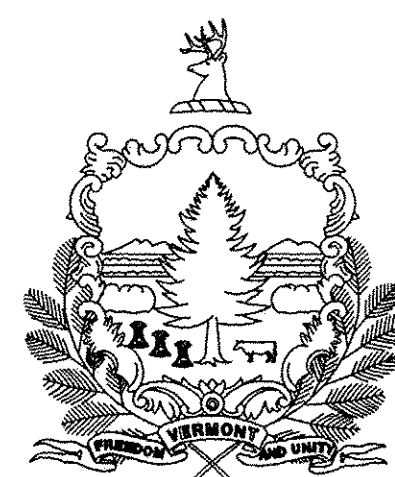


SEE SHEET 2 FOR INDEX OF SHEETS
AND LIST OF STANDARDS

STATE OF VERMONT AGENCY OF TRANSPORTATION



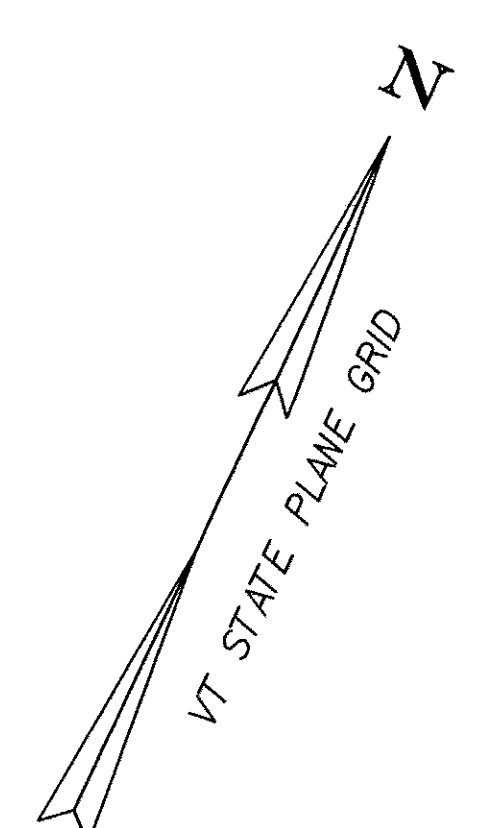
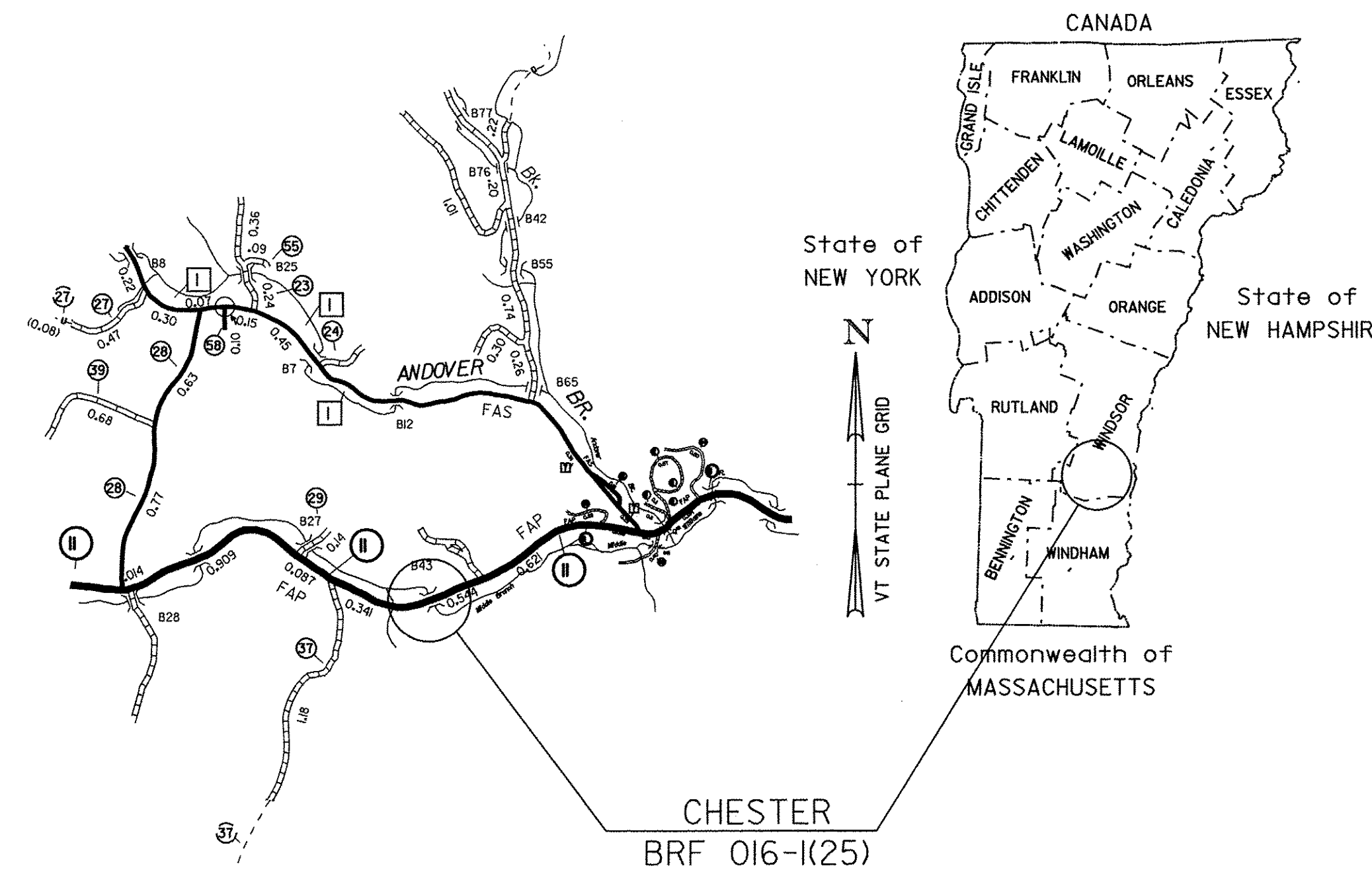
PROPOSED IMPROVEMENT BRIDGE PROJECT

TOWN OF CHESTER
COUNTY OF WINDSOR

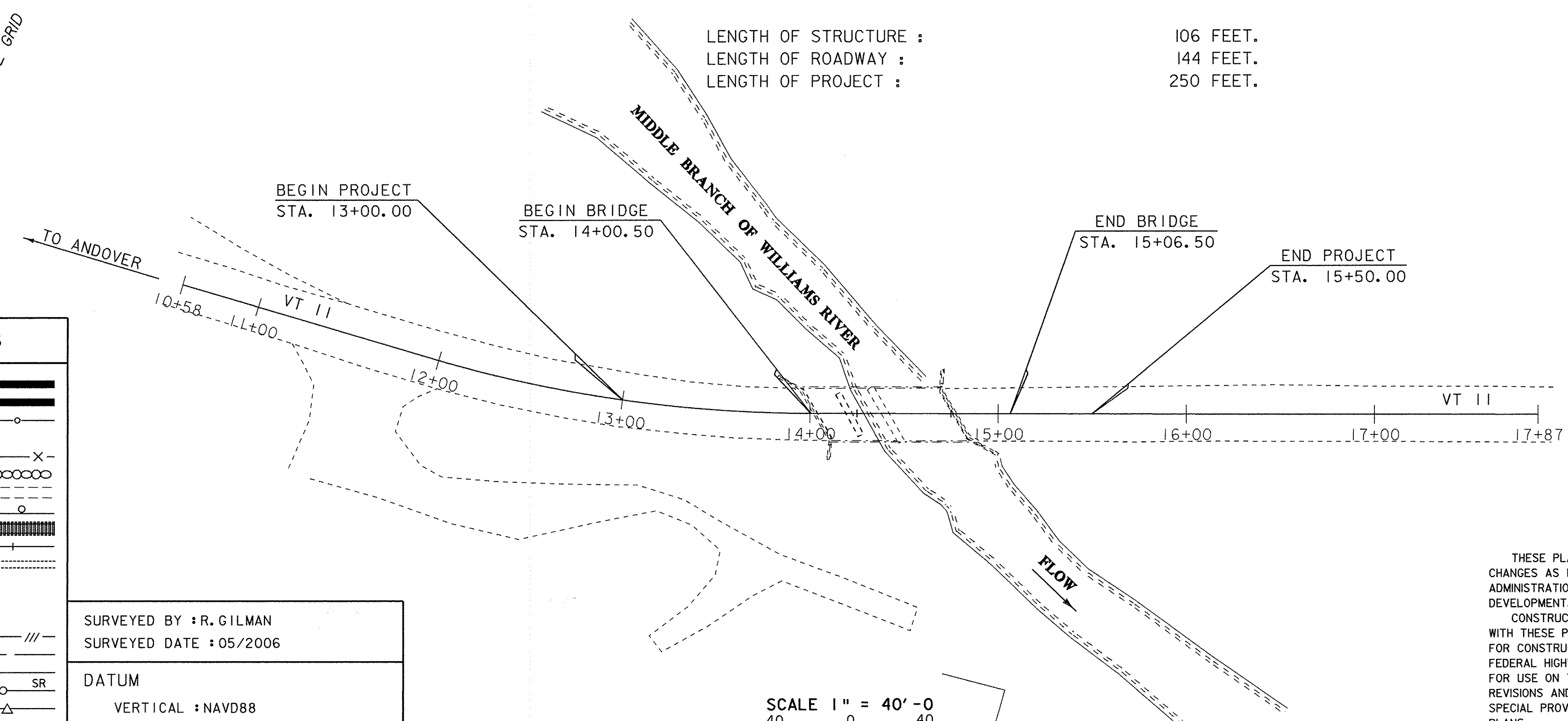
ROUTE NO : VT 11 MINOR ARTERIAL BRIDGE NO : 43

PROJECT LOCATION : BEGINNING APPROXIMATELY 1300 FEET EAST OF THE ANDOVER-CHESTER TOWN LINE AND PROCEEDING IN AN EASTERLY DIRECTION FOR 250 FEET.

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



LENGTH OF STRUCTURE : 106 FEET.
LENGTH OF ROADWAY : 144 FEET.
LENGTH OF PROJECT : 250 FEET.



RECORD PLANS	
CONTRACTOR:	MILLER CONSTRUCTION, INC. - WINDSOR, VT
RESIDENT ENGINEER:	JEREMY REED
CONSTRUCTION BEGAN:	SEPTEMBER 29, 2008
CONSTRUCTION COMPLETE:	DECEMBER 16, 2009
RECORD PLANS BY:	JEREMY REED & AMOS KEMPTON
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY <i>Jeremy Reed</i>	RESIDENT ENGINEER
DATE 11/3/11	
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. GILMAN
SURVEYED DATE : 05/2006

DATUM
VERTICAL : NAVD88
HORIZONTAL : NAD 83 (96)

SCALE 1" = 40'-0"
40 0 40

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.

PLOTTED 21-FEB-2008

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED <i>Robin Fitzmaurice</i>	DATE 2-22-08
PROJECT MANAGER : C.P. WILLIAMS	
PROJECT NAME : CHESTER	
PROJECT NUMBER : BRF 016-1 (25)	
SHEET 1 OF 1 SHEETS	

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

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5. TYPICAL SECTIONS
6. TIE SHEET
- 7.-8. LAYOUT SHEETS
9. VT 11 PROFILE
10. BANKING DIAGRAM & TRANSITIONS
- 11.-12. DETOUR LAYOUT SHEETS
13. TRAFFIC SIGN SUMMARY SHEET
14. BORING INFORMATION SHEET
- 15.-18. BORING LOGS
19. PLAN AND ELEVATION
20. MISCELLANEOUS DETAILS
21. MISCELLANEOUS JOINT DETAILS
22. GENERAL NOTES
23. DECK REINFORCING DETAILS
24. FRAMING PLAN
25. GIRDER ELEVATION & CAMBER
26. STRUCTURAL STEEL DETAILS
27. APPROACH SLAB DETAILS
28. ABUTMENT #1 DETAILS
29. ABUTMENT #2 DETAILS
30. WINGWALL DETAILS
31. BEARING DETAILS
32. RAIL TRANSITION DETAILS
33. BRIDGE RAIL DETAILS
34. REINFORCING STEEL SCHEDULE
35. EROSION CONTROL NARRATIVE
- 36.-37. EPSC EXISTING CONDITIONS SHEETS
- 38.-39. EPSC CONSTRUCTION SITE PLAN SHEETS
- 40.-41. EPSC FINAL CONDITIONS SHEETS
- 42.-43. EROSION CONTROL DETAIL SHEETS
- 44.-47. MAINLINE CROSS SECTIONS
- 48.-50. CHANNEL CROSS SECTIONS

LIST OF STANDARDS

E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-101	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	3/1/2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	6/30/2003
E-107A	BREAKAWAY BARRICADE DETAILS	8/8/1995
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	8/8/1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-134	BRIDGE NUMBER PLAQUE	8/8/1995
E-142	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	6/15/2004
E-155	WARNING SIGN DETAILS	5/1/2004
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/1999
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER) HEAVY DUTY STEEL BEAM GUARDRAIL TWISTED END TERMINAL	1/3/2000
G-1D	ANCHOR FOR STEEL BEAM RAIL STEEL BEAM GUARDRAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARDRAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	1/3/2000
G-16	STEEL BEAM GUARDRAIL ATTACHMENTS TO EXISTING BRIDGE	6/1/1994
G-18	TERMINAL CONNECTOR FOR STEEL BEAM GUARDRAIL PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	6/1/1994

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: February 2007

DRAINAGE AREA : 13.7 sq. mi.
 CHARACTER OF TERRAIN : Mountainous, mostly forested, narrow flood plain
 STREAM CHARACTERISTICS : Sinuous, laterally unstable with alluvial channel boundaries
 NATURE OF STREAMBED : Boulders, cobbles and gravel

PEAK FLOW DATA

Q 2.33 =	950 cfs	Q 50 =	2,980 cfs
Q 10 =	1,850 cfs	Q 100 =	3,560 cfs
Q 25 =	2,500 cfs	Q 500 =	5,240 cfs

DATE OF FLOOD OF RECORD : 1938
 ESTIMATED DISCHARGE : unknown
 WATER SURFACE ELEV. : unknown
 NATURAL STREAM VELOCITY : @ Q50 = 11.0 fps
 ICE CONDITIONS : Moderate
 DEBRIS : Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE :

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

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE : Concrete T-Beam w/Steel Beam
 YEAR BUILT : 1933 - Reconstructed in 1974
 CLEAR SPAN(NORMAL TO STREAM): 43'
 VERTICAL CLEARANCE ABOVE STREAMBED: 12'
 WATERWAY OF FULL OPENING: 420 sq. ft.
 DISPOSITION OF STRUCTURE: Replace
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: See boring logs

WATER SURFACE ELEVATIONS AT:

Q2.33 =	931.3'	VELOCITY =	9.7 fps
Q10 =	933.2'	"	10.7 fps
Q25 =	934.3'	"	11.7 fps
Q50 =	935.0'	"	12.4 fps
Q100 =	937.1'	"	13.1 fps

LONG TERM STREAMBED CHANGES : Lateral instability evident from several point bars and cut banks located through the reach.

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 938.6
 DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Andover DISTANCE: 3,685'
 HIGHWAY #: TH 29 STRUCTURE #: 27
 CLEAR SPAN: 32' CLEAR HEIGHT: 9'
 YEAR BUILT: 1974 FULL WATERWAY: 280 sq. ft.
 STRUCTURE TYPE: Steel Beam

DOWNSTREAM STRUCTURE

TOWN: Chester DISTANCE: 6,603'
 HIGHWAY #: TH 56 STRUCTURE #: 61
 CLEAR SPAN: 26' CLEAR HEIGHT: 7'
 YEAR BUILT: 1974 FULL WATERWAY: 180 sq. ft.
 STRUCTURE TYPE: Steel Beam

LFD LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEM
INVENTORY	40	61					
POSTED	57	86	97		80	82	92
OPERATING		103	116	132	96	98	

COMMENTS: SERVICIBILITY CONTROLS LOAD RATING

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2009	2700	305	58	12.5	420
2029	3300	370	58	17.7	720

20 year ESAL for flexible pavement from 2009 to 2029 : 3,669,000
 40 year ESAL for flexible pavement from 2009 to 2049 : 8,842,000
 Design Speed : 50 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Steel beam bridge
 CLEAR SPAN(NORMAL TO STREAM): 52'
 VERTICAL CLEARANCE ABOVE STREAMBED: 10'
 WATERWAY OF FULL OPENING: 400 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	930.8'	VELOCITY=	9.2 fps
Q10 =	932.4'	"	10.9 fps
Q25 =	933.4'	"	12.0 fps
Q50 =	934.0'	"	12.6 fps
Q100 =	934.7'	"	13.3 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
 FREQUENCY: N/A
 RELIEF ELEVATION: 938.6
 DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 935.3'
 VERTICAL CLEARANCE: @ Q50 = 1.3'

SCOUR: 2.4' at Q500

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW: 30cfs DEPTH OR ELEVATION:
 ORDINARY LOW WATER: 10 cfs 1.0'
 ORDINARY HIGH WATER: 410 cfs 3.0'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Two-way Temporary Bridge
 CLEAR SPAN (NORMAL TO STREAM): 34'
 VERTICAL CLEARANCE ABOVE STREAMBED: Low beam elev. = 934.0'
 WATERWAY AREA OF FULL OPENING: 250 sq. ft.

ADDITIONAL INFORMATION

Temporary bridge for one season only, See sketch sheet 5.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO HL-93
2. DESIGN SPAN 105'
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING See General Notes Sheet
 PILE TYPE H 12 x 74
 ESTIMATED LENGTH 80 FT
5. STRUCTURAL STEEL AASHTO M270/M270 GRADE 50W
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A fc: 4000 psi
 CONCRETE, HIGH PERFORMANCE CLASS B fc: 3500 psi
8. DESIGN SOIL UNIT WEIGHT 140 pcf
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

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

PROJECT NAME: CHESTER
 PROJECT NUMBER: BRF 016-1(25)

FILE NAME: s88b194excel.dgn PLOT DATE: 2/14/2008
 PROJECT LEADER: C.P.WILLIAMS DRAWN BY: D.D.BEARD
 DESIGNED BY: E.L.RUSTAY CHECKED: R.S.YOUNG
 PRELIMINARY INFORMATION SHEET SHEET 2 OF 50

QUANTITY SHEET 1

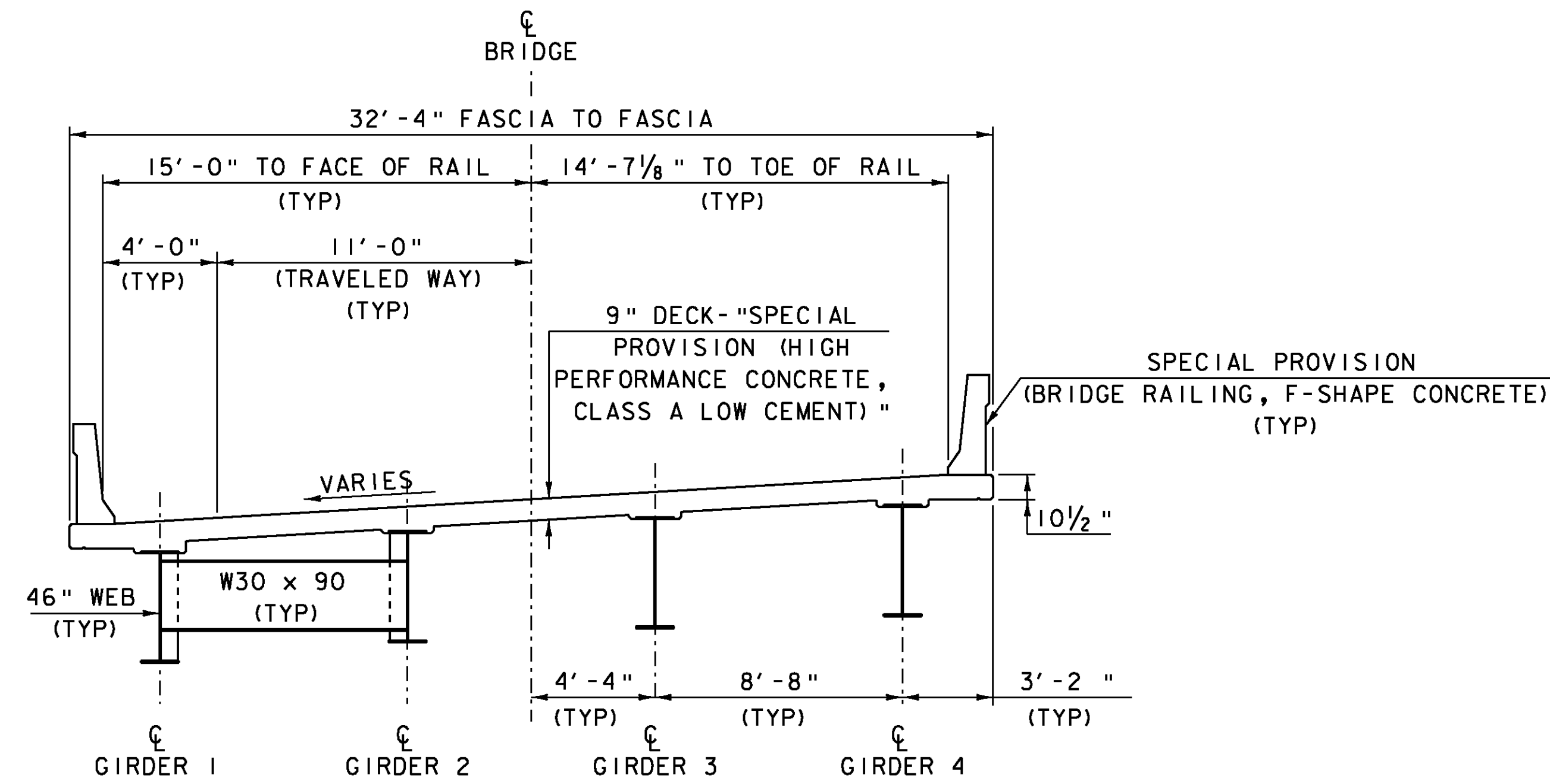
SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
APP. SLAB #1	APP. SLAB #2	ABUT. #1	ABUT. #2	SUPER STRUCTURE	ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
					1020					1020		CY	COMMON EXCAVATION	203.15				
		90	730					820		820		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
					130					130		CY	SAND BORROW	203.31				
		180	190					370		370		CY	STRUCTURE EXCAVATION	204.25				
		120	100					220		220		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
					700					700		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
					720					720		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
					40					40		CY	AGGREGATE SURFACE COURSE	401.10				
					5					5		CWT	EMULSIFIED ASPHALT	404.65				
					541					541		TON	BITUMINOUS CONCRETE PAVEMENT (PG58-28)	406.25				
		34	29					63		63		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
		0.5	0.5					1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
		320	320					640		640		LF	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 12 X 74	505.26				
		1	1					2		2		EACH	DYNAMIC PILE LOADING TEST	505.45				
				102930				102930		102930		LB	STRUCTURAL STEEL, PLATE GIRDER	506.55				
3360	3360	10285	8510	37460				62975		62975		LB	EPOXY COATED REINFORCING STEEL	507.17				
				1				1		1		LS	SHEAR CONNECTORS (848 - 7/8" X 7")	508.15				
5	5	4	3	43				60		60		GAL	WATER REPELLENT, SILANE	514.10				
30	30							60		60		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
		32.5	32.5					65		65		LF	JOINT SEALER, HOT POURED	524.11				
					1					1		LS	TWO-WAY TEMPORARY BRIDGE (816 SF - EST.)	528.11				
				250				250		250		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
					1					1		EACH	REMOVAL OF STRUCTURE (2520 SF - EST.)	529.15				
		4	4					8		8		EACH	BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT	531.14				
							10			10		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
							1			1		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15				
							5			5		CY	STONE FILL, TYPE I	613.10				
		205	315					520		520		CY	STONE FILL, TYPE III	613.12				
					87.5					87.5		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
					4					4		EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.50				
					375					375		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					20					20		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					360					360		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				
						520				520		HR	EMPLOYEE TRAINEESHIP	634.10				
					1					1		LS	MOBILIZATION/DEMObILIZATION	635.11				

EARTHWORKS SUMMARY

FILL AVAILABLE		
1020	CY	COMMON EXCAVATION: 1020 x1.0
246	CY	UNCLASSIFIED CHANNEL EXCAVATION: 820 x0.3
111	CY	STRUCTURE EXCAVATION: 370 x0.3
1377	CY	TOTAL
FILL REQUIRED		
150	CY	PLANIMETERED FILL:
172.5	CY	FACTORED FILL: x1.15
7.5	CY	ROUNDING
180	CY	TOTAL
1197	CY	WASTE: 1377-180

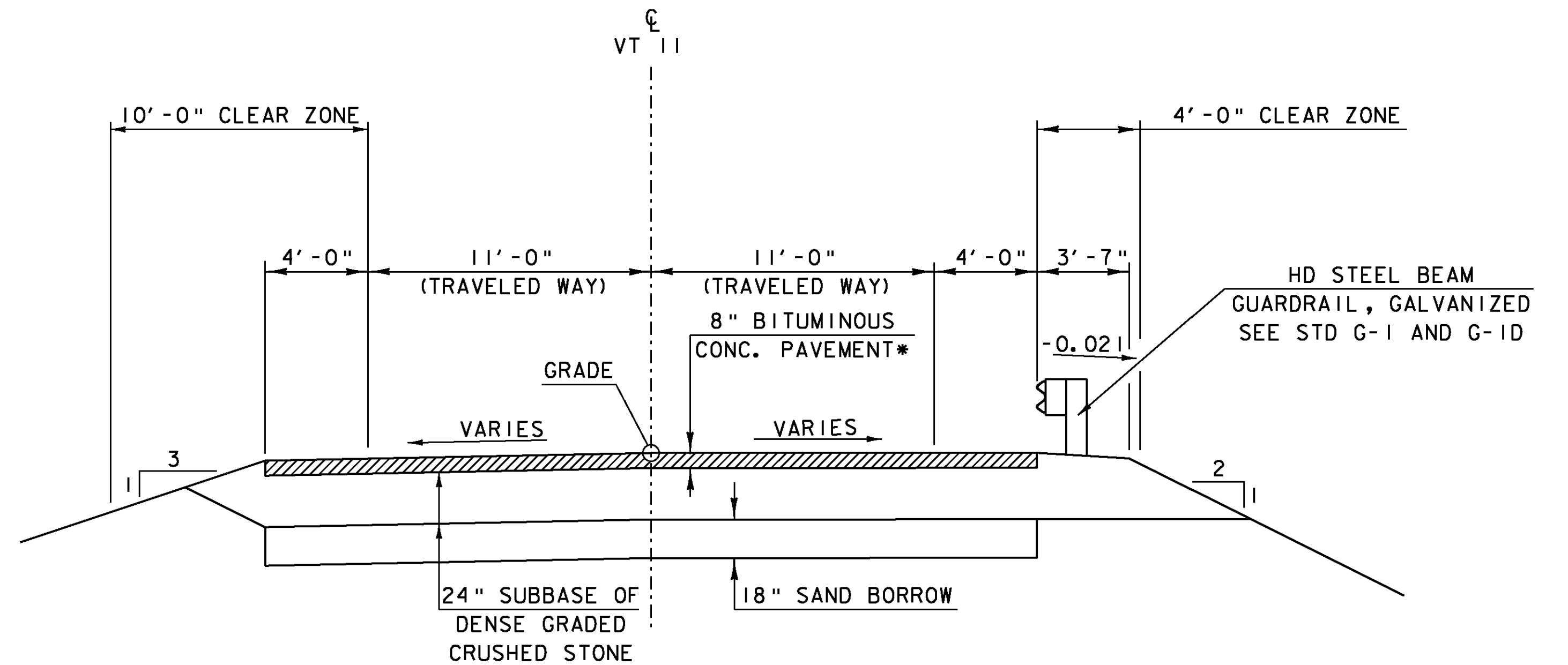
QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
APP. SLAB #1	APP. SLAB #2	ABUT. #1	ABUT. #2	SUPER STRUCTURE	ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					1					1		LS	TRAFFIC CONTROL	641.10				
					1250					1250		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402				
					1320					1320		LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412				
					320					320		SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85				
	240		370					610		610		SY	GEOTEXTILE UNDER STONE FILL	649.31				
							90			90		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61				
							30			30		LB	SEED	651.15				
							10			10		LB	SEED, WINTER RYE	651.17				
							200			200		LB	FERTILIZER	651.18				
							1			1		TON	AGRICULTURAL LIMESTONE	651.20				
							1			1		TON	HAY MULCH	651.25				
							110			110		CY	TOPSOIL	651.35				
							400			400		SY	GRUBBING MATERIAL	651.40				
							1			1		LS	EPSC PLAN	652.10				
							50			50		HR	MONITORING EPSC PLAN	652.20				
							1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
							930			930		SY	TEMPORARY EROSION MATTING	653.20				
							12			12		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
							31			31		CY	VEHICLE TRACKING PAD	653.35				
							1040			1040		LF	PROJECT DEMARCATION FENCE	653.55				
					0.33					0.33		SF	TRAFFIC SIGNS, TYPE A	675.20				
					8					8		LF	FLANGED CHANNEL SIGN POST	675.301				
					1					1		EACH	REMOVING SIGNS	675.50				
28	28	35	34	102				227		227		CY	SPECIAL PROVISION (HP CONCRETE, CLASS A LOW CEMENT) (FPQ)	900.608				
					4					4		EACH	SPECIAL PROVISION (GR APPROACH SECTION TO F-SHAPE CONCRETE RAIL)	900.620				
				212				212		212		LF	SPECIAL PROVISION (BRIDGE RAILING, F-SHAPE CONCRETE)	900.640				
							135			135		SY	SPECIAL PROVISION (GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED)	900.675				
70	70			360				500		500		SY	SPECIAL PROVISION (LONGITUDINAL DECK GROOVING)	900.675				



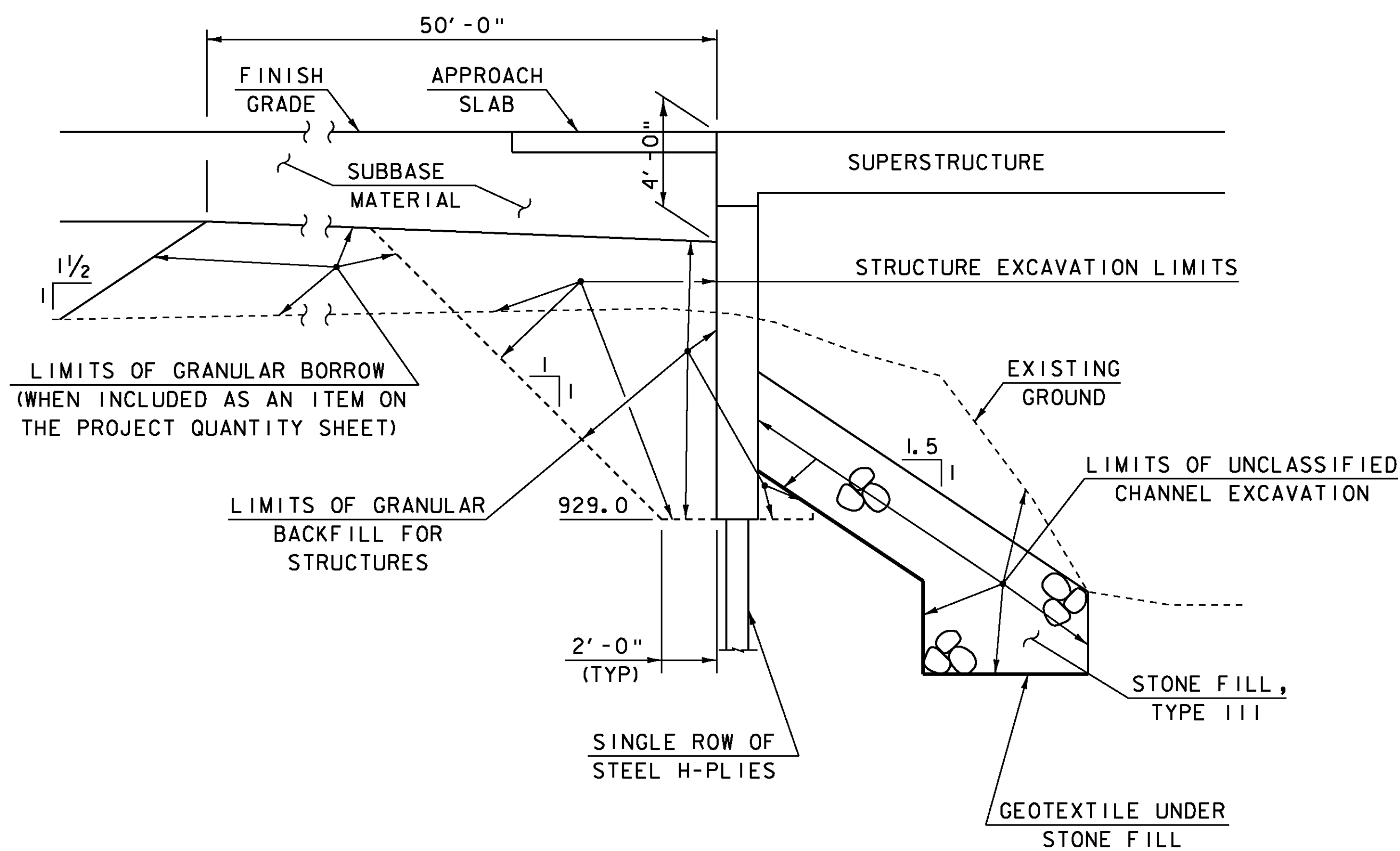
BRIDGE TYPICAL SECTION

SCALE 1/4" = 1'-0"



VT RTE. 11 TYPICAL SECTION

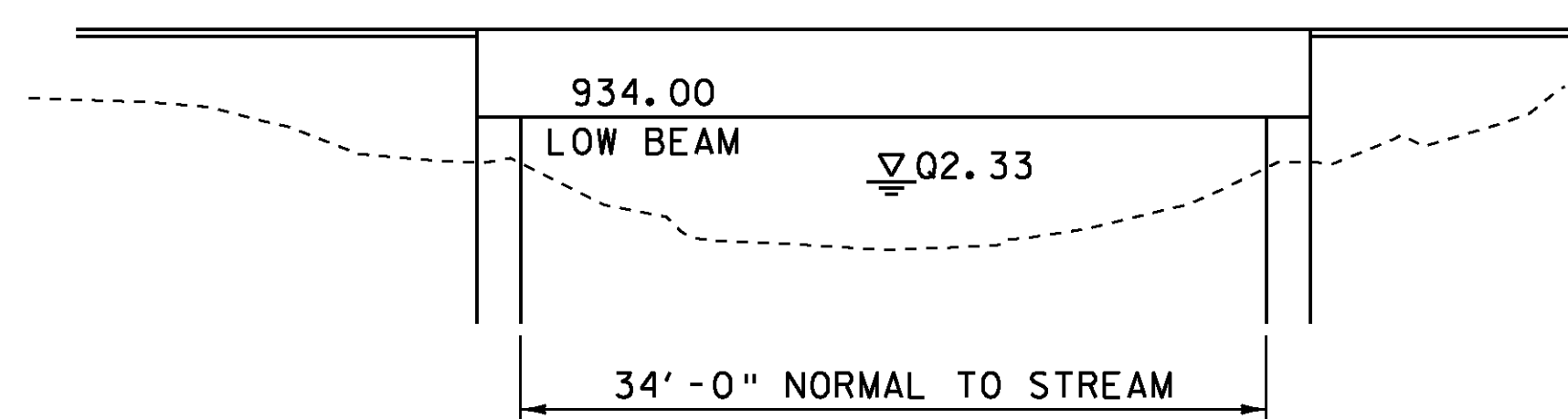
SCALE 1/4" = 1'-0"



TYPICAL INTEGRAL ABUTMENT SECTION

NOT TO SCALE

1. ACTUAL EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER THE ITEM 204.25 "STRUCTURE EXCAVATION".



TEMPORARY DETOUR SKETCH

NOT TO SCALE

MATERIAL ITEM	TOLERANCE
PAVEMENT	± 1/4" TOTAL THICKNESS
AGGREGATE SURFACE COURSE	± 1/2"
BASE COURSE	± 1/2"
SUBBASE	± 1"
SAND BORROW	± 1"

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\s88b194.typ.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194.typ.i	DRAWN BY: D.D. BEARD
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	TYPICAL SECTIONS
	SHEET: 5 OF 50

GPS CONTROL POINTS

HVCTRL #1

SKEET AZ MK
 NORTH = 276537.75
 EAST = 1593882.13
 ELEV. = 926.44

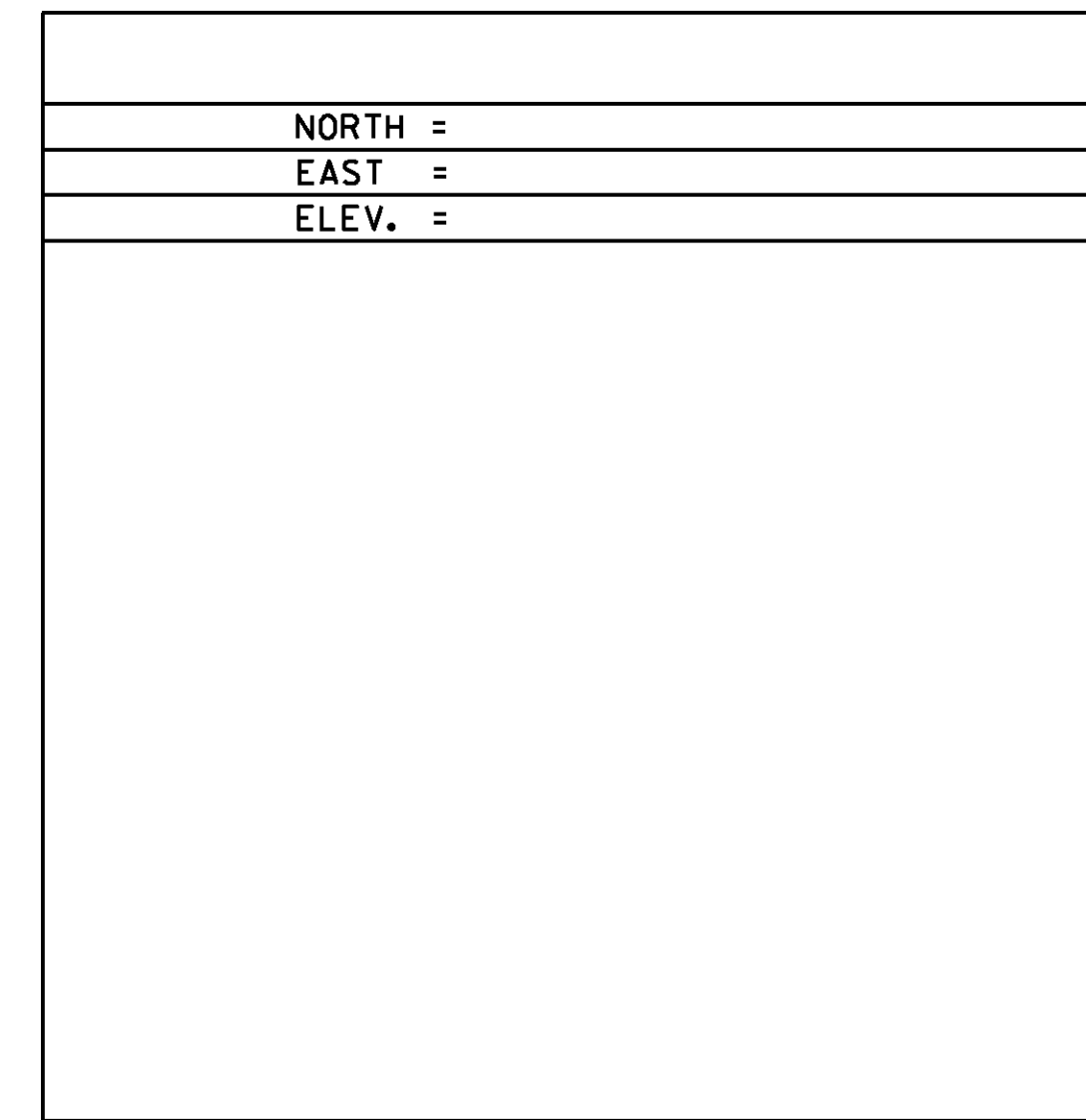
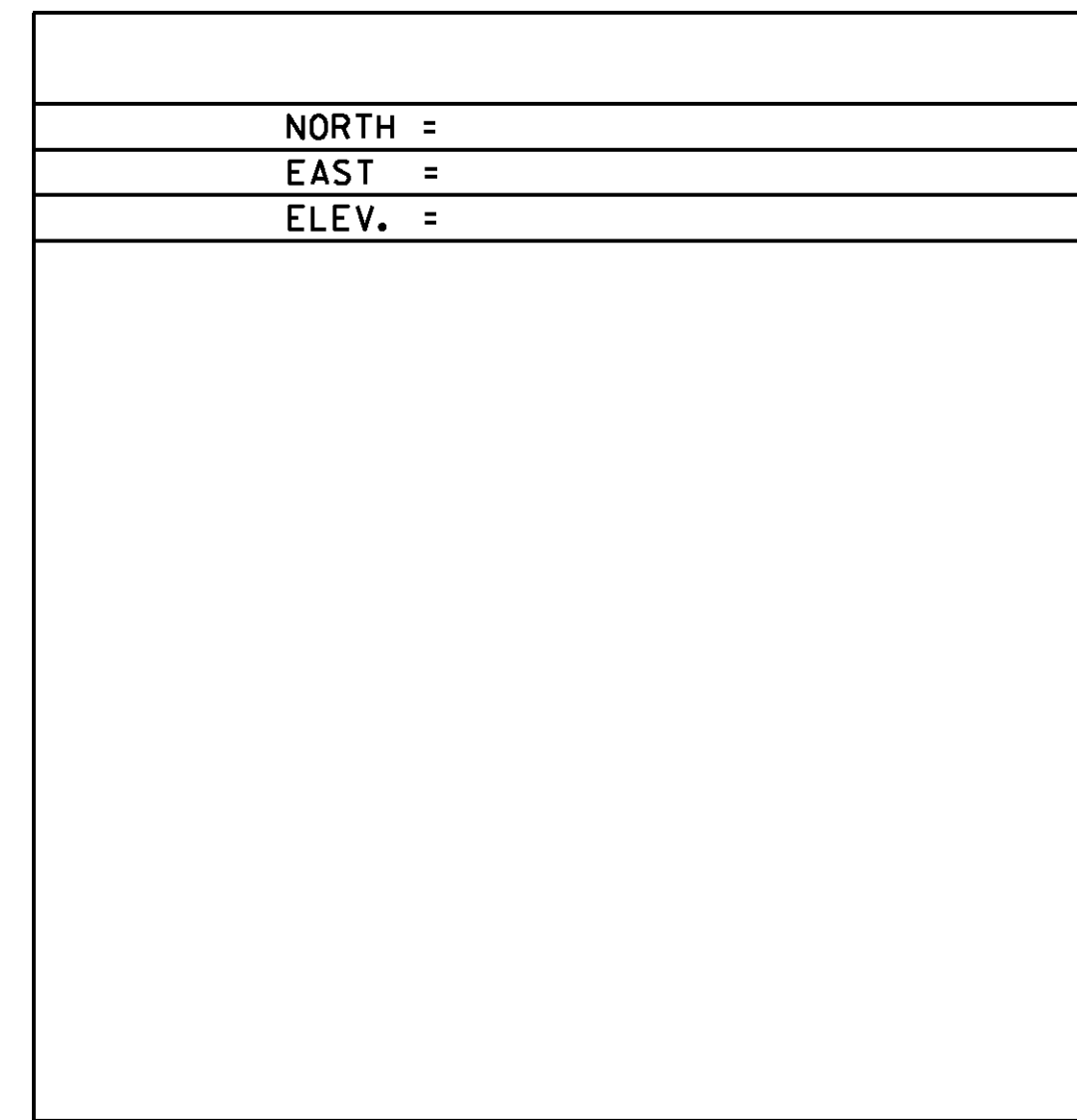
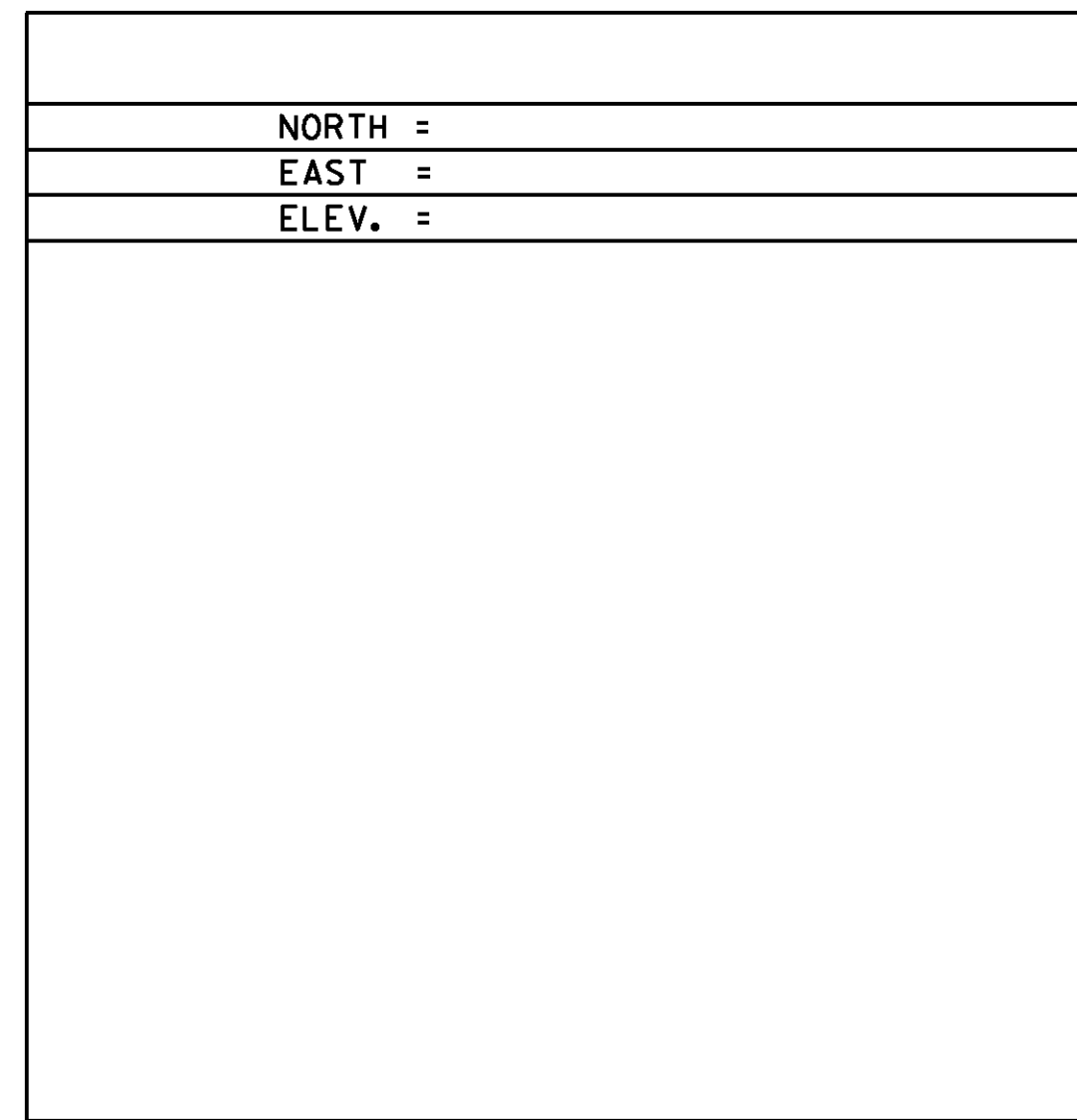
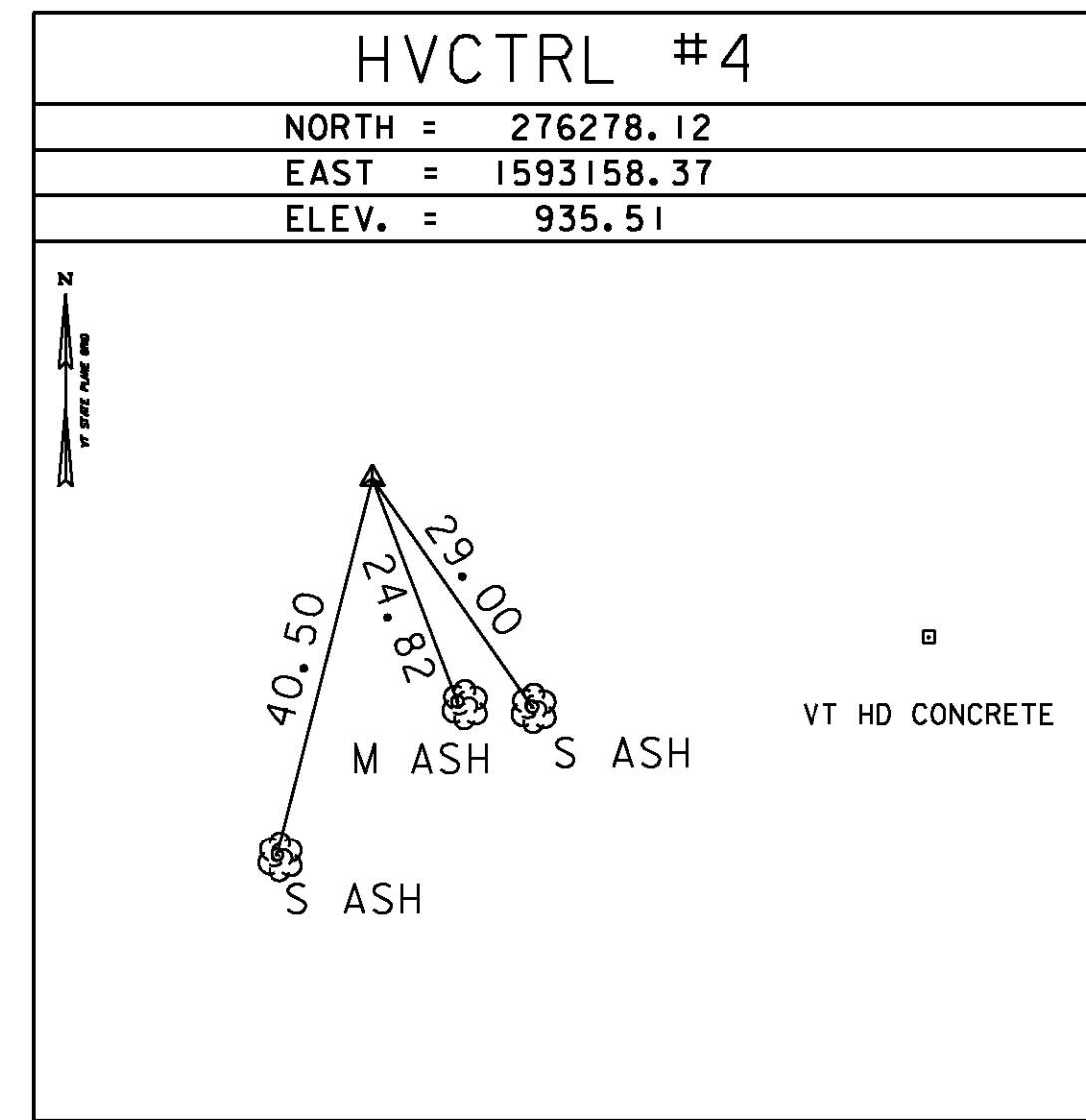
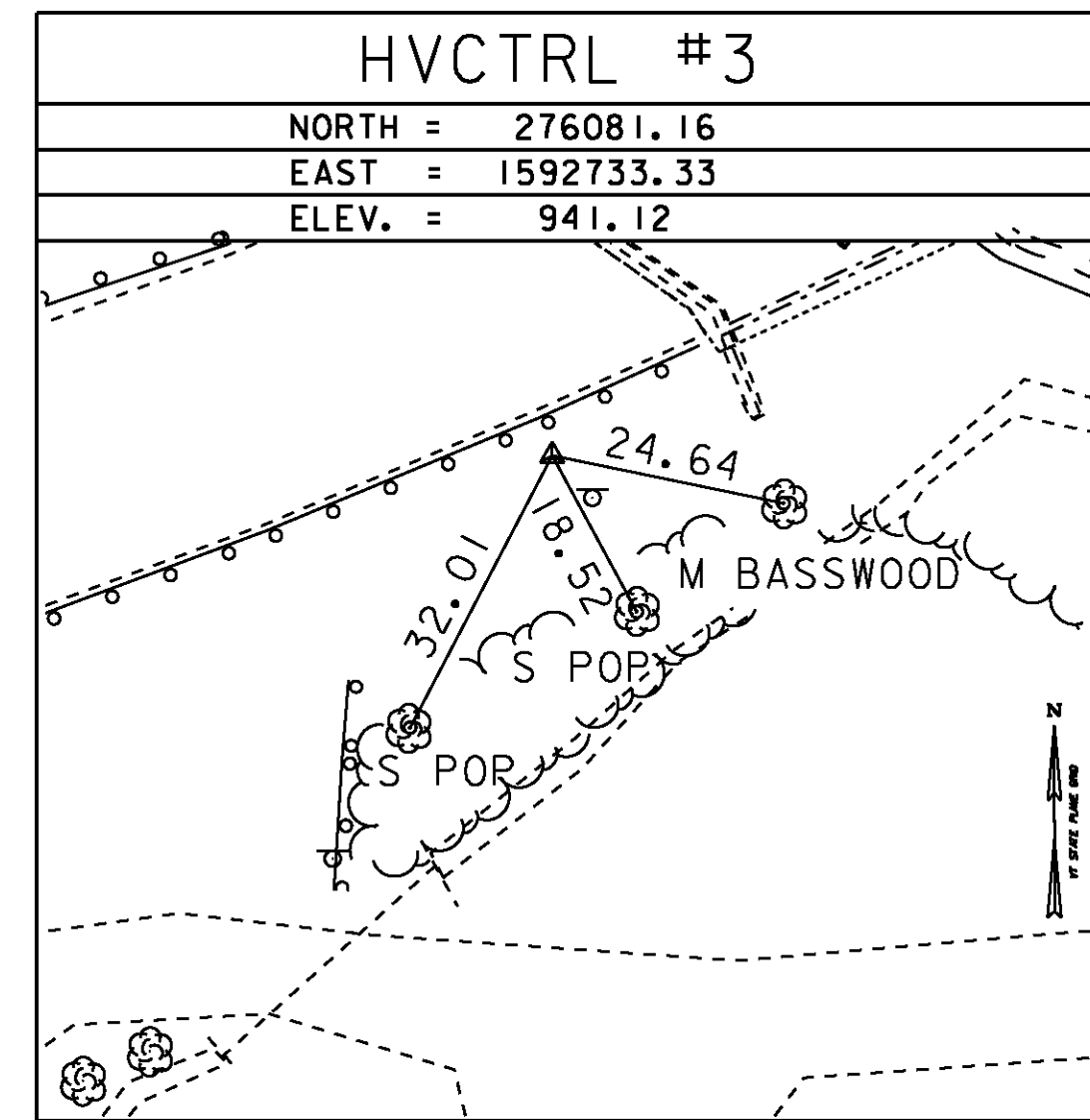
GENERAL LOCATION, CHESTER VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 35 (GRAFTON ROAD) VT ROUTE 11 (MAIN STREET) AND VT ROUTE 103 (DEPOT STREET) GO WEST ALONG VT ROUTE 11 FOR 4.6 MILES TO THE BROOKSIDE USED FURNITURE BUILDING ON THE LEFT AND THE SITE OF THE MARK ON THE LEFT, JUST EAST OF THE BUILDING. THE MARK IS SET 10 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT. IT IS 6.8 M SOUTH SOUTHEAST OF AND ABOUT 0.5 M LOWER THAN THE CENTERLINE OF VT ROUTE 11 24.7 M EAST NORTHEAST OF THE NORTHEAST CORNER OF THE STORE 17.1 M EAST OF POLE # 1/167/2/162, 13.1 M NORTH OF THE CENTER OF THE SOUTH (OUTLET) END OF A 45 CM DIAMETER CULVERT WITH METAL DELINEATOR POST AND 21.6 M WEST OF POLE # 1/166/161 AND A FIBERGLASS WITNESS POST

HVCTRL #2

SKEET
 NORTH = 275996.08
 EAST = 1592376.65
 ELEV. = 942.19

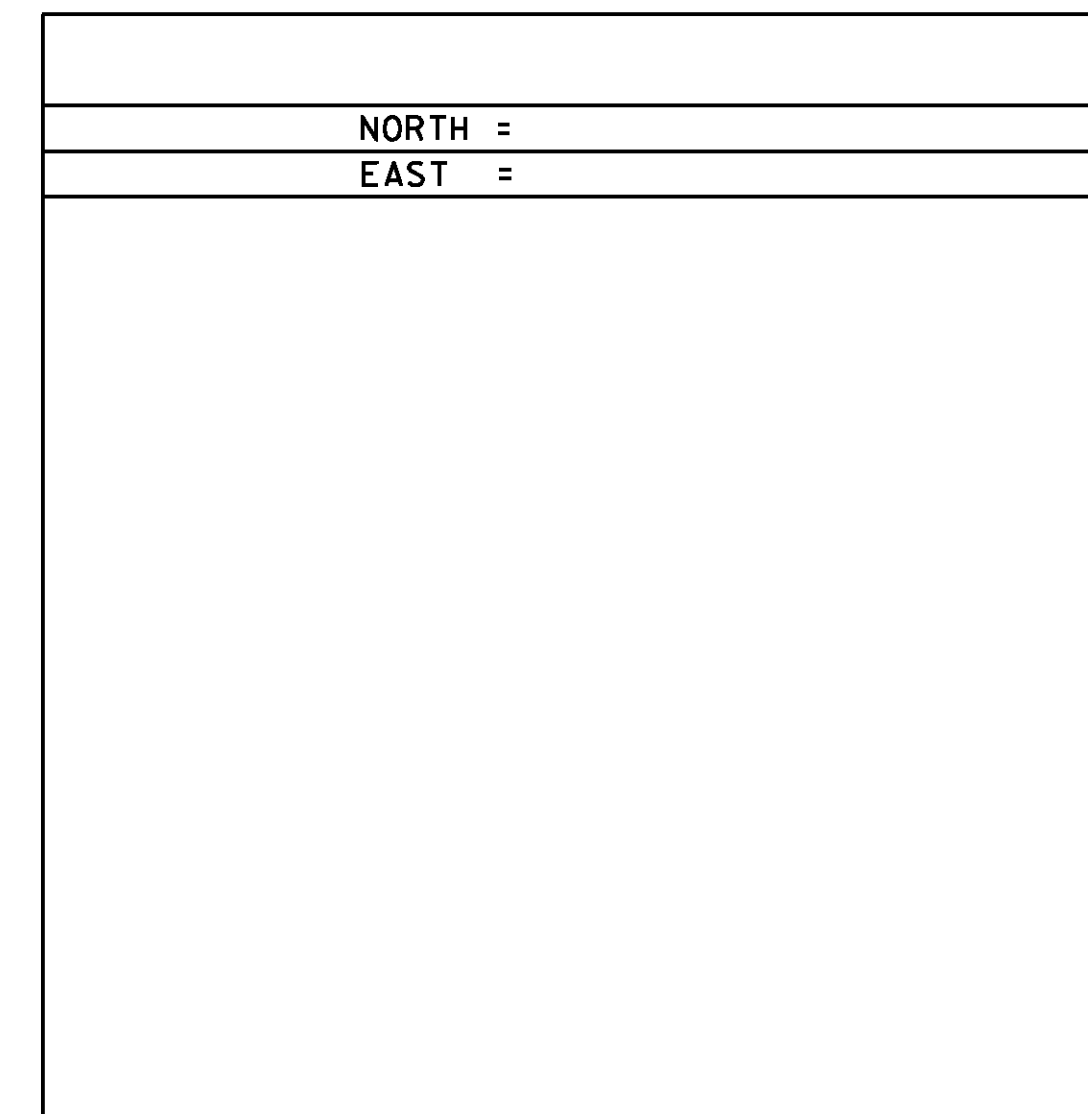
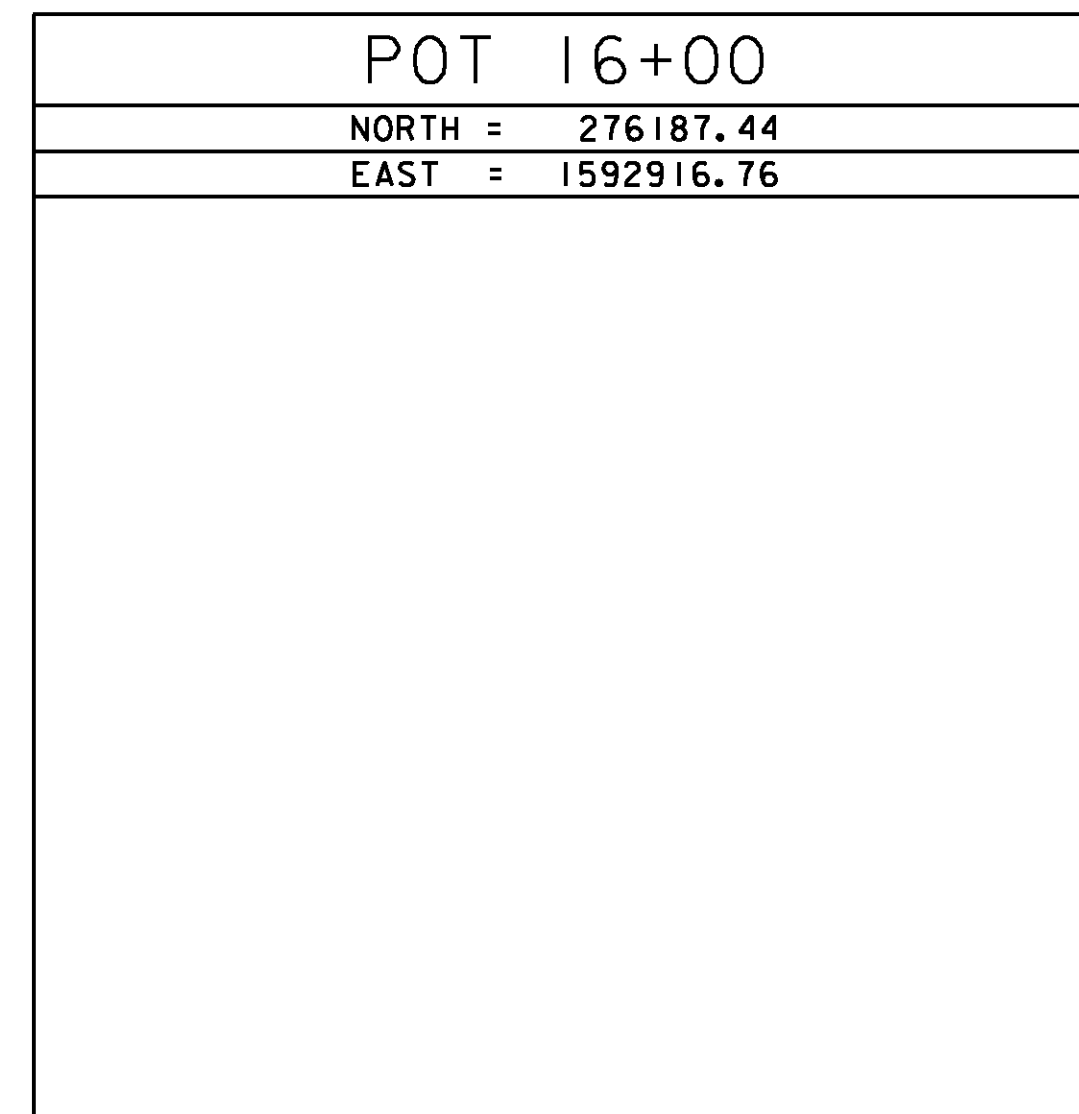
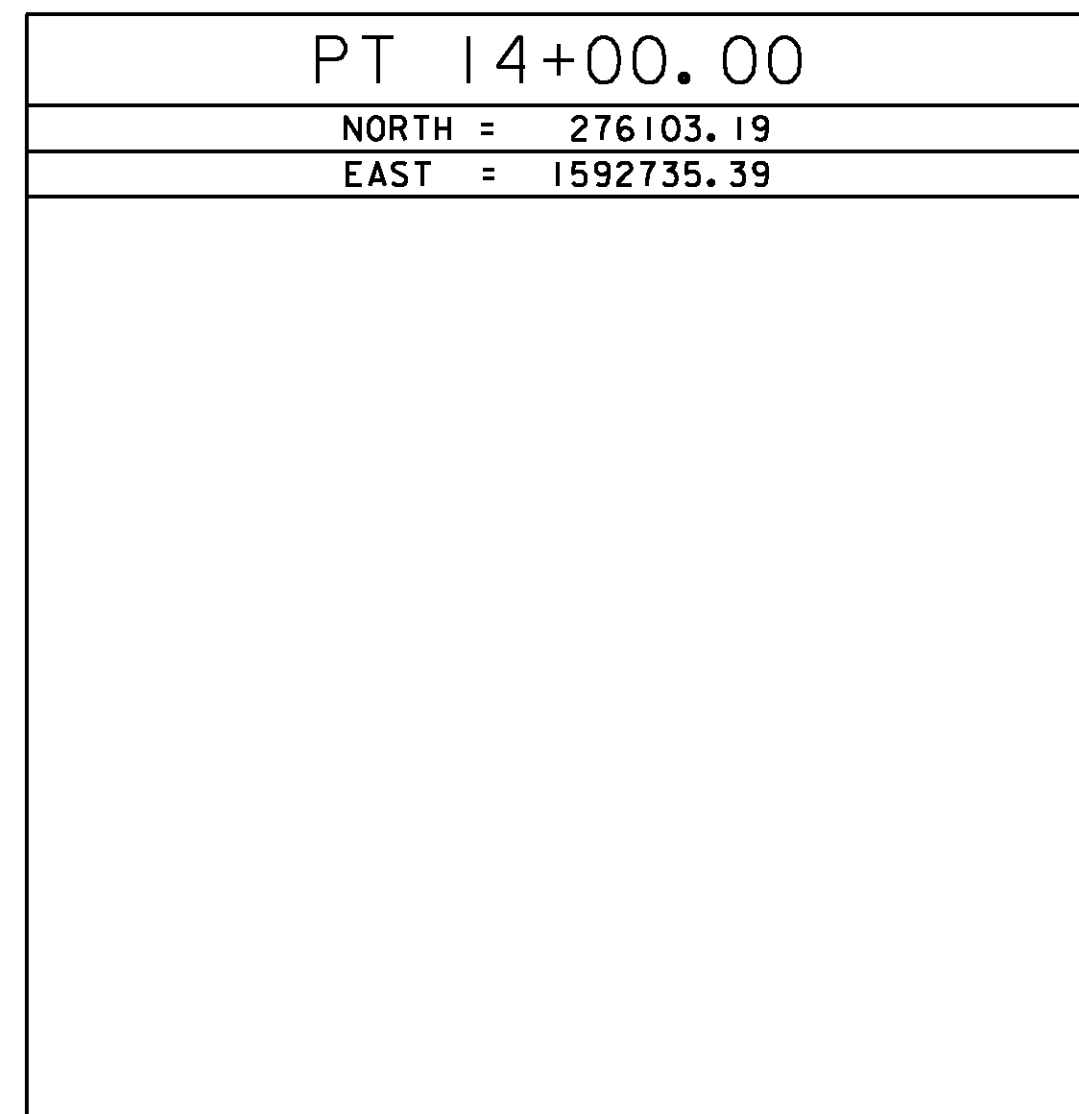
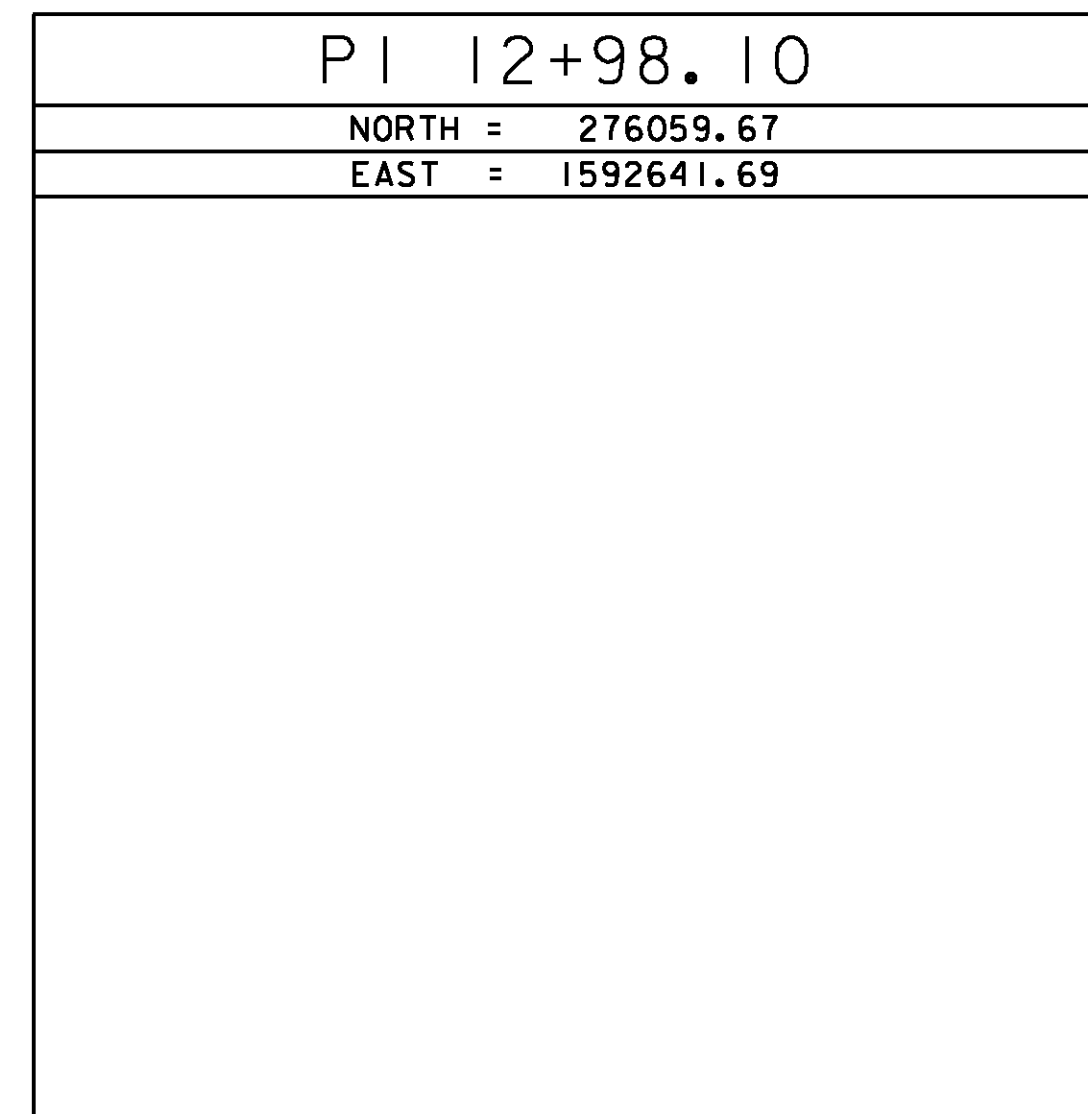
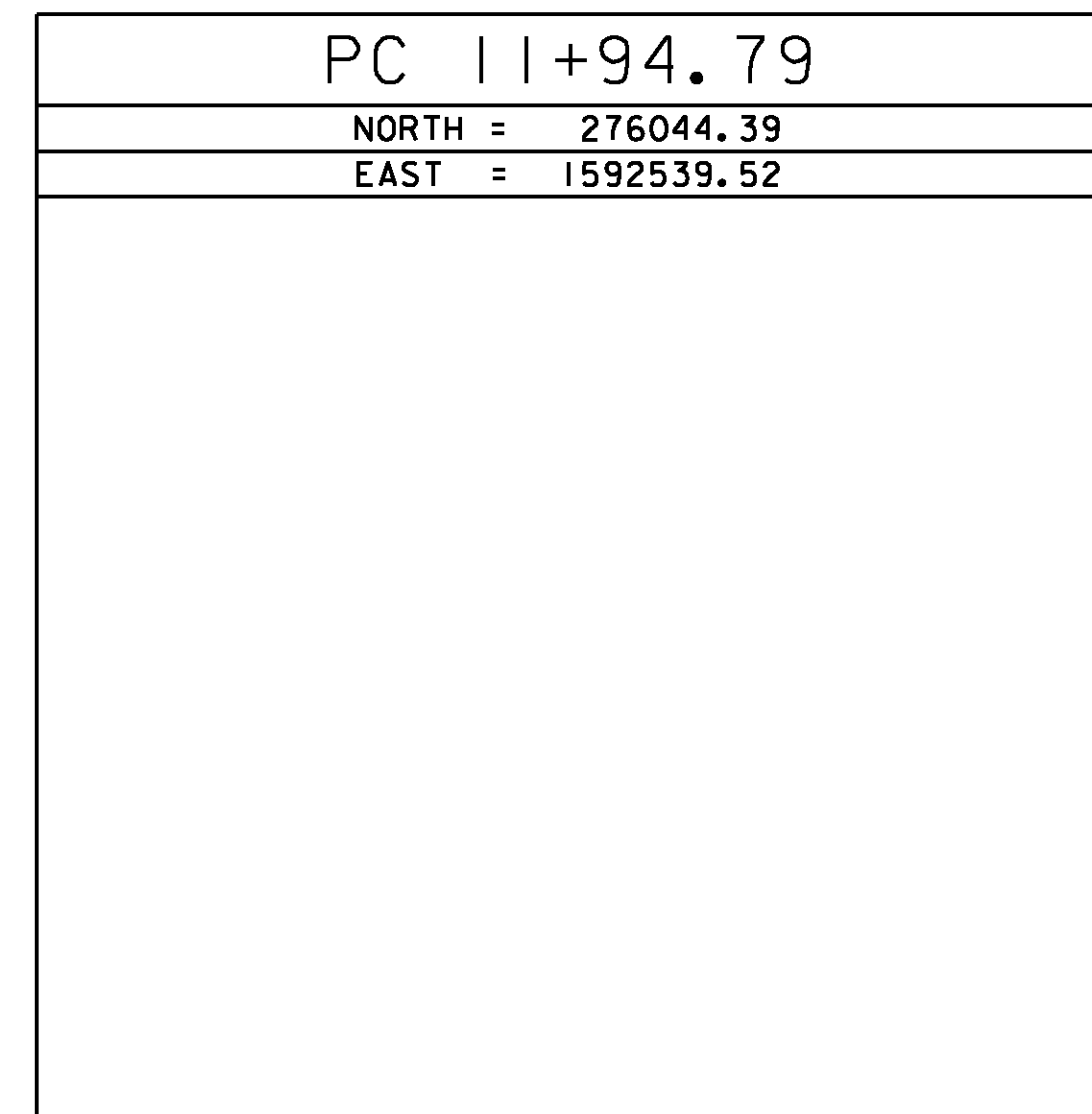
GENERAL LOCATION, CHESTER VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 35 (GRAFTON ROAD), VT ROUTE 11 (MAIN STREET) AND VT ROUTE 103 (DEPOT STREET) GO WEST ALONG VT ROUTE 11 FOR 4.9 MILES TO THE SITE OF THE MARK ON THE LEFT, JUST WEST OF THE GRAVEL DRIVE ENTRANCE TO THE CHESTER ROAD AND GUN CLUB AND OPPOSITE A LARGE GRAVEL PULLOUT. THE MARK IS SET 2 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT. IT IS 7.4 M SOUTH OF AND ABOUT 0.5 M LOWER THAN THE CENTERLINE OF VT ROUTE 11, 35.6 M EAST OF POLE # 178/2/170, 29.3 M WEST NORTHWEST OF THE MOST NORTHERLY OF TWO POSTS FOR THE ROD AND GUN CLUB SIGN, 41.4 M WEST NORTHWEST OF POLE # 174A, AND 1.1 M NORTH OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES



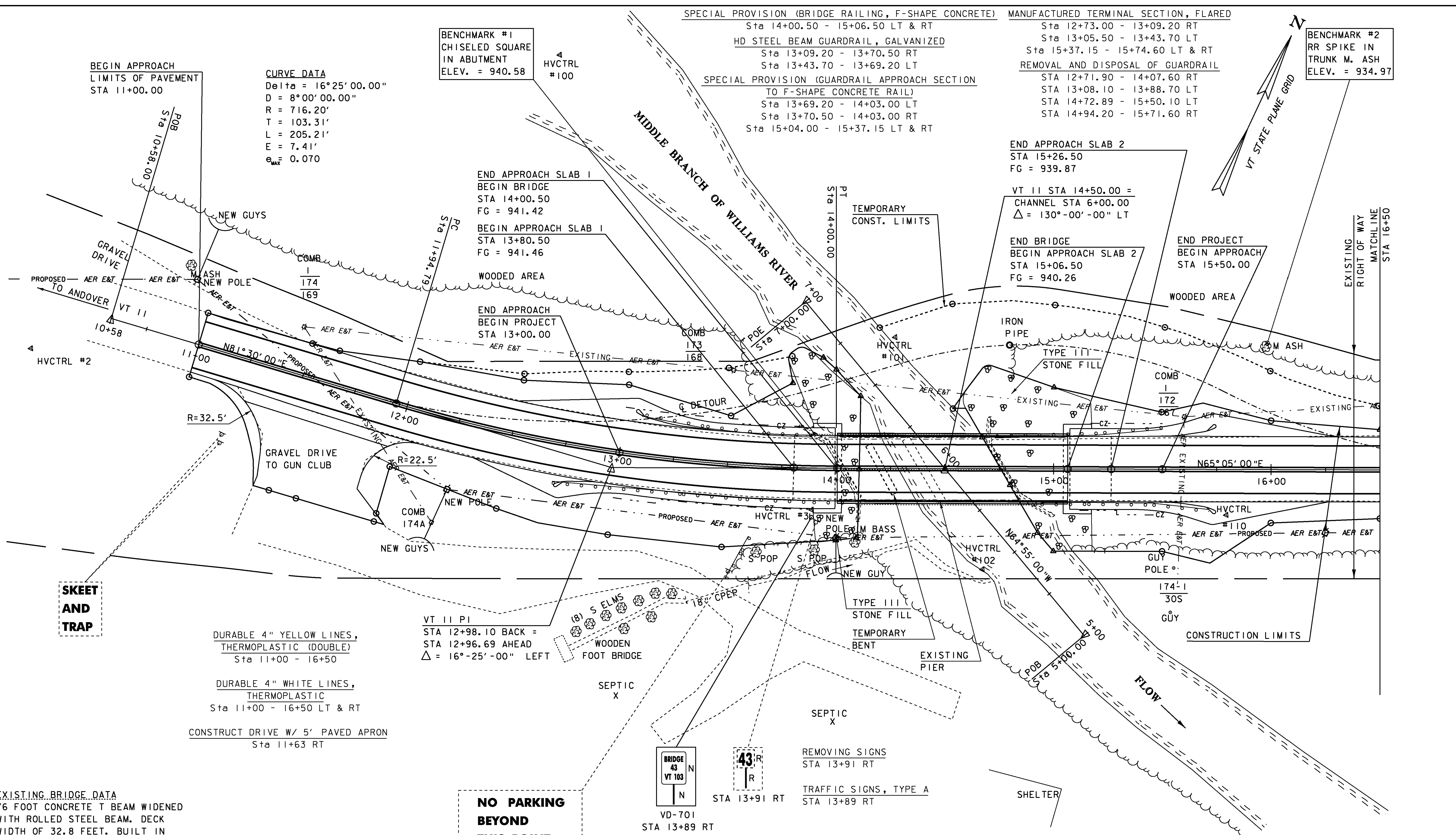
* Main Traverse Completed 5/25/06 by R. Gilman P.C. & P. Winters

ALIGNMENT TIES



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

PROJECT NAME:	Chester	PLOT DATE:	16-MAR-2011
PROJECT NUMBER:	BRF 016-1(25)	DRAWN BY:	R. Bullock
FILE NAME:	88b194\survey\88b194+1.dgn	DESIGNED BY:	E. L. RUSTAY
PROJECT LEADER:	C. P. WILLIAMS	CHECKED BY:	R. S. YOUNG
TIE SHEET		SHEET	6 OF 50



BEGIN APPROACH
LIMITS OF PAVEMENT
STA 11+00.00

CURVE DATA
Delta = 16°25'00.00"
D = 8°00'00.00"
R = 716.20'
T = 103.31'
L = 205.21'
E = 7.41'
e_{max} = 0.070

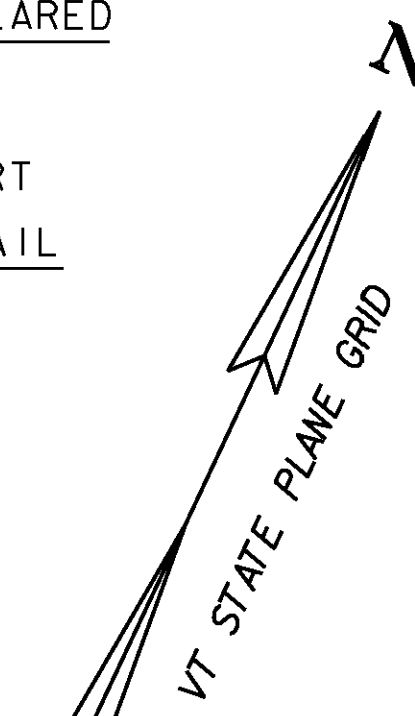
BENCHMARK #1
CHISELED SQUARE
IN ABUTMENT
ELEV. = 940.58

HVCTRL
#100

SPECIAL PROVISION (BRIDGE RAILING, F-SHAPE CONCRETE)
Sta 14+00.50 - 15+06.50 LT & RT
HD STEEL BEAM GUARDRAIL, GALVANIZED
Sta 13+09.20 - 13+70.50 RT
Sta 13+43.70 - 13+69.20 LT
**SPECIAL PROVISION (GUARDRAIL APPROACH SECTION
TO F-SHAPE CONCRETE RAIL)**
Sta 13+69.20 - 14+03.00 LT
Sta 13+70.50 - 14+03.00 RT
Sta 15+04.00 - 15+37.15 LT & RT

MANUFACTURED TERMINAL SECTION, FLARED
Sta 12+73.00 - 13+09.20 RT
Sta 13+05.50 - 13+43.70 LT
Sta 15+37.15 - 15+74.60 LT & RT
REMOVAL AND DISPOSAL OF GUARDRAIL
Sta 12+71.90 - 14+07.60 RT
Sta 13+08.10 - 13+88.70 LT
Sta 14+72.89 - 15+50.10 LT
Sta 14+94.20 - 15+71.60 RT

BENCHMARK #2
RR SPIKE IN
TRUNK M. ASH
ELEV. = 934.97



END APPROACH SLAB 1
BEGIN BRIDGE
STA 14+00.50
FG = 941.42
BEGIN APPROACH SLAB 1
STA 13+80.50
FG = 941.46

END APPROACH SLAB 2
STA 15+26.50
FG = 939.87

VT II STA 14+50.00 =
CHANNEL STA 6+00.00
Δ = 130°-00'-00" LT

END BRIDGE
BEGIN APPROACH SLAB 2
STA 15+06.50
FG = 940.26

END PROJECT
BEGIN APPROACH
STA 15+50.00

R=32.5'

R=22.5'

DURABLE 4" YELLOW LINES,
THERMOPLASTIC (DOUBLE)
Sta 11+00 - 16+50

DURABLE 4" WHITE LINES,
THERMOPLASTIC
Sta 11+00 - 16+50 LT & RT

CONSTRUCT DRIVE W/ 5' PAVED APRON
Sta 11+63 RT

VT II PI
STA 12+98.10 BACK =
STA 12+96.69 AHEAD
Δ = 16°-25'-00" LEFT

BRIDGE
43
VT 103

VD-701
STA 13+89 RT
STD E-134

43
R

STA 13+91 RT

REMOVING SIGNS
STA 13+91 RT
TRAFFIC SIGNS, TYPE A
STA 13+89 RT

**NO PARKING
BEYOND
THIS POINT
PER ACT 250**

LAYOUT I
SCALE 1" = 20'-0"
20 0 20

SIGN LEGEND
N - NEW
R - REMOVE

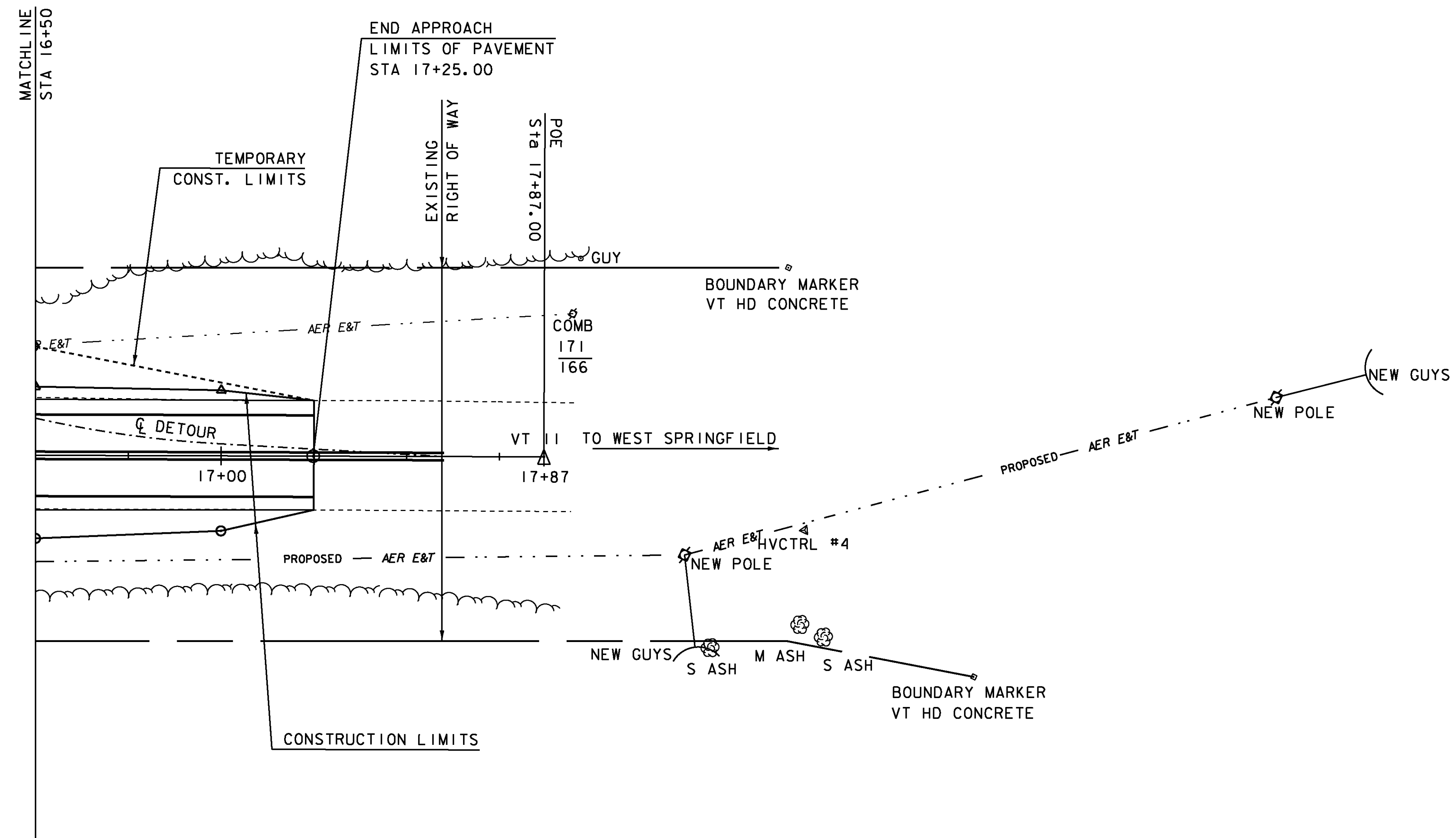
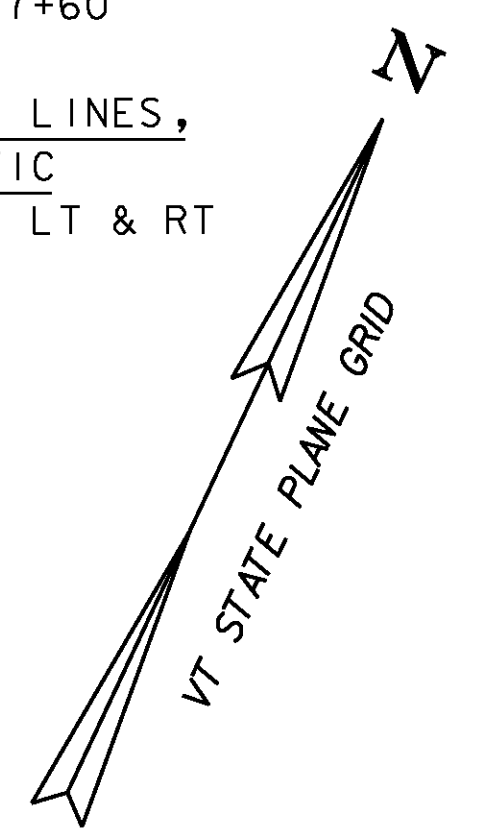
PROJECT: CHESTER	PROJECT NO. # BRF 016-1 (25)
DESIGN FILE NAME: 88b194/str/s88b194.bdr.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194ia1.i	DRAWN BY: M. FESSEL
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R. S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	LAYOUT SHEET 1
	SHEET: 7 OF 50

EXISTING BRIDGE DATA
76 FOOT CONCRETE T BEAM WIDENED
WITH ROLLED STEEL BEAM. DECK
WIDTH OF 32.8 FEET. BUILT IN
1933. RECONSTRUCTED IN 1974.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

DURABLE 4" YELLOW LINES,
THERMOPLASTIC (DOUBLE)
Sta 16+50 - 17+60

DURABLE 4" WHITE LINES,
THERMOPLASTIC
Sta 16+50 - 17+25 LT & RT

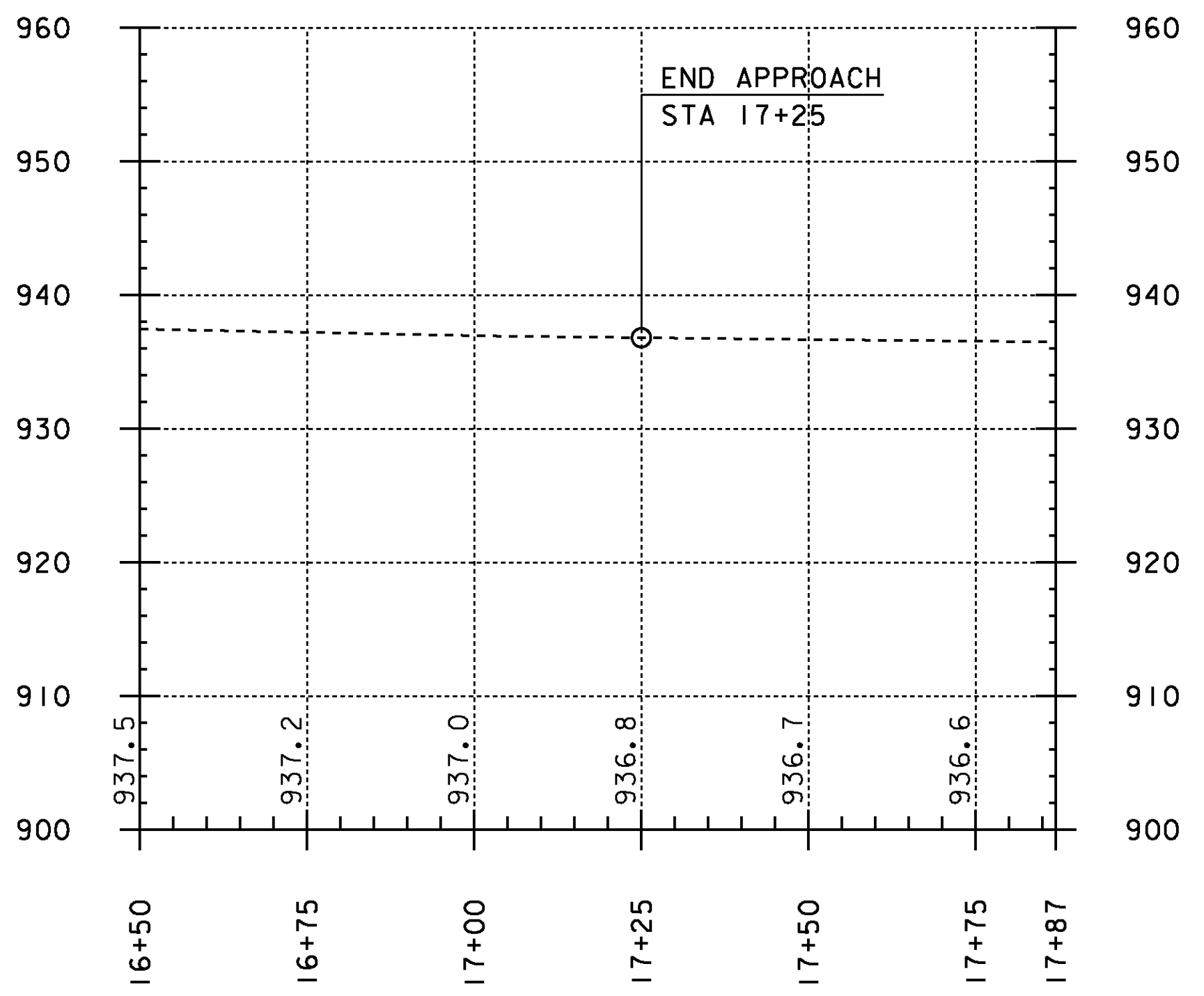
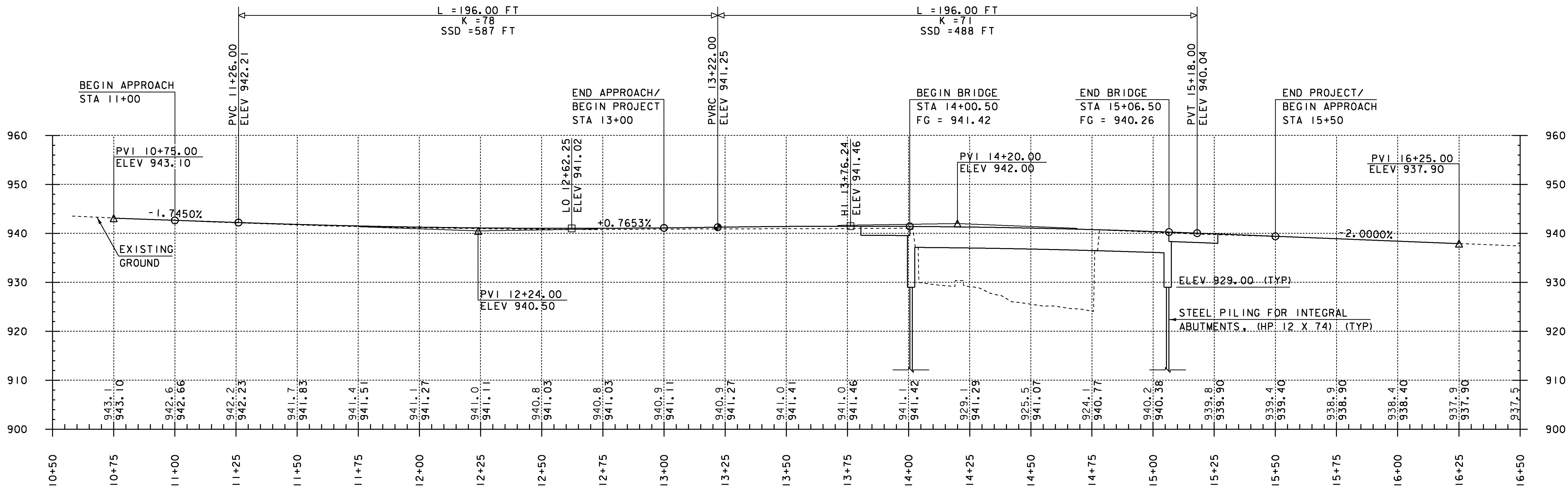


LAYOUT 2

SCALE 1" = 20'-0"

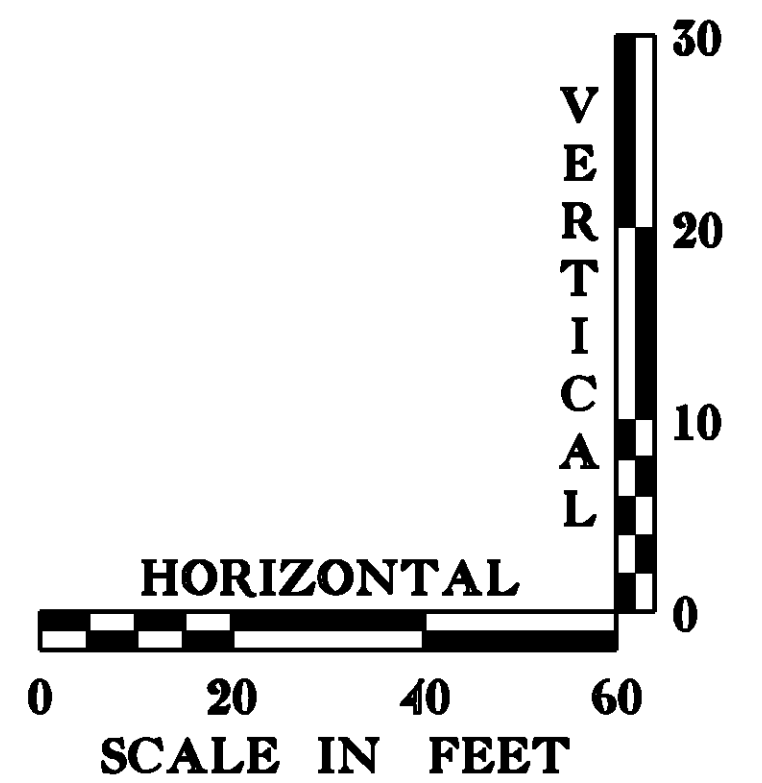
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)

PROJECT: CHESTER	PROJECT NO.: BRF 016 -1 (25)
DESIGN FILE NAME: 88b194/str/s88b194.bdr.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194ia2.i	DRAWN BY: M. FESSEL
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 8 OF 50
LAYOUT SHEET 2	



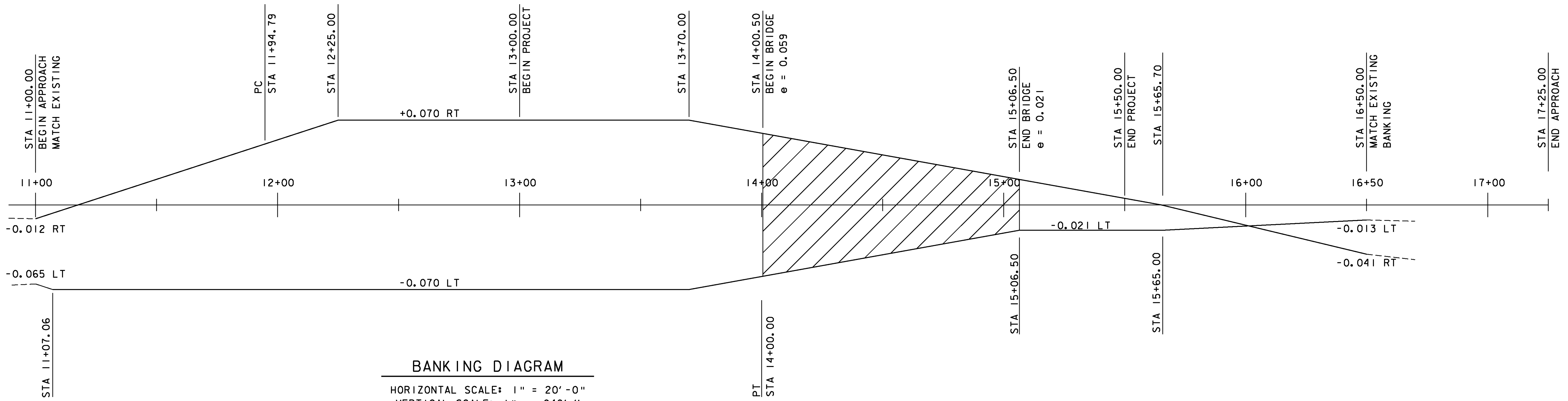
PROFILE VT 11

NOTES:
 GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ϕ .
 GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ϕ .

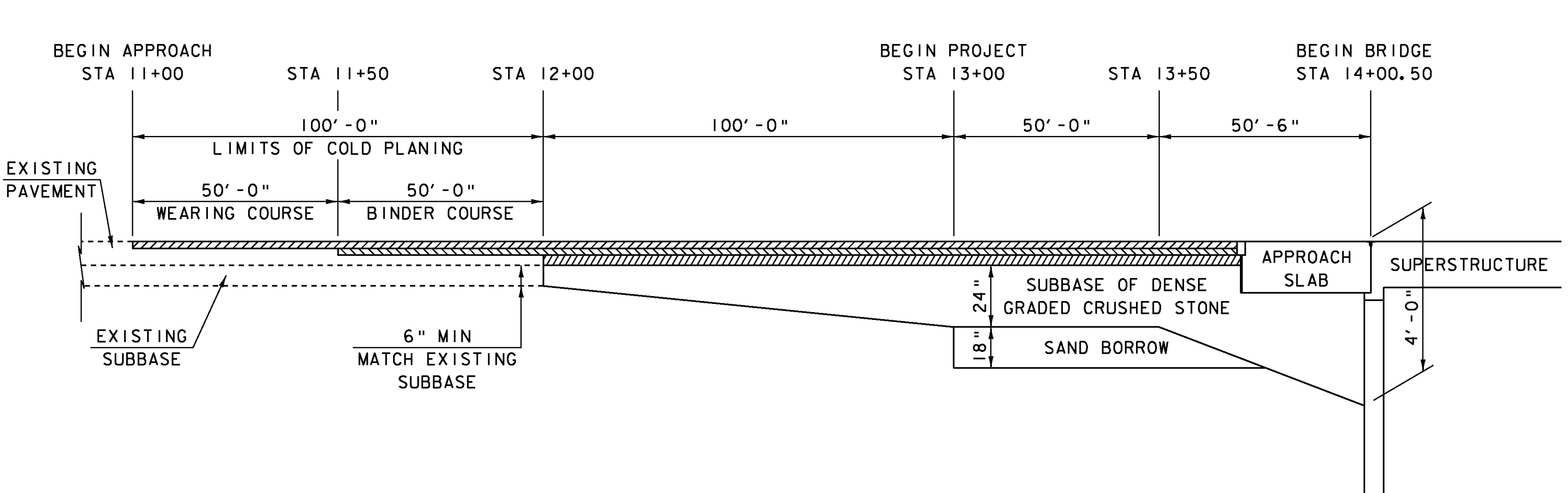


PROFILE VT 11

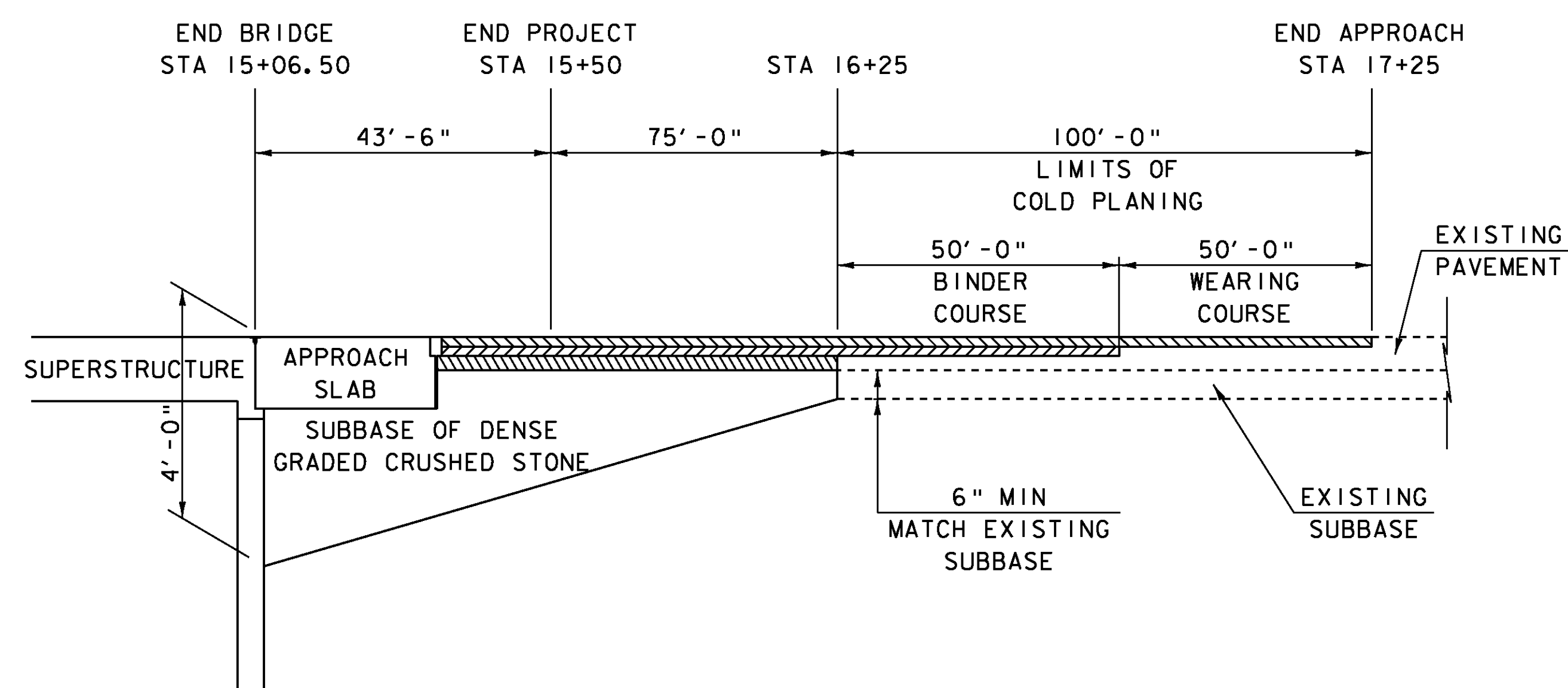
PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194/structures/s88b194pro1.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194pro1.dgn	DRAWN BY: M. GAGULIC
DESIGNED BY: E. L. RUSTAY	CHECKED BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	SHEET: 9 OF 50
VT 11 PROFILE	



BANKING DIAGRAM
 HORIZONTAL SCALE: 1" = 20'-0"
 VERTICAL SCALE: 1" = .040'/'



BEGIN PROJECT MATERIAL TRANSITION
 NOT TO SCALE



END PROJECT MATERIAL TRANSITION
 NOT TO SCALE

SCALE 1" = 20'-0"
 20 0 20

PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194/structures/s88b194pro1.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194bank.dgn	DRAWN BY:	E.L. RUSTAY
DESIGNED BY:	E.L. RUSTAY	CHECKED BY:	R.S. YOUNG
SQUAD LEADER:	C.P. WILLIAMS		
BANKING DIAGRAM & TRANSITIONS		SHEET: 10 OF 50	

REMOVAL OF EXISTING PAVEMENT MARKINGS

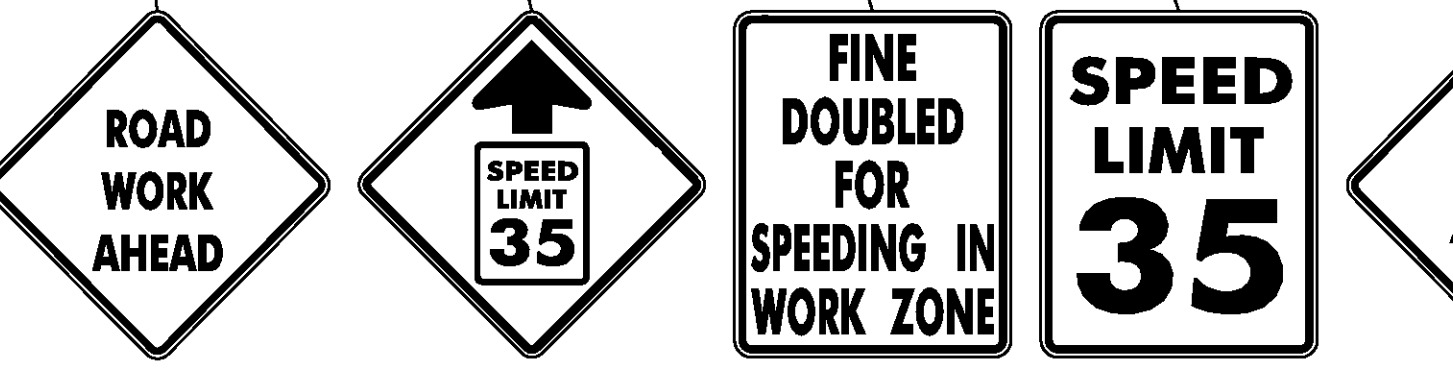
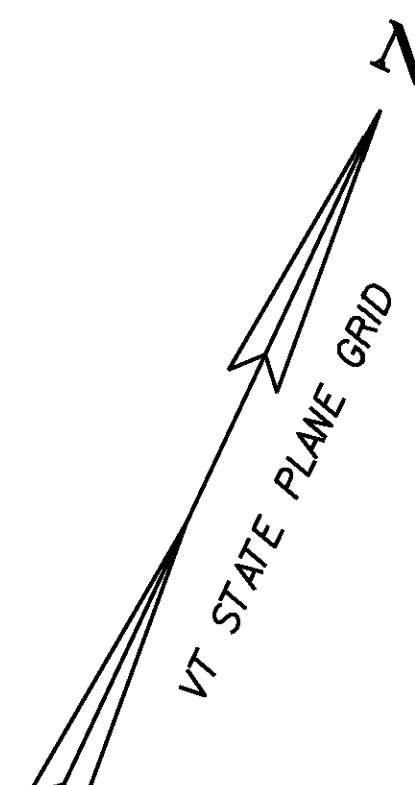
Sta 12+05 - 13+50 LT
 Sta 11+90 - 13+50 C
 Sta 12+37 - 13+00 RT

NOTES:

PAYMENT FOR SIGNING, BARRELS, AND BARRICADES WILL BE MADE UNDER CONTRACT ITEM 641.10.

TEMPORARY TRAFFIC BARRIER AS SHOWN ON THESE PLANS (STA 13+50 TO STA 13+67 & STA 15+75 TO STA 15+88) SHALL BE PAID FOR UNDER CONTRACT ITEM 641.10.

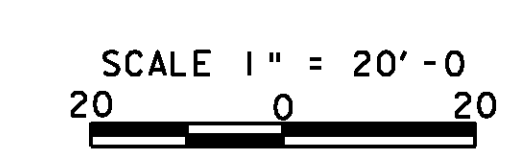
PAYMENT FOR DETOUR APPROACH, DETOUR APPROACH RAILING, BRIDGE RAILING, DETOUR PAVEMENT, AND PAVEMENT MARKINGS BE MADE UNDER CONTRACT ITEM 528.11



LEGEND

	- SIGN POSTS
	- TYPE III BARRICADES (MOD.)
	- TEMP. TRAFFIC BARRIER
	- REFLECTORIZED BARREL
	- REMOVAL OF EXISTING PAVEMENT MARKINGS

DETOUR LAYOUT 1



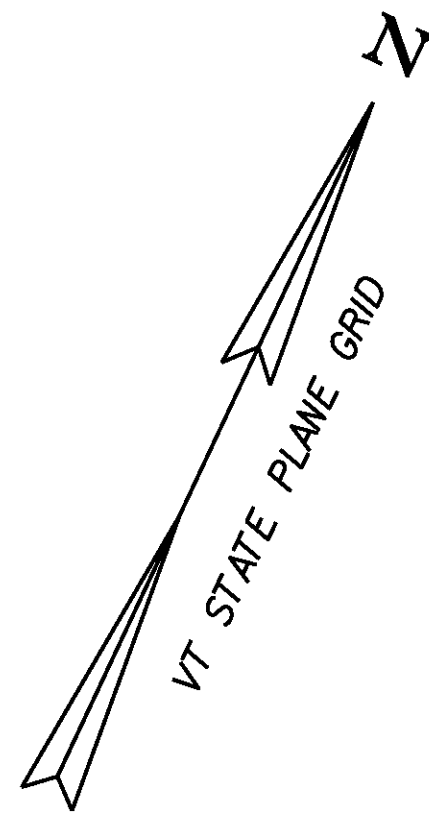
NOTE: ANY TEMPORARY SHEET PILING USED TO ISOLATE WINGWALL NO. 1 SHALL BE INCIDENTAL TO ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE"

SEE GENERAL NOTES SHEET FOR MORE NOTES REGARDING TRAFFIC CONTROL.

DATUM

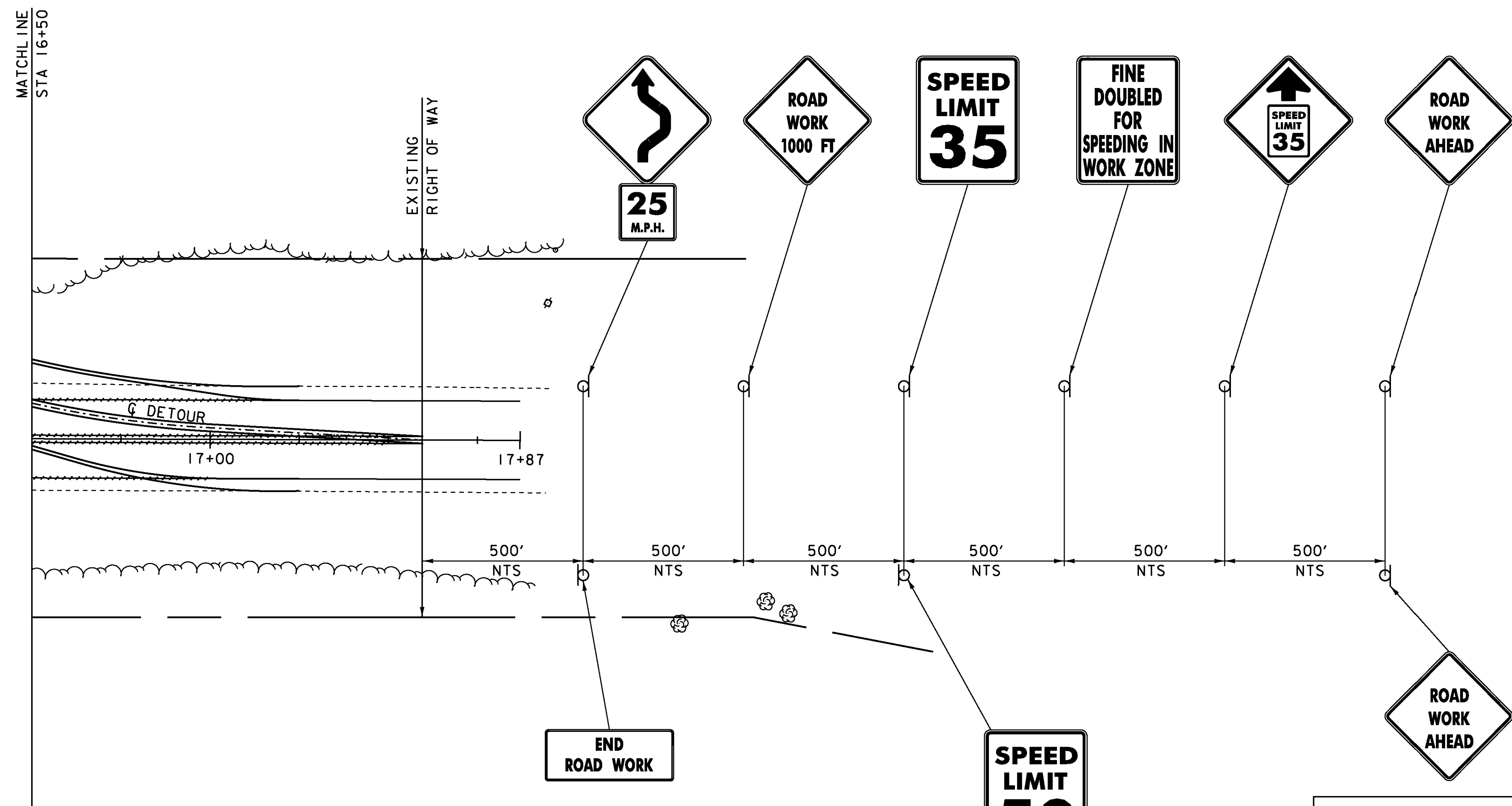
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194/str/s88b194nu1.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194det1.i	DRAWN BY: D. D. BEARD
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 11 OF 50
DETOUR LAYOUT SHEET 1	



REMOVAL OF EXISTING PAVEMENT MARKINGS

Sta 16+00 - 17+25 LT
 Sta 16+00 - 17+60 C
 Sta 16+50 - 17+00 RT



END ROAD WORK

SPEED LIMIT 50

ROAD WORK AHEAD

LEGEND	
	- SIGN POSTS
	- TYPE III BARRICADES (MOD.)
	- TEMP. TRAFFIC BARRIER
	- REFLECTORIZED BARREL
	- REMOVAL OF EXISTING PAVEMENT MARKINGS

DETOUR LAYOUT 2

SCALE 1" = 20'-0"
 20 0 20

SEE GENERAL NOTES SHEET FOR MORE NOTES REGARDING TRAFFIC CONTROL.

PROJECT: CHESTER	PROJECT NO.: BRF 016 -1 (25)
DESIGN FILE NAME: 88b194/Structures/s88b194det.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194det2.i	DESIGNED BY: E.L. RUSTAY
SQUAD LEADER: C.P. WILLIAMS	CHECKED BY: R.S. YOUNG
DETOUR LAYOUT SHEET 2	SHEET: 12 OF 50

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)

SOIL CLASSIFICATION

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

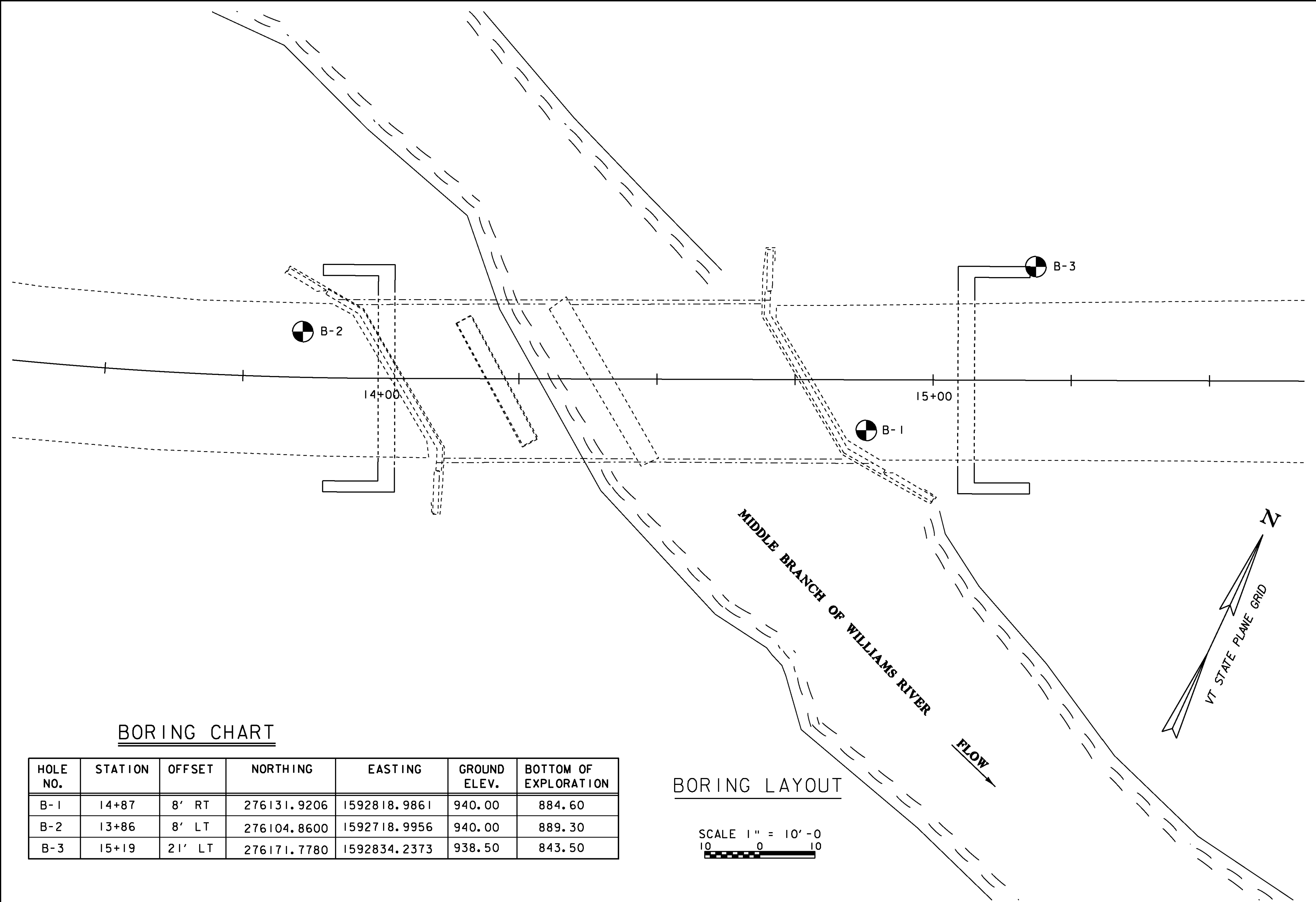
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊕	Standard Penetration Boring
⊗	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O. D. Sampler 1 3/8" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 3/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
SI	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

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



BORING CHART

HOLE NO.	STATION	OFFSET	NORTHING	EASTING	GROUND ELEV.	BOTTOM OF EXPLORATION
B-1	14+87	8' RT	276131.9206	1592818.9861	940.00	884.60
B-2	13+86	8' LT	276104.8600	1592718.9956	940.00	889.30
B-3	15+19	21' LT	276171.7780	1592834.2373	938.50	843.50

BORING LAYOUT

SCALE 1" = 10' - 0
10 0 10

DEFINITIONS (AASHTO)


BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.	VARVED - Alternate layers of silt and clay.
BOULDER - A rock fragment with an average dimension > 12 inches.	HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
COBBLE - Rock fragments with an average dimension between 3 and 12 inches.	MUCK - Soft organic soil (containing > 10% organic material).
GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).	MOISTURE CONTENT - Weight of water divided by dry weight of soil.
SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).	FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
SILT - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.	STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.	DIP - Inclination of bed with a horizontal plane.


GENERAL NOTES

- The subsurface explorations shown herein were made between 04/26/07 and 05/03/07 by SBJ Services, Inc.
- 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.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	CHESTER	Bridge No.	43
Highway No.	VT 11	Log Sta.	
		Surv. Sta.	
BORING INFORMATION SHEET			
Designed By	E. L. RUSTAY	Drawn By	M. FESSEL
Checked By	R. S. YOUNG	Date	12/07
		Bridge Design Supervisor	C. P. WILLIAMS
		Date	12/07
PROJECT	CHESTER	PROJECT NO.	BRF 016-1 (25)
I.G.C. Info.			
Bridge Sheet No.		Sheet	14 of 50

 P.O. Box 699 Windsor, VT 05089 Phone: 802-674-2033/Fax: 802-674-5943		1233 Shelburne Rd., Suite E-1 So. Burlington, VT 05403 Phone: 802-652-5140		BORING LOG		Boring No.:	B-1																																																																																																																																																																																																		
				Project Name		Page No.:	1 of 2																																																																																																																																																																																																		
VA07 Chester Bridge BRFO16-1(25) Chester, VT		File No.:		750-05.2		Checked By: JAG																																																																																																																																																																																																			
Boring Company: SJB Services Inc. Foreman: Steve Wolkiewicz GeoDesign Rep.: Jacob Wimeff Date Started: April 26, 2007 N. Coordinate: 276131.9206 Ground Surface Elevation (feet): 940 Station: 14+87 Offset: 8 ft RT		Casing: H.S.A. SS I.D.: 4.25 in. 1.38 in. Sampler: NA 140 lbs Hammer Fall: NA 30 in. Rig Type: CME 550X ATV Hammer Type: Automatic		Date: 4/26/07 Depth (ft): 12.0 Elev. (ft): 928.0 Notes: Refer to HTE Log for Groundwater Information.																																																																																																																																																																																																					
<table border="1"> <thead> <tr> <th rowspan="2">Depth (ft)</th> <th rowspan="2">Casing Blows/ft</th> <th rowspan="2">Number</th> <th rowspan="2">Type</th> <th rowspan="2">Penetration (inches)</th> <th rowspan="2">Recovery (inches)</th> <th rowspan="2">Depth (ft)</th> <th colspan="4">Blows / 6 inch Interval</th> <th rowspan="2">Coring Time (min./ft)</th> <th rowspan="2">Moisture Content (%)</th> <th rowspan="2">Strata Description</th> <th rowspan="2">Symbol</th> <th rowspan="2">Sample Description</th> </tr> <tr> <th>0 - 6</th> <th>6 - 12</th> <th>12 - 18</th> <th>18 - 24</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1 Asphalt</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>S1</td> <td>SS</td> <td>24</td> <td>8</td> <td>1</td> <td>15</td> <td>12</td> <td>10</td> <td>6</td> <td></td> <td></td> <td>Base course</td> <td></td> <td>S1) Medium dense, tan, fine to coarse SAND and fine to coarse GRAVEL, trace Silt, dry.</td> </tr> <tr> <td></td> <td></td> <td>S2</td> <td>SS</td> <td>24</td> <td>15</td> <td>3</td> <td>10</td> <td>6</td> <td>5</td> <td>3</td> <td></td> <td></td> <td>3.7 Fill</td> <td></td> <td>S2) Medium dense, S2A (Top 8"): Similar to S1. S2B (Bottom 7"): Orange brown, fine to medium SAND, little fine Gravel, trace Silt, moist.</td> </tr> <tr> <td>5</td> <td></td> <td>S3</td> <td>SS</td> <td>24</td> <td>13</td> <td>5</td> <td>2</td> <td>5</td> <td>5</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td>S3) Medium dense, olive gray with orange brown, fine to coarse SAND and SILT, trace fine to coarse Gravel, moist.</td> </tr> <tr> <td></td> <td></td> <td>S4</td> <td>SS</td> <td>24</td> <td>6</td> <td>7</td> <td>5</td> <td>5</td> <td>6</td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td>S4) Medium dense, gray/ brown/ orange, fine to coarse SAND and fine GRAVEL, little Silt, with fractured black Gravel, moist.</td> </tr> <tr> <td>10</td> <td></td> <td>S5</td> <td>SS</td> <td>24</td> <td>13</td> <td>10</td> <td>3</td> <td>2</td> <td>1</td> <td>2</td> <td></td> <td></td> <td>11 Sand and silt (Inferred River Bottom Sediment)</td> <td></td> <td>S5) Very loose, olive/ brown/ orange, fine to medium SAND, some Silt, trace fine Gravel, bottom 1" layered, moist.</td> </tr> <tr> <td></td> <td></td> <td>S6</td> <td>SS</td> <td>24</td> <td>6</td> <td>12</td> <td>2</td> <td>2</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td>S6) Very loose, layered brown and olive, fine to medium SAND and SILT, little fine to coarse Gravel, wet.</td> </tr> <tr> <td>15</td> <td></td> <td>S7</td> <td>SS</td> <td>24</td> <td>20</td> <td>15</td> <td>8</td> <td>21</td> <td>23</td> <td>40</td> <td></td> <td></td> <td>15 Silty Sand</td> <td></td> <td>S7) Dense, greenish gray, fine SAND and SILT, little fine to coarse Gravel, moist.</td> </tr> <tr> <td>20</td> <td></td> <td>S8</td> <td>SS</td> <td>21</td> <td>20</td> <td>20</td> <td>21</td> <td>37</td> <td>52</td> <td>62/3"</td> <td></td> <td></td> <td></td> <td></td> <td>S8) Very dense, SILT and fine to medium SAND, trace fine Gravel, moist to wet.</td> </tr> <tr> <td>25</td> <td></td> <td>S9</td> <td>SS</td> <td>24</td> <td>18</td> <td>25</td> <td>3</td> <td>27</td> <td>40</td> <td>35</td> <td></td> <td></td> <td></td> <td></td> <td>S9) Very dense, gray parted, fine to medium SAND, little Silt, trace fine Gravel, moist to wet.</td> </tr> <tr> <td>30</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>28 Glacial Till</td> <td></td> <td></td> </tr> </tbody> </table>		Depth (ft)	Casing Blows/ft	Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval				Coring Time (min./ft)	Moisture Content (%)	Strata Description	Symbol	Sample Description	0 - 6	6 - 12	12 - 18	18 - 24														1 Asphalt					S1	SS	24	8	1	15	12	10	6			Base course		S1) Medium dense, tan, fine to coarse SAND and fine to coarse GRAVEL, trace Silt, dry.			S2	SS	24	15	3	10	6	5	3			3.7 Fill		S2) Medium dense, S2A (Top 8"): Similar to S1. S2B (Bottom 7"): Orange brown, fine to medium SAND, little fine Gravel, trace Silt, moist.	5		S3	SS	24	13	5	2	5	5	6					S3) Medium dense, olive gray with orange brown, fine to coarse SAND and SILT, trace fine to coarse Gravel, moist.			S4	SS	24	6	7	5	5	6	8					S4) Medium dense, gray/ brown/ orange, fine to coarse SAND and fine GRAVEL, little Silt, with fractured black Gravel, moist.	10		S5	SS	24	13	10	3	2	1	2			11 Sand and silt (Inferred River Bottom Sediment)		S5) Very loose, olive/ brown/ orange, fine to medium SAND, some Silt, trace fine Gravel, bottom 1" layered, moist.			S6	SS	24	6	12	2	2	1	1					S6) Very loose, layered brown and olive, fine to medium SAND and SILT, little fine to coarse Gravel, wet.	15		S7	SS	24	20	15	8	21	23	40			15 Silty Sand		S7) Dense, greenish gray, fine SAND and SILT, little fine to coarse Gravel, moist.	20		S8	SS	21	20	20	21	37	52	62/3"					S8) Very dense, SILT and fine to medium SAND, trace fine Gravel, moist to wet.	25		S9	SS	24	18	25	3	27	40	35					S9) Very dense, gray parted, fine to medium SAND, little Silt, trace fine Gravel, moist to wet.	30													28 Glacial Till			Boring No.:		B-1	
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VA07 Chester Bridge BRFO16-1(25) Chester, VT		File No.:		750-05.2		Checked By: JAG																																																																																																																																			
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CAMP DUDLEY 750-5.2.GPJ GEODESIGN STANDARD.GDT 2/14/08

Remarks:

- Ground surface elevation estimated by GeoDesign. Boring coordinates derived from electronic site plans issued by VTrans.
- Augered through 12 inches of asphalt prior to sampling S1.
- Auger grinding and chatter from 1' to 10' deep.
- Frequent moderate auger grinding and chatter from 15' to 20' deep.
- Occasional rig chatter while augering from 23' to 24.5' deep.

Notes:

- Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
- 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.
- A.C. = After casing; N.R. = Not Recorded.
- Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Piston Sampler; SB=Split Barrel (Split Spoon); ST=Shelby Tube; V=Vane; W/R/H=Weight of Rod/Hammer
- Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Remarks:

- Auger grinding and rig chatter from 28' to 33' deep. Slow auger advance at 33' deep. Unable to advance casing so roller bit to 35.8' deep. Bit would go through layers of harder to easier drilling until 35.8' deep, steady pressure.
- Only able to advance augers to 33.7' deep.
- E.O.E. at 55.4' deep. Hole abandoned. Will not be able to core if rock is encountered deeper do to crooked hole.

Notes:

- Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
- 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.
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BORING LOG		Boring No.: B-3											
Project Name		Page No.: 1 of 4											
Chester Bridge BRFO16-1(25)		File No.: 750-05.2											
Chester, VT		Checked By: JAG											
P.O. Box 699 Windsor, VT 05089 Phone: 802-674-2033/Fax: 802-674-5943		1233 Shelburne Rd., Suite E-1 So. Burlington, VT 05403 Phone: 802-652-5140											
Boring Company: SJB Services Inc. Foreman: Steve Wolkiewicz GeoDesign Rep.: Jacob Wimet Date Started: May 1, 2007 Date Finished: May 3, 2007 N. Coordinate: 276171.778 E. Coordinate: 1592834.2373 Ground Surface Elevation (feet): 938.5 Station: 15+19 Offset: 21 ft LT		Casing: H.S.A. SS Sampler: SS Date: 5/1/07 Depth (ft): 15.0 Elev. (ft): 923.5 Notes: Refer to HTE Log Hammer WL: NA 140 lbs Hammer Fall: NA 30 in. Rig Type: CME 550X ATV Hammer Type: Automatic											
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Depth (ft)	Casing Blow/ft	Number	Type	Penetration (inches)	Recovery (inches)	Blows / 6 inch Interval	Coring Time (min./ft)	Moisture Content (%)	Depth & Elevation (feet)	Symbol	Classification System: Burmister		
												0 - 6	6 - 12
		S1	SS	24	10	0	1	12	15	14		Topsoil Fill	S1) Medium dense. Top 4": Topsoil. Bottom 6": Brown, fine to coarse GRAVEL and fine to coarse SAND, little Silt, moist.
5		S2	SS	24	4	5	8	4	7	3		Old Ground soil/ Subsoil	S2) Medium dense, light brown, fine to medium SAND, little (+) Silt, little fine to coarse Gravel, trace roots, moist.
		S3	SS	30	12	7	11	13	5	3/12"			S3) Medium dense, light brown with dark brown, fine to medium SAND, some Silt, little fine to coarse Gravel, little roots, moist.
10		S4	SS	24	13	10	8	18	36	48		Sand and gravel With Boulders/ Cobbles	S4) Very dense. S4A (Top 6"): Similar to S3 except without roots. S4B (Bottom 7"): Tan/ brown, fine to coarse GRAVEL and fine to coarse SAND, little Silt, moist.
15		S5	SS	24	21	15	20	31	37	37		Silty Sand	S5) Very dense, olive brown with orange oxidizations, fine to medium SAND, little Silt, little fine Gravel and decomposed Rock, wet.
20		S6	SS	24	19	20	14	38	75	79			S6) Very dense, olive brown, fine to medium SAND, some Silt, trace fine Gravel, wet.
25		S7	SS	5	5	25	100/5"					Glacial Till	S7) Refusal, olive brown, fine to medium SAND and SILT, little fine to coarse Gravel (fractured in spoon tip), wet.
30													
Remarks: 1) Ground surface elevation estimated by GeoDesign. Boring coordinates derived from electronic site plans issued by VTrans. 2) Frequent coarse Gravel and Cobbles noted while augering from 0' to 5' deep. Hard grinding and rig chatter noted from 7' to 8.5' deep. 3) Very hard grinding/ slow auger advance through inferred Boulders and gravelly layer from 11' to 13.5' deep.													
Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types. 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. A.C. = After casing; N.R. = Not Recorded. 3) Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Platton Sampler; SS=Split Barrel (Split Spoon); ST=Shelby Tube; V=Vane; WOB/H=Weight of Rod/Hammer 4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%													
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Chester, VT		Checked By: JAG											
P.O. Box 699 Windsor, VT 05089 Phone: 802-674-2033/Fax: 802-674-5943		1233 Shelburne Rd., Suite E-1 So. Burlington, VT 05403 Phone: 802-652-5140											
Boring Company: SJB Services Inc. Foreman: Steve Wolkiewicz GeoDesign Rep.: Jacob Wimet Date Started: May 1, 2007 Date Finished: May 3, 2007 N. Coordinate: 276171.778 E. Coordinate: 1592834.2373 Ground Surface Elevation (feet): 938.5 Station: 15+19 Offset: 21 ft LT		Casing: H.S.A. SS Sampler: SS Date: 5/1/07 Depth (ft): 15.0 Elev. (ft): 923.5 Notes: Refer to HTE Log Hammer WL: NA 140 lbs Hammer Fall: NA 30 in. Rig Type: CME 550X ATV Hammer Type: Automatic											
Sample Information		Strata Description		Sample Description									
Depth (ft)	Casing Blow/ft	Number	Type	Penetration (inches)	Recovery (inches)	Blows / 6 inch Interval	Coring Time (min./ft)	Moisture Content (%)	Depth & Elevation (feet)	Symbol	Classification System: Burmister		
												0 - 6	6 - 12
		S8	SS	6	6	30	122					Glacial Till (Continued)	S8) Refusal, gray, fine to coarse SAND, some fine to coarse Gravel/ decomposed Rock, little (+) Silt, wet.
35		S9	SS	17	13	35	18	53	100/5"				S9) Very dense/ refusal, gray, fine to medium SAND, little (+) Silt, trace fine Gravel, wet.
40		S10	SS	21	13	40	32	67	88	50/3"			S10) Very dense, dark gray/ black, fine to medium SAND and SILT, some (+) decomposed Rock, wet.
45		S11	SS	12	12	45	47	100/6"					S11) Refusal, dark gray/ black, fine to medium SAND and SILT and decomposed ROCK, wet.
50		S12	SS	10	10	50	20	100/5"					S12) Refusal, brown, fine to medium SAND and SILT and decomposed ROCK, little fine Gravel, wet.
55		S13	SS	8	4	55	68	50/2"					S13) Refusal, brown, decomposed ROCK and fine to coarse SAND and SILT, wet.
60		S14	SS	4	4	59	100/4"						S14) Refusal, similar to S13 except with piece
Remarks: 4) No movement last 30 blows of S12. 5) Very hard auger grinding and chatter from 51' to 51.5' deep. 6) Very hard auger grinding and chatter from 55.5' to 56.5' deep sustained. Unsustained frequent hard grinding and chatter from 57' to 58' deep and sustained again to 59' deep. 7) Switch to mud rotary with FJ 3" casing at 59' deep.													
Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types. 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. A.C. = After casing; N.R. = Not Recorded. 3) Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Platton Sampler; SS=Split Barrel (Split Spoon); ST=Shelby Tube; V=Vane; WOB/H=Weight of Rod/Hammer 4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%													
										Boring No.: B-3			

CAMP DUDLEY 750-5.2.GPJ - GEODESIGN STANDARD .GDT 2/14/08

PROJECT: CHESTER	PROJECT NO.: BRFO16-1(25)
DESIGN FILE NAME: 88b194\structures\88b194bor.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194bor log3.i	DRAWN BY: GEODESIGN, INC.
DESIGNED BY:	CHECKED BY: C.P. WILLIAMS
SQUAD LEADER: C.P. WILLIAMS	BORING LOGS - SHEET 3
	SHEET: 17 OF 50



VAOT
 P.O. Box 699 Windsor, VT 05089
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BORING LOG

Project Name

Chester Bridge BRFO16-1(25)

Chester, VT

Boring No.: B-3

Page No.: 3 of 4

File No.: 750-05.2

Checked By: JAG

Boring Company: SJB Services Inc.
 Foreman: Steve Wolkiewicz
 GeoDesign Rep.: Jacob Wimeff
 Date Started: May 1, 2007 Date Finished: May 3, 2007
 N. Coordinate: 276171.778 E. Coordinate: 1592834.2373
 Ground Surface Elevation (feet): 938.5
 Station: 15+19 Offset: 21 ft LT

Casing: H.S.A. Sampler: SS
 L.D.: 4.25 in. 1.38 in.
 Hammer WL: NA 140 lbs 5/1/07 15.0 923.5 Refer to HTE Log
 Hammer Fall: NA 30 in. for Groundwater
 Rig Type: CME 550X ATV
 Hammer Type: Automatic

Depth (ft)	Casing Blow/ft	Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval				Coring Time (min./ft)	Moisture Content (%)	Strata Description	Symbol	Sample Description
							Blows / 6 inch Interval								
							0 - 6	6 - 12	12 - 18	18 - 24					
												Glacial Till (Continued)		of coarse GRAVEL in spoon tip.	
65															
70															
75															
80															
85															
88												Probable 850. bedrock (inferred From Roller Bit)			
90															

Remarks
 8) Return water color change from rusty brown to tannish brown at approximately 63' deep with and increase in roller bit resistance. Infer still in Glacial Till due to the lack of ROCK in return water, cuttings.
 9) Driller infers Siltier/ clayier Glacial Till beginning at approximately 66' deep due to spikes in the water back pressure. No noticeable decrease in drilling resistance. Water return became grayer as well.
 10) At approximately 72' deep water changed back to brownish in color with less water backpressure (less Silt).
 11) Light grinding/ chatter from approximately 73' to 73.5' deep and 77' to 77.5' deep.

Notes:
 1) Stratification Lines Represent Approximate Boundary Between Material Types, 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.
 A.C. = After coring; N.R. = Not Recorded.
 3) Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Pluton Sampler; SS=Split Barrel (Split Spoon); ST=Shelby Tube; V=Vane; WOB/H=Weight of Rod/Hammer
 4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-30%; And = 35-50%

Boring No.: B-3



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BORING LOG

Project Name

Chester Bridge BRFO16-1(25)

Chester, VT

Boring No.: B-3

Page No.: 4 of 4

File No.: 750-05.2

Checked By: JAG

Boring Company: SJB Services Inc.
 Foreman: Steve Wolkiewicz
 GeoDesign Rep.: Jacob Wimeff
 Date Started: May 1, 2007 Date Finished: May 3, 2007
 N. Coordinate: 276171.778 E. Coordinate: 1592834.2373
 Ground Surface Elevation (feet): 938.5
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 Hammer Fall: NA 30 in. for Groundwater
 Rig Type: CME 550X ATV
 Hammer Type: Automatic

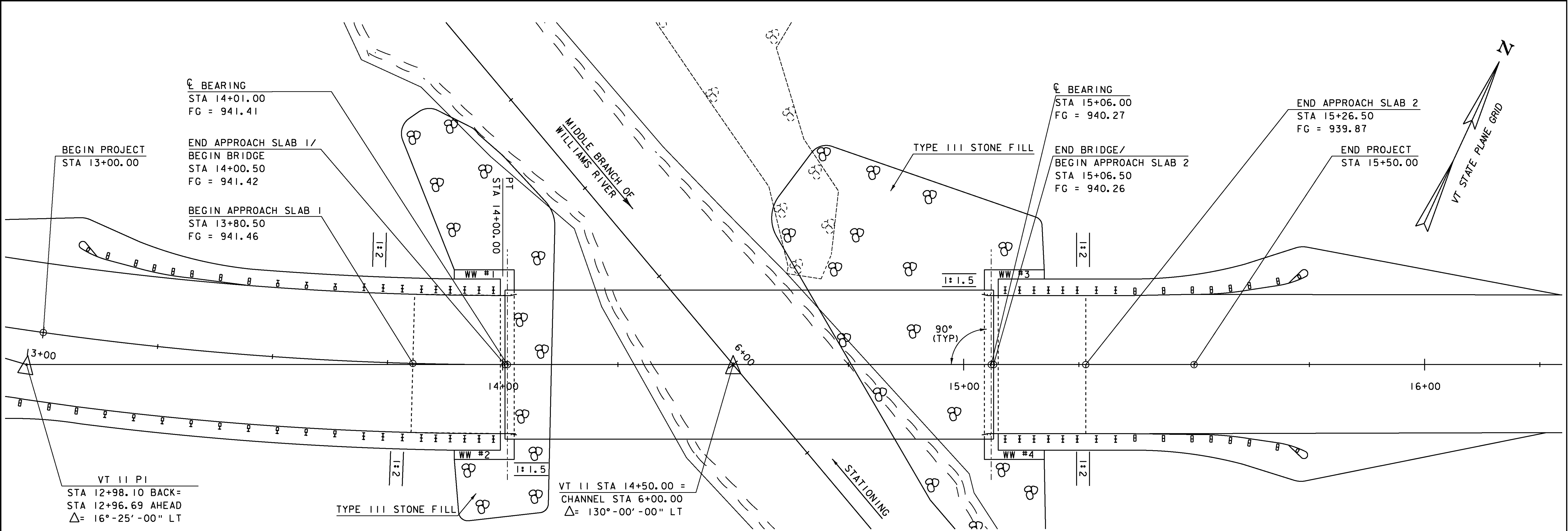
Depth (ft)	Casing Blow/ft	Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval				Coring Time (min./ft)	Moisture Content (%)	Strata Description	Symbol	Sample Description
							Blows / 6 inch Interval								
							0 - 6	6 - 12	12 - 18	18 - 24					
												Bedrock 84.8		C1) Top 8": Fractured fine to coarse GRAVEL. Bottom 29": Silver gray with white quartz banding, hard, slightly weathered along fracture surfaces, moderately to widely jointed, poor quality micaceous SCHIST. Fractures 75o to 90o from horizontal.	
95												Bottom 84.3. of Exploration at 95.0 ft			
100															
105															
110															
115															
120															

Remarks
 12) Grinding and chatter while roller biting from 88' to 90' deep. Attempt core sample at 90' deep. Cased to 88' prior to coring.
 13) Return water color changed to gray at approximately 91' deep.

Notes:
 1) Stratification Lines Represent Approximate Boundary Between Material Types, 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.
 A.C. = After coring; N.R. = Not Recorded.
 3) Sample Type Coding: A=Auger; C=Core; D=Driven; G=Grab; PS=Pluton Sampler; SS=Split Barrel (Split Spoon); ST=Shelby Tube; V=Vane; WOB/H=Weight of Rod/Hammer
 4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-30%; And = 35-50%

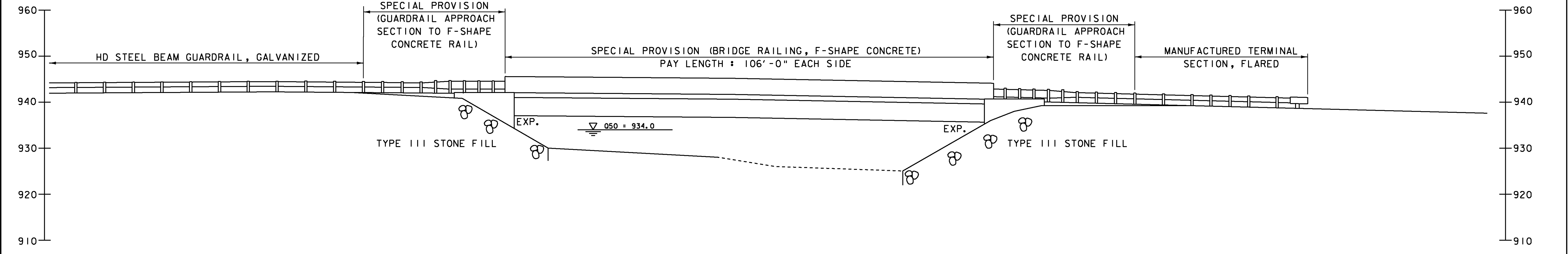
Boring No.: B-3

K ESTIMATED PILE TIP ELEVATION



PLAN

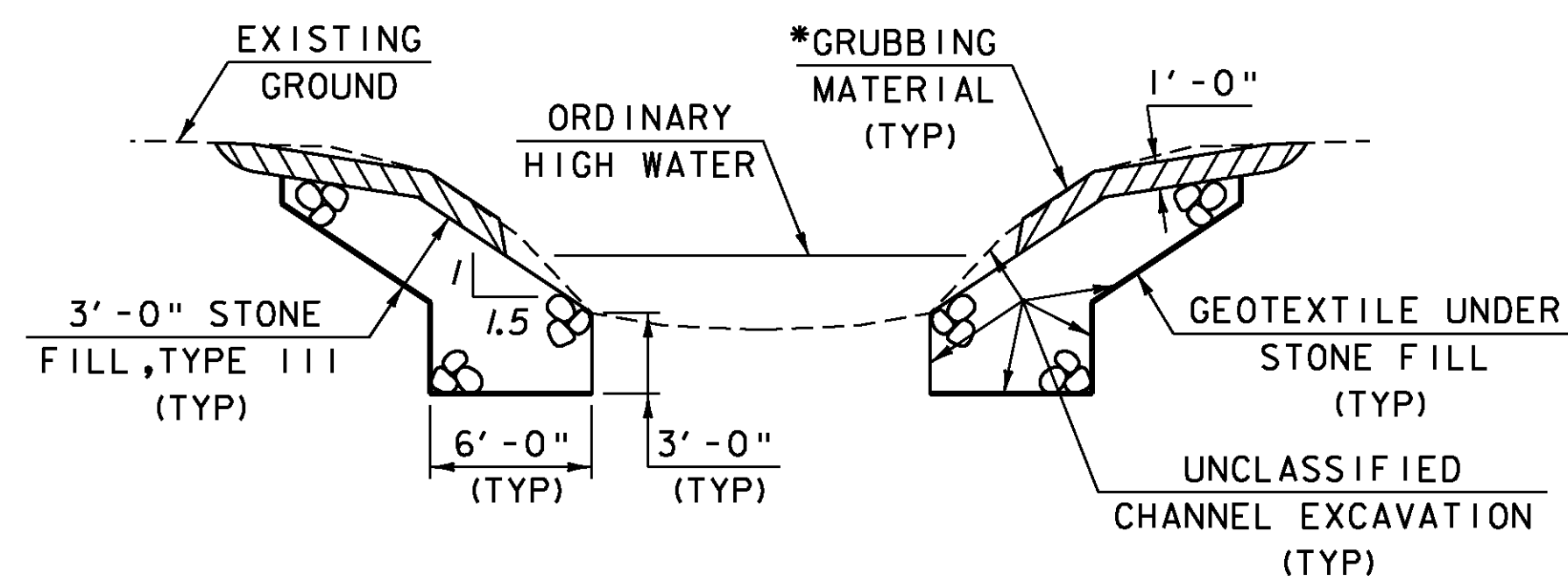
SCALE 1" = 10'-0"
 10 0 10



ELEVATION LOOKING UPSTREAM

SCALE 1" = 10'-0"
 10 0 10

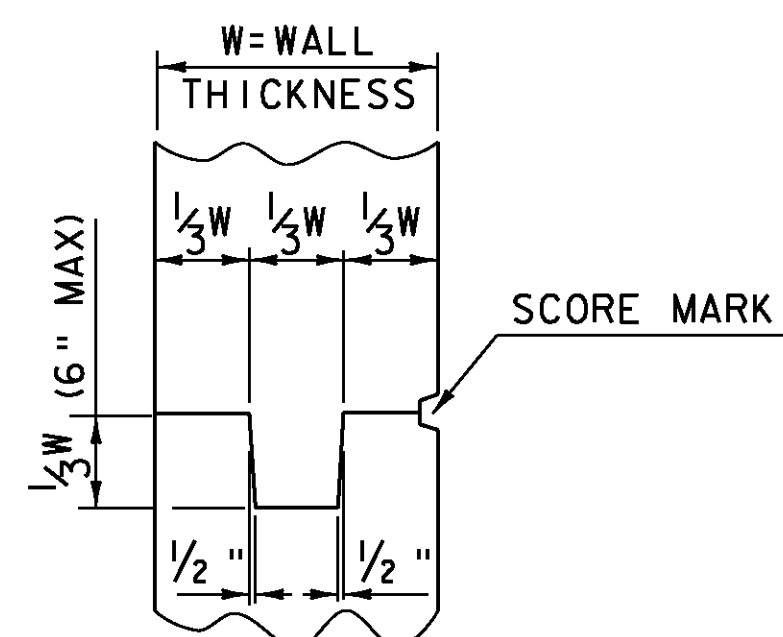
PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\structures\s88194pe.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88194pe.i	DRAWN BY: D.D. BEARD
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 19 OF 50
PLAN AND ELEVATION	



TYPICAL CHANNEL SECTION

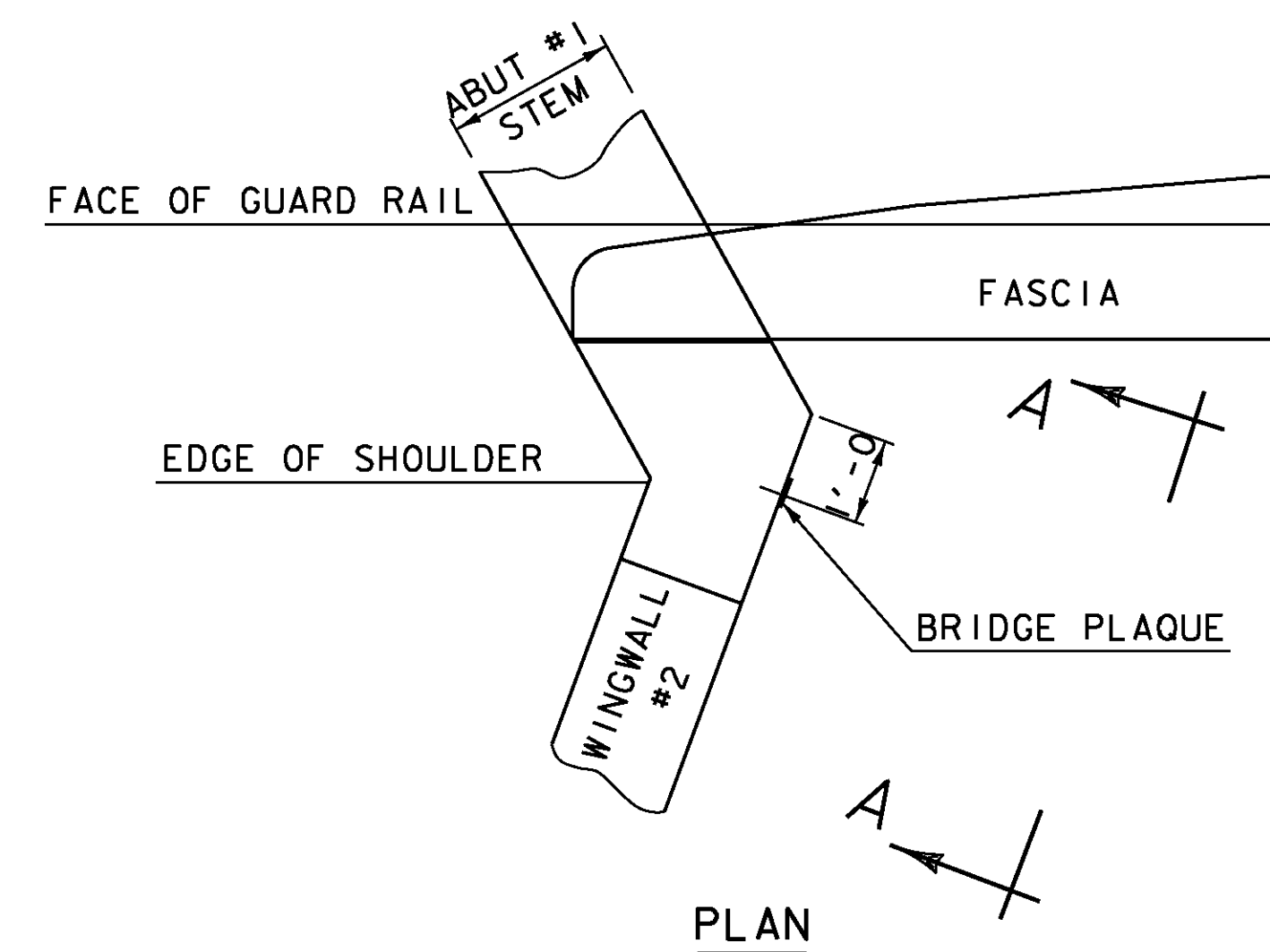
NTS

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

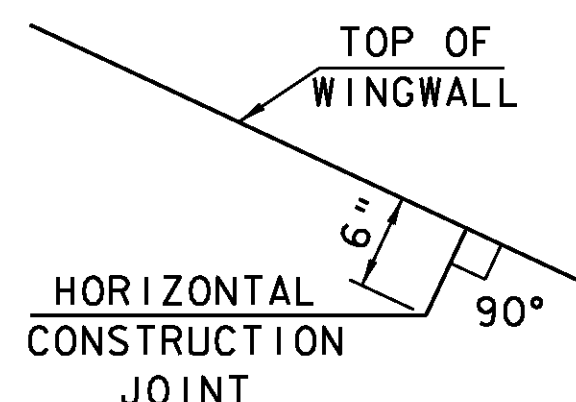


TYPICAL CONCRETE CONSTRUCTION JOINT

NTS

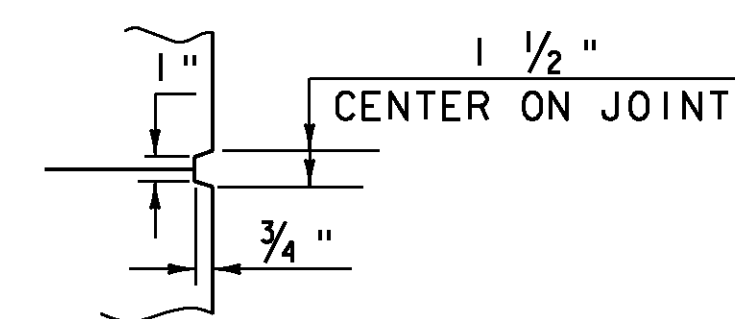


PLAN



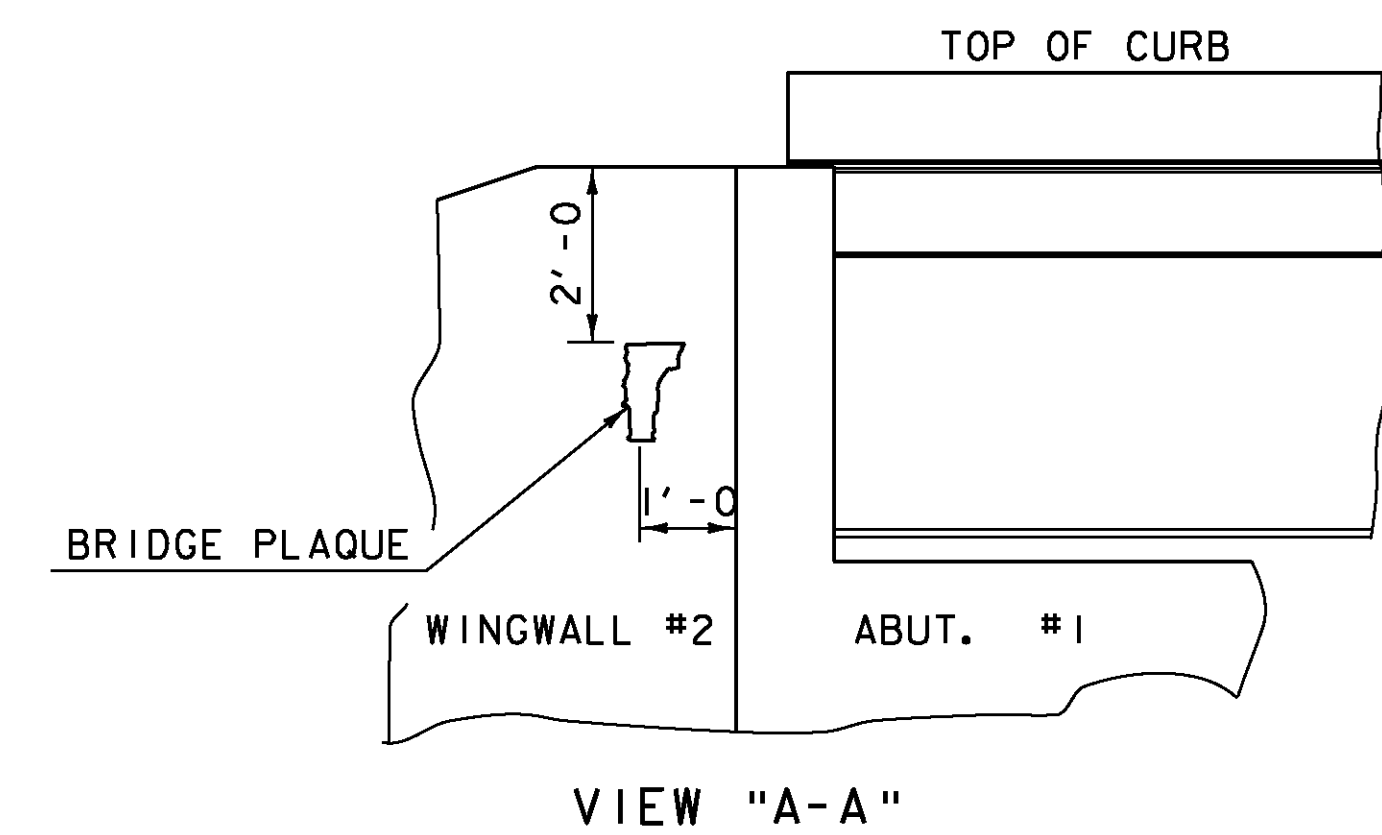
HORIZONTAL JOINT DETAIL

NTS



SCORE MARK DETAIL

NTS

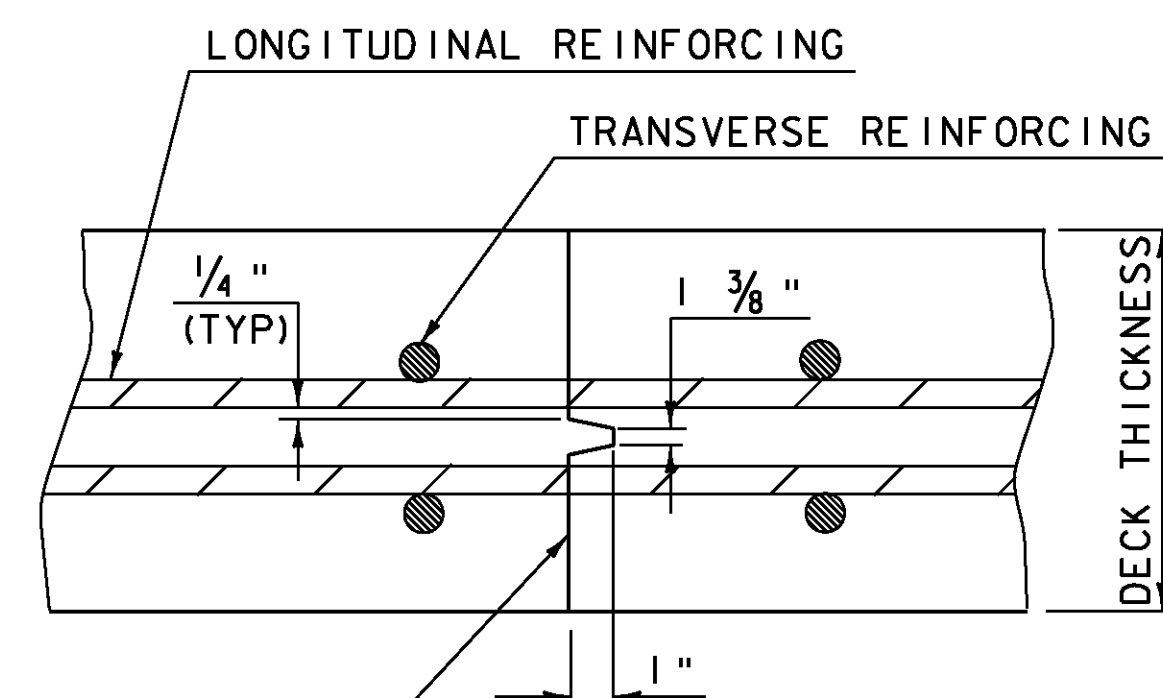


VIEW "A-A"

LOCATE BRIDGE PLAQUE

NTS

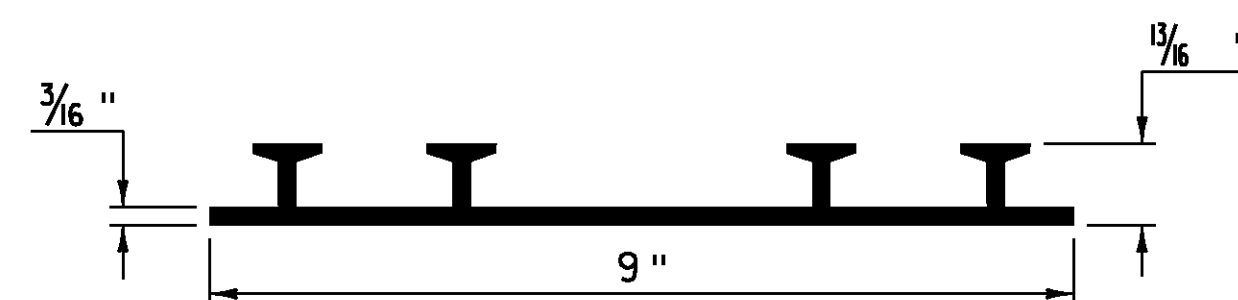
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER. BRIDGE PLAQUE WILL BE INCIDENTAL TO ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B.



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

NTS

APPLY EPOXY BONDING COMPOUND BEFORE PLACING NEW CONCRETE. INCLUDE WITH COST BID FOR ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B.



P. V. C. WATERSTOP FOR CONSTRUCTION JOINTS

NTS

THE COSTS FOR P. V. C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	Projects/88b194/structures/s88b194det.dgn	IPARM FILE NAME:	s88b194misc det. i
DESIGNED BY:	H. I. SALLS	DRAWN BY:	H. I. SALLS
SQUAD LEADER:	C. P. WILLIAMS	CHECKED BY:	R. S. YOUNG
MISCELLANEOUS DETAILS		SHEET:	20 OF 50

ASPHALTIC PLUG BRIDGE JOINT

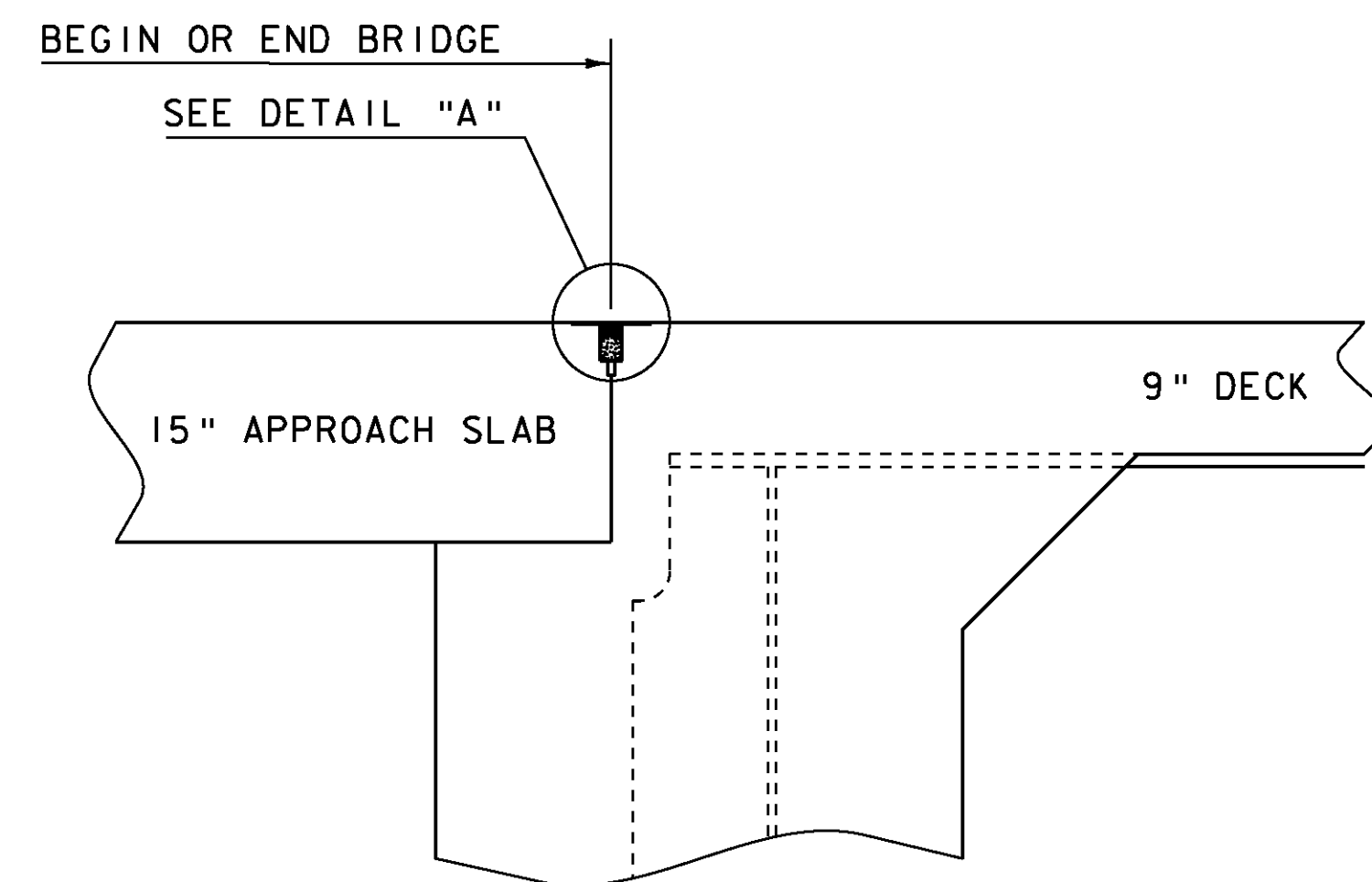
INSTALLATION

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

WEATHER LIMITATIONS.

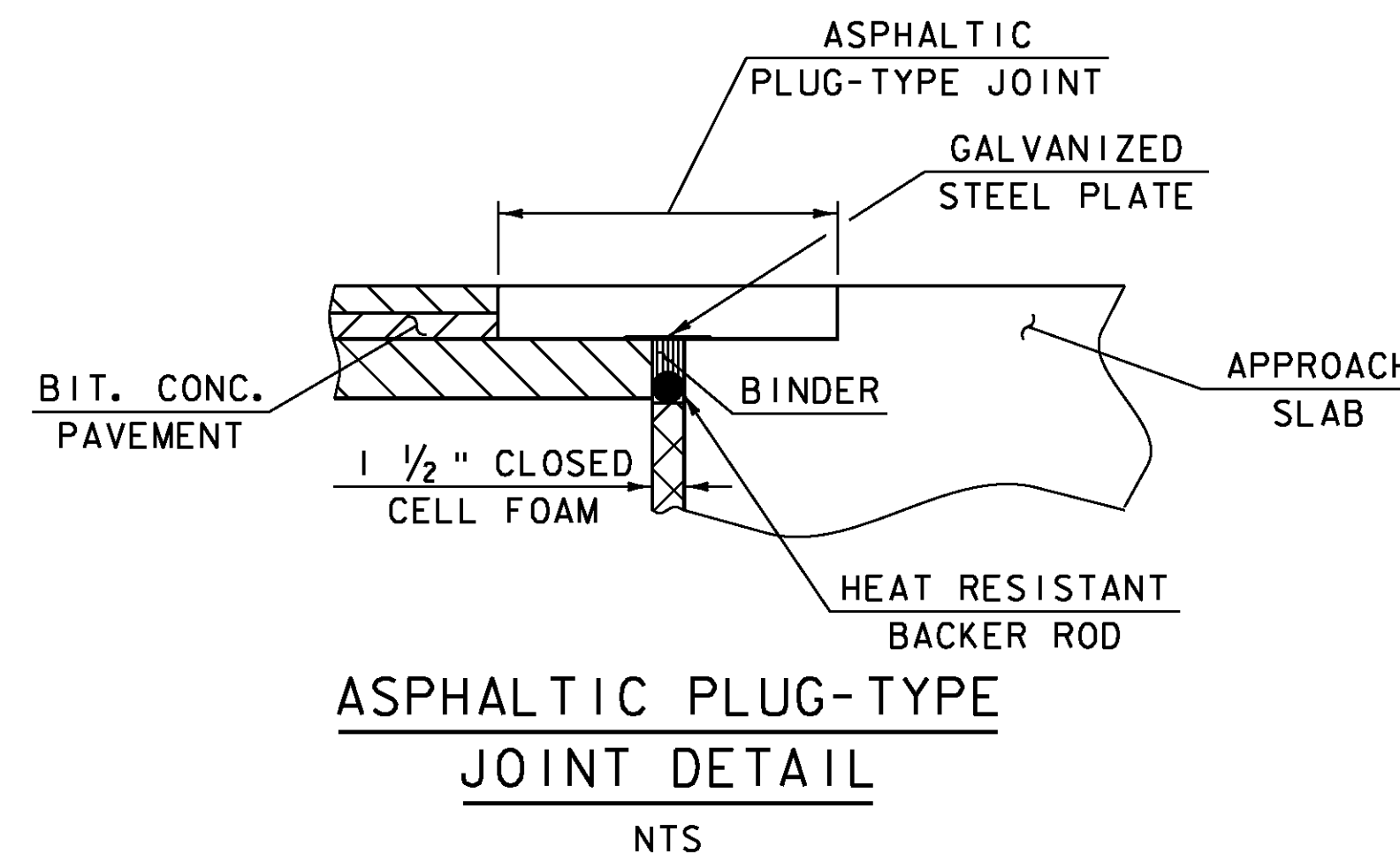
BINDER MATERIAL SHALL BE APPLIED ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL:

- (a) THE AMBIENT AIR TEMPERATURE IS AT LEAST 50°F AND RISING.
- (b) THE ROAD SURFACE IS SUFFICIENTLY DRY.
- (c) WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

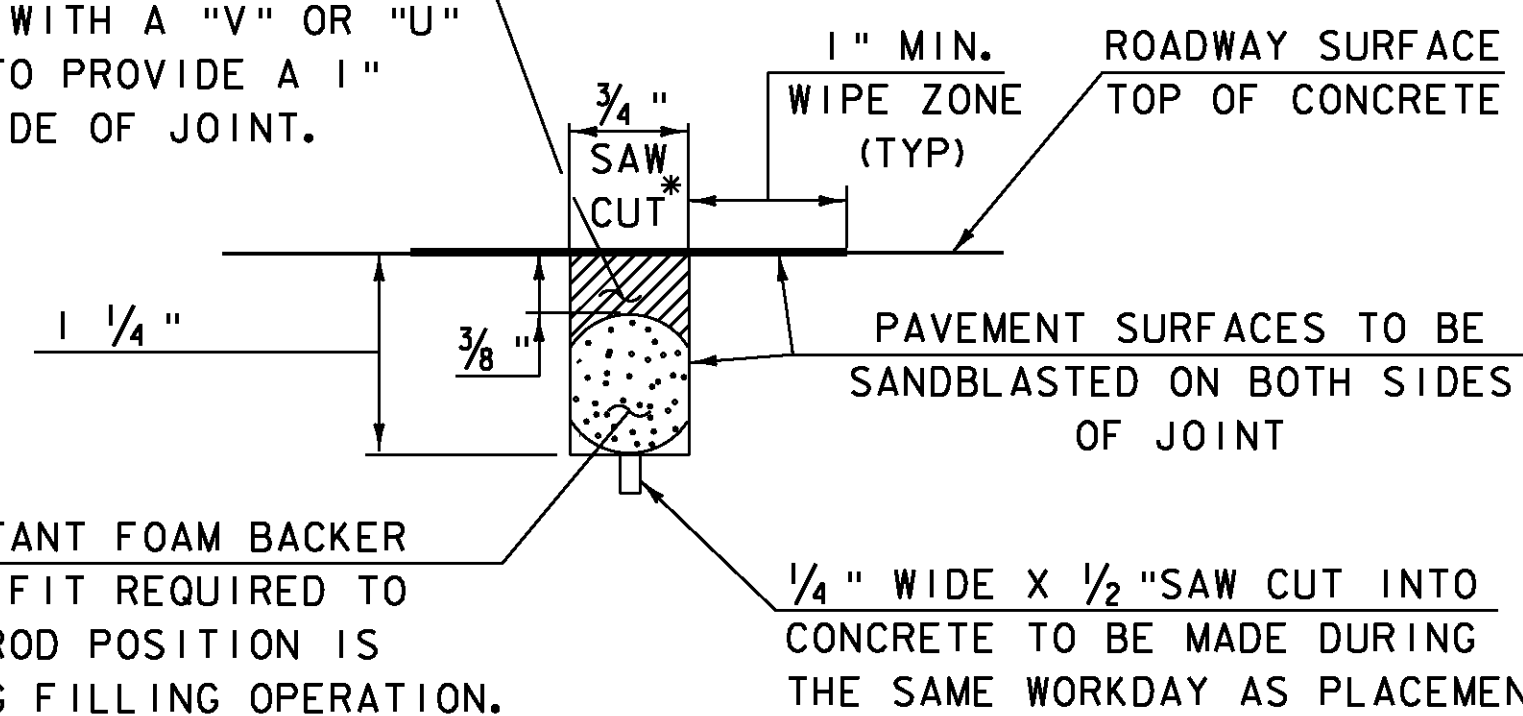


**DETAIL FOR JOINT AT
BEGIN & END BRIDGE**

NTS



JOINT SEALER, HOT POURED, SHALL BE SLIGHTLY OVER FILLED THEN WIPED FLUSH WITH A "V" OR "U" SHAPED SQUEEGEE TO PROVIDE A 1" WIPE ZONE EACH SIDE OF JOINT.



$\frac{1}{8}$ " \varnothing HEAT RESISTANT FOAM BACKER ROD, COMPRESSION FIT REQUIRED TO INSURE THAT THE ROD POSITION IS MAINTAINED DURING FILLING OPERATION. COST TO BE INCLUDED WITH UNIT PRICE BID FOR JOINT SEALER.

DETAIL "A"

NTS

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. 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. SEE VT. SPECIFICATION 524.

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: Projects/88b194/structures/s88b194det.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194jtdet.i	DRAWN BY: H. I. SALLS
DESIGNED BY: H. I. SALLS	CHECKED BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	MISCELLANEOUS JOINT DETAILS
	SHEET: 21 OF 50

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOURTH EDITION, DATED 2007, AND ITS LATEST REVISIONS.
2. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOAD WITH AN ALLOWANCE FOR 3" OF FUTURE PAVEMENT.
3. EXISTING SIGNS NOT REUSED SHALL REMAIN PROPERTY OF THE STATE OF VERMONT. THESE SIGNS SHALL BE STOCKPILED ON THE PROJECT SITE AND THEN LOADED ON A TRUCK SUPPLIED BY DISTRICT II. CONTACT DTA. WAYNE GAMMELL AT (802) 251-2001 TO ARRANGE REMOVAL FROM THE PROJECT SITE.
4. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING STRUCTURE INCLUDING THE SUPERSTRUCTURE, TEMPORARY BENT, PIER AND ANY PORTION OF THE ABUTMENTS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION. THE PIER AND ABUTMENT NO. 2 SHALL BE REMOVED TO THE TOP OF FOOTING ELEVATION OR 3 FEET BELOW STREAMBED, WHICHEVER IS HIGHER. ABUTMENT NO.1 SHALL BE REMOVED IN ITS ENTIRETY.
5. DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON A TWO-WAY TEMPORARY BRIDGE CONSTRUCTED UPSTREAM OF THE EXISTING STRUCTURE. THE TEMPORARY BRIDGE AND THE APPROACHES TO THE TEMPORARY BRIDGE SHALL BE PAVED WITH 3 INCHES OF PAVEMENT.
6. THE AREA DISTURBED BY THE TEMPORARY DETOUR SHALL BE SEEDED AND MULCHED AFTER ALL OF THE FILL IS REMOVED TO THE ORIGINAL GROUND SURFACE. THE COST OF THE SEED, FERTILIZER, AND MULCH WILL BE PAID FOR UNDER THE BID PRICE FOR THE RESPECTIVE ITEMS.
7. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

EARTHWORK AND RELATED ITEMS

8. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW STEEL GIRDERS ARE SET.
9. "STONE FILL, TYPE I" SHALL BE USED FOR EROSION CONTROL AS SHOWN ON THE PLANS AND AT THE DISCRETION OF THE RESIDENT ENGINEER.

STRUCTURAL STEEL

10. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
11. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
12. ALL FIELD CONNECTIONS SHALL BE MADE USING 7/8 INCH BOLTS IN 15/16 INCH HOLES PER SECTION 506. ANY CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
13. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER TO DETERMINE IF THE GIRDER ELEVATIONS NEED TO BE ADJUSTED AND FOR USE IN DETERMINING FINISHED GRADES.
14. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4 FEET. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
15. ANY BOLT HOLES IN THE WEBS OF FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS. THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

STRUCTURAL STEEL, H-PILE

16. THE PILES SHALL HP 12 X 74.
17. PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.
18. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 428 KIPS, AS DETERMINED BY THE RESULTS OF DYNAMIC TESTING, AS INTERPRETED BY THE RESIDENT ENGINEER. HOWEVER, THE PILES SHALL BE DRIVEN TO A MINIMUM DEPTH OF 30 FEET BELOW THE BOTTOM OF STEM ELEVATION.
19. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED TO BE 80 FEET BELOW GRADE. THE ACTUAL IN PLACE LENGTHS MAY VARY.
20. TO ENSURE THAT THE NOMINAL CAPACITY HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04 (c) - 2 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR PILE TESTING SHALL BE MADE UNDER ITEM 505.45 "DYNAMIC PILE LOADING TEST". A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE DRIVEN FOR EACH SUBSTRUCTURE UNIT, FOR A TOTAL OF 2 TESTS. MORE TESTS MAY BE REQUIRED BY THE RESIDENT ENGINEER.

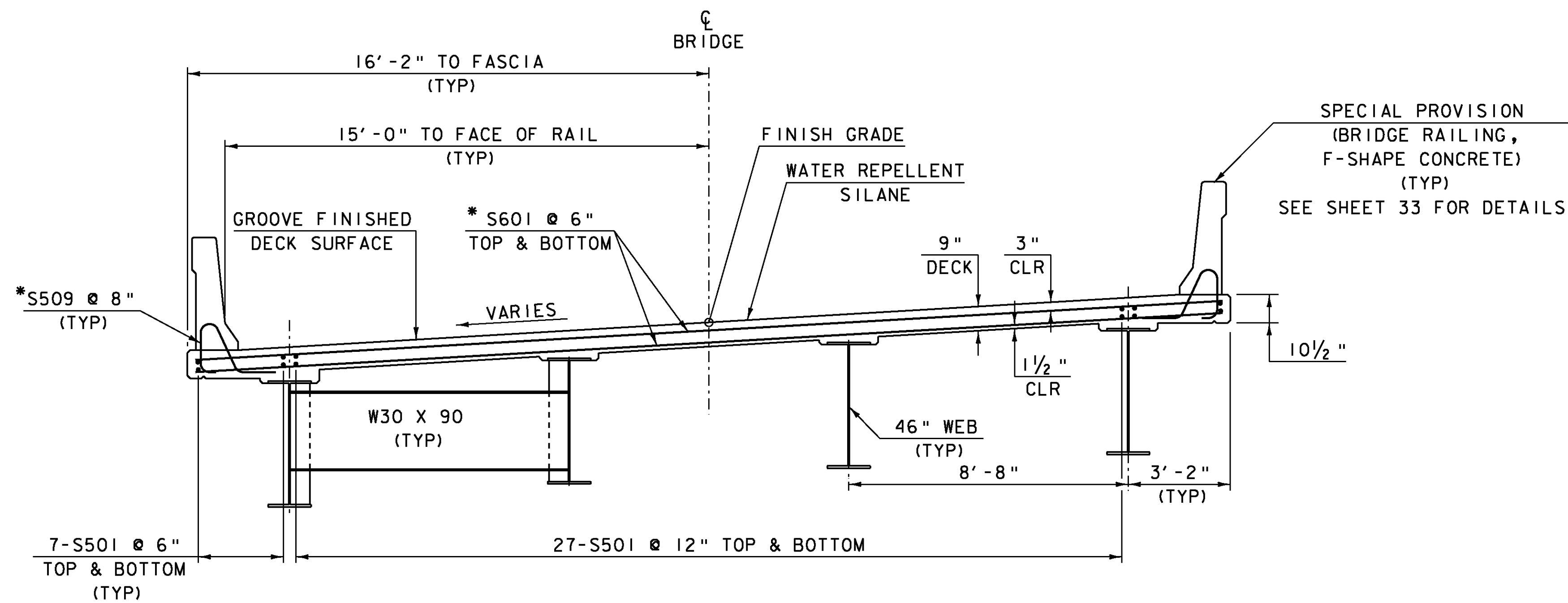
CONCRETE

21. SUBSTRUCTURE CONCRETE SHALL BE PAID FOR UNDER ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". THE SUBSTRUCTURE SHALL INCLUDE THE STEM BELOW THE CONSTRUCTION JOINT AND THE PORTION OF THE WINGWALLS BELOW THE CONSTRUCTION JOINT. ITEM 900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)" SHALL BE USED TO PAY FOR THE DECK, THE STEM ABOVE THE CONSTRUCTION JOINT, THE WINGWALLS ABOVE THE CONSTRUCTION JOINT AND THE APPROACH SLABS. ITEM 900.640 "SPECIAL PROVISION (BRIDGE RAILING, F-SHAPE CONCRETE)" SHALL BE USED TO PAY FOR CONCRETE BRIDGE RAILING.
22. NO CONCRETE IN THE ABUMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE GIRDERS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.
23. IN ACCORDANCE WITH SUBSECTION 506.23(A) OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.
24. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.
25. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES. THE DECK AND APPROACH SLAB SURFACES SHALL BE CLEANED BY BEING PRESSURE WASHED, AFTER GROOVING OPERATIONS, PRIOR TO TREATMENT. PRESSURE WASHING SHALL BE INCIDENTAL TO ITEM 514.10 "WATER REPELLENT, SILANE".
26. THE TOP SURFACE OF THE PILE CAP SHALL BE GIVEN A FLOAT FINISH TO GRADE. THE CONCRETE WITHIN THE REINFORCING CAGE SHALL BE ROUGHENED BY RAKING PARALLEL TO THE FACE OF THE ABUTMENT TO AN AMPLITUDE OF 1/2 INCH. THE CONCRETE OUTSIDE THE REINFORCING CAGE SHALL REMAIN SMOOTH.
27. THE DECK AND APPROACH SLABS WILL HAVE A LOGITUDINAL GROOVED FINISH. THIS WORK WILL BE PAID FOR UNDER ITEM 900.675 "SPECIAL PROVISION (LONGITUDINAL DECK GROOVING)".
28. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
SPACING: +/- 1 INCH
CLEARANCE: +/- 1/4 INCH

TRAFFIC CONTROL

29. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE LOCATED ACCORDING TO VERMONT STATE STANDARD E-107 AND E-100A AND THE 2003 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
30. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
31. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE STDS E-100, E-100A, E-101, E-102A, E-106, AND E-142.
32. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY SIGNS ON AND OFF-PROJECT ALONG WITH BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10 "TRAFFIC CONTROL".
33. THE CONTRACTOR SHALL COVER OR REMOVE ANY SIGNS THAT CONTRADICT TEMPORARY TRAFFIC CONTROL SIGNS. ALL SIGNS REMOVED OR COVERED BY THE CONTRACTOR SHALL BE REPLACED OR UNCOVERED BY THE CONTRACTOR WHEN THE TRAFFIC CONTROL PLAN IS DISASSEMBLED. PAYMENT FOR REMOVAL AND REPLACEMENT, COVERING AND UNCOVERING OF SIGNS AND PLACEMENT AND REMOVAL OF TEMPORARY OVERLAYS SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL". ANY DAMAGE TO EXISTING SIGNS BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR WITH NO EXTRA COMPENSATION.
34. LIMITS OF TEMPORARY DETOUR MUST BE WITHIN THE RIGHT-OF-WAY. ALL WORK NECESSARY TO MEET THIS CONDITION WILL BE INCIDENTAL TO ITEM 528.11 "TWO-WAY TEMPORARY BRIDGE".

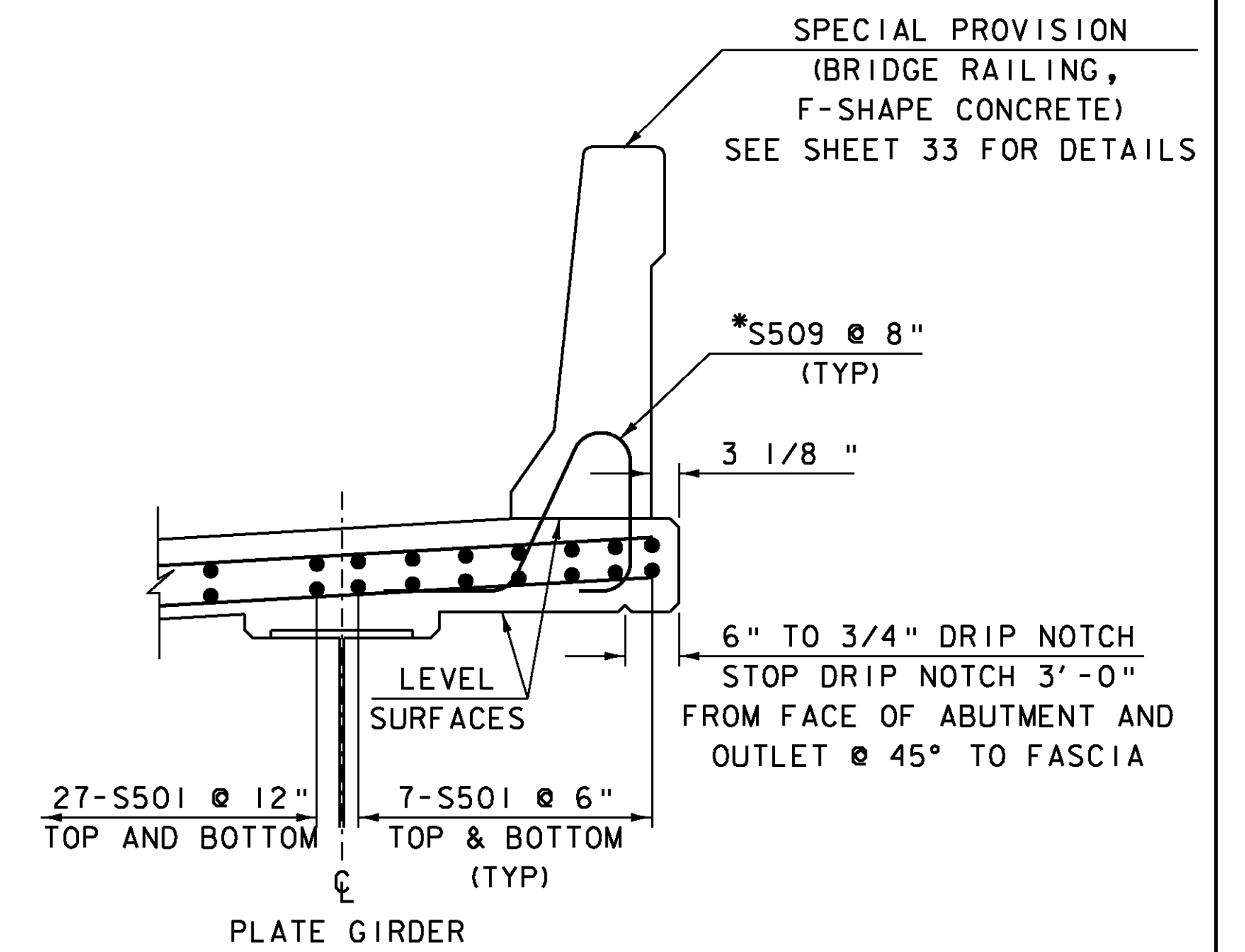
PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194\Structures\s88b194note.dgn		
IPARM FILE NAME:	s88b194gen.i	PLOT DATE:	
DESIGNED BY:	E. L. RUSTAY	DRAWN BY:	H. I. SALLS
SQUAD LEADER:	C. P. WILLIAMS	CHECKED BY:	R. S. YOUNG
GENERAL NOTES		SHEET:	22 OF 50



BRIDGE TYPICAL SECTION

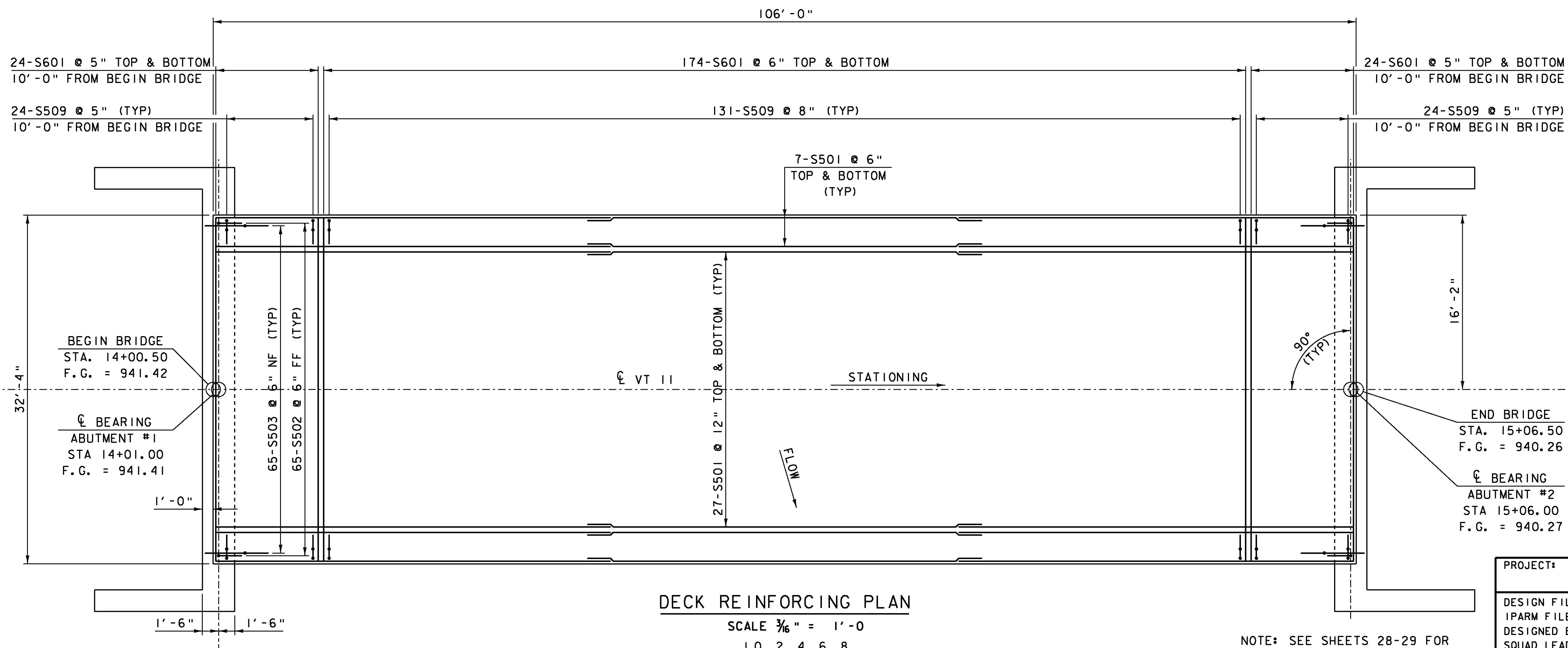
SCALE $\frac{3}{8}$ " = 1'-0"
 1 0 1 2 3 4

*REDUCED SPACING IN DECK PLAN.



EDGE DETAIL

SCALE $\frac{3}{4}$ " = 1'-0"
 1 0 1 2



DECK REINFORCING PLAN

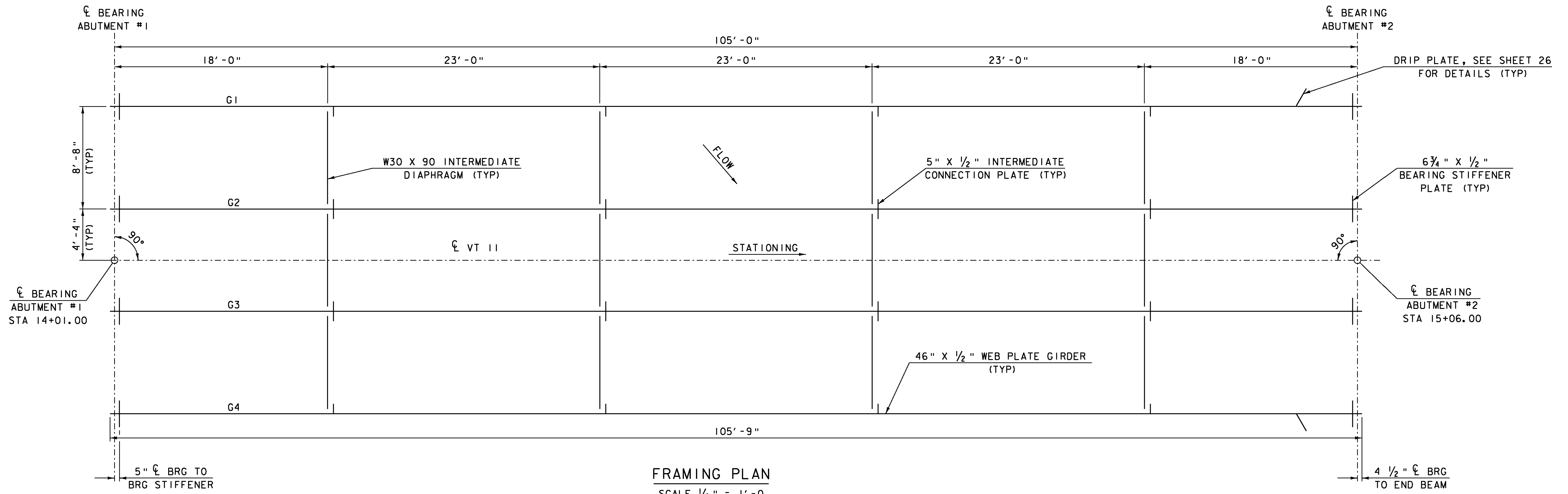
SCALE $\frac{3}{16}$ " = 1'-0"
 1 0 2 4 6 8

NOTES:

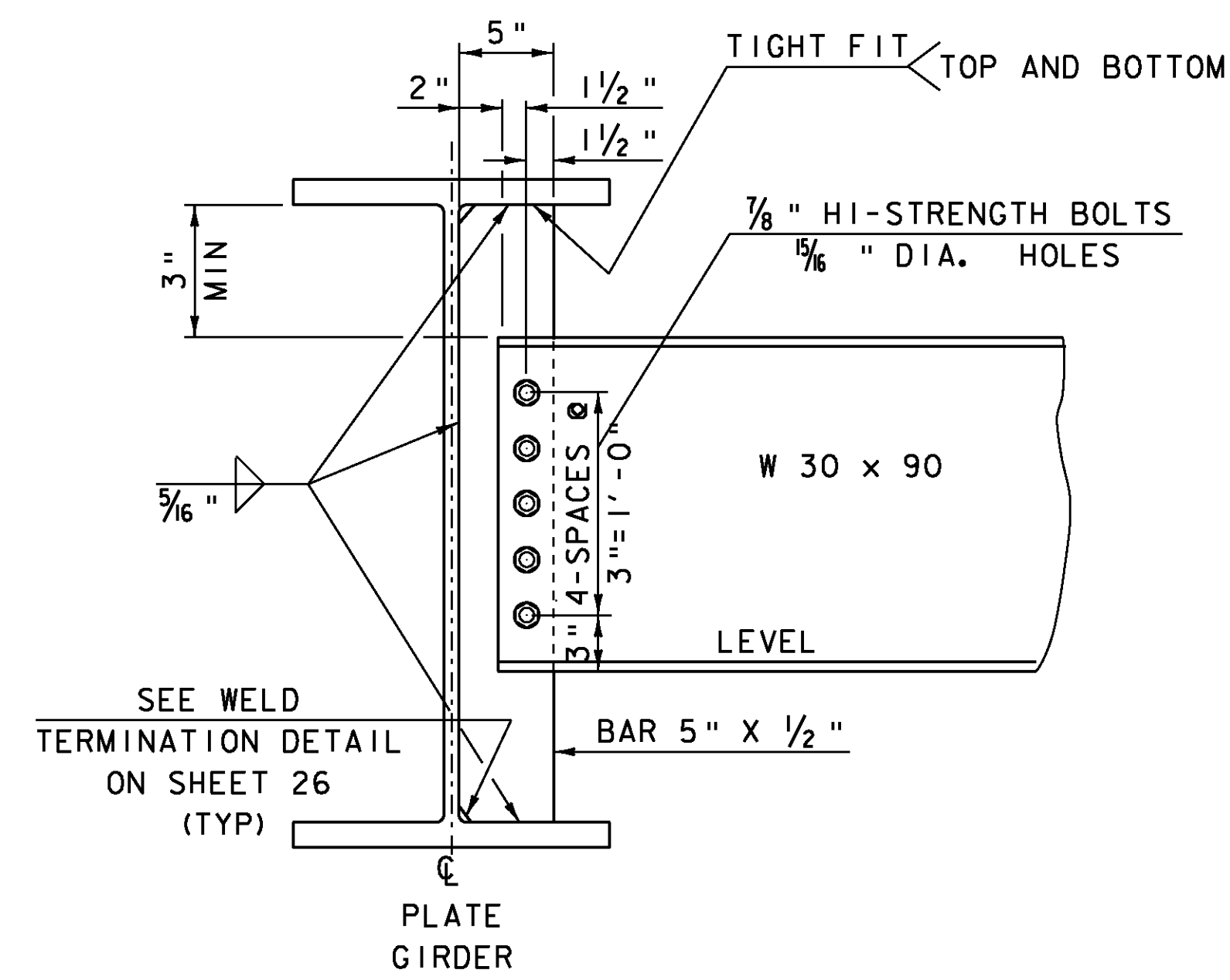
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
- ALL LAPS 2'-2" UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.

NOTE: SEE SHEETS 28-29 FOR STEM STEEL REINFORCEMENT

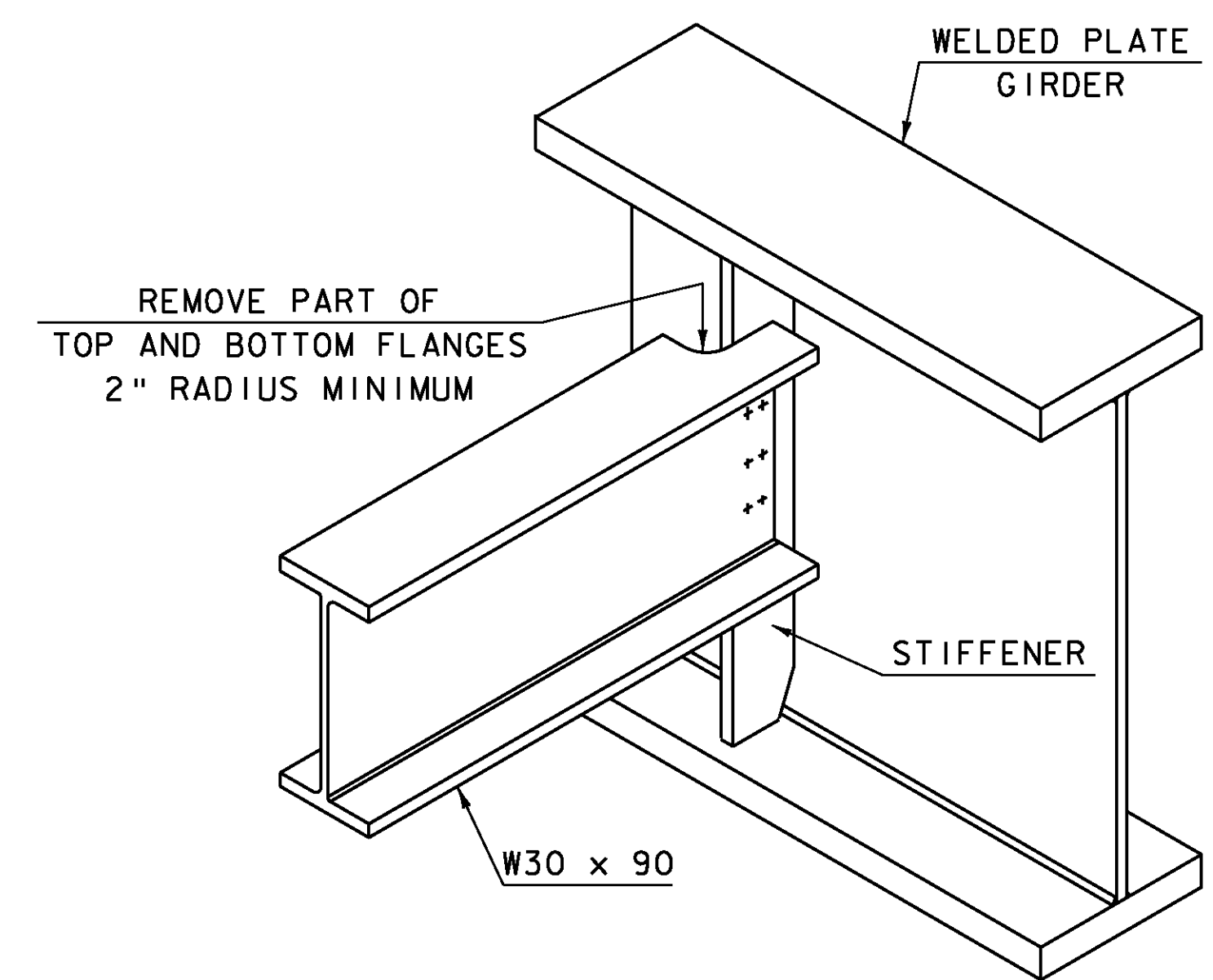
PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194\Structures\s88b194sup.dgn	DESIGNED BY:	H. I. SALLS
IPARM FILE NAME:	s88b194deck rein. i	DRAWN BY:	H. I. SALLS
SQUAD LEADER:	C. P. WILLIAMS	CHECKED BY:	R. S. YOUNG
DECK REINFORCING DETAILS		SHEET:	23 OF 50



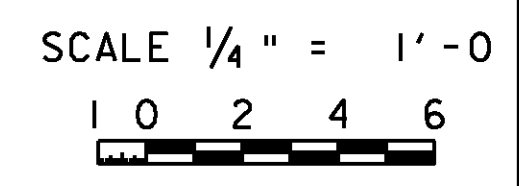
FRAMING PLAN
SCALE 1/4" = 1'-0"



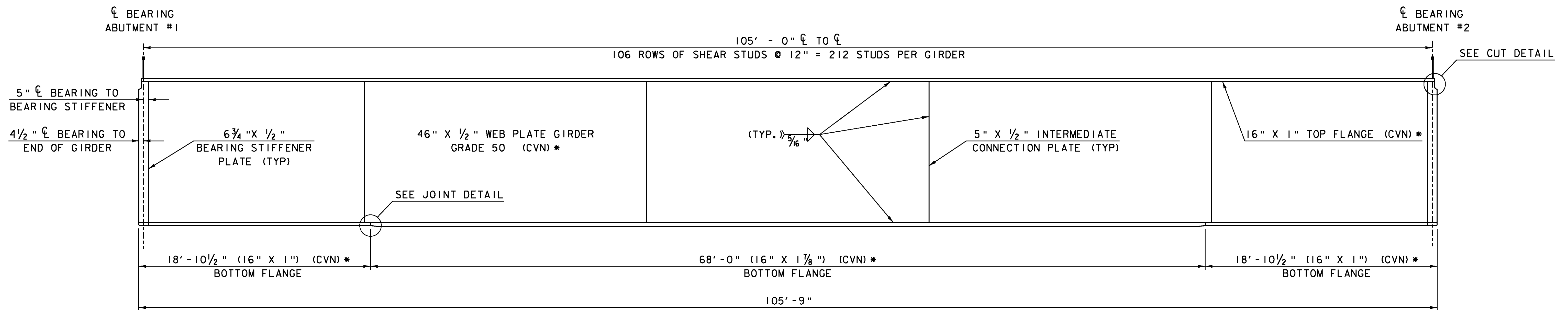
INTERMEDIATE DIAPHRAGM DETAIL
NOT TO SCALE



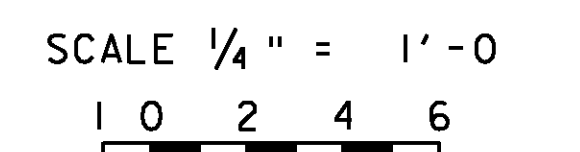
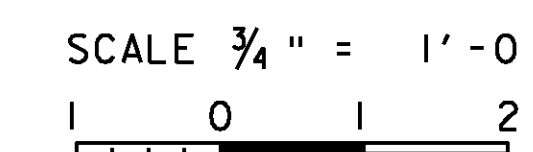
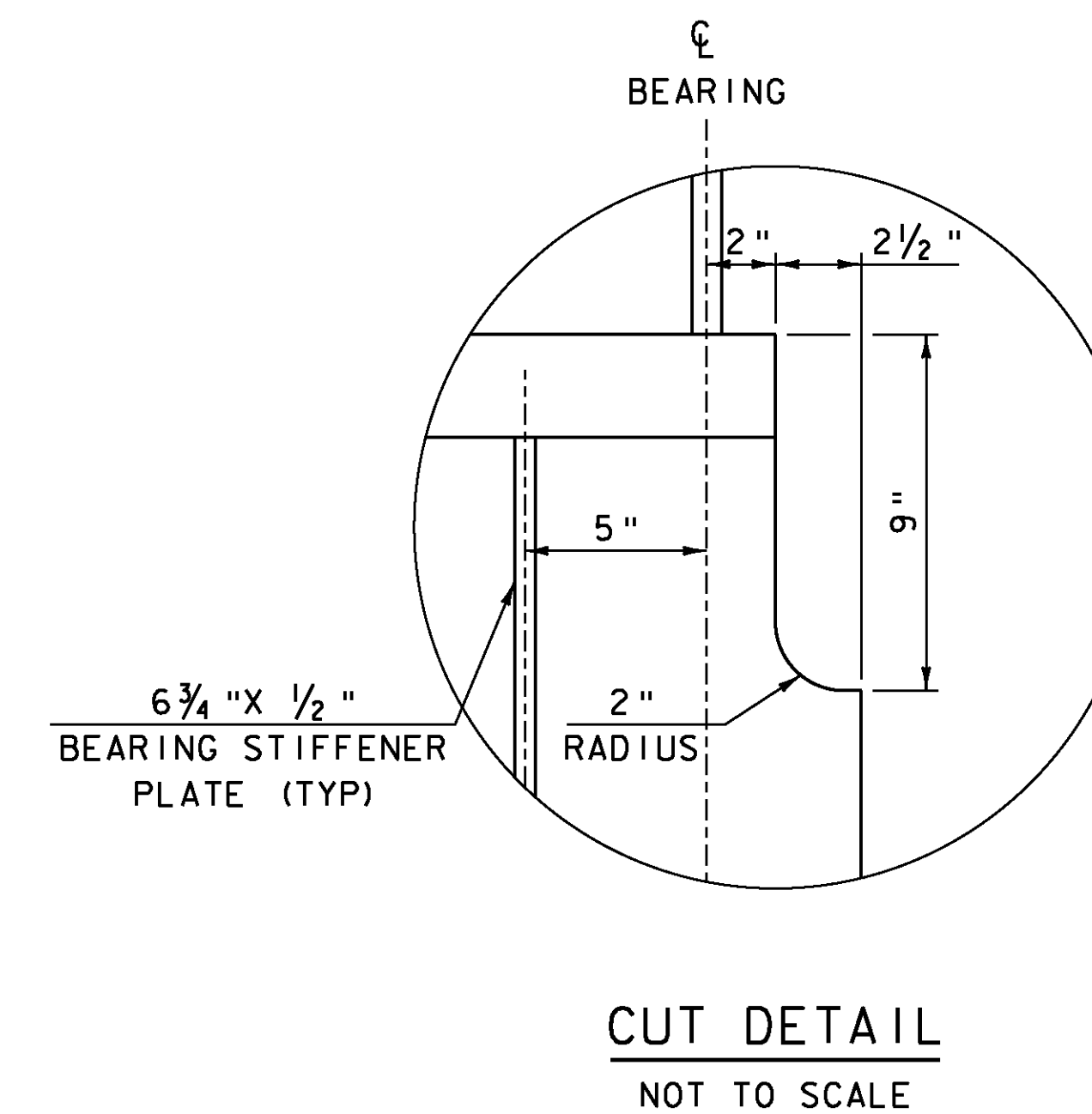
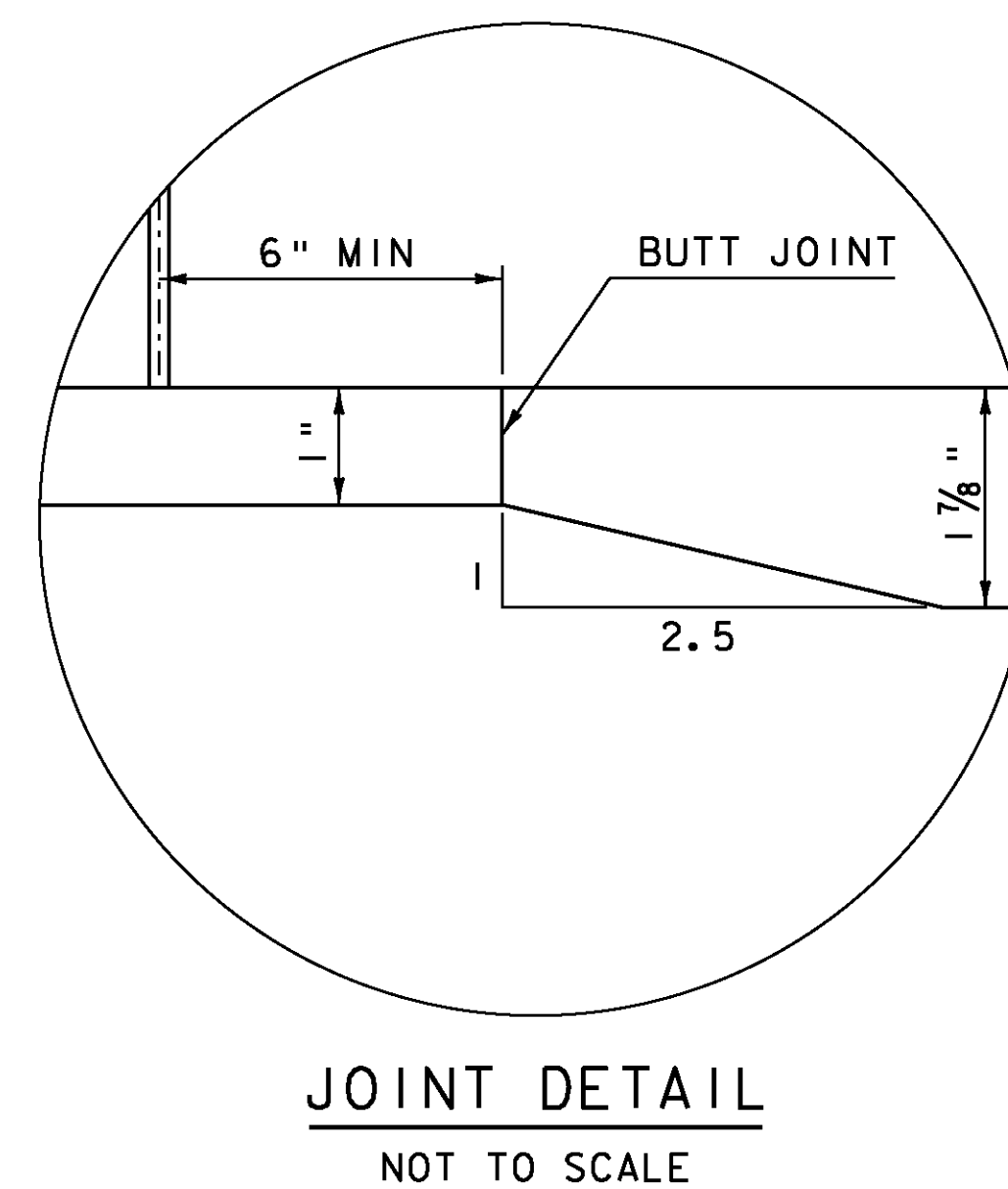
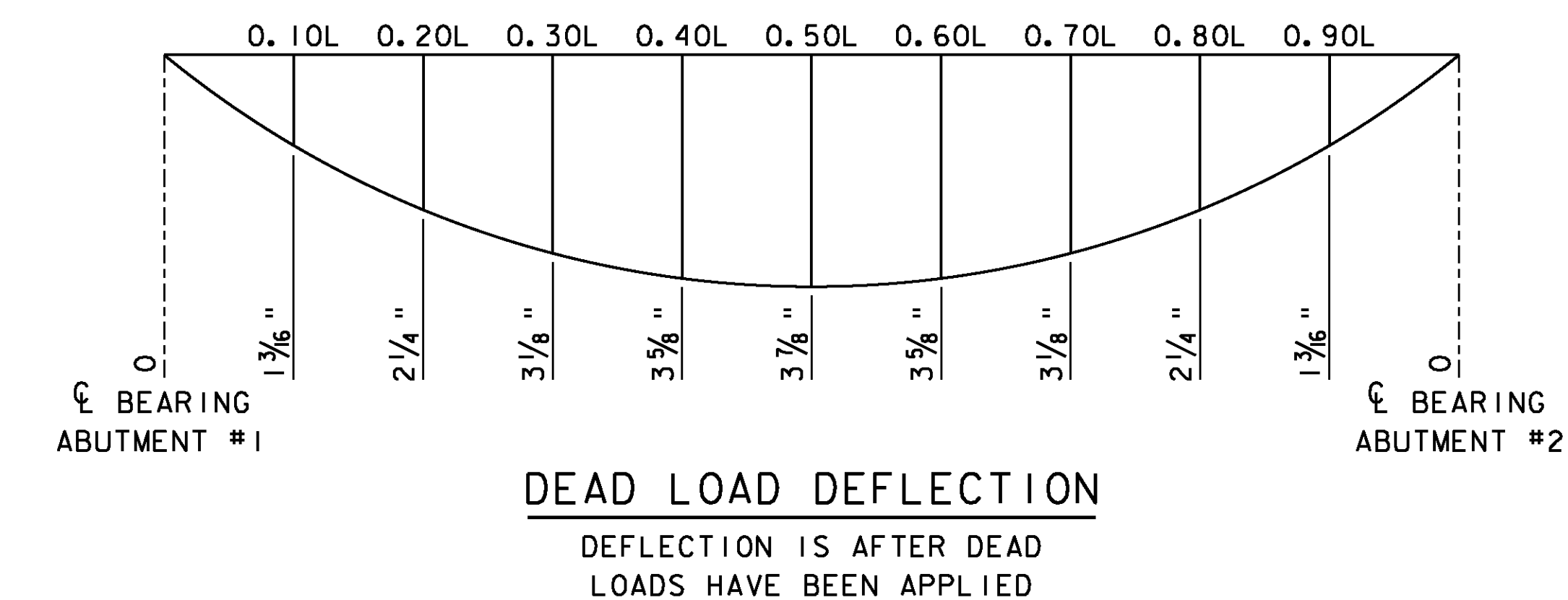
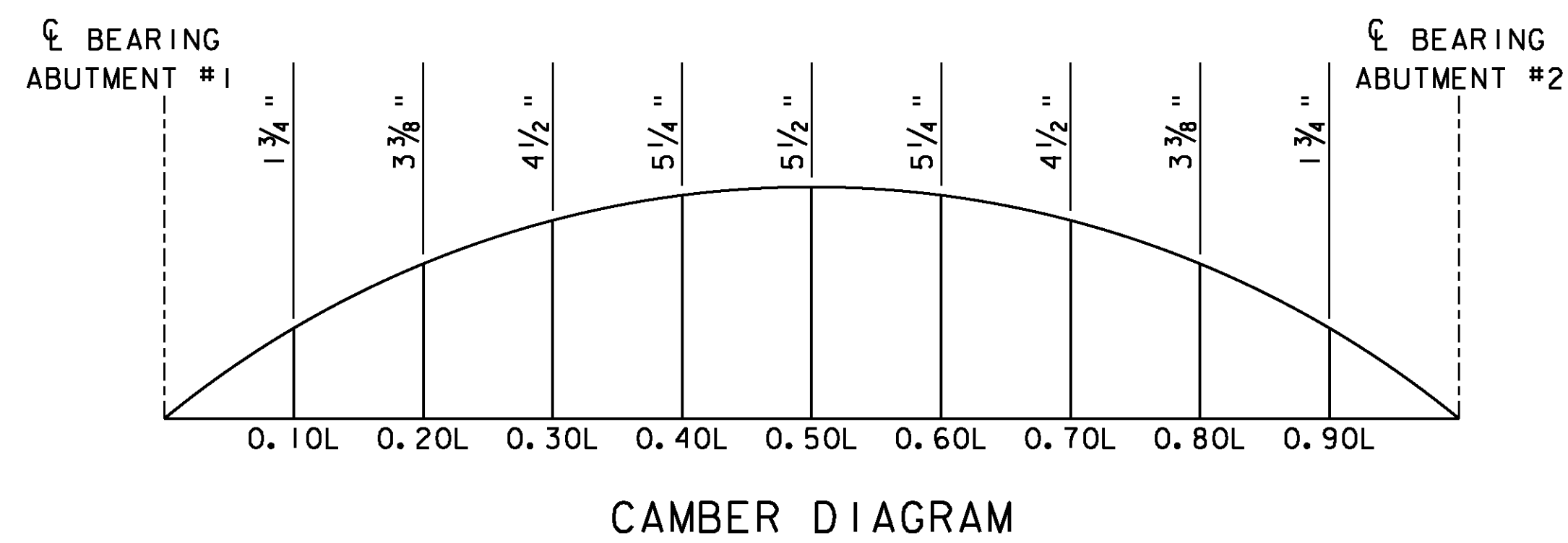
DIAPHRAGM CLIP DETAIL
NOT TO SCALE



PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\s88b194sup.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194frame.i	DRAWN BY: D.D.BEARD
DESIGNED BY: E.L.RUSTAY	CHECKED BY: R.S.YOUNG
SQUAD LEADER: C.P.WILLIAMS	FRAMING PLAN
	SHEET: 24 OF 50

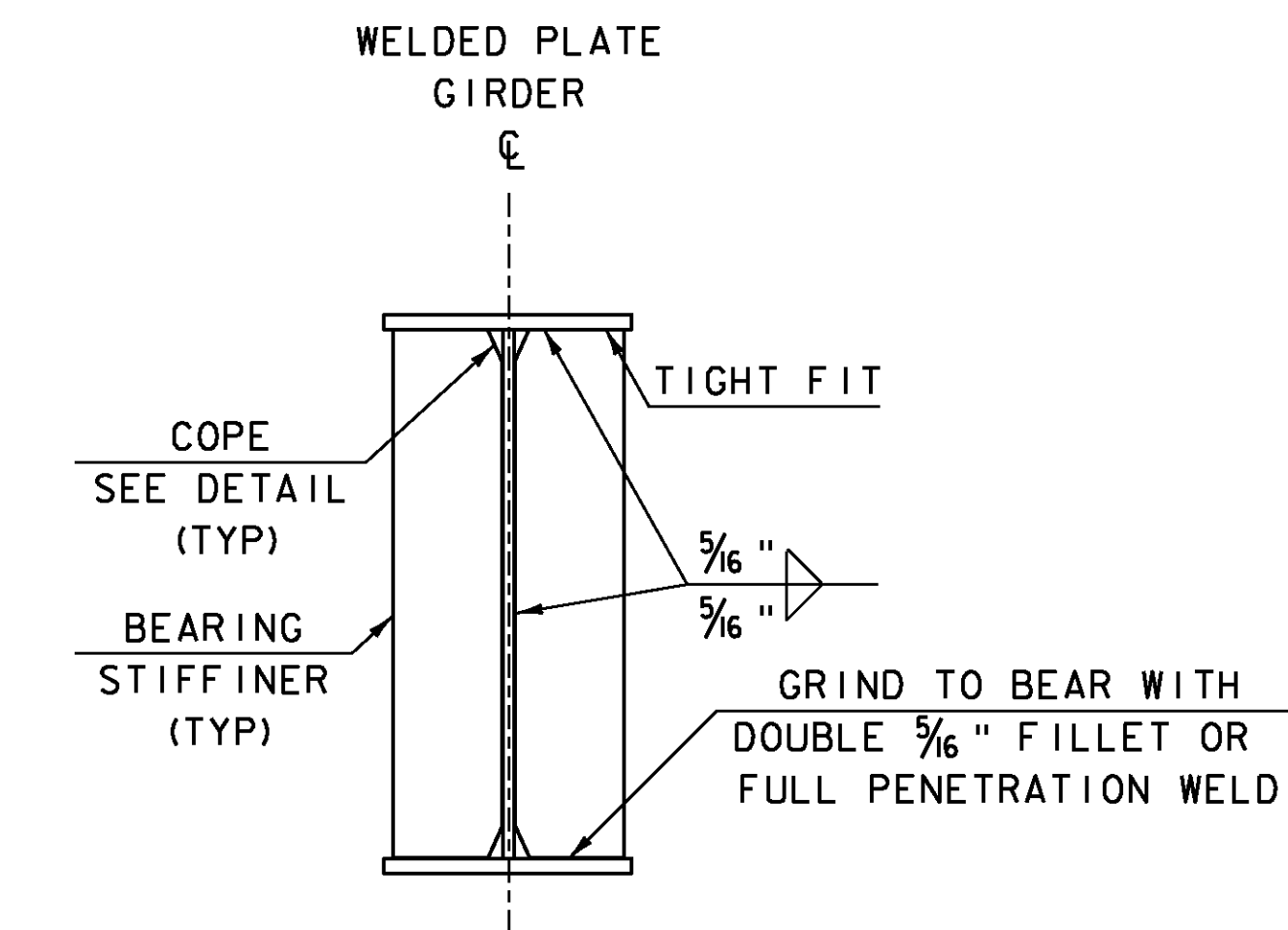


GIRDER ELEVATION
VERTICAL SCALE: $\frac{3}{4}$ " = 1'-0"
HORIZONTAL SCALE: $\frac{1}{4}$ " = 1'-0"



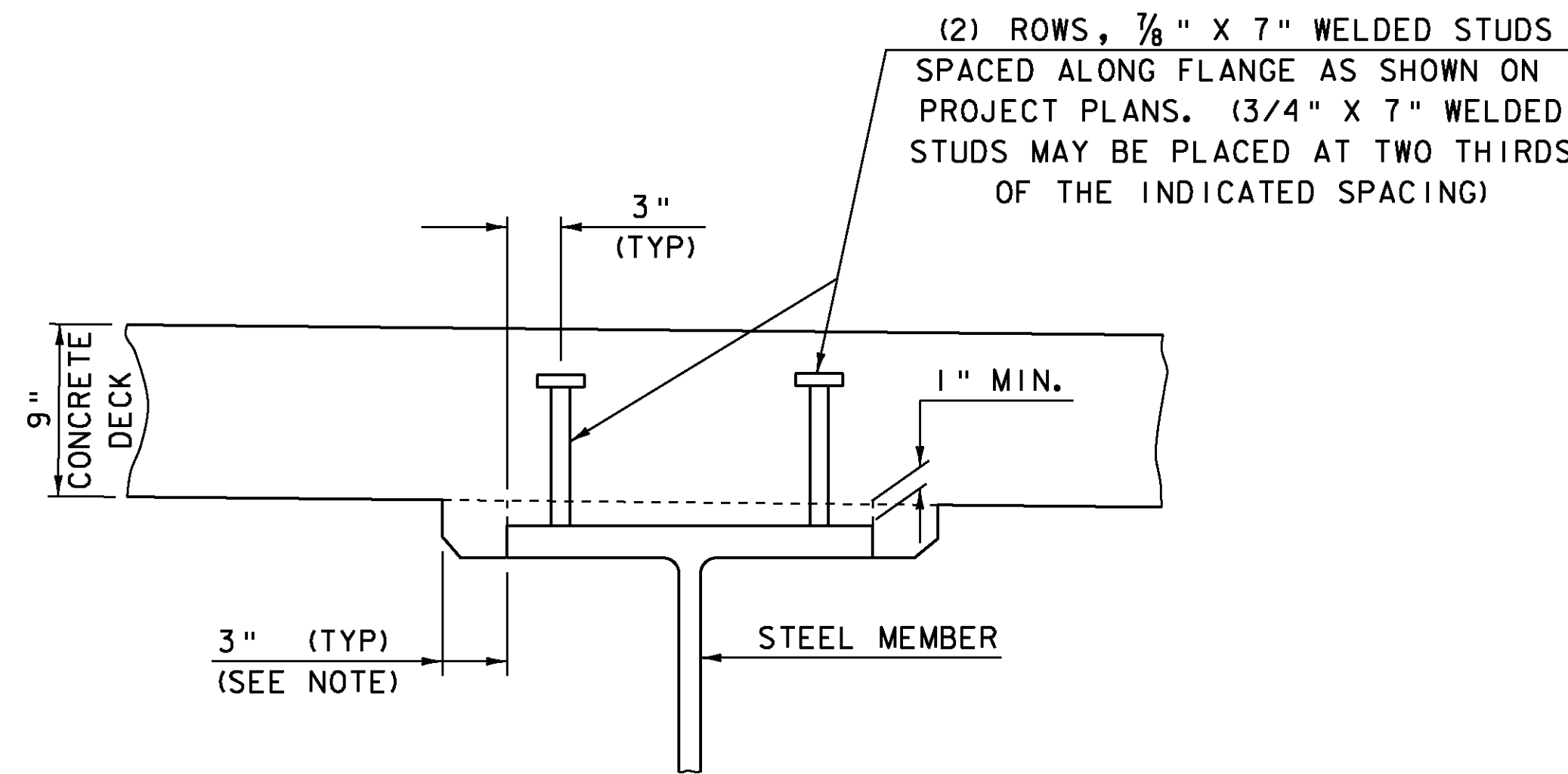
- NOTES**
- * (CVN) REQUIRES CHARPY V-NOTCH TESTING. SEE NOTE 11 ON GENERAL NOTES SHEET.

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\s88b194sup.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194girder.i	DRAWN BY: D.D.BEARD
DESIGNED BY: E.L.RUSTAY	CHECKED BY: R.S.YOUNG
SQUAD LEADER: C.P.WILLIAMS	SHEET: 25 OF 50
GIRDER ELEVATION & CAMBER	



ABUTMENT BEARING STIFFENERS FOR WELDED PLATE GIRDERS

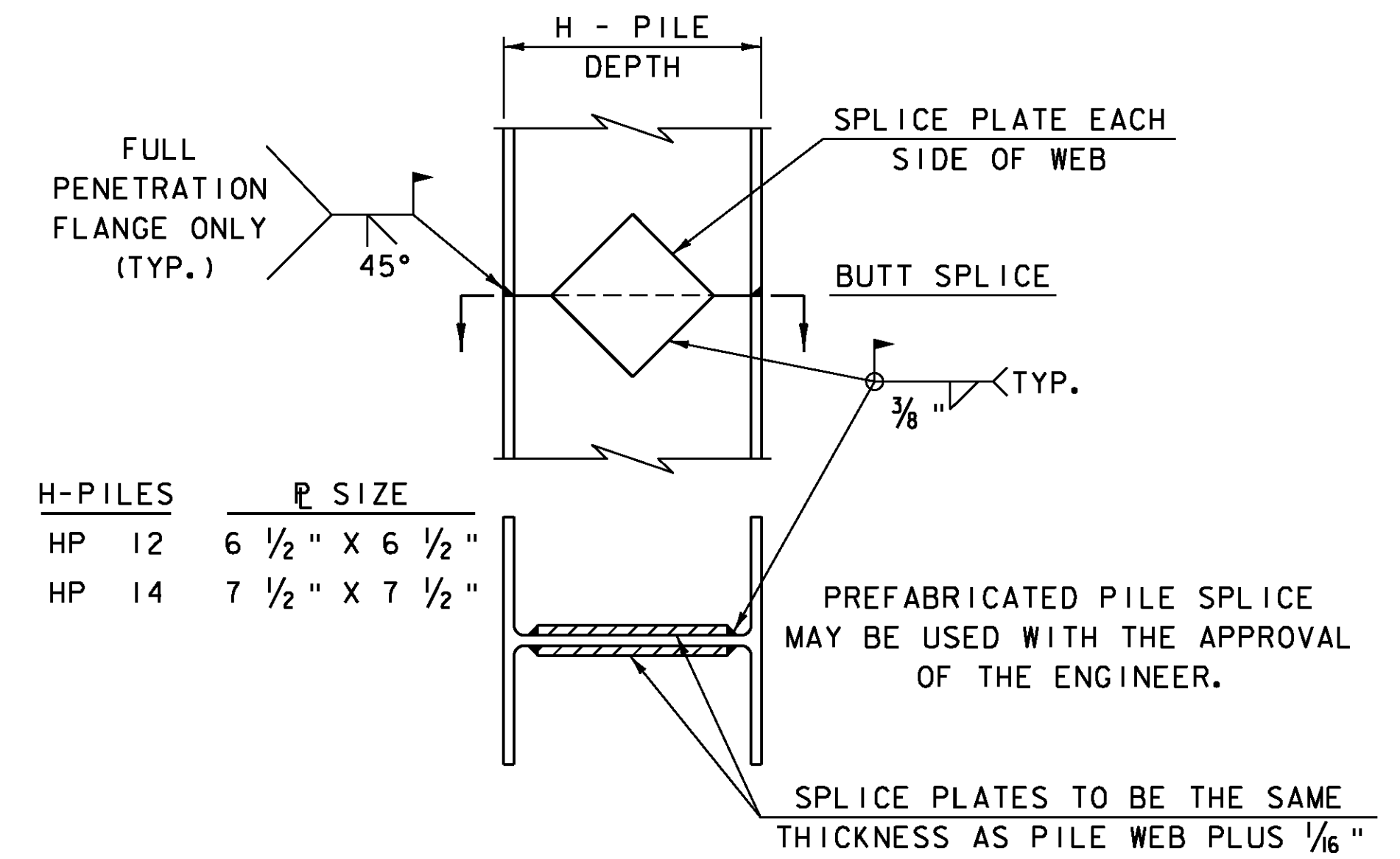
NTS



NOTE: THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. SYSTEMS SHALL BE SUBMITTED FOR APPROVAL TO THE STRUCTURES ENGINEER. ALL VOIDS SHALL BE FILLED WITH MORTAR, TYPE IV OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST.

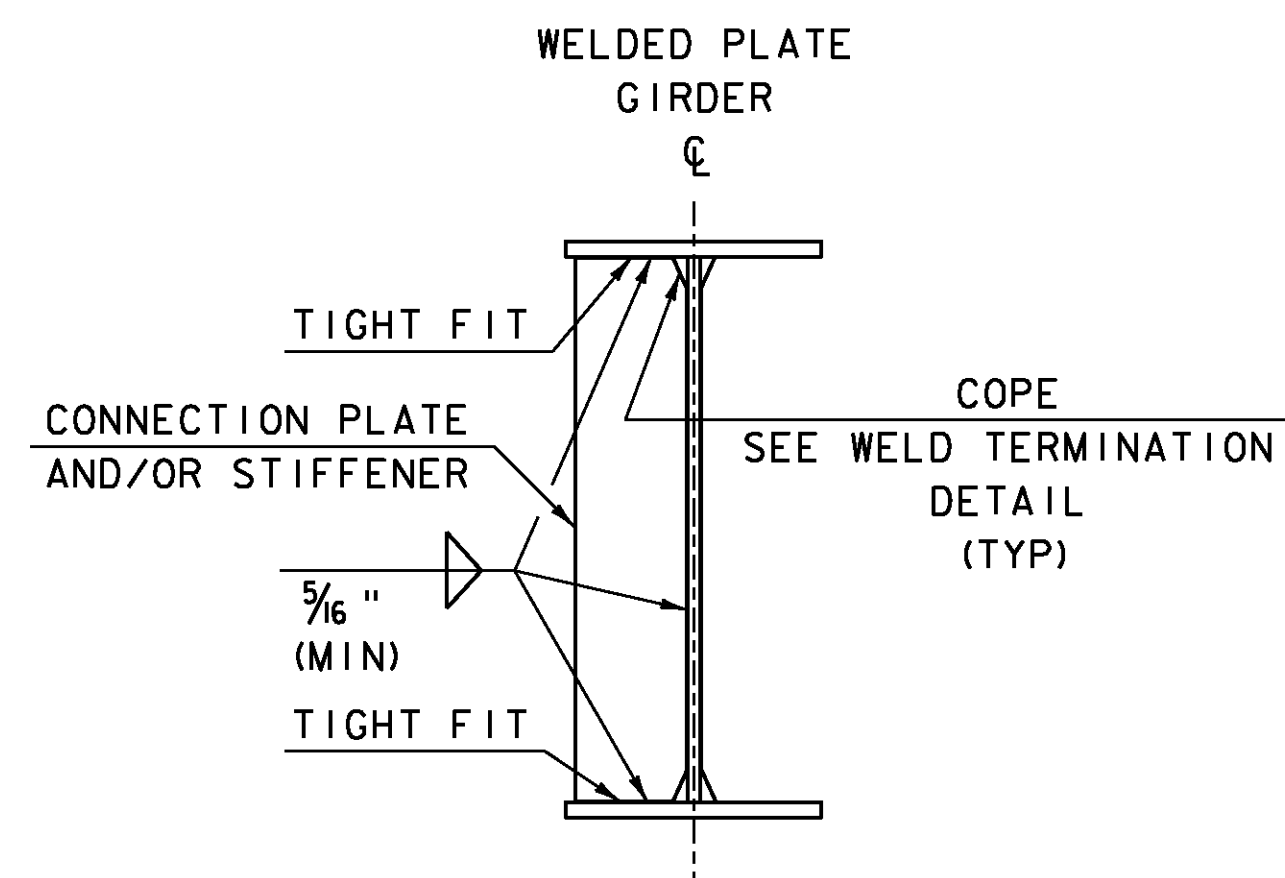
HAUNCH AND SHEAR CONNECTOR DETAILS

NTS



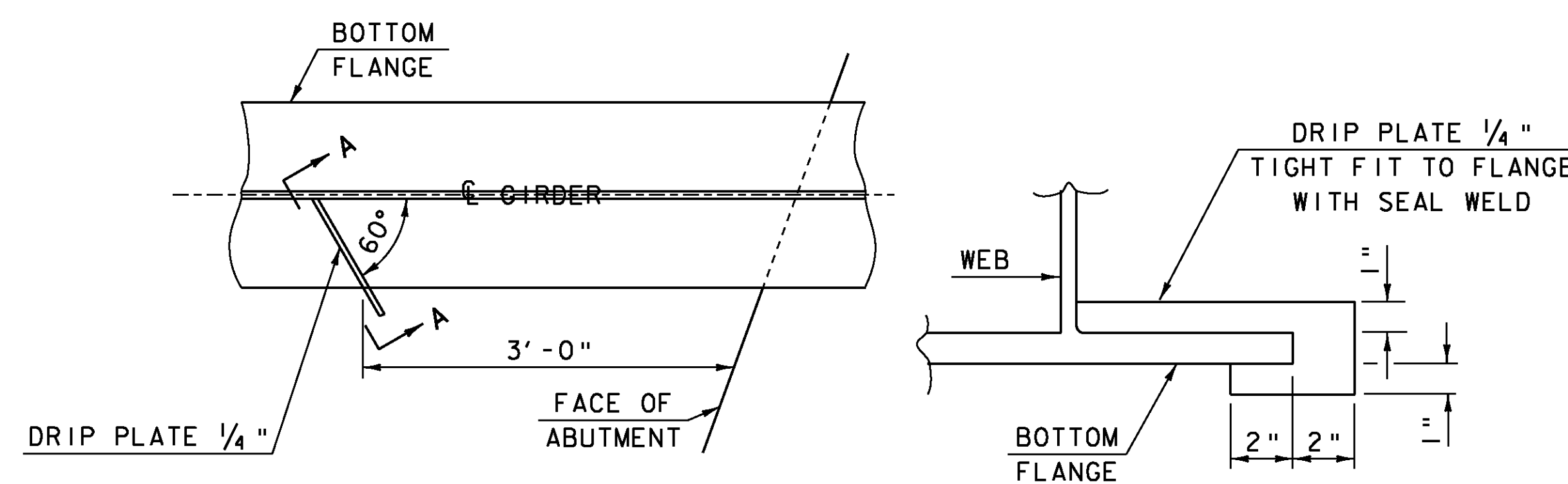
DETAIL OF PILE SPLICE

NTS



INTERMEDIATE CONNECTION PLATES AND/OR STIFFENERS FOR WELDED PLATE GIRDERS

NTS



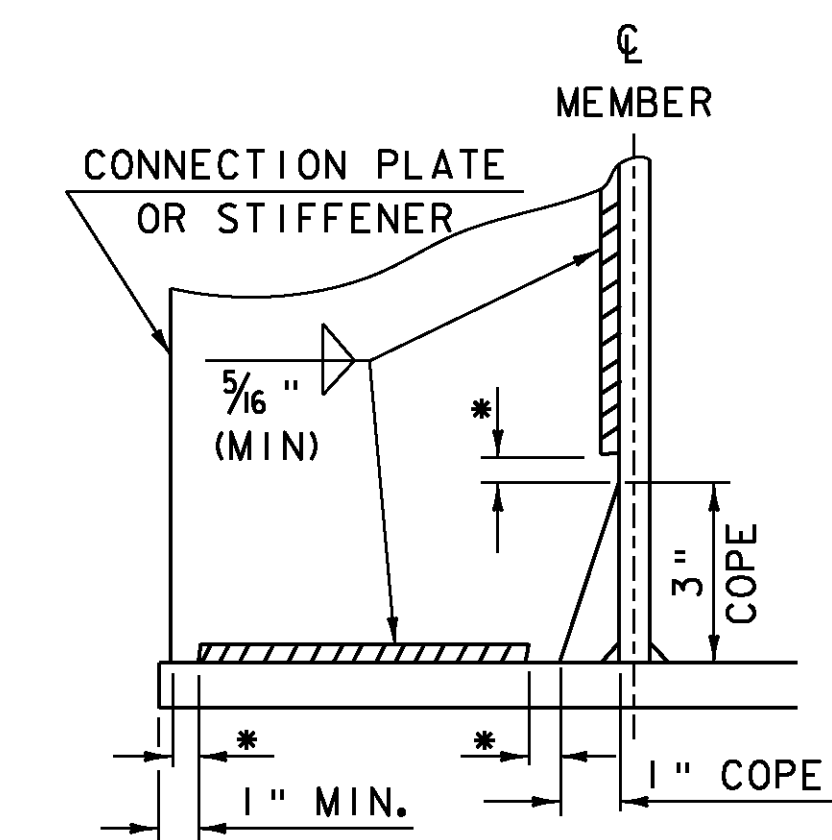
PLAN DRIP PLATE

NTS

SECTION A-A

NTS

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

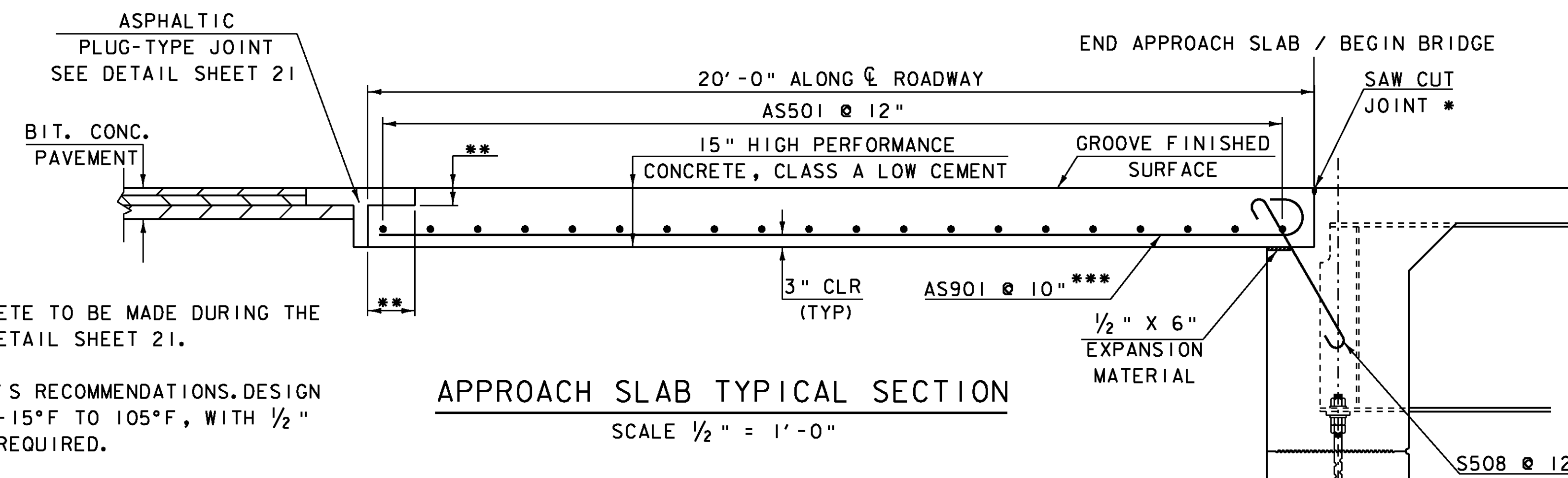
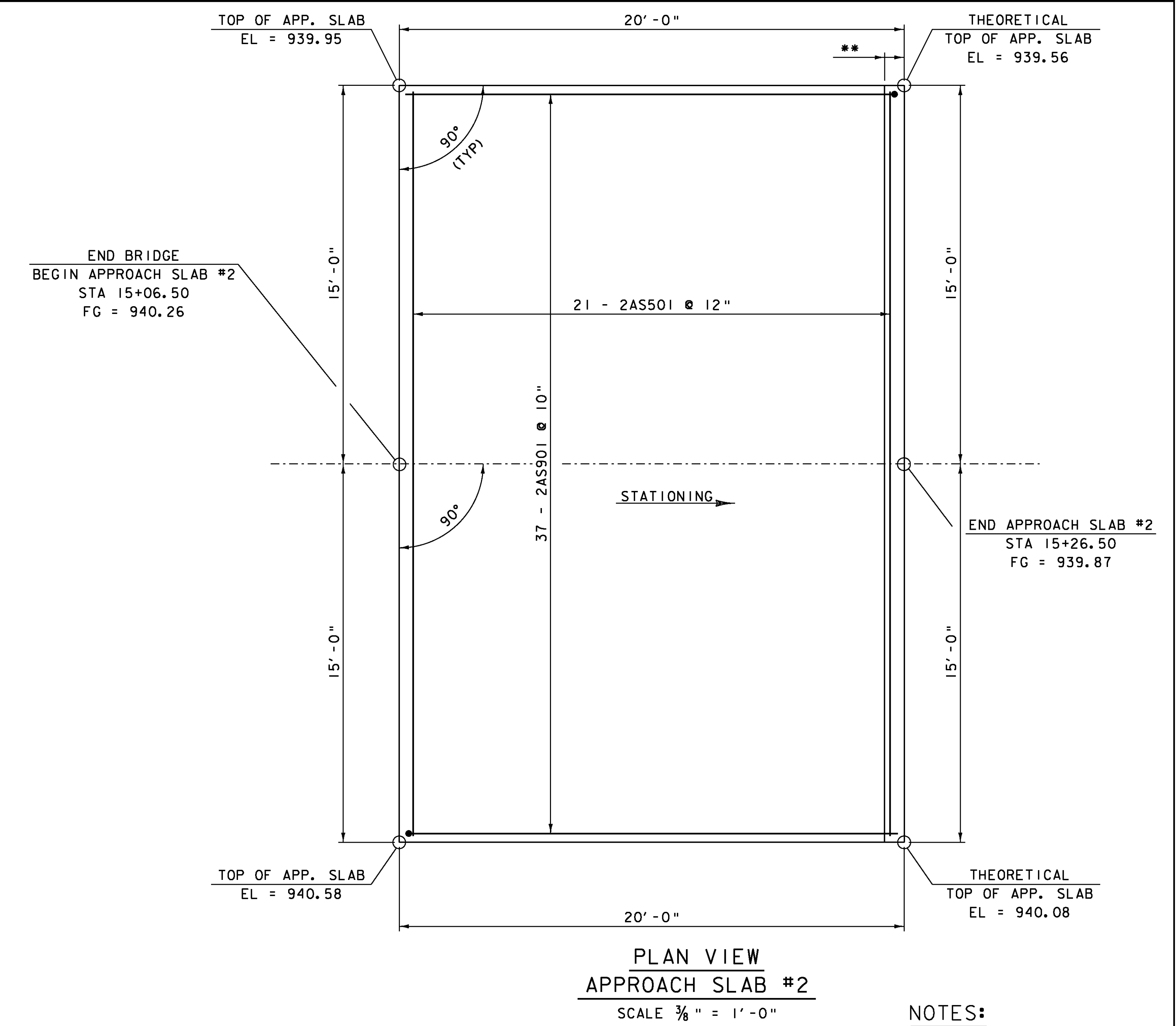
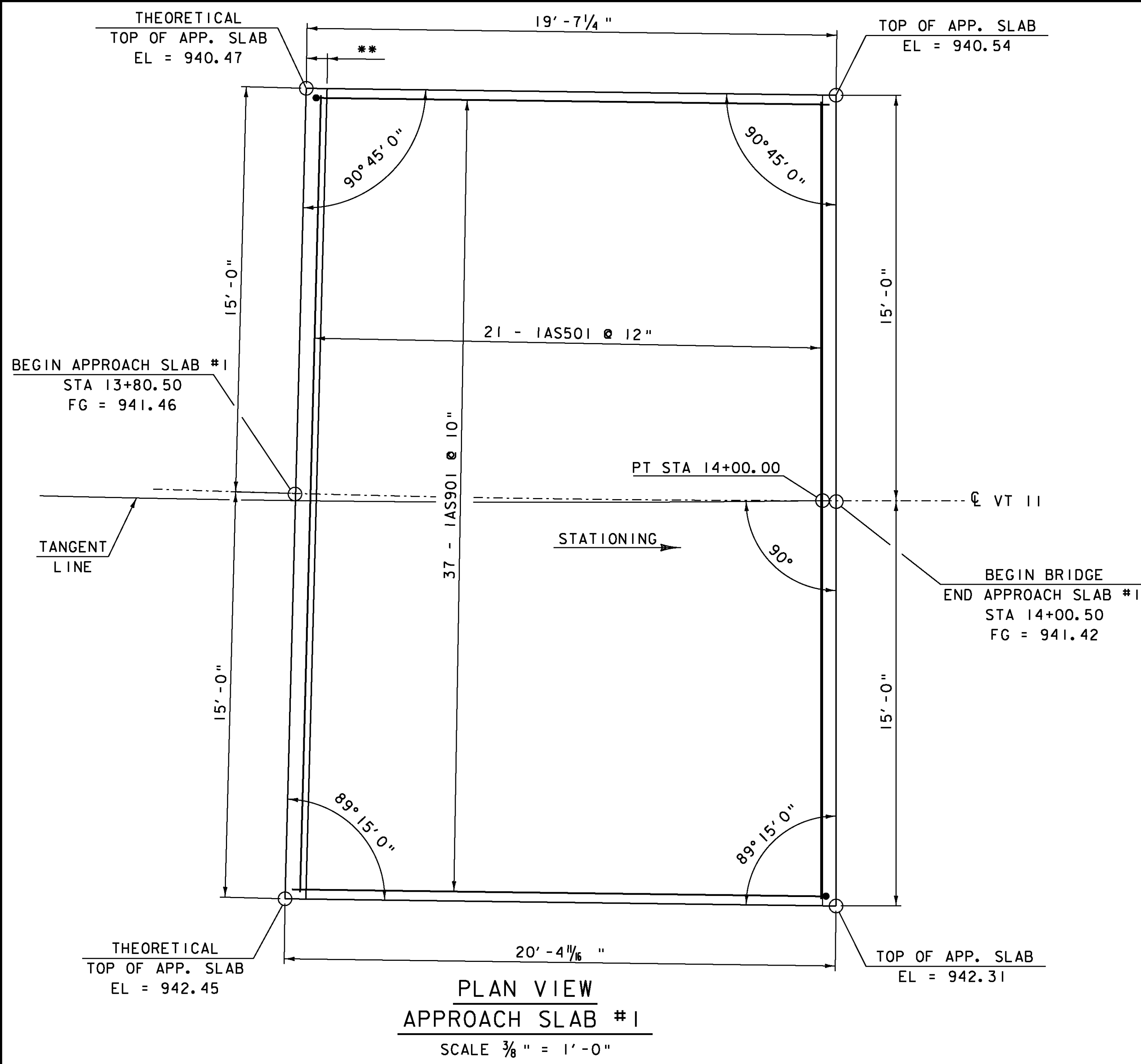


WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

NTS

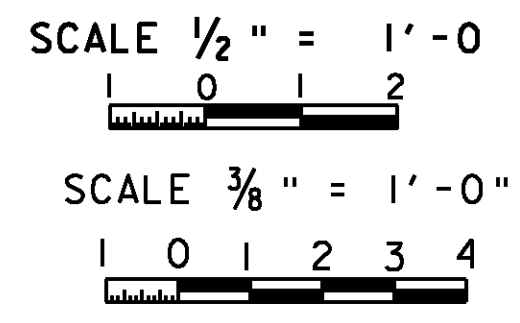
* NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	Projects/88b194/structures/s88b194def.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194ssd.i	DRAWN BY:	H. I. SALLS
DESIGNED BY:	H. I. SALLS	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS	STRUCTURAL STEEL DETAILS	SHEET: 26 OF 50



NOTES:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
- ALL LAPS 2'-2" UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.

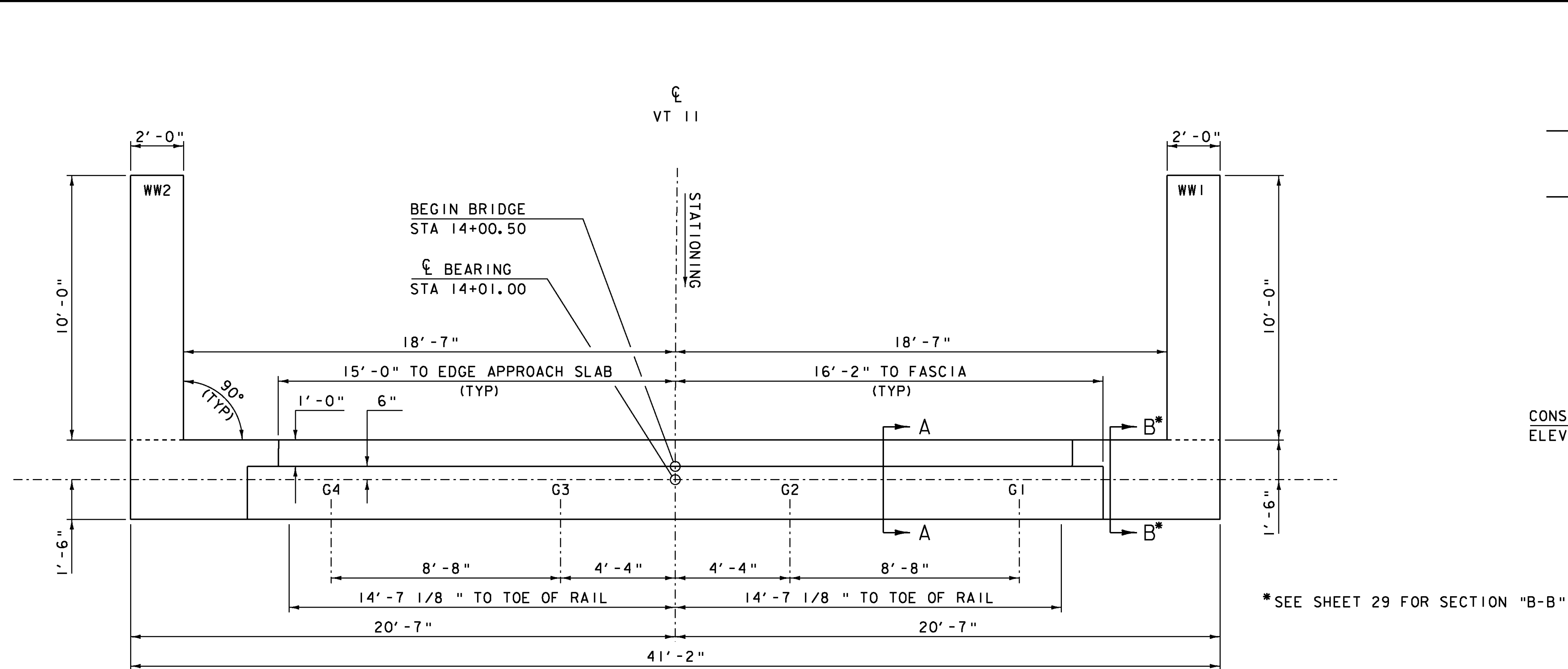


* 1/4" WIDE X 1/2" SAW CUT INTO CONCRETE TO BE MADE DURING THE SAME WORKDAY AS PLACEMENT. SEE DETAIL SHEET 21.

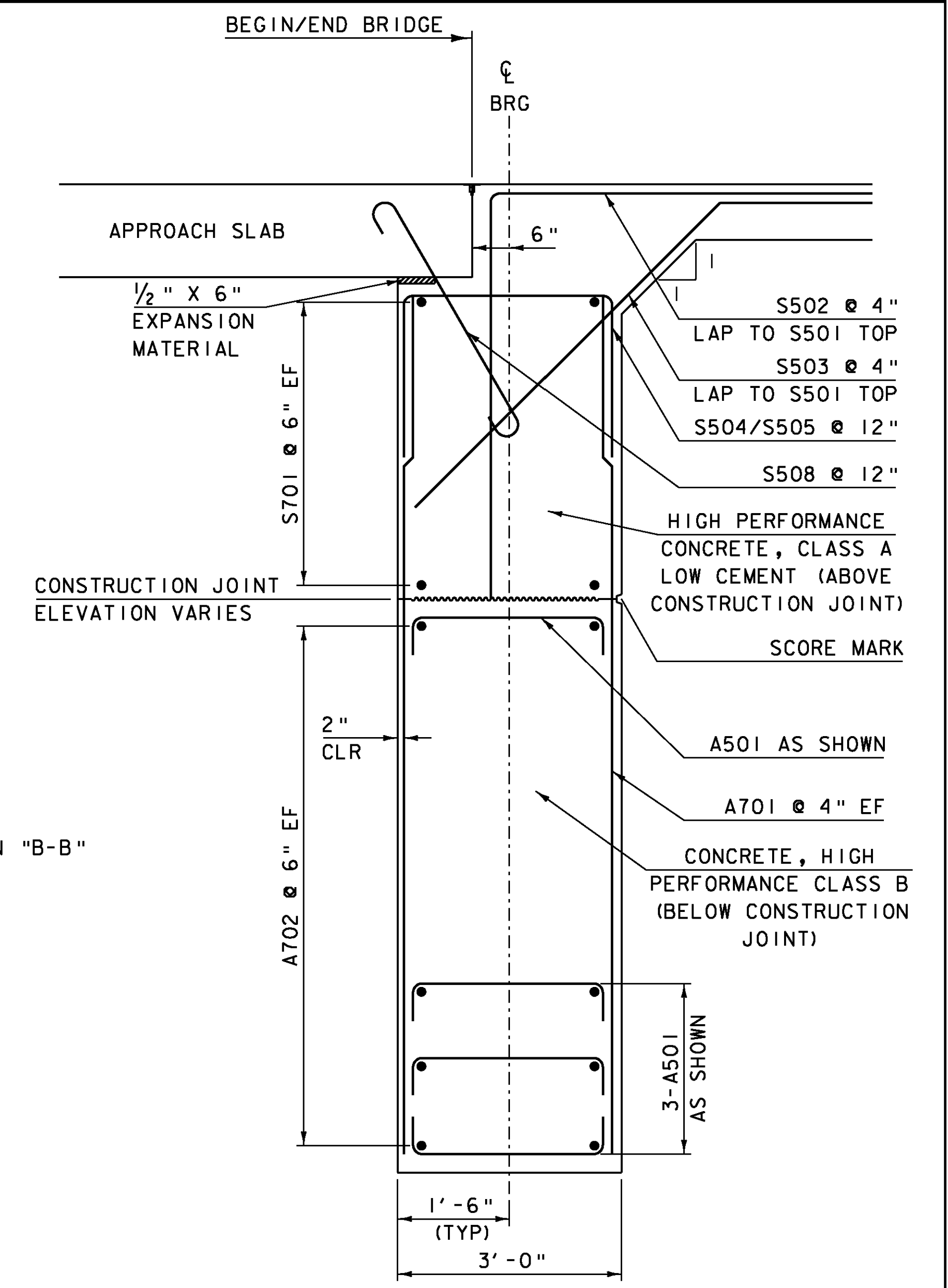
** DISTANCES PER JOINT MANUFACTURER'S RECOMMENDATIONS. DESIGN BASED ON TEMPERATURE RANGE FROM -15°F TO 105°F, WITH 1/2" EXPANSION. 9" MINIMUM BLOCKOUT REQUIRED.

*** TILT BAR TO MAINTAIN 3" CLR AT TOP.

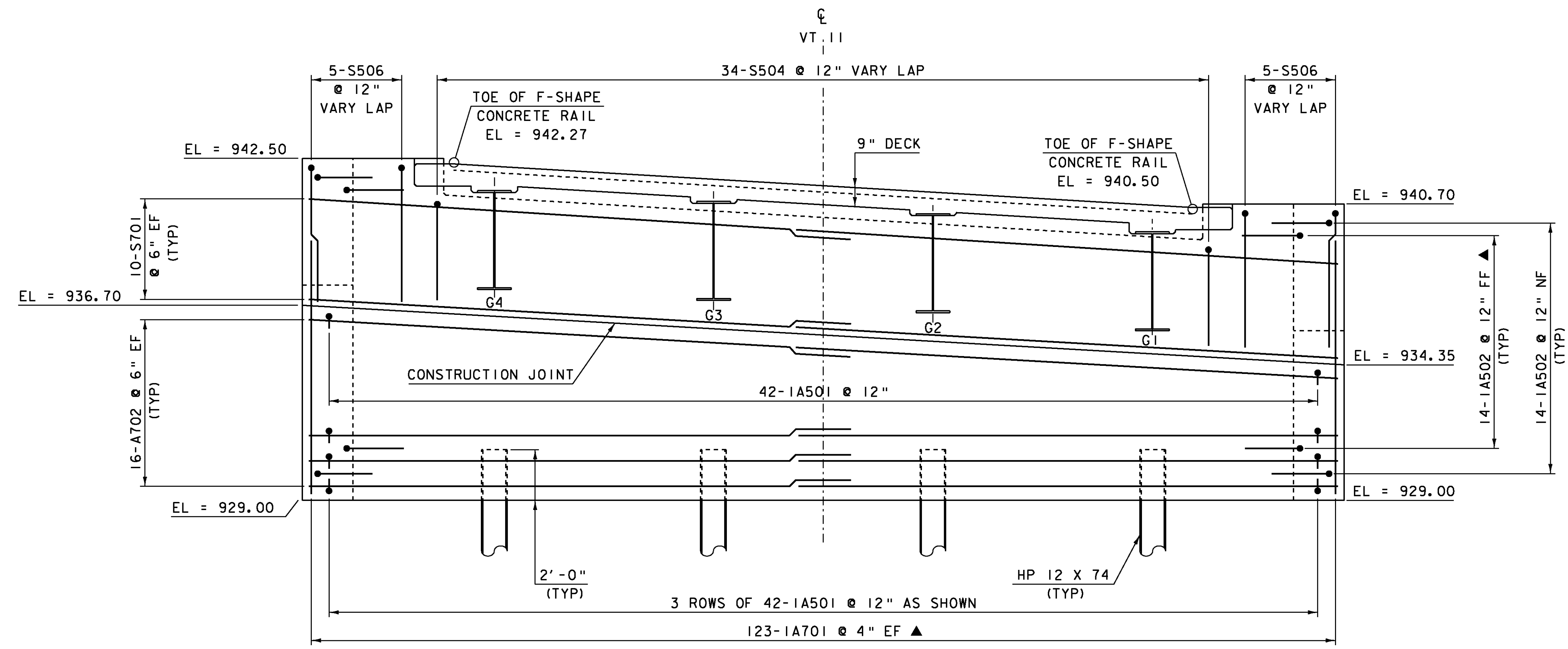
PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\s88b194aps.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194aps.i	DRAWN BY: E.L. RUSTAY
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 27 OF 50
APPROACH SLAB DETAILS	



ABUTMENT #1 PLAN
SCALE 3/8" = 1'-0"



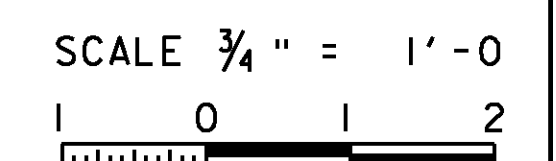
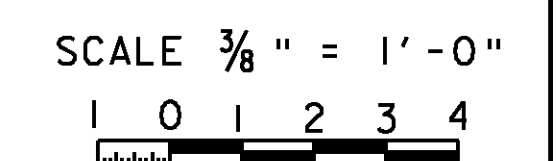
SECTION "A-A"
BRIDGE END DETAIL AND
ABUTMENT TYPICAL SECTION
SCALE 3/4" = 1'-0"



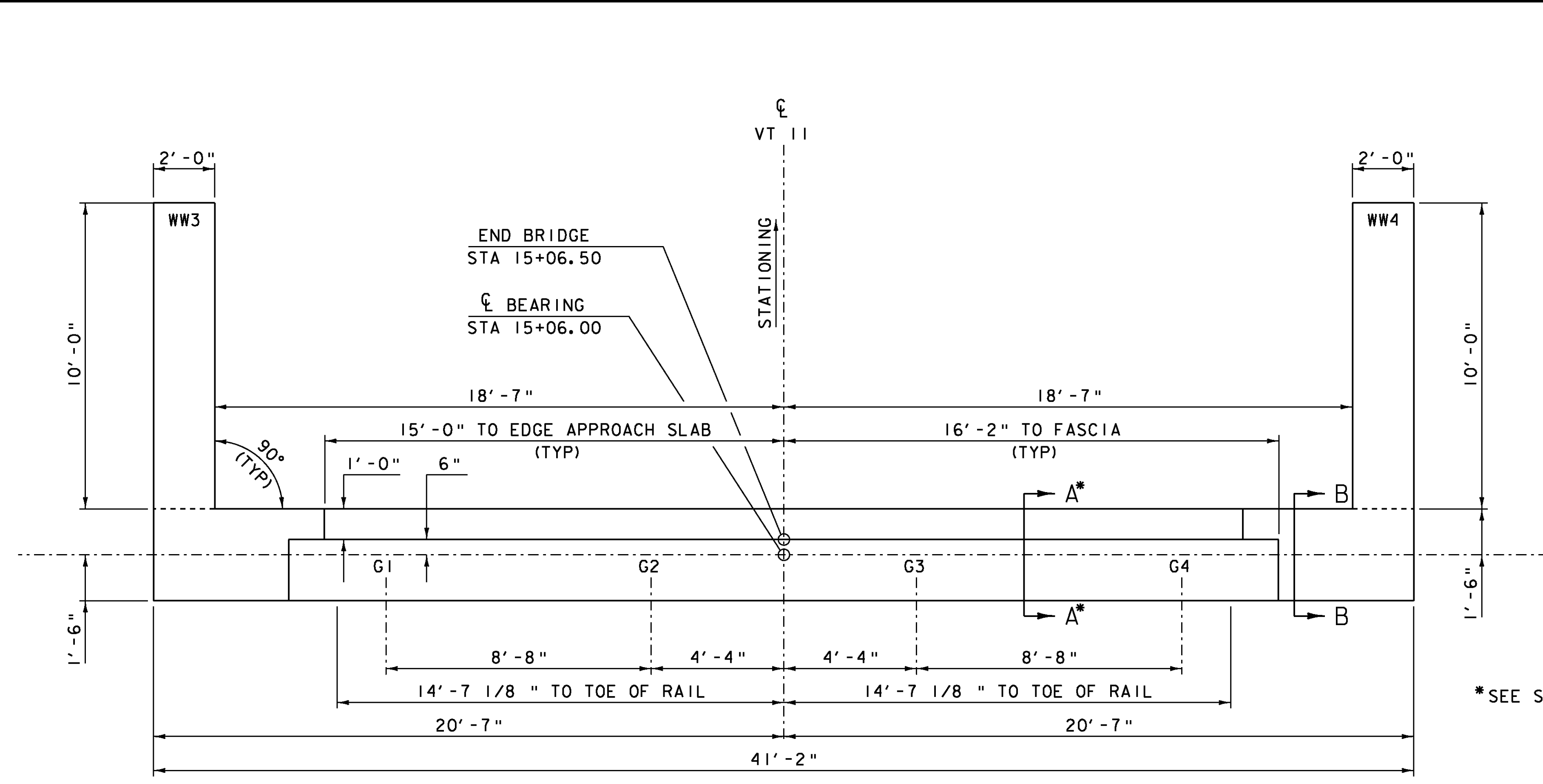
ABUTMENT #1 ELEVATION
SCALE 3/8" = 1'-0"

NOTES:

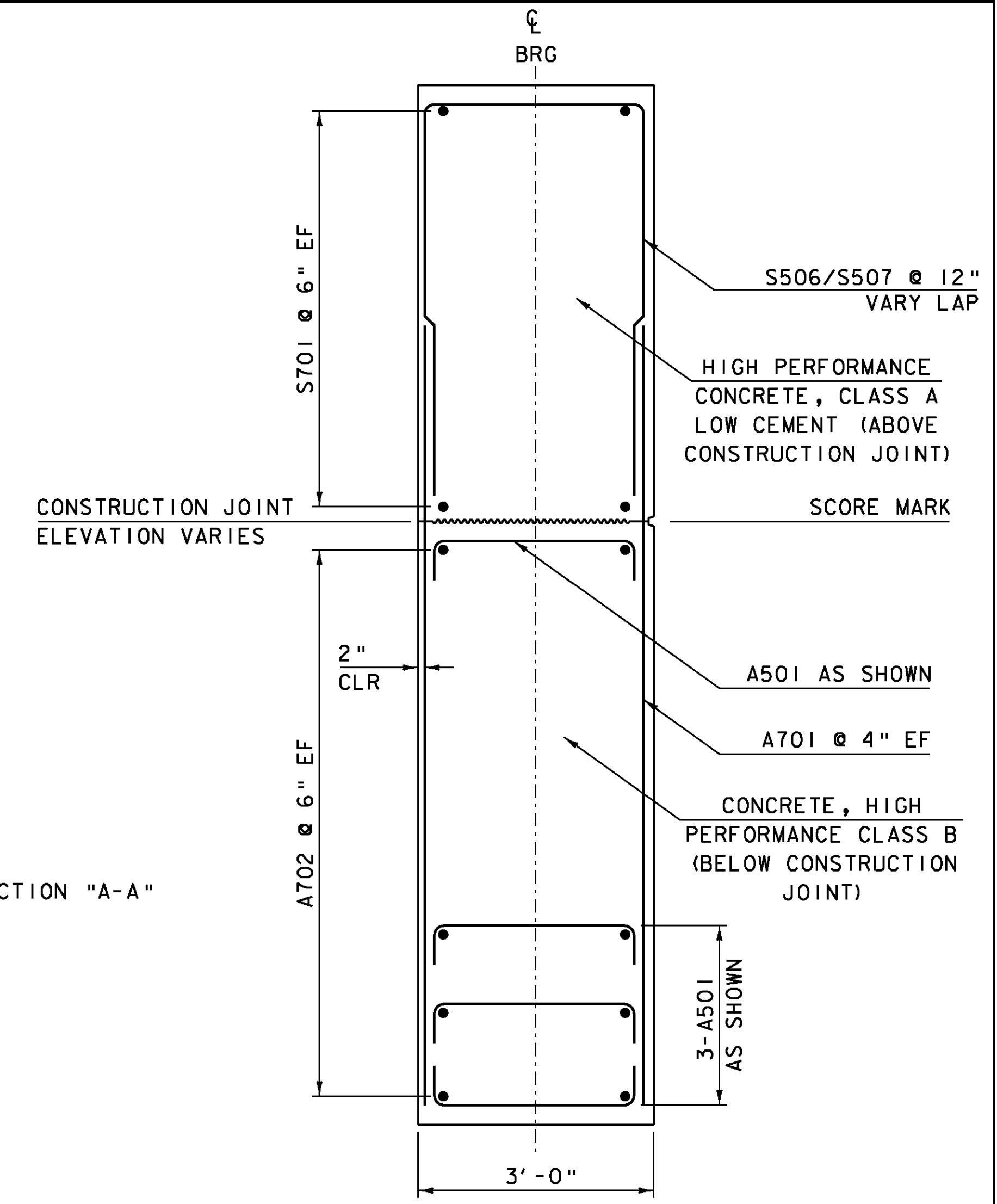
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
- ALL LAPS 2'-2" UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.



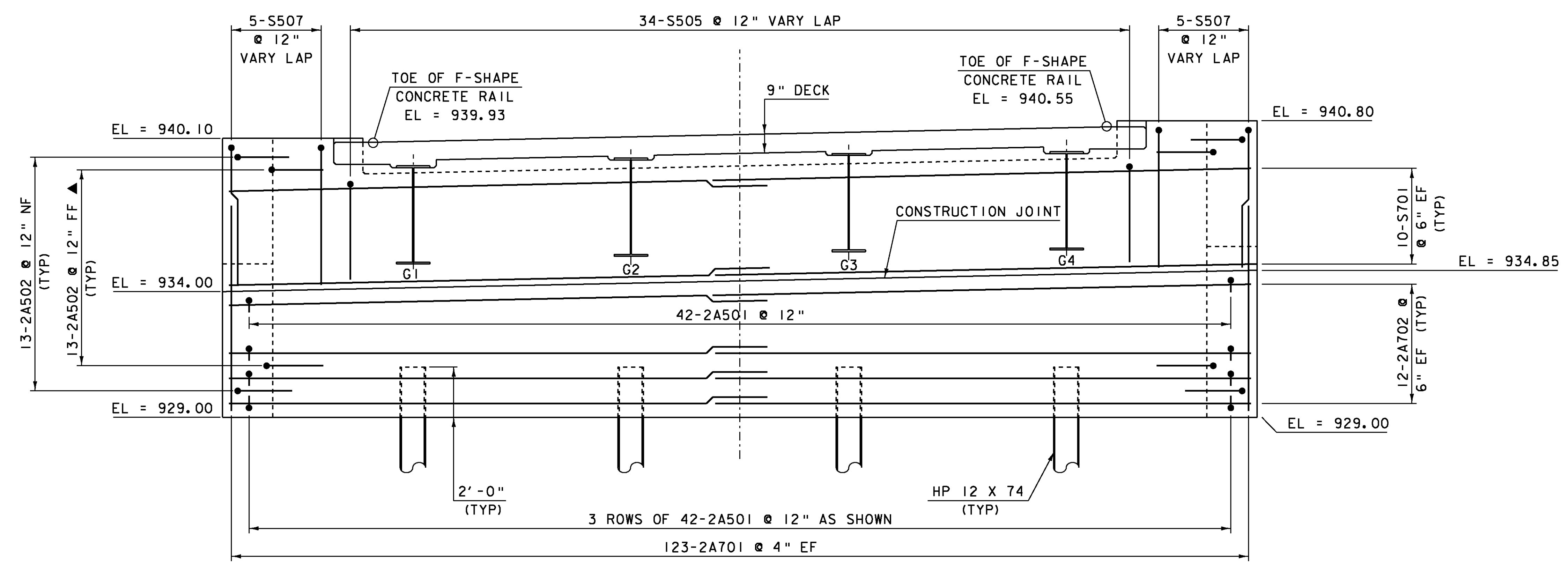
PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\88b194sub.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: 88b194abut1.i	DRAWN BY: E.L. RUSTAY
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	CHECKED BY: R.S. YOUNG
ABUTMENT #1 DETAILS	SHEET: 28 OF 50



ABUTMENT #2 PLAN
SCALE 3/8" = 1'-0"



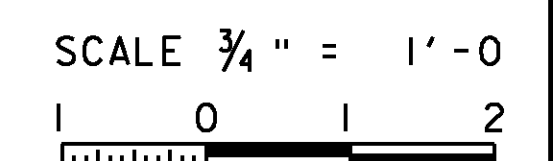
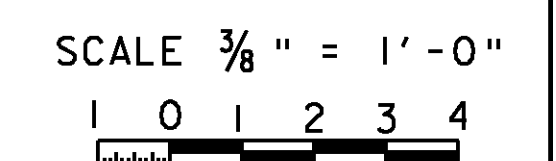
SECTION "B-B"
SCALE 3/4" = 1'-0"
SEE SHEET 28 FOR SECTION "A-A"



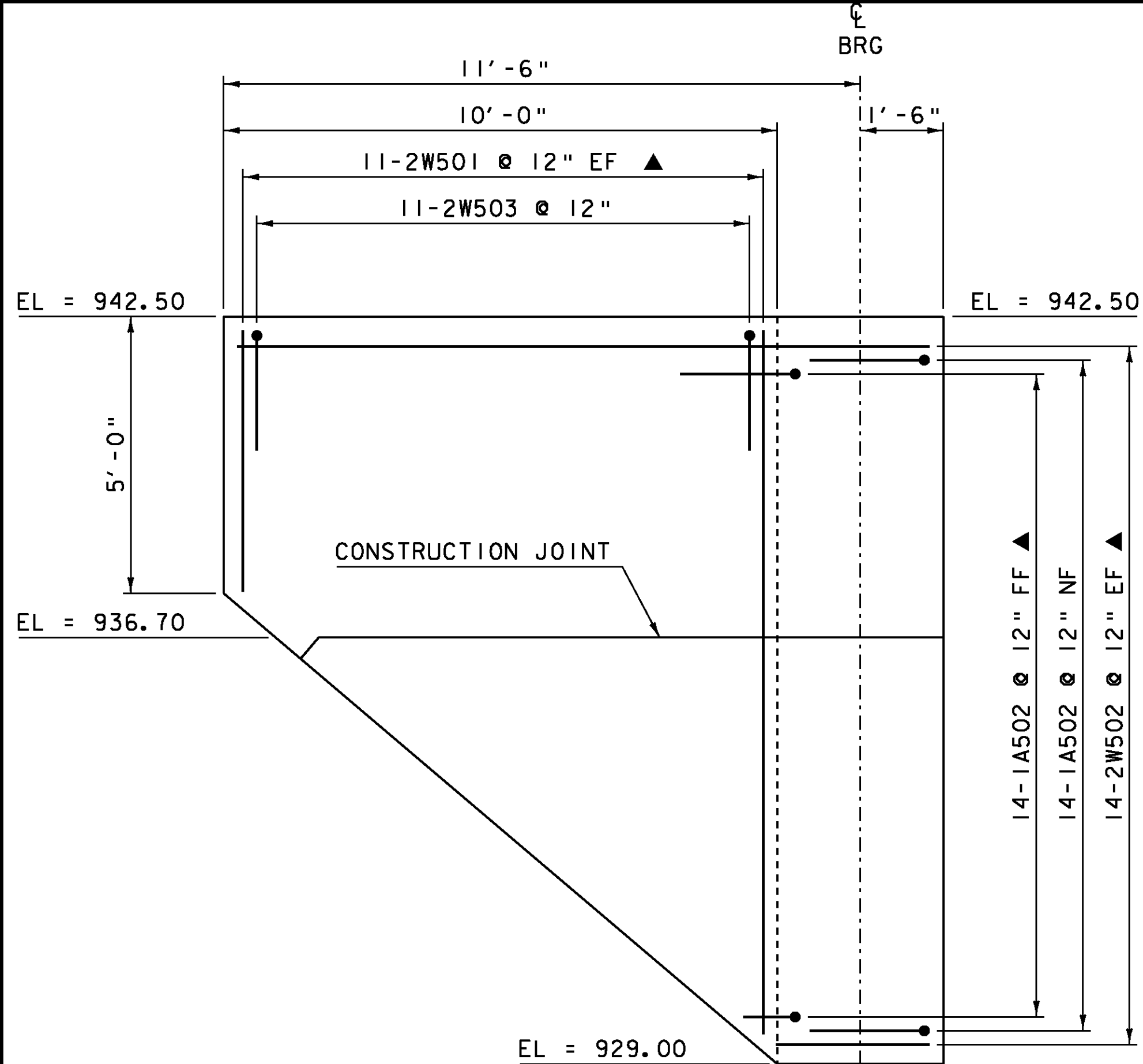
ABUTMENT #2 ELEVATION
SCALE 3/8" = 1'-0"

NOTES:

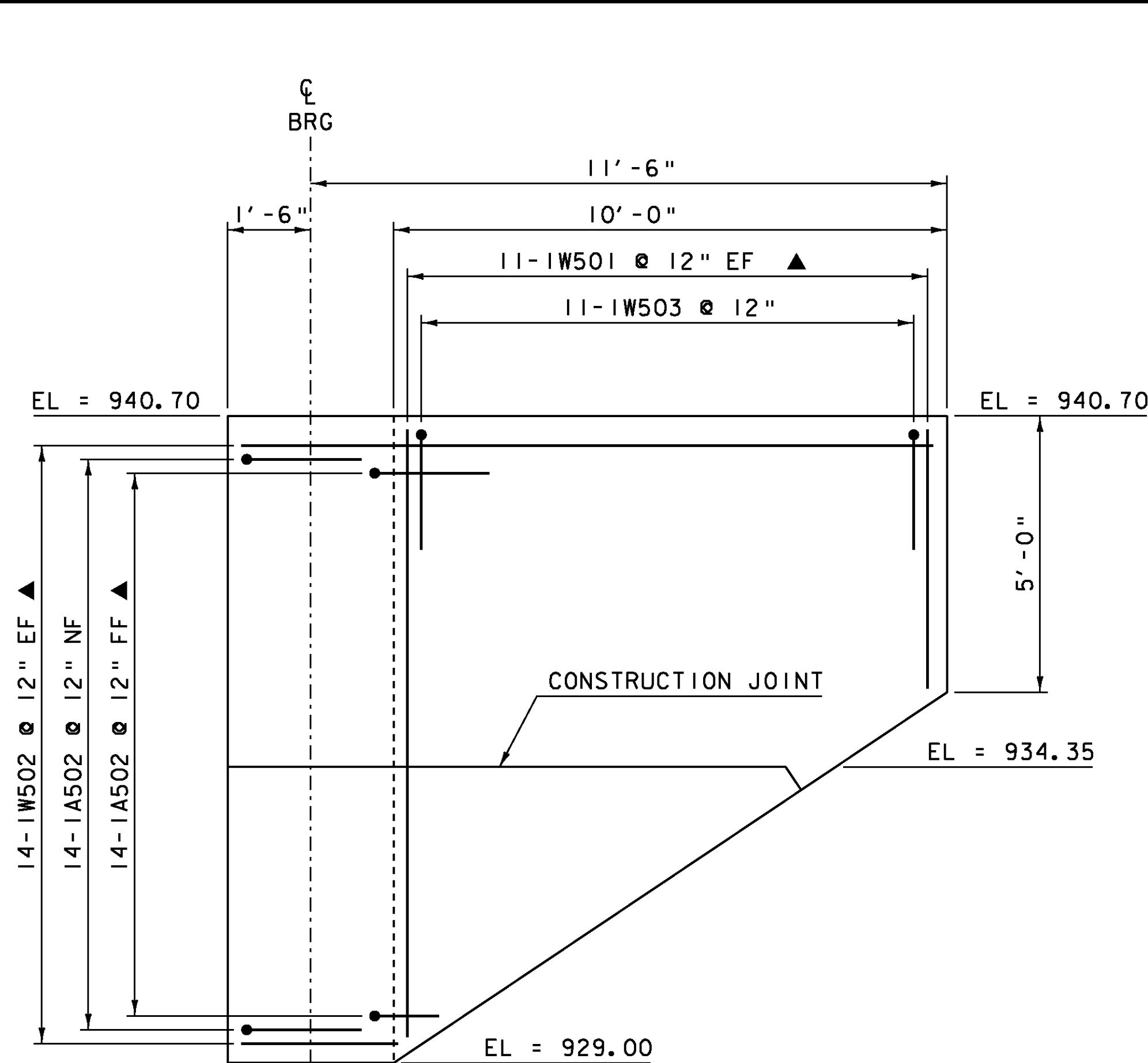
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
- ALL LAPS 2'-2" UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.



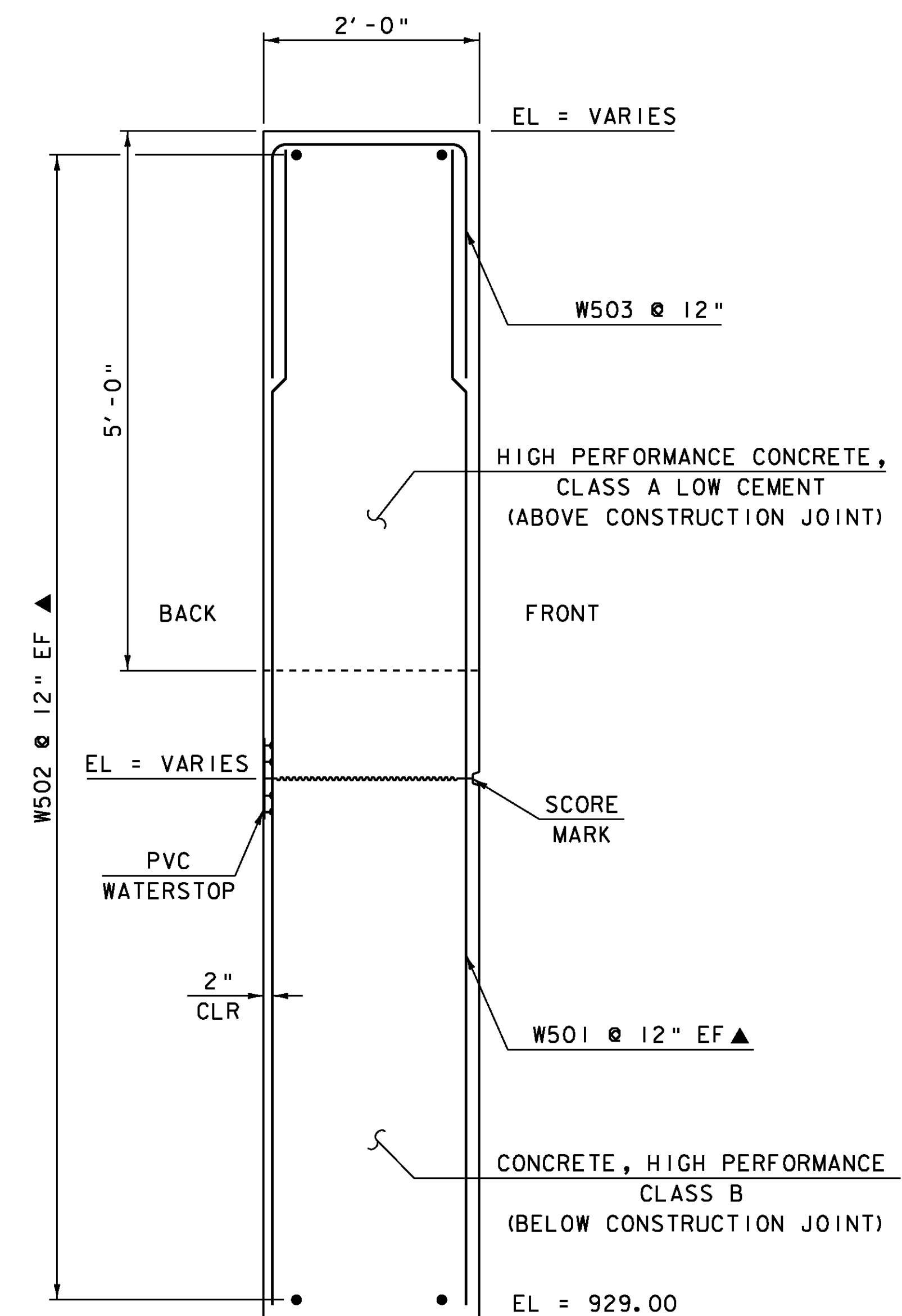
PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\s88b194sub.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194abut2.i	DRAWN BY: E.L.RUSTAY
DESIGNED BY: E.L.RUSTAY	CHECKED BY: R.S.YOUNG
SQUAD LEADER: C.P.WILLIAMS	SHEET: 29 OF 50
ABUTMENT #2 DETAILS	



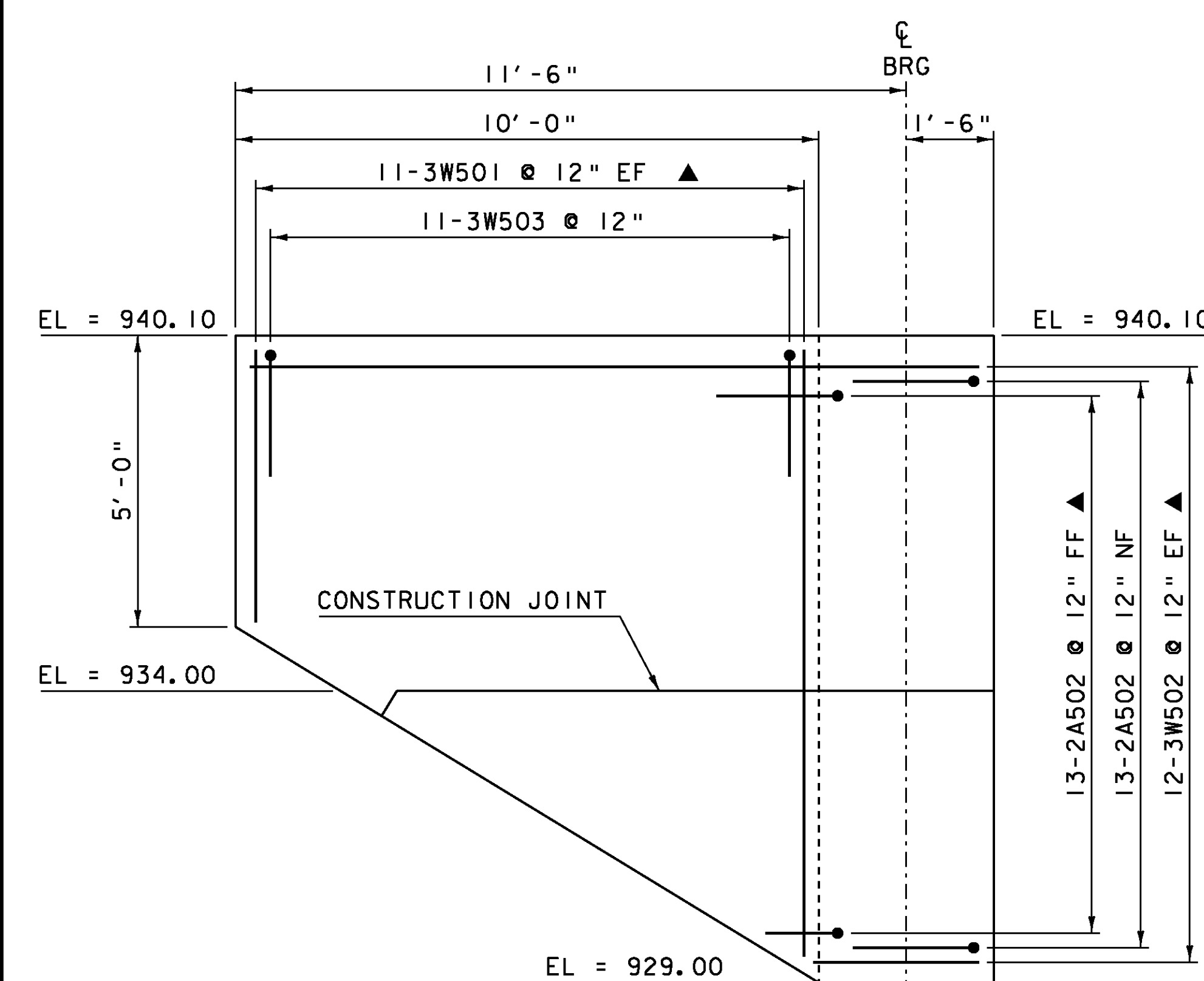
WINGWALL #2 ELEVATION
SCALE 1/2" = 1'-0"



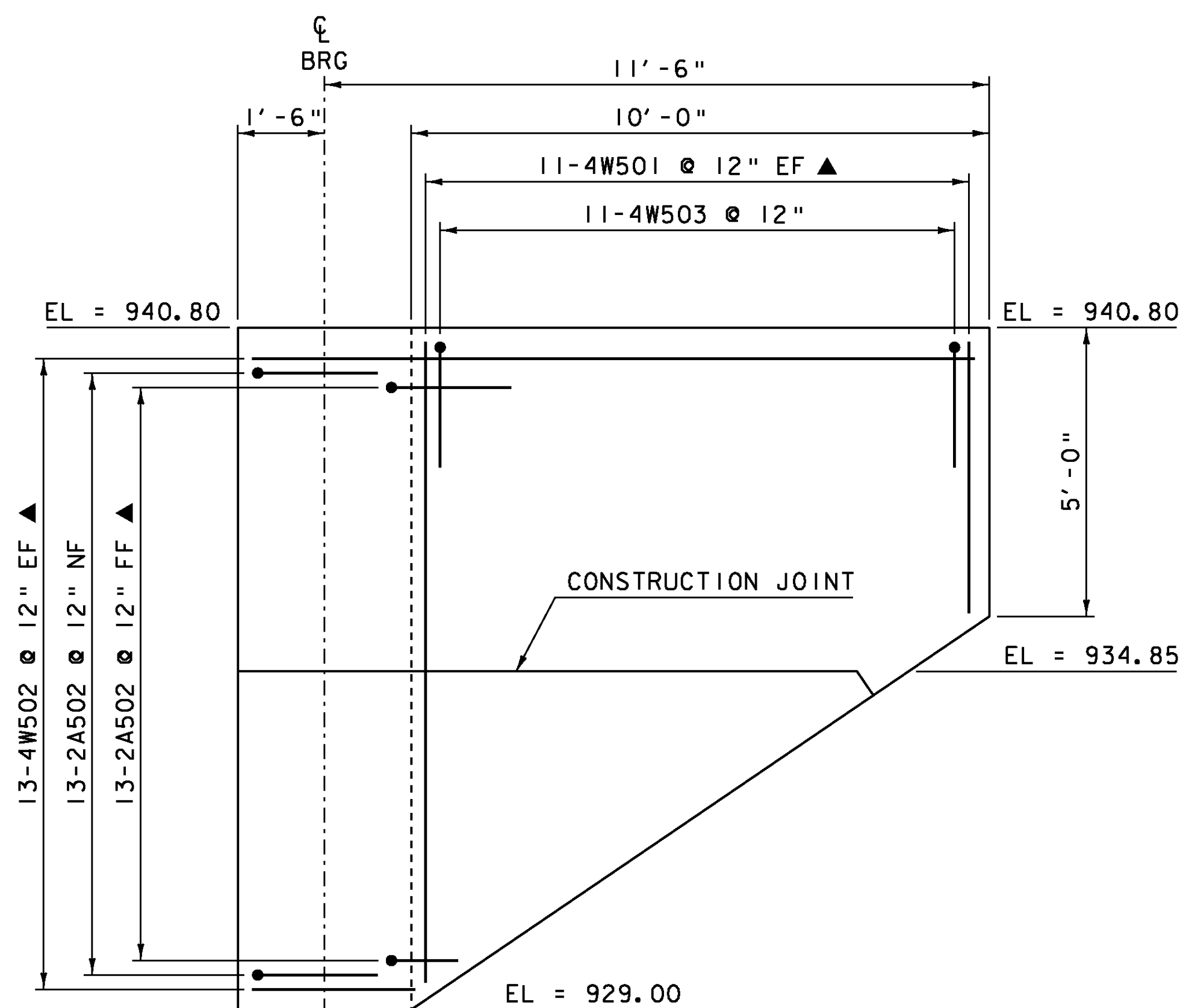
WINGWALL #1 ELEVATION
SCALE 1/2" = 1'-0"



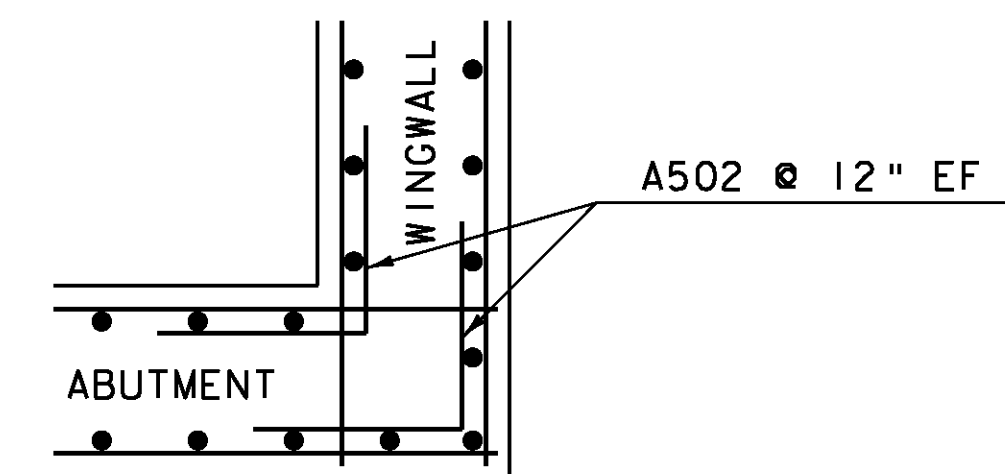
WINGWALL TYPICAL SECTION
SCALE 1" = 1'-0"



WINGWALL #3 ELEVATION
SCALE 1/2" = 1'-0"



WINGWALL #4 ELEVATION
SCALE 1/2" = 1'-0"

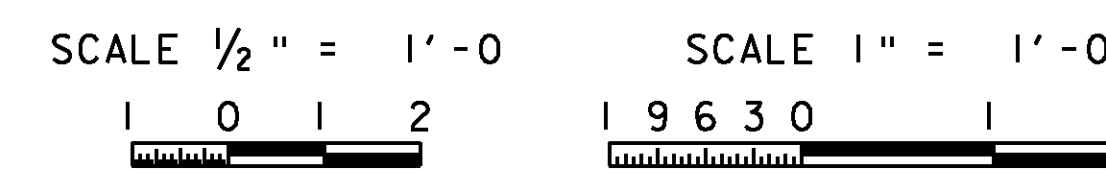


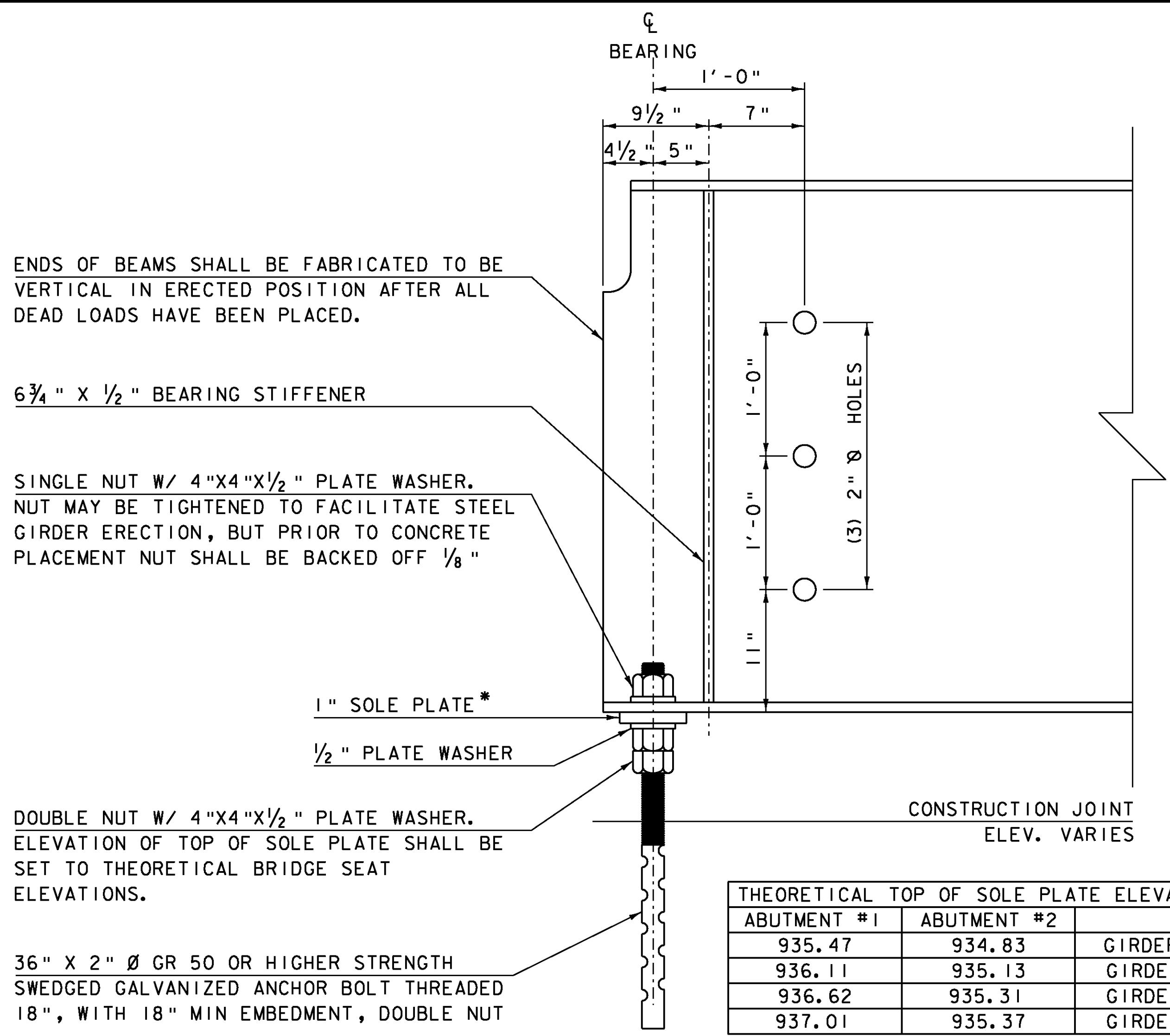
TYPICAL CORNER DETAIL
SCALE 1/2" = 1'-0"

NOTES:

- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
- ALL LAPS 2'-2" UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: s88b194\Structures\s88b194sub.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194wwdet.i	DRAWN BY: E.L.RUSTAY
DESIGNED BY: E.L.RUSTAY	CHECKED BY: R.S.YOUNG
SQUAD LEADER: C.P.WILLIAMS	WINGWALL DETAILS
	SHEET: 30 OF 50





ENDS OF BEAMS SHALL BE FABRICATED TO BE VERTICAL IN ERECTED POSITION AFTER ALL DEAD LOADS HAVE BEEN PLACED.

6 3/4" X 1/2" BEARING STIFFENER

SINGLE NUT W/ 4"X4"X1/2" PLATE WASHER. NUT MAY BE TIGHTENED TO FACILITATE STEEL GIRDER ERECTION, BUT PRIOR TO CONCRETE PLACEMENT NUT SHALL BE BACKED OFF 1/8"

1" SOLE PLATE*
1/2" PLATE WASHER

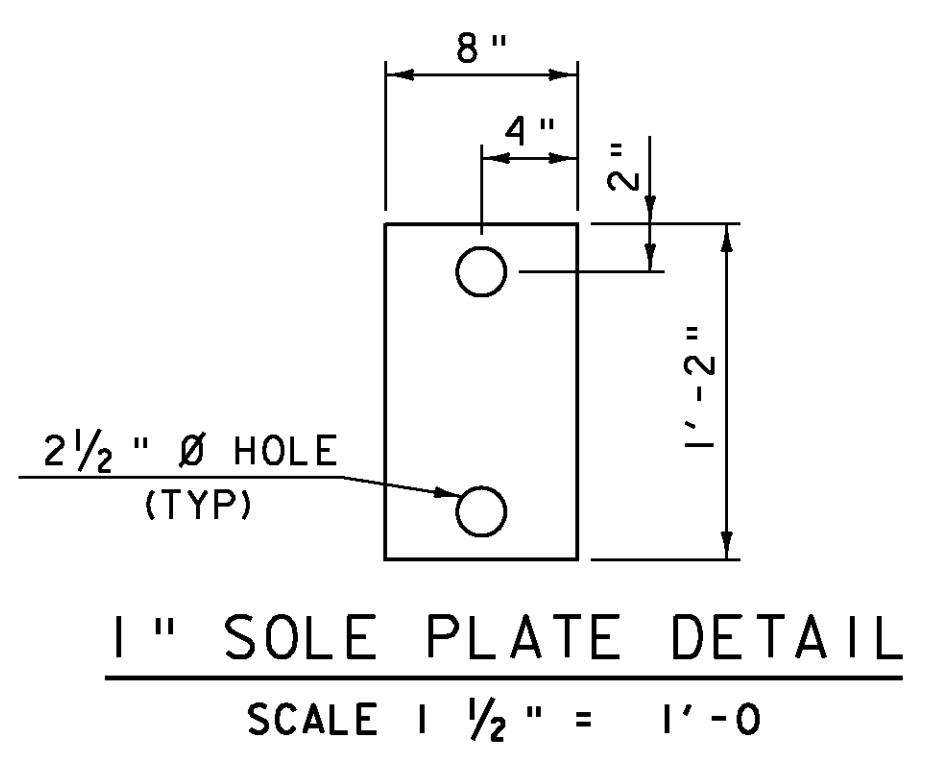
DOUBLE NUT W/ 4"X4"X1/2" PLATE WASHER. ELEVATION OF TOP OF SOLE PLATE SHALL BE SET TO THEORETICAL BRIDGE SEAT ELEVATIONS.

36" X 2" Ø GR 50 OR HIGHER STRENGTH SWEDGED GALVANIZED ANCHOR BOLT THREADED 18", WITH 18" MIN EMBEDMENT, DOUBLE NUT

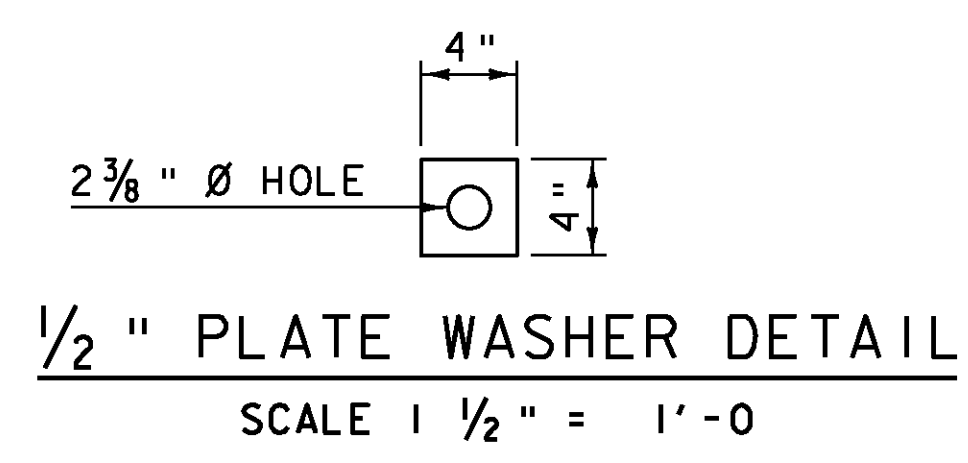
THEORETICAL TOP OF SOLE PLATE ELEVATIONS		
ABUTMENT #1	ABUTMENT #2	GIRDER #1
935.47	934.83	GIRDER #1
936.11	935.13	GIRDER #2
936.62	935.31	GIRDER #3
937.01	935.37	GIRDER #4

*GREASE TOP OF SOLE PLATE BEFORE GIRDER PLACEMENT

ELEVATION VIEW
END OF STEEL
MEMBER AT ABUTMENT
SCALE 1 1/2" = 1'-0"



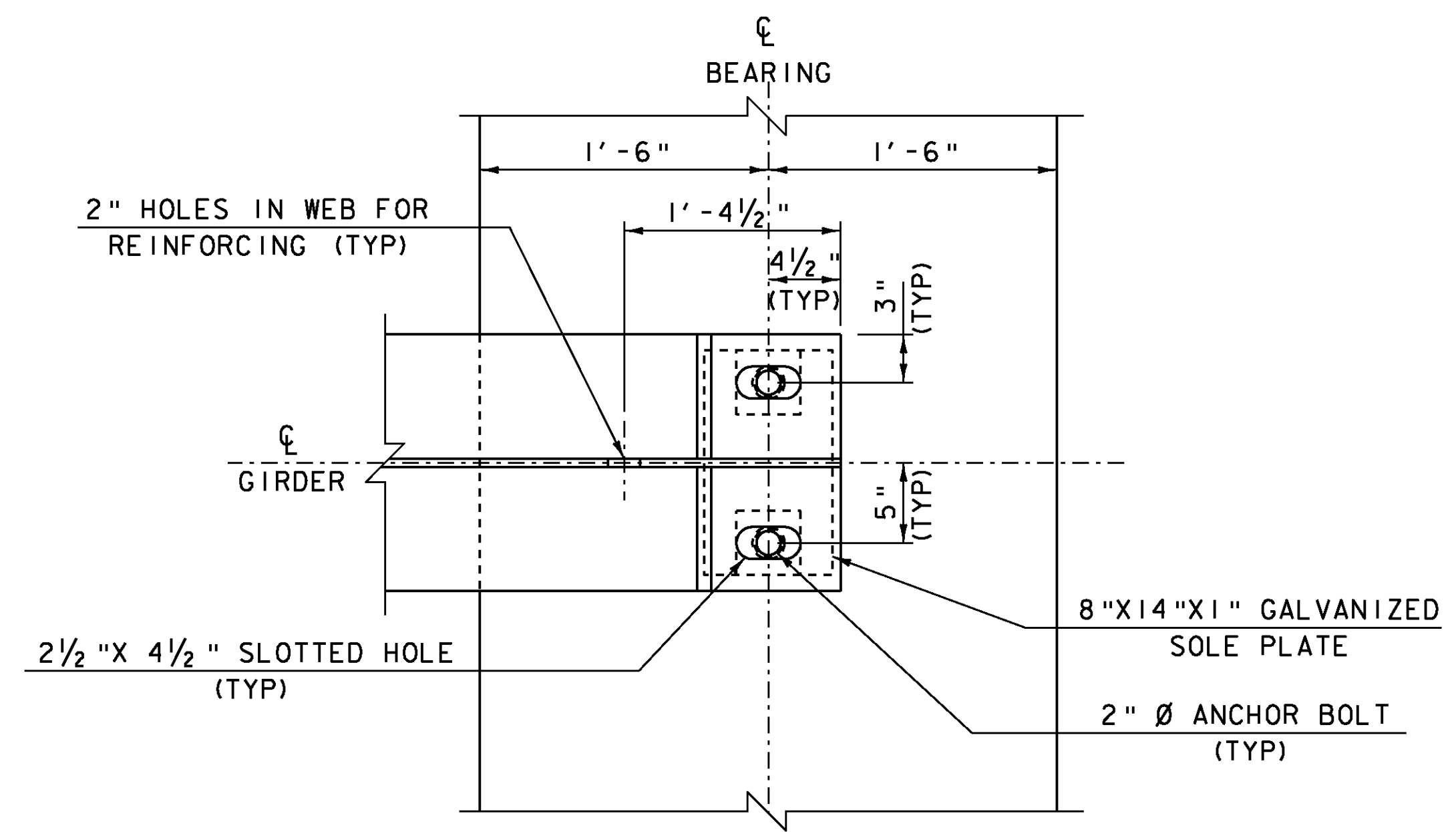
1" SOLE PLATE DETAIL
SCALE 1 1/2" = 1'-0"



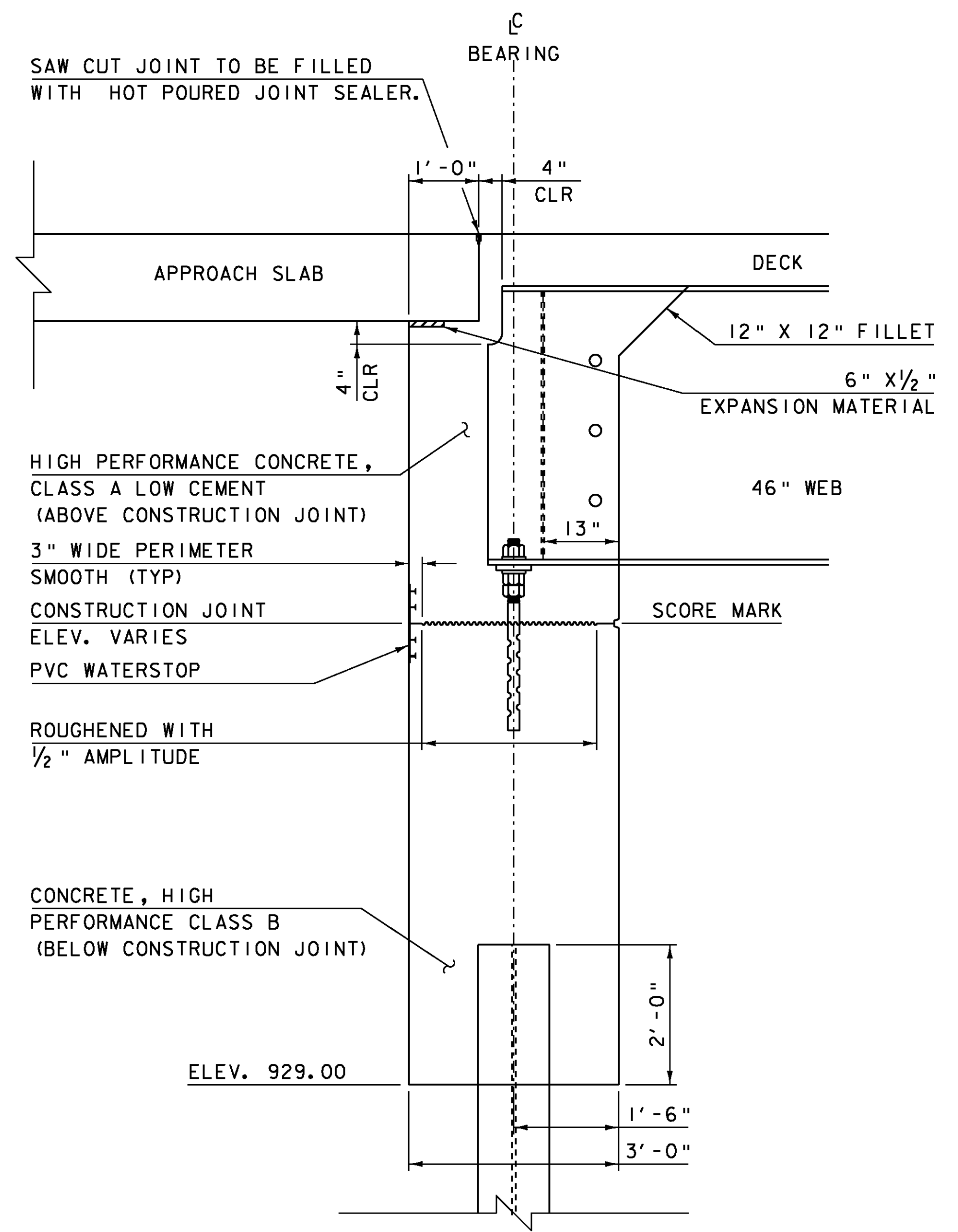
1/2" PLATE WASHER DETAIL
SCALE 1 1/2" = 1'-0"

NOTES:

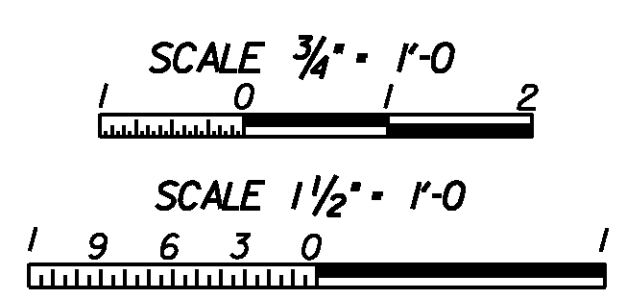
1. THE SOLE PLATES, ANCHOR BOLTS, WASHERS AND NUTS SHALL BE PAID FOR UNDER ITEM 531.14, "BEARING DEVICE ASSEMBLY, INTEGRAL ABUTMENT" AND SHALL CONFORM TO SECTION 531 OF THE STANDARD SPECIFICATIONS.
2. THE SOLE PLATES, ANCHOR BOLTS, AND WASHERS SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04 AND 506.15 OF THE STANDARD SPECIFICATIONS.
3. ANCHOR BOLTS SHALL BE 2" DIAMETER, TYPE 1 BOLTS MEETING ASTM A449. NUTS SHALL MEET AASHTO M291. THE CONTRACTOR SHALL ENSURE THAT THE ANCHOR BOLTS ARE INSTALLED IN A PLUMB POSITION. ONE EXTRA ANCHOR BOLT SHALL BE SUPPLIED FOR TESTING PURPOSES.
4. ALL STEEL IN BEARING DEVICE ASSEMBLY SHALL BE AASHTO M270/M270M GR 36 UNLESS OTHERWISE NOTED.
5. SUBSTITUTIONS FOR BEARING DEVICE ASSEMBLY COMPONENT MATERIALS AND SIZES SHALL BE DETAILED ON THE FABRICATION DRAWINGS. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE STRUCTURES ENGINEER PRIOR TO FABRICATION AS PER SUBSECTION 506.04 OF THE STANDARD SPECIFICATIONS.



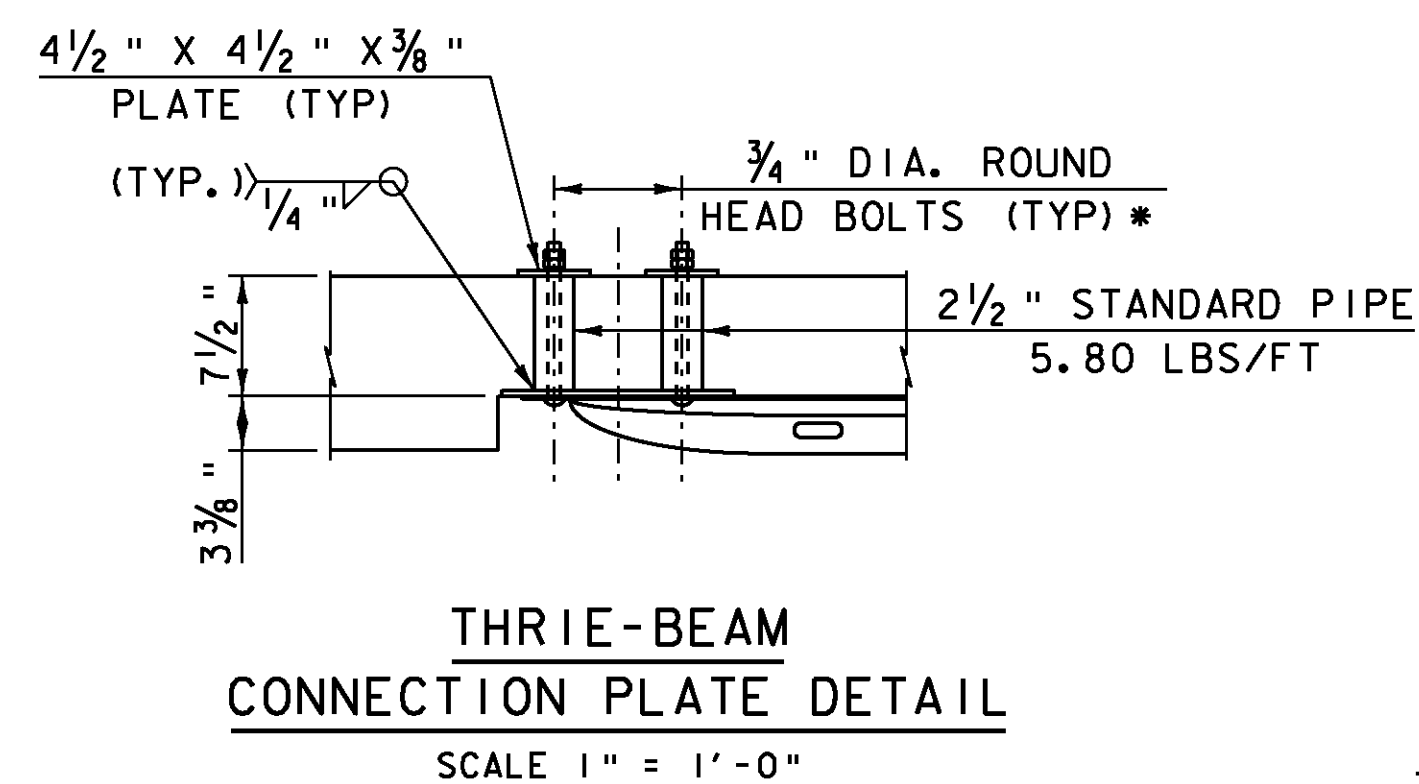
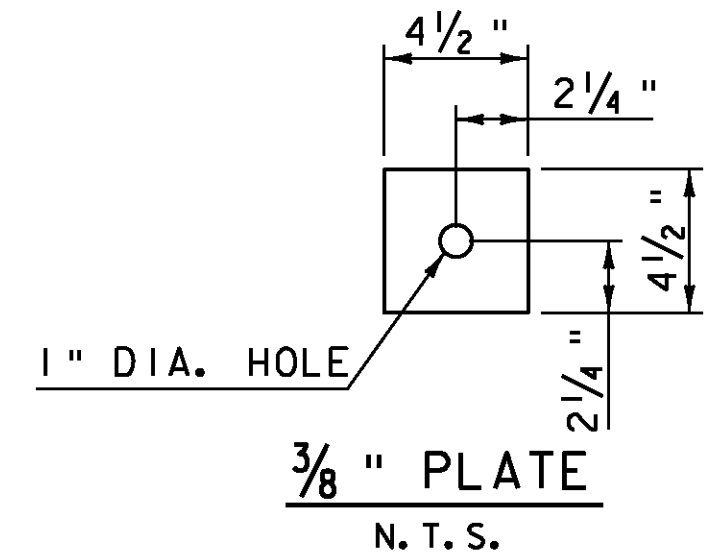
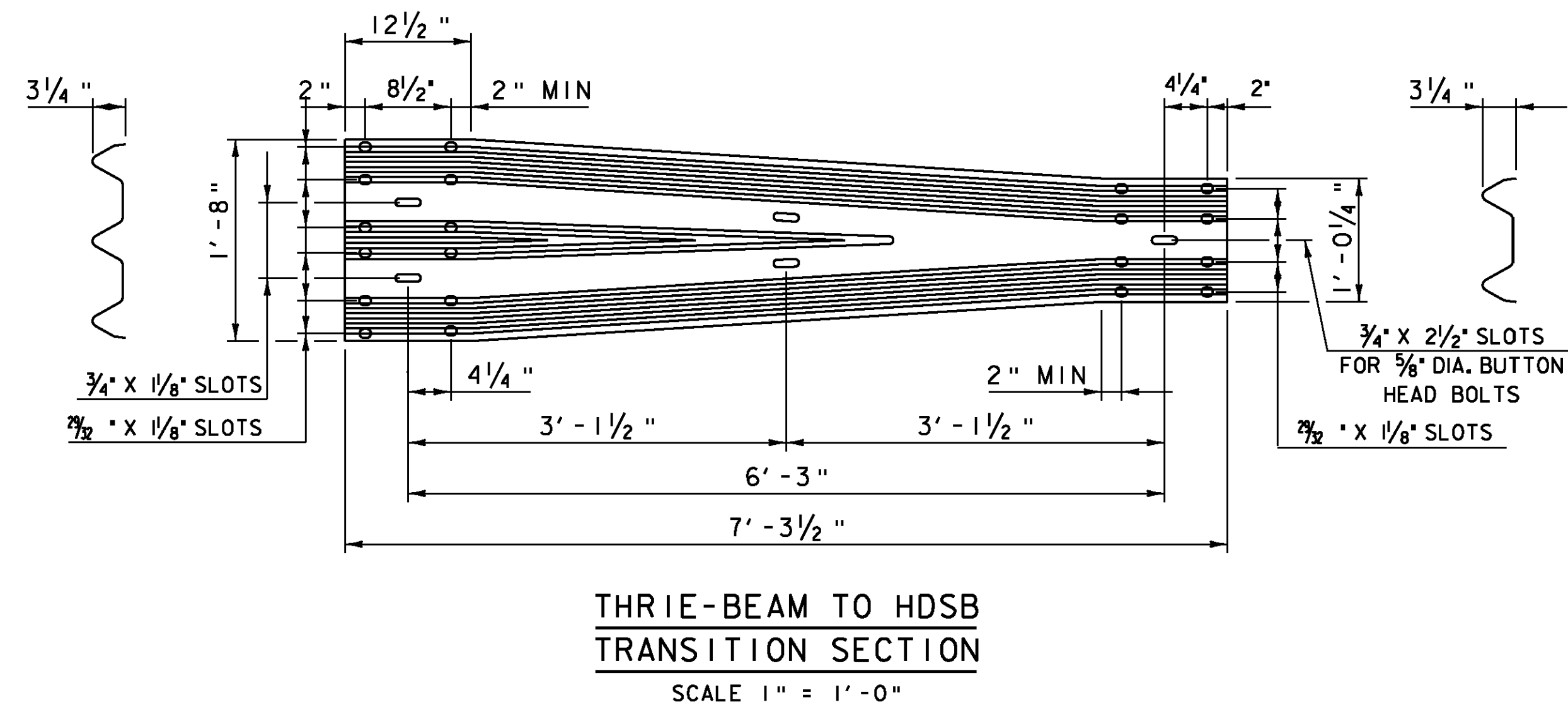
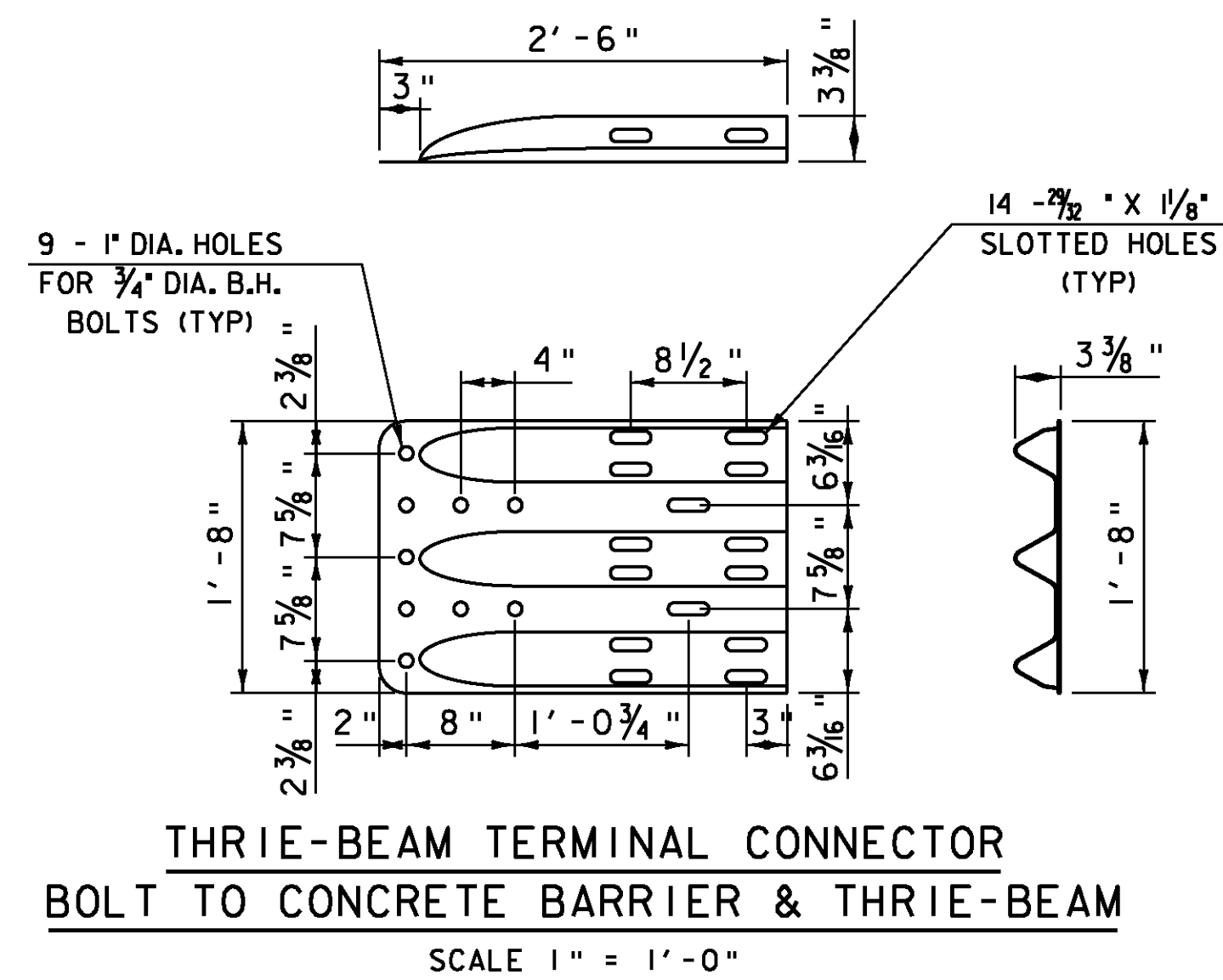
PLAN VIEW, END OF STEEL
AT ABUTMENT
SCALE 1 1/2" = 1'-0"



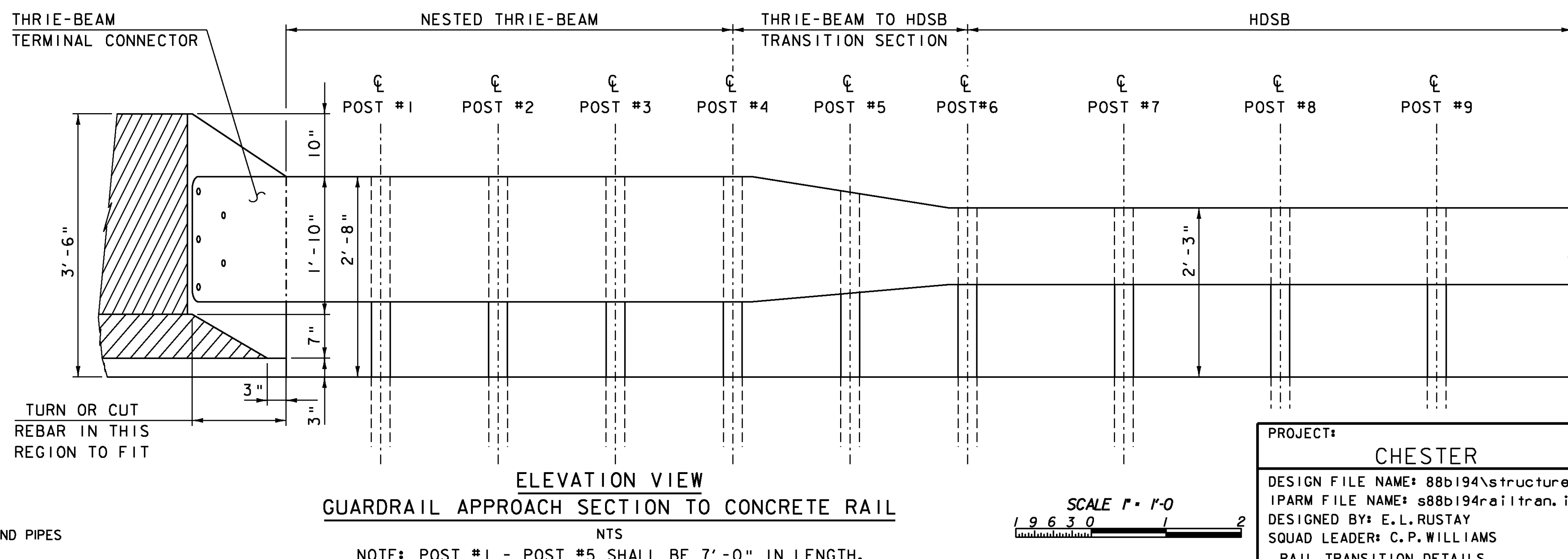
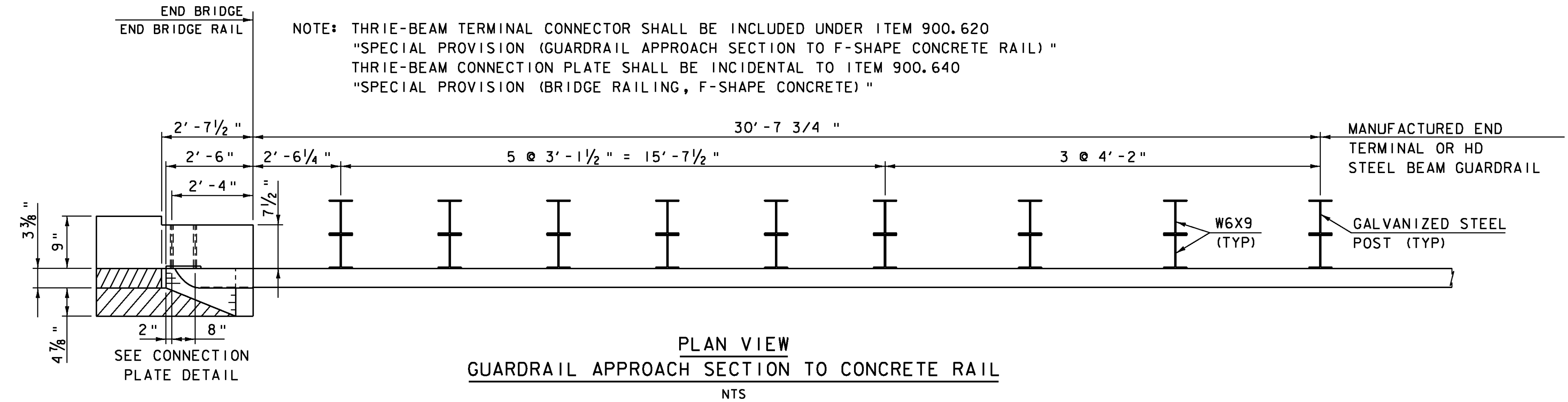
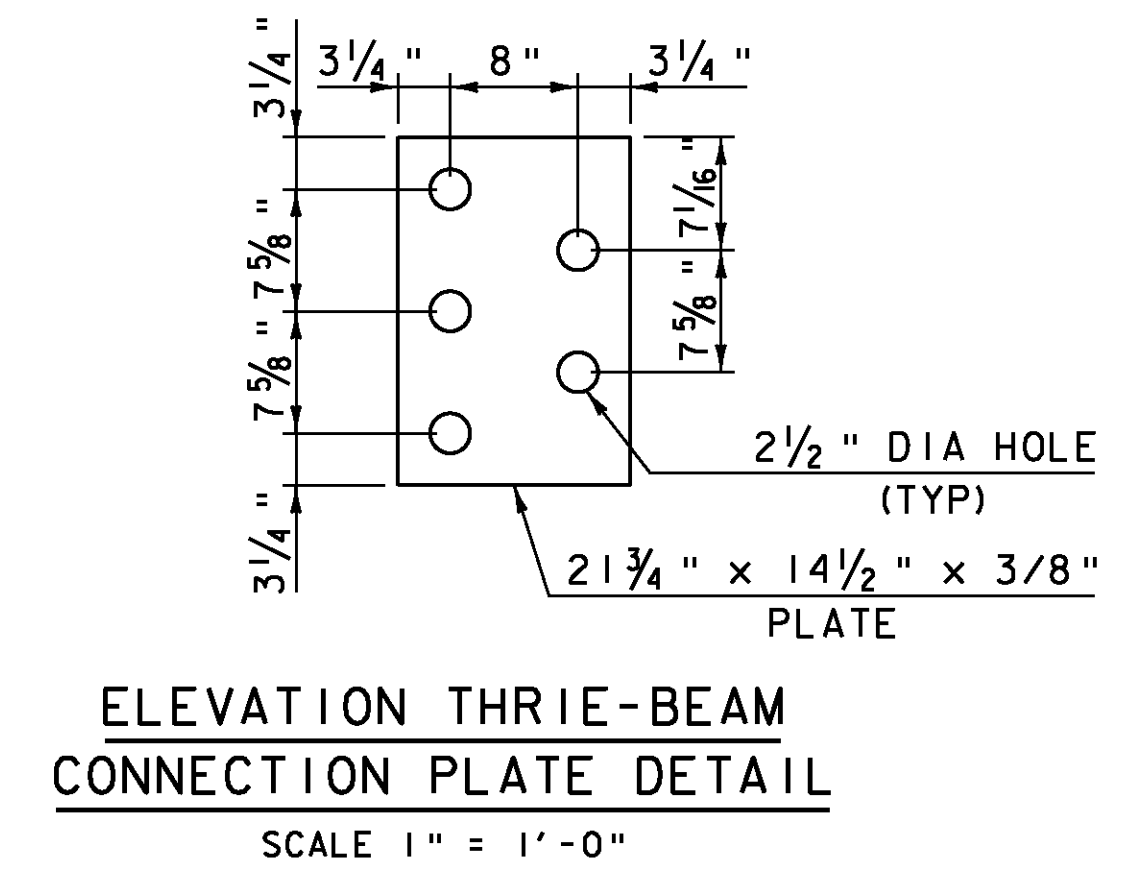
BRIDGE END DETAIL AND
ABUTMENT TYPICAL SECTION
SCALE 3/4" = 1'-0"



PROJECT: CHESTER	PROJECT NO. # BRF 016-1 (25)
DESIGN FILE NAME: 88b194\Structures\s88b194sub.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194abut typ.i	DRAWN BY: D.D.BEARD
DESIGNED BY: E.L.RUSTAY	CHECKED BY: R.S.YOUNG
SQUAD LEADER: C.P.WILLIAMS	SHEET: 31 OF 50
BEARING DETAILS	



* BOLTS FOR THE THRIE-BEAM CONNECTION PLATE SHALL BE DOUBLE NUTTED. THE FIRST NUT SHALL BE BACKED OFF ENOUGH TO ALLOW HORIZONTAL MOVEMENT.

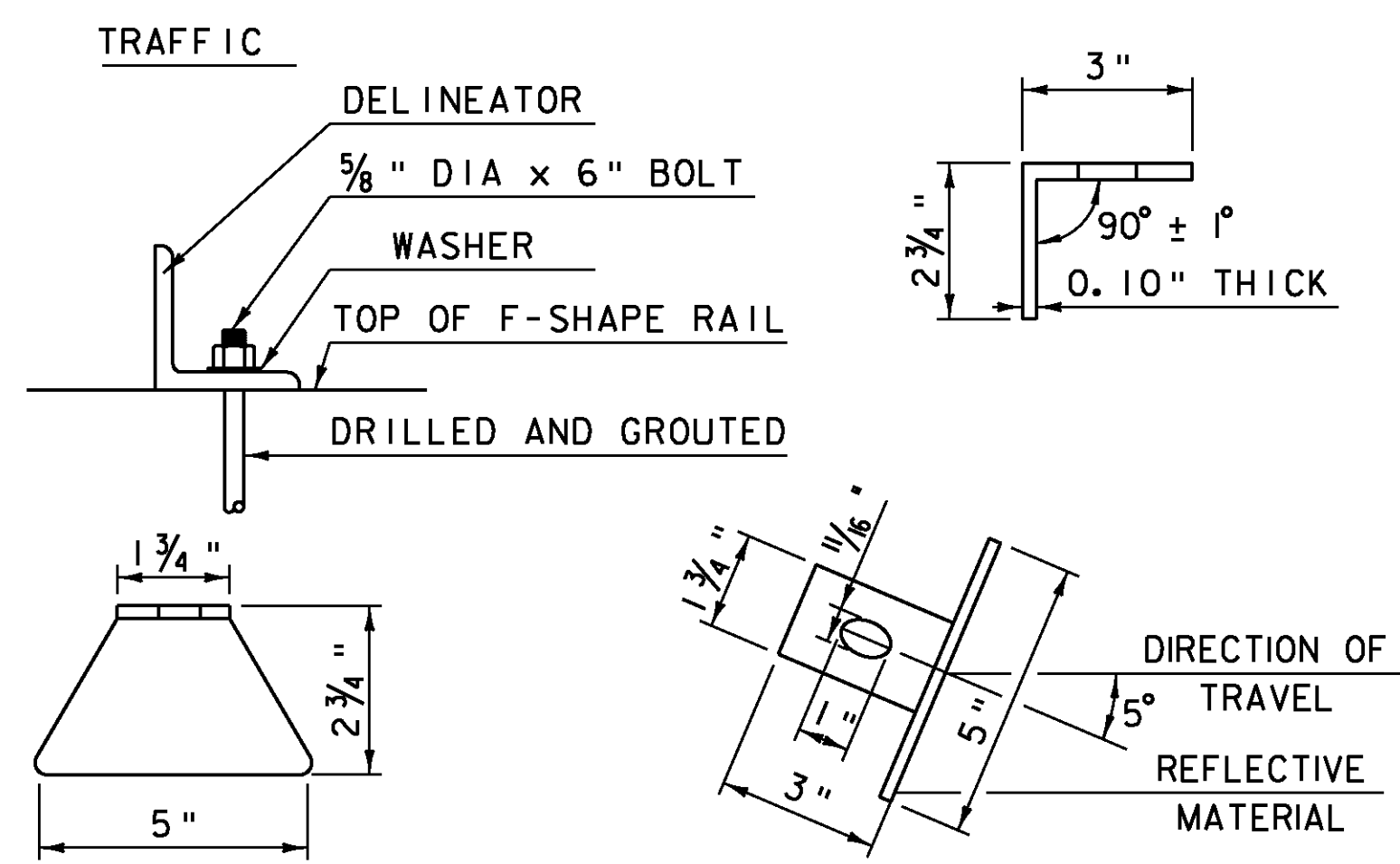


NOTE: POST #1 - POST #5 SHALL BE 7'-0" IN LENGTH.



PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194\structures\s88b194rail.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194railtran.i	DRAWN BY:	L. STONE
DESIGNED BY:	E.L. RUSTAY	CHECKED BY:	R.S. YOUNG
SQUAD LEADER:	C.P. WILLIAMS		
RAIL TRANSITION DETAILS			SHEET: 32 OF 50

NOTE: PLATES SHALL BE ASTM A572, GRADE 50. STANDARD PIPE SHALL BE ASTM A500, GRADE B. PLATES AND PIPES SHALL BE GALVANIZED AFTER FABRICATION ACCORDING TO SUBSECTION 506.J5.

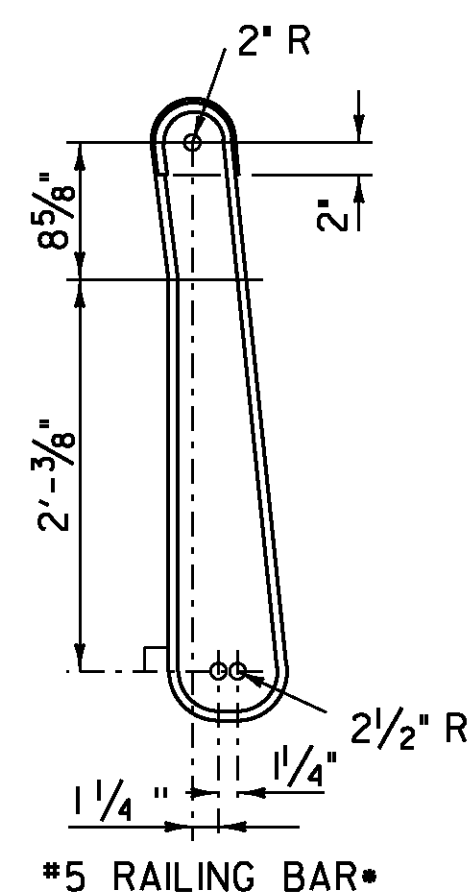


DELINEATOR NOTES

NTS

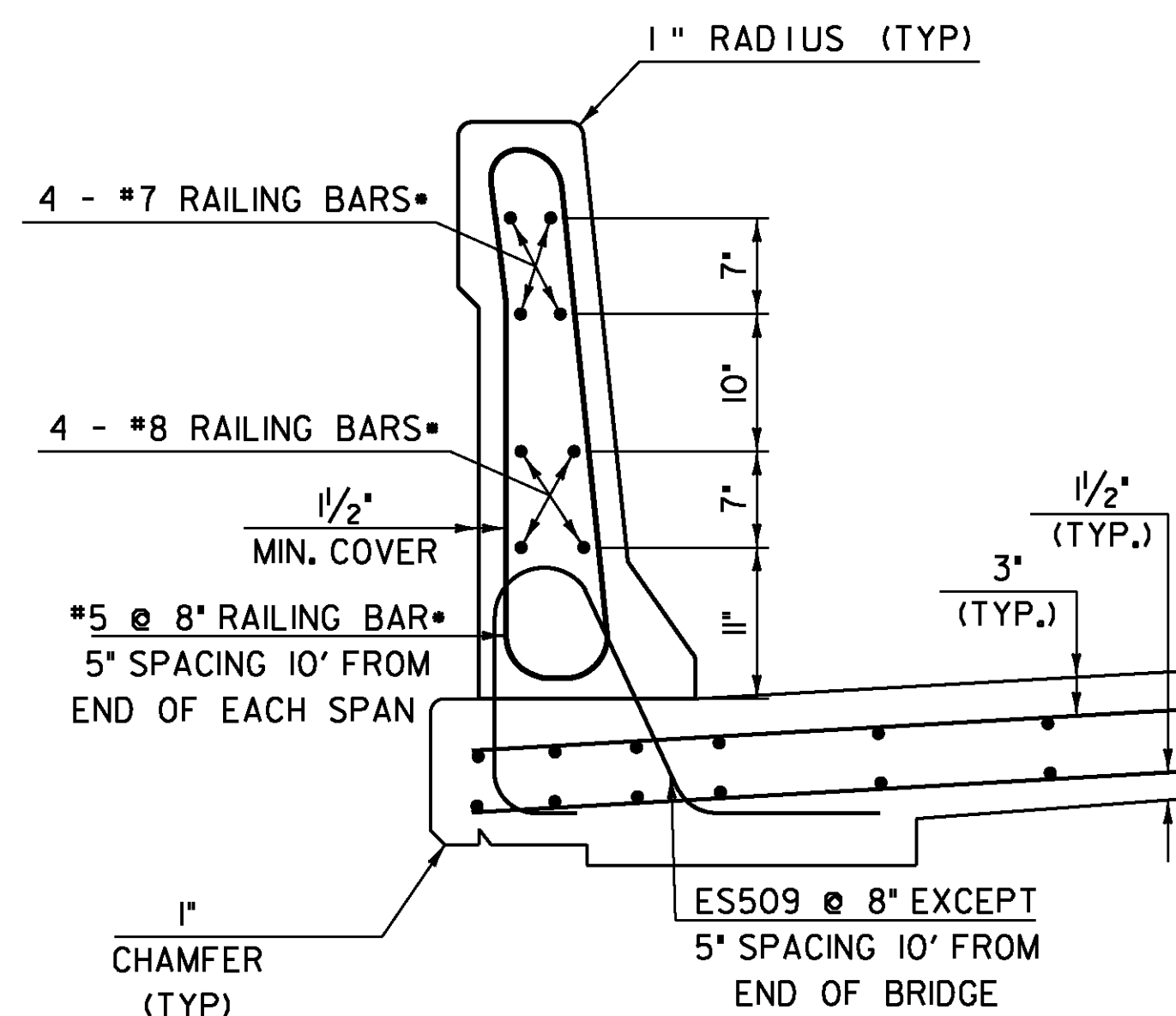
1. PAYMENT FOR DELINEATORS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM #900.640 SPECIAL PROVISION, (BRIDGE RAILING, F-SHAPE CONCRETE).

2. DELINEATORS SHALL BE EVENLY SPACED ACROSS THE ENTIRE LENGTH OF BRIDGE RAILING BUT NOT WITHIN 2' OF ANY JOINT OPENING NOR A SPACING OF MORE THAN 30'.

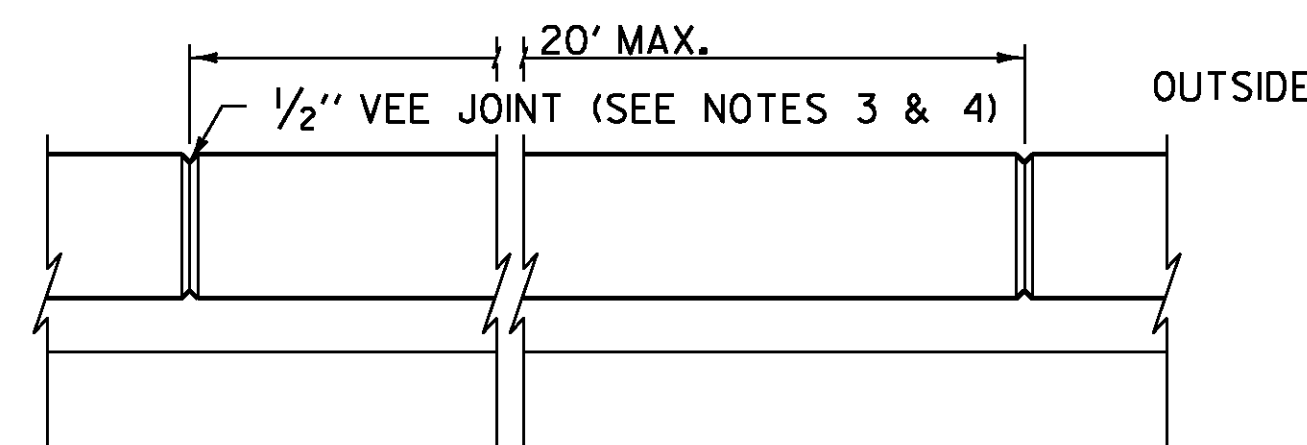


BAR BENDING DETAIL

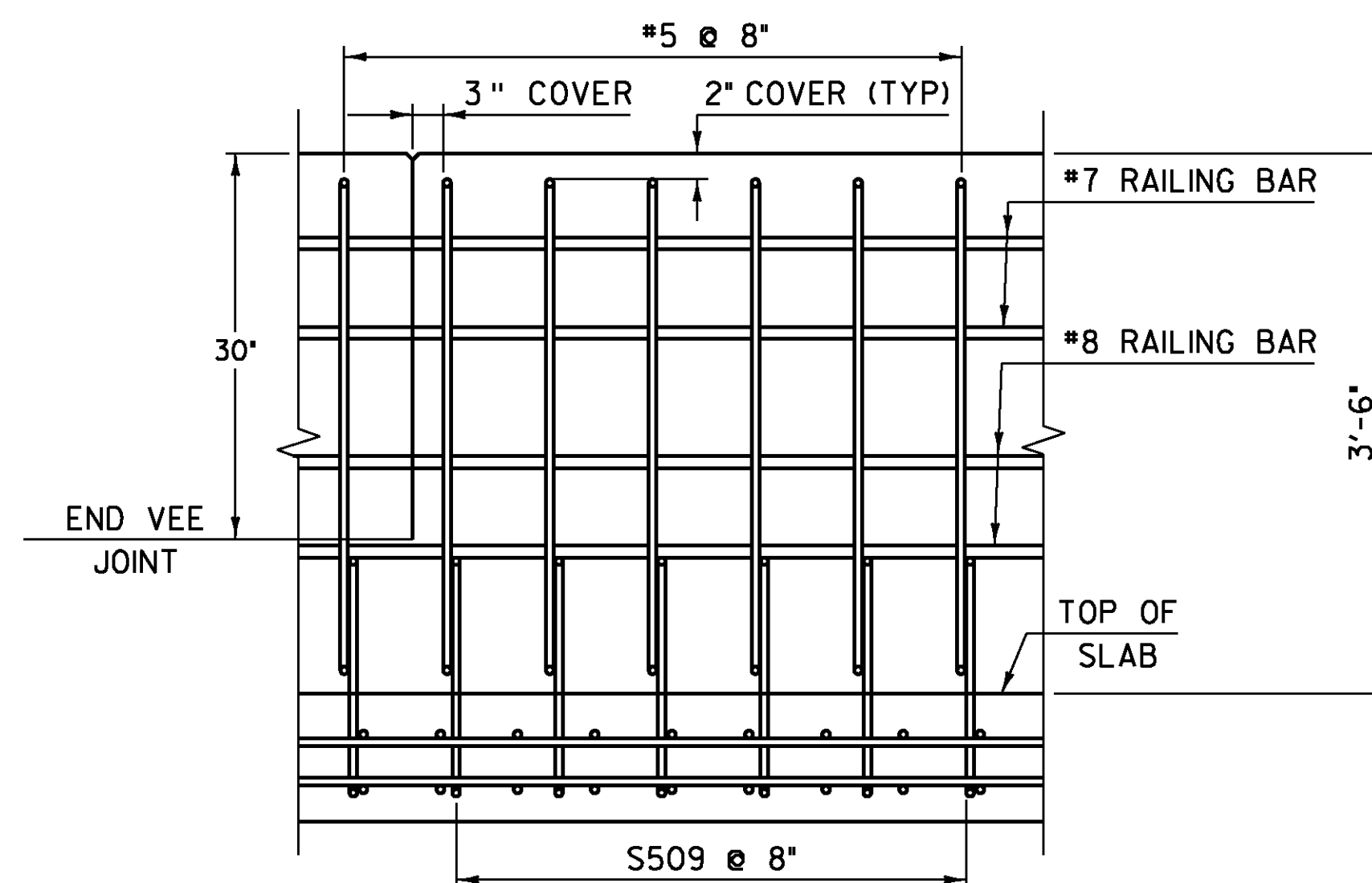
*THE RAILING BARS SHALL BE INCLUDED IN THE UNIT BID PRICE OF 900.640 *F-SHAPE CONCRETE RAIL*.



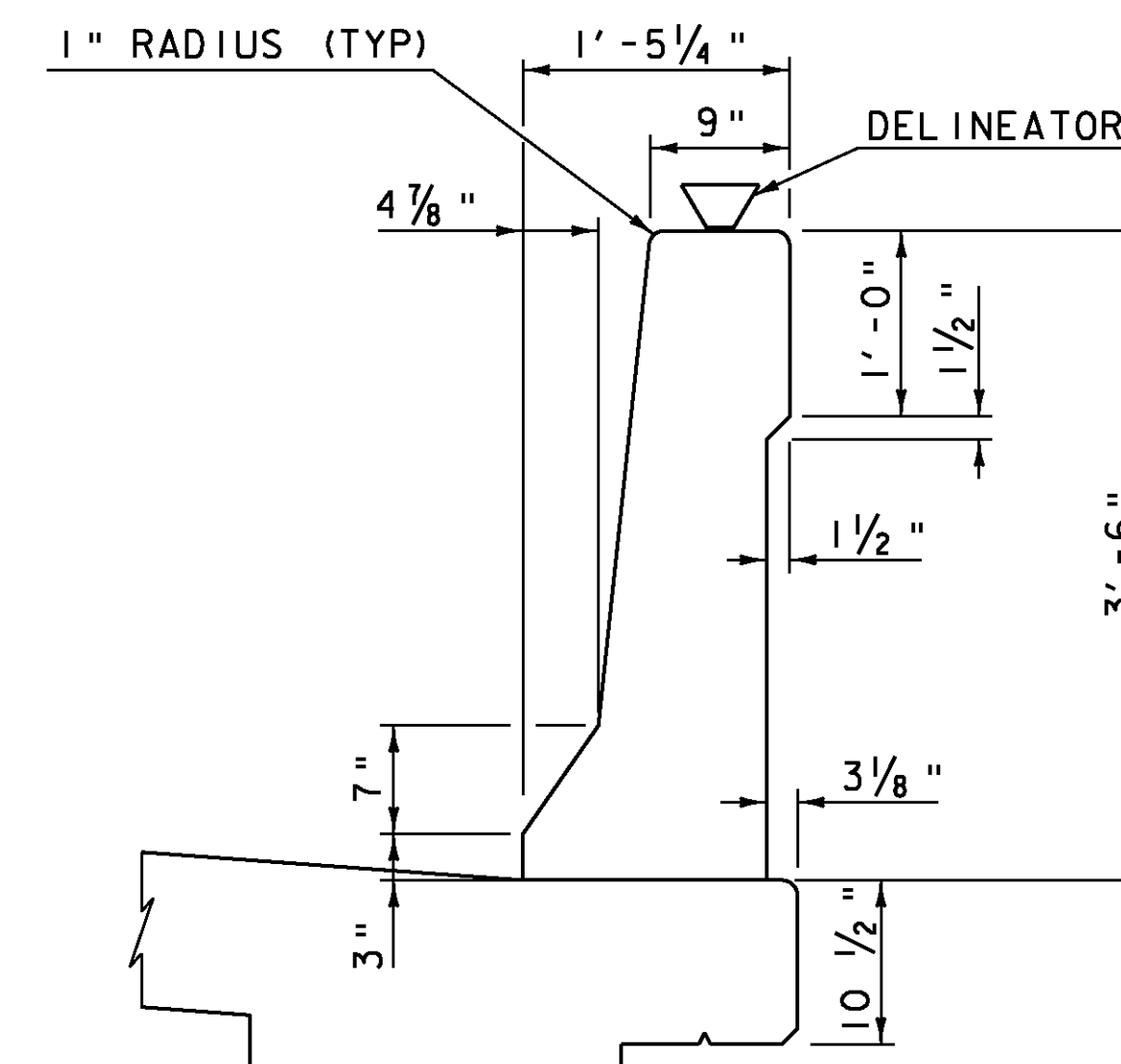
**3'-6" HIGH F-SHAPE RAIL
(SHOWING RAIL REINFORCEMENT)**



PLAN VIEW OF PARAPET



**ELEVATION
(SHOWING PARAPET & DECK REINFORCEMENT)**



F-SHAPE RAIL DETAIL ON BRIDGE

BRIDGE RAIL NOTES:

1. RAIL MEETS TEST LEVEL 5 REQUIREMENTS OF NCHRP REPORT 350.
2. MATERIAL REQUIREMENTS FOR BRIDGE RAIL ONLY:
 - REINFORCING STEEL SHALL BE EPOXY COATED, GRADE 60, CONFORMING TO SUBSECTIONS 713.01 AND 713.07 (b).
 - CONCRETE SHALL BE PER SPECIFICATION 900.640 SPECIAL PROVISION (BRIDGE RAILING, F-SHAPE CONCRETE).
3. 1/2" VEE JOINTS SHALL BE PROVIDED IN EACH FACE OF THE CONCRETE RAIL AT INTERVALS NOT TO EXCEED 20 FEET.
4. THE 1/2" VEE JOINT SHALL END 30" FROM THE TOP OF THE CONCRETE RAIL.
5. THE BAR BENDING DETAILS FOR THE REINFORCING STEEL FOR THE CONCRETE RAIL HAS BEEN SHOWN ON THIS SHEET. THE #7 AND #8 RAILING BARS SHALL BE CONTINUOUS THROUGH THE VEE JOINT FOR THE LENGTH OF THE BRIDGE.
6. LAP LENGTH FOR #7 BARS SHALL BE 3'-6". LAP LENGTH FOR #8 BARS SHALL BE 4'-7"

PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194\structures\s88b194rail.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194raildet.i	DRAWN BY:	L.STONE
DESIGNED BY:	E.L.RUSTAY	CHECKED BY:	R.S.YOUNG
SQUAD LEADER:	C.P.WILLIAMS		
BRIDGE RAIL DETAILS		SHEET:	33 OF 50

ALL DETAILS NOT TO SCALE

EROSION PREVENTION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

The project is located on VT Route 11 over the Middle Branch of the Williams River in Chester Vermont. The project involves the replacement of Bridge #43 and abutments with minor approach work on VT Route 11. The horizontal and vertical alignments are nearly the same as what currently exists. Traffic will be maintained on a two-way temporary bridge located upstream from the existing structure.

It is anticipated that this project will last one construction season.

Note: Area of disturbance shall include limits of earth disturbance within the project area including any waste, staging, and borrow areas within or directly adjacent to the project limits.

The area of disturbance is approximately 1.02 acres.

SITE INVENTORY AND ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS

The property surrounding the project site consists of well established vegetation, with moderate to steep sloping ground. The area north of the bridge is primarily woodlands with steep banks beyond the northern boundary of the project. Due to the nature of the surrounding terrain, runoff water entering the project site will be primarily limited to what is conveyed along roadway side slopes. The area south of the bridge is a Rod and Gun club and has drive culvert and a well established ditch conveying water to the river. The bridge project will not impact the culvert or ditch.

DRAINAGE, WATERWAYS, BODIES OF WATER:

The Middle Branch of the Williams River flows under the existing bridge. Limits of riparian buffer typically exist 50' from the edge of the river bank.

There are no other bodies of water or wetlands within the project area. The Middle Branch of the Williams River is classified as sinuous, laterally unstable with alluvial channel boundaries. The stream bed consists of boulders, cobbles, and gravel. The contributing drainage area at the bridge crossing is 13.7 sq. mi.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site is mountainous and mostly forested. The Chester Rod and Gun Club is located on the south side of VT Rte. 11. The property is primarily lawn and shrubs with a structure used as a shelter with picnic tables. There are two septic systems located on this property that will not be affected by the project. The driveway to the facility is gravel with a small parking lot. A culvert runs under the drive to a ditch that conveys water to the river. There are overhead utilities located on the north side of VT Rte. 11. The plan is to leave the utilities in place and require the contractor to work around them. There are no permanent impacts to the utilities.

VEGETATION:

Other than the Rod and Gun club, the area surrounding the project is fairly wooded. Trees will be cut in the vicinity of the temporary bridge. However the majority of the trees located along the south side of the road will remain in place. The Rod and Gun club is mostly grass with a gravel parking area. Impact to vegetation will be limited to the disturbance caused by construction of new abutments and the construction of the temporary bridge. The slopes are currently stabilized with stone fill and vegetation.

SOILS:

According to a soil survey completed by the United States Department of Agricultural Soil Conservation there is only one type of soil at this location. The soil is classified as Podunk Fine Sandy Loam, with a K-value equal to 0.24, slopes of 0-3% and part of hydrologic group B. Due to the low slope and stabilized forest in the area, the soil is classified as not highly erodible.

Generally, K-values indicate the following: 0.00 – 0.23 = low erodibility; 0.24 – 0.36 = moderate erodibility; 0.37 and higher = higher erodibility

SENSITIVE RESOURCE AREAS:

No 'Threatened & Endangered Species' have been identified within the project limits. The Middle Branch of the Williams River is the only identified resource and there are no other wetlands in the project area.

PROXIMITY TO NATURAL OR MAN-MADE FEATURES:

Disturbance of soils near natural or man-made waterways consists of the work necessary to construct two new concrete bridge abutments and applicable roadway approaches as well as the removal of the existing crossing. Disturbed stream banks will be stabilized with Stone Fill Type III, underlaid with geotextile fabric.

EROSION PREVENTION & SEDIMENT CONTROL

Refer to the low risk site handbook and appropriate detail sheets for each practice required on the project to include but not limited to:

Mark site boundaries with "Project Demarcation Fencing" denoted -PDF- on the plans, will be used to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion.

Limit Disturbance Area by phasing earth disturbing activities through out the duration of the project.

Stabilized construction entrances to the project site, staging areas, as well as to waste and borrow areas shall be established. The minimum size of a stabilized construction entrance is 12'X50' (3700X15, 000). All surface water flowing to or diverted toward a construction entrance shall be piped under the stone. Pipes shall be appropriately sized for the contributing area, however, no pipe smaller than 6" (150) diameter shall be used. See EPSC Detail Sheet for materials and construction method to be utilized when constructing a stabilized entrance.

Install silt fence per the Erosion Control Detail Sheet. Silt fence shall be installed prior to any upslope earthwork.

Divert upland runoff using temporary swales as required.

Reduce flow velocities in temporary or permanent swales and ditches using stone check dams. Check dams will be installed per Erosion Control Detail Sheet. The check dams may be removed once the stone lining of the ditch is complete and the surrounding area stabilized.

Permanent Erosion Control measures include:

Stone lining of the stream banks with Stone Fill, Type III as specified by VTrans Hydraulics personnel. This stone will protect the stream bank from erosion during design storm events. Grass or other suitable ground cover will be established outside of the roadway limits where stone lining has not been specified.

Stabilize exposed soils (temporary and final grade) by Seeding, mulching, and biodegradable erosion control matting or an equivalent product will be utilized on all slopes greater than 1:3 that are not lined with stone fill. Geotextile fabric is also required under all stone fill. These slopes shall be stabilized within 48 hours of reaching final grade or during intermittent phases of construction activity. Seeding and mulching shall also be applied immediately to all lawns disturbed beyond the work area delineated on these plans. Tracking of all exposed slopes, combined with temporary mulching, will also be utilized on a regular basis. Any slopes to be exposed for 48 hours prior to final grading shall be tracked and mulched. The forecast of rainfall events shall also trigger protection of exposed slopes. If rainfall is predicted the Contractor must stabilize the site accordingly prior to the forecasted event.

Winter Stabilization as required per Low Risk Handbook.

Temporary sediment settling basins may or may not be utilized on this project. If a sediment settling basin is to be used for dewatering a cofferdam, it should be sized based upon the following criteria: (See Sediment Settling Basin Sizing Criteria.)

Special consideration must be given to the first pump-down of the cofferdams. This will contain the greatest volume of water with a high sediment load. The contractor may provide additional sediment traps within the Right – Of – Way if required or control the rate of draw-down. Additional sediment traps must be approved by the resident engineer.

Site Inspection shall be based on Permit authorization requirements.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

The Erosion Control Plans are meant as a guideline for preventing erosion and controlling sediment transportation. The work outlined in this narrative consists of applying measures throughout the life of the project to control erosion and minimize the sediment into receiving waters. The measures include stabilization and structural practices, storm water controls and other pollution prevention controls. This document serves as a guide for the Contractor to make an Erosion Prevention and Sediment Control Plan which shall be submitted to the Construction Environmental Engineer for approval.

Coordinate the installation, use, and removal of erosion and sediment control measures with construction activities to ensure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds. The contractor will use additional erosion control measures as necessitated by the sequence of construction and as directed be the engineer. See section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2006.

Install all erosion and sediment control measures as shown in the Erosion Control Plan or as directed by the engineer. Do not modify the type, size or location of any control or practice without approval of the engineer. All changes shall be approved by the Construction Environmental Engineer and also be noted on the plans, in the weekly inspection report, and reported to the appropriate authority in a timely manner.

Inspect all control measures weekly and after each rainfall event. Repair measures shall be taken as needed.

Preventing initial soil erosion is much more effective than treating eroded sediment. Therefore, stabilize all disturbed areas promptly after construction activity has temporarily or permanently ceased. Also, attempt to time all grading to minimize soil exposure. Temporary vegetation shall be established as noted in the plans and approved by the Construction Environmental Engineer. Perimeter control measures shall be installed following clearing, but prior to the start of any grubbing or grading activity, install other temporary controls in incremental stages as construction proceeds. These perimeter controls shall be maintained until the site is permanently stabilized to the satisfaction of the Engineer and on-site coordinator.

Maintaining vegetated buffers along stream banks, wetlands or other sensitive areas is a crucial erosion and sediment control measure that should be established wherever possible.

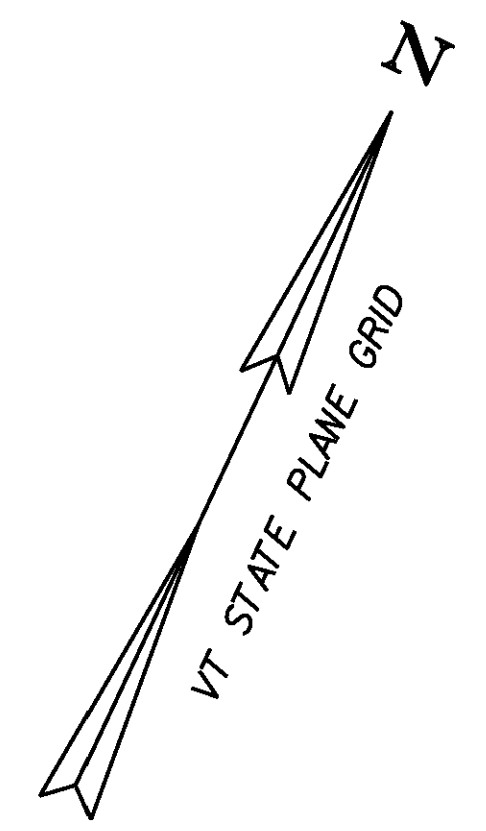
Control only sediment-laden runoff generated by the project site. Collect and route clean offsite runoff around or through the project site using diversion berms, diversion channels, culverts and/or temporary pipes.

Do not allow construction equipment to operate on the down slope side of perimeter control measures.

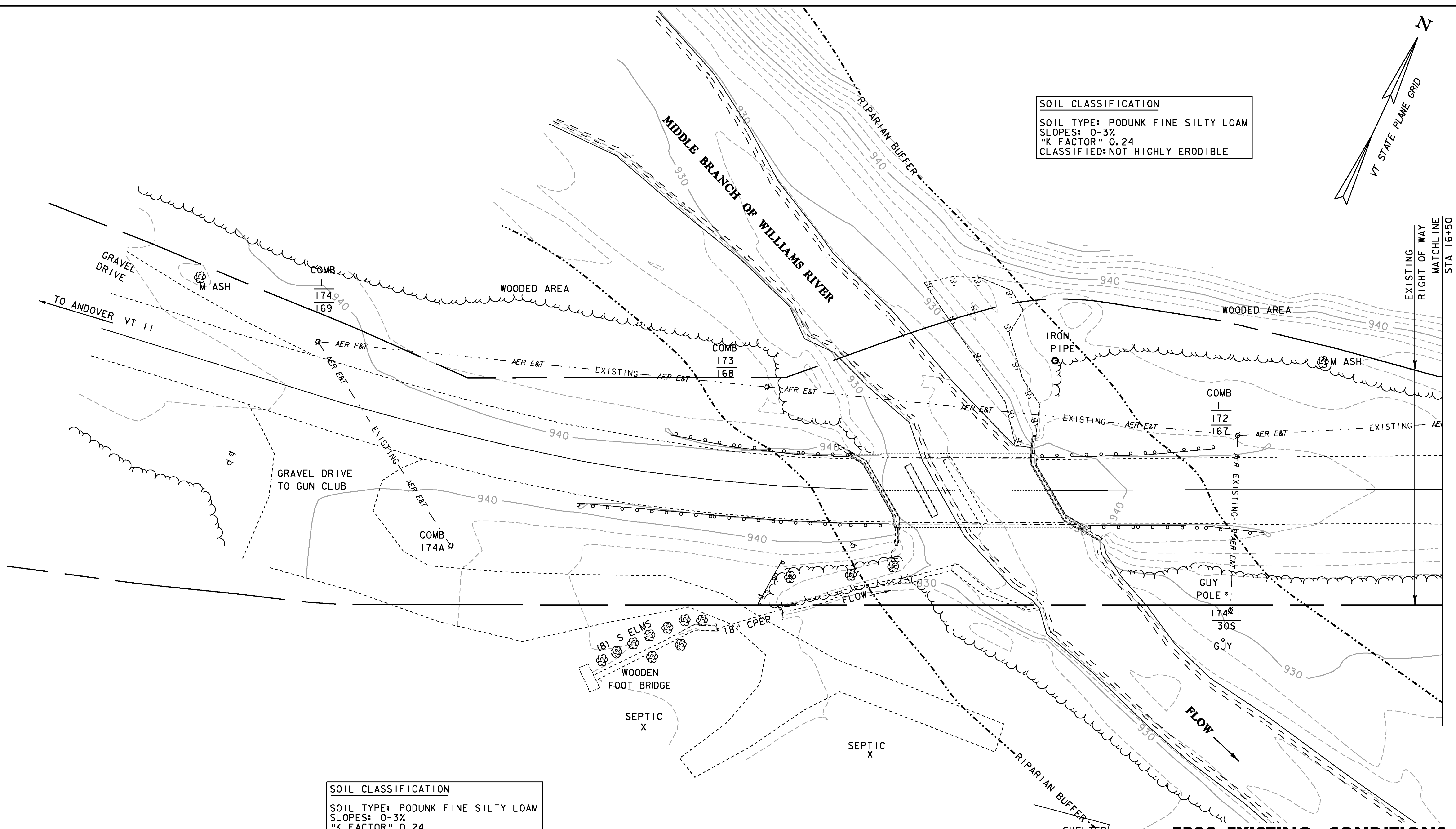
SEDIMENT SETTLING BASIN SIZING CRITERIA

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

PROJECT: CHESTER	PROJECT NO.: BRF 016- 1 (25)
DESIGN FILE NAME: 88b194\structures\88b194excel.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194ecner.i	DRAWN BY: M. FESSEL
DESIGNED BY: E. L. RUSTAY	CHECKED BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	EROSION CONTROL NARRATIVE
SHEET: 35 OF 50	



SOIL CLASSIFICATION
 SOIL TYPE: PODUNK FINE SILTY LOAM
 SLOPES: 0-3%
 "K FACTOR" 0.24
 CLASSIFIED: NOT HIGHLY ERODIBLE



SOIL CLASSIFICATION
 SOIL TYPE: PODUNK FINE SILTY LOAM
 SLOPES: 0-3%
 "K FACTOR" 0.24
 CLASSIFIED: NOT HIGHLY ERODIBLE

LEGEND

— AER E&T —	AERIAL ELECTRIC & TELEPHONE
-----	RIPARIAN BUFFER ZONE

DATUM

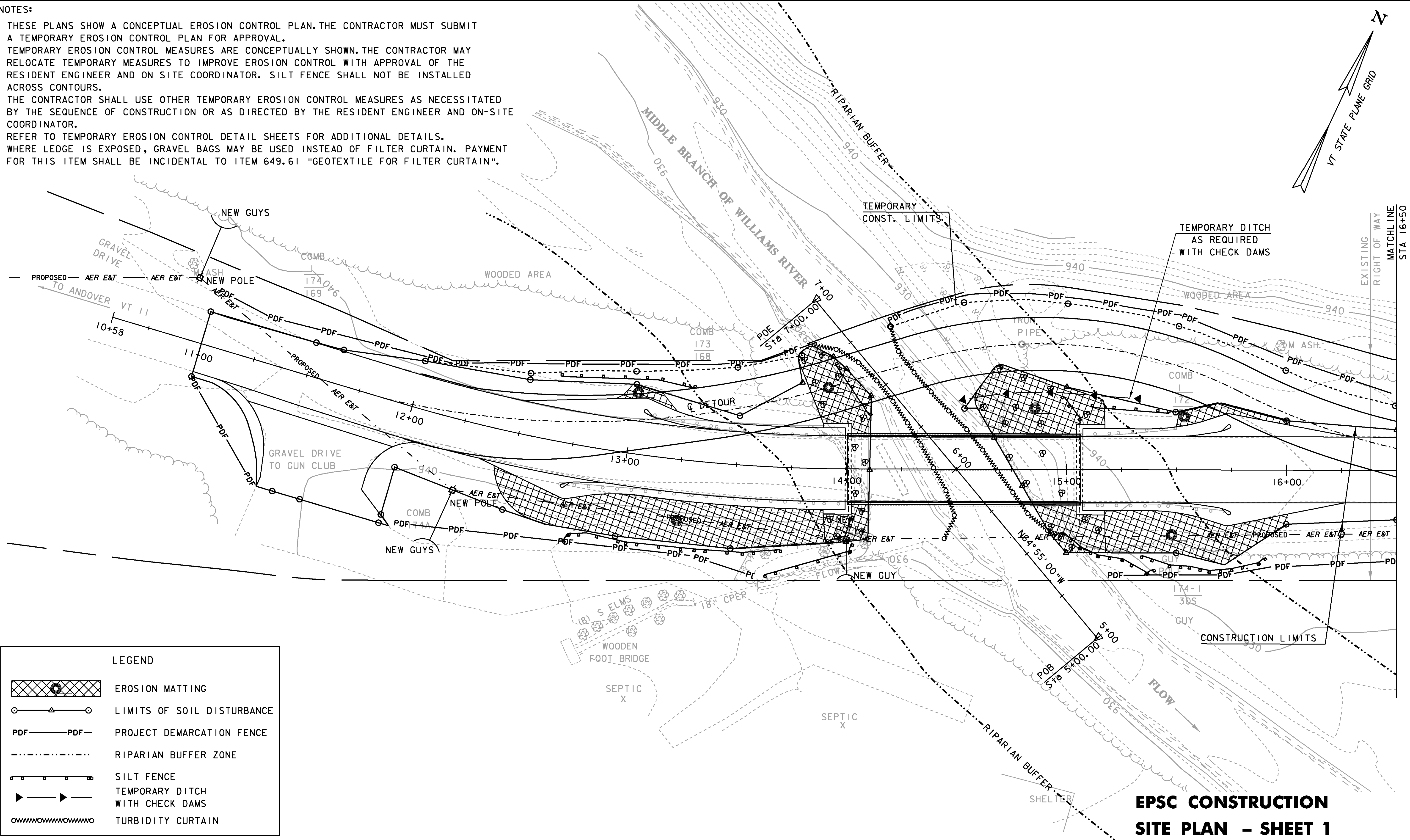
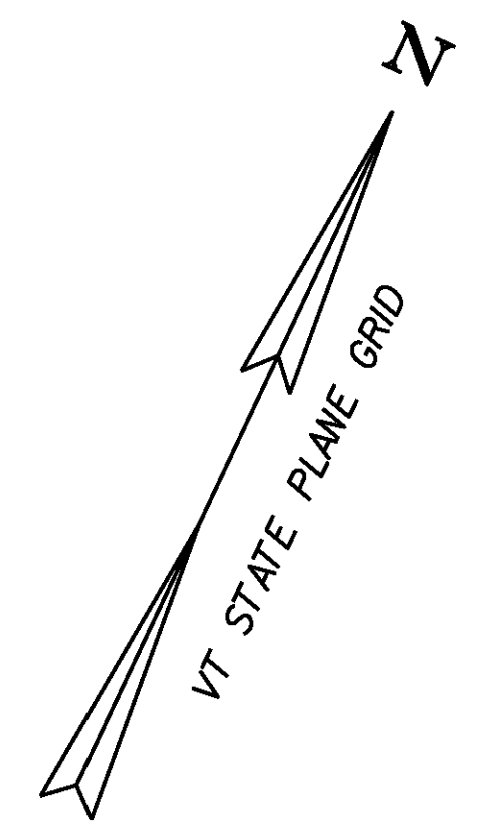
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)

SCALE 1" = 20'-0"
 20 0 20

**EPSC EXISTING CONDITIONS
 SITE PLAN - SHEET 1**

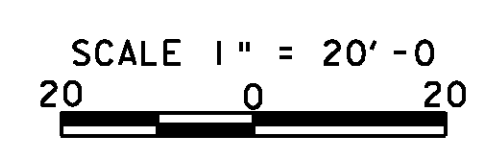
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DESIGN FILE NAME: 88b194/str/s88b194bdr_ero.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194excon1.i	DESIGNED BY: E.L. RUSTAY
SQUAD LEADER: C.P. WILLIAMS	DRAWN BY: M. FESSEL
EPSC EXISTING CONDITIONS - SHEET 1	CHECKED BY: R.S. YOUNG
	SHEET: 36 OF 50

- NOTES:
1. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN. THE CONTRACTOR MUST SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL.
 2. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE RESIDENT ENGINEER AND ON SITE COORDINATOR. SILT FENCE SHALL NOT BE INSTALLED ACROSS CONTOURS.
 3. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER AND ON-SITE COORDINATOR.
 4. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
 5. WHERE LEDGE IS EXPOSED, GRAVEL BAGS MAY BE USED INSTEAD OF FILTER CURTAIN. PAYMENT FOR THIS ITEM SHALL BE INCIDENTAL TO ITEM 649.61 "GEOTEXTILE FOR FILTER CURTAIN".



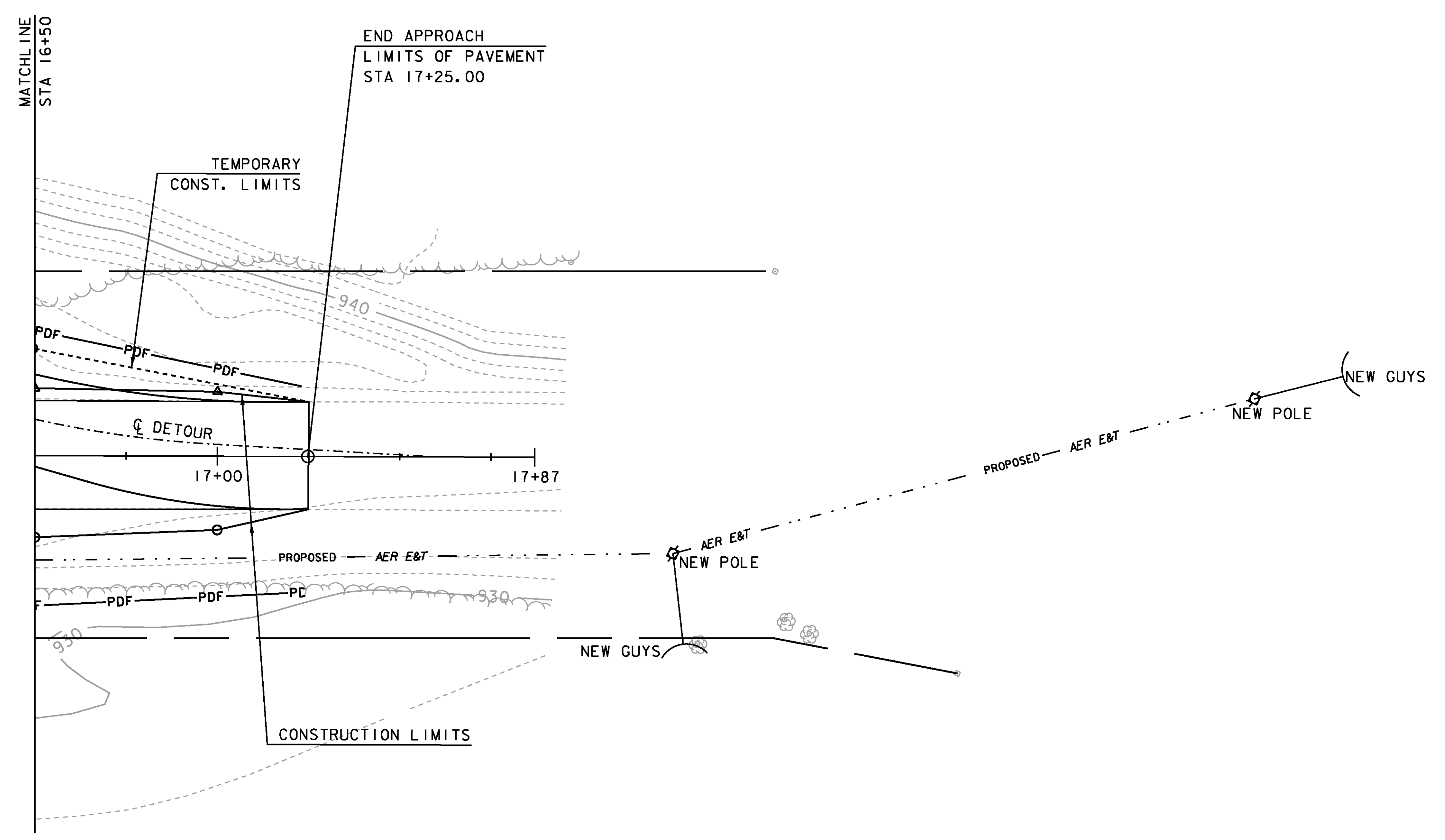
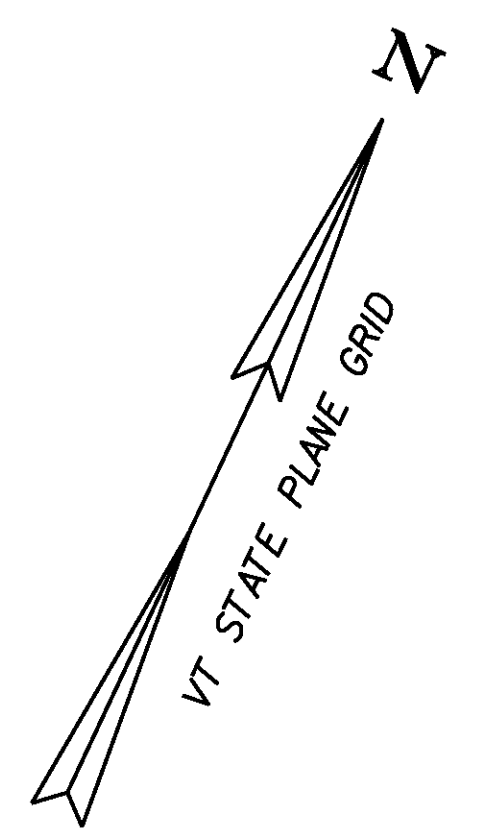
LEGEND	
	EROSION MATTING
	LIMITS OF SOIL DISTURBANCE
	PROJECT DEMARCATION FENCE
	RIPARIAN BUFFER ZONE
	SILT FENCE
	TEMPORARY DITCH WITH CHECK DAMS
	TURBIDITY CURTAIN

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)



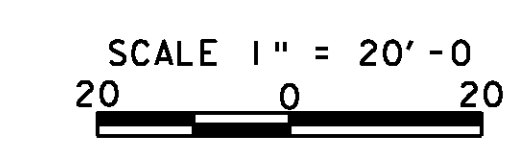
EPSC CONSTRUCTION SITE PLAN - SHEET 1

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194/str/s88b194bdr_ero.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194ero1.i	DESIGNED BY: K.M.HIGGINS
SQUAD LEADER: C.P.WILLIAMS	DRAWN BY: M.FESSEL
EPSC CONSTRUCTION SITE PLAN-SHEET 1	CHECKED BY: R.S.YOUNG
	SHEET: 38 OF 50



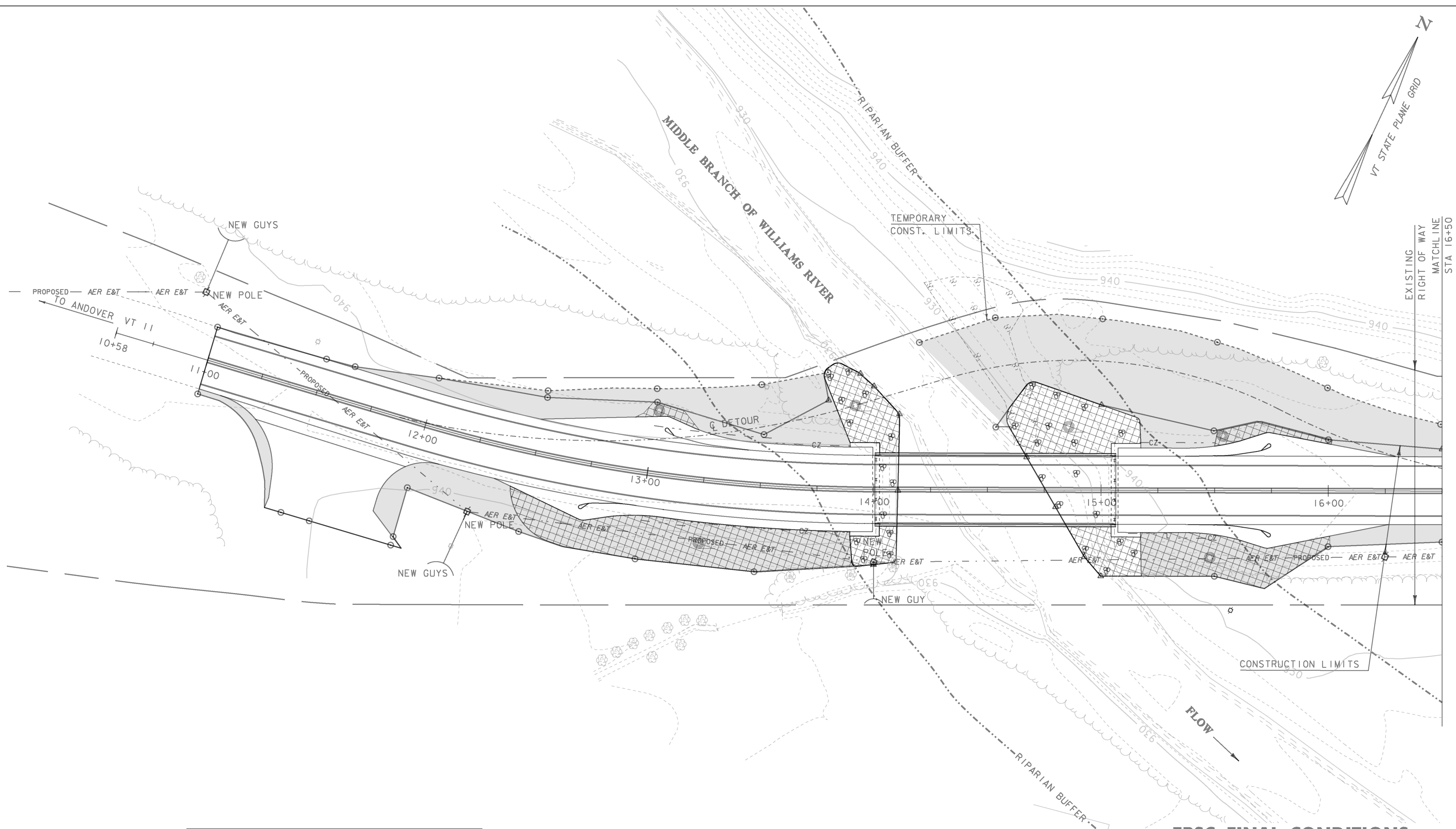
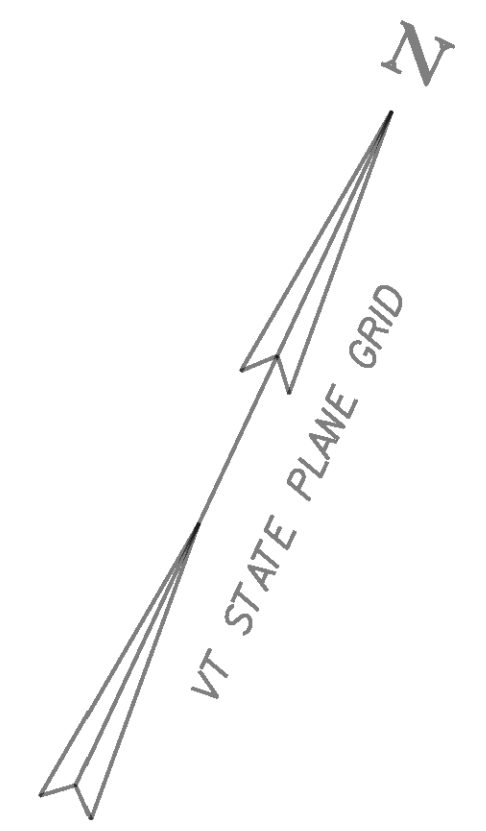
LEGEND	
	LIMITS OF SOIL DISTURBANCE
	PROJECT DEMARCATION FENCE

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)



**EPSC CONSTRUCTION
SITE PLAN - SHEET 2**

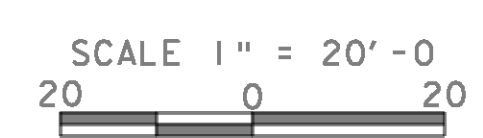
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DESIGN FILE NAME: 88b194/str/s88b194bdr_ero.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194ero2.i	DRAWN BY: M. FESSEL
DESIGNED BY: K.M. HIGGINS	CHECKED BY: K.M. HIGGINS
SQUAD LEADER: C.P. WILLIAMS	SHEET: 39 OF 50
EPSC CONSTRUCTION PLAN - SHEET 2	



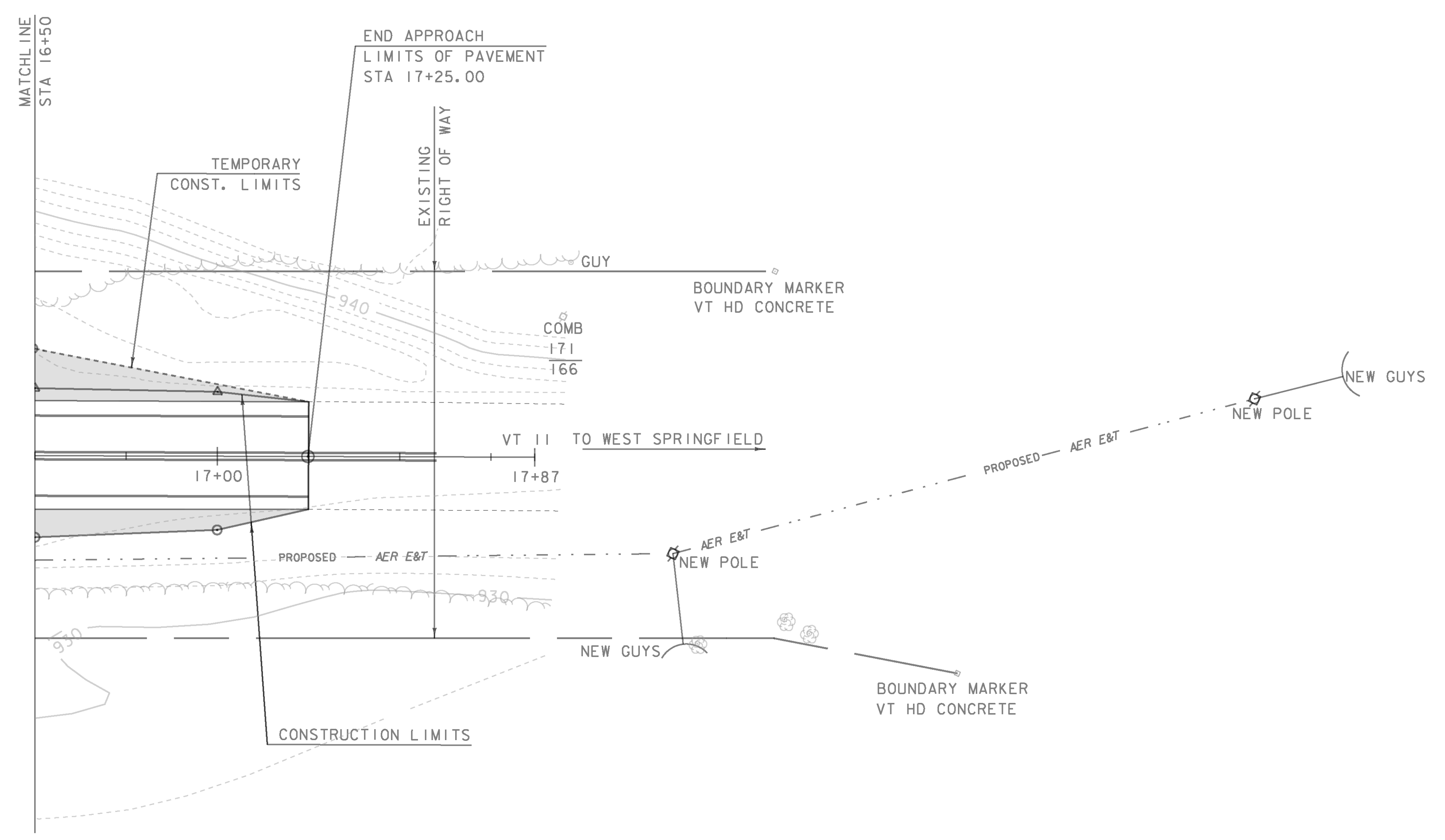
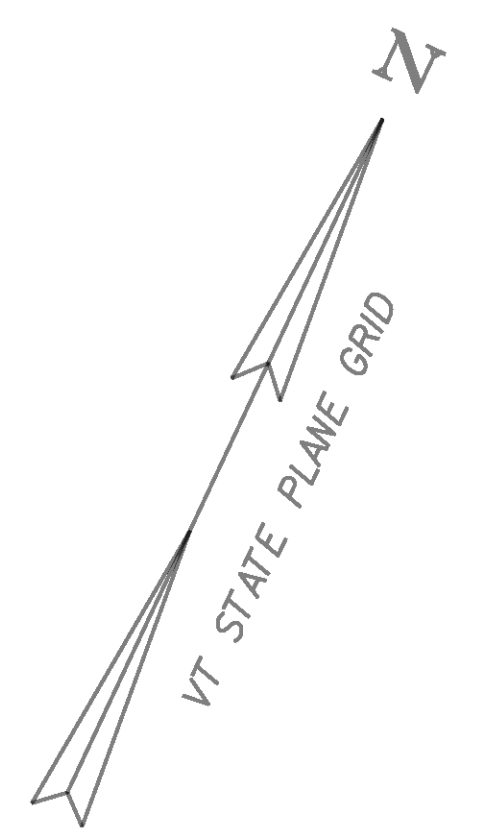
LEGEND	
— AER E&T —	AERIAL ELECTRIC & TELEPHONE
- - - - -	RIPARIAN BUFFER ZONE
[Cross-hatched box]	EROSION MATTING
[Solid grey box]	SEED AND MULCH

**EPSC FINAL CONDITIONS
SITE PLAN - SHEET 1**

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194/str/s88b194bdr_ero.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194fincon1.i	DESIGNED BY: E.L.RUSTAY
DESIGNED BY: E.L.RUSTAY	DRAWN BY: M.FESSEL
SQUAD LEADER: C.P.WILLIAMS	CHECKED BY: R.S.YOUNG
EPSC FINAL CONDITIONS - SHEET 1	SHEET: 40 OF 50

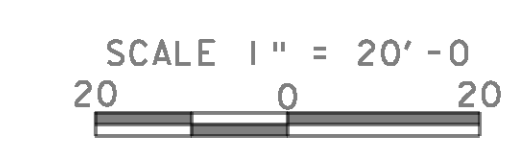


DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)



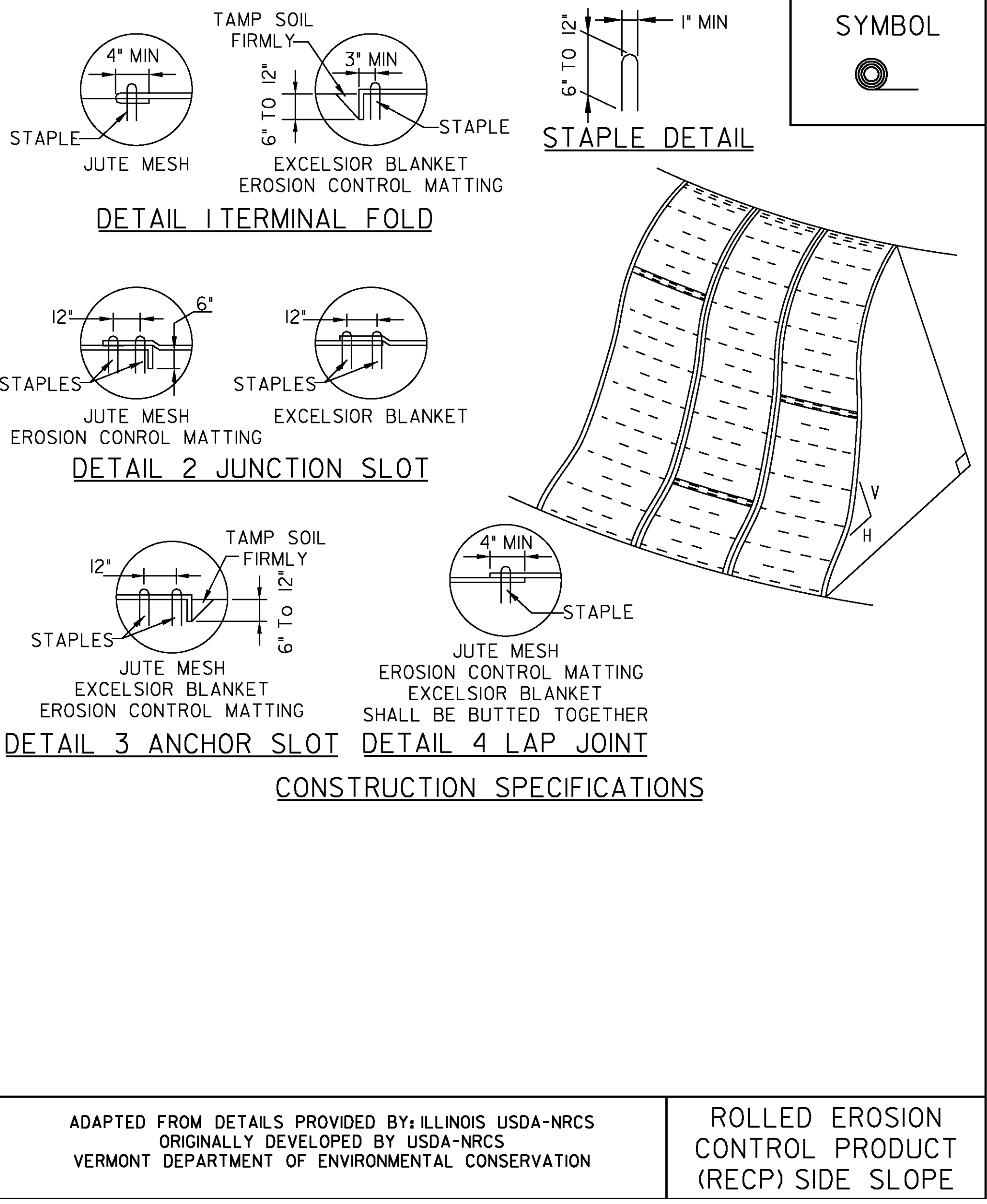
**EPSC FINAL CONDITIONS
SITE PLAN - SHEET 2**

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
DESIGN FILE NAME: 88b194/str/s88b194bdr_ero.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: s88b194fincon2.i	DRAWN BY: M. FESSEL
DESIGNED BY: E.L. RUSTAY	CHECKED BY: R.S. YOUNG
SQUAD LEADER: C.P. WILLIAMS	SHEET: 41 OF 50
EPSC FINAL CONDITIONS - SHEET 2	



LEGEND	
	SEED AND MULCH

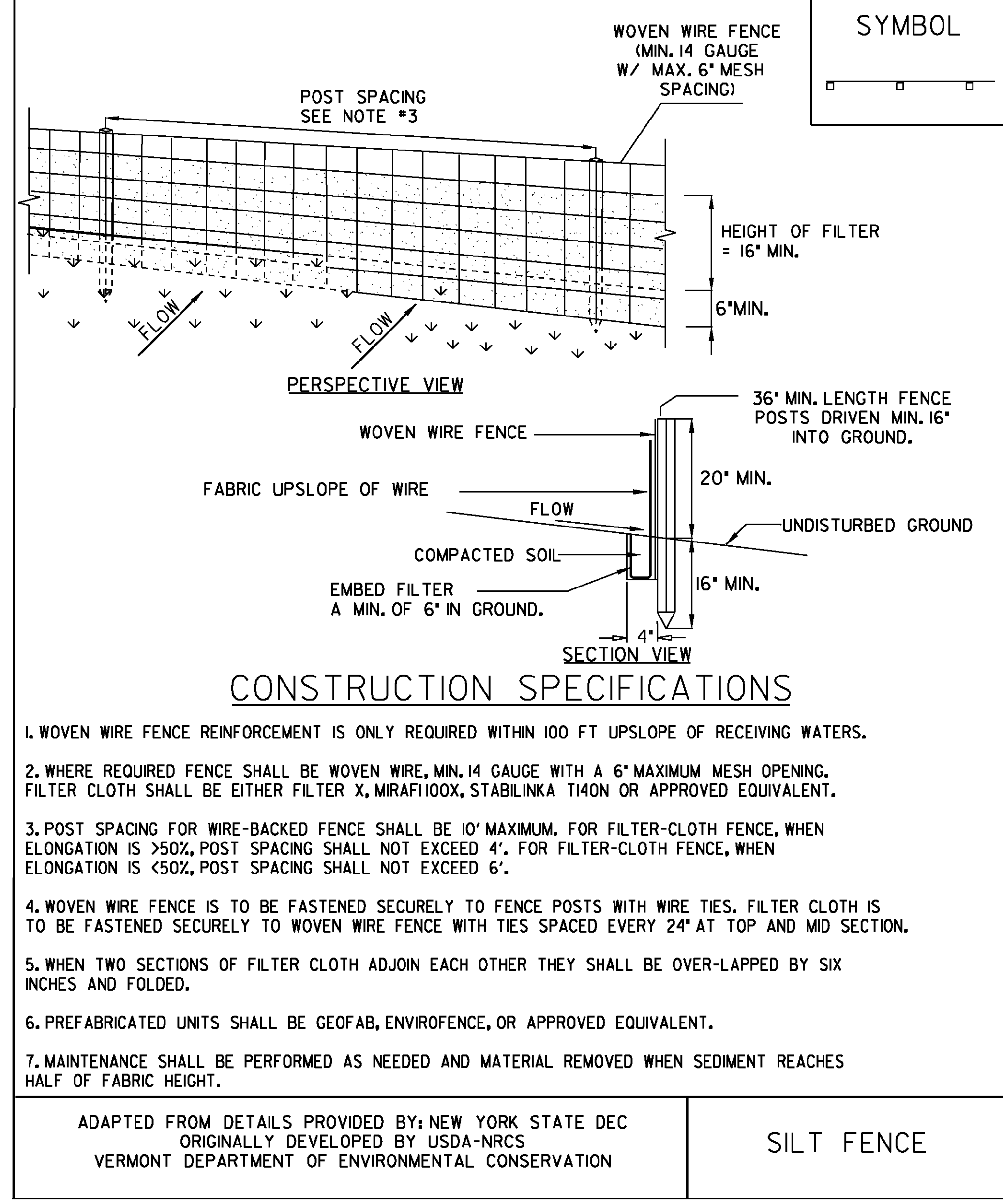
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)



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

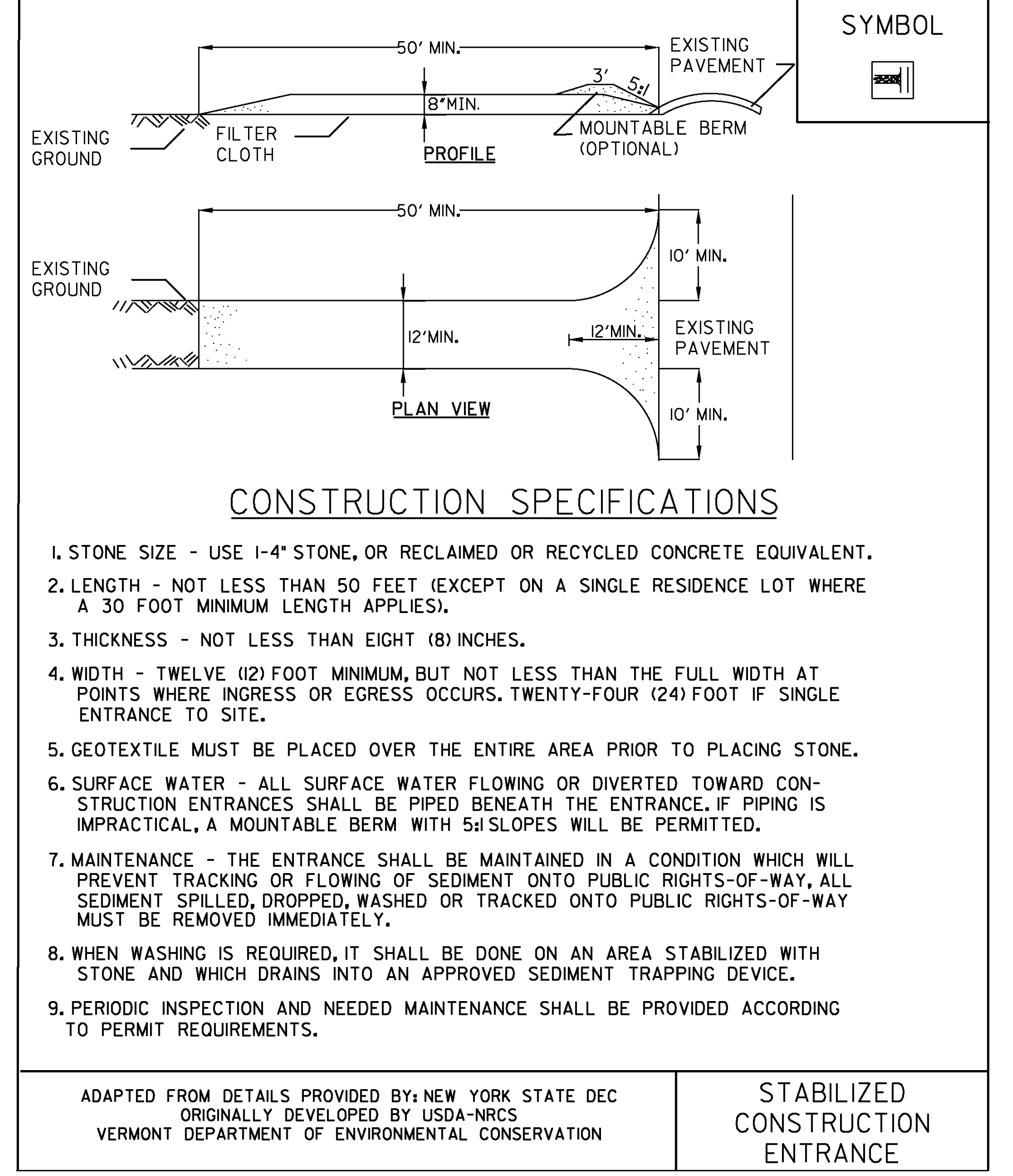
THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.20 TEMPORARY EROSION MATTING OR
~~653.21 PERMANENT EROSION MATTING~~

NEW
APRIL 16, 2007 WHF
REVISIONS



NOTES:
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



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

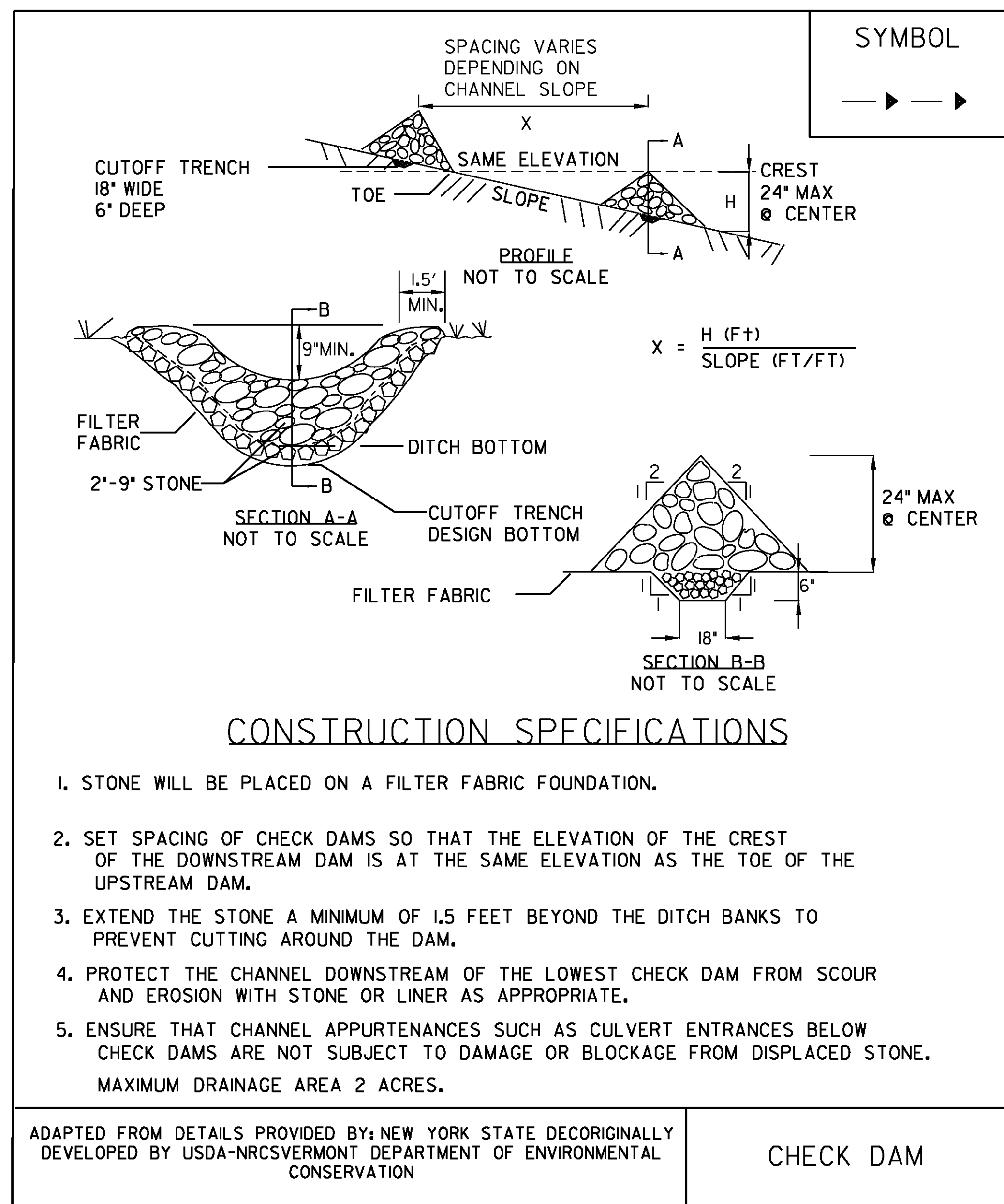
THIS ITEM SHALL BE PAID FOR UNDER ITEM
653.35 VEHICLE TRACKING PAD

REVISIONS
FEBRUARY 9, 2007 WHF
MARCH 8, 2007 JMF

NTS

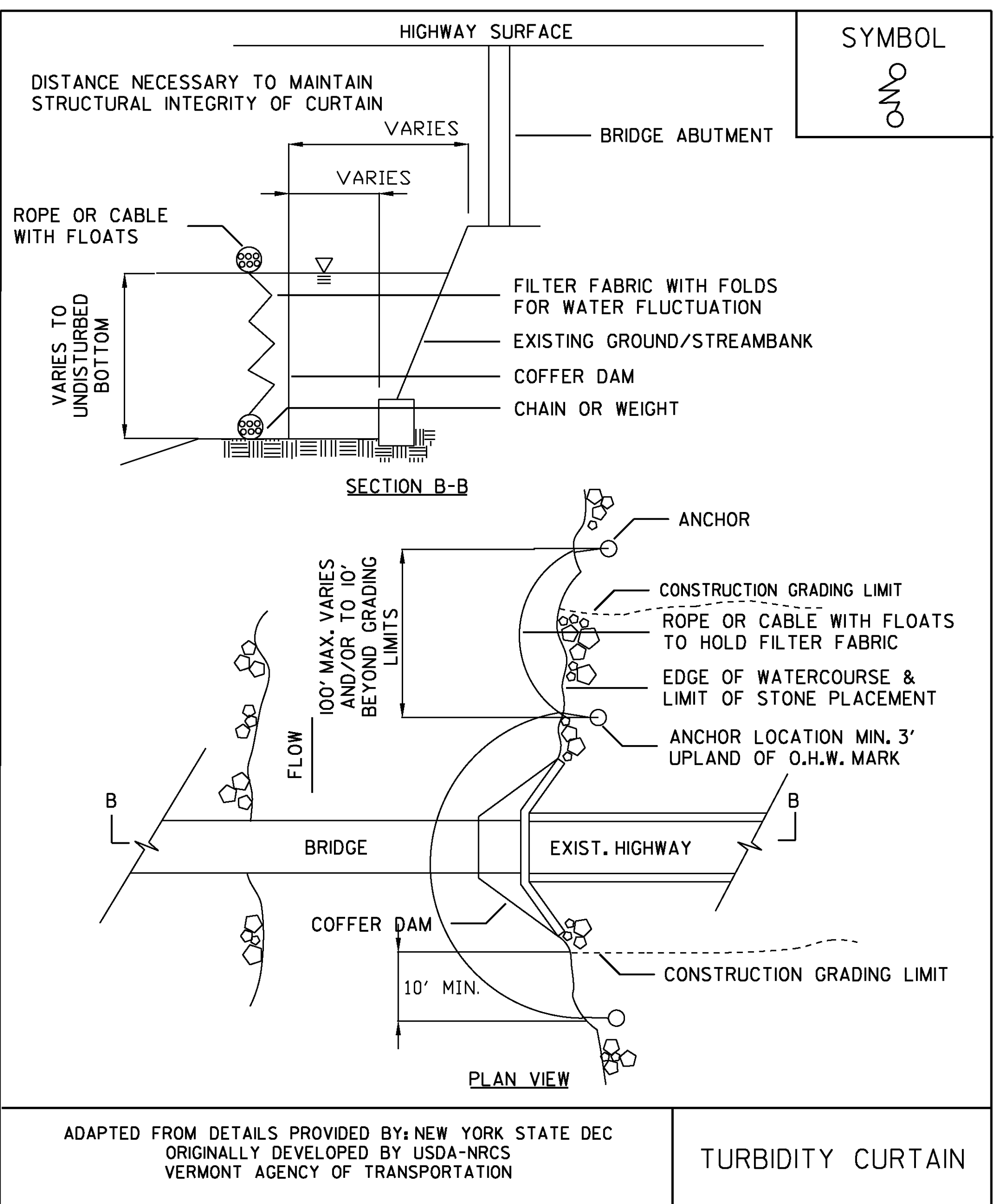
EPSC DETAIL SHEETS

PROJECT: CHESTER	PROJECT NO. # BRF 016-1 (25)
DESIGN FILE NAME: 88b194\structures\88b194\erode.t.dgn	PLOT DATE: 16-MAR-2011
IPARM FILE NAME: 88b194\epscl.i	DRAWN BY: CONST. ENV. SECT.
DESIGNED BY: CONST. ENV. SECTION	CHECKED BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	EROSION CONTROL DETAILS - SHEET 1
	SHEET: 42 OF 50



NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS ITEM SHALL BE PAID FOR UNDER ITEM 653.25 TEMPORARY STONE CHECK DAM, TYPE I

REVISIONS	
MARCH 8, 2007	JMF

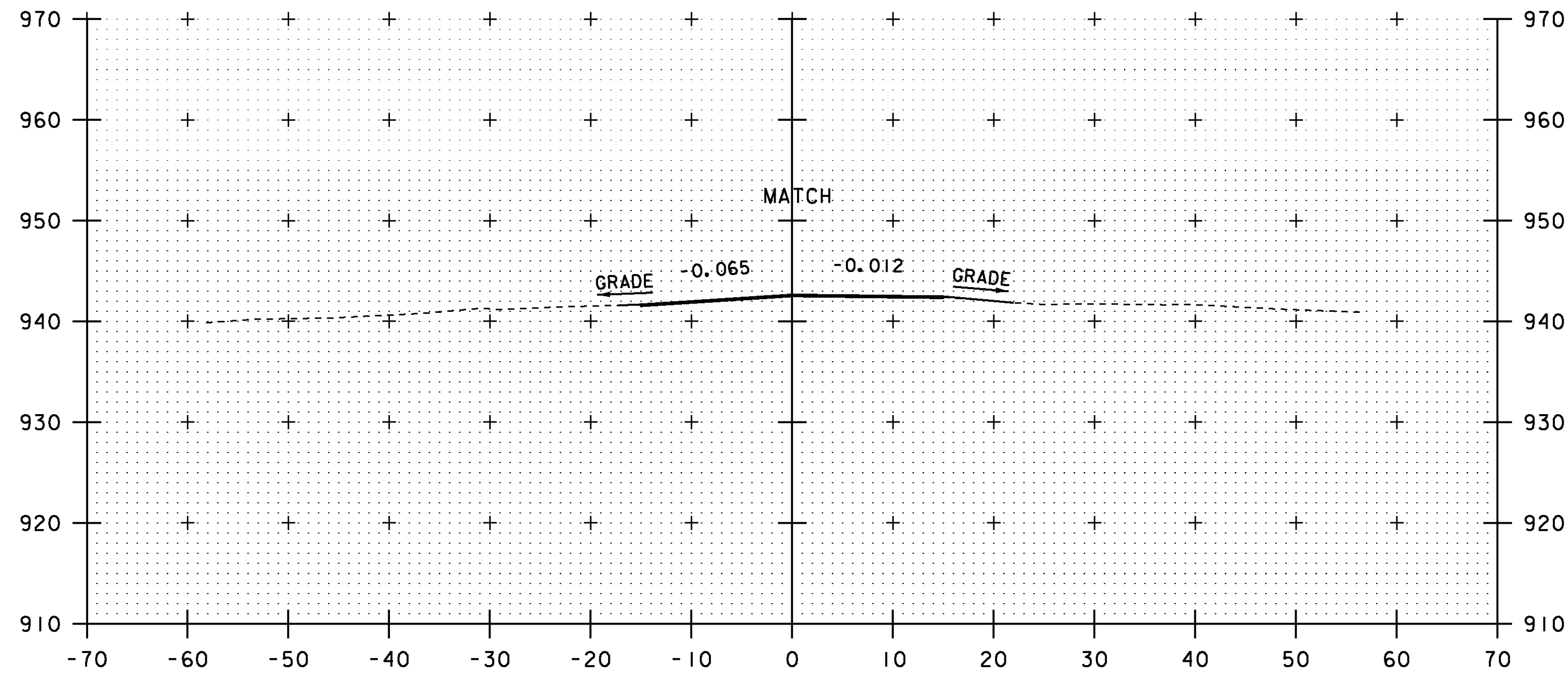


NOTES:
THIS ITEM SHALL BE PAID FOR UNDER ITEM 649.61 GEOTEXTILE FOR FILTER CURTAIN

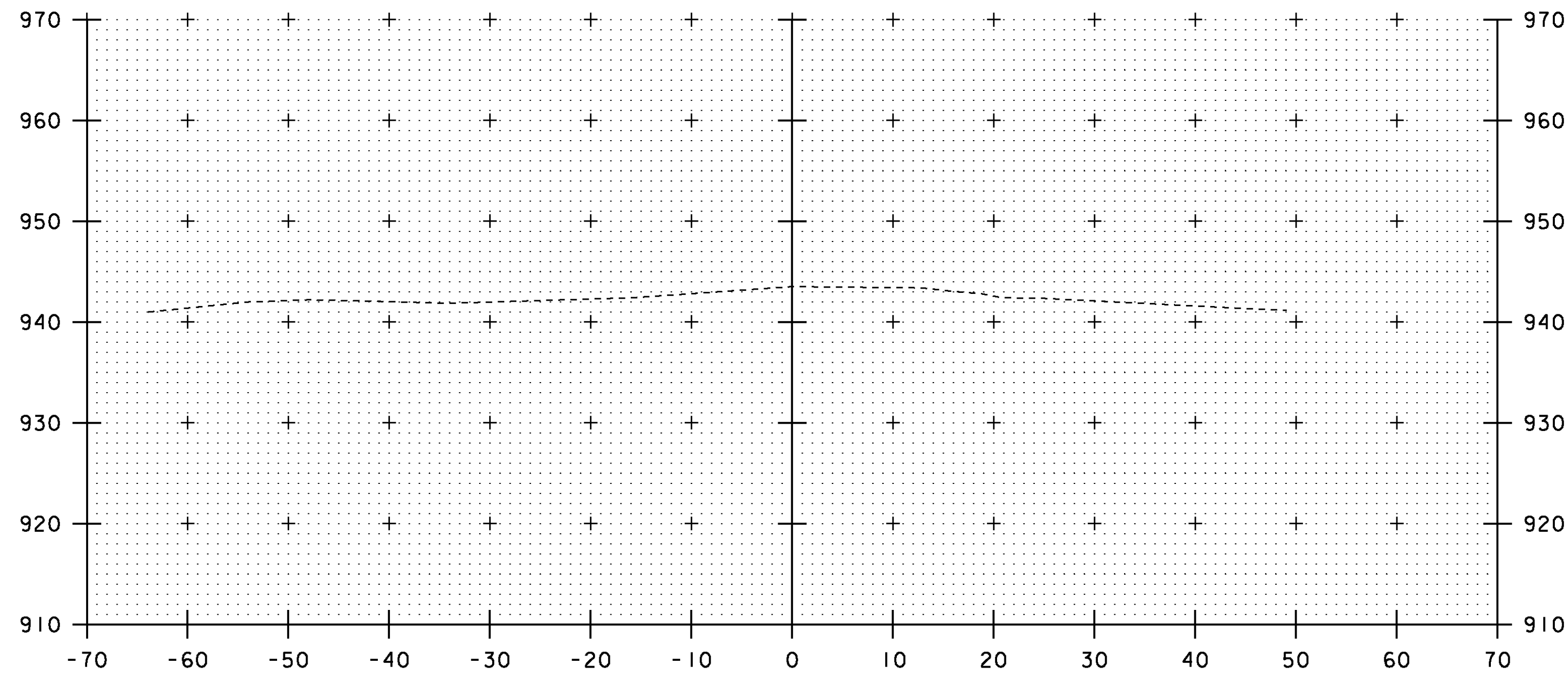
EPSC DETAIL SHEETS

PROJECT: CHESTER	PROJECT NO.: BRF 016-1 (25)
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IPARM FILE NAME: 88b194epsc2.i	DRAWN BY: CONST. ENV. SECT.
DESIGNED BY: CONST. ENV. SECTION	CHECKED BY: R. S. YOUNG
SQUAD LEADER: C. P. WILLIAMS	EROSION CONTROL DETAILS - SHEET 2
	SHEET: 43 OF 50

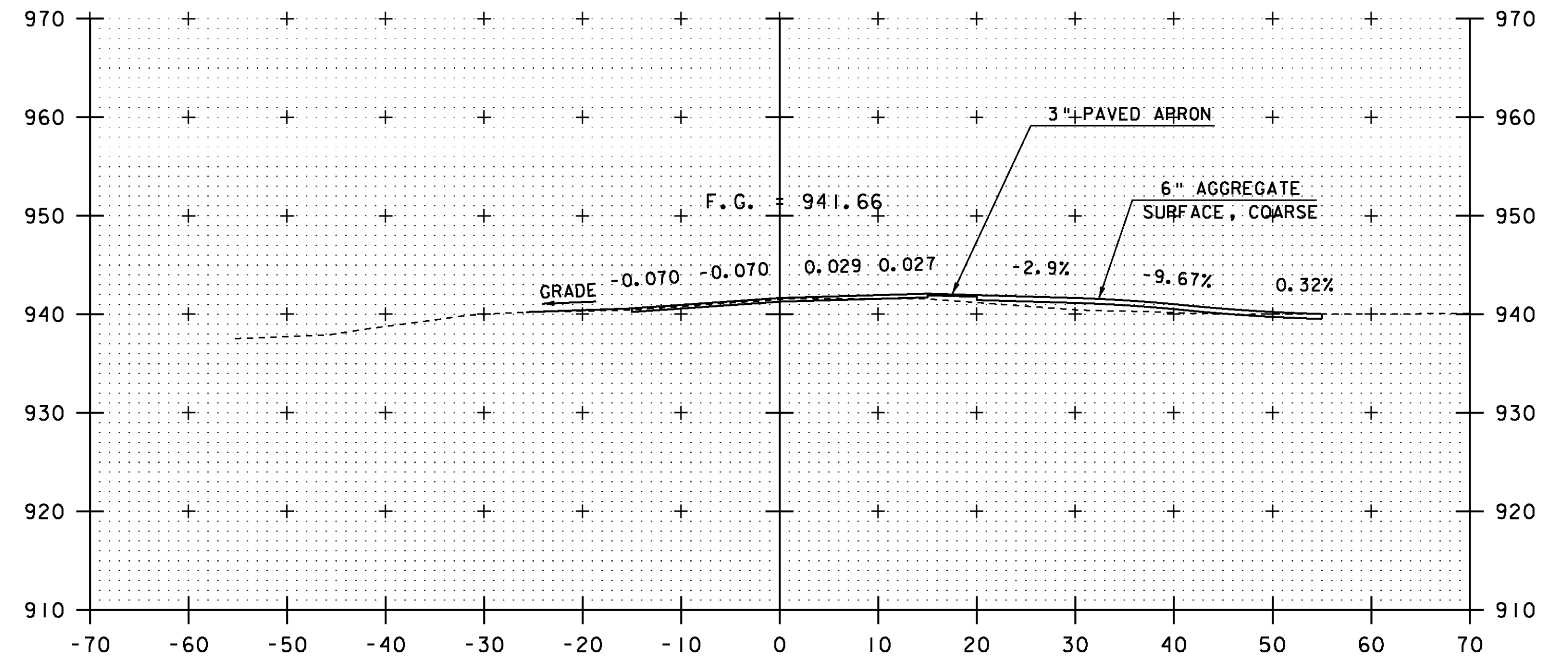
NTS



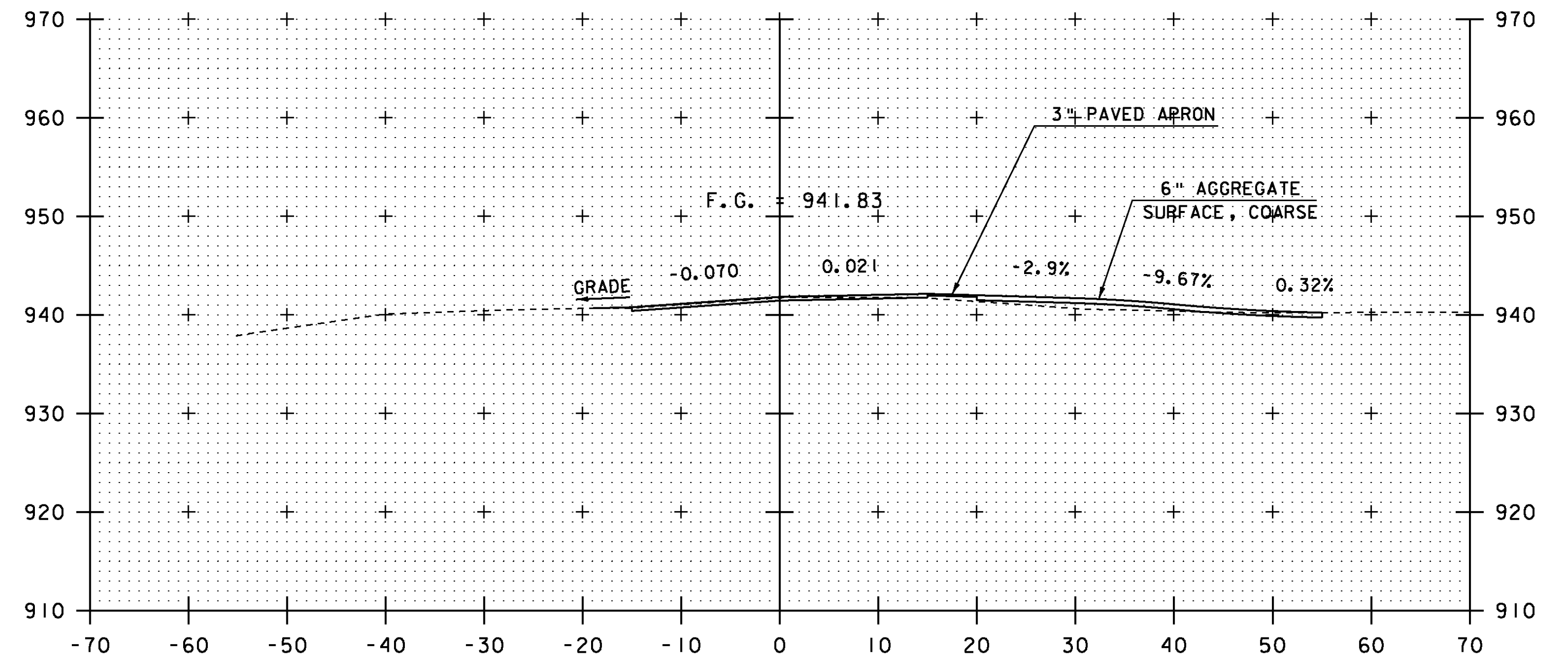
11+00
BEGIN APPROACH



10+58



11+63
DRIVE RIGHT

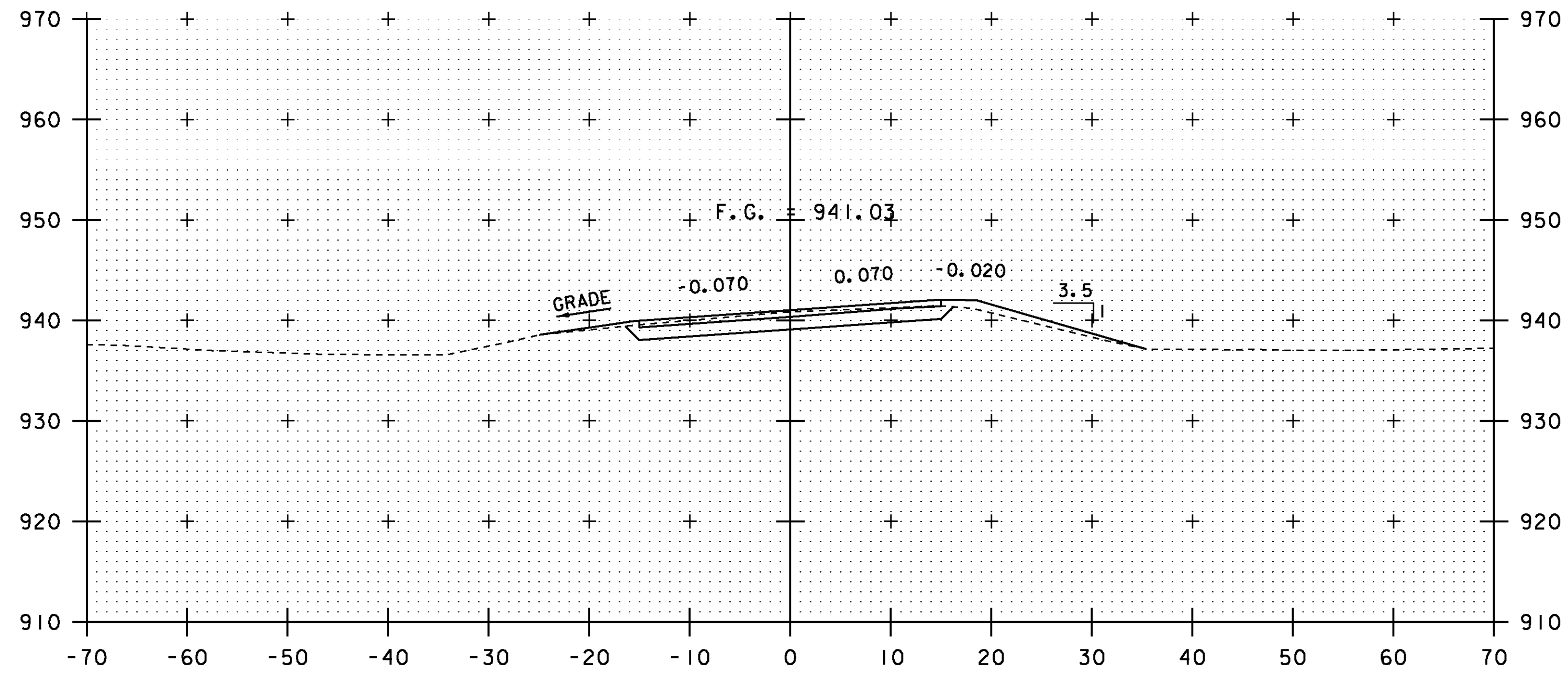


11+50
DRIVE RIGHT

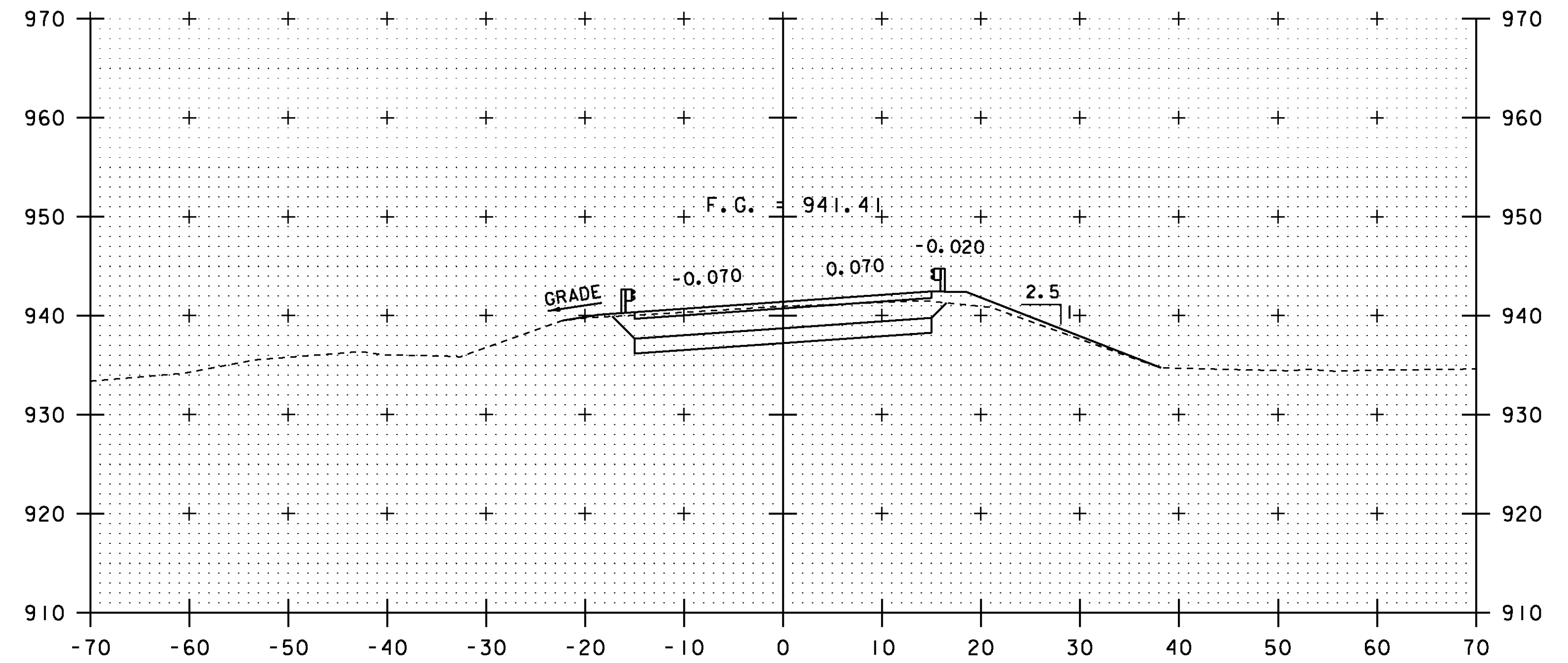
STA. 10+58 TO STA. 11+63

SCALE 1" = 10' - 0
10 0 10

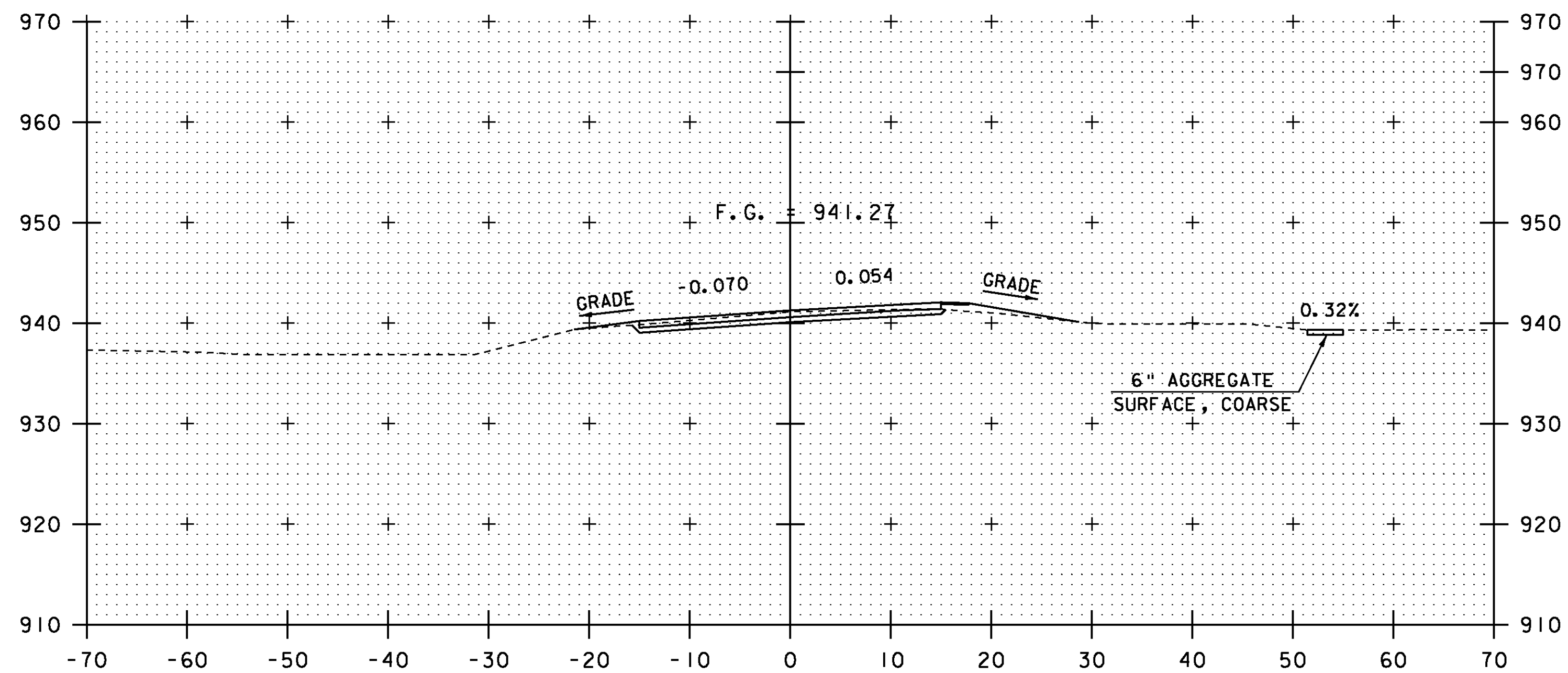
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DESIGN FILE NAME:	88b194/structures/s88b194xsl.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194m11.i	DRAWN BY:	M. FESSEL
DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS	MAINLINE CROSS SECTIONS	SHEET: 44 OF 50



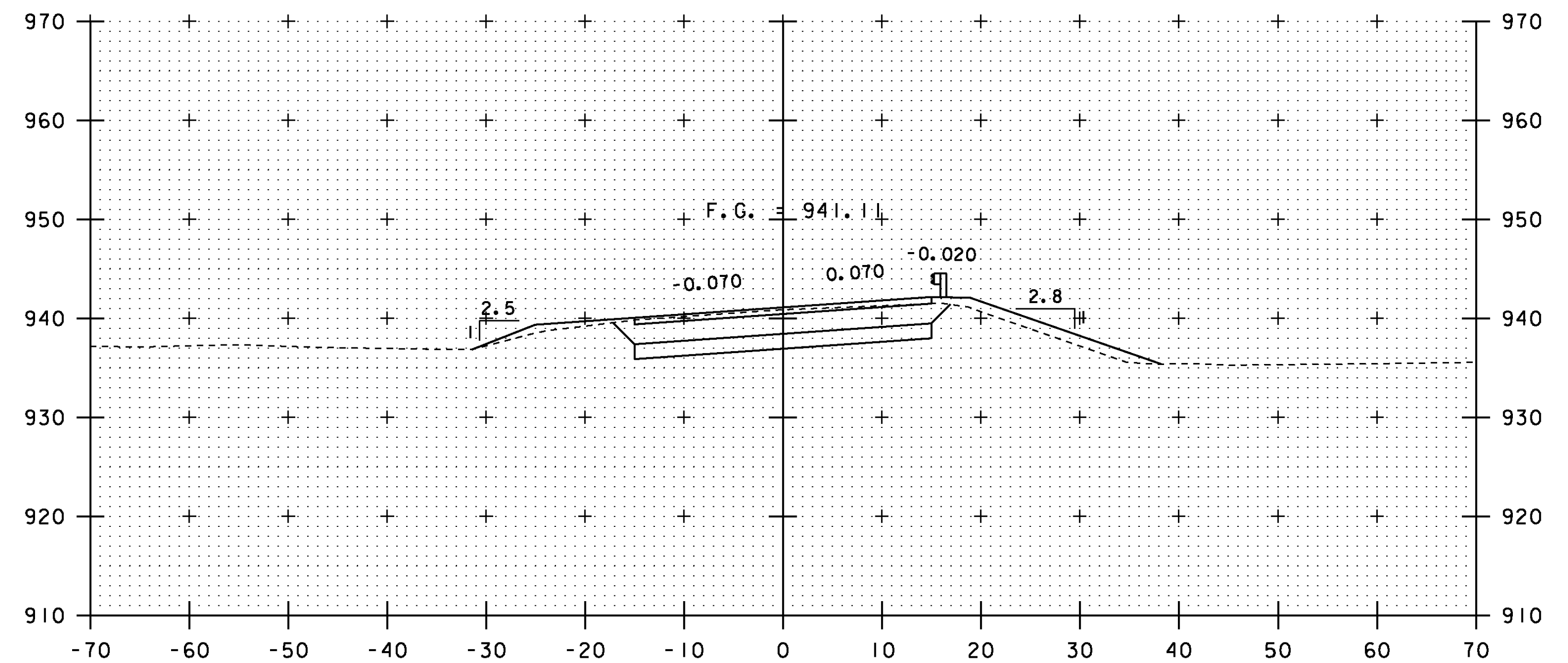
12+50



13+50

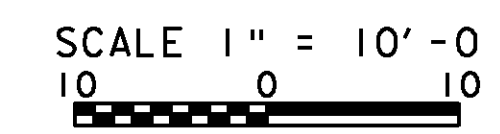


12+00
DRIVE RIGHT

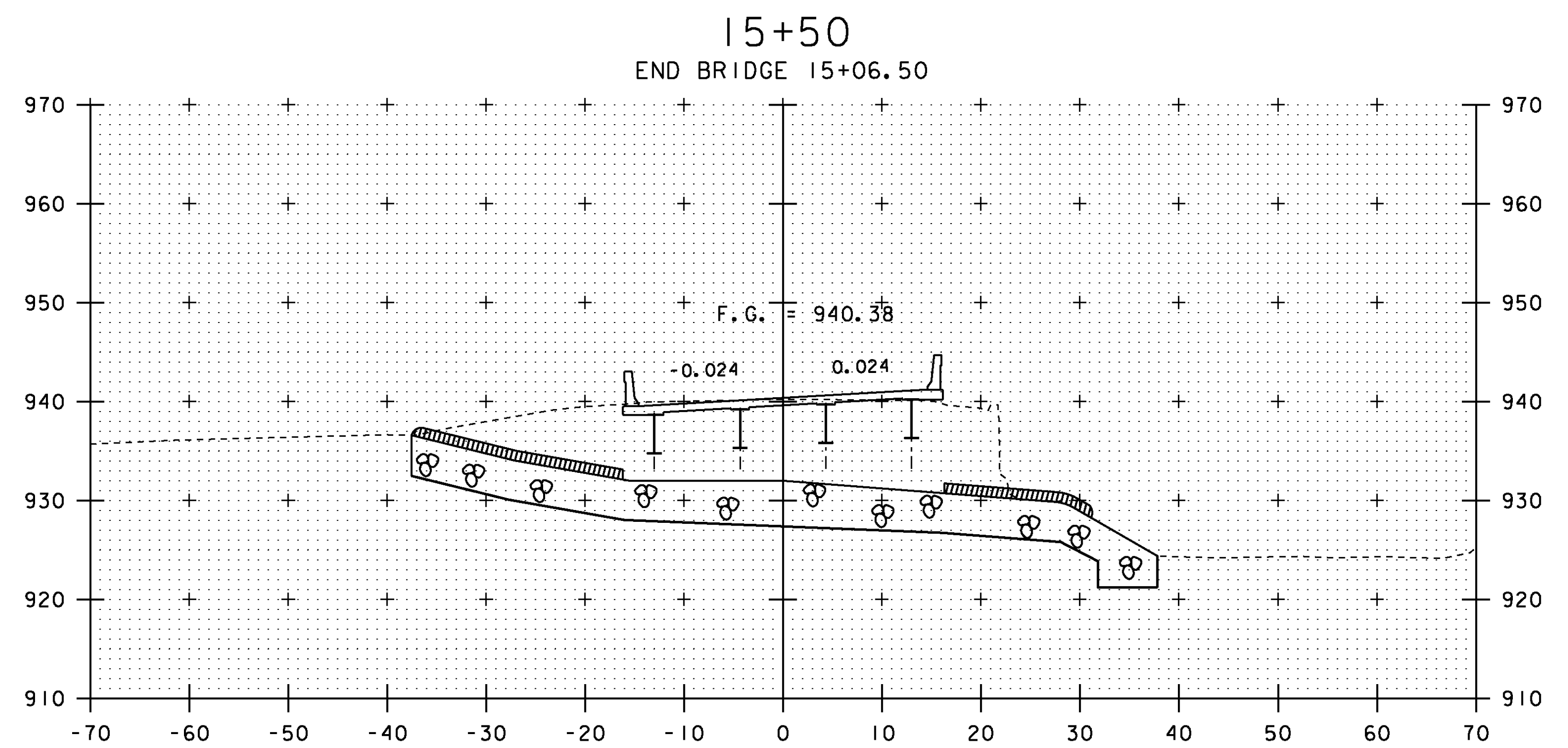
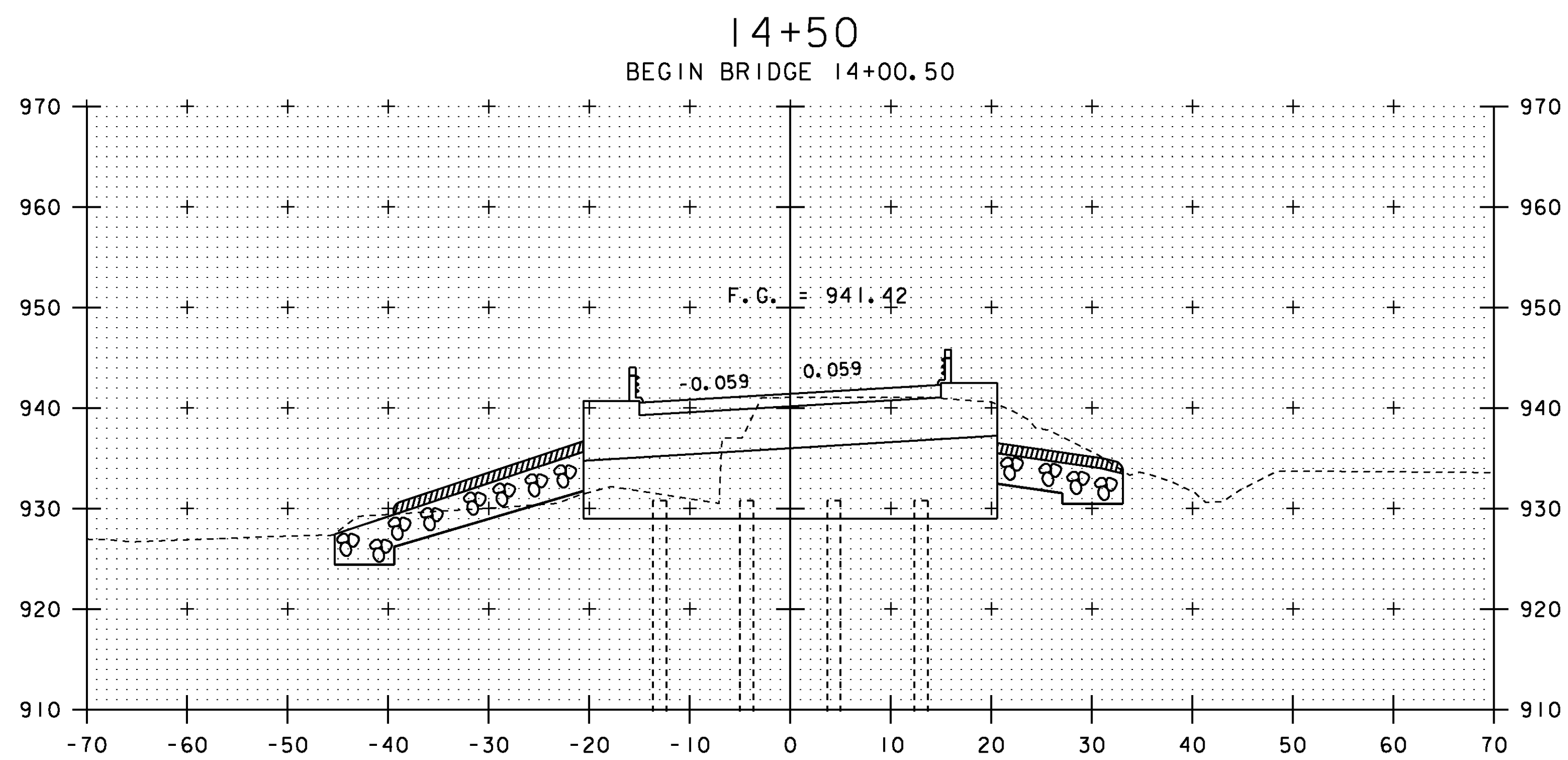
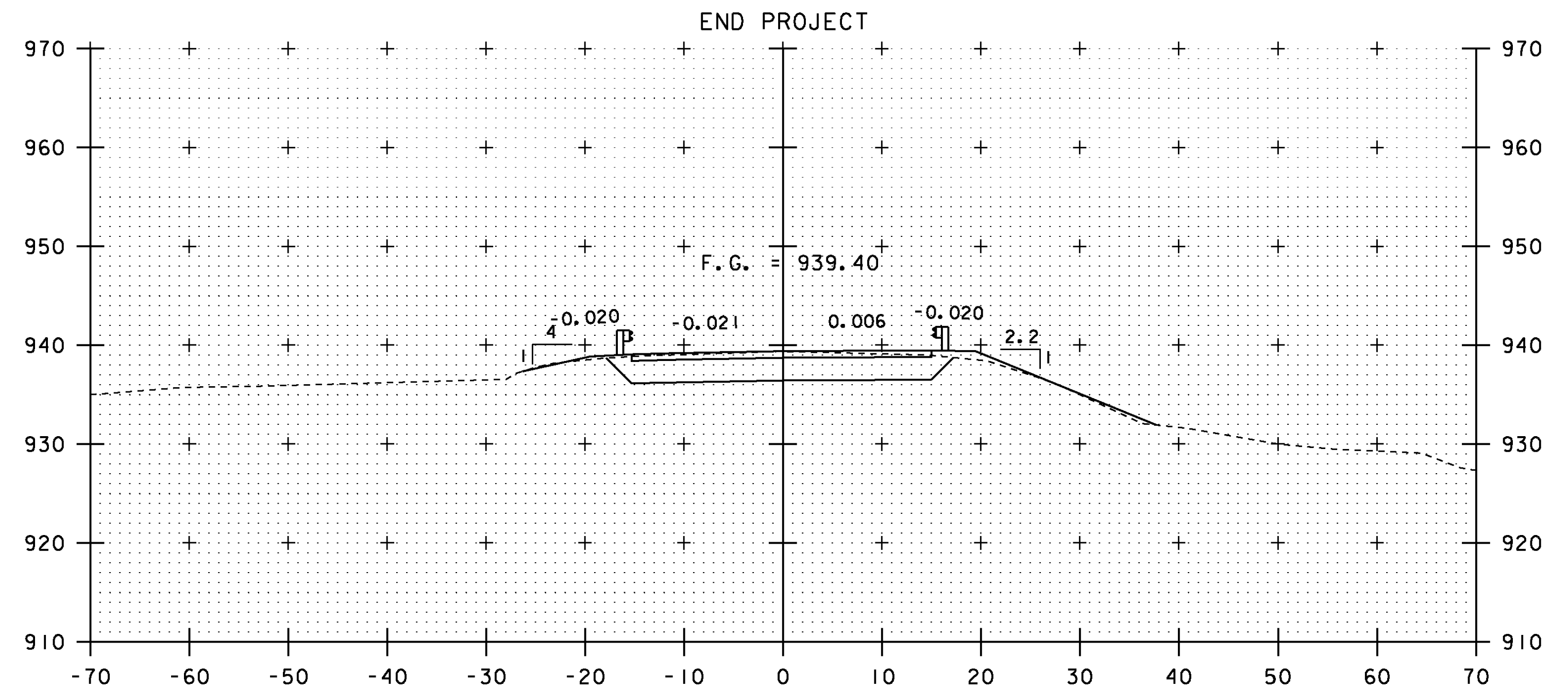
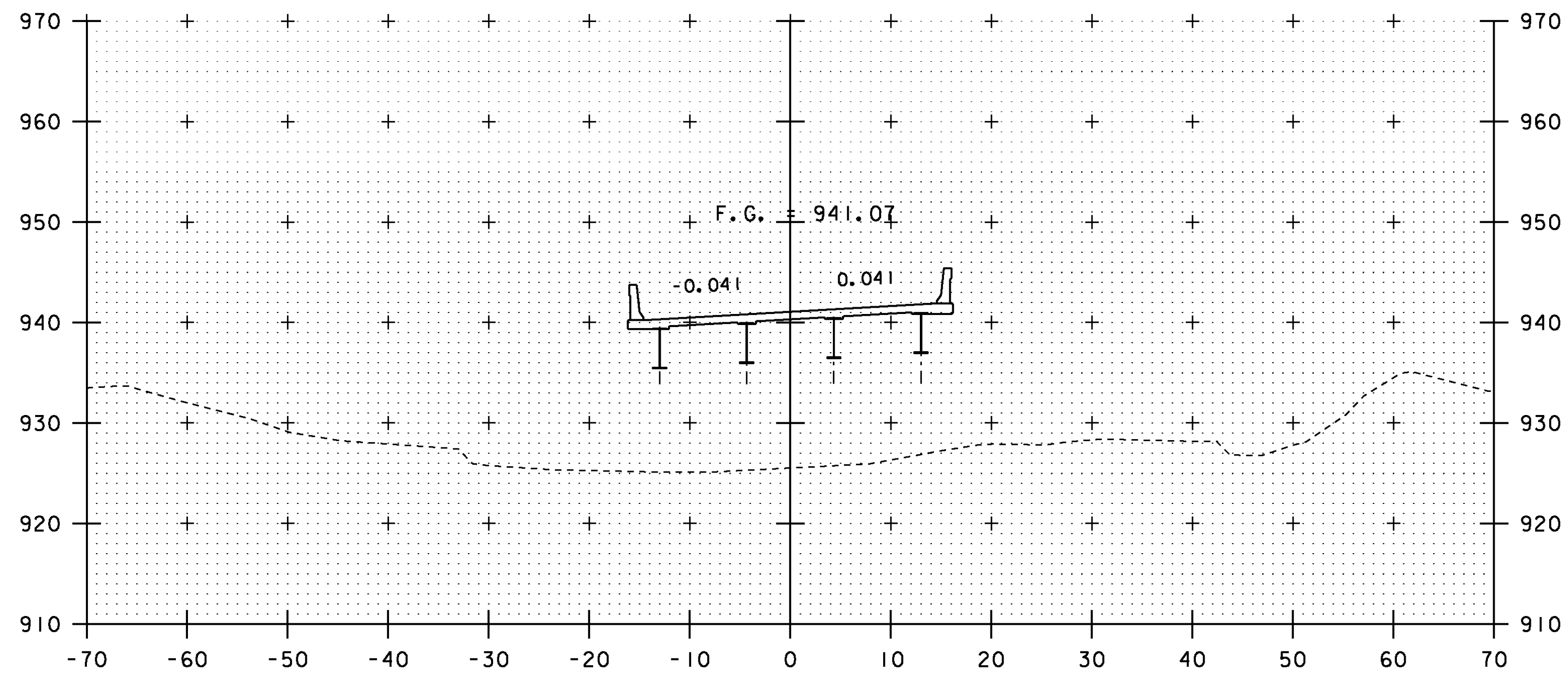


13+00
BEGIN PROJECT

STA. 12+00 TO STA. 13+50



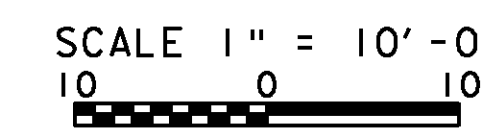
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DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS	MAINLINE CROSS SECTIONS	SHEET: 45 OF 50



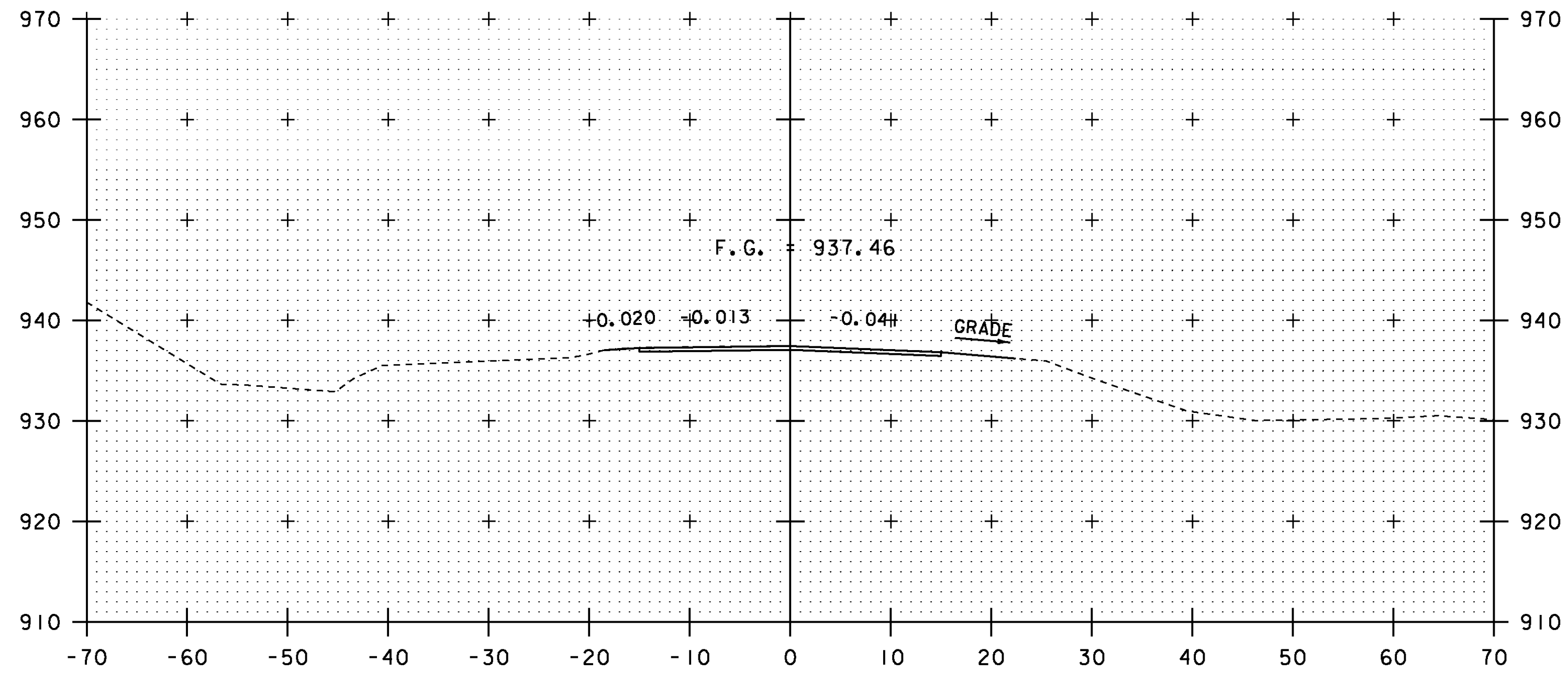
14+00

15+00

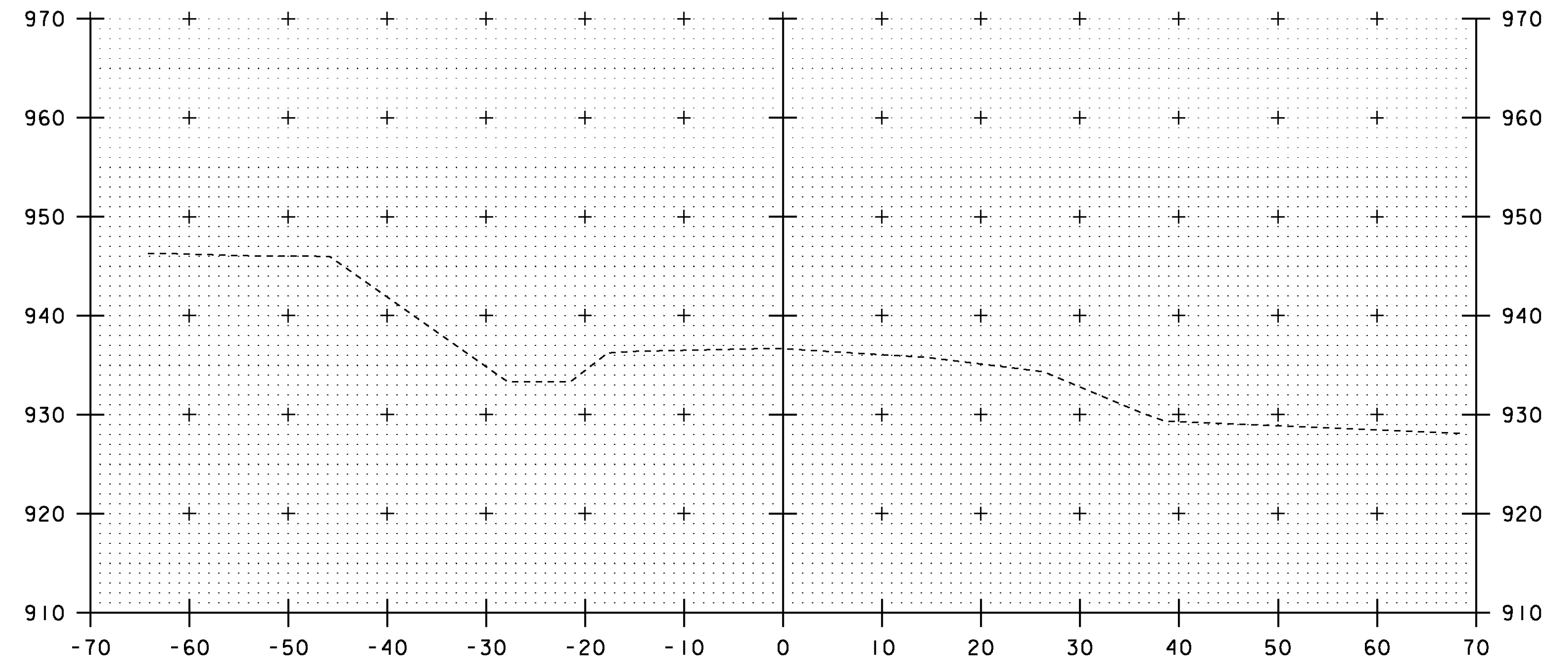
STA. 14+00 TO STA. 15+50



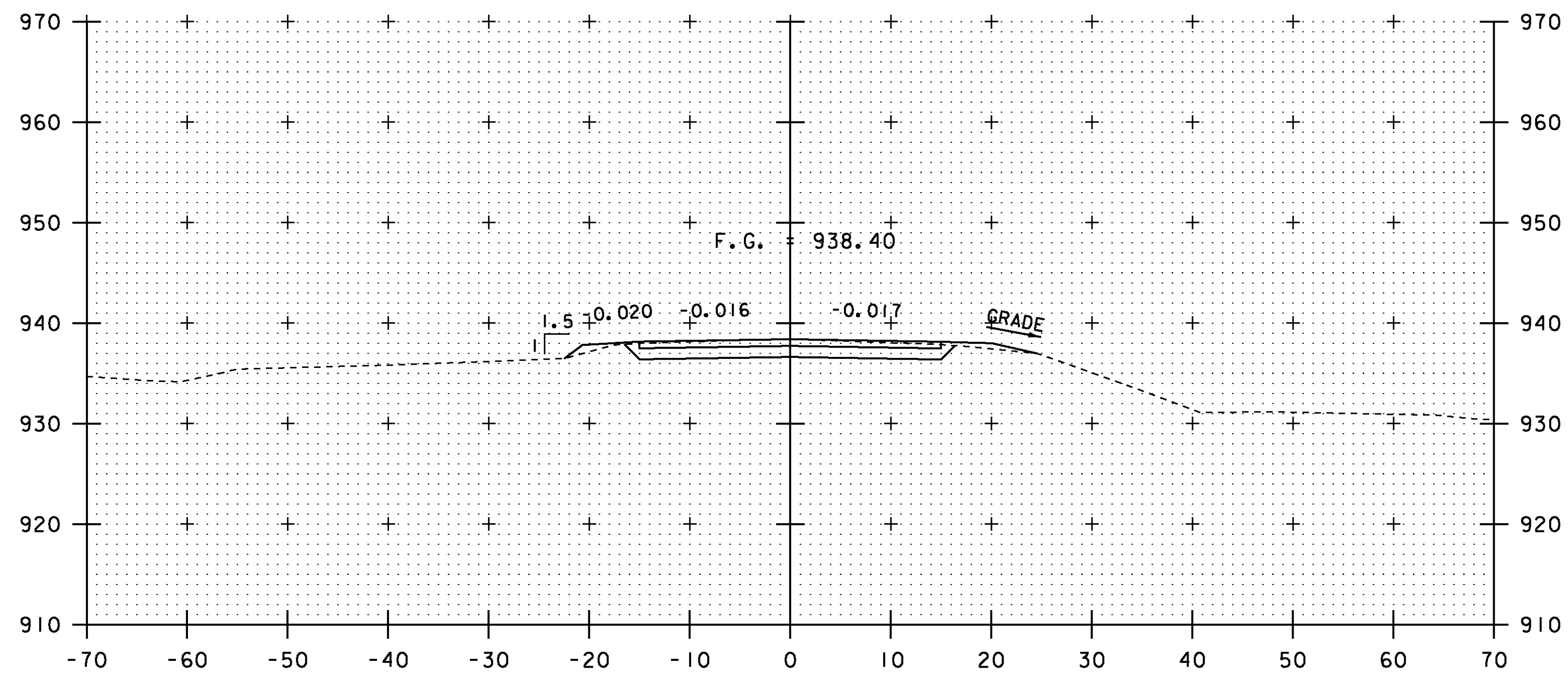
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IPARM FILE NAME:	s88b194m13.i	DRAWN BY:	M. FESSEL
DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS	MAINLINE CROSS SECTIONS	SHEET: 46 OF 50



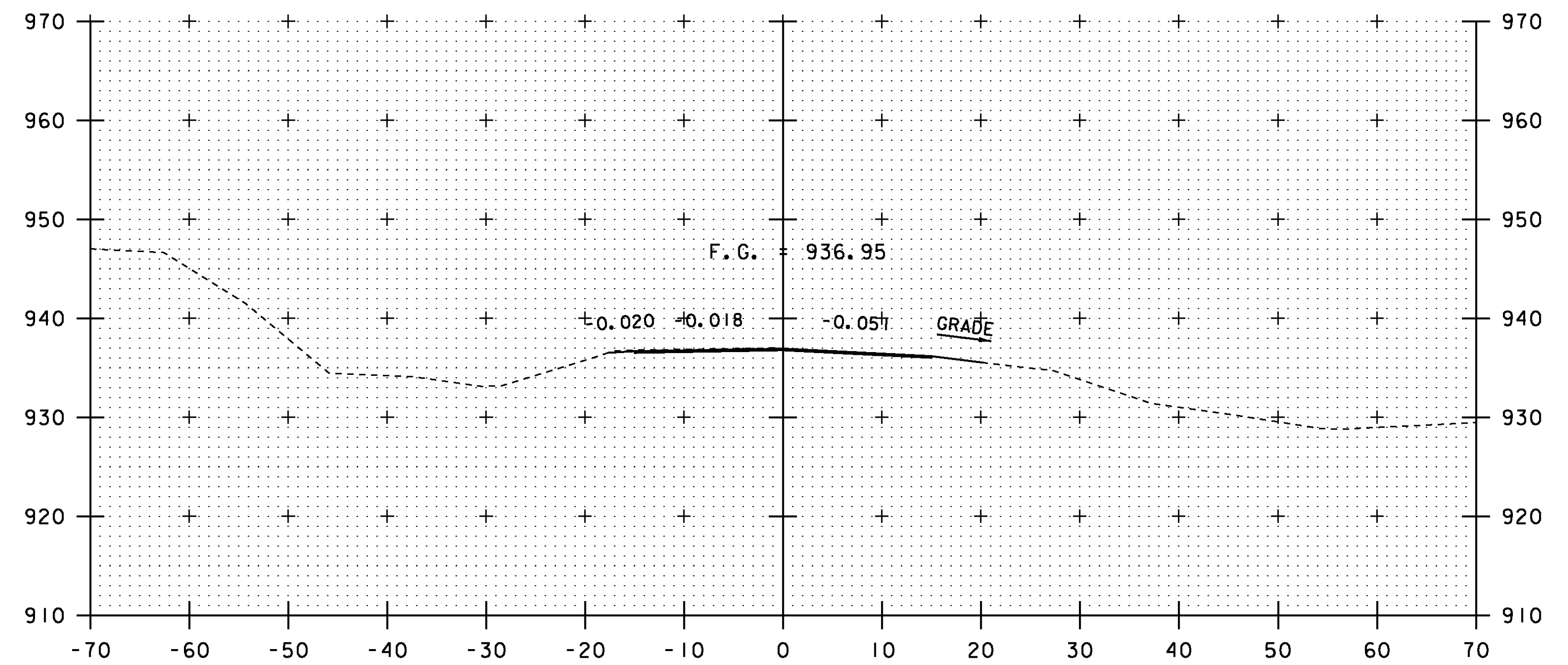
16+50



17+50
END APPROACH 17+25



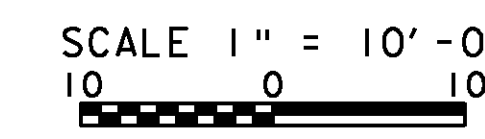
16+00

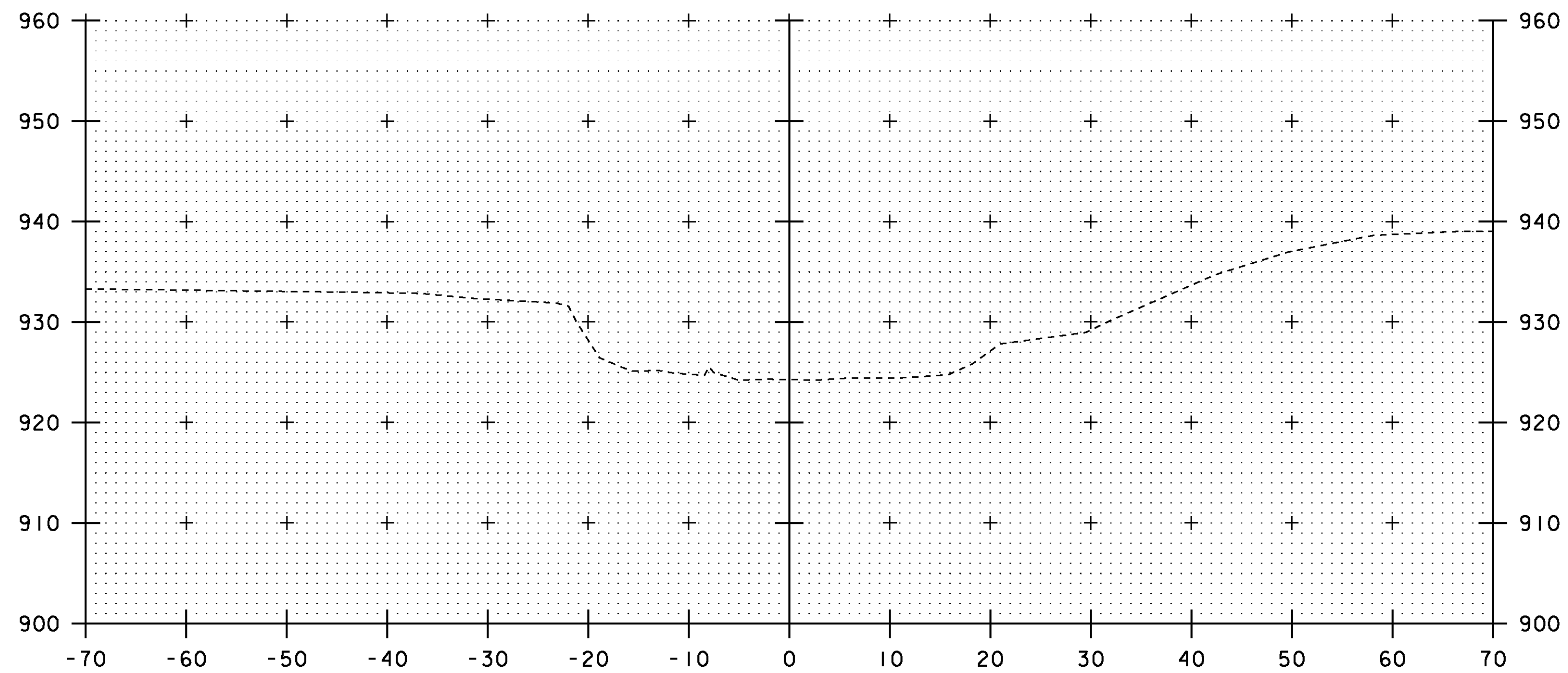


17+00

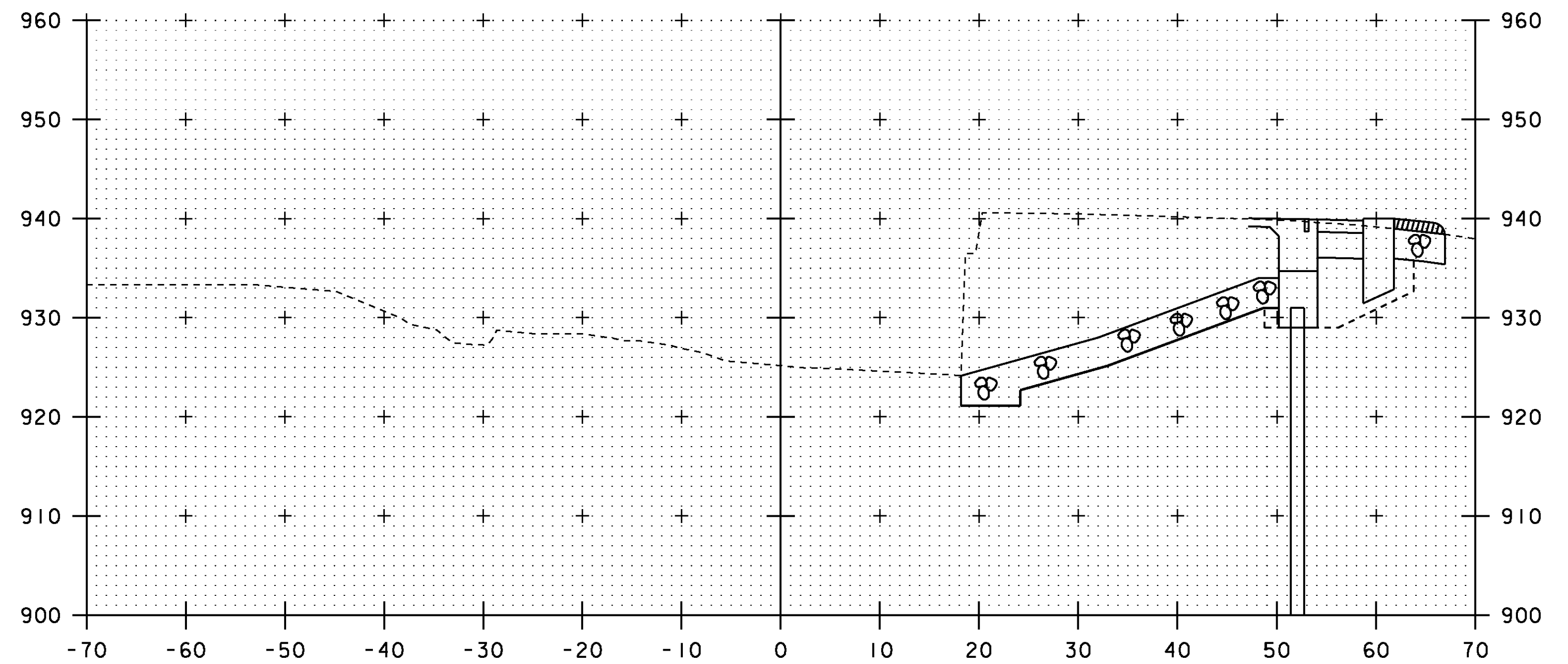
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DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS	MAINLINE CROSS SECTIONS	SHEET: 47 OF 50

STA. 16+00 TO STA. 17+50

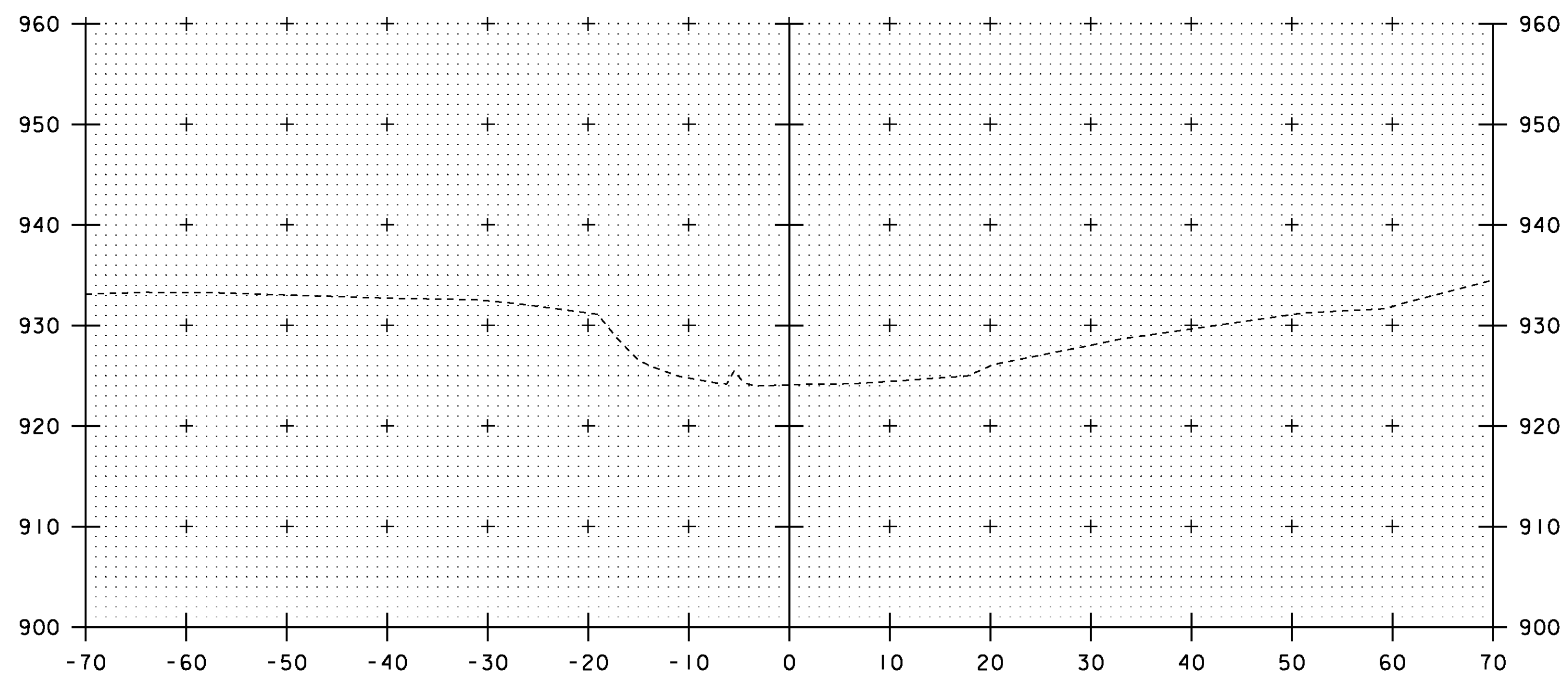




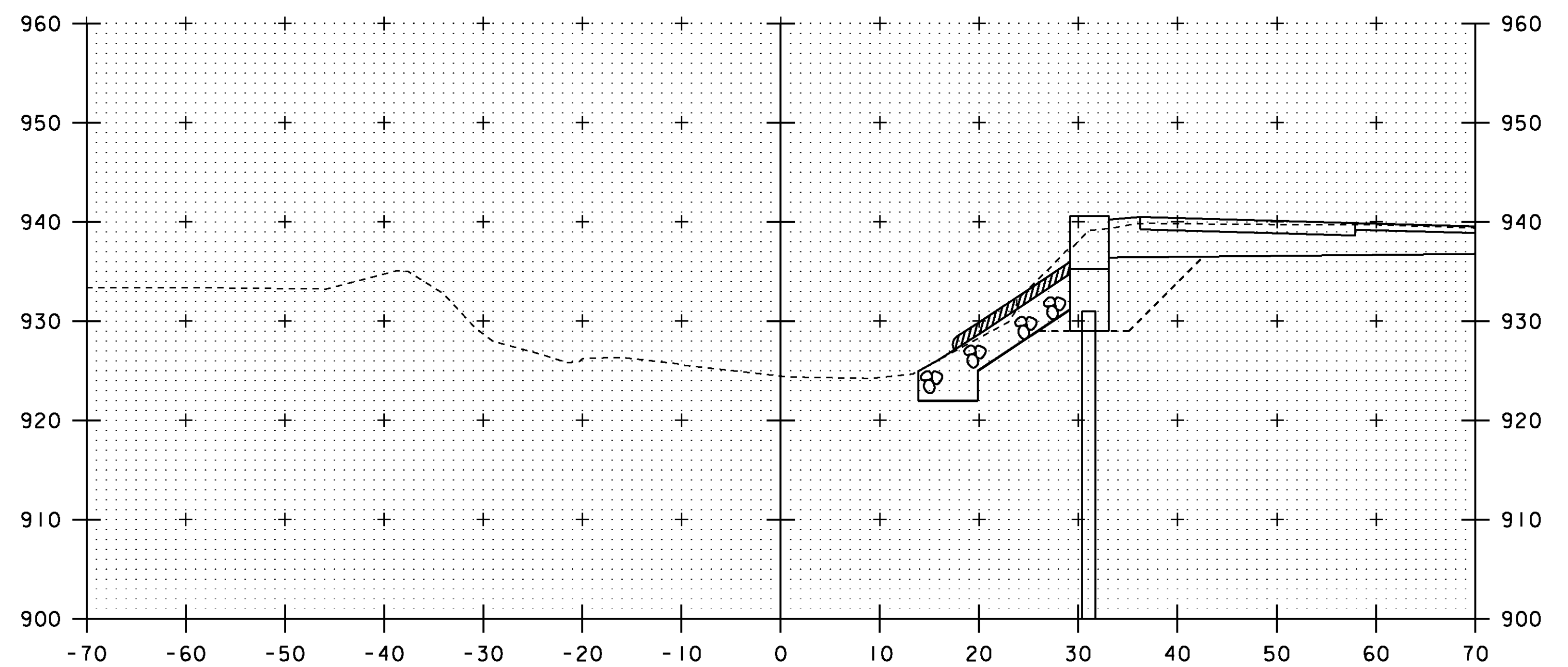
5+25



5+75



5+00



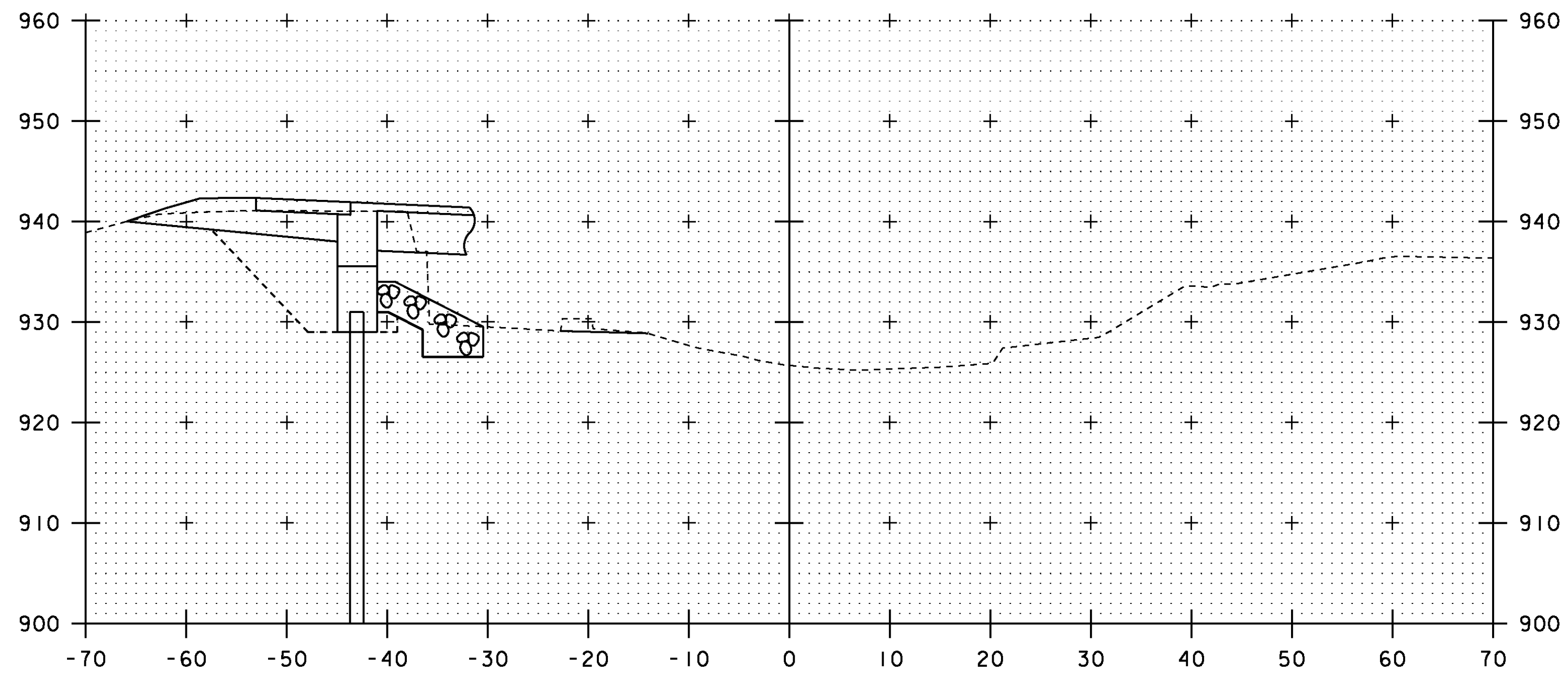
5+50

STA 5+27 RT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL TYPE III
 BEGIN GRUBBING MATERIAL

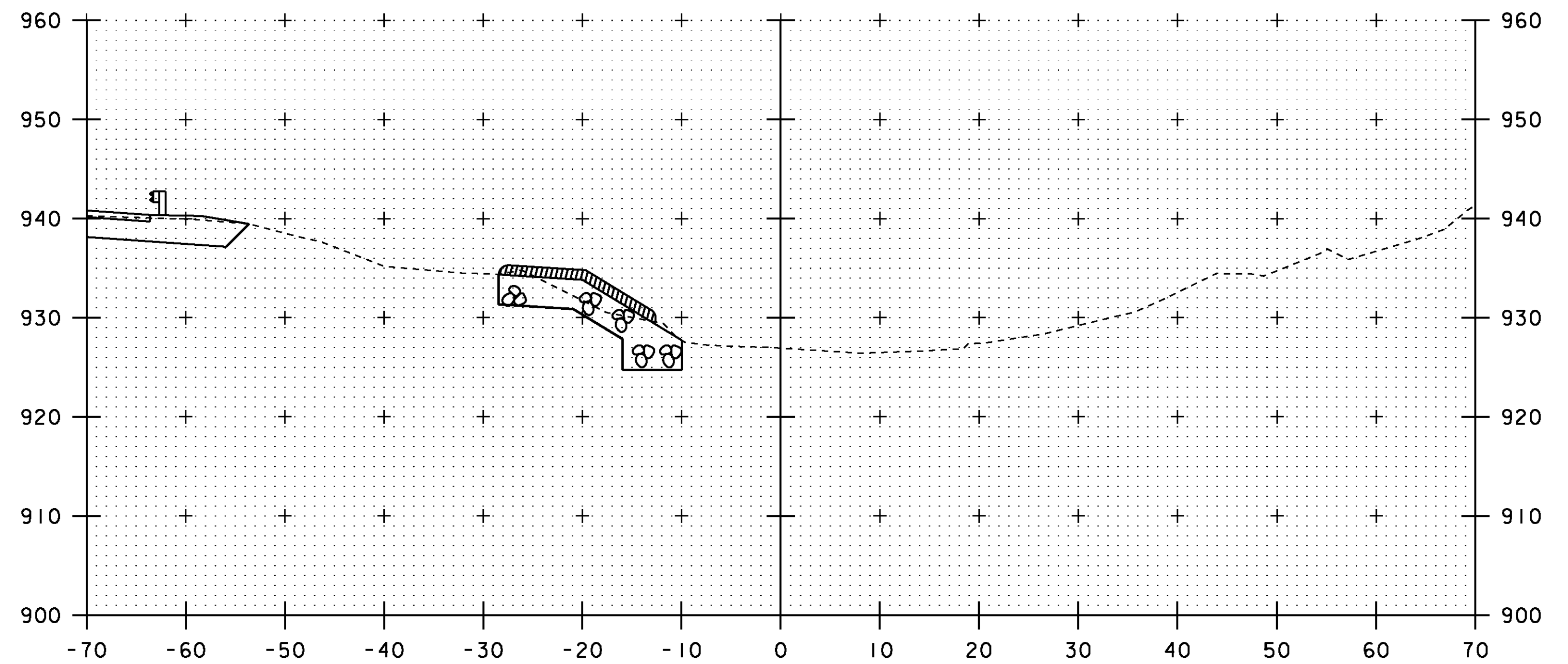
SCALE 1" = 10'-0"
 10 0 10

STA. 5+00 TO STA. 5+75

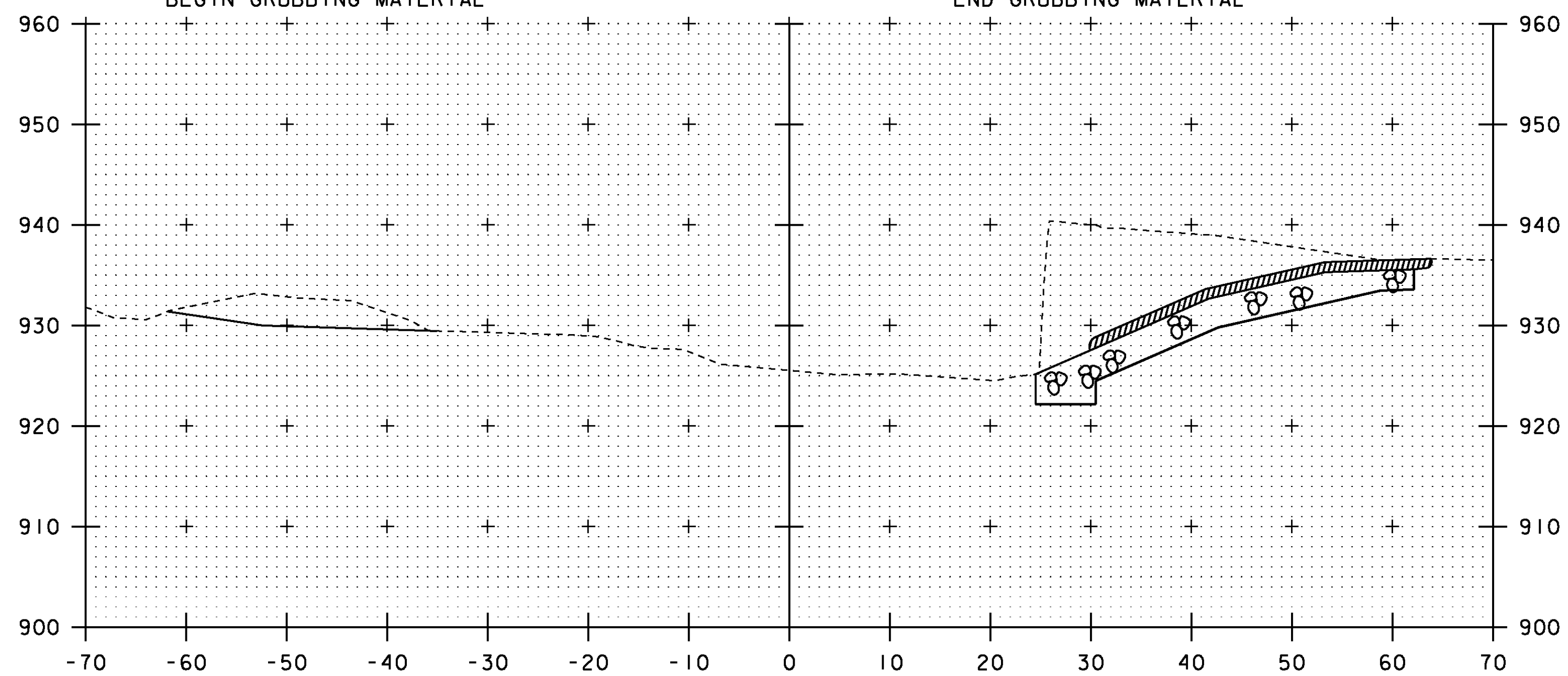
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DESIGN FILE NAME:	88b194/structures/s88b194xsl.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194chl.i	DRAWN BY:	M. FESSEL
DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS		
CHANNEL CROSS SECTIONS		SHEET:	48 OF 50



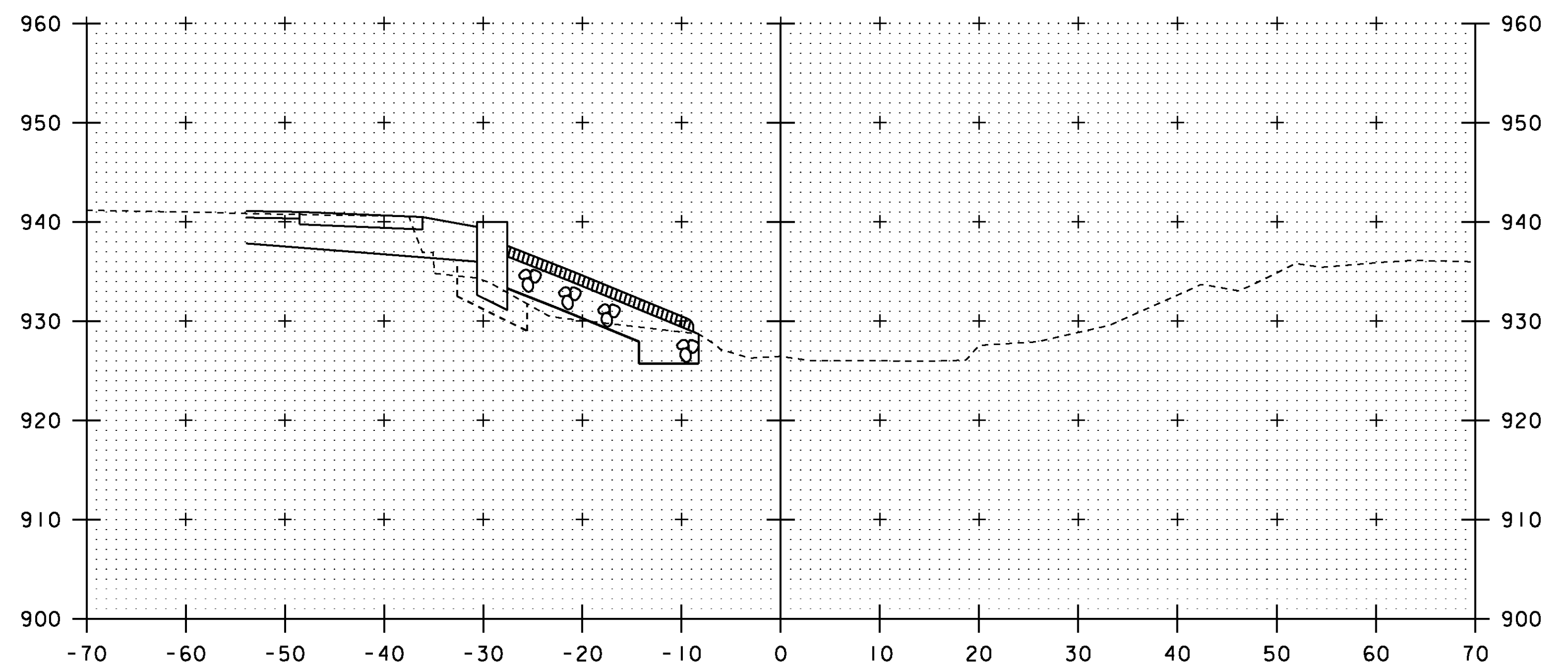
STA 6+02 LT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GEOTEXTILE UNDER STONE FILL
 BEGIN STONE FILL TYPE III
 BEGIN GRUBBING MATERIAL
 6+25
 STA 6+24 RT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL TYPE III
 END GRUBBING MATERIAL



6+75

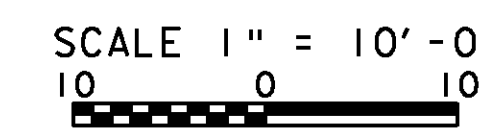


6+00

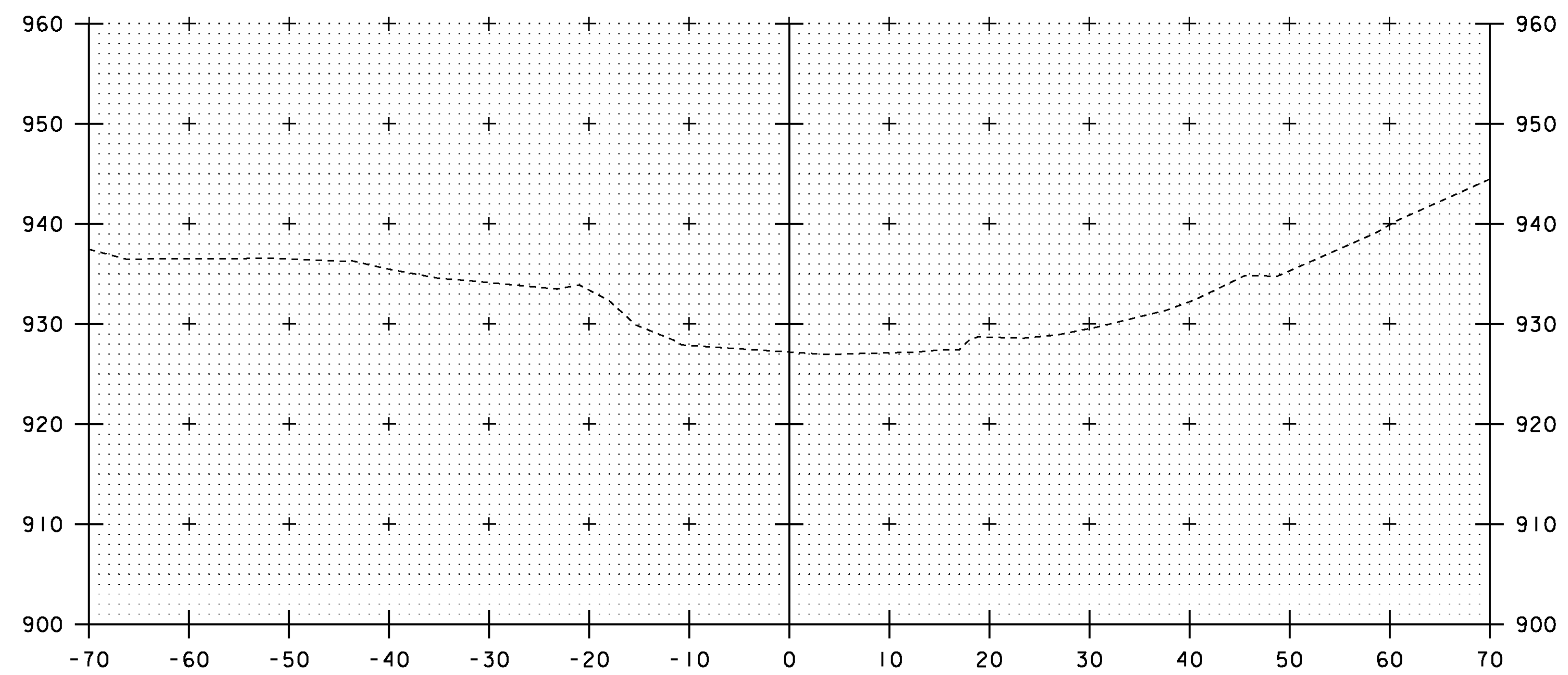


6+50

STA. 6+00 TO STA. 6+75



PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194/structures/s88b194xsl.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194ch2.i	DRAWN BY:	M. FESSEL
DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS		
CHANNEL CROSS SECTIONS		SHEET:	49 OF 50



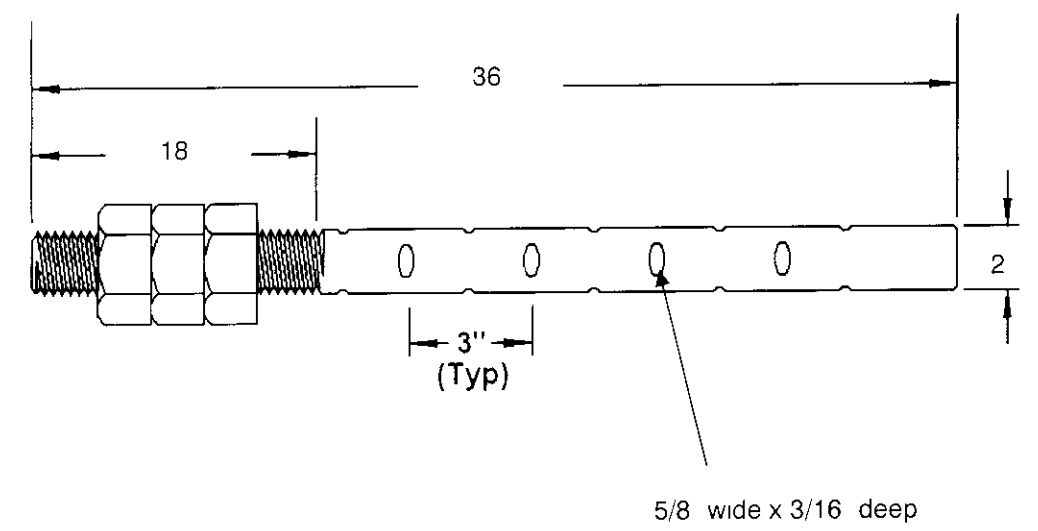
STA 6+86 LT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GEOTEXTILE UNDER STONE FILL
 END STONE FILL TYPE III
 END GRUBBING MATERIAL

7+00

STA. 7+00 TO STA. 7+00

SCALE 1" = 10'-0"
 10 0 10

PROJECT:	CHESTER	PROJECT NO.:	BRF 016-1 (25)
DESIGN FILE NAME:	88b194/structures/s88b194xsl.dgn	PLOT DATE:	16-MAR-2011
IPARM FILE NAME:	s88b194ch3.i	DRAWN BY:	M. FESSEL
DESIGNED BY:	E. L. RUSTAY	CHECKED BY:	R. S. YOUNG
SQUAD LEADER:	C. P. WILLIAMS		
CHANNEL CROSS SECTIONS		SHEET:	50 OF 50



Quantity: 16

NOTES

Rod ASTM A572GR50
 Nuts ASTM A563A Heavy Hex
 Galvanizing Per ASTM A153

Portland Bolt & Manufacturing Co.

PBM 3441 NW Guam Street
 Portland, OR 97210
 P 800-547-6758
 F 503-227-5488
 www.portlandbolt.com

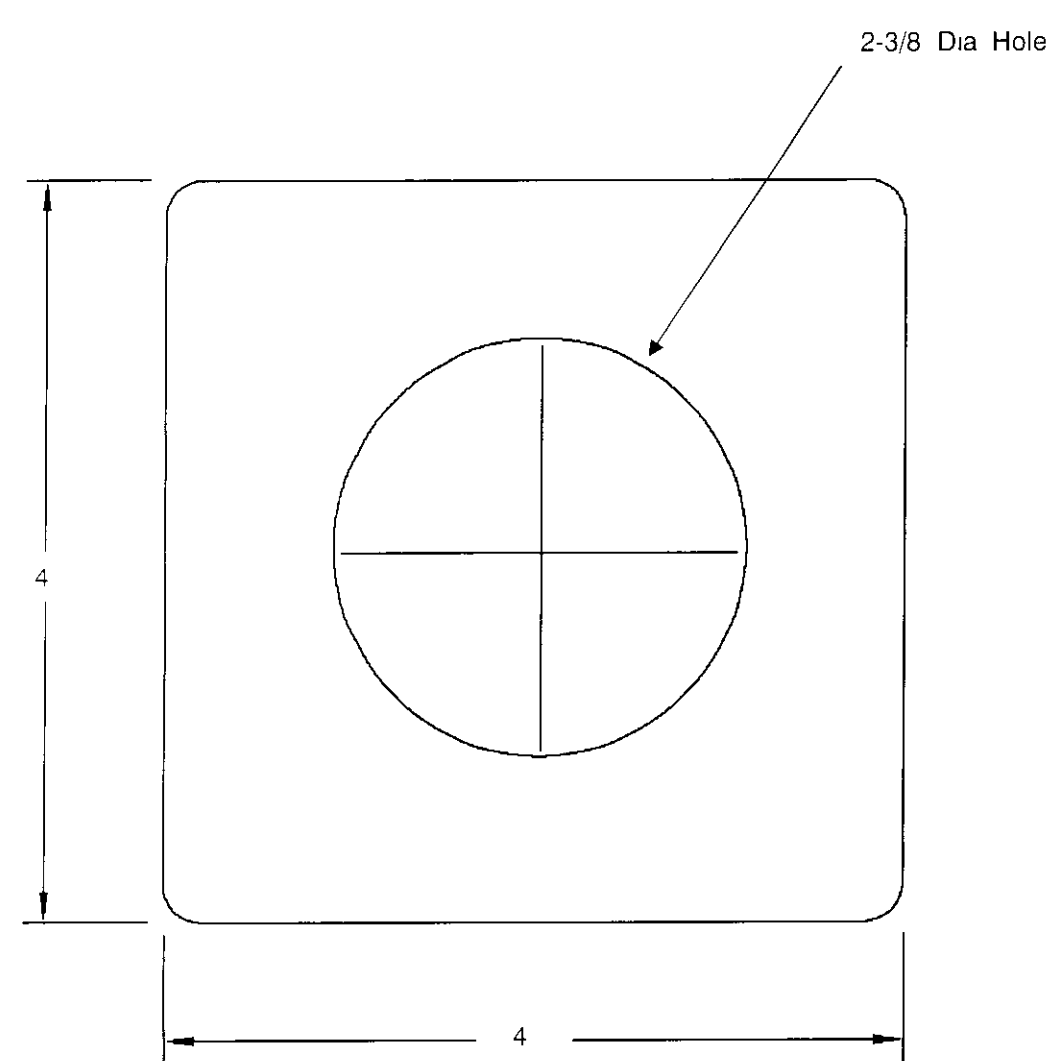
Job Name Chester Vermont Bridge

Customer Miller Construction


Revisions

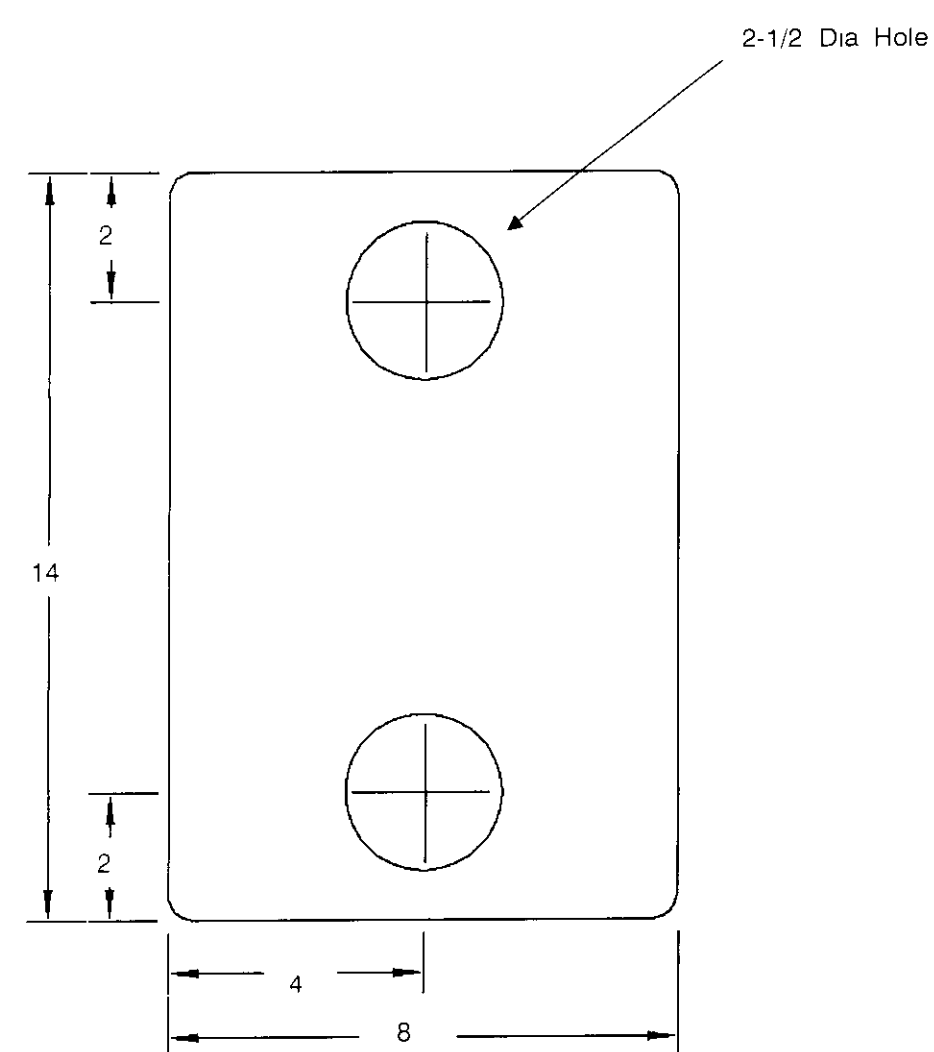
Sales Order Number Quote Number
 24057

Sheet 1 of 3 Date 6/5/2008 By JNW



Quantity: 32

FIGURE 1/2 MILL PLATE Galvanizing Per ASTM A153 Plate edges not ground to 1/16 radius <i>CPM 11/21</i>		
Portland Bolt & Manufacturing Co  3441 NW Guam Street Portland OR 97210 P 503-547-6758 F 503-227-5488 www.portlandbolt.com		
Job Name Chester, Vermont Bridge Customer Miller Construction		
Revisions		
Sales Order Number		Quote Number 24057
Sheet 2 of 3	Date 6/5/2008	By JNW



Quantity: 8

NOTES

Plate 1" Thick ASTM A36
 Galvanizing Per ASTM A153
 Plate edges not ground to 1/16 radius

CPW *6/5/08*

Portland Bolt & Manufacturing Co

PMB 3441 NW Guam Street
 Portland, OR 97210
 P 503-547-6758
 F 503-227-5488
 www.portlandbolt.com

Job Name	Chester Vermont Bridge	
Customer	Miller Construction	
Revisions		
Sales Order Number	Quote Number	
	24057	
Sheet 3 of 3	Date	By
	6/5/2008	JNW

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

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

MATERIAL SPECIFICATIONS

- 1) UNLESS OTHERWISE NOTED, ALL STEEL TO BE ASTM A709 GRADE 50W.
- 2) MATERIAL NOTED "CVN" OR "H2-3" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714 01.
- 3) HIGH STRENGTH BOLTS: $\frac{7}{8}$ " ϕ ASTM A325 TYPE 3 IN $\frac{15}{16}$ " ϕ HOLES NUTS SHALL BE A563 GRADE C3 BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED. DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

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

WELDING

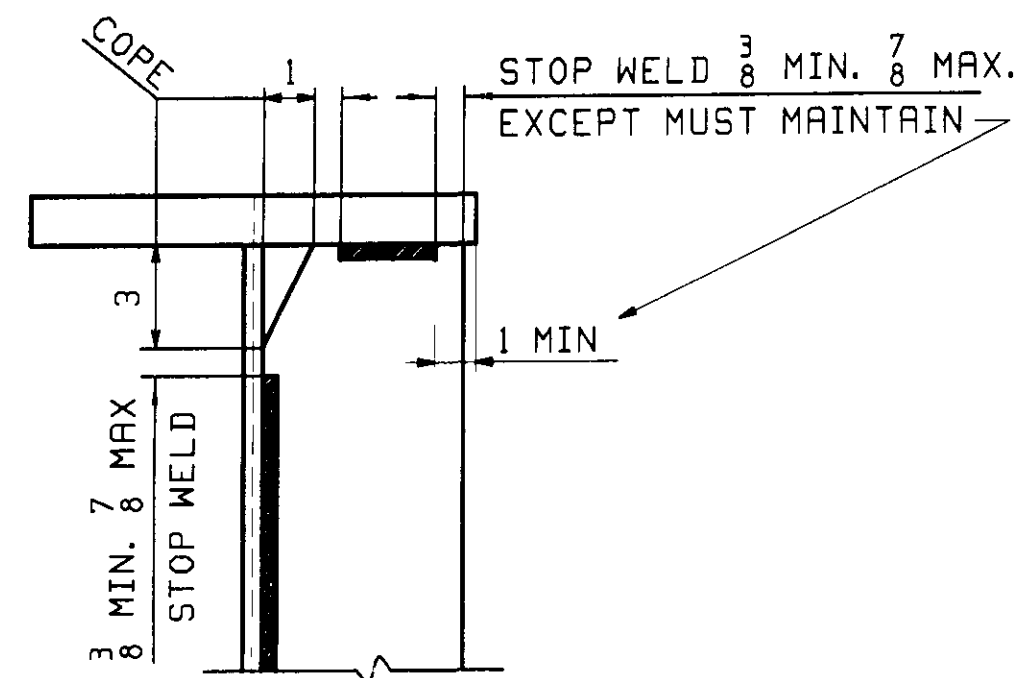
- 1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.
- 2) WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES ALL WELDS ARE CONTINUOUS UN
- 3) NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION
- 4) SEE DETAIL "WS1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

CLEANING

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

FIELD CONNECTIONS

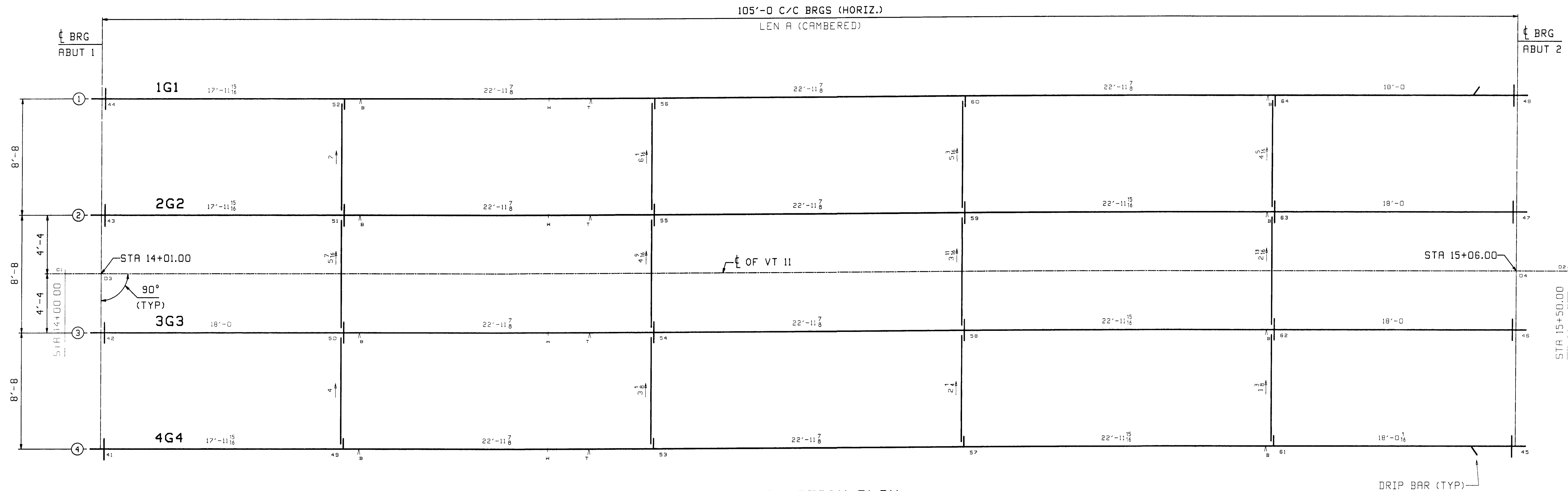
- 1) ALL FIELD CONNECTIONS SHALL BE MADE WITH $\frac{7}{8}$ " DIAMETER HIGH STRENGTH A-325 TYPE 3 BOLTS (UN), INSTALLED PER SECTION 506 19(c). SEE DWG E1 FOR FIELD BOLT SIZES
- 2) BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH WASHER TO BE PLACED UNDER TURNED ELEMENT
- 3) PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS



DETAIL "WS1"

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
Δ	6/18	REVISED NOTES	ZAD	WL		
						5/LB/CS
						4/22/08
MATERIAL		SURFACE PREP & PAINT		HOLES		SHOP BOLTS
DESCRIPTION GENERAL NOTES						
CASCO BAY STEEL STRUCTURES, INC						
75 SPRING HILL ROAD SACO, MAINE 04072						
PHONE (207) 282-7360 FAX (207) 282-1179						
STRUCTURE.		ROUTE No VT 11 MINOR ARTERIAL			DRAWN	DATE
		BRIDGE NO 43 OVER MIDDLE			JTB	05/01
		BRANCH OF WILLIAMS RIVER			CHKD	DATE
		TOWN OF CHESTER			JF	05/21
		COUNTY OF WINDSOR				
LOCATION		CHESTER, VT		JOB NO	DWG NO	
PROJ NO		BRF 016-1(25)		369		GNI
CUSTOMER		VT ROT				REV Δ

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

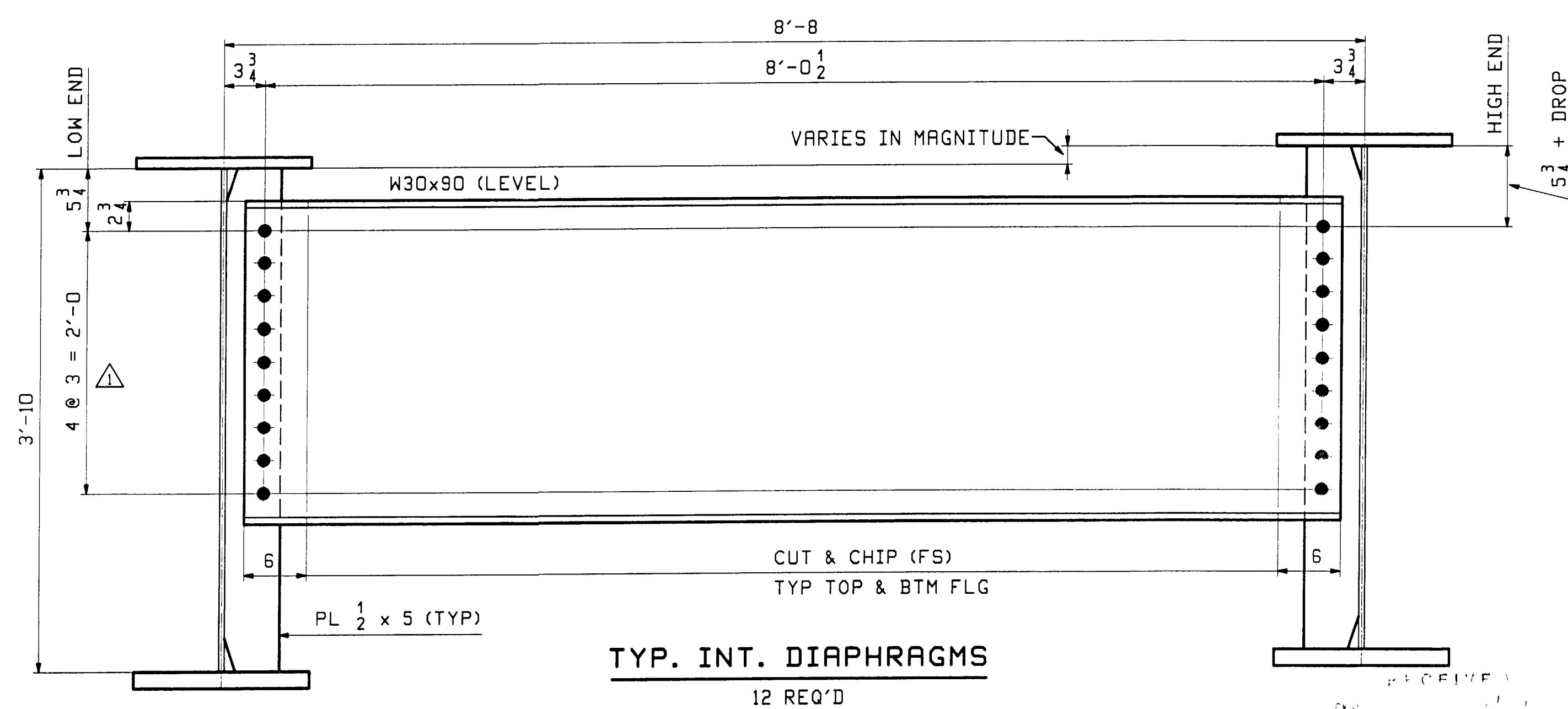


CALCULATION PLAN

Line	LEN A	ABUT 1	ABUT 2
1	104'-11 9/16	- 0011	- 0111
2	104'-11 5/8	- 0044	- 0143
3	104'-11 1/16	- 0075	- 0174
4	104'-11 1/16	- 0107	- 0206

CALCULATION PLAN NOTES:

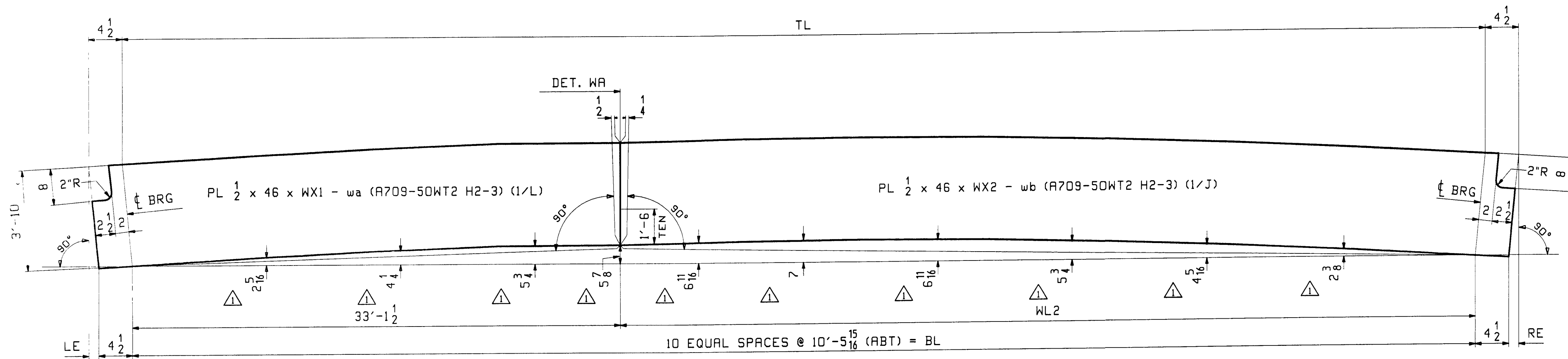
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF WEBS WITH CORRECTIONS MADE FOR DL CAMBER & GRADE (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
3. ARROW POINTS TOWARD LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG STIFFENERS ARE VERTICAL AFTER DL ROTATION.
5. DIAPHRAGM STIFFENERS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



NOTES:

1. MATERIAL SHALL BE ASTM A709 GRADE 50W.
2. ALL BOLT HOLES SHALL BE 15/16" Ø FOR 7/8" Ø HSB (UN).

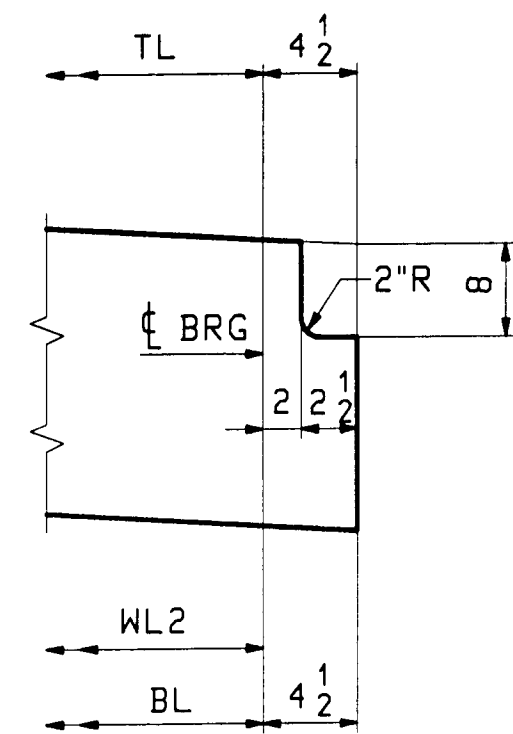
6/16	Revise Bolts per design change	WL	MMJ	5/20/08		
0				6/20/08		
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL		SURFACE PREP & PAINT	HOLES		SHOP BOLTS	
DESCRIPTION: CALCULATION PLAN						
CASCO BAY STEEL STRUCTURES, INC. 75 SPRING HILL ROAD SACO, MAINE 04072 PHONE (207) 282-7360 FAX. (207) 282-1179						
STRUCTURE: ROUTE No. VT 11 MINOR ARTERIAL BRIDGE NO. 43 OVER MIDDLE BRANCH OF WILLIAMS RIVER TOWN OF CHESTER COUNTY OF WINDSOR				DRAWN: JTB	DATE: 05/01	
LOCATION: CHESTER, VT				CHKD: JF	DATE: 05/21	
PROJ NO. BRF 016-1(25)				JOB NO. 369	DWG NO. WS1	
CUSTOMER: VT AOT				REV.		



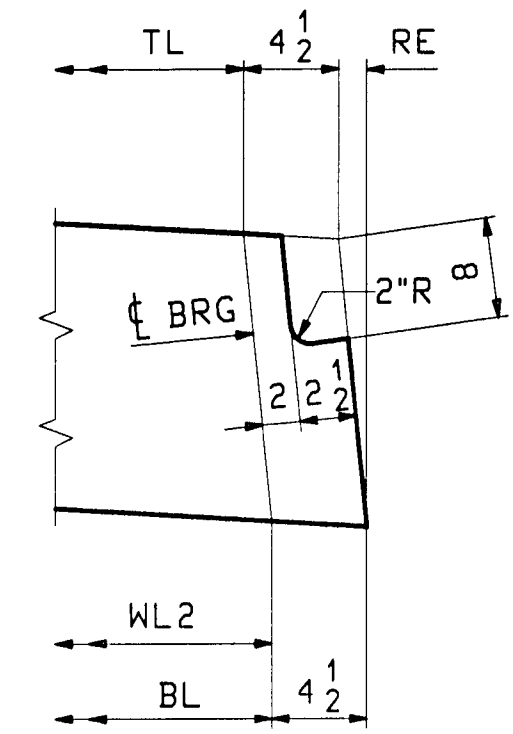
CAMBER DIAGRAM FOR I/G1 THRU 4G4

MARK	TL	BL	LE	RE	WL2	WX1	WX2
1G1	105'-0 $\frac{1}{2}$	104'-11 $\frac{9}{16}$	$\frac{3}{4}$	$\frac{3}{16}$	71'-10 $\frac{1}{16}$	33'-6 $\frac{3}{4}$	72'-2 $\frac{13}{16}$
2G2	105'-0 $\frac{1}{2}$	104'-11 $\frac{5}{8}$	$\frac{7}{8}$	* 0	71'-10 $\frac{1}{16}$	33'-6 $\frac{7}{8}$	72'-2 $\frac{7}{8}$
3G3	105'-0 $\frac{9}{16}$	104'-11 $\frac{11}{16}$	1	* $\frac{1}{8}$	71'-10 $\frac{3}{16}$	33'-7	72'-2 $\frac{15}{16}$
4G4	105'-0 $\frac{5}{8}$	104'-11 $\frac{11}{16}$	$\frac{3}{16}$	* $\frac{1}{4}$	71'-10 $\frac{3}{16}$	33'-7 $\frac{3}{16}$	72'-2 $\frac{15}{16}$

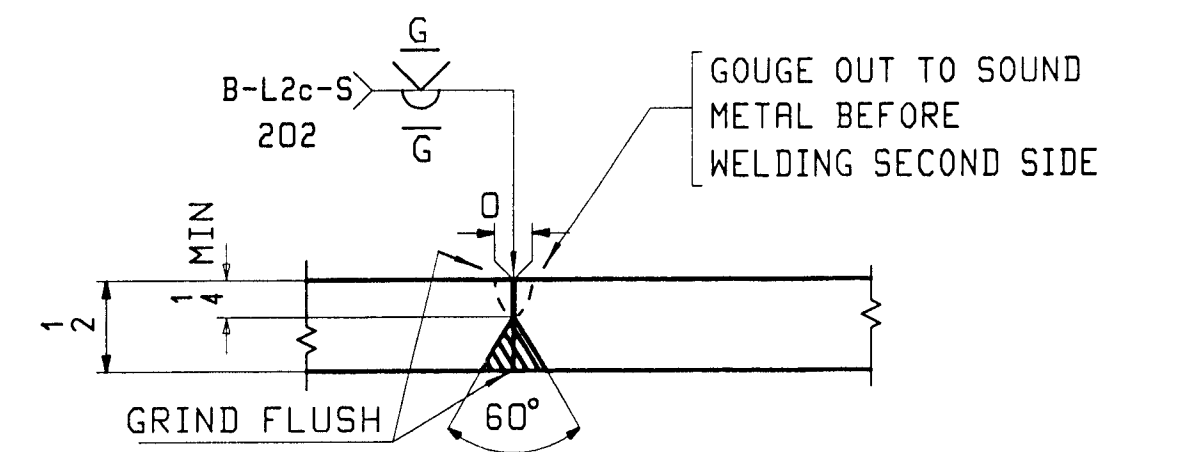
* - SEE RIGHT END DETAILS



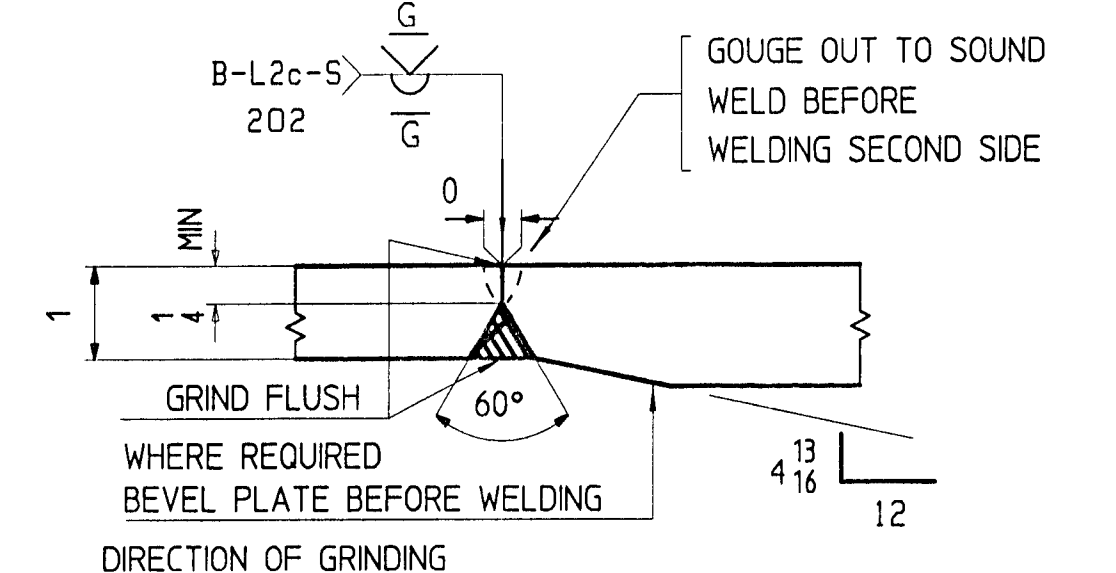
DETAIL RIGHT END AT 2G2 ONLY



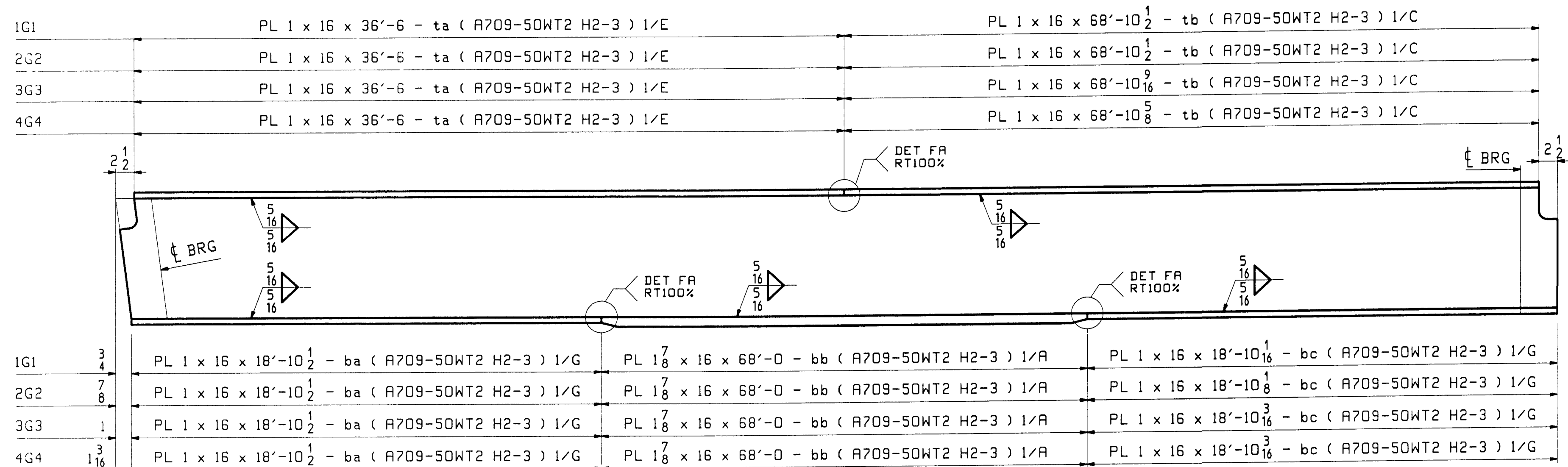
DETAIL RIGHT END AT 3G3 & 4G4 ONLY



WEB PLATE SPLICE DETAIL "WA"



FLANGE PLATE SPLICE DETAIL "FA"



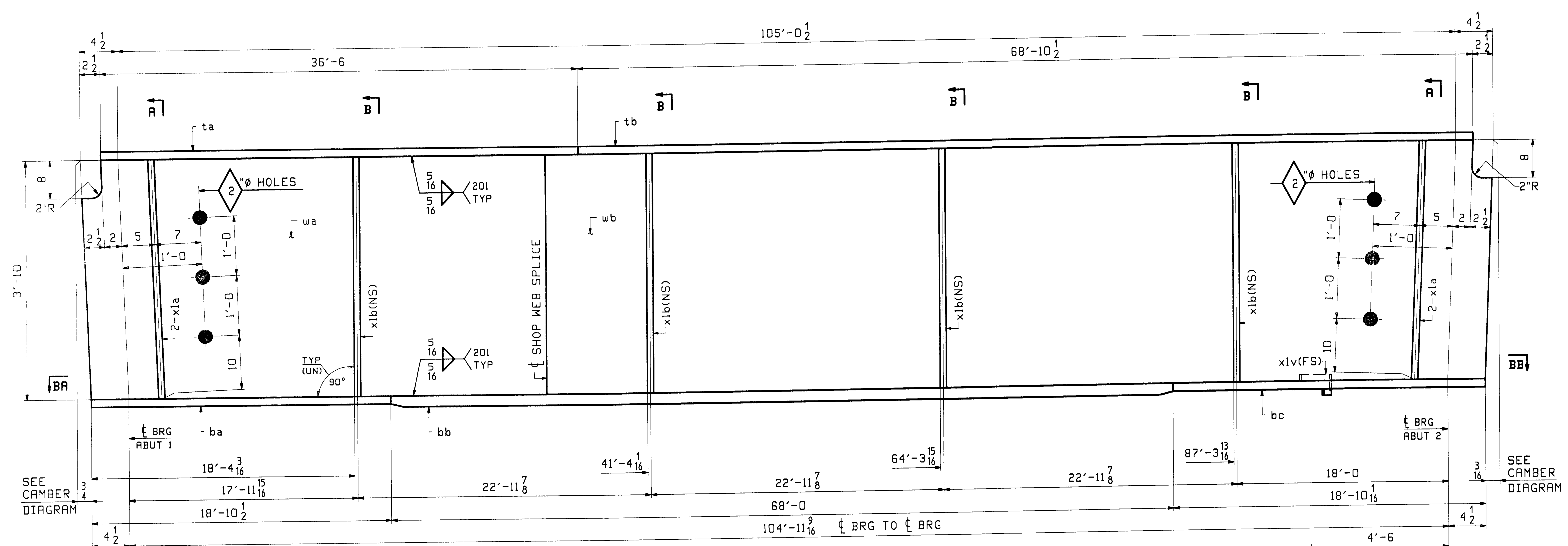
FLANGE DIAGRAM FOR I/G1 THRU 4G4

NOTES:

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

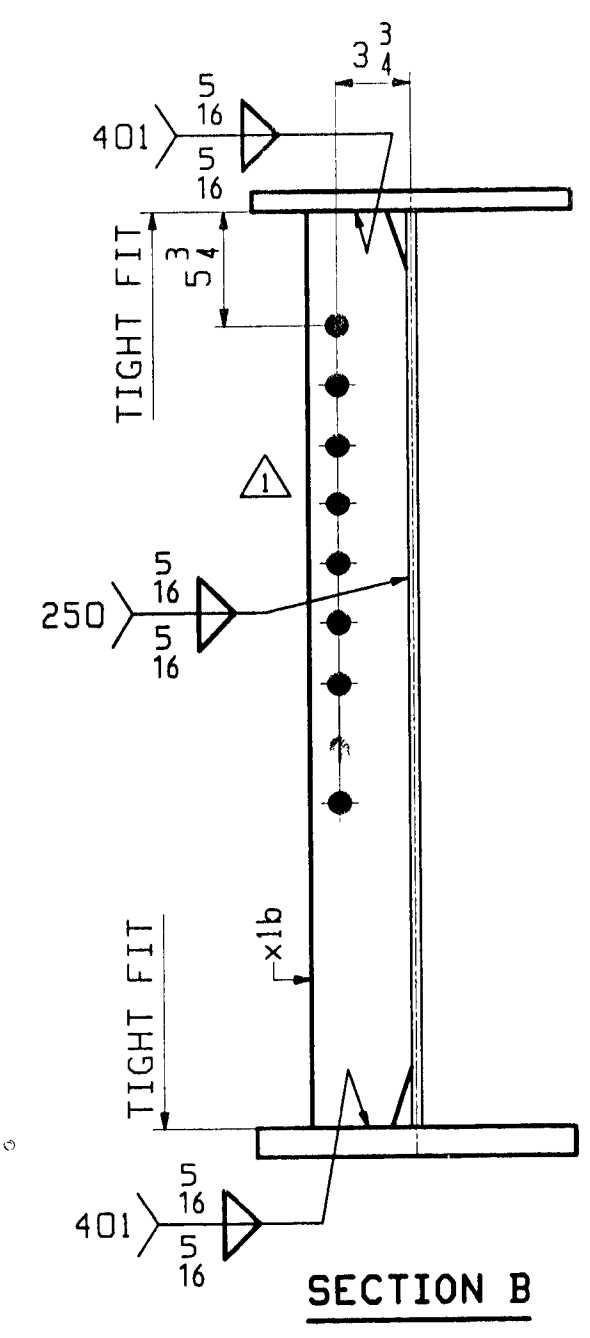
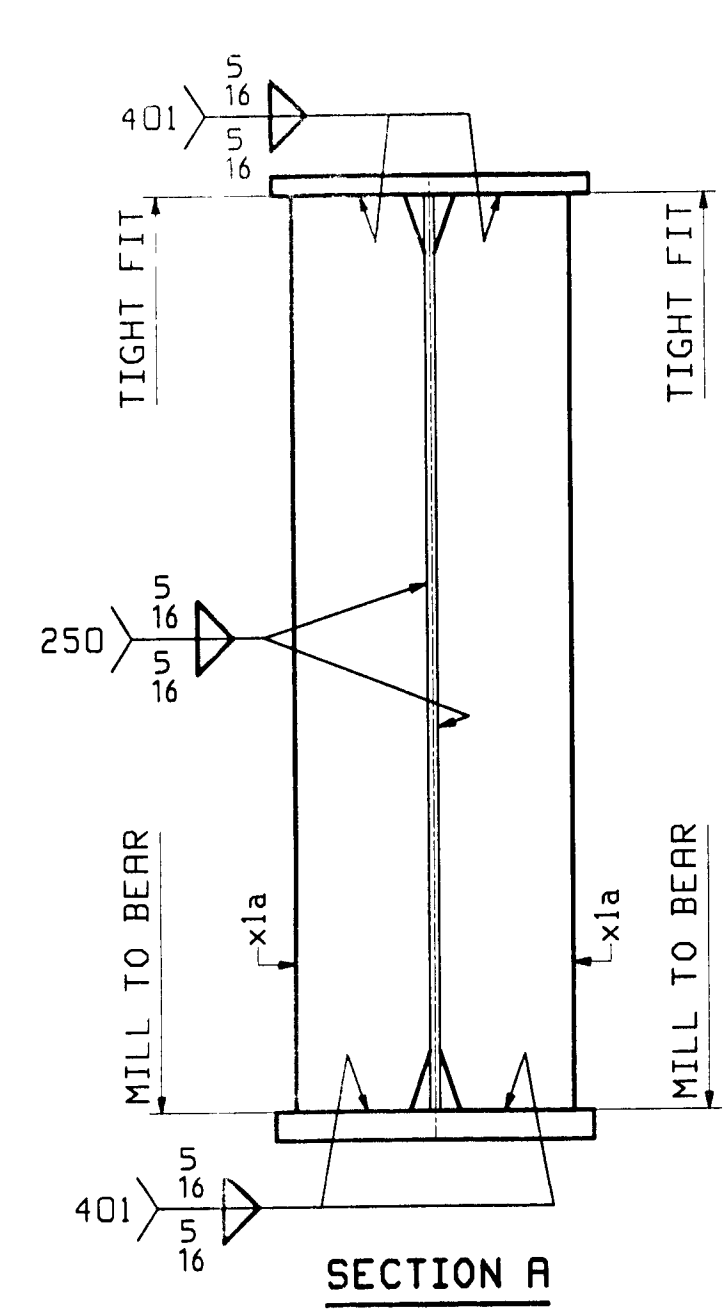
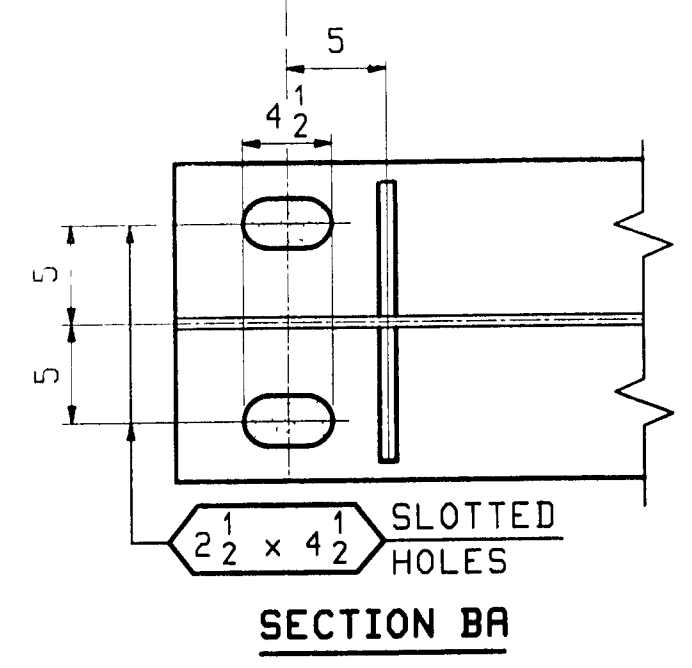
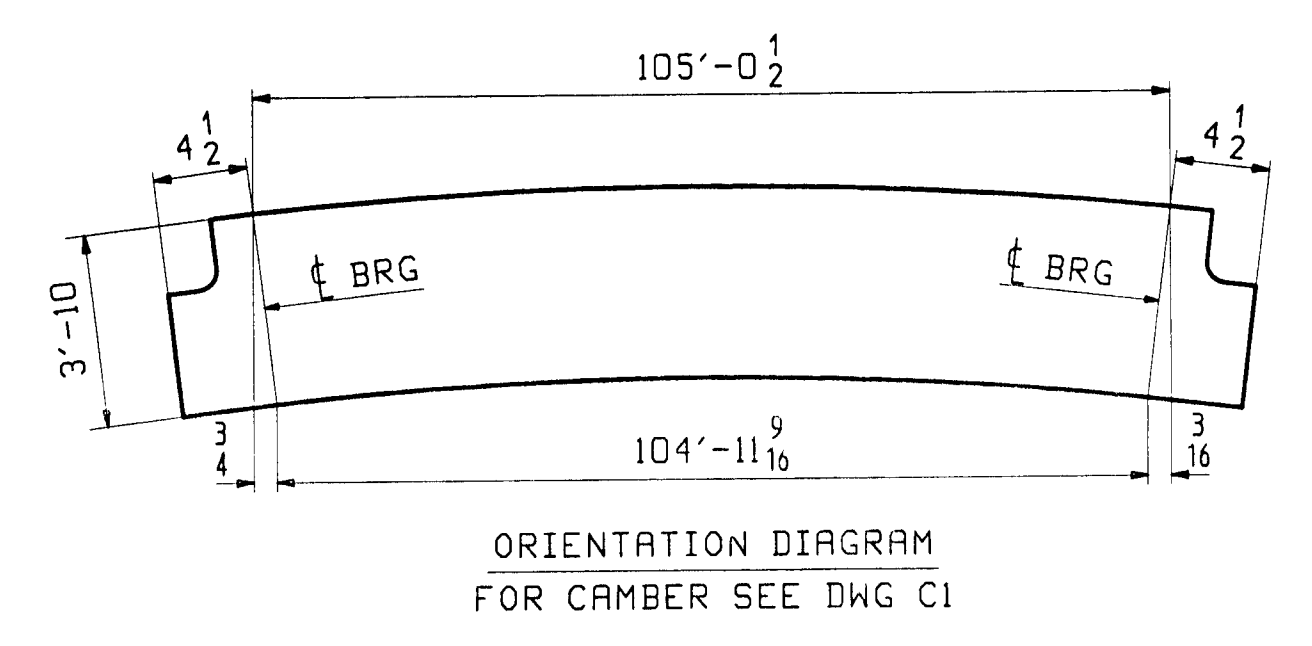
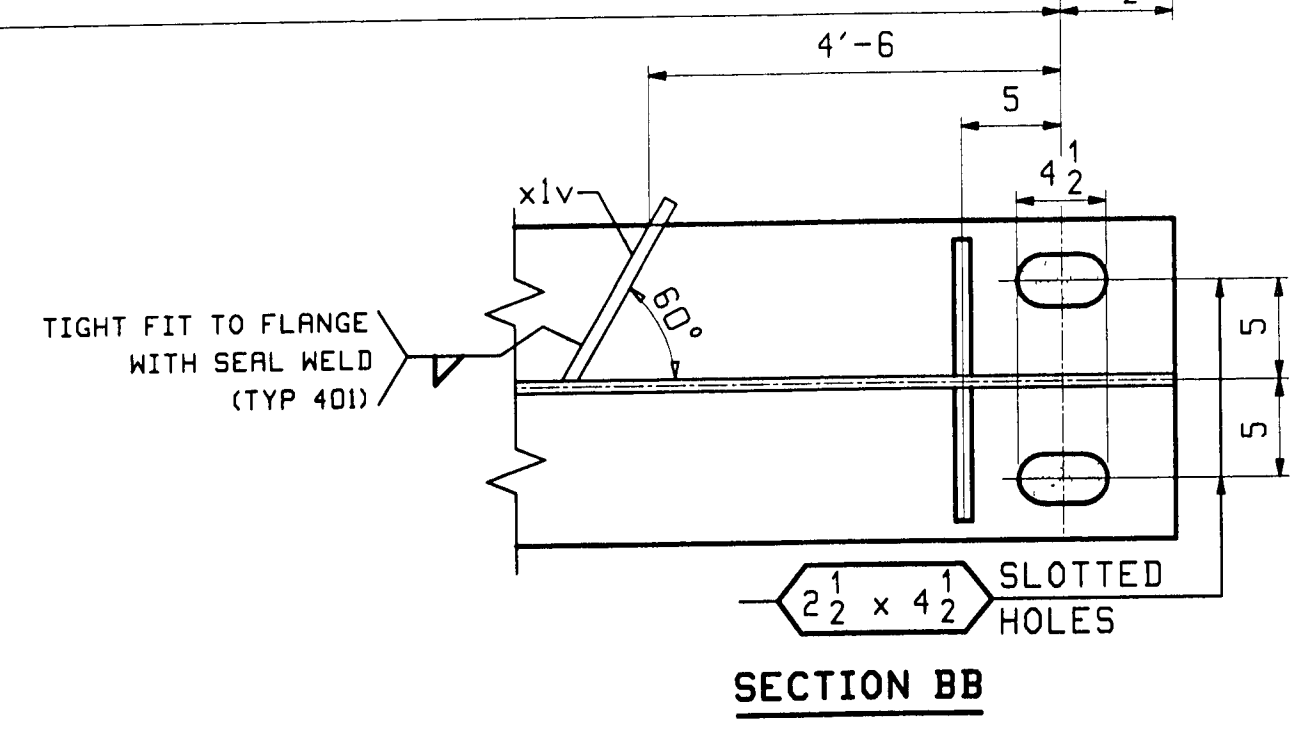
6/16	Revise Camber per design change	WL	WMJ	5/28/03	
0				6/20/03	
REV. DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL: A709-50W (UN)		SURFACE PREP & PAINT: AS NOTED ON GNI		HOLES: SHOP BOLTS	
DESCRIPTION: CAMBER AND FLANGE DIAGRAM					
CASCO BAY STEEL STRUCTURES, INC. 75 SPRING HILL ROAD SACO, MAINE 04072 PHONE (207) 282-7360 FAX. (207) 282-1179					
STRUCTURE: ROUTE No. VT 11 MINOR ARTERIAL BRIDGE No. 43 OVER MIDDLE BRANCH OF WILLIAMS RIVER TOWN OF CHESTER COUNTY OF WINDSOR				DRAWN: JTB	DATE: 04/24
LOCATION: CHESTER, VT				CHKD: JF	DATE: 05/21
PROJ NO. BRF 016-1(25)				JOB NO. 369	DWG NO. C1
CUSTOMER: VT AOT					REV. Δ

ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.
						369	1	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	PROCUREMENT NOTES
		IG1	1		GIRDER			2332
1	L		1	wa	PL 1/2 x 46	33 6 3/4	(A709-50WT2) (H2-3)	
1	J		1	wb	PL 1/2 x 46	72 2 13/16	(A709-50WT2) (H2-3)	
1	E		1	ta	PL 1x16	36 6	(A709-50WT2) (H2-3)	
1	C		1	tb	PL 1x16	68 10 1/2	(A709-50WT2) (H2-3)	
1	G		1	ba	PL 1x16	18 10 1/2	(A709-50WT2) (H2-3)	
1	A		1	bb	PL 1 7/8 x 16	68 0	(A709-50WT2) (H2-3)	
1	G		1	bc	PL 1x16	18 10 1/4	(A709-50WT2) (H2-3)	
2	B		4	x1a	PL 1/2 x 6 3/4	3 10	MIE	
2	C		4	x1b	PL 1/2 x 5	3 10		
2	D		1	x1v	PL 1/4 x 3	0 11 1/16		



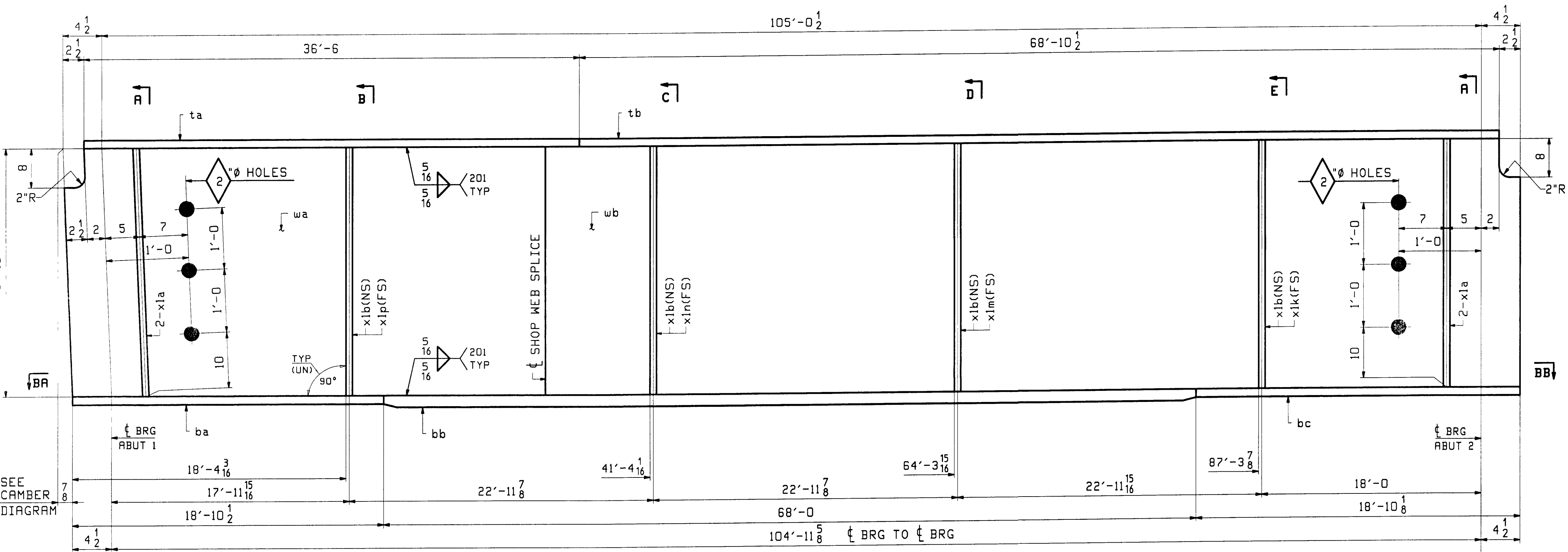
ONE - GIRDER - IG1

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



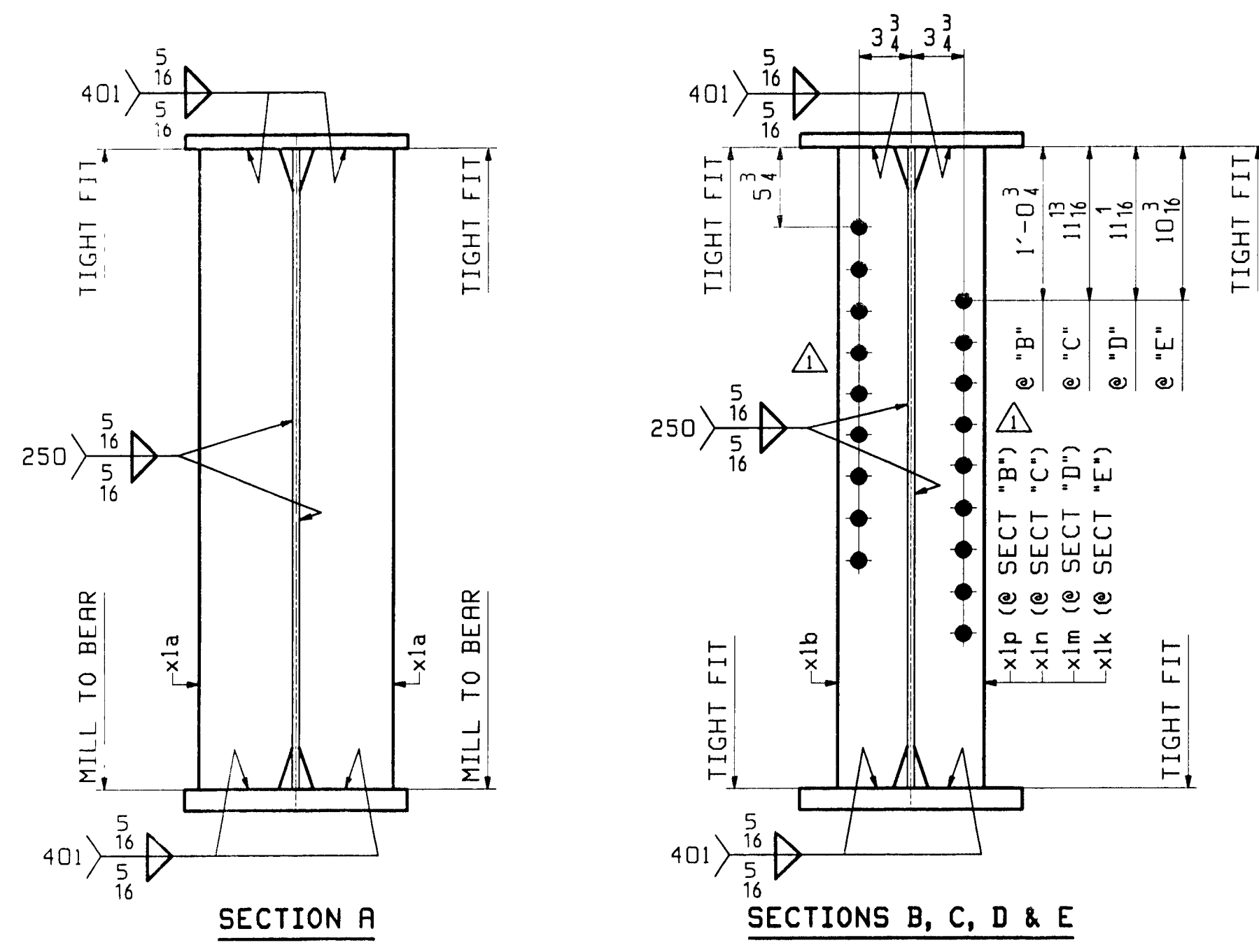
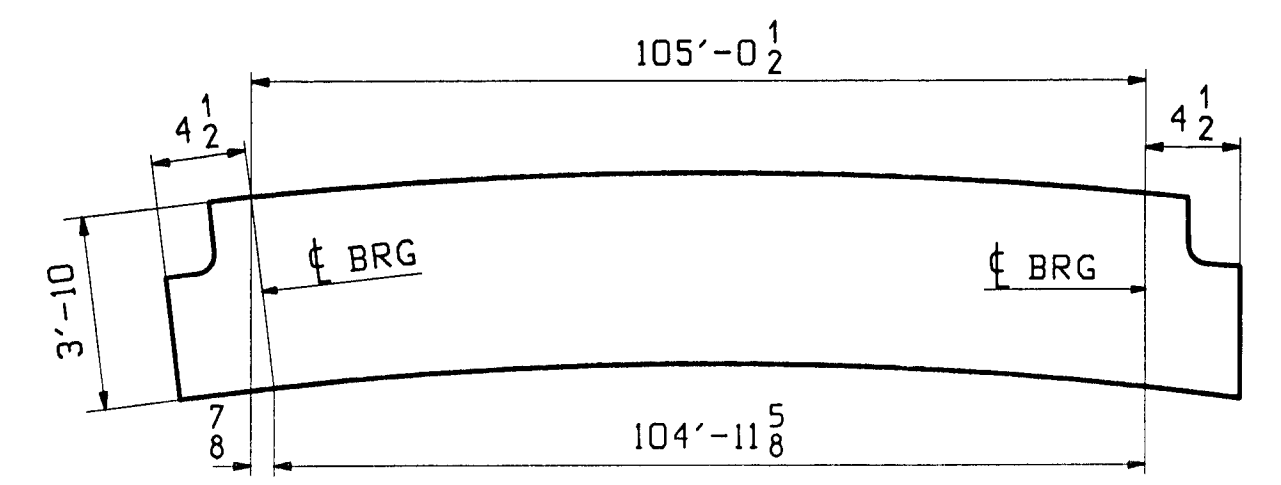
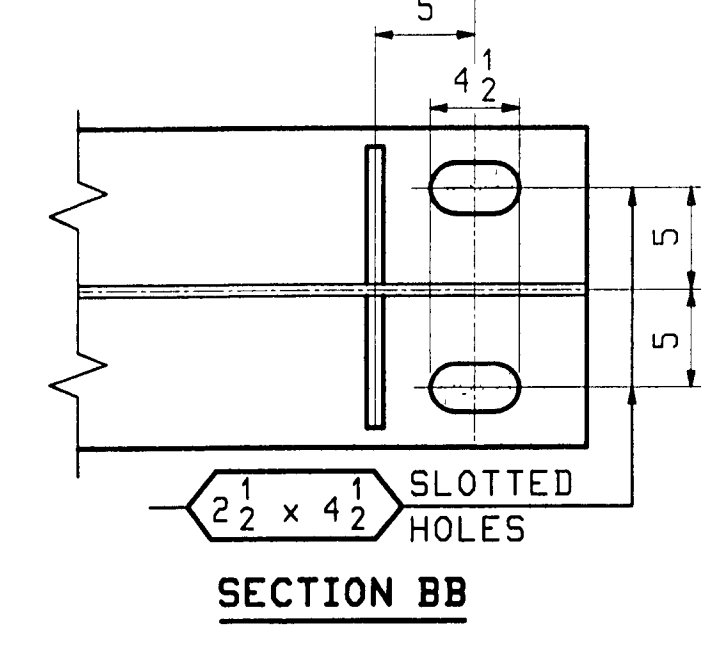
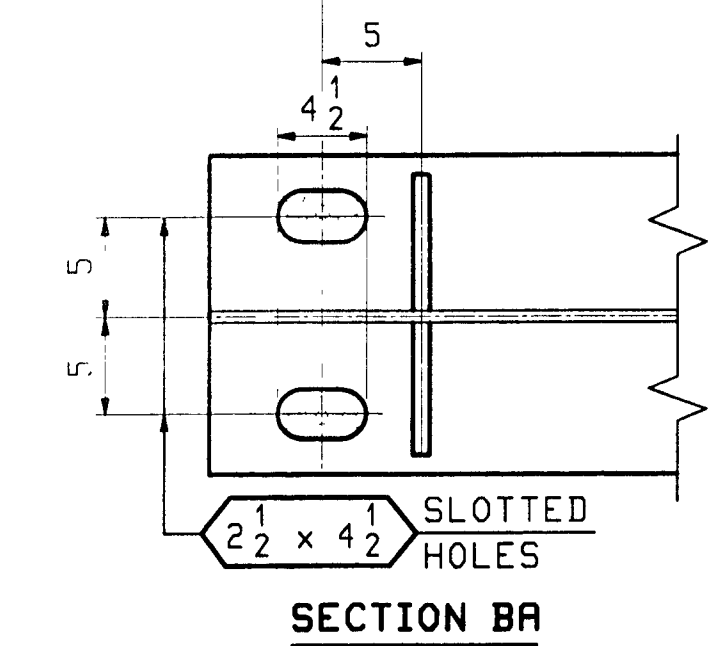
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
6/18		ADDED HOLES (STIFFENER)	ZAD	WL		5/25/08
						6/20/08
MATERIAL		SURFACE PREP & PAINT	HOLES		SHOP BOLTS.	
A709-50W (UN)		SEE DWG GNI	15 1/16 φ		NONE	
DESCRIPTION: GIRDER - IG1						
CASCO BAY STEEL STRUCTURES, INC. 75 SPRING HILL ROAD SACO, MAINE 04072 PHONE (207) 282-7360 FAX (207) 282-1179						
STRUCTURE: ROUTE No. VT 11 MINOR ARTERIAL BRIDGE NO 43 OVER MIDDLE BRANCH OF WILLIAMS RIVER TOWN OF CHESTER COUNTY OF WINDSOR				DRAWN: JTB	DATE: 05/01	
LOCATION: CHESTER, VT				CHKD: JF	DATE: 05/21	
PROJ NO. BRF D16-1(25)			JOB NO. 369		DWG NO. 1	
CUSTOMER: VT AOT					REV. Δ	

Z10 Wed Jun 16 09:54:50 PM 2009 p04/2785/1 Rev1



ONE - GIRDER - 2G2

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



ABM INFO		SHIP		BILL OF MATERIAL		JOB NO.	DRAWING NO.	REV.
						369	2	
PRGE LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
	2G2	1		GIRDER			2345	
1	L	1	wa	PL 1/2 x 4 1/2	33 6 7/8	(A709-50WT2) (H2-3)		
1	J	1	wb	PL 1/2 x 4 1/2	72 2 6/8	(A709-50WT2) (H2-3)		
1	E	1	ta	PL 1x16	36 6	(A709-50WT2) (H2-3)		
1	C	1	tb	PL 1x16	68 10 1/2	(A709-50WT2) (H2-3)		
1	G	1	ba	PL 1x16	18 10 1/2	(A709-50WT2) (H2-3)		
1	A	1	bb	PL 1 7/8 x 16	68 0	(A709-50WT2) (H2-3)		
1	G	1	bc	PL 1x16	18 10 6/8	(A709-50WT2) (H2-3)		
2	B	4	x1a	PL 1/2 x 5 1/2	3 10	MJE		
2	C	4	x1b	PL 1/2 x 5	3 10			
2	C	1	x1k	PL 1/2 x 5	3 10			
2	C	1	x1m	PL 1/2 x 5	3 10			
2	C	1	x1n	PL 1/2 x 5	3 10			
2	C	1	x1p	PL 1/2 x 5	3 10			

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
6/18		ADDED HOLES (STIFFENER)	ZAD	WL		5/28/08
						6/28/08
MATERIAL:		SURFACE PREP & PAINT.		HOLES:		SHOP BOLTS:
A709-50W (UN)		SEE DWG GNI		1 1/2" Ø		NONE
DESCRIPTION: GIRDER - 2G2						
CASCO BAY STEEL STRUCTURES, INC.						
75 SPRING HILL ROAD			SACO, MAINE 04072			
PHONE (207) 282-7360			FAX. (207) 282-1179			
STRUCTURE:		ROUTE No. VT 11 MINOR ARTERIAL			DRAWN:	DATE:
		BRIDGE NO. 43 OVER MIDDLE			JTB	05/01
		BRANCH OF WILLIAMS RIVER			CHKD:	DATE:
		TOWN OF CHESTER			JF	05/21
		COUNTY OF WINDSOR				
LOCATION:		CHESTER, VT			JOB NO.	DWG NO.
PROJ NO.		BRF 016-1(25)			369	2
CUSTOMER:		VT ROT				REV. 1

Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

Fax: (207) 772-0580

Phone: (207) 772-2533

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A109-Gr 36-50-50W (250-345-345W)
 Welding process Shielded Metal Arc Welding (SMAW)
 Manual or machine Manual
 Position of welding Flat (1F), Horizontal (2F) REVERSE
 Filler metal classification AST/AWS A51-A52
 Filler metal classification E7018-R018 C/25-7028
 Flux NA
 Shielding gas NA Flow rate NA
 Single or multiple pass Single and multiple
 Single or multiple arc Single
 Welding current AC/DCE
 Polarity STRAIGHT / REVERSE
 Welding progression ASCT AWS SPECIFICATION
 Preheat and interpass temperature To 3/4(19) 50(105) 3/4(11) To 1/2(13) 70(160) 1/2(13) To 3/8(6.5) 150(65)
 Postheat temperature NA
 Heat Input Min NA Max NA

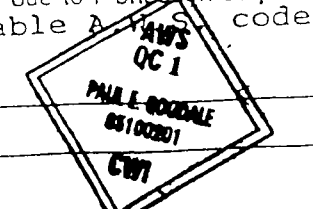
CHESTER VERMONT
 BY NO. 43 Proj. No. BRP016(05)
 CBSS No 369

WELDING PROCEDURE

Pass no	Electrode size	Welding current		Travel speed	AWS 01.5 (Joint Detail)	Fillet
		Amperes	Volts			
AS REQ	<u>2028</u> 1/8 (3.2)	70-170	22-26	AS REQ	1F	
	5/32 (3.9)	120-225	22-26			
	3/16 (4.8)	170-300	24-27			
	<u>2018</u> 1/8 (3.2)	90-160	22-26			
	5/32 (3.9)	120-225	22-26			
	3/16 (4.8)	180-290	24-27			
REQ	<u>2028</u> 5/32 (3.9)	170-270	22-26	REQ	2F	
	3/16 (4.8)	210-330	24-27			
	5/32 (3.9)	170-270	22-26			

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

Procedure no 401 Contractor Casco Bay Steel
 Revision no _____ Authorized By Paul E. Hoodale
 Date 3/2/00



Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

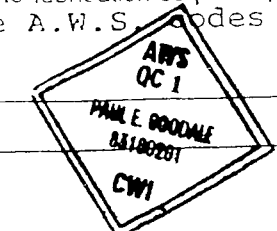
Material specification ASTM A36 Gr 36-50-50w (250-345-345w)
 Welding process Submerged Arc welding - Auto (SAW)
 Manual or machine Machine
 Position of welding Flat (1G)
 Filler metal specification AWS A5.17 AWS A5.23
 Filler metal classification FRAX-EX11K-NIL Lincoln
 Flux 960 Flux - Lincoln Weld - LA-75 Electrode
 Shielding gas NA Flow rate NA
 Single or multiple pass both
 Single or multiple etc. single
 Welding current Direct
 Polarity Reverse Electrode Positive
 Root treatment Meet AWS specification - Back gouge side 2
 Preheat and interpass temperature To 340 (90) to 600 (300) 1 1/2 (88) 2 1/2 (63) 150 (65)
 Postheat temperature NA
 Heat input Min 41.65 Max 65.45 PAR 1-59.5 Chester Vermont
By A.C. 43 Proj. No. BR Fall 10 (2)
C.B.S.S. No. 369

Pass no	Electrode size	Welding current		Travel speed	AWS D1.5 side #1											
		Amperes	Volts													
5/32	605	29.5	18.5													
	544.5	27.4	15.3													
	To	To	To													
	665.5	31.56	20.7													
3.9	605	29.5	457.2	<table border="1"> <tr> <td>1/2" to 1"</td> <td>1/4 min</td> </tr> <tr> <td>(2.7 to 25.4)</td> <td>(6)</td> </tr> <tr> <td>1" to 1 1/2"</td> <td>3/8 min</td> </tr> <tr> <td>(25.4 to 38.1)</td> <td>(9.5)</td> </tr> <tr> <td>1 1/2" to 2"</td> <td>1/2 min</td> </tr> <tr> <td>(38.1 to 50)</td> <td>(12)</td> </tr> </table>	1/2" to 1"	1/4 min	(2.7 to 25.4)	(6)	1" to 1 1/2"	3/8 min	(25.4 to 38.1)	(9.5)	1 1/2" to 2"	1/2 min	(38.1 to 50)	(12)
	1/2" to 1"	1/4 min														
	(2.7 to 25.4)	(6)														
	1" to 1 1/2"	3/8 min														
(25.4 to 38.1)	(9.5)															
1 1/2" to 2"	1/2 min															
(38.1 to 50)	(12)															
544.5	27.4	388.6														
To	To	To														
665.5	31.56	525.8														

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

Procedure no 202
 Revision no _____
 Form III 2

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



Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

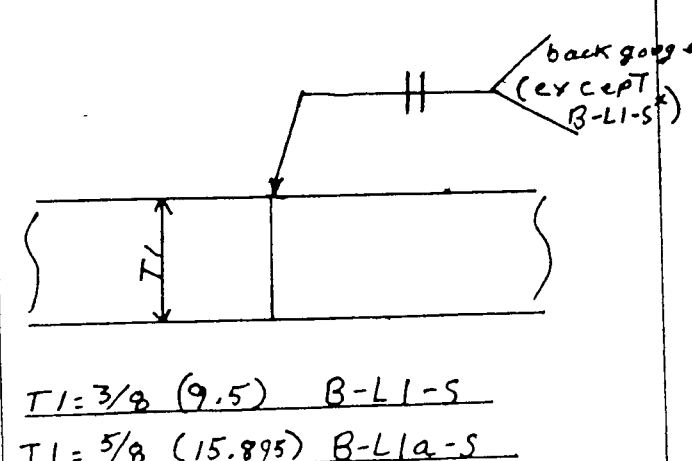
WELDING PROCEDURE SPECIFICATION

Material specification ASTM A 709 Gr 36-50-50w (250-345-345w)
 Welding process Submerged Arc welding - AUTO (SAW)
 Manual or machine MACHINE
 Position of welding FLAT (1sa.g)
 Filler metal specification AWS A5-17, AWS A5-23 LINCOLN
 Filler metal classification E7018-EN18-Ni LINCOLN
 Flux 960 Flux-Lincoln weld-LA-75 Electrode
 Shielding gas NA Flow rate NA
 Single or multiple pass both
 Single or multiple arc single
 Welding current Reverse Electrode Positive
 Polarity Reverse Electrode Positive
 Welding progression MEET AWS SPECIFICATION
 Postheat temperature NA
 Heat input NA Max 65.45 PQR # 1-59.6

CHESTER VERMONT
BR NO. 43 Proj No. BRFO16105
CBSS No 369

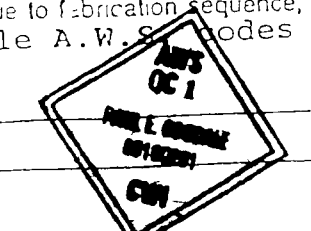
WELDING PROCEDURE

Pass no	Electrode size	Welding current		Travel speed	
		Amperes	Volts		
5/32	605	29.5	18	AWS D1.5 Joint detail B-L1-S, B-L1-S	
		544.5 TO 665.5	27.4 TO 31.56		15.3 TO 20.7
		605	29.5		457.2
3/8	605	29.5	388.6	T1: 3/8 (9.5) B-L1-S T1: 5/8 (15.875) B-L1-S	
		544.5 TO 665.5	27.4 TO 31.56		525.8
		605	29.5		457.2



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

Procedure no 203
 Revision no _____
 Contractor Casco Bay Steel
 Authorized By Paul E. Woodale
 Date 3/2/00



Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification AWS D1.1 4130 (or 36 (or 41) 40)
 Welding process Shielded Metal Arc Welding
 Manual or machine Manual
 Position of welding Vertical (2F)
 Filler metal specification AWS A5.1 E70T-24
 Filler metal classification E 70 T-24
 Flux None
 Shielding gas Argon Flow rate 35 CFH
 Single or multiple pass Single
 Single or multiple etc. None
 Welding current 175-200
 Polarity Direct
 Welding progression Up
 Root treatment None
 Preheat and interpass temperature 300 (150) to 400 (200)
 Postheat temperature None
 Heat Input Min 1.5 Max 4.5 400 F = 200 C
 (Metric) WELDING PROCEDURE BRN 0.43 Pre. 0. BR F 0.16
CBSS 1/6 369

Pass no	Electrode size	Welding current		Travel speed	Notes
		Amperes	Volts		
AS	1/16	275	28.8	11.6	1F Joint detail File 1
		247	26.8	10.4	
		302.5	30.8	12.8	
R64	1/8	275	28.8	2.946	2F Joint detail File 1
		247	26.8	2.642	
		302.5	30.8	3.2512	

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

Prepared by CS Date 2/17/01
 Revised by CS Date 2/17/01
 Approved by [Signature] Date 2/17/01
 Date 2/17/01

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A572 Gr 50 (250-345W)
 Welding process Submerged Arc Welding - Auto (SAW)
 Manual or machine Machine Horizontal (RF) Vertical (F)
 Position of welding Flat (1F)
 Filler metal specification AWS A5-17, AWS A5-23
 Flux 960 Flux - Lincoln Weld - LA-75 Electrode
 Shielding gas NA
 Single or multiple pass Both
 Welding current Direct
 Polarity Reverse Electrode Positive
 Preheat and interpass temperature Meet AWS Specification
 Postheat temperature NA
 Heat Input: Min 41.65 Max 65.45 POW 1-59.5 CHESTER VARIANT
BRAC-43 Proj No. BRFO16-1(25)
CBS 16 369

Pass no	Electrode size	Welding current		Travel speed	Joint detail
		Amperes	Volts		
5/32	605	29.5	18.5	1F	
	544.5	27.4	15.3		
	665.5	31.56	20.7		
3.9	Metric	29.5	457.2	2F	
	605	29.5	457.2		
	544.5	27.4	389.6		

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

Procedure no 201 Contractor Casco Bay Steel
 Revision no _____ Authorized By Paul E. Hurdale
 Date 3/2/00
 Form III 2

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM-A109/A109M = Gr 250 (A36) - 345 (A50) - 345W (A50W)
 Welding process Submerged Arc welding - Semi-Auto
 Manual or machine Machine
 Position of welding Fillet weld - 1F - 2F
 Filler metal specification AWS A5-17 - AWS A5-23
 Filler metal classification EBA2-EX-1K-VII Lincoln
 Flux 760 Lincoln Flux - Electrode LA-75 Lincoln
 Shielding gas NA Flow rate NA
 Single or multiple pass Single & multiple Electrode EX-1 1/4" - 2 1/2" x 20mm
 Single or multiple arc Single
 Welding current Direct
 Polarity DC EP
 Welding progression
 Root treatment wire brush - Grind - blast clean To AWS specification
 Preheat and interpass temperature 1/2" (12.7) 50° (100°) 3/4" (19) To 1 1/2" (38) 70 (200)
 Postheat temperature NA
 Heat Input Min 50 KJ/in Max 79 KJ/in PQR 5 - 72 KJ/in, 2.8 KJ/in
2 KJ/in 3 KJ/in Christen Vermont

WELDING PROCEDURE

Pass no	Electrode size	Welding current		Travel speed	AWS D1.5 Joint detail
		Amps	Volts		
		505	33	14 IPM	
	3/32	454	31	356	
		70	31	14 IP2	
		556	35	356	

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

Procedure no 151 Contractor Casco Bay Steel
 Revision no _____ Authorized By Paul E. [Signature]
 Form III-2 Date 11-20-2002



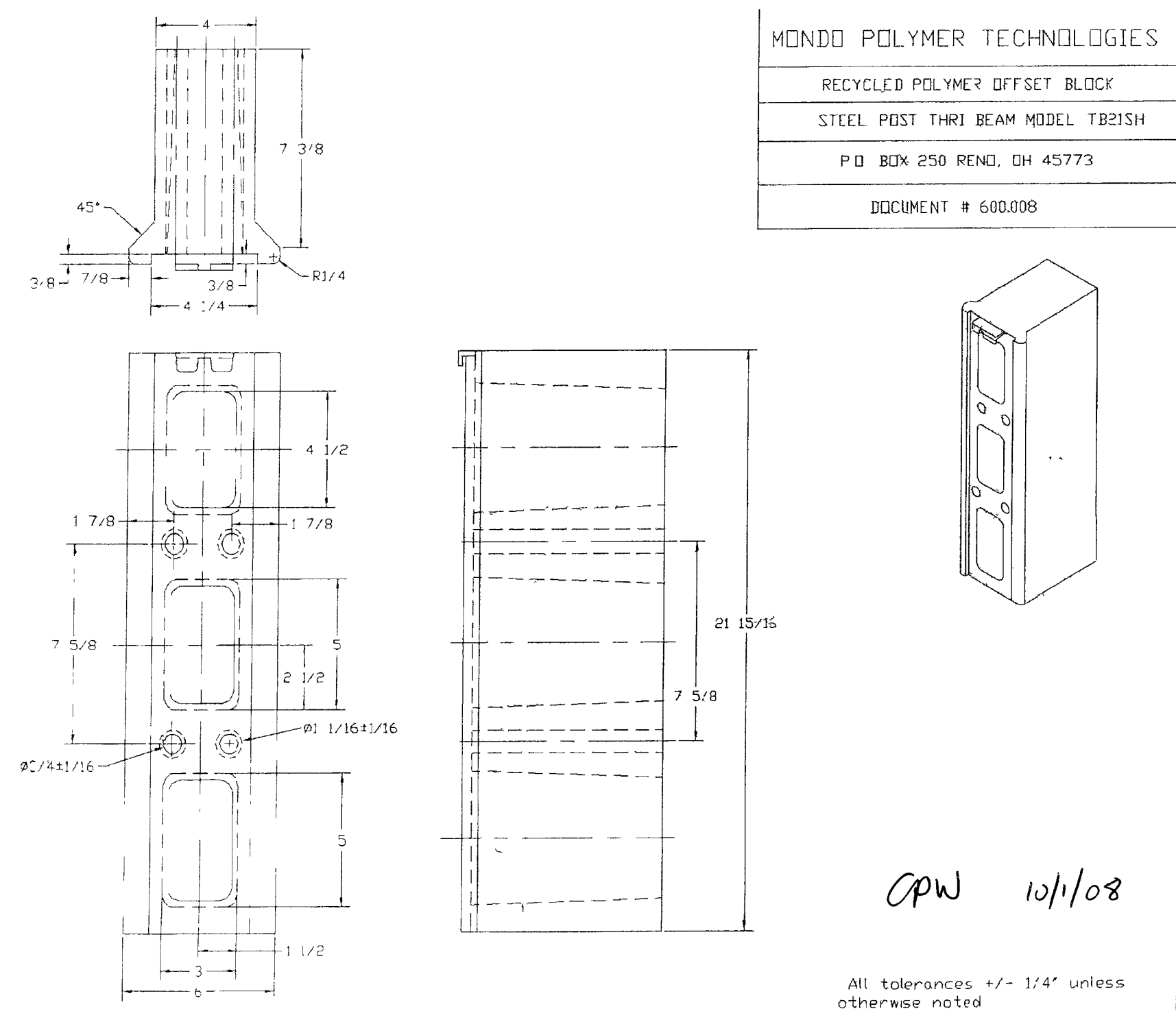
Approved products listing

Date printed 4/16/2008
Last revision 4/15/2008

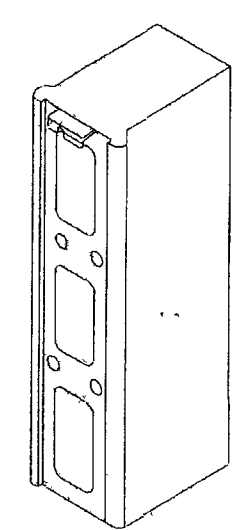
Material Specs. No. 728 01(d), Guard Rail Posts and Post Accessories - Alternate Blockouts Certification required None Const. section nos.: 621

Product	Manufacturer	Distributor	Jurisdiction	Comments
Polymer Offset Blocks	Mondo Polymer Tech, Inc P O Box 250, State Rt 7 Reno, OH 43773-0250 Tel (888) 607-4790 FAX (740) 376-9960	Mondo Polymer Tech, Inc P O Box 250 Reno, OH 43773 Tel (888)607-4790 FAX (740)376-9960	Main Research & Develop (802)828-2561 Alt N/A	Recycled Polyethylene Acceptable for use on steel post guard rail systems installed on the National Highway System per FHWA letter of 03/27/2002

CPW 10/1/08



MONDO POLYMER TECHNOLOGIES
 RECYCLED POLYMER OFFSET BLOCK
 STEEL POST THRU BEAM MODEL TB2154
 P.O. BOX 250 RENO, OH 45773
 DOCUMENT # 600008



CPW 10/1/08

All tolerances +/- 1/4" unless otherwise noted