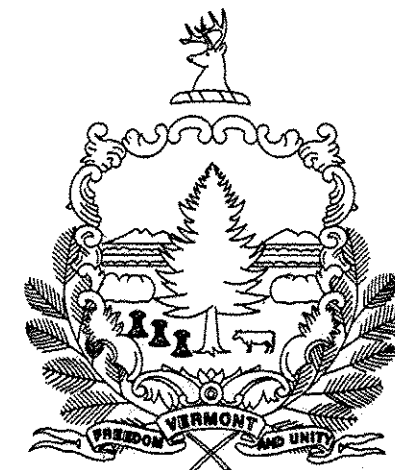
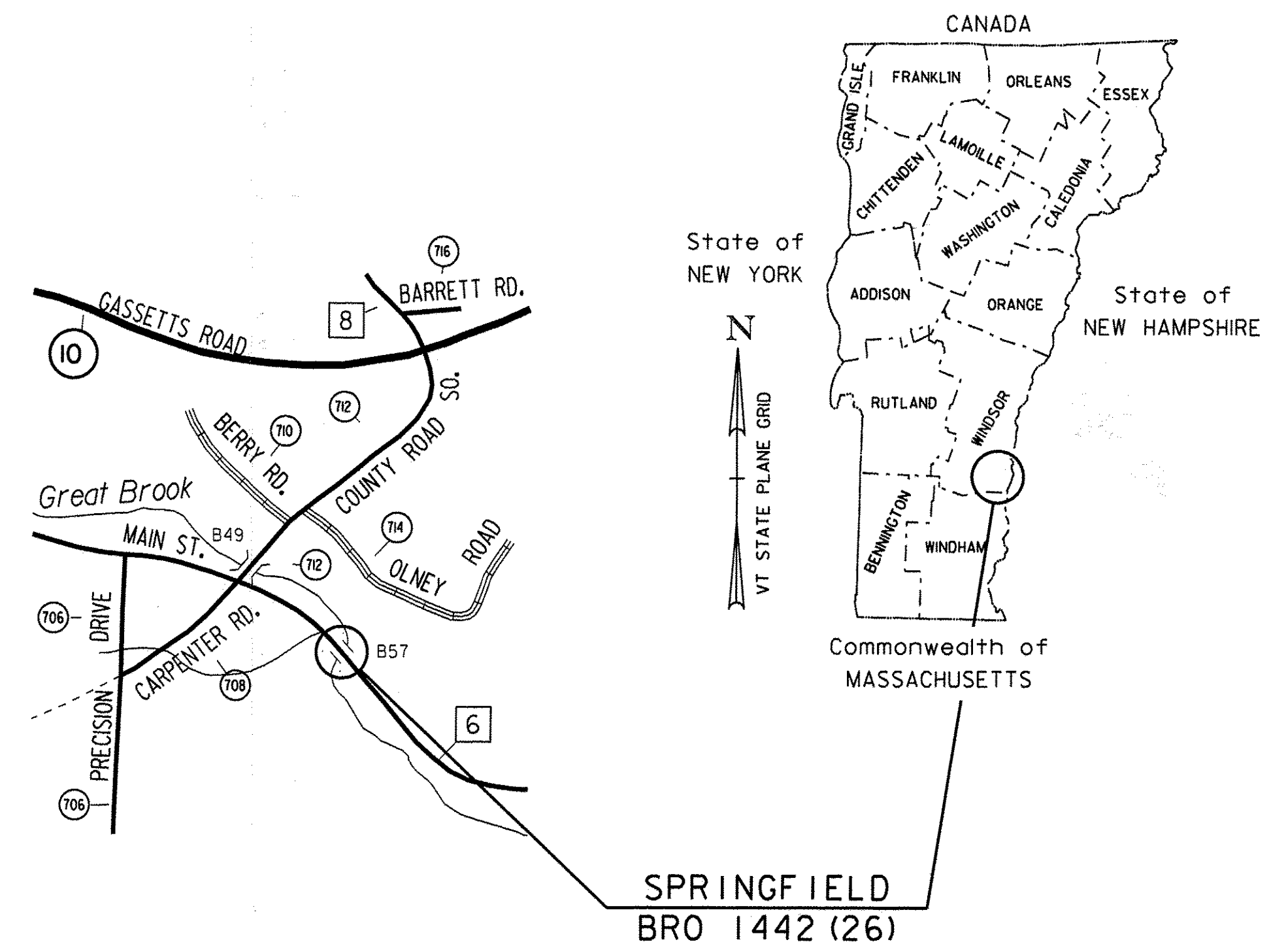


SEE SHEET 2 FOR
INDEX OF SHEETS AND
LIST OF STANDARDS

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF SPRINGFIELD COUNTY OF WINDSOR



RECORD PLANS

CONTRACTOR: T. BUCK - AUBURN, ME.
RESIDENT ENGINEER: CHAD GREENWOOD
CONSTRUCTION BEGAN: APRIL 23, 2012
CONSTRUCTION COMPLETE: JUNE 14, 2013
RECORD PLANS BY: CHAD GREENWOOD & N. GARBACIK

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

BY Chad Greenwood RESIDENT ENGINEER

DATE 11/4/13

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.

ROUTE NO : TH 6 CLASS III, LOCAL ROAD

BRIDGE NO : 57

PROJECT LOCATION : BRIDGE #57 IS LOCATED ON TOWN HIGHWAY 6 APPROXIMATELY 0.63 MILES EAST OF THE INTERSECTION WITH VT 10

PROJECT DESCRIPTION : REPLACEMENT OF EXISTING BRIDGE WITH A NEW CURVED GIRDER BRIDGE ON NEW ABUTMENTS AND NECESSARY APPROACH WORK.

LENGTH OF STRUCTURE : 134.76 FEET.
LENGTH OF ROADWAY : 115.24 FEET.
LENGTH OF PROJECT : 250.00 FEET.

BEGIN PROJECT STA. 11+00.00
BEGIN BRIDGE STA. 11+54.72
END BRIDGE STA. 12+89.48
END PROJECT STA. 13+50.00

QUALITY ASSURANCE PROGRAM: LEVEL 2

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 : RDG
SURVEYED DATE : JANUARY 1996

DATUM

VERTICAL : NAVD 88
HORIZONTAL : NAD 83 (92)

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.

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED [Signature] DATE 8/30/11

PROJECT MANAGER : KRISTIN HIGGINS

PROJECT NAME : SPRINGFIELD

PROJECT NUMBER : BRO 1442 (26)

SHEET 1 OF 52 SHEETS

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PLAN SHEETS						STANDARDS LIST									
1	TITLE SHEET					E-100	CONSTRUCTION APPROACH SIGNS					01-02-2004			
2	PRELIMINARY INFORMATION SHEET 1					E-102	CONSTRUCTION SIGN DETAILS					06-30-2003			
3	GENERAL NOTES					E-102A	CONSTRUCTION SIGN DETAILS					05-01-2004			
4 - 5	QUANTITY SHEET - 1 & 2					E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS					06-30-2003			
6 - 7	TYPICAL SECTION SHEET - 1 & 2					E-107A	BREAKAWAY BARRICADE DETAILS					06-08-2009			
8	TIE SHEET					E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD					08-08-1995			
9	LAYOUT SHEET					E-134	BRIDGE NUMBER PLAQUE					08-08-1995			
10	MAINLINE PROFILE					E-164	SQUARE STEEL SIGN POST					06-08-2009			
11	UTILITY LAYOUT SHEET					E-193	PAVEMENT MARKING DETAILS					08-18-1995			
12	SIGNING AND MARKINGS SHEET					G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)					01-03-2000			
13	BRIDGE AND APPROACH RAILING SHEET					G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)					01-03-2000			
14	BRIDGE RAIL DETAIL SHEET					G-19	GENERIC GRADING PLANS FOR GUARDRAIL END TERMINALS					11-15-2002			
15	BORING INFORMATION SHEET														
16 - 17	BORING LOG SHEET - 1 & 2														
18	PLAN AND ELEVATION SHEET														
19	DECK PLAN														
20	FRAMING & CROSS FRAME DETAILS														
21	GIRDER DETAILS														
22 - 24	BEARING DETAILS - 1 - 3														
25	DOWNSPOUT DETAILS														
26	ABUTMENT 1														
27	ABUTMENT 1 REINFORCING PLAN														
28	WINGWALL 1 & 2 DETAILS														
29	ABUTMENT 2														
30	ABUTMENT 2 TYPICALS														
31	ABUTMENT 2 REINFORCING PLAN														
32	WINGWALL 3 & 4 DETAILS														
33	ABUTMENT 1 BACKWALL DETAILS														
34	ABUTMENT 2 BACKWALL DETAILS														
35	APPROACH SLAB DETAILS														
36	REINFORCING STEEL SCHEDULE SHEET #1														
37	EPSC NARRATIVE														
38	EPSC EXISTING CONDITIONS														
39	EPSC DURING CONSTRUCTION														
40	EPSC FINAL CONDITIONS														
41 - 43	EPSC DETAILS - 1 - 3														
44 - 48	ROADWAY CROSS SECTIONS - 1 - 5														
49 - 52	CHANNEL CROSS SECTIONS - 1 - 4														
STRUCTURES DETAIL SHEETS															
SD-501.00	CONCRETE DETAILS AND NOTES														
SD-502.00	CONCRETE DETAILS AND NOTES														
SD-516.11a	BRIDGE EXPANSION JOINT, VERMONT														
SD-516.11b	BRIDGE EXPANSION JOINT, VERMONT														
SD-601.00	STRUCTURAL STEEL DETAILS & NOTES														
SD-602.00	STRUCTURAL STEEL PLATE GIRDER AND NOTES														
TRAFFIC DATA															
YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2008 to 2028 : 231000									
2008	1100	170	59	4	60	40 year ESAL for flexible pavement from 2008 to 2048 : 521000									
2028	1400	200	59	5	90	Design Speed : 35 mph									
						HYDROLOGIC DATA									
						Date: June 2010									
						DRAINAGE AREA : 11.2 sq. mi.									
						CHARACTER OF TERRAIN : Mountainous, mostly forested, rural									
						STREAM CHARACTERISTICS : Sinuous, somewhat incised									
						NATURE OF STREAMBED : Cobbles, boulders and some ledge									
						PEAK FLOW DATA									
						Q 2.33 = 600 cfs Q 50 = 2600 cfs									
						Q 10 = 1320 cfs Q 100 = 3100 cfs									
						Q 25 = 2000 cfs Q 500 = 4600 cfs									
						DATE OF FLOOD OF RECORD : 1927									
						ESTIMATED DISCHARGE : unknown									
						WATER SURFACE ELEV : unknown									
						NATURAL STREAM VELOCITY : @ Q25 = 14.8 fps									
						ICE CONDITIONS : moderate									
						DEBRIS : little to 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 : 2 span steel beam									
						YEAR BUILT : 1934									
						CLEAR SPAN(NORMAL TO STREAM) : 97'									
						VERTICAL CLEARANCE ABOVE STREAMBED : 17'									
						WATERWAY OF FULL OPENING : 940 sq. ft.									
						DISPOSITION OF STRUCTURE : Replace									
						TYPE OF MATERIAL UNDER SUBSTRUCTURE : See borings									
						WATER SURFACE ELEVATIONS AT:									
						Q2.33 = 545.3' VELOCITY = 8.7 fps									
						Q10 = 547.3' " 10.9 fps									
						Q25 = 548.7' " 12.2 fps									
						Q50 = 549.7' " 13.2 fps									
						Q100 = 550.5' " 13.9 fps									
						LONG TERM STREAMBED CHANGES : The FIS shows a 2' - 3' deep scour hole through the bridge and downstream									
						IS THE ROADWAY OVERTOPPED BELOW Q100: No									
						FREQUENCY: N/A									
						RELIEF ELEVATION: 554.8'									
						DISCHARGE OVER ROAD @Q100: N/A									
						UPSTREAM STRUCTURE									
						TOWN: Springfield DISTANCE: 600'									
						HIGHWAY# : TH 712 STRUCTURE #: 82									
						CLEAR SPAN: 20.5' CLEAR HEIGHT: 13.5'									
						YEAR BUILT: 1937 FULL WATERWAY: 211 sq. ft.									
						STRUCTURE TYPE: CGMPPA									
						DOWNSTREAM STRUCTURE									
						TOWN: Springfield DISTANCE: 2500'									
						HIGHWAY# : TH 726 STRUCTURE #: 48									
						CLEAR SPAN: 29.5' CLEAR HEIGHT: 8'									
						YEAR BUILT: 1850 FULL WATERWAY: 236 sq. ft.									
						STRUCTURE TYPE: Bridge									
						LRFR LOAD RATING FACTORS									
						LOADING LEVELS									
						TRUCK									
						H-20 HL-93 3S2 6 AXLE 3A STR. 4A STR. 5A SEMI									
						TONNAGE 20 36 36 66 30 34.5 38									
						INVENTORY 3.23 1.38									
						POSTING									
						OPERATING 4.19 1.29 2.75 1.62 2.88 2.55 2.81									
						COMMENTS:									
						PILE DRIVING AND TESTING REQUIREMENTS									
						1. NOMINAL PILE DRIVING CAPACITY 17.5' 270.00 KIP									
						2. PILE TEST RESISTANCE FACTOR 6' 0.65									
						3. MAXIMUM PILE TIP ELEVATION 525.00 FT									
						4. 0									
						PROPOSED STRUCTURE									
						STRUCTURE TYPE: Single span curved plate girder bridge									
						CLEAR SPAN(NORMAL TO STREAM): 89'									
						VERTICAL CLEARANCE ABOVE STREAMBED: 17'									
						WATERWAY OF FULL OPENING: 740 sq. ft.									
						WATER SURFACE ELEVATIONS AT:									
						Q2.33 = 545.0' VELOCITY= 8.8 fps									
						Q10 = 547.0' " 10.9 fps									
						Q25 = 548.3' " 12.2 fps									
						Q50 = 549.2' " 13.2 fps									
						Q100 = 549.9' " 13.9 fps									
						IS THE ROADWAY OVERTOPPED BELOW Q100: No									
						FREQUENCY: N/A									
						RELIEF ELEVATION: 554.8'									
						DISCHARGE OVER ROAD @Q100: N/A									
						AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 553.8'									
						VERTICAL CLEARANCE: @ Q25 = 5.5'									
						SCOUR: 3.0' at Q500									
						REQUIRED CHANNEL PROTECTION: Stone Fill Type IV									
						PERMIT INFORMATION									
						AVERAGE DAILY FLOW: 24 cfs DEPTH OR ELEVATION:									
						ORDINARY LOW WATER: 10 cfs 1.0'									
						ORDINARY HIGH WATER: 260 cfs 3.0'									
						TEMPORARY BRIDGE REQUIREMENTS									
						STRUCTURE TYPE: None required									
						CLEAR SPAN (NORMAL TO STREAM):									
						VERTICAL CLEARANCE ABOVE STREAMBED:									
						WATERWAY AREA OF FULL OPENING:									
						ADDITIONAL INFORMATION									
						TRAFFIC MAINTENANCE NOTES									
						1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.									
						2. TRAFFIC SIGNALS ARE NOT NECESSARY.									
						3. SIDEWALKS ARE NOT NECESSARY									
						DESIGN VALUES									
						1. DESIGN LIVE LOAD HL-93									
						2. FUTURE PAVEMENT dp: 3.0 INCH									
						3. DESIGN SPAN L: 128.00 FT									
						4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS) Δ: N/A									
						5. PRESTRESSING STRAND fy: N/A									
						6. PRESTRESSED CONCRETE STRENGTH f'c: N/A									
						7. PRESTRESSED CONCRETE RELEASE STRENGTH f'ci: N/A									
						8. CONCRETE, HIGH PERFORMANCE CLASS AA f'c: N/A									
						9. CONCRETE, HIGH PERFORMANCE CLASS A LOW CEMENT f'c: 4.0 KSI									
						10. CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3.5 KSI									
						11. CONCRETE, CLASS C f'c: 3.0 KSI									
						12. REINFORCING STEEL fy: 60 KSI									
						13. STRUCTURAL STEEL AASHTO M270 (WEATHERING) fy: 170 KSI									
						14. SOL UNIT WEIGHT γ: 0.140 KCF									
						15. NOMINAL BEARING RESISTANCE OF SOL qn: N/A									
						16. SOL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: ---									
						17. NOMINAL BEARING RESISTANCE OF ROCK qa: 22 KSF									
						18. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD) φ: ---									
						19. NOMINAL AXIAL PILE RESISTANCE qp: 270.0 KIPS									
						20. PILE YIELD STRENGTH ASTM A572 fy: 50 KSI									
						21. PILE SIZE HP 14X 89									
						22. EST. PILE LENGTH Lp: 29 FT									
						23. PILE RESISTANCE FACTOR φ: 0.65									
						24. LATERAL PILE DEFLECTION Δ: 1.00 INCH									
						25. BASIC WIND SPEED V3s: ---									
						26. MINIMUM GROUND SNOW LOAD pg: ---									
						27. SEISMIC DATA PGA: --- Ss: --- S1: ---									
						PROJECT NAME: SPRINGFIELD									
						PROJECT NUMBER: BRO 1442(26)									
						FILE NAME: s95j282qs.xls PLOT DATE: 8/29/2011									
						PROJECT LEADER: K. HIGGINS DRAWN BY: R. PELLETT									
						DESIGNED BY: J. LACROIX CHECKED BY: J. LACROIX									
						PRELIMINARY INFORMATION SHEET 1 SHEET 2 OF 52									

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION, AND ITS LATEST REVISIONS.
2. THE BRIDGE IS DESIGNED FOR HL 93 LIVE LOAD WITH 3" OF FUTURE PAVEMENT.
3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.
4. ITEM 529.15 REMOVAL OF STRUCTURE IS FOR THE COMPLETE REMOVAL OF THE EXISTING BRIDGE, INCLUDING COMPLETE REMOVAL OF THE EXISTING SUPERSTRUCTURE, ALL PORTIONS OF THE EXISTING ABUTMENTS NOT REMOVED UNDER STRUCTURE EXCAVATION OR COFFERDAM EXCAVATION, AND REMOVAL OF THE EXISTING PIER DOWN TO ELEVATION 540.00 FT. THE COST OF A TEMPORARY CAUSEWAY TO REMOVE THIS PIER (IF REQUIRED) WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 529.15 REMOVAL OF STRUCTURE.
5. 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.
6. THERE ARE WATER AND SEWER LINES IN THE PROJECT AREA. THE CONTRACTOR SHALL WORK AROUND AND PROTECT THESE LINES. THESE LINES SHALL BE EXPOSED AND IDENTIFIED PRIOR TO ANY OTHER EXCAVATION OCCURRING. ANY EXCAVATION REQUIRED TO LOCATE AND EXPOSE THE EXISTING UTILITIES, OUTSIDE THE LIMITS OF EXCAVATION PAID UNDER OTHER CONTRACT ITEMS, AND ALL WORK REQUIRED TO ENSURE THAT THESE LINES ARE PROTECTED DURING CONSTRUCTION OF THIS PROJECT WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 204.22. ANY DAMAGE DONE TO EXISTING UTILITIES AS A RESULT OF THE CONTRACTOR'S OPERATIONS, AS DETERMINED BY THE ENGINEER, WILL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.

TRAFFIC CONTROL

7. DURING CONSTRUCTION, TH 6 WILL BE CLOSED TO THROUGH TRAFFIC. THE TOWN OF SPRINGFIELD WILL SIGN THE DETOUR. THE CONTRACTOR WILL BE RESPONSIBLE FOR SIGNING REQUIRED FOR THE ROAD CLOSURE.
8. ACCESS TO ALL DRIVES MUST BE MAINTAINED DURING CONSTRUCTION. AS PART OF ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE RESIDENT ENGINEER FOR APPROVAL.
9. FOR ADDITIONAL CONSTRUCTION SIGNING INSTRUCTIONS SEE INCLUDED E-SERIES STANDARDS AND THE LATEST EDITION OF THE MUTCD. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN.

EARTHWORK

10. THE HEIGHT OF BACKFILL BEHIND ABUTMENT #1 SHALL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS UP.
11. THE HEIGHT OF BACKFILL BEHIND ABUTMENT #2 SHALL BE LIMITED TO TWO FEET BELOW THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS UP.
12. THE STONE FILL, TYPE IV SHALL BE PLACED IN FRONT OF THE ABUTMENTS BEFORE THE STRUCTURAL STEEL HAS BEEN SET.

CONCRETE

13. NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
14. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL, OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 4.0% TOWARDS MID-SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH A MAGNESIUM FLOAT.
15. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP BEADS.
16. NO CONCRETE IN THE ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE BEAMS/GIRDERS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.
17. ALL APPROACH SLAB AND SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS OTHERWISE NOTED.

18. THE DECK SHALL BE SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT).
19. SCREED RAIL SUPPORTS SHALL NOT BE LOCATED WITHIN THE DECK CONCRETE FOR BARE CONCRETE BRIDGE DECKS.

STRUCTURAL STEEL

20. THE BOTTOM FLANGE OF THE GIRDERS SHALL CONFORM TO ASTM A709 GRADE HPS 70W AND SHALL BE PAID UNDER SPECIAL PROVISION (HIGH PERFORMANCE STEEL, CURVED PLATE GIRDER, GRADE 70W)
21. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
22. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.
23. ANY HOLES IN THE WEBS OF THE FASCIA BEAMS/GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
24. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SECTION 506.
25. FLEMING BRACKETS OR SIMILAR FALSE WORK SHALL BE PLACED AT A MAXIMUM SPACING OF 4 FEET. THE BRACKETS SHALL BEAR NEAR THE BOTTOM FLANGE AND IN NO CASE SHALL THEY BEAR ABOVE THE BOTTOM QUARTER OF THE WEB.
26. AFTER THE SUPERSTRUCTURE HAS BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE BEAMS/GIRDERS, AS DIRECTED BY THE RESIDENT ENGINEER, FOR USE IN DETERMINING THE FINISHED GRADE.
27. THE PORTION OF THE GIRDERS WITHIN 10 FEET OF THE EXPANSION JOINT AND ANY DIAPHRAGMS LOCATED WITHIN 10 FEET OF THE EXPANSION JOINT ALONG ANY GIRDER LINE SHALL BE PAINTED.

PILES

28. THE PILES SHALL BE HP 14 x 89.
29. A MINIMUM OF THREE DYNAMIC PILE TESTS SHALL BE CONDUCTED.
30. THE PILES SHALL BE DRIVEN TO A NOMINAL RESISTANCE OF 270 KIPS. TO PREVENT DAMAGE TO THE PILES, PILE SHOES SHALL BE REQUIRED AND SHALL CONFORM TO SECTION 505.
31. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. ACTUAL IN PLACE LENGTHS MAY VARY.

SUBSTRUCTURES ON BEDROCK

32. IT IS ANTICIPATED THAT THE BEDROCK WILL BE SEVERELY SLOPED AND VARIABLE AT ABUTMENT #2.
33. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.
34. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL NOTIFY THE PROJECT MANAGER AND THE VTRANS SOILS AND FOUNDATION ENGINEER. THE SOILS AND FOUNDATION ENGINEER WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE NOMINAL BEARING RESISTANCE AS SHOWN ON THE PLANS. FIVE (5) WORKING DAYS FROM NOTIFICATION SHALL BE ALLOWED TO MAKE THE INSPECTION AND THE DETERMINATION FOR THE COMPETENCY OF THE BEDROCK.
35. ONCE THE ELEVATION OF COMPETENT BEDROCK HAS BEEN DETERMINED, THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE PROJECT MANAGER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION SHALL BE RAISED OR LOWERED AND WHETHER A SUBFOOTING SHALL BE REQUIRED. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE PROJECT MANAGER. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THIS DETERMINATION. NO WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED.
36. THE LIMITS OF SUBFOOTINGS SHALL BE 1'-0" OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. THE TOP SURFACE OF ALL SUBFOOTINGS SHALL BE INTENTIONALLY ROUGHENED TO 1/4" AMPLITUDE.

37. ANY CONCRETE REQUIRED FOR SUBFOOTINGS SHALL BE PAID FOR WITH ITEM 541.30 CONCRETE, CLASS C. AN ESTIMATED QUANTITY OF ITEM 541.30 HAS BEEN INCLUDED IN THE CONTRACT.
38. ANY BEDROCK THAT NEEDS TO BE REMOVED SHALL BE PAID FOR WITH THE CORRESPONDING EXCAVATION ITEM INCLUDED IN THE CONTRACT.
39. OVERBREAKAGE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09(B)(1) AND 208.11(C) WILL BE AT THE CONTRACTOR'S EXPENSE.
40. DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 2'-0" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND IN THE FOOTING OR SUBFOOTING A MINIMUM OF 1'-6", UNLESS NOTED OTHERWISE.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282gennotes.dgn	PLOT DATE: 14-SEP-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
GENERAL NOTES	SHEET 3 OF 52

STATE OF VERMONT AGENCY OF TRANSPORTATION														QUANTITY SHEET 1											
SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS						DETAILED SUMMARY OF QUANTITIES					
							ROADWAY	TRAINING	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS					
							1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				EARTHWORKS SUMMARY					
							365					365		CY	COMMON EXCAVATION	203.15		365	CY	COMMON EXCAVATION (365 x 1.0)					
							50					50		CY	SOLID ROCK EXCAVATION	203.16		37.5	CY	SOLID ROCK EXCAVATION (50 x 0.75)					
							300					300		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		225	CY	UNCLASSIFIED CHANNEL EXCAVATION (300 x 0.75)					
							10					10		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		450	CY	COFFERDAM EXCAVATION, EARTH (450 x 1.0)					
										300		300		CY	STRUCTURE EXCAVATION	204.25		112.5	CY	COFFERDAM EXCAVATION, ROCK (150 x 0.75)					
										220		220		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		1415	CY	SUBTOTAL					
										450		450		CY	COFFERDAM EXCAVATION, EARTH	208.30		25	CY	ROUND					
										150		150		CY	COFFERDAM EXCAVATION, ROCK	208.35		1440	CY	TOTAL FILL AVAILABLE					
										1		1		LS	COFFERDAM (STA. 12+86)	208.40		240	CY	FILL REQUIRED (200 x 1.2)					
							105					105		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		1200	CY	TOTAL WASTE					
							320					320		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35									
							1					1		CWT	EMULSIFIED ASPHALT	404.65									
							1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50									
										500		500		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34									
										1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10									
										670		670		LF	STEEL PILING, HP 14 X 89	505.18									
										3		3		EACH	DYNAMIC PILE LOADING TEST	505.45									
										113000		113000		LB	STRUCTURAL STEEL, CURVED PLATE GIRDER (FPQ)	506.56									
										36900		36900		LB	REINFORCING STEEL	507.15									
										200		200		LF	DRILLING AND GROUTING DOWELS	507.16									
										37200		37200		LB	EPOXY COATED REINFORCING STEEL	507.17									
										1		1		LS	SHEAR CONNECTORS (1032 - 7/8" X 7")	508.15									
										1		1		LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25									
										1		1		LS	SURFACE PREPARATION, SHOP	513.40									
										70		70		GAL	WATER REPELLENT, SILANE	514.10									
										41		41		LF	BRIDGE EXPANSION JOINT, VERMONT (FPQ)	516.11									
							1					1		EACH	REMOVAL OF STRUCTURE (3300 SF - EST.)	529.15									
										8		8		EACH	BEARING DEVICE ASSEMBLY, POT	531.12									
										100		100		CY	CONCRETE, CLASS C	541.30									
							400					400		CY	STONE FILL, TYPE IV	613.13									
							214					214		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS (FPQ)	621.215									
							1					1		EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51									
							3					3		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60									
							50					50		LF	REMOVAL AND DISPOSAL OF GUARDRAIL (FPQ)	621.80									
											1	1		LS	FIELD OFFICE, ENGINEERS	631.10									
											1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16									
											1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17									
											3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26									
								520				520		HR	EMPLOYEE TRAINEESHIP	634.10									
																		PROJECT NAME: SPRINGFIELD							
																		PROJECT NUMBER: BRO 1442(26)							
																		FILE NAME: s95j282qs.xls				PLOT DATE: 30-AUG-2011			
																		PROJECT LEADER: K. HIGGINS				DRAWN BY: R. PELLETT			
																		DESIGNED BY: J. LACROIX				CHECKED BY: J. LACROIX			
																		QUANTITY SHEET - 1				SHEET 4 OF 52			

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

QUANTITY SHEET 2

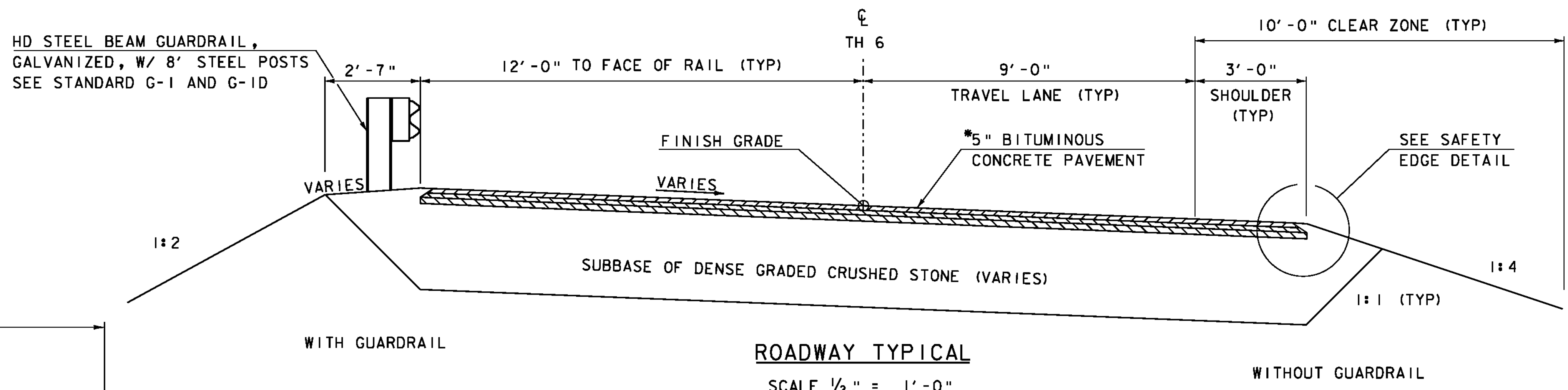
[illegible]

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

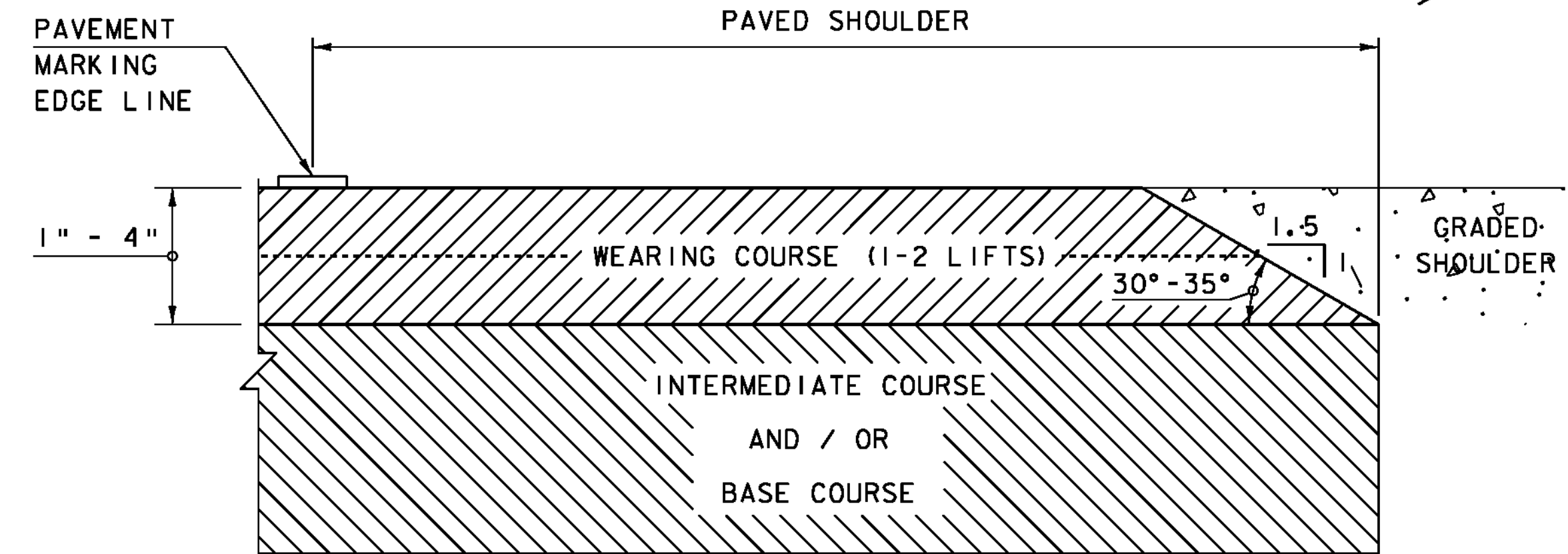
FILE NAME: s95j282qs.xls
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
QUANTITY SHEET - 2

PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 5 OF 52

#3" SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
(1 1/2" TYPE IVS OVER 1 1/2" TYPE IVS)
2" BASE COURSE OF SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (TYPE IIIS)
24" DENSE GRADED CRUSHED STONE SUBBASE (VARIES)



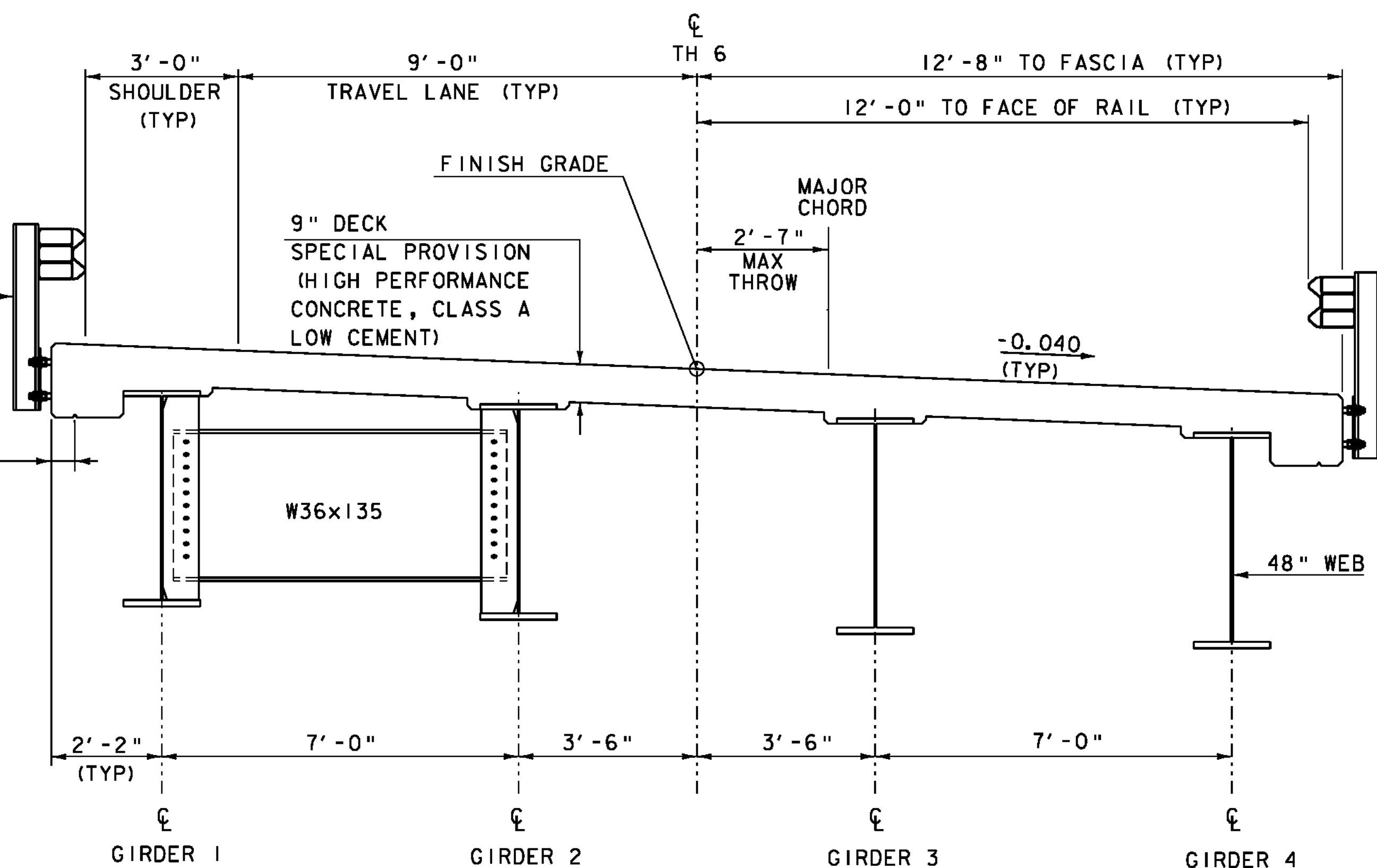
ROADWAY TYPICAL
SCALE 1/2" = 1'-0"



SAFETY EDGE DETAIL
NOT TO SCALE

NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.

SPECIAL PROVISION
(BRIDGE RAILING,
GALVANIZED HDSB,
FASCIA MOUNTED,
STEEL TUBING) (TYP)
6" TO DRIP NOTCH (TYP)

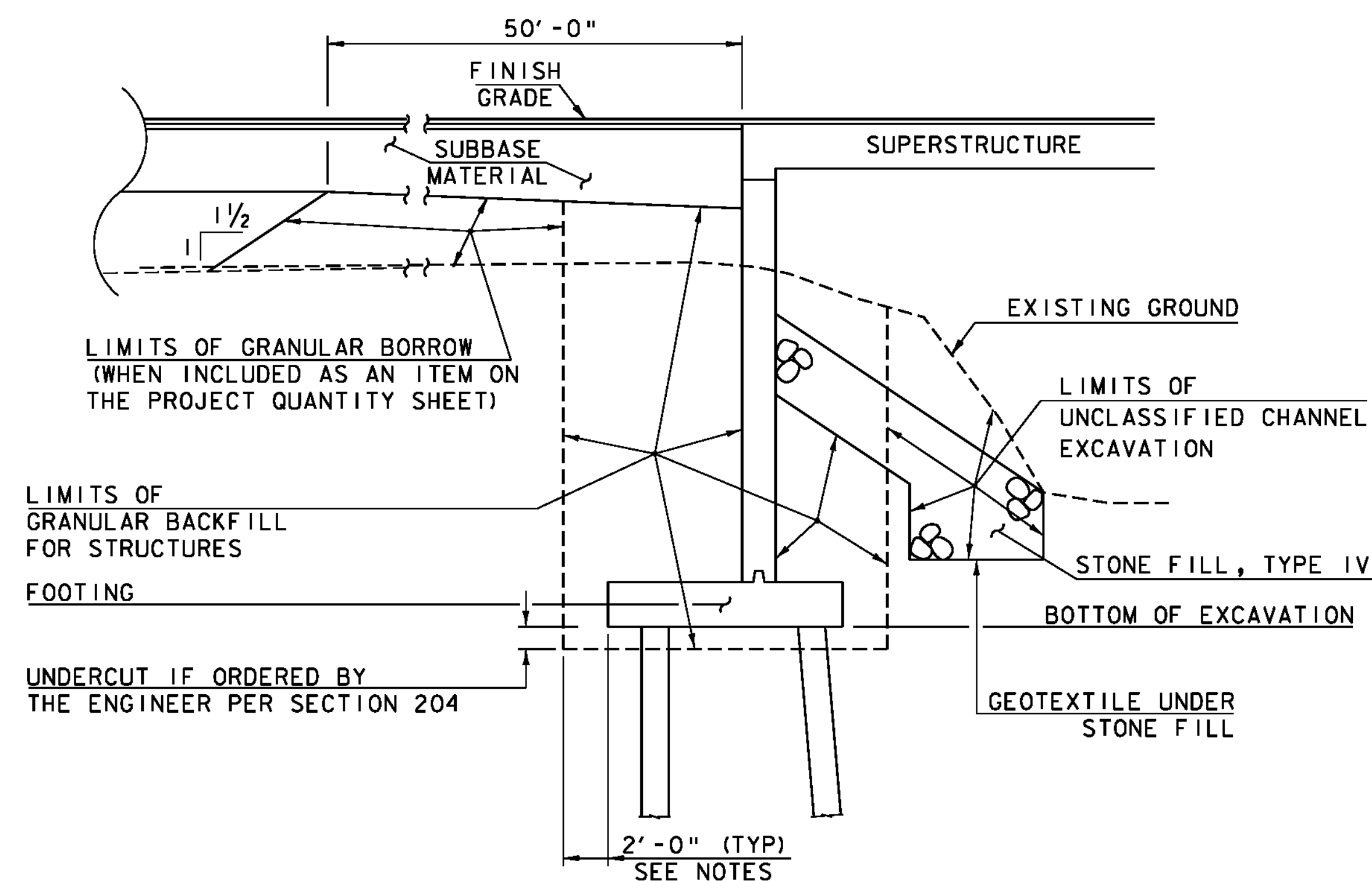


BRIDGE TYPICAL
SCALE 1/2" = 1'-0"

MATERIAL TOLERANCES
(IF USED ON PROJECT)

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

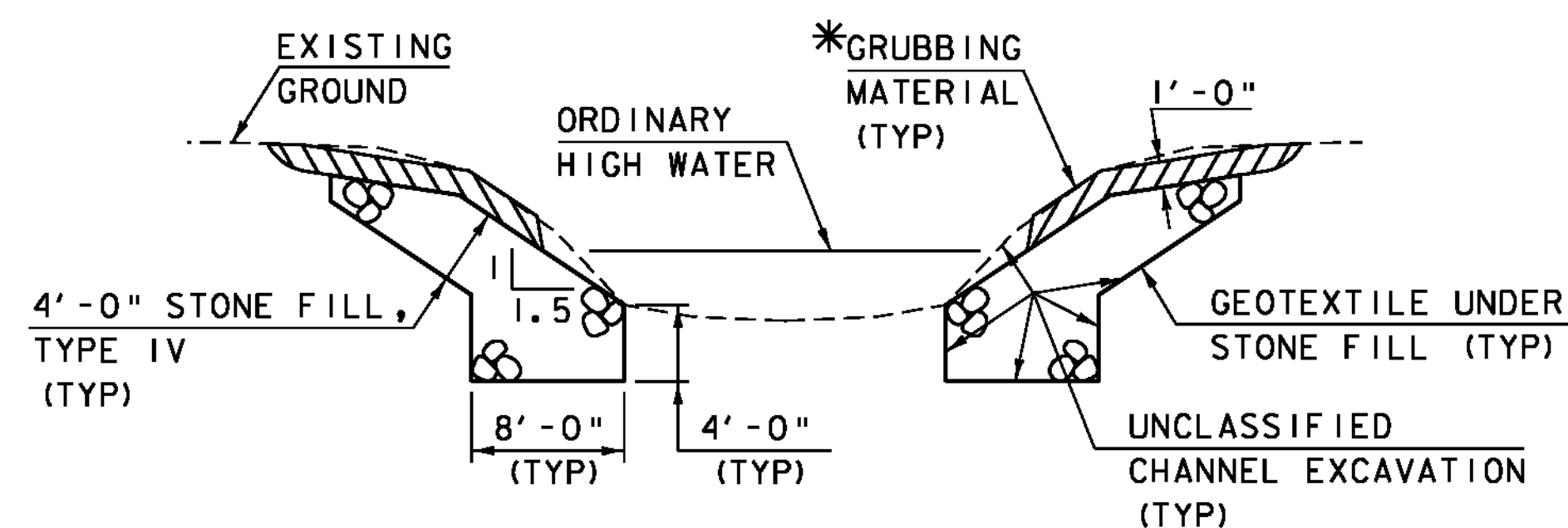
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)
FILE NAME: s95j2821typical.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
TYPICAL SECTION SHEET - 1
PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 6 OF 52



EARTHWORK SECTION (ABUTMENT #1)
(NOT TO SCALE)

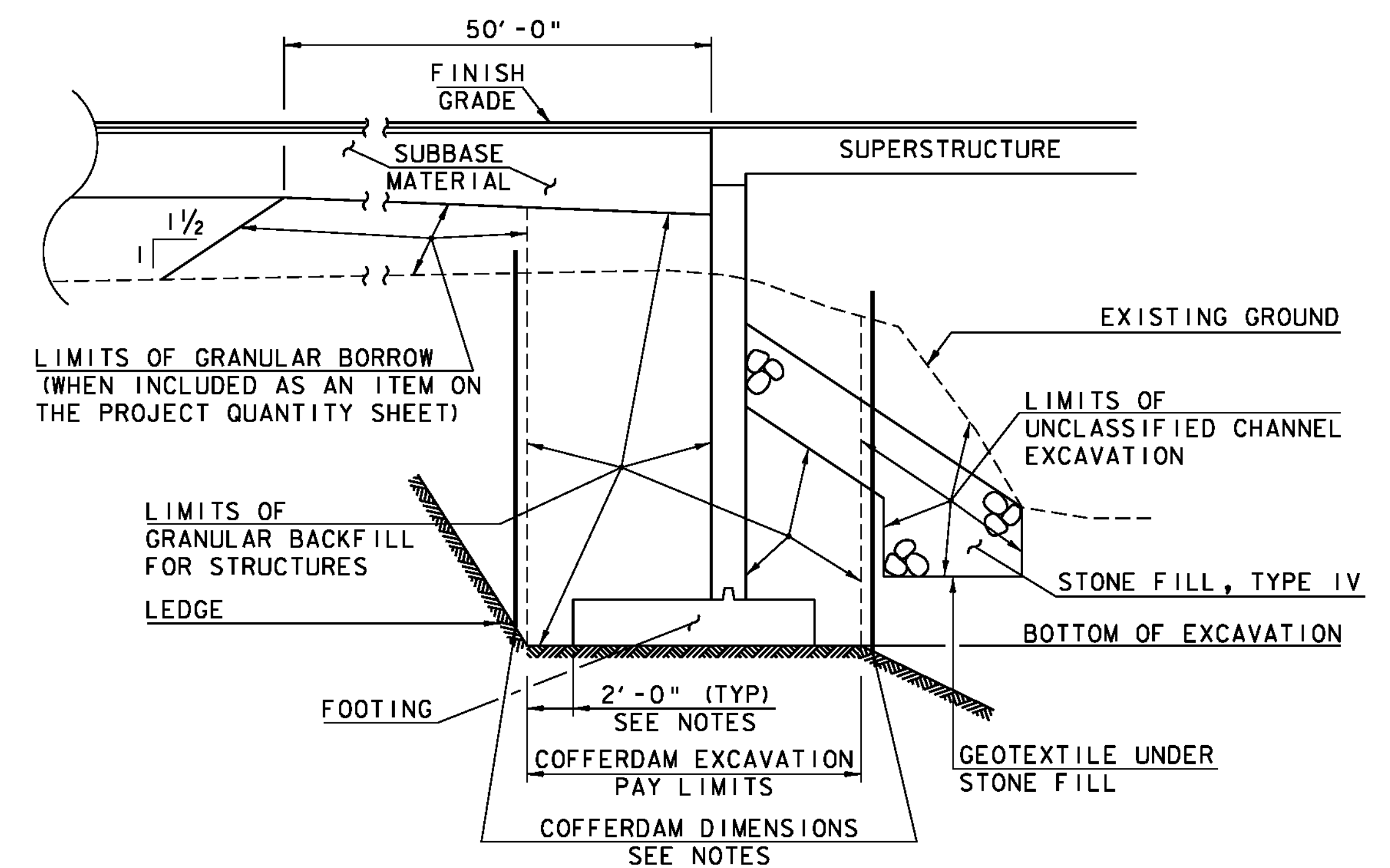
STRUCTURE EXCAVATION NOTES

1. ACTUAL LIMITS OF STRUCTURE EXCAVATION TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF "STRUCTURE EXCAVATION" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF EXCAVATION IS LARGER THAN THE INDICATED STRUCTURE EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE EXCAVATION BUT OUTSIDE THE STRUCTURE EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR STRUCTURE EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.



TYPICAL CHANNEL SECTION
(NOT TO SCALE)

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



COFFERDAM AND EARTHWORK SECTION (ABUTMENT #2)
(NOT TO SCALE)

COFFERDAM NOTES

1. COFFERDAM DIMENSIONS TO BE DETERMINED BY THE CONTRACTOR.
2. THE PAY LIMITS OF EITHER "COFFERDAM EXCAVATION, EARTH" OR "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING AND FROM BOTTOM OF EXCAVATION UP TO THE EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. NO MEASUREMENT AND PAYMENT WILL BE MADE FOR COFFERDAM EXCAVATION AND GRANULAR BACKFILL FOR STRUCTURES OUTSIDE THE PAY LIMITS DEFINED IN NOTE 2.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j2821ypicol.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
TYPICAL SECTION SHEET - 2

PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 7 OF 52

GPS CONTROL POINTS

HVCTRL #1

VSF A
N = 304481.791
E = 1635455.953
Z = 510.225

GENERAL LOCATION WESTERFIELD, AT THE SPRINGFIELD (HARTNESS) STATE AIRPORT, NORTHEAST OF RUNWAY END 23. OWNERSHIP, STATE OF VERMONT. CONTACT AIRPORT MANAGER PRIOR TO VISITING THE MARK. TO REACH FROM THE NORTHEAST END OF RUNWAY 23 GO NORTHEAST ON A DIRT TRACK ROAD ALONG A ROW OF OBSTRUCTION LIGHT POLES FOR ABOUT 350 FEET (106.7 M) TO THE STATION SITE ON A FLAT SANDY BLUFF ON THE SOUTHEAST SIDE OF THE ROAD. STATION MARK IS SET IN THE TOP OF AN 8-INCH X 8-INCH CONCRETE MONUEMNT FLUSH WITH GROUND SURFACE, 331.9 FT (101.2 M) NORTHEAST OF THE CENTERLINE END RUNWAY 23, 175 FT (53.3 M) SOUTHEAST OF THE FOURTH O.L. POLE SOUTH OF THE NORTH END OF POLE LINE, 100.9 FT (30.8 M) SOUTHEAST OF THE CENTERLINE OF THE DIRT TRACK ROAD, 9 FT (2.7 M) NORTHEAST OF THE TOP EDGE OF THE BLUFF, AND 4 FT (1.2 M) SOUTHWEST OF A WITNESS POST. THE STATION IS A STANDARD NOS DISK SET IN THE TOP OF AN 8 INCH CONCRETE POST THAT IS FLUSH WITH THE GROUND, AND IS STAMPED VSF A 1980.

HCTRL #2

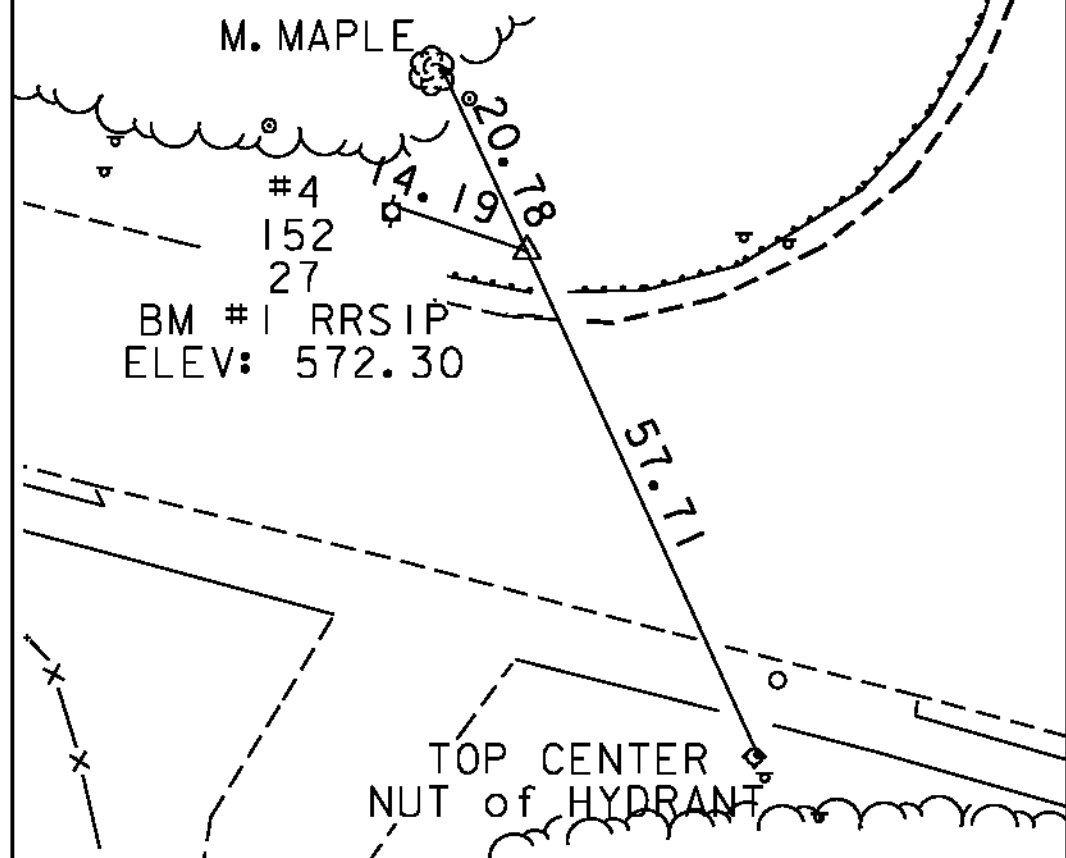
VSF B
N = 304893.898
E = 1634926.348

TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAY 11, STATE HIGHWAY 143 AND STATE HIGHWAY 106 NORTH IN SPRINGFIELD, PROCEED NORTHWEST 4.8 KM (3.00 MI) ALONG STATE HIGHWAY 106 NORTH TO THE JUNCTION OF STATE HIGHWAY 106 NORTH AND STATE HIGHWAY 10. TURN RIGHT AND PROCEED NORTHEAST ON STATE HIGHWAY 106 FOR 1.3 KM (0.80 MI) TO AIRPORT ROAD ON THE RIGHT. TURN RIGHT AND PROCEED EAST 0.69 KM (0.40 MI) ON AIRPORT ROAD TO THE INTERSECTION OF AIRPORT ROAD AND KENDRICKS CORNERS ROAD. TURN RIGHT AND PROCEED SOUTH 0.24 KM (0.15 MI) ALONG KENDRICKS CORNERS ROAD TO THE AIRPORT ENTRANCE ON THE LEFT. TURN LEFT AND PROCEED SOUTHEAST 0.2 KM (0.10 MI) TO THE TERMINAL AND A GATE ON THE WEST SIDE OF THE TERMINAL. PROCEED SOUTHEAST 0.13 KM (0.10 MI) THROUGH THE GATE, ACROSS THE APRON AND TAXIWAY TO THE JUNCTION OF THE TAXIWAY AND RUNWAY 5-23. TURN LEFT AND PROCEED EAST 0.2 KM (0.10 MI) TO THE INTERSECTION OF RUNWAY 11-29 AND THE STATION IS LOCATED IN THE NORTHEAST QUADRANT OF THE RUNWAY INTERSECTION, SET IN A ROCK OUTCROP TO THE LEFT. THE STATION IS A STANDARD NOS DISK STAMPED--VSF B 1980--SET IN A ROCK OUTCROP. THE STATION IS LOCATED 75.04 M (246.19 FT) ON A MAGNETIC COMPASS BEARING OF NORTH 29 DEGREES EAST FROM THE SECOND RUNWAY EDGE LIGHT EAST ALONG RUNWAY 11-29 FROM THE INTERSECTION OF RUNWAY 11-29 AND RUNWAY 5-23, 33.10 M (108.60 FT) ON A MAGNETIC COMPASS BEARING OF SOUTH 04 DEGREES EAST FROM THE SECOND RUNWAY EDGE LIGHT NORTH ALONG RUNWAY 5-23 FROM THE INTERSECTION OF RUNWAY 5-23 AND RUNWAY 11-29, AND 29.50 M (96.78 FT) ON A MAGNETIC COMPASS BEARING OF SOUTH 41 DEGREES EAST FROM THE EAST EDGE OF RUNWAY 5-23. THIS STATION IS DESIGNATED AS THE PRIMARY AIRPORT CONTROL STATION. THE MARK IS 1.1 M NORTH OF A WOODEN WITNESS POST.

TRAVERSE TIES

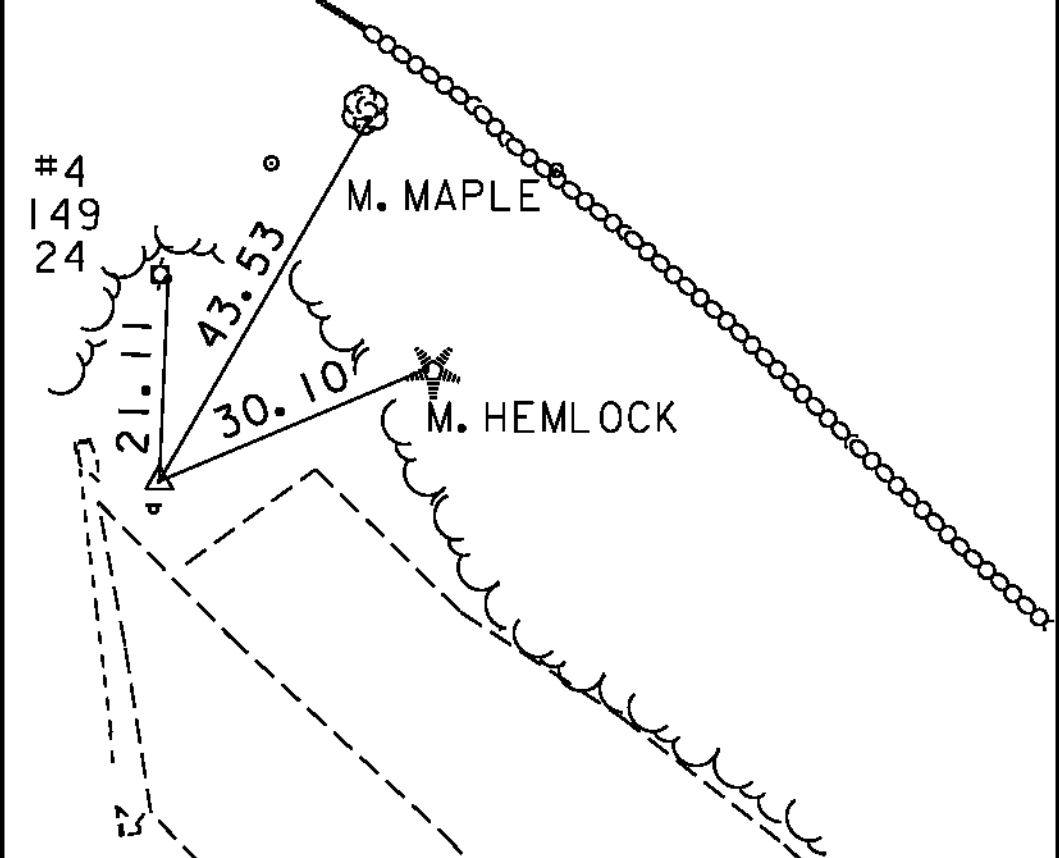
HVCTRL #7

NORTH = 304053.200
EAST = 1630741.691
ELEV. = 571.334



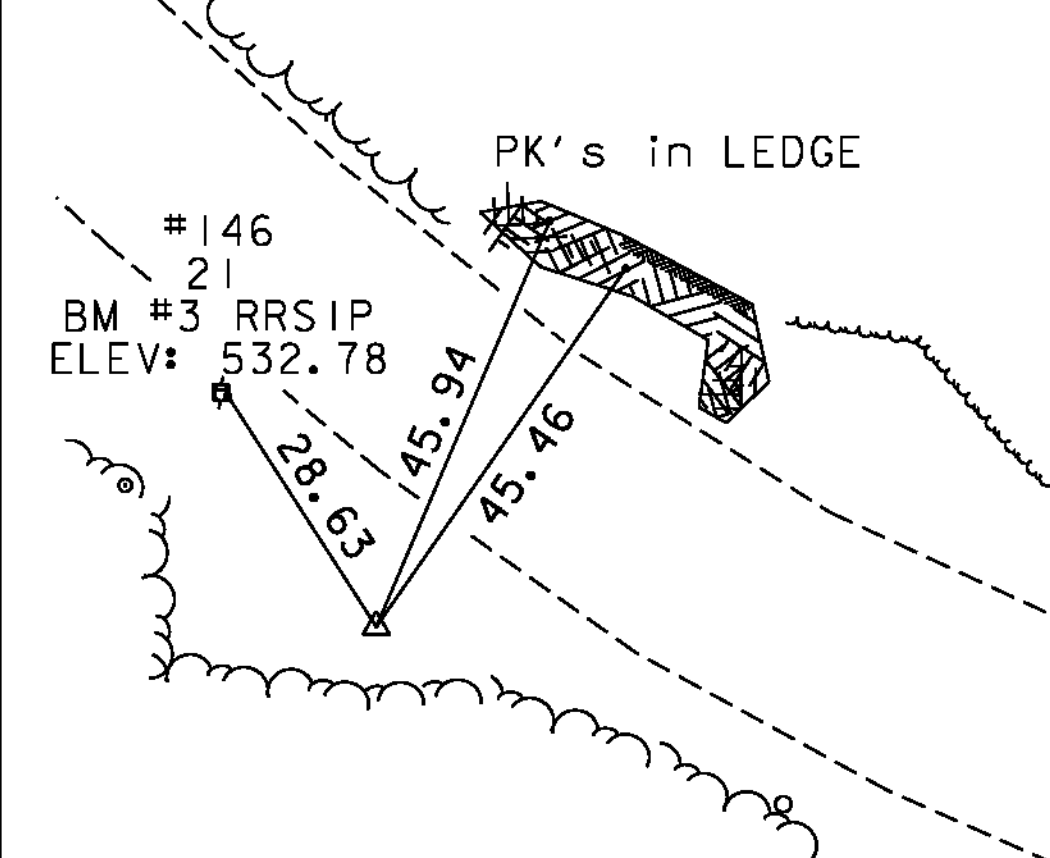
HVCTRL #8

NORTH = 303841.029
EAST = 1631148.595
ELEV. = 555.248



HVCTRL #9

NORTH = 303457.179
EAST = 1631461.827
ELEV. = 529.710



* Main Traverse Completed 1/29/96 by R.Gilman P.C. & T.Morse

ALIGNMENT
COORDINATES

Alignment Current as of April 7, 2010
Horizontal Alignment Name: Mainline
Description: TH 6

	STATION	NORTHING	EASTING
POB	9+75.00	303996.6963	1630860.6405
PC	10+00.00	303987.6404	1630883.9478
PI	12+20.48	303907.7916	1631089.4556
Radius:		789.65	
Delta:		31° 12' 00.000"	Right
Degree of Curvature (Arc):		7° 15' 20.930"	
Length:		430.00	
Tangent:		220.48	
Chord:		424.71	
Middle Ordinate:		29.09	
External:		30.20	
PT	14+30.00	303733.0332	1631223.8758
POE	14+40.00	303725.1067	1631229.9727

DATUM

VERTICAL NAVD 88

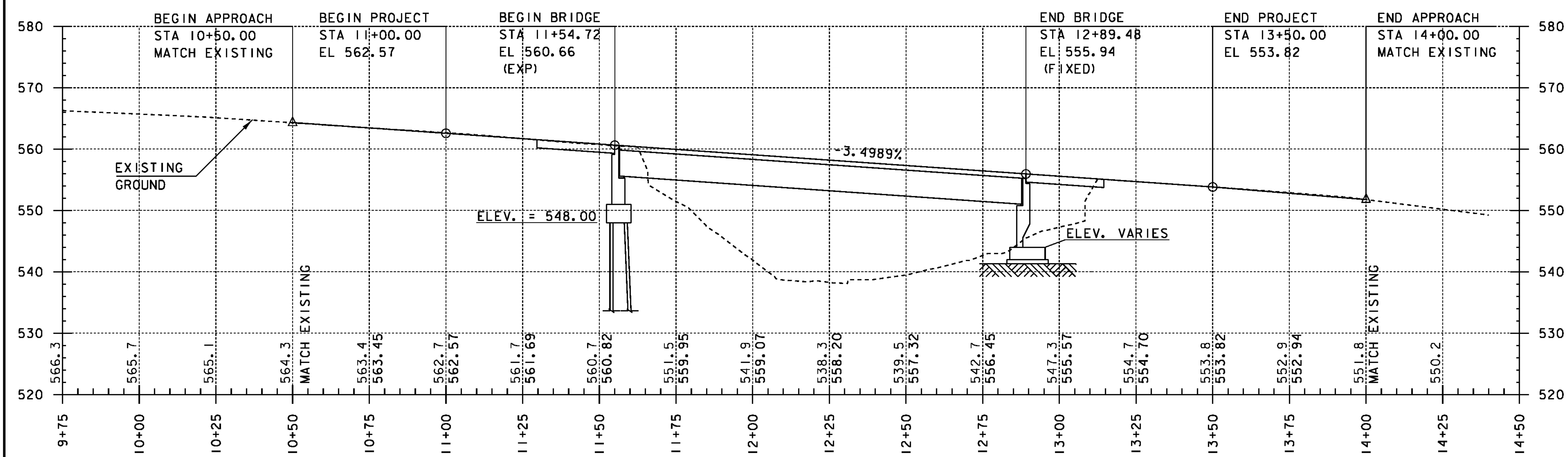
HORIZONTAL NAD 83 (92)

ADJUSTMENT Compass

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

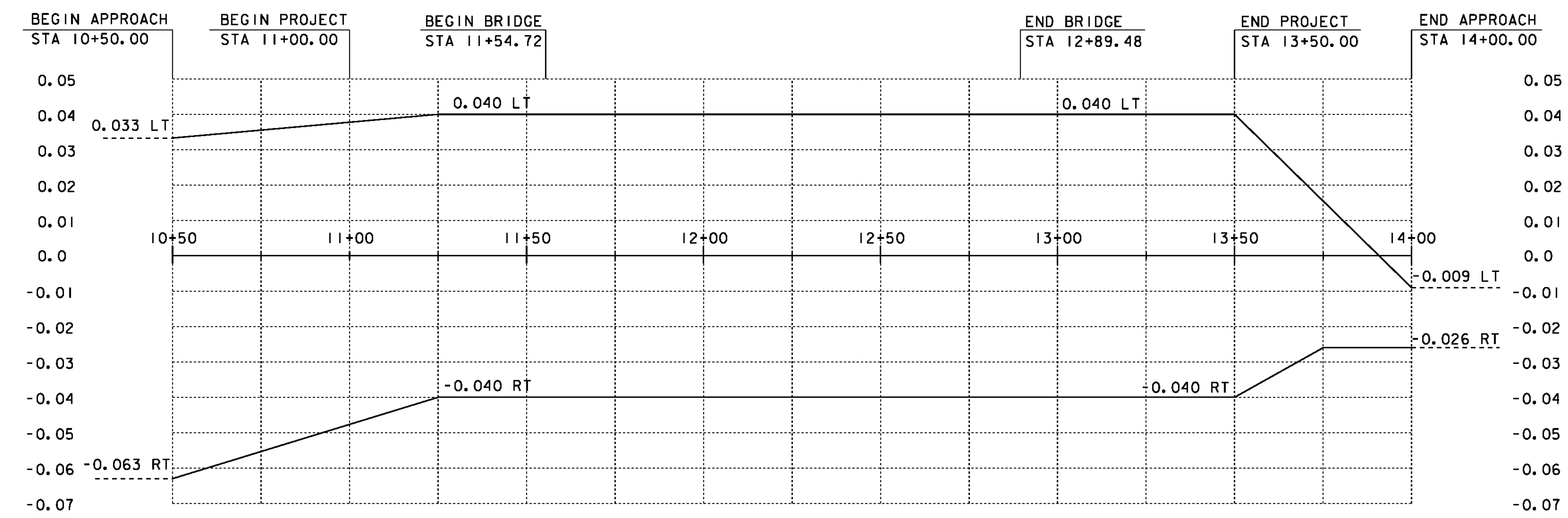
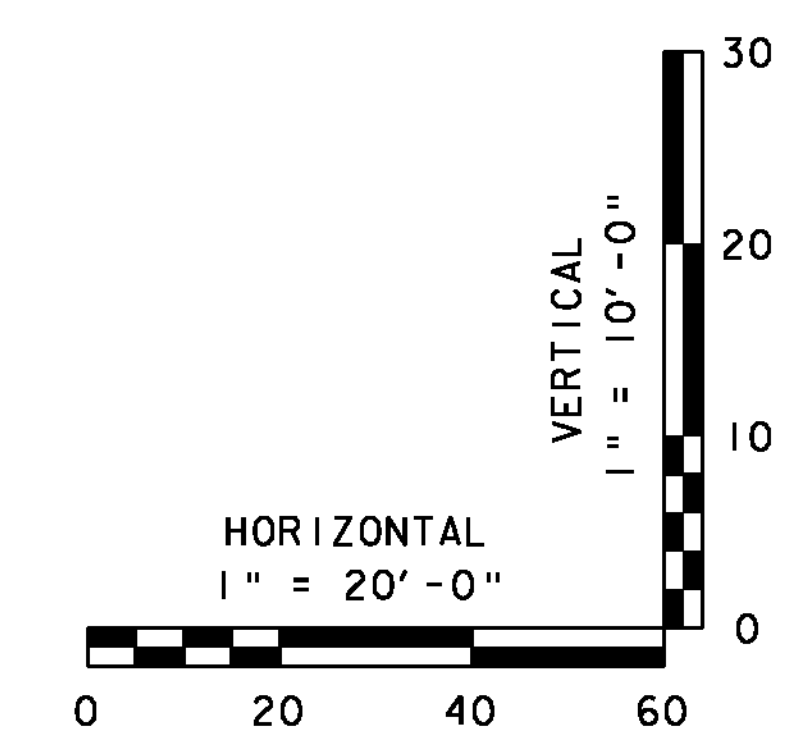
FILE NAME: x95j282f1.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
TIE SHEET

PLOT DATE: 30-AUG-2011
DRAWN BY: R. BULLOCK
CHECKED BY: J. SALVATORI
SHEET 8 OF 52

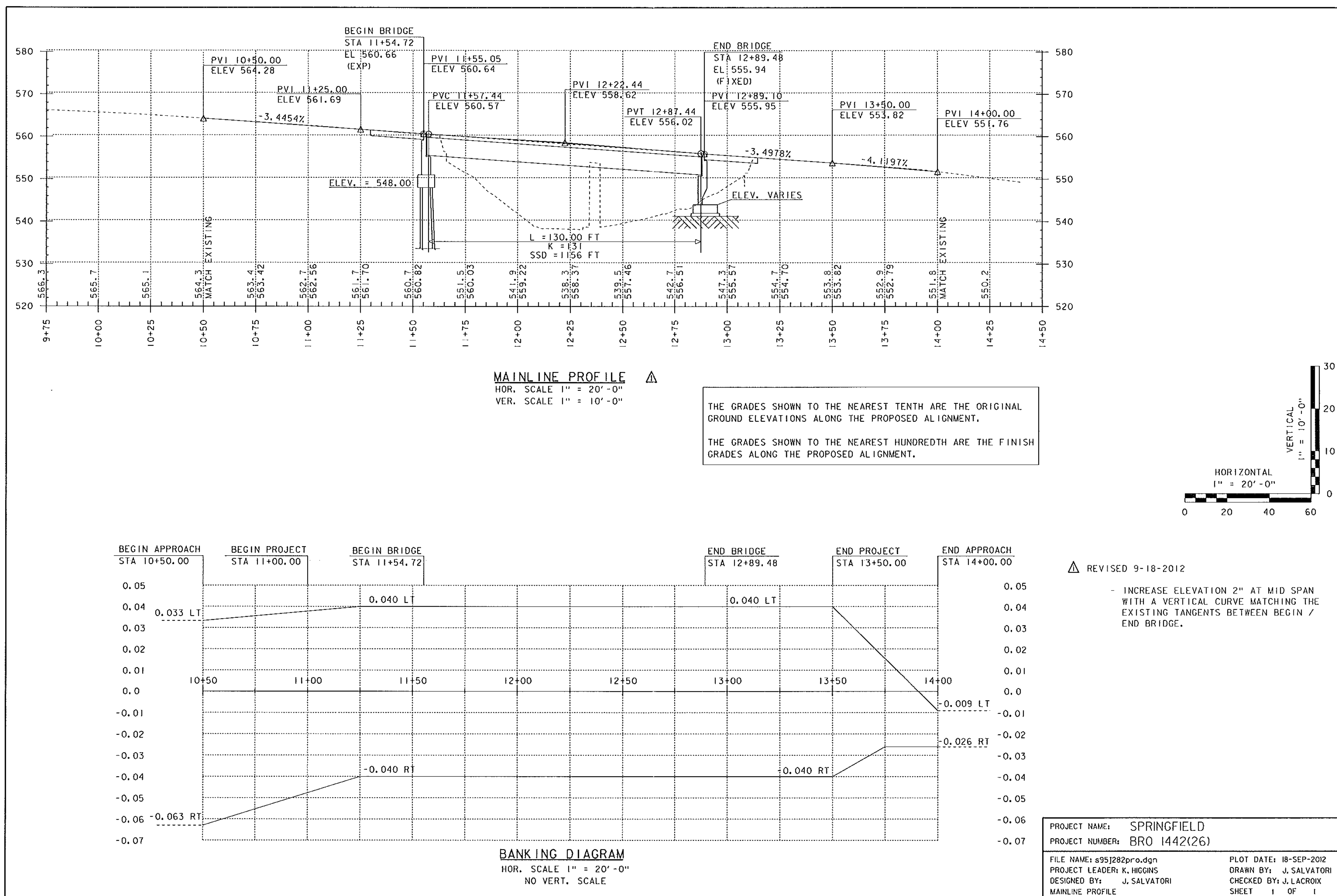


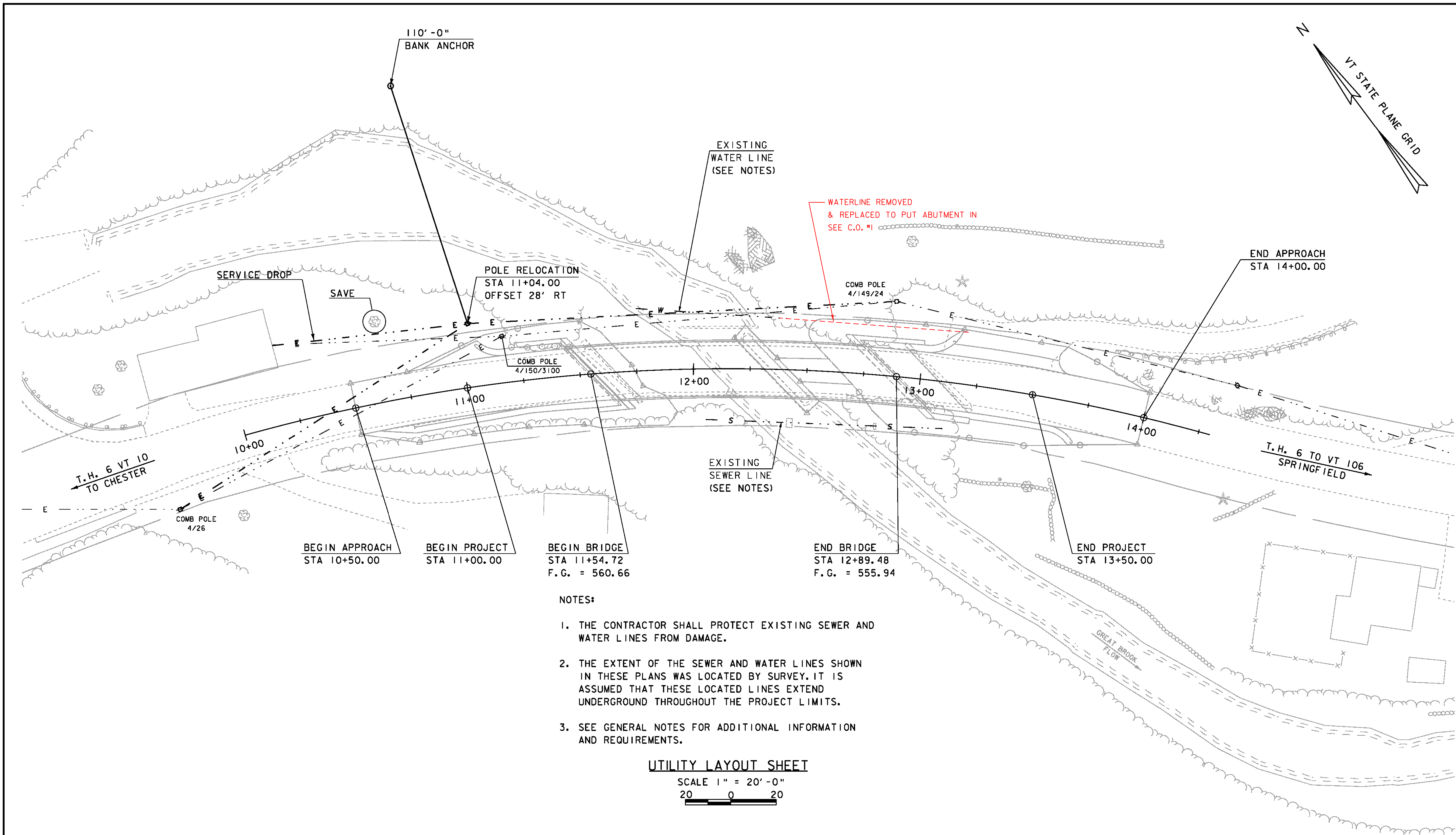
THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.



PROJECT NAME:	SPRINGFIELD	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BRO 1442(26)	DRAWN BY:	J. SALVATORI
FILE NAME:	s95j282pro.dgn	CHECKED BY:	J. LACROIX
PROJECT LEADER:	K. HIGGINS	SHEET	10 OF 52
DESIGNED BY:	J. SALVATORI		
MAINLINE PROFILE			





NOTE:
ADJUST NEW EDGE LINE TO
MATCH EXISTING EDGE LINE
AT BEGIN/END APPROACH

SIGN LEGEND
N = NEW
R = REMOVE

REMOVING SIGNS
STA. 11+06.66 RT (2)
STA. 11+12.83 LT
STA. 13+02.25 LT (2)
STA. 13+34.22 RT

4" WHITE LINE
STA. 10+50.00 - STA. 14+00.00 RT
STA. 10+50.00 - STA. 14+00.00 LT

TRAFFIC SIGNS, TYPE A
STA 11+40.00 RT (VD-701)
STA 13+02.25 LT (VD-701)

13+02.25 LT
WEIGHT
LIMIT
5
TONS

STA 13+02.25 LT
BRIDGE
57
TH 6

END APPROACH
STA 14+00.00

T.H. 6 TO VT 106
SPRINGFIELD

END PROJECT
STA 13+50.00

WEIGHT
LIMIT
5
TONS
13+34.22 RT

BEGIN APPROACH
STA 10+50.00

BEGIN PROJECT
STA 11+00.00

BEGIN BRIDGE
STA 11+54.72
F.G. = 560.66

END BRIDGE
STA 12+89.48
F.G. = 555.94

WEIGHT
LIMIT
5
TONS
11+06.66 RT

BRIDGE
57
TH 6
STA 11+40.00 RT

SIGN LAYOUT SHEET

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

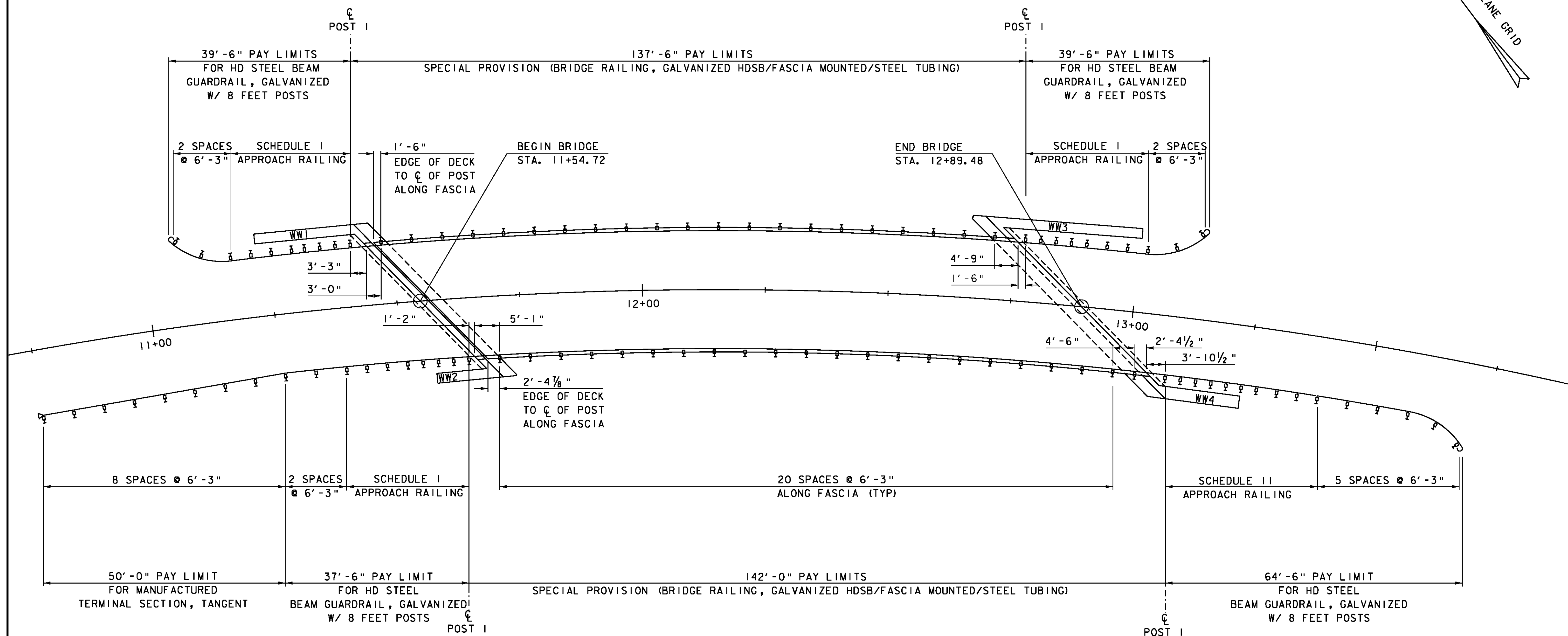
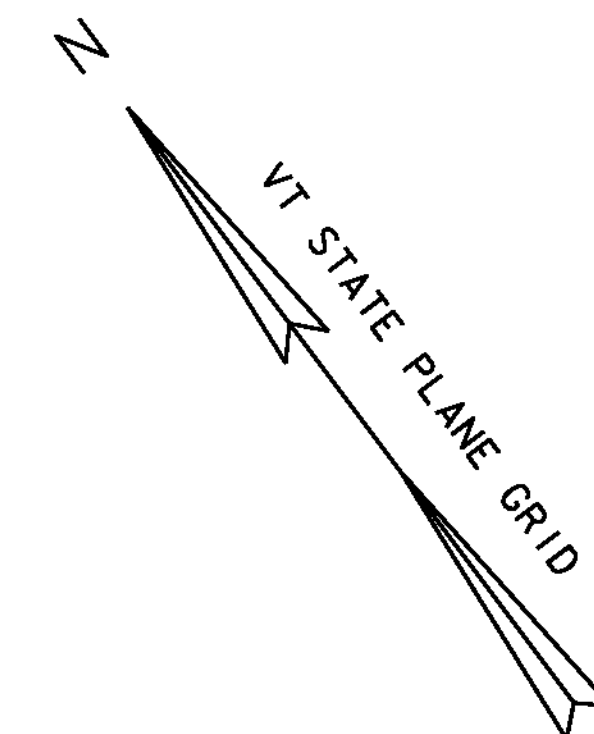
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW SIGN "A"	EXIST POST RETAI N	S A L V A G E	NO. OF P O S T S	NEW SIGN POSTS					REMARKS	SIGN DETAIL	
		WIDTH (in)	HEIGHT (in)					SQUARE STEEL (in)			A N C H O R	S P L I T P L A T E		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
								2.0	2.0	2.5					
								lb/ft							
11+40.00 RT.	BRIDGE 57 TH 6	6	8	0.33			1	10			3.35	X		VD-701	E-134
13+02.25 LT.	BRIDGE 57 TH 6	6	8	0.33			1	10				X		VD-701	E-134
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."								FT	FT	FT		EA			
TOTALS				SF 0.66		FT 20					SHS = STANDARD HIGHWAY SIGNS (MUTCD)				

NOTE:
SIGNS SHALL CONFORM TO STANDARD E-134
EXCEPT POSTS SHALL BE SQUARE STEEL
WEIGHING 1.88 LBS/FT

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282sign.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
SIGNING AND MARKINGS SHEET

PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 12 OF 52



RAIL LAYOUT

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

NOTES:

1. ALL DIMENSIONS ARE ALONG FACE OF RAIL UNLESS OTHERWISE NOTED.

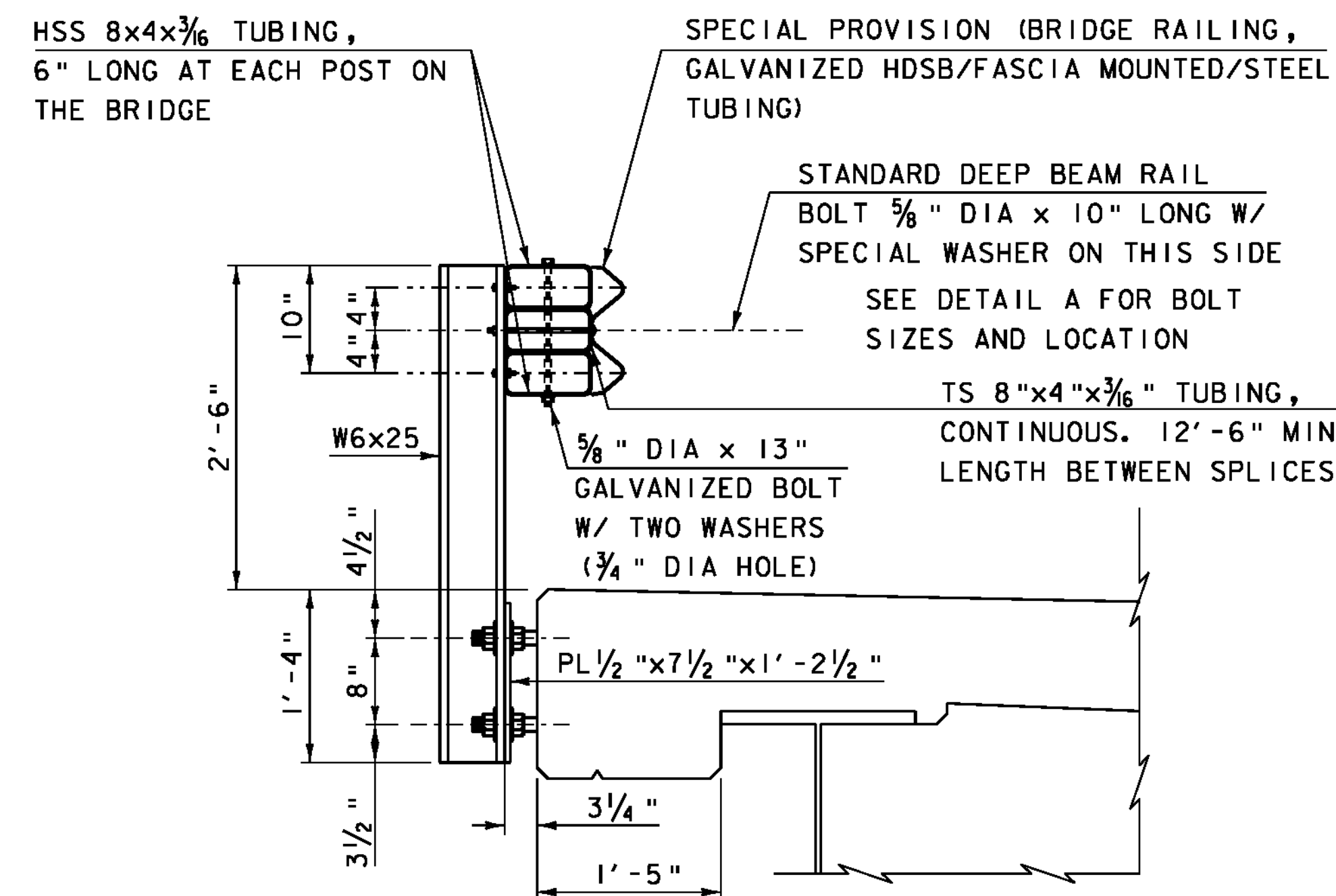
SCHEDULE I		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1 1/2"	1.4 X 12'-6"
2	3'-1 1/2"	
3	3'-1 1/2"	
4	3'-1 1/2"	
5	4'-2"	1.2 X 12'-6"
6	4'-2"	
7	4'-2"	
8	6'-3"	1.0 (TYP.)
9	(TYP.)	

SCHEDULE II		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1 1/2"	1.4 X 18'-9"
2	3'-1 1/2"	
3	3'-1 1/2"	
4	3'-1 1/2"	
5	3'-1 1/2"	
6	3'-1 1/2"	1.2 X 12'-6"
7	4'-2"	
8	4'-2"	
9	4'-2"	1.0 (TYP.)
10	6'-3"	
11	(TYP)	

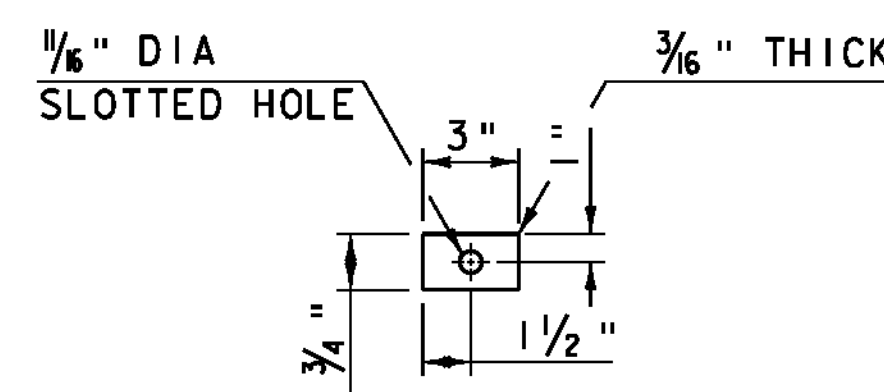
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282rail.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
BRIDGE AND APPROACH RAILING SHEET

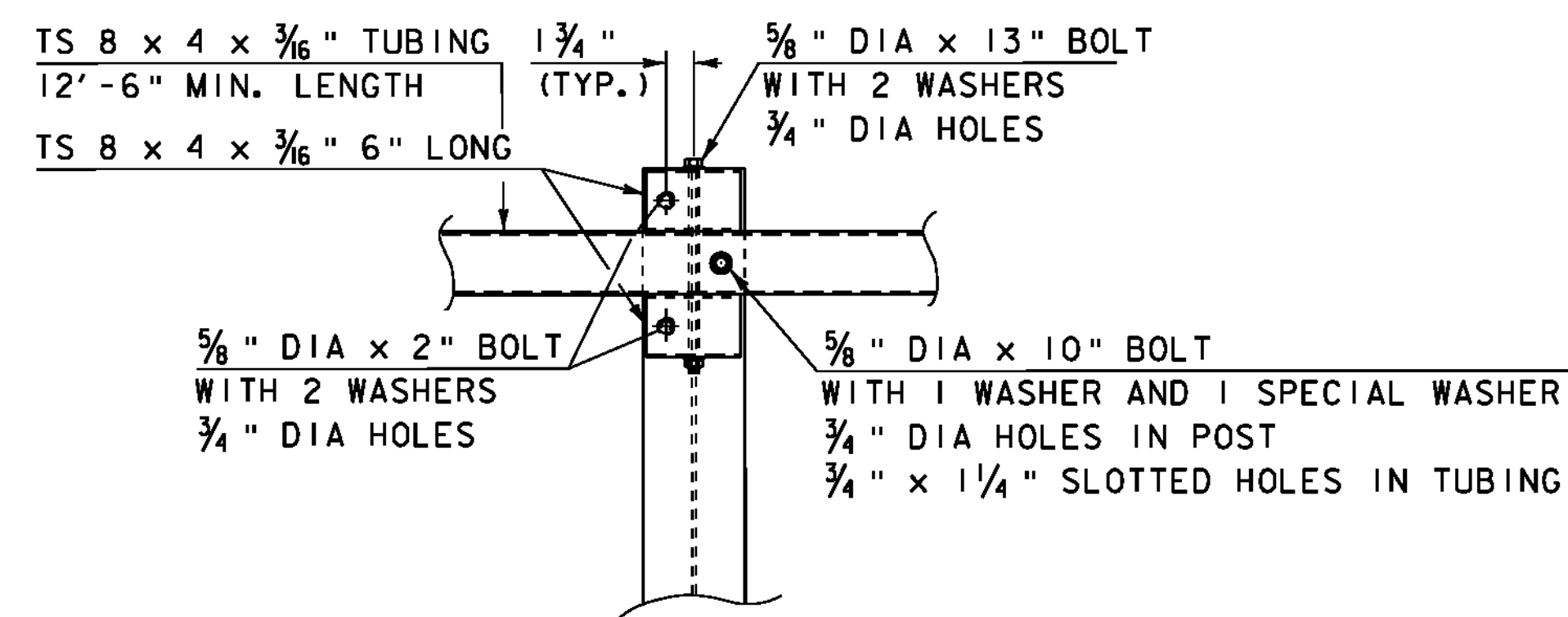
PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 13 OF 52



POST DETAIL
(NOT TO SCALE)



SPECIAL WASHER DETAIL
NOT TO SCALE



DETAIL A
STEEL BEAM GUARD RAIL NOT SHOWN
(NOT TO SCALE)

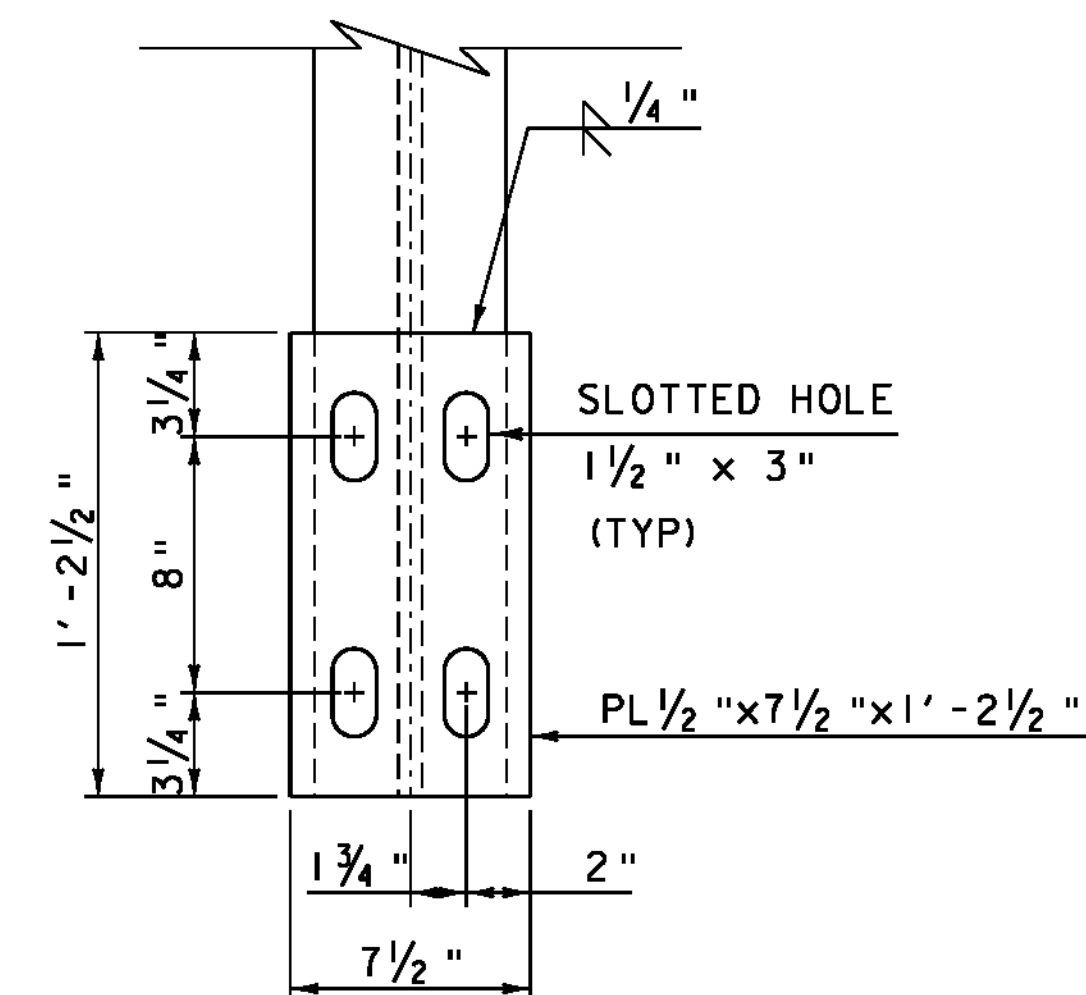
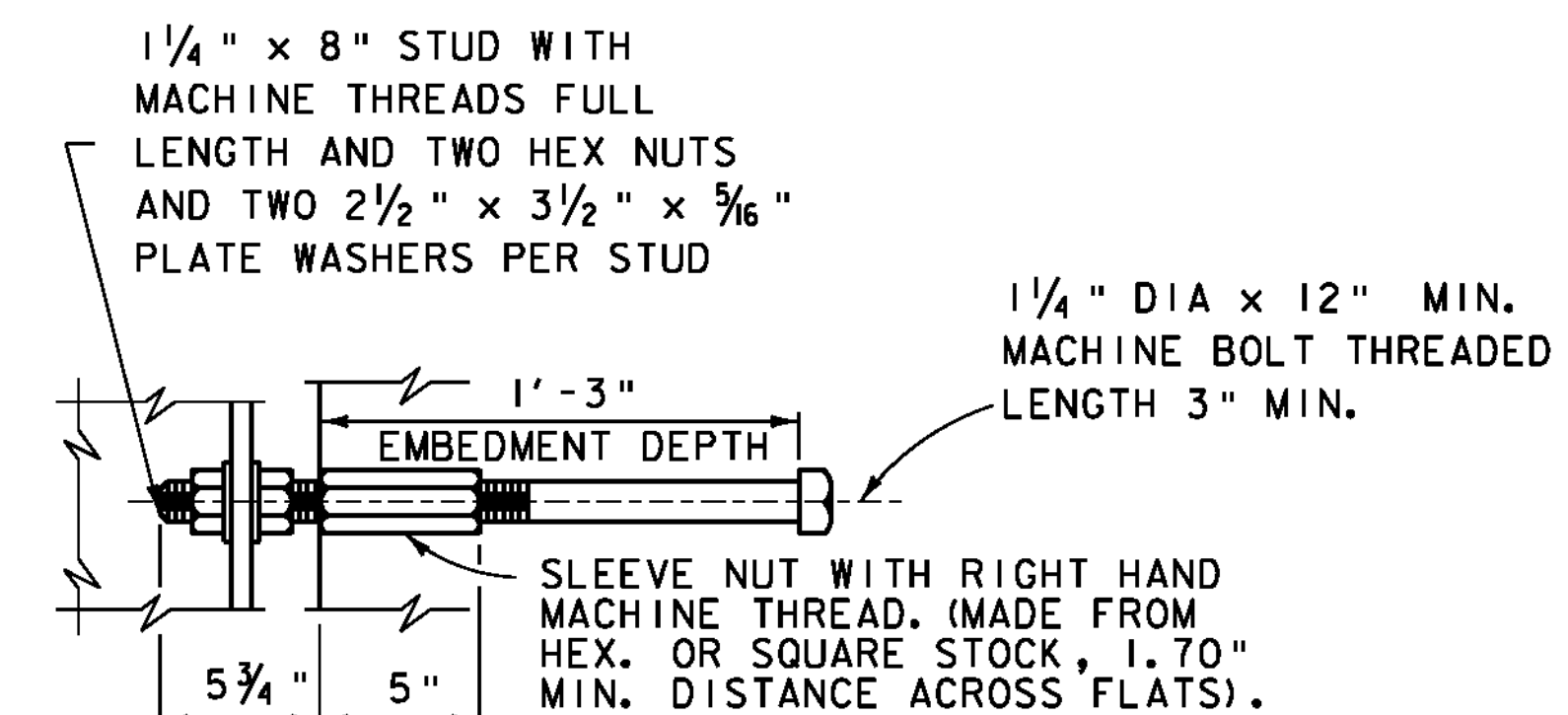
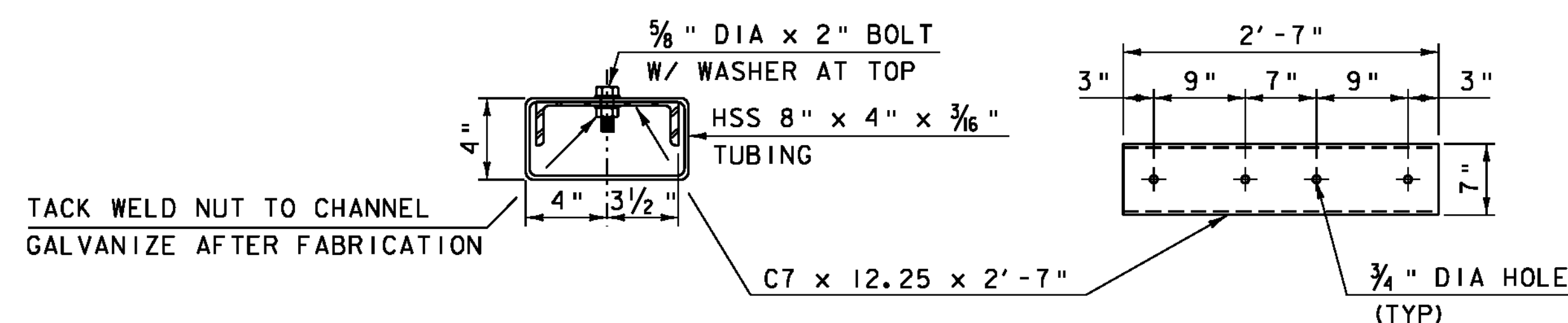


PLATE DETAIL - FRONT VIEW
(NOT TO SCALE)



ANCHOR DETAIL
(NOT TO SCALE)



SPLICE BAR DETAILS
NOT TO SCALE

NOTES:

1. SEE STANDARD DRAWING G-1 AND G1-d FOR ADDITIONAL DETAILS CONCERNING GUARDRAIL.
2. ALL APPROACH RAIL SHALL BE HAEVY DUTY STEEL BEAM GUARDRAIL.
3. ALL POSTS SHALL BE SET NORMAL TO GRADE.
4. A RAILING JOINT SPLICE SHALL BE PROVIDED AT EACH SUPERSTRUCTURE EXPANSION JOINT.
5. SPLICES FOR HEAVY DUTY STEEL BEAM GUARDRAIL SHALL LAP IN THE DIRECTION OF TRAFFIC.
6. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE LOCATED AT EVERY FIFTH POST. PAYMENT SHALL BE INCIDENTAL TO THE APPLICABLE GUARDRAIL ITEM.
7. ALL FIELD CUT OR DRILLED AREAS SHALL BE COATED WITH ZINC RICH PAINT.
8. THE STEEL TUBING SHALL BE SHOP BENT TO FIT THE APPLICABLE CURVE.
9. THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING ON THIS STANDARD.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282ra1.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
BRIDGE RAILING DETAIL SHEET

PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 14 OF 52

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

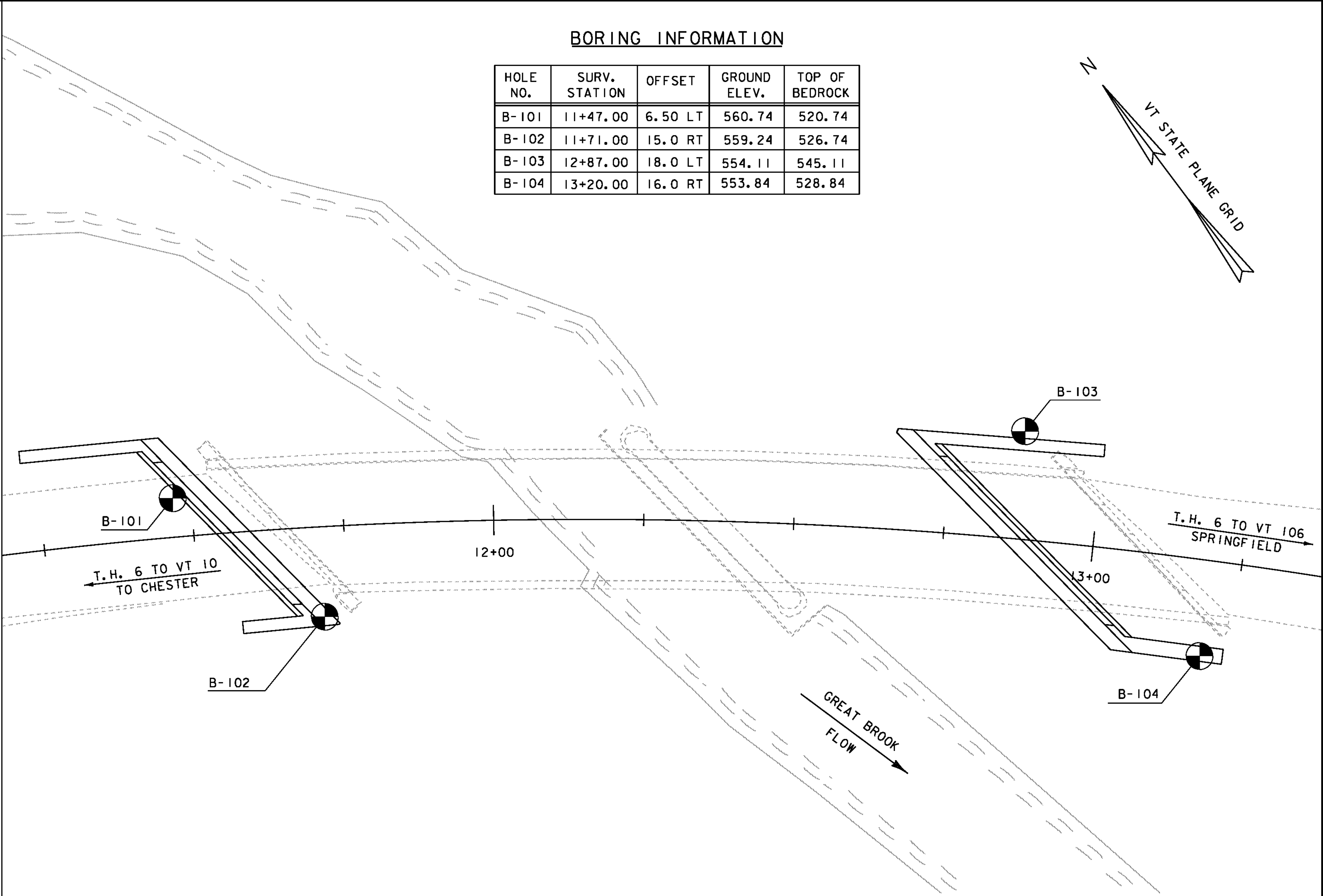
COMMONLY USED SYMBOLS

▼	Water Elevation
⊙	Standard Penetration Boring
⊕	Auger Boring
⊖	Rod Sounding
○	Sample
S	Standard Penetration Test
N	Blow Count Per Foot For: 2" O.D. Sampler 1 1/2" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
YS	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 1/2"
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	Top of 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)
VTSPG	NAD83 - See Note 7

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

BORING INFORMATION

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	TOP OF BEDROCK
B-101	11+47.00	6.50 LT	560.74	520.74
B-102	11+71.00	15.0 RT	559.24	526.74
B-103	12+87.00	18.0 LT	554.11	545.11
B-104	13+20.00	16.0 RT	553.84	528.84



BORING LAYOUT

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

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.
BOULDER - A rock fragment with an average dimension > 12 inches.
COBBLE - Rock fragments with an average dimension between 3 and 12 inches.
GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).
SILT - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.
HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
MUCK - Soft organic soil (containing > 10% organic material).
MOISTURE CONTENT - Weight of water divided by dry weight of soil.
FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
DIP - Inclination of bed with a horizontal plane.

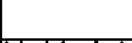
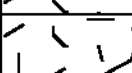
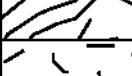
GENERAL NOTES

- The subsurface explorations shown herein were made between 01/02/10 and 02/23/10 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment 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 judgment 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.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282bor.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
BORING INFORMATION SHEET

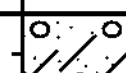
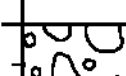
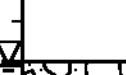
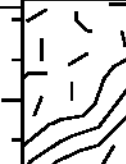
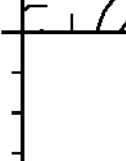
PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 15 OF 52

 Working to Get You There Without Compromise or Compromise			STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION			BORING NUMBER: B-101 SHEET 1 of 1 DATE STARTED: 2/02/10 DATE COMPLETED: 2/23/10																
PROJECT NAME: SPRINGFIELD SITE NAME: TH-6 STATION: 11+47 OFFSET: -6.50 VTSPG NAD83: N 303927.40 ft E 1631019.28 ft						PROJECT NUMBER: BRO 1442(26) SITE NUMBER: BR-57 GROUND ELEVATION: 560.74 ft GROUNDWATER DEPTH: 16.7 ft 2/04/10 PROJECT PIN NUMBER: 95J282																
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: MAHMUTOVIC						BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA																
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)															
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)															
10		Asphalt Pavement, 0.0 ft - 0.2 ft	8	11.1	54.0	34.3	11.7															
		Concrete, 0.2 ft - 1.5 ft																				
	Field Note: BXDC, Cobbles, Cleaned out casing.																					
		A-1-b, SoGr, brn, MTW, Rec. = 0.6 ft																				
		Field Note: BXDC, Cobbles																				
20		Field Note: No Recovery	11																			
30		A-3, Sa, brn, Wet, Rec. = 1.2 ft	13	25.9	0.2	89.7	10.1															
40		A-1-b, GrSa, brn, Wet, Rec. = 0.8 ft	49	12.3	41.5	45.2	13.3															
40		Field Note: BXDC, Cobbles, Cleaned out casing.	43																			
40		Visual Classification, Broken Rock, Rec. = 0.2 ft, Advanced casing to 40.0 ft.																				
50		Gray, Fine- to medium- grained biotitic schistose Gneiss, with closely spaced stained jointing. Fair to Good Rock, Very hard, Fresh Weathering, BXMDC, 40.0 ft - 41.0 ft, Rec. = 1.0 ft	1	100	0	30	12															
		Gray, Fine- to medium- grained biotitic Gneiss, with closely spaced stained jointing. Good Rock, Very hard, Fresh Weathering, BXMDC, 41.0 ft - 46.0 ft, Rec. = 4.9 ft						2	98	82	30	6										
		Gray, Fine- to medium- grained biotitic Gneiss, with 0.6 ft quartz vein at bottom of run. Closely spaced stained jointing. Good Rock, Very hard, Fresh Weathering, BXMDC, 46.0 ft - 50.0 ft, Rec. = 3.3 ft											3	83	63	30	7					
Hole stopped @ 50.0 ft																						

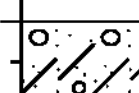
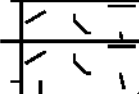
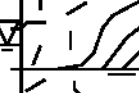
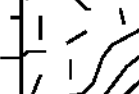
BOTTOM OF FOOTING
ELEV. 548.00

ESTIMATED
PILE TIP
ELEV. 520.00

LOG OF BORING: SPRINGFIELD, BRO 1442(26) (P. 1) VT AUGUST 4/10

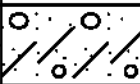
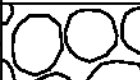
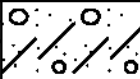
		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: B-102 SHEET 1 of 1 DATE STARTED: 1/27/10 DATE COMPLETED: 2/16/10			
PROJECT NAME: SPRINGFIELD SITE NAME: TH-6 STATION: 11+71 OFFSET: 15.00 VTSPG NAD83: N 303897.04 ft E 1631026.52 ft			PROJECT NUMBER: BRO 1442(26) SITE NUMBER: BR-57 GROUND ELEVATION: 559.24 ft GROUNDWATER DEPTH: 15.1 ft 1/28/10 PROJECT PIN NUMBER: 95J282				
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: MAHMOVIC			BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA				
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
5		A-2-4, GrSa, brn, Moist, Rec. = 1.0 ft	4	15.4	21.0	65.7	13.3
10		A-1-a, Gr, brn, Wet, Rec. = 1.0 ft, Broken Rock was within sample.	33	9.8	75.2	19.6	5.2
15		Field Note: NXDC, Cobbles, Cleaned out casing.					
20		A-1-b, SaGr, brn, Wet, Rec. = 0.4 ft, Broken Rock was within sample.	21	15.7	44.4	44.1	11.5
25		Field Note: NXDC, Cobbles					
30		Visual Classification, Broken Rock with sand, brn, Wet, Rec. = 0.4 ft	R				
35		Possible Boulders, BXMDC, 27.5 ft - 32.5 ft, Rec. = 3.8 ft	1	76			5 7 7 8 7
40		Gray, Fine- to medium- grained biotitic schistose Gneiss, Good Rock, Very hard, Fresh Weathering, BXMDC, 32.5 ft - 37.5 ft, Rec. = 2.2 ft	2	44	30	80	6 7 7 8 7
45		Gray, Fine- to medium- grained biotitic schistose Gneiss, with close to very closely spaced stained jointing. Good Rock, Very hard, Fresh Weathering, BXMDC, 37.5 ft - 40.0 ft, Rec. = 2.1 ft	3	84	56	20	7 7 7 6
		Hole stopped @ 40.0 ft					
		DRILLER'S NOTES: 1. Broke the core bit at 40.0 ft.					

TOP OF FOOTING
ELEV. 546.00

			STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION			BORING NUMBER: B-103 SHEET 1 of 1 DATE STARTED: 1/02/10 DATE COMPLETED: 1/22/10		
PROJECT NAME: SPRINGFIELD SITE NAME: TH-6 STATION: 12+87 OFFSET: -18.00 VTSPG NAD83: N 303851.06 ft E 1631139.07 ft			PROJECT NUMBER: BRO 1442(26) SITE NUMBER: BR-57 GROUND ELEVATION: 554.11 ft GROUNDWATER DEPTH: 12.4 ft 1/22/10 PROJECT PIN NUMBER: 95J282					
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: MAHMUTOVIC			BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA					
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)	
5		A-1-b, GrSa, brn, Moist, Rec. = 0.5 ft	7	14.8	32.8	54.5	12.7	
5		A-2-4, SiSa, brn, MTW, Rec. = 0.7 ft	10	24.9	5.4	73.0	21.6	
10		Gray, Fine- to medium- grained biotitic schistose Gneiss, with close to very closely spaced stained jointing. Fair to Good Rock, Very hard, Fresh Weathering, BXDC, 9.0 ft - 10.0 ft, Rec. = 0.7 ft	1	70	0	20	6	
			2	60	0	40	6	
15		Gray, Fine- to medium- grained biotitic schistose Gneiss, with close to very closely spaced stained jointing. Fair to Good Rock, Very hard, Fresh Weathering, BXMDC, 10.0 ft - 13.0 ft, Rec. = 1.8 ft	3	52	18	60	6	
								6
20		Gray, Fine- to medium- grained biotitic schistose Gneiss, with close to very closely spaced stained jointing. Fair to Good Rock, Very hard, Fresh Weathering, BXMDC, 13.0 ft - 18.0 ft, Rec. = 2.6 ft					6	
								7
20		Gray, Fine- to medium- grained biotitic schistose Gneiss, with close to very closely spaced stained jointing. Good Rock, Very hard, Fresh Weathering, BXMDC, 18.0 ft - 23.0 ft, Rec. = 4.3 ft	4	86	40	20	9	
								5
25							10	
								7
25		Hole stopped @ 23.0 ft					10	
30								
35								
40								
45								

LOG OF BORING SPRINGFIELD BRO 1442(26).dgn VT NOT.GDT 4/5/10

TOP OF FOOTING
ELEV. 535.00

		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: B-104 SHEET 1 of 1 DATE STARTED: 2/17/10 DATE COMPLETED: 2/19/10			
PROJECT NAME: SPRINGFIELD SITE NAME: TH-6 STATION: 13+20 OFFSET: 16.00 VTSPG NAD83: N 303803.49 ft E 1631140.29 ft				PROJECT NUMBER: BRO 1442(26) SITE NUMBER: BR-57 GROUND ELEVATION: 553.84 ft GROUNDWATER DEPTH: 15.5 ft 2/19/10 PROJECT PIN NUMBER: 95J282			
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: MAHMUTOVIC				BORING RIG: LAG TRACK RIG #10 w/AUTO HAMMER BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA			
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
5		A-2-4, GrSa, brn, Moist, Rec. = 1.4 ft	22	18.9	23.0	59.3	17.7
10		Field Note: NXDC, Boulders					
15		A-2-4, GrSiSa, brn, MTW, Rec. = 1.1 ft	25	17.9	20.3	55.4	24.3
20		Field Note: NXDC, Cobbles					
25		Gray, Fine- to medium- grained biotitic schistose Gneiss, and Biotitic Gneiss with close to very closely spaced stained jointing. Good Rock, Very hard, Fresh Weathering, BXMDC, 25.0 ft - 30.0 ft, Rec. = 4.2 ft	1	84	38	30	5
							6
30		Gray, Fine- to medium- grained biotitic Gneiss, with closely spaced stained jointing. Good Rock, Very hard, Fresh Weathering, BXMDC, 30.0 ft - 35.0 ft, Rec. = 5.0 ft	2	100	68	30	5
							6
35		Hole stopped @ 35.0 ft					4
							5
40							
45							

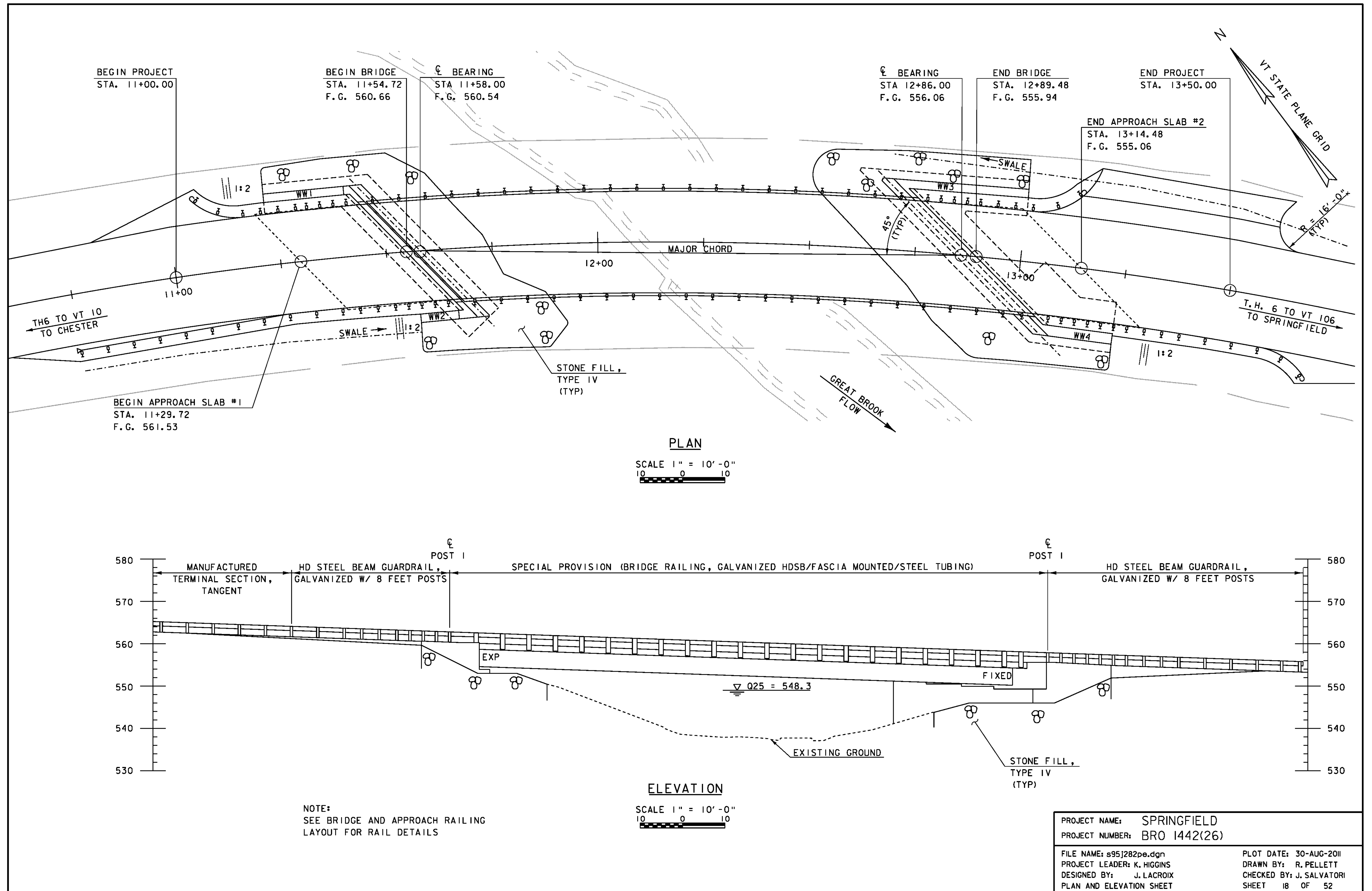
LOG OF BORING SPRINGFIELD BRO 1442(26) GP1 VT AUT.GDT 4/25/10

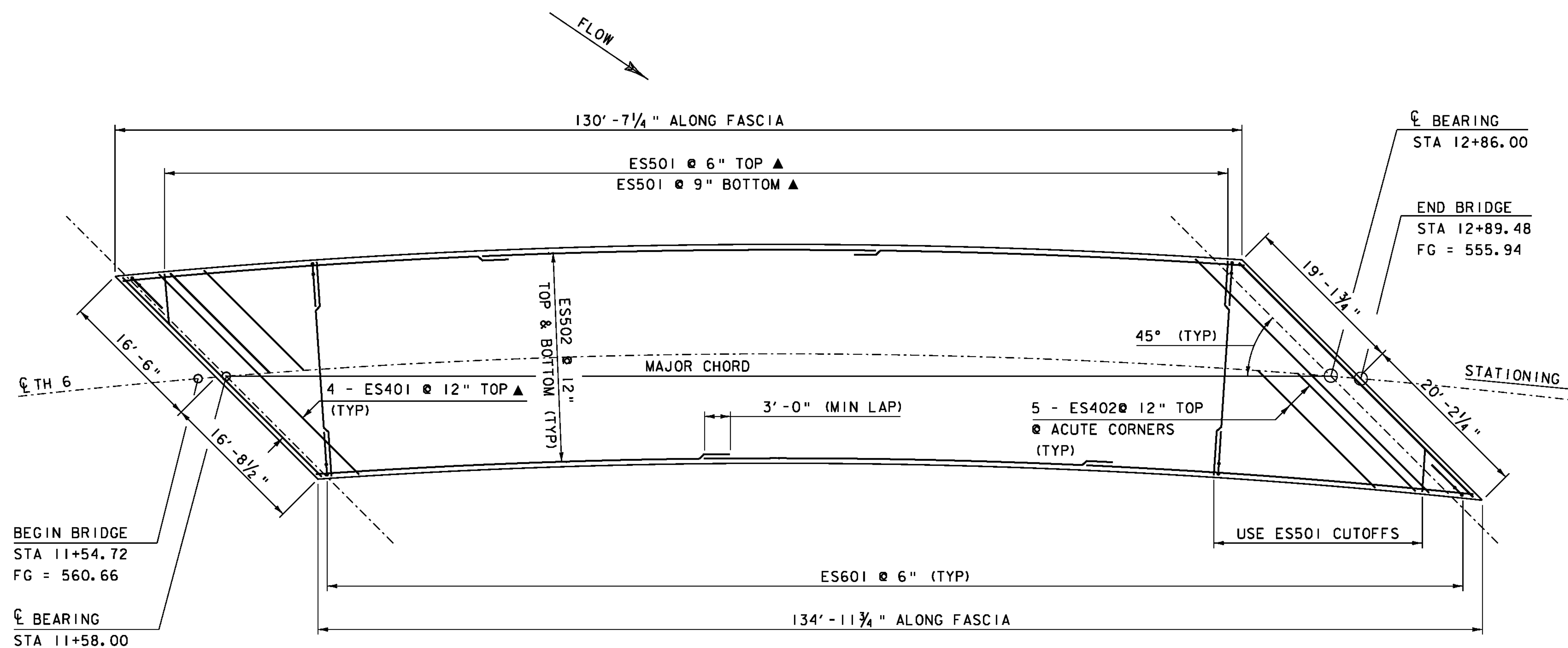
LOG OF BORING SPRINGFIELD BRO 1442(26).dgn VT NOT.GDT 4/5/10

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282bor.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
BORING LOG SHEET - 2

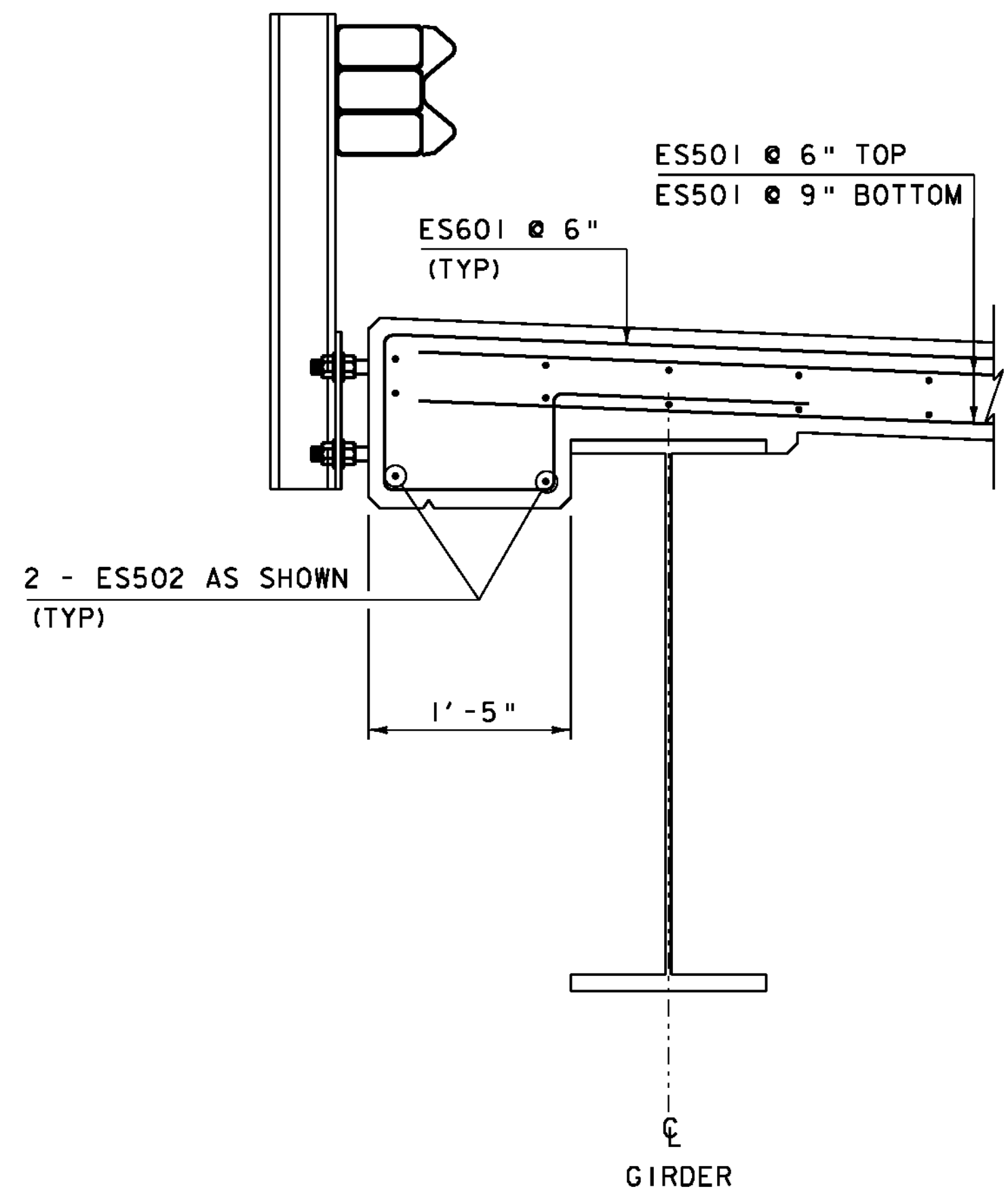
PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 17 OF 52



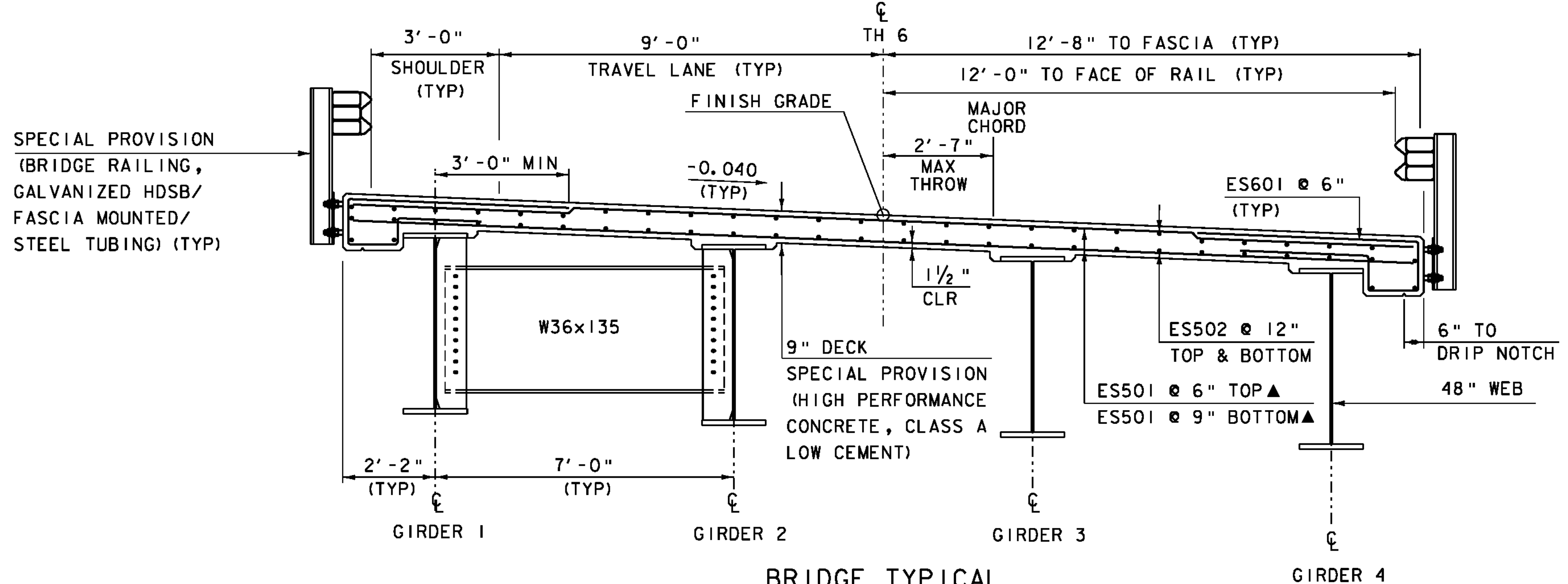


DECK REINFORCING
SCALE 1/8" = 1'-0"

NOTE:
BARS LOCATED IN ACUTE CORNERS SHALL BE THE TOP MOST MAT OF STEEL WITH A MINIMUM OF 2 1/2" CLEAR.



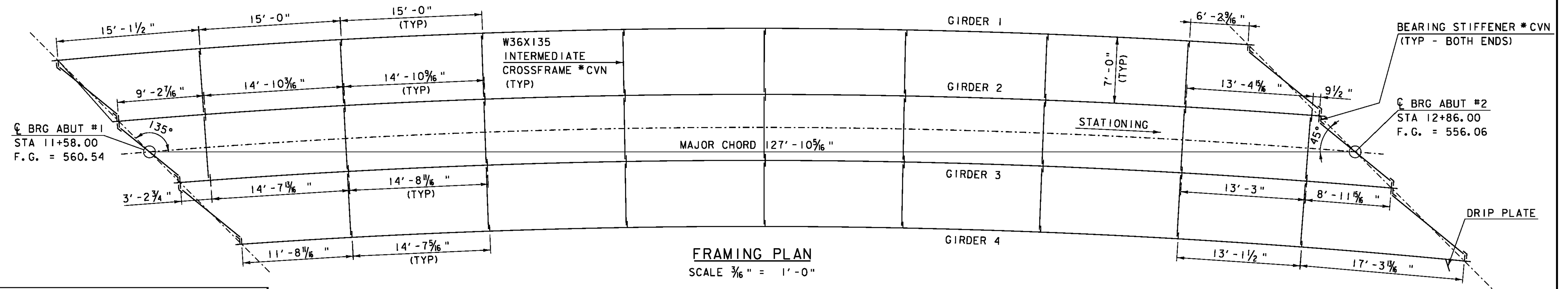
OVER HANG DETAIL
SCALE 1" = 1'-0"



BRIDGE TYPICAL
SCALE 1/2" = 1'-0"

NOTE:
E = EPOXY COATED REINFORCING
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282sup.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLET
DESIGNED BY: J. LACROIX	CHECKED BY: J. SALVATORI
DECK PLAN	SHEET 19 OF 52

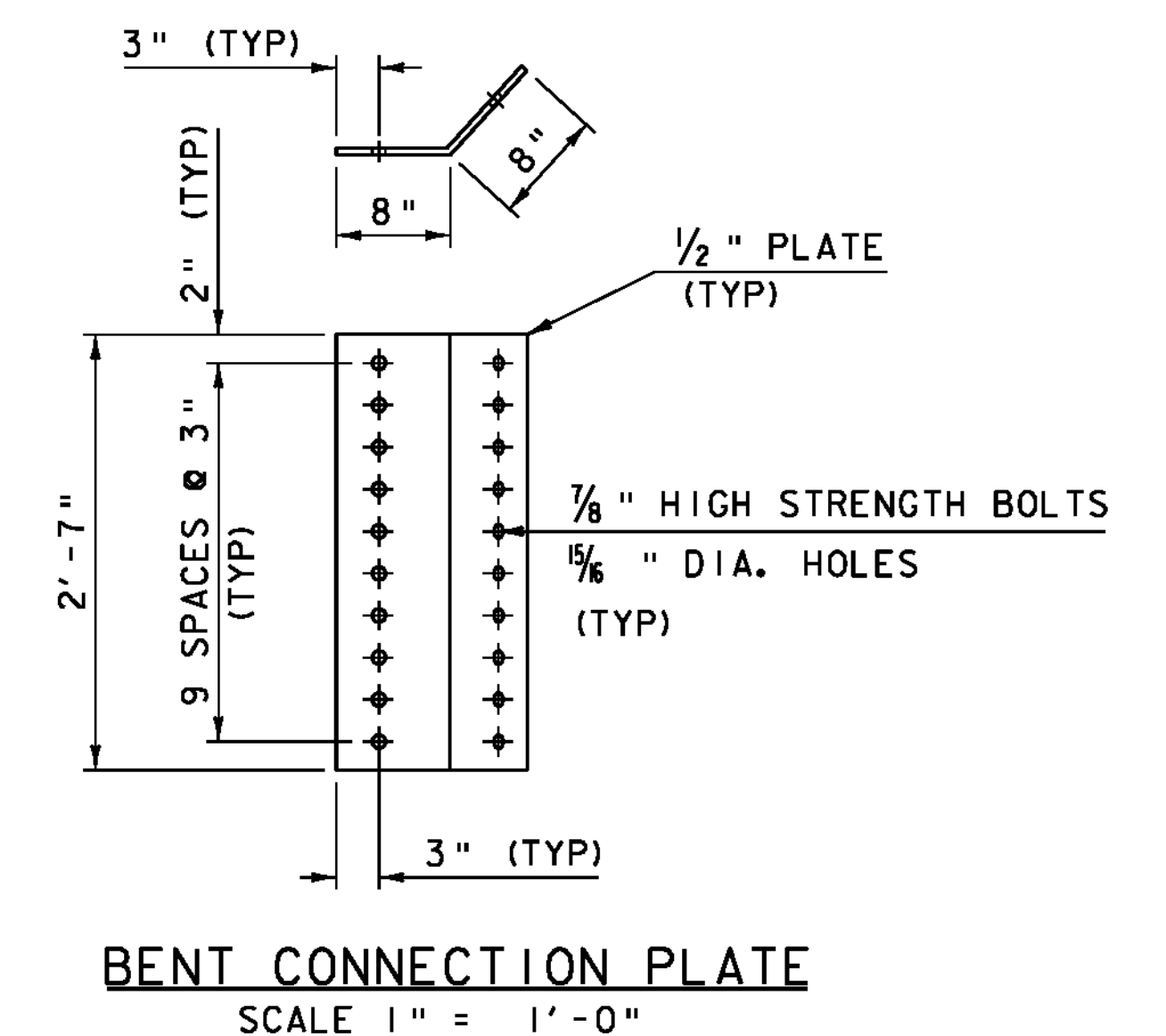
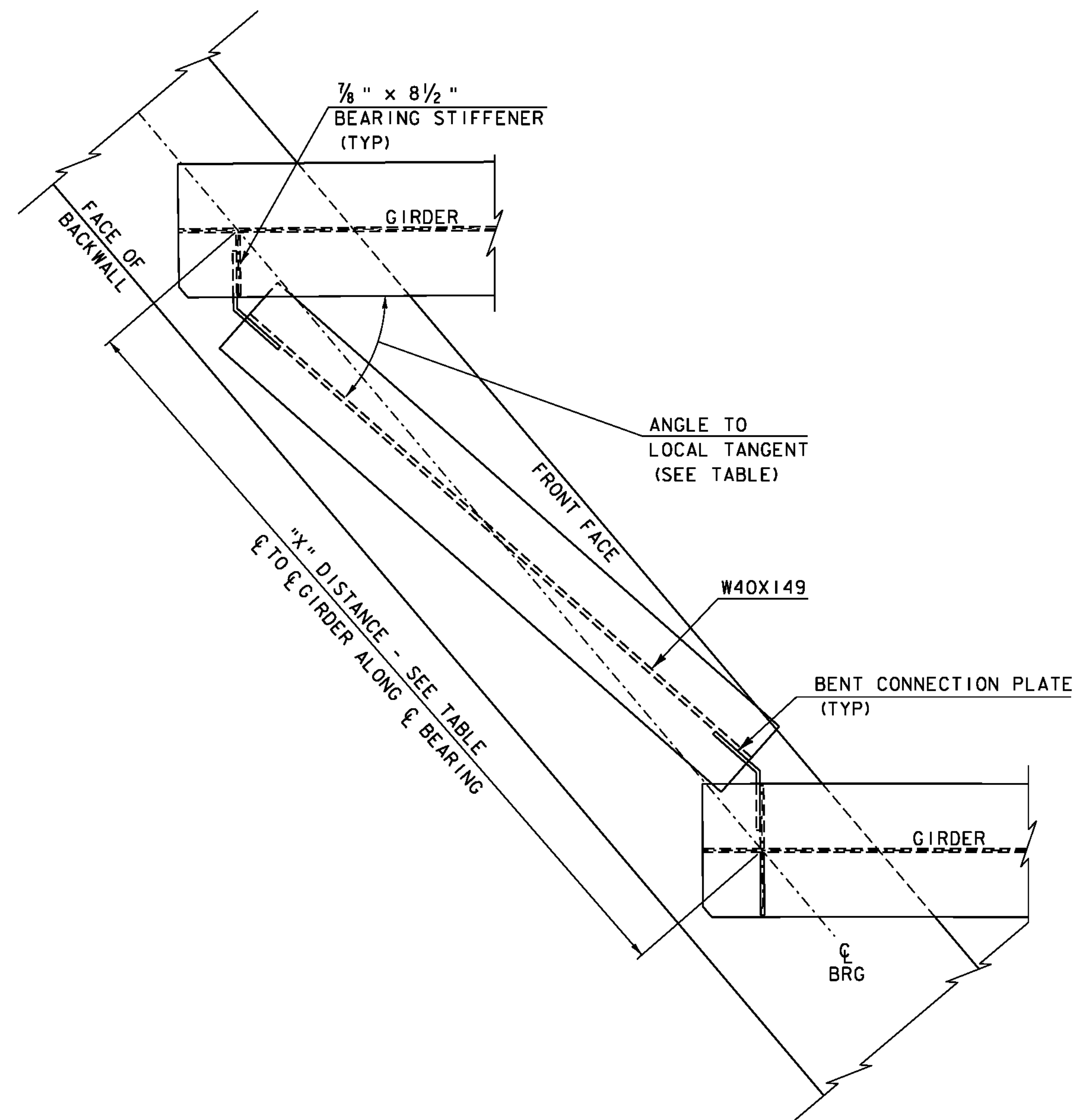


CROSSFRAME INFORMATION TABLE

"X"	LOCATION
9' - 1 9/16"	GIRDER 1 TO GIRDER 2 @ ABUT. 1
9' - 2 1/4"	GIRDER 2 TO GIRDER 3 @ ABUT. 1
9' - 2 15/16"	GIRDER 3 TO GIRDER 4 @ ABUT. 1
10' - 8 3/16"	GIRDER 1 TO GIRDER 2 @ ABUT. 2
10' - 9 3/4"	GIRDER 2 TO GIRDER 3 @ ABUT. 2
10' - 11 3/8"	GIRDER 3 TO GIRDER 4 @ ABUT. 2

ANGLE TO LOCAL TANGENT TABLE

ANGLE	LOCATION
49° - 44' - 17"	GIRDER 1 TO GIRDER 2 @ ABUT. 1
49° - 31' - 34"	GIRDER 2 TO GIRDER 3 @ ABUT. 1
48° - 46' - 28"	GIRDER 3 TO GIRDER 4 @ ABUT. 1
40° - 42' - 14"	GIRDER 1 TO GIRDER 2 @ ABUT. 2
40° - 23' - 7"	GIRDER 2 TO GIRDER 3 @ ABUT. 2
40° - 4' - 23"	GIRDER 3 TO GIRDER 4 @ ABUT. 2

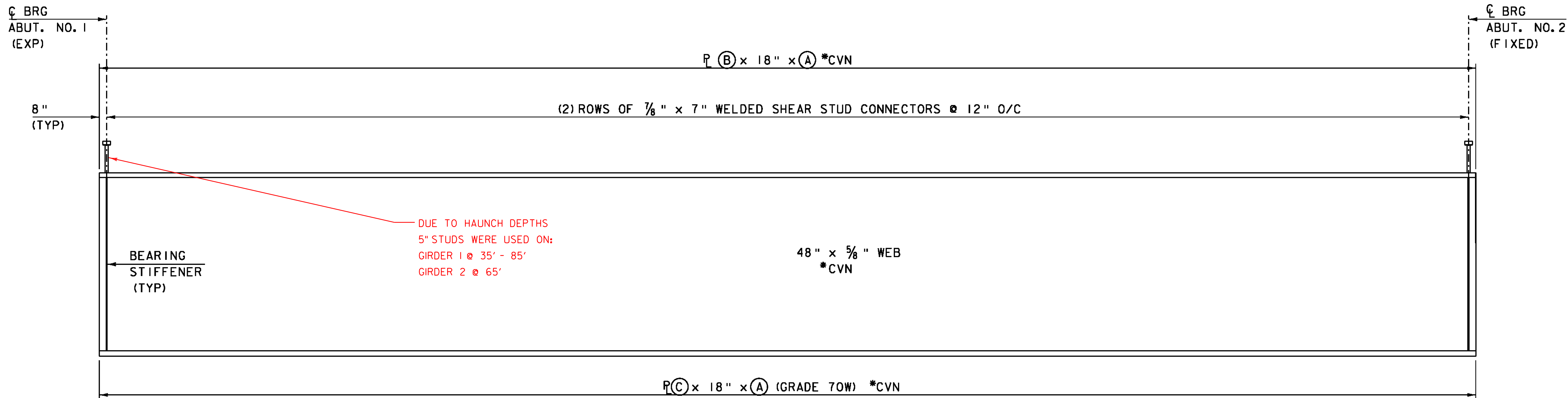


NOTE:
*CVN DENOTES THAT CHARPY V-NOTCH TEST IS REQUIRED

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282sup.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
FRAMING & CROSS FRAME DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLET
CHECKED BY: J. LACROIX
SHEET 20 OF 52

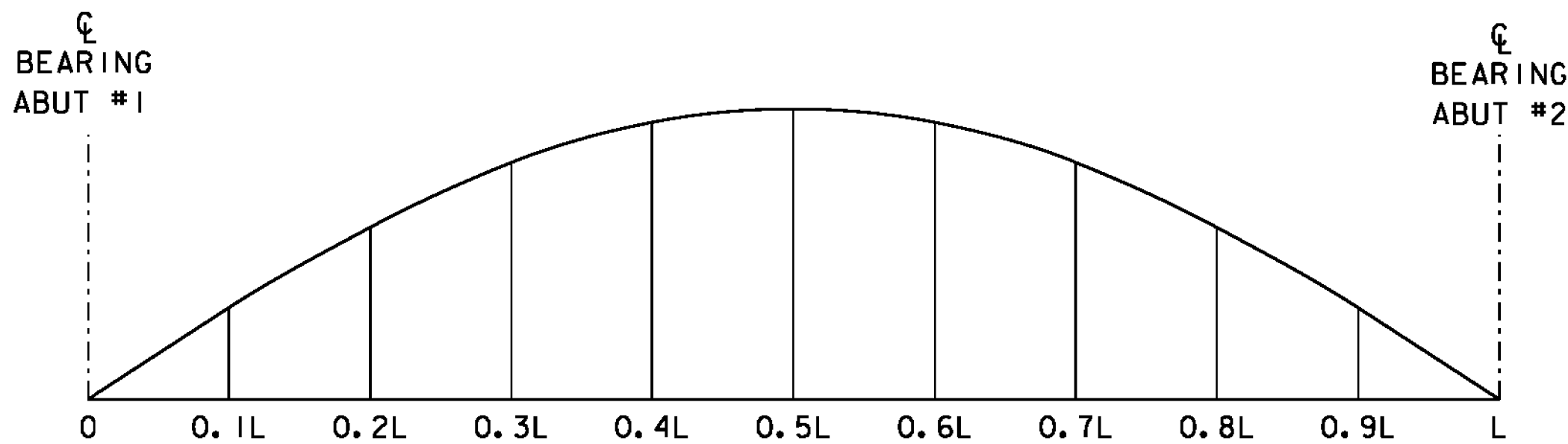


TYPICAL GIRDER ELEVATION

HORIZONTAL SCALE $\frac{3}{16}$ " = 1' - 0"
VERTICAL SCALE $\frac{3}{4}$ " = 1' - 0"

NOTES:

- DIMENSIONS SHOWN ARE ALONG THE ARC OF THE ϕ OF THE GIRDER.
 - GIRDERS AND CROSSFRAMES SHALL BE WEB-PLUMB AT STEEL DEAD LOAD CONDITION.
- * CVN DENOTES THAT CHARPY V-NOTCH TEST IS REQUIRED



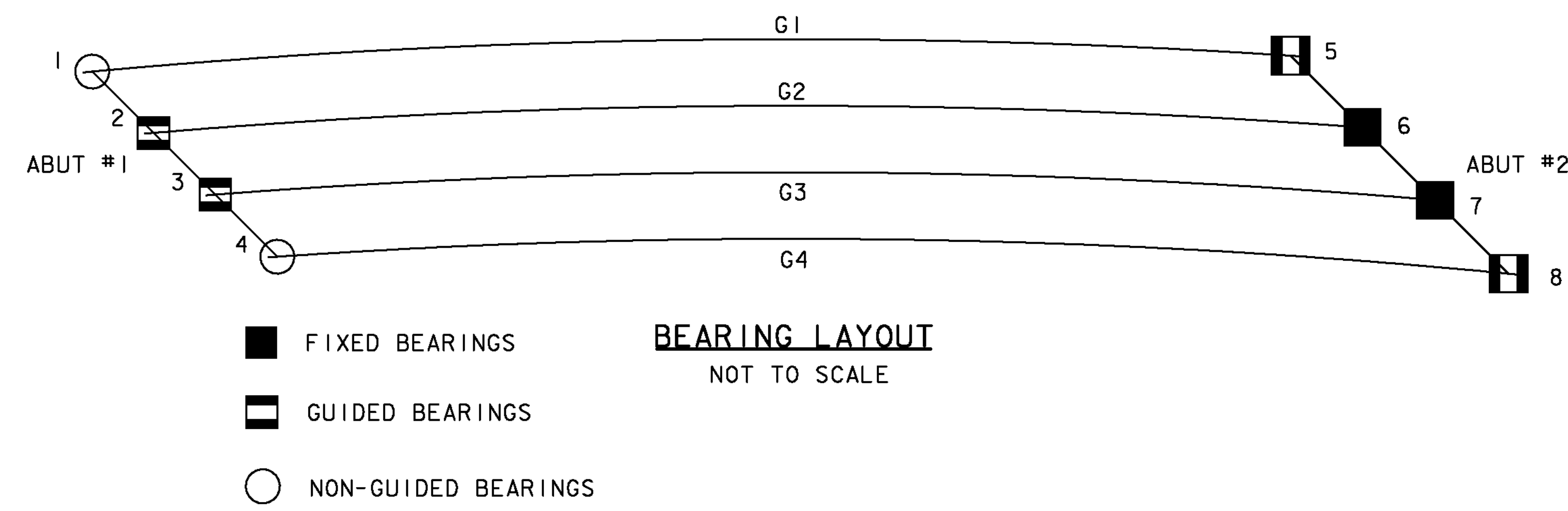
CAMBER DIAGRAM
NOT TO SCALE

CAMBER (INCHES)									
GIRDER	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L
#1	4	7 9/16	10 5/16	12	12 10/16	12	10 4/16	7 8/16	4
#2	3 14/16	7 2/16	9 10/16	11 2/16	11 8/16	10 13/16	9 2/16	6 9/16	3 6/16
#3	3 10/16	6 11/16	8 15/16	10 4/16	10 10/16	10	8 8/16	6 2/16	3 4/16
#4	3 4/16	6 2/16	8 5/16	9 10/16	10 2/16	9 11/16	8 6/16	6 3/16	3 5/16

DEAD LOAD DEFLECTION (INCHES)									
GIRDER	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6 L	0.7 L	0.8 L	0.9 L
#1	-3 7/16	-6 8/16	-8 15/16	-10 8/16	-11	-10 7/16	-8 14/16	-6 7/16	-3 7/16
#2	-3 5/16	-6 2/16	-8 4/16	-9 9/16	-9 15/16	-9 5/16	-7 12/16	-5 8/16	-2 13/16
#3	-3 1/16	-5 10/16	-7 9/16	-8 12/16	-9 1/16	-8 8/16	-7 2/16	-5 2/16	-2 11/16
#4	2 11/16	-5 1/16	-6 15/16	-8 2/16	-8 9/16	-8 3/16	-7 1/16	-5 3/16	-2 12/16

GIRDER DIMENSION TABLE				
BEARING	RADIUS	A (LENGTH)	B TOP FLANGE PLATE THICKNESS	C BOTTOM FLANGE PLATE THICKNESS
#1	800.153'	127'-8"	1 1/4"	1 5/8"
#2	793.153'	128'-9 1/8"	7/8"	1"
#3	786.153'	129'-11"	7/8"	1"
#4	779.153'	131'-1 5/8"	7/8"	1"

PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BRO 1442(26)
FILE NAME: s95j282sup.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
GIRDER DETAILS	SHEET 21 OF 52



BEARING AT ABUTMENT #1	
BEARING NO.	VERTICAL LOAD (UNFACTORED)
1	120 kips
2	130 kips
3	175 kips
4	135 kips
BEARING AT ABUTMENT #2	
BEARING NO.	VERTICAL LOAD (UNFACTORED)
1	130 kips
2	85 kips
3	105 kips
4	270 kips

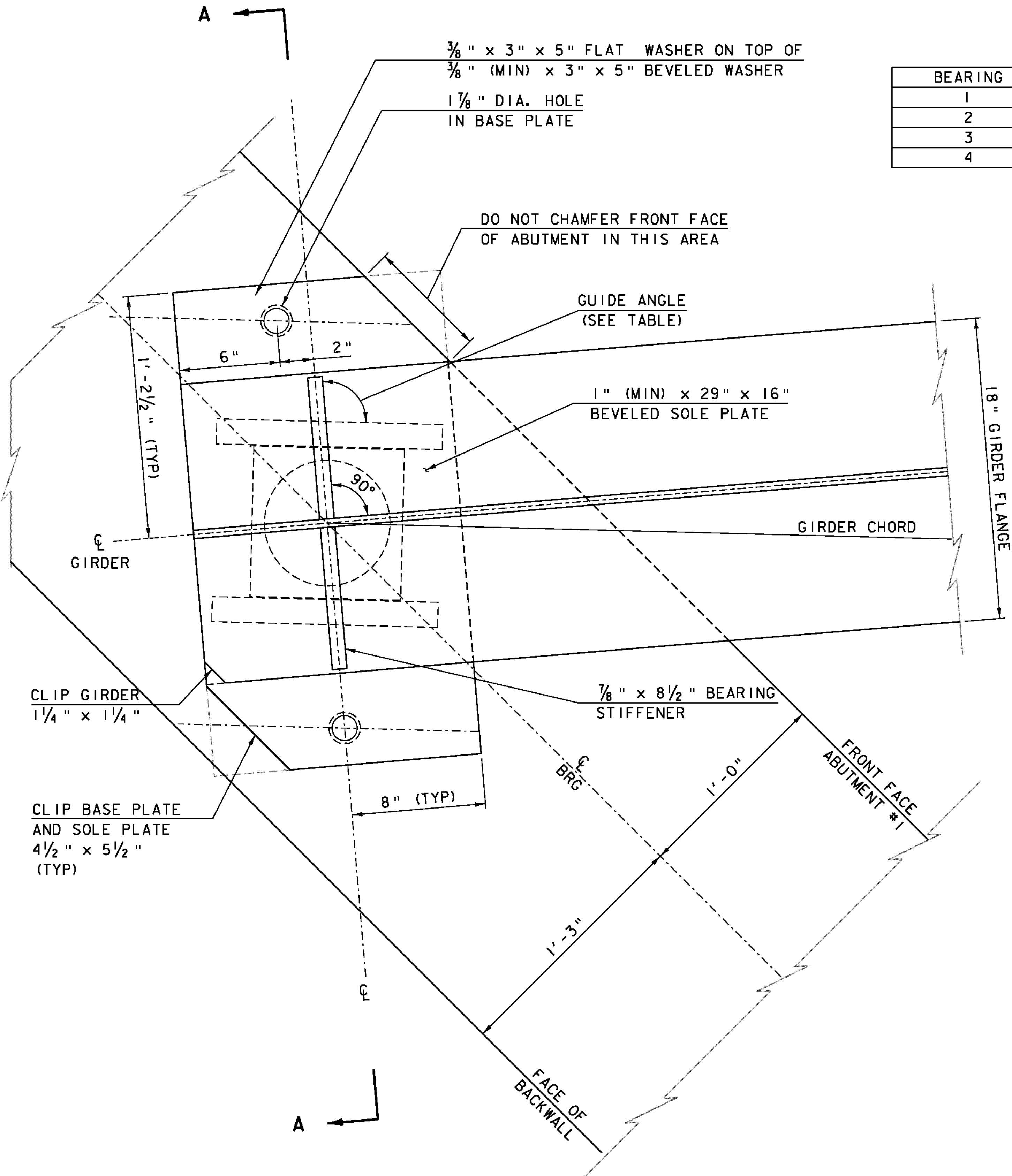
BEARING NOTES

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 & 731.
2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.12 "BEARING DEVICE ASSEMBLY, POT".
3. FABRICATION DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED.
4. THE CONCRETE SURFACE UNDER THE BEARING DEVICES SHALL BE LEVEL.
5. DESIGN CRITERIA:
 - A. BASE PLATE TO CONCRETE DESIGN PRESSURE = 1.20 ksi MAXIMUM.
 - B. MINIMUM DESIGN ROTATION = 0.030 radians
 - C. MINIMUM DESIGN TRANSLATION: TRANSVERSE = 1" LONGITUDINAL = 2"
 - D. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 25% OF THE VERTICAL LOAD.
 - E. VERTICAL DESIGN LOAD PER TABLE ON THIS SHEET.
6. ALL POTS, PLATES, NUTS, WASHERS AND ANCHOR BOLTS, UNLESS OTHERWISE NOTED, SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTIONS 531.04 (B) AND 506.15 OF THE STANDARD SPECIFICATIONS. IF THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN SUBSECTION 531.04 (B) OF THE STANDARD SPECIFICATIONS. AREAS OF GALVANIZING OR METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN CONFORMANCE WITH STANDARD SPECIFICATION 513. THE INSIDE OF THE POTS SHALL NOT BE GALVANIZED OR METALIZED.
7. ALL STEEL IN BEARING DEVICES SHALL BE AASHTO M270M/M270 GRADE 345, UNLESS NOTED OTHERWISE.
8. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 15" EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08.
9. THE CONNECTION BETWEEN THE POT BEARING AND SOLE PLATE AND POT BEARING AND THE MASONRY PLATE SHALL BE DESIGNED AND DETAILED BY THE SUPPLIER.
10. ALL DESIGNS DONE FOR THE BEARINGS SHALL BE PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH EDITION AND ITS LATEST REVISIONS.
11. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THE PLANS.
12. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

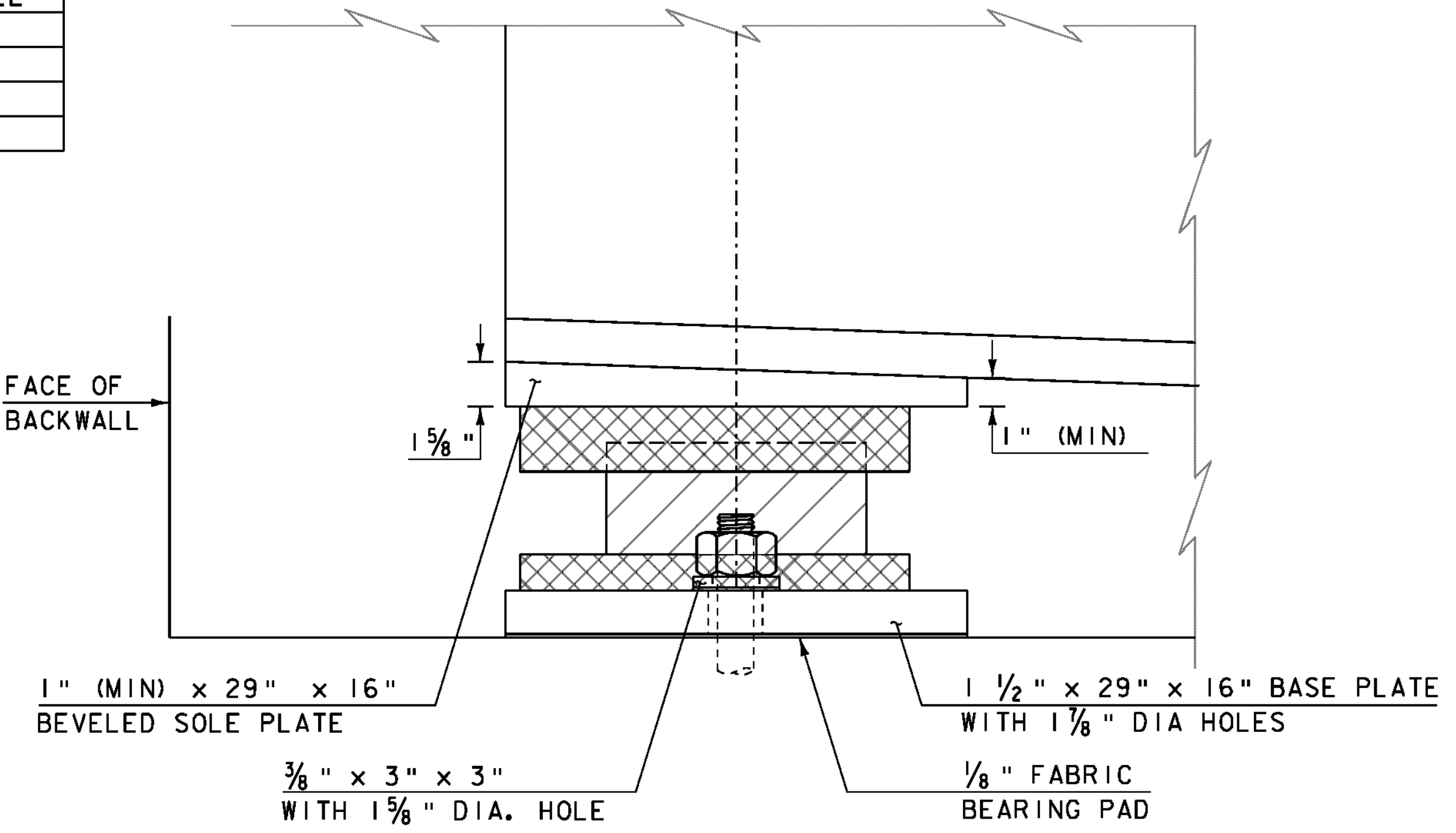
PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282sup.dgn	PLOT DATE: 14-SEP-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. LACROIX
BEARING DETAILS - 1	SHEET 22 OF 52

ABUTMENT 1 BEARINGS

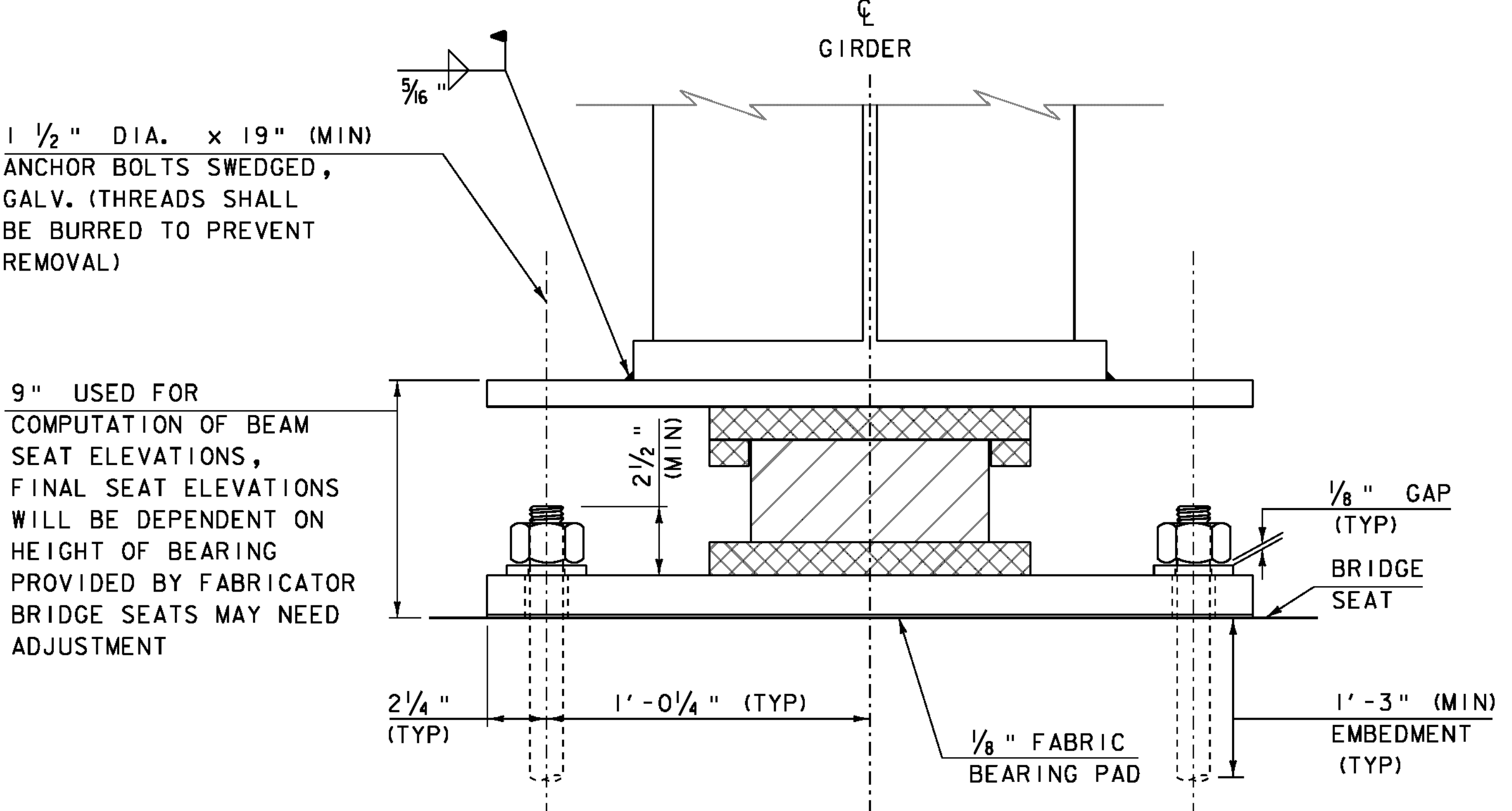
BEARING	GUIDE ANGLE
1	NONE
2	96° - 19'
3	92° - 59'
4	NONE



PLAN VIEW
SCALE 3" = 1'-0"



SIDE ELEVATION
SCALE 3" = 1'-0"



SECTION A - A
SCALE 3" = 1'-0"

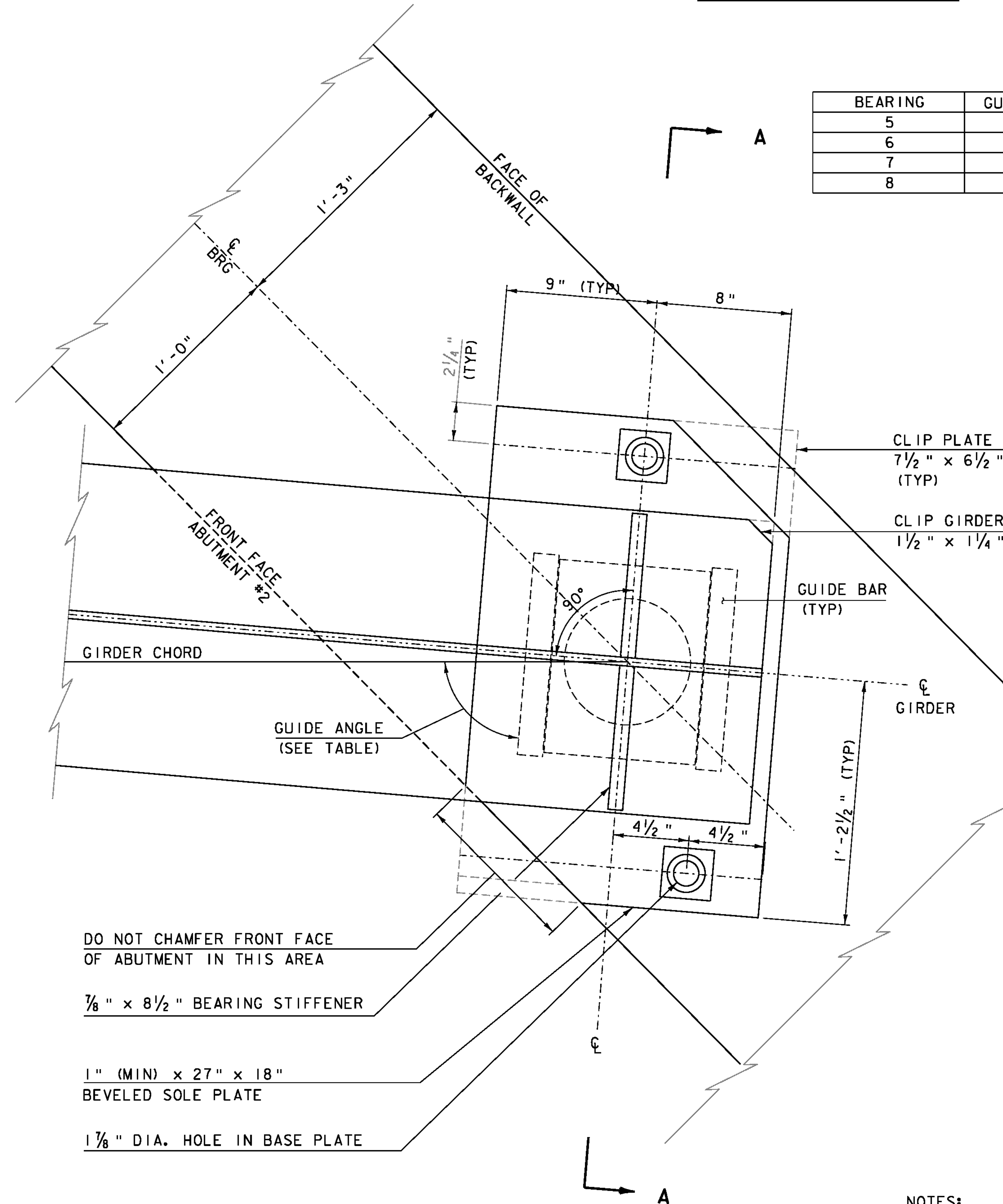
NOTES:

1. THE HATCHED COMPONENTS OF THE POT BEARINGS ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY. THE ACTUAL CONFIGURATION OF THE COMPONENTS WILL BE DEPENDENT UPON THE BEARING FABRICATOR.
2. SEE BEARING DETAILS-1 SHEET FOR ADDITIONAL BEARING NOTES.

PROJECT NAME:	SPRINGFIELD	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BRO 1442(26)	DRAWN BY:	R. PELLETT
FILE NAME:	s95j282sup.dgn	DESIGNED BY:	J. LACROIX
PROJECT LEADER:	K. HIGGINS	CHECKED BY:	J. LACROIX
BEARING DETAILS - 2		SHEET	23 OF 52

ABUTMENT 2 BEARINGS

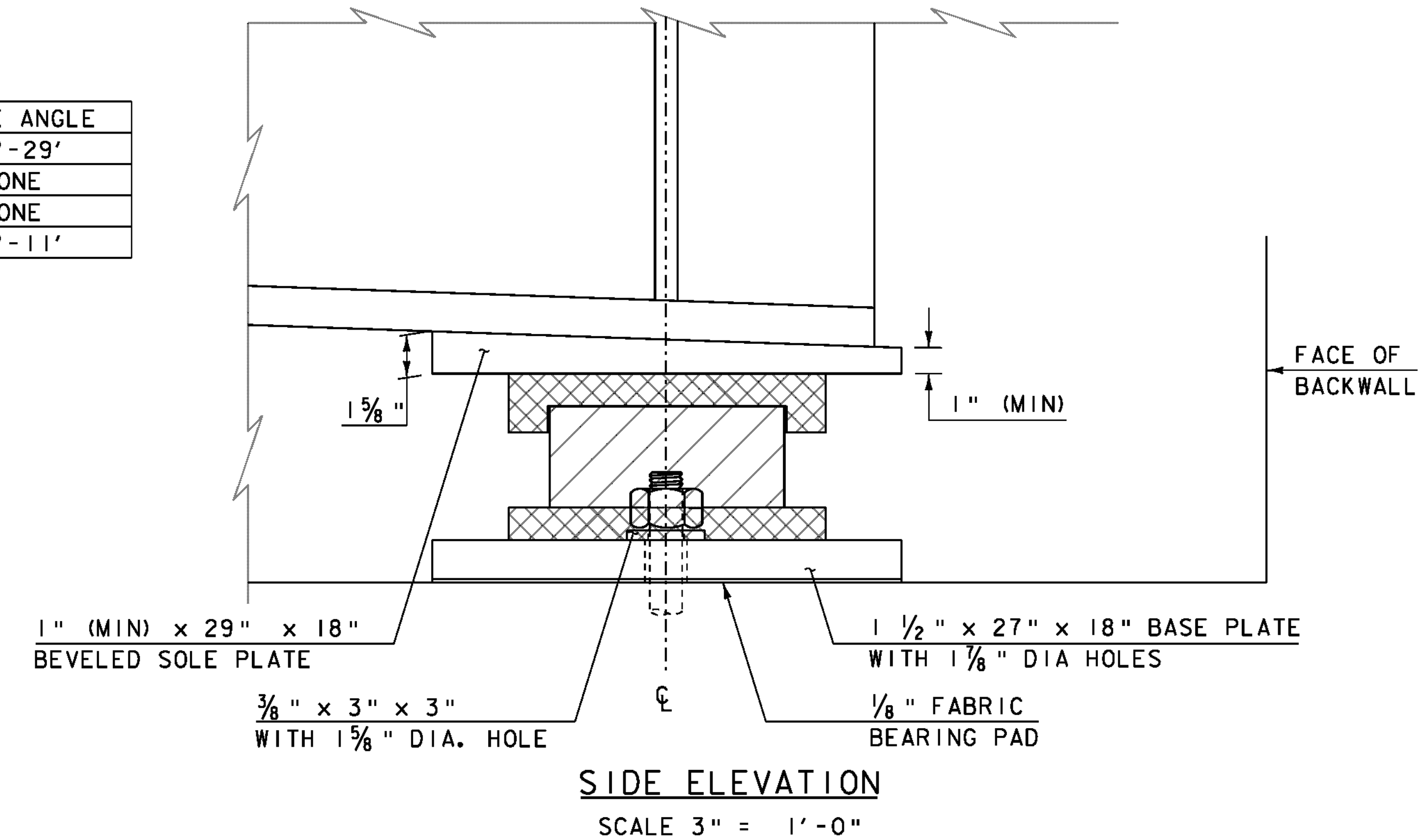
BEARING	GUIDE ANGLE
5	85°-29'
6	NONE
7	NONE
8	90°-11'



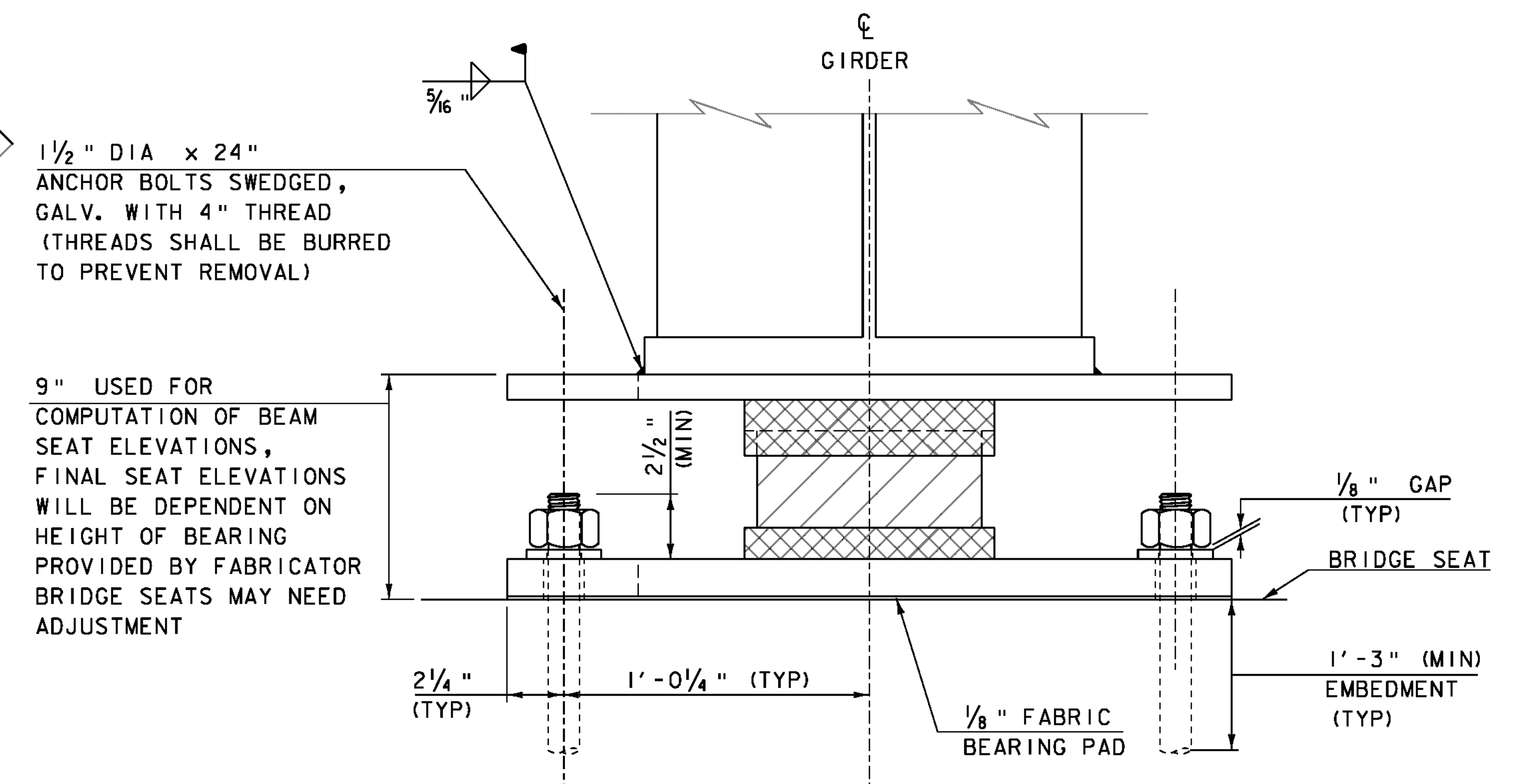
PLAN VIEW
SCALE 3" = 1'-0"

NOTES:

1. THE HATCHED COMPONENTS OF THE POT BEARINGS ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY. THE ACTUAL CONFIGURATION OF THE COMPONENTS WILL BE DEPENDENT UPON THE BEARING FABRICATOR.
2. SEE BEARING DETAILS-1 SHEET FOR ADDITIONAL BEARING NOTES.



SIDE ELEVATION
SCALE 3" = 1'-0"



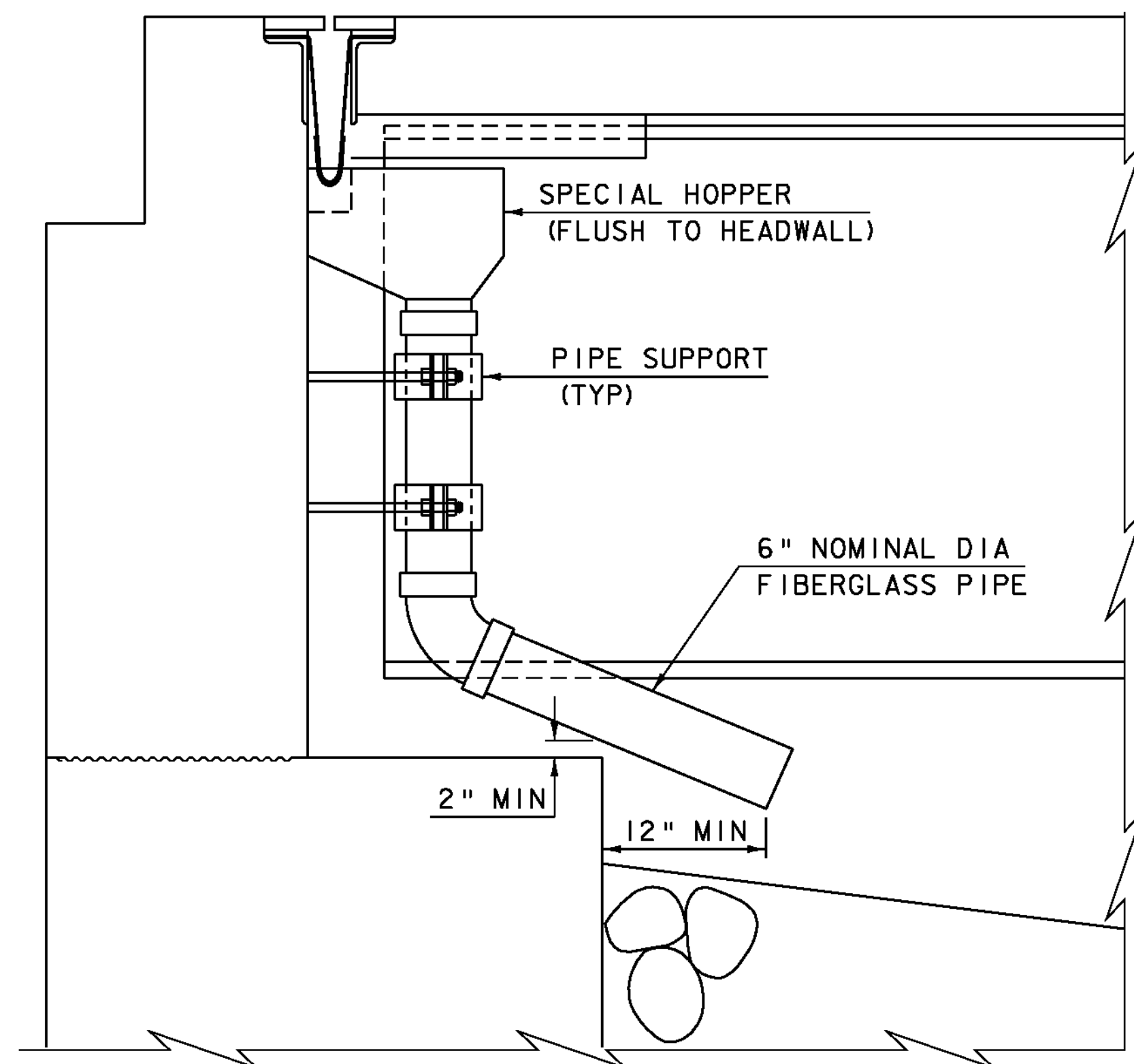
SECTION A - A
SCALE 3" = 1'-0"

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282sup.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
BEARING DETAILS - 3

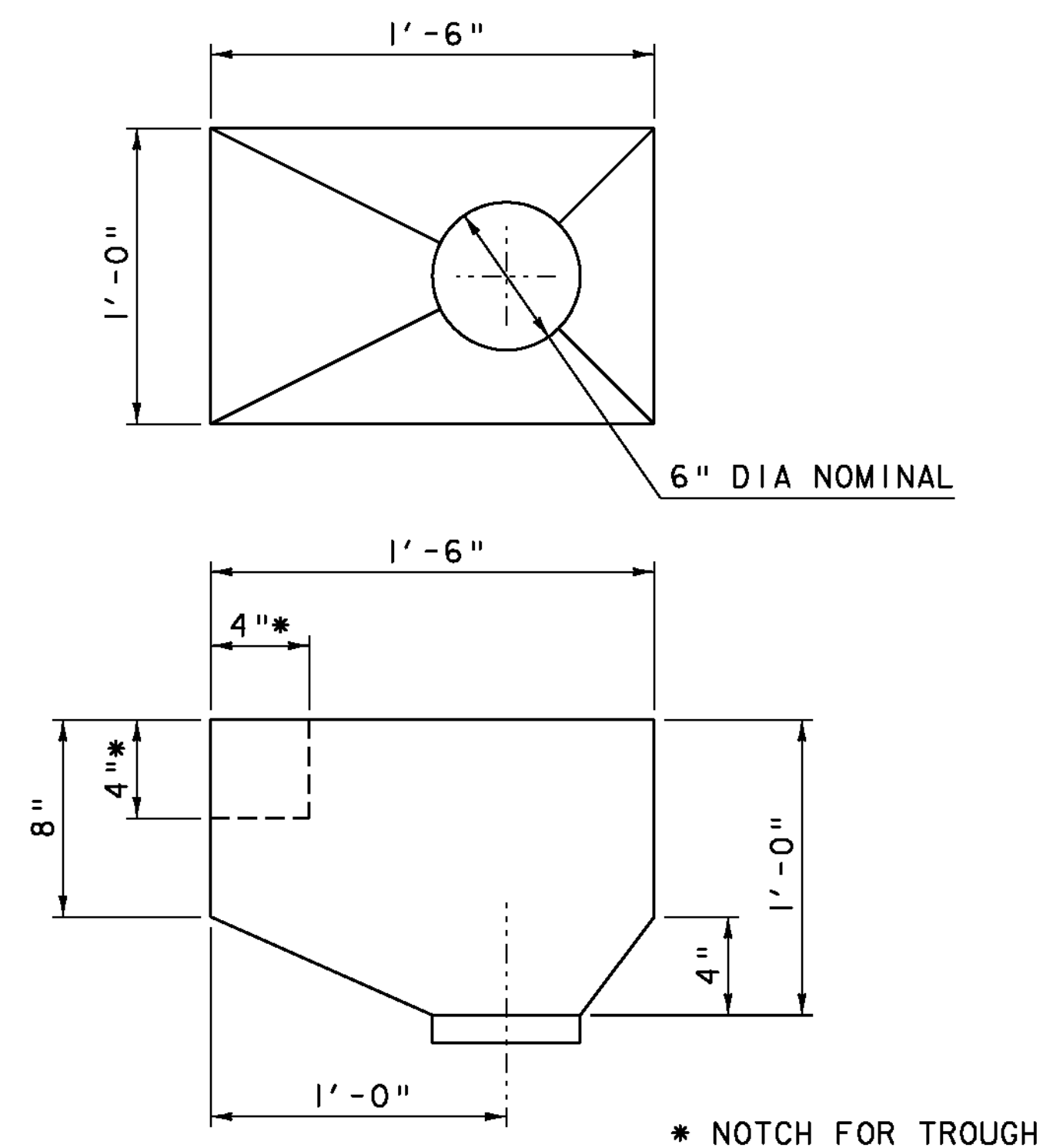
PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLET
CHECKED BY: J. LACROIX
SHEET 24 OF 52

BEGIN BRIDGE



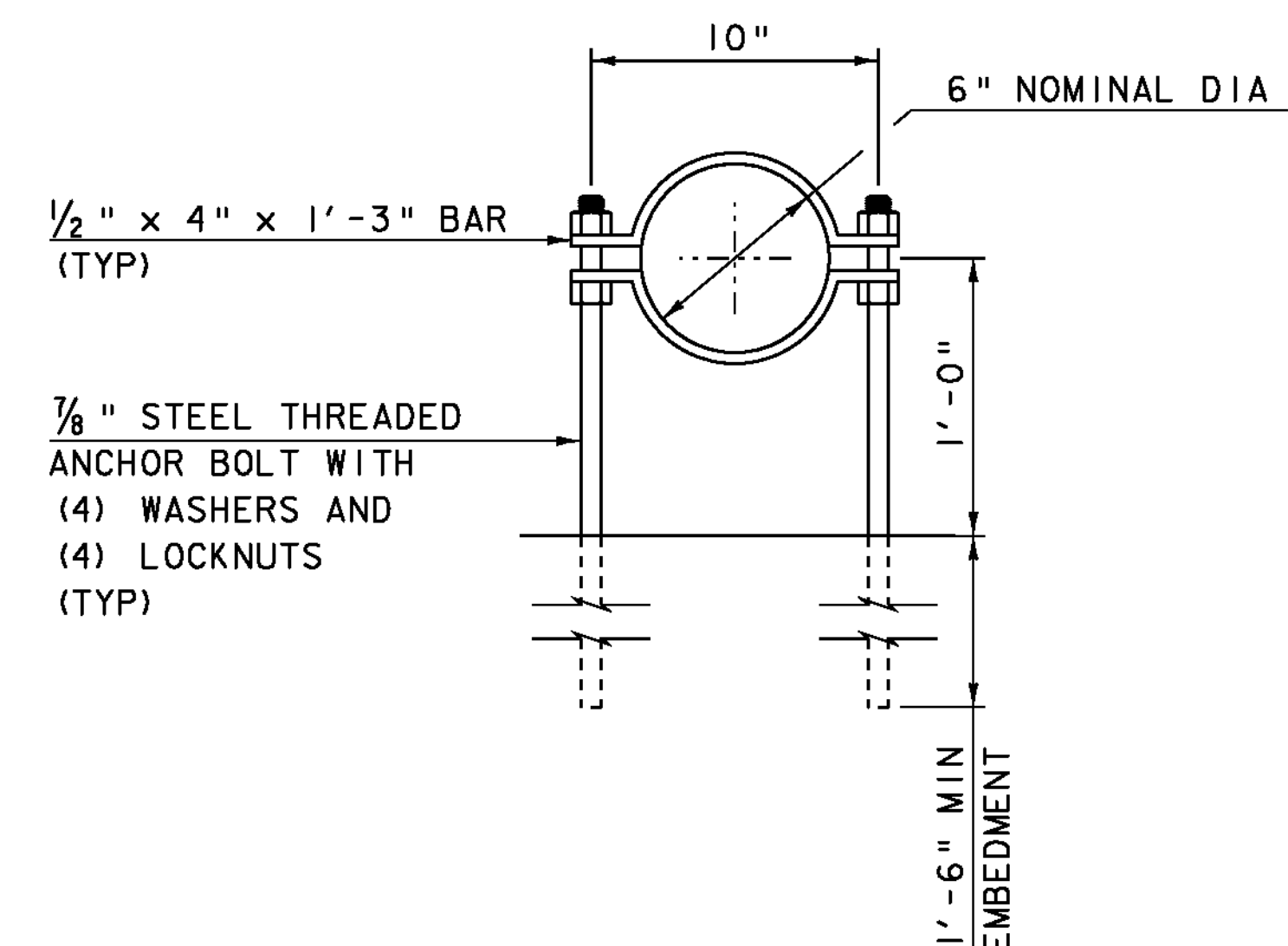
DOWNSPOUT ELEVATION

SCALE 1" = 1'-0"



SPECIAL HOPPER DETAIL

SCALE 2" = 1'-0"



PIPE SUPPORT DETAIL

SCALE 2" = 1'-0"

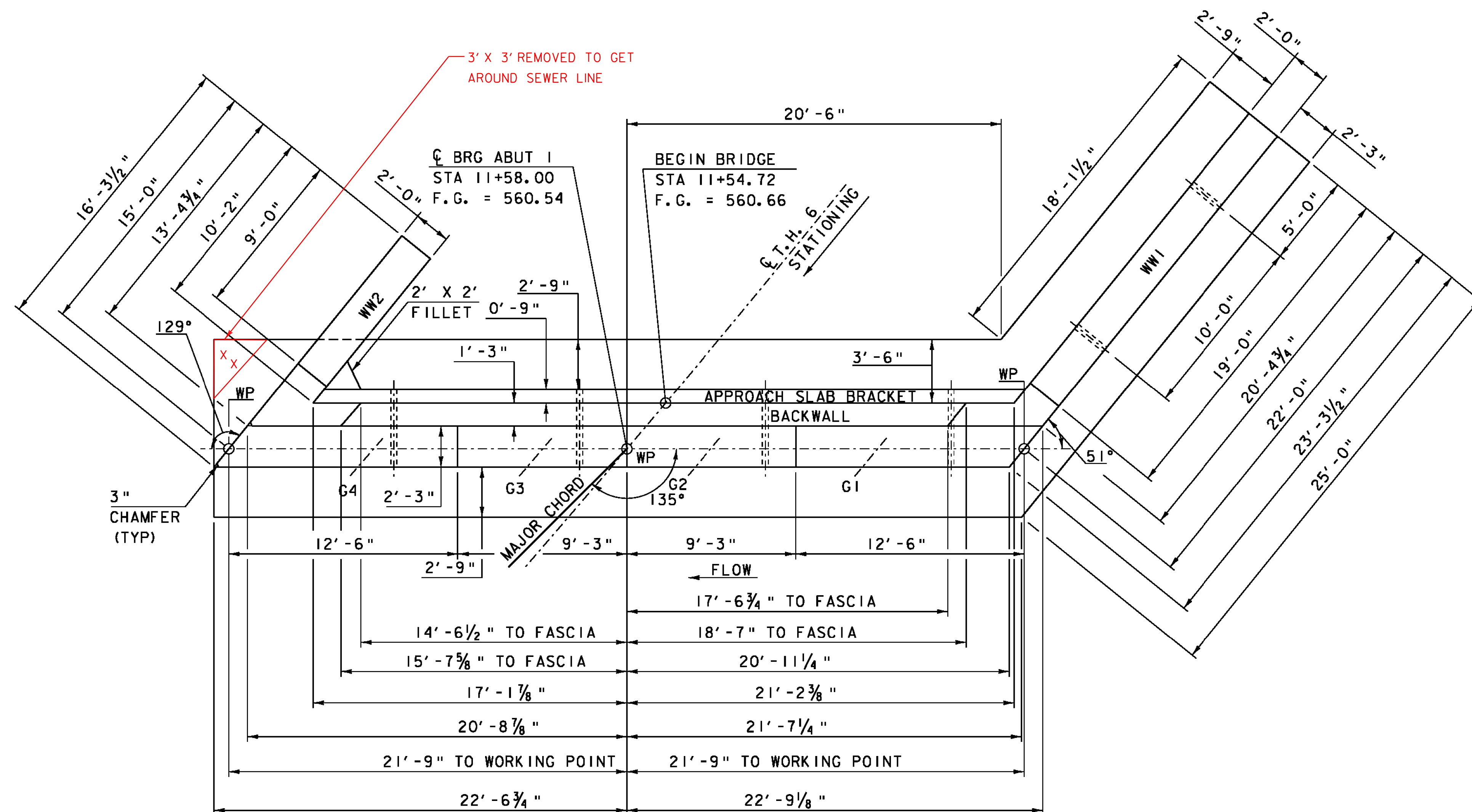
NOTES:

1. ALL PLATES, BARS AND ANGLES SHALL CONFORM TO SUBSECTION 714.02 AND SHALL BE GALVANIZED PER AASHTO M 111M/M 111.
2. ALL BOLTS AND RELATED HARDWARE SHALL CONFORM TO SUBSECTION 714.05 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232M/M 232.
3. SPECIAL HOPPER, PIPE, BARS, ANCHOR BOLTS AND PIPE JOINTS SHALL BE PAID FOR UNDER ITEM 900.640 SPECIAL PROVISION (BRIDGE FIBERGLASS DRAIN SYSTEM).

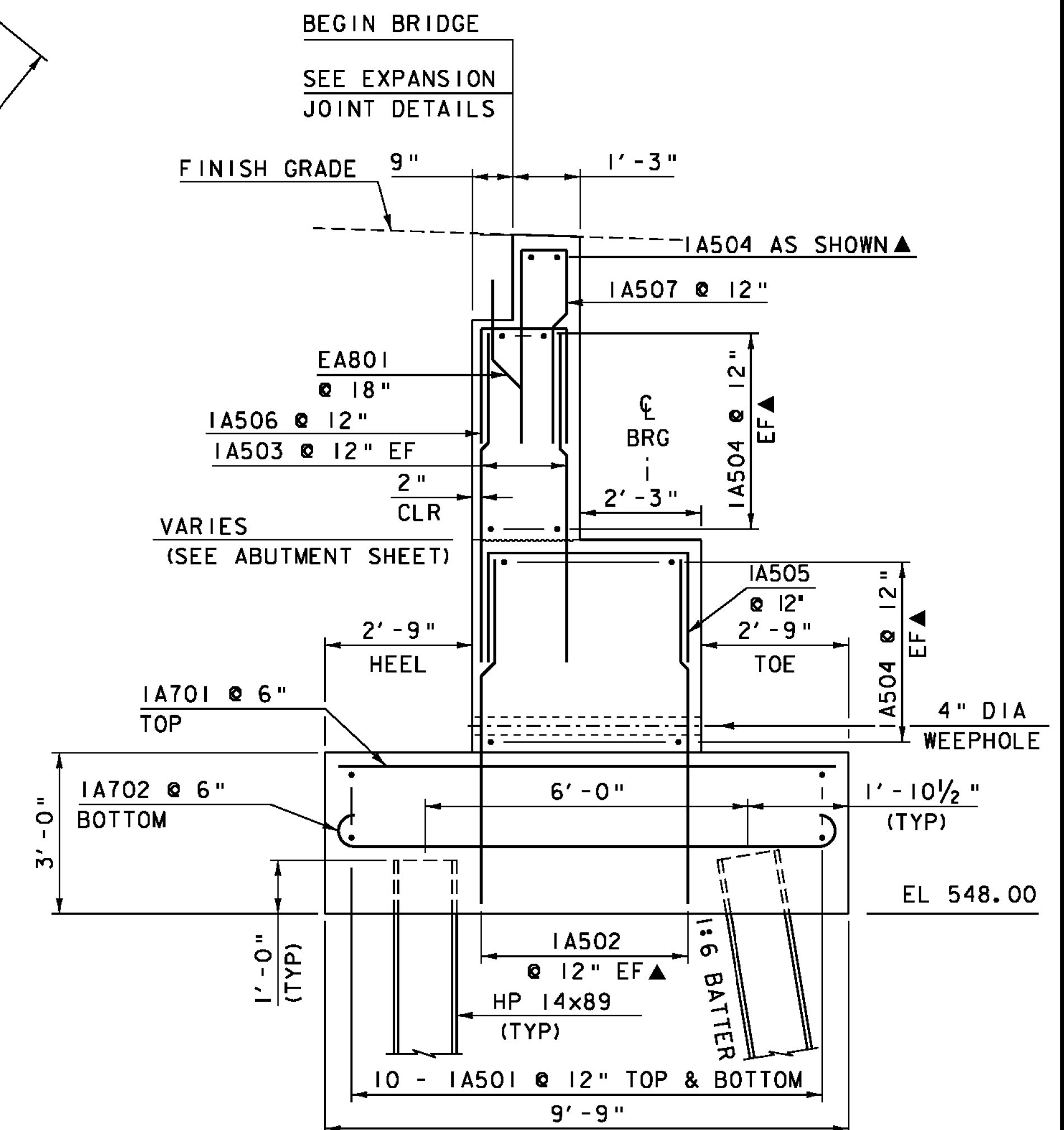
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282sub.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
DOWNSPOUT DETAILS

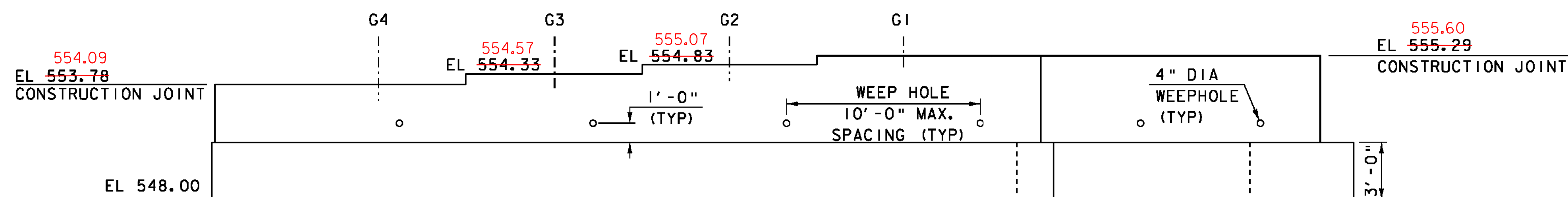
PLOT DATE: 14-SEP-2011
DRAWN BY: R. PELLET
CHECKED BY: J. SALVATORI
SHEET 25 OF 52



ABUTMENT I PLAN
SCALE 1/4" = 1'-0"



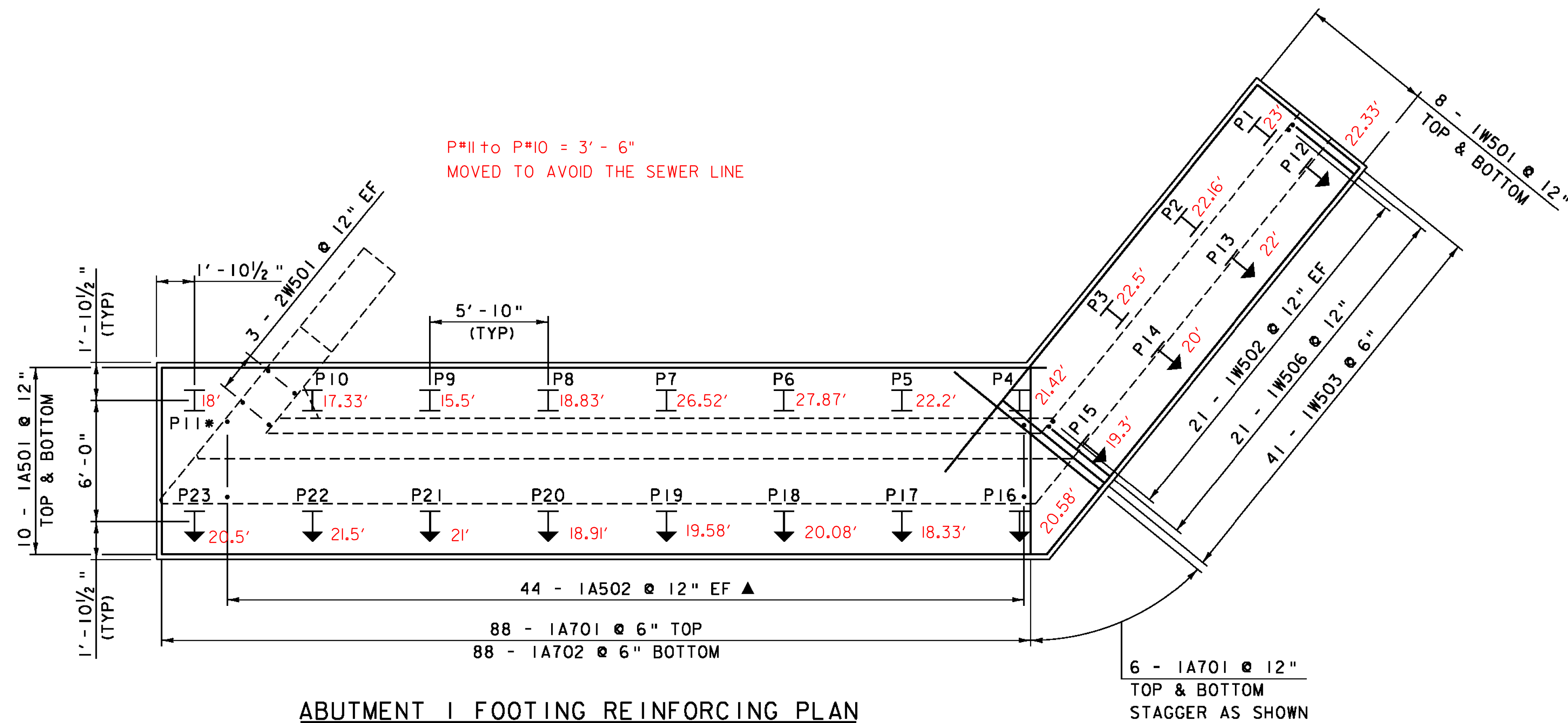
ABUTMENT I TYPICAL SECTION
SCALE 1/2" = 1'-0"



ABUTMENT I ELEVATION
SCALE 1/4" = 1'-0"

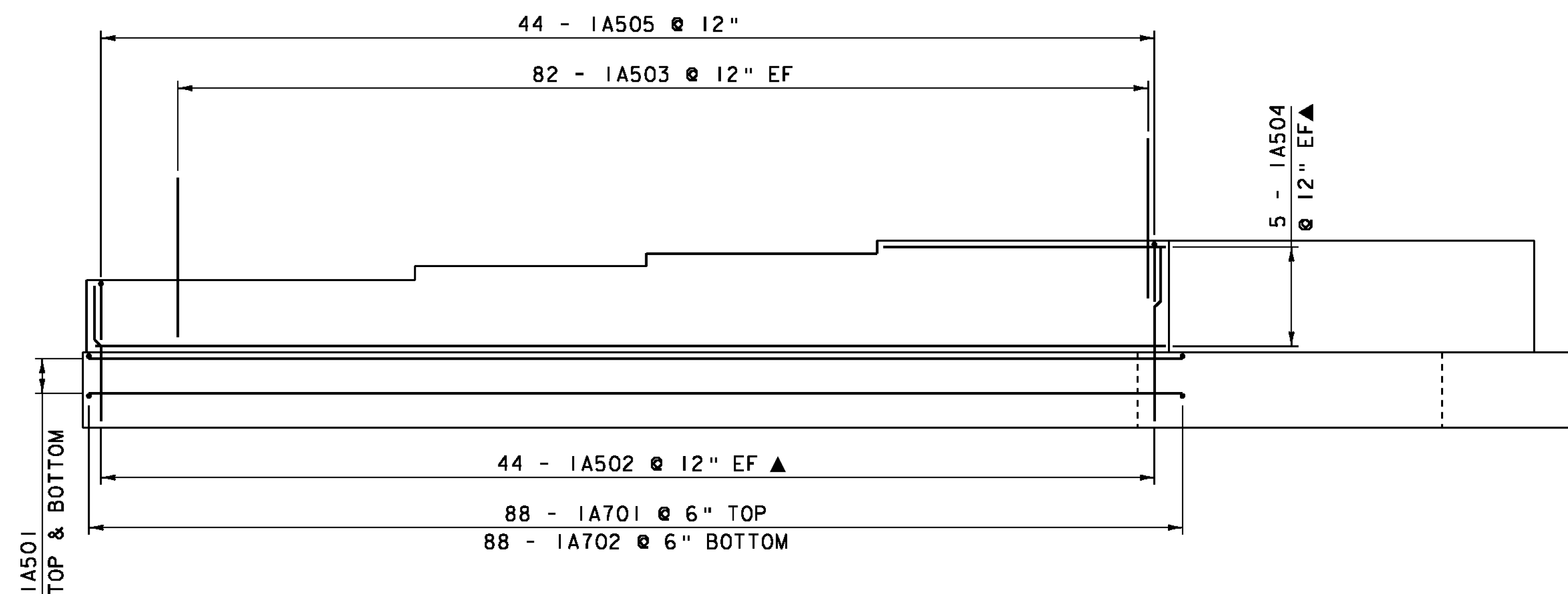
NOTE:
BACKWALL AND WINGWALLS NOT SHOWN

PROJECT NAME:	SPRINGFIELD	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BRO 1442(26)	DRAWN BY:	R. PELLETT
FILE NAME:	s95j282sub.dgn	CHECKED BY:	J. LACROIX
PROJECT LEADER:	K. HIGGINS	SHEET	26 OF 52
DESIGNED BY:	J. GRIFFIN		
ABUTMENT I			



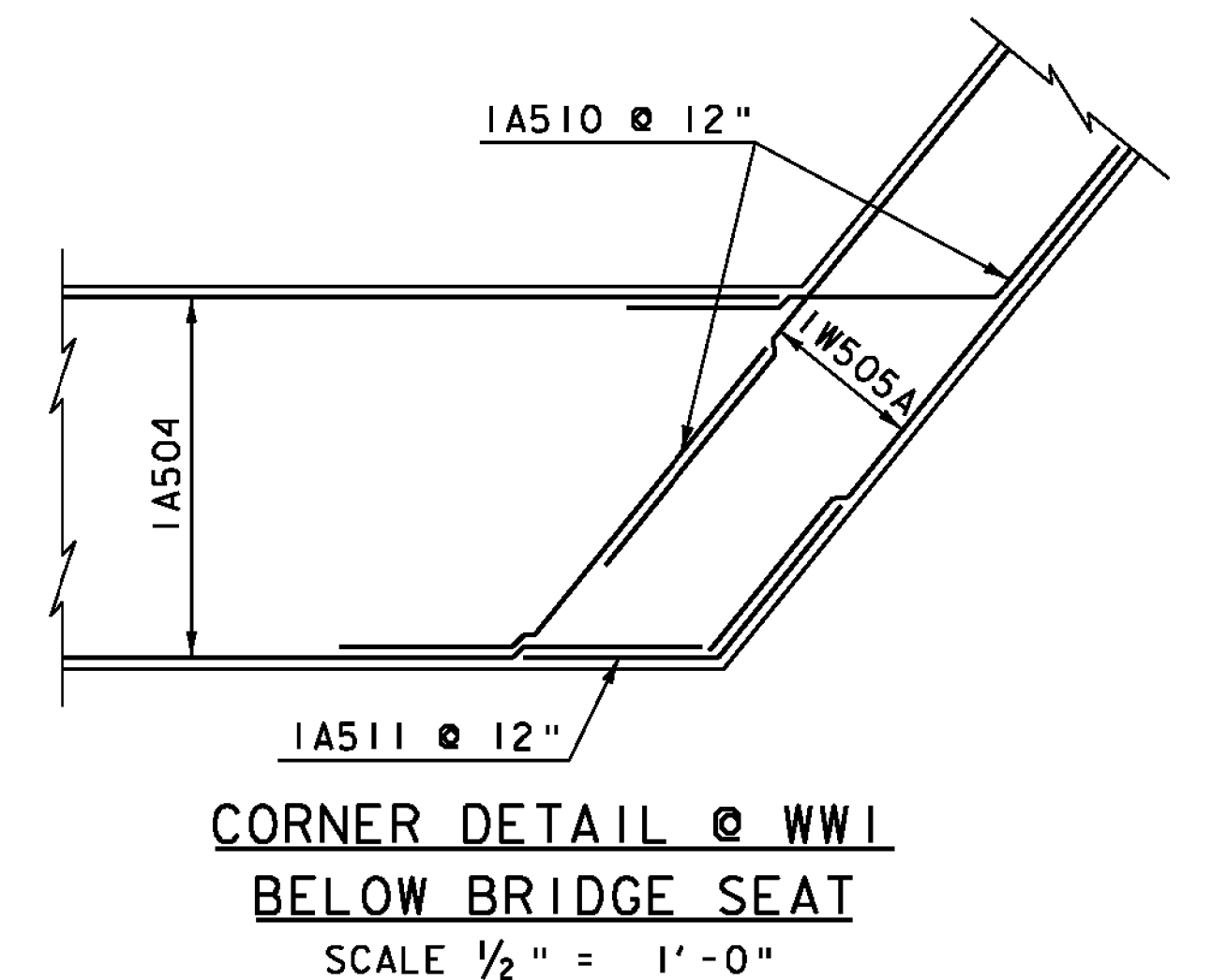
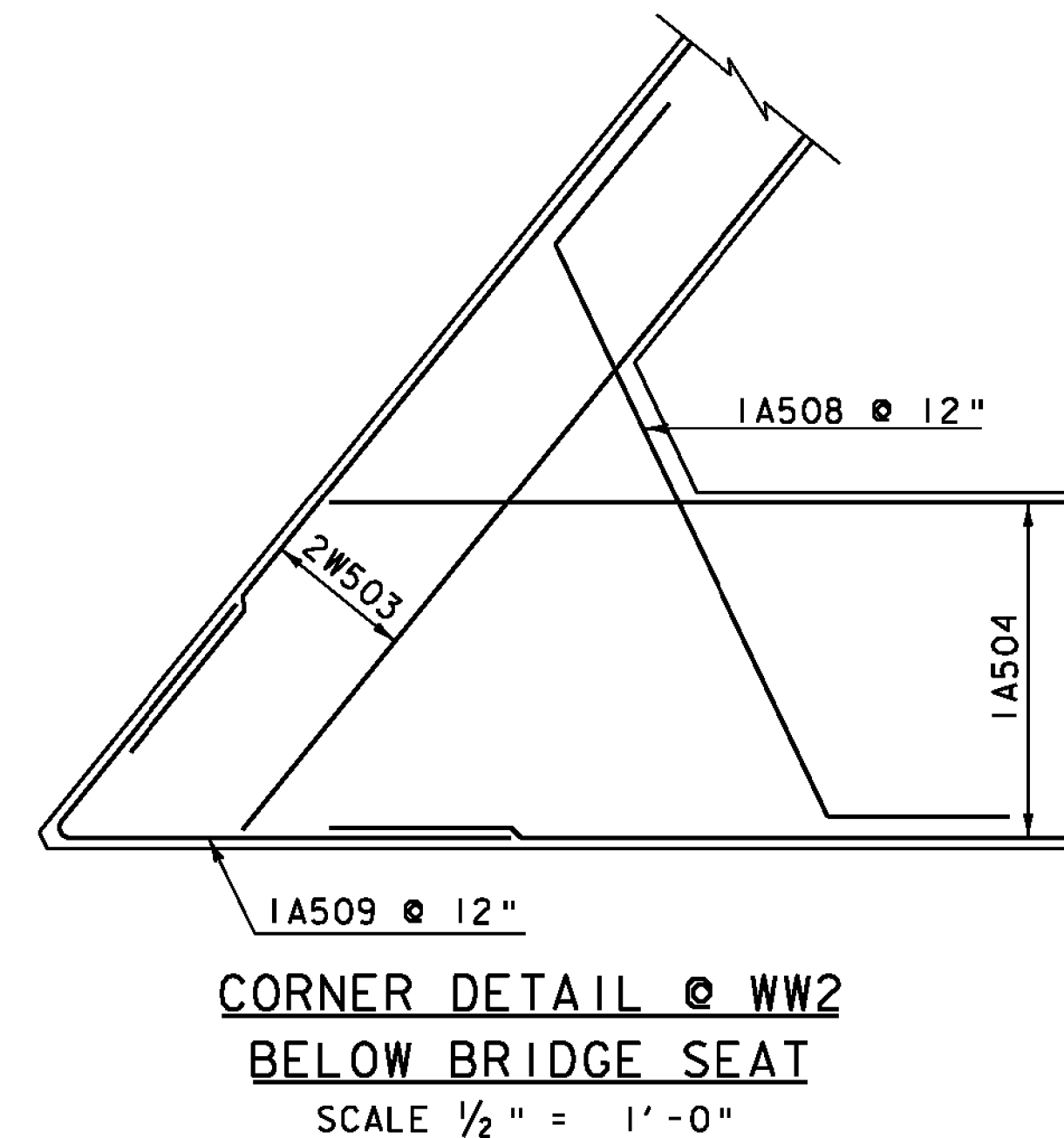
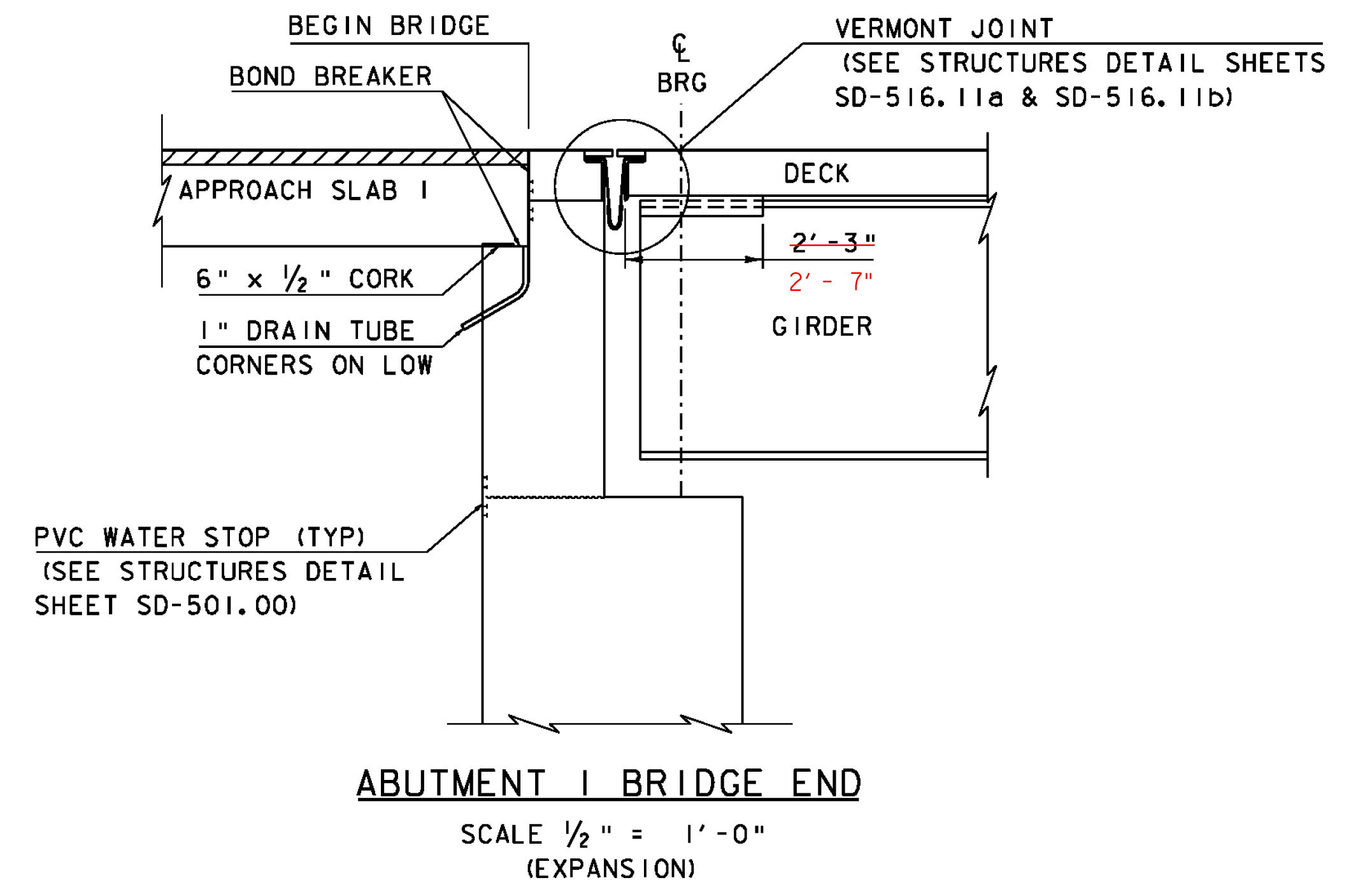
ABUTMENT I FOOTING REINFORCING PLAN
SCALE 1/4" = 1'-0"

* THIS PILE MAY NEED TO BE RELOCATED IN THE FIELD ONCE THE LOCATION OF THE EXISTING SEWER LINE IS DETERMINED. THE PILE RELOCATION(S) SHALL BE APPROVED BY THE PROJECT MANAGER PRIOR TO DRIVING PILE.



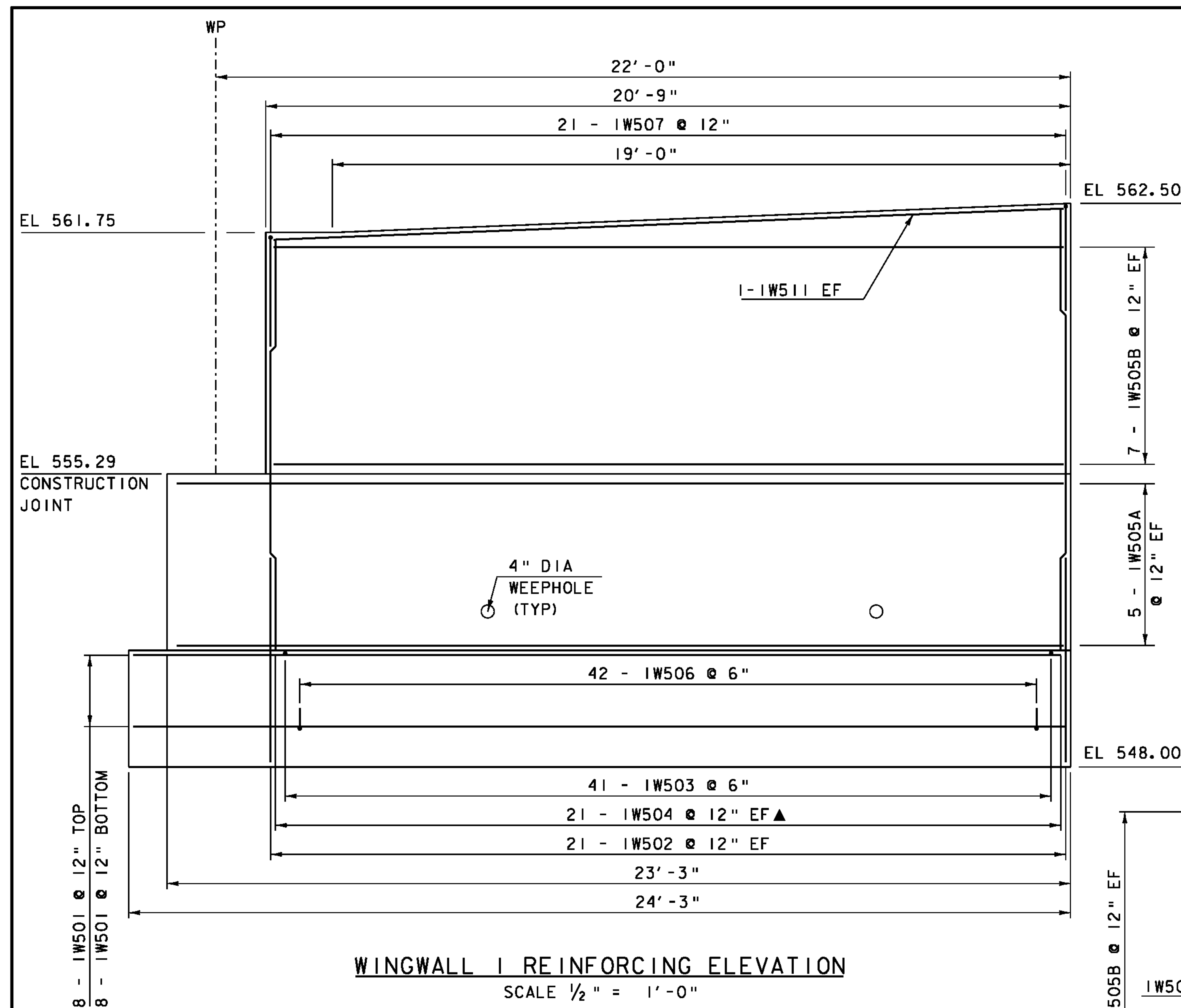
ABUTMENT I REINFORCING ELEVATION
SCALE 1/4" = 1'-0"

NOTE:
BACKWALL AND WINGWALLS NOT SHOWN



NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

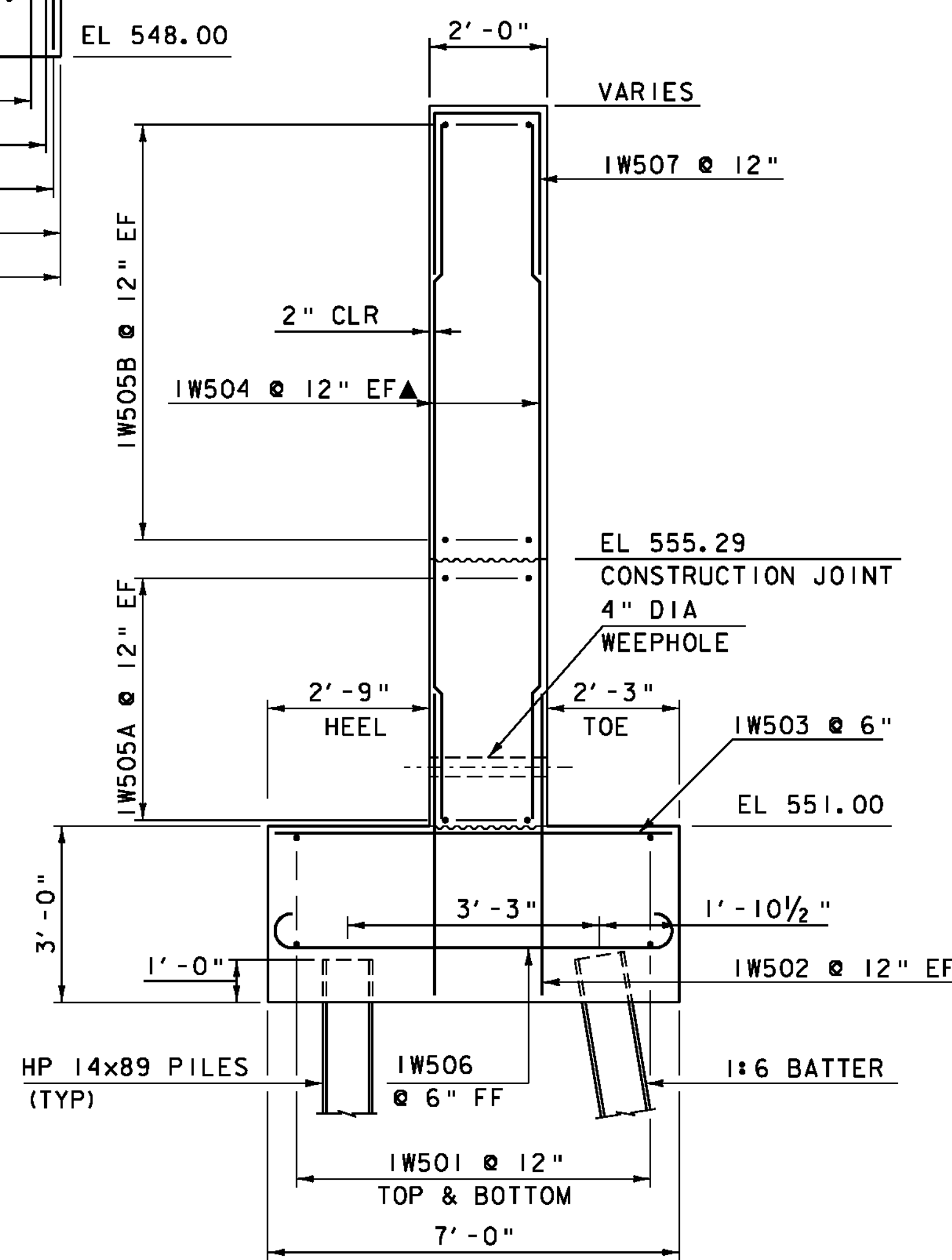
PROJECT NAME:	SPRINGFIELD	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BRO 1442(26)	DRAWN BY:	R. PELLETT
FILE NAME:	s95j282sub.dgn	CHECKED BY:	J. LACROIX
PROJECT LEADER:	K. HIGGINS	SHEET	27 OF 52
DESIGNED BY:	J. GRIFFIN		
ABUTMENT I REINFORCING PLAN			



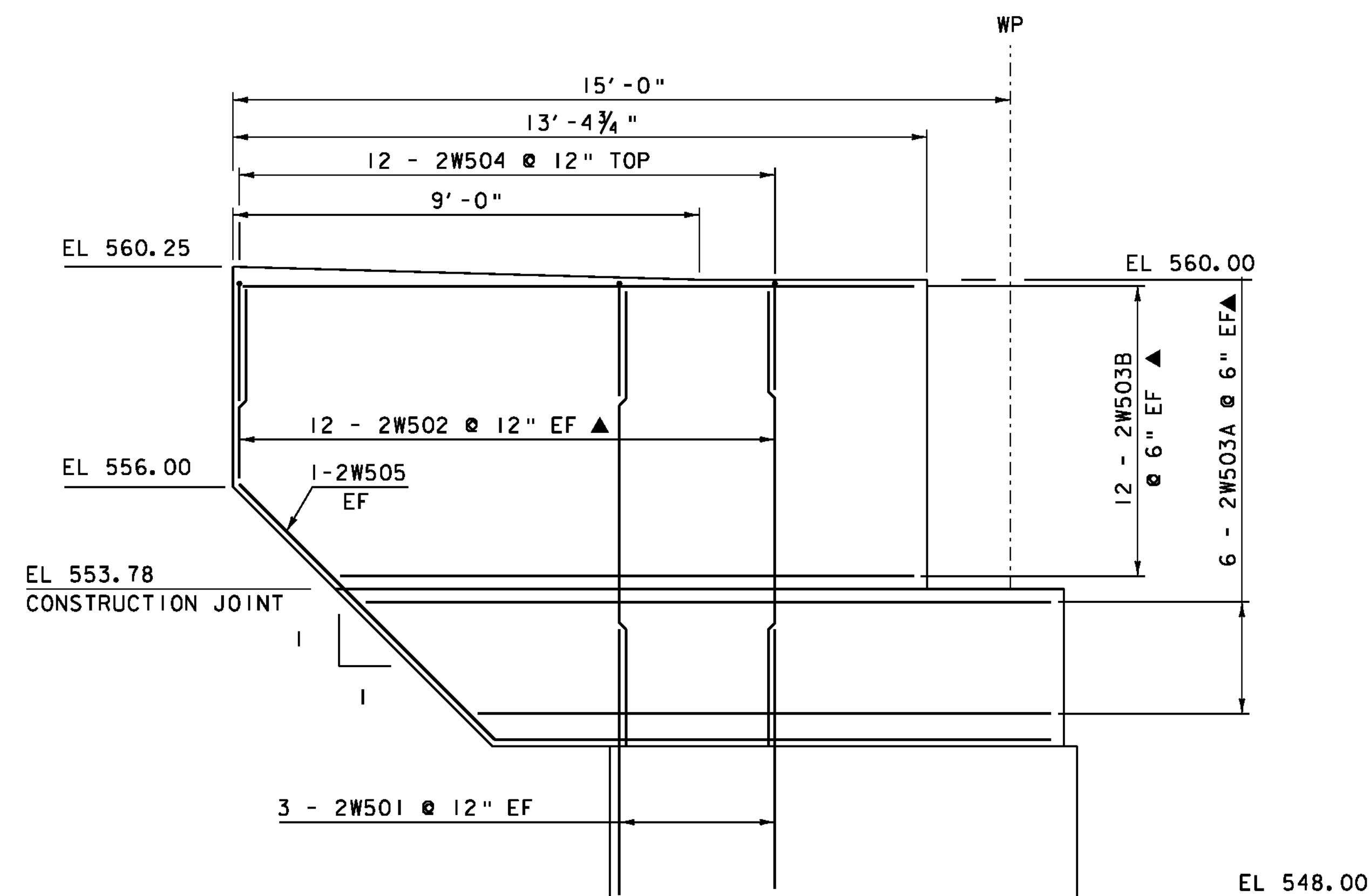
WINGWALL 1 REINFORCING ELEVATION
SCALE 1/2" = 1'-0"

NOTE:

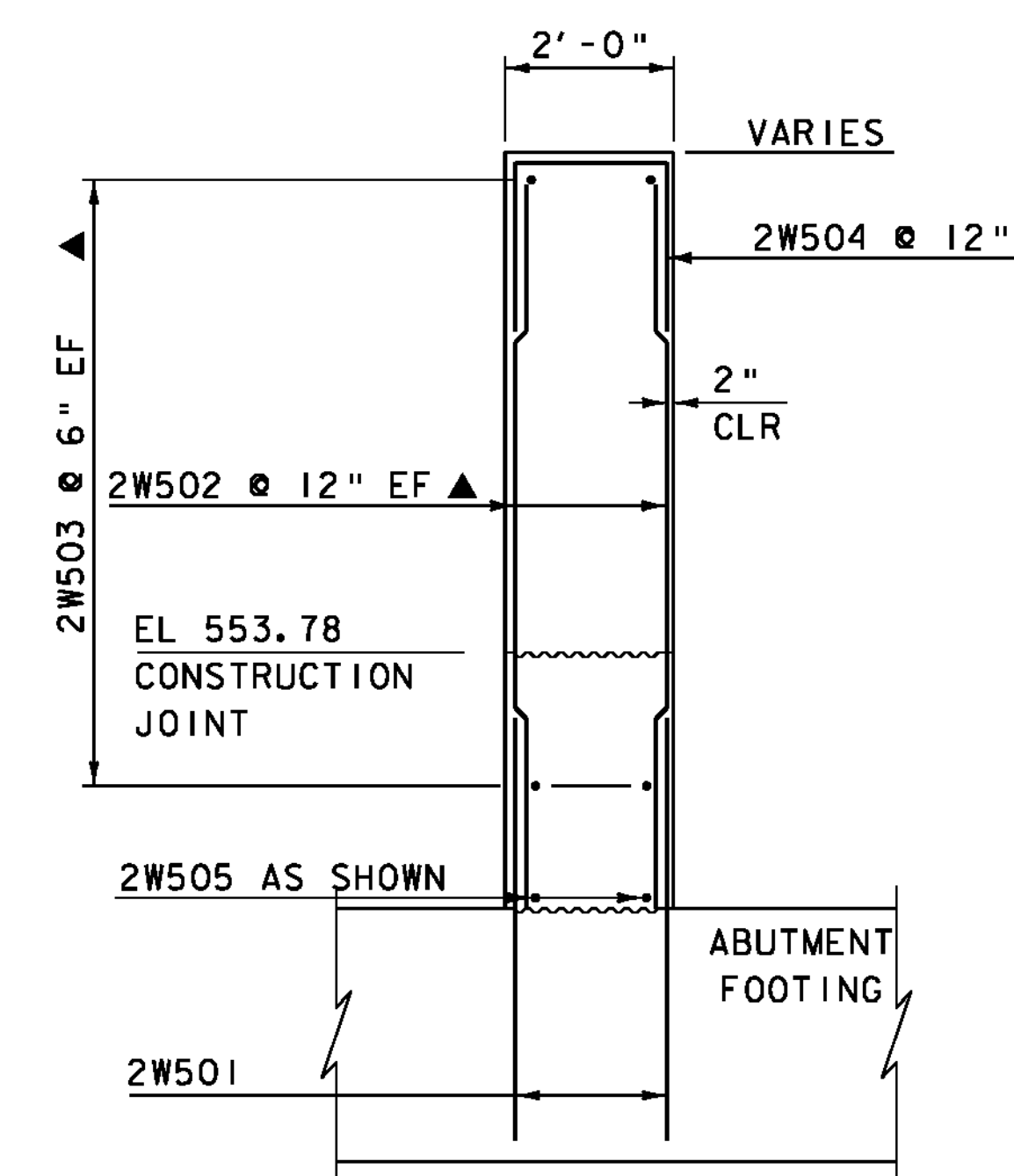
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.



WINGWALL 1 TYPICAL SECTION
SCALE 1/2" = 1'-0"



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

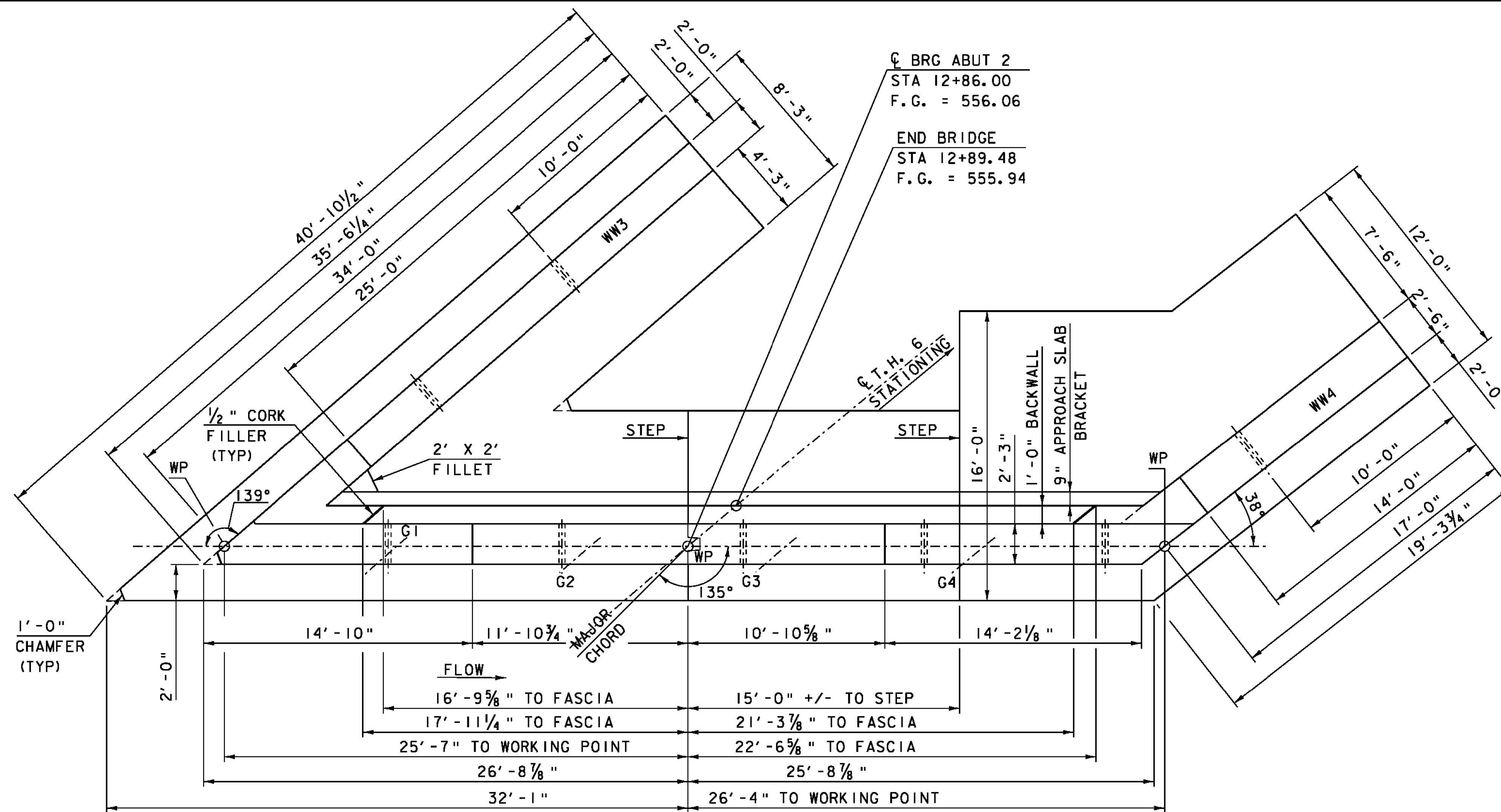


WINGWALL 2 TYPICAL SECTION
SCALE 1/2" = 1'-0"

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

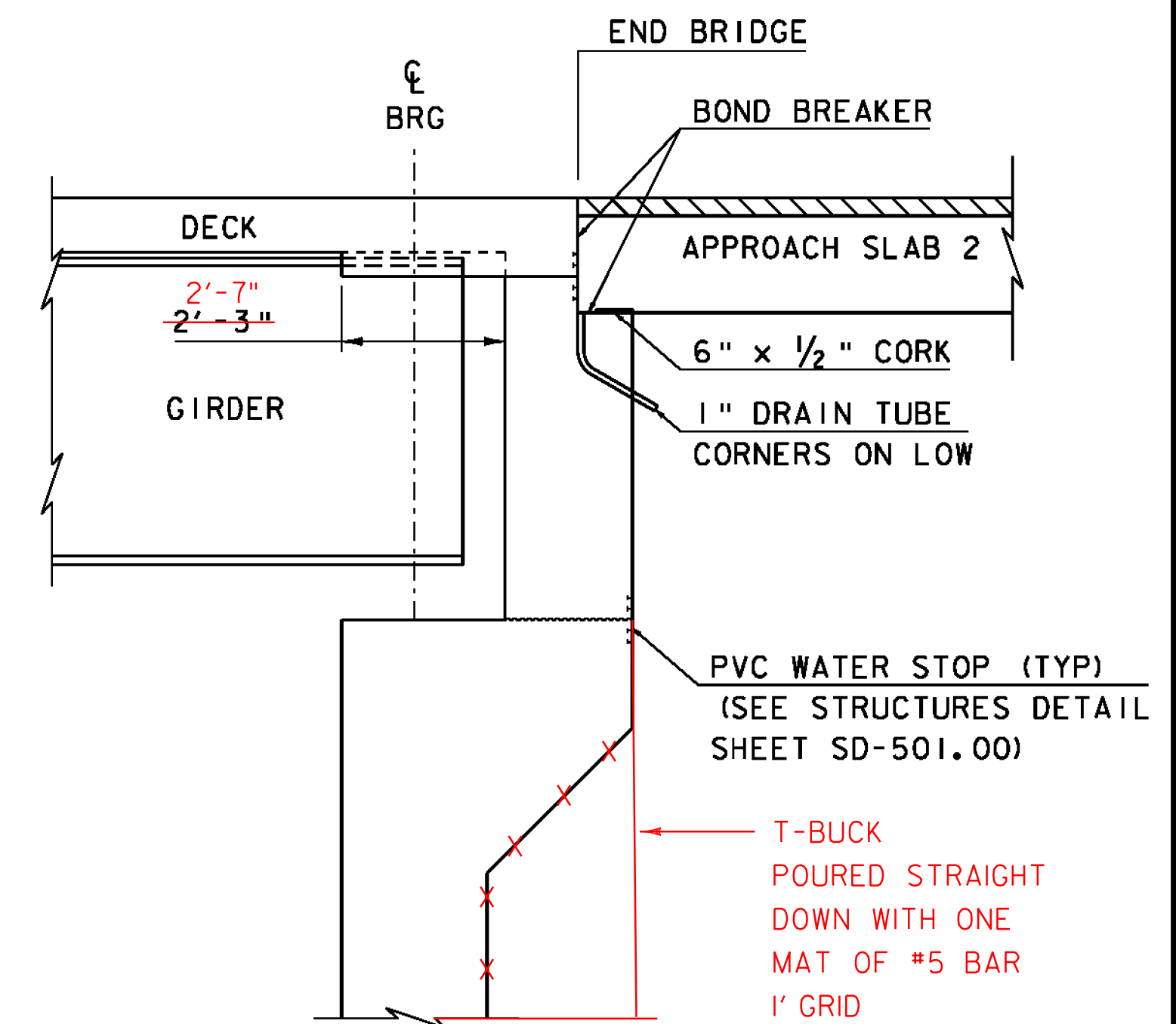
FILE NAME: s95j282sub.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. GRIFFIN
WINGWALL 1 & 2 DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLET
CHECKED BY: J. LACROIX
SHEET 28 OF 52

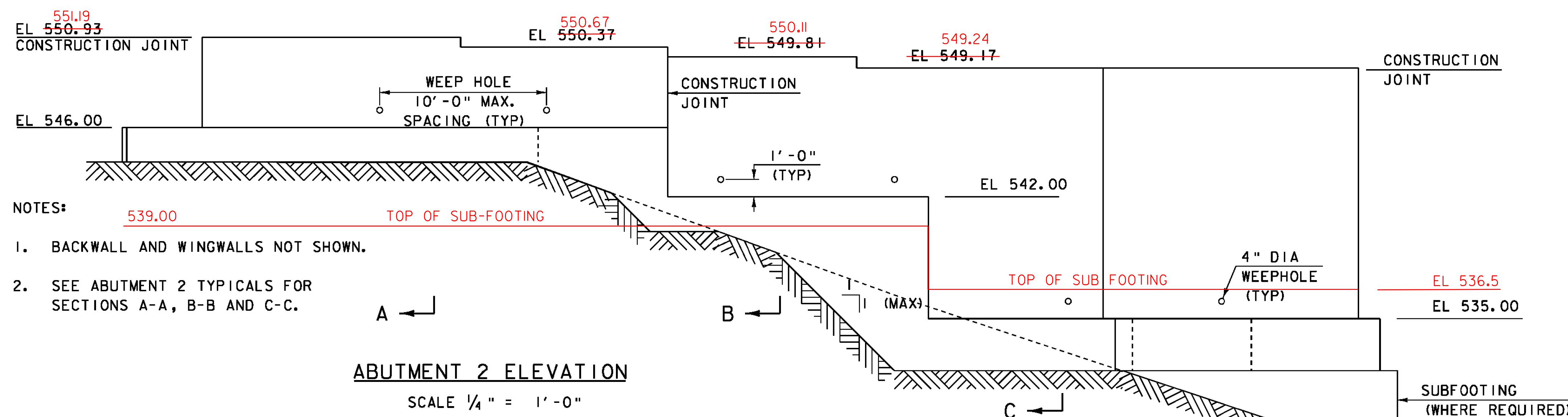


ABUTMENT 2 PLAN
SCALE 1/4" = 1'-0"

A ← B ← C ←



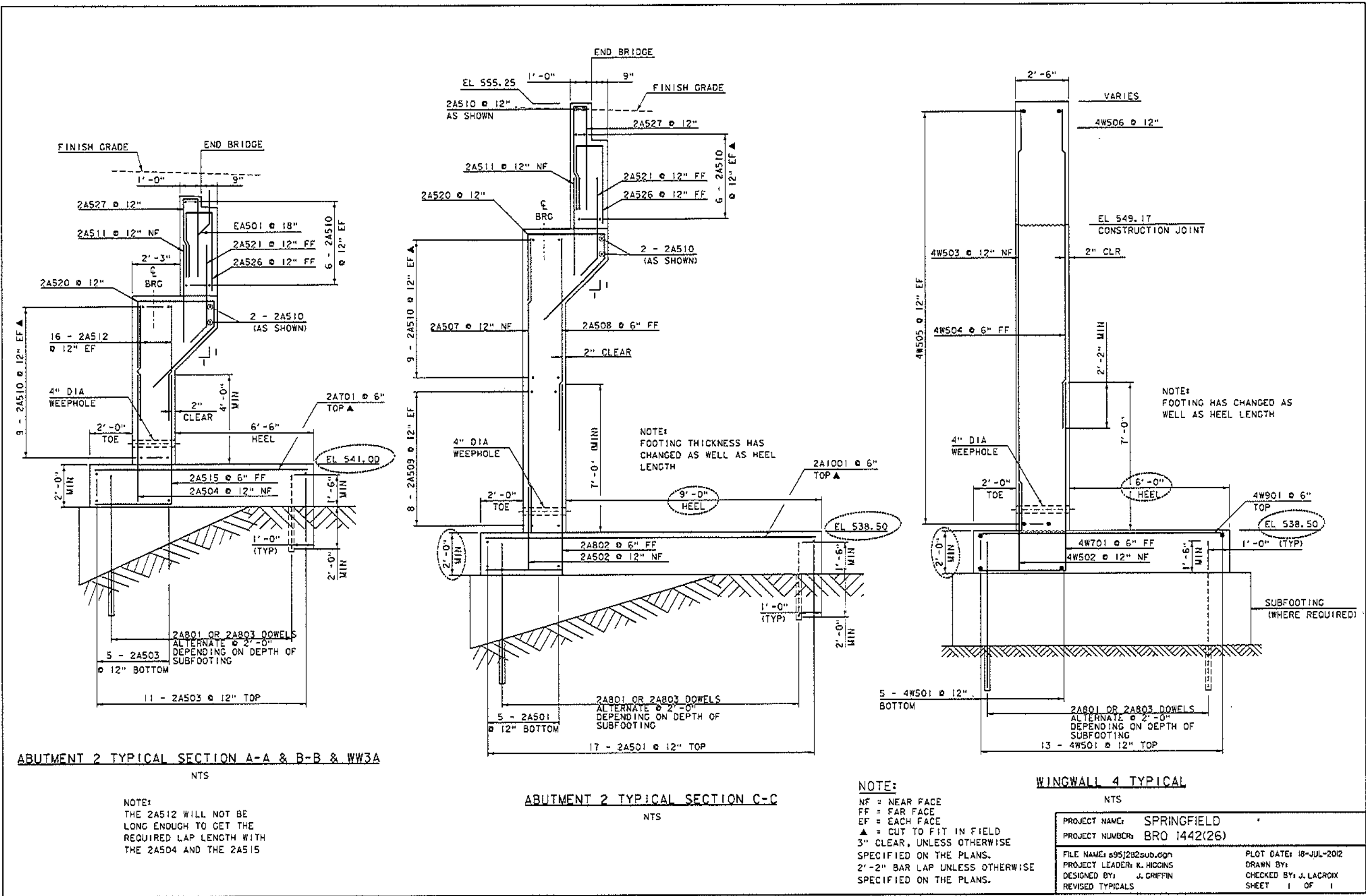
ABUTMENT 2 BRIDGE END
SCALE 1/2" = 1'-0" (FIXED)

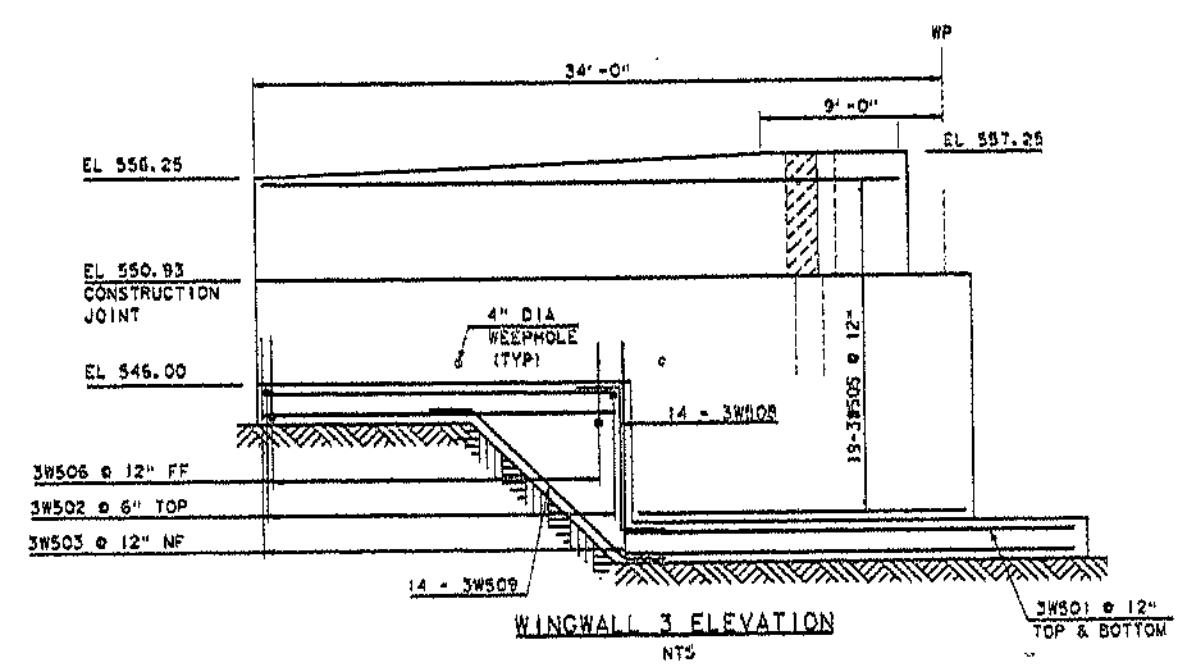
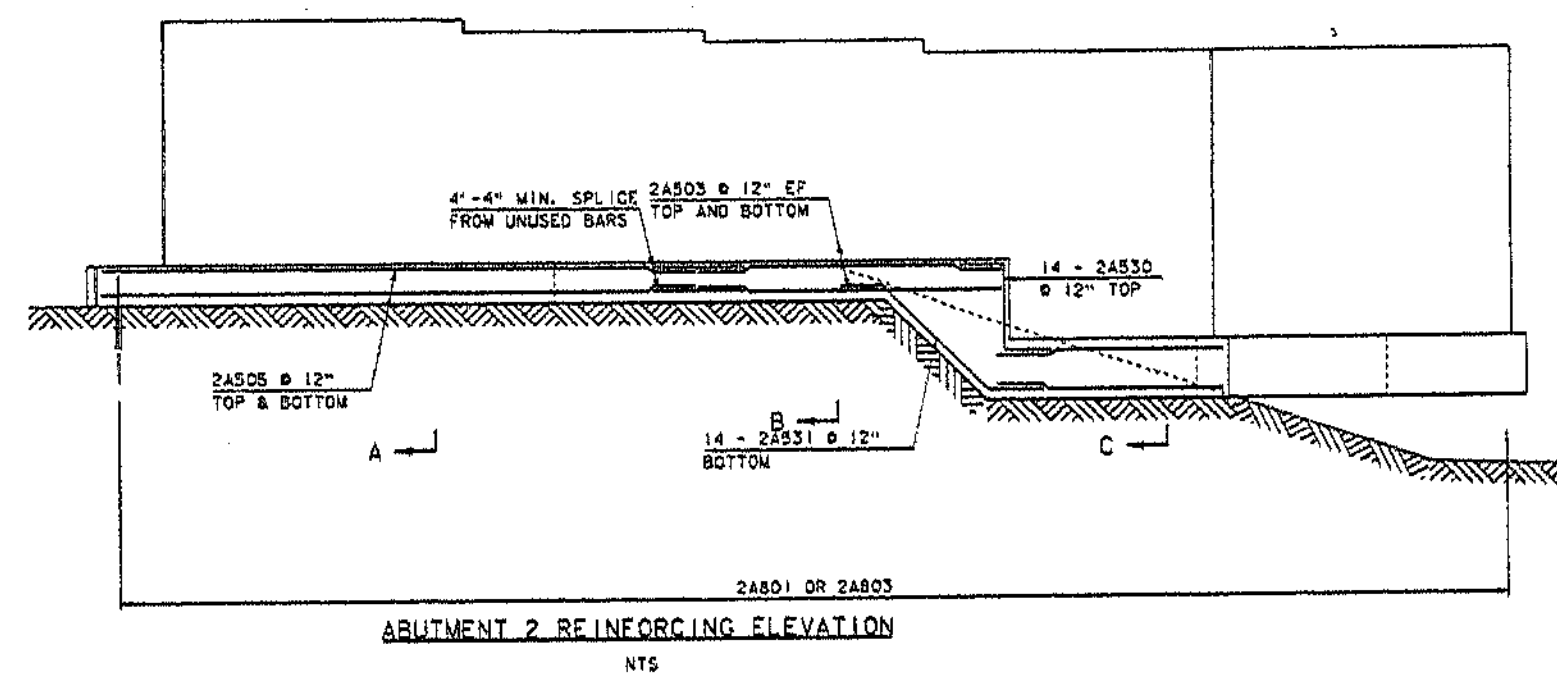
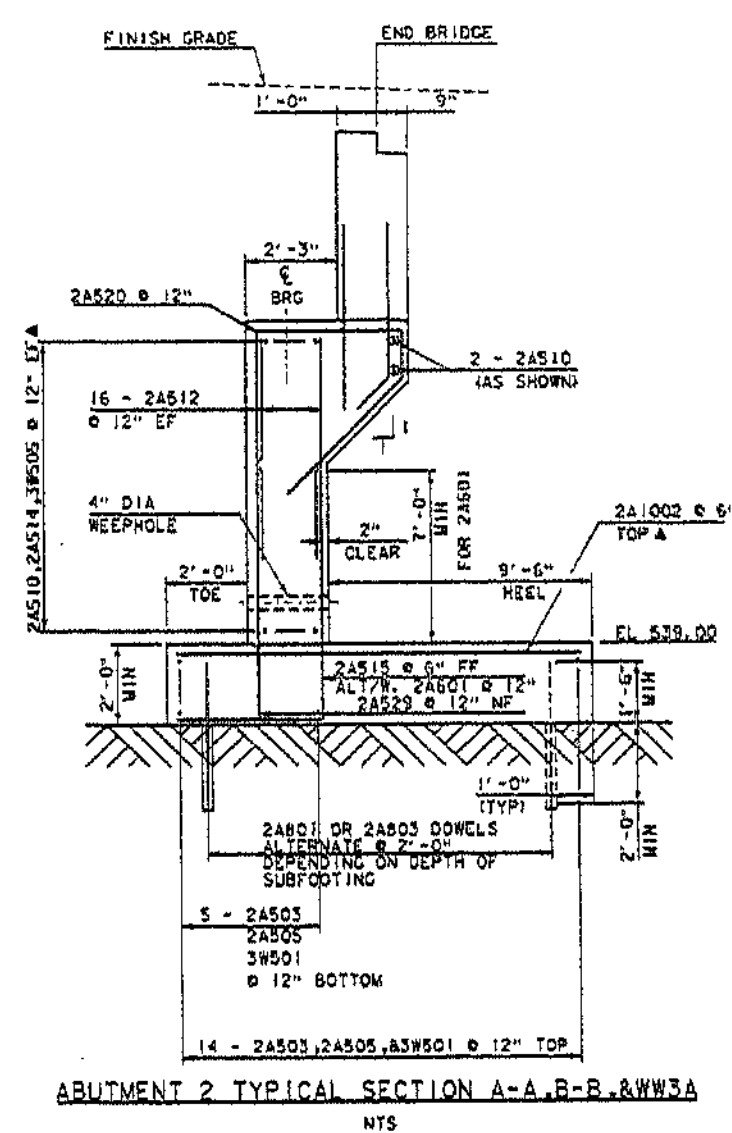


ABUTMENT 2 ELEVATION
SCALE 1/4" = 1'-0"

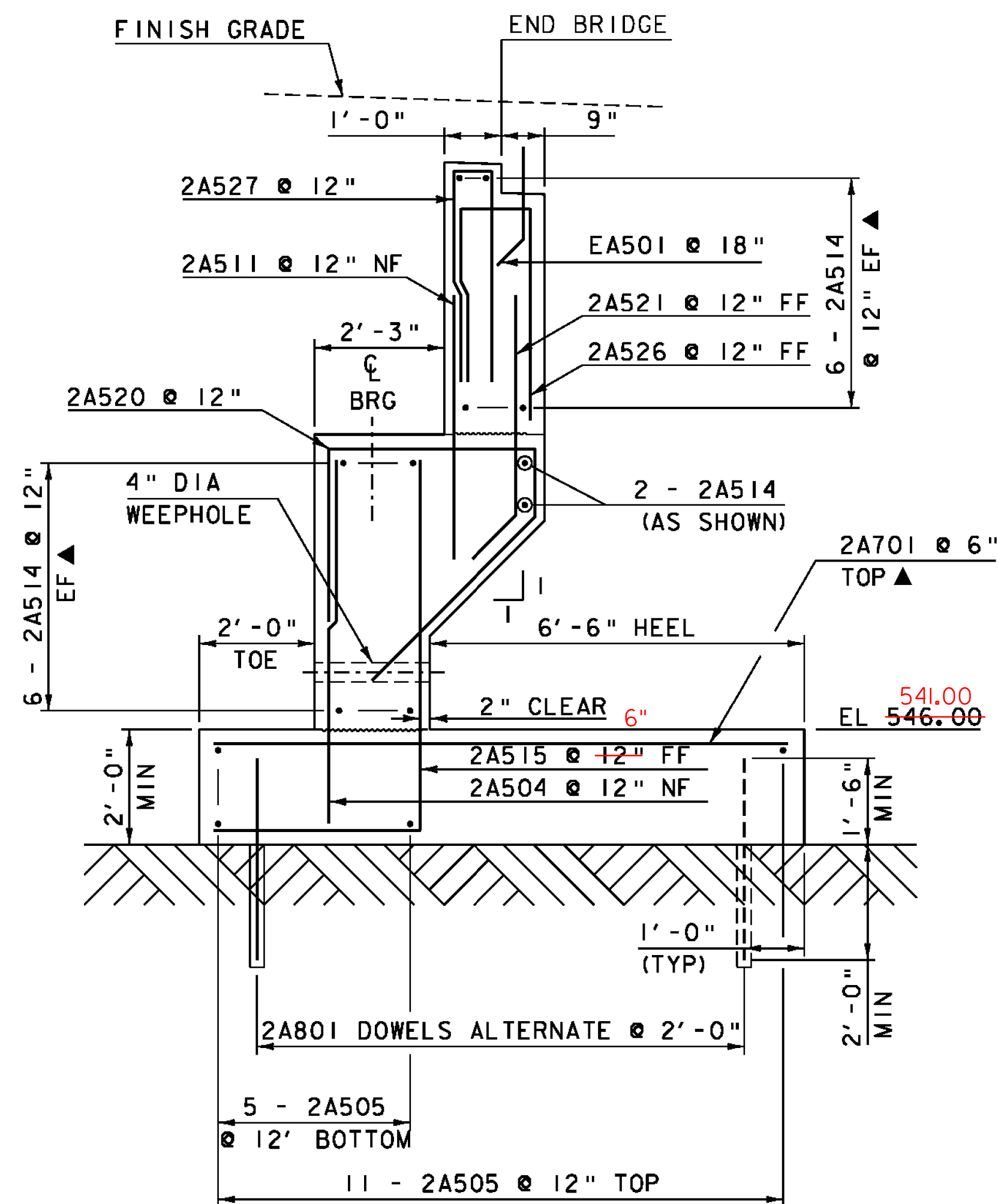
A ← B ← C ←

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282sub.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. GRIFFIN	CHECKED BY: J. LACROIX
ABUTMENT 2	SHEET 29 OF 52

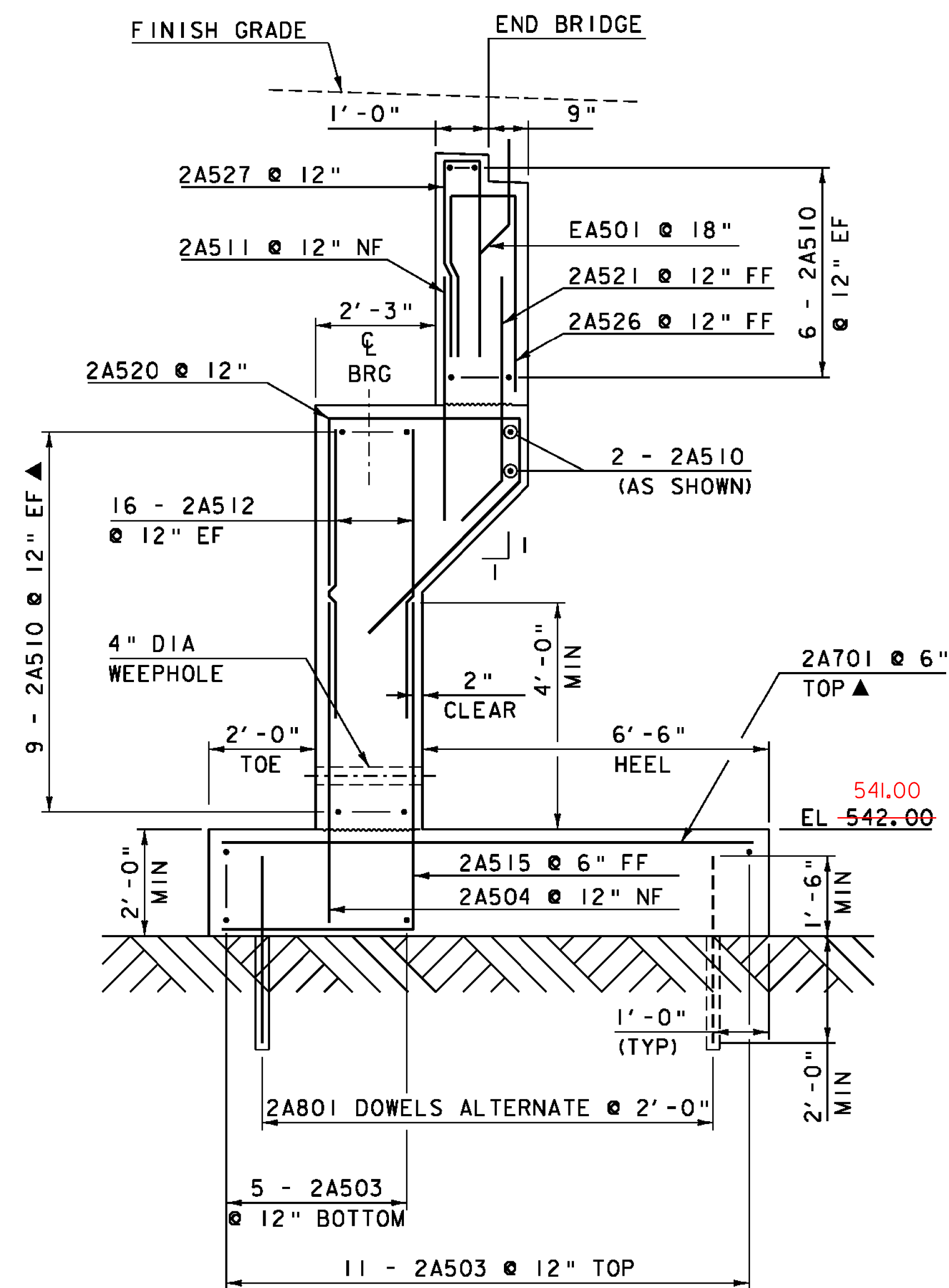




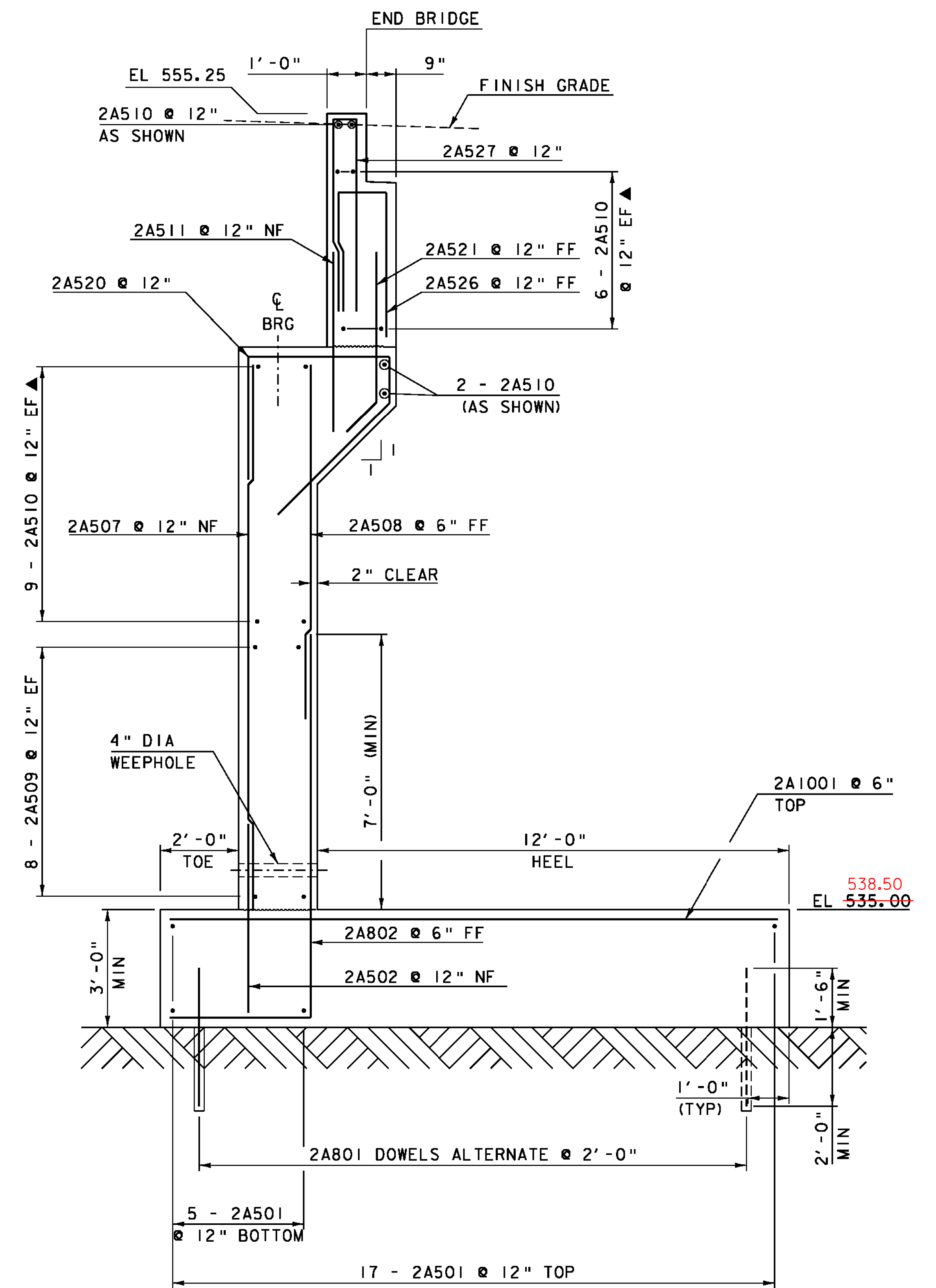
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)
FILE NAME: 1442(26)26.dwg
PROJECT LEADER: K. HOGGINS
DESIGNED BY: J. GUYTON
ABUTMENT 2 TYPICALS
PLOT DATE: 10-JUN-2002
DRAWN BY: A. POLLETT
CHECKED BY: A. LACROIX
SHEET 1 OF 1



ABUTMENT 2 TYPICAL SECTION A-A
SCALE 1/2" = 1'-0"



ABUTMENT 2 TYPICAL SECTION B-B
SCALE 1/2" = 1'-0"



ABUTMENT 2 TYPICAL SECTION C-C
SCALE 1/2" = 1'-0"

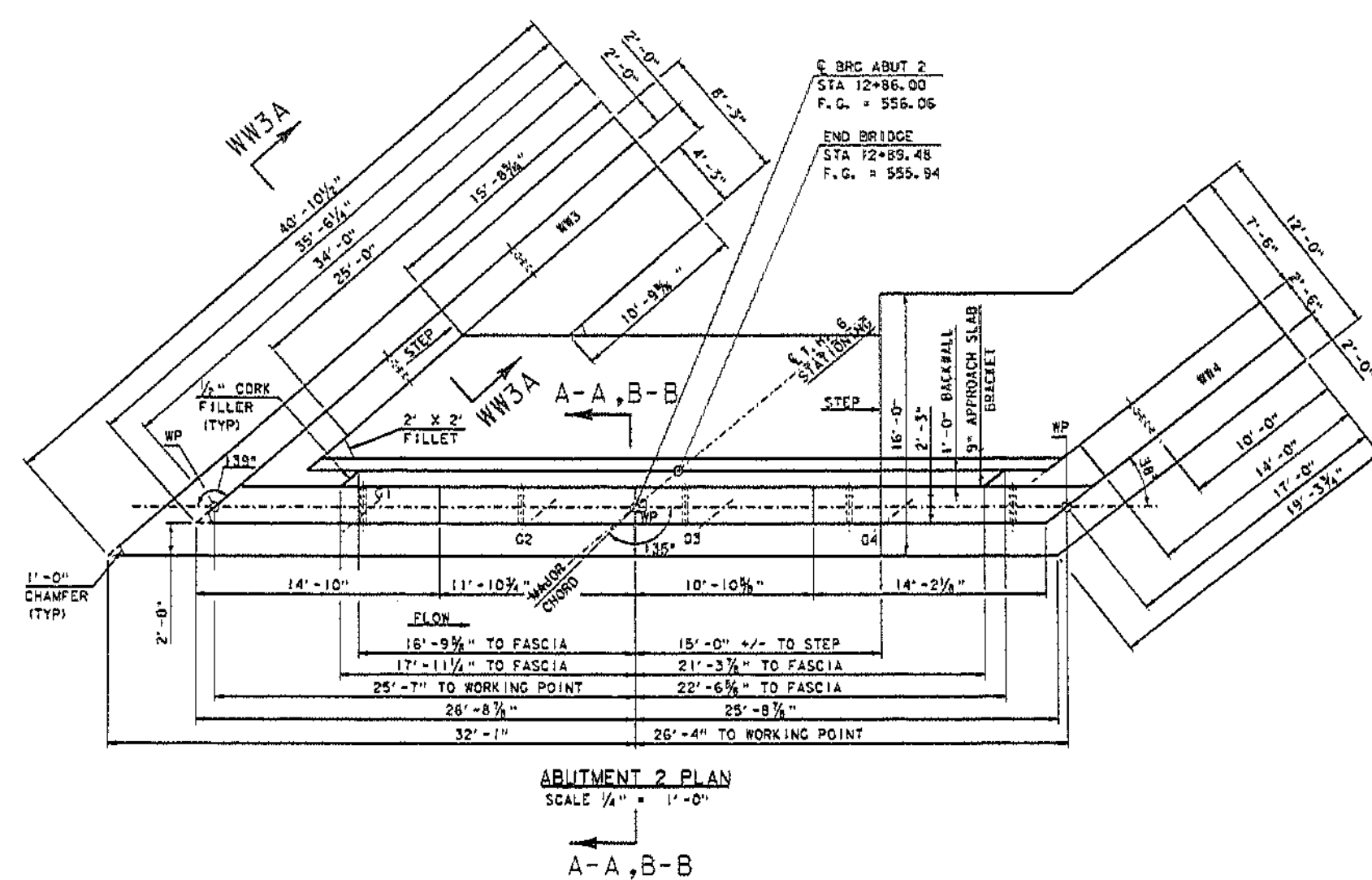
NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

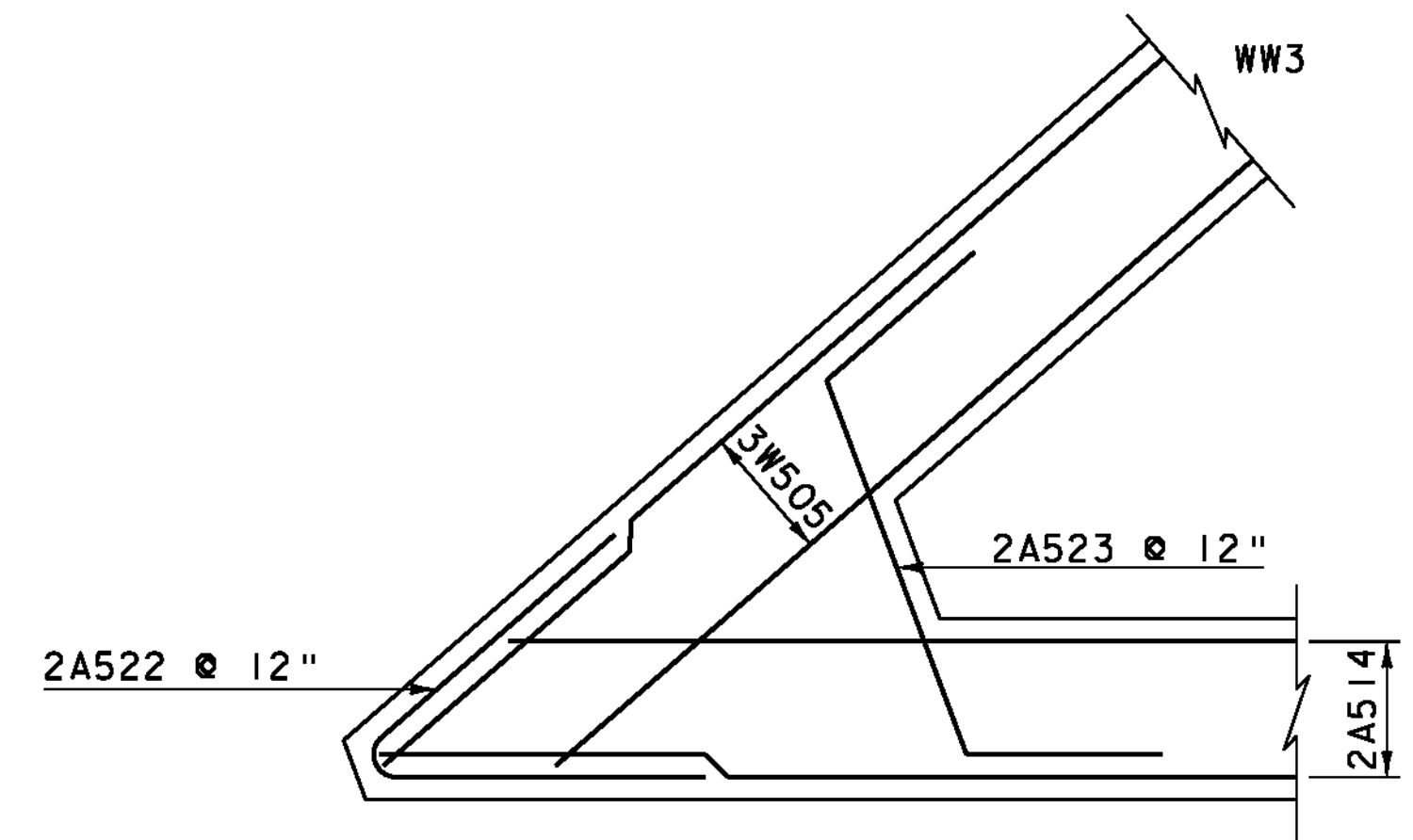
FILE NAME: s95j282sub.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. GRIFFIN
ABUTMENT 2 TYPICALS

PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 30 OF 52

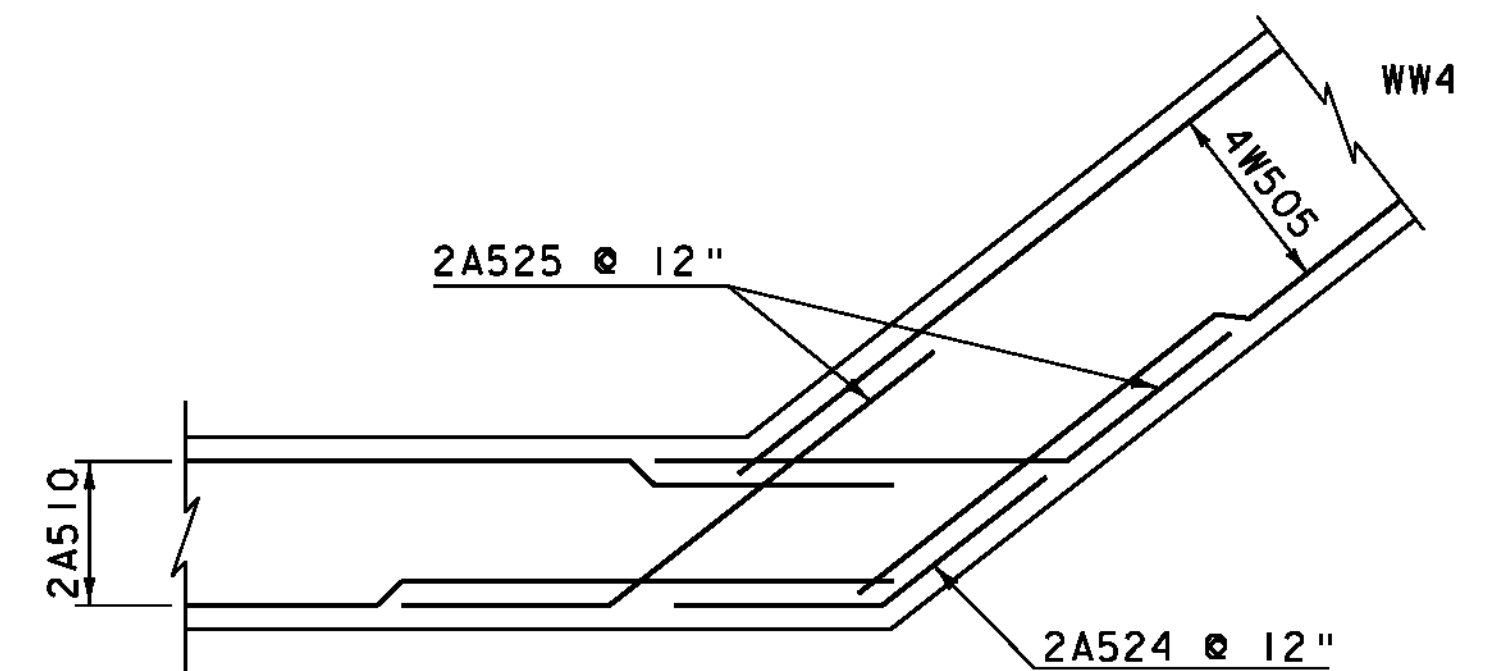


PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: SPR2626.dwg	PLOT DATE: 03-JUL-2002
PROJECT LEADER: A. HIGGINS	DRAWN BY: R. PELLET
DESIGNED BY: J. CRIPPS	CHECKED BY: J. LACROIX
REVISION: 3 & 4 DETAILS	SHEET: 1 OF 1

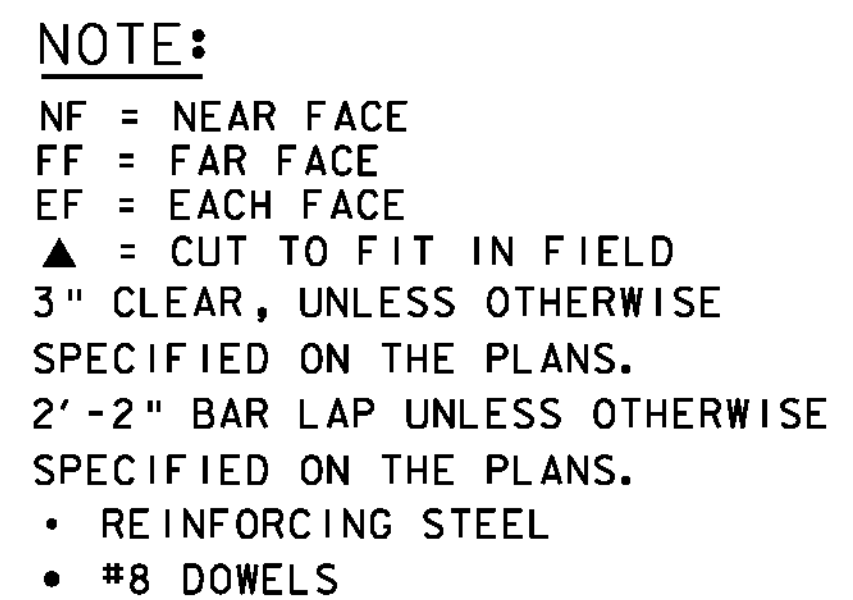
302



CORNER DETAIL @ WW3
BELOW BRIDGE SEAT
SCALE 1/2" = 1'-0"



CORNER DETAIL @ WW4
BELOW BRIDGE SEAT
SCALE 1/2" = 1'-0"



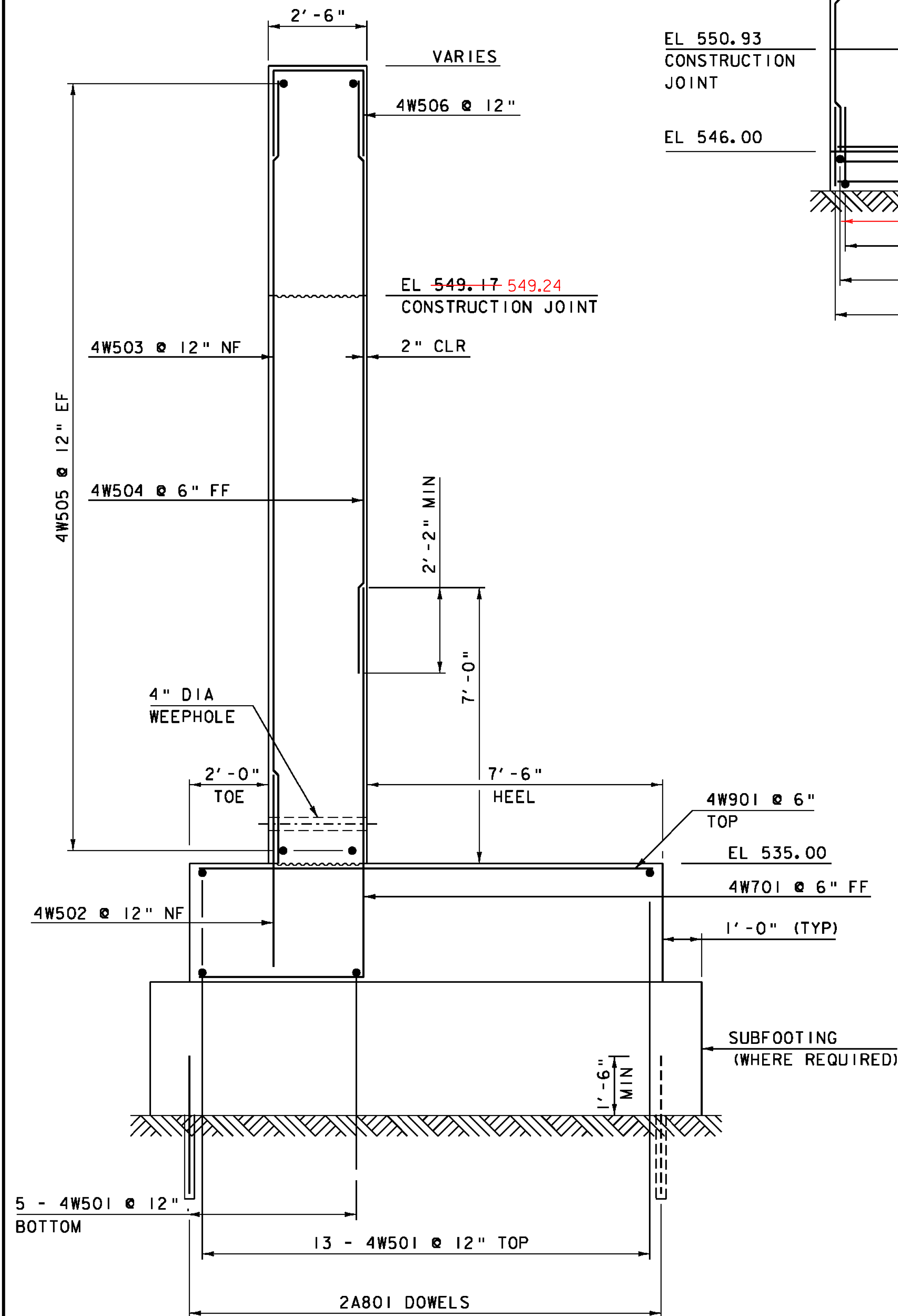
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BRO 1442(26)

FILE NAME: s95j282sub.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. GRIFFIN
ABUTMENT 2 REINFORCING PLAN

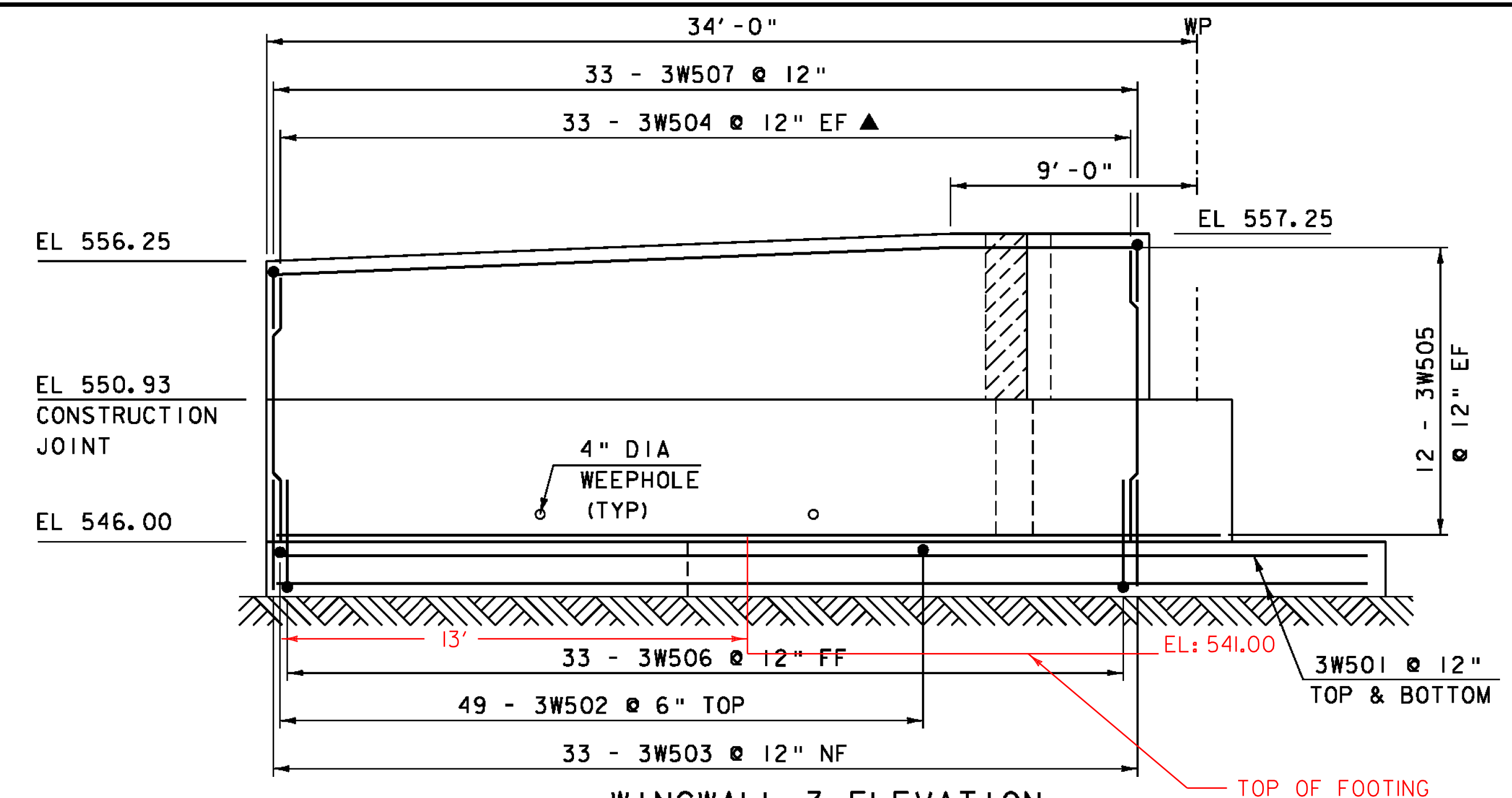
PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX
SHEET 31 OF 52

NOTE:

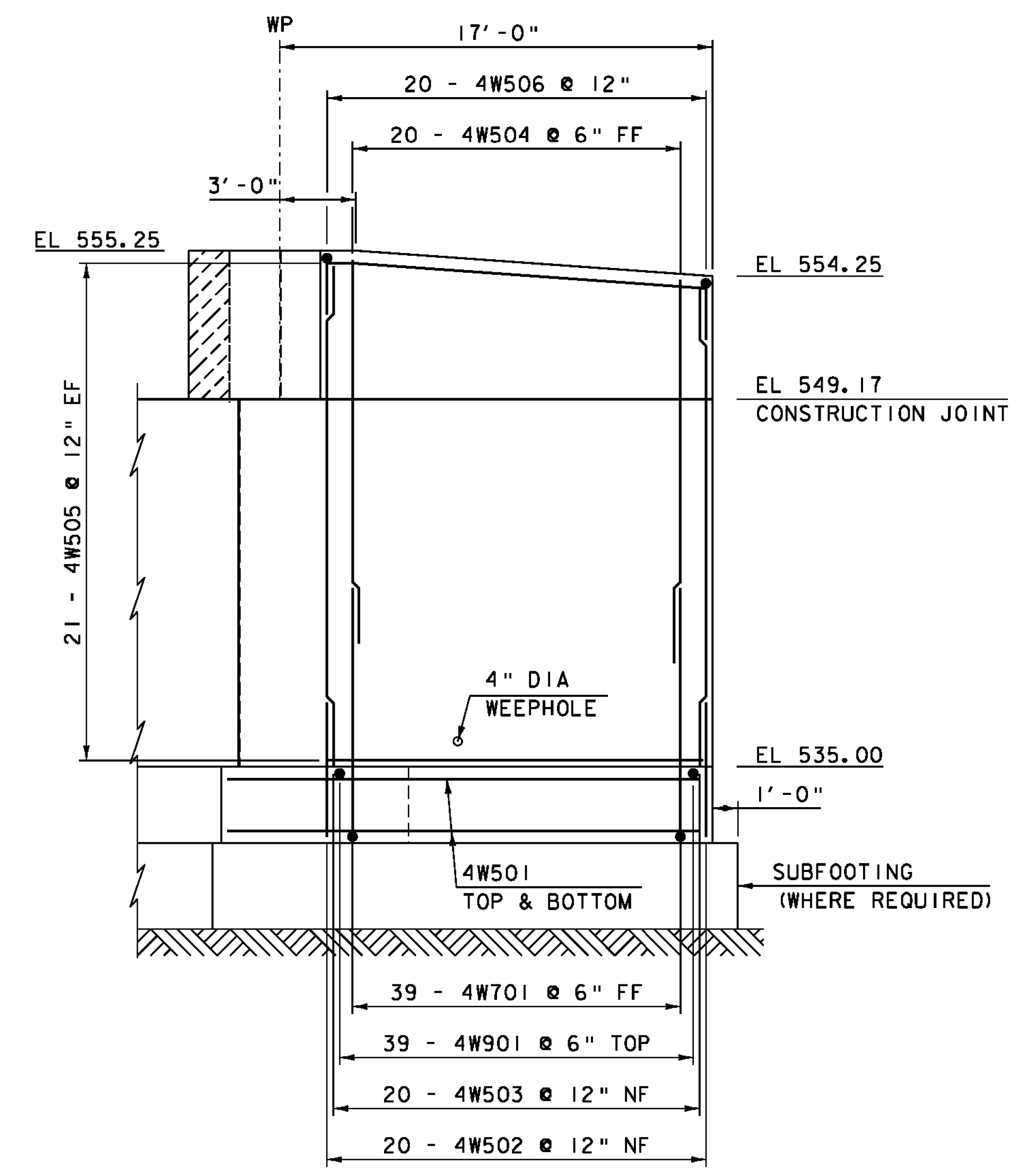
BACKWALL AND WINGWALLS NOT SHOWN



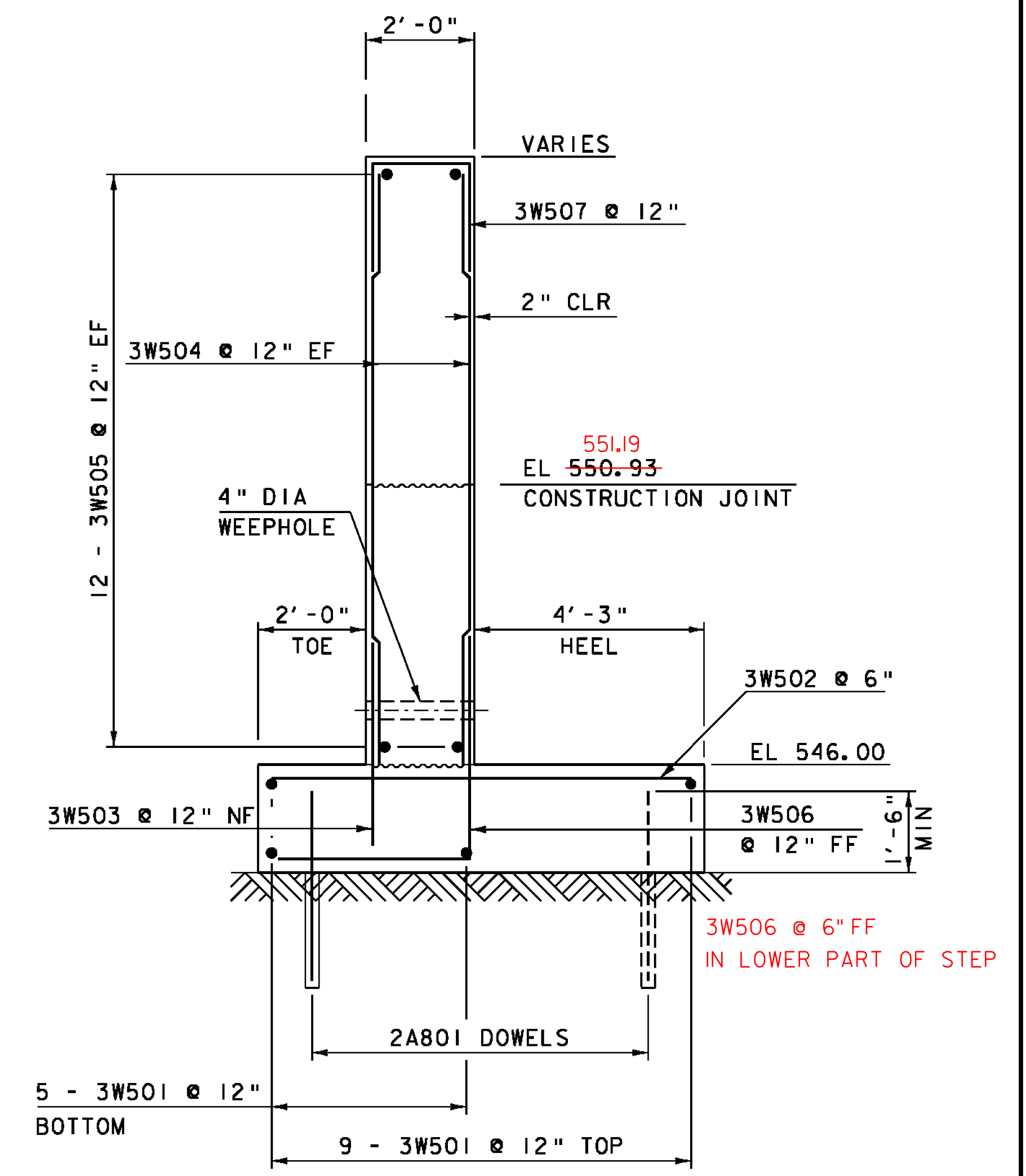
WINGWALL 4 TYPICAL
SCALE 1/2" = 1'-0"



WINGWALL 3 ELEVATION
SCALE 1/4" = 1'-0"



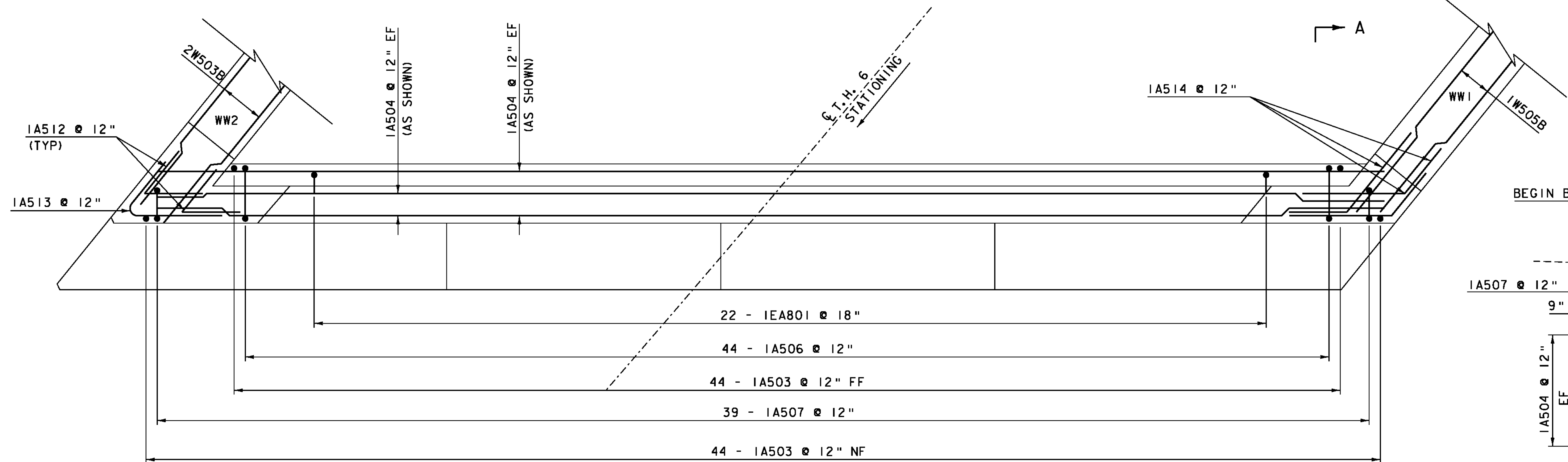
WINGWALL 4 ELEVATION
SCALE 1/4" = 1'-0"



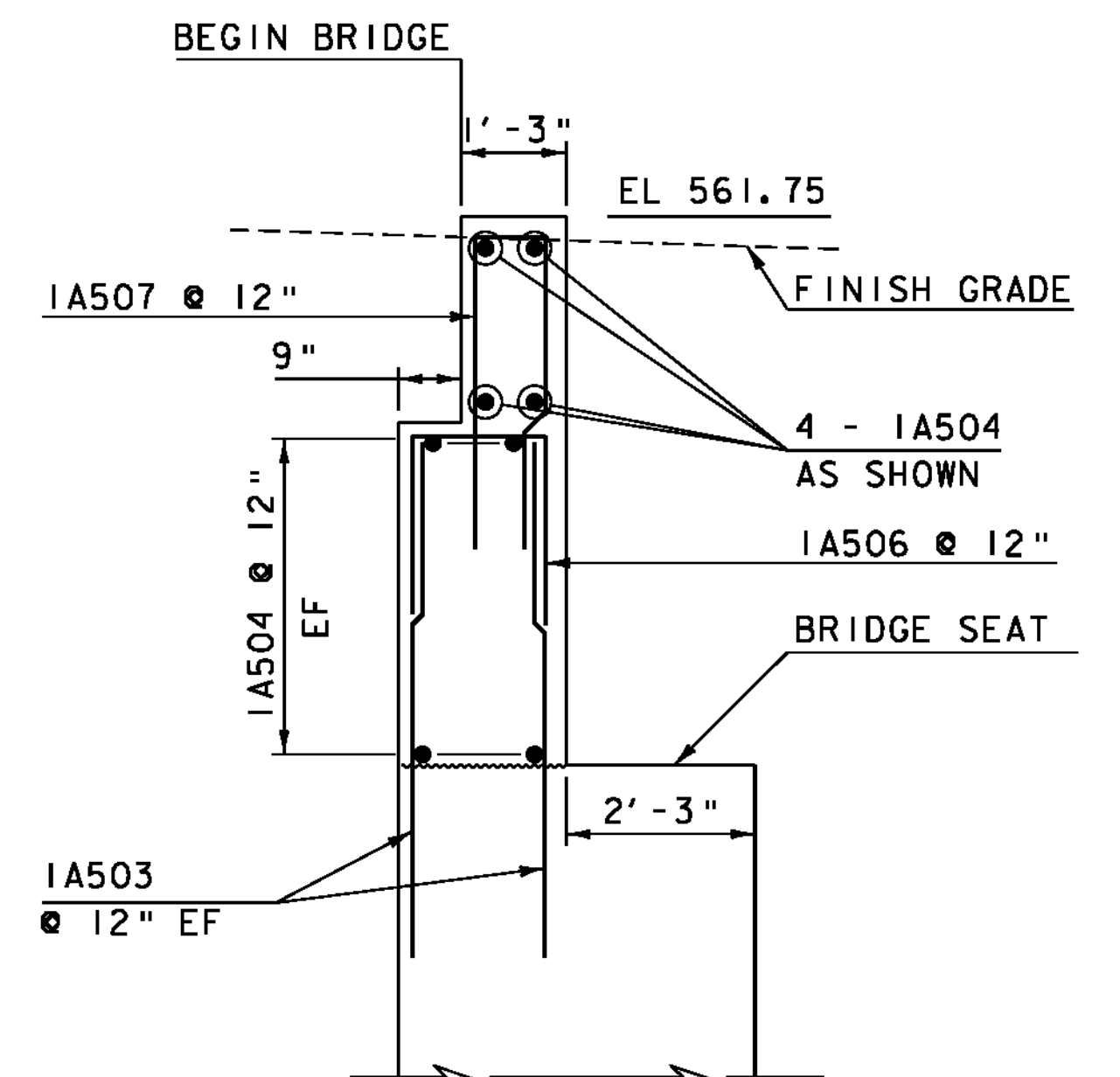
WINGWALL 3 TYPICAL
SCALE 1/2" = 1'-0"

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

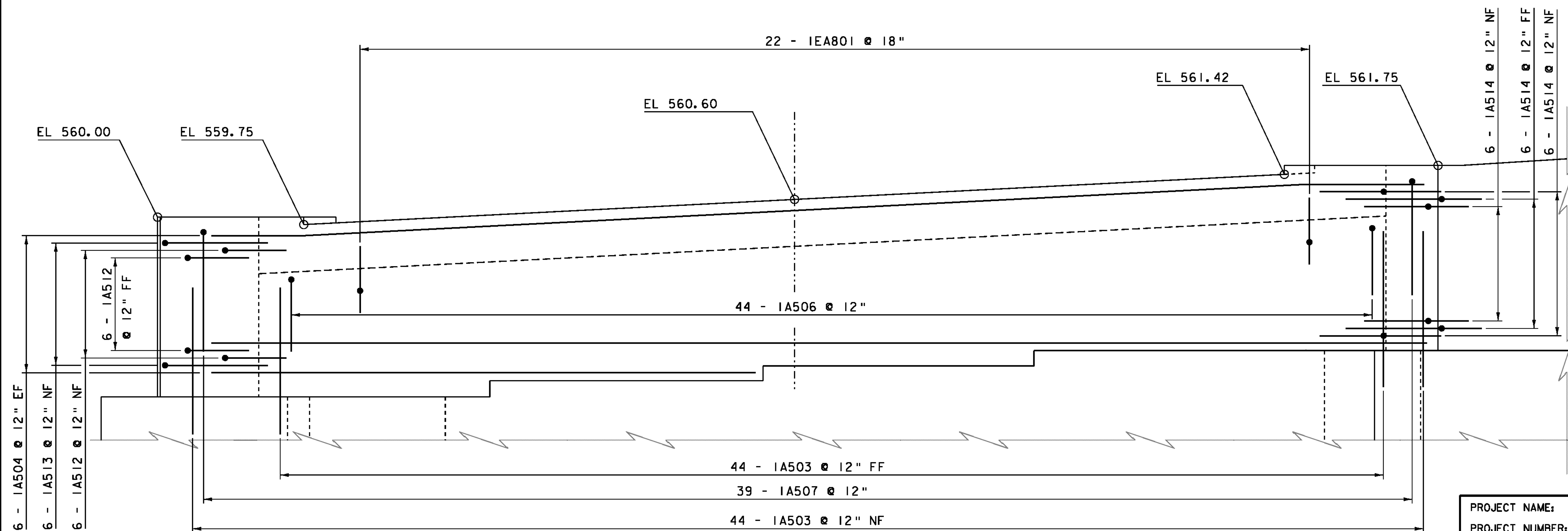
PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282sub.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. GRIFFIN	CHECKED BY: J. LACROIX
WINGWALL 3 & 4 DETAILS	SHEET 32 OF 52



ABUTMENT I BACKWALL
PLAN VIEW
 SCALE 1/2" = 1'-0"



ABUTMENT I BACKWALL
SECTION A-A
 SCALE 1/2" = 1'-0"



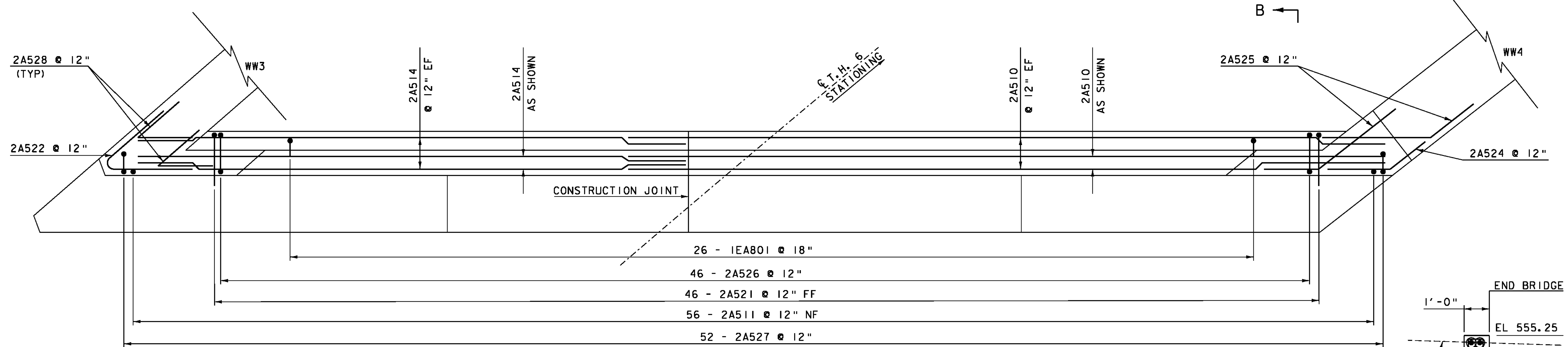
ABUTMENT I BACKWALL
ELEVATION VIEW
 SCALE 1/2" = 1'-0"

NOTE:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLEAR, UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.

PROJECT NAME: SPRINGFIELD
 PROJECT NUMBER: BRO 1442(26)

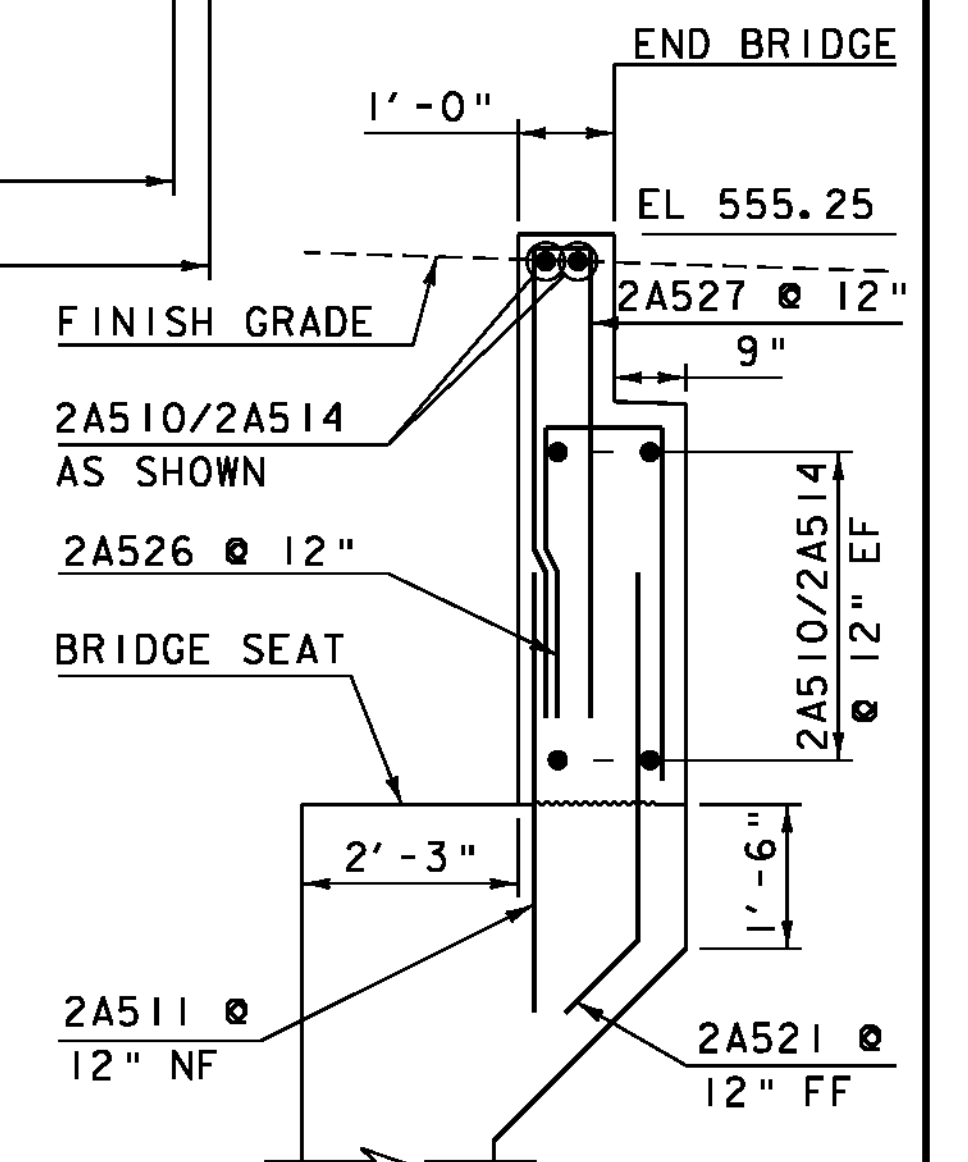
FILE NAME: s95j282sub.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: J. GRIFFIN
 ABUTMENT I BACKWALL DETAILS

PLOT DATE: 30-AUG-2011
 DRAWN BY: R. PELLET
 CHECKED BY: J. LACROIX
 SHEET 33 OF 52

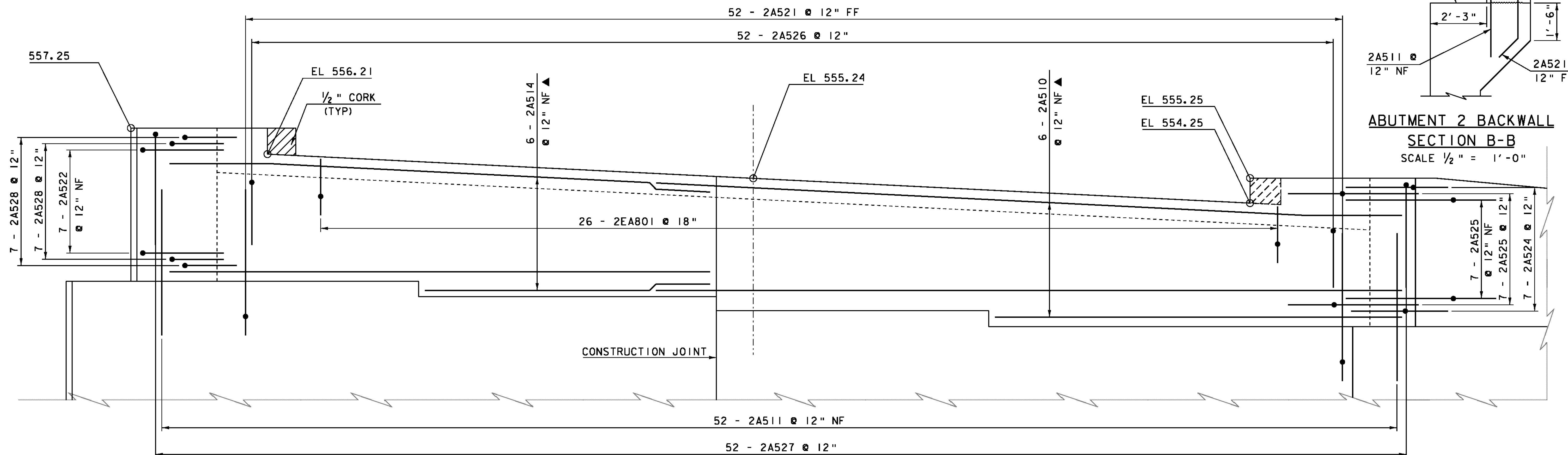


NOTE:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD
 3" CLEAR, UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.

**ABUTMENT 2 BACKWALL
 PLAN VIEW**
 SCALE 1/2" = 1'-0"



**ABUTMENT 2 BACKWALL
 SECTION B-B**
 SCALE 1/2" = 1'-0"

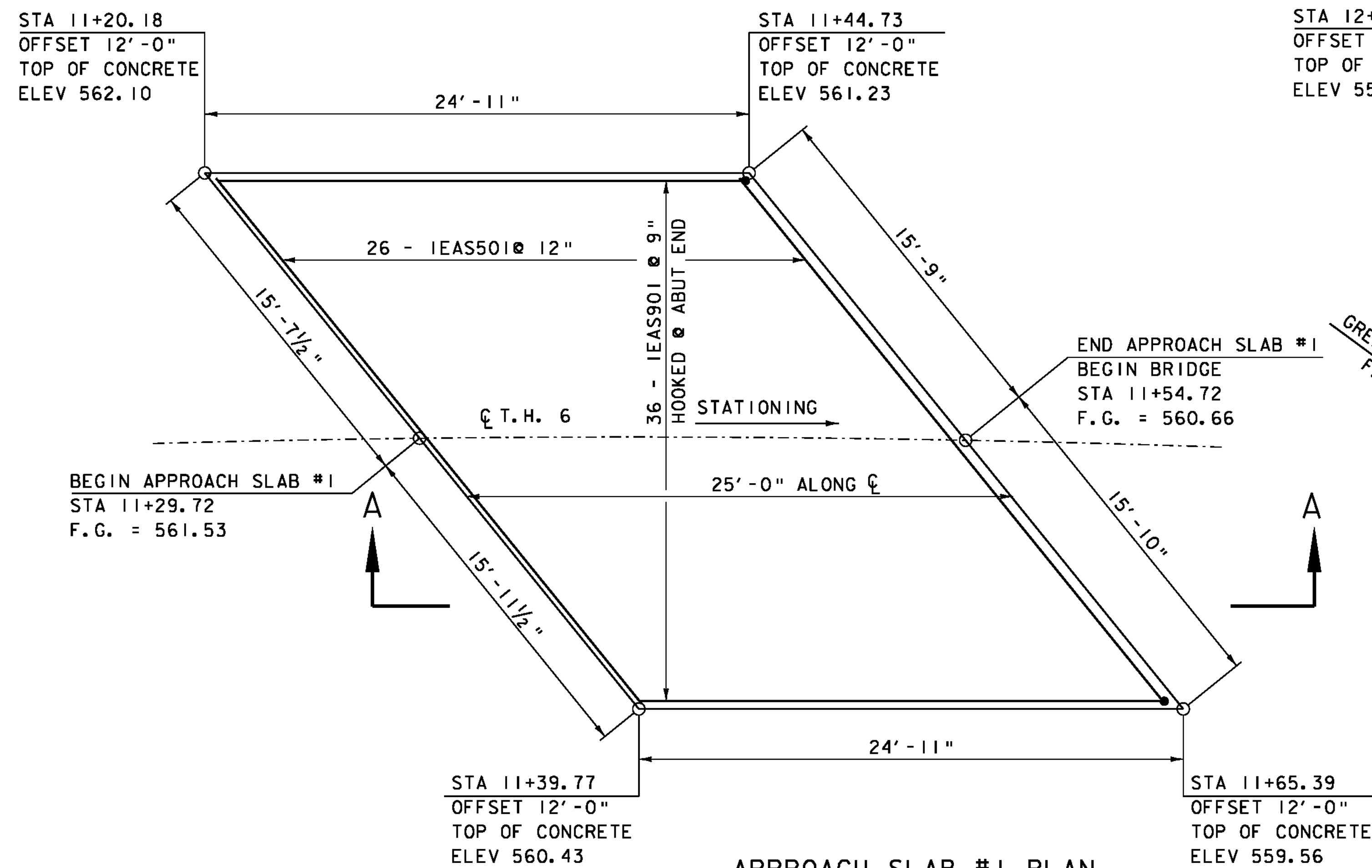


**ABUTMENT 2 BACKWALL
 ELEVATION VIEW**
 SCALE 1/2" = 1'-0"

PROJECT NAME: SPRINGFIELD
 PROJECT NUMBER: BRO 1442(26)

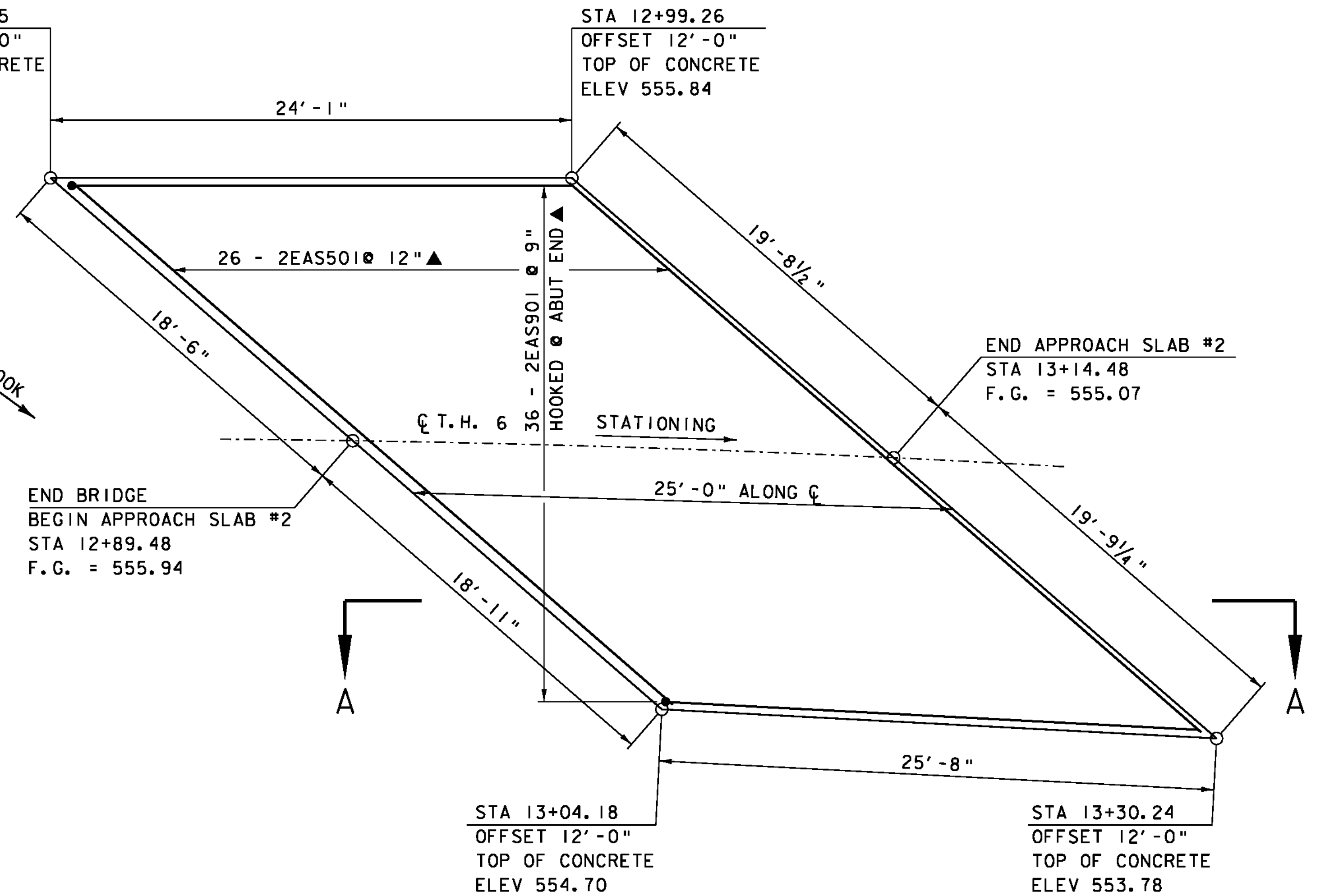
FILE NAME: s95j282sub.dgn
 PROJECT LEADER: K. HIGGINS
 DESIGNED BY: J. GRIFFIN
 ABUTMENT 2 BACKWALL DETAILS

PLOT DATE: 30-AUG-2011
 DRAWN BY: R. PELLETT
 CHECKED BY: J. LACROIX
 SHEET 34 OF 52



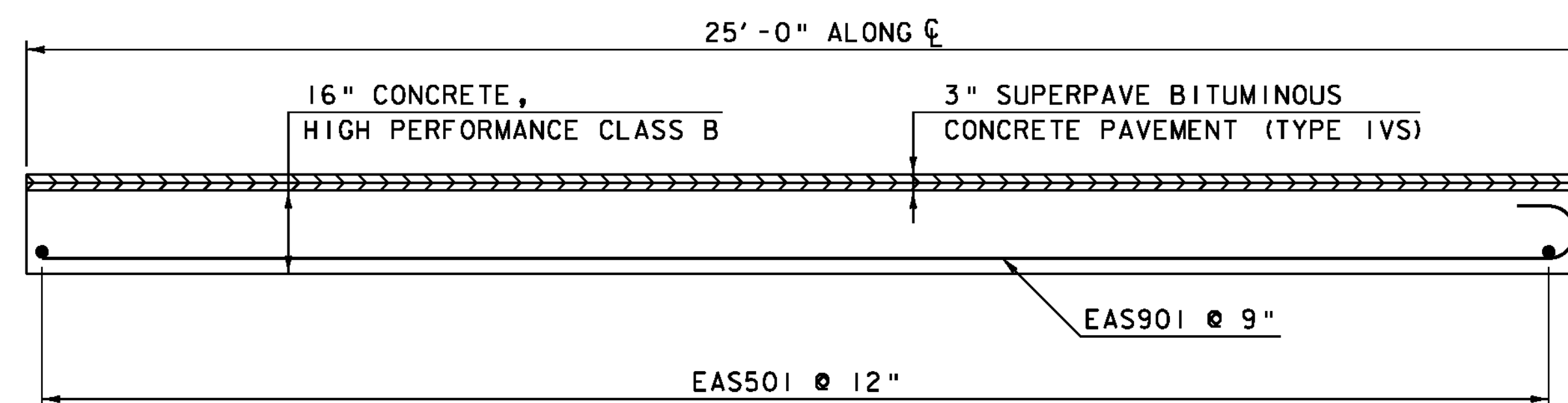
APPROACH SLAB #1 PLAN

SCALE 1/4" = 1'-0"



APPROACH SLAB #2 PLAN

SCALE 1/4" = 1'-0"



SECTION A-A
APPROACH SLAB ELEVATION (TYP)

SCALE 1/2" = 1'-0"

NOTE:

E = EPOXY COATED REINFORCING
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
3'-0" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

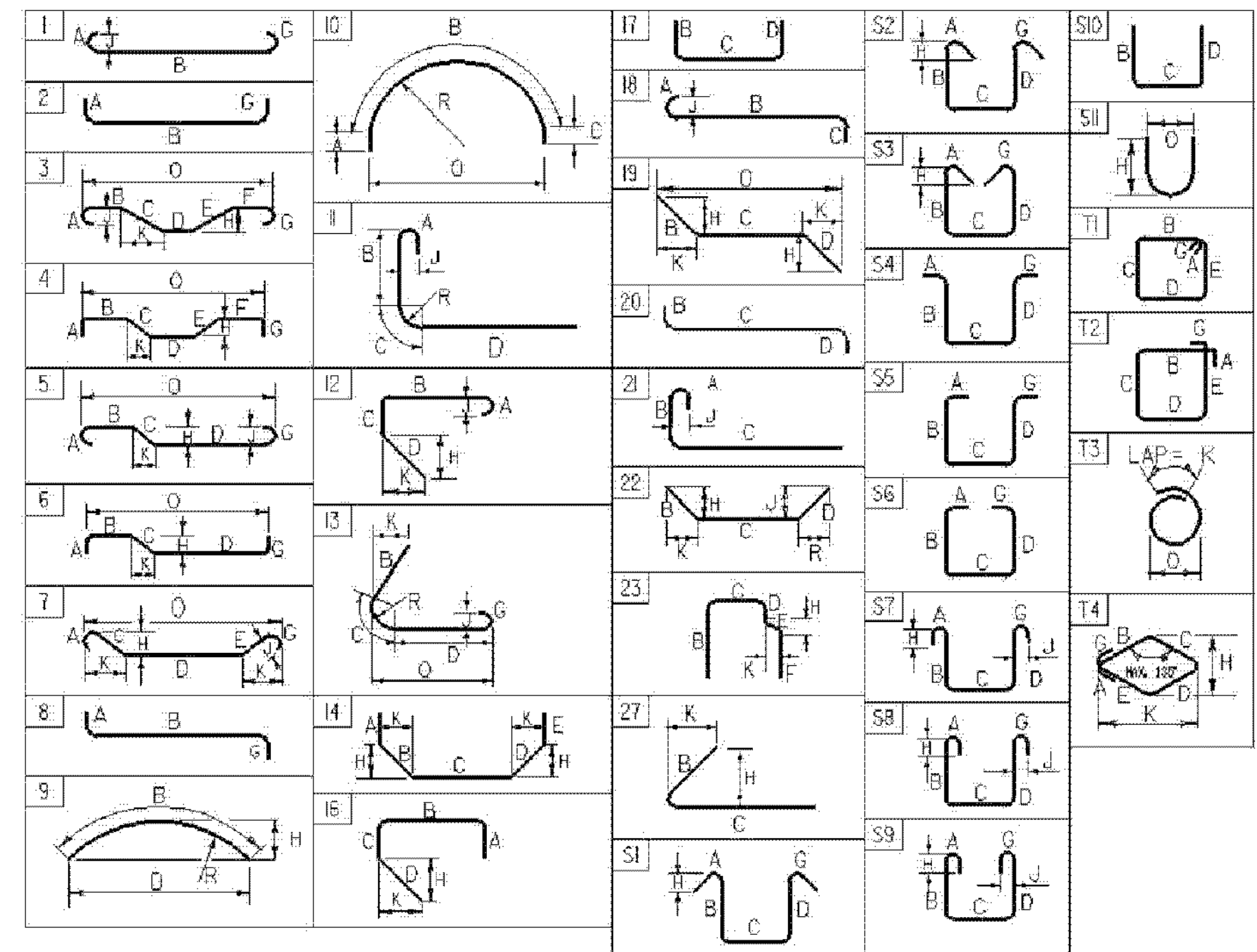
FILE NAME: s95j282sup.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. PELLETT
APPROACH SLAB DETAILS

PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 35 OF 52

REINFORCING STEEL SCHEDULE

~ NOTES ~

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- ⊕ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282rss.xls	PLOT DATE: 8/15/11
PROJECT MANAGER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. GRIFFIN	CHECKED BY: J. LACROIX
REINFORCING STEEL SCHEDULE SHEET #1	SHEET 36 OF 52

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE 57 ON TH 6 (MAIN ST.) IN SPRINGFIELD, VT. THE NEW STRUCTURE WILL BE APPROXIMATELY 134 FEET IN LENGTH. ABUTMENT #1 WILL BE A SPREAD FOOTING ON PILES AND ABUTMENT #2 WILL BE A SPREAD FOOTING ON BEDROCK.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.27 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

TOWN HIGHWAY 6 IS AN EXISTING PAVED ROAD.

THE MAJORITY OF THE PROJECT IS MATCHED TO EXISTING GRADE WITH FILL IN A FEW LOCATIONS. THERE IS ONE EXISTING GRAVEL DRIVE THAT WILL BE REDEVELOPED AS PART OF THE PROJECT. THERE ARE RESIDENCES ON BOTH EAST AND WEST SIDES OF THE PROJECT THAT WILL NOT BE AFFECTED BY THE DISTURBED AREA OF THE PROJECT. THERE IS AN EXISTING UTILITY POLE THAT WILL NEED TO BE RELOCATED. THE EXISTING WATER AND SEWER LINES WILL NEED TO BE PROTECTED DURING CONSTRUCTION. FOR FINAL CONTOURS AND SLOPES SEE THE CROSS SECTIONS AND/OR EPSC FINAL CONDITIONS.

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

THE GREAT BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS INCISED WITH UNSTABLE STREAM BANKS. THE STREAM BED IS ROCK, SAND AND COBBLES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH TO THE WEST AND EAST WITH RESIDENCES ON ALL SIDES. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE BRIDGE. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE RE-ESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS ON THE PROJECT SITE ARE:
ADAMS LOAMY FINE SAND 15% TO 25% SLOPES "K FACTOR" = 0.17
URBAN LAND-COLTON-CROGHAN 0% TO 8% SLOPES "K FACTOR" = 0.17

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

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES, ARCHEOLOGICAL
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: GREAT BROOK
WETLANDS: NO

THERE IS AN ARCHEOLOGICAL SIGNIFICANT AREA ON THE SOUTH EAST AREA OF THE PROJECT. ANY DISTURBANCE SHALL BE LIMITED TO FILL.

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUHOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

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

1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

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.

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT.

FILTER CURTAINS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN PRIOR TO ANY CHANNEL WORK.

WOVEN WIRE REINFORCED SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN PRIOR TO ANY UP SLOPE WORK.

1.4.5 DIVERT UPLAND RUNOFF

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS.

INSTALL STONE FILL AS SHOWN ON THE PLANS.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES
DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT (FILTER BAG) OF DEWATERING COFFERDAM FOR ABUTMENT #2 IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

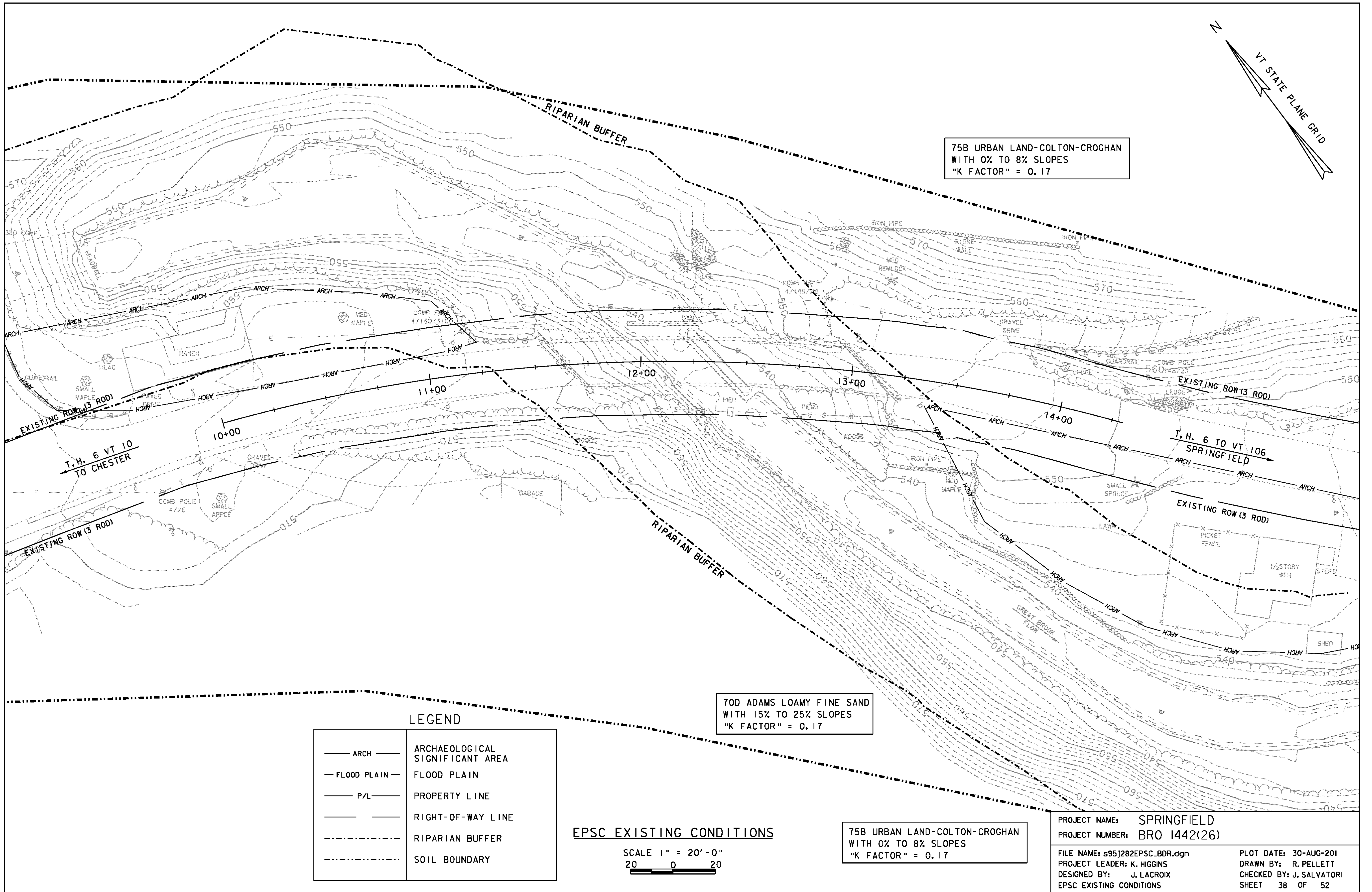
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

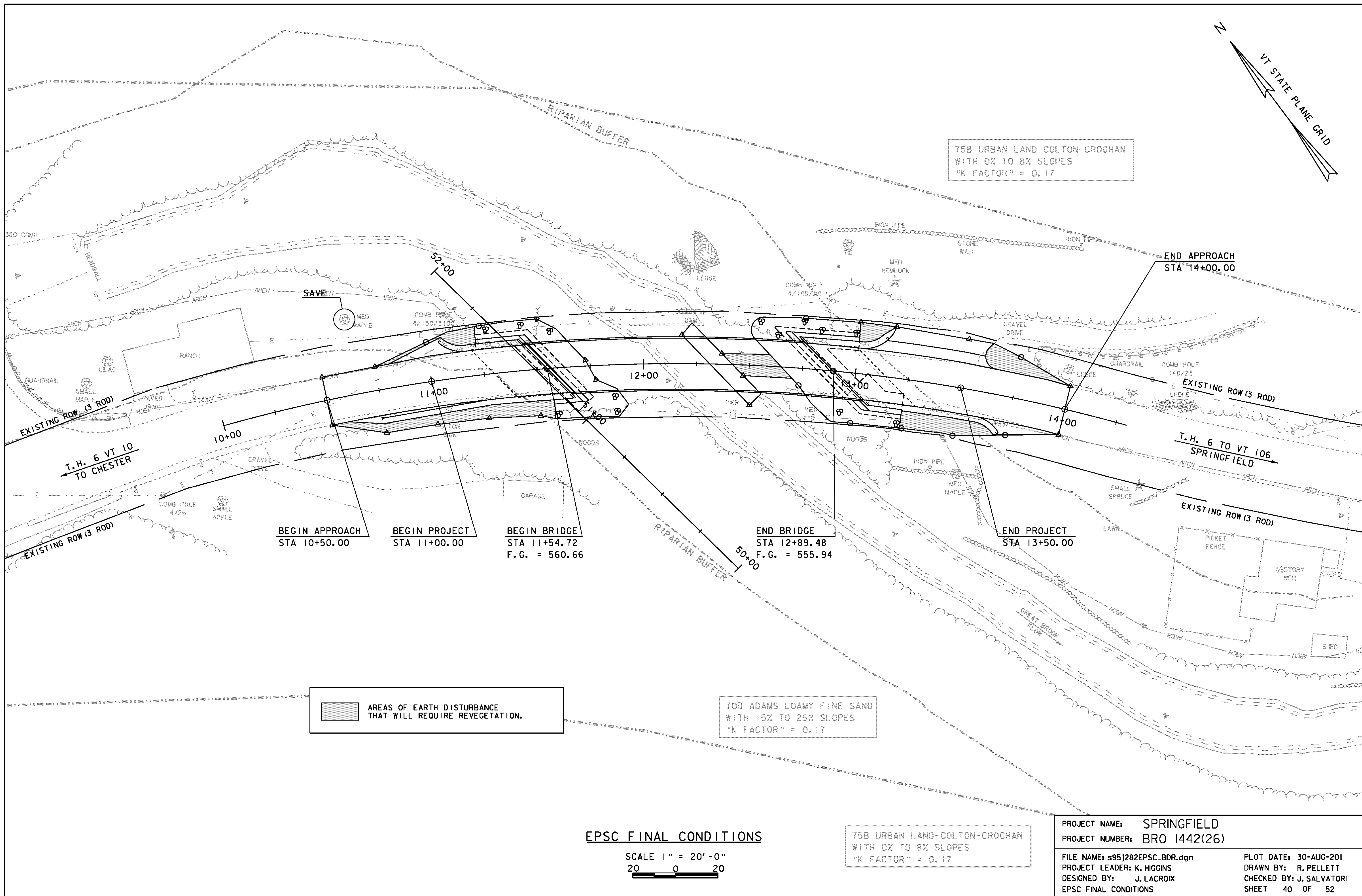
1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282EPSC_narrative.dgn	PLOT DATE: 14-SEP-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. SALVATORI
EPSC NARRATIVE	SHEET 37 OF 52





VAOT RURAL AREA MIX					
		LBS/AC			
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX					
		LBS/AC			
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

SOIL AMENDMENT GUIDANCE			
FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	FOLLOW	PELLETIZED	FOLLOW
500 LBS/AC	MANUFACTURER	2 TONS/AC	MANUFACTURER

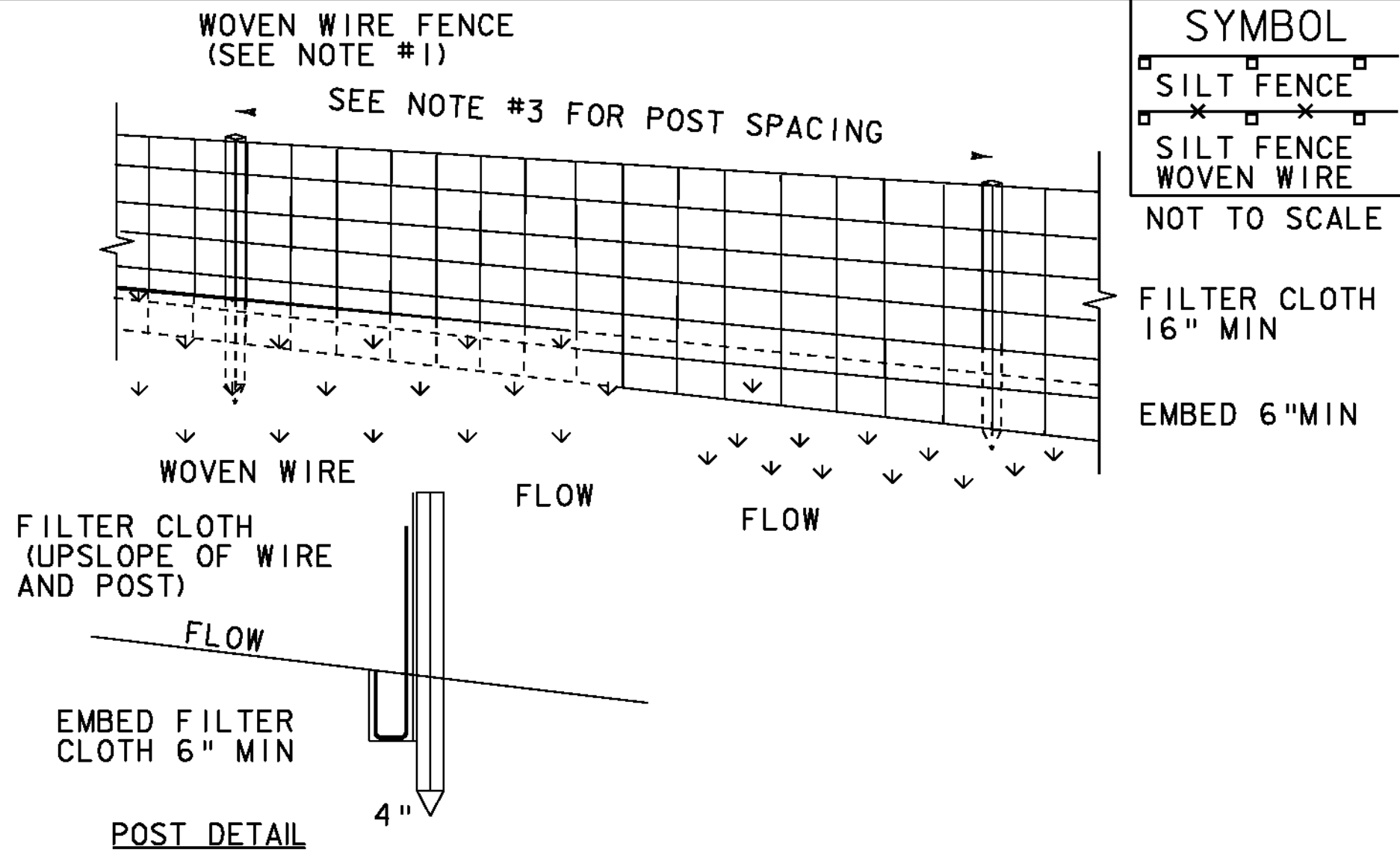
CONSTRUCTION GUIDANCE

- 1.RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- 2.URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
- 3.ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- 4.FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
- 5.HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
- 6.TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- 7.HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
- 8.TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

REVISIONS		
JUNE 23, 2009	WHF	
JANUARY 15, 2010	WHF	
FEBRUARY 16, 2011	WHF	



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

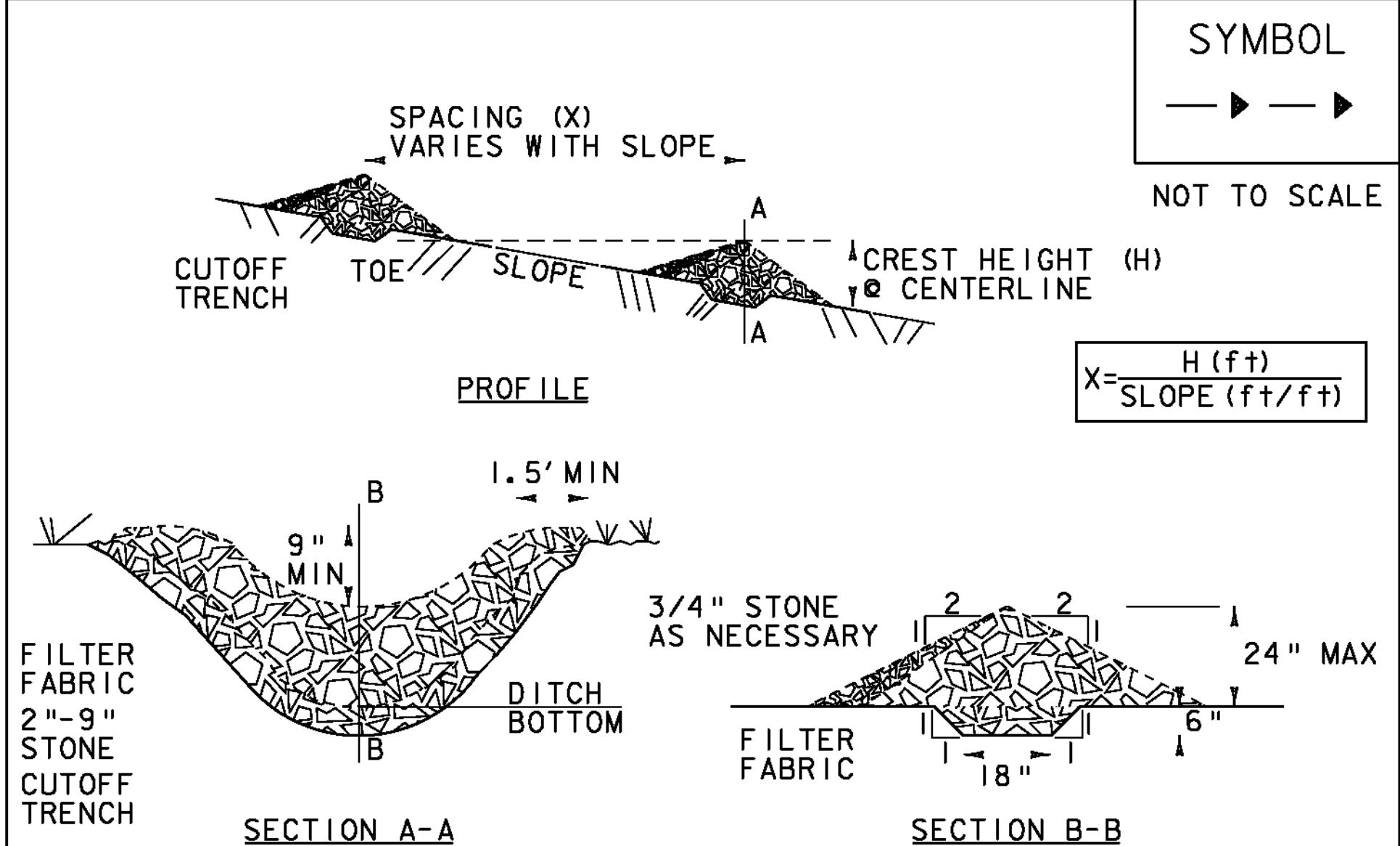
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS		
MARCH 21, 2008	WHF	
DECEMBER 11, 2008	WHF	
JANUARY 13, 2009	WHF	



CONSTRUCTION SPECIFICATIONS

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

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

CHECK DAM

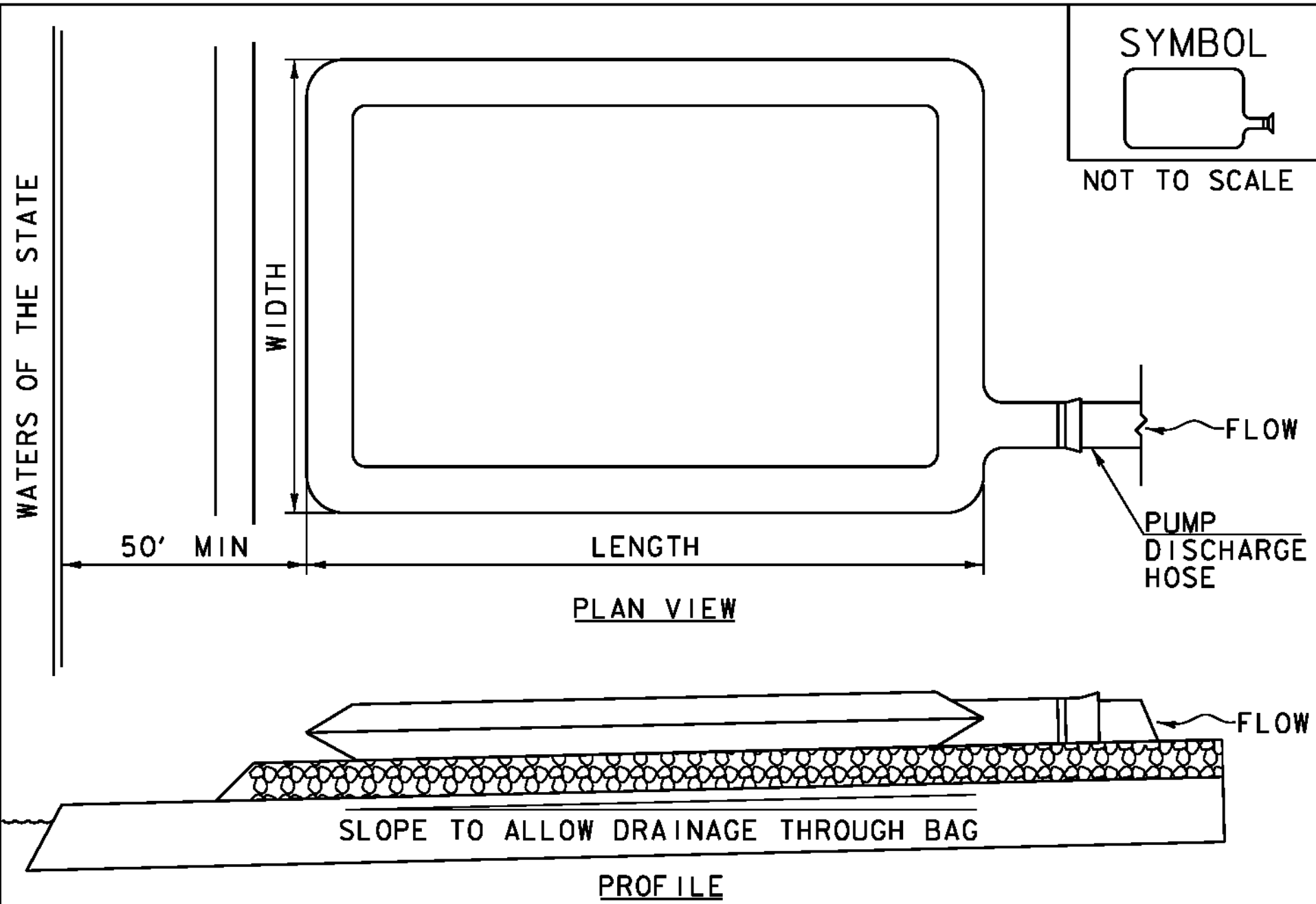
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

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

REVISIONS		
MARCH 21, 2008	WHF	
JANUARY 8, 2009	WHF	

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282EPSC_details.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
EPSC DETAILS - I
PLOT DATE: 14-SEP-2011
DRAWN BY: R. PELLET
CHECKED BY: J. SALVATORI
SHEET 41 OF 52



CONSTRUCTION SPECIFICATIONS

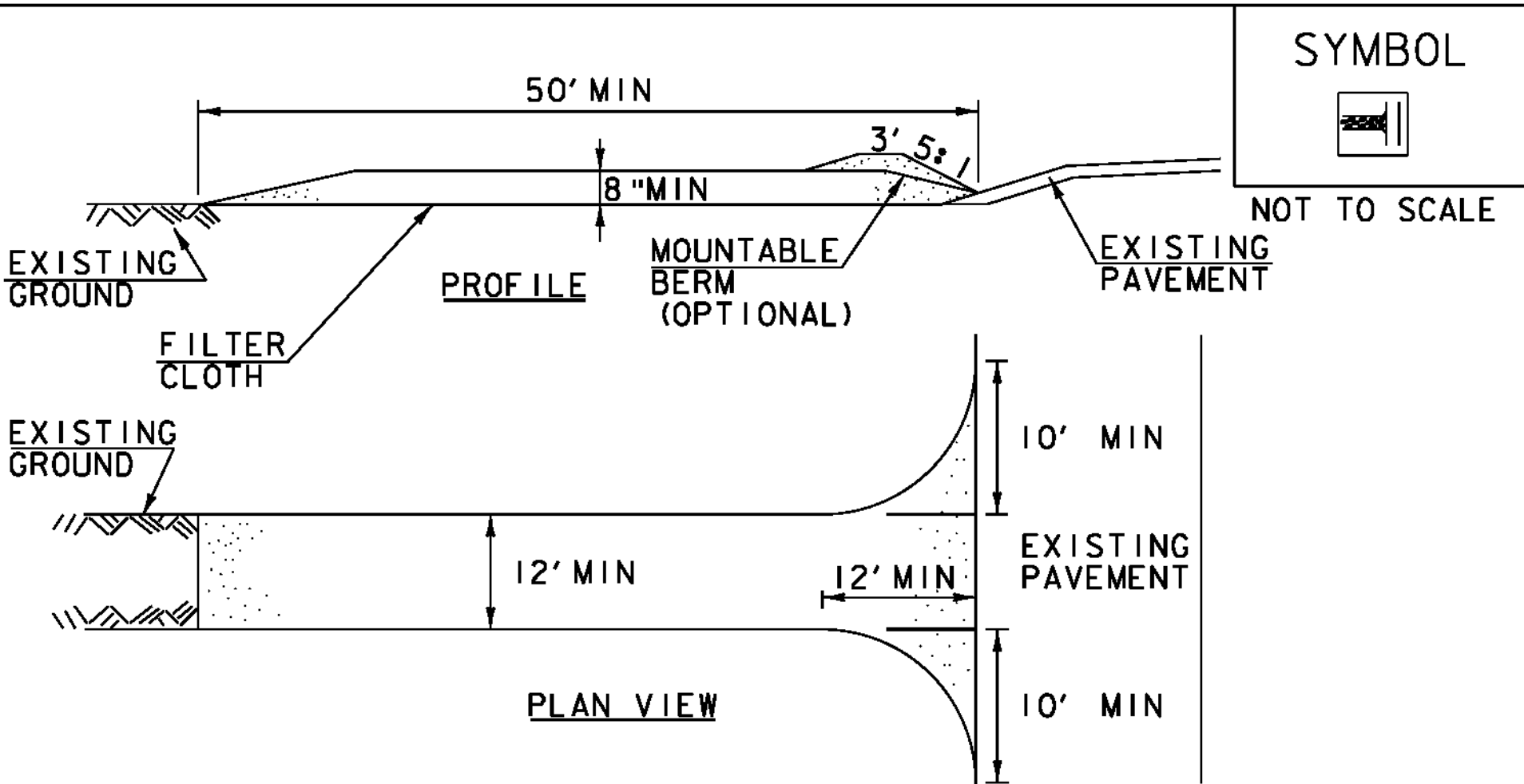
1. THE PRIMARY PURPOSE OF FILTER BAG IS TO RETAIN SILT, SAND, AND FINES DURING DEWATERING OPERATIONS.
2. FILTER BAGS SHALL BE INSTALLED ON A VEGETATED SLOPE GRADED TO ALLOW INCOMING WATER TO FLOW THROUGH THE BAG.
3. FILTER BAGS MAY ALSO BE PLACED ON COARSE AGGREGATE, STONE, OR HAYBALES TO INCREASE FILTRATION EFFICIENCY.
4. FILTER BAGS SHALL BE LOCATED A MINIMUM OF 50' FROM WATERS OF THE STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. THE NECK OF THE FILTER BAG SHALL BE STRAPPED TIGHTLY TO THE DISCHARGE HOSE.
6. A FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
7. FILTER BAG SHALL BE DISPOSED OF AS APPROVED IN THE EPSC PLAN OR AS DIRECTED BY THE ENGINEER.

FILTER BAG

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR FILTER BAG (PAY ITEM 653.45) AND AS SPECIFIED IN THE CONTRACT.

REVISIONS		
MARCH 24, 2008	WHF	
JANUARY 13, 2009	WHF	



CONSTRUCTION SPECIFICATIONS

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

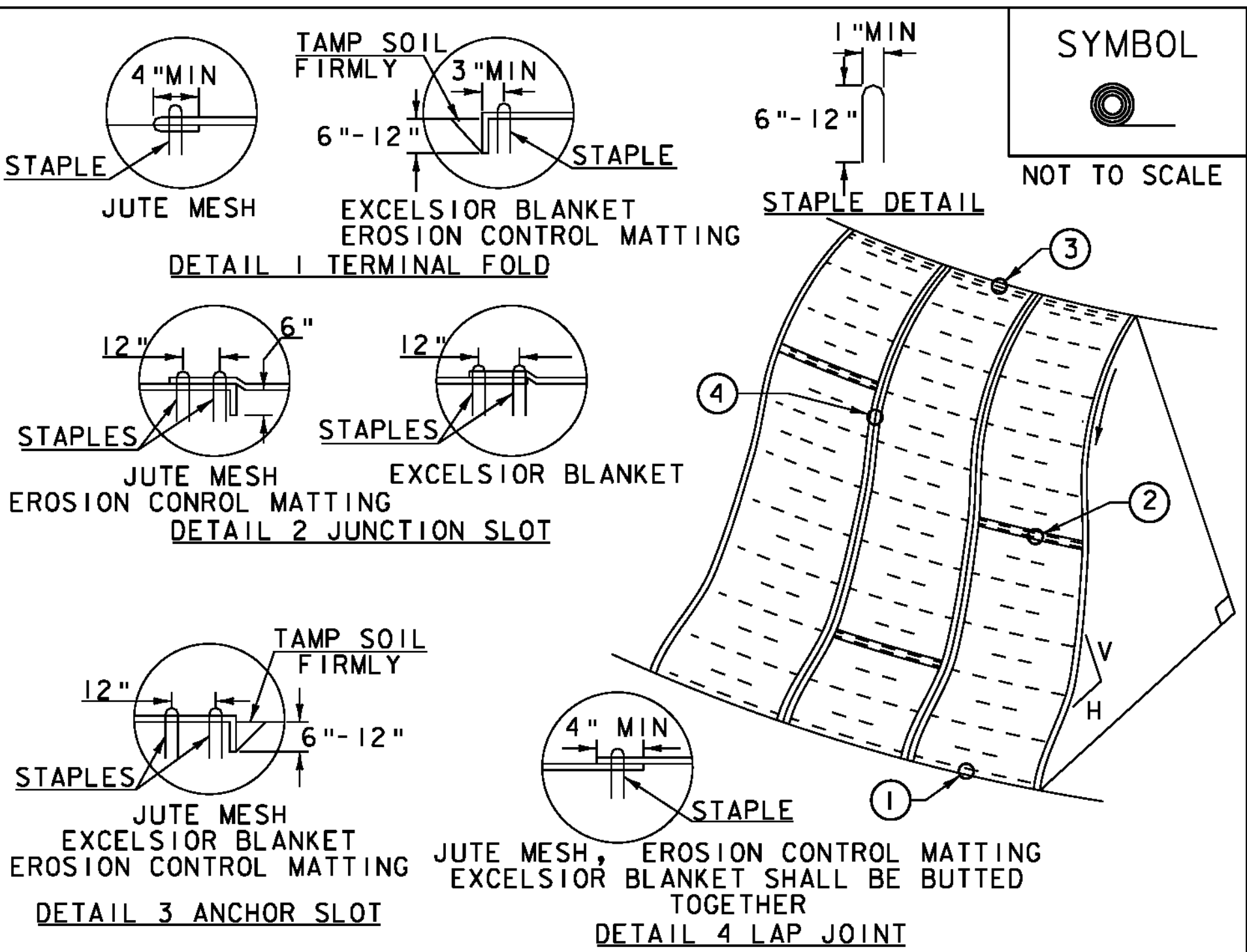
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED
CONSTRUCTION
ENTRANCE

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS		
MARCH 24, 2008	WHF	
JANUARY 13, 2009	WHF	



CONSTRUCTION SPECIFICATIONS

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

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

ROLLED EROSION
CONTROL PRODUCT
(RECP) SIDE SLOPE

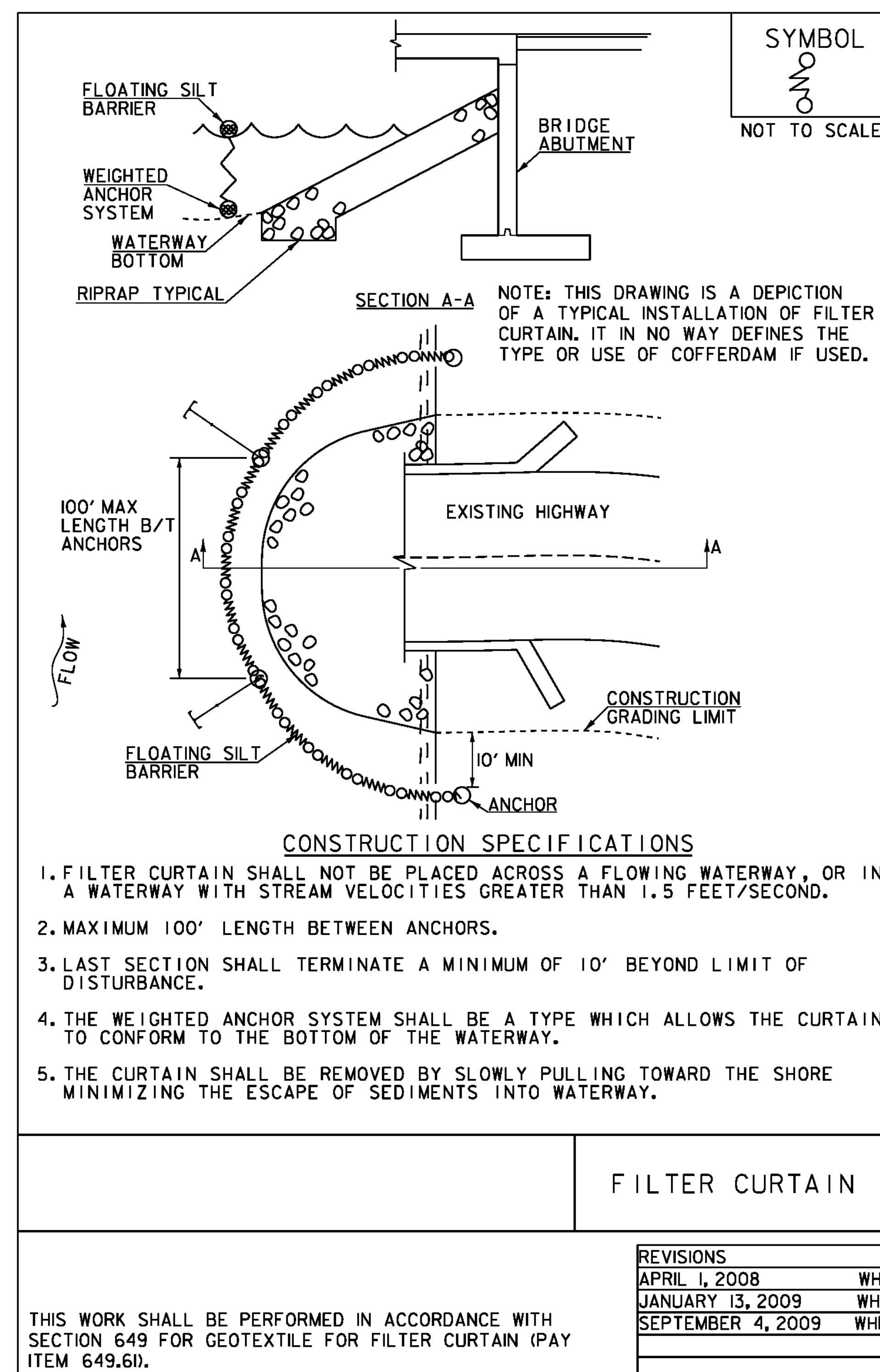
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS		
APRIL 16, 2007	JMF	
JANUARY 13, 2009	WHF	

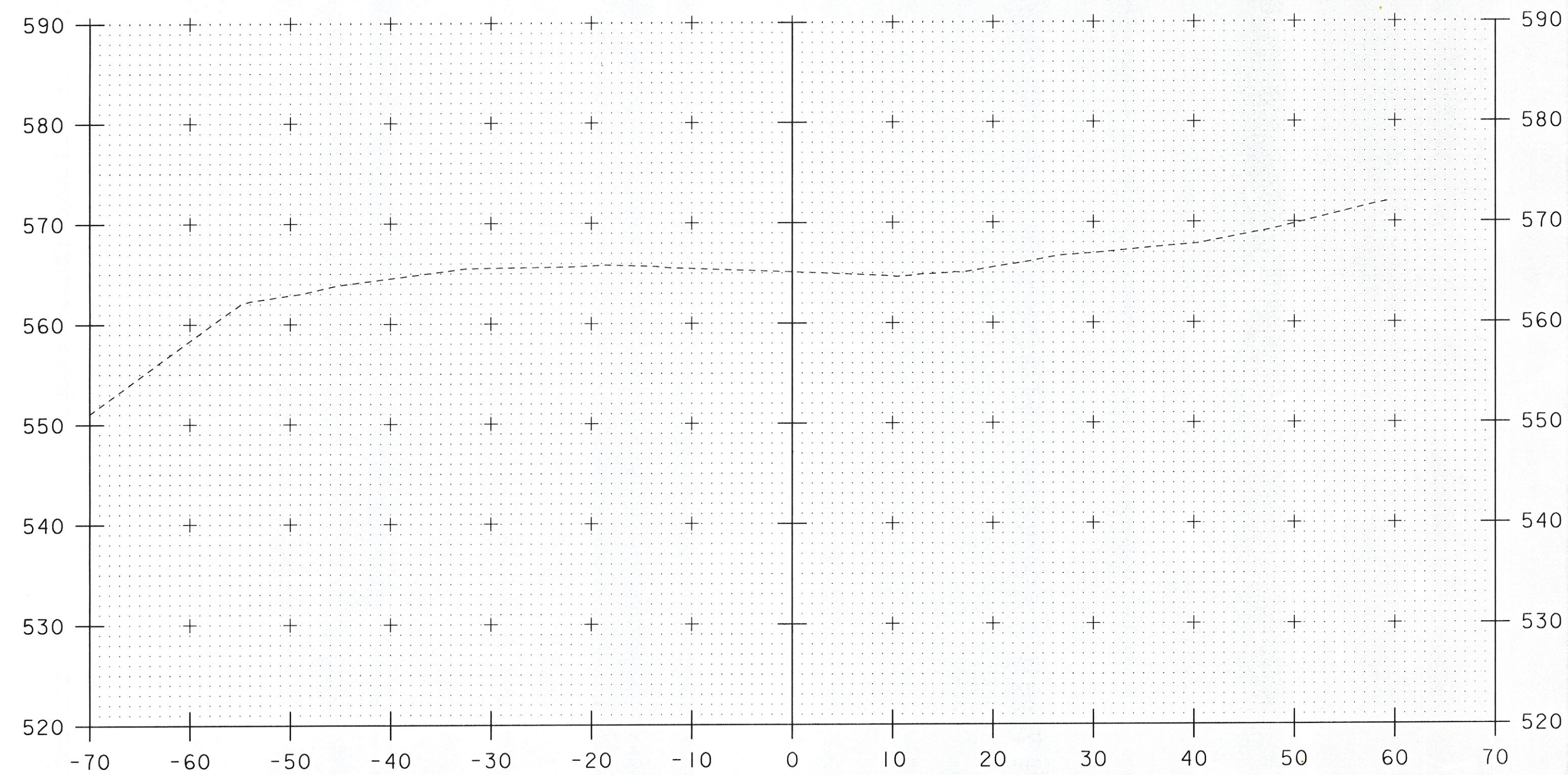
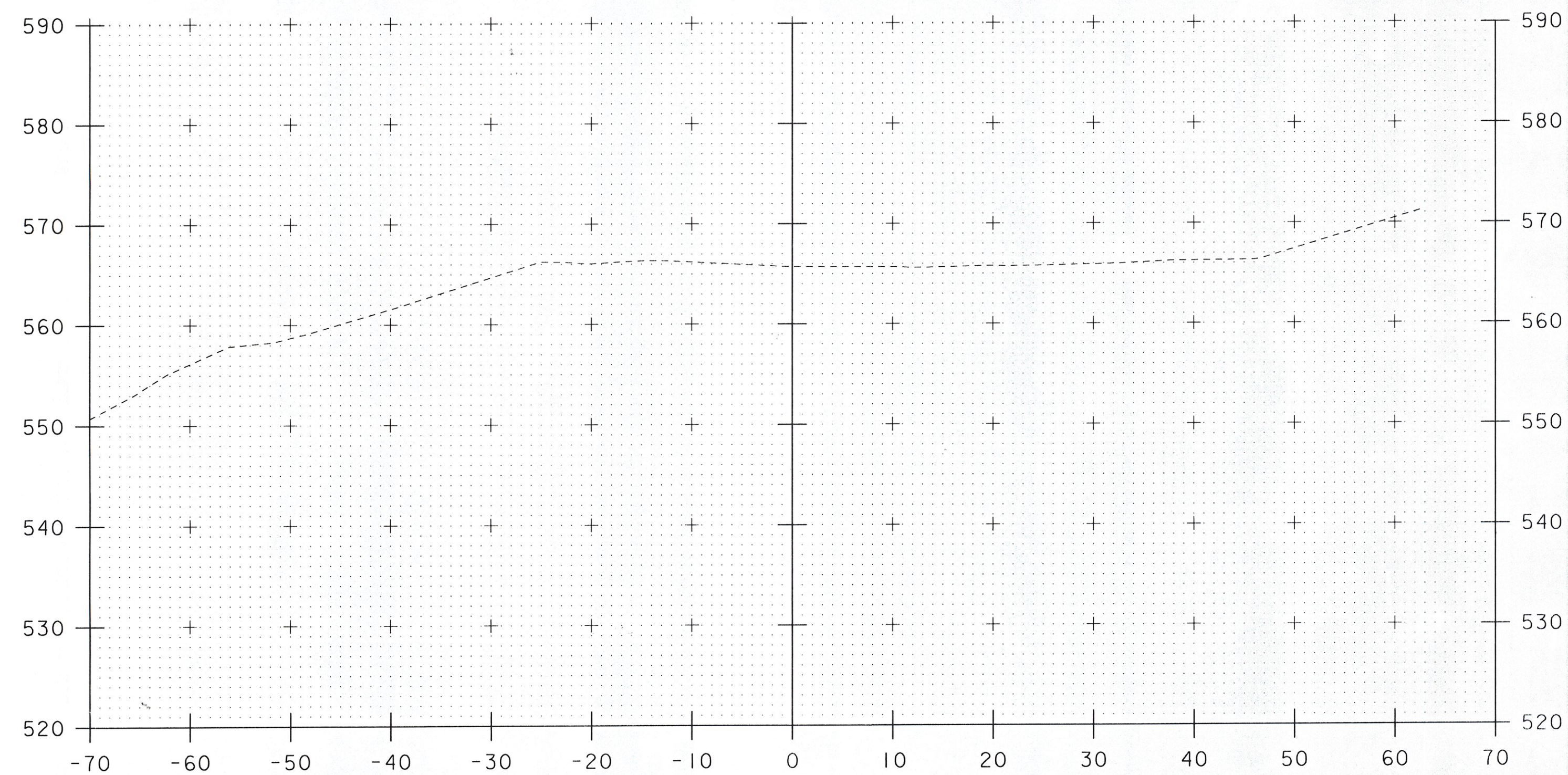
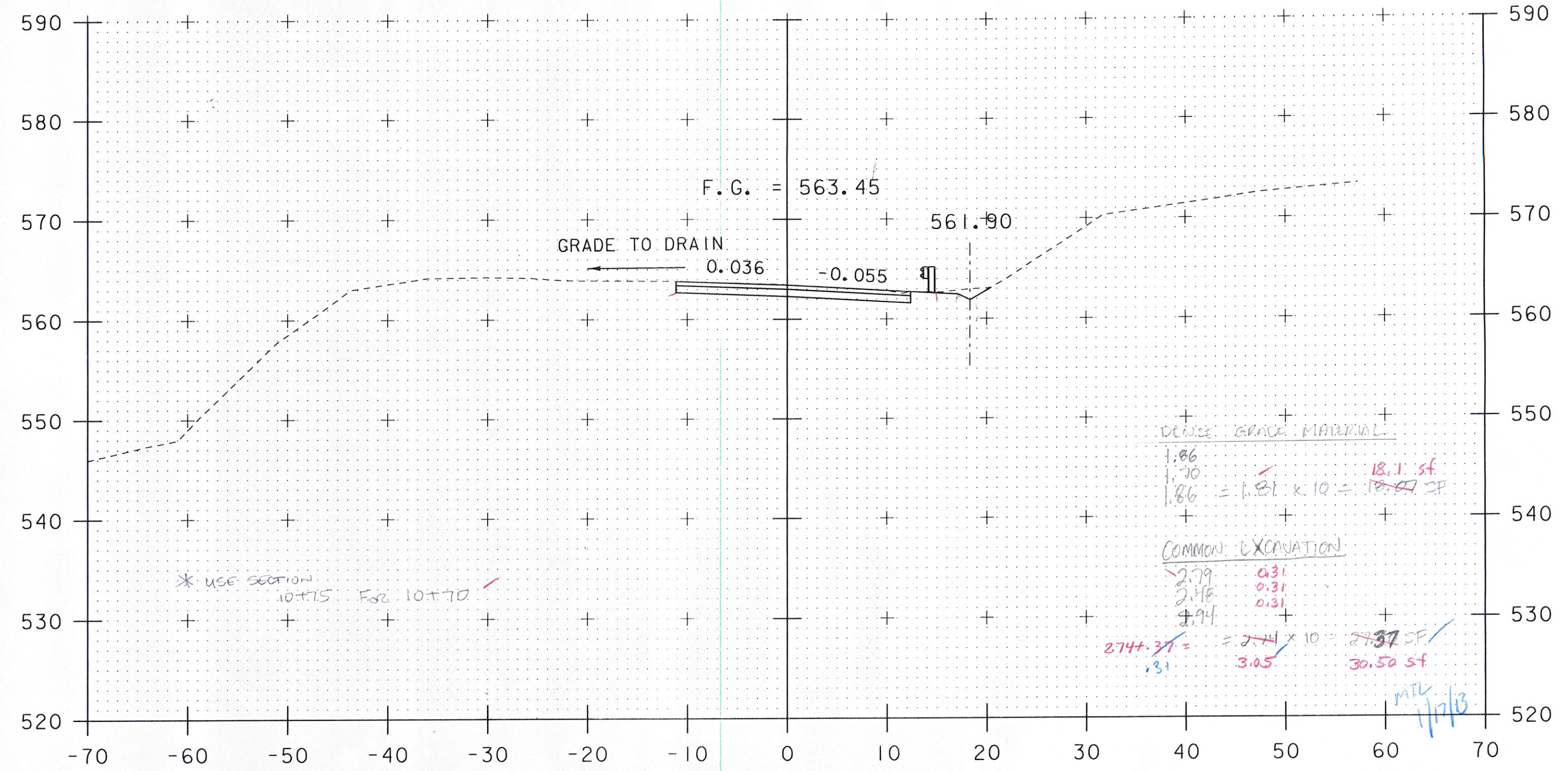
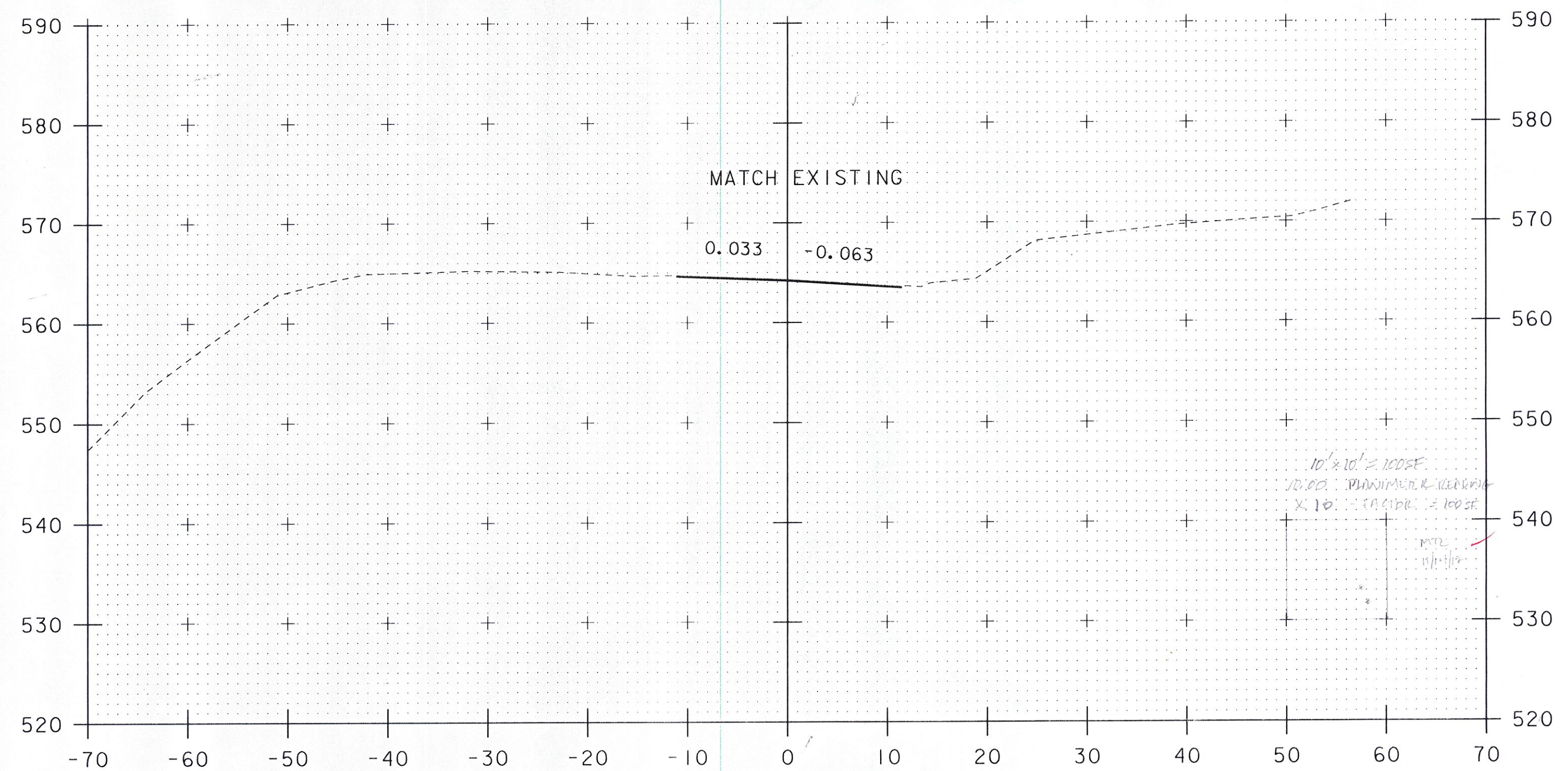
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282EPSC_details.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. LACROIX
EPSC DETAILS - 2

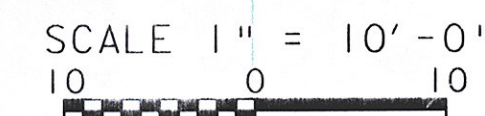
PLOT DATE: 30-AUG-2011
DRAWN BY: R. PELLET
CHECKED BY: J. SALVATORI
SHEET 42 OF 52



PROJECT NAME: SPRINGFIELD	
PROJECT NUMBER: BRO 1442(26)	
FILE NAME: s95j282EPSC_details.dgn	PLOT DATE: 30-AUG-2011
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: J. LACROIX	CHECKED BY: J. SALVATORI
EPSC DETAILS - 3	SHEET 43 OF 52

 $10+25$  $10+00$  $10 + 75$ 

BEGIN APPROACH
10+50

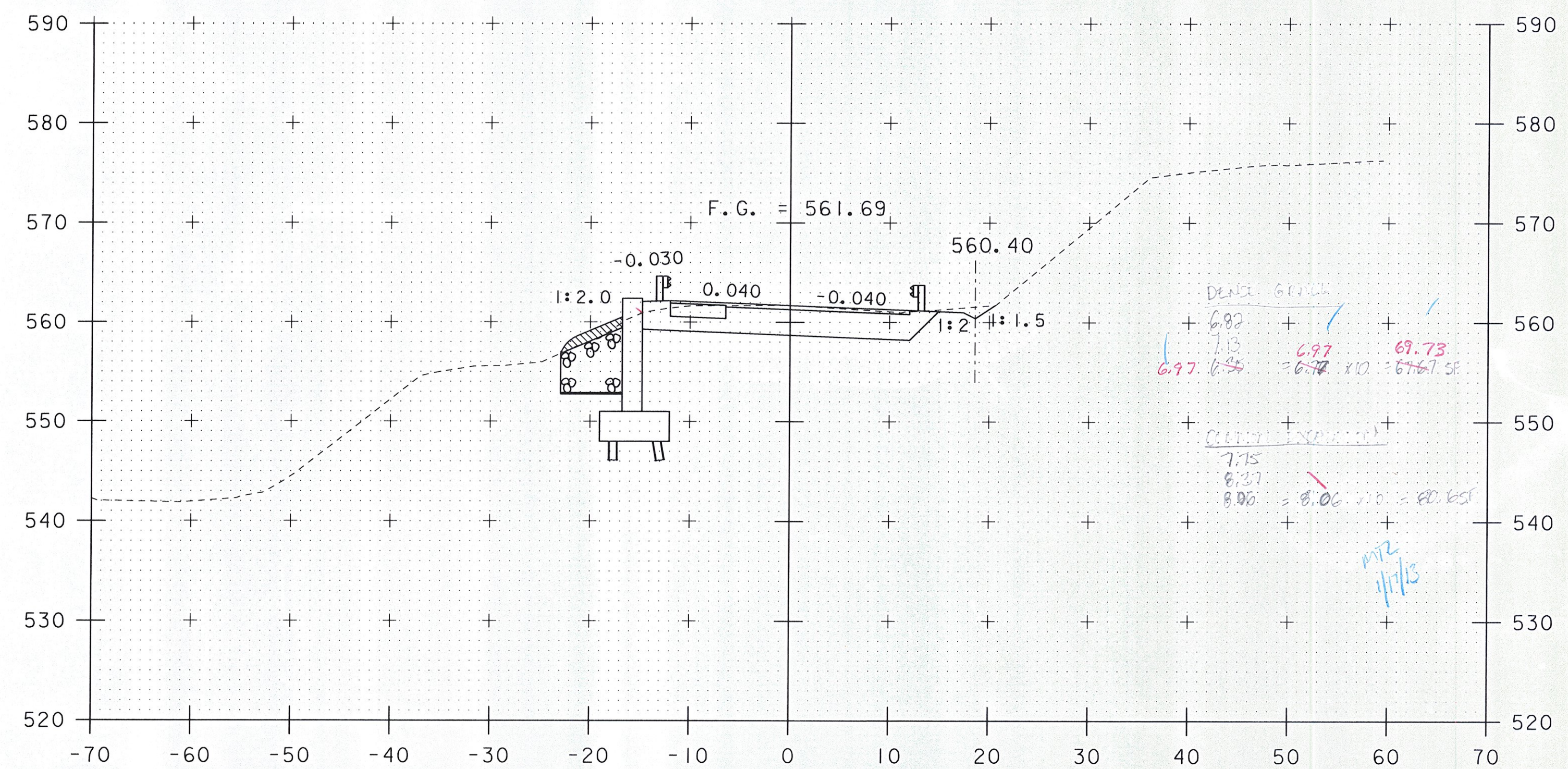


STA. 10+00 TO STA. 10+75

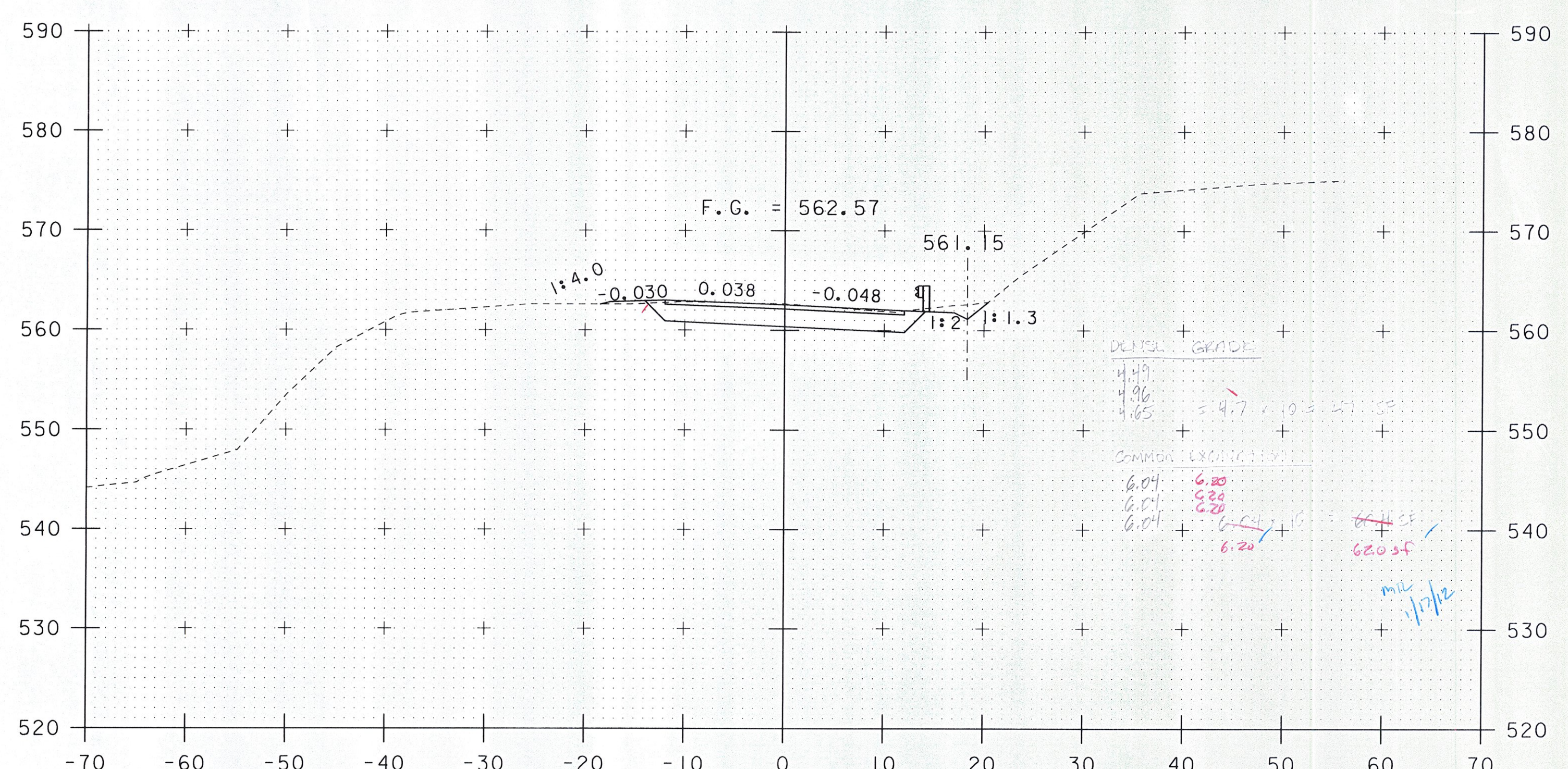
PROJECT NAME:	SPRINGFIELD
PROJECT NUMBER:	BRO 1442(26)

FILE NAME: s95j282xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
ROADWAY CROSS SECTIONS - I

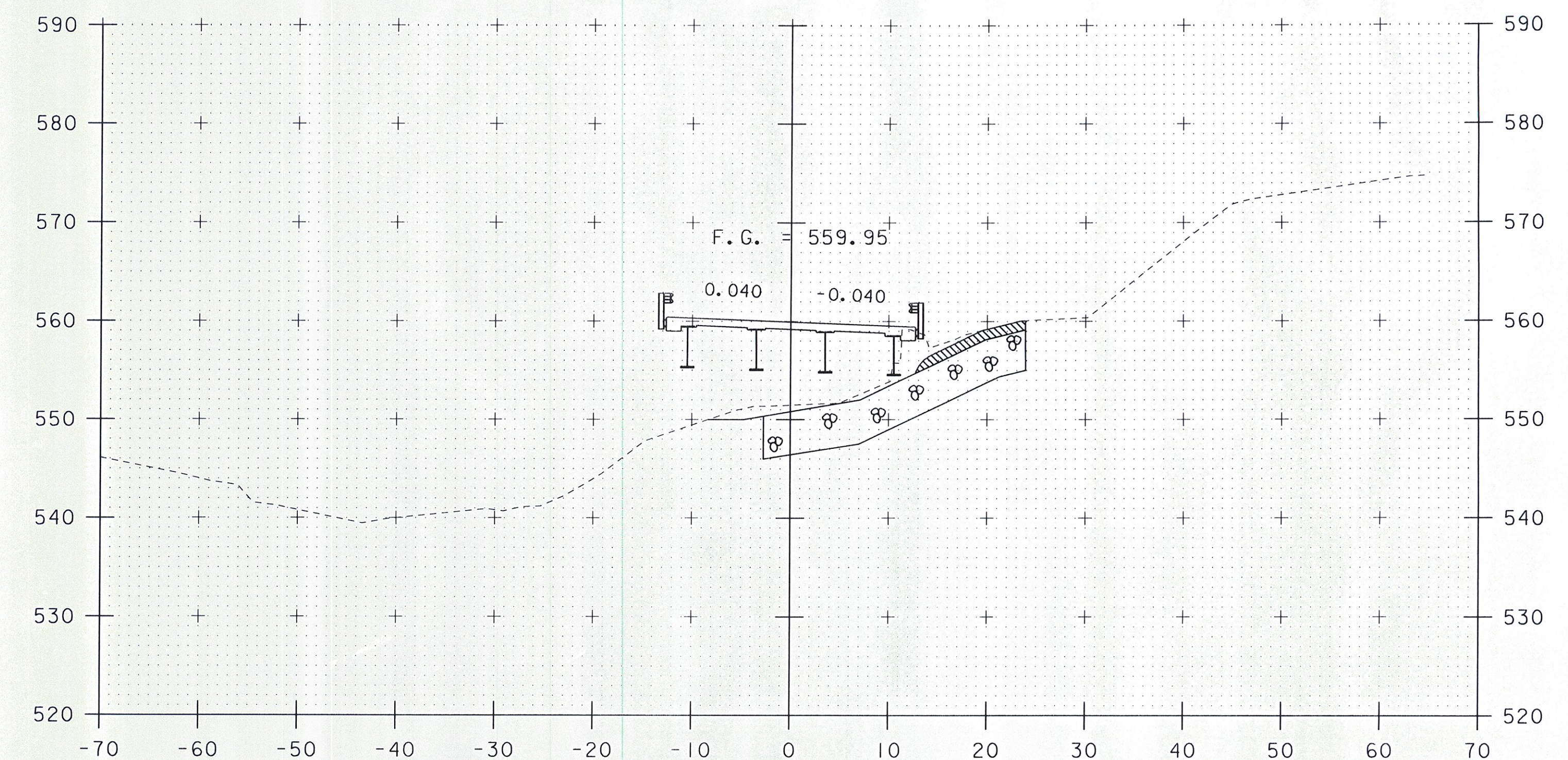
PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 44 OF 52



11+25

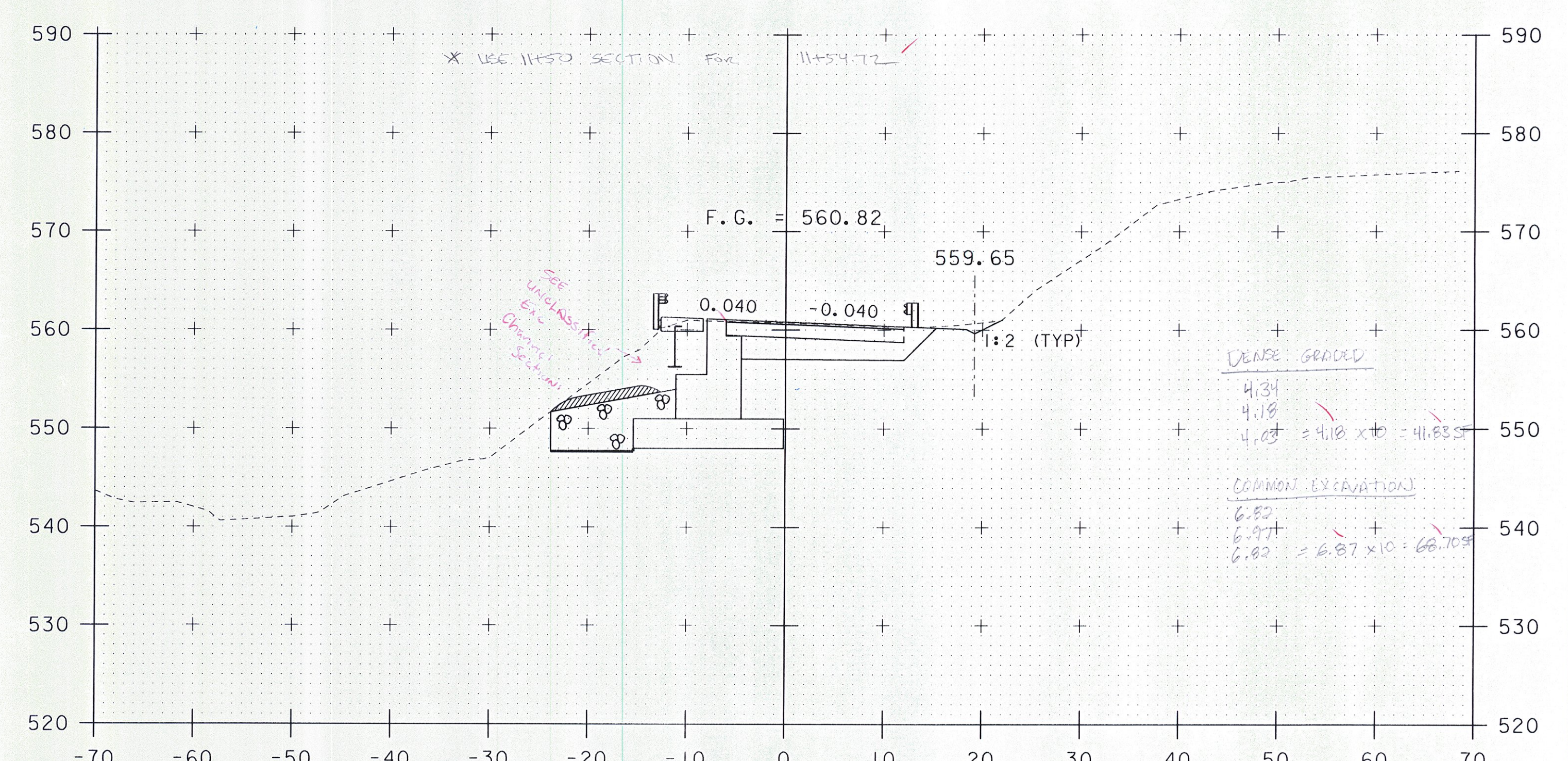


BEGIN PROJECT
11+00

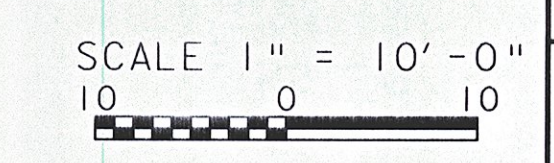


11+75

BEGIN BRIDGE @ 11+54.72

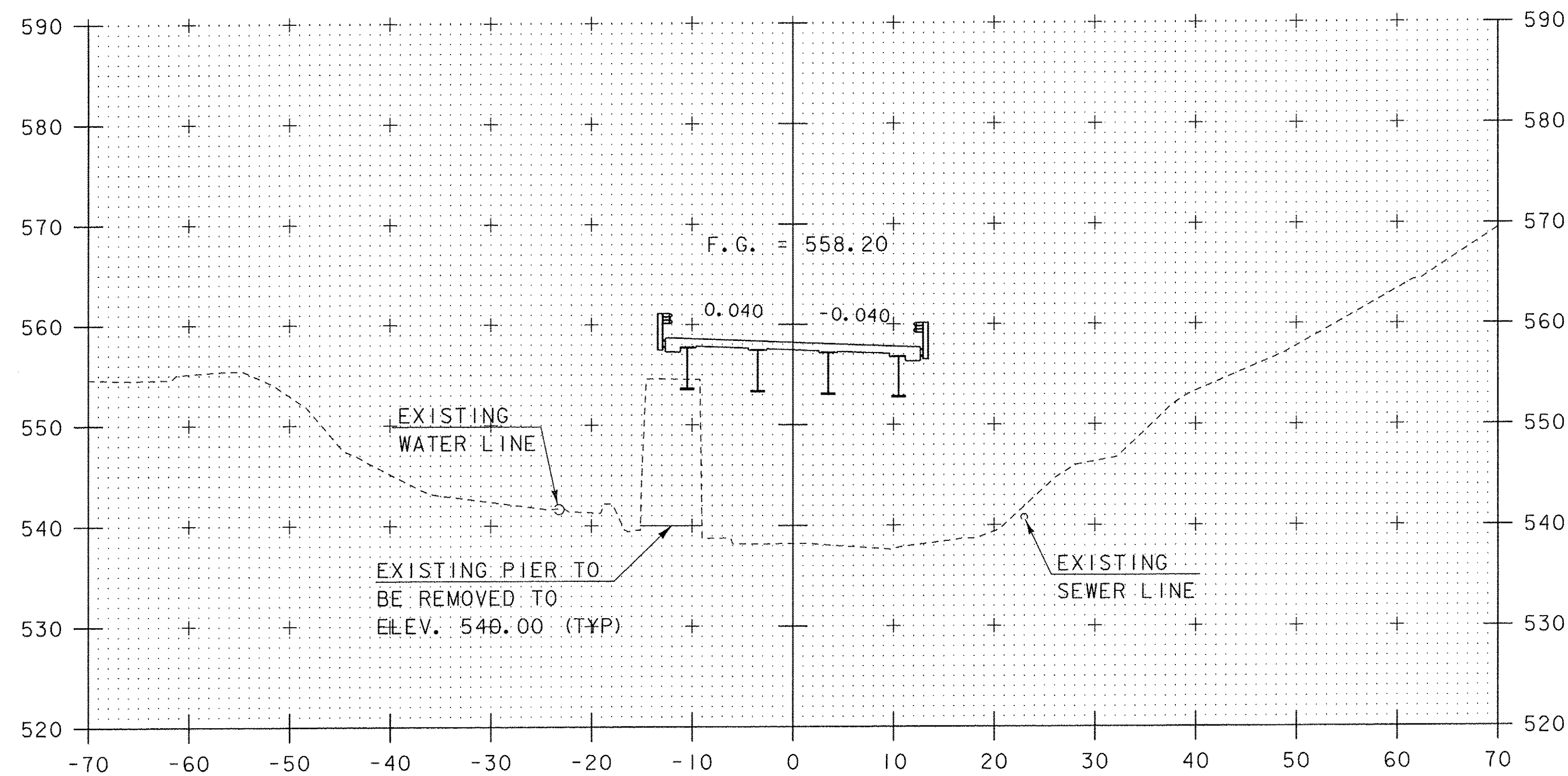


11+50

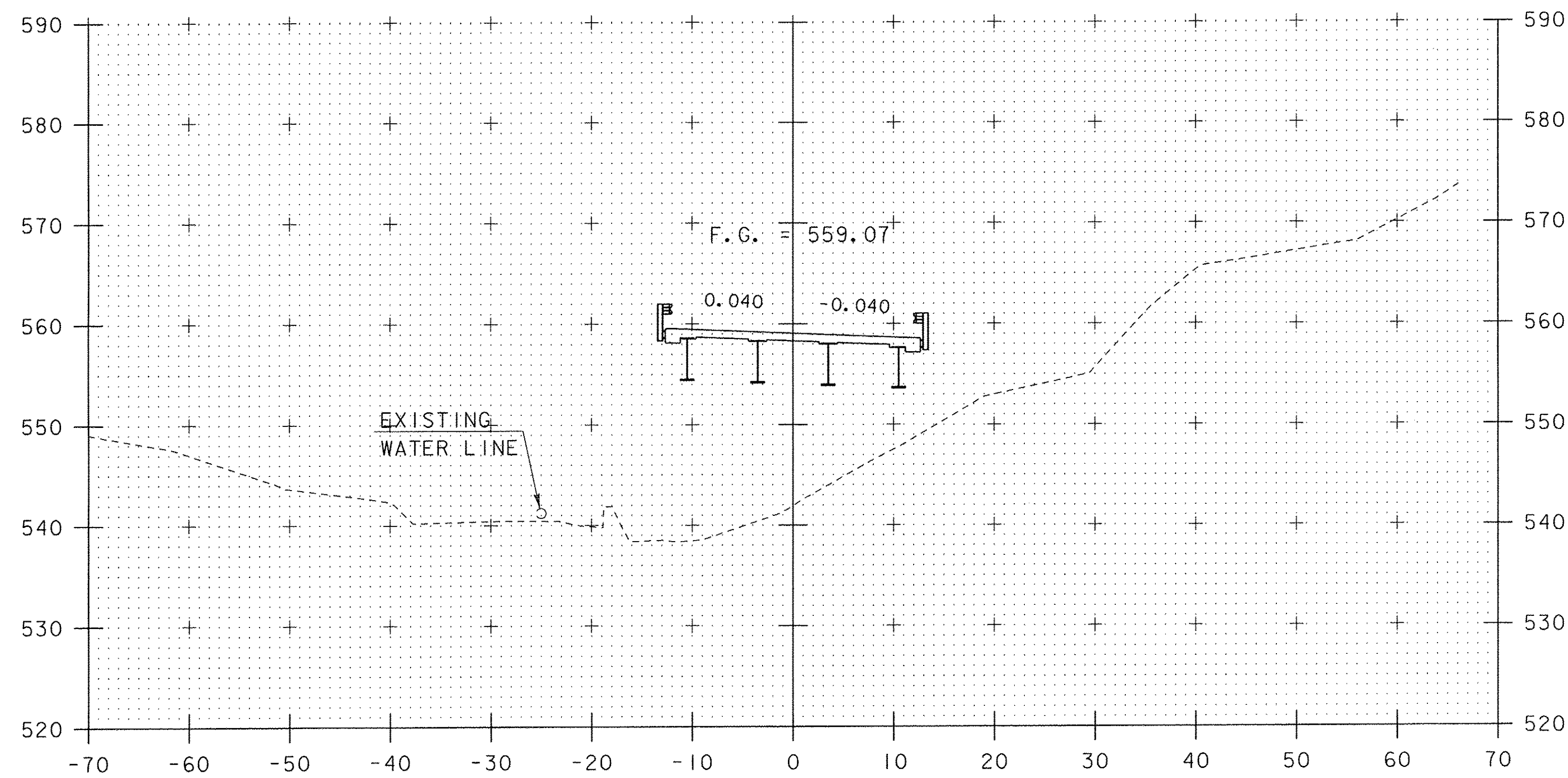


STA. 11+00 TO STA. 11+75

PROJECT NAME:	SPRINGFIELD	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BRO 1442(26)	DRAWN BY:	J. SALVATORI
FILE NAME:	s951282xsl.dgn	CHECKED BY:	J. LACROIX
PROJECT LEADER:	K. HIGGINS	SHEET	45 OF 52
DESIGNED BY:	J. SALVATORI		
ROADWAY CROSS SECTIONS - 2			

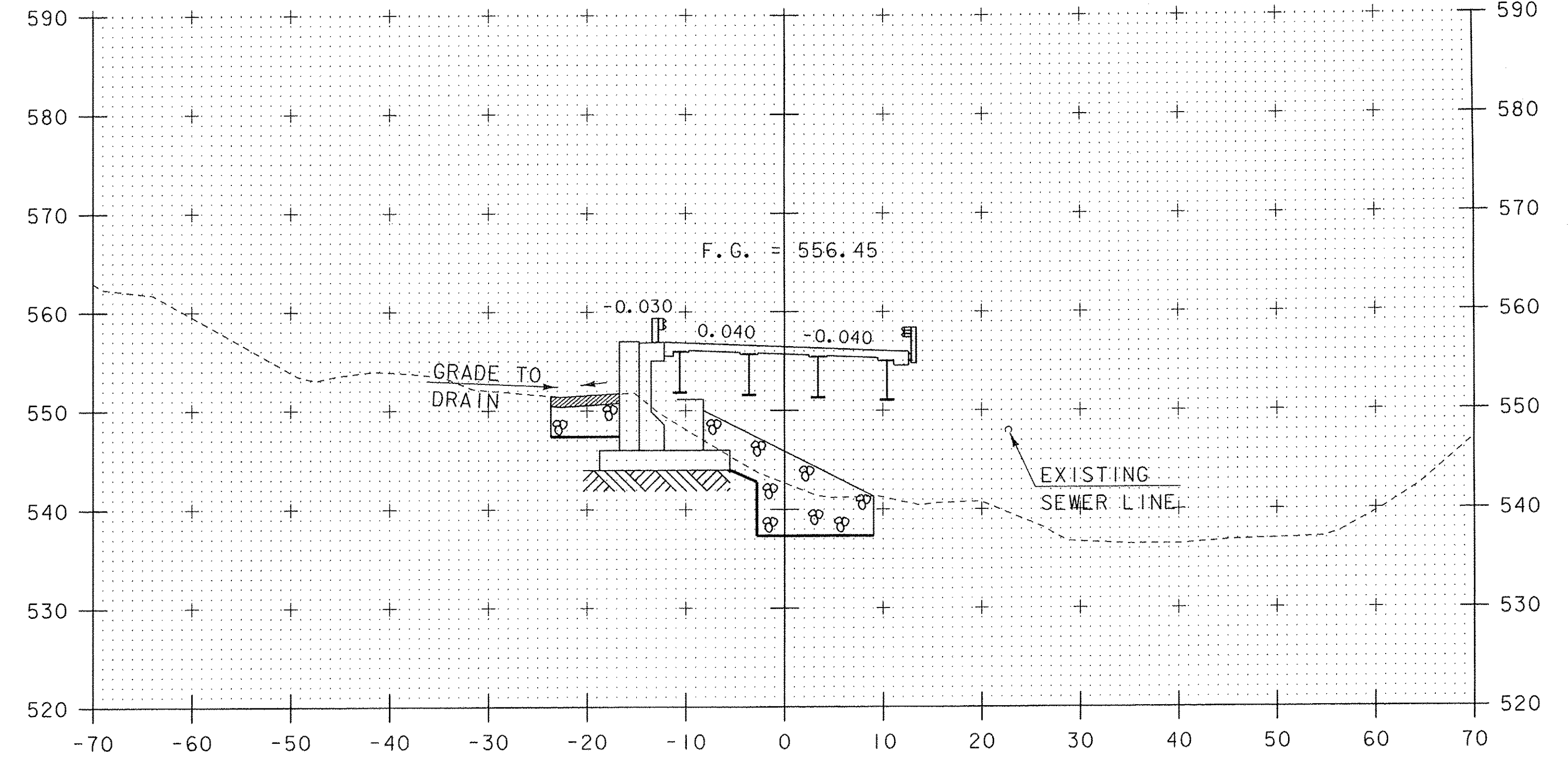


12+25

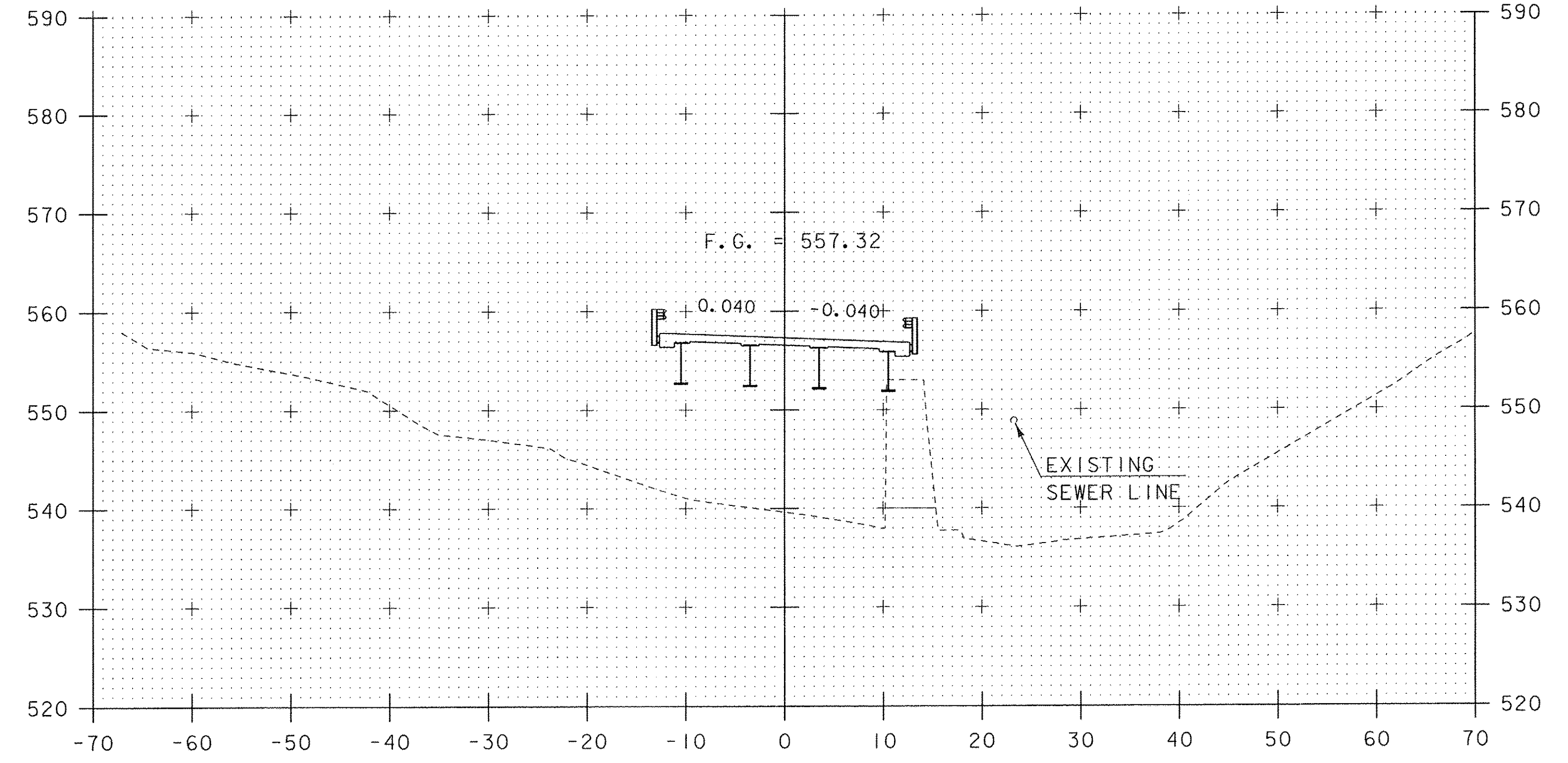


12+00

END BRIDGE @ 12+89.48



12+75



12+50

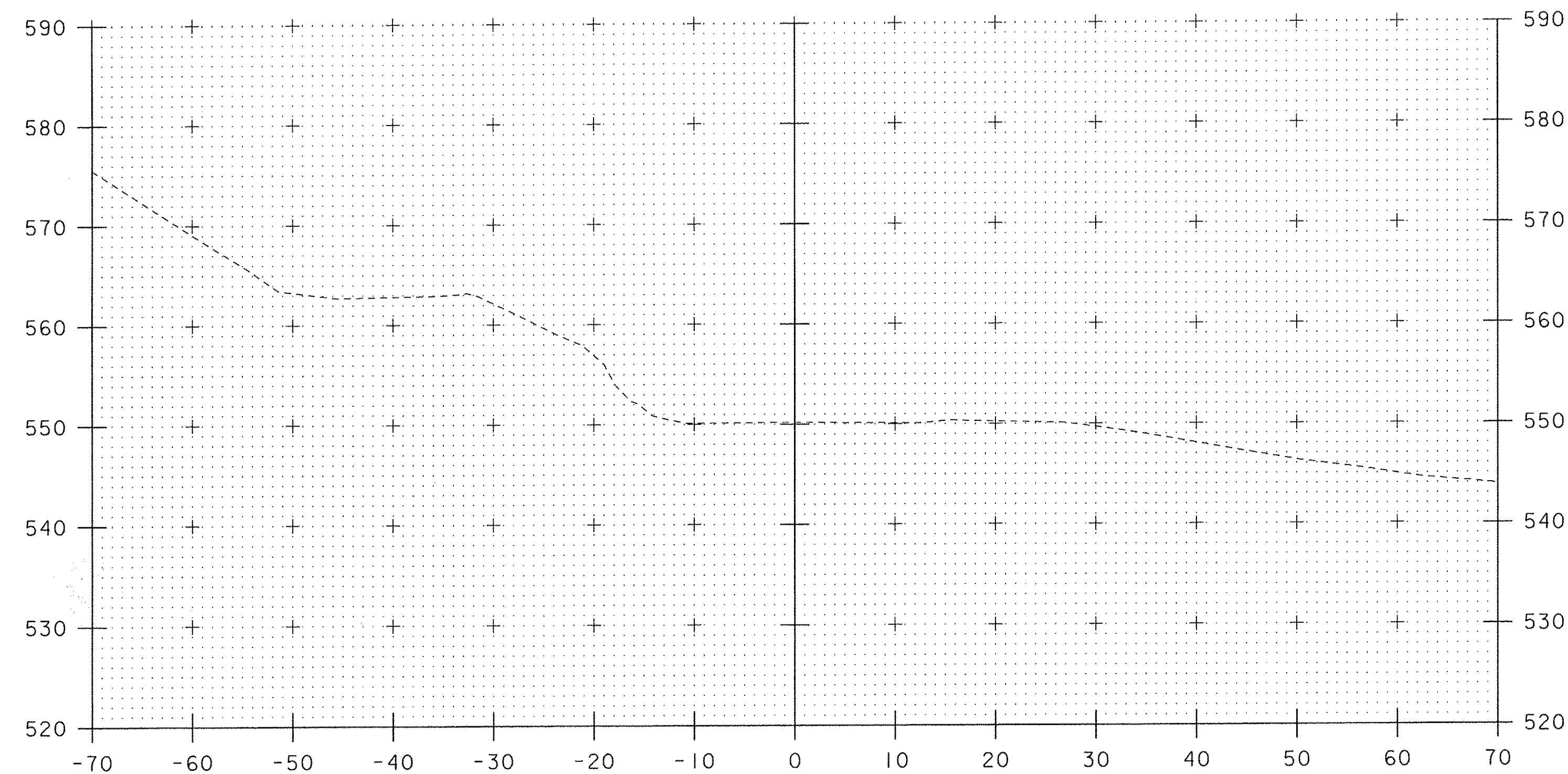
SCALE 1" = 10'-0"

STA. 12+00 TO STA. 12+75

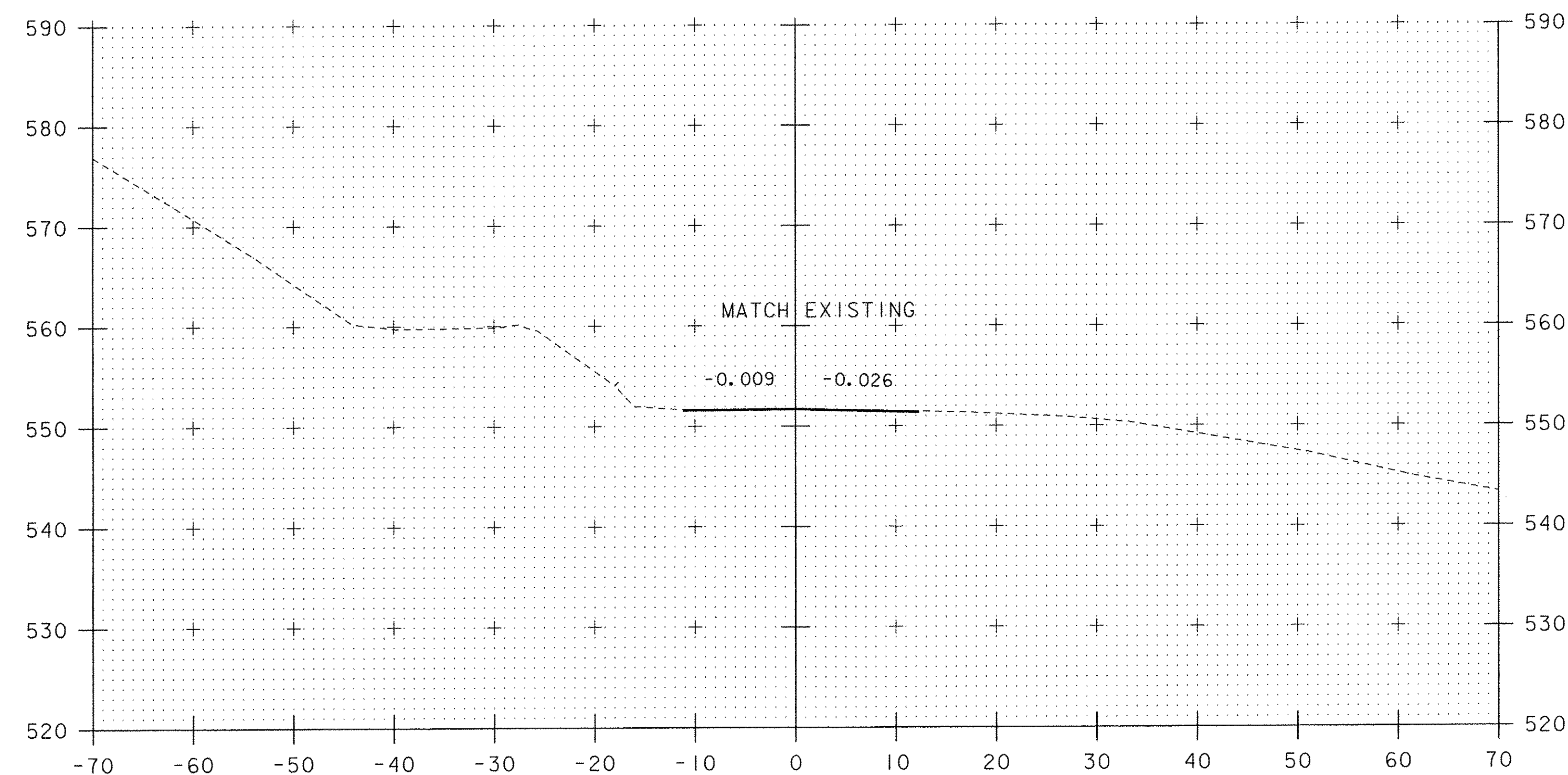
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
ROADWAY CROSS SECTIONS - 3

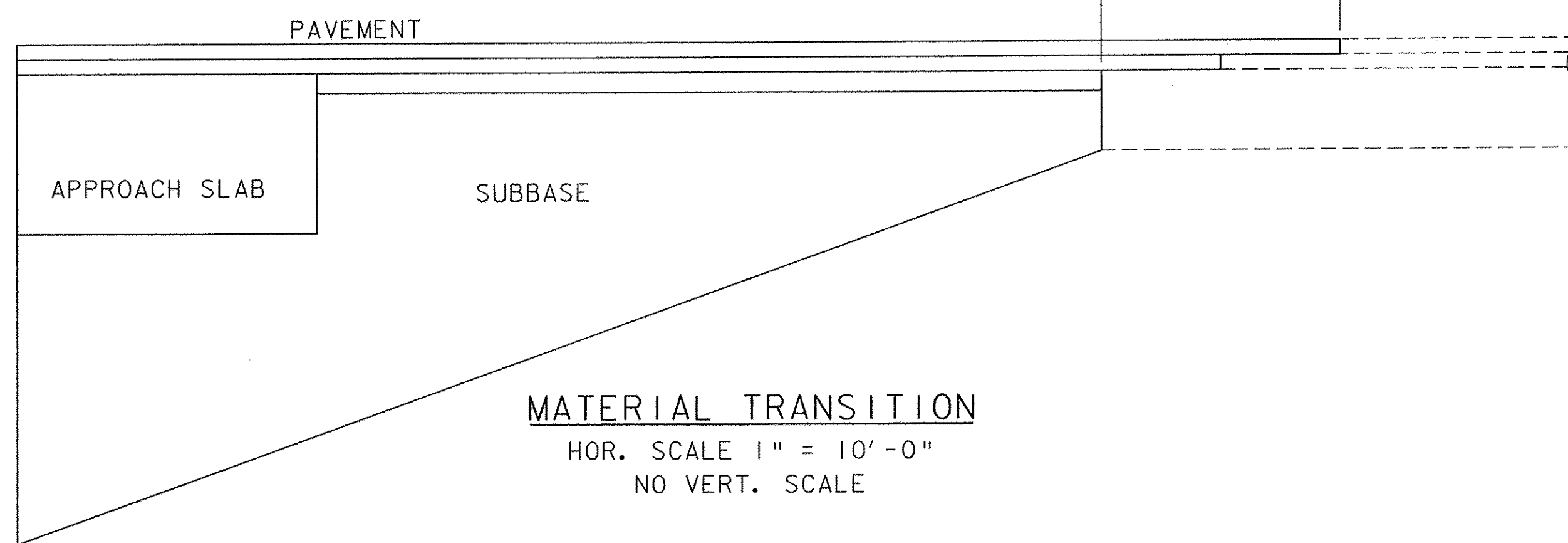
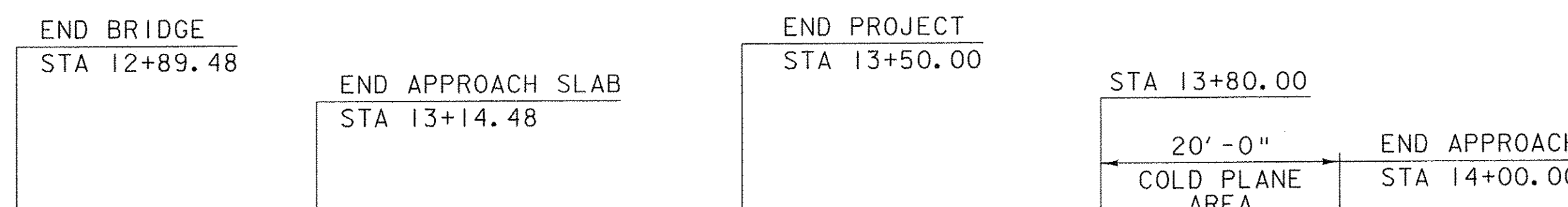
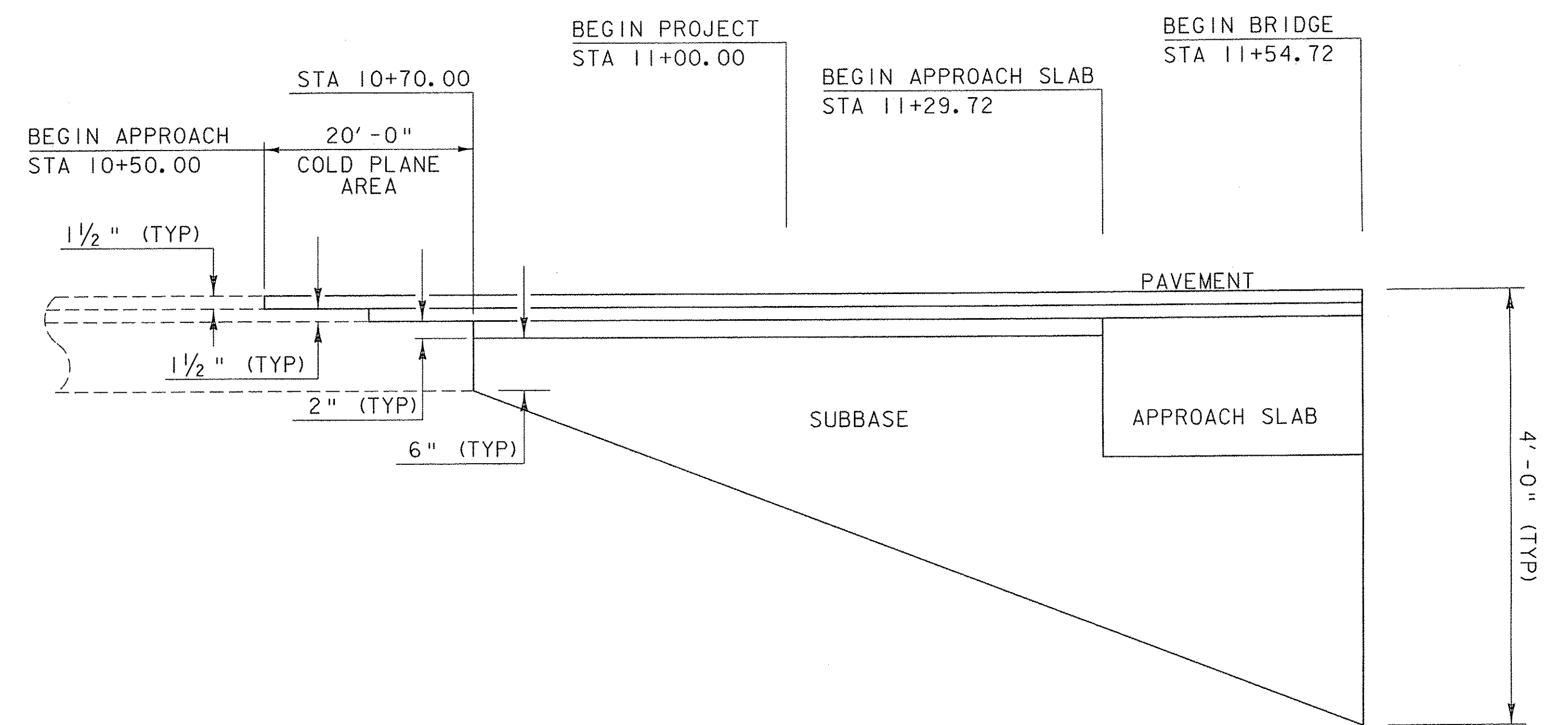
PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 46 OF 52



14+25



END APPROACH
14+00



MATERIAL TRANSITION
HOR. SCALE 1" = 10'-0"
NO VERT. SCALE

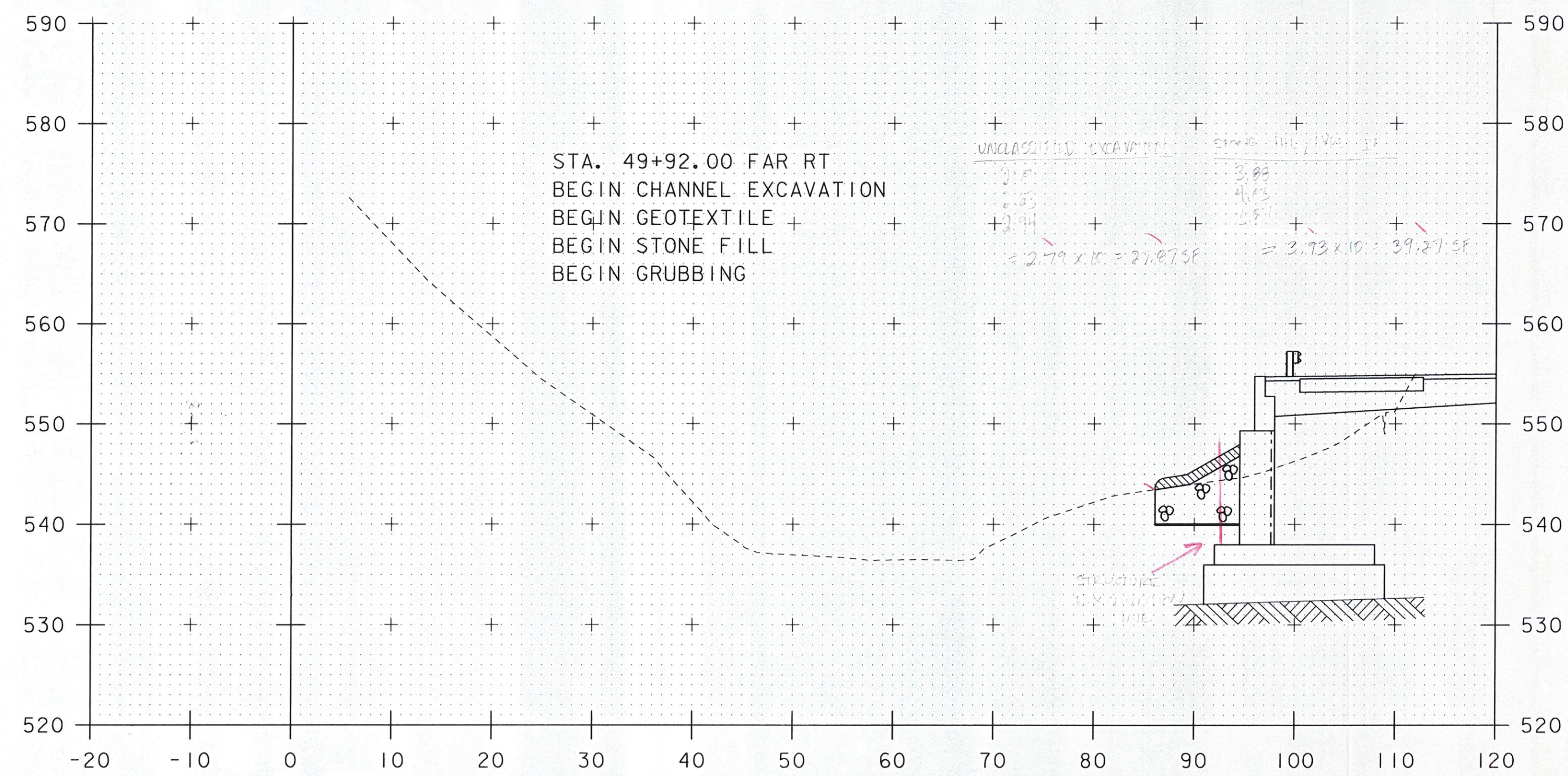
SCALE 1" = 10'-0"
10 0 10

STA. 14+00 TO STA. 14+25

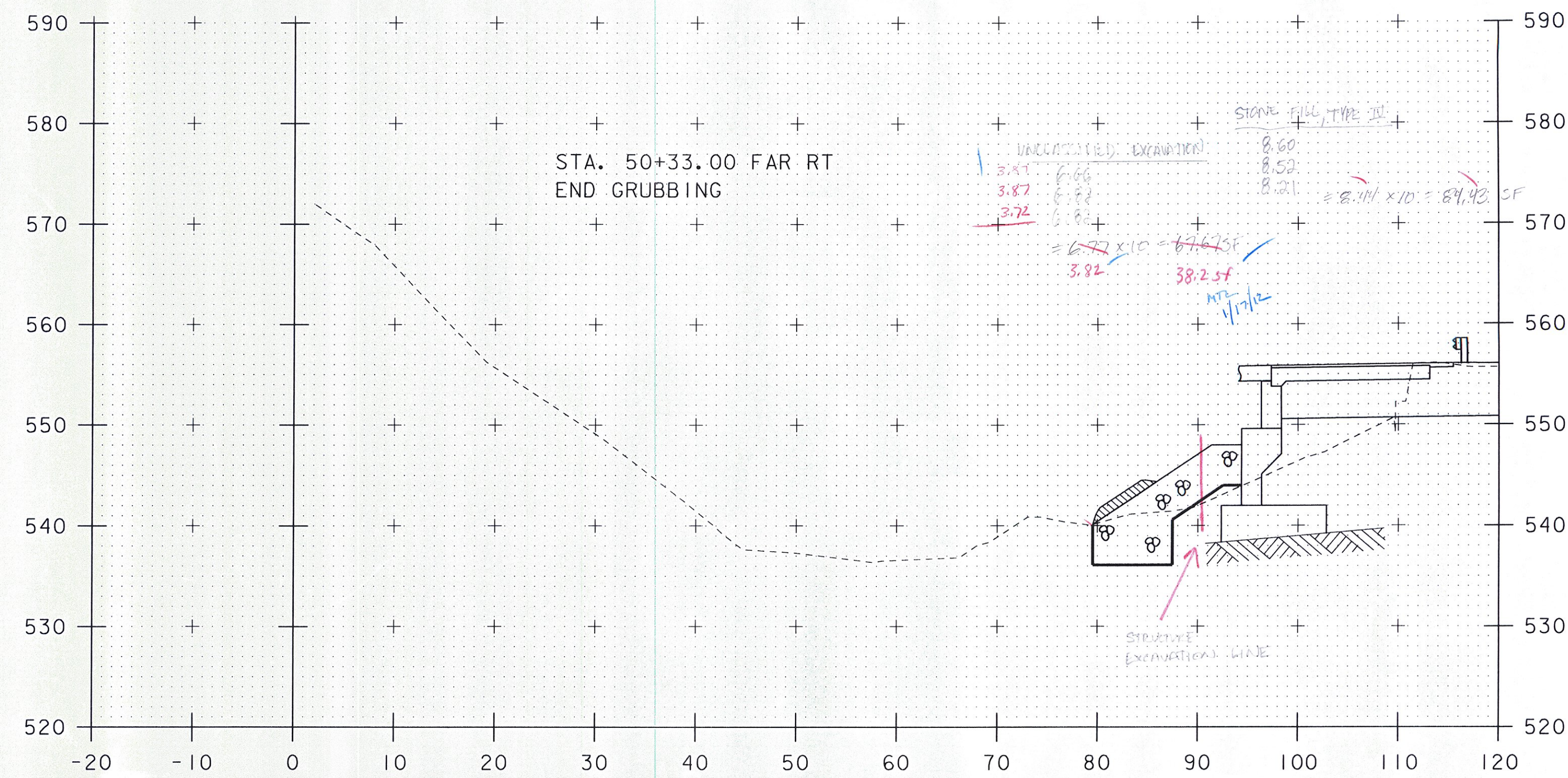
PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
ROADWAY CROSS SECTIONS - 5

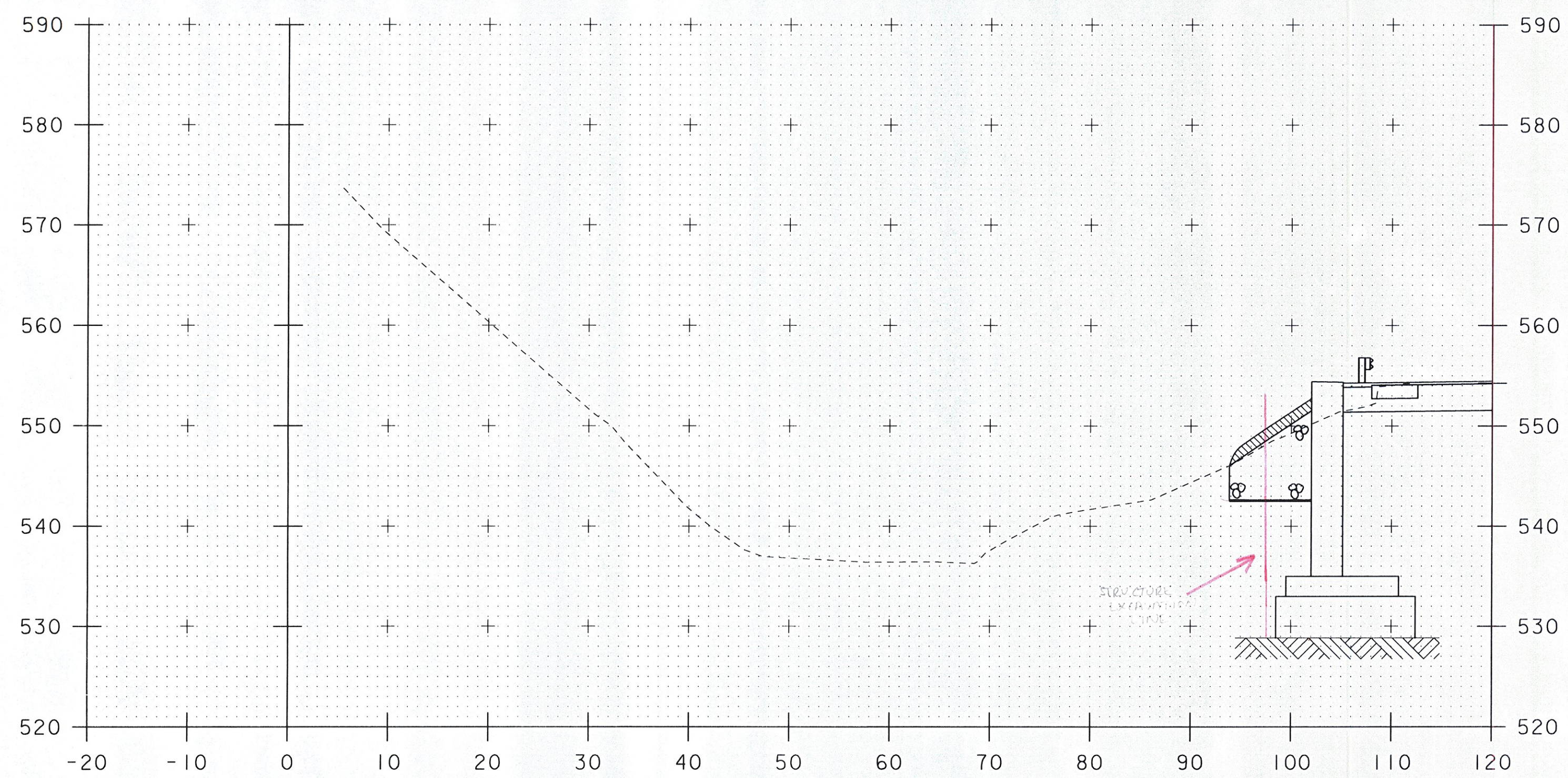
PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 48 OF 52



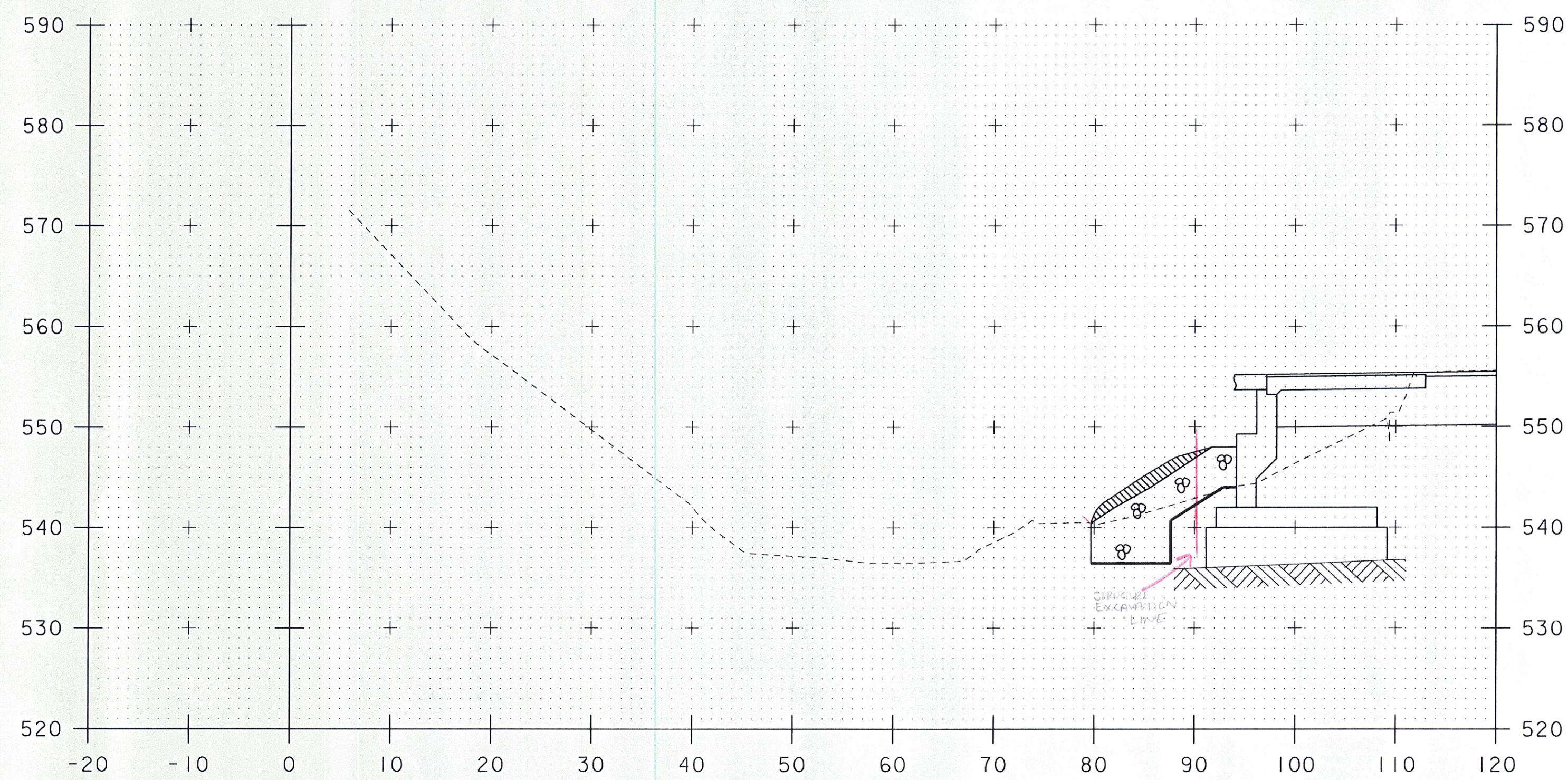
50+10



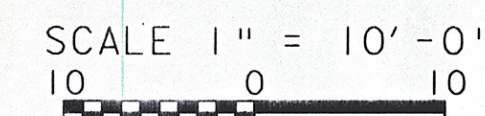
50+30



50+00

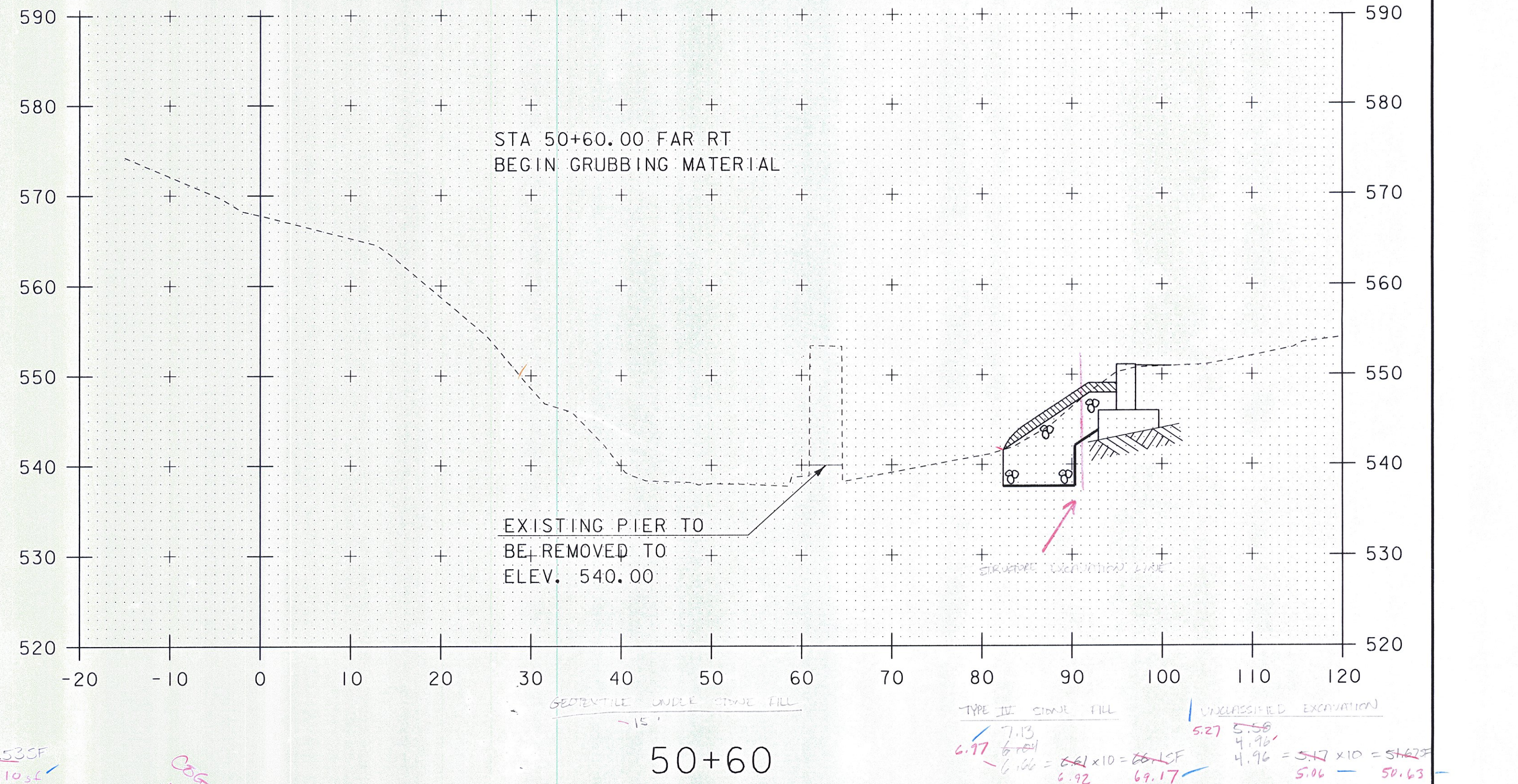
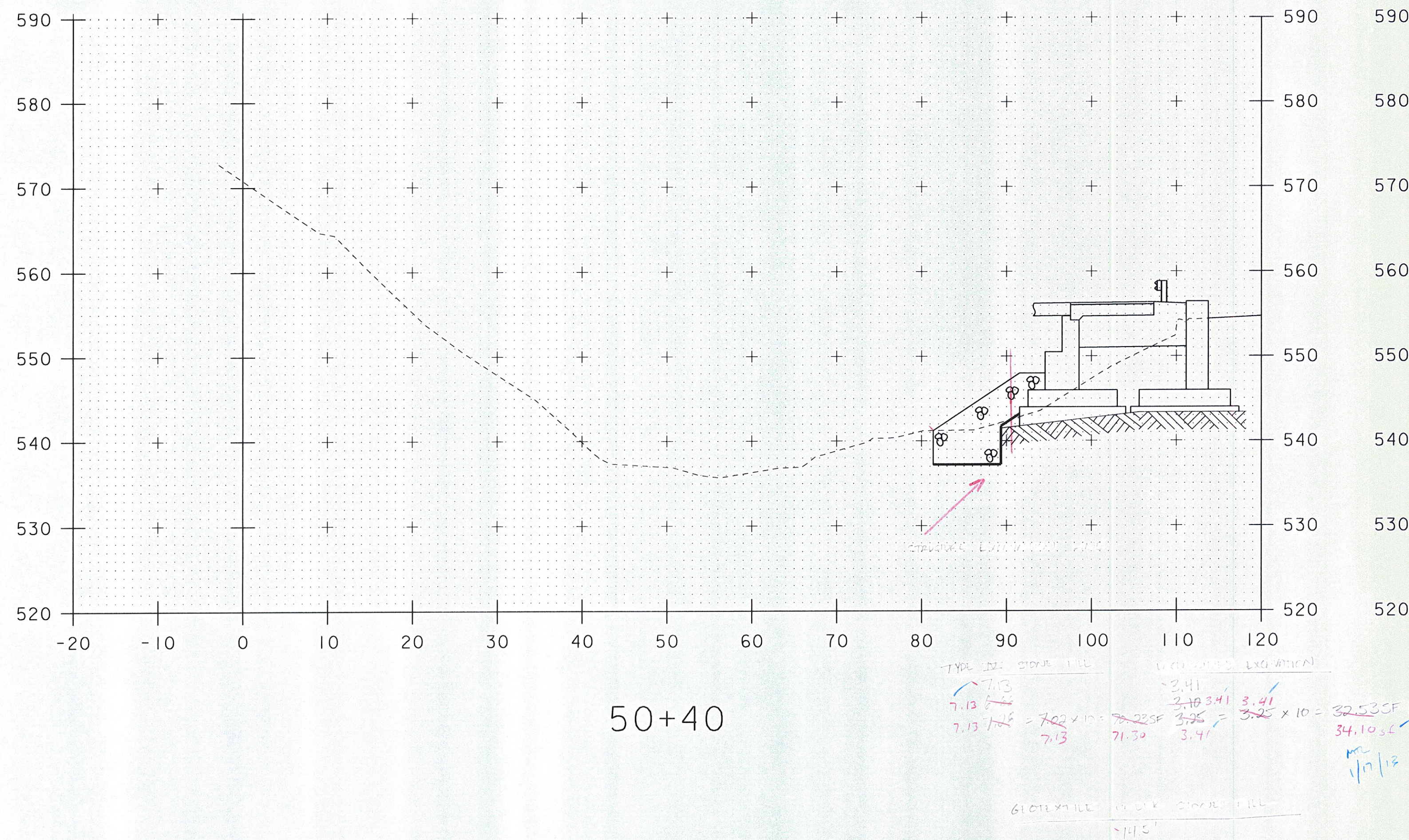
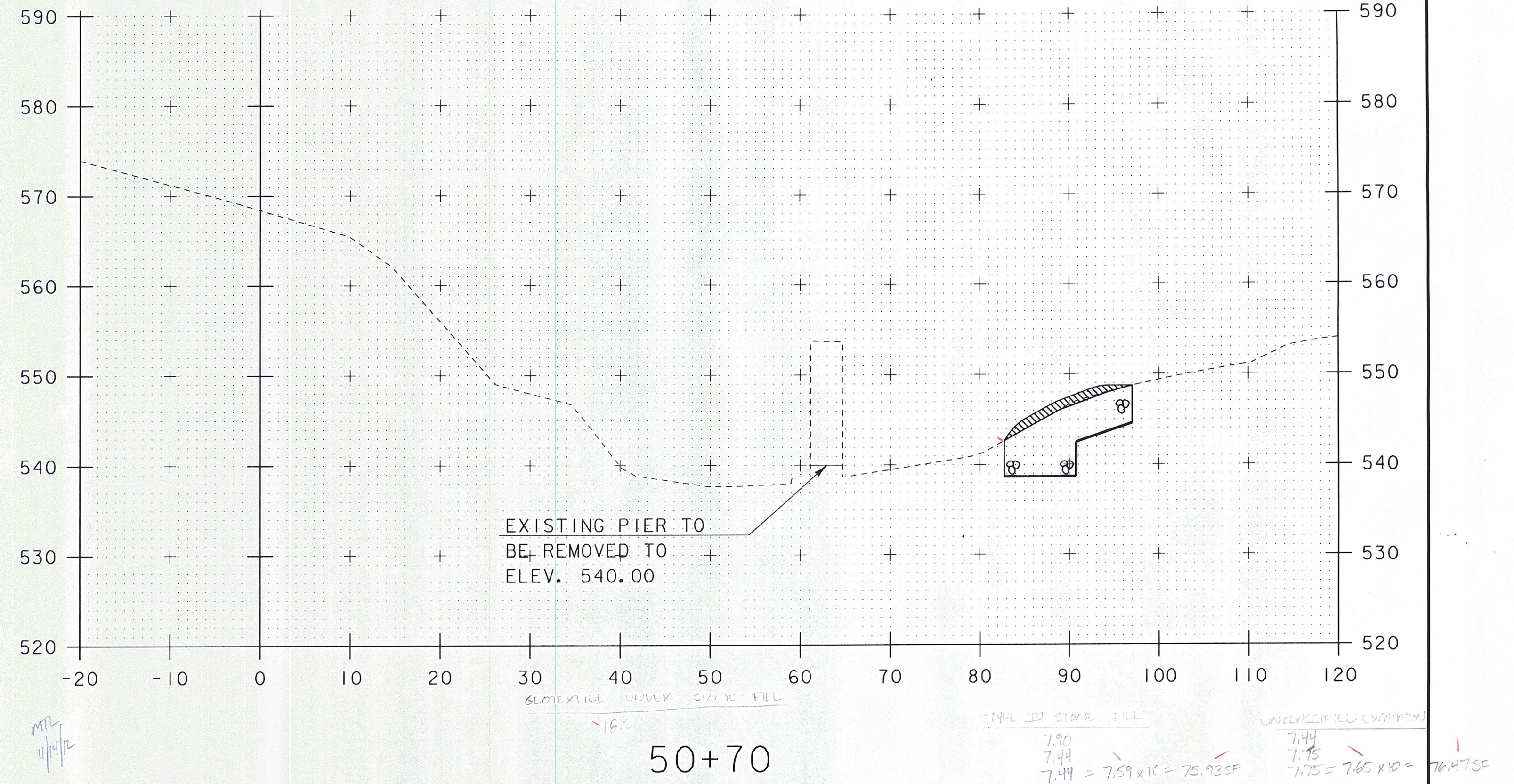
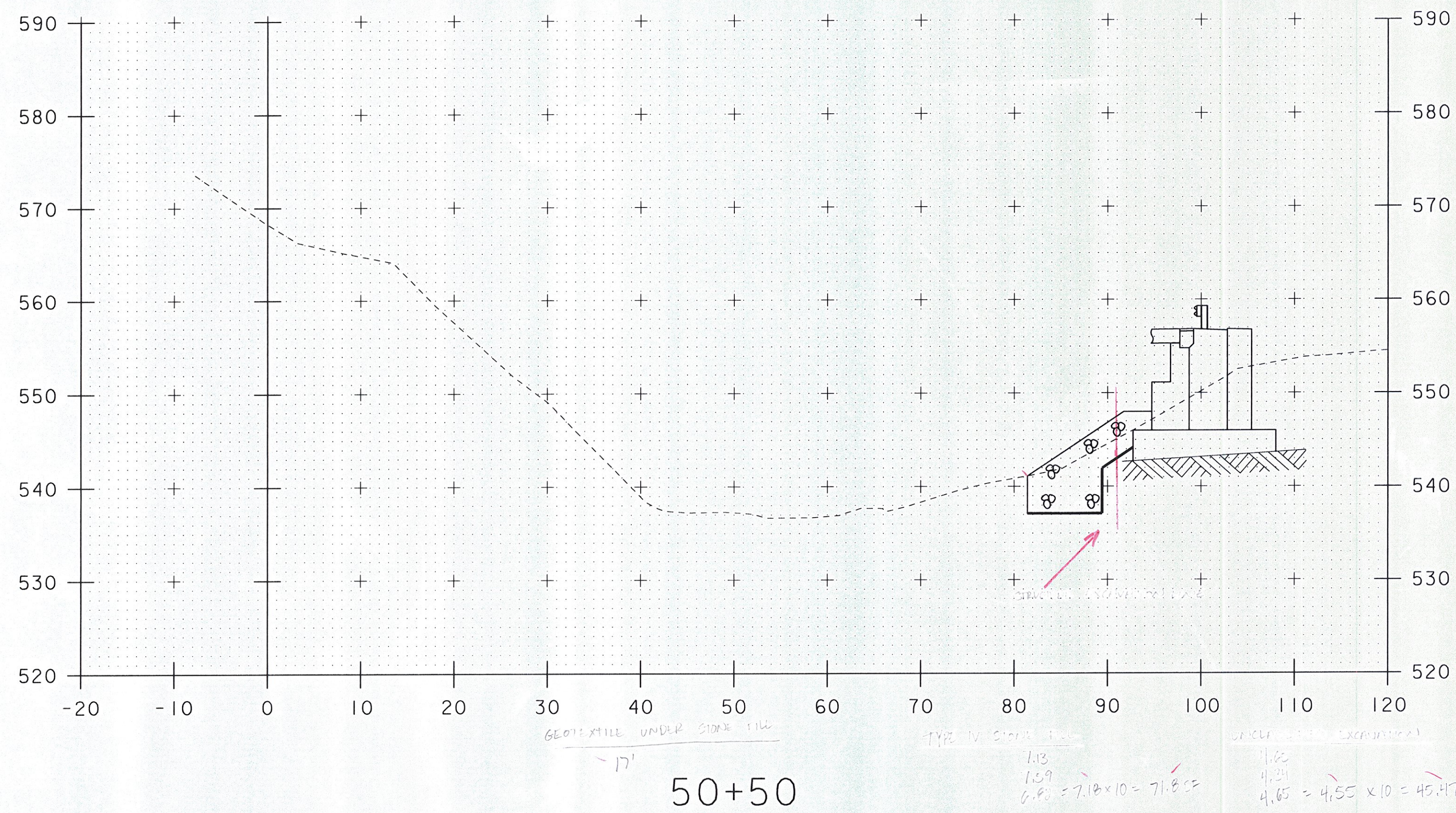


50+20



STA. 50+00 TO STA. 50+30

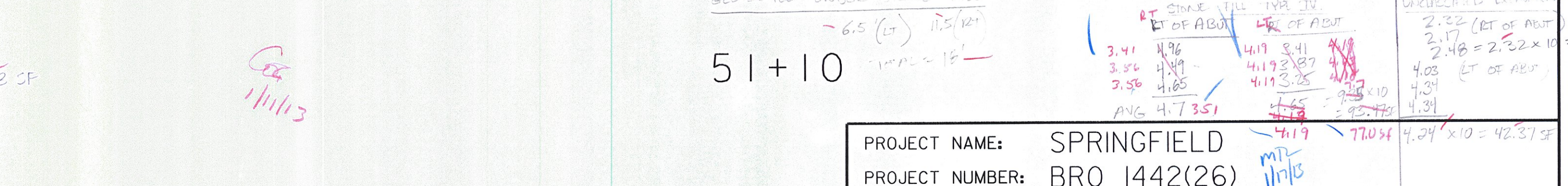
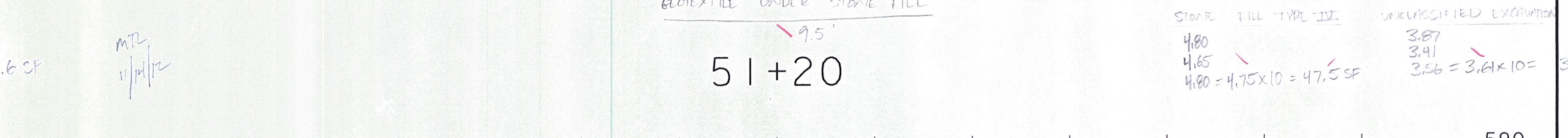
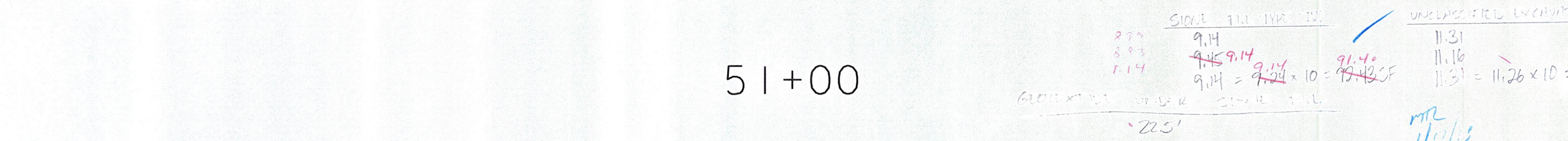
PROJECT NAME:	SPRINGFIELD	PLOT DATE:	30-AUG-2011
PROJECT NUMBER:	BRO 1442(26)	DRAWN BY:	J. SALVATORI
FILE NAME:	s95J282xsl.dgn	CHECKED BY:	J. LACROIX
PROJECT LEADER:	K. HIGGINS	SHEET	49 OF 52
DESIGNED BY:	J. SALVATORI		
CHANNEL CROSS SECTIONS - I			



SCALE 1" = 10'-0"

STA. 50+40 TO STA. 50+70

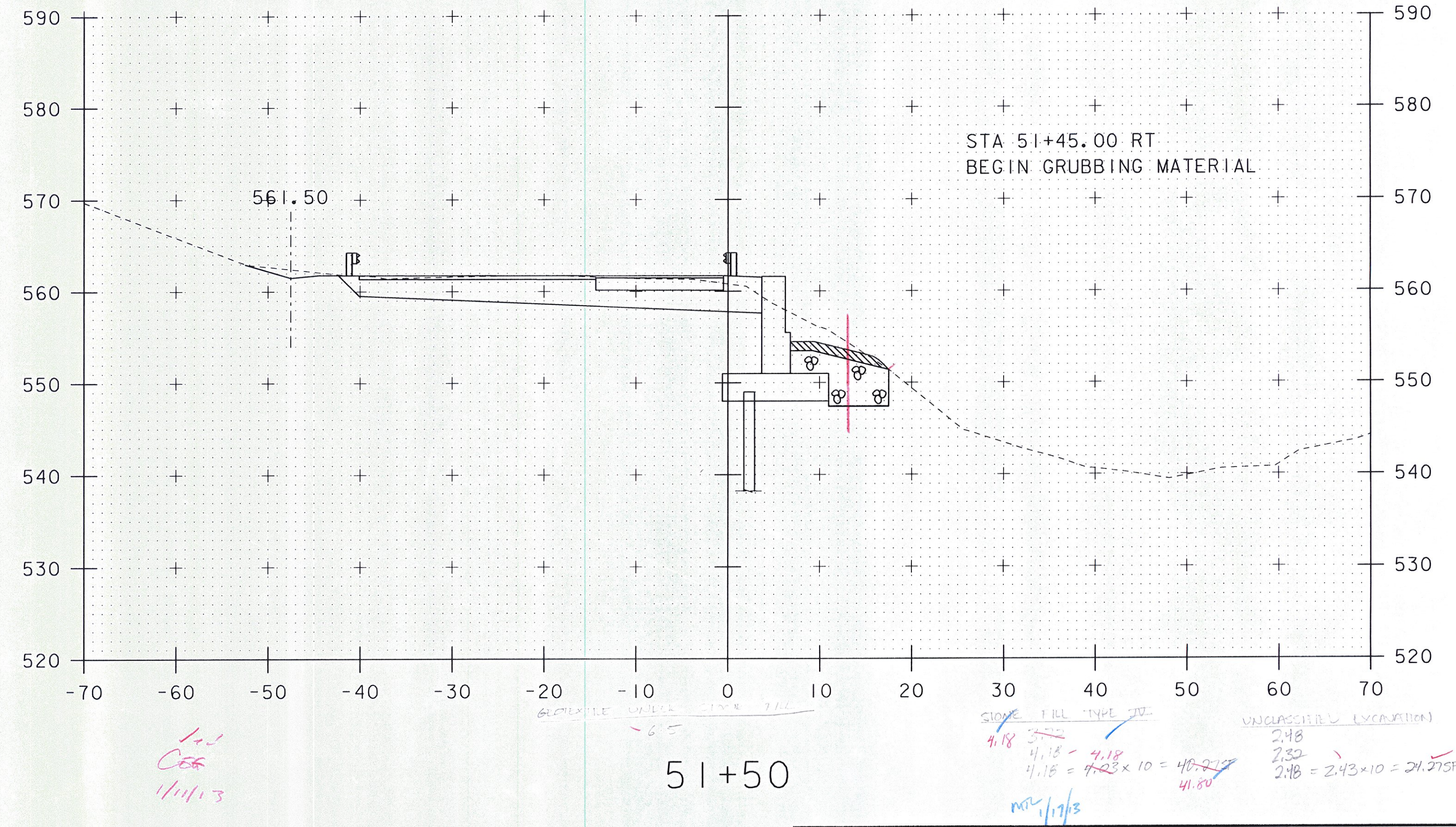
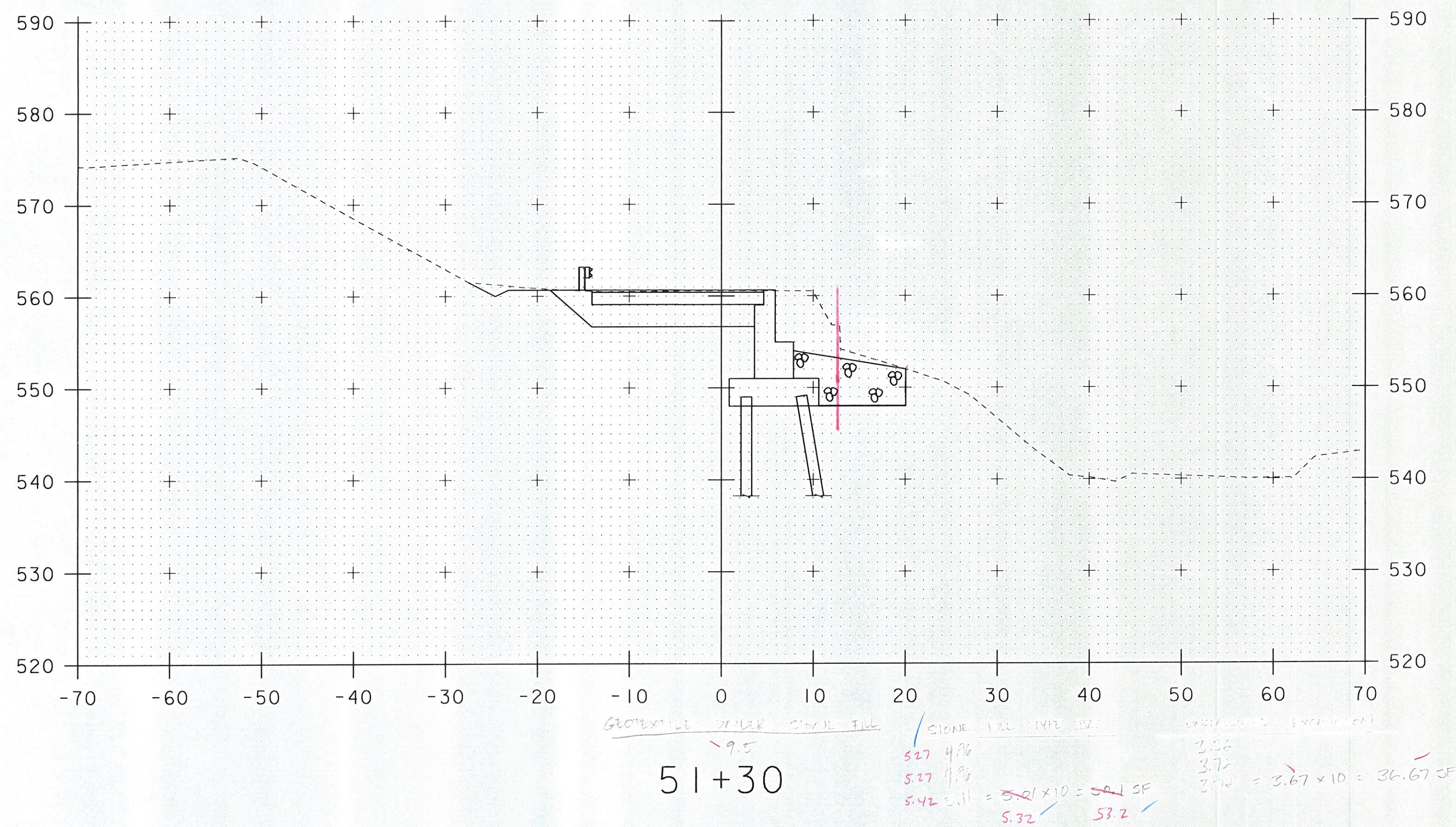
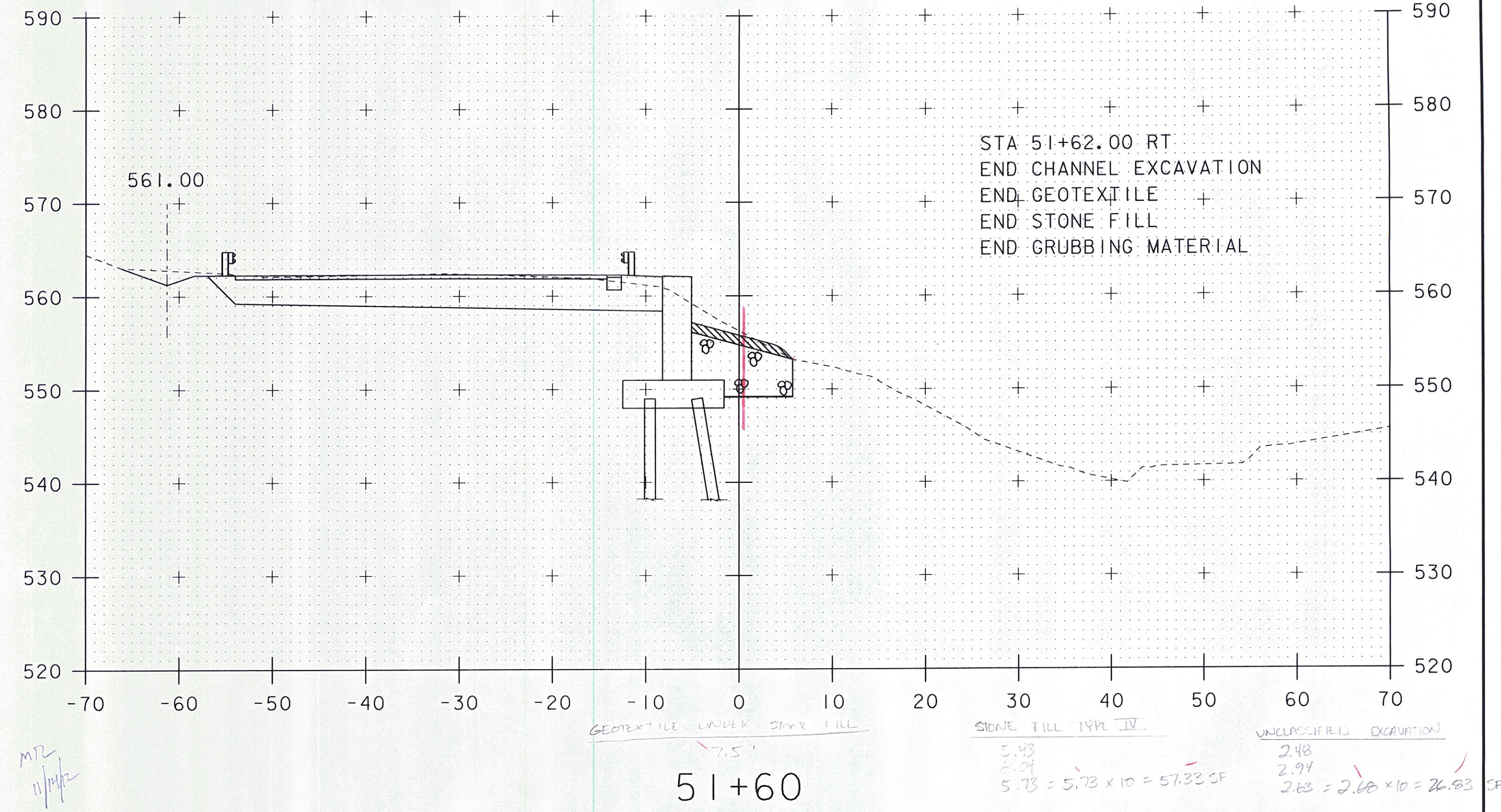
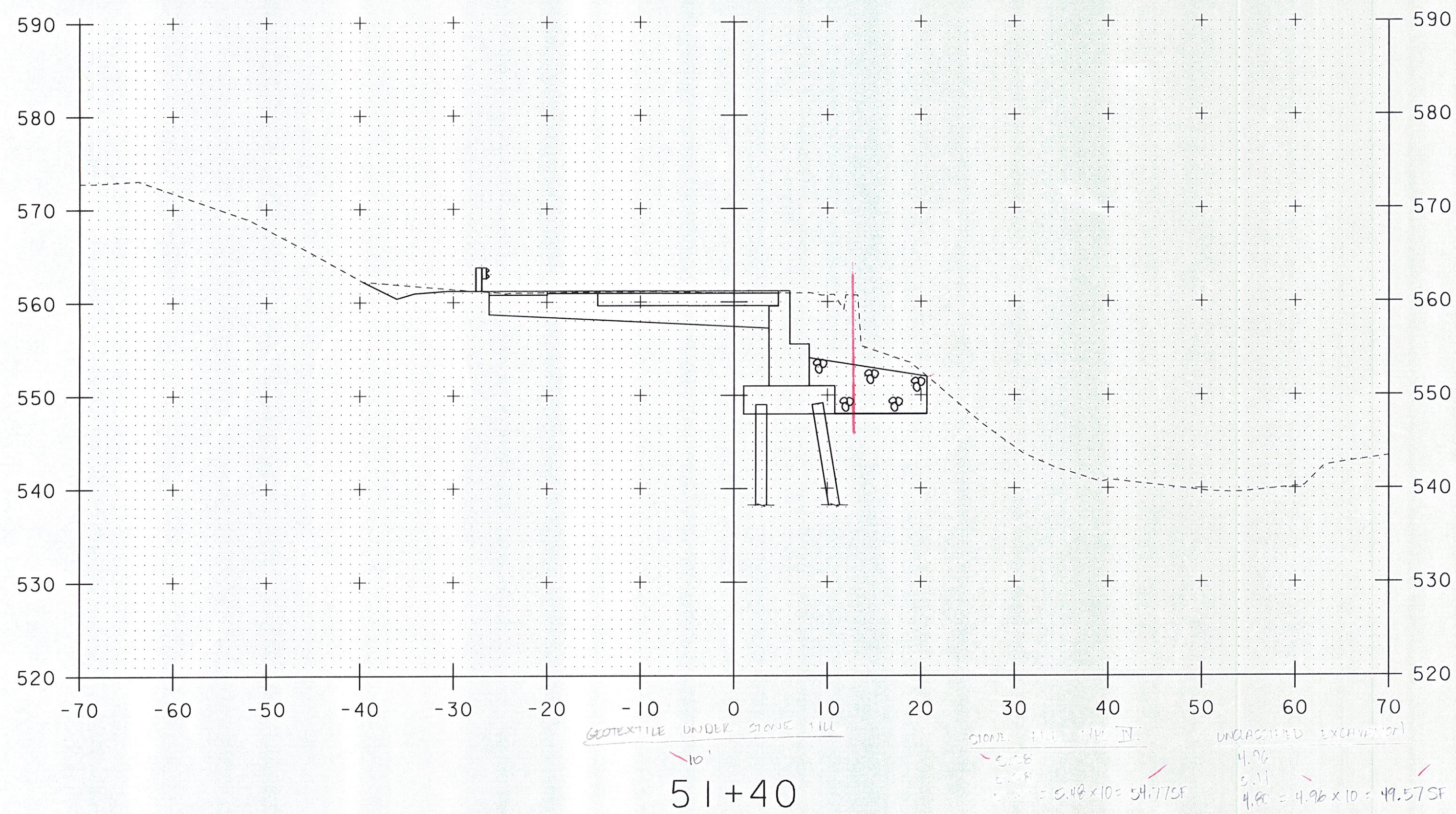
PROJECT NAME: SPRINGFIELD	FILE NAME: s95j282xsl.dgn	PLOT DATE: 30-AUG-2011
PROJECT NUMBER: BRO 1442(26)	PROJECT LEADER: K. HIGGINS	DRAWN BY: J. SALVATORI
	DESIGNED BY: J. SALVATORI	CHECKED BY: J. LACROIX
	CHANNEL CROSS SECTIONS - 2	SHEET 50 OF 52



STA. 50+75 TO STA. 51+20

PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 51 OF 52

TOTAL = 65.6 SF



SCALE 1" = 10'-0"

STA. 51+30 TO STA. 51+60

PROJECT NAME: SPRINGFIELD
PROJECT NUMBER: BRO 1442(26)

FILE NAME: s95j282xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
CHANNEL CROSS SECTIONS - 4

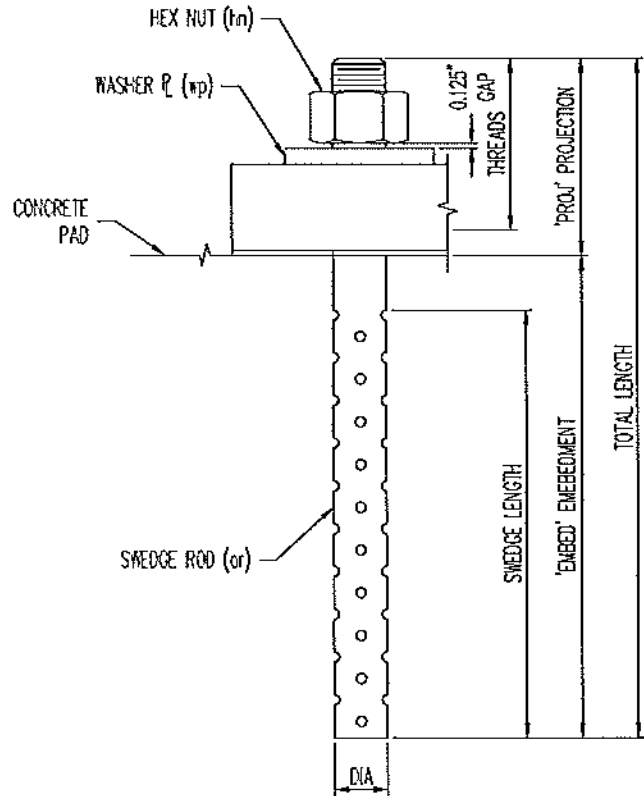
PLOT DATE: 30-AUG-2011
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 52 OF 52

MK	QTY	DESCRIPTION
1A	2	PF-115
1sp1	2	SOLE PLATE
1sp1	2	PISTON
1sp1	2	POT PLATE
1sp1	2	ELASTOMERIC DISC
1br1	6	BRASS RING
1br1	2	WASHER PLATE
1FA	2	UNDERLAYMENT (PS)
1B	4	SHEDGE ROD (PS)
1C	4	HEAVY HEX NUT (PS)
1D	4	WASHER PLATE (PS)

HLMR BEARING ASSEMBLY LOCATION & LIFT DESIGN INFORMATION (PF)												
MK	QTY	STRUCTURE	BEARING TYPE	LOCATION	MAX VERT. SERVICE	MAX VERT. STRENGTH	MAX HORIZ. SERVICE	MAX HORIZ. STRENGTH	LONG. WEIGHT	TRANS. WEIGHT	ROTATION (RAD)	HEIGHT TO FABRICATE
1A	2	Bridge No. 57	PF-115	ABUTMENT 2: G2, G3	115.0 kps	179.0 kps	28.0 kps	45.0 kps	0	0	0.03	5.382
												9.000
												-3.818
												YES

ELASTOMERIC DISC SCHEDULE (PF)				
ASSEM MK	PIECE MK	QTY	ELASTOMERIC DISC DIMENSIONS	ELASTOMER MATERIAL
1A	1ed1	2	0.750 X 6.500*	Nasiprene, 50H/-5 Duro Gr.3

BRASS RING SCHEDULE (PF)				
ASSEM MK	PIECE MK	QTY	BRASS RING DIMENSIONS	BRASS MATERIAL
1A	1br1	6	0.091 X 0.375 X 6.500*	B36 H141-Hard

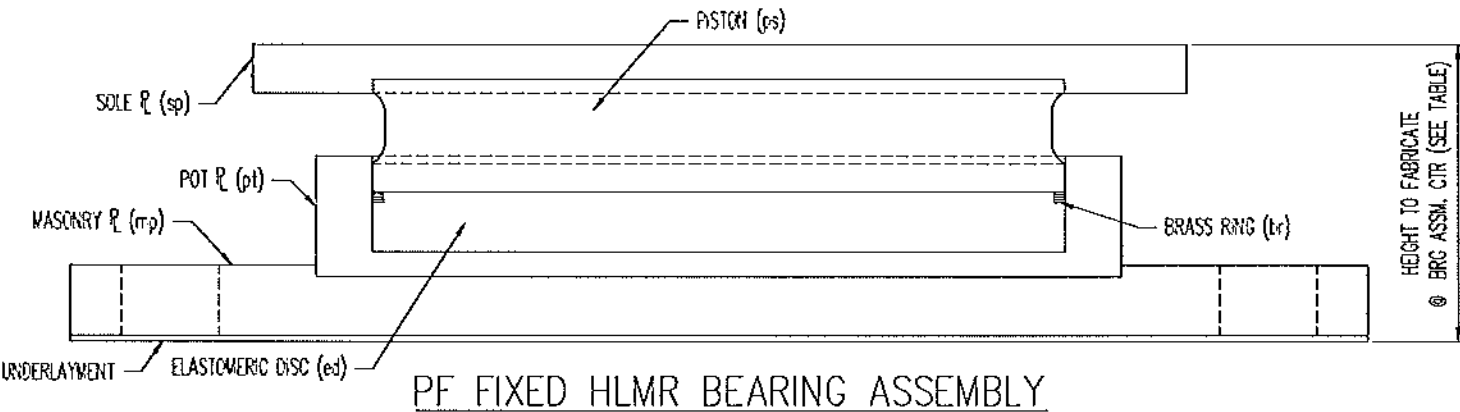


ANCHOR ROD SCHEDULE (PF)											
ASSEM	FOR	PIECE						REMARKS	LOCATION	MATERIAL	COATING
WB	BRG	WB	QTY	DIA	LENGTH	PROJ	EMBED				
1B	1A	1ar1	2	1.500	20.000	5.000	15.000	4" threads, 14" sledge	ABUTMENT 2: G2	F1554 GR 36	A153-H06
1B	1A	1ar1	2	1.500	20.000	5.000	15.000	4" threads, 14" sledge	ABUTMENT 2: G3	F1554 GR 36	A153-H06

NUT SCHEDULE (PF)						
ASSEM WK	FOR BRG	PIECE WK	QTY	DIA	MATERIAL	COATING
1C	1A	11n1	4	1.500	A563-DH or A194-2H	A153-H06, Dry Lube & Dye

WASHER SCHEDULE (PF)									
ASSEM MK	FOR BRG	PIECE MK	QTY	THICKNESS SS	WIDTH	LENGTH	REMARKS	MATERIAL	COATING
1D	1A	1p1	4	0.375	3.000	3.000	#1.625" HOLE Ø CTR	A36	A123-H06

* SL = SHIPPED LOOSE
SEE SHIT. 02 FOR SUB-ASSEMBLY DETAILS.
SEE SHIT. 011 FOR GENERAL NOTES & COATING UNITS.
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED



Vermont Agency of Transportation
RECEIVED
CK'D BY GML OK'D BY JEL
8:53 am, Mar 29, 2012
RESUBMIT APPROVED X
BY KMH DATE 3/29/2012



REV.	DESCRIPTION	DATE	DET.	CHK.
1	LOCATION --- TOWN HIGHWAY 6 BRIDGE NO. 57			
2	BRIDGE --- 57			
3	PROJECT NO. --- BRO 1442(26)			
4	PROJECT NAME --- SPRINGFIELD			
5	DESIGNER --- VTDOT			
6	CUSTOMER --- T. BUCK CONSTRUCTION, INC.			
7	PF FIXED HLMR ASSEMBLY & DESIGN INFORMATION			
8	WINDSOR CO., VT			
9	DATE N.T.S. 1/28/12			
10	BY DA KIC			
11	PROJECT NO. 35029			
12	PRODUCTION 1112			
13	REVISION 1			
14	SHEET 01			



D.S. BROWN

THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45572
419.257.3561
FAX: 419.257.0332
WWW.DSBRON.COM



WK	QTY	DESCRIPTION
3A	2	FM-150
3a1	2	SALE PLATE
3a11	2	STAINLESS STEEL
3a11	2	PIPE DISC
3a11	2	PISTON
3a11	2	POI PLATE
3a11	2	ELASTOMERIC DISC
3a1	6	BRASS RING
3a11	2	MASONRY PLATE
3FA	2	UNDERLAYMENT (FS)
3B	4	SHOULDER ROD (FS)
3C	4	HEAVY HEX NUT (FS)
3D	4	WASHER PLATE (FS)

HLMR BEARING ASSEMBLY LOCATION & LSTD DESIGN INFORMATION (FW)															
WK	QTY	STRUCTURE	BEARING TYPE	LOCATION	MAX VERT. SERVICE STRENGTH	MAX VERT. SERVICE STRENGTH	MAX HORIZ. SERVICE STRENGTH	MAX HORIZ. SERVICE STRENGTH	LONG. WIND WT	TRANS. WIND WT	ROTATION (RAD)	HEIGHT TO FACE OF DECK	HEIGHT IN PLANS	DIFFERENCE IN HEIGHT	UNDERLAYMENT IN HEIGHT (V/H)
3A	2	Bridge No. 57	FM-150	ABUTMENT I: G, GH	150.0 Kips	225.0 Kips	15.0 Kips	15.0 Kips	2,000	1,000	0.03	3.239	9.600	-3.761	YES

ELASTOMERIC DISC SCHEDULE (FW)				
ASSEM	PIECE	QTY	ELASTOMERIC DISC DIMENSIONS	ELASTOMER MATERIAL
3A	3a11	2	0.750 X 7.500	Neoprene, 50#/+5 Dura Gr.3

BRASS RING SCHEDULE (FW)				
ASSEM	PIECE	QTY	BRASS RING DIMENSIONS	BRASS MATERIAL
3A	3a1	6	0.001 X 0.375 X 7.500	B36 Hot-Ford

PIPE DISC SCHEDULE (FW)				
ASSEM	PIECE	QTY	PIPE DIMENSIONS	PIPE DISC MATERIAL
3A	3a11	2	0.188 X 7.250	Pure Virgin Unified

ANCHOR ROD SCHEDULE (FW)											
ASSEM	FOR	PIECE	QTY	DA	LENGTH	PROJ	EMBED	REMARKS	LOCATION	MATERIAL	COATING
3B	3A	3a1	2	1.500	20.000	5.000	15.000	4" Uncoiled, 14" swedge	ABUTMENT 1: G1	F155H GR 36	A153-HDG
3B	3A	3a1	2	1.500	20.000	5.000	15.000	4" Uncoiled, 14" swedge	ABUTMENT 1: G4	F155H GR 36	A153-HDG

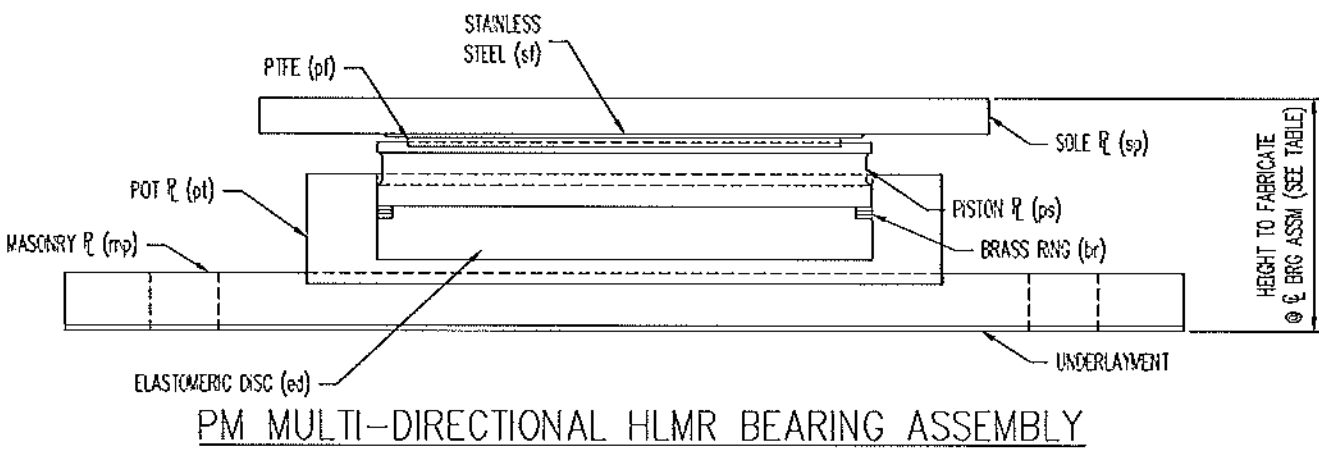
NUT SCHEDULE (FW)					
ASSEM	FOR	PIECE	QTY	DA	REMARKS
3C	3A	3a1	4	1.500	A553-2H or A194-2H

WASHER SCHEDULE (FW)						
ASSEM	FOR	PIECE	QTY	THICKNESS	WIDTH	LENGTH
3D	3A	3a1	4	0.125	3.000	3.000

* 3/2 = SHIPPED LOOSE
SEE SHL 04 & 05 FOR SUB-ASSEMBLY DETAILS
SEE SHL 041 FOR GENERAL NOTES & COATING UNITS
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED

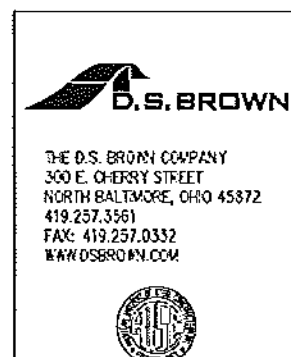
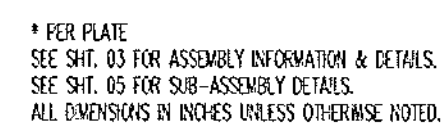
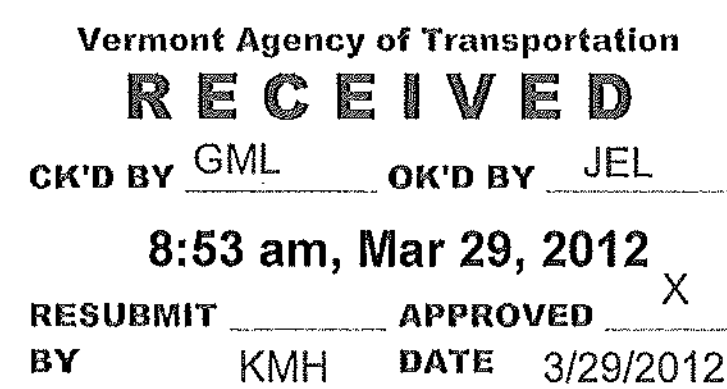
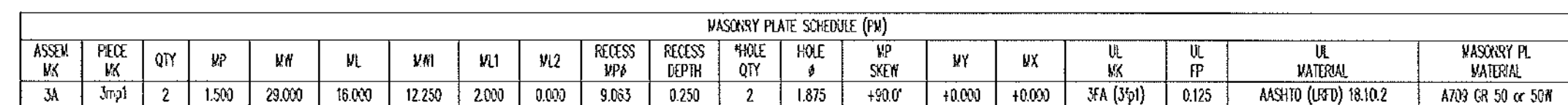
REV.	DESCRIPTION	DATE	CHK.	CRD.
1	LOCATION — TOWN HIGHWAY 6 BRIDGE NO. 57			
2	BRIDGE — 57			
3	PROJECT NO. — BRD 1442(26)			
4	PROJECT NAME — SPRINGFIELD			
5	DESIGNER — VDOT			
6	CUSTOMER — T. BUSCK CONSTRUCTION, INC.			
7	PM MULTI-DIRECTIONAL HLMR ASSEMBLY & DESIGN INFORMATION			
8	WINDSOR CO., VT			

ITEM	QUANTITY
35029-1112-1	2 OF 2
35029	1112
1	03



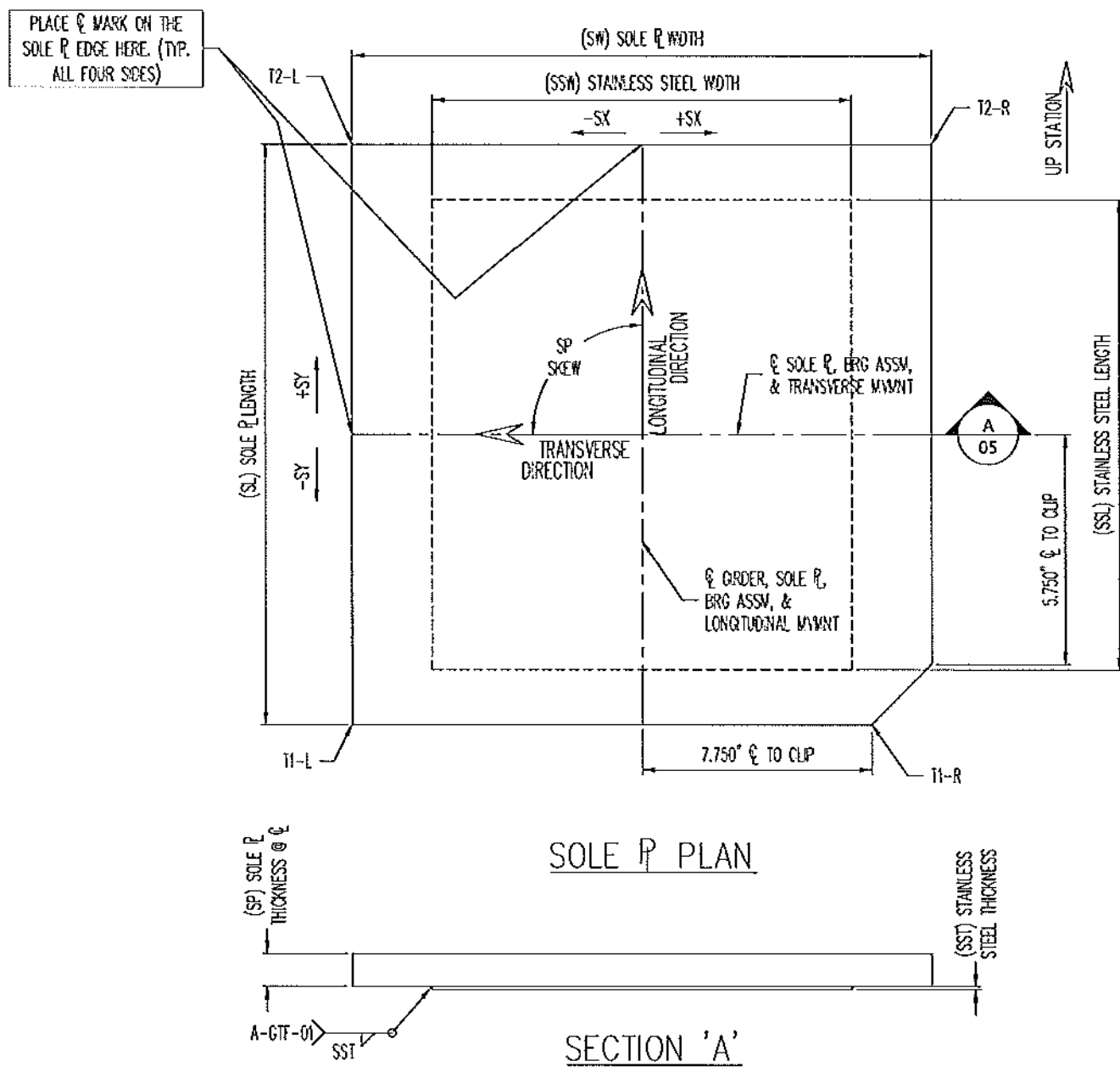
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ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.					
REV	DESCRIPTION		DATE	DET. CHK	QUANTITY
	LOCATION -- TOWN HIGHWAY B BRIDGE NO. 57				
	BRIDGE -- 57				
	PROJECT NO. -- BRO 1442(26)				
	PROJECT NAME -- SPRINGFIELD				
	DESIGNER -- VIDDOT				
	CUSTOMER -- T BUCK CONSTRUCTION, INC.				
REVISION:	NO. DATE BY REASON OF	DATE	BY	REASON OF	DATE
FW MULTI-DIRECTIONAL HLMR SUB-ASSEMBLY DETAIL	1 11/8/79	DA	KTG	11/8/79	04
WINDSOR CO., VT	35079				

ASSEMBLY
03



SOLE PLATE & STAINLESS STEEL SCHEDULE (IN)													
ASSUM	FEET	REV	QTY	REV	REV	REV	SP	SW	Q	SOLE PLATE MATERIAL	SP SS	SS	SP SS MATERIAL
SA	3.01	2	1.625	1.625	1.000	1.000	1.315	20.000	15.000	A102 OR S10 OR S10W	304	0.120	10.250

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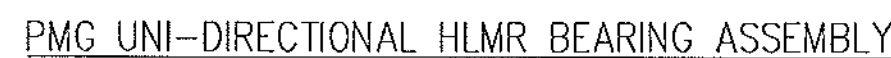


SEE SHIT. 03 FOR ASSEMBLY INFORMATION & DETAILS.
SEE SHIT. 04 FOR SUB-ASSEMBLY DETAILS.
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.

REV.	DESCRIPTION	DATE	DET.	CRD.
1	LOCATION --- TOWN HIGHWAY 8 BRIDGE NO. 57			
2	BRIDGE --- 57			
3	PROJECT NO. --- BRD 1442(26)			
4	PROJECT NAME --- SPRINGFIELD			
5	DESIGNER --- VTDOT			
6	CUSTOMER --- T BUCK CONSTRUCTION, INC.			
7	PROJECT NO. --- 35029			
8	PROJECT NAME --- PM MULTI-DIRECTIONAL HLAR SUB-ASSEMBLY DETAIL			
9	PROJECT NO. --- 35029			
10	PROJECT NAME --- WINDSOR CO., VT			

PK	QTY	DESCRIPTION
60	1	PMWG-300
60p4	1	SOLE PLATE
60d3	1	STAINLESS STEEL
60p3	1	PIPE DISC
60p5	1	PISTON
60p3	1	POT PLATE
60d5	1	ELASTOMERIC DISC
60d3	3	BRASS RING
60p3	2	GUIDE BAR
60p3	2	G.B. STAINLESS STEEL
60p3	2	G.B. LOW-FRICTION MAT'L
60p3	1	MASONRY PLATE
60C	1	UNDERLAYMENT (%S)
60C	2	SKID ROE (%S)
60C	2	HEAVY HEX NUT (%S)

04	2	ENGINE PLATE (100)
----	---	--------------------



HUB BEARING ASSEMBLY LOCATION & UPD DESIGN INFORMATION (PMG)															
WS	QTY	STRUCTURE	BEARING TYPE	LOCATION	MAX VERT. STRENGTH	MAX VERT. STRENGTH	MAX HORIZ. STRENGTH	LONG WIND	TRANS WIND	ROTATION (RAD)	H/D TO FABRICATE	DIFFERENCE IN PLAYS	UNDERBENT IN HEIGHT (Y/M)		
6A	1	Bridge No. 57	PMG-165	ABUTMENT 1: G2	165.0 kN	244.0 kN	420 kN	61.0 kN	2100	0	0.03	6.174	9.000	-2826	YES
6B	1	Bridge No. 57	PMG-165	ABUTMENT 2: G1	165.0 kN	244.0 kN	420 kN	61.0 kN	2000	0	0.03	6.174	9.000	-2826	YES
6C	1	Bridge No. 57	PMG-160	ABUTMENT 2: G1	160.0 kN	265.0 kN	350 kN	52.0 kN	1000	0	0.03	5.912	9.000	-3.061	YES
6D	1	Bridge No. 57	PMG-130	ABUTMENT 2: G1	30.0 kN	68.0 kN	75.0 kN	17.0 kN	1000	0	0.01	8.165	9.000	-0.835	YES

ELASTOMERIC DISC SPECIFICATIONS (FWG)					BRASS RING SPECIFICATIONS (FWG)				
ASSEM	PECC	QTY	ELASTOMERIC DISC DIMENSIONS	ELASTOMER MATERIAL	ASSEM	PECC	QTY	BRASS RING DIMENSIONS	BRASS MATERIAL
6A	6661	1	0.875 x 7.750	Nipergene, 50H-5.5 Duo G-3	6A	66r1	3	0.024 x 0.375 x 7.750	B36 Half-Hard
6B	6661	1	0.875 x 7.750	Nipergene, 50H-5.5 Duo G-3	6B	66r1	3	0.024 x 0.375 x 7.750	B36 Half-Hard
6C	6661	1	0.750 x 7.500	Nipergene, 50H-5.5 Duo G-3	6C	66r1	3	0.024 x 0.375 x 7.500	B36 Half-Hard
6D	66r1	1	1.125 x 9.500	Nipergene, 50H-5.5 Duo G-3	6D	66r1	3	0.024 x 0.375 x 15.000	B36 Half-Hard

PITE DISC SCHEDULE (FWG)					QUEL BAR LOW-FRONT WATL. SCHEDULE (FWG)				
ASSEM	PIECE	PITE		PITE DISC	ASSEM	PIECE	LOW-FRONT WATL.		LOW-FRONT
	NR	QTY	DIAGRAMS	MATERIAL		NR	QTY	DIMENSIONS	WATL.
6A	5911	1	0.183 X 7.250	Pure Virgin Defibed	6A	5921	2	0.183 X 1000 X 7.150	Flint and Pigmented
6B	5911	1	0.183 X 7.250	Pure Virgin Defibed	6B	5921	2	0.183 X 1000 X 7.150	Flint and Pigmented
6C	5912	1	0.183 X 7.250	Pure Virgin Defibed	6C	5922	2	0.183 X 0.875 X 7.150	Flint and Pigmented
6D	5913	1	0.183 X 10.500	Pure Virgin Defibed	6D	5923	2	0.183 X 1.375 X 10.500	Flint and Pigmented



ANCHOR ROD SCHEDULE (FWS)											
ASSET	FOR	PECE	QTY	DIA	LENGTH	FWD	EMBED	REMARKS	LOCATION	MATERIAL	COATING
8F	6A	60x1	2	1.500	20.000	5.000	15.000	4" Ø rods, 14" embed	ABUTMENT 1: G2	F1554 CR 36	A153-H 30
8F	6B	60x1	2	1.500	20.000	5.000	15.000	4" Ø rods, 14" embed	ABUTMENT 1: G3	F1554 CR 36	A153-H 30
8F	6C	60x1	1	1.500	20.000	5.000	15.000	4" Ø rods, 14" embed	ABUTMENT 2: G1	F1554 CR 36	A153-H 30
8F	6D	60x2	2	2.000	21.000	6.000	15.000	4" Ø rods, 14" embed	ABUTMENT 2: G4	F1554 CR 36	A153-H 30

NJT SCHEDULE (FVG)						
ASSEMB MC	FOR MC	PIECE MC	QTY	EDA	WATERAL	COATING
EH	EA	8tn1	2	1.500	A583-OH or A194-2H	A153-HDG, Dry Lubc & Dy
EH	EH	8tn1	2	1.500	A583-OH or A194-2H	A153-HDG, Dry Lubc & Dy
EH	EC	8tn1	2	1.500	A583-OH or A194-2H	A153-HDG, Dry Lubc & Dy
EH	EC	8tn2	2	2.000	A583-OH or A194-2H	A153-HDG, Dry Lubc & Dy

WASHER SCHEDULE (FMS)									
ASSEM	FOR	PIECE	QTY	THICKNESS	WIDTH	LENGTH	REMARKS	MATERIAL	COATING
WK	BRC	WK							
EM	6A	6wp1	2	0.375	3.000	3.000	#1.625" HOLE @ CTR	A36	A123-HOG
EM	6B	6wp1	2	0.375	3.000	3.000	#1.625" HOLE @ CTR	A36	A123-HOG
EM	6C	6wp1	2	0.375	3.000	3.000	#1.625" HOLE @ CTR	A36	A123-HOG
EM	6D	6wp2	2	0.375	4.000	4.000	#2.125" HOLE @ CTR	A36	A123-HOG

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SEE SHT. 07 & 08 FOR SUB-ASSEMBLY DETAILS.
SEE SHT. 091 FOR GENERAL NOTES & COATING LIMITS.
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.

[illegible]



POT PLANT SCHEDULE (FWO)													
ASSEMBLY NO.	PIECE NO.	QTY	PI	PM	PL	FO	FB	PI	FR	FE L	FE W	PIC ACCESS	POT PL MATERIAL
6A	6911	1	2,400	8,750	8,750	1,175	1,227	7,750	7,750	7,750	10,000	0.031	A709 GR 50 or 50M
6B	6911	1	2,400	8,750	8,750	1,175	1,227	7,750	7,750	7,750	10,000	0.031	A709 GR 50 or 50M
6C	6912	1	2,150	8,500	8,500	1,063	1,083	7,500	7,200	7,200	10,000	0.031	A709 GR 50 or 50M
6D	6913	1	3,150	12,000	12,000	1,591	1,601	10,500	10,500	10,500	13,151	0.031	A709 GR 50 or 50M

MASSORY PLATE SCHEDULE (FWS)																				
LOCATION	ASSUM	PECE	QTY	MP	WV	VL	WHT	VL1	VL2	RECESS MP#	RECESS DEP#	"HOLE" QTY	MP SLOW	WT	WAX	UL KK	UL FP	UL MATERIAL	MASSORY PL MATERIAL	
ASBESTUM 1: G2	6A	6mp1	1	1,500	29,000	16,000	12,250	2,000	0.000	7,773	0.250	2	1,815	+95.3	11,605		6FA (6p1)	0.125	ASBESTO (6F2) 18.10.2	ATON GR 50 or 50W
ASBESTUM 1: G3	6B	6mp1	1	1,500	29,000	16,000	12,250	2,000	0.000	7,773	0.250	2	1,815	+193.0	10,755		6FA (6p1)	0.125	ASBESTO (6F2) 18.10.2	ATON GR 50 or 50W
ASBESTUM 2: G1	6C	6mp2	1	1,500	29,000	18,000	12,250	4,500	0.000	7,583	0.250	2	1,815	+0.0*		10,000	6FB (6p2)	0.125	ASBESTO (6F2) 18.10.2	ATON GR 50 or 50W
ASBESTUM 2: G4	6D	6mp3	1	2,500	29,000	18,000	11,500	4,500	0.000	10,583	0.250	2	2,315	+0.0*		10,000	6FC (6p3)	0.125	ASBESTO (6F2) 18.10.2	ATON GR 50 or 50W



PISTON SCHEDULE (FWS)							
ASSEM	PIECE	QTY	PS	PISTON	PISTON	PISTON	
NO	NO			#	BASE	MATERIAL	
6A	6ps1	1	1.225	7.710	0.235	0.250	A709 GR 50 or 50H
6B	6ps1	1	1.225	7.710	0.235	0.250	A709 GR 50 or 50H
6C	6ps2	1	1.225	7.450	0.235	0.250	A709 GR 50 or 50H
6D	6ps3	1	1.600	10.450	0.329	0.250	A709 GR 50 or 50H

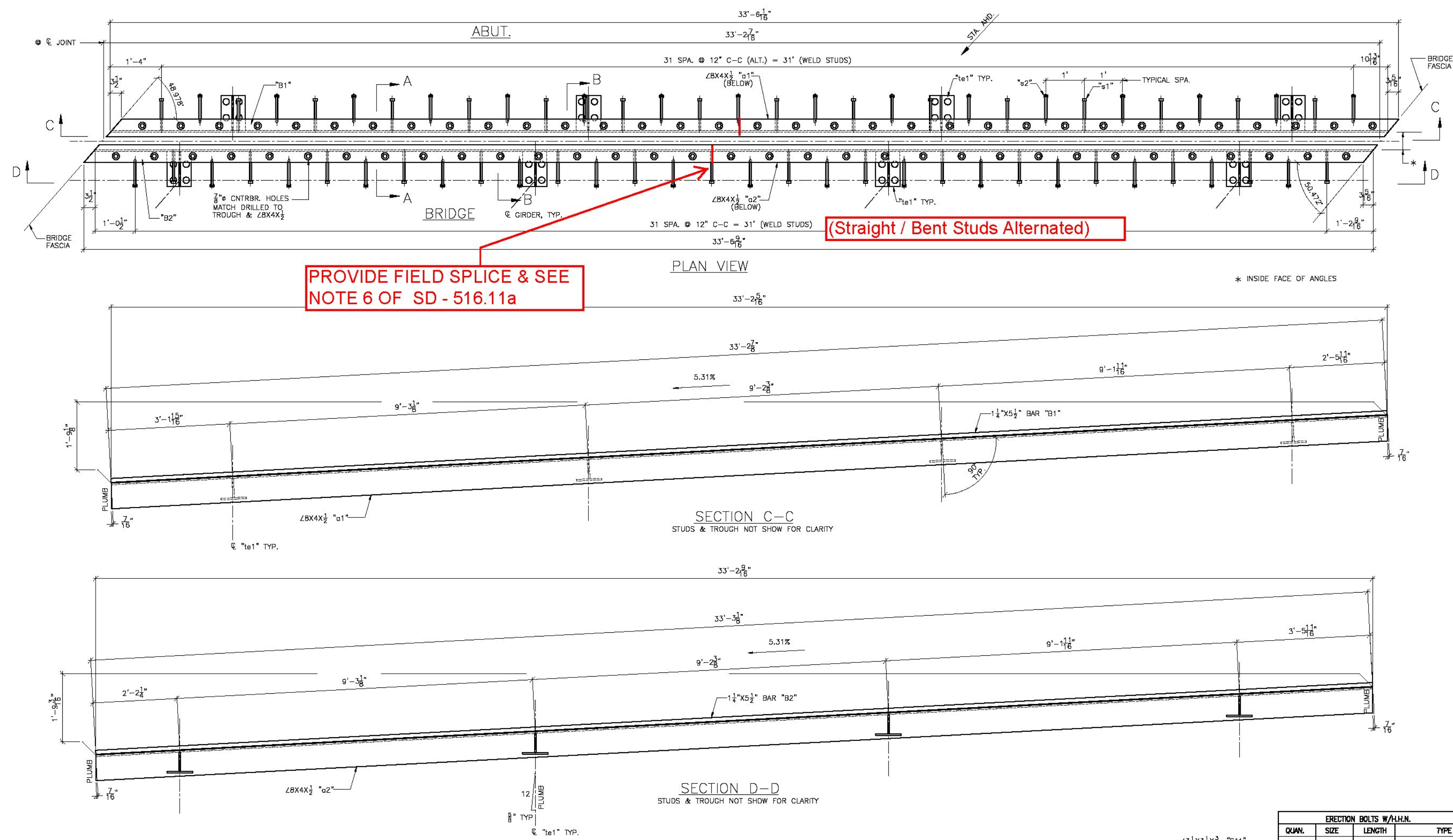
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* PER PLATE
SEE SHI. 06 FOR ASSEMBLY DETAILS & LOCATIONS.
SEE SHI. 08 FOR ADDITIONAL SUB-ASSEMBLY DETAILS.
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

[illegible]



1. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT. SHOP TO LOCATE AND ATTACH TEMPORARY SHIPPING DEVICES AS REQ'D.

2. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A $\frac{1}{16}$ " RADIUS AND BE FREE OF BURRS PRIOR TO GALVANIZING.
3. SEAL WELD ALL CONNECTIONS, WHERE POSSIBLE, PRIOR TO GALVANIZING.

ONE REQ'D EXPANSION JOINT @ ABUT. #1, MARK "EJ1"
DIMENSIONS SHOWN ARE ALONG INSIDE FACE OF ANGLE U.O.N.

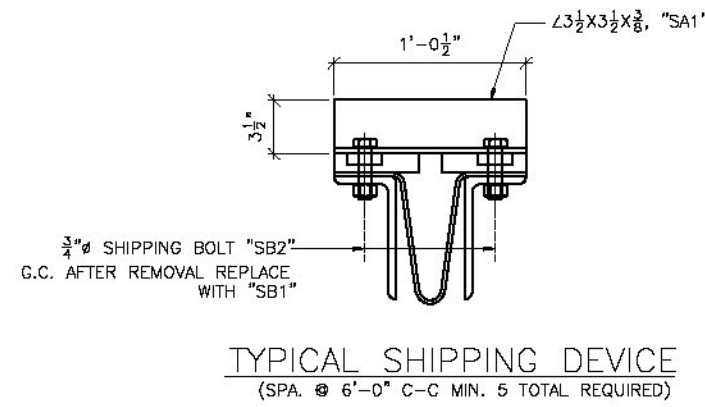
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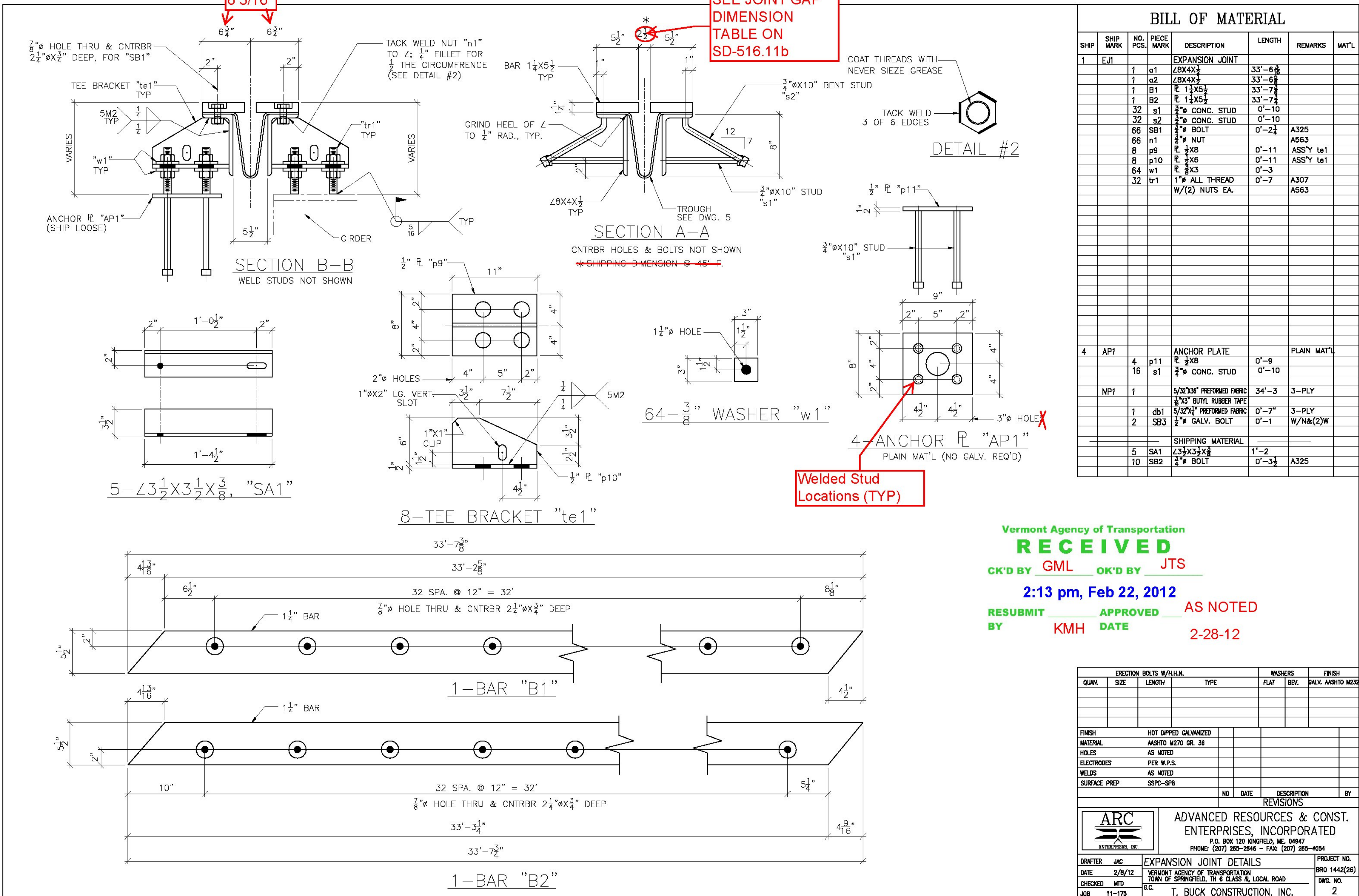
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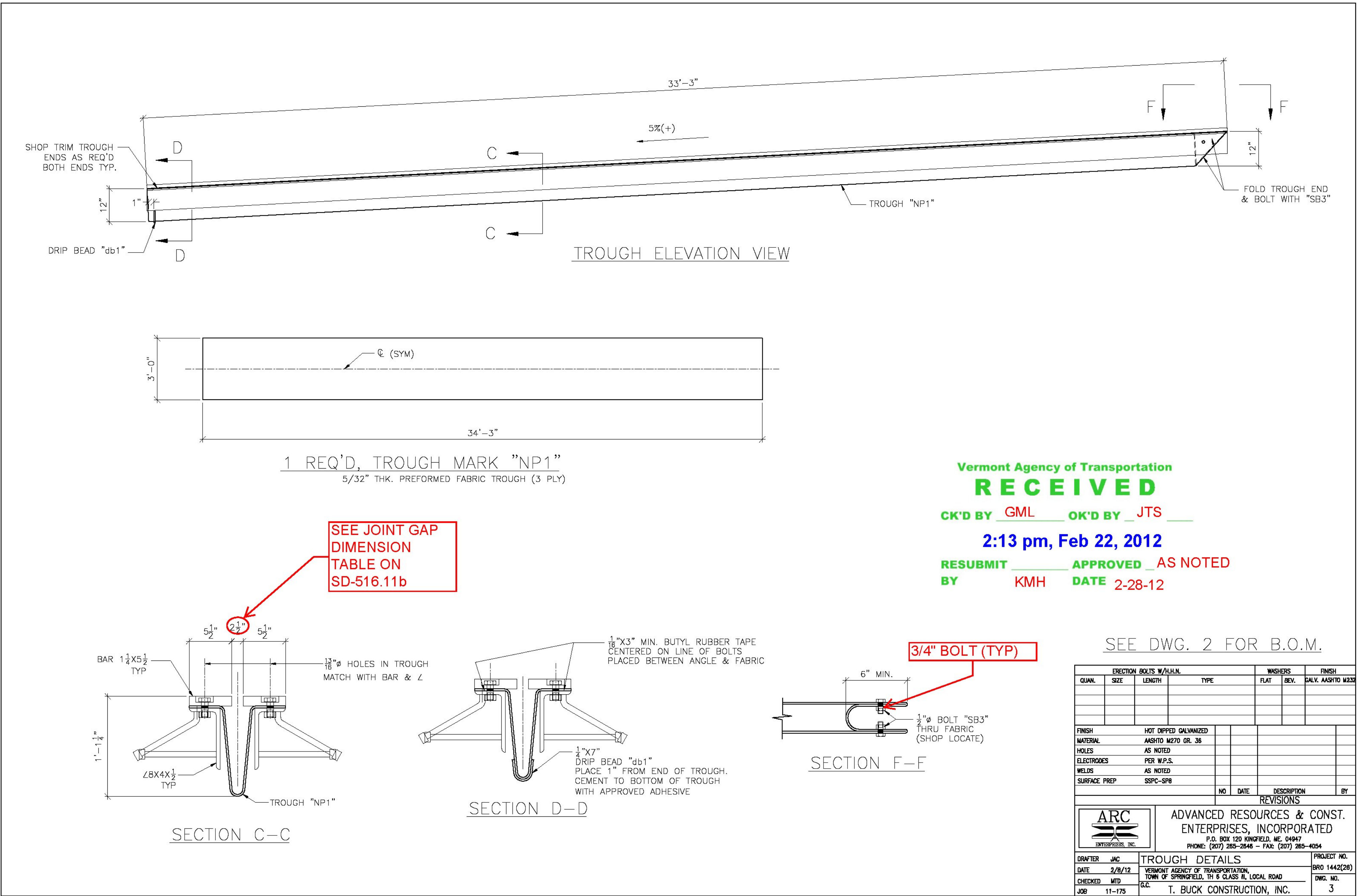
RESUBMIT _____ APPROVED _____
BY KMH DATE 2-28-12

SEE DWG. 2 FOR SECTIONS NOT SHOWN
SEE DWG. 3 FOR TROUGH



QUAN.		DIMENSION		BOLTS W/H/LIN.		TYPE		WASHERS		FINISH	
QTY.	SIZE	LENGTH						FLAT	BEV.		FINISH
											DAWK. AASHTO M270
FINISH MATERIAL HOLES ELECTRODES AS NOTED AS NOTED SURFACE PREP NOT HOT DIPPED GALVANIZED AASHTO M270 GR. 35 AS NOTED PER W.P.S. AS NOTED SSPC-SP8 NO DATE DESCRIPTION BY											
REVISIONS											
ARC ENTERPRISE, INC. ADVANCED RESOURCES & CONST. ENTERPRISES, INCORPORATED P.O. BOX 180 WINDFORD, NE 68097 PHONE: (701) 285-2046 - FAX: (701) 285-0554											
EXPANSION JOINT DETAILS DATE: 2/8/12 PROJECT NO. SRTD 1442(26) CREDITED TO: TOWN OF SPRINGFIELD, 7TH E CLASS A, LOCAL ROAD JOB NO. 11-175 DWG. NO. 1 T. BUCK CONSTRUCTION, INC.											

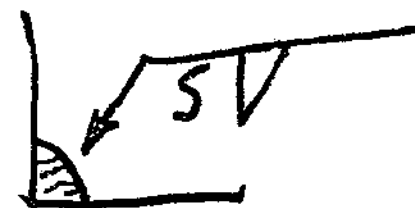


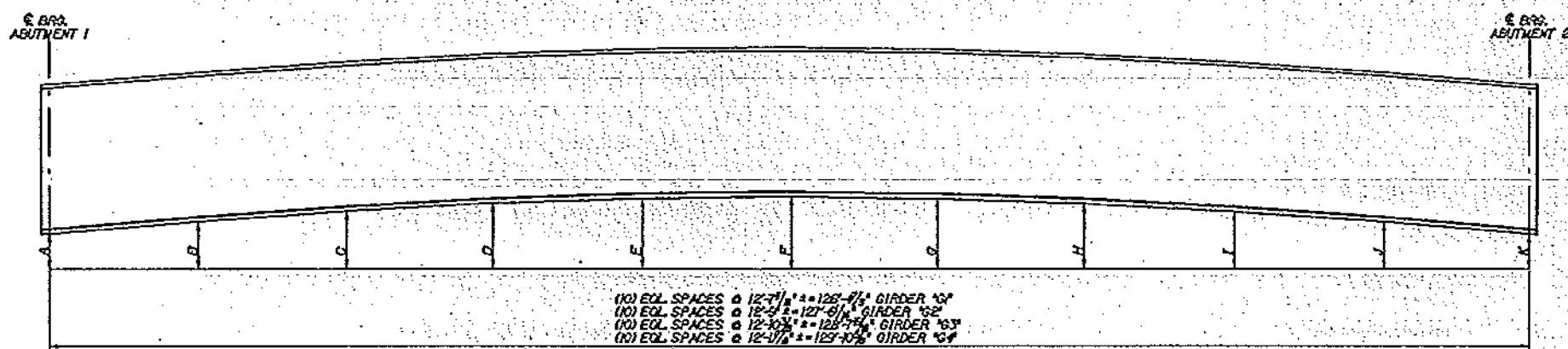


WELDING PROCEDURE SPECIFICATION (WPS) YES (X)
PREQUALIFIED x QUALIFIED BY TESTING _____
or PROCEDURE QUALIFICATION RECORD (PQR) YES ()

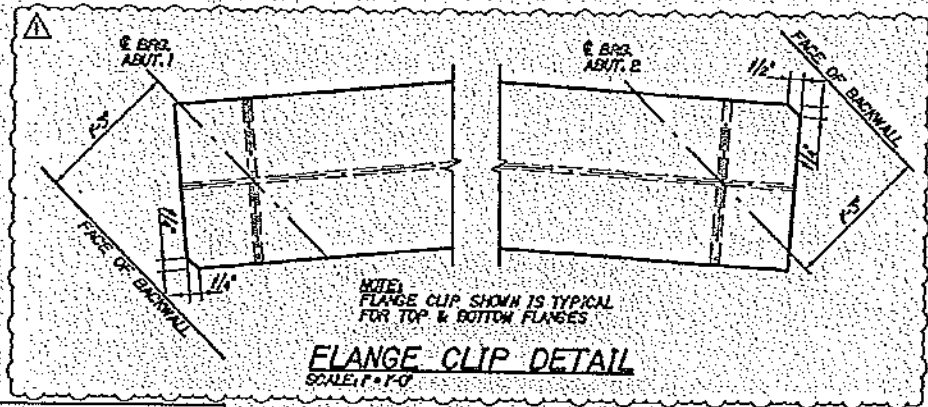
Company Name		ARC Enterprises, Inc.		Identification #		ARC WPS 5M2b	
Welding Process(es)		GMAW		Revision		5	
Supporting PQR No.(s)				Date		2-14-12	
				By		SVH	
				Authorized by		STEVE HOWARD	
				Date		12-5-05	
				Type -		Manual	
						Semi - Automatic	
						(X)	
						Machine ()	
						Automatic ()	

JOINT DESIGN USED Type <u>Fillet</u> Single <u>X</u> Double Weld () Backing () NO (X) Backing Material _____ Root Opening <u>0</u> Root Face Dimension <u>N/A</u> Groove Angle <u>N/A</u> Radius (J-U) <u>N/A</u> Back Gouging YES() NO () Method <u>N/A</u>		POSITION Position of Groove _____ Fillet <u>1F 2F</u> Vertical Progression ()	
BASE METALS Material Spec <u>A709</u> Type or Grade <u>50</u> Thickness <u> </u> Groove _____ Fillet <u>UNLIMITED</u> Diameter (Pipe) _____		ELECTRICAL CHARACTERISTICS Transfer Mode (FCAW) _____ Short Circuiting () Globular () Spray (X) Current : AC () DCEP (X) DCEN () Pulsed () OTHER : _____	
FILLER METALS AWS Specification <u>A5.18</u> AWS Classification <u>ER70S-6 Lincoln SuperArc L-56</u>		TECHNIQUE Stringer or Weave Bead <u>STRINGER</u> Multi-pass or Single Pass (per side) <u>SINGLE/MULTI</u> Number of Electrodes _____ Electrode Spacing _____ Longitudinal <u>NA</u> Lateral <u>NA</u> Angle <u>NA</u>	
SHIELDING Flux _____ Gas <u>98%ARGON 2%O2</u> Composition _____ Electrode - Flux (Class) _____ Flow Rate <u>25-35 cfh</u> Gas Cup Size <u>5/8</u>		Contact Tube to Work Distance <u>5/8" - 3/4"</u> Peening <u>NA</u> Interpass Cleaning : <u>HAND/POWER TOOLS</u>	
preheat; up to 3/4" - 50 degrees F 3/4" - 1 1/2" - 70 degrees F 1 1/2" - 2 1/2" - 150 degrees F over 2 1/2" - 225 degrees F		POSTWELD HEAT TREATMENT Temp _____ <u>NA</u> Time _____ <u>NA</u>	

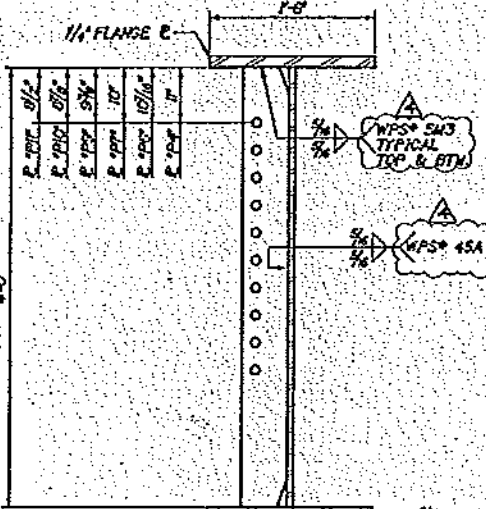
WELDING PROCEDURE								Joint Details
Pass or Weld Layer(s)	S	Filler Metals		Current		Volts	Travel Speed	
		Class	Diameter	Type & Polarity	Amps or Wire Feed Speed			
1 1	3/16"	ER70S-6	.035"	DCEP	180-220	25-27	7-9	
1 1	1/4"	"	.035"	"	180-220	25-27	5-6	
1 1	5/16"	"	.035"	"	180-220	25-27	4-5	
1 1	3/8"	"	.035"	"	180-220	25-27	3-4	
1 2+	7/16"	"	.035"	"	180-220	25-27	2-3	
1 2+	1/2"	"	.045"	"	270-330	28-30	2-3	



GIRDER LINE	SPACING	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"	16"	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"	41"	42"	43"	44"	45"	46"	47"	48"	49"	50"	51"	52"	53"	54"	55"	56"	57"	58"	59"	60"	61"	62"	63"	64"	65"	66"	67"	68"	69"	70"	71"	72"	73"	74"	75"	76"	77"	78"	79"	80"	81"	82"	83"	84"	85"	86"	87"	88"	89"	90"	91"	92"	93"	94"	95"	96"	97"	98"	99"	100"	101"	102"	103"	104"	105"	106"	107"	108"	109"	110"	111"	112"	113"	114"	115"	116"	117"	118"	119"	120"	121"	122"	123"	124"	125"	126"	127"	128"	129"	130"	131"	132"	133"	134"	135"	136"	137"	138"	139"	140"	141"	142"	143"	144"	145"	146"	147"	148"	149"	150"	151"	152"	153"	154"	155"	156"	157"	158"	159"	160"	161"	162"	163"	164"	165"	166"	167"	168"	169"	170"	171"	172"	173"	174"	175"	176"	177"	178"	179"	180"	181"	182"	183"	184"	185"	186"	187"	188"	189"	190"	191"	192"	193"	194"	195"	196"	197"	198"	199"	200"	201"	202"	203"	204"	205"	206"	207"	208"	209"	210"	211"	212"	213"	214"	215"	216"	217"	218"	219"	220"	221"	222"	223"	224"	225"	226"	227"	228"	229"	230"	231"	232"	233"	234"	235"	236"	237"	238"	239"	240"	241"	242"	243"	244"	245"	246"	247"	248"	249"	250"	251"	252"	253"	254"	255"	256"	257"	258"	259"	260"	261"	262"	263"	264"	265"	266"	267"	268"	269"	270"	271"	272"	273"	274"	275"	276"	277"	278"	279"	280"	281"	282"	283"	284"	285"	286"	287"	288"	289"	290"	291"	292"	293"	294"	295"	296"	297"	298"	299"	300"	301"	302"	303"	304"	305"	306"	307"	308"	309"	310"	311"	312"	313"	314"	315"	316"	317"	318"	319"	320"	321"	322"	323"	324"	325"	326"	327"	328"	329"	330"	331"	332"	333"	334"	335"	336"	337"	338"	339"	340"	341"	342"	343"	344"	345"	346"	347"	348"	349"	350"	351"	352"	353"	354"	355"	356"	357"	358"	359"	360"	361"	362"	363"	364"	365"	366"	367"	368"	369"	370"	371"	372"	373"	374"	375"	376"	377"	378"	379"	380"	381"	382"	383"	384"	385"	386"	387"	388"	389"	390"	391"	392"	393"	394"	395"	396"	397"	398"	399"	400"	401"	402"	403"	404"	405"	406"	407"	408"	409"	410"	411"	412"	413"	414"	415"	416"	417"	418"	419"	420"	421"	422"	423"	424"	425"	426"	427"	428"	429"	430"	431"	432"	433"	434"	435"	436"	437"	438"	439"	440"	441"	442"	443"	444"	445"	446"	447"	448"	449"	450"	451"	452"	453"	454"	455"	456"	457"	458"	459"	460"	461"	462"	463"	464"	465"	466"	467"	468"	469"	470"	471"	472"	473"	474"	475"	476"	477"	478"	479"	480"	481"	482"	483"	484"	485"	486"	487"	488"	489"	490"	491"	492"	493"	494"	495"	496"	497"	498"	499"	500"	501"	502"	503"	504"	505"	506"	507"	508"	509"	510"	511"	512"	513"	514"	515"	516"	517"	518"	519"	520"	521"	522"	523"	524"	525"	526"	527"	528"	529"	530"	531"	532"	533"	534"	535"	536"	537"	538"	539"	540"	541"	542"	543"	544"	545"	546"	547"	548"	549"	550"	551"	552"	553"	554"	555"	556"	557"	558"	559"	560"	561"	562"	563"	564"	565"	566"	567"	568"	569"	570"	571"	572"	573"	574"	575"	576"	577"	578"	579"	580"	581"	582"	583"	584"	585"	586"	587"	588"	589"	590"	591"	592"	593"	594"	595"	596"	597"	598"	599"	600"	601"	602"	603"	604"	605"	606"	607"	608"	609"	610"	611"	612"	613"	614"	615"	616"	617"	618"	619"	620"	621"	622"	623"	624"	625"	626"	627"	628"	629"	630"	631"	632"	633"	634"	635"	636"	637"	638"	639"	640"	641"	642"	643"	644"	645"	646"	647"	648"	649"	650"	651"	652"	653"	654"	655"	656"	657"	658"	659"	660"	661"	662"	663"	664"	665"	666"	667"	668"	669"	670"	671"	672"	673"	674"	675"	676"	677"	678"	679"	680"	681"	682"	683"	684"	685"	686"	687"	688"	689"	690"	691"	692"	693"	694"	695"	696"	697"	698"	699"	700"	701"	702"	703"	704"	705"	706"	707"	708"	709"	710"	711"	712"	713"	714"	715"	716"	717"	718"	719"	720"	721"	722"	723"	724"	725"	726"	727"	728"	729"	730"	731"	732"	733"	734"	735"	736"	737"	738"	739"	740"	741"	742"	743"	744"	745"	746"	747"	748"	749"	750"	751"	752"	753"	754"	755"	756"	757"	758"	759"	760"	761"	762"	763"	764"	765"	766"	767"	768"	769"	770"	771"	772"	773"	774"	775"	776"	777"	778"	779"	780"	781"	782"	783"	784"	785"	786"	787"	788"	789"	790"	791"	792"	793"	794"	795"	796"	797"	798"	799"	800"	801"	802"	803"	804"	805"	806"	807"	808"	809"	810"	811"	812"	813"	814"	815"	816"	817"	818"	819"	820"	821"	822"	823"	824"	825"	826"	827"	828"	829"	830"	831"	832"	833"	834"	835"	836"	837"	838"	839"	840"	841"	842"	843"	844"	845"	846"	847"	848"	849"	850"	851"	852"	853"	854"	855"	856"	857"	858"	859"	860"	861"	862"	863"	864"	865"	866"	867"	868"	869"	870"	871"	872"	873"	874"	875"	876"	877"	878"	879"	880"	881"	882"	883"	884"	885"	886"	887"	888"	889"	890"	891"	892"	893"	894"	895"	896"	897"	898"	899"	900"	901"	902"	903"	904"	905"	906"	907"	908"	909"	910"	911"	912"	913"	914"	915"	916"	917"	918"	919"	920"	921"	922"	923"	924"	925"	926"	927"	928"	929"	930"	931"	932"	933"	934"	935"	936"	937"	938"	939"	940"	941"	942"	943"	944"	945"	946"	947"	948"	949"	950"	951"	952"	953"	954"	955"	956"	957"	958"	959"	960"	961"	962"	963"	964"	965"	966"	967"	968"	969"	970"	971"	972"	973"	974"	975"	976"	977"	978"	979"	980"	981"	982"	983"	984"	985"	986"	987"	988"	989"	990"	991"	992"	993"	994"	995"	996"	997"	998"	999"	1000"	1001"	1002"	1003"	1004"	1005"	1006"	1007"	1008"	1009"	1010"	1011"	1012"	1013"	1014"	1015"	1016"	1017"	1018"	1019"	1020"	1021"	1022"	1023"	1024"	1025"	1026"	1027"	1028"	1029"	1030"	1031"	1032"	1033"	1034"	1035"	1036"	1037"	1038"	1039"	1040"	1041"	1042"	1043"	1044"	1045"	1046"	1047"	1048"	1049"	1050"	1051"	1052"	1053"	1054"	1055"	1056"	1057"	1058"	1059"	1060"	1061"	1062"	1063"	1064"	1065"	1066"	1067"	1068"	1069"	1070"	1071"	1072"	1073"	1074"	1075"	1076"	1077"	1078"	1079"	1080"	1081"	1082"	1083"	1084"	1085"	1086"	1087"	1088"	1089"	1090"	1091"	1092"	1093"	1094"	1095"	1096"	1097"	1098"	1099"	1100"	1101"	1102"	1103"	1104"	1105"	1106"	1107"	1108"	1109"	1110"	1111"	1112"	1113"	1114"	1115"	1116"	1117"	1118"	1119"	1120"	1121"	1122"	1123"	1124"	1125"	1126"	1127"	1128"	1129"	1130"	1131"	1132"	1133"	1134"	1135"	1136"	1137"	1138"	1139"	1140"	1141"	1142"	1143"	1144"	1145"	1146"	1147"	1148"	1149"	1150"	1151"	1152"	1153"	1154"	1155"	1156"	1157"	1158"	1159"	1160"	1161"	1162"	1163"	1164"	1165"	1166"	1167"	1168"	1169"	1170"	1171"	1172"	1173"	1174"	1175"	1176"	1177"	1178"	1179"	1180"	1181"	1182"	1183"	1184"	1185"	1186"	1187"	1188"	1189"	1190"	1191"	1192"	1193"	1194"	1195"	1196"	1197"	1198"	1199"	1200"	1201"	1202"	1203"	1204"	1205"	1206"	1207"	1208"	1209"	1210"	1211"	1212"	1213"	1214"	1215"	1216"	1217"	1218"	1219"	1220"	1221"	1222"	1223"	1224"	1225"	1226"	1227"	1228"	1229"	1230"	1231"	1232"	1233"	1234"	1235"	1236"	1237"	1238"	1239"	1240"	1241"	1242"	1243"	1244"	1245"	1246"	1247"	1248"	1249"	1250"	1251"	1252"	1253"	1254"	1255"	1256"	1257"	1258"	1259"	1260"	1261"	1262"	1263"	1264"	1265"	1266"	1267"	1268"	1269"	1270"	1271"	1272"	1273"	1274"	1275"	1276"	1277"	1278"	1279"	1280"	1281"	1282"	1283"	1284"	1285"	1286"	1287"	1288"	1289"	1290"	1291"	1292"	1293"	1294"	1295"	1296"	1297"	1298"	1299"	1300"	1301"	1302"	1303"	1304"	1305"	1306"	1307"	1308"	1309"	1310"	1311"	1312"	1313"	1314"	1315"	1316"	1317"	1318"	1319"	1320"	1321"	1322"	1323"	1324"	1325"	1326"	1327"	1328"	1329"	1330"	1331"	1332"	1333"	1334"	1335"	1336"	1337"	1338"	1339"	1340"	1341"	1342"	1343"	1344"	1345"	1346"	1347"	1348"	1349"	1350"	1351"	1352"	1353"	1354"	1355"	1356"	1357"	1358"	1359"	1360"	1361"	1362"	1363"	1364"	1365"	1366"	1367"	1368"	1369"	1370"	1371"	1372"	1373"	1374"	1375"	1376"	1377"	1378"	1379"	1380"	1381"	1382"	1383"	1384"	1385"	1386"	1387"	1388"	1389"	1390"	1391"	1392"	1393"	1394"	1395"	1396"	1397"	1398"	1399"	1400"	1401"	1402"	1403"	1404"	1405"	1406"	1407"	1408"	1409"	1410"	1411"	1412"	1413"	1414"	1415"	1416"	1417"	1418"	1419"	1420"	1421"	1422"	1423"	1424"	1425"	1426"	1427"	1428"	1429"	1430"	1431"	1432"	1433"	1434"	1435"	1436"	1437"	1438"	1439"	1440"	1441"	1442"	1443"	1444"	1445"	1446"	1447"	1448"	1449"	1450"	1451"	1452"	1453"	1454"	1455"	1456"	1457"	1458"	1459"	1460"	1461"	1462"	1463"	1464"	1465"	1466"	1467"	1468"	1469"	1470"	1471"	1472"	1473"	1474"	1475"	1476"	1477"	1478"	1479"	1480"	1481"	1482"	1483"	1484"
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* PRIME WITH CARBOZINO UHS, INTERMEDIATE COAT WITH CARBOGUARD 893, TOP COAT WITH CARBOTHANE 133 UH APPLIED IN SHOP
TOUCH UP REQUIRED IN THE FIELD DUE TO DAMAGE FROM HANDLING AND ERECTION BY OTHERS

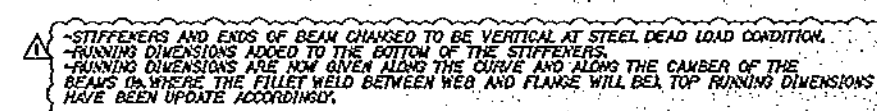


B
2 **DIMENSIONAL SECTION**
SCALE: 1" = 1'-0"

11:20 am, Mar 19, 2012
RESUBMIT _____ APPROVED X
BY KMH DATE 3/19/2012

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		REVISIONS ADVANCED RESOURCES & CONST. ENTERPRISES, INCORPORATED P.O. BOX 850 WINDFORD, IL 60441 PHONE: (815) 265-4548 - FAX: (815) 265-4224	
DRAFTER <u>J.M.</u> DATE <u>DEC 2011</u> CHECKED <u>ETC</u>	GIRDER 1 BRIDGE #37, TOWNSHIPWAYS SCENESDALE, ILLINOIS		PROJECT NO. <u>809 W4029</u> DRAW NO.



PRIME WITH CARDOZINO 11HS, INTERMEDIATE COAT WITH CARBOGUARD 693, TOP COAT WITH CARBOTHANE 133. 1H APPLI
TOUCH UP REQUIRED IN THE FIELD DUE TO DAMAGE FROM HANDLING AND ERECTION BY OTHERS

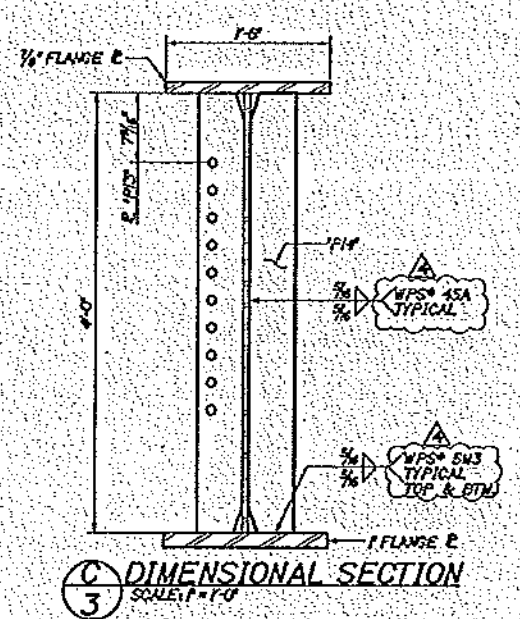
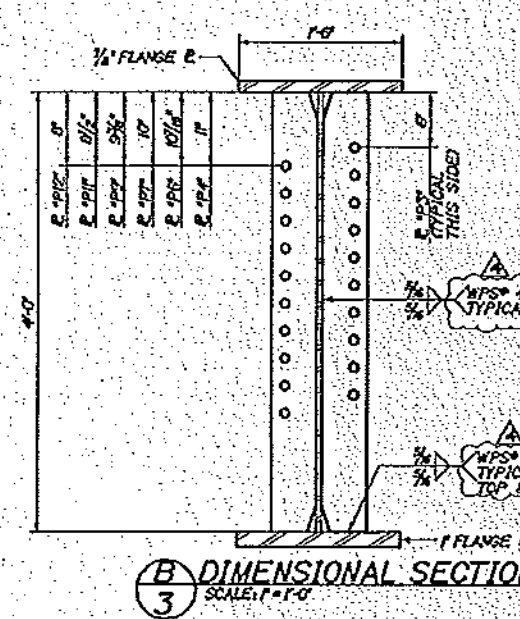
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BY KMH DATE 3/19/2012

BILL OF MATERIALS



BY KMH

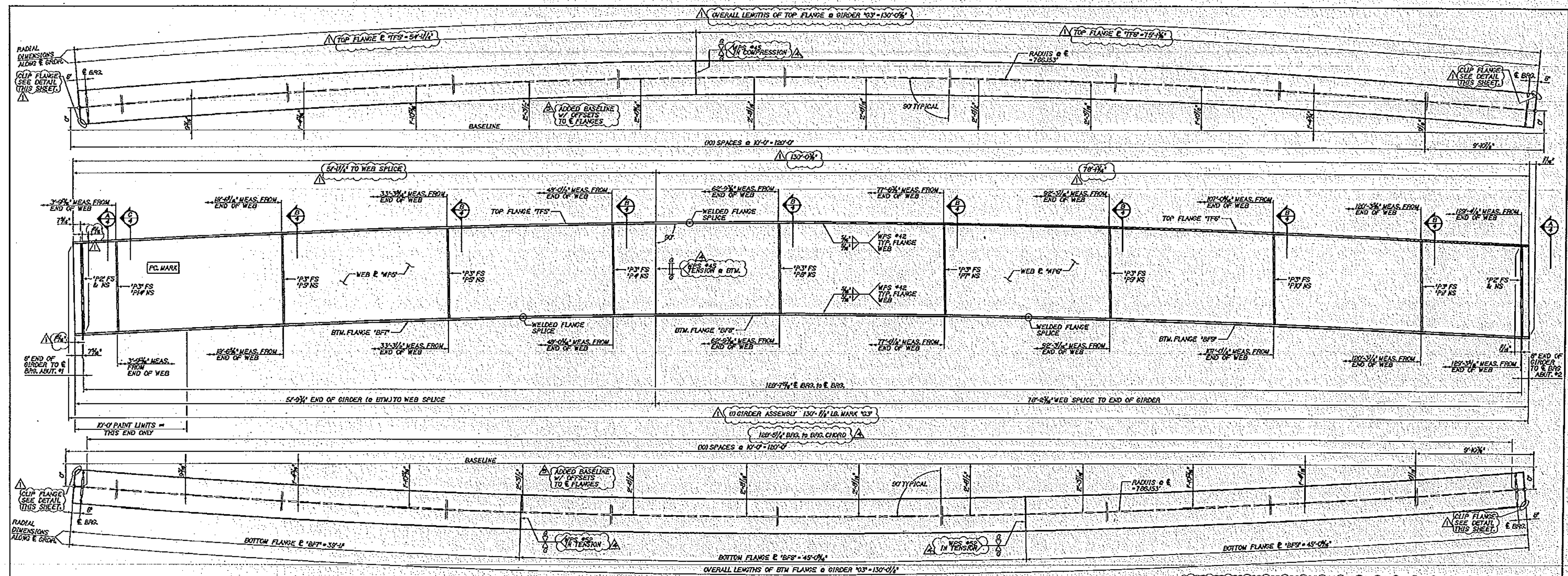
DATE 3/19/2012

PUT CANNOT DIMENSIONS SEE SHEET "D"

BILL OF MATERIALS

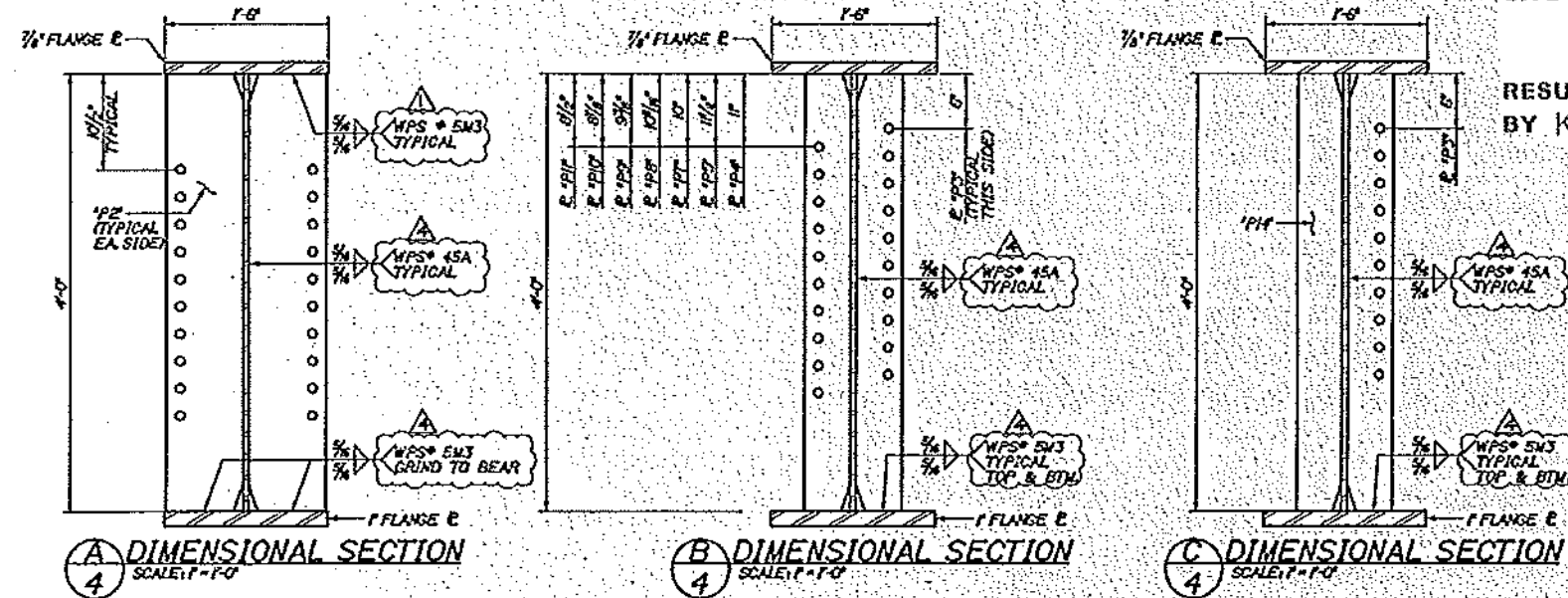
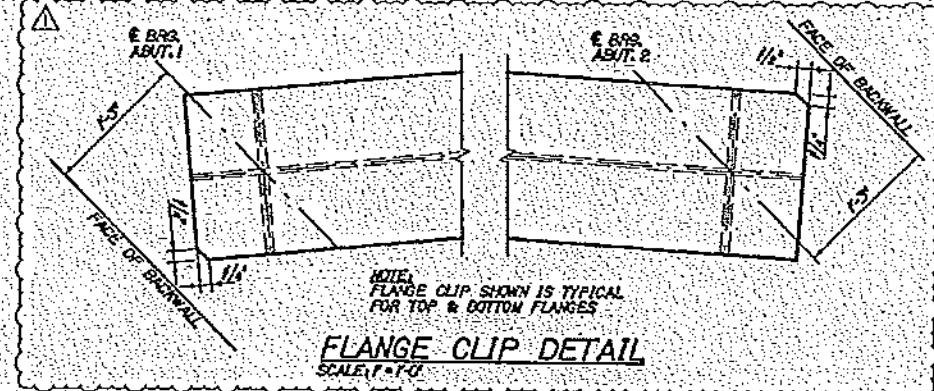
SHP#	SHP NAME	QTY	PRICE	DESCRIPTION	LENGTH	REMARKS	WATER
1	GR			BRIDGE GINDER	102'-0"	28000'	
1	W3			E 3/4" x 6"	50'-0"	6350'	16.50M QTY
1	W4			E 3/4" x 6"	70'-0"	7850'	16.50M QTY
1	TF3			E 7/8" x 10"	70'-0"	4050'	16.50M QTY
1	TF4			E 7/8" x 10"	55'-0"	2800'	16.50M QTY
1	BF4			E 7/8" x 10"	40'-0"	1670M QTY	
1	DBS			E 7/8" x 10"	40'-0"	1670M QTY	
1	BF5			E 7/8" x 10"	50'-0"	6350'	16.50M QTY
4	P2			SEE SHEET M1	30'-0"	100' EA	
8	P3			SEE SHEET M1		300' EA	
3	P4			SEE SHEET M1		300' EA	
1	P6			SEE SHEET M1		300' EA	
1	P7			SEE SHEET M2		300' EA	
1	P8			SEE SHEET M2		300' EA	
1	P9			SEE SHEET M2		300' EA	
1	P10			SEE SHEET M2		300' EA	
1	P11			SEE SHEET M2		300' EA	
1	P12			SEE SHEET M2		300' EA	
1	PH			SEE SHEET M2		300' EA	

[illegible]



1. DIMENSIONAL PLANS & ELEVATIONS ~ GIRDER 'G3'
 2. DIMENSIONAL SECTION ~ GIRDER 'G3'
 3. DIMENSIONAL SECTION ~ GIRDER 'G3'
 4. DIMENSIONAL SECTION ~ GIRDER 'G3'

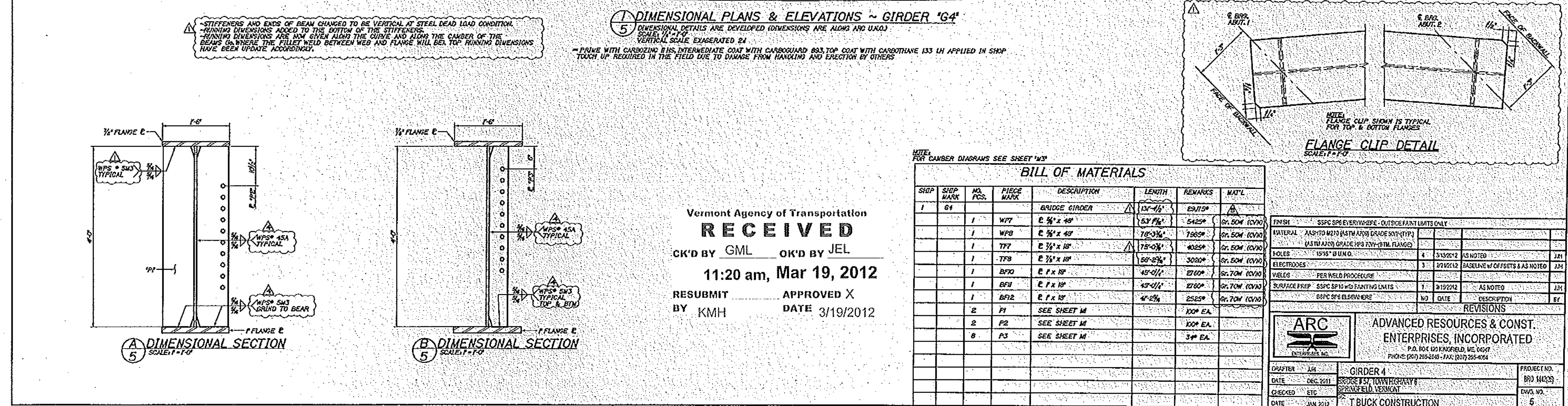
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 2. DIMENSIONAL SECTION ~ GIRDER 'G3'
 3. DIMENSIONAL SECTION ~ GIRDER 'G3'
 4. DIMENSIONAL SECTION ~ GIRDER 'G3'

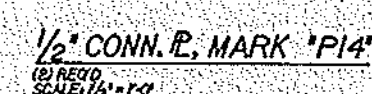
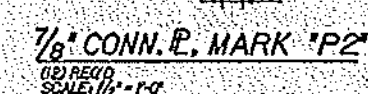
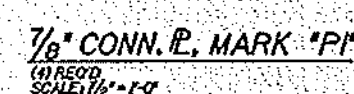


Vermont Agency of Transportation
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 11:20 am, Mar 19, 2012
 RESUBMIT APPROVED X
 BY KMH DATE 3/19/2012

SHIP	SHIP NO.	SHIP NAME	DESCRIPTION	LENGTH	REMARKS	MATERIAL
1	03		BRIDGE GIRDER	130'-0"		SS245P
1	1	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	2	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	3	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	4	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	5	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	6	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	7	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	8	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	9	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	10	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	11	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	12	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	13	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	14	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	15	WPS	E 3/4" x 1/2"	130'-0"		SS245P
1	16	WPS	E 3/4" x 1/2"	130'-0"		SS245P
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1	91	WPS	E 3/4" x 1/2"	130'-0"		SS245P
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1	96	WPS	E 3/4" x 1/2"	130'-0"		SS245P
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1	98	WPS	E 3/4" x 1/2"	130'-0"		SS245P
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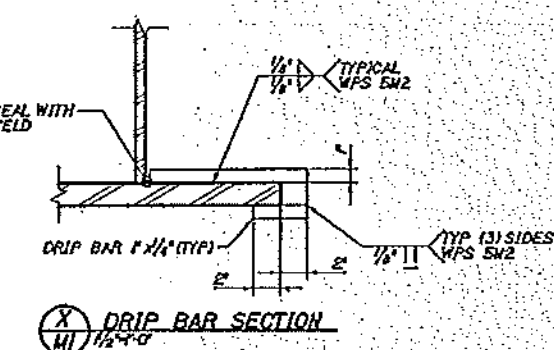
ARC ADVANCED RESOURCES & CONST. ENTERPRISES, INCORPORATED P.O. BOX 1000, VERMONT, VT 05401 PHONE (802) 255-1111 FAX (802) 255-1111		PROJECT NO. 870 10029 DRAW NO. 4
SHEET NO. 1 DATE 06/01/11 DESIGNED BY DATE 06/01/11	CHECKED BY DATE 06/01/11 APPROVED BY DATE 06/01/11	PROJECT NO. 870 10029 DRAW NO. 4





FIELD BOLTS				
560	FBI	3/4" BOLT W/ NUT	2 1/2"	ASTM A325, TYPE 3
60	FB2	3/4" BOLT W/ NUT	2 1/2"	ASTM A325, TYPE 1095U
60	FB3	3/4" BOLT W/ NUT	2 1/2"	ASTM A325, TYPE 1095U
60	FB4	3/4" BOLT W/ NUT	2 1/2"	ASTM A325, TYPE 3

NOTE:
ALL A325 TYPE J1 BOLTS ARE TO BE USED OUTSIDE THE PAINT LIMITS
ALL A325 TYPE D GALVANIZED BOLTS ARE TO BE USED WITHIN PAINT LIMITS
SEE SHEET "PAINT LIMITS"

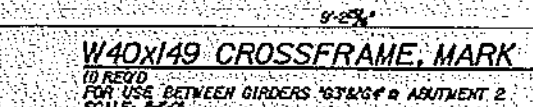
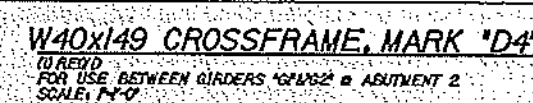
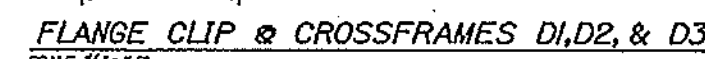
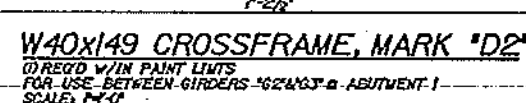


CK'D BY GML OK'D BY JEL

11:20 am, Mar 19, 2012

RESUBMIT BY KMH APPROVED X
DATE 3/19/2012

		REVISIONS	
		ADVANCED RESOURCES & CONST. ENTERPRISES, INCORPORATED P.O. BOX 111 DUNSFORD, N.J. 07834 PHONE: (907) 255-2434 - FAX: (907) 256-4004	
DELIVER 124	DATE DEC 2011	BROOKE P.M. TOTAL HIGHWAYS & SPECIALIZED VERMONT	PROJECT NO. E30 H2020
CHECKED ETC	DATE JAN 2012	T BUCK CONSTRUCTION	Dwg. NO. M1

[illegible]

DSBROWN

Production Joint Welding Procedure Specification (D1.5-08)

Procedure No: A-(MC)GF-01

Date Issued: 9-28-04

Revision No: 02

Rev. Date: 9-15-09

Contractor (Fabricator) D. S. Brown Company

Prepared by: Brad Streeter, Quality Assurance Manager

1. Non-Fracture Critical ☒ Fracture Critical ☐

WPS Expiration Date: 8-11-14

2. Qualified in accordance with: AWS D1.5- 2008 (5.13)

Referenced PQR No(s). PQR-(MC)GMAW-03(09) , ,

Referenced FWST No(s). PQR-(MC)GMAW-FWST-01A(09) , PQR-(MC)GMAW-FWST-01B(09) , ,

3. Material specification(s) ASTM A709 Gr. 36, 50, 50W

For DOT Approval

4. Material Thickness (es) Unlimited

5. Welding process GMAW

6. Manual ☐ , machine ☒ , or semiautomatic ☒

7. Position(s) of welding 1F, 2F

8. Filler metal specification AWS A5.18

9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim

10. Flux class & brand N/A , Type N/A

11. Shielding gas 75% Ar / 25% CO2 Flow rate 45 CFH

12. Single pass ☒ Or multiple pass ☒

13. Single arc ☒ Or multiple arc ☐

14. Welding Current DCEP

15. Polarity Reverse

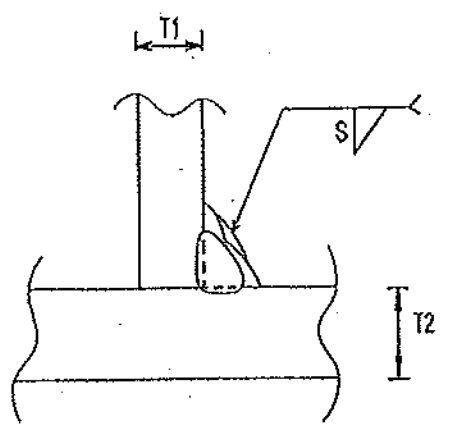
16. Welding progression stringers

17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)

18. Postheat treatment N/A

19. Calculated Heat Input (KJ/in) Min 34.77 KJ/in Max 49.65 KJ/in

20. Electrode extension (electrical stickout) 3/4"

(in)	Weld size	Pass No(s)	Electrode size (in)	Welding Process Variables		Travel Speed (IPM)	Joint Detail (Fillet)			
				AMPS/WFS*	VOLTS					
**1/4"	1	.052"	270-307	27.9-31	11.5-13	 T1 = Varies T2 = Varies S = Weld Size ** T1 & T2 equal to or less than 3/4" for 1/4" welds.				
5/16"	1	.052"	270-307	27.9-31	11.5-13					
3/8"	1-3	.052"	270-307	27.9-31	11.5-13					
7/16"	2-4	.052"	270-307	27.9-31	11.5-13					
1/2"	4-6	.052"	270-307	27.9-31	11.5-13					
5/8"	5-7	.052"	270-307	27.9-31	11.5-13					
3/4"	6-8	.052"	270-307	27.9-31	11.5-13					

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

Prepared By: DSB QA Manager

Project: _____

DSB Job: 35029-1112

Preheat and Interpass Temperature Chart

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

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

DSBROWN Production Joint Welding Procedure Specification (D1.5-08)

Procedure No: A-(MC)GSB-01 Date Issued: 9-28-04 Revision No: 01 Rev. Date: 9-15-09

Contractor (Fabricator) D. S. Brown Company Prepared by: Brad Streeter, Quality Assurance Manager

1. Non-Fracture Critical ☒ Fracture Critical ☐ WPS Expiration Date: 8-11-14

2. Qualified in accordance with: AWS D1.5- 2008 (5.13)

Referenced PQR No(s). PQR-(MC)GMAW-03(09) , ,

Referenced FWST No(s). PQR-(MC)GMAW-FWST-01A(09) , PQR-(MC)GMAW-FWST-01B(09) , ,

3. Material specification(s) ASTM A709 Gr. 36, 50, 50W For DOT Approval

4. Material Thickness (es) Unlimited

5. Welding process GMAW

6. Manual ☐ , machine ☒ , or semiautomatic ☒

7. Position(s) of welding 1G, 2G, 1F, 2F

8. Filler metal specification AWS A5.18

9. Filler metal class and brand name E70C-6M Corex Metal-Core Maxim

10. Flux class & brand N/A , Type N/A

11. Shielding gas 75% Ar / 25% CO2 Flow rate 45 CFH

12. Single pass ☒ Or multiple pass ☒

13. Single arc ☒ Or multiple arc ☐

14. Welding Current DCEP

15. Polarity Reverse

16. Welding progression stringers

17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)

18. Postheat treatment N/A

19. Calculated Heat Input (KJ/in) Min 34.77 KJ/in Max 49.65 KJ/in

20. Electrode extension (electrical stickout) 3/4"

Weld size (in)	Pass No(s)	Electrode size (in)	Welding Process Variables		Travel Speed (IPM)
			AMPS/WFS*	VOLTS	
1/4"	1	.052"	270-307	27.9-31	11.5-13
5/16"	1	.052"	270-307	27.9-31	11.5-13
3/8"	1-2	.052"	270-307	27.9-31	11.5-13
1/2"	3-4	.052"	270-307	27.9-31	11.5-13
5/8"	4-6	.052"	270-307	27.9-31	11.5-13
3/4"	5-7	.052"	270-307	27.9-31	11.5-13
7/8"	6-9	.052"	270-307	27.9-31	11.5-13
1"	7-10	.052"	270-307	27.9-31	11.5-13

Joint Detail (TC-P4-GF)

Show all dimensions, weld sizes, passes, and AWS symbols

T1 = 1/4" min.
T2 = Varies
(E) = S-1/8"
f = 1/8" min.
R = 0
 α = 45°
S = size groove
(S) = size of reinforcing fillet(if required) not to exceed 1/2" in corner & T jts.

For Butt Joints see AWS 2.14

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

Prepared By: DSB QA Manager

Project:

DSB Job: 35029-1112

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

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

DSBROWN Production Joint Welding Procedure Specification (D1.5-08)

Procedure No: B-FF-01 Date Issued: 3-28-08 Revision No: 01 Rev. Date: 11-11-09 Contractor (Fabricator) D. S. Brown Company Prepared by: Brad Streeter, Quality Assurance Manager

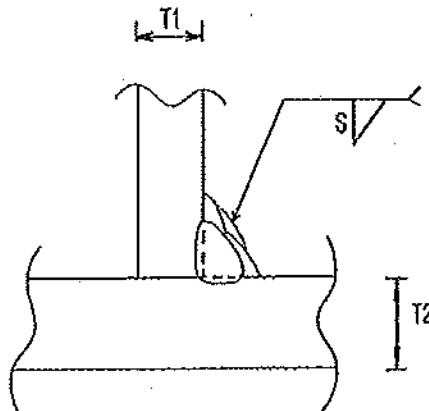
1. Non-Fracture Critical ☒ Fracture Critical ☐ WPS Expiration Date: 3-6-13
2. Qualified in accordance with: AWS D1.5- 2008 (5.13)
- Referenced PQR No(s). PQR-FCAW-01-(08)
- Referenced FWST No(s). PQR-FCAW-FWST-01A(08), PQR-FCAW-FWST-01B(08)
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual ☐, machine ☐, or semiautomatic ☒
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1CH8 (UltraCore71C)
10. Flux class & brand N/A, Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass ☒ Or multiple pass ☒
13. Single arc ☒ Or multiple arc ☐
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/in) Min 32.2 KJ/in Max 45.8 KJ/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

Witness Received
COC Given OK'd by
FEB 28 2012
APPROVED BY DATE

Weld size (in)	Pass No(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)	Travel
			AMPS/WFS*	VOLTS		
**1/4"	1	1/16"	257-295	26.1-29.5	11.4-12.5	
5/16"	1	1/16"	257-295	26.1-29.5	11.4-12.5	
3/8"	2-3	1/16"	257-295	26.1-29.5	11.4-12.5	
7/16"	3-5	1/16"	257-295	26.1-29.5	11.4-12.5	
1/2"	4-6	1/16"	257-295	26.1-29.5	11.4-12.5	
5/8"	5-7	1/16"	257-295	26.1-29.5	11.4-12.5	
3/4"	6-8	1/16"	257-295	26.1-29.5	11.4-12.5	

Joint Detail (Fillet)
Show all dimensions, weld sizes, passes, and AWS symbols



T1 = Varies
T2 = Varies
S = Weld Size

** T1 & T2 equal to or less than 3/4" for 1/4" welds.

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

Prepared By: DSB QA Manager

Project:

DSB Job: 35029-1112

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

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

DSBROWN Production Joint Welding Procedure Specification (D1.5-08)

Procedure No: B-FSB-01 Date Issued: 3-28-08 Revision No: 01 Rev. Date: 11-11-09
Contractor (Fabricator) D. S. Brown Company Prepared by: Brad Streeter, Quality Assurance Manager

1. Non-Fracture Critical ☒ Fracture Critical ☐ WPS Expiration Date: 3-6-13
2. Qualified in accordance with: AWS D1.5- 2008 (5.13)
Referenced PQR No(s): PQR-FCAW-01-(08)
Referenced FWST No(s): N/A, N/A
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W
4. Material Thickness (es) Unlimited
5. Welding process FCAW
6. Manual ☐, machine ☐, or semiautomatic ☒
7. Position(s) of welding 1G, 2G, (1F, 2F)
8. Filler metal specification AWS A5.20
9. Filler metal class and brand name E71T-1CH8 (UltraCore71C)
10. Flux class & brand N/A, Type N/A
11. Shielding gas 100% CO2 Flow rate 45 CFH
12. Single pass ☒ Or multiple pass ☒
13. Single arc ☒ Or multiple arc ☐
14. Welding Current DCEP
15. Polarity Reverse
16. Welding progression Stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/in) Min 32.2 KJ/in Max 45.8 KJ/in
20. Electrode extension (electrical stickout) 3/4"

For DOT Approval

VT Trans
RECEIVED
ON 5-5-12
FEB 28 2012
APPROVED
DATE 3/9/12

Joint Detail (TC-P4-GF)					
Show all dimensions, weld sizes, passes, and AWS symbols					
Weld Size (E)&(S) (in)&(mm)	Pass No.(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)
			AMPS/WFS*	VOLTS	
**1/4"	1	1/16"	257-295	26.1-29.5	11.4-12.5
5/16"	1	1/16"	257-295	26.1-29.5	11.4-12.5
3/8"	2-3	1/16"	257-295	26.1-29.5	11.4-12.5
1/2"	3-4	1/16"	257-295	26.1-29.5	11.4-12.5
5/8"	4-6	1/16"	257-295	26.1-29.5	11.4-12.5
3/4"	5-7	1/16"	257-295	26.1-29.5	11.4-12.5
7/8"	6-8	1/16"	257-295	26.1-29.5	11.4-12.5
1"	7-9	1/16"	257-295	26.1-29.5	11.4-12.5
For Butt Joints see AWS 2.14					

**** T1 & T2 equal to or less than 3/4" for 1/4" welds**

T1 = 1/4" min.
T2 = Varies
(E) = S-1/8"
f = 1/8" min.
R = 0
 $\alpha = 45^\circ$
S = size groove
(S) = size of reinforcing
fillet(if required) not to
exceed 1/4" in corner & T jts.

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

Prepared By: DSB QA Manager

Project:

DSB Job: 35029-1112

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

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


Production Joint Welding Procedure Specification (D1.5-08)

Procedure No: A-GTF-01 Date Issued: 1-9-04 Revision No: 01 Rev. Date: 5-15-09
Contractor (Fabricator) D.S. Brown Company Prepared by: Brad Streeter, Quality Assurance Manager

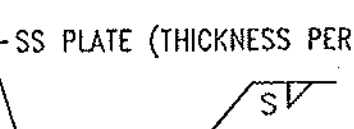
1. Non-Fracture Critical ☒ Fracture Critical ☐ WPS Expiration Date: _____
2. Qualified in accordance with: AWS D1.5-2008, AWS D1.6-07
Referenced PQR No(s). PQR-GTAW-01-(07)NY _____, _____, _____
Referenced FWST No(s). PQR-GTAW-01(03) _____, _____
3. Material specification(s) ASTM A709 Gr. 36, 50, 50W, 304SS, 316SS
4. Material Thickness (es) Unlimited
5. Welding process GTAW
6. Manual ☒, machine ☐, or semiautomatic ☐
7. Position(s) of welding 1F, 2F
8. Filler metal specification AWS A5.9
9. Filler metal class and brand name ER309L (Murrex)
10. Flux class & brand N/A, Type N/A
11. Shielding gas 100% Argon Flow rate 20 CFH
12. Single pass ☒ Or multiple pass ☐
13. Single arc ☒ Or multiple arc ☐
14. Welding Current DCEN
15. Polarity Straight
16. Welding progression stringers
17. Root treatment Clean to bright sound metal or per AWS D1.5 (3.2.1 & 3.11)
18. Postheat treatment N/A
19. Calculated Heat Input (KJ/in) Min 10.9 KJ Max 20.4 KJ
20. Electrode extension (electrical stickout) N/A

For DOT Approval

Trans
Received
OKO/GML
ORD BY JWC

FEB 28 2012

Resubmit
BY KWH
APPROVED
DATE 2/28/12

Weld size (in)	Pass No(s)	Electrode Size (in)	Welding Process Variables		Travel Speed (IPM)	Joint Detail (Fillet Weld)	
			AMPS/WFS*	VOLTS		Show all dimensions, weld sizes, passes, and AWS symbols	
20 ga.	1	1/8"	170-200	15-17	12.6-15.4		T₁ = Varies S = Fillet Weld Size (Fillet weld must not exceed thickness of stainless steel)
16 ga.	1	1/8"	170-200	15-17	12.6-15.4		
14 ga.	1	1/8"	170-200	15-17	12.6-15.4		
12 ga.	1	1/8"	170-200	15-17	12.6-15.4		
11 ga.	1	1/8"	170-200	15-17	12.6-15.4		
10 ga.	1	1/8"	170-200	15-17	12.6-15.4		
8 ga.	1	1/8"	170-200	15-17	12.6-15.4		
3/16"	1	1/8"	170-200	15-17	12.6-15.4		

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

Prepared By: _____ DSB QA Manager

Project: _____

DSB Job: 35029-1112

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

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

GENERAL NOTES:

1. HEAVY DUTY STEEL BEAM GUARD RAIL SHALL CONFORM TO VT. SPECIFICATION SECTION 732.
2. STRUCTURAL STEEL TUBING SHALL CONFORM TO VT. SPECIFICATION SECTION 732 GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH (AASHTO M111) ASTM A123.
3. BRIDGE RAIL POSTS, SPECIAL WASHERS, PLATE WASHERS AND SPLICE BARS SHALL CONFORM TO (AASHTO M223) A572 GR50 GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH (AASHTO M111) ASTM A123.
4. ALL BOLTS AND RELATED HARDWARE SHALL CONFORM TO (AASHTO M164) ASTM A325 TYPE 1 BOLTS, HOT DIPPED OR MECHANICALLY GALVANIZED PER SPECIFICATION.
5. ALL POSTS SHALL BE SET NORMAL TO GRADE.
6. SPLICES FOR THE STEEL BEAM GUARDRAIL SHALL LAP IN THE DIRECTION OF TRAFFIC.
7. ALL FIELD CUT OR DRILLED AREAS SHALL BE REPAIRED PER SECTION 513.
8. ALL FLAT WASHERS SHALL CONFORM TO ASTM F436.
9. ALL NUTS SHALL CONFORM TO ASTM A563, GRADE DH

Technical drawing of a splice connection. The drawing shows a W6x25 post connected to a channel splice (CS1 C7x12.25) using a splice plate. The splice plate is labeled "TS6X4X 1/4\"". The post is labeled "W6X25 POST". The channel splice is labeled "CHANNEL SPLICE *CS1 C7X12.25". The splice plate is secured with "3/4\" BOLT *B4\"". Dimensions shown include "1'-6 1/2\" for the splice plate length, "1'-3 1/4\" for the post length, and "1\" GAP" between the splice plate and the post. The drawing also shows a "1\" GAP" between the splice plate and the channel splice.

Technical drawing of a cross-section of a bridge deck. The drawing shows a central web with multiple horizontal stiffeners. Key components and dimensions are labeled:

- Top Flange:**
 - Hex-HD Bolts "FBI"
 - W6x25 POST
 - TSB4X4 1/2" RAIL
 - W-BEAM (BY OTHERS)
 - 1/2" G/H-L HD. DOLT "FDB3" WITH
- Web:**
 - 1/2" HEX-HD BOLTS "FB2"
 - TSB4X4 1/2" TUBING "T1"
- Bottom Flange:**
 - 1 1/2" ANCHOR ASSY "A1"
 - (CAST IN DECK)
- Dimensions:**
 - Overall width: 4'-0"
 - Web thickness: 1/2"
 - Bottom flange thickness: 1/2"
 - Bottom flange width: 1'-0"

SECTION X-X

1. ALL DIMENSIONS ARE ALONG FACE OF RAIL U.O.N.
2. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A $\frac{1}{16}$ " RADIUS AND BE FREE OF BURRS PRIOR TO GALVANIZING.
3. SEAL WELD ALL CONNECTIONS, WHERE POSSIBLE, PRIOR TO GALVANIZING.

RECEIVED

3:46 pm, Mar 26, 2012

SECTION BOLTS W/HAUL				WISCONSIN		FINISH	
QUAL.	SIZE	LENGTH	TYPE	FLAT	REV.	SAV.	HAUL
FINISH				NOT DIPPED GALVANIZED			
WATERBURY				ASTM A490 GR. 36			
HOLE				AS NOTED			
ELECTRODES				PER W.P.S.			
WELD				AS NOTED			
SURFACE PREP				SSPC-SP8			
				A 3/23/12		PER APPROVAL	
				DATE		JAC BY	

		REVISIONS ADVANCED RESOURCES & CONST. ENTERPRISES, INCORPORATED P.O. BOX 120 KINGFIELD, ME 04947 PHONE: (207) 265-2646 - FAX: (207) 265-4054	
BRIDGE RAIL KEY PLAN		PROJECT NO. BRD 1442(20)	
DRAFTER JAC DATE 2/8/12 CHECKED WTD JOB 11-175	VERMONT AGENCY OF TRANSPORTATION, TOWN OF SPRINGFIELD, THE 6 CLASS II, LOCAL ROAD G.C. T. BUCK CONSTRUCTION, INC.		DWG. NO. R1

ADVANCED RESOURCES & CONST.
ENTERPRISES, INCORPORATED

P.O. BOX 120 KINGFIELD, ME. 04947
T: (207) 265-2848 - FAX: (207) 265-

KEY PLAN

U.S. DEPARTMENT OF TRANSPORTATION,
WASHINGTON, D.C. 20590

T. BUCK CONSTRUCTION, INC.

GALVANIZE AFTER FABRICATION PER AASHTO M111

Vermont Agency of Transportation

OK'D BY GML | OK'D BY JTS

3:46 pm, Mar 26, 2012

RESUBMIT BY KMH APPROVED AS NOTED
DATE 3/28/2012

EJECTION BOXES W/CHALK				WASHERS		FINISH	
QUAL.	SIZE	LENGTH	TYPE	FLY	REV.	DAILY ACTION	W2
HOT DIPPED GALVANIZED							
MATERIAL				AGRID W/20 OR 30			
HOLES				AS NOTED			
ELECTRODES				PER W.P.S.			
WELDS				AS NOTED			
SURFACE PREP				SSPC-SP8			
				☒ 5/23/12 NO DATE		PER APPROVAL DISCREPANCY	
						JAC BY	



ARC
ELECTRODE INC.

ADVANCED RESOURCES & CONST.

INSTALLATIONS, INCORPORATED

P.O. BOX 100 KINGSTREE, ME 04947
 PHONES (207) 260-2666 FAX (207) 263-0054

BRIDGE RAIL POST STEELS

TENDRANT AGENCY OF TRANSPORTATION
 TOWN OF SPENCERFIELD, IN E GLASS HILL ROAD
 G.C.

DATE: JAC

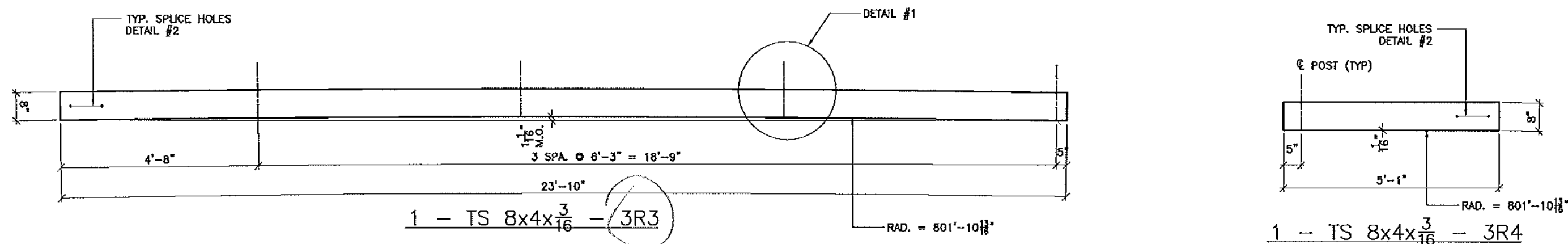
2/8/12

CHANGED WTD

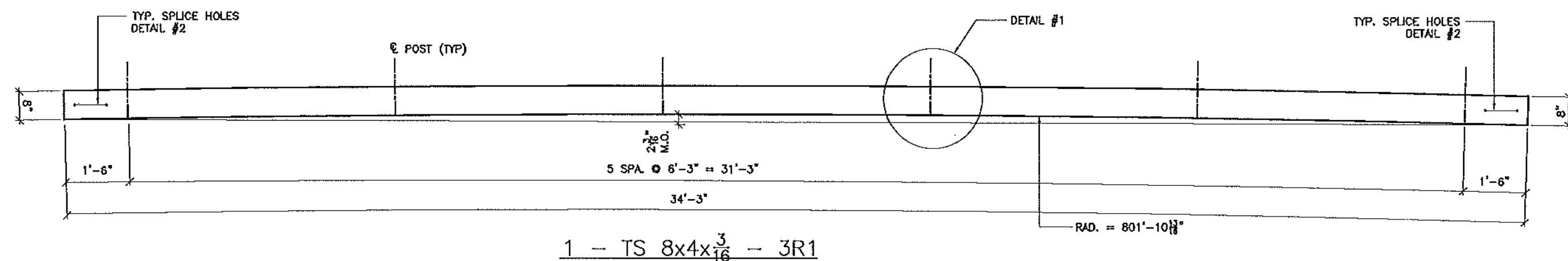
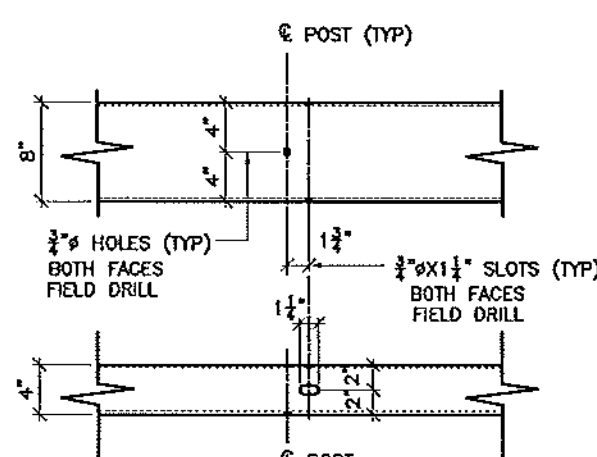
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PROJECT NO. BRO 1442(28)

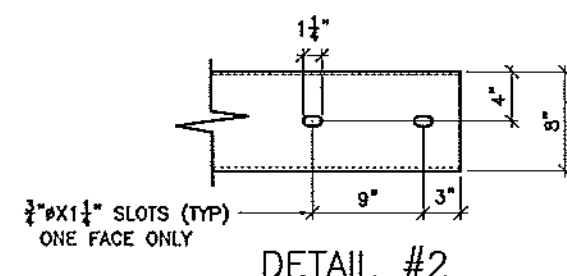
DWG. NO. R2

$$2 - TS \quad 8 \times 4 \times \frac{3}{16} = 3R2$$

$$\frac{1 - TS \ 8 \times 4 \times \frac{3}{16}}{3R3}$$

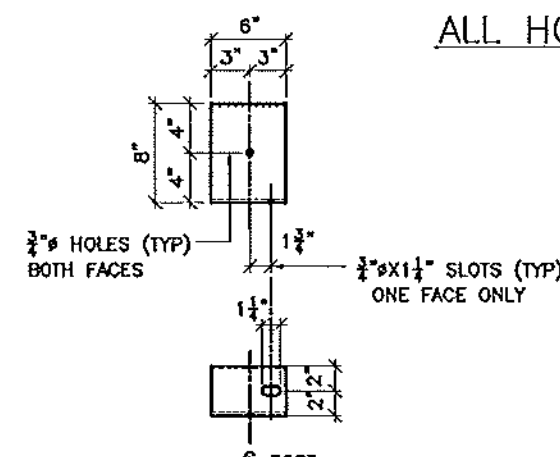
1 - TS 8x4x $\frac{3}{16}$ - 3R4


$$\underline{1 - TS \ 8 \times 4 \times \frac{3}{16} = 3R1}$$


DETAIL #1



DETAIL #2



92 REQ'D, TS8X4X $\frac{3}{16}$, MARK "T1"

ALL HOLES FOR POSTS ARE FIELD DRILLED

BILL OF MATERIAL

[illegible]

TUBE: ASTM A500 GR. B
GALVANIZE AFTER FABRICATION PER AASHTO M111

Vermont Agency of Transportation

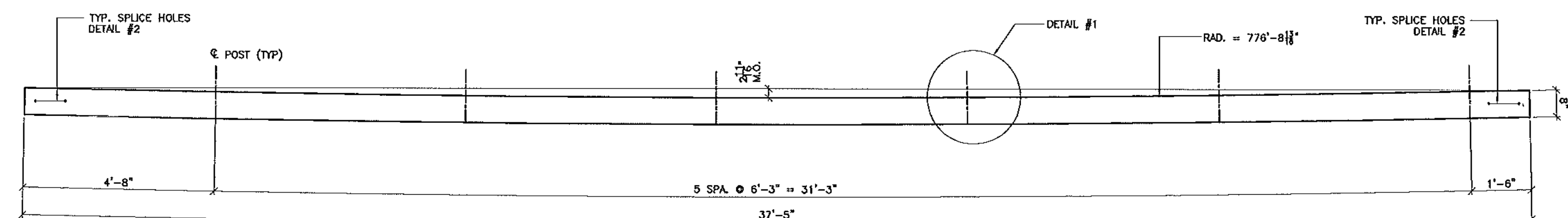
RECEIVED

CK'D BY JGML OK'D BY JTS

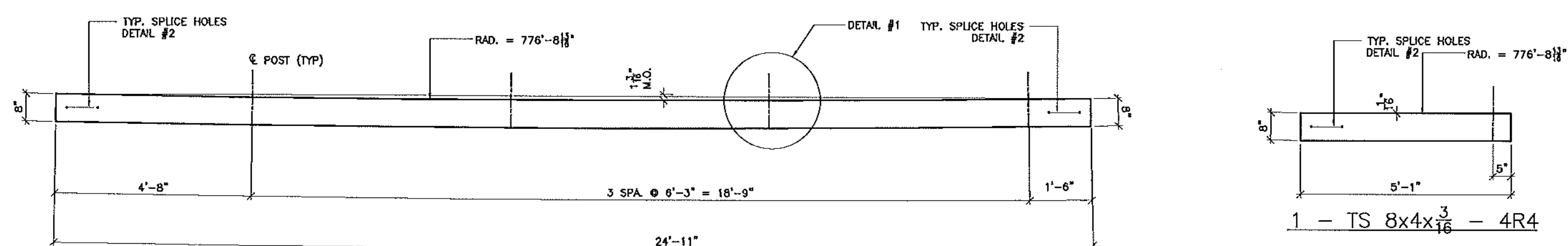
3:46 pm, Mar 26, 2012

RESUBMIT _____ APPROVED ☒ X
BY KMH DATE 3/28/2012

[illegible]

$$\frac{1 - TS \cdot 8 \times 4 \times \frac{3}{16}}{4R1}$$


2 - TS 8x4x $\frac{3}{16}$ - 4R2


$$\frac{1 - TS}{8 \times 4 \times \frac{3}{16}} = 4R3$$

SEE DWG R3 FOR B.O.M. & DETAILS NOT SHOWN

TUBE: ASTM A500 GR. B
GALVANIZE AFTER FABRICATION PER AASHTO M111

Vermont Agency of Transportation

CK'D BY GML OK'D BY JTS

3:46 pm, Mar 26, 2012

RESUBMIT _____ APPROVED ^X _____
BY KMH DATE 3/28/2012

[illegible]

		ADVANCED RESOURCES & CONST. ENTERPRISES, INCORPORATED P.O. BOX 120 KNOXFIELD, ME 04047 (207) 265-2646 - FAX: (207) 265-4054	
REVISIONS			
BRIDGE RAIL DETAILS		PROJECT NO. BRD 1442(26) DWG. NO. R4	
DRAWN JAC DATE 2/8/12 CHECKED MTO JOB 11-175	VERMONT AGENCY OF TRANSPORTATION, TOWN OF SPENCERFIELD, TH 6 CLASS II, LOCAL ROAD T. BUCK CONSTRUCTION, INC.		



September 12th, 2012

ELEVATION VIEW

BRIDGE DRAIN PIPING

Custom Composites Fabricator For Industry		RESIN: DERAKANE 510C-350		DATE: 8/3/12
		LAYOUT SCHEDULE: N-MMM-MRM... TO THK		DRAWN: PAUL D.
KENNAMY CORPORATION		CORR BARRIER THK: .100		WORK ORDER: 7918
681 Riverside Drive		WALL THK: .25		SCALE: NONE
Augusta, Maine 04330		COLOR: GRAY THROUGHOUT		
Voice (207) 622-6226		CUSTOMER: T-BUCK CONSTRUCTION		DRAWING NO. 7918-1
Fax (207) 622-6811		DRAWING DATE		
REV. DATE DESCRIPTION				
B	9/7/12	CHANGED INTERNAL DIMENSIONS TO 4"-1 1/4"		
A	8/21/12	CHANGED INTERNAL DIMENSIONS TO 3'-6 AND 3'-3		