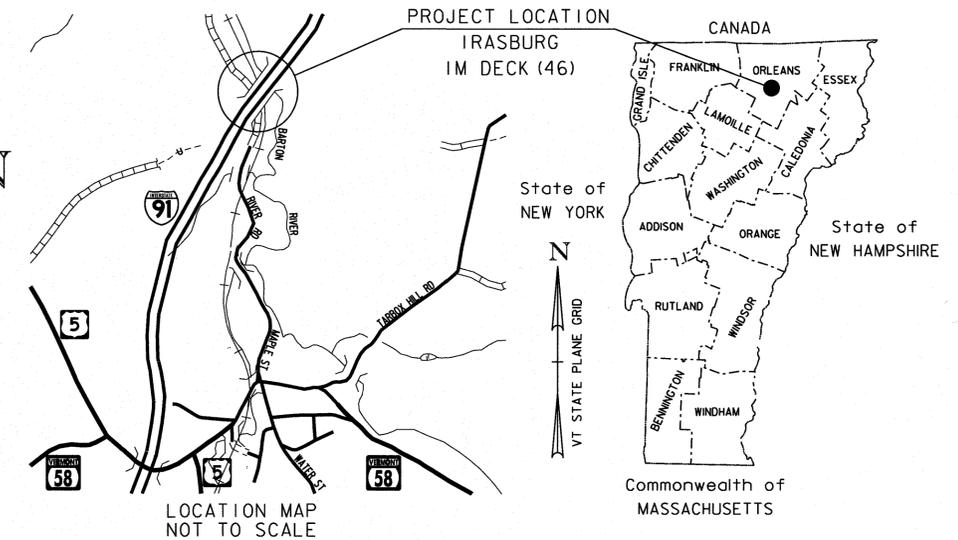


# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF IRASBURG COUNTY OF ORLEANS

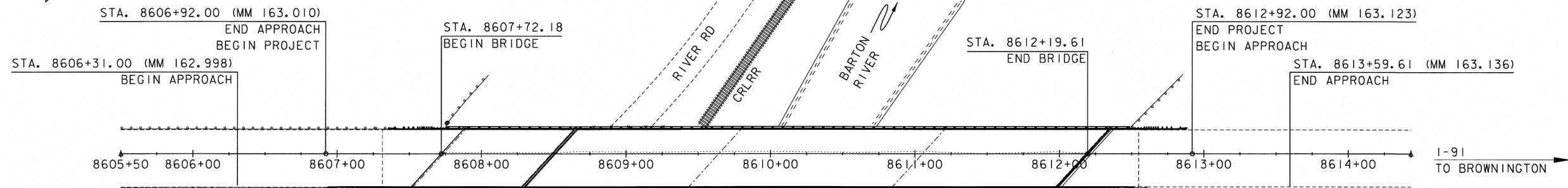
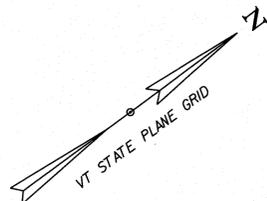
### INTERSTATE 91 (PRINCIPAL ARTERIAL) BRIDGE NO. 107N



**PROJECT LOCATION:** LOCATED IN THE TOWN OF IRASBURG, ON INTERSTATE 91, APPROXIMATELY 0.430 MILES SOUTHERLY OF THE IRASBURG/BROWNINGTON TOWN LINE.

**PROJECT DESCRIPTION:** WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REPLACEMENT OF THE EXISTING BRIDGE DECK INCLUDING RELATED APPROACH WORK.

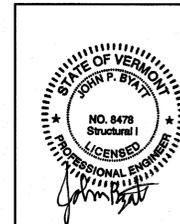
**LENGTH OF STRUCTURE:** 447.43 FEET  
**LENGTH OF ROADWAY:** 152.57 FEET  
**LENGTH OF PROJECT:** 600.00 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL I	
SURVEYED BY : CLD	
SURVEYED DATE : 09/21/2015	
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83

SCALE 1" = 40' - 0"



**CLD**  
CONSULTING ENGINEERS

540 Commercial Street  
 Manchester, NH 03101  
 (603) 668-8223  
 www.cldengineers.com

DIRECTOR OF PROJECT DELIVERY	
APPROVED _____	DATE _____
PROJECT MANAGER : JENNIFER FITCH, P.E.	
PROJECT NAME :	IRASBURG
PROJECT NUMBER :	IM DECK (46)
SHEET 1 OF 49 SHEETS	

## INDEX OF SHEETS

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- 6.-7. QUANTITY SHEETS 1-2
8. CONVENTIONAL SYMBOLOGY LEGEND SHEET
9. LAYOUT SHEET
10. PROFILE SHEET
- 11.-13. TRAFFIC CONTROL SHEETS 1-3
14. TRAFFIC CONTROL BARRIER SHEET
- 15.-16. PHASING SECTIONS SHEETS 1-2
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- 19.-20. DECK DETAILS SHEETS 1-2
- 21.-23. JOINT DETAILS SHEETS 1-3
24. CURB REPLACEMENT DETAILS SHEET
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26. RAIL LAYOUT SHEET
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## STRUCTURE DETAIL SHEETS

SD-501.00	02/09/2012	CONCRETE DETAILS AND NOTES
SD-502.00	10/10/2012	CONCRETE DETAILS AND NOTES
SD-516.10	08/29/2011	BRIDGE JOINT ASPHALTIC PLUG
SD-601.00	06/04/2010	STRUCTURAL STEEL DETAILS & NOTES

## VAOT STANDARD SHEETS

E-193	08/18/1995	PAVEMENT MARKING DETAILS
G-1	11/10/2015	STEEL BEAM GUARDRAIL WITH STEEL POSTS, STEEL BEAM GUARDRAIL WITH WOOD POSTS
G-1d	02/10/2014	STEEL BEAM GUARDRAIL APPROACH END TERMINAL, STEEL BEAM GUARDRAIL TRAILING END TERMINAL
T-1	08/06/2012	TRAFFIC CONTROL GENERAL NOTES
T-11	08/06/2012	CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED
T-12	08/06/2012	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED
T-13	08/06/2012	TRAFFIC CONTROL DIVIDED HIGHWAY ONE LANE CLOSED
T-22	08/06/2012	TRAFFIC CONTROL FOR PAVEMENT MARKING ON DIVIDED HIGHWAY
T-31	08/06/2012	CONSTRUCTION SIGN DETAILS
T-42	04/09/2014	BRIDGE NUMBER PLAQUE
T-44	04/09/2014	MILEMARKER DETAILS STATE AND TOWN HIGHWAYS
T-55	10/26/2015	SIGN PLACEMENT EXPRESSWAY & FREEWAY
S-360A	04/23/2012	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM
S-360B	04/23/2012	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM
S-391	01/16/2014	SNOW BARRIER

## LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	1.17	0.86					
POSTING							
OPERATING	1.52	1.11	2.48	1.46	2.10	2.15	2.21
COMMENTS:	H-20 AND 3A. STR. TRUCKS CONTROLLED BY DECK RATING, OTHER TRUCKS CONTROLLED BY GIRDER RATING. HL-93 INVENTORY RATING IS LESS THAN 1.00 FOR MOMENT.						

## PROJECT NOTES

### GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2014, AND ITS LATEST REVISIONS.
2. THE DESIGN LIVE LOAD SHALL BE HL-93.
3. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS.
4. THE CONTRACTOR IS MADE AWARE THAT EXISTING UTILITIES MAY EXIST WITHIN THE CONSTRUCTION LIMITS OF BRIDGE NO. 107N. THE LOCATION OF ANY UTILITY INFORMATION ON THE PLANS IS APPROXIMATE. NO CLAIMS ARE MADE TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL UTILITIES ON SITE DURING ALL STAGES OF CONSTRUCTION. ANY DAMAGE TO UTILITIES DUE DIRECTLY TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
5. FOLLOWING THE COMPLETION OF ALL OTHER CONSTRUCTION ACTIVITIES, ALL BEAM SEATS SHALL BE CLEANED OFF. THE COST FOR CLEANING BEAM SEATS WILL BE CONSIDERED INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.
6. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY DUE DIRECTLY TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
7. LIMITS OF GROUND SURVEY ARE BETWEEN STA 8607+24 AND STA 8612+61. OUTSIDE THESE LIMITS ARE APPROXIMATE LOCATIONS TAKEN FROM AERIAL MAPPING.
8. THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL PERMITS AND ENSURE THAT ALL CONSTRUCTION CONDITIONS ARE MET.
9. EROSION CONTROL MEASURES SHALL BE UTILIZED AS REQUIRED AND SHALL CONFORM TO SECTION 105 OF THE STANDARD SPECIFICATIONS AND THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL FROM THE AGENCY OF NATURAL RESOURCES. PAYMENT FOR EROSION CONTROL MEASURES, IF APPLICABLE, WILL BE PAID FOR AS EXTRA WORK IN ACCORDANCE WITH 104.03.
10. THE CONTRACTOR SHALL PREVENT ANY MATERIAL FROM ENTERING THE WATERWAY, RAILROAD, OR ROADWAY DURING EXCAVATION, PARTIAL REMOVAL OF STRUCTURE, OR CONSTRUCTING THE NEW DECK.
11. THE DESIGN INTENT IS TO ALLOW THE CONTRACTOR TO STAGE IN THE LANE CLOSURES OF THE TRAVELED ROADWAY OF THE APPROACHES TO THE BRIDGE. ANY STAGING AREAS OUTSIDE OF THIS SHALL BE CLEARED FOR RESOURCES THROUGH THE VTRANS ENVIRONMENTAL UNIT.

### TRAFFIC CONTROL

12. SEE TRAFFIC CONTROL SHEET 1 FOR TRAFFIC CONTROL NOTES.

### DECK REMOVAL AND RELATED ITEMS

13. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" WILL INCLUDE REMOVAL OF ANY PORTIONS OF THE EXISTING STRUCTURE AS SHOWN ON THE PLANS, INCLUDING THE EXISTING BRIDGE DECK AND CURBS, SCUPPERS, BARRIER MEMBRANE, PAVEMENT, AND BRIDGE RAILING, EXCEPT AS NOTED ON SHEET 25. ITEM 529.25, "REMOVAL OF CONCRETE OR MASONRY" WILL INCLUDE REMOVAL OF THE EXISTING CONCRETE CURBS ALONG THE TOPS OF THE WINGWALLS. ITEM 525.10, "REMOVAL OF EXISTING BRIDGE RAILING" WILL INCLUDE REMOVAL OF THE EXISTING BRIDGE RAIL ALONG THE TOP OF THE WINGWALLS. SEE BITUMINOUS CONCRETE/ CONCRETE REMOVAL DETAIL ON SHEET 25.
14. THE TOPS OF THE EXISTING WINGWALLS SHALL BE REMOVED BY MECHANICAL MEANS AND THE REMAINING CONCRETE SHALL HAVE NEAT LINES AND BE SMOOTH. PROTECT ALL ELEMENTS INTENDED TO REMAIN.
15. AFTER REMOVAL OF THE EXISTING BRIDGE DECK, ANY AREAS ON THE CONCRETE BEAM SEAT THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE CONCRETE BEAM SEAT AND THE LIMITS OF THE REPAIR. THE REPAIRS WILL BE PAID FOR UNDER ITEM 580.13, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I" OR ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II, AS APPLICABLE. QUANTITIES FOR ITEMS 580.13 AND 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEETS ARE ESTIMATED.
16. THE EXISTING STEEL AND HARDWARE FOR THE FINGER JOINT AT PIER #4 AND THE COMPRESSION JOINT AT ABUTMENT #4 SHALL REMAIN IN-PLACE DURING DECK REMOVAL OPERATIONS AS SHOWN ON SHEET 20, AND THE EXISTING STEEL SHALL BE CLEANED OF REMAINING CONCRETE OR LATENT MATERIAL. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE". IF REMOVAL OF THE JOINT HARDWARE IS DETERMINED TO BE REQUIRED BY THE CONTRACTOR TO FACILITATE THE WORK, THE COST FOR THE REMOVAL OF THE HARDWARE WILL BE CONSIDERED INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE". RESETTING THE HARDWARE WILL BE CONSIDERED INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".
17. MINOR REPAIRS TO THE EXISTING COMPRESSION JOINT HARDWARE AT ABUTMENT #4, SPECIFICALLY TO THE STEEL ANGLES ALONG THE LENGTH OF THE JOINT AND ANY OTHER MINOR DAMAGE TO STEEL HARDWARE, MAY BE REQUIRED. ANY AREAS OF THE EXISTING JOINT HARDWARE THAT ARE FOUND TO BE MISSING OR DAMAGED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DAMAGED HARDWARE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 506 AND THE LIMITS OF THE REPAIR. ANY REPAIRS SHALL BE MADE WITH GRADE A36 STEEL AND SHALL BE GALVANIZED. THE GALVANIZING OF THE NEW STEEL SHALL BE REPAIRED PER SUBSECTION 726.08, IF APPLICABLE. THE REPAIRS TO THE JOINT WILL BE PAID FOR UNDER ITEM 506.60, "STRUCTURAL STEEL". AN ESTIMATED QUANTITY OF 500 LB FOR ITEM 506.60 IS SHOWN ON THE QUANTITY SUMMARY SHEETS.
18. THE COMPRESSION JOINT SEAL AT ABUTMENT #4 SHALL BE REMOVED AND REPLACED. THIS WORK WILL BE PAID FOR UNDER ITEM 900.640, "SPECIAL PROVISION (REMOVE AND REPLACE COMPRESSION JOINT SEAL)".

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6notes-107N.dgn PLOT DATE: 2/12/2016  
PROJECT LEADER: J. BYATT DRAWN BY: M. SMITH  
DESIGNED BY: S. BEAUMONT CHECKED BY: J. BYATT  
INDEX OF SHEETS & PROJECT NOTES SHEET 1 SHEET 2 OF 49



## STEEL

19. AFTER ALL PAVEMENT AND MEMBRANE ARE REMOVED BUT PRIOR TO THE REMOVAL OF THE EXISTING CONCRETE DECK, THE CONTRACTOR SHALL TAKE TOP OF DECK ELEVATIONS ALONG THE CENTERLINE OF EACH BEAM AT TENTH POINTS FROM CENTERLINE TO CENTERLINE OF BEARING. AFTER THE EXISTING CONCRETE DECK HAS BEEN REMOVED, THE CONTRACTOR SHALL TAKE ELEVATIONS ALONG THE TOP OF EACH BEAM AT TENTH POINTS FROM CENTERLINE TO CENTERLINE OF BEARING. THE TOP OF DECK AND TOP OF BEAM ELEVATIONS SHALL THEN BE SENT TO THE ENGINEER FOR USE IN DETERMINING THE FINAL PROFILE AND HAUNCH DEPTHS. THE CONTRACTOR SHALL EXPECT 3 WORKING DAYS FOR VTRANS TO PREPARE THE REVISED PROFILE AND HAUNCH DEPTH CALCULATIONS.
20. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. ANY REMOVED STRUCTURAL STEEL, IF APPLICABLE, IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
21. NEW BRIDGE SCUPPERS WILL BE PROVIDED AT THE SAME LOCATIONS AS THE REMOVED SCUPPERS. THE NEW SCUPPERS WILL BE PAID FOR UNDER ITEM 900.620, "SPECIAL PROVISION (BRIDGE SCUPPER)".

## REINFORCED CONCRETE

22. ALL CONCRETE SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE, HIGH PERFORMANCE CLASS A. THE CONTRACTOR SHALL PROVIDE TESTING EQUIPMENT FOR CONCRETE IN ACCORDANCE WITH SUBSECTION 631.05.
23. ALL REINFORCING STEEL SHALL BE LEVEL I - EPOXY COATED AND MEET THE REQUIREMENTS OF SECTION 507. A REINFORCING STEEL SCHEDULE AND SHOP DRAWINGS MEETING THE REQUIREMENTS OF SUBSECTION 105.03 SHALL BE SUBMITTED. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 507.11, "REINFORCING STEEL, LEVEL I".
24. TEST BARS SHALL BE PROVIDED IN ACCORANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE. A MINIMUM OF TWO TEST SECTIONS ARE REQUIRED FOR EACH SIZE, BRAND, AND GRADE OR TYPE OF REINFORCING. SEE THE MANUAL FOR ACCEPTABLE DIMENSIONS OF TEST SECTIONS. EXTRA BARS FOR TESTING PURPOSES SHALL BE SPECIFIED IN THE WORKING DRAWING SUBMITTAL.
25. EPOXY COATED REINFORCING STEEL PROJECTING FROM THE DECK DURING CONSTRUCTION SHALL BE COVERED WITH CANVAS OR OTHER SUITABLE MATERIAL THAT WILL EFFECTIVELY PROTECT IT AGAINST DAMAGE FROM SUNLIGHT AND WEATHER EXPOSURE UNTIL IT WILL BE ENCASED IN CONCRETE. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 507.11, "REINFORCING STEEL, LEVEL I".
26. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE BRIDGE DECK SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THIS WORK WILL BE PAID FOR UNDER ITEM 514.10, "WATER REPELLENT, SILANE".
27. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING INSTITUTE".
28. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG BACKFACES OF WALL AGAINST EARTH:	2.0 INCH
ALONG TOP SURFACE OF DECK SLAB:	2.5 INCH
ALONG BOTTOM SURFACE OF DECK SLAB:	1.5 INCH
ELSEWHERE UNLESS OTHERWISE INDICATED:	3.0 INCH

## PAVEMENT REMOVAL AND DECK REPAIRS

29. PAVEMENT REMOVAL SHOULD BE LIMITED TO WHAT IS SHOWN ON THE PLANS. ALTHOUGH THE INTENT OF THE PLANS IS TO REMOVE AND REPLACE THE CONCRETE BRIDGE DECK FOR THE ENTIRE BRIDGE LENGTH, THE ENGINEER HAS THE OPTION TO MAINTAIN THE EXISTING SPAN I CONCRETE BRIDGE DECK IF THE CONCRETE APPEARS TO BE IN GOOD CONDITION WITH MINIMAL AREAS OF UNSOUND CONCRETE. THEREFORE, PAVEMENT AND MEMBRANE REMOVAL ON SPAN #1 SHALL BE REQUIRED PRIOR TO BRIDGE DECK REMOVAL OPERATIONS. THIS WORK SHALL BE IN ACCORDANCE WITH SECTION 529 OF THE STANDARD SPECIFICATIONS.
30. THE FINAL ONE HALF INCH OF PAVEMENT ON SPAN #1 OF THE CONCRETE BRIDGE DECK AND THE AT-GRADE APPROACH SLABS SHALL BE REMOVED BY LOADER, GRADER OR EQUIPMENT APPROVED BY THE ENGINEER. COLD PLANING TO REMOVE BRIDGE PAVEMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
31. DURING BRIDGE AND AT-GRADE APPROACH SLAB PAVEMENT REMOVAL, THE CONTRACTOR SHALL EXERCISE CARE TO ENSURE THAT NO DAMAGE OCCURS TO SPAN #1 OF THE EXISTING CONCRETE BRIDGE DECK AND THE EXISTING AT-GRADE APPROACH SLABS. ANY DAMAGE TO SPAN #1 OF THE CONCRETE BRIDGE DECK OR AT-GRADE APPROACH SLABS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. REPAIRS, IF APPLICABLE, SHALL BE MADE IN ACCORDANCE WITH SECTION 580.
32. THE AT-GRADE APPROACH SLABS AND SPAN I OF THE CONCRETE BRIDGE DECK (IF APPLICABLE) SHALL BE CLEANED IN ACCORDANCE WITH SUBSECTION 580.04 AND TO THE SATISFACTION OF THE ENGINEER. REMOVAL OF THE BARRIER MEMBRANE AND THE CLEANING OF THE AT-GRADE APPROACH SLABS AND SPAN #1 OF THE CONCRETE BRIDGE DECK WILL BE PAID FOR UNDER ITEM 580.16, "SURFACE PREPARATION FOR MEMBRANE".
33. ONCE THE EXISTING PAVEMENT AND MEMBRANE ARE REMOVED FROM THE SPAN #1 CONCRETE BRIDGE DECK, ANY AREAS THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO WHETHER THE EXISTING SPAN #1 CONCRETE BRIDGE DECK SHOULD BE REPLACED OR REPAIRED. IF THE DECK IS TO BE REPLACED, BRIDGE DECK REMOVAL OPERATIONS SHALL COMMENCE. IF THE DECK IS TO BE MAINTAINED, THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE DECK AND THE LIMITS OF THE REPAIR. THE REPAIRS WILL BE PAID FOR UNDER ITEM 580.10, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I", ITEM 580.11, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II", OR ITEM 580.12, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III". QUANTITIES FOR ITEMS 580.10, 580.11, AND 580.12 AS SHOWN ON THE QUANTITY SUMMARY SHEETS ARE ESTIMATED AND INCLUDED IN THE CONTRACT IN THE EVENT THE SPAN IS MAINTAINED.
34. ONCE THE EXISTING PAVEMENT AND MEMBRANE ARE REMOVED FROM THE AT-GRADE APPROACH SLABS, ANY AREAS THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE AT-GRADE APPROACH SLABS AND THE LIMITS OF THE REPAIR. THE REPAIRS WILL BE PAID FOR UNDER ITEM 580.10, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I", ITEM 580.11, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II", OR ITEM 580.12, "REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III". QUANTITIES FOR ITEMS 580.10, 580.11, AND 580.12 AS SHOWN ON THE QUANTITY SUMMARY SHEETS ARE ESTIMATED.

## PAVEMENT AND MEMBRANE

35. UPON THE ENGINEER'S APPROVAL OF THE CONCRETE BRIDGE DECK'S CONDITION, ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 519. THE CONTRACTOR SHALL NOT INSTALL ITEM 519.20, "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" WHEN THE DECK CONCRETE AND/OR DECK PATCH AREAS' MOISTURE CONTENT IS ABOVE SECTION 519 SPECIFICATIONS OR MANUFACTURER'S SPECIFICATIONS, WHICHEVER IS LESS.
36. TRAFFIC WILL BE ALLOWED TO DRIVE ON THE BARE CONCRETE DECK PRIOR TO THE DECK BEING CLEANED AND PREPARED FOR THE NEW SHEET MEMBRANE. ONCE THE CONCRETE BRIDGE DECK IS PREPARED FOR THE NEW SHEET MEMBRANE, NO TRAFFIC WILL BE ALLOWED ON THE NEW MEMBRANE UNTIL THE SECOND LIFT OF BITUMINOUS CONCRETE PAVEMENT IS IN PLACE.
37. FOLLOWING THE INSTALLATION OF THE NEW SHEET MEMBRANE WATERPROOFING ON THE CONCRETE BRIDGE DECK, THE SOUTHERN ROADWAY APPROACH, CONCRETE BRIDGE DECK, AND AT-GRADE APPROACH SLAB #5 SHALL BE PAVED CURB TO CURB WITH ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)" WITH ONE 3/4" SHIM AND ONE 1 3/4" LIFT. THE TOP LIFT SHALL TAPER TO 1 1/2" AT THE PIER #4 FINGER JOINT AND THE ABUTMENT #4 COMPRESSION JOINT TO ACCOMMODATE THE EXISTING STEEL PLATES AND HARDWARE. SEE JOINT, PAVEMENT, AND MEMBRANE LAYOUT ON SHEET 18 FOR TAPER LOCATIONS. AT-GRADE APPROACH SLAB #6 AND THE NORTHERN ROADWAY APPROACH SHALL BE PAVED CURB TO CURB WITH ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)" WITH ONE 3/4" SHIM AND ONE 1 1/2" LIFT.
38. CARE SHALL BE EXERCISED TO SMOOTHLY TRANSITION THE NEW BRIDGE PAVEMENT INTO THE EXISTING PAVEMENT. ANY COLD PLANING NECESSARY FOR SHAPING BRIDGE APPROACHES WILL BE PAID FOR UNDER ITEM 210.10, "COLD PLANING, BITUMINOUS PAVEMENT".
39. ANY REQUIRED SAWCUT OF EXISTING PAVEMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)".
40. EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY TO ALL COLD PLANED SURFACES AND AT A RATE OF 0.04 GAL/SY BETWEEN PAVEMENT LIFTS OR AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT WILL BE PAID FOR UNDER ITEM 404.65, "EMULSIFIED ASPHALT".
41. UPON COMPLETION OF ALL PAVING OPERATIONS, FINAL PAVEMENT MARKINGS SHALL BE INSTALLED TO REPLICATE THE EXISTING CONFIGURATION.

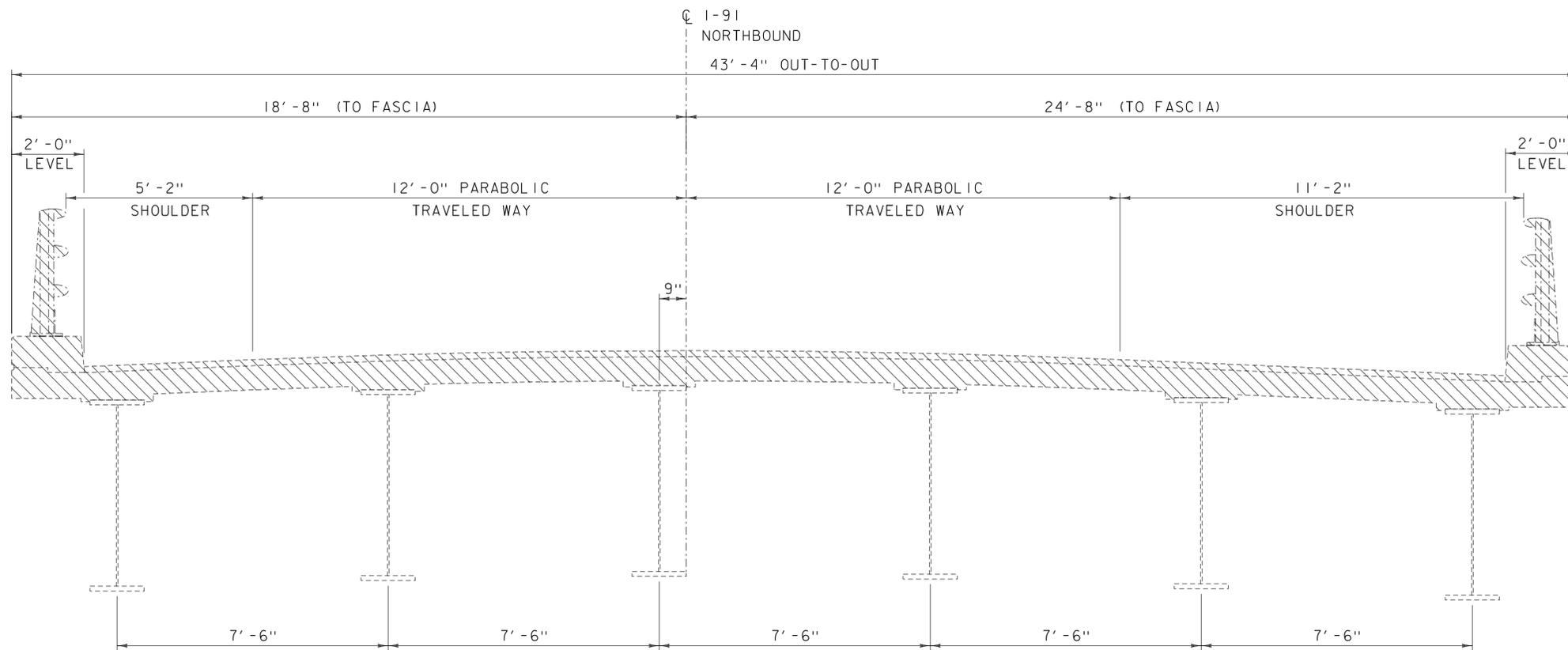
MODEL: Sheet02  
CLD 15-0223

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6notes-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: S. BEAUMONT  
INDEX OF SHEETS & PROJECT NOTES SHEET 2

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: J. BYATT  
SHEET 3 OF 49

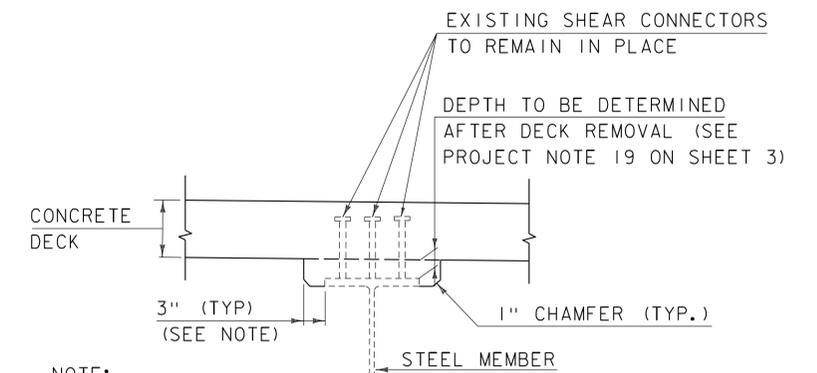




**EXISTING BRIDGE TYPICAL**

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

PARTIAL REMOVAL OF STRUCTURE

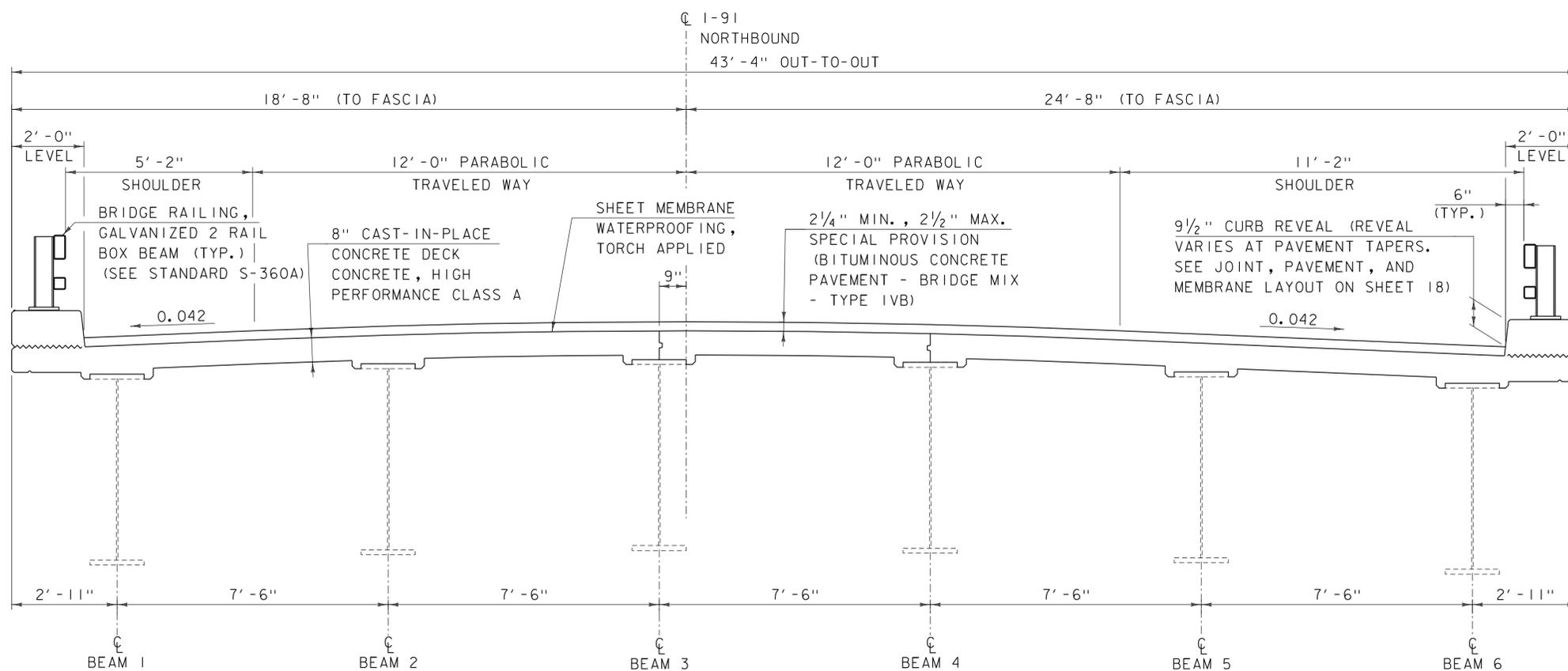


NOTE:

THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE WILL BE CONSIDERED INCIDENTAL TO THE ADJACENT CONCRETE ITEM.

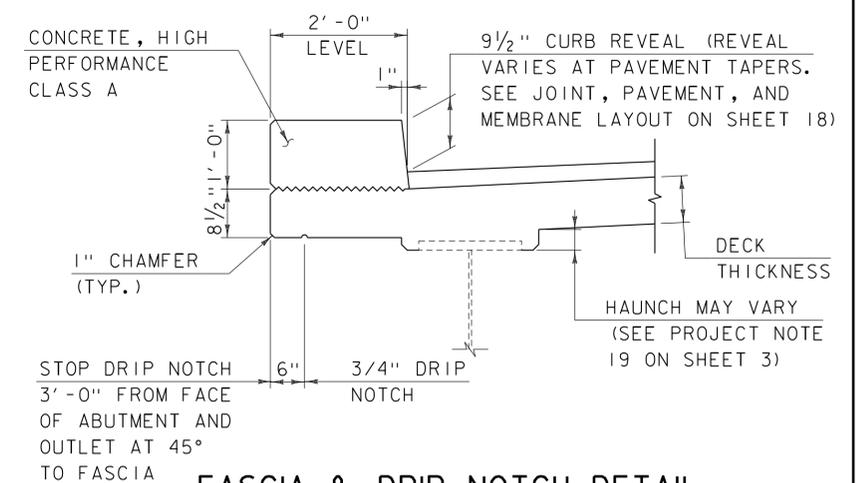
**HAUNCH AND SHEAR CONNECTOR DETAIL**

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



**TYPICAL BRIDGE SECTION**

(SPANS 2 THROUGH 4)  
SCALE: 1/2" = 1'-0"



**FASCIA & DRIP NOTCH DETAIL**

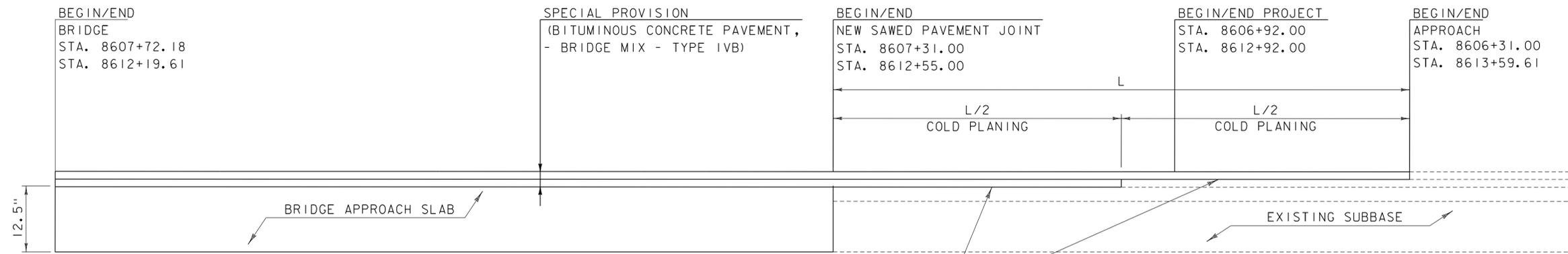
SCALE: 3/4" = 1'-0"

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6+yp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: N. CARON  
TYPICAL BRIDGE SECTIONS SHEET

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 4 OF 49





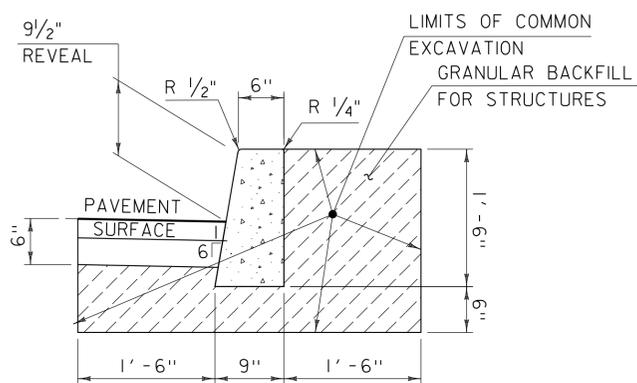
SEE PAVEMENT AND MEMBRANE NOTES ON SHEET 3

### MATERIAL TRANSITION DIAGRAM

NOT TO SCALE

MATERIAL TOLERANCES	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"

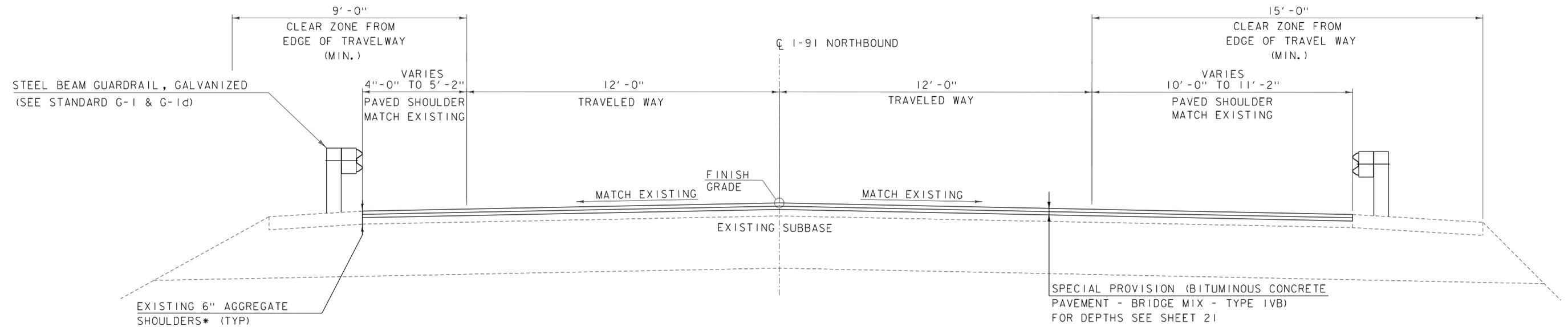
DESIGN NUMBER OF GYRATIONS - 65



### TYPICAL CAST-IN-PLACE CONCRETE CURB, TYPE B EARTHWORKS DETAIL

NORTHERN APPROACH  
 2 1/4" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB) (1 - 1 1/2" LIFT AND 1 - 3/4" SHIM)

SOUTHERN APPROACH  
 2 1/2" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB) (1 - 1 3/4" LIFT AND 1 - 3/4" SHIM)



### I-91 TYPICAL SECTION

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

\*REPLACE AGGREGATE SHOULDER AS NEEDED, AS DIRECTED BY THE ENGINEER

NOTE:  
 IN THE EVENT THAT COLD PLANING OF THE RIGHT ROADWAY SHOULDERS ALONG BRIDGE APPROACHES EXPOSES GRAVEL SUBBASE, THE CONTRACTOR SHALL REMOVE 2" OF GRAVEL SUBBASE, PREPARE THE AREA AS DIRECTED BY THE ENGINEER, AND PROVIDE 2" BASE PAVEMENT. IN ADDITION TO THE PAVEMENT DEPTH TO BE PLACED IN ALL OTHER LOCATIONS PER THE PAVEMENT, JOINT, AND MEMBRANE LAYOUT ON SHEET 18, ADDITIONAL QUANTITIES HAVE BEEN INCLUDED IN THE ESTIMATE UNDER ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)" AND ITEM 402.12, "AGGREGATE SHOULDERS" TO ADDRESS THIS WORK. WHERE DETERMINED BY THE ENGINEER, PAYMENT FOR BASE PREPARATION WILL BE CONSIDERED INCIDENTAL TO EQUIPMENT RENTAL ITEMS.



PROJECT NAME: IRASBURG	PLOT DATE: 2/12/2016
PROJECT NUMBER: IM DECK(46)	DRAWN BY: P. McKECHNIE
FILE NAME: z15all6+yp-107N.dgn	CHECKED BY: S. FORTIER
PROJECT LEADER: J. BYATT	SHEET 5 OF 49
DESIGNED BY: L. GREER	TYPICAL ROADWAY SECTIONS SHEET

CLD 15-0223 MODEL: Sheet02

# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE NO. 107N	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							20				20		CY	COMMON EXCAVATION	203.15	4			
							1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
							15				15		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	-			
							900				900		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	9			
							6				6		TON	AGGREGATE SHOULDERS	402.12	0.8			
							15		23		38		CWT	EMULSIFIED ASPHALT	404.65	3.76			
							1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
									618		618		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	0.58			
									500		500		LB	STRUCTURAL STEEL	506.60	EST.			
									184463		184463		LB	REINFORCING STEEL, LEVEL I	507.11	0.52			
									72		72		LF	DRILLING AND GROUTING DOWELS	507.16	-			
									38		38		GAL	WATER REPELLENT, SILANE	514.10	0.65			
									54		54		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	0.65			
									1941		1941		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	0.28			
									79		79		LF	JOINT SEALER, HOT POURED	524.11	0.33			
									58		58		LF	REMOVAL OF EXISTING BRIDGE RAILING	525.10	0.67			
									952.35		952.35		LF	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM	525.33	-			
									670		670		SY	REMOVAL OF BRIDGE PAVEMENT	529.10	0.87			
									1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	-			
									5		5		CY	REMOVAL OF CONCRETE OR MASONRY	529.25	1.37			
									10		10		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS I	580.10	EST.			
									25		25		SY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS II	580.11	EST.			
									3		3		CY	REPAIR OF CONCRETE SUPERSTRUCTURE SURFACE, CLASS III	580.12	EST.			
									15		15		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13	EST.			
									15		15		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	EST.			
									6025		6025		SF	SURFACE PREPARATION FOR MEMBRANE	580.16	2.77			
								5			5		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST.			
								5			5		HR	TRUCK RENTAL	608.37	EST.			
							160				160		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	-			
									238		238		LF	SNOW BARRIER	620.75	-			
							112.5				112.5		LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	8.5			
							2				2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
									4		4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM	621.72	-			
							50				50		LF	REMOVE AND RESET GUARDRAIL	621.75	-			
							190				190		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	9			
							80				80		HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.			
							150				150		HR	FLAGGERS	630.15	EST.			
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
										1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)  
FILE NAME: z15all6qss-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
QUANTITY SHEET 1  
PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: A. GIRALDI  
SHEET 6 OF 49

# QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE NO. 107N	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
										3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
							1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
							2				2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
							950				950		LF	DURABLE 6 INCH WHITE LINE, EPOXY PAINT	646.423	38.8			
							750				750		LF	DURABLE 6 INCH YELLOW LINE, EPOXY PAINT	646.433	21			
							5				5		EACH	REMOVING SIGNS	675.50	-			
							5				5		EACH	ERECTING SALVAGED SIGNS	675.60	-			
							2				2		EACH	DELINEATOR WITH STEEL POST	676.10	-			
									16		16		EACH	SPECIAL PROVISION (BRIDGE SCUPPER)	900.620	-			<b>SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)</b>
							6				6		EACH	SPECIAL PROVISION (CPM SCHEDULE)	900.620	-	103.0 TON		TYPE IVB (ROADWAY)
							825		2920		3745		LF	SPECIAL PROVISION (PAVEMENT JOINT ADHESIVE)	900.640	5.56	319.7 TON		TYPE IVB (BRIDGE)
									58		58		LF	SPECIAL PROVISION (REMOVE AND REPLACE COMPRESSION JOINT SEAL)	900.640	0.65	422.7 TON		SUBTOTAL
							1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645	-	2.3 TON		ROUNDING
							1				1		LU	SPECIAL PROVISION (MAINTENANCE OF RAILROAD TRAFFIC) (N.A.B.I.)	900.650	-	425.0 TON		TOTAL
							1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT - BRIDGE MIX - TYPE IVB) (N.A.B.I.)	900.650	-			
							105		320		425		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)	900.680	2.3			

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6qss-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
QUANTITY SHEET 2

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: A. GIRALDI  
SHEET 7 OF 49

**GENERAL INFORMATION**

**SYMBOLY LEGEND NOTE**

THE SYMBOLY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLY. THE SYMBOLY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

**R.O.W. ABBREVIATIONS (CODES) & SYMBOLS**

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
▣	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊗	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

**COMMON TOPOGRAPHIC POINT SYMBOLS**

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
⊙	BM BENCHMARK
▣	BND BOUND
▣	CB CATCH BASIN
⊕	COMB COMBINATION POLE
▣	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
⊙	FPOLE FLAGPOLE
⊙	GASFIL GAS FILLER
⊙	GP GUIDE POST
⊗	GSO GAS SHUT OFF
⊙	GUY GUY POLE
⊙	GUYW GUY WIRE
⊗	GV GATE VALVE
⊕	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
⊙	IP IRON PIN
⊙	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
⊙	MH MANHOLE (MH)
▣	MM MILE MARKER
⊙	PM PARKING METER
▣	PMK PROJECT MARKER
⊙	POST POST STONE/WOOD
⊕	RRSIG RAILROAD SIGNAL
⊕	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
⊕	TEL TELEPHONE POLE
⊕	TIE TIE
⊕	TSIGN SIGN W/DOUBLE POST
⊕	VCTRL CONTROL VERTICAL
⊕	WELL WELL
⊗	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

**PROPOSED GEOMETRY CODES**

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

**UTILITY SYMBOLY**

UNDERGROUND UTILITIES	
— UGU —	UTILITY (GENERIC-UNKNOWN)
— — — — —	TELEPHONE
— — — — —	ELECTRIC
— — — — —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— — — — —	GAS LINE
— — — — —	WATER LINE
— — — — —	SANITARY SEWER (SEPTIC)
ABOVE GROUND UTILITIES (AERIAL)	
— AGU —	UTILITY (GENERIC-UNKNOWN)
— — — — —	TELEPHONE
— — — — —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— — — — —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
— — — — —	UTILITY POLE GUY WIRE

**PROJECT CONSTRUCTION SYMBOLY**

PROJECT DESIGN & LAYOUT SYMBOLY	
— — — — — CZ — — — — —	CLEAR ZONE
— — — — —	PLAN LAYOUT MATCHLINE

**PROJECT CONSTRUCTION FEATURES**

— — — — —	TOP OF CUT SLOPE
— — — — —	TOE OF FILL SLOPE
⊕ ⊕ ⊕ ⊕ ⊕ ⊕	STONE FILL
— — — — —	BOTTOM OF DITCH
— — — — —	CULVERT PROPOSED
— — — — —	STRUCTURE SUBSURFACE
— — — — —	PROJECT DEMARCATION FENCE
BF — — — — — BF — — — — —	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
///	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLY**

BOUNDARY LINES	
— — — — —	TOWN BOUNDARY LINE
— — — — —	COUNTY BOUNDARY LINE
— — — — —	STATE BOUNDARY LINE
— — — — —	PROPOSED STATE R.O.W. (LIMITED ACCESS)
— — — — —	PROPOSED STATE R.O.W.
— — — — —	STATE ROW (LIMITED ACCESS)
— — — — —	STATE ROW
— — — — —	TOWN ROW
— — — — —	PERMANENT EASEMENT LINE (P)
— — — — —	TEMPORARY EASEMENT LINE (T)
— — — — —	SURVEY LINE
— P — — — — — P —	PROPERTY LINE (P/L)
— SR — — — — — SR —	SLOPE RIGHTS
— — — — —	6F PROPERTY BOUNDARY
— — — — —	4F PROPERTY BOUNDARY
— — — — —	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLY**

EPSC MEASURES	
— — — — —	FILTER CURTAIN
— — — — —	SILT FENCE
— — — — —	SILT FENCE WOVEN WIRE
— — — — —	CHECK DAM
▣	DISTURBED AREAS REQUIRING RE-VEGETATION
⊕	EROSION MATTING

**ENVIRONMENTAL RESOURCES**

— — — — —	WETLAND BOUNDARY
— — — — —	RIPARIAN BUFFER ZONE
— — — — —	WETLAND BUFFER ZONE
— — — — —	SOIL TYPE BOUNDARY
— T&E —	THREATENED & ENDANGERED SPECIES
— — — — —	HAZARDOUS WASTE AREA
— AG —	AGRICULTURAL LAND
— HABITAT —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN —	FLOOD PLAIN
— OHW —	ORDINARY HIGH WATER (OHW)
— — — — —	STORM WATER
— — — — —	USDA FOREST SERVICE LANDS
— — — — —	WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

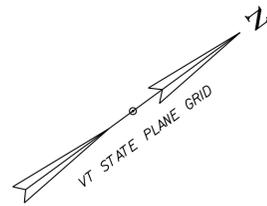
— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
⊕	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLY**

EXISTING FEATURES	
— — — — —	ROAD EDGE PAVEMENT
— — — — —	ROAD EDGE GRAVEL
— — — — —	DRIVEWAY EDGE
— — — — —	DITCH
— — — — —	FOUNDATION
— — — — —	FENCE (EXISTING)
— — — — —	FENCE WOOD POST
— — — — —	FENCE STEEL POST
— — — — —	GARDEN
— — — — —	ROAD GUARDRAIL
— — — — —	RAILROAD TRACKS
— — — — —	CULVERT (EXISTING)
— — — — —	STONE WALL
— — — — —	WALL
— — — — —	WOOD LINE
— — — — —	BRUSH LINE
— — — — —	HEDGE
— — — — —	BODY OF WATER EDGE
— — — — —	LEDGE EXPOSED

PROJECT NAME: IRASBURG	PLOT DATE: 2/12/2016
PROJECT NUMBER: IM DECK(46)	DRAWN BY: P. McKECHNE
FILE NAME: z15all6legend-107N.dgn	CHECKED BY: S. FORTIER
PROJECT LEADER: J. BYATT	SHEET 8 OF 49
DESIGNED BY: L. GREER	
CONVENTIONAL SYMBOLY LEGEND SHEET	





**EXISTING BRIDGE DATA:**  
 ROLLED BEAM, CONCRETE DECK-SPAN 1  
 3-SPAN CONTINUOUS WELDED PLATE  
 GIRDER, CONCRETE DECK-SPAN 2-4.  
 LENGTH = 447' 0"  
 WIDTH = 39' - 4" RAIL-TO-RAIL  
 BUILT IN 1971

**DURABLE 6 INCH WHITE LINE, EPOXY PAINT**  
 8606+31 TO 8613+60 LT (SOLID)  
 8606+31 TO 8613+60 LT (DASHED)

**DURABLE 6 INCH YELLOW LINE, EPOXY PAINT**  
 8606+31 TO 8613+60 RT (SOLID)

**REMOVAL AND DISPOSAL OF GUARDRAIL**  
 8607+21 TO 8607+67 LT  
 8606+79 TO 8607+24 RT  
 8612+58 TO 8613+03 LT  
 8612+21 TO 8612+66 RT

**STEEL BEAM GUARDRAIL, GALVANIZED**  
 8606+79 TO 8607+04 RT  
 8607+21 TO 8607+46 LT  
 8612+41 TO 8612+66 RT  
 8612+78 TO 8613+03 LT

**ANCHOR FOR STEEL BEAM RAIL**  
 8612+66 RT  
 8613+03 LT

**DELINEATOR WITH STEEL POST**  
 8612+66 RT  
 8613+03 LT

**CAST-IN-PLACE CONCRETE CURB, TYPE B**  
 8606+93 TO 8607+33 RT  
 8607+35 TO 8607+75 LT  
 8612+12 TO 8612+52 RT  
 8612+49 TO 8612+89 LT

**REMOVING SIGNS**  
 8607+23 RT  
 8607+29 RT  
 8607+29 LT  
 8609+38 LT  
 8612+00 LT

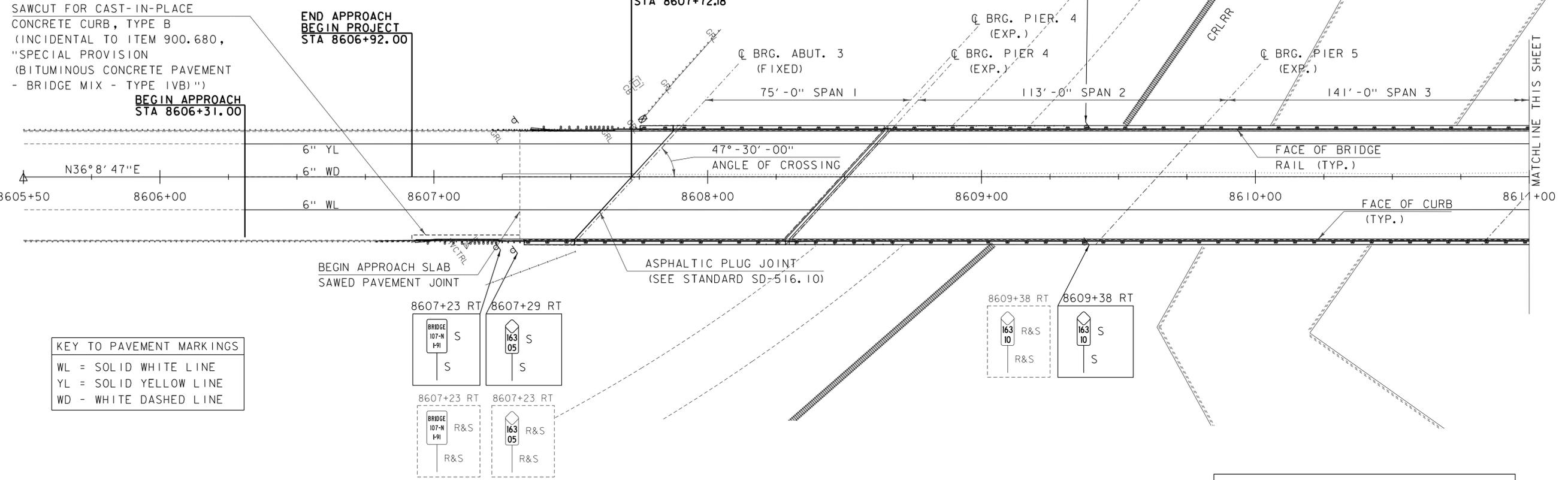
**ERECTING SALVAGED SIGNS**  
 8607+23 RT  
 8607+29 RT  
 8607+29 LT  
 8609+38 LT  
 8612+00 LT

SAWCUT FOR CAST-IN-PLACE  
 CONCRETE CURB, TYPE B  
 (INCIDENTAL TO ITEM 900.680,  
 "SPECIAL PROVISION  
 (BITUMINOUS CONCRETE PAVEMENT  
 - BRIDGE MIX - TYPE IVB)")

**BEGIN APPROACH**  
 STA 8606+31.00

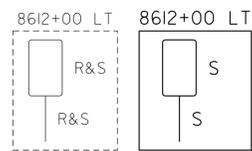
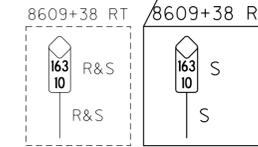
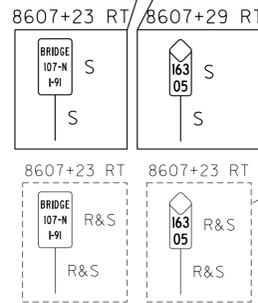
**END APPROACH**  
**BEGIN PROJECT**  
 STA 8606+92.00

**BEGIN BRIDGE**  
 STA 8607+72.18



**KEY TO PAVEMENT MARKINGS**

- WL = SOLID WHITE LINE
- YL = SOLID YELLOW LINE
- WD = WHITE DASHED LINE

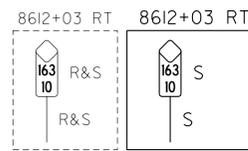
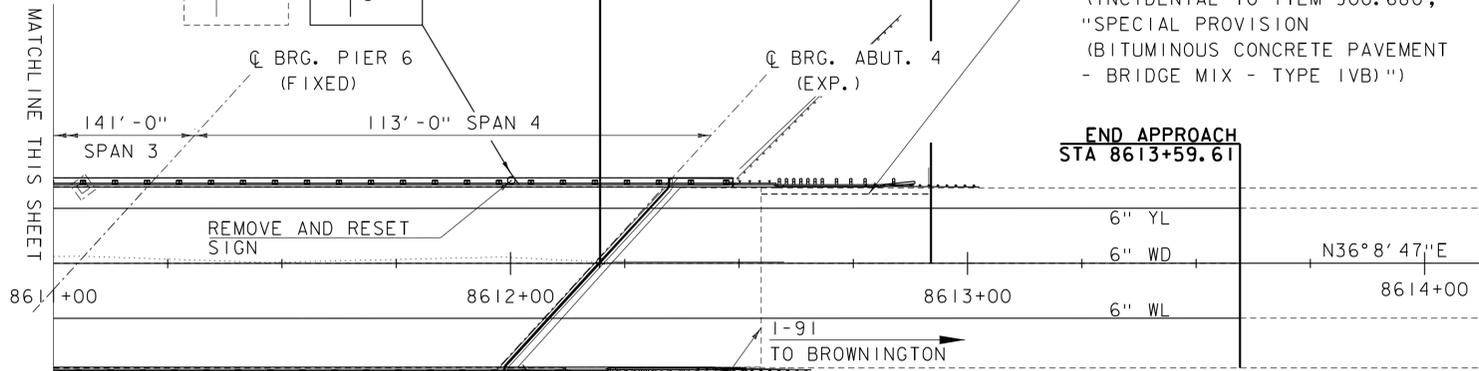


**END BRIDGE**  
 STA 8612+19.61

**END PROJECT**  
**BEGIN APPROACH**  
 STA 8612+92.00

SAWCUT FOR CAST-IN-PLACE  
 CONCRETE CURB, TYPE B  
 (INCIDENTAL TO ITEM 900.680,  
 "SPECIAL PROVISION  
 (BITUMINOUS CONCRETE PAVEMENT  
 - BRIDGE MIX - TYPE IVB)")

**END APPROACH**  
 STA 8613+59.61



**END APPROACH SLAB**  
 SAWED PAVEMENT JOINT

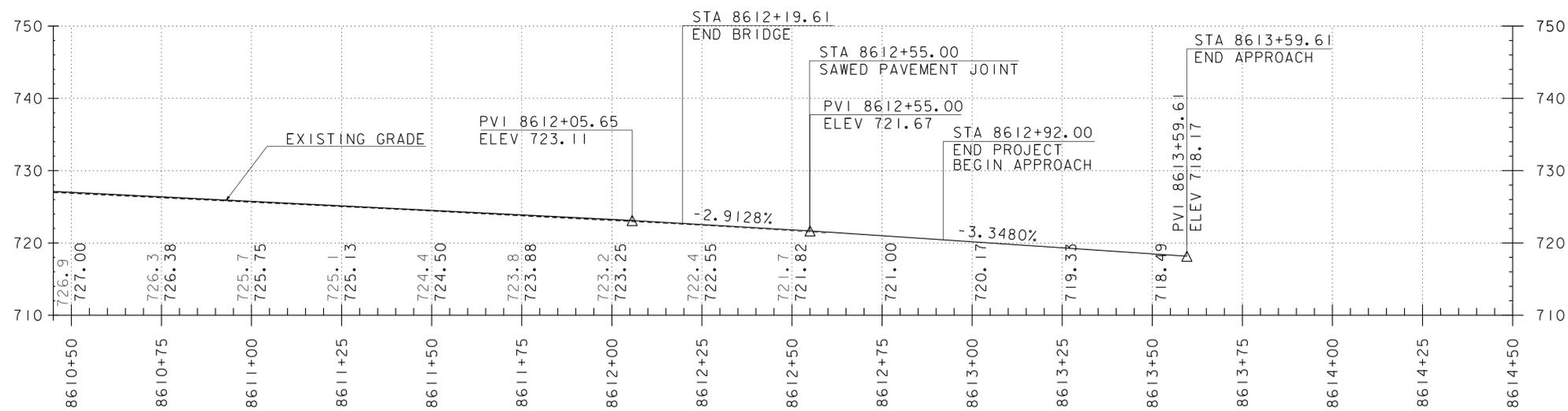
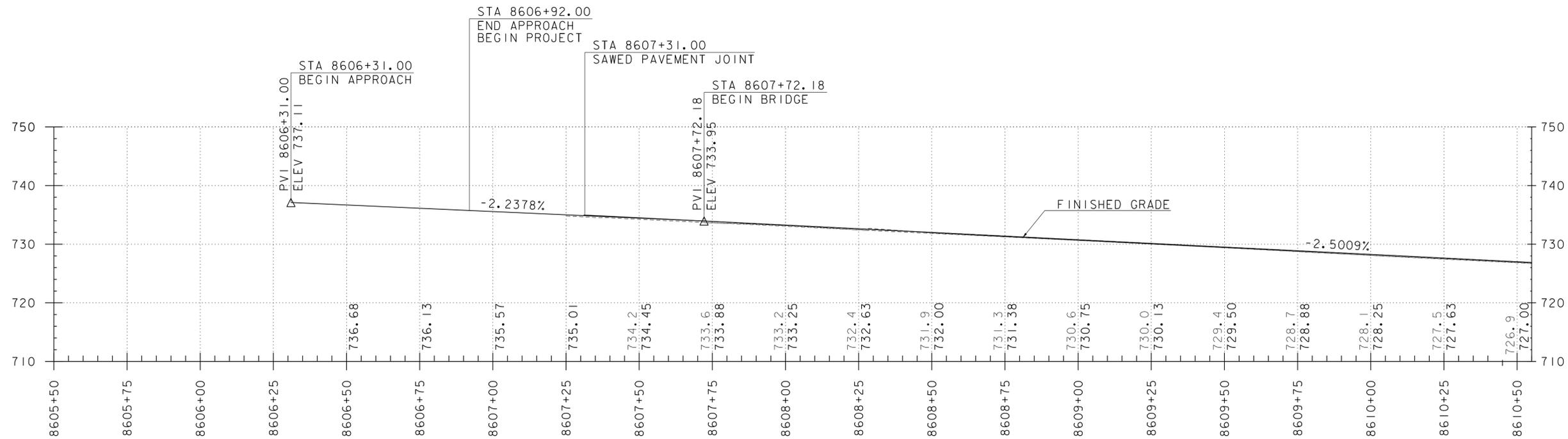
<b>HVCTRL 8607+11.9</b>	
NORTH =	848667.95
EAST =	1717.692.58
ELEV. =	N/A

PROJECT NAME: IRASBURG  
 PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6bdr-107N.dgn  
 PROJECT LEADER: J. BYATT  
 DESIGNED BY: L. GREER  
 LAYOUT SHEET

PLOT DATE: 2/12/2016  
 DRAWN BY: P. McKECHNE  
 CHECKED BY: S. FORTIER  
 SHEET 9 OF 49





**NOTES**

1. STATIONS AND ELEVATIONS ARE IN FEET.
2. THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ALONG THE CENTERLINE.
3. THE ELEVATIONS SHOWN TO THE NEAREST HUNDRETH ARE THE FINISHED GRADE ALONG THE CENTERLINE.
4. PROPOSED PROFILE SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. FINAL FINISHED GRADE SHALL BE DETERMINED BY THE PROJECT MANAGER AFTER EXISTING TOP OF DECK AND TOP OF BEAM ELEVATIONS ARE SURVEYED. SEE PROJECT NOTE 19 ON SHEET 3.

**I-91 PROFILE**

HOR. SCALE 1" = 40' - 0"  
 VER. SCALE 1" = 20' - 0"



PROJECT NAME: IRASBURG  
 PROJECT NUMBER: IM DECK(46)  
 FILE NAME: z15all6pro-107N.dgn  
 PROJECT LEADER: J. BYATT  
 DESIGNED BY: L. GREER  
 PROFILE SHEET

PLOT DATE: 2/12/2016  
 DRAWN BY: J. FOWLER  
 CHECKED BY: S. FORTIER  
 SHEET 10 OF 49

## TRAFFIC CONTROL

1. AS PART OF 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)", THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE PROJECT MANAGER DEPICTING EACH PHASE OF THE PLANNED WORK. PLANS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 105.03. THE PLAN SHALL INCLUDE A LAYOUT SHOWING ALL ON- AND OFF-PROJECT SIGNS AND BARRICADES, DETAILS FOR LANE CLOSURES, AND ANY OTHER DETAILS ASSOCIATED WITH THE TRAFFIC CONTROL.

THE TRAFFIC CONTROL PLANS SHOWN ON TRAFFIC CONTROL SHEETS 2 AND 3, THE TRAFFIC CONTROL BARRIER SHEET ON SHEET 14, AND THE PHASING SECTIONS ON SHEETS 15 AND 16 ARE SCHEMATICS ONLY AND SHOULD BE USED AS REFERENCES. DIMENSIONS SHOWN ARE MINIMUMS BASED ON VTRANS STANDARDS AND THE MUTCD. THESE DIMENSIONS MAY BE REDUCED DUE TO SITE CONSTRAINTS WITH THE ENGINEER'S APPROVAL. ITEMS THAT MAY BE REVISED IN THE SITE SPECIFIC TRAFFIC CONTROL PLAN SUBMITTED BY THE CONTRACTOR INCLUDE, BUT ARE NOT LIMITED TO, APPROACH SIGN SPACING, TAPER LENGTHS/RATES, LANE WIDTHS, BUFFER SPACES, TANGENT LENGTHS, AND LOCATIONS OF PORTABLE CHANGEABLE MESSAGE SIGNS.

2. ALL ITEMS REQUIRED TO PREPARE, SUBMIT, AND IMPLEMENT THE CONTRACTOR'S PLAN, INCLUDING ANY NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". THIS INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

TRAFFIC CONTROL PLAN  
 TEMPORARY TRAFFIC BARRIERS  
 BARRICADES  
 DRUMS/CONES  
 ON PROJECT CONSTRUCTION SIGNING  
 TEMPORARY TAPE OR RAISED PAVEMENT MARKERS, TYPE II  
 PORTABLE ARROW BOARDS  
 ENERGY ABSORPTION ATTENUATORS

THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR REVIEW OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.

3. THE EXISTING SPEED LIMIT IS 65 MPH. THE SPEED LIMIT WILL BE REDUCED TO 55 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED.
4. CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS.
5. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
6. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM D 4956) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED. BLACK AND WHITE REGULATORY SIGNS SHALL BE A MINIMUM OF TYPE III, UNLESS OTHERWISE NOTED.
7. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM D 4956 TYPE VI.
8. CONSTRUCTION SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
9. FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL.

## TRAFFIC CONTROL (CONTINUED)

10. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND ONE FOOT MINIMUM ABOVE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
11. WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED, STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
12. THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF RIGHT AND LEFT LANES ON PROJECT BEFORE WORK COMMENCES.
13. THE TRAFFIC CONTROL CONFIGURATIONS SHOWN ON TRAFFIC CONTROL SHEET 2 MAY BE UTILIZED FOR ALL WORK REQUIRING A LANE CLOSURE OF 3 DAYS OR LESS SUCH AS MEMBRANE AND PAVING OPERATIONS THAT DO NOT REQUIRE OPEN DECK WORK. ANY WORK REQUIRING A LANE CLOSURE LONGER THAN 3 DAYS OR INCLUDES OPEN DECK WORK SUCH AS DECK REMOVAL AND REPLACEMENT OPERATIONS SHALL UTILIZE THE TRAFFIC CONTROL CONFIGURATIONS SHOWN ON TRAFFIC CONTROL SHEET 3.
14. CHANNELIZING DEVICES OTHER THAN RETROREFLECTIVE PLASTIC DRUMS SHALL BE ALLOWED ALONG THE BUFFER SPACE AND WORK AREA FOR MEMBRANE AND PAVING OPERATIONS ONLY. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE BUFFER SPACE AND WORK AREA AND SHALL REMAIN STABLE WHILE UNATTENDED.
15. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADE AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
16. PLACE LAST CHANNELIZING DEVICE A MINIMUM 100 FEET BEYOND THE ANTICIPATED WORK ZONE TERMINAL POINT EACH DAY FOR MEMBRANE AND PAVING OPERATIONS ONLY.
17. THE ARROW PANEL SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY AS CLOSE AS PRACTICAL TO THE BEGINNING OF THE MERGING TAPER.
18. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER AND WILL BE PAID FOR UNDER ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN". THE CONTRACT INCLUDES AN ESTIMATED QUANTITY OF TWO PCMS, WHICH INCLUDES ONE BACKUP PCMS TO BE USED IN THE EVENT AN IN-SERVICE PCMS IS DAMAGED AND NEEDS TO BE REPLACED. THE PCMS SHALL BE PLACED AS SHOWN IN THE "CONSTRUCTION APPROACH SIGNING ON I-91" DETAIL ON TRAFFIC CONTROL SHEET 2. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD. THE PCMS SHALL READ "LEFT (OR RIGHT) LANE CLOSED AHEAD, PLEASE MERGE EARLY".
19. TRAVEL LANE SHALL BE A MINIMUM OF 12 FEET WIDE.
20. DURING MEMBRANE AND PAVING OPERATIONS, THE CONTRACTOR MAY REDUCE TRAFFIC TO ONE LANE DURING WORKING HOURS IN ACCORDANCE WITH THIS SHEET. ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS AND OUTSIDE THE CLEAR ZONE (MINIMUM 30 FEET) DURING NON-WORK PERIODS AND PROTECTED BY BARRELS OR CONES, UNLESS PROTECTED BY TRAFFIC BARRIER OR GUARDRAIL.
21. AT THE DISCRETION OF THE ENGINEER, MERGING TAPER, BUFFER SPACE, AND TANGENT LENGTHS MAY BE EXTENDED BEYOND MINIMUM VALUES, ESPECIALLY IN CLOSE PROXIMITY TO INTERCHANGE RAMPS, CURVES, OR OTHER INFLUENCING FACTORS.
22. EXTEND MERGING TAPER TO ACCOUNT FOR REQUIRED LANE SHIFT OFFSET.
23. PROVIDE MERGING TAPER LENGTH AS REQUIRED FOR LANE SHIFT.

## TEMPORARY TRAFFIC BARRIER

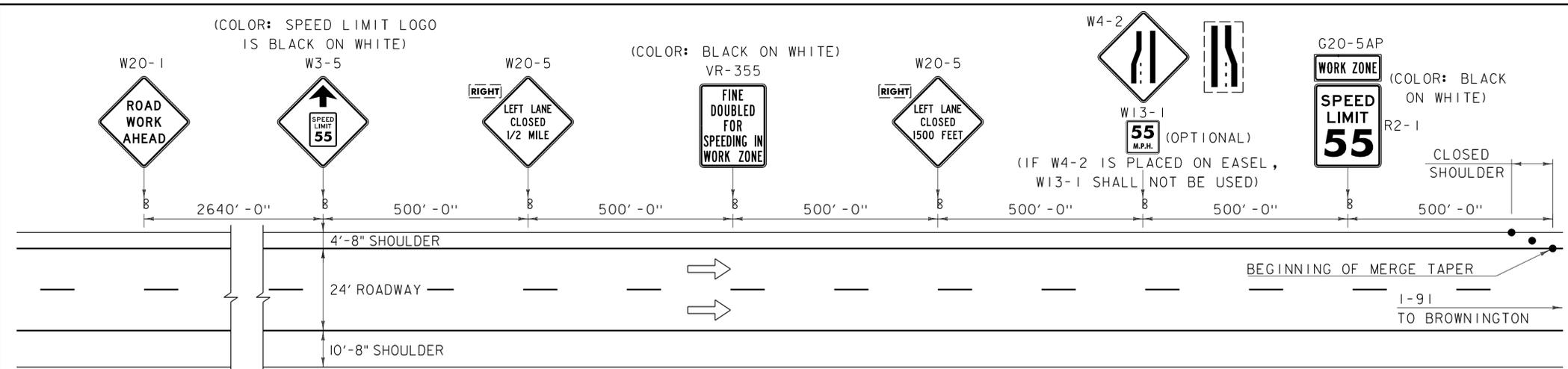
24. TEMPORARY TRAFFIC BARRIER SHALL BE A CONCRETE MEDIAN BARRIER (CMB) TYPE. STEEL BEAM GUARDRAIL WILL NOT BE ALLOWED FOR USE AS A TEMPORARY TRAFFIC BARRIER. PLACEMENT OF CMBs AND REMOVING AND RESETTING CMBs WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
25. THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENTS.
  - A. WHEN NO GUARDRAIL IS PRESENT, A 30' OFFSET SHALL BE USED FROM THE EDGE OF TRAVELED WAY. IF A 30' OFFSET IS NOT ATTAINABLE, THEN AN ENERGY ABSORPTION ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER.
  - B. IF GUARDRAIL IS PRESENT, THEN TEMPORARY CONCRETE TRAFFIC BARRIER SHALL BE CONNECTED TO EXISTING GUARDRAIL. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". (COSTS FOR DISMANTLING BARRIER CONNECTION AND RESTORING EXISTING BARRIER TO ORIGINAL CONFIGURATION WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".) SEE BARRIER RAIL DETAILS ON SHEET 14. AN ENERGY ABSORPTION ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER.
26. THE CONTRACT INCLUDES AN ESTIMATED QUANTITY OF THREE ENERGY ABSORPTION ATTENUATORS, WHICH INCLUDES ONE BACKUP ATTENUATOR TO BE USED IN THE EVENT AN IN-SERVICE ATTENUATOR IS DAMAGED AND NEEDS TO BE REPLACED. PAYMENT FOR THE ATTENUATORS AND TO MOVE ATTENUATORS FOR SHIFTING LANE CLOSURES WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". PAYMENT FOR ENERGY ABSORPTION ATTENUATORS USED FOR ANY OTHER TRAFFIC CONTROL SETUP WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
27. TEMPORARY TAPE EDGELINES SHALL BE APPLIED AND SHALL MAINTAIN A ONE FOOT MINIMUM DISTANCE FROM THE BARRIER WITH TWO FEET BEING DESIRABLE. ALL TEMPORARY TAPE EDGE LINES AND PAVEMENT MARKING MASKS WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
28. THE RAISED PAVEMENT MARKERS (RPM'S), TYPE II SHALL BE PLACED TO THE OUTSIDE OF THE TEMPORARY TAPE PAVEMENT MARKINGS. THE RPM'S SHALL BE SPACED AT A MINIMUM OF 20 FEET AND WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
29. DASHED LINE REMOVAL SHALL BEGIN A MINIMUM OF 750 FEET IN ADVANCE OF THE BEGINNING OF THE SHOULDER TAPER FOR TRAFFIC CONTROL WITH TEMPORARY BARRIER PROTECTION.

PROJECT NAME: IRASBURG  
 PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6+cp-107N.dgn  
 PROJECT LEADER: J. BYATT  
 DESIGNED BY: S. BEAUMONT  
 TRAFFIC CONTROL SHEET I

PLOT DATE: 2/12/2016  
 DRAWN BY: S. BEAUMONT  
 CHECKED BY: L. GREER  
 SHEET II OF 49





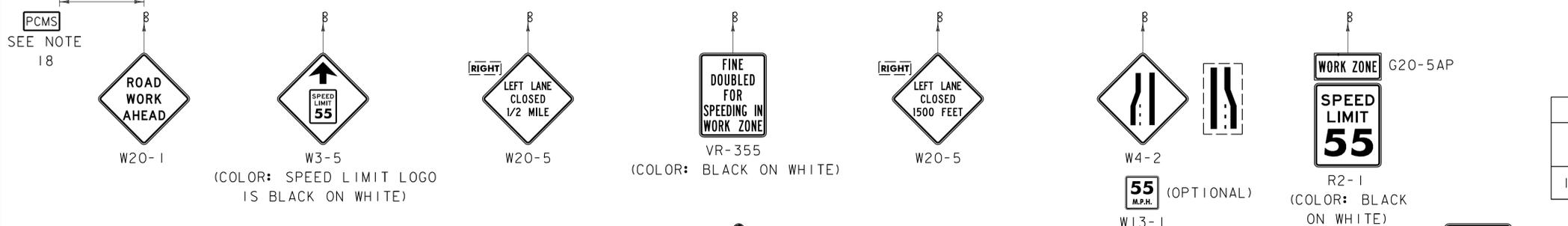
POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MIN.)	MIN. BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE* (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	300	1:11	425	50	100
55	185	660	330	1:13	495	55	110
60	200	720	360	1:13	570	60	120
65	215	780	390	1:13	645	65	130

\* SEE NOTE 22.

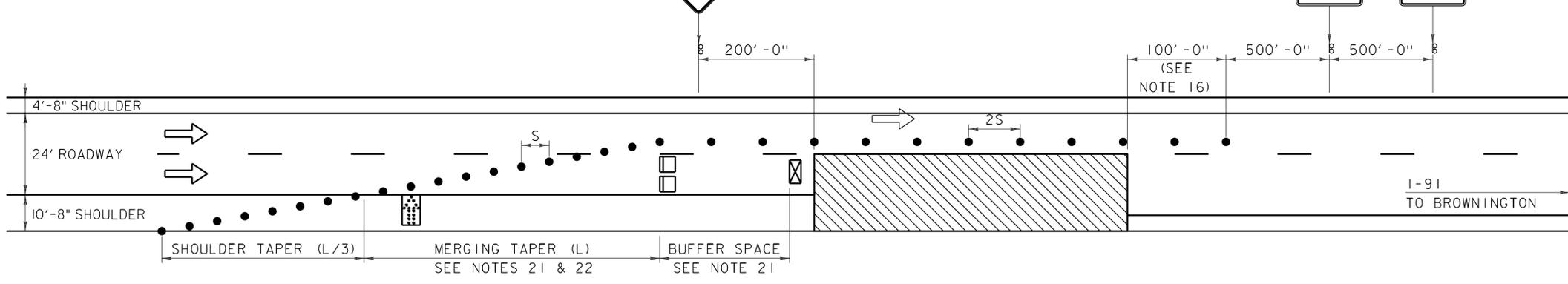
TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:  
 $L = WS$  FOR POSTED SPEEDS OF 45 MPH OR GREATER  
 $L = WS^2/60$  FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER  
W = WIDTH OF OFFSET IN FEET. (TYPICAL)  
S = POSTED SPEED IN MPH

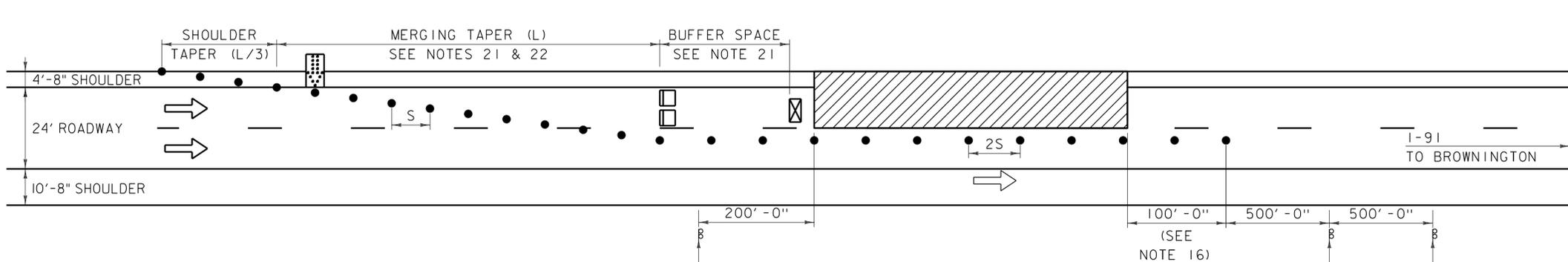
LOCATION	TRAFFIC DATA									
	AADT		DHV		%T		%D		ADTT	
	2015	2035	2015	2035	2015	2035	2015	2035	2015	2035
I-91 NORTH	3600	4000	680	760	16.3	22.5	100	100	680	1000



**CONSTRUCTION APPROACH SIGNING ON I-91**  
(LEFT LANE CLOSED, RIGHT LANE SIMILAR)



**TRAFFIC CONTROL ON I-91 RIGHT LANE CLOSED**  
(SEE NOTE 13)



**TRAFFIC CONTROL ON I-91 LEFT LANE CLOSED**  
(SEE NOTE 13)

- LEGEND**
- FLOW OF TRAFFIC
  - RETROREFLECTIVE PLASTIC DRUM
  - PORTABLE ARROW BOARD
  - TYPE III BARRICADE
  - WORK AREA
  - TRUCK-MOUNTED ATTENUATOR
  - PORTABLE CHANGEABLE MESSAGE SIGN (ITEM 641.15) (SEE NOTE 18)

NOTE: ALL NOTE REFERENCES REFER TO NOTES ON TRAFFIC CONTROL SHEET 1.

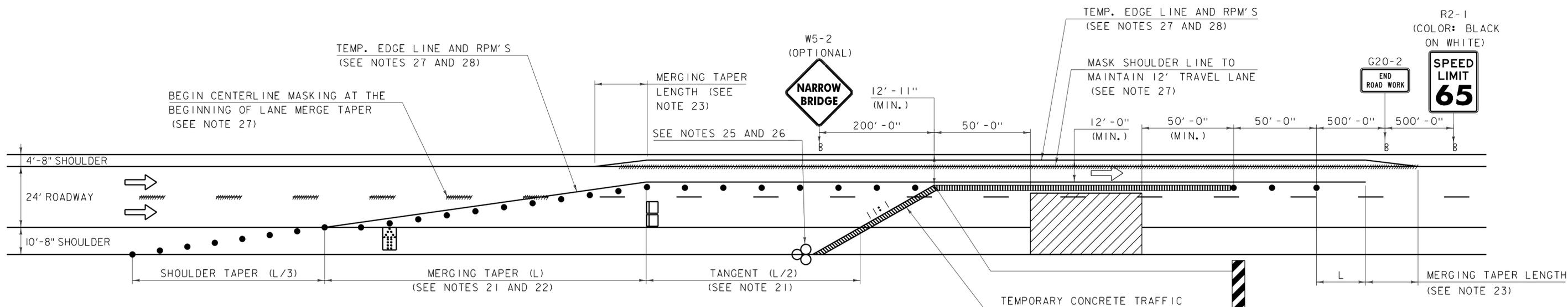


PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

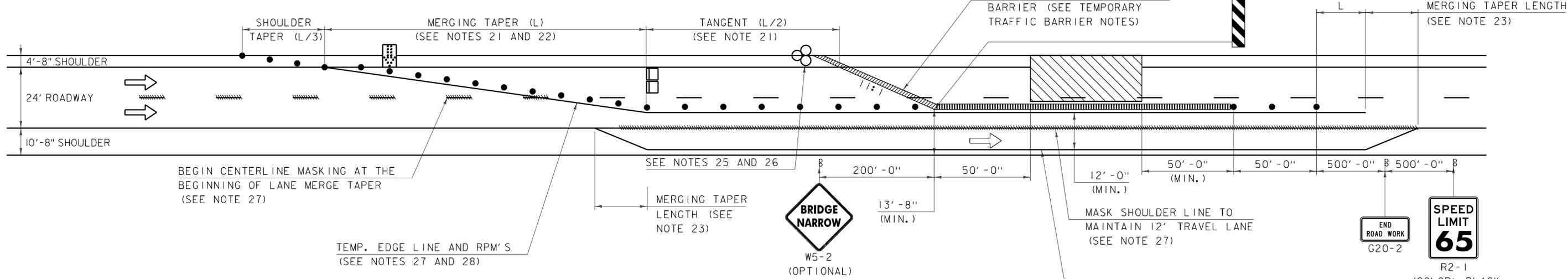
FILE NAME: z15all6+cp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: S. BEAUMONT  
TRAFFIC CONTROL SHEET 2

PLOT DATE: 2/12/2016  
DRAWN BY: S. BEAUMONT  
CHECKED BY: L. GREER  
SHEET 12 OF 49

CLD 15-0223 MODEL: TCP2



**TRAFFIC CONTROL ON I-91 RIGHT LANE CLOSED WITH TEMPORARY BARRIER PROTECTION**  
(SEE NOTE 13)



**TRAFFIC CONTROL ON I-91 LEFT LANE CLOSED WITH TEMPORARY BARRIER PROTECTION**  
(SEE NOTE 13)

- LEGEND**
- ➔ FLOW OF TRAFFIC
  - RETROREFLECTIVE PLASTIC DRUM
  - ▣ PORTABLE ARROW BOARD
  - ▣ TYPE III BARRICADE
  - ▨ WORK AREA
  - ⊠ TRUCK-MOUNTED ATTENUATOR
  - ⊙ ENERGY ABSORPTION ATTENUATOR

POSTED SPEED	TAPER LENGTHS		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MIN.)	MIN. BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE* (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	300	1:11	425	50	100
55	185	660	330	1:13	495	55	110
60	200	720	360	1:13	570	60	120
65	215	780	390	1:13	645	65	130

\* SEE NOTE 22.

TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:  
 $L = WS$  FOR POSTED SPEEDS OF 45 MPH OR GREATER  
 $L = WS^2/60$  FOR POSTED SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER  
W = WIDTH OF OFFSET IN FEET. (TYPICAL)  
S = POSTED SPEED IN MPH

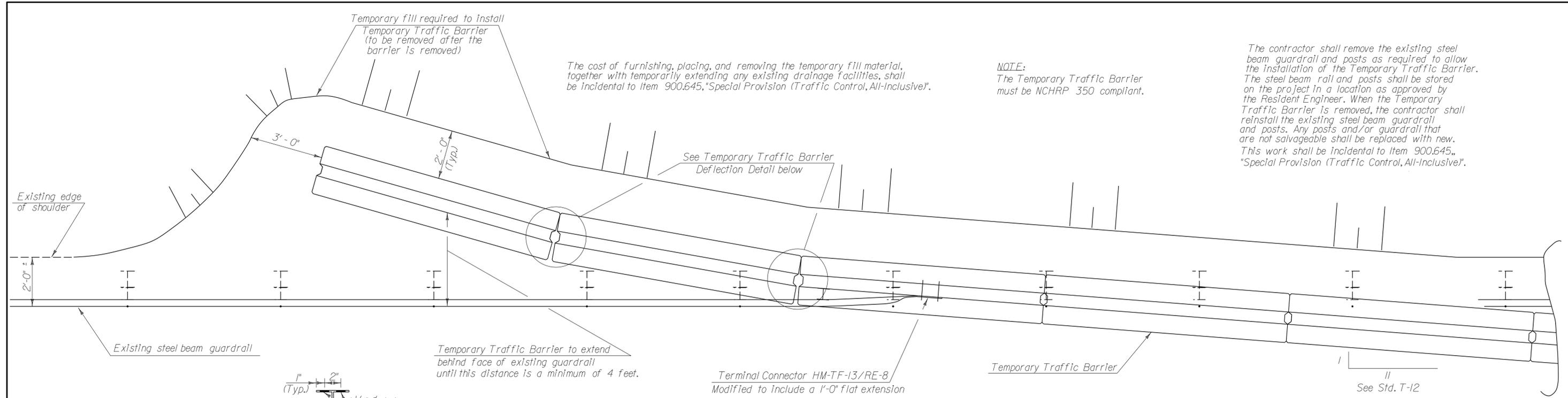
NOTE: ALL NOTE REFERENCES REFER TO NOTES ON TRAFFIC CONTROL SHEET 1.

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)  
FILE NAME: z15all6+cp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: S. BEAUMONT  
TRAFFIC CONTROL SHEET 3

PLOT DATE: 2/12/2016  
DRAWN BY: S. BEAUMONT  
CHECKED BY: L. GREER  
SHEET 13 OF 49

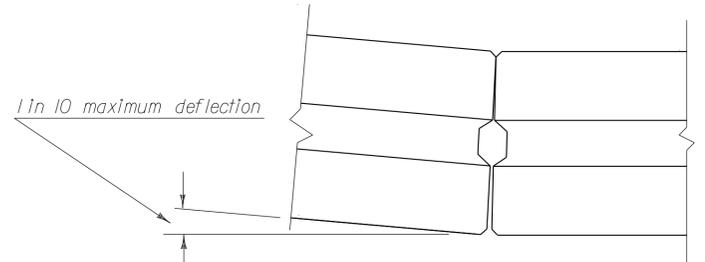


CLD 15-0223 MODEL: TCP3



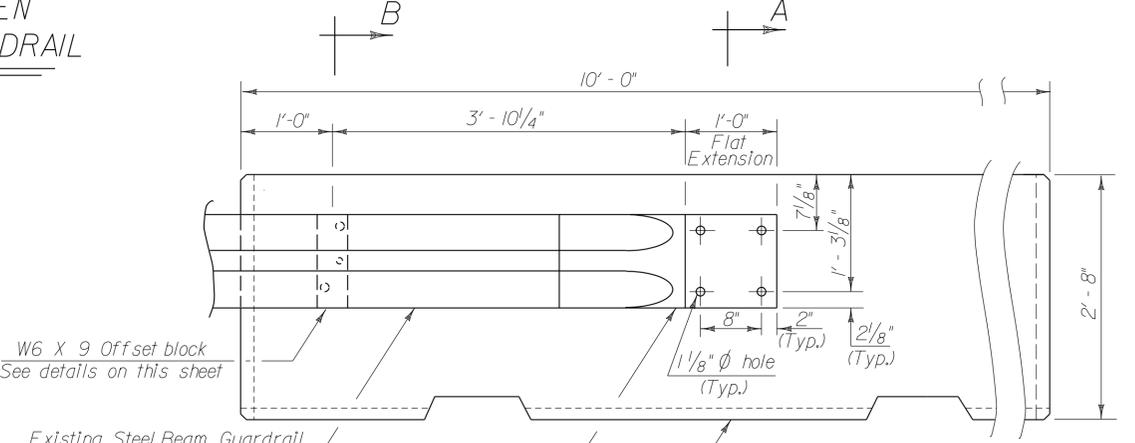
**PLAN VIEW SHOWING POSITIVE CONNECTION BETWEEN TEMPORARY TRAFFIC BARRIER AND EXISTING GUARDRAIL**

NTS



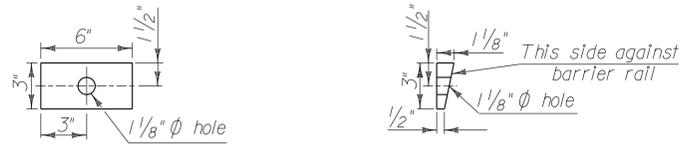
**TEMPORARY TRAFFIC BARRIER DEFLECTION DETAIL**

NTS



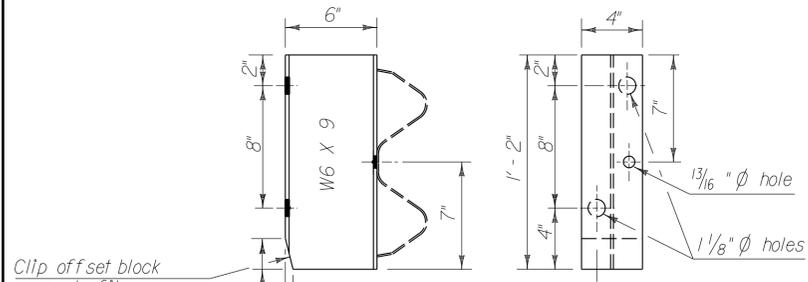
**ELEVATION VIEW SHOWING POSITIVE CONNECTION BETWEEN TEMPORARY TRAFFIC BARRIER AND EXISTING GUARDRAIL**

NTS



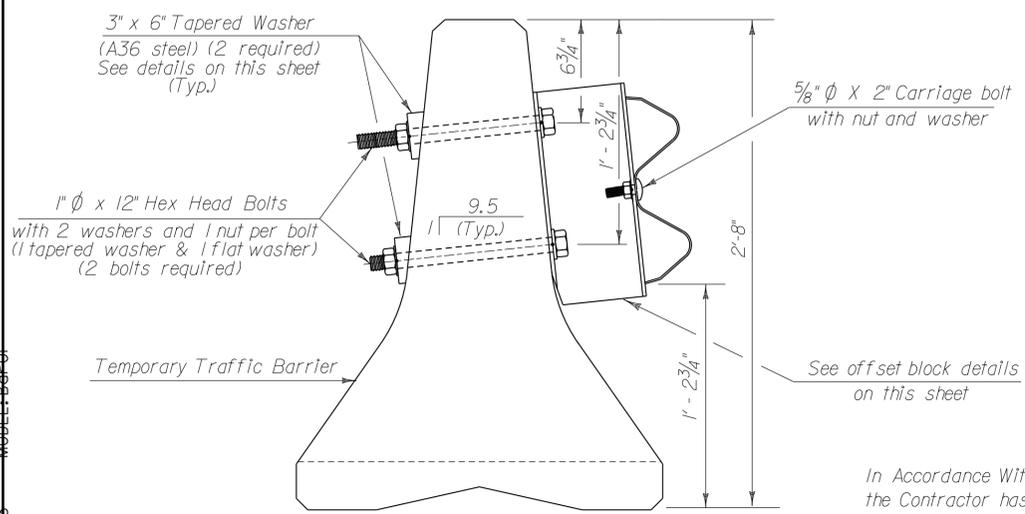
**TAPERED WASHER DETAILS**

NTS



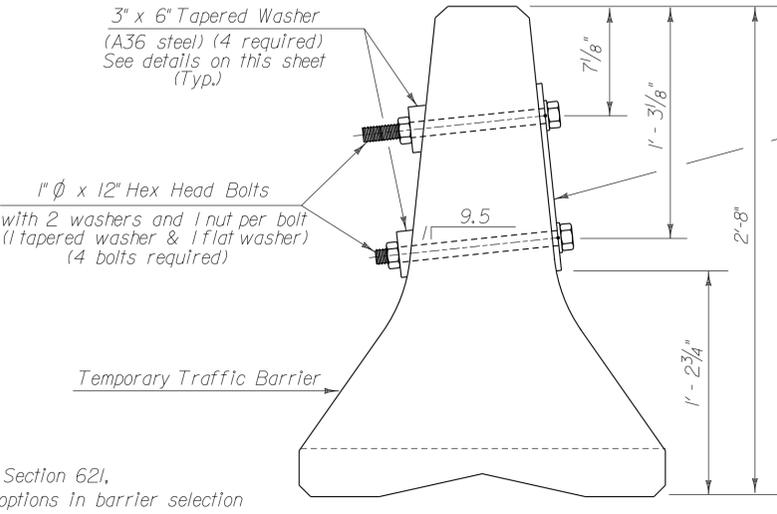
**OFFSET BLOCK DETAILS**

NTS



**SECTION B-B**

NTS



**SECTION A-A**

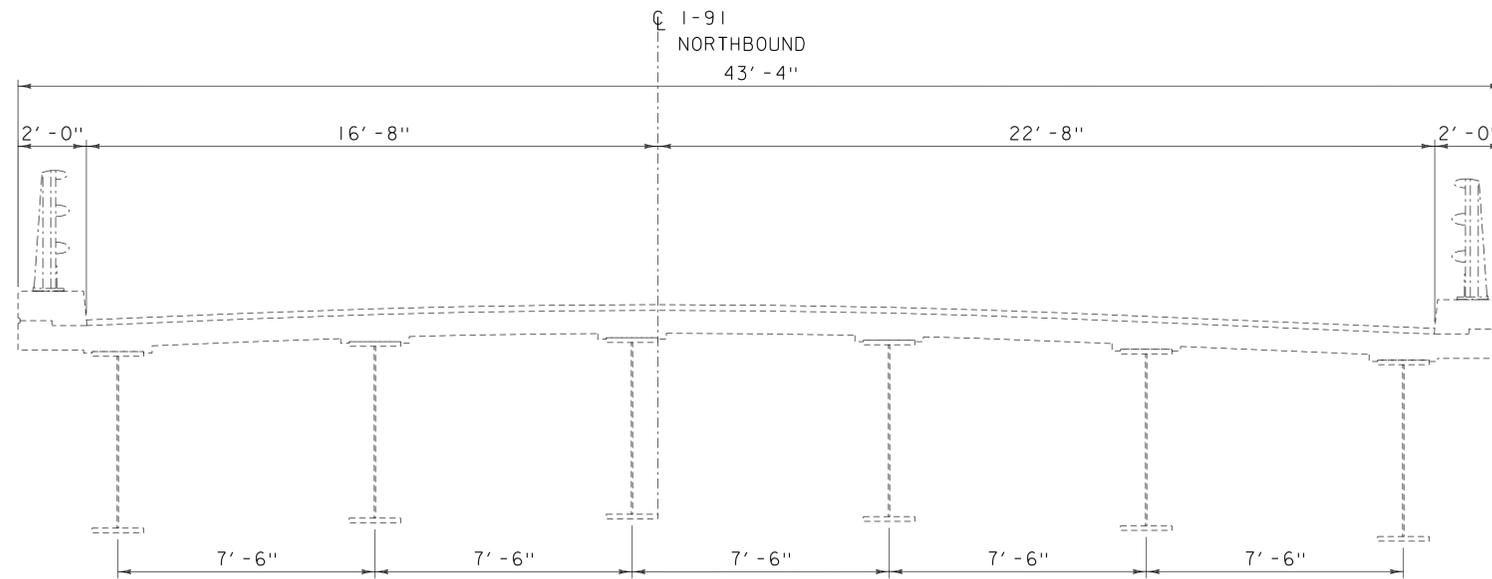
NTS

In Accordance With Section 621, the Contractor has options in barrier selection

PROJECT NAME:	IRASBURG	FILE NAME:	z15a116-barrier.dgn	PLOT DATE:	2/12/2016
PROJECT NUMBER:	IM DECK(46)	PROJECT LEADER:	J. BYATT	DRAWN BY:	M. SMITH
		DESIGNED BY:	S. BAUMONT	CHECKED BY:	J. BYATT
		TRAFFIC CONTROL BARRIER SHEET		SHEET	14 OF 49



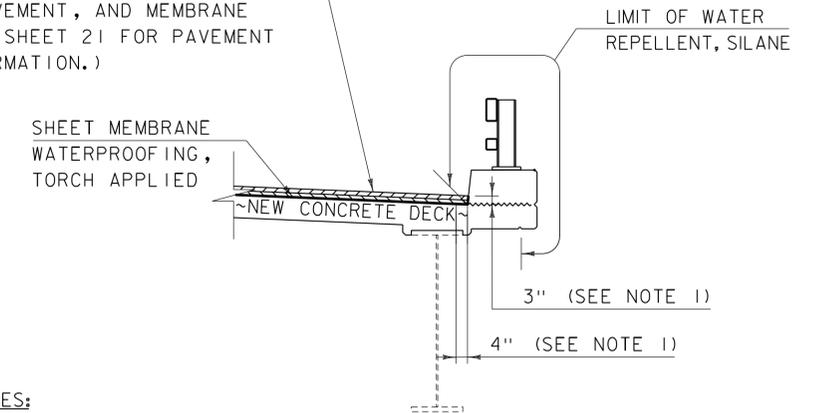
C:\D\_45\823 MODEL68601



**EXISTING TYPICAL BRIDGE SECTION**

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

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB) (DEPTH VARIES - SEE JOINT, PAVEMENT, AND MEMBRANE LAYOUT ON SHEET 21 FOR PAVEMENT LIFT INFORMATION.)

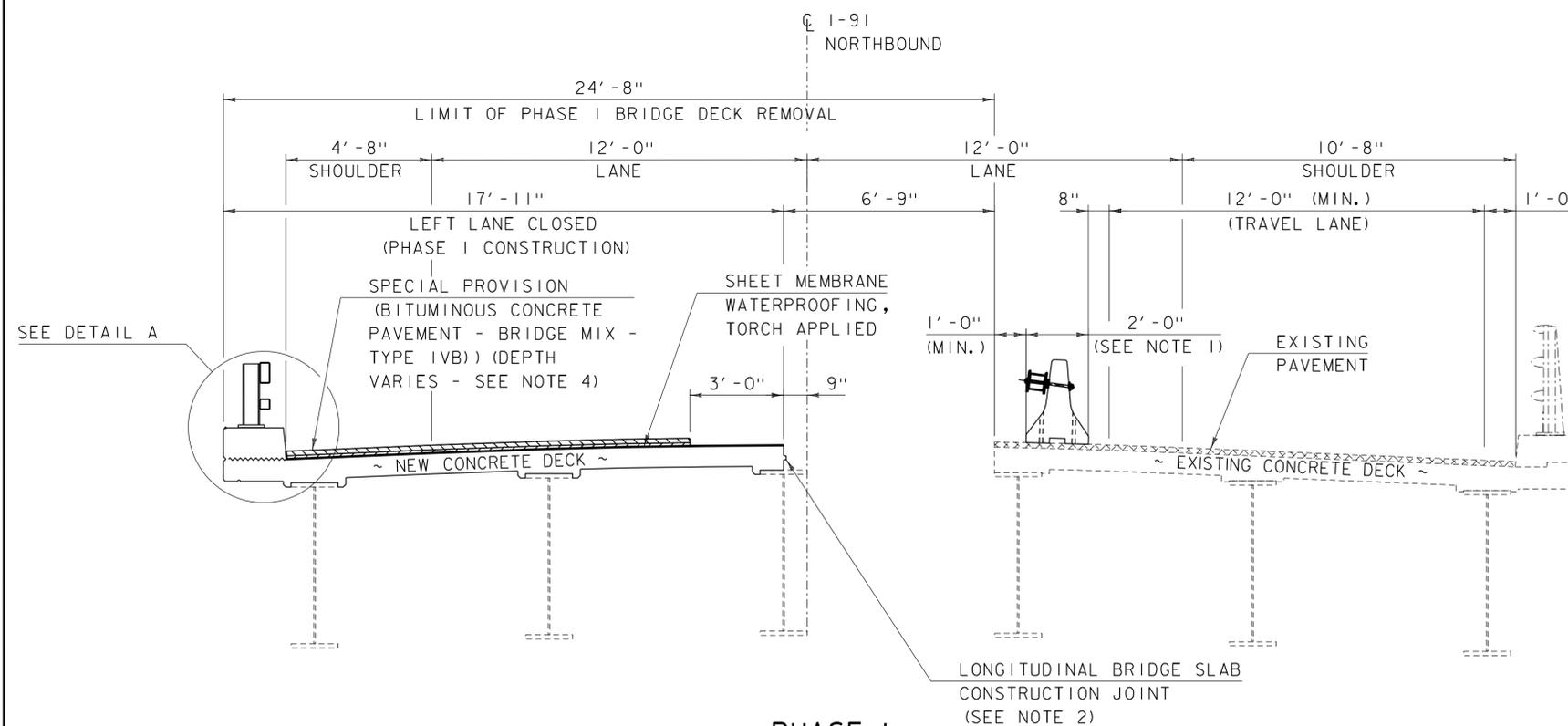


**DETAIL A NOTES:**

1. INDICATES AREA ALONG DECK AND UP FACE OF CURB FOR PLACEMENT OF TWO COATS OF POLYURETHANE MEMBRANE.
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING, TORCH APPLIED.
3. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN.
4. IN ADDITION TO THE REQUIREMENTS OF SUBSECTION 519.04, BLAST CLEAN 3" UP THE FACE OF CURB PRIOR TO PLACING THE MEMBRANE.

**DETAIL A**

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



**PHASE I**

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

**NOTES:**

1. TEMPORARY CONCRETE TRAFFIC BARRIER AND TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED SHALL BE REQUIRED DURING BRIDGE DECK CONSTRUCTION OPERATIONS. CHANNELIZING DEVICES SUCH AS RETROREFLECTIVE PLASTIC DRUMS MAY BE UTILIZED DURING PAVING AND MEMBRANE OPERATIONS. SEE TRAFFIC CONTROL NOTES ON TRAFFIC CONTROL SHEET 1.
2. SEE BRACED BARRIER, MEMBRANE OVERLAP, AND LONGITUDINAL BRIDGE SLAB CONSTRUCTION JOINT DETAILS ON SHEET 16 AND TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED DETAILS ON SHEETS 17 AND 18 FOR ADDITIONAL INFORMATION.
3. PLACEMENT OF THE MEMBRANE SHALL START AT THE LOW SIDE OF THE BRIDGE. THE SPLICE SHALL BE AS SHOWN IN THE DETAILS ON THIS PAGE WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.
4. SEE JOINT, PAVEMENT, AND MEMBRANE LAYOUT ON SHEET 21 FOR PAVEMENT LIFT INFORMATION.

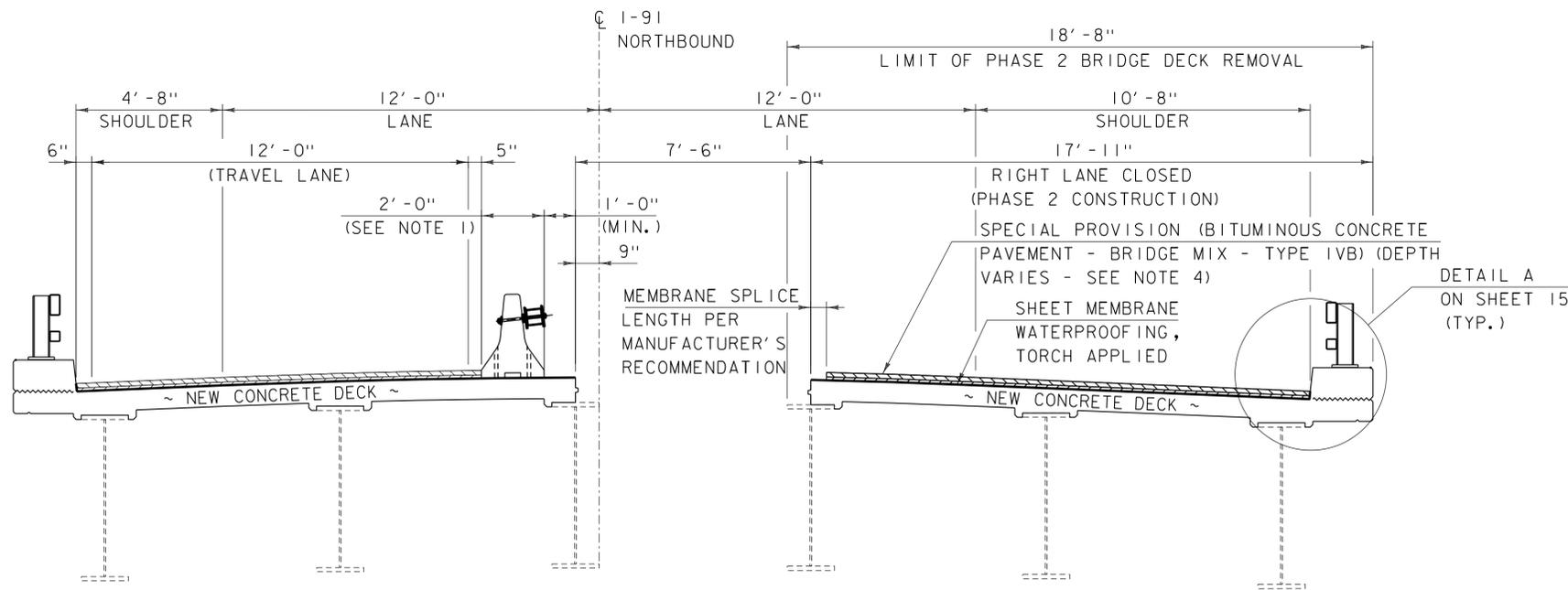
CLD 15-0223 MODEL: PHASING I



PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

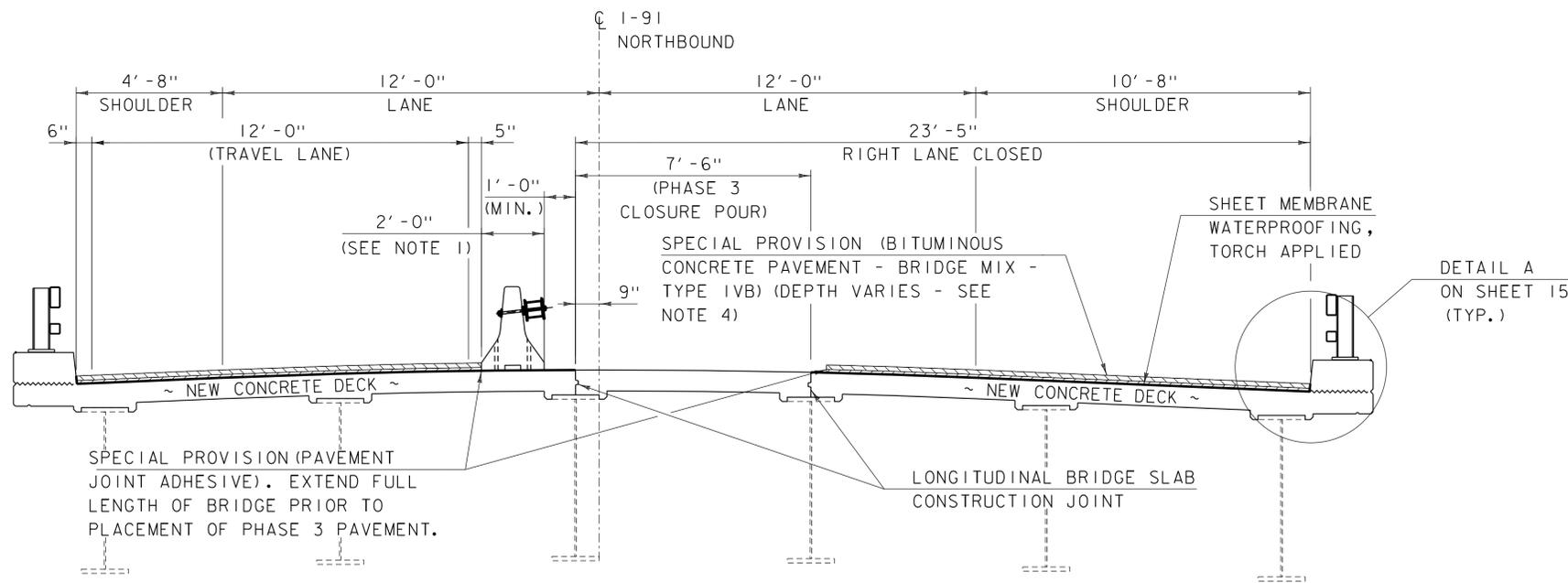
FILE NAME: z15all6+cp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
PHASING SECTIONS SHEET 1

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 15 OF 49



**PHASE 2**

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



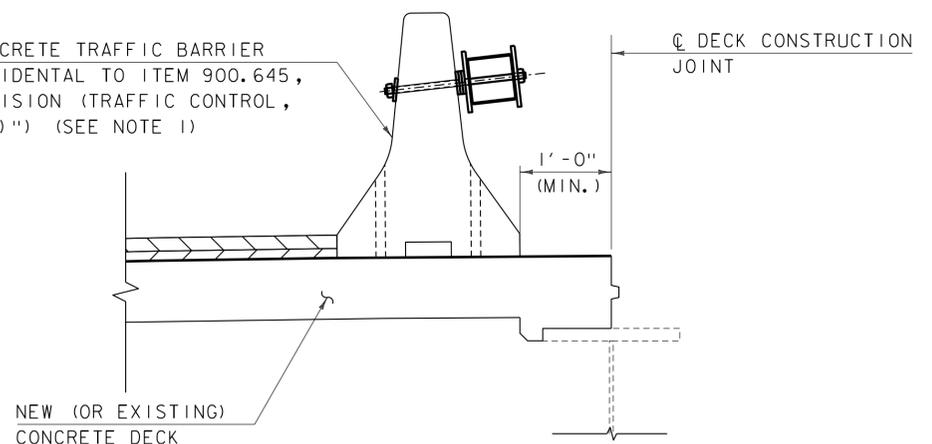
**PHASE 3**

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

**NOTES:**

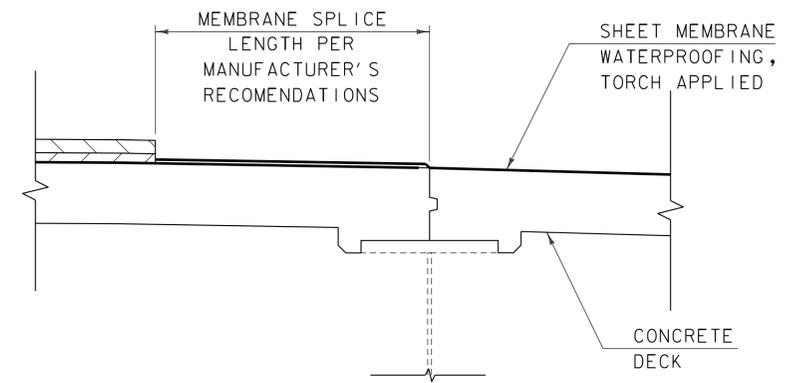
1. TEMPORARY CONCRETE TRAFFIC BARRIER AND TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED SHALL BE REQUIRED DURING BRIDGE DECK CONSTRUCTION OPERATIONS. CHANNELIZING DEVICES SUCH AS RETROREFLECTIVE PLASTIC DRUMS MAY BE UTILIZED DURING PAVING AND MEMBRANE OPERATIONS. SEE TRAFFIC CONTROL NOTES ON TRAFFIC CONTROL SHEET 1.
2. SEE TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED DETAILS ON SHEETS 17 AND 18 FOR ADDITIONAL INFORMATION.
3. PLACEMENT OF THE MEMBRANE SHALL START AT THE LOW SIDE OF THE BRIDGE. THE SPLICE SHALL BE AS SHOWN IN THE DETAILS ON THIS PAGE WITH THE HIGH SIDE OVERLAPPING THE LOW SIDE.
4. SEE JOINT, PAVEMENT, AND MEMBRANE LAYOUT ON SHEET 21 FOR PAVEMENT LIFT INFORMATION.
5. AFTER PHASE 3 IS COMPLETE, SHIFT TRAFFIC TO THE RIGHT LANE AND COMPLETE MEMBRANE AND PAVING OPERATIONS.

TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED (INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)") (SEE NOTE 1)



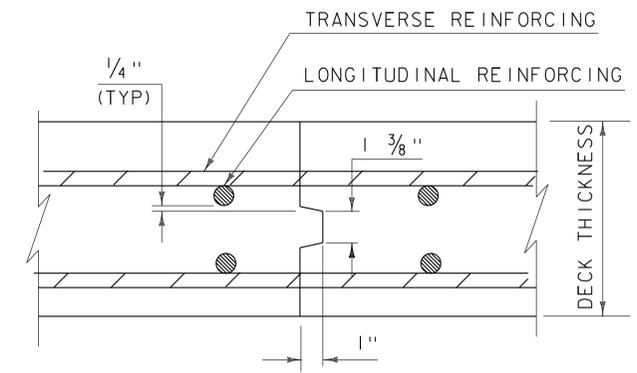
**BRACED BARRIER DETAIL**

SCALE: 1" = 1'-0"



**MEMBRANE OVERLAP DETAIL**

SCALE: 1" = 1'-0"



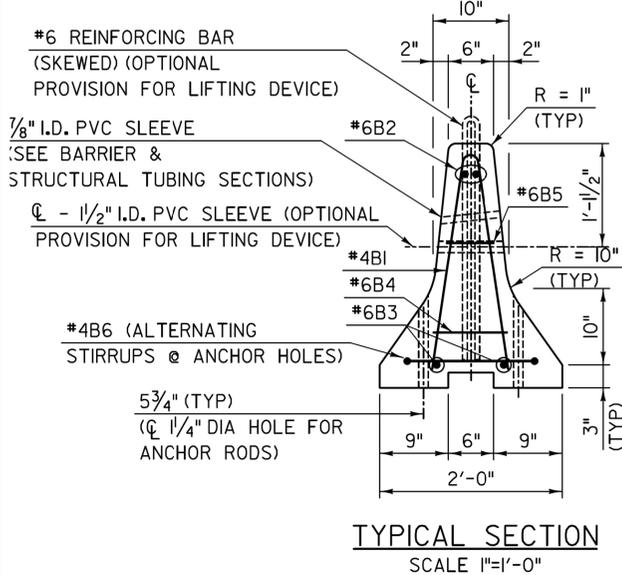
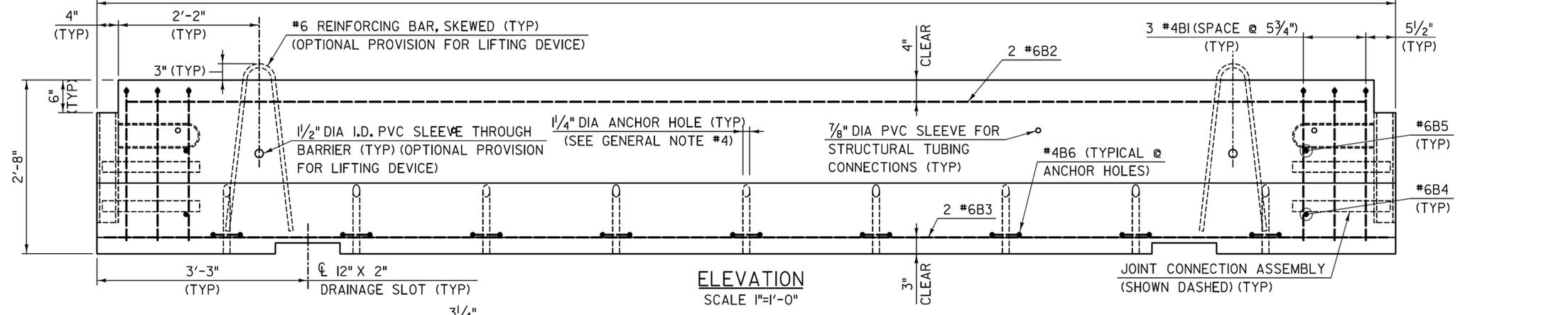
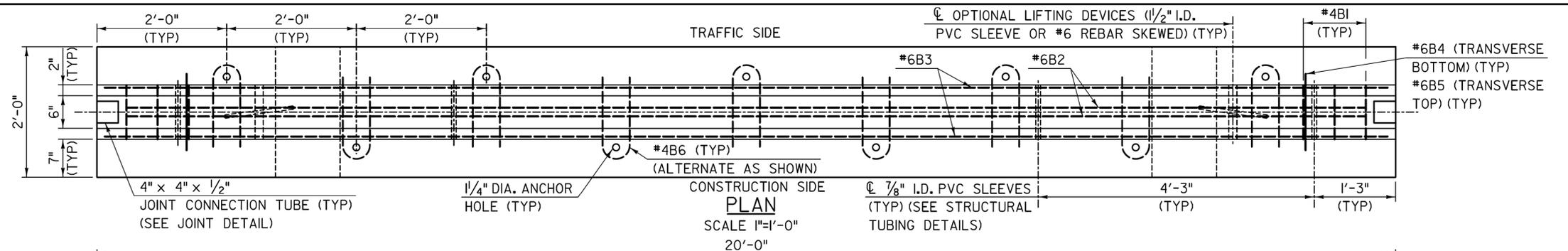
**LONGITUDINAL BRIDGE SLAB CONSTRUCTION JOINT DETAILS**

3" = 1'-0"



PROJECT NAME:	IRASBURG	FILE NAME:	z15all6tcp-107N.dgn	PLOT DATE:	2/12/2016
PROJECT NUMBER:	IM DECK(46)	PROJECT LEADER:	J. BYATT	DRAWN BY:	M. SMITH
		DESIGNED BY:	J. FRENCH	CHECKED BY:	S. BEAUMONT
		PHASING SECTIONS SHEET 2			SHEET 16 OF 49

CLD 15-0223 MODEL: PHASING2

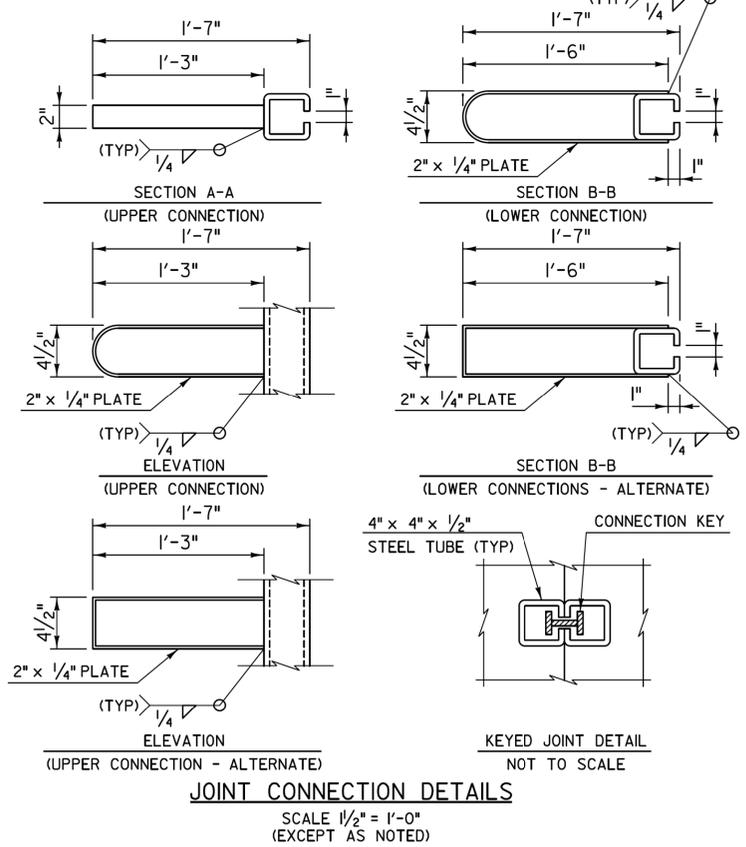
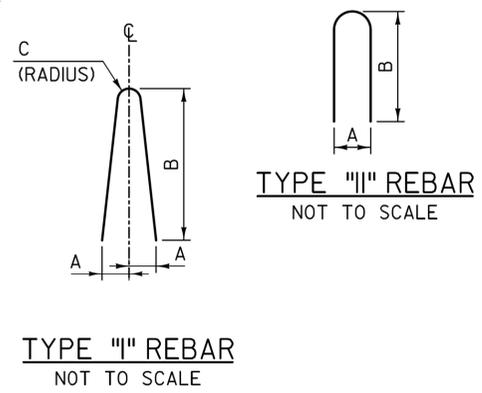
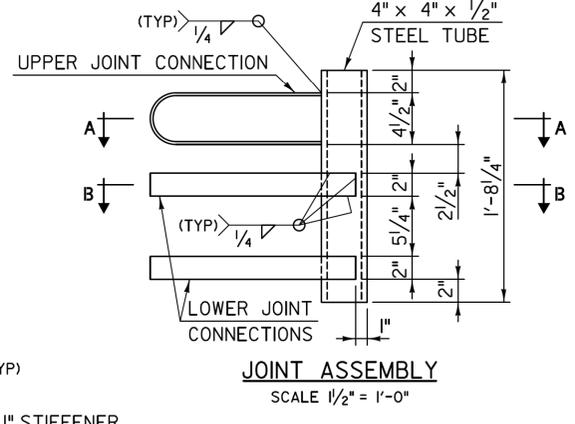
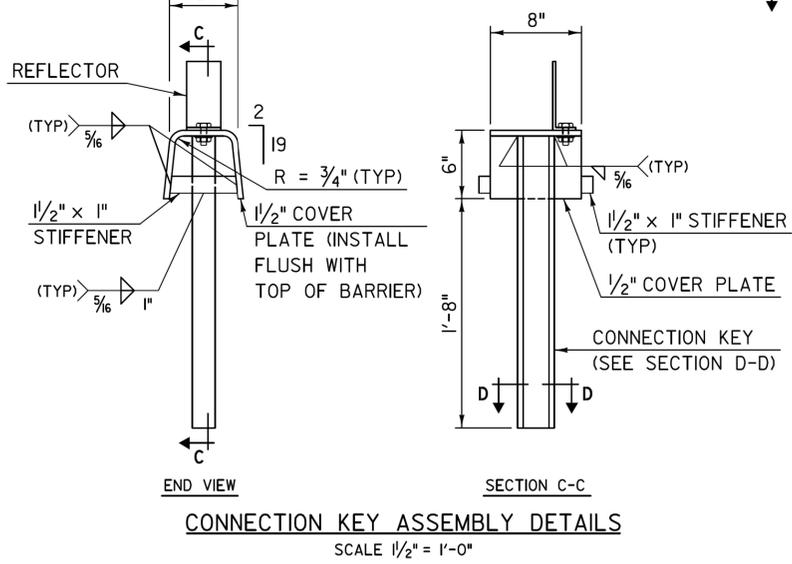
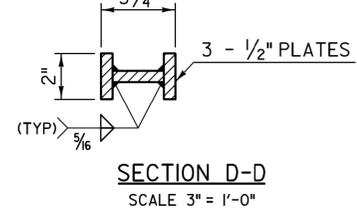


**GENERAL NOTES**

- TEMPORARY TRAFFIC BARRIER-BRACED SHALL BE FURNISHED BY THE CONTRACTOR AND PAYMENT SHALL BE INCLUDED IN PAY ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE). CONCRETE BARRIER AND ALL ATTACHMENTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 62. ALL BARRIER UNITS FOR BRACED SYSTEMS SHALL BE 20' LONG.
- TEMPORARY TRAFFIC BARRIER-BRACED DETAILS, AS SHOWN IN THESE PLANS, ARE IN COMPLIANCE WITH REQUIREMENTS PER UPDATED NCHRP REPORT 350 FOR TEST NO. 3-II, TL-3 CRASH TESTED BY MIDWEST ROADSIDE SAFETY; NY BOX BEAM STIFFENING OF UNANCHORED TCB, MARCH 2008, THE BARRIER SYSTEM TESTED WITH A 27.6" DYNAMIC DEFLECTION AND ALLOWS FOR PLACEMENT AT A MINIMUM 12" DISTANCE BETWEEN BARRIERS AND EDGE OF BRIDGE DECK.
- A MINIMUM OF TWO BARRIER UNITS WITH BRACED JOINTS ARE REQUIRED TO BE PLACED BEYOND BOTH ENDS OF THE BRIDGE WORK AREA FOR SPEEDS GREATER THAN 45 MPH. FOR SPEEDS ≤ 45 MPH, A MINIMUM OF ONE BRACED BARRIER IS REQUIRED TO BE FULLY SET BEYOND EACH END OF BRIDGE WORK AREA.
- THE LAST CONCRETE BARRIER UNIT, AT EACH END OF BARRIER LAYOUT, SHALL BE ANCHORED A MINIMUM 18" BELOW THE ROADWAY SURFACE. REQUIRED 1" DIA. ANCHOR RODS (A36 STEEL) SHALL BE INSTALLED WITH 5 ANCHORS ON THE TRAFFIC SIDE OF BARRIER AND 4 ON THE CONSTRUCTION SIDE. IF THE END(S) OF THE BRACED CONCRETE BARRIER SYSTEM EXTENDS 50' OR MORE BEYOND LIMITS OF BRIDGE WORK THE LAST BARRIER UNIT DOES NOT REQUIRE ANCHORAGE.
- TEMPORARY TRAFFIC BARRIER - BRACED MAY BE INSTALLED WITH A 230' MINIMUM RADIUS. GAPS CREATED BETWEEN STRUCTURAL TUBES AND CONCRETE BARRIER, DURING A RADIAL LAYOUT, SHALL BE SHIMMED WITH 8"x8"x1/2" PLATES & FENDER WASHERS TO FIRMLY ATTACH STRUCTURAL TUBING TO BARRIER.
- THE CONTRACTOR SHALL FURNISH AND INSTALL APPROVED RETROREFLECTIVE DELINEATORS AT 25-FOOT INTERVALS ALONG TOP AND/OR ONE FOOT DOWN THE SIDE OF PORTABLE CONCRETE BARRIER. PAYMENT SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)". THE COLOR OF DELINEATORS SHALL, IN ALL INSTANCES, CONFORM TO THE COLOR OF EDGE LINE MARKINGS. DELINEATORS SUPPLEMENT, BUT DO NOT REPLACE, THE NEED FOR RETROREFLECTIVE SOLID EDGE LINE MARKINGS.

**MATERIAL NOTES**

- BARRIERS SHALL BE LIGHT COLORED CLASS AA CONCRETE, WITH MINIMUM COMPRESSIVE STRENGTH OF 4000 psi, AND SHALL HAVE A SMOOTH UNIFORM SURFACE FREE OF DEFECTS AND IRREGULARITIES. CASTING DATE SHALL BE SHOWN ON BARRIER. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE AASHTO M31 (ASTM A615) GRADE 60. ALL REINFORCEMENT SHALL HAVE 1/2" MINIMUM CLEAR COVER, UNLESS OTHERWISE NOTED.
- STRUCTURAL STEEL, EXCEPT THE STEEL TUBES, SHALL BE AASHTO M270 GRADE 50. ALL STEEL SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 506.
- STEEL TUBES, 6x6x3/8 & 4x4x1/2, SHALL BE ASTM A 500 GRADE B OR C. THE 6x6x3/8 TUBES SHALL BE 12' LONG AND GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08.
- A MINIMUM OF 2 RECESSED LIFTING DEVICES, EACH WITH THE CAPACITY TO LIFT A MASS OF 6 TONS (MINIMUM), SHALL BE INSTALLED TO EACH BARRIER UNIT. TWENTY FOOT LONG CONCRETE BARRIER UNITS ARE APPROXIMATELY 400 LBS./FT.
- DELINEATORS SHALL BE ATTACHED TO BARRIER USING AN APPROVED ADHESIVE MATERIAL OR AS SHOWN ON THIS SHEET.



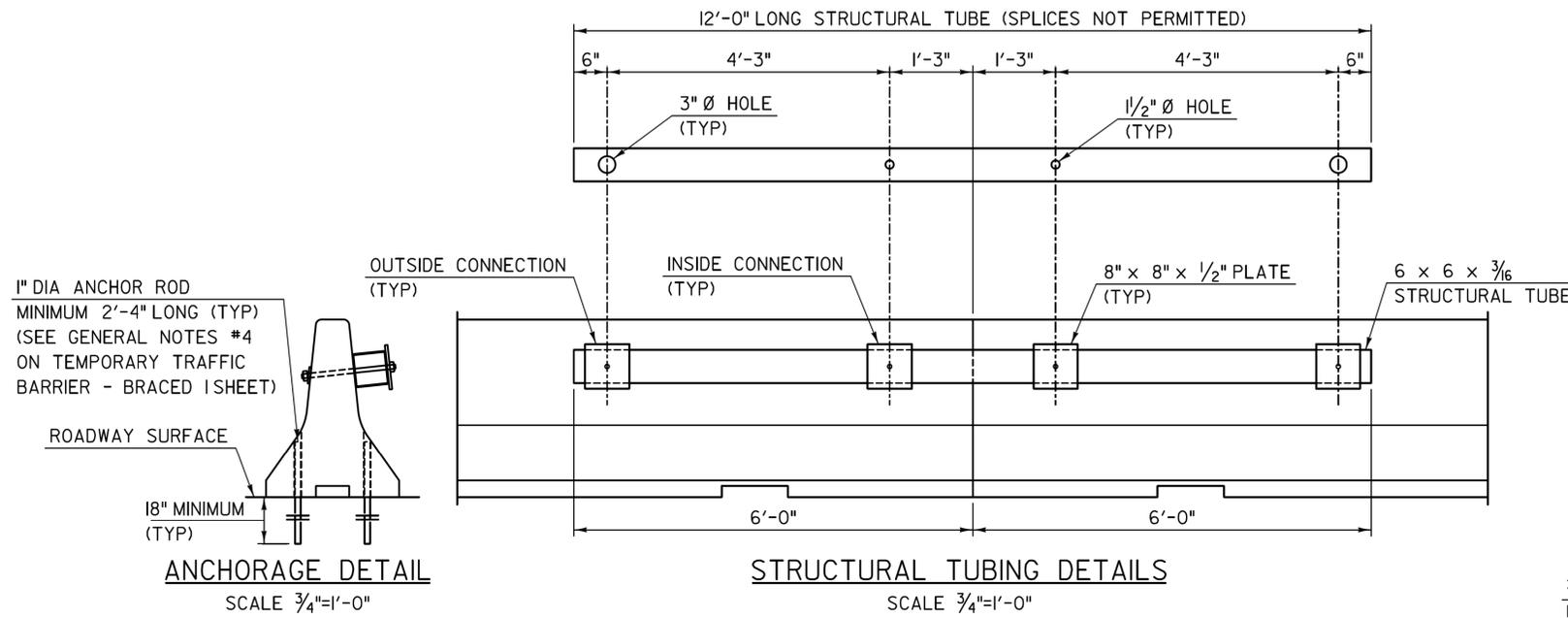
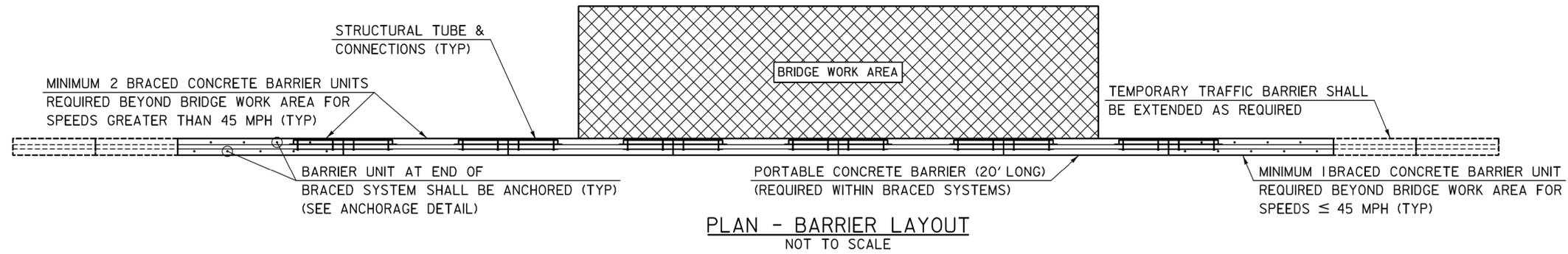
REINFORCING SCHEDULE (PER 20' BARRIER UNIT)								
MARK	SIZE	LENGTH	# PIECES	TYPE	A	B	C	LOCATION
B1	#4	4'-10"	6	I	5"	2'-4"	1"	STIRRUPS
B2	#6	19'-1"	2	---	---	---	---	LONGITUDINAL (TOP)
B3	#6	19'-9"	2	---	---	---	---	LONGITUDINAL (BOTTOM)
B4	#6	1'-2"	2	---	---	---	---	TRANSVERSE (BOTTOM)
B5	#6	6"	2	---	---	---	---	TRANSVERSE (TOP)
B6	#4	2'-9"	9	II	5"	1'-3"	---	STIRRUPS



PROJECT NAME: IRASBURG  
 PROJECT NUMBER: IM DECK(46)  
 FILE NAME: z15all6barrier-107N.dgn  
 PROJECT LEADER: J. BYATT  
 DESIGNED BY: S. BEAUMONT  
 TEMPORARY TRAFFIC BARRIER - BRACED SHEET 1

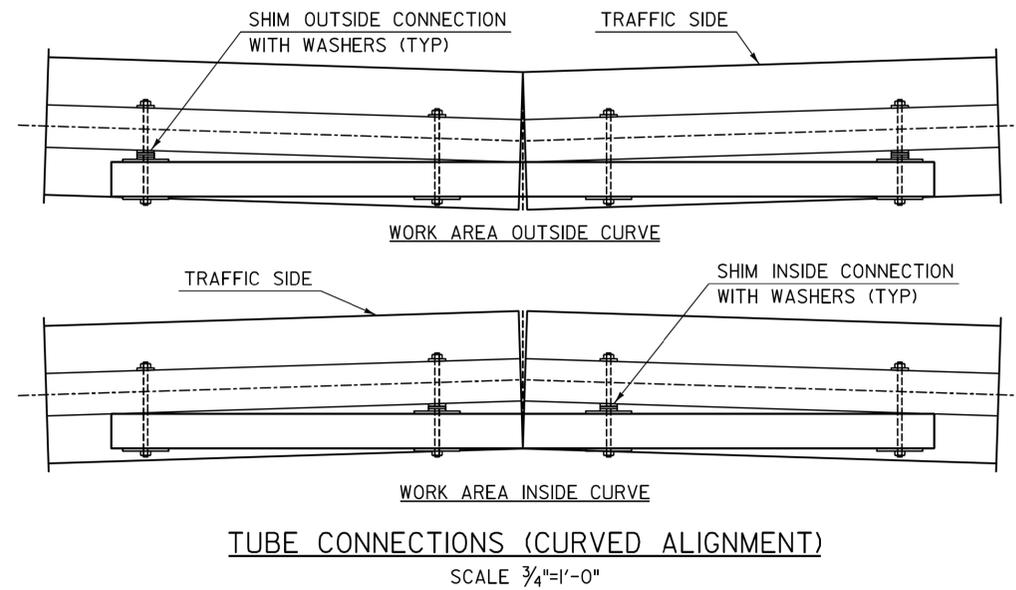
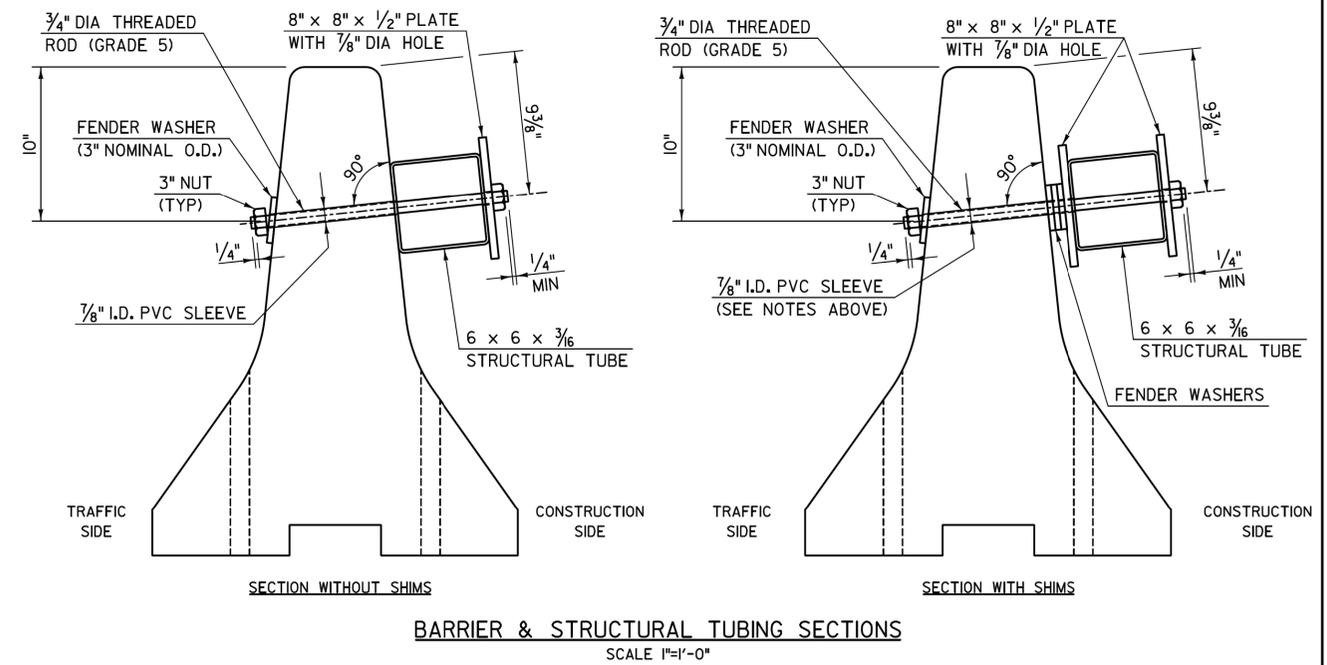
PLOT DATE: 2/12/2016  
 DRAWN BY: M. SMITH  
 CHECKED BY: J. BYATT  
 SHEET 17 OF 49

MODEL: Sheet01  
 CLD\_15-0223



PVC SLEEVE OPENINGS SHALL BE MODIFIED/DRILLED AS REQUIRED TO PROPERLY ALIGN STRUCTURAL TUBE BRACING UNITS FOR CURVED ALIGNMENTS

THE PRESENCE OF NORMAL HOLES WHICH HAVE BEEN MODIFIED/DRILLED WILL NOT AFFECT THE REUSE OF CONCRETE BARRIER UNITS

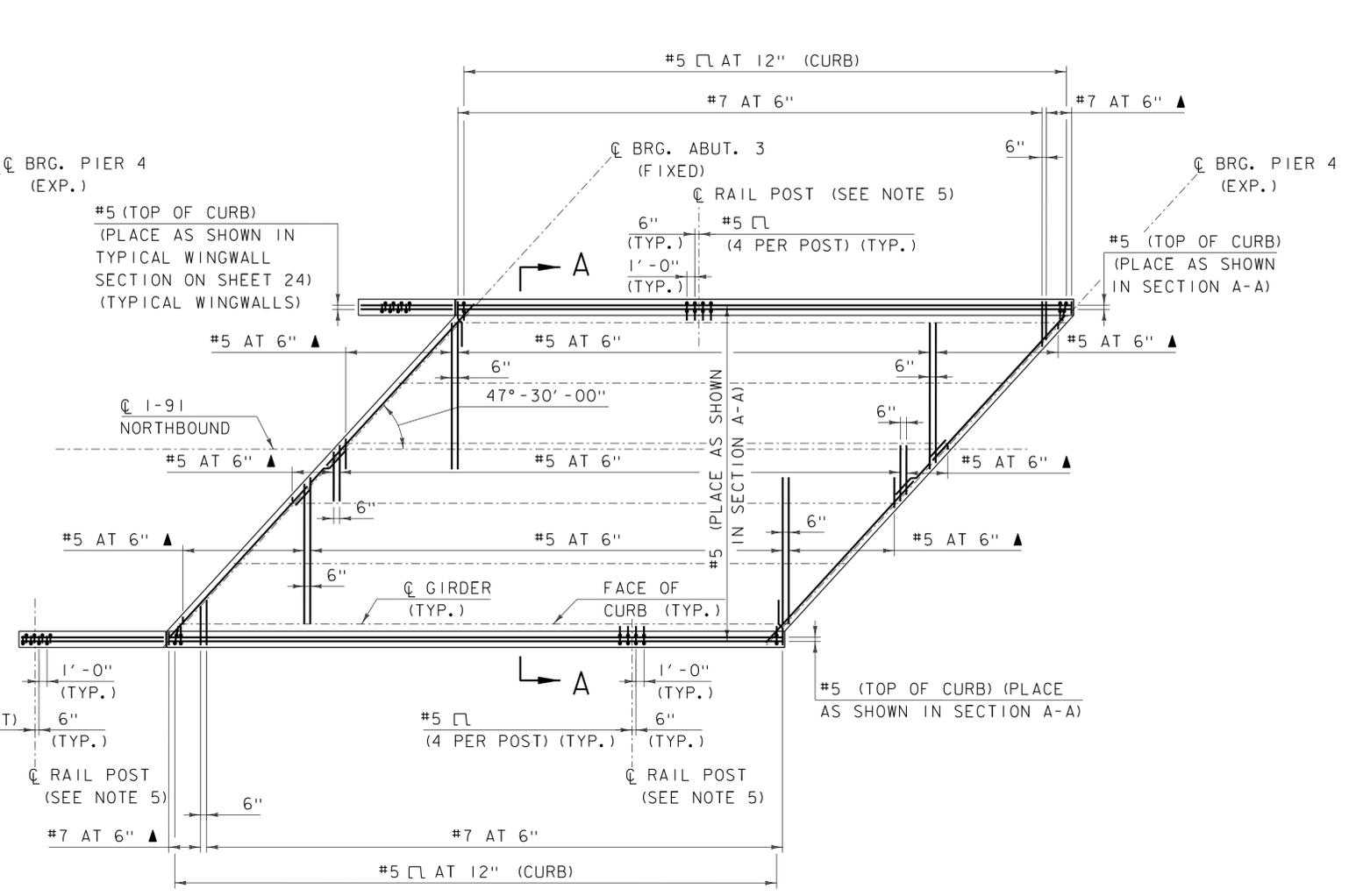
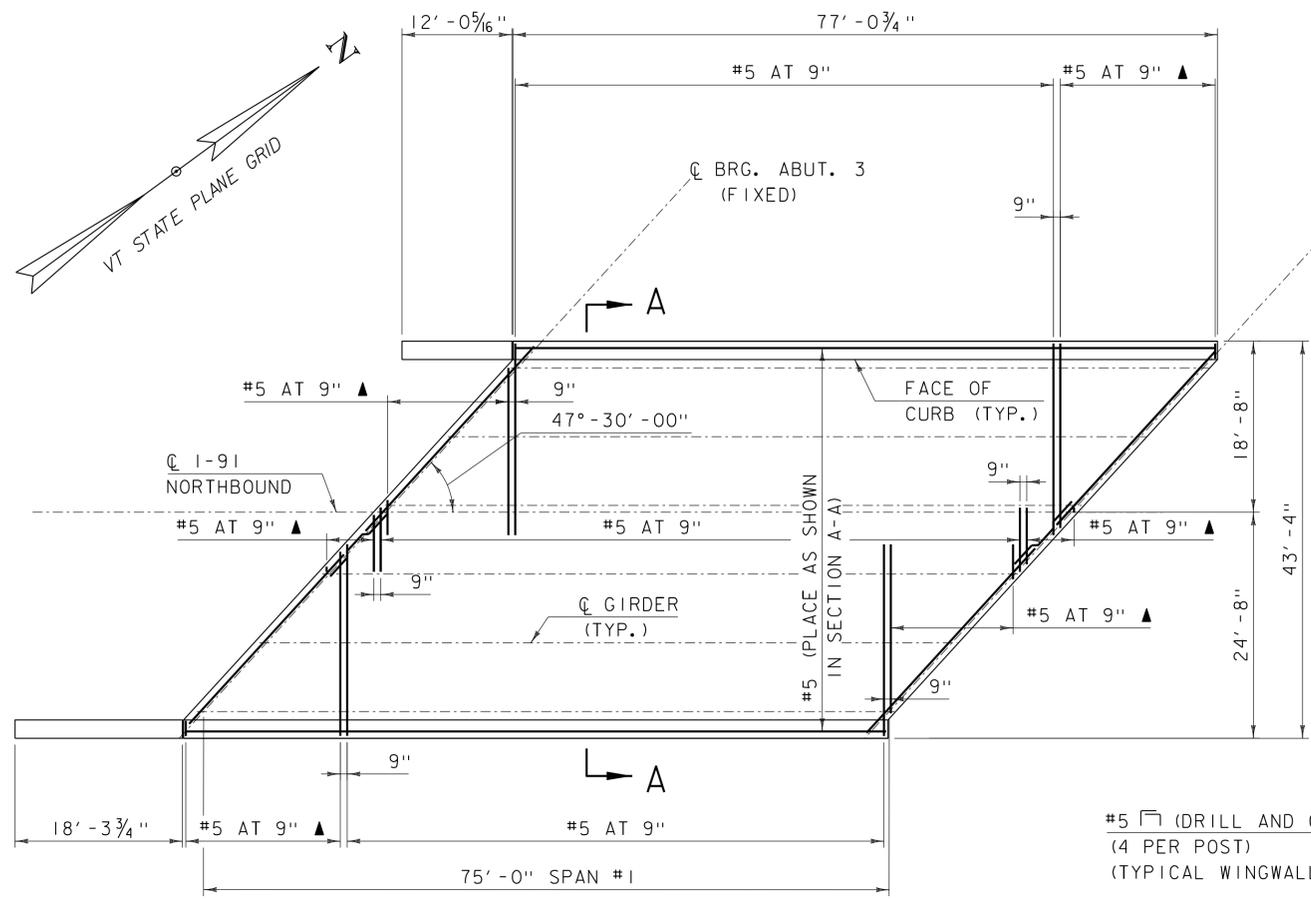


PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6barrier-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: S. BEAUMONT  
TEMPORARY TRAFFIC BARRIER - BRACED SHEET 2

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: J. BYATT  
SHEET 18 OF 49



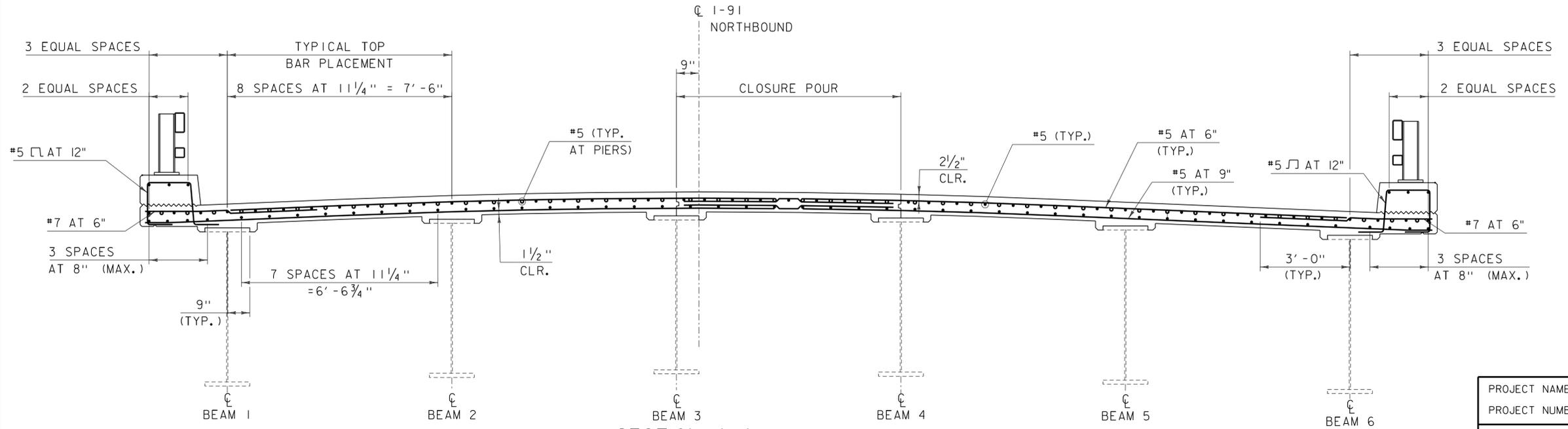


**DECK REINFORCEMENT PLAN - BOTTOM BARS - SPAN #1**

SCALE: 1" = 10'-0"

**DECK REINFORCEMENT PLAN - TOP BARS - SPAN #1**

SCALE: 1" = 10'-0"



**SECTION A-A**

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

**NOTES:**

1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. 1'-0" HOOK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. SEE SHEET 20 FOR SPAN #2 THROUGH SPAN #4 DECK REINFORCEMENT PLANS.
5. SEE SHEET 26 FOR RAIL LAYOUT PLAN.
6. DECK DIMENSIONS ARE APPROXIMATED FROM REFERENCE PLANS. CONTRACTOR SHALL FIELD VERIFY.

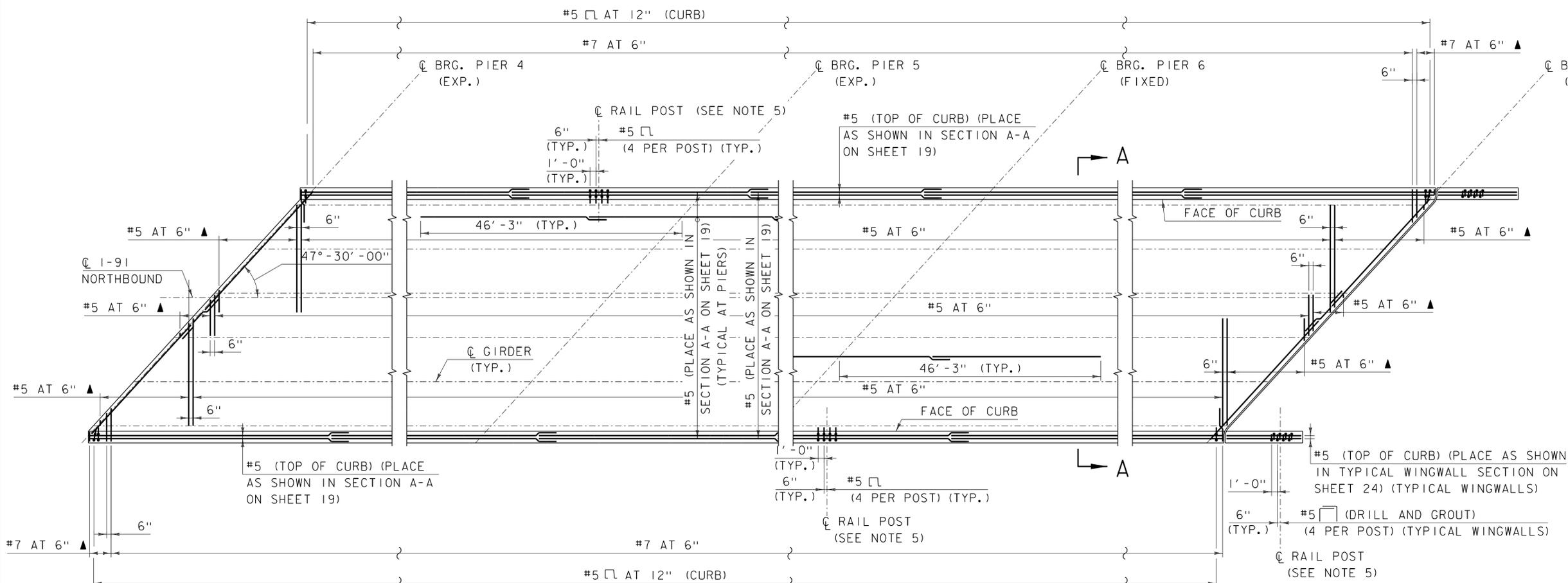
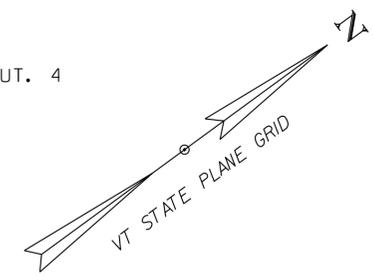
PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6+yp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: N. CARON  
DECK DETAILS SHEET 1

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 19 OF 49

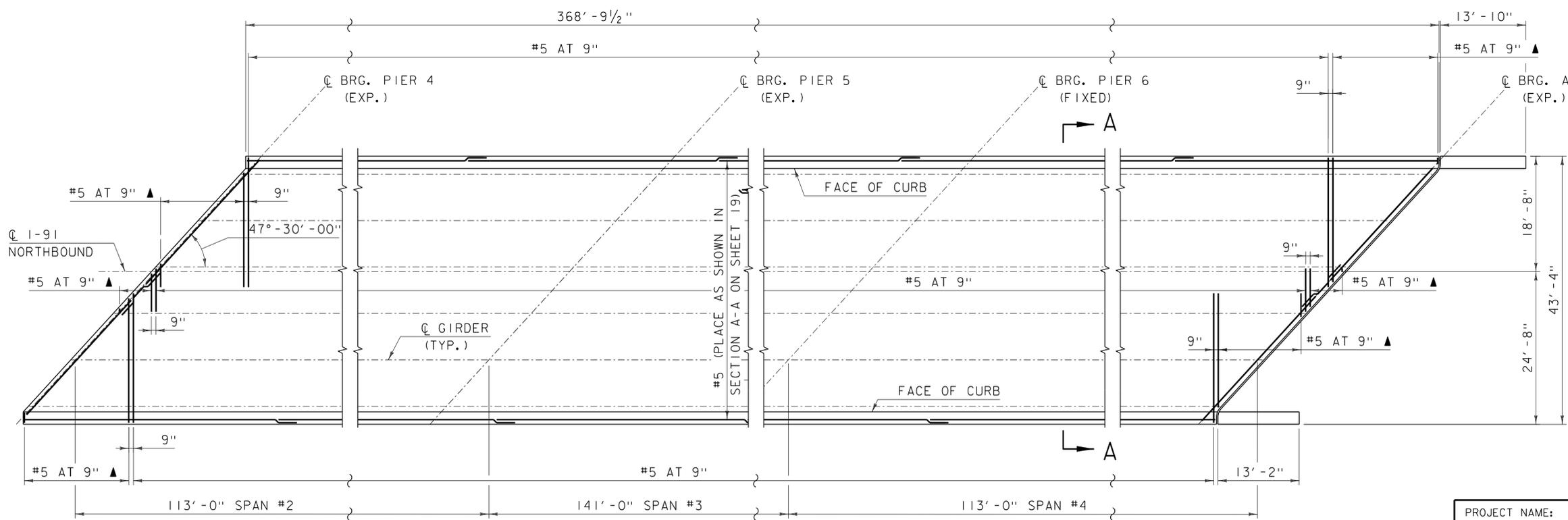


CLD 15-0223 MODEL: Sheet03



**DECK REINFORCEMENT PLAN - TOP BARS - SPAN #2 THROUGH SPAN #4**

SCALE: 1" = 10'-0"



**DECK REINFORCEMENT PLAN - BOTTOM BARS - SPAN #2 THROUGH SPAN #4**

SCALE: 1" = 10'-0"

**NOTES:**

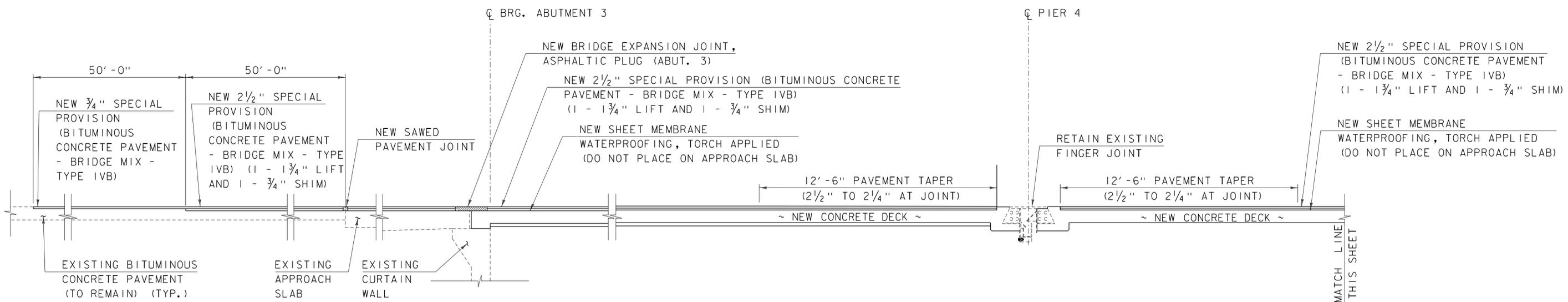
1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. 1'-0" HOOK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. SEE SHEET 19 FOR SPAN #1 REINFORCEMENT PLANS AND SECTION A-A.
5. SEE SHEET 26 FOR RAIL LAYOUT PLAN.
6. DECK DIMENSIONS ARE APPROXIMATED FROM REFERENCE PLANS. CONTRACTOR SHALL FIELD VERIFY.

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6+yp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: N. CARON  
DECK DETAILS SHEET

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 20 OF 49



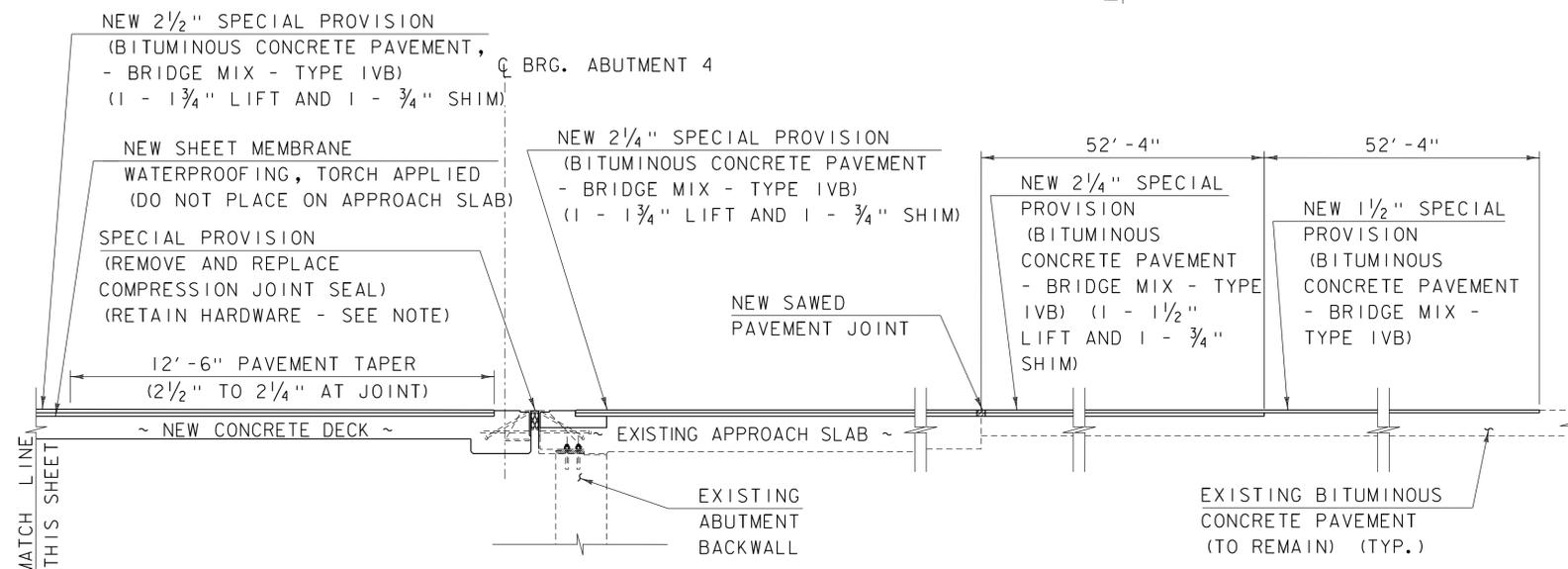


### SAWED PAVEMENT JOINT REPLACEMENT SCHEDULE

BRIDGE NO.	APPROACH SLAB 3	APPROACH SLAB 4
107N	40 LF	40 LF

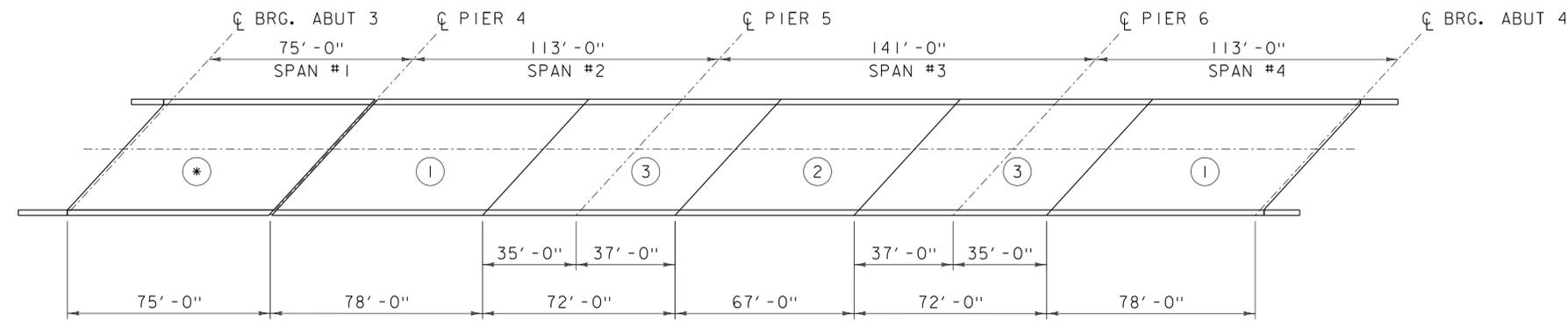
### JOINT SCHEDULE

	ABUT. 3	PIER 4	PIER 5	PIER 6	ABUT. 4
JOINT TYPE	ASPHALTIC PLUG	FINGER JOINT	N/A	N/A	COMPRESSION SEAL
REQUIRED JOINT WORK	REPLACE	RETAIN (SEE NOTE)	N/A	N/A	REPLACE SEAL, RETAIN HARDWARE (SEE NOTE)
LENGTH	54 LF	58 LF	N/A	N/A	58 LF



### JOINT, PAVEMENT, AND MEMBRANE LAYOUT

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

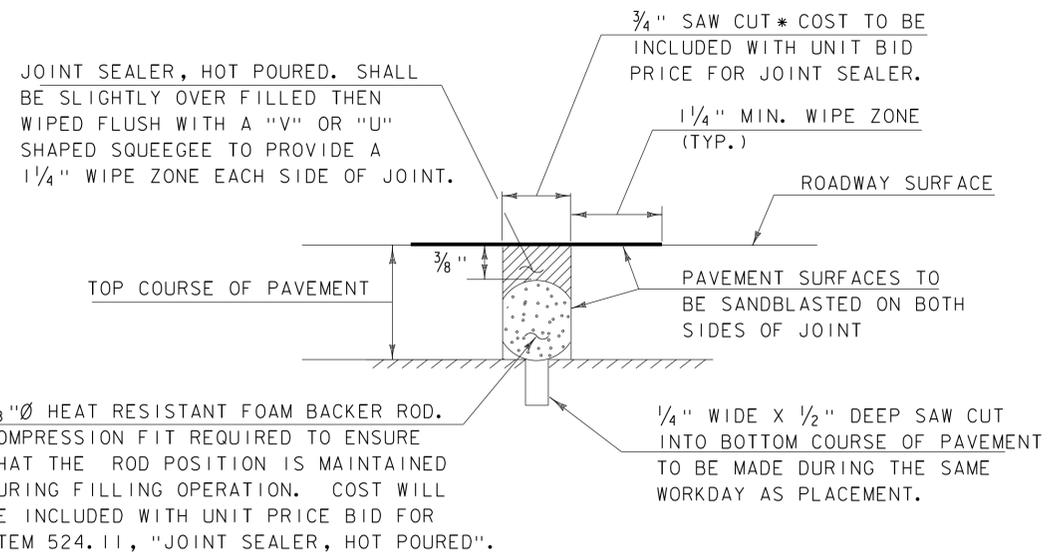


\* SPAN #1 IS A SIMPLE SPAN AND CAN BE POURED AT ANY TIME.

### DECK POUR SEQUENCE

SCALE: N.T.S.

NOTE: SEE NOTES 17 THROUGH 19 ON SHEET 2 FOR ADDITIONAL JOINT INFORMATION.



### SAWED PAVEMENT JOINT DETAIL

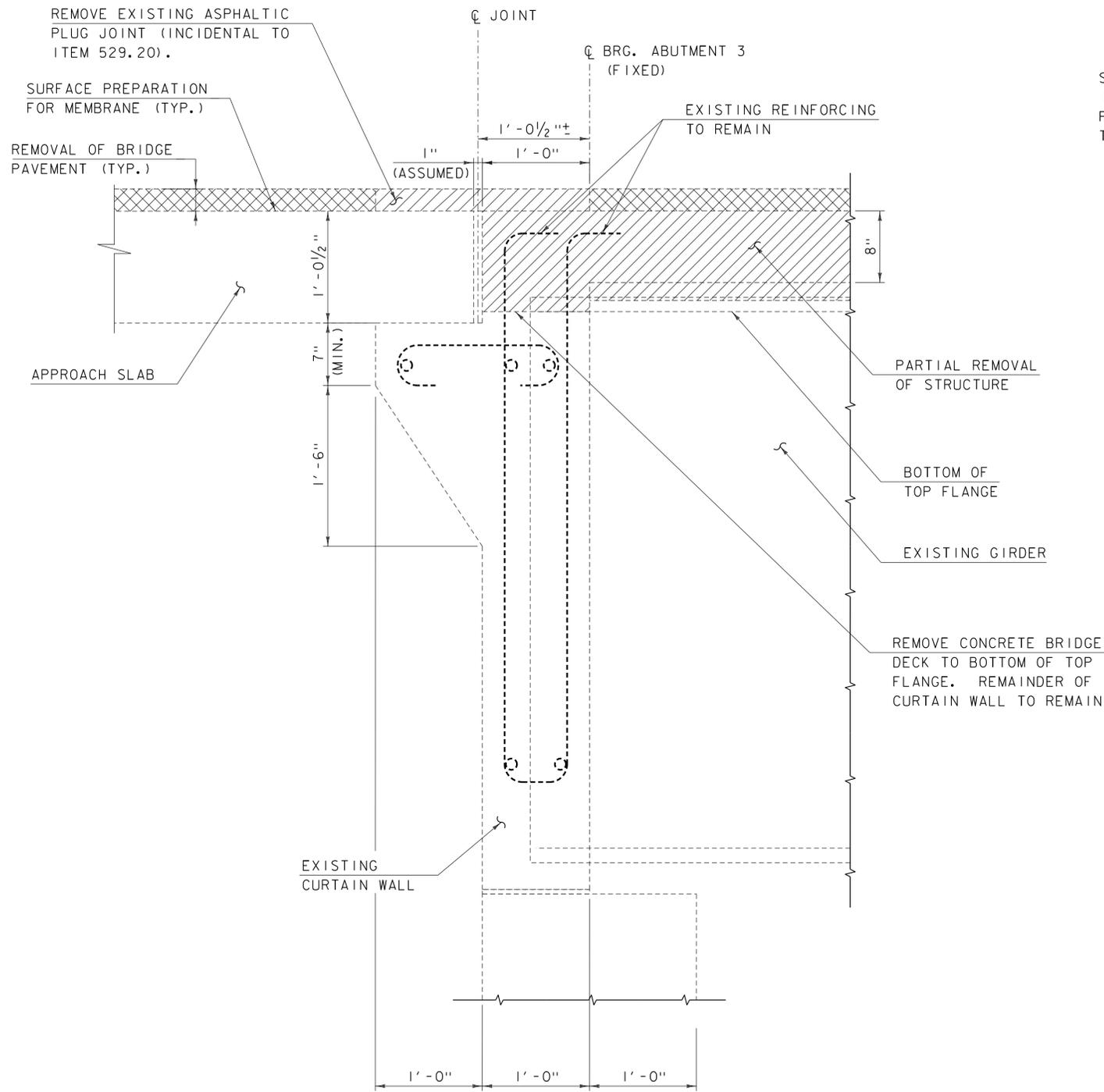
(NOT TO SCALE)

\* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUT WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. ALL WORK WILL BE PAID UNDER ITEM 524.11, "JOINT SEALER, HOT POURED".

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	IM DECK(46)
FILE NAME:	z15all6+yp-107N.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	J. FRENCH
JOINT DETAILS SHEET 1	
PLOT DATE:	2/12/2016
DRAWN BY:	M. SMITH
CHECKED BY:	S. BEAUMONT
SHEET	21 OF 49

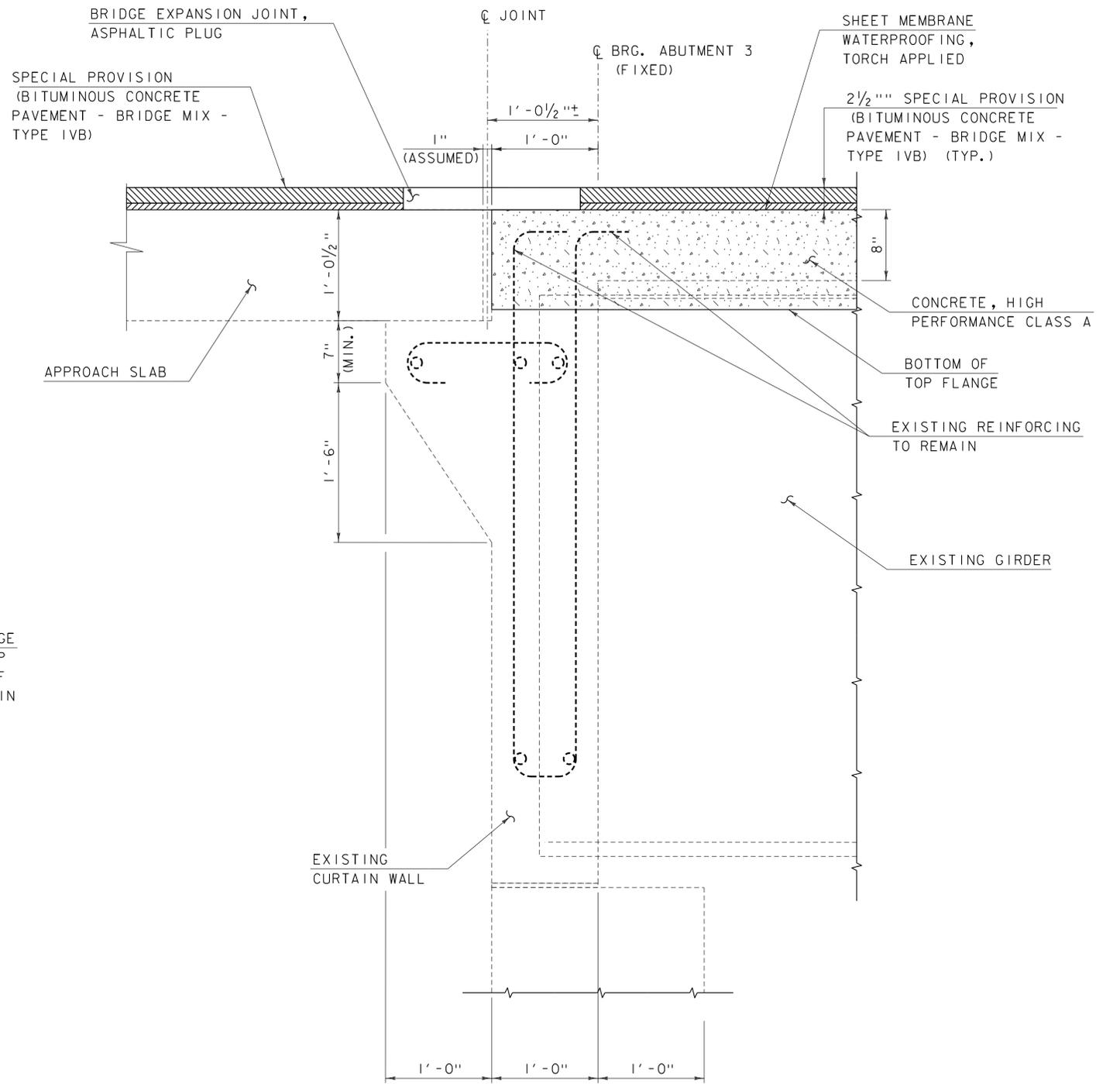


CLD 15-0223 MODEL: Sheet05



**DECK REMOVAL DETAIL AT ABUTMENT 3**

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



**JOINT DETAIL AT ABUTMENT 3**

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

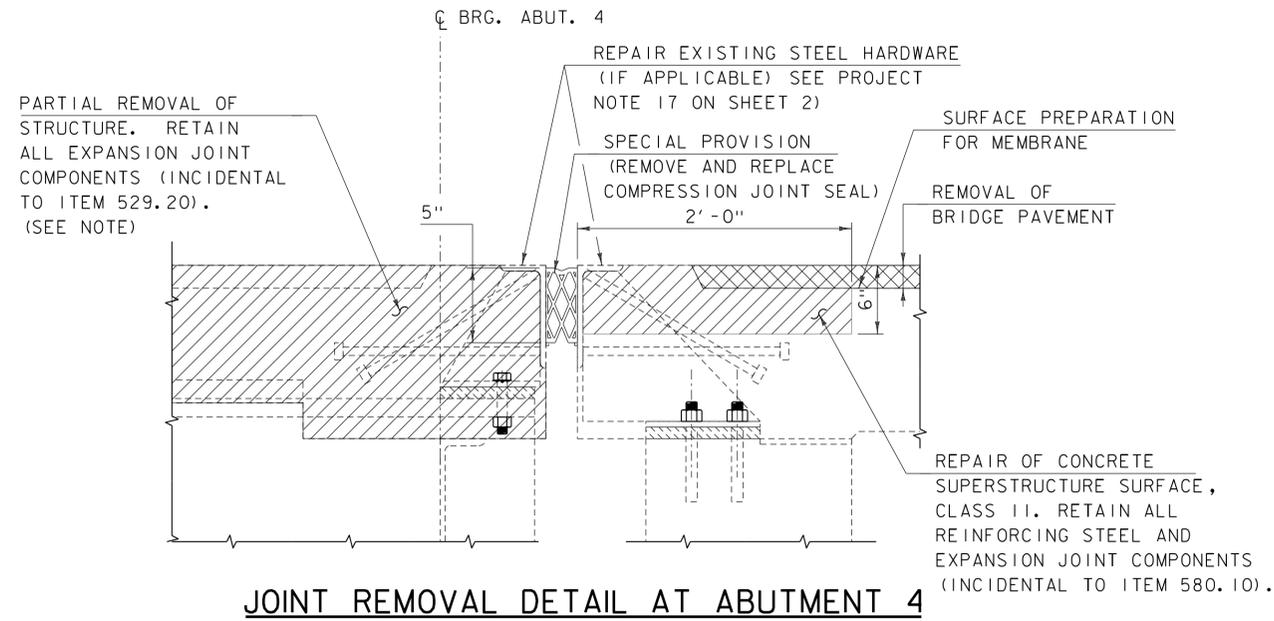
CLD 15-0223 MODEL: Sheet06

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6+yp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
JOINT DETAILS SHEET 2

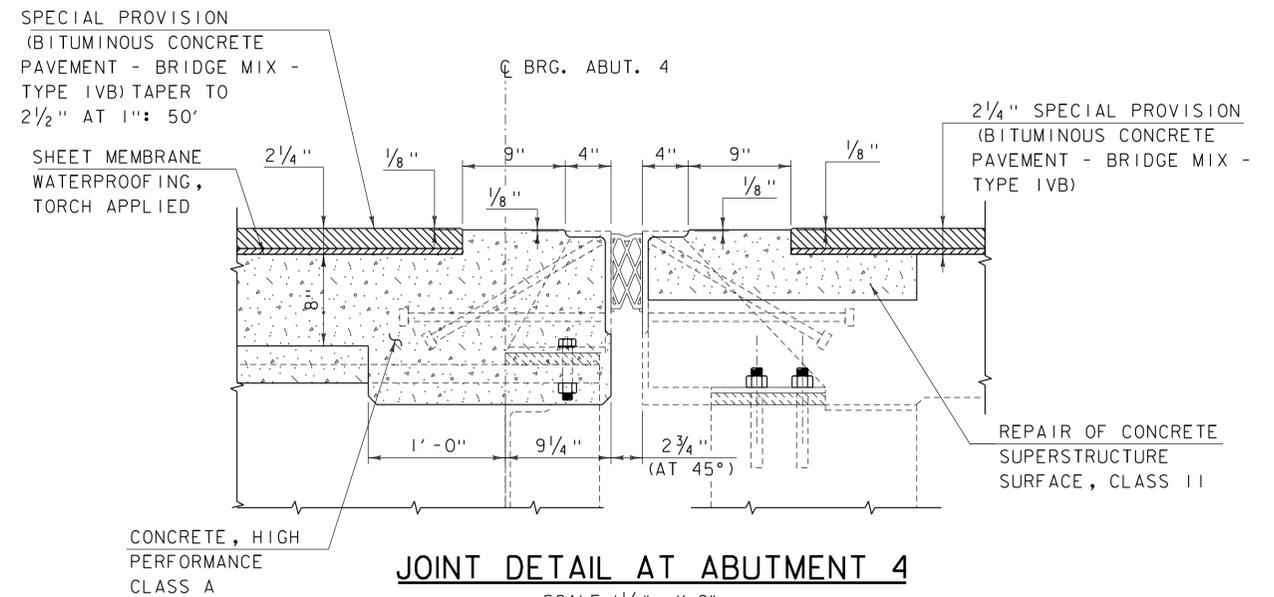
PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 22 OF 49





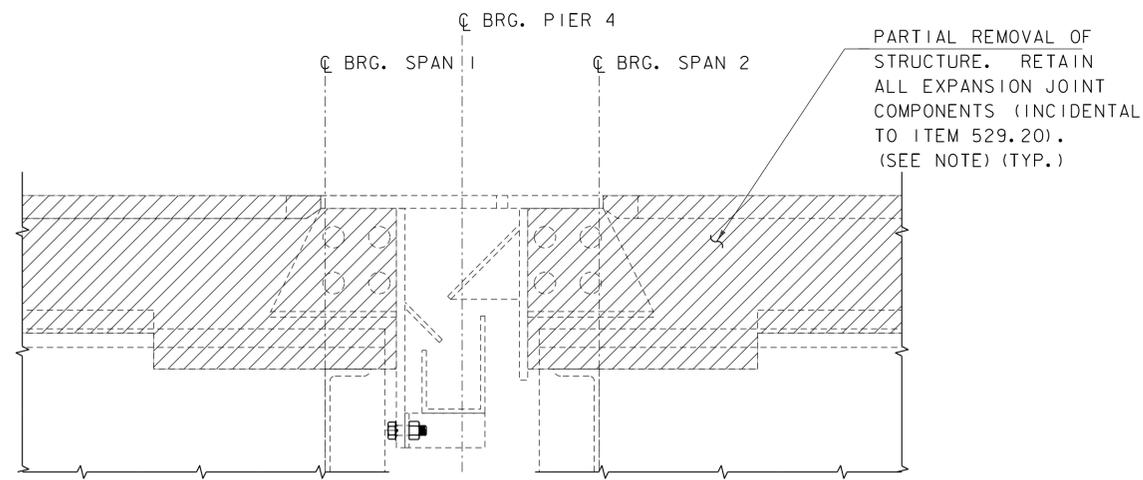
**JOINT REMOVAL DETAIL AT ABUTMENT 4**

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



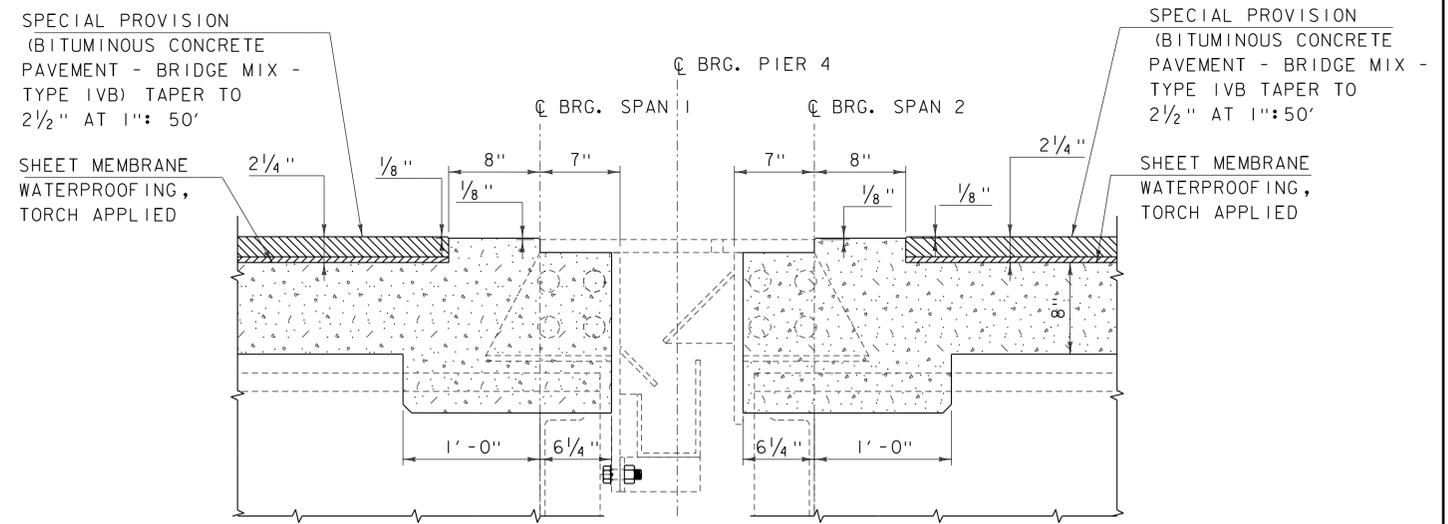
**JOINT DETAIL AT ABUTMENT 4**

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



**JOINT REMOVAL DETAIL AT PIER 4**

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



**JOINT DETAIL AT PIER 4**

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

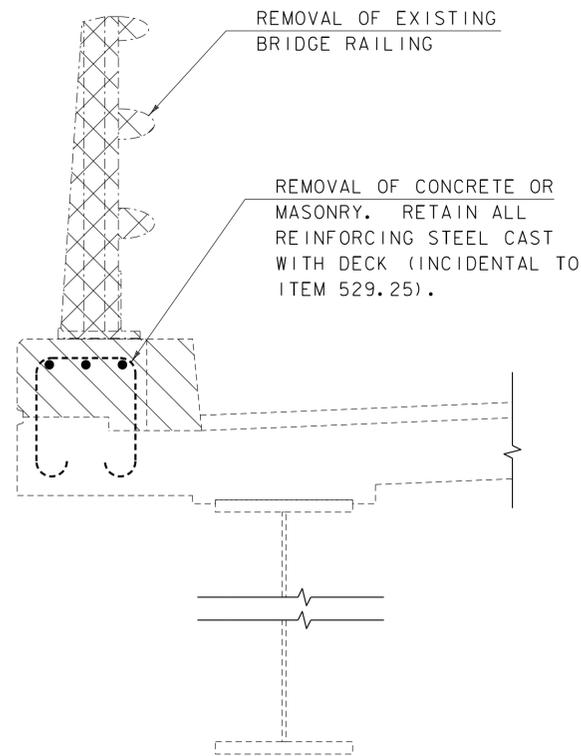
NOTE: SEE PROJECT NOTES 16 THROUGH 18 ON SHEET 2 FOR ADDITIONAL JOINT INFORMATION.

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6+yp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
JOINT DETAILS SHEET 3

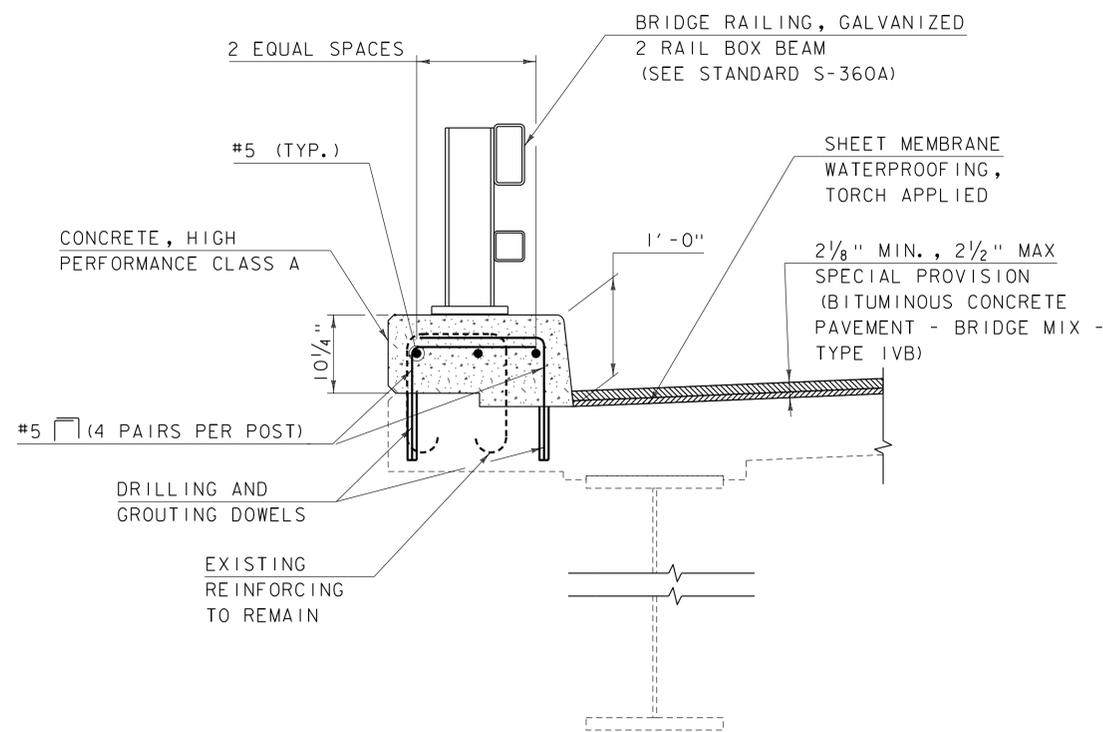
PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 23 OF 49





**SPAN I REMOVAL LIMITS**

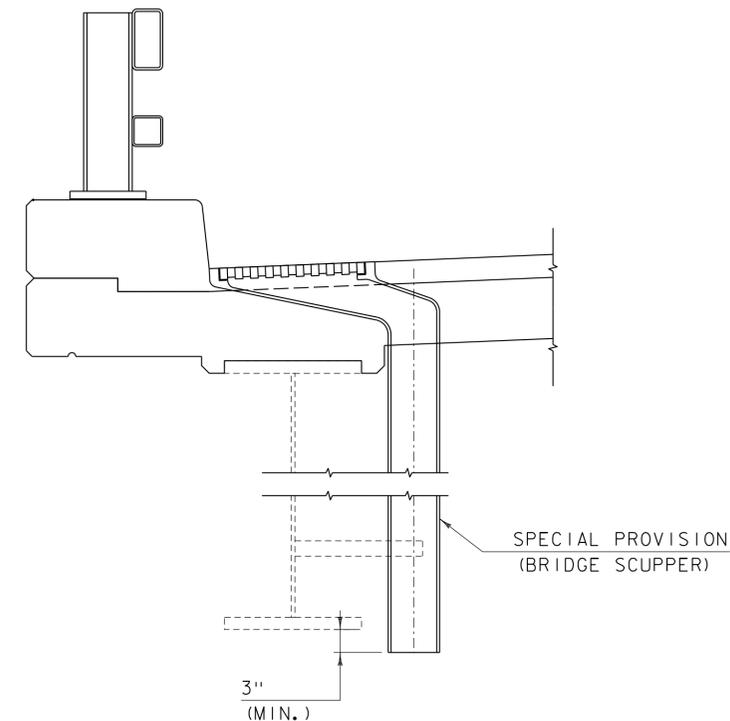
SCALE: 1" = 1'-0"



**TYPICAL SPAN I SECTION**

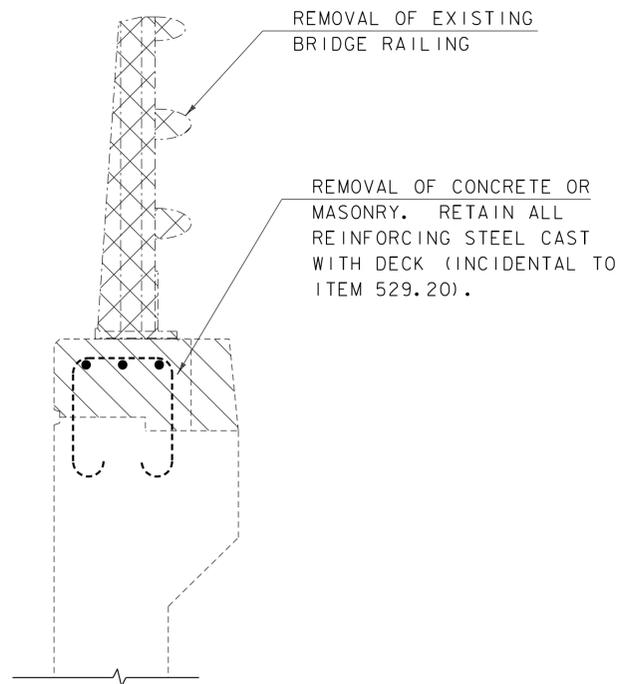
SCALE: 1" = 1'-0"

TO BE USED IF SPAN I REMAINS IN-PLACE



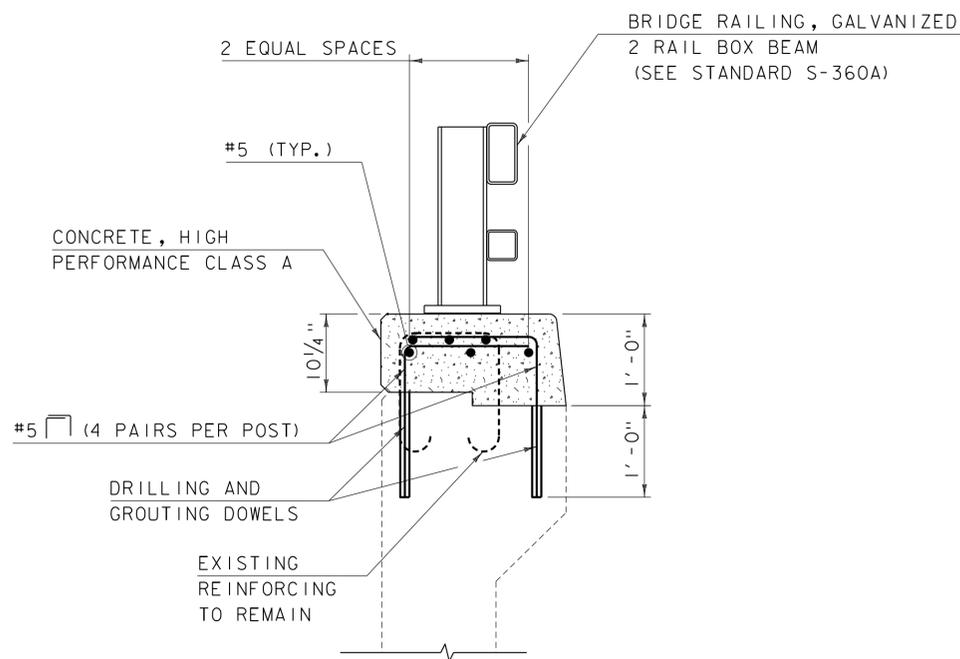
**TYPICAL SCUPPER DETAIL**

SCALE: 1" = 1'-0"



**WINGWALL REMOVAL LIMITS**

SCALE: 1" = 1'-0"



**TYPICAL WINGWALL SECTION**

SCALE: 1" = 1'-0"

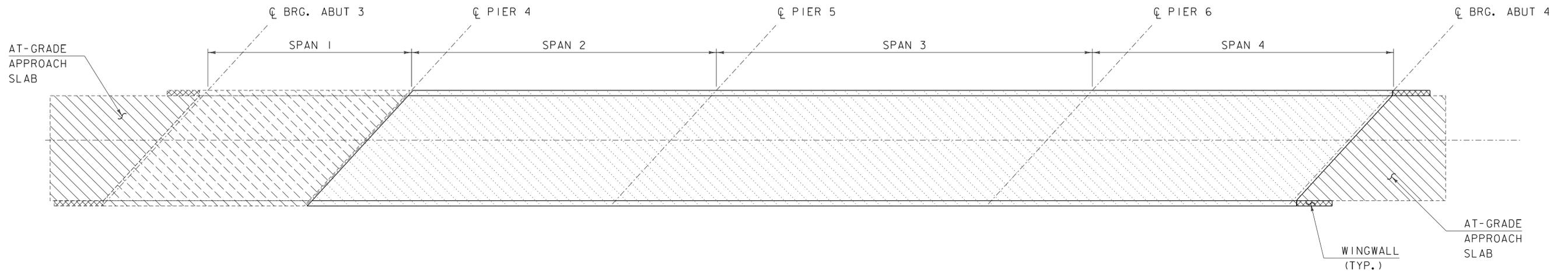
-  REMOVAL OF EXISTING BRIDGE RAILING
-  REMOVAL OF CONCRETE OR MASONRY SEE PROJECT NOTES 13 AND 14 ON SHEET 2.
-  CONCRETE, HIGH PERFORMANCE CLASS A

PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15all6typ-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
CURB REPLACEMENT DETAILS SHEET

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 24 OF 49





**BITUMINOUS CONCRETE/ CONCRETE REMOVAL**

SCALE: 1" = 20'-0"

-  REMOVE BIT. CONC. PAVEMENT TO TOP OF AT-GRADE APPROACH SLABS (PAID FOR UNDER ITEM 529.10). NO MORE THAN 4" OF PAVEMENT SHALL BE REMOVED. SEE PROJECT NOTE 30 ON SHEET 3. REMOVE BARRIER MEMBRANE (PAID UNDER ITEM 580.16), IF APPLICABLE. SEE PROJECT NOTE 32 ON SHEET 3.
-  REMOVE BIT. CONC. PAVEMENT TO TOP OF BRIDGE DECK (PAID FOR UNDER ITEM 529.10) AND REMOVE THE BARRIER MEMBRANE (PAID FOR UNDER ITEM 580.16). REMOVE BRIDGE DECK (PAID FOR UNDER ITEM 529.20), IF APPLICABLE. SEE PROJECT NOTE 30 ON SHEET 3 AND NOTE 1 THIS SHEET.
-  REMOVE BRIDGE RAIL (PAID FOR UNDER ITEM 525.10) AND CONCRETE CURB (PAID FOR UNDER ITEM 529.25).
-  REMOVE BRIDGE DECK (PAID FOR UNDER ITEM 529.20). SEE NOTE 2 THIS SHEET.

**NOTES:**

1. PAYMENT UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" FOR THE REMOVAL OF THE BRIDGE DECK FOR SPAN #1 WILL INCLUDE THE CONCRETE DECK AND CURBS AND THE BRIDGE RAILING.
2. PAYMENT UNDER ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" FOR THE REMOVAL OF THE BRIDGE DECK FOR SPANS #2 THROUGH #4 WILL INCLUDE THE REMOVAL OF THE CONCRETE DECK AND CURBS, BARRIER MEMBRANE, PAVEMENT, AND BRIDGE RAILING.

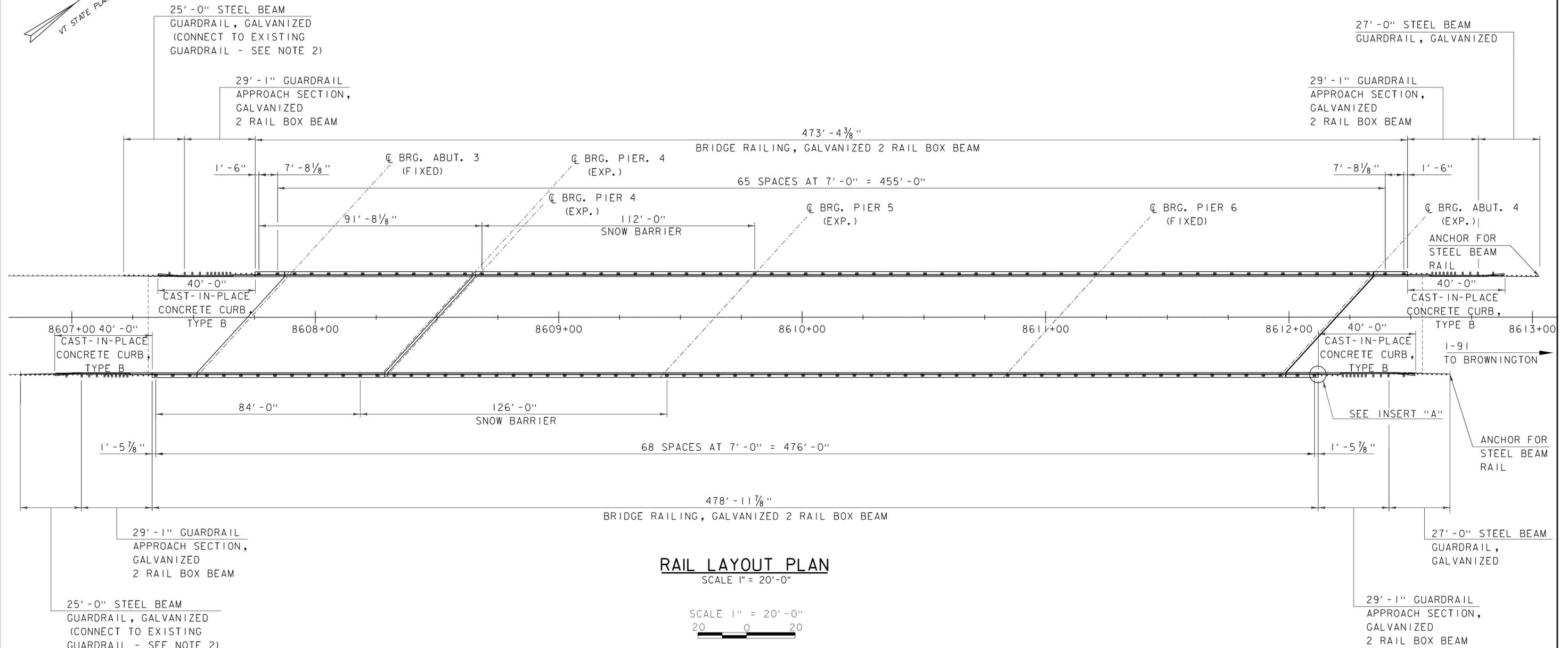
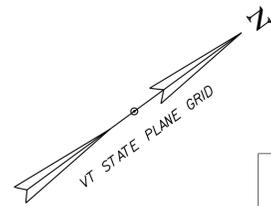
CLD 15-0223 MODEL: Sheet09



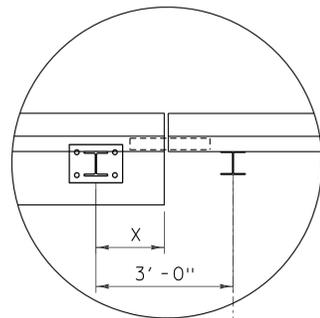
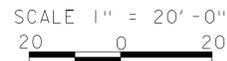
PROJECT NAME: IRASBURG  
PROJECT NUMBER: IM DECK(46)

FILE NAME: z15a116+yp-107N.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: J. FRENCH  
BITUMINOUS CONCRETE REMOVAL PLAN SHEET

PLOT DATE: 2/12/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 25 OF 49



**RAIL LAYOUT PLAN**  
SCALE 1" = 20'-0"



X = 1'-6" NW AND SW CORNERS  
= 1'-5 7/8" NE AND SE CORNERS

**INSERT "A"**  
(NE CORNER SHOWN, OTHERS SIMILAR)  
SCALE: 1/2" = 1'-0"

**NOTES:**

1. REFER TO STANDARDS G-1, G-1d, S-360A, AND S360B.
2. PAYMENT FOR NEW STEEL BEAM GUARDRAIL CONNECTION TO EXISTING RAIL WILL BE CONSIDERED INCIDENTAL TO ITEM 621.20, "STEEL BEAM GUARDRAIL, GALVANIZED".

PROJECT NAME:	IRASBURG
PROJECT NUMBER:	IM DECK(46)
FILE NAME:	z15all6rail_bdr-107N.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	L. GREER
RAIL LAYOUT SHEET	
PLOT DATE:	2/12/2016
DRAWN BY:	P. McKECHNIE
CHECKED BY:	S. FORTIER
SHEET	26 OF 49



MODEL: Sheet 01  
CLD 15-0223

750-A

INDEX OF SHEETS

1	TITLE SHEET
2	ALIGNMENT SHEET
3-7	TYPICAL SECTIONS AND DETAIL SHEETS
8-9	QUANTITY SHEETS
10-21	DRAINAGE SHEETS
22-37	EARTHWORK AND GRADE SHEETS
38-40	R.O.W. DETAIL SHEETS
41-99	PLAN AND PROFILE SHEETS - MAINLINE AND SA-3
100-101	ROUND PLATE PIPE AND PLATE PIPE ARCH DETAIL SHEETS
102-103	BLANK
104-105	ROUND PLATE PIPE AND PLATE PIPE ARCH DETAIL SHEETS
106-109	BLANK
120	A-60 SOLID ROCK EXCAVATION 1-17-65 R
121	BLANK
122	B-5 TYPICAL SLOPE GRADING 3-10-65
123	B-6 MUCK EXCAVATION 3-10-65
124	B-10 EMBANKMENT ON A SLOPE 3-10-65
125	B-11 UNDERDRAIN, SHATTERED ROCK SUBGRADE-SLOPE STABILIZATION 3-10-65
126	B-15 ENTRANCE AND EXIT TERMINALS 7-21-67 R
127	B-17 U-TURNS AND REST AREAS 9-10-69 R
128	C-1 CURBS 9-10-69 R
129	C-16 CURBS 3-10-65
130	D-2 UNDERDRAIN AND HEADWALLS 4-14-69 R
131	D-3 JUTE MATTING 7-19-67 R
132	D-4 ELBOWS AND FLUSHING BASINS 12-4-68 R
133	D-6 DROP INLET W/ GRATE FOR USE IN DITCHES 12-23-66
134	D-8 DROP INLETS 3-10-65
135	D-9 REINFORCED CONCRETE THROAT ADAPTOR 3-10-65
136	D-10 DROP INLET TOPS 3-10-65
137	D-11 DETAIL OF GRATES AND COVERS 3-10-65
138	D-13 CONCRETE CATCH BASINS 5-15-69 R
139	D-16 PRECAST REINFORCED CONCRETE CURB DROP INLET 10-28-69
140	D-17 ACCOMP. VERTICAL RISER 7-1-68 R
141	E-31 FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS 8-21-67 R
142	E-32 ROAD CONSTRUCTION APPROACH SIGNS 1-6-67
143	E-33 BRIDGE CONSTRUCTION APPROACH SIGNS 1-6-67
144	F-34 ON-PROJECT CONSTRUCTION SIGNS 5-3-67 R
145	F-35 PROPERTY LINE, FENCE 11-29-67 R
146	G-3 THREE CABLE GUARD RAIL W/ STEEL POSTS AND ANCHORS 9-1-66 R
147	G-4 WOOD GUIDE POSTS, PLANK GUARD RAIL, 12-30-65 R
148	G-8 BRIDGE RAILING FOR BRIDGE APPROACHES 9-3-68 R
149-A	G-9 BRIDGE RAILING FOR BRIDGE APPROACHES 9-21-68 R
149-B	J-1 PROJECT AND BOUNDARY MARKERS 3-10-65
150	J-2 DETAIL NOTES & INFORMATION 1-24-68
151	SCB DR 67 DETAIL "A" "B" "C" 1-24-68
152	SCB DR 67 DRAIN TROUGH DETAILS 1-24-68
153	SCB DR 67 REINFORCING AT ABUTMENTS 12-17-68 R
154	SCB DR 67 DETAILS "A" "B" "C" 8-23-68 R
155	SCB DR 67 INTERMEDIATE DIAPHRAGM 1-24-68
156	SCB DR 67 BEARING DEVICES 1-24-68
157	SCB DR 67 DETAIL "A" 1-24-68
158-159	SB R1 64 ALUMINUM BRIDGE RAILING DETAILS SHT #1-12-16-68 R, SHT #2-11-8-66 R
160	SB R2 65 STEEL BRIDGE RAILING DETAILS 11-8-66 R
161-168	BLANK
169-198	BRIDGE SERIES 100 1-91 OVER SA-3, O.P.R. & RIVER AT STA. 25381 IRASBURG
199-201	BRIDGE SERIES 200 SA-3 OVER 1-91 AT STA. 28851 GOVENTRY
212-231	SOUTHBOUND CROSS SECTIONS STA. 2480+00-2817+26.21
232-250	NORTHBOUND CROSS SECTIONS STA. 2480+00-2816+26.12
251-272	SOUTHBOUND & NORTHBOUND CROSS SECTIONS STA. 2817+32.17-2850+00
273-332	SOUTHBOUND CROSS SECTIONS STA. 2550+50-2895+00
333-384	NORTHBOUND CROSS SECTIONS STA. 2550+50-2895+00
385-388	SA-3 CROSS SECTIONS
389-400	CULVERT CROSS SECTIONS

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

TOWNS OF IRASBURG-BROWNINGTON-GOVENTRY-DERBY

COUNTY OF ORLEANS  
INTERSTATE ROUTE 91  
IRASBURG-DERBY

BEGINNING AT A POINT APPROXIMATELY 1.540 MILES  
SOUTHWESTERLY FROM THE IRASBURG-BROWNINGTON  
TOWN LINE U.S.S. AND EXTENDING NORTHERLY 7.799 MILES.  
LENGTH OF ROADWAY - 40,465.29 FEET = 7.664 MILES  
LENGTH OF BRIDGES - 447.43 FEET = 0.085 MILES  
LENGTH OF PROJECT - 40,912.72 FEET = 7.749 MILES

TRAFFIC DATA

1962 ADT	1690
1967 ADT	4580
1967 DHV	715
D	57%
T	9%
V	60 MPH

THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY  
TO APPROXIMATELY 1/2 SCALE

Dated 28 April 70

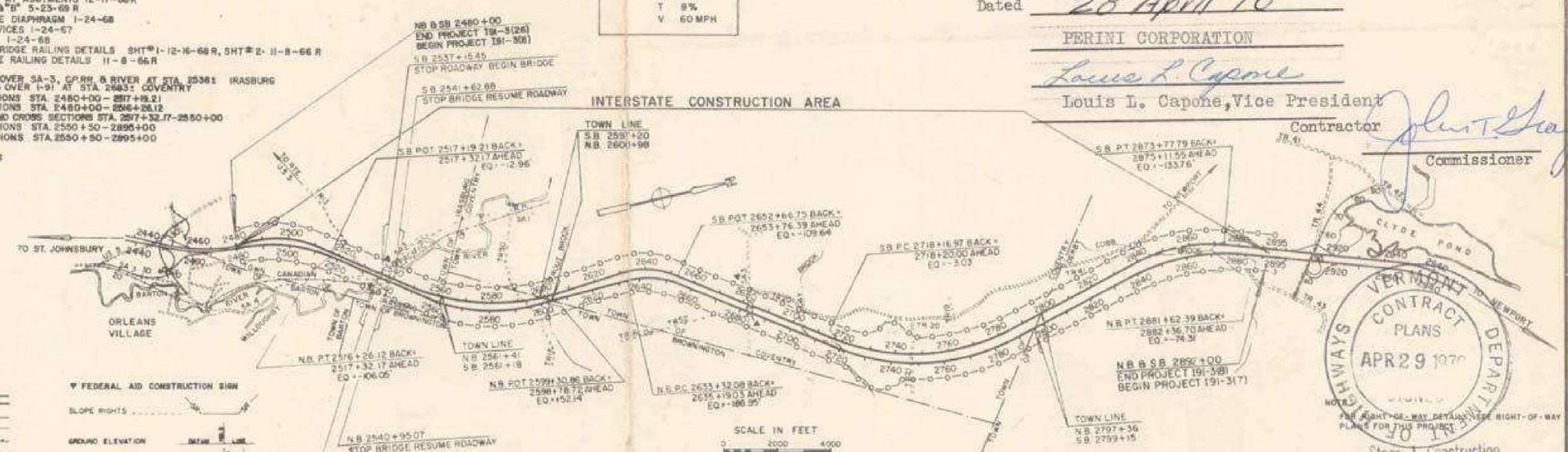
PERINI CORPORATION

*Louis L. Capone*

Louis L. Capone, Vice President

Contractor *John T. Day*

Commissioner



CONVENTIONAL SIGNS

ROW	---
COUNTY LINE	---
TOWN LINE	---
FENCE LINE	---
STONE WALL	---
UNFENCED PROPERTY	---
GUARD RAIL	---
TRAVELED WAY	---
RAILROAD	---
RETAINING WALL	---
CENTER LINE	---
SURVEY LINE	---
CULVERT	---
DROP INLET	---
TROLLEY POLE	---
POWER POLE	---
TELEPHONE POLE	---
TREES	---
HEDGE	---
LIMITED ACCESS	---

FEDERAL AID CONSTRUCTION SIGN

SLOPE RIGHTS	---
GROUND ELEVATION	---
GRADE ELEVATION	---
CURVE DATA	---
DEFLECTION OF ANGLE	A
DEGREE OF CURVE	D
RADIUS OF CURVE	R
TANGENT DISTANCE	T
LENGTH OF CURVE	L
EXTERNAL DISTANCE	E
POINT OF INTERSECTION	PI
POINT OF CURVE	PC
POINT OF TANGENT	PT
POINT ON TANGENT	POT
POINT ON SUB-TANGENT	POST
SEISMIC POINT PROFILE	SP

PREPARED BY  
EDWARDS AND KELCEY, INC.  
BOSTON, MASSACHUSETTS

APPROVED <i>[Signature]</i> DATE <u>12/17/67</u>	APPROVED <i>[Signature]</i> DATE <u>12/17/67</u>	APPROVED <i>[Signature]</i> DATE <u>3/13/69</u>	APPROVED <i>[Signature]</i> DATE <u>9/10/1969</u>	APPROVED <i>[Signature]</i> DATE <u>5/13/69</u>	APPROVED <i>[Signature]</i> DATE <u>5/13/69</u>
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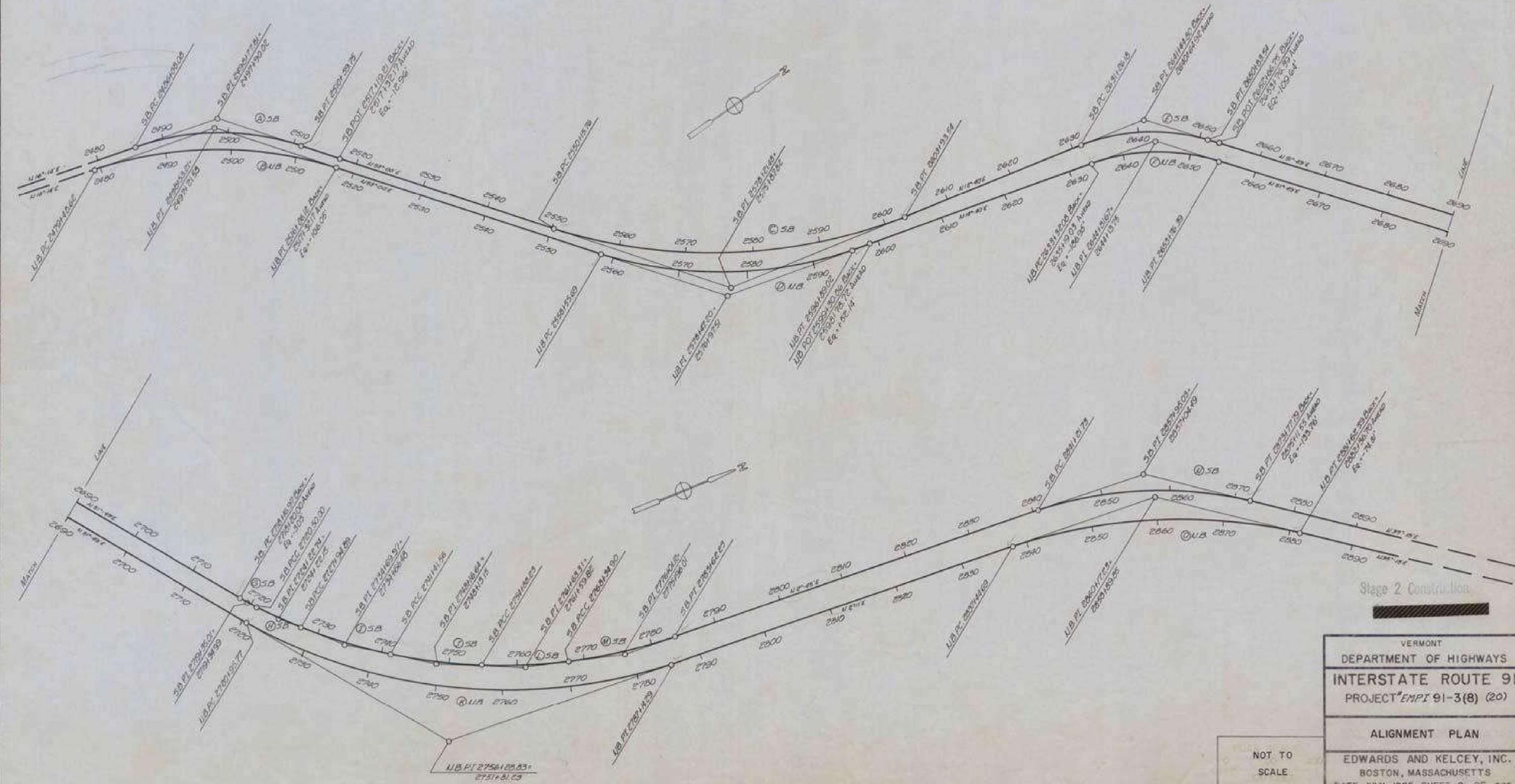
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PUBLIC ROADS

APPROVED	DATE
DIVISION ENGINEER	
PROJECT NO.	191-3(6)
SHEET	1 OF 605 SHEETS

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 27 OF 49  
FOR REFERENCE ONLY

PLAN  
 CHECKED BY  
 DATE  
 NOT TO SCALE  
 CHECKED BY  
 DATE  
 NOT TO SCALE

CURVE ① SB L=361'46"-30" R D=1°-35' T=3819.72 L=2451.67 E=205.51 Bank 75' Per Ft.	CURVE ② MS L=37°-46'-30" R D=1°-00' T=5723.52 L=3677.50 E=300.26 Bank 75' Per Ft.	CURVE ③ SB L=40°-22'-00" L D=0°-45' T=7833+487 L=2205.721 L=5377.773 E=458.933 Bank 75' Per Ft.	CURVE ④ MS L=38°-23'-00" L D=1°-00' T=5723.52 L=3677.50 E=300.26 Bank 75' Per Ft.	CURVE ⑤ SB L=39°-05'-30" R D=0°-45' T=1291.51 L=3033.33 E=336.24 Bank 75' Per Ft.	CURVE ⑥ MS L=37°-08'-50" R D=0°-45' T=2064.759 L=1013.619 L=1857.361 E=174.705 Bank 75' Per Ft.	CURVE ⑦ MS L=37°-08'-50" R D=0°-45' T=2064.759 L=1013.619 L=1857.361 E=174.705 Bank 75' Per Ft.	CURVE ⑧ SB L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑨ SB L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑩ SB L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑪ MS L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑫ SB L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑬ MS L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑭ SB L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑮ MS L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑯ MS L=37°-35'-12" R D=0°-45' T=7639+487 L=115.009 L=230.000 E=0.87 Bank 75' Per Ft.
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VERMONT  
 DEPARTMENT OF HIGHWAYS  
 INTERSTATE ROUTE 91  
 PROJECT E.M.P.I. 91-3(8) (20)  
 ALIGNMENT PLAN  
 EDWARDS AND KELCEY, INC.  
 BOSTON, MASSACHUSETTS  
 DATE JULY, 1966 SHEET 2 OF 605

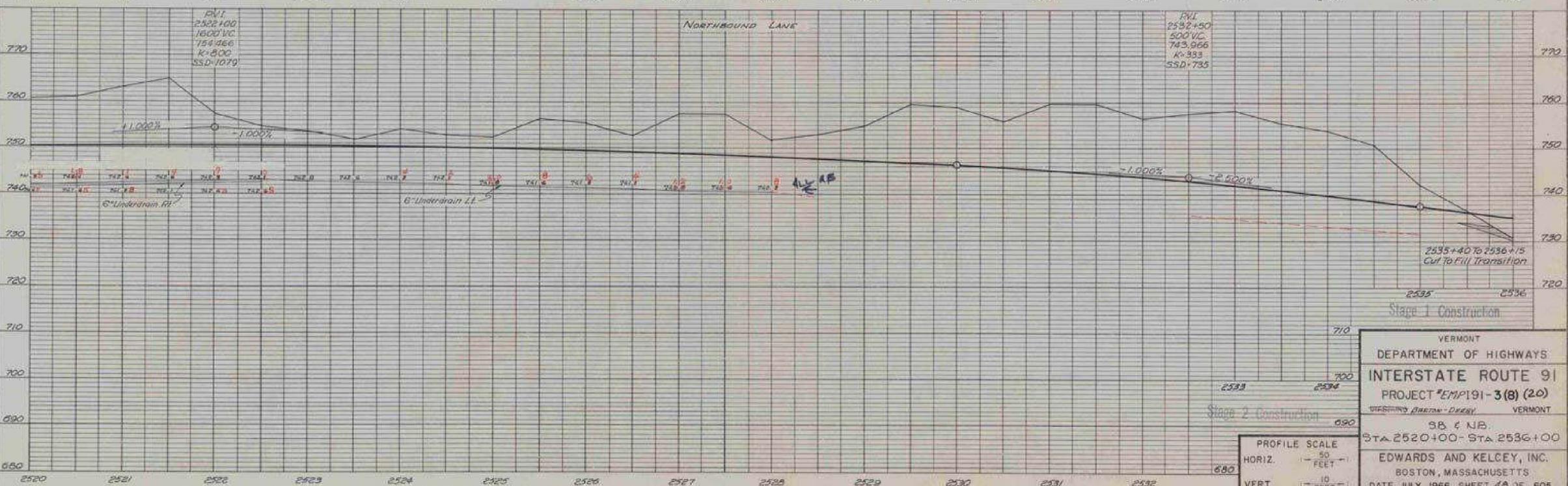
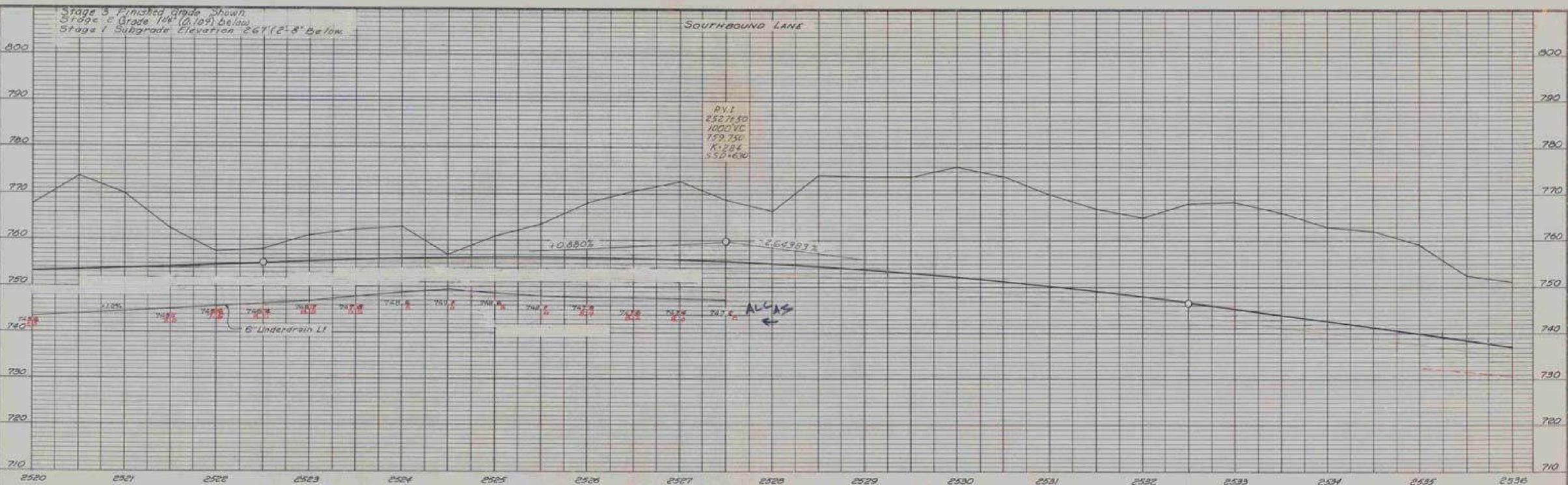
NOT TO SCALE

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 28 OF 49  
 FOR REFERENCE ONLY





PROFILE  
 DATE BOOK  
 DRAWN BY  
 CHECKED BY  
 APPROVED BY



PROFILE SCALE  
 HORIZ. 1" = 50 FEET  
 VERT. 1" = 10 FEET

VERMONT  
 DEPARTMENT OF HIGHWAYS  
**INTERSTATE ROUTE 91**  
 PROJECT #EMPI91-3(8) (20)  
 WESTING HOUSE - DEERY, VERMONT  
 SB & NB  
 STA 2520+00 - STA 2536+00  
 EDWARDS AND KELCEY, INC.  
 BOSTON, MASSACHUSETTS  
 DATE JULY, 1966 SHEET 48 OF 605

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 31 OF 49  
 FOR REFERENCE ONLY

NO.	DATE	BY	REVISION
1			DESIGNED
2			CHECKED
3			APPROVED

CONTROL OF ACCESS COMPLETE ON THIS SHEET

R=1400' D=4°08'33" T=98.87' L=197.01' E=3.47' Bank=1/4 Per Ft.  
 R=500' D=11°27'33" T=91.48' L=160.92' E=8.30' Bank=1/4 Per Ft.

FOR STA 3 PROFILE SEE SHEET 97.

\* JUTE MATTING ITEM 693  
 MED 2541+25 - 2544+00  
 MED 2545+00 - 2547+00  
 MED 2548+00 - 2550+00  
 MED 2550+90 - 2552+00

PROPERTY LINE FENCE w/STEEL POSTS ITEM 589 B Mod.  
 SB 2536+00 - 2539+05 LT  
 NB 2536+00 - 2539+80 RT  
 SB 2541+90 - 2552+00 LT  
 NB 2540+30 - 2552+00 RT

DEMOLITION AND DISPOSAL OF BUILDING MOD ITEM 586  
 SB 2538+00 RT

STANDARD STEEL BEAM GUARD RAIL w/STEEL POSTS ITEM 545-A  
 54°S - 424 - 111.00 LT (125' 0")

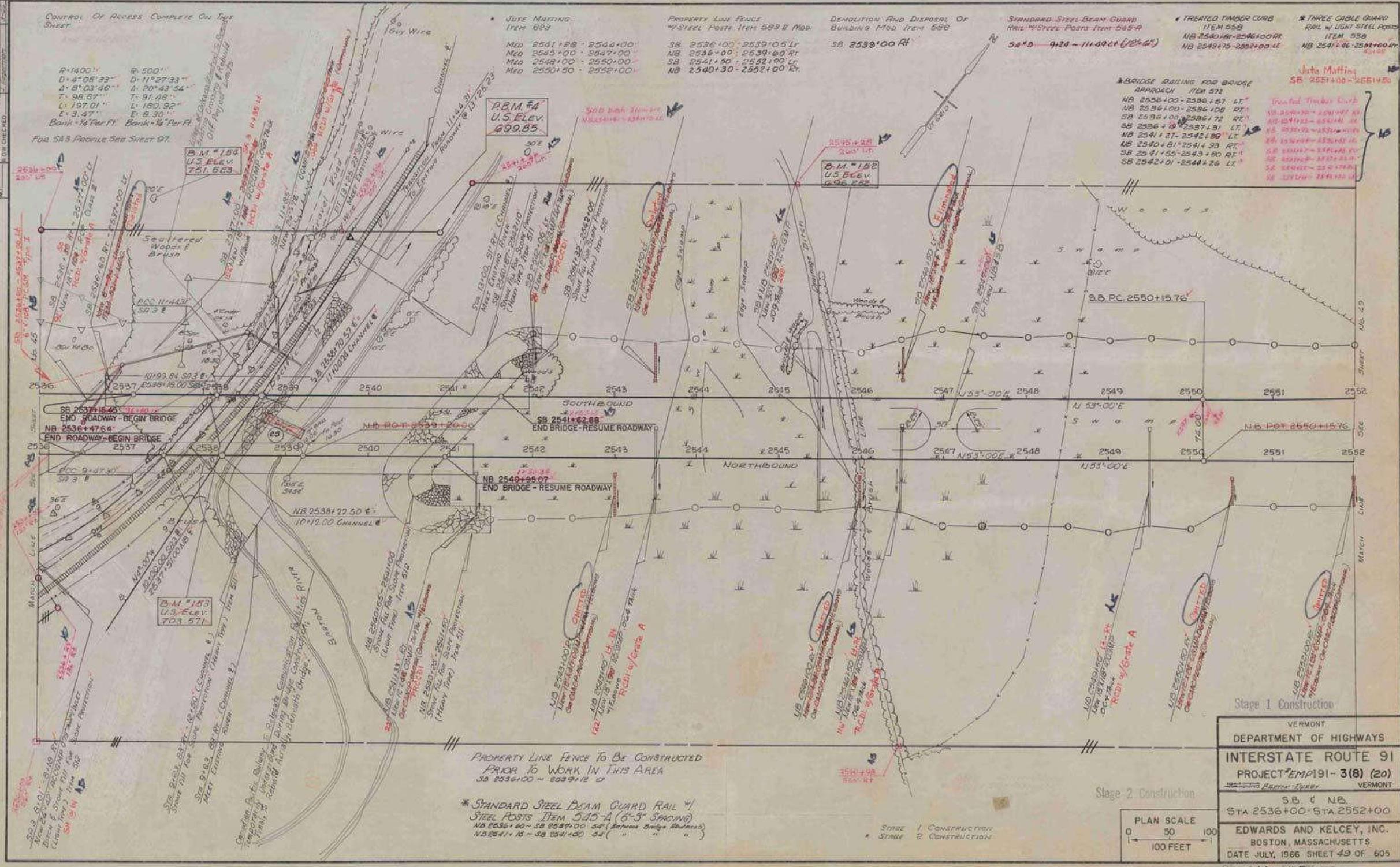
TREATED TIMBER CURB ITEM 558  
 NB 2540+68 - 2546+00 RT  
 NB 2549+75 - 2552+00 LT

THREE CABLE GUARD RAIL w/ LIGHT STEEL POSTS ITEM 538  
 NB 2541+46 - 2552+00 RT

Jute Matting SB 2551+00 - 2551+50

BRIDGE RAILING FOR BRIDGE APPROACH ITEM 572  
 NB 2536+00 - 2536+57 LT  
 NB 2536+00 - 2536+08 RT  
 SB 2536+00 - 2536+72 RT  
 SB 2536+00 - 2537+50 LT  
 NB 2541+27 - 2542+89 LT  
 NB 2540+18 - 2541+98 RT  
 SB 2541+50 - 2543+80 RT  
 SB 2542+01 - 2544+26 LT

Treated Timber Curb  
 NB 2540+68 - 2546+00 RT  
 NB 2549+75 - 2552+00 LT  
 SB 2541+50 - 2543+80 RT  
 SB 2542+01 - 2544+26 LT



PROPERTY LINE FENCE TO BE CONSTRUCTED PRIOR TO WORK IN THIS AREA  
 SB 2536+00 - 2549+12 LT

\* STANDARD STEEL I-BEAM GUARD RAIL w/ STEEL POSTS ITEM 545-A (6'-3\"/>

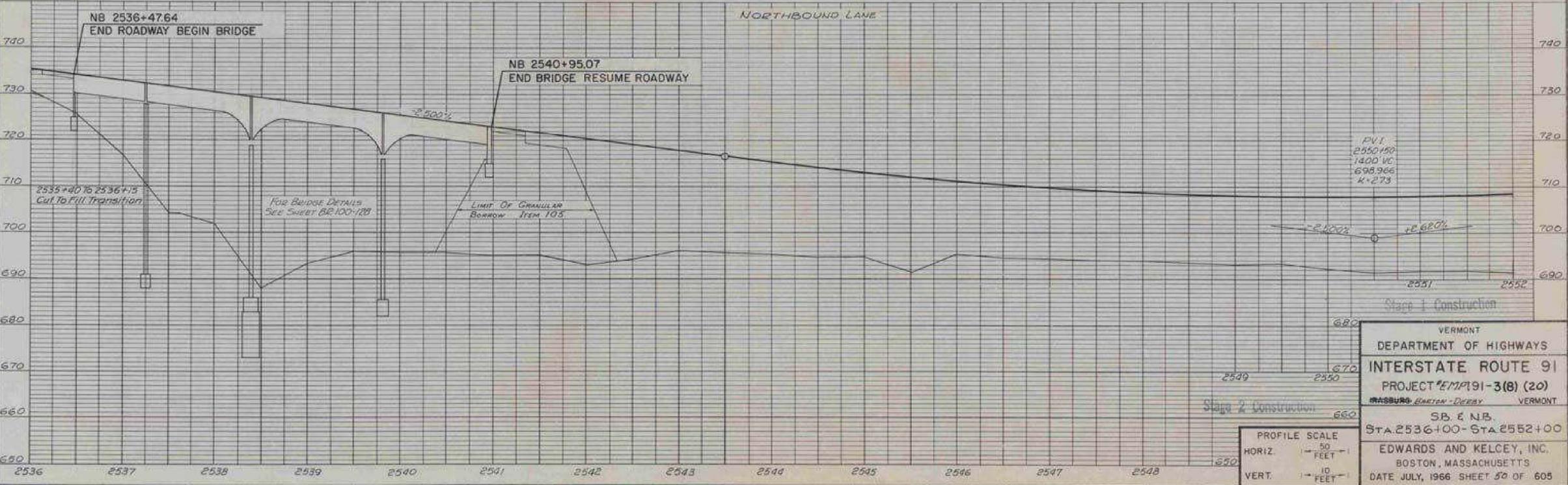
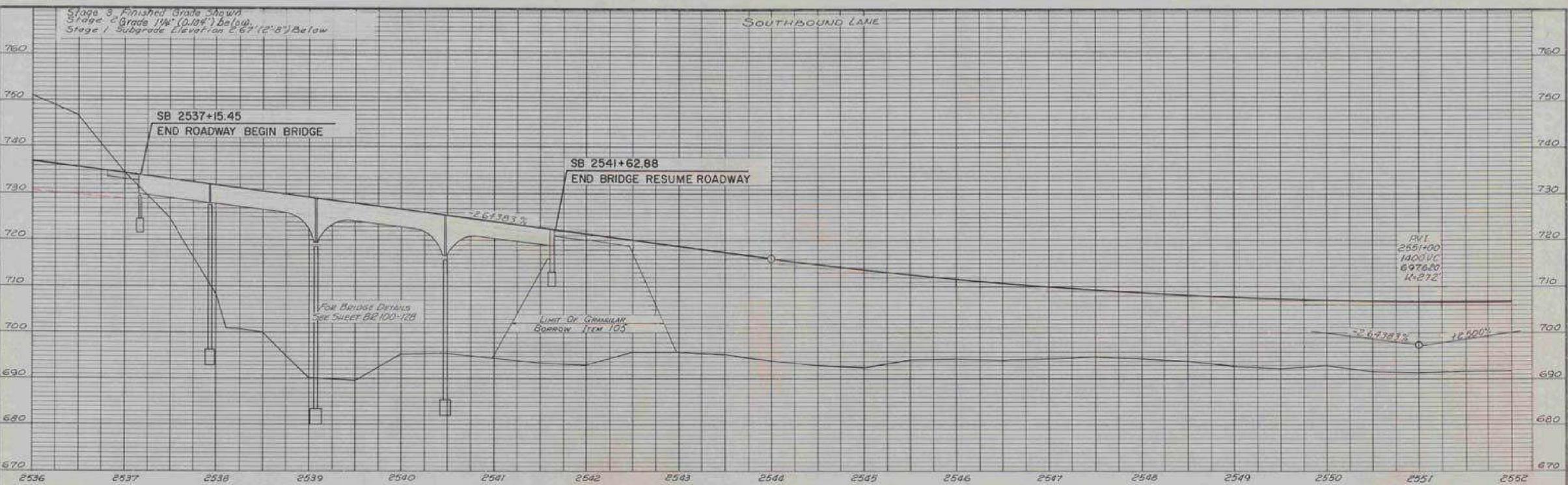
VERMONT DEPARTMENT OF HIGHWAYS	
INTERSTATE ROUTE 91 PROJECT EMP191-3(8) (20)	
SB & NB	VERMONT
STA 2536+00 - STA 2552+00	
EDWARDS AND KELCEY, INC. BOSTON, MASSACHUSETTS	
DATE JULY, 1966 SHEET 49 OF 605	

Stage 2 Construction



IRASBURG IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 32 OF 49  
 FOR REFERENCE ONLY

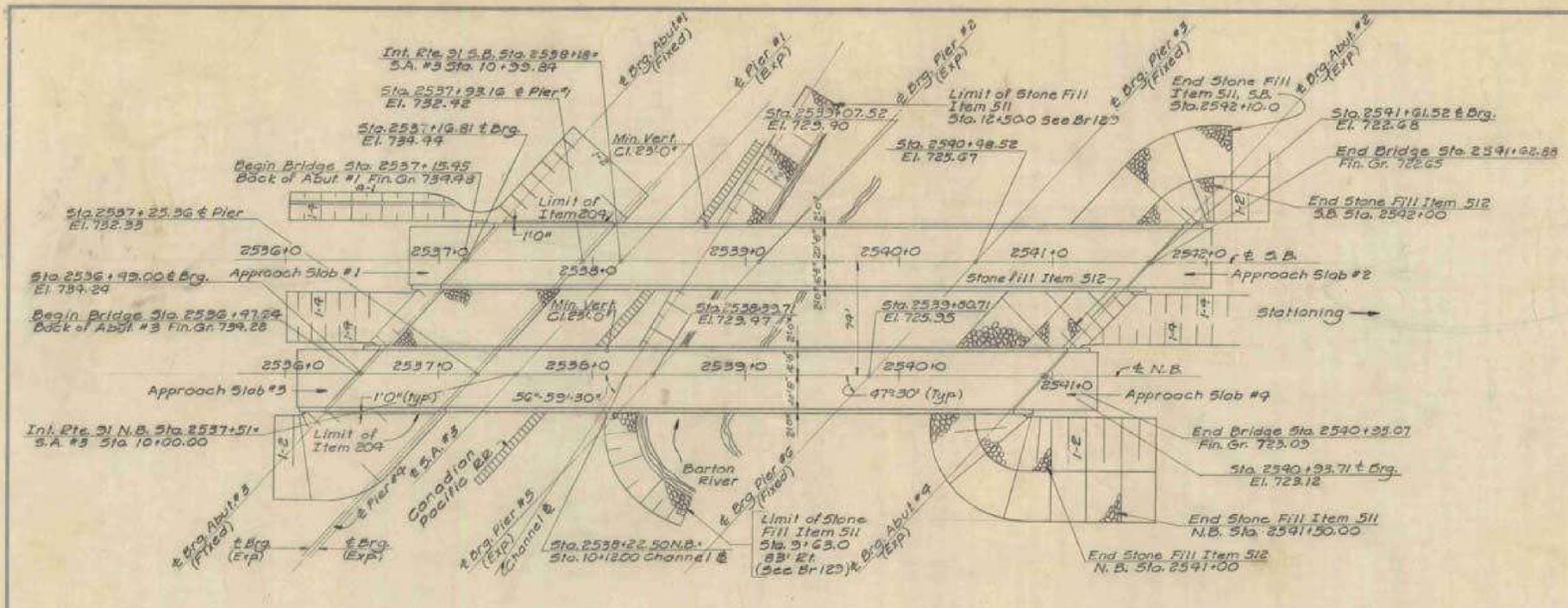
PROFILE  
 TITLE  
 SHEET NO.  
 DRAWING NO.  
 DATE



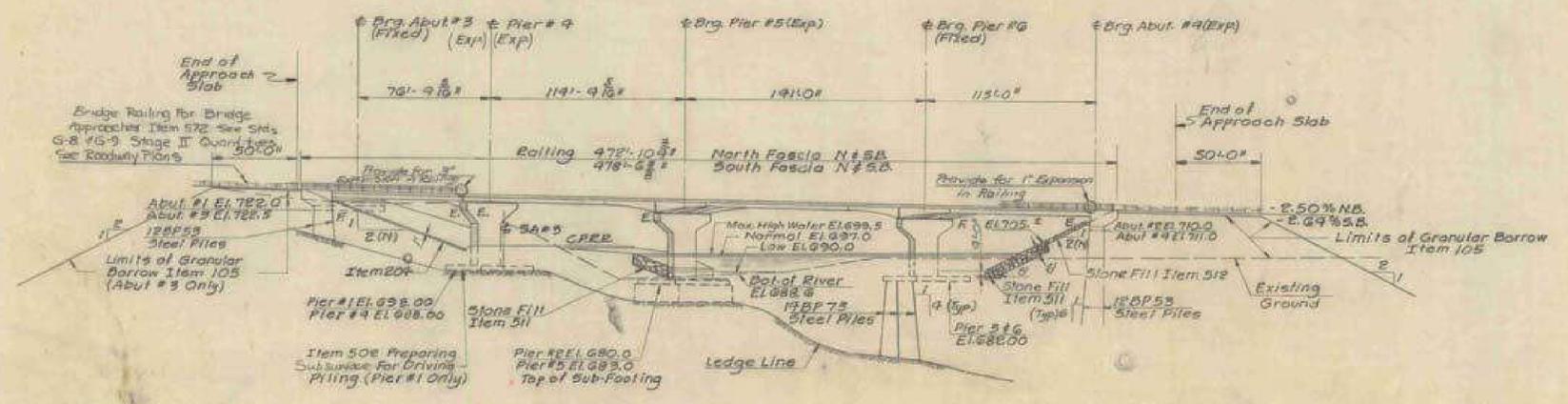
PROFILE SCALE  
 HORIZ. 1" = 50 FEET  
 VERT. 1" = 10 FEET

VERMONT  
 DEPARTMENT OF HIGHWAYS  
 INTERSTATE ROUTE 91  
 PROJECT #EM191-3(B) (20)  
 IRASBURG BARTON-DEEBY VERMONT  
 S.B. & N.B.  
 STA. 2536+00 - STA. 2552+00  
 EDWARDS AND KELCEY, INC.  
 BOSTON, MASSACHUSETTS  
 DATE JULY, 1966 SHEET 33 OF 605

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 33 OF 49  
 FOR REFERENCE ONLY



PLAN



ELEVATION

LIST OF SHEETS

- Br.100 Plan & Elevation
- Br.101-102 Bridge Quantity Sheets
- Br.103 Preliminary Information Sheet
- Br.104-106 Boring Logs
- Br.107 Framing Plan & Girder Details
- Br.108 Girder Elevation & Conn. Details
- Br.109 Deck Section & Splice
- Br.110 Expansion Dam & Scupper Details
- Br.111 Rocker Bearings
- Br.112 Abutment #1
- Br.113 Abutment #2
- Br.114 Abutment #3
- Br.115 Abutment #4
- Br.116 Abutment #2 & #3 Details
- Br.117 Abutment #1 & #3 Approach Slab
- Br.118 Abutment #2 & #4 Approach Slab
- Br.119 Pier #1
- Br.120 Pier #2
- Br.121 Pier #3
- Br.122 Pier #4
- Br.123 Pier #5
- Br.124 Pier #6
- Br.125-128 Reinforcing Schedules
- Br.129 Channel Sections

STANDARD SHEETS REQUIRED

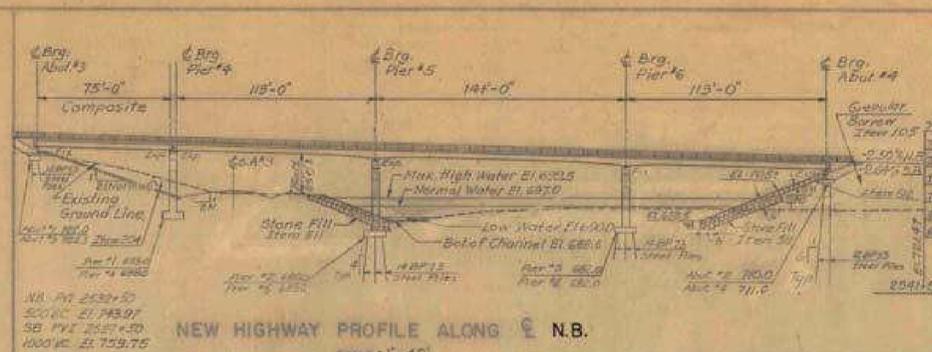
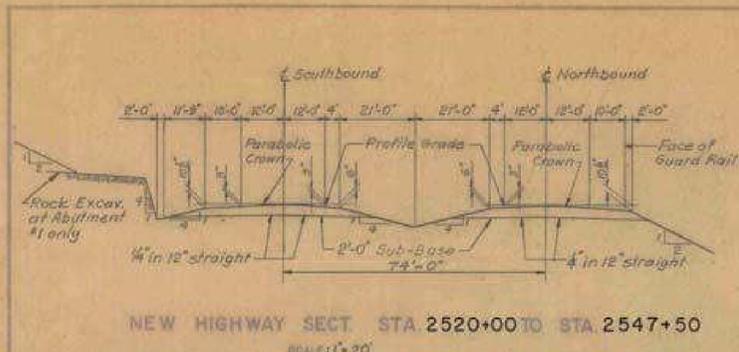
- SCB D1 67 General Notes & Information Jan 24, '68
- SCB D2 67 Detail A&B 10 Jan 24, '68
- SCB D3 67 Drain Trough Details Jan 24, '68
- SCB D4 67 Reinforcing of Abutments Dec 17, '68
- SCB D5 67 Detail A&B May 23, 1969
- SCB D7 67 Intermediate Diaphragm Jan 24, '68
- SCB D8 67 Bearing Devices Jan 24, '68
- SCB D9 67 Detail A Jan 24, '68
- SB R1 64 Aluminum Railing (2 Sheets) Sheet 1 of 2 Dec 14, 1964 - 2042 Nov 8, 66 R
- SB R2 65 Steel Bridge Railing Nov 8, 66 R

NOTE:

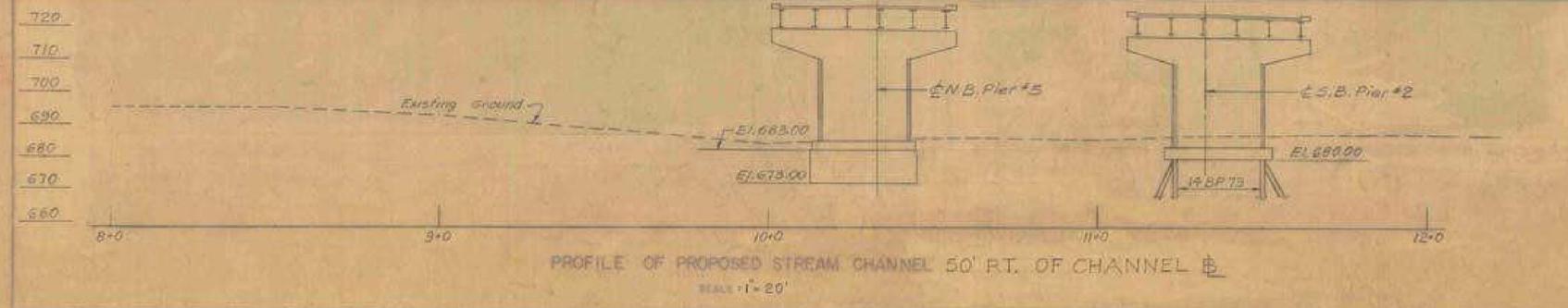
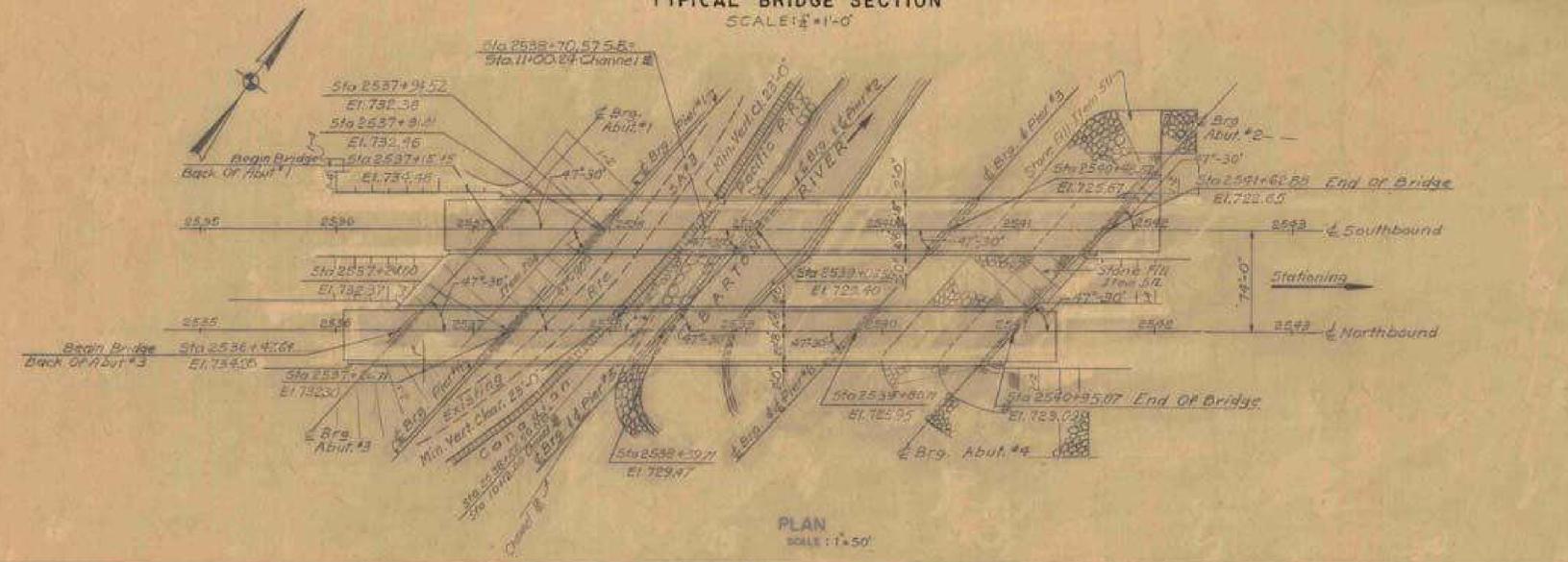
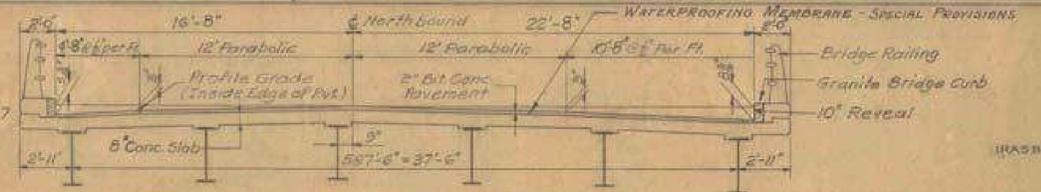
The channel excavation and stone fill shall be done between July 1 and October 1 so as not to interfere with the Rainbow Trout runs. Precautions shall be taken during construction to prevent siltation or pollution of the river.

Changed roadway width from 36'0" to 39'0", curb width from 5'6" to 2'0" (Quoted 2nd Sheet R. Item 105)	
<b>STATE OF VERMONT</b> DEPARTMENT OF HIGHWAYS	
PROJECT IRASBURG-JEREB TOWN OF IRASBURG <b>82-187</b>	
ROUTE NO. I-91	STA. 25381
T-91 OVER BARTON RIVER AND SA # 3	
PLAN AND ELEVATION	
SCALE 1" = 40'	
IN CHARGE G. TERENZIO	
DRAWN BY JMR CHECKED BY A. CENTORE	PROJECT No. I 91-3(B) 9-57
SHEET 152 OF 155 BR 100	

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 34 OF 49  
 FOR REFERENCE ONLY



Note: For Details of Deck Construction see BR 109  
For Railing Details see SB-R1-43 and SB-R2-65  
For Curb Details see SCB-06-47



Highway No. **I-91** NAME OF HIGHWAY **INTERSTATE**  
 COUNTY **ORLEANS** TOWN **IRASBURG**  
 PROJECT NO. **I-91-3(2)** LOCATION **I91 over BARTON RIVER, C.P.R.R. and Irasburg SA '3**

EXISTING STRUCTURE	
1. RATED LOADING OF EXISTING STRUCTURE	N.A.
2. TYPE OF EXISTING STRUCTURE	N.A.
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE	N.A.
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE? COST OF REMOVAL	N.A.
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE?	N.A.
6. SHOULD NEW TEMPORARY STRUCTURE BE BUILT?	N.A.
7. ORDINARY HIGH WATER SURFACE ELEV. AT EXISTING STRUCTURE	N.A. WATERWAY TO ORDINARY H.W. N.A.
8. EXTREME HIGH WATER AT EXISTING STRUCTURE	N.A.
9. SPAN OF EXISTING BRIDGE UPSTREAM	N.A. WATERWAY TO EXTREME H.W. N.A.
10. TYPE OF FOUNDATION UNDER EXISTING ABUTMENTS	N.A.
11. DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE?	N.A.
12. IF NOT AT WHAT ELEVATION IS RELIEF AFFORDED?	N.A.
13. ADDITIONAL WATERWAY AREA PROVIDED	N.A.

NEW STRUCTURE	
1. RECOMMENDED TYPE OF STRUCTURE	ONE SINGLE SPAN (CONCRETE) GIRDER (CONTINUOUS) CONC.
2. RECOMMENDED CLEAR SPAN OR SPANS	75.0-113.0-141.0-113.0
3. MEASURED PARALLEL TO & NEW HIGHWAY	75.0-113.0-141.0-113.0
4. MEASURED AT RIGHT ANGLES TO & STREAM	55.0-84.0-104.0-84.0
5. ARE THERE OBSTRUCTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO	No
6. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE	697.0
7. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE	692.5 SOURCE OF INFORMATION COMPUTED
8. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?	Yes
9. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? NO - IS ORDINARY HIGH WATER?	No
10. LOW WATER ELEVATION AT NEW STRUCTURE	690.0
11. DRAINAGE AREA IN ACRES ABOVE STRUCTURE	93.3/2 CHARACTER OF TERRAIN ROLLING
12. IS STREAM EVER DRY?	No
13. VELOCITY OF STREAM AT HIGH WATER STAGE	6.2 F.P.S. ESTIMATED DISCHARGE 7000 G.A.S.
14. AREA FUL OPENING	126,000 S.F. AREA BELOW ORDINARY H.W. 10000 S.F.
15. CHARACTER OF SOILS	NONE DRIFT NONE CO. MEDIUM
16. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE	135.8 SQ. MI.
17. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION	18 FF.
18. ARE SPECIALS REQUIRED? IF SO ON WHAT SIDE?	No BOTH SIDES
19. RECOMMENDED TYPE OF PAVEMENT	2. BITUMINOUS CONCRETE, 3. CONCRETE
20. TRAFFIC TO BE MAINTAINED UNDER PIER NO. 1	N.A. ONE OR TWO VES. PROBABLE COST
21. PROBABLE COST OF CLEANING AND DRAINING STREAM CHANNEL AT STRUCTURE SITE	\$1000.
22. SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?	No
23. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS	* SHOULD PILES BE USED? * EST. LTR. *

**FOUNDATION INFORMATION**  
 OBTAINED FOR DESIGN PURPOSES ONLY, AND THE STATE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN. BUILDINGS MAY BE ENCOUNTERED AT ANY PIER OR ABUTMENT LOCATION.

Pier No. 4 & 5 - 5 Tons / S.F.  
 Abutment No. 2 - 12 BP 53 110' Long  
 Abutment No. 1 & 3 - 12 BP 53 80' Long } 58 Tons / Pile Max.  
 Abutment No. 4 - 12 BP 53 100' Long  
 Pier No. 1 - 14 BP 73 20' Long  
 Pier No. 2 - 14 BP 73 30' Long  
 Pier No. 3 - 14 BP 73 55' Long } 80 Tons / Pile Max.  
 Pier No. 6 - 14 BP 73 45' Long

**Design Stresses:**  
 Concrete  $f_c = 3000$  p.s.i.  $f_r = 1200$  p.s.i.  
 Structural Steel  $f_s = 20,000$  p.s.i. (A-36) others per AASHTO Specs  
 Reinforcing Steel  $f_s = 20,000$  p.s.i. Tension  
 $f_c = 15,000$  p.s.i. Compression  
 Welding per A.W.S. Specs.

**Design Loading:** H-5 20-44

Stage 2 Construction  
 BR 103 OF 129

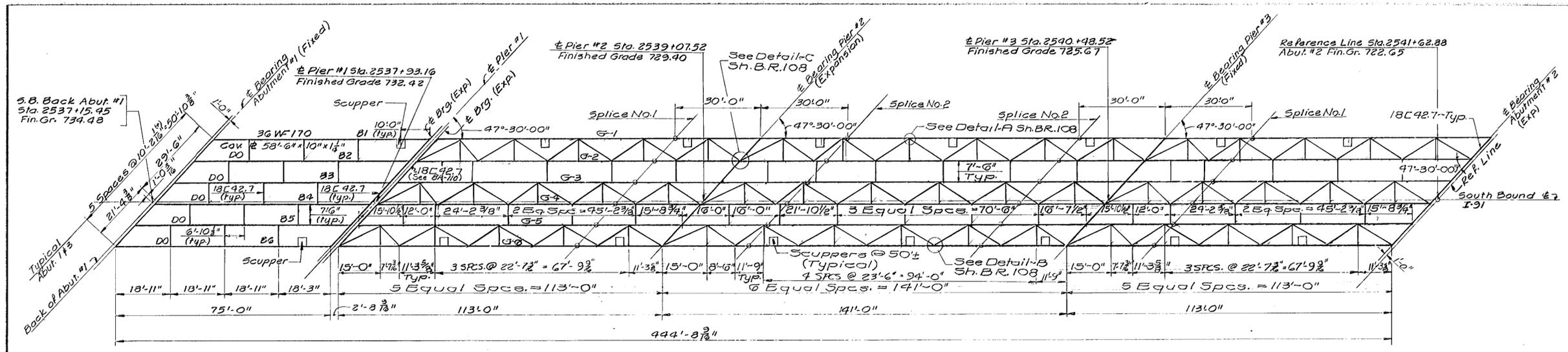
STATE OF VERMONT  
 DEPARTMENT OF HIGHWAYS

RECOMMENDED FOR APPROVAL: *[Signature]* 9-15-69  
 RECOMMENDED FOR APPROVAL: *[Signature]* 9-15-69  
 RECOMMENDED FOR APPROVAL: *[Signature]* 9-15-69  
 APPROVED BY: *[Signature]* 1/15/69

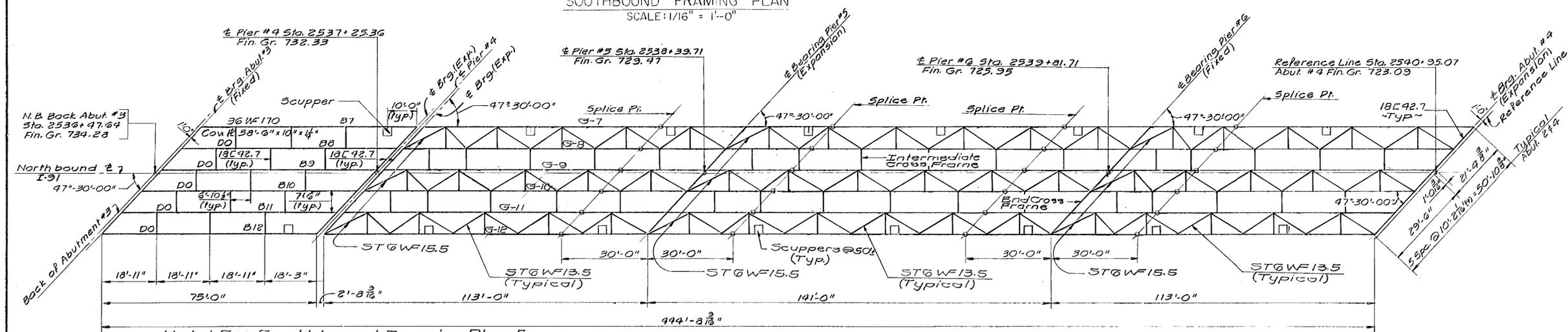
PROJECT: **BARTON - DERBY**  
 ROUTE NO. **I-91** STA. **2539+**  
 I91 OVER BARTON RIVER, C.P.R.R. & IRASBURG SA '3

PRELIMINARY INFORMATION SHEET  
 PROJECT: **EMPI 91-3(2)** SHEET: **118** OF **175**

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 35 OF 49  
 FOR REFERENCE ONLY

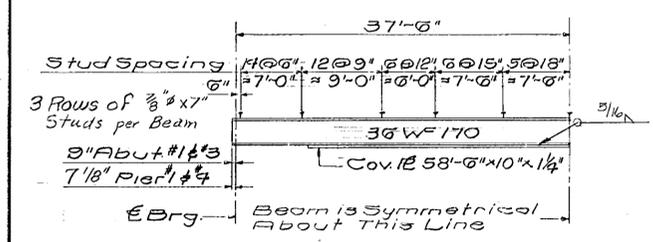


SOUTHBOUND FRAMING PLAN  
SCALE: 1/16" = 1'-0"

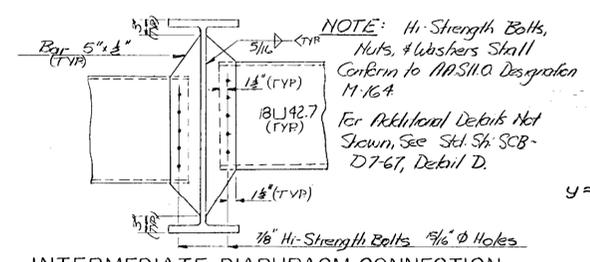


NORTHBOUND FRAMING PLAN  
SCALE: 1/16" = 1'-0"

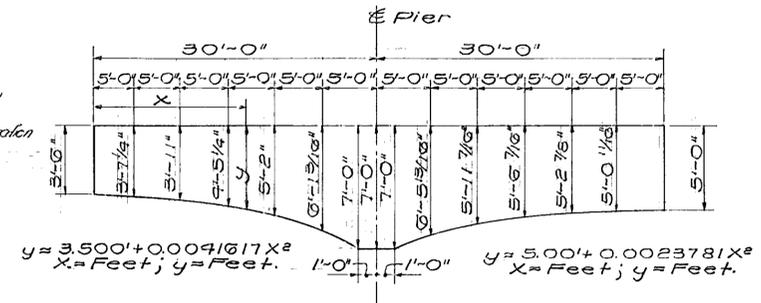
Note: See Southbound Framing Plan for Cross Frame and Lateral Bracing Dimensions.



BEAM HALF ELEVATION B-1 THRU B-12  
SCALE: 1/8" = 1'-0"



INTERMEDIATE DIAPHRAGM CONNECTION  
FOR ROLLED BEAM SECTION  
1" = 1'-0"



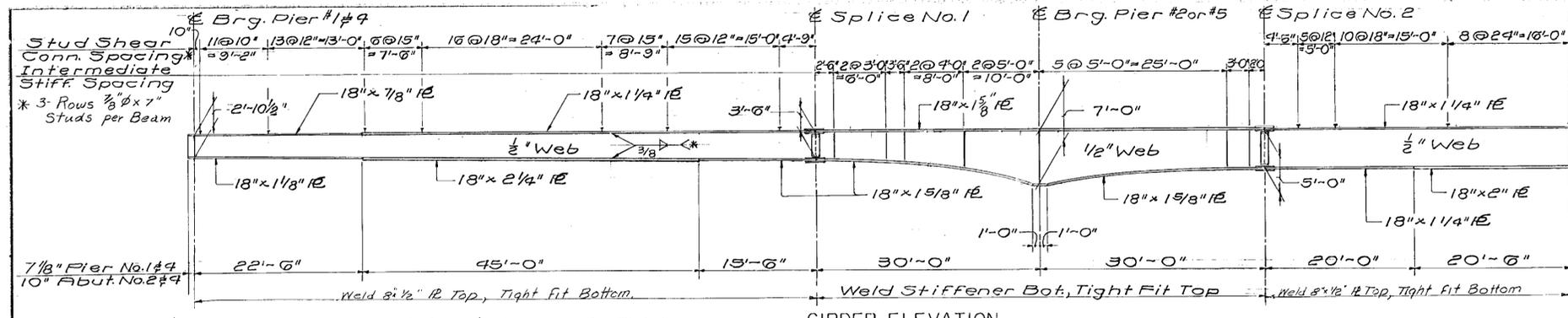
PARABOLIC HAUNCH DETAIL  
N.T.S.

Br. 107 OF 129

**STATE OF VERMONT**  
DEPARTMENT OF HIGHWAYS

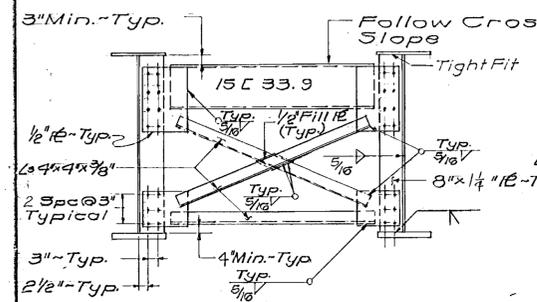
PROJECT IRASBURG-DEBBY  
TOWN OF IRASBURG  
Route No. I-91 Sta. 2539±  
I-91 OVER BARTON RIVER AND SA\*3  
FRAMING PLAN AND GIRDER DETAILS  
SCALE AS NOTED  
IN CHARGE C. TERENZIO  
DRAWN BY JMB CHECKED BY A. CENTORE  
PROJECT No. 191-3(8) 9-67  
SHEET 176 OF 605 BR.107

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 36 OF 49  
FOR REFERENCE ONLY



GIRDER ELEVATION  
SCALE: 1/8"=1'-0"

\* For Flange Plates 1/2" or Less In Thickness  
5/16" Fillet Welds Shall Be Used.



PIERS 23586  
END CROSS FRAME  
SCALE: 1/2"=1'-0"

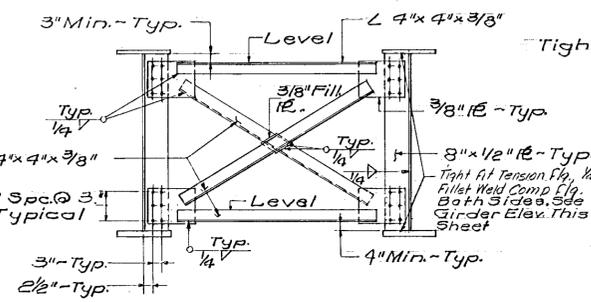
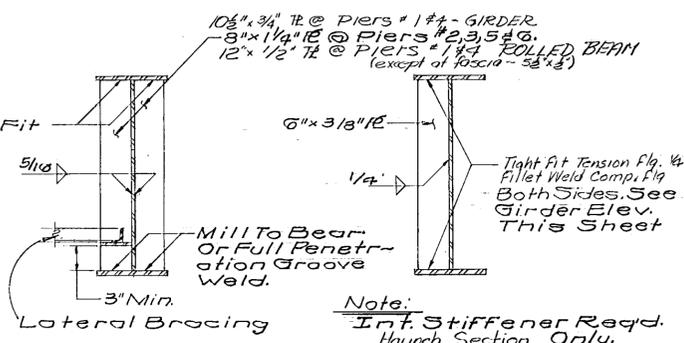
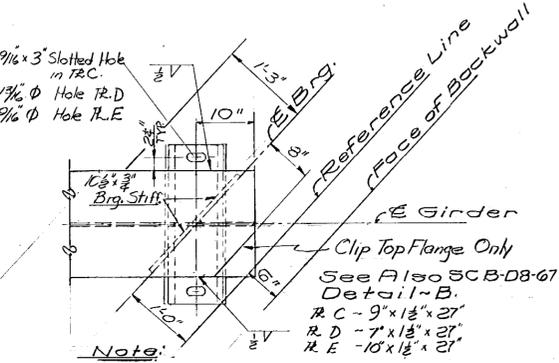


PLATE GIRDER  
INTERMEDIATE CROSS FRAME  
SCALE: 1/2"=1'-0"

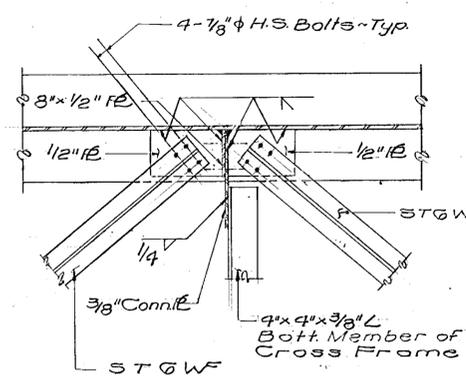


BEARING STIFFENER  
DETAIL N.T.S.

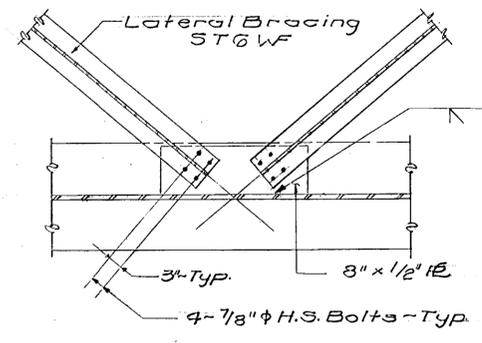
INTERMEDIATE STIFFENER  
DETAIL N.T.S.



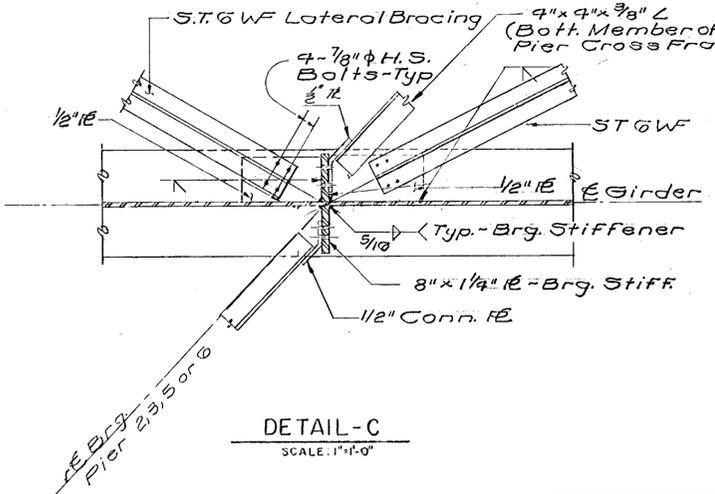
DETAIL OF GIRDER AT ABUT. 2 & 4  
SCALE: 1"=1'-0"



DETAIL-A  
SCALE: 1"=1'-0"



DETAIL-B  
SCALE: 1"=1'-0"



DETAIL-C  
SCALE: 1"=1'-0"

NOTES:

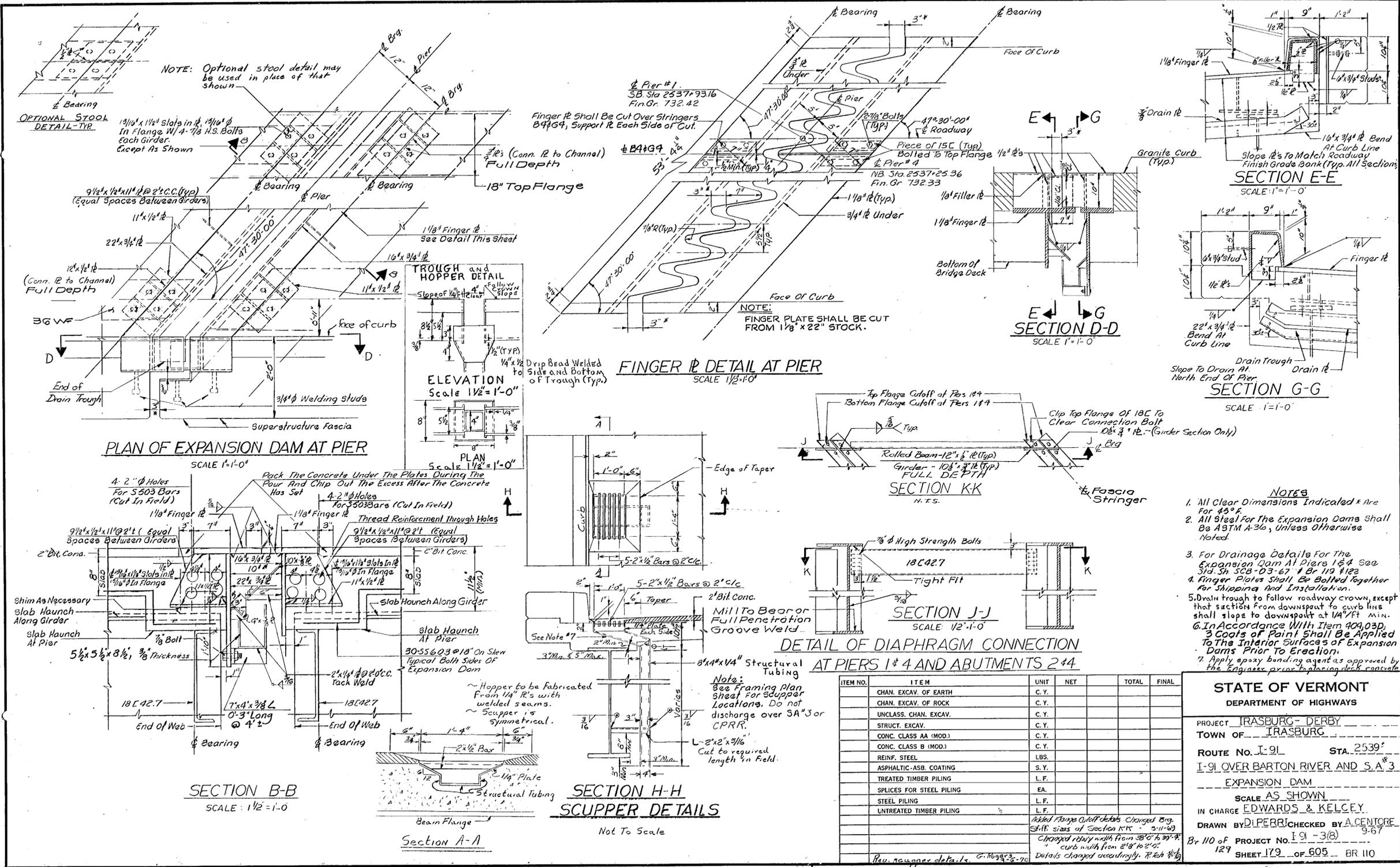
1. Intermediate Stiffeners shall be placed on alternate sides of girder web. Intermediate stiffeners shall not be placed on the outside face of the fascia girder.
2. Bearing and intermediate stiff. and ends of girders shall be vertical after application of full dead load.
3. For detail of beam at Abutments No. 1 & 3 see std. SCB-D8-67-Detail 'A'.
4. Omit Int. Stiffeners at cross frame locations.

A Cross frame Conn. Flg. 1/2" thickness Rev. Rev. 8-24-69  
Changed 3/8" web to 1/2" web. Removed Int. Stiff. Added Cutoff Detail to Flange at Abut. 2 & 4. Changed Brg. Stiff. Sizes. Revised Connection at Detail C. Rev. Rev. 5-11-69  
Added Brg. detail of Abut. 2 & 4

STATE OF VERMONT DEPARTMENT OF HIGHWAYS	
PROJECT	IRASBURG-DERBY
TOWN OF	IRASBURG
ROUTE NO.	I-91 LOG STA. 2539±
I-91 OVER BARTON RIVER AND SA 3	
GIRDER ELEVATION & CONN. DETAILS	
SCALE	AS NOTED
IN CHARGE	C. TERENZIO
DRAWN BY	JMB CHECKED BY A. CENTORE
PROJECT NO.	I-91 3(8) 9-67
SHEET	177 OF 605 BR.108

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 37 OF 49  
FOR REFERENCE ONLY





NOTE: Optional stool detail may be used in place of that shown

OPTIONAL STOOL DETAIL-TYP

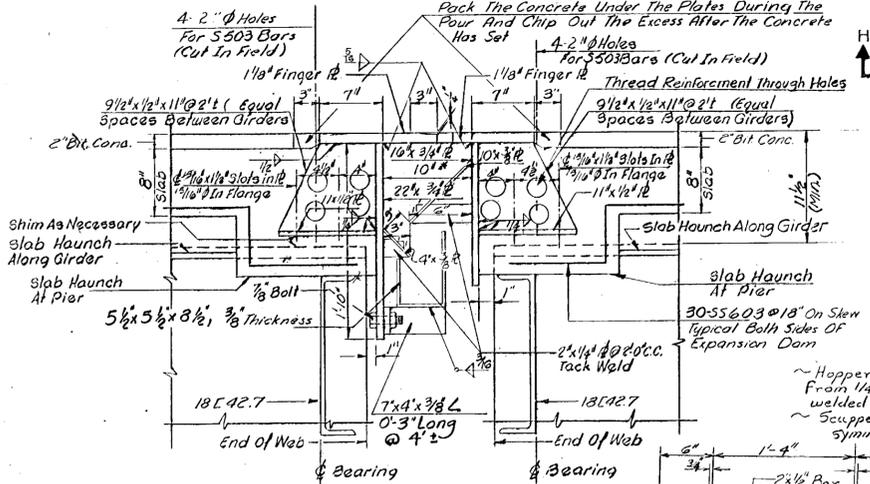
13/16" x 1 1/4" slots in flange W/ 4- 7/8 H.S. Bolts each girder. Except As Shown

9 1/2" x 1 1/2" @ 2' c.c. (Typ) (Equal Spaces Between Girders)

12" x 1/2" (Conn. to Channel) Full Depth

PLAN OF EXPANSION DAM AT PIER

SCALE 1"=1'-0"



SECTION B-B

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

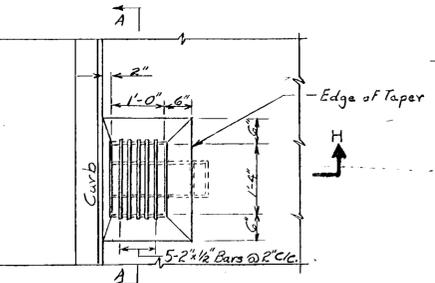
TROUGH and HOPPER DETAIL

ELEVATION

SCALE 1/2"=1'-0"

FINGER PLATE DETAIL AT PIER

SCALE 1/2"=1'-0"



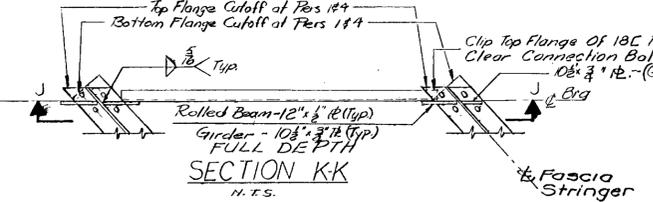
SECTION H-H

Not To Scale

Section A-A

DETAIL OF DIAPHRAGM CONNECTION

AT PIERS 1 & 4 AND ABUTMENTS 2 & 4



SECTION J-J

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



SECTION K-K

N.T.S.

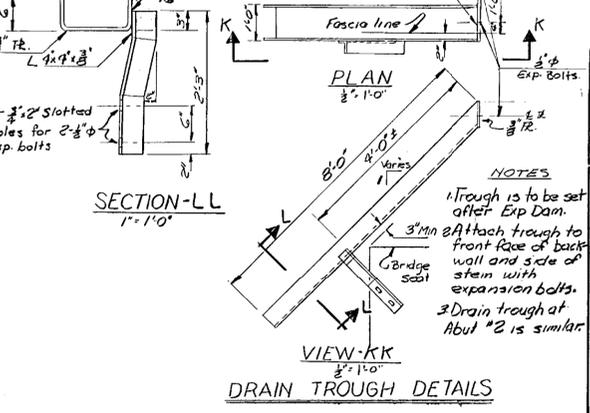
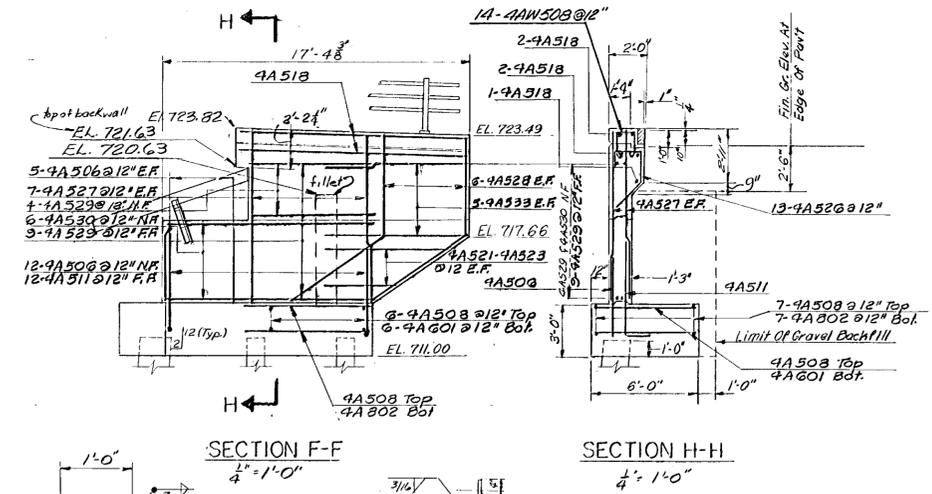
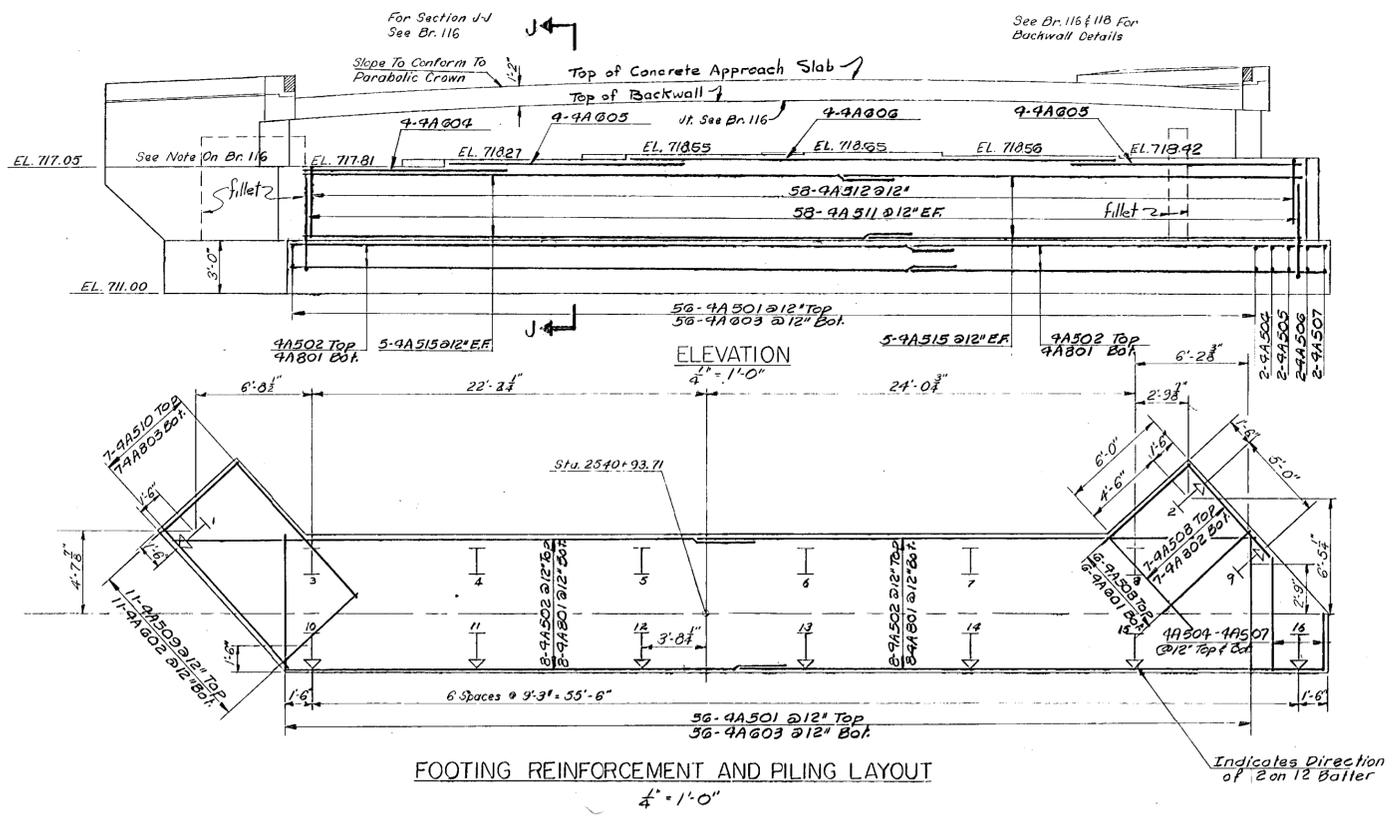
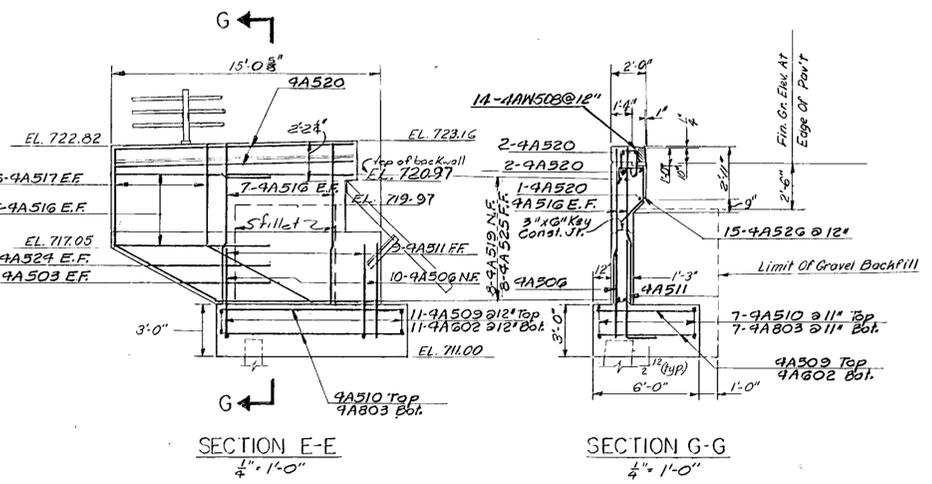
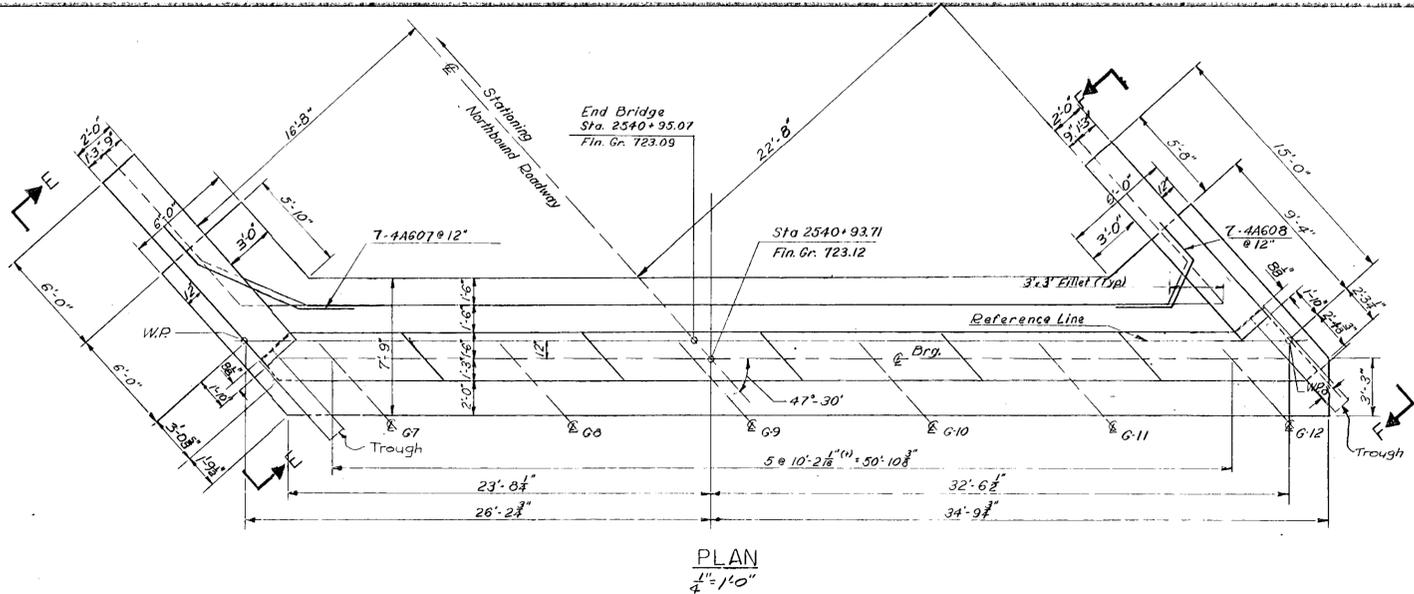
ITEM NO.	ITEM	UNIT	NET	TOTAL	FINAL
	CHAN. EXCAV. OF EARTH	C.Y.			
	CHAN. EXCAV. OF ROCK	C.Y.			
	UNCLASS. CHAN. EXCAV.	C.Y.			
	STRUCT. EXCAV.	C.Y.			
	CONC. CLASS AA (MOD.)	C.Y.			
	CONC. CLASS B (MOD.)	C.Y.			
	REINF. STEEL	LBS.			
	ASPHALTIC-ASB. COATING	S.Y.			
	TREATED TIMBER PILING	L.F.			
	SPLICES FOR STEEL PILING	EA.			
	STEEL PILING	L.F.			
	UNTREATED TIMBER PILING	L.F.			

STATE OF VERMONT	
DEPARTMENT OF HIGHWAYS	
PROJECT	IRASBURG - DERBY
TOWN OF	IRASBURG
ROUTE No.	I-91 STA. 2539'
	I-91 OVER BARTON RIVER AND S.A.#3
	EXPANSION DAM
	SCALE AS SHOWN
IN CHARGE	EDWARDS & KELCEY
DRAWN BY	D.L.PERRI
CHECKED BY	A.CENTORE
	9-67
PROJECT No.	I-91 - (38)
SHEET	179 OF 605 BR 110

- NOTES
- All Clear Dimensions Indicated \* are for 45°.
  - All Steel For The Expansion Dams Shall Be ASTM A-36, Unless Otherwise Noted.
  - For Drainage Details For The Expansion Dam At Piers 1 & 4 See Sid. Sh. 508-D3-67 # Br 119 #122
  - Finger Plates Shall Be Bolted Together For Shipping And Installation.
  - Drain trough to follow roadway crown, except that section from downspout to curb line shall slope to downspout at 1/4" per min.
  - In Accordance With Item 404.03D, 3 Coats of Paint Shall Be Applied To The Interior Surfaces of Expansion Dams Prior To Erection.
  - Apply epoxy bonding agent as approved by the Engineer prior to placing deck concrete.

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 39 OF 49  
FOR REFERENCE ONLY





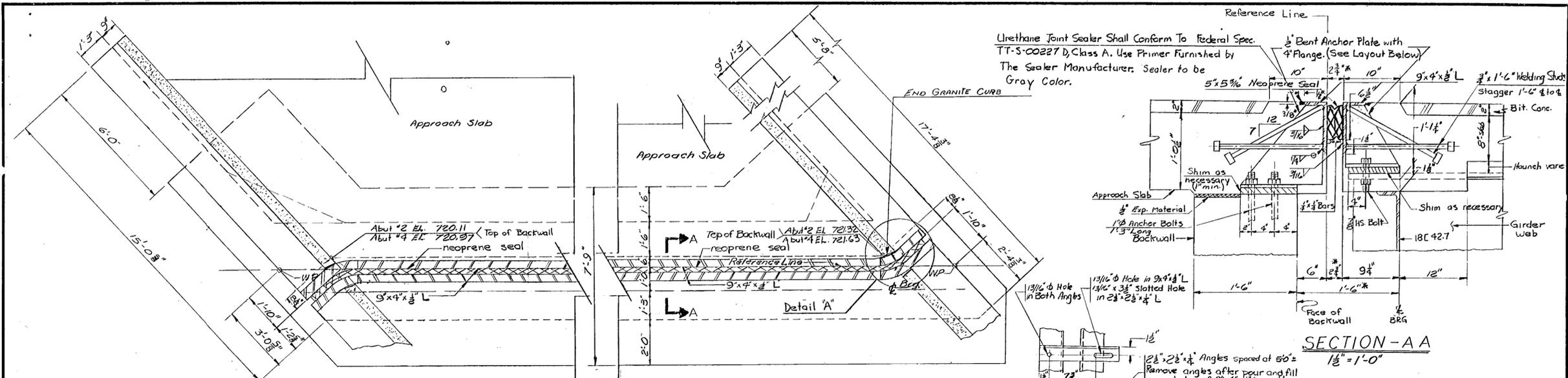
1 Same changes as on BR 113 - 7-78 to 3/69  
Added Detail of Drain Trough - 2-1-69

**STATE OF VERMONT**  
DEPARTMENT OF HIGHWAYS

PROJECT IRASBURG IRASBURG-DERRY  
TOWN OF IRASBURG  
ROUTE NO. 191 STA. 2539 ±  
[91 OVER BARTON RIVER AND SA<sup>3</sup>

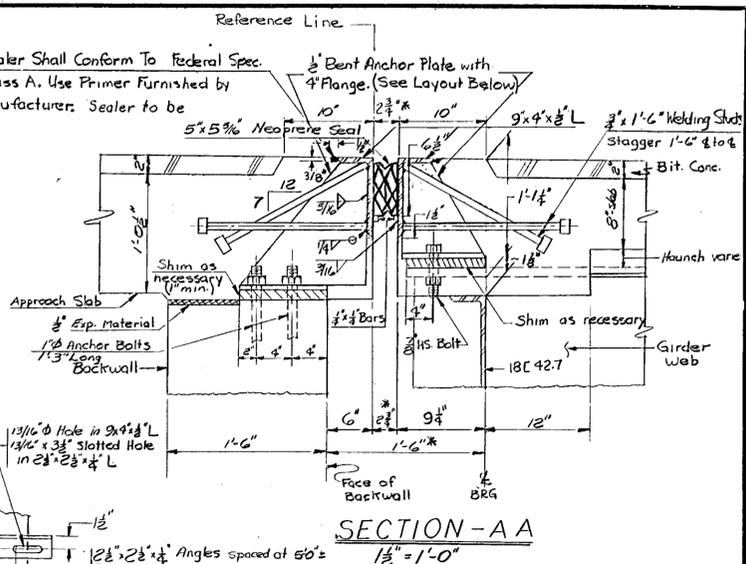
ABUTMENT #4  
SCALE AS SHOWN  
IN CHARGE C. TERENZIO  
DRAWN BY D.L. CHECKED BY A. CENTORE  
PROJECT No. 191-3(8) 9-67.  
SHEET 184 OF 605 BR 115

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 41 OF 49  
FOR REFERENCE ONLY



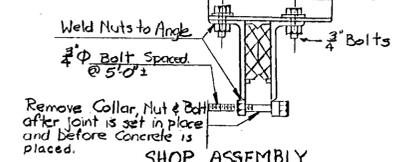
**PLAN ABUTMENTS 2&4**  
SCALE: 1/2" = 1'-0"

Urethane Joint Sealer Shall Conform To Federal Spec. TT-S-00227 D, Class A. Use Primer Furnished by The Sealer Manufacturer. Sealer to be Gray Color.



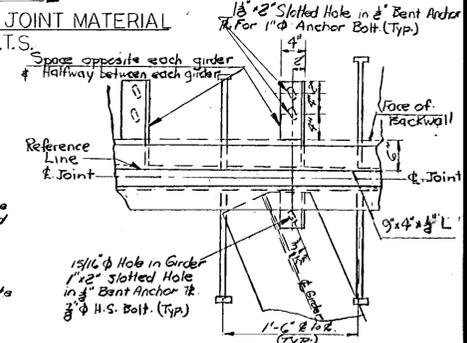
**SECTION-A-A**  
1 1/2" = 1'-0"

NOTE: All dimensions indicated \* are for 45°F.



**SHOP ASSEMBLY**

**PREFORMED JOINT MATERIAL**  
N.T.S.

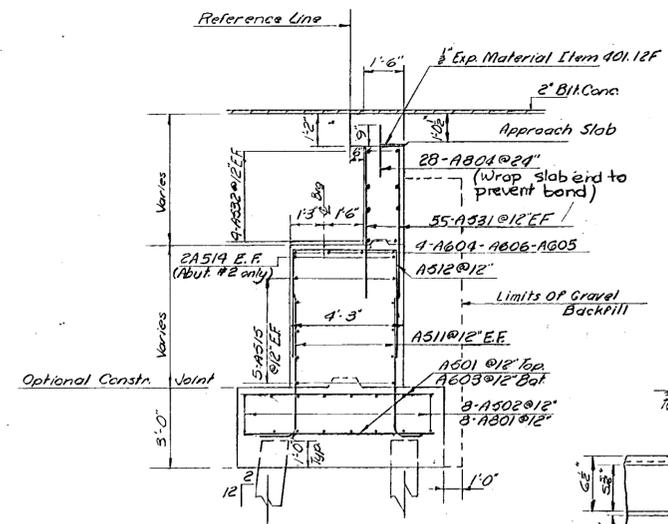


**Anchor Plate Layout**  
N.T.S.

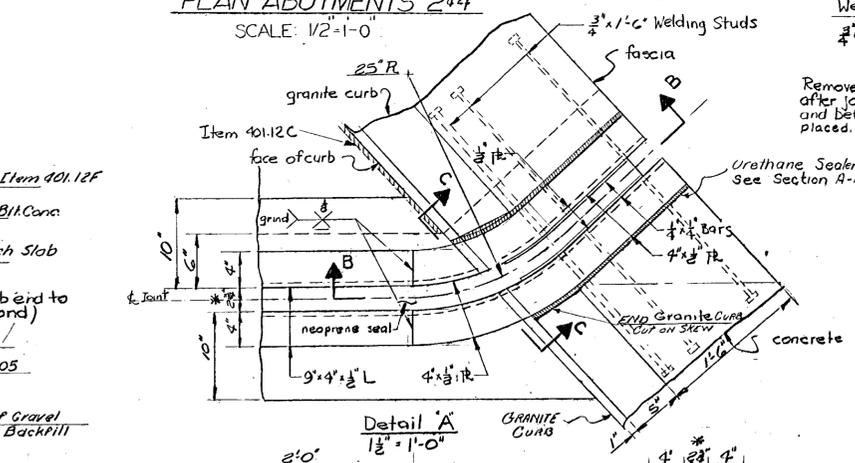
- General Abutment Notes**
1. For Estimated Length of Piles And No. of Splices See Br. 113.
  2. Abutments Are Designed For A Maximum Pile Bearing Pressure Of 58 Tons.
  3. All Reinforcing To Have Minimum Cover Of 2" Except 3" In Footing.
  4. For Details Of Const. Jts. See Std. Sh. SCB-D6-67 Detail B.
  5. No Concrete Shall Be Placed Above Adjacent Bridge Seat Elevation Until Girders Have Been Profiled And Final Finish Grade Established By The Engineer.
  6. Four (4) Inch Diameter Weep Holes Shall Be Provided In All Abutments, Wings And Walls. Weep Holes Shall Be Spaced Not Over Ten (10) Feet Center To Center And So Placed To Provide Adequate Drainage For Backfill.

**Notes For Abutments 2&4**

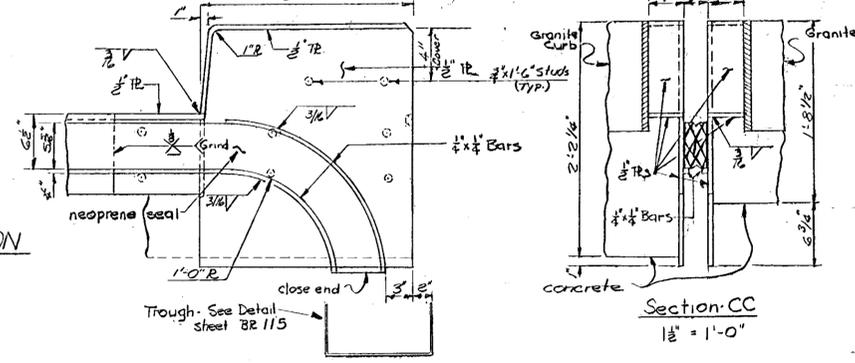
1. The Front Face of the Backwall From the Edge of the Steel Angle for the Joint to the Bridge Seat Shall Be Coated With Paint Waterproofing, Item 410. All Exposed Surfaces Not Otherwise Coated Shall Be Covered With Water Repellent, Item 410.
1. The Entire Expansion Joint And All Necessary Material And Labor To Install And Adequately Anchor The Expansion Joint Shall Be Included in Item 159A, Elastomeric Bridge Deck Expansion Joint.
2. The Expansion Joint Shall Be Entirely Shop Fabricated and Assembled As Indicated On The Plans.
3. Prior To Fabrication, Shop Drawings Shall Be Submitted - 4 Quadruplicate To The State of Vermont, Department of Highways - Bridge Engineer For Approval.
4. The Drain Trough And The Necessary Hanger Shall Be Paid For As Structural Steel Item 404-A See Sheet BR. 115.
5. The Neoprene Seals Shall Be Bonded To The Steel Members With An Approved Adhesive. Prior To Bonding, All Steel Surfaces Must be sand blasted.
6. Design Movement: Compress 5/8" Extend 5/8" From 45°F.
7. A Qualified Representative of the Joint Manufacturer Shall Be On The Project At The Time of Installation To Ensure Proper Procedures Are Followed.
8. All Steel To Be ASTM A-36.



**SECTION J-J**  
**ABUTMENTS 2&4 TYPICAL SECTION**  
SCALE: 3/8" = 1'-0"



**Detail A**  
1 1/2" = 1'-0"



**Section BB**  
1 1/2" = 1'-0"

<b>STATE OF VERMONT</b>	
DEPARTMENT OF HIGHWAYS	
PROJECT	IRASBURG-DERBY
TOWN OF	IRASBURG
ROUTE No.	I-91
STA.	2.539
I-91 OVER BARTON RIVER AND SA 3	
ABUTS 2&4 DETAILS	
SCALE AS SHOWN	
IN CHARGE C. IERENZIO	
DRAWN BY S. CURRAN CHECKED BY A. CENTORE	
PROJECT No.	191-3(8)
SHEET	185 OF 605
	BR. 116

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 42 OF 49  
FOR REFERENCE ONLY

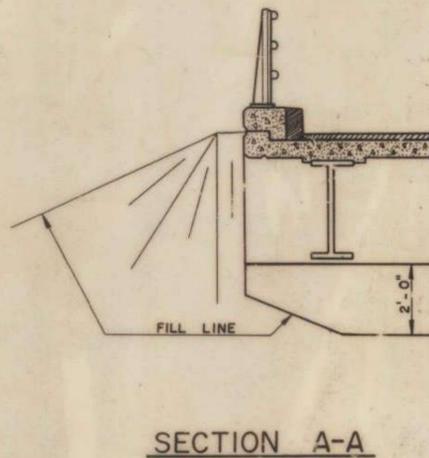
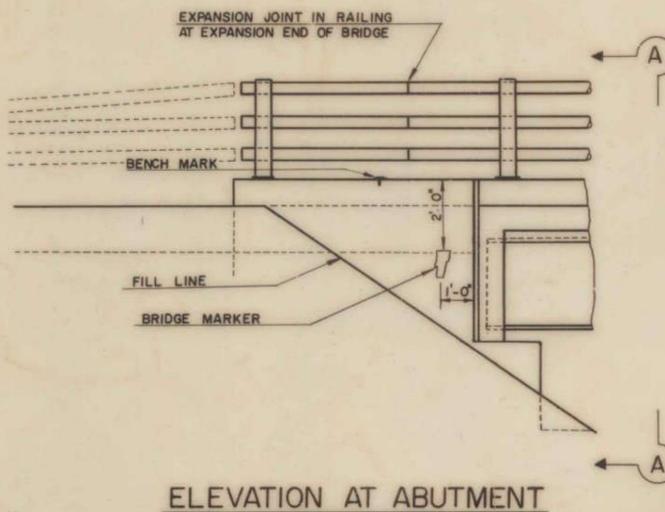
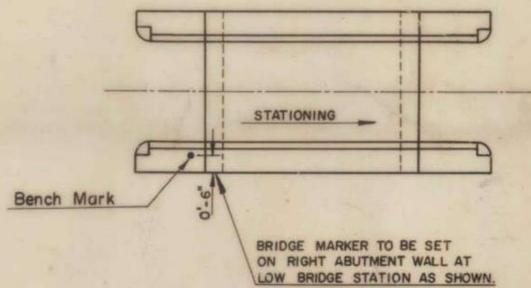
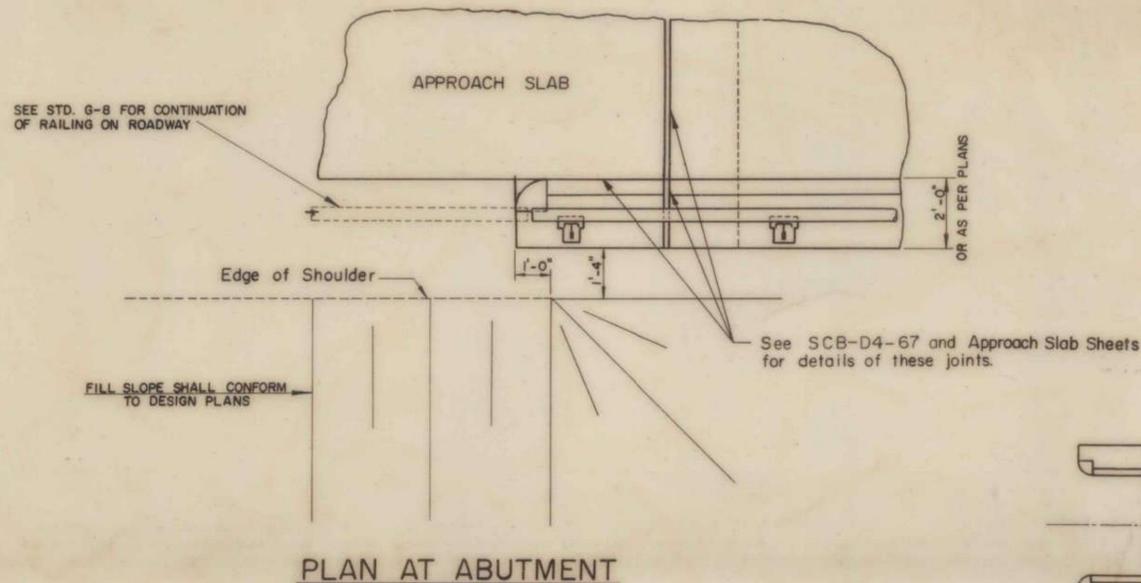
GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED APRIL 1964, AND THE A.A.S.H.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1965 AND ITS LATEST REVISIONS. DESIGN IS FOR HS20-44 LOADING MODIFIED FOR THE NATIONAL SYSTEM OF INTERSTATE HIGHWAYS, APPLIED IN ACCORDANCE WITH THE PROVISIONS OF A.A.S.H.O. STANDARD SPECIFICATIONS.

THE FOLLOWING NOTES SHALL APPLY UNLESS OTHERWISE NOTED ON PROJECT PLANS.

- ALL STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A-36. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" Ø A.S.T.M. A325 BOLTS IN 15/16" Ø HOLES. WHERE CONNECTIONS ARE NOT DETAILED ON THE PLANS THEY SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
- SIMPLE BEAMS SHALL BE CAMBERED FOR THE DEAD LOAD DEFLECTION PLUS ONE-EIGHTH (1/8) INCH FOR EACH TEN FEET OF SPAN OR FRACTION THEREOF. THE CAMBER SHALL APPROXIMATE A SIMPLE CIRCULAR CURVE FROM END TO END OF BEAM. TOLERANCES IN CAMBER SHALL BE AS INDICATED IN THE A.I.S.C. HANDBOOK FOR ROLLED BEAMS AND AS INDICATED IN THE A.W.S. SPECIFICATIONS FOR WELDED GIRDERS.
- THE DIMENSIONS OF WELDED STRUCTURAL MEMBERS SHALL BE WITHIN THE LIMITS SET UP IN PARAGRAPH 407, DIMENSIONAL TOLERANCES AWS D2.0-66, "SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES".
- AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS AT INTERVALS ALONG THE TOP OF THE ERECTED BEAMS SHALL BE TAKEN UNDER THE DIRECTION OF THE ENGINEER FOR USE IN DETERMINING THE FINAL GRADE.
- SCUFPERS SHALL BE USED ONLY WHEN INDICATED ON THE PROJECT PLANS. THEY SHALL BE PLACED MIDWAY BETWEEN INTERMEDIATE DIAPHRAGMS. ON SUPERELEVATED BRIDGES PLACE SCUFPERS ON LOW SIDE ONLY. PAYMENT FOR SCUFPERS SHALL BE AT THE UNIT PRICE BID FOR STRUCTURAL STEEL, ITEM 404-A.
- CHANNEL SHEAR CONNECTORS MAY BE SUBSTITUTED FOR THE STUDS SHOWN ON THE STANDARDS. DETAILS OF SHEAR CONNECTORS SHALL BE SUBMITTED TO THE STATE FOR APPROVAL.
- THE FINAL COAT OF FIELD PAINT SHALL BE GREEN.
- ALL CONCRETE IN THE SUPERSTRUCTURE SHALL BE CLASS AA, MODIFIED. ALL EXPOSED EDGES OF CONCRETE IN THE SUBSTRUCTURE AND SUPERSTRUCTURE SHALL BE CHAMFERED 1" X 1".
- SLAB REINFORCING STEEL FOR SKEWED BRIDGES SHALL BE MODIFIED FROM THAT INDICATED ON THE STANDARDS FOR SQUARE SPANS AS FOLLOWS:
  - TRANSVERSE BARS SHALL BE FURNISHED AS FOR A SQUARE SPAN. THESE BARS SHALL BE CUT IN THE FIELD TO FIT ONE END, WITH CUT-OFF BARS USED AT THE OPPOSITE END OF THE SPAN.
  - THE S506 BARS SHALL BE LENGTHENED.
  - THE QUANTITY OF S402 AND S 602 BARS SHALL BE INCREASED.
  - S506 AND S507 BARS SHALL BE INCREASED.
- SPIRAL COLUMN REINFORCEMENT SHALL CONFORM TO A.A.S.H.O. SPECIFICATION M-32 COLD DRAWN STEEL WIRE FOR CONCRETE REINFORCEMENT.
- MINIMUM COVER FOR REINFORCING STEEL SHALL BE 2" MEASURED FROM THE CONCRETE SURFACE TO THE FACE OF THE REINFORCEMENT.
- LAYOUT AND DETAIL DRAWINGS FOR GRANITE BRIDGE CURB, ITEM 556-C, SHALL BE SUBMITTED IN TRIPPLICATE TO THE STATE OF VERMONT FOR APPROVAL PRIOR TO FABRICATION AND SHIPMENT. GRANITE CURB ENDS SHALL BE SAWED ON EACH SIDE OF ALL JOINTS WHERE JOINT SEALER - PREFORMED, ITEM 372-C IS USED OR WHERE THE CURB BUTTS A METAL EXPANSION JOINT. GRANITE CURB SHALL BE FURNISHED IN RANDOM LENGTHS RANGING FROM 4' MINIMUM TO 10' MAXIMUM.
- WATER REPELLENT, ITEM 440, SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES NOT OTHERWISE TREATED IN BOTH SUPERSTRUCTURE AND SUBSTRUCTURE, EXCEPT FOR THAT PORTION OF THE DECK SLAB AND CURTAIN OR BACKWALLS BETWEEN FASCIA BEAMS.
- TOP SURFACES OF ALL PIERS AND ABUTMENTS SHALL BE SLOPED 1/2" PER FOOT EXCEPT UNDER BEARING PLATES WHERE THE SURFACES SHALL BE LEVEL. ABUTMENT BRIDGE SEATS SHALL BE SLOPED FROM THE FRONT EDGE OF THE CURTAIN WALL OR BACKWALL, AND PIER BRIDGE SEATS SHALL BE SLOPED FROM THE CENTERLINE OF PIER.
- THE ENTIRE EXPOSED TOP SURFACE OF THE ABUTMENTS AND PIERS, EXCEPT THE TOP OF ABUTMENT WINGS SHALL BE COATED WITH ASPHALTIC-ASBESTOS COATING ITEM 407. THIS ITEM SHALL BE APPLIED AFTER ALL PAINTING AND INCIDENTAL ITEMS ARE COMPLETED.
- ALL EXPANSION MATERIAL SHALL CONFORM TO A.A.S.H.O. DESIGNATION M153, AND SHALL NOT CONTAIN ASPHALT OR BITUMINOUS MATERIAL.
- WHERE BITUMINOUS CONCRETE PAVEMENT IS CALLED FOR AS A WEARING SURFACE ON BRIDGE DECKS AND APPROACH SLABS, IT SHALL BE TYPE IV MIX APPLIED IN TWO COURSES.
- BORINGS INDICATED ON THE DRAWINGS HAVE BEEN MADE FOR DESIGN PURPOSES ONLY AND ARE NOT WARRANTED TO SHOW ACTUAL SUB-SURFACE CONDITIONS.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL.
- ALLOWABLE DESIGN STRESSES:
 

CONCRETE:	$F' C = 3,000$ P.S.I.	$FC = 1,200$ P.S.I.
STRUCTURAL STEEL:	$FS = 20,000$ P.S.I. - A36	(ALL OTHER STEELS AS PER A.A.S.H.O. SPECIFICATIONS)
REINFORCING STEEL:	$FS = 20,000$ P.S.I. TENSION	$FS = 16,000$ P.S.I. COMPRESSION
- WHEN PILE SUPPORTED SUBSTRUCTURES ARE PLACED ON EMBANKMENTS, THE CONSTRUCTION PROCEDURE OUTLINED UNDER ITEM 503, ARTICLE 503.03A SHALL BE FOLLOWED. MATERIAL REMOVED WITHIN THE SIX (6) INCH DEPTH SHALL BE PAID FOR AS STRUCTURE EXCAVATION, ITEM 109.



REVISIONS AND CORRECTIONS

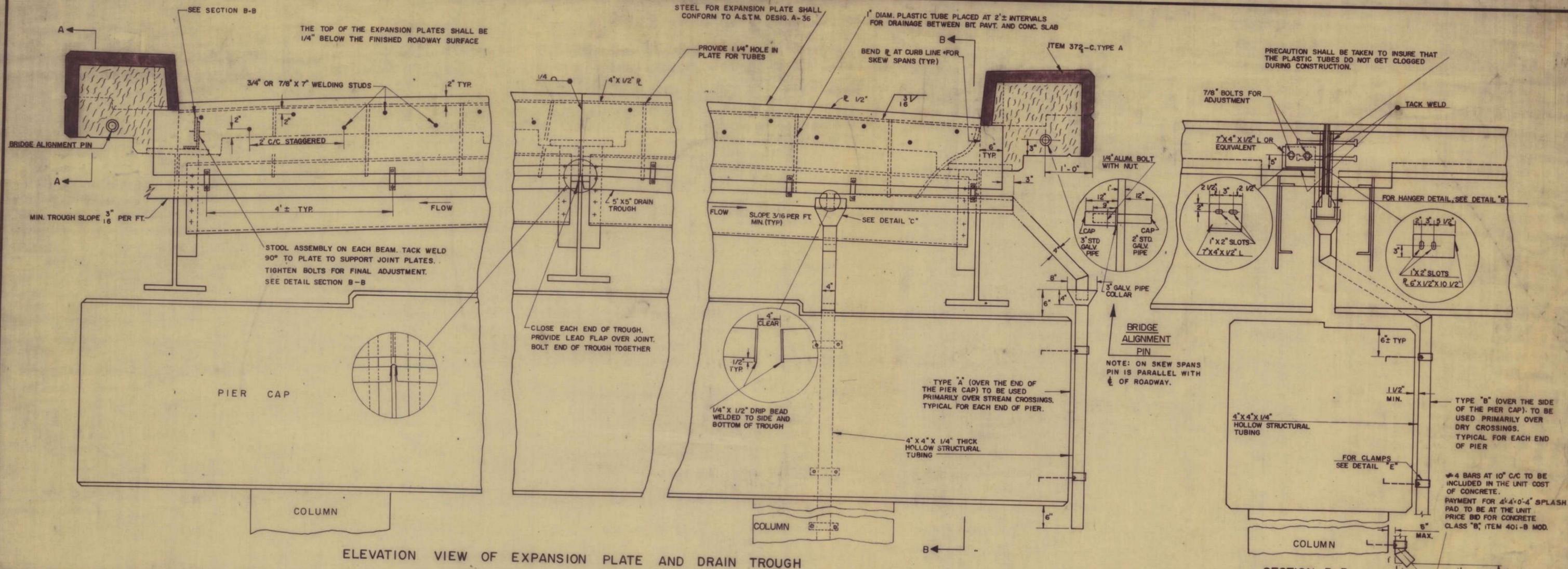
DRAWN BY: W. T. JAN. 1965  
 RETRACED BY: AJA MAY 1967  
 CHECKED BY: W. M. Smith DEC. 1967  
 RECOMMENDED FOR APPROVAL: [Signature] BRIDGE ENGINEER  
 RECOMMENDED FOR APPROVAL: [Signature] CONSTRUCTION ENGINEER  
 RECOMMENDED FOR APPROVAL: [Signature] ASST. CHIEF ENGINEER  
 APPROVED BY: [Signature] CHIEF ENGINEER DATE: 12/4/68

DETAILS OF W BEAM BRIDGES  
 GENERAL INFORMATION  
 AND  
 GENERAL NOTES

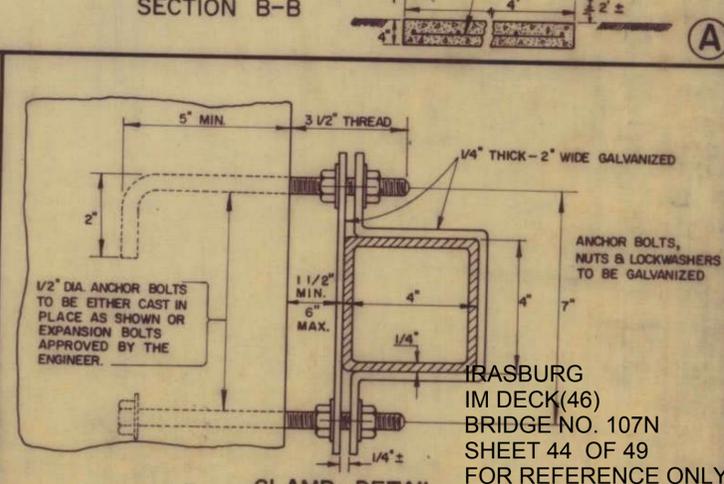
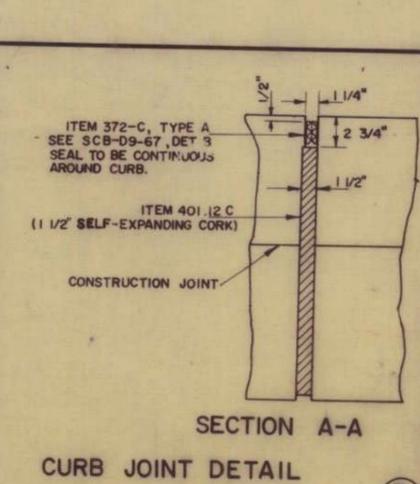
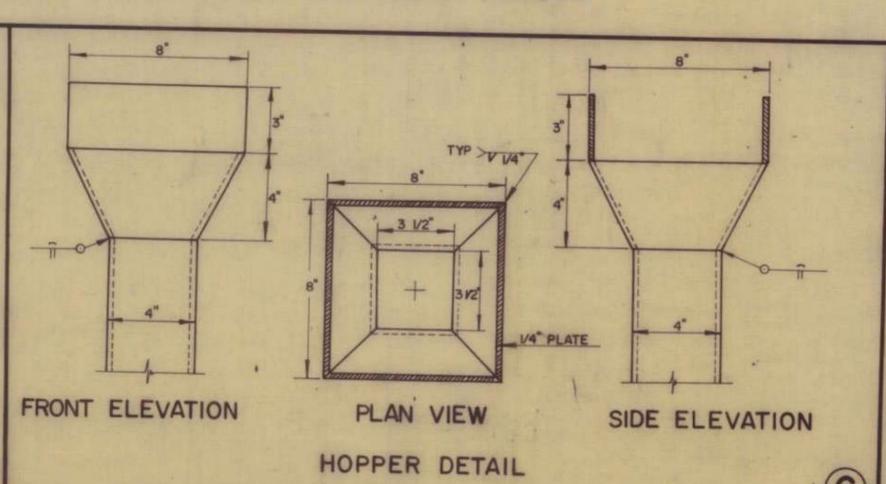
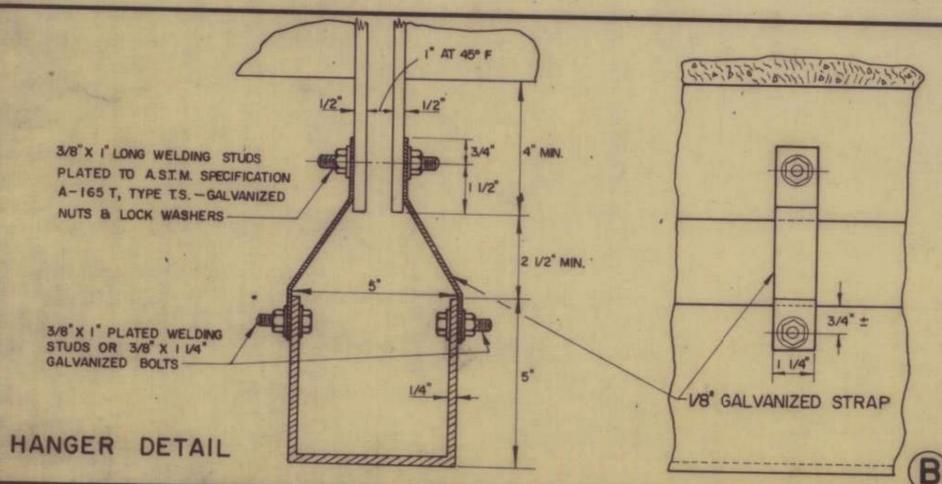
VERMONT  
 DEPARTMENT OF HIGHWAYS  
 STRUCTURE STANDARDS

SCB-D1-67

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 43 OF 49  
 FOR REFERENCE ONLY



ELEVATION VIEW OF EXPANSION PLATE AND DRAIN TROUGH



REVISIONS AND CORRECTIONS

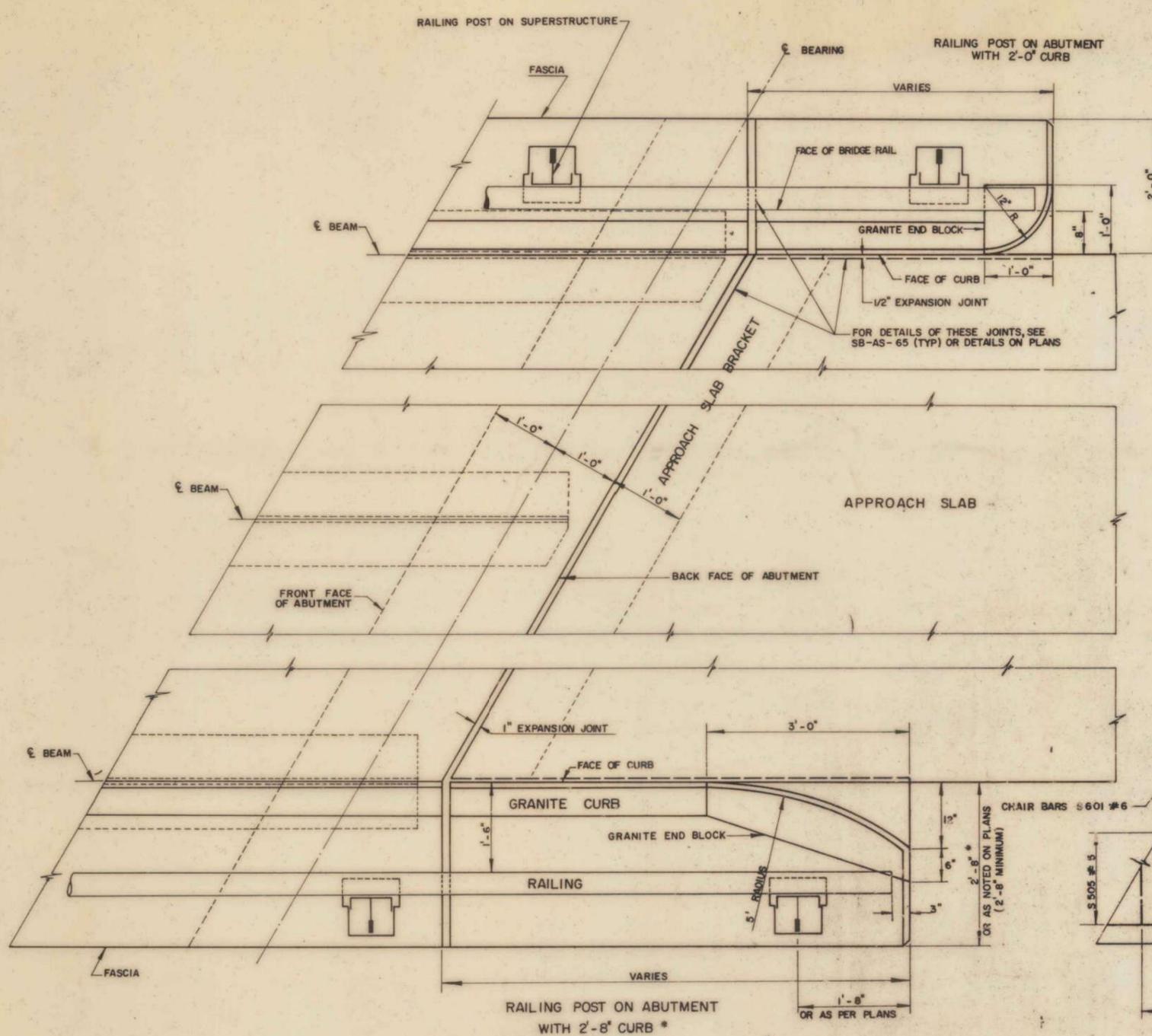
DRAWN BY:	A. V.	DEC. 1962
RETRACTED BY:	A. J. A.	MAY 1967
CHECKED BY:	W. SMITH	DEC. 1967
RECOMMENDED FOR APPROVAL	<i>[Signature]</i>	1/24/68
RECOMMENDED FOR APPROVAL	<i>[Signature]</i>	1/24/68
RECOMMENDED FOR APPROVAL	<i>[Signature]</i>	1/24/68
APPROVED BY:	<i>[Signature]</i>	1/24/68

DETAIL OF W F BEAM BRIDGES  
PIER EXPANSION PLATES  
AND  
DRAIN TROUGH DETAILS

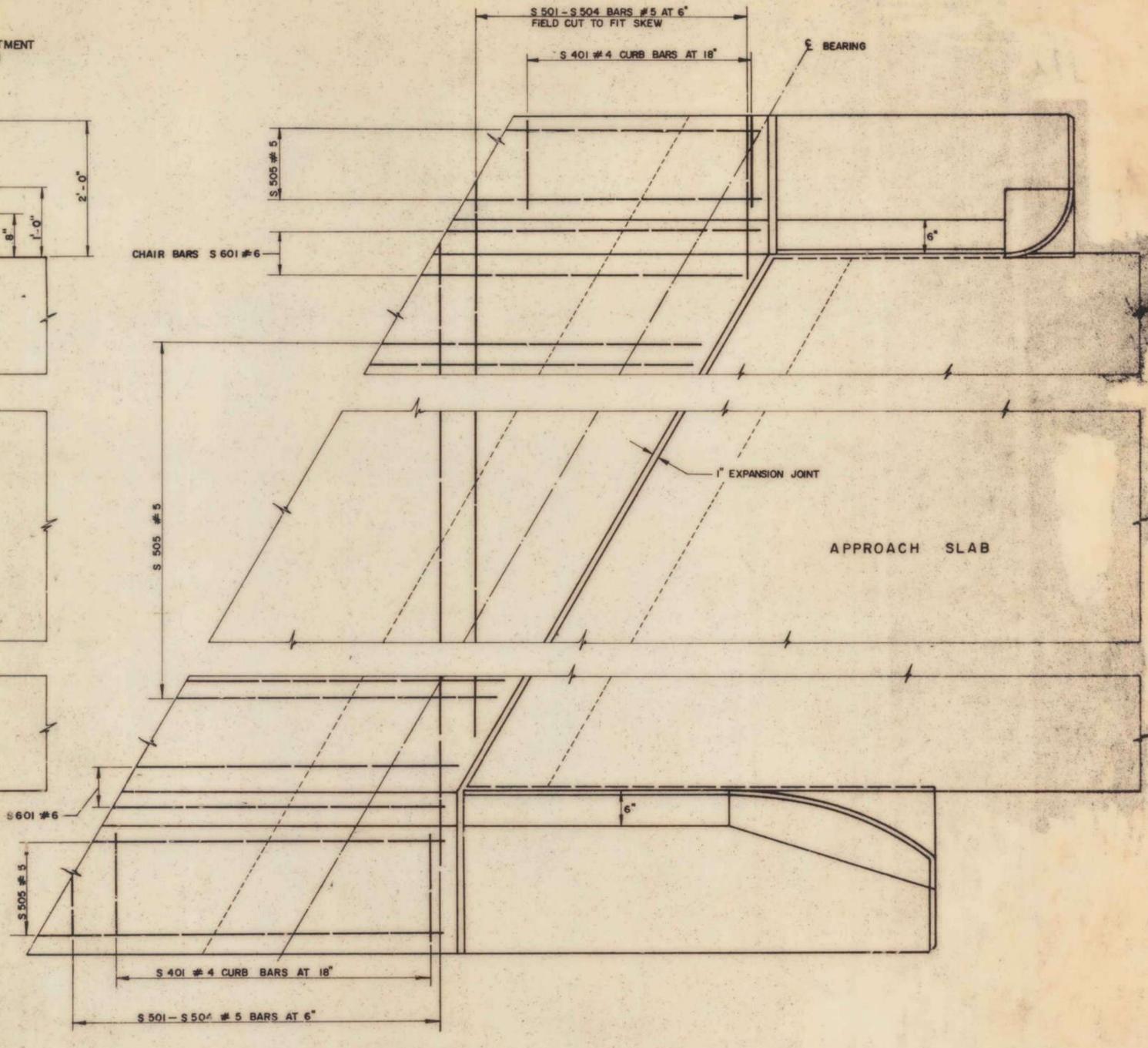
VERMONT  
DEPARTMENT OF HIGHWAYS  
STANDARD STRUCTURES  
**SCB-D3-67**

IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 44 OF 49  
FOR REFERENCE ONLY

246A



PLAN AT ABUTMENT



REINFORCEMENT LAYOUT AT ABUTMENT

\* NOTE: DETAILS FOR "RAILING POST ON ABUTMENT WITH 2'-8" CURB" SHALL NOT BE USED ON FEDERAL AID PROJECTS.

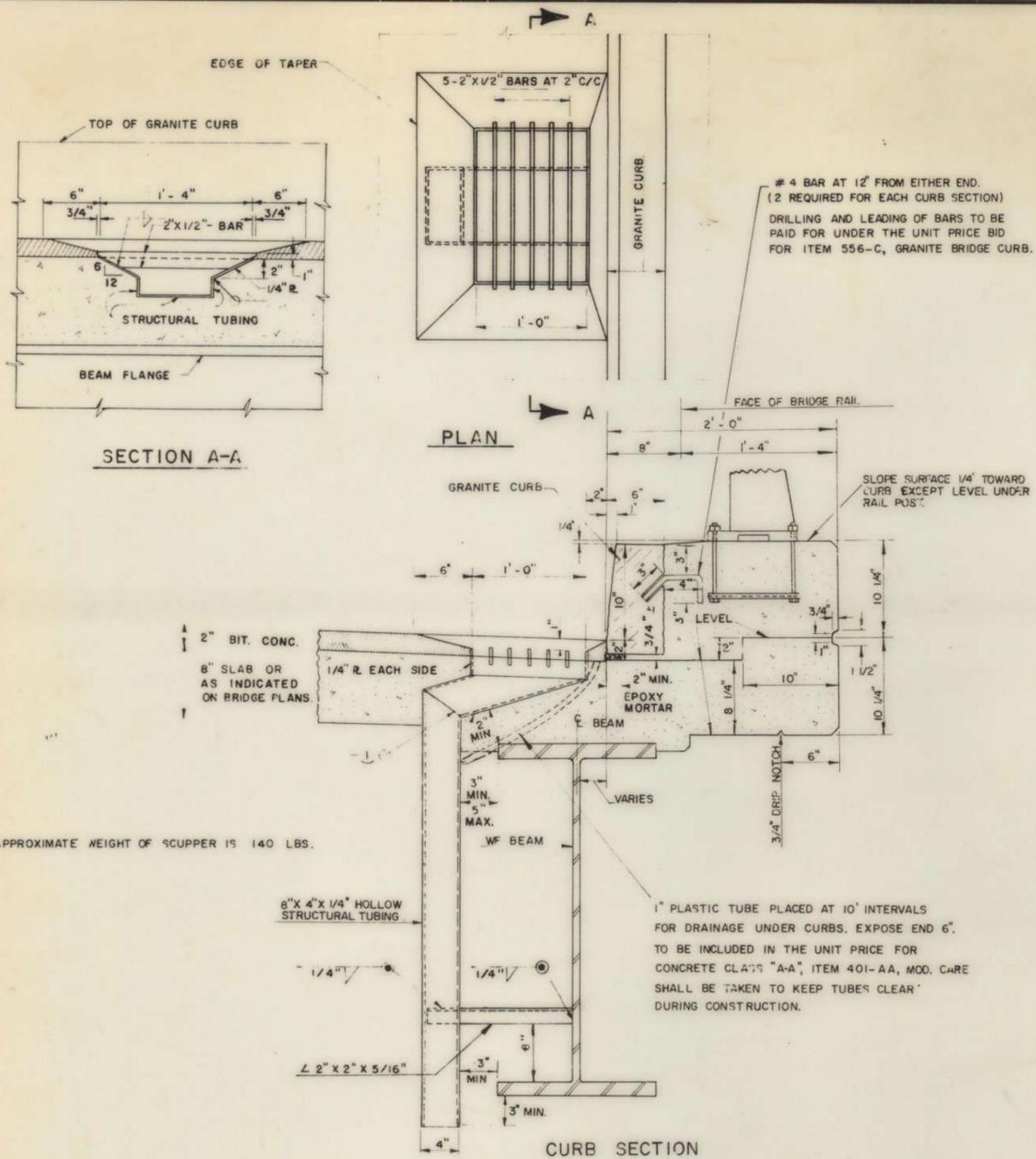
IRASBURG  
IM DECK(46)  
BRIDGE NO. 107N  
SHEET 45 OF 49  
FOR REFERENCE ONLY

REVISIONS AND CORRECTIONS  
1. NOTE CONCERNING 2'-8" CURB SECTION ADDED DEC. 17, 1968 R.S.H.

DRAWN BY: A.V. DEC. 1962  
 RETRACED BY: A.J.A. MAY 1967  
 CHECKED BY: W. SMITH DEC. 1967  
 RECOMMENDED FOR APPROVAL: [Signature] 1/24/68  
 RECOMMENDED FOR APPROVAL: [Signature] 1/24/68  
 RECOMMENDED FOR APPROVAL: [Signature] 1/24/68  
 APPROVED BY: [Signature] 1/24/68  
 CHIEF ENGINEER DATE

DETAILS OF W BEAM BRIDGES  
PLAN AND REINFORCEMENT LAYOUT AT ABUTMENT

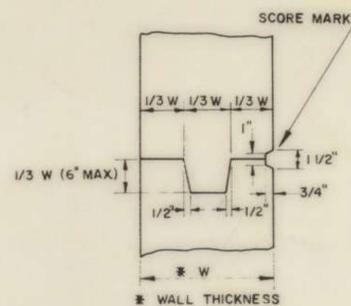
VERMONT  
DEPARTMENT OF HIGHWAYS  
STRUCTURE STANDARDS  
**SCB-D4-67**



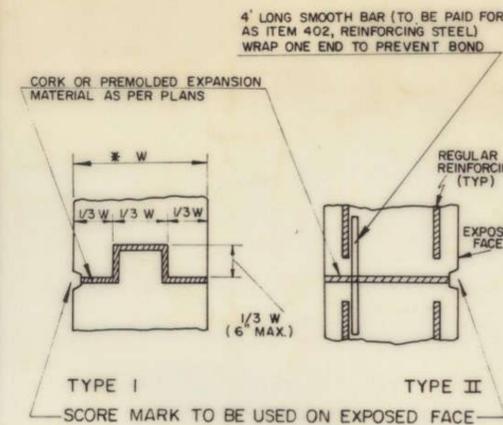
SCUPPER AND CURB DETAILS

UNLESS OTHERWISE CALLED FOR ON THE PLANS:  
 1. END SCUPPERS ARE TO BE PLACED MIDWAY BETWEEN C. BRG. AND FIRST DIAPHRAGM ASSEMBLY.  
 2. INTERMEDIATE SCUPPERS ARE TO BE PLACED MIDWAY BETWEEN DIAPHRAGM ASSEMBLIES.

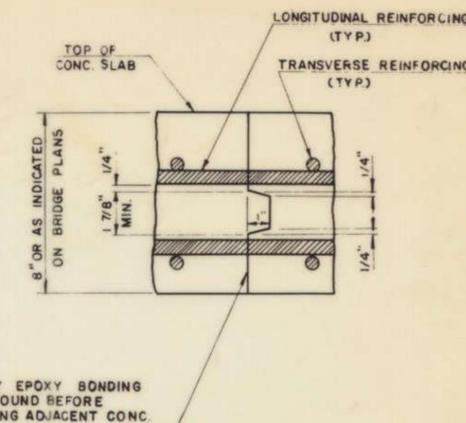
CONSTRUCTION JOINTS SHALL BE PLACED AS INDICATED ON THE PLANS.  
 HORIZONTAL SCORE MARKS SHALL BE PLACED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.



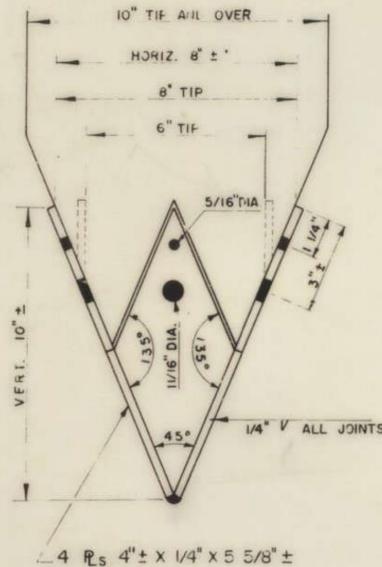
TYPICAL DETAIL OF CONSTRUCTION JOINT AND SCORE MARKS



DETAILS OF VERTICAL EXPANSION JOINTS

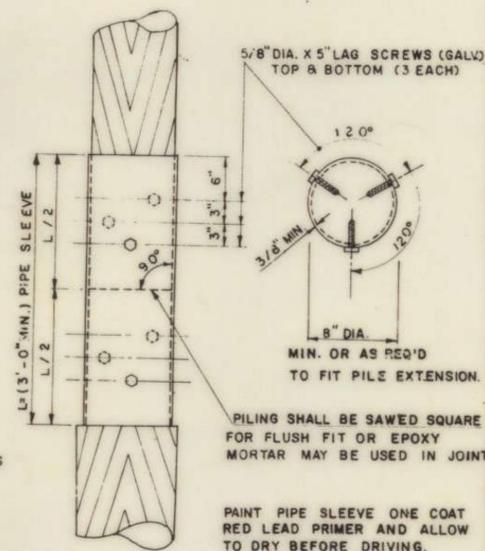


TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS



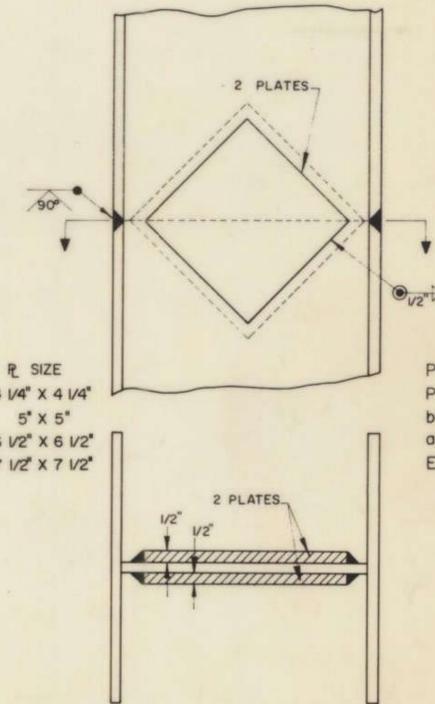
APPROXIMATE WEIGHT = 6 1/2 LBS.  
 OTHER TYPES OF SHOES MAY BE FURNISHED WITH THE APPROVAL OF THE ENGINEER.

PILE SHOE



PILE SPLICE

DETAILS FOR TIMBER PILES



DETAIL OF PILE SPICE

H-PILES	R <sub>s</sub> SIZE
8 BP	4 1/4" X 4 1/4"
10 BP	5" X 5"
12 BP	6 1/2" X 6 1/2"
14 BP	7 1/2" X 7 1/2"

Prefabricated Pile Splice may be used with the approval of the Engineer.

IRASBURG  
 IM DECK(46)  
 BRIDGE NO. 107N  
 SHEET 46 OF 49  
 FOR REFERENCE ONLY

REVISIONS AND CORRECTIONS

- REVISION IN SCUPPER TO BEAM CONNECTION. MAY 23, 1969 R.S.H.
- REVISED SCUPPER DETAILS AND WEIGHT. - (D) ADDED "TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS", DELETED "DETAIL OF COPPER SUPPORT FOR EXPANSION MATERIAL". - (E) ADDED "PILE SPLICE" DETAIL. APRIL 28, 1970 - C. BRYAN

DRAWN BY: A. V. DEC. 1962  
 RETRACED BY: A. J. A. MAY 1967  
 CHECKED BY: W. SMITH DEC. 1967

RECOMMENDED FOR APPROVAL  
 RECOMMENDED FOR APPROVAL  
 RECOMMENDED FOR APPROVAL

APPROVED BY:

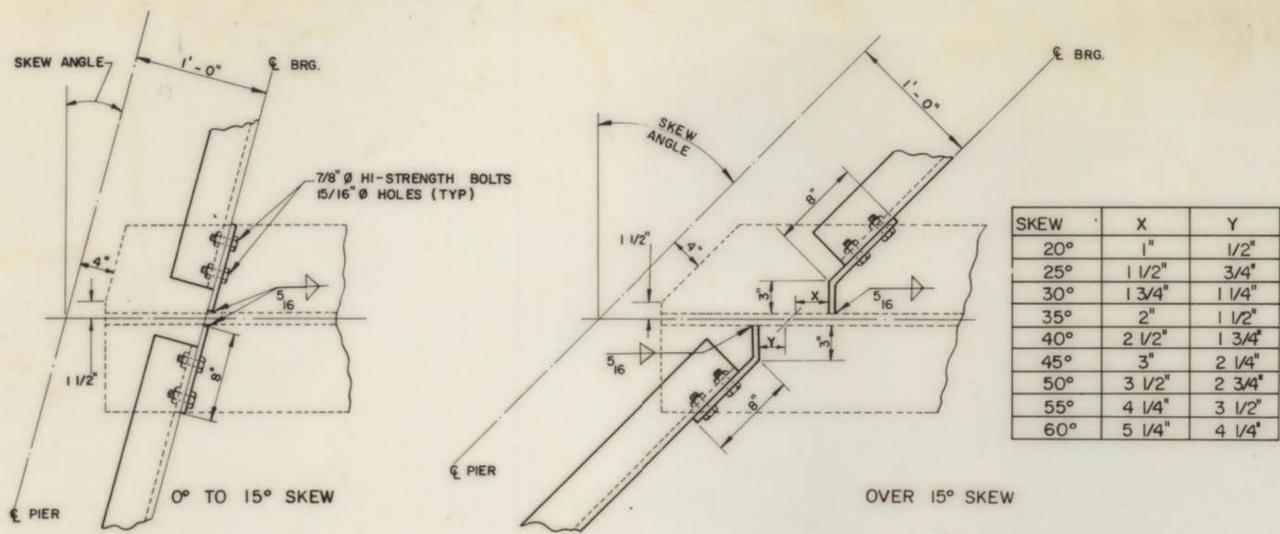
*W. Smith 1/29/61*  
 BRIDGE ENGINEER  
*E. H. [Signature]*  
 CONSTRUCTION ENGINEER  
*R. H. [Signature]*  
 ASST. CHIEF ENGINEER  
 [Signature]  
 CHIEF ENGINEER  
 DATE: 1/24/69

DETAILS OF WF BEAM BRIDGES

- (A) SCUPPER AND CURB DETAILS
- (B)(C)(D) CONSTRUCTION DETAILS
- (E)(F) PILE DETAILS

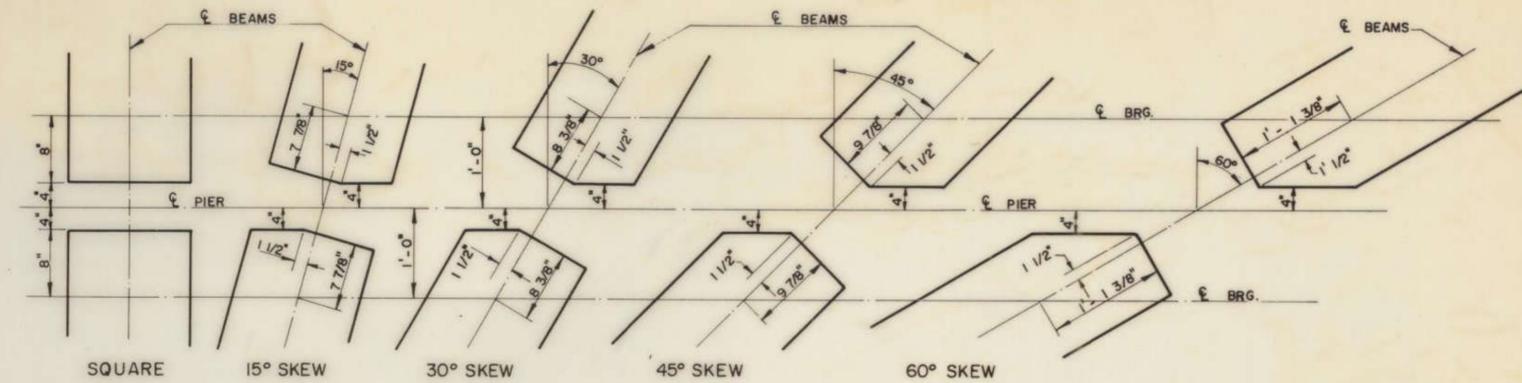
VERMONT  
 DEPARTMENT OF HIGHWAYS  
 STRUCTURE STANDARDS

SCB-D6-67



DETAILS OF PIER DIAPHRAGM CONNECTIONS

SKEW	X	Y
20°	1"	1/2"
25°	1 1/2"	3/4"
30°	1 3/4"	1 1/4"
35°	2"	1 1/2"
40°	2 1/2"	1 3/4"
45°	3"	2 1/4"
50°	3 1/2"	2 3/4"
55°	4 1/4"	3 1/2"
60°	5 1/4"	4 1/4"



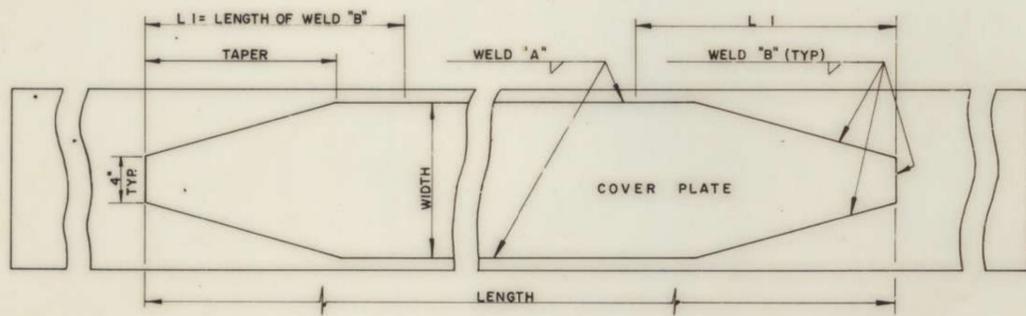
INTERIOR WF BEAM CUT-OFFS AT PIER

7'-6" BEAM SPACING - S.C.B. - 24-67

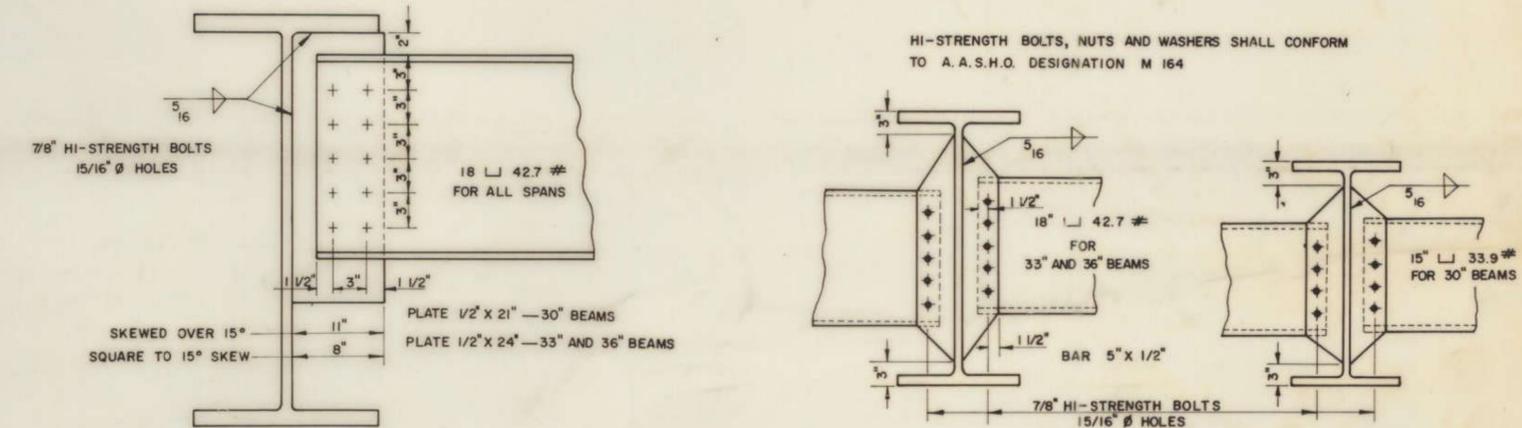
SPAN	COVER PLATE LENGTH	WIDTH	THICKNESS	TAPER	WELD "A"	WELD "B"	L I
99'-0"	64'-10"	15"	2 1/4"	1'-10"	3/8"	5/8"	2'-5"
94'-0"	62'-2"	15"	2"	1'-10"	3/8"	5/8"	2'-1"
89'-0"	56'-6"	15"	1 5/8"	1'-10"	3/8"	1/2"	2'-3"
84'-0"	57'-4"	11"	1 3/4"	1'-4"	3/8"	1/2"	1'-8"
79'-0"	50'-9"	11"	1 3/8"	1'-4"	5/16"	1/2"	1'-4"
74'-0"	48'-9"	11"	1 1/4"	1'-4"	5/16"	1/2"	1'-4"
69'-0"	43'-0"	11"	1"	1'-4"	5/16"	3/8"	1'-6"
64'-0"	40'-9"	11"	3/4"	1'-4"	5/16"	5/16"	---
59'-0"	30'-9"	11"	1/2"	1'-4"	5/16"	5/16"	---
54'-0"	18'-9"	11"	1/2"	1'-4"	5/16"	5/16"	---

7'-4" BEAM SPACING S.C.B. - 30, 38, 44-67

COVER PLATE LENGTH	WIDTH	THICKNESS	TAPER	WELD "A"	WELD "B"	L I
60'-0"	15"	2 1/4"	1'-10"	3/8"	5/8"	2'-5"
60'-2"	15"	2"	1'-10"	3/8"	5/8"	2'-1"
54'-6"	15"	1 1/2"	1'-10"	5/16"	1/2"	2'-3"
55'-4"	11"	1 5/8"	1'-4"	3/8"	1/2"	1'-8"
48'-9"	11"	1 1/8"	1'-4"	5/16"	1/2"	1'-4"
46'-9"	11"	1"	1'-4"	5/16"	1/2"	1'-4"
45'-0"	11"	1"	1'-4"	5/16"	3/8"	1'-6"
38'-9"	11"	3/4"	1'-4"	5/16"	5/16"	---
28'-9"	11"	1/2"	1'-4"	5/16"	5/16"	---
14'-9"	11"	1/2"	1'-4"	5/16"	5/16"	---

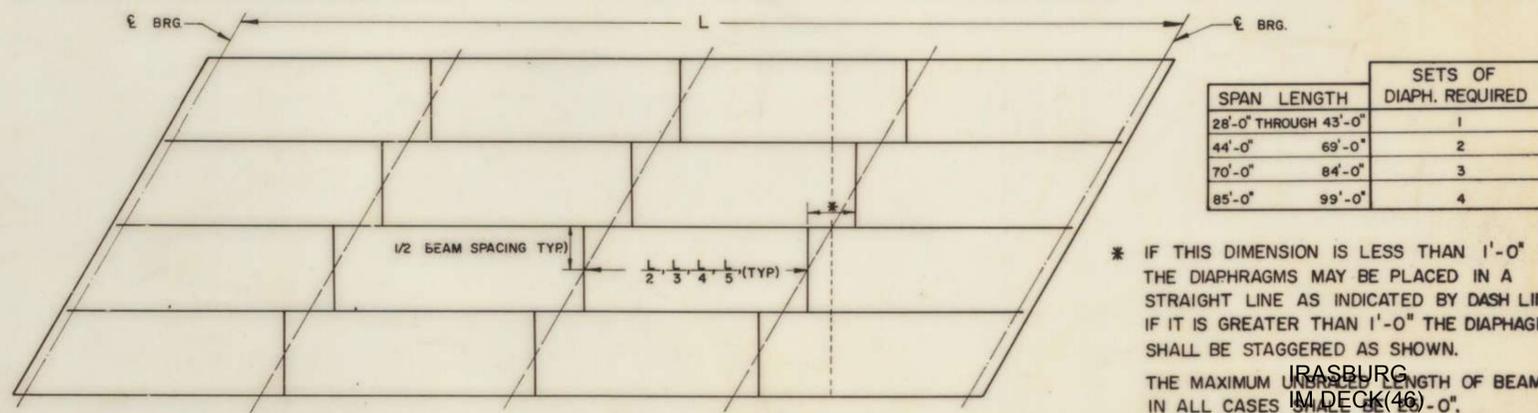


COVER PLATE DETAILS



PIER DIAPHRAGMS

INTERMEDIATE DIAPHRAGMS



DIAPHRAGM LOCATION PLAN

SPAN LENGTH	SETS OF DIAPH. REQUIRED
28'-0" THROUGH 43'-0"	1
44'-0" 69'-0"	2
70'-0" 84'-0"	3
85'-0" 99'-0"	4

\* IF THIS DIMENSION IS LESS THAN 1'-0" THE DIAPHRAGMS MAY BE PLACED IN A STRAIGHT LINE AS INDICATED BY DASH LINE. IF IT IS GREATER THAN 1'-0" THE DIAPHRAGMS SHALL BE STAGGERED AS SHOWN. THE MAXIMUM UNSTAGGERED LENGTH OF BEAM IN ALL CASES SHALL BE 15'-0".

REVISIONS AND CORRECTIONS

DRAWN BY: A.V. DEC. 1962  
 RETRACED BY: A.J.A. MAY 1967  
 CHECKED BY: W. SMITH DEC. 1967  
 RECOMMENDED FOR APPROVAL: [Signature] BRIDGE ENGINEER  
 RECOMMENDED FOR APPROVAL: [Signature] CONSTRUCTION ENGINEER  
 RECOMMENDED FOR APPROVAL: [Signature] ASST. CHIEF ENGINEER  
 APPROVED BY: [Signature] CHIEF ENGINEER DATE 1/24/68

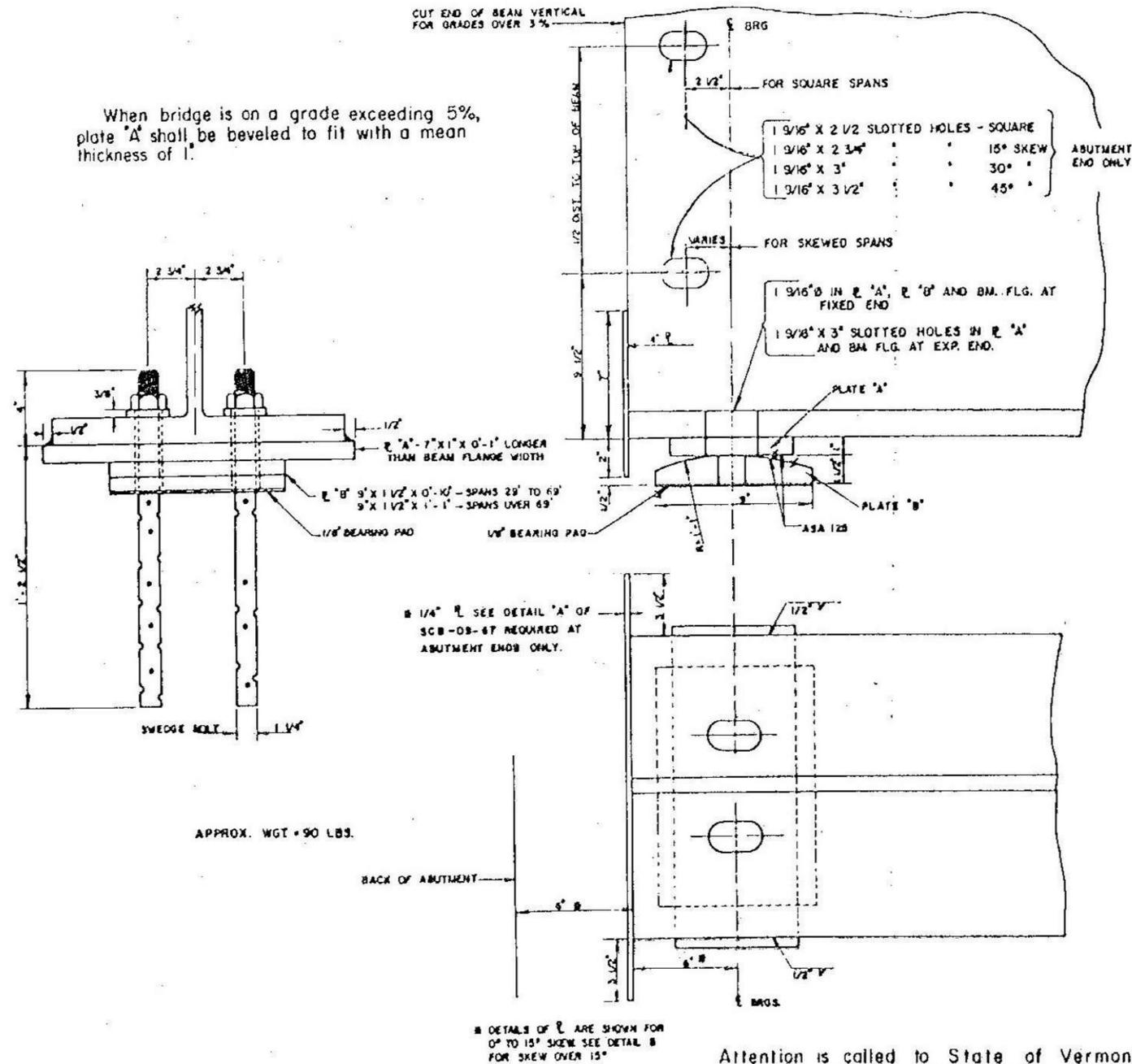
DETAILS OF WF BEAM BRIDGES

STRUCTURAL STEEL DETAILS

- (A) (D) (E) DIAPHRAGM DETAILS
- (B) WF BEAM CUT-OFFS
- (C) COVER PLATE DETAILS

VERMONT DEPARTMENT OF HIGHWAYS  
 STRUCTURE STANDARDS

SCB-D7-67

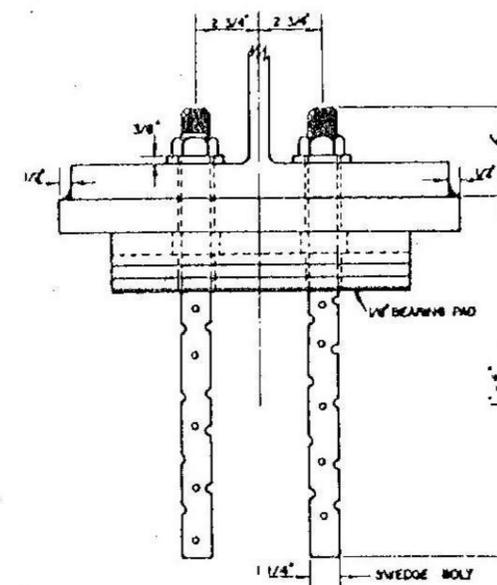


**FIXED END BEARING DEVICE**  
USE FOR EXPANSION END ON SPANS UP TO AND INCLUDING 69'

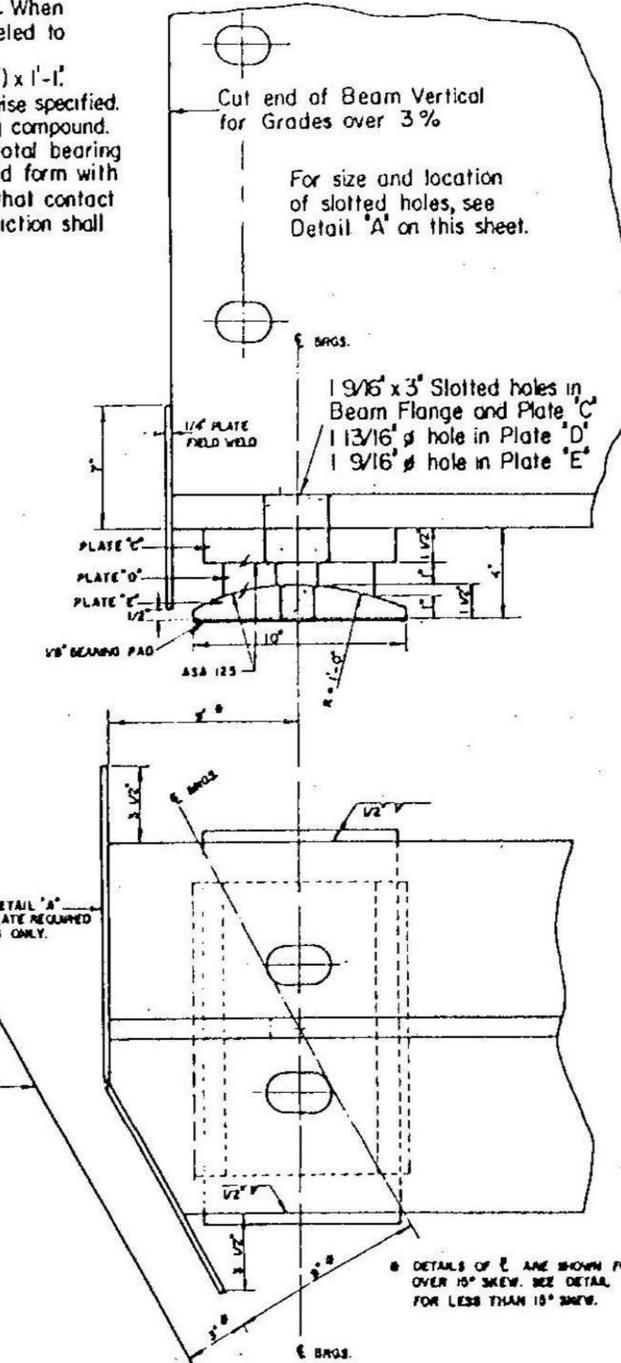
Plate "C" - 9" x 1 1/2" x 1" longer than the beam flange width. When the bridge is on a grade exceeding 5%, plate "C" shall be beveled to fit the grade with a mean thickness of 1 1/2".

Plate "D" - 7" x (outer edge thickness 1 1/2", center thickness 1") x 1'-1". To be Cast Bronze - A.S.T.M. - B 22-40 T, Class "B" unless otherwise specified. This plate shall have trepanned recesses filled with a lubricating compound. The lubricating area shall comprise not less than 25% of the total bearing area. The manufacturer shall supply additional lubricant in liquid form with which the Contractor shall thoroughly coat the bearing surfaces that contact the lubricated portion of the bronze plate. The coefficient of friction shall not exceed 0.10.

Plate "E" - 10" x 1 1/2" x 1'-1".



**EXPANSION END BEARING DEVICE**  
FOR SPANS OVER 69'



Attention is called to State of Vermont Department of Highways Standard Specifications for Highway and Bridge Construction, Item # 404, paragraph 404.02 (23) for bearing materials for Shoes and Pedestals.

REVISIONS AND CORRECTIONS

DRAWN BY: A.V. DEC. 1988  
RETRACTED BY: A.J.A. MAY 1987  
CHECKED BY: W. SMITH DEC. 1982

RECOMMENDED FOR APPROVAL

*[Signatures]*  
RECOMMENDED FOR APPROVAL  
RECOMMENDED FOR APPROVAL  
RECOMMENDED FOR APPROVAL  
APPROVED BY: *[Signature]* 11/24/89  
CHIEF ENGINEER DATE

**DETAILS OF W BEAM BRIDGES**

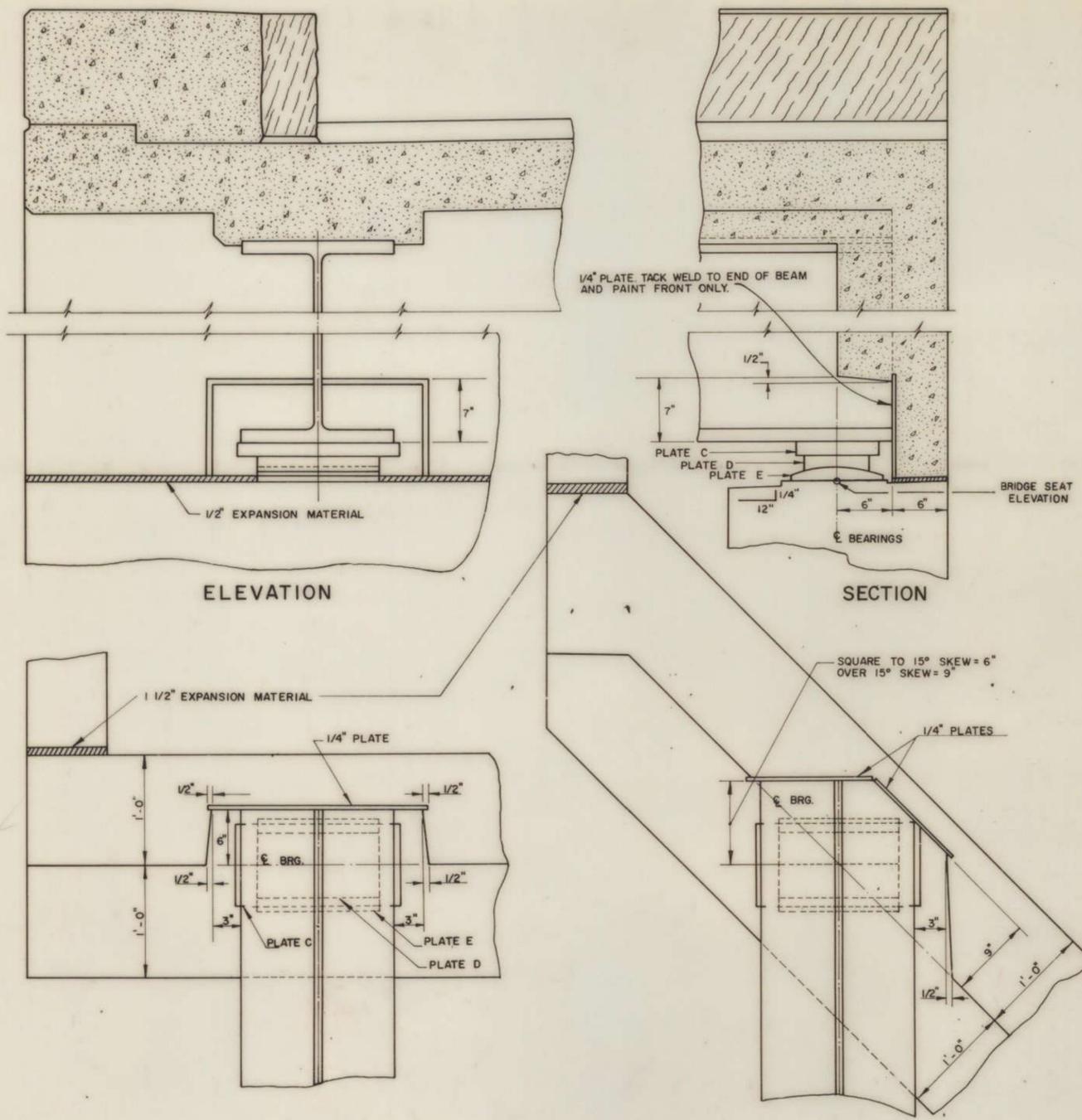
- (A) FIXED END BEARING DEVICE
- (B) EXPANSION END BEARING DEVICE

VERMONT  
DEPARTMENT OF HIGHWAYS  
STRUCTURE STANDARDS

**SCB-D8-67**

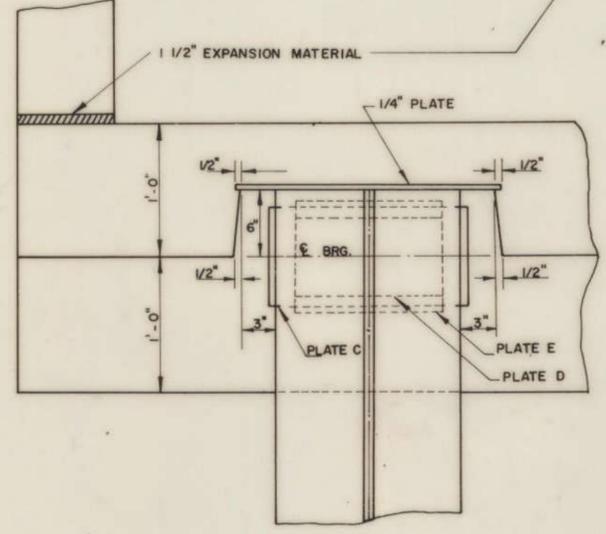
256 A

IRASBURG  
IM DECK (46)  
BRIDGE NO. 107N  
SHEET 48 OF 107-1  
FOR REFERENCE ONLY

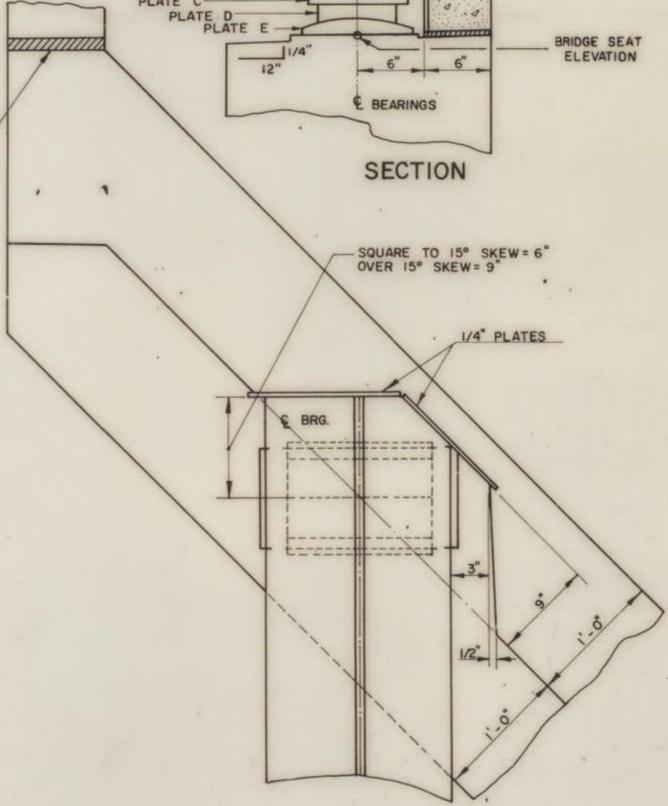


ELEVATION

SECTION

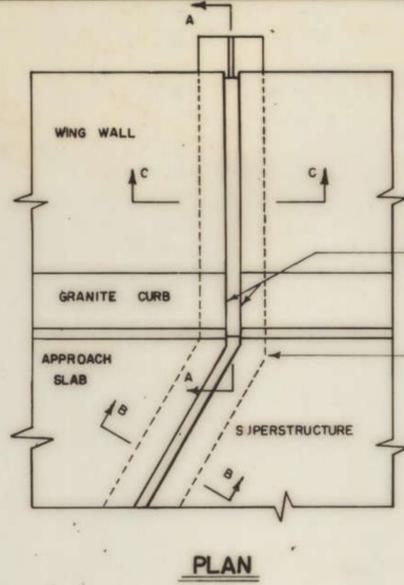


PLAN FOR SQUARE BRIDGES



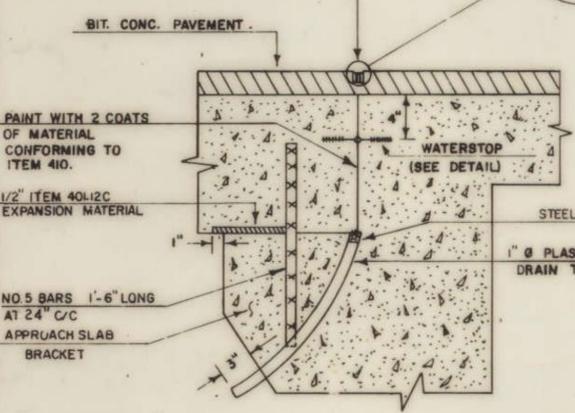
PLAN FOR SKEWED BRIDGES

(DETAILS SHOWN FOR EXP END; FIXED END SIMILAR EXCEPT R<sub>s</sub> A AND B IN LIEU OF R<sub>s</sub> C, D AND E; SEE SCB-D8-69)

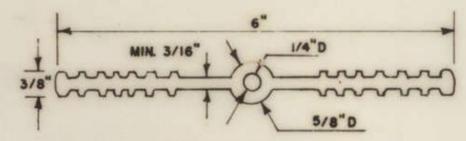


PLAN

JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUT WILL BE MADE DIRECTLY OVER THE JOINT.



SECTION B-B

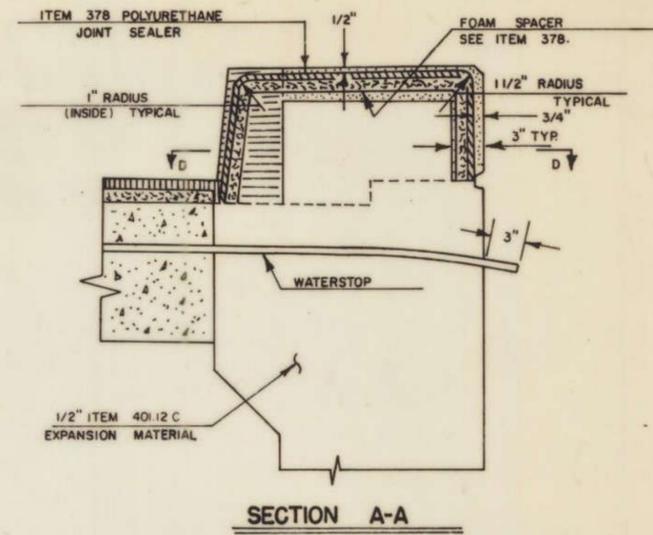


WATERSTOP DETAIL

MATERIAL TO BE POLYVINYLCHLORIDE, AS SPECIFIED IN ITEM 401.12 H. OTHER CONFIGURATIONS, WITH MINOR DIMENSION VARIATIONS, MAY BE USED WITH THE APPROVAL OF THE BRIDGE ENGINEER.

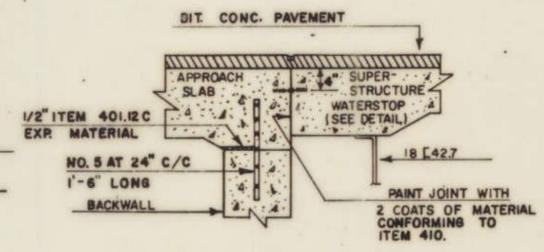
COST OF THE WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 401, CONCRETE.

THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT TO MAINTAIN PROPER ALIGNMENT OF WATERSTOP DURING CONSTRUCTION.

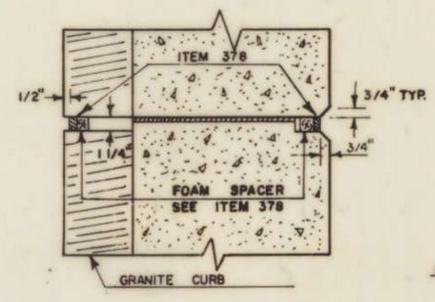


SECTION A-A

SAW CUT IN BITUMINOUS CONC. FILL WITH ITEM 372-A, JOINT SEALER - HOT Poured.

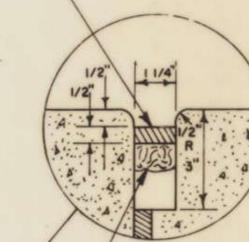


SECTION B-B WITH BACKWALL



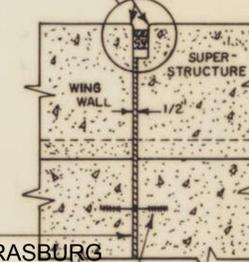
SECTION D-D

ITEM 378 POLYURETHANE JOINT SEALER



FOAM SPACER SEE ITEM 378.

TOOLED EDGE RADIUS 1/2"



IRASBURG IM DECK(46) BRIDGE NO. 107N SHEET 49 OF 149 FOR REFERENCE ONLY

REVISIONS AND CORRECTIONS  
 (B) FIXED END JOINT DETAILS - ADDED 4-2P 70 J. WOOD  
 2 ADDED " SEE SCB-D8-69 " TO NOTE ON DET. (A) 12-11-70 J. WOOD

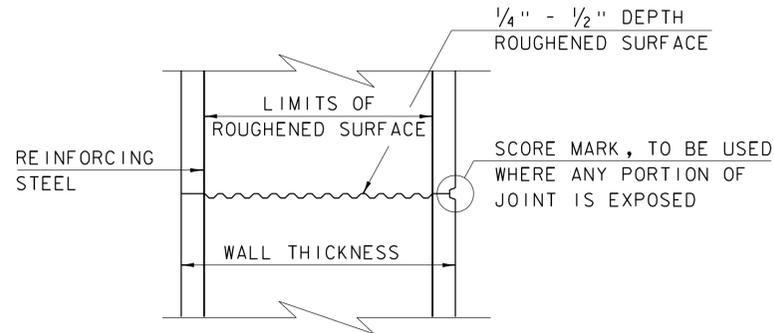
DRAWN BY: AV DEC 1962  
 RETRACED BY: A.J.A. MAY 1967  
 CHECKED BY: W. SMITH DEC. 1967  
 RECOMMENDED FOR APPROVAL: [Signature] BRIDGE ENGINEER  
 RECOMMENDED FOR APPROVAL: [Signature] CONSTRUCTION ENGINEER  
 RECOMMENDED FOR APPROVAL: [Signature] ASST. CHIEF ENGINEER  
 APPROVED BY: [Signature] CHIEF ENGINEER DATE 1/24/68

DETAILS OF W F BEAM BRIDGES  
 (A) CURTAIN WALL AT BEARING DEVICES  
 (B) FIXED END JOINT DETAILS

VERMONT DEPARTMENT OF HIGHWAYS STRUCTURE STANDARDS  
 SCB-D9-67

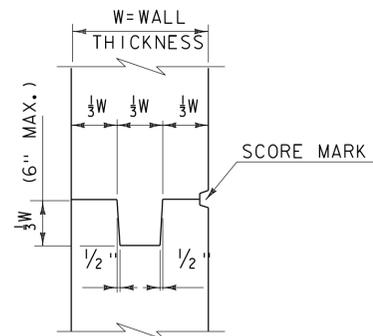
**CONCRETE GENERAL NOTES**

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

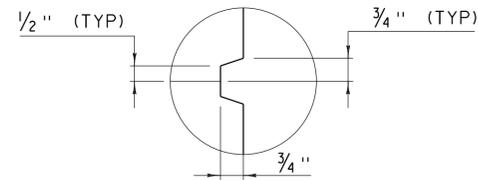


**TYPICAL HORIZONTAL CONSTRUCTION JOINT**  
(NOT TO SCALE)

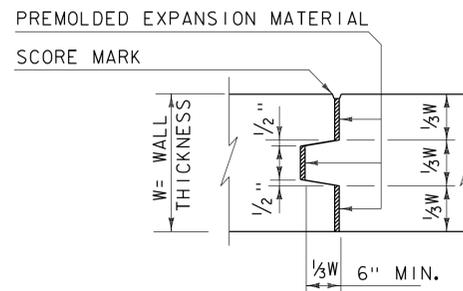
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



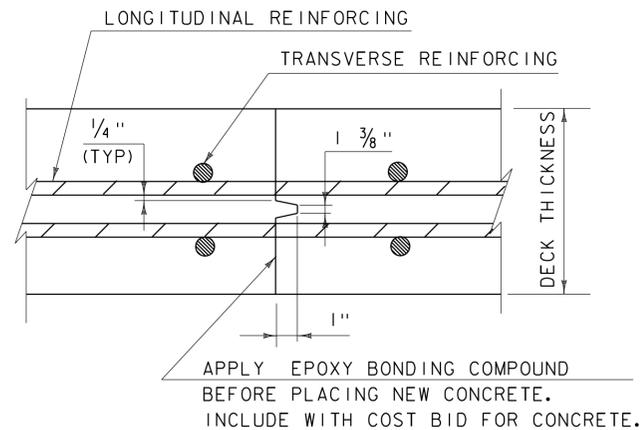
**TYPICAL CONCRETE CONSTRUCTION JOINT**  
(NOT TO SCALE)



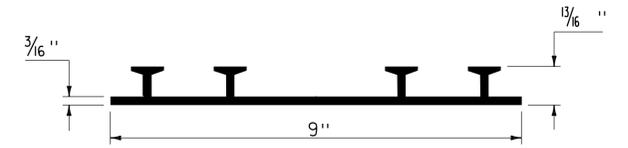
**SCORE MARK DETAIL**  
(NOT TO SCALE)



**TYPICAL CONCRETE EXPANSION JOINT**  
(NOT TO SCALE)



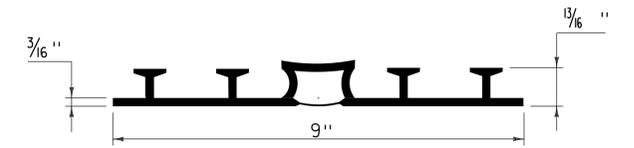
**TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS**  
(NOT TO SCALE)



**P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS**  
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

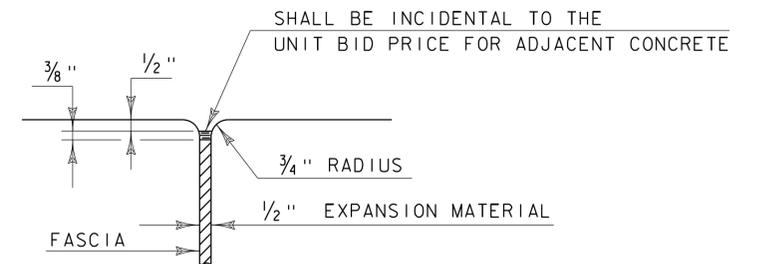
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



**P.V.C. WATERSTOP FOR EXPANSION JOINTS**  
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



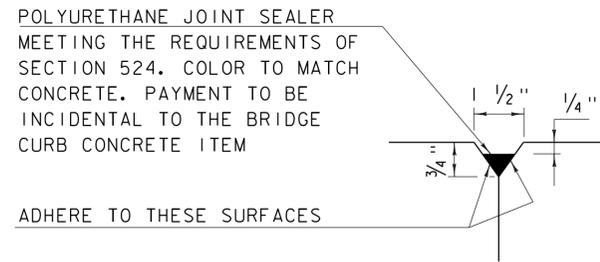
**JOINT BETWEEN FASCIA AND WINGWALL**  
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

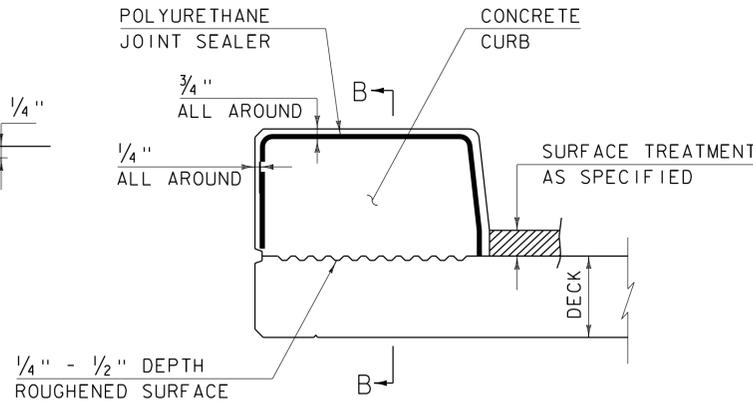
**CONCRETE  
DETAILS AND NOTES**



**STRUCTURES  
DETAIL  
SD-501.00**

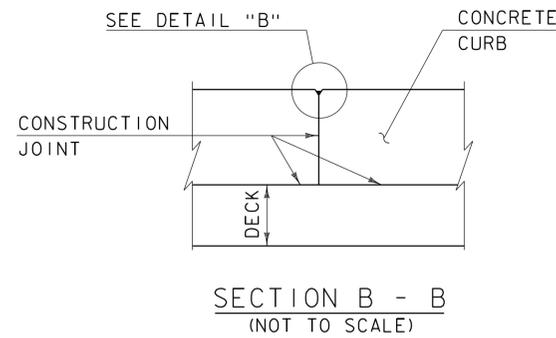


DETAIL "B"  
(NOT TO SCALE)

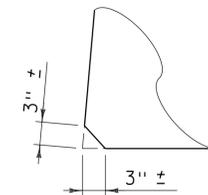


CONCRETE CURB JOINT SECTION  
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



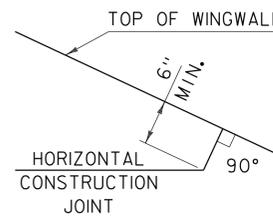
SECTION B - B  
(NOT TO SCALE)



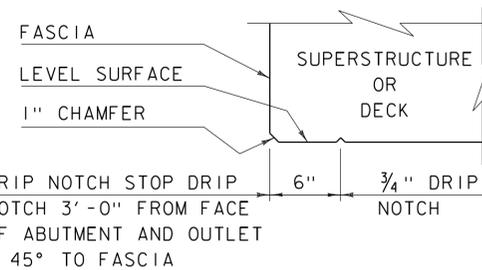
ACUTE ANGLE  
CLIP DETAIL  
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

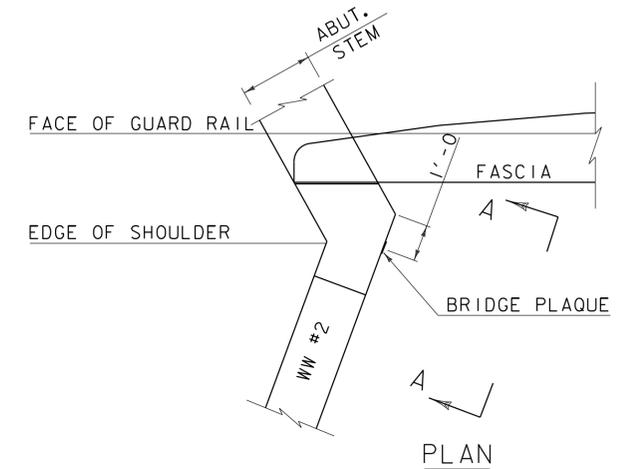
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



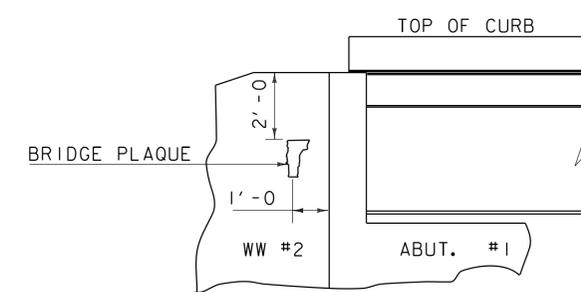
HORIZONTAL WINGWALL  
CONSTRUCTION JOINT  
(NOT TO SCALE)



DRIP NOTCH DETAIL  
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE  
(NOT TO SCALE)

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 INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS

MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE  
DETAILS AND NOTES



STRUCTURES  
DETAIL  
SD-502.00

ASPHALTIC PLUG JOINT NOTES

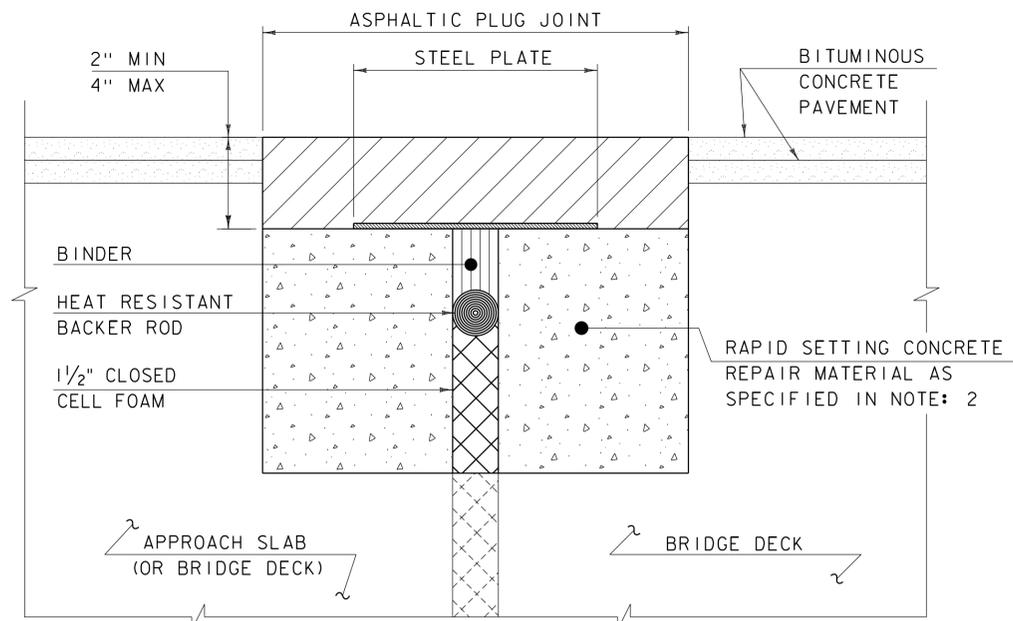
INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

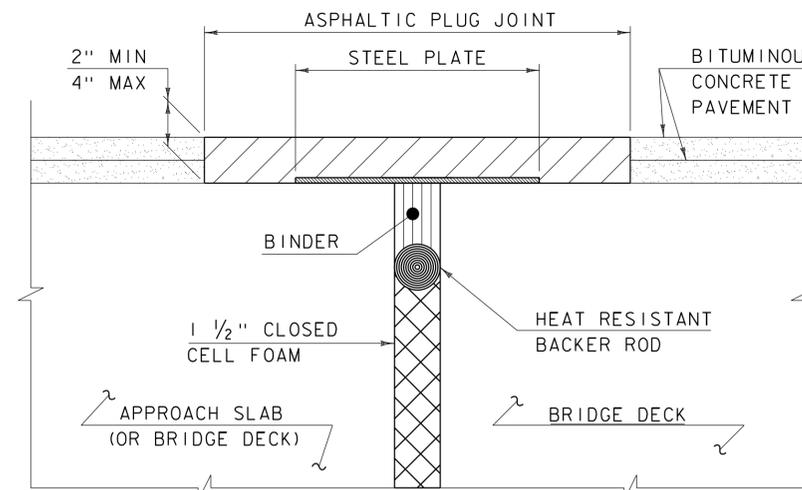
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

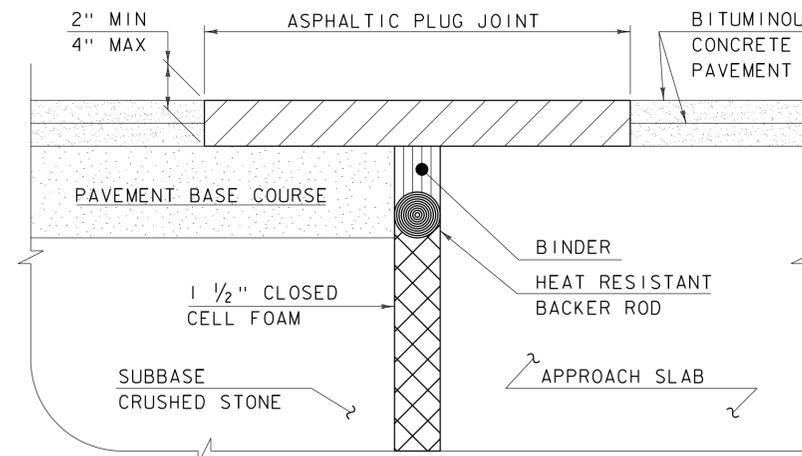
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. 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 PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

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 PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

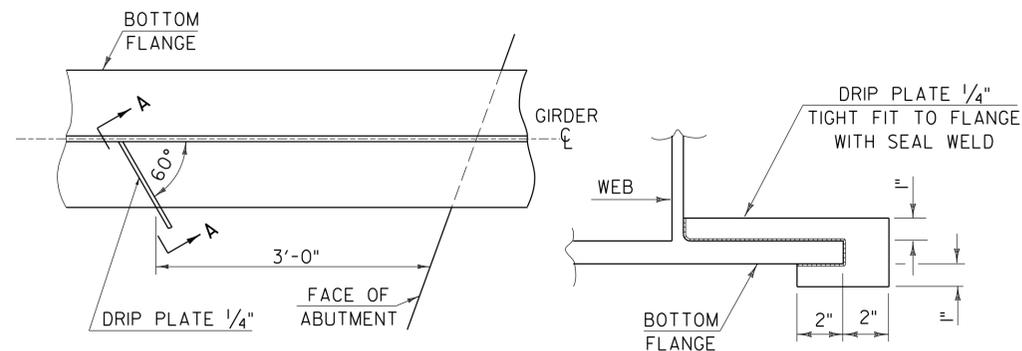
BRIDGE JOINT  
ASPHALTIC PLUG



STRUCTURES  
DETAIL  
SD-516.10

STRUCTURAL STEEL GENERAL NOTES:

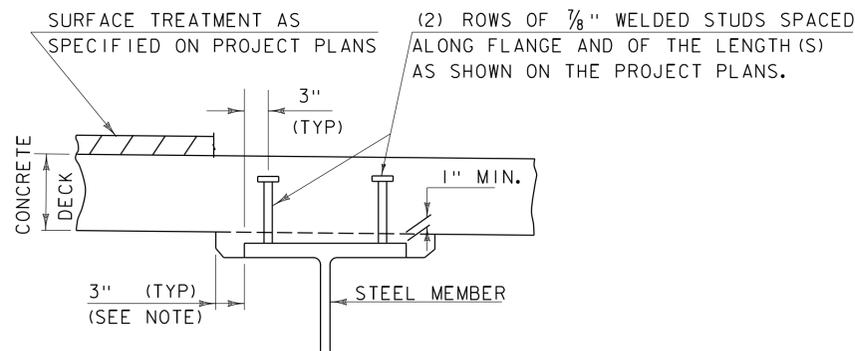
1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.I9, UNLESS OTHERWISE SPECIFIED.
2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.I9.
3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.I0.
4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
5. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
6. ENDS OF GIRDERS ARE TO BE VERTICAL IN THEIR FINAL POSITION.
7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.



PLAN DRIP PLATE

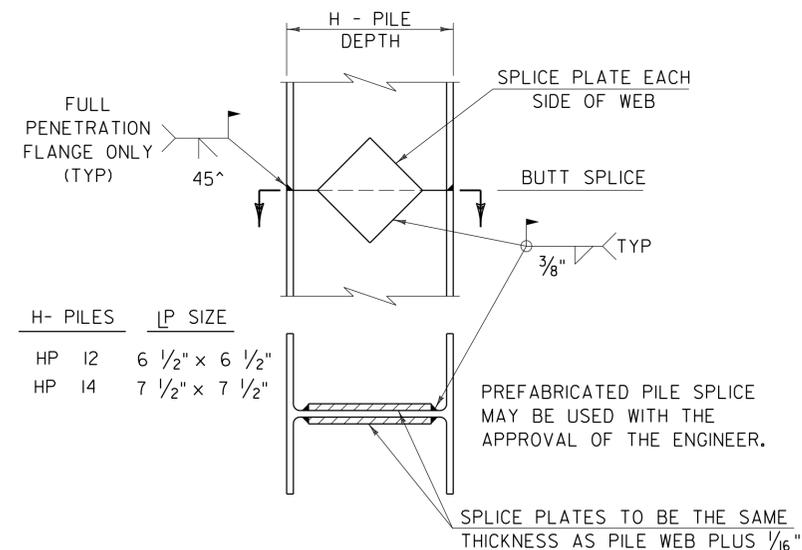
SECTION A - A

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



NOTE:  
THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL

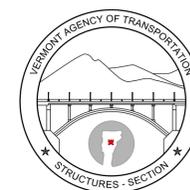


DETAIL OF PILE SPLICE

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED NOTES

**STRUCTURAL STEEL  
DETAILS & NOTES**



**STRUCTURES  
DETAIL  
SD-601.00**