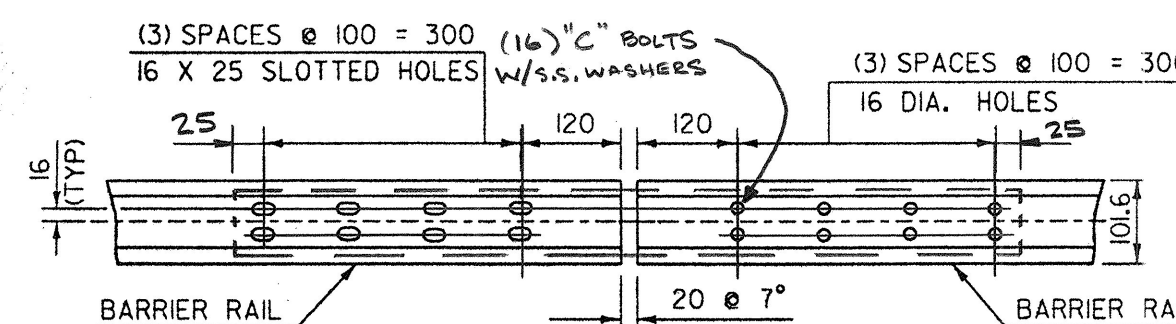
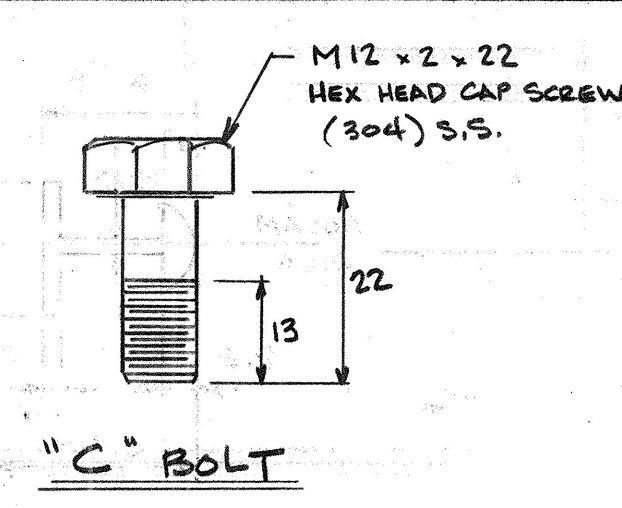
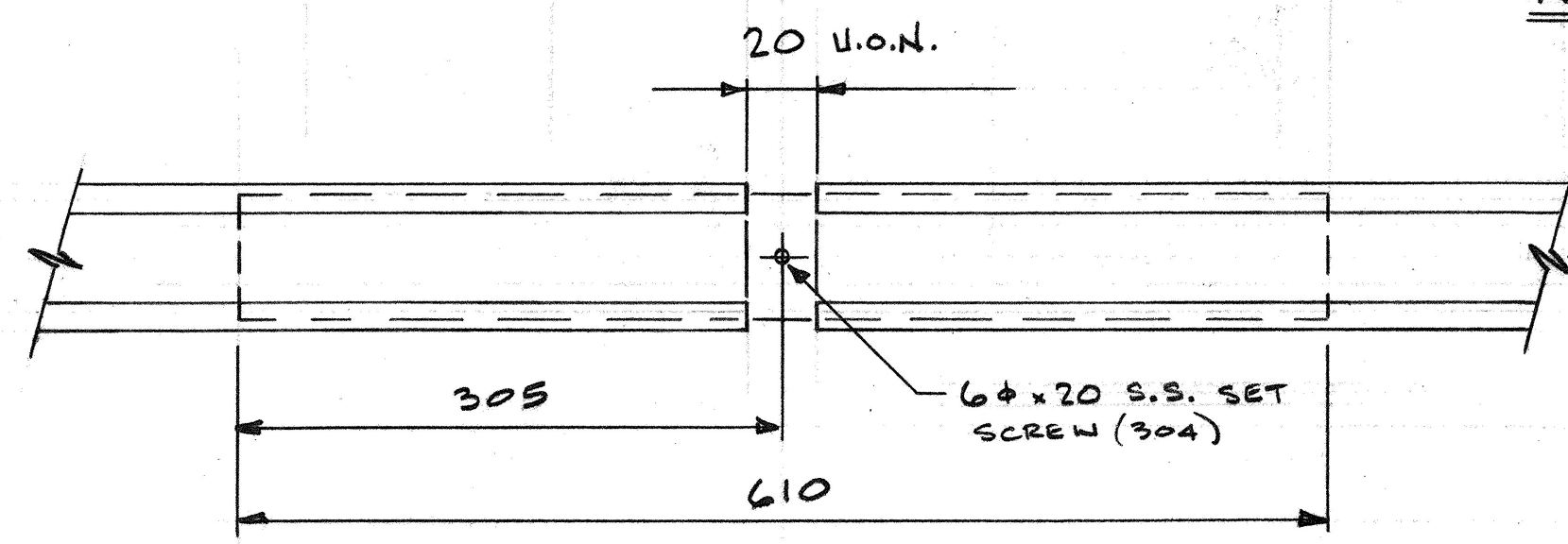
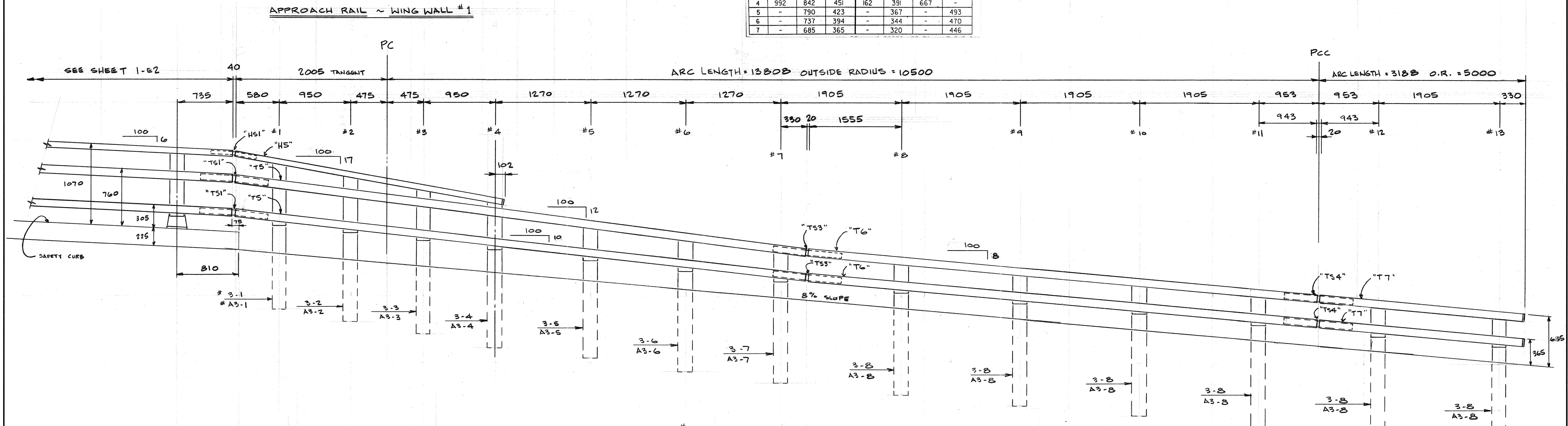
ALL DIMENSIONS ARE IN MILLIMETRES



ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A CURB CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS		
	A	B	C	D	E	F
1	1241	959	516	293	444	851
2	1158	920	494	249	426	789
3	1075	881	473	205	408	728
4	992	842	451	162	391	667
5	-	790	423	-	367	493
6	-	737	394	-	344	470
7	-	685	365	-	320	446

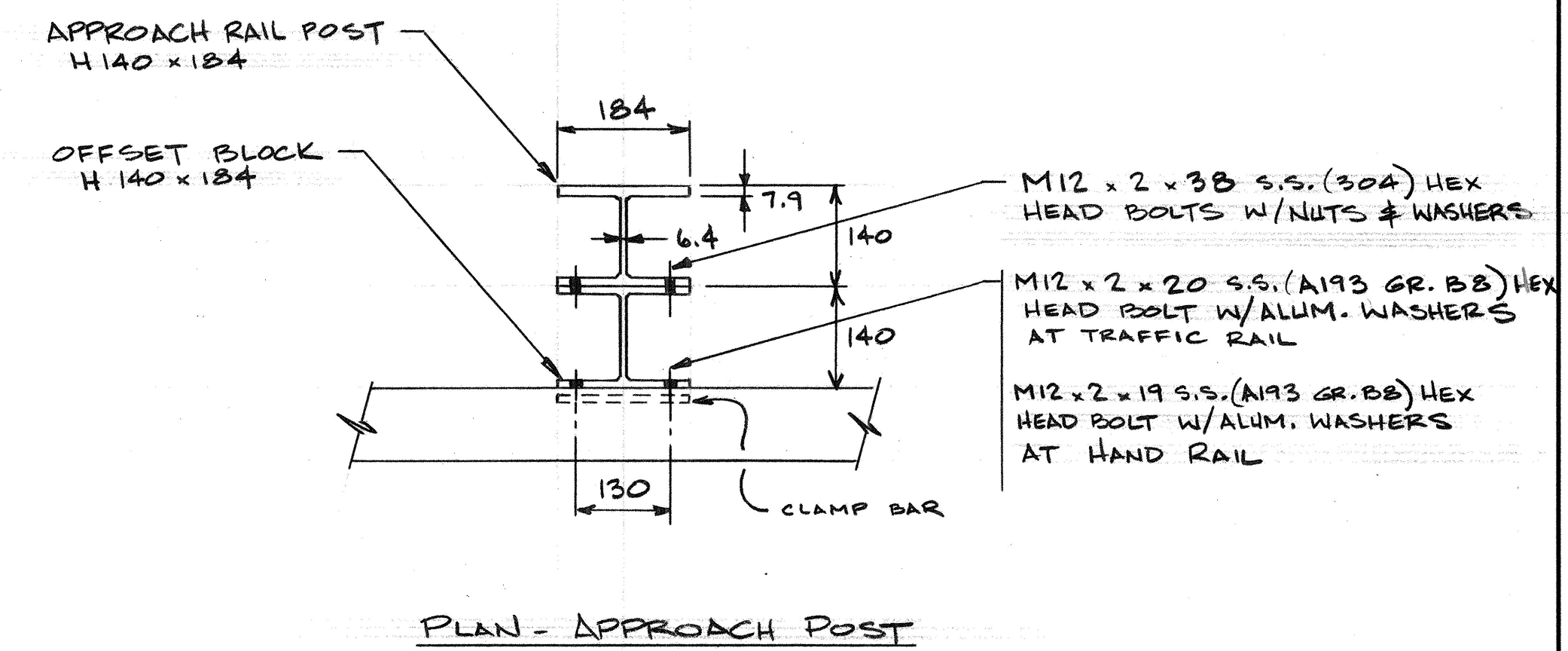
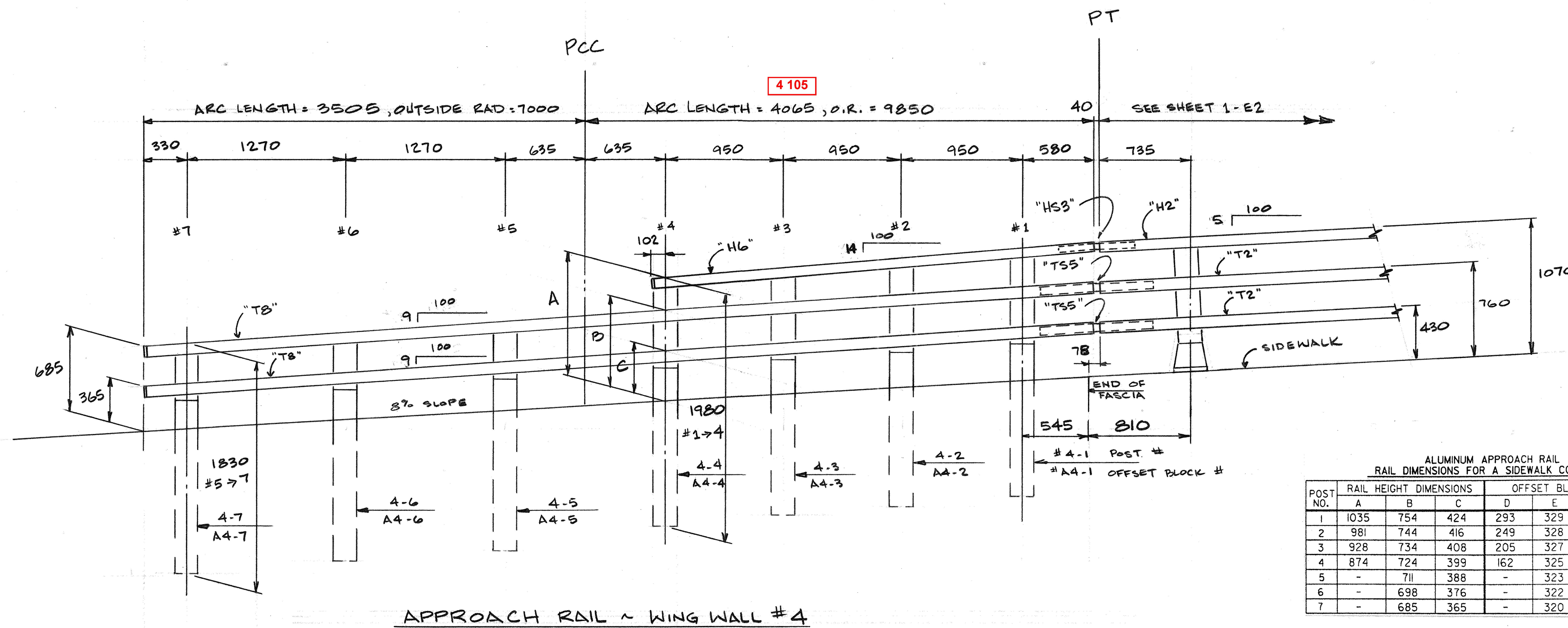
NOTE: POST SPACINGS & RADII ARE GIVEN AT NOSE OF TRAFFIC RAIL.



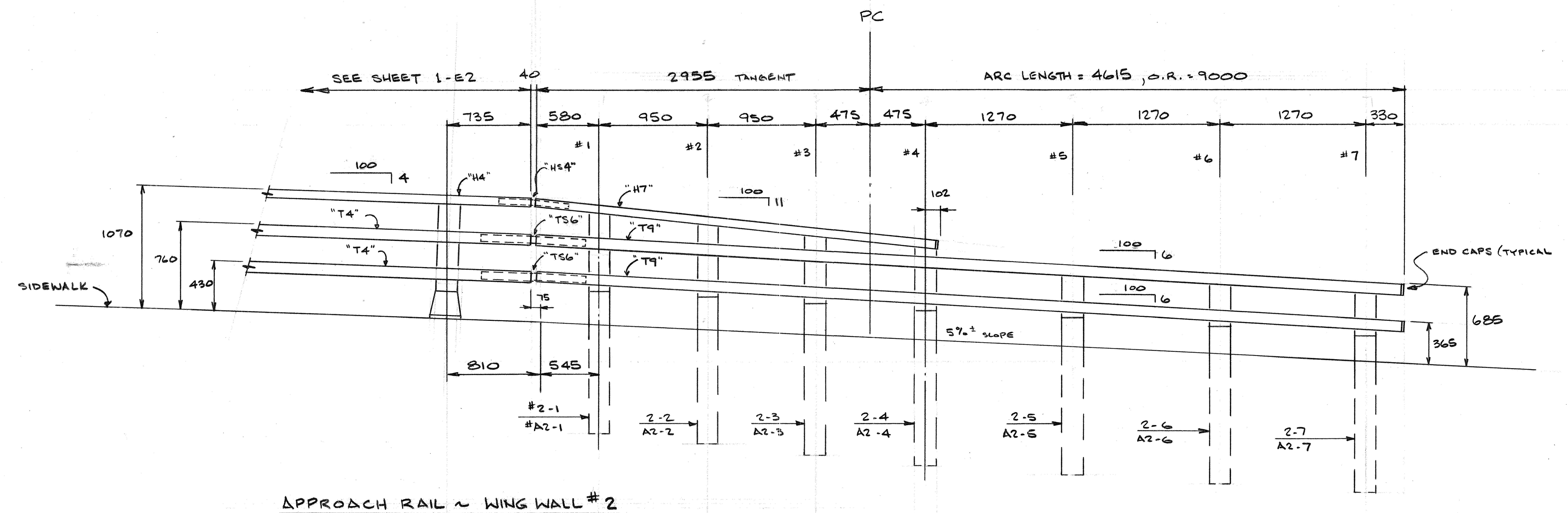
STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECEIVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED
BY CWC DATE 08/26/2009

<p>AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382</p> <p>VERMONT AGENCY OF TRANSPORTATION TOWN OF LINCOLN COUNTY OF ADDISON ROUTE NO: T.H. 9 CL 3 BRIDGE NO. 48 PROJECT NO: BRO 1445 (25)</p> <p>ALUMINUM APPROACH RAILING SURFACE PREP: NONE FINISH: ANODIZED BLACK SATIN FINISH FOR: F.R. LAFAYETTE, INC. DR: [Signature] 5/16/09 DWG. NO: BR-2959 CHK: [Signature] JOB NO: AB97048-1001 SHEET 1-E3 OF 4</p>		<p>1 8-13-09 FOR APPROVAL</p>
		<p>ISSUE DATE DESCRIPTION BY</p>

ALL DIMENSIONS ARE IN MILLIMETRES



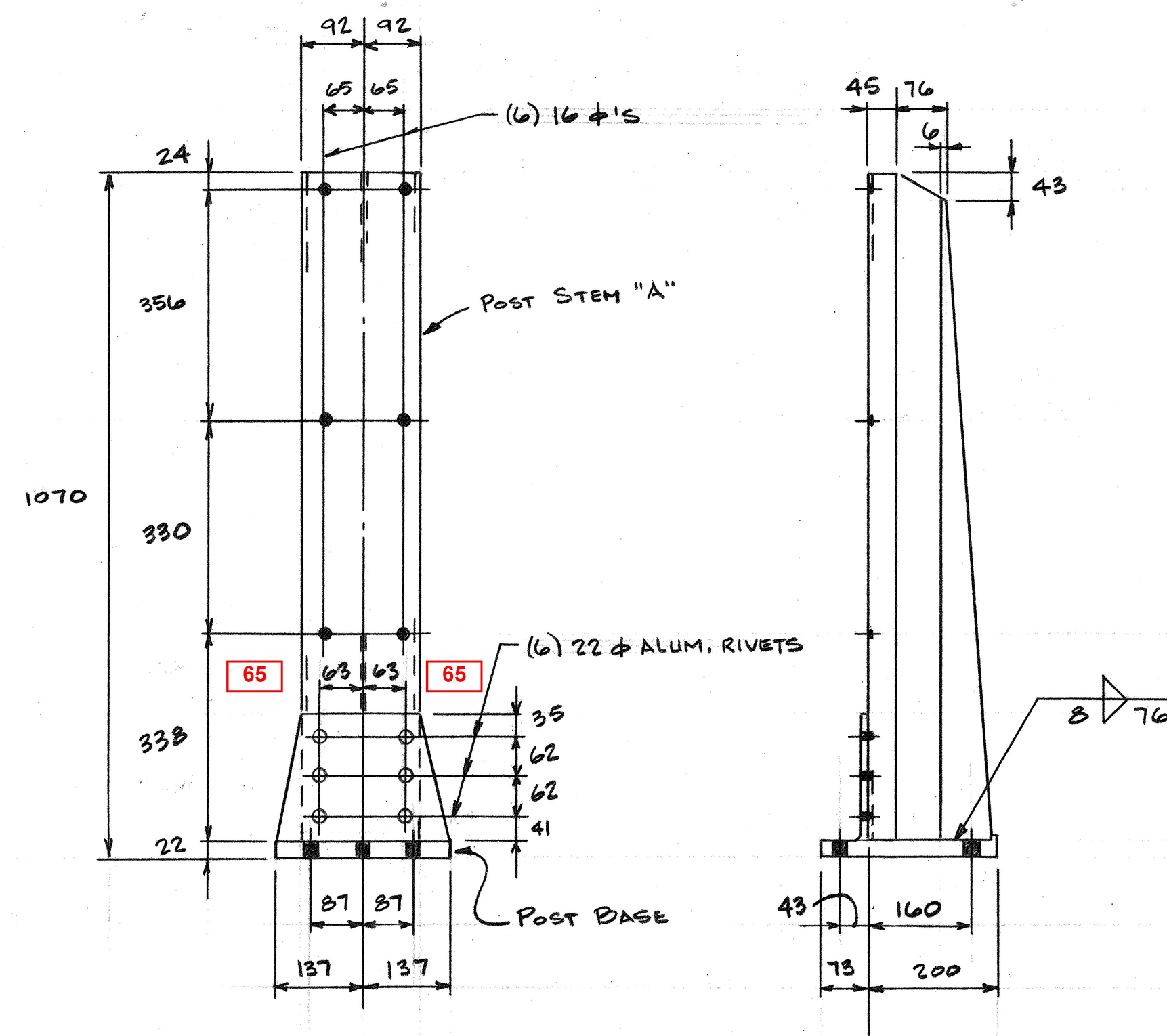
NOTE:
POST SPACINGS & RADII ARE GIVEN AT NOSE OF TRAFFIC RAIL



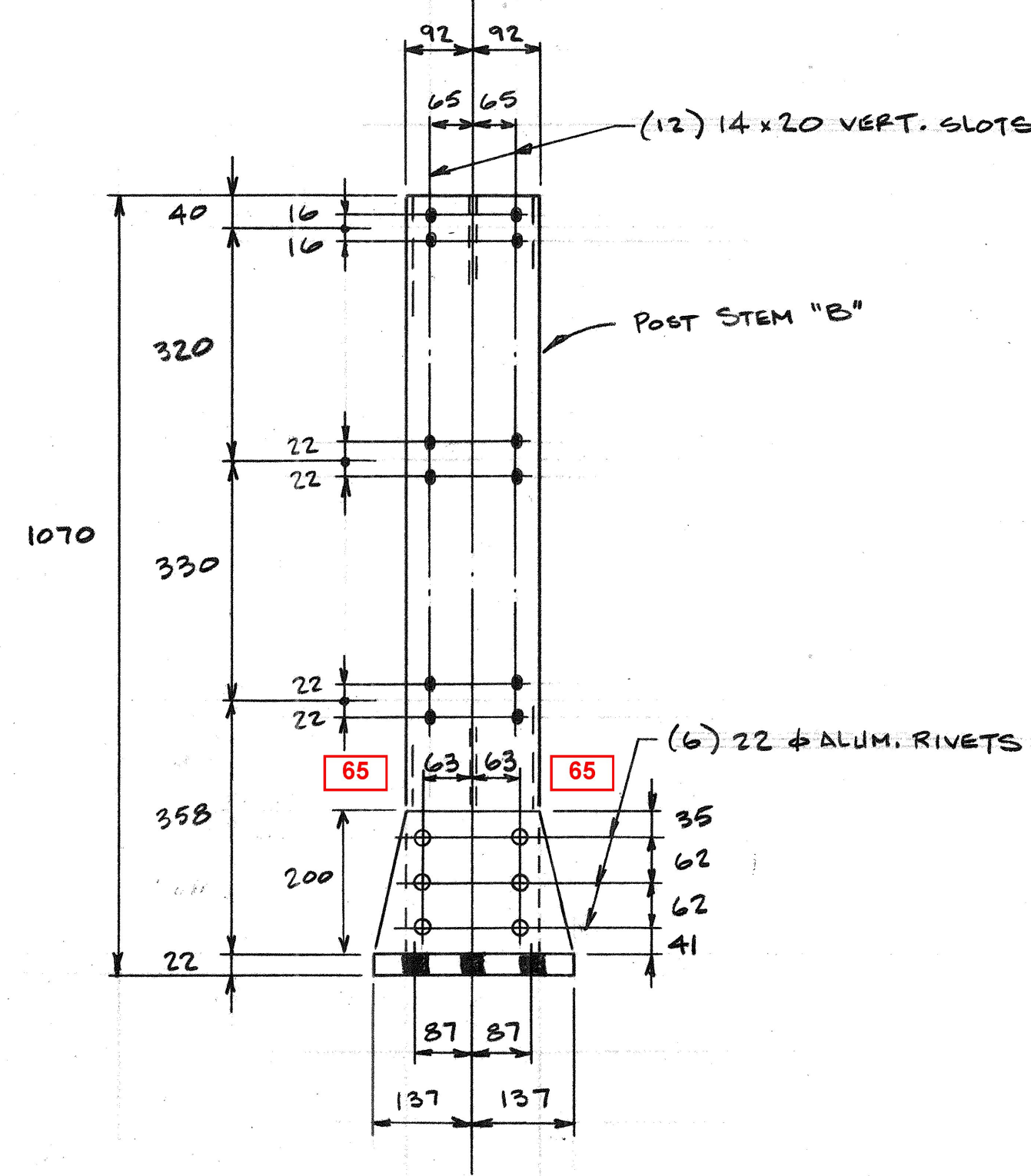
STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECEIVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382	
VERMONT AGENCY OF TRANSPORTATION TOWN OF LINCOLN COUNTY OF ADDISON ROUTE No.: T.H. 9 CL 3 BRIDGE No. 48 PROJECT No. BRO 1445 (25)	
ALUMINUM APPROACH RAIL	
SURFACE PREP: NONE	FINISH: ANODIZED BLACK SATIN FINISH
FOR: E.R. LAFAYETTE, INC.	
DR: <i>[Signature]</i> 5/16/09	DWG. NO. BR-2959
CHK:	JOB NO. AB97048-1001
ISSUE DATE: 8-13-09	DESCRIPTION: FOR APPROVAL
BY:	SHEET 1-E4 OF 4

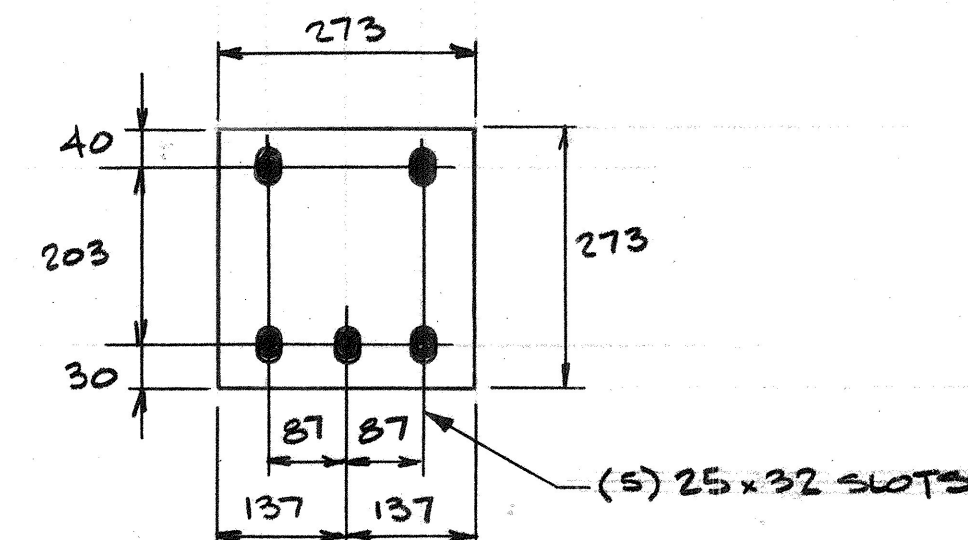
ALL DIMENSIONS ARE IN MILLIMETRES



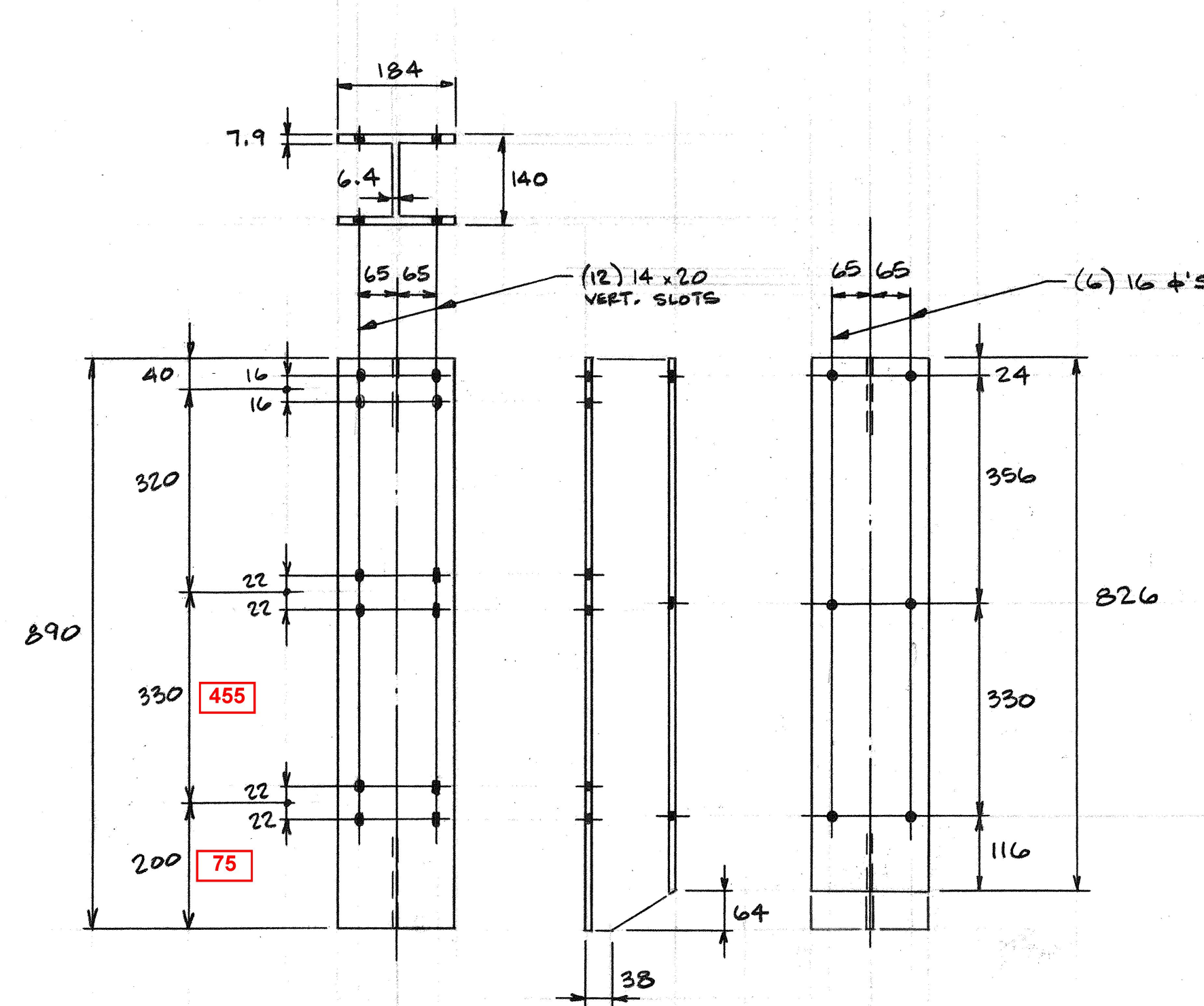
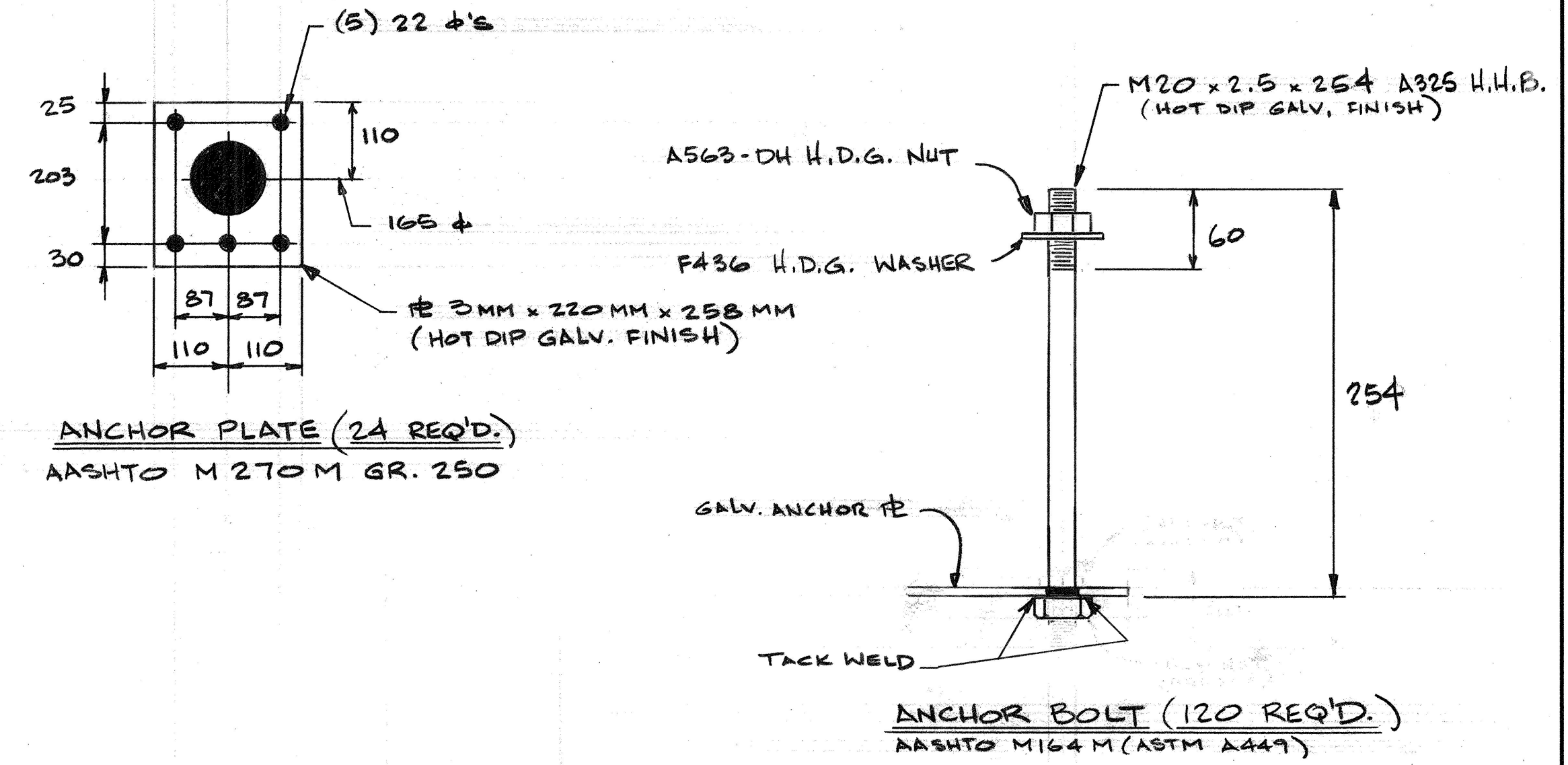
BRIDGE RAIL POST ~ "P1" (12 REQ'D.)



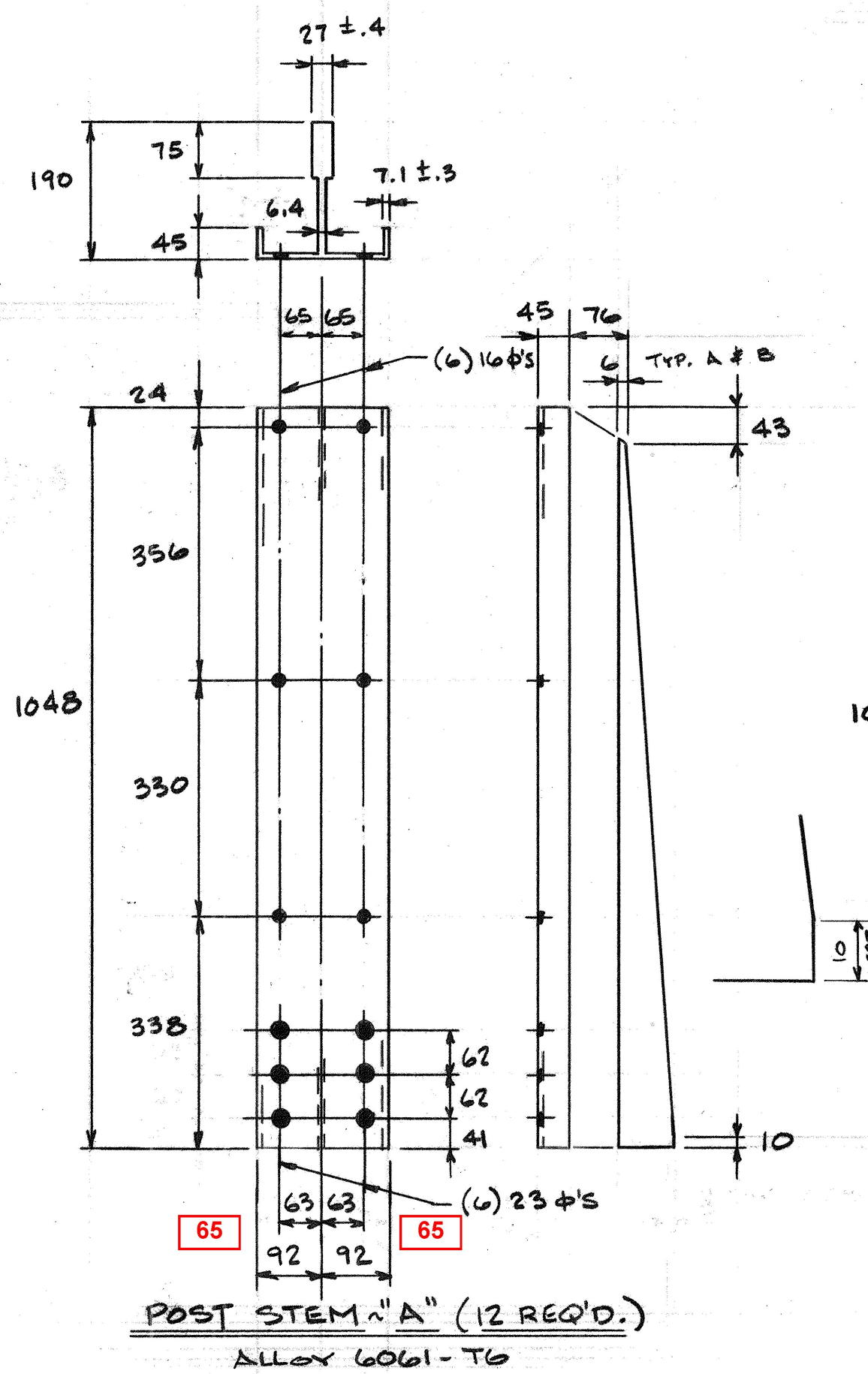
BRIDGE RAIL POST ~ "P2" (12 REQ'D.)



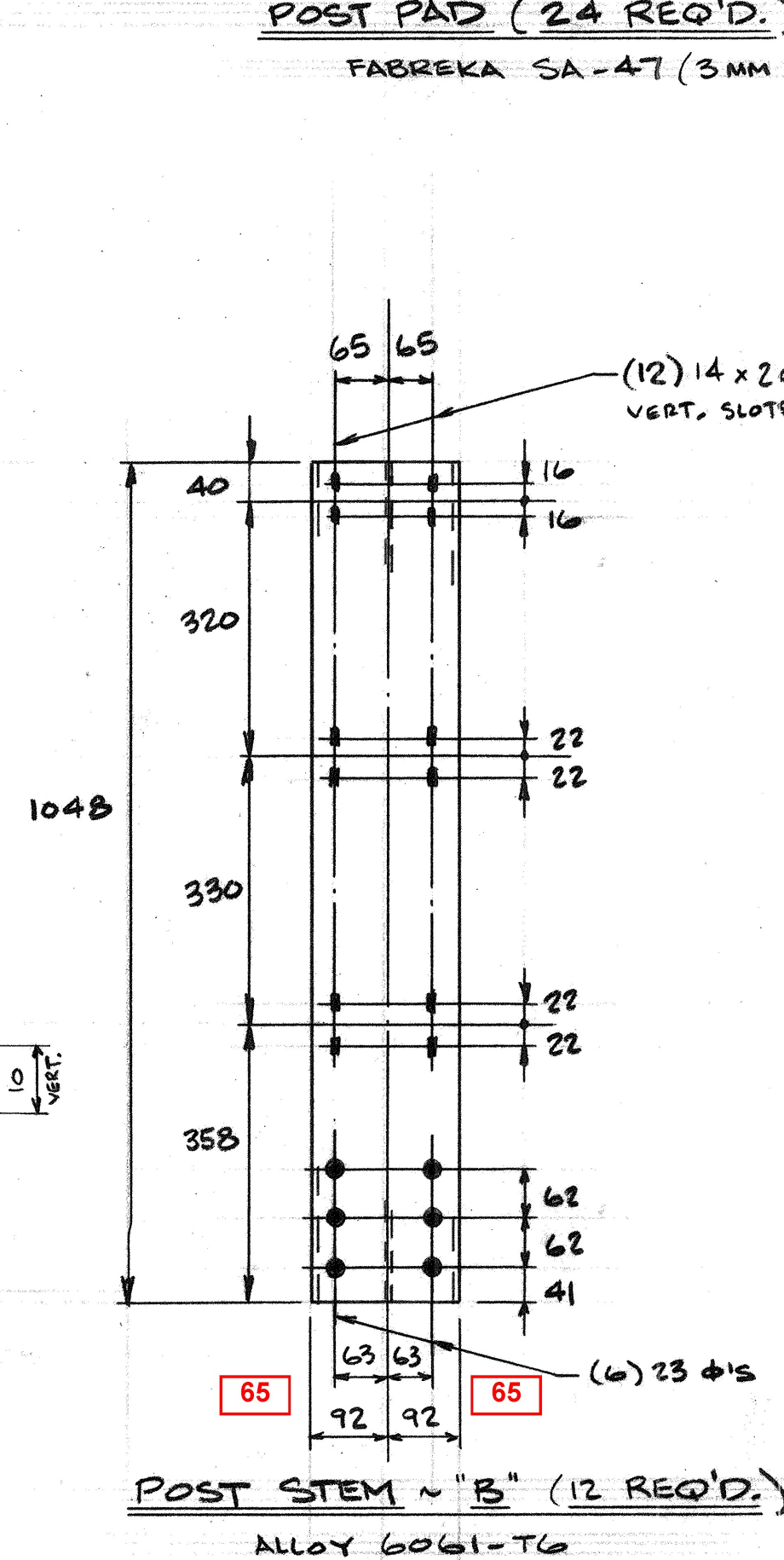
POST PAD (24 REQ'D.)
FABREKA SA-47 (3MM THK.)



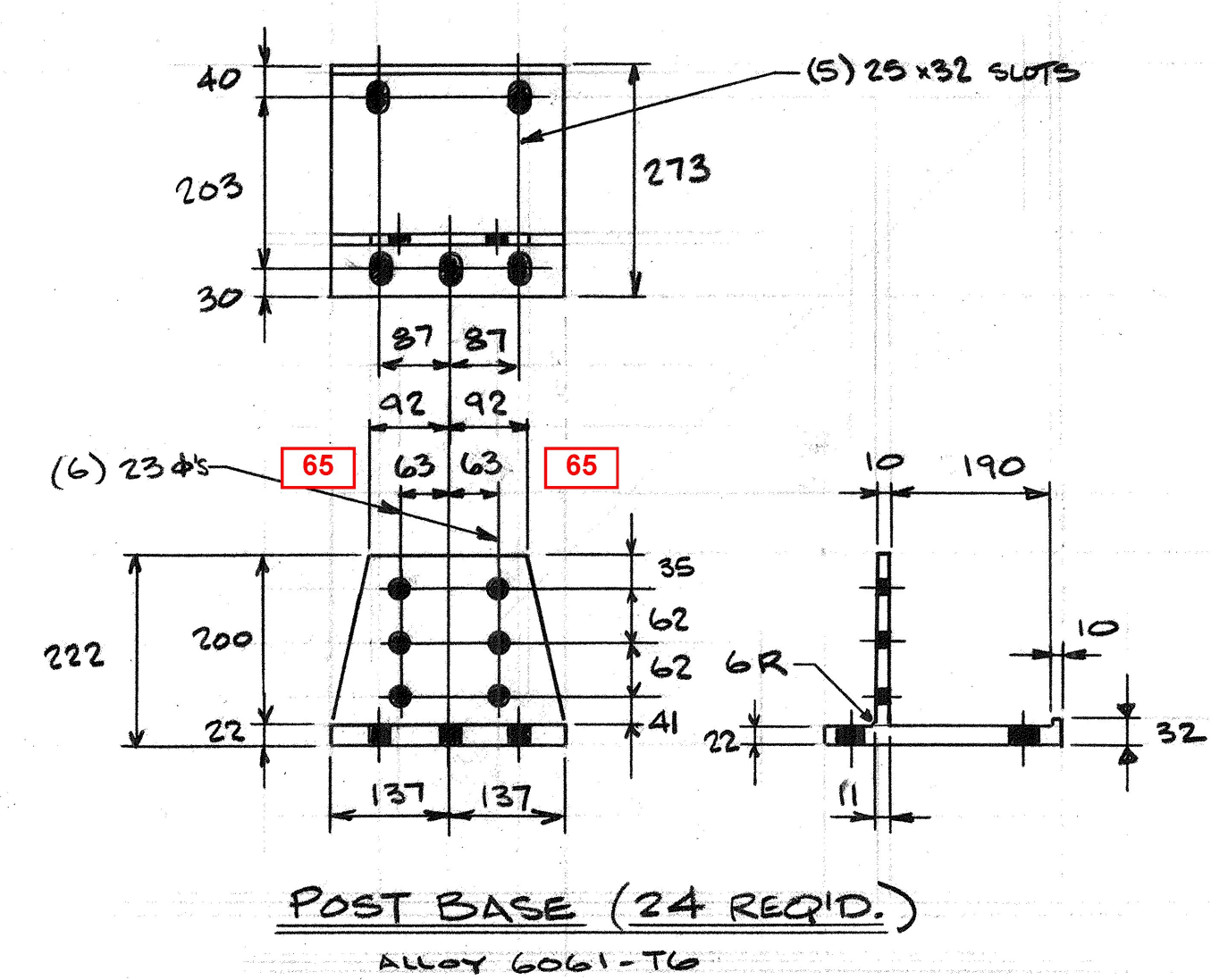
OFFSET BLOCKS ~ "P103" (12 REQ'D.)
'H' SECTION 140 x 184 ALLOY 6061-T6



POST STEM "A" (12 REQ'D.)
ALLOY 6061-T6



POST STEM "B" (12 REQ'D.)
ALLOY 6061-T6

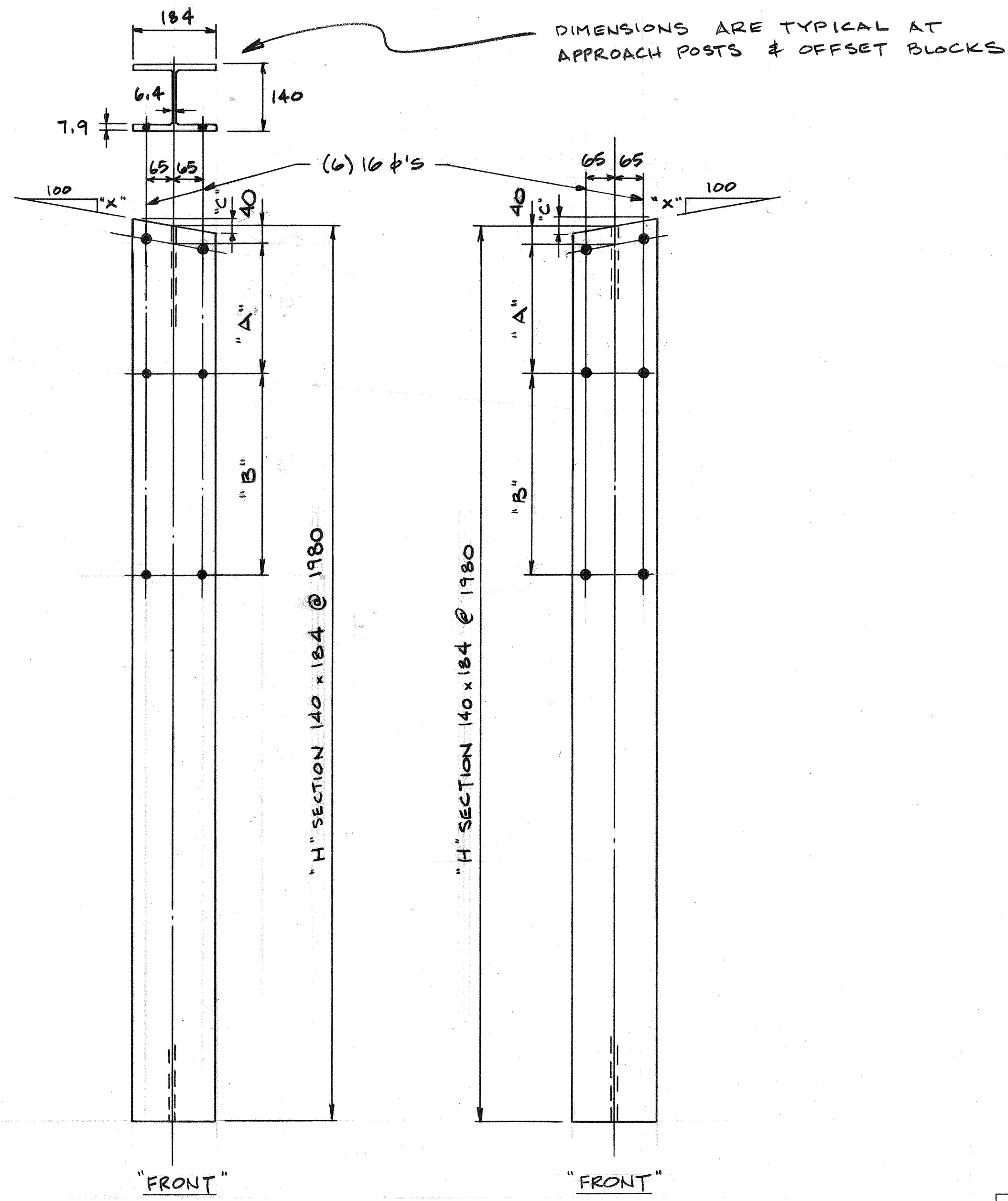


POST BASE (24 REQ'D.)
ALLOY 6061-T6

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECEIVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382	
VERMONT AGENCY OF TRANSPORTATION TOWN OF LINCOLN COUNTY OF ADDISON ROUTE No. TH.9 CL 3 BRIDGE No. 48 PROJECT No. BRD 1445 (25)	
ALUM. BRIDGE RAILING POSTS	
SURFACE PREP: NONE	FINISH: ANODIZED ~ BLACK SATIN FINISH
FOR: F.R. LAFAYETTE, INC.	
DR: FPP 5/19/09	DWG. NO. BR-2959
ISSUE: 8-13-09	FOR APPROVAL
DATE:	DESCRIPTION:
BY:	JOB NO. AB97048-1001
	SHEET 1-FI OF 4

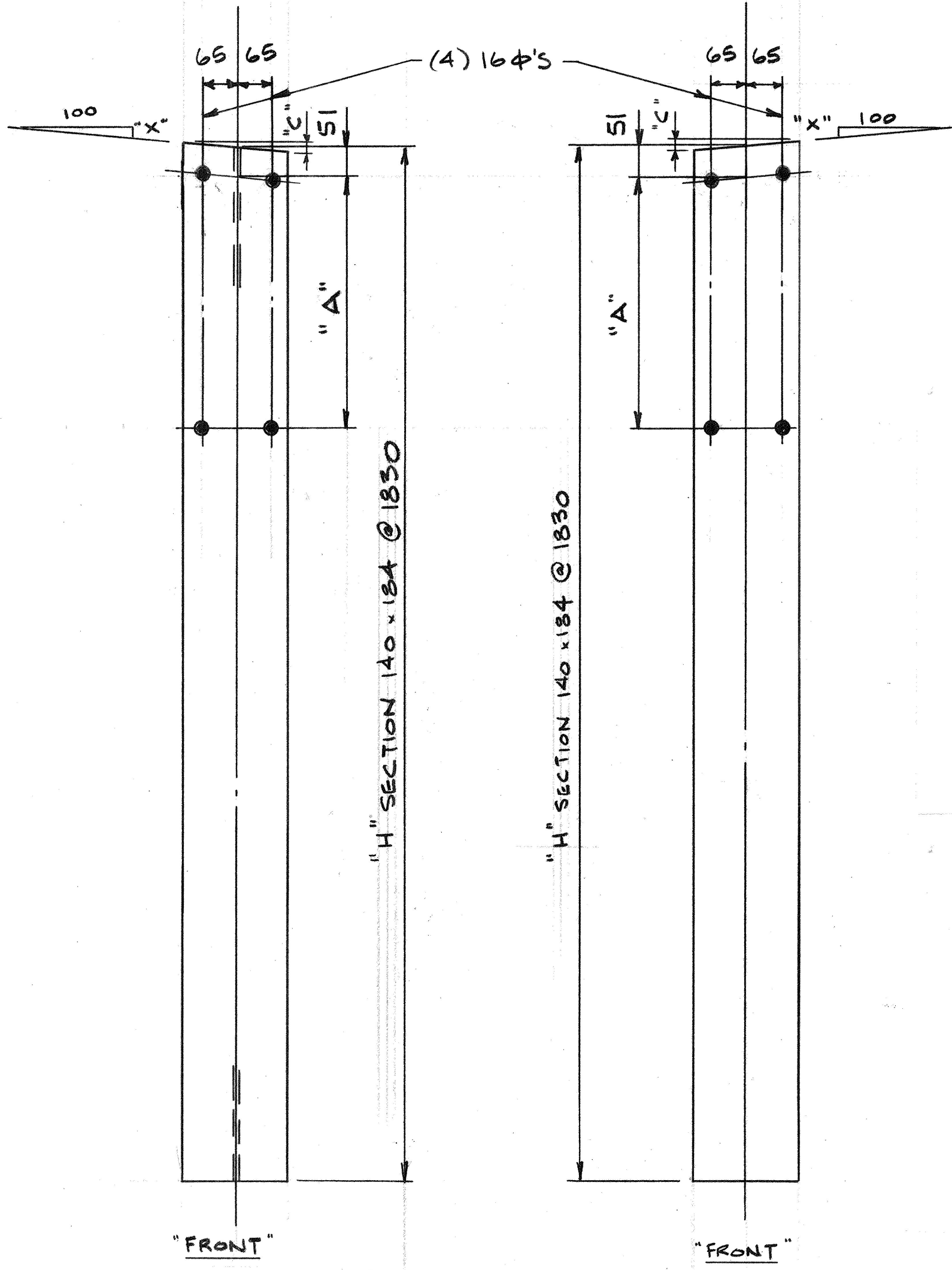
ALL DIMENSIONS ARE IN MILLIMETRES



Approach Rail Posts #1 thru #4 14 ?

QTY.	Pc. Mk.	"X"	"A"	"B"	"C"
1	2-1	11	293	329	21
1	2-2	11	249	328	21
1	2-3	11	205	327	21
1	2-4	11	162	325	21
1	3-1	17	293	444	32
1	3-2	17	249	426	32
1	3-3	17	205	408	32
1	3-4	17	162	391	32

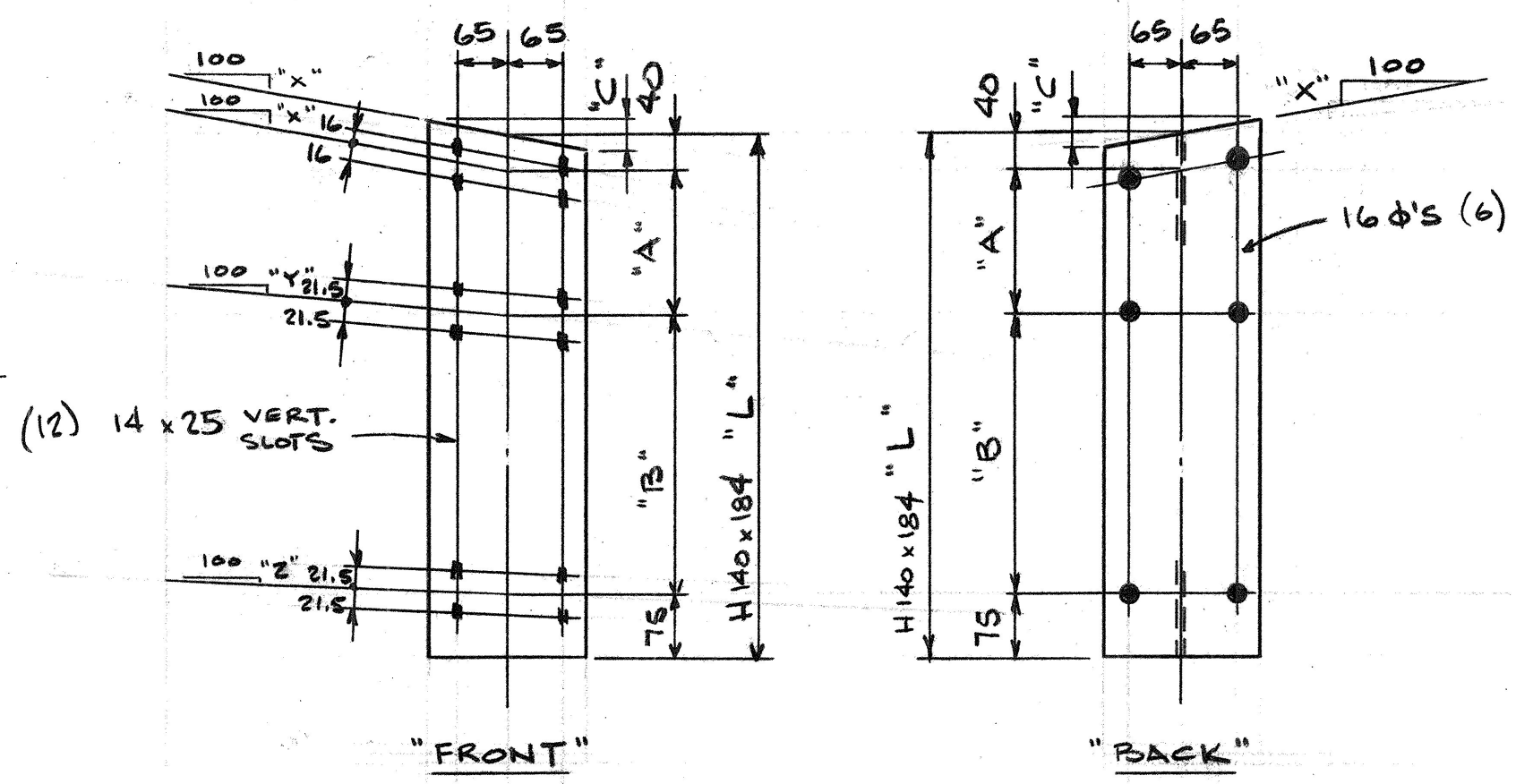
QTY.	Pc. Mk.	"X"	"A"	"B"	"C"
1	1-1	15	293	444	28
1	1-2	15	249	426	28
1	1-3	15	205	408	28
1	1-4	15	162	391	28
1	4-1	14	293	329	26
1	4-2	14	249	328	26
1	4-3	14	205	327	26
1	4-4	14	162	325	26



Approach Rail Posts #5 thru #7

QTY.	Pc. Mk.	"X"	"A"	"C"
1	2-5	6	323	11
1	2-6	6	322	11
1	2-7	6	320	11
1	3-5	12	367	22
1	3-6	12	344	22
1	3-7	12	320	22
6	3-8	8	320	15

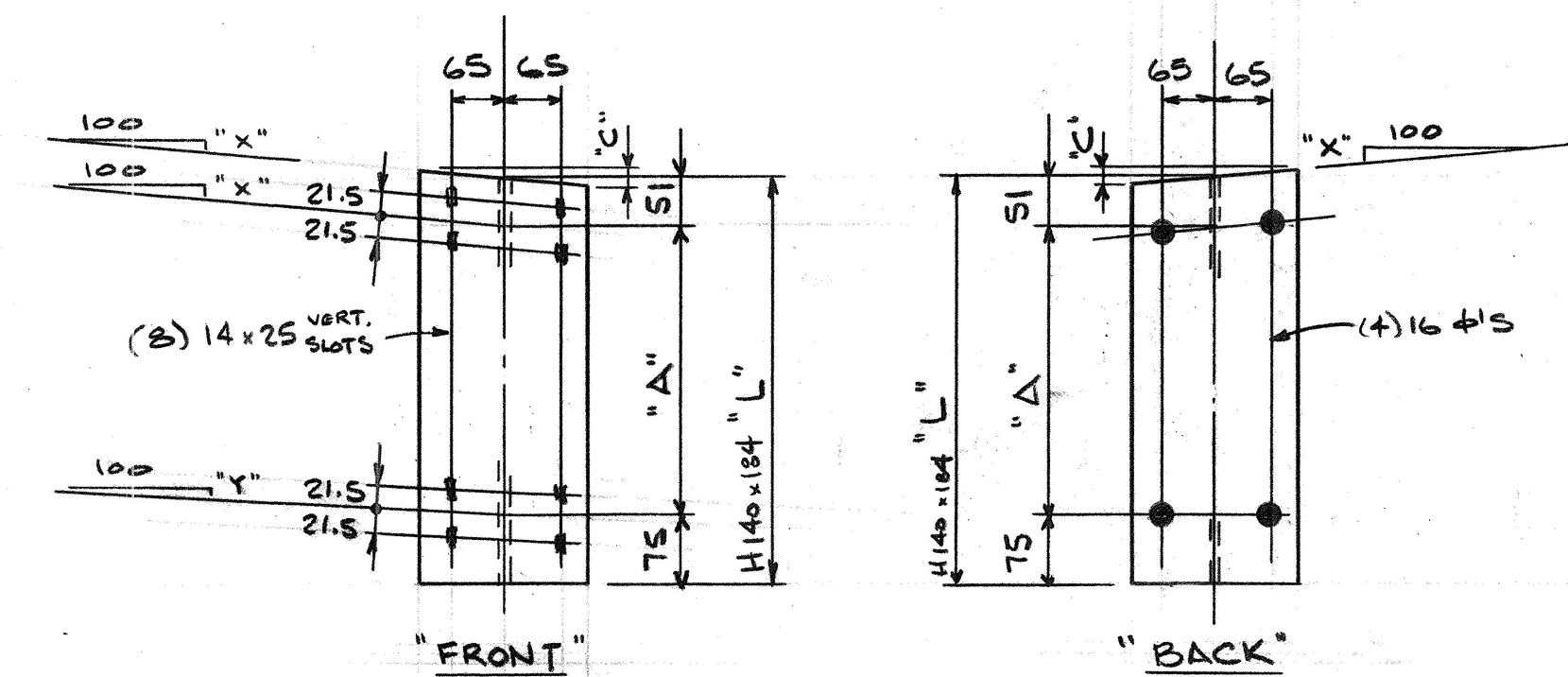
QTY.	Pc. Mk.	"X"	"A"	"C"
1	1-5	9	367	17
1	1-6	9	344	17
1	1-7	9	320	17
1	4-5	9	323	17
1	4-6	9	322	17
1	4-7	9	320	17



Offset Blocks - Posts #1 thru #4

"As Detailed"										"Opposite Hand"								
QTY.	Pc. Mk.	"L"	"X"	"Y"	"Z"	"A"	"B"	"C"		QTY.	Pc. Mk.	"L"	"X"	"Y"	"Z"	"A"	"B"	"C"
1	A2-1	737	11	6	6	293	329	21		1	A1-1	851	15	9	7	293	444	28
1	A2-2	691	11	6	6	249	328	21		1	A1-2	789	15	9	7	249	426	28
1	A2-3	646	11	6	6	205	327	21		1	A1-3	728	15	9	7	205	408	28
1	A2-4	601	11	6	6	162	325	21		1	A1-4	667	15	9	7	162	391	28
1	A3-1	851	17	10	8	293	444	32		1	A4-1	737	14	9	9	293	329	26
1	A3-2	789	17	10	8	249	426	32		1	A4-2	691	14	9	9	249	328	26
1	A3-3	728	17	10	8	205	408	32		1	A4-3	646	14	9	9	205	327	26
1	A3-4	667	17	10	8	162	391	32		1	A4-4	601	14	9	9	162	325	26

12 ? 10 ?



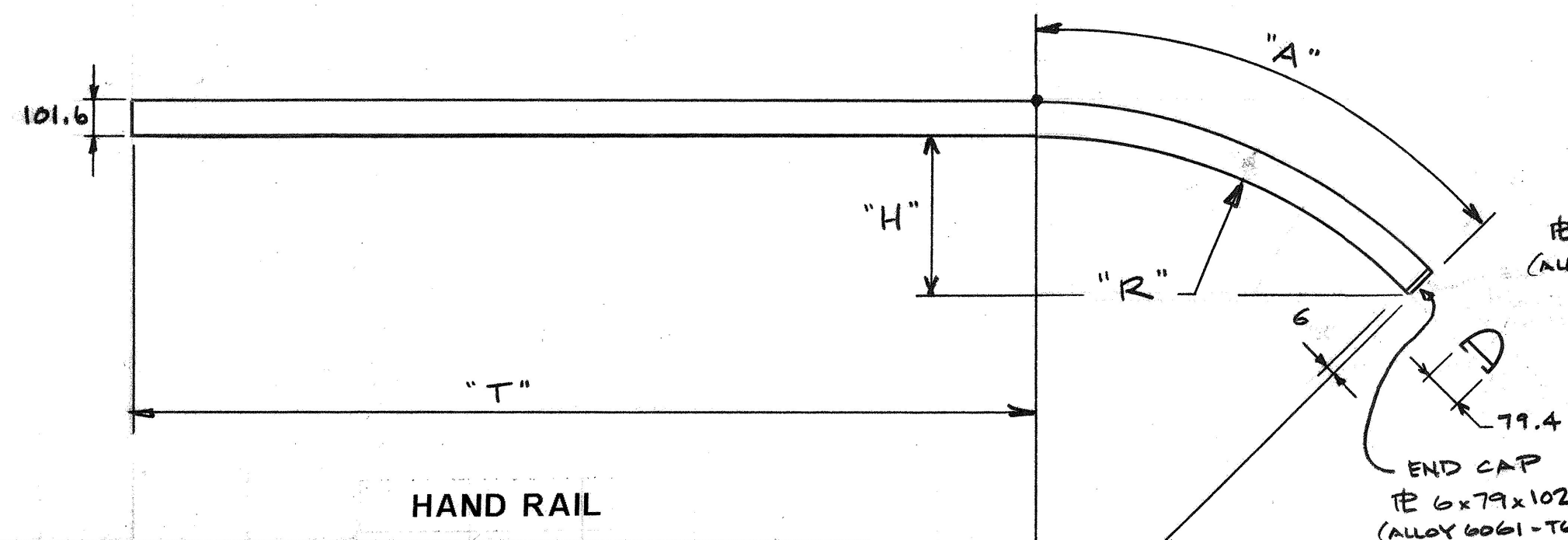
Offset Blocks - Posts #5 thru #7

"As Detailed"						"Opposite Hand"							
QTY.	Pc. Mk.	"L"	"X"	"Y"	"A"	"C"	QTY.	Pc. Mk.	"L"	"X"	"Y"	"A"	"C"
1	A2-5	449	6	6	323	11	1	A1-5	449	9	7	367	17
1	A2-6	448	6	6	322	11	1	A1-6	448	9	7	344	17
1	A2-7	446	6	6	320	11	1	A1-7	446	9	7	320	17
1	A3-5	493	12	10	367	22	1	A4-5	493	9	9	323	17
1	A3-6	470	12	10	344	22	1	A4-6	448	9	9	322	17
1	A3-7	446	12	10	320	22	1	A4-7	446	9	9	320	17
6	A3-8	446	8	8	320	15							

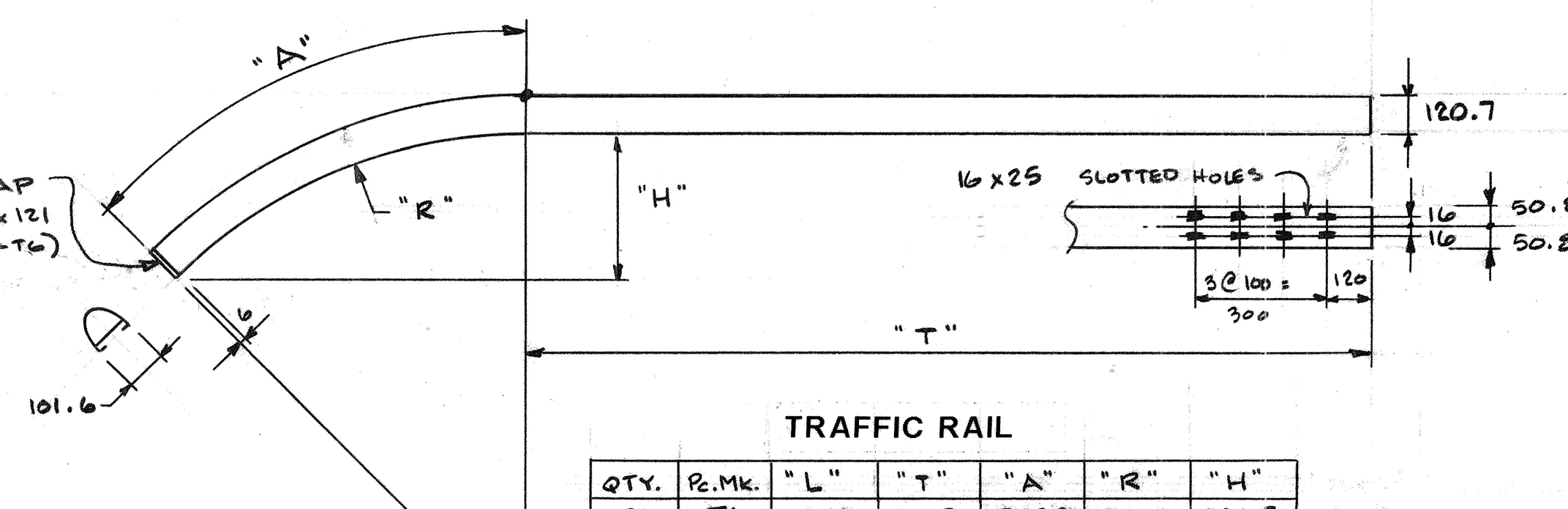
STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECIEVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

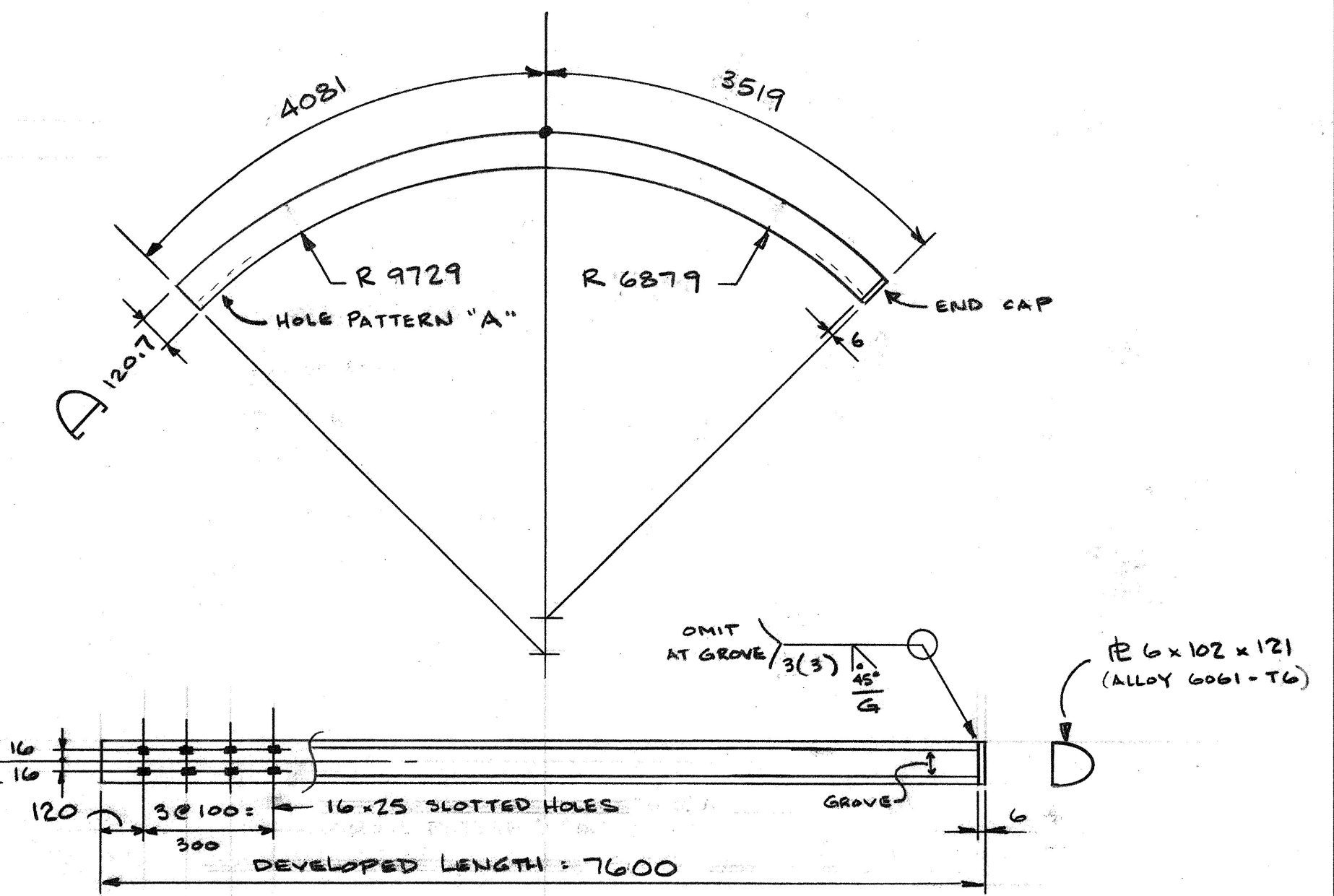
AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382	
VERMONT AGENCY OF TRANSPORTATION TOWN OF LINCOLN COUNTY OF ADDISON ROUTE NO. T.H. 9 CL3 BRIDGE No. 48 PROJECT No. BRO 1445 (28)	
ALUM. APPROACH RAIL POSTS	
SURFACE PREP: None	FINISH: ANODIZED BLACK PATIN FINISH
FOR: F.R. LAFAYETTE, INC.	
DR: <i>[Signature]</i> 5/22/09	DWG. NO. BR-2959
ISSUE DATE: 8-13-09	FOR APPROVAL
ISSUE DATE:	DESCRIPTION:
BY:	JOB NO. AB97048-1001
	SHEET 1-F2 OF 4



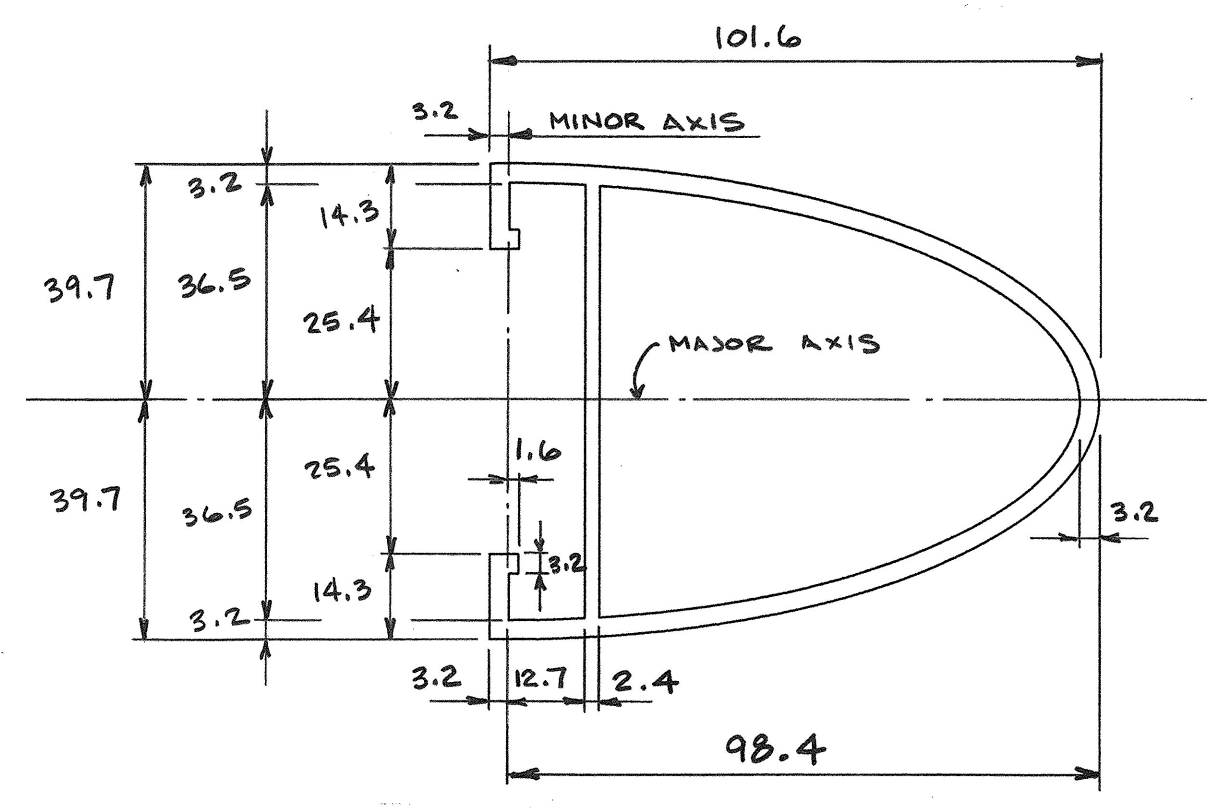
HAND RAIL							
QTY.	Pc.Mk.	"L"	"T"	"A"	"R"	"H"	NOTES
1	H1	3567	2025	1542	4879	242	
2	H2	8482	8482				NO END CAP
2	H3	9086	9086				"
2	H4	9097	9097				"
1	H5	3583	2034	1549	10379	115	"
1	H6	3557	—	3557	9729	643	"
1	H7	3555	2974	581	8879	19	"



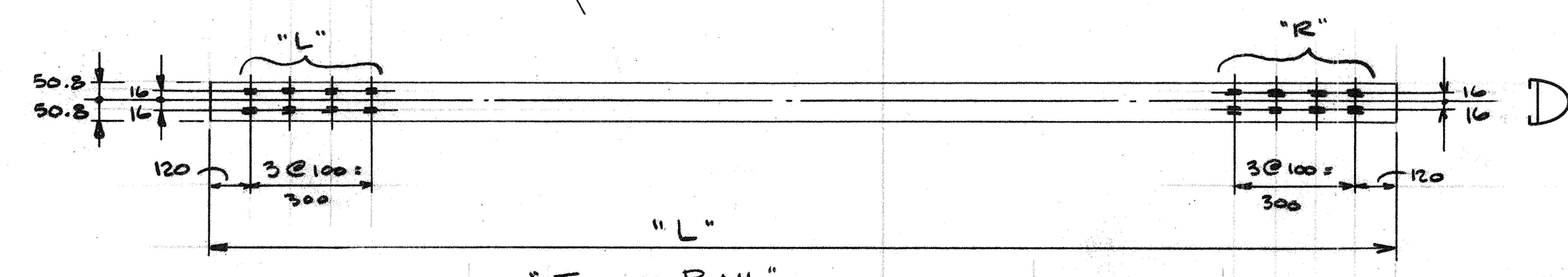
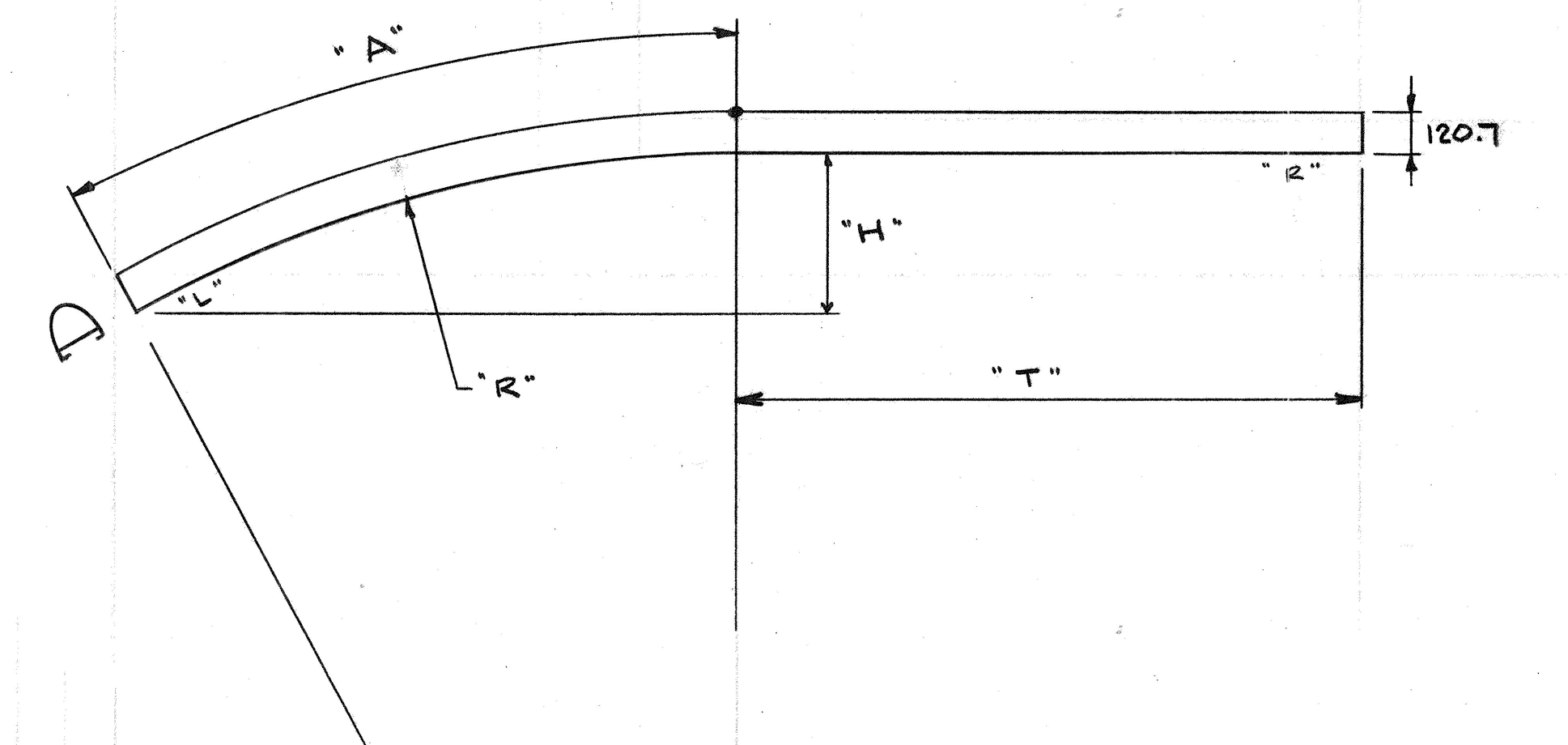
TRAFFIC RAIL						
QTY.	Pc.Mk.	"L"	"T"	"A"	"R"	"H"
2	T1	7601	2013	5588	4879	2869
2	T7	3201	—	3201	10379	490
2	T9	7583	2960	4623	8879	1177



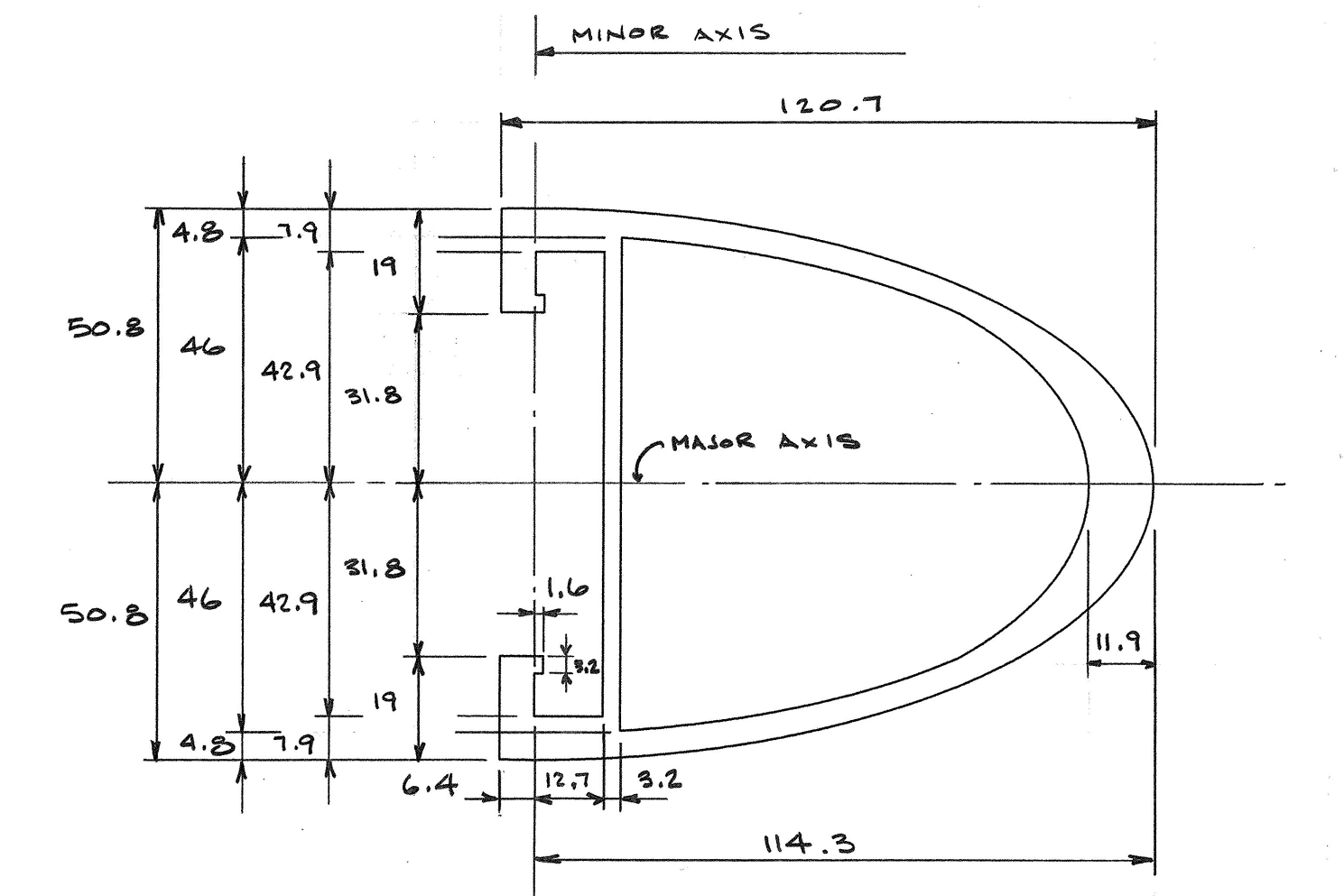
TRAFFIC RAIL ~ "TB" (2 REQ'D.)



HAND RAIL



TRAFFIC RAIL							HOLES	
QTY.	Pc.Mk.	"L"	"T"	"A"	"R"	"H"	"L"	"R"
4	T3	9086	—	—	—	—	16x25	16
2	T5	7624	2019	5605	10379	1477	16	16x25
2	T6	8272	—	8272	10379	3126	16	16x25
4	T2	8482	—	—	—	—	16x25	16x65
4	T4	9097	—	—	—	—	16	16x65



TRAFFIC RAIL

MATERIAL:
HAND RAIL & TRAFFIC RAIL EXTRUSIONS SHALL BE ALUMINUM ALLOY 6061-T6 (ASTM B221)

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RECEIVED 08/20/2009
CK BY THL OK BY WDL
ACTION APPROVED AS NOTED
BY CWC DATE 08/26/2009

ALL DIMENSIONS ARE IN MILLIMETRES

AUCIELLO IRON WORKS INC 560 MAIN ST. HUDSON, MA (978) 568-8382	
VERMONT AGENCY OF TRANSPORTATION TOWN OF LINCOLN COUNTY OF ADDISON ROUTE No. T.H. 9 CL3 BRIDGE No. 4B PROJECT No. BR0 1445 (25)	
ALUMINUM BRIDGE RAILING	
SURFACE PREP: NONE	FINISH: ANODIZED BLACK SATIN FINISH
FOR: F.R. LAFAYETTE, INC.	
DR: <i>[Signature]</i> CHK: 5/27/09	DWG NO. BR-2959
ISSUE DATE: 8-13-09	DESCRIPTION: FOR APPROVAL
JOB NO. AB97048-1001	SHEET 1-F4 OF 4