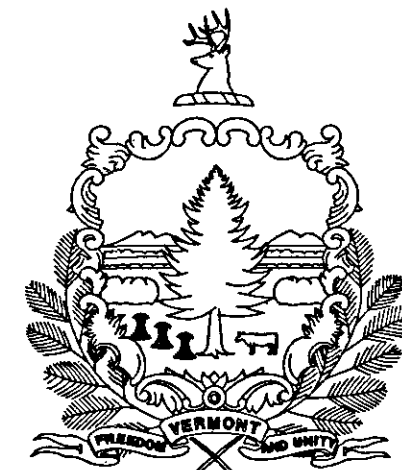


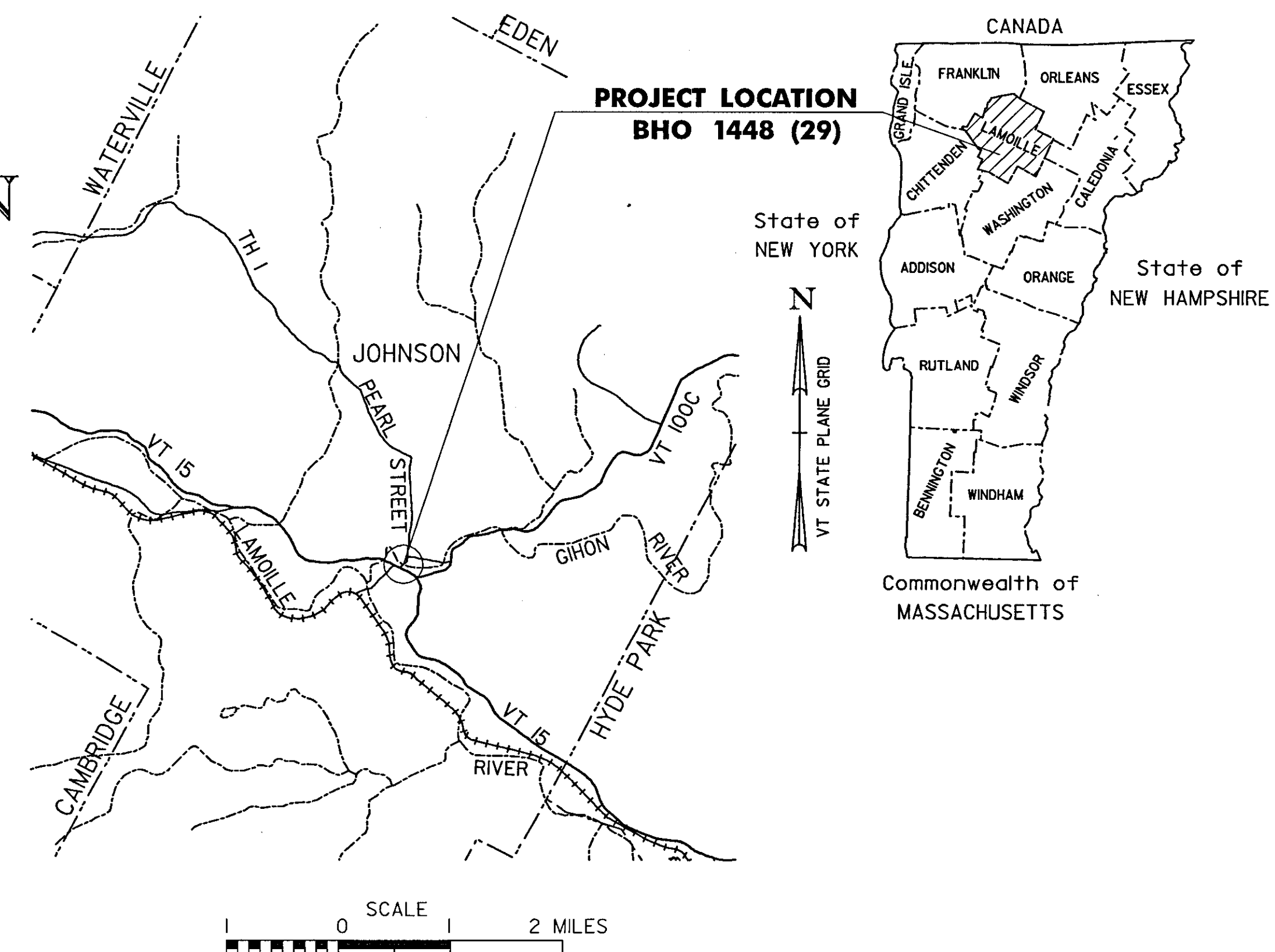
**INDEX OF SHEETS**

SEE SHEET 2

STATE OF VERMONT  
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT  
BRIDGE PROJECT  
TOWN OF JOHNSON  
COUNTY OF LAMOILLE

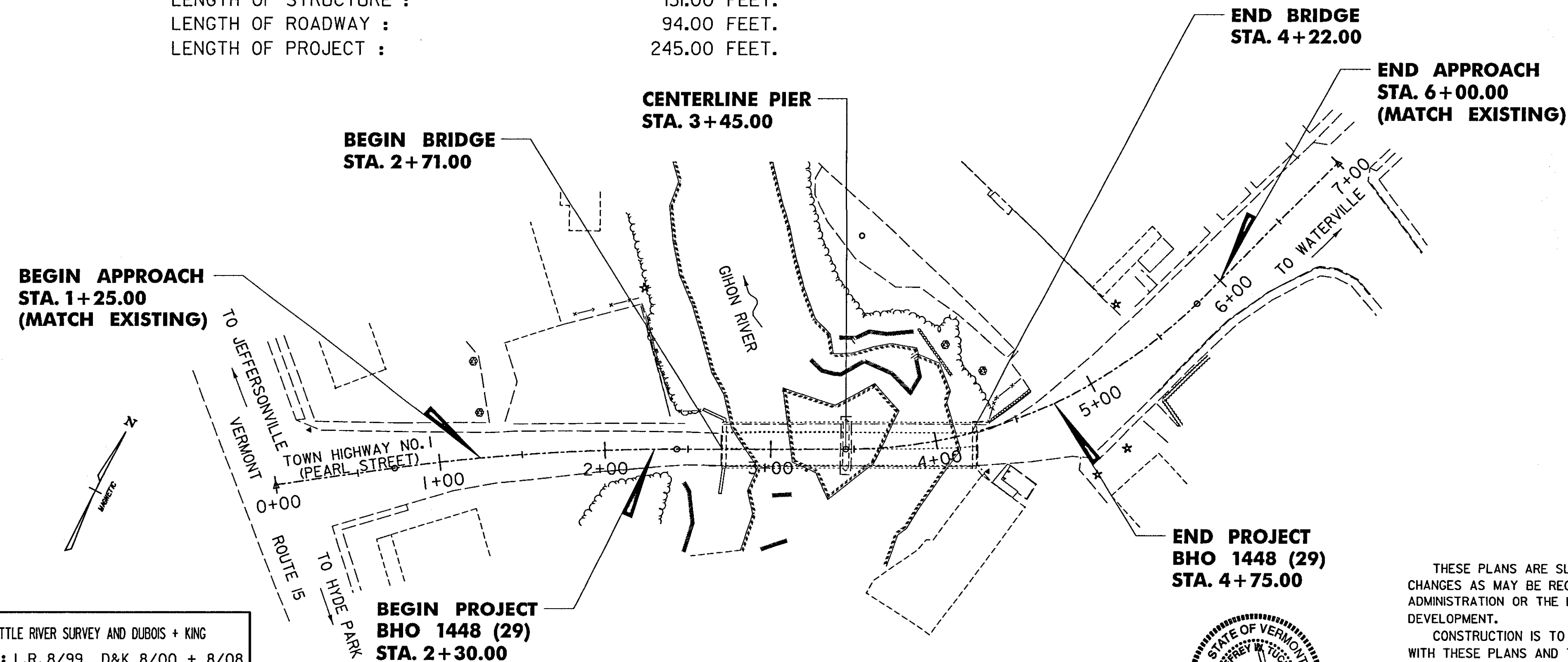


ROUTE NO : TH 1 CLASS 2 BRIDGE NO : 5  
FUNCTIONAL CLASSIFICATION: LOCAL ROAD

PROJECT LOCATION : BEGINNING ON TH NO.1 AT A POINT 230 FEET NORTHEAST OF THE INTERSECTION OF VT ROUTE 15 IN THE TOWN OF JOHNSON AND EXTENDING NORTHEAST 245 FEET ALONG TH NO.1

PROJECT DESCRIPTION : REMOVAL OF EXISTING SUPERSTRUCTURE AND PARTIAL REMOVAL OF ABUTMENT NO.2, REHABILITATION OF ABUTMENT NO.1 AND PIER, CONSTRUCTION OF A NEW COMPOSITE STEEL BEAM AND CONCRETE DECK SUPERSTRUCTURE, CAST-IN-PLACE CONCRETE ABUTMENT NO.2 AND CAST-IN-PLACE CONCRETE SIDEWALK WITH ASSOCIATED ROADWAY APPROACH IMPROVEMENTS.

LENGTH OF STRUCTURE : 151.00 FEET.  
LENGTH OF ROADWAY : 94.00 FEET.  
LENGTH OF PROJECT : 245.00 FEET.



**RECORD PLANS**

CONTRACTOR: S. D. IRELAND CONC. CONST. CORP - BURLINGTON, VT

RESIDENT ENGINEER: CARL GLEASON

CONSTRUCTION BEGAN: JUNE 1, 2009

CONSTRUCTION COMPLETE: OCTOBER 21, 2010

RECORD PLANS BY: CARL GLEASON & MATT BIRCHARD

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

BY: *Carl Gleason* RESIDENT ENGINEER  
DATE: 4/26/11

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

**CONVENTIONAL SYMBOLS**

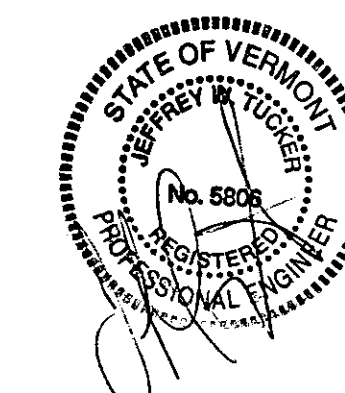
COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY : LITTLE RIVER SURVEY AND DUBOIS + KING  
SURVEYED DATE : L.R. 8/99 D&K 8/00 + 8/08

DATUM  
VERTICAL : NAVD 88  
HORIZONTAL : ASSUMED



SCALE 1" = 50'-0"  
50 0 50



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

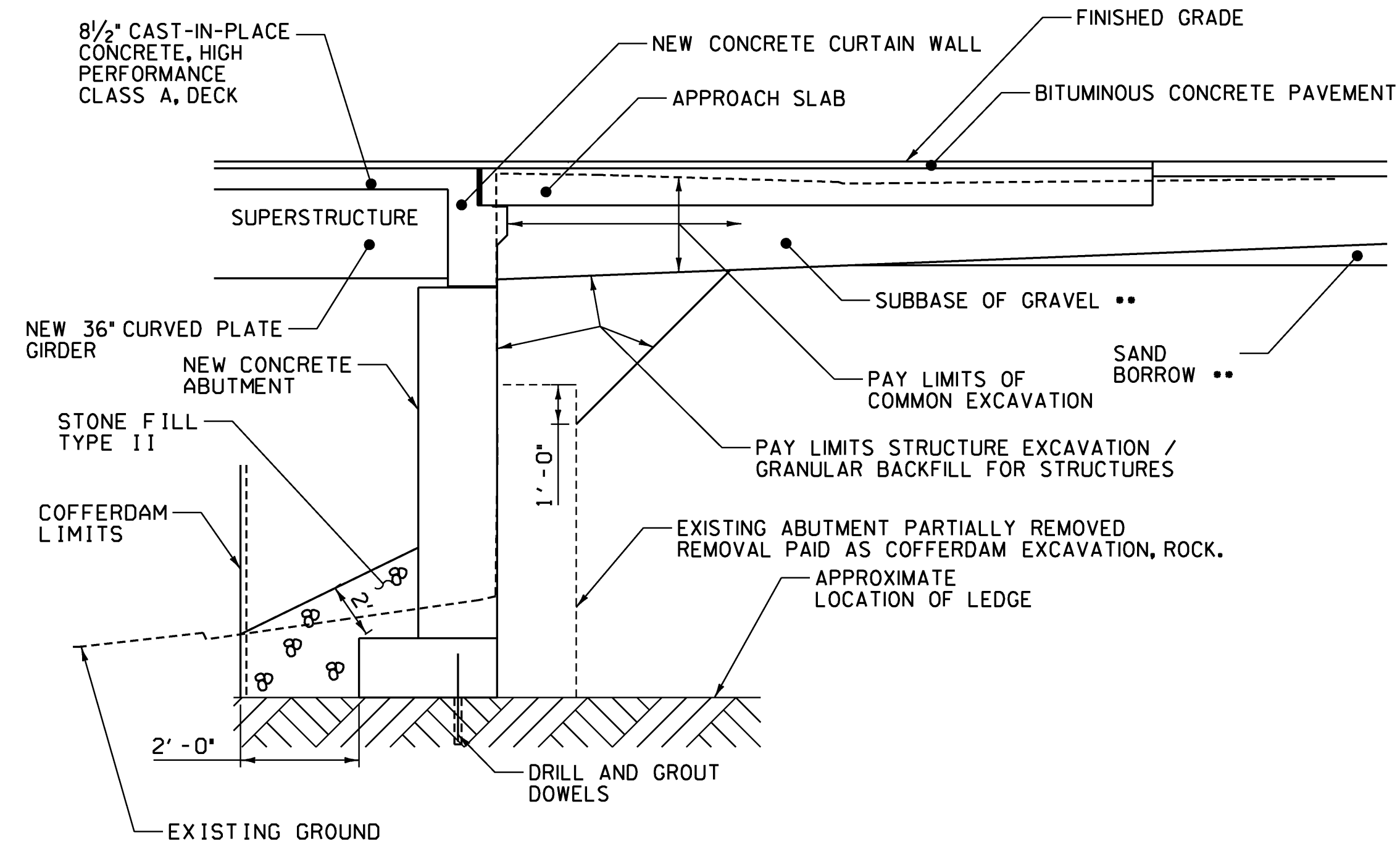
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS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

DIRECTOR OF PROGRAM DEVELOPMENT  
APPROVED: *Kristin M. Higgins* DATE: 2-11-09  
PROJECT MANAGER : KRISTIN M. HIGGINS, P.E.  
PROJECT NAME : JOHNSON  
PROJECT NUMBER : BHO 1448 (29)  
SHEET 1 OF 68 SHEETS

PLOTTED 2/9/2009

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10	TIE SHEET
11	SITE PLAN
11A	TRAFFIC SIGN SUMMARY SHEET
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36	ABUTMENT NO. 2 MASONRY
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40	PIER DETAILS
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46	STREET LIGHT AND UTILITY DETAILS
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48	SUBBASE TRANSITION & TYP. CURB SECTION
49-53	ROADWAY CROSS SECTIONS
54-59	CHANNEL CROSS SECTIONS
60-61	DETOUR CROSS SECTIONS
62-63	DRAINAGE PROFILES
64	UTILITY SITE PLAN
65	UTILITY PROFILES
66	UTILITY SECTIONS
67	UTILITY NOTES AND DETAILS
68	UTILITY STRUCTURAL PLAN

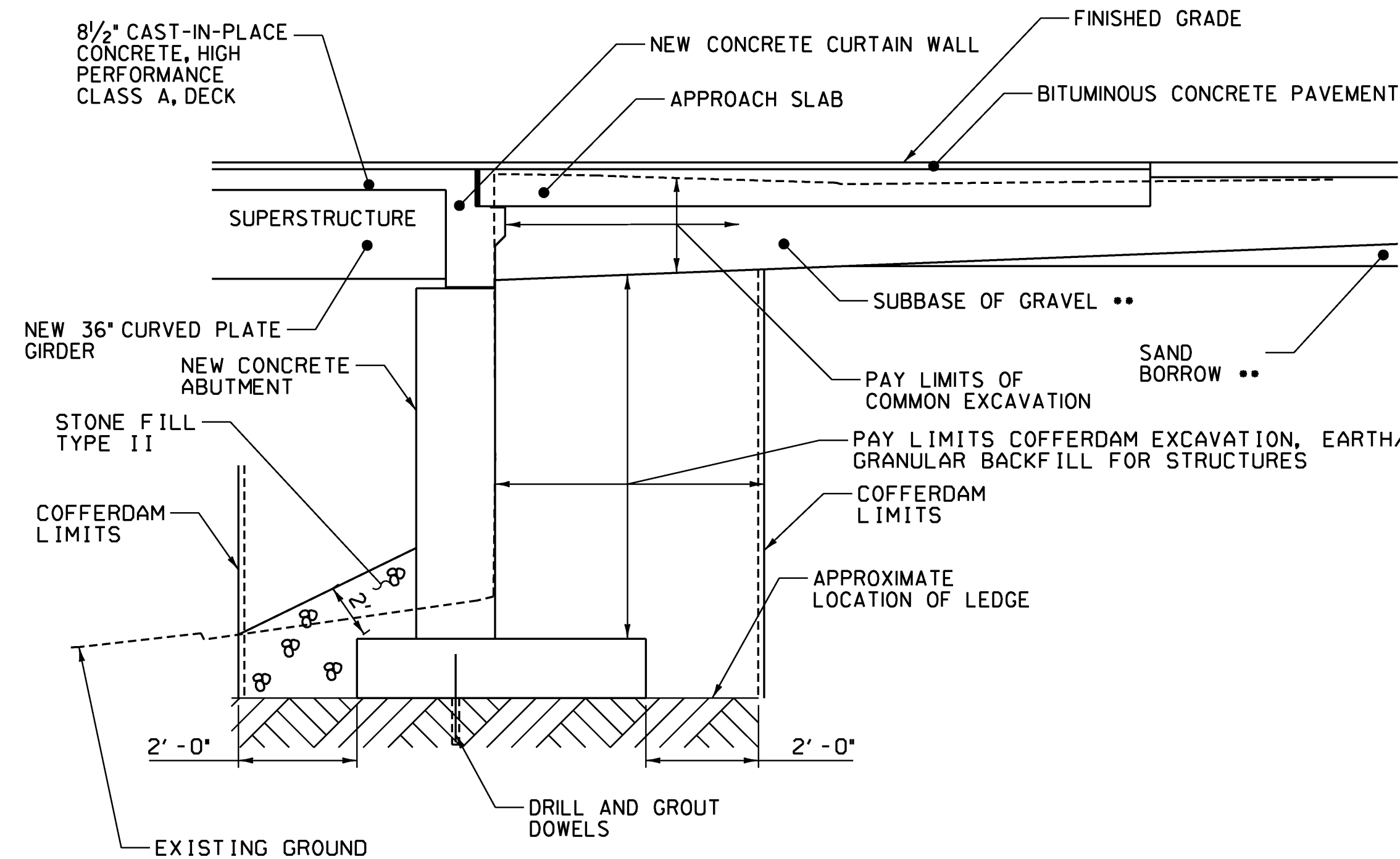


**TYPICAL ABUTMENT NO. 2 SECTION AGAINST EXISTING ABUTMENT**

(NOT TO SCALE)

\*\* DEPTHS VARY SEE SUBBASE TRANSITION DETAIL, SHEET 48

NOTE: IF STONEFILL IS PLACED ON BEDROCK NO GEOTEXTILE SHALL BE USED. IF STONEFILL IS PLACED ON GRANULAR MATERIAL, GEOTEXTILE SHALL BE USED UNDER STONEFILL.



**TYPICAL ABUTMENT NO. 2 SECTION**

(NOT TO SCALE)

\*\* DEPTHS VARY SEE SUBBASE TRANSITION DETAIL, SHEET 48

NOTE: IF STONEFILL IS PLACED ON BEDROCK NO GEOTEXTILE SHALL BE USED. IF STONEFILL IS PLACED ON GRANULAR MATERIAL, GEOTEXTILE SHALL BE USED UNDER STONEFILL.

**VTRANS STANDARDS**

B-5	EMBANKMENT ON EARTH SLOPE, EMBANKMENT ON ROCK SLOPE, MUCK EXCAVATION, TYPICAL SLOPE ROUNDING	06/01/94
B-71	STANDARDS FOR RESIDENTIAL AND COMMERCIAL DRIVES	07/08/05
C-10	CURBING	02/11/08
C-2A	PORTLAND CEMENT CONCRETE SIDEWALK, DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10/14/05
C-3A	SIDEWALK RAMPS	03/10/08
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	03/10/08
D-9	REINFORCED CONCRETE DROP INLET WITH VERTICAL CURB, REINFORCED CONCRETE DROP INLET THROAT ADAPTER	06/01/94
D-15	PRECAST REINF. CONC. CATCH BASIN W/ CAST IRON GRATE	06/01/94
	PRECAST REINF. CONC. MANHOLE W/ CAST IRON COVER	
	CAST IRON GRATE WITH FRAME, TYPE D	
	CAST IRON GRATE WITH FRAME, TYPE E	
D-16	PRECAST REINF. CONC. CURB DROP INLET W/ CAST IRON GRATE	06/01/94
	CAST IRON GRATE TYPE B	
	CAST IRON GRATE TYPE C	
	UNDERDRAIN RISER	
	REINFORCED CONCRETE PIPE END SECTION	
	ENERGY DISSIPATOR FOR CULVERT	
E-100	CONSTRUCTION APPROACH SIGNS	01/02/04
E-100A	SIDE ROAD CONSTRUCTION APPROACH SIGNS	01/02/04
E-101	CONSTRUCTION SIGN DETAILS	05/30/03
E-102	CONSTRUCTION SIGN DETAILS	06/30/03
E-102A	CONSTRUCTION SIGN DETAILS	05/01/04
E-106	TRAFFIC CONTROL MISCELLANEOUS DETAILS	03/01/04
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06/30/03
E-107A	BREAKAWAY BARRICADE DETAILS	08/08/95
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	12/08/08
E-121	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	08/08/95
E-146	REGULATORY SIGN DETAILS	09/20/95
E-152	WARNING SIGN DETAILS	05/01/04
E-173	PULL BOXES AND JUNCTION BOXES	08/09/95
E-175	POWER DROP STANCHIONS	11/17/93
E-180B	STREET LIGHTING DETAILS	08/09/95
E-181	TYPICAL BRIDGE MOUNTING DETAILS FOR STREET LIGHT POLE	08/09/95
E-191	PAVEMENT MARKING DETAILS	02/01/99
E-193	PAVEMENT MARKING DETAILS	08/18/95
G-1	STEEL BEAM GUARDRAIL WITH STEEL POSTS	01/03/00
G-18	STEEL BEAM GUARDRAIL WITH WOOD POSTS	
	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	06/01/94
SB-R6-82	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	01/06/95

**SEEDING FORMULA URBAN AREAS**

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

**GENERAL NOTES**

- SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.
- FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
- AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
- HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

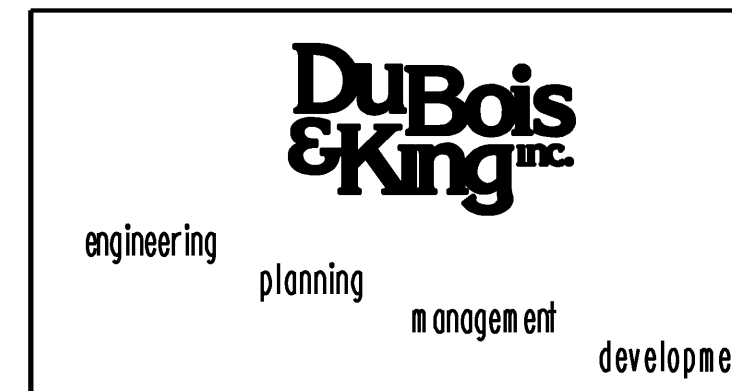
**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**INDEX OF SHEETS**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372+it.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	2 of 68



PLOTTED 2/18/2009

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA = 63.9 sq. MILES  
 CHARACTER OF TERRAIN: MIXED USE FROM RURAL TO URBAN, FORESTED AND OPEN PONDS  
 CHARACTER & TYPE OF STREAM: SINGLE, INCISED, SEMI-ALLUVIAL  
 NATURE OF STREAMBED: LEDGE, GRAVEL, SAND

02.33= 2000 cfs      050= 6500 cfs  
 010= 3725 cfs      0100= 8125 cfs  
 025= 5050 cfs      0500= 13500 cfs

DATE OF FLOOD OF RECORD: 1927  
 WATER SURFACE ELEV.: UNKNOWN      ESTIMATED DISCHARGE: UNKNOWN  
 NATURAL STREAM VELOCITY: @ 025 = 13.2 fps  
 ICE CONDITIONS: MODERATE TO HEAVY      DEBRIS: MODERATE  
 DOES THE STREAM REACH MAXIMUM HIGH WATER ELEVATION RAPIDLY: NO  
 IS ORDINARY RISE RAPID? NO  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES  
 IF YES, DESCRIBE: BACKWATER FROM LAMOILLE RIVER

WATERSHED STORAGE: 1.3% HEADWATERS - UNIFORM THROUGHOUT WATERSHED X  
 IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: TWO SPAN ROLLED STEEL BEAM BRIDGE      YEAR BUILT: 1938  
 CLEAR SPAN (NORMAL TO STREAM): 135 ft.  
 VERTICAL CLEARANCE ABOVE STREAMBED: 10.5 ft.  
 WATERWAY OF FULL OPENING: 1535 sqft  
 DISPOSITION OF STRUCTURE: TO BE REMOVED AND DISPOSED OF BY CONTRACTOR  
 ABUTMENT NO. LAND PIER TO REMAIN  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: UNKNOWN

WATER SURFACE ELEV. @ 02.33= 498.3      VELOCITY= 10.1 fps  
 010= 500.0 ft      12.0 fps  
 025= 501.1 ft      13.2 fps  
 050= 502.1 ft      14.1 fps  
 0100= 503.1 ft      15.1 fps

LONG TERM STREAM BED CHANGES: NONE KNOWN

IS THE ROADWAY OVERTOPPED BELOW THE O100? NO      FREQUENCY: NA  
 RELIEF ELEVATION: 501.6 ft.      DISCHARGE OVER ROAD @ O100: NONE

UPSTREAM STRUCTURE: TOWN: JOHNSON      DISTANCE: 2320 ft.  
 HIGHWAY NO.: VT RT 15      STRUCTURE NO.: CB 4  
 NOTE: STRUCTURE TYPE IS A COVERED BRIDGE

DOWNSTREAM STRUCTURE: TOWN: JOHNSON      DISTANCE: 2140 ft.  
 HIGHWAY NO.: VT RT 15      STRUCTURE NO.: BR 37  
 NOTE: STRUCTURE TYPE IS A PLATE GIRDER

DESIGN CRITERIA:

- DESIGN LIVE LOAD AASHTO HS-25-44
- DESIGN SPAN 149.0 ft (SPAN 1 = 73', SPAN 2 = 76')
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A      ON LEDGE 10.0 k ip/sf
- ALLOWABLE LOAD FOR PILING N/A      TYPE N/A      ESTIMATED LENGTH N/A
- STRUCTURAL STEEL AASHTO GRADE AASHTO M270 M / M270 GRADE 50 W
- REINFORCING STEEL GRADE 60
- CONCRETE, HIGH PERFORMANCE CLASS A      f<sub>c</sub> : 4000 PSI  
 CONCRETE, HIGH PERFORMANCE CLASS B      f<sub>c</sub> : 3500 PSI

TRAFFIC MAINTENANCE:

- IS TRAFFIC TO BE MAINTAINED? YES      IF YES, ON EXISTING STRUCTURE NO      OR ON TEMPORARY BRIDGE YES
- TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO WAY      TRAFFIC CONTROL SIGNALS REQUIRED NO  
 MINIMUM CLEAR SPAN (NORMAL TO STREAM): \*      VERTICAL CLEARANCE ABOVE STREAMBED: \*  
 WATERWAY OF FULL OPENING: \*  
 ARE SIDEWALKS REQUIRED? YES      IF SO, ON WHAT SIDE? LEFT  
 STRUCTURE TYPE: NA      \* SEE TEMPORARY BRIDGE SKETCH ABOVE

PROPOSED STRUCTURE

STRUCTURE TYPE: TWO SPAN CONTINUOUS CURVED PLATE GIRDER BRIDGE

CLEAR SPAN (NORMAL TO STREAM): 133 ft.  
 VERTICAL CLEARANCE ABOVE STREAMBED: 10.5 ft.  
 WATERWAY OF FULL OPENING: 1475 sqft

WATER SURFACE ELEV. @ 02.33= 498.3      VELOCITY= 10.1 fps  
 010= 500.0 ft      12.0 fps  
 025= 501.1 ft      13.2 fps  
 050= 502.1 ft      14.1 fps  
 0100= 503.1 ft      15.1 fps

IS THE ROADWAY OVERTOPPED BELOW THE O100? NO      FREQUENCY: NA  
 RELIEF ELEVATION: 501.6 ft.      DISCHARGE OVER ROAD @ O100: NA

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 498.4 ft.  
 VERTICAL CLEARANCE: @ 025 = 3.6 ft.

SCOUR: SCOUR IS NOT AN ISSUE HERE, THERE IS LEDGE IN MANY AREAS.  
 REQUIRED CHANNEL PROTECTION: STONE FILL, TYPE IV

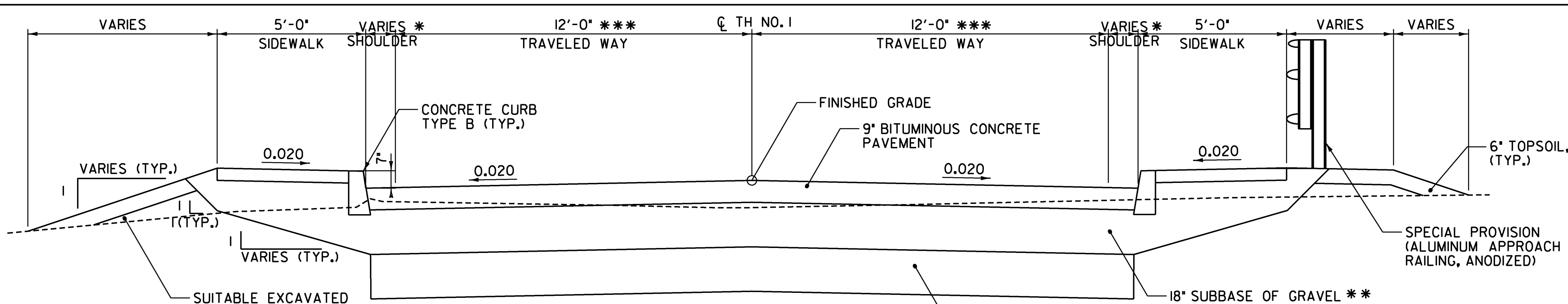
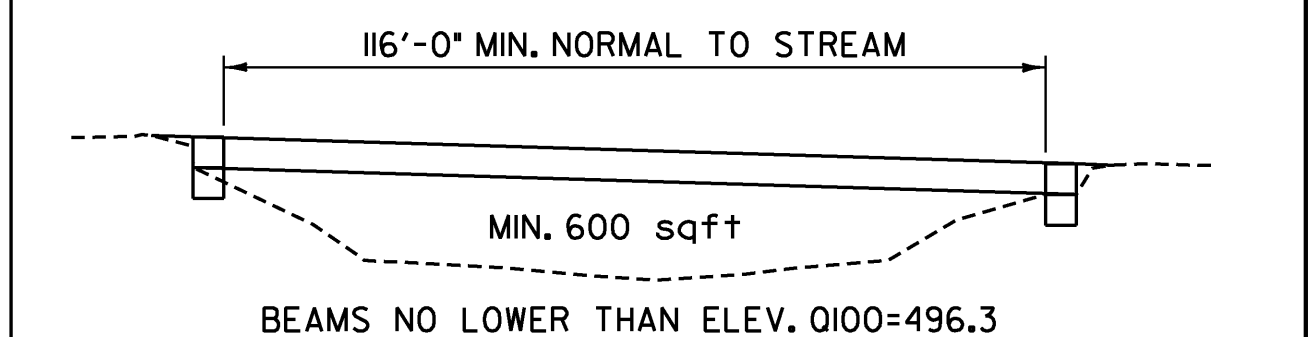
PERMIT INFORMATION

AVERAGE DAILY FLOW: 130 cfs  
 ORDINARY LOW WATER: 60 cfs      DEPTH: 1.5 ft.  
 ORDINARY HIGH WATER: 860 cfs      DEPTH: 2.8 ft.

ADDITIONAL COMMENTS

ELEVATIONS REPORTED ARE THOSE ELEVATIONS 200' UPSTREAM BEFORE THE CONTRACTION SECTION OF THE BRIDGE.  
 AT THE BRIDGE, 025 = 494.8' AND 0100 = 498.0'.

TEMPORARY BRIDGE SKETCH  
 NOT TO SCALE



TYPICAL ROADWAY SECTION

SCALE: 3/8" = 1'-0"

TYPICAL ROADWAY SECTION

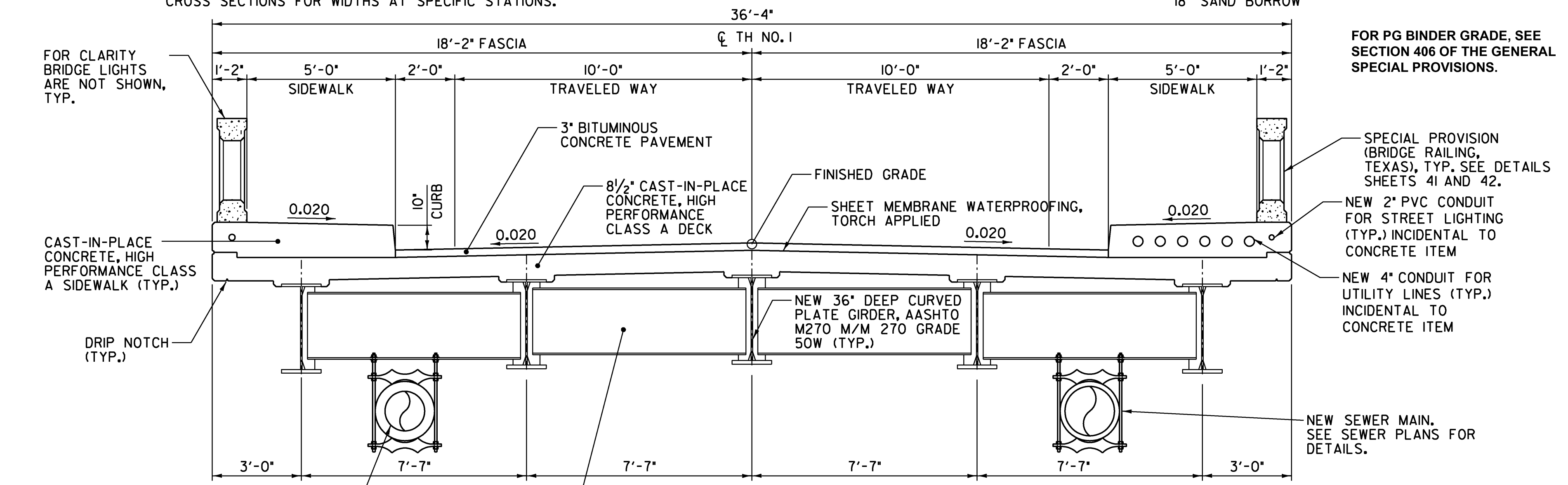
1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IV)  
 1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IV)  
 3" BITUMINOUS CONCRETE PAVEMENT (TYPE I)  
 3" BITUMINOUS CONCRETE PAVEMENT (TYPE I)  
 18" SUBBASE OF GRAVEL  
 18" SAND BORROW

\*\* SHOULDER WIDTH VARIES THROUGH PROJECT. REFER TO ROADWAY CROSS SECTIONS FOR WIDTHS AT SPECIFIC STATIONS.

\*\* DEPTH VARIES, SEE SUBBASE TRANSITION DETAIL, SHEET 48.

\*\*\* TRAVELED WAY VARIES. REFER TO SITE PLAN AND ROADWAY CROSS SECTIONS FOR WIDTHS AT SPECIFIC STATIONS.

NOTE:  
 SEE SHEET NO. 48 FOR ADDITIONAL PARTIAL SECTION TYPICALS.



TYPICAL BRIDGE SECTION

SCALE: 3/8" = 1'-0"

TYPICAL BRIDGE SECTION

1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IV) TOP  
 1 1/2" BITUMINOUS CONCRETE PAVEMENT (TYPE IV) BOTTOM

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	352	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY A=2.17 B=1.00	30	60					
POSTED A=1.55 B=1.40	43	83	164		127	115	121
OPERATING A=1.30 B=1.67		100	198	256	153	139	

STRENGTH RF =  $\frac{0.9 M_N - 1.3 M_{DL}}{A \times M_{LL+I}}$       SERVICEABILITY RF =  $\frac{0.95 F_y S_{LL+I} - M_{DL} S_{LL+I} - M_{SD} S_{LL+I}}{1.67 M_{LL+I}}$

NOTE:  
 FOR DESIGN OF THE BRIDGE GIRDERS, THE DEAD LOAD EXPERIENCED FROM THE CONCRETE BRIDGE RAILING AND THE CONCRETE SIDEWALK WAS DISTRIBUTED 60% TO THE EXTERIOR BEAMS AND 40% TO THE FIRST INTERIOR BEAMS.

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2009	2500	280	51	3.4	80
2029	3100	350	51	4.6	140

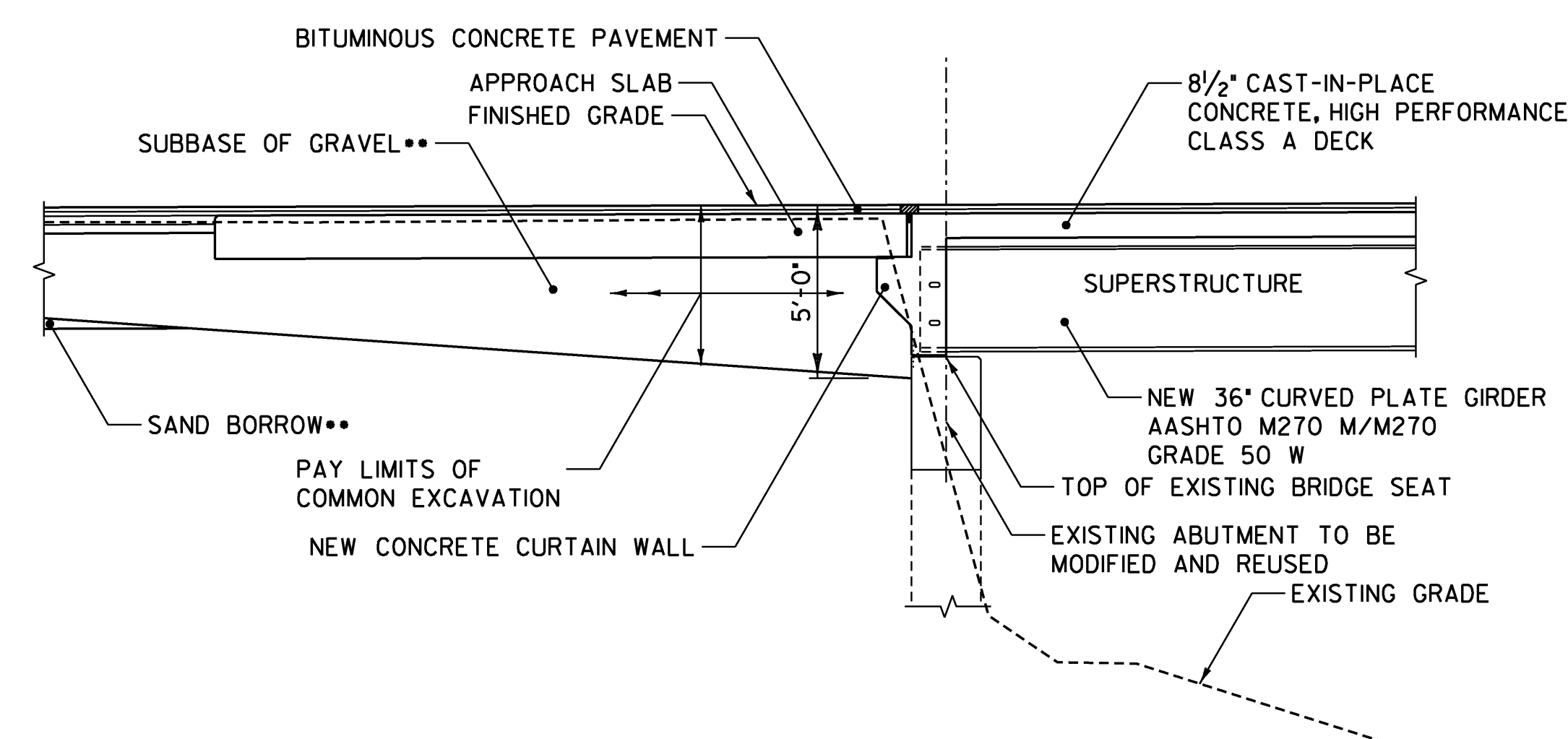
20 year ESAL for flexible pavement from 2009 to 2029: 324,000  
 40 year ESAL for flexible pavement from 2009 to 2049: 753,000  
 Design speed: 25 mph

MATERIAL TOLERANCE TABLE

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



PLOTTED 2/10/2009



TYPICAL ABUTMENT NO. 1 SECTION

(NOT TO SCALE)

\*\* DEPTHS VARIES SEE SUBBASE TRANSITION DETAIL, SHEET 48

NOTE:  
 SEE SHEET NO. 2 FOR TYPICAL ABUTMENT NO. 2 SECTION.

STATE OF VERMONT  
 AGENCY OF TRANSPORTATION

Town Of JOHNSON      Bridge No. 5  
 Highway No. 1      Log Sta.      Surv. Sta.

TH NO. 1 OVER THE GIHON RIVER

PRELIMINARY INFORMATION

Designed By A.P. GUYETTE      Drawn By A.P. GUYETTE  
 Checked By J. W. TUCKER      Date 2/09      Bridge Design Supervisor J. W. TUCKER      Date 2/09

PROJECT JOHNSON      PROJECT NO. BHO 1448 (29)  
 I.G.C. info. z98j372pl.dgn      D & K DWG NO.  
 Bridge Sheet No.      Sheet 3 of 68

# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
			ROADWAY	TRAINING	EROSION CONTROL	UTILITIES	UTILITIES - NON PART.	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				
			900							900		CY	COMMON EXCAVATION	203.15				
								10		10		CY	SOLID ROCK EXCAVATION	203.16				
								10		10		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
			15							15		CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28				
			175							175		CY	SAND BORROW	203.31				
			190			15	135			340		CY	TRENCH EXCAVATION OF EARTH	204.20				
			10							10		CY	TRENCH EXCAVATION OF ROCK	204.21				
						1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				
								245		245		CY	STRUCTURE EXCAVATION	204.25				
			130			15	130	280		555		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
								250		250		CY	COFFERDAM EXCAVATION, EARTH	208.30				
								20		20		CY	COFFERDAM EXCAVATION, ROCK	208.35				
								1		1		LS	COFFERDAM (STA. 4+10)	208.40				
			250							250		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
			700							700		CY	SUBBASE OF GRAVEL	301.15				
			4				0.5	1		5.5		CWT	EMULSIFIED ASPHALT	404.65				
			525				20	90		635		TON	BITUMINOUS CONCRETE PAVEMENT	406.25				
			1							1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
								250		250		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
								230		230		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
						650	650	28500		29800		LB	STRUCTURAL STEEL, ROLLED BEAM	506.50				
								156500		156500		LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56				
								21800		21800		LB	REINFORCING STEEL	507.15				
								300		300		LF	DRILLING AND GROUTING DOWELS	507.16				
								60500		60500		LB	EPOXY COATED REINFORCNG STEEL	507.17				
								1		1		LS	SHEAR CONNECTORS (2240 - 7/8" X 7")	508.15				
								70		70		GAL	WATER REPELLENT, SILANE	514.10				
								55		55		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10				
								410		410		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20				
			1							1		LS	TWO-WAY TEMPORARY BRIDGE (2760 SF - EST.)	528.11				
								350		350		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
								1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20				
								15		15		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11				
								21		21		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13				
								11		11		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14				
								8		8		CY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	580.15				
			204							204		LF	18" CPEP	601.0915				
			2							2		EACH	18" CPEP ELBOW	601.5814				
						2				2		EACH	SANITARY SEWER MANHOLE	604.22				

PROJECT NAME: JOHNSON  
 PROJECT NUMBER: BHO 1448(29)  
 FILE NAME: z98j372qs.dgn PLOT DATE: 02/18/2009  
 PROJECT LEADER: J.W. TUCKER DRAWN BY: A.P. GUYETTE  
 DESIGNED BY: A.P. GUYETTE CHECKED BY: E.P. DETRICK  
 QUANTITY SHEET #1 SHEET 4 OF 68

# QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
			ROADWAY	TRAINING	EROSION CONTROL	UTILITIES	UTILITIES - NON PART.	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
			3							3		EACH	PRECAST REINFORCED CONCRETE PIPE D1 WITH CAST IRON GRATE	604.25				
			2							2		EACH	CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES	604.40				
			1							1		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I	604.412				
			3							3		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS III	604.418				
			80							80		HR	POWER BROOM RENTAL, TYPE II	608.31				
			100							100		MGAL	DUST CONTROL WITH WATER	609.10				
								30		30		CY	STONE FILL, TYPE I	613.10				
								60		60		CY	STONE FILL, TYPE II	613.11				
			500							500		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28				
			325							325		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
			75							75		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH	618.11				
			50							50		SF	DETECTABLE WARNING SURFACE	618.30				
			1							1		EACH	STEEL MARKER POSTS	619.16				
			30							30		LF	REMOVAL OF EXISTING FENCE	620.55				
			64.5							64.5		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
						55	55			110		LF	SLEEVES FOR UTILITIES (2 X 24")	625.10				
						20				20		LF	PVC SEWER PIPE (10")	628.35				
						1				1		LS	TRANSFER TO NEW SYSTEM, SANITARY SEWER	628.42				
							241			241		LF	PLASTIC WATER PIPE, RIGID (8")	629.33				
							1			1		LS	TRANSFER TO NEW SYSTEM, WATER SYSTEM	629.42				
						10	75			85		TON	CRUSHED STONE BEDDING	629.54				
			200							200		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
			600							600		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
									1	1		LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25				
				520						520		HR	EMPLOYEE TRAINEESHIP	634.10				
			1							1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
			1							1		LS	TRAFFIC CONTROL	641.10				
			1200							1200		LF	4 INCH WHITE LINE	646.20				
			1200							1200		LF	4 INCH YELLOW LINE	646.21				
			40							40		LF	CROSSWALK MARKING	646.31				
			125							125		SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85				
								175		175		SY	GEOTEXTILE UNDER STONE FILL	649.31				
					250					250		SY	GEOTEXTILE FOR SILT FENCE	649.51				
					25					25		LB	SEED	651.15				
					40					40		LB	FERTILIZER	651.18				
					1					1		TON	AGRICULTURAL LIMESTONE	651.20				
					1					1		TON	HAY MULCH	651.25				

PROJECT NAME: JOHNSON  
 PROJECT NUMBER: BHO 1448(29)  
 FILE NAME: z98j372qs.dgn PLOT DATE: 02/18/2009  
 PROJECT LEADER: J.W. TUCKER DRAWN BY: A.P. GUYETTE  
 DESIGNED BY: A.P. GUYETTE CHECKED BY: E.P. DETRICK  
 QUANTITY SHEET #2 SHEET 5 OF 68

# QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
			ROADWAY	TRAINING	EROSION CONTROL	UTILITIES	UTILITIES - NON PART.	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
			60							60		CY	TOPSOIL	651.35				
								50		50		SY	GRUBBING MATERIAL	651.40				
					1					1		LS	EPSC PLAN	652.10				
					200					200		HR	MONITORING EPSC PLAN	652.20				
					1					1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
					50					50		CY	VEHICLE TRACKING PAD	653.35				
					8					8		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
					100					100		LF	BARRIER FENCE	653.50				
					600					600		LF	PROJECT DEMARCATION FENCE	653.55				
			1							1		LS	TREE PROTECTION	656.85				
			16.5							16.5		SF	TRAFFIC SIGNS, TYPE A	675.20				
			30							30		LF	FLANGED CHANNEL SIGN POST	675.301				
			150							150		LF	ELECTRICAL CONDUIT (2") (PVC)	678.21				
			475							475		LF	ELECTRICAL WIRING	678.24				
			2							2		EACH	PULL BOX, STANDARD	678.25				
								6		6		EACH	LIGHT POLE BASE	679.21				
								6		6		EACH	LIGHT POLE	679.45				
								6		6		EACH	LUMINAIRE	679.50				
			1							1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
						2	2			4		CY	SPECIAL PROVISION (CORING CONCRETE)	900.608				
			1							1		EACH	SPECIAL PROVISION (POWER DROP STANCHION)	900.620				
			88							88 <sup>Δ</sup>		LF	SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)	900.640				
								310		310		LF	SPECIAL PROVISION (BRIDGE RAILING, TEXAS)	900.640				
						150				150		LF	SPECIAL PROVISION (UTILITY DUCT BANK)(4 CONDUIT)	900.640				
						0.5	0.5			1		LS	SPECIAL PROVISION (ELECTRIC HEAT TRACE SYSTEM)	900.645				
						1				1		LS	SPECIAL PROVISION (SEWER MAIN ON BRIDGE)(10")	900.645				
							1			1		LS	SPECIAL PROVISION (WATER MAIN ON BRIDGE)(8")	900.645				

PROJECT NAME: JOHNSON  
 PROJECT NUMBER: BHO 1448(29)  
 FILE NAME: z98j372qs.dgn  
 PROJECT LEADER: J.W. TUCKER  
 DESIGNED BY: A.P. GUYETTE  
 QUANTITY SHEET #3  
 PLOT DATE: 02/18/2009  
 DRAWN BY: A.P. GUYETTE  
 CHECKED BY: E.P. DETRICK  
 SHEET 6 OF 68

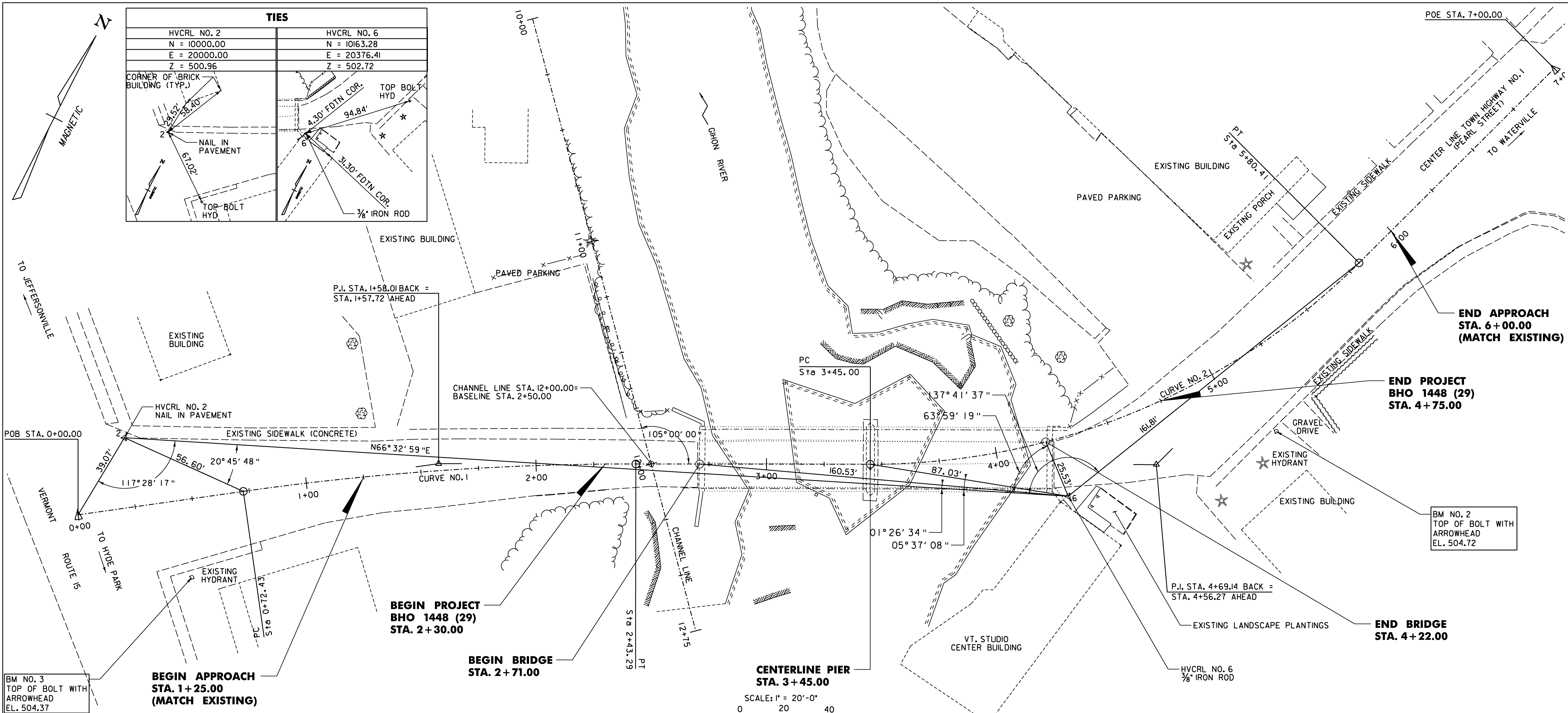
KEY	DATE	BY	REVISION
<sup>Δ</sup>	03/26/2009	VAOT	MODIFIED QUANTITY.

# BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES										TOTALS		DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
						APPROACH SLAB	SUPER- STRUCTURE	ABUTMENT NO. 1	ABUTMENT NO. 2	PIER	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
									10		10	CY	SOLID ROCK EXCAVATION	203.16			
									10		10	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
								45	200		245	CY	STRUCTURE EXCAVATION	204.25			
								80	200		280	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30			
									250		250	CY	COFFERDAM EXCAVATION, EARTH	208.30			
									20		20	CY	COFFERDAM EXCAVATION, ROCK	208.35			
									1		1	LS	COFFERDAM (STA. 4+10)	208.40			
						0.25	0.75				1	CWT	EMULSIFIED ASPHALT	404.65			
						20	70				90	TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-28)	406.25			
							250				250	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33			
						50		15	150	15	230	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
							28500				28500	LB	STRUCTURAL STEEL, ROLLED BEAM	506.50			
							156500				156500	LB	STRUCTURAL STEEL, CURVED PLATE GIRDER	506.56			
								1100	18500	2200	21800	LB	REINFORCING STEEL	507.15			
									300		300	LF	DRILLING AND GROUTING DOWELS	507.16			
						5500	55000				60500	LB	EPOXY COATED REINFORCING STEEL	507.17			
							1				1	LS	SHEAR CONNECTORS (2240 - 7/8" X 7")	508.15			
							50	6	8	6	70	GAL	WATER REPELLENT, SILANE	514.10			
							55				55	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
							410				410	SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
							350				350	SY	REMOVAL OF BRIDGE PAVEMENT	529.10			
							1				1	EACH	PARTIAL REMOVAL OF STRUCTURE	529.20			
							15				15	EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11			
								11		10	21	SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13			
								6		5	11	SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14			
								4		4	8	CY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	580.15			
									30		30	CY	STONE FILL, TYPE I	613.10			
									60		60	CY	STONE FILL, TYPE II	613.11			
									175		175	SY	GEOTEXTILE UNDER STONE FILL	649.31			
									50		50	SY	GRUBBING MATERIAL	651.40			
							6				6	EACH	LIGHT POLE BASE	679.21			
							6				6	EACH	LIGHT POLE	679.45			
							6				6	EACH	LUMINAIRE	679.50			
							310				310	LF	SPECIAL PROVISION (BRIDGE RAILING, TEXAS)	900.640			

PROJECT NAME: JOHNSON  
 PROJECT NUMBER: BHO 1448(29)  
 FILE NAME: z96j372qs.dgn PLOT DATE: 02/11/2009  
 PROJECT LEADER: J.W. TUCKER DRAWN BY: A.P. GUYETTE  
 DESIGNED BY: A.P. GUYETTE CHECKED BY: E.P. DETRICK  
 BRIDGE QUANTITY SHEET #1 SHEET 7 OF 68





TIES	
HVCRL NO. 2 N = 10000.00 E = 20000.00 Z = 500.96	HVCRL NO. 6 N = 10163.28 E = 20376.41 Z = 502.72

TO JEFFERSONVILLE  
VERMONT ROUTE 15  
TO HIDE PARK

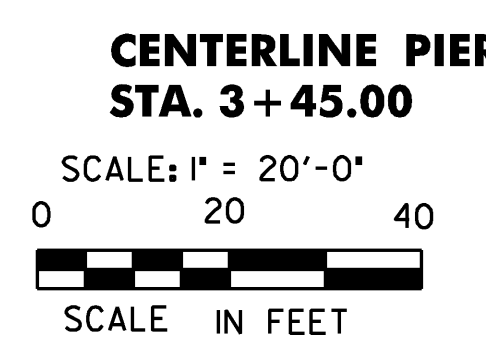
POE STA. 7+00.00  
CENTER LINE TOWN HIGHWAY NO. 1  
(PEARL STREET)  
TO WATERVILLE

BM NO. 3  
TOP OF BOLT WITH  
ARROWHEAD  
EL. 504.37

BM NO. 2  
TOP OF BOLT WITH  
ARROWHEAD  
EL. 504.72

LAYOUT COORDINATES			
STA. 0+00.00	POB	N 9961.03	E 19997.26
STA. 0+72.43	PC	N 10002.65	E 20056.54
STA. 1+58.01	P.I.	N 10051.83	E 20126.57
STA. 2+43.29	PT	N 10090.58	E 20202.87
STA. 2+50.00 STA. 12+00.00	INTERSECTION OF CHANNEL LINE	N 10093.62	E 20208.85
STA. 2+71.00	BEGIN OF BRIDGE	N 10103.12	E 20227.57
STA. 3+45.00	PC	N 10136.63	E 20293.55
STA. 4+22.00	END OF BRIDGE	N 10179.87	E 20357.01
STA. 4+69.14	P.I.	N 10192.84	E 20404.24
STA. 5+80.41	PT	N 10310.82	E 20442.85
STA. 7+00.00	POE	N 10424.48	E 20480.04

CURVE NO. 1	CURVE NO. 2
$\Delta = 08^{\circ} 09' 28.45''$ RT	$\Delta = 44^{\circ} 57' 36.51''$ LT
D = $04^{\circ} 46' 28.73''$	D = $19^{\circ} 05' 54.94''$
R = 1200.00	R = 300.00
T = 85.57	T = 124.14
L = 170.86	L = 235.41
E = 3.05	E = 24.67



EXISTING	PROPOSED
EDGE OF PAVEMENT OR GRAVEL	EDGE OF PAVEMENT OR GRAVEL
EDGE OF RIVER	EDGE OF RIVER
FENCE	FENCE
GUARD RAIL	GUARD RAIL
OVERHEAD LINES.	OVERHEAD LINES.
UTILITY POLE	UTILITY POLE
TREE	TREE
TREE LINE	TREE LINE
HEDGE	HEDGE
LEDGE	LEDGE
SIGN	SIGN
HYDRANT	HYDRANT
SEWER MANHOLE	SEWER MANHOLE

**NOTE:**  
SEE SHEET 14 FOR THE LAYOUT OF DETOUR.

STATE OF VERMONT AGENCY OF TRANSPORTATION		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta.
		Surv. Sta.
<b>TH NO. 1 OVER THE GIHON RIVER</b>		
<b>TIE SHEET</b>		
Designed By	A.P. GUYETTE	Drawn By
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.
		BHO 1448 (29)
I.G.C. info.	z98j372+tie.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 10 of 68

**DuBois & King**  
INC.

engineering    planning    management    development

PLOTTED 2/10/2009

**PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH**  
 STA. 1+81.70 LT - STA. 2+05.40 LT  
 STA. 4+41.00 RT - STA. 4+76.50 RT  
 STA. 4+79.20 LT - STA. 5+04.90 LT

**PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH**  
 STA. 1+25.00 LT - STA. 1+81.70 LT  
 STA. 2+05.40 LT - STA. 2+70.00 RT  
 STA. 1+25.00 RT - STA. 2+70.00 RT  
 STA. 4+17.75 RT - STA. 4+41.00 RT  
 STA. 4+25.30 LT - STA. 4+79.20 LT  
 STA. 4+76.50 RT - STA. 6+15.00 RT  
 STA. 5+04.90 LT - STA. 6+00.00 LT

**CAST-IN-PLACE CONCRETE CURB, TYPE B**  
 STA. 1+25.00 LT - STA. 1+30.60 LT  
 STA. 1+42.50 LT - STA. 1+80.60 LT  
 STA. 2+06.30 LT - STA. 2+70.00 LT  
 STA. 1+25.00 RT - STA. 2+50.95 RT  
 STA. 2+63.00 RT - STA. 2+70.00 RT  
 STA. 4+19.00 RT - STA. 4+38.30 RT  
 STA. 4+25.00 LT - STA. 4+78.00 LT  
 STA. 4+77.90 RT - STA. 5+12.00 RT  
 STA. 5+06.10 LT - STA. 6+00.00 LT  
 STA. 5+24.00 RT - STA. 6+15.90 RT

**SIDEWALK RAMP (TYPE 1)**  
 STA. 4+43.00 RT, STA. 4+76.00 RT  
**SIDEWALK RAMP (TYPE 6)**  
 STA. 4+40.00 LT  
**CONSTRUCT DRIVE**  
 STA. 1+36.70 LT, STA. 1+93.50 LT  
 STA. 2+57.00 RT, STA. 4+60.00 RT  
 STA. 4+92.00 LT, STA. 5+18.00 RT

**PORTLAND CEMENT CONCRETE SIDEWALK, 8 INCH**  
 STA. 1+32.00 LT - STA. 1+42.00 LT  
 STA. 2+52.00 RT - STA. 2+62.00 RT  
 STA. 4+41.00 RT - STA. 4+76.50 RT  
 STA. 4+58.00 LT - STA. 4+70.00 LT  
 STA. 5+10.00 RT - STA. 5+22.00 RT

**618.30 DETECTABLE WARNING SURFACE**  
 1+78 LT  
 2+07 LT  
 4+65 LT  
 4+40 RT

**END APPROACH STA. 6+00.00 (MATCH EXISTING)**

**END PROJECT BHO 1448 (29) STA. 4+75.00**

**END BRIDGE STA. 4+22.00 F.G. ELEV. 503.08**

BM NO. 3  
TOP OF BOLT WITH ARROWHEAD  
EL. 504.37

**BEGIN APPROACH STA. 1+25.00 (MATCH EXISTING)**

**BEGIN PROJECT BHO 1448 (29) STA. 2+30.00**

**BEGIN BRIDGE STA. 2+71.00 F.G. ELEV. 502.63**

**CENTERLINE PIER STA. 3+45.00 F.G. ELEV. 502.85**

**SITE PLAN**

SCALE: 1" = 20'-0"  
 0 20 40  
 SCALE IN FEET

**LEGEND**

EXISTING	PROPOSED
EDGE OF PAVEMENT OR GRAVEL	EDGE OF PAVEMENT OR GRAVEL
EDGE OF RIVER	FENCE
FENCE	GUARD RAIL
GUARD RAIL	CLEAR ZONE
STORM DRAIN	TOE OF SLOPE
SEWER	TOP OF CUT
OVERHEAD LINES	SIGN
UTILITY POLE	
TREE	
TREE LINE	
HEDGE	
LEDGE	
SIGN	
HYDRANT	
SEWER MANHOLE	
DRAINAGE STRUCTURE	

**TRAFFIC SIGNS, TYPE A**

STA. 4+28.00 RT (CROSSWALK) (W11-2 & W16-7pL)  
 STA. 4+45.00 LT (CROSSWALK) (W11-2 & W16-7pL)

**HD STEEL BEAM GUARDRAIL, GALVANIZED**

STA. 2+23.15 LT 90 FT - STA. 2+37.86 LT 27.25 FT

**SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)**

STA. 2+37.86 LT - STA. 2+72.50 LT  
 STA. 2+65.96 RT - STA. 2+72.50 RT  
 STA. 4+16.40 RT - STA. 4+23.04 RT  
 STA. 4+25.18 LT - STA. 4+51.90 LT

**SPECIAL PROVISION (BRIDGE RAILING, TEXAS)**

STA. 2+71.00 RT - STA. 4+17.55 RT  
 STA. 2+71.00 LT - STA. 4+27.00 LT

**TREE PROTECTION**

STA. 2+24.58 LT 96.77 FT  
 STA. 5+40.90 LT 31.80 FT

**REMOVAL OF EXISTING FENCE**

STA. 4+35.00 LT - STA. 4+61.00 LT

**STONE FILL, TYPE I**

STA. 4+15.00 LT - STA. 4+35.00 LT

**STONE FILL, TYPE II**

STA. 4+09.00 RT - STA. 4+17.60 LT

**CROSSWALK MARKING**

STA. 4+40.00

**4 INCH YELLOW LINE**

STA. 0+50.00 - STA. 6+00.00 (DOUBLE CENTERLINE)

**4 INCH WHITE LINE**

STA. 0+50.00 RT - STA. 6+00.00 RT  
 STA. 0+50.00 LT - STA. 6+00.00 LT

**EXISTING BRIDGE DATA**  
 TWO SPAN STEEL BEAM WITH CONCRETE DECK, SIDEWALK AND GUARDRAILS.  
 TWO CONCRETE ABUTMENTS WITH CENTER CONCRETE PIER CLEAR WIDTH 20'-0", SIDEWALK WIDTH 5'-0", FACE OF RAIL TO FACE OF RAIL WIDTH 25'-9" AND FASCIA TO FASCIA WIDTH 28'-0"

**DATUM**

VERTICAL	NAVD 88
HORIZONTAL	ASSUMED

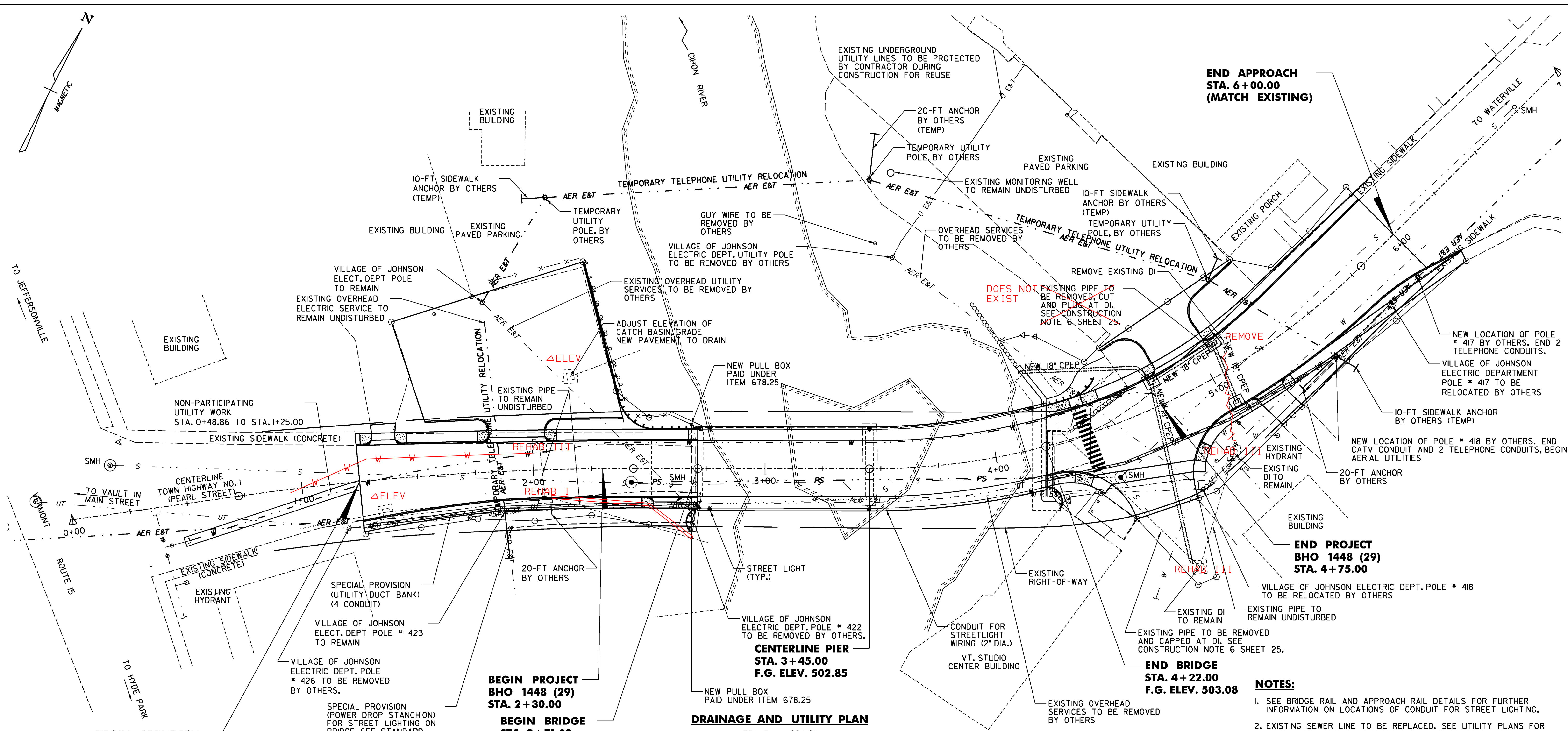
**DuBois & King inc.**  
 engineering planning management development

PLOTTED 2/10/2009

- NOTES:**  
 1. SEE SHEET 12 FOR ALL OVERHEAD AND BURIED UTILITIES.  
 2. SEE SHEET 41 AND 42 FOR BRIDGE AND APPROACH RAIL DETAILS.

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>SITE PLAN</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372bdr.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	11 of 68





**LEGEND**

<b>EXISTING</b>	<b>PROPOSED</b>
EDGE OF PAVEMENT OR GRAVEL	EDGE OF PAVEMENT OR GRAVEL
EDGE OF RIVER	FENCE
FENCE	GUARD RAIL
GUARD RAIL	STORM DRAIN
STORM DRAIN	CLEAR ZONE
SEWER	TOE OF SLOPE
OVERHEAD LINES	TOP OF CUT
UTILITY POLE	SIGN
TREE	DROP INLET
TREE LINE	
HEDGE	STREET LIGHT
LEDGE	UTILITY POLE
SIGN	UNDERGROUND LINES
HYDRANT	OVERHEAD LINES
SEWER MANHOLE	WATERLINE
DRAINAGE STRUCTURE	

**DRAINAGE AND UTILITY PLAN**

SCALE: 1" = 20'-0"

0 20 40  
SCALE IN FEET

**REMOVE DI (ITEM 204.21)**  
 STA. 5+12.50 LT  
**REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I**  
 STA. 2+04.70 RT  
**REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS III**  
 STA. 2+03.00 LT, STA. 4+63.50 RT  
 STA. 4+92.80 RT  
**18" CPEP**  
 STA. 4+18.10 LT - STA. 4+75.22 LT (60')  
 STA. 4+63.50 RT - STA. 4+75.22 LT (85')  
 STA. 4+75.22 LT - STA. 5+07.83 LT (31')  
 STA. 5+03.87 RT - STA. 5+07.83 LT (28')

**SPECIAL PROVISION (UTILITY DUCT BANK)(4 CONDUIT)**  
 STA. 1+23.50, 19.40' RT - STA. 2+71.00, 13.90' RT  
 STA. 4+18.50, 14.10' RT - STA. 5+47.84, 21.75' RT

**CHANGING ELEVATION OF DROP INLETS, CATCH BASINS, OR MANHOLES**  
 STA. 1+35.18 RT, STA. 2+16 LT  
**PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE**  
 STA. 4+75.22 LT, STA. 5+03.87 RT  
 STA. 5+07.83 LT  
**PULL BOX, STANDARD**  
 STA. 2+68 LT, STA. 2+68 RT  
**SPECIAL PROVISION (POWER DROP STANCHION)**  
 STA. 1+90 RT  
**STREET LIGHT**  
 STA. 2+76.21 LT, STA. 2+76.21 RT  
 STA. 3+45.00 LT, STA. 3+45.00 RT  
 STA. 4+11.63 RT, STA. 4+20.13 LT

**NOTES:**

- SEE BRIDGE RAIL AND APPROACH RAIL DETAILS FOR FURTHER INFORMATION ON LOCATIONS OF CONDUIT FOR STREET LIGHTING.
- EXISTING SEWER LINE TO BE REPLACED. SEE UTILITY PLANS FOR INFORMATION REGARDING THE REMOVAL OF EXISTING AND CONSTRUCTION OF NEW SEWER LINE.
- A NEW WATER LINE IS TO BE CONSTRUCTED ON THE BRIDGE. SEE UTILITY PLANS FOR INFORMATION REGARDING NEW WATER LINE.

24" CPEP(SL)  
2+04.70 RT TO 2+70.00 RT

**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**DRAINAGE AND UTILITY PLAN**

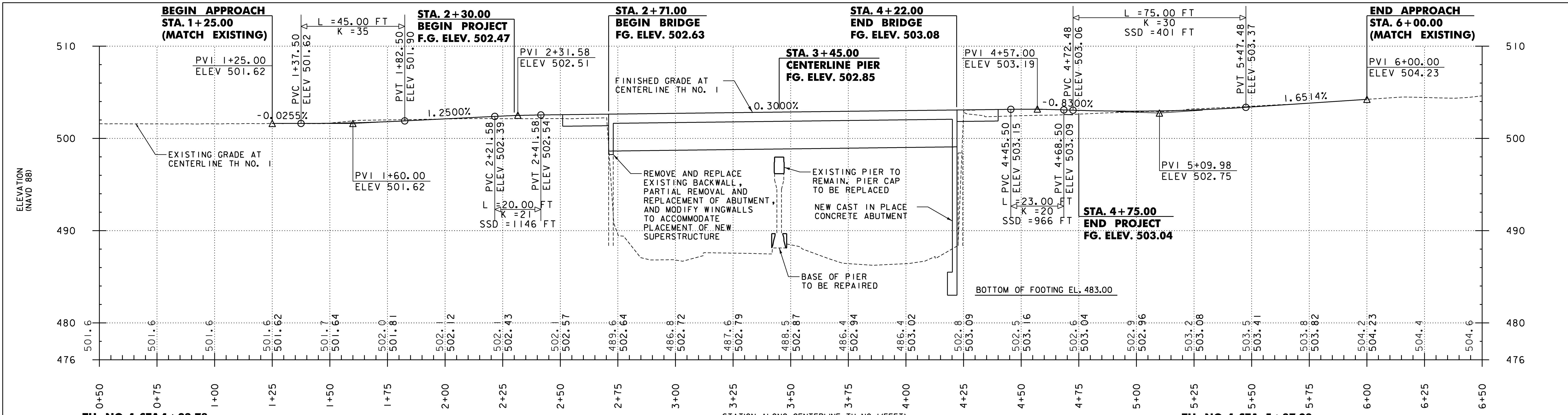
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09

PROJECT: JOHNSON  
PROJECT NO.: BHO 1448 (29)

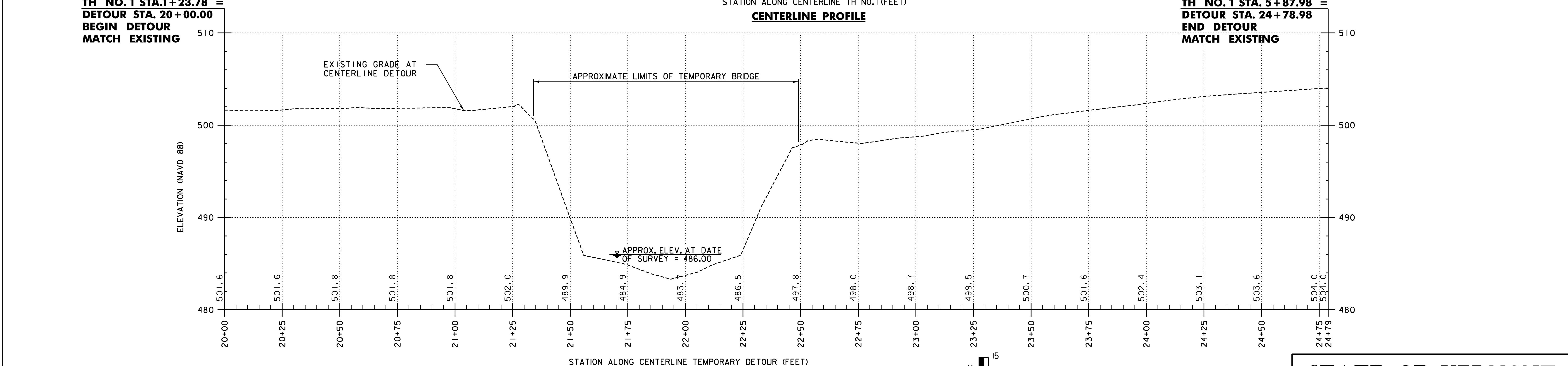
I.G.C. Info. z98j372u1.dgn  
D & K DWG NO.  
Bridge Sheet No. Sheet 12 of 68

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PLOTTED 2/10/2009



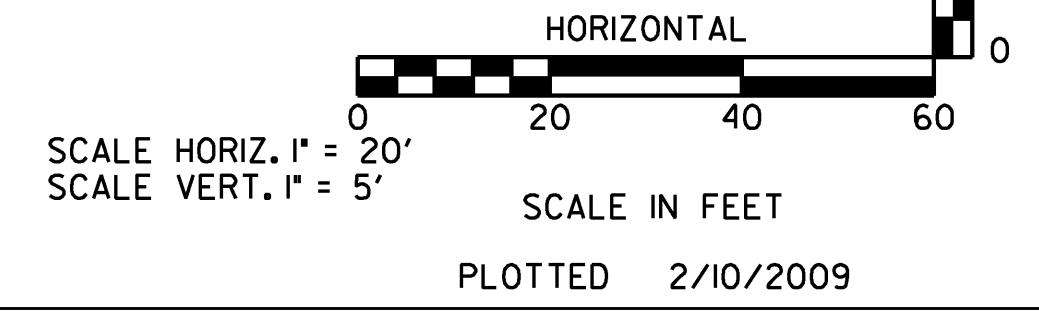
**CENTERLINE PROFILE**



**TEMPORARY DETOUR PROFILE**

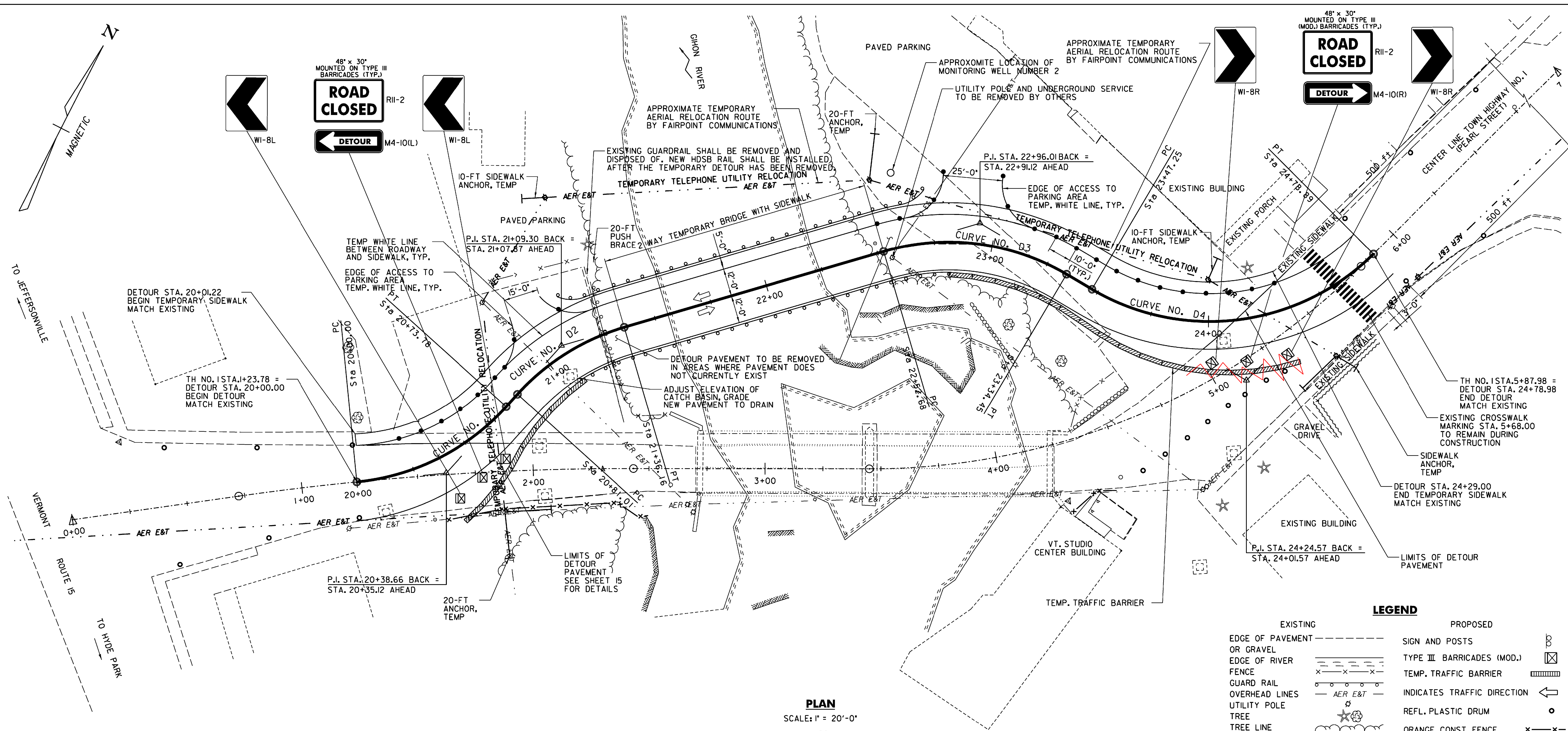
NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE PROPOSED CENTERLINE.  
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISHED GRADE ELEVATION ALONG THE PROPOSED CENTERLINE.

<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



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 engineering planning management development

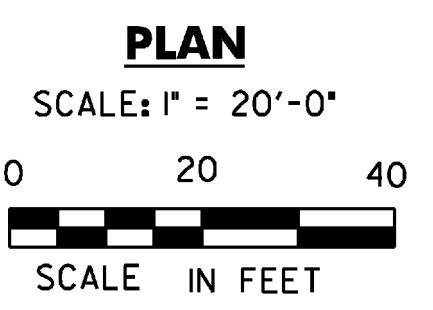
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>PROFILE</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	13 of 68



**LAYOUT COORDINATES**

STA. 20+00.00	PC	N 10031.25	E 20099.17	STA. 23+47.25	PC	N 10249.31	E 20343.98
STA. 20+38.66	PI	N 10052.10	E 20131.73	STA. 24+24.58	PI	N 10244.53	E 20421.16
STA. 20+73.78	PT	N 10089.43	E 20141.80	STA. 24+78.89	PT	N 10318.02	E 20445.20
STA. 20+81.01	PC	N 10096.41	E 20143.69				
STA. 21+09.31	PI	N 10123.72	E 20151.06				
STA. 21+36.16	PT	N 10143.13	E 20171.64				
STA. 22+52.68	PC	N 10223.05	E 20256.43				
STA. 22+96.01	PI	N 10252.78	E 20287.96				
STA. 23+34.45	PT	N 10250.10	E 20331.21				

CURVE NO. D1	CURVE NO. D2	CURVE NO. D3	CURVE NO. D4
$\Delta = 42^\circ 16' 28.71''$ LT	$\Delta = 31^\circ 35' 35.28''$ RT	$\Delta = 46^\circ 51' 10.55''$ RT	$\Delta = 75^\circ 25' 30.37''$ LT
D = 57' 17.44.81"	D = 57' 17.44.81"	D = 57' 17.44.81"	D = 57' 17.44.81"
R = 100.00	R = 100.00	R = 100.00	R = 100.00
T = 38.66	T = 28.29	T = 43.33	T = 77.32
L = 73.78	L = 55.14	L = 81.77	L = 131.64
E = 7.21	E = 3.92	E = 8.98	E = 26.41



- NOTES:**
- SEE SHEET 15 FOR TRAFFIC CONTROL NOTES.
  - ALL DETAILS NOT SHOWN SHALL BE IN ACCORDANCE WITH PART VI OF MUTCD AND VDOT STANDARDS E-100, E-100A, E-101, E-102, E-102A, E-106, E-107 AND E-107A.
  - FOR CONSTRUCTION APPROACH SIGNING SEE SHEET 15.
  - CURVE NO. D1 IS TANGENT TO THE CURVATURE OF THE MAINLINE CURVE NO. 1.
  - SEE SHEET 15 FOR TYPICAL DETOUR SECTIONS.

**LEGEND**

EXISTING	PROPOSED
EDGE OF PAVEMENT OR GRAVEL	SIGN AND POSTS
EDGE OF RIVER	TYPE III BARRICADES (MOD.)
FENCE	TEMP. TRAFFIC BARRIER
GUARD RAIL	INDICATES TRAFFIC DIRECTION
OVERHEAD LINES	REFL. PLASTIC DRUM
UTILITY POLE	ORANGE CONST. FENCE
TREE	FLEXIBLE DELINEATORS
TREE LINE	
HEDGE	
LEDGE	
SIGN	

**DATUM**

VERTICAL NAVD 88

HORIZONTAL ASSUMED

**DuBois & King inc.**

engineering    planning    management    development

**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

Town Of **JOHNSON**      Bridge No. **5**

Highway No. **1**      Log Sta. \_\_\_\_\_  
Surv. Sta. \_\_\_\_\_

**TH NO. 1 OVER THE GIHON RIVER**

**DETOUR SHEET**

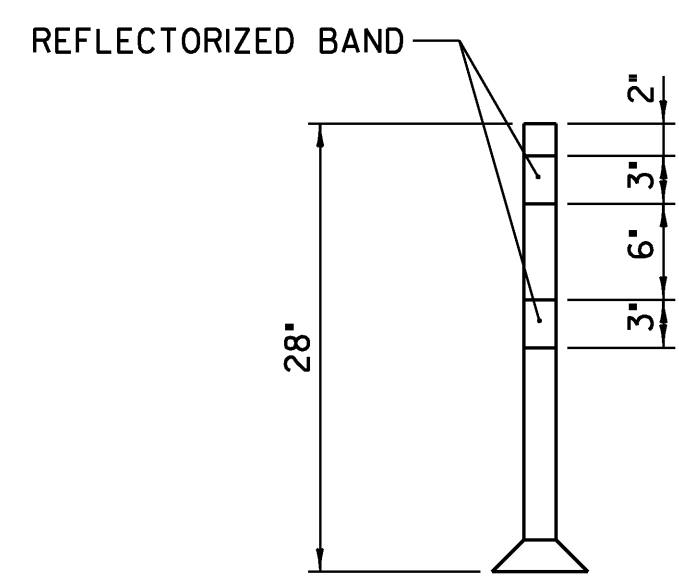
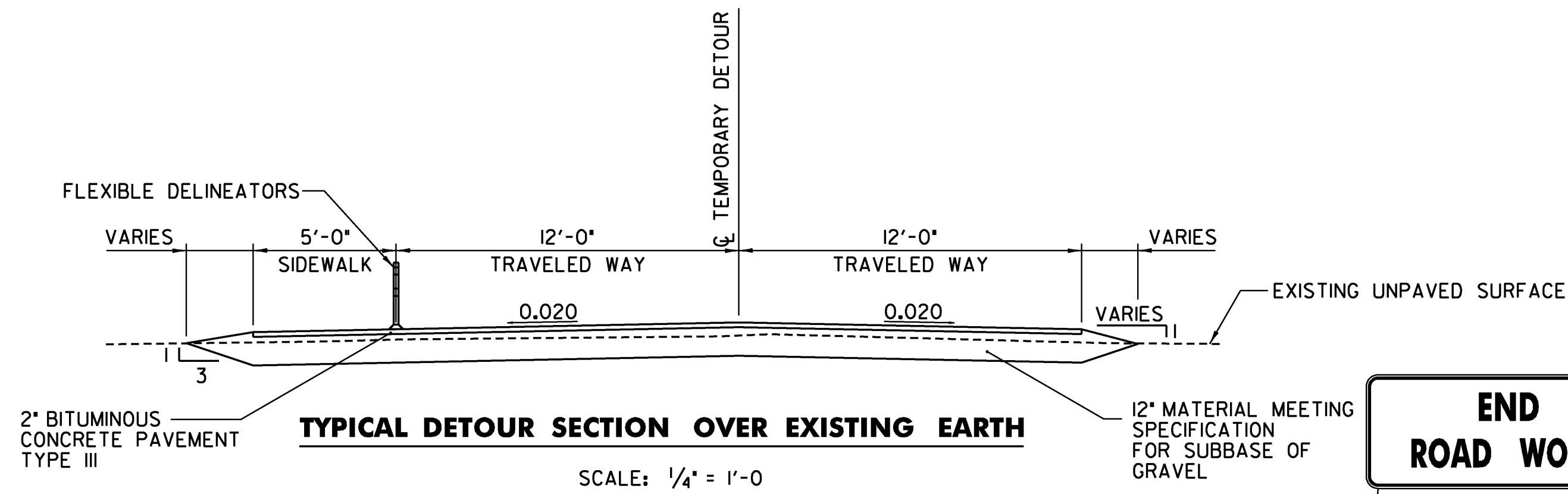
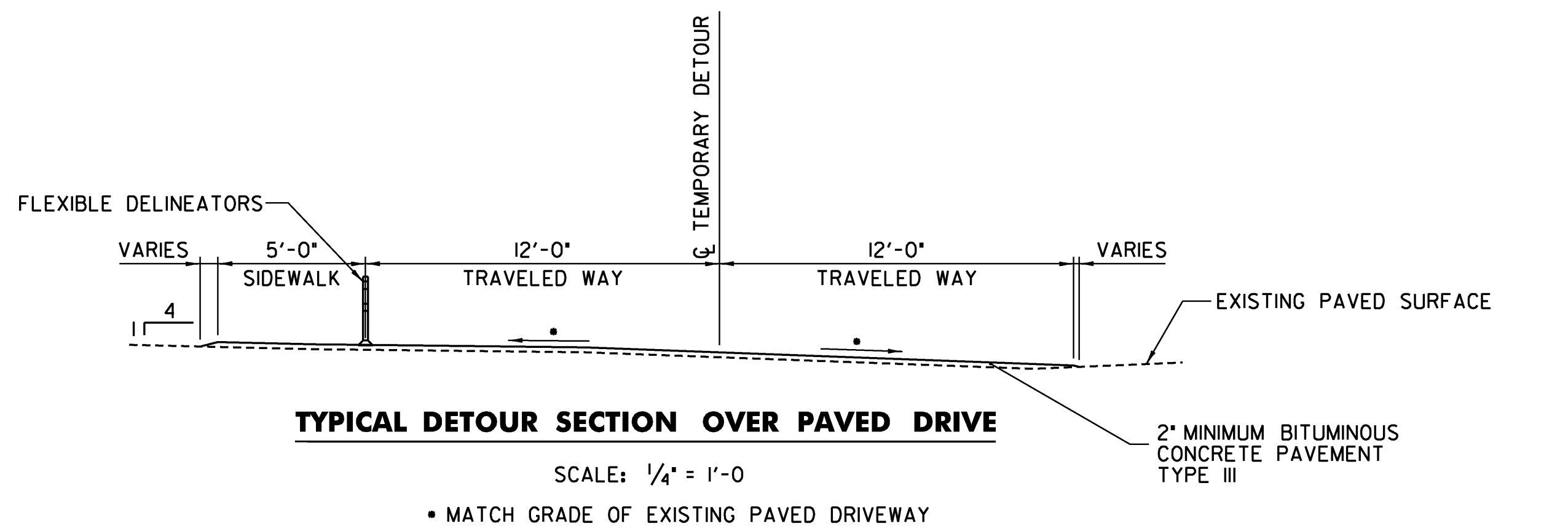
Designed By **A.P. GUYETTE**      Drawn By **A.P. GUYETTE**

Checked By **J. W. TUCKER**      Date **2/09**      Bridge Design Supervisor

PROJECT **JOHNSON**      PROJECT NO. **BHO 1448 (29)**

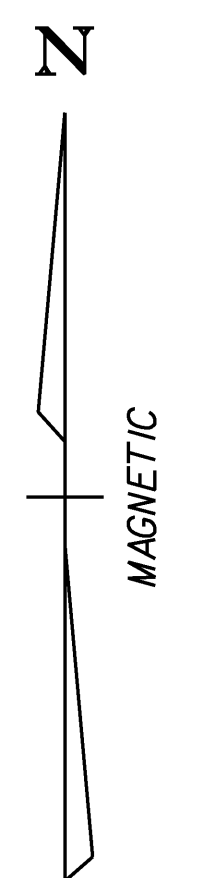
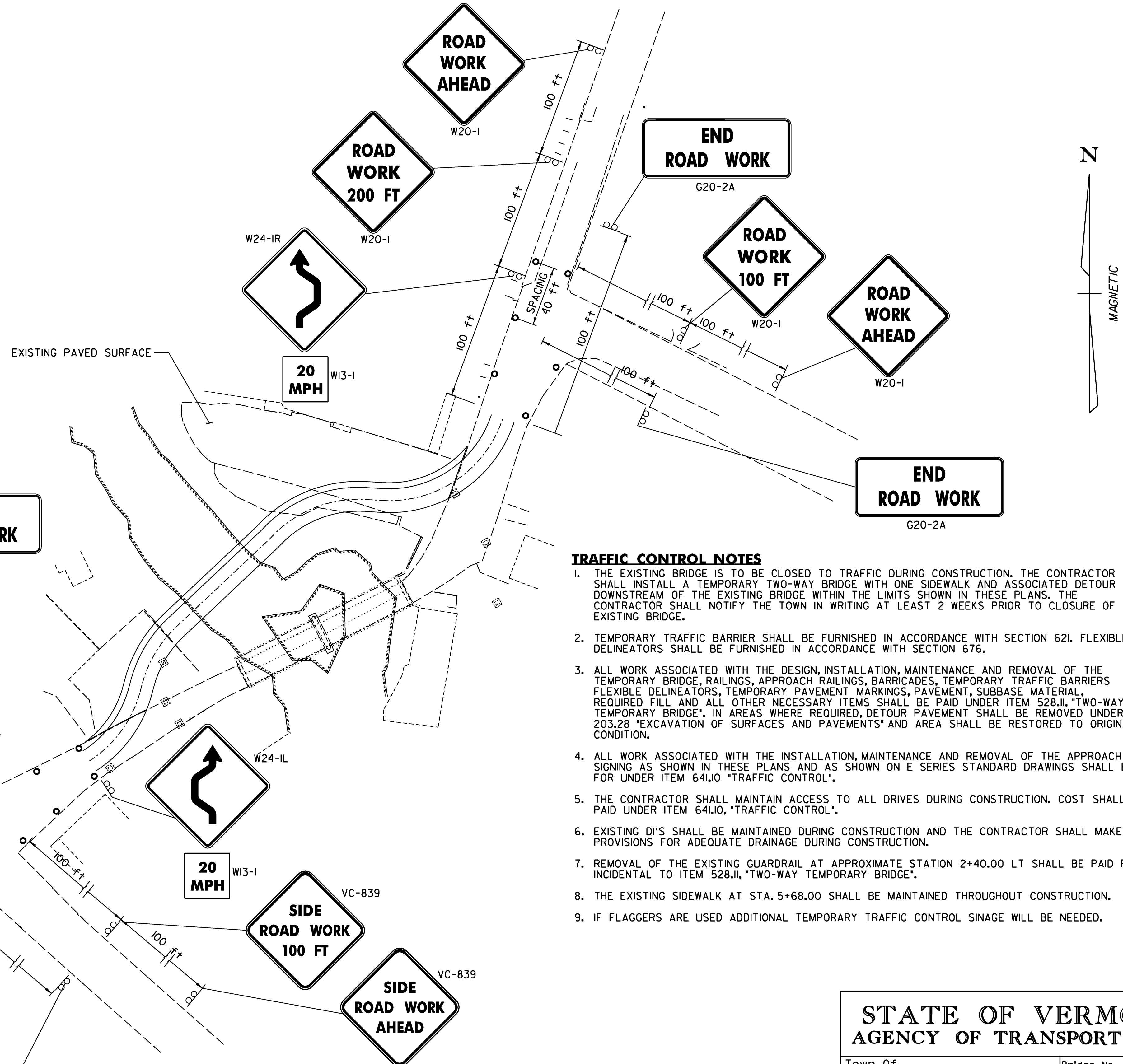
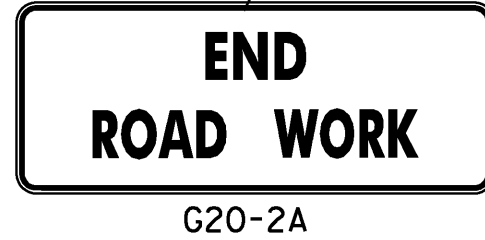
I.G.C. Info. **z98j372+cl.dgn**      **D & K DWG NO.**

Bridge Sheet No. \_\_\_\_\_      Sheet **14** of **68**



**LEGEND**

EXISTING	PROPOSED
EDGE OF PAVEMENT OR GRAVEL	SIGN AND POSTS
EDGE OF RIVER	TYPE III BARRICADES (MOD.)
	TEMP. TRAFFIC BARRIER
	INDICATES TRAFFIC DIRECTION
	REFL. PLASTIC DRUM



**TRAFFIC CONTROL NOTES**

1. THE EXISTING BRIDGE IS TO BE CLOSED TO TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL INSTALL A TEMPORARY TWO-WAY BRIDGE WITH ONE SIDEWALK AND ASSOCIATED DETOUR DOWNSTREAM OF THE EXISTING BRIDGE WITHIN THE LIMITS SHOWN IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE TOWN IN WRITING AT LEAST 2 WEEKS PRIOR TO CLOSURE OF THE EXISTING BRIDGE.
2. TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621. FLEXIBLE DELINEATORS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 676.
3. ALL WORK ASSOCIATED WITH THE DESIGN, INSTALLATION, MAINTENANCE AND REMOVAL OF THE TEMPORARY BRIDGE, RAILINGS, APPROACH RAILINGS, BARRICADES, TEMPORARY TRAFFIC BARRIERS, FLEXIBLE DELINEATORS, TEMPORARY PAVEMENT MARKINGS, PAVEMENT, SUBBASE MATERIAL, REQUIRED FILL AND ALL OTHER NECESSARY ITEMS SHALL BE PAID UNDER ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE". IN AREAS WHERE REQUIRED, DETOUR PAVEMENT SHALL BE REMOVED UNDER ITEM 203.28 "EXCAVATION OF SURFACES AND PAVEMENTS" AND AREA SHALL BE RESTORED TO ORIGINAL CONDITION.
4. ALL WORK ASSOCIATED WITH THE INSTALLATION, MAINTENANCE AND REMOVAL OF THE APPROACH SIGNING AS SHOWN IN THESE PLANS AND AS SHOWN ON E SERIES STANDARD DRAWINGS SHALL BE PAID FOR UNDER ITEM 641.10 "TRAFFIC CONTROL".
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVES DURING CONSTRUCTION. COST SHALL BE PAID UNDER ITEM 641.10, "TRAFFIC CONTROL".
6. EXISTING D'S SHALL BE MAINTAINED DURING CONSTRUCTION AND THE CONTRACTOR SHALL MAKE PROVISIONS FOR ADEQUATE DRAINAGE DURING CONSTRUCTION.
7. REMOVAL OF THE EXISTING GUARDRAIL AT APPROXIMATE STATION 2+40.00 LT SHALL BE PAID FOR INCIDENTAL TO ITEM 528.11, "TWO-WAY TEMPORARY BRIDGE".
8. THE EXISTING SIDEWALK AT STA. 5+68.00 SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
9. IF FLAGGERS ARE USED ADDITIONAL TEMPORARY TRAFFIC CONTROL SIGNAGE WILL BE NEEDED.

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**TRAFFIC CONTROL**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. info.	z98J372+c2.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	15 of 68

**DuBois & King**  
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PLOTTED 2/10/2009

**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

**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.

**COMMONLY USED SYMBOLS**

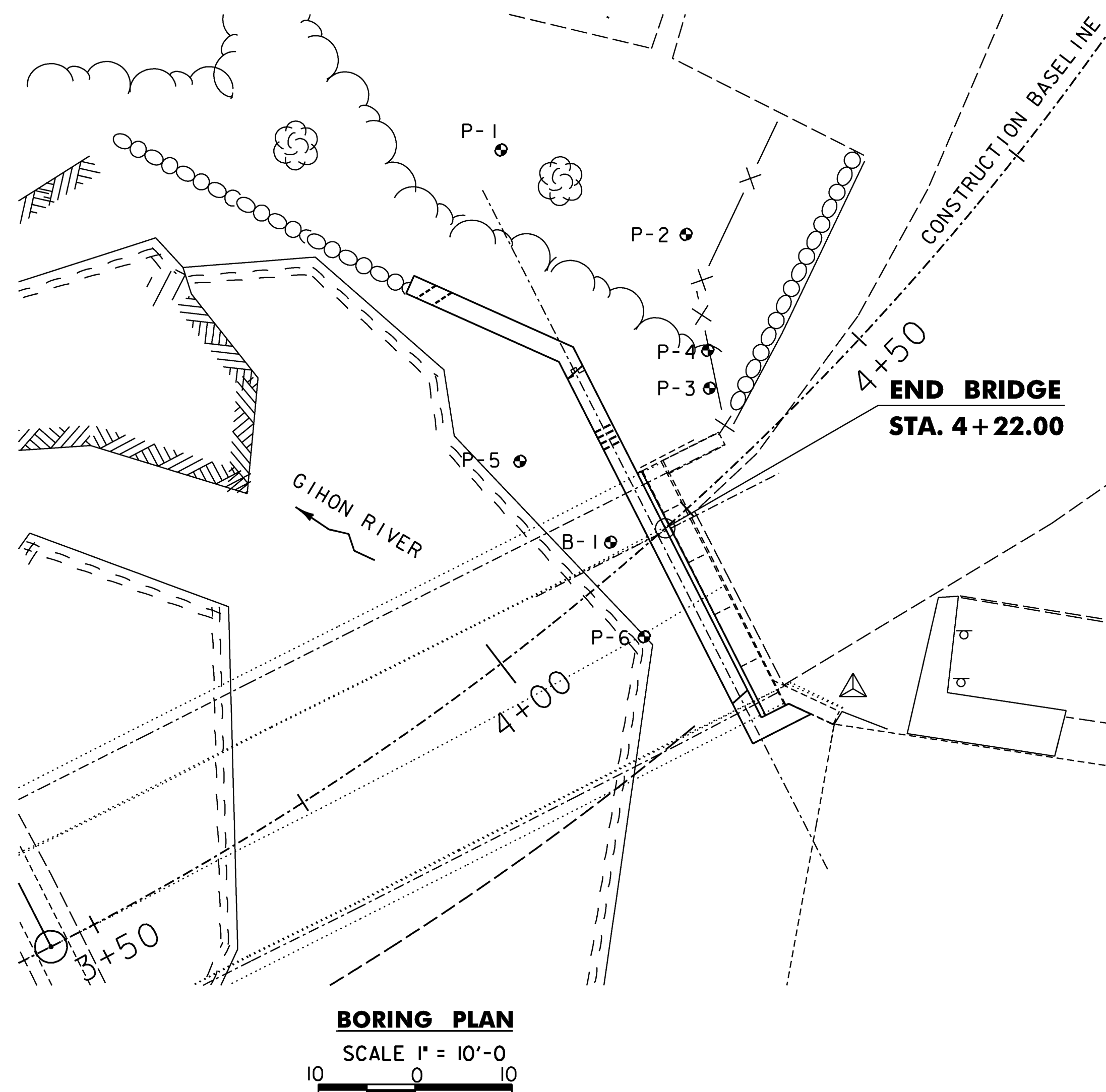
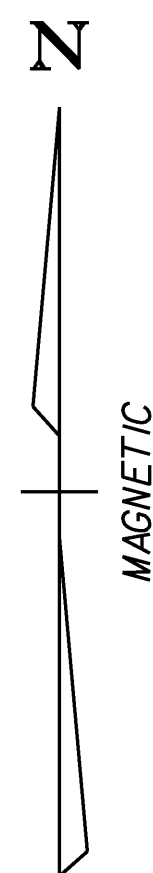
▼	Water Elevation
⊙	Standard Penetration Boring
⊕	Auger Boring
⊖	Rod Sounding
○	Sample
S	Standard Penetration Test
N	Blow Count Per Foot For: 2" O. D. Sampler 1 1/2" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core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

**COLOR**

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

**BORING CHART**

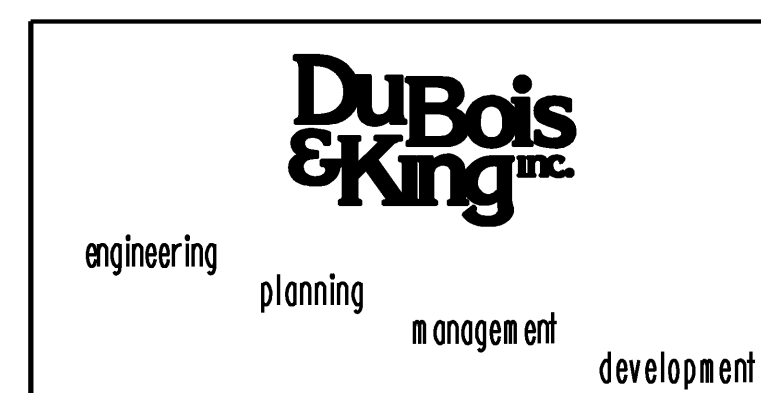
HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. OF REFUSAL
B-1	4+16.77	2.63 LT	487.52	483.02
P-1	4+37.50	40.15 LT	500.43	485.35
P-2	4+45.40	20.41 LT	502.27	485.10
P-3	4+35.38	7.49 LT	501.95	498.45
P-4	4+38.07	10.40 LT	502.59	481.09
P-5	4+15.03	15.07 LT	487.13	481.88
P-6	4+13.14	7.08 RT	487.13	478.63



**GENERAL NOTES**

- The subsurface explorations shown herein were made between October 17, 2001 and October 19, 2001 by CON-TEC
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

PLOTTED 2/10/2009



**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**BORING INFORMATION SHEET**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372bor.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	16 of 68

CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. B-1		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/17/01					
				FINISH DATE 10/17/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Brown, wet loose, fm. c SAND & fm. c GRAVEL, 11th str					
1.5'						Gray, dry, very dense COBBLE					
2.5'						SAND, SILT & GRAVEL					
5.0'						TOP OF ROCK					
5.0'						Drilled into bedrock with rollerbit					
7.5'						NX RUN -1 6.0' - 11.0'					
7.5'						RECOVERY 5.0' - 100%					
7.5'						ROD 4.2' - 84%					
10.0'						Gray-white banded MICA SCHIST					
12.5'						NX RUN -2 11.0' - 15.0'					
12.5'						RECOVERY 3.5' - 88%					
12.5'						ROD 2.8' - 70%					
15.0'						Gray banded MICA SCHIST					
15.0'						BOTTOM OF BORING					
20.0'						Notes: 1. Coring time track augered 5 min. LF. 2. Typed Driller's Field Log.					

CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. P-1		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/18/01					
				FINISH DATE 10/18/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Notes: Drove AW Rod probe with 140 lb hammer - 30' drop.					
5.0'						BOTTOM OF PROBE					
5.0'						Typed Driller's Field Log					

CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. P-2		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/18/01					
				FINISH DATE 10/18/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Notes: Drove AW Rod probe with 140 lb hammer - 30' drop.					
5.0'						BOTTOM OF PROBE					
5.0'						Typed Driller's Field Log					

CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. P-3		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/18/01					
				FINISH DATE 10/18/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Notes: Drove AW Rod probe with 140 lb hammer - 30' drop.					
5.0'						BOTTOM OF PROBE					
5.0'						Typed Driller's Field Log					

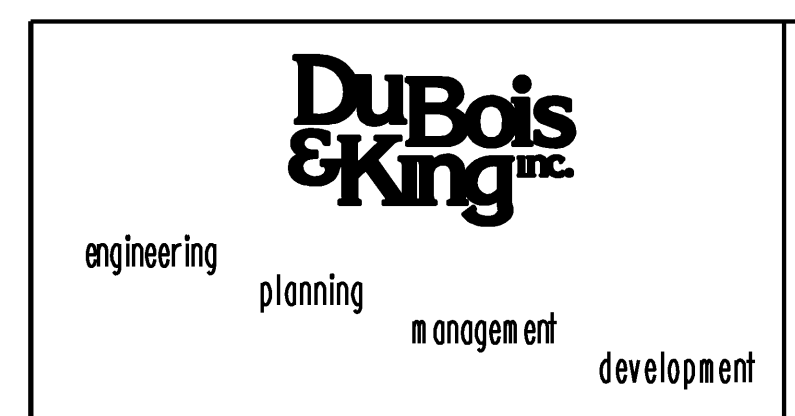
CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. P-4		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/18/01					
				FINISH DATE 10/18/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Notes: Drove AW Rod probe with 140 lb hammer - 30' drop.					
5.0'						BOTTOM OF PROBE					
5.0'						Typed Driller's Field Log					

CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. P-5		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/19/01					
				FINISH DATE 10/19/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Notes: Drove AW Rod probe with 140 lb hammer - 30' drop.					
5.0'						BOTTOM OF PROBE					
5.0'						Typed Driller's Field Log					

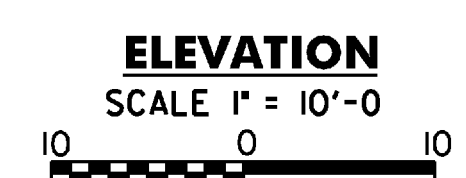
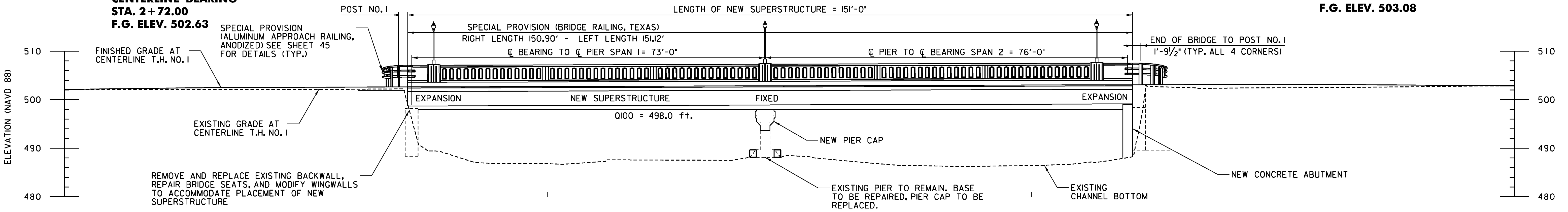
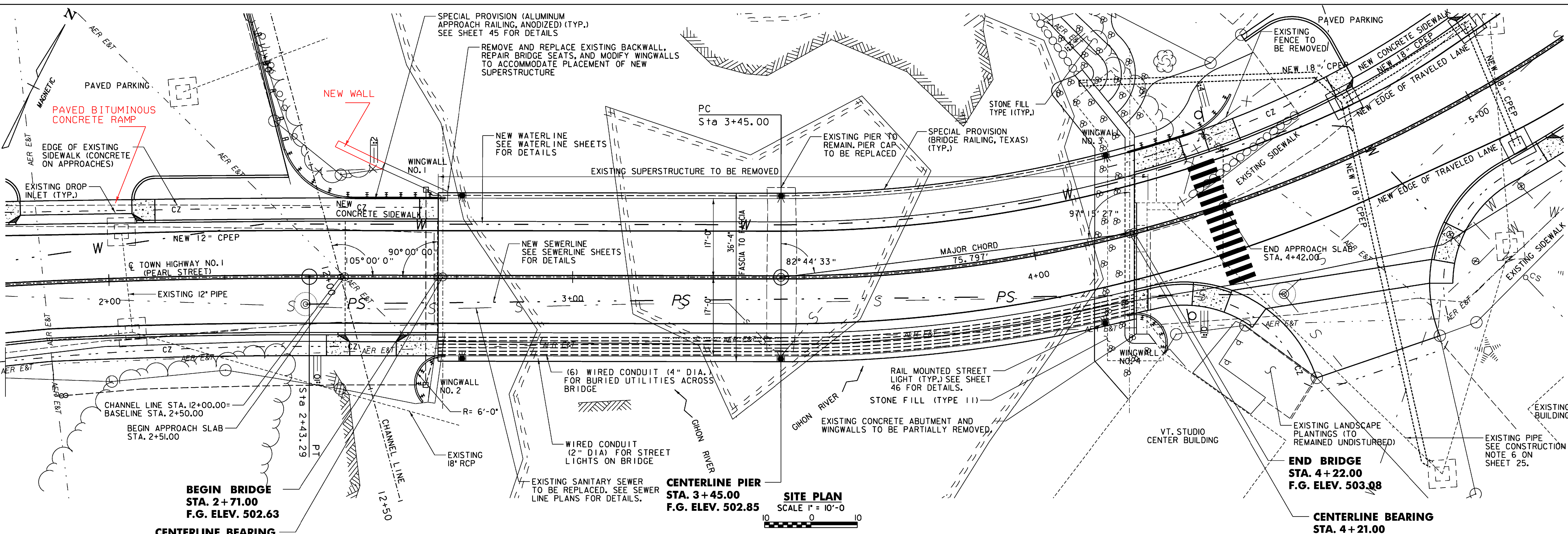
CON-TEC, INC. TEST BORING LOG											
PROJECT: PEARL STREET OVER GIHON RIVER				JOB NO. G25124		GROUNDWATER		DEPTH TO			
LOCATION: JOHNSON, VT				HOLE NO. P-6		DATE		BOTTOM OF CASING		BOTTOM OF HOLE	
				SHEET 1 OF 1		START DATE 10/19/01					
				FINISH DATE 10/19/01		DRILLER R. Bourasso					
						HELPER D. Filitrouit					
						INSPECTOR -					
DEPTH IN FEET	CASING BLOWS PER FOOT	SAMP. NO.	SAMPLE DEPTH INCHES	SAMPLE BLOWS PER INCH	RECOV.	SOIL DESCRIPTION					
0						Notes: Drove AW Rod probe with 140 lb hammer - 30' drop.					
5.0'						BOTTOM OF PROBE					
5.0'						Typed Driller's Field Log					

▼ BOTTOM OF FOOTING = EL. 483.00

<b>STATE OF VERMONT</b>		
<b>AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta.
<b>TH NO. 1 OVER THE GIHON RIVER</b>		
<b>BORING LOG SHEET</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. info.	z98J372bor.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 17 of 68



PLOTTED 2/10/2009



**LEGEND**

EXISTING		PROPOSED	
EDGE OF PAVEMENT OR GRAVEL	---	EDGE OF PAVEMENT	---
EDGE OF RIVER	---	GUARD RAIL	▬▬▬▬
FENCE	x-x-x-x	STORM DRAIN	----
GUARD RAIL	o-o-o-o	CLEAR ZONE	- - - CZ - - -
STORM DRAIN	----	TOE OF SLOPE	○
SEWER	S	TOP OF CUT	△
OVERHEAD LINES	AER E&T	UNDERGROUND ELECTRIC & TELEPHONE LINE	U E&T
UTILITY POLE	⊙	SIGN	Ⓟ
TREE	★	DRAINAGE STRUCTURE	□
TREE LINE	▬▬▬▬		
LEDGE	▬▬▬▬		
SIGN	Ⓟ		
HYDRANT	⊙		
SEWER MANHOLE	○		
DRAINAGE STRUCTURE	□		

**NOTE:** SEE SHEETS 41 AND 42 FOR STREET LIGHTING DETAILS.

**DuBois & King inc.**  
 engineering planning management development

**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIBON RIVER PLAN AND ELEVATION**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372pe.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	18 of 68

## 1.1 PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REPLACEMENT OF THE EXISTING SUPERSTRUCTURE WITH A NEW CURVED STEEL GIRDER AND CONCRETE DECK SUPERSTRUCTURE TO BE PLACED ON ONE NEW ABUTMENT, ONE REHABILITATED ABUTMENT AND A REHABILITATED PIER. ADDITIONAL WORK INCLUDES THE REALIGNMENT OF THE ROADWAY, ASSOCIATED APPROACH WORK, NEW SIDEWALKS, CULVERTS, DRAINAGE DIPS AND THE REMOVAL AND REPLACEMENT OF THE EXISTING GUARDRAIL AND RECONSTRUCTION OF THE SIDESLOPES ALONG THE IMPACTED ROADWAY.

THE PROJECT IS LOCATED ON PEARL STREET (T.H. NO. 1), APPROXIMATELY 300 FEET EAST OF THE JUNCTION WITH VERMONT ROUTE 15 AND SPANS THE GIHON RIVER. PEARL STREET IS A PAVED CLASS 2 TOWN HIGHWAY IN THE TOWN OF JOHNSON. PRIOR TO CONSTRUCTION, A TEMPORARY DETOUR AND BRIDGE WILL BE INSTALLED DOWNSTREAM OF THE EXISTING BRIDGE AND WILL BE USED TO MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION. THE TEMPORARY DETOUR WILL BE A TOTAL LENGTH OF APPROXIMATELY 500 FEET AND WILL BE REMOVED UPON COMPLETION OF CONSTRUCTION. THIS PROJECT IS EXPECTED TO LAST TWO CONSTRUCTION SEASONS.

THE MATERIAL TO BE EXCAVATED FROM THE SITE WILL INCLUDE EXISTING BITUMINOUS CONCRETE SURFACE AND SUBBASE WITHIN THE EXISTING ROADWAY AS WELL AS EXCAVATION FOR THE PLACEMENT OF THE NEW ABUTMENT AND ASSOCIATED STONE FILL AROUND THE ABUTMENTS. ADDITIONAL EXCAVATION WILL BE NEEDED FOR THE TEMPORARY ABUTMENTS USED TO SUPPORT THE TEMPORARY BRIDGE. STOCKPILING OF ANY EXCAVATED MATERIAL TO BE REUSED MAY TAKE PLACE WITHIN THE PROJECT LIMITS. LIKEWISE, STOCKPILING OF ANY NEW MATERIAL TO BE USED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. THE LIMIT OF CONSTRUCTION AND ASSOCIATED MAXIMUM SOIL DISTURBANCE AREA FOR THE ROADWAY AND BRIDGE CONSTRUCTION IS APPROXIMATELY 0.50 ACRES. ADDITIONALLY THERE WILL BE APPROXIMATELY 0.25 ACRES OF DISTURBED SOIL ASSOCIATED WITH THE CONSTRUCTION, USE AND REMOVAL OF THE TEMPORARY DETOUR. THE TOTAL FOOTPRINT AREA OF DISTURBED SOILS IS CALCULATED TO BE 0.75 ACRES.

THERE ARE TWO EXISTING ENVIRONMENTAL RESOURCE ELEMENTS IN THE VICINITY OF THE PROJECT, THE GIHON RIVER AND A STONE WALL AT ROUGHLY 4+10 LT. THE STONE WALL SHALL REMAIN UNDISTURBED THROUGHOUT CONSTRUCTION. THERE ARE NO OTHER KNOWN SENSITIVE ENVIRONMENTAL AREAS IN CLOSE PROXIMITY TO THIS PROJECT. THERE ARE NO CRITICAL HABITATS, OTHER THAN THE GIHON RIVER, WHICH NEED SPECIAL ATTENTION AND PROTECTION DURING OR AFTER CONSTRUCTION. THE BANKS OF THIS RIVER WITHIN THE PROJECT LIMITS ARE NATURAL SOIL AND ROCK SLOPES EXTENDING FROM THE EXISTING GRADES OR ABUTMENTS TO THE ELEVATION OF THE WATER WITHIN THE RIVER. DISTURBED AREAS ON THE RIVER BANK WILL INCLUDE THE CONSTRUCTION OF THE NEW ABUTMENT AND PLACING STONE FILL AROUND THE SIDES OF THE ABUTMENTS AND DURING THE CONSTRUCTION OF THE TEMPORARY BRIDGE. ALL PROPOSED CONSTRUCTION IS TO TAKE PLACE IN THE DRY.

## 1.2 SITE INVENTORY

### 1.2.1 OFFSITE DRAINAGE CHARACTERISTICS

THIS PROJECT SITE IS LOCATED IN AN URBAN, HIGHLY TRAVELED AREA OF THE VILLAGE OF JOHNSON. THE AREA SURROUNDING THE PROJECT IS MODERATELY SLOPED WITH ESTABLISHED VEGETATION, INCLUDING GRASSY LAWNS, TREE LINES, AND PAVED AND GRAVEL PARKING LOTS. MUCH OF THE RUNOFF FROM THE SURROUNDING TERRAIN DRAINS INTO CATCH BASINS LOCATED THROUGHOUT THE PROJECT, OR DIRECTLY INTO THE GIHON RIVER. THE CATCH BASINS ARE SITUATED ALONG THE ROADWAYS OR IN THE PARKING LOTS TYPICALLY AT LOW POINTS OR CURB CUTS. THE CATCH BASINS DRAIN DIRECTLY INTO THE GIHON RIVER.

**1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES**  
THE GIHON RIVER IS THE ONLY WATERWAY WITHIN THE PROJECT LIMITS. THERE ARE NO OTHER WETLANDS WITHIN THE PROJECT LIMITS, OR SURROUNDING AREA.

### 1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT AREA CONSISTS OF MODERATE SLOPES AND ROLLING HILLS. SEVERAL PERMANENT RESIDENTS AND BUSINESSES ARE LOCATED WITHIN THE PROJECT LIMITS AND NEAR THE BRIDGE. OVERHEAD AND UNDERGROUND UTILITIES ARE LOCATED ALONG PEARL STREET WITH THE NECESSARY RELOCATIONS BEING PERFORMED AS PART OF THIS PROJECT.

### 1.2.4 VEGETATION

THE PROJECT AREA CONSISTS OF GRASSY LAWNS WITH SCATTERED SMALL TREES. IMPACTS TO VEGETATED AREAS WILL BE LIMITED TO THE SIDE SLOPES OF THE ROAD, LOCATION OF NEW SIDEWALK AREAS ADJACENT TO THE BRIDGE AND THE AREA OF THE TEMPORARY DETOUR. SEVERAL SMALL TREES WILL BE REMOVED AS PART OF THE CLEARING FOR THE DETOUR LIMITS. FOLLOWING THE COMPLETION OF CONSTRUCTION, THE TEMPORARY DETOUR AND ASSOCIATED FILL WILL BE REMOVED AND THE VEGETATION WILL BE REESTABLISHED USING STANDARD SEED AND MULCH PRACTICES.

### 1.2.5 SOILS

THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT LAMOILE COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS ADAMS LOAMY FINE SAND 2 TO 8 PERCENT SLOPES, WITH A PARENT GROUP BEING DESCRIBED AS OUTWASH. THIS SITE IS LISTED AS NOT HIGHLY ERODIBLE.

SUBSURFACE INVESTIGATIONS WERE PERFORMED FOR THE PROJECT. ONE BORING AND SIX PROBES WERE PERFORMED. THESE INVESTIGATIONS FOUND SAND, SILT AND GRAVEL AND LEDGE WAS ENCOUNTERED IN EACH.

### 1.2.6 SENSITIVE RESOURCE AREAS

THE GIHON RIVER AND THE ARCHEOLOGICALLY SENSITIVE STONE WALL BETWEEN STA. 4+00 LT AND 4+18 LT ARE THE ONLY TWO RESOURCE AREAS OF SPECIFIC CONCERN THAT HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THE PROJECT SPANS THE GIHON RIVER WITH MAJOR CONSTRUCTION TAKING PLACE ON BOTH SIDES OF THE RIVER. THE PRIMARY OBJECTIVE FOR THIS EROSION PREVENTION AND SEDIMENT CONTROL PLAN WILL BE TO PREVENT THE MOBILIZATION AND TRANSPORT OF SEDIMENT INTO THE GIHON RIVER. ALL WORK TO BE COMPLETED IN THE RIVER SHALL BE PERFORMED IN THE DRY.

CONTRACTORS SHALL USE ALL MEANS NECESSARY TO AVOID DISTURBANCE OF THE STONE WALL CONSIDERED TO BE ARCHEOLOGICALLY SENSITIVE.

## 1.3 RISK EVALUATION

SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

TO MINIMIZE THE POTENTIAL FOR STORM WATER RUNOFF TO TRANSPORT SEDIMENT INTO THE RIVER SEVERAL KEY EROSION CONTROL DEVICES AND GENERAL PRACTICES WILL BE USED. DETAILS OF THE DEVICES AND THE LOCATION OF THEIR PLACEMENT CAN BE FOUND IN THE EROSION CONTROL PLANS AND DETAILS. ALL EROSION CONTROL MEASURES SHALL BE PLACED IN ACCORDANCE WITH THE EROSION CONTROL DETAILS IN THESE PLANS.

### 1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCE SHALL BE INSTALLED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

### 1.4.2 LIMIT DISTURBANCE AREA

THE EXISTING MAINLINE WILL BE CLOSED DURING CONSTRUCTION; THEREFORE IT CAN BE USED AS A STAGING AND STOCKPILE AREA. THESE AREAS WILL BE COMPLETELY WITHIN THE PROJECT LIMITS AND WILL UTILIZE THE AFOREMENTIONED TEMPORARY EROSION CONTROL MEASURES. NO ADDITIONAL TEMPORARY EROSION CONTROL MEASURES WILL BE NEEDED.

### 1.4.3 STABILIZE CONSTRUCTION EXIT

A VEHICLE TRACKING PAD SHALL BE CONSTRUCTED AT ALL ACCESS POINTS BETWEEN CONSTRUCTION ACTIVITIES, INCLUDING STOCKPILE AREAS, AND PUBLIC OR PRIVATE ROADS. VEHICLE TRACKING PADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STABILIZED CONSTRUCTION ENTRANCE DETAILS CONTAINED IN THESE DRAWINGS.

### 1.4.4 INSTALL SILT FENCE

THE SILT FENCE WILL BE LOCATED 5 FEET TO 10 FEET DOWN GRADIENT FROM THE TOE OF SLOPE. THE SILT FENCE SHALL BE PLACED PARALLEL TO, OR ALONG, THE CONTOUR, SO THE STORM WATER WILL RUN PERPENDICULAR TO THE SILT FENCE. THE ENDS SHALL BE 'J' HOOKED UP GRADIENT TO CREATE A PONDING EFFECT FOR WATER TRYING TO RUN ALONG THE FENCE AND AROUND THE ENDS.

### 1.4.5 DIVERT UPLAND RUNOFF

EACH DROP INLET OR CATCH BASIN SHALL RECEIVE TEMPORARY ROCK BARRIER PROTECTION IN PAVED AREAS AND TEMPORARY SILT FENCE PROTECTION IN UNPAVED AREAS. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF

DUE TO THE NATURE OF THE SITE, CHANNELIZED RUNOFF IS NOT EXPECTED TO OCCUR. IF CHANNELIZED FLOW DEVELOPS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL AGREE ON A METHOD THAT SHALL BE USED TO SLOW CHANNELIZED RUNOFF.

### 1.4.7 CONSTRUCT PERMANENT CONTROLS

STONE FILL, TYPE I SHALL BE PLACED ALONG THE TOP OF WINGWALL NO. 3 TO PREVENT EROSION OF THE STEEP SLOPE. STONE FILL TYPE II SHALL BE PLACED ALONG THE FACE OF THE NEW ABUTMENT NO. 2 TO PROTECT THE FOOTING FROM SCOUR.

### 1.4.8 STABILIZE EXPOSED SOILS

TEMPORARY SOIL STABILIZATION METHODS MAY INCLUDE SEED, MULCH, SOIL BINDER, OR OTHER METHODS AS APPROVED BY THE ENGINEER. TEMPORARY SOIL STABILIZATION METHODS SHALL BE APPLIED TO EXPOSED EARTH WITHIN 48 HOURS OF EARTH DISTURBANCE AND SHALL HAVE ESTABLISHED VEGETATION WITHIN 21 DAYS.

### 1.4.9 WINTER STABILIZATION

IF VEGETATION IS NOT ESTABLISHED BY OCTOBER 15TH, TEMPORARY STABILIZATION SHALL BE APPLIED FOR THE PURPOSE OF WINTER STABILIZATION. SEED AND MULCH SHALL BE USED FOR ESTABLISHING A TEMPORARY COVER ON DISTURBED SOILS. TEMPORARY STABILIZATION MEASURES SHALL BE IN ACCORDANCE WITH SECTION 653.

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

ALL DISTURBED AREA OUTSIDE OF THE ROADWAY, SIDEWALK AND PARKING LOT SHALL RECEIVE TOPSOIL, SEED AND MULCH TO REESTABLISH GRASS AND VEGETATION. TOPSOILING, SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH THE SEEDING FORMULA FOR URBAN AREAS AND ASSOCIATED NOTES AS SHOWN ON SHEET 2 OF THESE PLANS.

### 1.4.11 DEWATERING ACTIVITIES

NO DEWATERING ACTIVITIES ARE EXPECTED TO BE NEEDED AT THIS SITE. IF IT IS DETERMINED BY THE CONTRACTOR AND ENGINEER THAT DEWATERING OF THE COFFERDAMS IS NEEDED, AN APPROPRIATE DEWATERING PLAN SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED PRIOR TO IMPLEMENTATION.

### 1.4.12 INSPECT YOUR SITE

THE EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF THE EROSION CONTROL MEASURES SHALL TAKE PLACE BEFORE AND AFTER MAJOR STORM EVENTS TO INSURE THEY ARE IN GOOD CONDITION AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENTS. A REPORT ON THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE PRESENTED TO THE RESIDENT ENGINEER AND ONSITE COORDINATOR UPON THE COMPLETION OF EACH INSPECTION. MODIFICATIONS OR IMPROVEMENTS TO THE EROSION CONTROL PLAN SHOULD BE COORDINATED WITH THE RESIDENT ENGINEER AND ONSITE COORDINATOR.

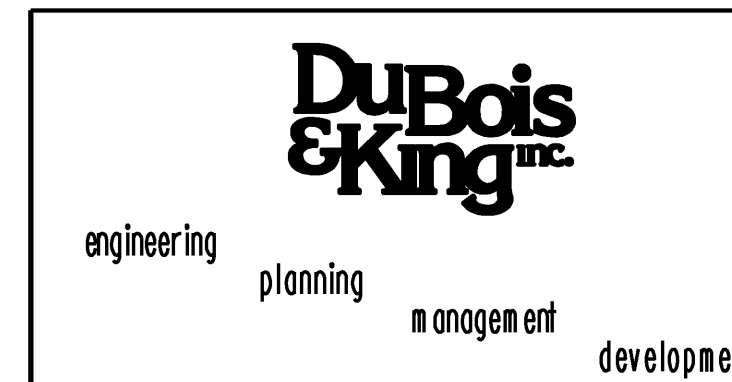
# STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

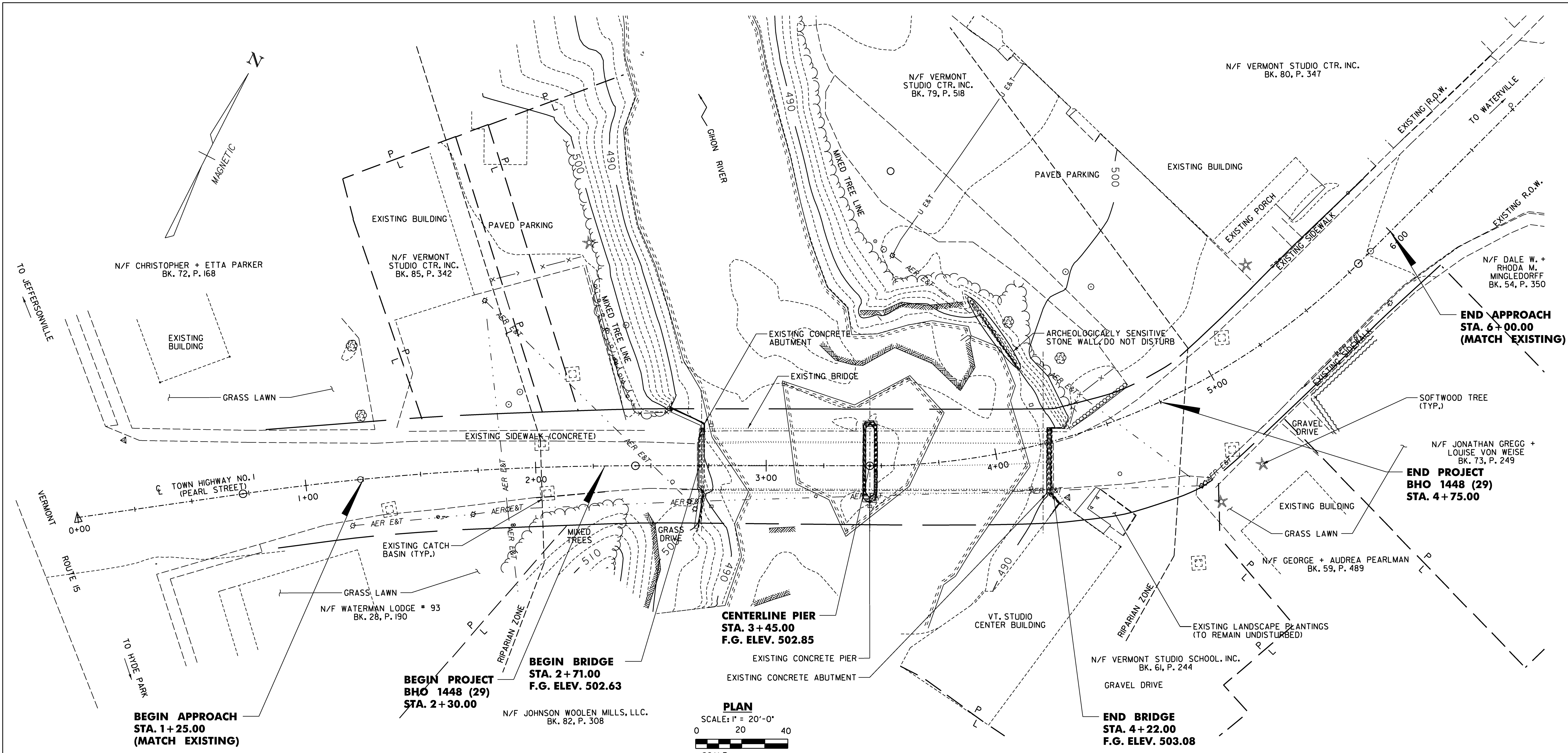
## TH NO. 1 OVER THE GIHON RIVER

### EPCS NARRATIVE

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372epscnar.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	19 of 68



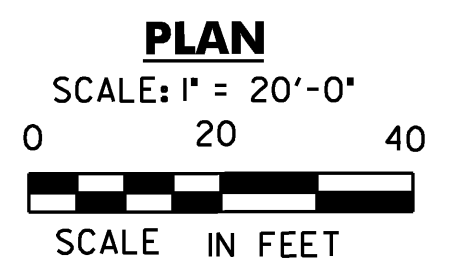
PLOTTED 2/18/2009



- NOTES:**
1. THE GIHON RIVER AND THE ARCHEOLOGICALLY SENSITIVE STONE WALL BETWEEN STA. 4+00 LT AND 4+18 LT ARE THE ONLY TWO RESOURCE AREAS OF SPECIFIC CONCERN THAT HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA.
- SOILS INFORMATION:**
2. THE SOIL CONSERVATION SERVICE HAS MAPPED THE SOILS THROUGHOUT LAMOILE COUNTY. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS ADAMS LOAMY FINE SAND 2 TO 8 PERCENT SLOPES, WITH A PARENT GROUP BEING DESCRIBED AS OUTWASH. THIS SITE IS LISTED AS NOT HIGHLY ERODIBLE.
  3. SUBSURFACE INVESTIGATIONS WERE PERFORMED FOR THE PROJECT. ONE BORING AND SIX PROBES WERE PERFORMED. THESE INVESTIGATIONS FOUND SAND, SILT AND GRAVEL AND LEDGE WAS ENCOUNTERED IN EACH.

**DATUM**

VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



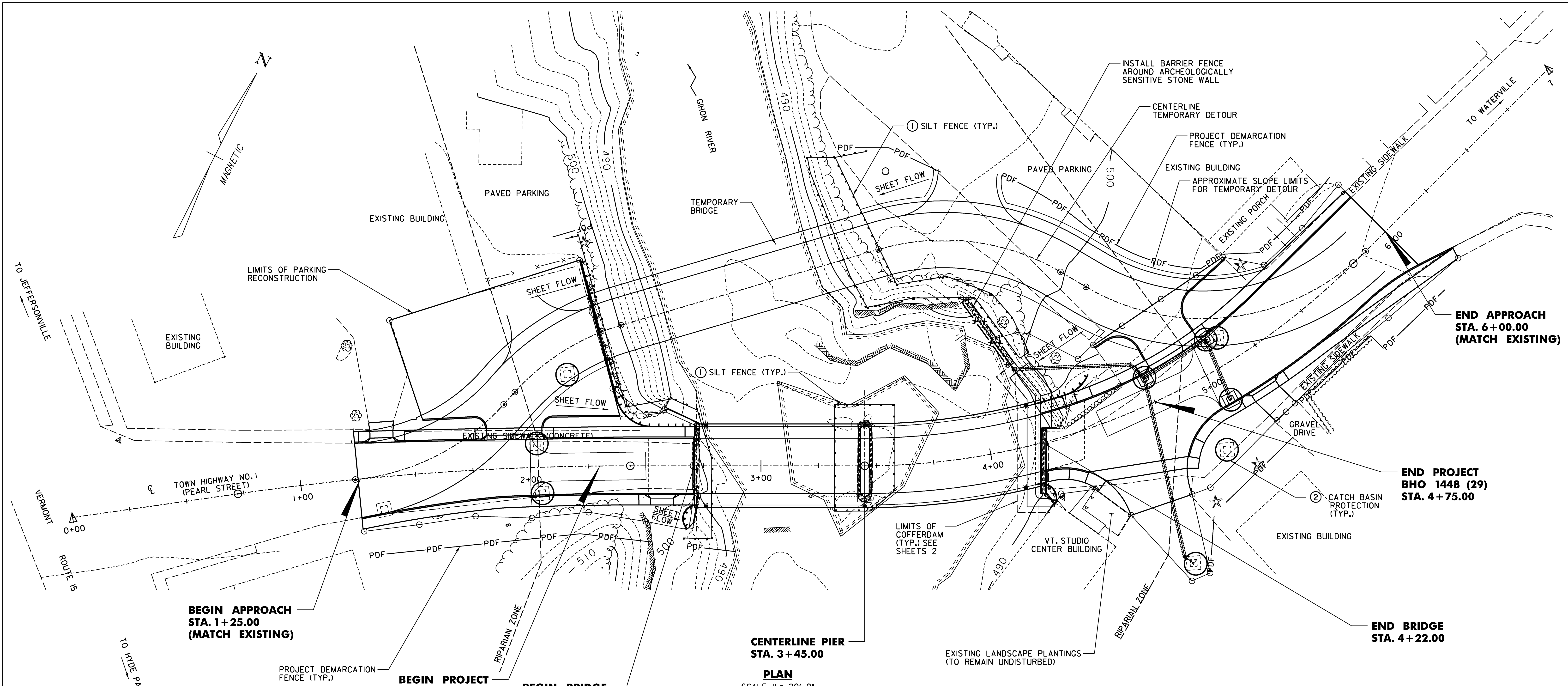
**LEGEND**

EXISTING	---
EDGE OF PAVEMENT OR GRAVEL	---
EDGE OF RIVER	---
FENCE	x-x-x-x
TREE	○
TREE LINE	~
HEDGE	
LEDGE	
RIGHT OF WAY	P
PROPERTY LINE	L
SIGN	+
DRAINAGE STRUCTURE	⊕

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PLOTTED 2/10/2009

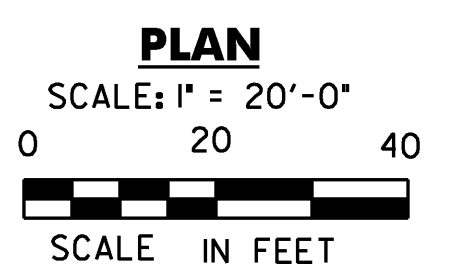
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>EPSC EXISTING CONDITIONS SITE PLAN</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372epscic.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	20 of 68



- NOTES:**
- ALL TEMPORARY EROSION CONTROL MEASURES WILL BE IN PLACE PRIOR TO THE BEGINNING OF CONSTRUCTION, WHERE POSSIBLE.
  - SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE 'EPSC DETAIL SHEET (D)'. THE SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SEDIMENT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.
  - IN AREAS WHERE EXISTING RIP RAP OR LEDGE PREVENTS THE PROPER INSTALLATION OF THE SILT FENCE, AN ALTERNATIVE MEANS OF EROSION CONTROL SHALL BE PRESENTED TO THE ENGINEER AND ON-SITE COORDINATOR FOR APPROVAL TO BE USED IN THOSE AREAS ONLY.
  - THE SIDE SLOPES OF THE TEMPORARY DETOUR SHALL IMMEDIATELY BE SEEDED AND MULCHED UPON COMPLETING THE CONSTRUCTION OF THE TEMPORARY DETOUR.
  - SURFACE ROUGHENING HELPS REDUCE RUNOFF VELOCITIES AND INCREASES INFILTRATION RATES. ROUGHENING MAY BE ACCOMPLISHED BY A NUMBER OF METHODS SUCH AS TRACKING UP AND DOWN THE SLOPE WITH A BULLDOZER, TRACKING ACROSS THE SLOPE WITH A WHEELED VEHICLE OR ANY METHOD OF SCARIFYING THE SLOPE SUCH THAT THE GROOVES CREATED RUN PERPENDICULAR TO THE DIRECTION OF WATER RUNOFF.

**DATUM**

VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



**LEGEND**

EXISTING	PROPOSED
EDGE OF PAVEMENT OR GRAVEL	EDGE OF PAVEMENT OR GRAVEL
EDGE OF RIVER	GUARD RAIL
TREE	STORM DRAIN
TREE LINE	TOE OF SLOPE
HEDGE	TOP OF CUT
LEDGE	DRAINAGE STRUCTURE
SIGN	SILT FENCE
DRAINAGE STRUCTURE	PROJECT DEMARCATION FENCE
	PROJECT BARRIER FENCE
	VEHICLE TRACKING PAD

**EROSION CONTROL MEASURES**

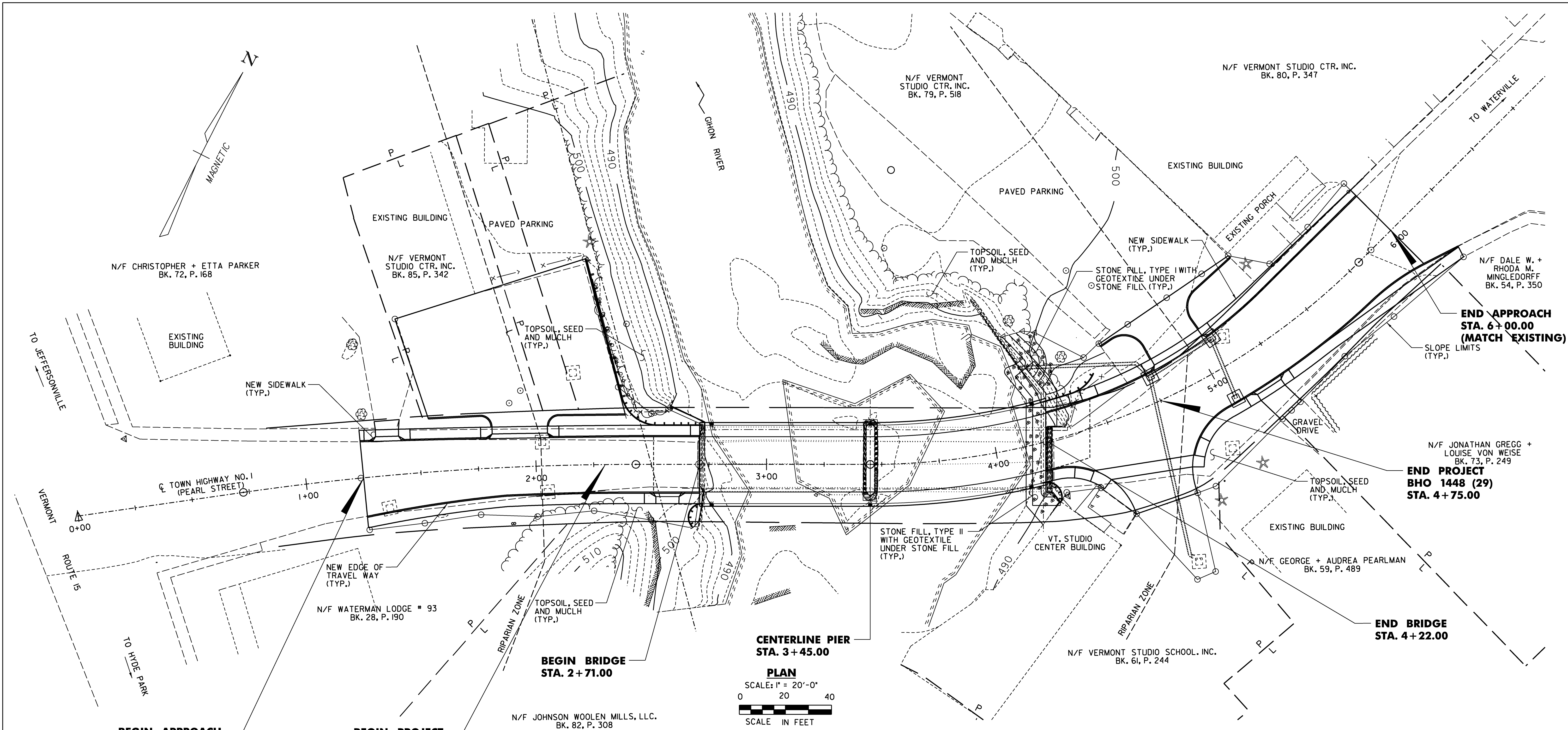
①	INSTALL SILT FENCE
②	INSTALL CATCH BASIN PROTECTION

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PLOTTED 2/10/2009

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>EPSC CONSTRUCTION SITE PLAN</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372epsc.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	21 of 68



**CENTERLINE PIER  
STA. 3+45.00**

**PLAN**  
SCALE: 1" = 20'-0"  
0 20 40  
SCALE IN FEET

**LEGEND**

- |                    |  |                    |  |
|--------------------|--|--------------------|--|
| EDGE OF RIVER      |  | EDGE OF PAVEMENT   |  |
| FENCE              |  | OR GRAVEL          |  |
| TREE               |  | GUARD RAIL         |  |
| TREE LINE          |  | STORM DRAIN        |  |
| HEDGE              |  | TOE OF SLOPE       |  |
| LEDGE              |  | TOP OF CUT         |  |
| SIGN               |  | DRAINAGE STRUCTURE |  |
| DRAINAGE STRUCTURE |  |                    |  |

**DATUM**  
VERTICAL NAVD 88  
HORIZONTAL ASSUMED

**NOTE:**  
CONTOURS SHOWN INDICATE THE EXISTING SITE.  
SEE ROADWAY CROSS SECTIONS FOR GRADE  
CHANGE.

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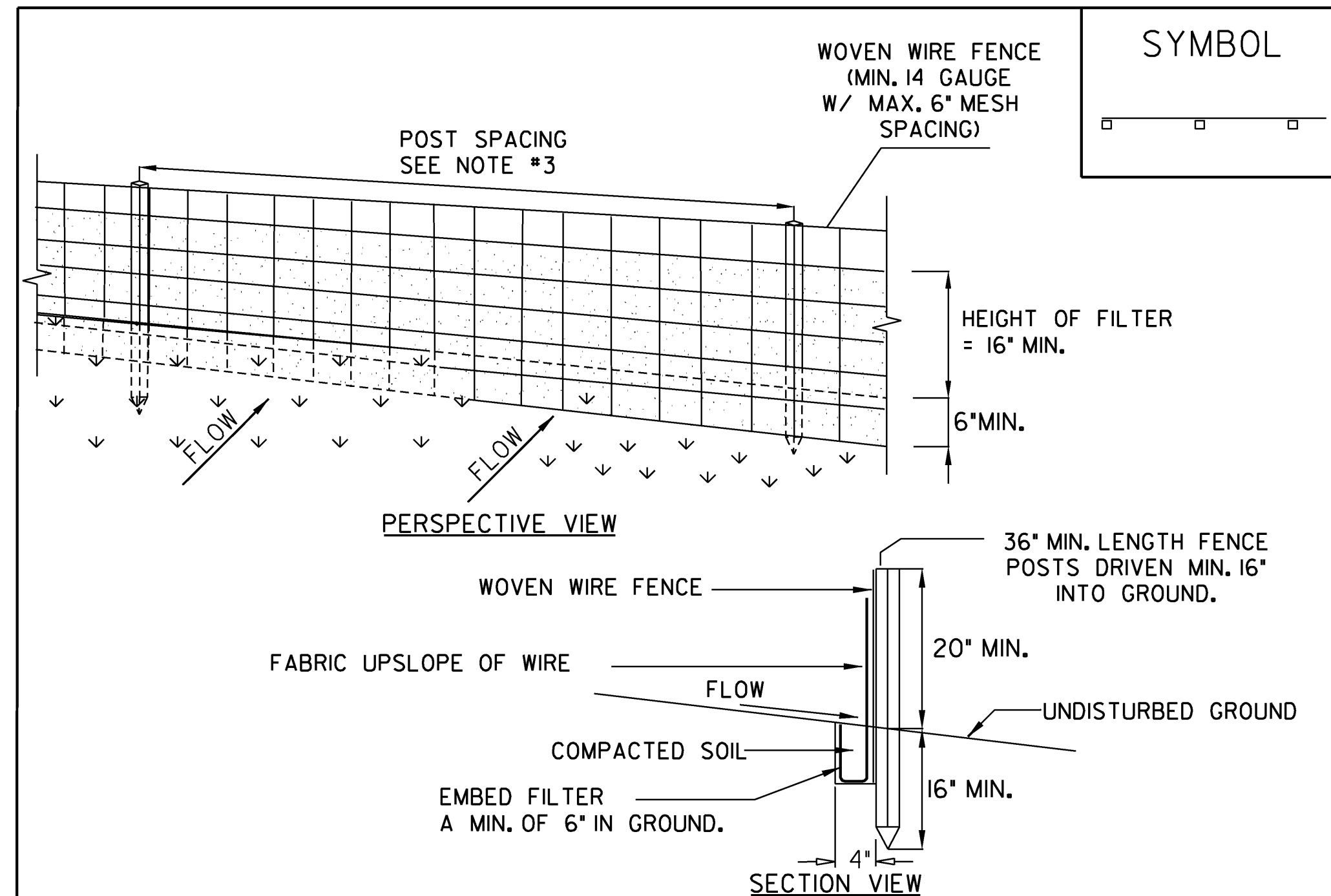
PLOTTED 2/10/2009

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
EPSC FINAL CONDITIONS SITE PLAN**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372epscfc.dgn	D & K DWG NO.	
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**CONSTRUCTION SPECIFICATIONS**

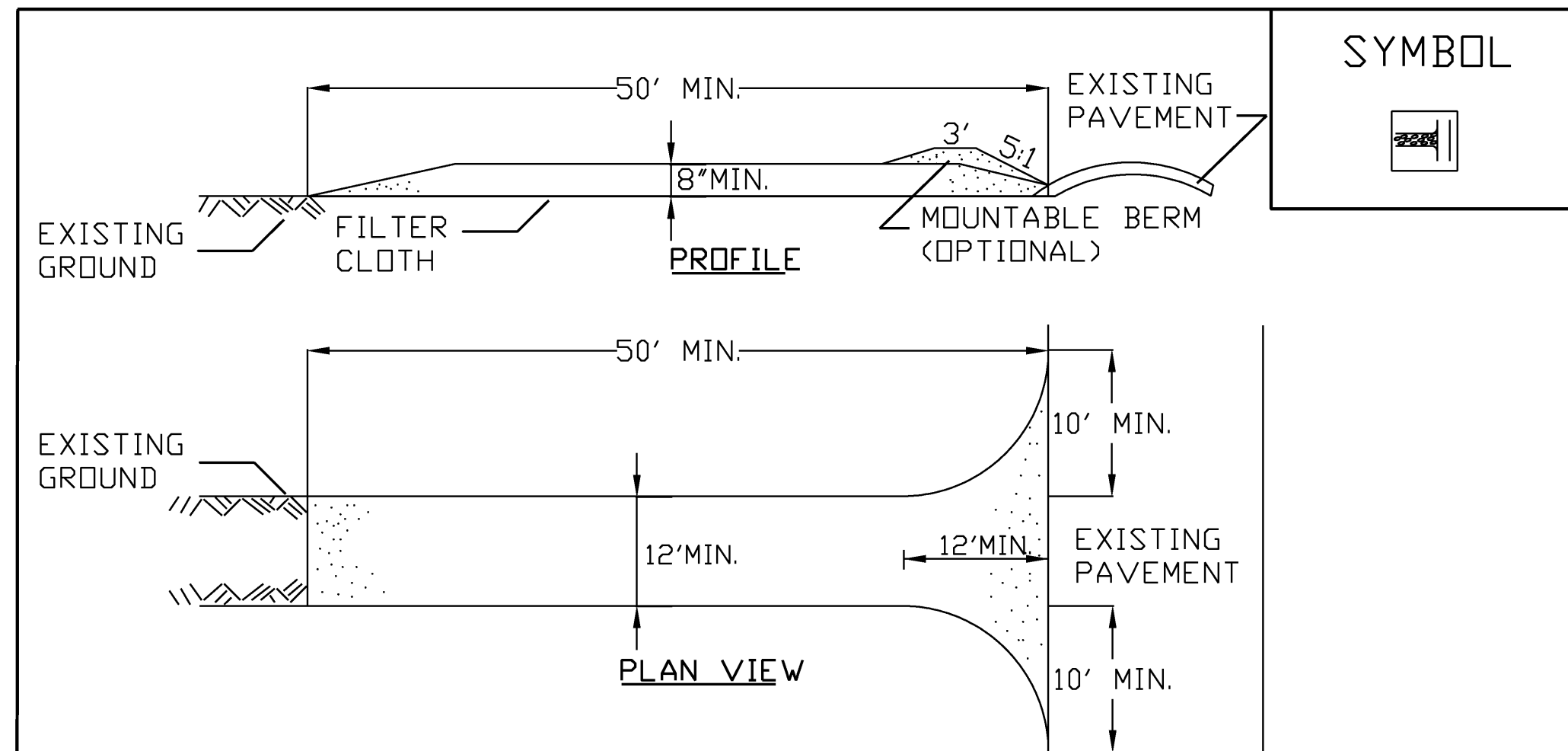
1. WOVEN WIRE FENCE REINFORCEMENT IS ONLY REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATERS.
2. WHERE REQUIRED FENCE SHALL BE WOVEN WIRE, MIN. 14 GAUGE WITH A 6\"/>

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

**SILT FENCE**

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

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



**CONSTRUCTION SPECIFICATIONS**

1. STONE SIZE - USE 1-4\"/>

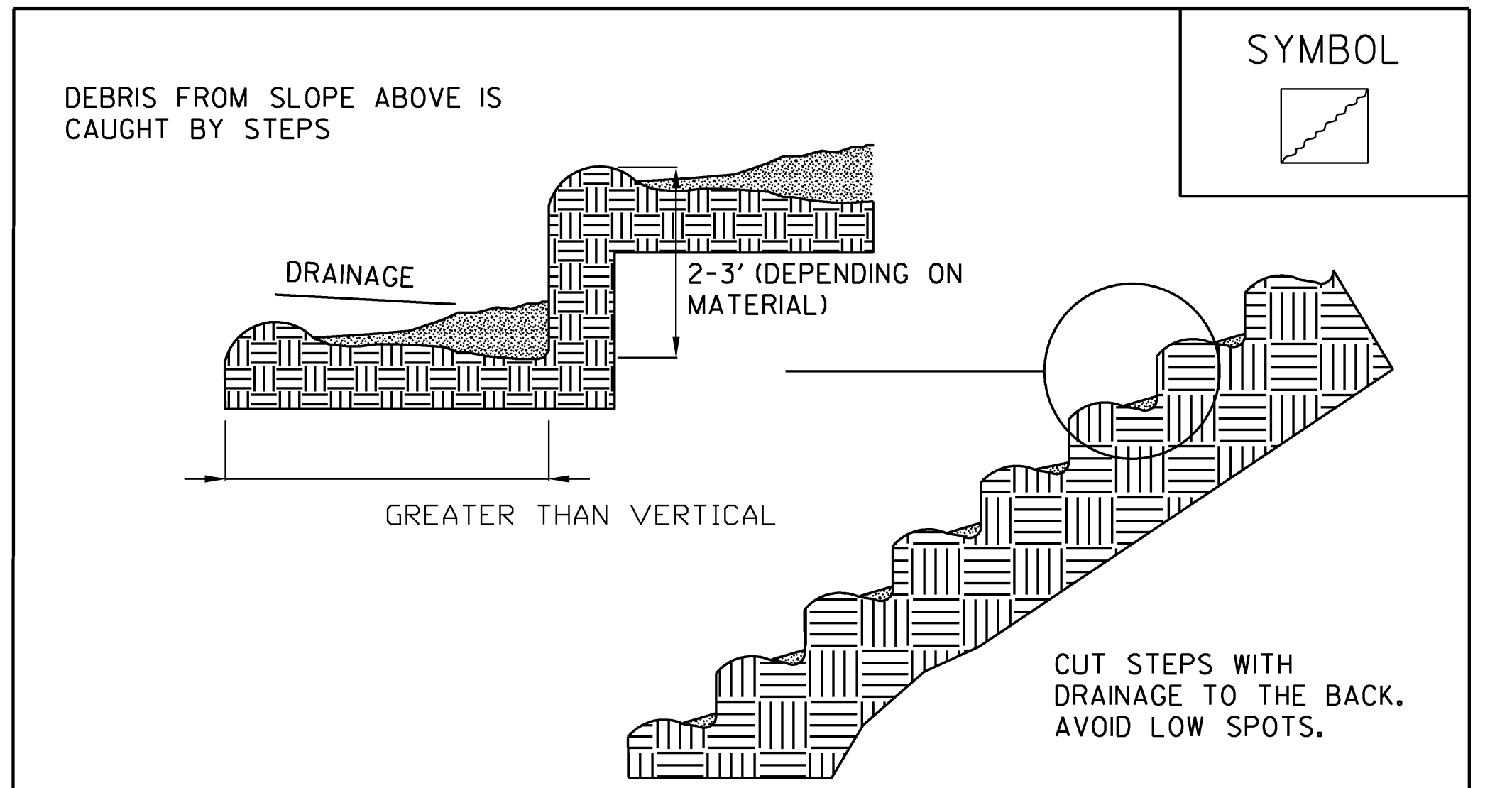
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**STABILIZED CONSTRUCTION ENTRANCE**

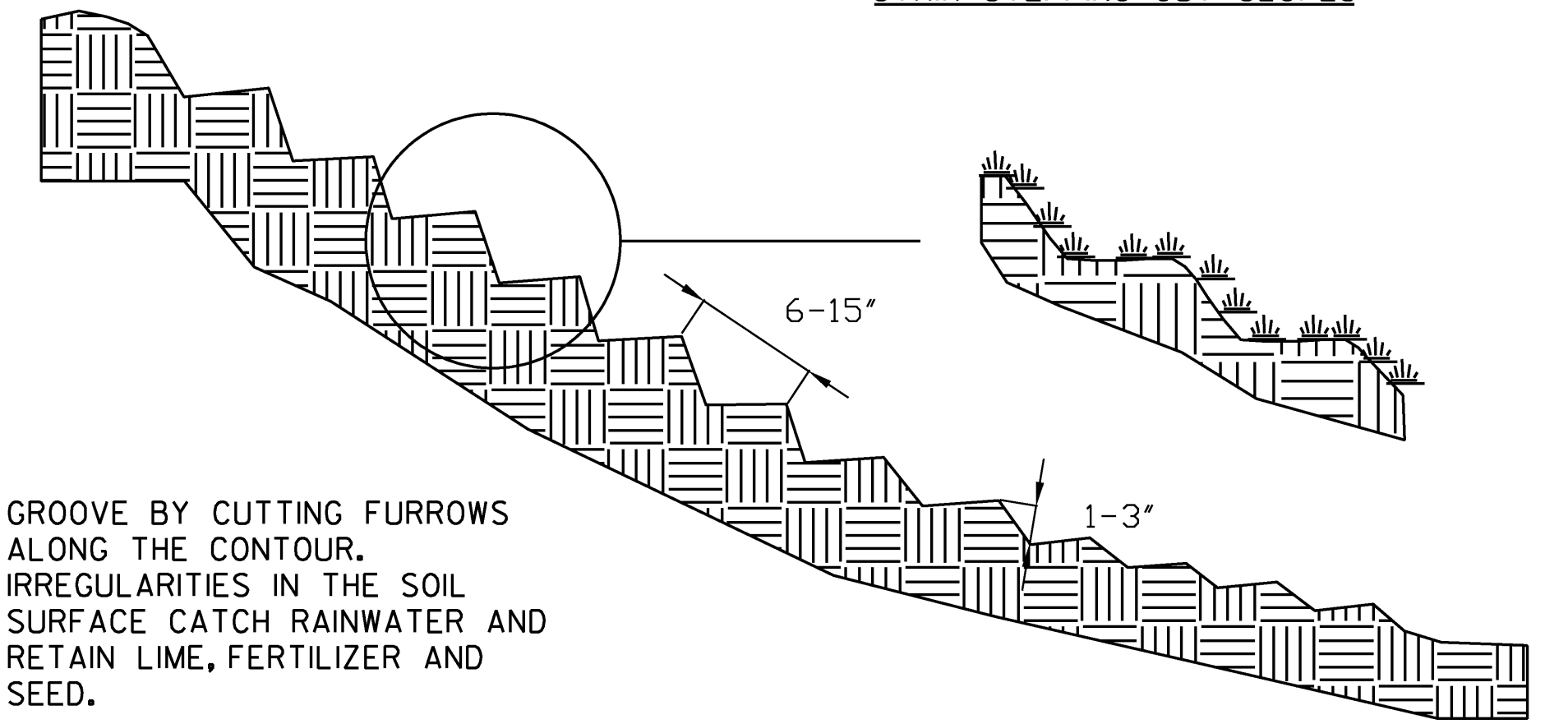
NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

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

REVISIONS	
FEBRUARY 9, 2007	WHF
MARCH 8, 2007	JMF



**STAIR STEPPING CUT SLOPES**



**GROOVING SLOPES**

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

**SURFACE ROUGHENING DETAILS**

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

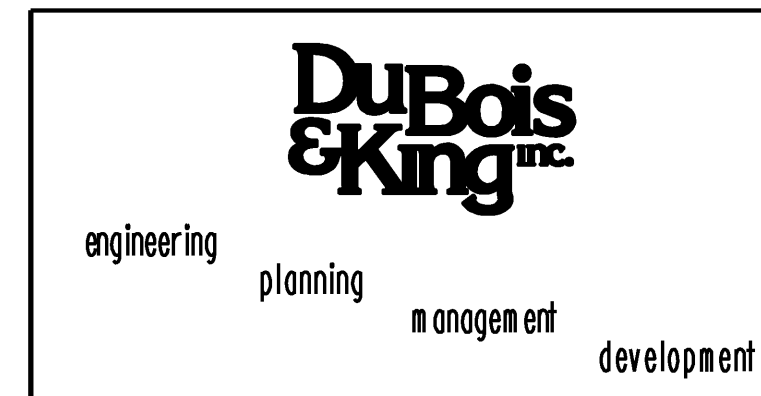
THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO THE MATERIAL ITEM SPECIFIED

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

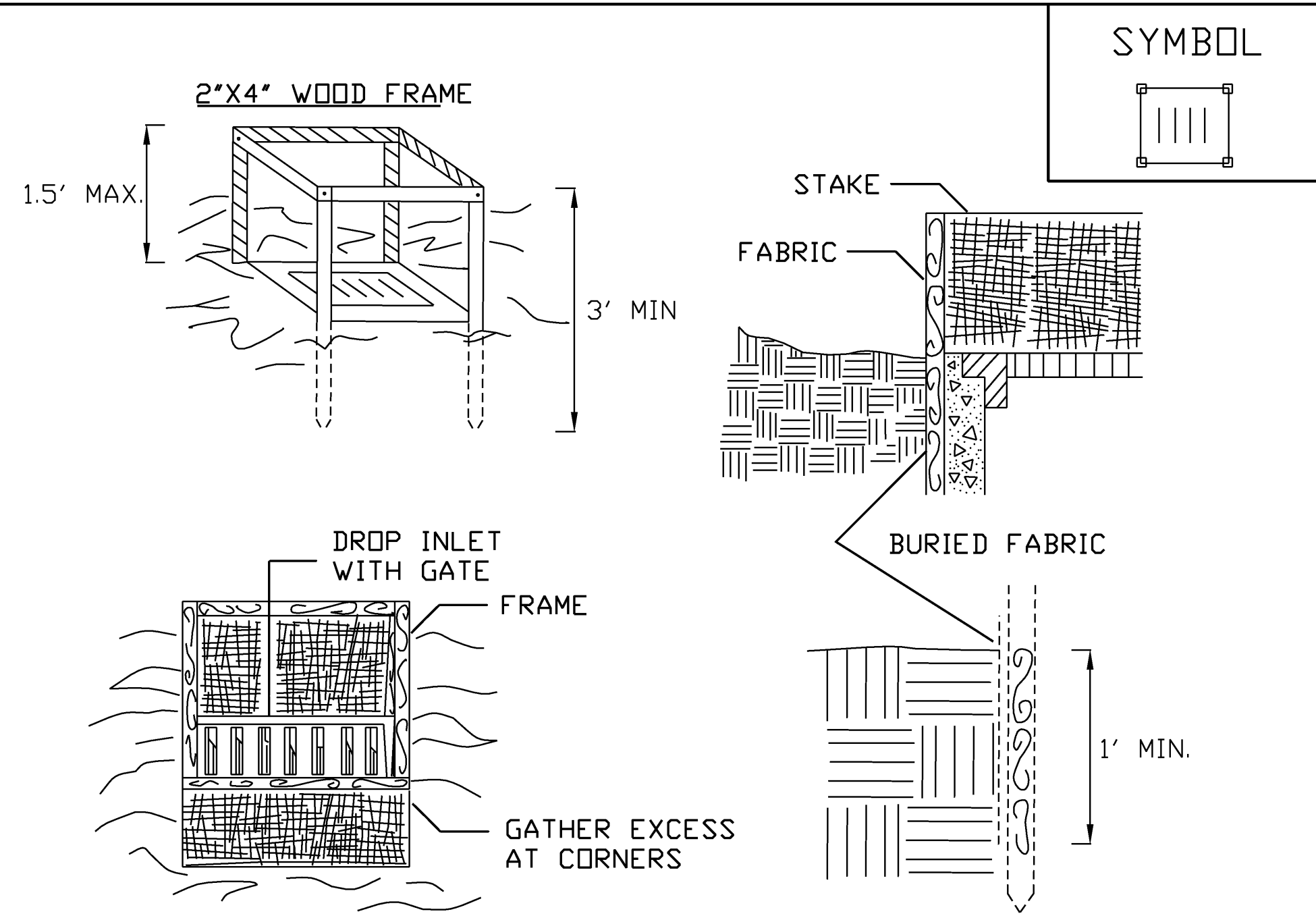
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
EPSC DETAIL SHEET (1)**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372epscdet.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	23 of 68



PLOTTED 2/10/2009



**CONSTRUCTION SPECIFICATIONS**

1. FILTER FABRIC SHALL HAVE AN EDS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
  2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
  3. STAKE MATERIALS WILL BE STANDARD 2' x 4' WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
  4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
  5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
  6. A 2' x 4' WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
- MAXIMUM DRAINAGE AREA 1 ACRE

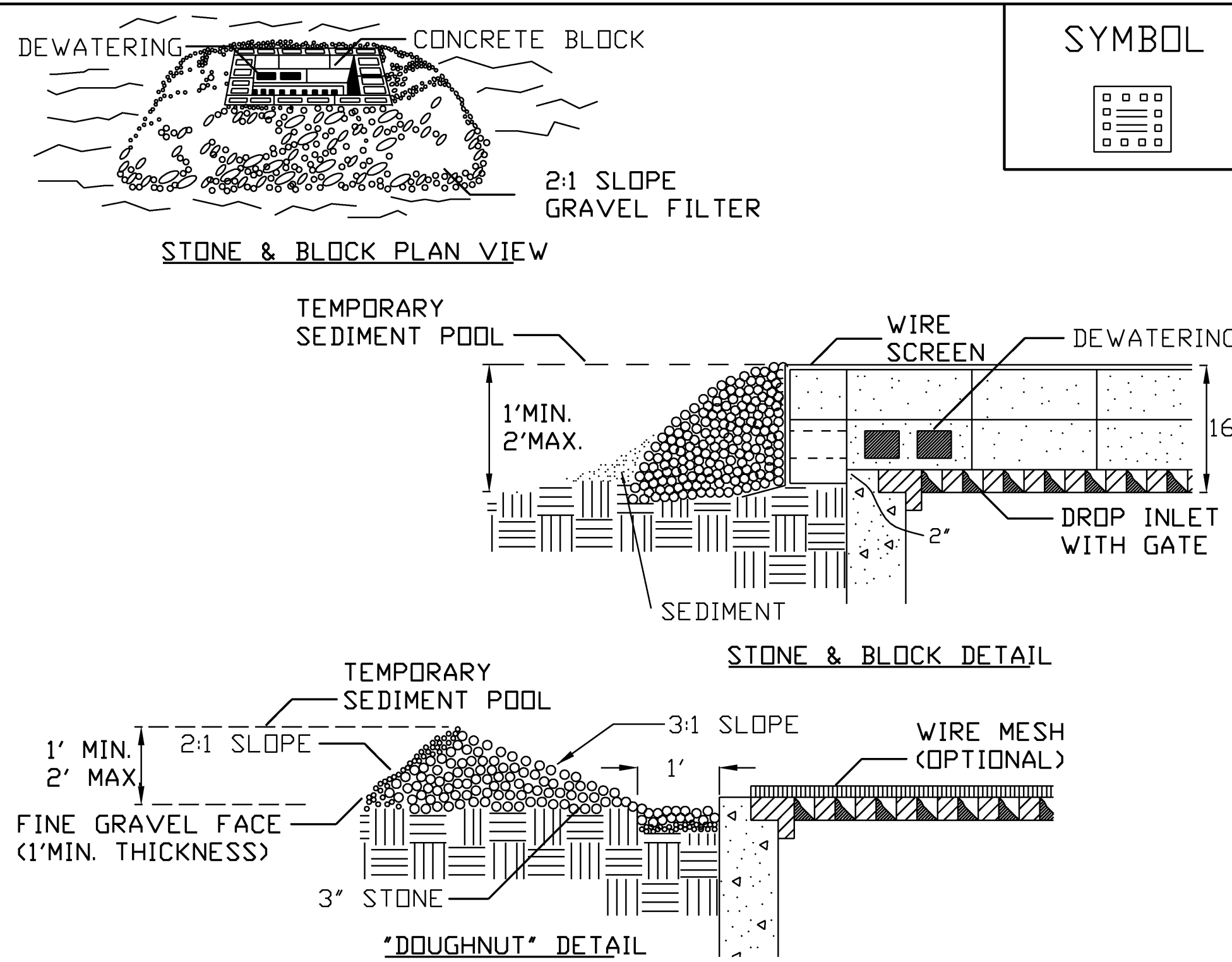
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**FILTER FABRIC  
DROP INLET  
PROTECTION**

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

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

REVISIONS	
MARCH 8, 2007	JMF



**CONSTRUCTION SPECIFICATIONS**

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
  2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
  3. USE CLEAN STONE OR GRAVEL 1/2 - 3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
  4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.
- MAXIMUM DRAINAGE AREA 1 ACRE

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

**STONE & BLOCK  
DROP INLET  
PROTECTION**

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

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

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
EPSC DETAIL SHEET (2)**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372epscdet.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	24 of 68

**DuBois & King INC.**

engineering    planning    management    development

PLOTTED 2/10/2009

**GENERAL NOTES**

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.
2. DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGE SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND LIMITED FIELD INVESTIGATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER BEFORE ADVANCING THE WORK. WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.
3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

**CONSTRUCTION NOTES**

1. ALL UTILITY POLES ARE TO REMAIN UNDISTURBED UNLESS OTHERWISE NOTED IN THESE PLANS.
2. NO BACKFILL WILL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THE RESIDENT ENGINEER HAS APPROVED THIS WORK. THE HEIGHT OF BACKFILL BEHIND THE ABUTMENTS SHALL BE LIMITED TO THE BRIDGE SEAT ELEVATIONS UNTIL THE NEW STEEL GIRDERS HAVE BEEN SET.
3. THE CONTRACTOR, AT THE EXPENSE OF THE CONTRACTOR, SHALL REPAIR DAMAGE TO CONCRETE WALLS RESULTING FROM IMPROPER BACKFILLING.
4. FOLLOWING COORDINATION WITH THE VERMONT STUDIO CENTER AND THE ENGINEER, THE EXISTING LANDSCAPED AREA, INCLUDING EXISTING BENCHES, LARGE ROCK AND SIGNING AT STA. 4+50 LT SHALL BE CAREFULLY DISASSEMBLED AND MOVED TO A LOCATION IDENTIFIED BY THE VERMONT STUDIO CENTER. REASSEMBLY OF THE MATERIAL IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE COST FOR THIS WORK SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 635.II, "MOBILIZATION / DEMOBILIZATION."
5. THE EXISTING FENCE BORDERING LANDSCAPED AREA FROM STA. 4+35 LT TO STA. 4+61 LT SHALL BE REMOVED UNDER ITEM 620.55, "REMOVAL OF EXISTING FENCE."
6. EXISTING DRAINAGE PIPES RUNNING FROM STA. 4+29.80 LT TO THE DI NEAR STA. 4+63.50 RT AND STA. 4+92.77 RT TO STA. 5+12.54 LT, SHALL BE REMOVED TO THE DI AND CAPPED AT THE DI. THIS WORK SHALL BE PAID FOR UNDER ITEM 204.20, "TRENCH EXCAVATION OF EARTH".
7. THE CONTRACTOR SHALL USE EXTREME CAUTION WHILE CONSTRUCTING THE NEW WINGWALL NO. 4 NEAR THE EXISTING BUILDING FOUNDATION AND AVOID ANY DAMAGE TO THE FOUNDATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE FOUNDATION, AT THE SOLE COST TO THE CONTRACTOR.
8. PRIOR TO PAVING OPERATIONS A MEETING SHALL TAKE PLACE BETWEEN THE ENGINEER, THE TOWN MANAGER AND THE CONTRACTOR TO DISCUSS TRAFFIC CONTROL AND TO ENSURE MINIMAL TRAFFIC DISRUPTIONS OCCUR ESPECIALLY DURING HIGH VOLUME HOURS. THE CONTRACTOR SHALL HAVE A PLAN FOR CONTROLLING TRAFFIC AND ADHERING TO THE 10 MINUTE MAXIMUM WAIT TIME AS STATED IN SUBSECTION 104.04(b) IN THE STANDARD SPECIFICATIONS.

**STRUCTURAL STEEL NOTES:**

1. ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M 270M/M 270, GRADE 50 W UNLESS OTHERWISE NOTED.
2. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "AMERICAN INSTITUTE OF STEEL CONSTRUCTION" (AISC).
3. ALL BOLTED FIELD CONNECTIONS SHALL BE MADE WITH 7/8-IN DIA. HIGH-STRENGTH, TYPE 3 BOLTS, CONFORMING TO AASHTO M 164M IN 15/16-IN DIA. HOLES, UNLESS OTHERWISE NOTED.
4. STRUCTURAL STEEL CONNECTIONS NOT DETAILED ON PLANS SHALL BE DETAILED BY FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
5. ALL WELDS SHALL HAVE CORROSION RESISTANCE AND WEATHERING APPEARANCE AS SPECIFIED FOR WEATHERING STEEL.
6. ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL BE IN ACCORDANCE WITH VTRANS REQUIREMENTS AND SHALL CONFORM TO THE LATEST ANSI/AASHTO/AWS CODES AND THEIR LATEST REVISIONS.
7. SHEAR STUD CONNECTORS SHALL BE FIELD WELDED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT AND SHALL BE PAID FOR UNDER ITEM 508.I5, SHEAR CONNECTORS.
8. ANY HOLES IN FASCIA BEAMS WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS PER AASHTO M 164M, TYPE 3.
9. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF GIRDERS SHALL BE TAKEN UNDER DIRECTION OF THE RESIDENT ENGINEER FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.
10. THE ENDS OF THE GIRDERS, BEARING STIFFENERS AND CONNECTION PLATES SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
11. CONNECTION PLATES, DIAPHRAGMS AND UTILITY SUPPORT BEAMS SHALL BE PAID FOR UNDER ITEM 506.50, "STRUCTURAL STEEL, ROLLED BEAM".

**CONCRETE NOTES**

1. CONCRETE PAYMENT AND CLASSIFICATION SHALL BE AS FOLLOWS:
  - ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A (DECK, CURTAIN WALLS, BRIDGE SIDEWALKS)
  - ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B (APPROACH SLABS, ABUTMENTS, PIER)
2. ITEM 514.I0, WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE, EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES.
3. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2 INCH BY 1/2 INCH, UNLESS OTHERWISE NOTED. A ONE-HALF INCH RADIUS SHALL BE USED ON THE TOP INSIDE CORNER OF THE CURBS.
4. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
5. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT UNLESS OTHERWISE INDICATED. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
6. THE CONCRETE DECK SHALL BE PLACED IN ACCORDANCE WITH THE POUR SEQUENCE SHOWN IN THE PLANS.
7. A THOROUGH JOINT INSPECTION WITH THE CONTRACTOR AND ENGINEER SHALL BE MADE OF SUBSTRUCTURES THAT ARE TO BE RETAINED. AREAS OF CONCRETE FOUND TO BE SPALLED, DELAMINATED OR OTHERWISE UNSOUND SHALL BE REPAIRED. THE AREAS THAT NEED TO BE REPAIRED SHALL BE PAID FOR UNDER ITEM 580.J3, "REPAIR OF CONCRETE SUBSTRUCTURE CLASS I", ITEM 580.I4, "REPAIR OF CONCRETE SUBSTRUCTURE CLASS II" AND ITEM 580.I5, "REPAIR OF CONCRETE SUBSTRUCTURE CLASS III" IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DETAILS SHOWN ON SHEET 40.
8. FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.
9. UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL CONTACT THE VTRANS SOILS AND FOUNDATION ENGINEER TO INSPECT THE BEDROCK. THE STRUCTURES ENGINEER WILL ALSO BE NOTIFIED THAT THE BEDROCK IS READY FOR INSPECTION. 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.
10. IF COMPETENT BEDROCK IS WITHIN 1'-0" BELOW THE DESIGN BOTTOM OF FOOTING FOR THE EXTENT OF THE SUBSTRUCTURE AS SHOWN IN THE CONTRACT PLANS, THE FOOTING MAY BE PLACED INTEGRALLY TO THE TOP OF THE BEDROCK USING THE CONCRETE ITEM SPECIFIED FOR THE FOOTING AT THE CONTRACT UNIT PRICE.
  - 11. WHERE COMPETENT BEDROCK IS BELOW THE DESIGN BOTTOM OF FOOTING BY MORE THAN 1'-0" FOR ANY PORTION OF THE SUBSTRUCTURE AND A SUBFOOTING IS NOT SHOWN IN THE CONTRACT PLANS, THE STRUCTURES ENGINEER SHALL BE CONTACTED TO DETERMINE WHETHER OR NOT THE FOOTING SHALL BE LOWERED OR IF THE CONSTRUCTION OF A SUBFOOTING IS REQUIRED. IF THE DESIGN BOTTOM OF FOOTING ELEVATION IS TO BE LOWERED THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE STRUCTURES ENGINEER, 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.
  - 12. THE LIMITS OF SUBFOOTINGS SHALL BE 1'-0" OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. IF A SUBFOOTING IS REQUIRED AND NOT SHOWN IN THE CONTRACT IT SHALL BE DONE AS EXTRA WORK. THE TOP SURFACE OF ALL SUBFOOTINGS SHALL BE INTENTIONALLY ROUGHENED TO 1/4" AMPLITUDE.
13. WHERE COMPETENT BEDROCK IS ABOVE THE DESIGN BOTTOM OF FOOTING ELEVATION, IT SHALL BE REMOVED WITH CONTRACT PAY ITEMS OR A BEDROCK PROFILE SHALL BE PROVIDED BY THE CONTRACTOR TO THE STRUCTURES ENGINEER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION MAY BE RAISED. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THE DETERMINATION. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE STRUCTURES ENGINEER.
14. OVERBREAKAGE AND REPLACEMENT WITH THE FOOTING CONCRETE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTIONS 204.09(B)(1) AND 208.II(C) WILL BE AT THE CONTRACTOR'S EXPENSE.
15. 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.

**REINFORCING STEEL NOTES:**

1. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE" (CRSI).
2. REINFORCING STEEL IN THE DECK, CURTAIN WALL, SIDEWALK, RAILING, CURB AND APPROACH SLAB SHALL BE EPOXY COATED.
3. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
  - ALONG BACK FACES OF WALLS AGAINST EARTH: 2-IN
  - ALONG TOP SURFACE OF DECK SLAB: 2 1/2-IN
  - ALONG BOTTOM SURFACE OF DECK SLAB: 1 1/2-IN
  - BRIDGE RAILING: 2-IN
  - ELSEWHERE UNLESS OTHERWISE INDICATED: 3-IN
4. REINFORCEMENT STEEL PLACEMENT TOLERANCES SHALL BE:
  - SPACING = +/- 1-IN
  - CLEARANCE = +/- 1/4-IN
  - BRIDGE RAIL CLEARANCE = 0-IN
5. DRILLING AND GROUTING DOWELS SHALL BE PAID AS ITEM 507.I6, "DRILLING AND GROUTING DOWELS". ALL DRILLED HOLES SHALL HAVE A MINIMUM OF 6-INCH CLEAR COVER.

PLOTTED 2/11/2009

**REMOVAL NOTES**

1. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE:
  - a) REMOVAL AND DISPOSAL OF EXISTING BRIDGE AND APPROACH RAILING AND POSTS, CONCRETE BRIDGE DECK AND CURTAIN WALLS.
  - b) PARTIAL REMOVAL OF CONCRETE ABUTMENTS AND PIER.
  - c) SAWCUTTING OF CONCRETE.
  - d) REMOVAL AND DISPOSAL OF STRUCTURAL STEEL BEAMS AND DIAPHRAGMS.
  - e) REMOVAL AND DISPOSAL OF BEARING DEVICES.
  - f) ERECTION, MAINTENANCE, AND REMOVAL OF TEMPORARY STRUCTURES TO PREVENT DEBRIS FROM FALLING INTO THE WATERWAY.
2. REMOVAL OF BRIDGE PAVEMENT SHALL BE PAID FOR UNDER ITEM 529.I0, "REMOVAL OF BRIDGE PAVEMENT".
3. ELEVATIONS SHOWING THE LIMITS OF ABUTMENT AND WINGWALL REMOVAL ARE APPROXIMATE. THE ENGINEER SHALL ESTABLISH ACTUAL LIMITS AFTER A COOPERATIVE INSPECTION BY THE CONTRACTOR AND THE ENGINEER. EXISTING ELEVATIONS SHALL BE FIELD VERIFIED TO ENSURE THAT THE REMOVAL LIMITS ARE ADEQUATE TO OBTAIN THE REQUIRED DIMENSIONS AND ELEVATIONS OF THE NEW CONSTRUCTION.
4. PRIOR TO PARTIAL REMOVAL OF THE EXISTING PIER, THE CONTRACTOR SHALL MEASURE ALL ELEMENTS OF THE PIER TO ENSURE THAT THE NEW PIER CAP IS CONSTRUCTED TO MATCH THE EXISTING. THE CONTRACTOR SHALL REVIEW ALL MEASUREMENTS WITH THE ENGINEER AND OBTAIN PERMISSION FROM THE ENGINEER PRIOR TO PARTIAL REMOVAL OF THE PIER. THIS WORK SHALL BE INCIDENTAL TO ITEM 592.20 "PARTIAL REMOVAL OF STRUCTURE".
5. REMOVAL OF THE PORTIONS OF THE EXISTING ABUTMENT NO. 1, ABUTMENT NO. 2 AND THE PIER WITHIN THE LIMITS OF A COFFERDAM, SHALL BE PAID FOR UNDER ITEM 208.35, "COFFERDAM EXCAVATION ROCK". PORTIONS OF THE ABUTMENTS OUTSIDE THE COFFERDAM LIMITS SHALL BE PAID FOR UNDER ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE". EXCAVATION OF SOILS SURROUNDING THE ABUTMENTS WITHIN THE LIMITS OF A COFFERDAM SHALL BE PAID FOR UNDER ITEM 208.30, "COFFERDAM EXCAVATION, EARTH".
6. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE TOWN, STATE, THEIR OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.
7. REMOVAL OF EXISTING DROP INLETS SHALL BE PAID FOR UNDER ITEM 204.21, "TRENCH EXCAVATION OF ROCK."
8. REMOVAL OF THE EXISTING SIDEWALK IN THE PROPOSED ROADWAY / SIDEWALK LIMITS SHALL BE PAID UNDER ITEM 203.I5, "COMMON EXCAVATION."
9. REMOVAL OF THE EXISTING SIDEWALK AND PAVEMENT OUTSIDE OF THE PROPOSED ROADWAY / SIDEWALK LIMITS SHALL BE PAID FOR UNDER ITEM 203.28, "EXCAVATION OF SURFACES AND PAVEMENTS".

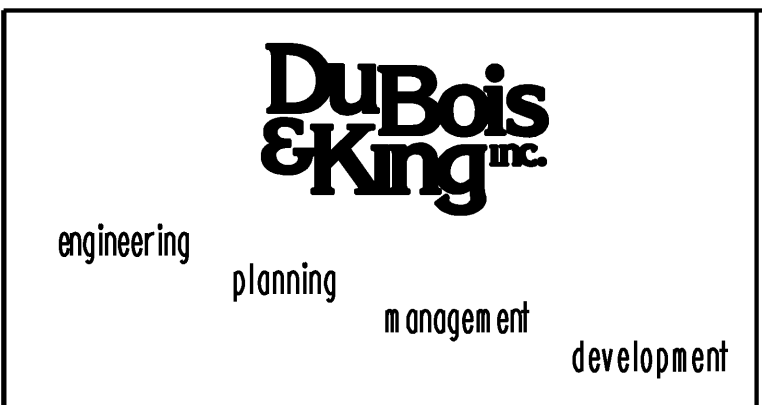
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

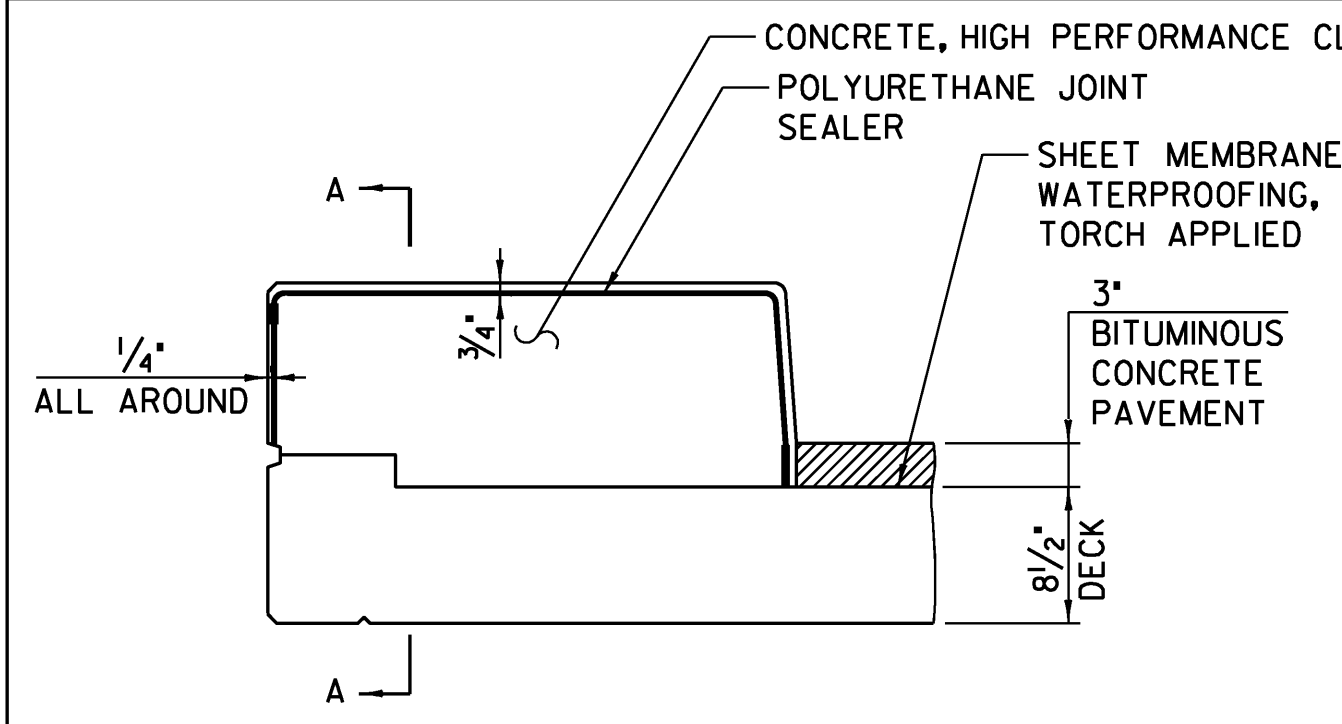
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**GENERAL NOTES**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372notes.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet 25	of 68

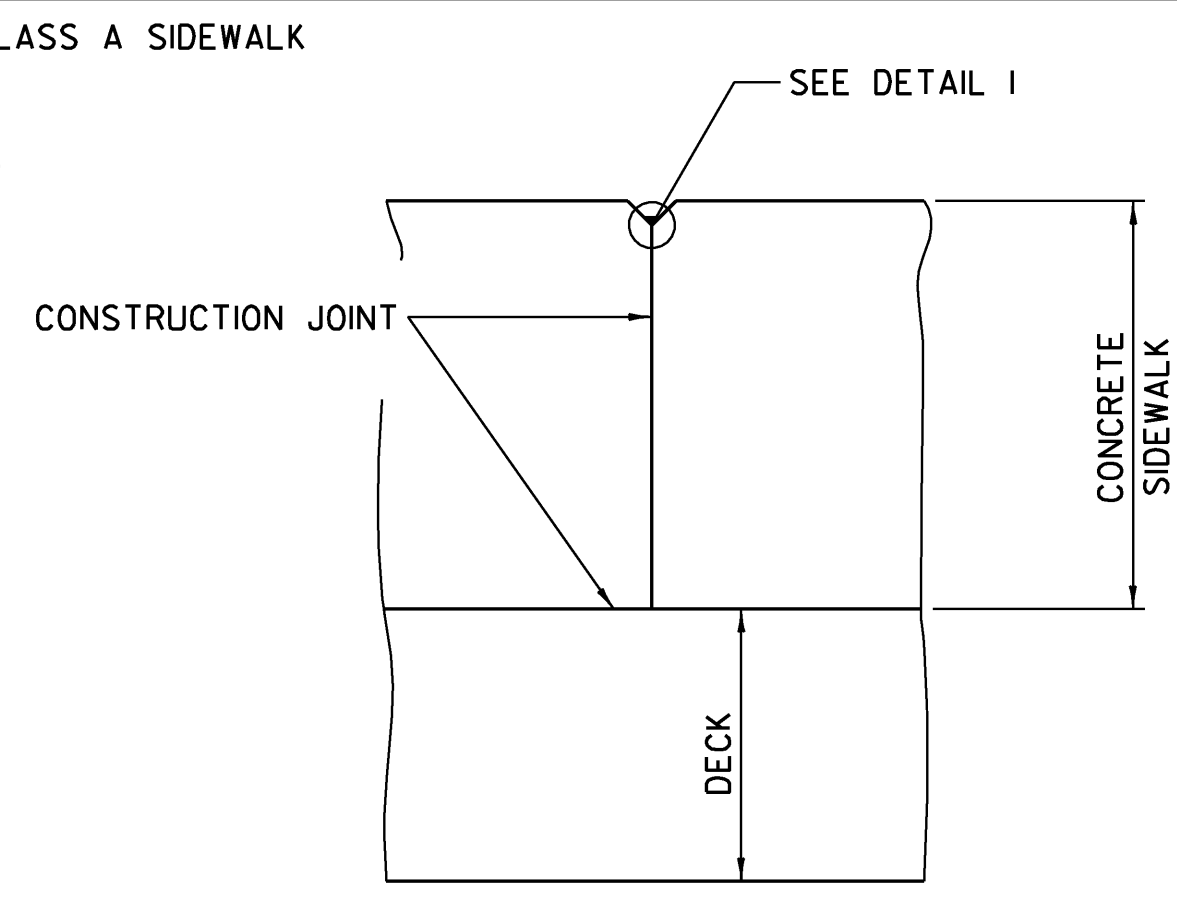




**TYPICAL SECTION THROUGH CONCRETE SIDEWALK CONSTRUCTION JOINT**  
NOT TO SCALE

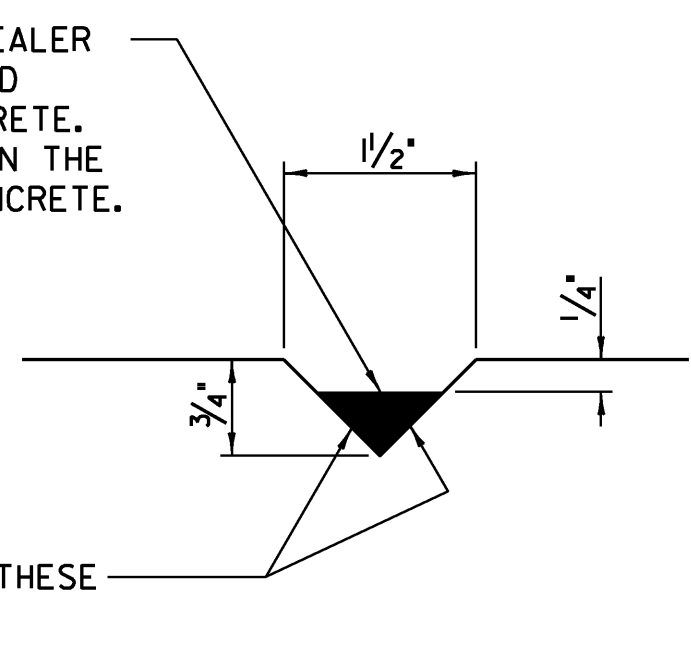
**SIDEWALK CONSTRUCTION JOINT NOTES:**

1. CONSTRUCTION JOINTS THROUGH CONCRETE SIDEWALKS SHALL BE SPACED A MAXIMUM OF 15'-0" CENTER TO CENTER. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. CONSTRUCTION JOINTS IN THE SIDEWALK SHALL MATCH THE LOCATION OF CONSTRUCTION JOINTS IN THE RAILING.
3. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE SIDEWALK CONSTRUCTION JOINTS.

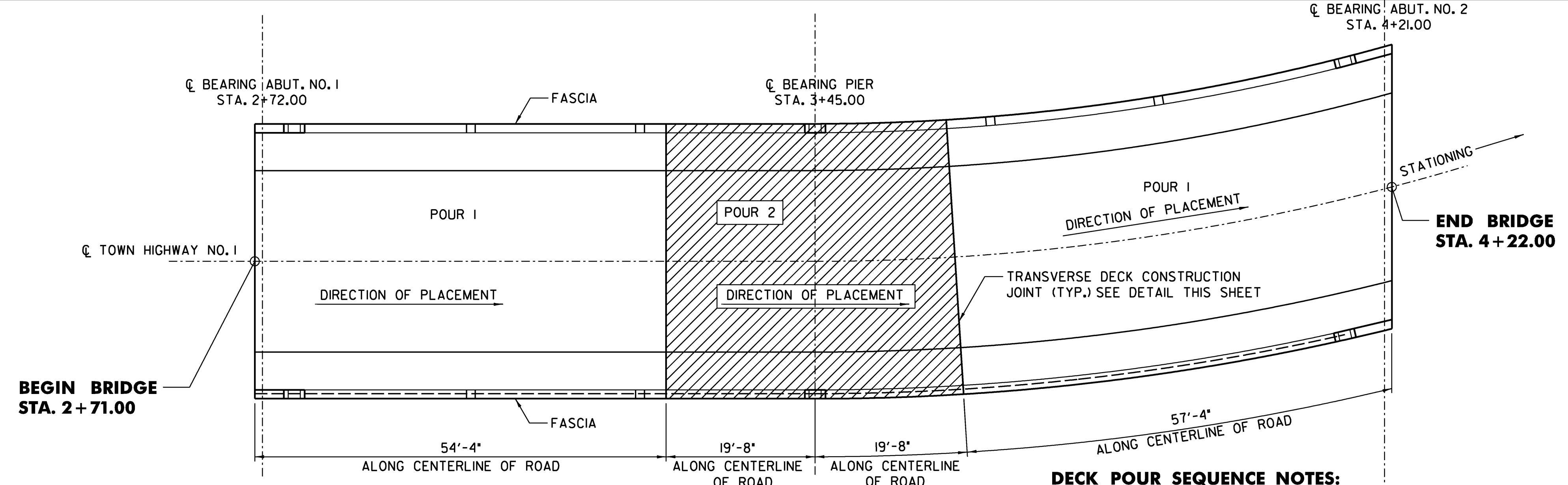


**SECTION A-A**  
NOT TO SCALE

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06D COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.



**DETAIL 1**  
NOT TO SCALE

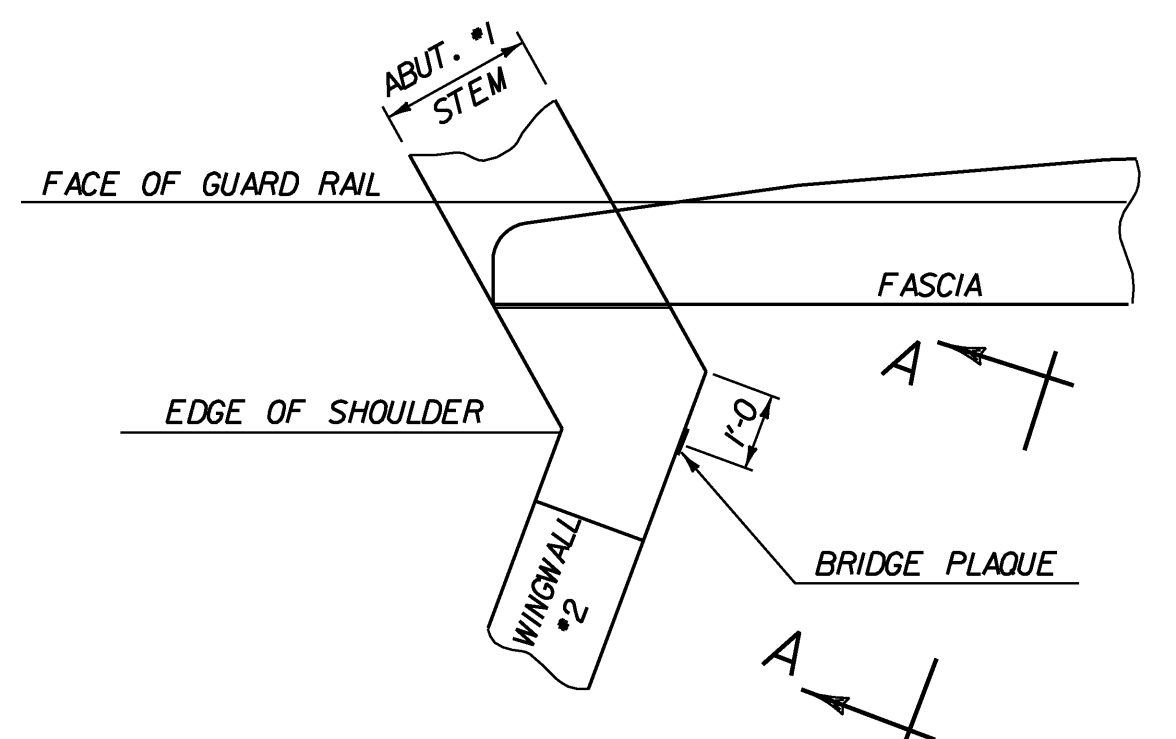


**DECK POUR SEQUENCE**  
SCALE: 1" = 10'-0"

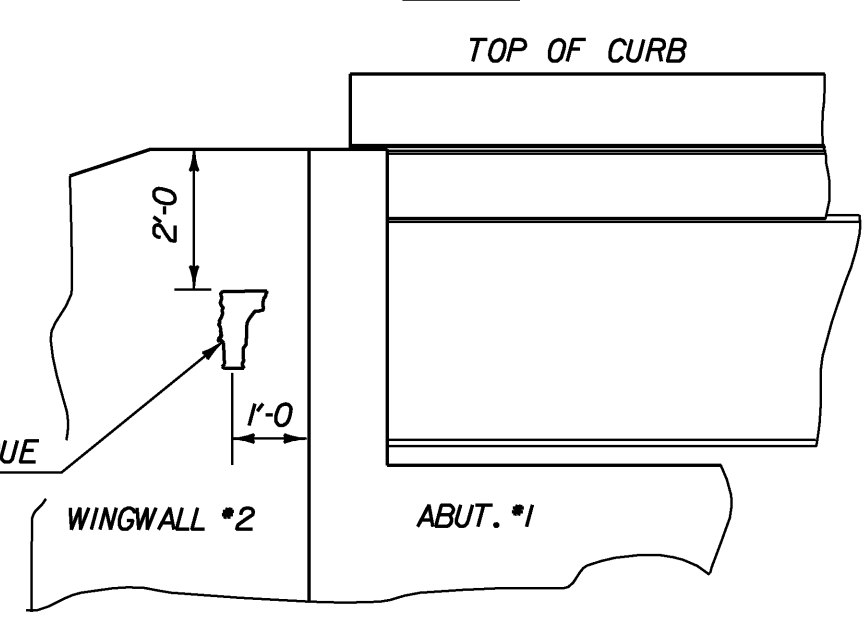
**DECK POUR SEQUENCE NOTES:**  
EACH CONCRETE DECK POUR SHALL BE PLACED CONTINUOUSLY WITHIN ONE EIGHT HOUR WORKING DAY. THE TWO POURS THAT ARE IDENTIFIED AS POUR 1 ARE CONSIDERED AS ONE POUR FOR THE PURPOSES OF THIS NOTE. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS AFTER COMPLETION OF EACH POUR, BEFORE BEGINNING ANOTHER POUR. INDIVIDUAL POUR NUMBERS, AS SHOWN, MAY BE COMBINED INTO A SINGLE POUR IF APPROVED BY THE ENGINEER.

**P. V. C. WATERSTOP FOR EXPANSION JOINT AT ABUTMENTS 1 & 2**  
NOT TO SCALE

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



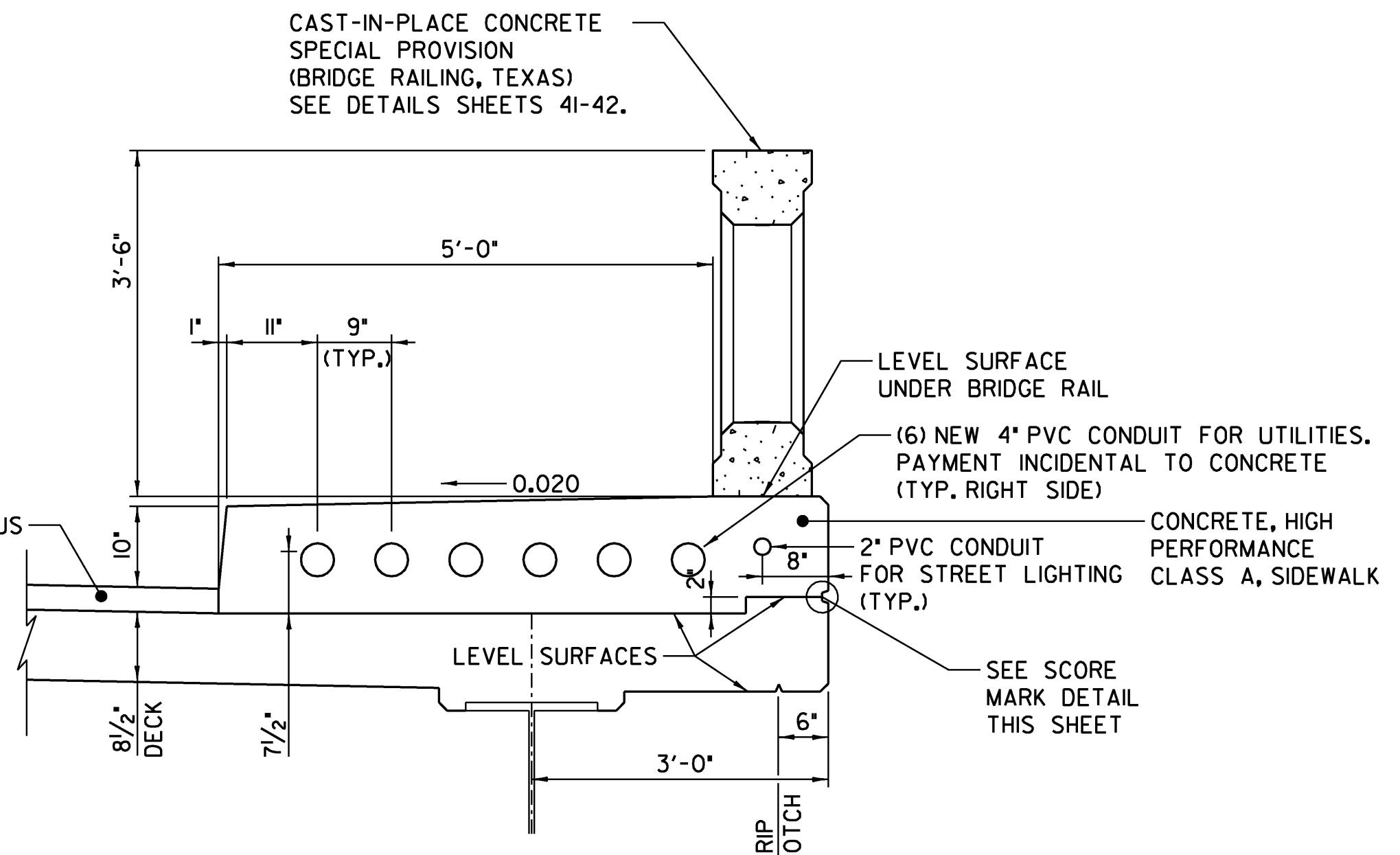
**PLAN**



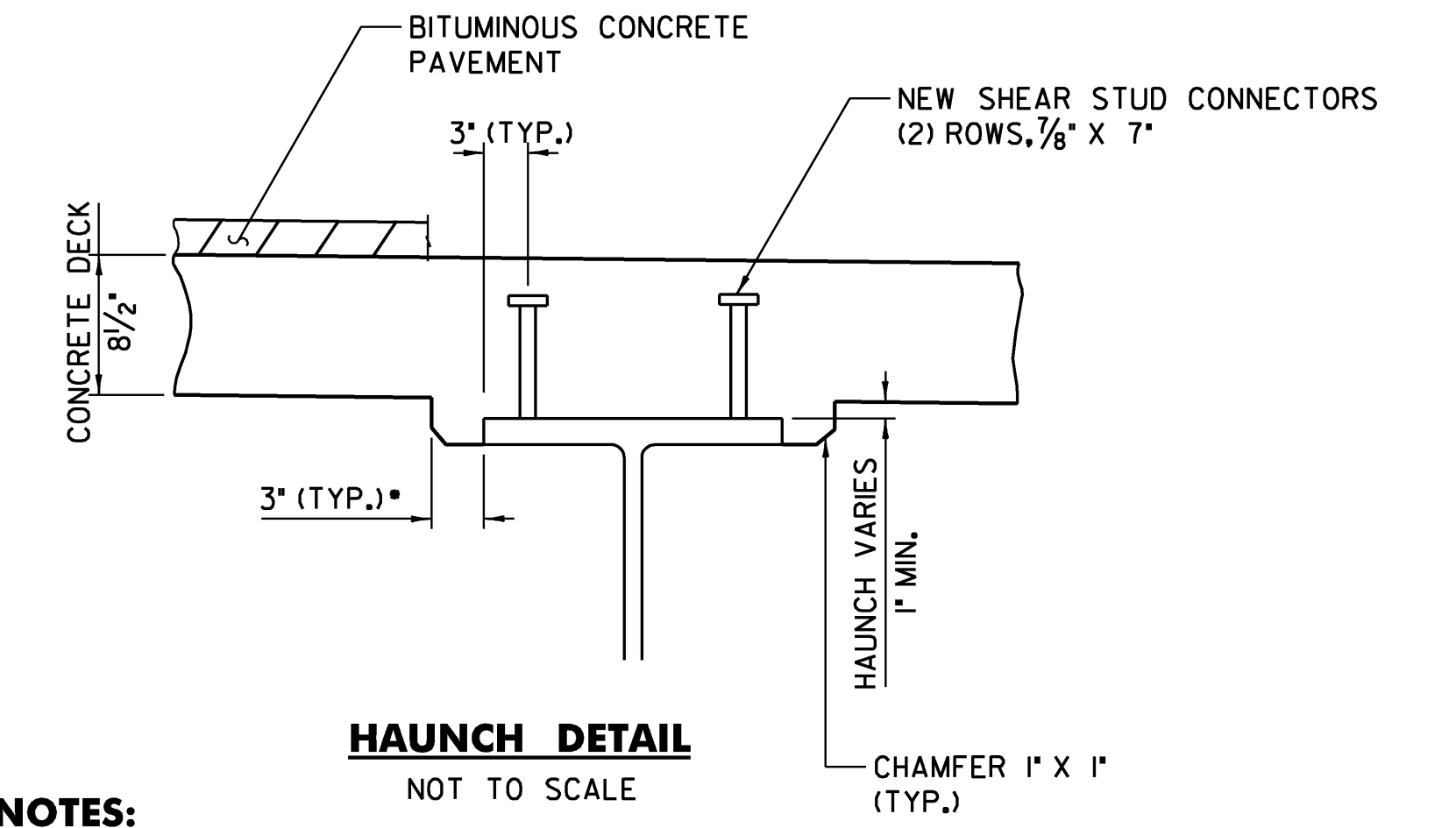
**VIEW "A - A"**

**LOCATE BRIDGE PLAQUE**

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.



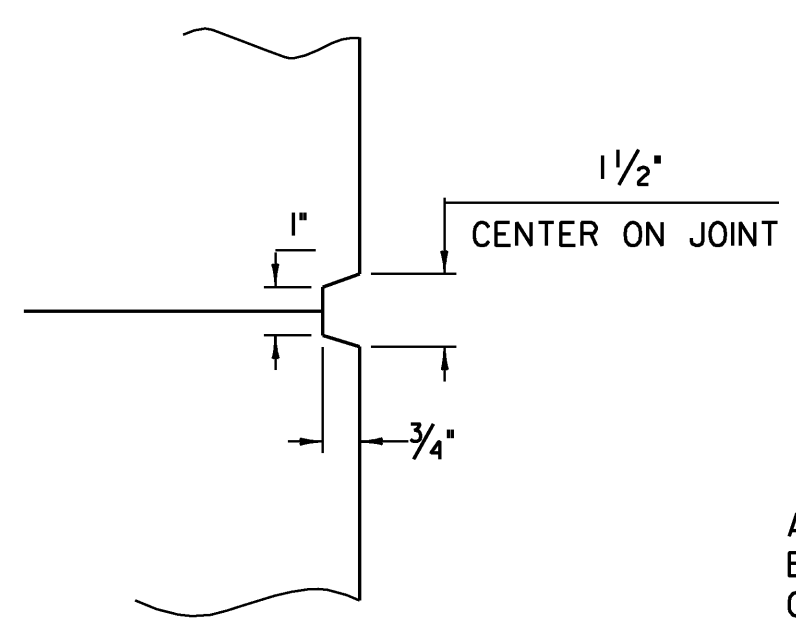
**TYPICAL SIDEWALK SECTION**  
SCALE: 3/4" = 1'-0"



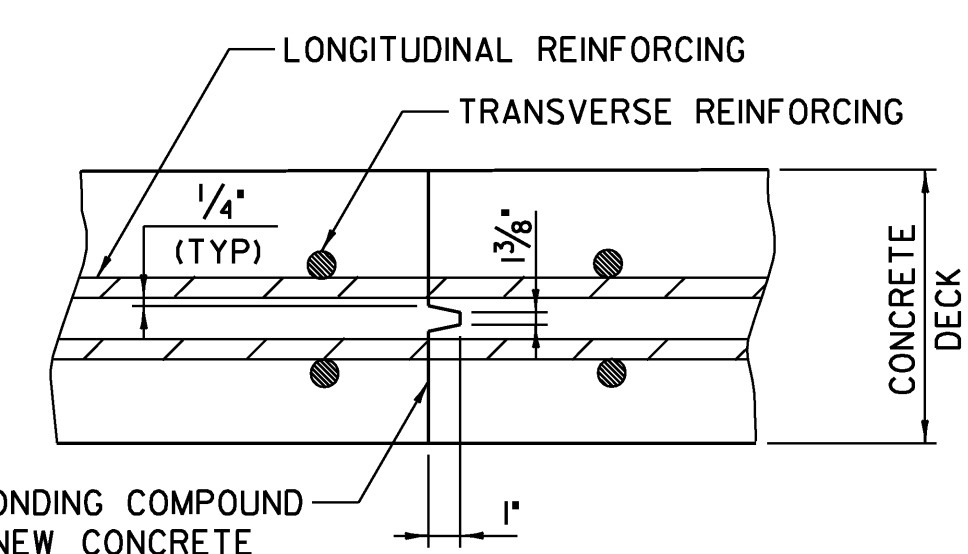
**HAUNCH DETAIL**  
NOT TO SCALE

**NOTES:**

CONTRACTOR SHALL SUPPLY LONGER SHEAR STUDS WHERE NEEDED TO COMPLY WITH MINIMUM EMBEDMENT OF 2 1/2 INCHES ABOVE THE BOTTOM OF THE DECK.  
- THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORM SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES IF APPROVED BY THE STRUCTURES ENGINEER. ALL HOLES RESULTING FROM THIS FORMING SYSTEM SHALL BE FILLED WITH MORTAR, TYPE IV. COST OF MORTAR TO BE INCIDENTAL TO ITEM 501.33, 'CONCRETE, HIGH PERFORMANCE CLASS A'.



**SCORE MARK DETAIL**  
NOT TO SCALE



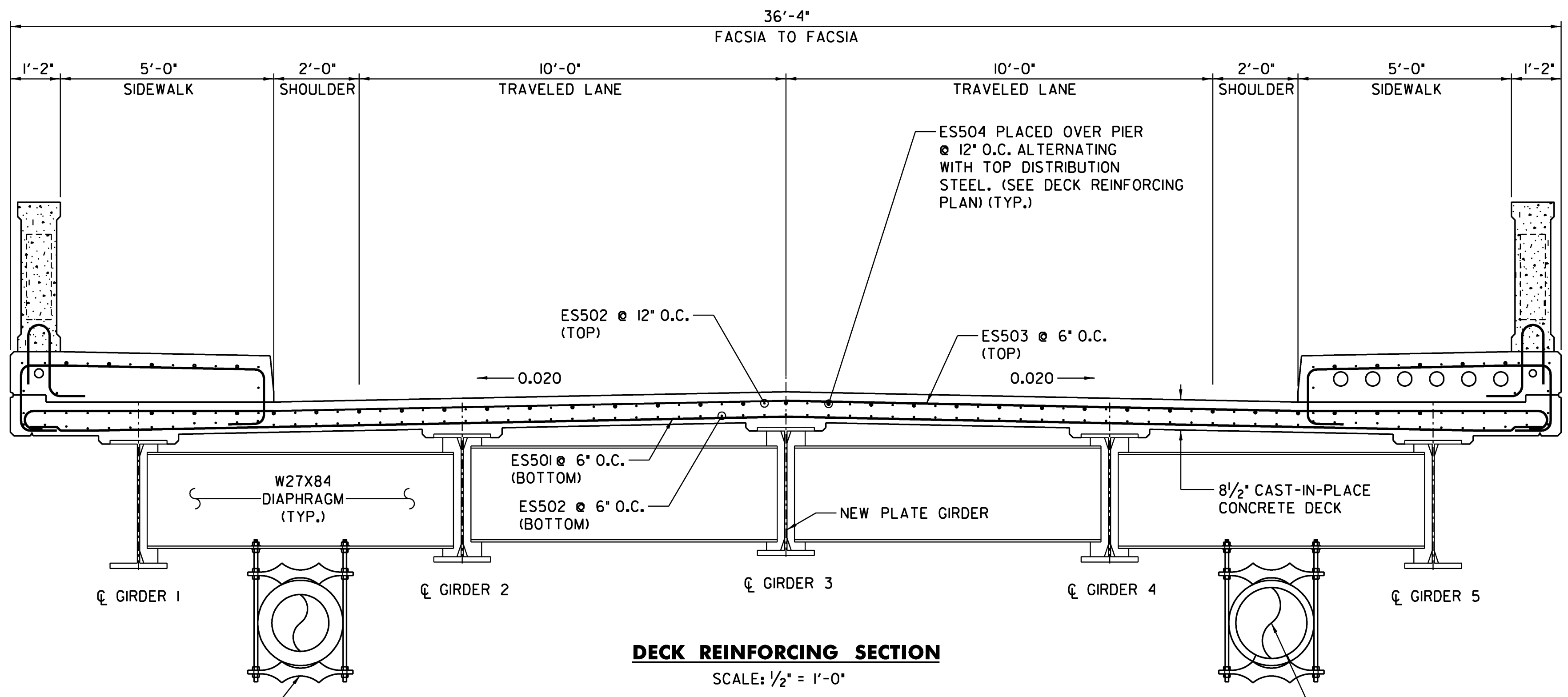
**TRANSVERSE DECK CONSTRUCTION JOINT DETAIL**  
NOT TO SCALE

APPLY EPOXY BONDING COMPOUND BEFORE PLACING NEW CONCRETE. COST INCLUDED IN BID PRICE FOR CONCRETE.

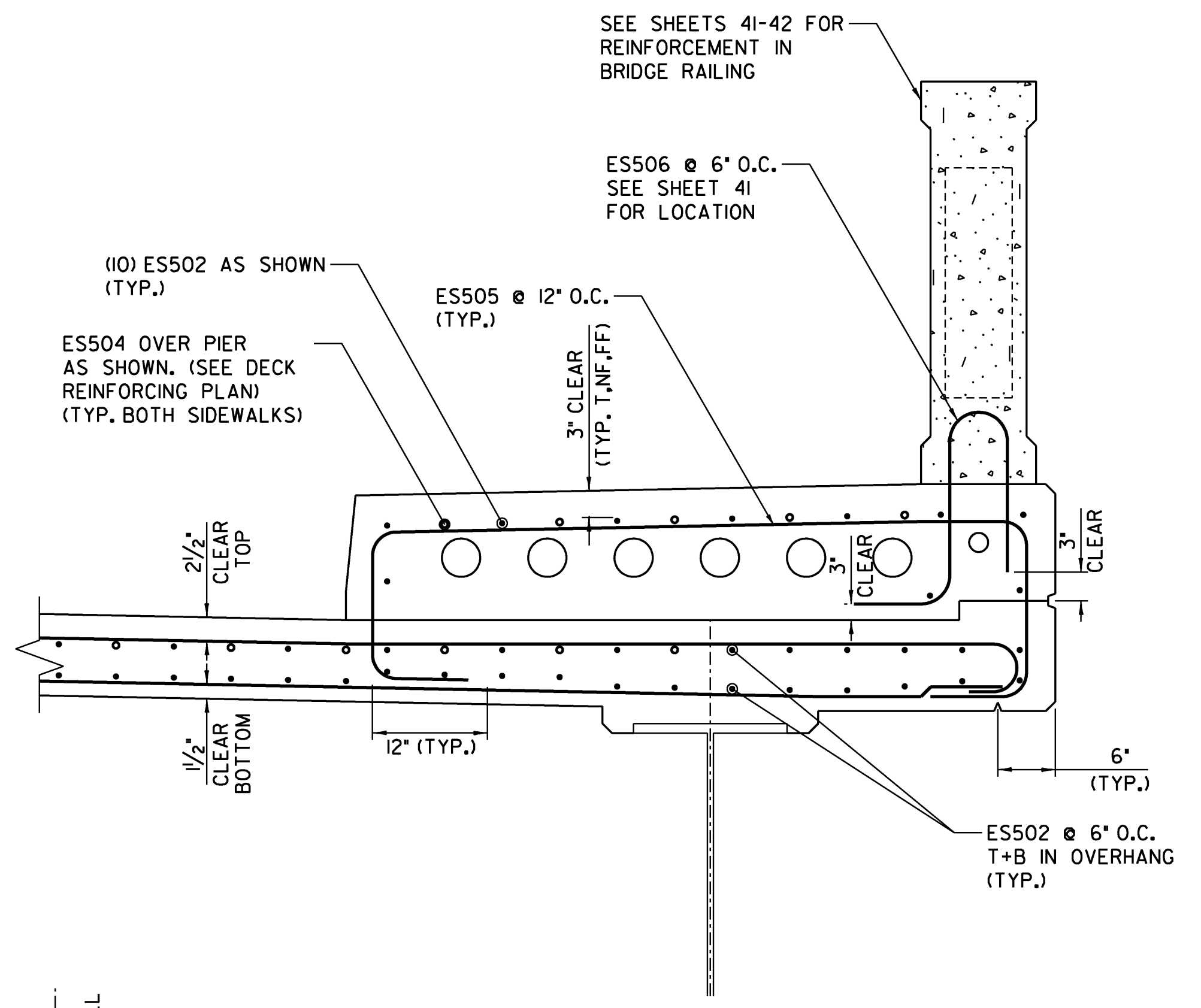
**DuBois & King**  
engineering planning management development

PLOTTED 2/10/2009

STATE OF VERMONT AGENCY OF TRANSPORTATION		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta.
		Surv. Sta.
TH NO. 1 OVER THE GIHON RIVER		
DECK DETAILS		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372dd.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 26 of 68



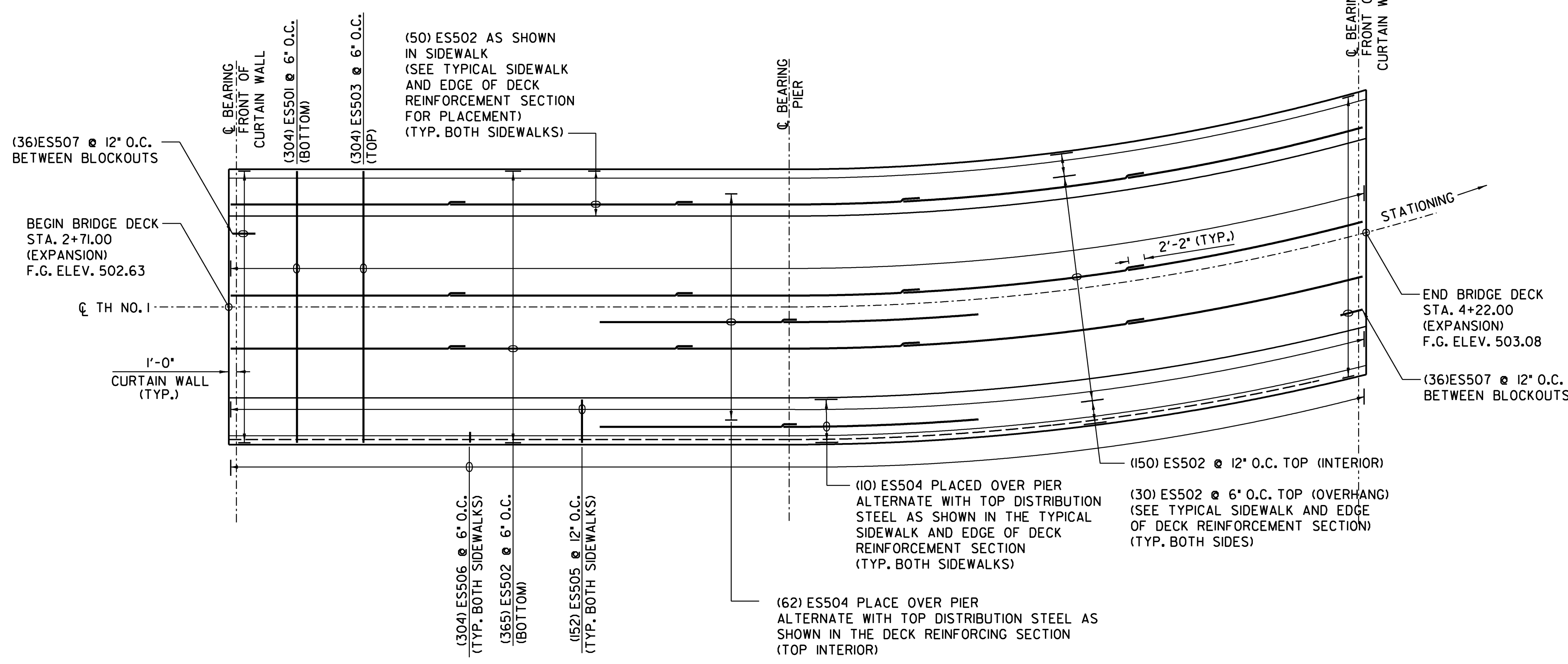
**DECK REINFORCING SECTION**  
SCALE: 1/2" = 1'-0"



**TYPICAL SIDEWALK AND EDGE OF DECK REINFORCEMENT SECTION**  
SCALE: 1" = 1'-0"

APPROXIMATE LOCATION OF NEW WATERLINE, SEE WATERLINE PLANS FOR DETAILS

APPROXIMATE LOCATION OF NEW SEWER LINE, SEE SEWER LINE PLANS FOR DETAILS



**DECK REINFORCING PLAN**  
SCALE: 1" = 10'-0"

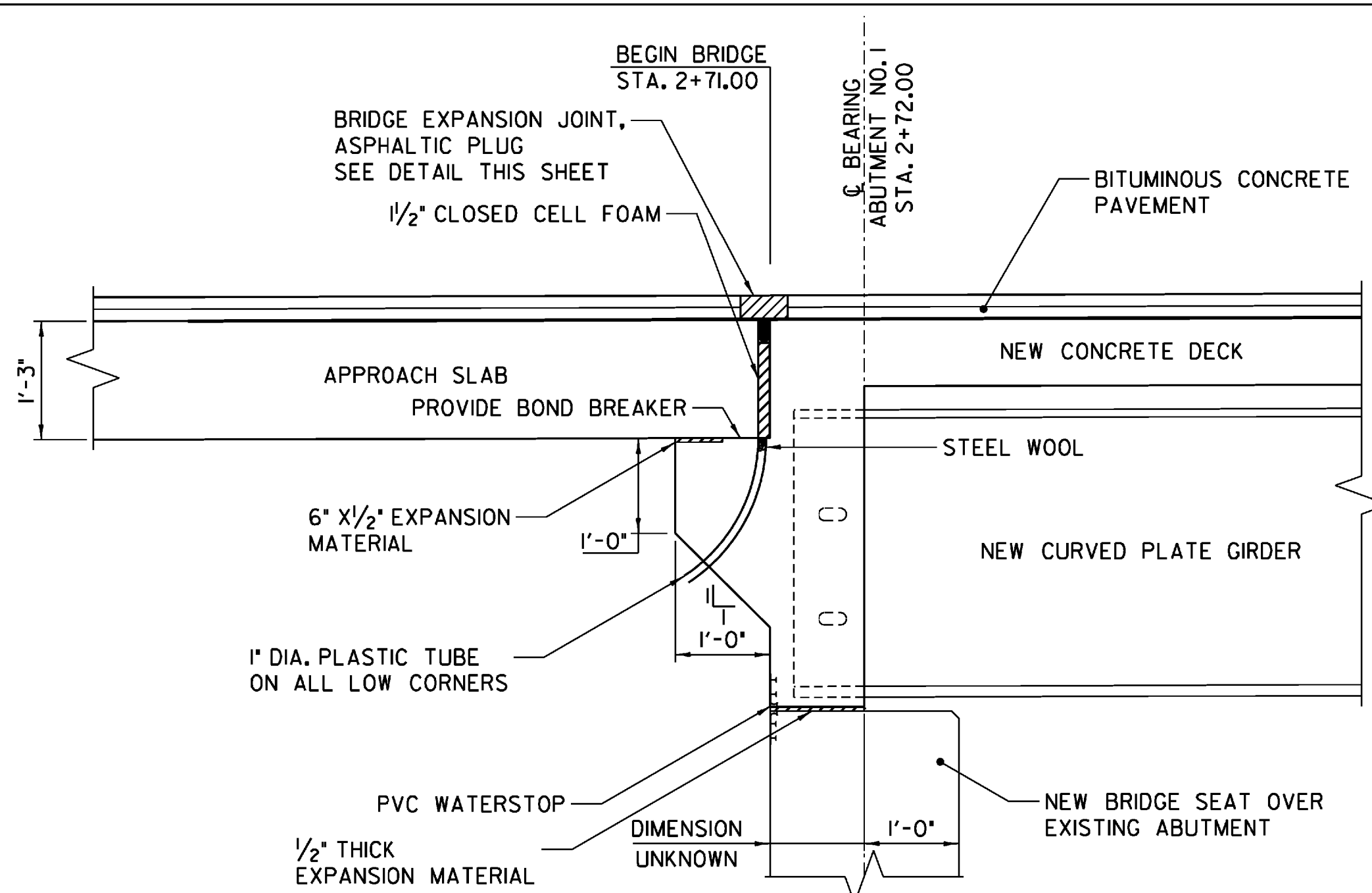
- NOTES**
- ALL REINFORCING STEEL IN DECK, SIDEWALKS, AND CURTAIN WALLS SHALL BE EPOXY COATED.
  - EPOXY COATED STEEL IS TO BE SAW CUT WITH EXPOSED ENDS TREATED AS PER SUBSECTION 507.04.
  - NO SPLICES FOR DECK TRANSVERSE REINFORCING STEEL (TOP AND BOTTOM) SHALL BE ALLOWED.
  - NF = NEAR FACE
    - FF = FAR FACE
    - EF = EACH FACE
    - ▲ = CUT TO FIT IN FIELD
    - T+B = TOP AND BOTTOM
    - O.C. = ON CENTER
    - MINIMUM LAP LENGTH NOT DETAIL SHALL BE 2'-2"

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta. Surv. Sta.
<b>TH NO. 1 OVER THE GIHON RIVER</b>		
<b>DECK REINFORCING DETAILS</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372drd.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 27 of 68

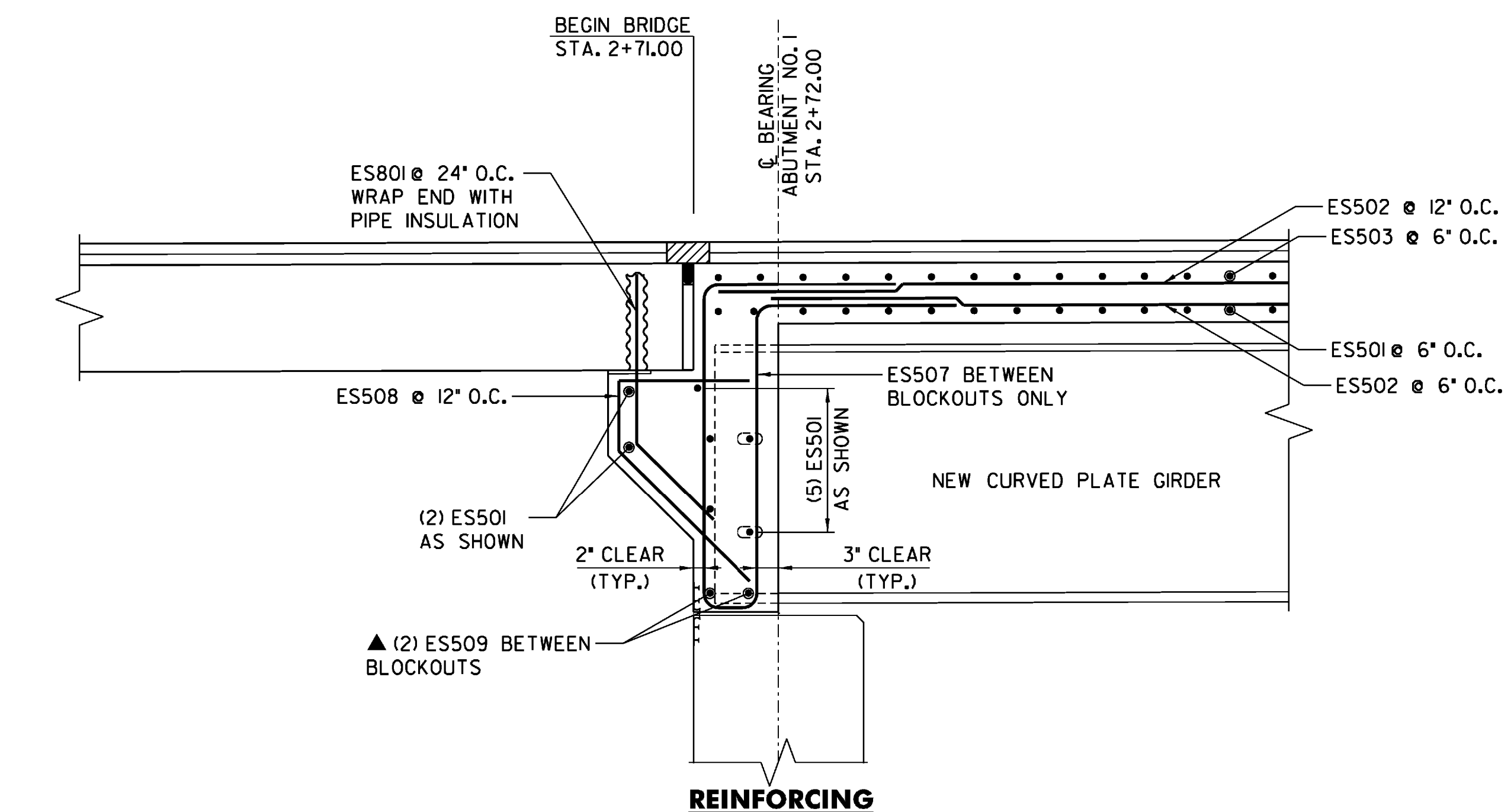
**DuBois & King**  
INC.

engineering    planning    management    development

PLOTTED 2/10/2009



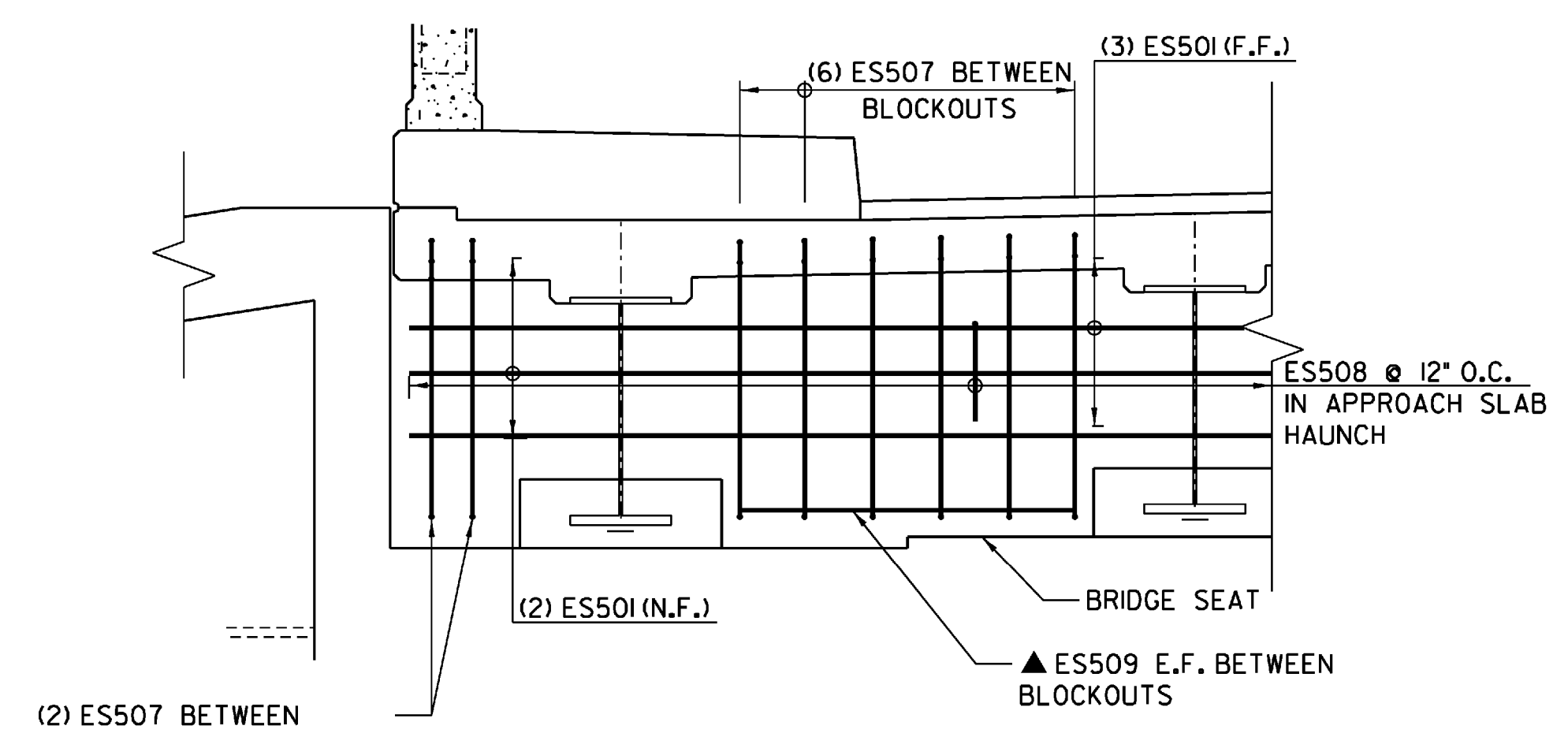
**CONCRETE**



**REINFORCING**

**ABUTMENT NO. 1 DECK END DETAIL (EXPANSION END)**

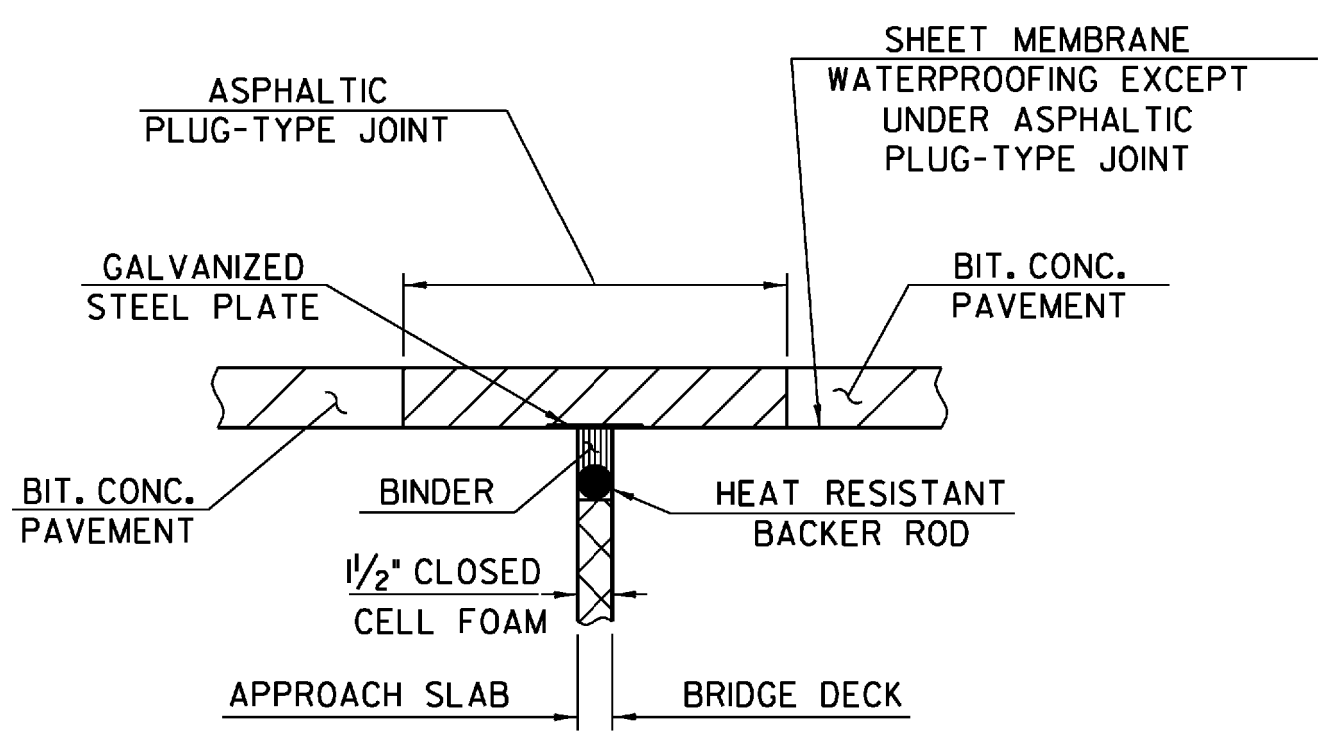
SCALE: 3/4" = 1'-0"



**CURTAIN WALL REINFORCING DETAIL**

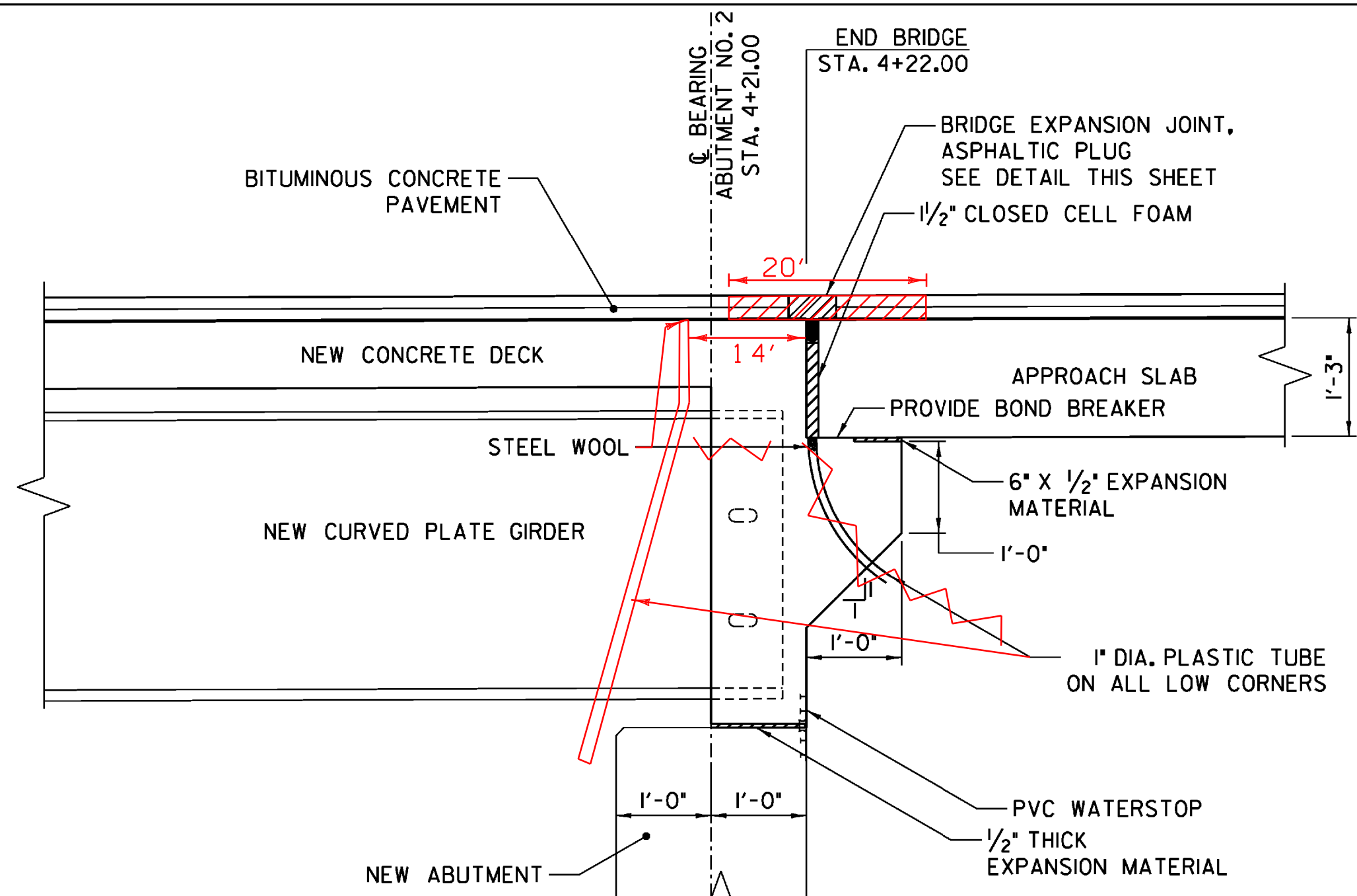
SCALE: 1/2" = 1'-0"

NOTE:  
PAYMENT FOR EXPANSION MATERIAL, PLASTIC TUBES,  
WATERSTOPS, AND PIPE INSULATION WILL BE MADE  
INCIDENTAL TO THE PAYMENT FOR ADJACENT CONCRETE.

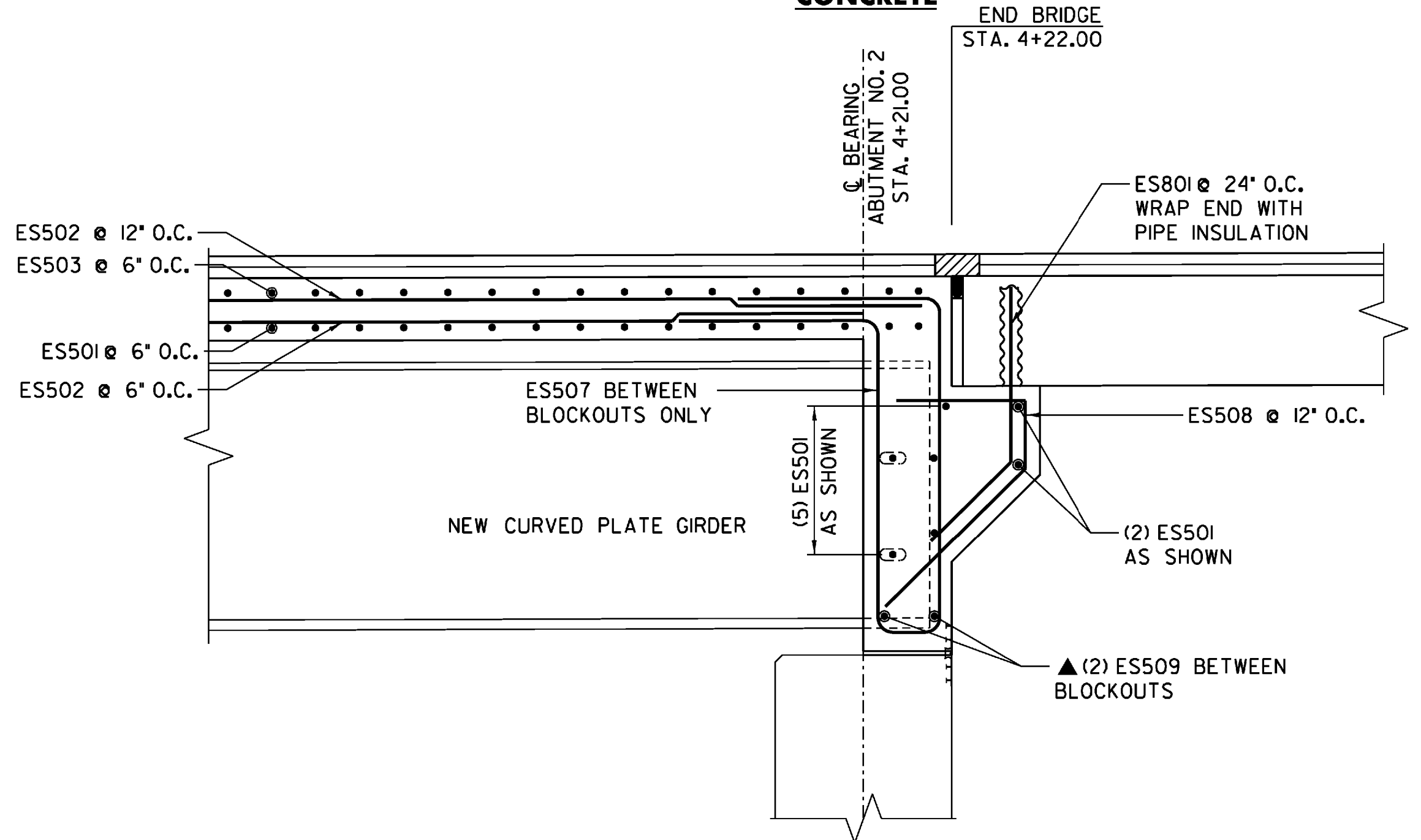


**ASPHALTIC PLUG-TYPE JOINT DETAIL**

NTS



**CONCRETE**



**REINFORCING**

**ABUTMENT NO. 2 DECK END DETAIL (EXPANSION END)**

SCALE: 3/4" = 1'-0"

**NOTES**

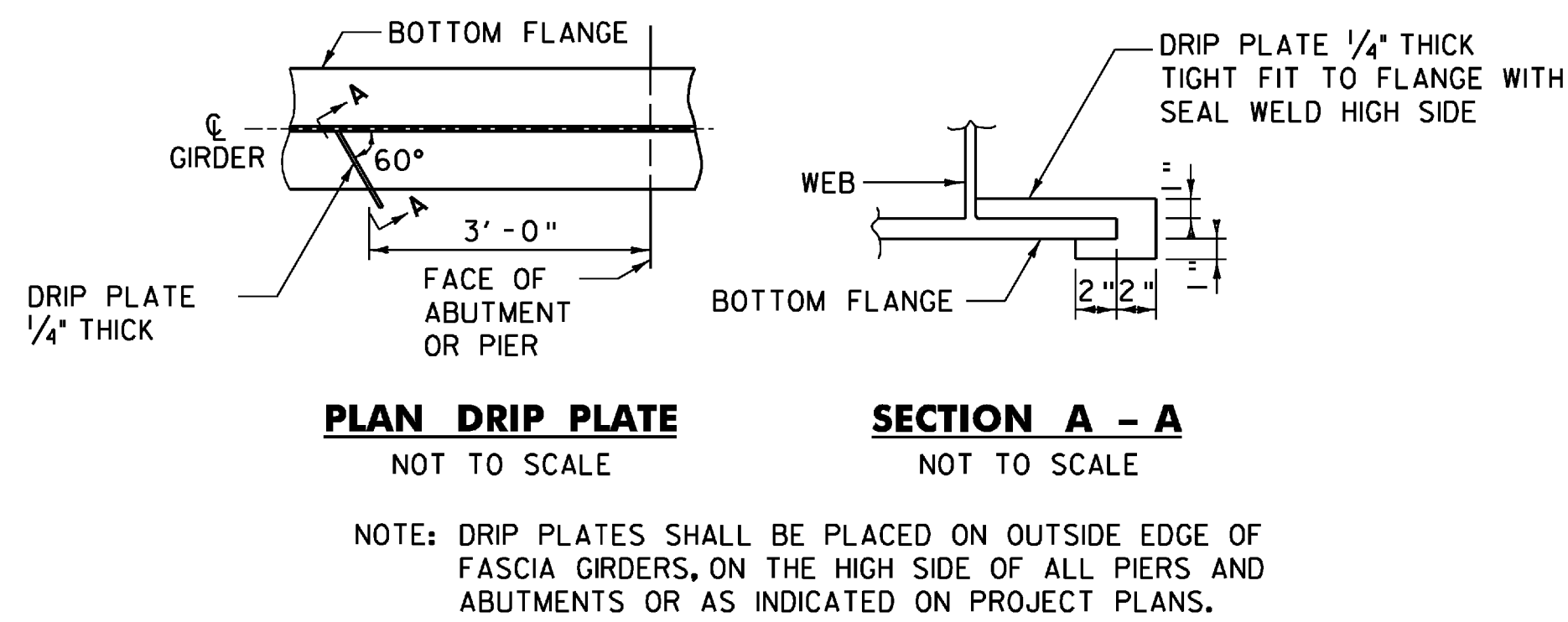
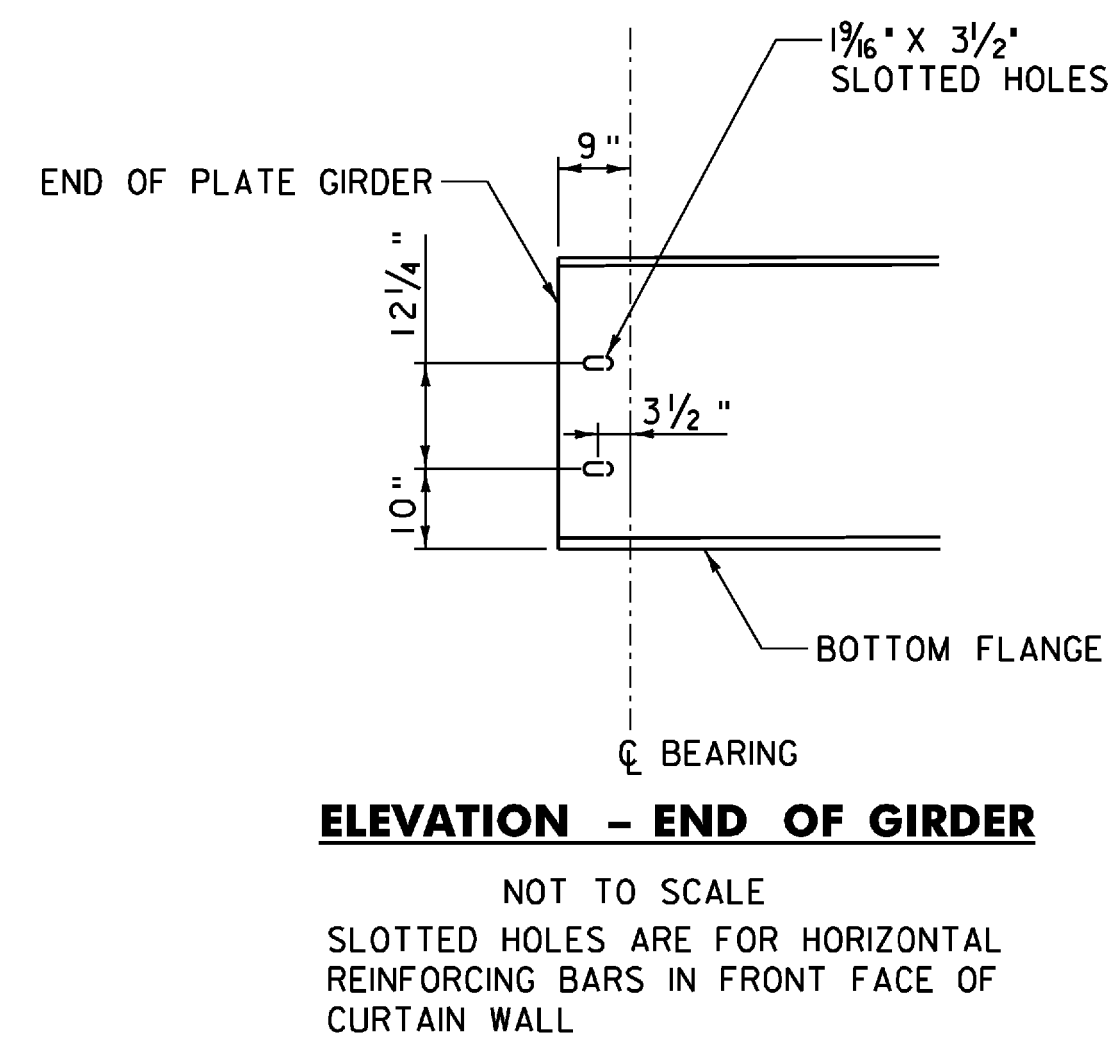
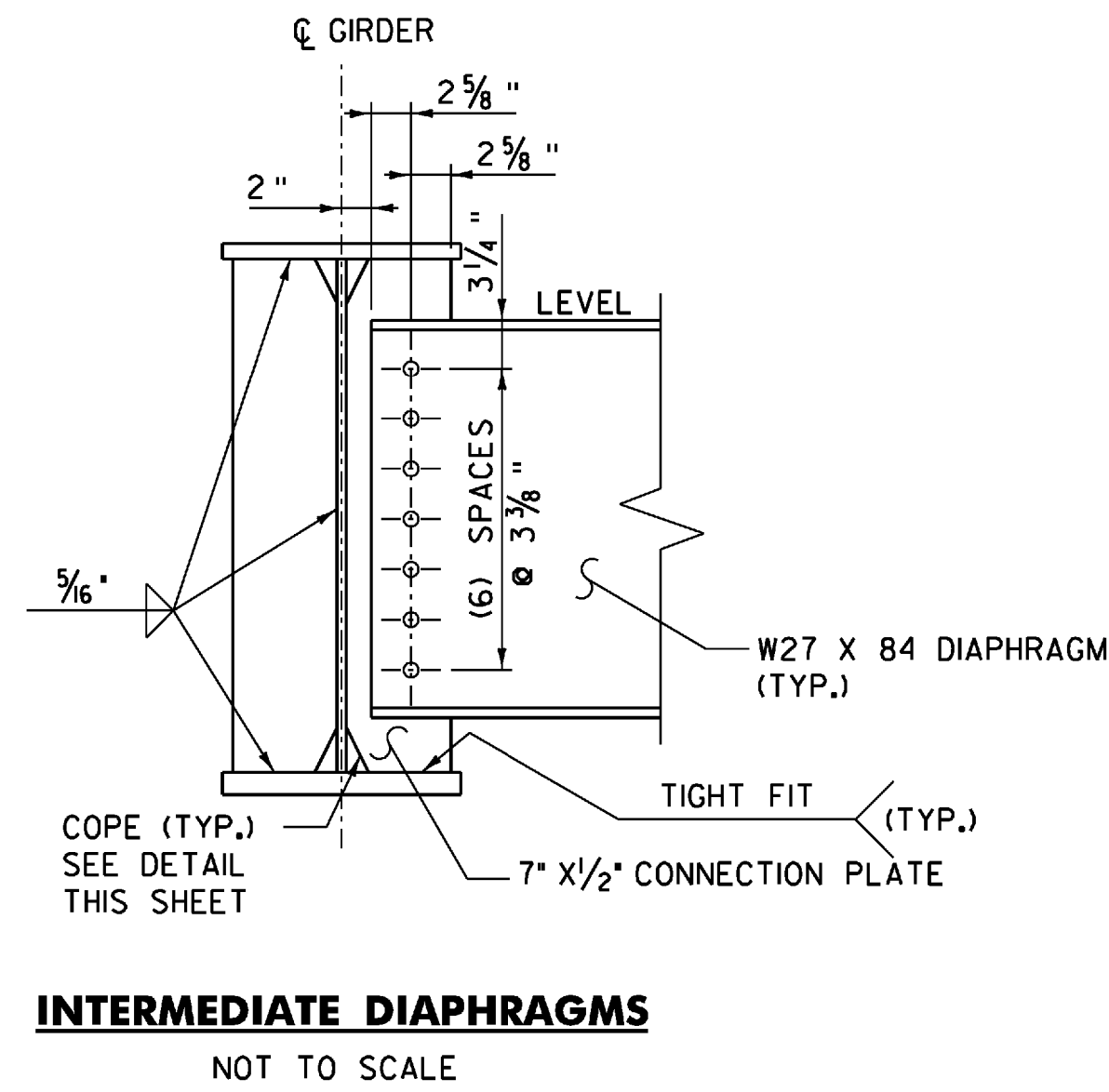
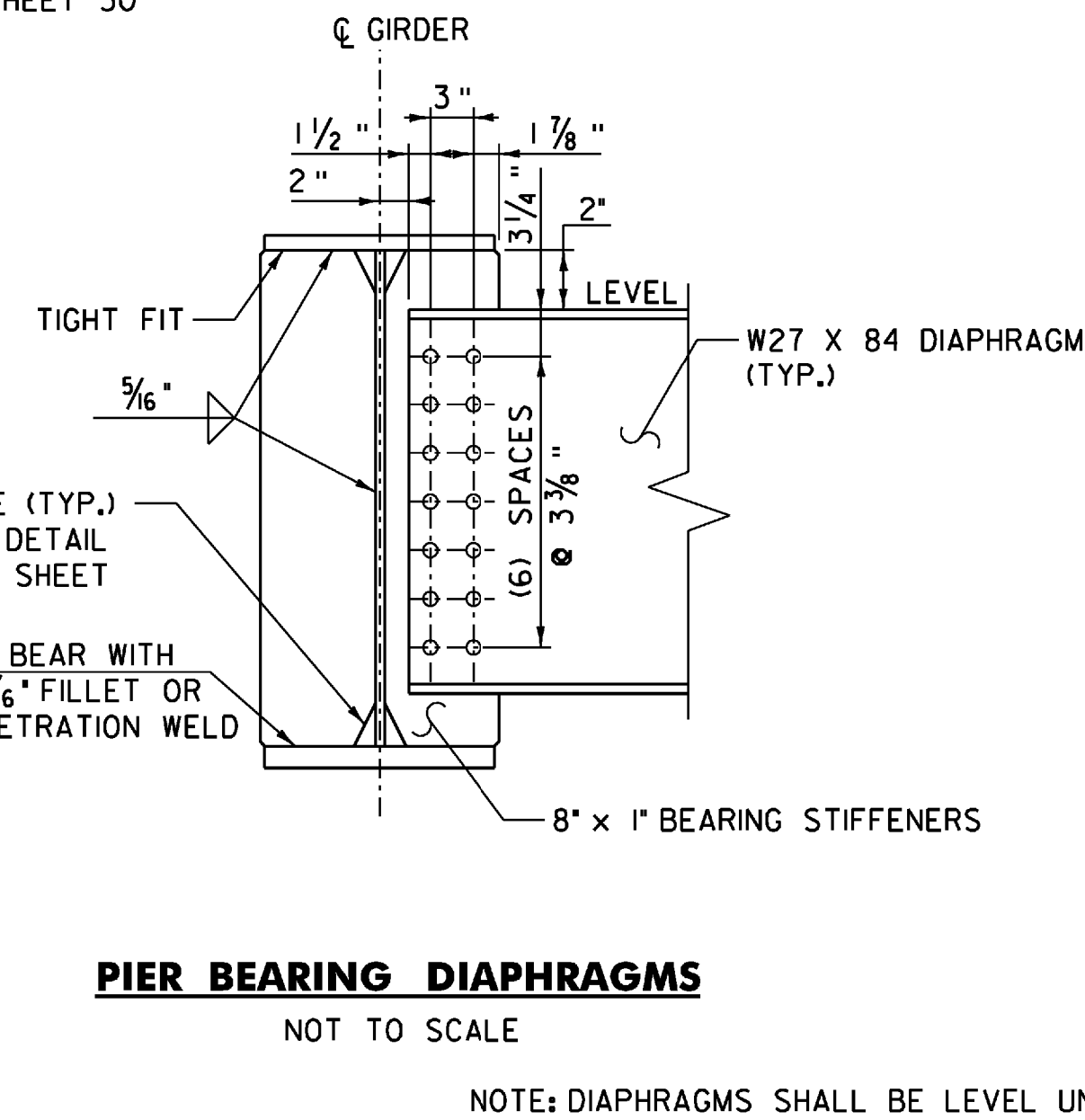
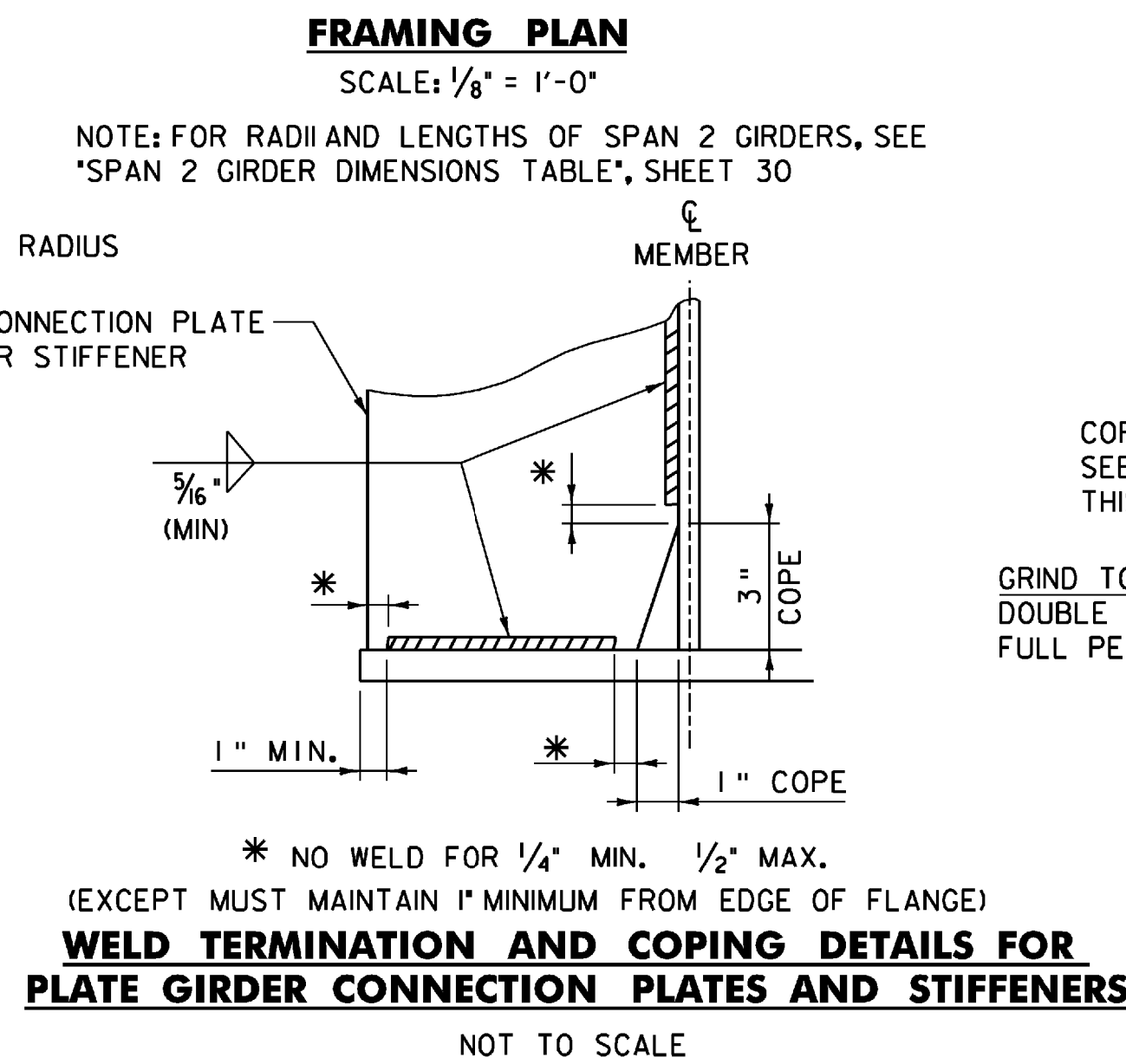
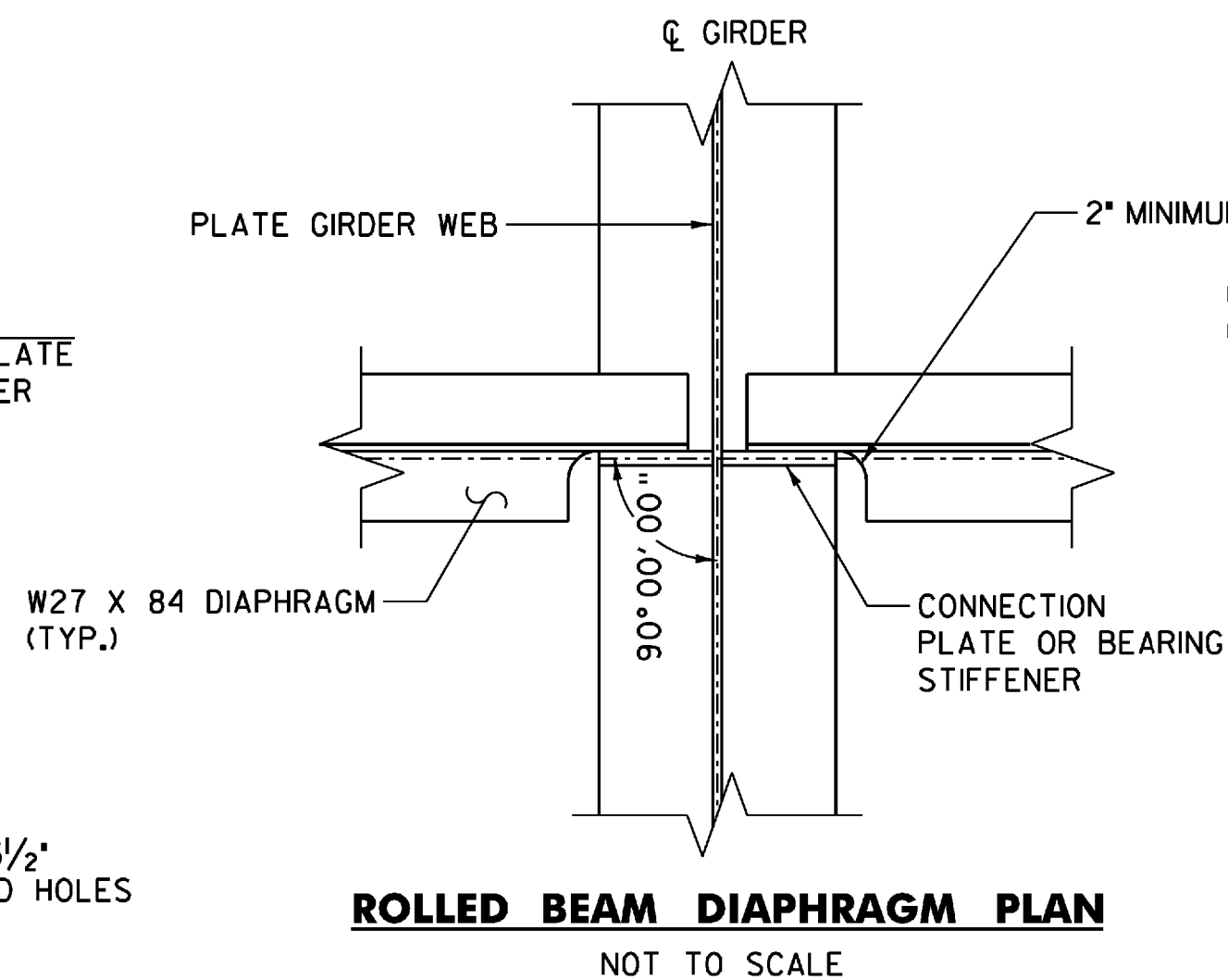
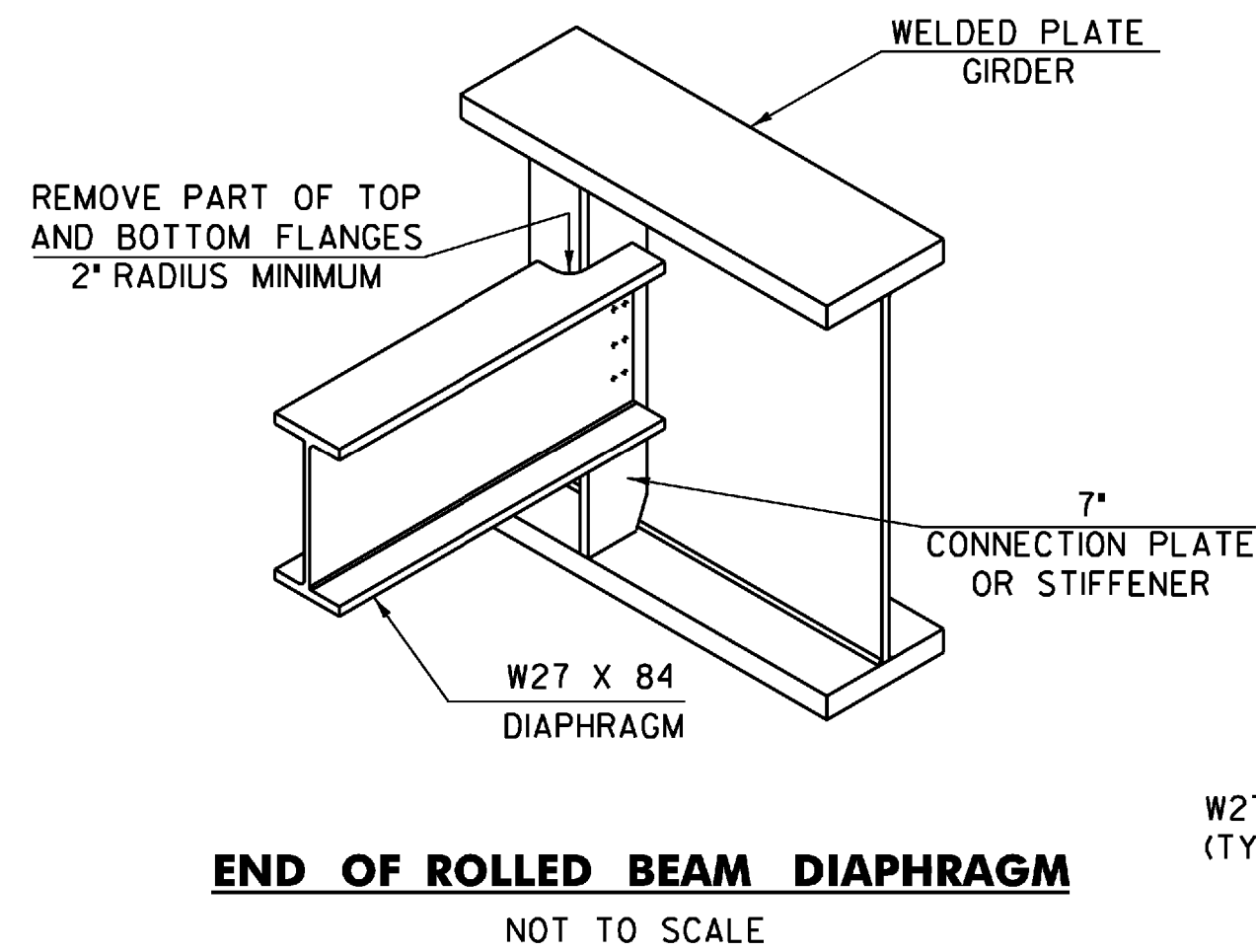
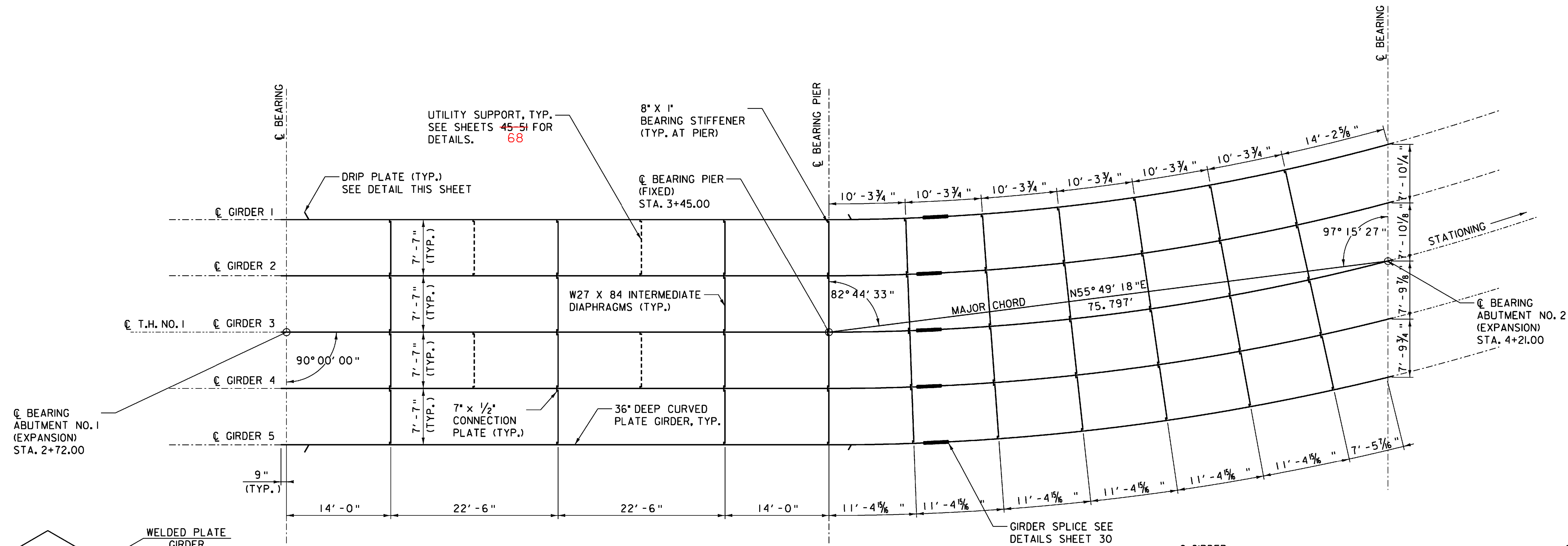
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ▲ = CUT TO FIT IN FIELD
- T+B = TOP AND BOTTOM
- O.C. = ON CENTER
- MINIMUM LAP LENGTH NOT DETAIL SHALL BE 2'-2"

**ASPHALTIC PLUG JOINT NOTES**

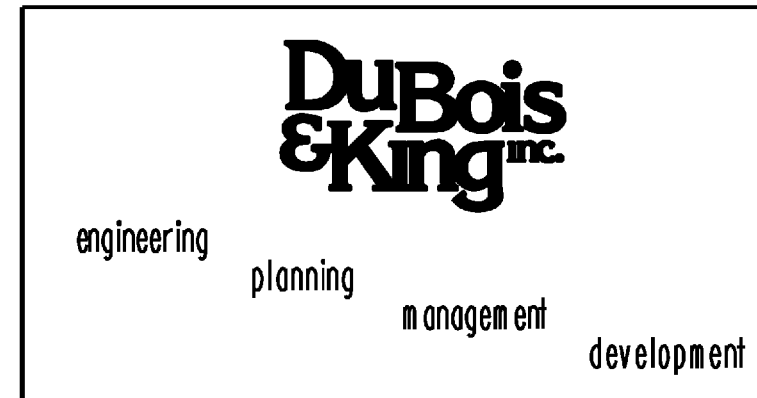
- INSTALLATION**
- LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
  - EXCAVATE THE JOINT AS SHOWN ON THE PLANS WITH SAWS AND PNEUMATIC HAMMER OR A HAMMER AND CHISEL.
  - BLAST CLEAN THE JOINT AREA OF DEBRIS AND ASPHALT. THOROUGHLY DRY THE JOINT AREA WITH HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
  - REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.
  - PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
  - HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
  - PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE APPROACH SLAB IS COVERED WITH A STONE BASE OR BITUMINOUS PAVEMENT AND VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
  - HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
  - INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
  - IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
  - PROTECTED JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.
- WEATHER LIMITATIONS. (APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL):**
- THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
  - THE ROAD SURFACE IS SUFFICIENTLY DRY.
  - WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

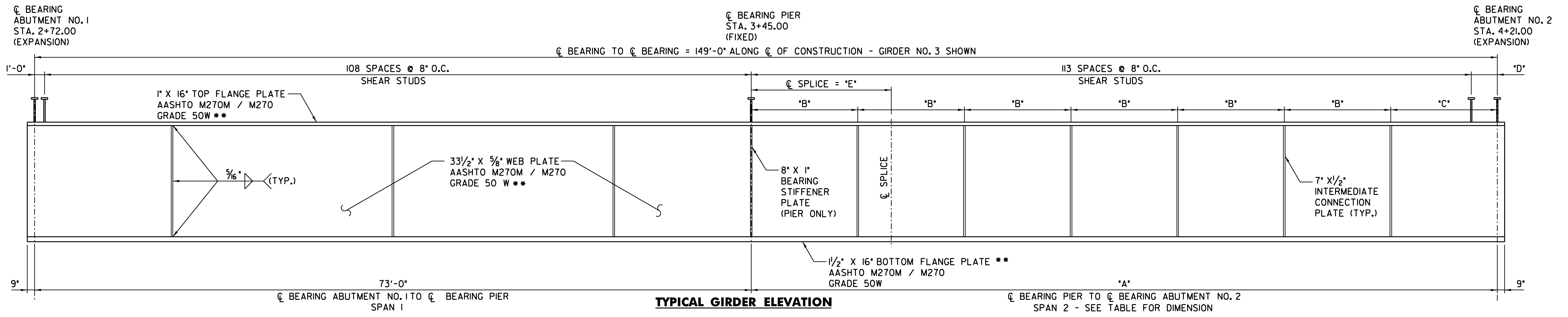
PLOTTED 2/10/2009

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>DECK END DETAILS</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372ded.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	28 of 68



<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>FRAMING PLAN AND DETAILS</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
R. H. DURFEE	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372fd.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	29 of 68

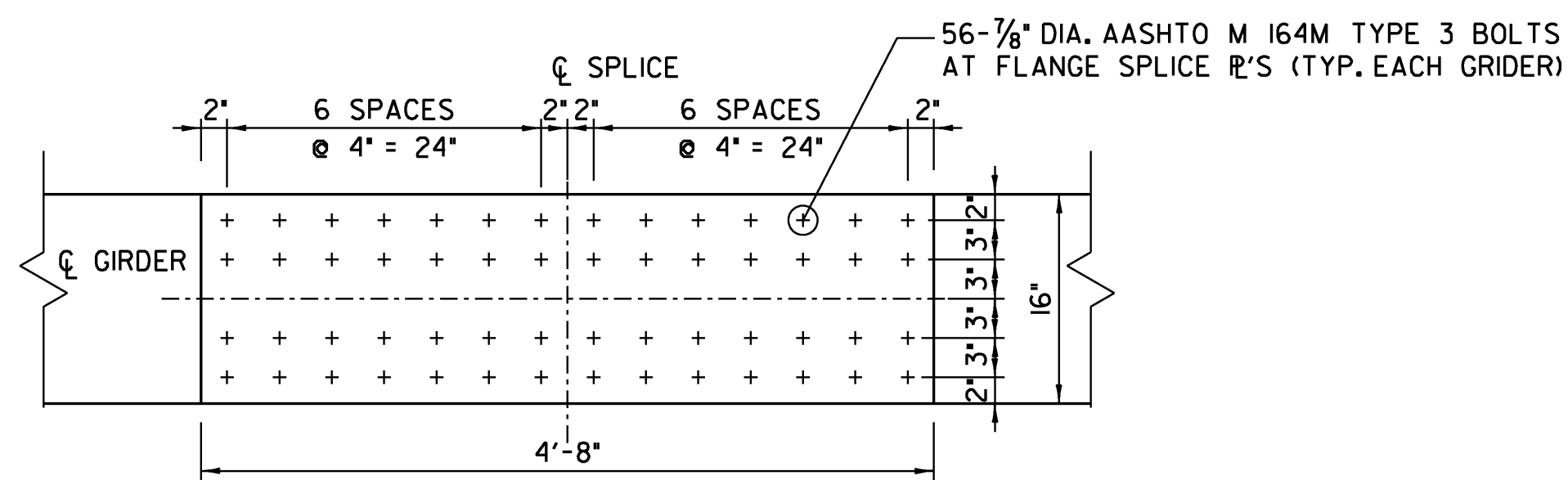




**TYPICAL GIRDER ELEVATION**

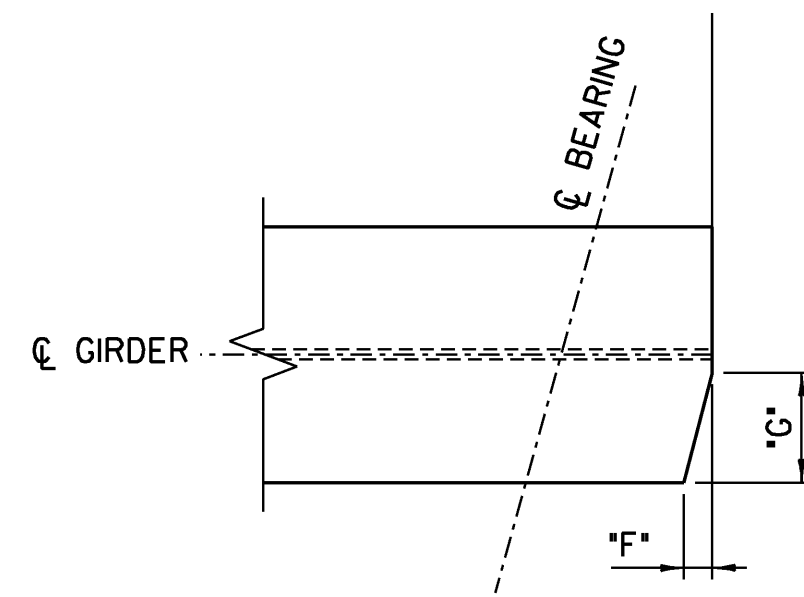
SCALE : H 3/16" = 1'-0"  
V 3/4" = 1'-0"

\*\* CHARPY V-NOTCH (CVN) TEST REQUIRED



**PLAN SPLICE DETAILS**

SCALE: 1" = 1'-0"



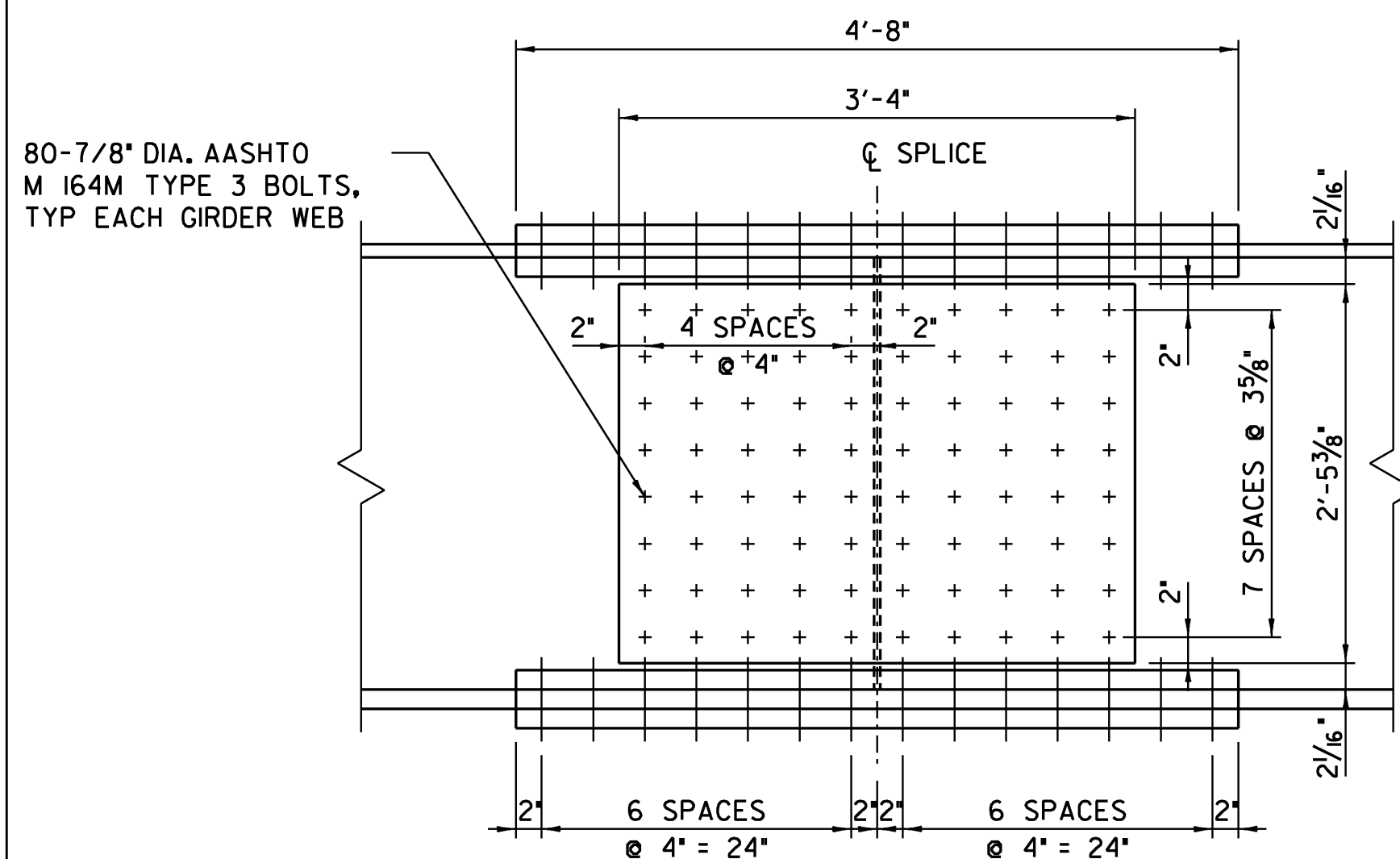
**ABUTMENT NO. 2 FLANGE CLIP**

NOT TO SCALE

GIRDER NO.	*F*	*G*
1	1 7/8"	6 1/16"
2	1 1/2"	6 1/16"
3	1 3/4"	6 7/8"
4	1 3/4"	6 7/8"
5	1 1/16"	6 1/16"

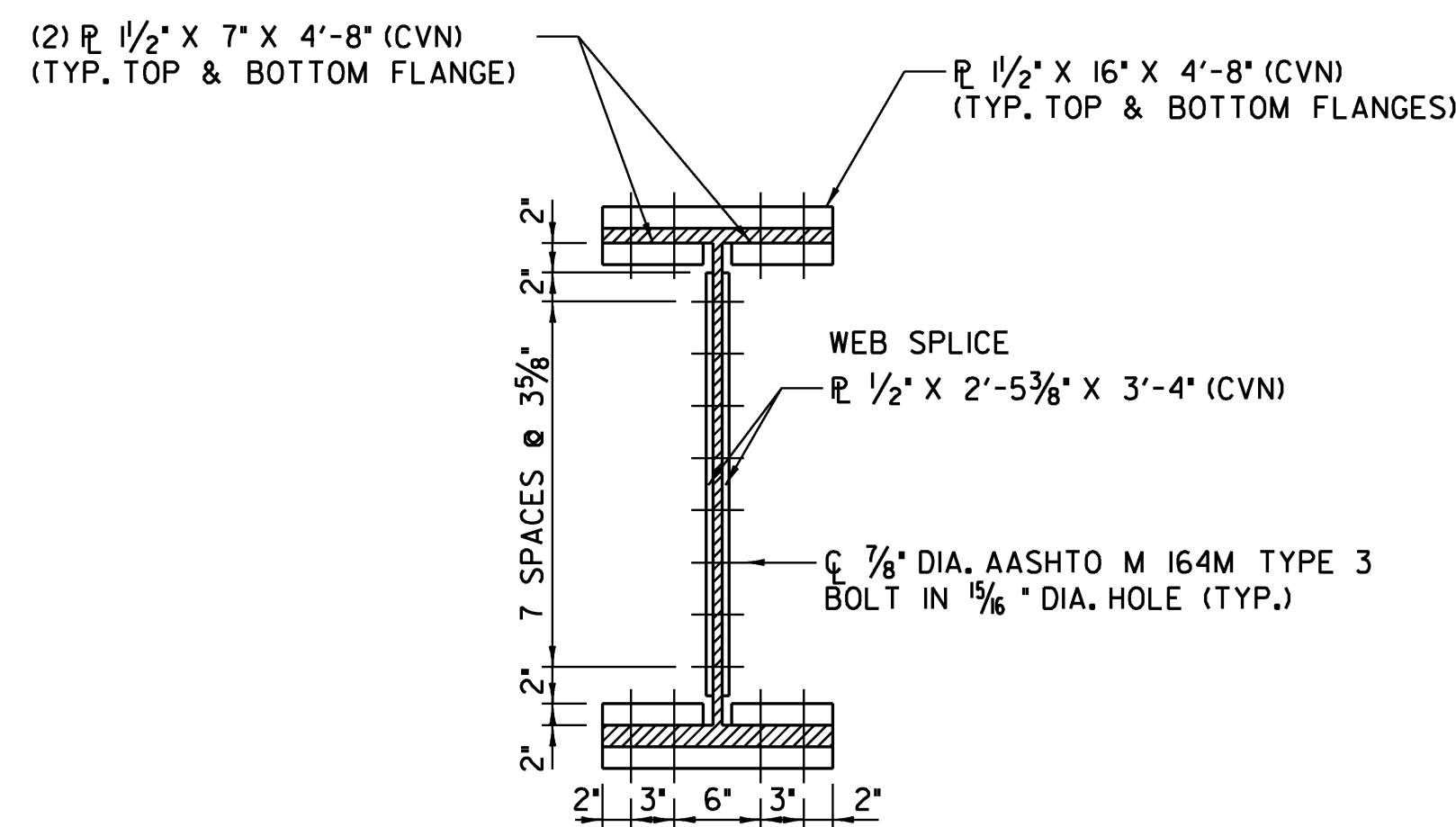
GIRDER NO.	*A*	RADIUS	*B*	*C*	*D*	*E*
1	76'-1 1/8"	284'-10"	10'-3 3/4"	14'-2 5/8"	9 1/16"	18'-1 1/2"
2	76'-1/2"	292'-5"	10'-7"	12'-6 1/2"	8 1/2"	18'-3/4"
3	76'-0"	300'-0"	10'-10 3/8"	10'-9 3/4"	8"	18'-3 7/8"
4	75'-11 1/2"	307'-7"	11'-1 5/8"	9'-1 3/4"	7 1/2"	18'-7 7/8"
5	75'-11 1/16"	315'-2"	11'-4 5/16"	7'-5 7/16"	7 1/16"	18'-11 5/16"

**SPAN 2 GIRDER DIMENSION TABLE**



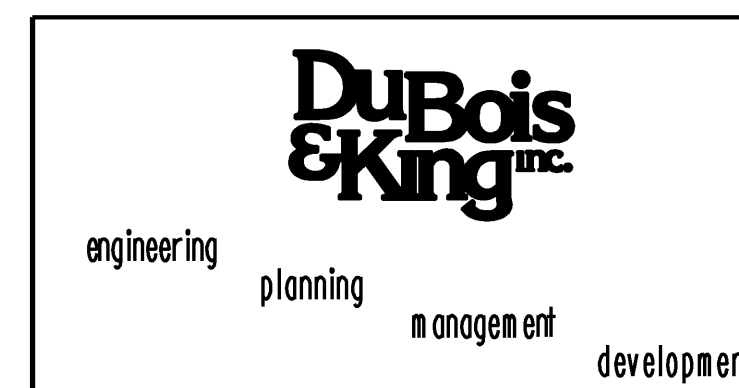
**ELEVATION SPLICE DETAILS**

SCALE: 1" = 1'-0"



**SECTION SPLICE DETAILS**

SCALE: 1" = 1'-0"



PLOTTED 2/10/2009

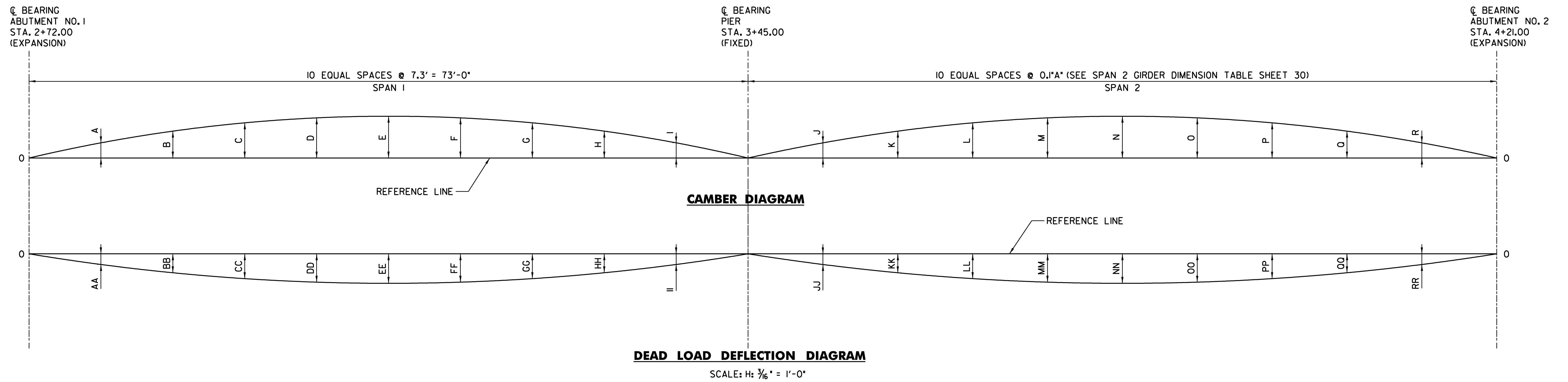
**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta.
		Surv. Sta.

**TH NO. 1 OVER THE GIHON RIVER**

**GIRDER ELEVATION AND DETAILS**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	R. H. DURFEE	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER
		Date	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372gd.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	30 of 68



GIRDER NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
GIRDER 1	0.5912	1.1235	1.5542	1.8595	2.0330	1.6872	1.2530	0.7732	0.3119	0.3148	0.7725	1.0625	1.7059	2.0579	1.8873	1.5808	1.1449	0.6043
GIRDER 2	0.5597	1.0640	1.4728	1.7644	1.9333	1.5922	1.1718	0.7145	0.2907	0.3359	0.8115	1.3179	1.7748	2.1331	1.9594	1.6420	1.1894	0.6266
GIRDER 3	0.5405	1.0275	1.4220	1.7044	1.8696	1.5284	1.1142	0.6705	0.2667	0.3608	0.8604	1.3876	1.8612	2.2271	2.0503	1.7206	1.2459	0.6557
GIRDER 4	0.5461	1.0370	1.4333	1.7137	1.8741	1.5283	1.1088	0.6596	0.2553	0.3914	0.9294	1.4905	1.9919	2.3714	2.1944	1.8477	1.3393	0.7047
GIRDER 5	0.5636	1.0690	1.4743	1.7574	1.9141	1.5592	1.1273	0.6645	0.2506	0.4212	1.0053	1.6132	2.1559	2.5600	2.3890	2.0251	1.4757	0.7787

**CAMBER TABLE**

ALL DIMENSIONS ARE IN INCHES

GIRDER NO.	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN	OO	PP	QQ	RR
GIRDER 1	0.3912	0.7235	0.9542	1.0595	1.0330	0.8872	0.6530	0.3732	0.1199	0.1148	0.3725	0.6625	0.9059	1.0579	1.0873	0.9808	0.7449	0.4043
GIRDER 2	0.3597	0.6640	0.8728	0.9644	0.9333	0.7922	0.5718	0.3145	0.0907	0.1359	0.4115	0.7179	0.9748	1.1331	1.1594	1.0420	0.7894	0.4266
GIRDER 3	0.3405	0.6275	0.8220	0.9044	0.8696	0.7284	0.5142	0.2705	0.0667	0.1608	0.4604	0.7876	1.0612	1.2271	1.2503	1.1206	0.8459	0.4557
GIRDER 4	0.3461	0.6370	0.8333	0.9137	0.8741	0.7283	0.5088	0.2596	0.0553	0.1914	0.5294	0.8905	1.1919	1.3714	1.3944	1.2477	0.9393	0.5047
GIRDER 5	0.3636	0.6690	0.8743	0.9574	0.9141	0.7592	0.5273	0.2645	0.0506	0.6053	0.6053	1.0132	1.3559	1.5600	1.5890	1.4251	1.0757	0.5787

**DEAD LOAD DEFLECTION TABLE**

ALL DIMENSIONS ARE IN INCHES

**NOTES:**

1. THE DEAD LOAD DEFLECTIONS INCLUDE ALL DEAD LOADS AND SUPERIMPOSED DEAD LOADS INCLUDING GIRDER SELF WEIGHTS.
2. THE REFERENCE LINE IS A THEORETICAL STRAIGHT LINE FROM ABUTMENT NO. 1 TO ABUTMENT NO. 2 CONNECTING POINTS LOCATED ALONG THE CENTERLINE OF GIRDER AT THE CENTERLINE OF BEARINGS.

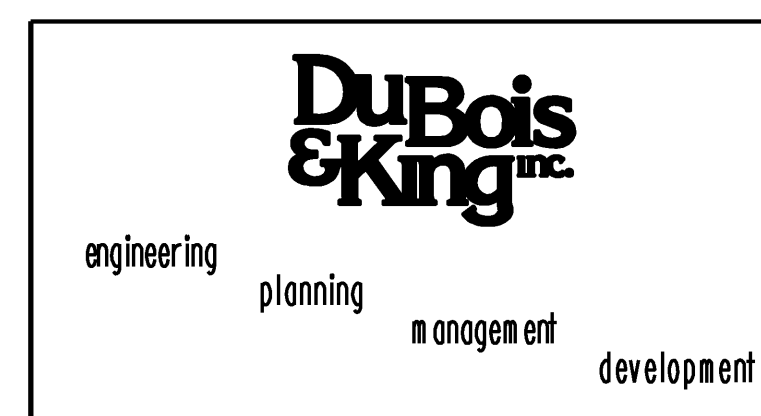
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

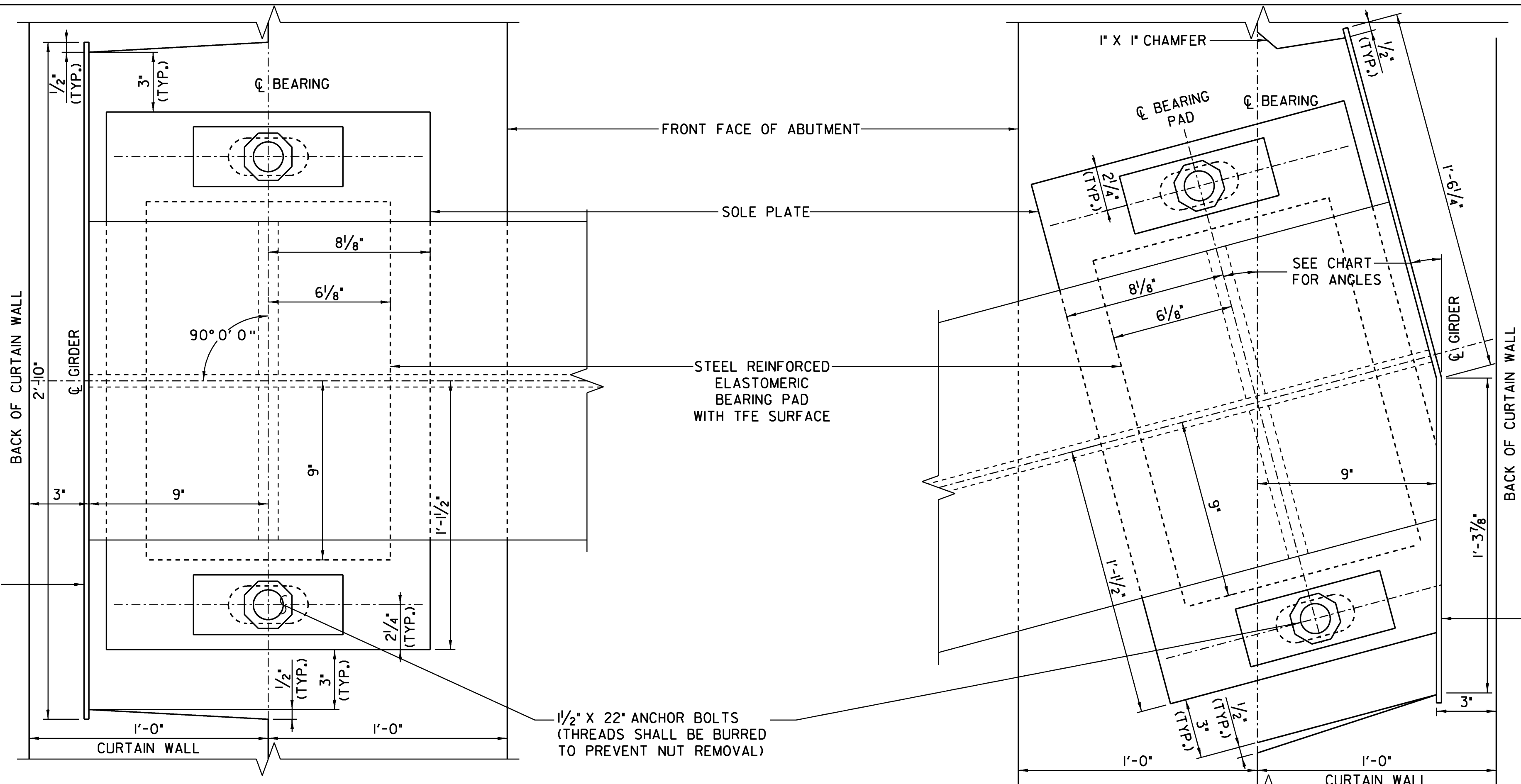
**TH NO. 1 OVER THE GIBON RIVER**

**CAMBER AND DEFLECTION DETAILS**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	R. H. DURFEE	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER
		Date	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. info.	z98J372gd.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	31 of 68



PLOTTED 2/10/2009



GIRDER NUMBER	ANGLE
1	15° 17' 58"
2	14° 53' 36"
3	14° 30' 31"
4	14° 08' 36"
5	13° 47' 46"

**BEARING ANGLE  
ABUTMENT NO. 2**

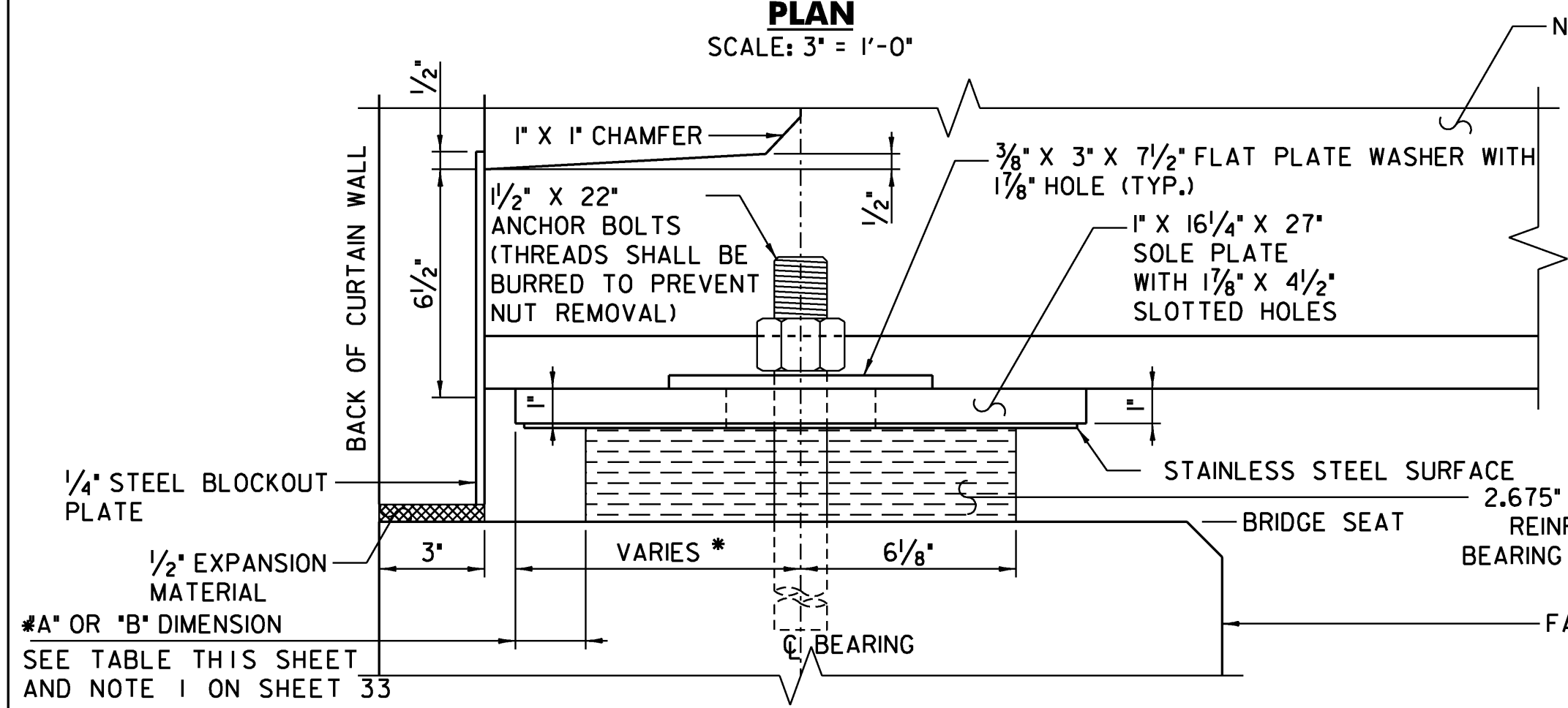
NOTE:  
SEE SHEET 33 FOR  
BEARING NOTES.

TEMP (°F)	"A" DIST (INCHES)	"B" DIST (INCHES)
120	1 1/8	1 7/8
105	1 1/4	1 7/8
90	1 5/8	2
75	1 7/8	2
60	1 7/8	2 1/8
45	2	2 1/8
30	2 1/8	2 1/8
15	2 1/8	2 1/4
0	2 1/8	2 1/4
-15	2 1/4	2 1/4
-30	2 1/4	2 1/6

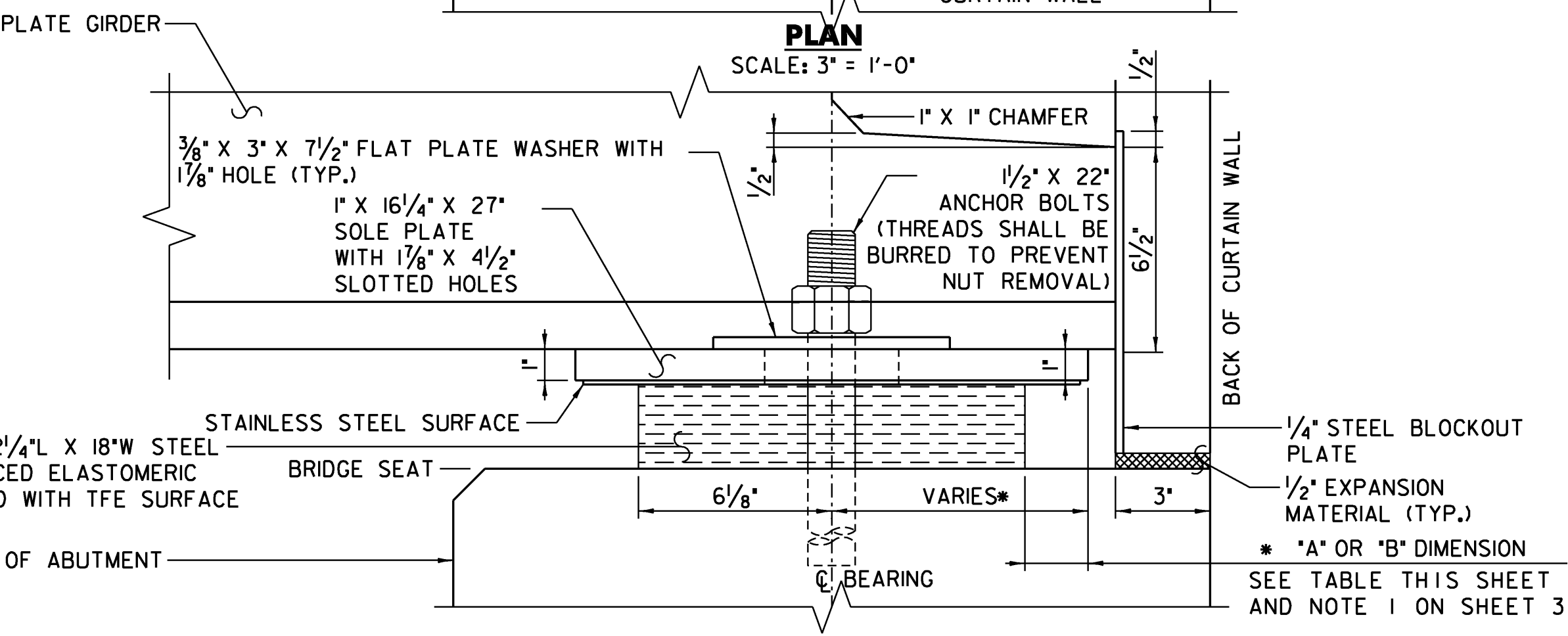
**TEMPERATURE ADJUSTMENT TABLE  
ABUTMENT NO. 1**

TEMP (°F)	"A" DIST (INCHES)	"B" DIST (INCHES)
120	1 1/8	1 7/8
105	1 1/4	1 7/8
90	1 5/8	2
75	1 7/8	2 1/8
60	1 7/8	2 1/8
45	2	2 1/8
30	2 1/8	2 1/4
15	2 1/8	2 1/4
0	2 1/8	2 1/4
-15	2 1/4	2 1/4
-30	2 1/4	2 1/6

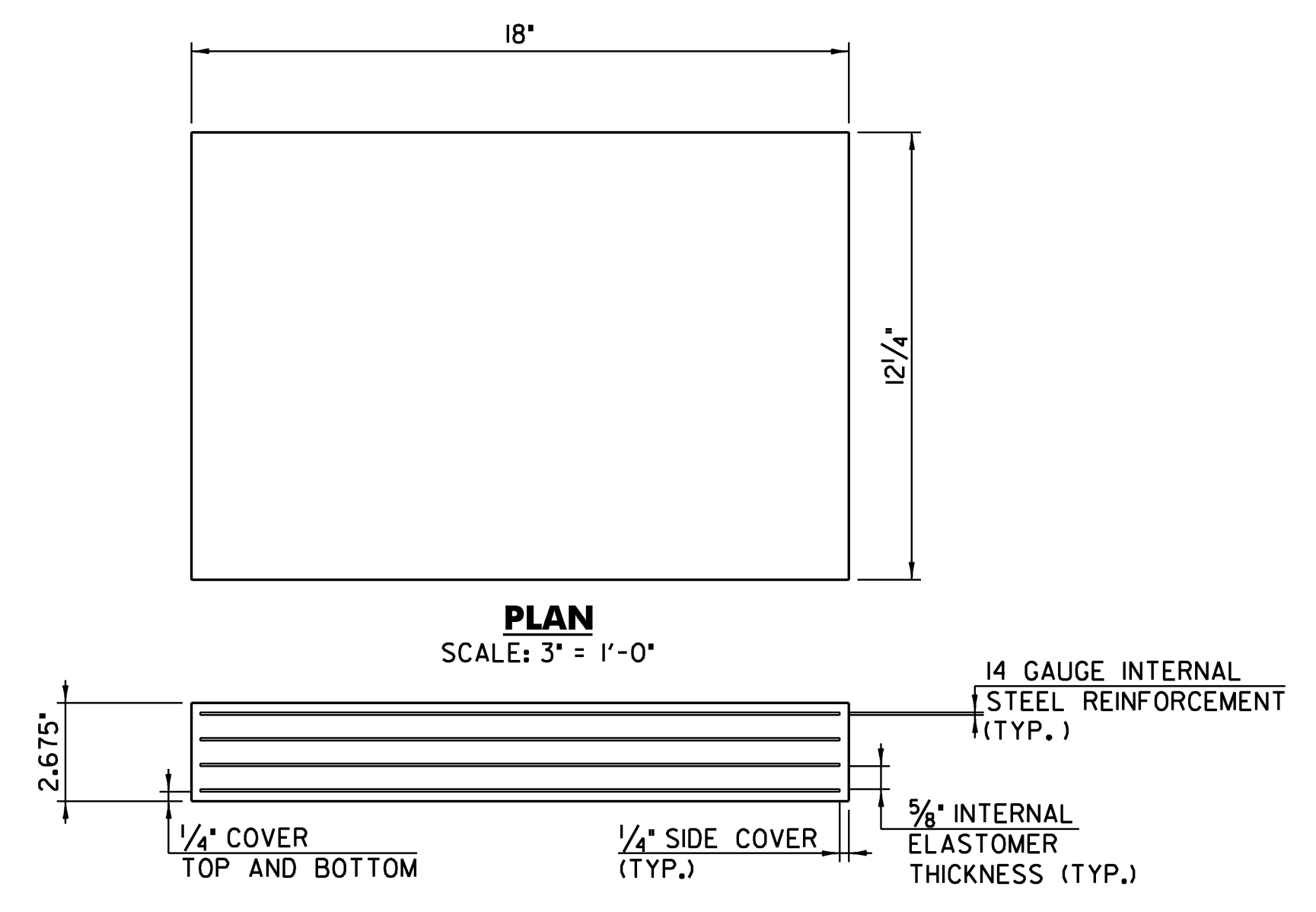
**TEMPERATURE ADJUSTMENT TABLE  
ABUTMENT NO. 2**



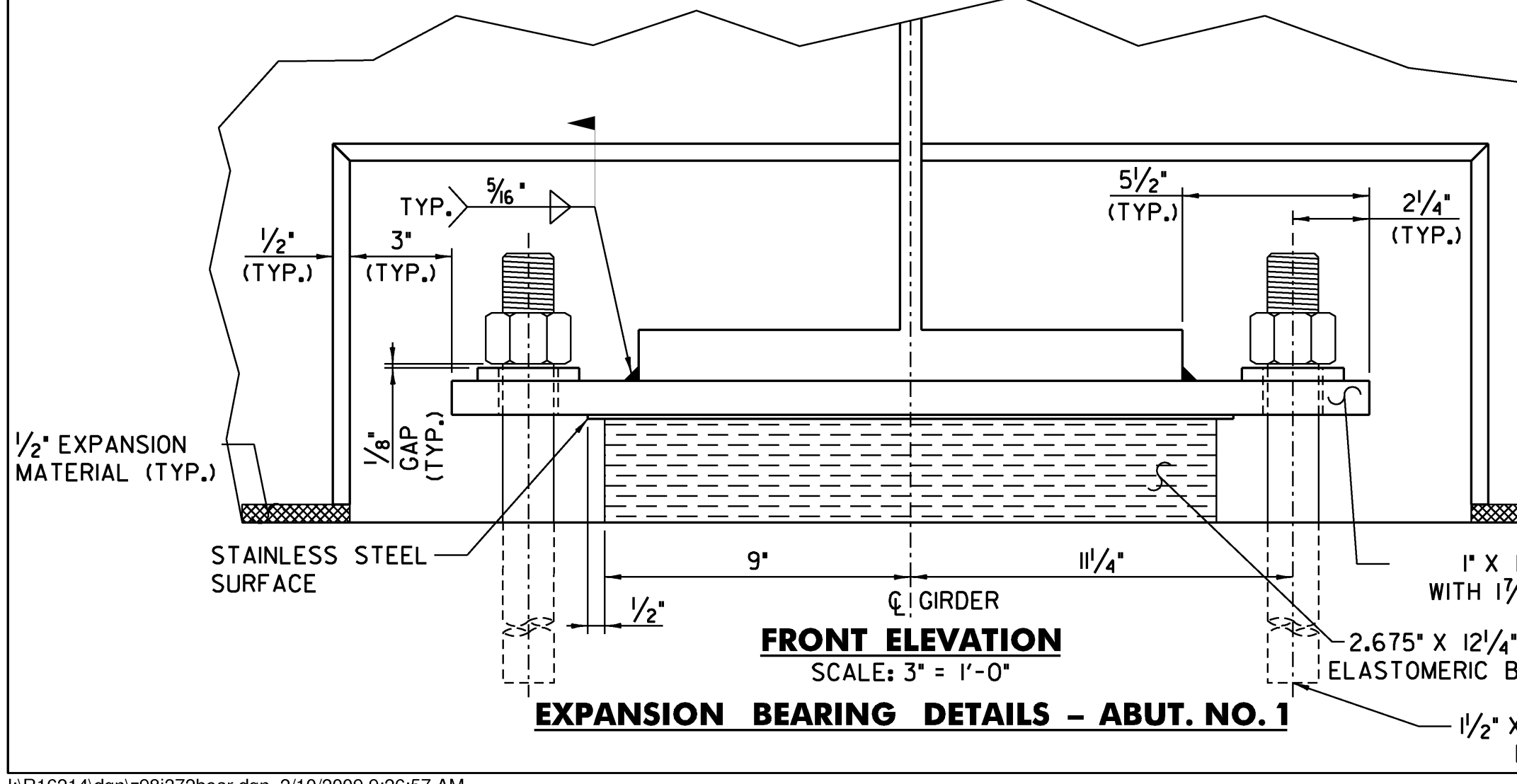
**SIDE ELEVATION  
SCALE: 3" = 1'-0"**



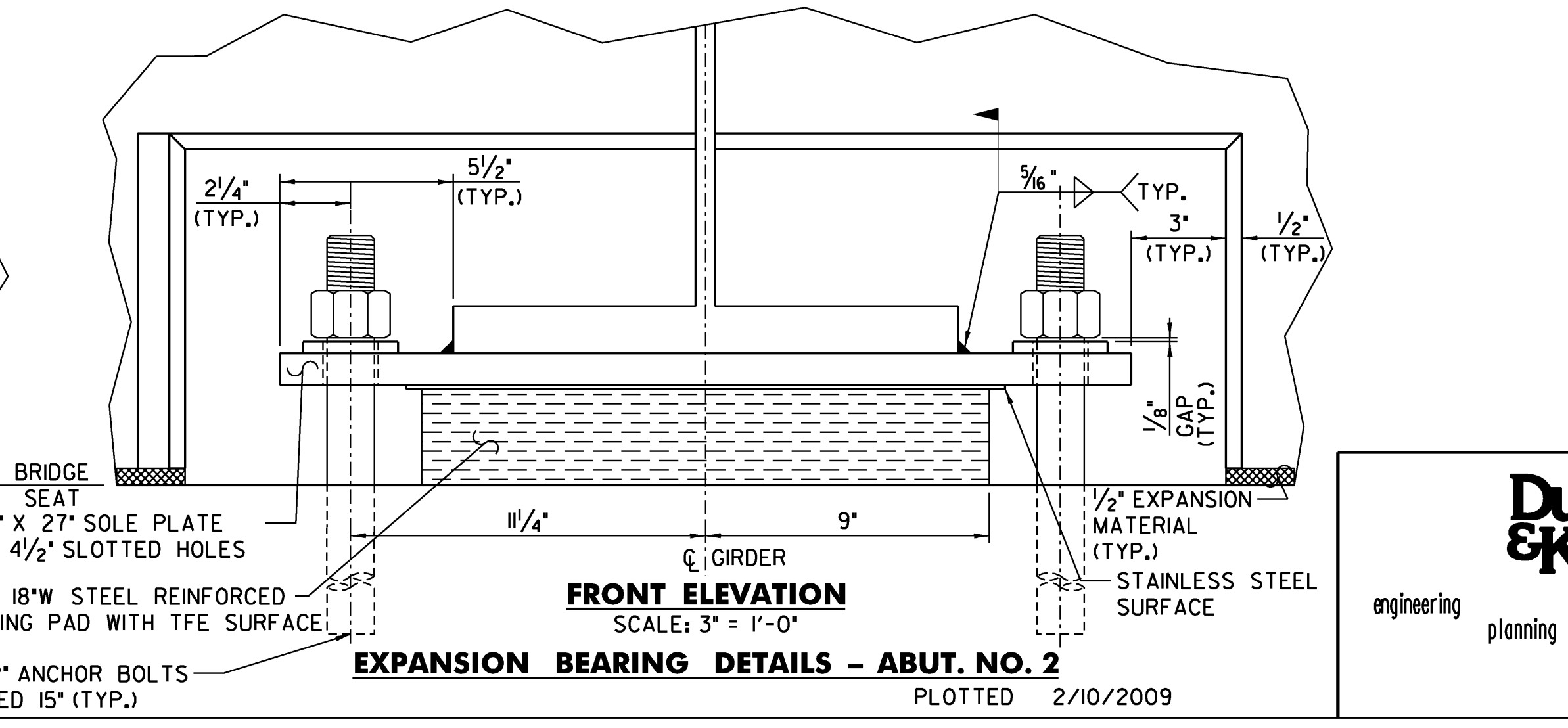
**SIDE ELEVATION  
SCALE: 3" = 1'-0"**



**TYPICAL SECTION  
SCALE: 3" = 1'-0"**  
**STEEL REINFORCED ELASTOMERIC BEARING PAD - ABUTMENTS**



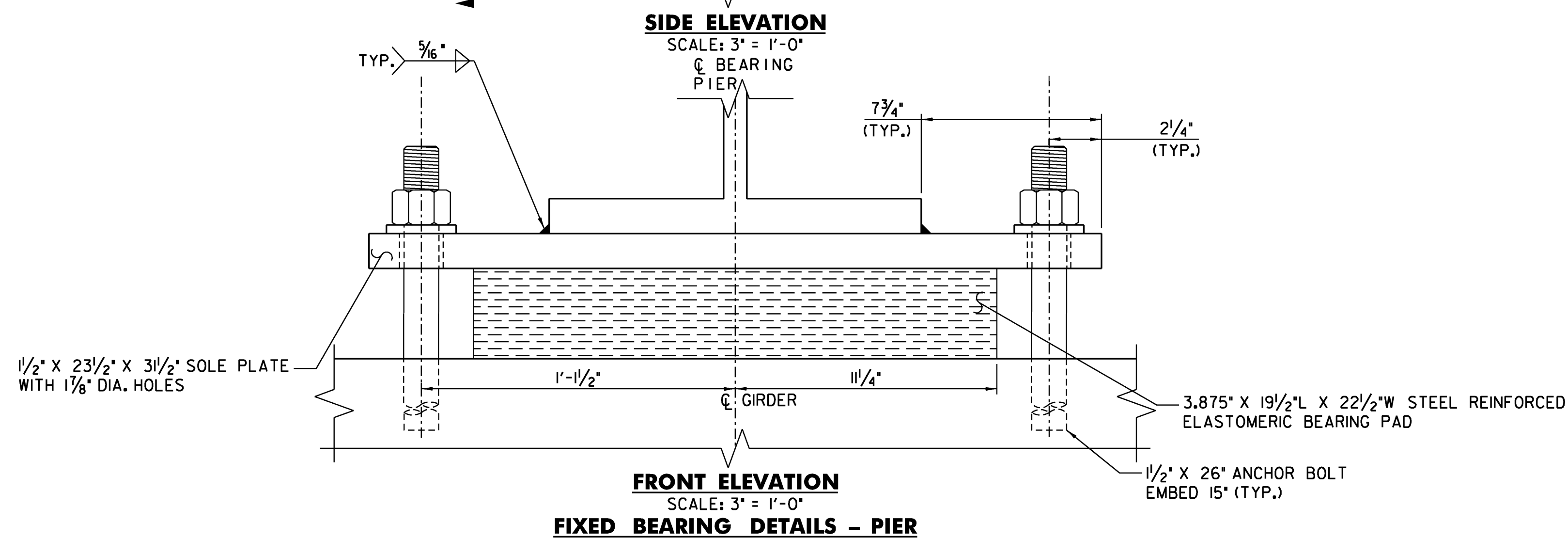
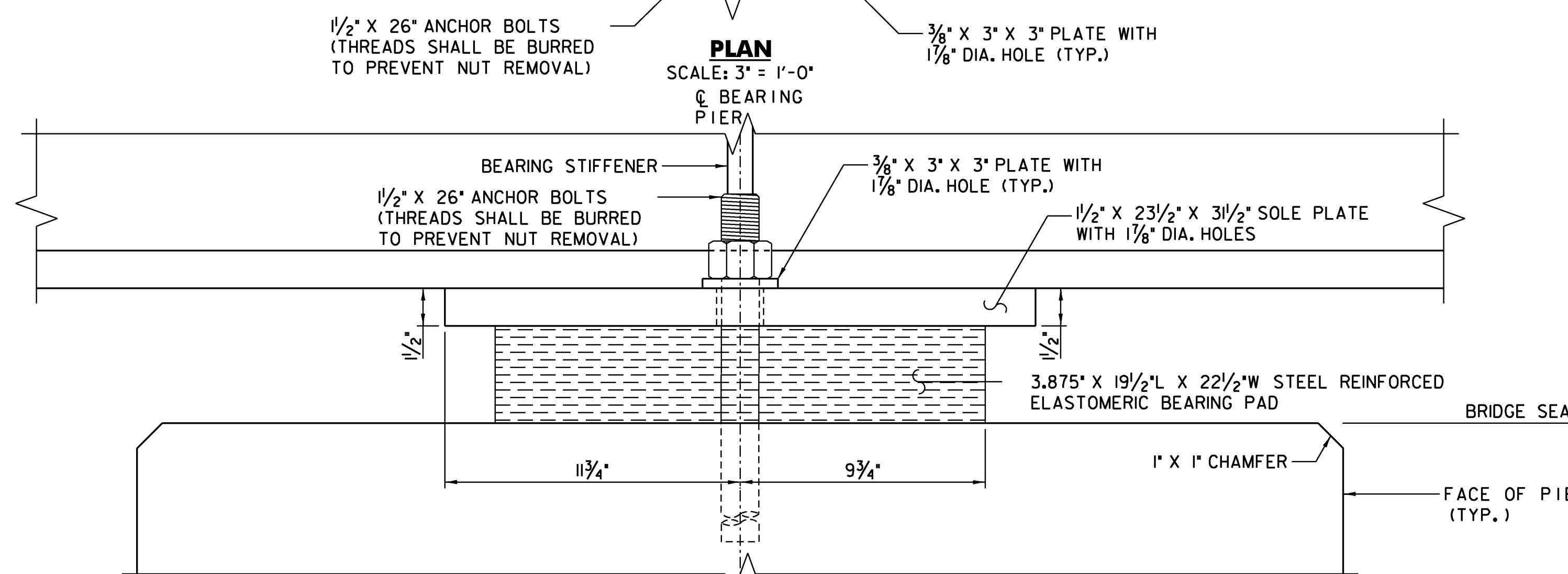
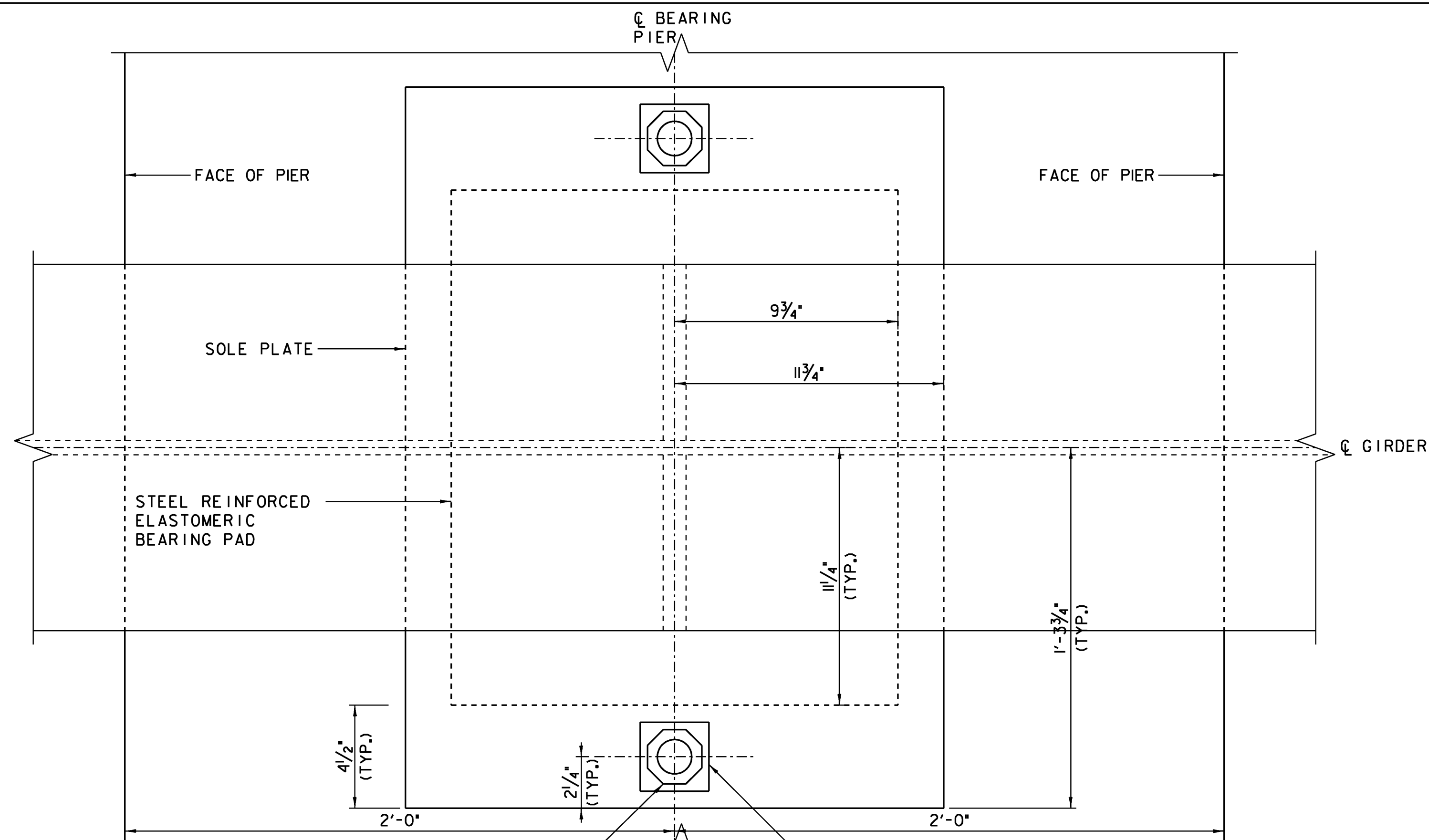
**EXPANSION BEARING DETAILS - ABUT. NO. 1**



**EXPANSION BEARING DETAILS - ABUT. NO. 2**

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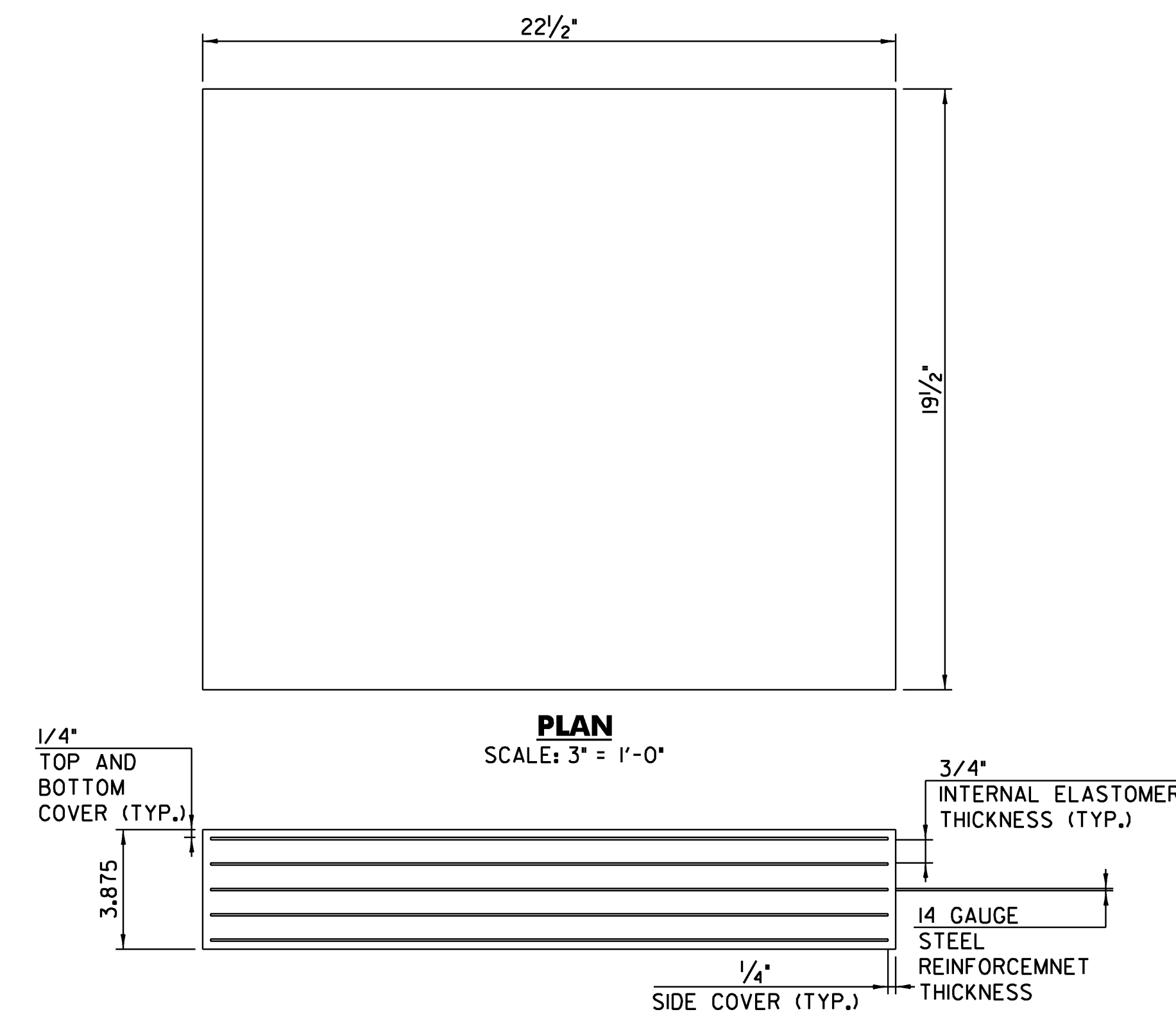
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta. Surv. Sta.
<b>TH NO. 1 OVER THE GIHON RIVER</b>		
<b>BEARING DETAILS - ABUTMENTS</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98j372bear.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 32 of 68



**BEARING NOTES**

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 53I AND 73I.
2. FABRICATION DRAWINGS CONFORMING TO SUBSECTION 53I.03 SHALL INCLUDE WELDING AND BONDING PROCEDURES.
3. FOR ABUTMENT BEARINGS: THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DECK SYSTEM, SIDEWALKS AND BRIDGE RAIL ARE PLACED. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOAD IS ADDED TO THE GIRDER SELFWEIGHT. THE FINAL "A" DISTANCE, S SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN 1/8 INCH.
4. ALL STEEL FOR BEARING DEVICES (EXCEPT STAINLESS) SHALL BE AASHTO M270M/M270, GRADE 36, BOLTS AND NUTS SHALL BE PER ASTM A 449. ALL HARDWARE SHALL BE GALVANIZED PER SUBSECTION 53I.04(D).
5. PAYMENT FOR SUPPLYING AND PLACEMENT OF THE STEEL REINFORCED ELASTOMERIC BEARING PADS, SOLE PLATES, STAINLESS STEEL SURFACE, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 53I.II, "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".
6. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
7. DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 15-IN EMBEDDED INTO CONCRETE. HOLES FOR ANCHOR BOLTS SHALL BE 3-IN IN DIAMETER. ANCHOR BOLTS ARE TO BE GROUTED WITH MORTAR, TYPE IV IN ACCORDANCE WITH SECTION 53I. ALL COSTS SHALL BE INCLUDED IN ITEM 53I.II, "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".
8. ANCHOR BOLTS SHALL BE SWEDGED WITH 4-IN OF THREAD. EXPANSION BEARING NUTS SHALL BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF 1/8-IN. THREADS SHALL BE BURRED ABOVE THE NUT TO PREVENT NUT REMOVAL.
9. EXISTING ANCHOR BOLTS THAT ARE NOT COVERED WITH A NEW BRIDGE SEAT CAP SHALL BE CUT ONE INCH MINIMUM BELOW EXISTING SUBSTRUCTURE SEATS, BLAST CLEANED AND FILLED WITH MORTAR TYPE IV. COSTS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 53I.II, "BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD".
10. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE STEEL GRADE 36. NO FABRIC REINFORCEMENT WILL BE PERMITTED.
11. ELASTOMERIC BEARING REINFORCED WITH STEEL SHALL HAVE 1/4" EDGE SEAL OF ELASTOMERIC INTEGRAL WITH THE BEARING OVER ALL PLATES.
12. ALL MATERIAL AND FABRICATION SHALL BE PER AASHTO DIVISION II SECTION 18.2 AND AASHTO MATERIAL SPECIFICATIONS M25I.
13. DESIGN CRITERIA:

- A) TEMPERATURE ZONE: C
- B) HARDNESS: 60 (SHORE A SCALE)
- C) MAXIMUM BEARING STRESS: ABUTMENT 979 psi  
PIER 989 psi
- D) DESIGN ROTATION: ABUTMENT 0.0065 RADIANS  
PIER 0.004 RADIANS
- E) BEARING SHAPE FACTOR: ABUTMENTS 5.83  
PIER 6.96



**STEEL REINFORCED ELASTOMERIC BEARING PAD - PIER**

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

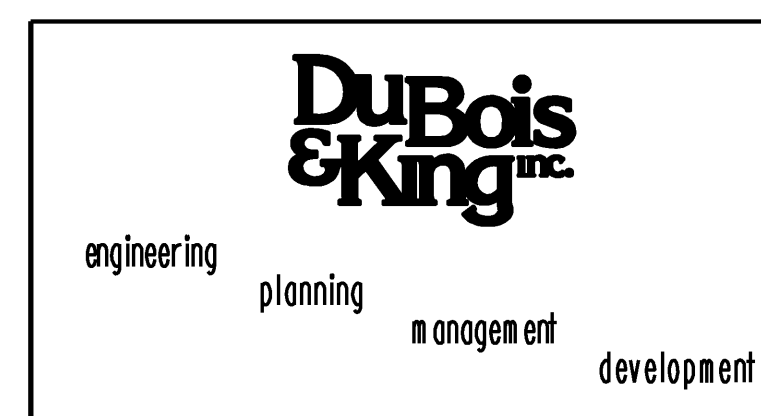
**TH NO. 1 OVER THE GIHON RIVER**

**BEARING DETAILS - PIER**

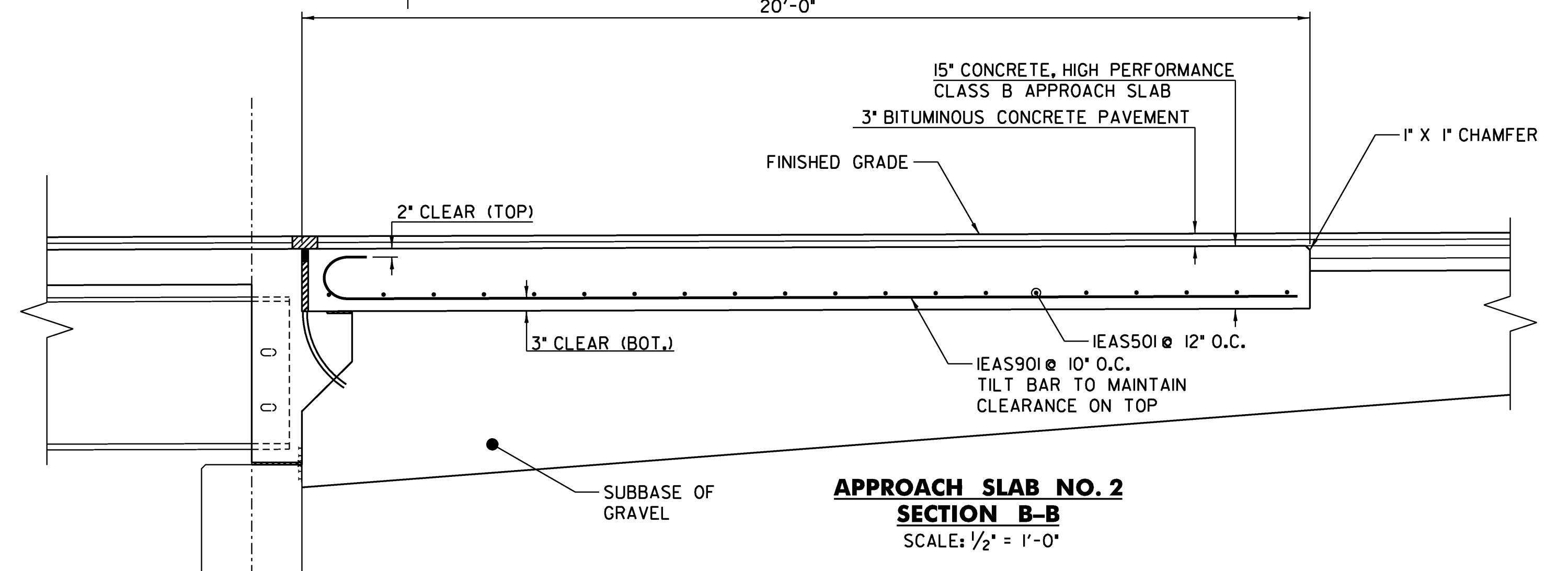
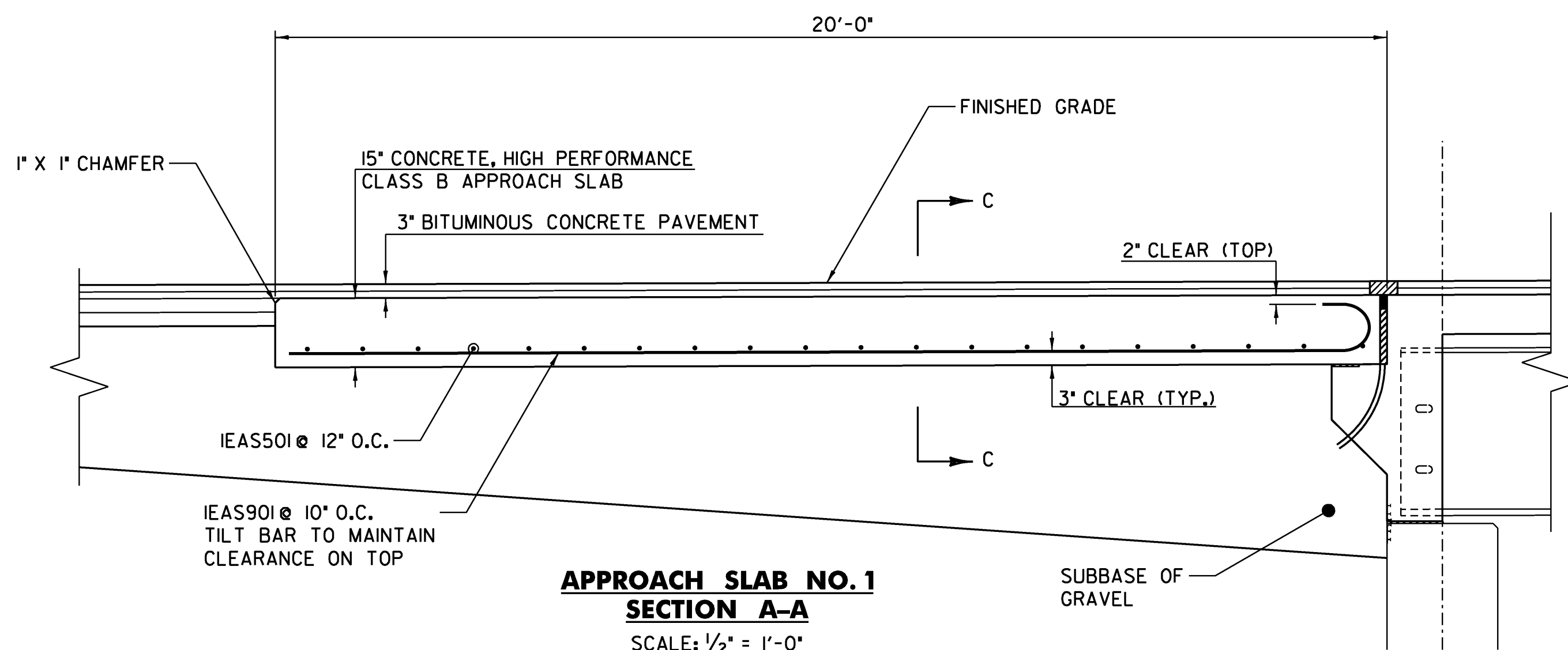
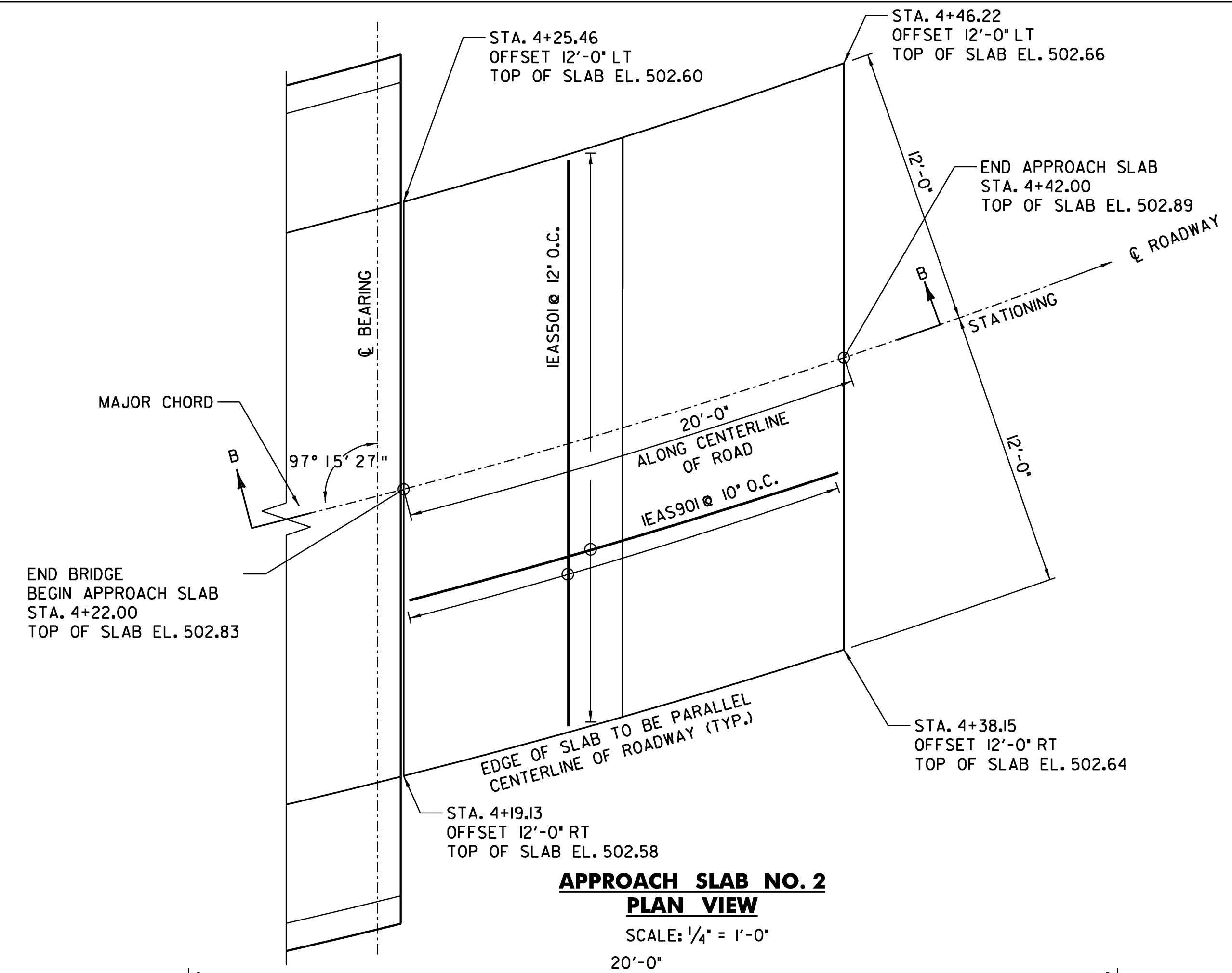
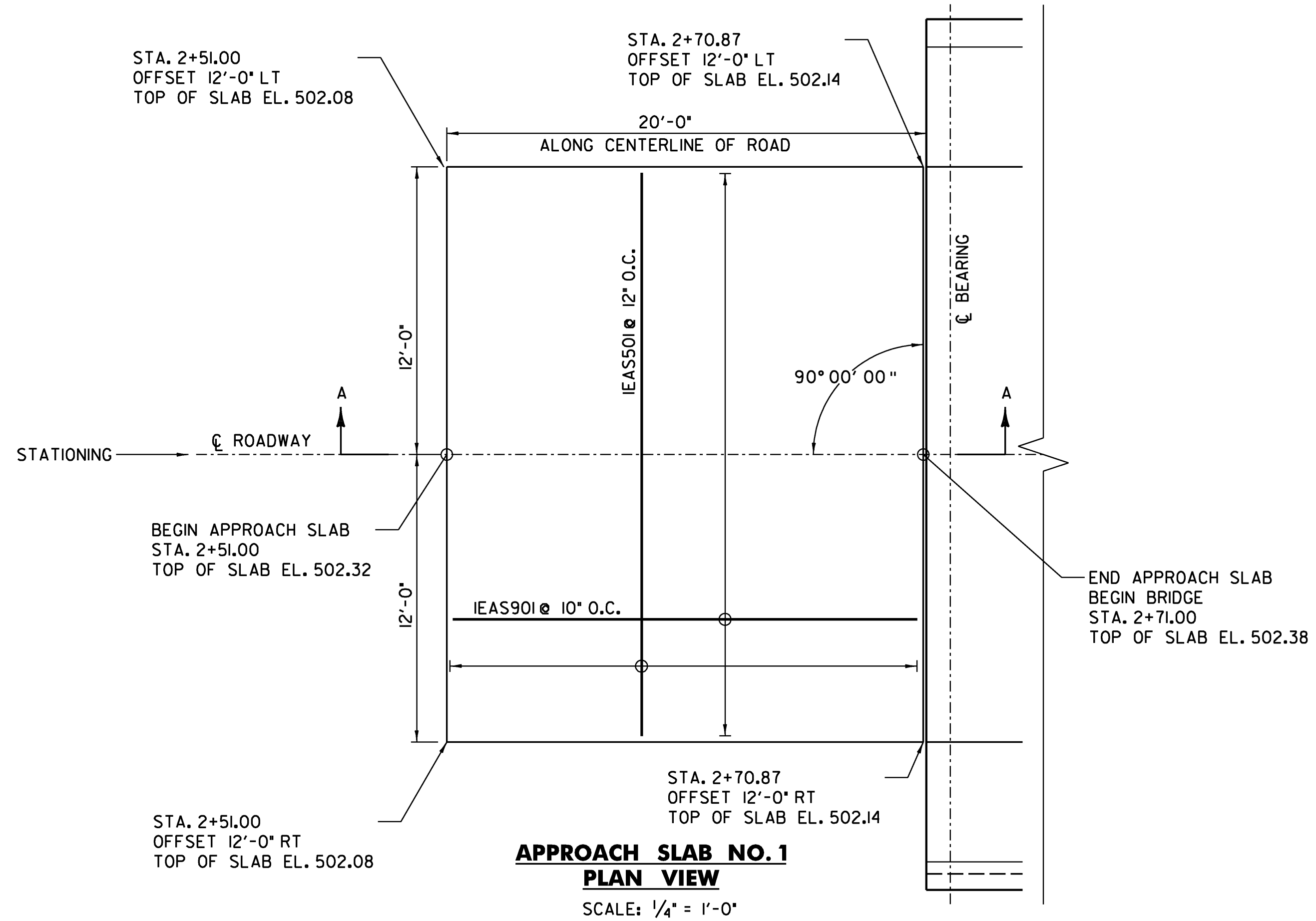
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372bear.dgn	D & K DWG NO.	

Bridge Sheet No.	Sheet 33 of 68
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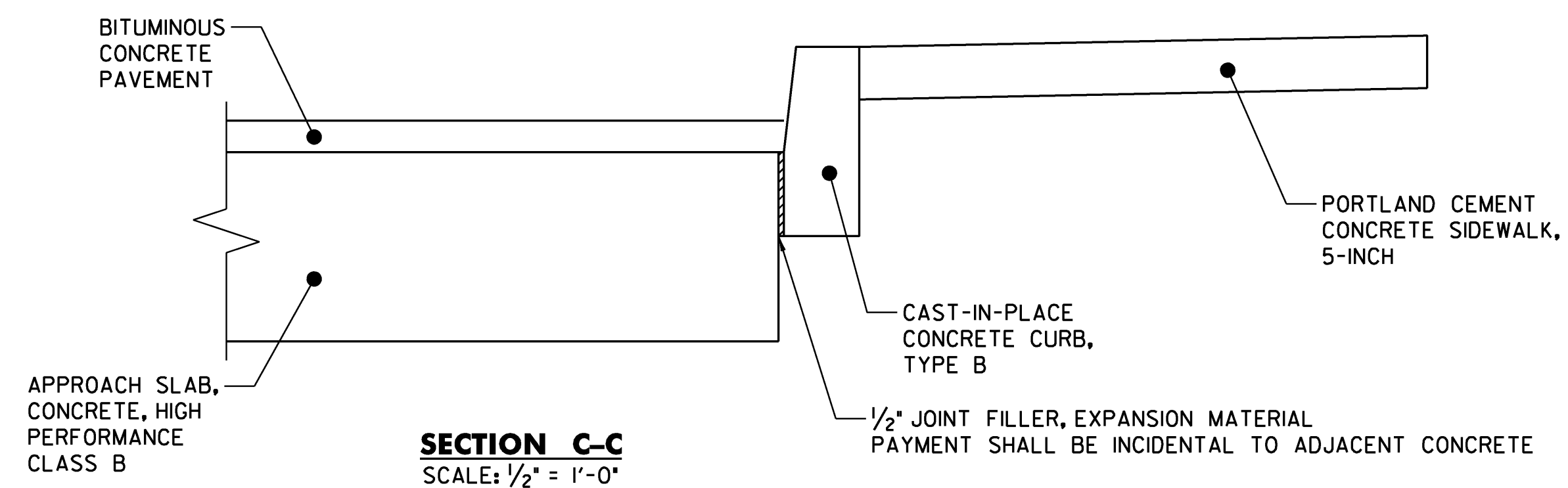


PLOTTED 2/10/2009



NOTE: SEE DECK END DETAILS SHEET 28

NOTE: SEE DECK END DETAILS SHEET 28



PLOTTED 2/18/2009

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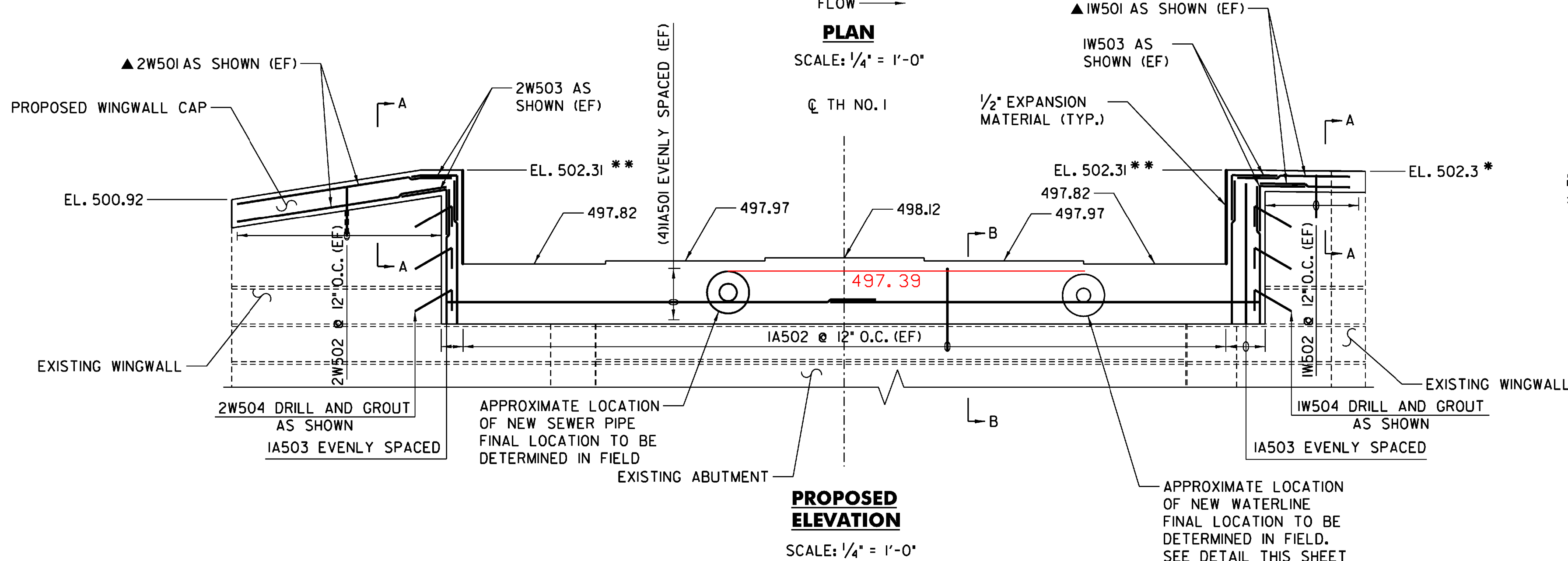
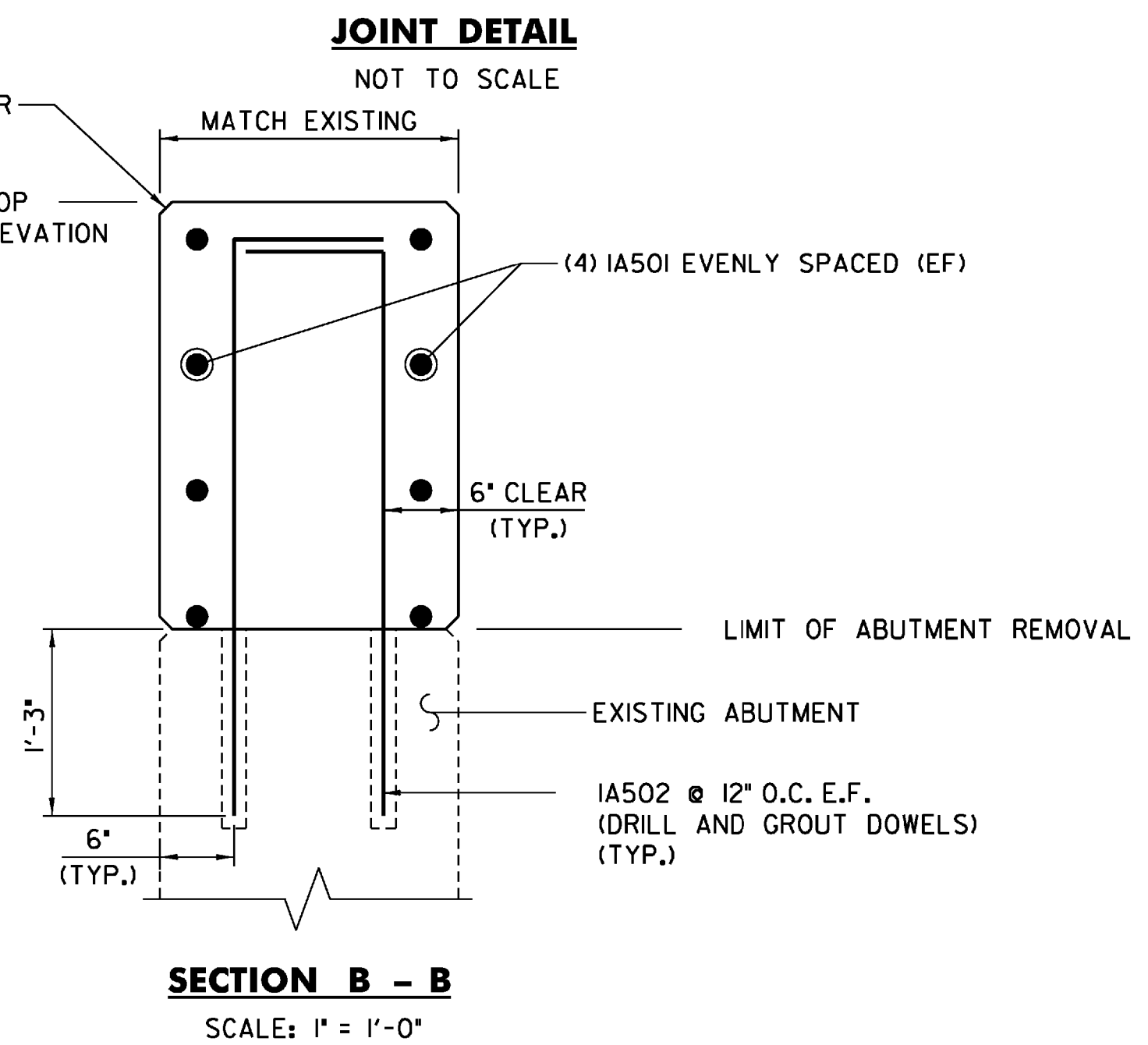
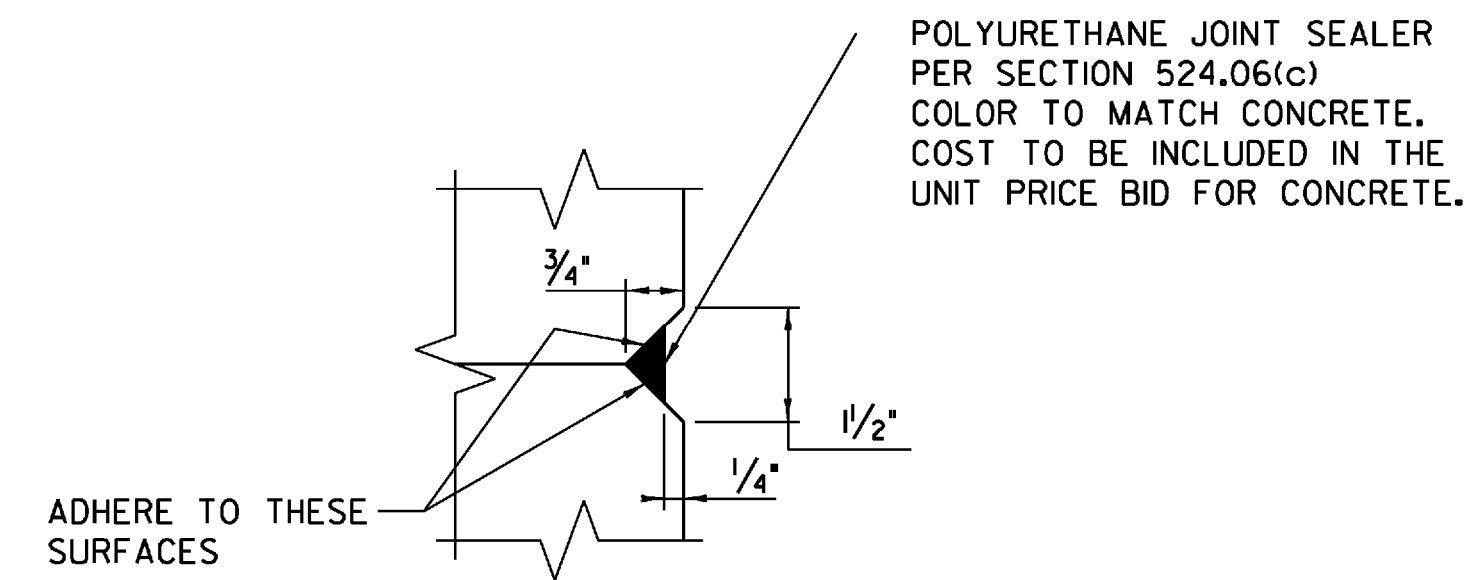
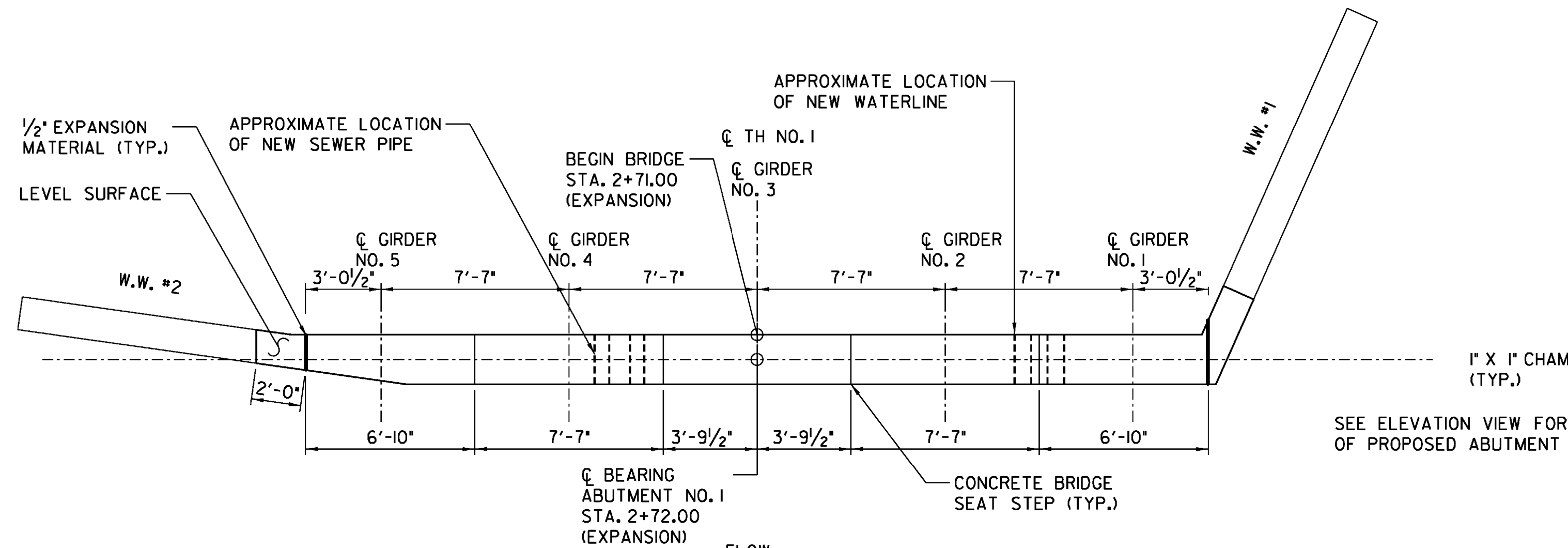
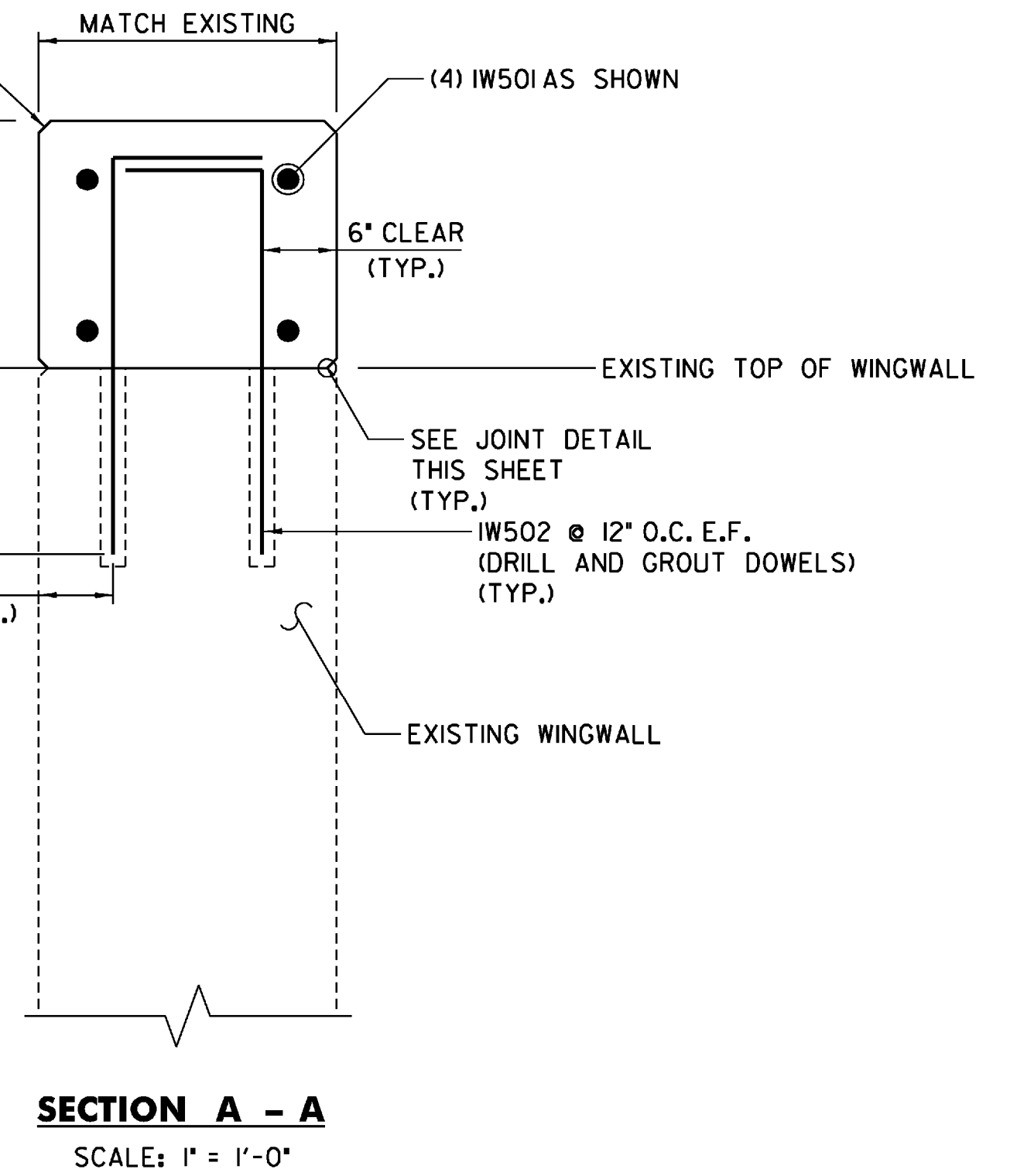
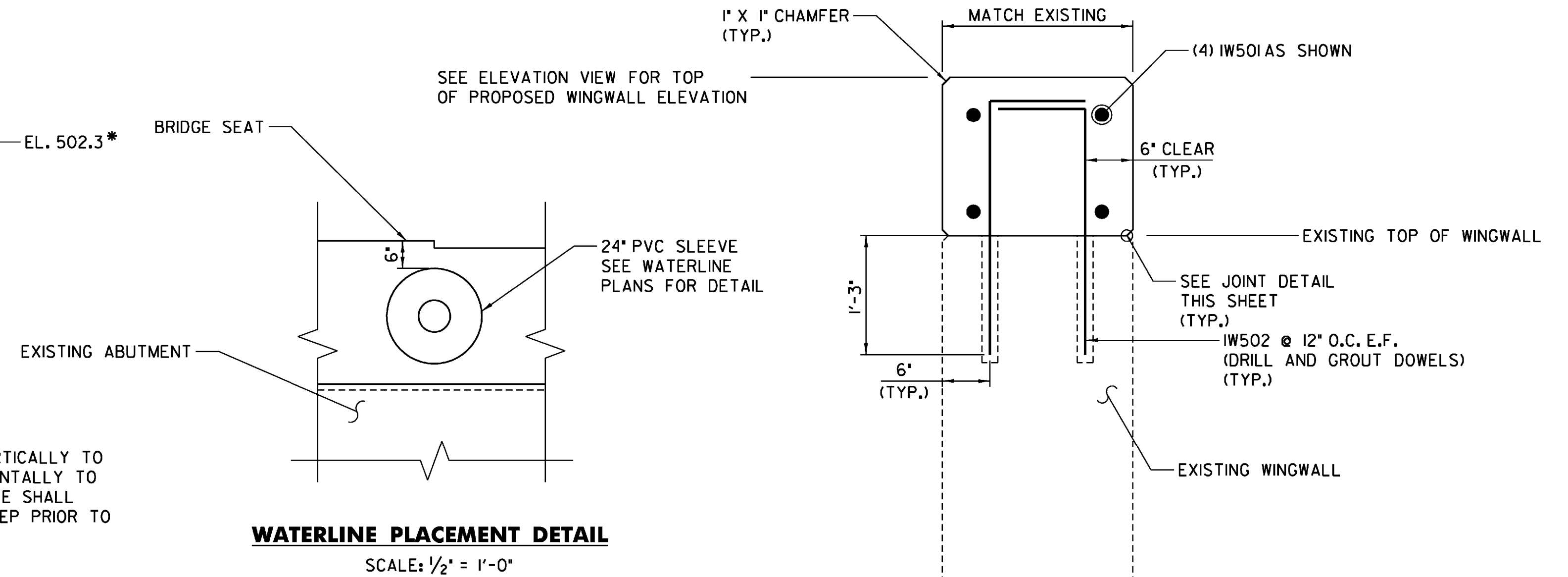
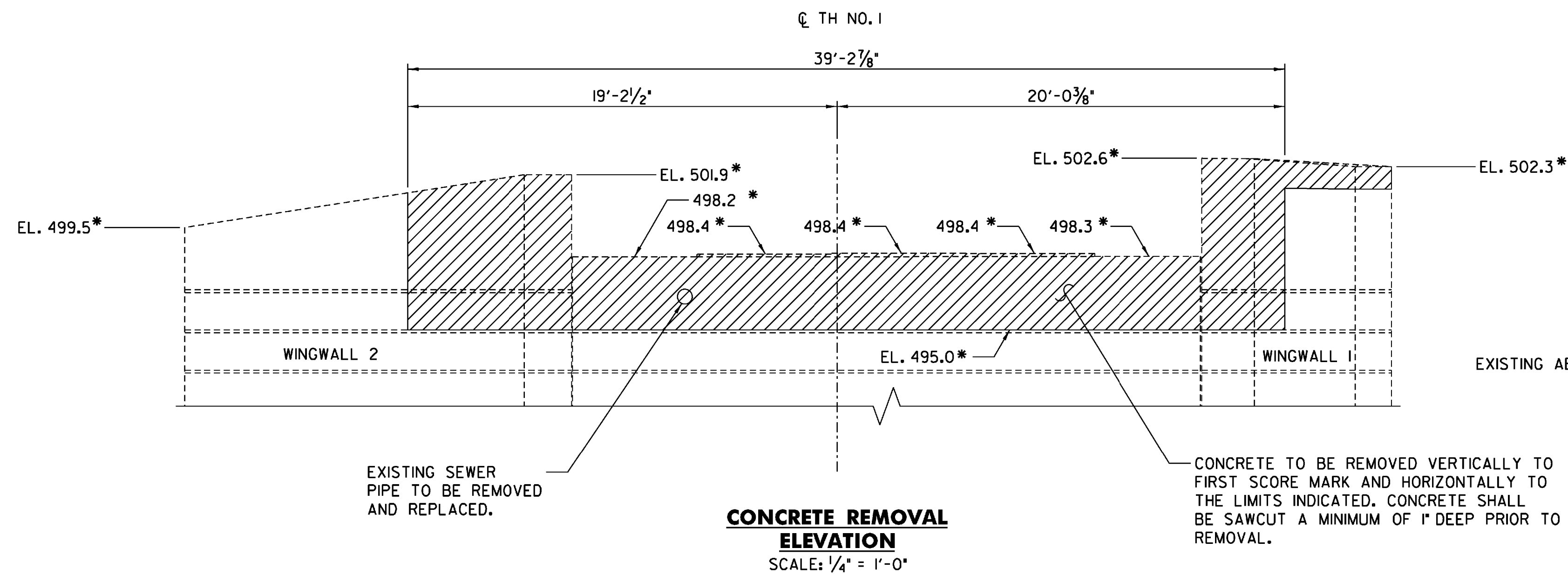
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIBON RIVER**

**APPROACH SLAB DETAILS**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Bridge Design Supervisor	J. W. TUCKER
Date	2/09	Date	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372as.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	34 of 68



**ABUTMENT NO. 1 MODIFICATIONS**

- NOTES:**
- FOLLOWING THE REMOVAL OF THE SUPERSTRUCTURE, THE EXISTING WINGWALLS AND ABUTMENT SHALL BE SAWCUT A MINIMUM OF 1" DEEP ALONG THE REMOVAL LINE AND REMOVED TO THE LIMITS SHOWN.
  - CONCRETE SURFACES SHALL THEN BE INSPECTED, CLEANED AND REPAIRED AS DESCRIBED IN THE GENERAL NOTES.
  - THE NEW WINGWALL CAP SHALL NOT BE PLACED UNTIL THE PROPOSED SUPERSTRUCTURE HAS BEEN CONSTRUCTED.
  - \* APPROXIMATE EXISTING ELEVATIONS
  - \*\* PROPOSED TOP OF WINGWALL ELEVATION TO BE AT THE DECK JOINT (SCORE MARK) AND VERIFIED IN THE FIELD.
- NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
T+B = TOP AND BOTTOM  
O.C. = ON CENTER  
MINIMUM LAP LENGTH NOT DETAILED SHALL BE 2'-2"

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

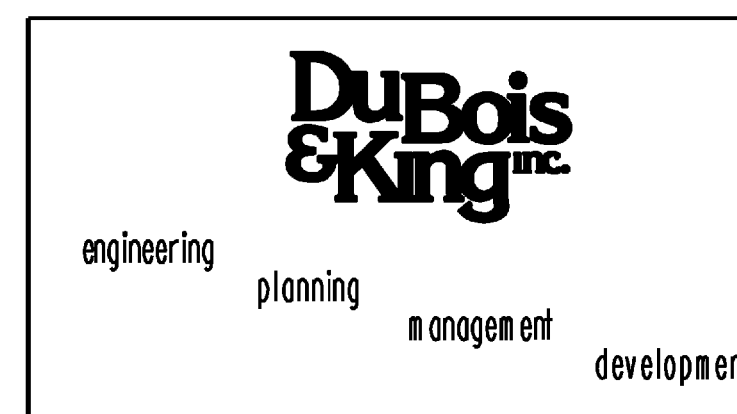
**TH NO. 1 OVER THE GIBON RIVER**

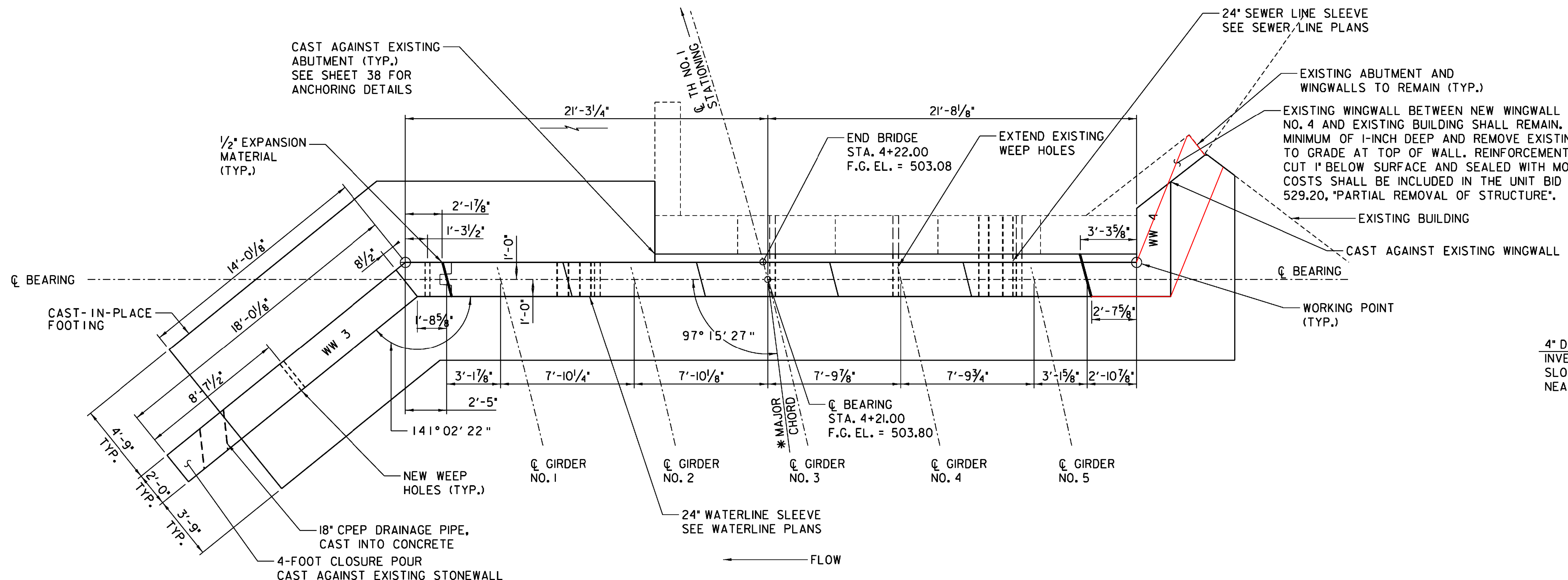
**ABUTMENT NO. 1 MODIFICATIONS**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372abl.dgn	D & K DWG NO.	

Bridge Sheet No.	Sheet 35 of 68
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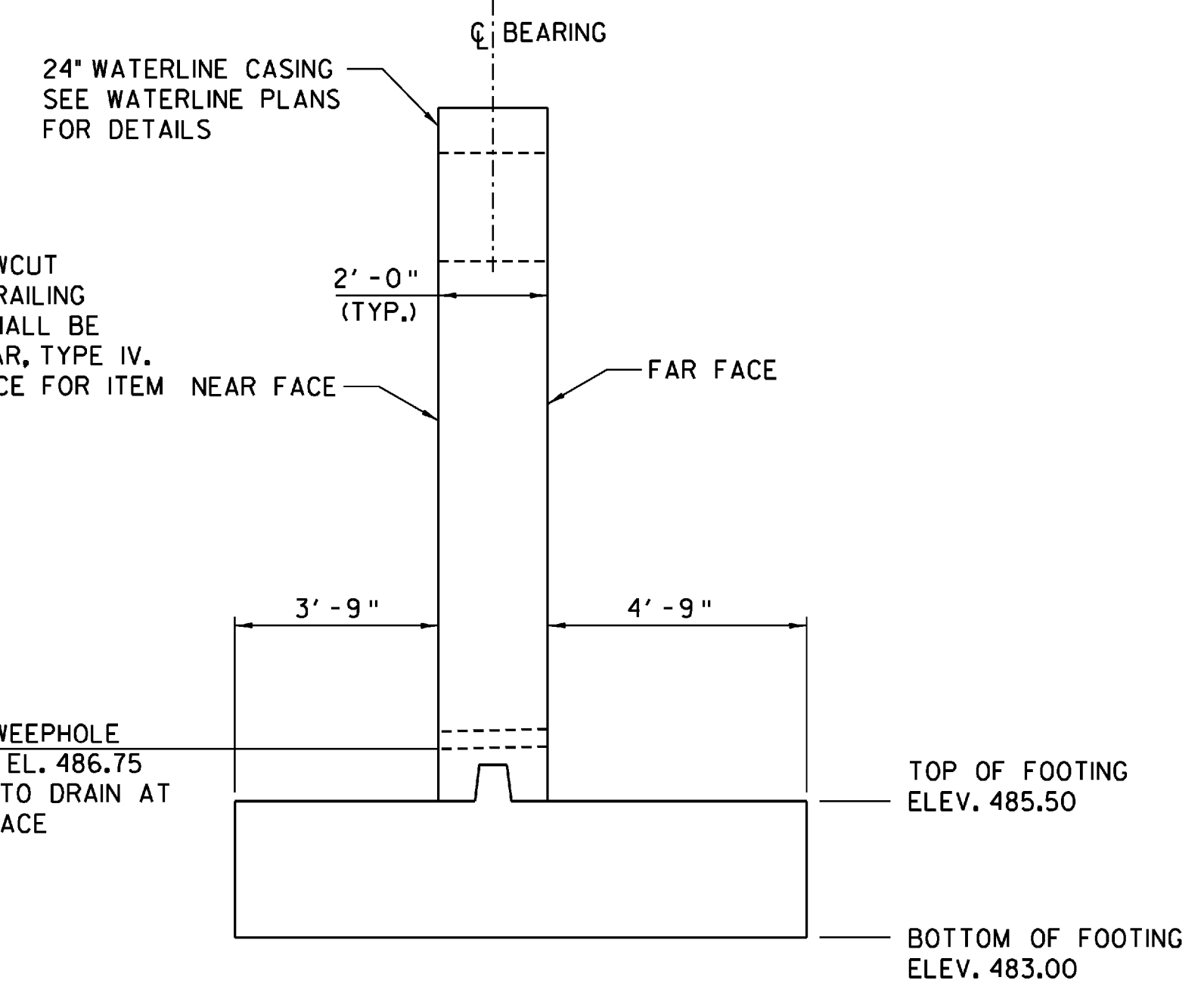




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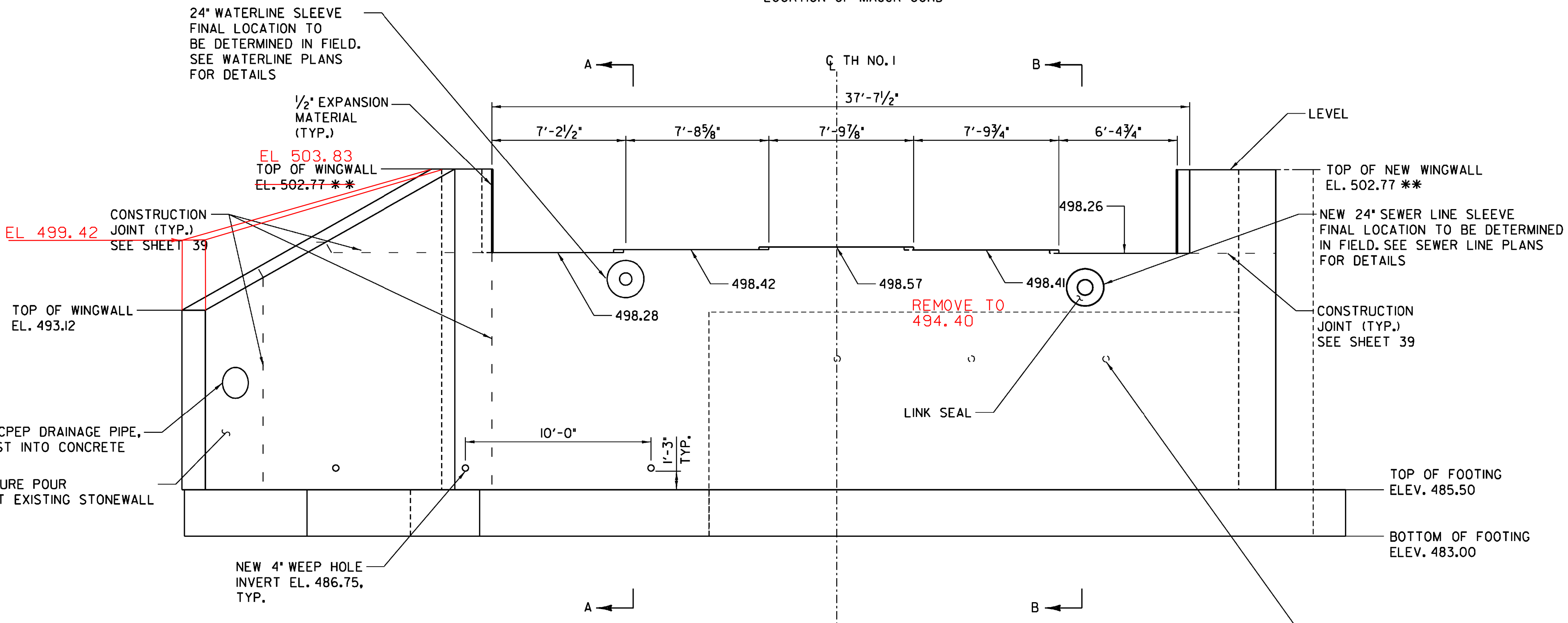
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\* SEE FRAMING PLAN FOR LOCATION OF MAJOR CORD



**SECTION A-A**

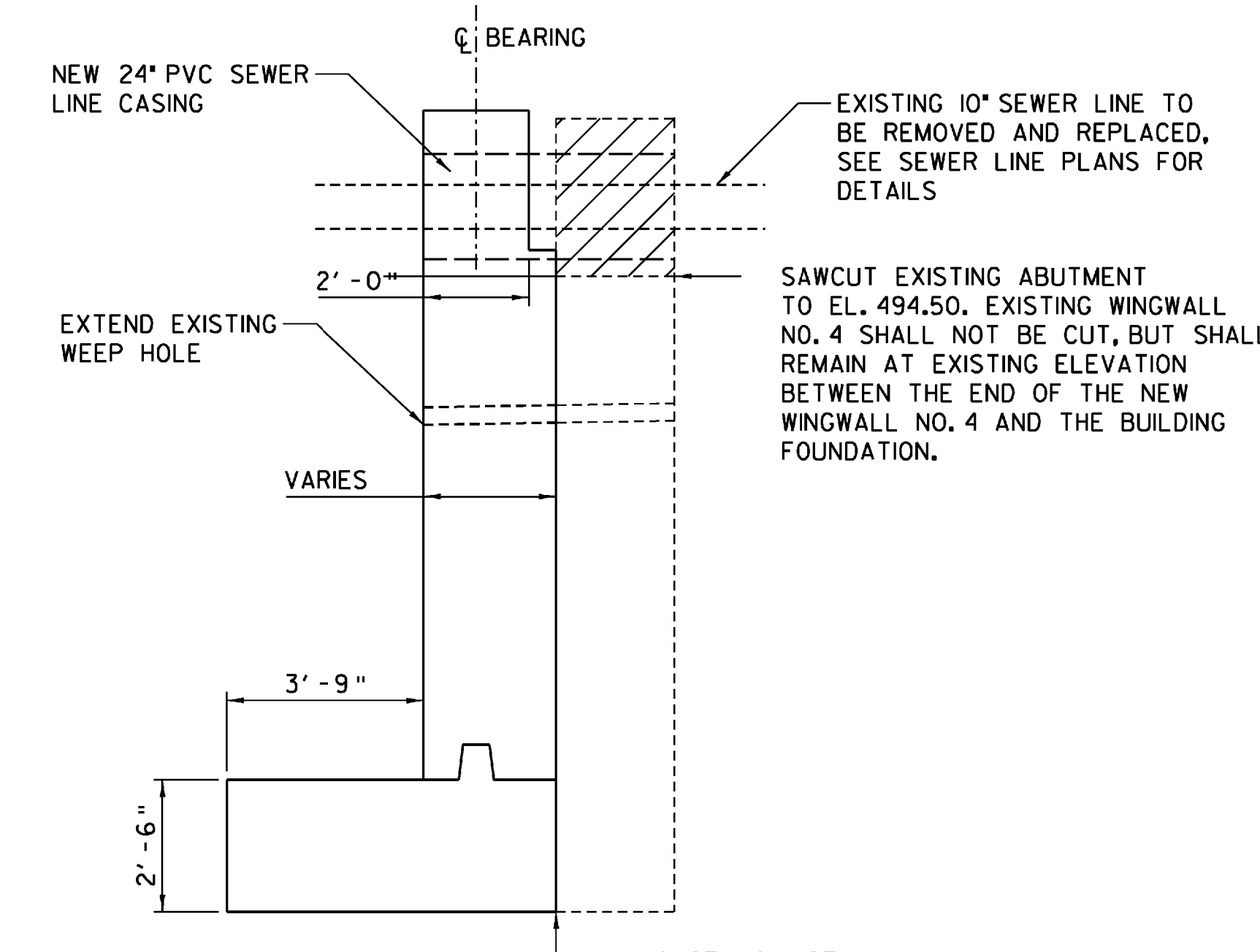
SCALE: 3/8" = 1'-0"



**ABUTMENT NO. 2 - ELEVATION**

SCALE: 1/4" = 1'-0"

\*\* PROPOSED TOP OF WINGWALL ELEVATION TO BE AT THE DECK JOINT (SCORE MARK) AND VERIFIED IN THE FIELD



**SECTION B-B**

SCALE: 3/8" = 1'-0"

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

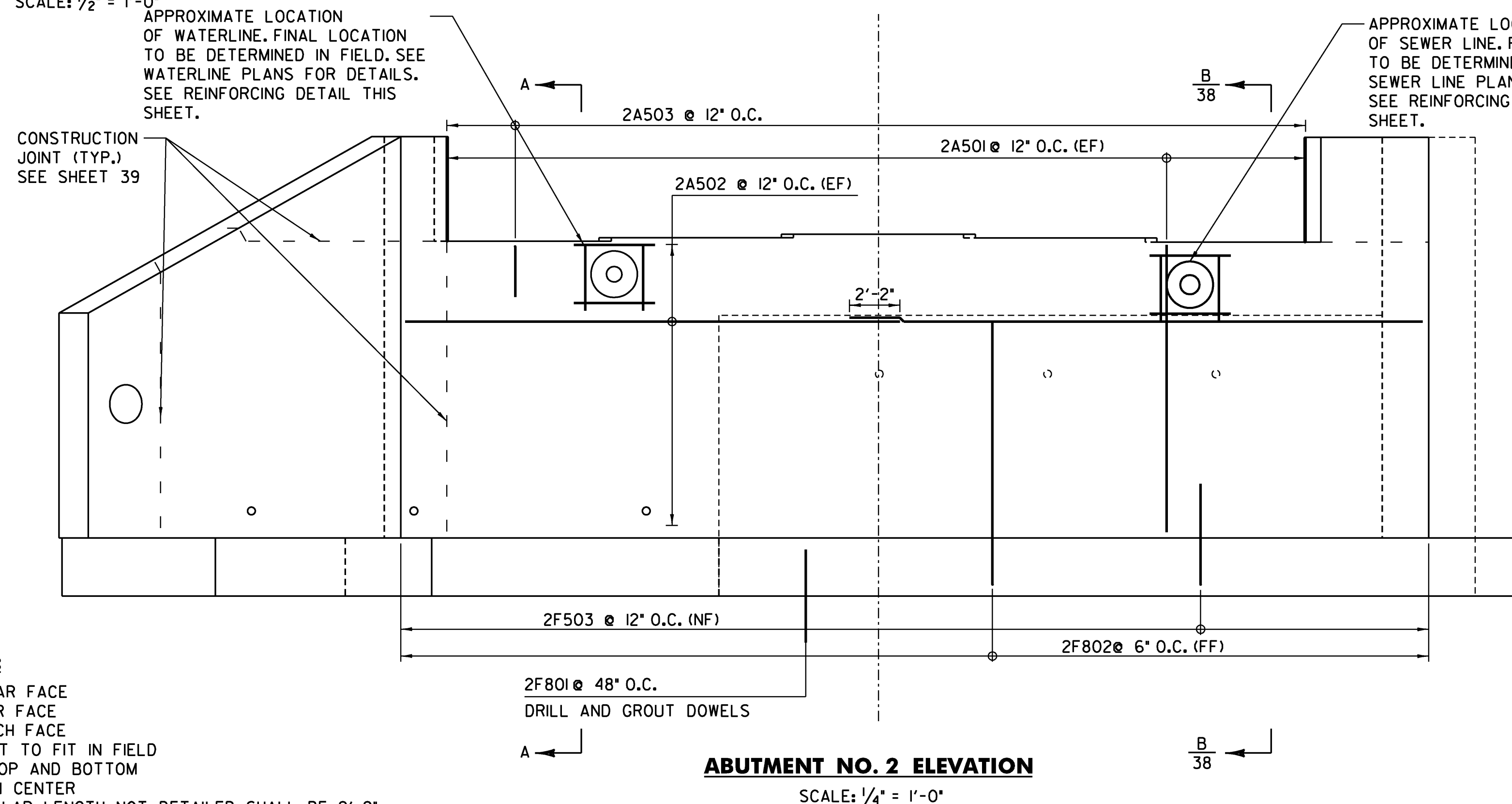
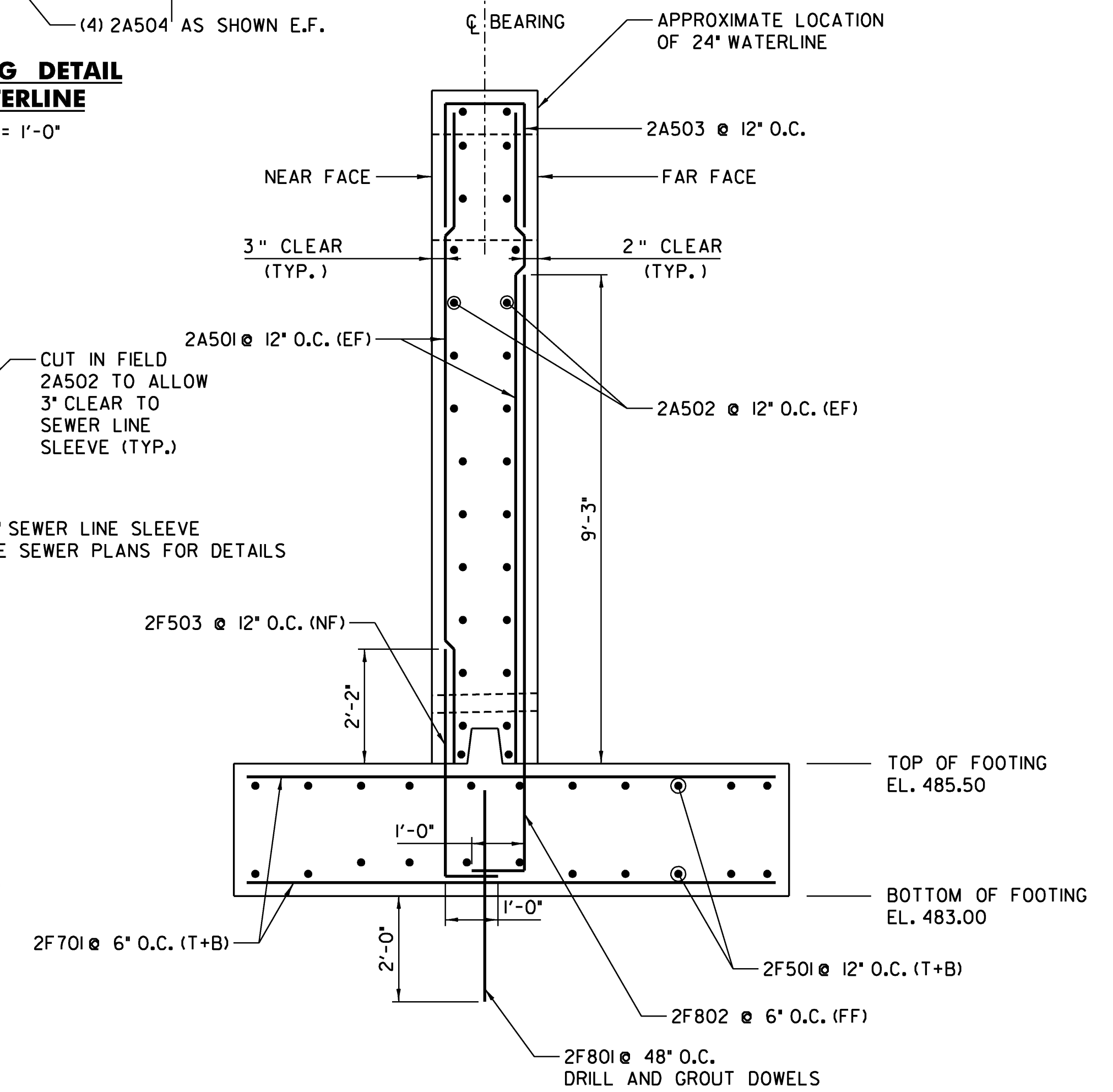
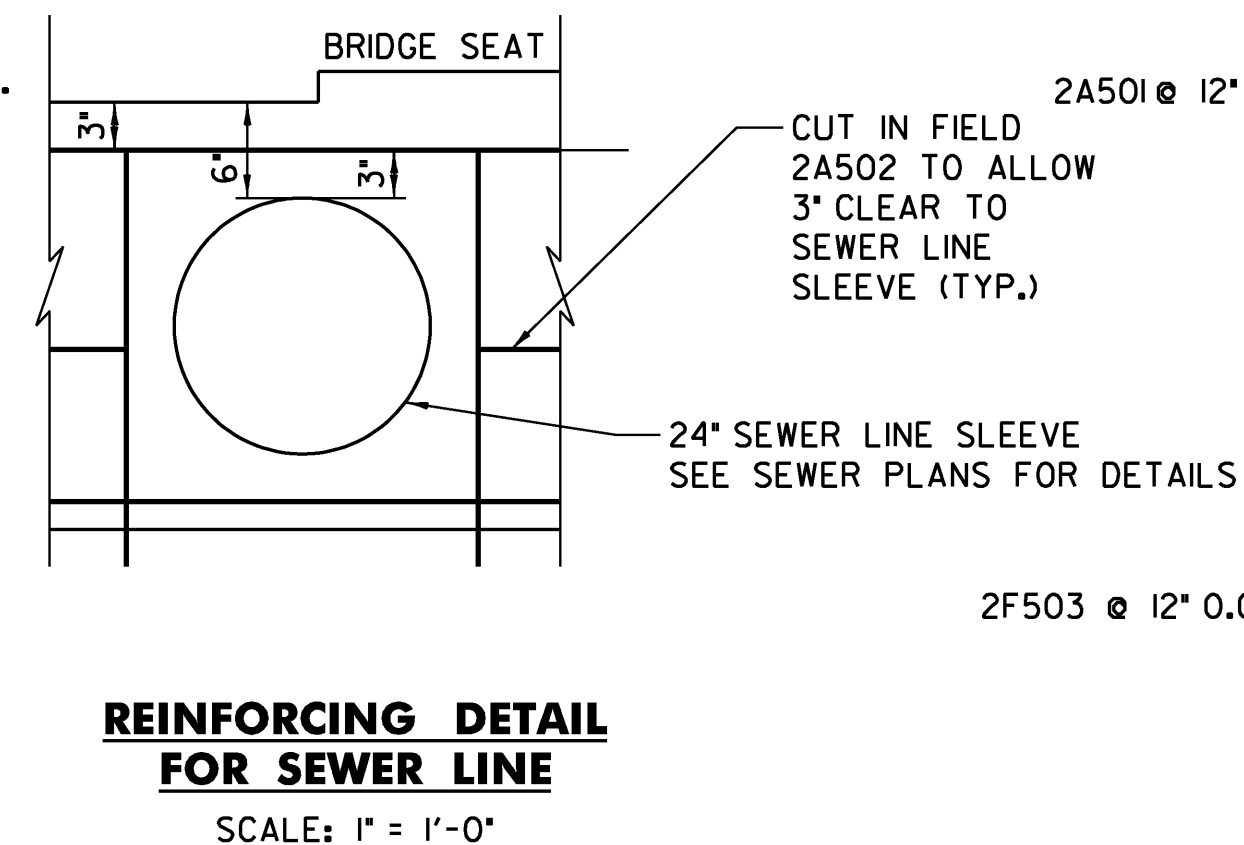
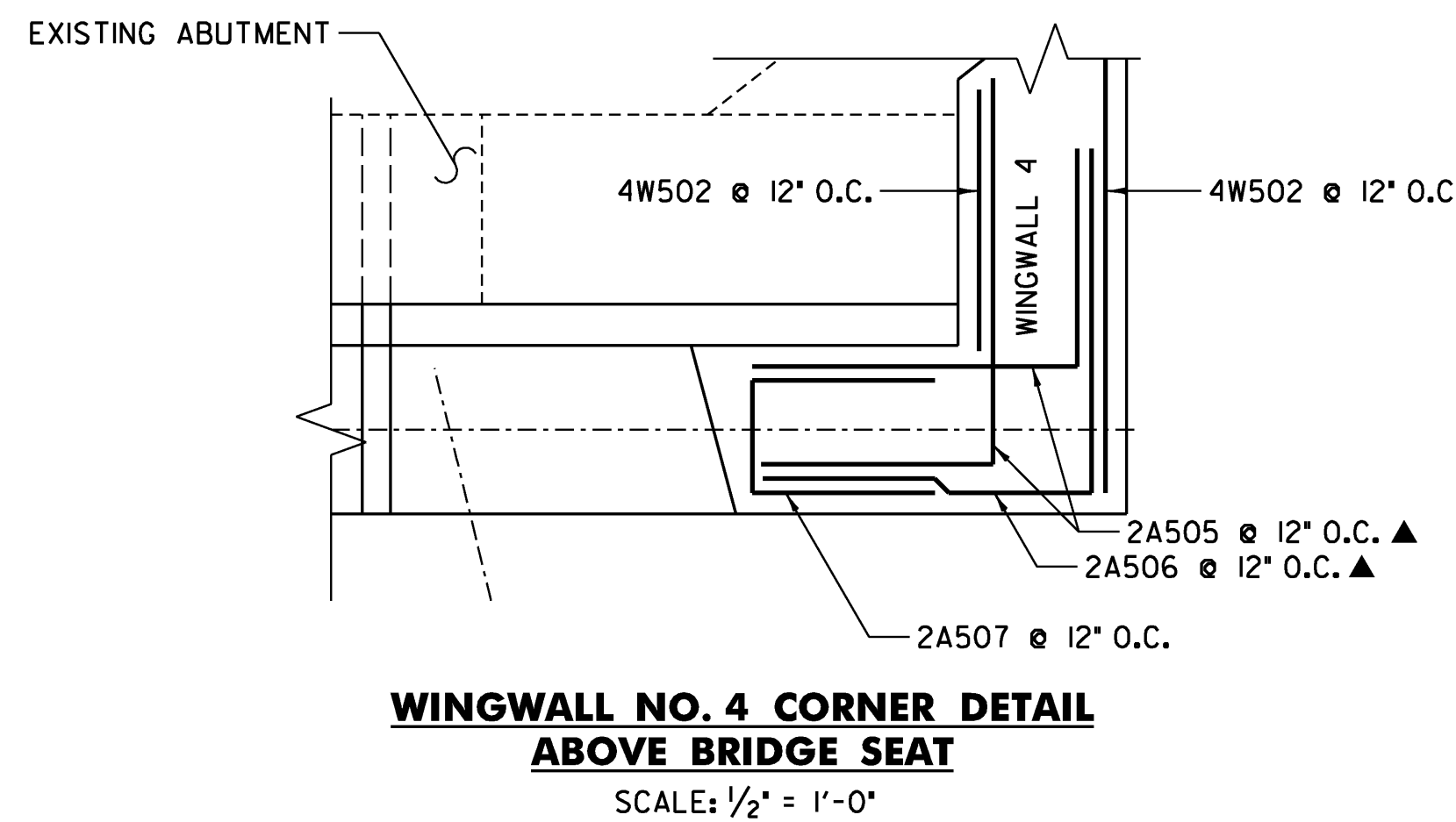
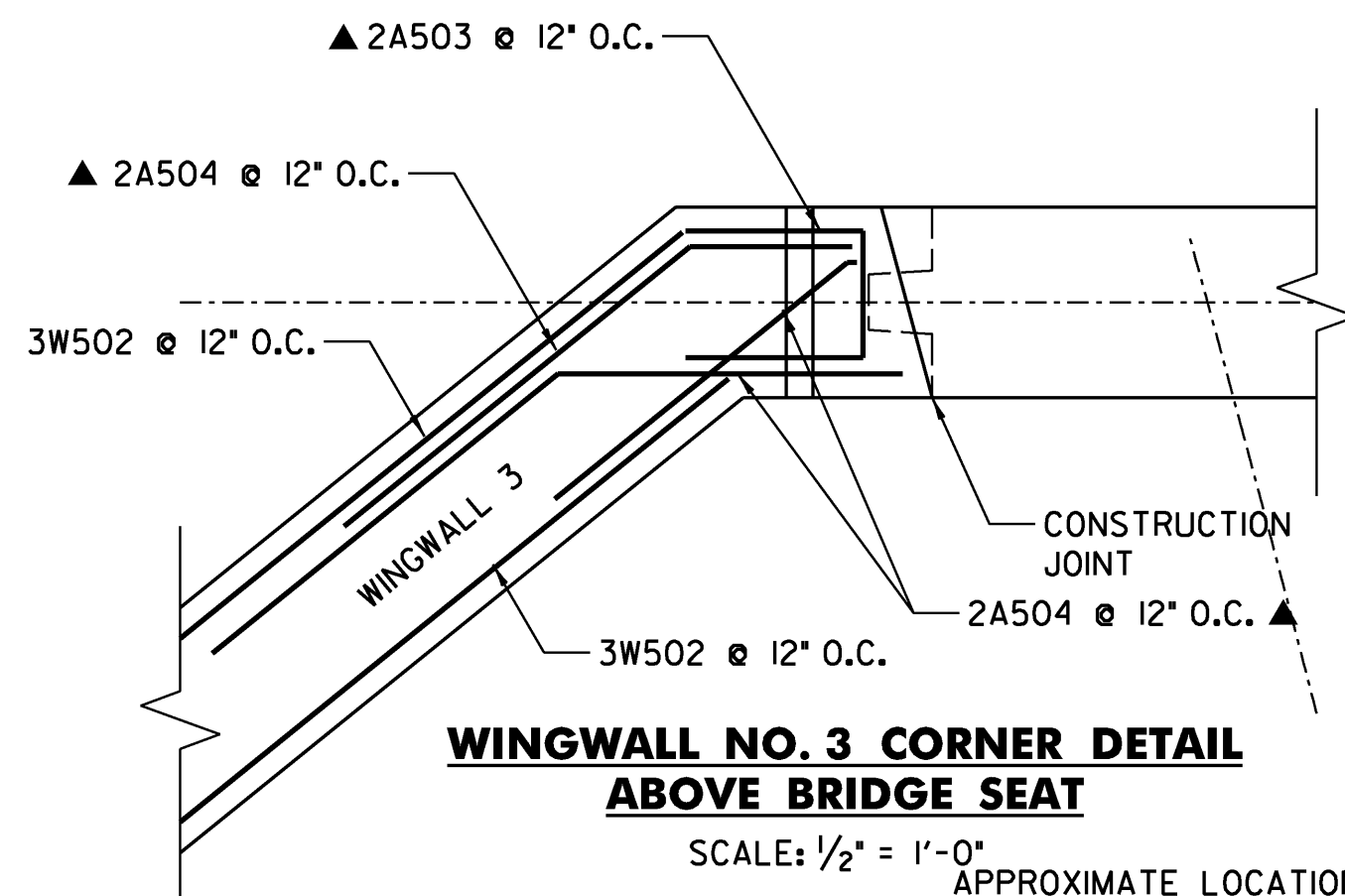
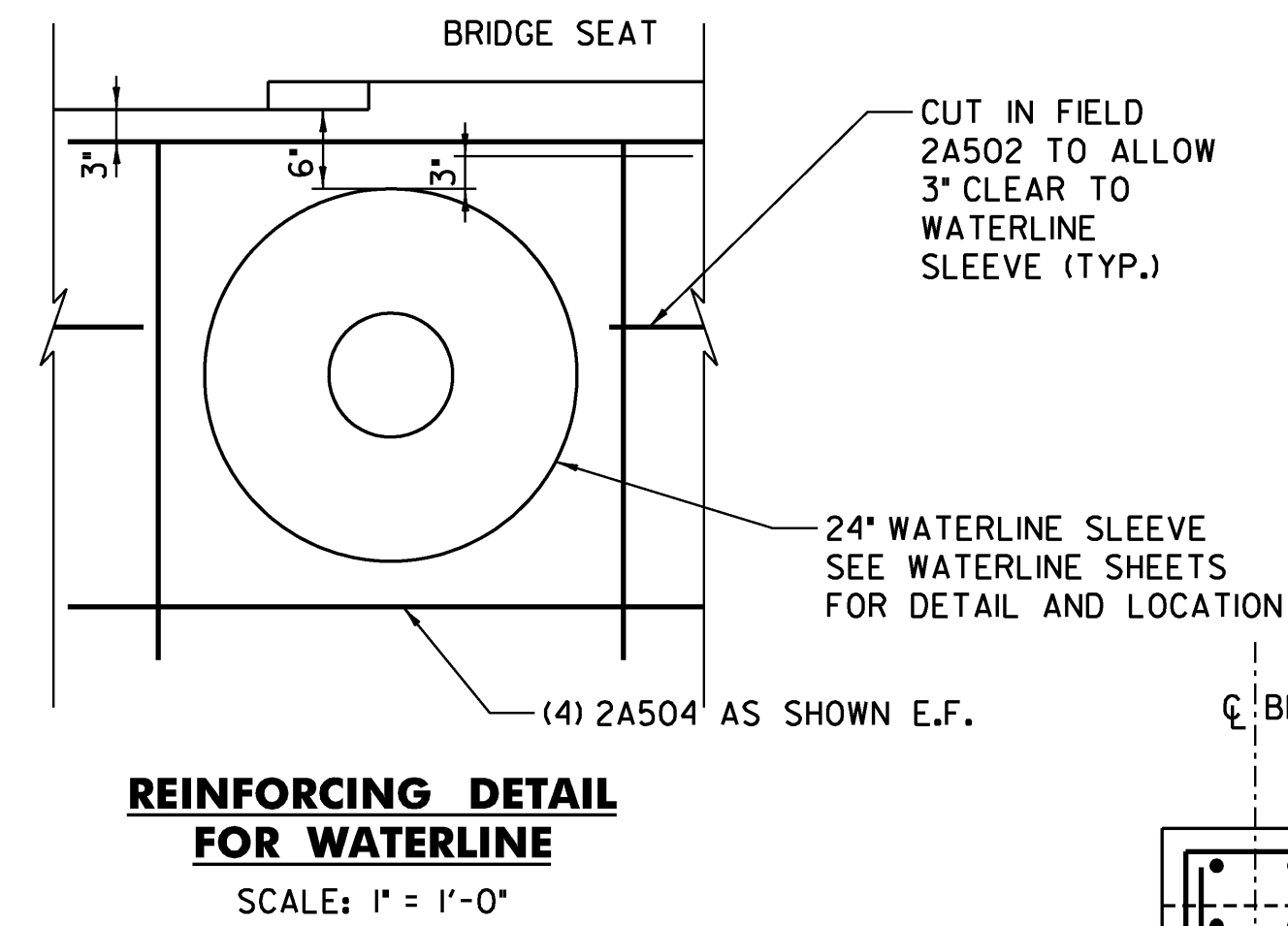
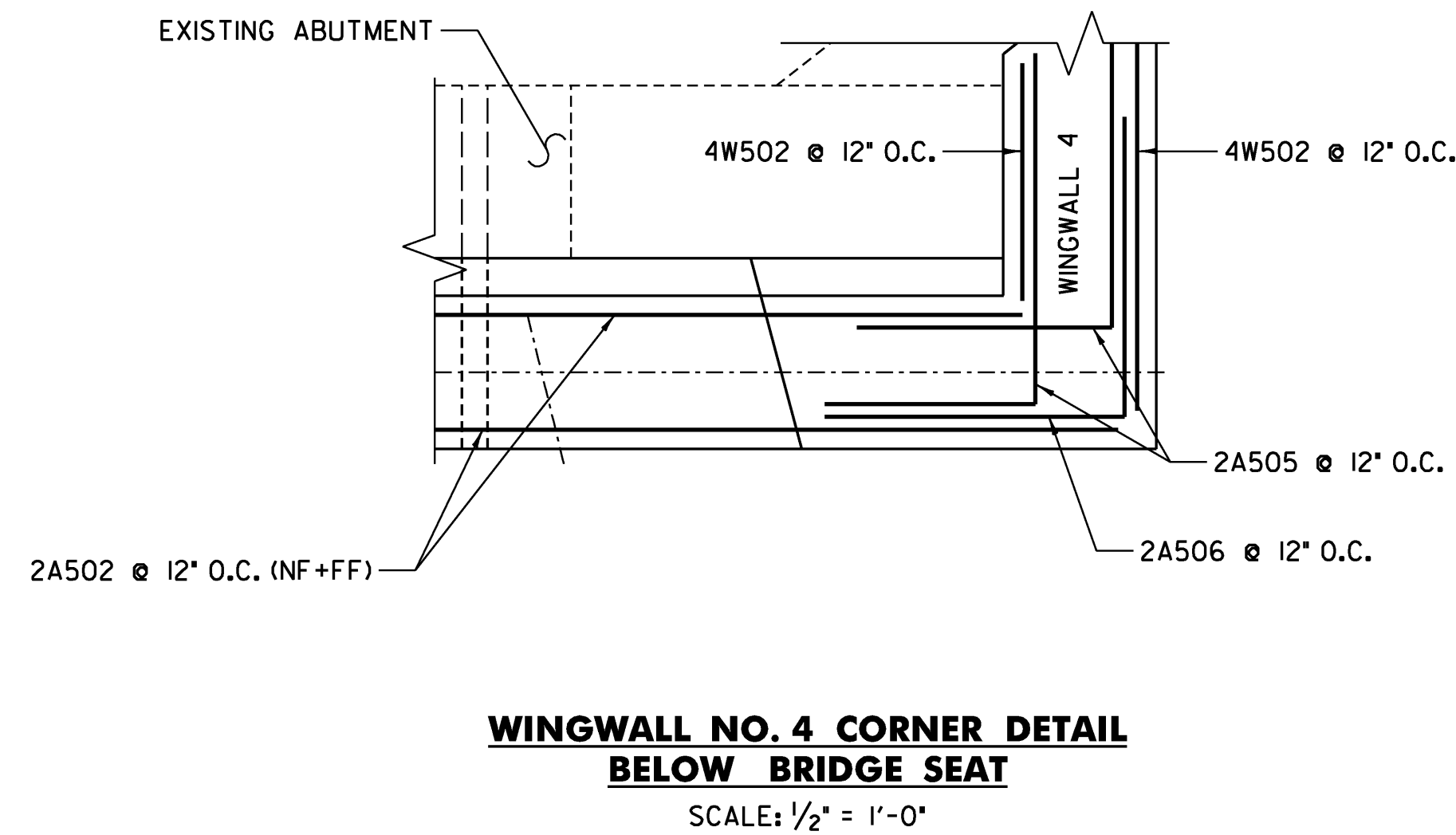
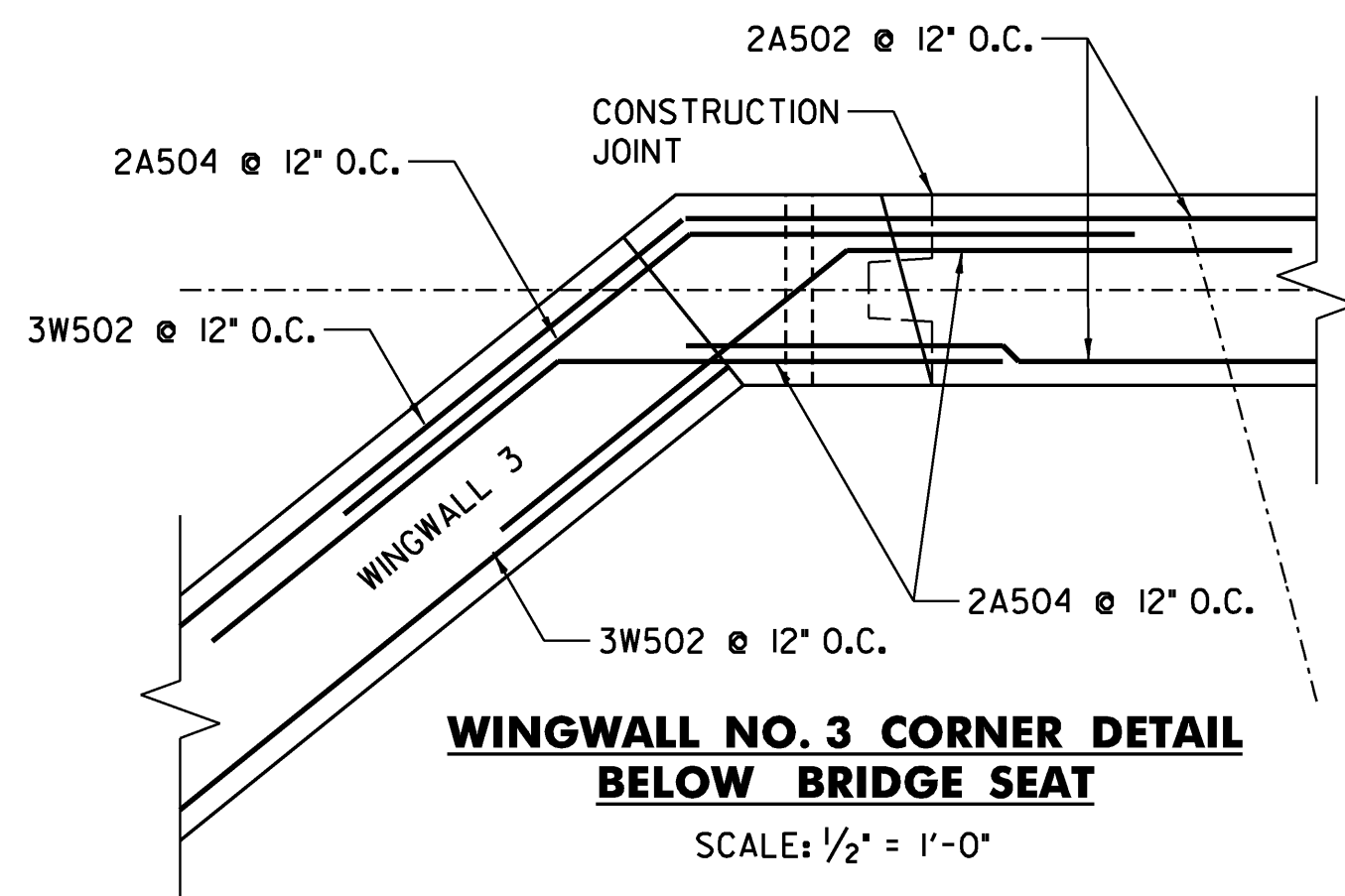
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
ABUTMENT NO. 2 MASONRY**

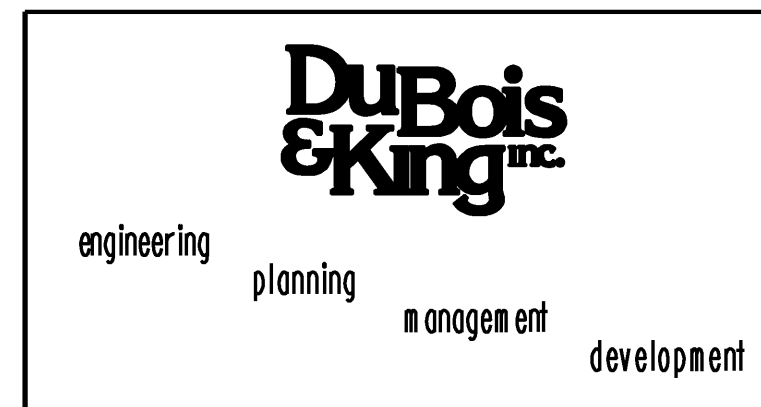
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	
		Date	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372ab2.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	36 of 68

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PLOTTED 2/18/2009



**NOTES:**  
 NF = NEAR FACE  
 FF = FAR FACE  
 EF = EACH FACE  
 ▲ = CUT TO FIT IN FIELD  
 T+B = TOP AND BOTTOM  
 O.C. = ON CENTER  
 MINIMUM LAP LENGTH NOT DETAILED SHALL BE 2'-2"



PLOTTED 2/10/2009

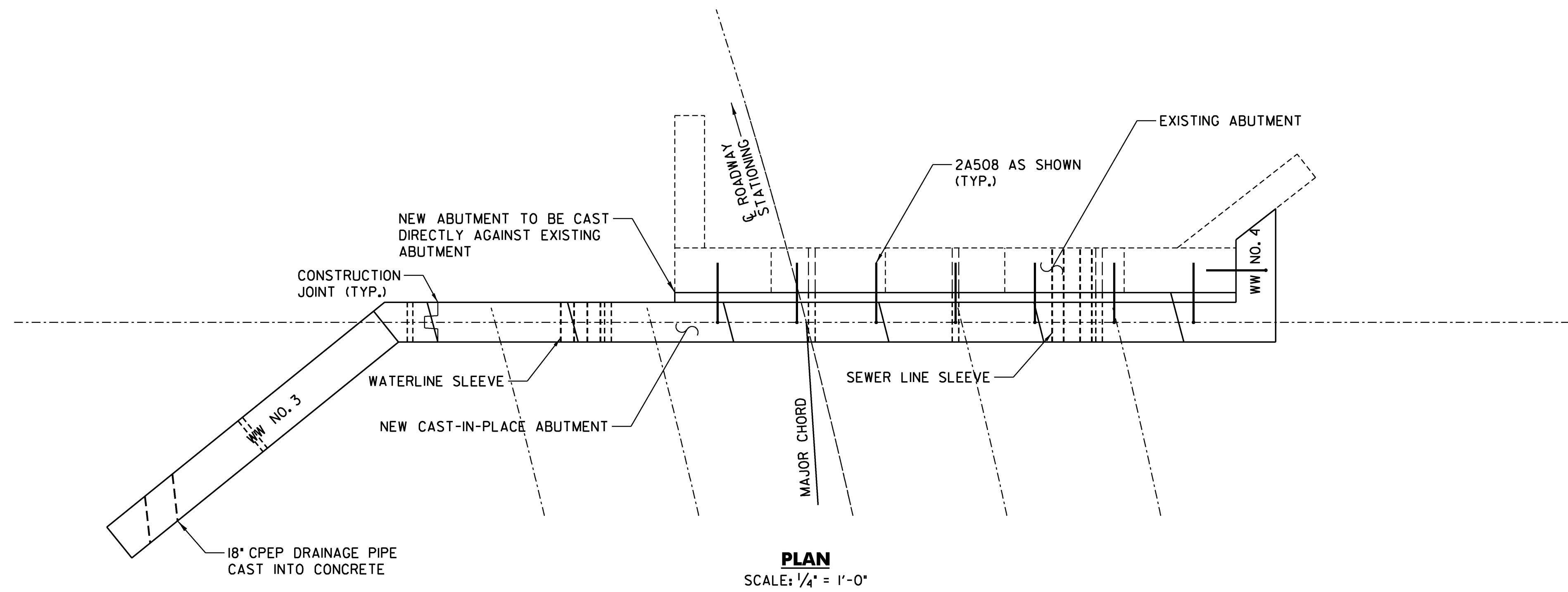
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

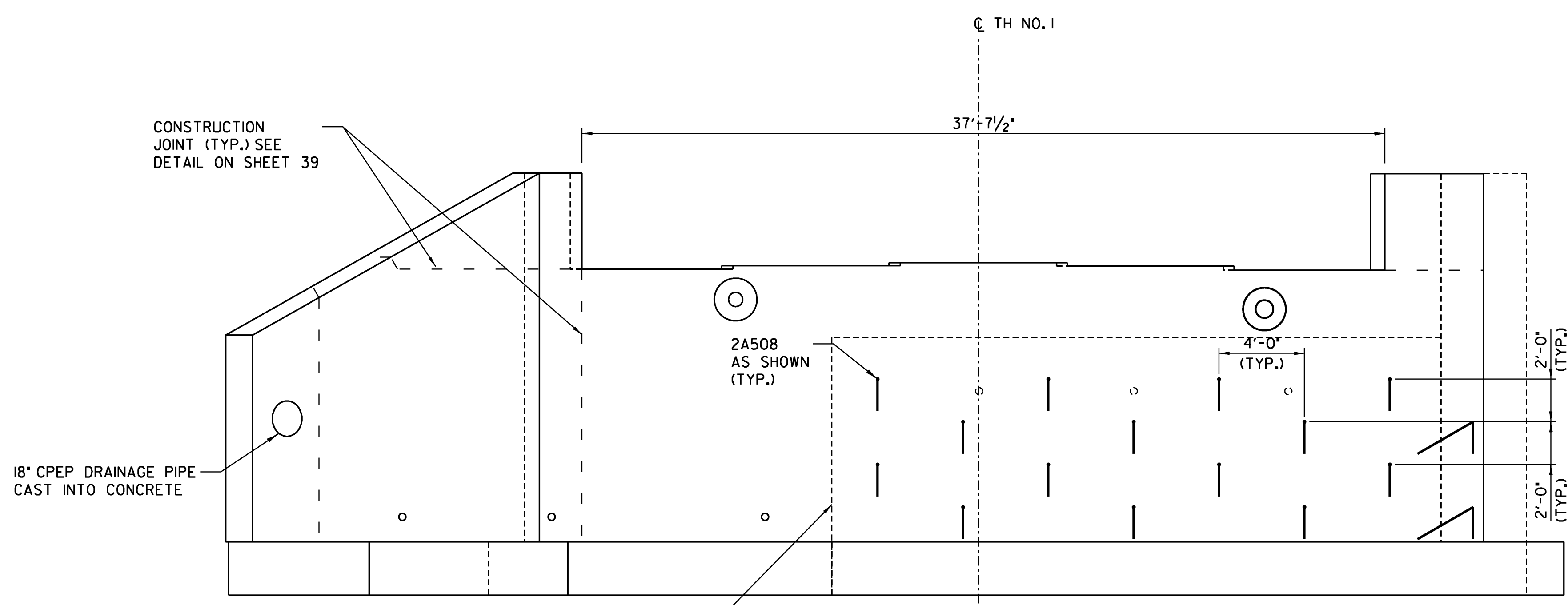
**TH NO. 1 OVER THE GIHON RIVER**

**ABUTMENT NO. 2 REINFORCEMENT**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372ab2.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	37 of 68

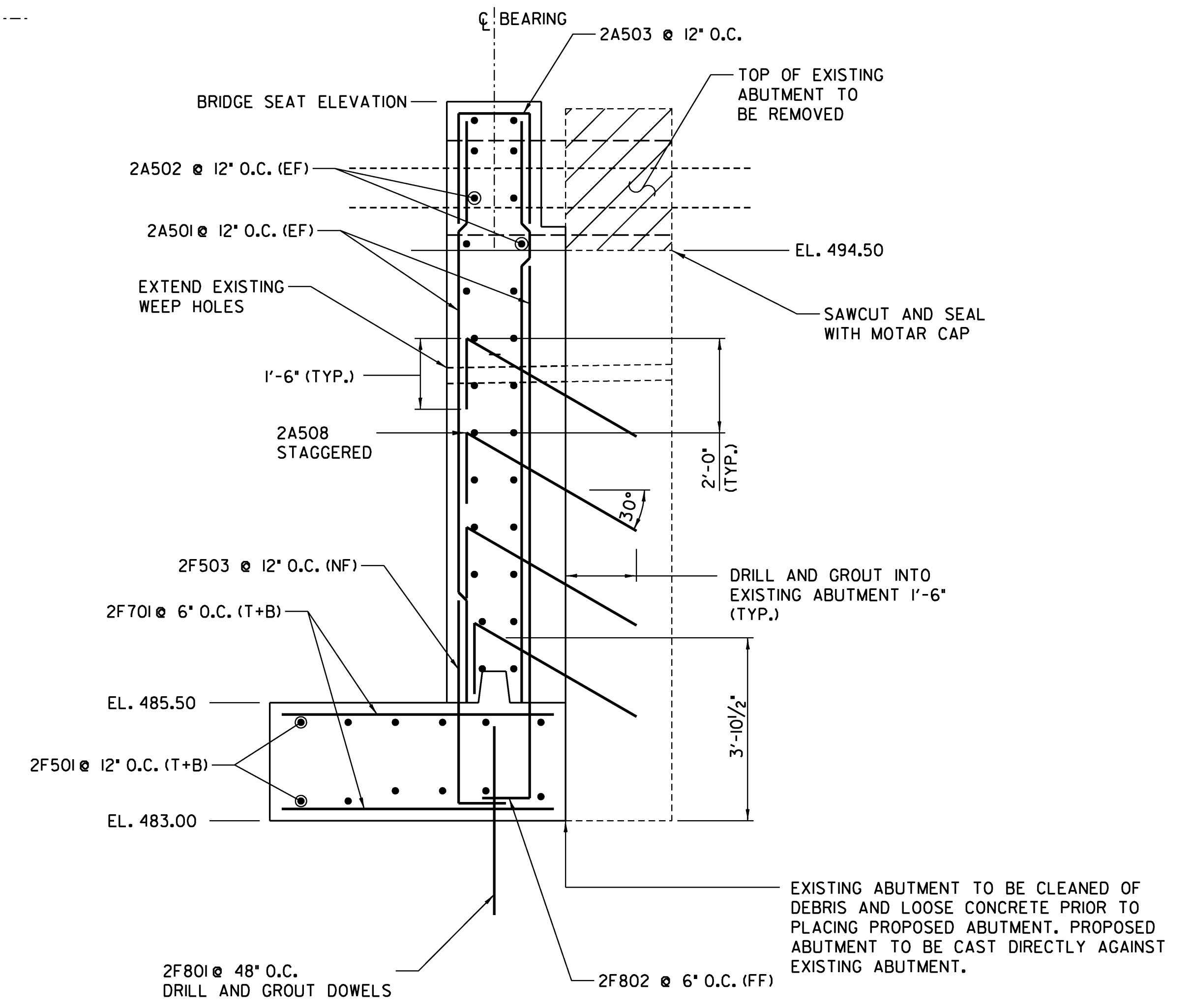


**PLAN**  
SCALE: 1/4" = 1'-0"



**ELEVATION**

**ABUTMENT NO. 2 - ANCHOR DETAIL**  
SCALE: 1/4" = 1'-0"



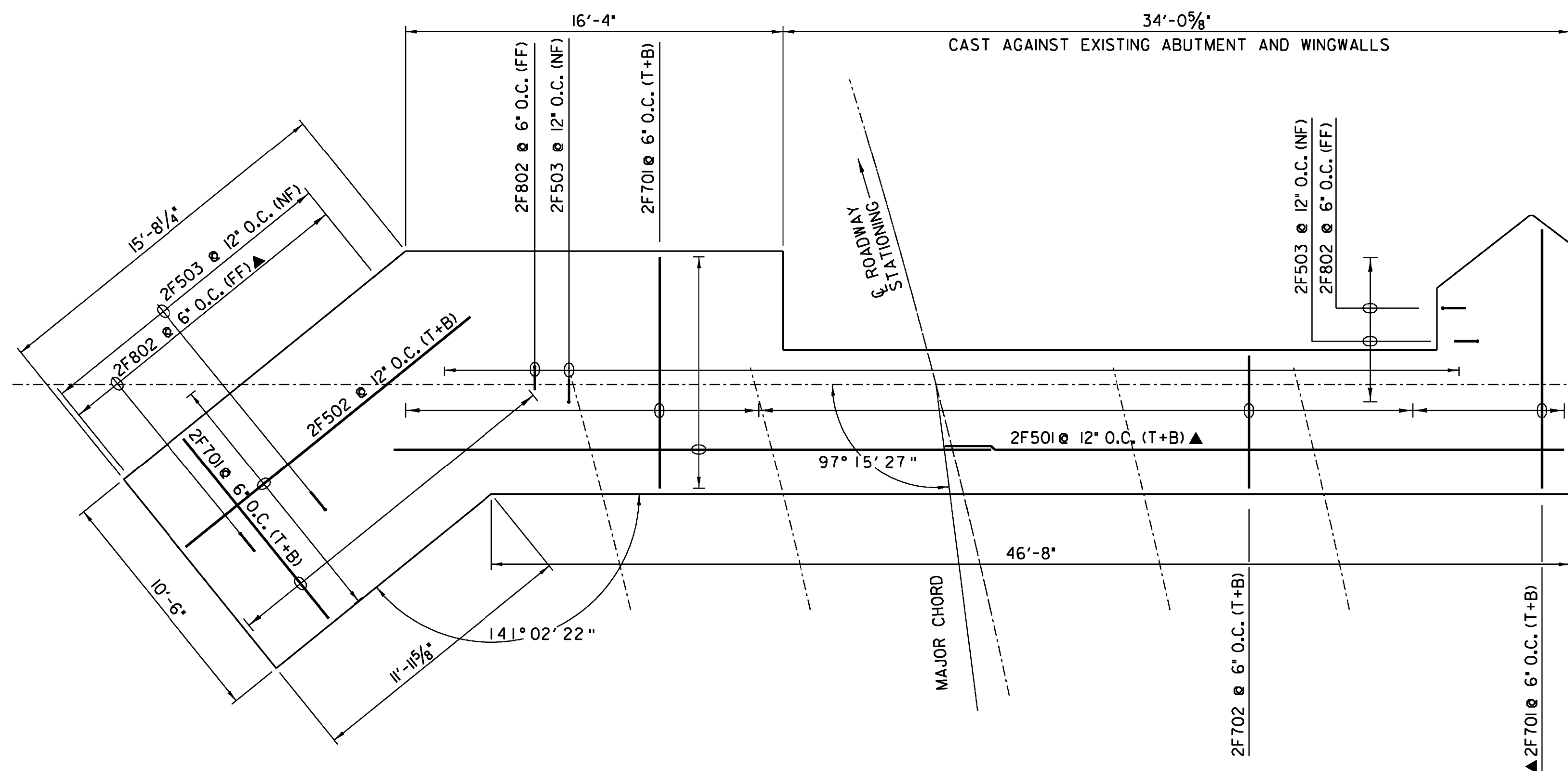
**SECTION B - B**  
SCALE: 1/2" = 1'-0"

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta. Surv. Sta.
<b>TH NO. 1 OVER THE GIBON RIVER</b>		
<b>ABUTMENT NO. 2 DETAILS</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	J. W. TUCKER	Bridge Design Supervisor
Date	2/09	Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372fwd.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 38 of 68

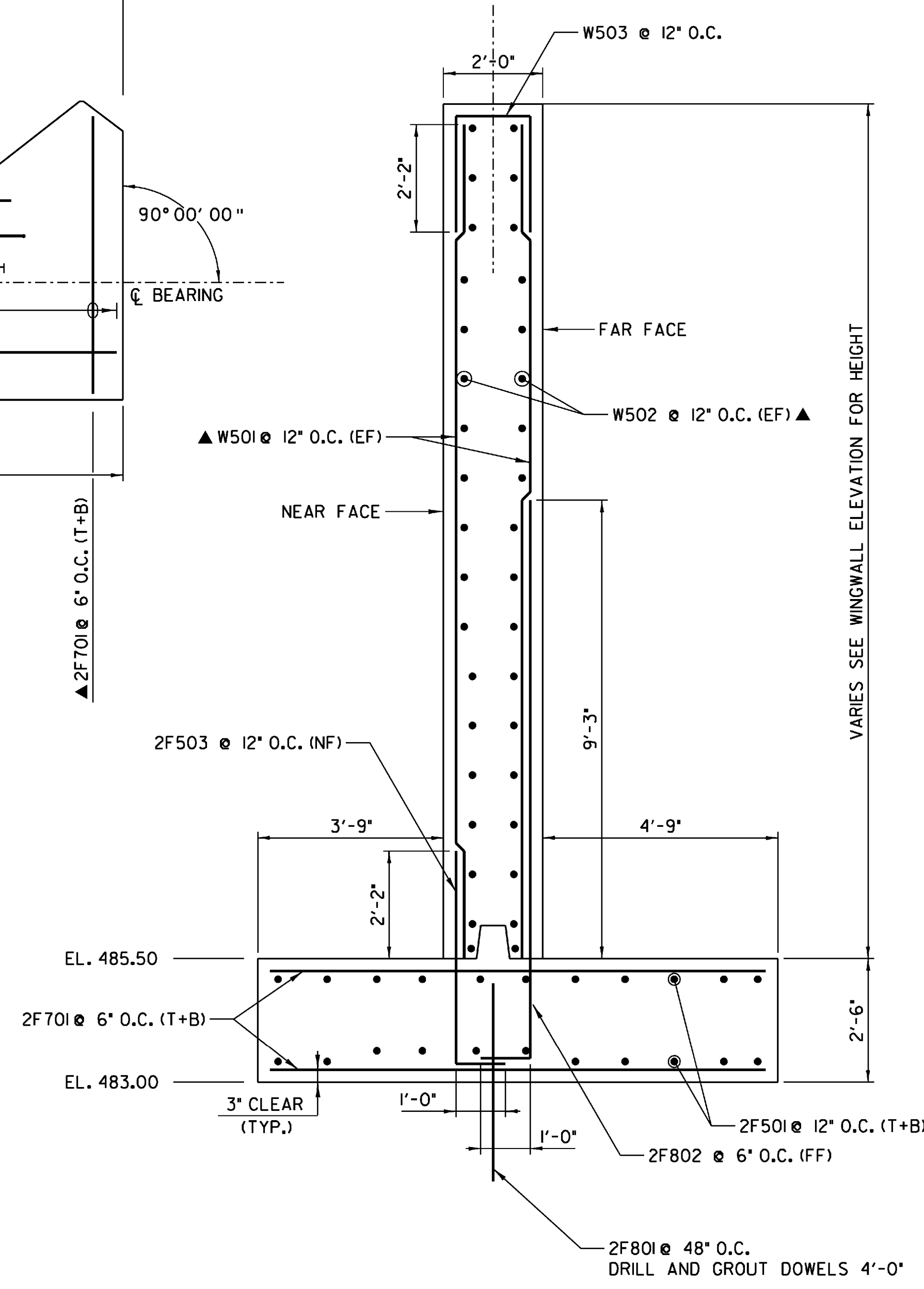
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PLOTTED 2/10/2009

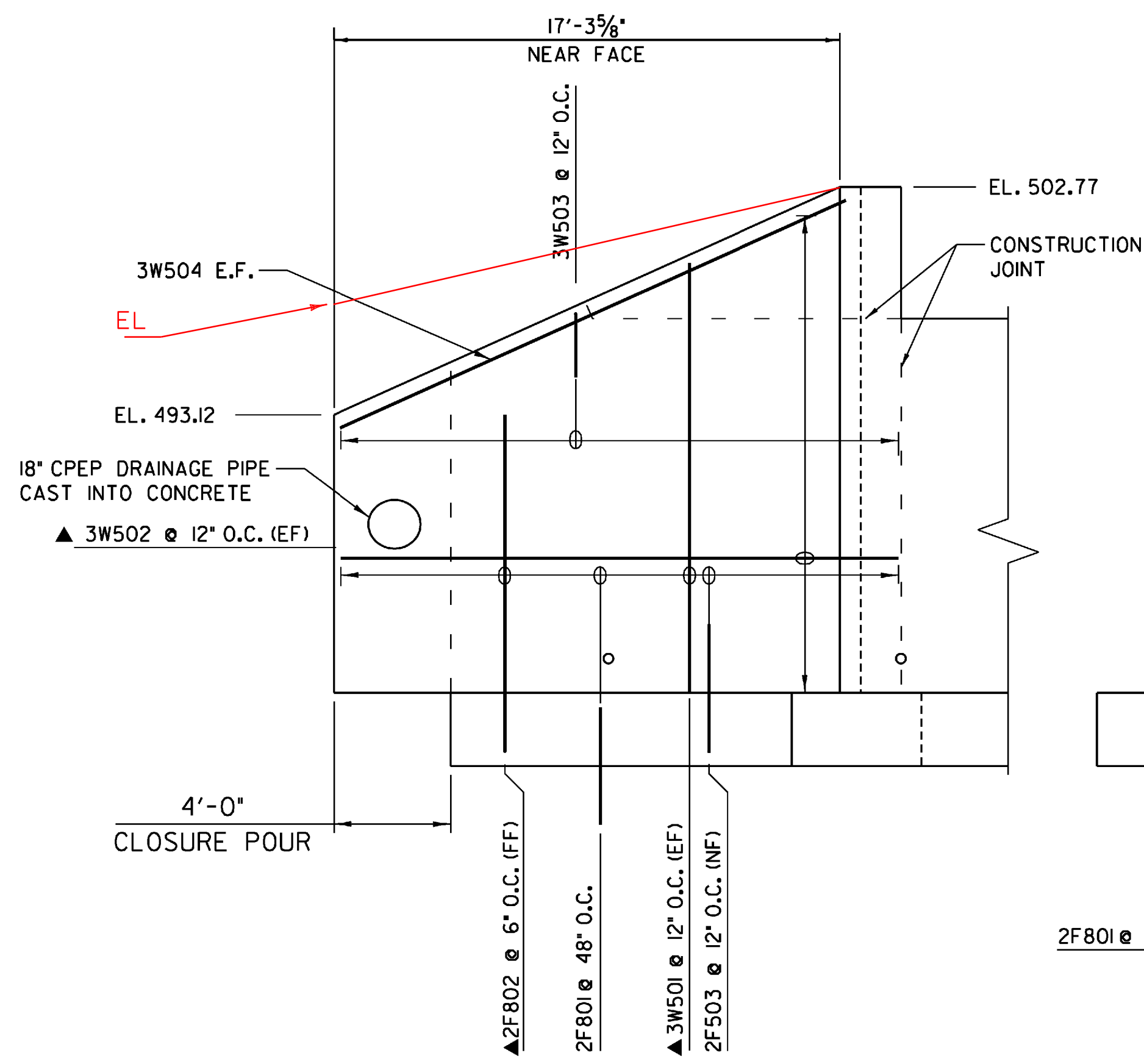


**FOOTING PLAN**  
SCALE: 1/4" = 1'-0"

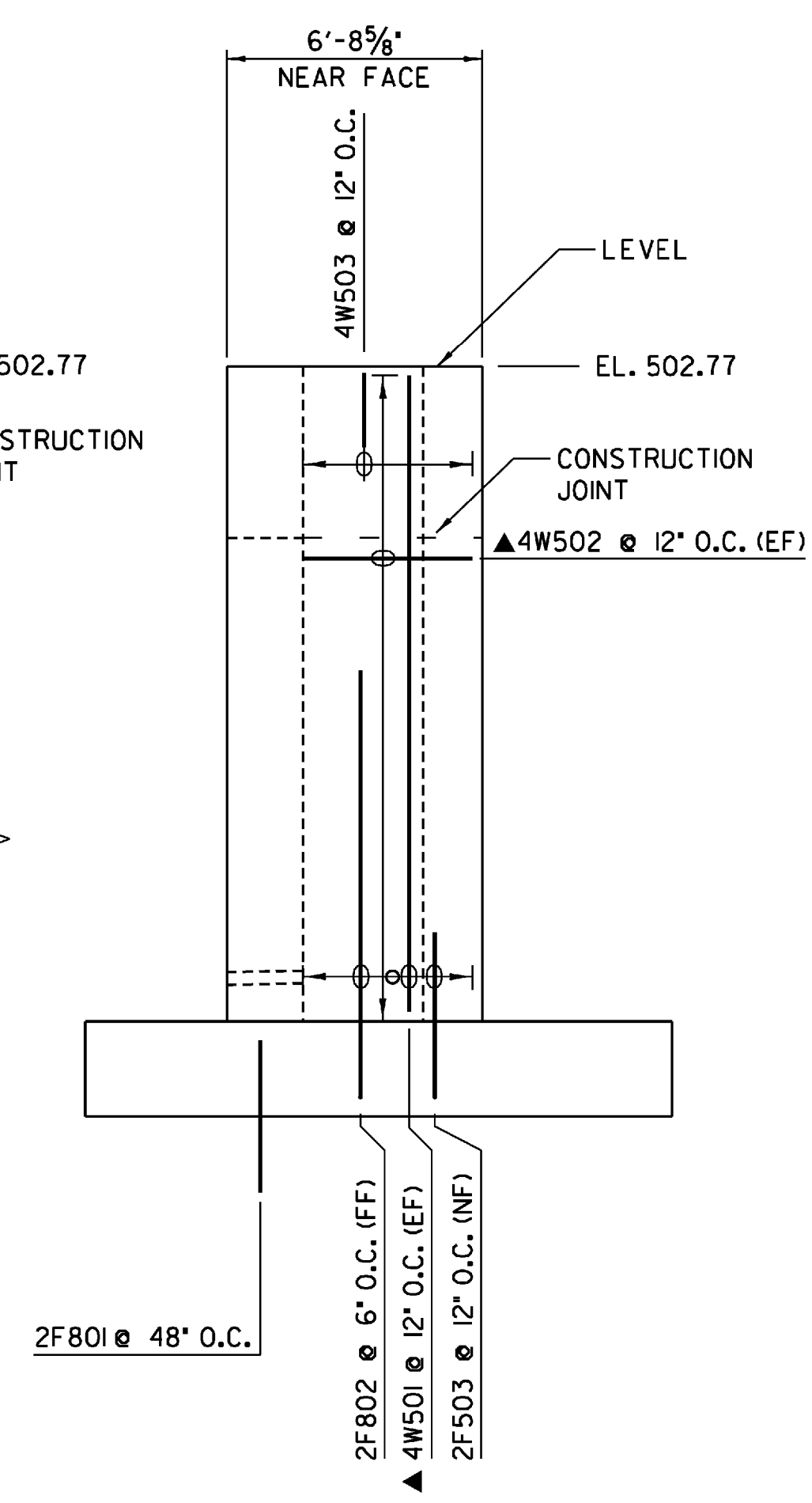


**TYPICAL WINGWALL SECTION**  
SCALE: 1/2" = 1'-0"

- NOTES:**  
 NF = NEAR FACE  
 FF = FAR FACE  
 EF = EACH FACE  
 ▲ = CUT TO FIT IN FIELD  
 T+B = TOP AND BOTTOM  
 O.C. = ON CENTER  
 MINIMUM LAP LENGTH NOT DETAILED SHALL BE 2'-2"



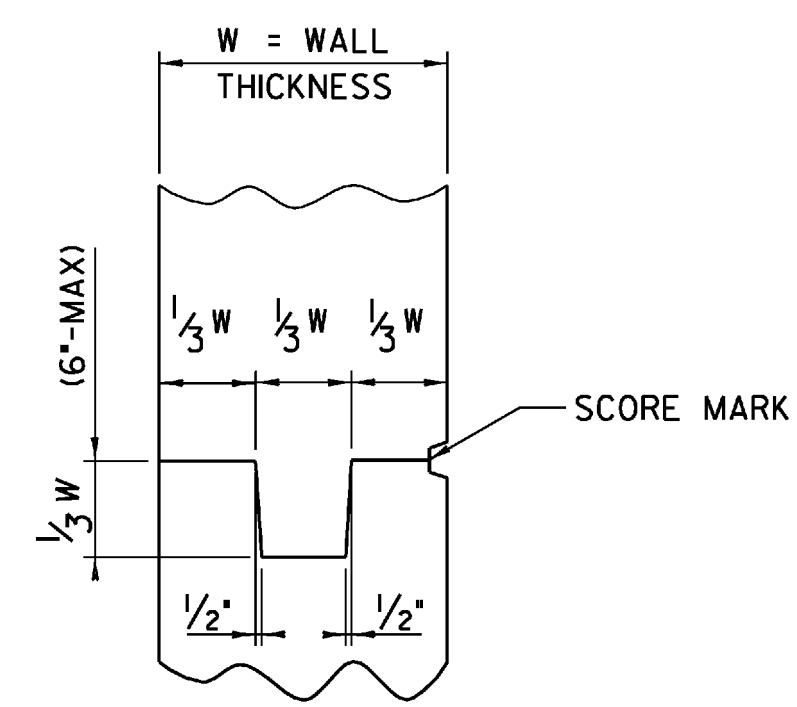
**WINGWALL NO. 3 ELEVATION**  
SCALE: 1/4" = 1'-0"



**WINGWALL NO. 4 ELEVATION**  
SCALE: 1/4" = 1'-0"



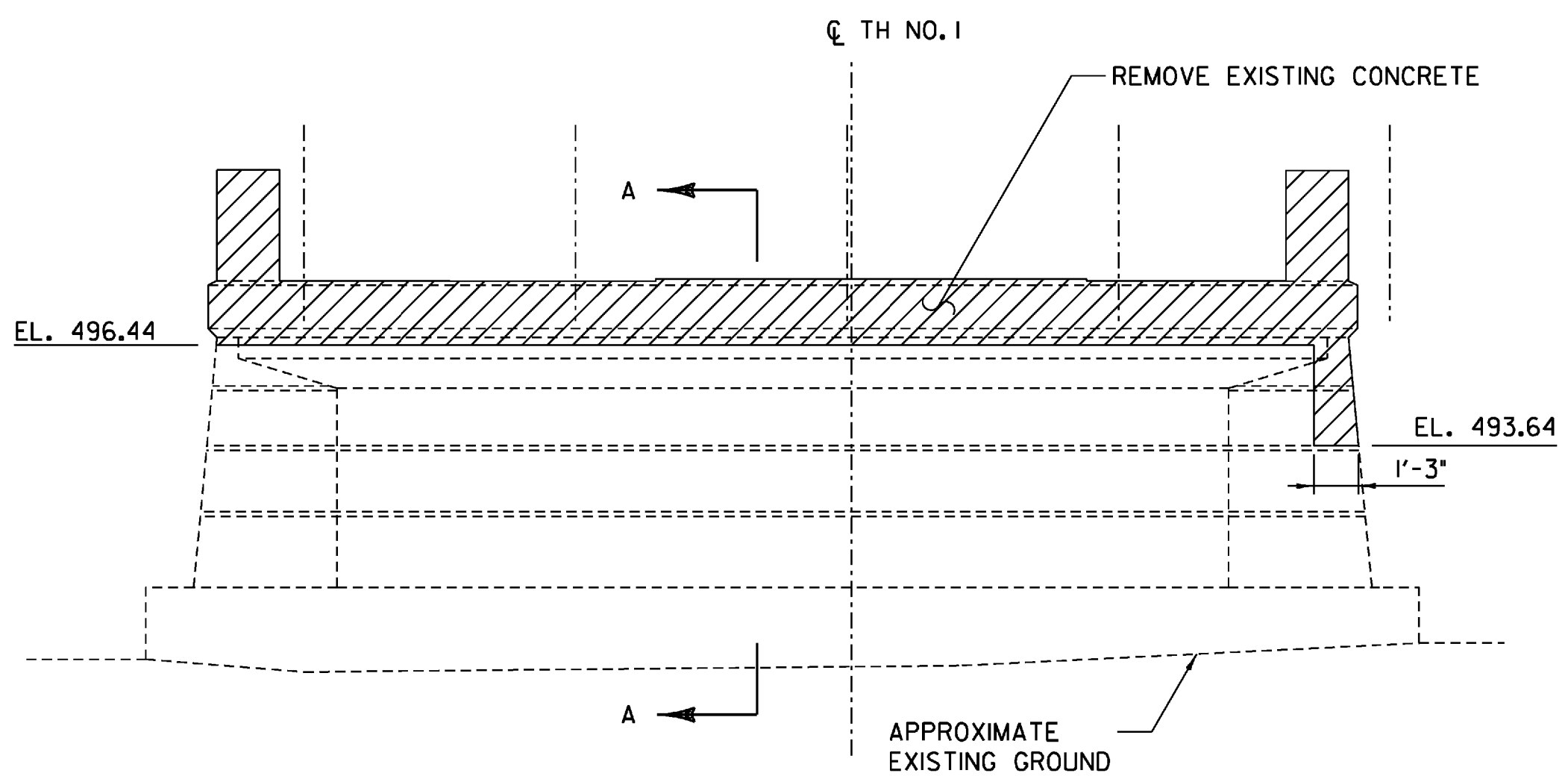
**WINGWALL HORIZONTAL CONSTRUCTION JOINT**  
NOT TO SCALE



**TYPICAL CONCRETE CONSTRUCTION JOINT**  
NOT TO SCALE

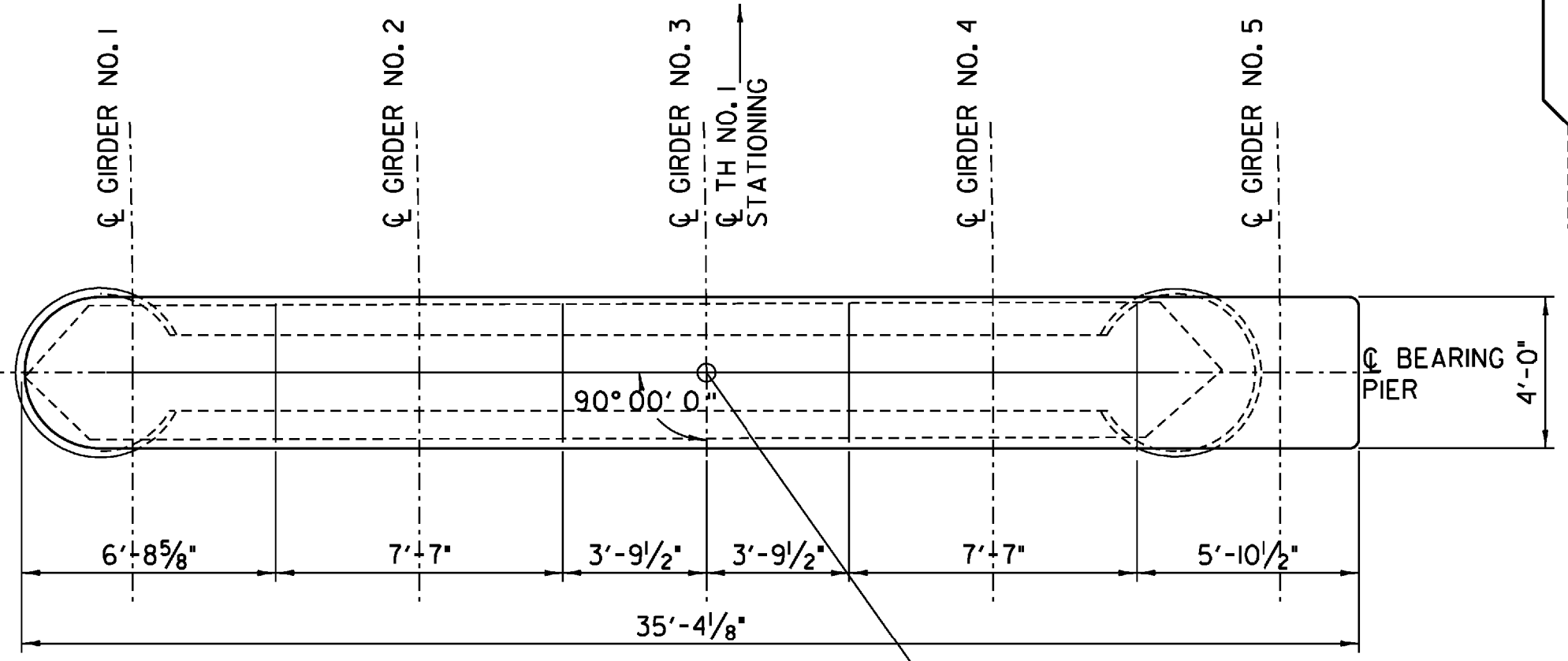
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<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>FOOTING AND WINGWALL DETAILS</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372fwd.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	39 of 68

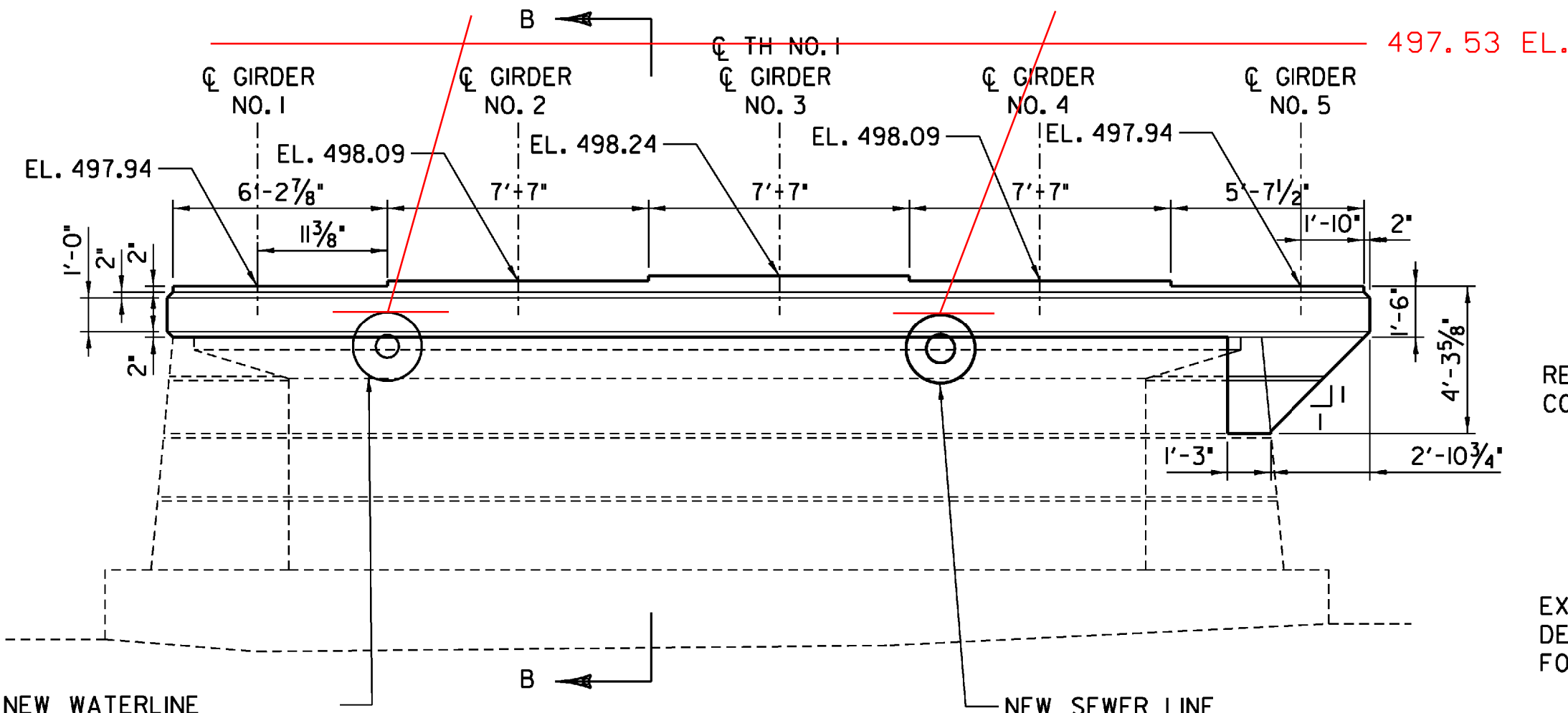


**ELEVATION - REMOVAL**  
SCALE: 1/4" = 1'-0"

SAWCUT EXISTING CONCRETE 1" MINIMUM AT REMOVAL LIMITS  
CONTRACTOR SHALL RETAIN EXISTING VERTICAL STEEL EXTENDING ABOVE CUT LINE

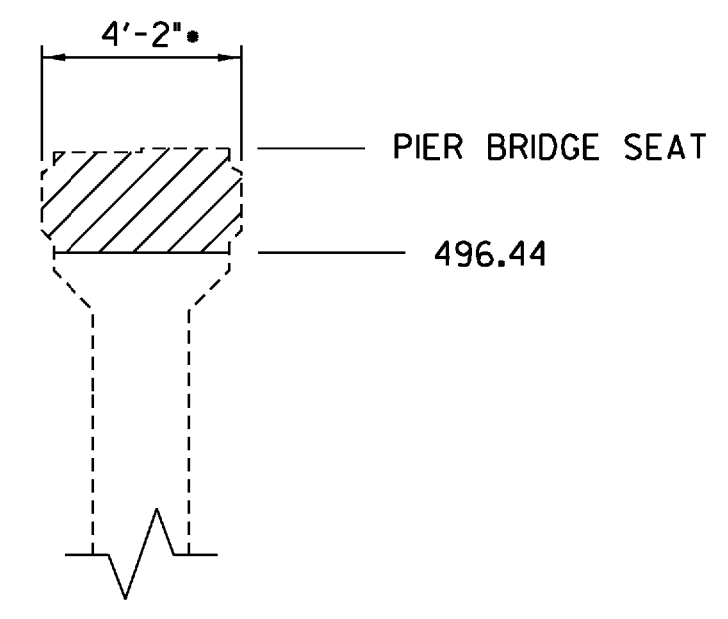


**PLAN - CONCRETE**  
SCALE: 1/4" = 1'-0"

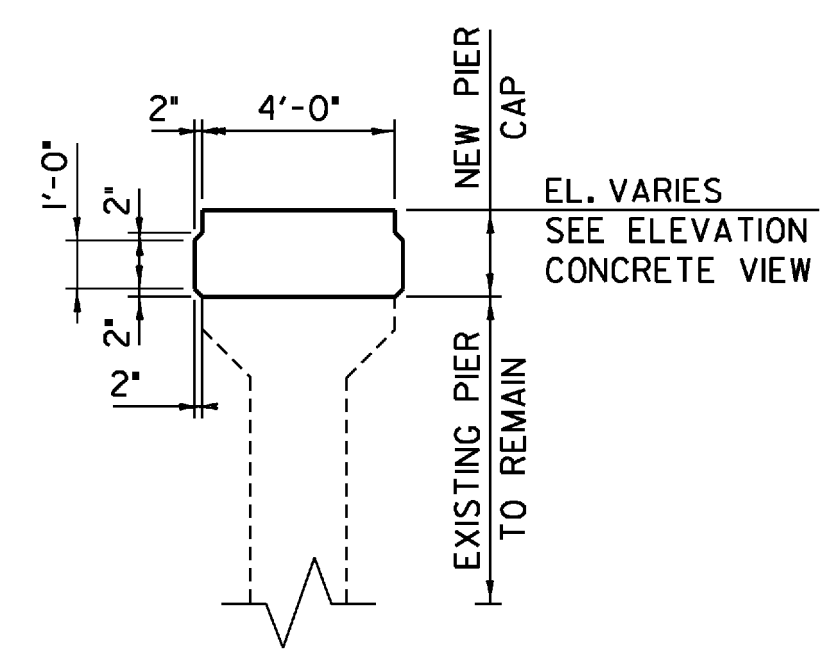


**ELEVATION - CONCRETE**  
SCALE: 1/4" = 1'-0"

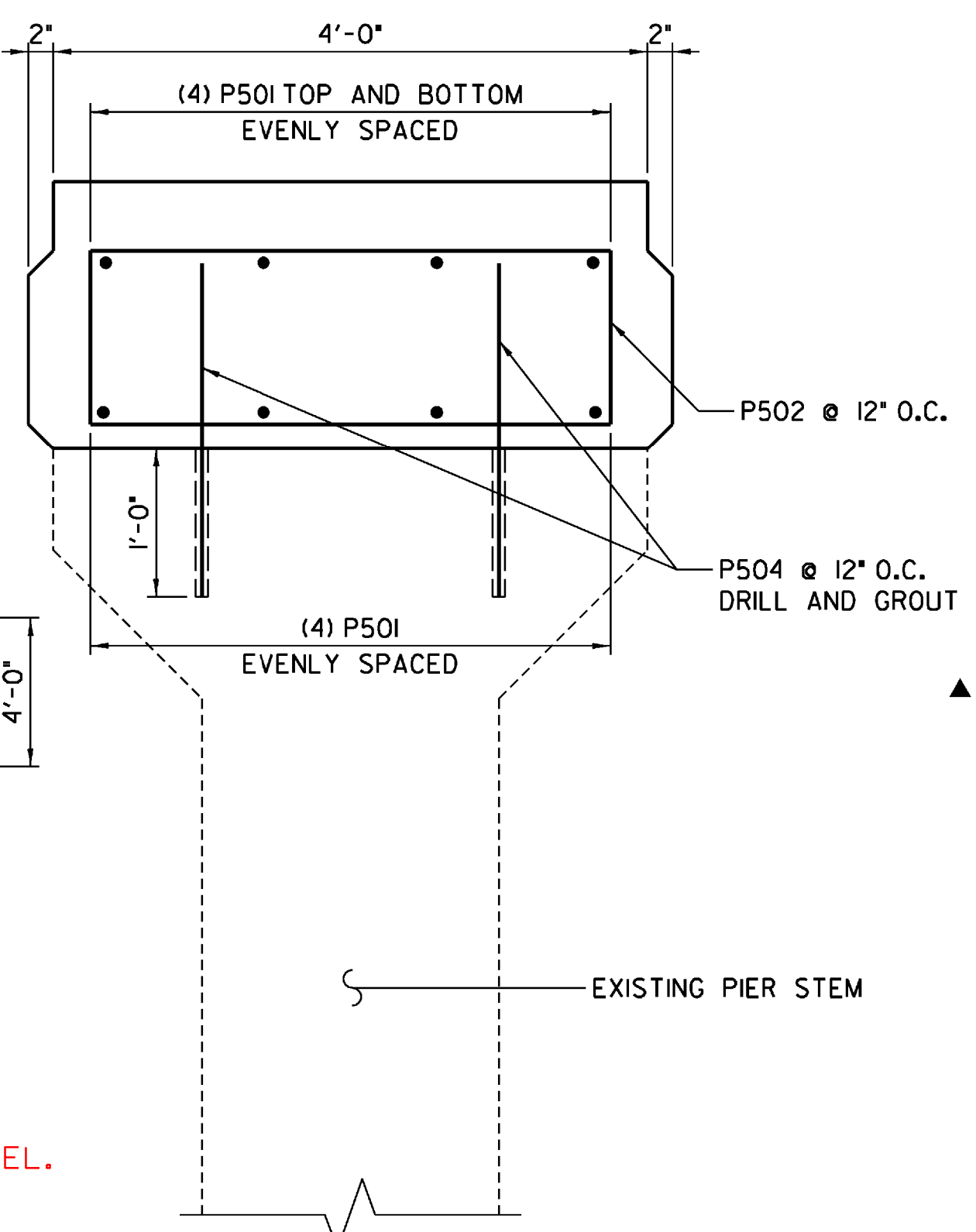
NOTE:  
CORING FOR THE PIPES THROUGH THE CONCRETE PIER SHALL BE 4 INCHES GREATER DIAMETER THAN THE OUTSIDE OF THE PIPE JACKET. FOLLOWING THE CORING, A ONE INCH THICK LAYER OF MORTAR, TYPE IV SHALL BE PLACED TO SEAL THE EXPOSED REINFORCEMENT. THE MORTAR AND ITS PLACEMENT SHALL BE INCIDENTAL TO THE CORING ITEM. A ONE INCH CLEAR SPACE SHALL REMAIN BETWEEN THE PIPE JACKET AND THE MORTAR SURFACE.



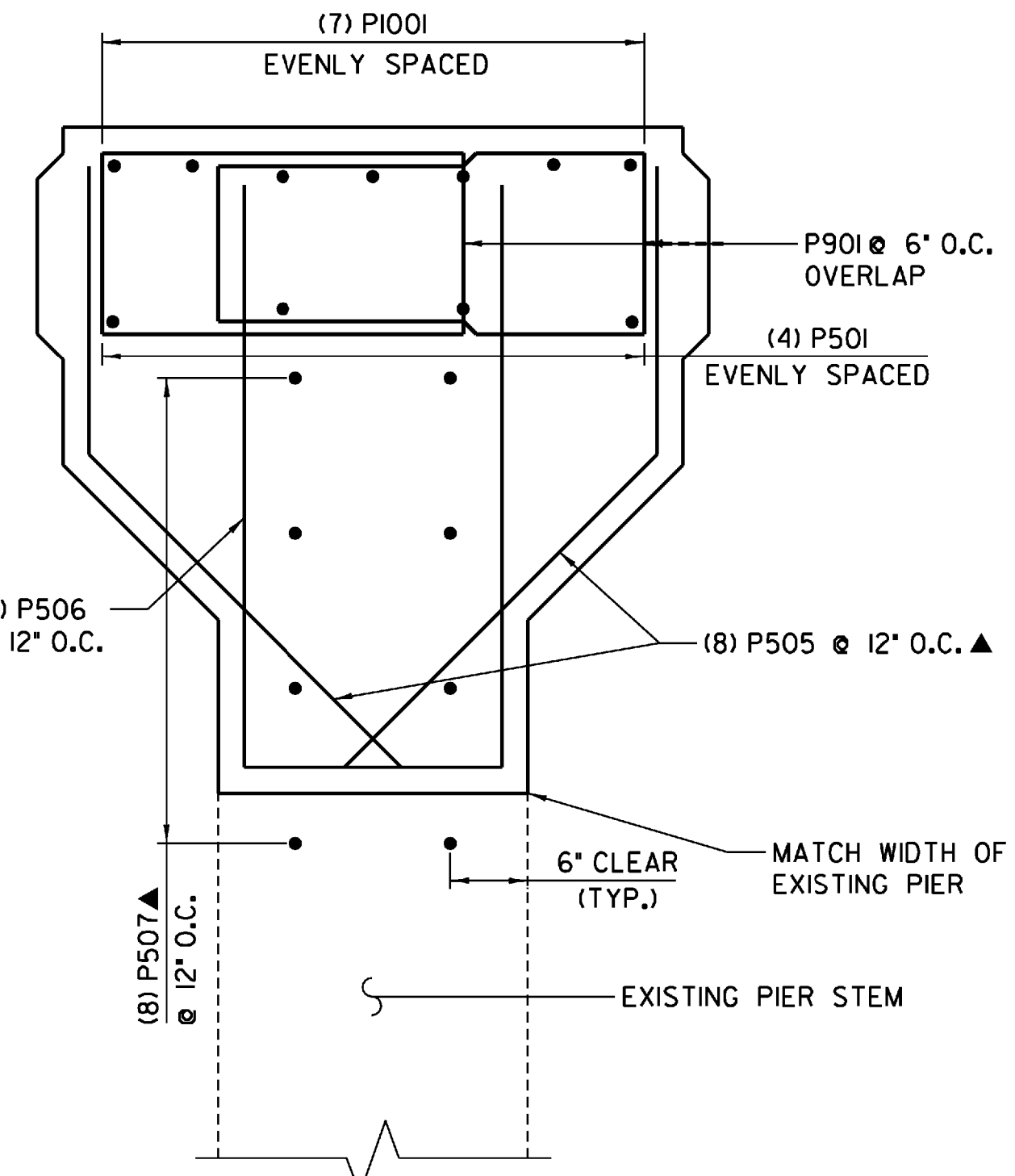
**SECTION A - A**  
SCALE: 1/4" = 1'-0"



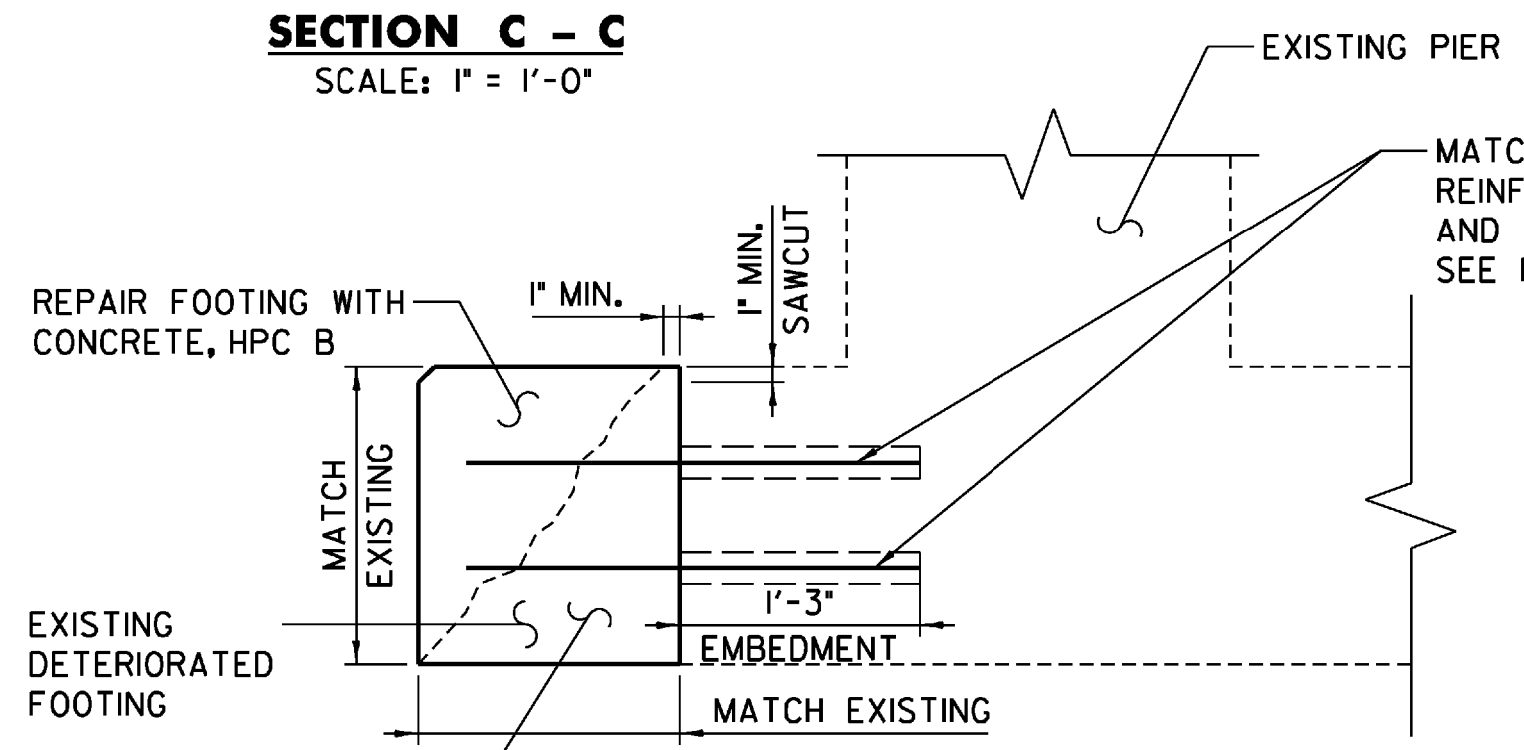
**SECTION B - B**  
SCALE: 1/4" = 1'-0"



**SECTION C - C**  
SCALE: 1" = 1'-0"

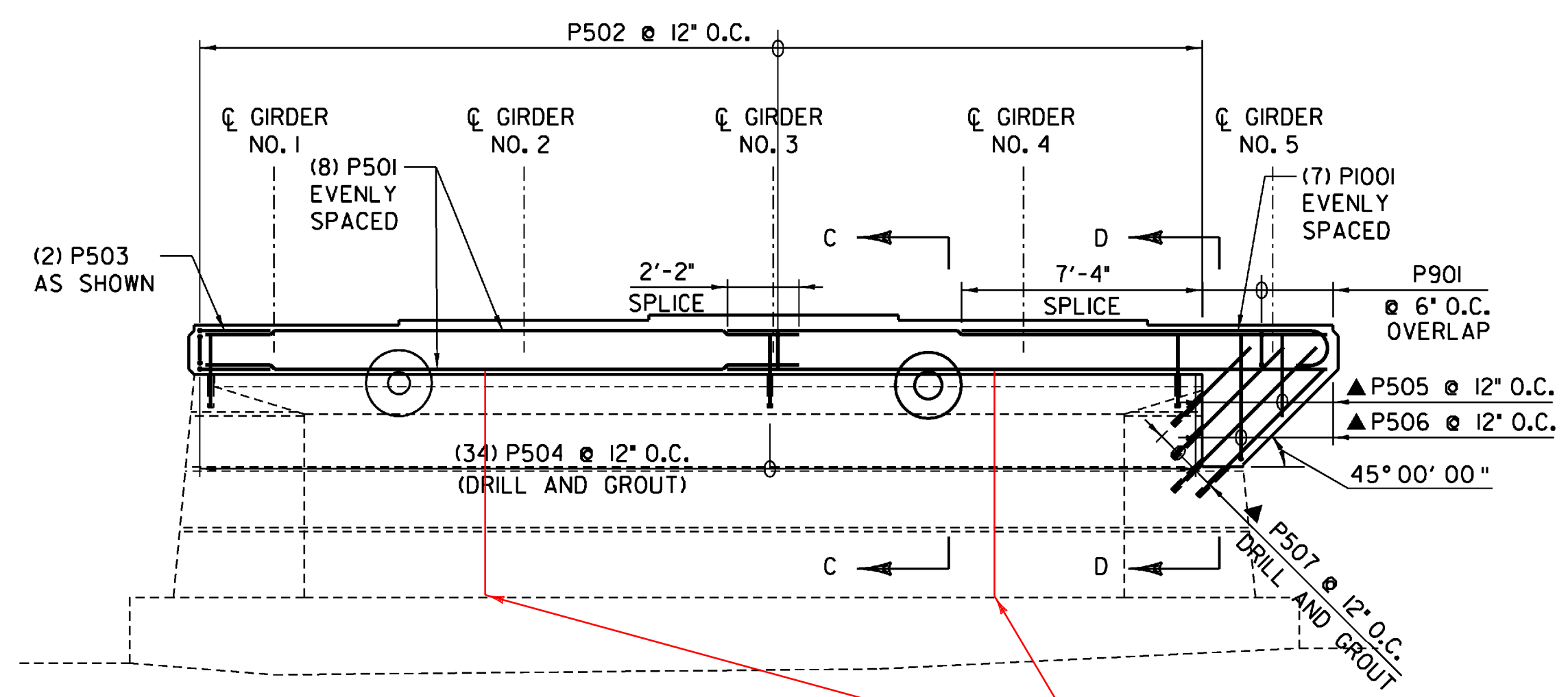


**SECTION D - D**  
SCALE: 1" = 1'-0"

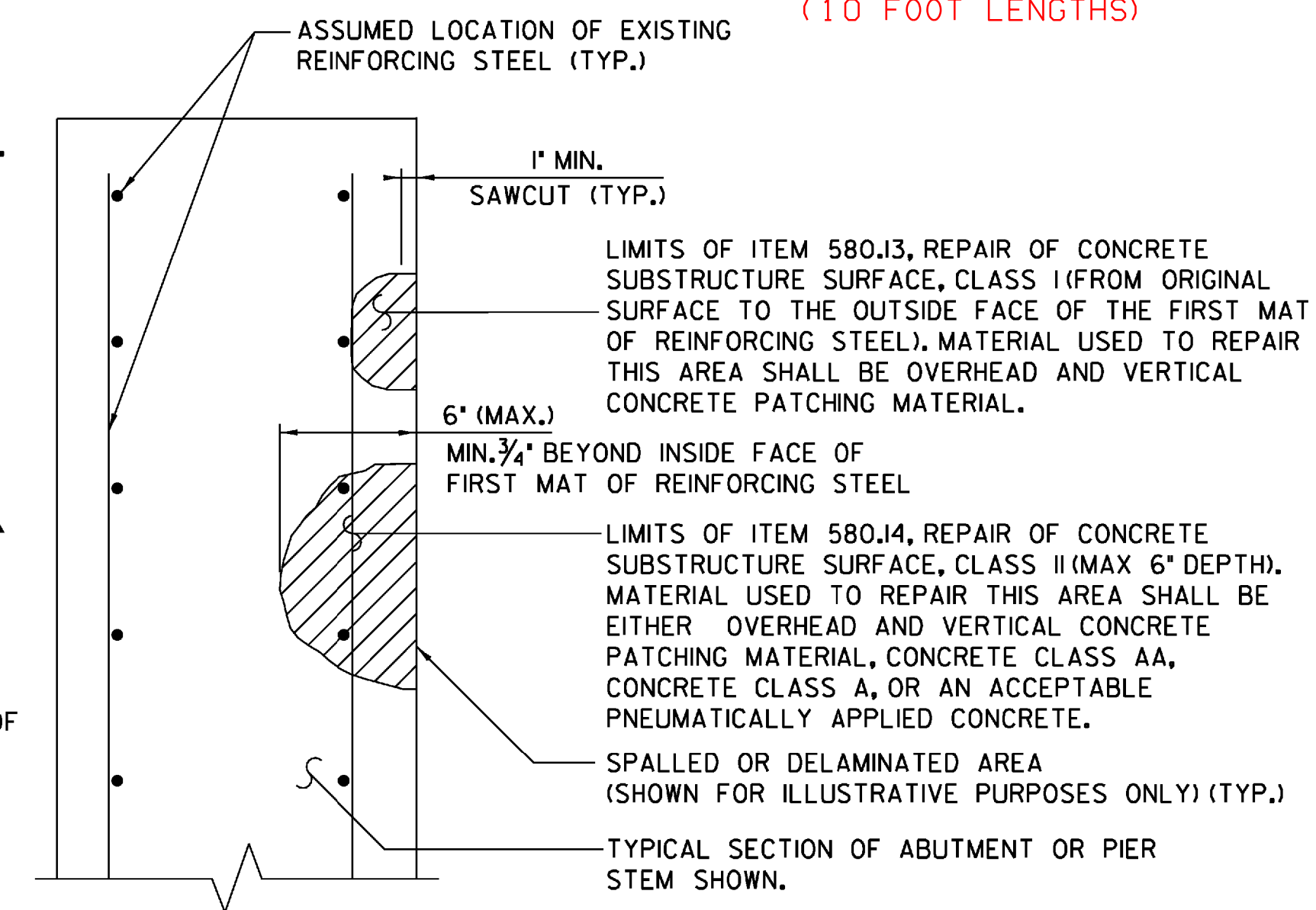


**PIER FOOTING REPAIR DETAIL**  
SCALE: 1" = 1'-0"

NOTE:  
UPON REMOVING DAMAGE AND DETERIORATED CONCRETE, EXISTING REINFORCEMENT SHALL REMAIN. EXISTING REINFORCEMENT SHALL BE CLEANED AND INSPECTED. IF REINFORCEMENT IS DETERIORATED, NEW REINFORCEMENT MATCHING THE EXISTING SHALL BE DRILLED AND GROUTED AS DIRECTED BY THE ENGINEER.



**ELEVATION - REINFORCEMENT**  
SCALE: 1/4" = 1'-0"



**REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS I OR CLASS II**  
N.T.S.

DIAGONAL HATCHING DENOTES LIMITS OF REMOVAL

NOTE:  
REMOVAL OF EXISTING CONCRETE TO A DEPTH GREATER THAN SPECIFIED FOR ITEM 580.I4 SHALL BE PAID UNDER THE ITEM 580.I5, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III.

**STATE OF VERMONT AGENCY OF TRANSPORTATION**

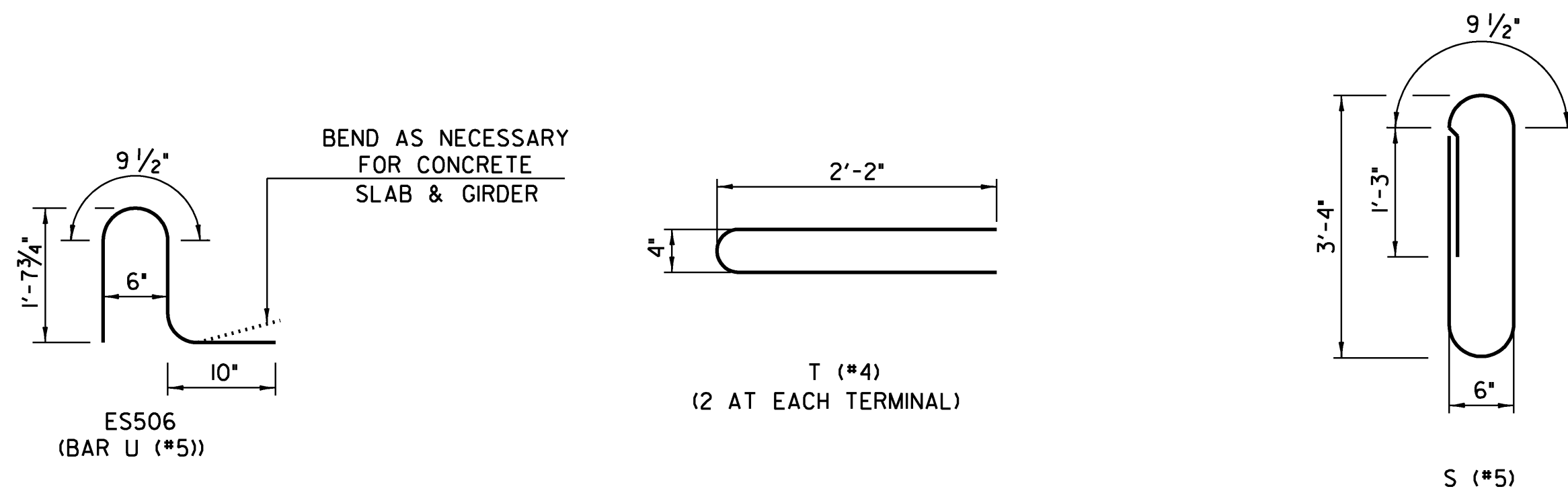
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER PIER DETAILS**

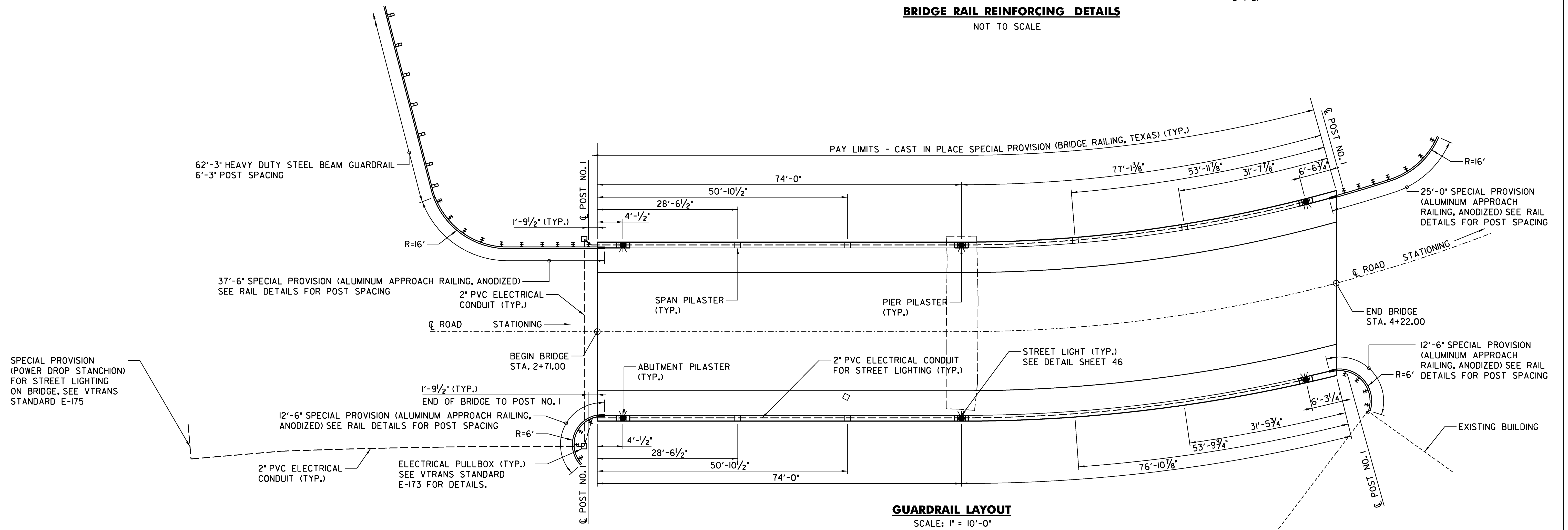
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372pd.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	40 of 68

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engineering planning management development

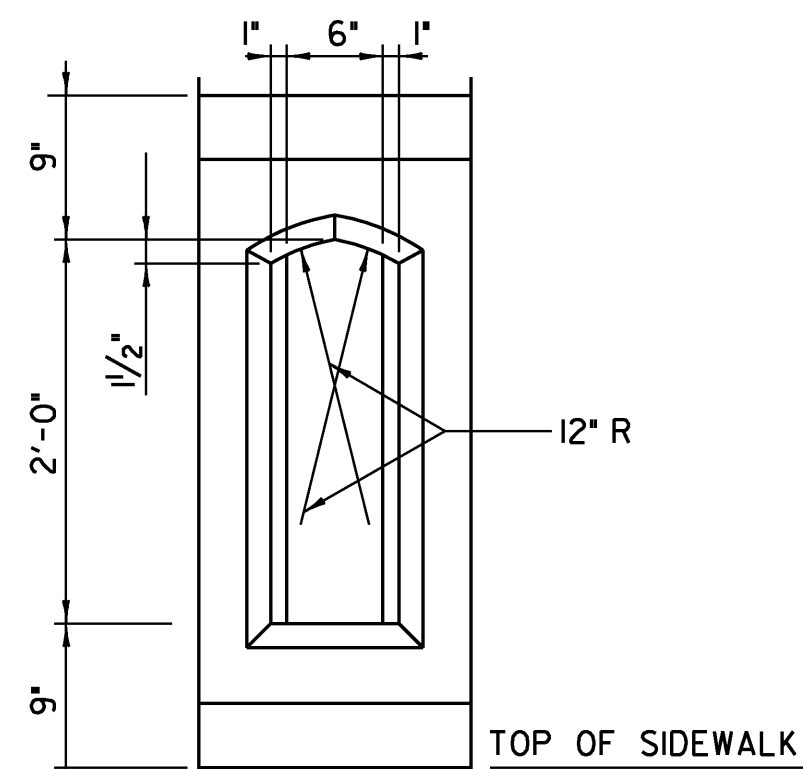




**BRIDGE RAIL REINFORCING DETAILS**  
 NOT TO SCALE



**GUARDRAIL LAYOUT**  
 SCALE: 1" = 10'-0"



**BRIDGE RAILING WINDOW TYPE A**

SCALE: 1" = 1'-0"

- HOLES AND RECESSES MUST BE FORMED, PERCUSSION DRILLING IS NOT PERMITTED.
- ALL CONCRETE FOR BRIDGE RAILING SHALL BE SELF-CONSOLIDATING CONCRETE.
- ALL REINFORCING STEEL FOR THE CAST IN PLACE SPECIAL PROVISION (BRIDGE RAILING, TEXAS) SHALL BE EPOXY COATED. ALL REINFORCING STEEL FOR SPECIAL PROVISION (BRIDGE RAILING, TEXAS) EXCEPT FOR ES506 (U BAR) SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 900.640, "SPECIAL PROVISION (BRIDGE RAILING, TEXAS)".
- VERTICAL CONSTRUCTION JOINTS IN THE BRIDGE RAIL SHALL MATCH THE LOCATION OF CONSTRUCTION JOINTS IN THE SIDEWALK.
- ALL WORK ASSOCIATED WITH BRIDGE RAILING SHALL BE PAID FOR UNDER ITEM 900.640, "SPECIAL PROVISION (BRIDGE RAILING, TEXAS)".
- LAP ALL REINFORCING SPLICES NOT DETAILED, AS INDICATED BELOW:  
 \*5 - 2'-2"  
 \*7 - 3'-0"

**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**BRIDGE RAIL AND APPROACH RAIL DETAILS (2)**

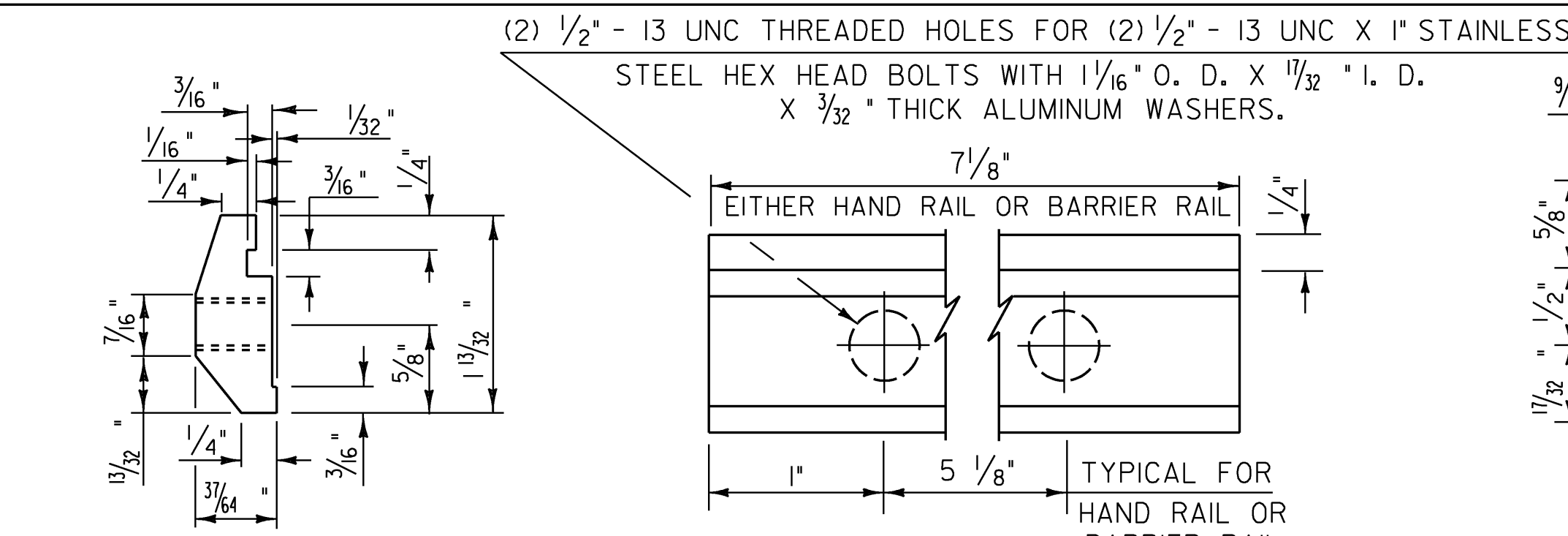
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372rail.dgn	D & K DWG NO.	

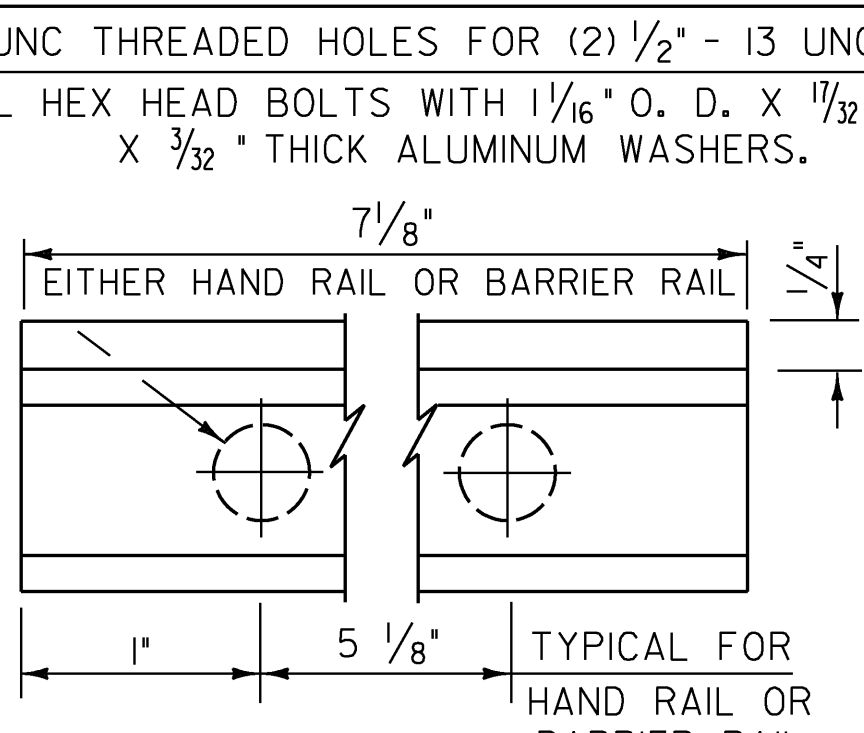
Bridge Sheet No.	Sheet 42 of 68
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 engineering planning management development

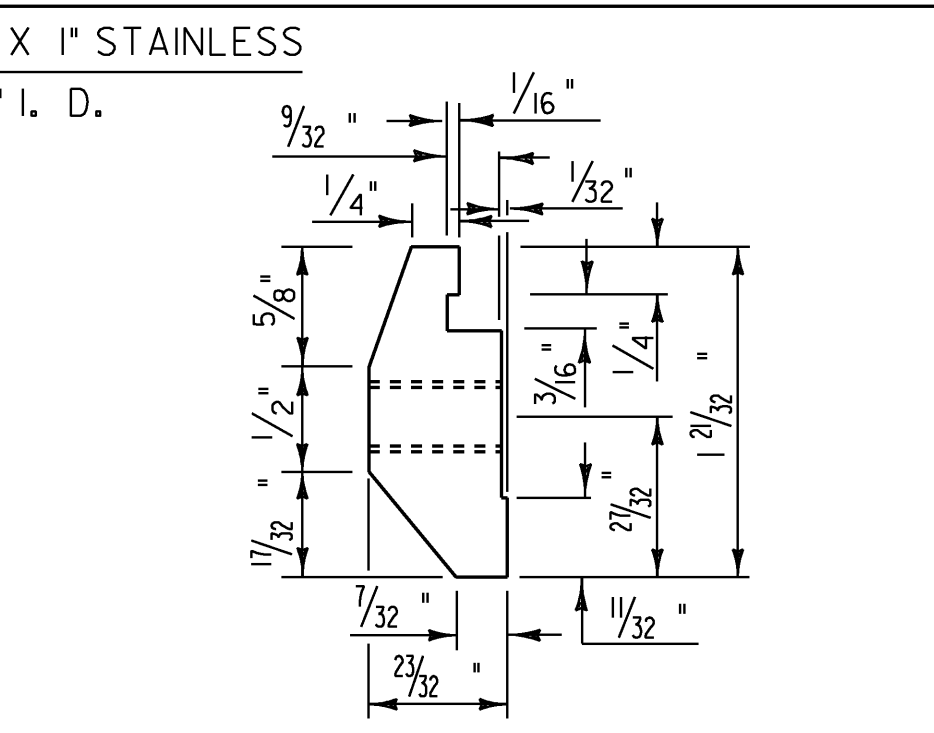
PLOTTED 2/18/2009



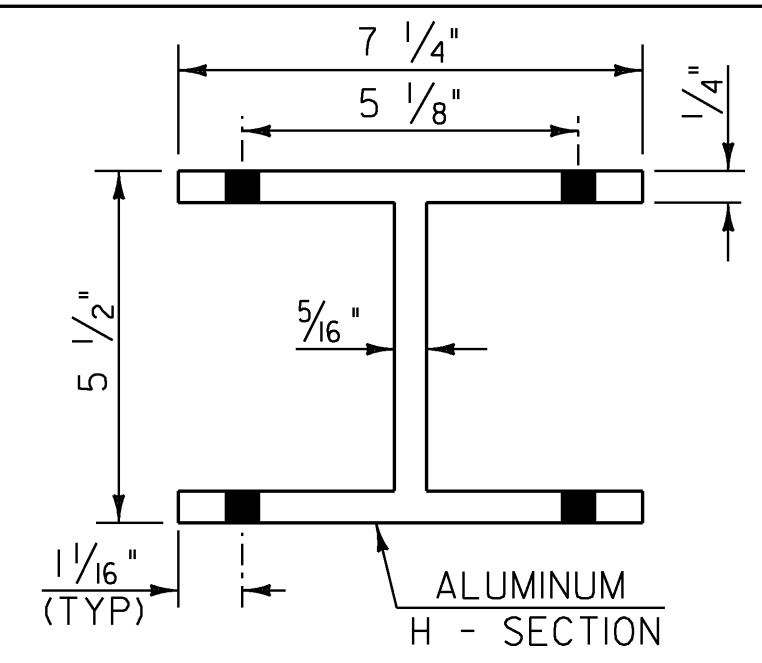
POST CONNECTION  
HAND RAIL SECTION



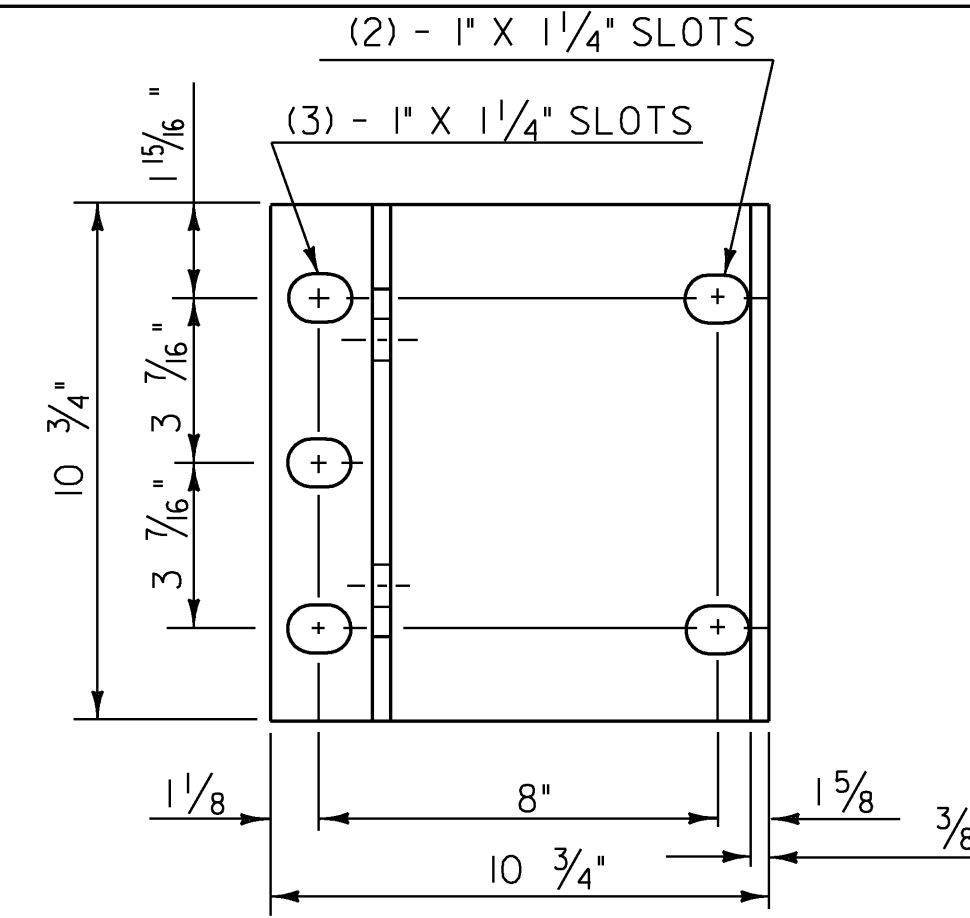
POST CONNECTION  
BARRIER RAIL SECTION



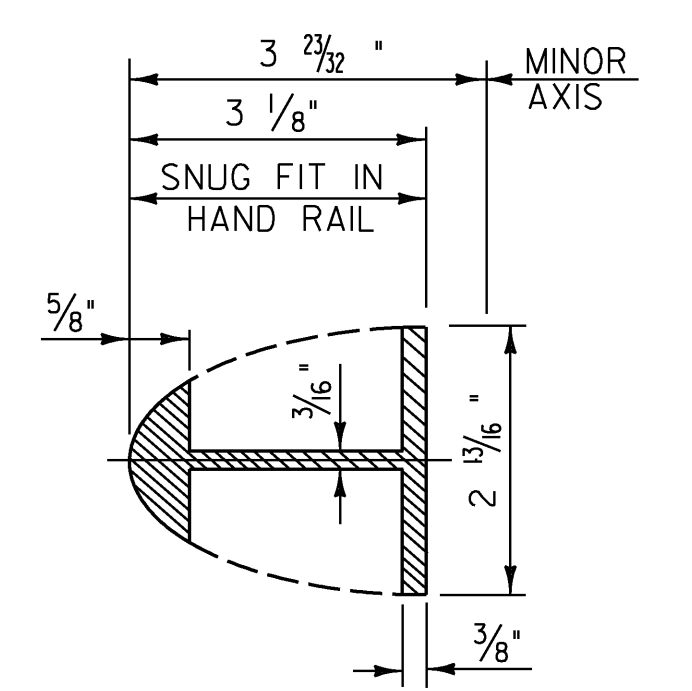
POST CONNECTION  
BARRIER RAIL SECTION



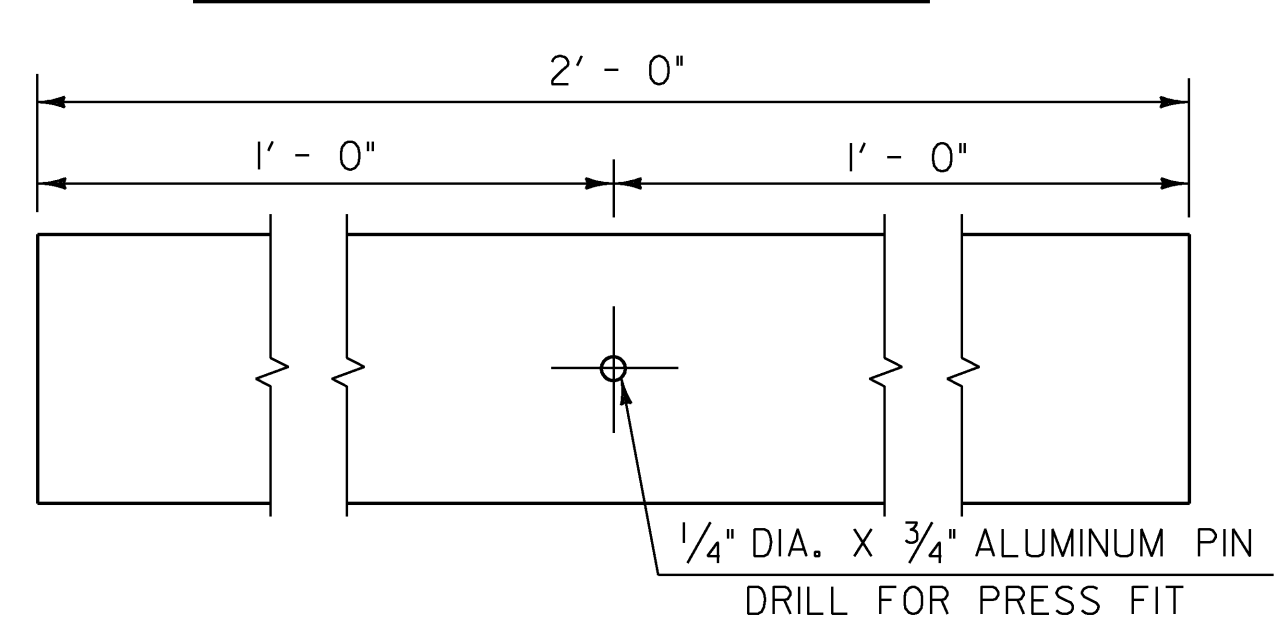
PLAN VIEW OF  
OFFSET BLOCK  
(TO BE USED ON  
SUPERSTRUCTURE  
ON CURB SIDE)



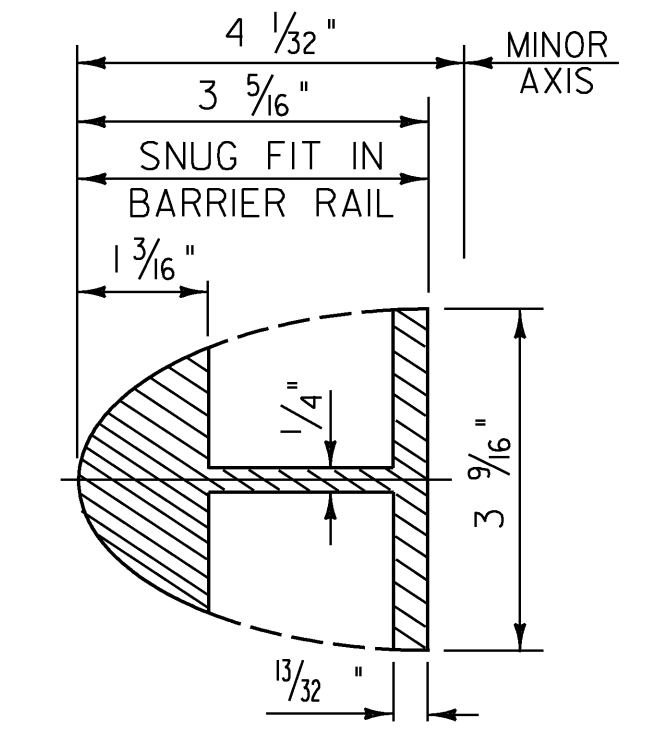
POST BASE  
PLAN



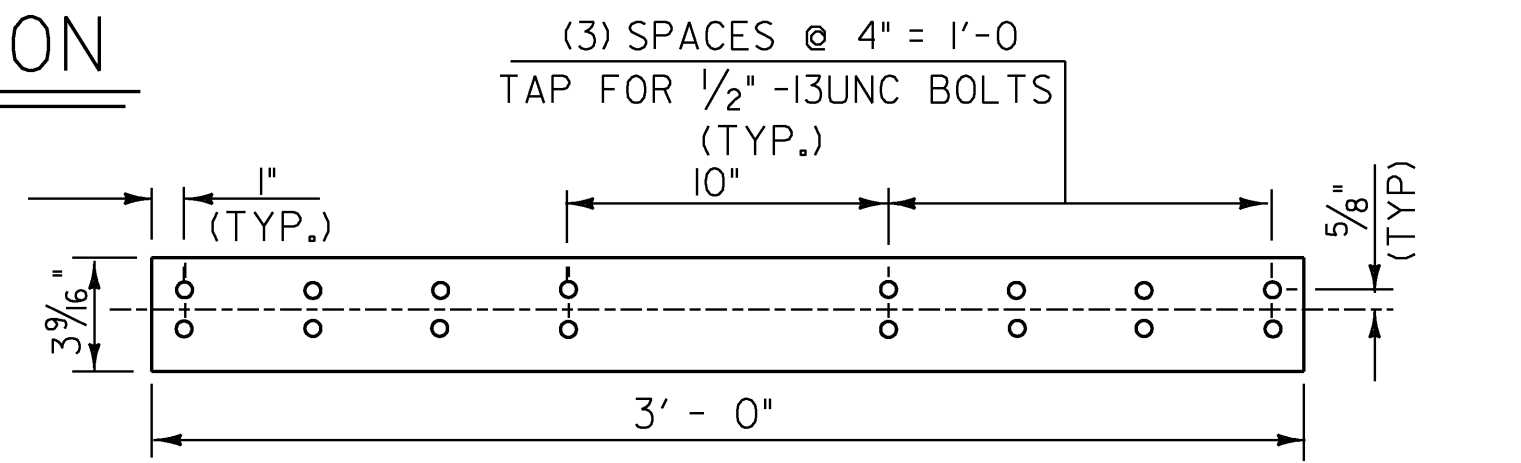
HAND RAIL  
SPLICE SECTION



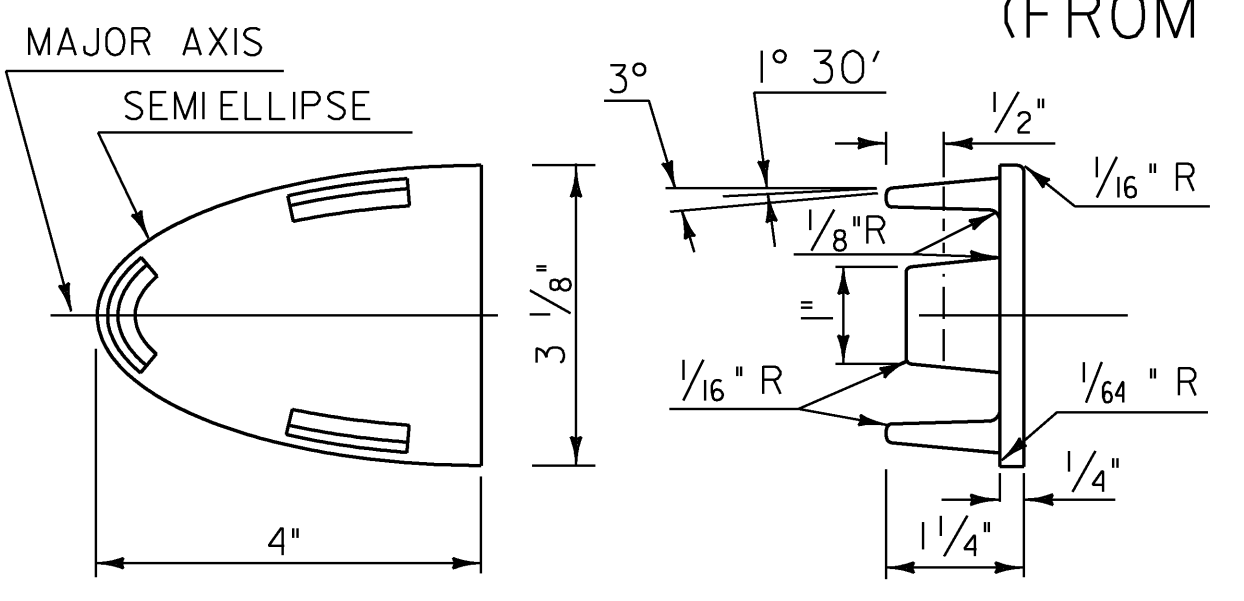
ELEVATION OF  
HAND RAIL SPLICE BAR



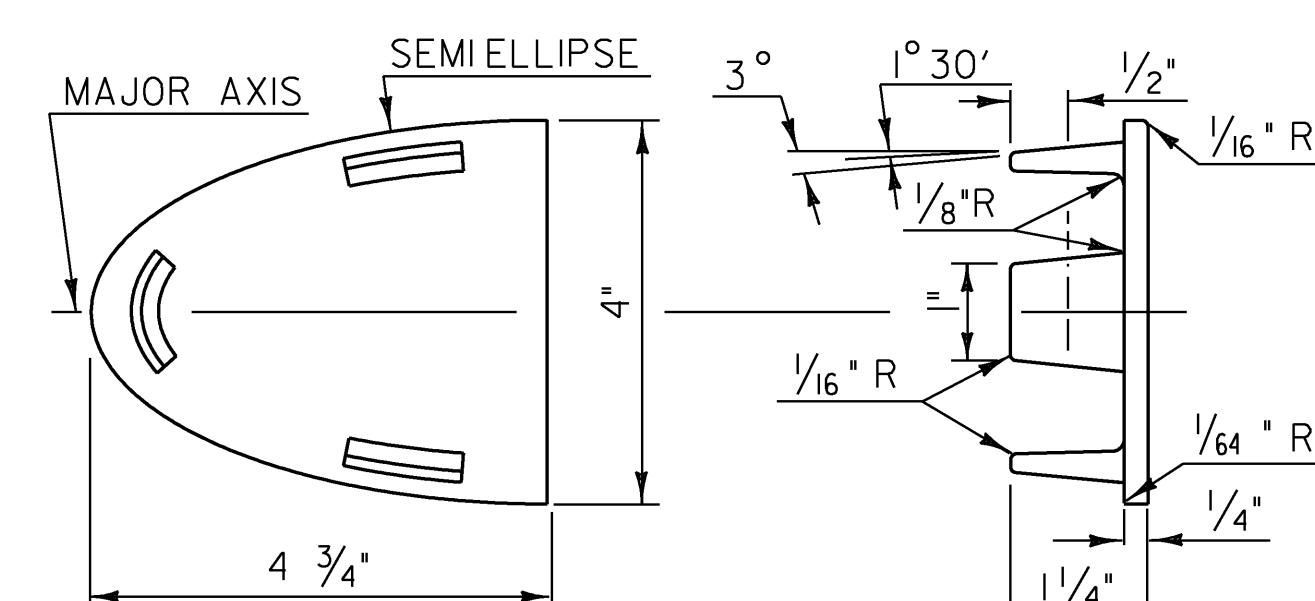
BARRIER RAIL  
SPLICE SECTION



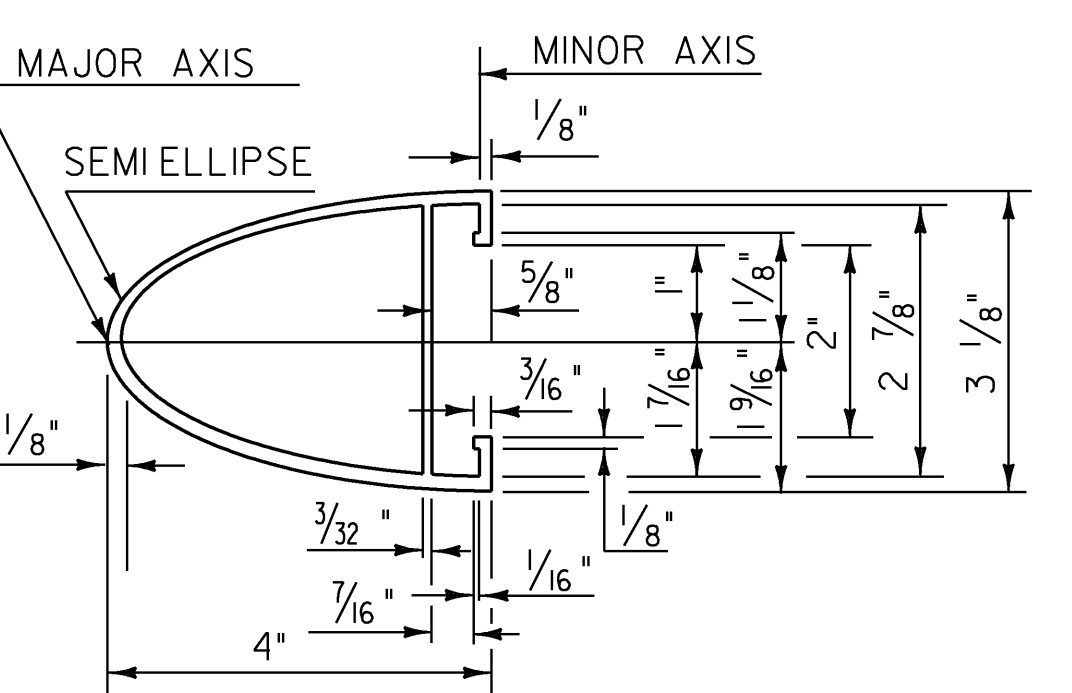
ELEVATION OF STD. BARRIER RAIL SPLICE BAR  
(FROM BACK)



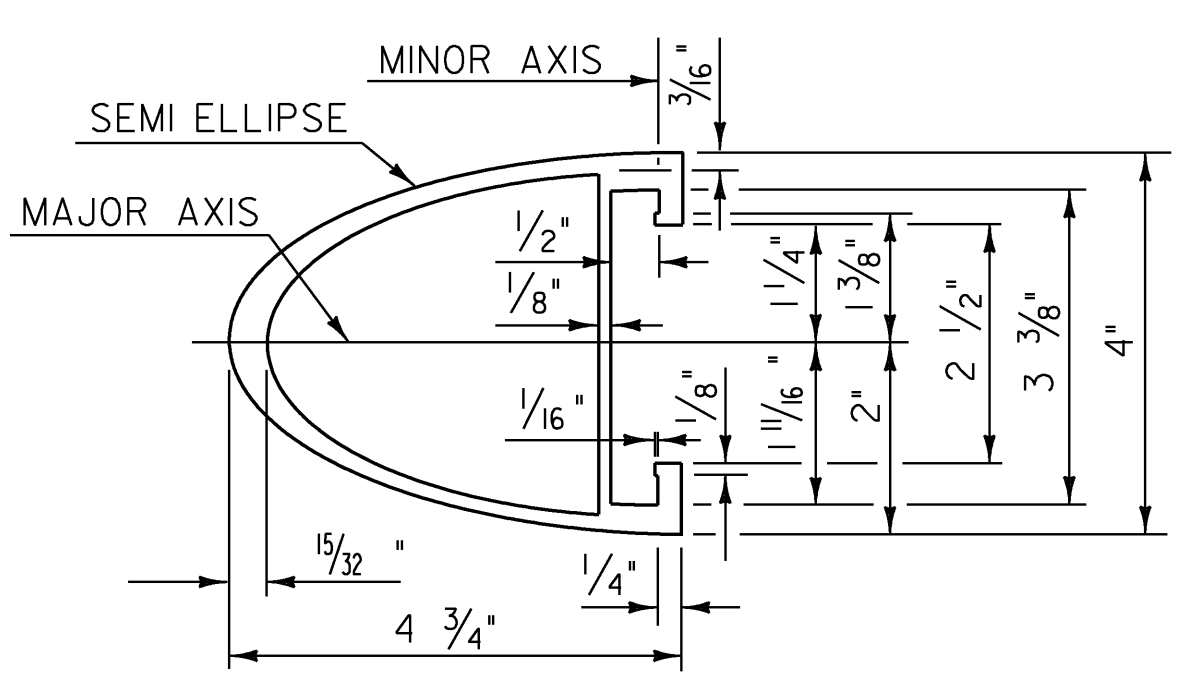
HAND RAIL END CAP



BARRIER RAIL END CAP

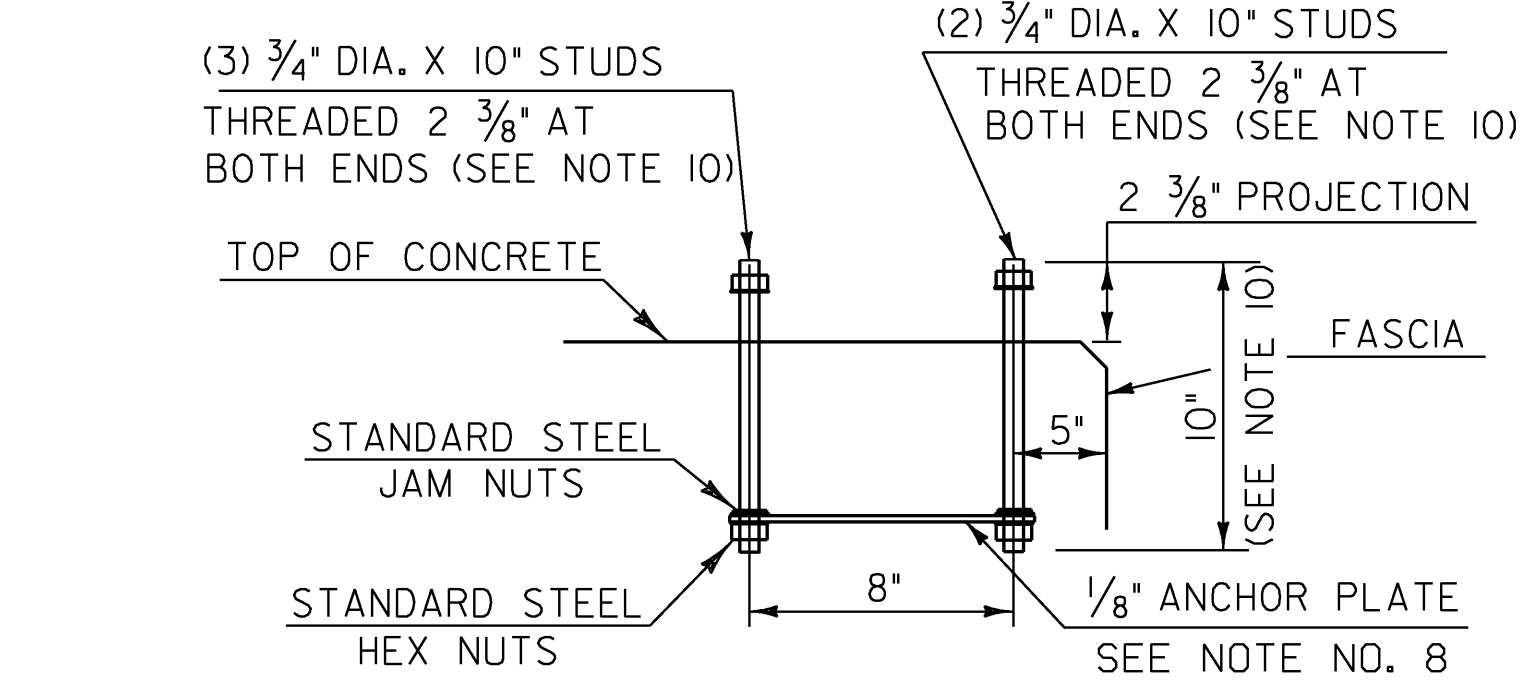


HAND RAIL SECTION

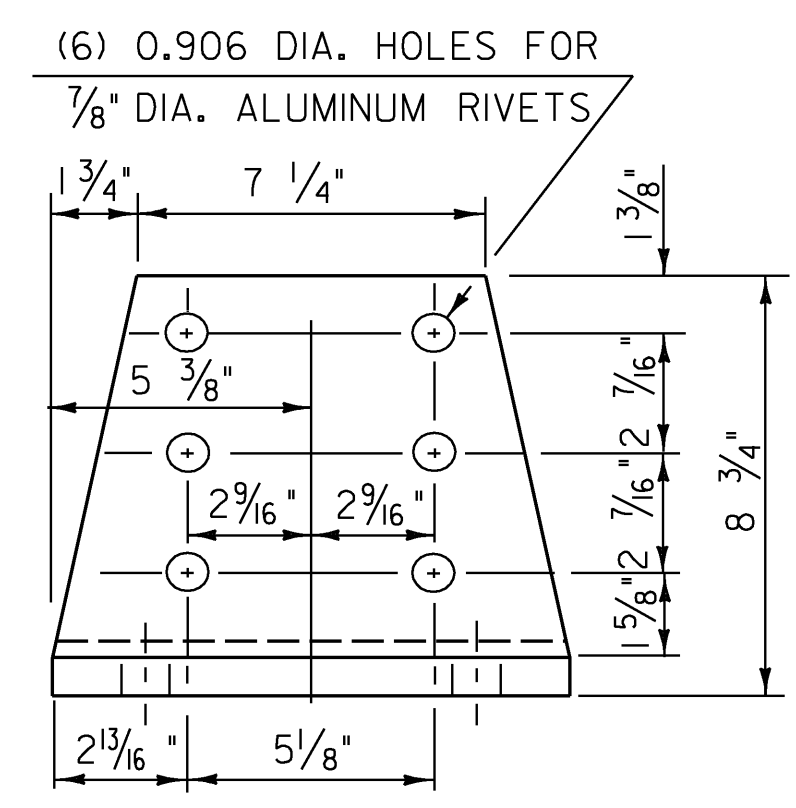


BARRIER RAIL SECTION

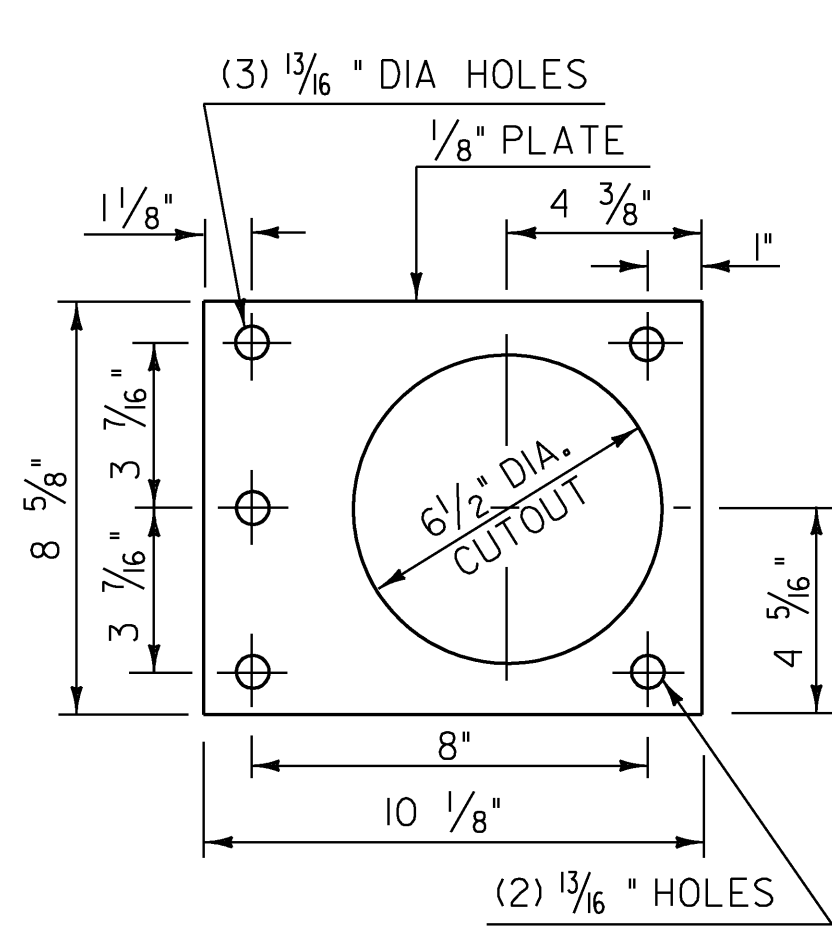
(SEE SHEET 45 FOR ELEVATION OF BARRIER RAIL)



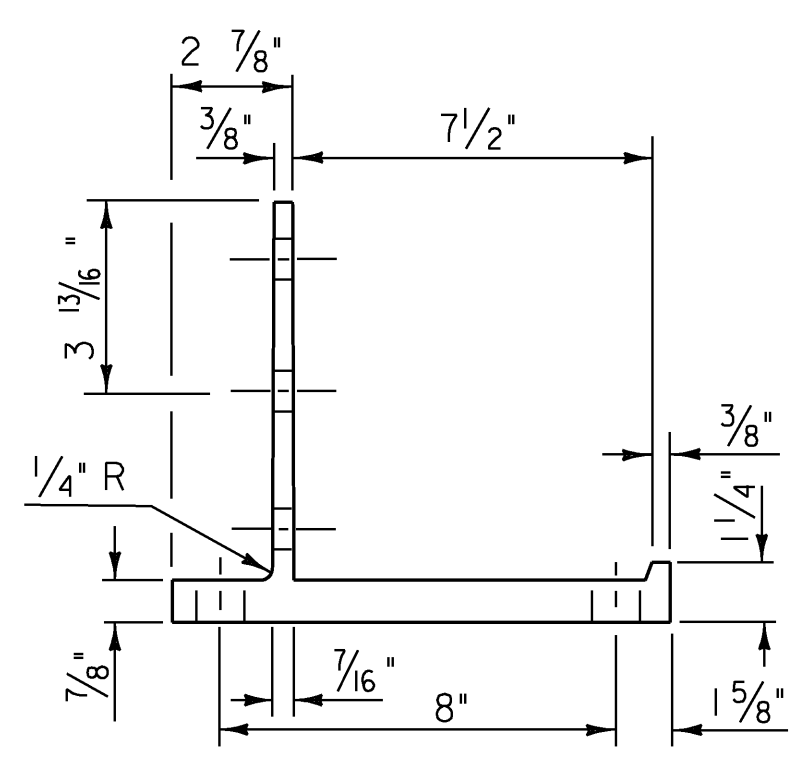
POST ANCHOR ASSEMBLY



POST BASE  
FRONT ELEVATION



ANCHOR PLATE



POST BASE  
SECTION

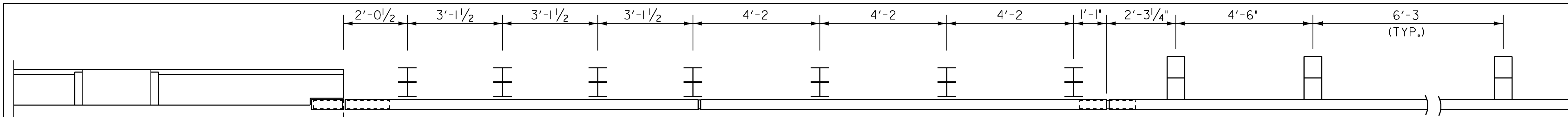
NOTES

- ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING:
  - ASTM A449 GALVANIZED, OR
  - AASHTO M164 (ASTM A325) GALVANIZED
  - BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8NA.
- ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B210 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS  $F_y = 35,000$  PSI.
- ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
- ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
- THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE AISI 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
- SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
- RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
- THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
- WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
- UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
- WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40' ±) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
- ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
- THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH MORTAR, TYPE IV CONFORMING WITH SECTION 525. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR MORTAR, TYPE IV, ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
- SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-0.
- EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
- ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ACLAD 2024-T4.

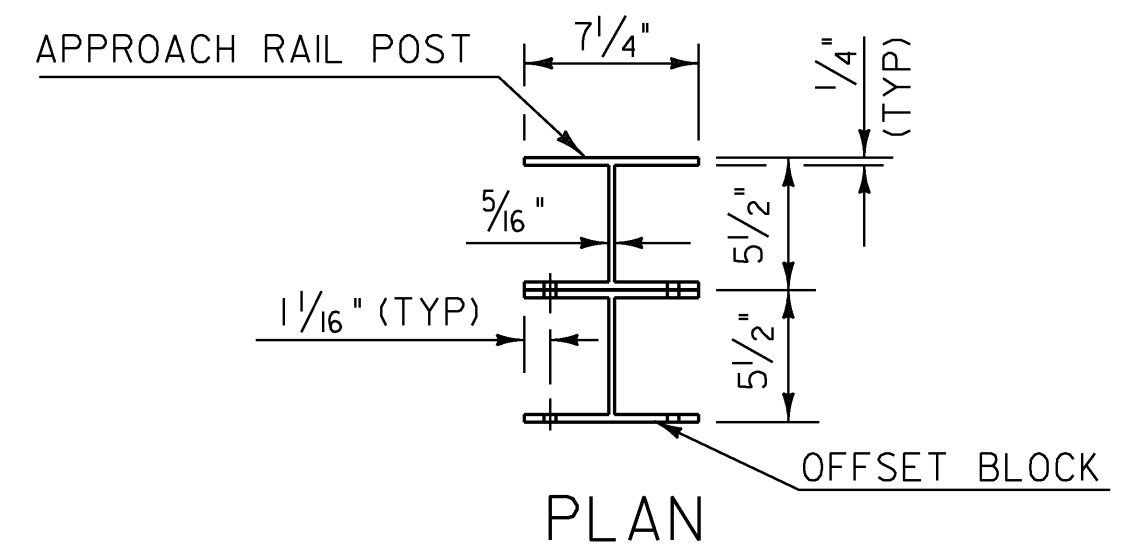
STATE OF VERMONT AGENCY OF TRANSPORTATION		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Surv. Sta.
TH NO. 1 OVER THE GIHON RIVER		
ALUMINUM APPROACH RAILING DETAILS (1)		
Designed By	A. P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
E. P. DETRICK	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. info.		
Bridge Sheet No.		Sheet 44 of 68

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PLOTTED 2/10/2009



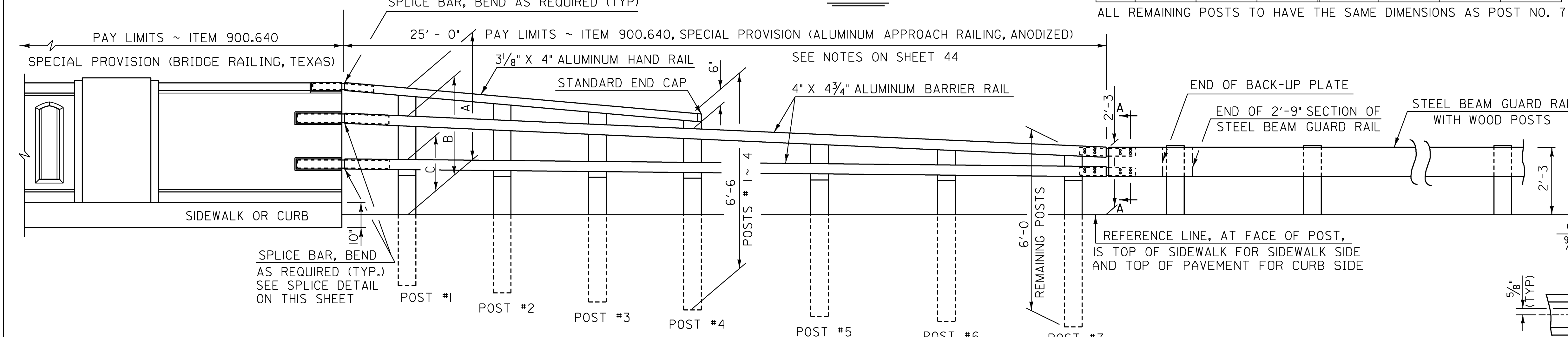
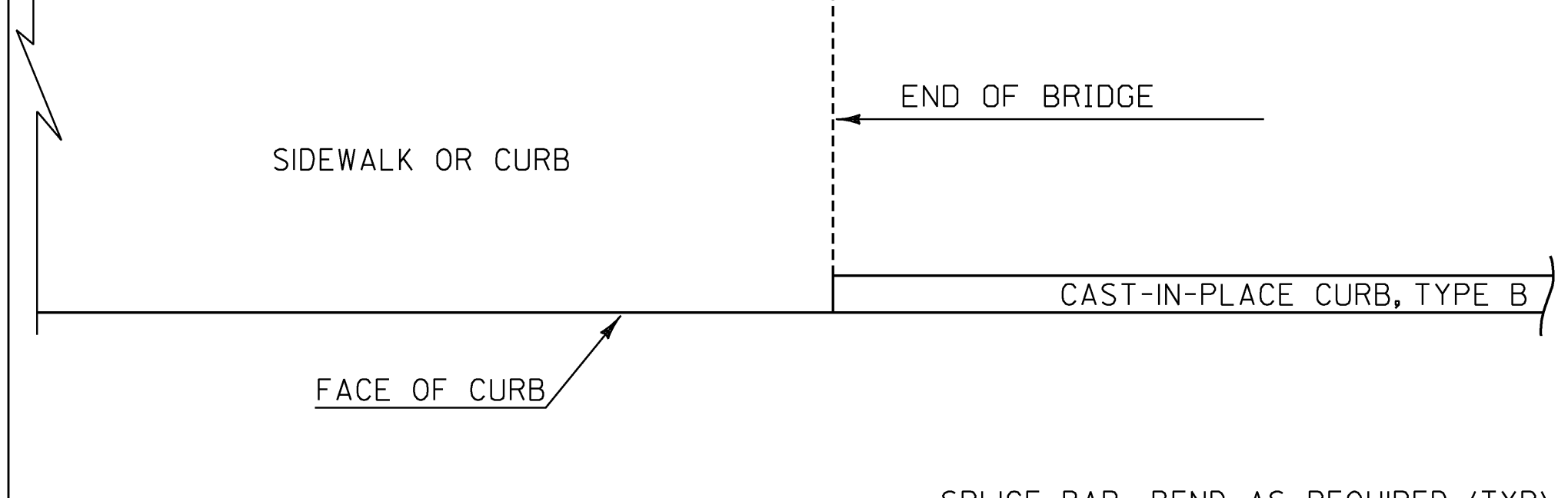
**PLAN** NOTE: REFER TO SHEET 42 FOR APPROACH RAILING LAYOUT  
**ALUMINUM APPROACH RAIL**



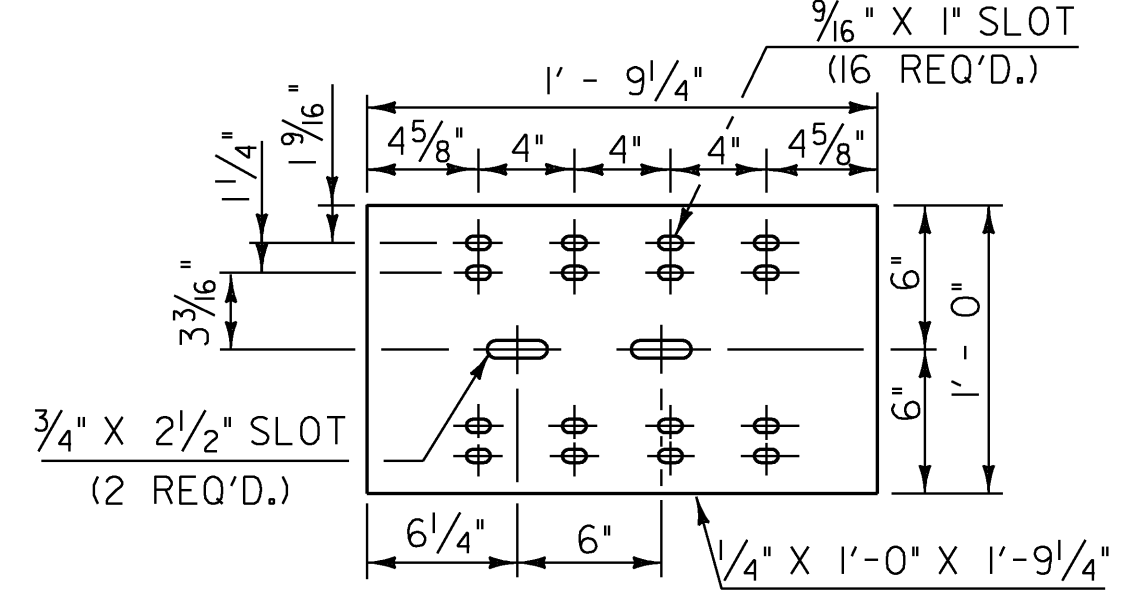
POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	4'-2"	3'-3"	2'-2 3/8"	1 1/2"	1'-0 5/8"	1'-0 5/8"	1'-5 5/8"
2	3'-10 3/4"	3'-13 1/8"	2'-1 1/4"	9 7/8"	1'-0"	1'-0"	1'-5"
3	3'-7 1/2"	2'-11 3/4"	2'-0 1/4"	8 1/4"	1 1/2"	1 1/2"	1'-4 1/2"
4	3'-4 1/4"	2'-10 7/8"	1'-11 1/4"	6 5/8"	10 7/8"	10 7/8"	1'-3 3/8"
5		2'-7 7/8"	1'-9 7/8"		10 7/8"	10 7/8"	1'-3 1/8"
6		2'-5 3/4"	1'-8 1/2"		9 1/4"	9 1/4"	1'-2 1/4"
7		2'-3 5/8"	1'-7"		8 1/2"	8 1/2"	1'-1 1/2"

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

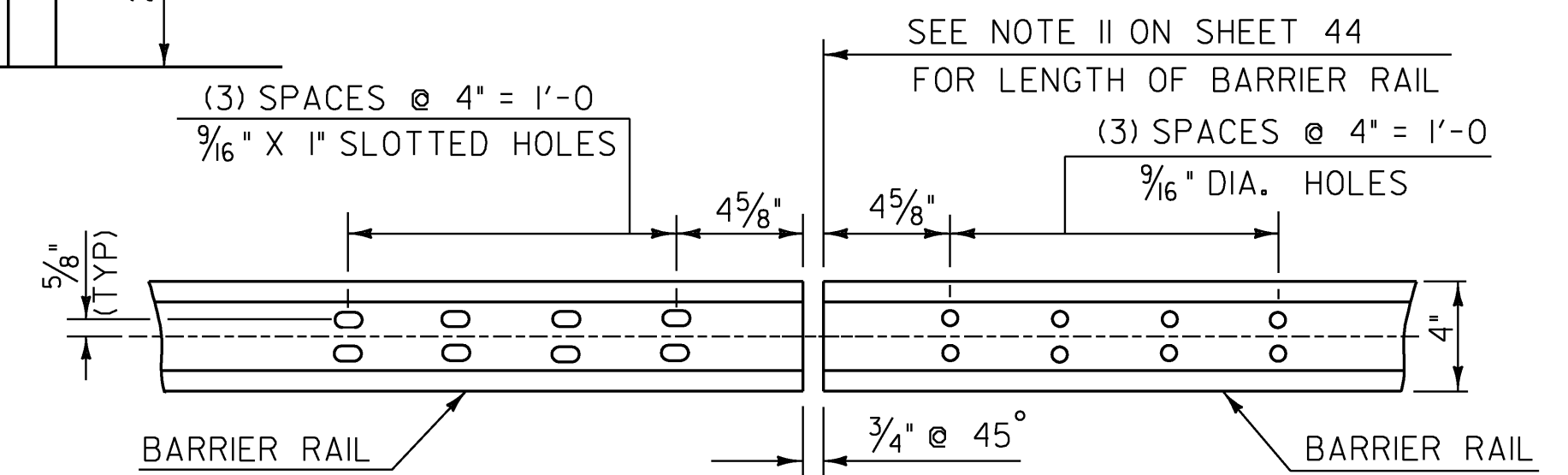
- NOTES**
- POST 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
  - ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36 GALVANIZED AFTER FABRICATION.
  - ALL ITEMS NOT OTHERWISE INDICATED SHALL MEET THE SPECIFICATION REQUIREMENTS OF THE STANDARD SHEETS ON WHICH THEY ARE DETAILED.
  - SEE STANDARD G-1 FOR STEEL BEAM GUARD RAIL DETAILS. SEE SHEET 44 FOR ADDITIONAL ALUMINUM APPROACH RAILING DETAILS.
  - THE COST OF ALL MATERIALS AND LABOR FOR THE SPLICE BETWEEN THE ALUMINUM APPROACH RAILING AND THE STEEL BEAM GUARD RAIL SHALL BE INCIDENTAL TO ITEM 900.640, \*SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)\*.
  - DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
  - DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.



**ELEVATION**



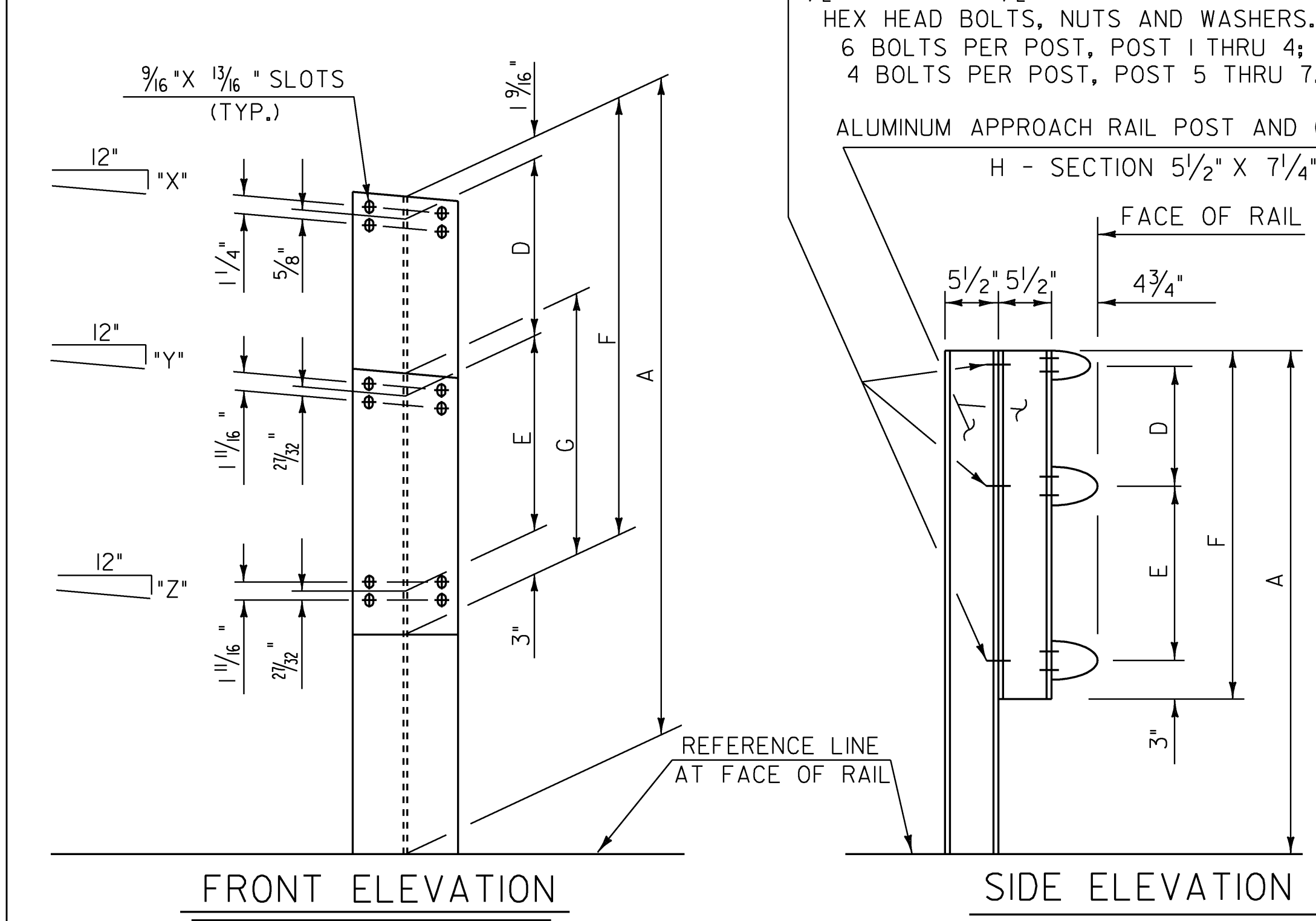
**BACK-UP PLATE DETAILS**



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

**DIMENSION**

*X*	1"
*Y*	1/2"
*Z*	3/8"

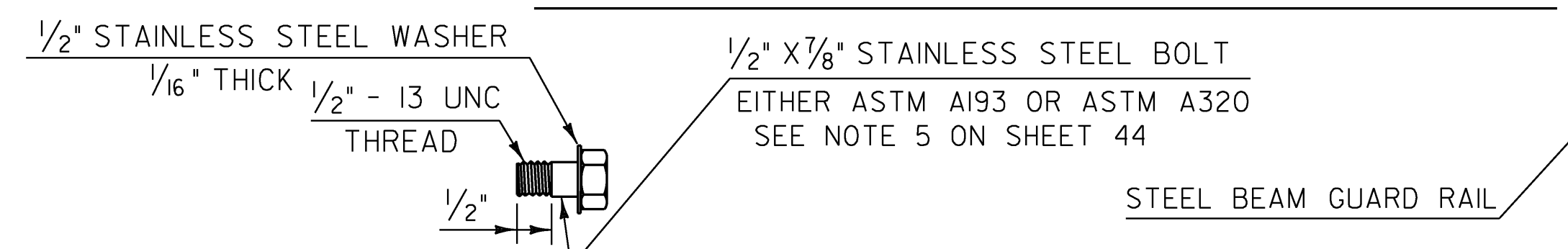


**FRONT ELEVATION**  
**SIDE ELEVATION**  
**APPROACH RAIL DETAILS**

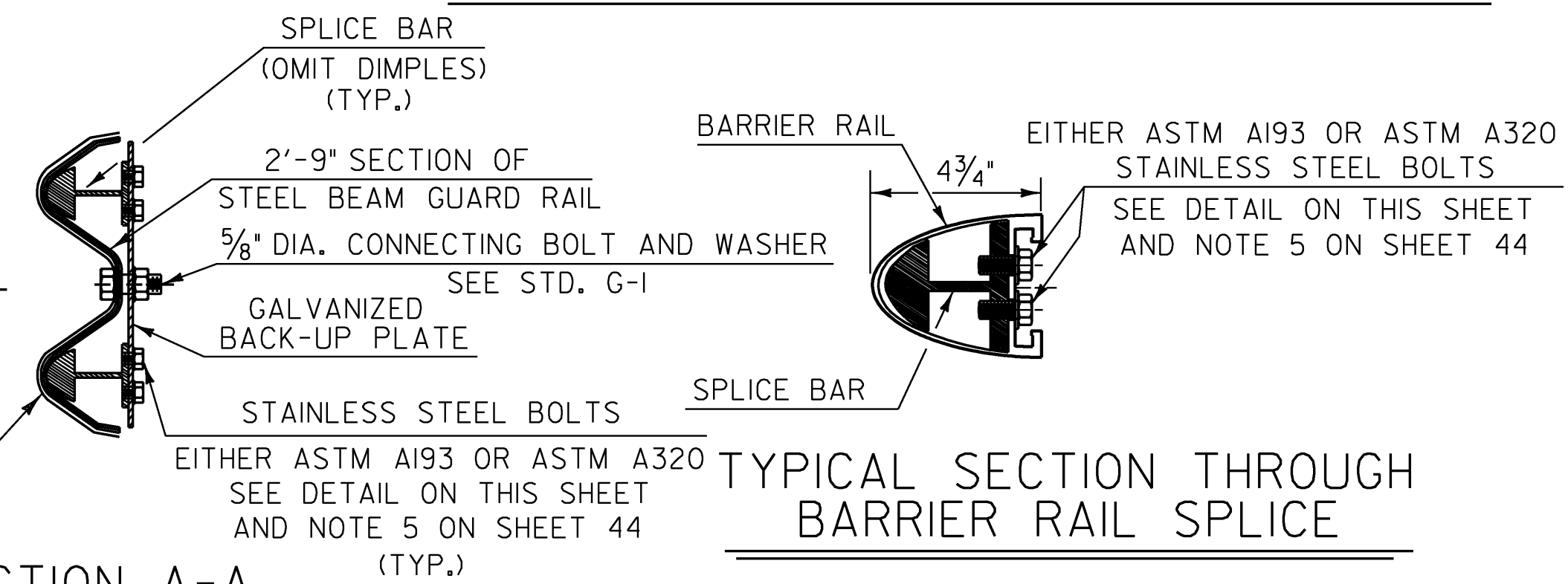
ATTACH OFFSET BLOCK TO POST WITH 1/2" -13 UNC X 1 1/2" LONG STAINLESS STEEL HEX HEAD BOLTS, NUTS AND WASHERS. 6 BOLTS PER POST, POST 1 THRU 4; 4 BOLTS PER POST, POST 5 THRU 7.

ALUMINUM APPROACH RAIL POST AND OFFSET BLOCK H - SECTION 5 1/2" X 7 1/4"

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

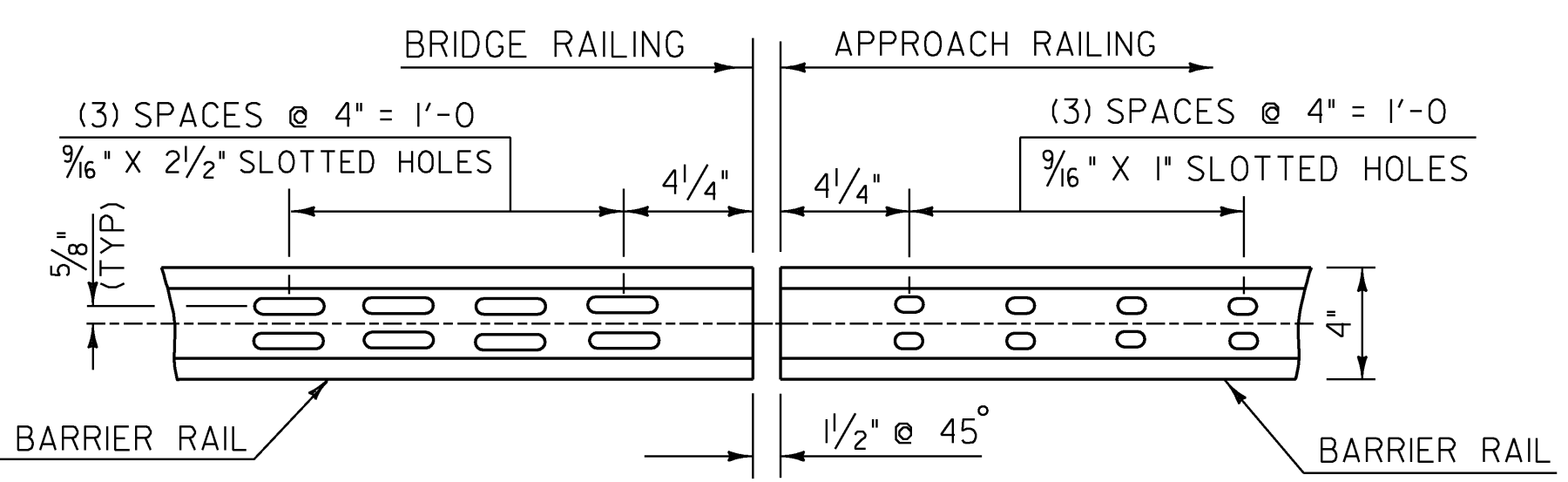


**STAINLESS STEEL BOLT DETAILS**



**SECTION A-A**

**TYPICAL SECTION THROUGH BARRIER RAIL SPLICE**



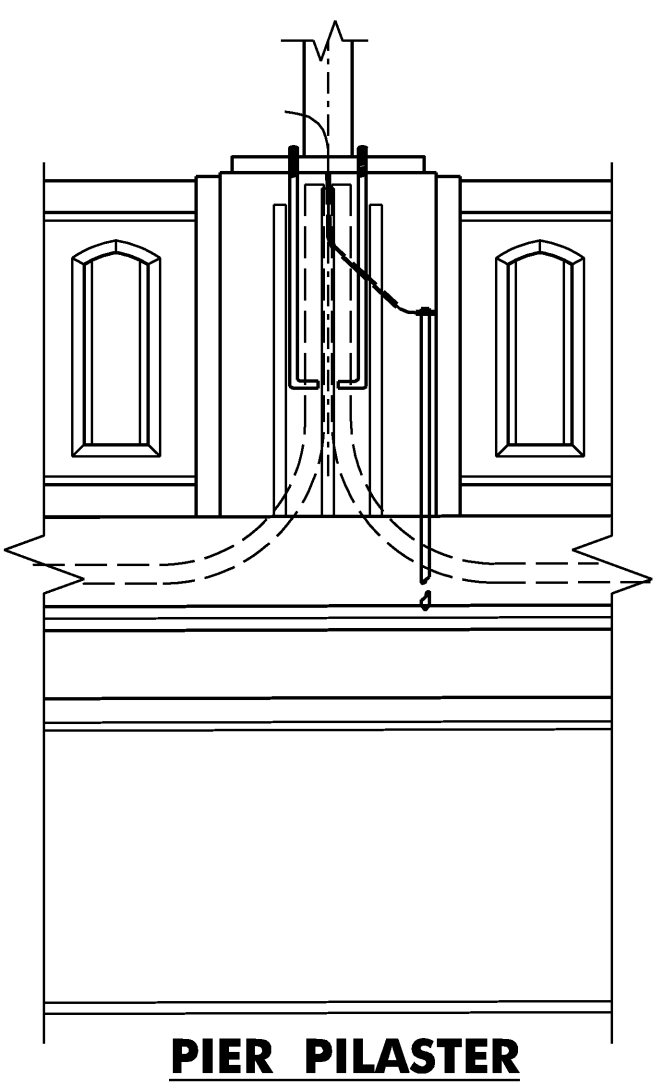
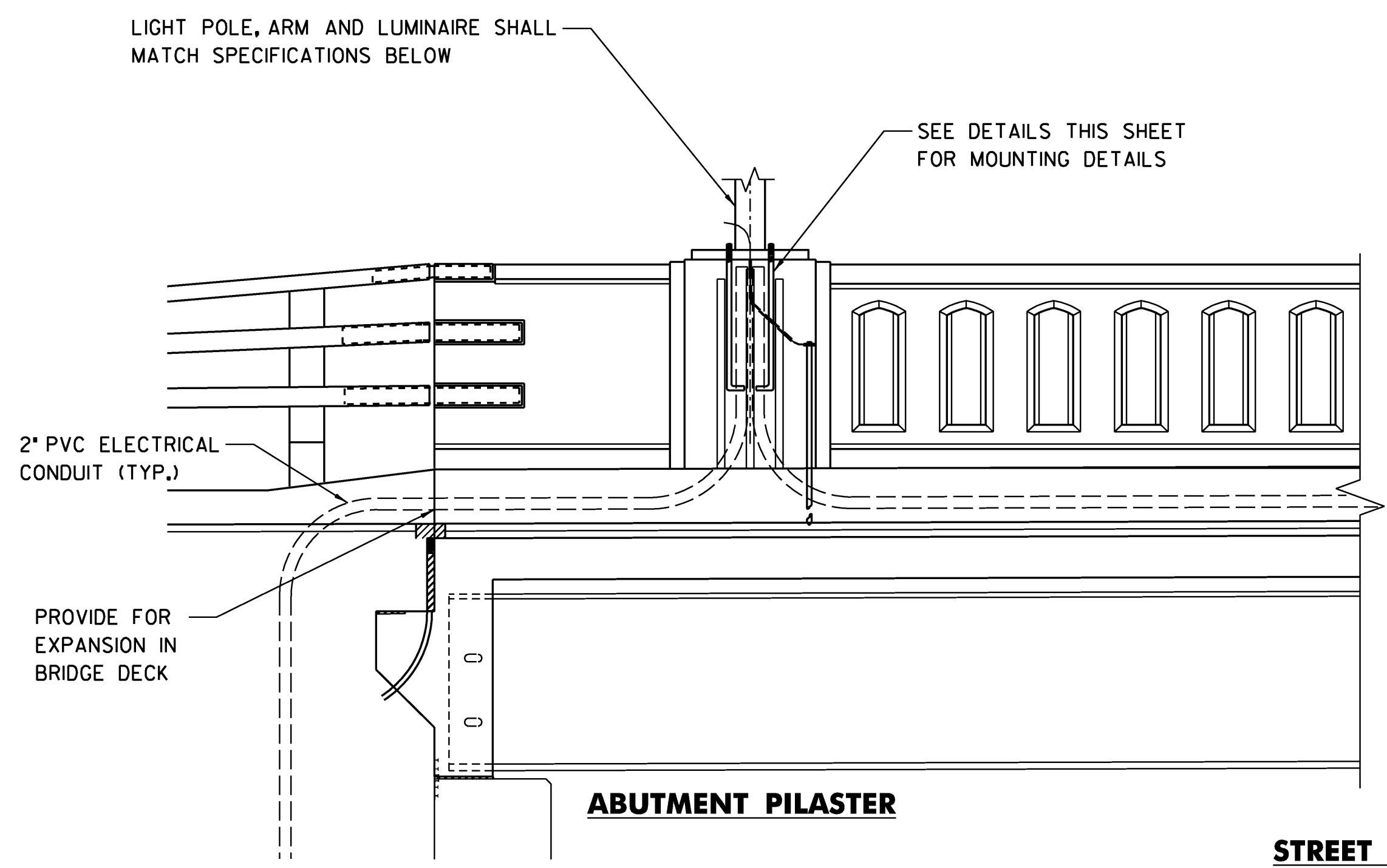
**ELEVATION OF BARRIER RAIL (FROM BACK)**

**STATE OF VERMONT AGENCY OF TRANSPORTATION**

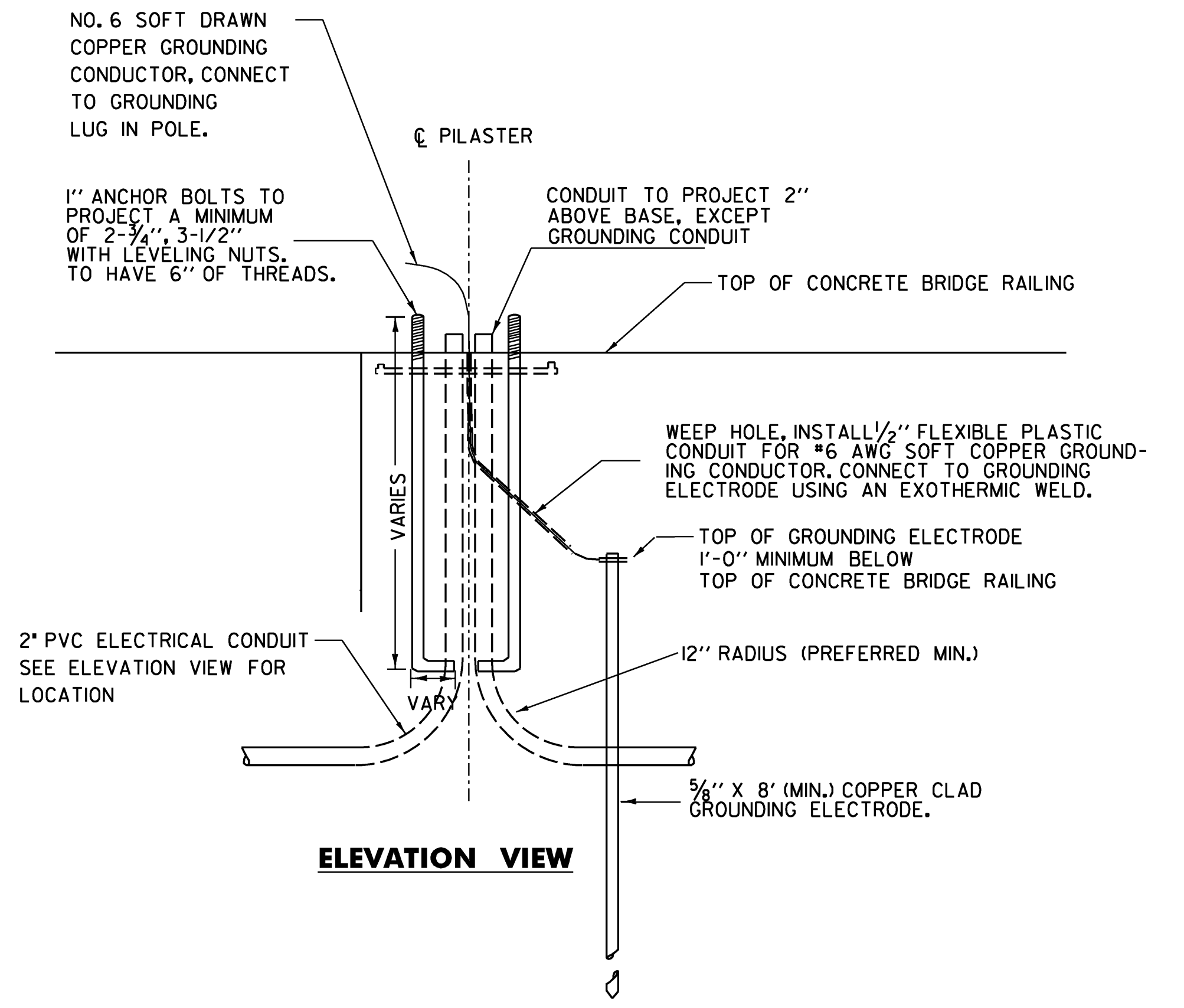
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>ALUMINUM APPROACH RAILING DETAILS (2)</b>			
Designed By	A. P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
E. P. DETRICK	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.			
Bridge Sheet No.		Sheet	45 of 68

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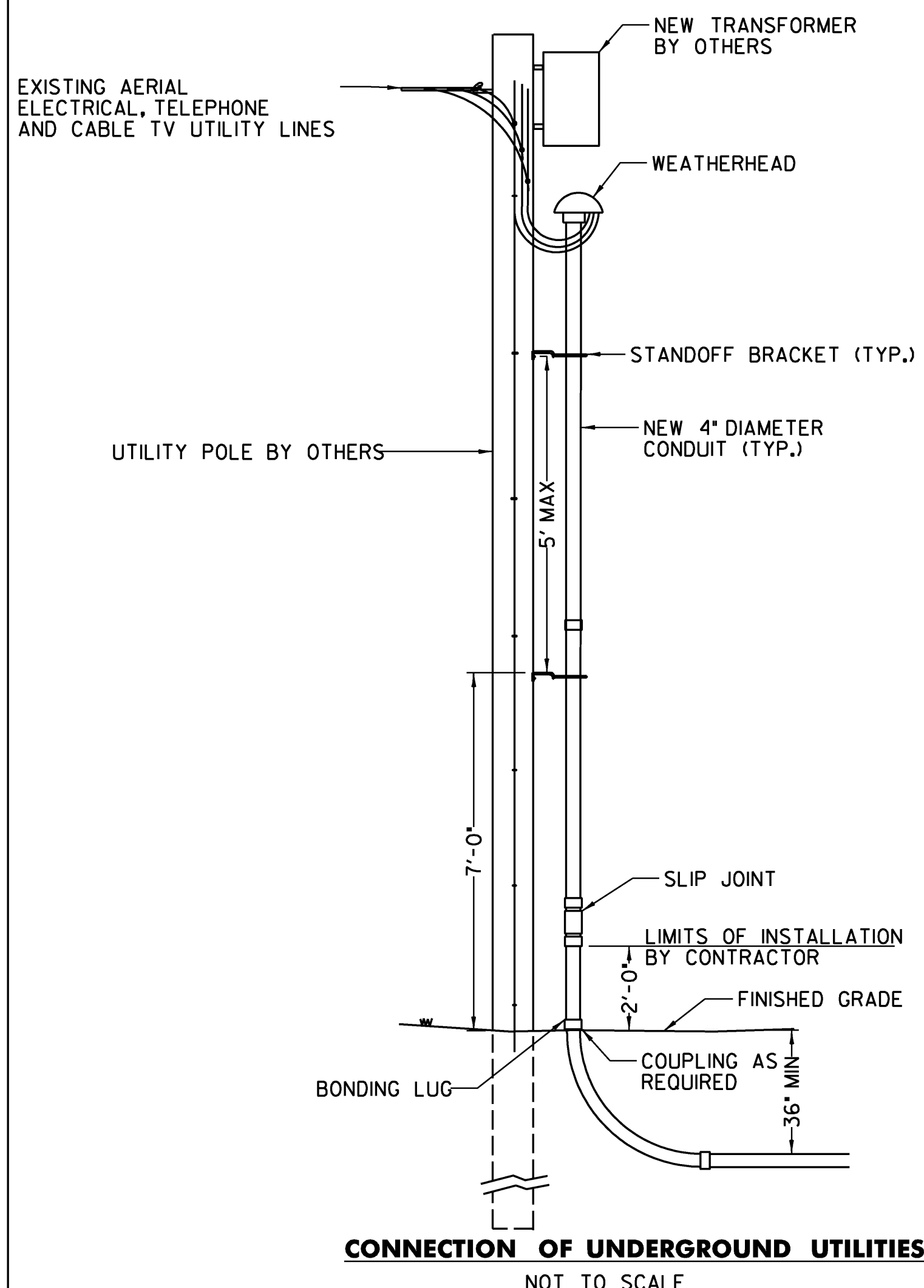
PLOTTED 2/18/2009



**STREET LIGHT LOCATIONS**  
SCALE: 1/2" = 1'-0"



**ELEVATION VIEW**



**CONNECTION OF UNDERGROUND UTILITIES**  
NOT TO SCALE

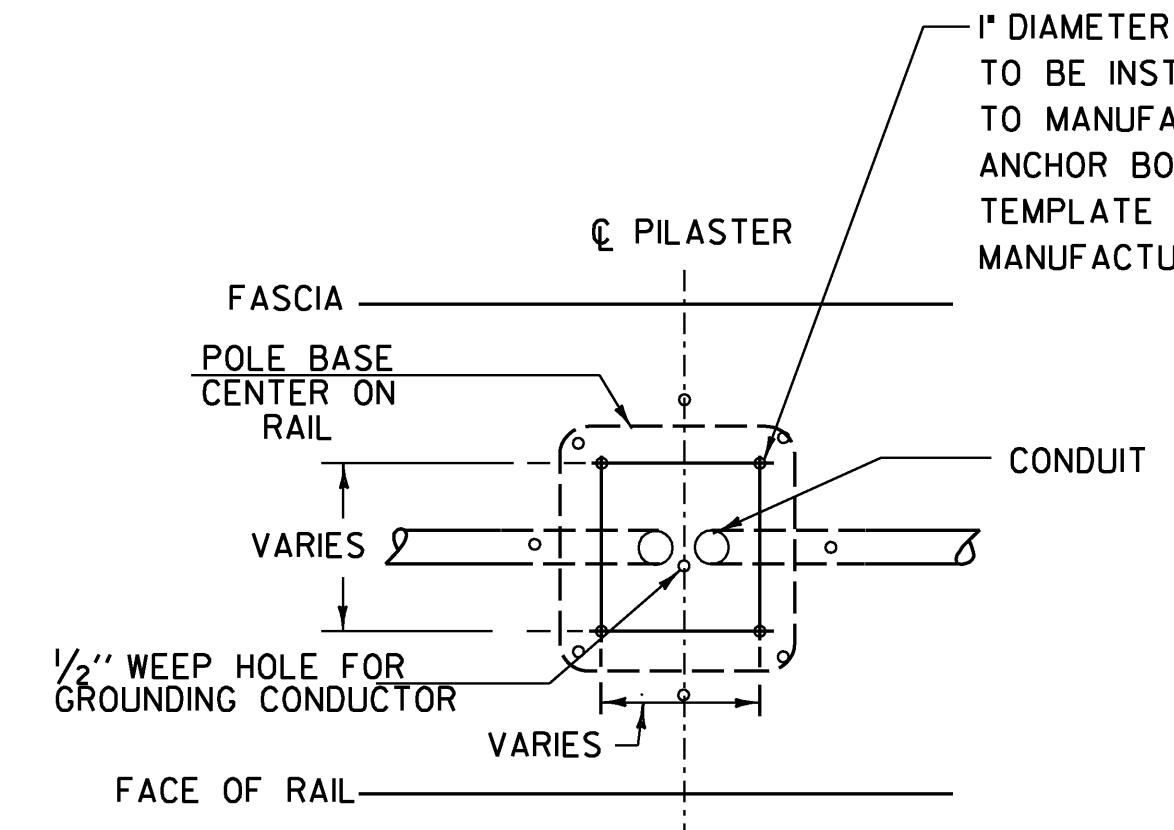
**STREET LIGHT NOTES:**

1. THE SCOPE OF WORK IS TO PROVIDE ALL LABOR, MATERIALS, SERVICES, SUPPLIES, TOOLS, EQUIPMENT, TRANSPORTATION, AND FACILITIES NECESSARY TO FURNISH AND INSTALL COMPLETE ELECTRICAL WORK AS CALLED FOR ON THE DRAWINGS, SPECIFIED, OR AS MAY REASONABLY BE IMPLIED AS BEING INCIDENTAL TO THIS WORK.
2. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL CODES, REGULATIONS AND REQUIREMENTS OF ALL MUNICIPAL, STATE, FEDERAL, UTILITY, AND OTHER PUBLIC OR PRIVATE AUTHORITIES WHICH HAVE JURISDICTION. IN EACH CASE, CODES ARE MINIMUM REQUIREMENTS.
3. FABRICATION DRAWINGS: SUBMIT COMPLETE CATALOG INFORMATION FOR ALL MATERIALS AND EQUIPMENT TO BE PURCHASED AND USED ON THIS PROJECT, AS SPECIFIED ON THE DRAWINGS AND AS REQUIRED BY SUBSECTION 679.02. DO NOT INSTALL MATERIALS OR EQUIPMENT WITHOUT APPROVAL BY THE ENGINEER. UNAPPROVED MATERIAL ALREADY INSTALLED SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT WITH APPROVED MATERIALS AT THE CONTRACTOR'S EXPENSE.
4. MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS' LABORATORIES AND SHALL BE INSTALLED IN ACCORDANCE WITH SUCH LISTINGS.
5. INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. CONTRACTOR TO CONTACT VILLAGE OF JOHNSON ELECTRIC DEPARTMENT FOR COORDINATION OF NEW ELECTRICAL SERVICE.
7. METER/DISCONNECT STANCHIONS SHALL INCLUDE MAIN SERVICE DISCONNECT (2 POLE, 80A, 240V, 1 PHASE) AND (6) SIX BRANCH CIRCUIT BREAKERS (1 POLE, 20A, 120V). ALL SERVICE ENTRANCE EQUIPMENT SHALL BE RATED 22 KAIC (MIN.).
8. MAXIMUM OF 270 DEGREES IN TOTAL BEND SHALL BE PERMITTED IN SINGLE RUN OF CONDUIT.
9. LIGHTS SHALL BE FUSED AT BASE WITH Y-TYPE FUSE KIT (EQUIVALENT OF HOMAC/FLOOD SEAL: FYC-6 AND 10 AMP FUSE).
10. UTILIZE DUAL-RATED PARALLEL TAP CONNECTORS AT POLE BASE EQUIVALENT TO ILSCO GTA SERIES WITH INSULATED COVERS.
11. THE LIGHTING SHALL BE FROM KING LUMINAIRE AND SHALL BE AS FOLLOWS:

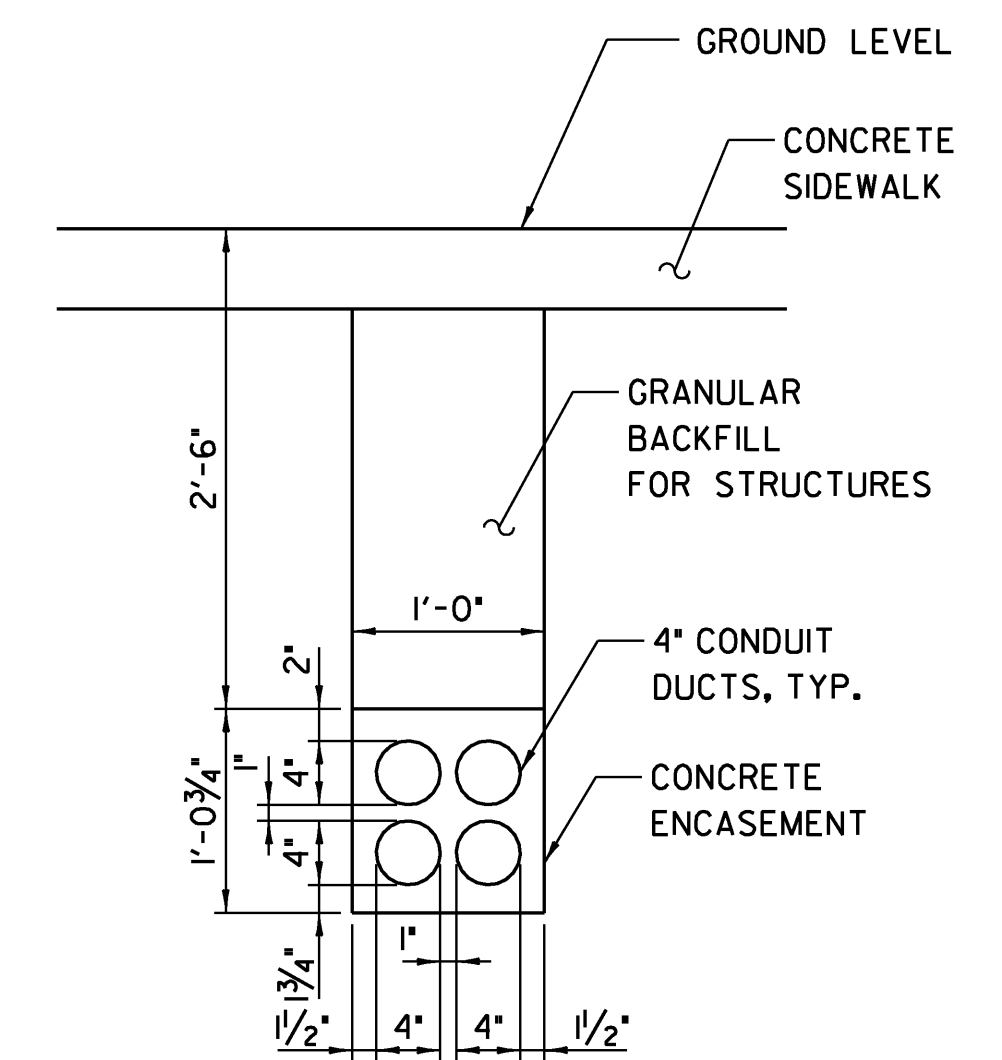
- POLE: KM19FE-14'  
\*THE CLEVELAND POLE\*  
PAINT: FEDERAL GREEN
- ARM: KA30-T-1-4'  
SCROLL ARM W/ DECORATIVE SCROLL  
PAINT: FEDERAL GREEN
- LEVELING DEVICE: KPL-20 PLUMBIZER  
PAINT: FEDERAL GREEN
- LUMINAIRE: K211-EGS-III-100(MED)-MH-120(MT)-KPL20  
PAINT: FEDERAL GREEN

**CONNECTION OF UNDERGROUND UTILITIES NOTES:**

1. CONTRACTOR SHALL SUPPLY ALL CONDUIT NECESSARY TO INSTALL UNDERGROUND UTILITIES AS SHOWN IN THE PLANS. THIS SHALL INCLUDE ALL CONDUIT, WEATHERHEAD, STANDOFF BRACKETS, SLIP JOINTS AND COUPLINGS. THIS WORK SHALL BE PAID FOR INCIDENTAL TO ITEM 678.21, "ELECTRICAL CONDUIT (2" DIA.)."
2. THE LIMITS OF INSTALLATION BY THE CONTRACTOR SHALL EXTEND TO THE LOCATION OF THE SLIP JOINT AT 2'-0" ABOVE GRADE. INSTALLATION ABOVE THE SLIP JOINT SHALL BE COMPLETED BY THE UTILITY COMPANY.



**STREET LIGHT MOUNTING DETAILS**  
NOT TO SCALE



**SPECIAL PROVISION  
(UTILITY DUCT BANK)(4 CONDUIT)  
TRENCH DETAIL**  
SCALE: 1" = 1'-0"

STA. 1+25.00 TO STA. 2+71.00  
STA. 4+18.50 TO STA. 5+47.84

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta. Surv. Sta.
<b>TH NO. 1 OVER THE GIBON RIVER</b>		
<b>STREET LIGHT AND UTILITY DETAILS</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372light.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 46 of 68

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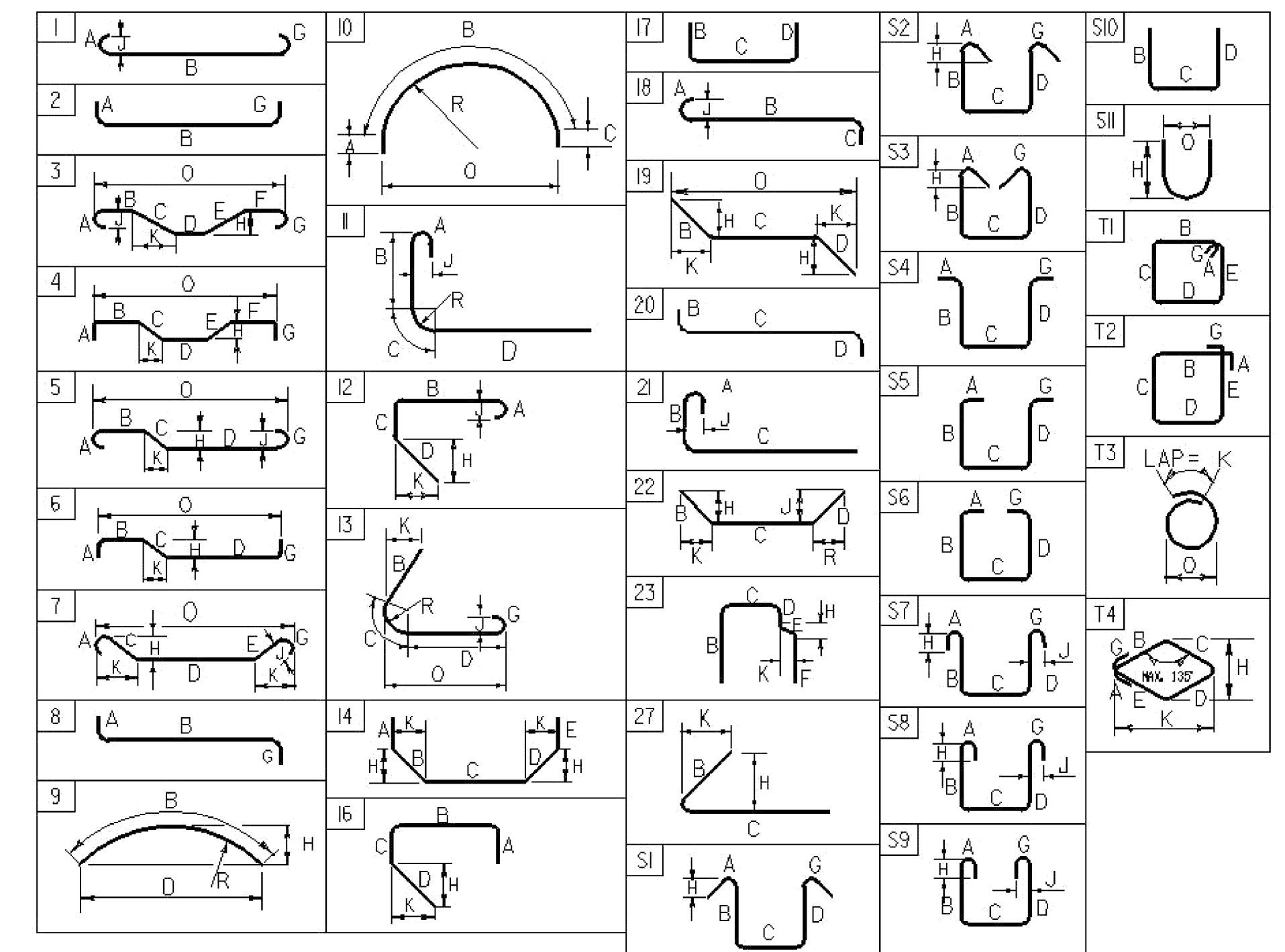
PLOTTED 2/10/2009

# REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O		
<b>SUPERSTRUCTURE</b>																																					
316	5	35'-10"	ES501	STR																																	
* 651	5	31'-11"	ES502	STR																																	
84	5	22'-1"	ES504	STR																																	
* ▲ 25	5	4'-6"	ES509	STR																																	
302	5	37'-0"	ES503	1	0'-7"	35'-10"						0'-7"																									
304	5	10'-1"	ES505	S6	0'-10"	1'-4"	5'-8"	1'-5"				0'-10"																									
604	5	4'-4"	ES506	S7	1'-10"	1'-8"	0'-10"	---				---	1'-6"	0'-6"																							
60	5	12'-2"	ES507	S5	2'-2"	3'-9"	0'-7"	3'-6"				2'-2"																									
74	5	4'-4"	ES508	16	---	1'-6"	0'-8"	2'-2"																													
* 39	8	3'-2"	ES801	16	---	---	1'-9"	1'-5"																													
<b>APPROACH SLAB NO. 1</b>																																					
* 22	5	23'-6"	1EAS501	STR																																	
* 31	9	20'-7"	1EAS901	1	1'-3"	19'-4"						---																									
<b>APPROACH SLAB NO. 2</b>																																					
* 22	5	23'-6"	2EAS501	STR																																	
* 31	9	20'-7"	2EAS901	1	1'-3"	19'-4"						---																									
<b>ABUTMENT NO. 1</b>																																					
16	5	20'-9"	1A501	STR																																	
* 11	5	8'-10"	1A503	STR																																	
* 41	5	5'-0"	1A502	17		1'-0"	4'-0"	---																													
<b>ABUTMENT NO. 2</b>																																					
* 89	5	12'-6"	2A501	STR																																	
60	5	23'-6"	2A502	STR																																	
* ▲ 58	5	5'-10"	2A503	17		2'-2"	1'-6"	2'-2"																													
* ▲ 58	5	9'-4"	2A504	22		4'-8"	4'-8"	---					2'-11"	---	3'-7"	---																					
▲ 38	5	8'-10"	2A505	17		4'-10"	4'-0"	---																													
▲ 19	5	8'-0"	2A506	17		4'-0"	4'-0"	---																													
▲ 19	5	5'-10"	2A507	17		2'-2"	1'-6"	2'-2"																													
16	5	5'-9"	2A508	27		1'-6"	4'-3"						1'-4"		0'-9"																						
<b>WINGWALL NO. 1</b>																																					
* ▲ 5	5	15'-6"	1W501	STR																																	
* 34	5	2'-9"	1W502	17		0'-9"	2'-0"	---																													
* 5	5	4'-4"	1W503	17		2'-2"	2'-2"	---																													
* 3	5	3'-0"	1W504	27		1'-0"	2'-0"	---					0'-10"		0'-6"																						
<b>WINGWALL NO. 2</b>																																					
* ▲ 5	5	15'-4"	2W501	STR																																	
* 34	5	2'-9"	2W502	17		0'-9"	2'-0"	---					0'-3"																								
* 5	5	4'-4"	2W503	17		2'-2"	2'-2"	---																													
* 3	5	3'-0"	2W504	27		1'-0"	2'-0"	---					0'-10"		0'-6"																						
<b>WINGWALL NO. 3</b>																																					
* ▲ 39	5	17'-0"	3W501	STR																																	
▲ 36	5	17'-0"	3W502	STR																																	
* 3	5	18'-8"	3W504	STR																																	
19	5	5'-10"	3W503	17		2'-2"	1'-6"	2'-2"																													
<b>WINGWALL NO. 4</b>																																					
* ▲ 17	5	17'-0"	4W501	STR																																	
* ▲ 37	5	6'-2"	4W502	STR																																	
* 8	5	5'-10"	4W503	17		2'-2"	1'-6"	2'-2"																													
<b>FOOTING NO. 2</b>																																					
▲ 44	5	26'-2"	2F501	STR																																	
* 23	5	15'-2"	2F502	STR																																	
* ▲ 173	7	10'-0"	2F701	STR																																	
* 117	7	5'-9"	2F702	STR																																	
* 20	8	4'-0"	2F801	STR																																	
* 67	5	5'-5"	2F503	17		1'-0"	4'-5"																														
* ▲ 141	8	12'-6"	2F802	17		1'-0"	11'-6"																														
<b>PIER</b>																																					
16	5	18'-6"	P501	STR																																	
64	5	2'-6"	P504	STR																																	
* ▲ 9	5	6'-2"	P507	STR																																	
36	5	11'-0"	P502	T1	1'-0"	3'-6"	1'-0"	3'-6"	1'-0"			1'-0"																									
2	5	7'-10"	P503	17		2'-2"	3'-6"	2'-2"																													
▲ 10	5	3'-10"	P505	22		2'-10"	1'-0"	---					2'-0"	---	2'-0"	---																					
* ▲ 6	5	9'-6"	P506	S10		4'-0"	1'-6"	4'-0"																													
* 21	9	9'-6"	P901	T1	1'-0"	2'-9"	1'-0"	2'-9"	1'-0"			1'-0"																									
* 8	10	12'-8"	P1001	1	1'-5"	11'-3"																															

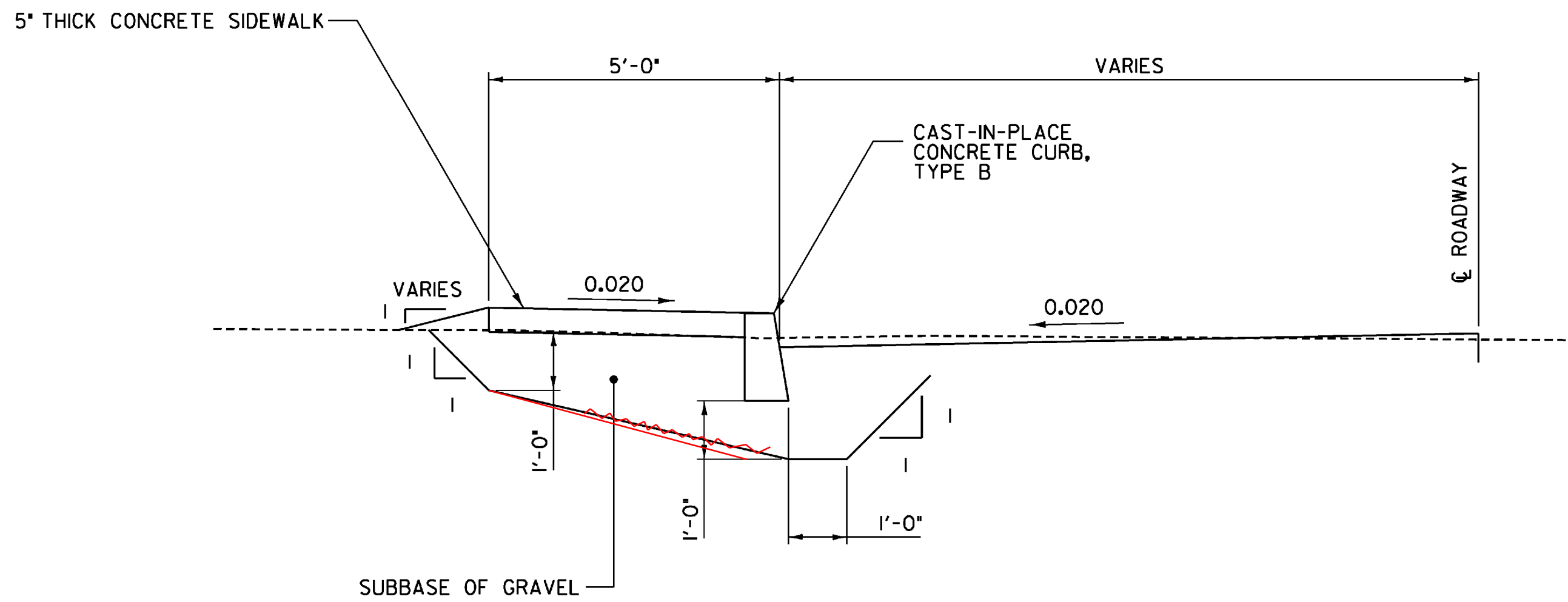
~ NOTES ~

- 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 M31 (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.



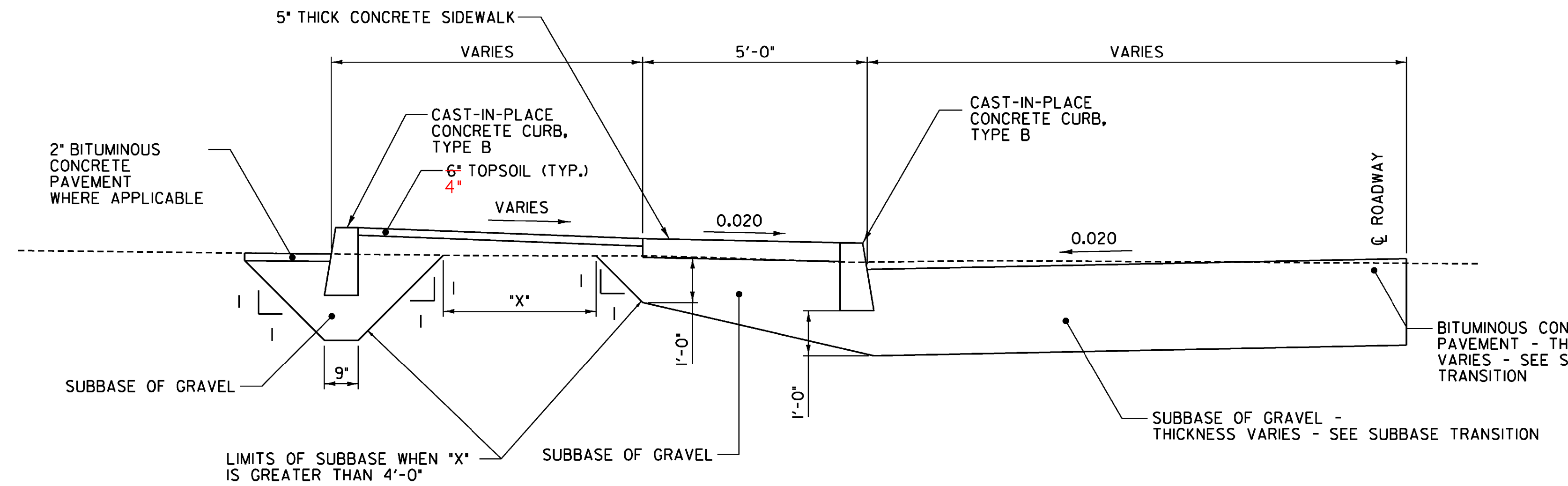
ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES <sup>2</sup>	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME: **JOHNSON**  
 PROJECT NUMBER: **BHO 1448(29)**  
 FILE NAME: z98j372rss.xls PLOT DATE: 2/10/2009  
 PROJECT MANAGER: J. W. TUCKER DRAWN BY: A. P



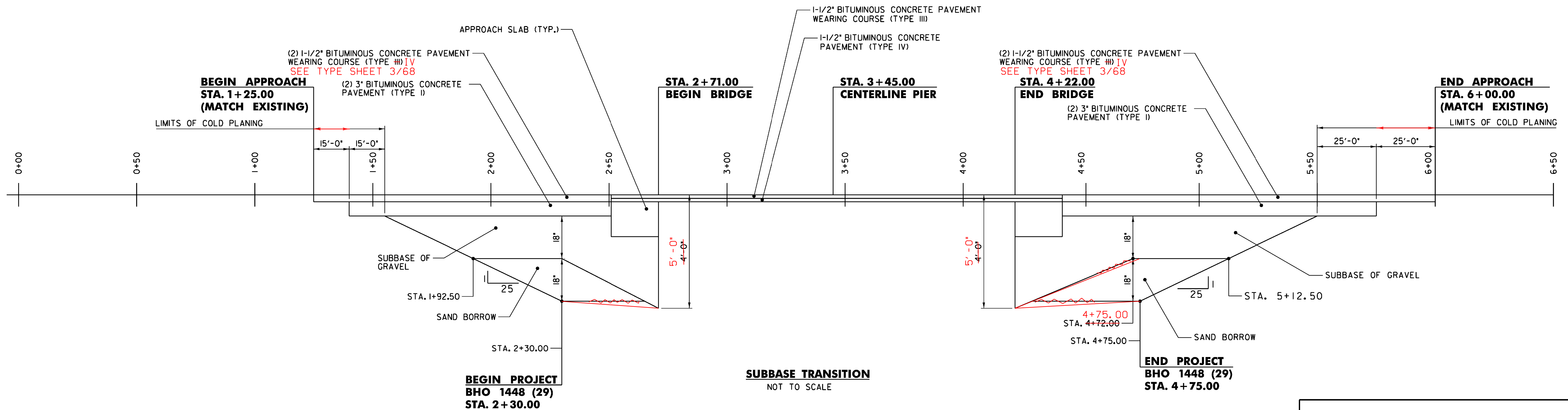
**TYPICAL CURB SECTION W/O  
SUBBASE UNDER ROADWAY**

SCALE: 1/2" = 1'



**TYPICAL CURB SECTION W/ TREE LAWN**

SCALE: 1/2" = 1'



**SUBBASE TRANSITION**  
NOT TO SCALE

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

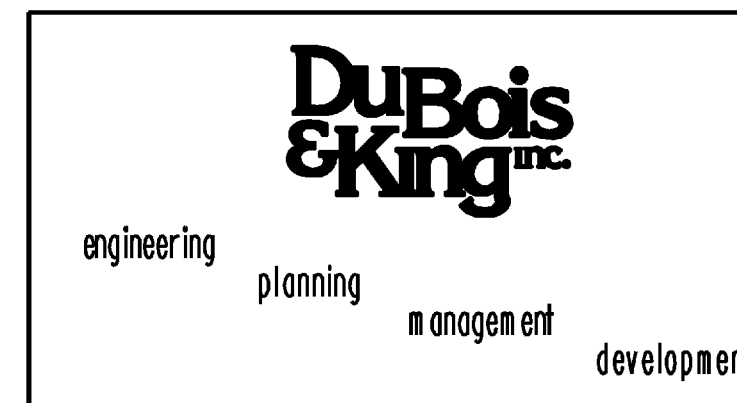
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

**SUBBASE TRANSITION AND TYP. CURB SECTION**

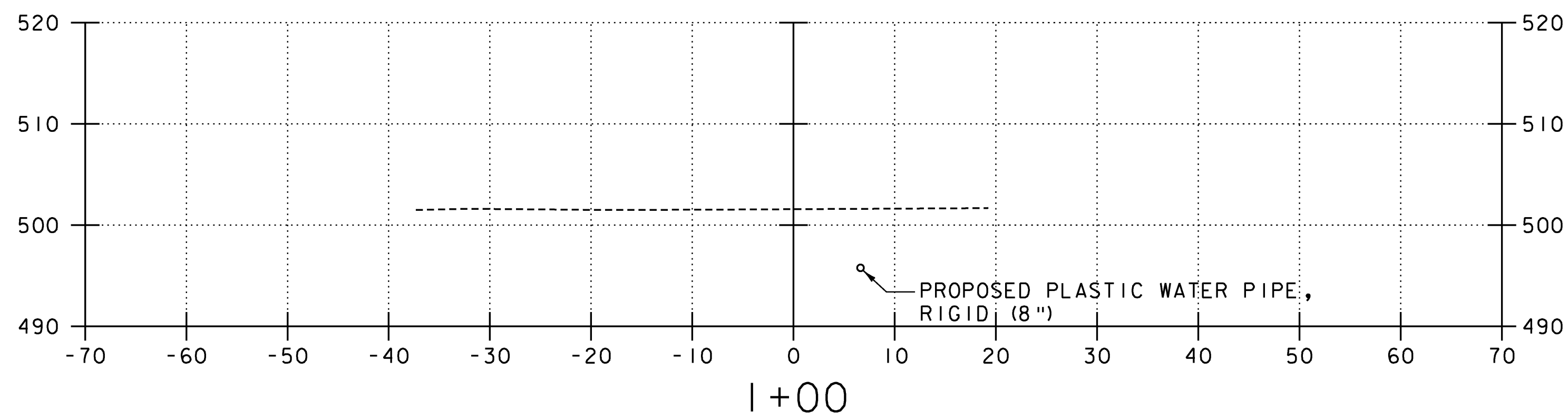
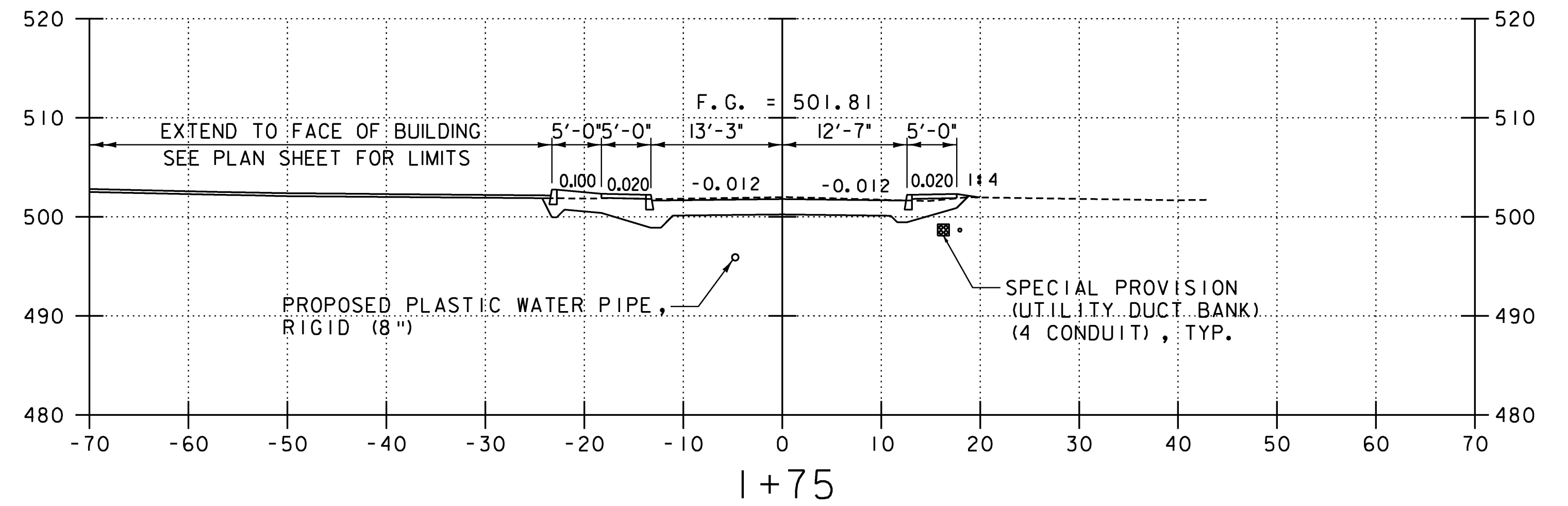
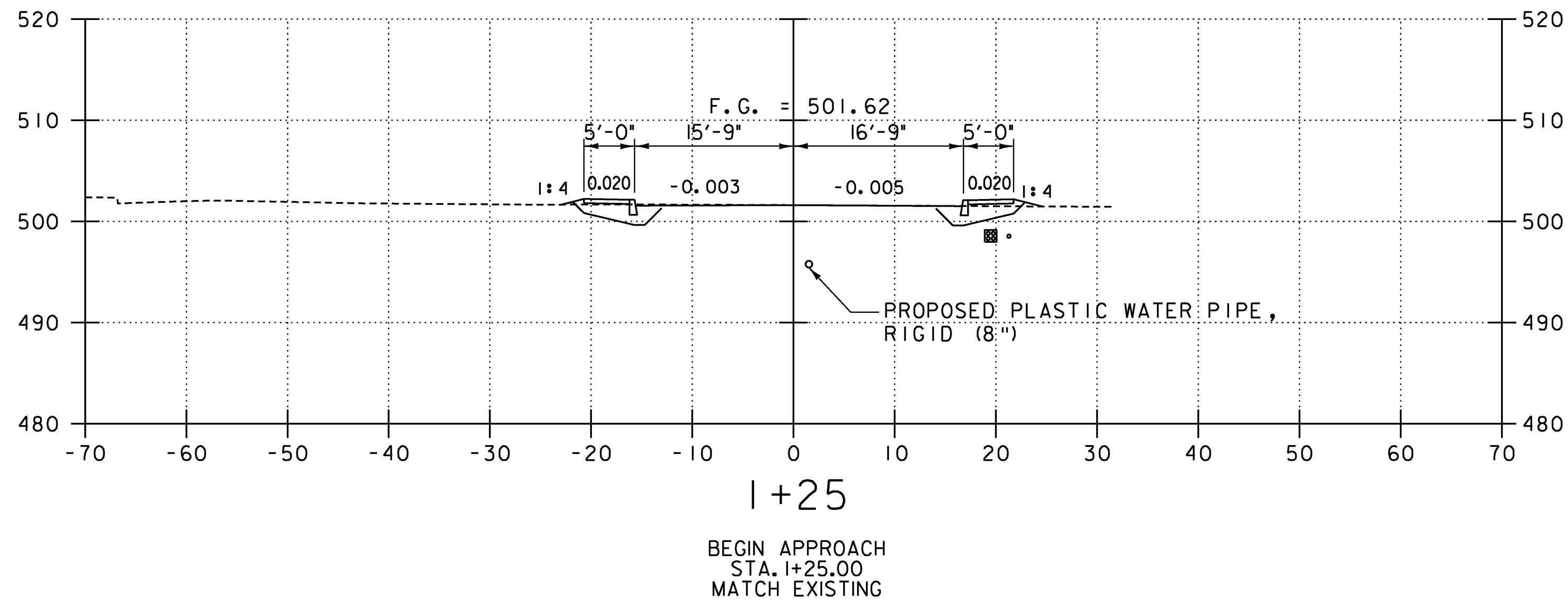
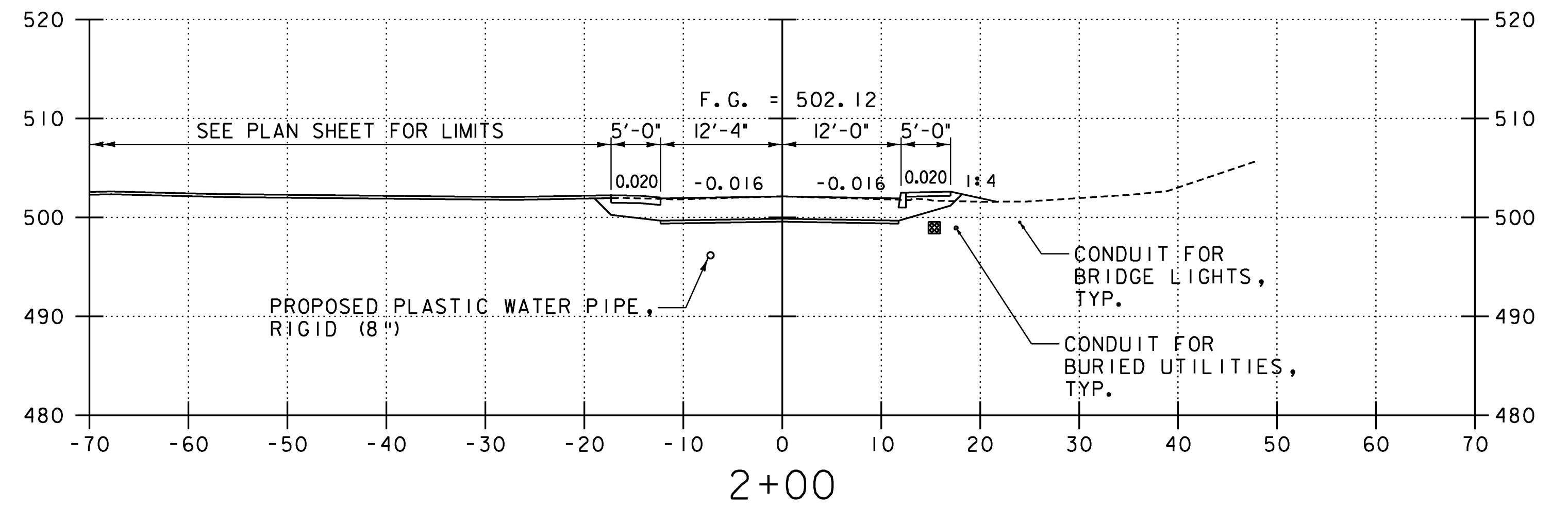
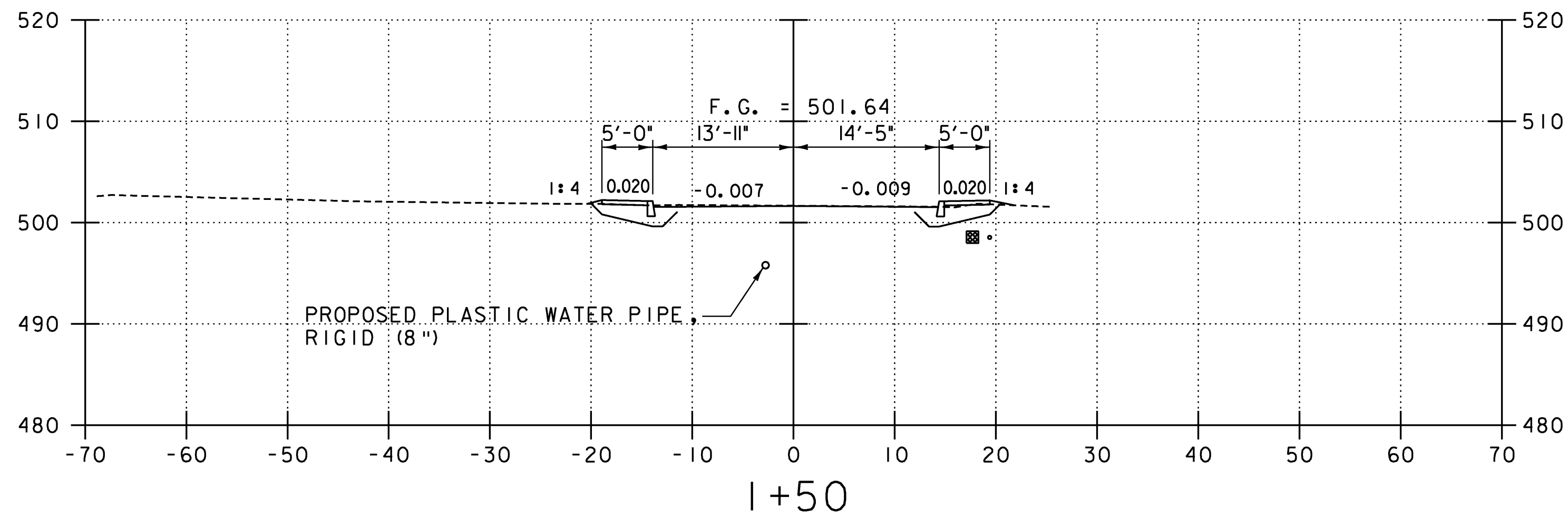
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	J. W. TUCKER Date 2/09

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	48 of 68

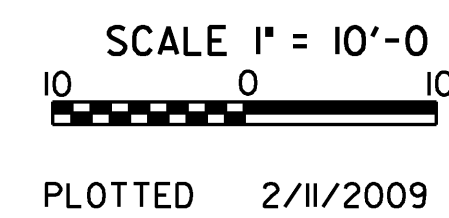


PLOTTED 2/10/2009

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED

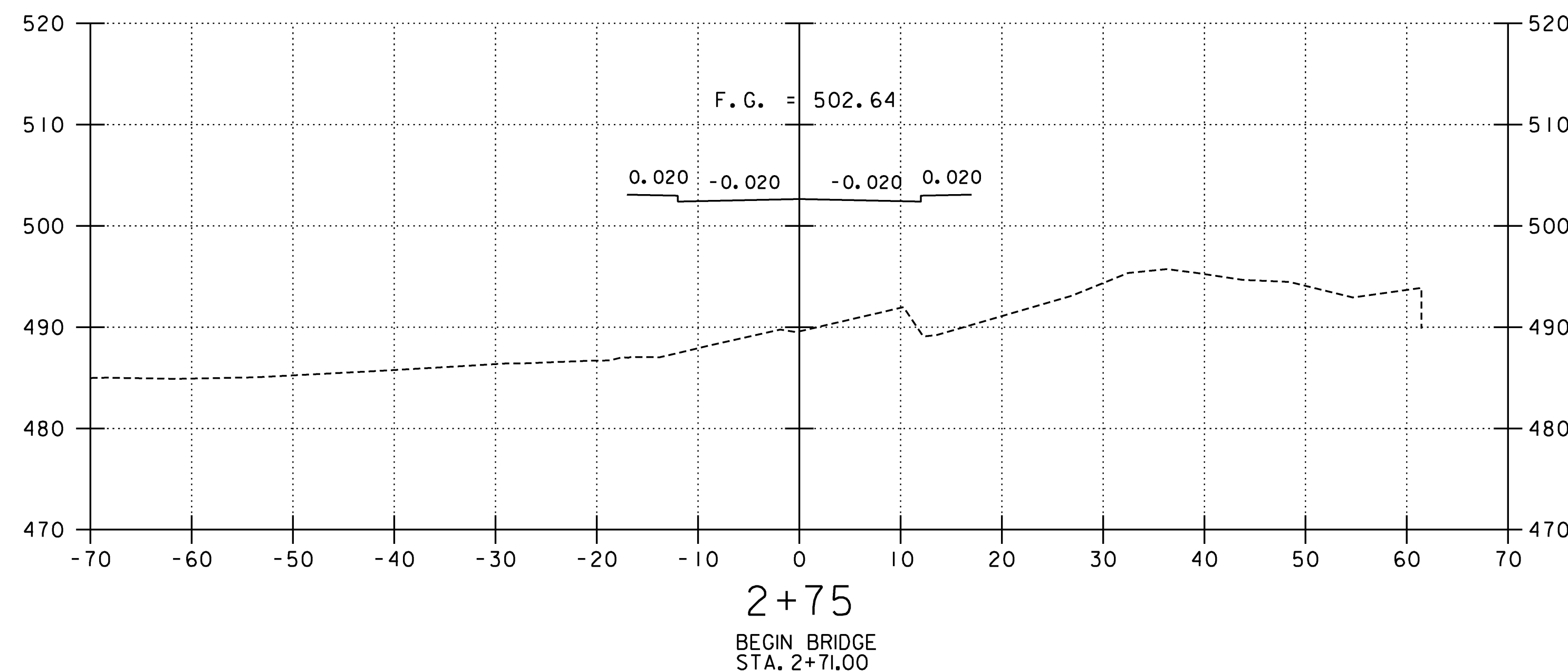
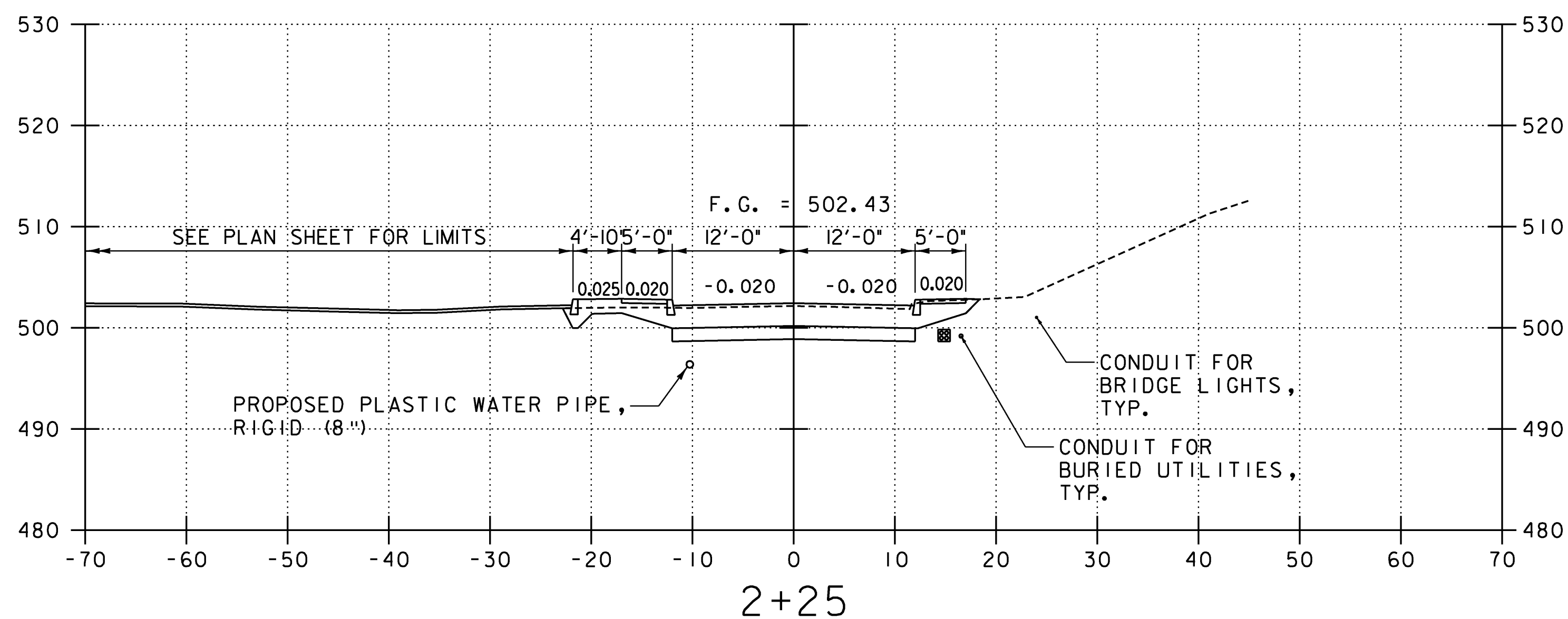
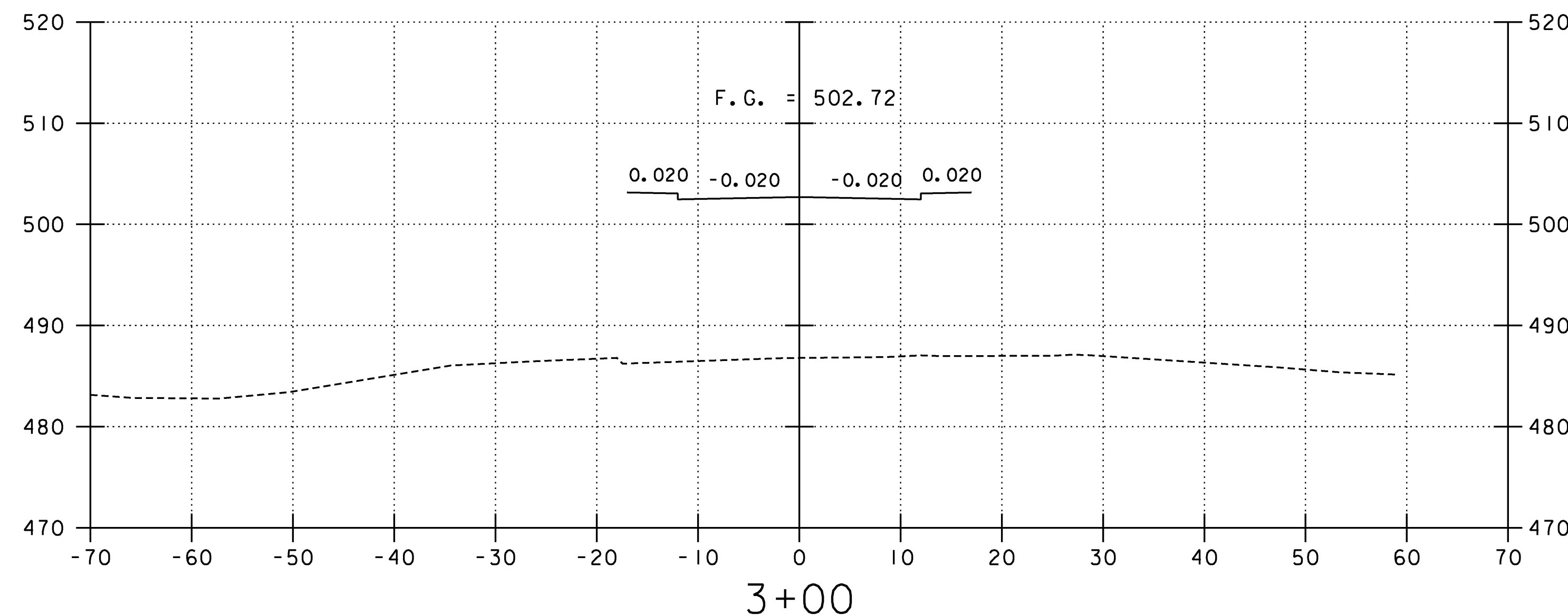
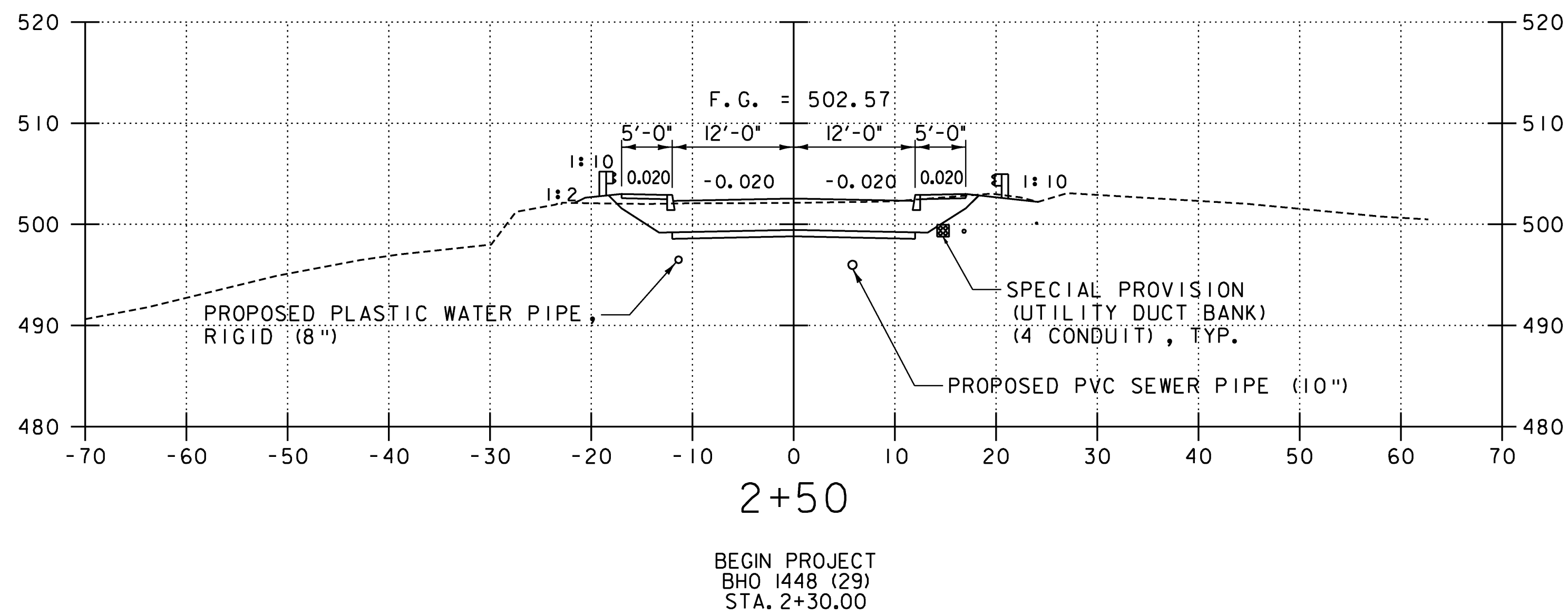


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VERTICAL	NAVD 88
HORIZONTAL	ASSUMED

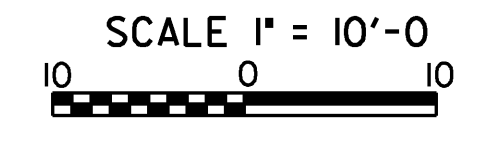


**DuBois & King**  
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 engineering planning management development

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta. Surv. Sta.
<b>TH NO. 1 OVER THE GIHON RIVER ROADWAY CROSS SECTIONS (1)</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 49 of 68



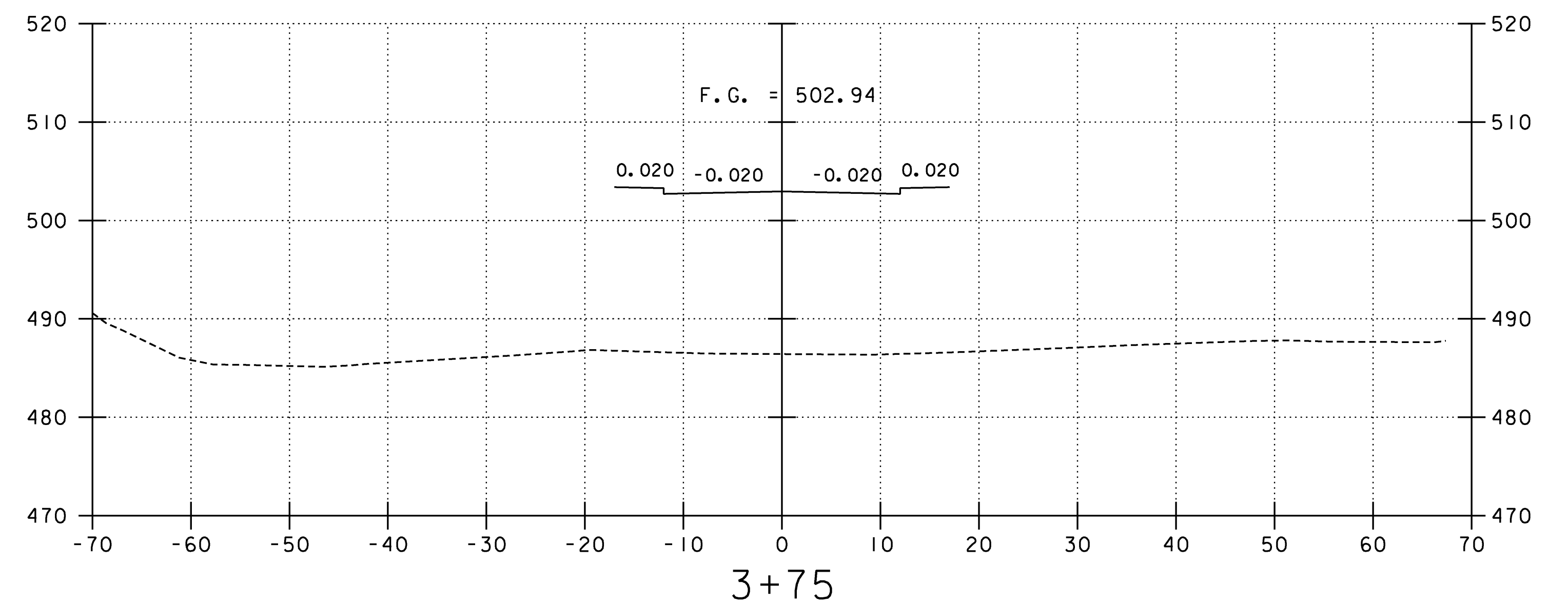
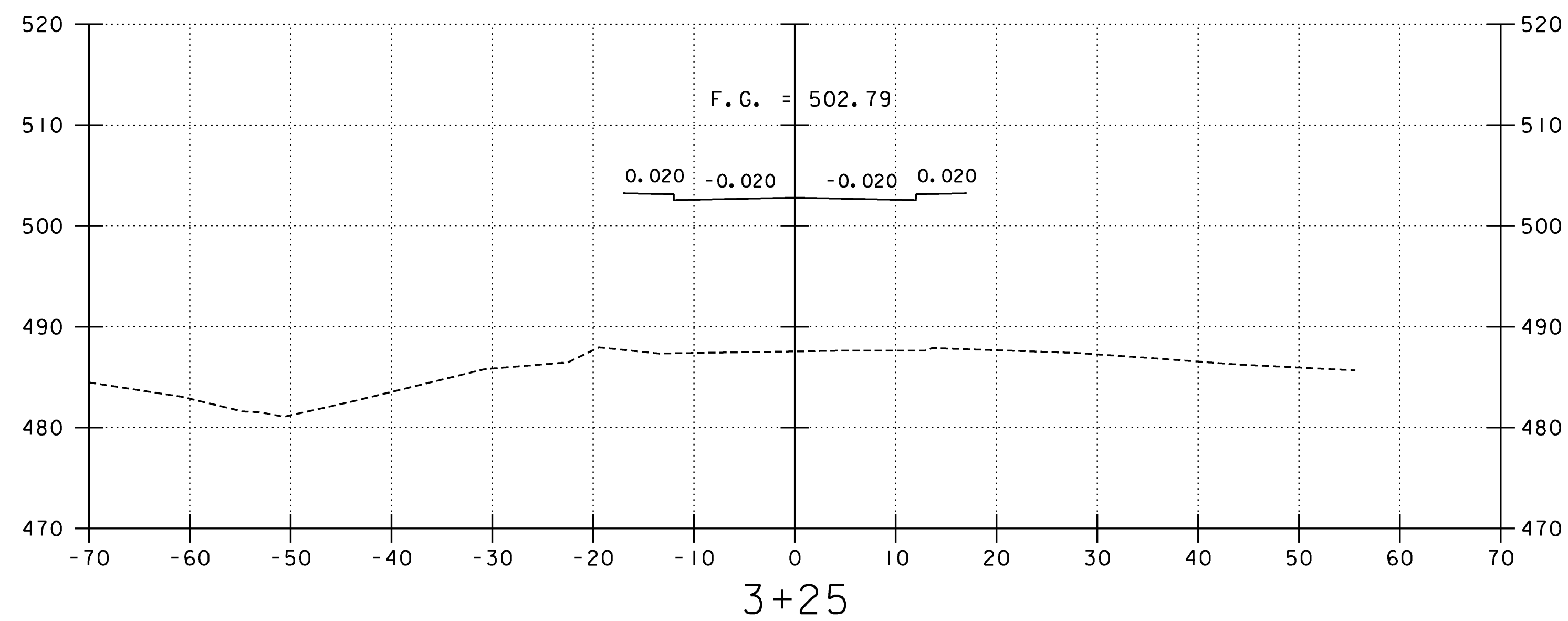
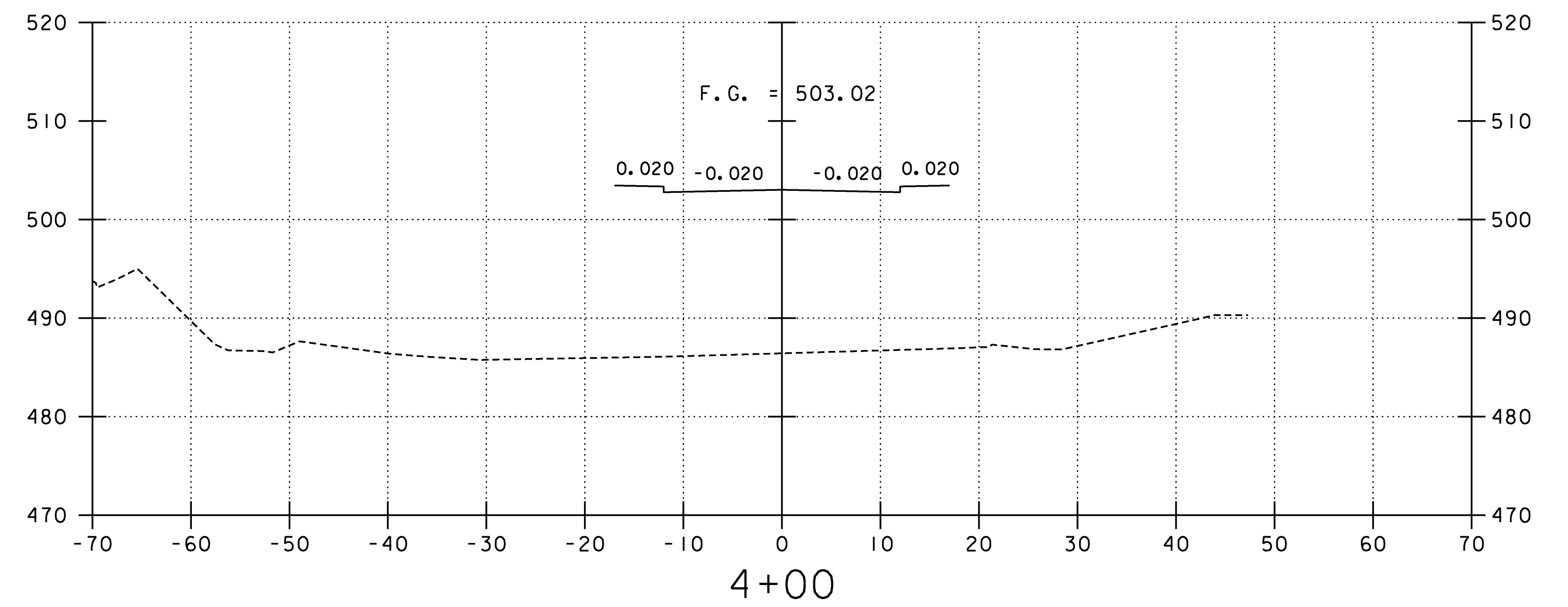
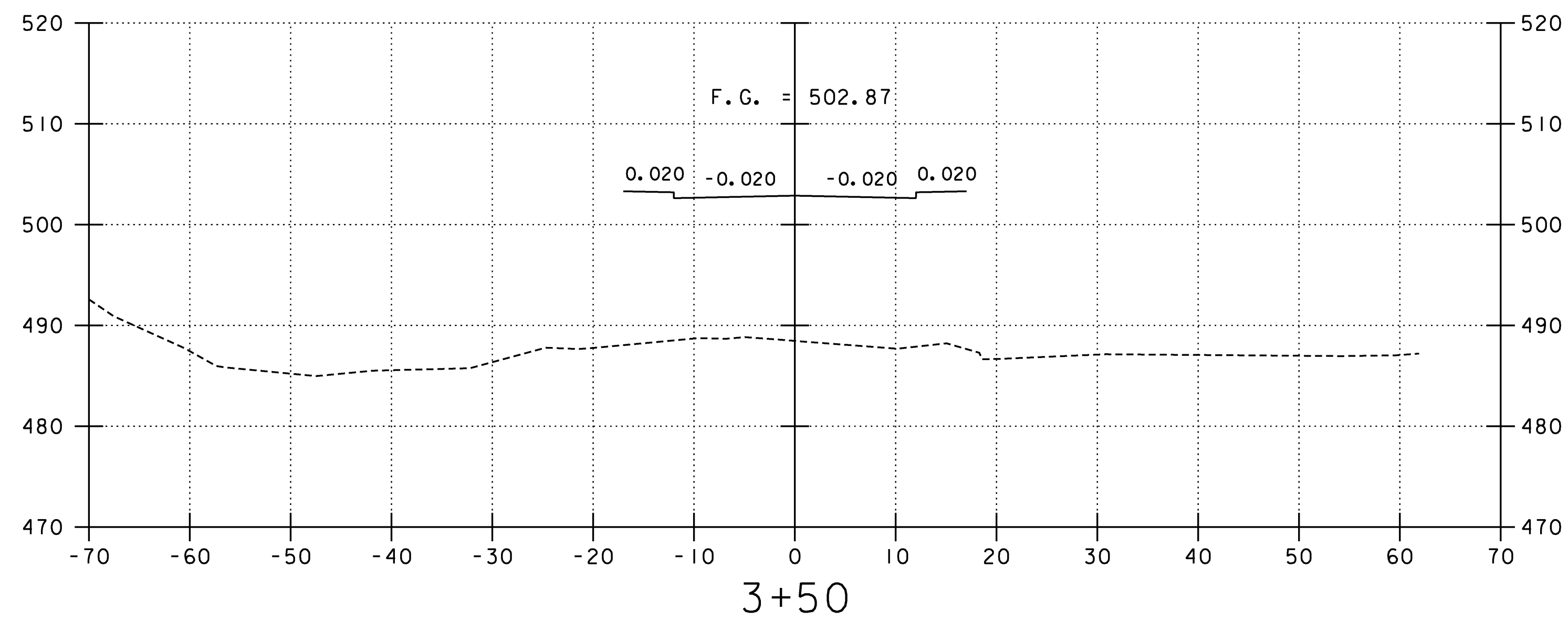
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VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



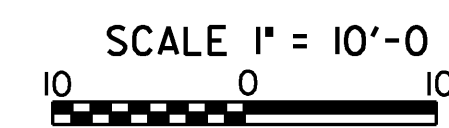
PLOTTED 2/11/2009

**DuBois & King**  
 engineering planning management development

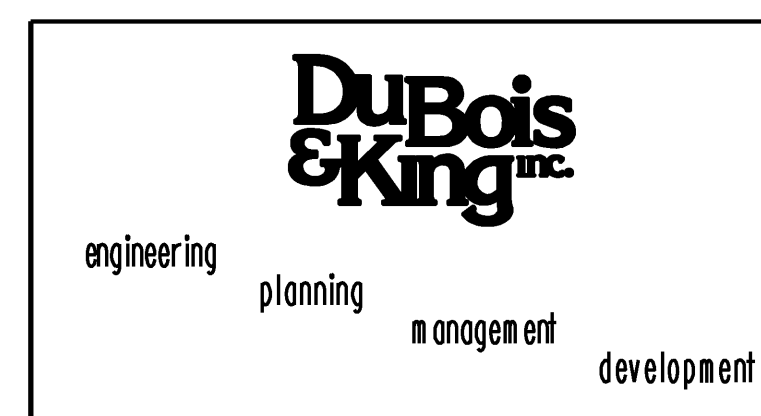
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER ROADWAY CROSS SECTIONS (2)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	50 of 68



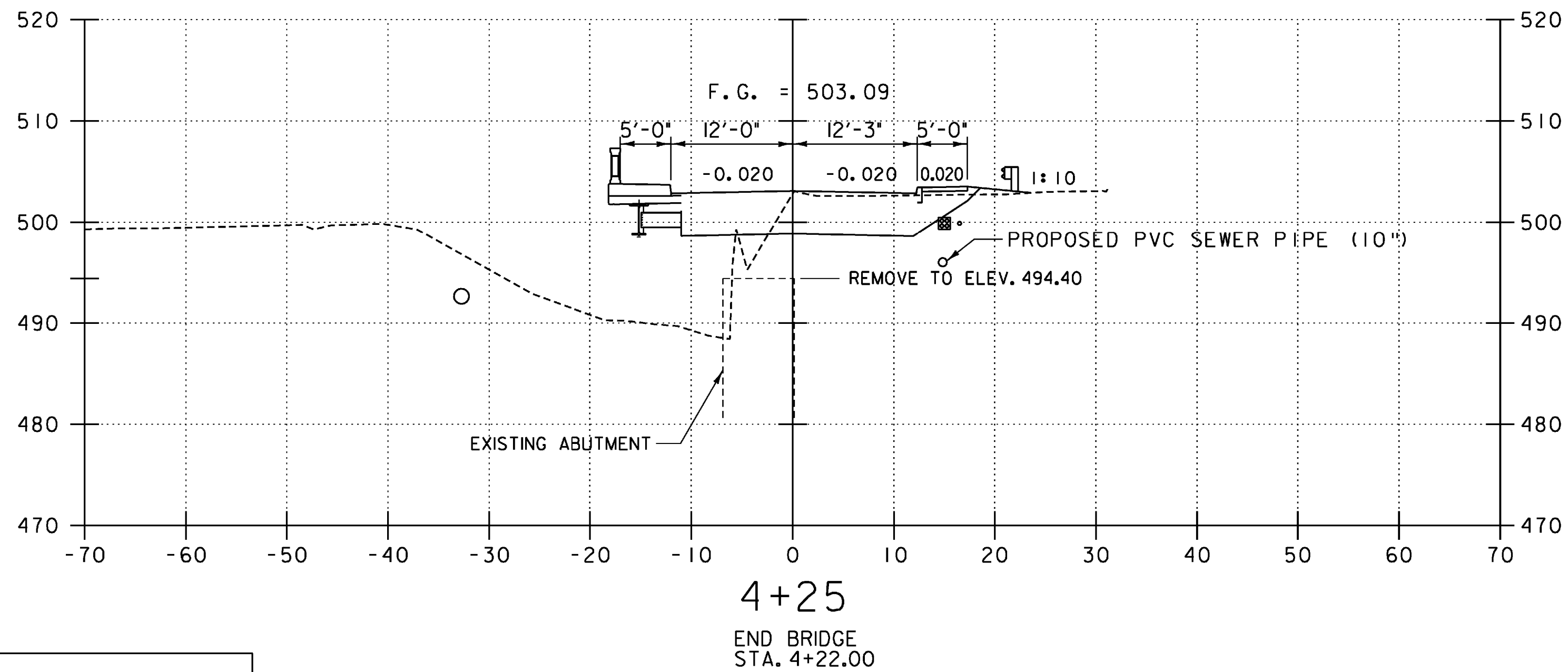
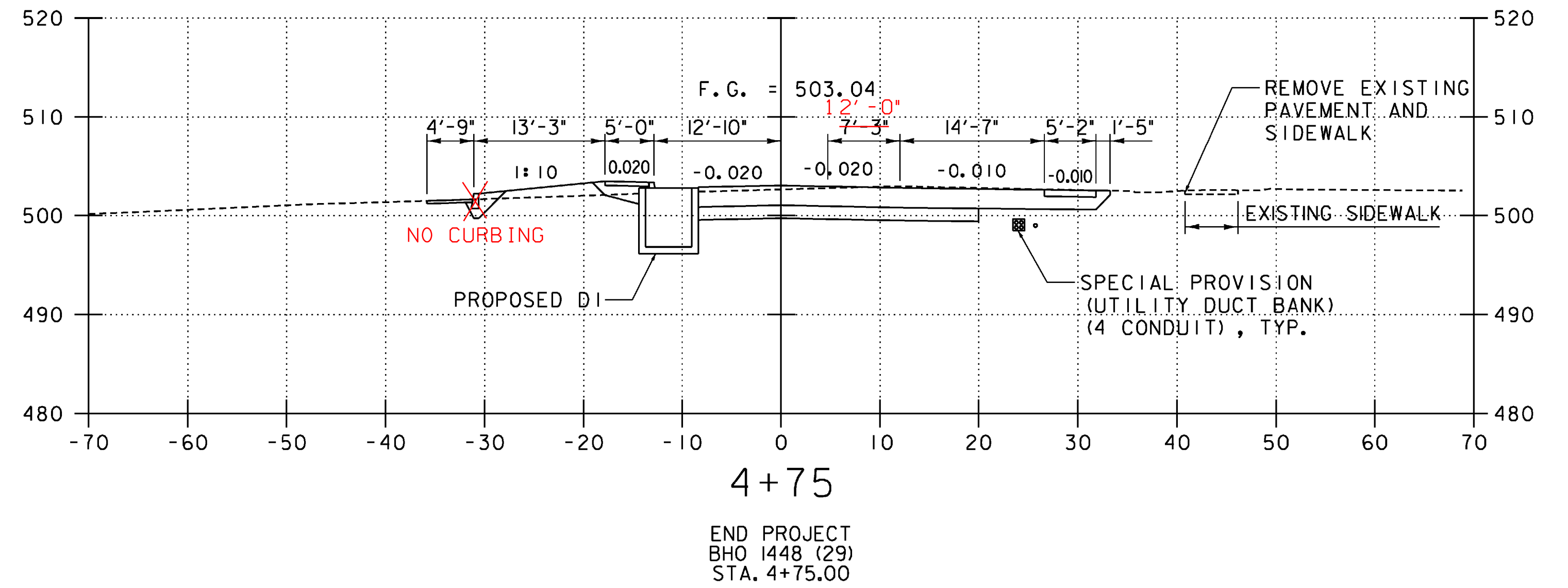
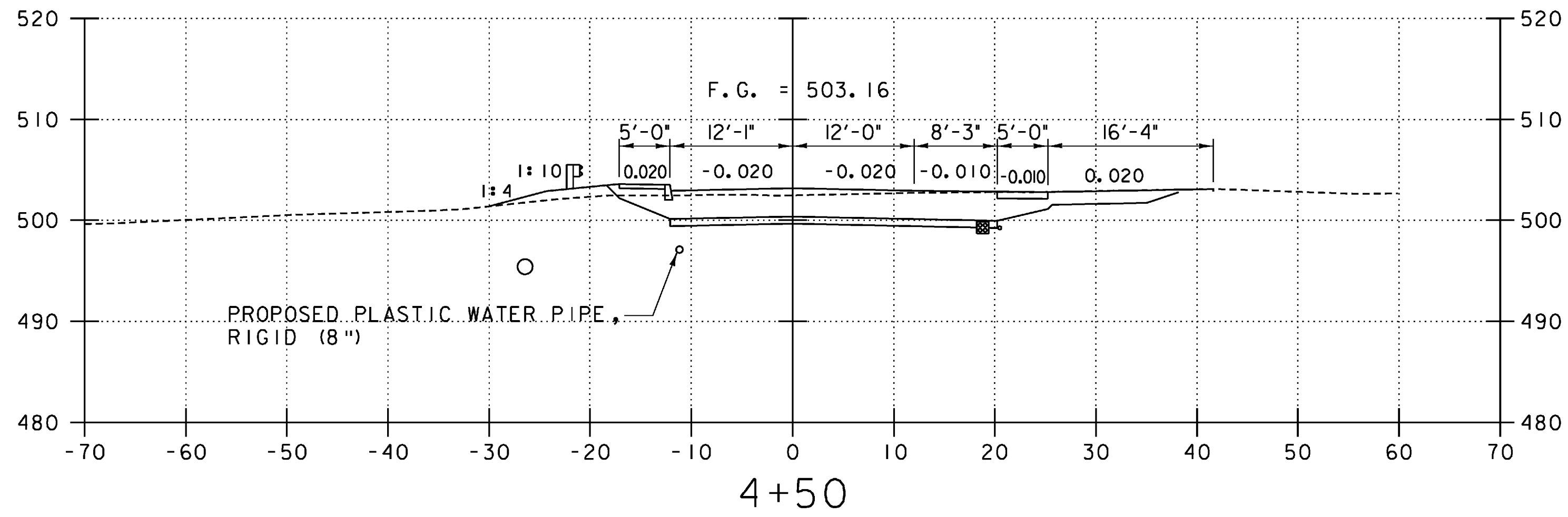
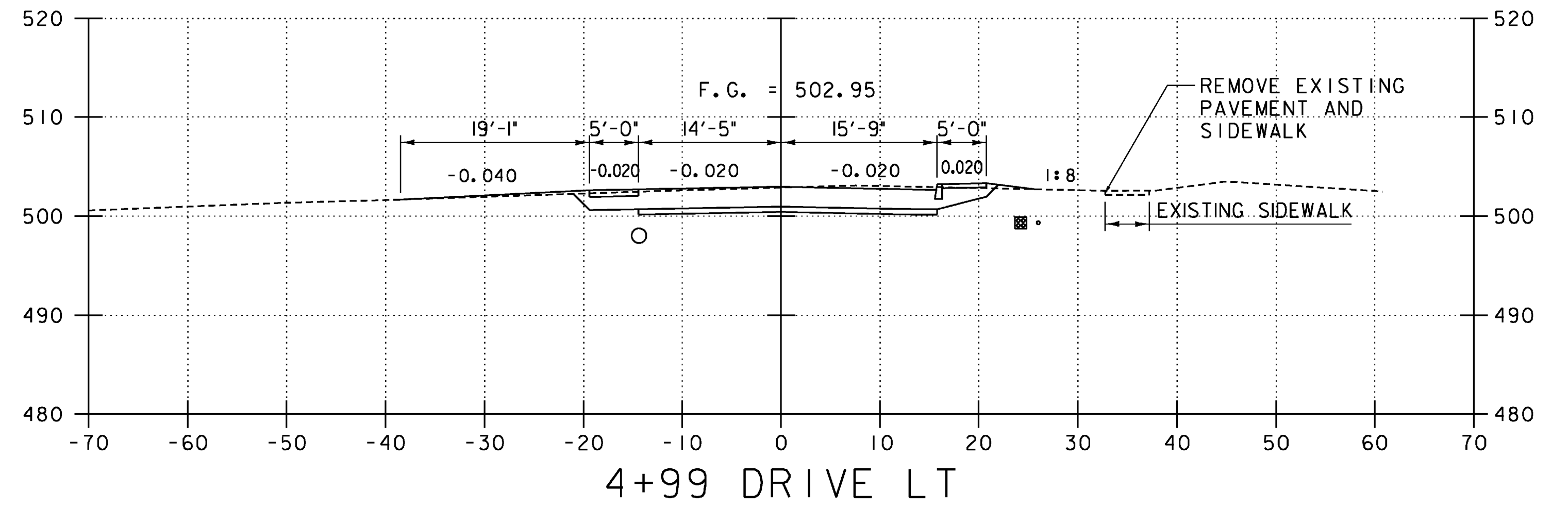
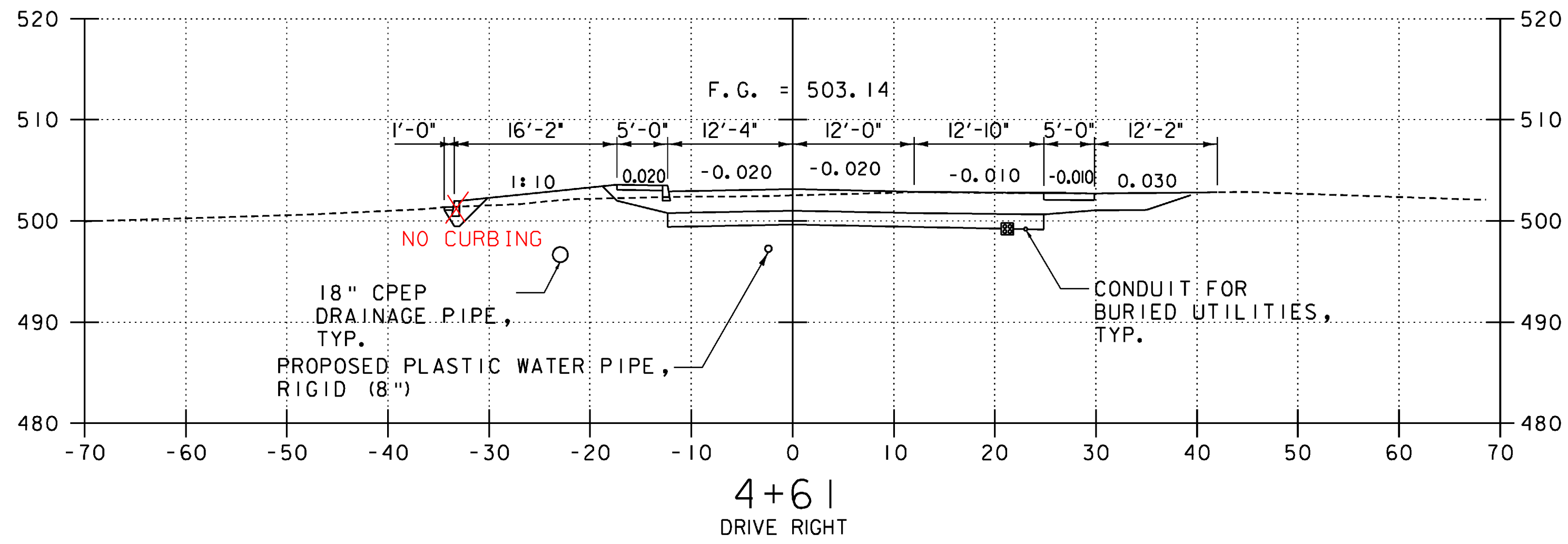
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VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



PLOTTED 2/11/2009



<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta.
		Surv. Sta.
<b>TH NO. 1 OVER THE GIHON RIVER</b>		
<b>ROADWAY CROSS SECTIONS (3)</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor
J. W. TUCKER	2/09	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 51 of 68



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED

SCALE 1" = 10'-0"

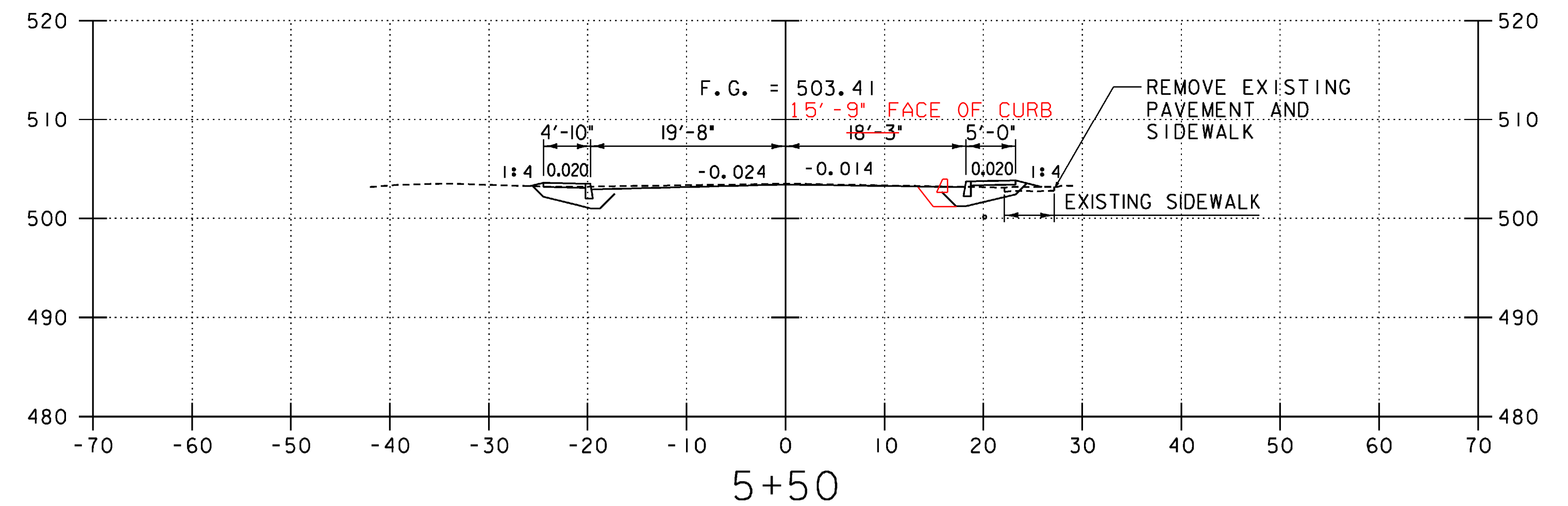
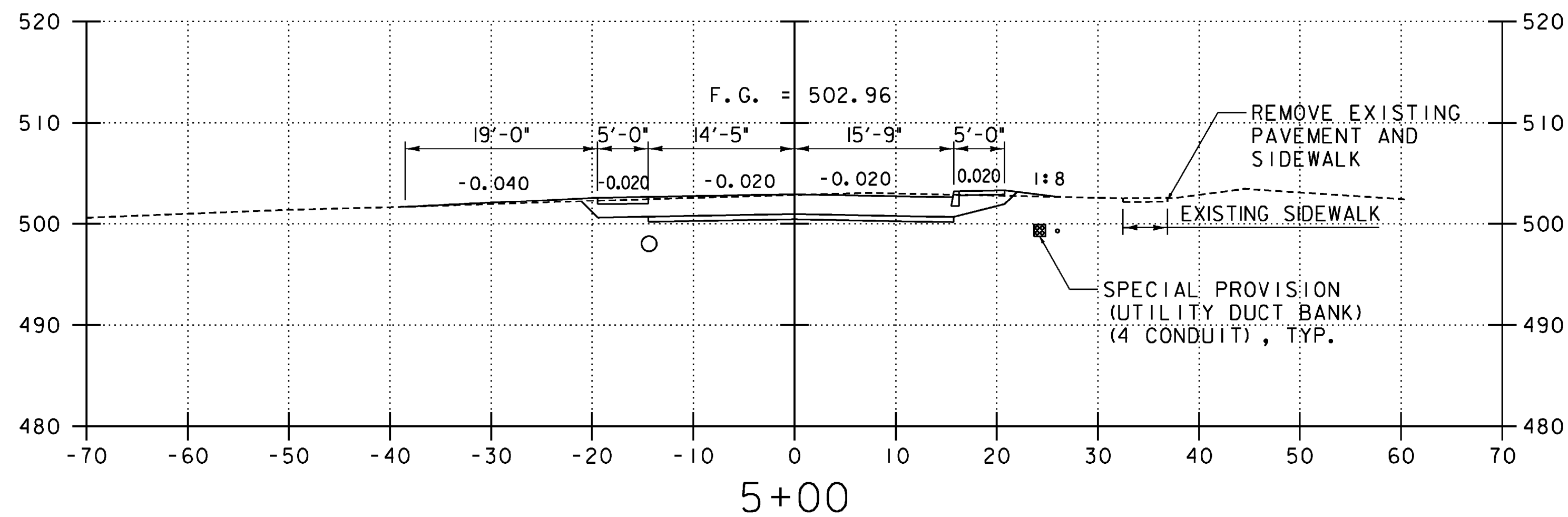
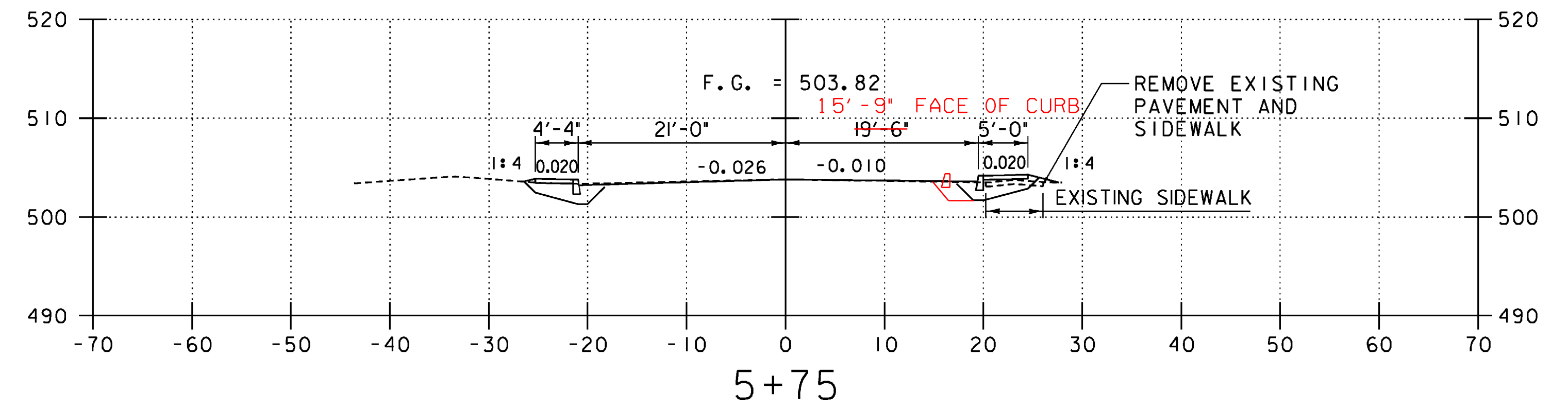
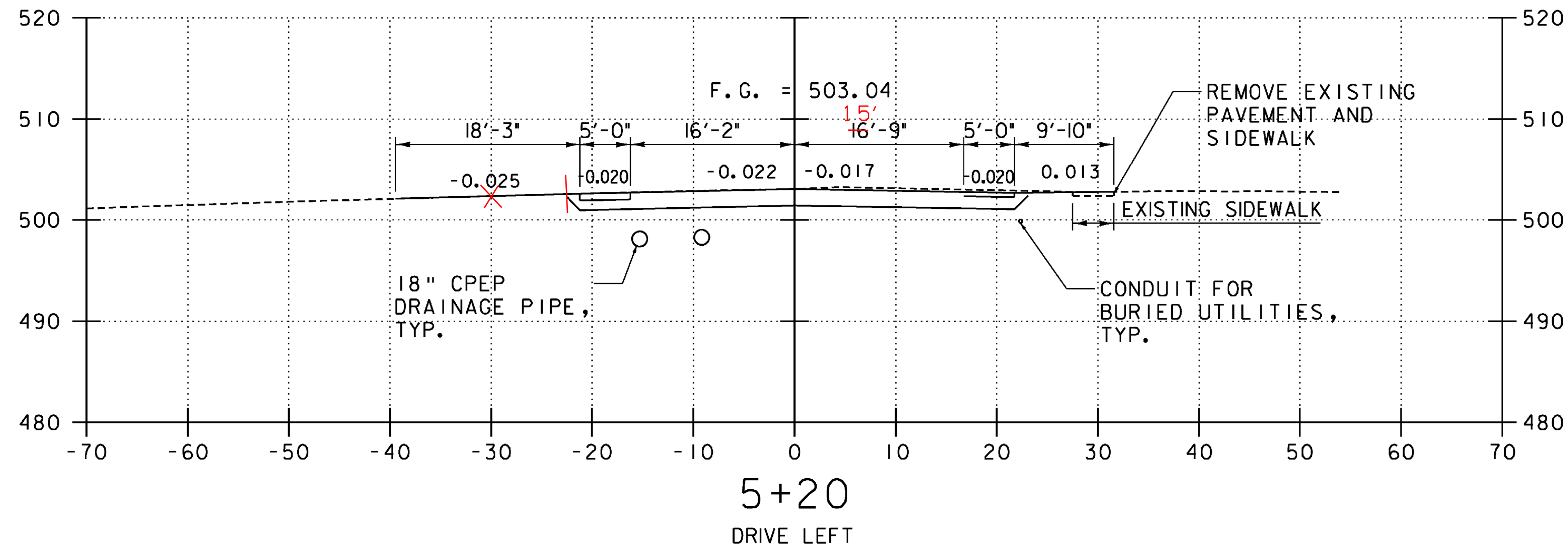
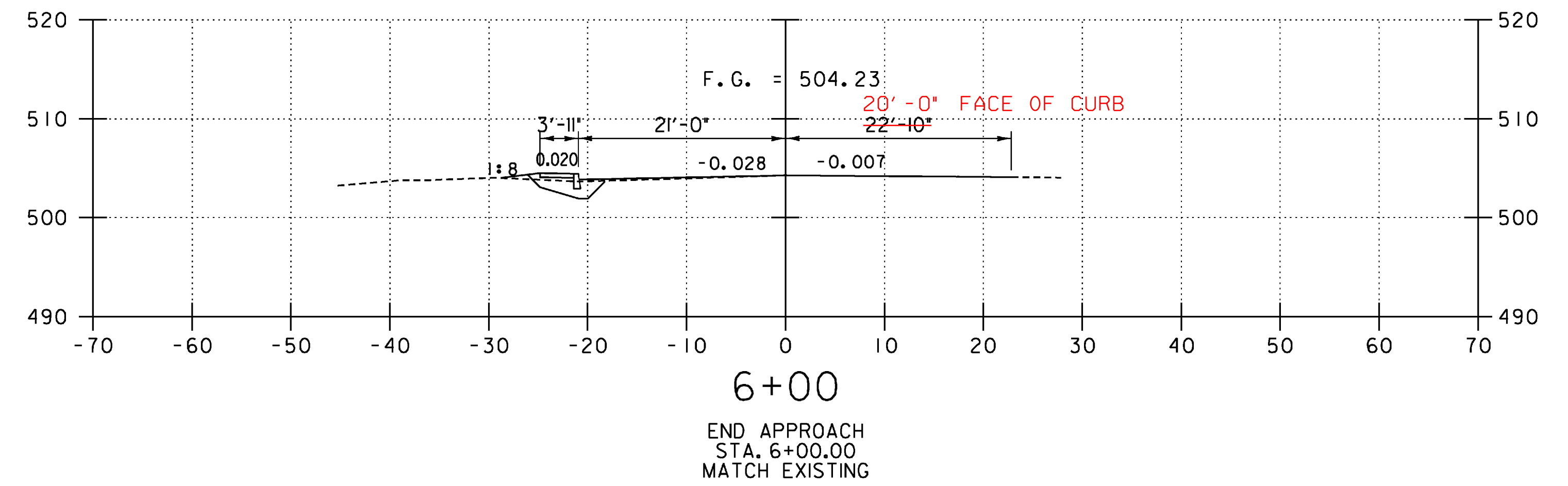
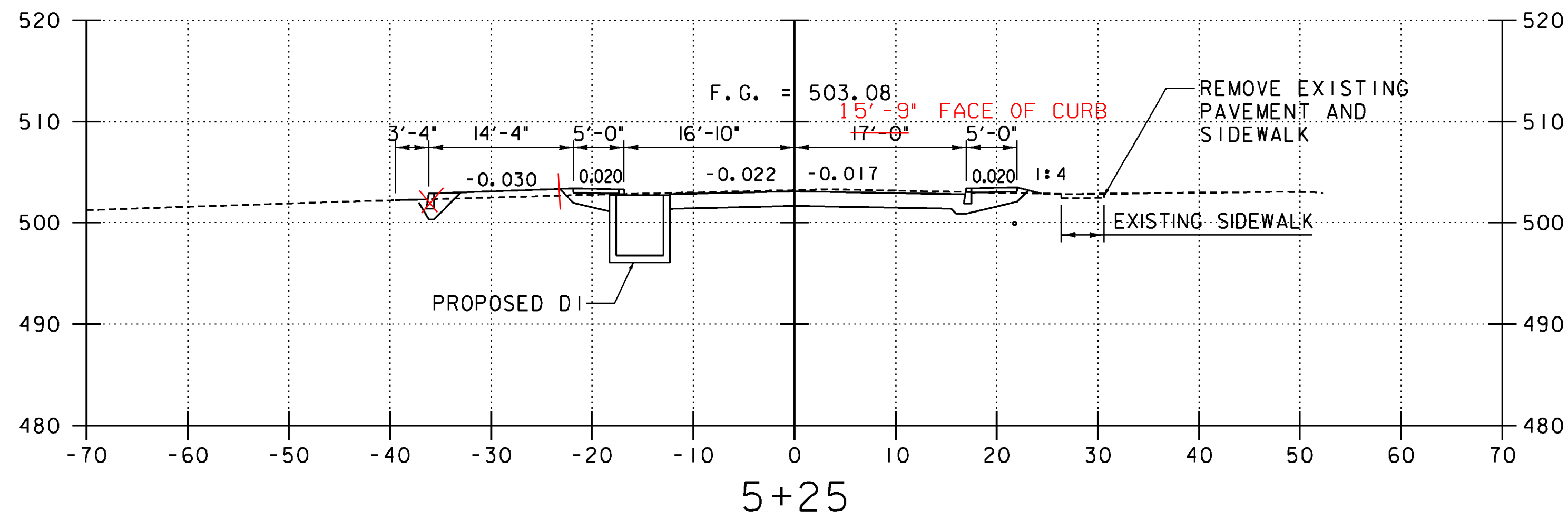
10 0 10

PLOTTED 2/11/2009

**DuBois & King inc.**

engineering    planning    management    development

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>ROADWAY CROSS SECTIONS (4)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	52 of 68



**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

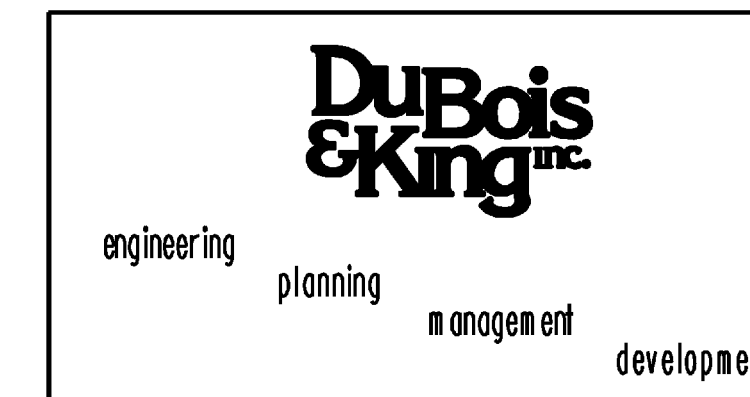
Town Of **JOHNSON** Bridge No. **5**  
 Highway No. **1** Log Sta.  
 Surv. Sta.

**TH NO. 1 OVER THE GIHON RIVER  
ROADWAY CROSS SECTIONS (5)**

Designed By **A.P. GUYETTE** Drawn By **A.P. GUYETTE**  
 Checked By **J. W. TUCKER** Date **2/09** Bridge Design Supervisor  
 J. W. TUCKER Date **2/09**

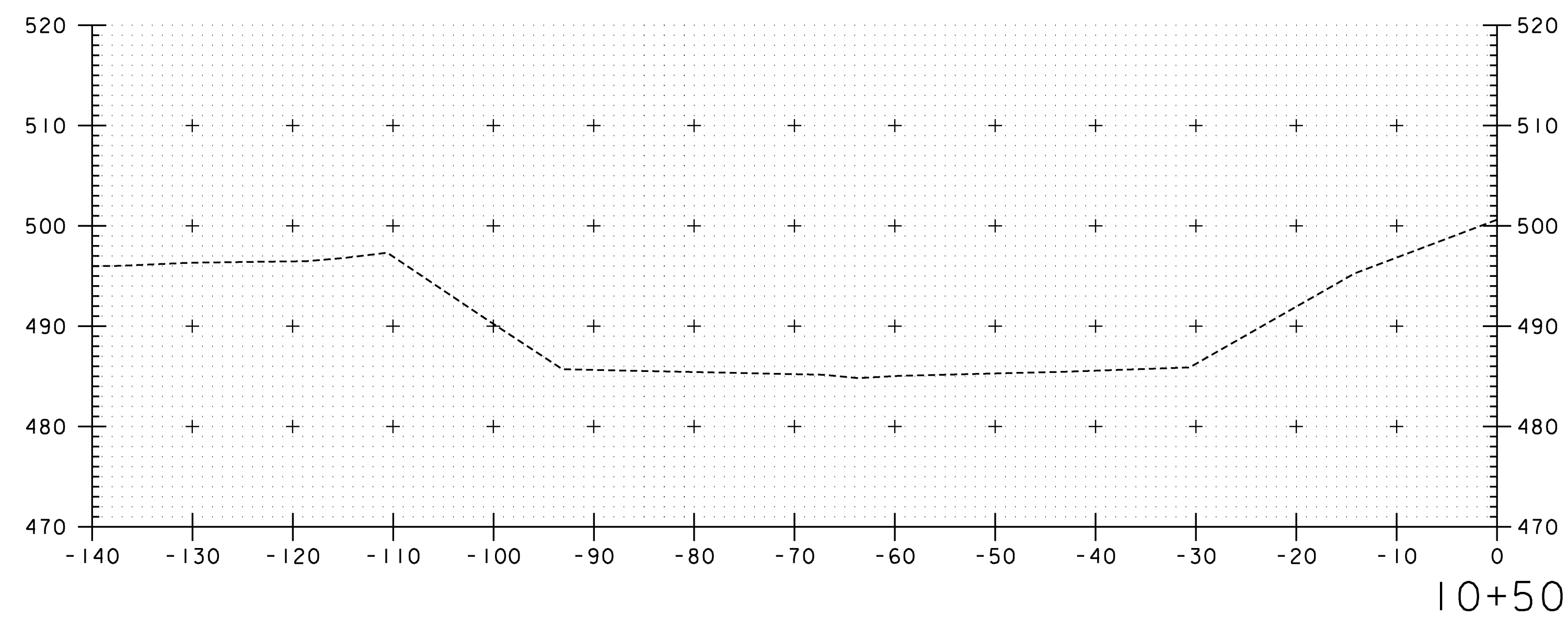
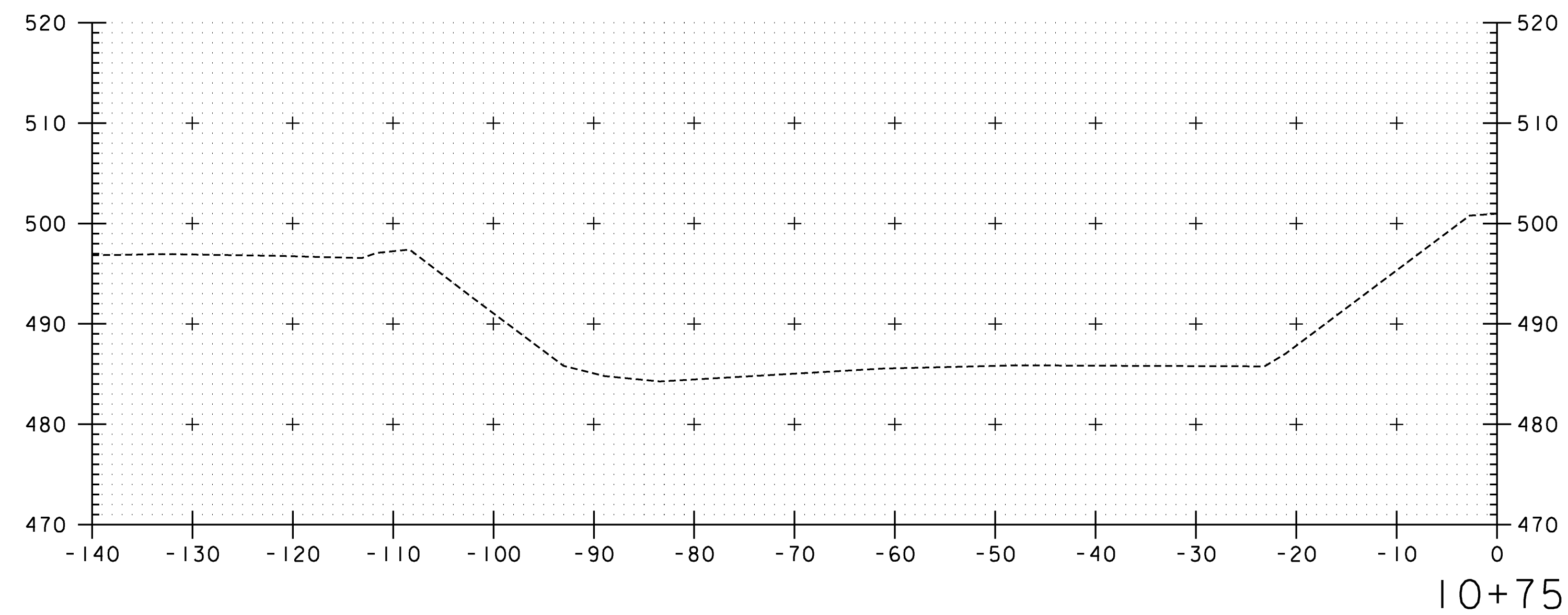
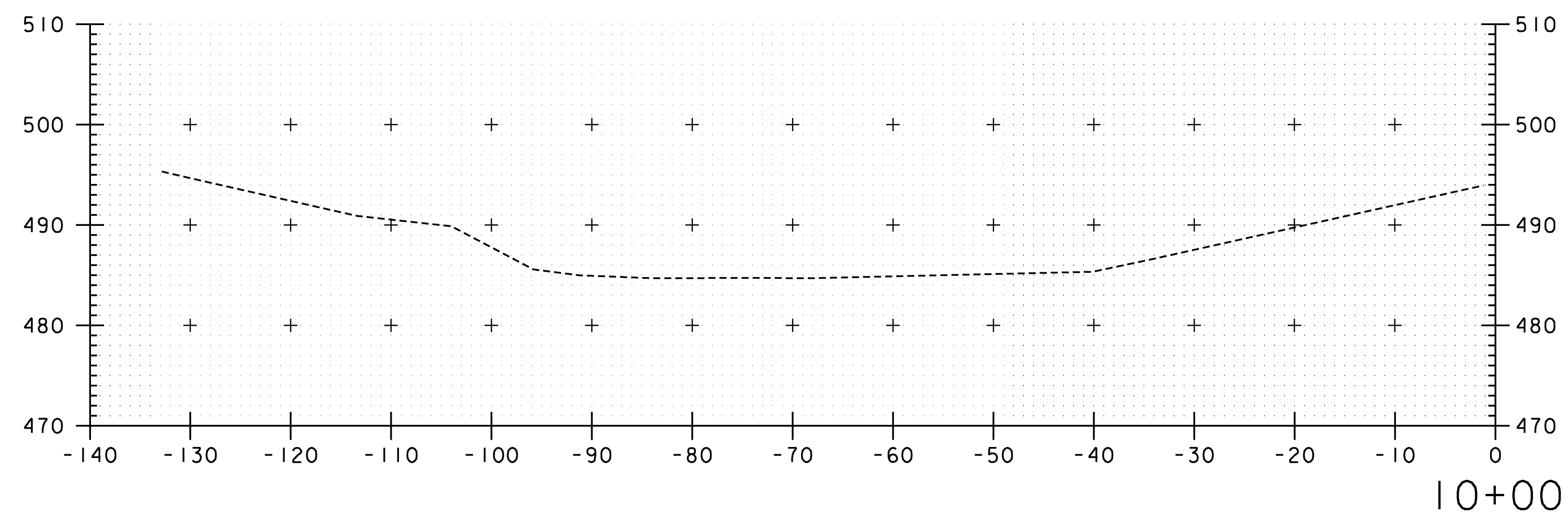
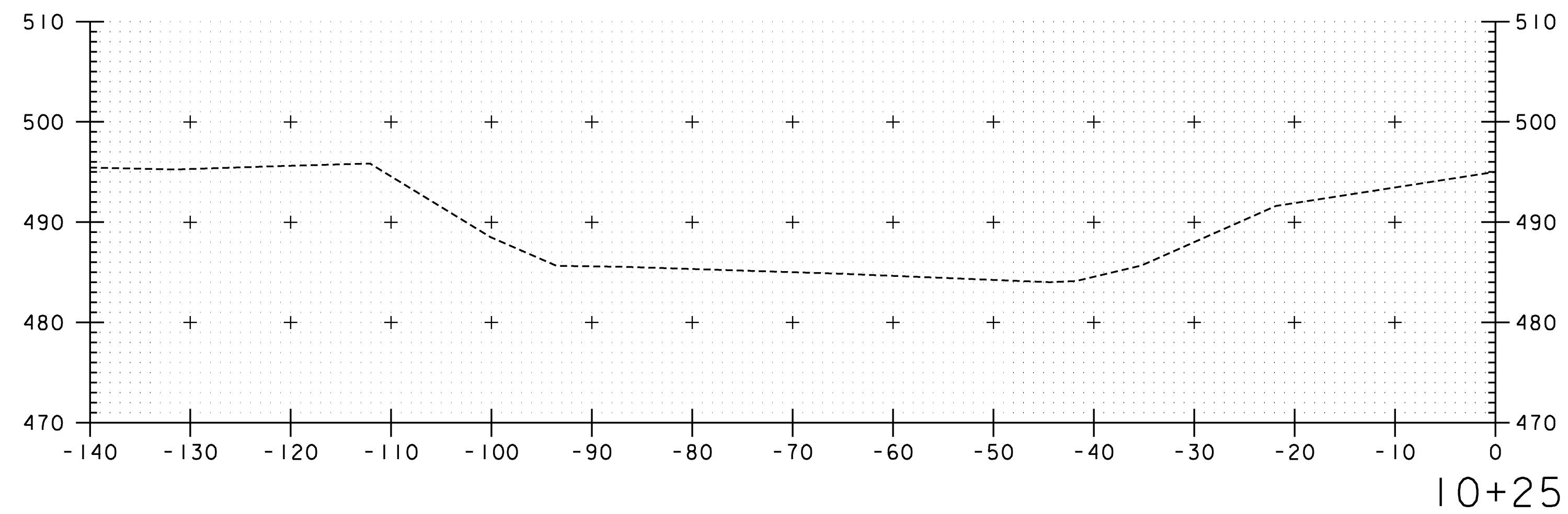
PROJECT **JOHNSON** PROJECT NO. **BHO 1448 (29)**  
 I.G.C. Info. **z98j372xs.dgn** D & K DWG NO.

Bridge Sheet No. **53** of **68**



SCALE 1" = 10'-0"  
 10 0 10  
 PLOTTED 2/11/2009

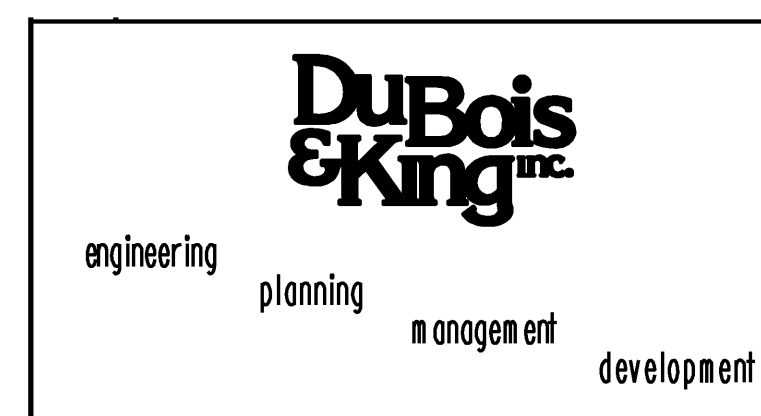
DATUM  
 VERTICAL NAVD 88  
 HORIZONTAL ASSUMED



**DATUM**  
 VERTICAL NAVD 88  
 HORIZONTAL ASSUMED

SCALE 1" = 10'-0"

PLOTTED 11/26/2008

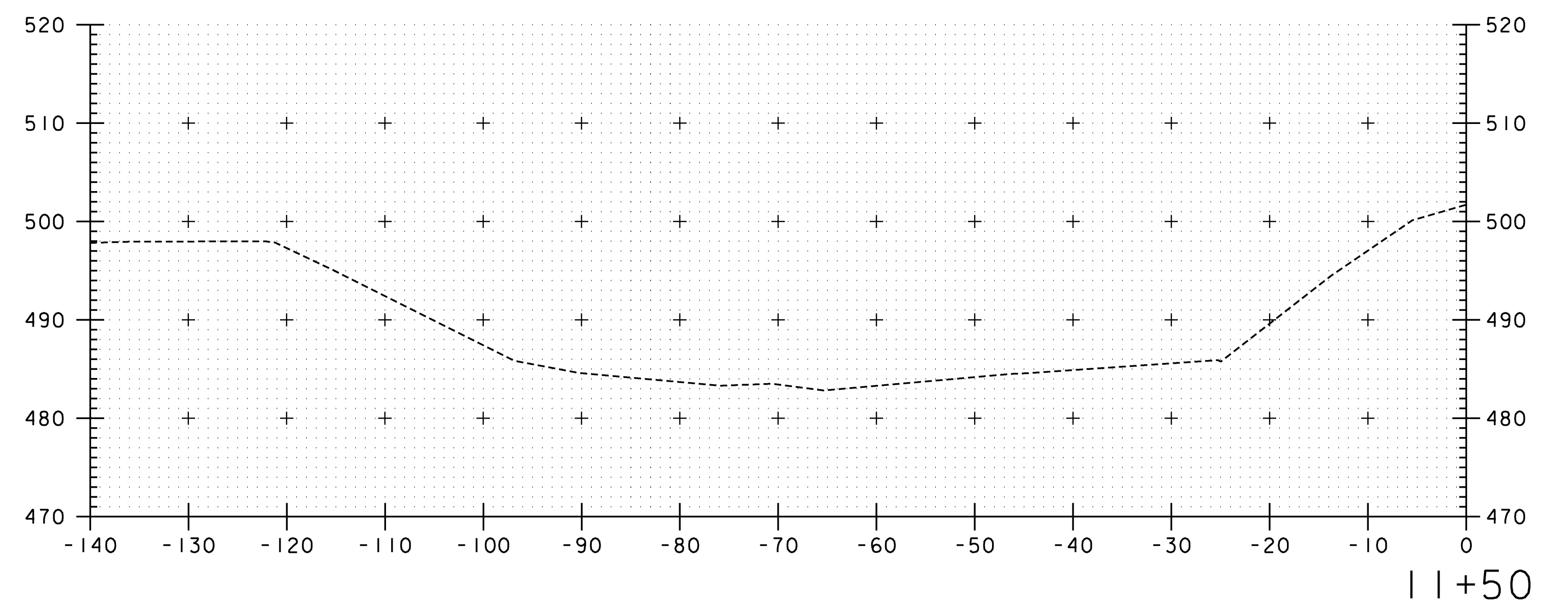
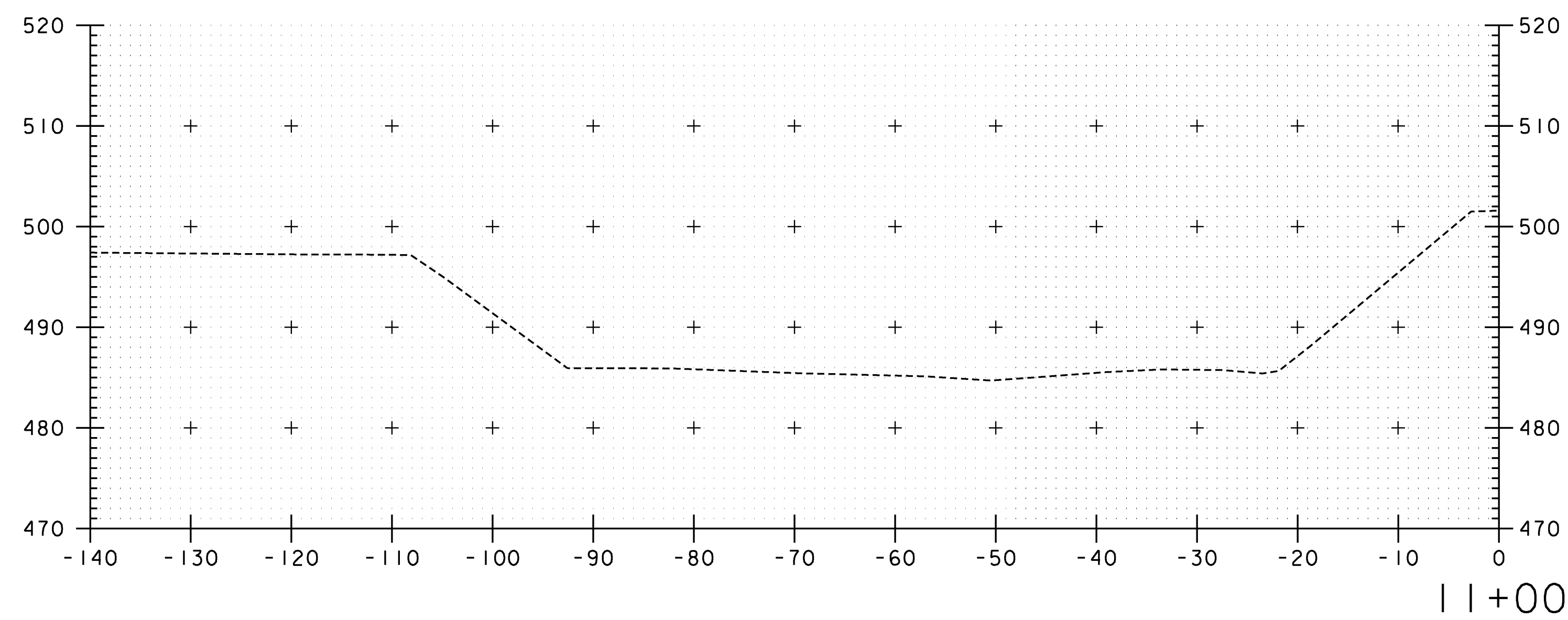
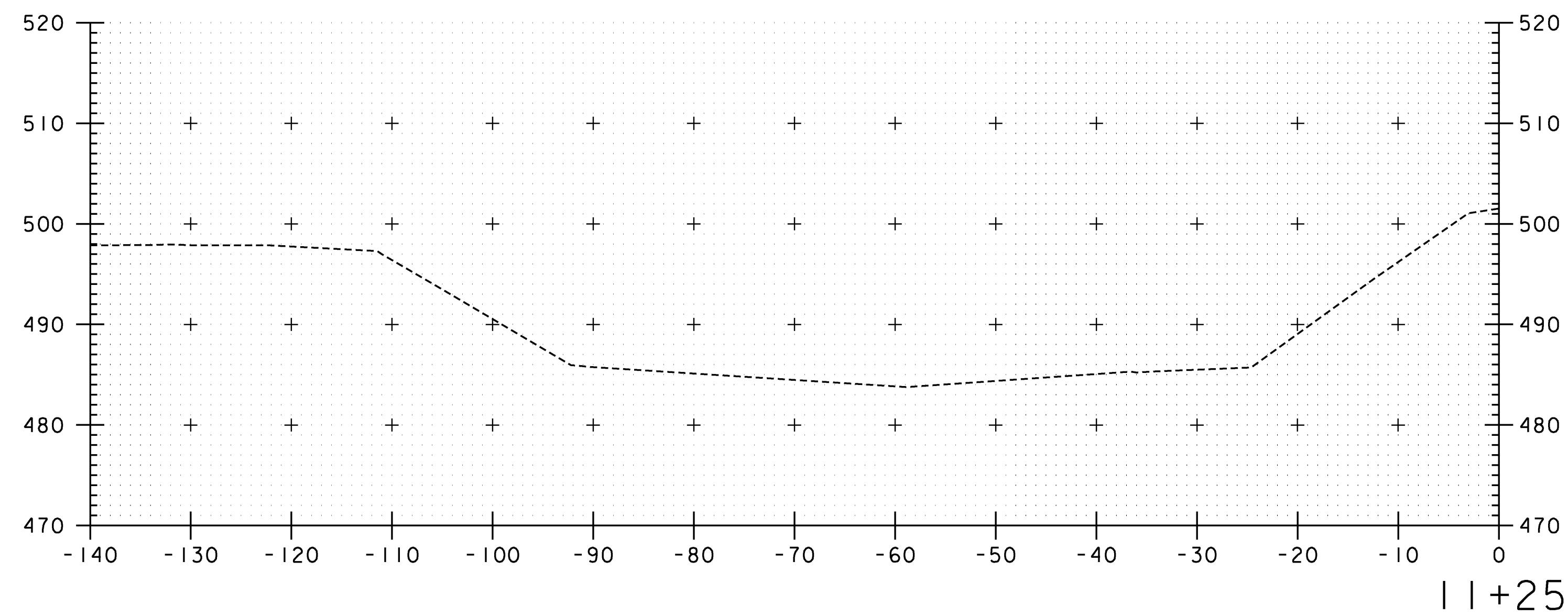


**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

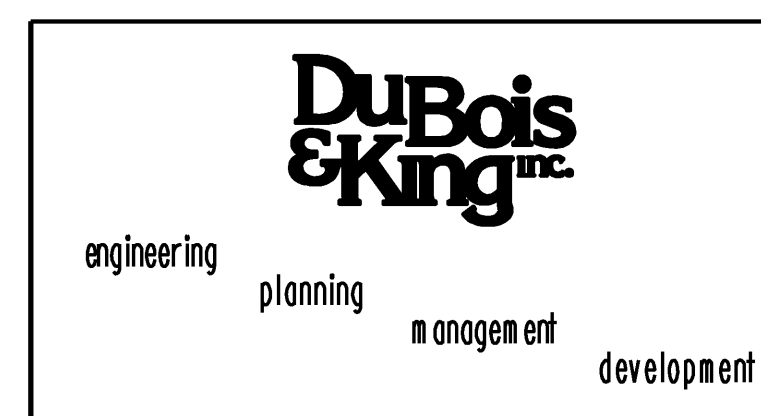
**TH NO. 1 OVER THE GIHON RIVER  
 CHANNEL CROSS SECTIONS (1)**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	10/08
		Bridge Design Supervisor	J. W. TUCKER Date 10/08
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	54 of 68

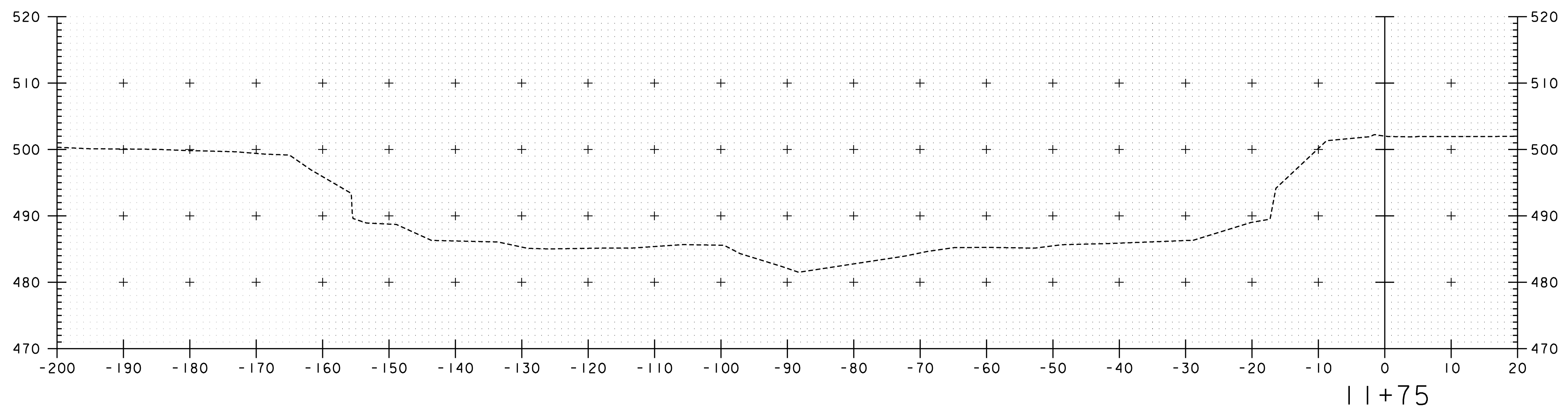
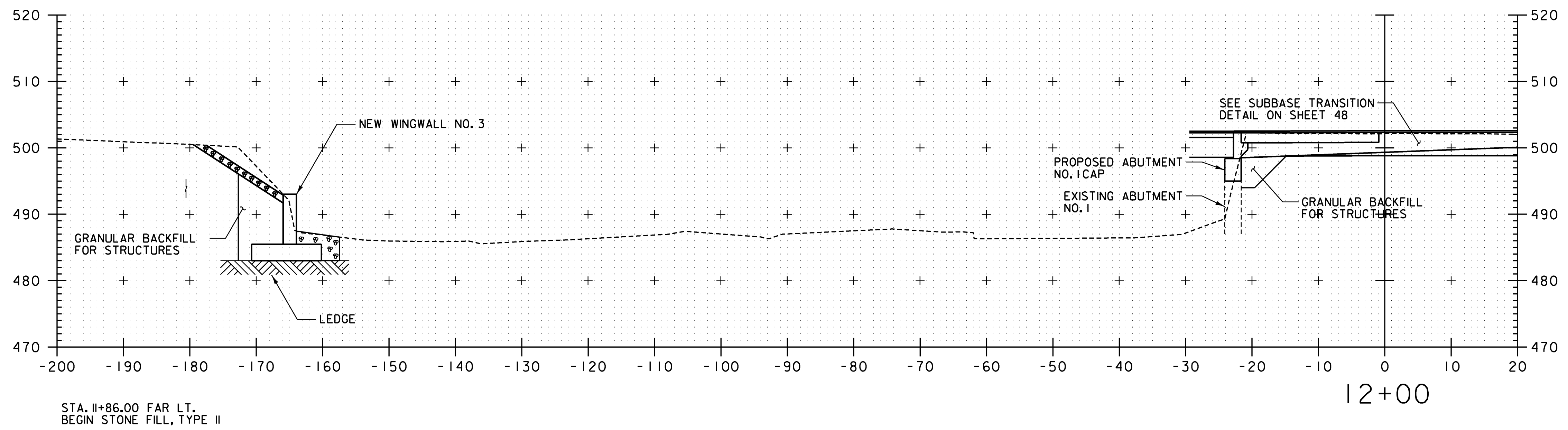


<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED

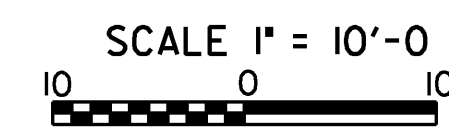
SCALE 1" = 10'-0"  
  
 PLOTTED 2/10/2009



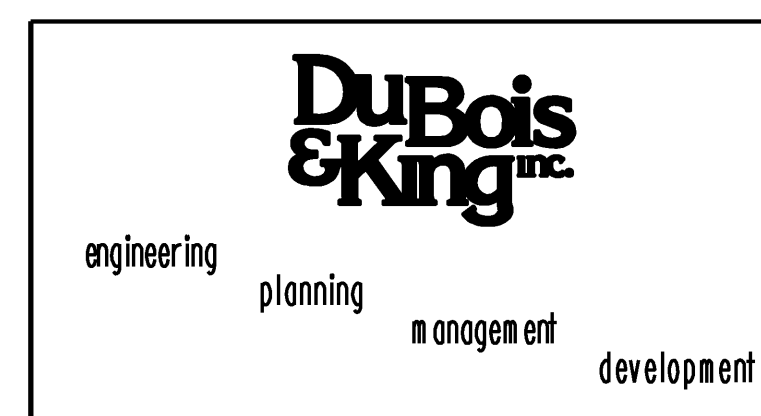
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>CHANNEL CROSS SECTIONS (2)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98j372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	55 of 68



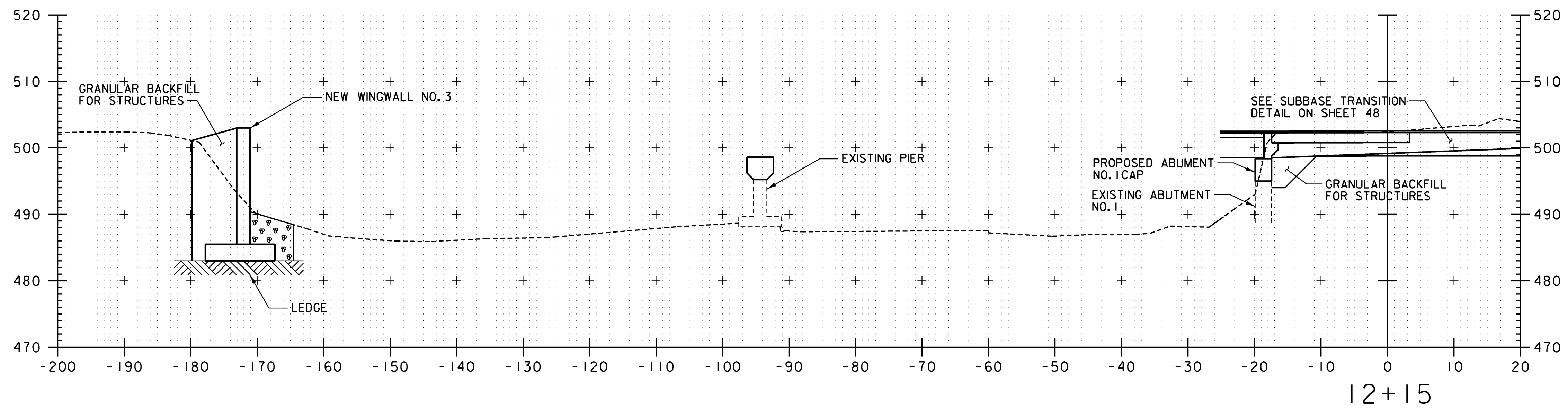
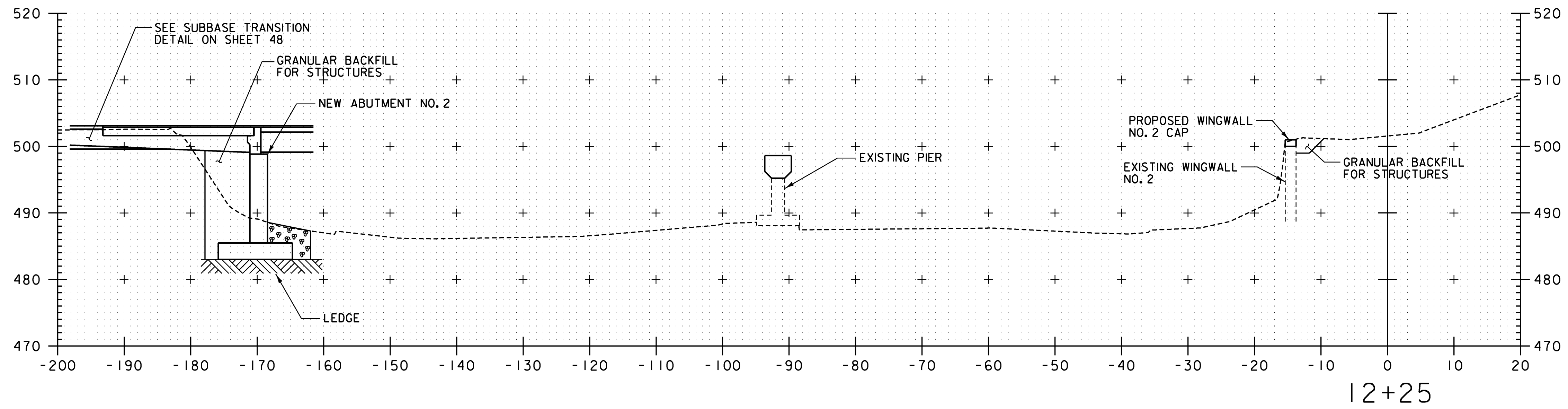
<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



PLOTTED 2/10/2009

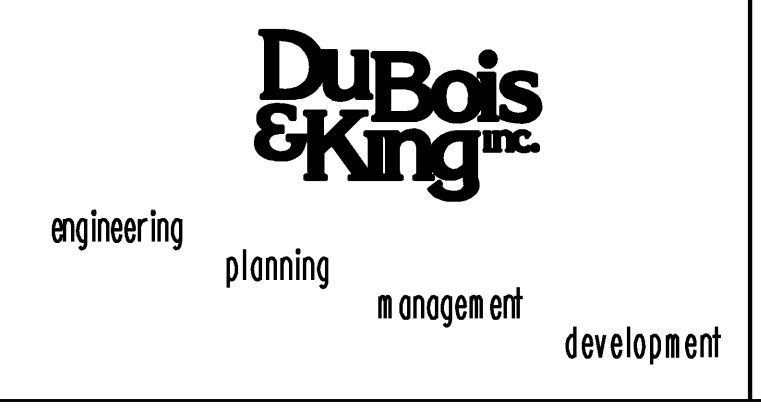


<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>CHANNEL CROSS SECTIONS (3)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	56 of 68

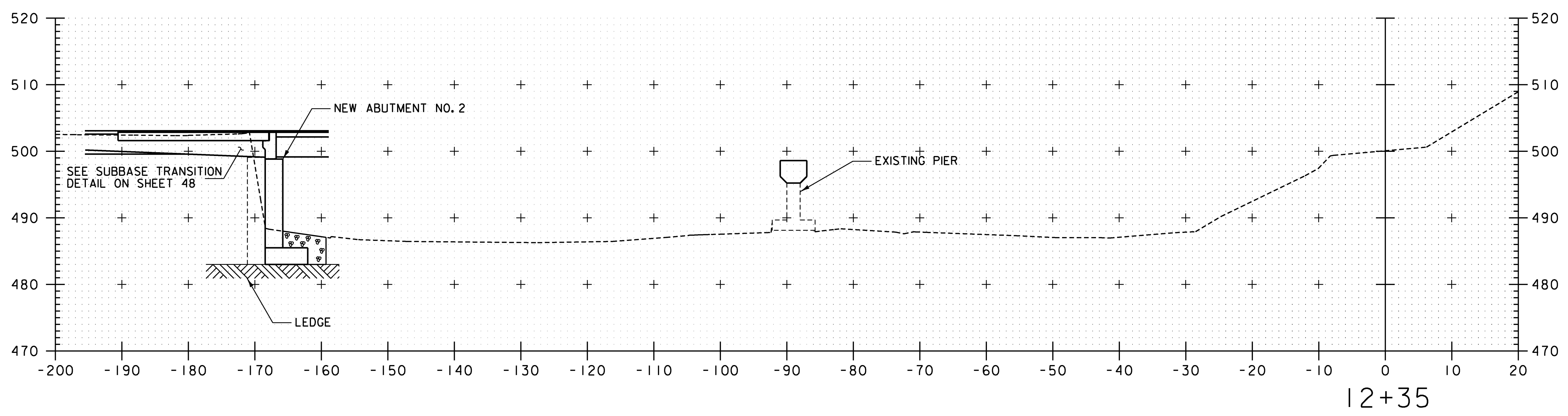
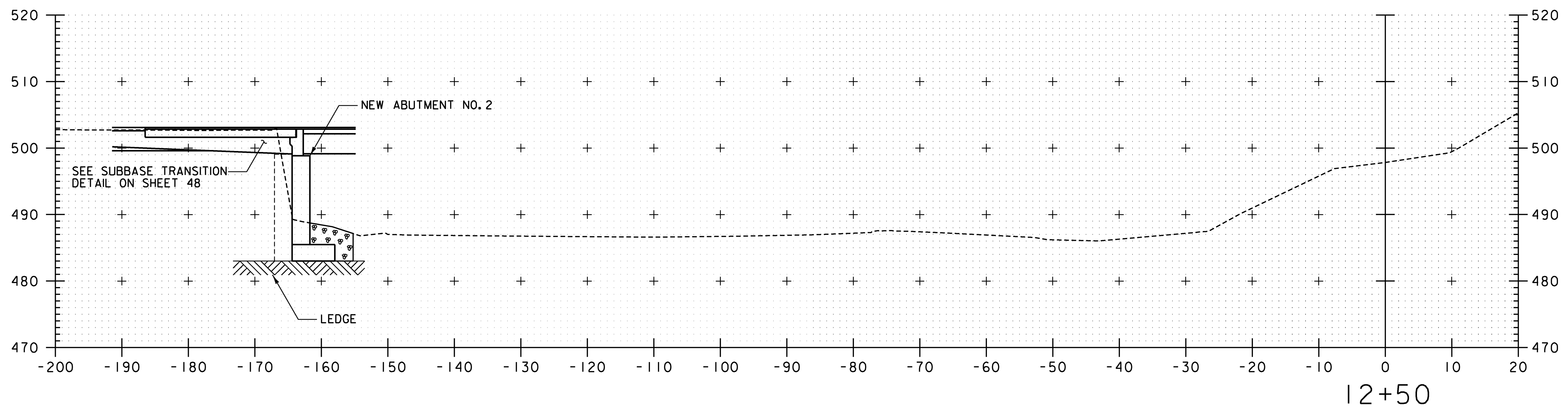


**DATUM**  
 VERTICAL NAVD 88  
 HORIZONTAL ASSUMED

SCALE 1" = 10'-0"  
 10 0 10  
 PLOTTED 2/10/2009



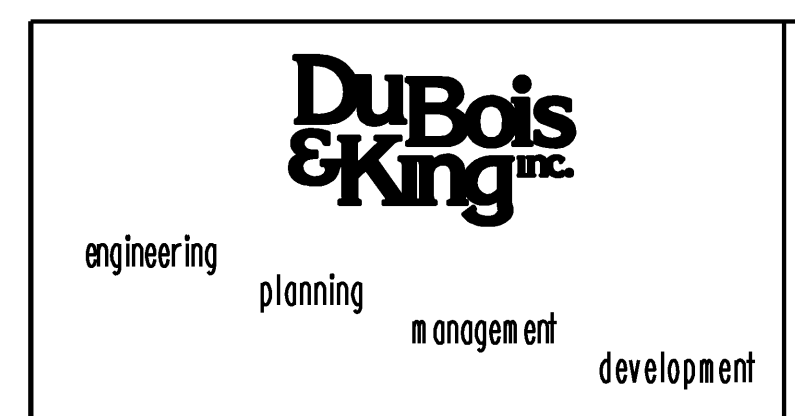
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>CHANNEL CROSS SECTIONS (4)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	Date
J. W. TUCKER	2/09	J. W. TUCKER	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	57 of 68



**DATUM**  
 VERTICAL NAVD 88  
 HORIZONTAL ASSUMED

SCALE 1" = 10'-0"

PLOTTED 2/10/2009

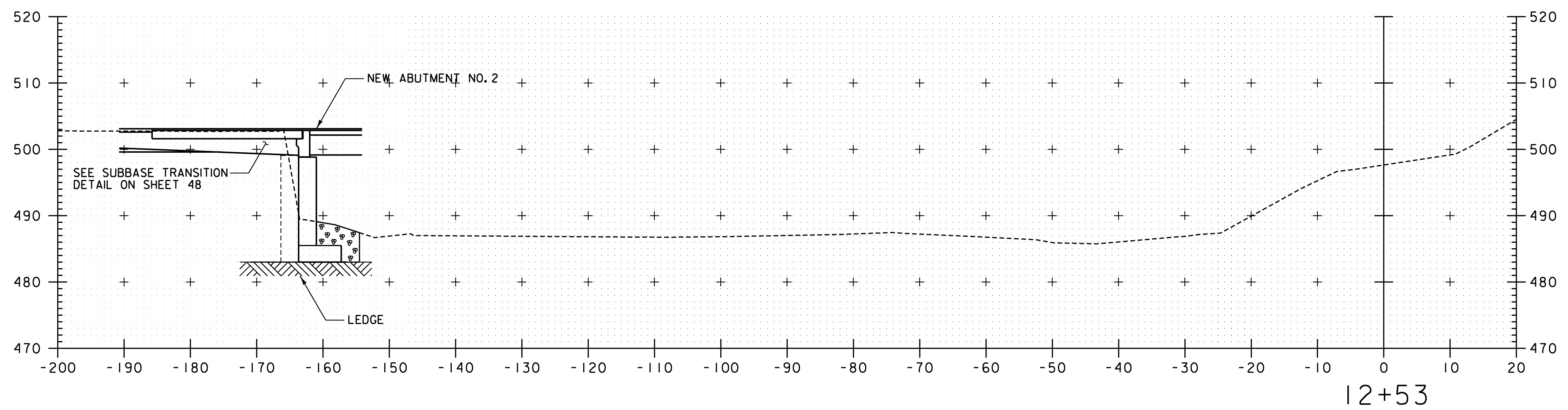
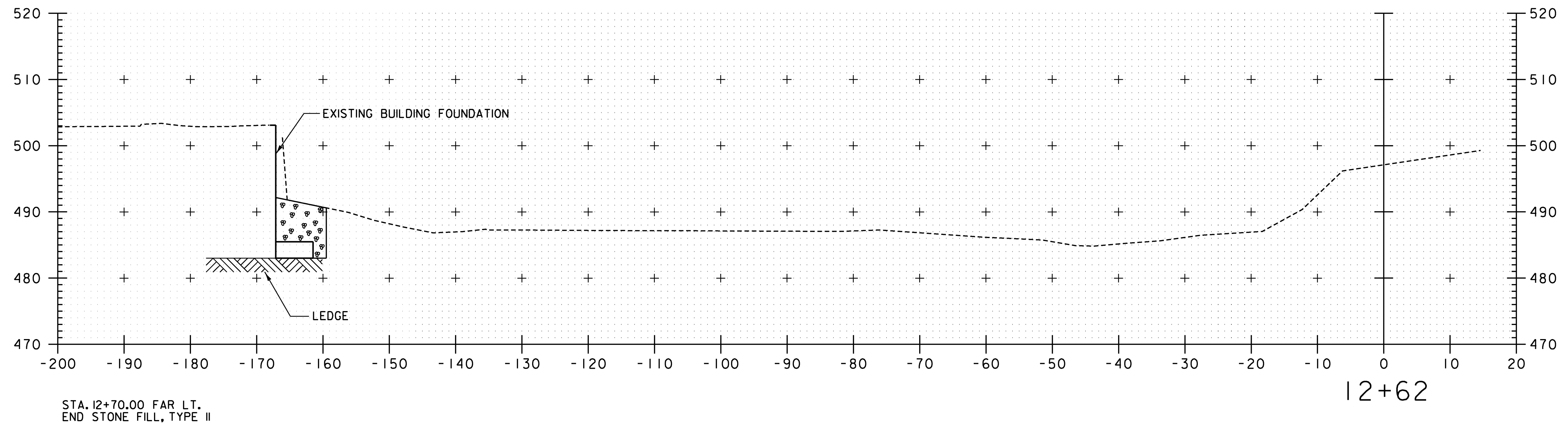


**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
 CHANNEL CROSS SECTIONS (5)**

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	58 of 68

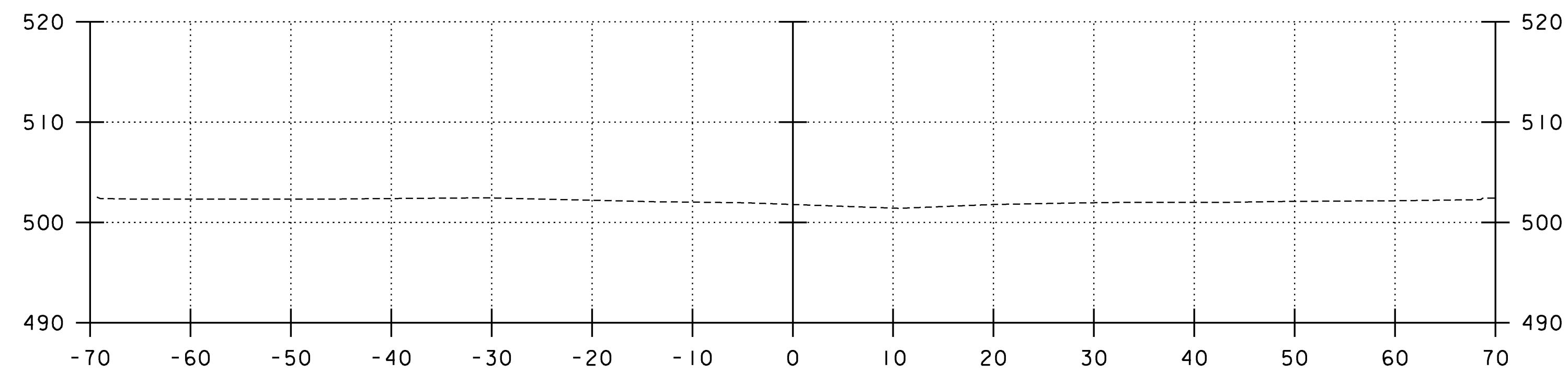


**DATUM**  
 VERTICAL NAVD 88  
 HORIZONTAL ASSUMED

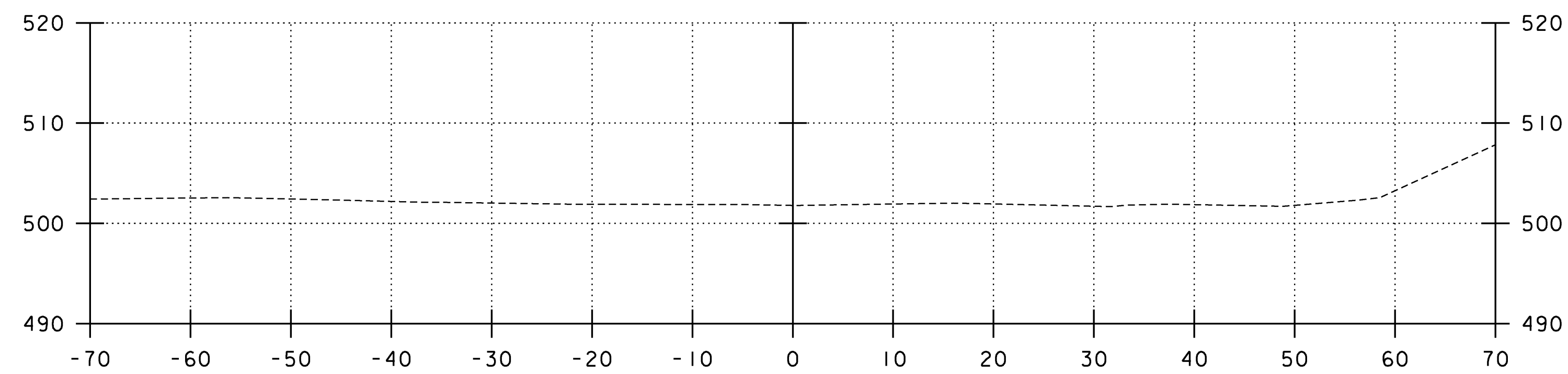
SCALE 1" = 10'-0"  
  
 PLOTTED 2/10/2009



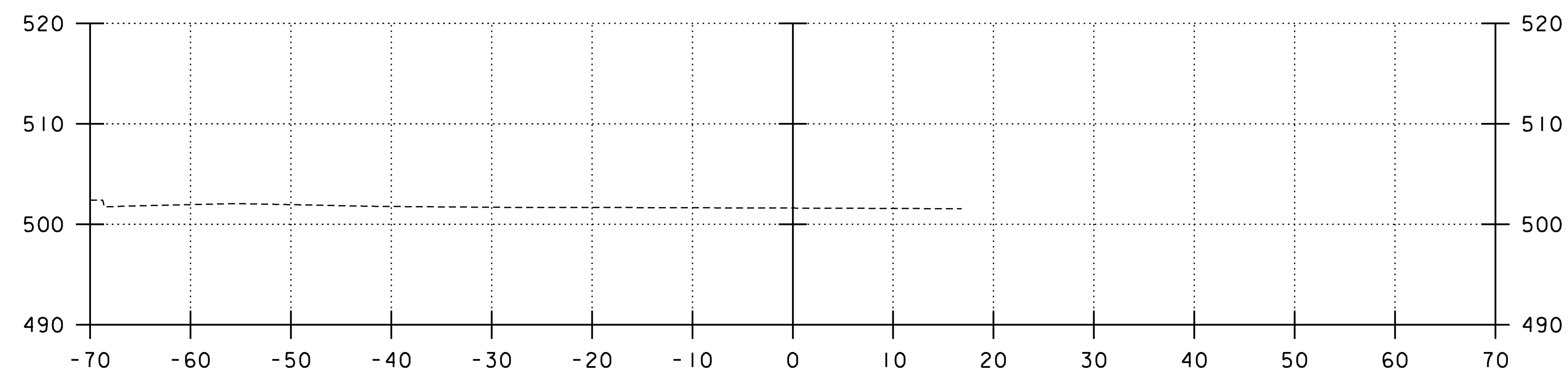
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>CHANNEL CROSS SECTIONS (6)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
J. W. TUCKER	2/09	J. W. TUCKER	Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	59 of 68



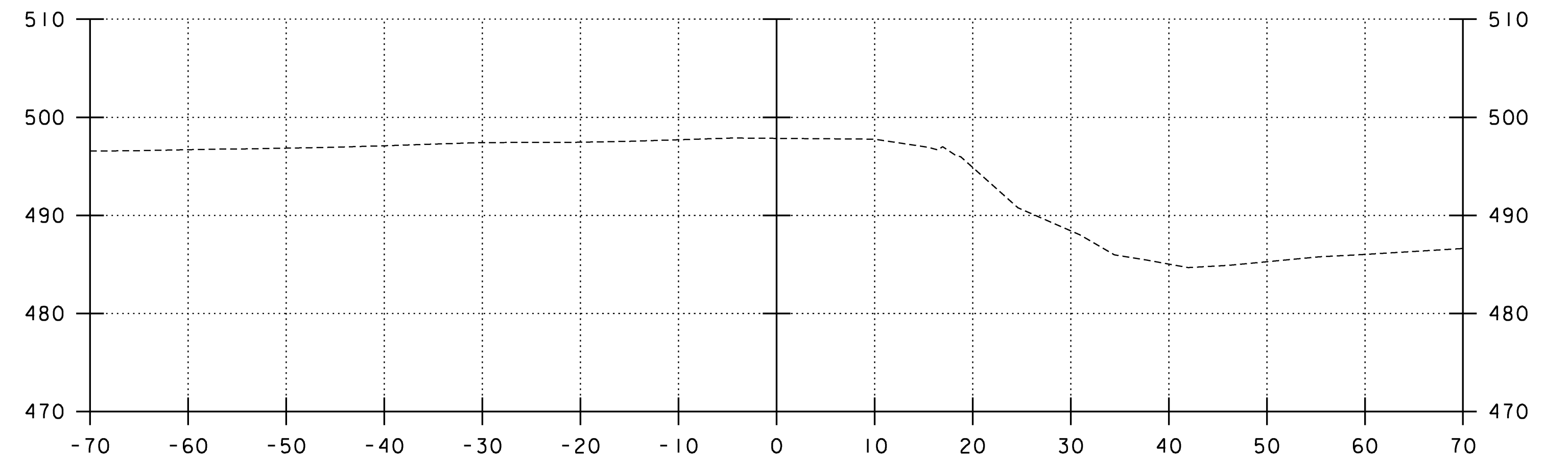
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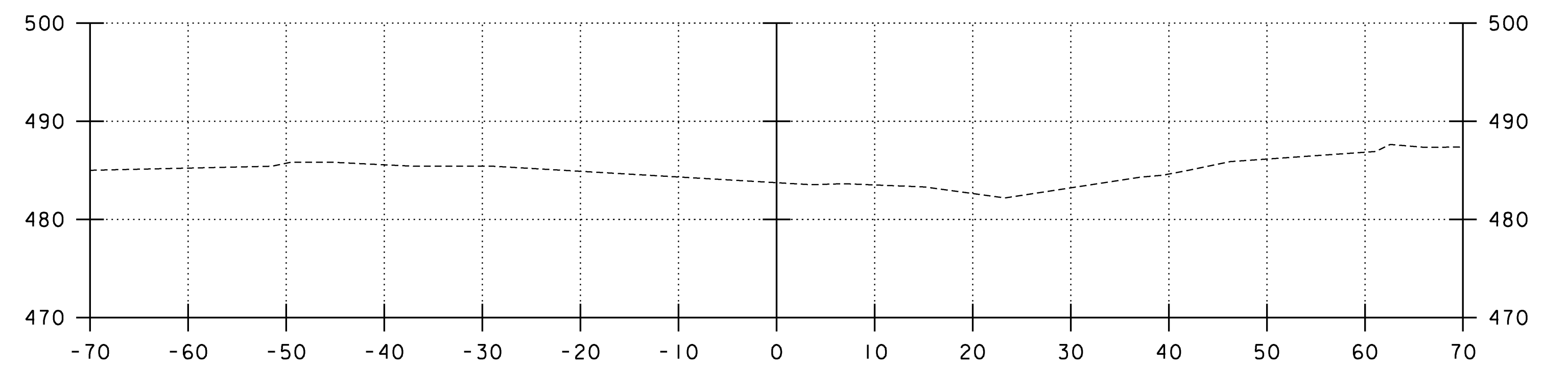
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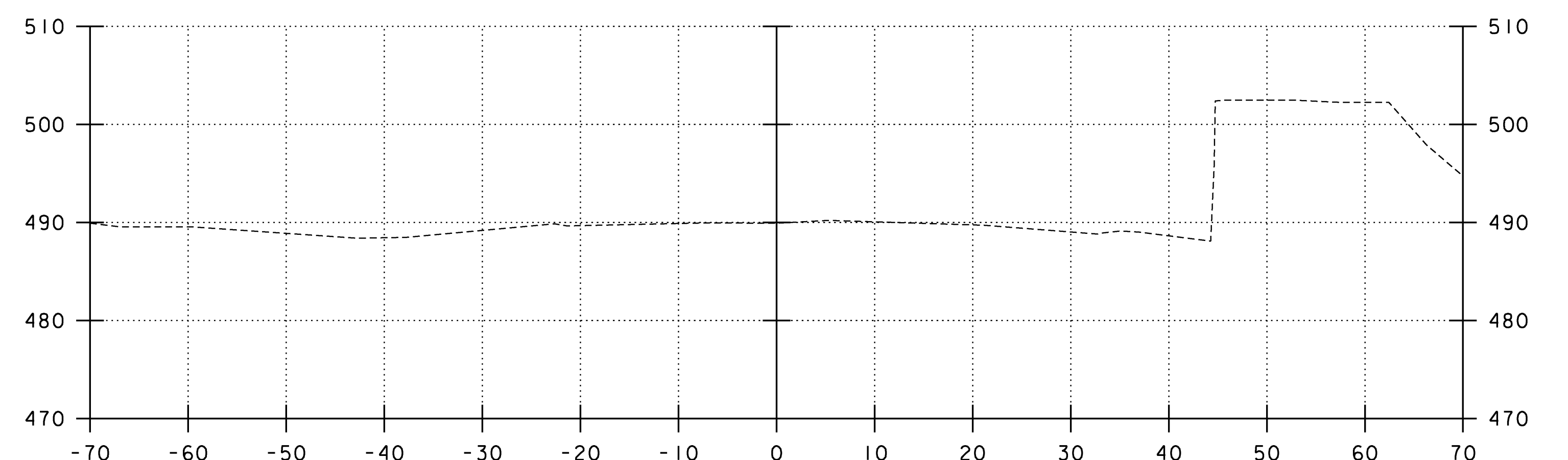
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22+50

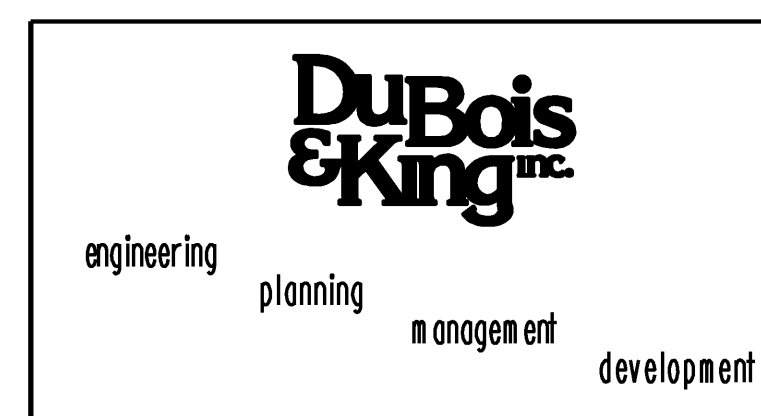
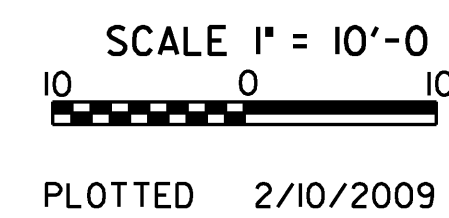


22+00



21+50

<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED

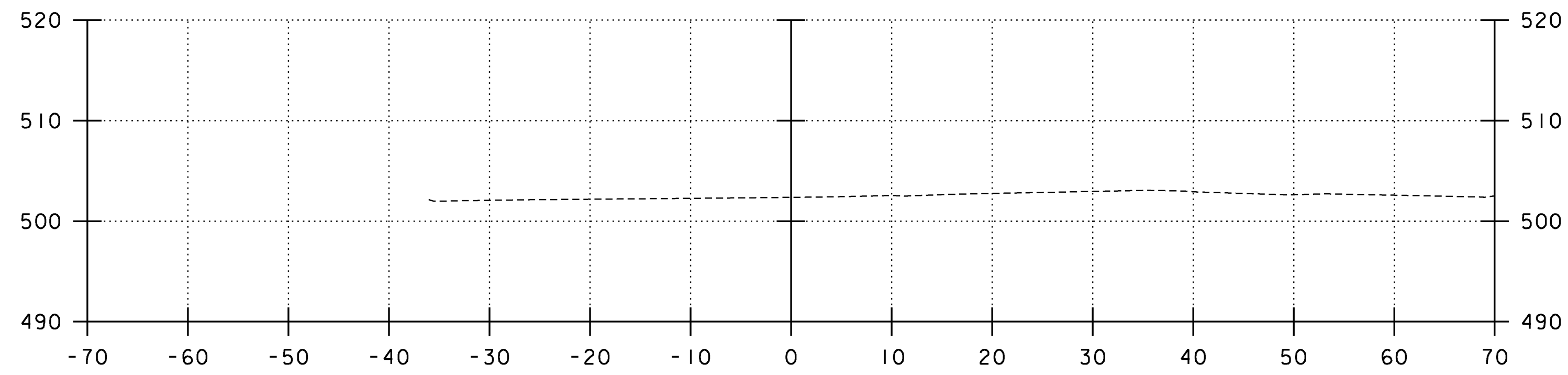


**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

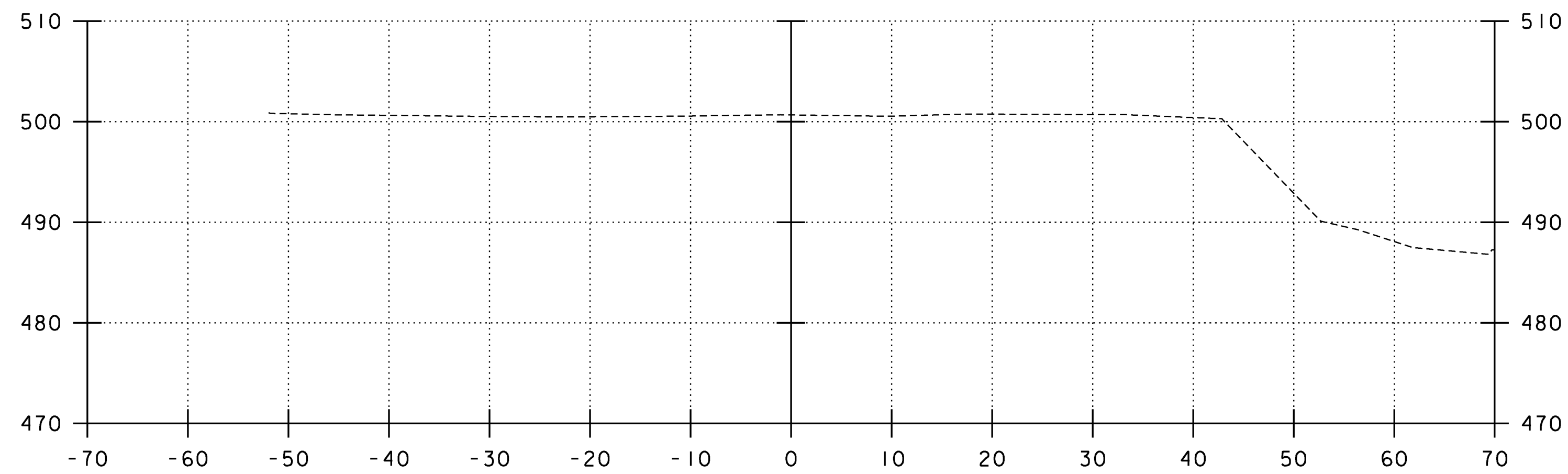
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
DETOUR CROSS SECTIONS (1)**

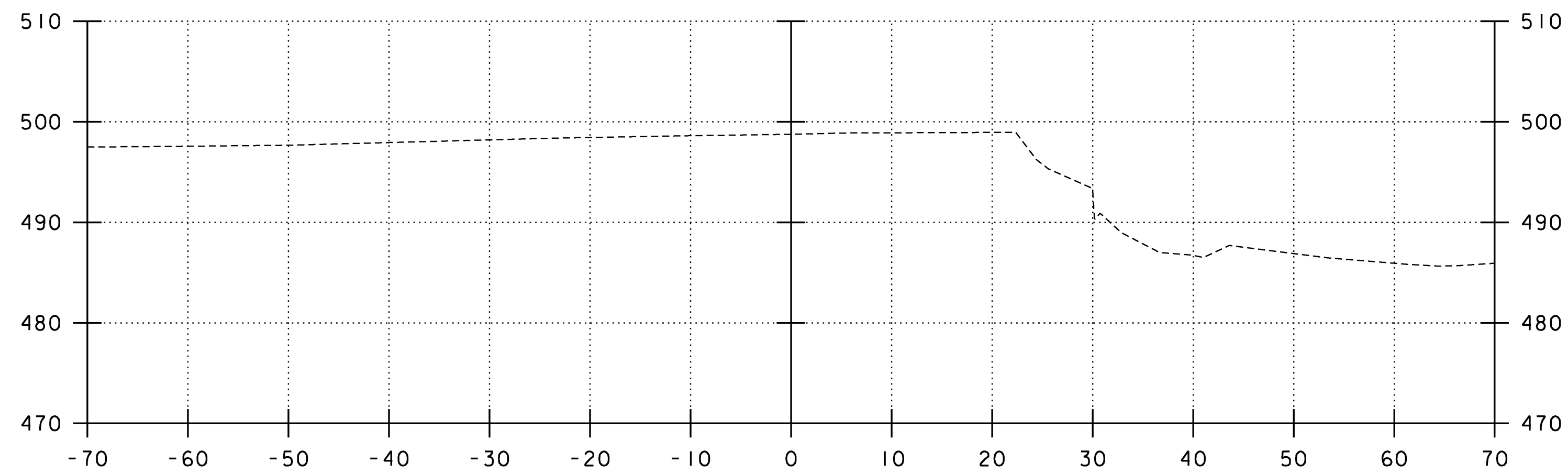
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Bridge Design Supervisor	J. W. TUCKER
Date	2/09	Date	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	60 of 68



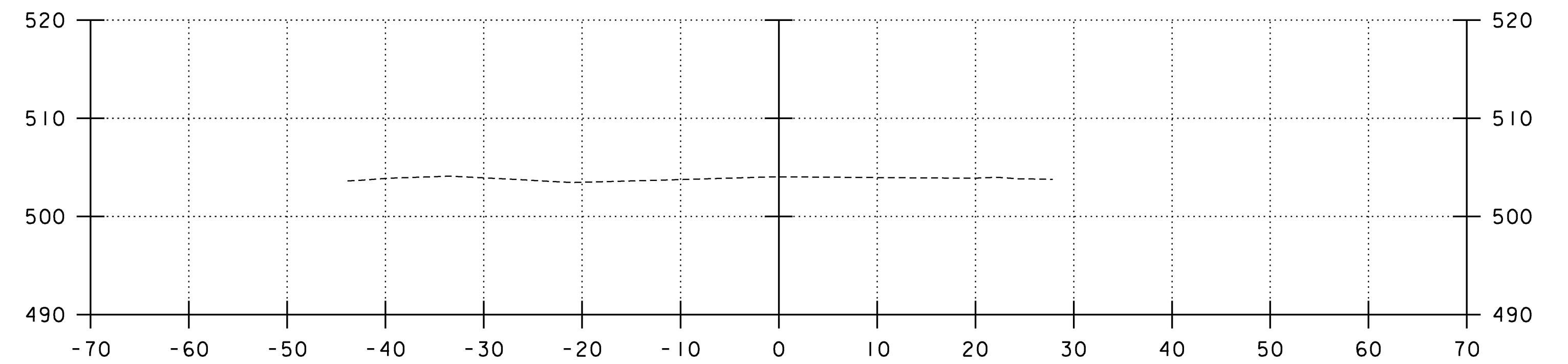
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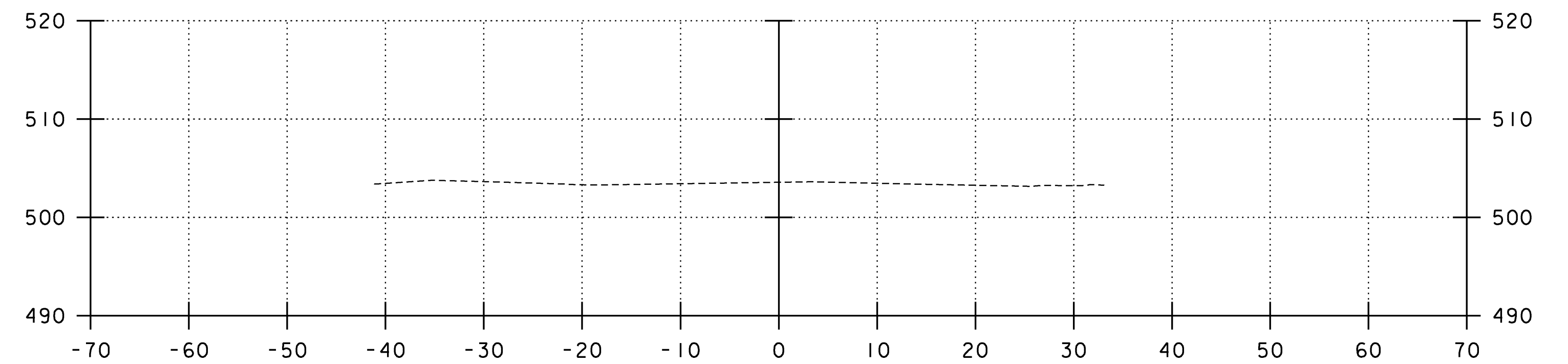
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23+00

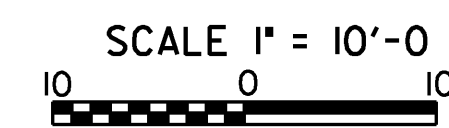


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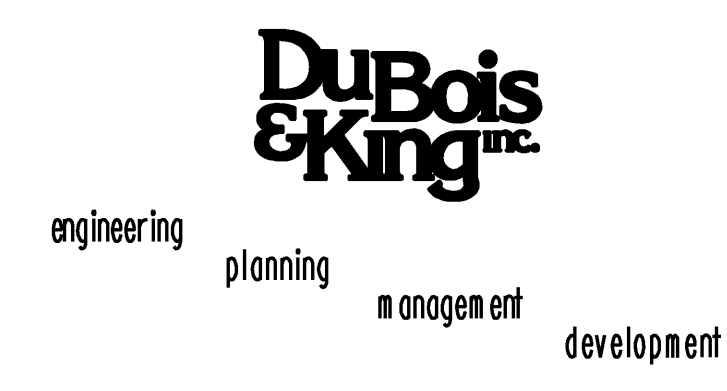


24+50

<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



PLOTTED 2/10/2009

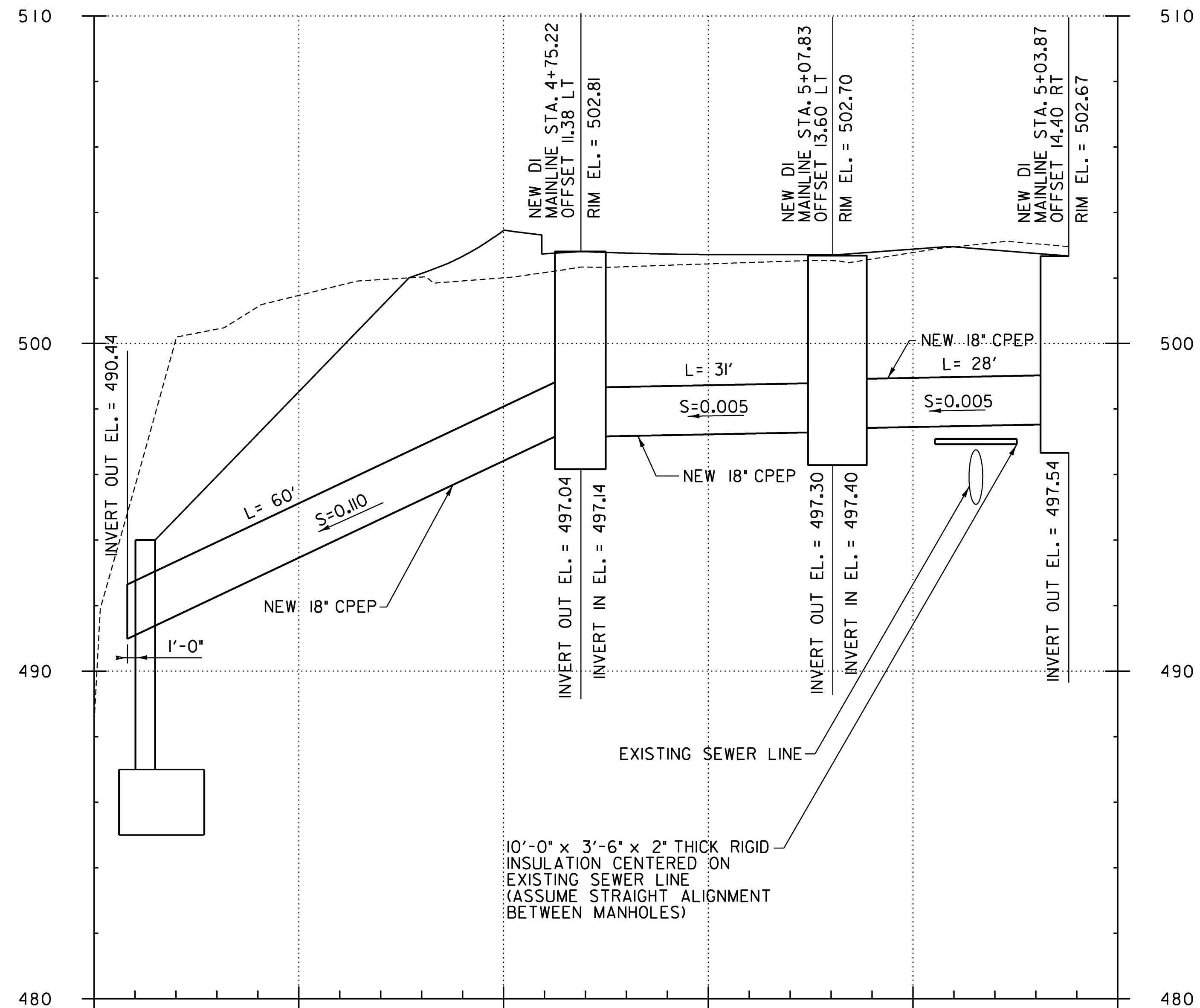


**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

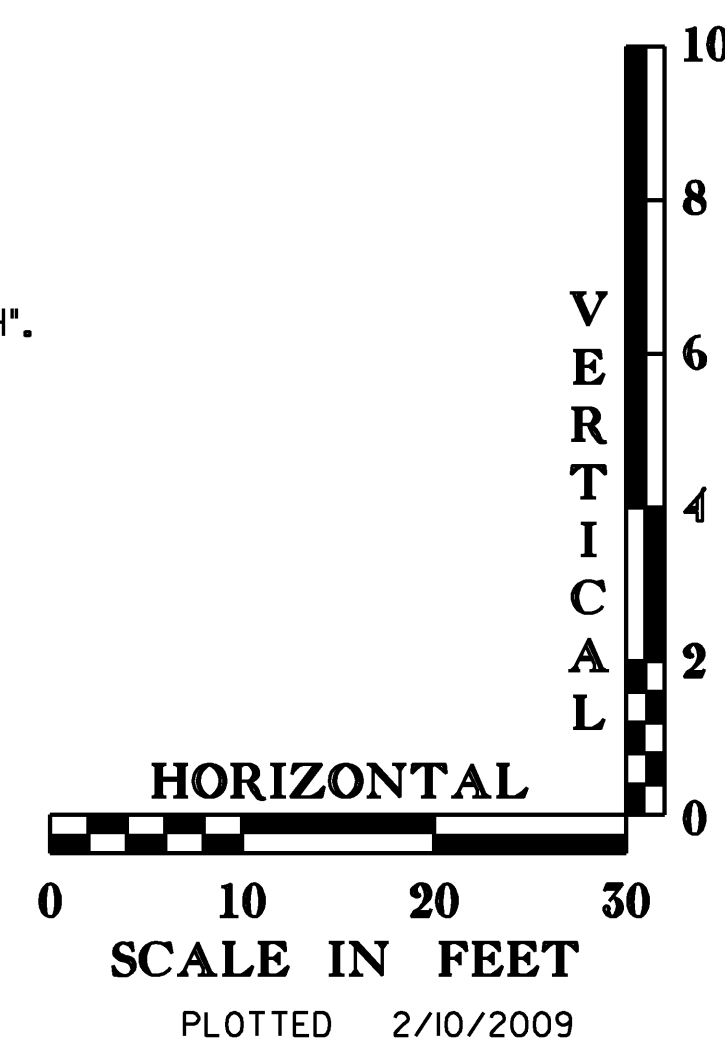
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER  
DETOUR CROSS SECTIONS (2)**

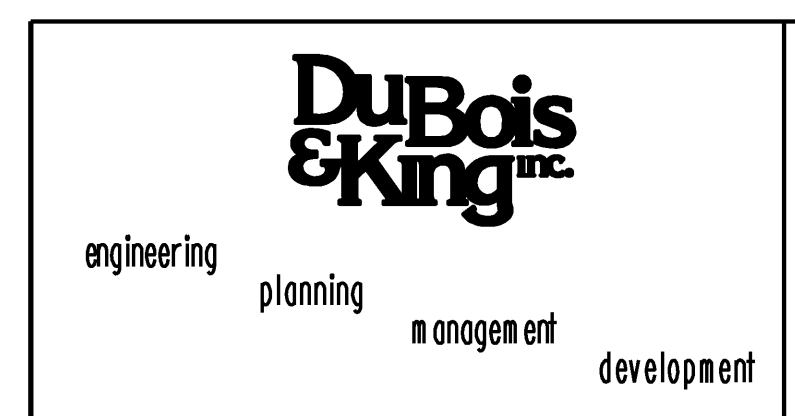
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Bridge Design Supervisor	J. W. TUCKER
Date	2/09	Date	2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	61 of 68



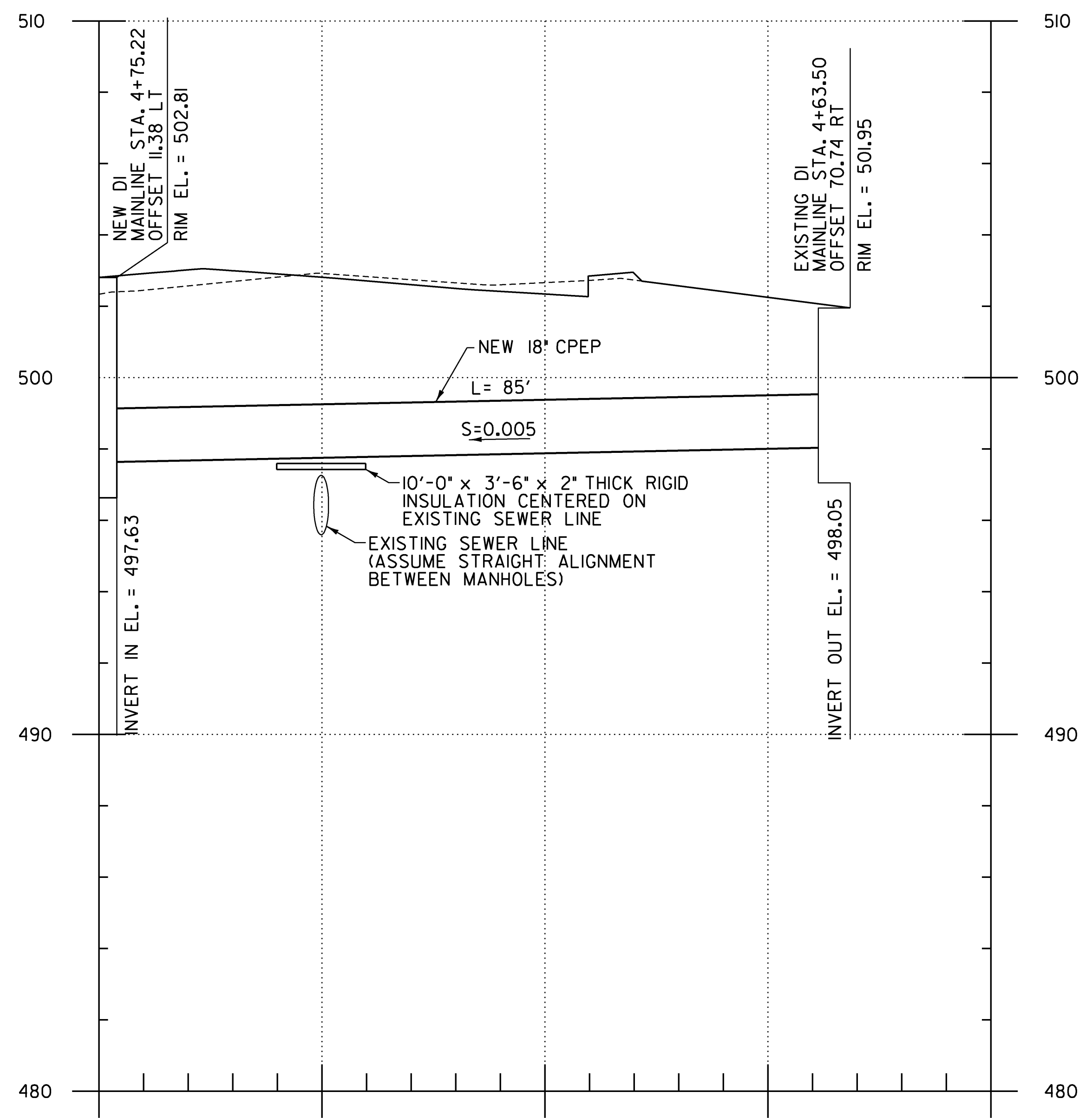
**NOTE:**  
 THE RIGID INSULATION BOARD SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 204.20, "TRENCH EXCAVATION EARTH".



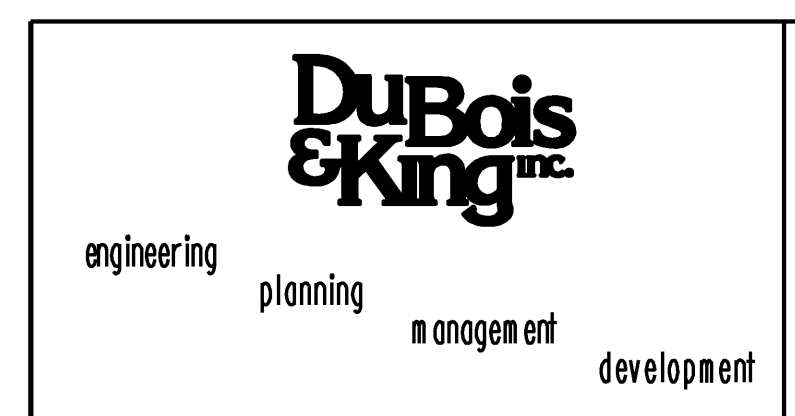
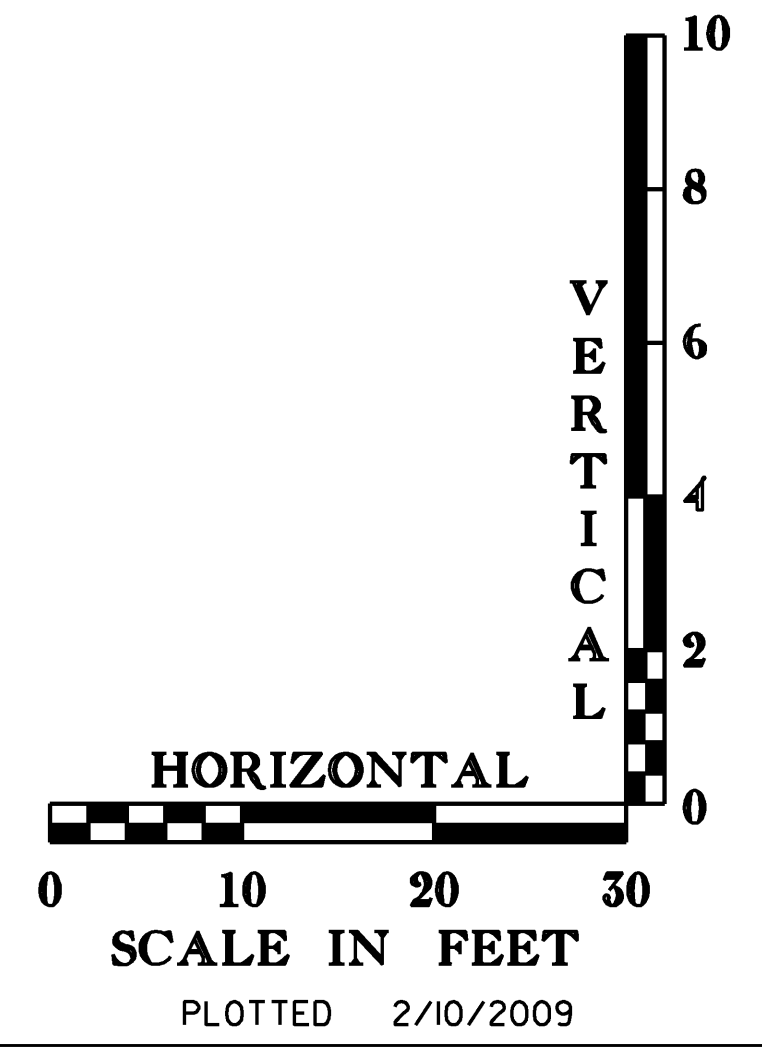
<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



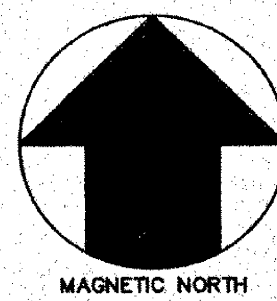
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	JOHNSON	Bridge No. 5
Highway No.	1	Log Sta. Surv. Sta.
<b>TH NO. 1 OVER THE GIHON RIVER DRAINAGE PROFILES (1)</b>		
Designed By	A.P. GUYETTE	Drawn By A.P. GUYETTE
Checked By	J. W. TUCKER	Bridge Design Supervisor
Date	2/09	Date 2/09
PROJECT	JOHNSON	PROJECT NO. BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.
Bridge Sheet No.		Sheet 62 of 68



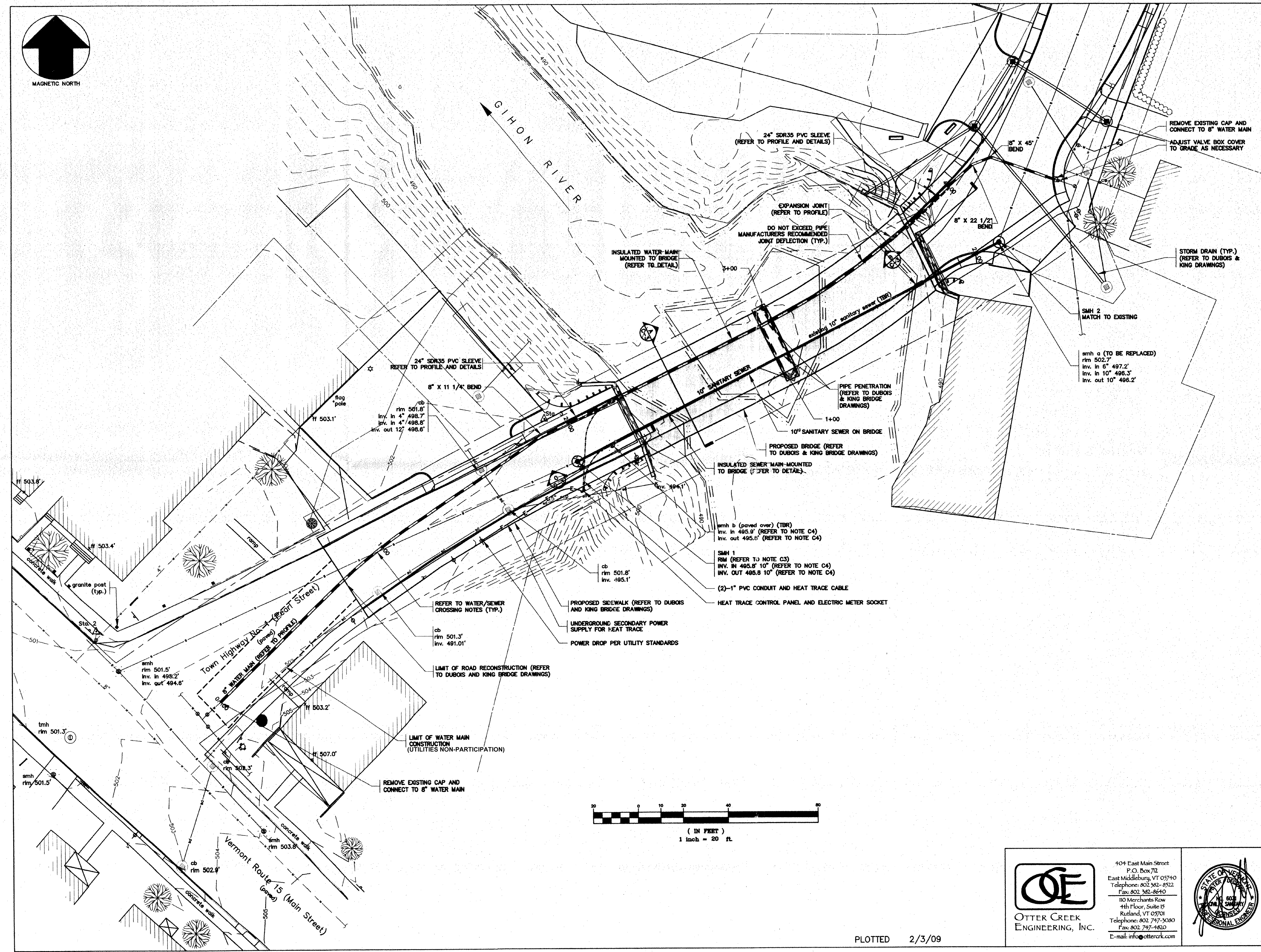
<b>DATUM</b>	
VERTICAL	NAVD 88
HORIZONTAL	ASSUMED



<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	
<b>TH NO. 1 OVER THE GIHON RIVER</b>			
<b>DRAINAGE PROFILES (2)</b>			
Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	J. W. TUCKER	Date	2/09
		Bridge Design Supervisor	J. W. TUCKER Date 2/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.	z98J372xs.dgn	D & K DWG NO.	
Bridge Sheet No.		Sheet	63 of 68



MAGNETIC NORTH



**GENERAL NOTES**

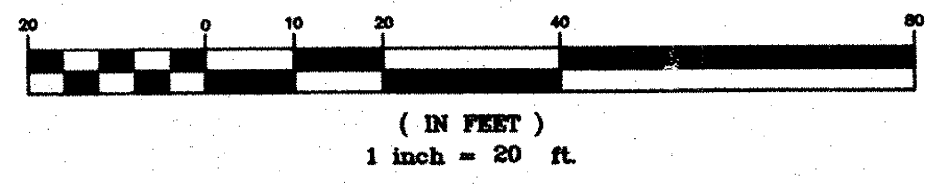
1. A PORTION OF THESE PLANS ARE BASED ON A TOPOGRAPHIC SURVEY CONDUCTED WITH A 4 SECOND TOTAL STATION ON 12/18/02 BY OTTER CREEK ENGINEERING, INC. SURVEY WAS COMPLETED WITH APPROXIMATELY 6" OF SNOW AND ICE ON GROUND. ACTUAL SURFACE MAY VARY.
2. IN THE PREPARATION OF THESE PLANS, DATA FROM THE FOLLOWING SOURCES WAS INCORPORATED:
  - A. "PLAN TITLED 'TH NO. 1 OVER THE GIHON RIVER', PROJECT NO. BHO 1448(29), SHEET 15 OF 32, PREPARED FOR THE STATE OF VERMONT AGENCY OF TRANSPORTATION, BY DUBOIS & KING, INC. DATED 8/15/02.
  - B. PLAN TITLED "WATER POLLUTION CONTROL FACILITIES", JOHNSON, VERMONT, PEARL ST.-MAIN ST TO STA. 7+90, PREPARED BY JAMES S. MINGES & ASSOCIATES ENGINEERS, FARMINGTON, CONNECTICUT, DATED JUNE 1, 1989 AS BUILT CONDITIONS.
3. ELEVATION IS BASED ON NAVD 88.
4. COORDINATE SYSTEM IS BASED ON AN ASSUMED 5000N,5000E BASE POINT AND MAGNETIC NORTH AT TIME OF SURVEY.
5. FOR CLARITY, TEXT DENOTING EXISTING ITEMS IS SHOWN IN LOWER CASE, AND TEXT DENOTING PROPOSED ITEMS IS UPPERCASE AND BOLD.
6. REFER TO LEGEND LOCATED ON THIS SHEET FOR SYMBOL DESIGNATIONS.
7. ALL UNDERGROUND UTILITIES ARE SHOWN AS APPROXIMATE LOCATIONS.

**CONSTRUCTION NOTES**

1. REFER TO DUBOIS AND KING DRAWINGS FOR ALL WORK ASSOCIATED WITH THE BRIDGE, ROADWAY, SIDEWALK AND STORM SEWER.
2. CONTRACTOR SHALL CONTACT THE VILLAGE OF JOHNSON WATER AND LIGHT DEPARTMENT TO LOCATE UTILITIES AND TO COORDINATE ALL INTERCONNECTIONS OF WATER AND SEWER MAINS PRIOR TO ANY CONSTRUCTION.
3. COORDINATE SEWER MANHOLE RIM ELEVATIONS WITH PROPOSED BRIDGE ROADWAY APPROACHES BY DUBOIS & KING, INC.
4. SEWER INVERT INFORMATION FOR smh 1b AND SMH 1 AREA BASED ON RECORD INFORMATION AND HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR TO CONFIRM INVERT OF EXISTING SEWER AND REPORT TO ENGINEER PRIOR TO THE START OF WORK.
5. REFER TO SPECIFICATIONS FOR TEMPORARY SANITARY SEWER BYPASS REQUIREMENTS.

**LEGEND**

	boundary line/r.o.w.
	road/parking (w/ surface label)
	drive (w/ surface label)
	1 foot contour
	5 foot contour
	underground electric
	overhead utility
	underground telephone
	storm drain
	water main
	sanitary sewer
	sign
	light pole
	utility pole
	guy
	gate valve
	hydrant
	catch basin
	sewer manhole
	deciduous tree
	coniferous tree
	traverse station
	temporary bench mark
	WATER MAIN
	CATCH BASIN (BY OTHERS)
	SEWER MANHOLE
	SANITARY SEWER
	UNDERGROUND ELECTRIC
	HEAT TRACE CABLE/CONDUIT



PLOTTED 2/3/09

**OTTER CREEK ENGINEERING, INC.**

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E-mail: info@otterck.com

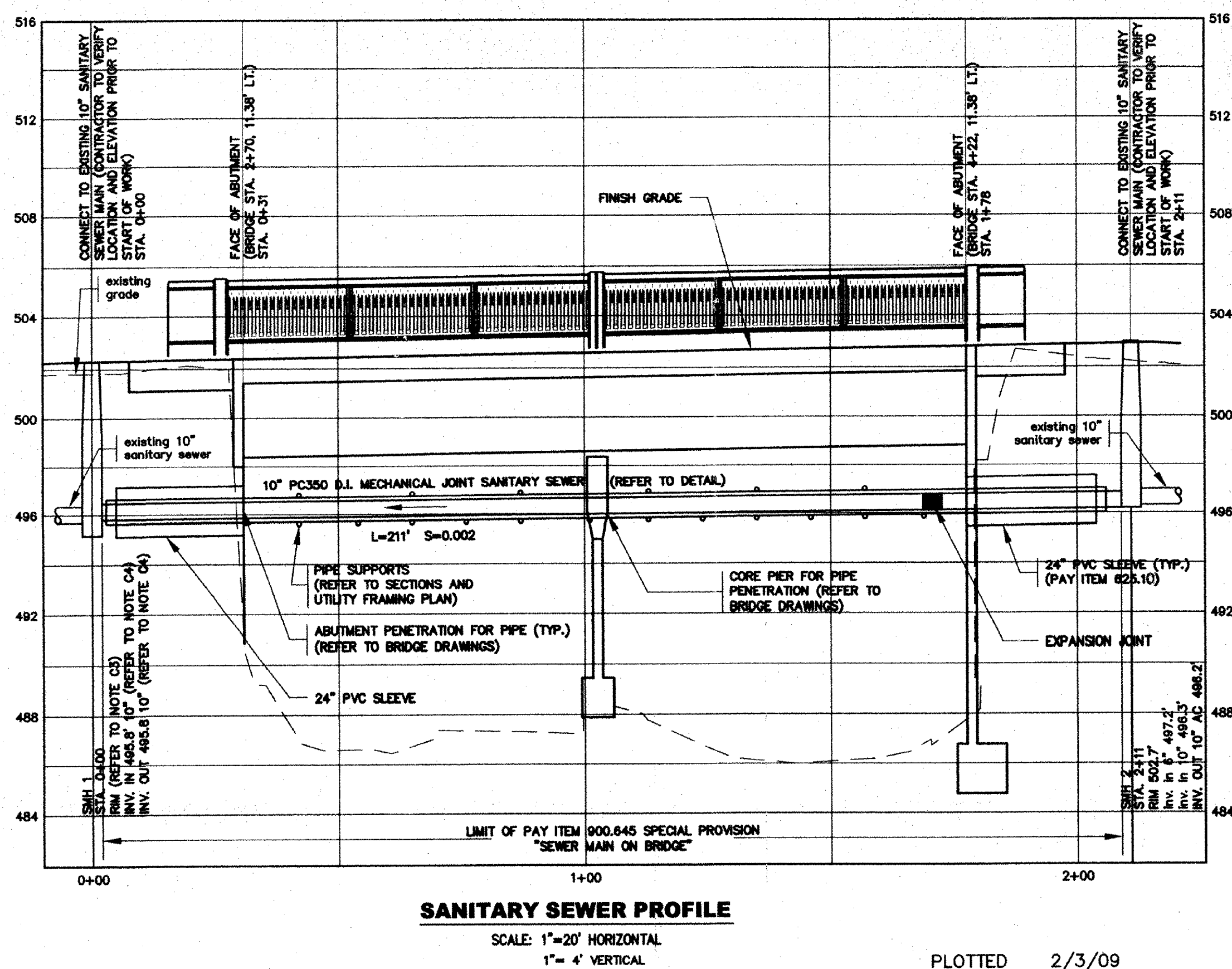
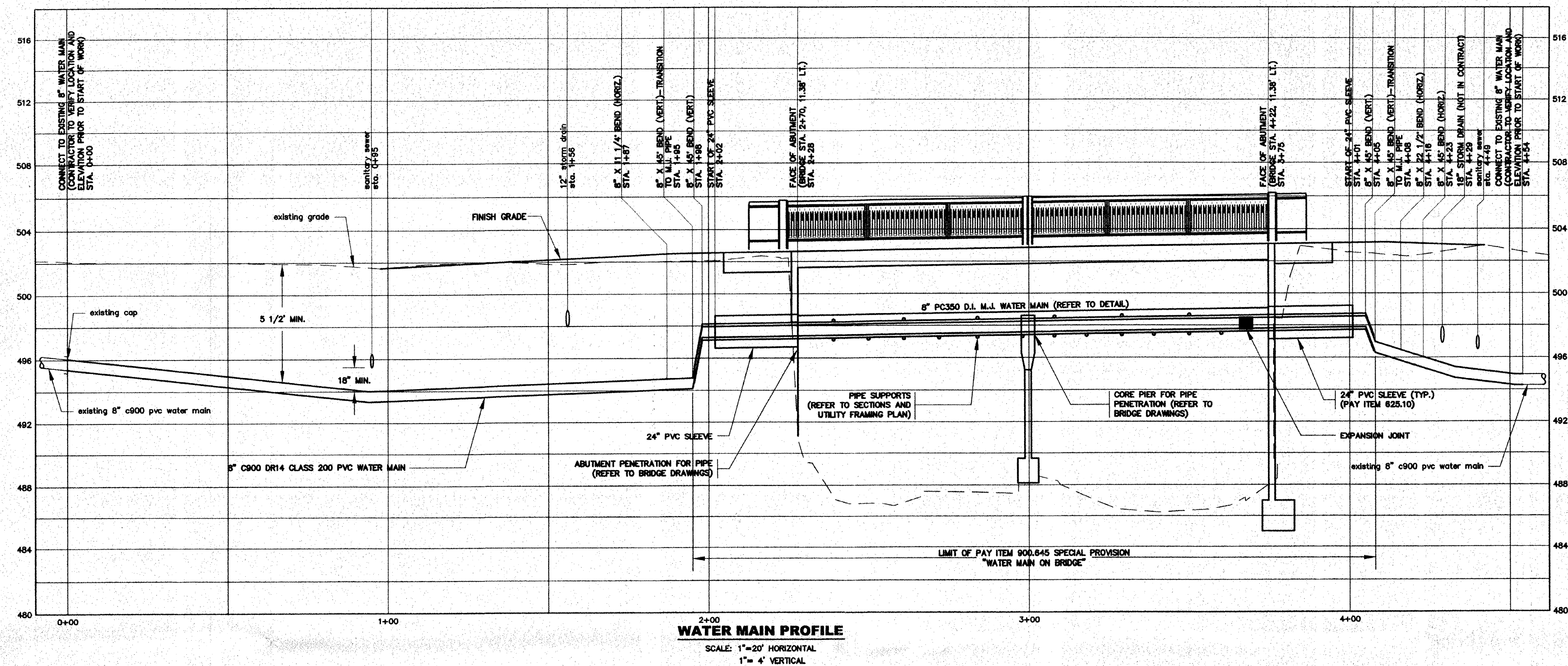


**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**

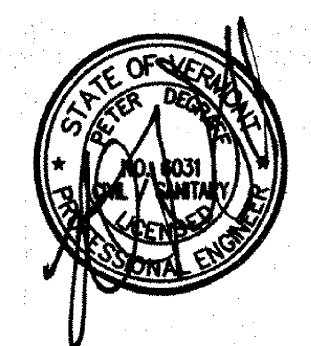
<b>SITE PLAN</b>			
Designed By	P.D.	Drawn By	J.L./H.B.
Checked By	C.C.	Date	1/09
		Bridge Design Supervisor	Date 1/09
PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
		CEC DWG NO.	C-1
Bridge Sheet No.		Sheet	64 of 68



**WATER MAIN NOTES:**

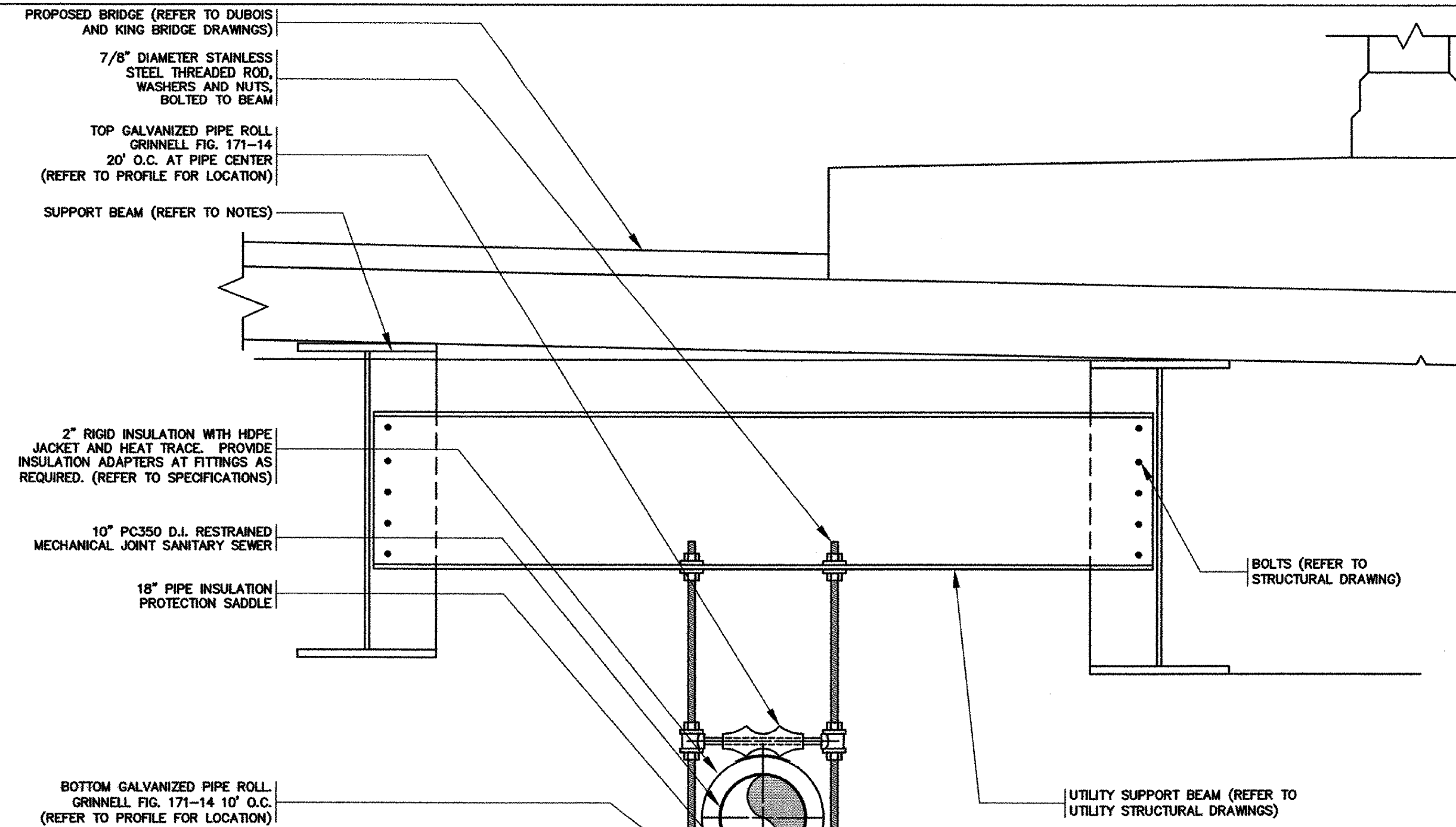
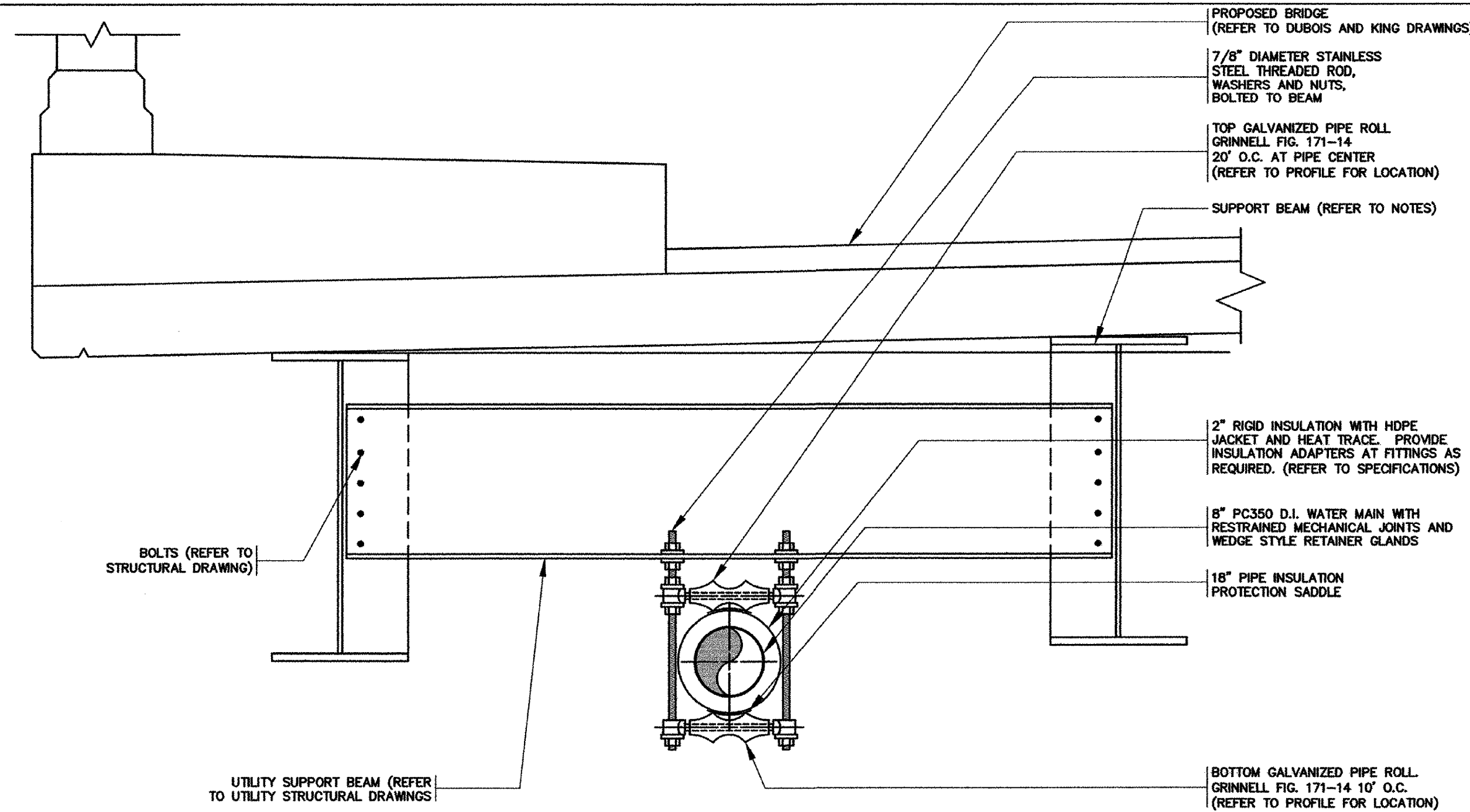
1. DUCTILE IRON FITTINGS SHALL BE CLASS 350 COMPACT STYLE WITH RESTRAINED MECHANICAL JOINTS WITH TEE BOLTS AS RECOMMENDED BY THE MANUFACTURER.
2. ALL MECHANICAL JOINT FITTINGS FOR DI AND PVC PIPE SHALL HAVE "MEGA-LUG" MECHANICAL JOINT RESTRAINTS AS MANUFACTURED BY EBAA IRON SALES, INC., OR "JINI-FLANGE WEDGE ACTION" MECHANICAL JOINT RESTRAINTS AS MANUFACTURED BY FORD METER BOX CO., OF THE PROPER STYLE FOR THE PIPE TYPE BEING RESTRAINED.
3. ALL COUPLINGS SHALL BE RESTRAINED MECHANICAL JOINT SOLID SLEEVES WITH DUCTILE IRON LONG BODY AND DUCTILE IRON GLANDS.

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E-mail: info@ottercreek.com



<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>	
Town Of	JOHNSON
Highway No.	1
<b>TH NO. 1 OVER THE GHON RIVER</b>	
<b>UTILITY PROFILES</b>	
Designed By	P.D.
Checked By	Date
C.C.	1/09
PROJECT	JOHNSON
Bridge Sheet No.	Sheet 65 of 68
Bridge No.	5
Log Sta.	
Surv. Sta.	
Drawn By	J.L./H.B.
Bridge Design Supervisor	Date 1/09
PROJECT NO.	BHO 1448 (29)
OCE DWG NO.	C-2

PLOTTED 2/3/09



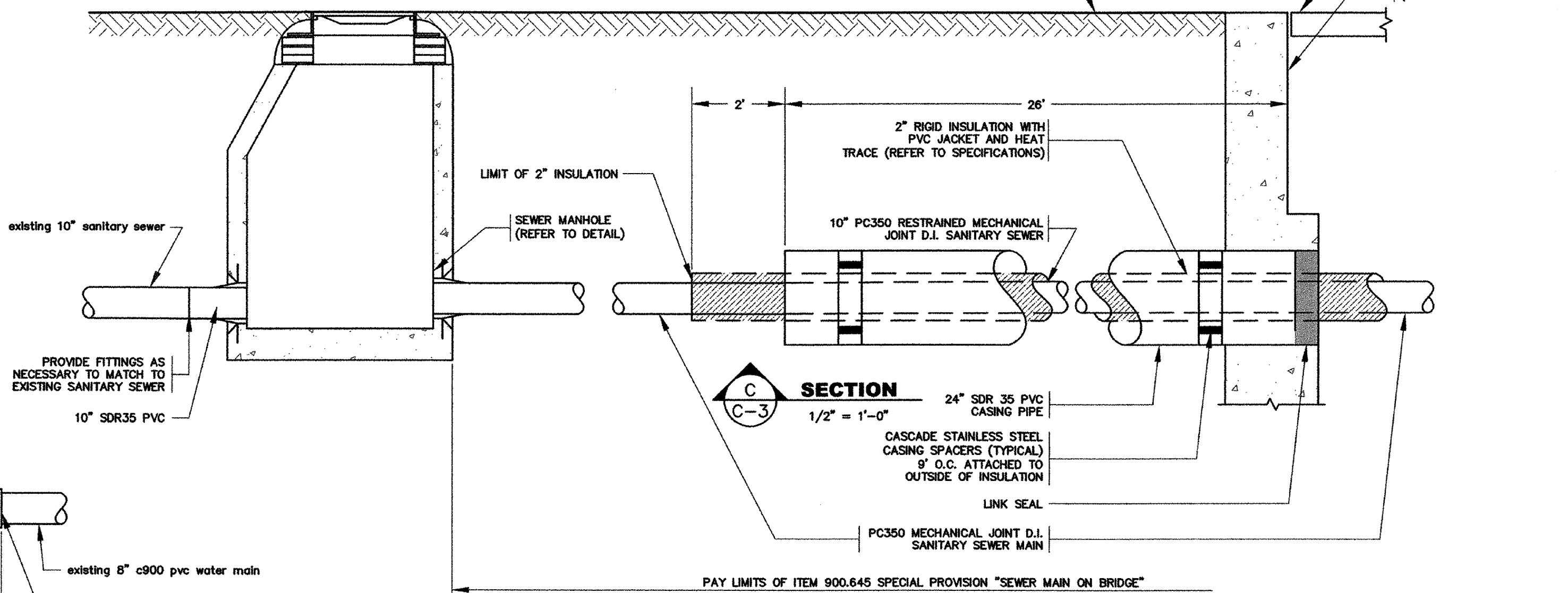
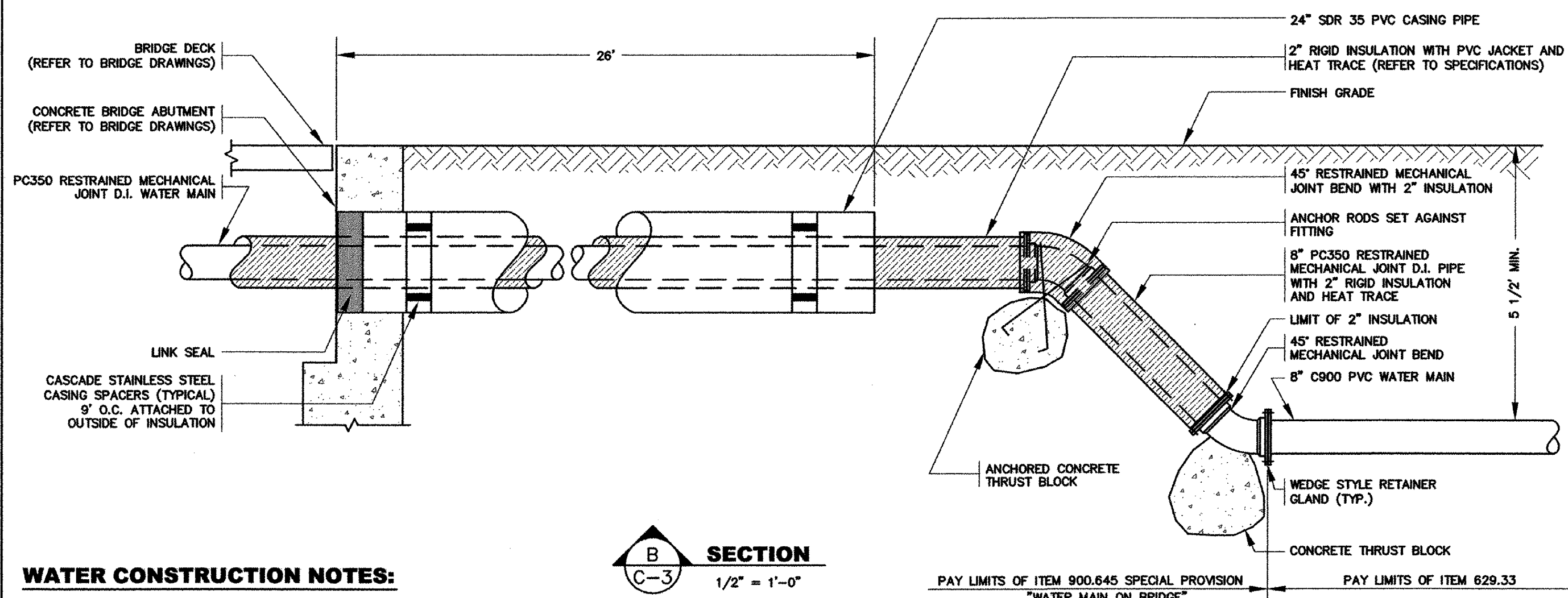
**WATER MAIN NOTES:**

1. CONTRACTOR SHALL SET WATER MAIN SO AS TO AVOID CONFLICT BETWEEN PIPE SUPPORTS AND JOINT ASSEMBLIES.
2. REFER TO UTILITY STRUCTURAL FRAMING PLAN AND BRIDGE FRAMING PLAN FOR SUPPORT BEAM PLACEMENT.

**SANITARY SEWER NOTES:**

1. CONTRACTOR SHALL SET SANITARY SEWER SO AS TO AVOID CONFLICT BETWEEN PIPE SUPPORTS AND JOINT ASSEMBLIES.
2. REFER TO UTILITY STRUCTURAL FRAMING PLAN AND BRIDGE FRAMING PLAN FOR SUPPORT BEAM PLACEMENT.

SECTION A  
1" = 1'-0"



**WATER CONSTRUCTION NOTES:**

1. THIS SECTION TYPICAL AT BOTH ENDS OF BRIDGE.
2. END OF PIPE CASING SHALL BE SEALED WITH CASCADE MODEL CCES END SEALS WITH STAINLESS STEEL BAND CLAMPS (OR EQUAL).
3. INSULATION JACKETING MATERIAL TO BE HDPE.
4. REFER TO SPECIFICATIONS FOR HEAT TRACE CABLE AND APPURTENANCES.
5. CONTRACTOR SHALL CONTACT DIG-SAFE AND THE JOHNSON WATER AND LIGHT DEPARTMENT TO LOCATE UTILITIES AND TO COORDINATE ALL INTERCONNECTIONS OF WATER MAINS PRIOR TO THE START OF CONSTRUCTION.
6. INSTALL A 2" SCH40 PVC CONDUIT FROM THE HEAT TRACE JUNCTION BOX ON THE WATER MAIN TO THE HEAT TRACE CONTROL PANEL AS SHOWN. INSTALL THE HEAT TRACE CABLE IN THE 2" SCH40 PVC CONDUIT AND ALONG THE WATER MAIN PER THE MANUFACTURER. NO SPLICING SHALL BE ALLOWED ON THE CABLE FROM THE JUNCTION BOX TO THE CONTROL PANEL AND FROM THE JUNCTION BOX TO THE WATER MAIN. CONTRACTOR SHALL COORDINATE REQUIRED LENGTHS OF CABLE WITH THE MANUFACTURER. ALL ELECTRICAL CONNECTIONS AND OTHER WIRING TO PROVIDE A FUNCTIONAL HEAT TRACE SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR. ALL MATERIAL AND LABOR COSTS TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER PAY ITEM 900.645 SPECIAL PROVISION "ELECTRICAL HEAT TRACE SYSTEM".
7. PROVIDE RESTRAINED JOINTS AND CONCRETE THRUST BLOCKS AT ALL BENDS IN THE WATER MAIN. REFER TO DETAIL FOR THRUST BLOCK REQUIREMENTS. THRUST BLOCKS SHALL BE CONSIDERED INCIDENTAL TO PAY ITEM 900.645 SPECIAL PROVISION "WATER MAIN ON BRIDGE".
8. PROVIDE A 3/4" CORPORATION STOP AT THE TOP OF PIPE AT WESTERN BRIDGE ABUTMENT. PIPE TO BE THE EDGE OF THE BRIDGE DECK AND TERMINATE WITH A LOCKABLE BALL VALVE, FOR USE BY THE VILLAGE OF JOHNSON TO BLEED AIR OUT OF THE WATER MAIN. ALL MATERIAL AND LABOR COSTS TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER PAY ITEM 900.645 SPECIAL PROVISION "WATER MAIN ON BRIDGE".
9. ALL WORK ASSOCIATED WITH THE WATER MAIN NOT SPECIFICALLY INCLUDED IN OTHER PAY ITEMS SHALL BE CONSIDERED MAINTENANCE OF EXISTING WATER SYSTEM AND PAID UNDER CONTRACT ITEM 629.42 TRANSFER TO NEW SYSTEM, WATER SYSTEM.

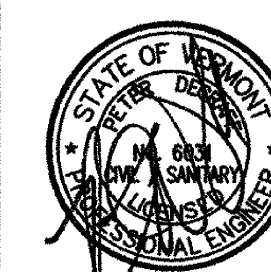
**SEWER CONSTRUCTION NOTES:**

1. THIS SECTION TYPICAL AT BOTH ENDS OF BRIDGE.
2. END OF PIPE CASING SHALL BE SEALED WITH CASCADE MODEL CCES END SEALS WITH STAINLESS STEEL BAND CLAMPS (OR EQUAL).
3. INSULATION JACKETING MATERIAL TO BE HDPE.
4. REFER TO SPECIFICATIONS FOR HEAT TRACE CABLE AND APPURTENANCES.
5. INSTALL A 2" SCH40 PVC CONDUIT FROM THE HEAT TRACE JUNCTION BOX ON THE SANITARY SEWER TO THE HEAT TRACE CONTROL PANEL AS SHOWN. INSTALL THE HEAT TRACE CABLE IN THE 2" SCH40 PVC CONDUIT AND ALONG THE SANITARY SEWER PER THE MANUFACTURER. NO SPLICING SHALL BE ALLOWED ON THE CABLE FROM THE JUNCTION BOX TO THE CONTROL PANEL AND FROM THE JUNCTION BOX TO THE SANITARY SEWER. CONTRACTOR SHALL COORDINATE REQUIRED LENGTHS OF CABLE WITH THE MANUFACTURER. ALL ELECTRICAL CONNECTIONS AND OTHER WIRING TO PROVIDE A FUNCTIONAL HEAT TRACE SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR. ALL MATERIAL AND LABOR COSTS TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER PAY ITEM 900.645 SPECIAL PROVISION "ELECTRICAL HEAT TRACE SYSTEM".
6. ALL WORK ASSOCIATED WITH THE SANITARY SEWER NOT SPECIFICALLY INCLUDED UNDER OTHER PAY ITEMS SHALL BE CONSIDERED MAINTENANCE OF EXISTING SEWER SYSTEM AND SHALL BE PAID UNDER CONTRACT ITEM 628.42 TRANSFER TO NEW SYSTEM, SANITARY SEWER.

PLOTTED 2/3/09



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**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of **JOHNSON** Bridge No. **5**  
Highway No. **1** Log Sta.  
Surv. Sta.

**TH NO. 1 OVER THE GIHON RIVER  
UTILITY SECTIONS**

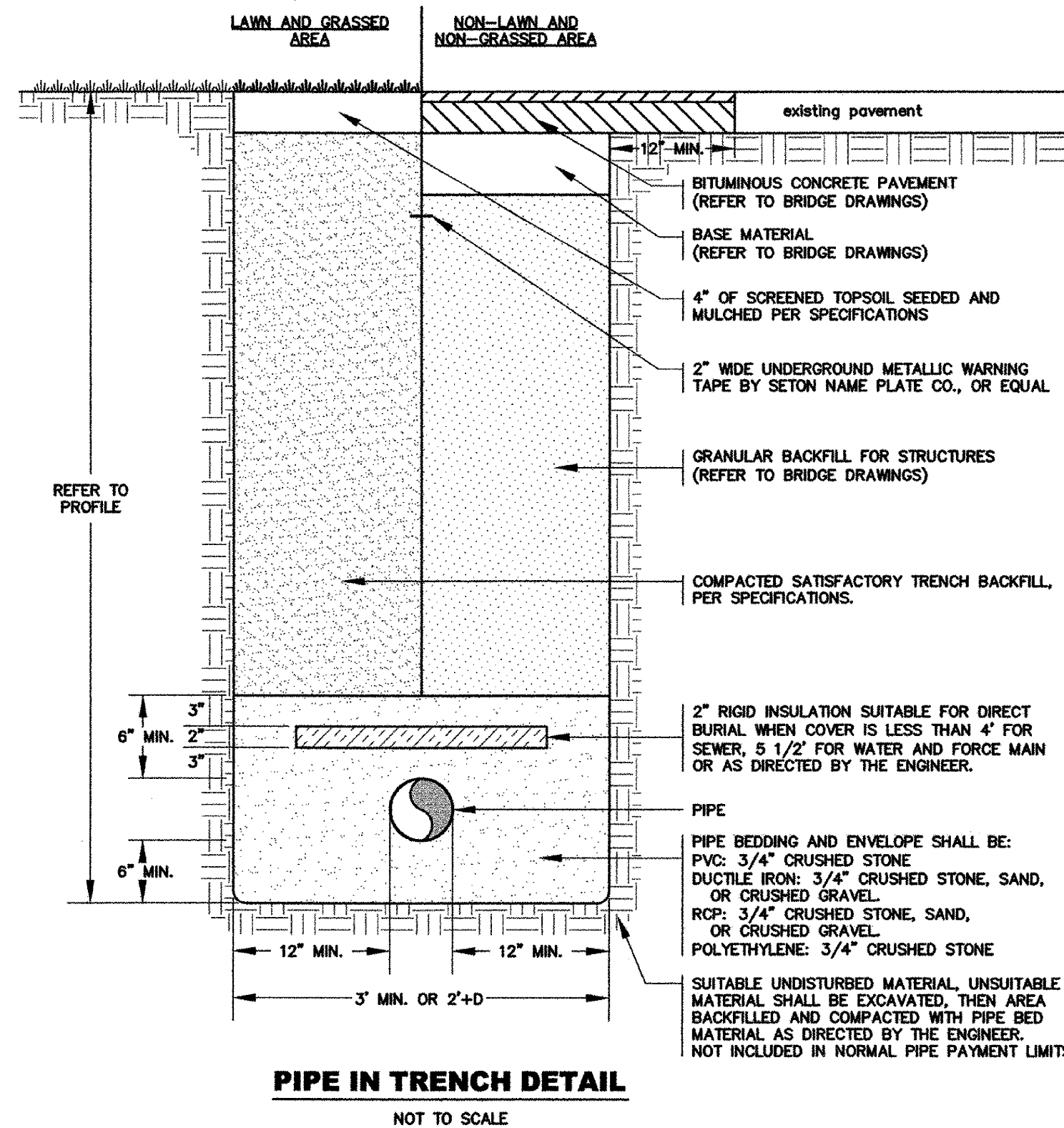
Designed By **P.D.** Drawn By **J.L./H.B.**  
Checked By **Date** Bridge Design Supervisor  
**C.C.** **1/09** **Date 1/09**

PROJECT **JOHNSON** PROJECT NO. **BHO 1448 (29)**  
OCE DWG NO. **C-3**

Bridge Sheet No. **Sheet 66 of 68**

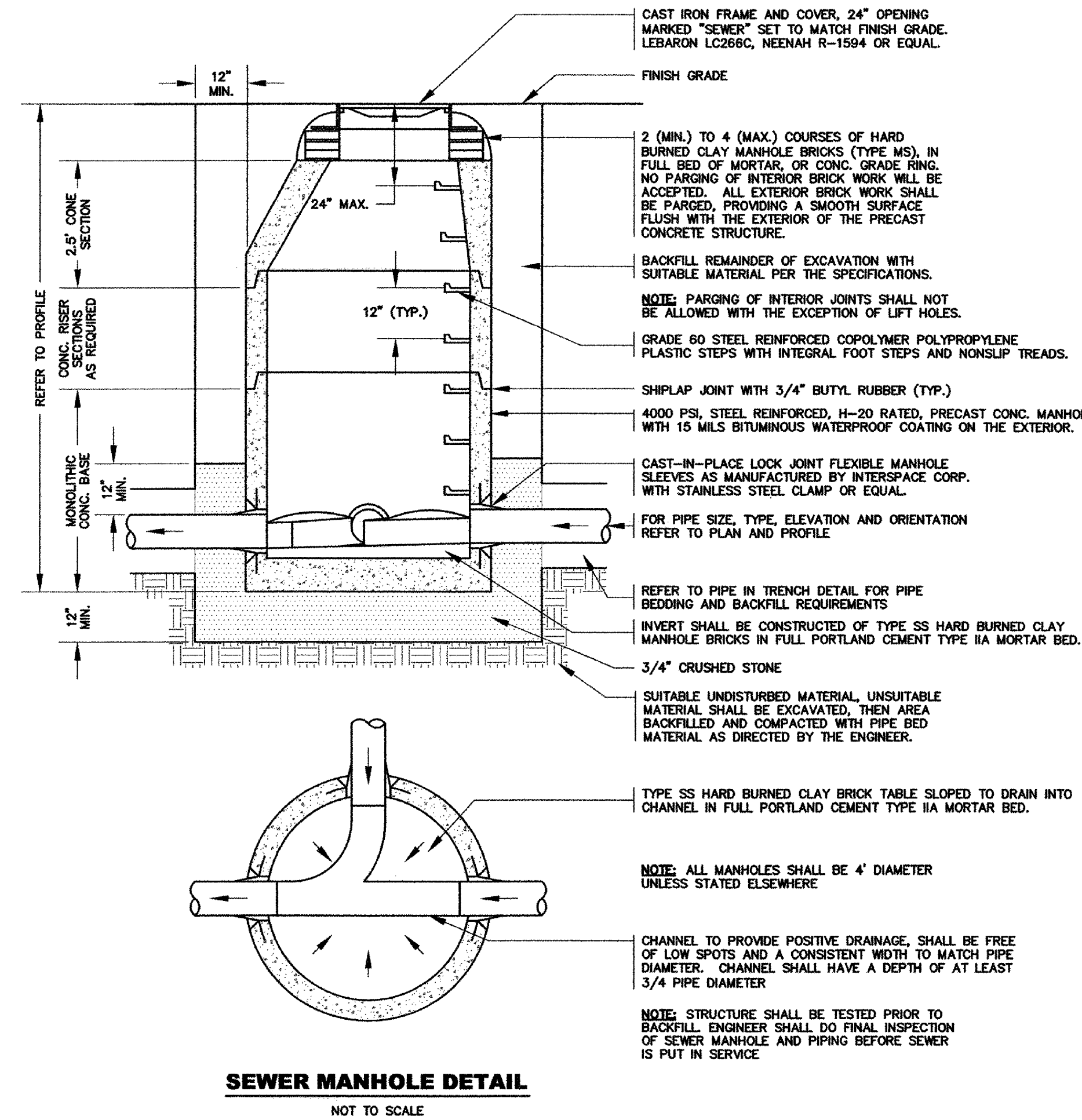
**WATER / SEWER CROSSING NOTES**

1. WATER MAINS AND SEWERS WHICH CROSS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 18 INCHES.
2. WATER AND SEWER PIPE JOINTS SHALL BE LOCATED AS FAR APART AS POSSIBLE.
3. PROVIDE STRUCTURAL SUPPORT FOR EXPOSED WATER AND SEWER PIPES.
4. FOR PARALLEL INSTALLATION, THERE SHALL BE A HORIZONTAL SEPARATION OF 10 FEET BETWEEN WATER MAINS AND SANITARY SEWER, AND A SEPARATION OF 5 FT BETWEEN WATER MAINS AND STORM SEWERS.
5. IN THE EVENT 18 INCHES OF VERTICAL CLEARANCE OR 10' OF HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE SANITARY SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM OF THREE PIPE LENGTHS CENTERED ON THE WATER LINE.



**NOTES:**

1. REFER TO WATER MAIN ON BRIDGE AND SEWER MAIN ON BRIDGE SPECIAL PROVISIONS FOR TESTING REQUIREMENTS FOR WATER MAIN AND SEWER MAIN RESPECTIVELY.
2. REFER TO WATER MAIN ON BRIDGE SPECIAL PROVISIONS FOR WATER MAIN FLUSHING AND DISINFECTION REQUIREMENTS.



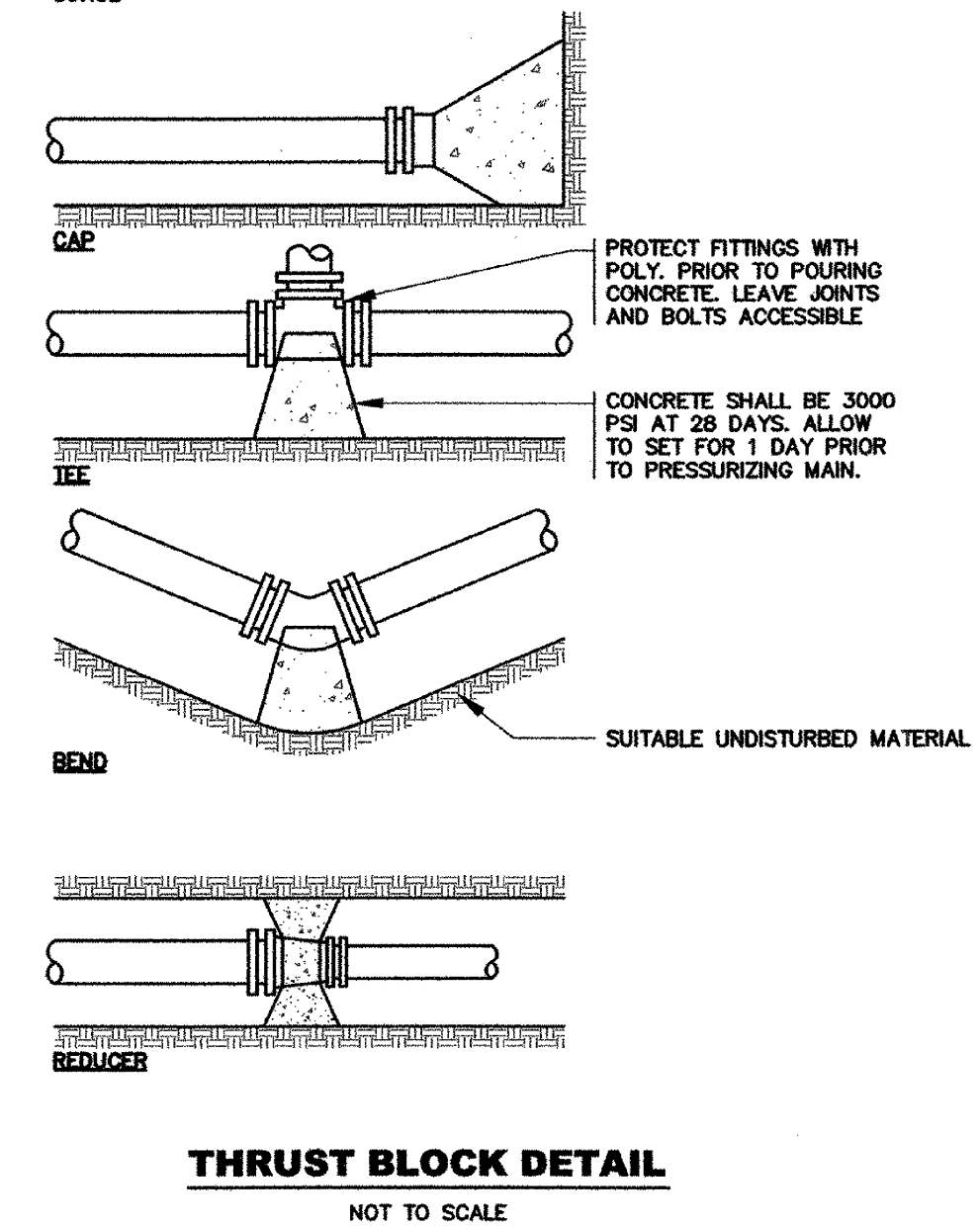
**WASTEWATER MANHOLE VACUUM TESTING NOTES:**

1. ENGINEER SHALL WITNESS ALL TESTING.
2. MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING.
3. ALL PIPE OUTLETS SHALL BE PLUGGED WITH TEST PLUGS. BRACE ALL PLUGS SECURELY.
4. PLACE THE TEST DEVICE OVER THE ACCESS OPENING AND INFLATE THE RUBBER RING TO SEAL BETWEEN THE TEST DEVICE AND THE MANHOLE CONE.
5. SLOWLY PUMP AIR OUT OF THE MANHOLE UNTIL A VACUUM IS CREATED INSIDE OF THE MANHOLE EQUAL TO TEN INCHES (10") OF MERCURY ON A CALIBRATED VACUUM GAUGE. THE REMOVAL OF AIR SHALL THEN BE STOPPED AND THE TEST BEGUN.
6. THE VACUUM MUST NOT DROP TO BELOW NINE INCHES (9") OF MERCURY WITHIN A TWO MINUTE TEST PERIOD.
7. IF MORE THAN ONE INCH (1") DROP IN VACUUM OCCURS WITHIN THE TWO MINUTE TEST PERIOD, THE MANHOLE HAS FAILED THE TEST AND SHALL BE REPAIRED OR RECONSTRUCTED AND RETESTED.
8. THE CONTRACTOR SHALL MAKE ALL REPAIRS OR REPLACEMENTS NECESSARY TO OBTAIN PASSING TEST RESULTS, AT NO ADDITIONAL EXPENSE TO THE OWNER.
9. DO NOT REMOVE PLUGS UNTIL INTERNAL VACUUM IS COMPLETELY RELEASED.

**AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS (IN SQUARE FEET)**

PIPE SIZE (INCHES)	AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS (IN SQUARE FEET)	
	SOFT WET CLAY, SAND OR SILT (1000 PSF)	DRY SAND (3000 PSF)
CAP OR TEE		
8 OR LESS	20 SF	7 SF
10	29	10
12	41	14
90° BEND		
8 OR LESS	27 SF	9 SF
10	41	14
12	58	19
45° BEND		
8 OR LESS	15 SF	5 SF
10	22	7
12	31	11
22 1/2° BEND OR LESS		
8 OR LESS	8	3
10	11	4
12	16	5
REDUCER		
8 OR LESS	8 SF	7 SF
10	11	7
12	16	11

NOTE: BEARING SURFACE AREAS CALCULATED ASSUMING A MAXIMUM WORKING PRESSURE OF 150 PSI AND A 2:1 SAFETY FACTOR FOR SURGE



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 E-mail: info@otterck.com



**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

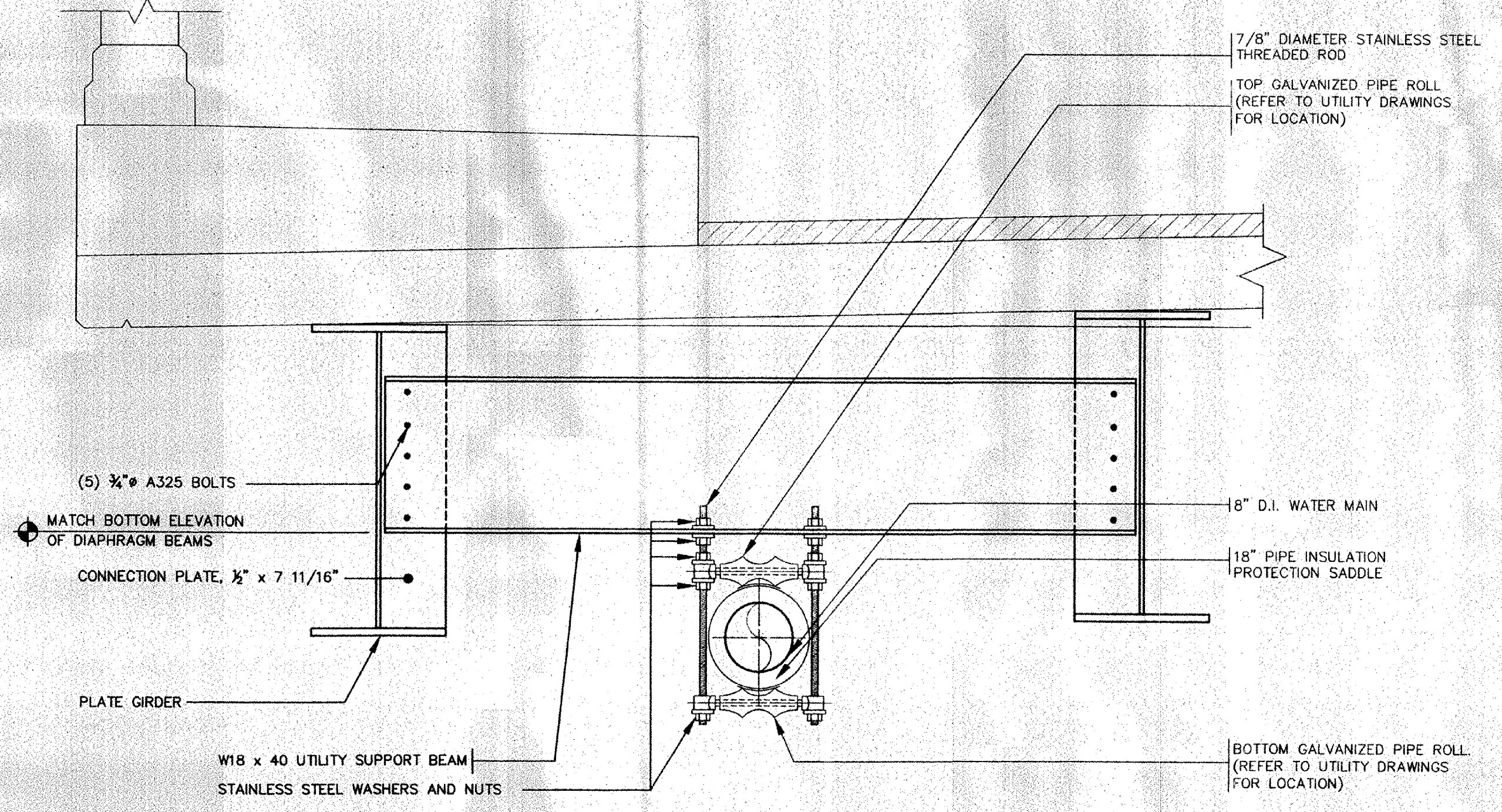
**TH NO. 1 OVER THE GIHON RIVER**

**NOTES AND DETAILS**

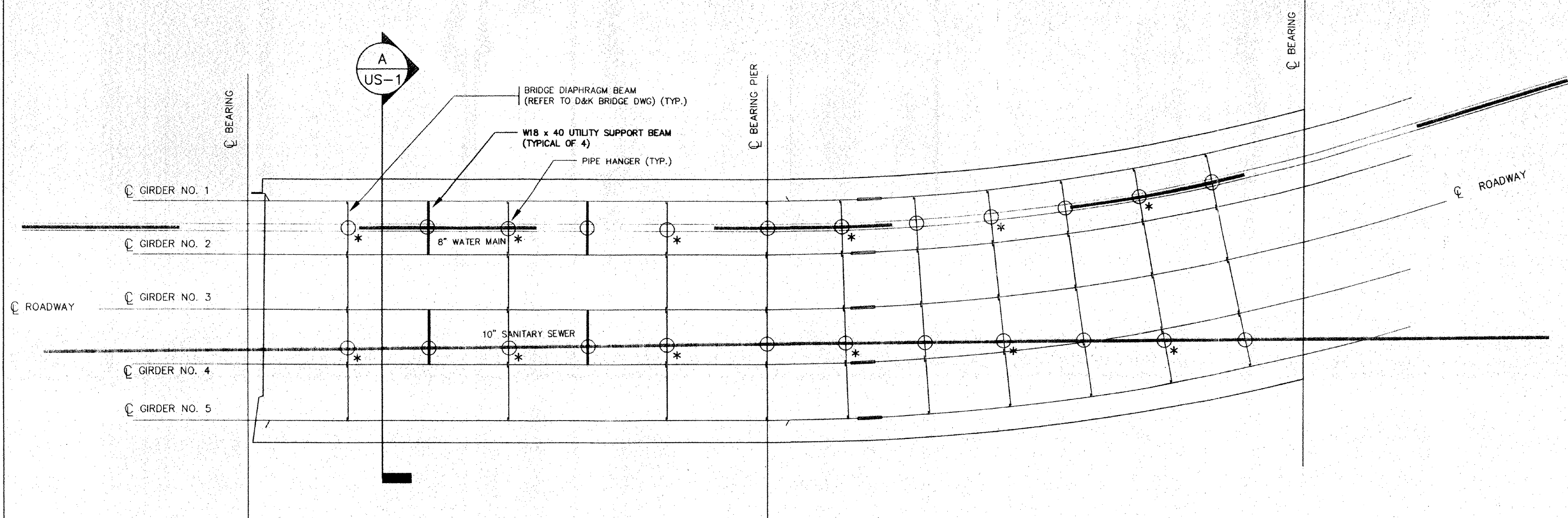
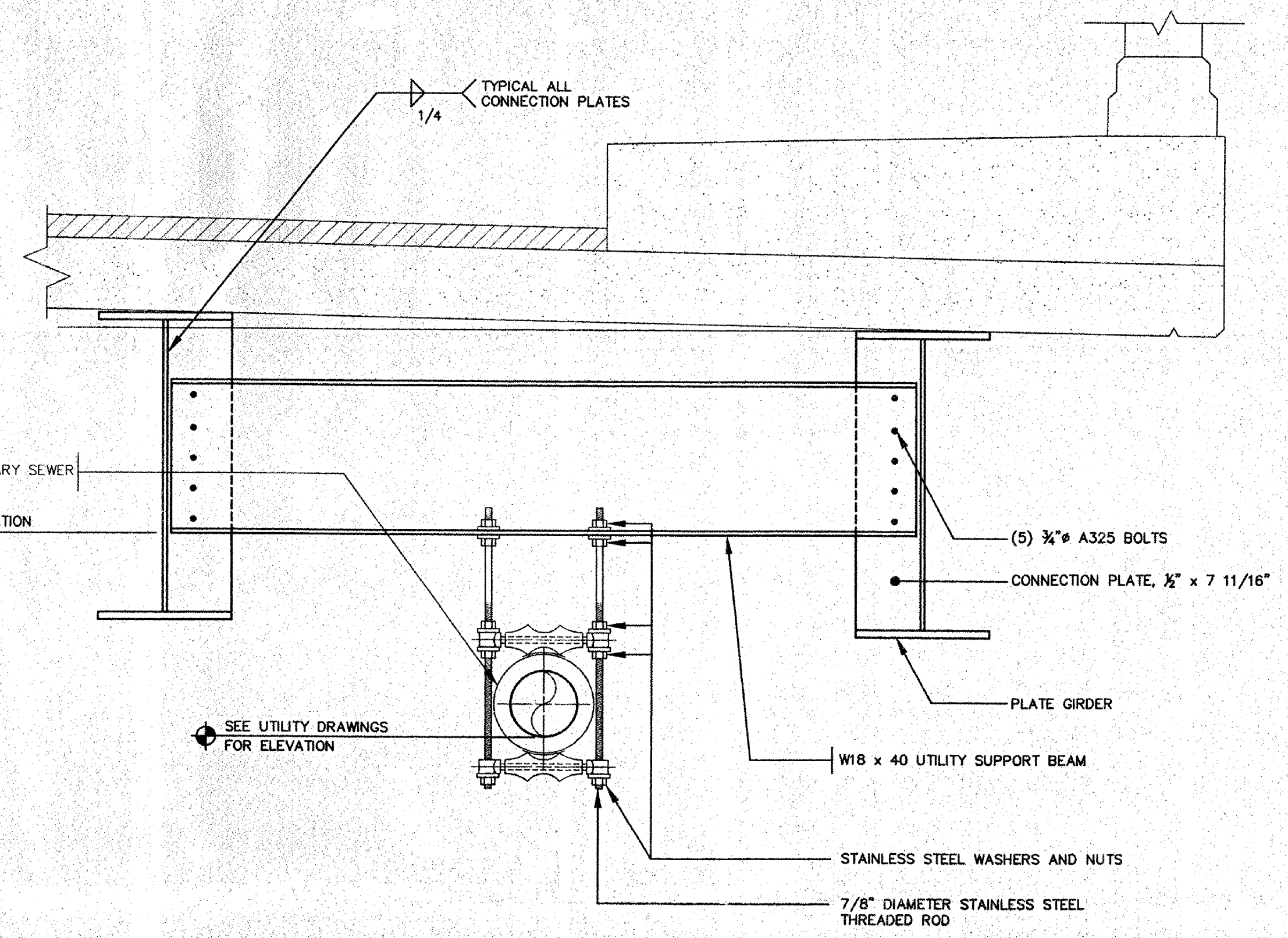
Designed By	P.D.	Drawn By	J.L./H.B.
Checked By	Date	Bridge Design Supervisor	
C.C.	1/09	Date	1/09

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
		OCE DWG NO.	C-4

Bridge Sheet No. Sheet 67 of 68



**SECTION A-A**  
1" = 1'-0"



**UTILITY FRAMING PLAN**  
SCALE: 1"=10'

\* INDICATES PIPE HANGER WITH TOP ROLLER IN ADDITION TO BOTTOM ROLLER.

**NOTE:**  
STRUCTURAL STEEL, BOLTS, WELDS, AND FINISH SYSTEM FOR UTILITY STRUCTURAL COMPONENTS SHALL MATCH THOSE FOR BRIDGE STRUCTURAL COMPONENTS.

REVISIONS		
NO.	DESCRIPTION	BY & DATE

**RICHARD M. DOHERTY, P.E.**  
STRUCTURAL ENGINEERING

595 DORSET STREET - #6  
SOUTH BURLINGTON, VT 05403  
802-660-9212  
FAX 802-660-8403

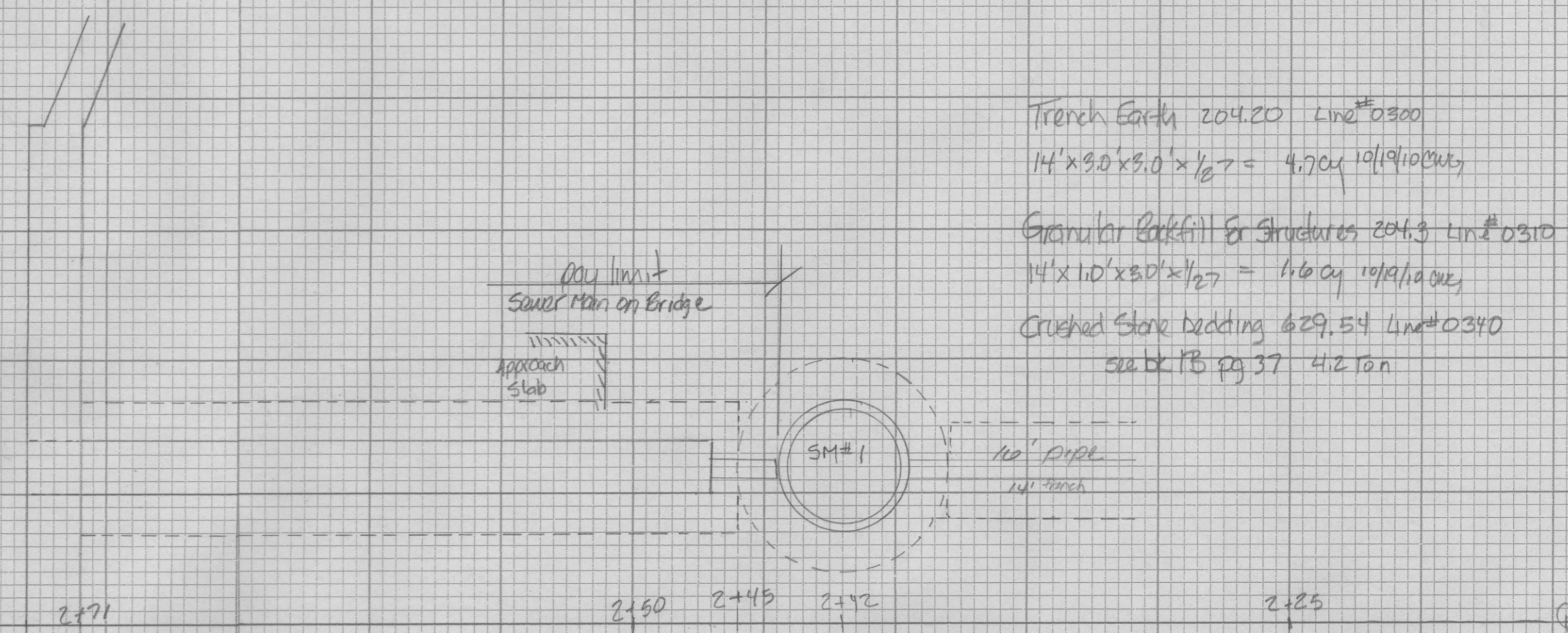
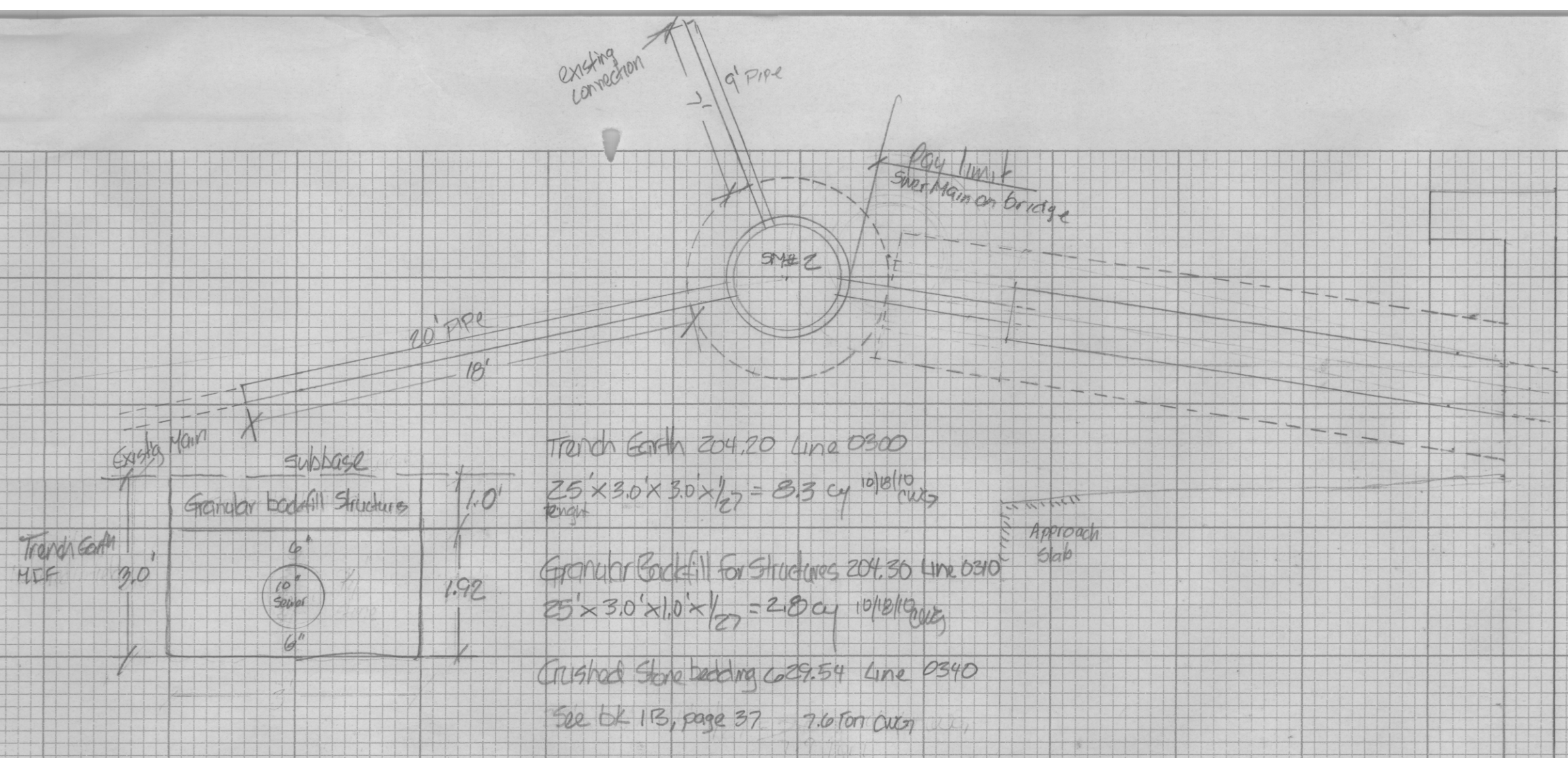
**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

Town Of	JOHNSON	Bridge No.	5
Highway No.	1	Log Sta.	
		Surv. Sta.	

**TH NO. 1 OVER THE GIHON RIVER**  
**UTILITY STRUCTURAL PLAN**

Designed By	RMD	Drawn By	KKE
Checked By	Date	Bridge Design Supervisor	Date
RMD	01/09		

PROJECT	JOHNSON	PROJECT NO.	BHO 1448 (29)
I.G.C. Info.		OCE DWG NO.	US-1
Bridge Sheet No.		Sheet	68 of 68



Trench Earth 204.20 Line 0300  
 $14' \times 9.0' \times 9.0' \times \frac{1}{2}' = 4.70 \text{ cy } 10\% \text{ comp}$   
 Granular Backfill for Structures 204.30 Line 0310  
 $25' \times 3.0' \times 1.0' \times \frac{1}{2}' = 2.8 \text{ cy } 10\% \text{ comp}$   
 Crushed Stone bedding 629.54 Line 0340  
 see PLB pg 37 for ton

Trench Earth - (Sewer)

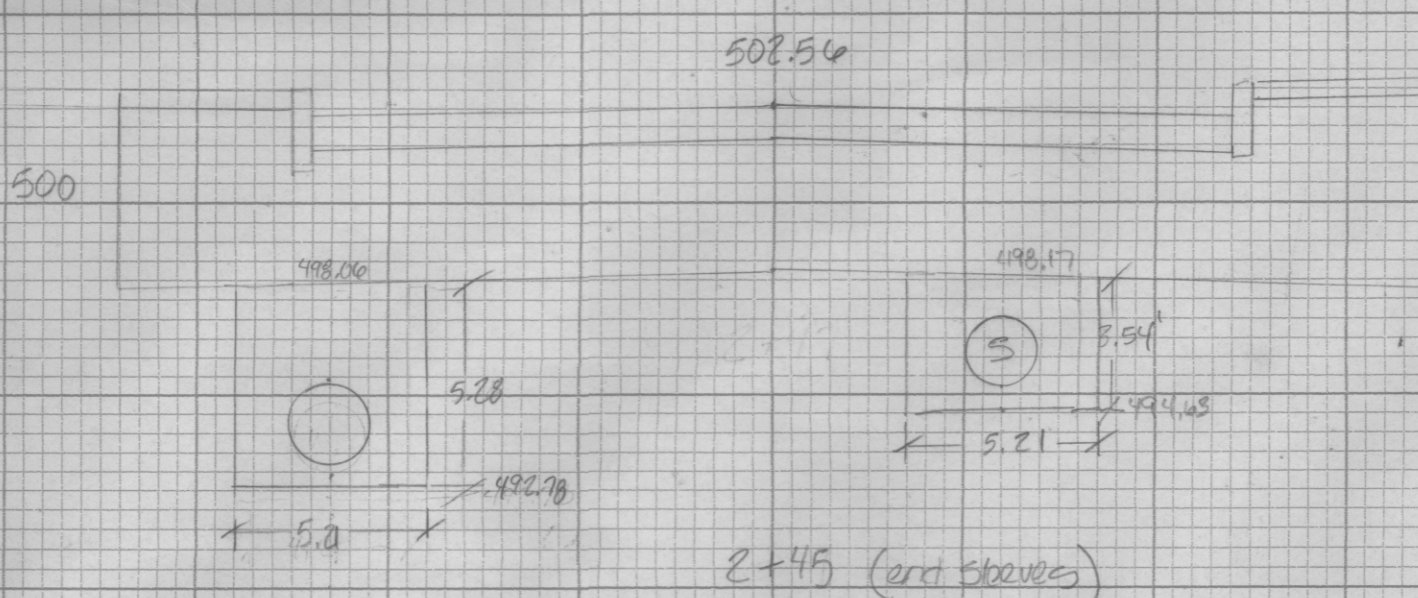
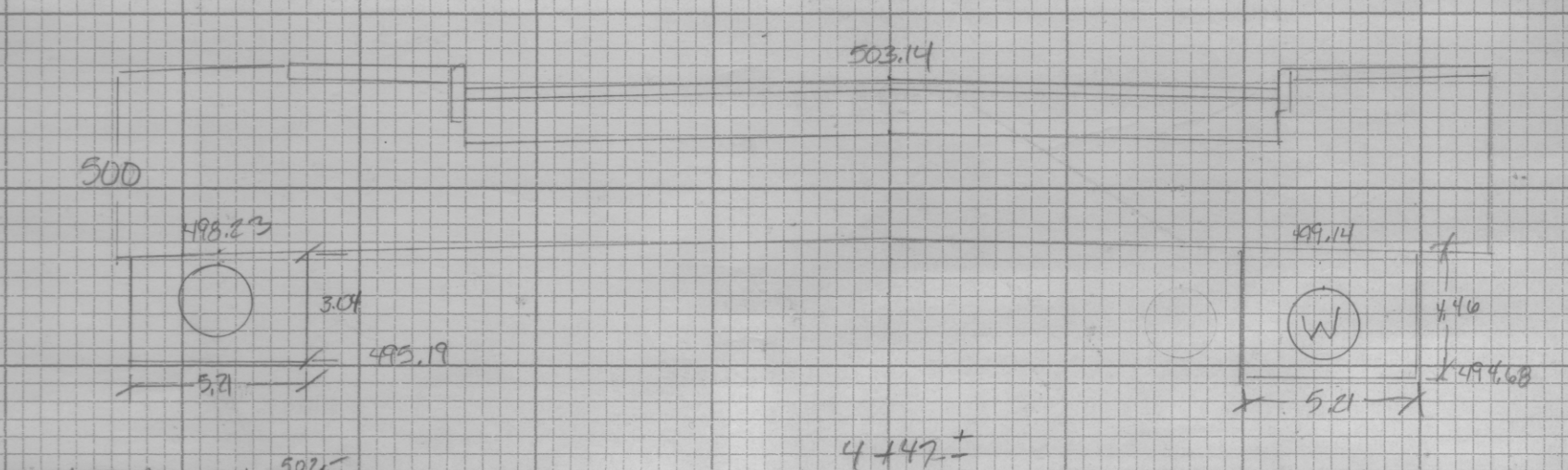
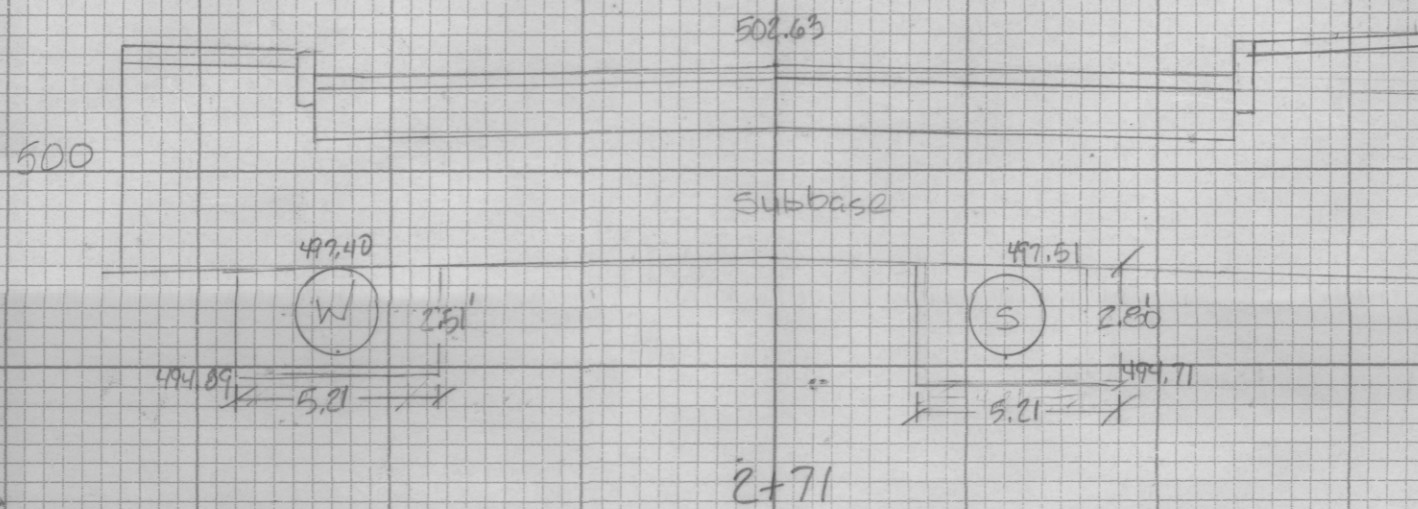
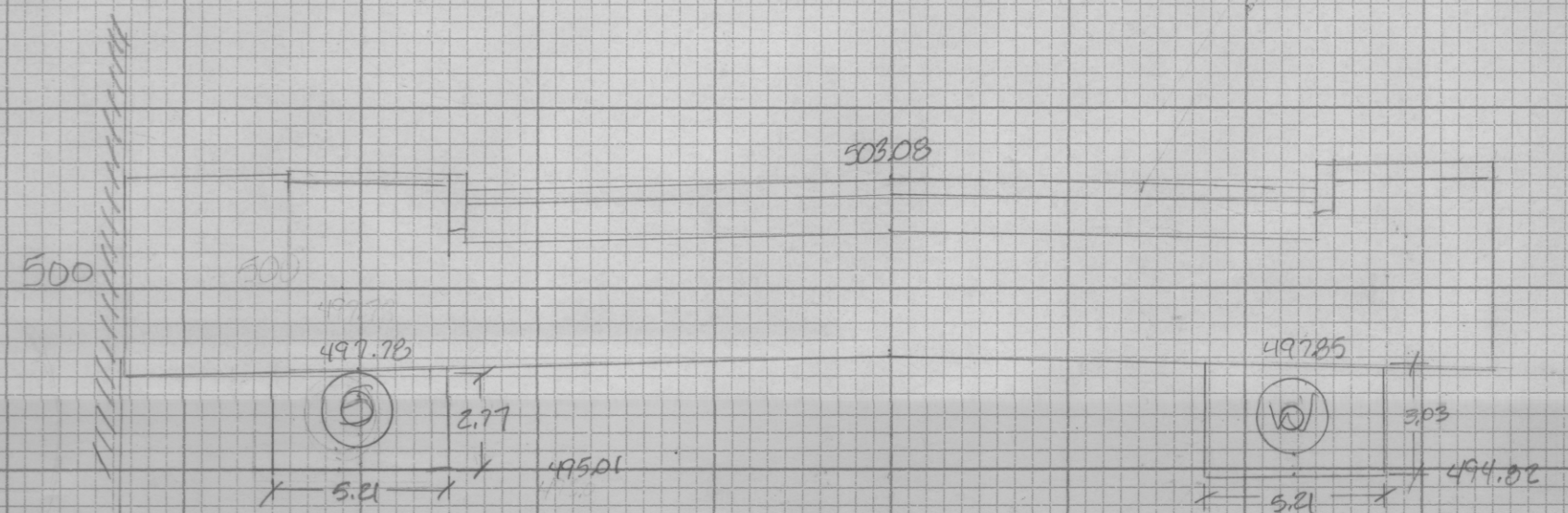
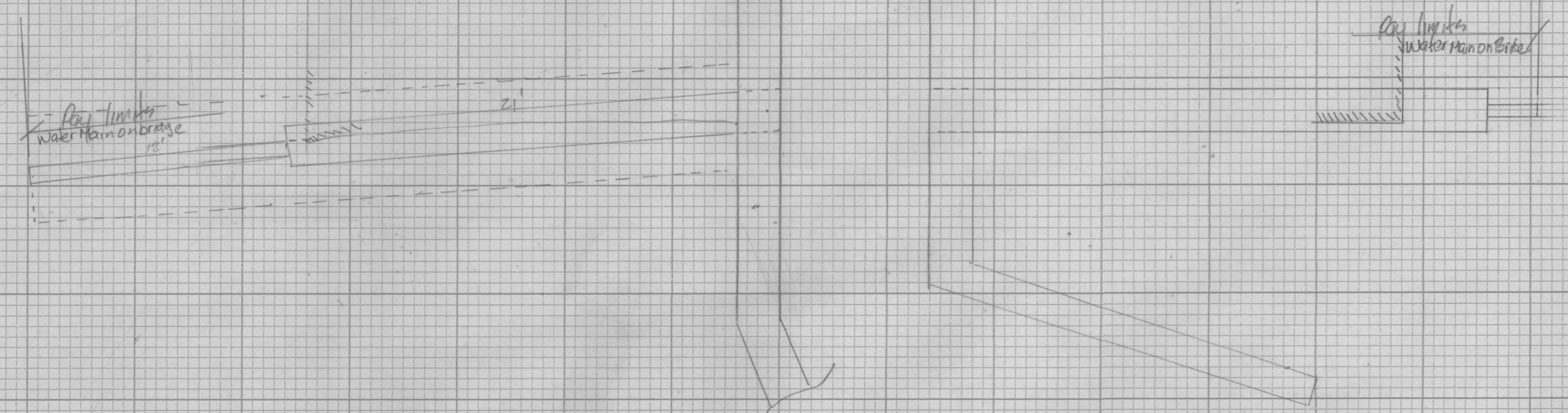
Sta	Area	Dist	Vol
2+71	14.37	26'	15.90 cy
2+45	18.44		
MH 2+46			8.99 cy

11/06/09 cover

Trench Earth - (Water)

Sta	Area	Dist	Vol
2+71	13.06	24'	13.04 cy
2+45	27.91		

11/30/09 cover



Trench Earth - Sewer

Sta	Area	Dist	Vol
4+22	14.43	25'	14.00 cy
4+47	15.83		
MH			7.28 cy

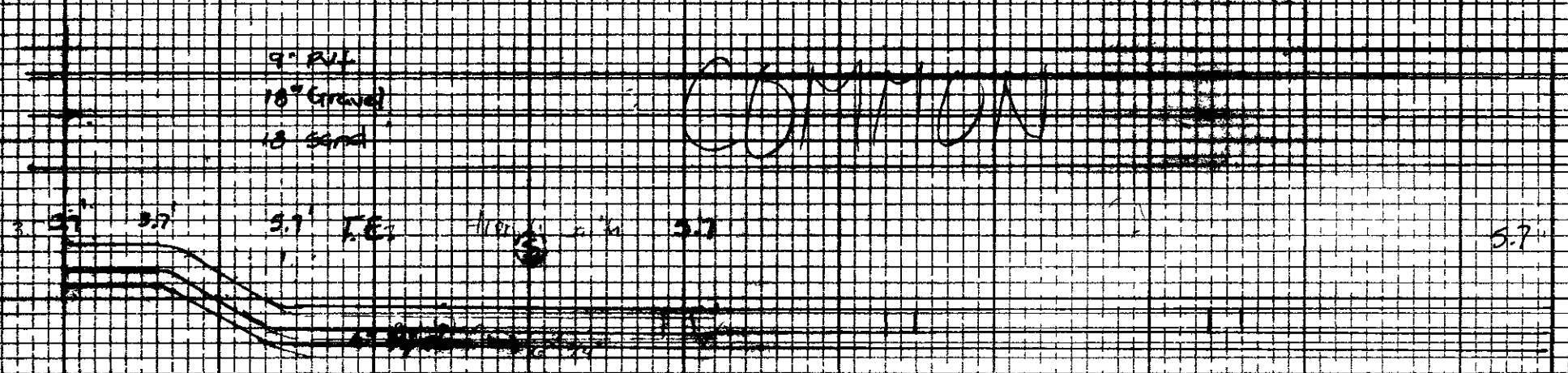
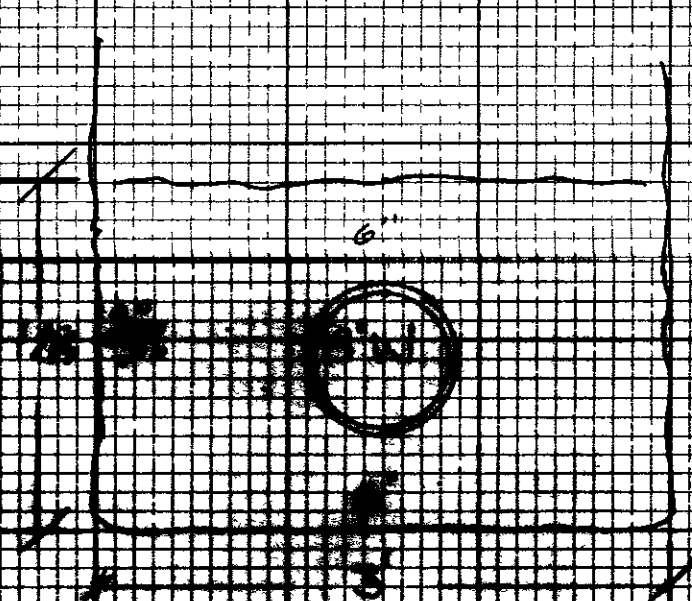
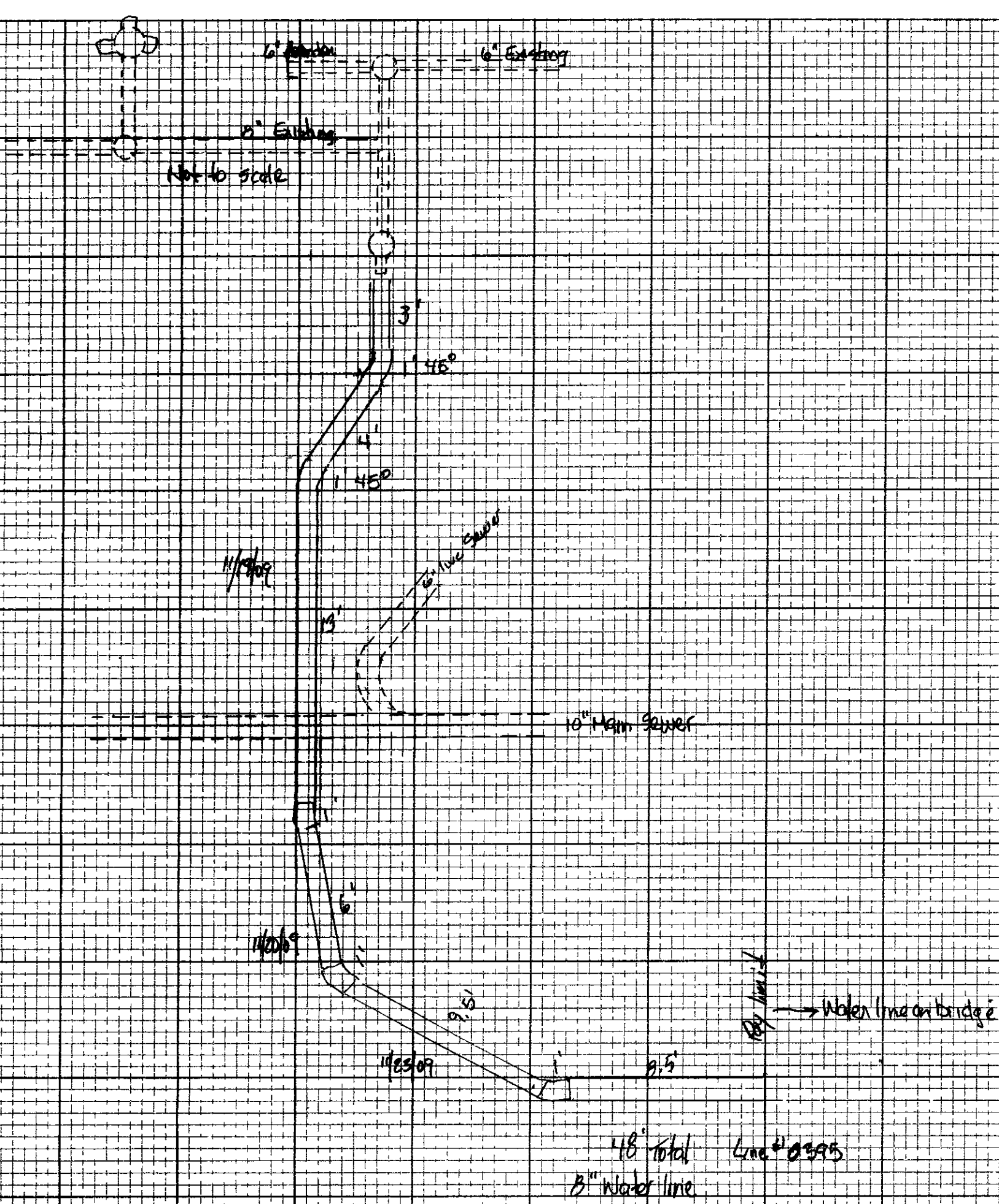
$7.28 \text{ cy} \times 7.83 = 15.01 \text{ cy}$   
 $15.01 \text{ cy} \times 1.18 = 17.71 \text{ cy}$

Trench Earth - Water

Sta	Area	Dist	Vol
4+22	16.0	33'	23.83 cy
4+55	25.0		

11/09/09 cover

Project sheet 1/6  
 Johnson B40 1448(29)  
 Trench Earth, Utilities, Sewer Man on bridge  
 Line 0300  
 Trench Earth, Utilities (Water) Water Man on bridge  
 Line 0305



$$T.E. \left\{ (3.7 \times 14') + (3.7 \times 5.7 \times 6') + (5.7 \times 38') \right\} \times 3 \times 1 = 838.64 \text{ Line \# 0995}$$

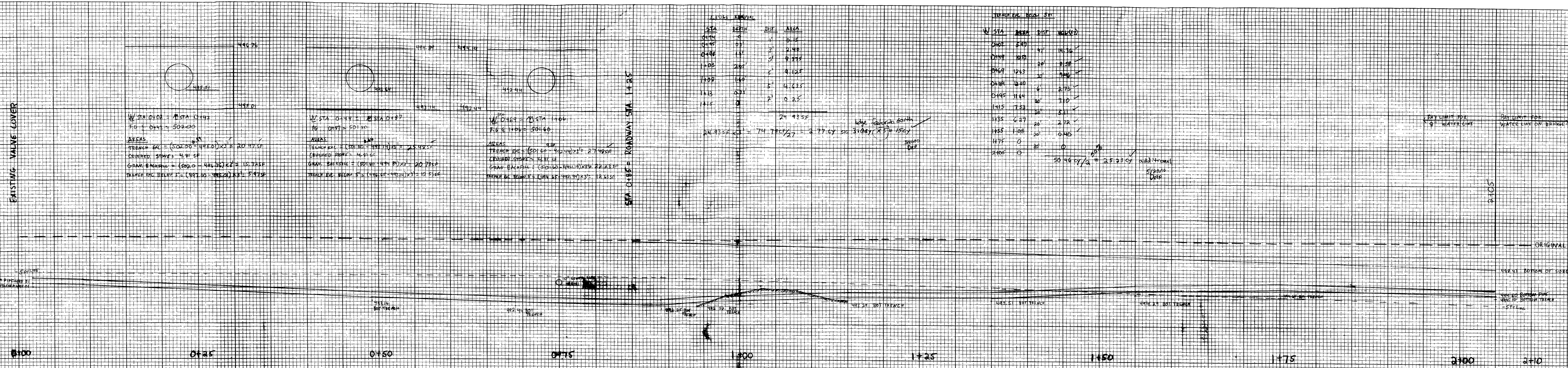
$$\frac{1}{2} \text{ stone } \left\{ (1.95 \times 3' \times 48') + (11.75 \times 40') \right\} \times \frac{1}{2} \times 14.10 \text{ ton} = 12.1 \text{ ton}$$

Granular Backfill for Structure  

$$\left\{ (11.75 \times 4') + (1.95 \times 3.95 \times 6') + (5.95 \times 38') \right\} \times 3 \times \frac{1}{2} = 160.10 \text{ cy}$$

$$160.10 \text{ cy} \times 3 \times \frac{1}{2} = 19.5 \text{ cy Line \# 0970}$$

Project sheet #10  
 Johnson Blvd 1148 LBS  
 New 15' Underline Asphalt  
 1/4" stone  
 T.E.  
 3/4" stone  
 Granular Backfill Structure



GRADE TABLE

STA	PROP	EXIST	DIFF
0+00	498.00	498.00	0.00
0+25	498.50	498.50	0.00
0+50	499.00	499.00	0.00
0+75	499.50	499.50	0.00
1+00	500.00	500.00	0.00
1+25	500.50	500.50	0.00
1+50	501.00	501.00	0.00
1+75	501.50	501.50	0.00
2+00	502.00	502.00	0.00
2+25	502.50	502.50	0.00
2+50	503.00	503.00	0.00
2+70	503.50	503.50	0.00

PROPOSED ROAD STA

STA	PROP	EXIST	DIFF
0+00	498.00	498.00	0.00
0+25	498.50	498.50	0.00
0+50	499.00	499.00	0.00
0+75	499.50	499.50	0.00
1+00	500.00	500.00	0.00
1+25	500.50	500.50	0.00
1+50	501.00	501.00	0.00
1+75	501.50	501.50	0.00
2+00	502.00	502.00	0.00
2+25	502.50	502.50	0.00
2+50	503.00	503.00	0.00
2+70	503.50	503.50	0.00

QUANTITIES

FRANCH EXC	STA	AREA	DIST	VOL(CY)
112	0+00	47	40	1880
113	0+25	47	40	1880
114	0+50	47	40	1880
115	0+75	47	40	1880
116	1+00	47	40	1880
117	1+25	47	40	1880
118	1+50	47	40	1880
119	1+75	47	40	1880
120	2+00	47	40	1880
121	2+25	47	40	1880
122	2+50	47	40	1880
123	2+70	47	40	1880

GRAVEL BACKFILL FOR STR

STA	AREA	DIST	VOL(CY)
0+00	15.72	40	628.8
0+25	20.72	40	828.8
0+50	26.72	40	1078.4
0+75	32.72	40	1328.0
1+00	38.72	40	1577.6
1+25	44.72	40	1827.2
1+50	50.72	40	2076.8
1+75	56.72	40	2326.4
2+00	62.72	40	2576.0
2+25	68.72	40	2825.6
2+50	74.72	40	3075.2
2+70	80.72	40	3324.8

CONCRETE STRUCTURES

STA	AREA	DIST	VOL(CY)
0+00	15.72	40	628.8
0+25	20.72	40	828.8
0+50	26.72	40	1078.4
0+75	32.72	40	1328.0
1+00	38.72	40	1577.6
1+25	44.72	40	1827.2
1+50	50.72	40	2076.8
1+75	56.72	40	2326.4
2+00	62.72	40	2576.0
2+25	68.72	40	2825.6
2+50	74.72	40	3075.2
2+70	80.72	40	3324.8

GRAVEL BACKFILL FOR STRUCTURES

STA	AREA	DIST	VOL(CY)
0+00	15.72	40	628.8
0+25	20.72	40	828.8
0+50	26.72	40	1078.4
0+75	32.72	40	1328.0
1+00	38.72	40	1577.6
1+25	44.72	40	1827.2
1+50	50.72	40	2076.8
1+75	56.72	40	2326.4
2+00	62.72	40	2576.0
2+25	68.72	40	2825.6
2+50	74.72	40	3075.2
2+70	80.72	40	3324.8

CONCRETE STRUCTURES

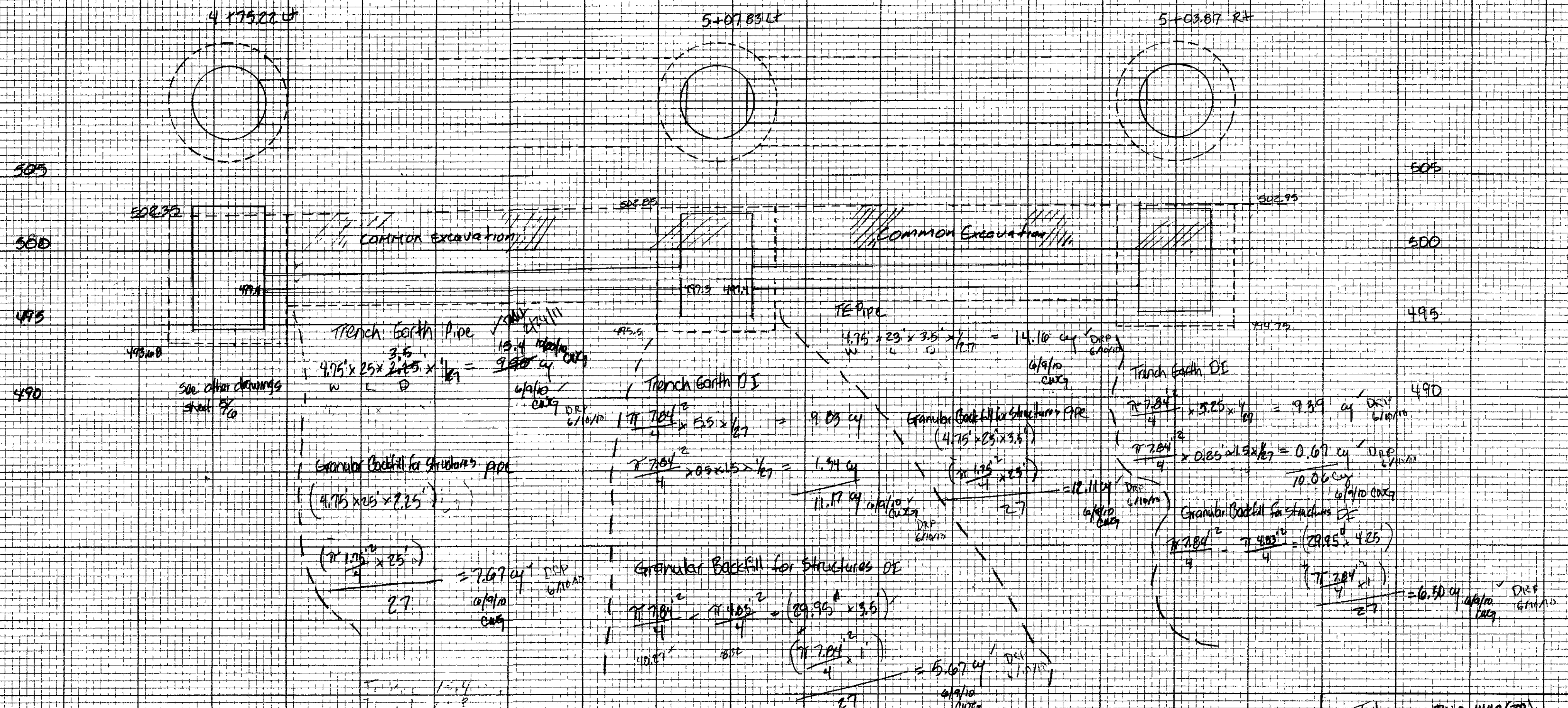
STA	AREA	DIST	VOL(CY)
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0+25	20.72	40	828.8
0+50	26.72	40	1078.4
0+75	32.72	40	1328.0
1+00	38.72	40	1577.6
1+25	44.72	40	1827.2
1+50	50.72	40	2076.8
1+75	56.72	40	2326.4
2+00	62.72	40	2576.0
2+25	68.72	40	2825.6
2+50	74.72	40	3075.2
2+70	80.72	40	3324.8

GRAVEL BACKFILL FOR STRUCTURES

STA	AREA	DIST	VOL(CY)
0+00	15.72	40	628.8
0+25	20.72	40	828.8
0+50	26.72	40	1078.4
0+75	32.72	40	1328.0
1+00	38.72	40	1577.6
1+25	44.72	40	1827.2
1+50	50.72	40	2076.8
1+75	56.72	40	2326.4
2+00	62.72	40	2576.0
2+25	68.72	40	2825.6
2+50	74.72	40	3075.2
2+70	80.72	40	3324.8

CONCRETE STRUCTURES

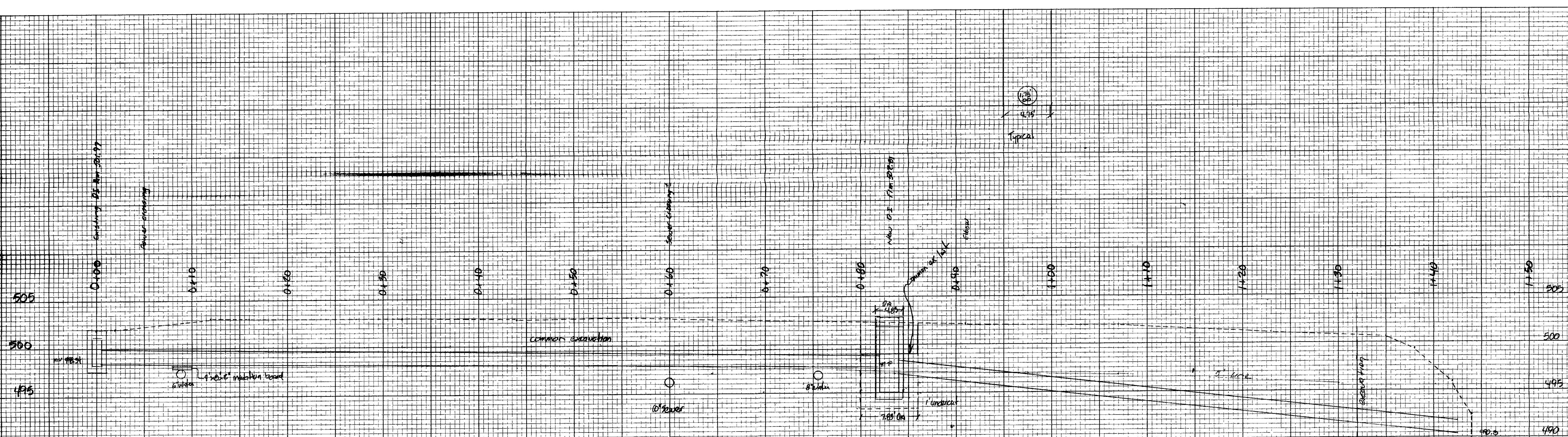
STA	AREA	DIST	VOL(CY)
0+00	15.72	40	628.8
0+25	20.72	40	828.8
0+50	26.72	40	1078.4
0+75	32.72	40	1328.0
1+00	38.72	40	1577.6
1+25	44.72	40	1827.2
1+50	50.72	40	2076.8
1+75	56.72	40	2326.4
2+00	62.72	40	2576.0
2+25	68.72	40	2825.6
2+50	74.72	40	3075.2
2+70	80.72	40	3324.8



Johnson B10 1480 (23)

Drainage  
 from 5+00 to 4+75

Project sheet 4 of 6



TE 4+63.5 to 4+75 New

Sta	Area	Dist	Vol cy
0+101	10.6	11'	8.0
0+112	22.6	33'	22.6
0+145	22.0	35'	11.9
0+145	7.1		
0+180	10.7		

FE 4+29 ~ 4+63.5 12" x 12" Round duct corr  
 only HDLF quality - rest is w/in other excavations  
 12" x 12" HDLF x 5' x 3' = 22.5 cy  
 12" x 12" HDLF x 1' x 1' = 1.2 cy  
 2/12/11

Excavation DI  
 $(5.0 \times 1.5 \times 1.5) \times 1.25 = 10.9 \text{ cy}$   
 2/12/11

Excavation DI for structure DI  
 $(4.5 \times 1.25) + (1.5 \times 1.25) \times 1.25 = 6.8 \text{ cy}$   
 2/12/11

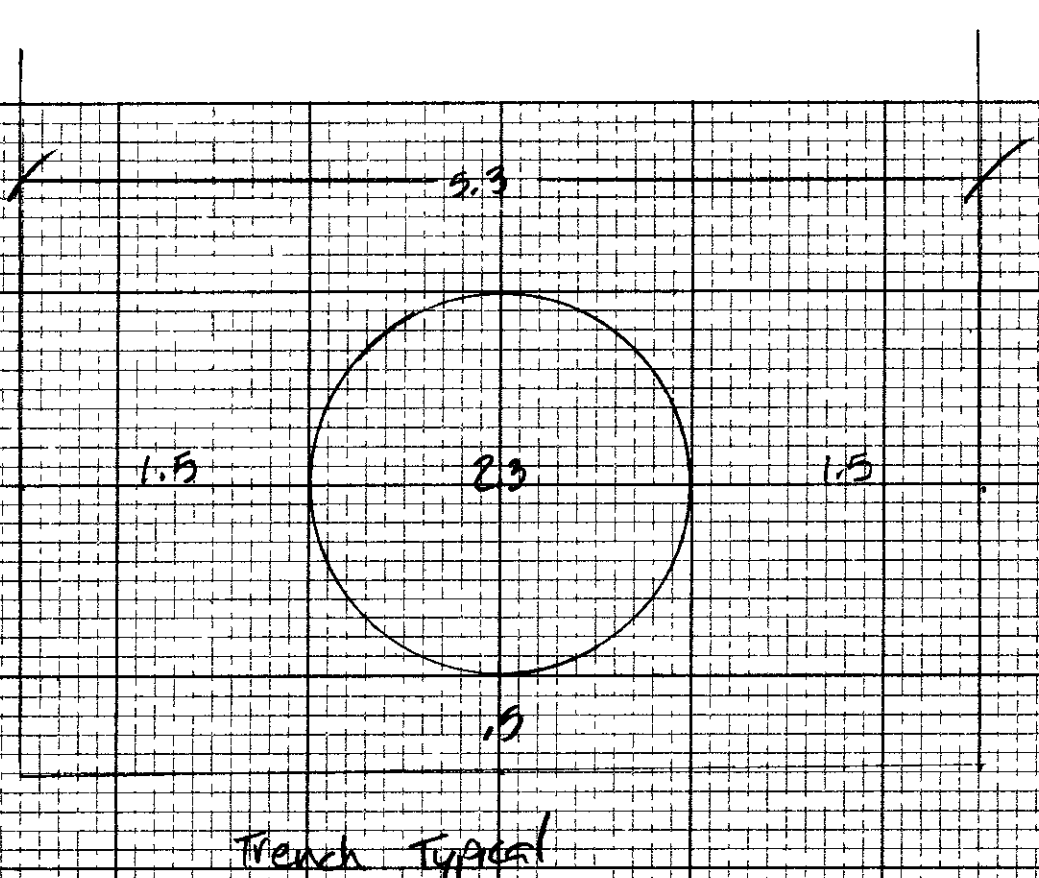
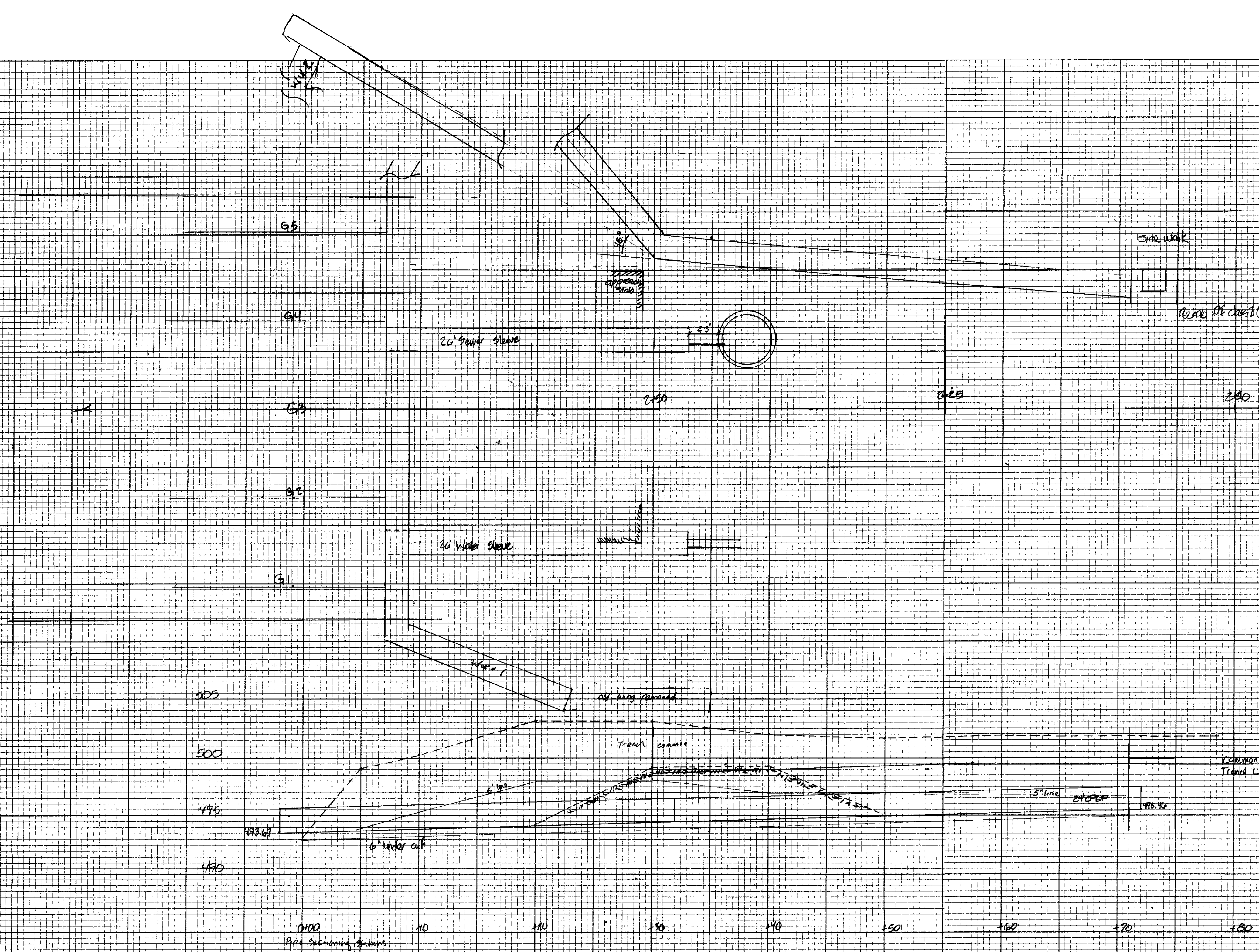
Trench Excavation P.P.C.

Sta	Area	Dist	Vol
0+00 (4.75 x 5)		22'	57.9
1+10 (4.75 x 7)		22'	92.3
1+32 (4.75 x 10)			
OVER 5'			
0+00 (4.75 x 5 x 2)			3.4
1+10 (4.75 x 2.1 x 2)			
1+32 (4.75 x 2 x 2)			6.5
			70.1 cy

2/12/11

Excavation 4+29 ~ 4+75  
 Trench  $(4.75 \times 1.5) + (4.75 \times 2.0) = 14.125$   
 $14.125 \times 78 \times 1.25 = 1720 \text{ cu ft}$   
 $1720 \text{ cu ft} / 27 = 63.7 \text{ cy}$   
 2/12/11

Johnson BHO 1448 (29)  
 Drainage



Depth	Size	Area	Dist	Vol
0+00	0		0	0
+0	34"		10	480
+10	62"		10	580
+20	94"		10	680
+30	126"		10	780
+40	158"		10	880
+50	190"		10	980
+60	222"		10	1080
+72	254"		10	1180
Total				103 cy

+80	0		10	150
+90	26"		10	260
+100	52"		10	520
+110	78"		10	780
+120	104"		10	1040
+130	130"		10	1300
+140	156"		10	1560
+150	182"		10	1820
+160	208"		10	2080
+170	234"		10	2340
+180	260"		10	2600
Total				190 cy

Item 204.21 Total Pipe ex 580 cy

Item 204.20 Total earth ex 84 cy

Item 204.30 concrete pipe for structure 74 cy

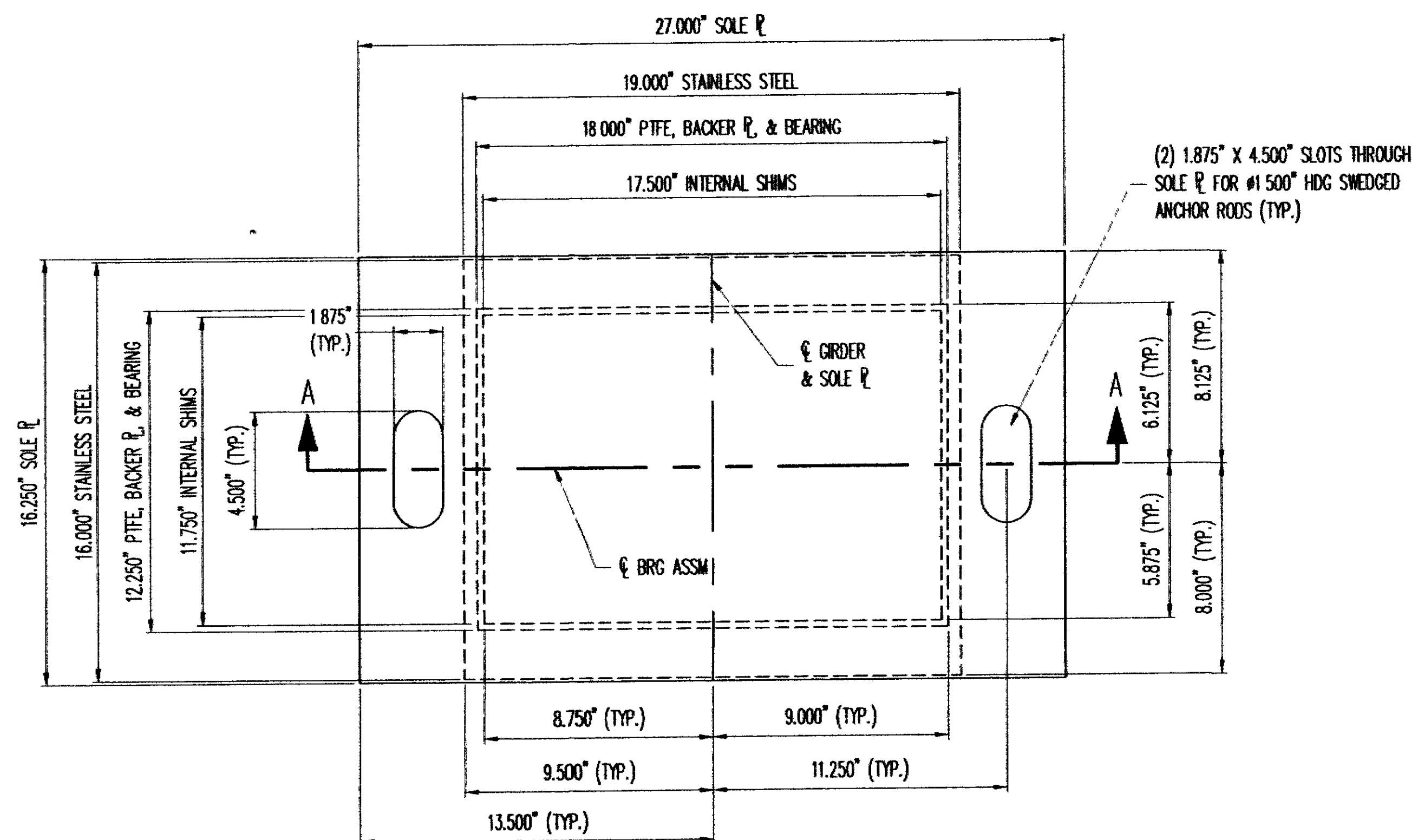
Item 201.22 24" CPD pipe 74 cy

Item 201.22 24" CPD pipe 74 cy

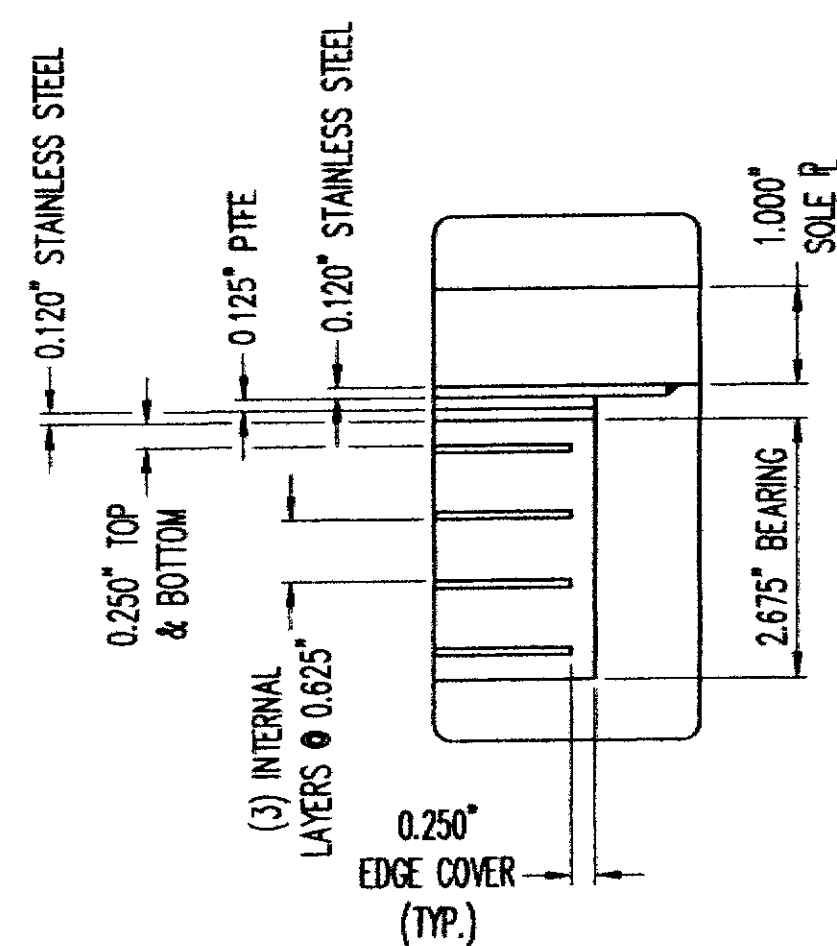
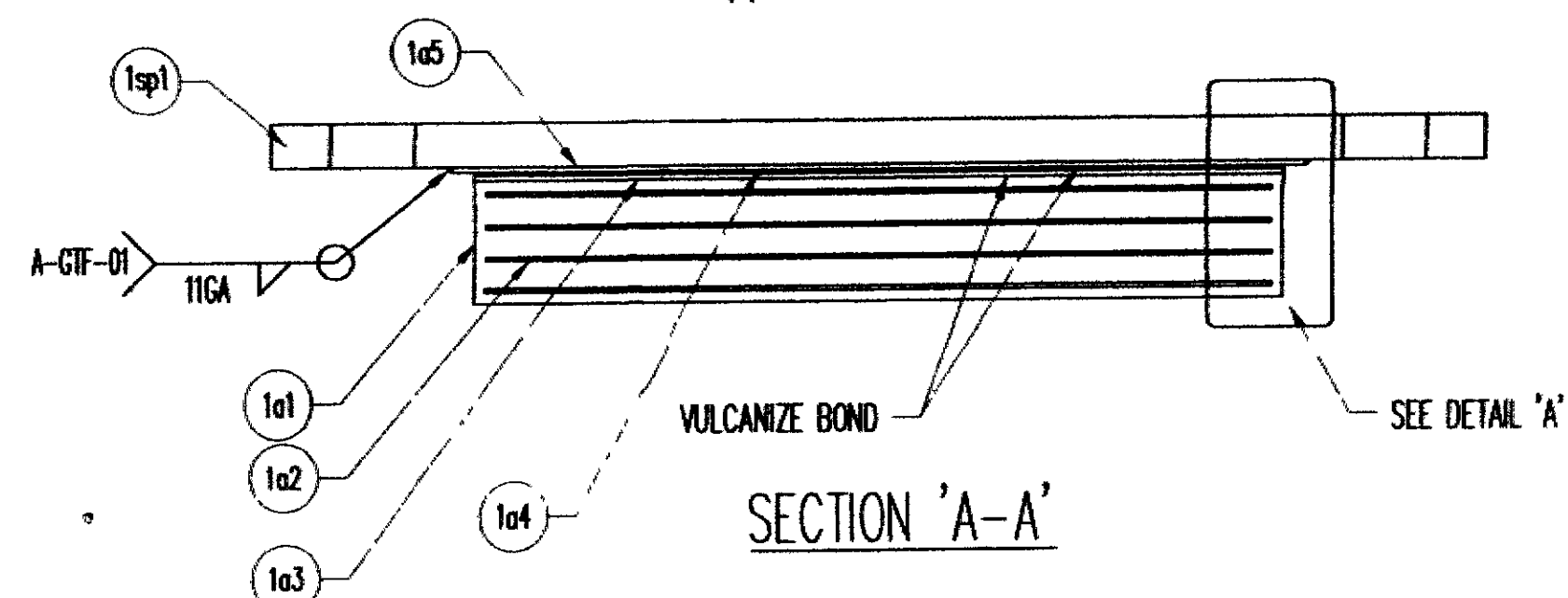
New Drainage 24" CPD

Project sheet 9/16





PLAN VIEW  
EXPANSION BEARING  
(5) REQ'D @ ABUTMENT NO. 1



DETAIL 'A'

MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
1A	5	ELASTOMERIC BEARING				--
1a1	5	2.675" X 18.000"	NEOPRENE	12.250"	60+/-5 DURO GR.3	--
1a2	20	14 GA. X 17.500"	A1011 GR. 36	11.750"	PLAIN	--
1a3	5	11 GA. X 18.000"	A240 T304, 2B	12.250"	PLAIN	--
1a4	5	0.125" X 18.000"	PTFE	12.250"	PURE VIRGIN UNFILLED	--
1a5	5	11 GA. X 19.000"	A240 T304, #8 & 2B	16.000"	PLAIN	--
1sp1	5	1.000" X 27.000"	A709 GR. 36 OR 50	16.250"	A123-HDC	--
					5/14/2009 11 03:05 AM	

LOAD DATA	
MAXIMUM BEARING STRESS (psi)	979.0

VTrans - PDD  
MAY 22 2009  
Structures Design  
Section

SEE SHEET G01 FOR GENERAL NOTES  
SEE SHEET 4 FOR ANCHOR ROD ASSEMBLY

Accepted  
Accepted all Noted  
Accepted Noted Resubmit  
Rejected, Revise Resubmit  
Rejected - Unacceptable

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

DuBOIS AND KING  
By *[Signature]*  
6/8/09  
KMH 6/12/09

REV	DESCRIPTION	DATE	DET	CKD

LOCATION	ITEM	QUANTITY
TH NO 1 OVER THE GHON RIVER	26274-1104-1	5 OF 10
BRIDGE - 5	-	-
PROJECT - BHO 1448 (29)	-	-
P. O. NO. - 6045	-	-
DESIGNER - DuBOIS & KING, INC.	-	-
CUSTOMER - SD IRELAND CONSTRUCTION	-	-

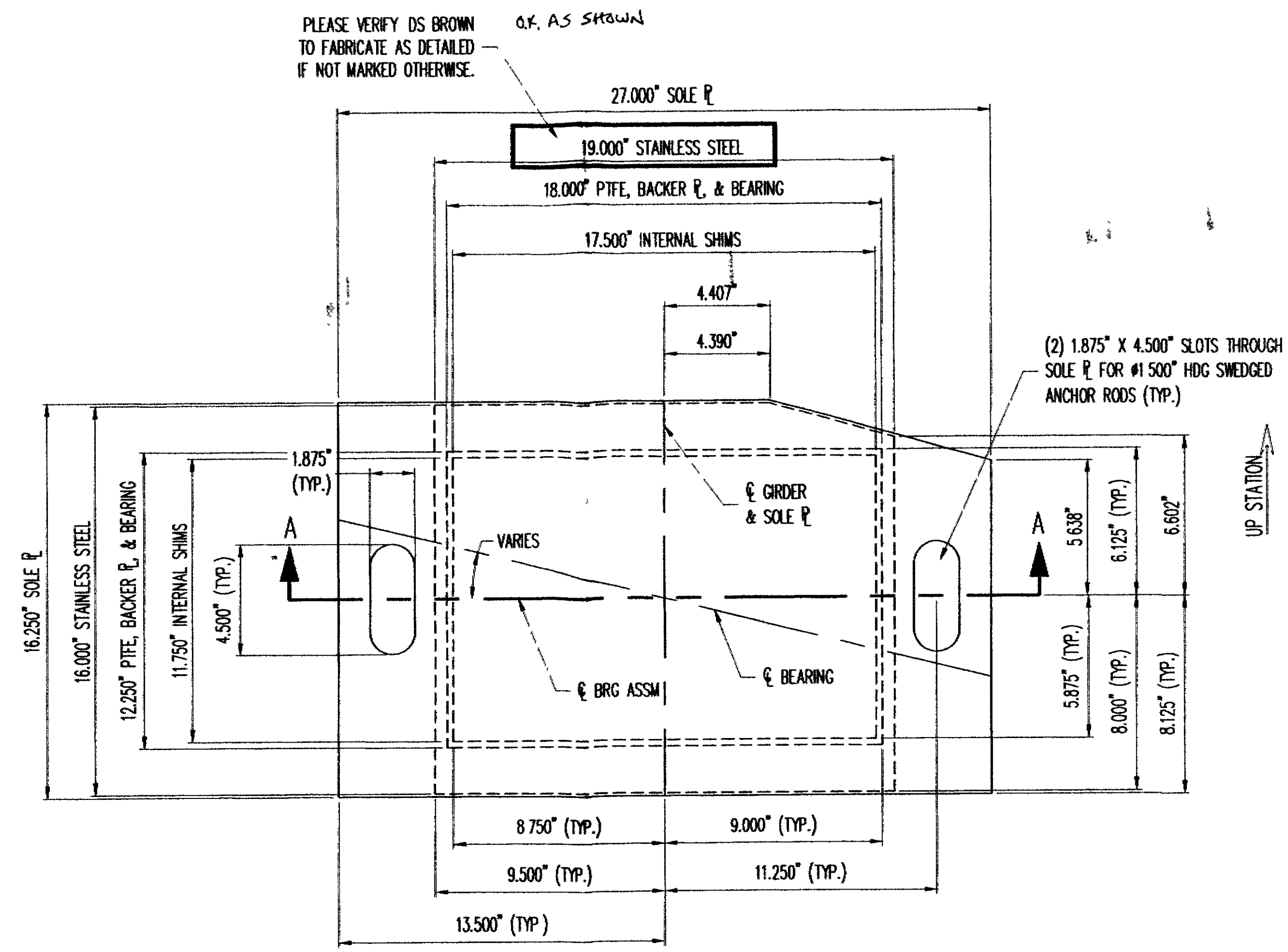
  

SCALE	DRAWN BY	CHECKED BY	DATE
N.T.S.	SP	EK	5/09

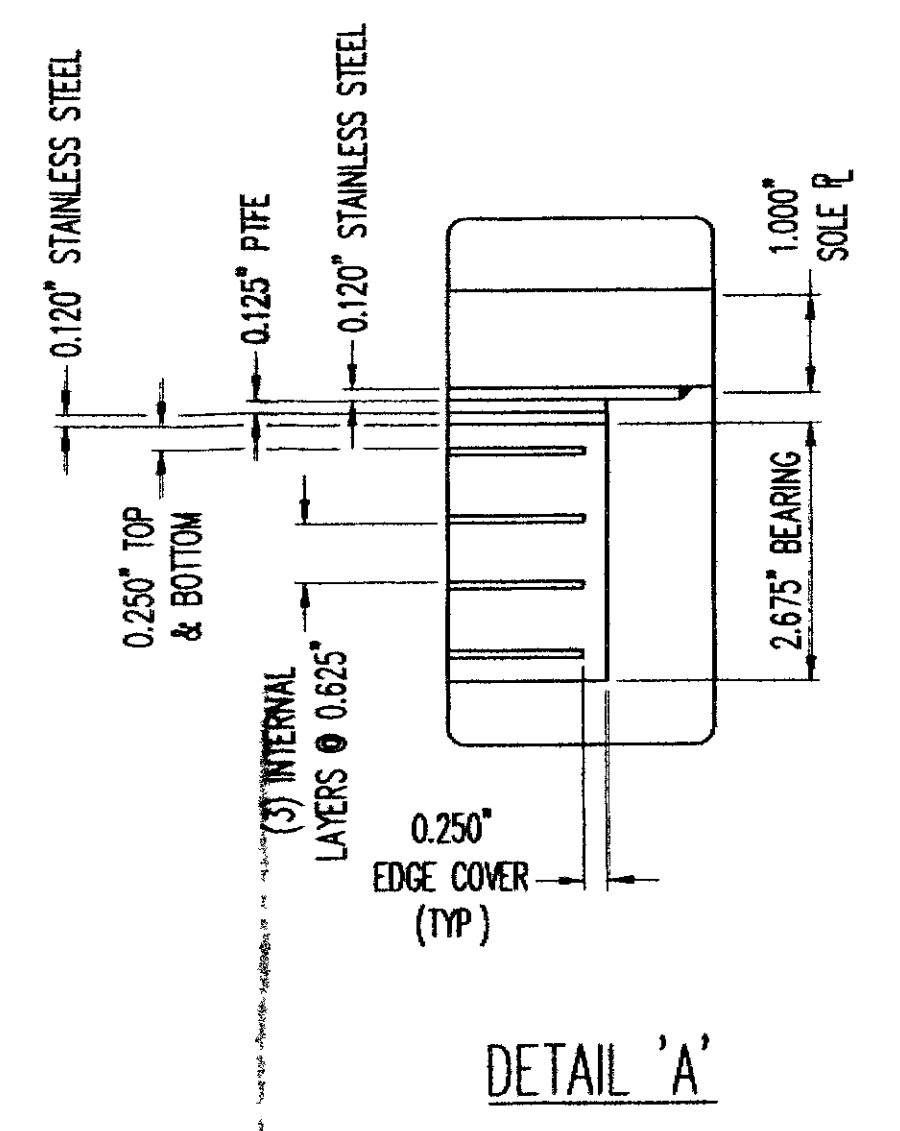
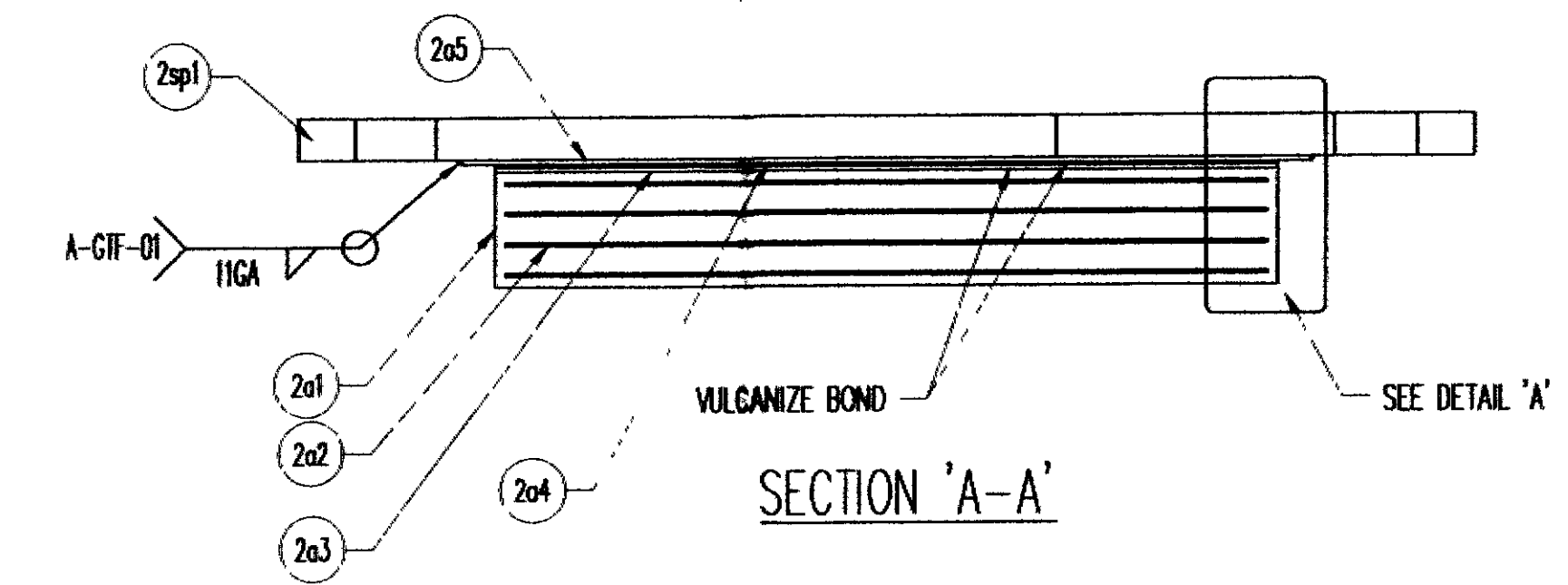
  

DESCRIPTION	PROJECT NUMBER	PRODUCT CODE	RELEASE	SHEET
VERSIFLEX ELASTOMERIC BEARING LAMOILLE CO., VT	26274	1104	1	1

THE D.S. BROWN COMPANY  
300 E. CHERRY STREET  
NORTH BALTIMORE, OHIO 45872  
419.257.3561  
FAX: 419.257.0332  
WWW.DSBROWN.COM



PLAN VIEW  
EXPANSION BEARING  
(5) REQ'D @ ABUTMENT NO 2



MK	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
2A	5	ELASTOMERIC BEARING				--
2a1	5	2.675" X 18.000"	NEOPRENE	12.250"	60+/-5 DURO GR.3	--
2a2	20	14 GA. X 17.500"	A1011 GR 36	11.750"	PLAIN	--
2a3	5	11 GA. X 18.000"	A240 T304, 2B	12.250"	PLAIN	--
2a4	5	0.125" X 18.000"	PTFE	12.250"	PURE VIRGIN UNFILLED	--
2a5	5	11 GA. X 19.000"	A240 T304, #8 & 2B	16.000"	CHAMFER, PLAIN	--
2sp1	5	1.000" X 27.000"	A709 GR 36 OR 50	16.250"	CHAMFER, A123-HDC	--
					5/14/2009 11 03 05 AM	

NOTE: THE DS BROWN COMPANY HAS CLIPPED THE BEARING USING THE GREATEST ANGLE INSTALLATION AND FABRICATION WILL BE SIMPLIFIED IF ALL BEARINGS ARE THE SAME PLEASE VERIFY. THE DS BROWN COMPANY WILL FABRICATE AS DETAILED UNLESS MARKED OTHERWISE  
OK. AS SHOWN

LOAD DATA	
MAXIMUM BEARING STRESS (psi)	979.0

VTrans - PDD  
MAY 22 2009  
Structures Design  
Section

SEE SHEET GHI FOR GENERAL NOTES  
SEE SHEET 4 FOR ANCHOR ROD ASSEMBLY

Accepted as Noted	
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

DuBOIS AND KING  
By: *[Signature]*  
Date: 6/8/09  
KMH 6/12/09

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

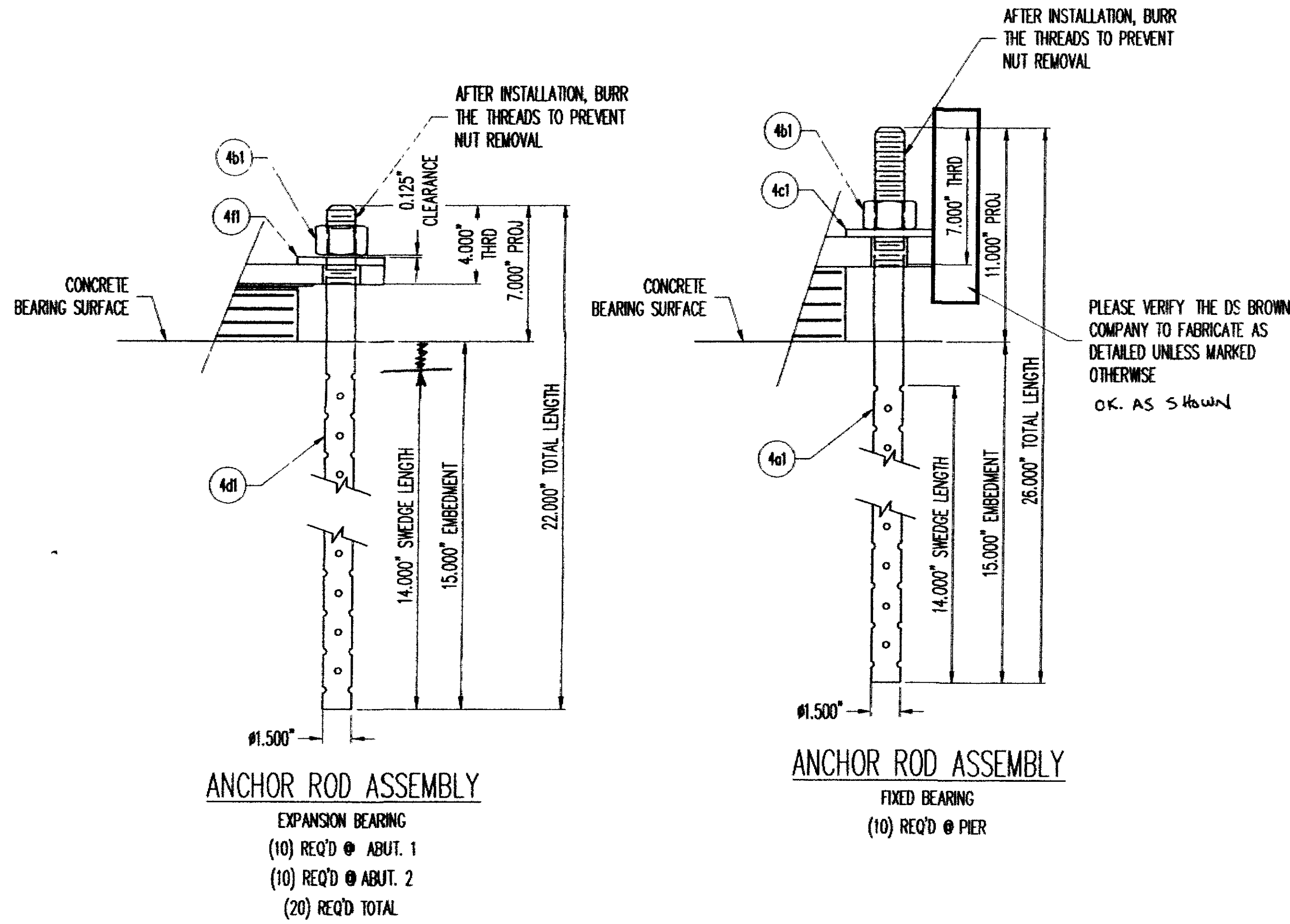
REV	DESCRIPTION	DATE	DET	CH.D
	LOCATION - TH NO. 1 OVER THE GIRON RIVER			
	BRIDGE - 5			
	PROJECT - BHO 1448 (29)			
	P O NO - 6045			
	DESIGNER - DuBOIS & KING, INC			
	CUSTOMER - SD IRELAND CONSTRUCTION			
	ITEM	QUANTITY		
	26274-1104-1	5 OF 10		

DESCRIPTION	SCALE	DRAWN BY	CHECKED BY	DATE
VERSIFLEX ELASTOMERIC BEARING LAMOILLE CO., VT	N.T.S.	SP	EK	5/09
	PROJECT NUMBER	RELEASE	SHEET	
	26274	1104	1	2



MR	QTY	DESCRIPTION	MATERIAL	LENGTH	REMARKS	REV
4A	10	SWEDGED ROD				-
4a1	10	Ø1.500" X 26.000" SWEDGED ROD	A449		14" SWEDGE, 7" THRD, A153-HDG	-
4B	30	HEAVY HEX NUT				-
4b1	30	Ø1.500" HEX NUT	A563-DH OR A194-2H		DRY LUBE, DYE, A153-HDG	-
4C	10	WASHER PLATE				-
4c1	10	0.375" X 3.000"	A36	3.000"	1 7/8" HOLE CENTERED; A123-HDG	-
4D	20	SWEDGED ROD				-
4d1	20	Ø1.500" X 22.000" SWEDGED ROD	A449		14" SWEDGE, 4" THRD; A153-HDG	-
4F	20	WASHER PLATE				-
4f1	20	0.375" X 3.000"	A36	7.500"	1 7/8" HOLE CENTERED; A123-HDG 5/13/2009 2:55:51 PM	-

1 7/8" x 3" SWEDGED ROD  
↑  
Not true  
See Email  
6/15



VTrans - PDD  
MAY 22 2009  
Structures Design  
Section

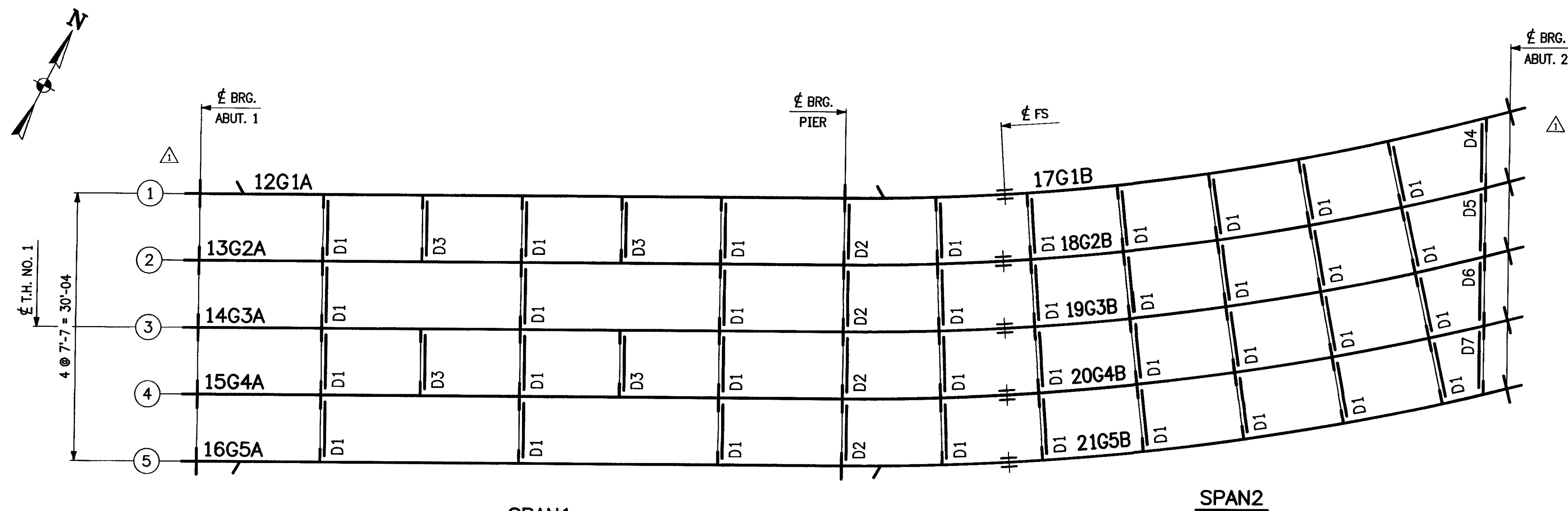
SEE SHEET G01 FOR GENERAL NOTES

Accepted	
Accepted as Noted	/
Accepted Noted Resubmit	
Rejected - Revise Resubmit	
Rejected - Unacceptable	

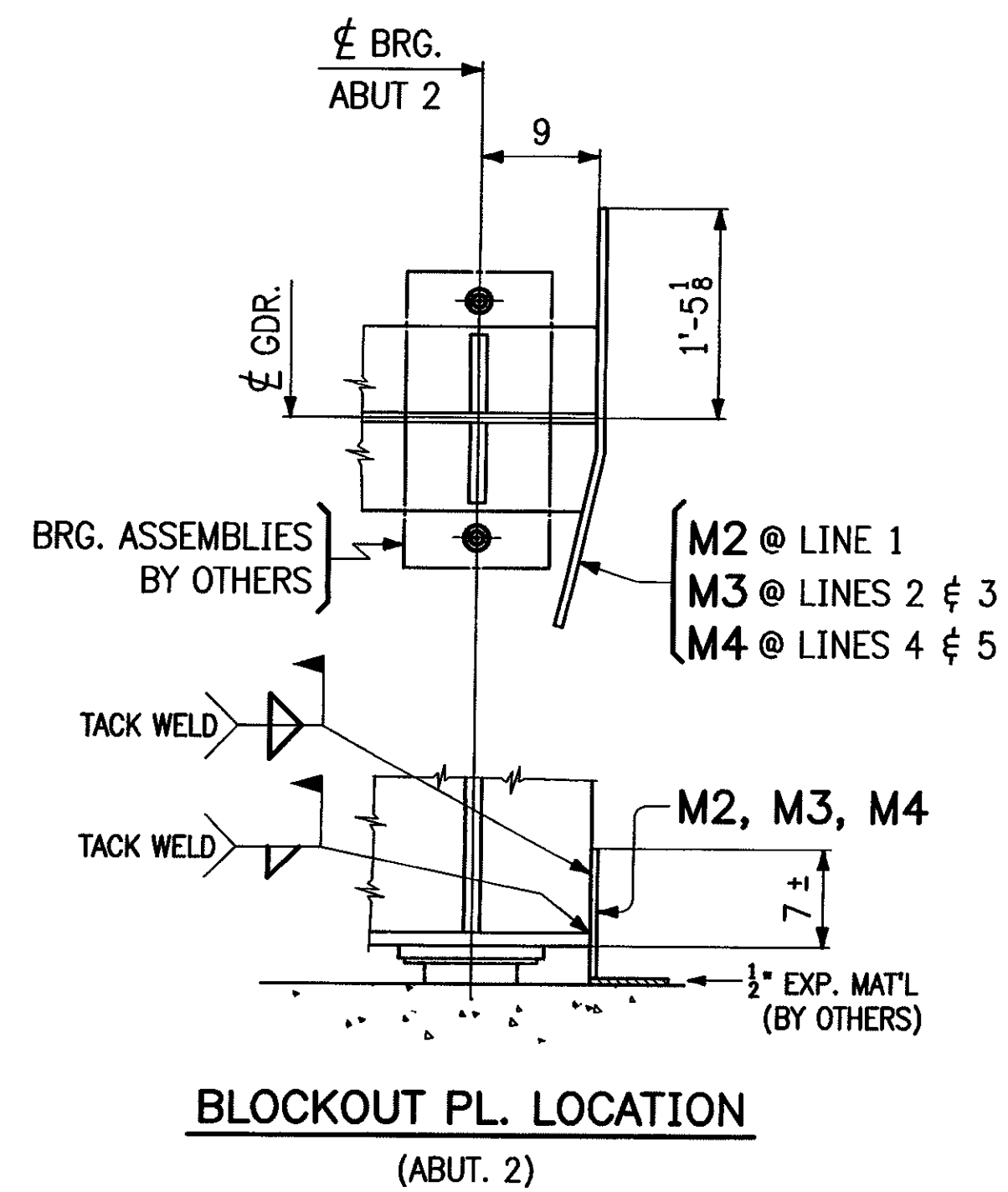
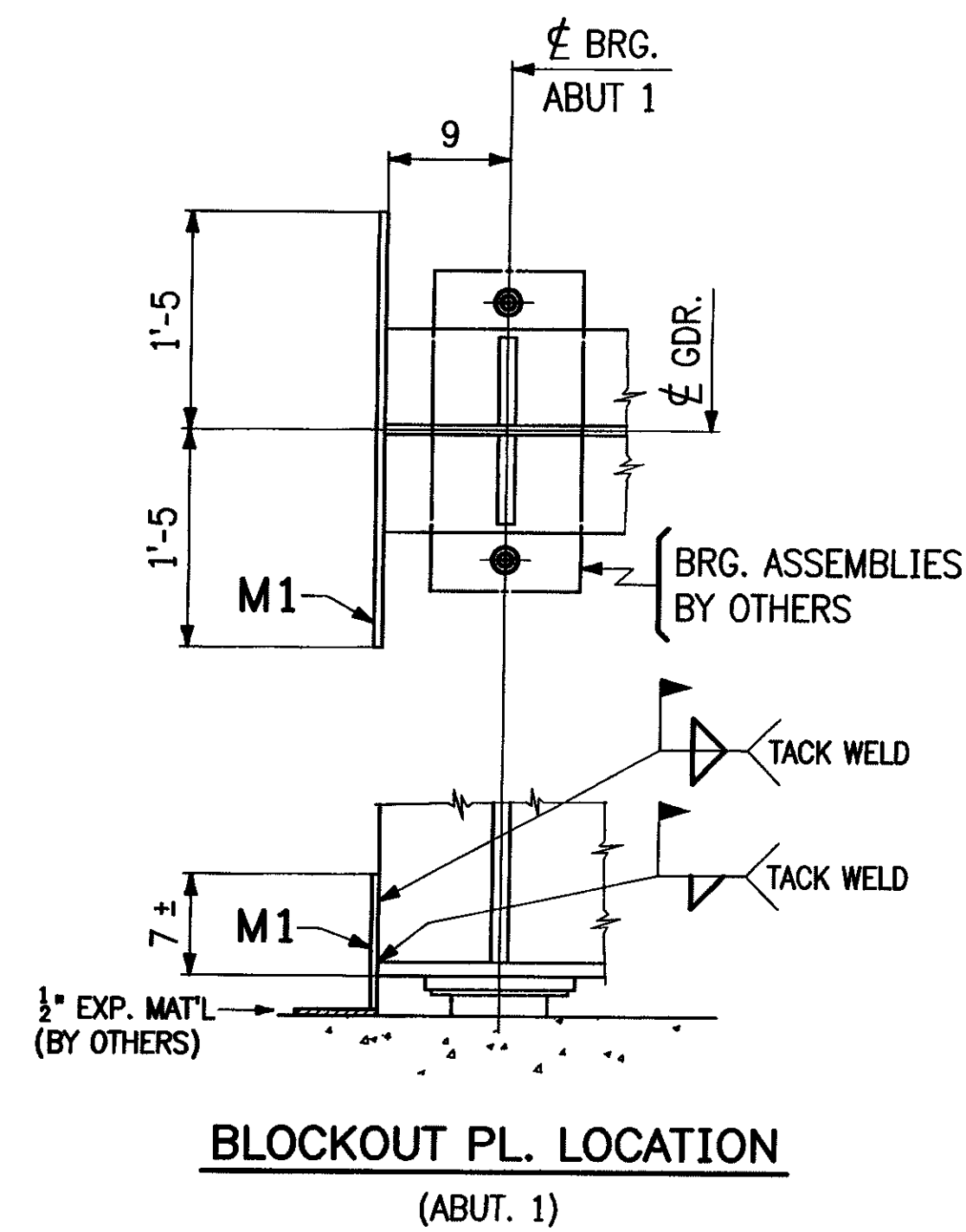
Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

DuBOIS AND KING  
Date 6/8/09 By *[Signature]*  
KMH 6/12/09

 THE D.S. BROWN COMPANY 300 E. CHERRY STREET NORTH BALTIMORE, OHIO 45872 419 257 3561 FAX: 419 257 0332 WWW.DSBROWN.COM	LOCATION — TH NO. 1 OVER THE GHON RIVER BRIDGE — 5 PROJECT — BHO 1448 (29) — P.O. NO — 6045 DESIGNER — DuBOIS & KING, INC. CUSTOMER — SD IRELAND CONSTRUCTION	ITEM QUANTITY	DATE DET CRD	
	SCALE N.T.S.	DRAWN BY SP	CHECKED BY EK	DATE 5/09
	PROJECT NUMBER 26274	PROJECT CODE 1104	RELEASE 1	SHEET 4



**ERECTION PLAN**



RECEIVED  
 OK'D BY: *[Signature]* OK'D BY: *[Signature]*  
 JUL 23 2005  
 R. SUGNET APPROVED: *[Signature]*  
 BY: *[Signature]* DATE: 7/31/05

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
7-14-09		ADDED BRG STIFFENERS, DIAPHRAGMS & REV BOLT QUANTITY		50	APPR.

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION ERECTION PLAN			CHK'D BY GDC
ARCH N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81	
CUSTOMER S.D. IRELAND CONCRETE CONSTRUCTION CORP.			SHT NO E1

**FIELD BOLT CONNECTION LIST**

QTY.	DIAM.	LENGTH	GRIP	THICKNESS OF PIECES CONNECTED	CONNECTION
400	7/8	0'-3	1 5/8	1/2 5/8 1/2	FIELD SPLICE @ WEB
280	7/8	0'-5 1/2	4	1 1/2 1 1/2	FIELD SPLICE @ TOP FLANGE
280	7/8	0'-6	4 1/2	1 1/2 1 1/2 1 1/2	FIELD SPLICE @ BOTT. FLANGE
560	7/8	0'-2 1/4	1 5/8	7/16 1/2	INTERMEDIATE DIAPHRAGM TO STIFF.
112	7/8	0'-2 3/4	1 7/8	7/16 1	PIER DIAPHRAGMS TO BRG. STIFF.
40	3/4	0'-2	1 3/8	5/16 1/2	UTILITY SUPPORT TO STIFF.

Sheet E1 - Printed 07/16/2005 @ 08:26 (HEATHER)

# GENERAL SHOP NOTES

## SPECIFICATIONS

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.

## MATERIAL

- MATERIAL SHALL CONFORM TO AASHTO M270, GRADE 50W.
- MATERIAL NOTED (CVN) ON DETAIL DRAWINGS SHALL REQUIRE CHARPY V-NOTCH TESTING IN ACCORDANCE WITH AASHTO T 243.
- HIGH STRENGTH BOLTS SHALL CONFORM TO AASHTO M164 TYPE 3 WITH ONE AASHTO M291 HVY. HEX NUT & ONE AASHTO M293 TYPE 3 WASHER.

## FABRICATION & WORKMANSHIP

- "BEARING AREA" AS NOTED ON GIRDER DETAILS, INDICATES AREA THAT MUST BE FLAT AND TRUE TO RECEIVE SOLE PLATE.
- RE-ENTRANT CUTS TO HAVE A 1" MIN. RADIUS (2" ON MAIN MEMBERS).

## SHOP WELDING AND TESTING NOTES:

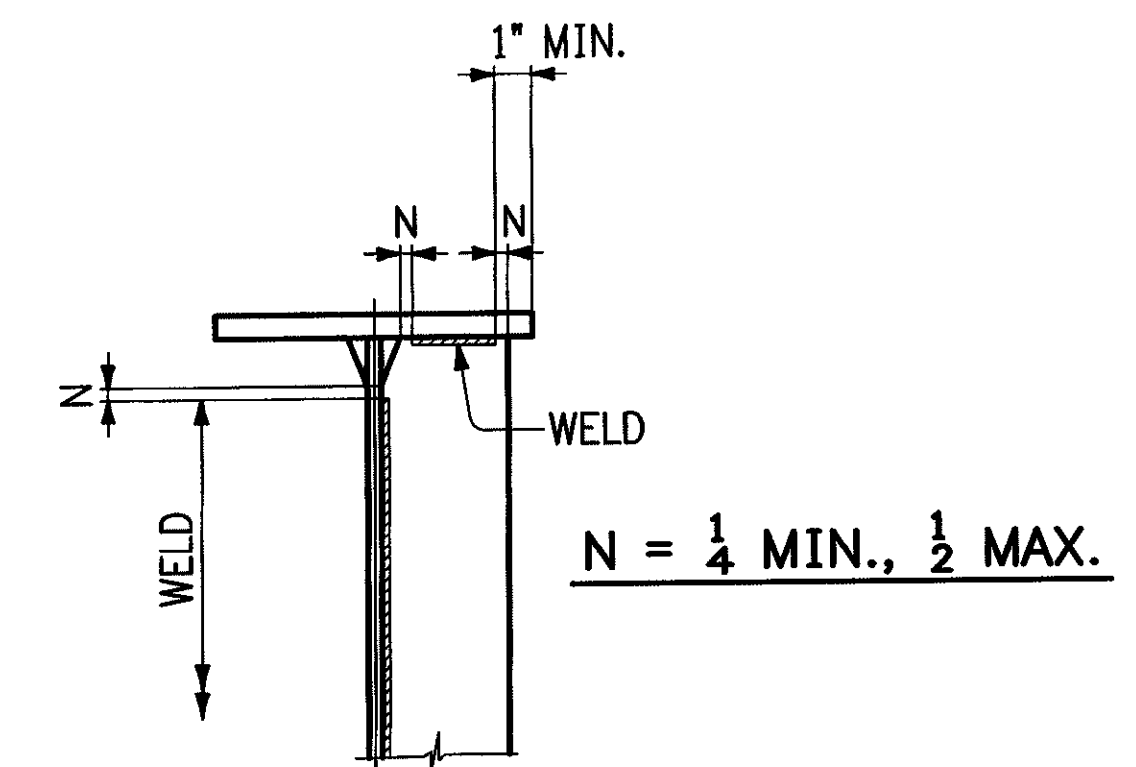
- WELDING AND NON-DESTRUCTIVE TESTING SHALL BE IN ACCORDANCE WITH ANSI/AASHTO/AWS BRIDGE WELDING CODE, D1.5 (2008).  $\Delta$
- FOR WELDING CONNECTION PLATES TO GIRDERS SEE "TYP. WELD TERMINATION DETAIL".

## SHOP CLEANING NOTES:

- BLAST CLEAN ALL STEEL TO SSPC-SP10 (NEAR WHITE) AFTER FABRICATION.

## SHOP PAINTING NOTES:

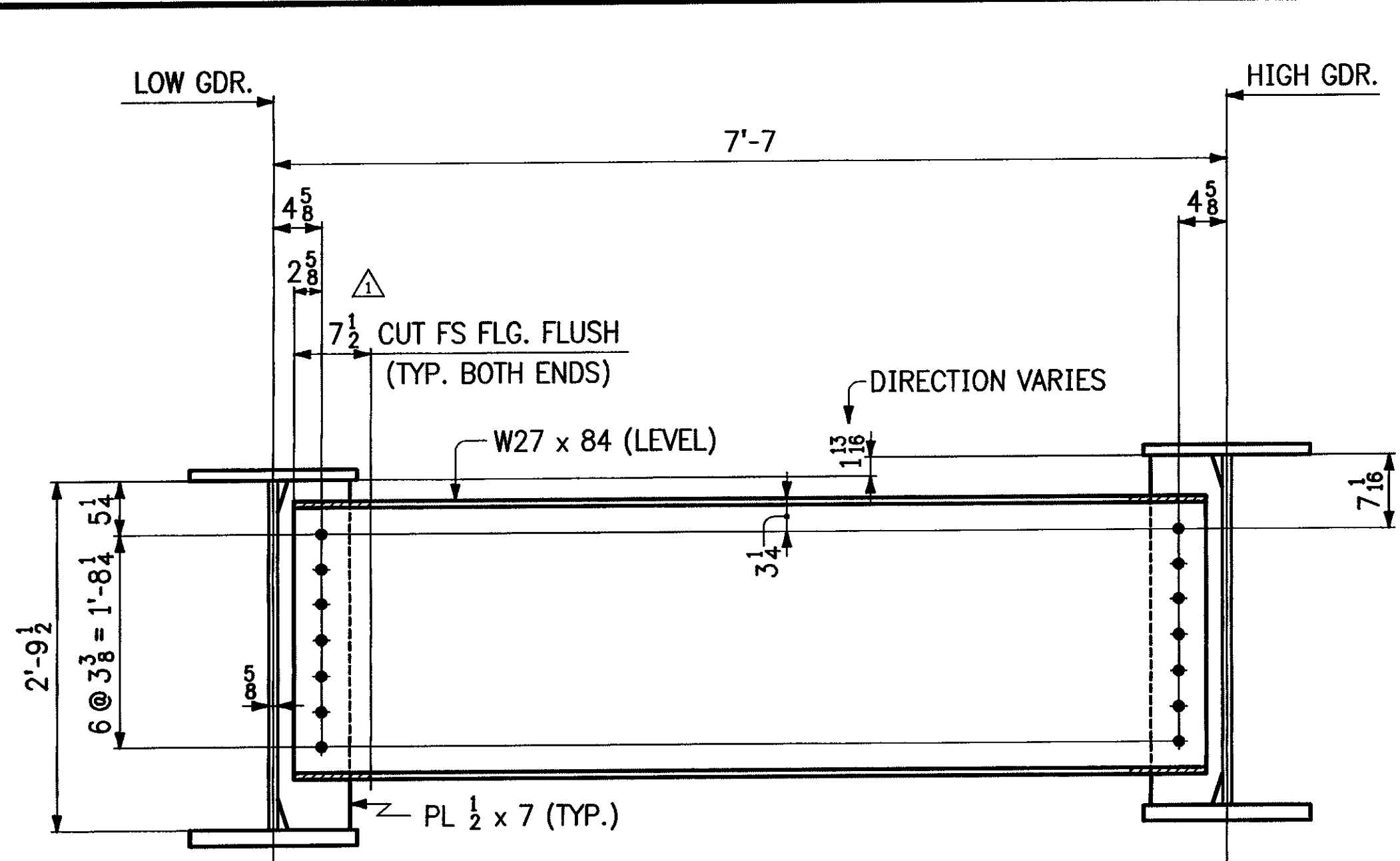
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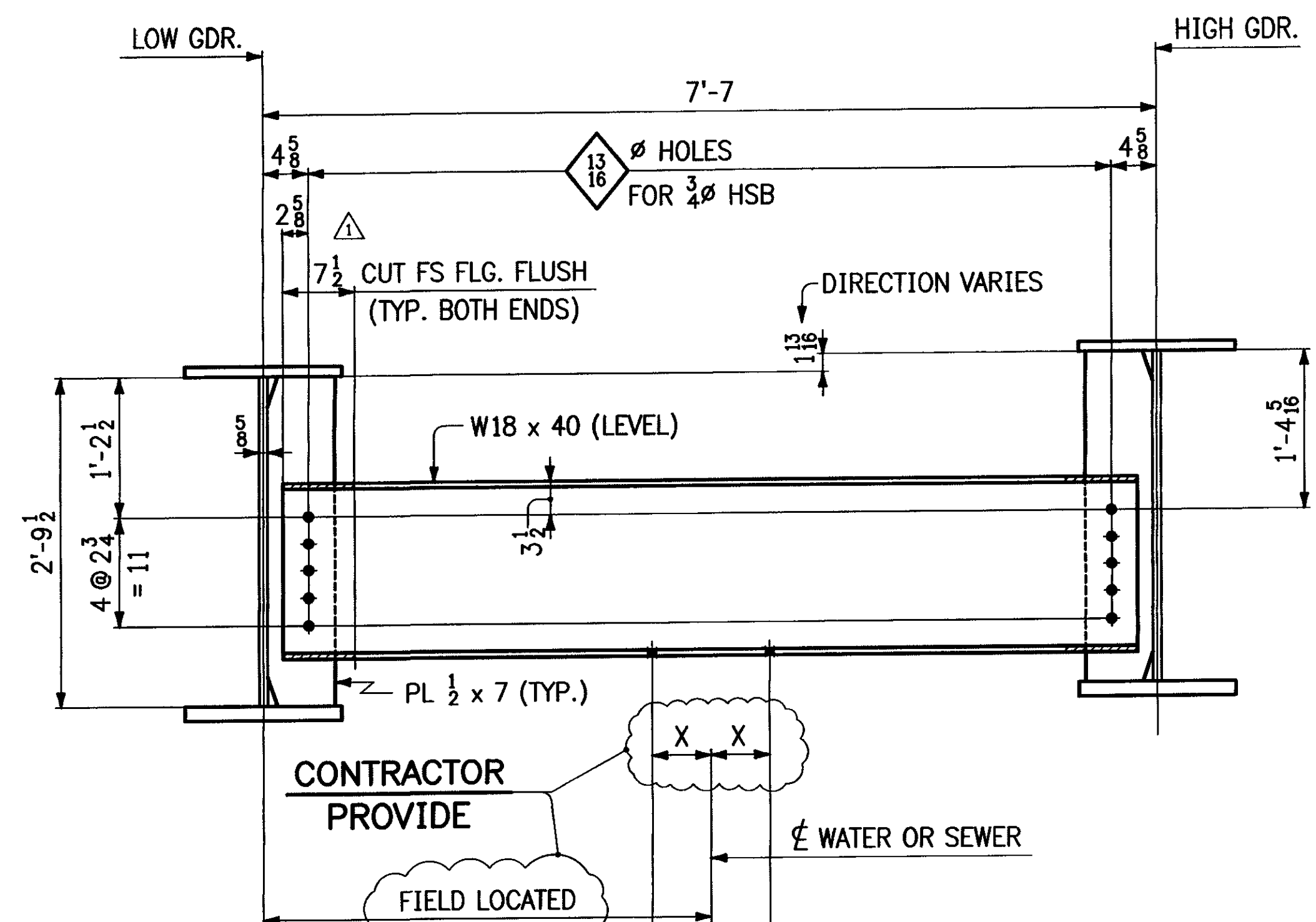
TYP. WELD TERMINATION DETAIL

RECEIVED  
 CK'D BY RL OK'D BY KMH  
 JUL 23 2009  
 BY KMH DATE 7/23/09

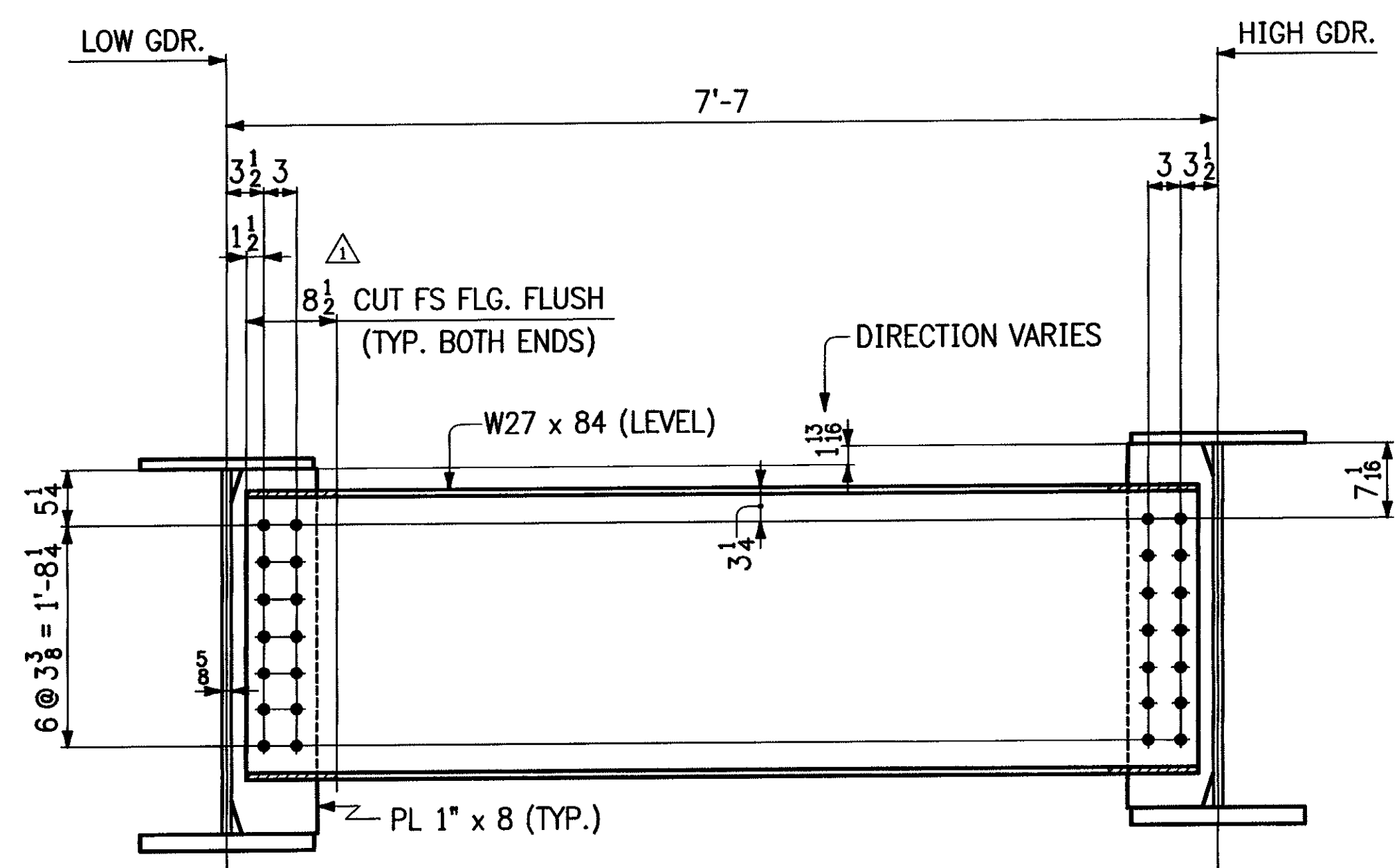
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5p	Appn.
$\Delta$	7-14-09	ADDED DATE OF BRIDGE WELDING CODE.			
<b>MEGQUIER &amp; JONES INC.</b> STRUCTURAL STEEL SINCE 1895 1156 BROADWAY SOUTH PORTLAND, MAINE 04106					
PAINT		HOLES U N	WELD U N	Q C REVIEW	
PROJECT			DATE		
TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			6-8-09		
DESCRIPTION			DRAWN BY		CHK'D BY
GENERAL NOTES			CPM		WCG
ARCH	ENGR	JOB NO			
N/A	VERMONT AGENCY OF TRANSPORTATION	J-81			
CUSTOMER	SHT NO				
S.D. IRELAND CONCRETE CONSTRUCTION CORP.	GN1				



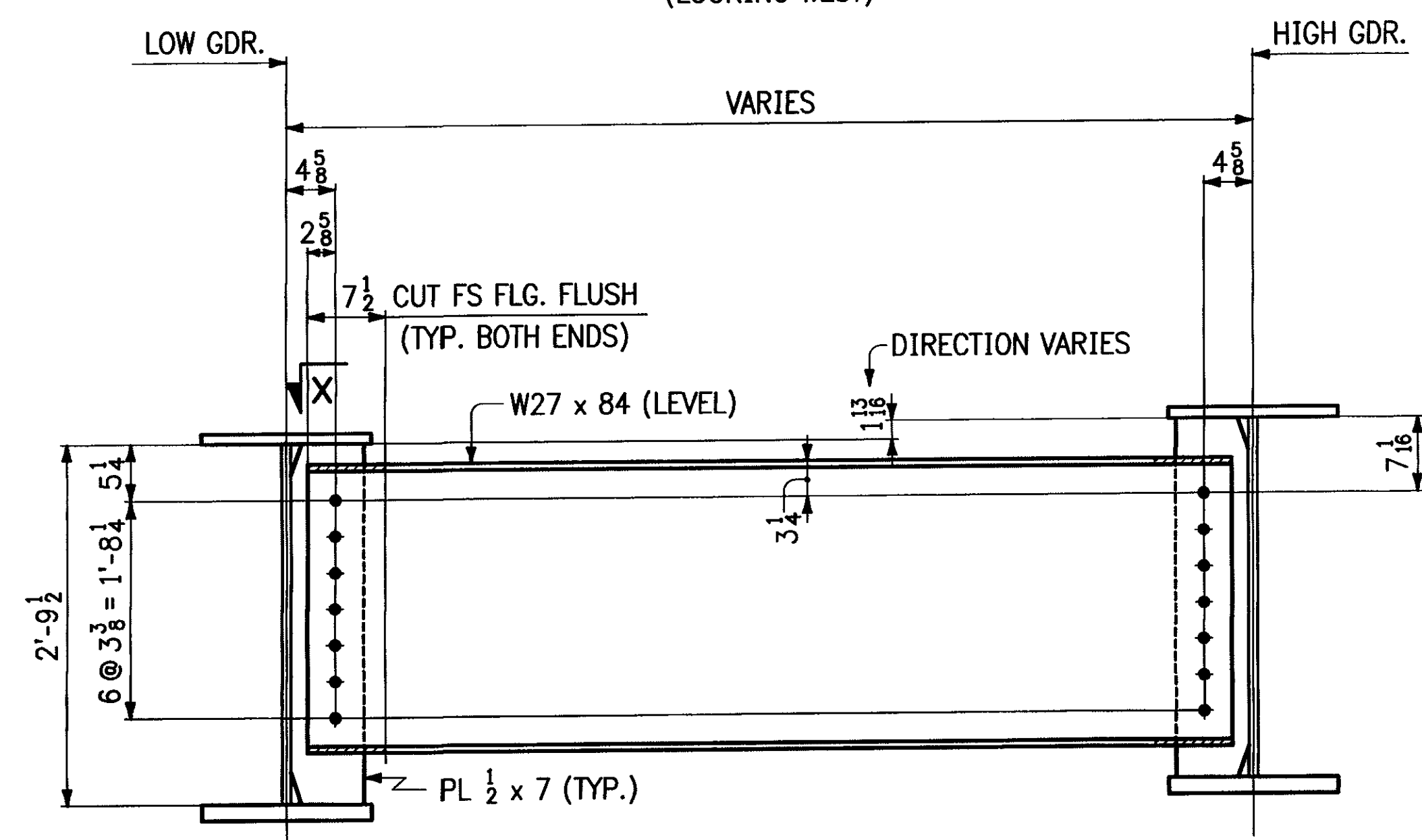
TYP. INTERMEDIATE DIAPHRAGM  
(LOOKING WEST)



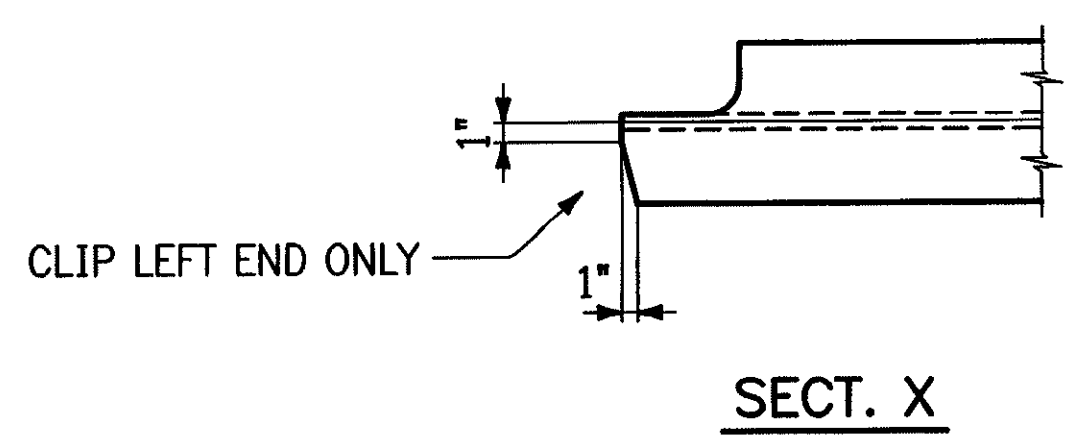
TYP. UTILITY SUPPORT  
(LOOKING WEST)



TYP. PIER DIAPHRAGM  
(LOOKING WEST)



DIAPHRAGM NEAR ABUT. 2  
(LOOKING EAST)



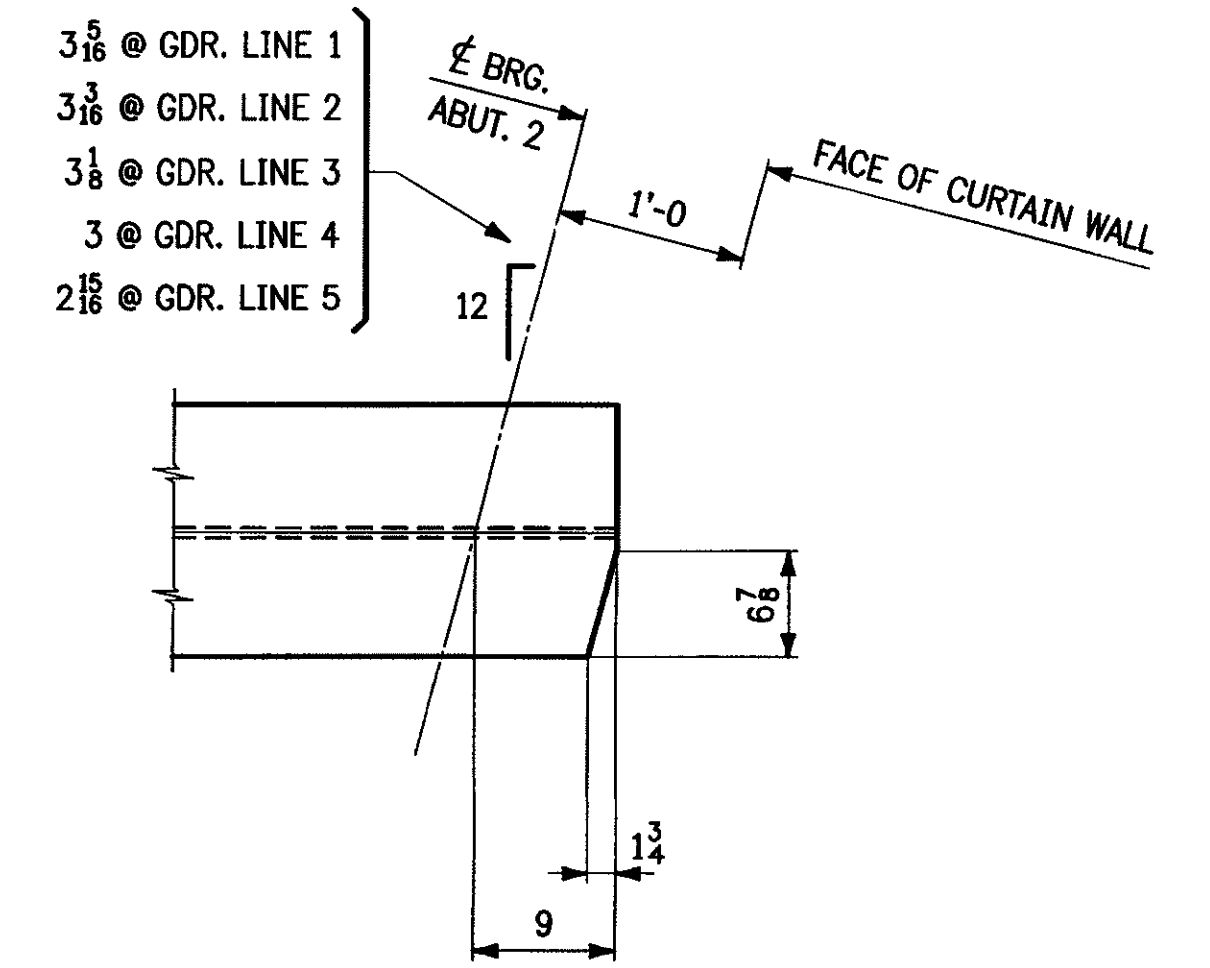
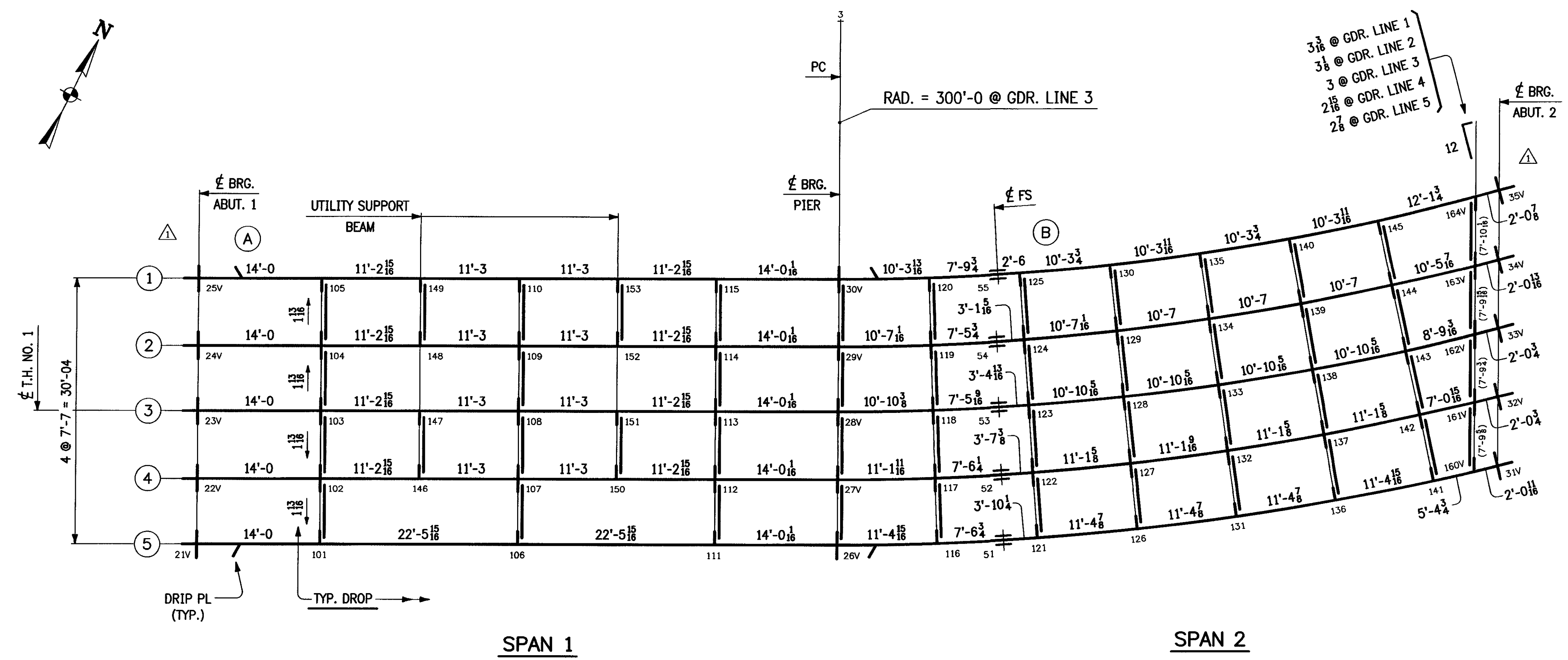
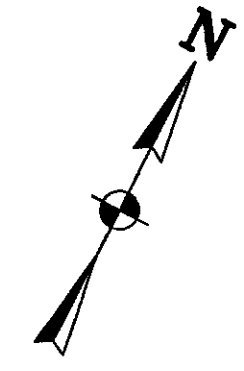
THIS IS A WORK DRAWING. ITS FUNCTION IS TO PROVIDE BASIC DIMENSIONS AND CONCEPTS FOR USE IN THE PREPARATION OF THE SHOP DETAILS. IT IS NOT INTENDED TO BE USED FOR ERECTION OR FABRICATION.

RECEIVED  
OK'D BY Kmit  
JUL 20 2009  
APPROVED ✓  
BY Kmit DATE 7/21/09

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	50	Appa.
△	7-14-09	REV. "CUT FS FLG. FLUSH" DIM. & ADDED DIAPHRAGM NEAR ABUT. 2.			

**MEGQUIER & JONES INC.**  
STRUCTURAL STEEL SINCE 1895  
1156 BROADWAY  
SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N 1 5/16"	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 7-14-09 DRAWN BY WCG
DESCRIPTION	LAYOUTS		CHK'D BY CX
ARCH N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81	SHT NO TD1
CUSTOMER S.D. IRELAND CONCRETE CONSTRUCTION CORP.			

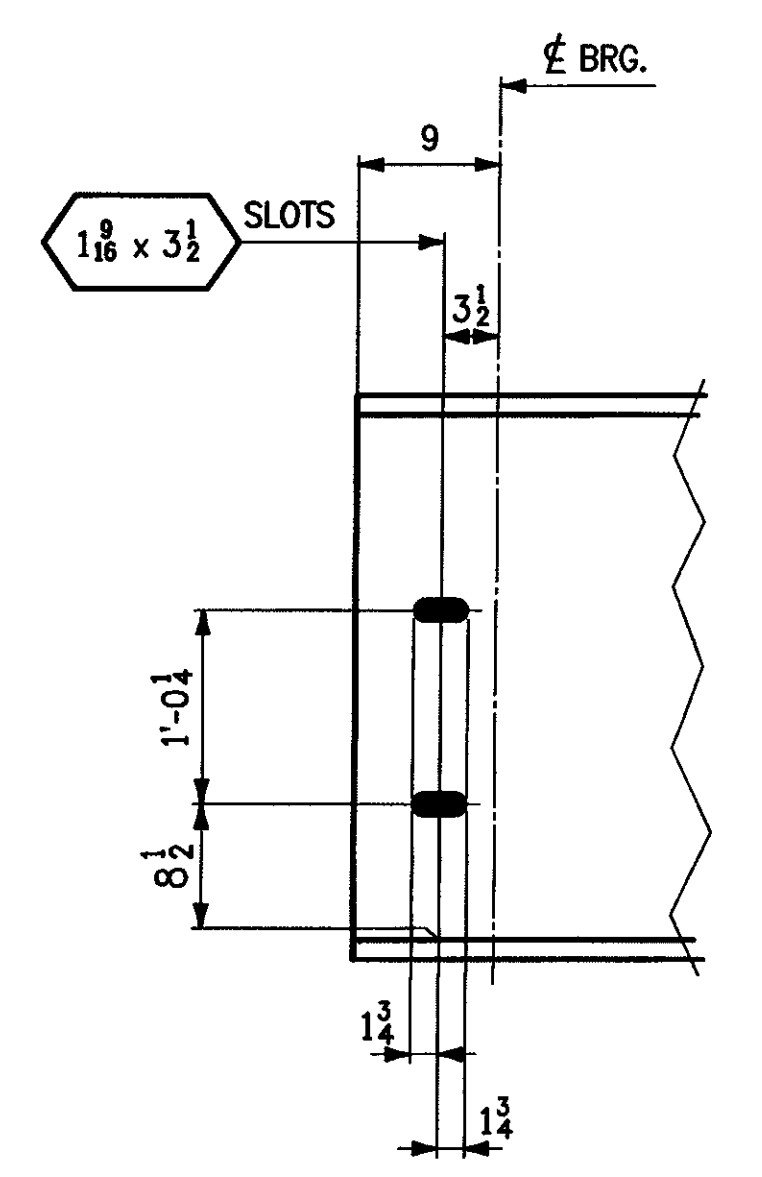


TOP & BOT. FLG. CLIP @ ABUT. 2

**NOTES:**

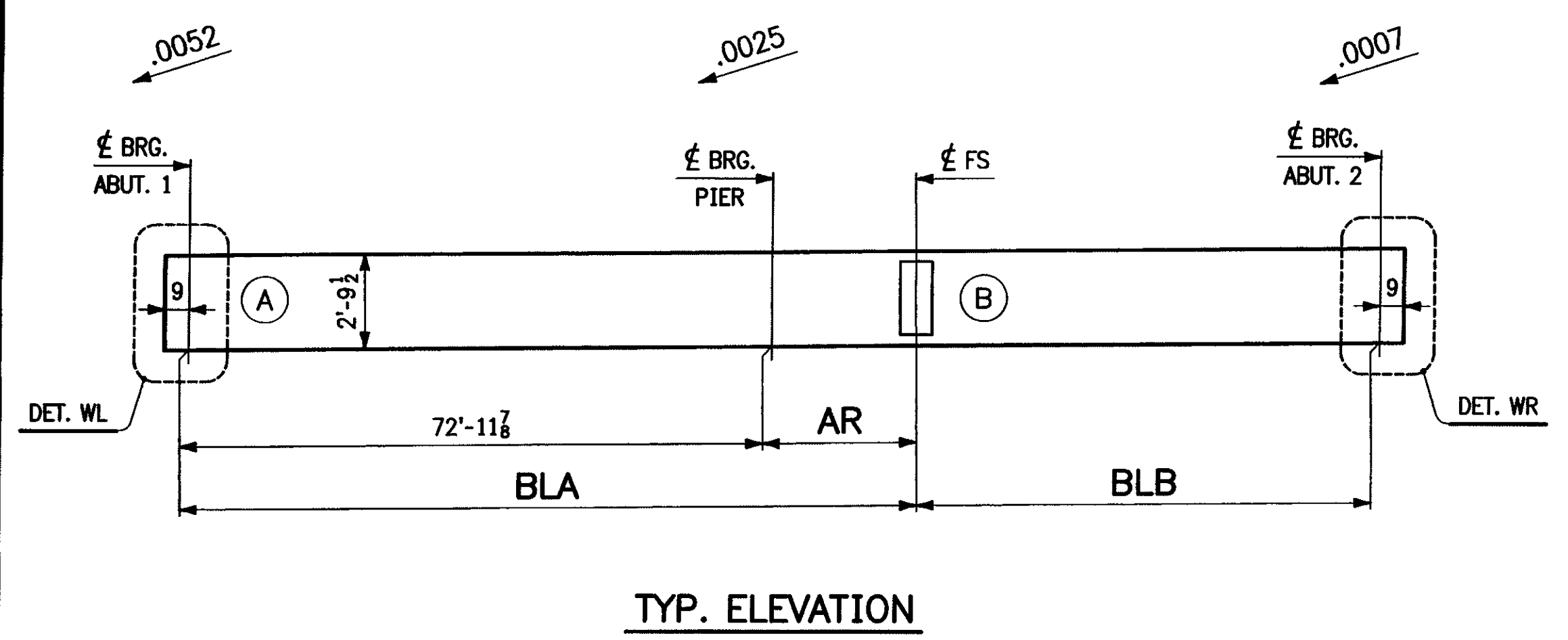
1. LONGITUDINAL DIMS. ARE SLOPING ALONG BOTTOM OF GIRDER IN CAMBERED POSITION.
2. TRANSVERSE DIMS. ARE HORIZONTAL.
3. ———> DENOTES DROP (FINAL). ARROW POINTS TO LOW END.
4. ENDS OF GIRDERS & BRG. STIFFENERS ARE VERTICAL IN FINAL POSITION.
5. INT. CONN. PLATES ARE NORMAL TO BOTTOM FLANGE.
6. FOR LAYOUTS SEE DWG. TD1.

**SPAN 2**



DET. WL (SHOWN)  
DET. RL (OPP. HAND)

**SPAN 1**



LINE	BLA	AR	BLB
1	91'-1 <sup>1</sup> / <sub>16</sub>	18'-1 <sup>9</sup> / <sub>16</sub>	57'-11 <sup>7</sup> / <sub>16</sub>
2	91'-0 <sup>3</sup> / <sub>4</sub>	18'-0 <sup>7</sup> / <sub>16</sub>	57'-11 <sup>9</sup> / <sub>16</sub>
3	91'-3 <sup>3</sup> / <sub>8</sub>	18'-4	57'-7 <sup>15</sup> / <sub>16</sub>
4	91'-7 <sup>7</sup> / <sub>8</sub>	18'-8	57'-3 <sup>7</sup> / <sub>16</sub>
5	91'-11 <sup>11</sup> / <sub>16</sub>	18'-11 <sup>11</sup> / <sub>16</sub>	56'-11 <sup>3</sup> / <sub>16</sub>

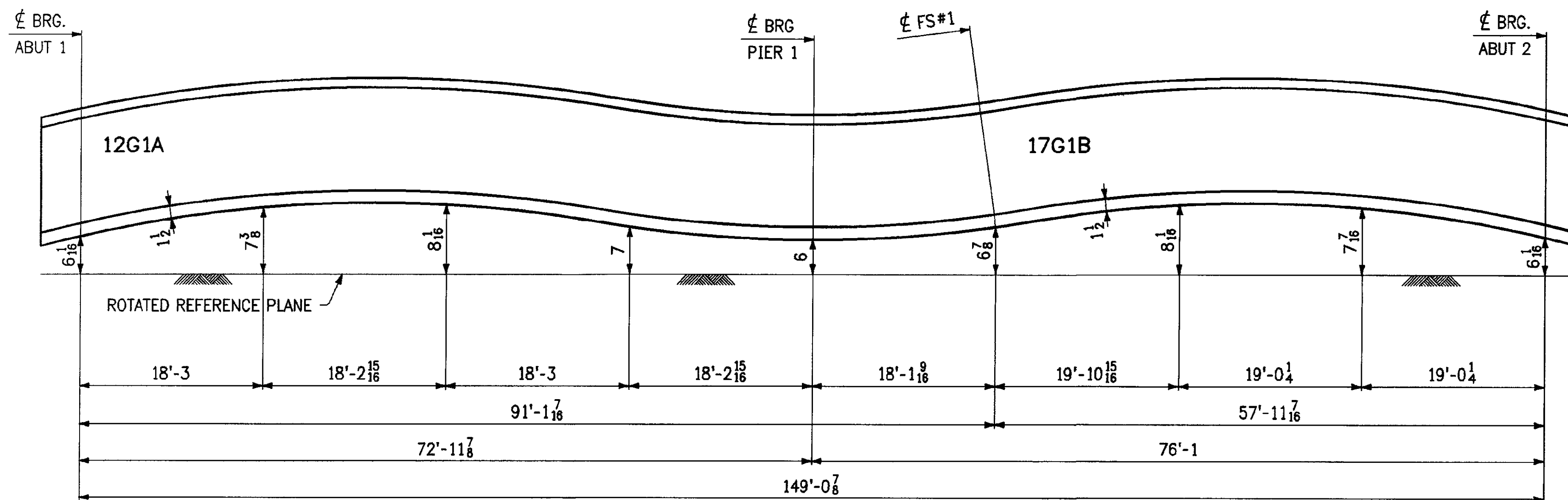
RECEIVED  
OK'D BY JEL OK'D BY kmh  
JUL 23 2009  
R. CUTLIT APPROVED ✓  
BY kmh DATE 7/21/09

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5P	Appr.
Δ	7-14-09	ADDED BRG. STIFFENERS & DIAPHRAGMS.			

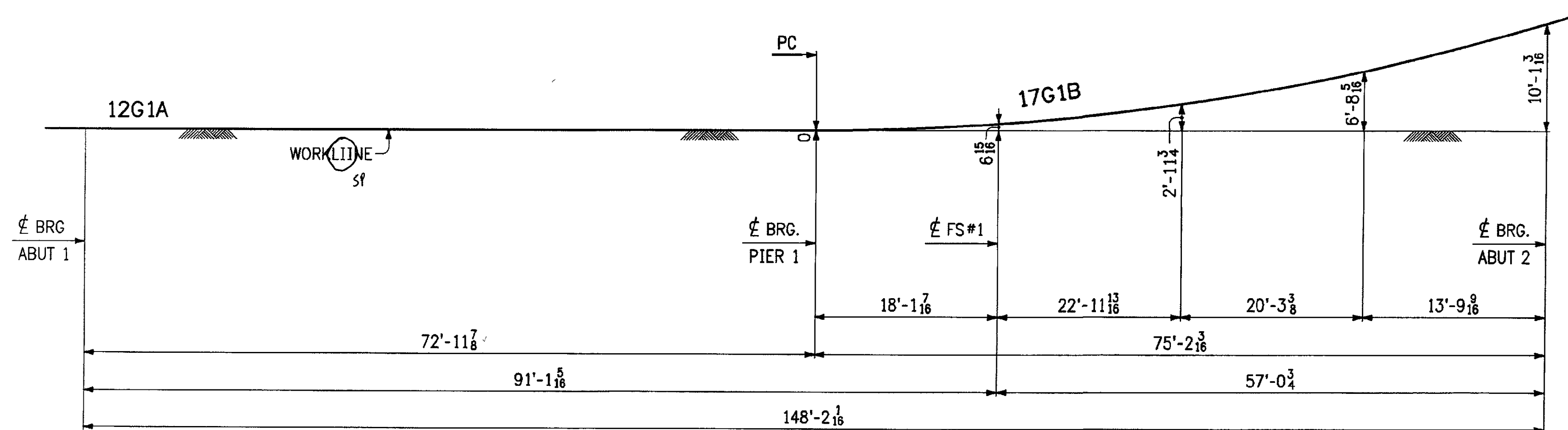
**MEGQUIER & JONES INC.**  
STRUCTURAL STEEL SINCE 1895  
1156 BROADWAY  
SOUTH PORTLAND, MAINE 04106

PAIN	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 7-14-09 DRAWN BY WCG
DESCRIPTION	CALC. PLAN		CHK'D BY CT
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		SHT NO WS1

THIS IS A WORK DRAWING. ITS FUNCTION IS TO PROVIDE BASIC DIMENSIONS AND CONCEPTS FOR USE IN THE PREPARATION OF THE SHOP DETAILS. IT IS NOT INTENDED TO BE USED FOR ERECTION OR FABRICATION.



BLOCKING DIAGRAM ~ LINE 1



HORIZONTAL SWEEP DIAGRAM ~ LINE 1

Accepted	
Accepted as Noted	✓
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy, as stipulated on the Contractor's Shop Drawing Stamp.

7/10/09 DuBOIS AND KING  
By: [Signature]

NOTES:

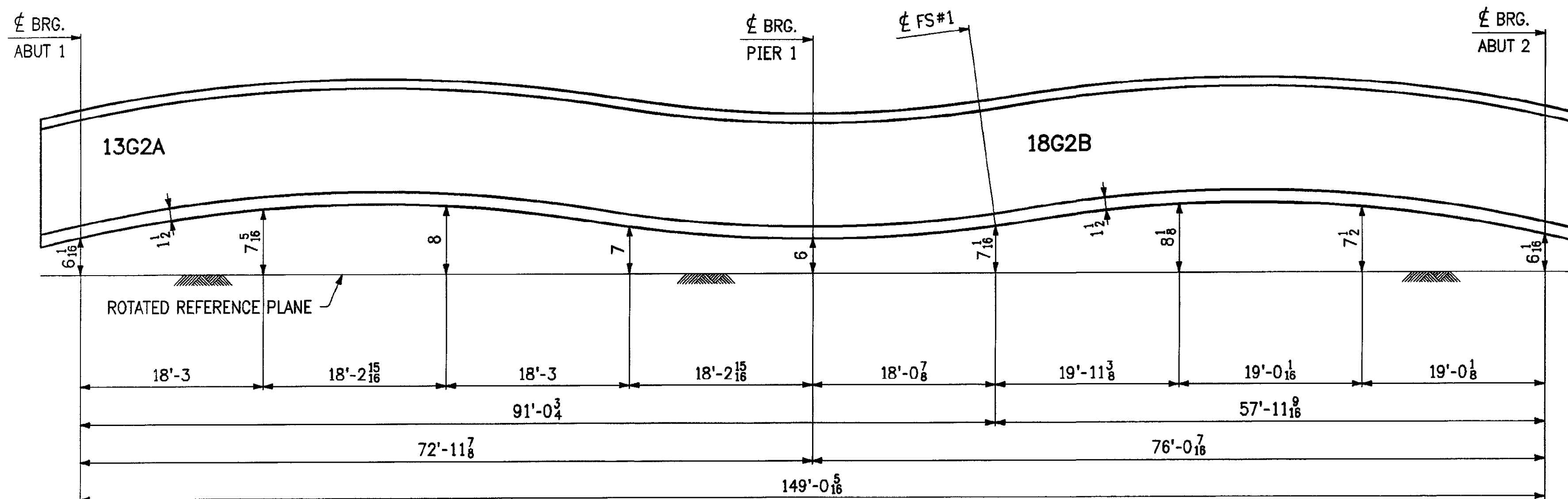
1. LONGITUDINAL DIMS FOR BLOCKING DIAGRAMS ARE ALONG  $\bar{C}$  GDR AT BOTTOM OF BOTTOM FLG.
2. BLOCKING DIMS. ARE GIVEN TO THE BOTTOM OF THE THICKER FLG. AT FIELD SPLICES
3. FIELD SPLICE PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
4. FOR GENERAL NOTES, SEE DWG. GN1

RECEIVED  
OK'D BY: JFL OK'D BY: KM4  
JUN 18 2009  
APPROVED: [Signature]  
BY: KM4 DATE: 7/13/09

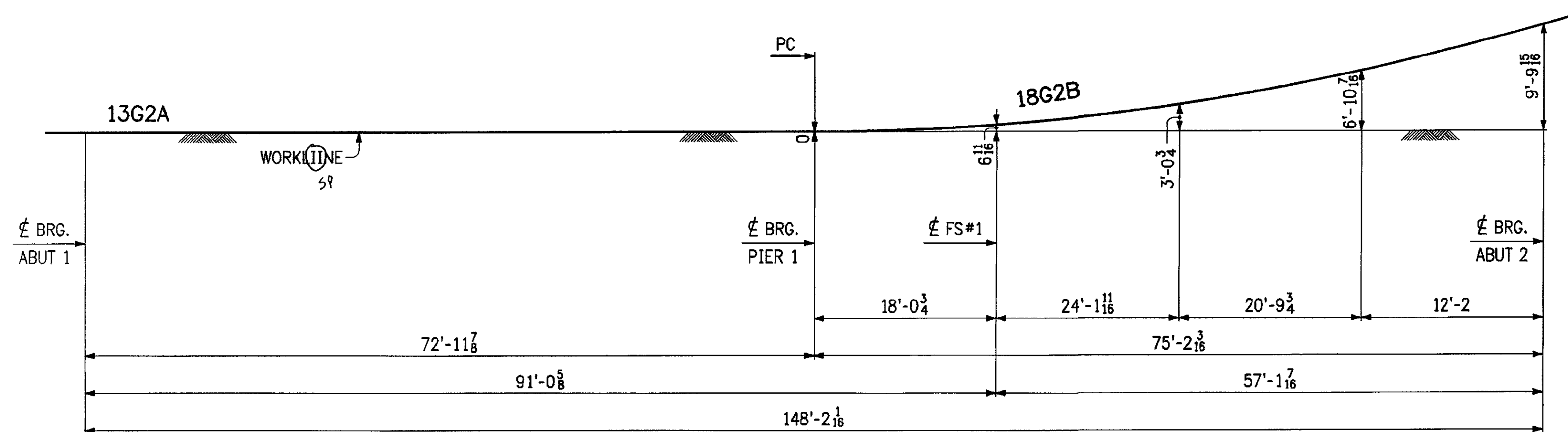
REVISIONS		PRINT RECORD	
NO	DATE	DESCRIPTION	DATE QTY ISSUED
			6-15 E Appr.

**MEGQUIER & JONES INC.**  
STRUCTURAL STEEL SINCE 1895  
1156 BROADWAY  
SOUTH PORTLAND, MAINE 04106

PAIN	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09 DRAWN BY 5-22-09
DESCRIPTION	BLOCKING DIAGRAMS ~ LINE 1		CHK D BY [Signature]
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		JOB NO. J-81 SHT NO. BD1



BLOCKING DIAGRAM ~ LINE 2



HORIZONTAL SWEEP DIAGRAM ~ LINE 2

Accepted	
Accepted as Noted	✓
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	
Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.	
Date: 7/7/09	DuBOIS AND KING Rv. <i>[Signature]</i>

NOTES:

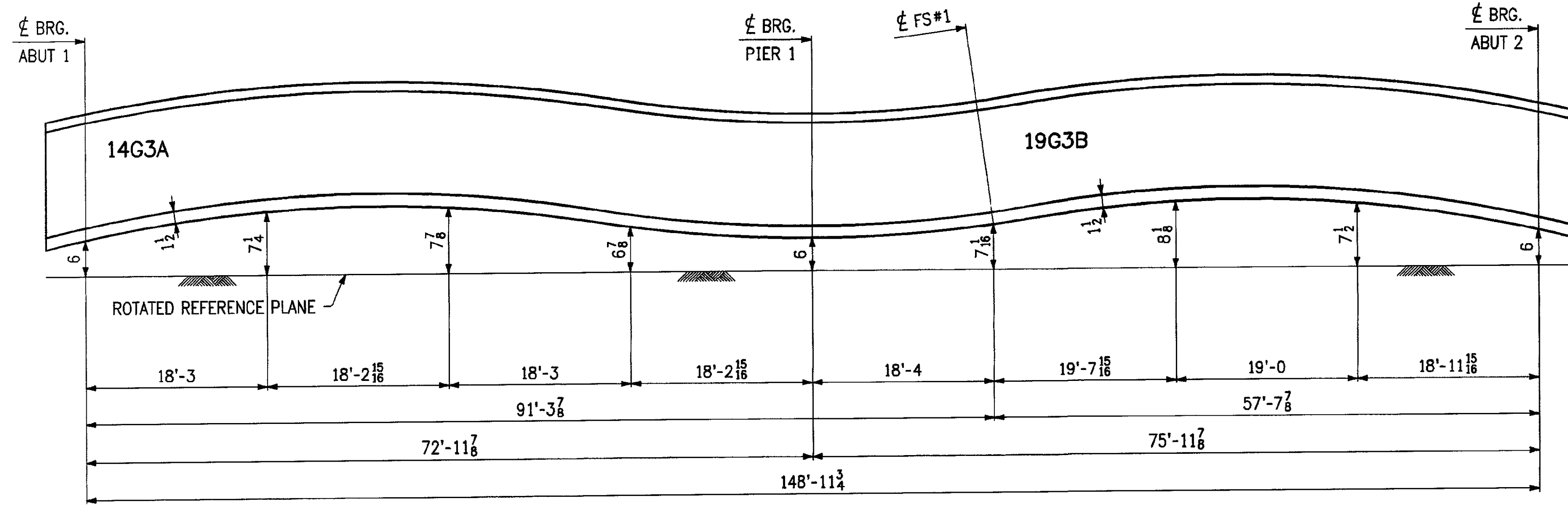
1. LONGITUDINAL DIMS FOR BLOCKING DIAGRAMS ARE ALONG  $\perp$  GDR. AT BOTTOM OF BOTTOM FLG
2. BLOCKING DIMS. ARE GIVEN TO THE BOTTOM OF THE THICKER FLG. AT FIELD SPLICES.
3. FIELD SPLICE PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
4. FOR GENERAL NOTES, SEE DWG. GN1

RECEIVED  
 OK'D BY: JFL OK'D BY: KmH  
 JUN 18 2009  
 APPROVED: ✓  
 BY: KmH DATE: 7/13/09

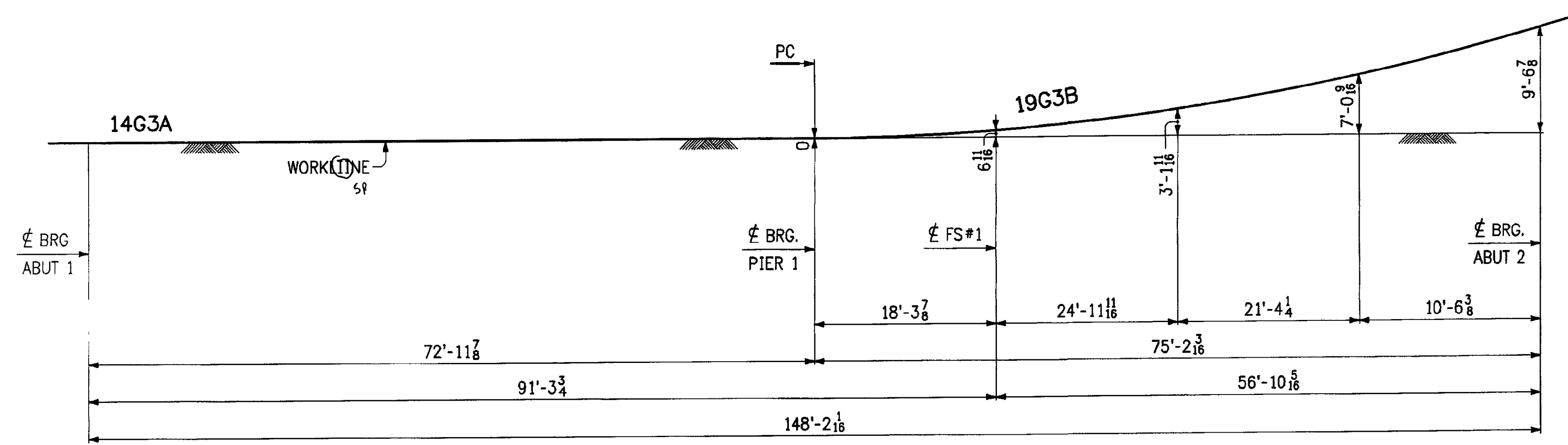
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	5	Appr

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09
DESCRIPTION	BLOCKING DIAGRAMS ~ LINE 2		CHK'D BY CJC
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		SHT NO BD2



**BLOCKING DIAGRAM ~ LINE 3**



**HORIZONTAL SWEEP DIAGRAM ~ LINE 3**

Accepted	
Accepted as Noted	✓
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	
Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing. Same	
Date	7/7/09
By	kmh

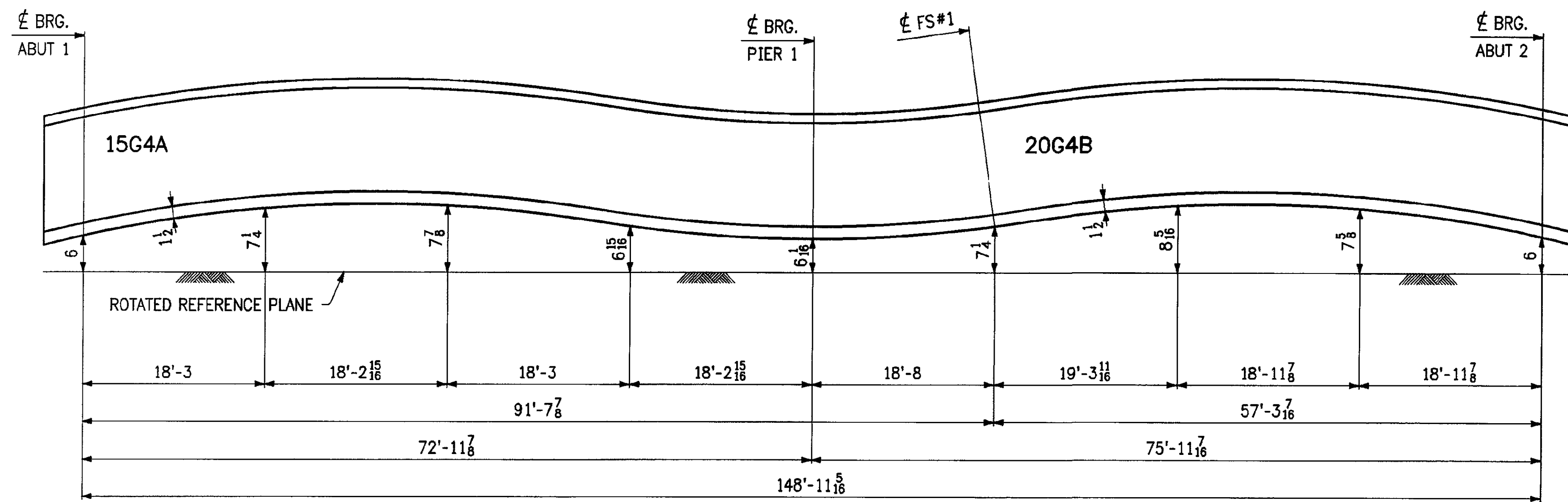
**NOTES:**

1. LONGITUDINAL DIMS FOR BLOCKING DIAGRAMS ARE ALONG  $\phi$  GDR AT BOTTOM OF BOTTOM FLG.
2. BLOCKING DIMS. ARE GIVEN TO THE BOTTOM OF THE THICKER FLG. AT FIELD SPLICES.
3. FIELD SPLICE PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY
4. FOR GENERAL NOTES, SEE DWG. GN1

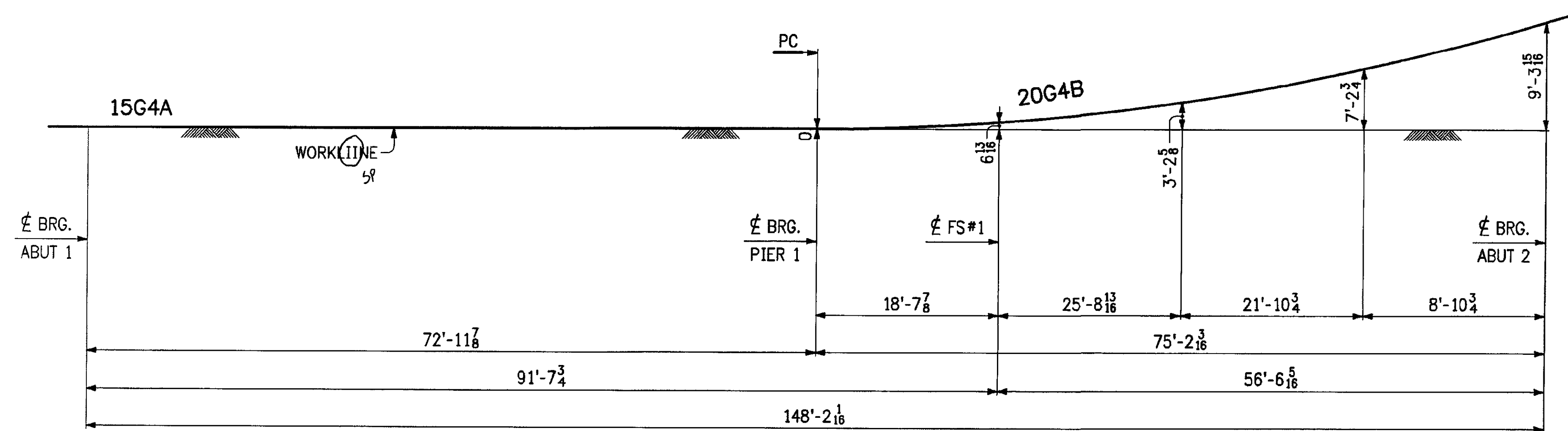
RECEIVED  
 OK'D BY *JFL* OK'D BY *kmh*  
 JUN 18 2009  
 APPROVED ✓  
 BY *kmh* DATE 7/13/09

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	Appa

<b>MEGQUIER &amp; JONES INC.</b> STRUCTURAL STEEL SINCE 1895 1156 BROADWAY SOUTH PORTLAND, MAINE 04106			
PAIN	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09 DRAWN BY 5-22-08
DESCRIPTION	BLOCKING DIAGRAMS ~ LINE 3		CHK'D BY TCC
ARCH.	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP		SHT NO BD3



BLOCKING DIAGRAM ~ LINE 4



HORIZONTAL SWEEP DIAGRAM ~ LINE 4

Accepted	
Accepted as Noted	✓
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy, as stipulated on the Contractor's Shop Drawing Stamp.

DATE: 7/7/09  
 BY: [Signature]  
 DUBOIS AND KING

NOTES:

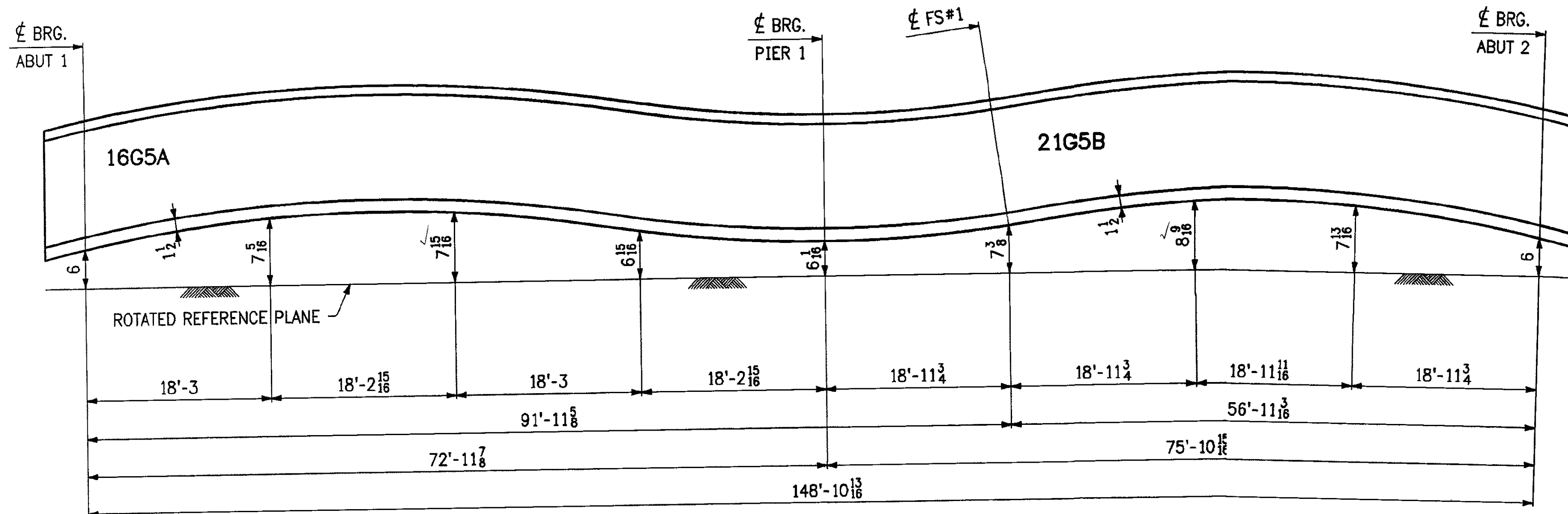
1. LONGITUDINAL DIMS FOR BLOCKING DIAGRAMS ARE ALONG  $\phi$  GDR AT BOTTOM OF BOTTOM FLG.
2. BLOCKING DIMS. ARE GIVEN TO THE BOTTOM OF THE THICKER FLG. AT FIELD SPLICES.
3. FIELD SPLICE PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
4. FOR GENERAL NOTES, SEE DWG. GN1.

RECEIVED  
 OK'D BY: JFL OK'D BY: kmh  
 JUN 18 2009  
 APPROVED: [Signature]  
 BY: kmh DATE: 7/13/09

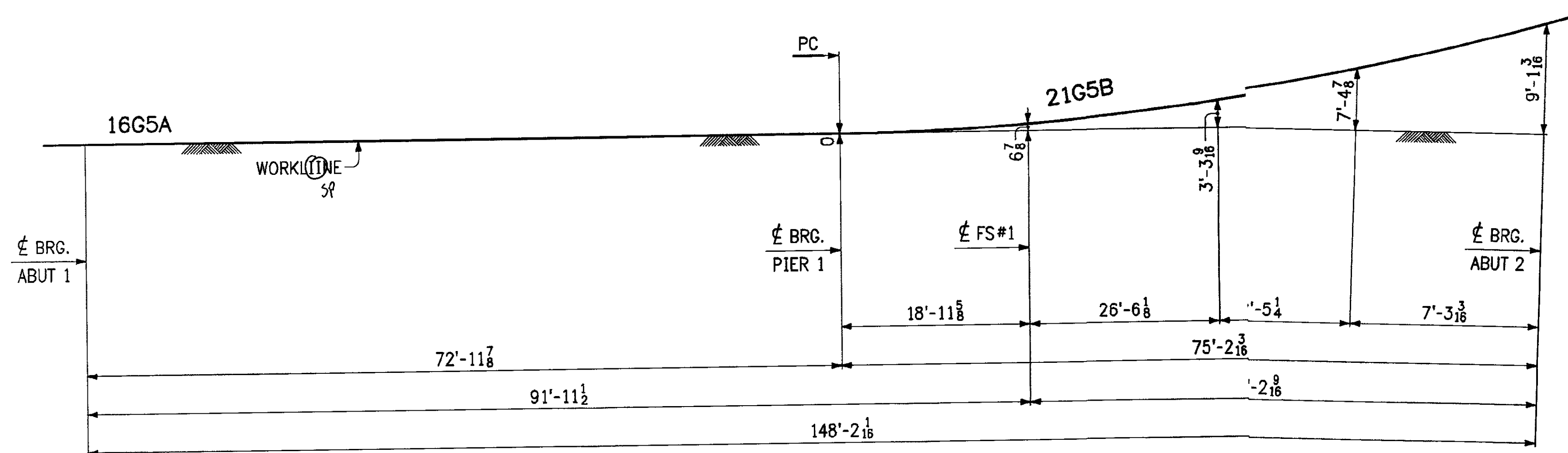
REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	APP

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U/N	WELD U/N	G.C. REVIEW
PROJECT	TH NO 1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09
DESCRIPTION	BLOCKING DIAGRAMS ~ LINE 4		DRAWN BY 5-22-09
ARCH: N/A	ENGR: VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC	
CUSTOMER: S.D. IRELAND CONCRETE CONSTRUCTION CORP			JOB NO: J-81 SMT NO: BD4



**BLOCKING DIAGRAM ~ LINE 5**



**HORIZONTAL SWEEP DIAGRAM ~ LINE 5**

Accepted	
Accepted as Noted	✓
Accepted Noted Resubmit	
Rejected Revise Resubmit	
Rejected - Unacceptable	

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

7/17/09  
DUBOIS AND KING  
By *[Signature]*

**NOTES:**

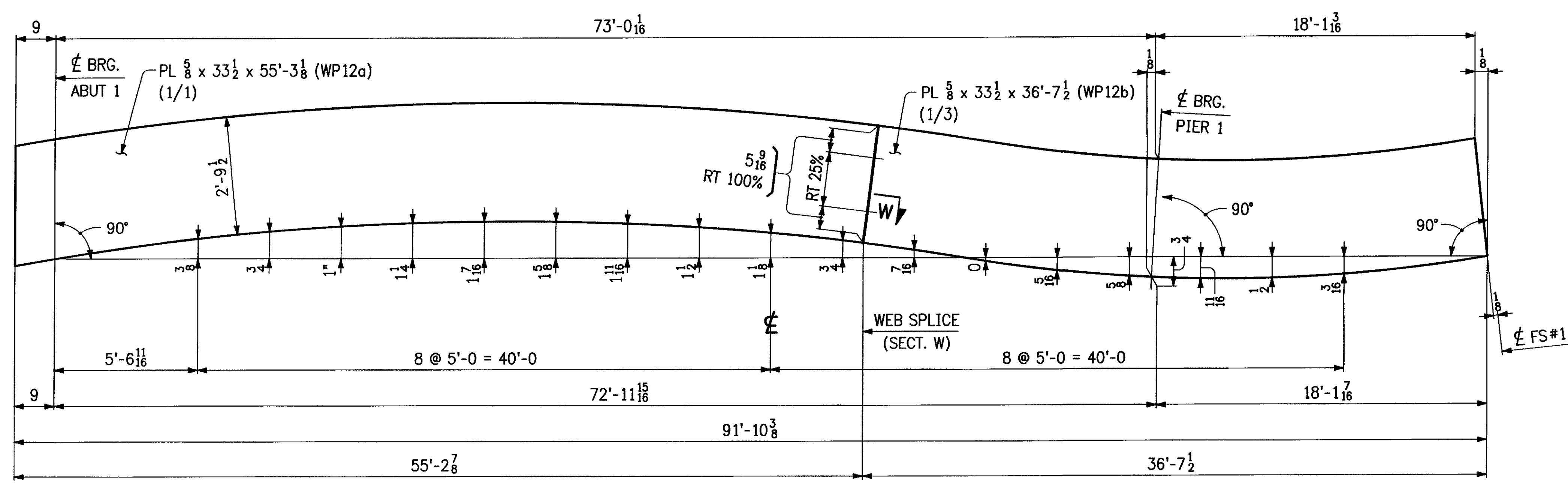
1. LONGITUDINAL DIMS FOR BLOCKING DIAGRAMS ARE ALONG  $\phi$  GDR AT BOTTOM OF BOTTOM FLG.
2. BLOCKING DIMS. ARE GIVEN TO THE BOTTOM OF THE THICKER FLG. AT FIELD SPLICES.
3. FIELD SPLICE PLATES SHALL BE MATCH-MARKED AFTER REAMING AND PRIOR TO DISASSEMBLY.
4. FOR GENERAL NOTES, SEE DWG. GN1.

RECEIVED  
OK'D BY *JEL* OK'D BY *KMH*  
JUN 18 2009  
APPROVED ✓  
BY *KMH* DATE 7/13/09

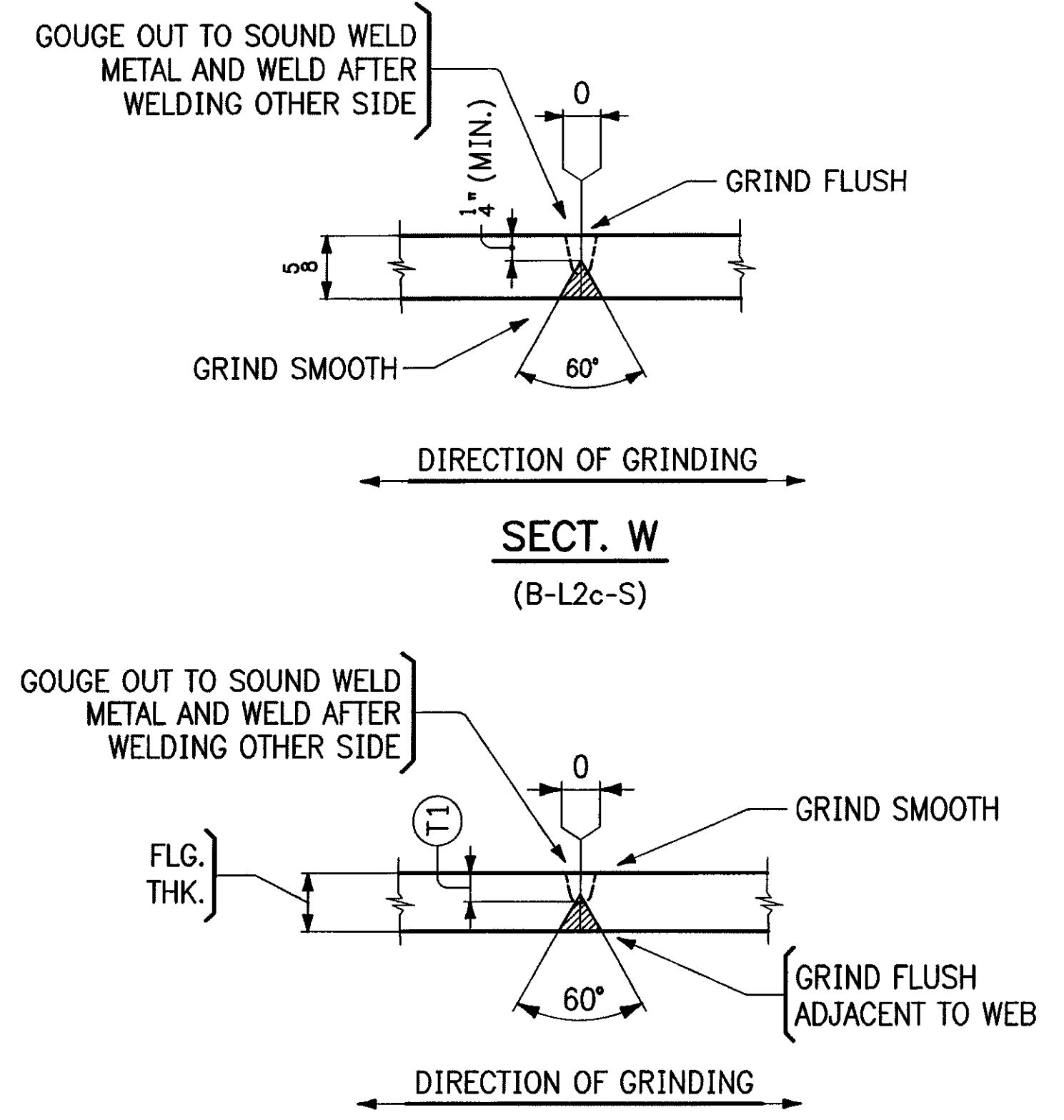
REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	Appr.

**MEGQUIER & JONES INC.**  
STRUCTURAL STEEL SINCE 1895  
1156 BROADWAY  
SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT:	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09
DESCRIPTION	BLOCKING DIAGRAMS ~ LINE 5		DRAWN BY 5-22-09
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP		CHK'D BY SFC
			JOB NO J-81
			SHT NO BDS



WEB CUTTING DIAGRAM FOR 12G1A



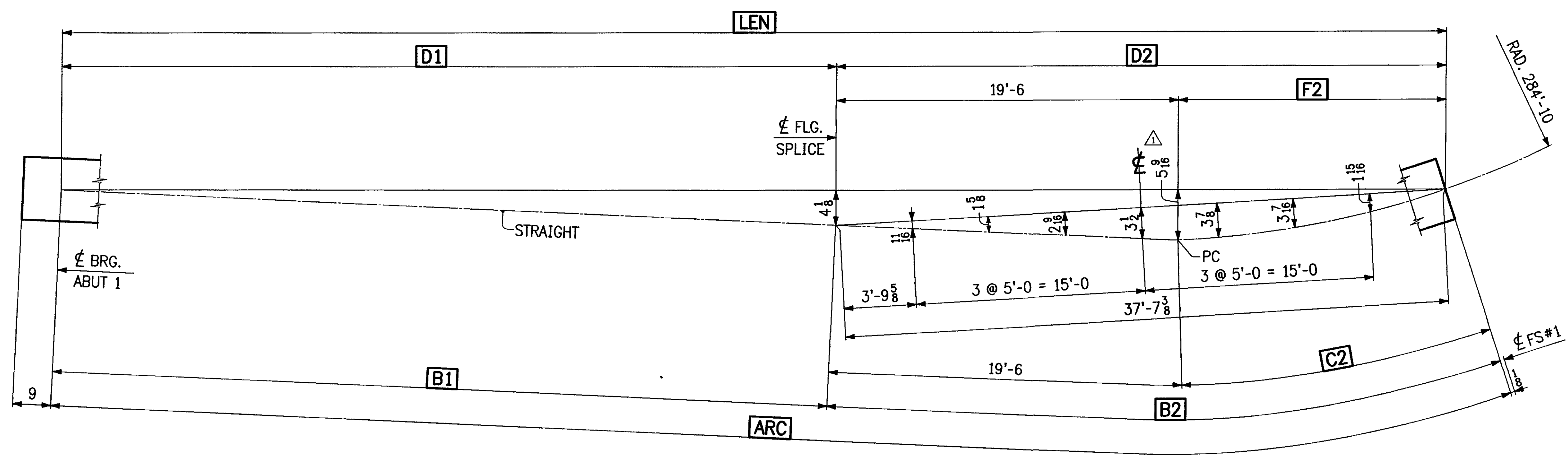
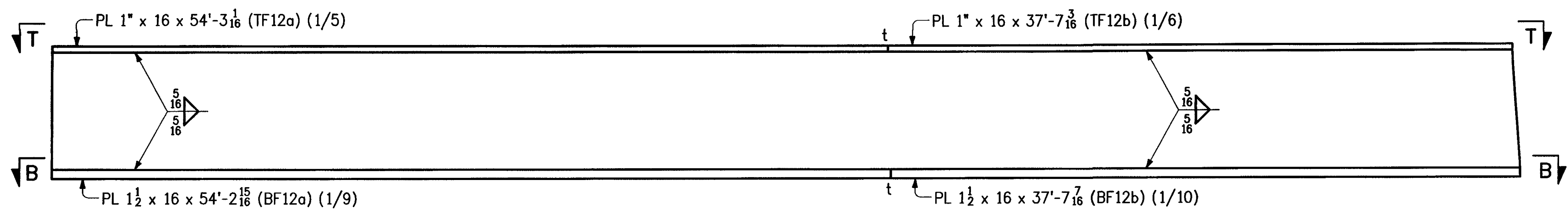
TYPICAL FLANGE PLATE SPLICE

(B-L2c-S)	
FLG. THK.	(T1)
1"	5/16
1 1/2"	1/2

NOTES:

- FOR GENERAL NOTES, SEE DWG. GN1.
- THE LETTER "L" AT FLANGE SPLICES INDICATES SPLICES IN TENSION.
- ALL MATERIAL SHALL BE M270-50W (CVN).
- ALL FLANGE SPLICES ARE TO BE RADIOGRAPHICALLY TESTED 100%.

RECEIVED  
 OK'D BY JEL OK'D BY LHM  
 JUL 23 2009  
 R.C. LHM APPROVED ✓  
 BY LHM DATE 7/21/09

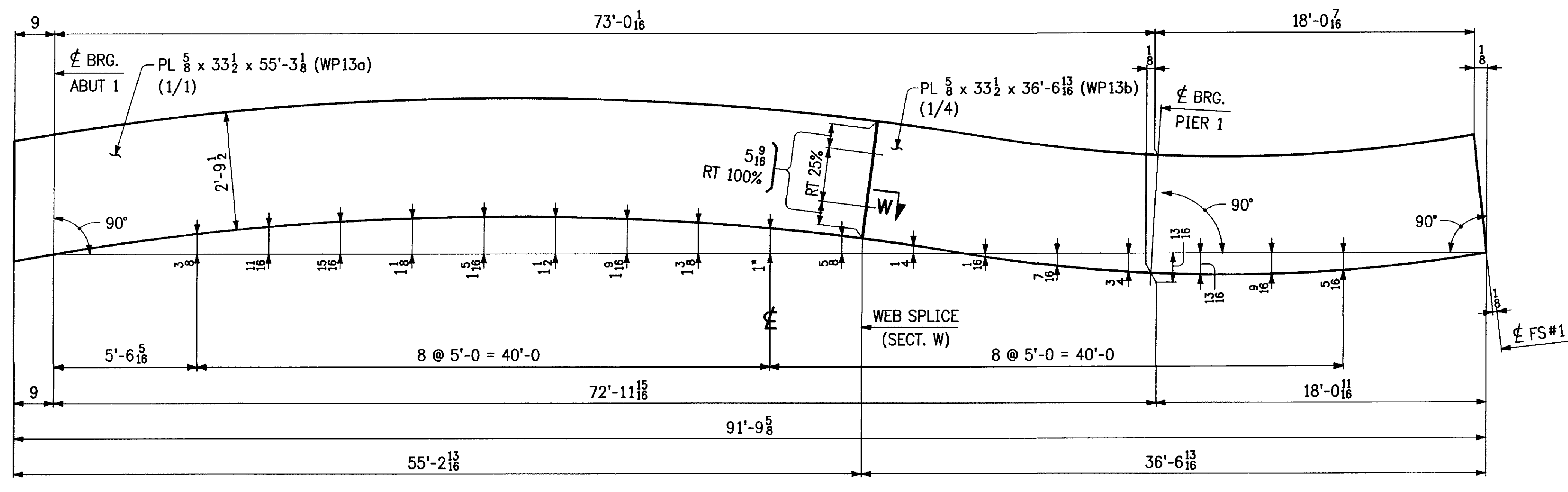


LOCATION	ARC	LEN	B1	B2	C2	D1	D2	F2
VIEW T-T	91'-1 1/4	91'-1 1/8	53'-6 1/16	37'-7 3/16	18'-1 3/8	53'-6	37'-7 1/8	18'-1 1/8
SECT. B-B	91'-1 3/8	91'-1 1/4	53'-5 15/16	37'-7 7/16	18'-1 1/8	53'-5 7/8	37'-7 3/8	18'-1 3/8

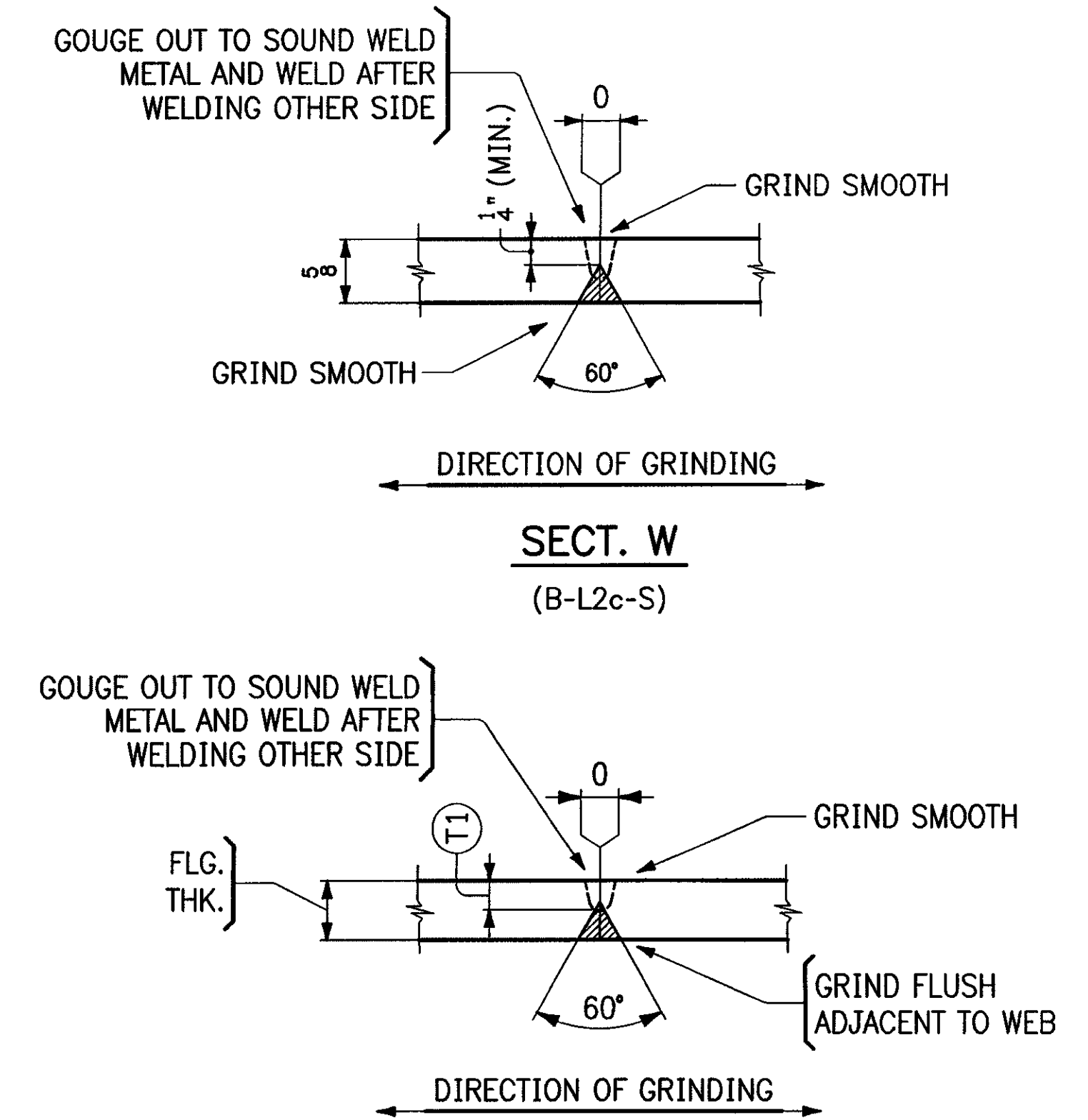
REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5P	APP.
7-14-09		REVISED HORIZONTAL CURVING DIAGRAM.			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAIN	HOLES U N	WELD U N	QC REVIEW
PROJECT	TH NO. 1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		CHK'D BY GJC
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		SHT NO 1



WEB CUTTING DIAGRAM FOR 13G2A



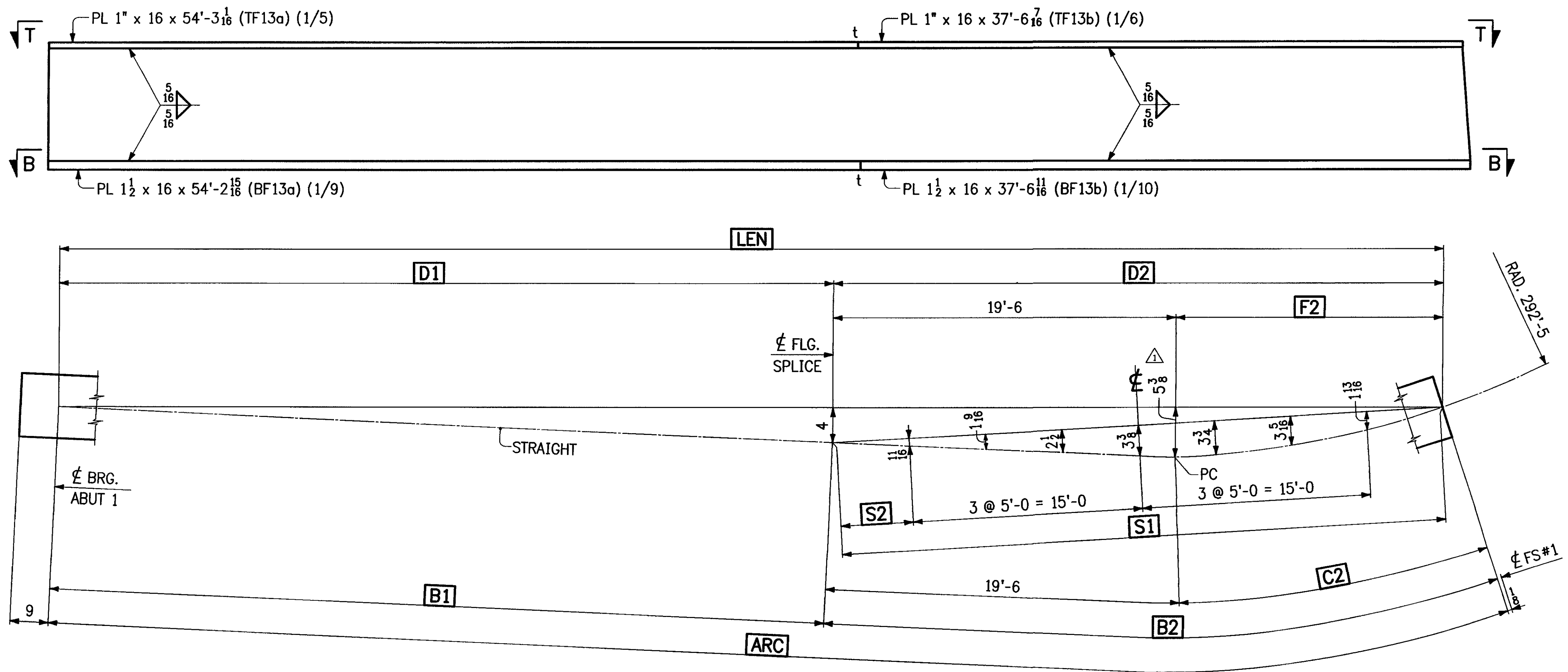
TYPICAL FLANGE PLATE SPLICE (B-L2c-S)

FLG. THK.	(T1)
1"	5/16
1 1/2"	1/2

NOTES:

- FOR GENERAL NOTES, SEE DWG. GN1.
- THE LETTER "t" AT FLANGE SPLICES INDICATES SPLICES IN TENSION.
- ALL MATERIAL SHALL BE M270-50W (CVN).
- ALL FLANGE SPLICES ARE TO BE RADIOGRAPHICALLY TESTED 100%.

RECEIVED  
 JUL 23 2009  
 APPROVED BY kmh DATE 7/21/09

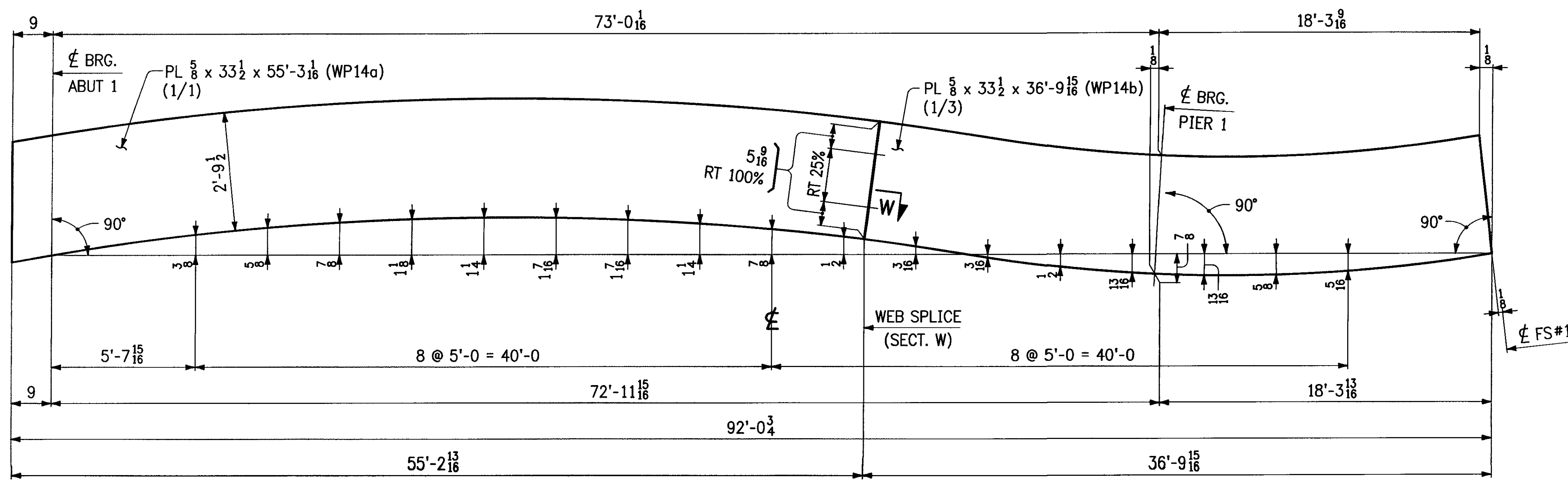


LOCATION	ARC	LEN	B1	B2	C2	D1	D2	F2	S1	S2
VIEW T-T	91'-0 <sup>1</sup> / <sub>2</sub>	91'-0 <sup>3</sup> / <sub>8</sub>	53'-6 <sup>1</sup> / <sub>16</sub>	37'-6 <sup>7</sup> / <sub>16</sub>	18'-0 <sup>7</sup> / <sub>16</sub>	53'-6	37'-6 <sup>3</sup> / <sub>8</sub>	18'-0 <sup>3</sup> / <sub>8</sub>	37'-6 <sup>3</sup> / <sub>8</sub>	3'-9 <sup>3</sup> / <sub>16</sub>
SECT. B-B	91'-0 <sup>5</sup> / <sub>8</sub>	91'-0 <sup>1</sup> / <sub>2</sub>	53'-5 <sup>15</sup> / <sub>16</sub>	37'-6 <sup>11</sup> / <sub>16</sub>	18'-0 <sup>11</sup> / <sub>16</sub>	53'-5 <sup>7</sup> / <sub>8</sub>	37'-6 <sup>5</sup> / <sub>8</sub>	18'-0 <sup>5</sup> / <sub>8</sub>	37'-6 <sup>9</sup> / <sub>16</sub>	3'-9 <sup>5</sup> / <sub>16</sub>

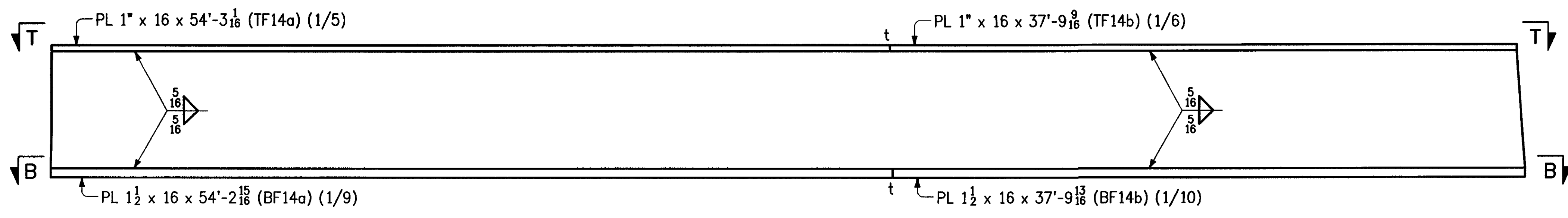
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5P	APP.
7-14-09		REVISED HORIZONTAL CURVING DIAGRAM.			

MEGQUIER & JONES INC.  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		DRAWN BY RLK 5-22-09
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		JOB NO J-81
			SHT NO 2



WEB CUTTING DIAGRAM FOR 14G3A



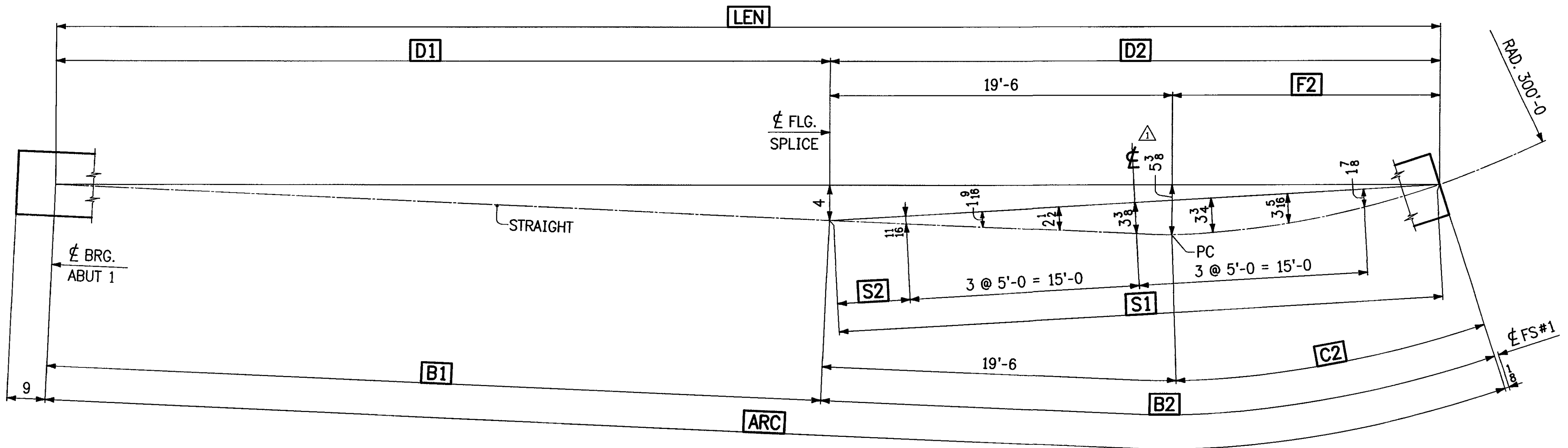
TYPICAL FLANGE PLATE SPLICE (B-L2c-S)

FLG. THK.	(T1)
1"	5/16"
1 1/2"	1/2"

NOTES:

- FOR GENERAL NOTES, SEE DWG. GN1.
- THE LETTER "t" AT FLANGE SPLICES INDICATES SPLICES IN TENSION.
- ALL MATERIAL SHALL BE M270-50W (CVN).
- ALL FLANGE SPLICES ARE TO BE RADIOGRAPHICALLY TESTED 100%.

RECEIVED  
 OK'D BY JEL OK'D BY kmh  
 JUL 23 2009  
 APPROVED BY kmh DATE 7/21/09

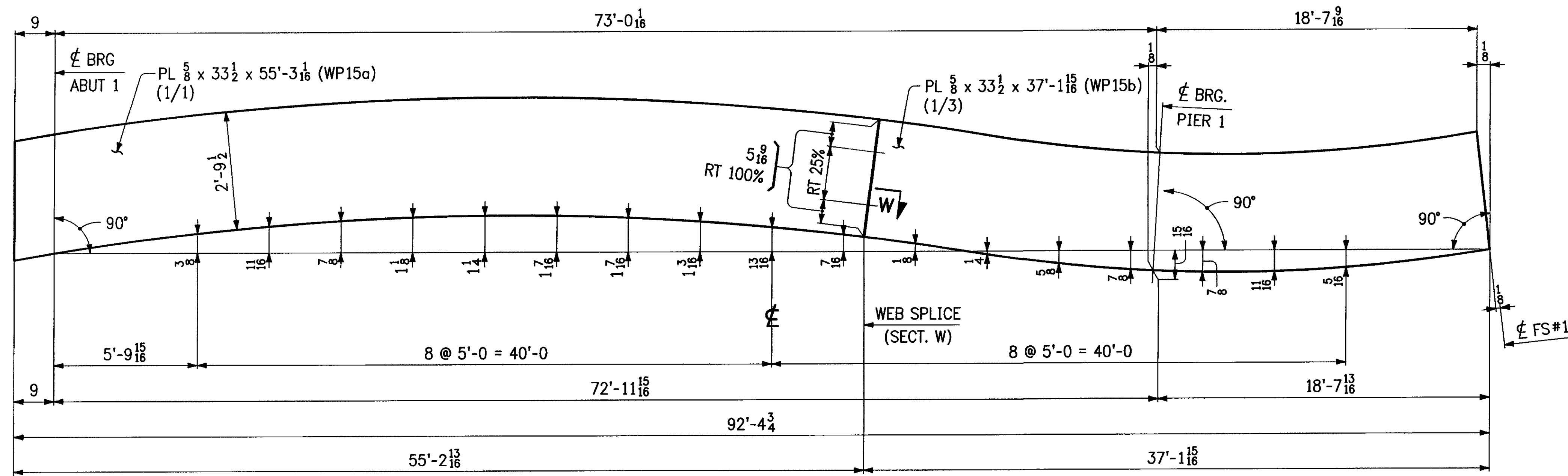


LOCATION	ARC	LEN	B1	B2	C2	D1	D2	F2	S1	S2
VIEW T-T	91'-3 3/8"	91'-3 1/2"	53'-6 1/16"	37'-9 9/16"	18'-3 9/16"	53'-6"	37'-9 1/2"	18'-3 1/2"	37'-9 1/2"	3'-10 3/4"
SECT. B-B	91'-3 3/4"	91'-3 5/8"	53'-5 15/16"	37'-9 13/16"	18'-3 13/16"	53'-5 7/8"	37'-9 3/4"	18'-3 3/4"	37'-9 3/4"	3'-10 7/8"

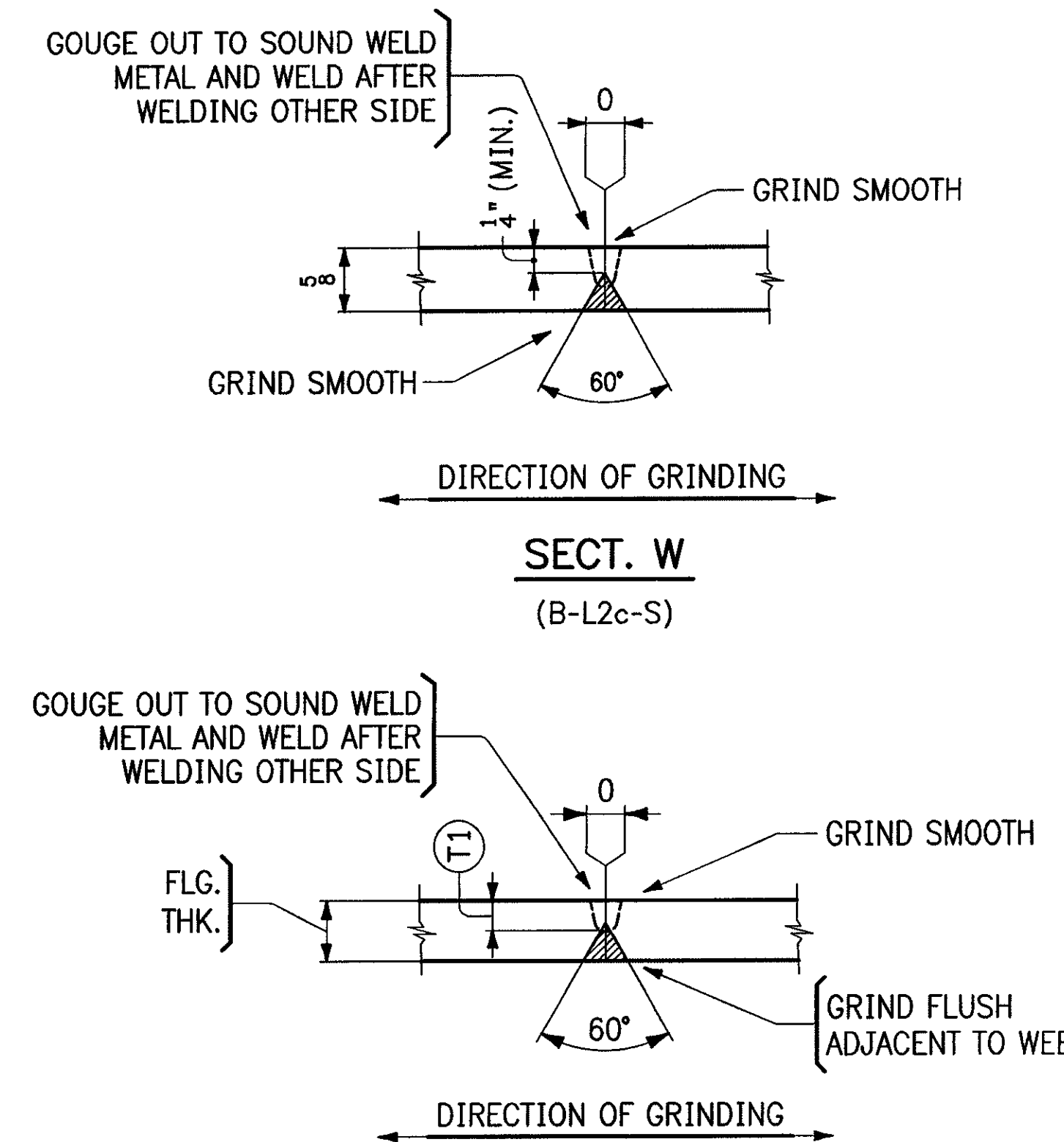
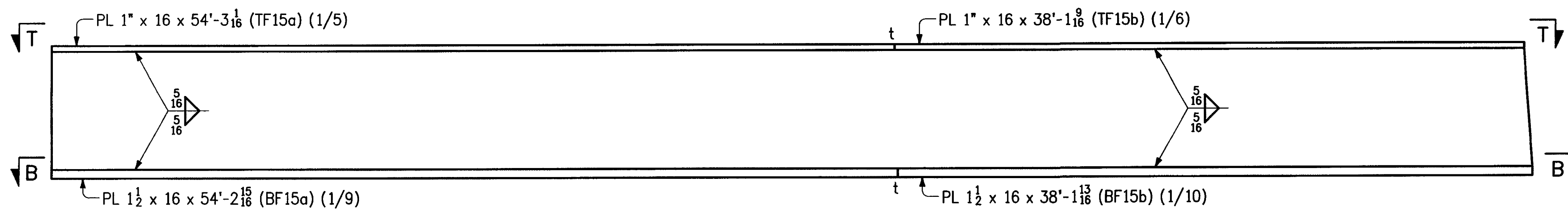
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
7-14-09		REVISED HORIZONTAL CURVING DIAGRAM.	7-16	5p	Appr.

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIBON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		DRAWN BY EJK 5-22-09
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		JOB NO J-81
			SHT NO 3



WEB CUTTING DIAGRAM FOR 15G4A



TYPICAL FLANGE PLATE SPICE

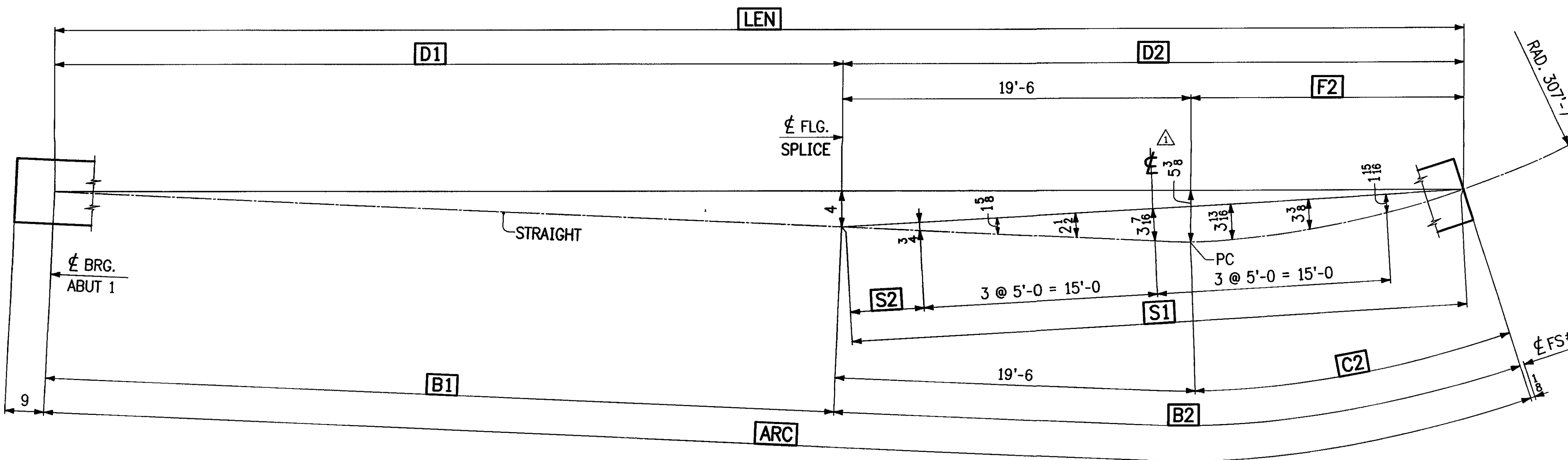
(B-L2c-S)

FLG. THK.	(T)
1"	5/16
1 1/2"	1/2

NOTES:

- FOR GENERAL NOTES, SEE DWG. GN1.
- THE LETTER "t" AT FLANGE SPLICES INDICATES SPLICES IN TENSION.
- ALL MATERIAL SHALL BE M270-50W (CVN).
- ALL FLANGE SPLICES ARE TO BE RADIOGRAPHICALLY TESTED 100%.

RECEIVED  
 OK'D BY JEL OK'D BY kmh  
 JUL 20 2008  
 APPROVED BY kmh DATE 7/21/08

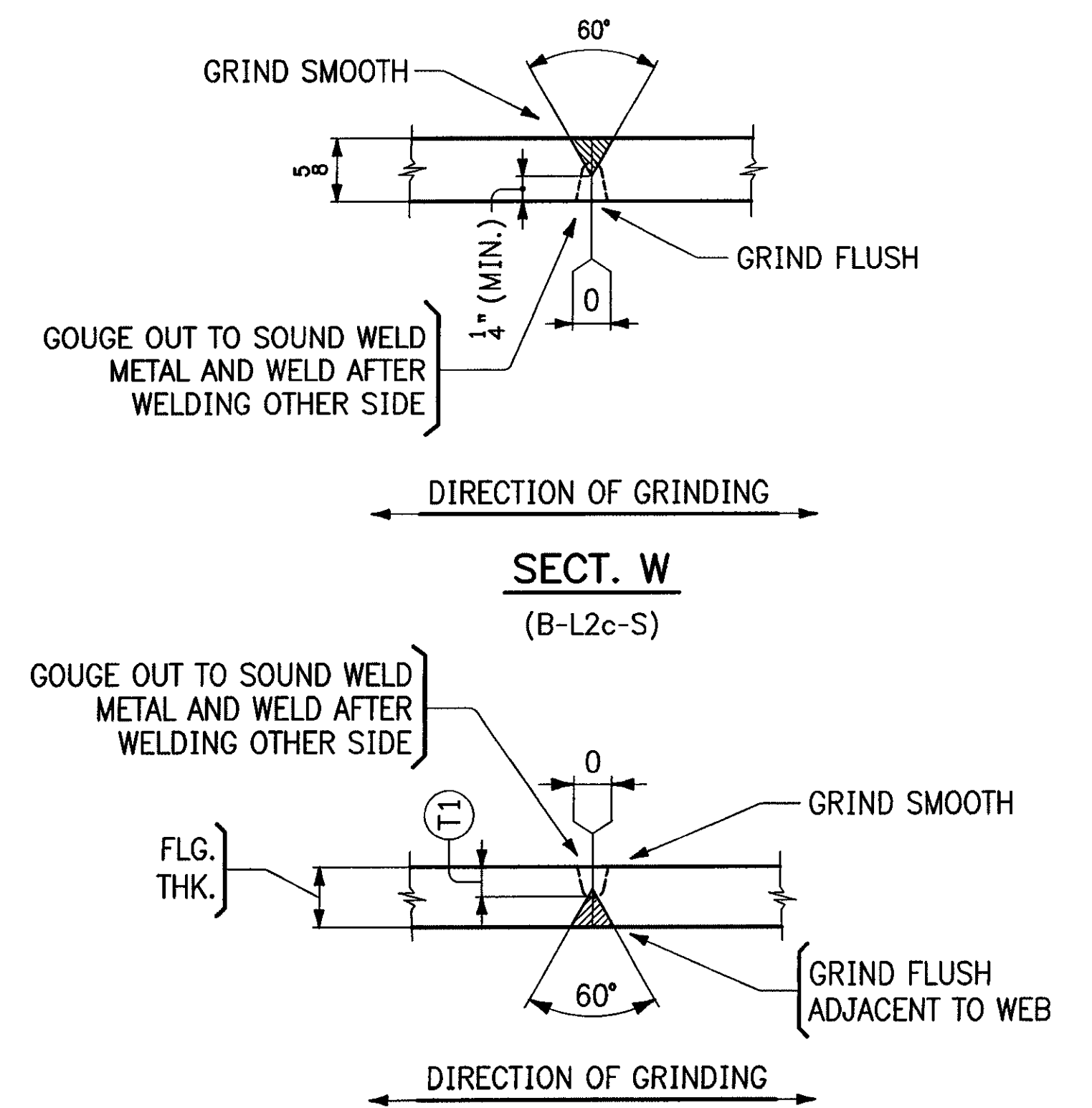
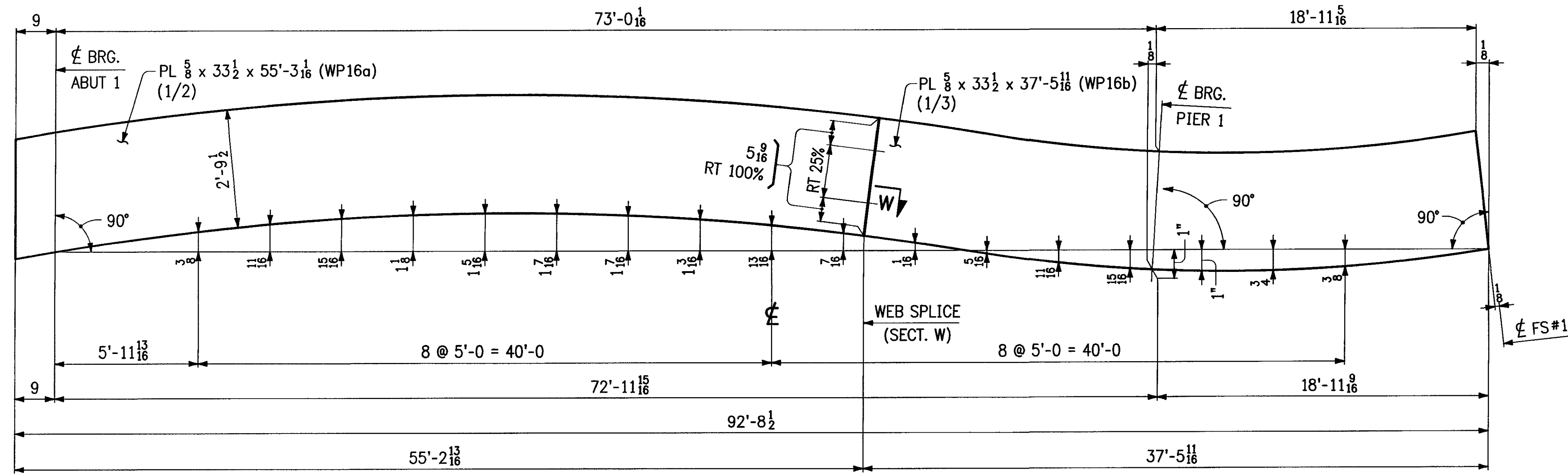


LOCATION	ARC	LEN	B1	B2	C2	D1	D2	F2	S1	S2
VIEW T-T	91'-7 3/8	91'-7 1/2	53'-6 1/16	38'-1 9/16	18'-7 9/16	53'-6	38'-1 1/2	18'-7 1/2	38'-1 1/2	4'-0 3/4
SECT. B-B	91'-7 3/4	91'-7 5/8	53'-5 15/16	38'-1 13/16	18'-7 13/16	53'-5 7/8	38'-1 1/4	18'-7 3/4	38'-1 1/4	4'-0 7/8

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5P	Appa.
7-14-09		REVISED HORIZONTAL CURVING DIAGRAM.			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q.C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		DRAWN BY RJK 5-22-09
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		JOB NO J-81
			SHT NO 4



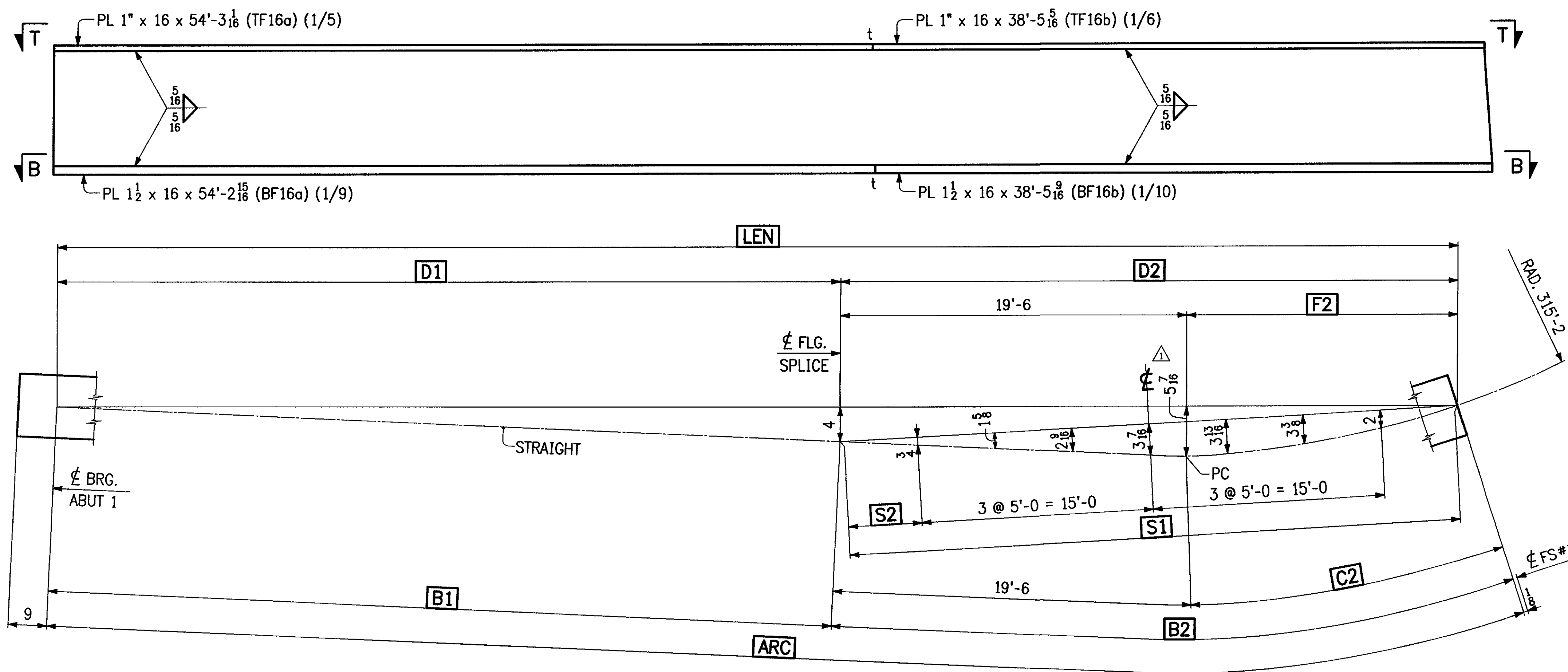
(B-L2c-S)

FLG. THK.	(T1)
1"	5/16
1/2	1/2

NOTES:

- FOR GENERAL NOTES, SEE DWG. GN1.
- THE LETTER "t" AT FLANGE SPLICES INDICATES SPLICES IN TENSION.
- ALL MATERIAL SHALL BE M270-50W (CVN).
- ALL FLANGE SPLICES ARE TO BE RADIOGRAPHICALLY TESTED 100%.

RECEIVED  
 JUL 20 2003  
 APPROVED BY [Signature]  
 DATE 7/21/09



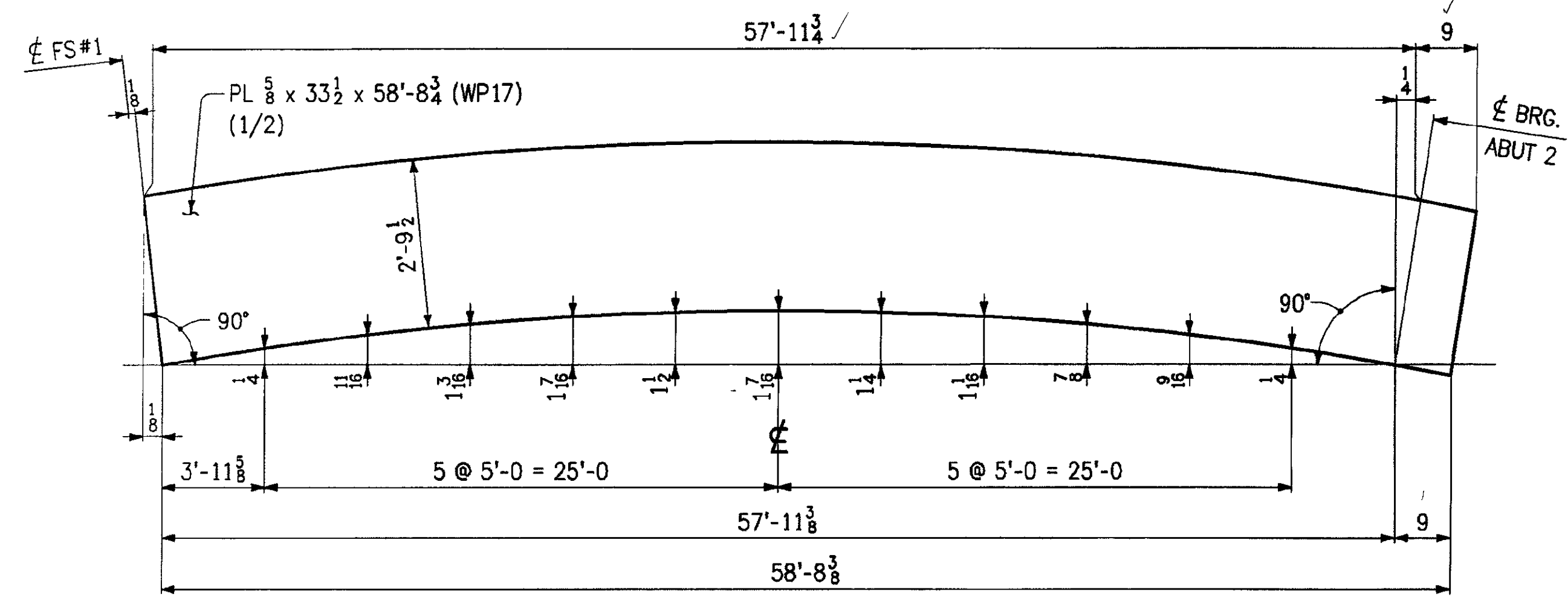
LOCATION	ARC	LEN	B1	B2	C2	D1	D2	F2	S1	S2
VIEW T-T	91'-11 3/8	91'-11 1/4	53'-6 1/8	38'-5 5/8	18'-11 5/16	53'-6	38'-5 1/4	18'-11 1/4	38'-5 1/4	4'-2 3/8
SECT. B-B	91'-11 1/2	91'-11 3/8	53'-5 15/8	38'-5 9/8	18'-11 9/16	53'-5 7/8	38'-5 1/2	18'-11 1/2	38'-5 1/2	4'-2 3/4

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5p	Appr.
7-14-09		REVISED HORIZONTAL CURVING DIAGRAM.			

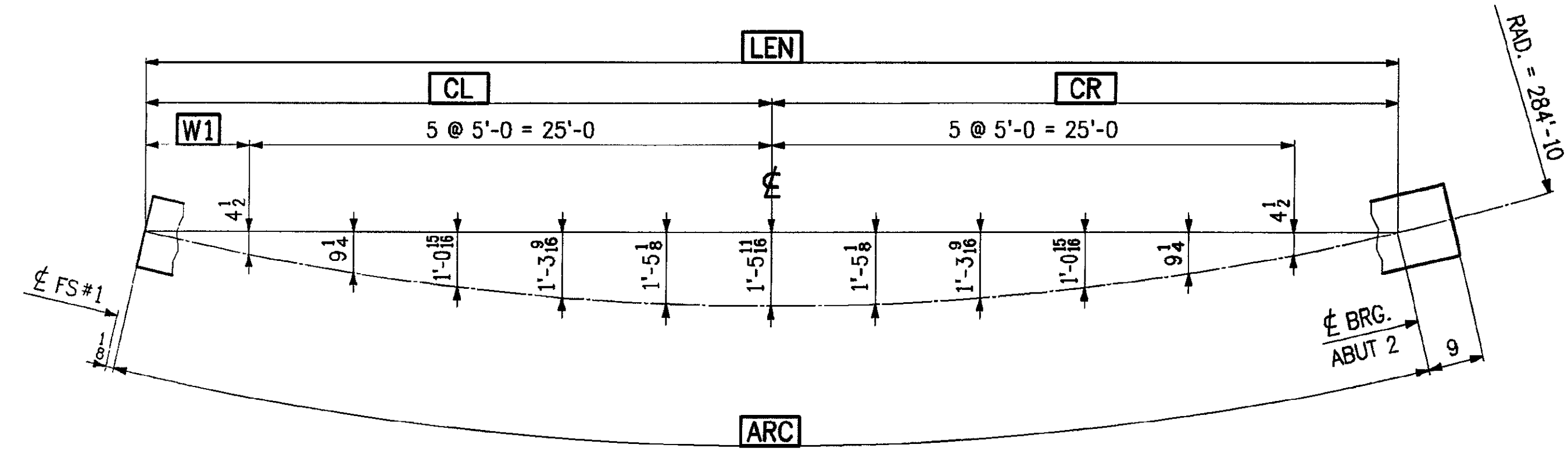
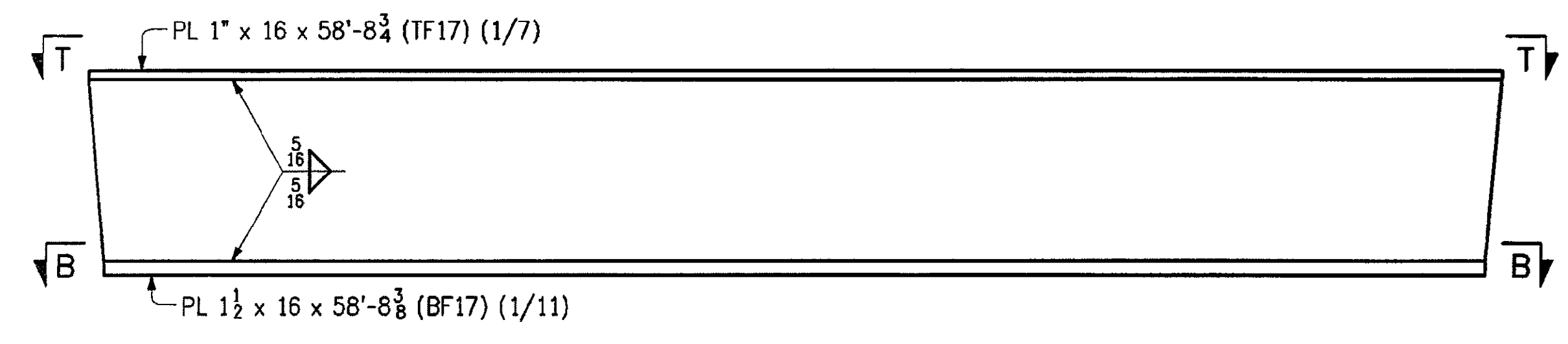
MEGQUIER & JONES INC.

STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAIN	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO. 1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		DRAWN BY R.L.K. 5-22-09
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		JOB NO J-81
			SHT NO 5



WEB CUTTING DIAGRAM FOR 17G1B



LOCATION	ARC	LEN	CL	CR	W1
VIEW T-T	57'-11 3/4	57'-10 9/16	28'-11 5/16	28'-11 1/4	3'-11 5/16
SECT. B-B	57'-11 3/8	57'-10 3/8	28'-11 1/8	28'-11 1/8	3'-11 1/8

- NOTES:**
- FOR GENERAL NOTES, SEE DWG. GN1.
  - ALL MATERIAL SHALL BE M270-50W (CVN).

Accepted	<input checked="" type="checkbox"/>
Accepted as Noted	<input type="checkbox"/>
Accepted/Noted Resubmit	<input type="checkbox"/>
Rejected, Revise Resubmit	<input type="checkbox"/>
Rejected - Unacceptable	<input type="checkbox"/>

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

7/7/09  
 DUBOIS AND KING  
 By: *[Signature]*

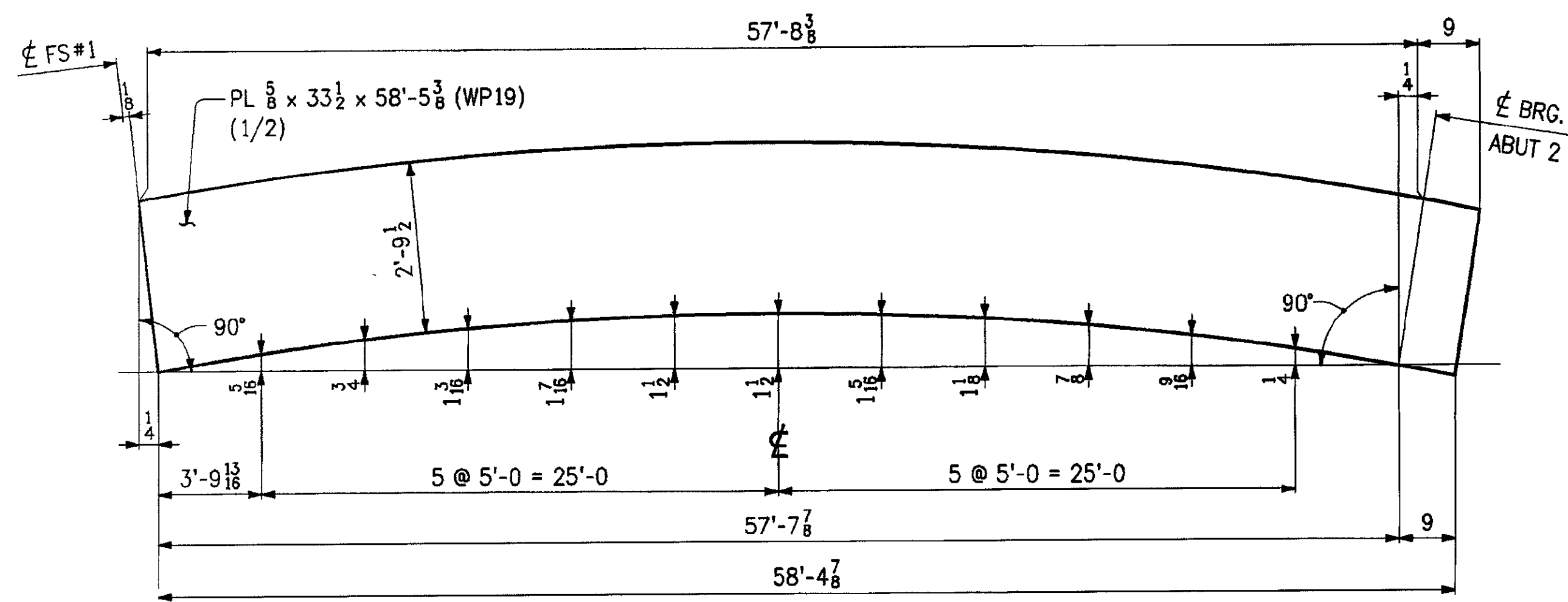
**RECEIVED**  
 OK'D BY: *JTL* OK'D BY: *KMH*  
 JUN 10 2009  
 APPROVED BY: *KMH* DATE: 7/13/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	Appr.

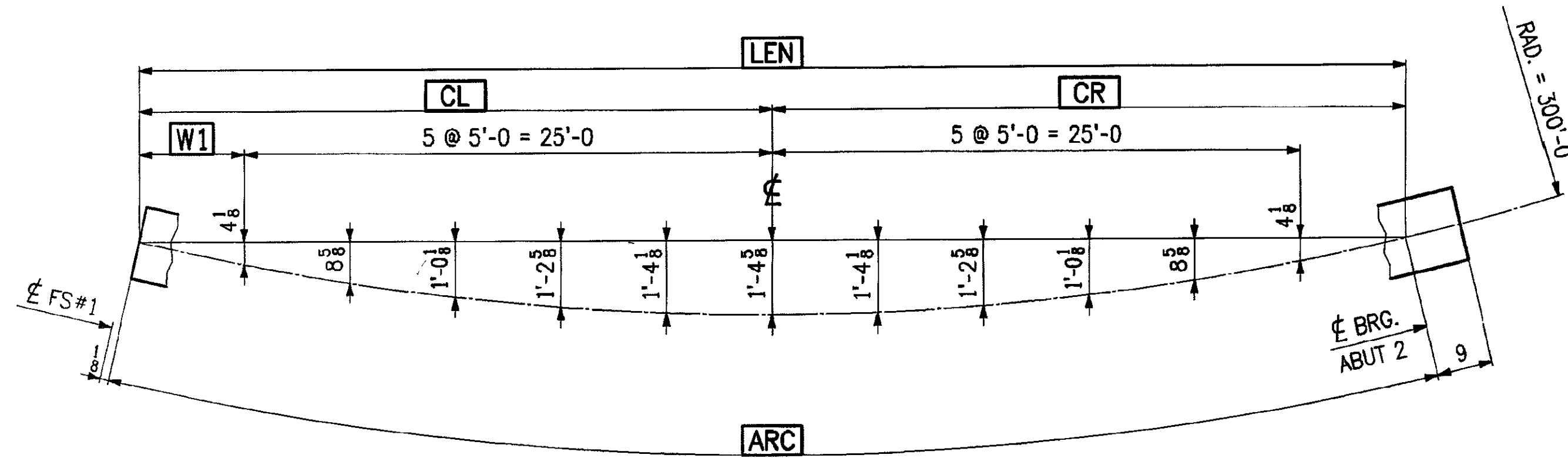
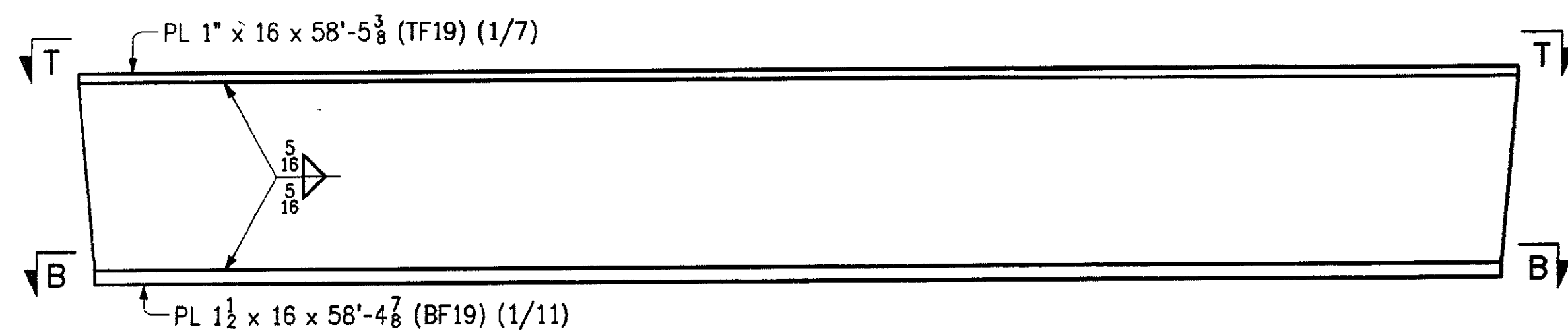
**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAIN	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		DRAWN BY RLK 5-22-09
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GCS
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP		JOB NO J-81
			SHT NO 6





WEB CUTTING DIAGRAM FOR 19G3B



LOCATION	ARC	LEN	CL	CR	W1
VIEW T-T	57'-8 3/8	57'-7 5/8	28'-9 5/8	28'-9 11/8	3'-9 5/8
SECT. B-B	57'-7 7/8	57'-6 13/8	28'-9 3/8	28'-9 7/8	3'-9 3/8

**NOTES:**

- FOR GENERAL NOTES, SEE DWG. GN1.
- ALL MATERIAL SHALL BE M270-50W (CVN).

Accepted	
Accepted as Noted	
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	
Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.	
By: <i>[Signature]</i>	DuBOIS AND KING
7/7/09	

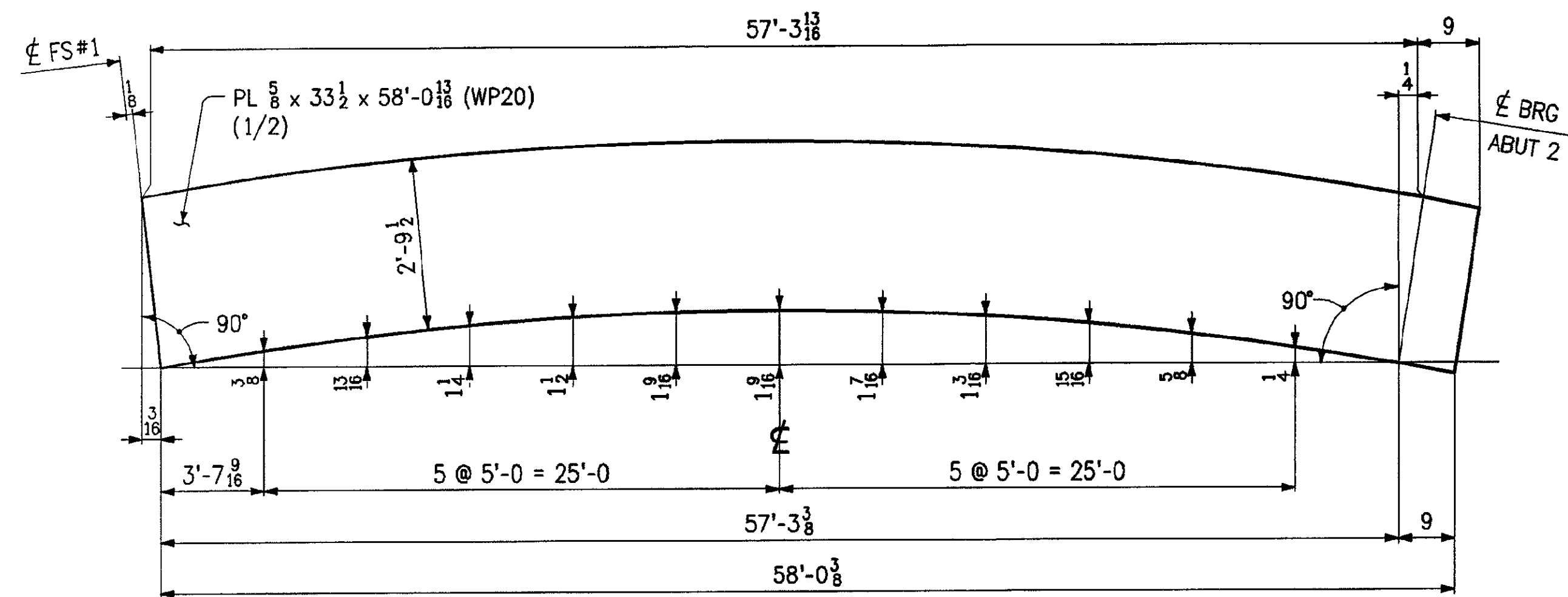
RECEIVED  
 OK'D BY: *[Signature]* OK'D BY: *[Signature]*  
 JUN 10 2009  
 APPROVED BY: *[Signature]*  
 BY: KMH DATE: 7/13/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	Appa

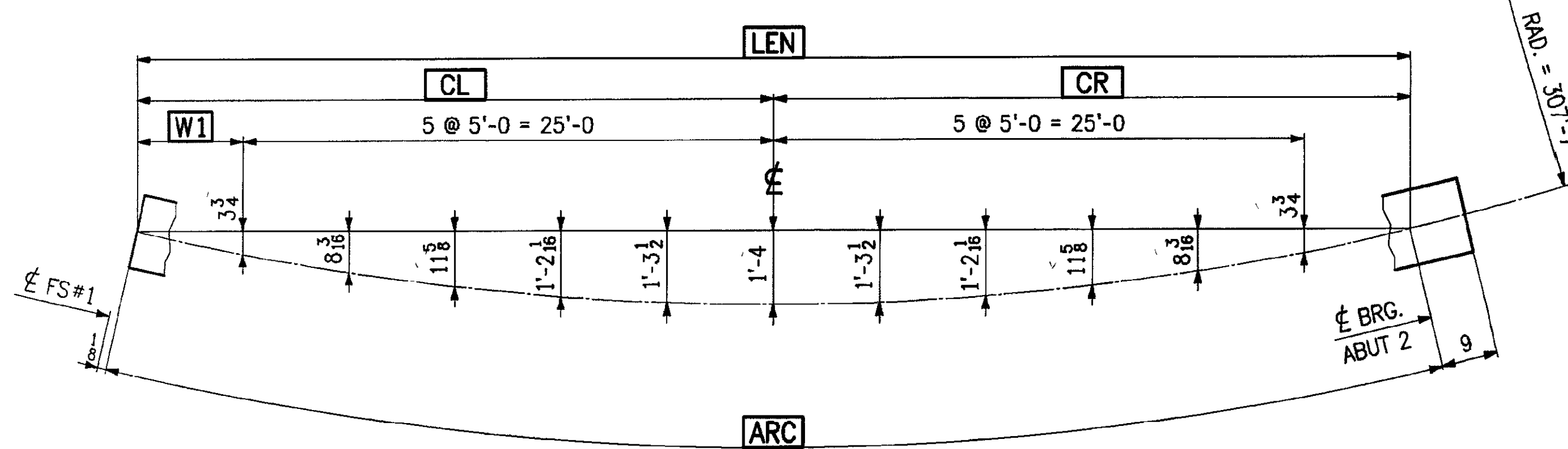
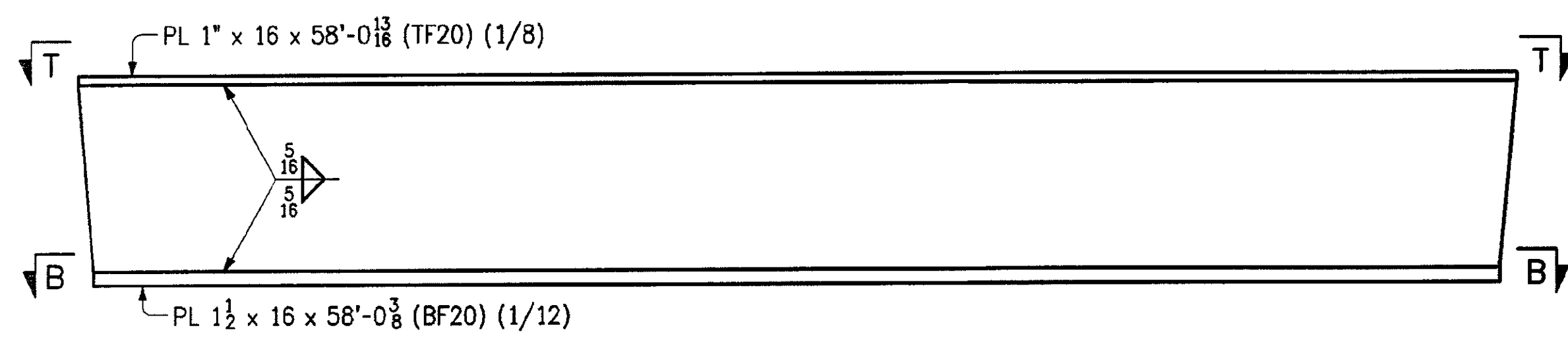
**MEGQUIER & JONES INC.**

STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO. 1 OVER THE GIHON RIVER PROJECT NO BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09
DESCRIPTION	CAMBER DIAGRAMS		DRAWN BY RLK 5-27-09
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP		JOB NO J-81
			SHT NO 8



WEB CUTTING DIAGRAM FOR 20G4B



LOCATION	ARC	LEN	CL	CR	W1
VIEW T-T	57'-3 1/8	57'-2 1/8	28'-7 3/8	28'-7 7/16	3'-7 3/8
SECT. B-B	57'-3 3/8	57'-2 3/8	28'-7 3/8	28'-7 3/16	3'-7 3/8

**NOTES:**

1. FOR GENERAL NOTES, SEE DWG. GN1
2. ALL MATERIAL SHALL BE M270-50W (CVN).

Accepted	✓
Accepted as Noted	
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

By *[Signature]* 7/7/09

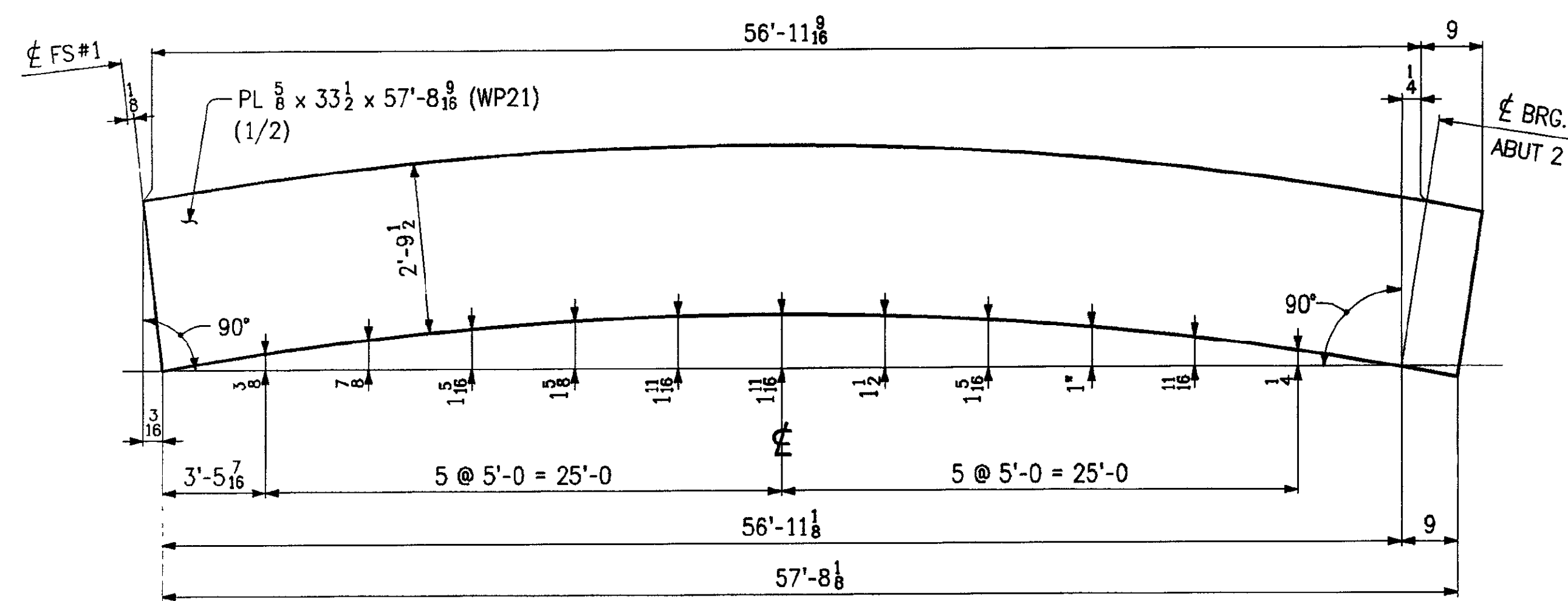
RECEIVED  
 OK'D BY SEL OK'D BY KMH  
 JUN 18 2009  
 APPROVED  
 BY KMH DATE 7/13/09

REVISIONS			PRINT RECORDED		
NO.	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	APP.

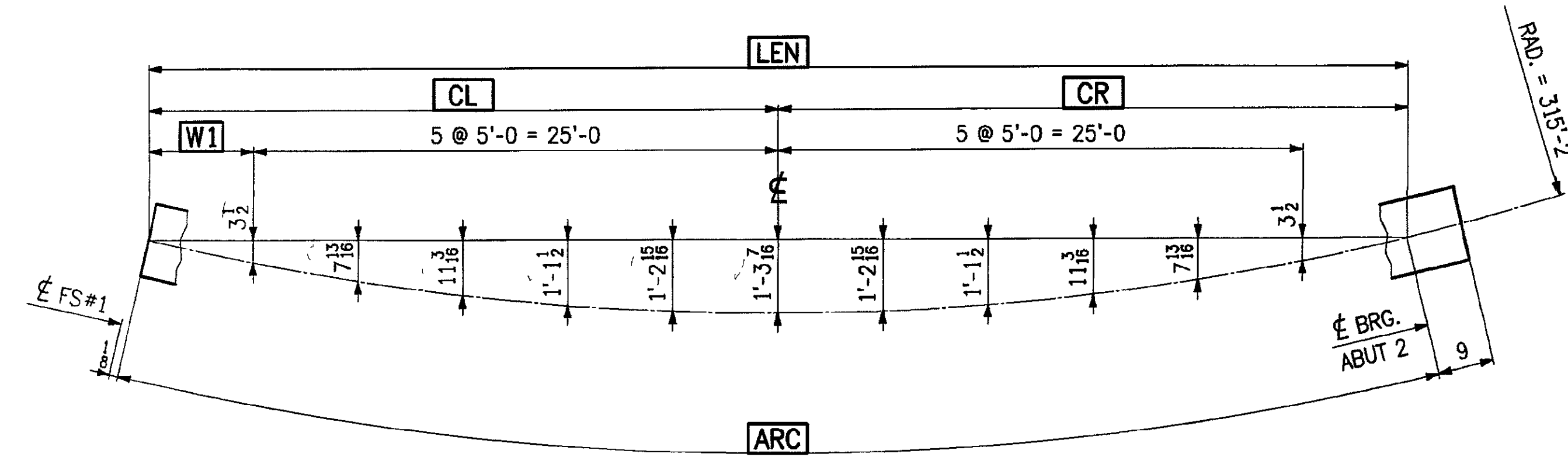
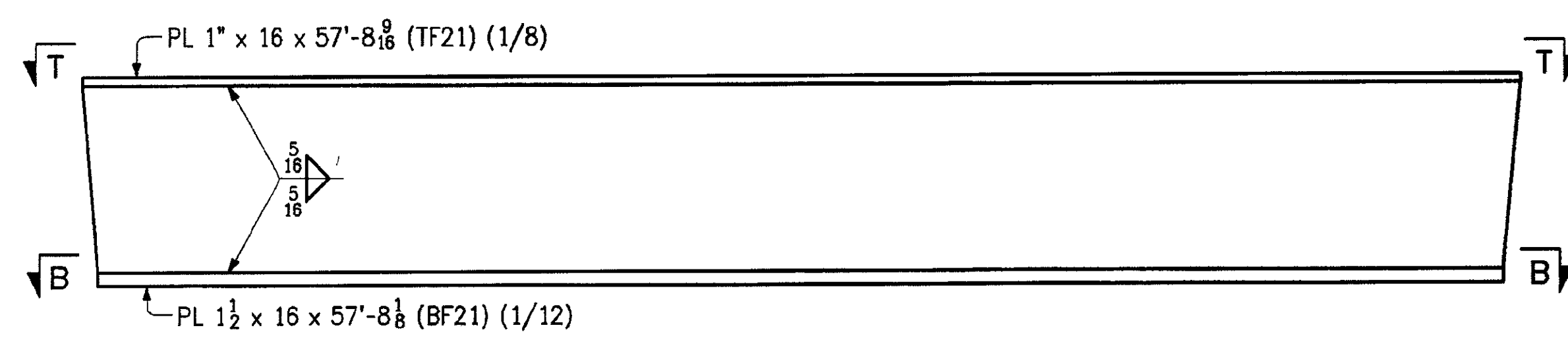
**MEGQUIER & JONES INC.**

STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-4-09 DRAWN BY RLK 5-27-09
DESCRIPTION	CAMBER DIAGRAMS		CHK'D BY GDC
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		SHT NO 9



WEB CUTTING DIAGRAM FOR 21G5B



LOCATION	ARC	LEN	CL	CR	W1
VIEW T-T	56'-11 8/16	56'-10 5/8	28'-5 5/16	28'-5 5/16	3'-5 5/16
SECT. B-B	56'-11 1/8	56'-10 3/16	28'-5 1/8	28'-5 1/8	3'-5 1/8

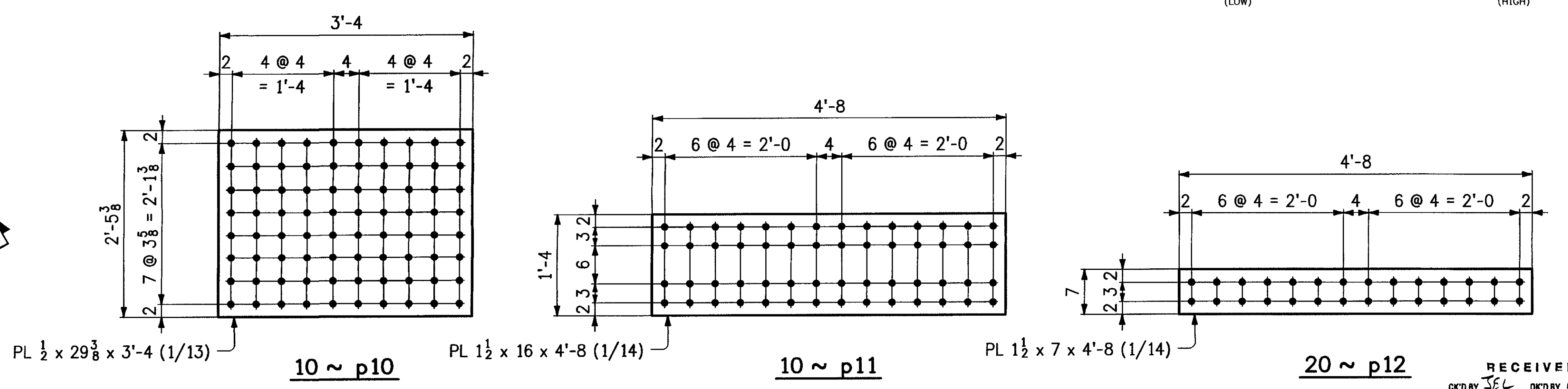
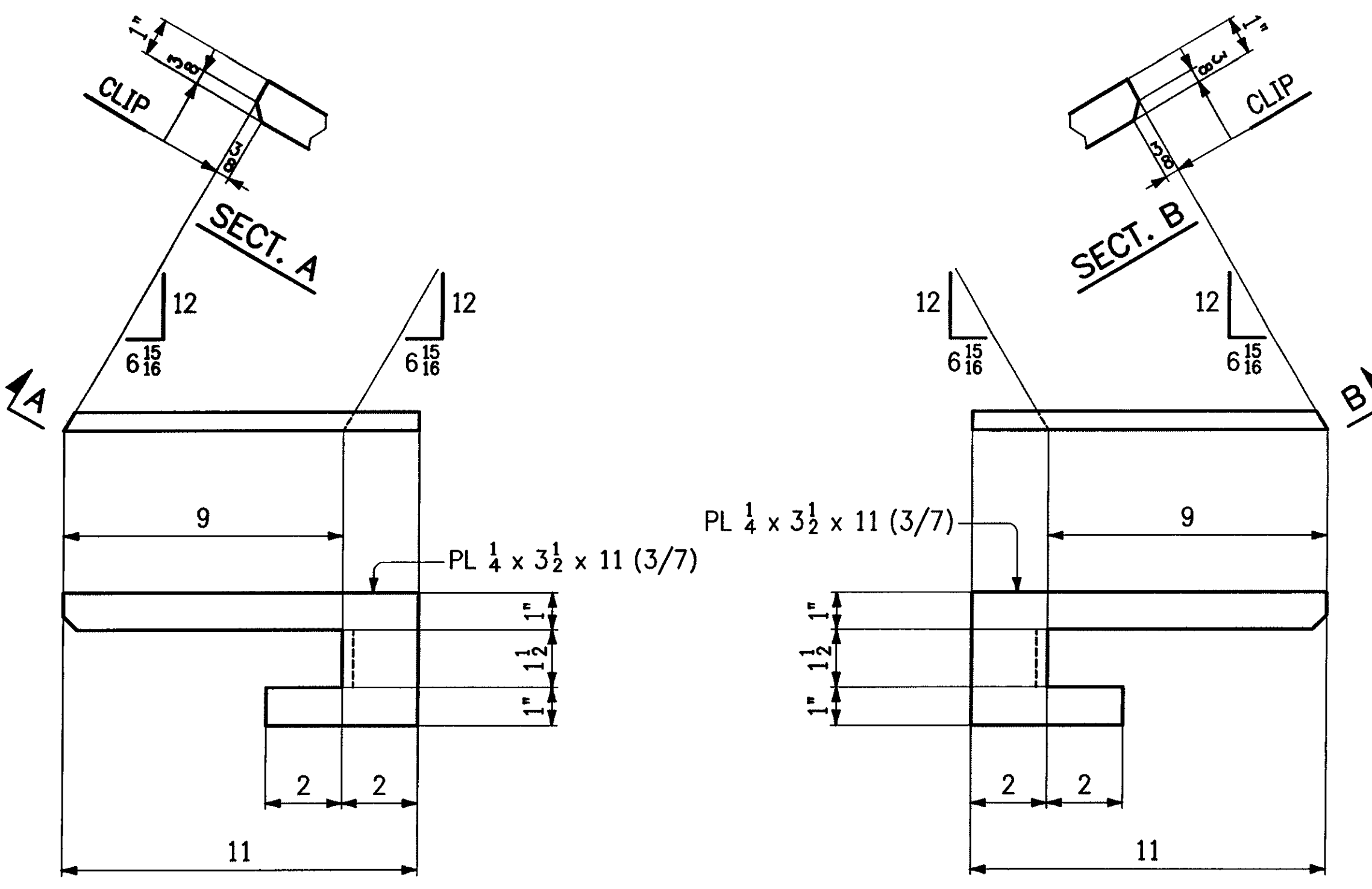
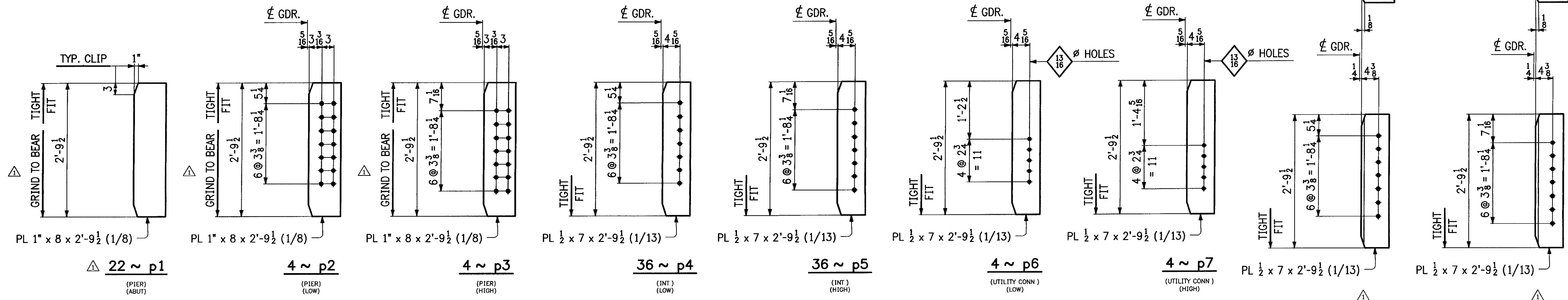
**NOTES:**

- FOR GENERAL NOTES, SEE DWG. GN1.
- ALL MATERIAL SHALL BE M270-50W (CVN).

Accepted	
Accepted as Noted	
Accepted Noted Resubmit	
Rejected, Revise Resubmit	
Rejected - Unacceptable	
Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.	
By: <i>[Signature]</i>	DUBOIS AND KING

RECEIVED  
 OK'D BY *JFC* OK'D BY *Kraak*  
 JUN 18 2009  
 APPROVED *[Signature]*  
 BY *KMMH* DATE 7/1/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6-15	E	Appr.
<b>MEGQUIER &amp; JONES INC.</b> STRUCTURAL STEEL SINCE 1895 1156 BROADWAY SOUTH PORTLAND, MAINE 04106					
PAINT	HOLES U N	WELD U N	Q C REVIEW		
PROJECT TH NO.1 OVER THE GIRON RIVER PROJECT NO BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-4-09 DRAWN BY <i>RLK</i> 5-27-09		
DESCRIPTION CAMBER DIAGRAMS			CHK'D BY <i>EGC</i>		
ARCH. N/A	ENGR VERMONT AGENCY OF TRANSPORTATION		JOB NO J-81		
CUSTOMER S.D. IRELAND CONCRETE CONSTRUCTION CORP.			SHT NO 10		



2 ~ DRIP BARS ~ p8 (LINE 1)  
2 ~ DRIP BARS ~ p9 (LINE 5)

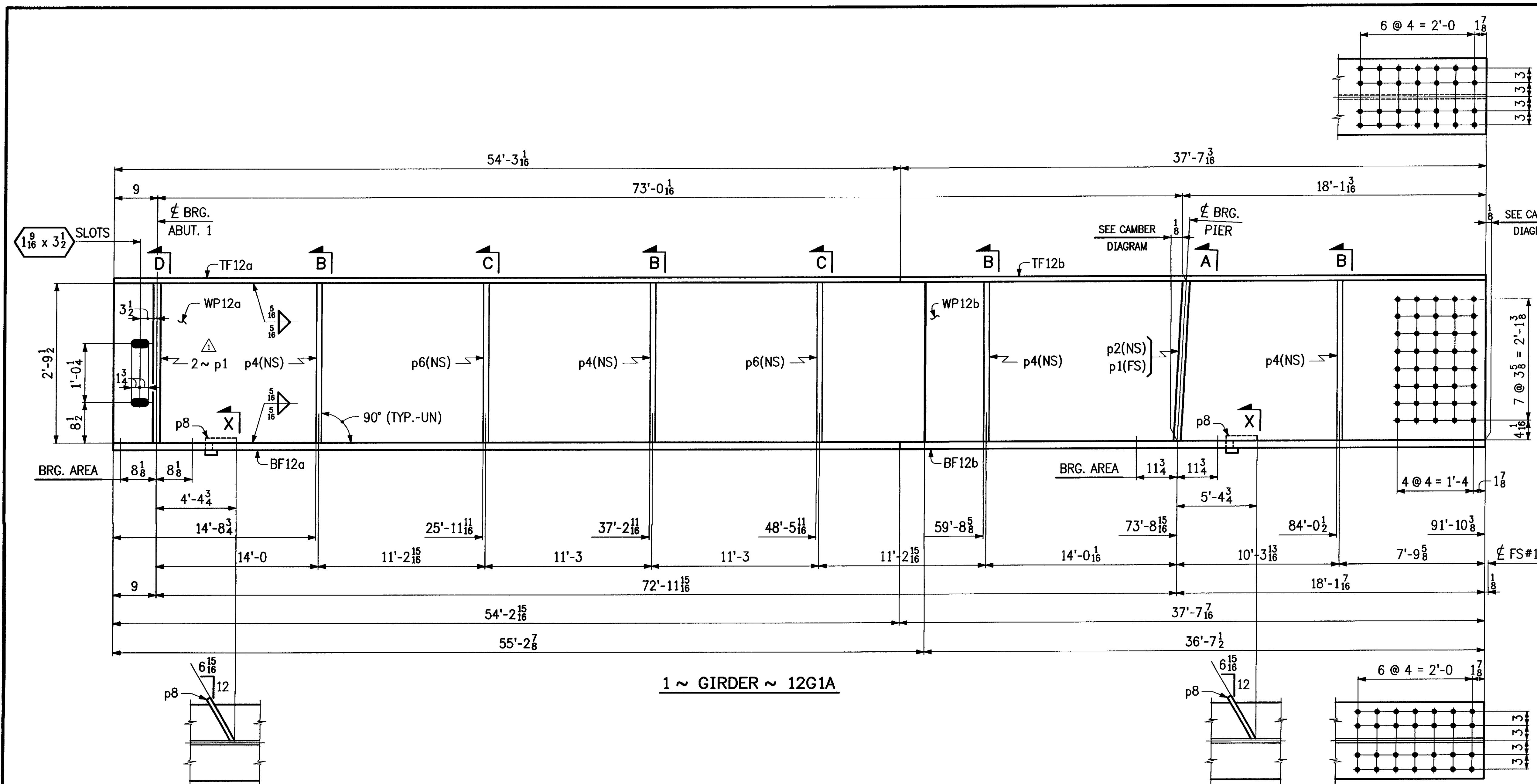
- NOTES:**
- FOR GENERAL NOTES SEE SHT. GN1
  - MATERIAL: M270-50W.

RECEIVED  
 OK'D BY *TEL* OK'D BY *KMM*  
 JUL 20 2009  
 APPROVED   
 BY *KMM* DATE 7/21/09

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	Sp	Appr.
7-14-09 ADDED CONN. PL'S, REV QUANTITIES & REV. TO "GRIND TO BEAR".					

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAIN	HOLES U N 15/16 Ø	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09
DESCRIPTION	GIRDER STANDARDS		CHK'D BY GDC
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		SHT NO 11



BILL OF MATERIAL							
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		REMARKS	PAGE LINE
				FT	IN		
12G1A	1		GIRDER				
	1	WP12a	PL 5/8 x 33 1/2	55	3 1/8	(CVN)	1 1
	1	WP12b	PL 5/8 x 33 1/2	36	7 1/2	(CVN)	1 3
	1	TF12a	PL 1 x 16	54	3 1/8	(CVN)	1 5
	1	TF12b	PL 1 x 16	37	7 1/8	(CVN)	1 6
	1	BF12a	PL 1 1/2 x 16	54	2 1/8	(CVN)	1 9
	1	BF12b	PL 1 1/2 x 16	37	7 1/8	(CVN)	1 10
	3	p1	PL 1 x 8	2	9 1/2	(CVN)	1 8
	1	p2	PL 1 x 8	2	9 1/2	(CVN)	1 8
	4	p4	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2	p6	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2	p8	PL 1/4 x 3 1/2	0	11		3 7

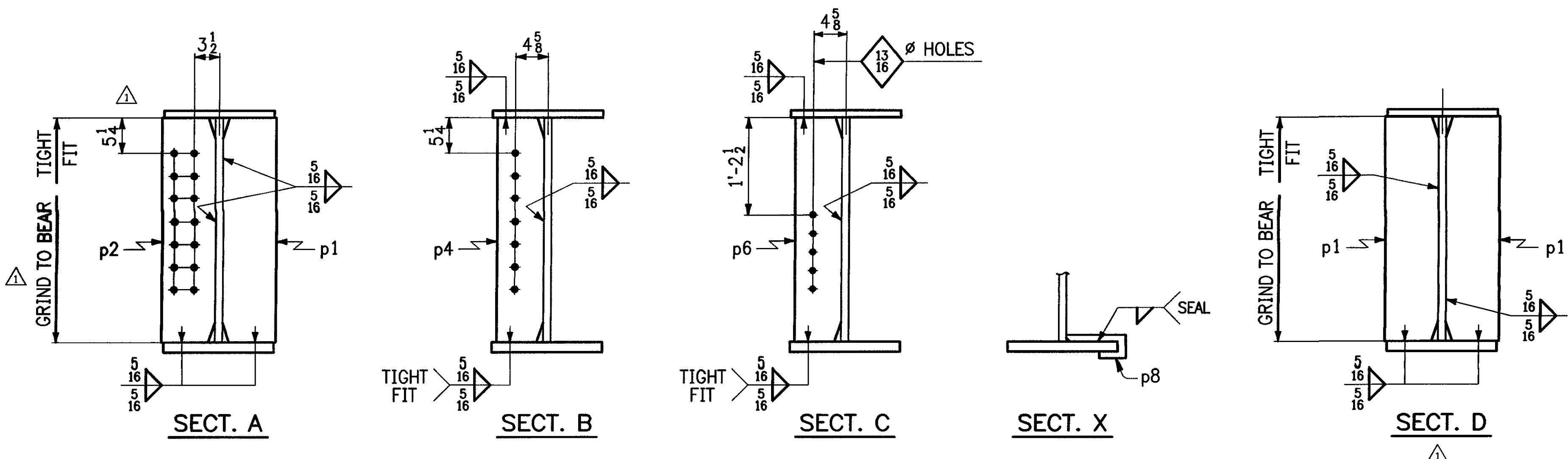
RECEIVED  
 OK'D BY JFL OK'D BY EMM  
 JUL 23 2009  
 R. CUMMINS APPROVED  
 BY EMM DATE 7/21/09

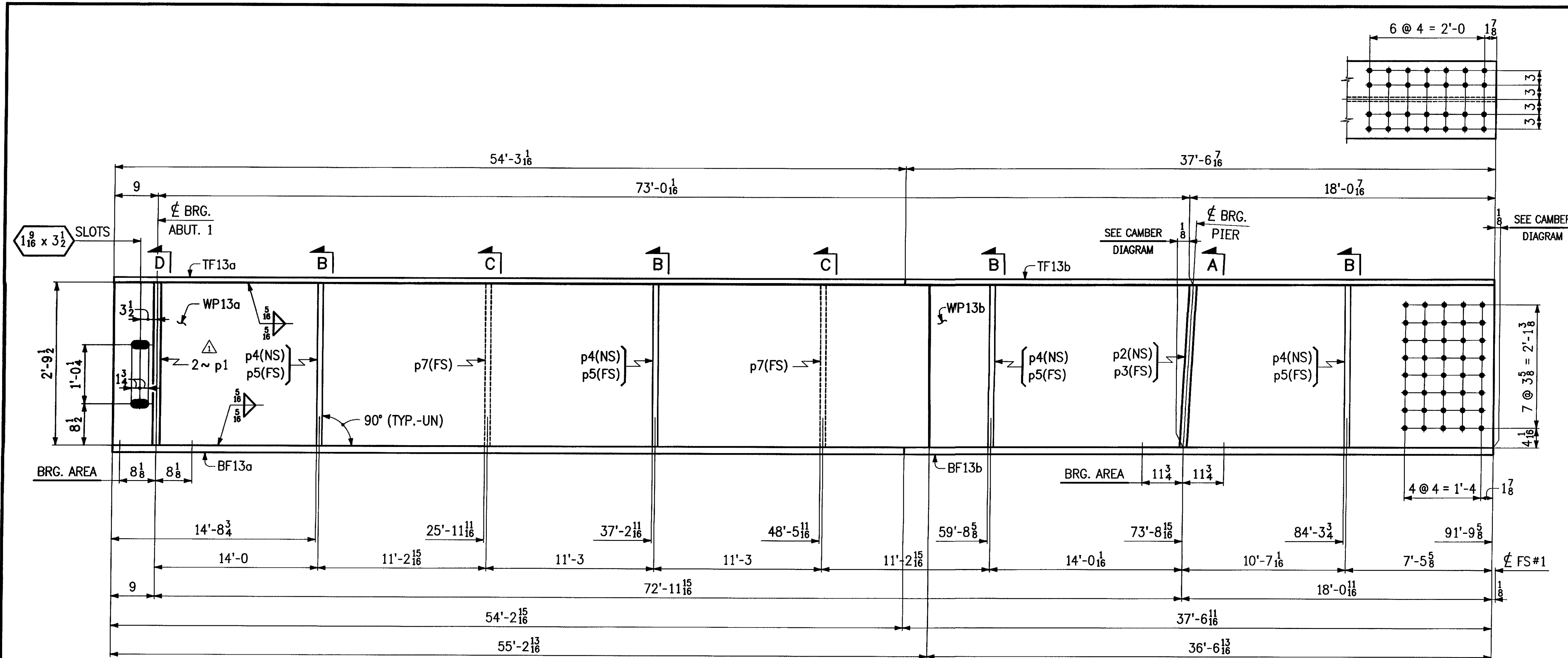
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	Sp	Appr
7-14-09		ADDED BRG STIFFS @ ABUT, ADDED SECT D, REMOVED WELD & REV TO GRIND TO BEAR IN SECT A			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N.	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION	GIRDER ~ 12G1A			CHK'D BY GDC
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			SHT NO 12

- NOTES:**
- FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SHT. NO. 1.
  - FOR GENERAL NOTES, SEE SHT. NO. GN1.

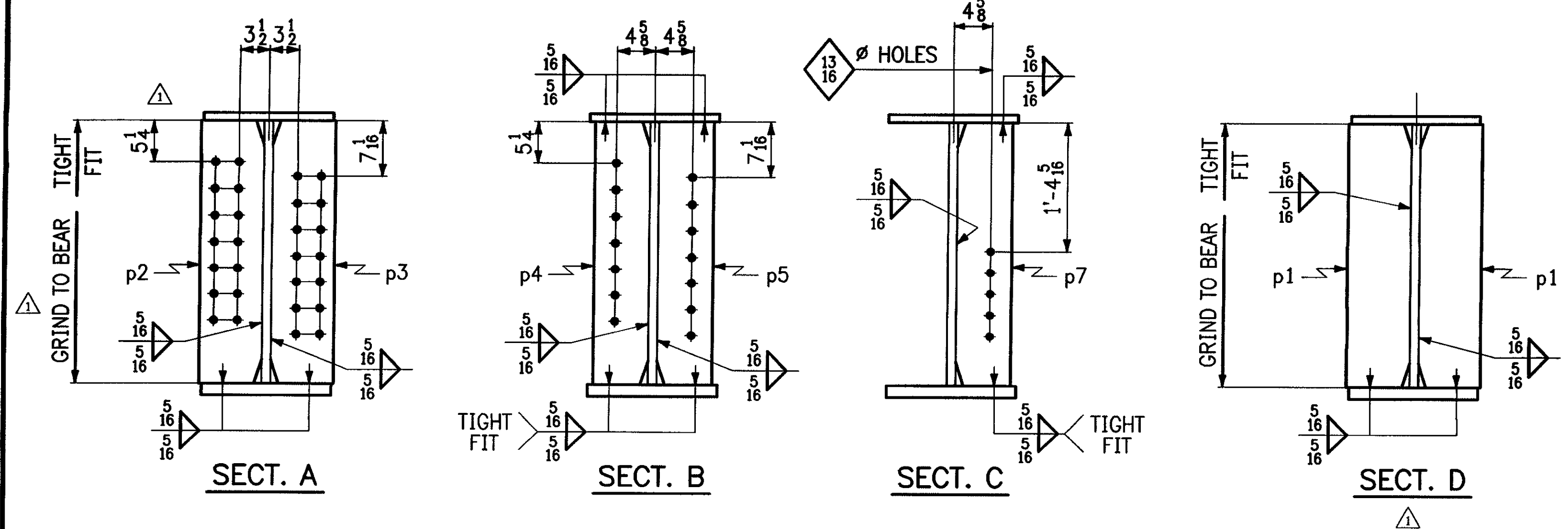




1 ~ GIRDER ~ 13G2A

BILL OF MATERIAL						
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH FT	IN	PAGE LINE
13G2A	1		GIRDER			
	1	WP13a	PL 5/8 x 33 1/2	55	3 1/8	(CVN) 1/1
	1	WP13b	PL 5/8 x 33 1/2	36	6 1/8	(CVN) 1/4
	1	TF13a	PL 1 x 16	54	3 1/8	(CVN) 1/5
	1	TF13b	PL 1 x 16	37	6 1/8	(CVN) 1/6
	1	BF13a	PL 1 1/2 x 16	54	2 1/8	(CVN) 1/9
	1	BF13b	PL 1 1/2 x 16	37	6 1/8	(CVN) 1/10
	1	p2	PL 1 x 8	2	9 1/2	(CVN) 1/8
	1	p3	PL 1 x 8	2	9 1/2	(CVN) 1/8
	4	p4	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	4	p5	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2	p7	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2	p1	PL 1 x 8	2	9 1/2	(CVN) 1/8

RECEIVED  
 OK'D BY JFL OK'D BY KMH  
 JUL 23 2009  
 R. L. JONES APPROVED  
 BY KMH DATE 7/21/09

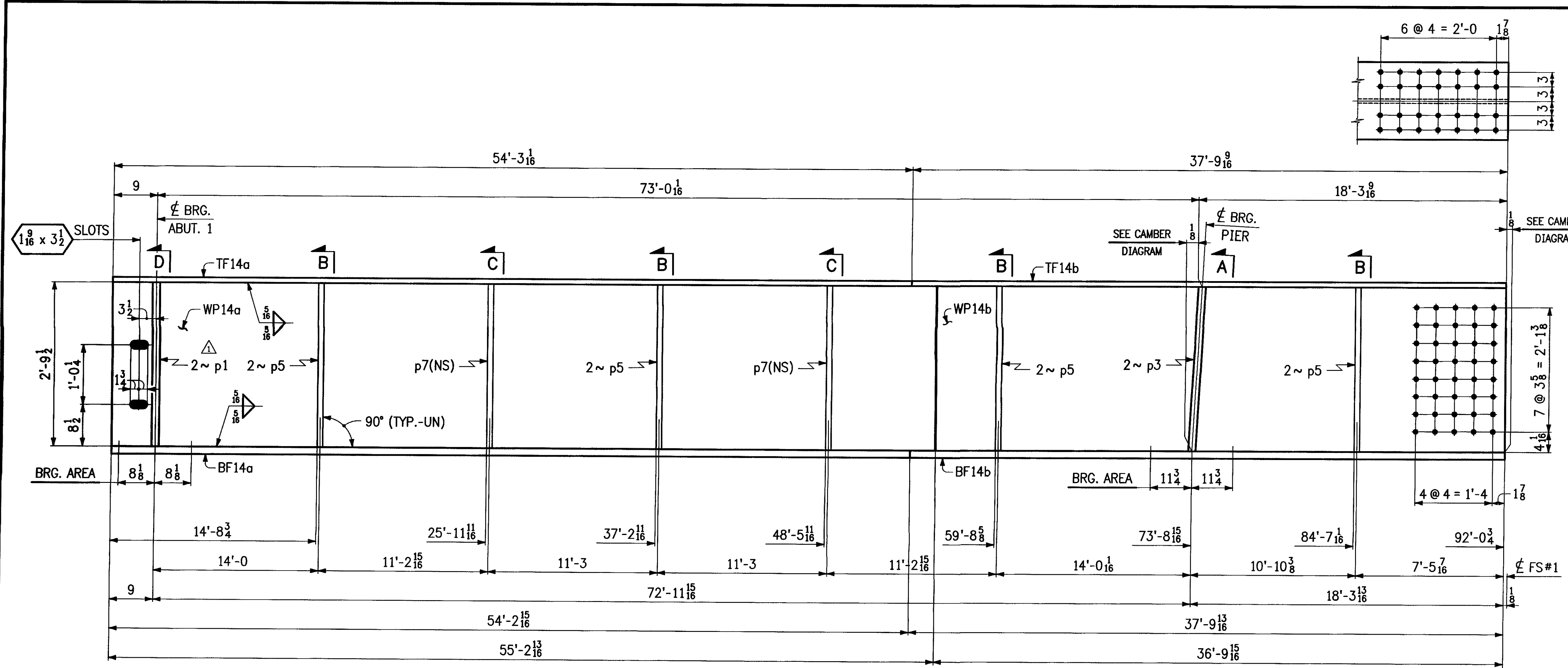


- NOTES:
1. FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  2. FOR CAMBER DIAGRAM, SEE SHT. NO. 2.
  2. FOR GENERAL NOTES, SEE SHT. NO. GN1.

REVISIONS		PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY ISSUED
			7-10	Sp Appr.
7-14-09		ADDED BRG STIFFS @ ABUT, ADDED SECT D, REMOVED WELD & REV TO GRIND TO BEAR IN SECT. A		

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

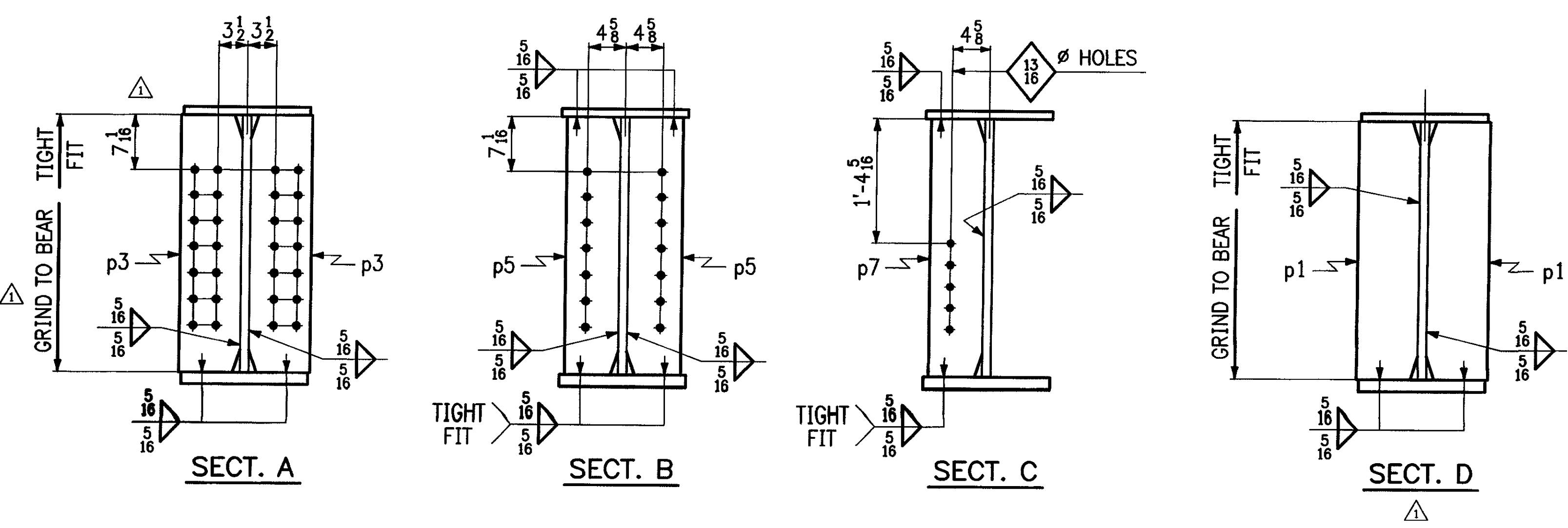
PAINT	SSPC-SP10	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION	GIRDER ~ 13G2A			DRAWN BY RLK
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			JOB NO J-81
				SHIT NO 13



BILL OF MATERIAL							
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		REMARKS	PAGE LINE
				FT	IN		
14G3A	1		GIRDER				
	1	WP14a	PL 5/8 x 33 1/2	55	3 1/8	(CVN)	1 1
	1	WP14b	PL 5/8 x 33 1/2	36	9 1/8	(CVN)	1 3
	1	TF14a	PL 1 x 16	54	3 1/8	(CVN)	1 5
	1	TF14b	PL 1 x 16	37	9 1/8	(CVN)	1 6
	1	BF14a	PL 1 1/2 x 16	54	2 1/8	(CVN)	1 9
	1	BF14b	PL 1 1/2 x 16	37	9 1/8	(CVN)	1 10
	2	p3	PL 1 x 8	2	9 1/2	(CVN)	1 8
	8	p5	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2	p7	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2	p1	PL 1 x 8	2	9 1/2	(CVN)	1 8

RECEIVED  
 OK'D BY JCL OK'D BY KMM  
 JUL 22 2009  
 R. J. C. APPROVED ✓  
 BY KMM DATE 7/21/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
7-14-09		ADDED BRG STIFFS @ ABUT, ADDED SECT D, REMOVED WELD & REV TO GRIND TO BEAR IN SECT A		Sp	Appr.

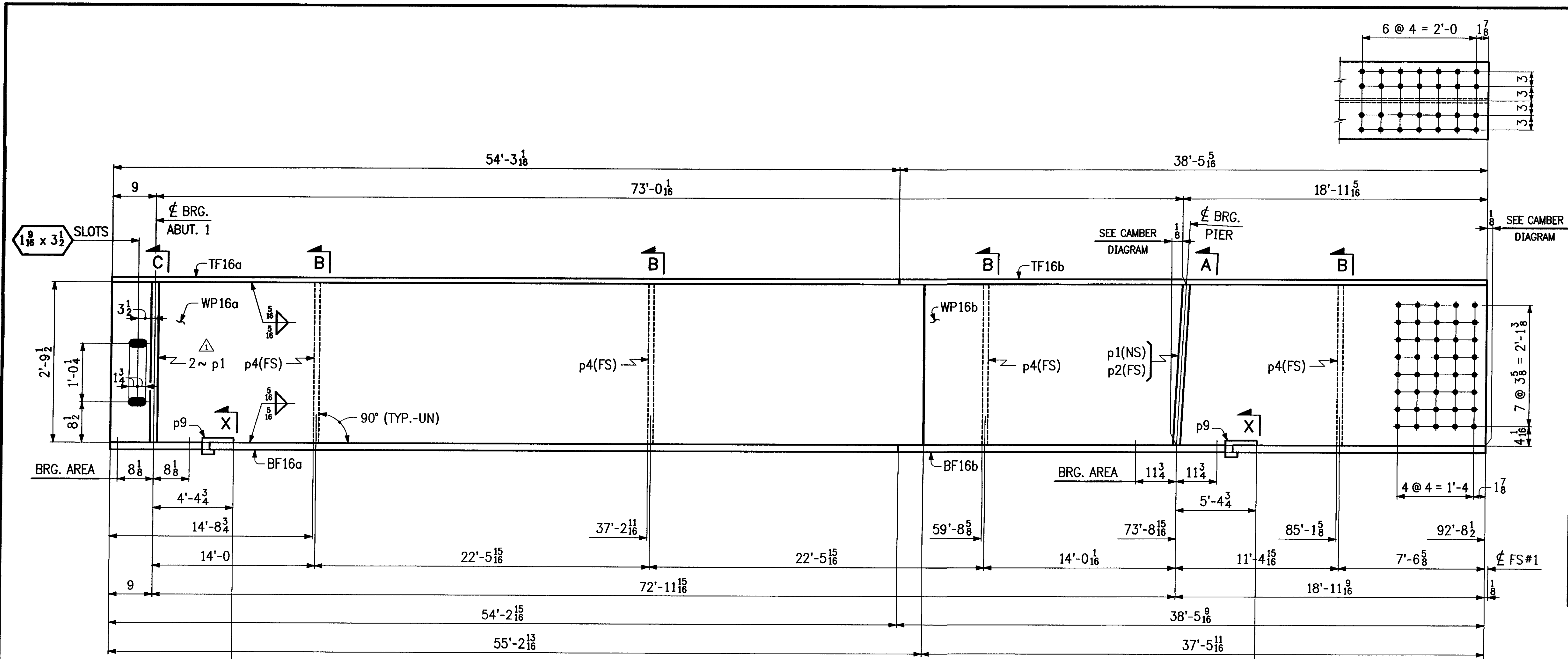


- NOTES:
1. FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  2. FOR CAMBER DIAGRAM, SEE SHT. NO. 3.
  2. FOR GENERAL NOTES, SEE SHT. NO. GN1.

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N	Q.C. REVIEW
PROJECT	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION	GIRDER ~ 14G3A			DRAWN BY RLK
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			JOB NO J-81
				SHT NO 14





BILL OF MATERIAL							
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		REMARKS	PAGE LINE
				FT	IN		
16G5A	1		GIRDER				
	1	WP16a	PL 5/8 x 33 1/2	55	3 1/8	(CVN)	1 2
	1	WP16b	PL 5/8 x 33 1/2	37	5 11/16	(CVN)	1 3
	1	TF16a	PL 1 x 16	54	3 1/8	(CVN)	1 5
	1	TF16b	PL 1 x 16	38	5 1/8	(CVN)	1 6
	1	BF16a	PL 1 1/2 x 16	54	2 15/16	(CVN)	1 9
	1	BF16b	PL 1 1/2 x 16	38	5 9/16	(CVN)	1 10
	3	p1	PL 1 x 8	2	9 1/2	(CVN)	1 8
	1	p2	PL 1 x 8	2	9 1/2	(CVN)	1 8
	4	p4	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2	p9	PL 1/4 x 3 1/2	0	11		3 7

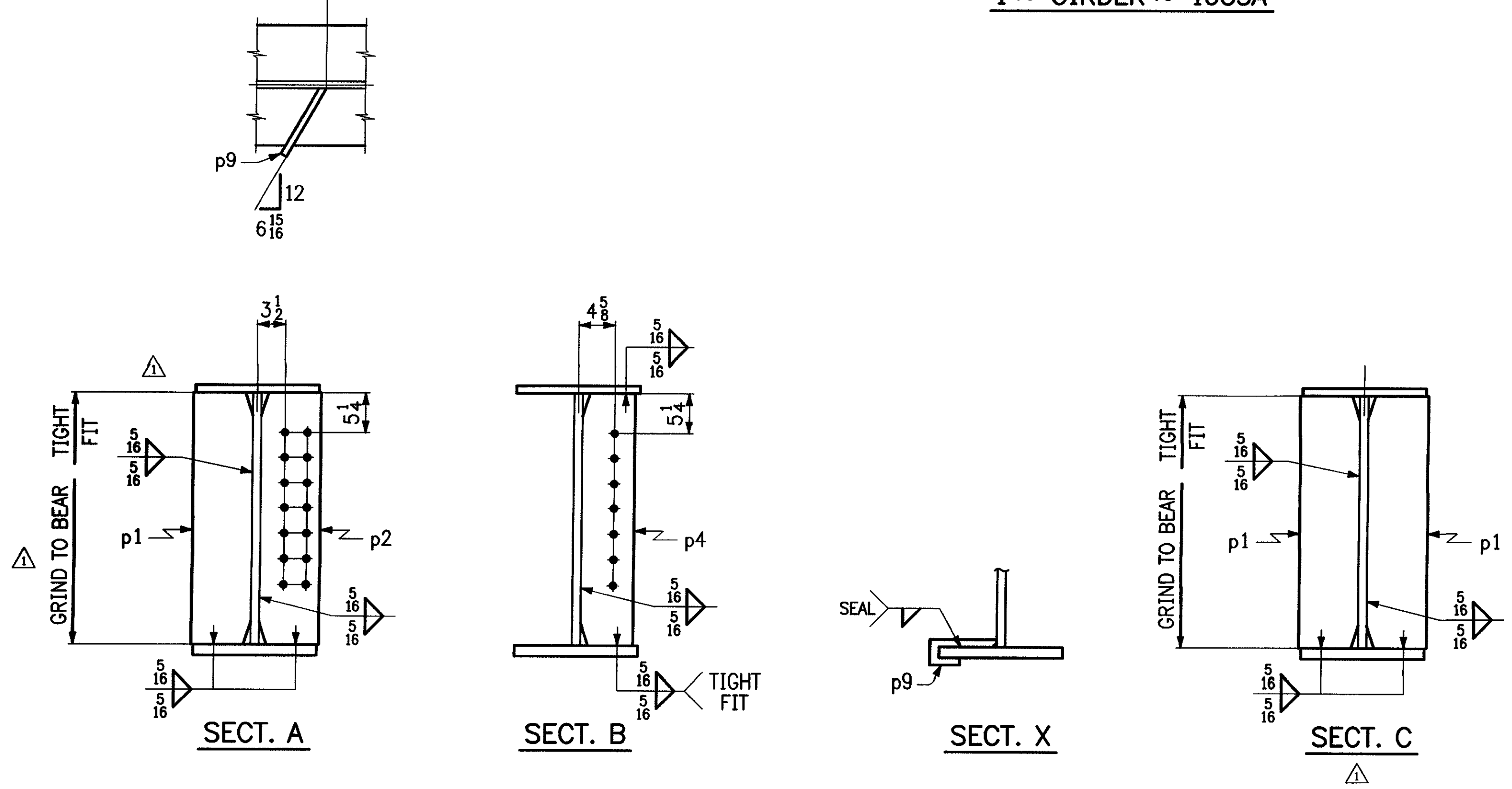
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 OK'D BY *JFL* OK'D BY *KMH*  
 JUL 23 2011  
 R. S. Smith APPROVED  
 BY *KMH* DATE 7/21/11

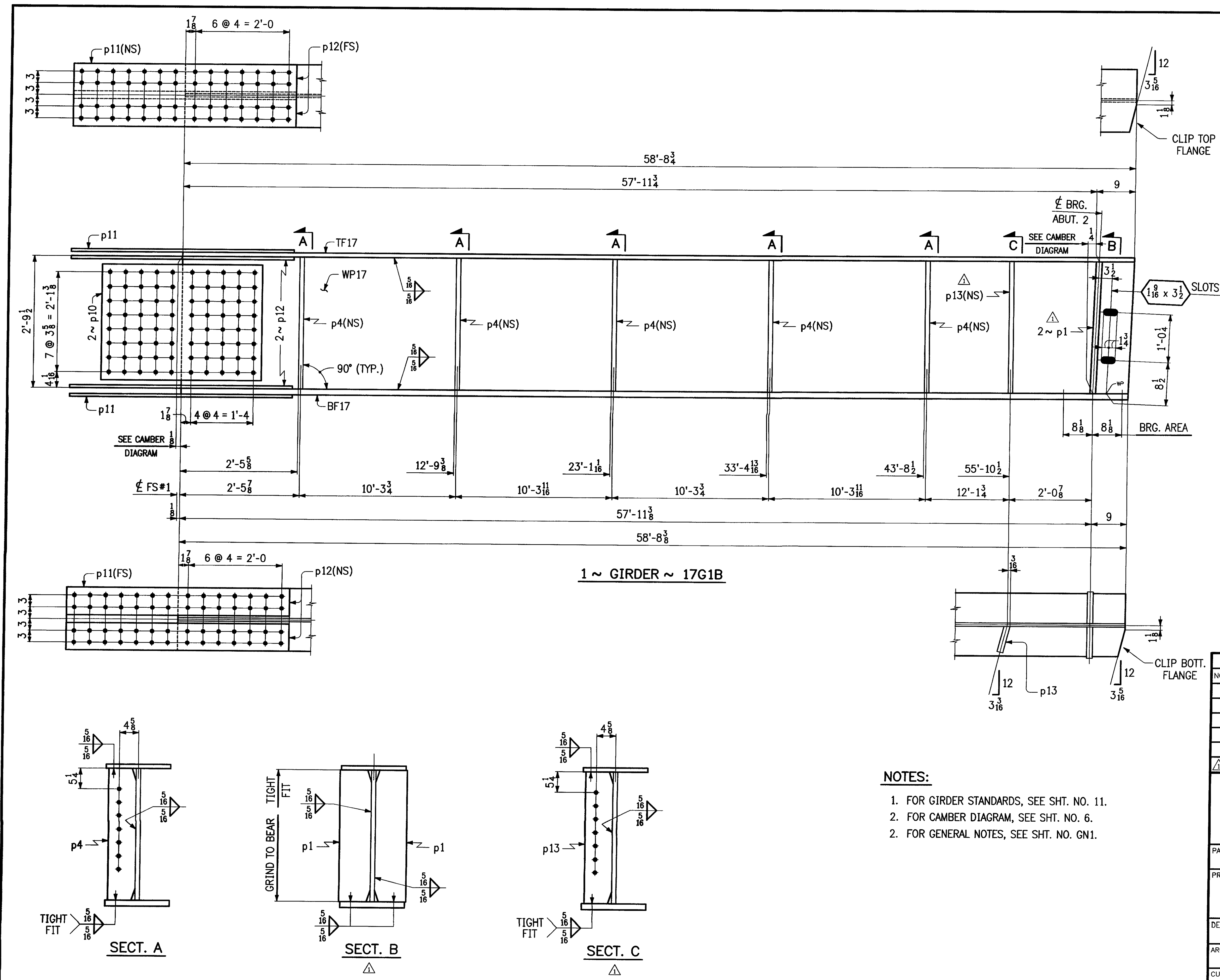
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	Sp	Appa.
7-14-09		REV LENGTH FOR p9, ADDED BRG STIFFS @ ABUT, ADDED SECT C, REMOVED WELD & REV TO GRIND TO BEAR IN SECT A			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION	GIRDER ~ 16G5A			DRAWN BY RLK
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			JOB NO J-81
				SHT NO 16

- NOTES:**
- FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SHT. NO. 5.
  - FOR GENERAL NOTES, SEE SHT. NO. GN1.





BILL OF MATERIAL						
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		PAGE LINE
				FT	IN	
17G1B	1		GIRDER			
	1	WP17	PL 5/8 x 33 1/2	58	8 3/4	(CVN) 1/2
	1	TF17	PL 1 x 16	58	8 3/4	(CVN) 1/7
	1	BF17	PL 1 1/2 x 16	58	8 3/4	(CVN) 1/11
	2	p10	PL 1/2 x 29 3/8	3	4	(CVN) 1/13
	2	p11	PL 1 1/2 x 16	4	8	(CVN) 1/14
	4	p12	PL 1 1/2 x 7	4	8	(CVN) 1/14
	2	p1	PL 1 x 8	2	9 1/2	(CVN) 1/8
	1	p13	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	5	p4	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2		3/8 MB	0	3	A307, W/NUT 4/2
	4		3/8 MB	0	5 1/2	A307, W/NUT 4/3
	4		3/8 MB	0	6	A307, W/NUT 4/4
	10		3/8 WASHER			A307 4/5

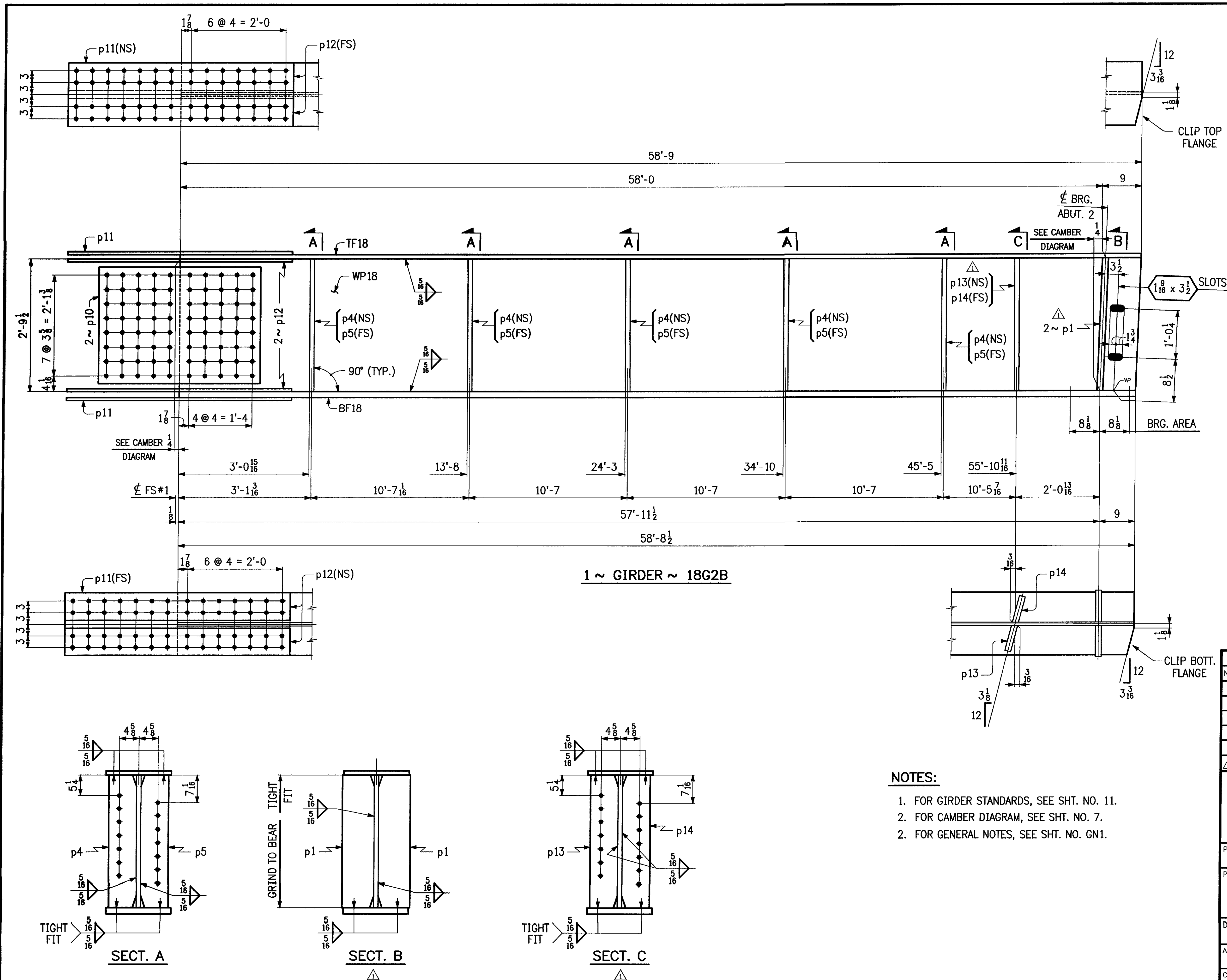
RECEIVED  
 CHK'D BY *JEL* OK'D BY *KMH*  
 JUL 23 2011  
 R. J. G. H. T. APPROVED  
 BY *KMH* DATE 7/21/10

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5P	Appa.
7-14-09		ADDED BRG STIFFS & CONN PLS @ ABUT, ADDED SECTS B & C,			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N	Q C. REVIEW
PROJECT	TH NO.1 OVER THE GIBON RIVER BRIDGE NO. 5 PROJECT NO. BHO 1448 (29) TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION	GIRDER ~ 17G1B			DRAWN BY RLK
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			JOB NO J-81
				SHT NO 17

- NOTES:**
- FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SHT. NO. 6.
  - FOR GENERAL NOTES, SEE SHT. NO. GN1.



BILL OF MATERIAL						
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH FT	IN	PAGE LINE
18G2B	1		GIRDER			
	1	WP18	PL 5/8 x 33 1/2	58	9	(CVN) 1/2
	1	TF18	PL 1 x 16	58	9	(CVN) 1/7
	1	BF18	PL 1 1/2 x 16	58	8 1/2	(CVN) 1/11
	2	p10	PL 1/2 x 29 3/8	3	4	(CVN) 1/13
	2	p11	PL 1 1/2 x 16	4	8	(CVN) 1/14
	4	p12	PL 1 1/2 x 7	4	8	(CVN) 1/14
	5	p4	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	5	p5	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2	p1	PL 1 x 8	2	9 1/2	(CVN) 1/8
	1	p13	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	1	p14	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2		3/8 MB	0	3	A307, W/NUT 4/2
	4		3/8 MB	0	5 1/2	A307, W/NUT 4/3
	4		3/8 MB	0	6	A307, W/NUT 4/4
	10		3/8 WASHER			A307 4/5

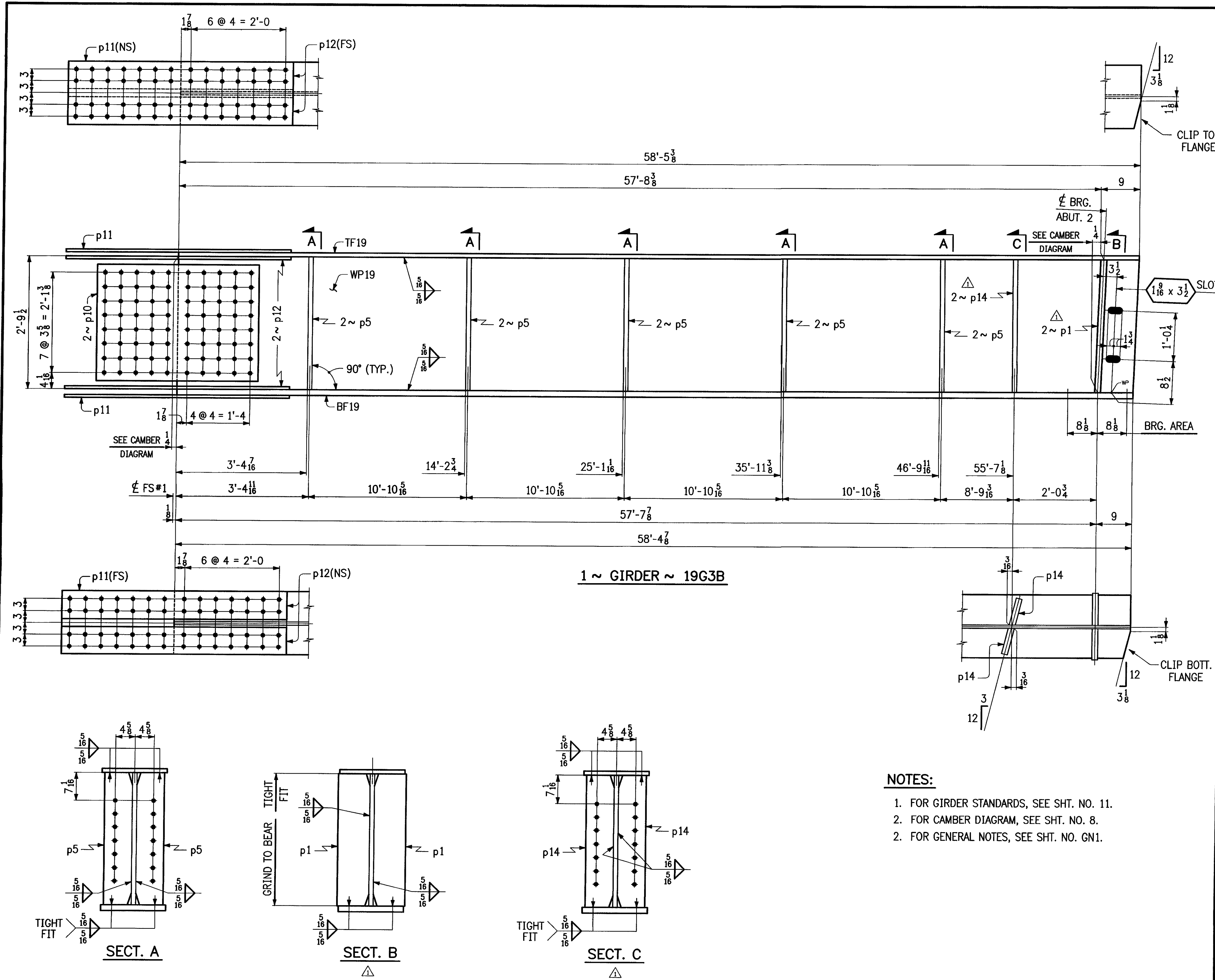
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 OK'D BY: JFL OK'D BY: KWH  
 JUL 23 2009  
 R.S. BY: KWH APPROVED: [Signature]  
 BY: KWH DATE: 7/21/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5p	Appr.
7-14-09		ADDED BRG STIFFS & CONN PL'S @ ABUT, ADDED SECTS B & C.			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09 DRAWN BY RLK
DESCRIPTION	GIRDER ~ 18G2B			CHK'D BY GDC
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			SHT NO 18

- NOTES:**
- FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SHT. NO. 7.
  - FOR GENERAL NOTES, SEE SHT. NO. GN1.



BILL OF MATERIAL						
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		REMARKS
				FT	IN	
19G3B	1		GIRDER			
	1	WP19	PL 3/8 x 33 1/2	58	5 3/8	(CVN)
	1	TF19	PL 1 x 16	58	5 3/8	(CVN)
	1	BF19	PL 1 1/2 x 16	58	4 7/8	(CVN)
	2	p10	PL 1/2 x 29 3/8	3	4	(CVN)
	2	p11	PL 1 1/2 x 16	4	8	(CVN)
	4	p12	PL 1 1/2 x 7	4	8	(CVN)
	10	p5	PL 1/2 x 7	2	9 1/2	(CVN)
	2	p1	PL 1 x 8	2	9 1/2	(CVN)
	2	p14	PL 1/2 x 7	2	9 1/2	(CVN)
	2		7/8 MB	0	3	A307, W/NUT
	4		7/8 MB	0	5 1/2	A307, W/NUT
	4		7/8 MB	0	6	A307, W/NUT
	10		7/8 WASHER			A307

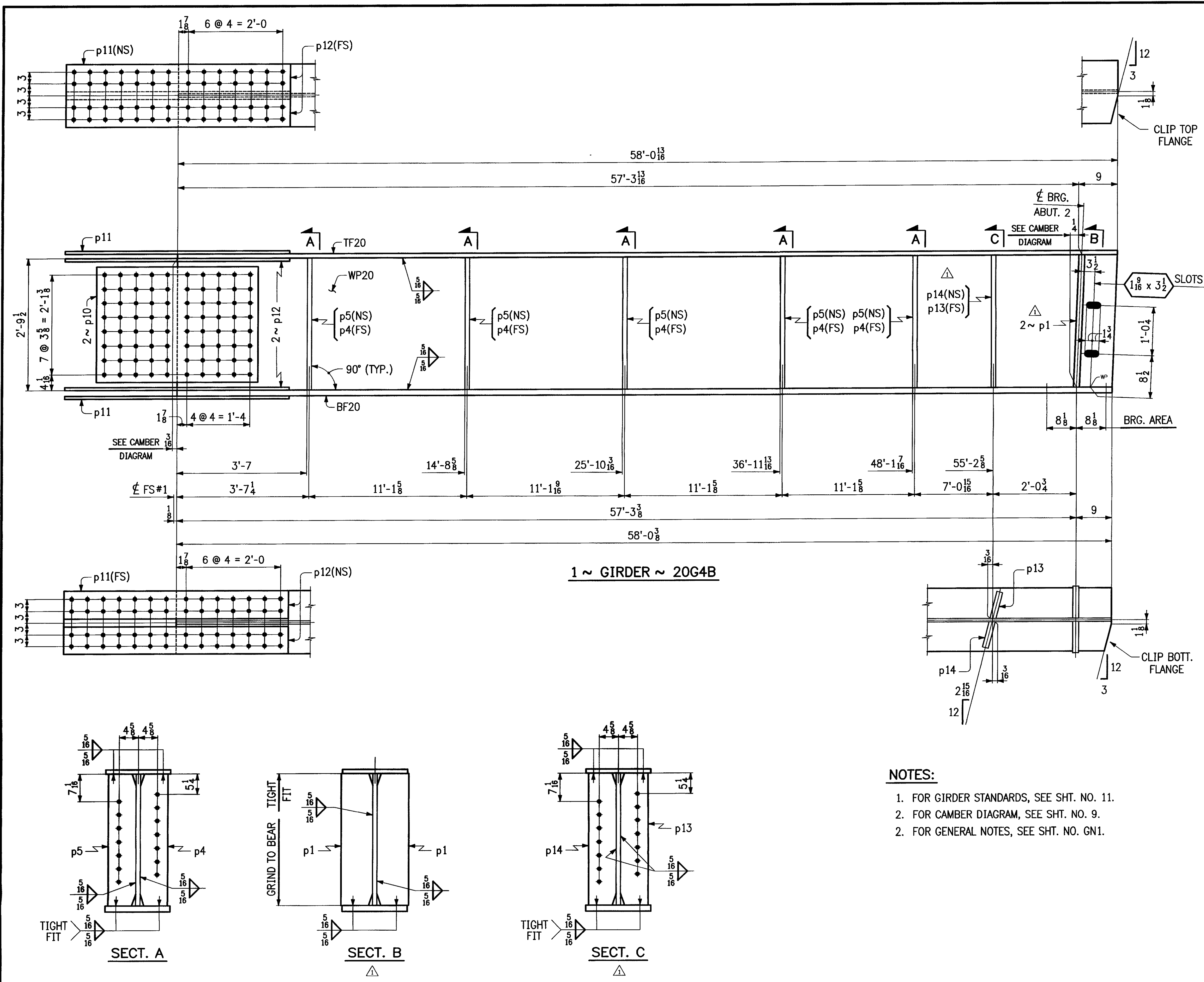
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 OK'D BY *[Signature]* OK'D BY *[Signature]*  
 JUL 23 2009  
 APPROVED *[Signature]*  
 BY *[Signature]* DATE 7/21/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5p	Appr.
7-14-09		ADDED BRG STIFFS & CONN PL'S @ ABUT, ADDED SECTS B & C.			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N	Q/C REVIEW
PROJECT	TH NO.1 OVER THE GIBON RIVER PROJECT NO. BHO 1448 (29) TOWN OF JOHNSON, VERMONT	15/16"		DATE 6-8-09 DRAWN BY RLK
DESCRIPTION	GIRDER ~ 19G3B			CHK'D BY GDC
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			SHT NO 19

- NOTES:**
- FOR GIRDER STANDARDS, SEE SH. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SH. NO. 8.
  - FOR GENERAL NOTES, SEE SH. NO. GN1.



BILL OF MATERIAL							
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		REMARKS	PAGE LINE
				FT	IN		
20G4B	1		GIRDER				
	1	WP20	PL 5/8 x 33 1/2	58	0 13/16	(CVN)	1 2
	1	TF20	PL 1 x 16	58	0 13/16	(CVN)	1 8
	1	BF20	PL 1 1/2 x 16	58	0 3/8	(CVN)	1 12
	2	p10	PL 1/2 x 29 3/8	3	4	(CVN)	1 13
	2	p11	PL 1 1/2 x 16	4	8	(CVN)	1 14
	4	p12	PL 1 1/2 x 7	4	8	(CVN)	1 14
	5	p4	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	5	p5	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2	p1	PL 1 x 8	2	9 1/2	(CVN)	1 8
	1	p13	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	1	p14	PL 1/2 x 7	2	9 1/2	(CVN)	1 13
	2		3/8 MB	0	3	A307, W/NUT	4 2
	4		3/8 MB	0	5 1/2	A307, W/NUT	4 3
	4		3/8 MB	0	6	A307, W/NUT	4 4
	10		3/8 WASHER			A307	4 5

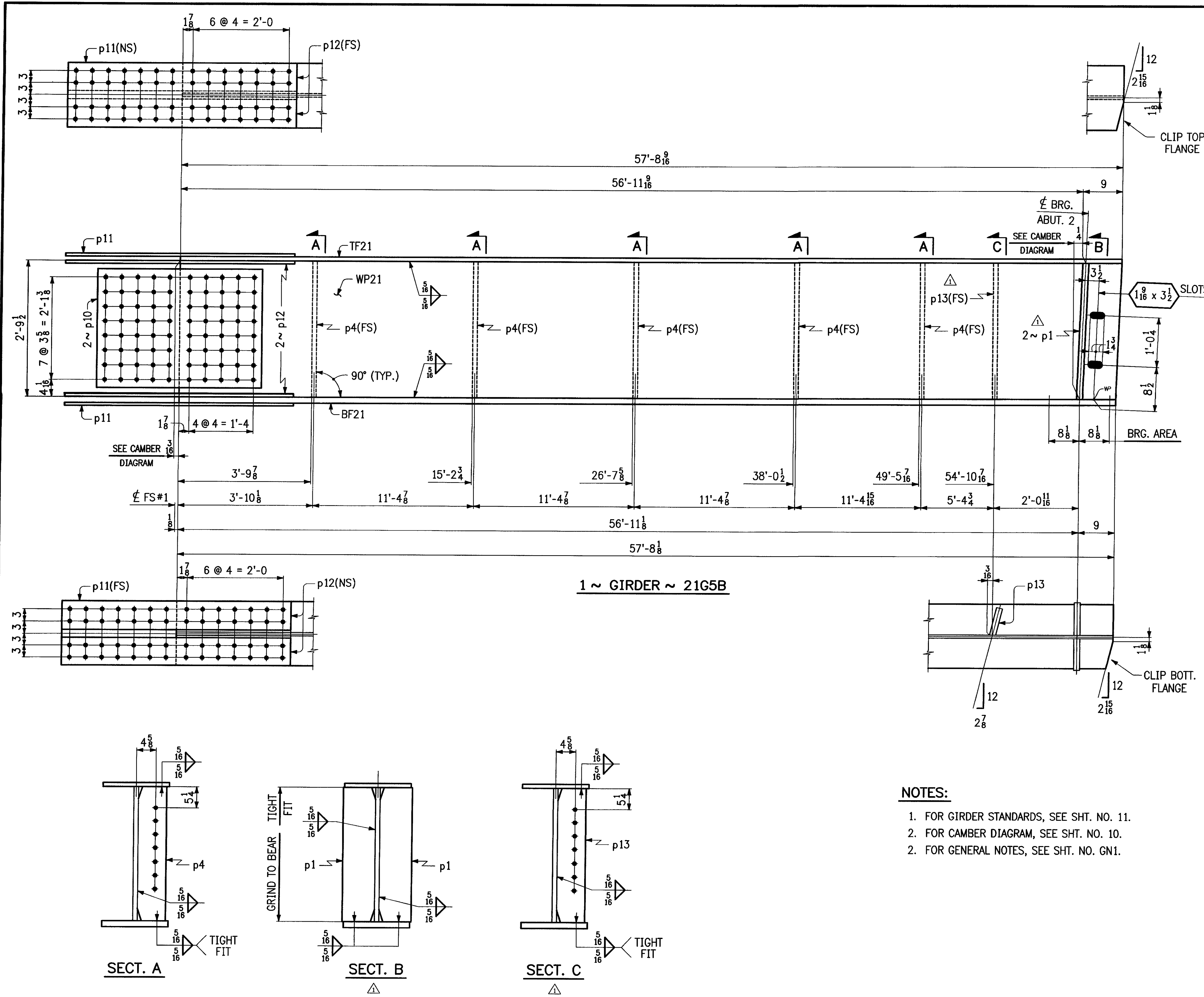
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 OK'D BY: *SEL* OK'D BY: *KMH*  
 JUL 29 2009  
 APPROVED BY: *KMH* DATE: 7/29/09

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-14	Sp	Appr.
7-14-09		ADDED BRG STIFFS & CONN PL'S @ ABUT, ADDED SECTS B & C.			

**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	15/16"	WELD U N		Q C REVIEW	
PROJECT	TH NO. 1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE	6-8-09	DRAWN BY	RLK
DESCRIPTION	GIRDER ~ 20G4B			CHK'D BY	GDC	JOB NO	J-81
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.	SHT NO	20

- NOTES:**
- FOR GIRDER STANDARDS, SEE SH. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SH. NO. 9.
  - FOR GENERAL NOTES, SEE SH. NO. GN1.



BILL OF MATERIAL						
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH FT	IN	PAGE LINE
21G5B	1		GIRDER			
	1	WP21	PL 5/8 x 33 1/2	57	8 3/8	(CVN) 1/2
	1	TF21	PL 1 x 16	57	8 3/8	(CVN) 1/8
	1	BF21	PL 1 1/2 x 16	57	8 3/8	(CVN) 1/12
	2	p10	PL 1/2 x 29 3/8	3	4	(CVN) 1/13
	2	p11	PL 1 1/2 x 16	4	8	(CVN) 1/14
	4	p12	PL 1 1/2 x 7	4	8	(CVN) 1/14
	5	p4	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2	p1	PL 1 x 8	2	9 1/2	(CVN) 1/8
	1	p13	PL 1/2 x 7	2	9 1/2	(CVN) 1/13
	2		7/8 MB	0	3	A307, W/NUT 4/2
	4		7/8 MB	0	5 1/2	A307, W/NUT 4/3
	4		7/8 MB	0	6	A307, W/NUT 4/4
	10		7/8 WASHER			A307 4/5

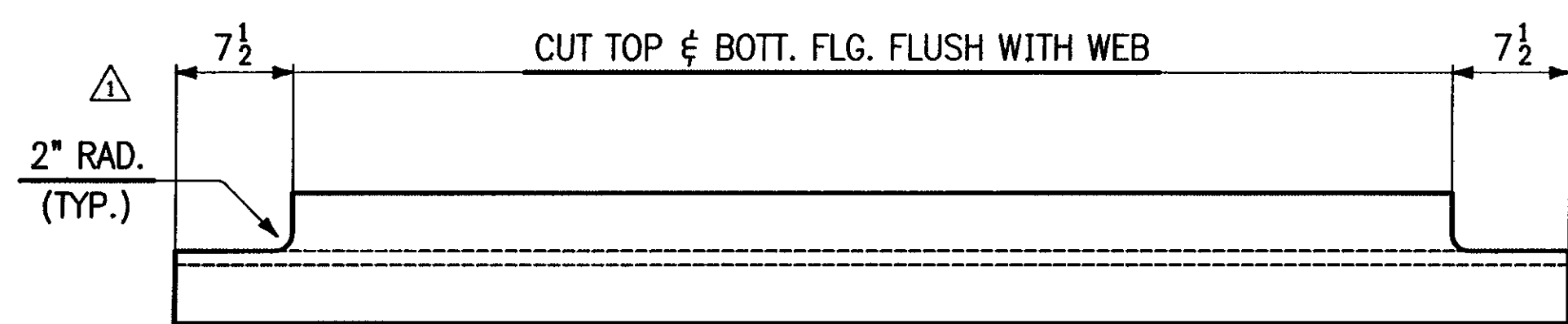
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 JUL 29 2011  
 APPROVED: *[Signature]*  
 BY: *KMH* DATE: 7/29/11

REVISIONS		PRINT RECORD			
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5p	Appr.
7-14-09		ADDED BRG STIFFS & CONN PL'S @ ABUT, ADDED SECTS B & C			

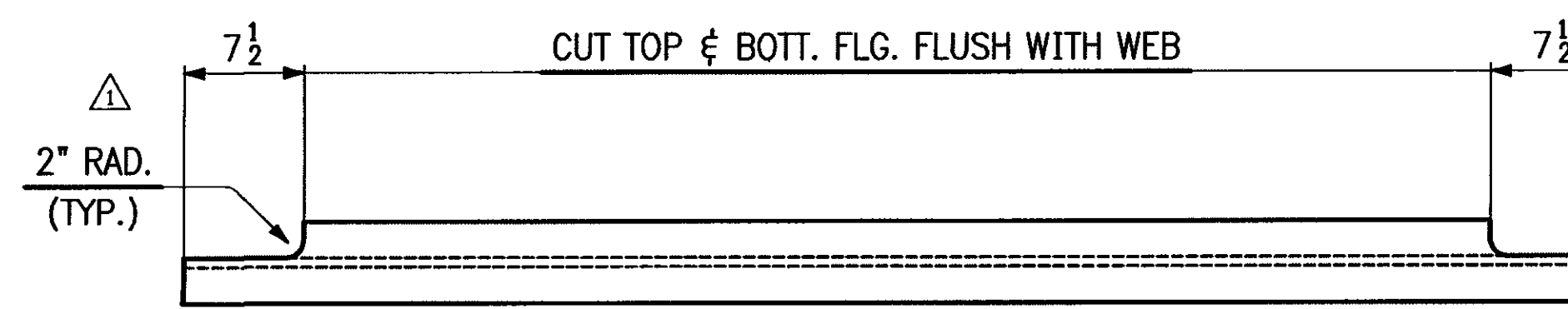
**MEGQUIER & JONES INC.**  
 STRUCTURAL STEEL SINCE 1895  
 1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	SSPC-SP10	HOLES U N	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT			DATE 6-8-09
DESCRIPTION	GIRDER ~ 21G5B			CHK'D BY GDC
ARCH	N/A	ENGR	VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.			SHT NO 21

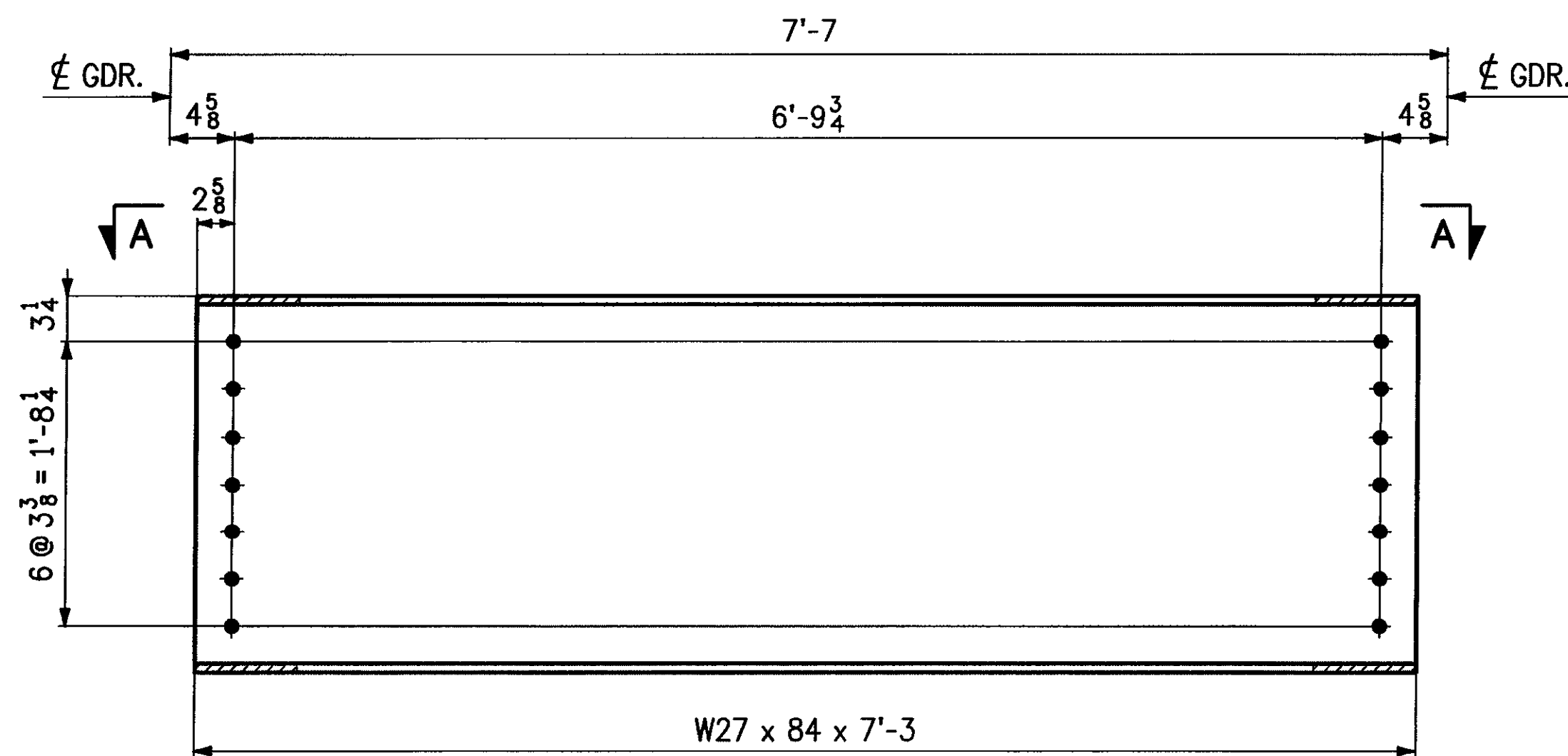
- NOTES:**
- FOR GIRDER STANDARDS, SEE SHT. NO. 11.
  - FOR CAMBER DIAGRAM, SEE SHT. NO. 10.
  - FOR GENERAL NOTES, SEE SHT. NO. GN1.



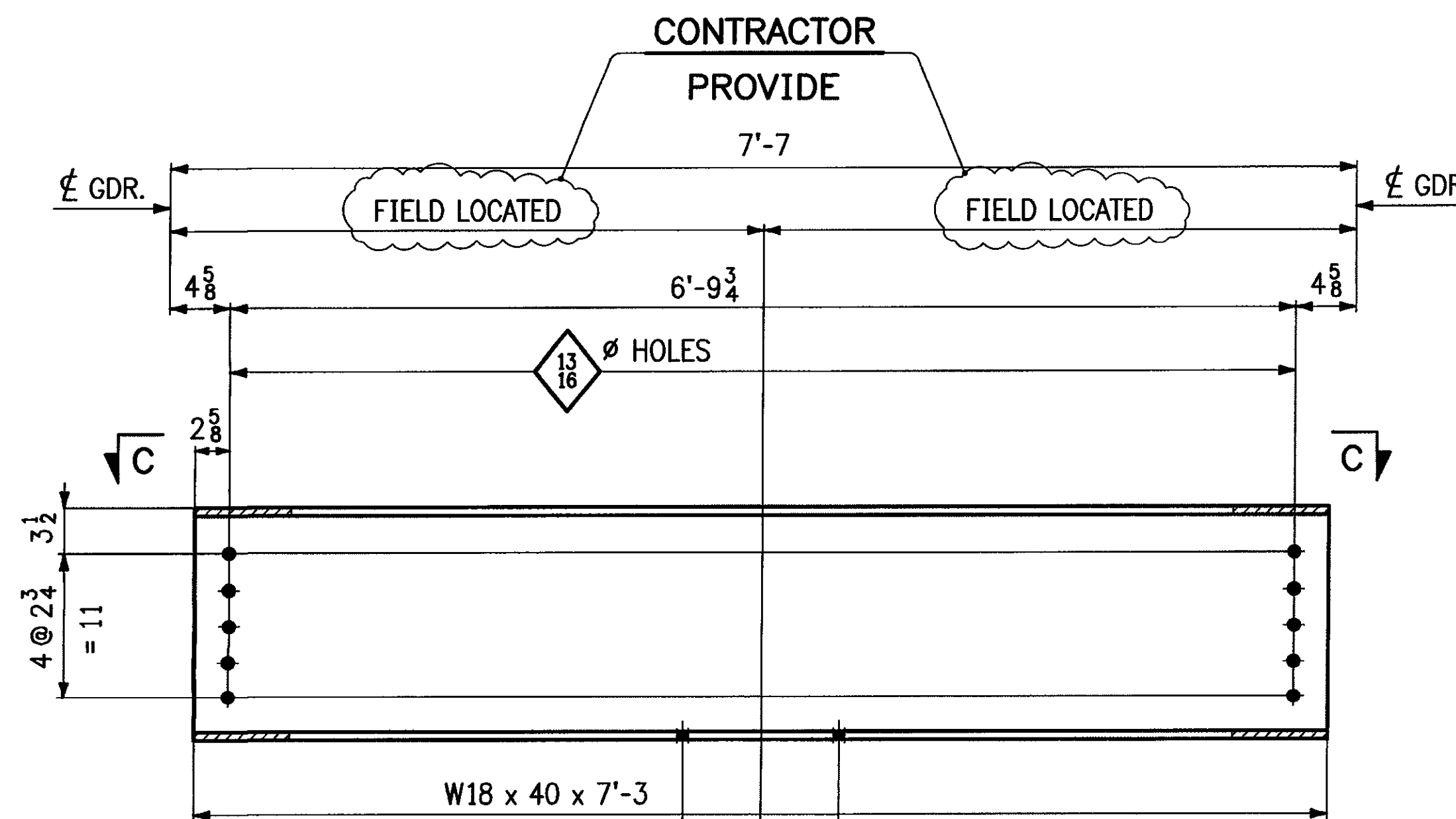
VIEW A-A



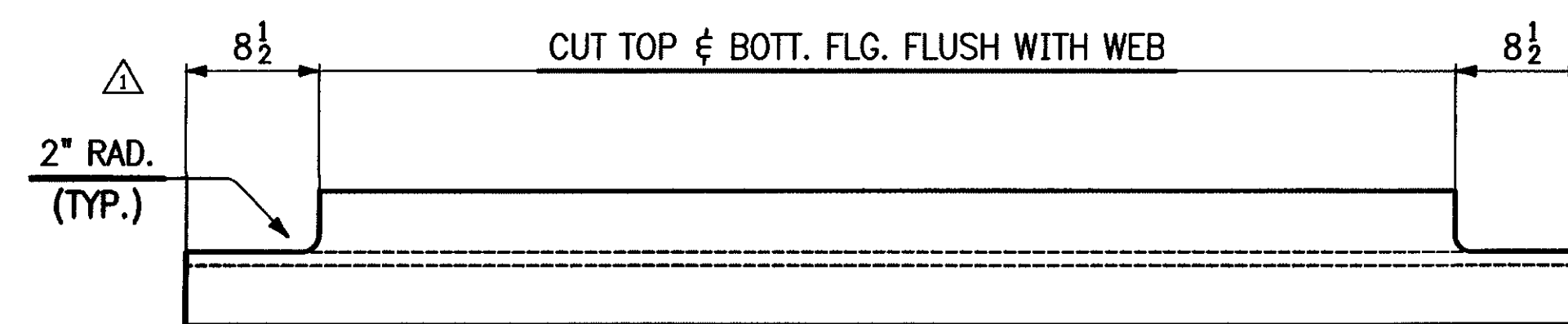
VIEW C-C



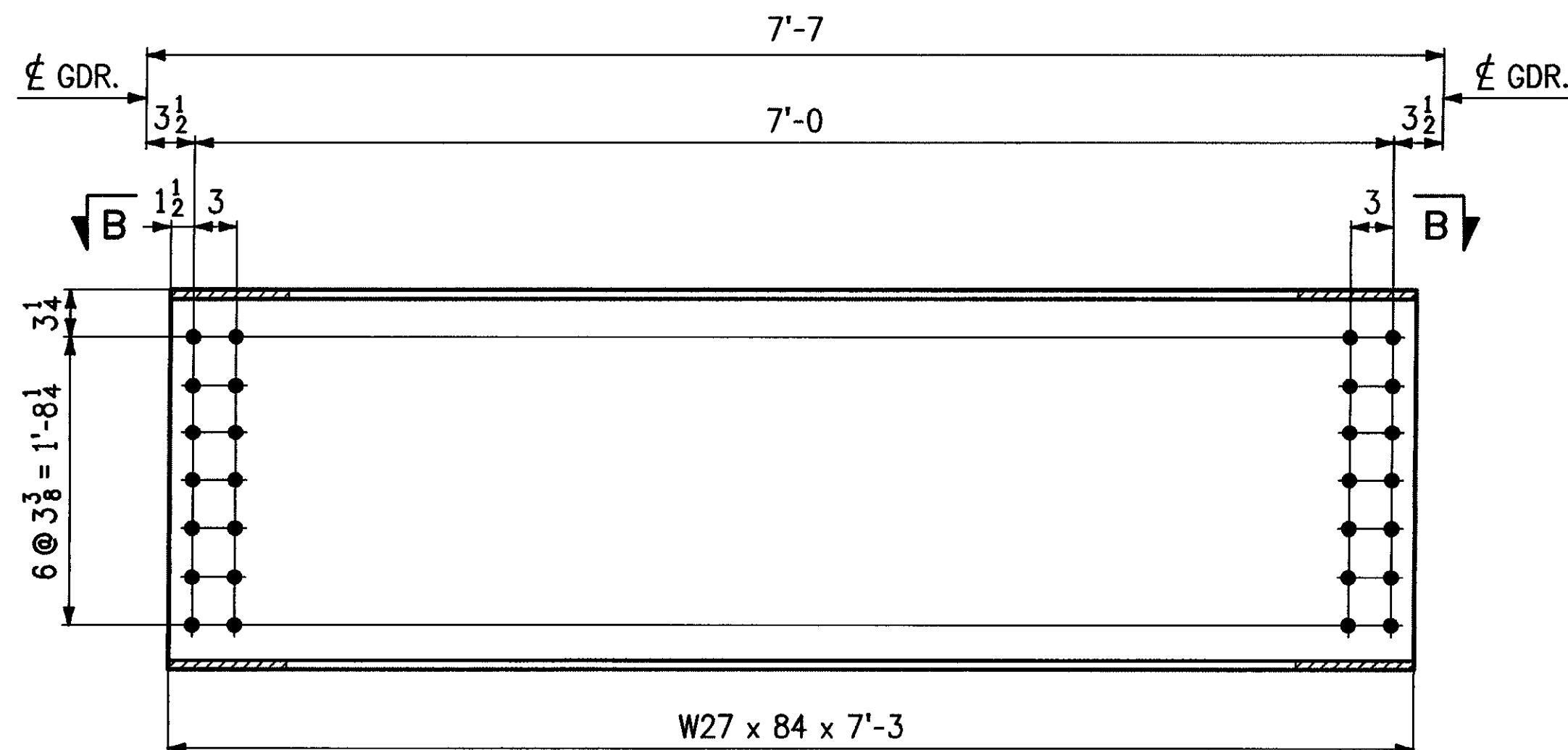
36 ~ INTERMEDIATE DIAPHRAGM ~ D1



4 ~ UTILITY SUPPORT ~ D3



VIEW B-B



4 ~ PIER DIAPHRAGM ~ D2

BILL OF MATERIAL

SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH		REMARKS	PAGE LINE
				FT	IN		
			DIAPHRAGMS				
D1	36		W27 x 84	7	3		3/10
D2	4		W27 x 84	7	3		3/10
			UTILITY SUPPORTS				
D3	4		W18 x 40	7	3		3/11

RECEIVED

OK'D BY \_\_\_\_\_ OK'D BY kmh  
 JUL 20 2009  
 REC'D BY \_\_\_\_\_ APPROVED \_\_\_\_\_  
 BY kmh DATE 7/21/09

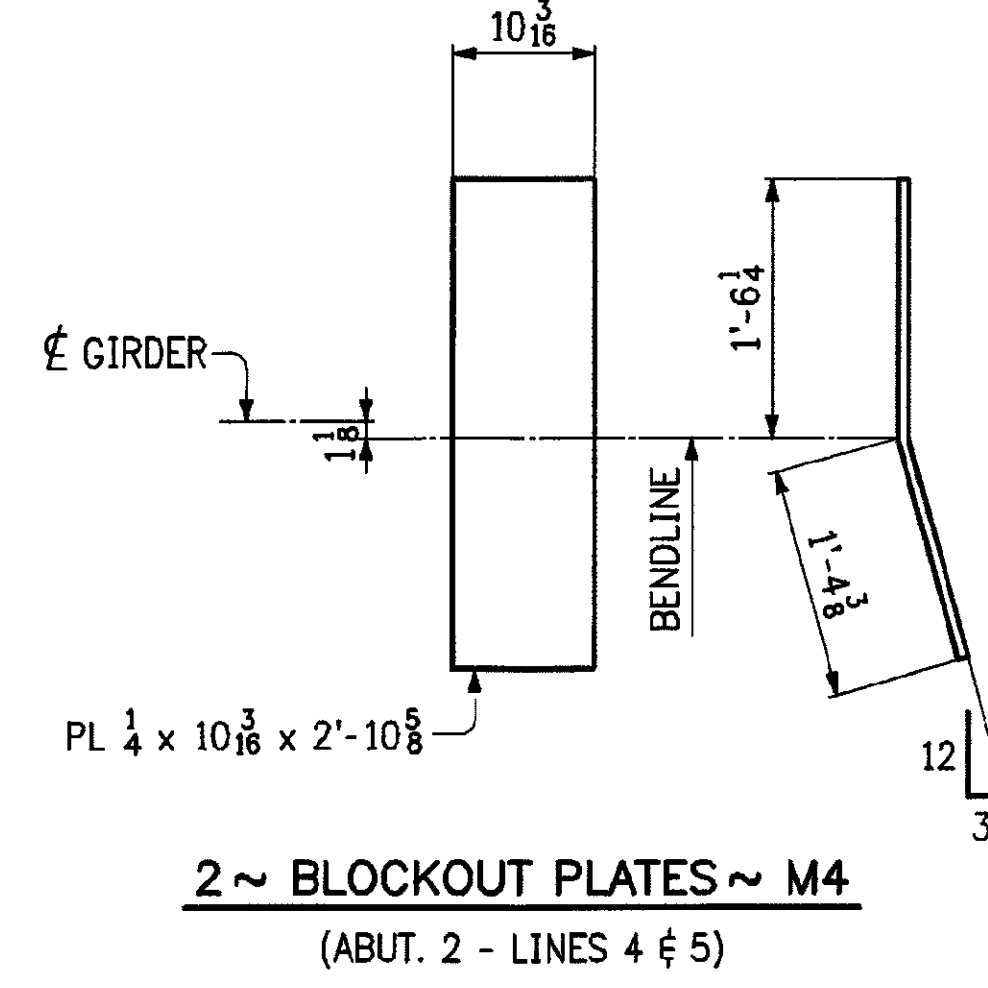
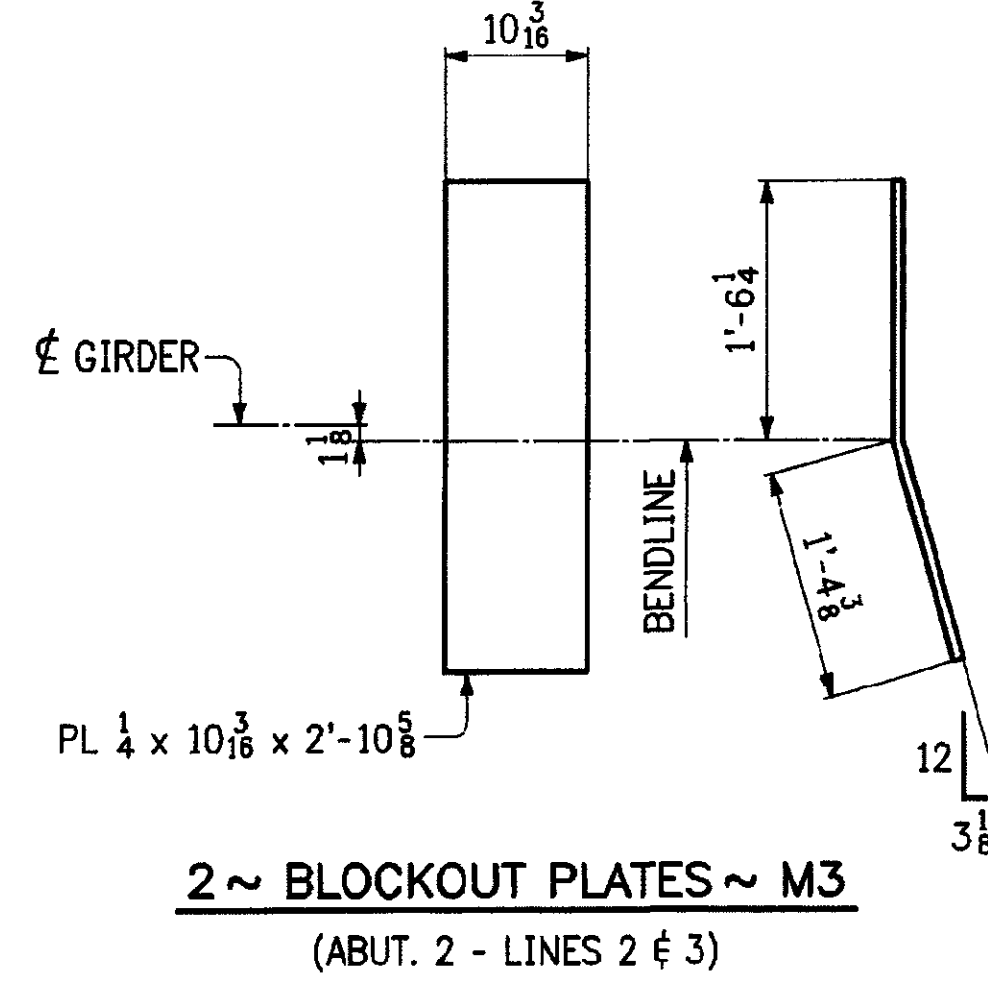
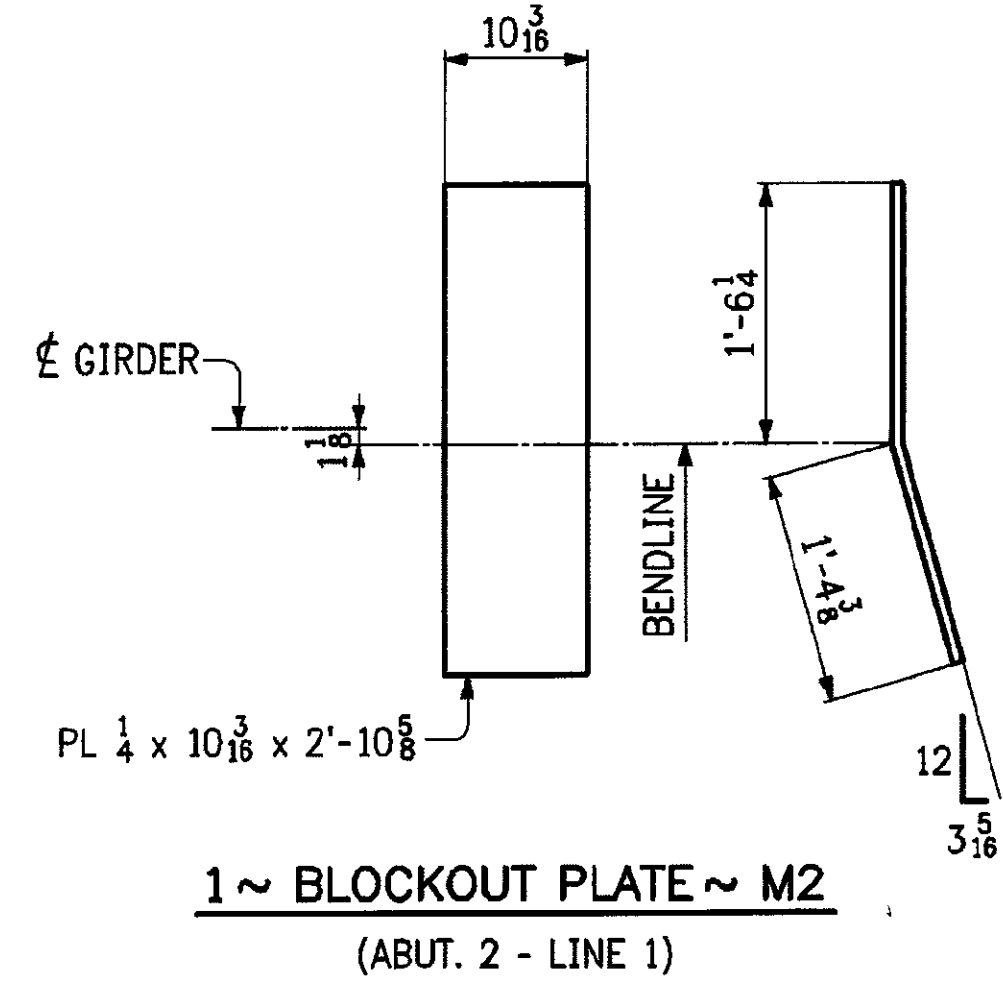
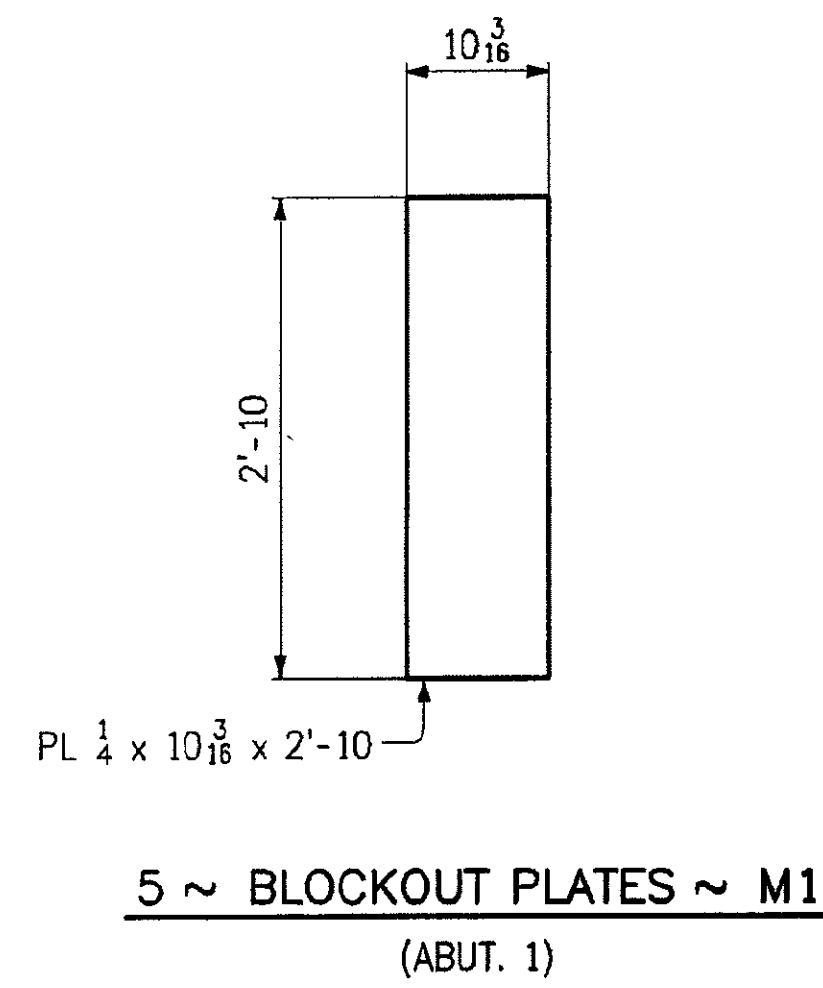
REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			7-16	5p	Appr.
7-14-09 REVISED DIMENSION & ADDED RADIUS.					

MEGQUIER & JONES INC.

STRUCTURAL STEEL SINCE 1895

1156 BROADWAY  
 SOUTH PORTLAND, MAINE 04106

PAINT	HOLES U N 13/16"	WELD U N	Q C REVIEW
PROJECT	TH NO.1 OVER THE GIHON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO. 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09 DRAWN BY CPM
DESCRIPTION	DIAPHRAGMS		CHK'D BY WCG
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	JOB NO J-81
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP.		SHT NO 22



BILL OF MATERIAL						
SHIP MARK	QTY	PIECE MARK	DESCRIPTION	LENGTH FT	IN	PAGE LINE
M1	5		BLOCKOUT PLS.			
			PL 1/4 x 10 3/16	2	10	3/14
M2	1		BLOCKOUT PL			
			PL 1/4 x 10 3/16	2	10 5/8	BENT 3/15
M3	2		BLOCKOUT PLS.			
			PL 1/4 x 10 3/16	2	10 5/8	BENT 3/15
M4	2		BLOCKOUT PLS.			
			PL 1/4 x 10 3/16	2	10 5/8	BENT 3/15

- NOTES:**
- FOR GENERAL NOTES SEE SHT. GN1
  - MATERIAL: M270-50W.

Accepted	<input checked="" type="checkbox"/>
Accepted as Noted	<input type="checkbox"/>
Accepted Noted Resubmit	<input type="checkbox"/>
Rejected, Revise Resubmit	<input type="checkbox"/>
Rejected - Unacceptable	<input type="checkbox"/>

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

DUBOIS AND KING  
By *[Signature]*

RECEIVED  
OK'D BY: *[Signature]* OK'D BY: *[Signature]*  
JUN 18 2009  
BY: *[Signature]* DATE: 7/13/09

REVISIONS			PRINT RECORD		
NO	DATE	DESCRIPTION	DATE	QTY	ISSUED
			6/15	E	Appn.

**MEGQUIER & JONES INC.**  
STRUCTURAL STEEL SINCE 1895  
1156 BROADWAY  
SOUTH PORTLAND, MAINE 04106

PAINT.	HOLES U N	WELD U N	G/C REVIEW
PROJECT	TH NO 1 OVER THE GIRON RIVER PROJECT NO. BHO 1448 (29) BRIDGE NO 5 TOWN OF JOHNSON, VERMONT		DATE 6-8-09
DESCRIPTION	ABUTMENT BLOCKOUT PLATES		DRAWN BY RJK
ARCH	N/A	ENGR VERMONT AGENCY OF TRANSPORTATION	CHK'D BY GDC
CUSTOMER	S.D. IRELAND CONCRETE CONSTRUCTION CORP		JOB NO J-81
			SHT NO 23



**GENERAL NOTES**

ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 AND ITS LATEST REVISIONS.

DESCRIPTION	ASTM	ALLOY/GR.	REMARKS
RAILS, POSTS, SPLICES, CLAMP BARS, PINS,	B221	6061-T6 OR 6351-T5	MIN. YIELD STRENGTH Fy = 35,000 psi.
STAINLESS STEEL BOLTS	A193	GRADE B8	
	A449		GALV. A153
	A563	GRADE DH	GALV. A153
STEEL WASHERS	F436		GALV. A153
END CAPS	B26		356-F
ALUMINUM WASHERS	B209	2024-T4	
PREFORMED PADS			SECTION 731.01 OR 731.02
ELECTRODES FOR WELDING		AWS A5.10	ER5356

POSTS TO BE NORMAL TO GRADE AND RAILS SHALL BE PARALLEL TO GRADE. RAILS TO BE ATTACHED TO A MINIMUM OF THREE POSTS WHEN POSSIBLE.

ALL RAILS AND WELDS TO BE FREE FROM ALL BURRS AND ROUGH EDGES. ENDS OF TUBE SECTIONS SHALL BE SAWED OR MILLED. GRIND ALL CUT EDGES SMOOTH.

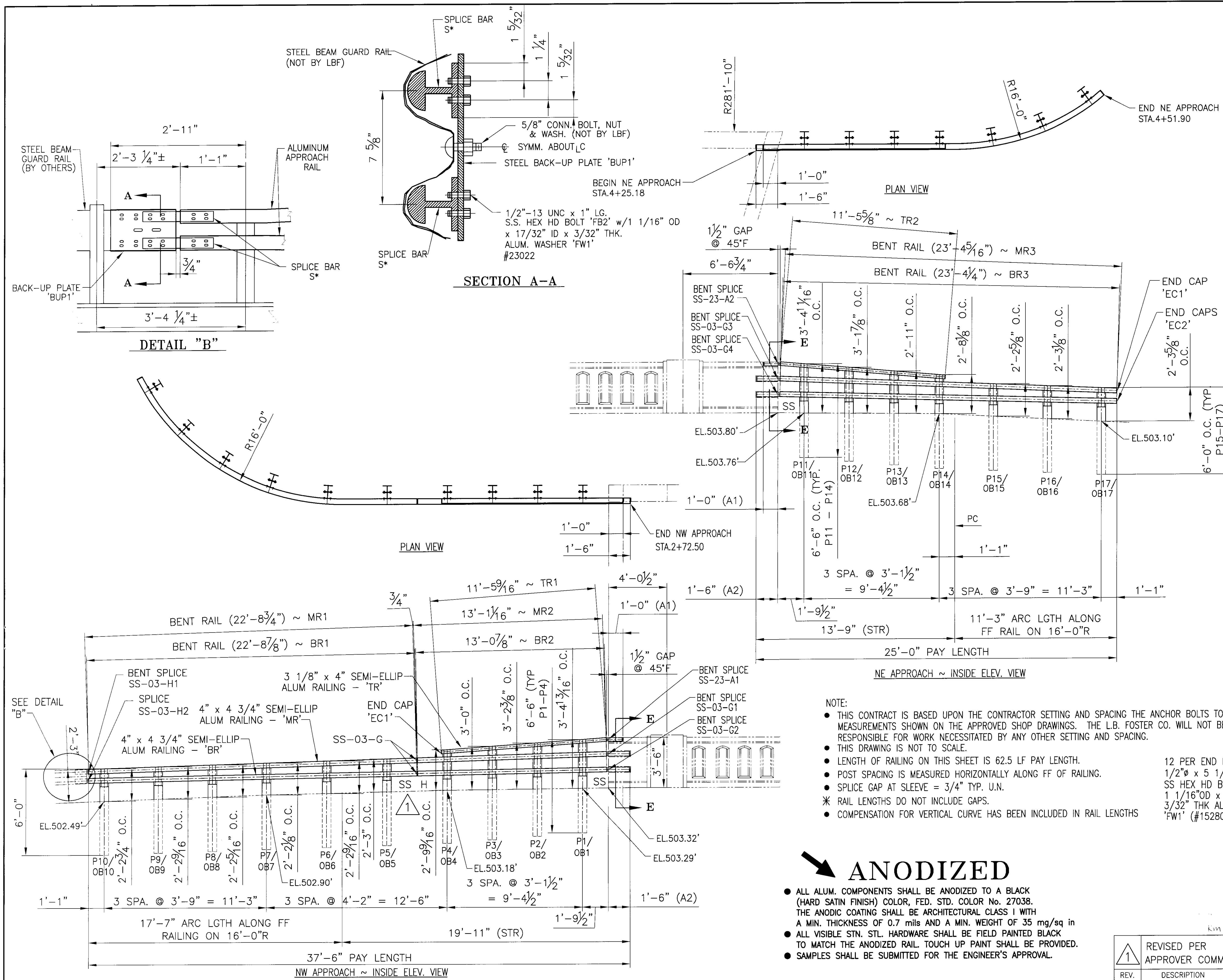
ALL THREADS TO BE UNC CLASS 2A/2B.

ALL EXTRUSION TOLERANCES NOT SHOWN SHALL BE IN ACCORDANCE WITH ASTM B221.

IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN THE ROOT DIAMETER OF THREADS.

THE SPLICE BAR SHALL BE ATTACHED TO THE RAIL ELEMENT AS FOLLOWS: THE RAIL SPLICE AT THE BRIDGE EXPANSION JOINT SHALL BE FASTENED ON BOTH SIDES OF THE RAIL SPLICE USING THE FULLY THREADED WASHER FACED BOLTS, TIGHTENED SECURELY TO THE END OF THREADS, AND LEAVING A 1/8" GAP. THIS ALLOWS EXPANSION ON BOTH SIDES OF THE JOINT.

ALL NUTS SHALL COMPLY WITH AMERICAN HEXAGON ANSI SPECIFICATIONS B18.2



- NOTE:
- THIS CONTRACT IS BASED UPON THE CONTRACTOR SETTING AND SPACING THE ANCHOR BOLTS TO THE MEASUREMENTS SHOWN ON THE APPROVED SHOP DRAWINGS. THE L.B. FOSTER CO. WILL NOT BE RESPONSIBLE FOR WORK NECESSITATED BY ANY OTHER SETTING AND SPACING.
  - THIS DRAWING IS NOT TO SCALE.
  - LENGTH OF RAILING ON THIS SHEET IS 62.5 LF PAY LENGTH.
  - POST SPACING IS MEASURED HORIZONTALLY ALONG FF OF RAILING.
  - SPLICE GAP AT SLEEVE = 3/4" TYP. U.N.
  - \* RAIL LENGTHS DO NOT INCLUDE GAPS.
  - COMPENSATION FOR VERTICAL CURVE HAS BEEN INCLUDED IN RAIL LENGTHS

12 PER END POST  
 1/2"Ø x 5 1/2" LG.  
 SS HEX HD BOLT 'FB3' w/  
 1 1/16"Ø x 17/32" ID  
 3/32" THK ALUM WASHER  
 'FW1' (#15280 & 19404)

**ANODIZED**

- ALL ALUM. COMPONENTS SHALL BE ANODIZED TO A BLACK (HARD SATIN FINISH) COLOR, FED. STD. COLOR No. 27038. THE ANODIC COATING SHALL BE ARCHITECTURAL CLASS I WITH A MIN. THICKNESS OF 0.7 MILS AND A MIN. WEIGHT OF 35 mg/sq in
- ALL VISIBLE STN. STL. HARDWARE SHALL BE FIELD PAINTED BLACK TO MATCH THE ANODIZED RAIL TOUCH UP PAINT SHALL BE PROVIDED.
- SAMPLES SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL.

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29)  
 ITEM No: 900-640

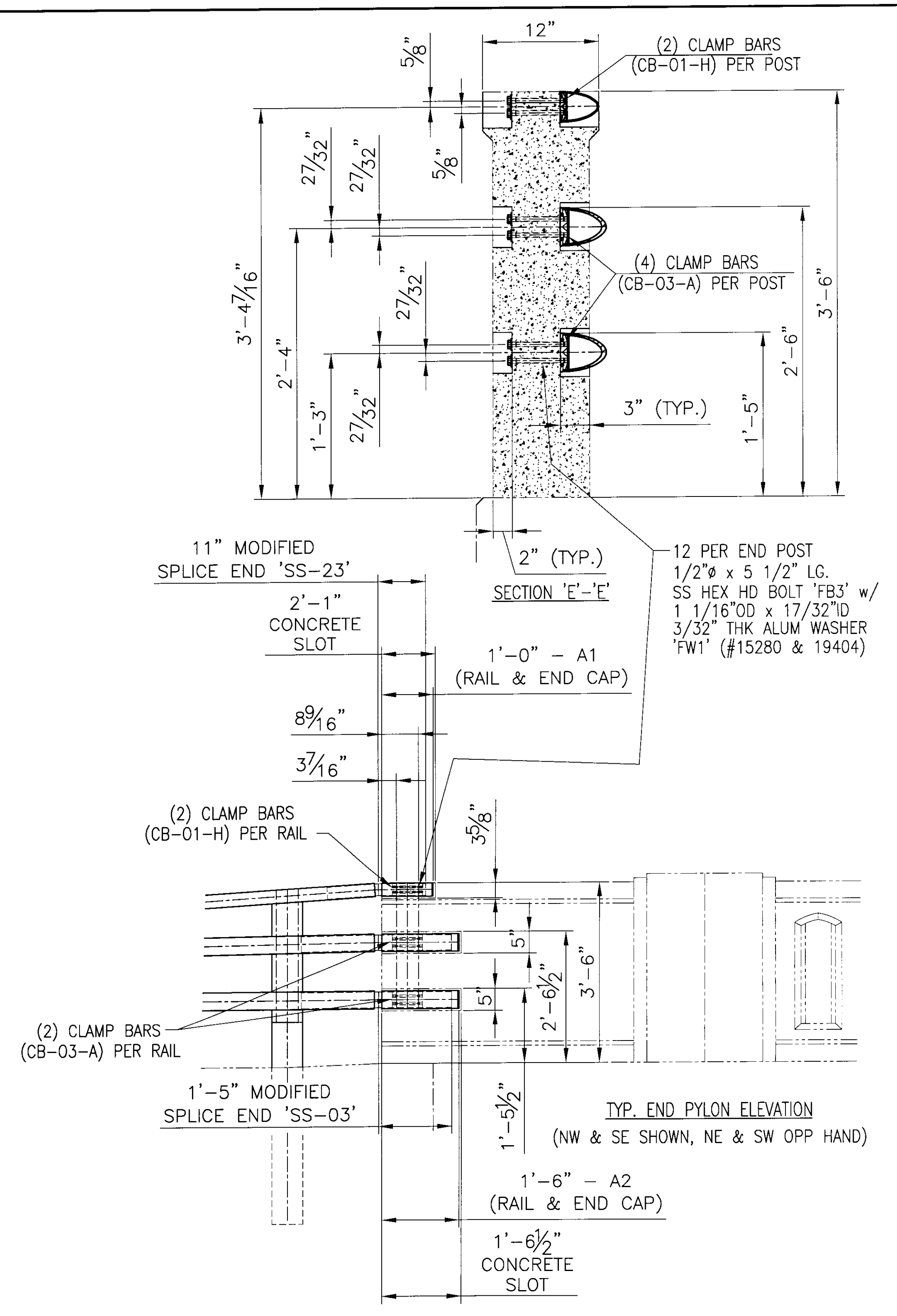
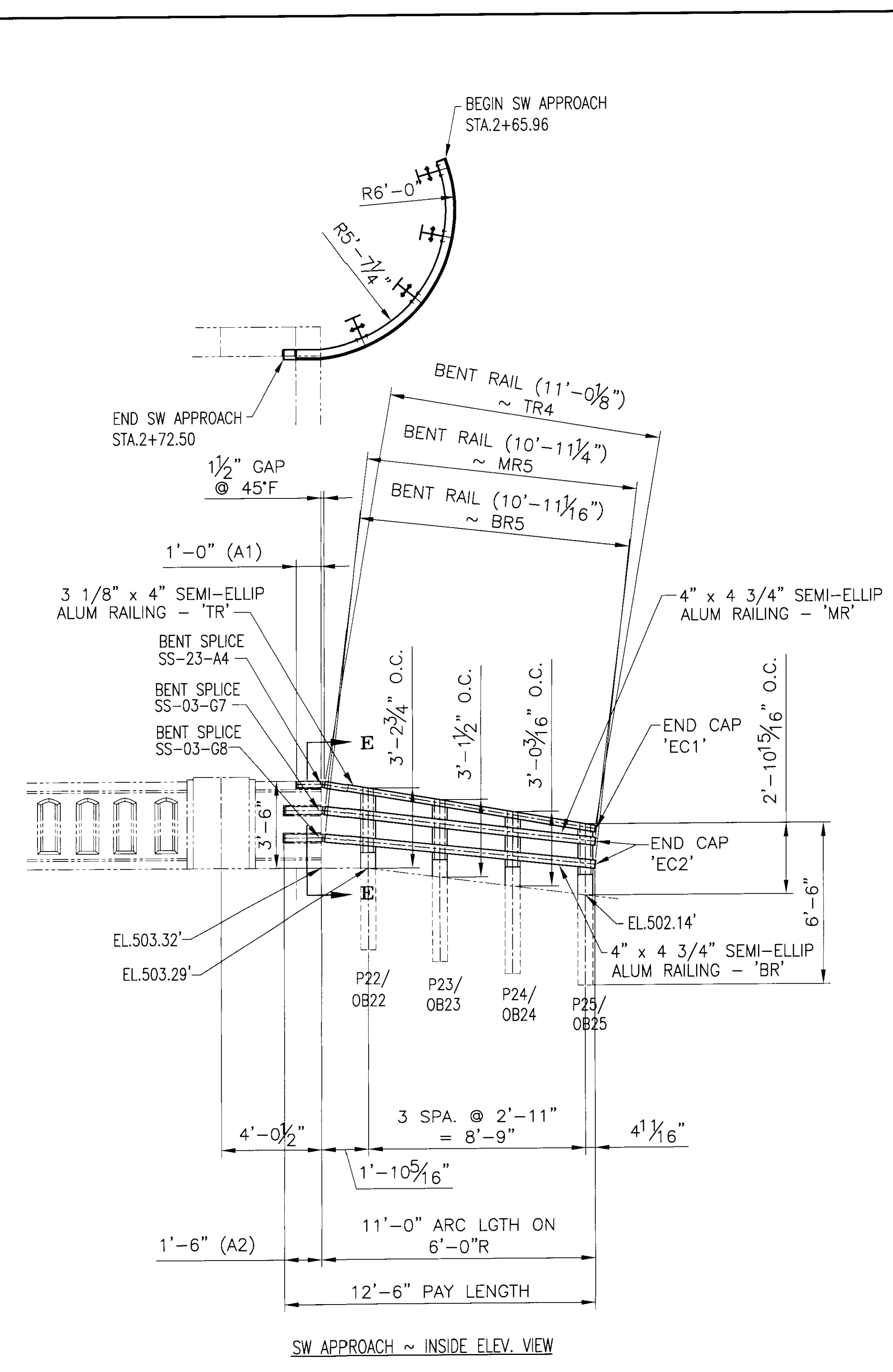
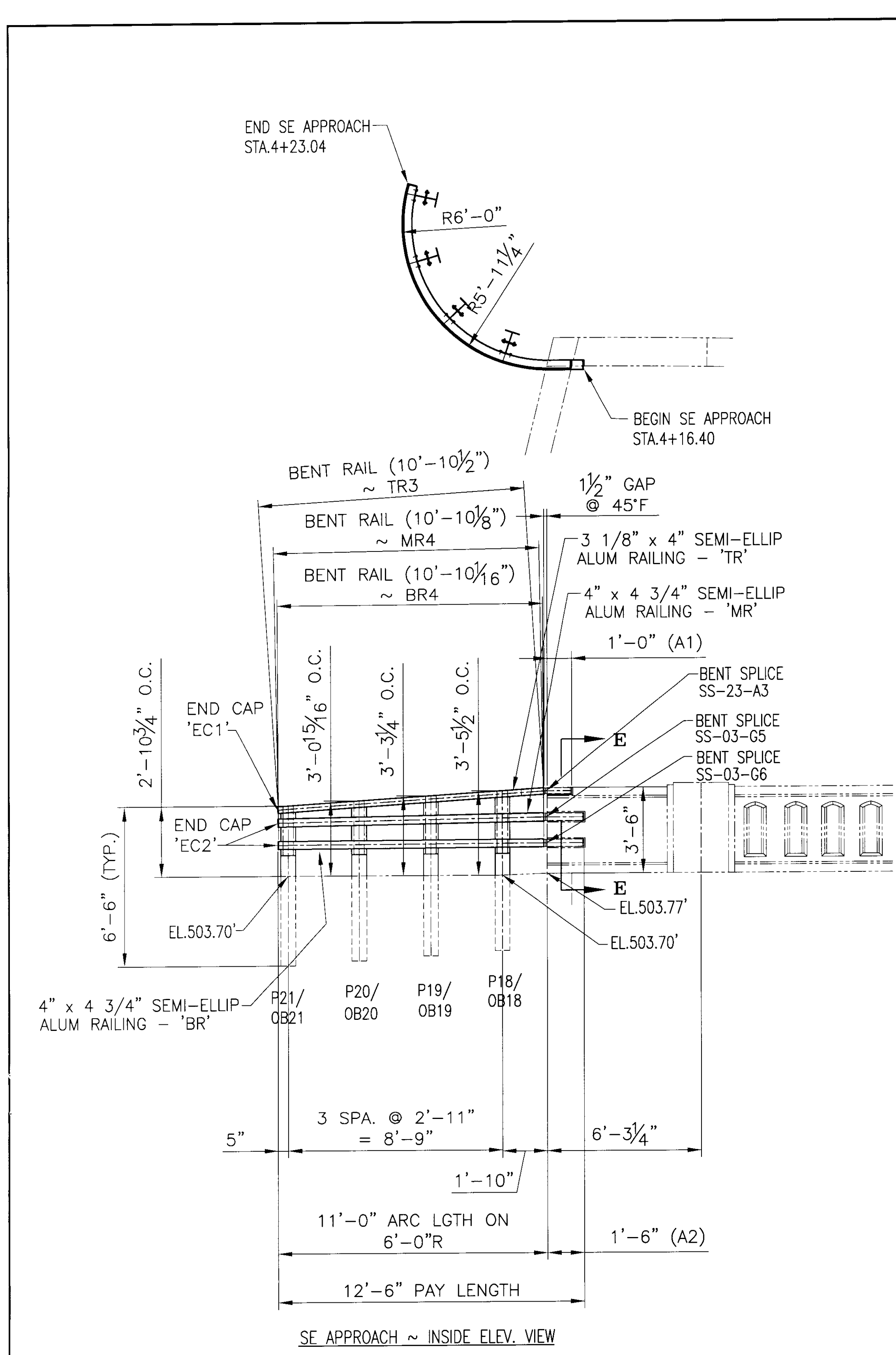
APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
 DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
 1016 GREENTREE ROAD  
 PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
 VERMONT AGENCY OF TRANSPORTATION  
 TOWN OF JOHNSON, COUNTY OF LAMOILLE  
 APPROACH RAILING FOR TH No 1 OVER THE GHON RIVER  
 3L ALUM BRIDGE APPROACH RAILING ~ ELEVATION VIEWS

MADE CMS DATE 10/24/09 JOB No. AR0573 CUST. No.  
 CHECK BLJ DATE 11/06/09 DRAWING LB1 REV. No. ONE

REV.	DESCRIPTION	BY	DATE
1	REVISED PER APPROVER COMMENTS	CMS	01/11/10



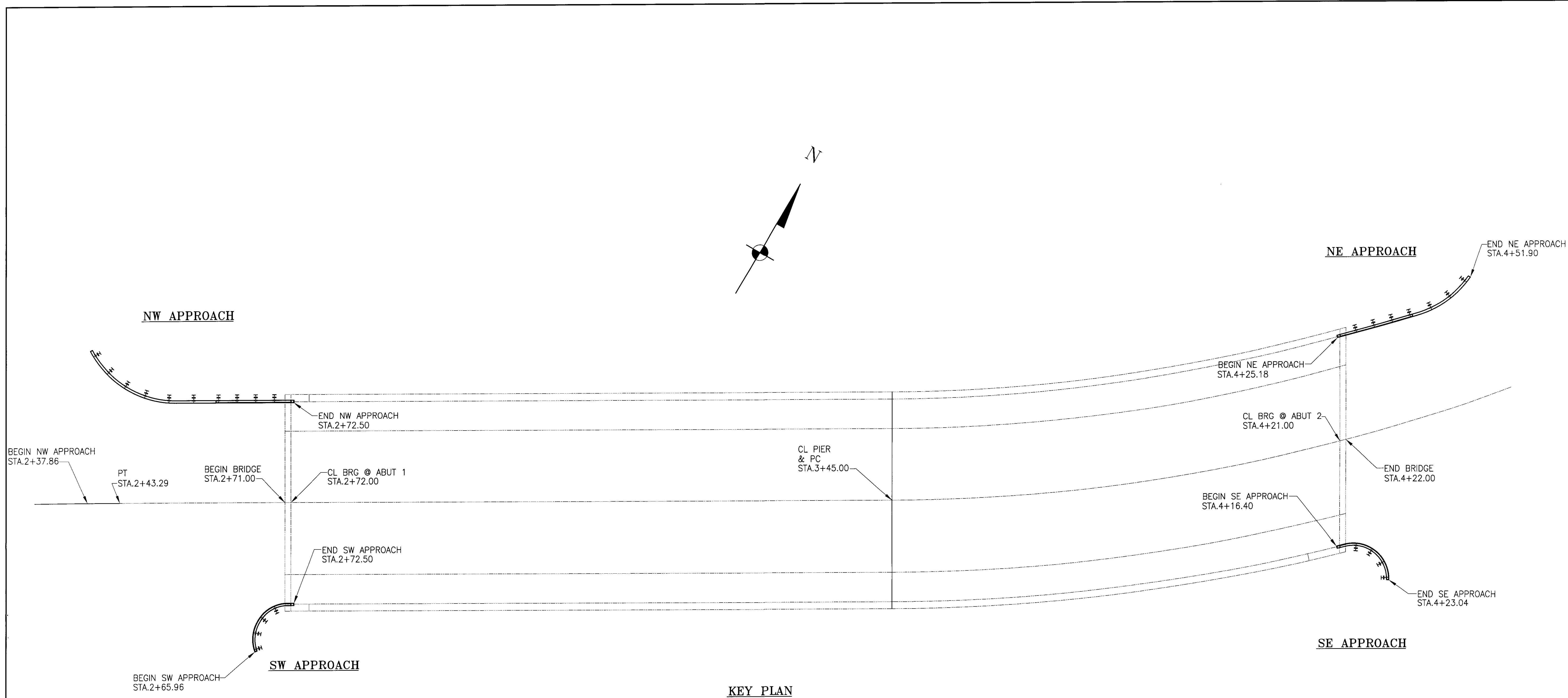
- NOTE:
- THIS CONTRACT IS BASED UPON THE CONTRACTOR SETTING AND SPACING THE ANCHOR BOLTS TO THE MEASUREMENTS SHOWN ON THE APPROVED SHOP DRAWINGS. THE L.B. FOSTER CO. WILL NOT BE RESPONSIBLE FOR WORK NECESSITATED BY ANY OTHER SETTING AND SPACING.
  - THIS DRAWING IS NOT TO SCALE.
  - LENGTH OF RAILING ON THIS SHEET IS 25 LF PAY LENGTH.
  - POST SPACING IS MEASURED HORIZONTALLY ALONG FF OF RAILING.
  - SPLICE GAP AT SLEEVE = 1 1/2" TYP.
  - \* RAIL LENGTHS DO NOT INCLUDE GAPS.
  - COMPENSATION FOR VERTICAL CURVE HAS BEEN INCLUDED IN RAIL LENGTHS

**ANODIZED**  
 ● (FOR ANODIZING SPECS SEE LB1)

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29) ITEM No: 900-640

APPROVED: _____	REC'D APPROVAL _____
DRAWING _____	
<b>L.B. FOSTER COMPANY</b>	
1016 GREENTREE ROAD PITTSBURGH, PENNSYLVANIA 15220	
FOR: F. R. LAFAYETTE, INCORPORATED	
VERMONT AGENCY OF TRANSPORTATION	
TOWN OF JOHNSON, COUNTY OF LAMOILLE	
APPROACH RAILING FOR TH No 1 OVER THE GHON RIVER	
3L ALUM BRIDGE APPROACH RAILING ~ ELEVATION VIEWS	
MADE CMS DATE 10/24/09	JOB No. ARO573 CUST. No.
CHECK BLJ DATE 11/06/09	DRAWING LB2 REV. No.

REV.	DESCRIPTION	BY	DATE



**KEY PLAN**

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29)      ITEM No: 900.640

APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
 \_\_\_\_\_ DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
 1016 GREENTREE ROAD  
 PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
 VERMONT AGENCY OF TRANSPORTATION  
 TOWN OF JOHNSON, COUNTY OF LAMOILLE  
 APPROACH RAILING FOR TH No 1 OVER THE GIBON RIVER  
 3L ALUM BRIDGE RAILING ~ KEY PLAN

MADE CMS DATE 10/24/09 JOB No. AR0573 CUST. No.  
 CHECK BLJ DATE 11/06/09 DRAWING LB3 REV. No.

KimH 11/14/09

REV.	DESCRIPTION	BY	DATE

POST DETAIL CHART FOR NW APPROACH

		OFFSET BLOCK MTG. DIMENSIONS						BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P1	1	1 7/8"	1'-1 3/8"	2'-2 1/8"	9/16"	1 5/16"	3'-4 13/16"	15/16
P2	1	1 7/8"	11 11/16"	2'-0"	9/16"	1 5/16"	3'-2 3/8"	15/16
P3	1	1 7/8"	10"	1'-9 13/16"	9/16"	1 5/16"	3'-0"	15/16
P4	1	1 7/8"	8 3/8"	1'-7 11/16"	9/16"	1 5/16"	2'-9 9/16"	15/16
P5	1	2 1/8"	1'-0 13/16"		1/4"	1 7/8"	2'-3"	3/8
P6	1	2 1/8"	1'-0 3/16"		1/4"	1 7/8"	2'-2 9/16"	3/8
P7	1	2 1/8"	11 5/8"		1/4"	1 7/8"	2'-2 1/8"	3/8
P8	1	2 1/8"	11 1/16"		1/4"	1 7/8"	2'-2 5/16"	3/8
P9	1	2 1/8"	10 1/2"		1/4"	1 7/8"	2'-2 9/16"	3/8
P10	1	2 1/8"	9 15/16"		1/4"	1 7/8"	2'-2 3/4"	3/8

POST DETAIL CHART FOR SE APPROACH

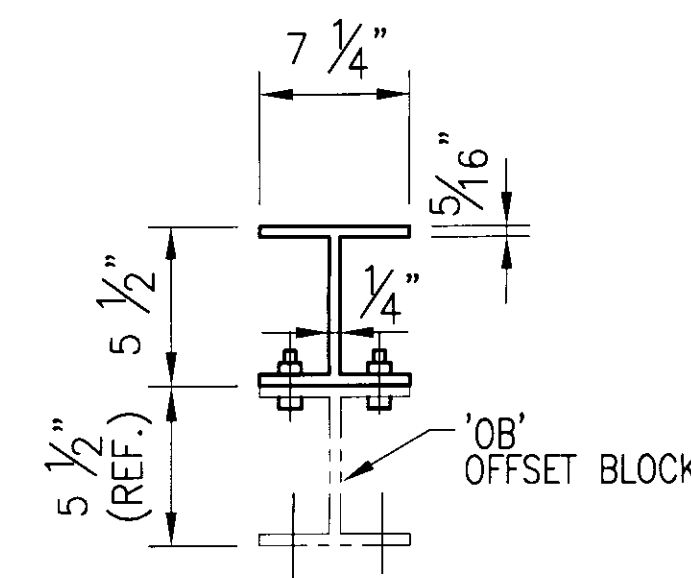
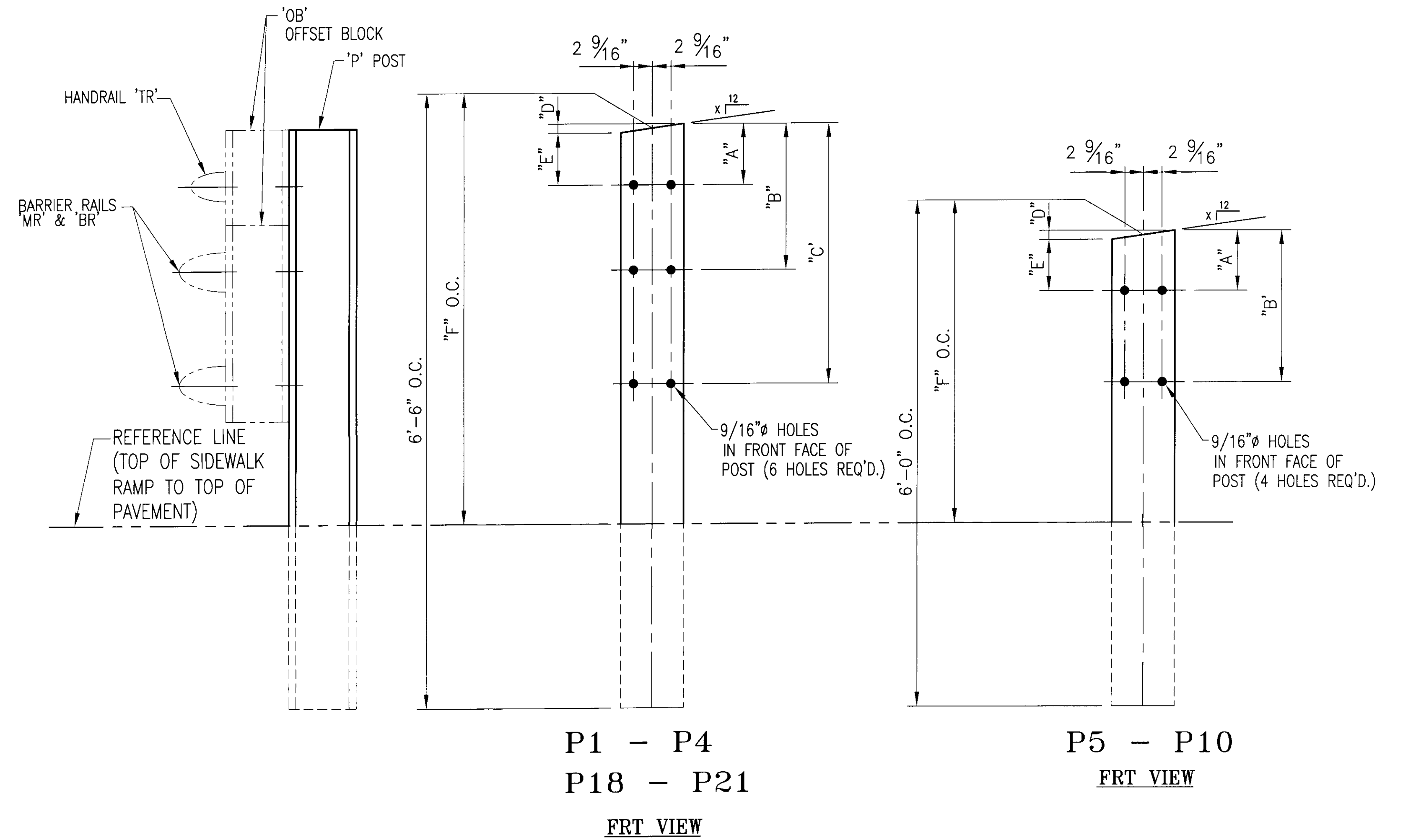
		OFFSET BLOCK MTG. DIMENSIONS						BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P18	1	1 3/4"	1'-1 1/4"	2'-1 15/16"	7/16"	1 5/16"	3'-5 1/2"	3/4
P19	1	1 3/4"	11 9/16"	1'-11 7/8"	7/16"	1 5/16"	3'-3 1/4"	3/4
P20	1	1 3/4"	9 7/8"	1'-9 3/4"	7/16"	1 5/16"	3'-0 15/16"	3/4
P21	1	1 3/4"	8 1/4"	1'-7 11/16"	7/16"	1 5/16"	2'-10 3/4"	3/4

NOTE:

2 CLAMPING BARS CB-01-H (#28596) PER POSTS P8-P11  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P12-P14  
 w/ 1/2"Ø-13 UNC S.S. BOLT x 1" LG. 'FB1',  
 1 1/16" O.D. x 17/32" I.D. x 3/32" THK. ALUM WASHER 'FW1' (#15280 & # 19404) (16 PER POST)

NOTE:

4 CLAMPING BARS CB-03-A (#19447) PER POSTS P12-P14  
 w/ 1/2"Ø-13 UNC S.S. BOLT x 1" LG. 'FB1',  
 1 1/16" O.D. x 17/32" I.D. x 3/32" THK. ALUM WASHER 'FW1' (#15280 & # 19404) (8 PER POST)



TYP. SECT. POST & OFFSET BLOCK

**ANODIZED**  
 (SEE NOTES ON LB1)

REV.	DESCRIPTION	BY	DATE

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29) ITEM No. 900.640

APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
 DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
 1016 GREENTREE ROAD  
 PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
 VERMONT AGENCY OF TRANSPORTATION  
 TOWN OF JOHNSON, COUNTY OF LAMOILLE  
 APPROACH RAILING FOR TH No 1 OVER THE GIRON RIVER  
 3L ALUMINUM APPROACH RAIL POST DETAILS

MADE CMS DATE 10/24/09 JOB No. AR0573 CUST. No.  
 CHECK\_BJL DATE 11/06/09 DRAWING LB4 REV. No.

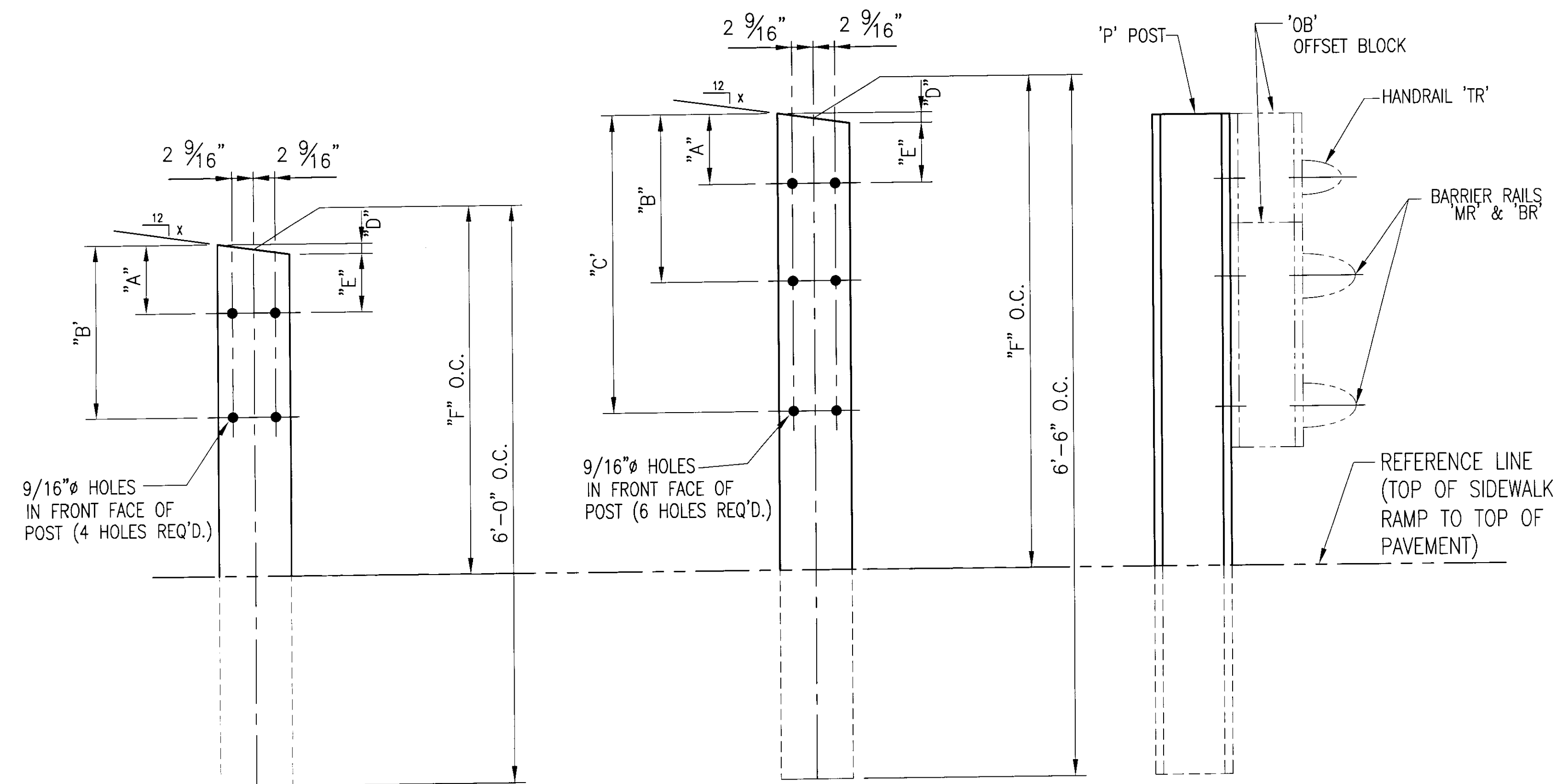
POST DETAIL CHART ~ NE APPROACH								
OFFSET BLOCK MTG. DIMENSIONS								BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P11	1	1 7/8"	1'-1 3/8"	2'-2 1/16"	5/8"	1 1/4"	3'-4 11/16"	1
P12	1	1 7/8"	11 11/16"	1'-11 3/4"	5/8"	1 1/4"	3'-1 7/8"	1
P13	1	1 7/8"	10"	1'-9 7/16"	5/8"	1 1/4"	2'-11"	1
P14	1	1 7/8"	8 5/16"	1'-7 1/8"	5/8"	1 1/4"	2'-8 1/8"	1
P15	1	2 3/16"	1'-0 1/4"		5/16"	1 7/8"	2'-2 5/8"	1/2
P16	1	2 3/16"	11 1/2"		5/16"	1 7/8"	2'-3 1/8"	1/2
P17	1	2 3/16"	10 3/4"		5/16"	1 7/8"	2'-3 5/8"	1/2

POST DETAIL CHART ~ SW APPROACH								
OFFSET BLOCK MTG. DIMENSIONS								BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P22	1	2 3/16"	1'-1 5/8"	2'-2 3/8"	1 3/16"	1"	3'-2 3/4"	2
P23	1	2 3/16"	11 15/16"	2'-0 5/16"	1 3/16"	1"	3'-1 1/2"	2
P24	1	2 3/16"	10 1/4"	1'-10 3/16"	1 3/16"	1"	3'-0 3/16"	2
P25	1	2 3/16"	8 5/8"	1'-8 1/8"	1 3/16"	1"	2'-10 15/16"	2

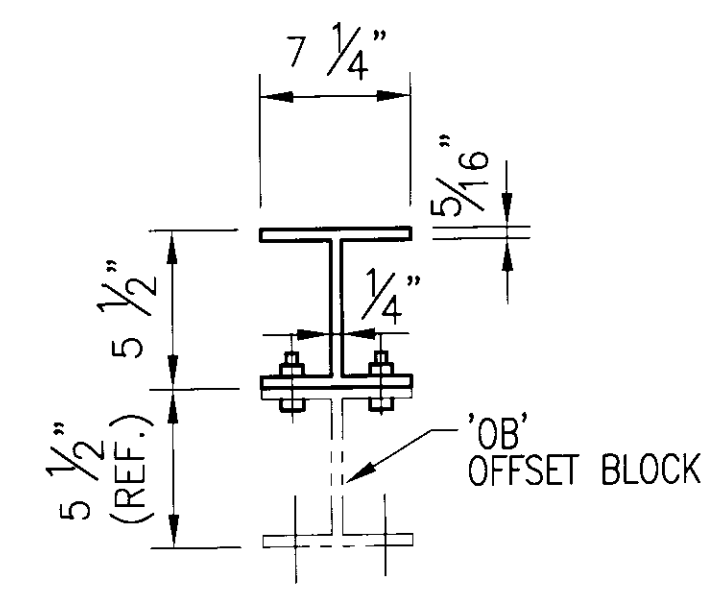
NOTE:  
 2 CLAMPING BARS CB-01-H (#28596) PER POSTS P8-P11  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P12-P14  
 w/ 1/2" φ-13 UNC  
 S.S. BOLT x 1" LG. 'FB1',  
 1 1/16" O.D. x 17/32"  
 I.D. x 3/32" THK. ALUM  
 WASHER 'FW1'  
 (#15280 & # 19404)  
 (16 PER POST)

NOTE:  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P12-P14  
 w/ 1/2" φ-13 UNC  
 S.S. BOLT x 1" LG. 'FB1',  
 1 1/16" O.D. x 17/32"  
 I.D. x 3/32" THK. ALUM  
 WASHER 'FW1'  
 (#15280 & # 19404)  
 (8 PER POST)



FRT ELEV VIEW  
 P15 - P17

FRT ELEV VIEW  
 P11 - P14  
 P22 - P25



TYP. SECT. POST &  
 OFFSET BLOCK

**ANODIZED**  
 (SEE NOTES ON LB1)

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29) ITEM No: 900.640

APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
 \_\_\_\_\_ DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
 1016 GREENTREE ROAD  
 PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
 VERMONT AGENCY OF TRANSPORTATION  
 TOWN OF JOHNSON, COUNTY OF LAMOILLE  
 APPROACH RAILING FOR TH No 1 OVER THE GIHON RIVER  
 3L ALUMINUM APPROACH RAIL POST DETAILS

MADE CMS. DATE 10/24/09 JOB No. AR0573 CUST. No.  
 CHECK BLJ. DATE 11/06/09 DRAWING LB5 REV. No.

REV.	DESCRIPTION	BY	DATE

**OFFSET BLOCK DETAIL CHART FOR NW-SE APPROACHES**

		OFFSET BLOCK MTG. DIMENSIONS							BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	G	X
P1	1	2'-7 3/16"	2'-2 1/8"	1'-1 3/8"	1 7/8"	9/16"	2'-6 7/8"	1 5/16"	15/16
P2	1	2'-5 1/16"	2'-0"	11 11/16"	1 7/8"	9/16"	2'-4 3/4"	1 5/16"	15/16
P3	1	2'-2 15/16"	1'-9 13/16"	10"	1 7/8"	9/16"	2'-2 5/8"	1 5/16"	15/16
P4	1	2'-0 3/4"	1'-7 11/16"	8 3/8"	1 7/8"	9/16"	2'-0 1/2"	1 5/16"	15/16
P18	1	2'-6 15/16"	2'-1 15/16"	1'-1 1/4"	1 3/4"	7/16"	2'-6 11/16"	1 5/16"	3/4
P19	1	2'-4 7/8"	1'-11 7/8"	11 9/16"	1 3/4"	7/16"	2'-4 5/8"	1 5/16"	3/4
P20	1	2'-2 3/4"	1'-9 3/4"	9 7/8"	1 3/4"	7/16"	2'-2 1/2"	1 5/16"	3/4
P21	1	2'-0 5/8"	1'-7 11/16"	8 1/4"	1 3/4"	7/16"	2'-0 7/16"	1 5/16"	3/4

		OFFSET BLOCK ~ RAIL MTG. DIMENSIONS					
POST No.	OFFSET BLOCK	H	J	K	L	M	N
P1	OB1	1"	1'-0 5/16"	2'-1 3/16"	7/8"	1'-0 1/16"	2'-0 3/4"
P2	OB2	1"	10 11/16"	1'-11 1/16"	7/8"	10 3/8"	1'-10 5/8"
P3	OB3	1"	9"	1'-8 15/16"	7/8"	8 11/16"	1'-8 1/2"
P4	OB4	1"	7 3/8"	1'-6 13/16"	7/8"	7 1/16"	1'-6 3/8"
P18	OB18	1"	1'-0 1/8"	2'-1 1/8"	7/8"	11 15/16"	2'-0 11/16"
P19	OB19	1"	10 9/16"	1'-11"	7/8"	10 5/16"	1'-10 9/16"
P20	OB20	1"	8 15/16"	1'-8 7/8"	7/8"	8 5/8"	1'-8 7/16"
P21	OB21	1"	7 3/8"	1'-6 13/16"	7/8"	7"	1'-6 3/8"

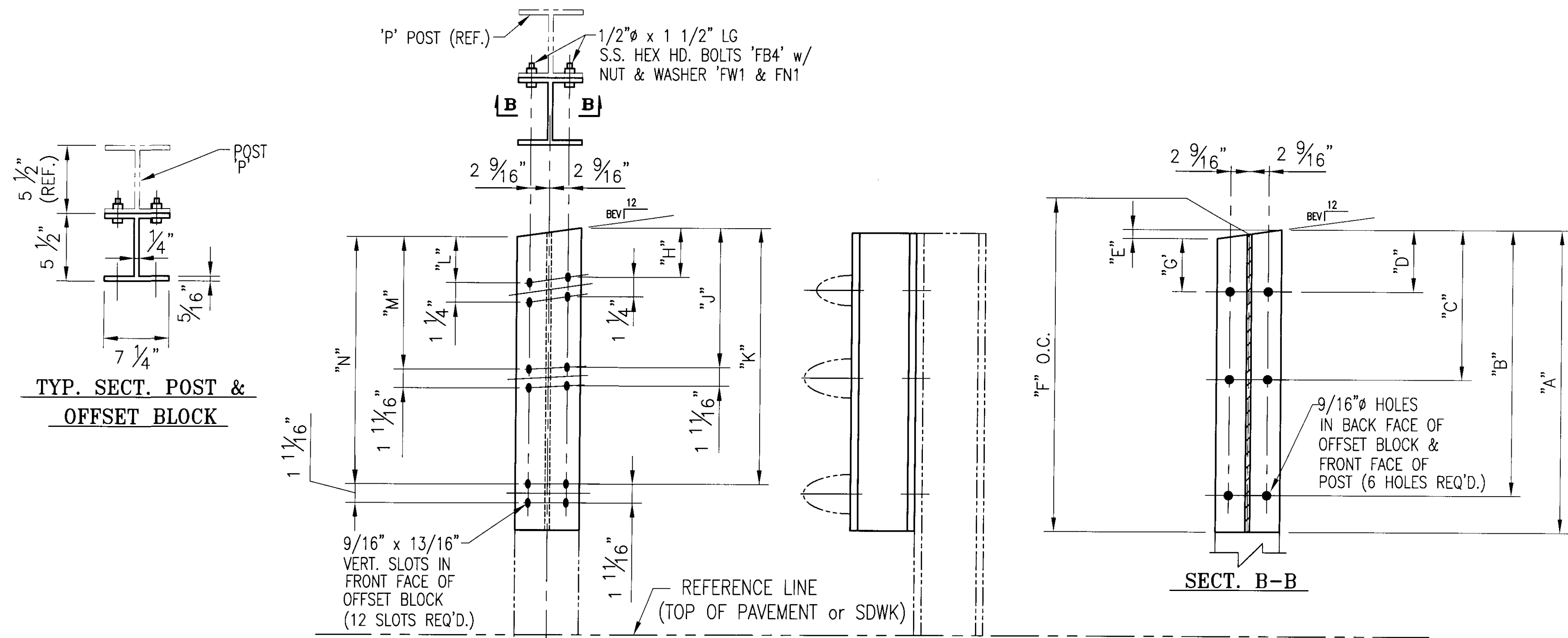
**OFFSET BLOCK DETAIL CHART FOR NW APPROACH**

		OFFSET BLOCK MTG. DIMENSIONS							BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X	
P5	1	1'-5 15/16"	1'-0 13/16"	2 1/8"	1/4"	1 7/8"	1'-5 13/16"	3/8	
P6	1	1'-5 5/16"	1'-0 3/16"	2 1/8"	1/4"	1 7/8"	1'-5 3/16"	3/8	
P7	1	1'-4 11/16"	11 5/8"	2 1/8"	1/4"	1 7/8"	1'-4 9/16"	3/8	
P8	1	1'-4 1/8"	11 1/16"	2 1/8"	1/4"	1 7/8"	1'-4"	3/8	
P9	1	1'-3 9/16"	10 1/2"	2 1/8"	1/4"	1 7/8"	1'-3 7/16"	3/8	
P10	1	1'-2 7/8"	9 15/16"	2 1/8"	1/4"	1 7/8"	1'-2 3/4"	3/8	

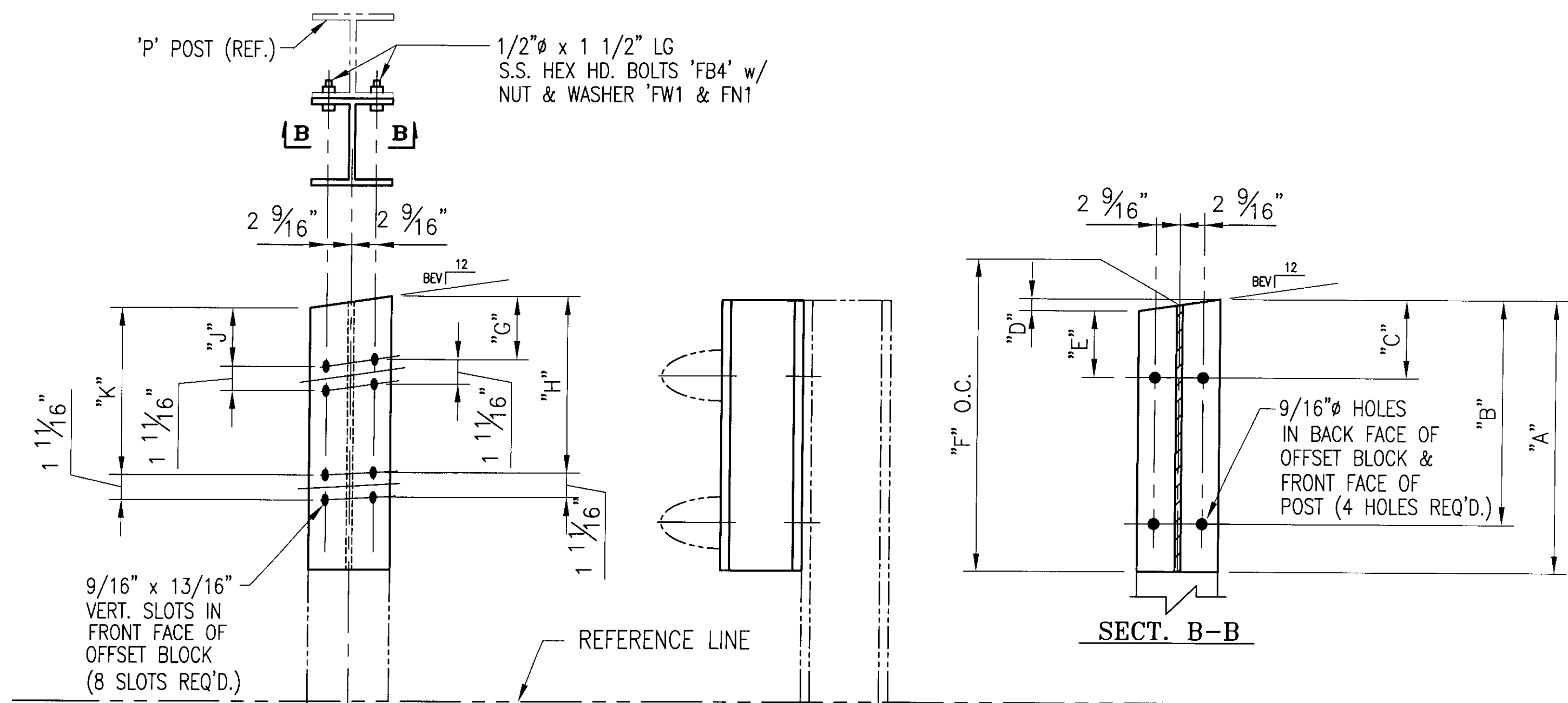
		OFFSET BLOCK ~ RAIL MTG. DIMENSIONS			
POST No.	OFFSET BLOCK	G	H	J	K
P5	OB5	1 3/16"	11 15/16"	1 1/8"	11 13/16"
P6	OB6	1 3/16"	11 5/16"	1 1/8"	11 3/16"
P7	OB7	1 3/16"	10 11/16"	1 1/8"	10 9/16"
P8	OB8	1 3/16"	10 1/8"	1 1/8"	10"
P9	OB9	1 3/16"	9 9/16"	1 1/8"	9 7/16"
P10	OB10	1 3/16"	9"	1 1/8"	8 7/8"

**NOTE:**  
 2 CLAMPING BARS CB-01-H (#28596) PER POSTS P1- P4, P8 - P11  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P1- P4, P8 - P11  
 w/ 1/2"Ø-13 UNC S.S. BOLT x 1" LG. 'FB1', 1 1/16" O.D. x 17/32" I.D. x 3/32" THK. ALUM WASHER 'FW1' (#15280 & #19404) (16 PER POST)

**NOTE:**  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P1 - P4, P8 - P11  
 w/ 1/2"Ø-13 UNC S.S. BOLT x 1" LG. 'FB1', 1 1/16" O.D. x 17/32" I.D. x 3/32" THK. ALUM WASHER 'FW1' (#15280 & #19404) (8 PER POST)



**FRT ELEV VIEW ~ OB1-OB4, OB18-OB21**



**FRT ELEV VIEW ~ OB5-OB10**

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29)  
 ITEM No. 900.640

APPROVED: _____	REC'D APPROVAL _____
DRAWING _____	
<b>L.B. FOSTER COMPANY</b>	
1016 GREENTREE ROAD PITTSBURGH, PENNSYLVANIA 15220	
FOR: F. R. LAFAYETTE, INCORPORATED	
VERMONT AGENCY OF TRANSPORTATION	
TOWN OF JOHNSON, COUNTY OF LAMOILLE	
APPROACH RAILING FOR TH No 1 OVER THE GIBON RIVER	
OFFSET BOX DETAILS	
MADE CMS DATE 10/24/09 JOB No. AR0573 CUST. No.	CHECK BLJ DATE 10/06/09 DRAWING LB6 REV. No.

**ANODIZED**  
 (SEE NOTES ON LB1)

REV.	DESCRIPTION	BY	DATE

### OFFSET BLOCK DETAIL CHART FOR NE-SW APPROACHES

		OFFSET BLOCK MTG. DIMENSIONS							BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	G	X
P11	1	2'-7 1/8"	2'-2 1/16"	1'-1 3/8"	1 7/8"	5/8"	2'-6 13/16"	1 1/4"	1
P12	1	2'-4 13/16"	1'-11 3/4"	11 11/16"	1 7/8"	5/8"	2'-4 1/2"	1 1/4"	1
P13	1	2'-2 9/16"	1'-9 7/16"	10"	1 7/8"	5/8"	2'-2 1/4"	1 1/4"	1
P14	1	2'-0 1/4"	1'-7 1/8"	8 5/16"	1 7/8"	5/8"	1'-11 15/16"	1 1/4"	1
P22	1	2'-7 3/4"	2'-2 3/8"	1'-1 5/8"	2 3/16"	1 3/16"	2'-7 3/16"	1"	2
P23	1	2'-5 11/16"	2'-0 5/16"	11 15/16"	2 3/16"	1 3/16"	2'-5 1/8"	1"	2
P24	1	2'-3 5/8"	1'-10 3/16"	10 1/4"	2 3/16"	1 3/16"	2'-3"	1"	2
P25	1	2'-1 1/2"	1'-8 1/8"	8 5/8"	2 3/16"	1 3/16"	2'-0 15/16"	1"	2

#### OFFSET BLOCK ~ RAIL MTG. DIMENSIONS

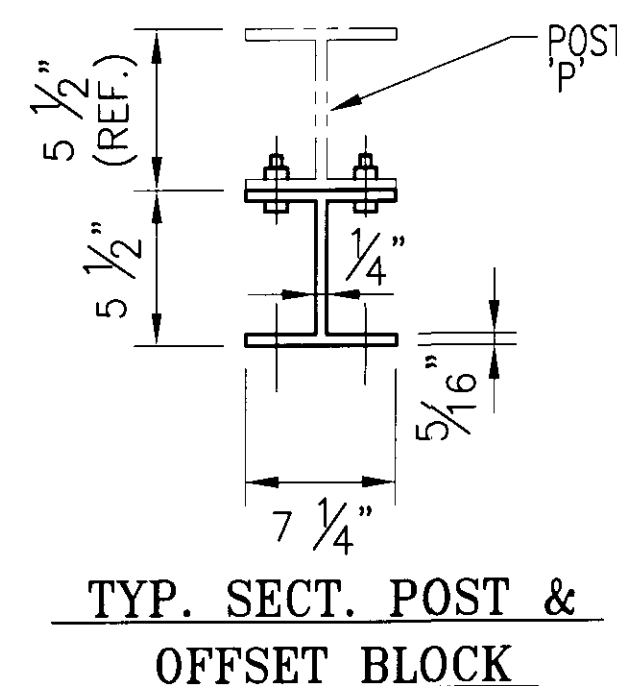
POST No.	OFFSET BLOCK	H	J	K	L	M	N
P11	OB11	1 1/16"	1'-0 7/16"	2'-1 1/8"	7/8"	1'-0"	2'-0 5/8"
P12	OB12	1 1/16"	10 3/4"	1'-10 13/16"	7/8"	10 5/16"	1'-10 5/16"
P13	OB13	1 1/16"	9 1/16"	1'-8 9/16"	7/8"	8 5/8"	1'-8 1/16"
P14	OB14	1 1/16"	7 3/8"	1'-6 1/4"	7/8"	6 15/16"	1'-5 3/4"
P22	OB22	1 1/8"	1'-0 7/16"	2'-1 1/4"	3/4"	11 7/8"	2'-0 9/16"
P23	OB23	1 1/8"	10 13/16"	1'-11 13/16"	3/4"	10 3/16"	1'-10 1/2"
P24	OB24	1 1/8"	9 1/8"	1'-9 1/16"	3/4"	8 1/2"	1'-8 3/8"
P25	OB25	1 1/8"	7 7/16"	1'-7"	3/4"	6 13/16"	1'-6 5/16"

### OFFSET BLOCK DETAIL CHART FOR NE APPROACH

		OFFSET BLOCK MTG. DIMENSIONS						BEV
POST No.	QTY.	A	B	C	D	E	F (O.C.)	X
P15	1	1'-5 5/16"	1'-0 1/4"	2 3/16"	5/16"	1 7/8"	1'-5 3/16"	1/2
P16	1	1'-4 5/8"	11 1/2"	2 3/16"	5/16"	1 7/8"	1'-4 7/16"	1/2
P17	1	1'-3 7/8"	10 3/4"	2 3/16"	5/16"	1 7/8"	1'-3 11/16"	1/2

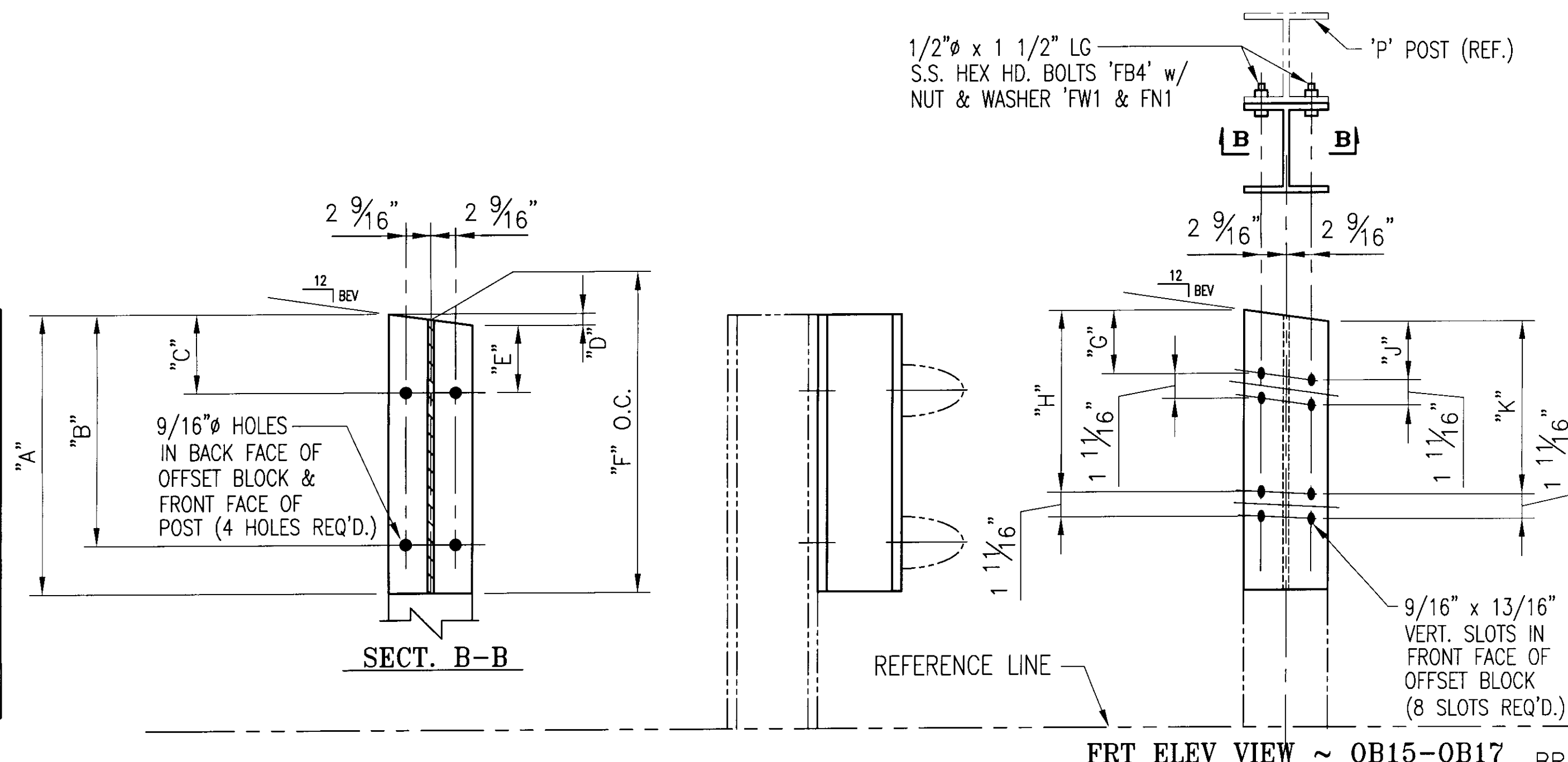
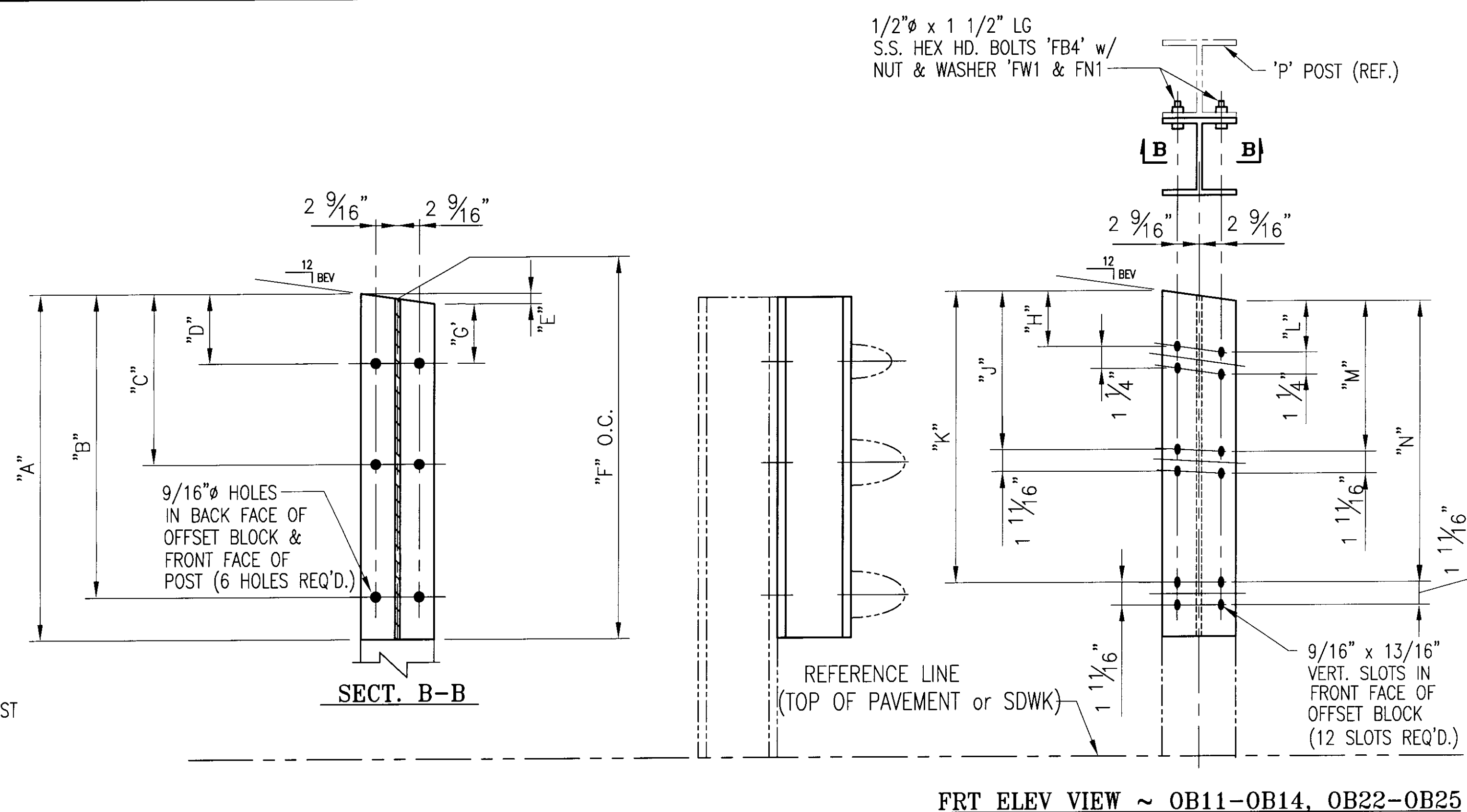
#### OFFSET BLOCK ~ RAIL MTG. DIMENSIONS

POST No.	OFFSET BLOCK	G	H	J	K
P15	OB15	1 3/16"	11 5/16"	1 1/8"	11 3/16"
P16	OB16	1 3/16"	10 5/8"	1 1/8"	10 7/16"
P17	OB17	1 3/16"	9 7/8"	1 1/8"	9 11/16"



NOTE:  
 2 CLAMPING BARS CB-01-H (#28596) PER POSTS P1- P4, P8 - P11  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P1- P4, P8 - P11  
 w/ 1/2"Ø-13 UNC S.S. BOLT x 1" LG. 'FB1', 1 1/16" O.D. x 17/32" I.D. x 3/32" THK. ALUM WASHER 'FW1' (#15280 & #19404) (16 PER POST)

NOTE:  
 4 CLAMPING BARS CB-03-A (#19447) PER POSTS P1 - P4, P8 - P11  
 w/ 1/2"Ø-13 UNC S.S. BOLT x 1" LG. 'FB1', 1 1/16" O.D. x 17/32" I.D. x 3/32" THK. ALUM WASHER 'FW1' (#15280 & #19404) (8 PER POST)



1/2"Ø x 1 1/2" LG S.S. HEX HD. BOLTS 'FB4' w/ NUT & WASHER 'FW1 & FN1' 'P' POST (REF.)

1/2"Ø x 1 1/2" LG S.S. HEX HD. BOLTS 'FB4' w/ NUT & WASHER 'FW1 & FN1' 'P' POST (REF.)

BRIDGE No. 5  
 PROJECT No. BHO 1448 (29) ITEM No: 900.640

APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
 \_\_\_\_\_ DRAWING \_\_\_\_\_

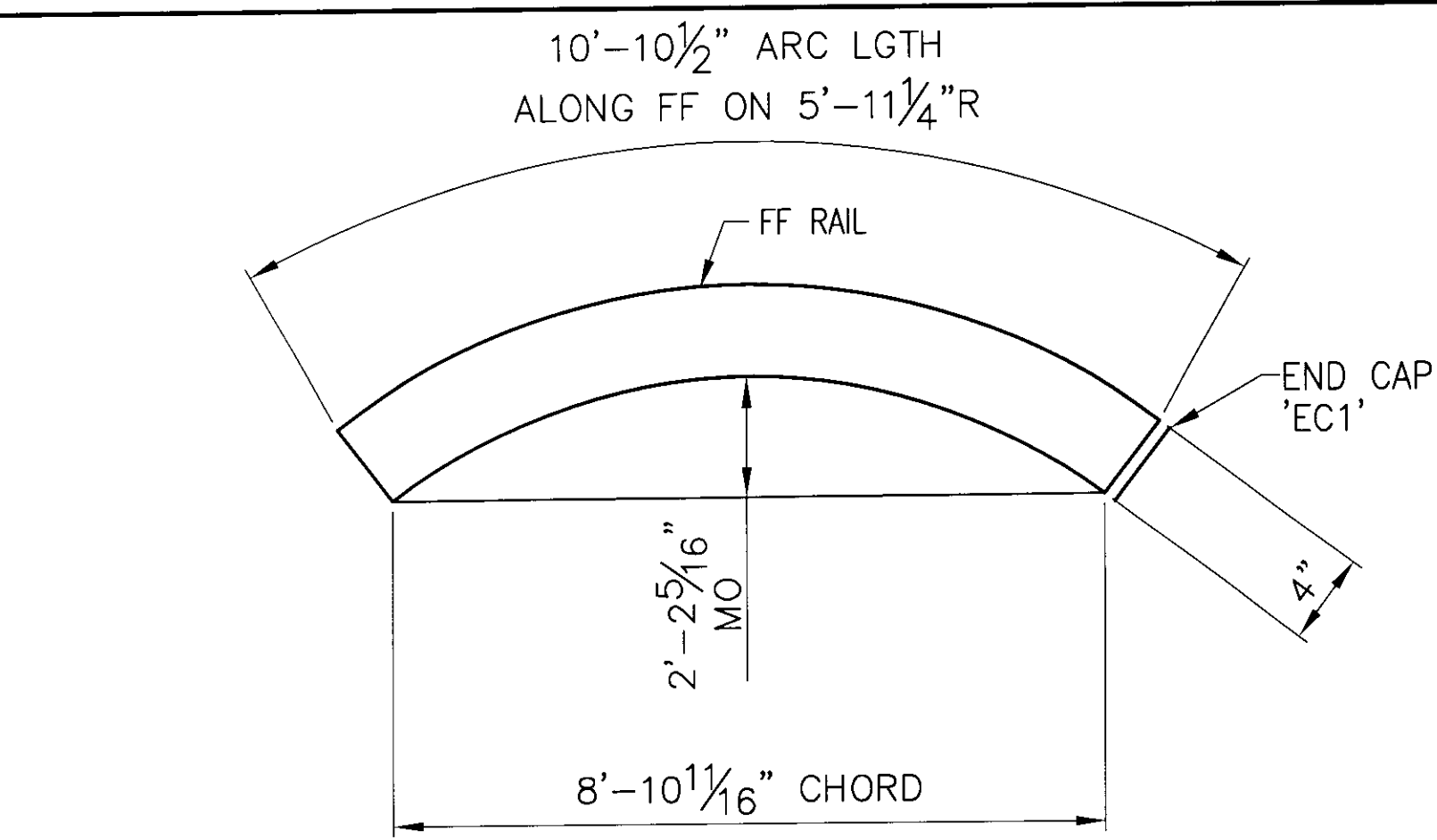
**L.B. FOSTER COMPANY**  
 1016 GREENTREE ROAD  
 PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
 VERMONT AGENCY OF TRANSPORTATION  
 TOWN OF JOHNSON, COUNTY OF LAMOILLE  
 APPROACH RAILING FOR TH No 1 OVER THE GIHON RIVER  
 OFFSET BOX DETAILS

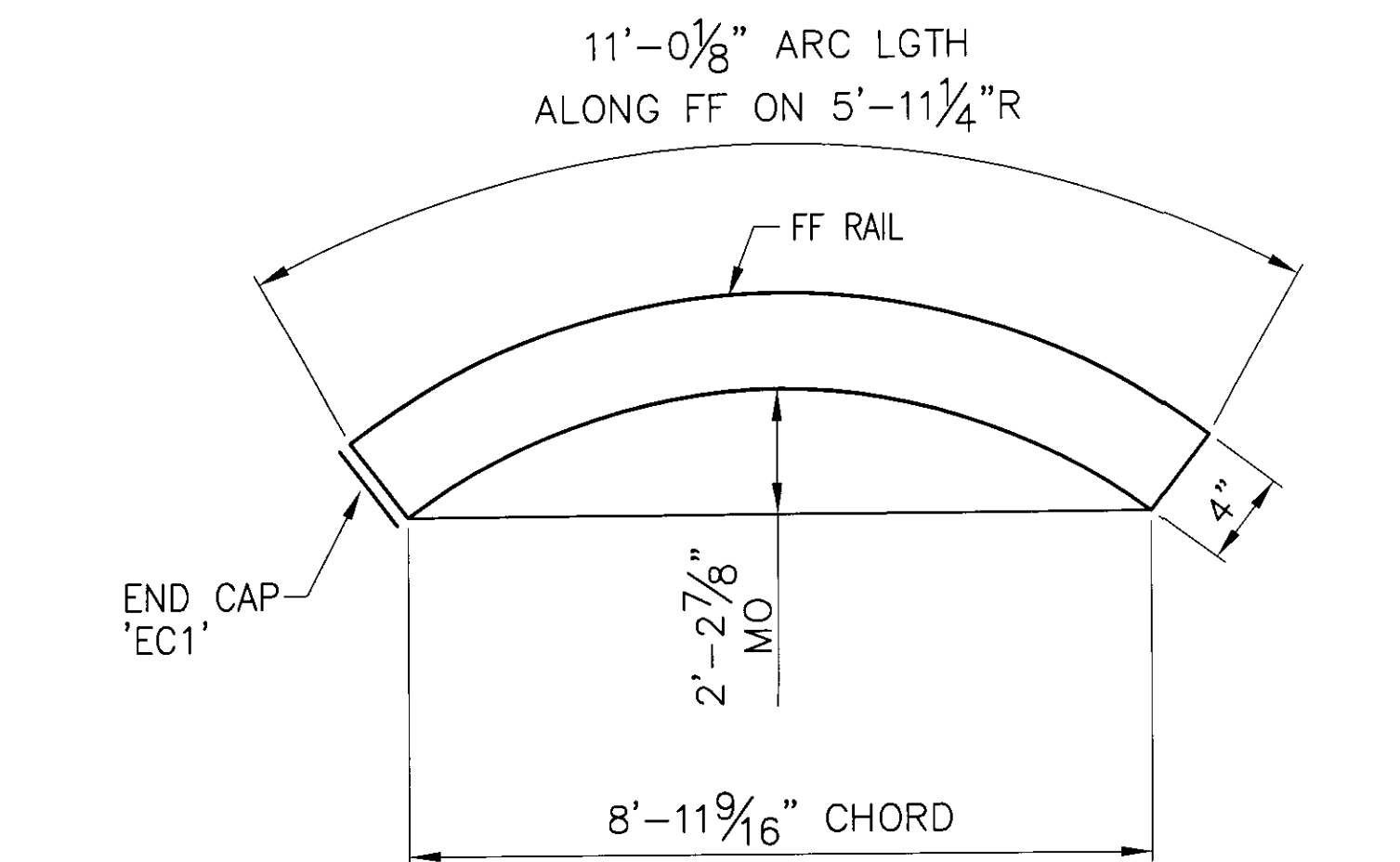
MADE CMS DATE 10/24/09 JOB No. AR0573 CUST. No.  
 CHECK BLJ DATE 11/06/09 DRAWING LB7 REV. No.

**ANODIZED**  
 (SEE NOTES ON LB1)

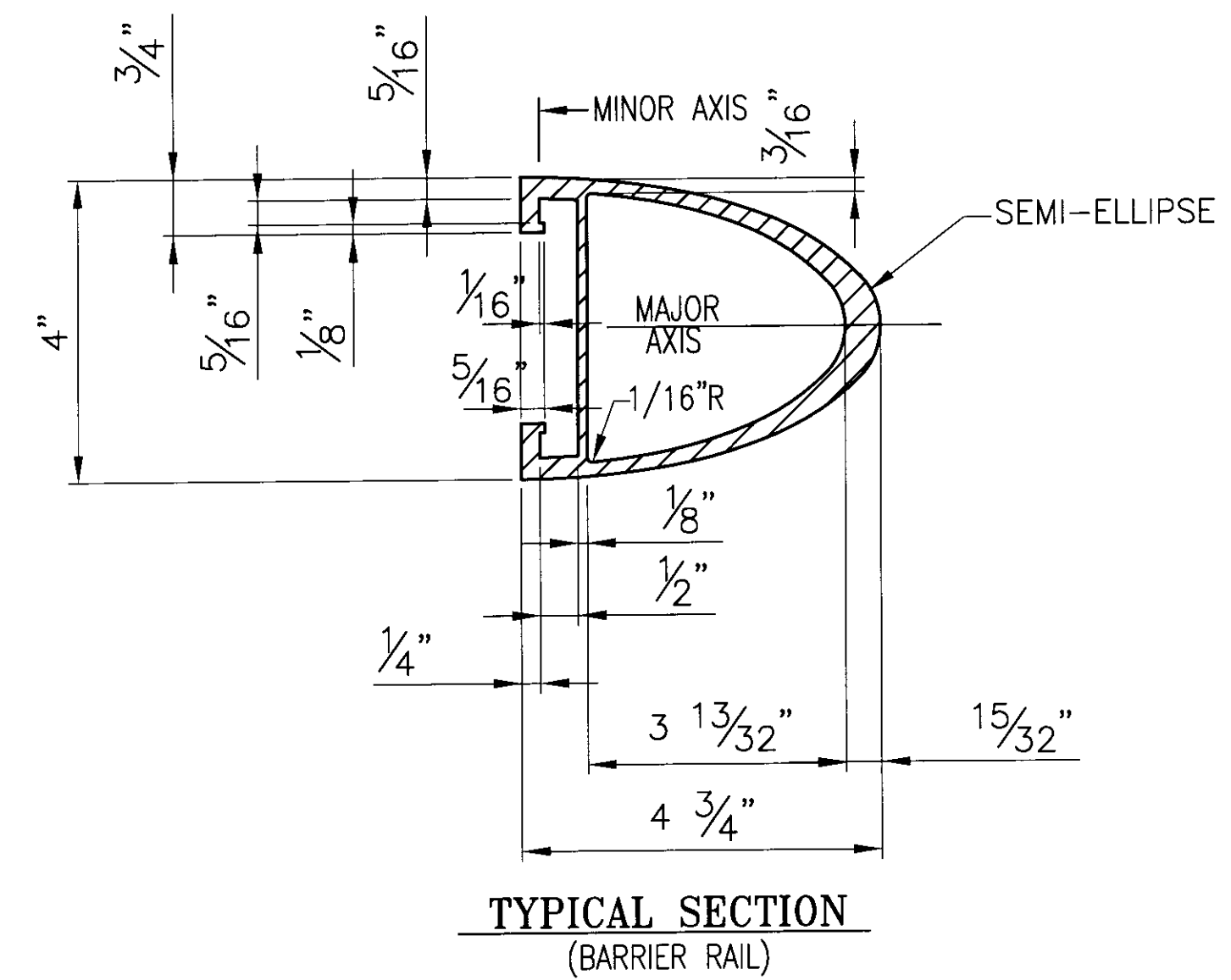
REV.	DESCRIPTION	BY	DATE



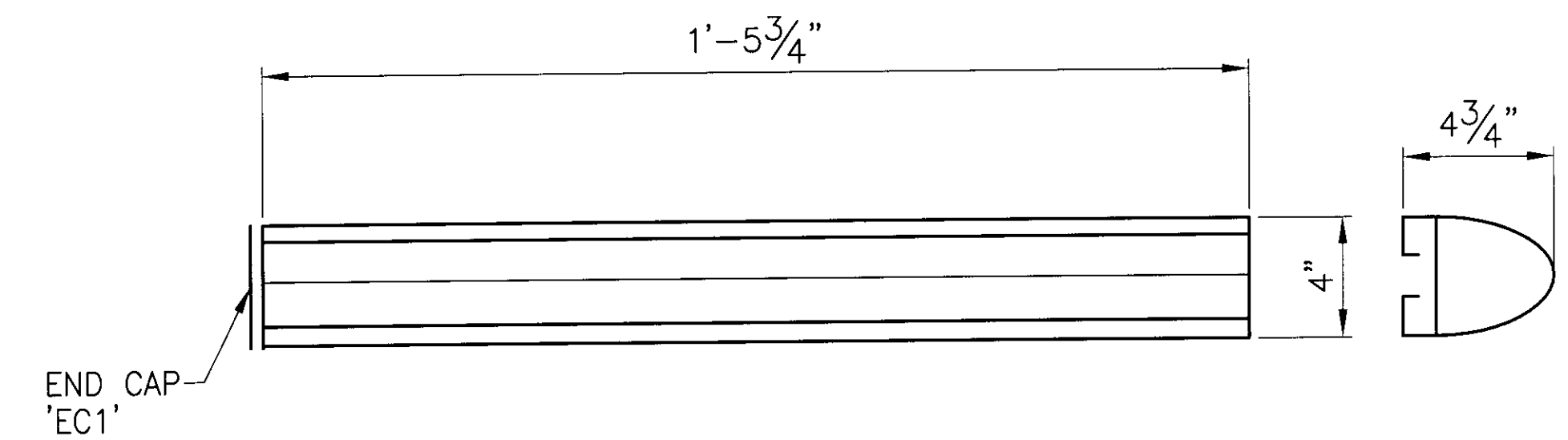
**ONE REQ'D - HANDRAIL 'TR3'**  
(BACK ELEVATION VIEW)



**ONE REQ'D - HANDRAIL 'TR4'**  
(BACK ELEVATION VIEW)

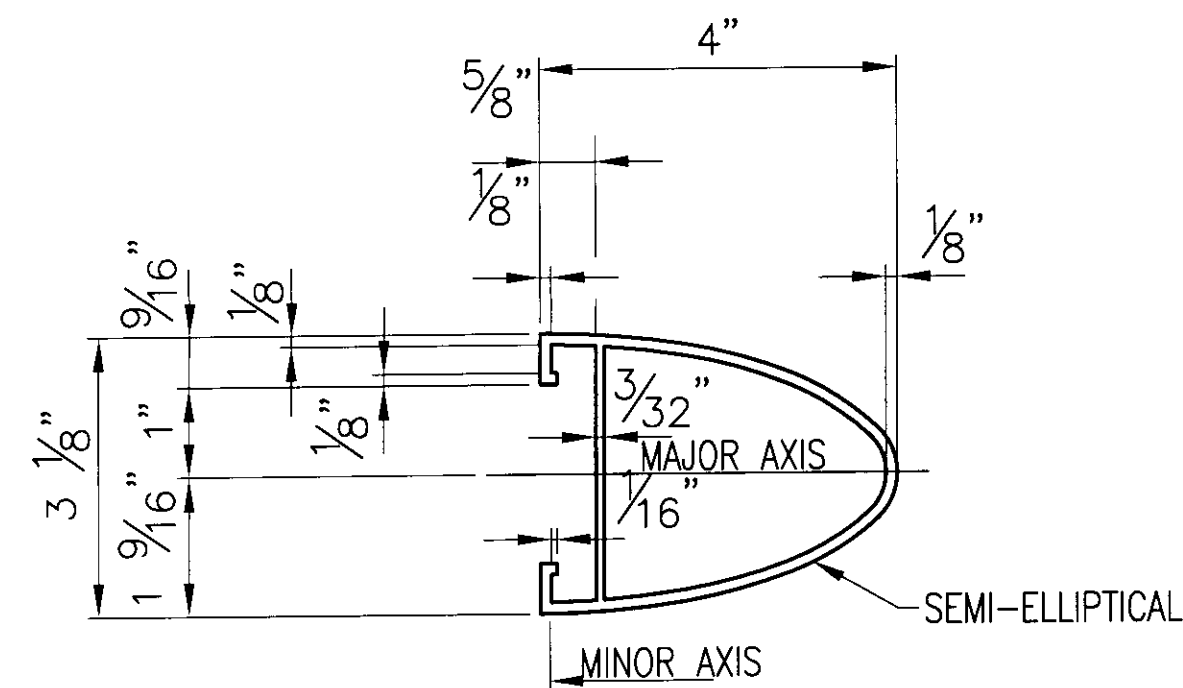


**TYPICAL SECTION**  
(BARRIER RAIL)

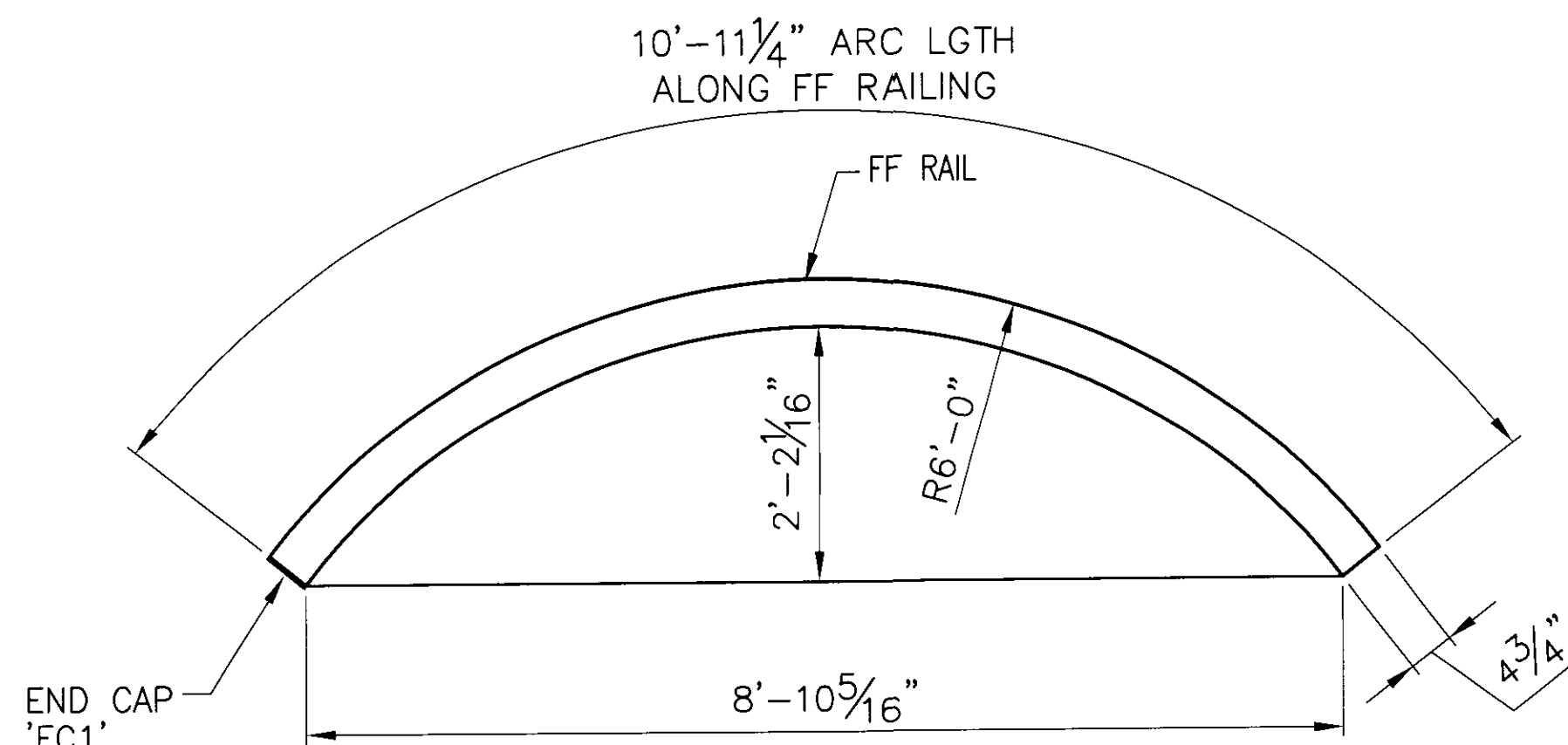


**BACK ELEVATION VIEW**

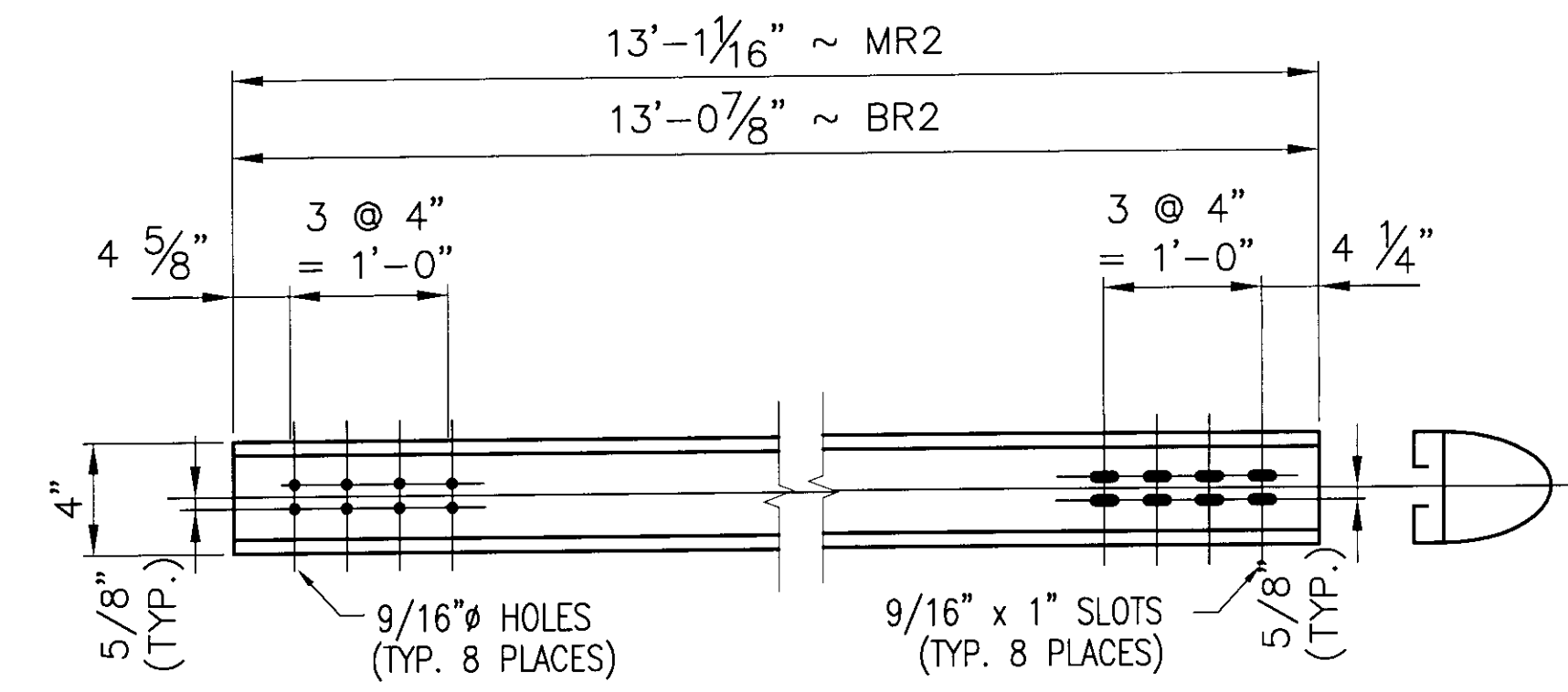
**8 REQ'D - BARRIER RAIL 'A2'**  
(BACK ELEVATION VIEW)



**TYPICAL SECTION**  
(HANDRAIL)

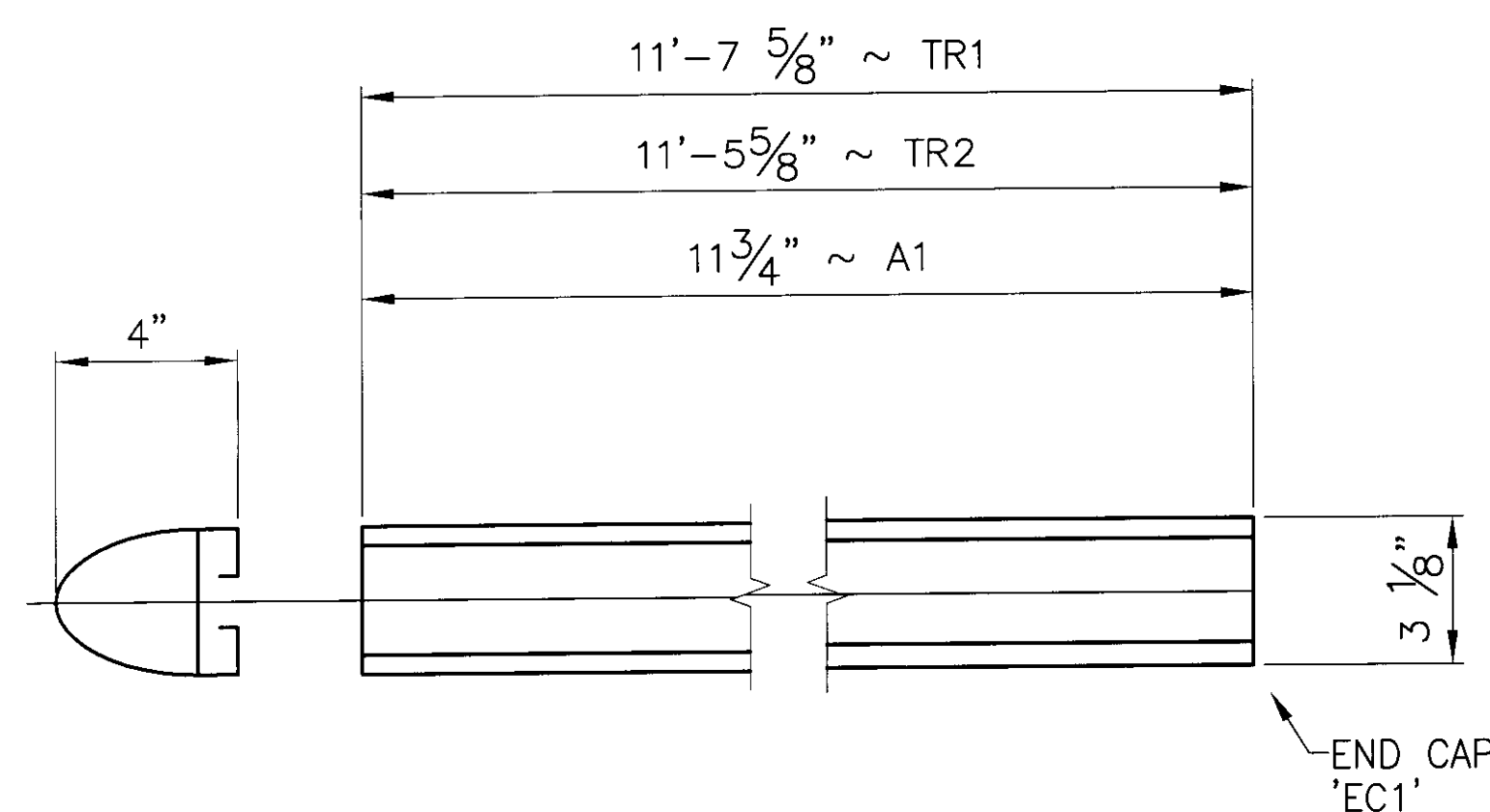


**PLAN VIEW**



**ONE REQ'D. ~ RAIL 'MR2'**  
(BACK ELEVATION VIEW)

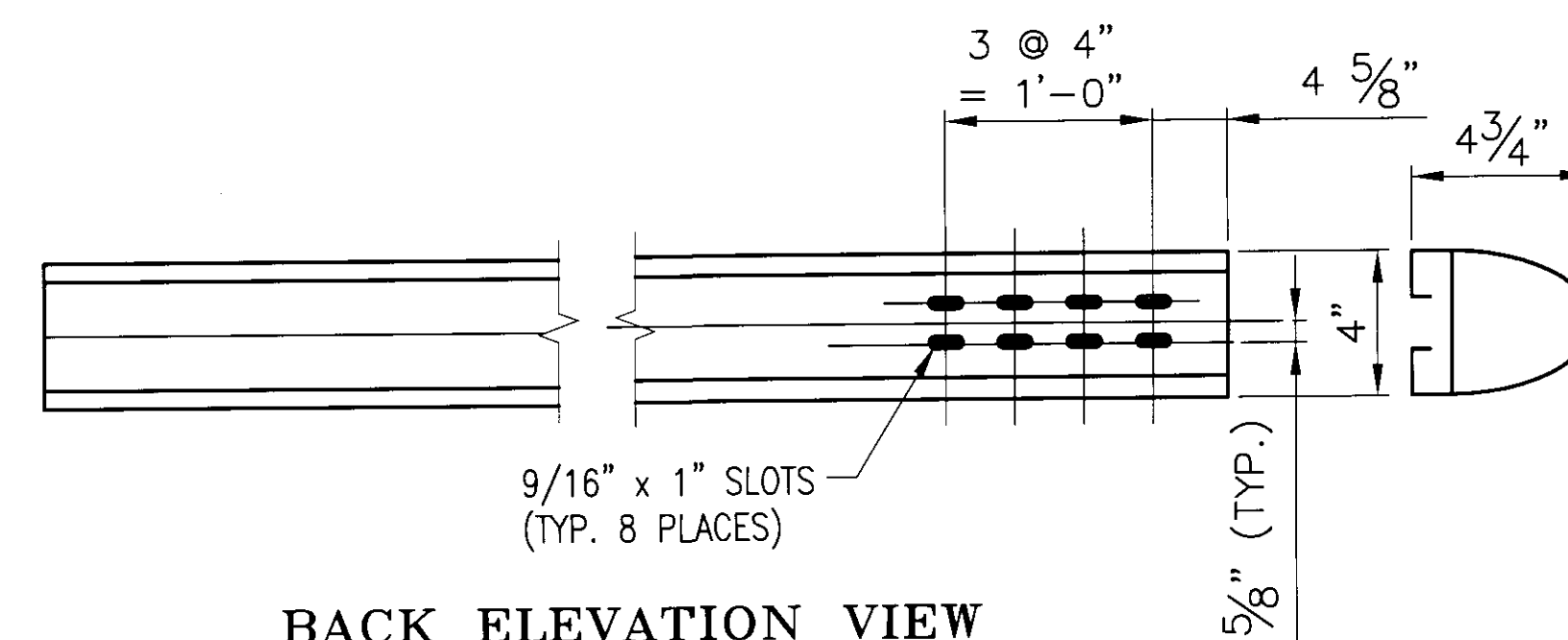
**ONE REQ'D. ~ RAIL 'BR2'**  
(BACK ELEVATION VIEW)



**ONE REQ'D - HANDRAIL 'TR1'**  
(BACK ELEVATION VIEW)

**ONE REQ'D - HANDRAIL 'TR2'**  
(BACK ELEVATION VIEW)

**4 REQ'D - HANDRAIL 'A1'**  
(BACK ELEVATION VIEW)



**BACK ELEVATION VIEW**

**ONE REQ'D - BARRIER RAIL 'MR5'**  
(BACK ELEVATION VIEW)

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No: 900.640

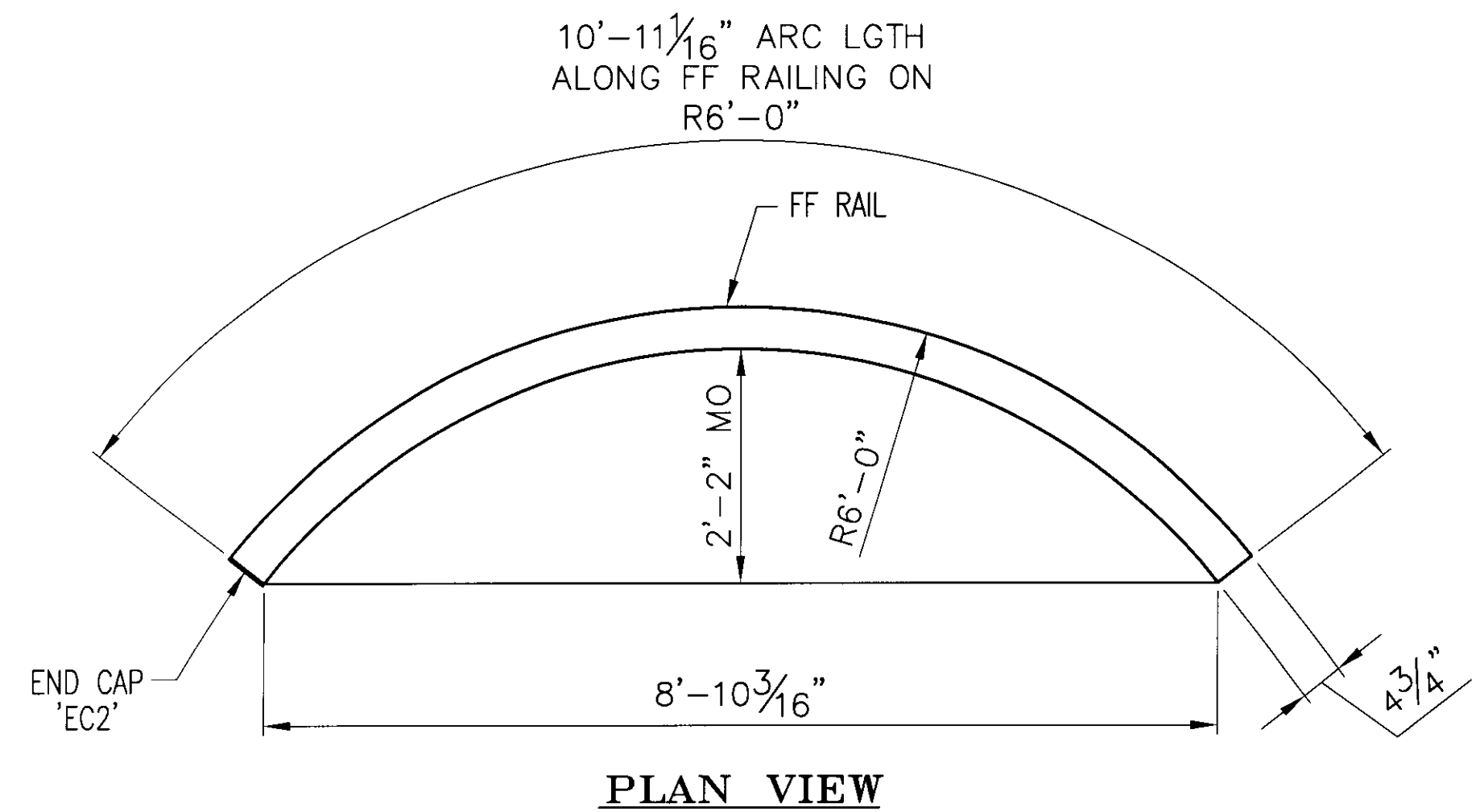
APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

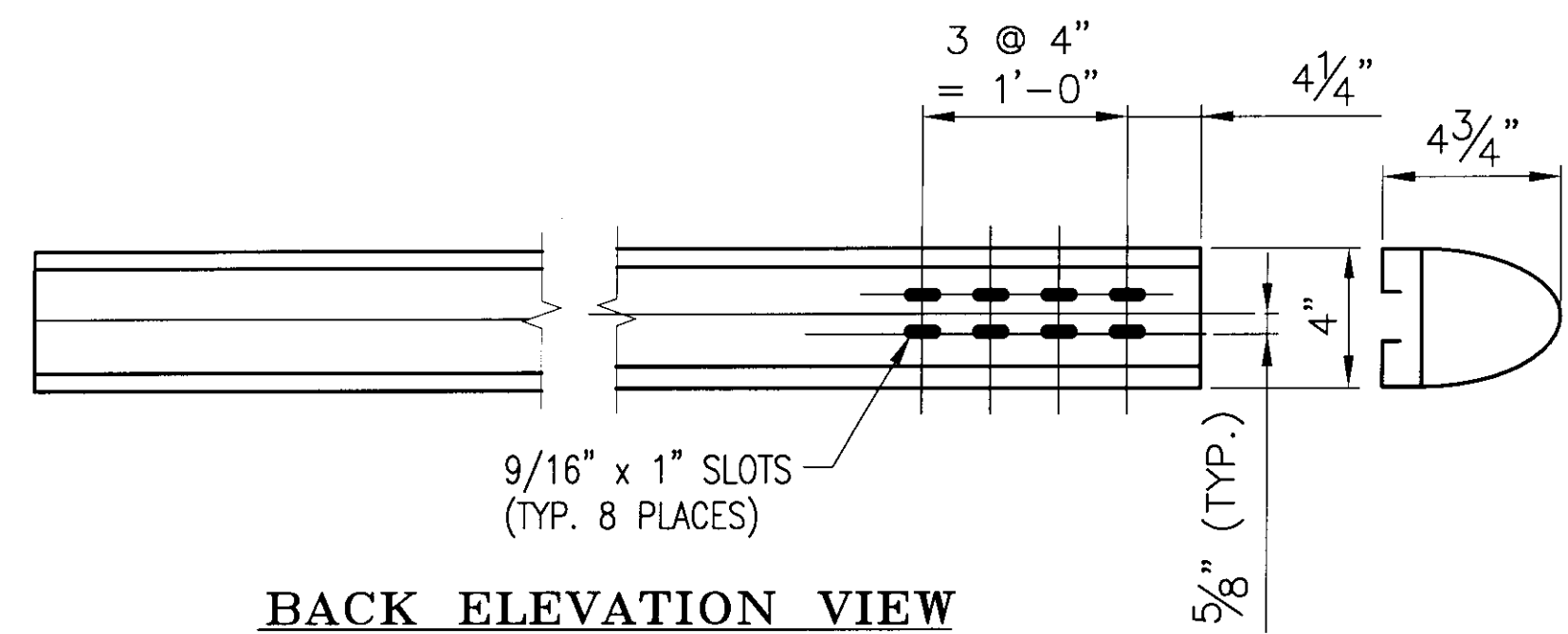
FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No 1 OVER THE GHON RIVER  
3L ALUMINUM APPROACH RAIL - RAIL DETAILS

MADE CMS DATE 10/26/09 JOB No. AR0573 CUST. No. \_\_\_\_\_  
CHECK. BLJ DATE 11/06/09 DRAWING LB8 REV. No. \_\_\_\_\_

REV.	DESCRIPTION	BY	DATE

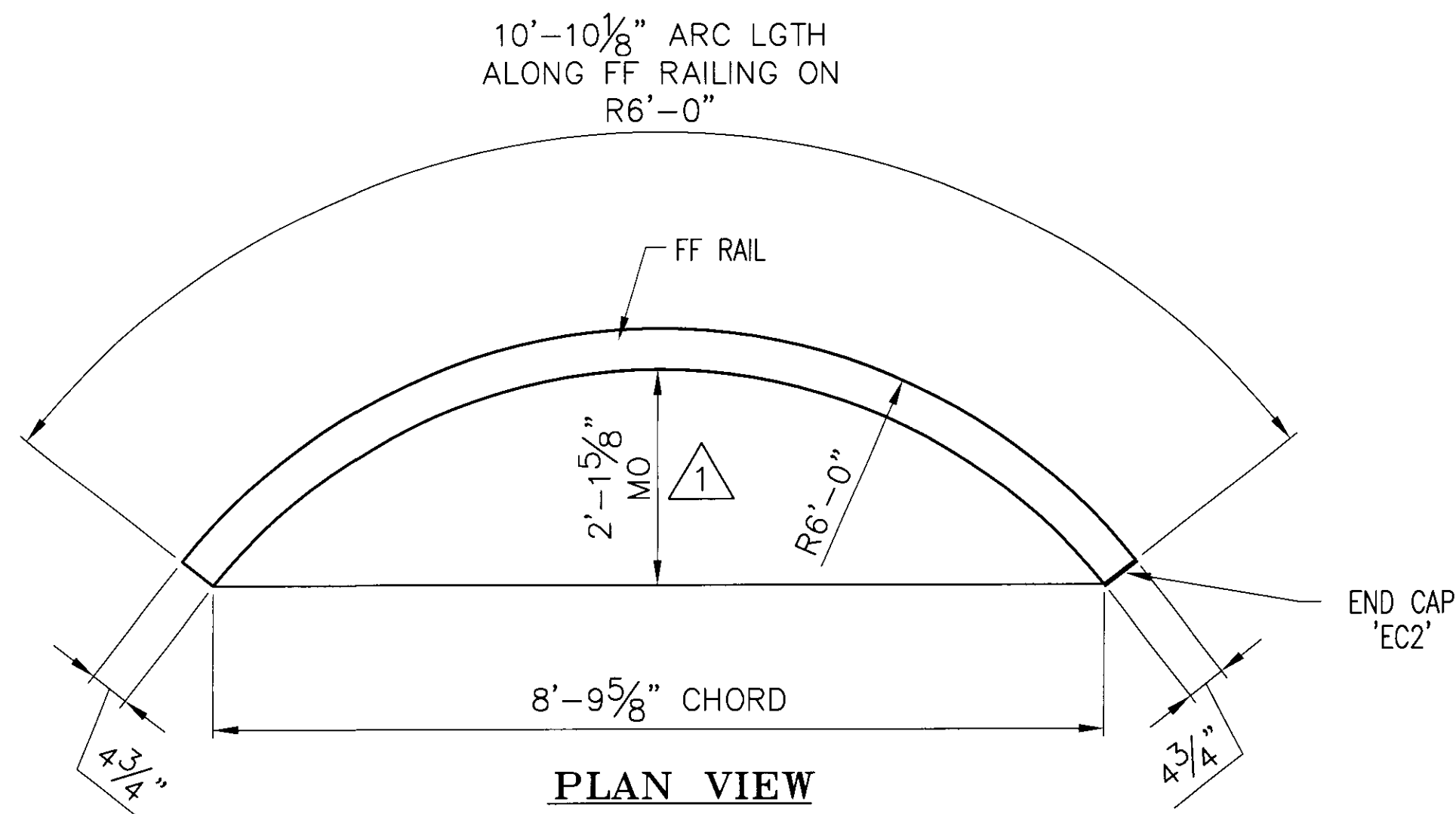


PLAN VIEW

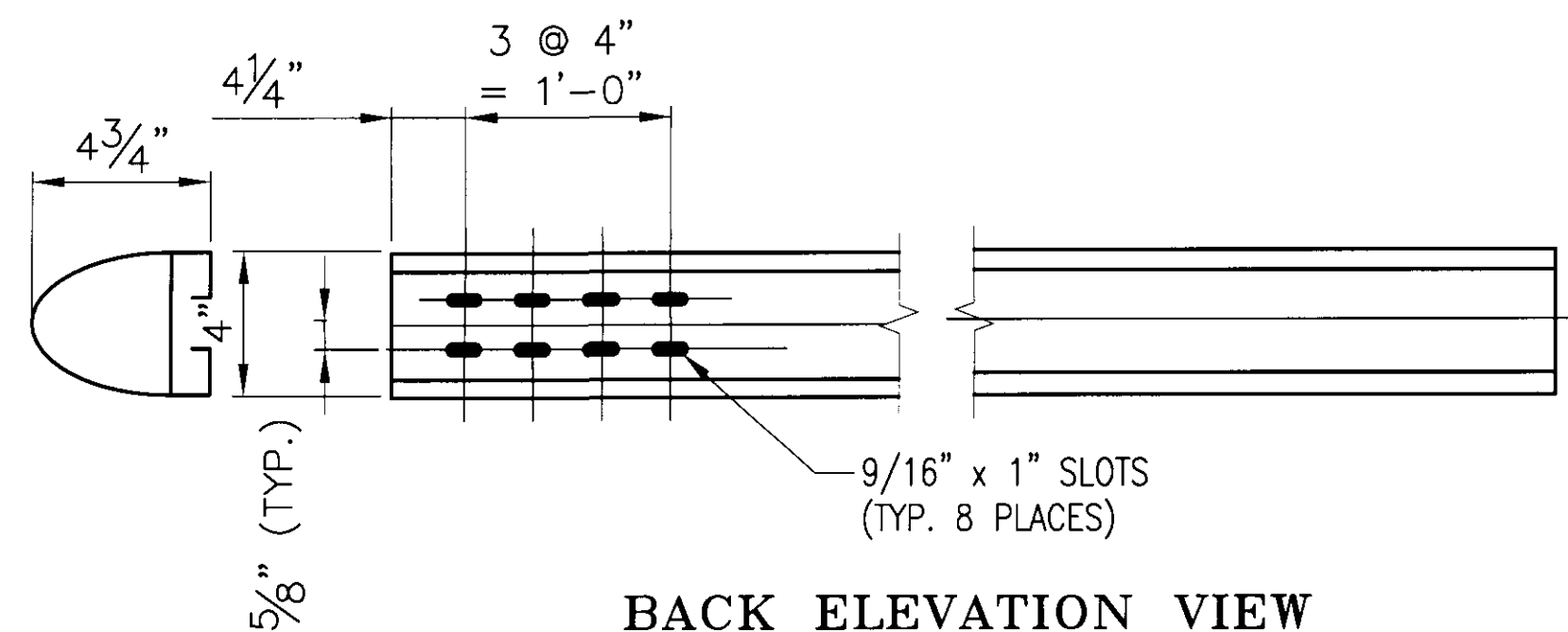


BACK ELEVATION VIEW

ONE REQ'D - BARRIER RAIL 'BR5'  
(BACK ELEVATION VIEW)

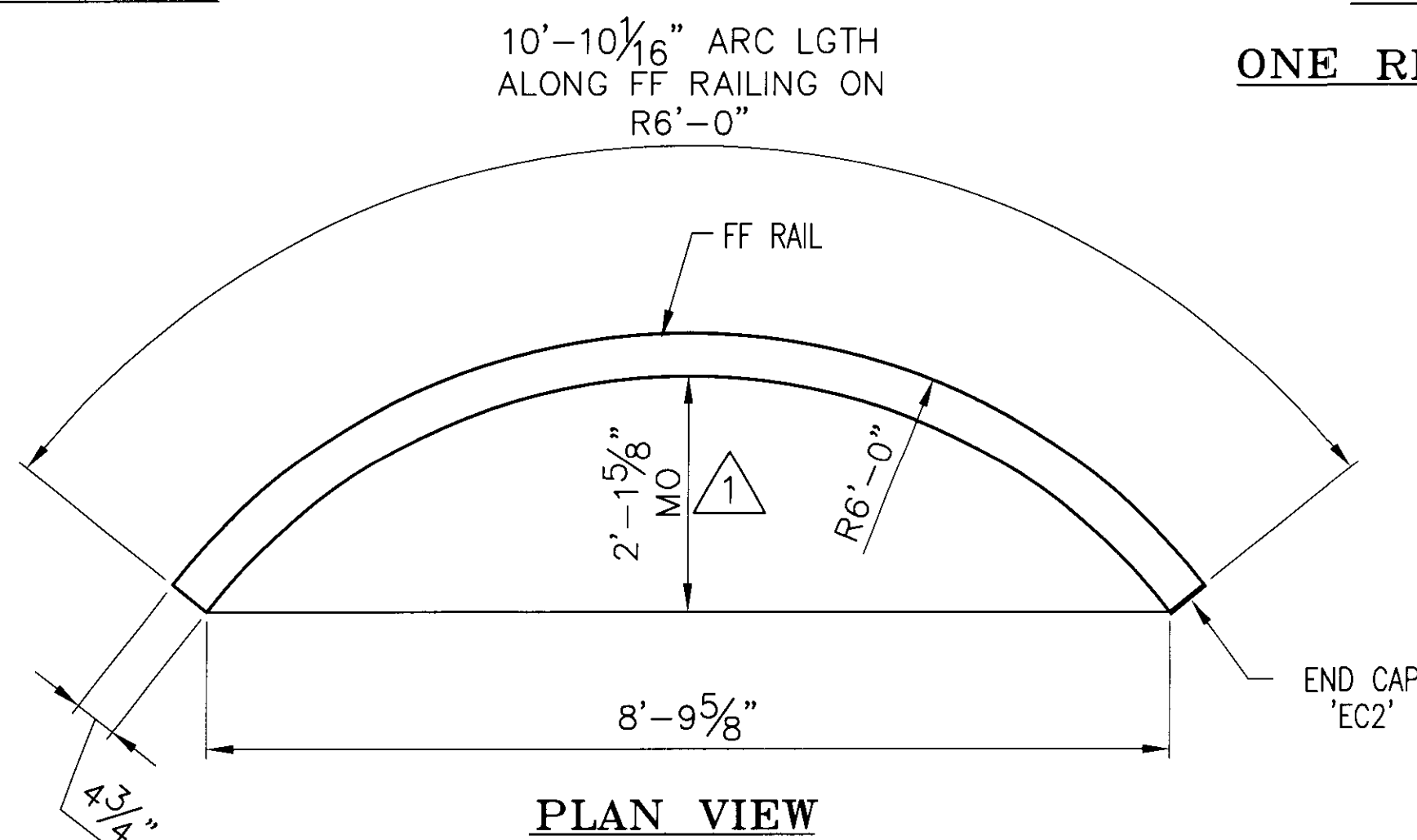


PLAN VIEW

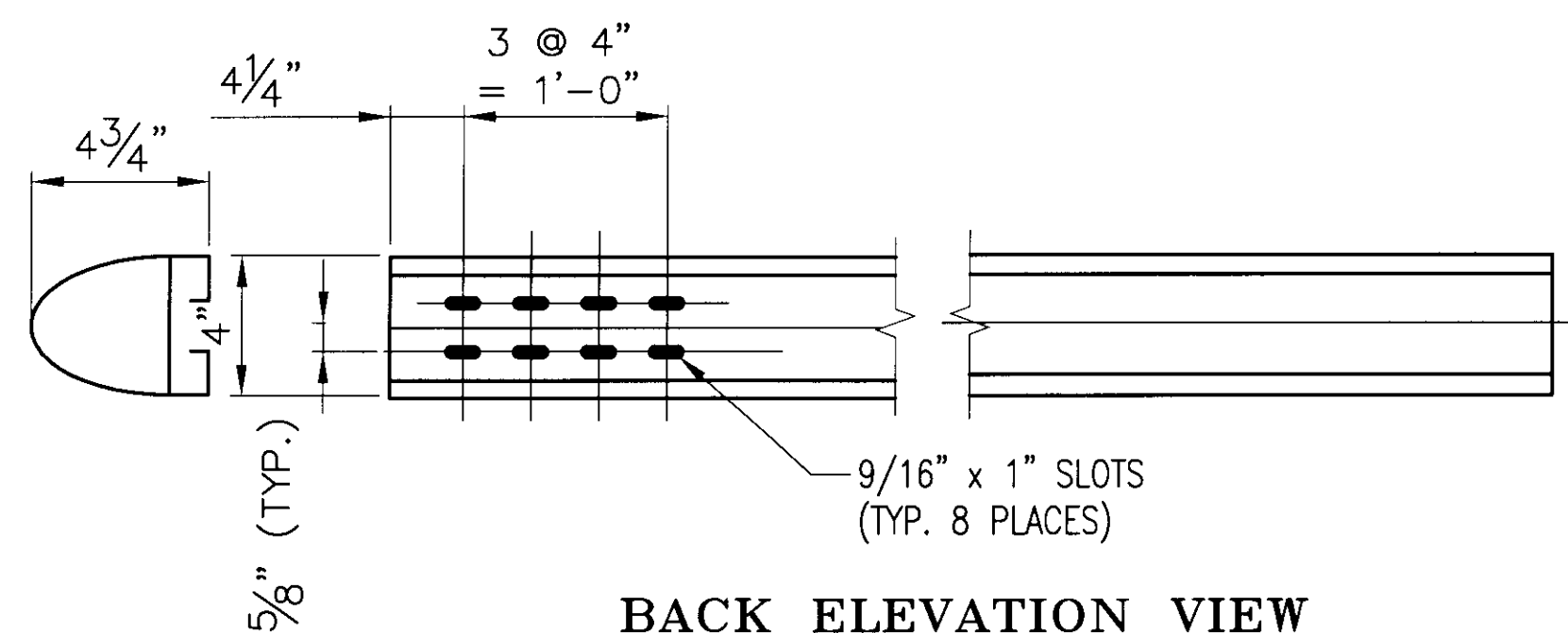


BACK ELEVATION VIEW

ONE REQ'D - BARRIER RAIL 'MR4'  
(BACK ELEVATION VIEW)

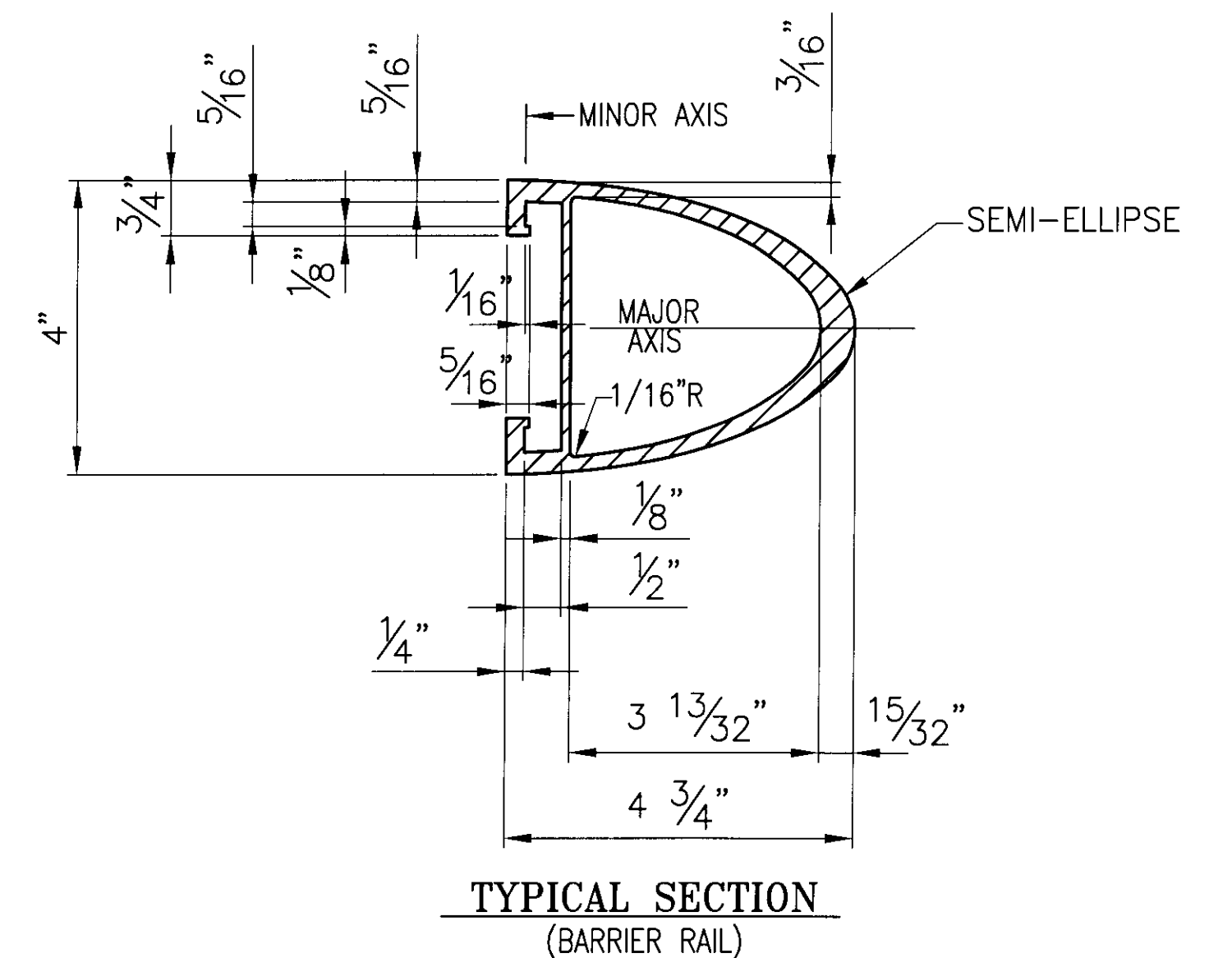


PLAN VIEW



BACK ELEVATION VIEW

ONE REQ'D - BARRIER RAIL 'BR4'  
(BACK ELEVATION VIEW)



TYPICAL SECTION  
(BARRIER RAIL)

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No: 900.640

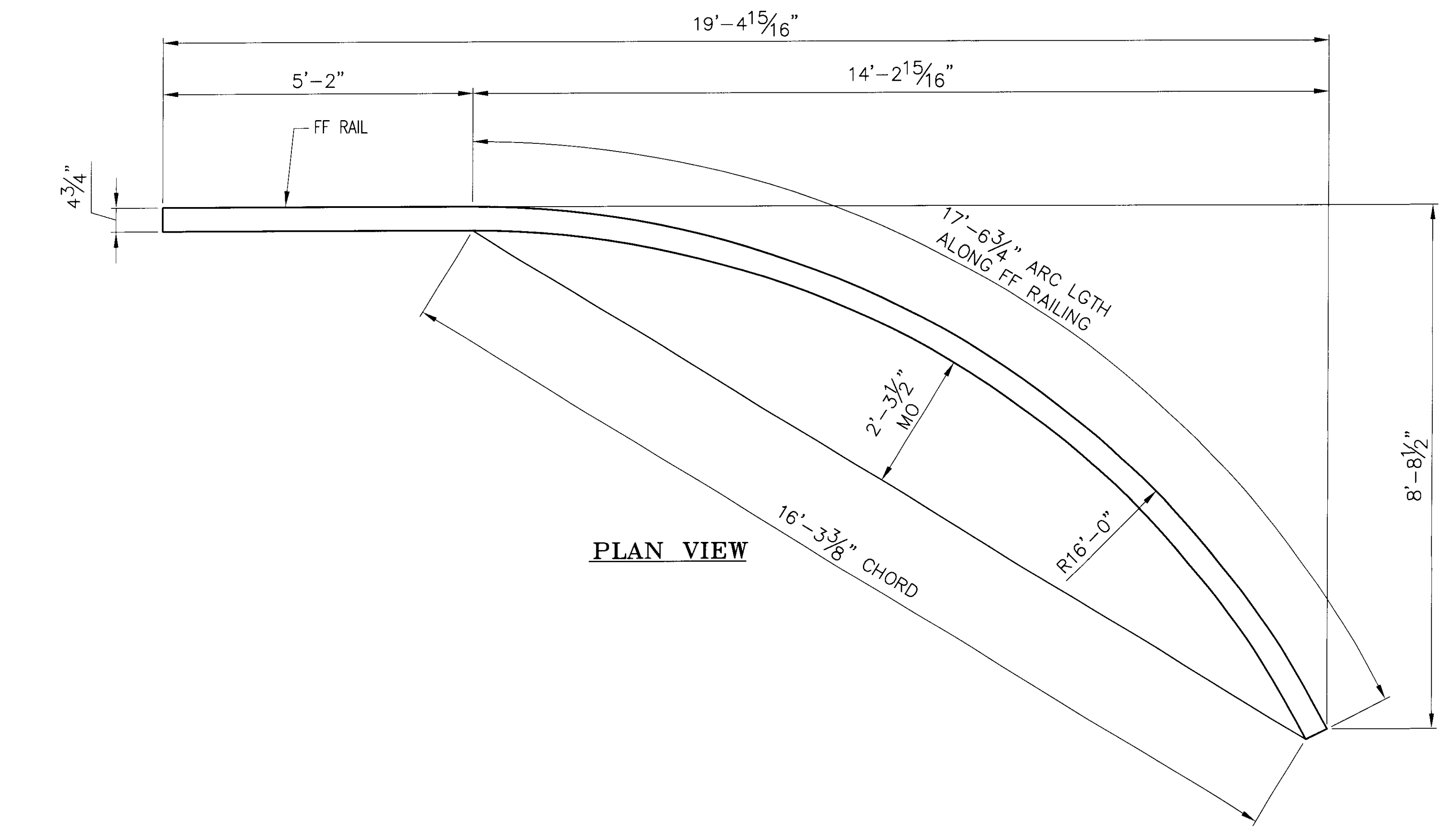
APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

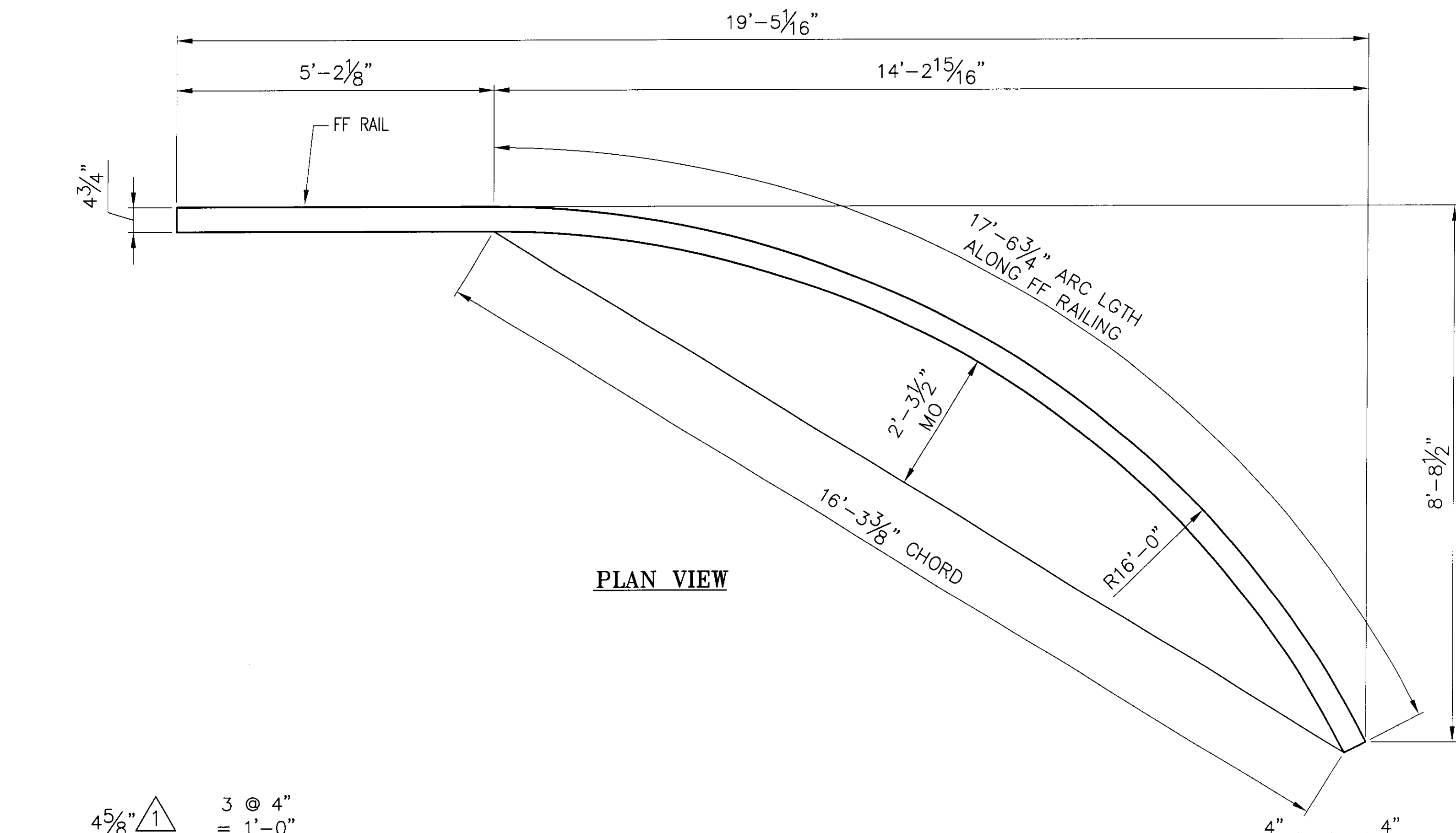
FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No 1 OVER THE GIHON RIVER  
3L ALUMINUM APPROACH RAIL - RAIL DETAILS

1	REVISED PER APPROVAL MARKUP	CMS	01 11 10
REV.	DESCRIPTION	BY	DATE

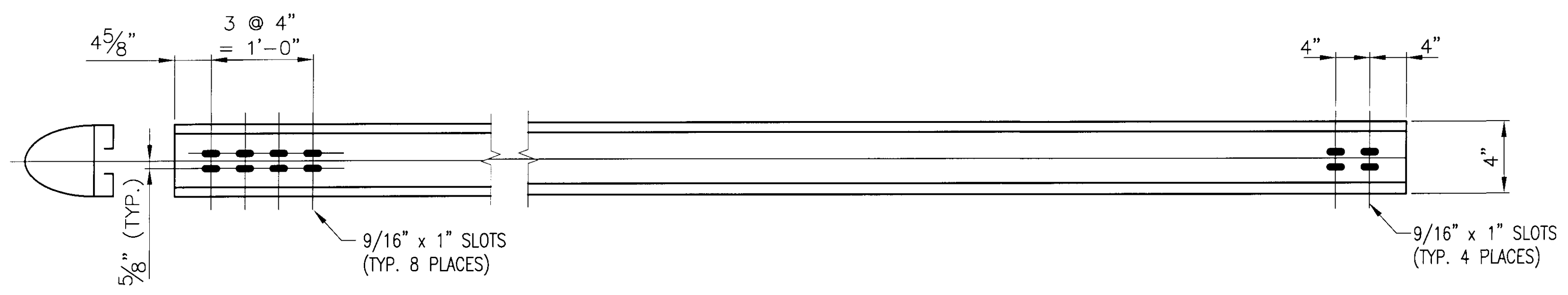
MADE CMS DATE 10/26/09 JOB No. AR0573 CUST. No.  
CHECK BLJ DATE 11/06/09 DRAWING LB9 REV. No. ONE



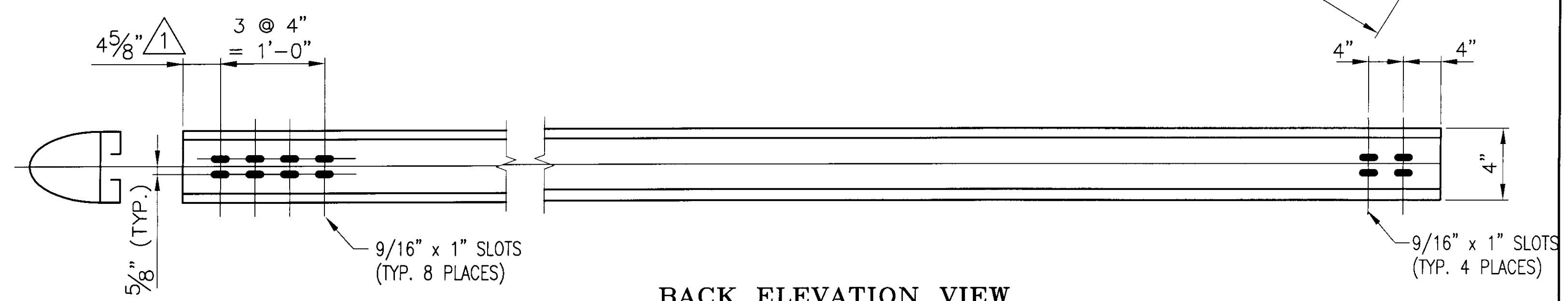
PLAN VIEW



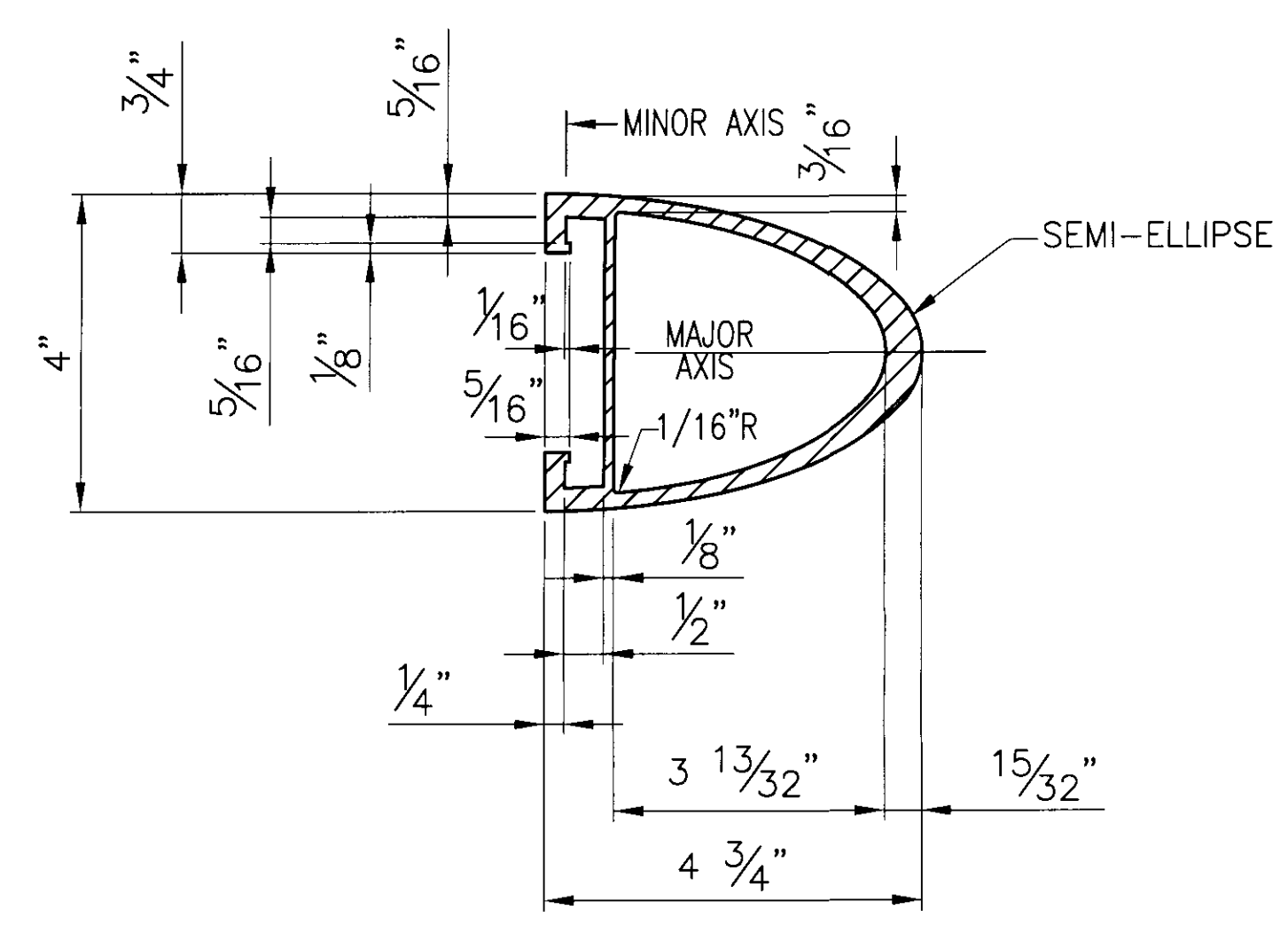
PLAN VIEW



BACK ELEVATION VIEW  
ONE REQ'D - BARRIER RAIL 'MR1'



BACK ELEVATION VIEW  
ONE REQ'D - BARRIER RAIL 'BR1'



TYPICAL SECTION  
(BARRIER RAIL)

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No: 900.640

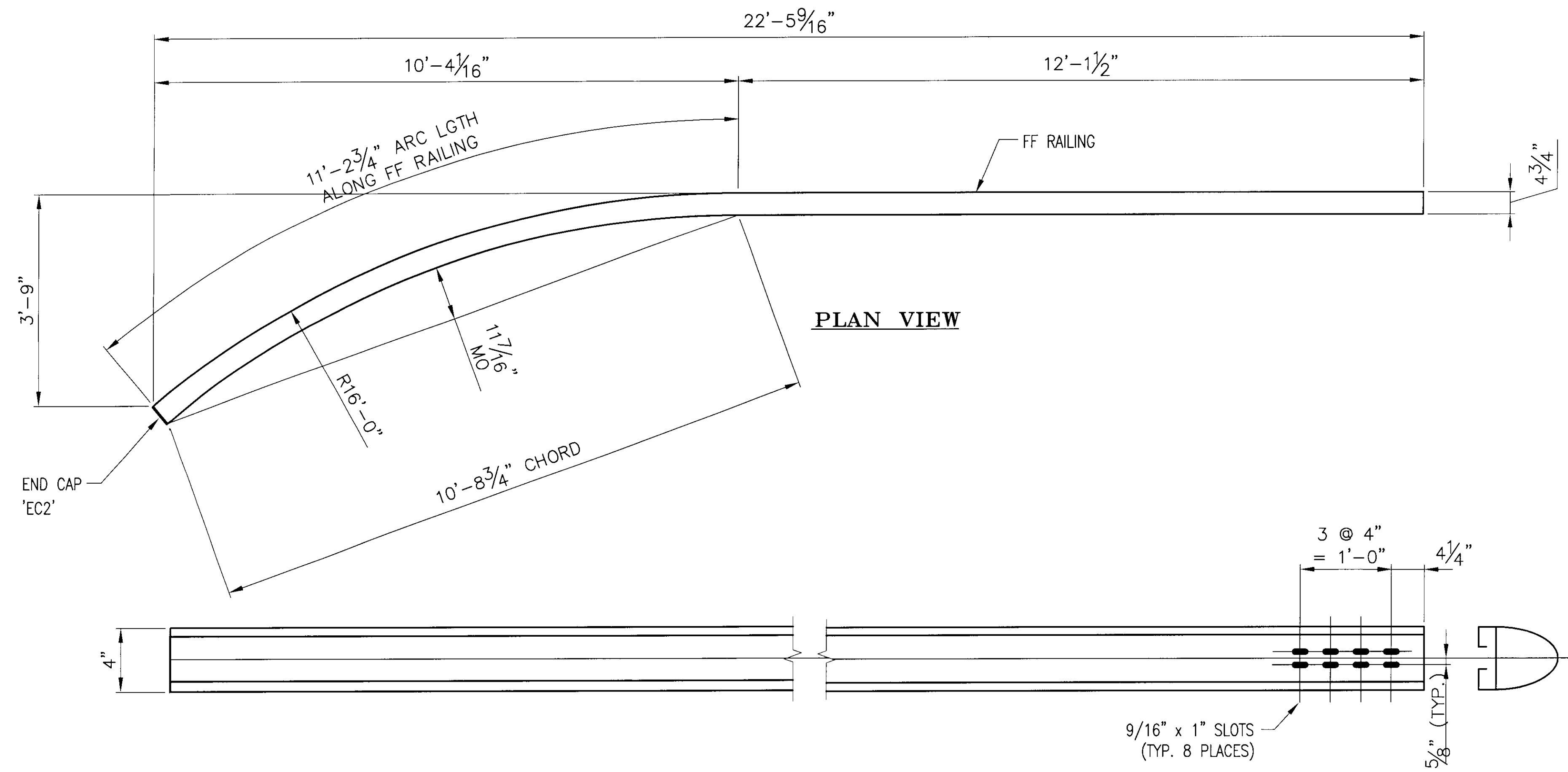
APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No 1 OVER THE GHON RIVER  
3L ALUMINUM APPROACH RAIL - RAIL DETAILS

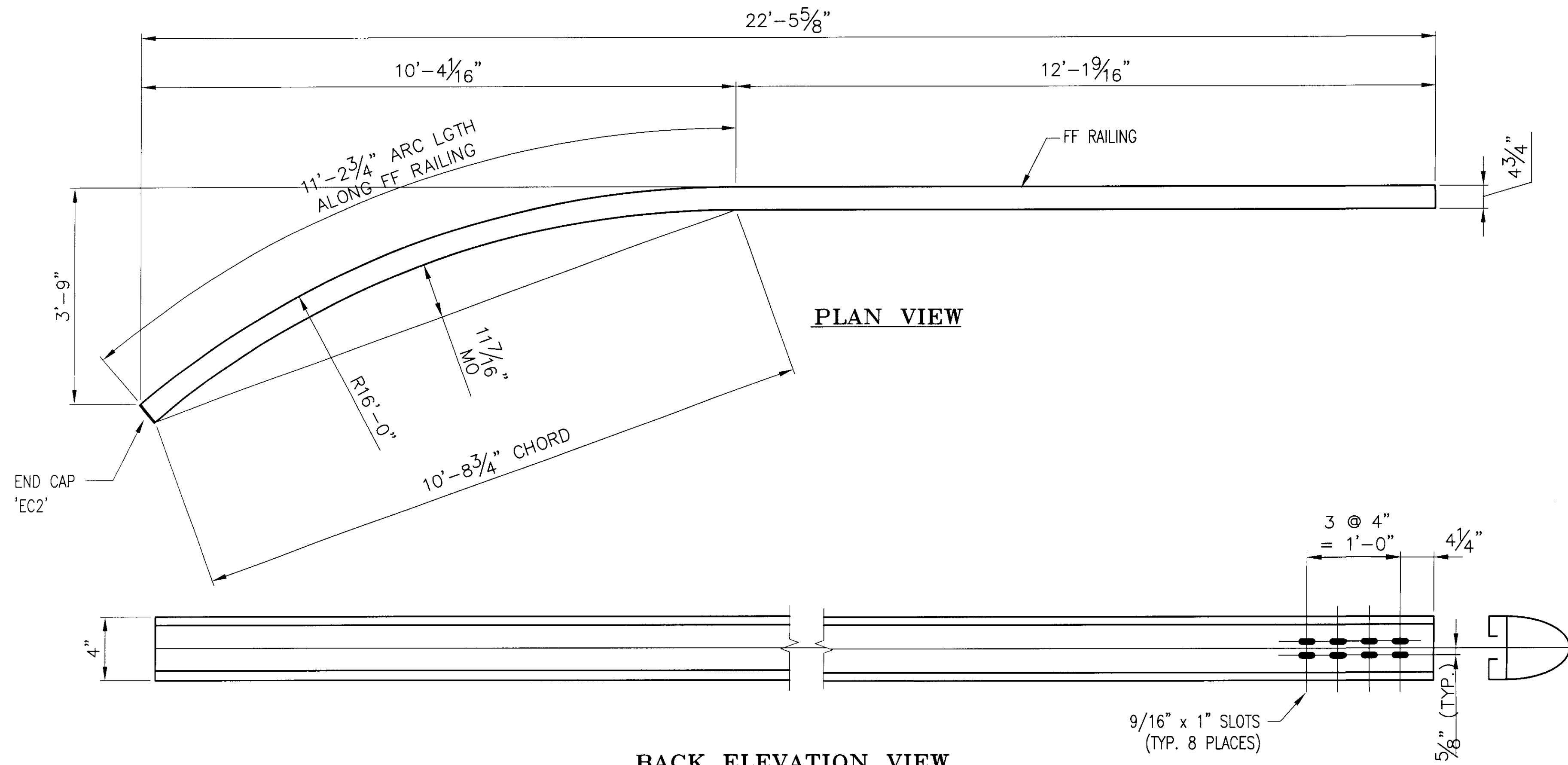
1	REVISED DIMENSION	CMS	01 11 10
REV.	DESCRIPTION	BY	DATE

MADE CMS DATE 10/26/09 JOB No. ARO573 CUST. No.  
CHECK BLD DATE 11/06/09 DRAWING LB10 REV. No. ONE



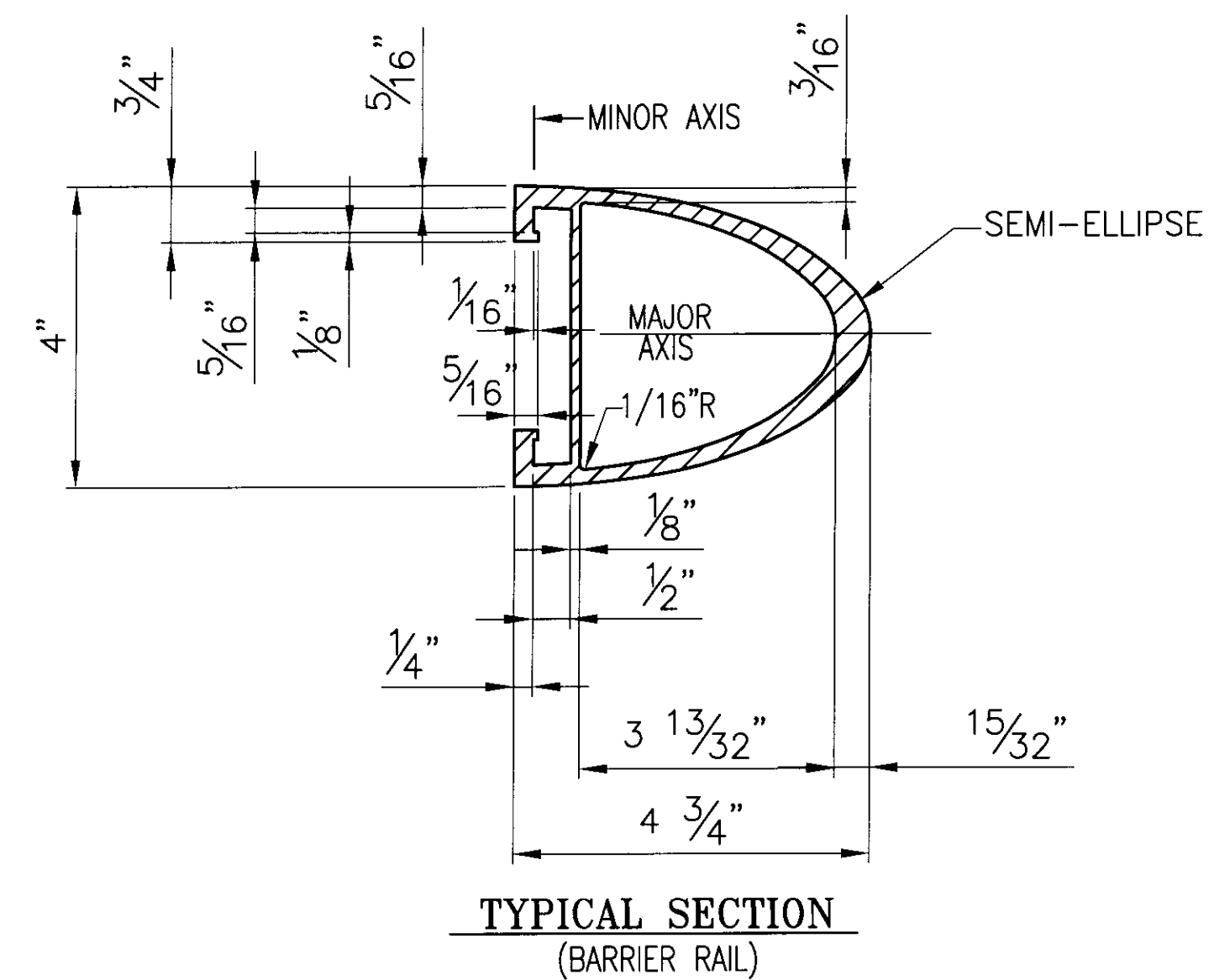
**BACK ELEVATION VIEW**

**ONE REQ'D - BARRIER RAIL 'BR3'**  
(BACK ELEVATION VIEW)



**BACK ELEVATION VIEW**

**ONE REQ'D - BARRIER RAIL 'MR3'**  
(BACK ELEVATION VIEW)



**TYPICAL SECTION**  
(BARRIER RAIL)

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No: 900.640

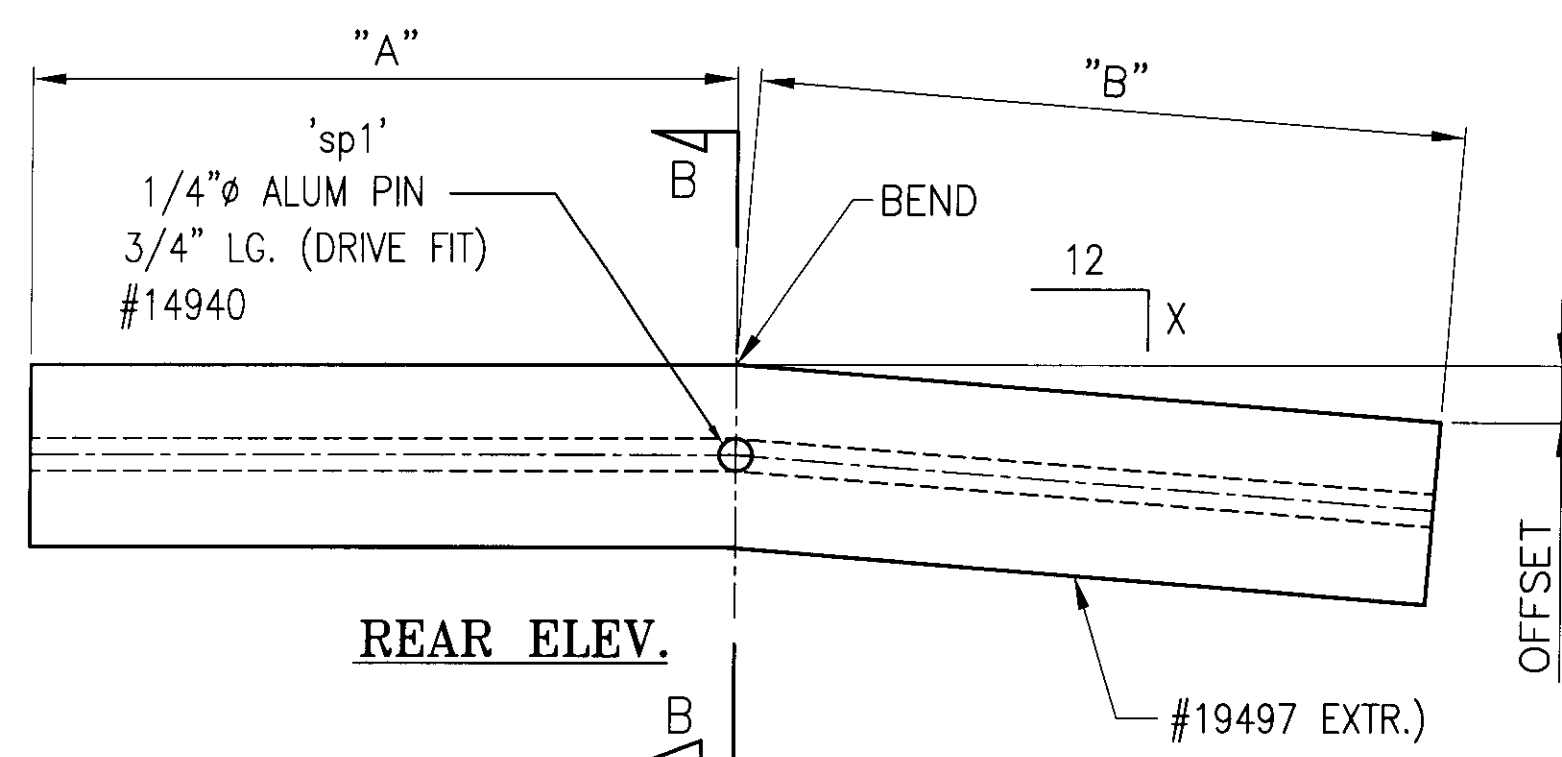
APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING \_\_\_\_\_

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1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

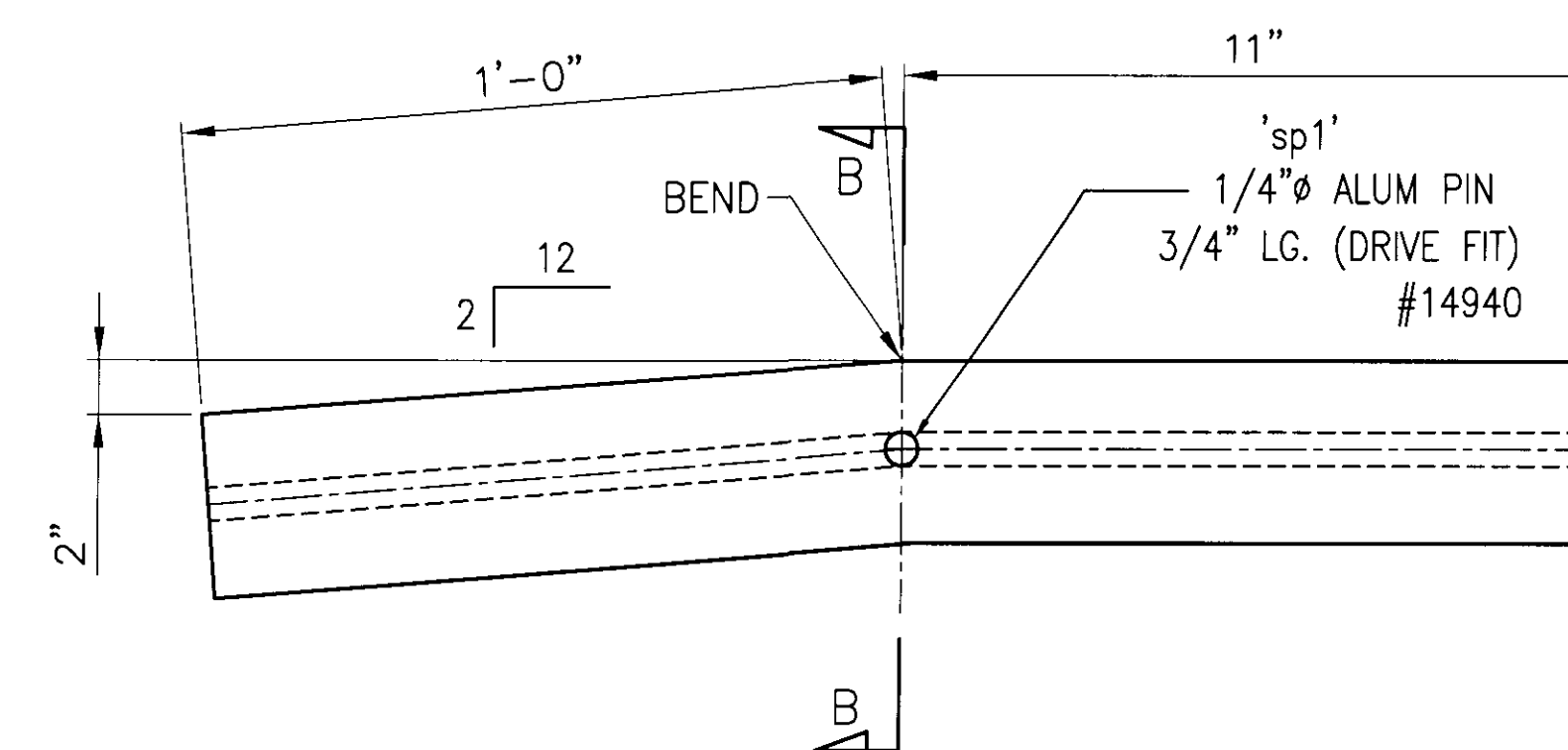
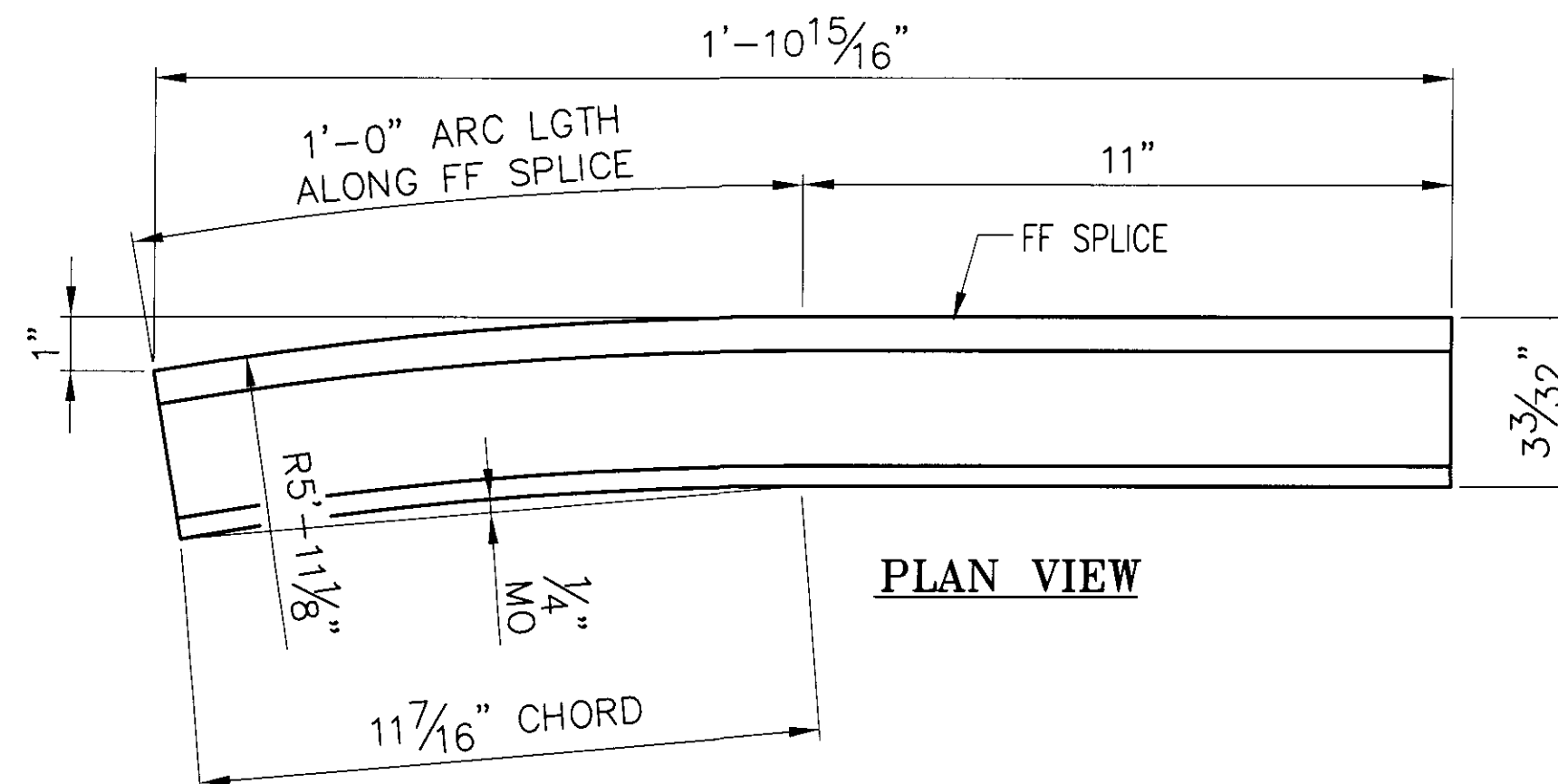
FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No 1 OVER THE GIHON RIVER  
3L ALUMINUM APPROACH RAIL - RAIL DETAILS

MADE CMS DATE 10/26/09 JOB No. ARO573 CUST. No. \_\_\_\_\_  
CHECK BLJ DATE 11/06/09 DRAWING LB11 REV. No. \_\_\_\_\_

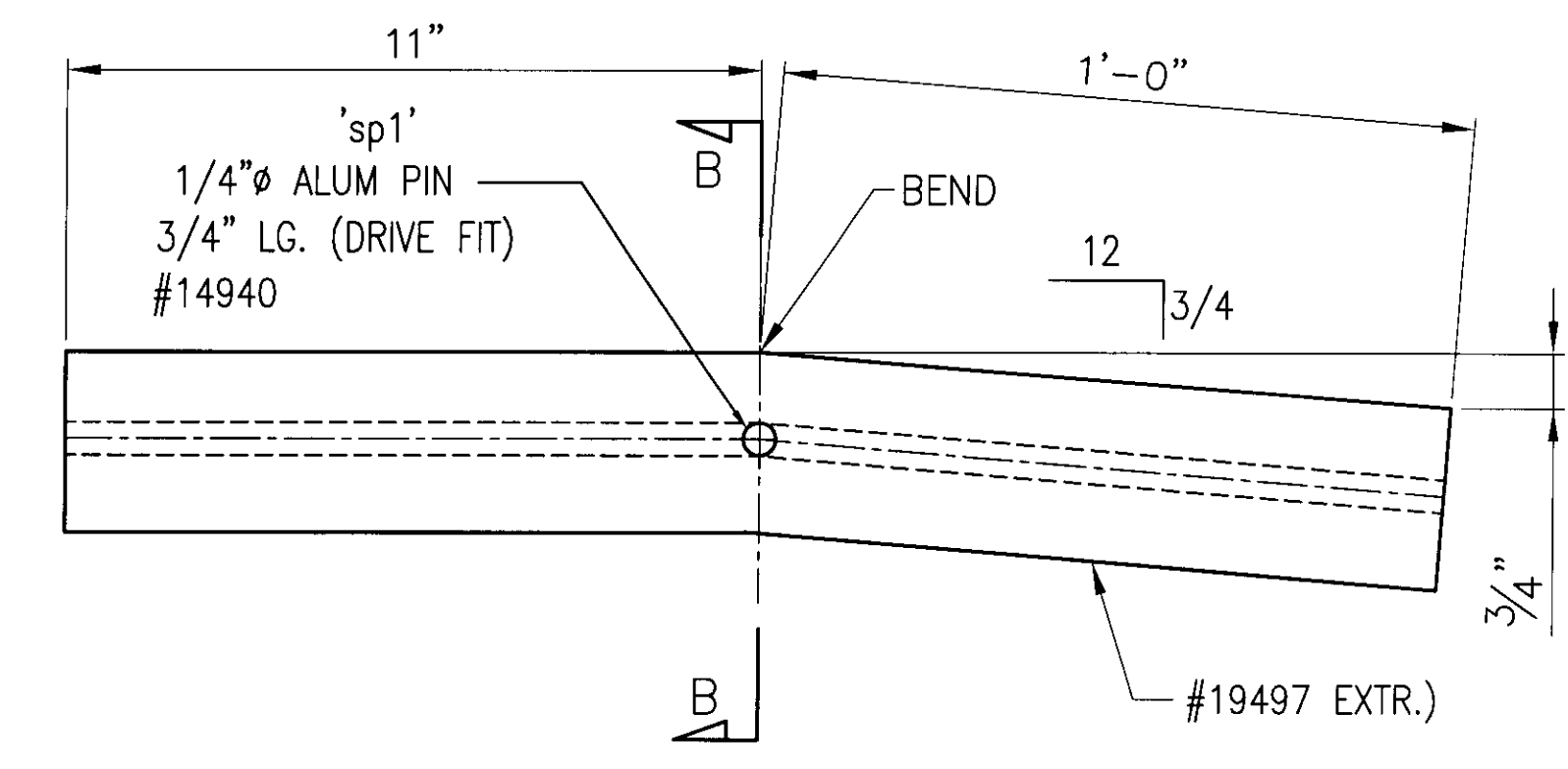
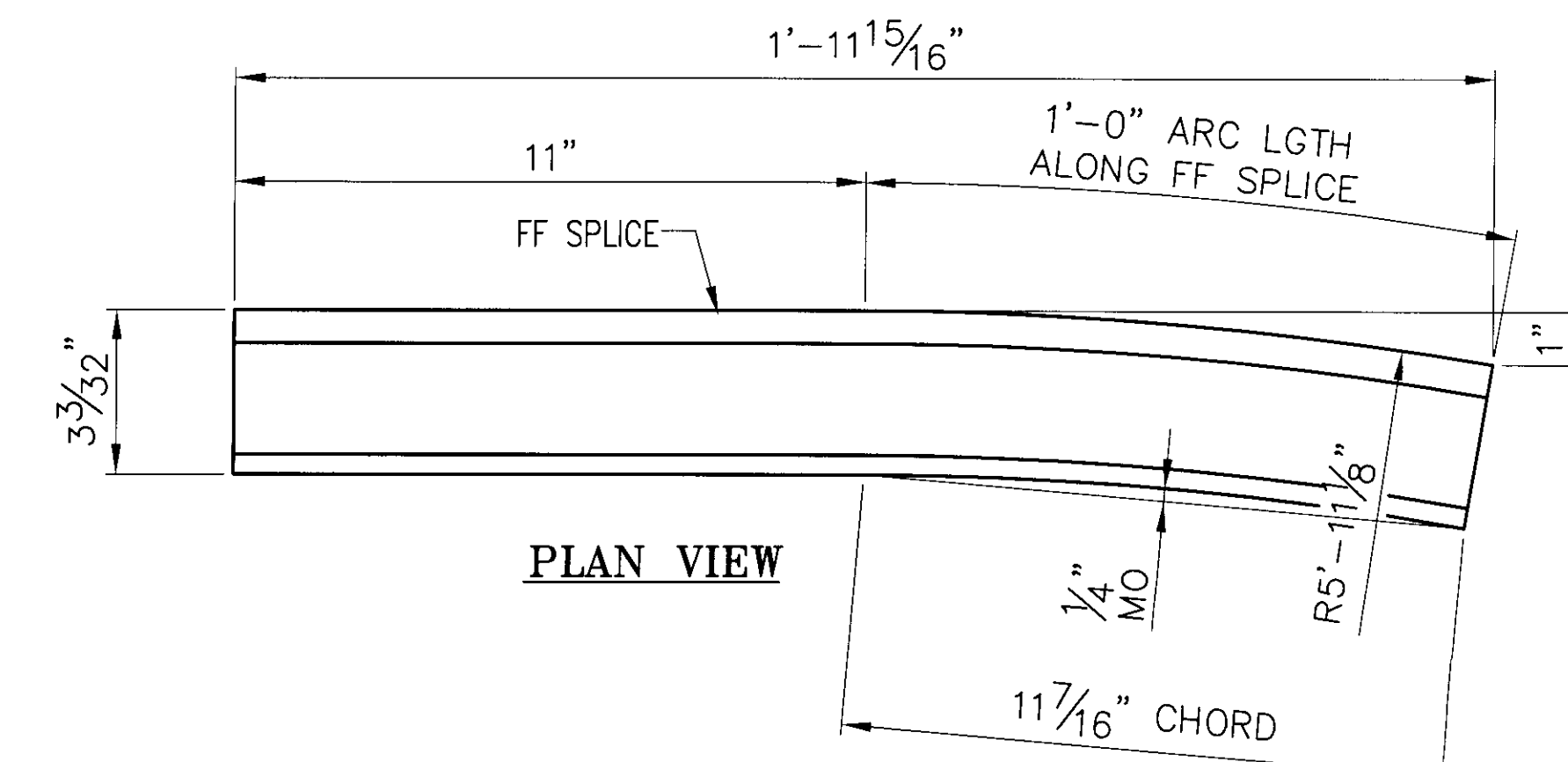
REV.	DESCRIPTION	BY	DATE



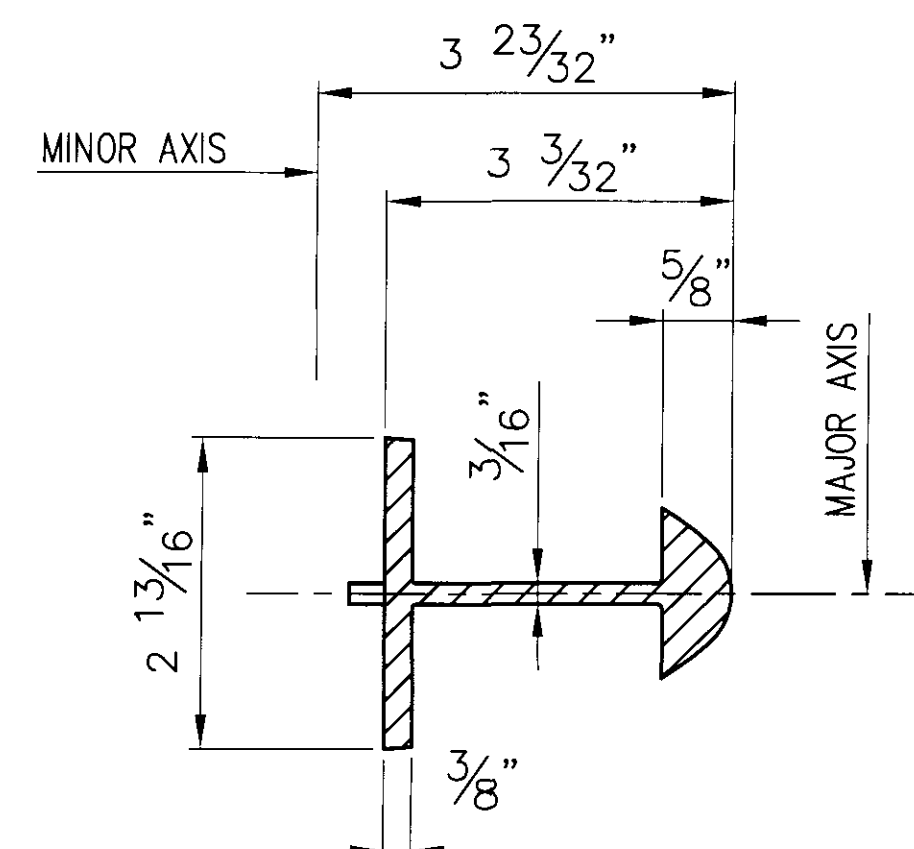
HANDRAIL SPLICES					
MK.	X	QTY.	"A"	"B"	OFFSET
SS-23-A1	15/16	1	11"	12"	15/16"
SS-23-A2	1	1	12"	11"	1"



ONE ~ REQ'D SPLICE SLEEVES SS-23-A4  
(HANDRAIL) (#19497 EXTR.)



ONE ~ REQ'D SPLICE SLEEVES SS-23-A3  
(HANDRAIL) (#19497 EXTR.)



SECTION B-B

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No. 900.640

APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING

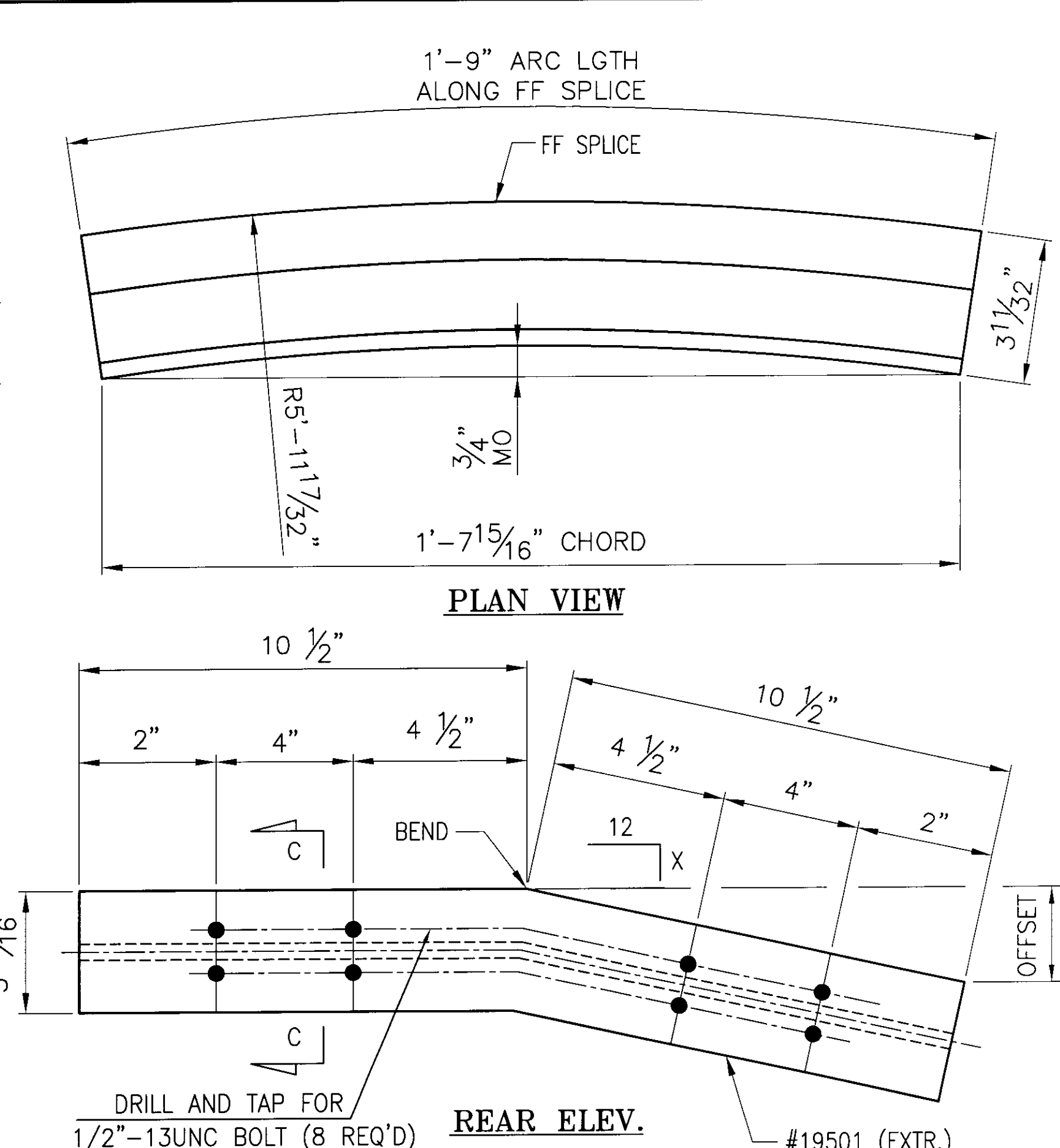
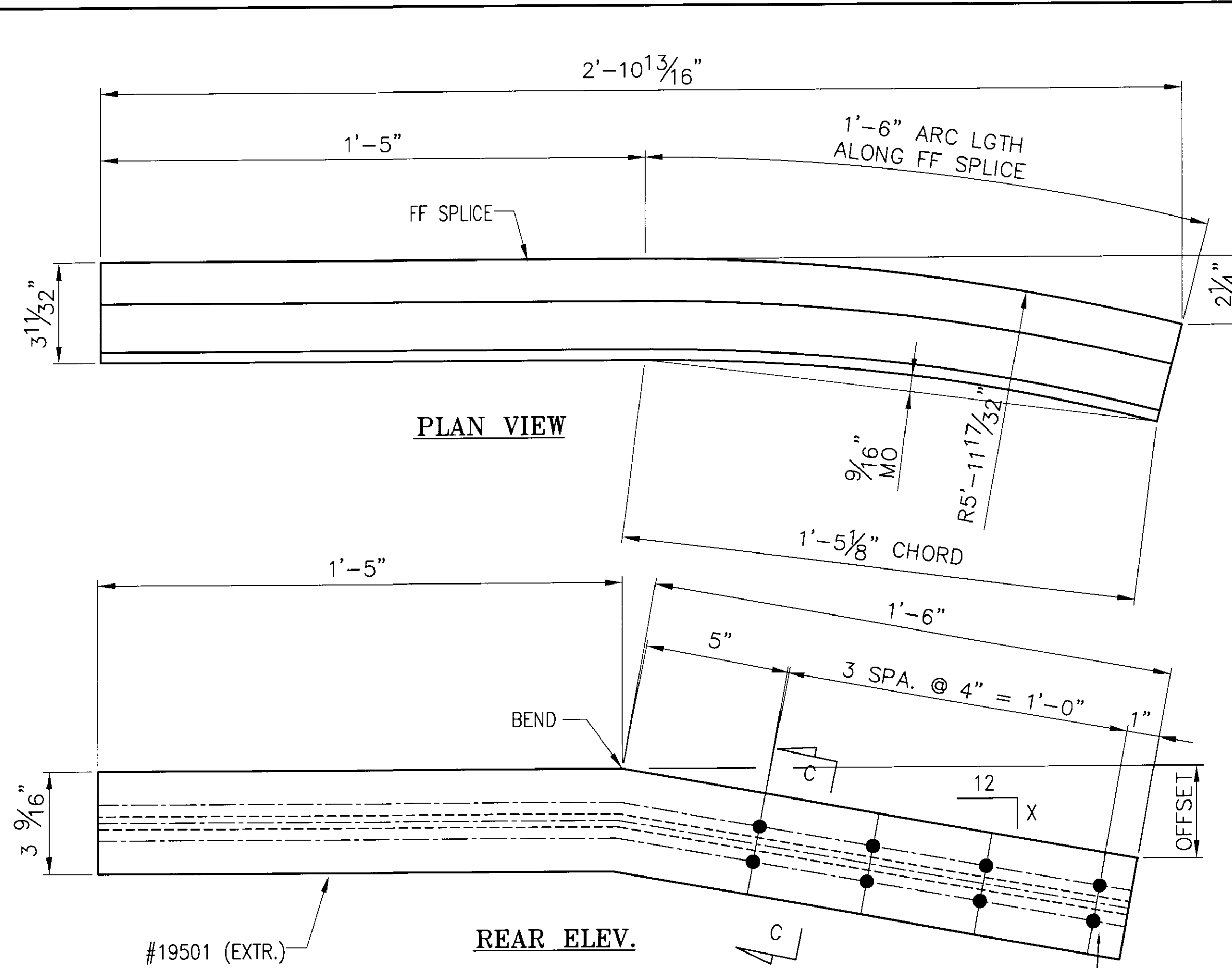
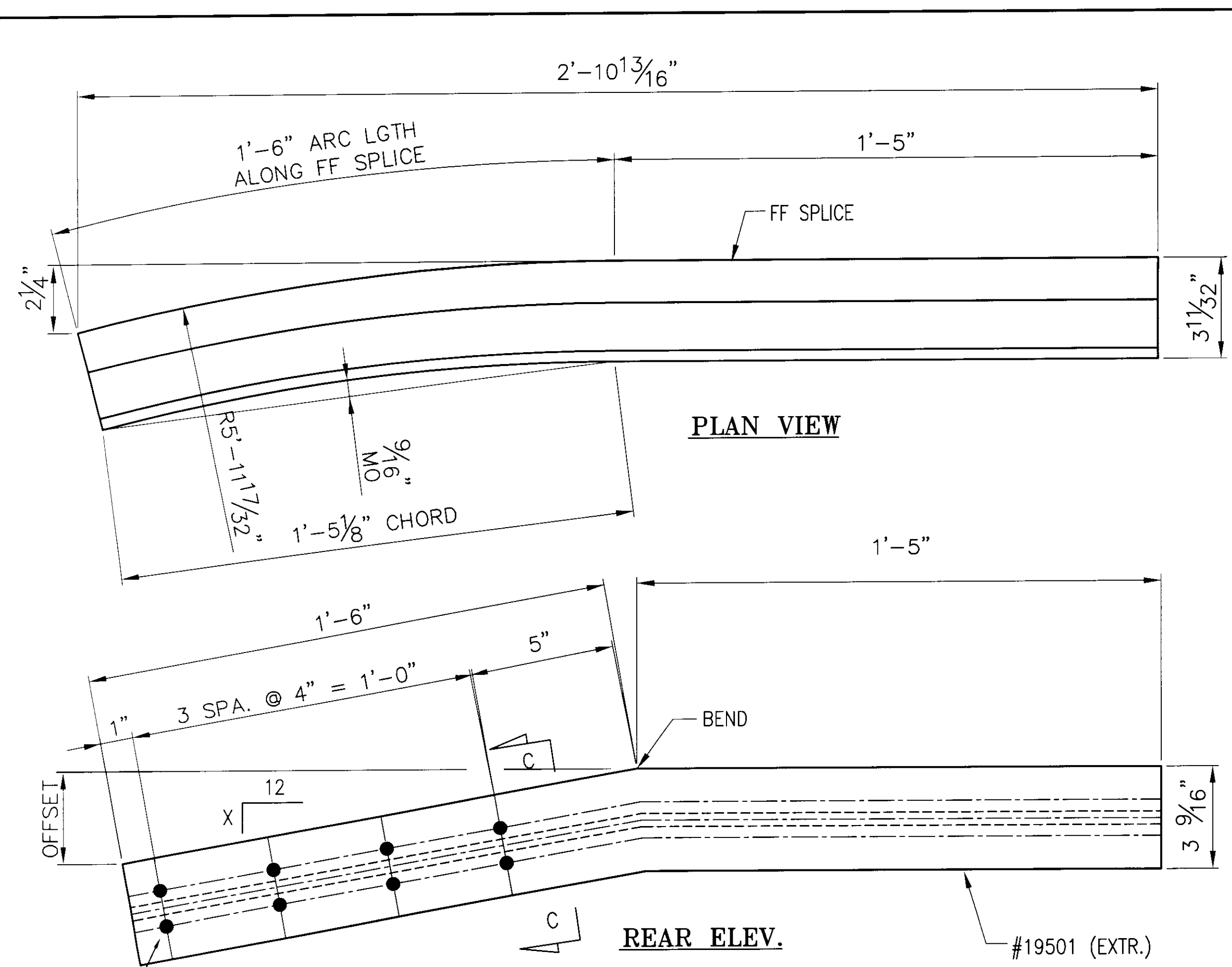
**L.B. FOSTER COMPANY**  
1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No 1 OVER THE GIBON RIVER  
3L ALUMINUM APPROACH ~ SPLICE DETAILS

MADE CMS DATE 10/26/09 JOB No. AR0573 CUST. No.

CHECK BLJ DATE 11/06/09 DRAWING LB12 REV. No.

REV.	DESCRIPTION	BY	DATE



**MOD. BARRIER RAIL SPLICES**

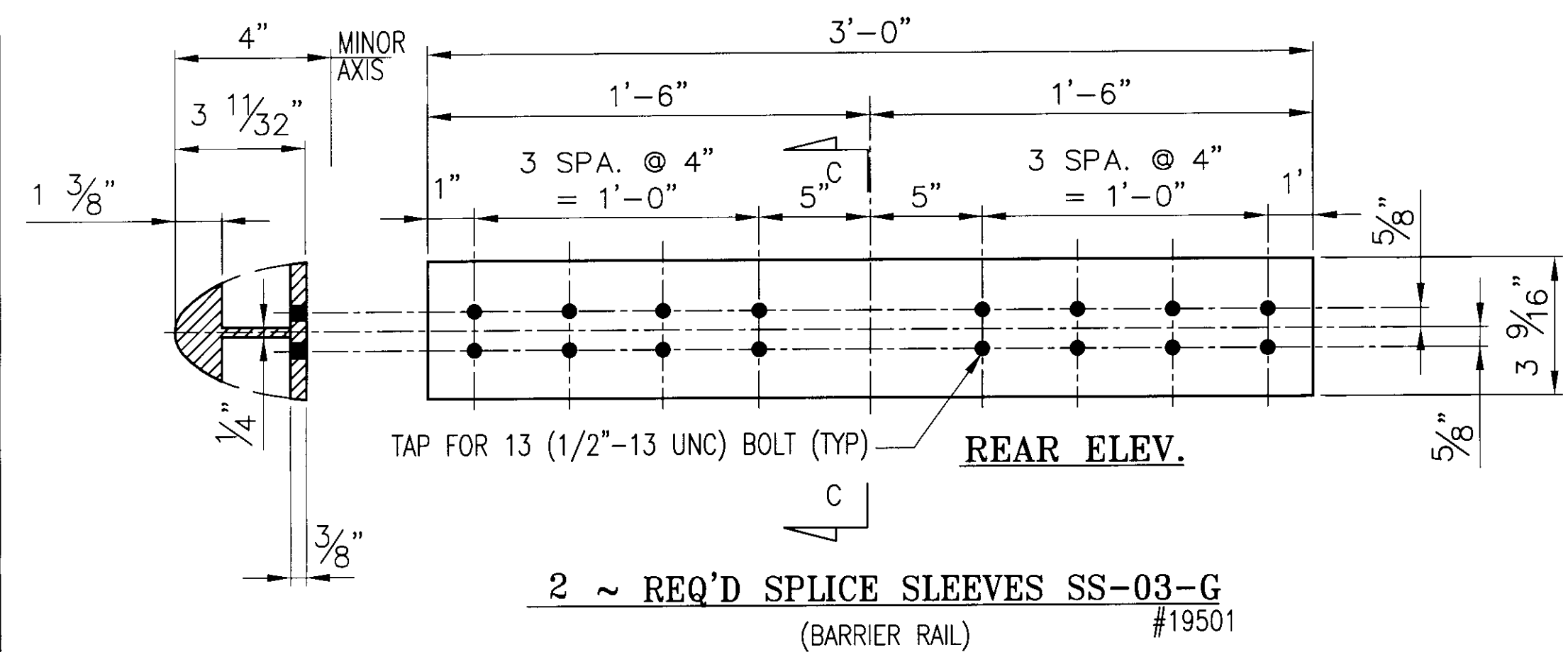
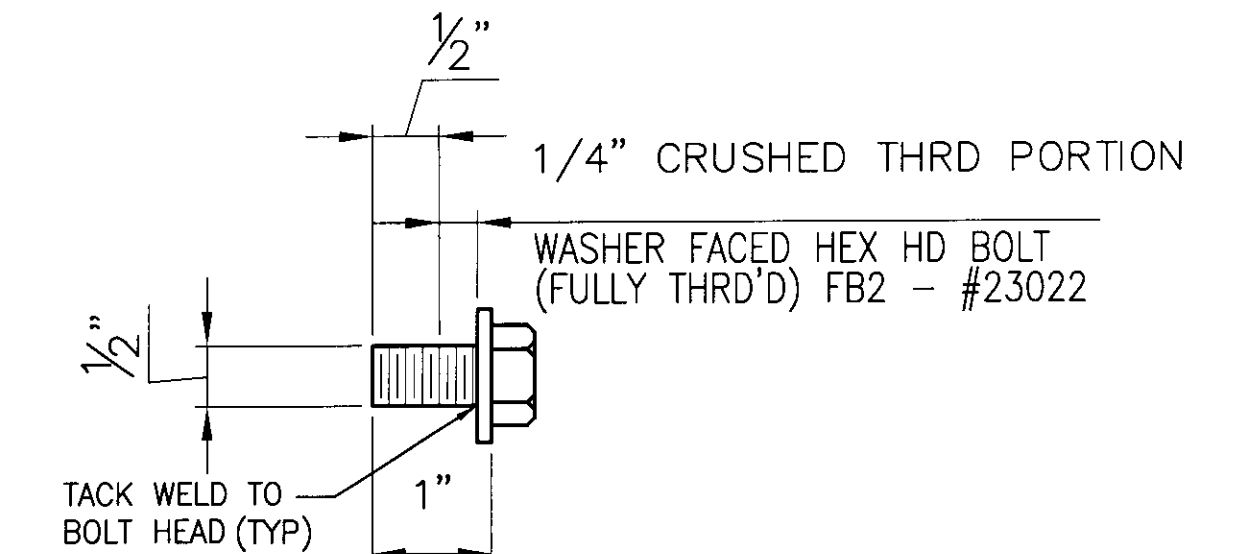
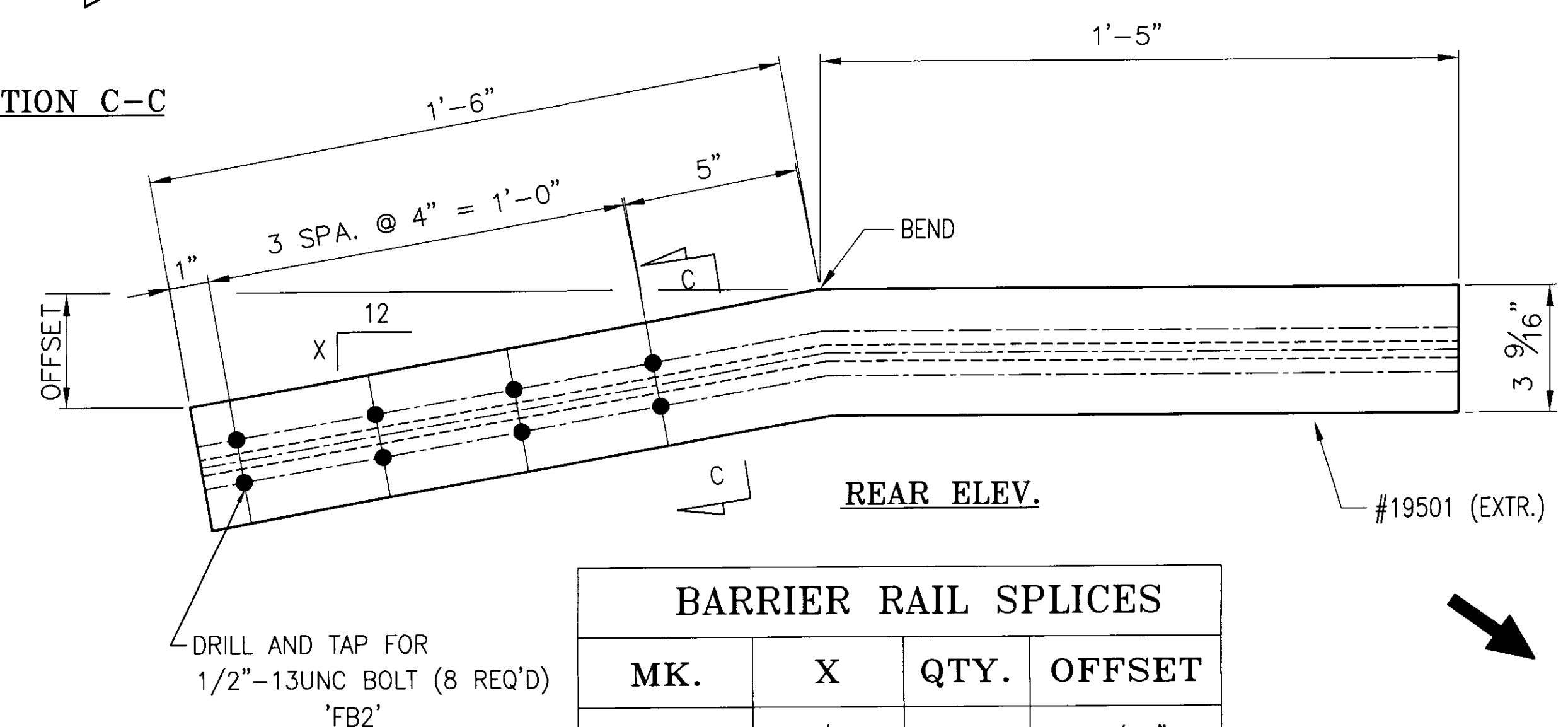
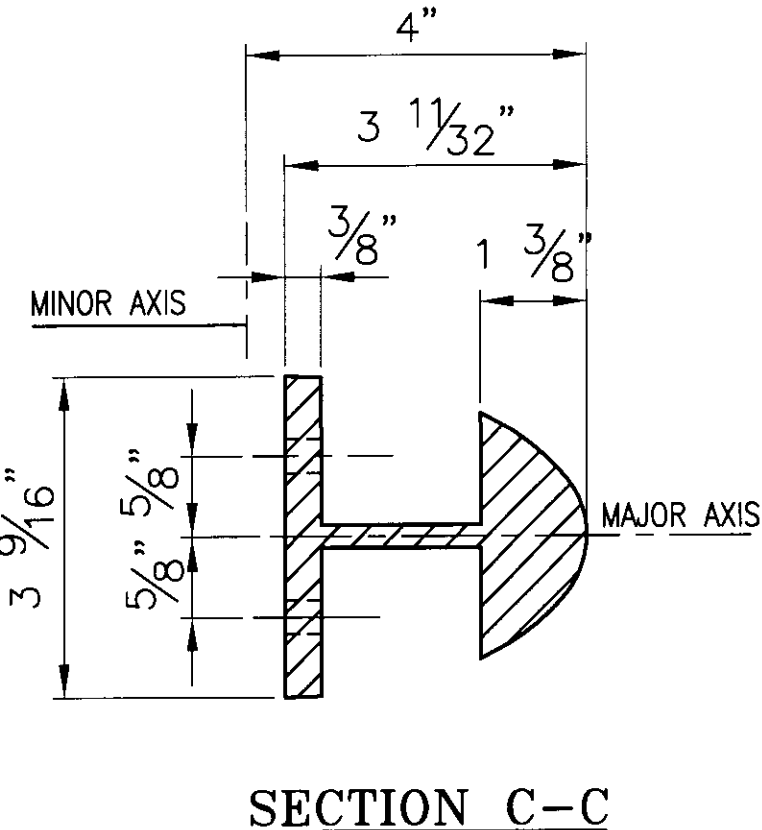
MK.	X	QTY.	OFFSET
SS-03-G7	1 7/16	1	2 1/8"
SS-03-G8	1 5/16	1	1 15/16"

**MOD. BARRIER RAIL SPLICES**

MK.	X	QTY.	OFFSET
SS-03-G5	3/16	1	5/16"
SS-03-G6	1/16	1	1/16"

**BARRIER RAIL SPLICES**

MK.	X	QTY.	OFFSET
SS-03-H1	3/8	1	1/16"
SS-03-H2	1/4	1	3/16"



**BARRIER RAIL SPLICES**

MK.	X	QTY.	OFFSET
SS-03-G1	3/8	1	9/16"
SS-03-G2	1/4	1	3/8"
SS-03-G3	1/2	1	3/4"
SS-03-G4	5/16	1	7/16"

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No: 900.640

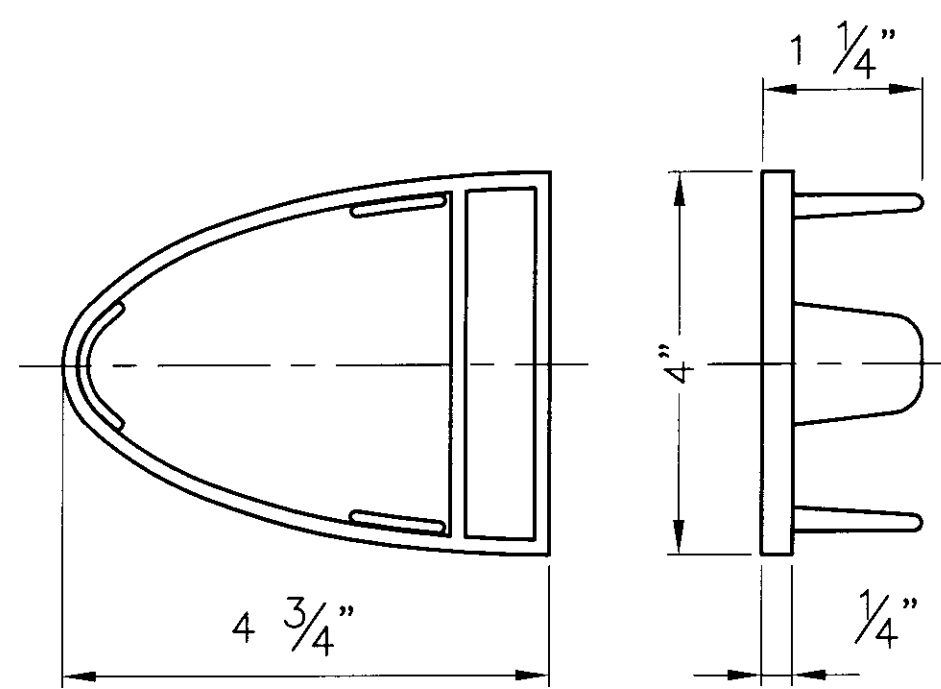
APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING

**L.B. FOSTER COMPANY**  
1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

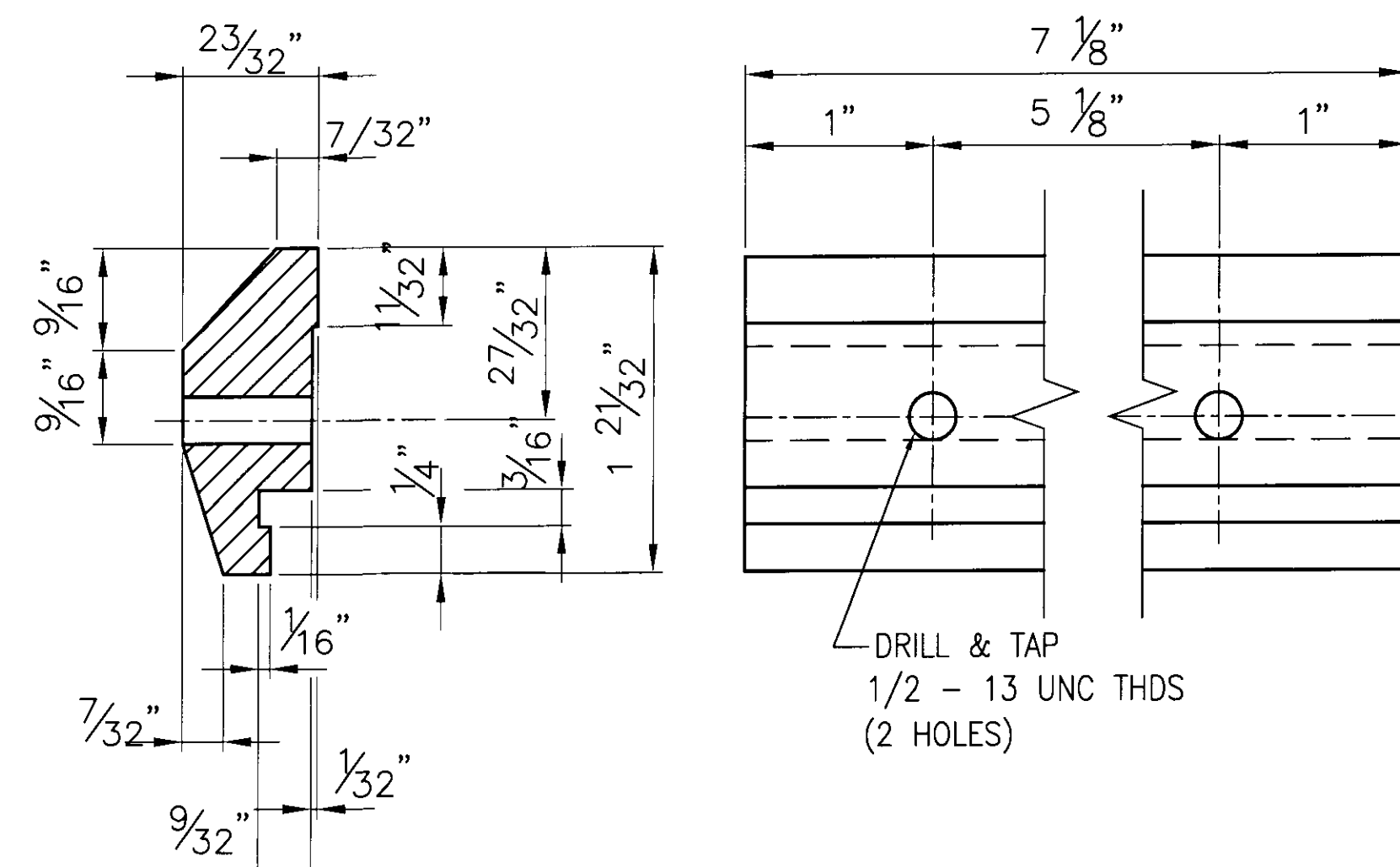
FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No. 1 OVER THE GIRON RIVER  
3L ALUMINUM APPROACH ~ SPLICE DETAILS

MADE CMS DATE 10/26/09 JOB No. AR0573 CUST. No.  
CHECK BLW DATE 11/06/09 DRAWING LB13 REV. No. ONE

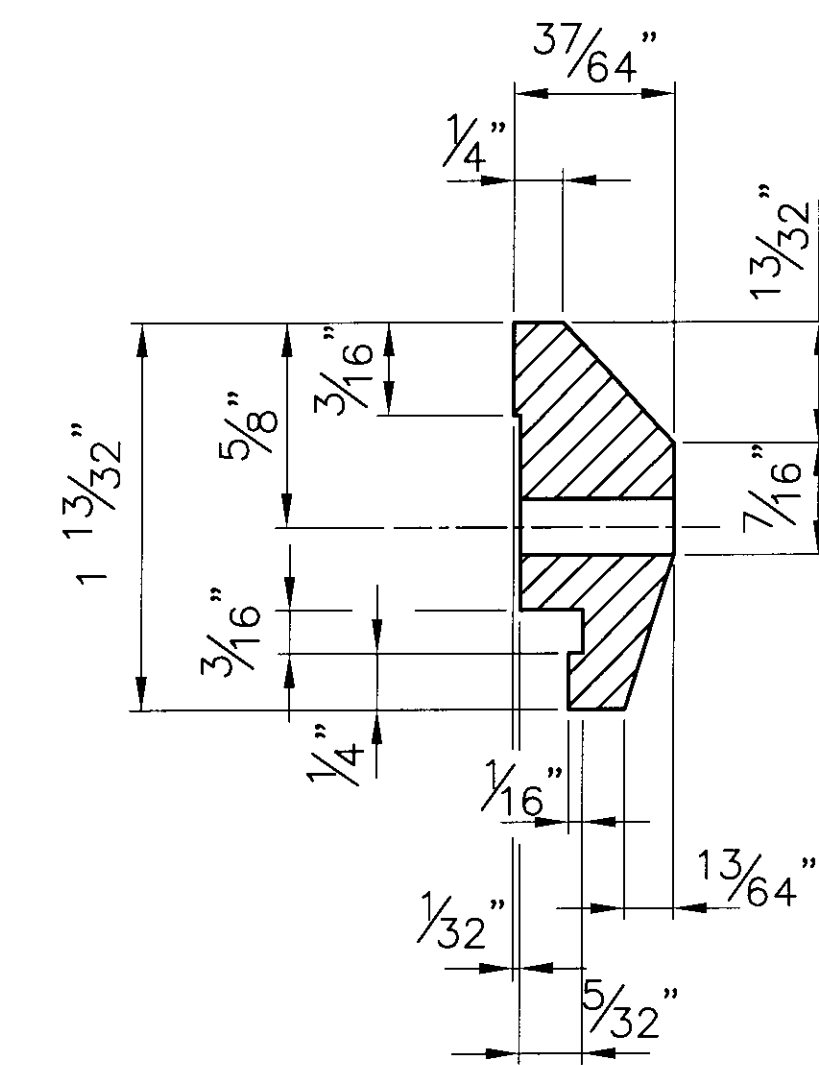
REV.	DESCRIPTION	BY	DATE
1	GENERAL REVISION PER APPROVER COMMENTS	CMS	01 11 10



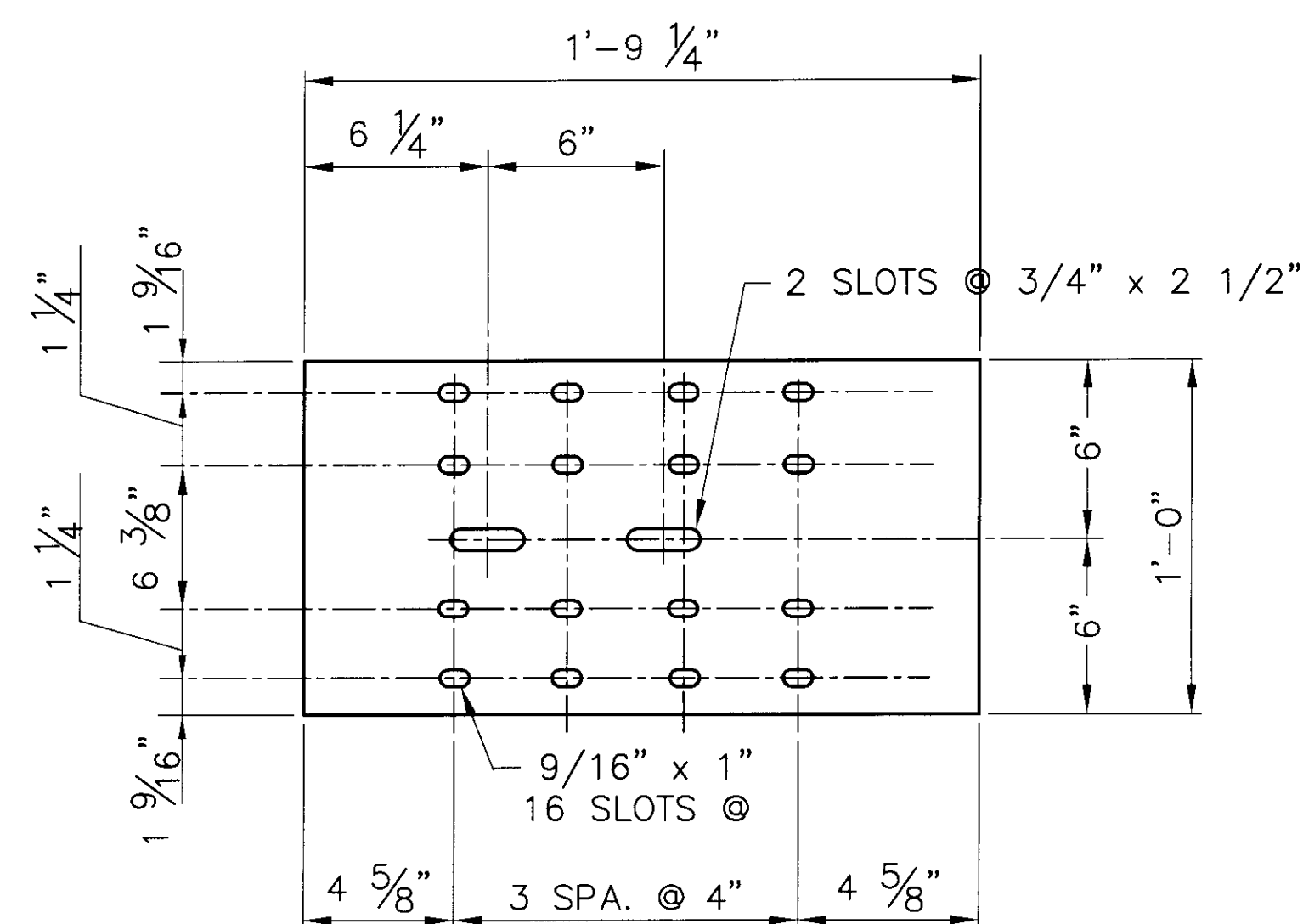
**14 ~ REQ'D. ALUM  
END CAPS EC2**  
#19345



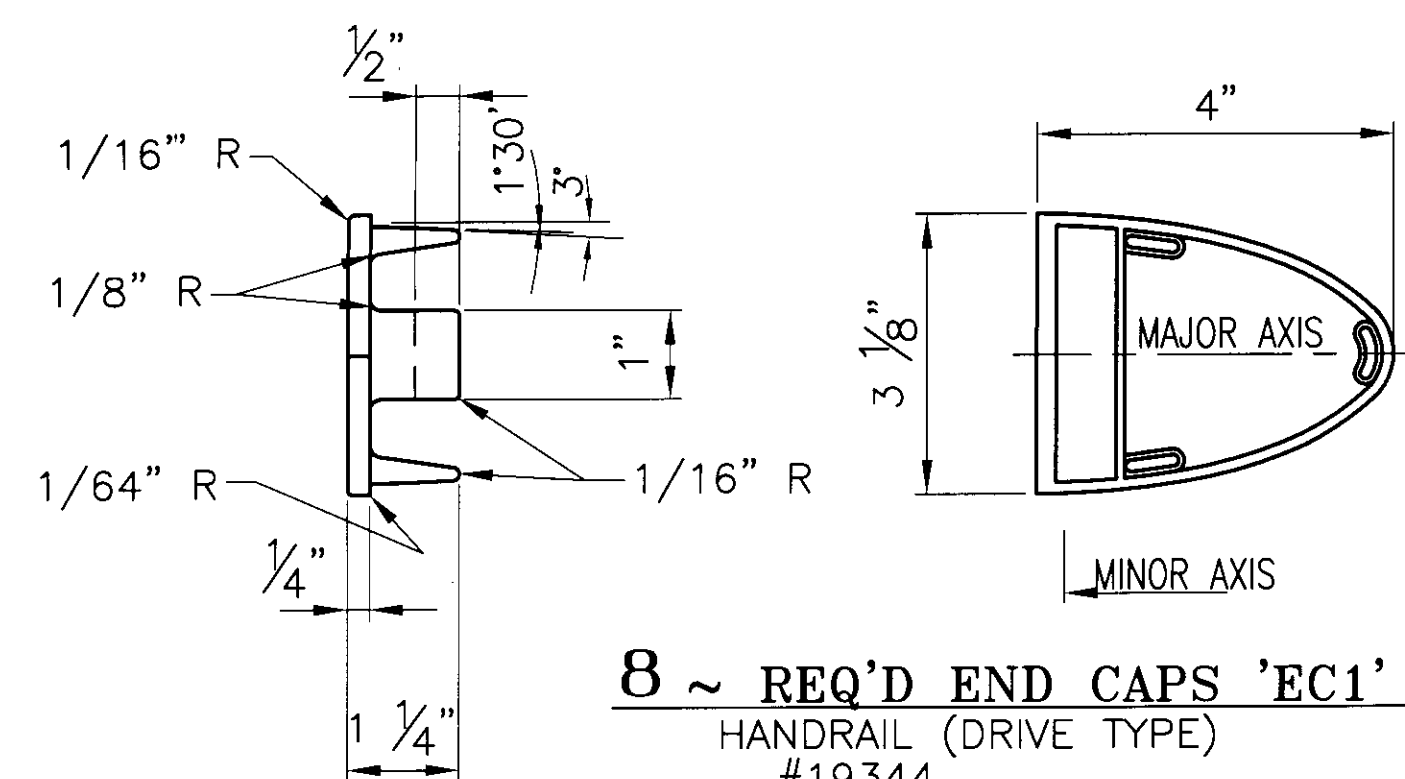
**116 ~ REQ'D CLAMP**  
**BAR CB-03-A**  
(BARRIER RAIL - 4 PER POST)  
#19447



**40 ~ REQ'D CLAMP**  
**BAR CB-01-H**  
(HANDRAIL - 2 PER POST)  
#28596



**ONE REQ'D. ~ BACK-UP PLATE BUP1**  
(1/4" THK. PLATE ~ A36 - GALV.)



**8 ~ REQ'D END CAPS 'EC1'**  
HANDRAIL (DRIVE TYPE)  
#19344

**ANODIZED**  
(SEE NOTES ON LB1)

BRIDGE No. 5  
PROJECT No. BHO 1448 (29) ITEM No: 900.640

APPROVED: \_\_\_\_\_ REC'D APPROVAL \_\_\_\_\_  
DRAWING \_\_\_\_\_

**L.B. FOSTER COMPANY**  
1016 GREENTREE ROAD  
PITTSBURGH, PENNSYLVANIA 15220

FOR: F. R. LAFAYETTE, INCORPORATED  
VERMONT AGENCY OF TRANSPORTATION  
TOWN OF JOHNSON, COUNTY OF LAMOILLE  
APPROACH RAILING FOR TH No 1 OVER THE GIRON RIVER  
3L ALUMINUM APPROACH RAIL ~ MISC DETAILS

MADE CMS DATE 10/26/09 JOB No. AR0573 CUST. No.  
CHECK BLJ DATE 11/09/09 DRAWING LB14 (LAST) REV. No.

REV.	DESCRIPTION	BY	DATE