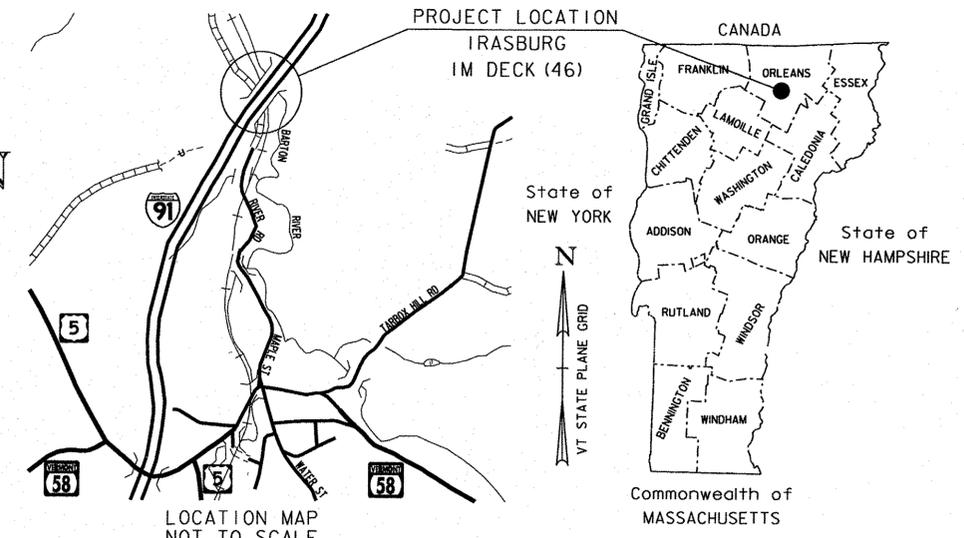


STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

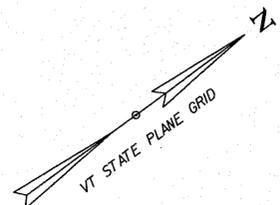
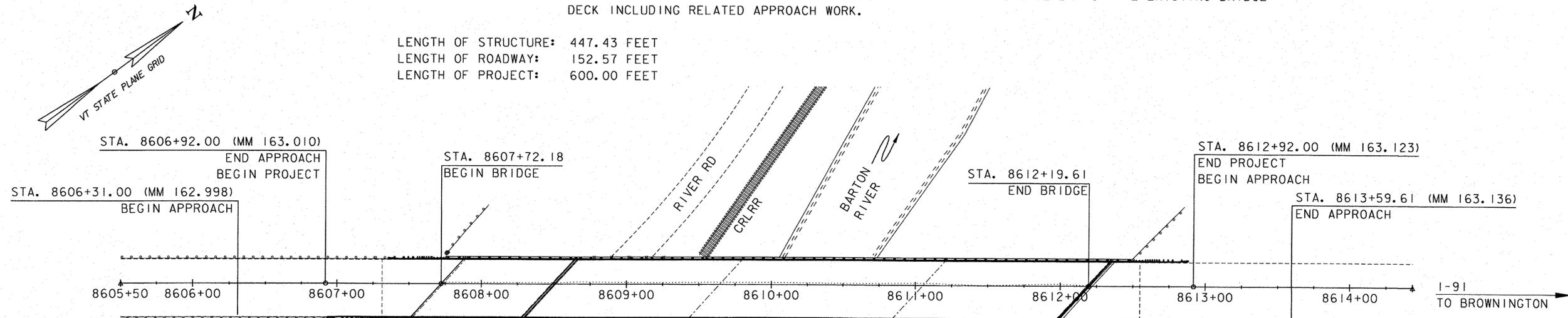
TOWN OF IRASBURG COUNTY OF ORLEANS INTERSTATE 91 (PRINCIPAL ARTERIAL) BRIDGE NO. 107N



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.

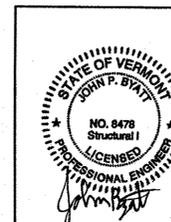
LENGTH OF STRUCTURE: 447.43 FEET
LENGTH OF ROADWAY: 152.57 FEET
LENGTH OF PROJECT: 600.00 FEET



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"
40 0 40



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

DIRECTOR OF PROJECT DELIVERY	
APPROVED <i>J.F. Barry</i>	DATE 2/4/2016
PROJECT MANAGER : JENNIFER FITCH, P.E.	
PROJECT NAME :	IRASBURG
PROJECT NUMBER :	1M DECK (46)
SHEET 1 OF 49 SHEETS	

INDEX OF SHEETS

- 1. TITLE SHEET
- 2.-3. INDEX OF SHEETS AND PROJECT NOTES SHEETS 1-2
- 4. TYPICAL BRIDGE SECTIONS SHEET
- 5. TYPICAL ROADWAY SECTIONS SHEET
- 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
- 17.-18. TEMPORARY TRAFFIC BARRIER - BRACED SHEETS 1-2
- 19.-20. DECK DETAILS SHEETS 1-2
- 21.-23. JOINT DETAILS SHEETS 1-3
- 24. CURB REPLACEMENT DETAILS SHEET
- 25. BITUMINOUS CONCRETE REMOVAL PLAN SHEET
- 26. RAIL LAYOUT SHEET
- 27.-49. REFERENCE PLAN SHEETS 1-23

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

HIGHWAY SAFETY AND DESIGN DETAIL SHEETS

- HSD-621.06 11/03/2015 GUARDRAIL TERMINAL LABEL DETAIL

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 FOR ITEM 506.60 IS SHOWN IN 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
PROJECT LEADER:	J. BYATT
DESIGNED BY:	S. BEAUMONT
INDEX OF SHEETS & PROJECT NOTES SHEET 1	SHEET 2 OF 49
PLOT DATE:	3/8/2016
DRAWN BY:	M. SMITH
CHECKED BY:	J. BYATT



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 DETAILS SHEET 1 ON SHEET 21 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. THE GRADE OF PG ASPHALT BINDER USED TO PRODUCE BITUMINOUS CONCRETE PAVEMENT SHALL BE 58-28. SUBSTITUTIONS WILL BE ACCEPTED BASED ON AVAILABILITY WHERE THE UPPER END TEMPERATURE VALUE IS GREATER THAN 58°C (136°F) AND/OR THE LOWER END TEMPERATURE VALUE IS LESS THAN -28°C (-18°F).
- 39. 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".
- 40. ANY REQUIRED SAWCUT OF EXISTING PAVEMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)".
- 41. 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".
- 42. UPON COMPLETION OF ALL PAVING OPERATIONS, FINAL PAVEMENT MARKINGS SHALL BE INSTALLED TO REPLICATE THE EXISTING CONFIGURATION.
- 43. DURABLE PAVEMENT MARKINGS ARE OPTIONED AS SHOWN ON THE PLAN SHEETS FOR THIS PROJECT. THE CONTRACTOR SHALL BID THE SAME MARKING MATERIAL FOR ALL OPTION ITEMS.

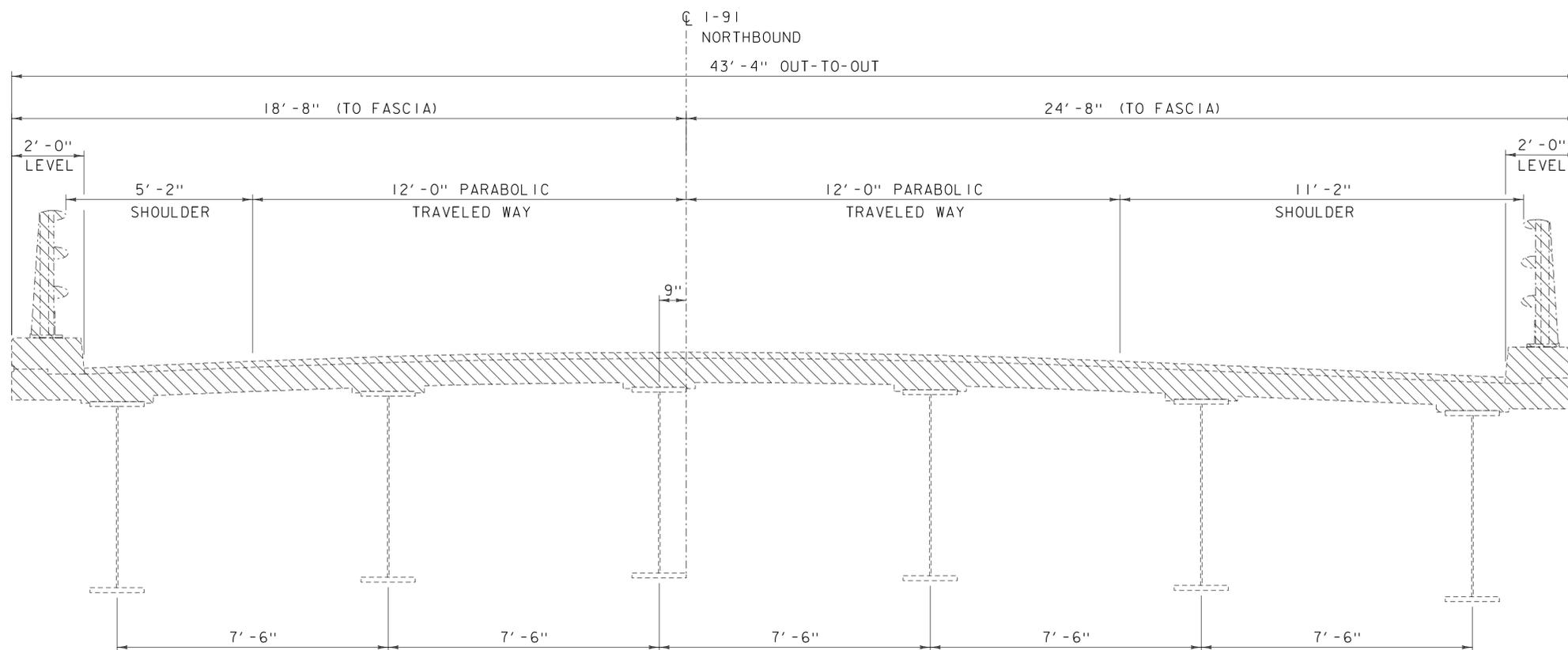


REVISION	DATE	DESCRIPTION	BY
1	03-30-2016	ADDING AND CHANGING ITEMS	LG

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	SHEET 3 OF 49
PLOT DATE:	3/28/2016
DRAWN BY:	M. SMITH
CHECKED BY:	J. BYATT



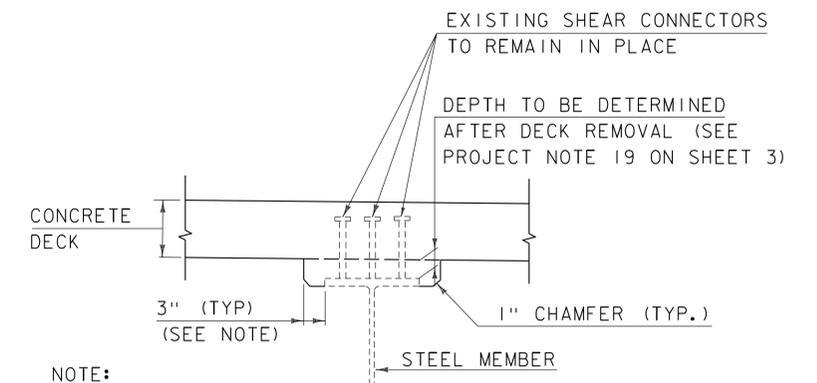
MODEL: Sheet02
CLD 15-0223



EXISTING BRIDGE TYPICAL

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

PARTIAL REMOVAL OF STRUCTURE

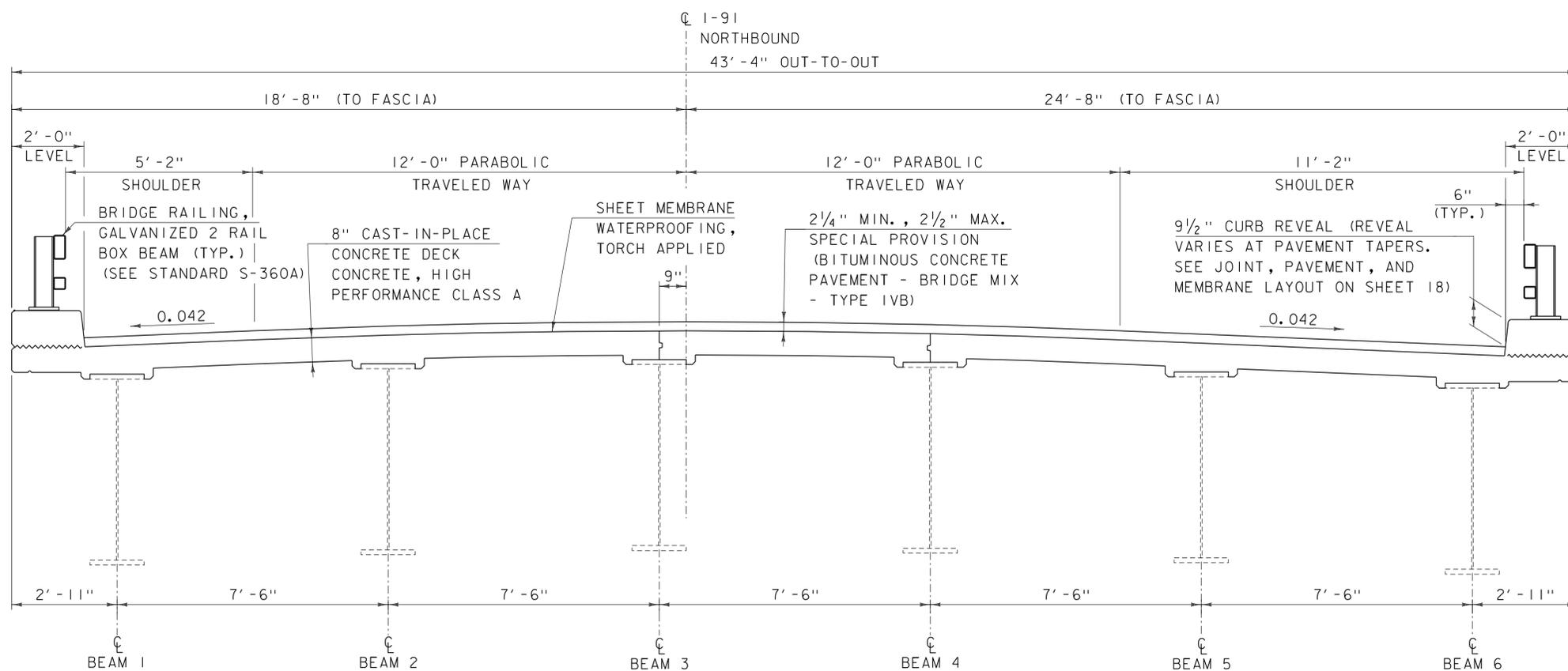


NOTE:

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.

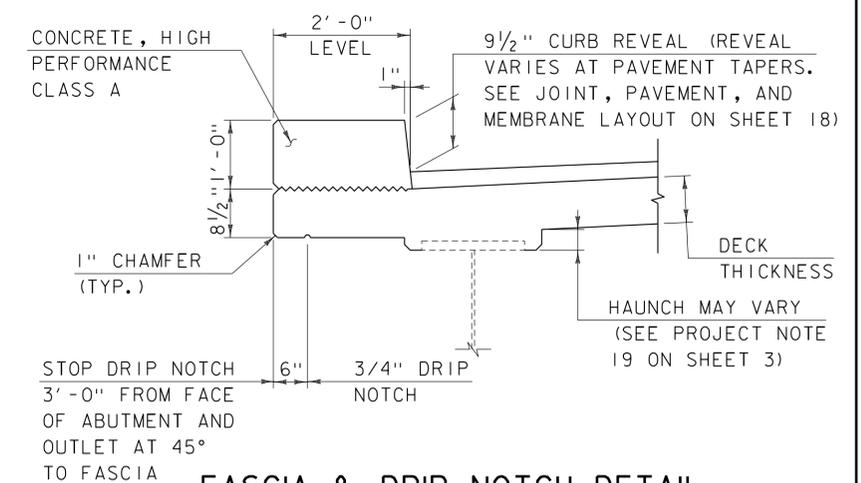
HAUNCH AND SHEAR CONNECTOR DETAIL

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



TYPICAL BRIDGE SECTION

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



FASCIA & DRIP NOTCH DETAIL

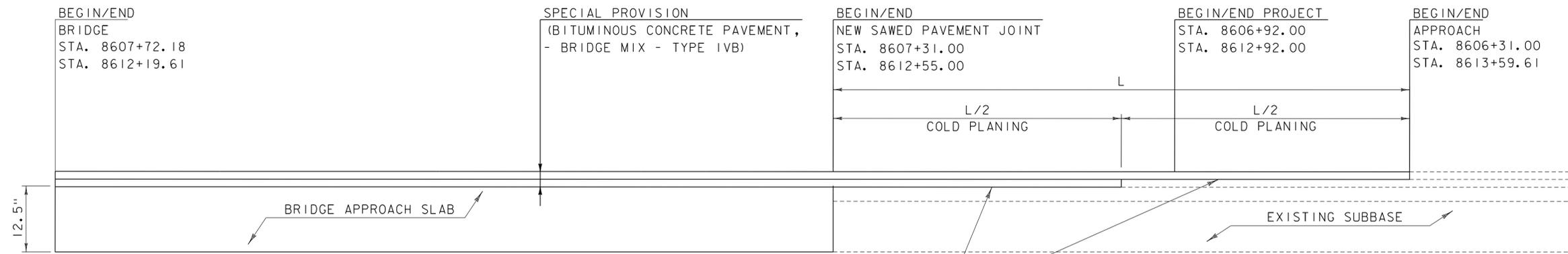
SCALE: 3/4" = 1'-0"

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: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 4 OF 49





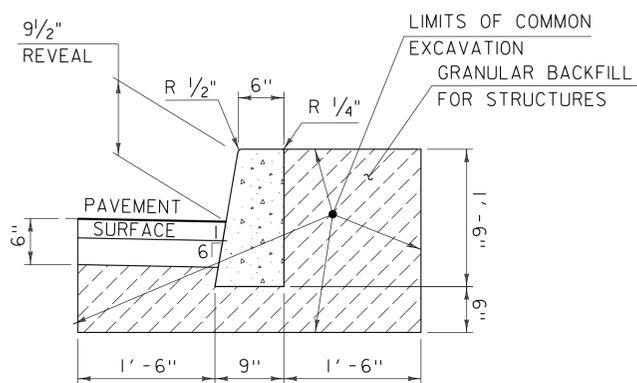
SEE PAVEMENT AND MEMBRANE NOTES ON SHEET 3

MATERIAL TRANSITION DIAGRAM

NOT TO SCALE

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

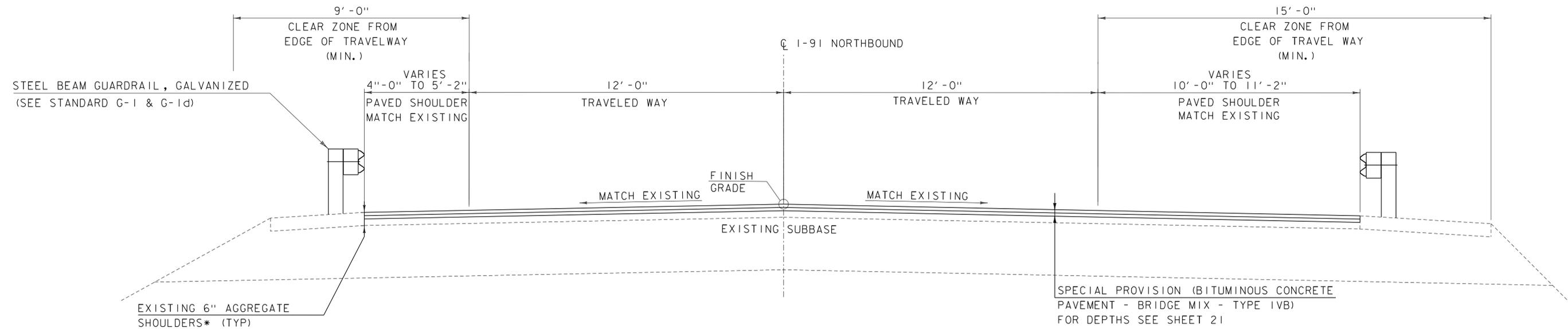
DESIGN NUMBER OF GYRATIONS - 65



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 JOINT DETAILS SHEET 1 ON SHEET 21, 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: 3/8/2016
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: 2/5/2016
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

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	-			
														BEGIN OPTION AA 					
							950				950		LF	DURABLE 6 INCH WHITE LINE, THERMOPLASTIC	646.422				
							950				950		LF	DURABLE 6 INCH WHITE LINE, EPOXY PAINT	646.423				
							950				950		LF	DURABLE 6 INCH WHITE LINE, POLYUREA	646.424				
														END OPTION AA					
														BEGIN OPTION BB 					
							750				750		LF	DURABLE 6 INCH YELLOW LINE, THERMOPLASTIC	646.432				
							750				750		LF	DURABLE 6 INCH YELLOW LINE, EPOXY PAINT	646.433				
							750				750		LF	DURABLE 6 INCH YELLOW LINE, POLYUREA	646.434				
														END OPTION BB					
							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	-			
							6				6		EACH	SPECIAL PROVISION (CPM SCHEDULE)	900.620	-			
							825		2920		3745		LF	SPECIAL PROVISION (PAVEMENT JOINT ADHESIVE)	900.640	5.56			
									58		58		LF	SPECIAL PROVISION (REMOVE AND REPLACE COMPRESSION JOINT SEAL)	900.640	0.65			
							1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645	-			
							1				1		LU	SPECIAL PROVISION (MAINTENANCE OF RAILROAD TRAFFIC) (N.A.B.I.)	900.650	-			
							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			

SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT - BRIDGE MIX - TYPE IVB)
 103.0 TON TYPE IVB (ROADWAY)
 319.7 TON TYPE IVB (BRIDGE)
 422.7 TON SUBTOTAL
 2.3 TON ROUNDING
 425.0 TON TOTAL

REVISION	DATE	DESCRIPTION	BY
	03-30-2016	ADDING AND CHANGING ITEMS	LG

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: 3/28/2016
 DRAWN BY: M. SMITH
 CHECKED BY: A. GIRALDI
 SHEET 7 OF 49

GENERAL INFORMATION

SYMBOLOLOGY LEGEND NOTE

THE SYMBOLOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOLOGY. THE SYMBOLOLOGY 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. SYMBOLOLOGY 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 SYMBOLOLOGY

UNDERGROUND UTILITIES

— UGU —	UTILITY (GENERIC-UNKNOWN)
— TELEPHONE —	TELEPHONE
— ELECTRIC —	ELECTRIC
— CABLE (TV) —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— GAS LINE —	GAS LINE
— WATER LINE —	WATER LINE
— SANITARY SEWER (SEPTIC) —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— AGU —	UTILITY (GENERIC-UNKNOWN)
— TELEPHONE —	TELEPHONE
— ELECTRIC —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— UECT —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
— UTILITY POLE GUY WIRE —	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOLOGY

— CZ —	CLEAR ZONE
— PLAN LAYOUT MATCHLINE —	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

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

CONVENTIONAL BOUNDARY SYMBOLOLOGY

BOUNDARY LINES

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

EPSC LAYOUT PLAN SYMBOLOLOGY

EPSC MEASURES

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

ENVIRONMENTAL RESOURCES

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

ARCHEOLOGICAL & HISTORIC

— ARCH —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST —	HISTORIC DISTRICT BOUNDARY
— HISTORIC —	HISTORIC AREA
— (H) —	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOLOGY

EXISTING FEATURES

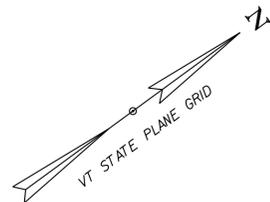
— ROAD EDGE PAVEMENT —	ROAD EDGE PAVEMENT
— ROAD EDGE GRAVEL —	ROAD EDGE GRAVEL
— DRIVEWAY EDGE —	DRIVEWAY EDGE
— DITCH —	DITCH
— FOUNDATION —	FOUNDATION
— FENCE (EXISTING) —	FENCE (EXISTING)
— FENCE WOOD POST —	FENCE WOOD POST
— FENCE STEEL POST —	FENCE STEEL POST
— GARDEN —	GARDEN
— ROAD GUARDRAIL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

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

FILE NAME: z15all6legend-107N.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: L. GREER
CONVENTIONAL SYMBOLOLOGY LEGEND SHEET

PLOT DATE: 2/5/2016
DRAWN BY: P. McKECHNE
CHECKED BY: S. FORTIER
SHEET 8 OF 49





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 (OPTION ITEM)
 8606+31 TO 8613+60 LT (SOLID)
 8606+31 TO 8613+60 LT (DASHED)

DURABLE 6 INCH YELLOW LINE (OPTION ITEM)
 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

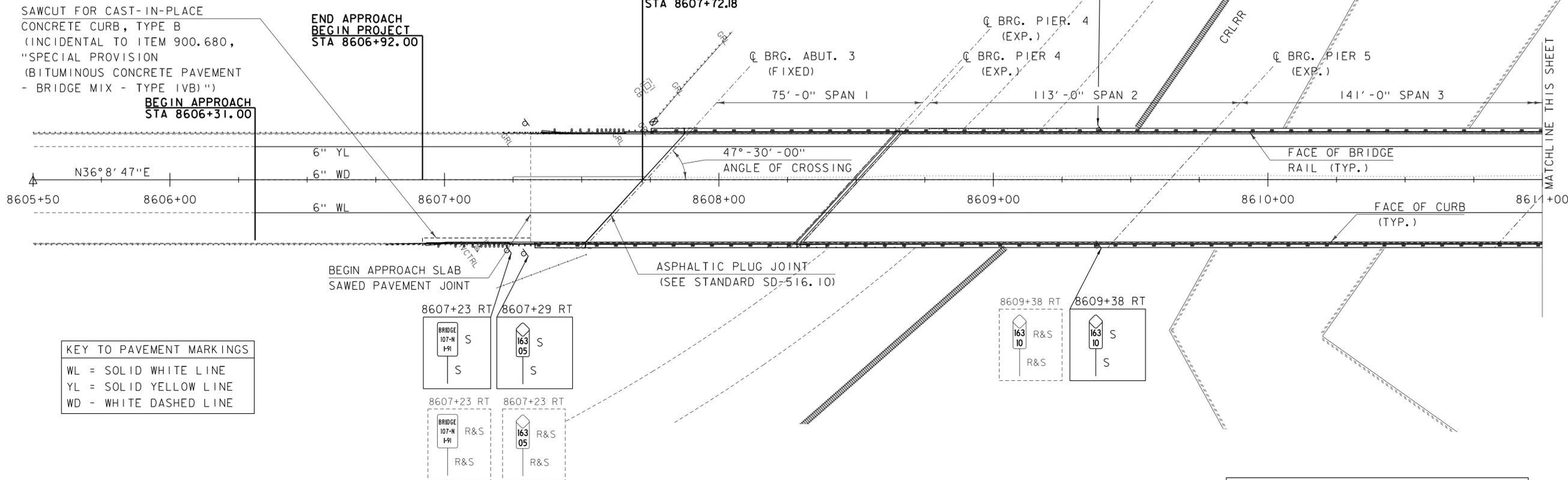
ERECTING SALVAGED SIGNS
 8607+23 RT
 8607+29 RT
 8607+29 LT
 8609+38 LT
 8612+00 LT

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

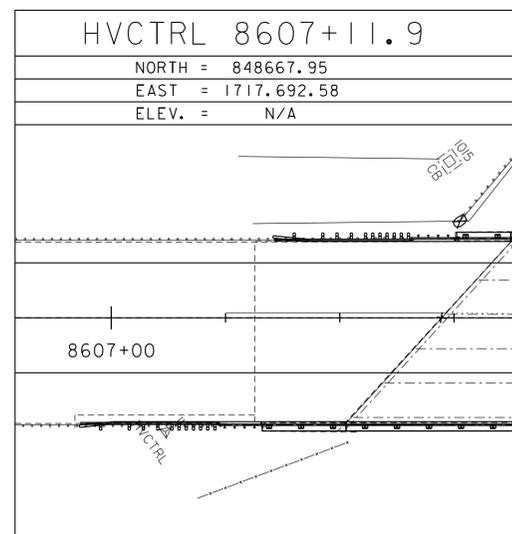
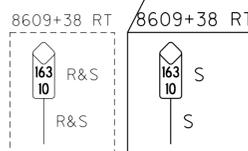
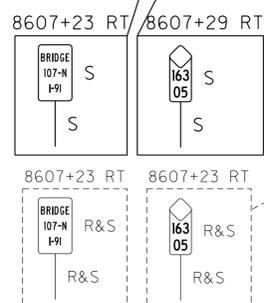
BEGIN APPROACH
 STA 8606+31.00

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

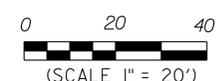


REVISION	DATE	DESCRIPTION	BY
	03-30-2016	ADDING AND CHANGING ITEMS	LG

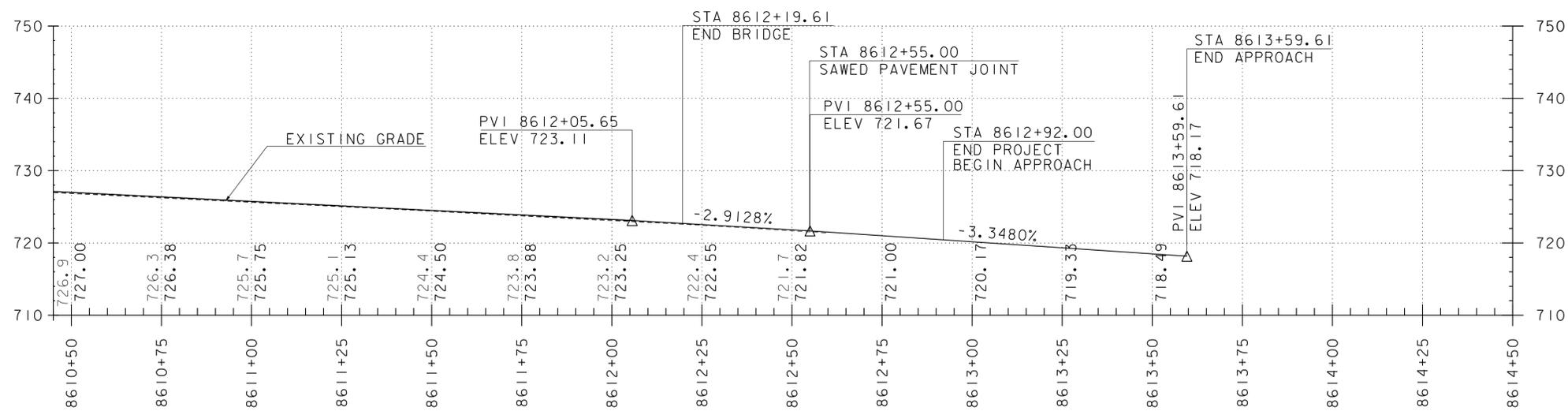
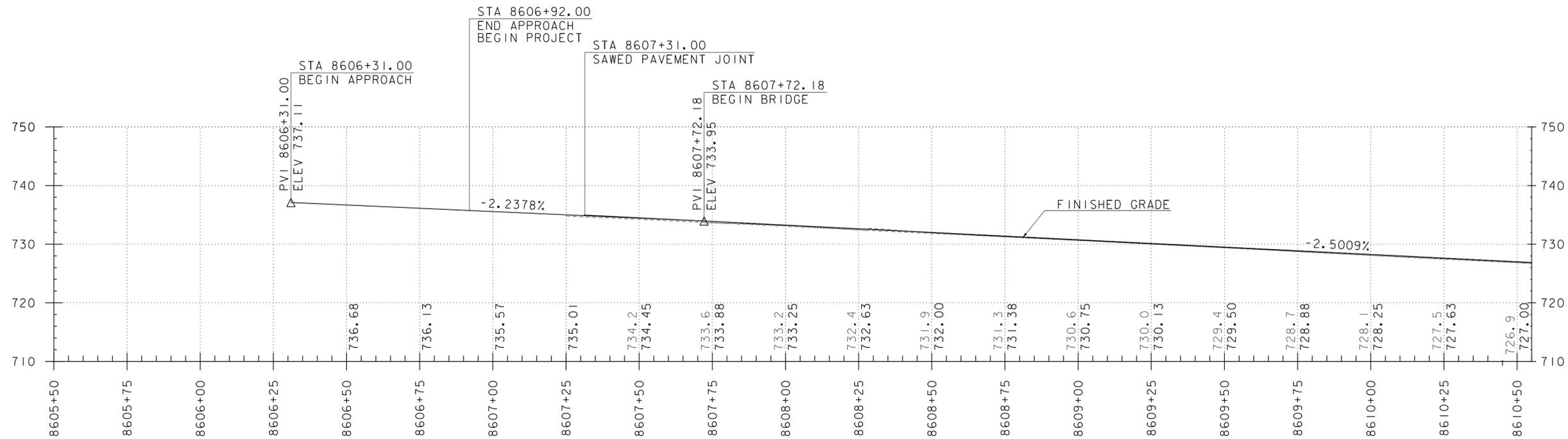
PROJECT NAME: IRASBURG
 PROJECT NUMBER: IM DECK(46)

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

PLOT DATE: 3/28/2016
 DRAWN BY: P. McKECHNIE
 CHECKED BY: S. FORTIER
 SHEET 9 OF 49



CLD 15-0223 MODEL: Sheet01



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: 2/5/2016
 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)". THE PAY ITEM 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

TRAFFIC CONTROL ITEMS NOT PAID FOR IN THE UNIT PRICE BID FOR ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)", AND PAID FOR SEPARATELY INCLUDE THE FOLLOWING:

ITEM 630.10, "UNIFORMED TRAFFIC OFFICERS"
ITEM 630.15, "FLAGGERS"
ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN"

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.

TRAFFIC CONTROL (CONTINUED)

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.
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 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

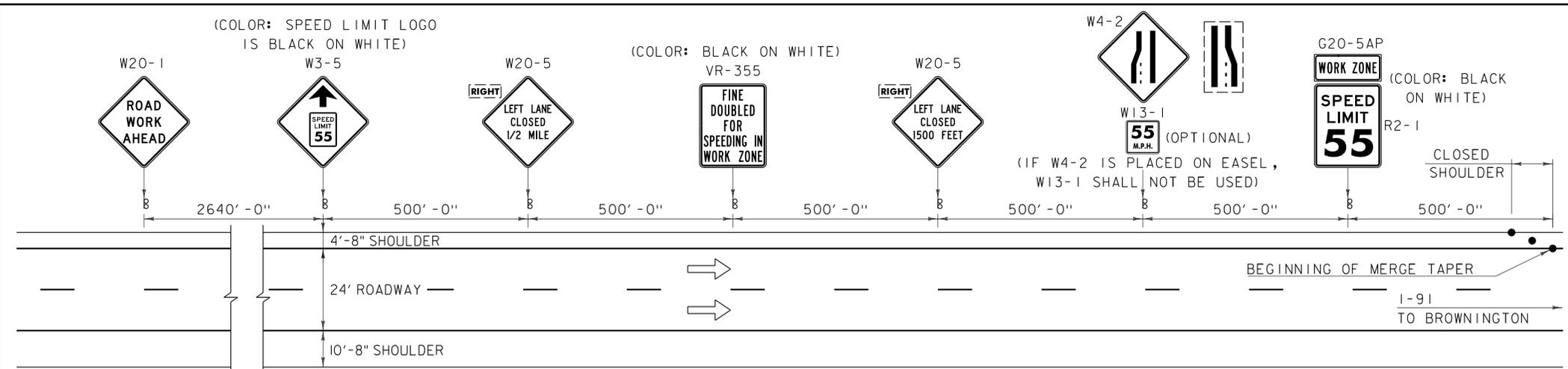
24. TEMPORARY TRAFFIC BARRIER SHALL BE A CONCRETE MEDIAN BARRIER (CMB) TYPE. STEEL BEAM GUARDRAIL WILL NOT BE ALLOWED FOR USE AS A TEMPORARY TRAFFIC BARRIER. PLACEMENT OF CMBs AND REMOVING AND RESETTING CMBs WILL BE CONSIDERED INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
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: 3/8/2016
DRAWN BY: S. BEAUMONT
CHECKED BY: L. GREER
SHEET II OF 49





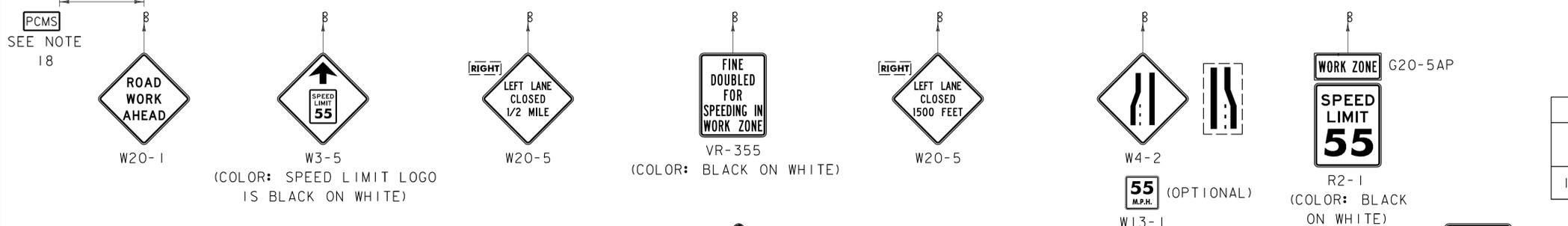
POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MIN.)	MIN. BUFFER SPACE LENGTH (FT)	MAXIMUM CHANNELIZING DEVICE SPACING (FT)	
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE* (L)				TAPER (S)	TANGENT (2S)
≤40	90	320	160	1:9	305	40	80
45	150	540	270	1:9	360	45	90
50	170	600	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

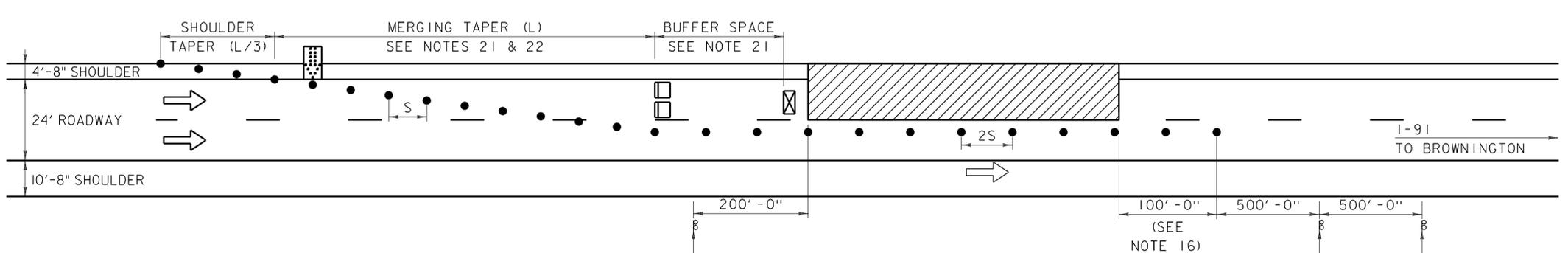
L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

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
 - PCMS PORTABLE CHANGEABLE MESSAGE SIGN (ITEM 641.15) (SEE NOTE 18)

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

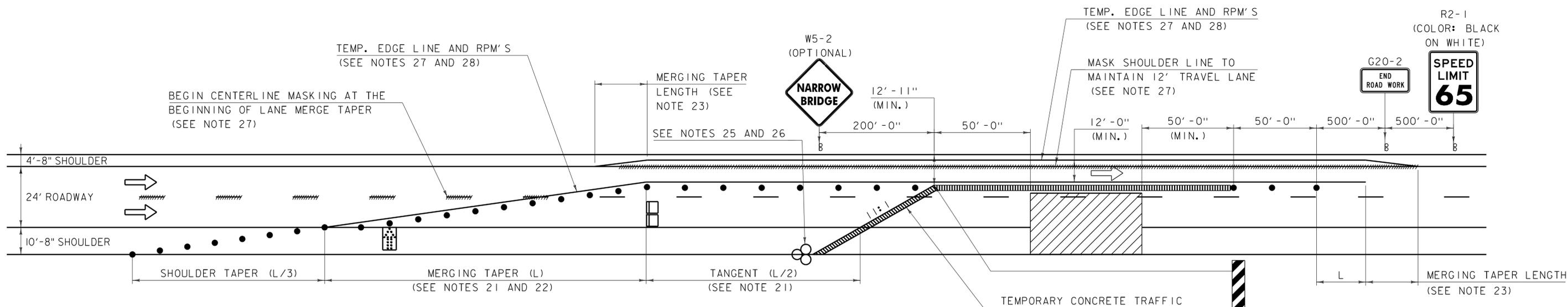


PROJECT NAME: IRASBURG
PROJECT NUMBER: IM DECK(46)

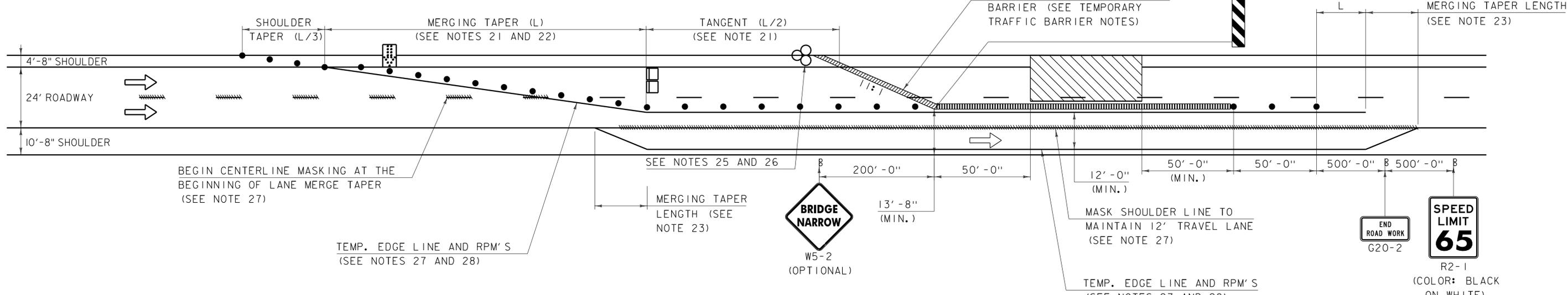
FILE NAME: z15all6+cp-107N.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: S. BEAUMONT
TRAFFIC CONTROL SHEET 2

PLOT DATE: 2/5/2016
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)	
	(FT)					TAPER (S)	TANGENT (2S)
	SHOULDER W=10 FT (L/3)	MERGING 12 FT LANE* (L)					
≤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

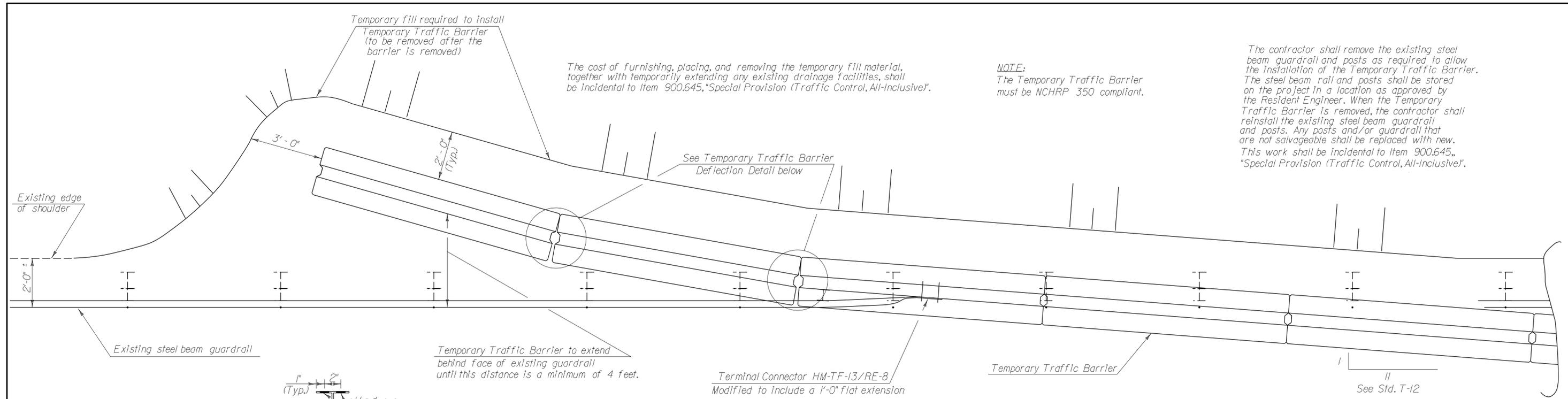
L = MINIMUM LENGTH OF TAPER
W = WIDTH OF OFFSET IN FEET. (TYPICAL)
S = POSTED SPEED IN MPH

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: 2/5/2016
DRAWN BY: S. BEAUMONT
CHECKED BY: L. GREER
SHEET 13 OF 49

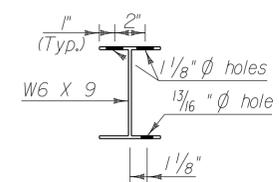


MODEL: TCP3
CLD 15-0223



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

NTS

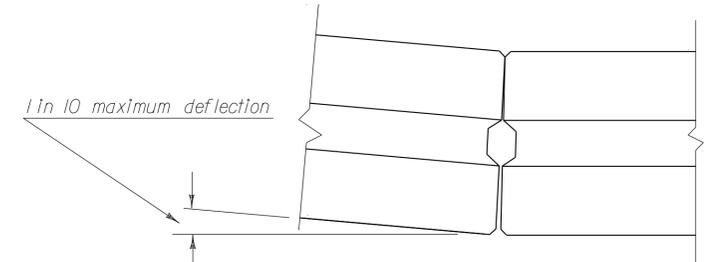


Temporary Traffic Barrier to extend behind face of existing guardrail until this distance is a minimum of 4 feet.

Terminal Connector HM-TF-13/RE-8 Modified to include a 1'-0" flat extension

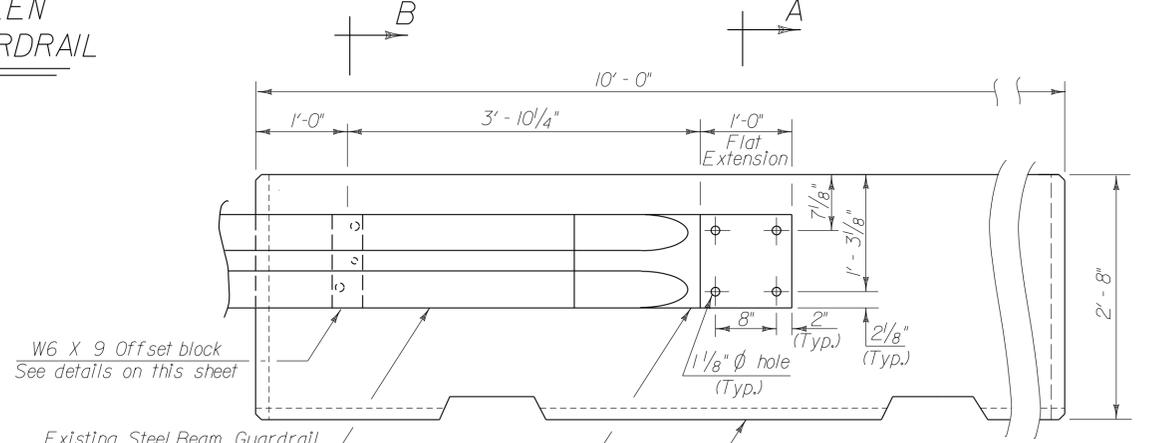
Temporary Traffic Barrier

See Std. T-12



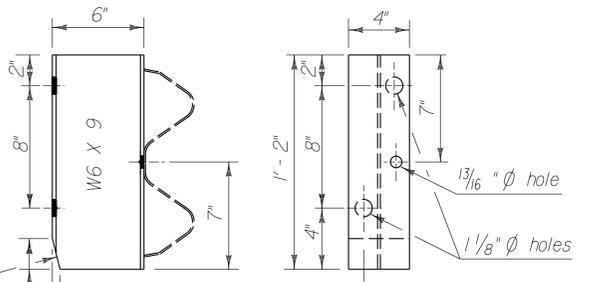
TEMPORARY TRAFFIC BARRIER DEFLECTION DETAIL

NTS



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

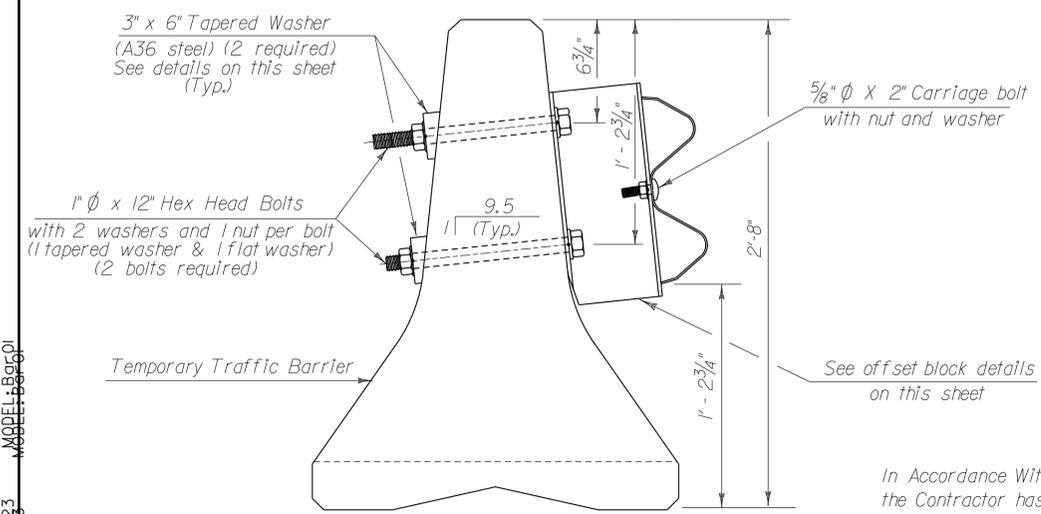
NTS



OFFSET BLOCK DETAILS

NTS

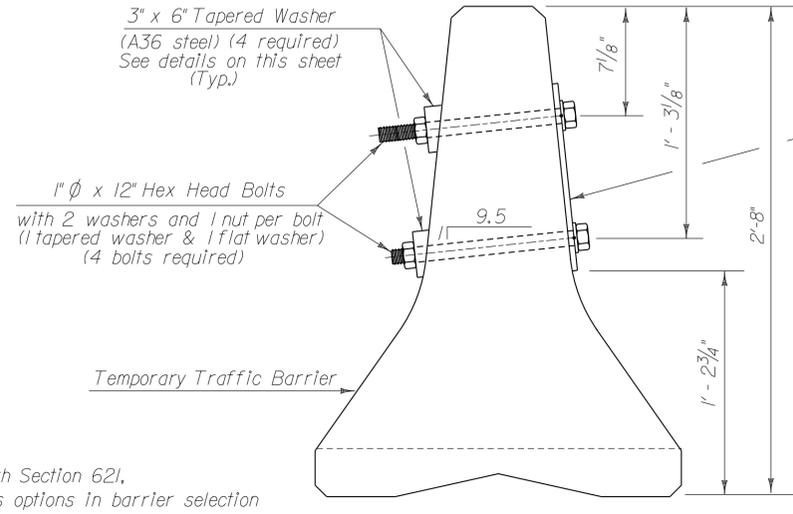
Clip offset block so as to fit against the Temporary Traffic Barrier



SECTION B-B

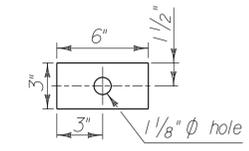
NTS

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



SECTION A-A

Terminal Connector HM-TF-13/RE-8 Modified to include a 1'-0" flat extension



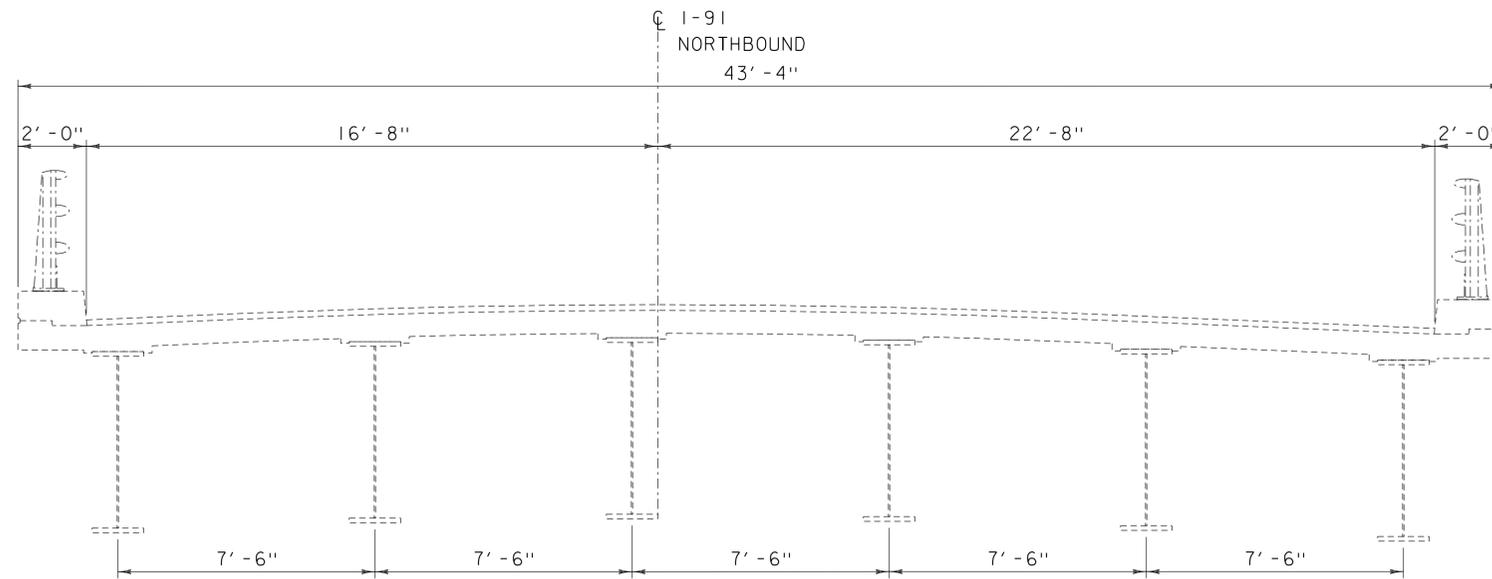
TAPERED WASHER DETAILS

NTS

PROJECT NAME:	IRASBURG	FILE NAME:	z15a116-barrier.dgn	PLOT DATE:	2/5/2016
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



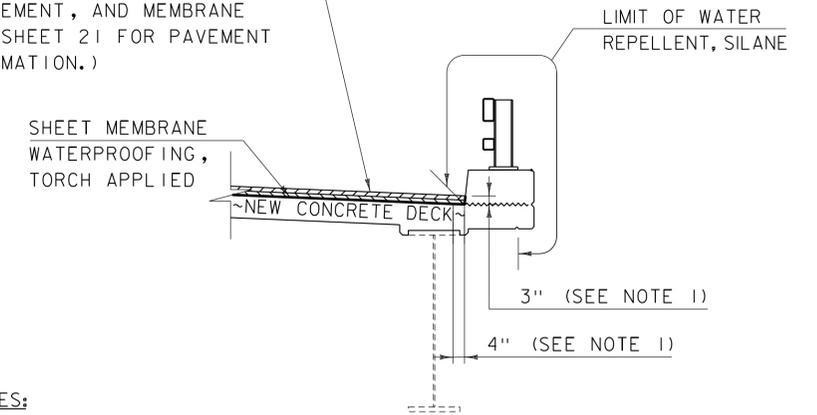
C:\D_45\823 MODEL68601



EXISTING TYPICAL BRIDGE SECTION

SCALE: $\frac{3}{8}$ " = 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.)

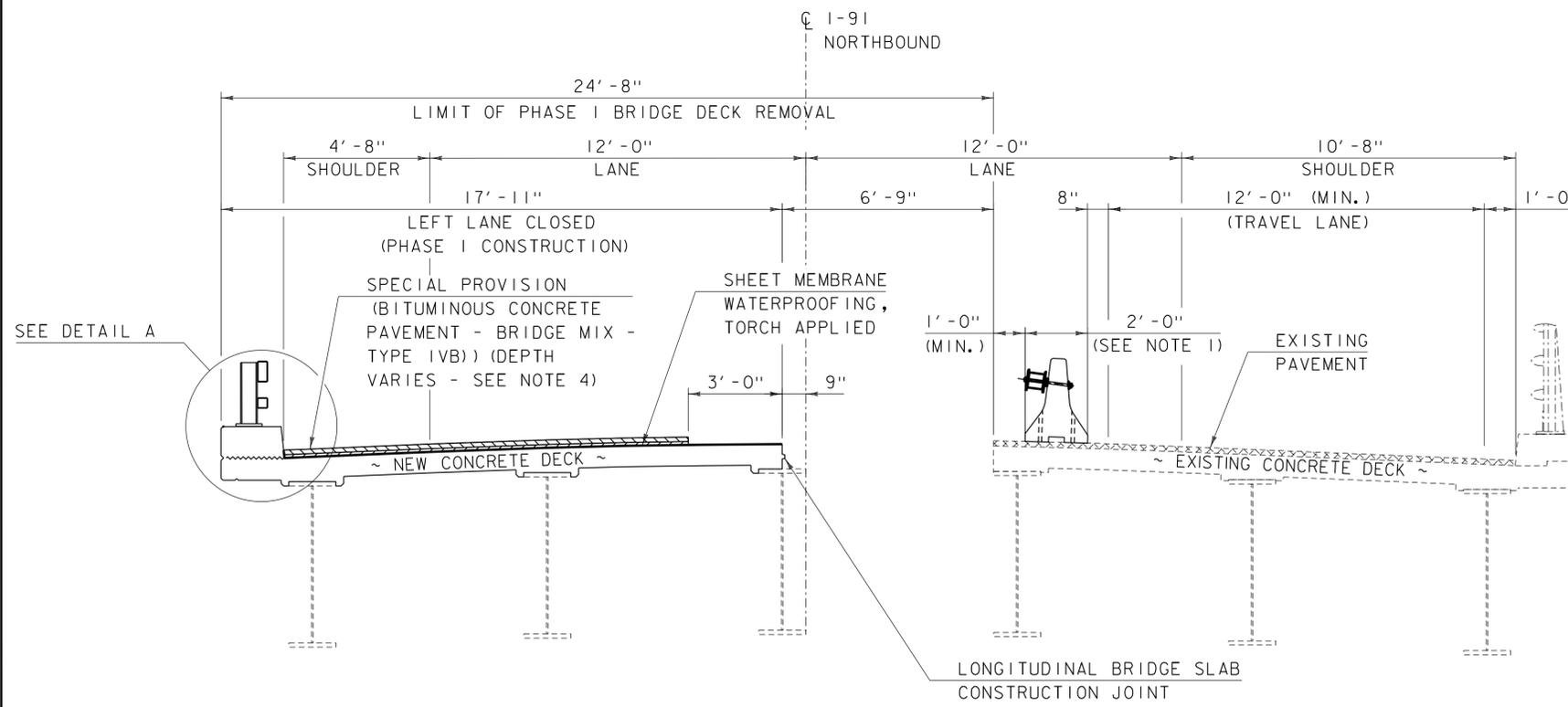


DETAIL A NOTES:

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: $\frac{3}{8}$ " = 1'-0"



PHASE I

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

NOTES:

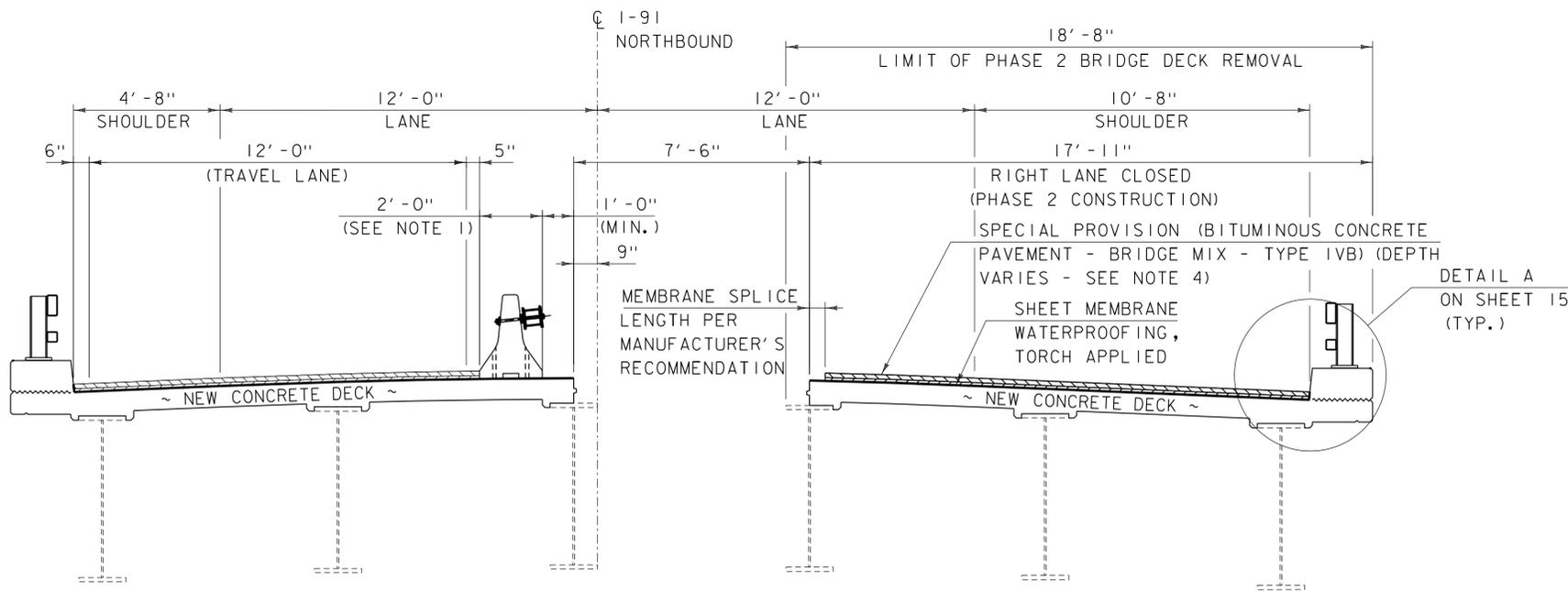
1. TEMPORARY CONCRETE TRAFFIC BARRIER AND TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED SHALL BE REQUIRED DURING BRIDGE DECK CONSTRUCTION OPERATIONS. CHANNELIZING DEVICES SUCH AS RETROREFLECTIVE PLASTIC DRUMS MAY BE UTILIZED DURING PAVING AND MEMBRANE OPERATIONS. SEE TRAFFIC CONTROL NOTES ON TRAFFIC CONTROL 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.

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

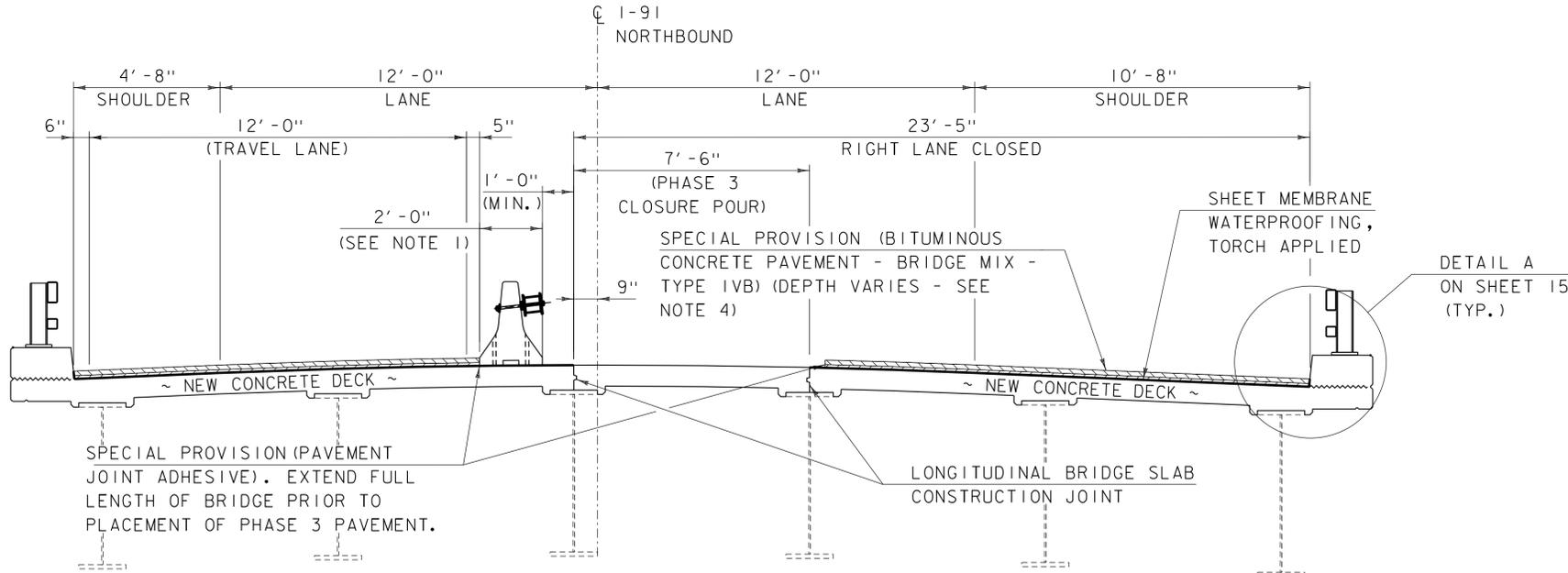
PLOT DATE: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 15 OF 49





PHASE 2

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



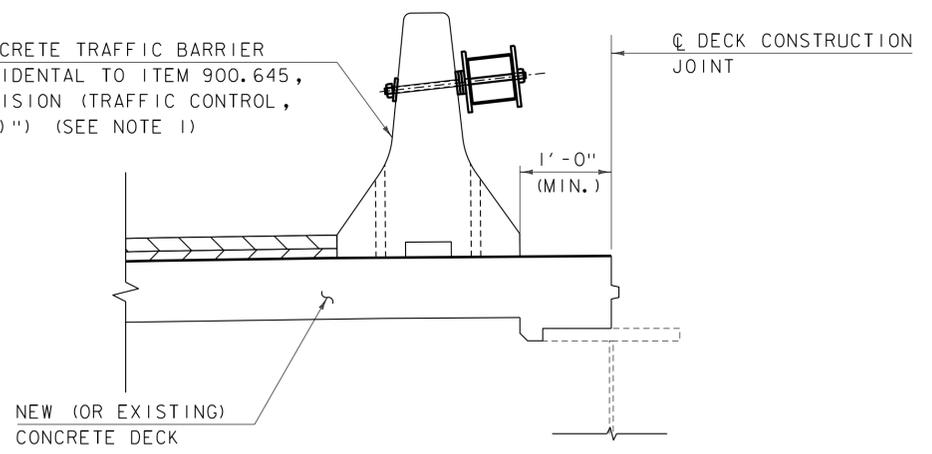
PHASE 3

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

NOTES:

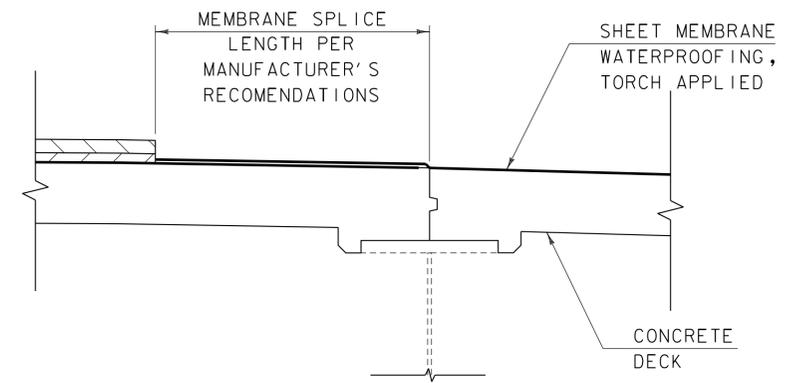
1. TEMPORARY CONCRETE TRAFFIC BARRIER AND TEMPORARY CONCRETE TRAFFIC BARRIER - BRACED SHALL BE REQUIRED DURING BRIDGE DECK CONSTRUCTION OPERATIONS. CHANNELIZING DEVICES SUCH AS RETROREFLECTIVE PLASTIC DRUMS MAY BE UTILIZED DURING PAVING AND MEMBRANE OPERATIONS. SEE TRAFFIC CONTROL NOTES ON TRAFFIC CONTROL 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)



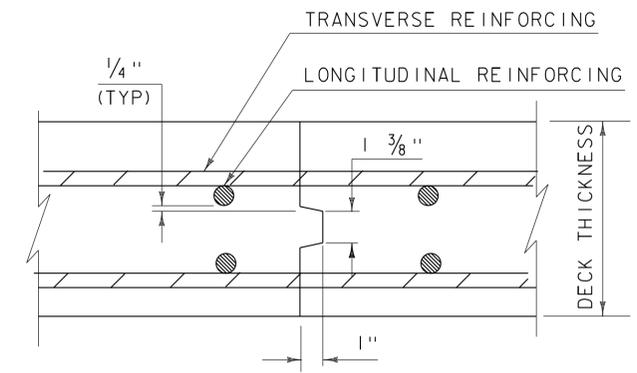
BRACED BARRIER DETAIL

SCALE: 1" = 1'-0"



MEMBRANE OVERLAP DETAIL

SCALE: 1" = 1'-0"



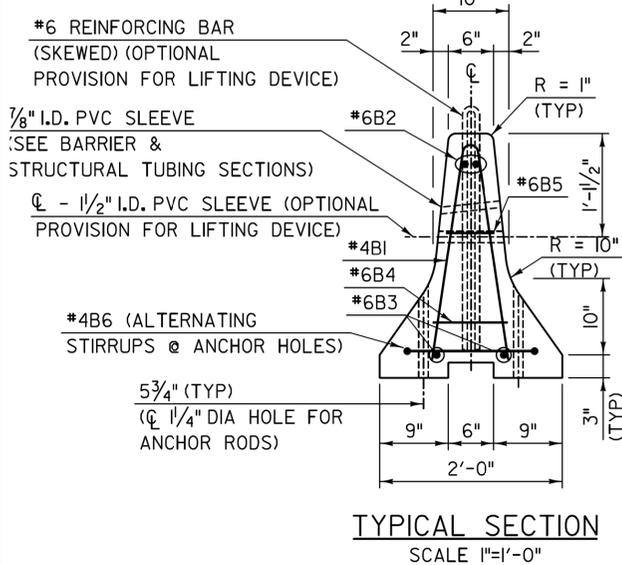
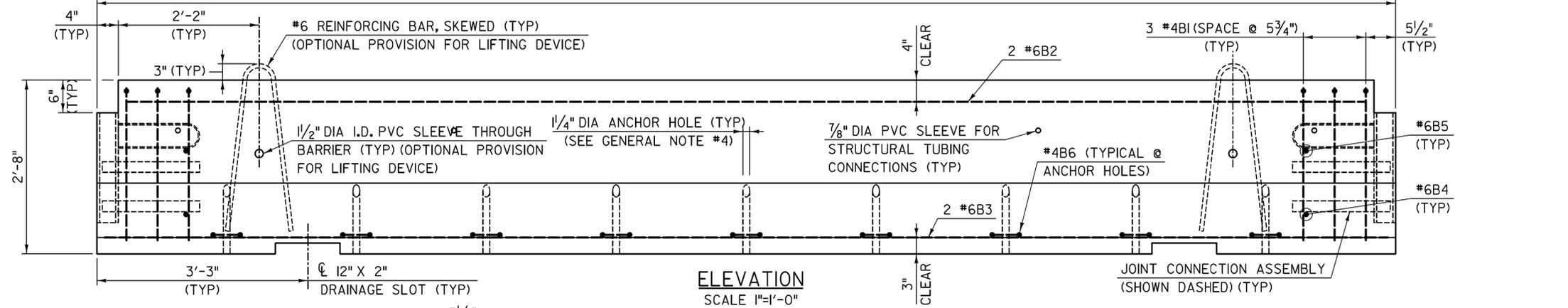
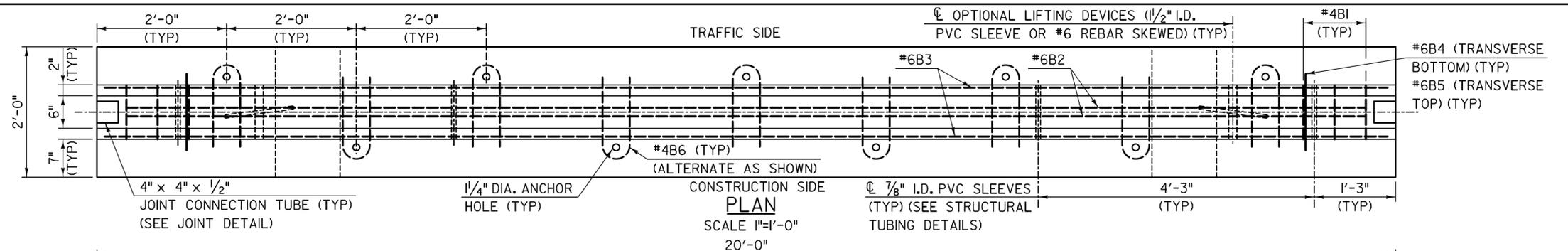
LONGITUDINAL BRIDGE SLAB CONSTRUCTION JOINT DETAILS

3" = 1'-0"



PROJECT NAME:	IRASBURG	FILE NAME:	z15all6tcp-107N.dgn	PLOT DATE:	2/5/2016
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

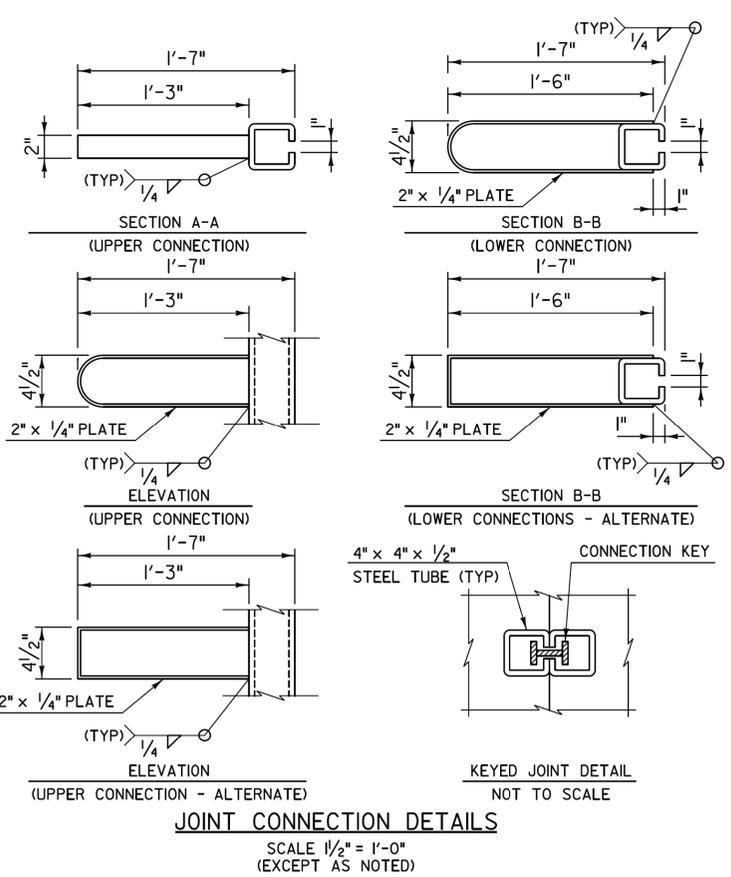
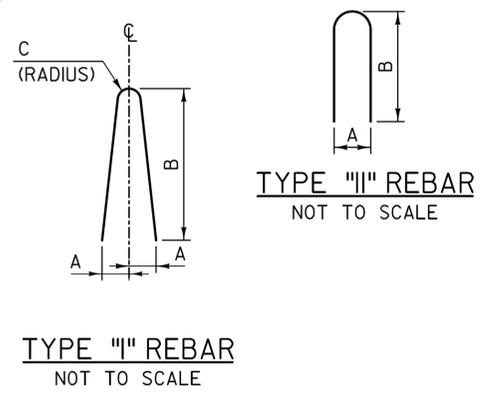
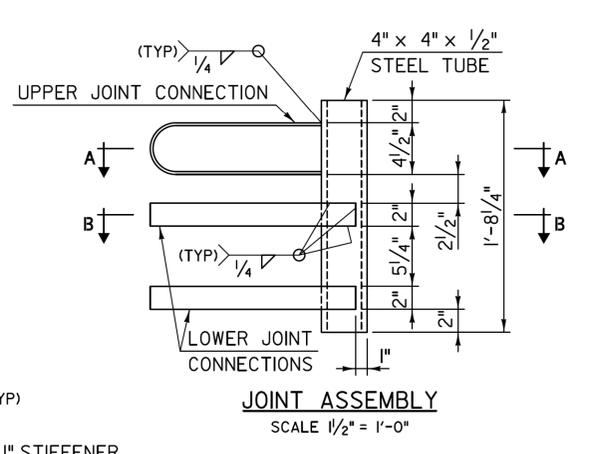
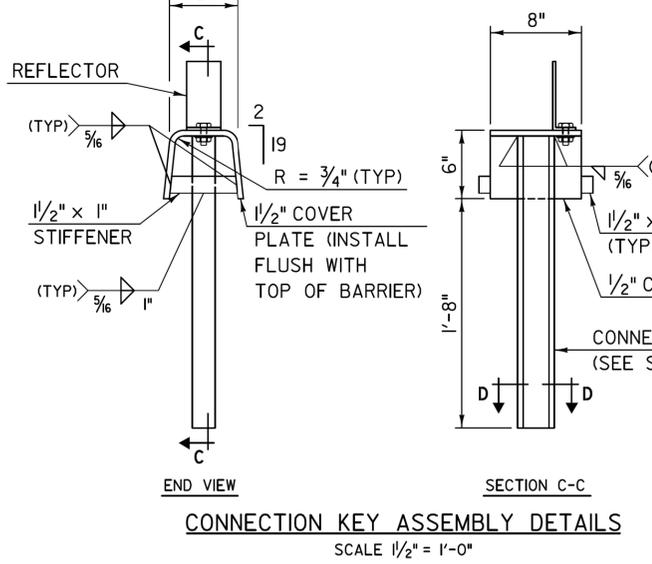
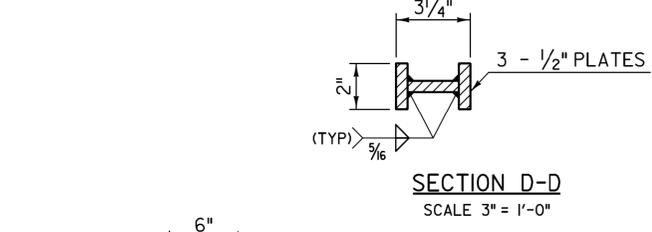


GENERAL NOTES

- 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.



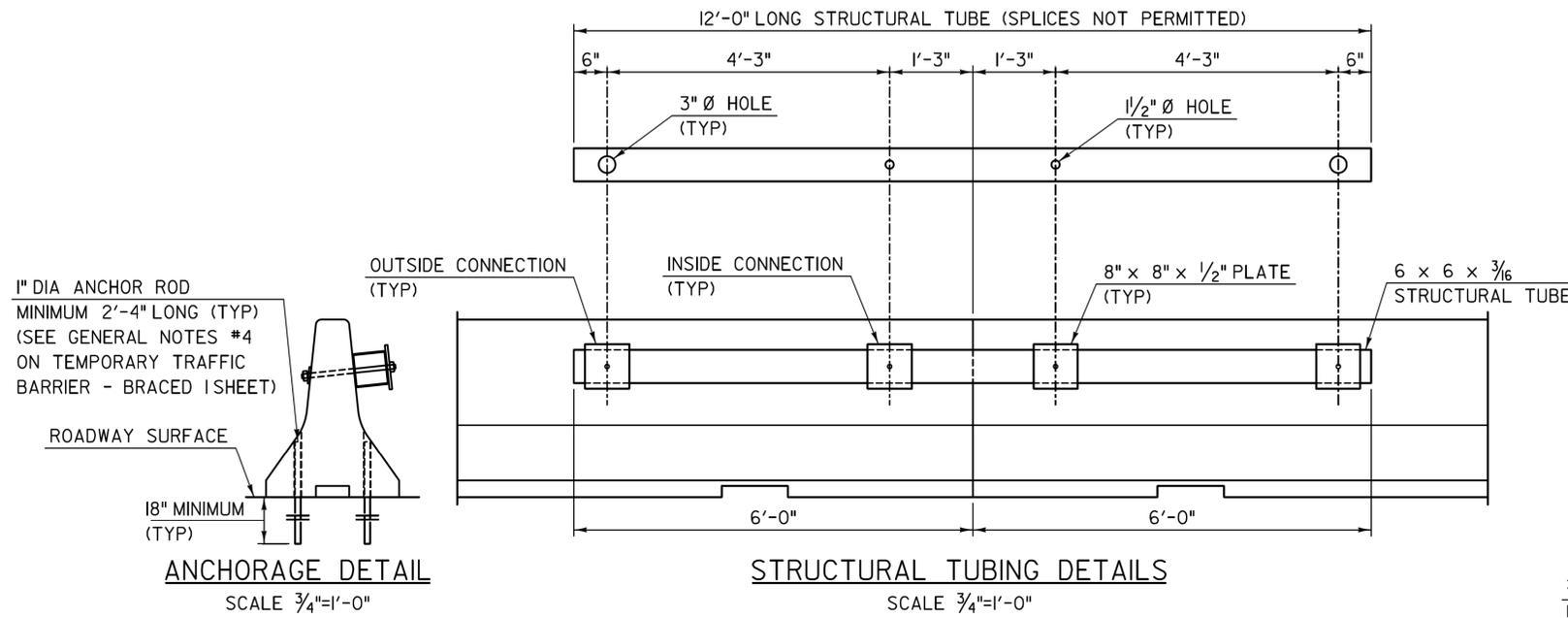
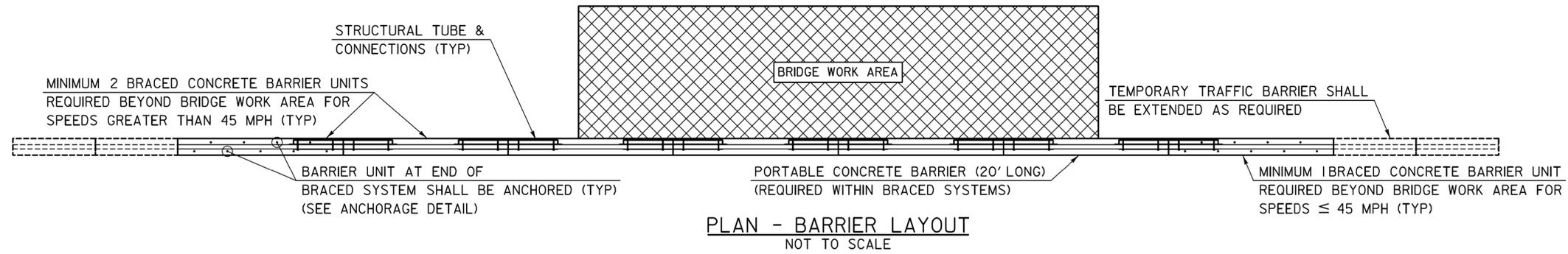
REINFORCING SCHEDULE (PER 20' BARRIER UNIT)								
MARK	SIZE	LENGTH	# PIECES	TYPE	A	B	C	LOCATION
B1	#4	4'-10"	6	I	5"	2'-4"	1"	STIRRUPS
B2	#6	19'-11"	2	---	---	---	---	LONGITUDINAL (TOP)
B3	#6	19'-9"	2	---	---	---	---	LONGITUDINAL (BOTTOM)
B4	#6	1'-2"	2	---	---	---	---	TRANSVERSE (BOTTOM)
B5	#6	6"	2	---	---	---	---	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

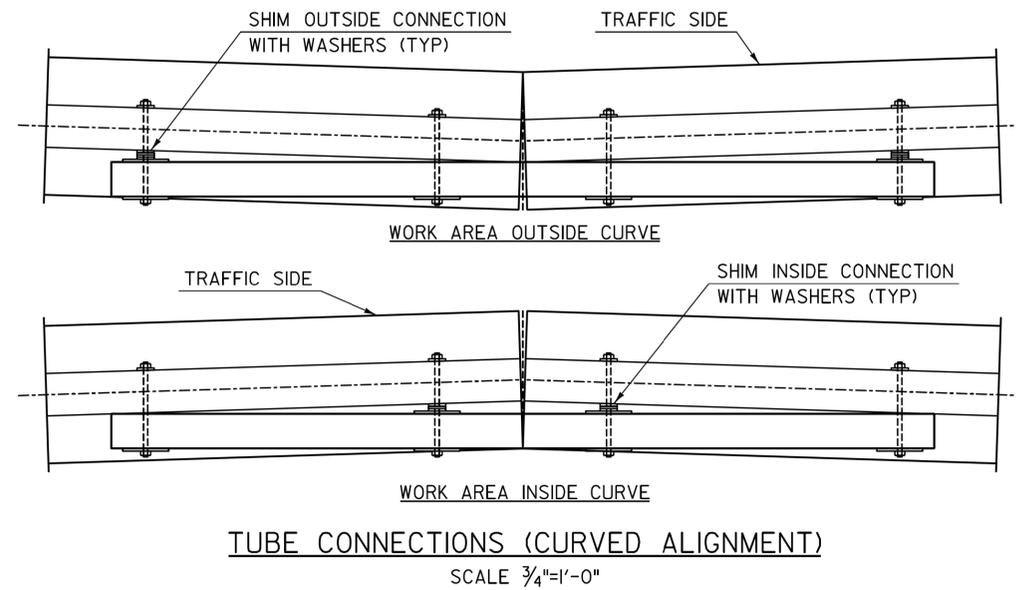
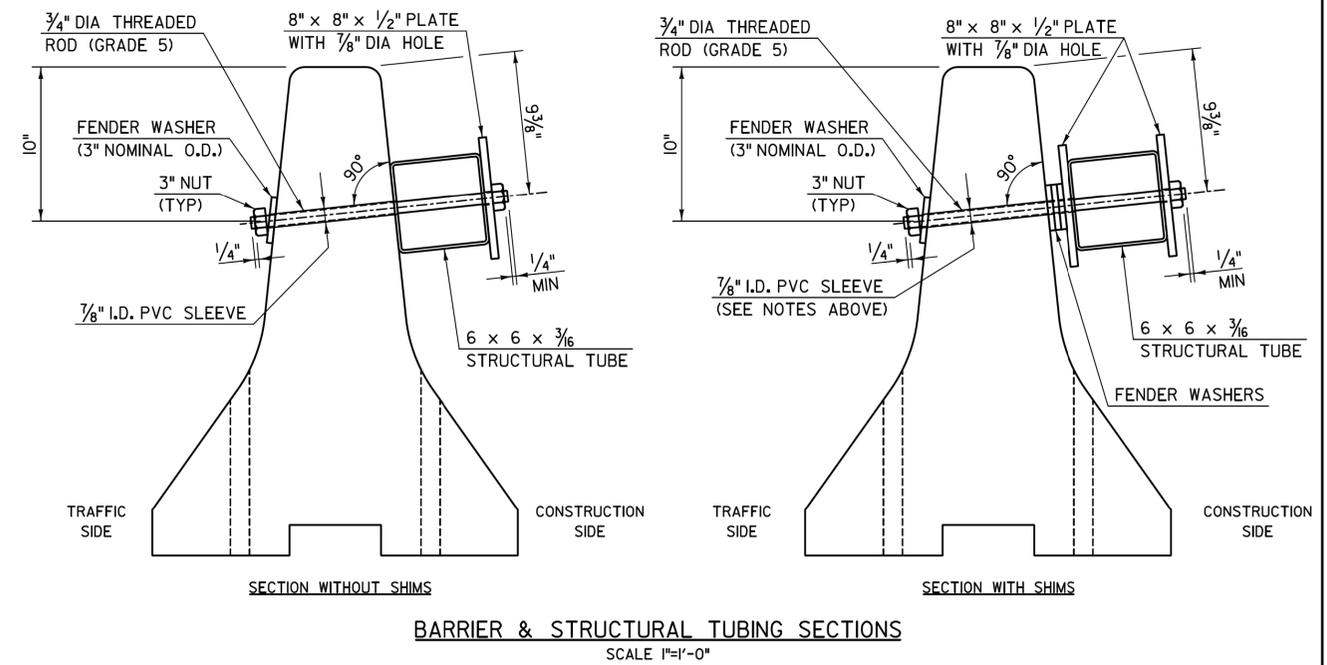
PLOT DATE: 2/5/2016
 DRAWN BY: M. SMITH
 CHECKED BY: J. BYATT
 SHEET 17 OF 49

MODEL: Sheet 01
 C.L.D. 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

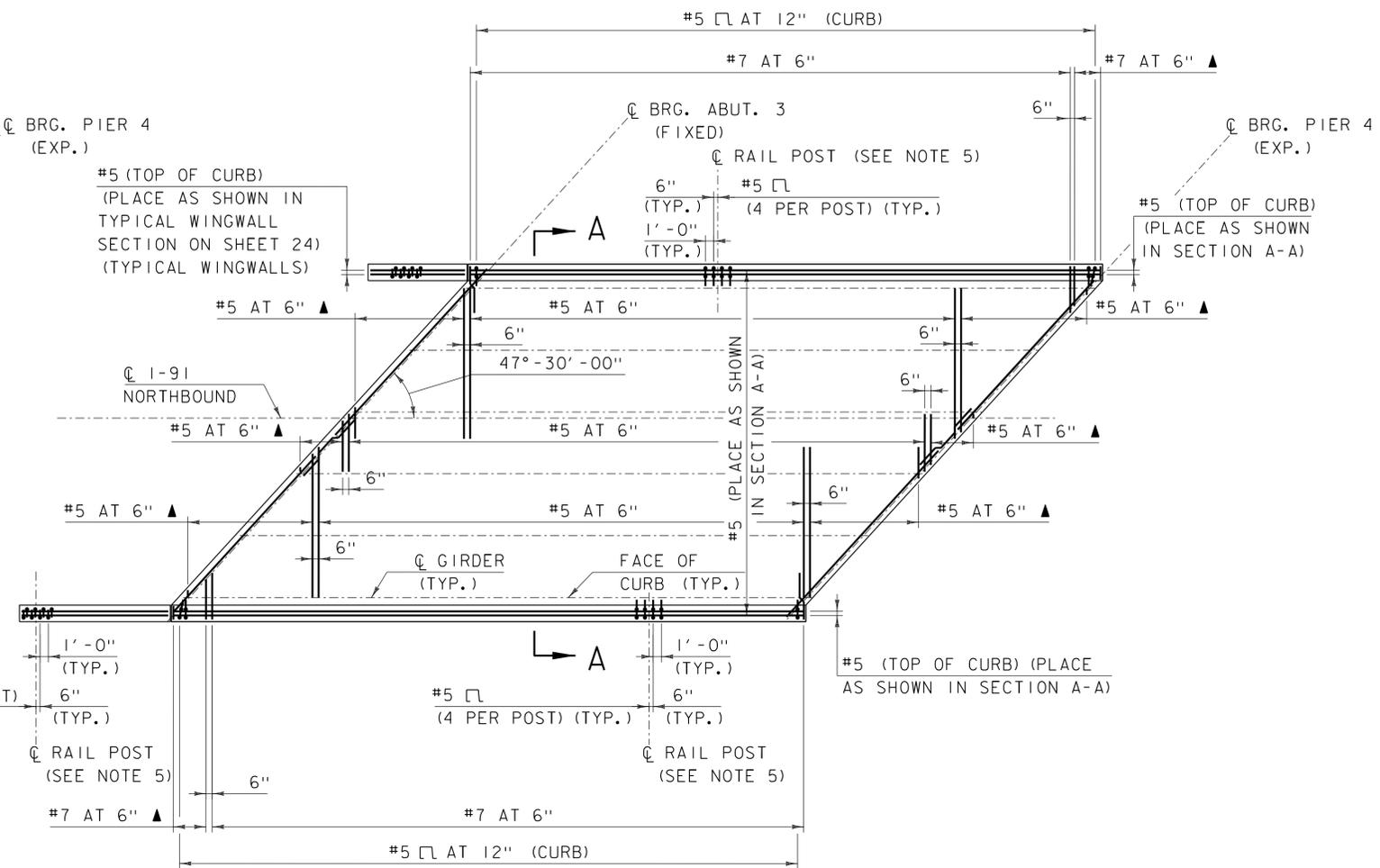
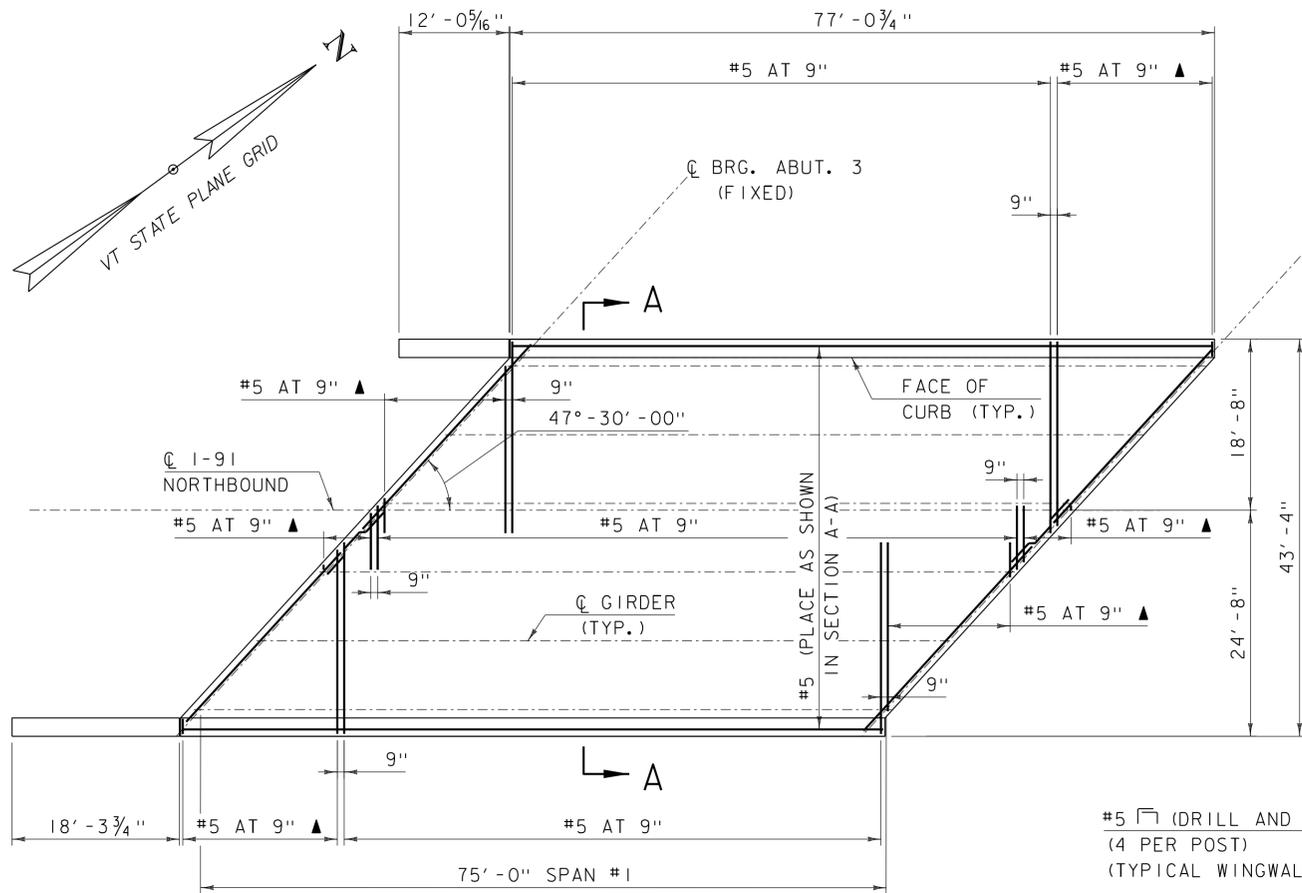


PROJECT NAME: IRASBURG
PROJECT NUMBER: IM DECK(46)

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

PLOT DATE: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: J. BYATT
SHEET 18 OF 49



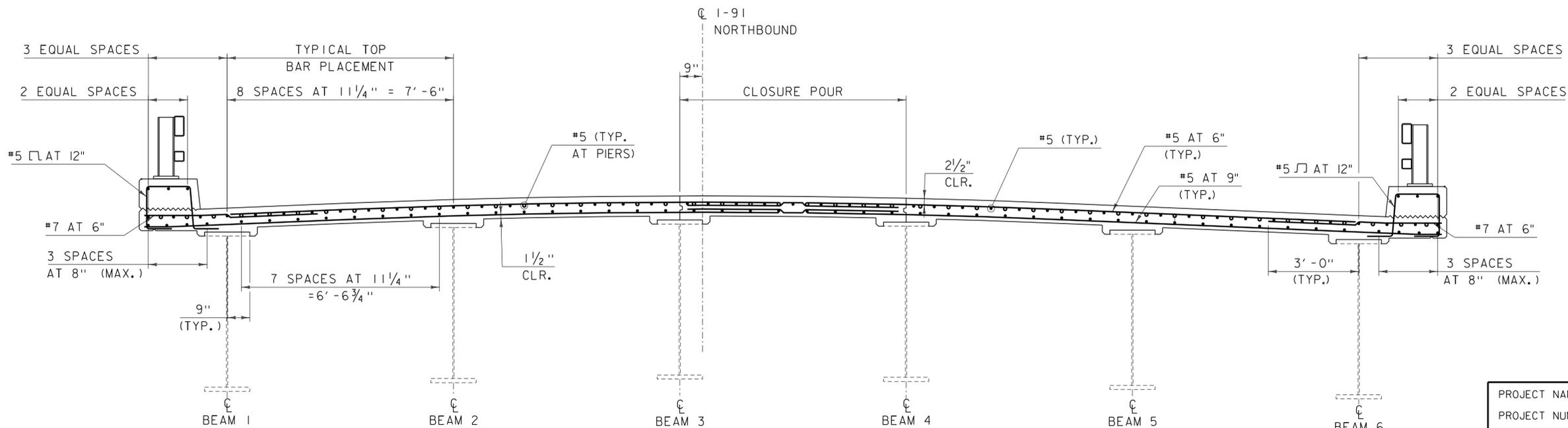


DECK REINFORCEMENT PLAN - BOTTOM BARS - SPAN #1

SCALE: 1" = 10'-0"

DECK REINFORCEMENT PLAN - TOP BARS - SPAN #1

SCALE: 1" = 10'-0"



SECTION A-A

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

NOTES:

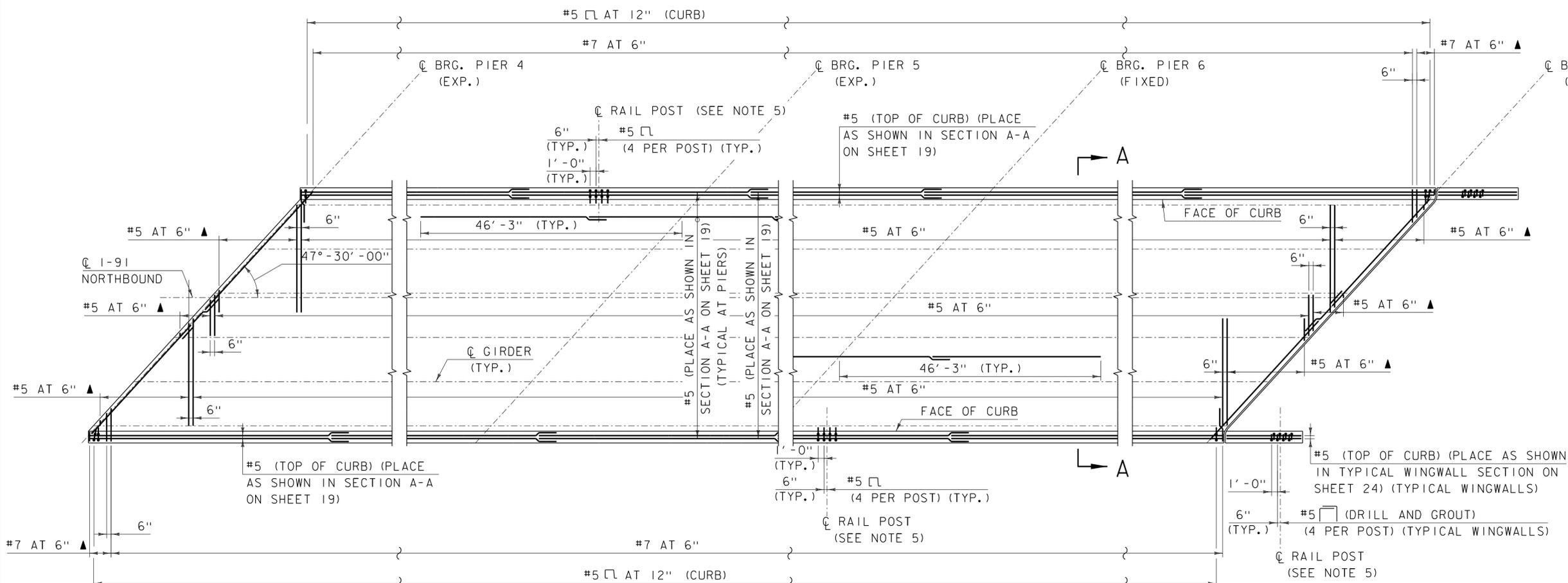
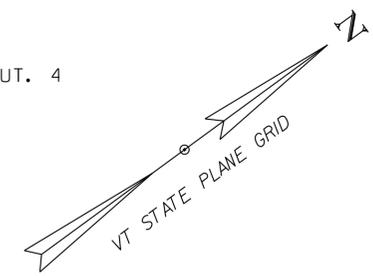
1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. 1'-0" HOOK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. SEE SHEET 20 FOR SPAN #2 THROUGH SPAN #4 DECK REINFORCEMENT PLANS.
5. SEE SHEET 26 FOR RAIL LAYOUT PLAN.
6. DECK DIMENSIONS ARE APPROXIMATED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

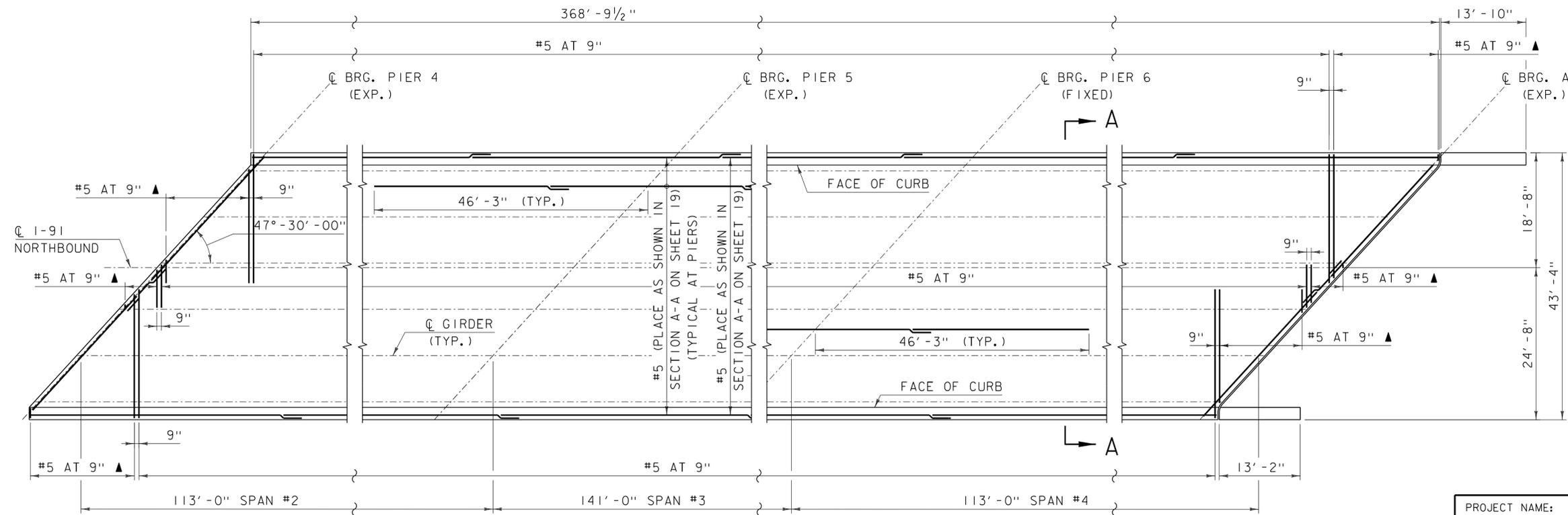
PLOT DATE: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 19 OF 49





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.

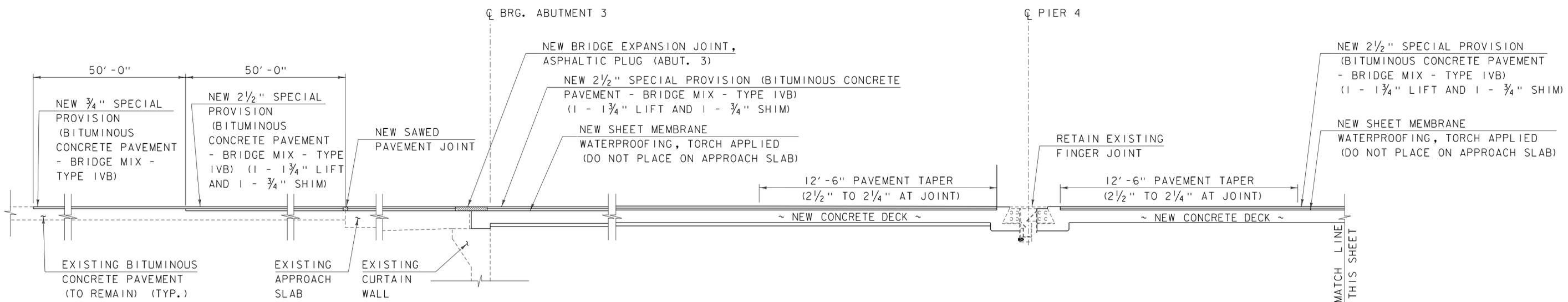
PROJECT NAME: IRASBURG
PROJECT NUMBER: IM DECK(46)

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

PLOT DATE: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 20 OF 49



CLD 15-0223 MODEL: Sheet04

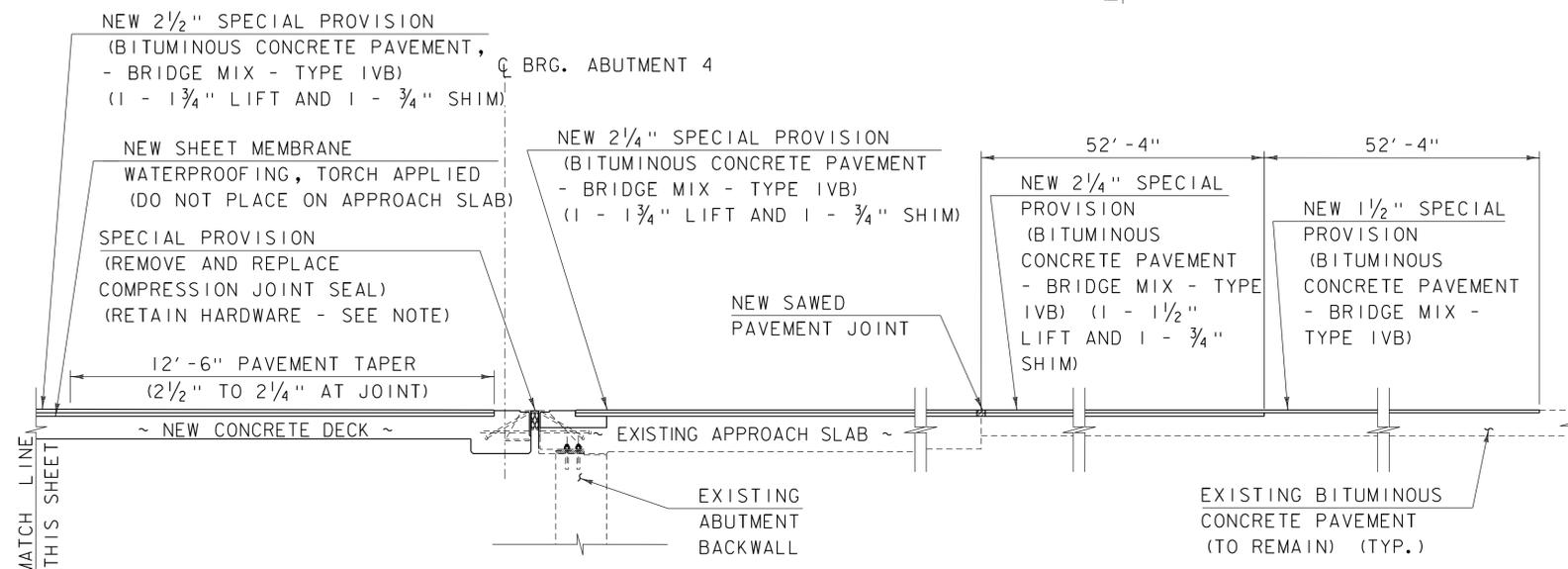


SAWED PAVEMENT JOINT REPLACEMENT SCHEDULE

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

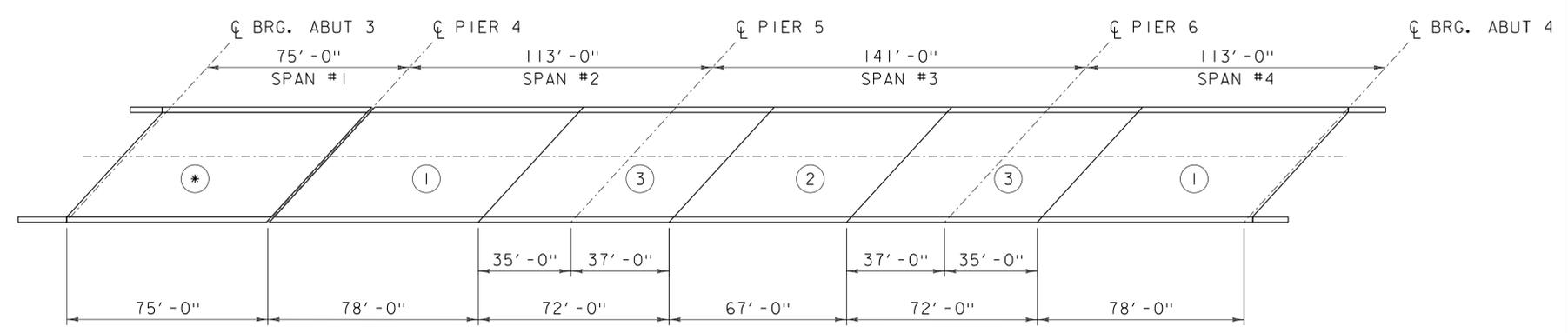
JOINT SCHEDULE

	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"

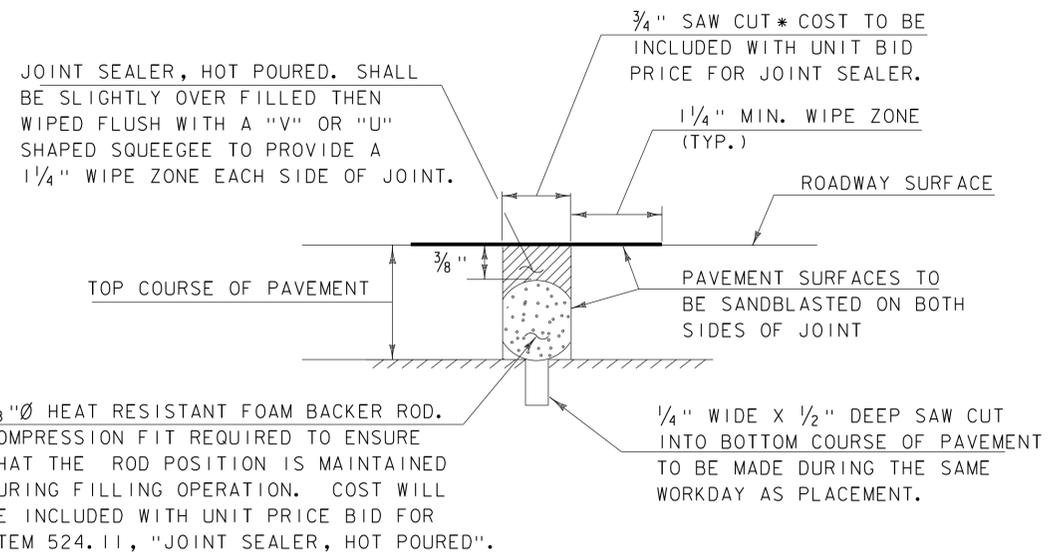


* SPAN #1 IS A SIMPLE SPAN AND CAN BE POURED AT ANY TIME.

DECK POUR SEQUENCE

SCALE: N.T.S.

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



SAWED PAVEMENT JOINT DETAIL

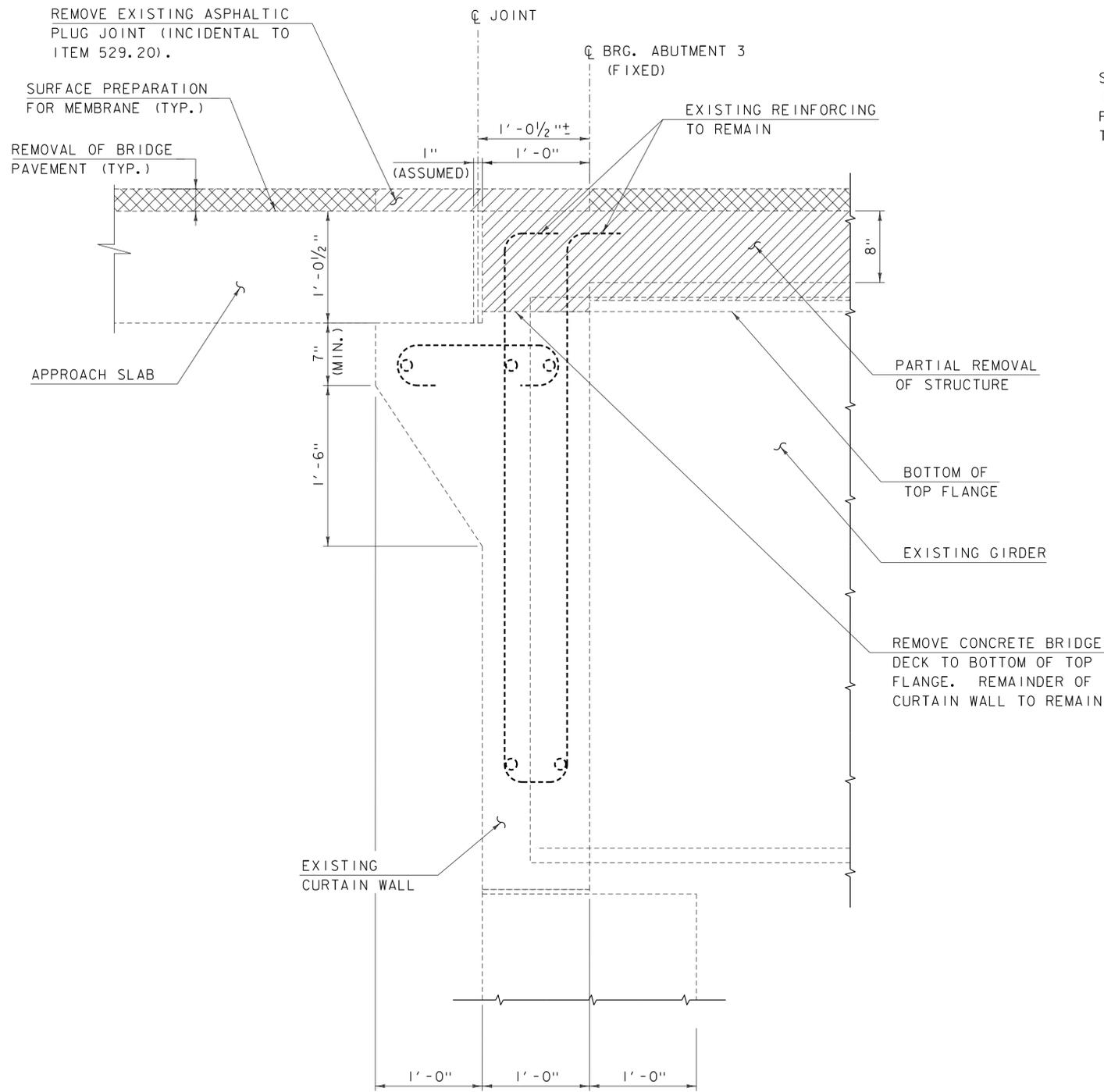
(NOT TO SCALE)

* 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".



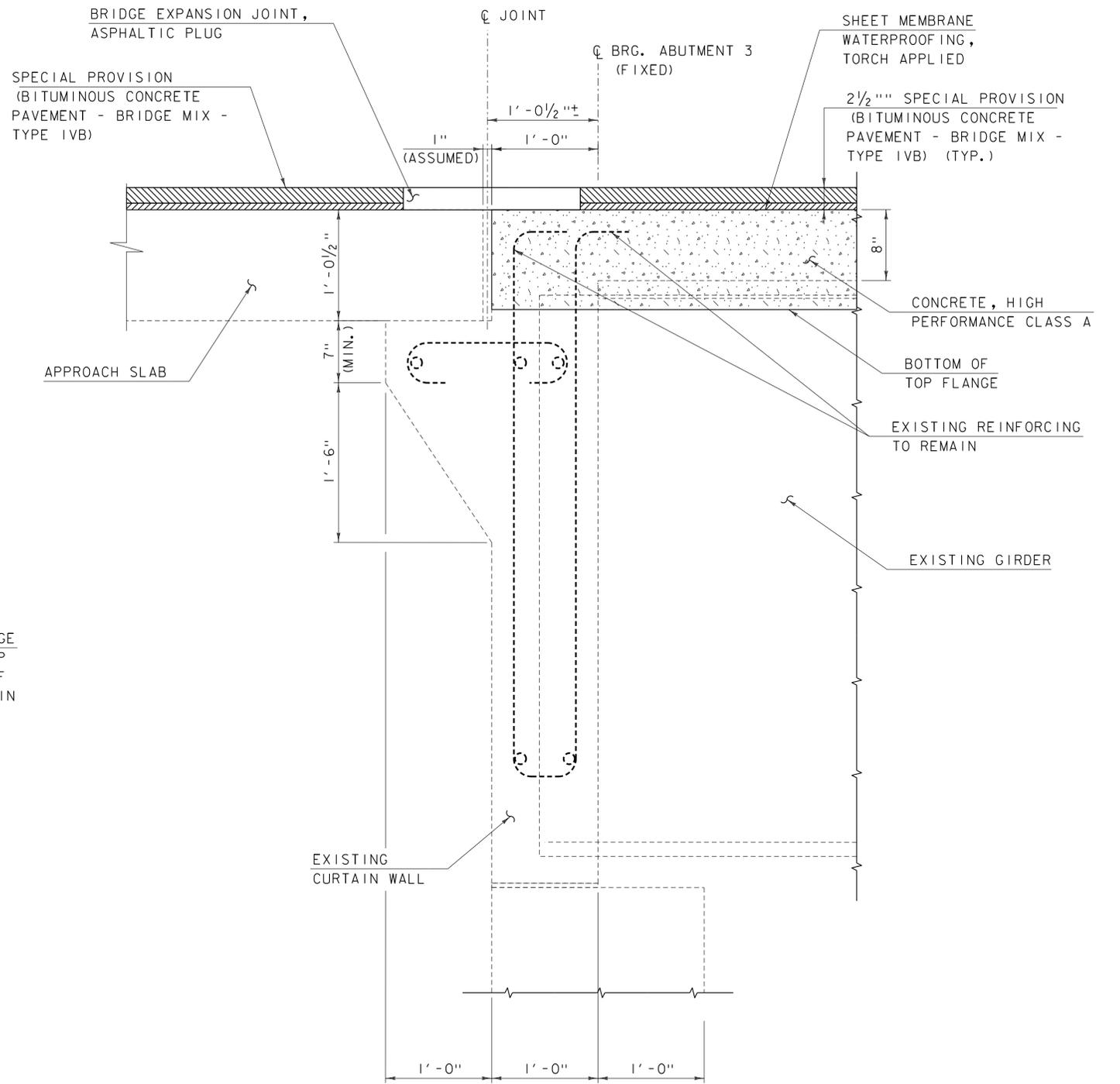
PROJECT NAME:	IRASBURG
PROJECT NUMBER:	IM DECK(46)
FILE NAME:	z15all6+yp-107N.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	J. FRENCH
JOINT DETAILS SHEET 1	
PLOT DATE:	2/5/2016
DRAWN BY:	M. SMITH
CHECKED BY:	S. BEAUMONT
SHEET	21 OF 49

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"

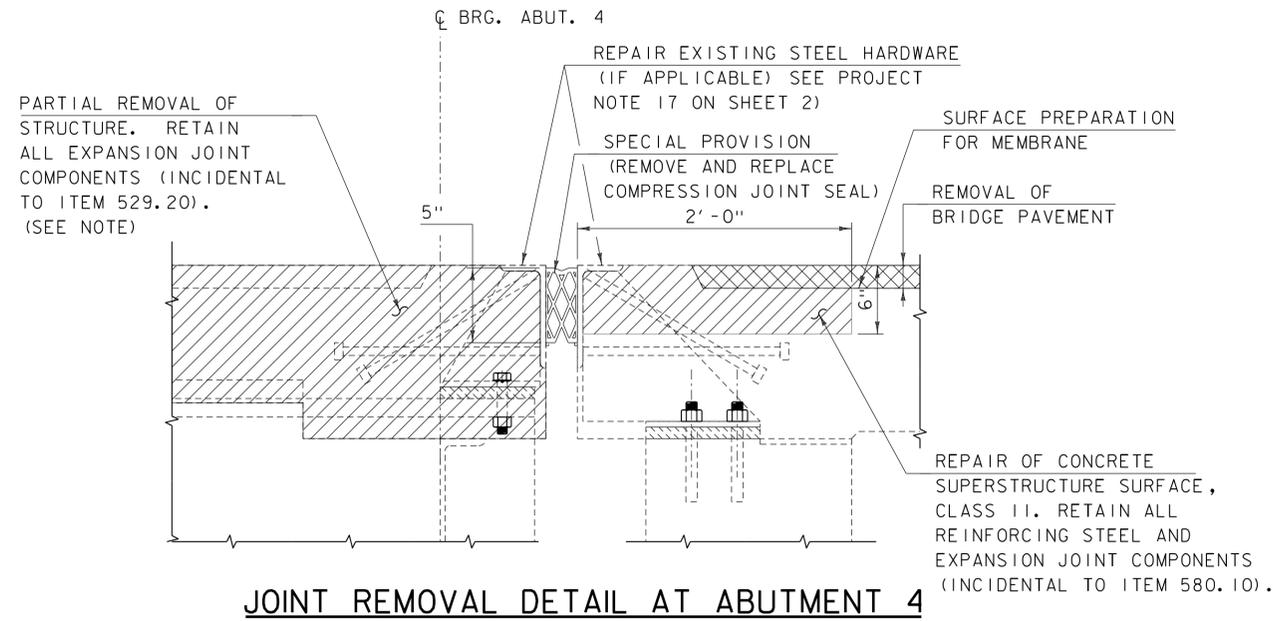
CLD 15-0223 MODEL: Sheet06



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

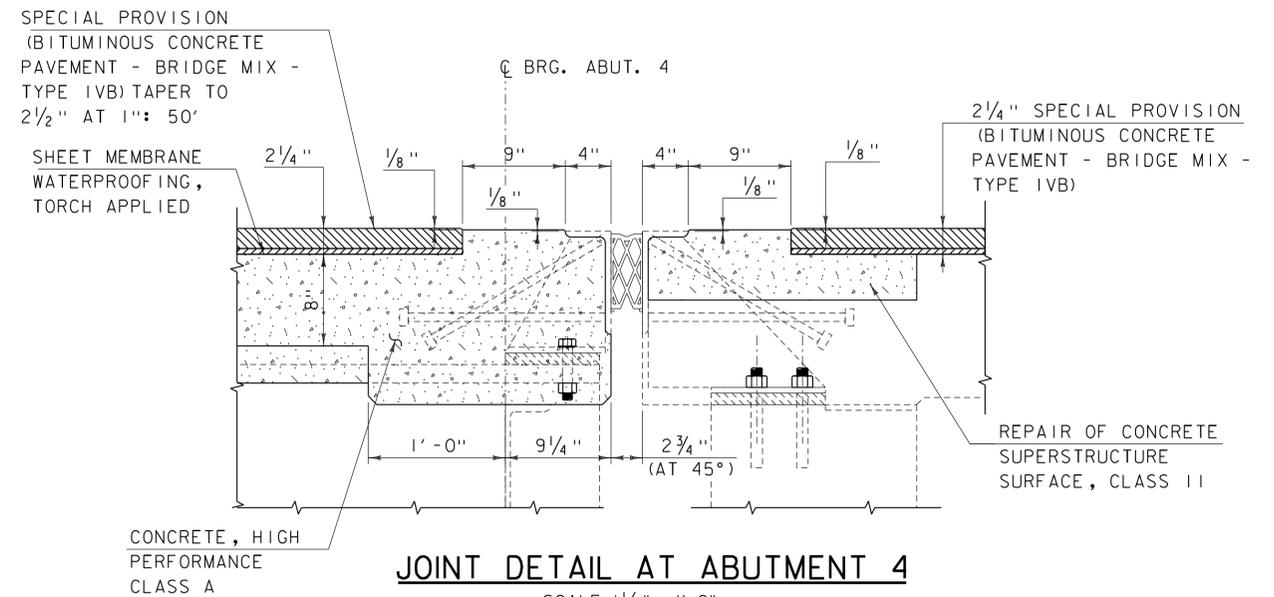
FILE NAME: z15all6+yp-107N.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: J. FRENCH
JOINT DETAILS SHEET 2

PLOT DATE: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 22 OF 49



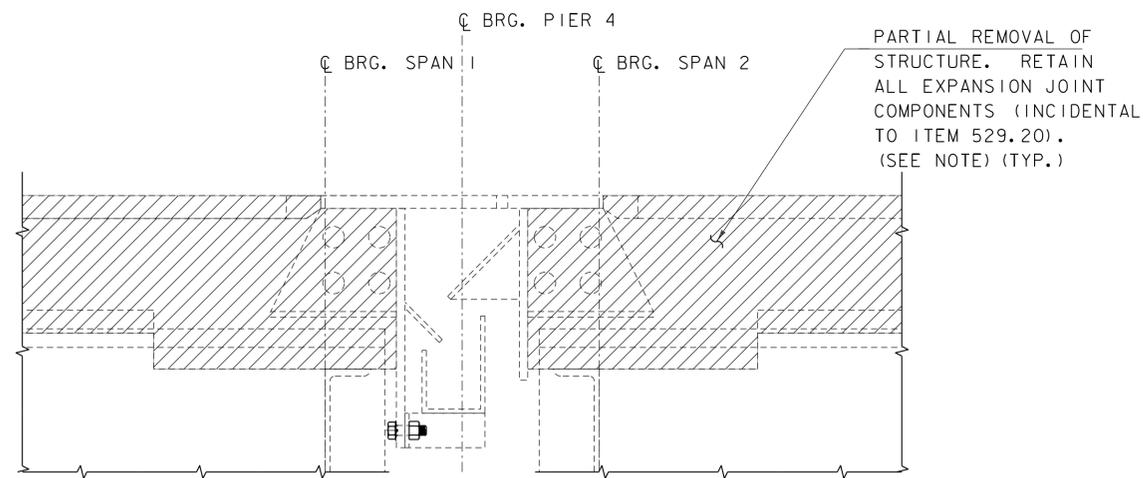
JOINT REMOVAL DETAIL AT ABUTMENT 4

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



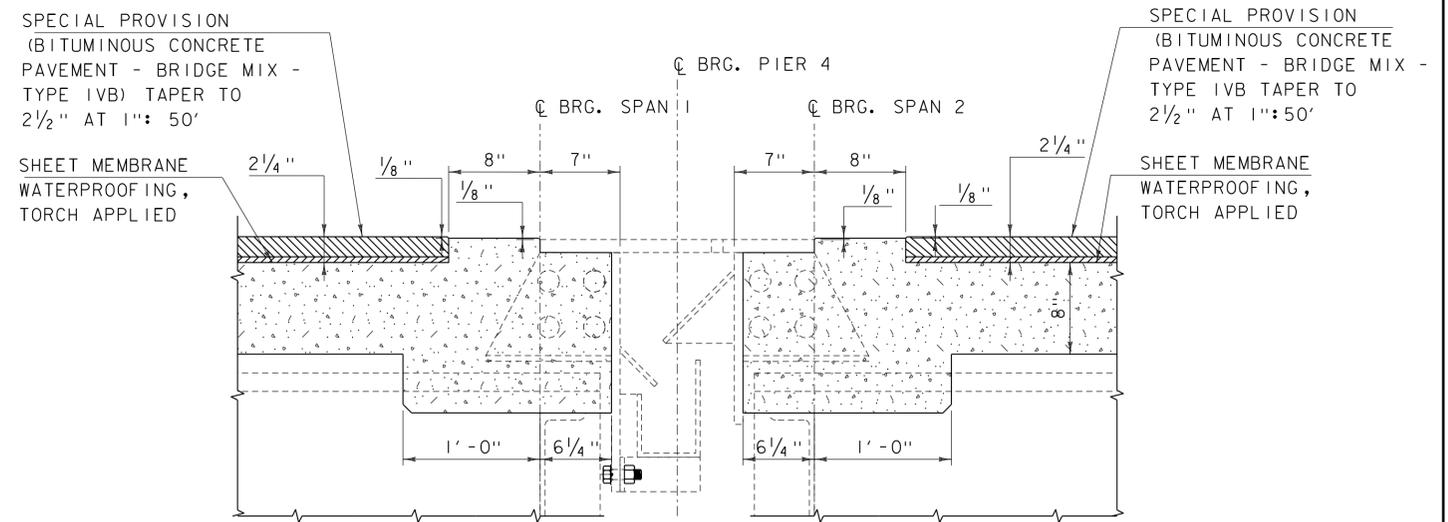
JOINT DETAIL AT ABUTMENT 4

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"

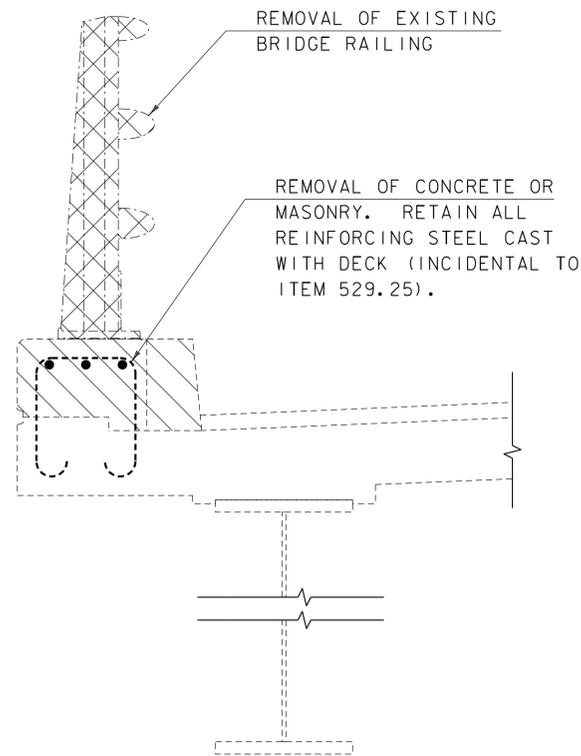
NOTE: SEE PROJECT NOTES 16 THROUGH 18 ON SHEET 2 FOR ADDITIONAL JOINT INFORMATION.

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

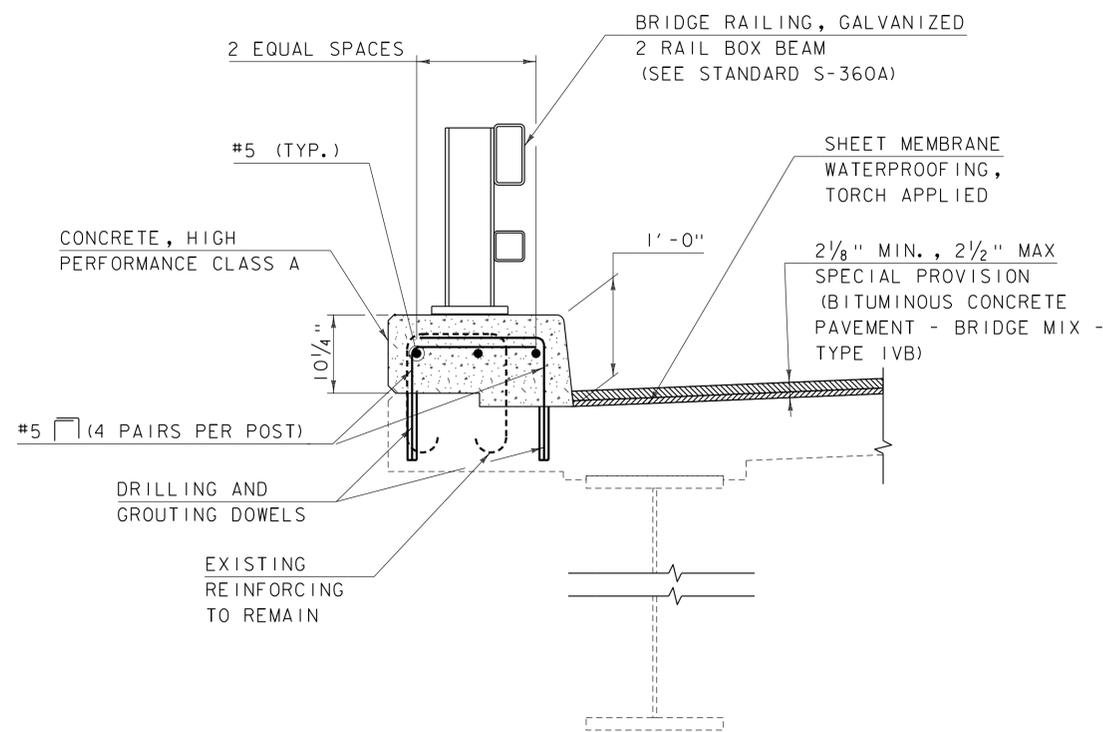
PLOT DATE: 2/5/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 23 OF 49





SPAN I REMOVAL LIMITS

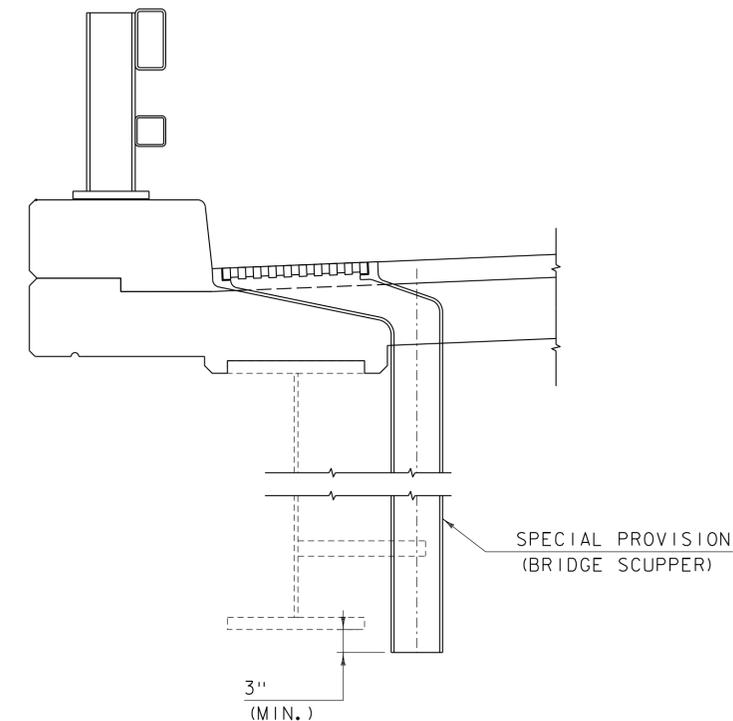
SCALE: 1" = 1'-0"



TYPICAL SPAN I SECTION

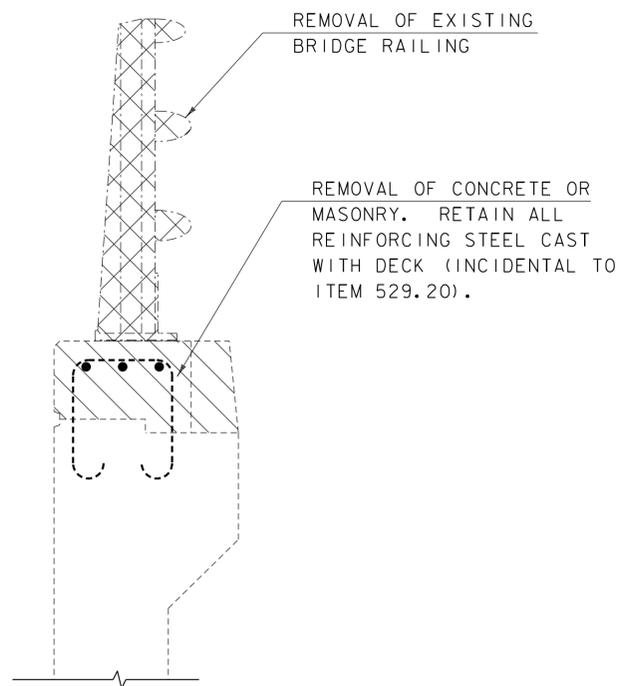
SCALE: 1" = 1'-0"

TO BE USED IF SPAN I REMAINS IN-PLACE



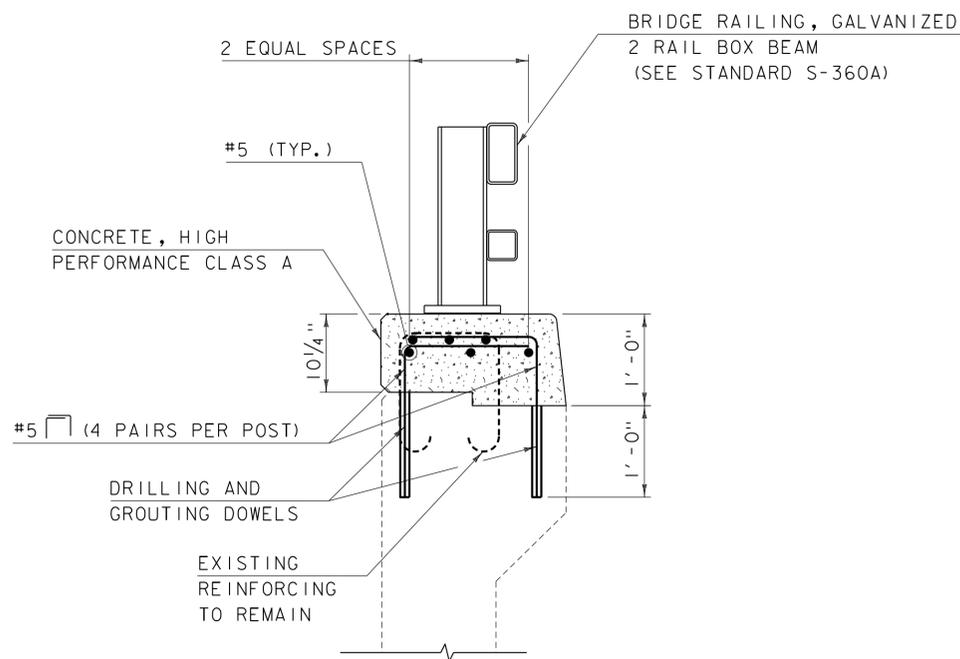
TYPICAL SCUPPER DETAIL

SCALE: 1" = 1'-0"



WINGWALL REMOVAL LIMITS

SCALE: 1" = 1'-0"



TYPICAL WINGWALL SECTION

SCALE: 1" = 1'-0"

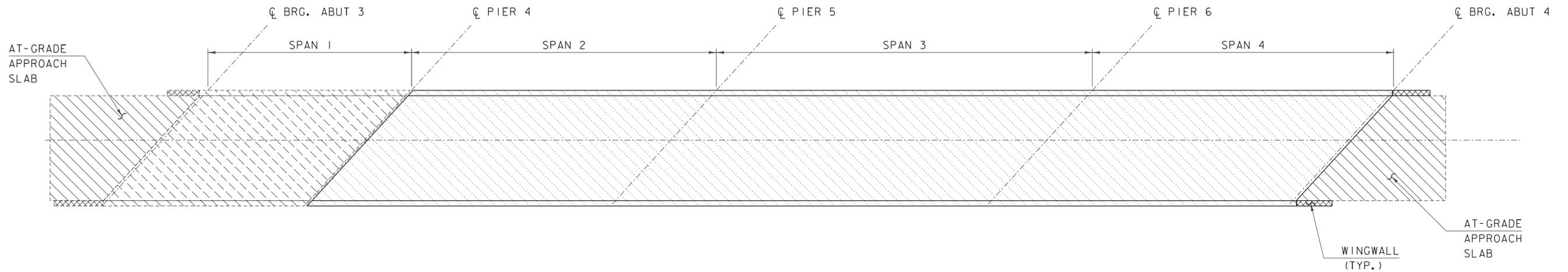
-  REMOVAL OF EXISTING BRIDGE RAILING
-  REMOVAL OF CONCRETE OR MASONRY SEE PROJECT NOTES 13 AND 14 ON SHEET 2.
-  CONCRETE, HIGH PERFORMANCE CLASS A

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: 2/5/2016
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.

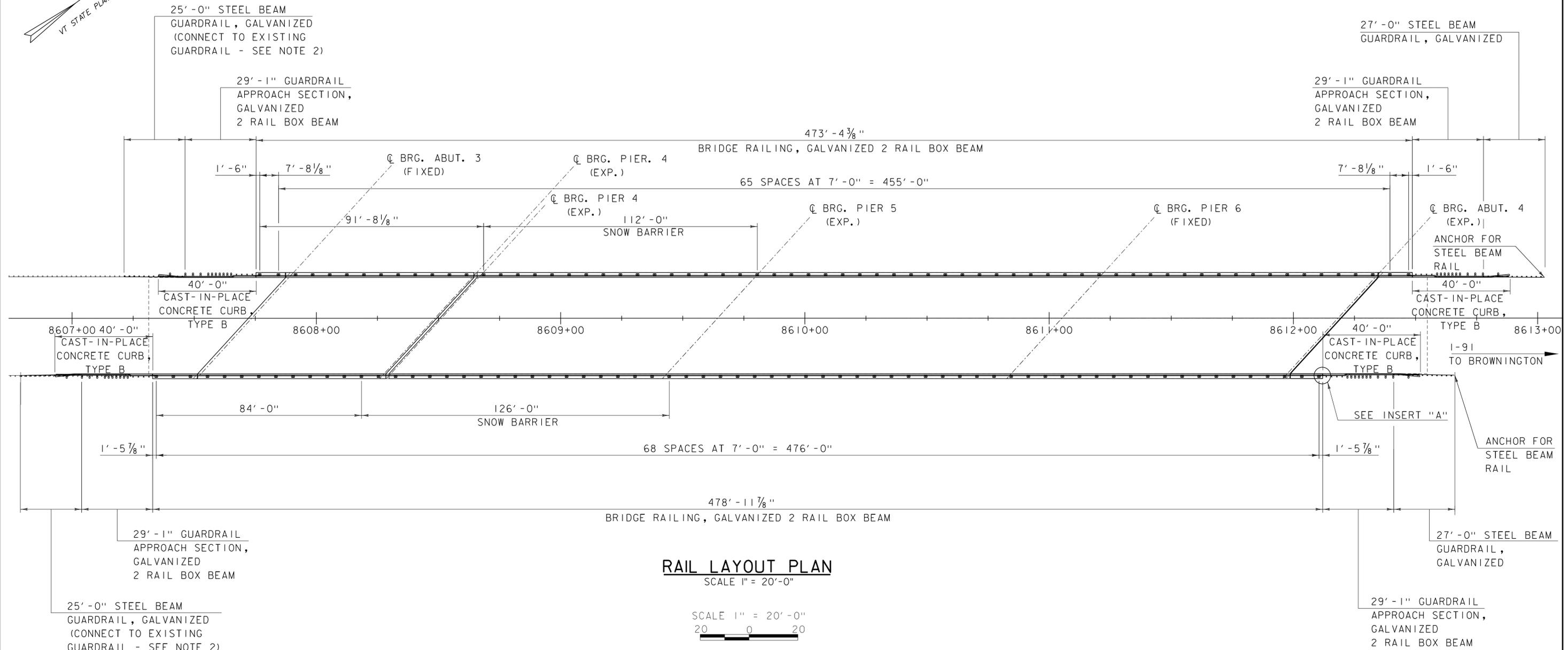
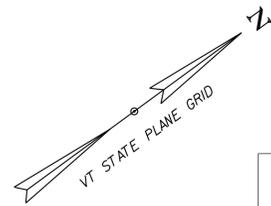
NOTES:

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.

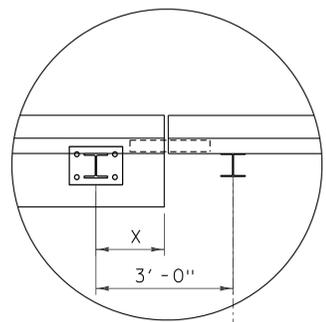
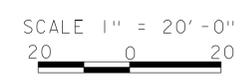
CLD 15-0223 MODEL: Sheet09



PROJECT NAME: IRASBURG	
PROJECT NUMBER: IM DECK(46)	
FILE NAME: z15a116+yp-107N.dgn	PLOT DATE: 2/5/2016
PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
DESIGNED BY: J. FRENCH	CHECKED BY: S. BEAUMONT
BITUMINOUS CONCRETE REMOVAL PLAN SHEET 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

POST 1
OFF BRIDGE

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

NOTES:

- REFER TO STANDARDS G-1, G-1d, S-360A, AND S360B.
- 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:	2/5/2016
DRAWN BY:	P. McKECHNIE
CHECKED BY:	S. FORTIER
SHEET	26 OF 49



MODEL: Sheet 01
CLD 15-0223

750-A

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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
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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
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122	B-5 TYPICAL SLOPE GRADING 3-10-65
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309-305	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

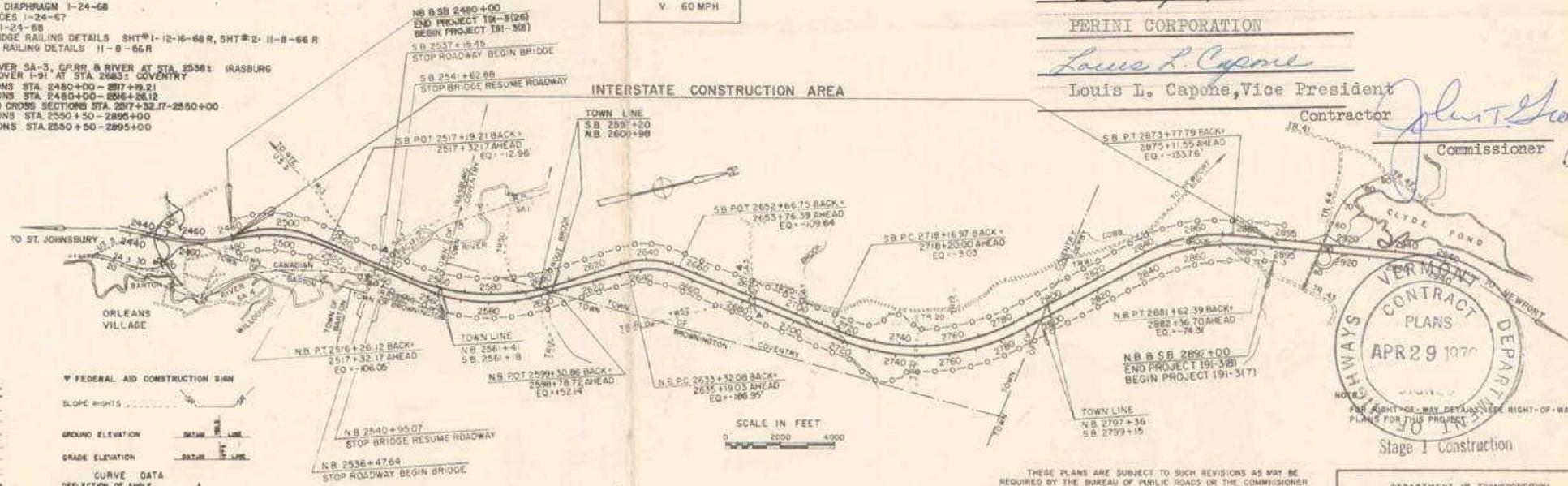
PERINI CORPORATION

Louis L. Capone

Louis L. Capone, Vice President

Contractor *John T. Day*

Commissioner



CONVENTIONAL SIGNS

ROW	CONVENTIONAL SIGN
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

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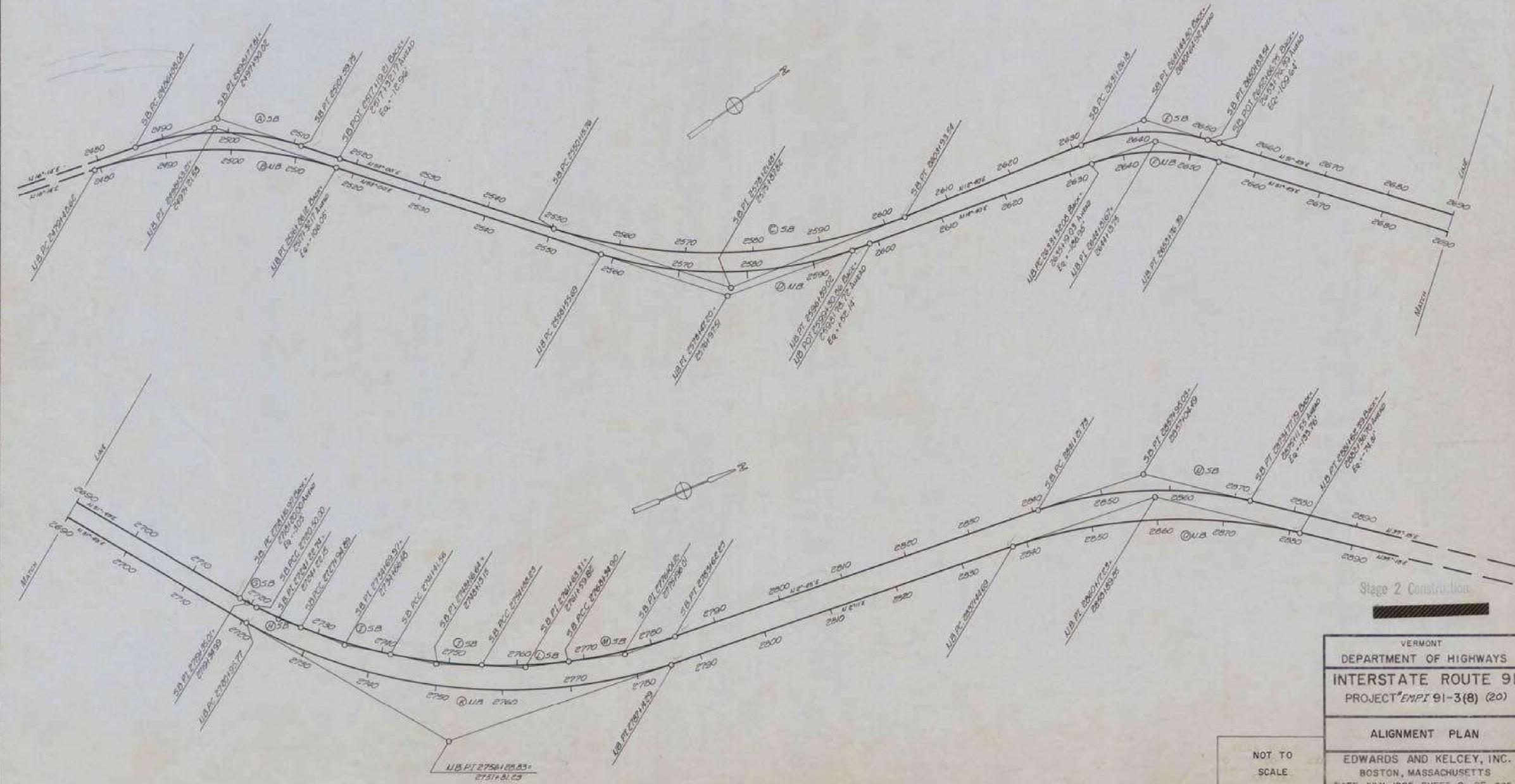
DEPARTMENT OF TRANSPORTATION
BUREAU OF PUBLIC ROADS

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' E=3819.72 T=13663.23 L=2451.67 E=205.51 Bank 75' Per Ft.	CURVE ② MS L=37°-56'-30" R D=1°-00' E=3783.58 T=1624.53 L=3677.50 E=308.26 Bank 75' Per Ft.	CURVE ③ SB L=40°-22'-00" R D=0°-45' E=7639.487 T=2205.721 L=5377.775 E=458.933 Bank 75' Per Ft.	CURVE ④ MS L=38°-20'-00" L D=1°-00' E=5729.58 T=1291.51 L=3933.35 E=336.24 Bank 75' Per Ft.	CURVE ⑤ SB L=39°-25'-30" R D=0°-50' E=2864.789 T=1013.619 L=1857.361 E=174.705 Bank 74' Per Ft.	CURVE ⑥ MS L=37°-08'-50" R D=0°-50' E=2064.789 T=982.639 L=1857.361 E=157.411 Bank 74' Per Ft.	CURVE ⑦ SB L=1°-43'-30" L D=0°-45' E=7639.487 T=115.009 L=230.000 E=0.87 Bank 75' Per Ft.	CURVE ⑧ MS L=3°-35'-12" R D=0°-48' E=7639.487 T=372.940 L=794.809 LC=744.594 M=3077 Bank 75' Per Ft.	CURVE ⑨ SB L=1°-27'-28" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑩ MS L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑪ SB L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑫ MS L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑬ SB L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑭ MS L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑮ MS L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 Bank 75' Per Ft.	CURVE ⑯ MS L=1°-07'-00" L D=0°-45' E=7639.487 T=675.082 L=1346.667 LC=1344.934 M=29694 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

DATE	BY
APPROVED	DESIGNED
NOTED	CHECKED
DATE	BY
DATE	U.S. ELEV. 789.345

CONTROL OF ACCESS COMPLETE ON THIS SHEET

* Topsoil Stockpiled SB 2520+00 LT.

JUTE MARKING ITEM 623

MEG	2520+00 - 2522+00
MEG	2523+00 - 2524+50
MEG	2525+50 - 2527+50
MEG	2528+50 - 2531+00
MEG	2532+00 - 2534+00
MEG	2535+00 - 2536+00

PROPERTY LINE FENCE W/Steel Posts Item 583-B Mod

SB 2520+00 - 2536+00 LT
NB 2520+00 - 2536+00 RT
NB 2533+50 - 2536+00 RT

DEMOLITION AND DISPOSAL OF BUILDING ITEM 588

SB 2534+40 LT

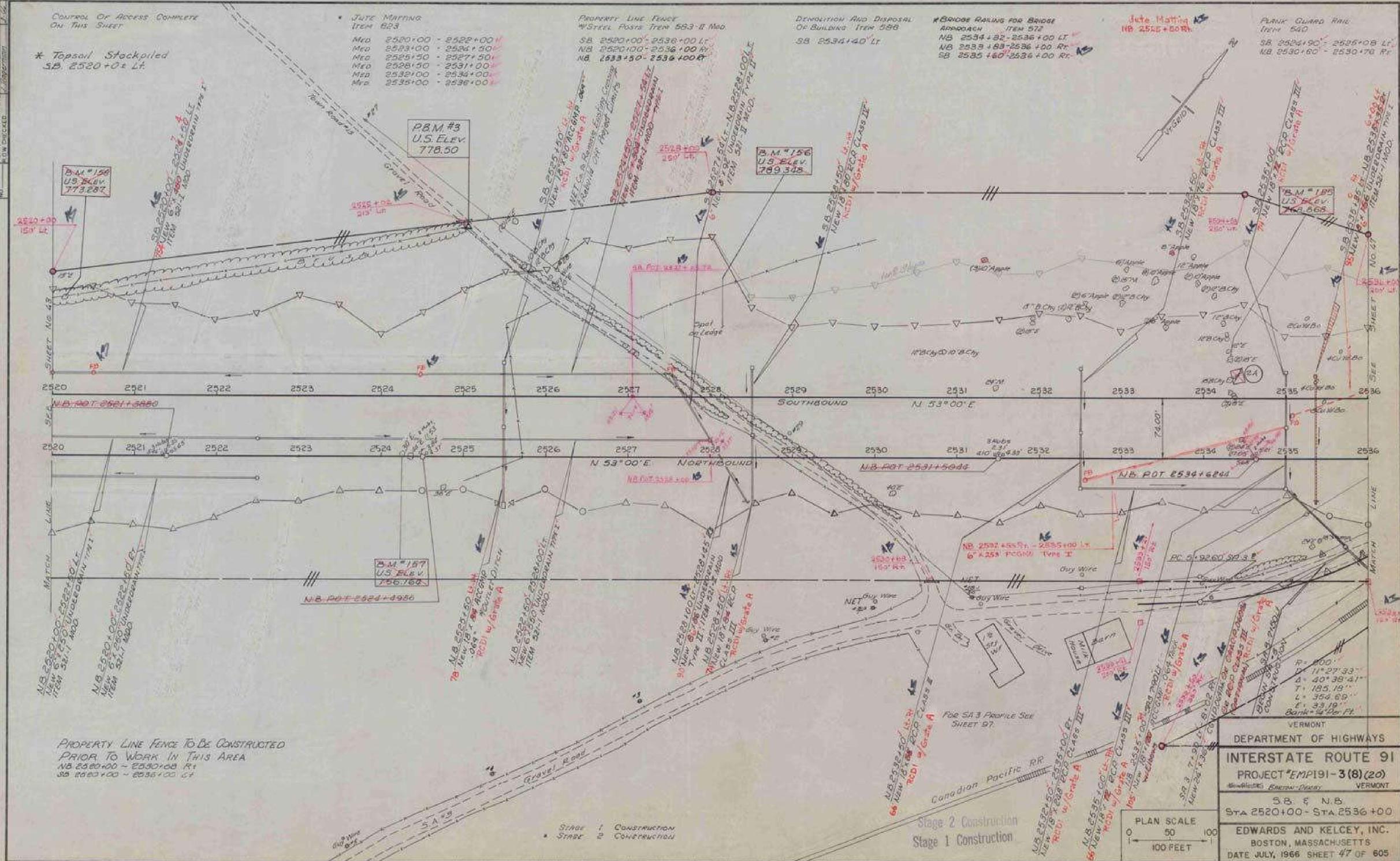
BRIDGE RAILING FOR BRIDGE APPROACH ITEM 572

NB 2534+32 - 2536+00 LT
NB 2533+88 - 2536+00 RT
SB 2535+60 - 2536+00 RT

Jute Marking NB 2525+50 RT

PLANK GUARD RAIL ITEM 540

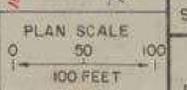
SB 2524+90 - 2525+08 LT
NB 2530+60 - 2530+76 RT



PROPERTY LINE FENCE TO BE CONSTRUCTED PRIOR TO WORK IN THIS AREA
NB 2520+00 - 2530+00 RT
SB 2520+00 - 2536+00 LT

STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION

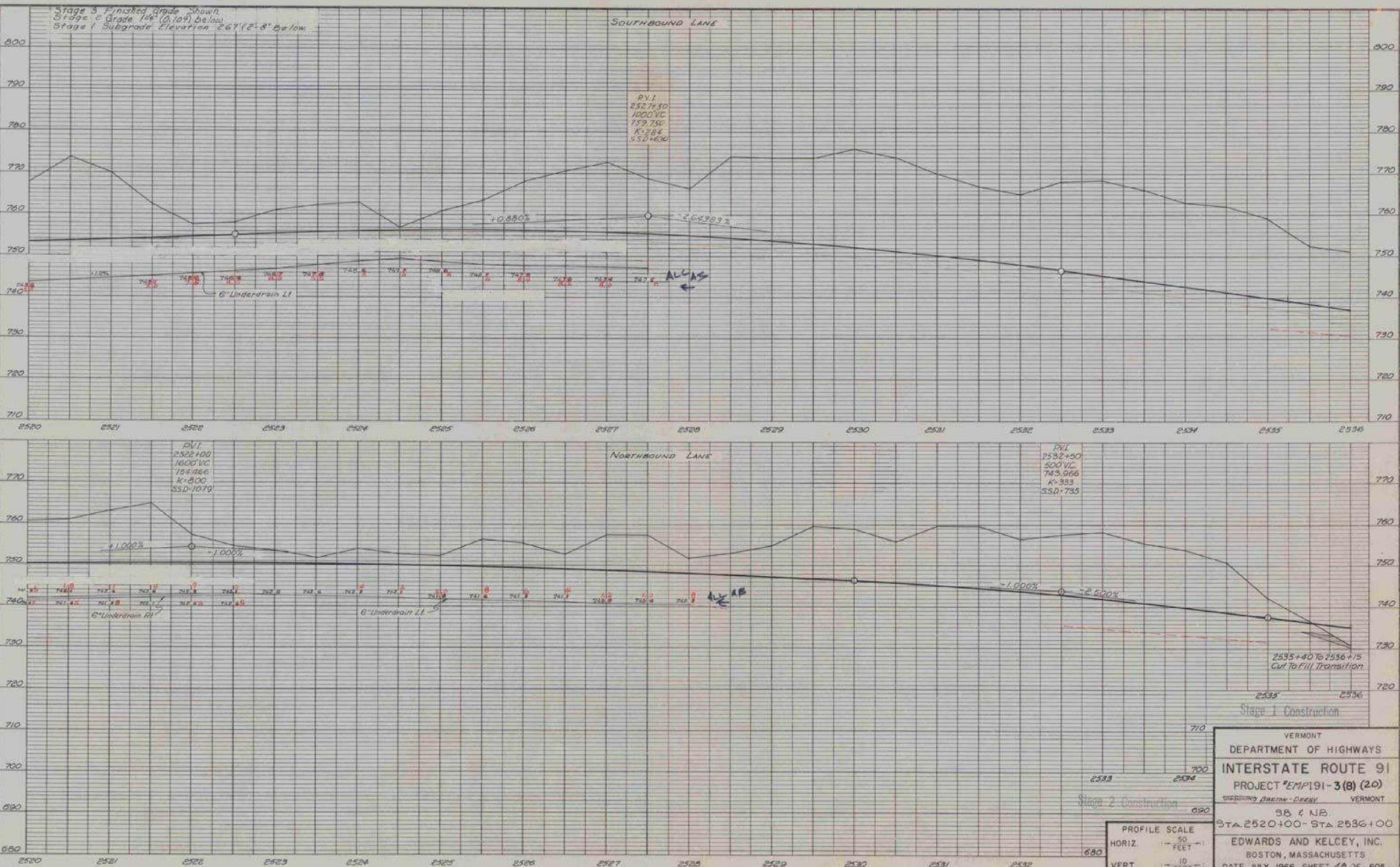
Stage 2 Construction
Stage 1 Construction



VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE ROUTE 91
PROJECT EMI191-3(8)(20)
STATIONING: STA 2520+00 - STA 2536+00
SB & NB
EDWARDS AND KELCEY, INC.
BOSTON, MASSACHUSETTS
DATE JULY, 1966 SHEET 47 OF 605

IRASBURG
IM DECK(46)
BRIDGE NO. 107N
SHEET 30 OF 49
FOR REFERENCE ONLY

PROFILE
 DATE BOOK
 DRAWN BY
 CHECKED BY
 APPROVED BY



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°06'33" 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 - 924 - 111.00 LT (12' 6")

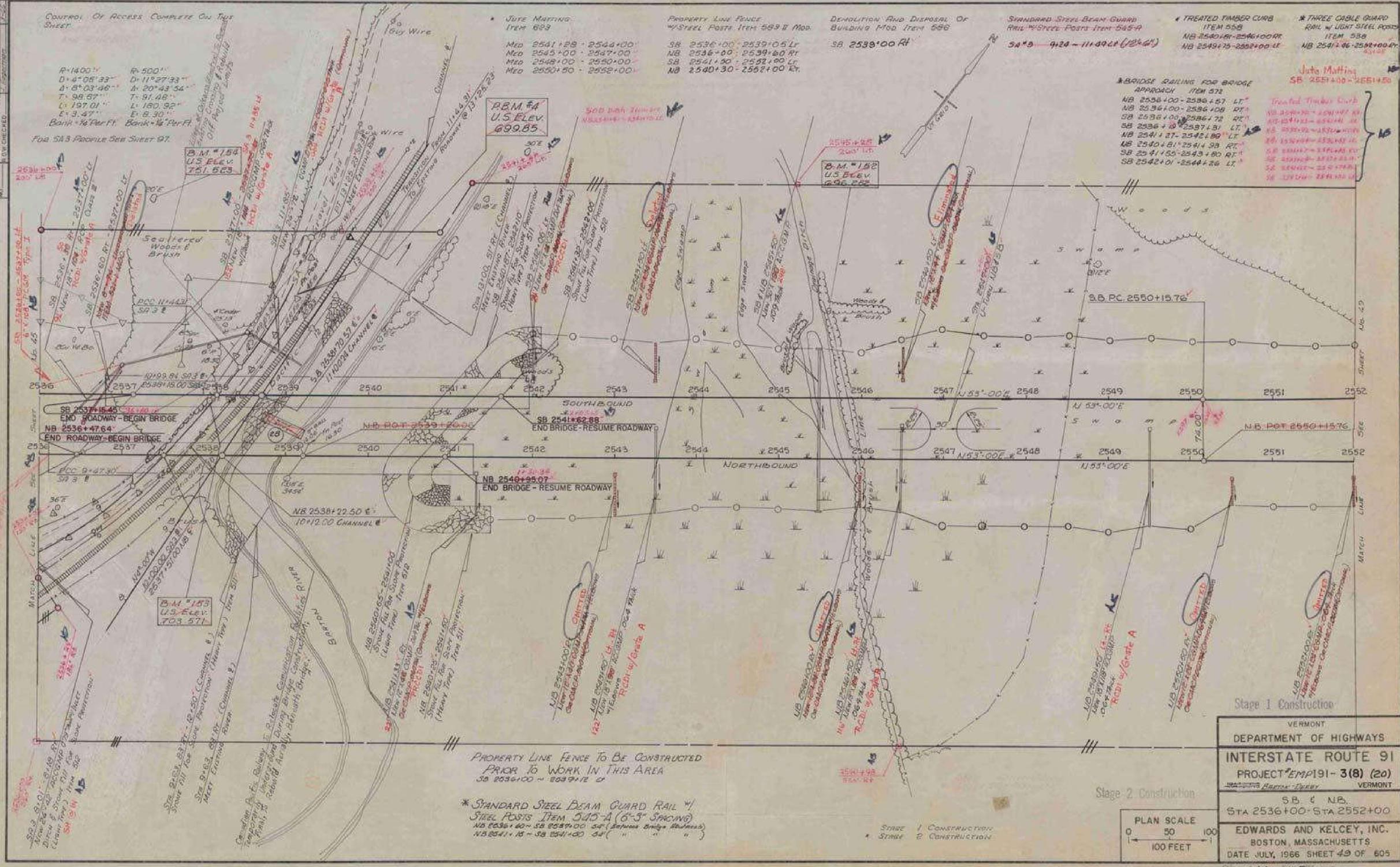
TREATED TIMBER CURB ITEM 558
 NB 2540+68 - 2546+00 RT
 NB 2549+75 - 2552+00 LT

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+15 - 2541+98 RT
 SB 2541+50 - 2543+80 RT
 SB 2542+01 - 2544+26 LT

Treated Timber Curb
 NB 2540+70 - 2541+97 RT
 NB 2541+23 - 2541+41 RT



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\"/>

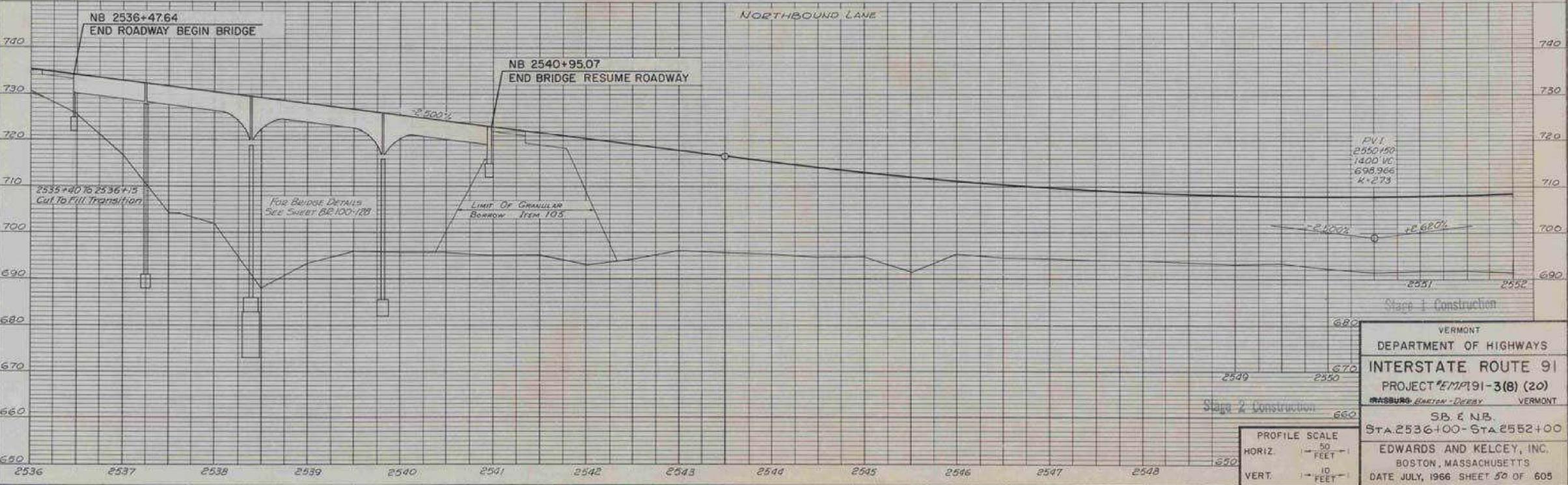
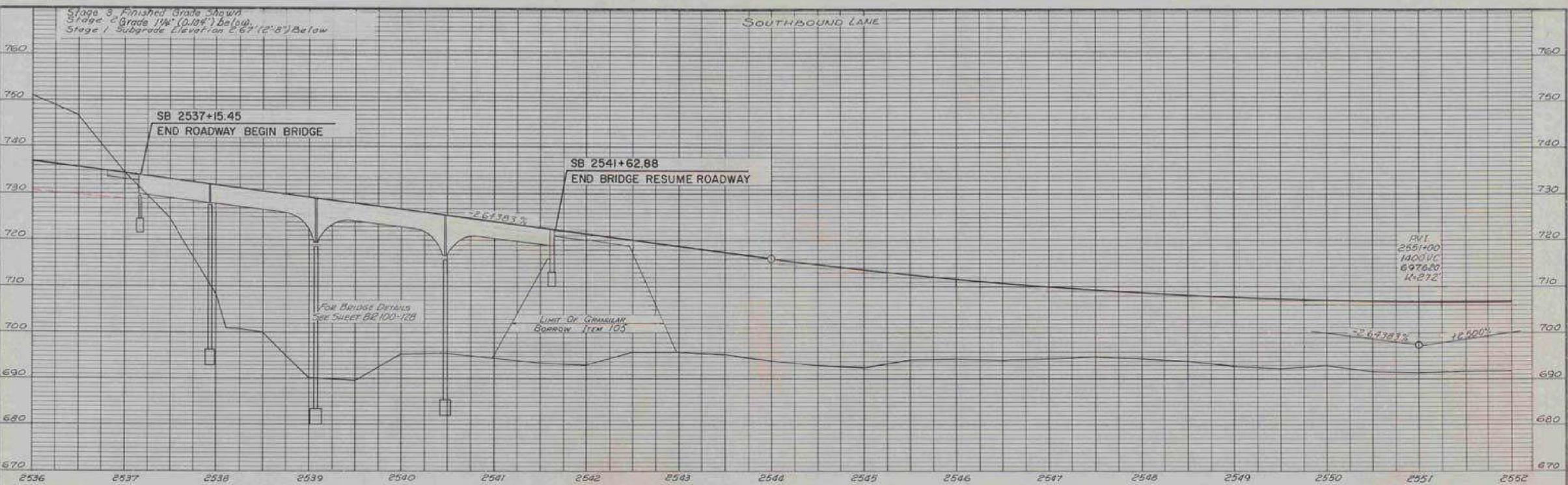
Stage 2 Construction



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	

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

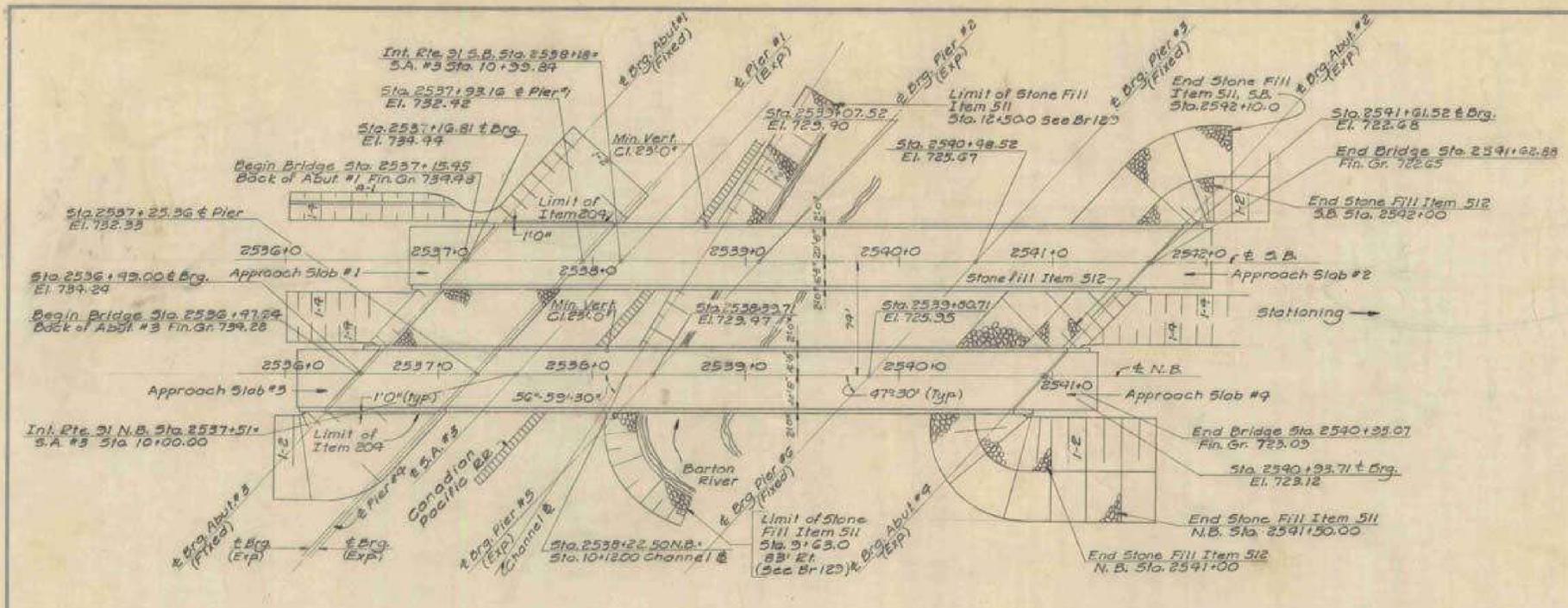
PROFILE
 TITLE
 SHEET NO.
 DRAWING NO.
 DATE
 SCALE



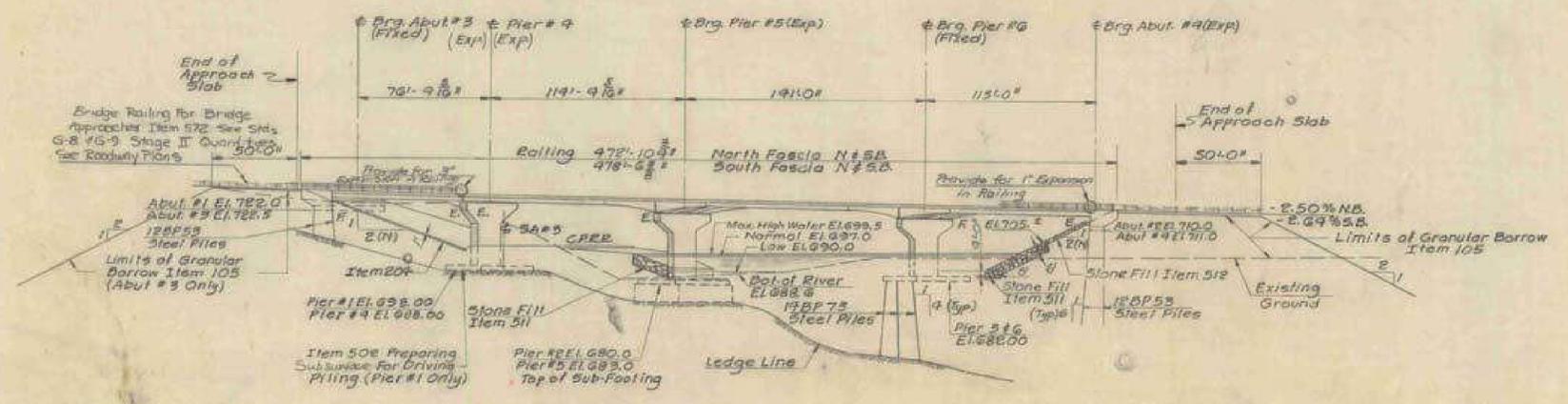
PROFILE SCALE
 HORIZ. 1" = 50 FEET
 VERT. 1" = 10 FEET

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

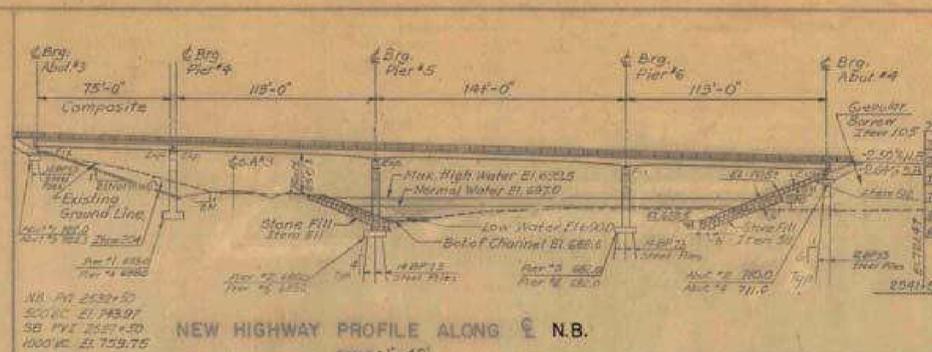
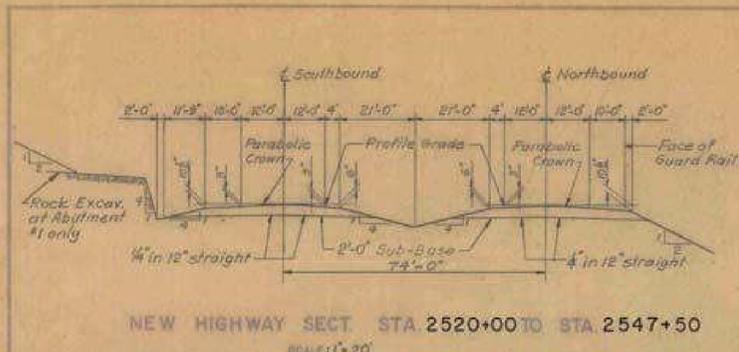
- SCB D1 67 General Notes & Information Jan 24, '68
- SCB D2 67 Detail A&B FC Jan 24, '68
- SCB D3 67 Drain Trough Details Jan 24, '68
- SCB D4 67 Reinforcing of Abutments Dec 17, '68
- SCB D5 67 Detail A' B' May 23, 1969
- SCB D7 67 Intermediate Diaphragm Jan 24, '68
- SCB D8 67 Bearing Devices Jan 24, '68
- SCB D9 67 Detail A' Jan 24, '68
- SB R1 64 Aluminum Railing (2 Sheets) Sheet 1 of 2 Dec 14, 1964 - 20ft Nov 8, 66 R
- SB R2 65 Steel Bridge Railing Nov 8, 66 R

NOTE:

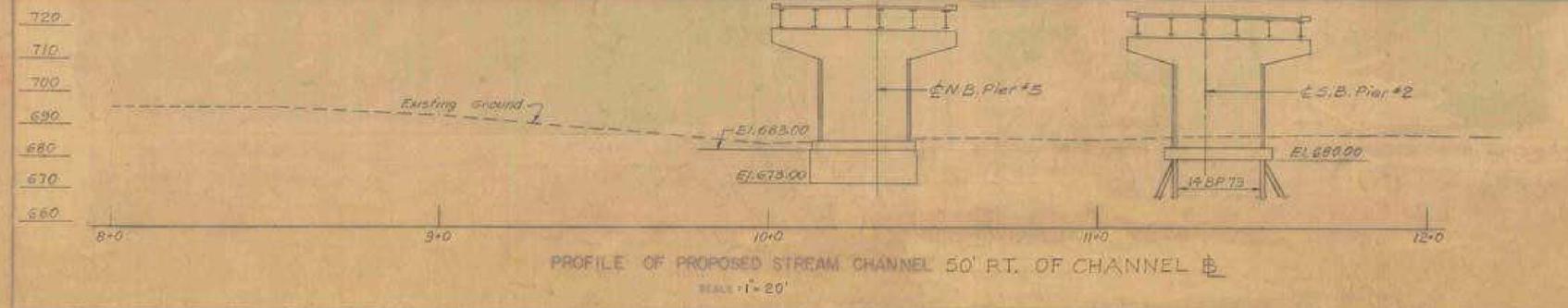
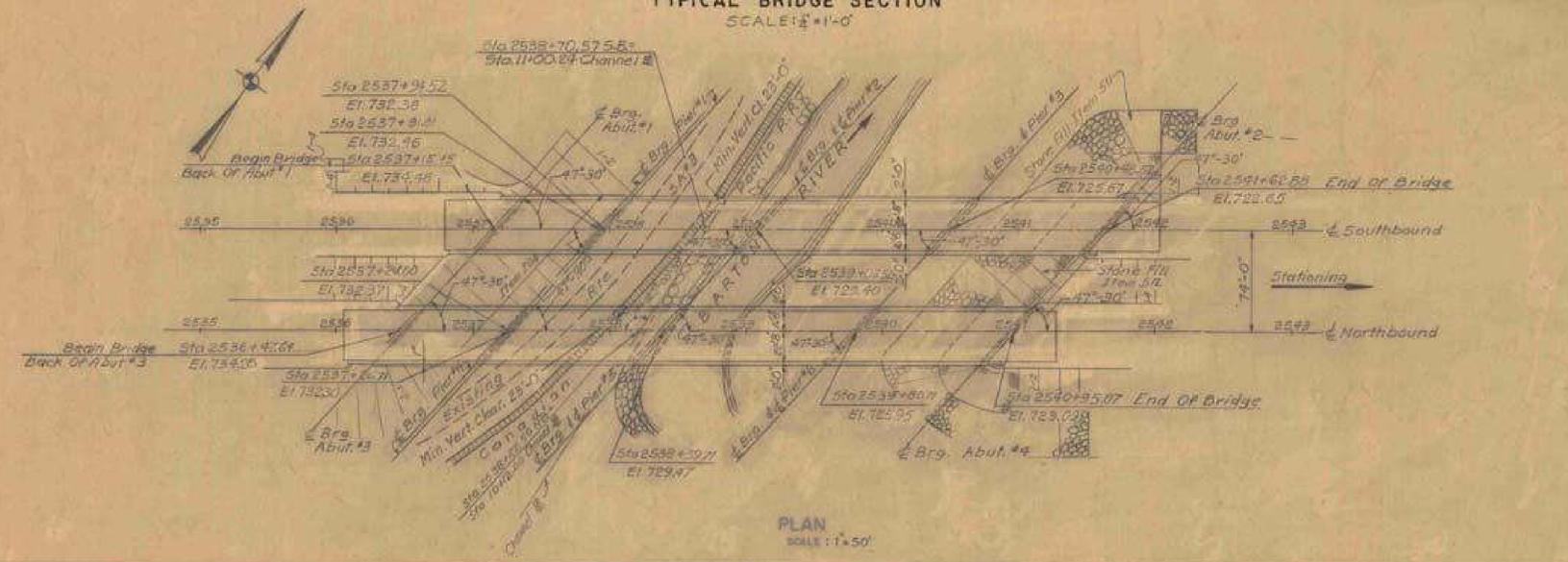
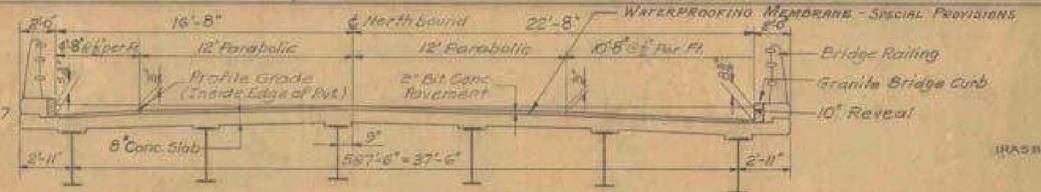
The channel excavation and stone fill shall be done between July 1 and October 1 so as not to interfere with the Rainbow Trout runs. Precautions shall be taken during construction to prevent siltation or pollution of the river.

Changed roadway width from 36'0" to 39'0", curb width from 2'6" to 2'0" (Quoted 2nd Sheet R. Item 152)	
STATE OF VERMONT DEPARTMENT OF HIGHWAYS	
PROJECT IRASBURG-JEREY TOWN OF IRASBURG 82-187	
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) 9-67
SHEET 152 OF 153 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



ROUTE NO. **I-91** NAME OF HIGHWAY **INTERSTATE**
STRUCTURE NO. 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?	N.A. 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
MEASURED PARALLEL TO C.N.H.W.	75.0-113.0-141.0-113.0
MEASURED AT RIGHT ANGLES TO C. STREAM	55.0-84.0-104.0-84.0
3. ARE THERE OBSTRUCTIONS TO A PIER IN THE STREAM? ANSWER YES OR NO	No
4. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE	697.0
5. EXTREME HIGH WATER ELEVATION AT NEW STRUCTURE	692.5 SOURCE OF INFORMATION COMPUTED
6. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE?	Yes
7. DOES STREAM SEARCH ITS MAXIMUM HIGH WATER ELEVATION? ANSWER YES OR NO	No. IS ORDINARY H.W. BAND? No
8. LOW WATER ELEVATION AT NEW STRUCTURE	690.0
9. DRAINAGE AREA IN ACRES ABOVE STRUCTURE	93.3/2 CHARACTER OF TERRAIN ROLLING
10. IS STREAM EVER DRY?	No
11. VELOCITY OF STREAM AT HIGH WATER STAGE	6.21 C.F.S. ESTIMATED DISCHARGE 7000 G.A.S.
12. AREA FUL. OPENING	126 C.S.F. AREA BELOW ORDINARY H.W. 10000 S.F.
13. CHARACTER OF SOILS	NONE DRIFT NONE CO. MEDIUM
14. ESTIMATED DRAINAGE AREA ABOVE NATURAL OR ARTIFICIAL STORAGE	135.8 SQ. MI.
15. VERTICAL CLEARANCE ABOVE FLOOD ELEVATION	18 FF.
16. ARE SPECIALS REQUIRED? IF SO ON WHAT SIDE?	No BOTH SIDES
17. RECOMMENDED TYPE OF PAVEMENT	2. BITUMINOUS CONCRETE, 3. CONCRETE
18. TRAFFIC TO BE MAINTAINED UNDER PIER NO.	N.A. ONE OR TWO VES. PROBABLE COST
19. PROBABLE COST OF CLEANING AND DRAINING STREAM CHANNEL AT STRUCTURE SITE	\$1000.
20. SHOULD PROVISIONS BE MADE FOR PUBLIC UTILITIES?	No
21. ESTIMATED ALLOWABLE LOAD ON FOUNDATIONS	* SHOULD PILES BE USED? * EST. LETH. *

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
Abutment No. 7	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
Pier No. 6	14 BP 73 45' Long

80 Tons / Pile Max.

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 A.A.S.H.O. 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

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

RECOMMENDED FOR APPROVAL **20** **7-15-69**
CONSTRUCTION ENGINEER DATE

RECOMMENDED FOR APPROVAL **Judson** **9-15-69**
DATE

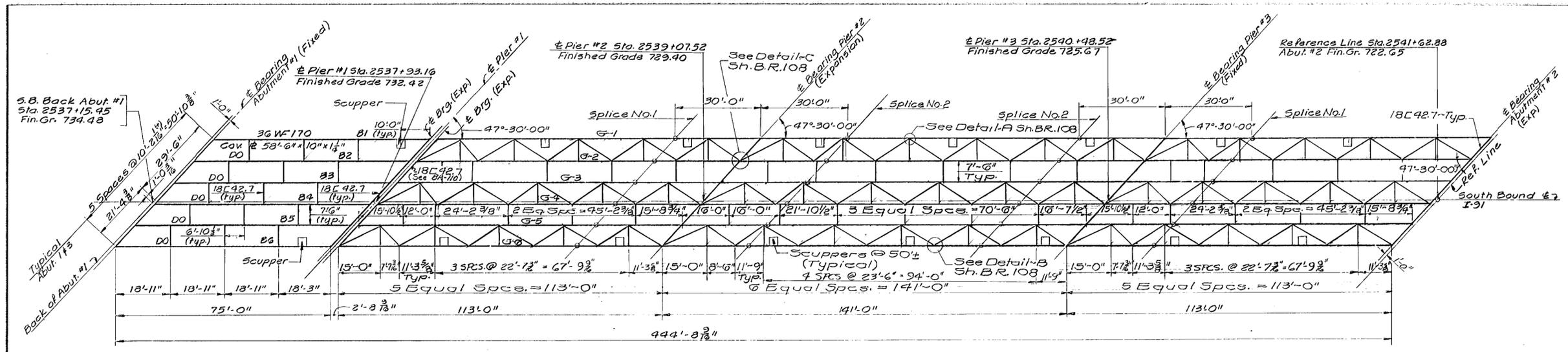
RECOMMENDED FOR APPROVAL **E.H. Stebbins** **9-15-69**
DATE

APPROVED BY **R.H. Cline** **1/15/69**
DATE

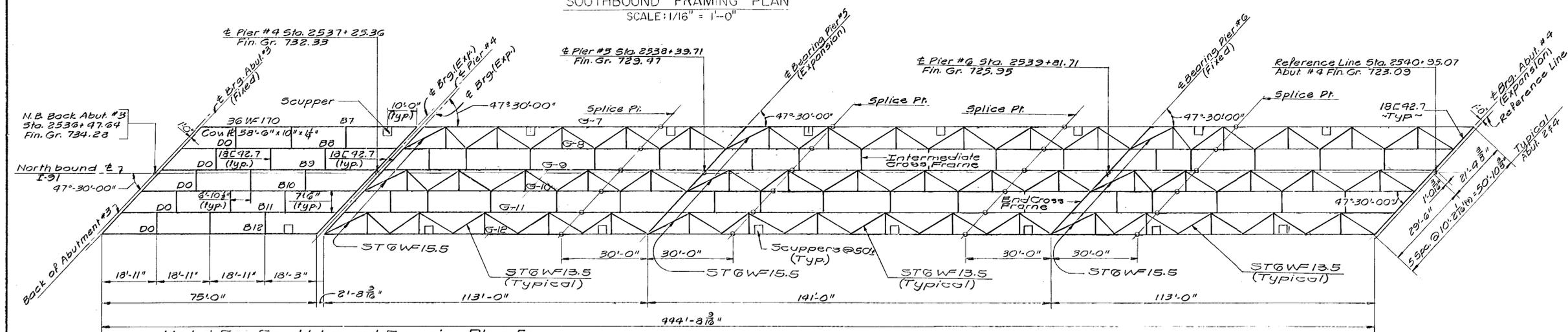
PRELIMINARY INFORMATION SHEET
PROJECT **EMPI 91-3(2)** SHEET **118** OF **175**

Changed Roadway width from 36' to 30' 4"
Changed Curb width from 2' 6" to 2' 0"

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

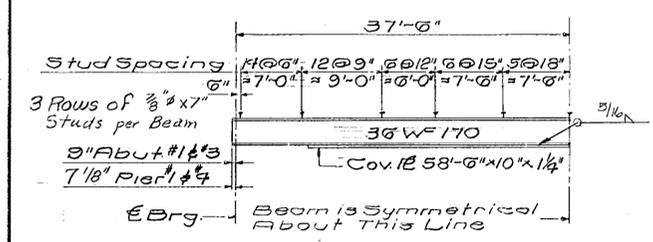


SOUTHBOUND FRAMING PLAN
SCALE: 1/16" = 1'-0"

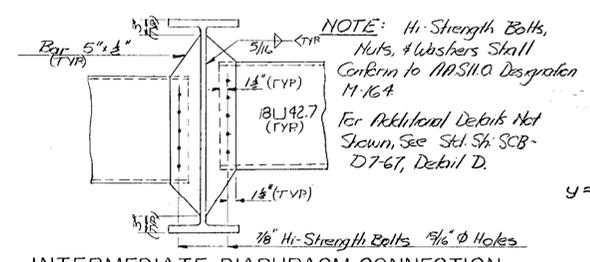


NORTHBOUND FRAMING PLAN
SCALE: 1/16" = 1'-0"

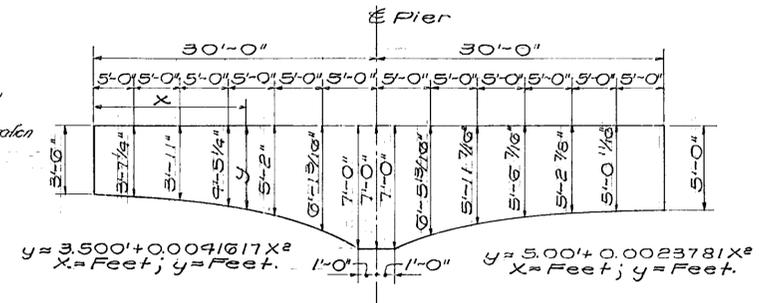
Note: See Southbound Framing Plan for Cross Frame and Lateral Bracing Dimensions.



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



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

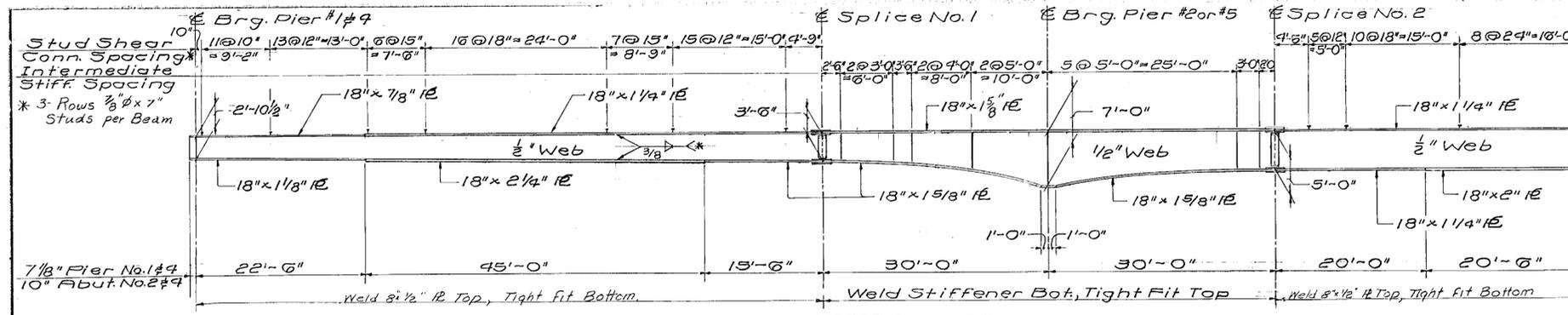


PARABOLIC HAUNCH DETAIL
N.T.S.

Br. 107 OF 129

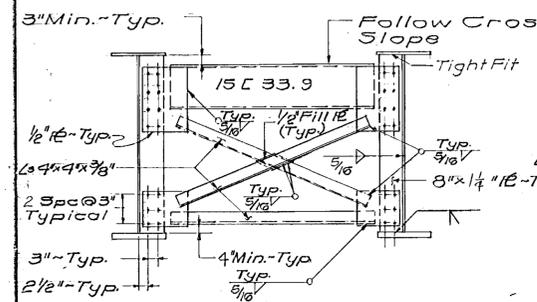
STATE OF VERMONT	
DEPARTMENT OF HIGHWAYS	
PROJECT	IRASBURG-DEBBY
TOWN OF	IRASBURG
ROUTE NO. I-91	Sta. 2539±
I-91 OVER BARTON RIVER AND SA*3	
FRAMING PLAN AND GIRDER DETAILS	
SCALE AS NOTED	
IN CHARGE C. TERENZIO	
DRAWN BY JMB	CHECKED BY A. CENTORE
PROJECT No. 191-3(8) 9-67	
SHEET 176 OF 605 BR.107	

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



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

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



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

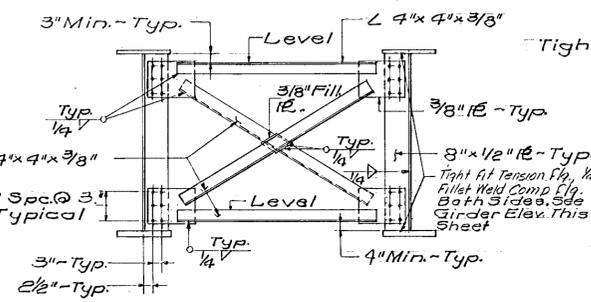
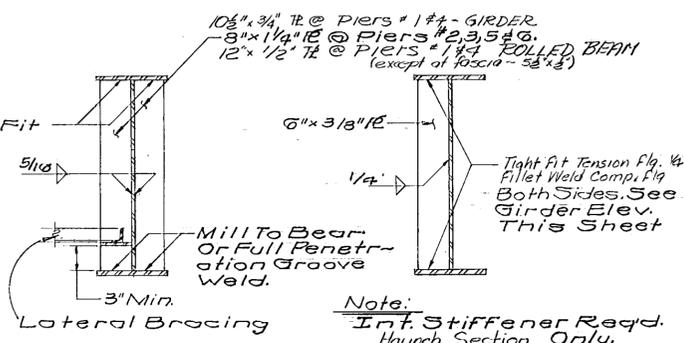
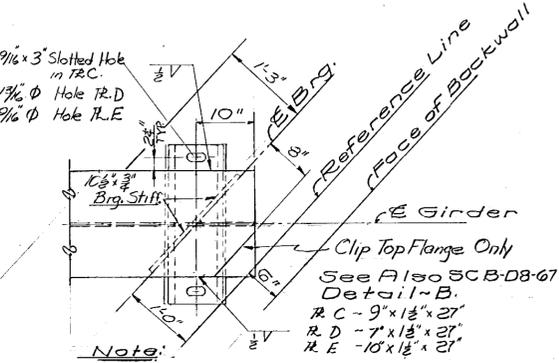


PLATE GIRDER
INTERMEDIATE CROSS FRAME
SCALE: 1/2"=1'-0"

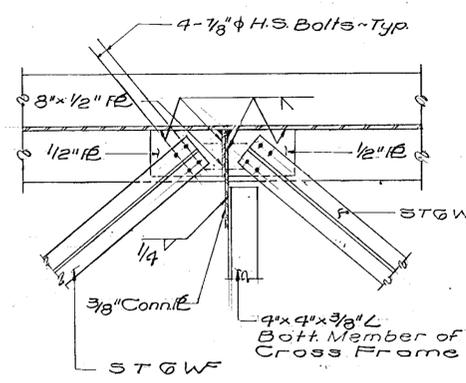


BEARING STIFFENER
DETAIL N.T.S.

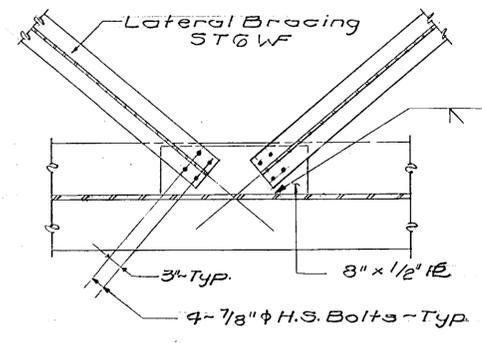
INTERMEDIATE STIFFENER
DETAIL N.T.S.



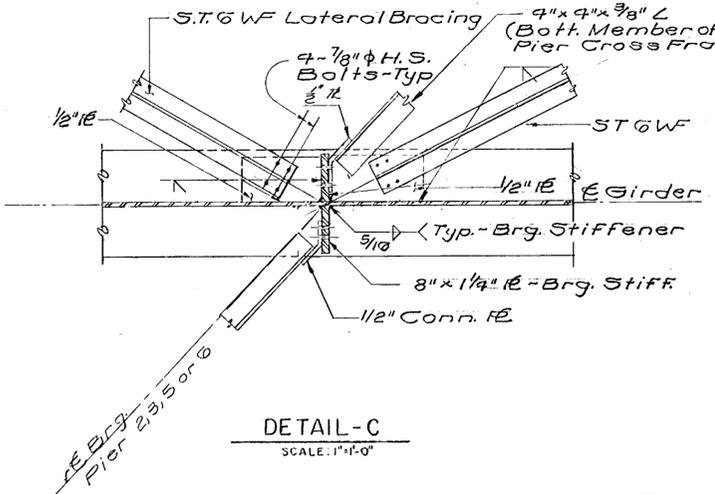
DETAIL OF GIRDER AT ABUT. 2 & 4
SCALE: 1"=1'-0"



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



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



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

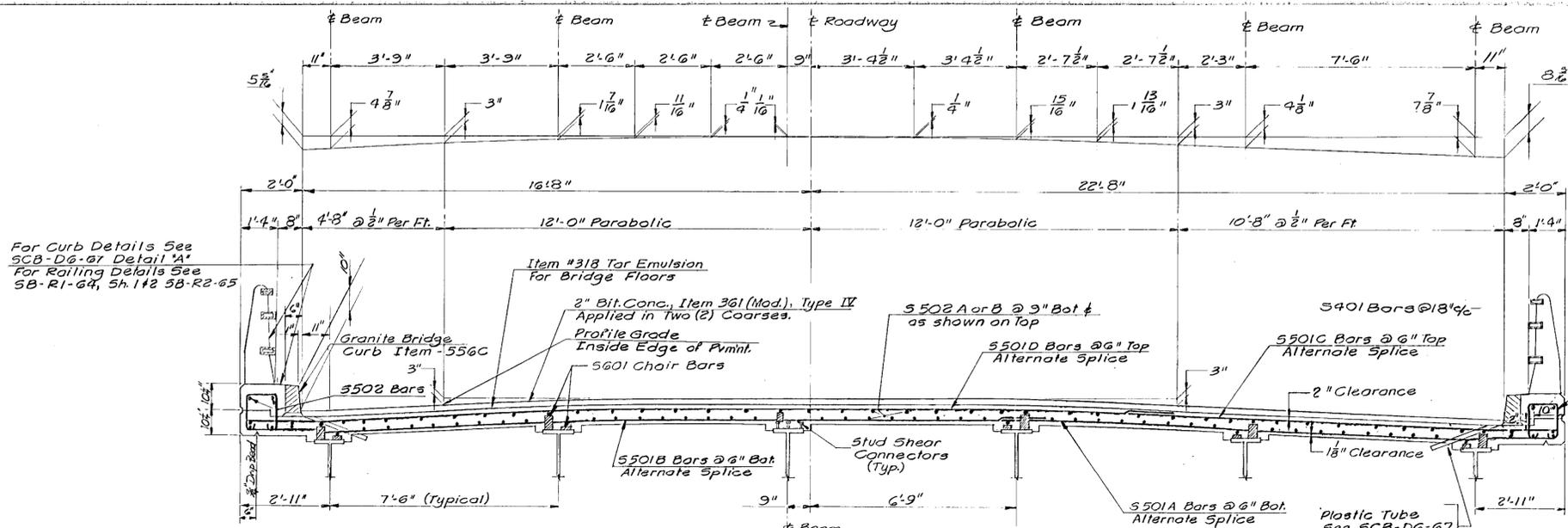
NOTES:

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.
Added Brg. Detail of Abut. 2 & 4. Rev. 5-11-69

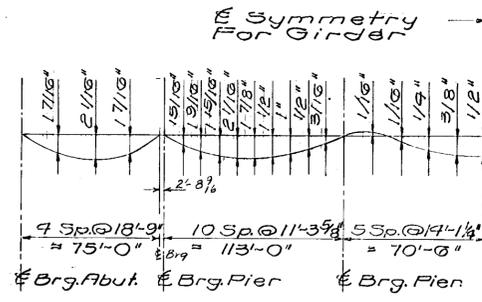
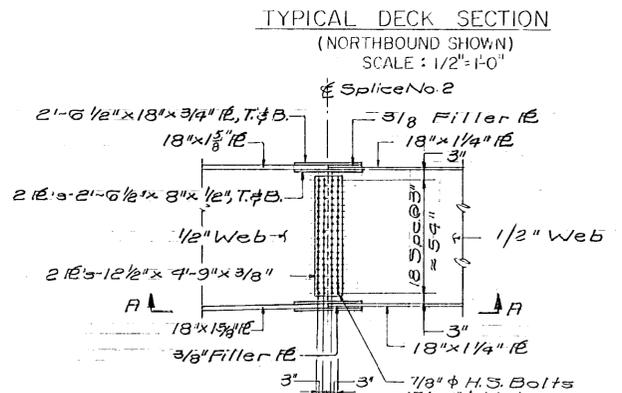
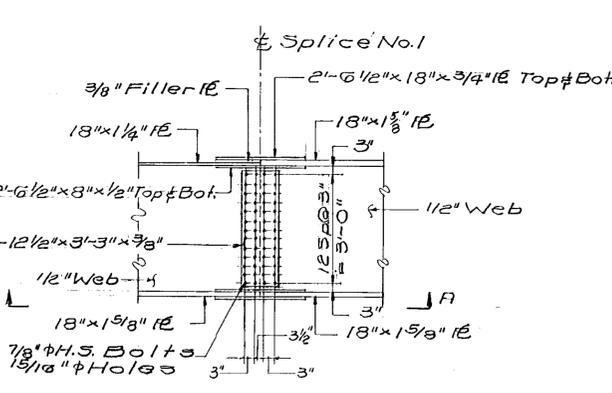
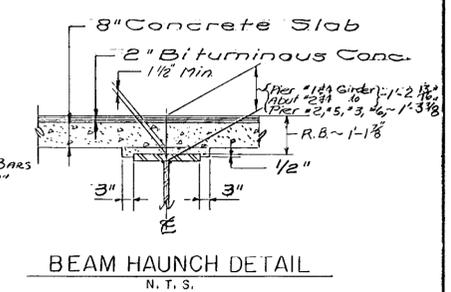
STATE OF VERMONT	
DEPARTMENT OF HIGHWAYS	
PROJECT	IRASBURG-DERBY
TOWN OF	IRASBURG
ROUTE NO.	I-91 LOG STA. 2539±
I-91 OVER BARTON RIVER AND SA 3	
GIRDER ELEVATION & CONN. DETAILS	
SCALE AS NOTED	
IN CHARGE	C. TERENZIO
DRAWN BY	JMB CHECKED BY A. CENTORE
PROJECT NO.	I-91 3(8) 9-67
SHEET	177 OF 605 BR.108

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

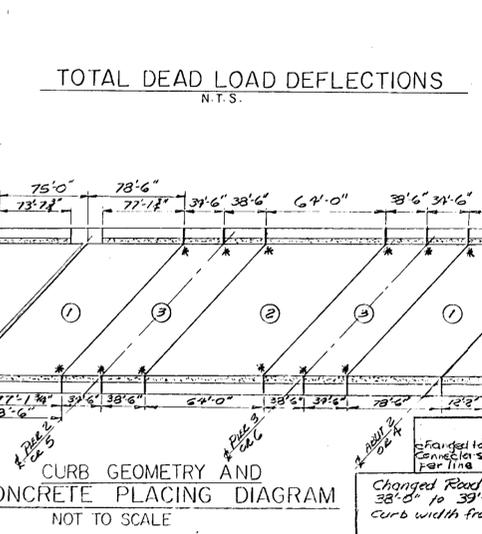
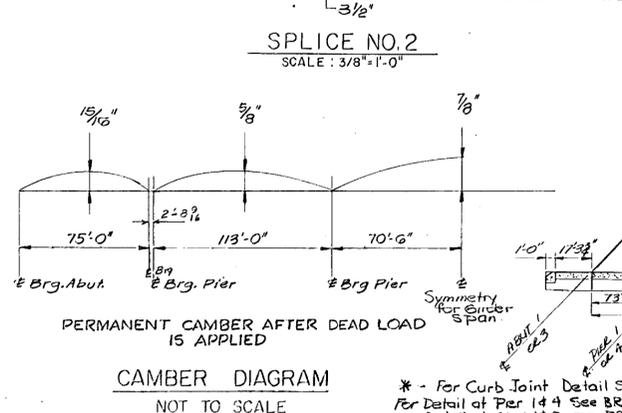
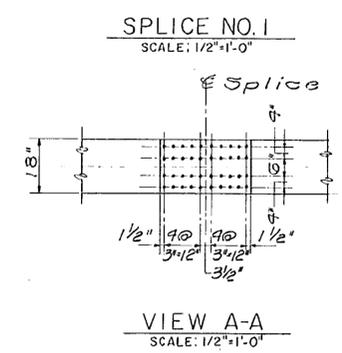


Floor Slab to be concrete, class AA 8" thick, dapped as shown at Beam Haunch, Surface to be finished with a self-propelled concrete finishing machine.
Partial parabolic crown, as per detail, to be obtained by stepping bridge seats. Cut S501 Transverse Bars at skew end and use cut off on opposite end.

Note: Water Repellent, Item 990 Shall Be Used on Top of Safety Walk And on The Fascia And Back To The Fascia Beam Under The Slab.



- SUPERSTRUCTURE NOTES:**
- For general notes and design stresses see std. sh. SCB-D1-67
 - For details of shear connectors see std. sh. SCB-D2-67
 - For bearing details at abutments see std. sh. SCB-D8-67 & Br III & Br IV
 - All cover plate welds to be 3/8" Fillet continuous shop welds.
 - All field connections to be made with 7/8" High Strength Bolts with 1/2" Holes.
 - Structural Steel shall be ASTM A36-62T unless otherwise noted.
 - Scuppers to be placed @ 50' (+) except as noted. Do not place above SA-3 or Railroad.
 - For curtain wall details, Approach Slab bracket details, See SCB-D2-67, Detail A.

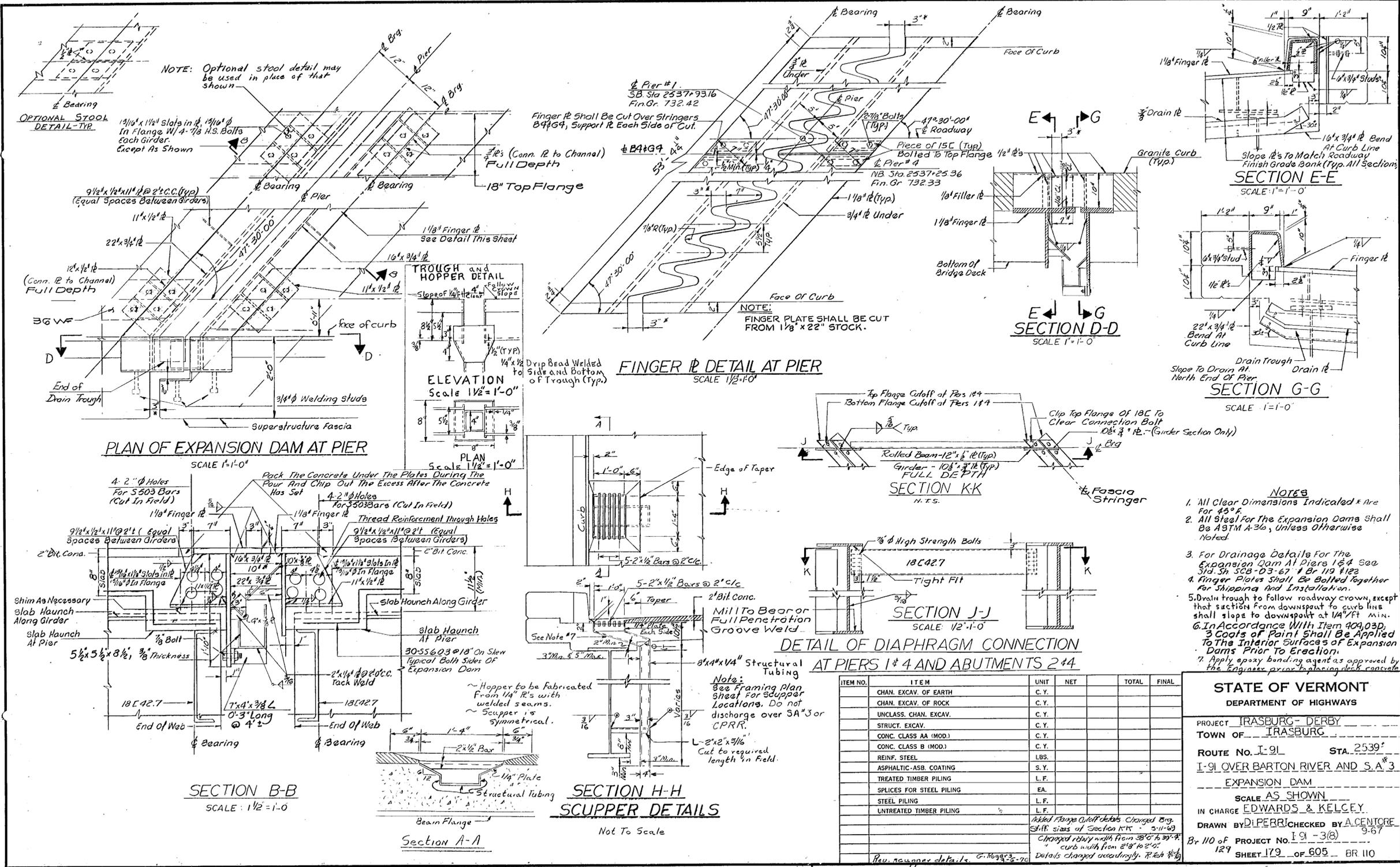


BR 109 OF 129

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT IRASBURG-DERBY
TOWN OF IRASBURG
ROUTE NO. 191 STA. 2539+
191 OVER BARTON RIVER AND SA 3
DECK SECTION AND SPLICE
SCALE AS NOTED
IN CHARGE C. TERENZIO
DRAWN BY J.M.B. CHECKED BY A. CENTORE
PROJECT NO. 191-3(8) 9-67
SHEET 178 OF 605 BR 109

IRASBURG
IM DECK(46)
BRIDGE NO. 107N
SHEET 38 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"

ELEVATION
Scale 1 1/2"=1'-0"

PLAN
Scale 1 1/2"=1'-0"

FINGER PLATE DETAIL AT PIER
SCALE 1 1/2"=1'-0"

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

SECTION E-E
SCALE 1"=1'-0"

SECTION G-G
SCALE 1"=1'-0"

DETAIL OF DIAPHRAGM CONNECTION AT PIERS 1 & 4 AND ABUTMENTS 2 & 4
SCALE: 1/2"=1'-0"

SECTION H-H
SCUPPER DETAILS
Not To Scale

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

- NOTES
- All Clear Dimensions Indicated are for 45°F.
 - 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. 503-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.

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

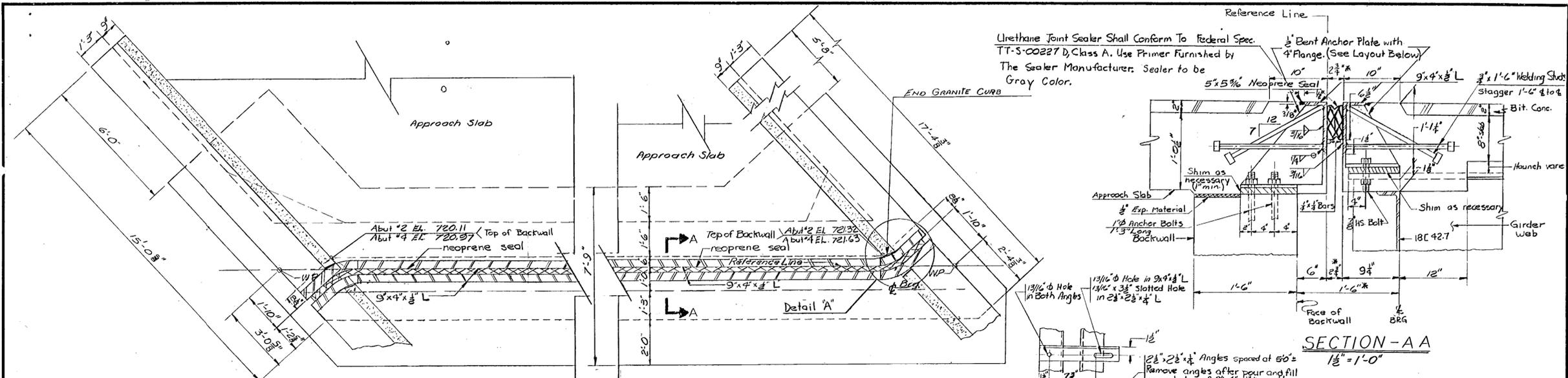
PROJECT IRASBURG - DERBY
TOWN OF IRASBURG

ROUTE No. I-91 STA. 2539'
I-91 OVER BARTON RIVER AND S.A.#3
EXPANSION DAM

SCALE AS SHOWN

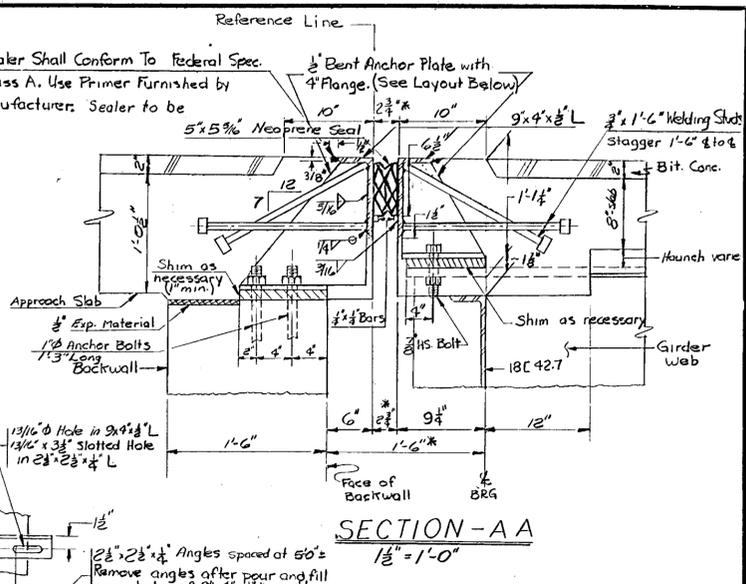
IN CHARGE EDWARDS & KELCEY
DRAWN BY D.L.PERRI CHECKED BY A.CENTORE
Br 110 of PROJECT No. I-91-3(8) 9-67
SHEET 179 OF 605 BR 110

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



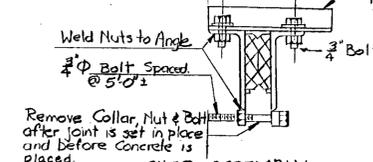
PLAN ABUTMENTS 2&4
SCALE: 1/2"=1'-0"

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.



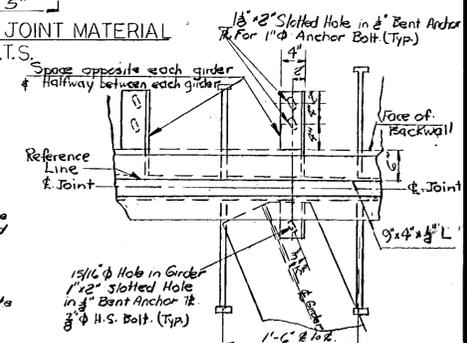
SECTION-A-A
1 1/2" = 1'-0"

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



SHOP ASSEMBLY

PREFORMED JOINT MATERIAL
N.T.S.



Anchor Plate Layout
N.T.S.

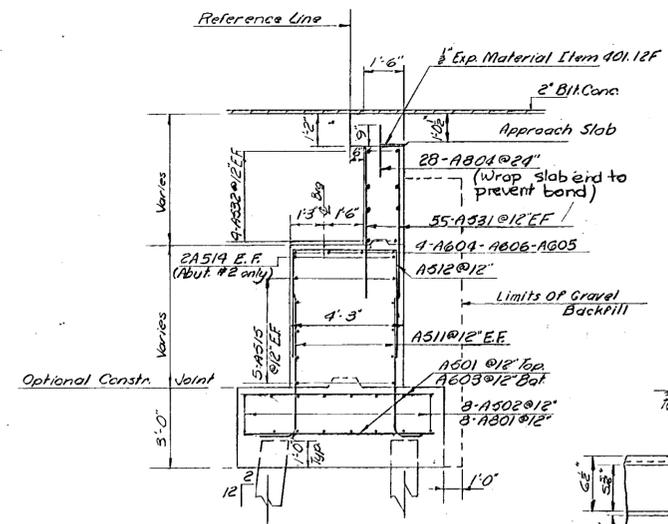
- General Abutment Notes**
1. For Estimated Length of Piles And No. of Splices See Br. 113.
 2. Abutments Are Designed For A Maximum Pile Bearing Pressure Of 58 Tons.
 3. All Reinforcing To Have Minimum Cover Of 2" Except 3" In Footing.
 4. For Details Of Const. Jts See Std. Sh. SCB-D6-87 Detail B.
 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

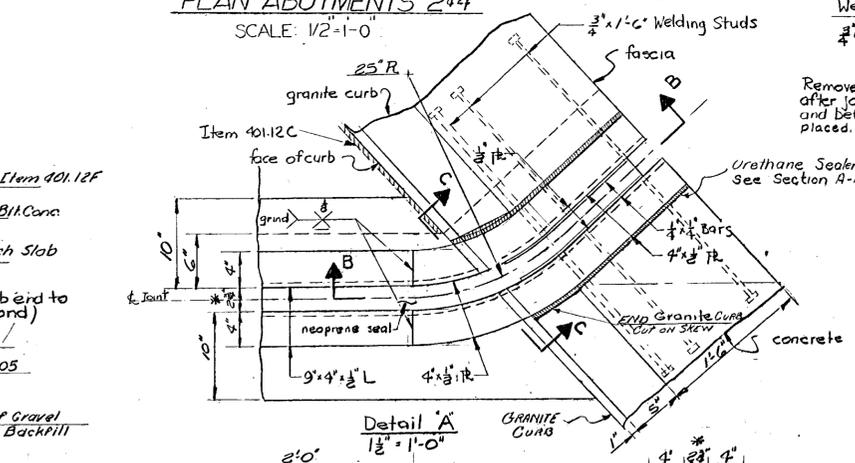
1. The Front Face of the Backwall From the Edge of the Steel Angle for the Joint to the Bridge Seat Shall Be Coated With Paint Waterproofing, Item 410. All Exposed Surfaces Not Otherwise Coated Shall Be Covered With Water Repellent, Item 410.

Expansion Joint Notes

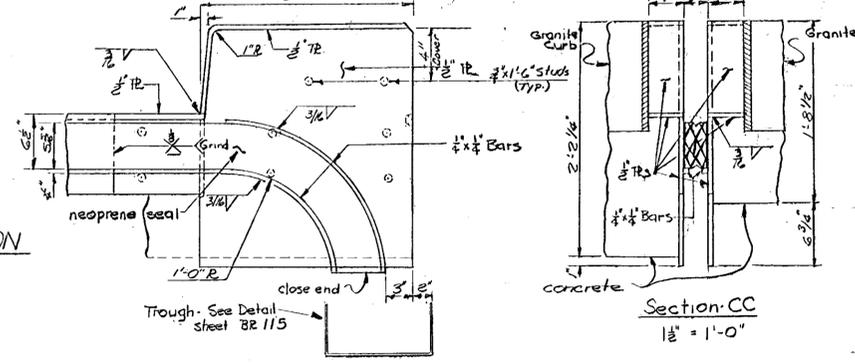
1. The Entire Expansion Joint And All Necessary Material And Labor To Install And Adequately Anchor The Expansion Joint Shall Be Included In Item 159A, Elastomeric Bridge Deck Expansion Joint.
2. The Expansion Joint Shall Be Entirely Shop Fabricated and Assembled As Indicated On The Plans.
3. Prior To 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"

STATE OF VERMONT	
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

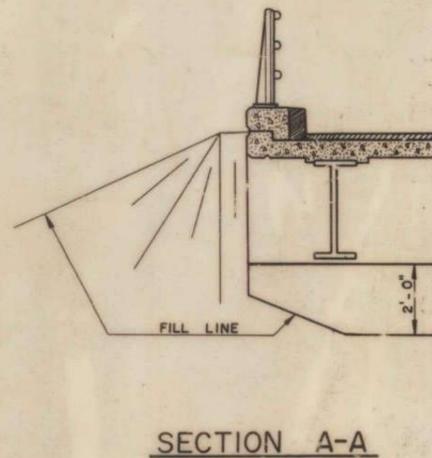
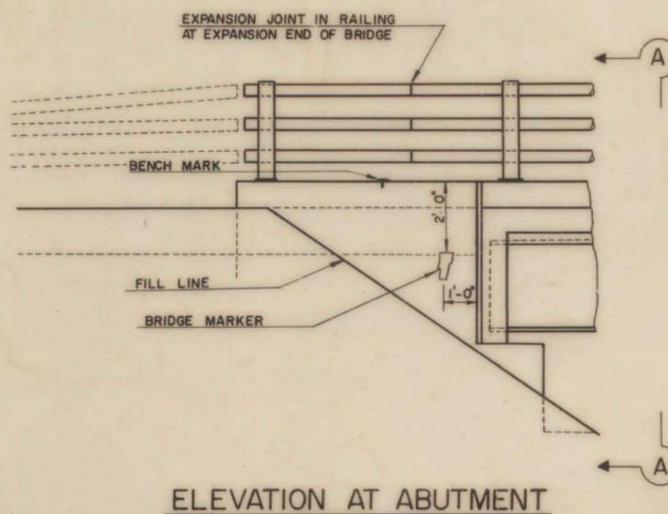
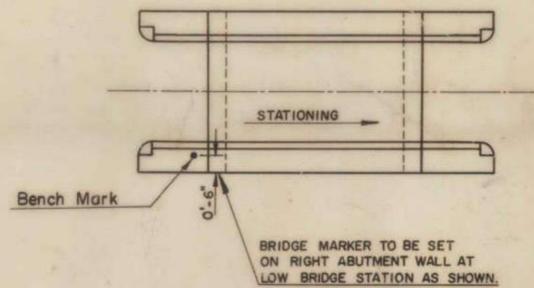
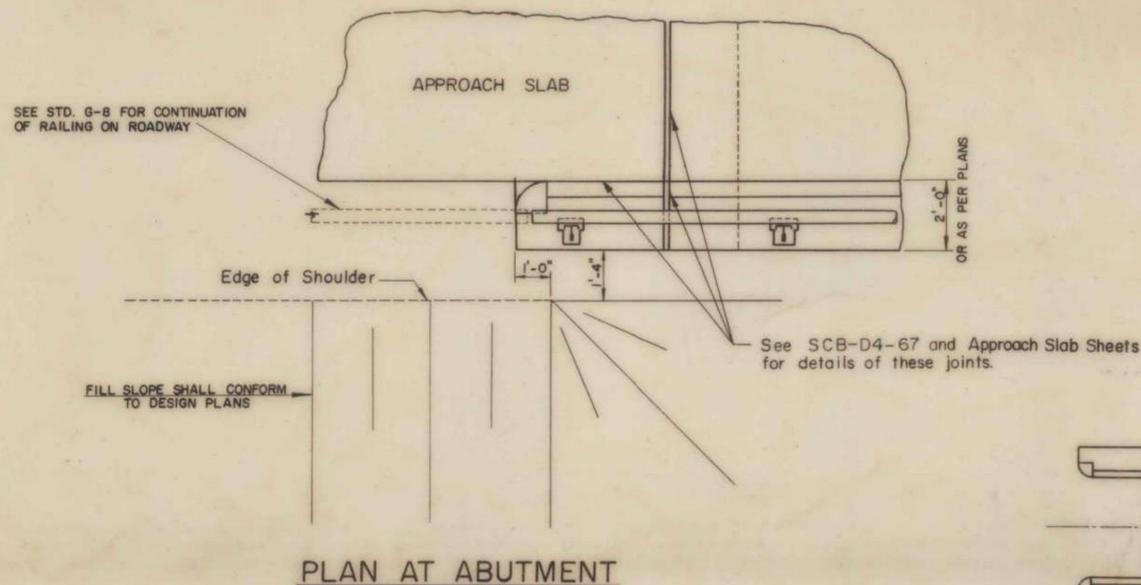
GENERAL NOTES

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

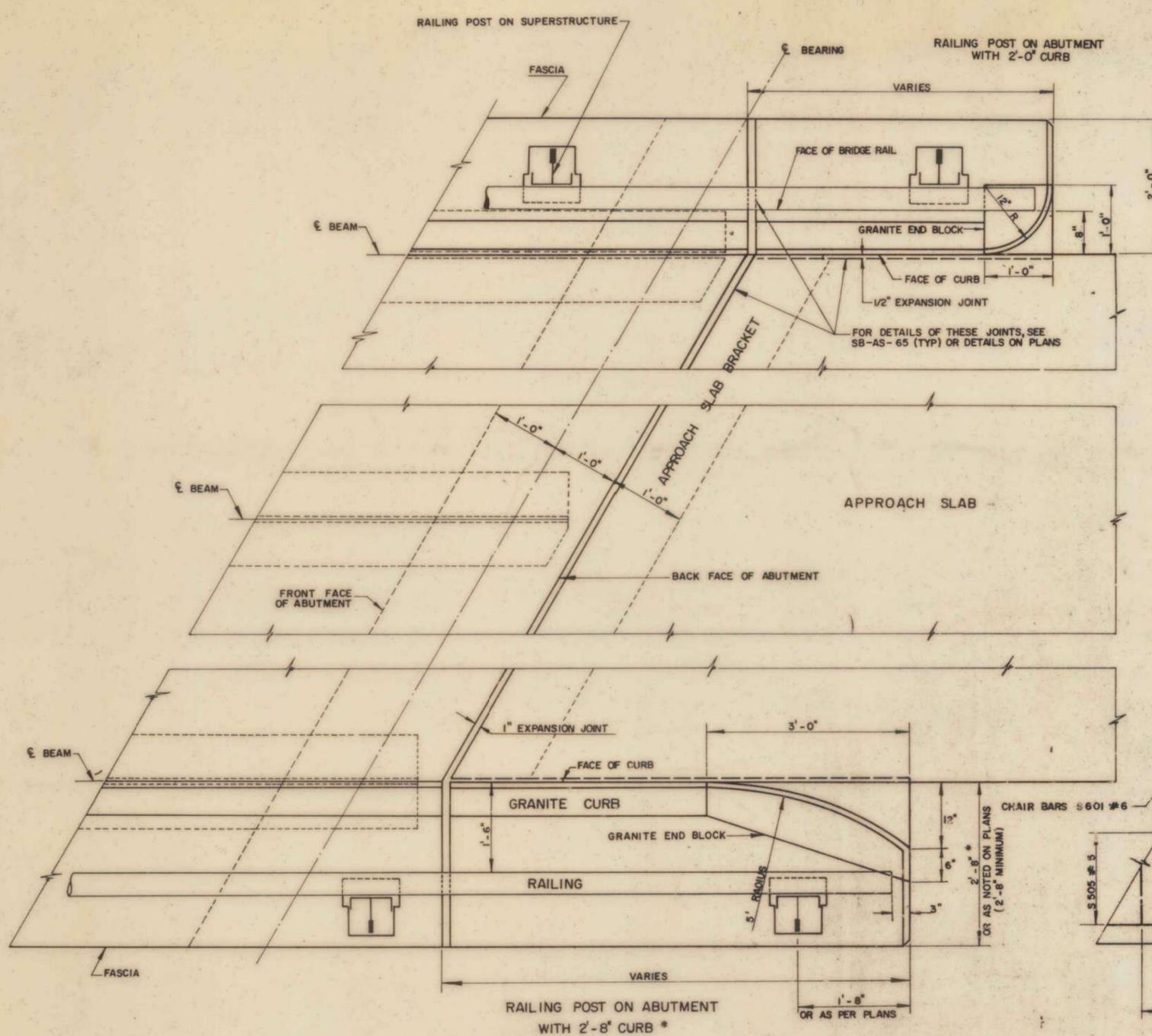
APPROVED BY: [Signature] CHIEF ENGINEER DATE: 12/4/68

DETAILS OF W BEAM BRIDGES
GENERAL INFORMATION
AND
GENERAL NOTES

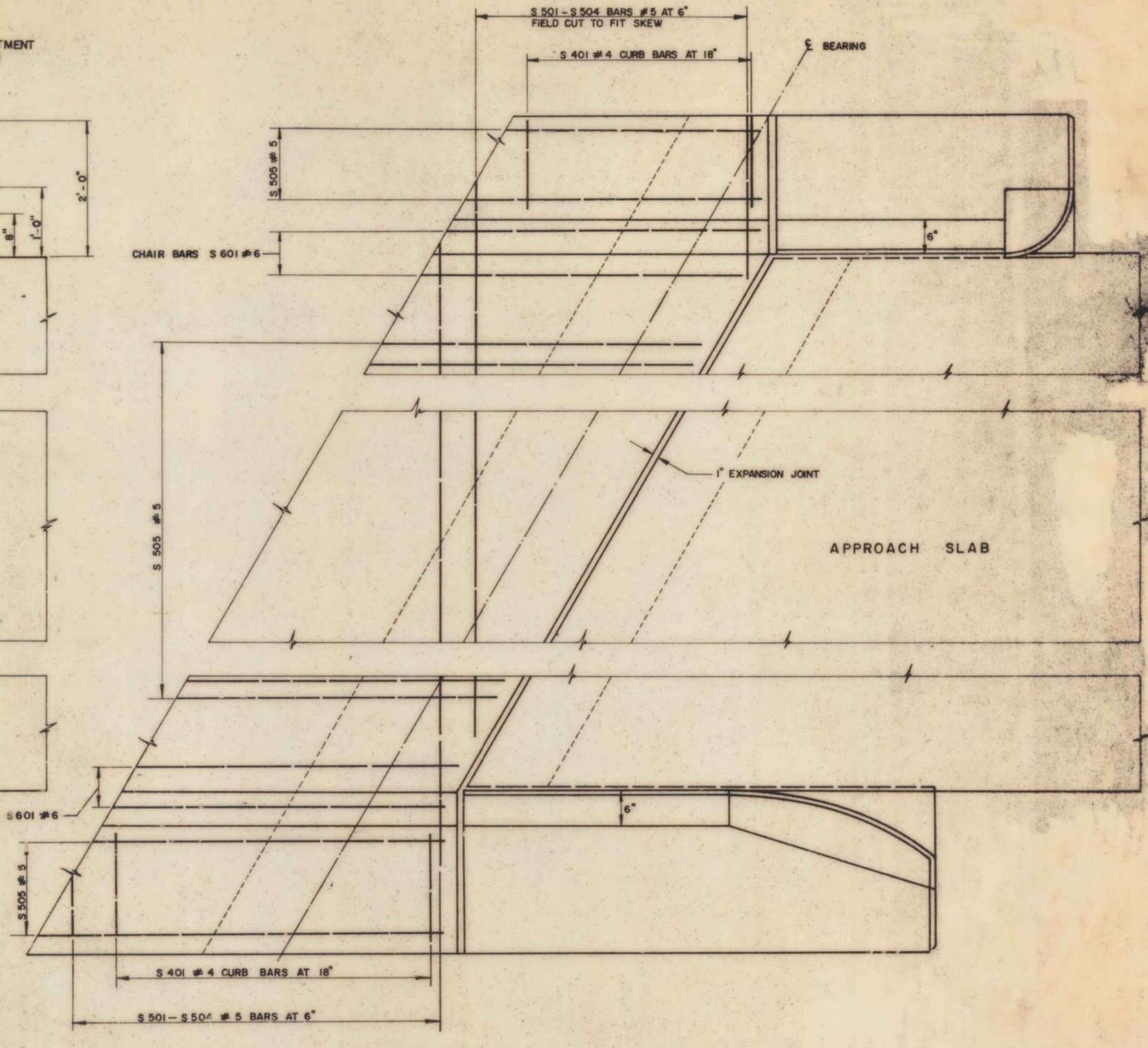
VERMONT
DEPARTMENT OF HIGHWAYS
STRUCTURE STANDARDS

SCB-DI-67

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



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.

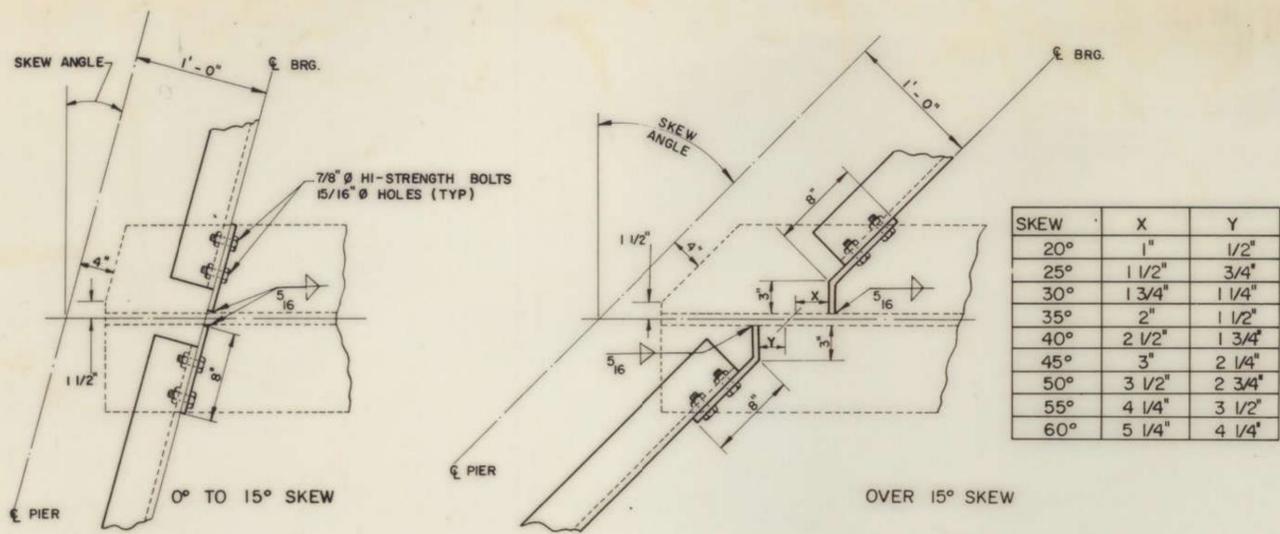
IRASBURG
IM DECK(46)
BRIDGE NO. 107N
SHEET 45 OF 49
FOR REFERENCE ONLY

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

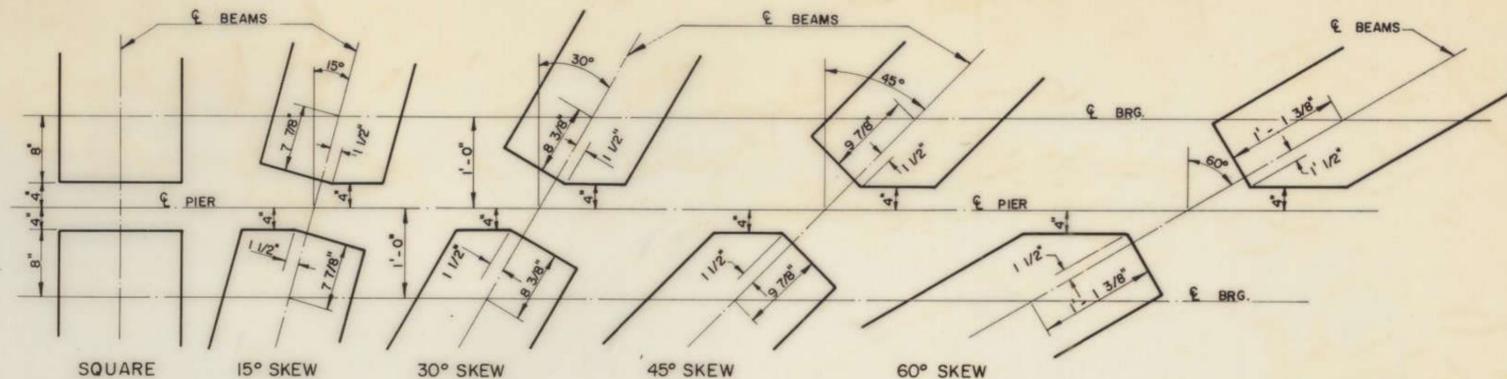
DRAWN BY: A.V. DEC. 1962
 RETRACED BY: A.J.A. MAY 1967
 CHECKED BY: W. SMITH DEC. 1967
 RECOMMENDED FOR APPROVAL: [Signature] 1/24/68
 RECOMMENDED FOR APPROVAL: [Signature] 1/24/68
 RECOMMENDED FOR APPROVAL: [Signature] 1/24/68
 APPROVED BY: [Signature] 1/24/68
 CHIEF ENGINEER DATE

DETAILS OF W BEAM BRIDGES
PLAN AND REINFORCEMENT LAYOUT AT ABUTMENT

VERMONT
DEPARTMENT OF HIGHWAYS
STRUCTURE STANDARDS
SCB-D4-67



DETAILS OF PIER DIAPHRAGM CONNECTIONS



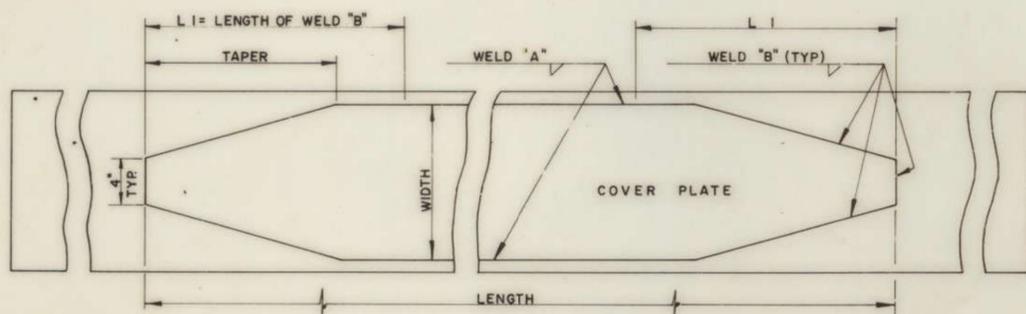
INTERIOR WF BEAM CUT-OFFS AT PIER

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

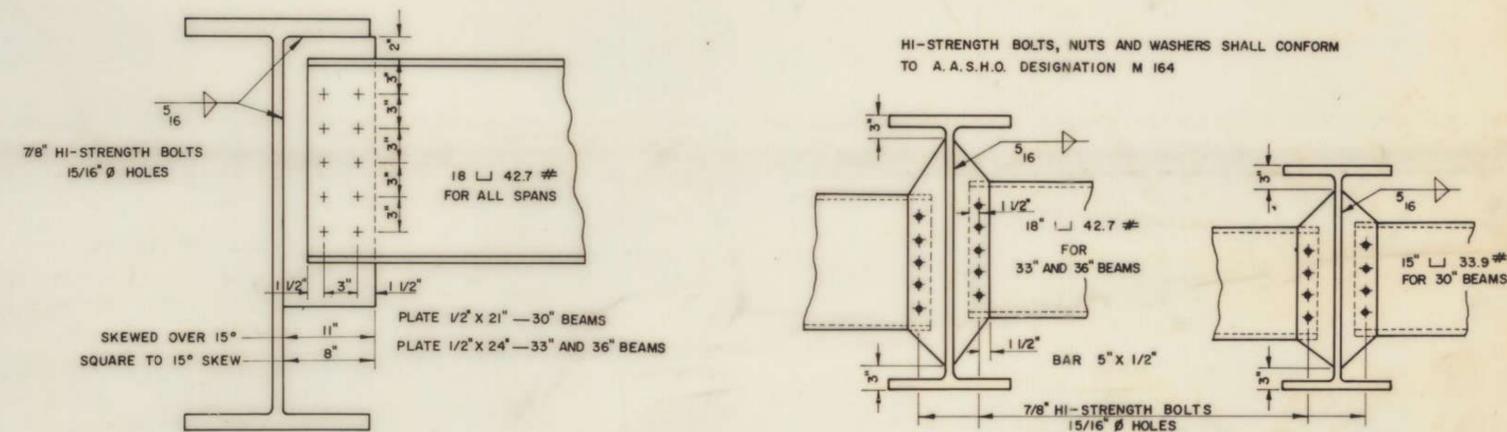
SPAN	COVER PLATE LENGTH	WIDTH	THICKNESS	TAPER	WELD "A"	WELD "B"	L I
99'-0"	64'-10"	15"	2 1/4"	1'-10"	3/8"	5/8"	2'-5"
94'-0"	62'-2"	15"	2"	1'-10"	3/8"	5/8"	2'-1"
89'-0"	56'-6"	15"	1 5/8"	1'-10"	3/8"	1/2"	2'-3"
84'-0"	57'-4"	11"	1 3/4"	1'-4"	3/8"	1/2"	1'-8"
79'-0"	50'-9"	11"	1 3/8"	1'-4"	5/16"	1/2"	1'-4"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

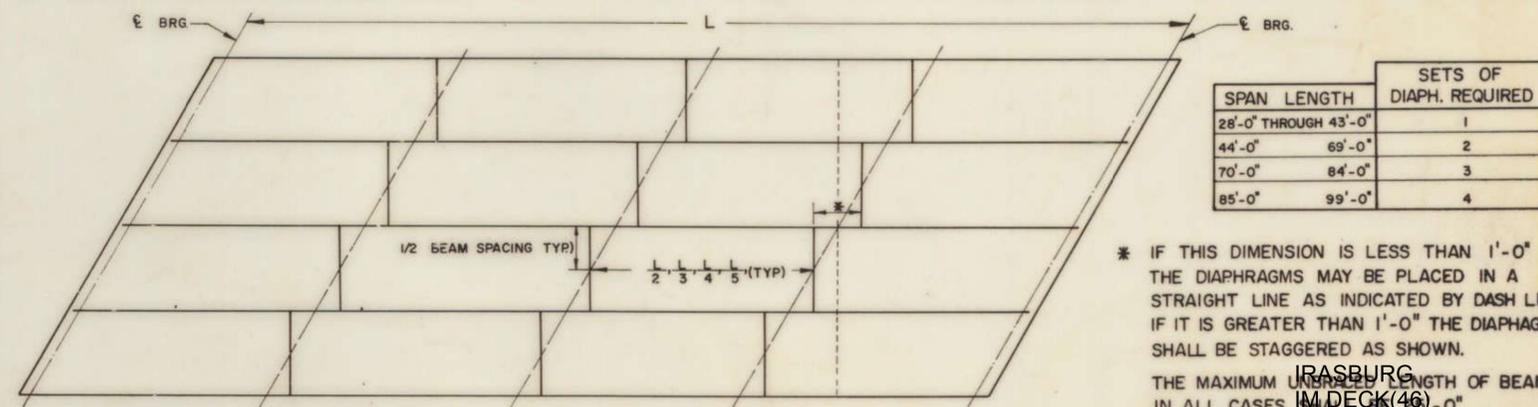


COVER PLATE DETAILS



PIER DIAPHRAGMS

INTERMEDIATE DIAPHRAGMS



DIAPHRAGM LOCATION PLAN

* 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.

IRASBURG
M/DECK(46)
BRIDGE NO. 107N
SHEET 47 OF 49
FOR REFERENCE ONLY

REVISIONS AND CORRECTIONS

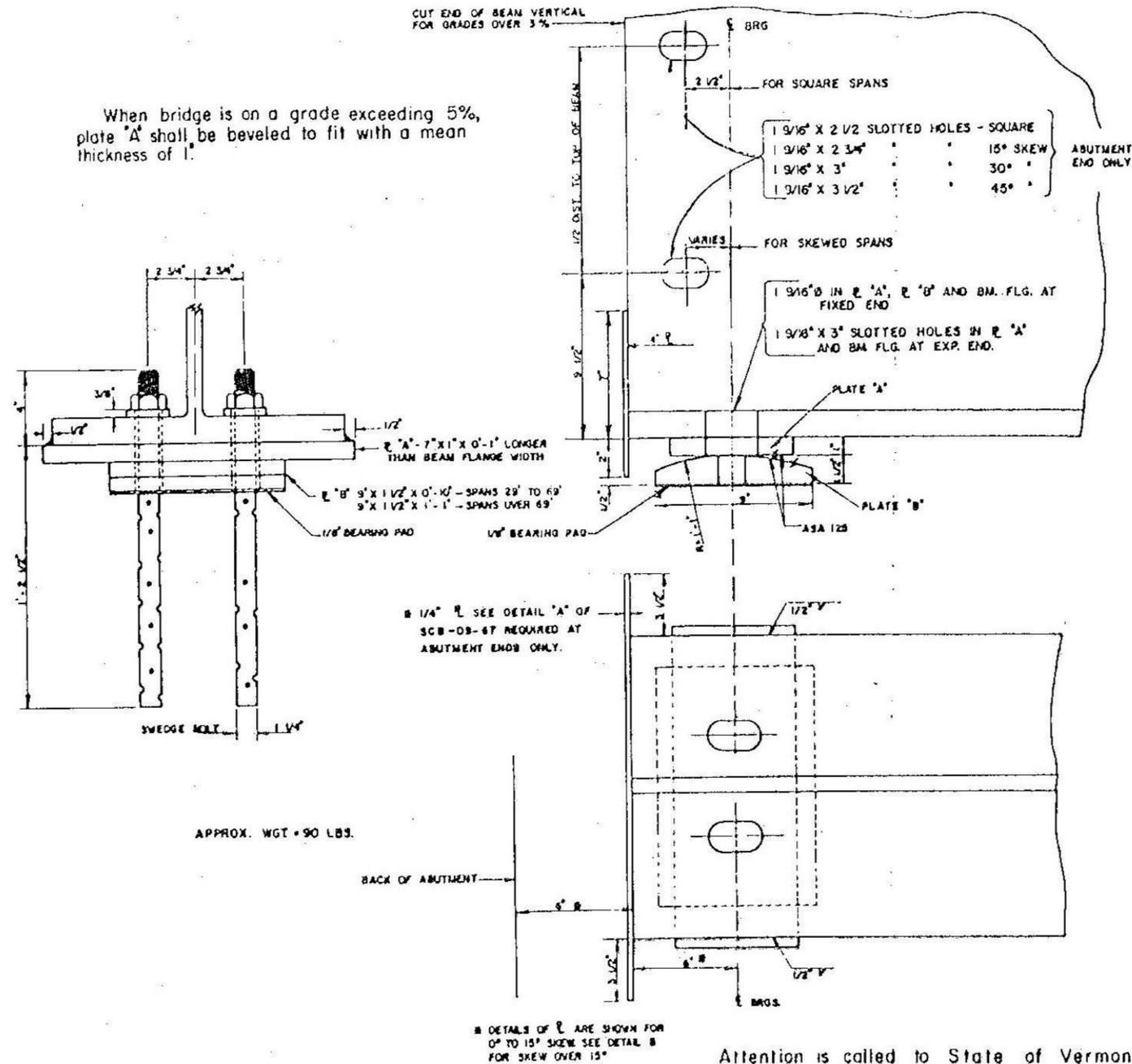
DRAWN BY: A.V. DEC. 1962
 RETRACED BY: A.J.A. MAY 1967
 CHECKED BY: W. SMITH DEC. 1967
 RECOMMENDED FOR APPROVAL: [Signature] BRIDGE ENGINEER
 RECOMMENDED FOR APPROVAL: [Signature] CONSTRUCTION ENGINEER
 RECOMMENDED FOR APPROVAL: [Signature] ASST. CHIEF ENGINEER
 APPROVED BY: [Signature] CHIEF ENGINEER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

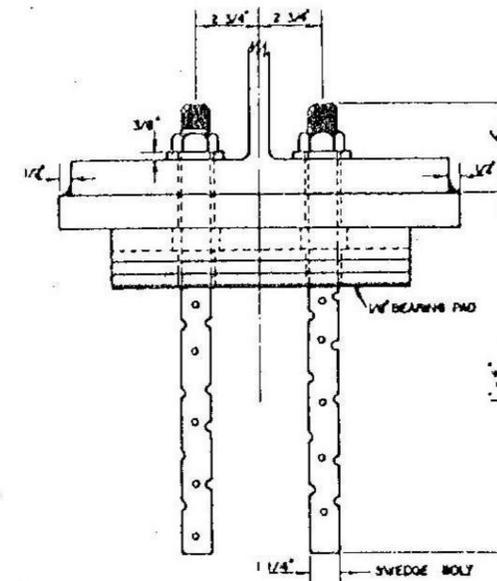


FIXED END BEARING DEVICE
USE FOR EXPANSION END ON SPANS UP TO AND INCLUDING 69'

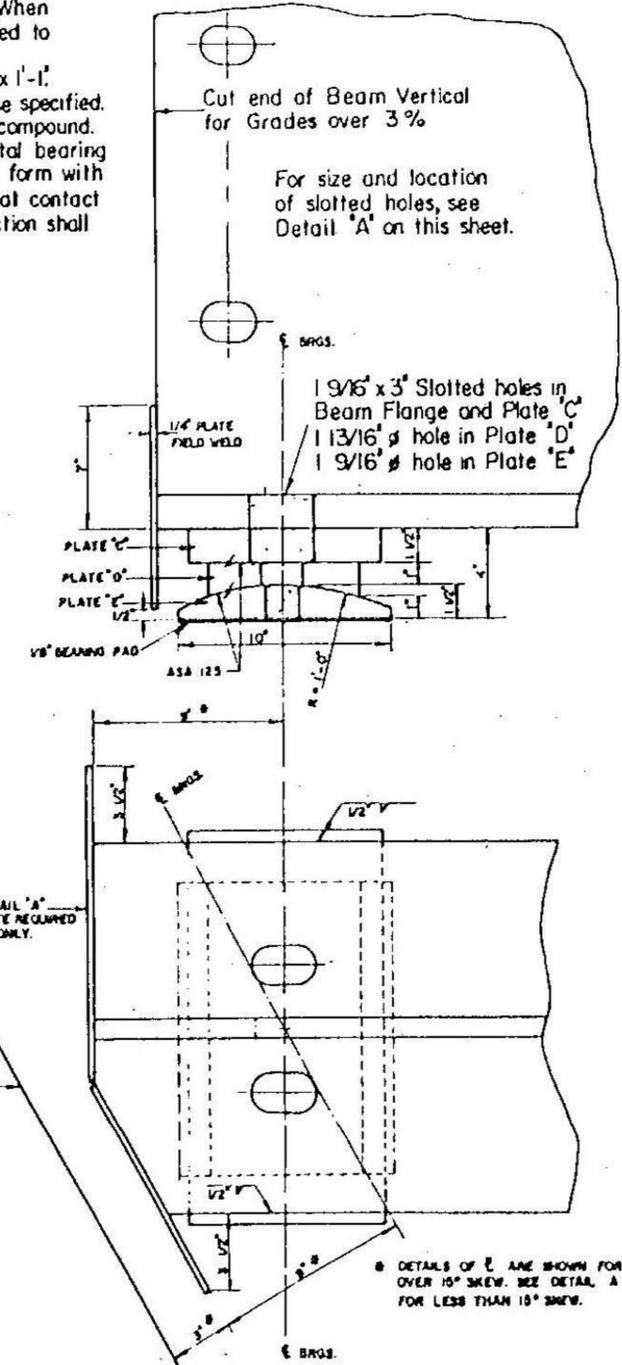
Plate "C" - 9" x 1 1/2" x 1" longer than the beam flange width. When the bridge is on a grade exceeding 5%, plate "C" shall be beveled to fit the grade with a mean thickness of 1 1/2".

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.

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

REVISIONS AND CORRECTIONS

DRAWN BY:	A.V.	DEC. 1988
RETRACTED BY:	AJA	MAY 1987
CHECKED BY:	W. SMITH	DEC. 1982
RECOMMENDED FOR APPROVAL	<i>[Signature]</i>	12/16/88
RECOMMENDED FOR APPROVAL	<i>[Signature]</i>	12/16/88
RECOMMENDED FOR APPROVAL	<i>[Signature]</i>	12/16/88
APPROVED BY:	<i>[Signature]</i>	11/24/88
	CHIEF ENGINEER	DATE

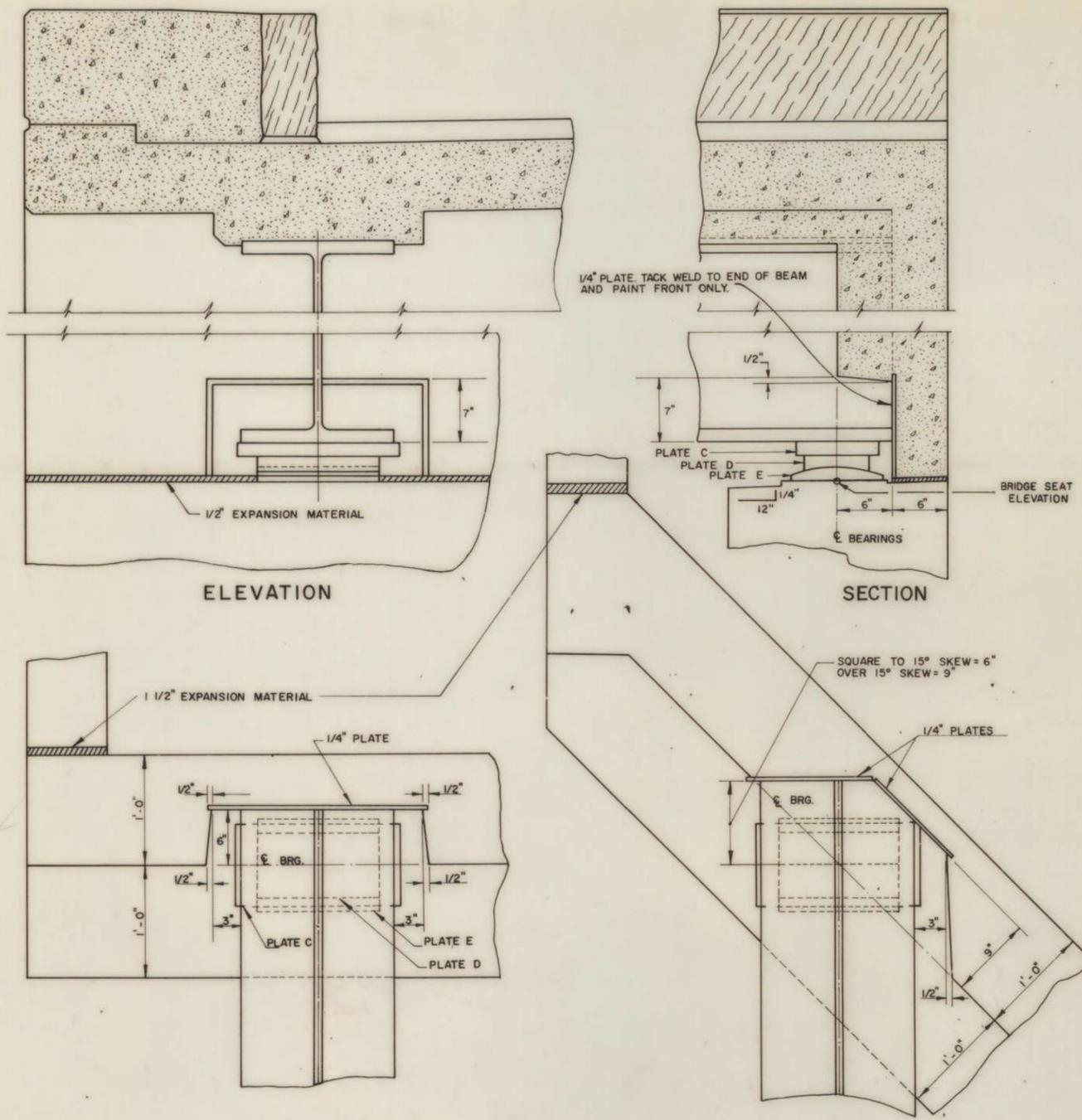
DETAILS OF W BEAM BRIDGES

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

VERMONT
DEPARTMENT OF HIGHWAYS
STRUCTURE STANDARDS

SCB-D8-67

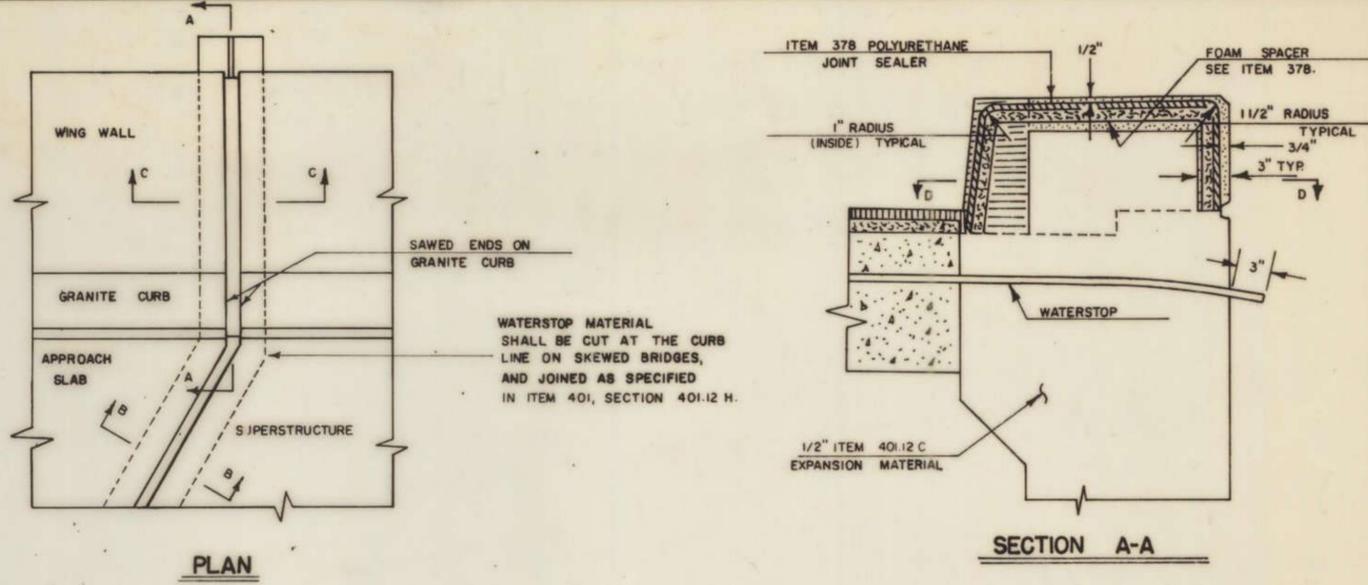
256 A



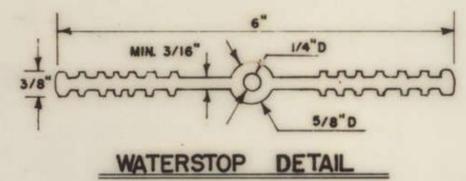
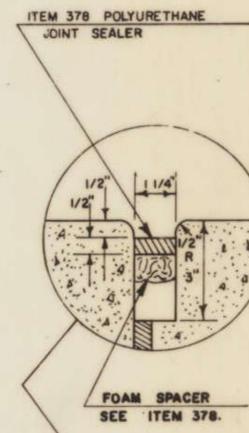
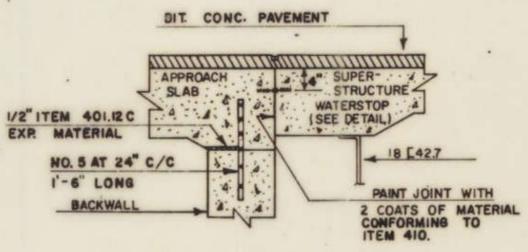
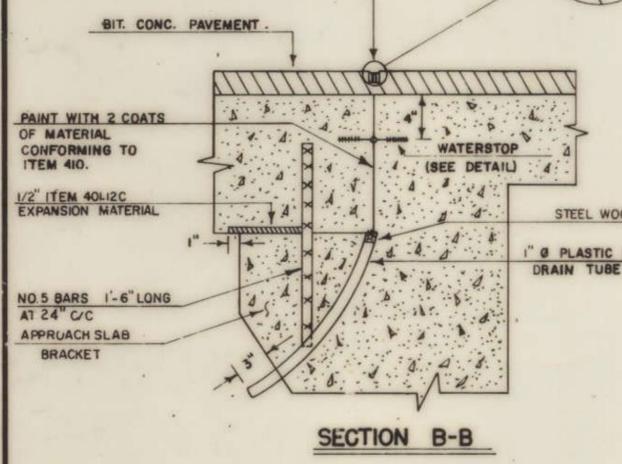
PLAN FOR SQUARE BRIDGES

PLAN FOR SKEWED BRIDGES

(DETAILS SHOWN FOR EXP END; FIXED END SIMILAR EXCEPT R_s A AND B IN LIEU OF R_s C, D AND E; SEE SCB-D8-69)



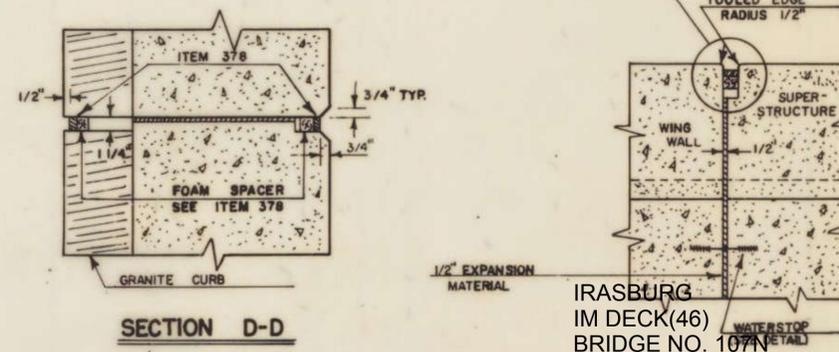
JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUT WILL BE MADE DIRECTLY OVER THE JOINT.



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.



IRASBURG IM DECK(46) BRIDGE NO. 107N SHEET 49 OF 119 FOR REFERENCE ONLY

REVISIONS AND CORRECTIONS

1 (B) FIXED END JOINT DETAILS - ADDED 4-2P 70 J. WOOD	AV	DEC 1962
2 ADDED " SEE SCB-D8-69 " TO NOTE ON DET. (A) 12-11-70 J. WOOD	AJA	MAY 1967

CHECKED BY: W. SMITH DEC. 1967

RECOMMENDED FOR APPROVAL

RECOMMENDED FOR APPROVAL

RECOMMENDED FOR APPROVAL

APPROVED BY: *[Signature]* 1/24/68
CHIEF ENGINEER DATE

DRAWN BY: AV DEC 1962

RETRACTED BY: AJA MAY 1967

CHECKED BY: W. SMITH DEC. 1967

RECOMMENDED FOR APPROVAL

RECOMMENDED FOR APPROVAL

RECOMMENDED FOR APPROVAL

APPROVED BY: *[Signature]* 1/24/68
CHIEF ENGINEER DATE

DETAILS OF W BEAM BRIDGES

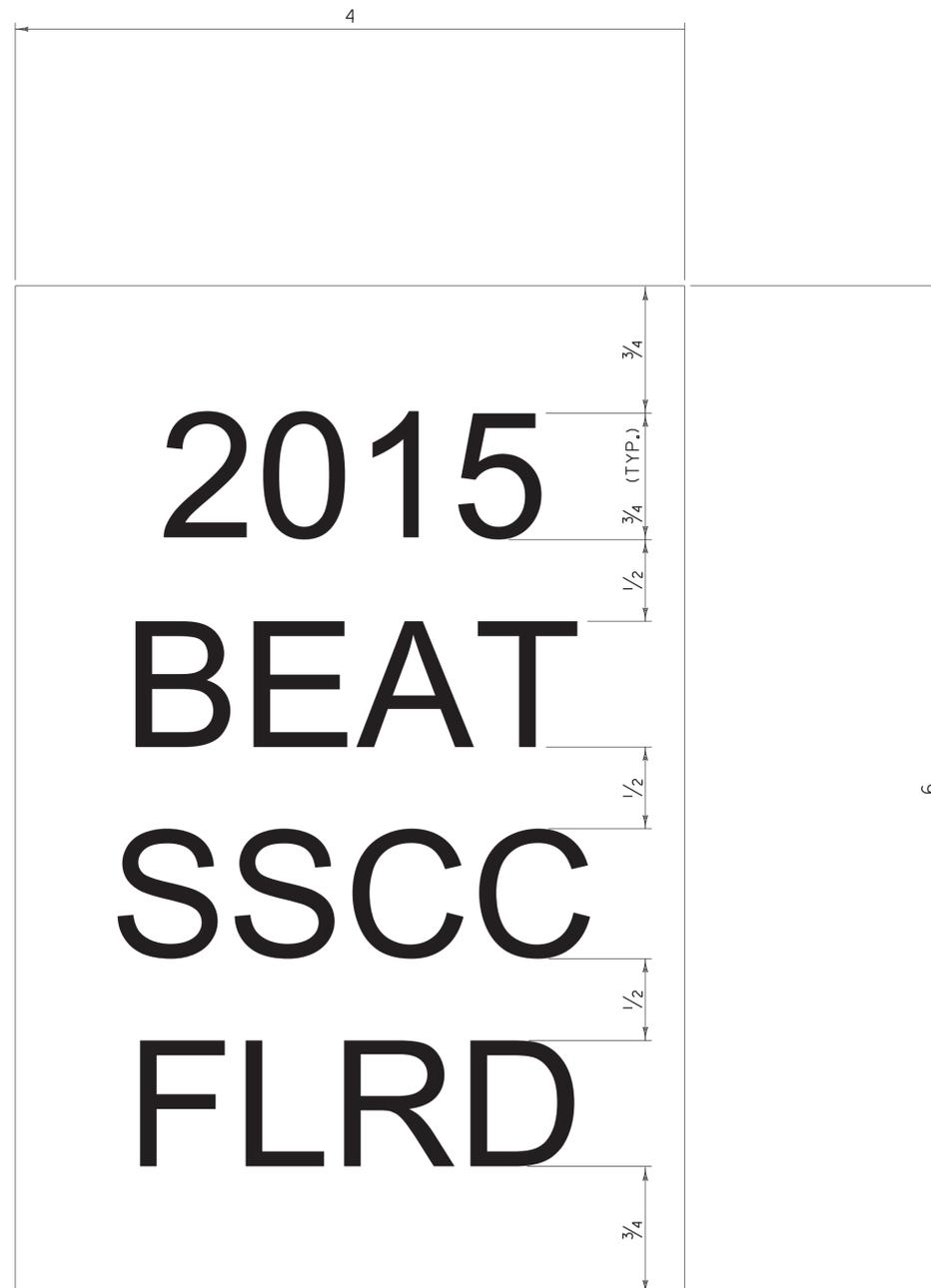
(A) CURTAIN WALL AT BEARING DEVICES

(B) FIXED END JOINT DETAILS

VERMONT DEPARTMENT OF HIGHWAYS STRUCTURE STANDARDS

SCB-D9-67

258/B1



GENERAL NOTES:

1. LINE ONE SHALL INDICATE THE INSTALLATION YEAR (YYYY).
2. LINE TWO SHALL INDICATE THE MODEL AS IDENTIFIED ON THE APPROVED PRODUCTS LIST. FOR GENERIC INSTALLATIONS THE STANDARD DRAWING DESIGNATION OR NAME AS IDENTIFIED IN THE FHWA ELIGIBILITY LETTER SHALL BE USED.
3. LINE THREE SHALL INDICATE ADDITIONAL MODEL INFORMATION IF NECESSARY.
4. LINE FOUR SHALL INDICATE FLARED (FLRD) OR TANGENT (TANG).
5. LEGEND SHALL BE ONE ARIEL FONT.
6. LEGEND SHALL BE BLACK ON A WHITE BACKGROUND, LEGEND AND BACKGROUND SHALL NOT BE REFLECTIVE.
7. SUITABLE MATERIAL SHALL BE USED SO AS TO NOT DETERIORATE DURING EXPOSURE TO WEATHER.
8. LABELS SHALL BE APPLIED IN SUCH A WAY THAT THEY REMAIN INTACT DURING THE LIFE OF THE TERMINAL.
9. FOR W-BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE TOP OF POST ONE FACING AWAY FROM TRAFFIC.
10. FOR BOX BEAM GUARDRAIL, LABEL SHALL BE PLACED ON THE BOX BEAM ADJACENT TO POST ONE FACING AWAY FROM TRAFFIC.
11. PAYMENT SHALL BE INCIDENTAL TO OTHER TRAFFIC BARRIER ITEMS.
12. ALL DIMENSIONS IN INCHES.

REV.	DATE	DESCRIPTION
0	NOV. 3, 2015	ORIGINAL APPROVAL
OTHER DETAILS REQUIRED: NONE		
DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN		

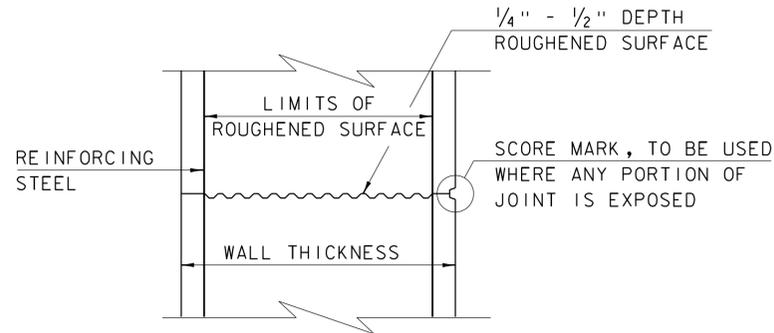
GUARDRAIL TERMINAL LABEL DETAIL



HIGHWAY SAFETY
& DESIGN DETAIL
HSD - 621.06

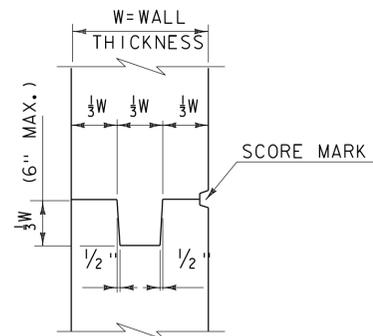
CONCRETE GENERAL NOTES

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.

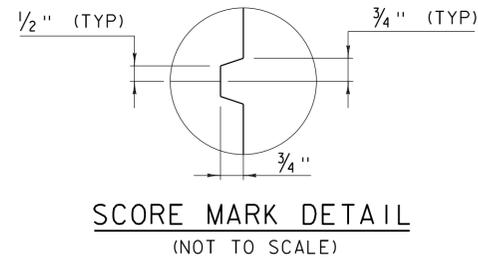


TYPICAL HORIZONTAL CONSTRUCTION JOINT
(NOT TO SCALE)

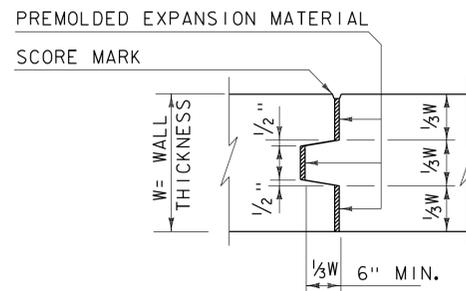
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



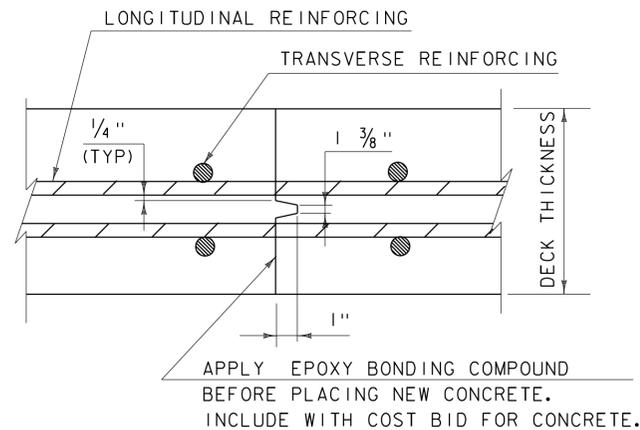
TYPICAL CONCRETE CONSTRUCTION JOINT
(NOT TO SCALE)



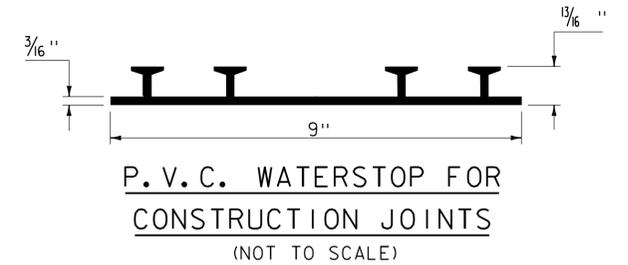
SCORE MARK DETAIL
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT
(NOT TO SCALE)

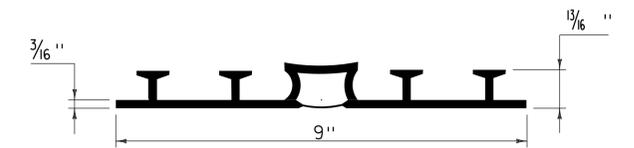


TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS
(NOT TO SCALE)



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

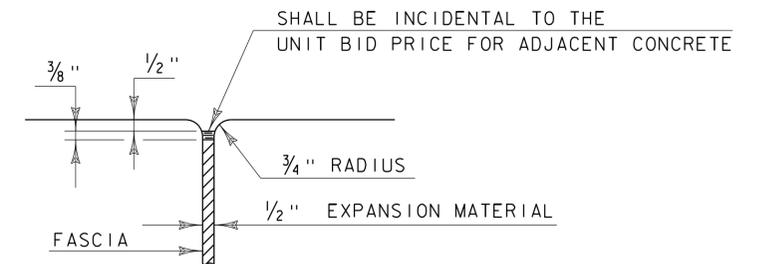
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



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.



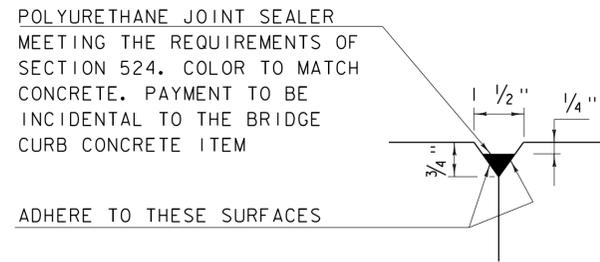
JOINT BETWEEN FASCIA AND WINGWALL
(NOT TO SCALE)

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

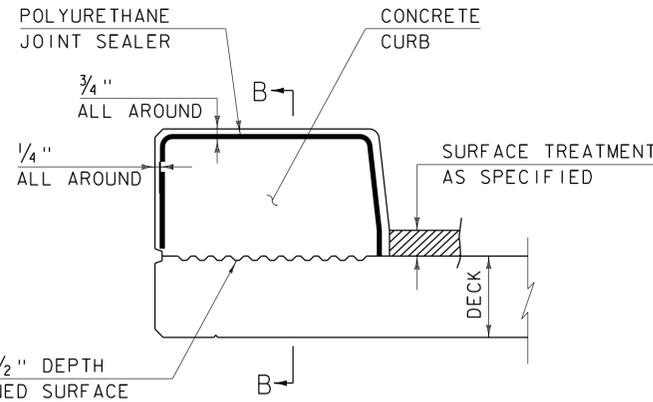
**CONCRETE
DETAILS AND NOTES**



**STRUCTURES
DETAIL
SD-501.00**

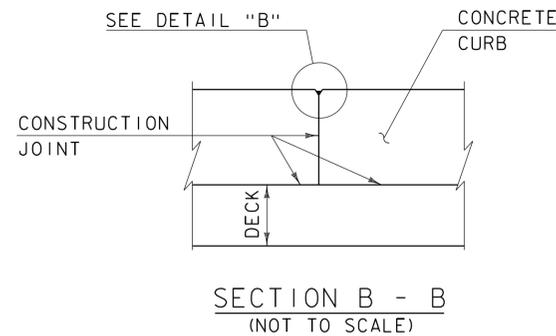


DETAIL "B"
(NOT TO SCALE)

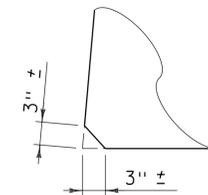


CONCRETE CURB JOINT SECTION
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



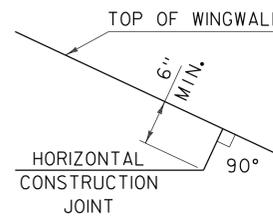
SECTION B - B
(NOT TO SCALE)



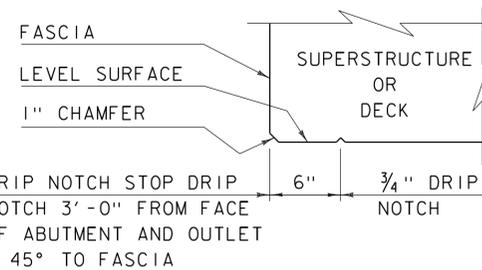
ACUTE ANGLE
CLIP DETAIL
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

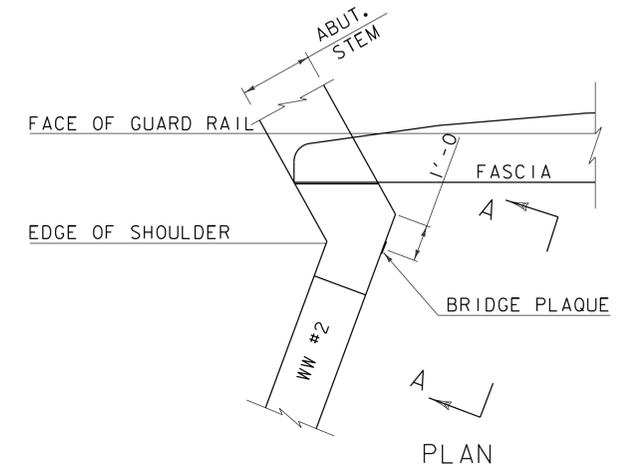
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES 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.



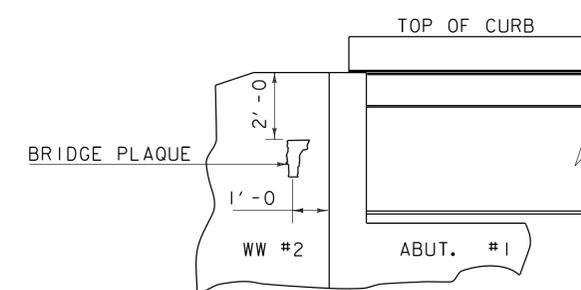
HORIZONTAL WINGWALL
CONSTRUCTION JOINT
(NOT TO SCALE)



DRIP NOTCH DETAIL
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE
(NOT TO SCALE)

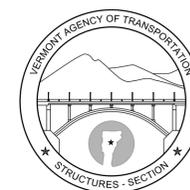
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

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

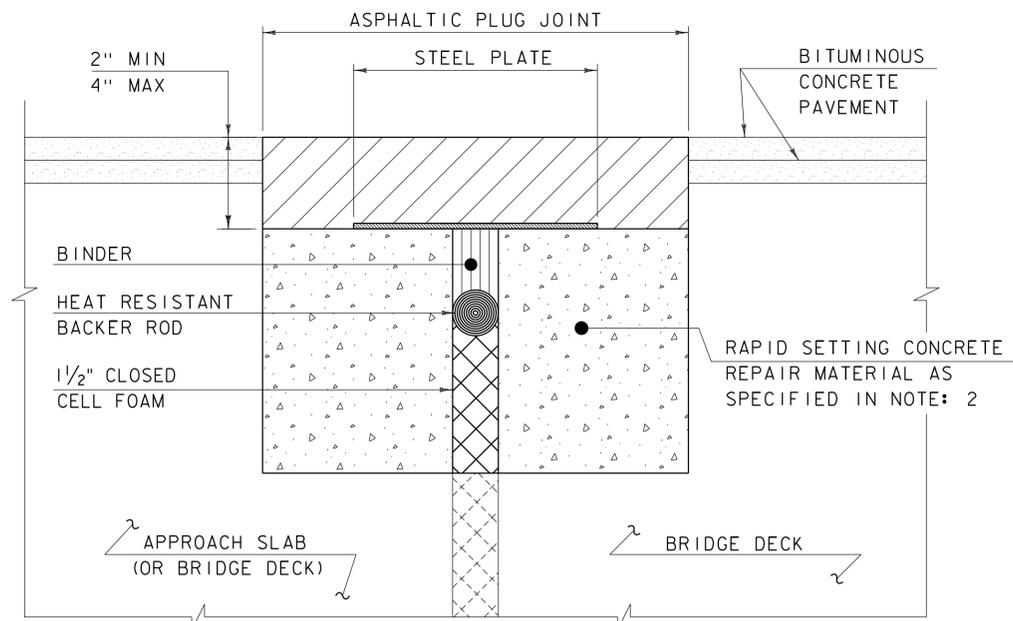
INSTALLATION:

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:

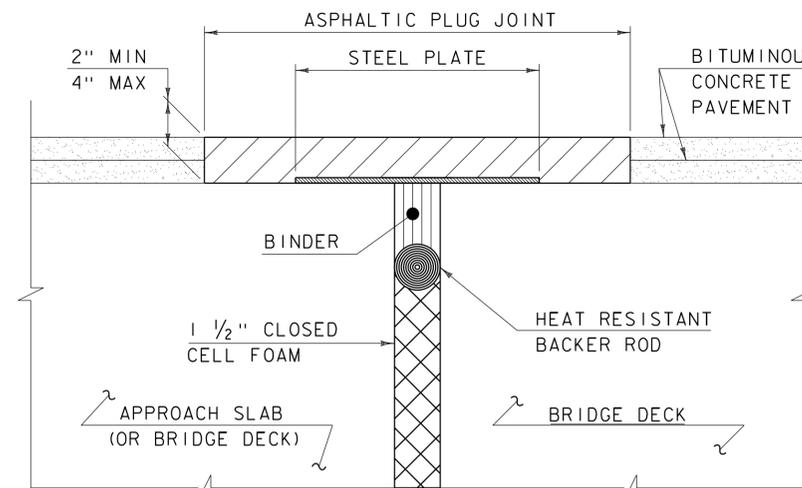
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

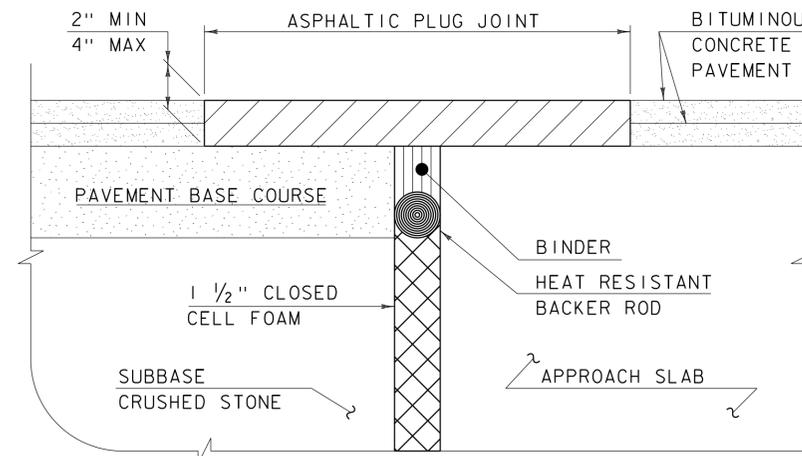
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL 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

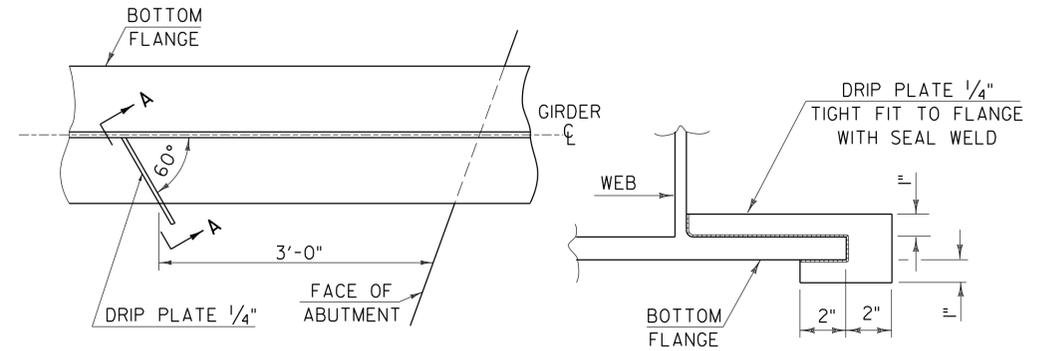
BRIDGE JOINT
ASPHALTIC PLUG



STRUCTURES
DETAIL
SD-516.10

STRUCTURAL STEEL GENERAL NOTES:

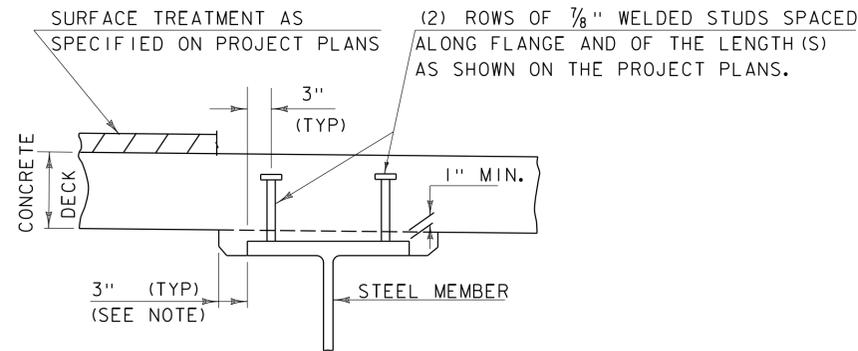
1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.I9, UNLESS OTHERWISE SPECIFIED.
2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS 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

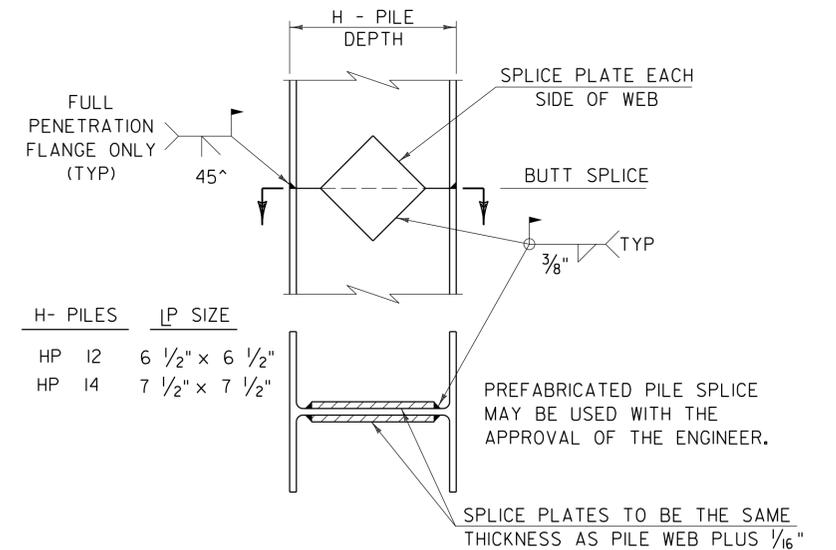
SECTION A - A

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

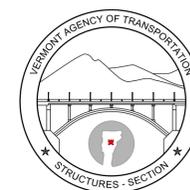


DETAIL OF PILE SPLICE

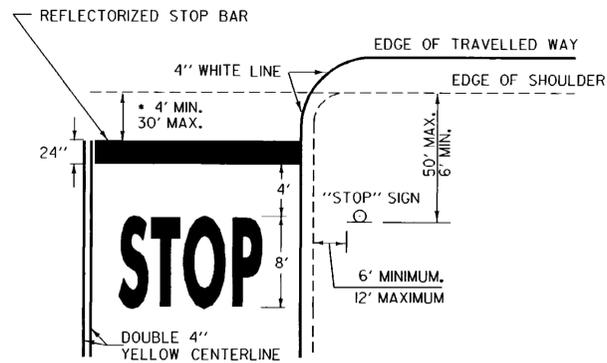
DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

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

STRUCTURAL STEEL DETAILS & NOTES

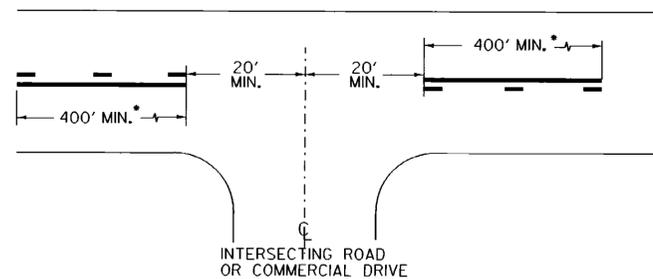


STRUCTURES DETAIL SD-601.00



* THE "DESIRED STOPPING POINT" IS THE LOCATION BASED ON SITE CONDITIONS THAT BEST ALLOWS THE STOPPED VEHICLE TO VIEW THE APPROACHING TRAFFIC.

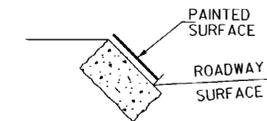
STOP BAR LAYOUT



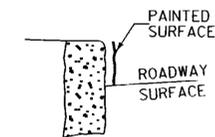
* THE SOLID LINE SHALL BE PAIRED WITH EITHER A SOLID OR DASHED LINE DEPENDING ON SIGHT DISTANCE AVAILABILITY IN THE OPPOSING DIRECTION. ADJUSTMENTS TO THE 40 FOOT CENTERLINE OPENING MAY BE MADE TO ACCOMMODATE SKEWED INTERSECTIONS.

- CENTERLINE BREAKS:
- AT ALL STATE HIGHWAYS AND TOWN HIGHWAYS, INCLUDING CLASS 4 TH'S, THAT HAVE STOP AND LEGAL LOAD LIMIT SIGNS INSTALLED
 - COMMERCIAL DRIVES:
 - WHERE A SEPERATE TURN LANE EXISTS ON THE MAIN LINE (LT. OR RT.)
 - SIGNIFICANT TRAFFIC VOLUMES EXISTS.
 - IF MOTORISTS NEED ASSISTANCE TO DEFINE ENTRANCE POINTS.

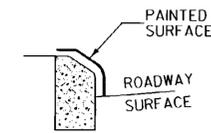
CENTERLINE LAYOUT



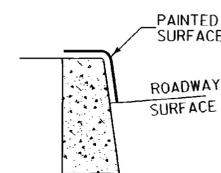
GRANITE SLOPE EDGING



VERTICAL GRANITE CURB

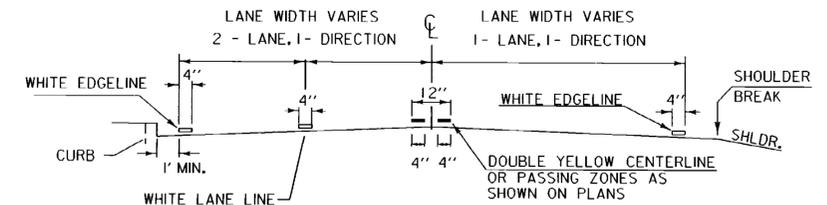


TYPE A (CONCRETE)

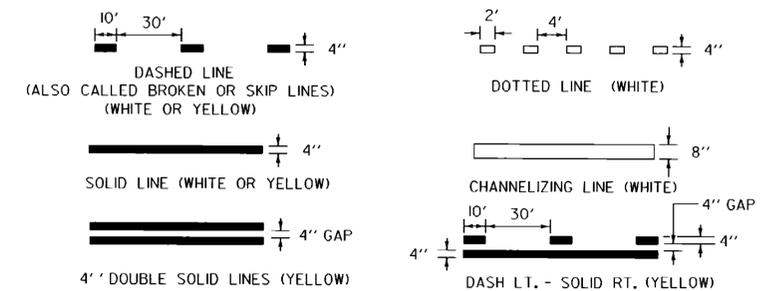


TYPE B (CONCRETE)

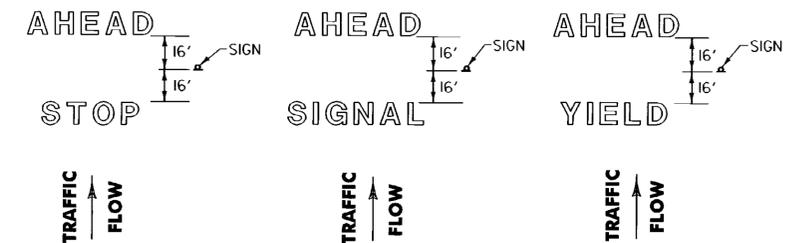
PAINTED CURB



PAVEMENT MARKING PLACEMENT DETAIL

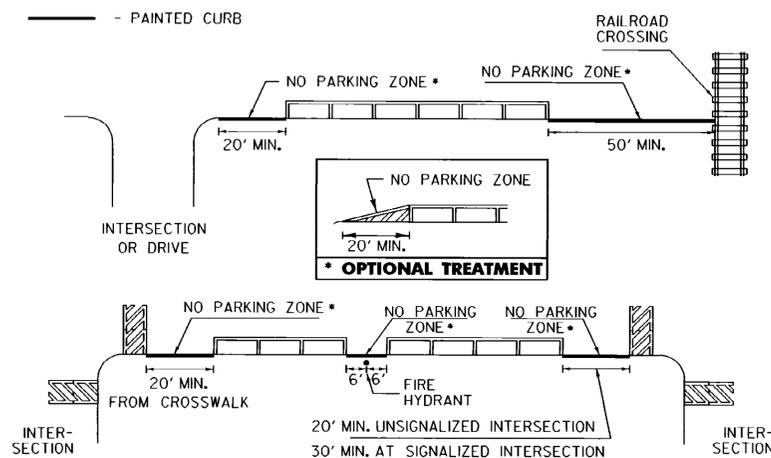


PAVEMENT MARKING LINE DETAILS

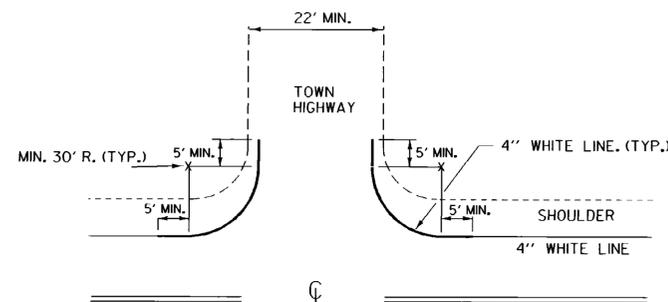


LETTER IN WORD MARKING SPACING DETAIL

NOTE: SINGLE WORDS CENTERED ON SIGN ie: SCHOOL OR YIELD



NO PARKING LAYOUT DETAILS

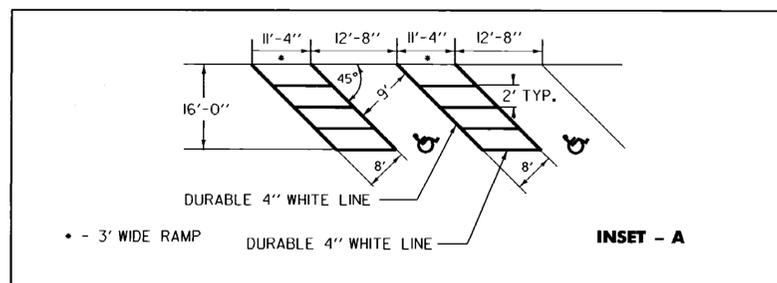


EDGE LINES SHALL BE APPLIED TO ALL STATE HIGHWAYS AND SHOULD BE MAINTAINED AT A CONSTANT DISTANCE FROM THE CENTERLINE UNLESS PAVEMENT WIDTH INCREASES TO ALLOW WIDER LANES.

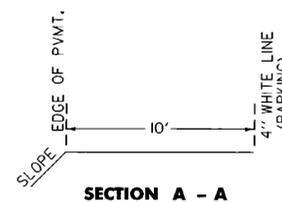
APPLY EDGE LINE AS DETAILED ON ALL PAVED CLASS 1 & CLASS 2 TOWN HIGHWAYS AND ANY CLASS 3 TOWN HIGHWAY 22 FEET OR MORE IN WIDTH.

IF MIN. 30 FOOT RADIUS CANNOT BE OBTAINED, OR THE TOWN HIGHWAY IS NOT PAVED, BREAK THE EDGE LINE USING AN 80 FOOT GAP AT INTERSECTION.

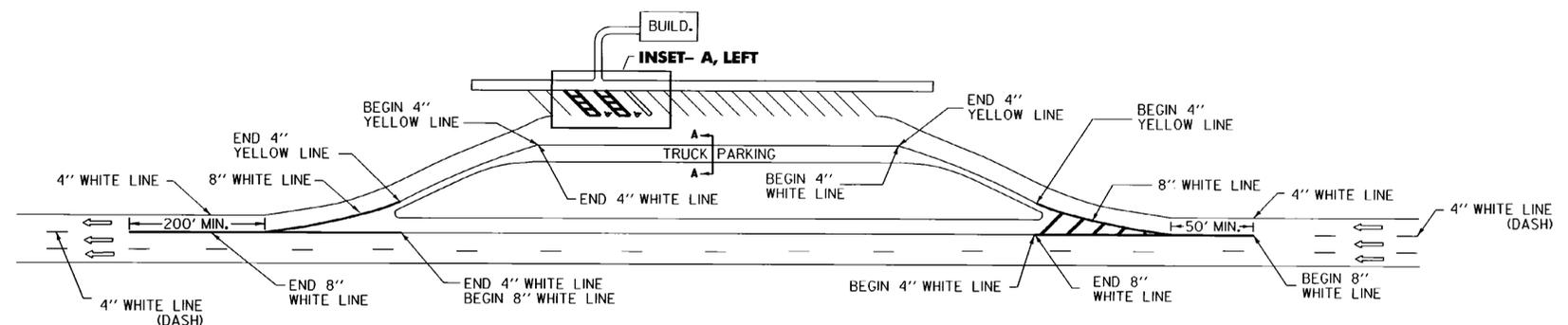
EDGE LINE LAYOUTS



NOTE: SEE STANDARD SHEET E-191 FOR HANDICAP SYMBOL POSITIONING AND DETAIL.



TRUCK PARKING DETAIL



REST AREA PARKING DETAILS

THIS SHEET IS NOT TO SCALE

OTHER STDS. E - 191, E - 192 REQUIRED

REVISIONS AND CORRECTIONS

AUG. 18, 1995 - DATE OF ORIGINAL ISSUE

APPROVED

Sandra S. McCutchen
DIRECTOR OF ENGINEERING

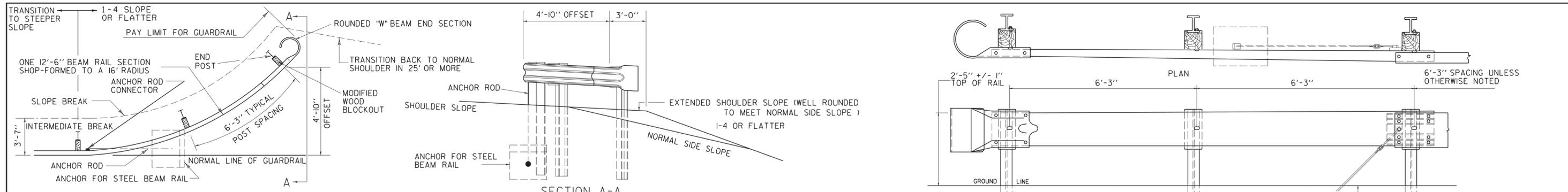
David A. Ross
TRAFFIC AND SAFETY ENGINEER

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

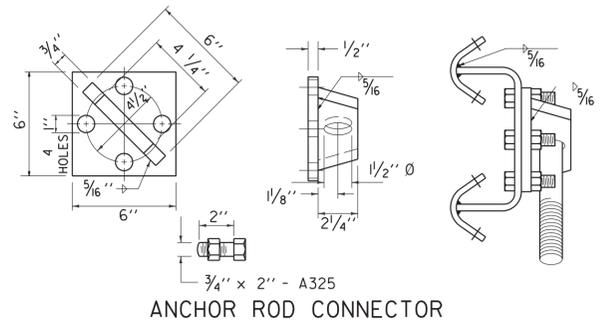
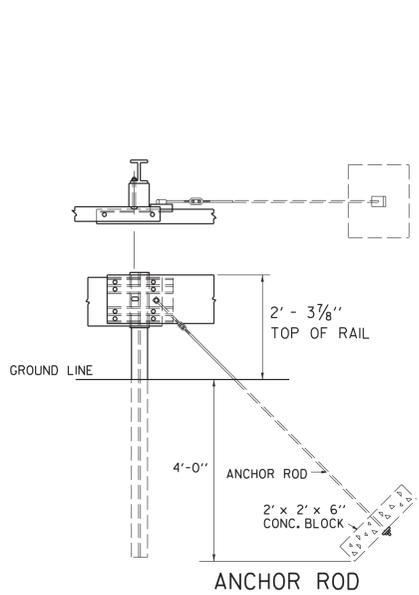
PAVEMENT MARKING DETAILS



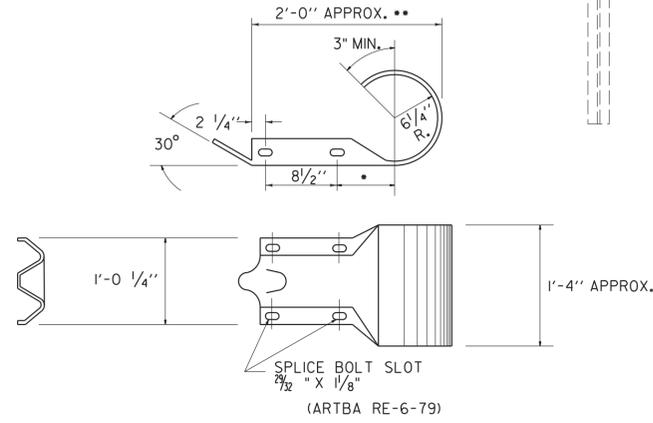
STANDARD E-193



APPROACH END DETAIL
 NHS APPROVED FOR USE WHERE DESIGN SPEED IS 40 OR LESS MPH
 NON-NHS APPROVED FOR USE WHERE DESIGN SPEED IS 50 OR LESS MPH

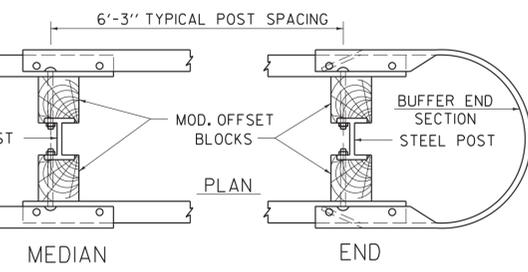
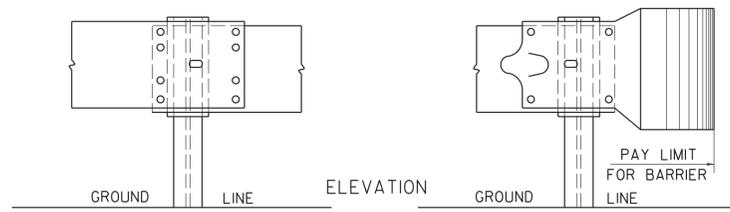


ANCHOR ROD CONNECTOR



ROUNDED "W" BEAM END SECTION

THIS DIMENSION IS 7 1/2" INRE-7-79. IF THE DIMENSION IS USED IN THIS PART, IT WILL GIVE AN ACCEPTABLE OVERALL LENGTH (**) OF APPROXIMATELY 2'- 11/2."

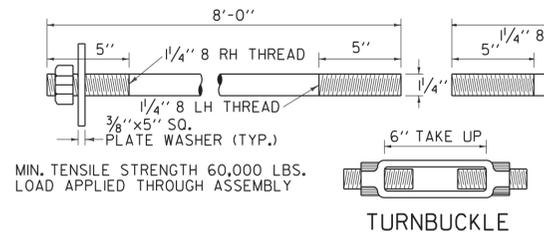


STEEL BEAM MEDIAN BARRIER
 NOTE: TO BE USED OUTSIDE CLEAR ZONE ONLY.

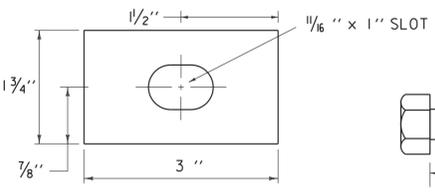
TRAILING END TERMINAL FOR USE ON ONE-WAY HIGHWAYS

GENERAL NOTES:

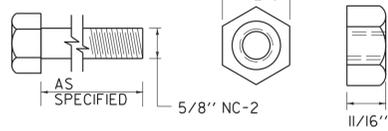
1. ALL METAL PARTS SHALL BE GALVANIZED
2. ALL WOOD POSTS SHALL BE GIVEN A PRESERVATIVE TREATMENT
3. DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON STANDARD DRAWING G-1.
4. FOR DESCRIPTION AND SPECIFICATIONS OF PARTS IDENTIFIED BY "ARTBA..." AND OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-ACC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST EDITION.
5. THE TRANSITION FROM THE APPROACH END TO THE STANDARD STEEL BEAM GUARDRAIL SHALL BE 25'-0" UNLESS OTHERWISE SPECIFIED.
6. WHEN STANDARD STEEL BEAM CONNECTS TO BRIDGE APPROACH RAIL OF A DIFFERENT HEIGHT THE LENGTH NEEDED TO TRANSITION THE HEIGHT OF STANDARD STEEL BEAM TO MATCH THE BRIDGE APPROACH RAIL SHALL BE 25'-0" UNLESS OTHERWISE SPECIFIED.
7. WHEN STANDARD STEEL BEAM CONNECTS TO A MANUFACTURED TERMINAL SECTION OF A DIFFERENT HEIGHT THE LENGTH NEEDED TO TRANSITION THE HEIGHT OF STANDARD STEEL BEAM TO MATCH THE MANUFACTURED TERMINAL SECTION SHALL BE 25'-0" UNLESS OTHERWISE SPECIFIED.



TURNBUCKLE



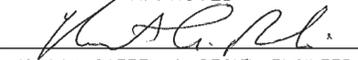
RECTANGULAR GUARDRAIL PLATE WASHER
 (ARTBA F-12-73)

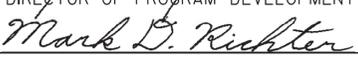


5/8" HEX NUT AND BOLT "F"
 (ARTBA F-8-76)

FASTENER DETAILS

REVISIONS AND CORRECTIONS
 JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.
 JAN. 3, 2000 - UPDATED TO REFLECT METRIC STD. CHANGES
 FEB. 10, 2014 - UPDATED TO REFLECT GUARDRAIL HEIGHT OF 29"; AS NOTED IN FHWA LETTER DATED MAY 17, 2010

APPROVED

 HIGHWAY SAFETY & DESIGN ENGINEER

 DIRECTOR OF PROGRAM DEVELOPMENT

 FEDERAL HIGHWAY ADMINISTRATION

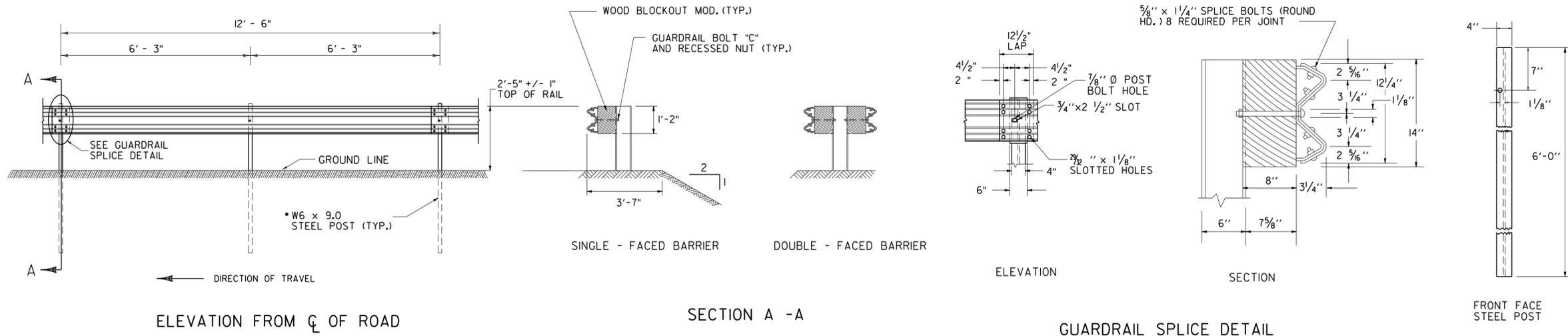
STEEL BEAM GUARDRAIL APPROACH END TERMINAL
 STEEL BEAM GUARDRAIL TRAILING END TERMINAL
 ANCHOR FOR STEEL BEAM GUARDRAIL
 STEEL BEAM MEDIAN BARRIER

OTHER STANDARD REQUIRED: G-1



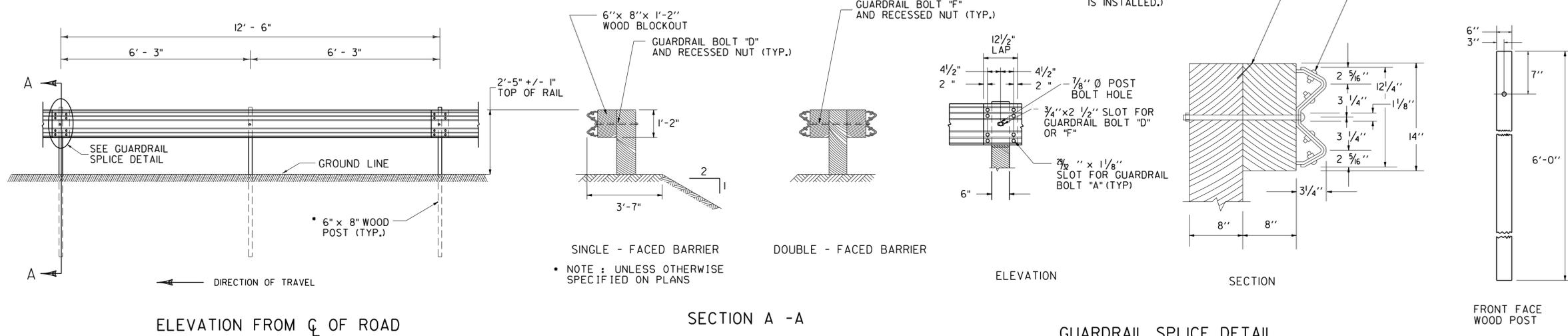
STANDARD
 G-1d

"W" BEAM GUARDRAIL WITH STEEL POSTS



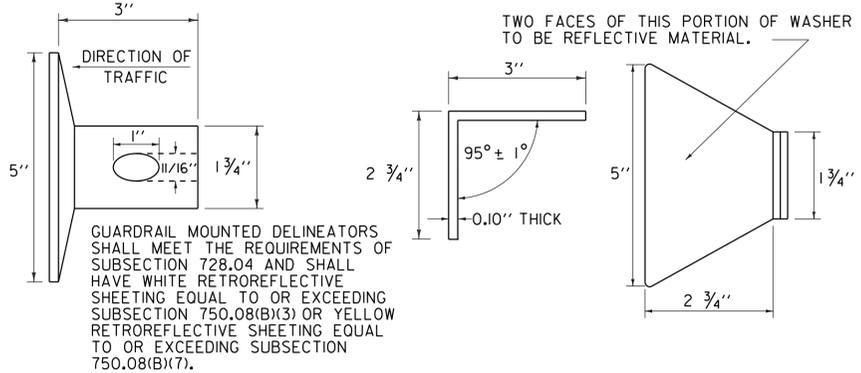
- NOTES:
- BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPROPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- 1/4".
 - SUPPLY WOOD BLOCKS PER AASHTO M 168.
 - TREAT WITH PRESERVATIVE PER AASHTO M 133.
 - BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.

"W" BEAM GUARDRAIL WITH WOOD POSTS

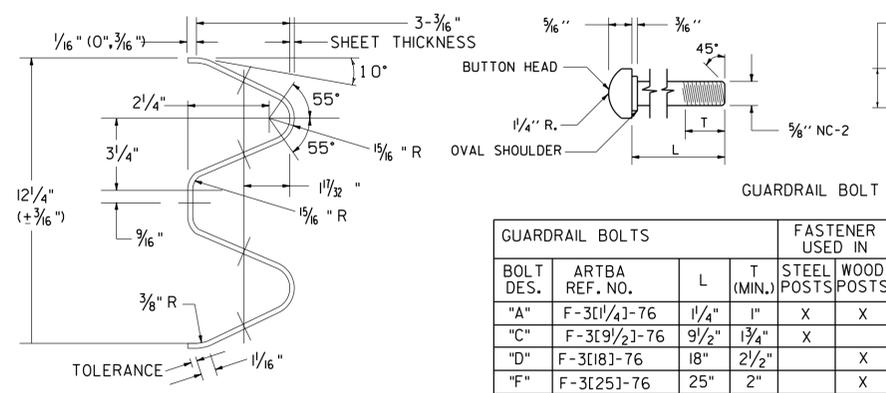


- NOTES:
- BLOCKS SHALL BE MADE OF TIMBER WITH A STRESS GRADE OF 1200 PSI OR MORE. TESTING SHALL BE IN ACCORDANCE WITH WEST COAST LUMBER INSPECTION BUREAU, SOUTHERN PINE INSPECTION BUREAU OR OTHER APPROPRIATE ASSOCIATION. TIMBER FOR BLOCKS SHALL BE ROUGH SAWN (UNPLANED) WITH DIMENSIONS INDICATED. THE SIZE TOLERANCE OF ROUGH SAWN BLOCKS IN THE DIRECTION OF THE BOLT HOLES SHALL BE NOT MORE THAN +/- 1/4".
 - SUPPLY WOOD BLOCKS PER AASHTO M 168.
 - TREAT WITH PRESERVATIVE PER AASHTO M 133.
 - BLOCKOUTS MAY ALSO BE MADE OF APPROVED ALTERNATIVE MATERIAL.

GUARDRAIL DELINEATOR

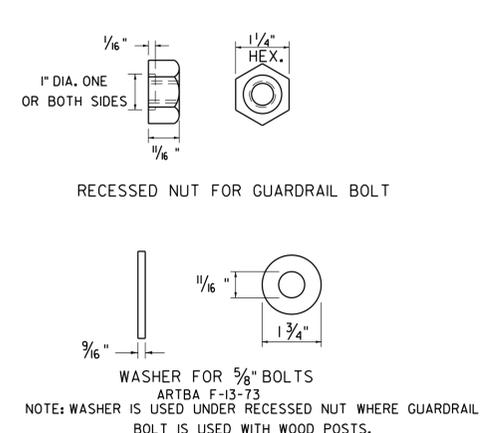


GUARDRAIL MOUNTED DELINEATORS SHALL MEET THE REQUIREMENTS OF SUBSECTION 728.04 AND SHALL HAVE WHITE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING SUBSECTION 750.08(B)(3) OR YELLOW RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING SUBSECTION 750.08(B)(7).



ARTBA RE-3[206]-3"-12'-6" CLASS A, TYPE 1]-73 TYPICAL GUARDRAIL SECTION

GUARDRAIL BOLTS		FASTENER USED IN			
BOLT DES.	ARTBA REF. NO.	L	T (MIN.)	STEEL POSTS	WOOD POSTS
"A"	F-3[1/4]-76	1 1/4"	1"	X	X
"C"	F-3[9/2]-76	9 1/2"	1 3/4"	X	
"D"	F-3[18]-76	18"	2 1/2"		X
"F"	F-3[25]-76	25"	2"		X



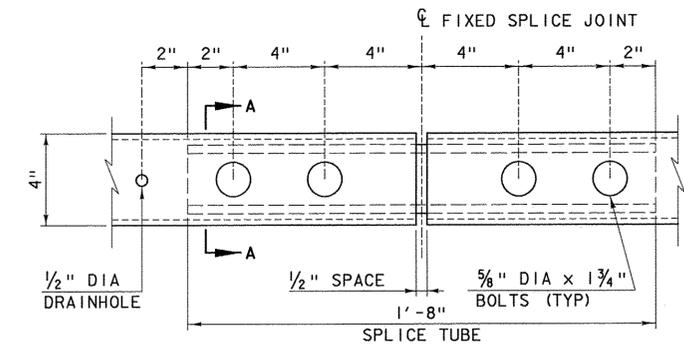
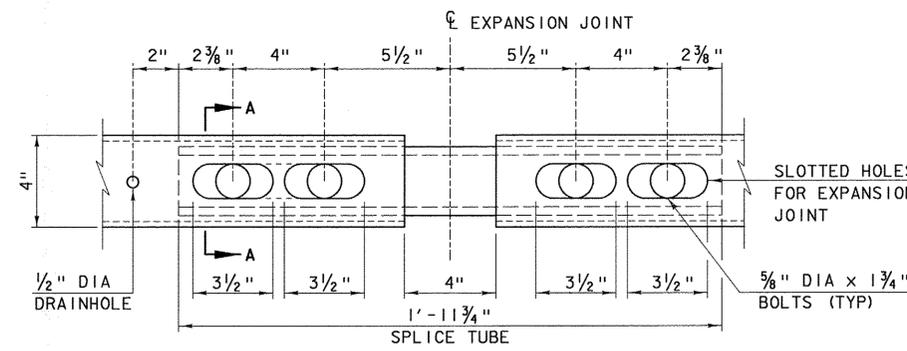
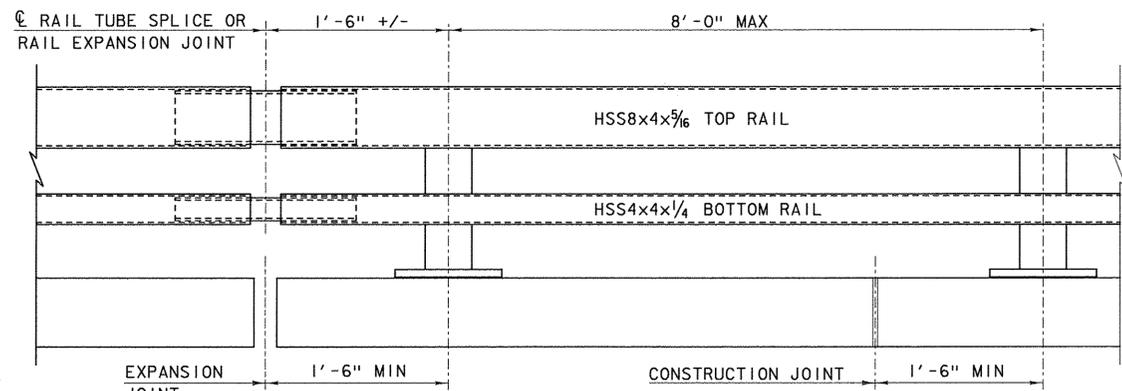
- GENERAL NOTES:
- GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE 1, UNLESS OTHERWISE DESIGNATED.
 - GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED.
 - GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL.
 - FOR DESCRIPTION AND SPECIFICATION OF PARTS IDENTIFIED BY (ARTBA ...) AND OTHER DETAILS OF BOLTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-ACC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE", LATEST EDITION.
 - STANDARD STEEL BEAM TO BE 1/8" AND THE HEAVY DUTY TO BE 3/4" THICK.

REV.	DATE	DESCRIPTION
--	JAN. 3, 2000	UPDATED TO REFLECT METRIC STD. CHANGES
--	FEB. 10, 2014	UPDATED TO REFLECT GUARDRAIL HEIGHT OF 29"; FHWA LETTER (MAY 17, 2010)
--	NOV. 10, 2015	UPDATED DELINEATOR RETROREFLECTIVE SHEETING NOTES

OTHER STANDARDS REQUIRED: G-ID
VTRANS AND FHWA APPROVAL ON FILE WITH CONTRACT ADMINISTRATION

STEEL BEAM GUARDRAIL WITH STEEL POSTS
STEEL BEAM GUARDRAIL WITH WOOD POSTS

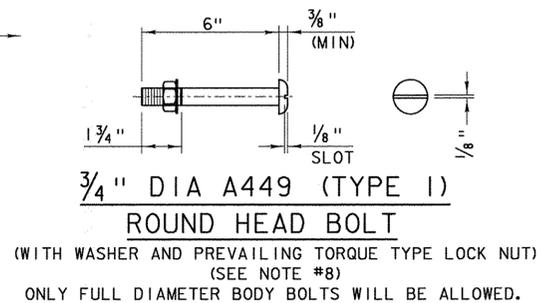
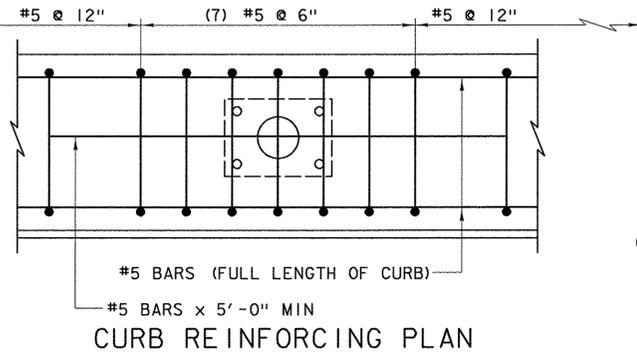
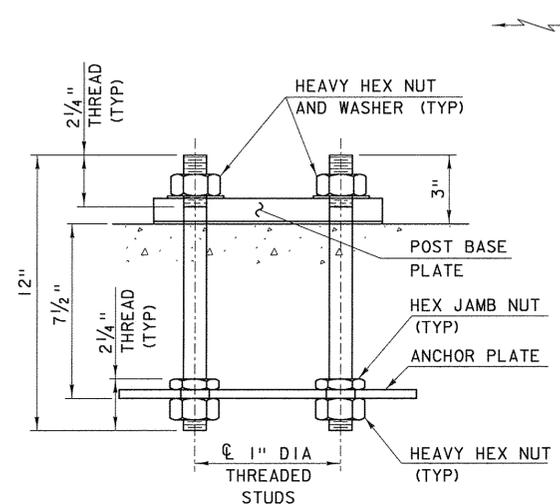




BRIDGE RAILING ELEVATION

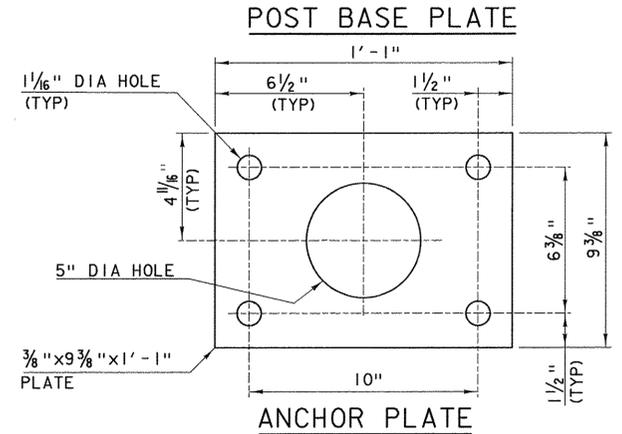
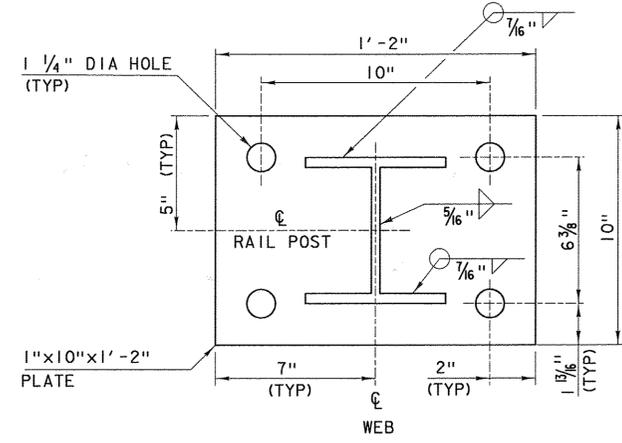
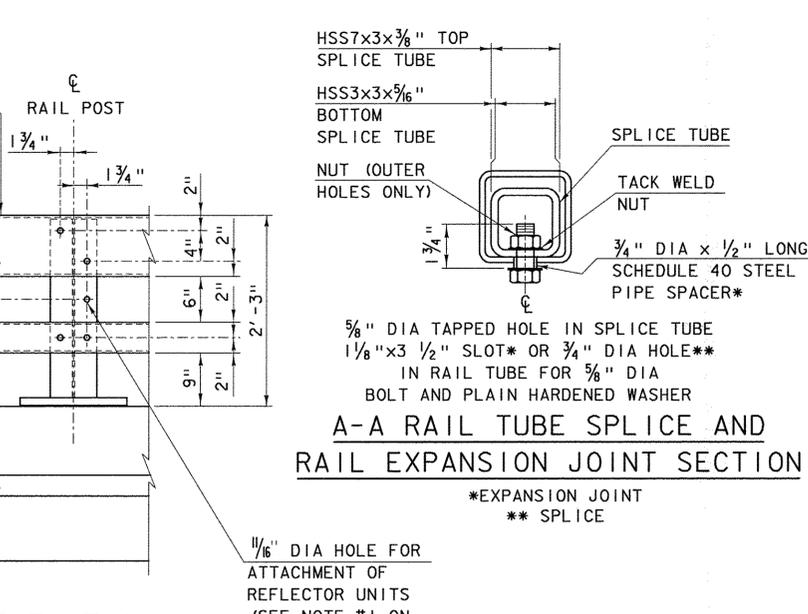
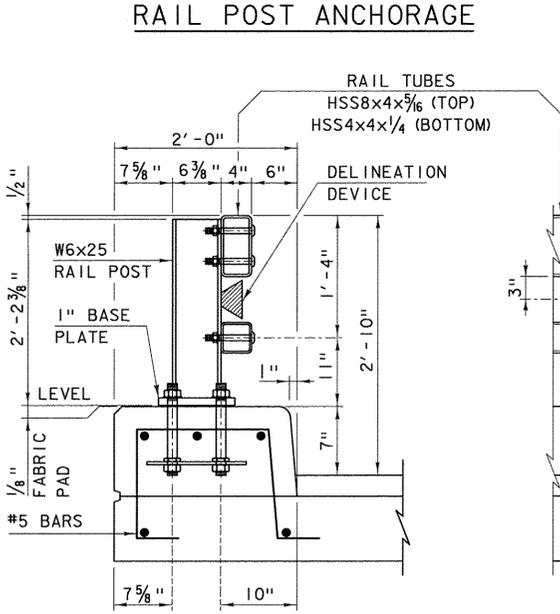
EXPANSION JOINT DETAIL (BOTTOM VIEW)

FIXED SPLICE JOINT DETAIL (BOTTOM VIEW)



NOTES

- ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
- PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
- ALL POSTS SHALL BE SET NORMAL TO GRADE.
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
- RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A 449 (TYPE I) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
- ANY BENDING OF RAIL SHALL BE DONE AT A FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
- THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
- SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
- THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.



REVISIONS AND CORRECTIONS

DECEMBER 14, 2009 - ORIGINAL APPROVAL DATE
APRIL 23, 2012 - GENERAL UPDATE 2012

APPROVED

Dr. Michael Hedger
STRUCTURES PROGRAM MANAGER

Richard Johnson
DIRECTOR OF PROGRAM DEVELOPMENT

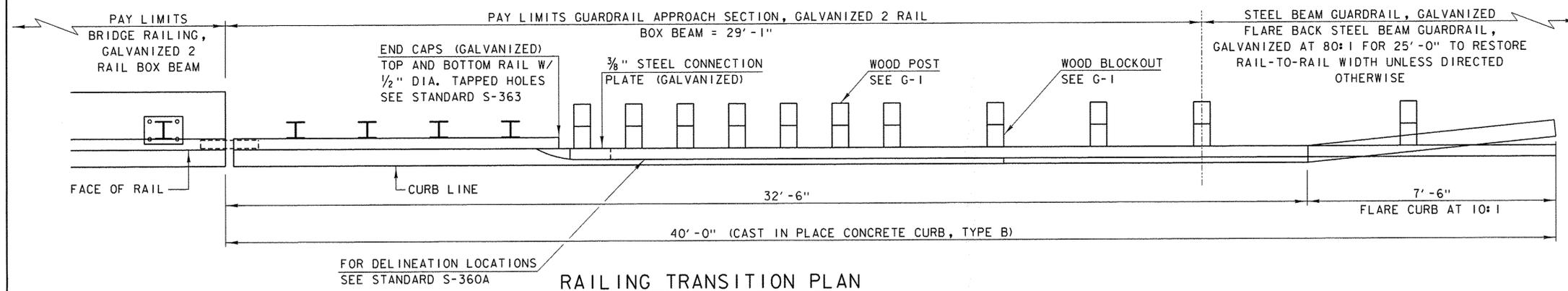
Mark D. Kishner
FEDERAL HIGHWAY ADMINISTRATION

BRIDGE RAILING,
GALVANIZED 2 RAIL
BOX BEAM

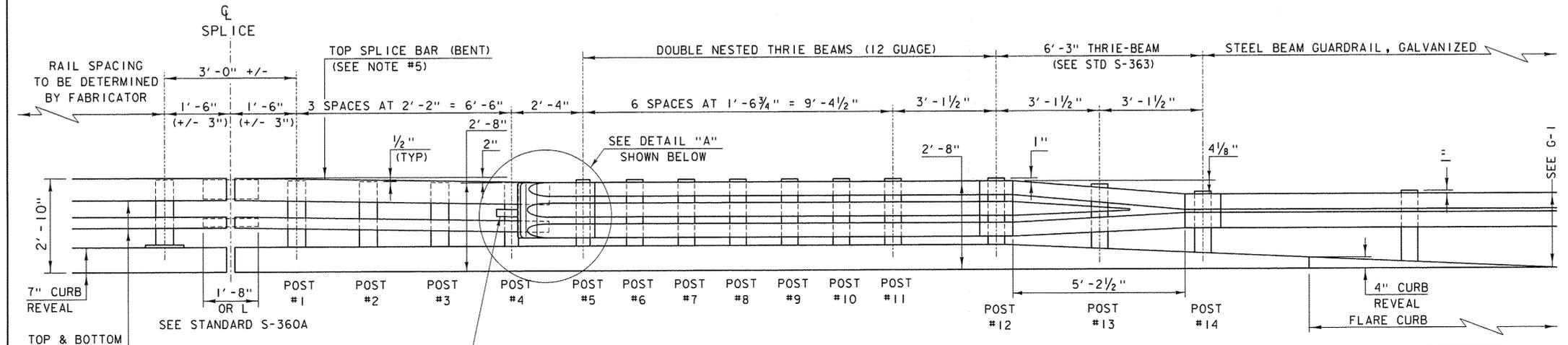
OTHER STDS. REQUIRED: G-1



STANDARD
S-360A



RAILING TRANSITION PLAN

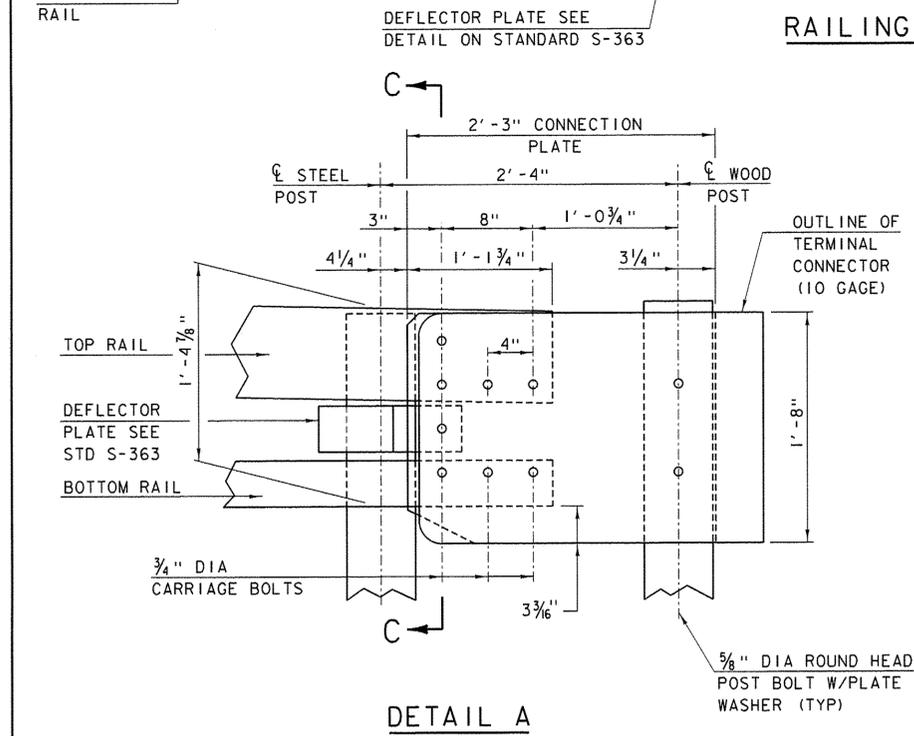


RAILING TRANSITION ELEVATION

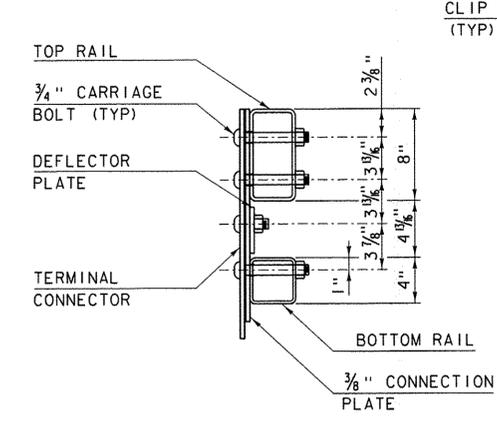
POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	RAIL HEIGHT (C)
1	2' - 9 1/2"	1' - 3 3/4"	1' - 5 3/4"
2	2' - 9"	1' - 3 1/2"	1' - 5 1/2"
3	2' - 8 1/2"	1' - 3 3/8"	1' - 5 5/8"
4	2' - 8"	1' - 2 7/8"	1' - 5 1/8"

NOTES

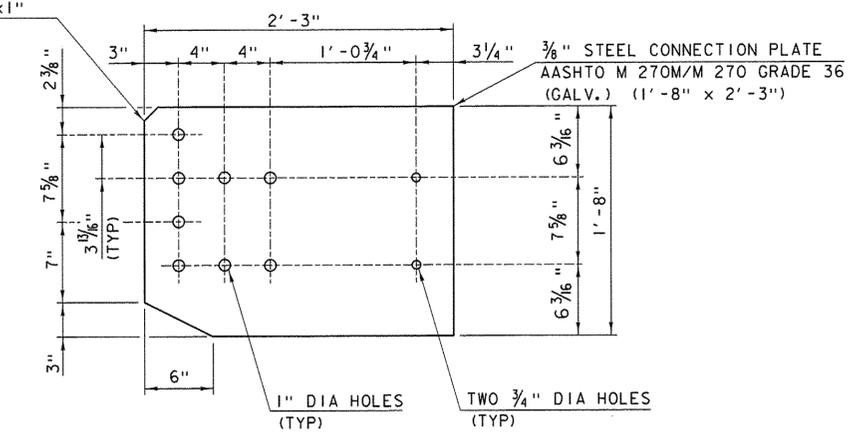
1. PAYMENT FOR GUARDRAIL APPROACH SECTION - GALVANIZED 2 RAIL BOX BEAM SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
2. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
3. TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
4. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM A563 GRADE A OR BETTER) (GALVANIZED). WASHERS SHALL BE ASTM F844.
5. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).



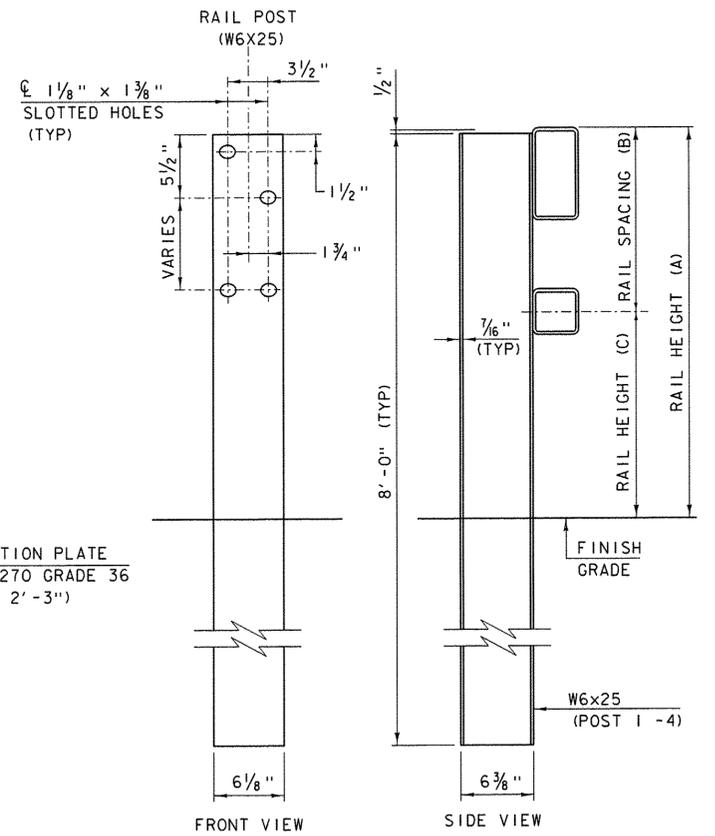
DETAIL A



SECTION C-C (CONNECTION PLATE)



CONNECTION PLATE



RAIL POST SECTION (POSTS 1-4)

OTHER STDS. REQUIRED: G-1, S-363

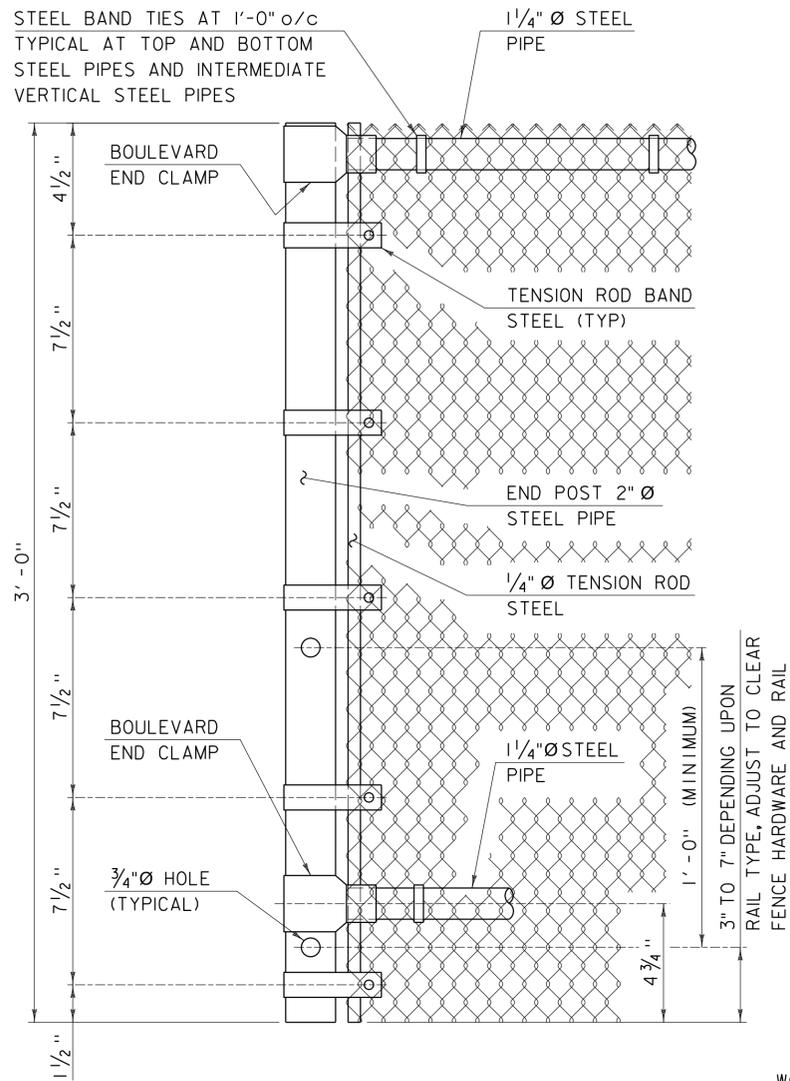
REVISIONS AND CORRECTIONS
 DECEMBER 14, 2009 - ORIGINAL APPROVAL DATE
 APRIL 23, 2012 - GENERAL UPDATE 2012

APPROVED
Dr. Michael Hedger
 STRUCTURES ENGINEER
Richard Johnson
 DIRECTOR OF PROGRAM DEVELOPMENT
Mark D. Richter
 FEDERAL HIGHWAY ADMINISTRATION

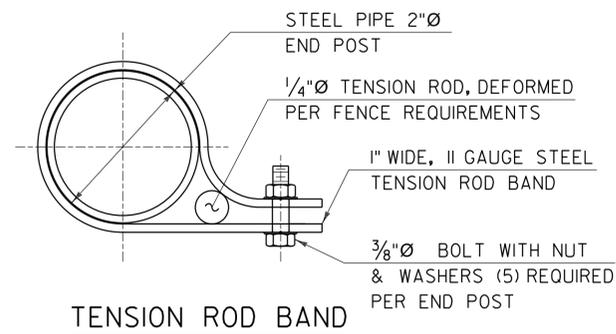
GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM



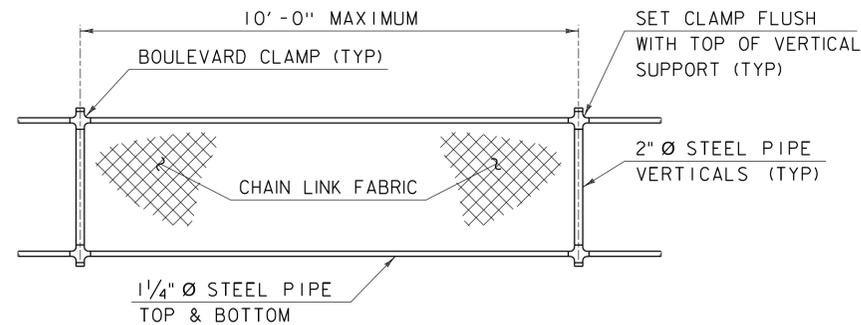
STANDARD S-360B



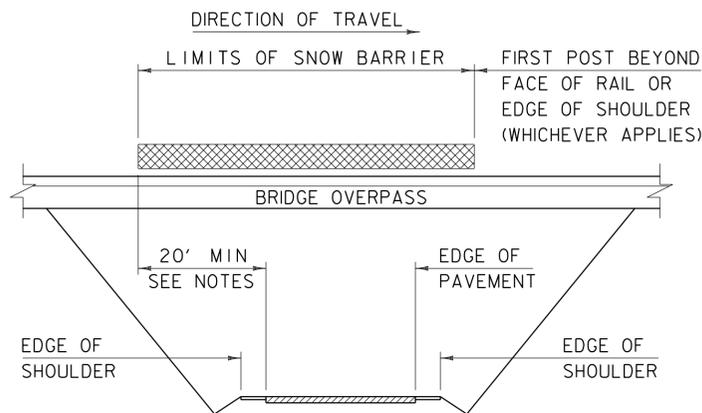
END POST DETAILS



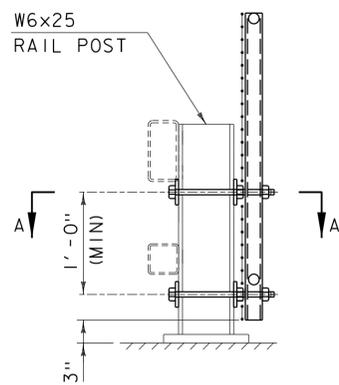
TENSION ROD BAND



ELEVATION SNOW BARRIER



SCHEMATIC SNOW BARRIER LIMITS



TYPICAL SECTION

FOR SPECIFIC RAIL CONFIGURATION AND SIZES SEE PLAN SET

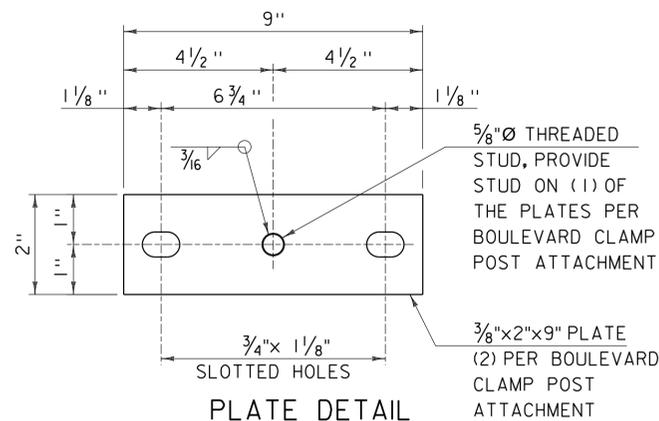
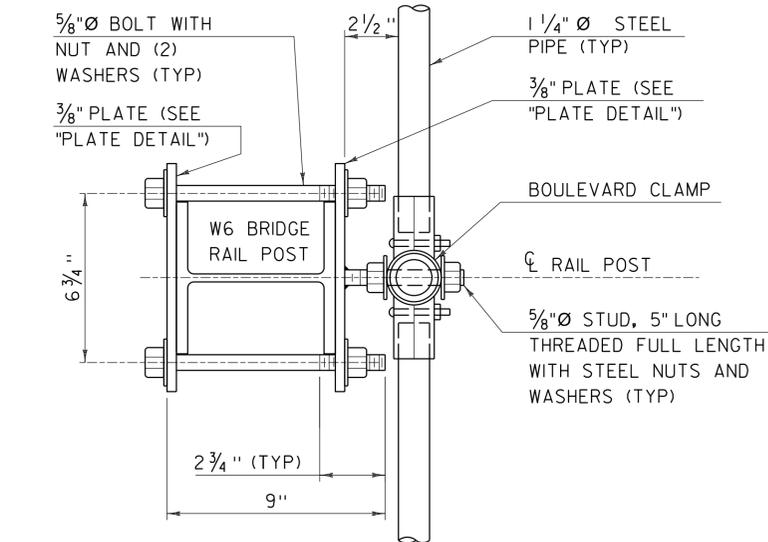


PLATE DETAIL



SECTION A-A

NOTES

1. ALL WORK AND MATERIAL SHALL CONFORM TO SECTION 620.
2. SNOW BARRIER CAN BE USED WITH GALVANIZED 2, 3, AND 4 RAIL BOX BEAM BRIDGE RAIL.
3. 1 1/4" PIPE LENGTH SHALL BE FIELD CUT TO FIT POST SPACING.
4. CHAIN LINK FABRIC TO BE KNUCKLED TOP AND BOTTOM.
5. ALL STEEL PLATES SHALL CONFORM TO AASHTO M 270/M 270M GRADE 36.
6. SNOW BARRIER SHALL BEGIN AT THE BRIDGE RAIL POST WHICH WILL PROVIDE A MINIMUM DISTANCE OF 20' (AS SHOWN) OR AS DIRECTED BY THE ENGINEER.
7. ALL REFERENCES TO THE DIAMETERS OF GALVANIZED STEEL PIPE SHALL REFER TO THE OUTSIDE DIAMETER (O.D.).
8. HARDWARE FOR THE CONNECTION OF THE SNOW BARRIER SHALL BE HOT-DIP GALVANIZED OR MECHANICALLY GALVANIZED USING A MECHANICALLY DEPOSITED PROCESS CONFORMING TO THE REQUIREMENTS OF AASHTO M 298, CLASS 10.

OTHER STDS. REQUIRED:

REVISIONS AND CORRECTIONS
JANUARY 16, 2014 - ORIGINAL APPROVAL

APPROVED

W.P.S.
STRUCTURES PROGRAM MANAGER
Richard Stewart
DIRECTOR OF PROGRAM DEVELOPMENT
Mark D. Richter
FEDERAL HIGHWAY ADMINISTRATION

SNOW BARRIER



**STANDARD
S-391**

1. TRAFFIC CONTROL DEVICES NOT DETAILED IN THE VERMONT AGENCY OF TRANSPORTATION (VAOT) "STANDARD DRAWINGS" OR THE PROJECT PLANS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
2. 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.
3. CONSTRUCTION SIGN COVERS SHALL CONSIST OF A PANEL, PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.
4. SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.
5. NO CROSS-BRACING OR BACK-BRACING TO KEEP POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS, COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED. CONSTRUCTION SIGNS SHALL BE PLACED ON TWO POSTS.
6. CONSTRUCTION SIGNS INSTALLED ON POSTS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST FIVE FEET ABOVE THE EDGE OF PAVEMENT AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT, FOUR FEET OUTSIDE GUARDRAIL, OR TWO FEET OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE SIDEWALK OR EDGE OF PAVEMENT, WHICHEVER IS HIGHER.
7. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A MINIMUM OF ONE FOOT ABOVE THE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
8. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
9. ROLL UP CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VI AND TYPE VII UNLESS OTHERWISE NOTED.
10. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VIII OR IX REQUIREMENTS UNLESS OTHERWISE NOTED.
11. WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POSTS. WHEN ANCHORS ARE INSTALLED, STUBS SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
12. ROADWAY AND SHOULDER WIDTHS DEPICTED ON THE STANDARD DRAWINGS MAY VARY.
13. THESE STANDARD DRAWINGS ARE INTENDED TO SERVE AS VTRANS STANDARD OPERATING PROCEDURE. IT IS NOTED THAT COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY BE MODIFIED DUE TO FIELD CONDITIONS, AT THE DISCRETION OF THE ENGINEER.

OTHER STDS. REQUIRED: **NONE**

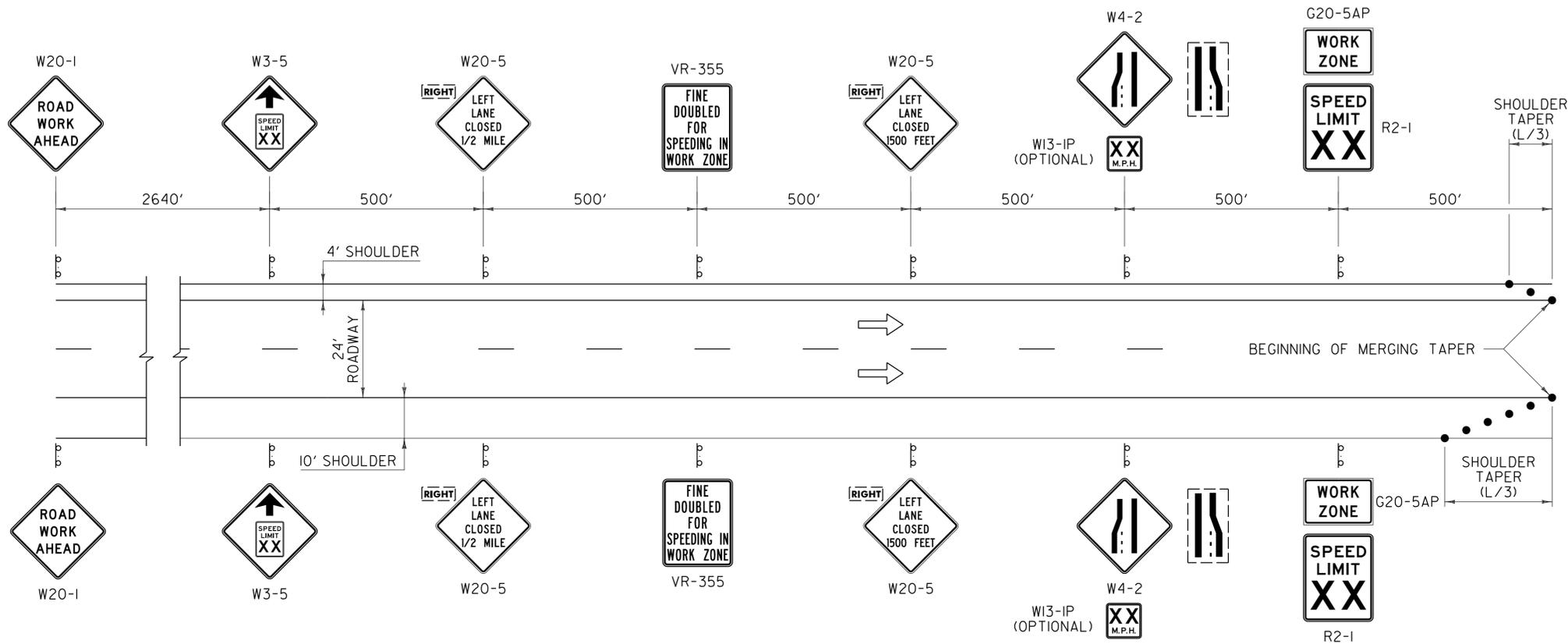
REVISIONS AND CORRECTIONS
AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED
W.A.P.
HIGHWAY SAFETY & DESIGN ENGINEER
Rubén J. Huante
DIRECTOR OF PROGRAM DEVELOPMENT
Mark D. Richter
FEDERAL HIGHWAY ADMINISTRATION

TRAFFIC CONTROL GENERAL NOTES



STANDARD
T-1



GENERAL NOTES:

1. IF APPLICABLE, THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF RIGHT AND LEFT LANES ON PROJECT BEFORE WORK COMMENCES.
2. THE "SPEED LIMIT XX" (R2-1) AND "SPEED REDUCTION WARNING" (W3-5) SIGNS SHALL ONLY BE USED IF A TEMPORARY SPEED LIMIT CERTIFICATE HAS BEEN APPROVED. THE "SPEED LIMIT XX" (R2-1) AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
3. "FINE DOUBLED FOR SPEEDING IN WORK ZONE" (VR-355) SHALL ONLY BE USED IF TEMPORARY SPEED LIMIT CERTIFICATE HAS BEEN APPROVED.
4. EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN TEMPORARY SPEED LIMIT SIGNS ARE POSTED.
5. FOR SHORT TERM PROJECTS (THREE CONSECUTIVE DAYS OR LESS) WITH NO OFFICIAL TEMPORARY SPEED LIMIT, THE "SPEED LIMIT XX" (R2-1) AND "SPEED REDUCTION WARNING" (W3-5) SIGNS MAY BE SUBSTITUTED WITH ADVISORY SPEED PLAQUES (W13-IP) MOUNTED AS SUPPLEMENTAL SIGNS BELOW THE "LANE ENDS" (W4-2) SIGNS.
6. FOR AN ANTICIPATED LONG TERM CLOSURE (GREATER THAN THREE CONSECUTIVE DAYS) WITH A NON-MOVING OPERATION, ALL SIGNS SHALL BE POST MOUNTED.
7. FOR A LONG TERM CLOSURE WITH A MOVING OPERATION, THE "ROAD WORK AHEAD" (W20-1) SIGN SHALL BE POST MOUNTED. THE REMAINING SIGNS MAY BE PORTABLE AND SHALL MOVE AS THE WORK AREA CHANGES.
8. FOR A SHORT TERM PROJECT (THREE CONSECUTIVE DAYS OR LESS), SIGNS MAY BE POST MOUNTED OR PORTABLE.
9. THE "SPEED LIMIT XX" (R2-1) SOLID SUBSTRATE SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING AASHTO M 268 (ASTM D 4956) TYPE III.

OTHER STDS. REQUIRED: T-1, T-12, T-31

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM

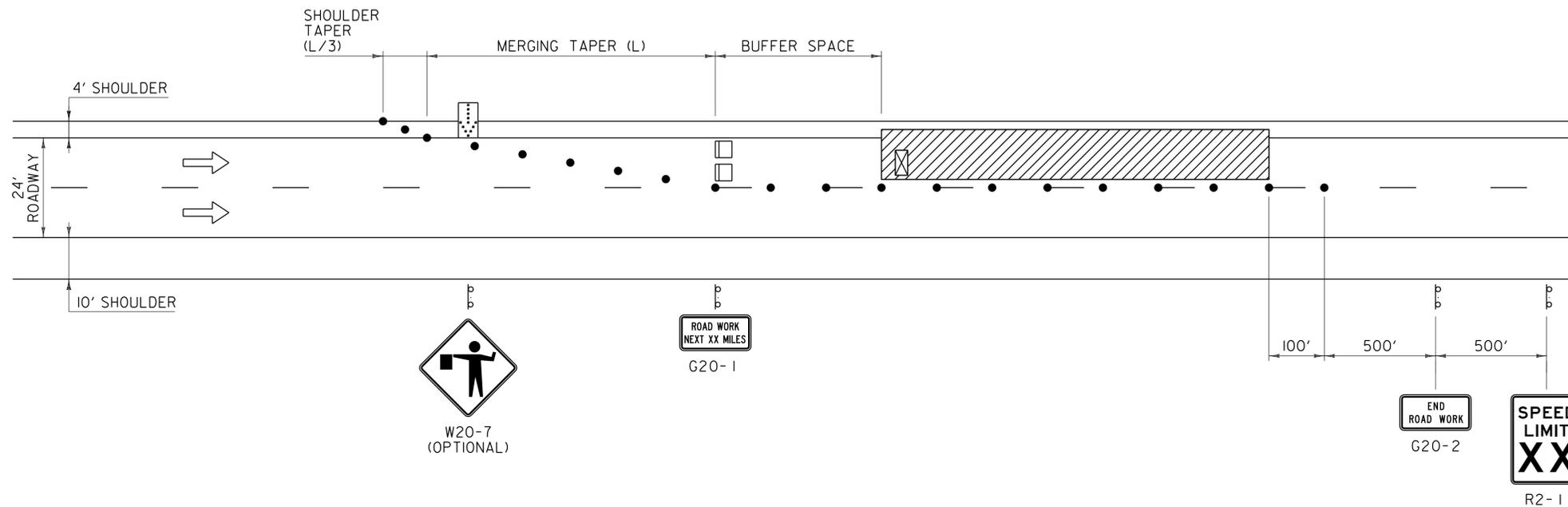
REVISIONS AND CORRECTIONS
AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED
W.A.P.
HIGHWAY SAFETY & DESIGN ENGINEER
Rubén Huante
DIRECTOR OF PROGRAM DEVELOPMENT
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CONSTRUCTION APPROACH
SIGNING DIVIDED HIGHWAY
ONE LANE CLOSED



STANDARD
T-11



GENERAL NOTES:

- FOR LONG TERM CLOSURES, DASHED LANE LINE REMOVAL SHALL BEGIN 750 FEET IN ADVANCE OF THE BEGINNING OF THE SHOULDER TAPER AND TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED ALONG THE CHANNELIZING DEVICES.
- CHANNELIZING DEVICES OTHER THAN RETROREFLECTIVE PLASTIC DRUMS SHALL BE ALLOWED ALONG THE BUFFER SPACE AND WORK AREA. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE BUFFER SPACE AND WORK AREA AND SHALL REMAIN STABLE WHILE UNATTENDED.
- 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.
- PLACE LAST CHANNELIZING DEVICE 100 FEET BEYOND THE ANTICIPATED WORK ZONE TERMINAL POINT EACH DAY.
- THE ARROW PANEL SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, AS CLOSE AS PRACTICAL TO THE BEGINNING OF THE MERGING TAPER.
- THE "ROAD WORK NEXT XX MILES" SIGN (G20-1) SHALL BE INSTALLED IN ADVANCE OF TEMPORARY TRAFFIC CONTROL ZONES THAT ARE MORE THAN TWO MILES IN LENGTH, OR AS DIRECTED BY THE ENGINEER. DISTANCES SHALL BE STATED TO THE NEAREST WHOLE MILE.
- WHEN FLAGGER IS PRESENT THE "FLAGGER" (W20-7) SIGN SHALL BE USED; TO BE REMOVED IF FLAGGING STOPS FOR 15 MINUTES OR MORE.
- "SPEED LIMIT XX" (R2-1) SIGN TO BE USED IF A TEMPORARY SPEED ZONE IS IN PLACE.
- TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATION:
 $L = WS$ FOR POSTED SPEEDS OF 45 MPH OR GREATER.
 $L = WS/60$ 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
- TAPER LENGTHS FOR SHOULDER WIDTHS OTHER THAN 10 FEET NEED TO BE CALCULATED.

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- WORK AREA
- TRUCK/TRAILER MOUNTED ATTENUATOR (OPTIONAL)

POSTED SPEED (MPH)	TAPER LENGTHS (FT)		TANGENT W=12 FT (L/2)	BARRIER FLARE RATE (MINIMUM)	MINIMUM 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

OTHER STDS. REQUIRED: T-1, T-11

REVISIONS AND CORRECTIONS
AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

 HIGHWAY SAFETY & DESIGN ENGINEER

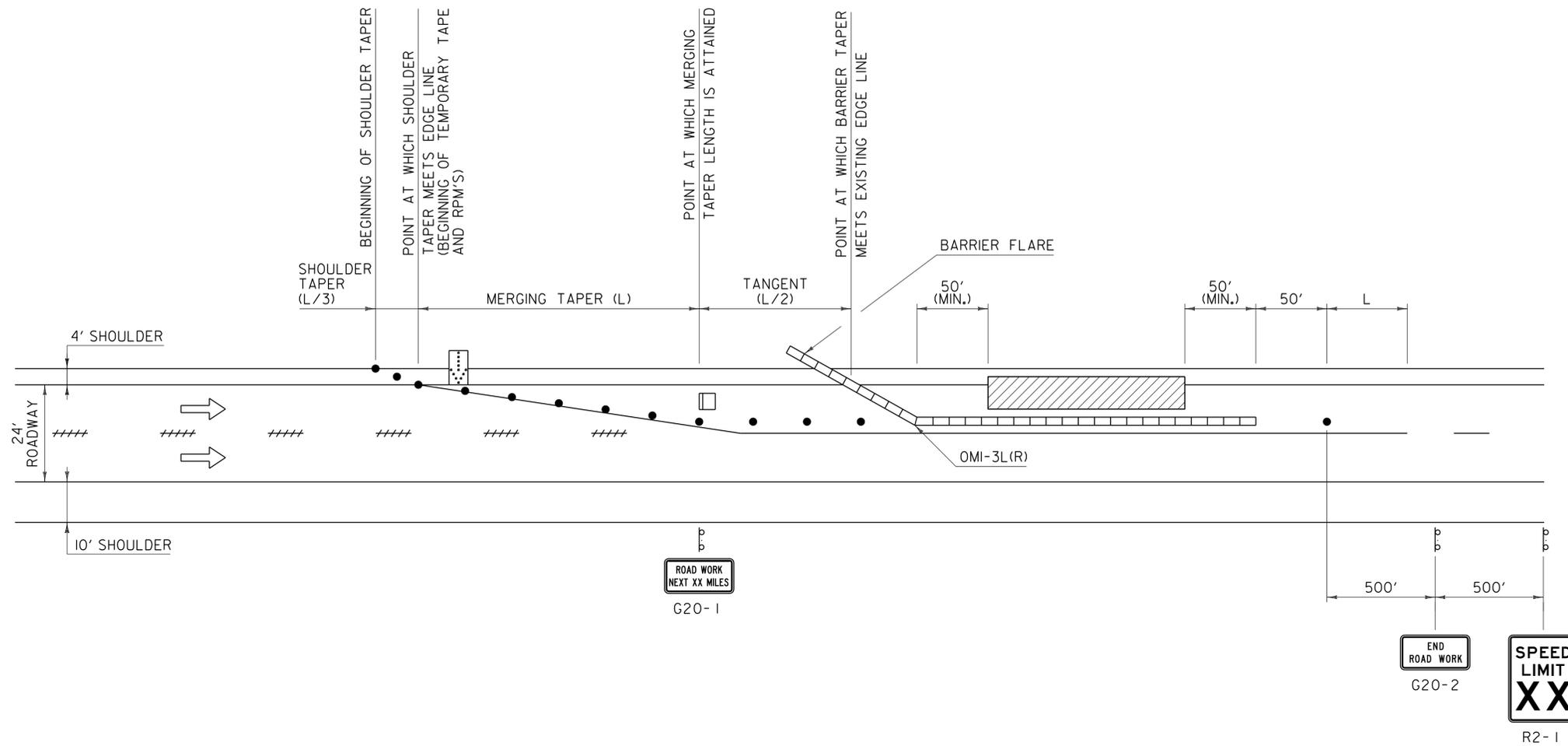
 DIRECTOR OF PROGRAM DEVELOPMENT

 Mark B. Richter
 FEDERAL HIGHWAY ADMINISTRATION

**TRAFFIC CONTROL
DIVIDED HIGHWAY
ONE LANE CLOSED**



**STANDARD
T-12**



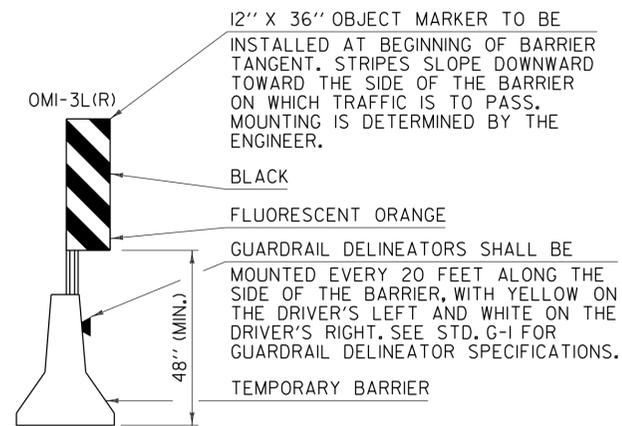
GENERAL NOTES:

1. THE EXISTING TRAVEL LANE WIDTH SHOULD BE MAINTAINED IF POSSIBLE.
2. TEMPORARY TAPE EDGE LINES SHALL BE APPLIED AND SHALL MAINTAIN A ONE FOOT MINIMUM DISTANCE FROM THE BARRIER WITH TWO FEET BEING DESIRABLE.
3. RAISED PAVEMENT MARKINGS (RPM'S) SHALL BE PLACED TO THE OUTSIDE OF THE TRAVEL LANE AT 20 FOOT SPACING.
4. IF THE BARRIER IS PLACED SUCH THAT THE EXISTING LANE NEEDS TO BE MOVED ONTO THE SHOULDER THEN THE EDGE LINE SHALL BE REMOVED AND TEMPORARY TAPE SHALL BE USED TO PROVIDE A 12 FOOT LANE. RUMBLE STRIP SHALL BE FILLED AND RESTORED AS DIRECTED BY THE ENGINEER.
5. THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENTS:
 - A. WHEN NO GUARDRAIL IS PRESENT A 30 FOOT OFFSET FROM THE EDGE OF TRAVELED WAY SHOULD BE USED.
 - B. WHEN NO GUARDRAIL IS PRESENT AND A 30 FOOT OFFSET CANNOT BE ATTAINED AN ENERGY ABSORPTION ATTENUATOR SHALL BE USED.
 - C. WHEN GUARDRAIL IS PRESENT THE GUARDRAIL SHALL BE BROKEN AND THE BARRIER TAPERED TO A POINT OUTSIDE THE DEFLECTION DISTANCE OF THE GUARDRAIL.
6. DASHED LANE LINE REMOVAL SHALL BEGIN 750 FEET IN ADVANCE OF THE BEGINNING OF THE SHOULDER TAPER.
7. CHANNELIZING DEVICES OTHER THAN RETROREFLECTIVE PLASTIC DRUMS SHALL BE ALLOWED ALONG TANGENT SECTIONS. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION AND SHALL REMAIN STABLE WHILE UNATTENDED.
8. 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.
9. PLACE LAST CHANNELIZING DEVICE 50 FEET BEYOND THE END OF BARRIER.
10. THE ARROW PANEL SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, AS CLOSE AS PRACTICAL TO THE BEGINNING OF THE MERGING TAPER.
11. THE "ROAD WORK NEXT XX MILES" SIGN (G20-1) SHALL BE INSTALLED IN ADVANCE OF TEMPORARY TRAFFIC CONTROL ZONES THAT ARE MORE THAN TWO MILES IN LENGTH, OR AS DIRECTED BY THE ENGINEER. DISTANCES SHALL BE STATED TO THE NEAREST WHOLE MILE.
12. "SPEED LIMIT XX" (R2-1) SIGN TO BE USED IF A TEMPORARY SPEED ZONE IS IN PLACE.

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- PAVEMENT MARKING REMOVAL
- TEMPORARY BARRIER
- WORK AREA

ONE LANE CLOSED WITH TEMPORARY BARRIER PROTECTION



**TRAFFIC CONTROL
DIVIDED HIGHWAY
ONE LANE CLOSED**

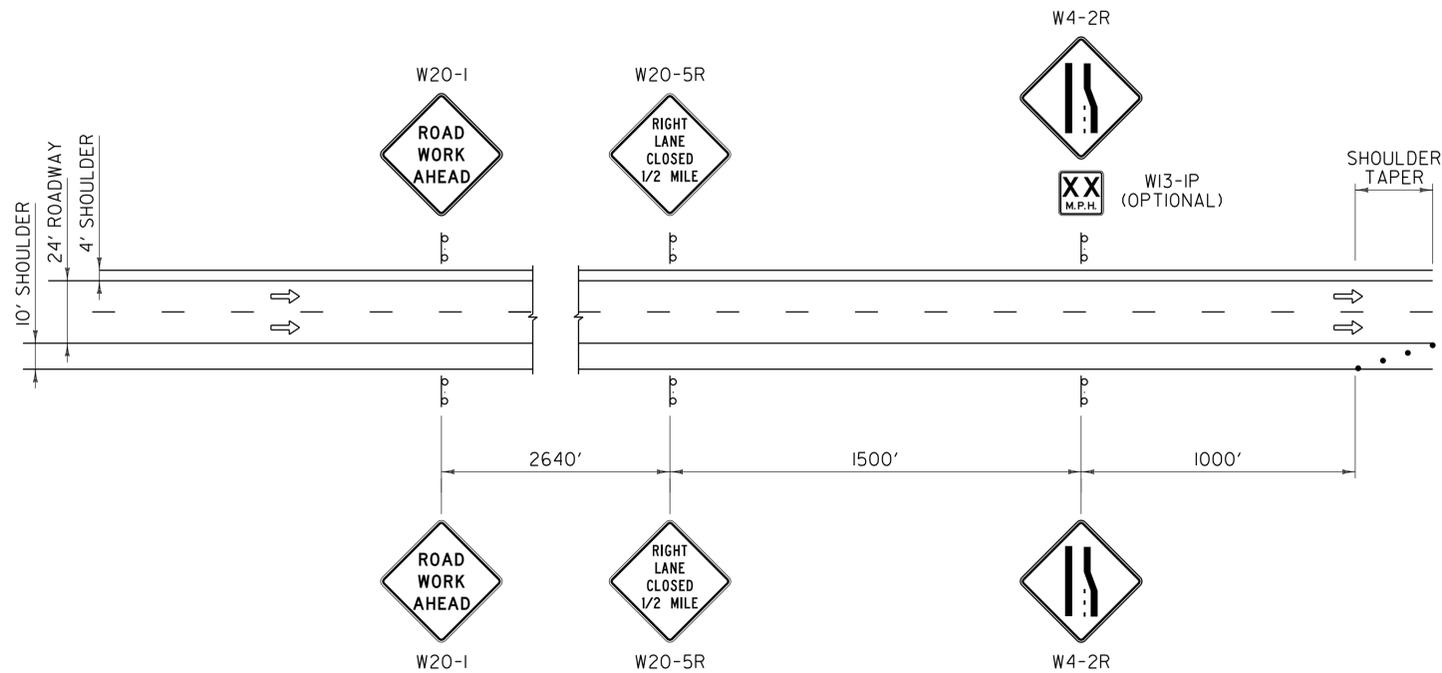
OTHER STDS. REQUIRED: G-1, T-1, T-11, T-12

REVISIONS AND CORRECTIONS
AUG. 6, 2012 - ORIGINAL APPROVAL DATE

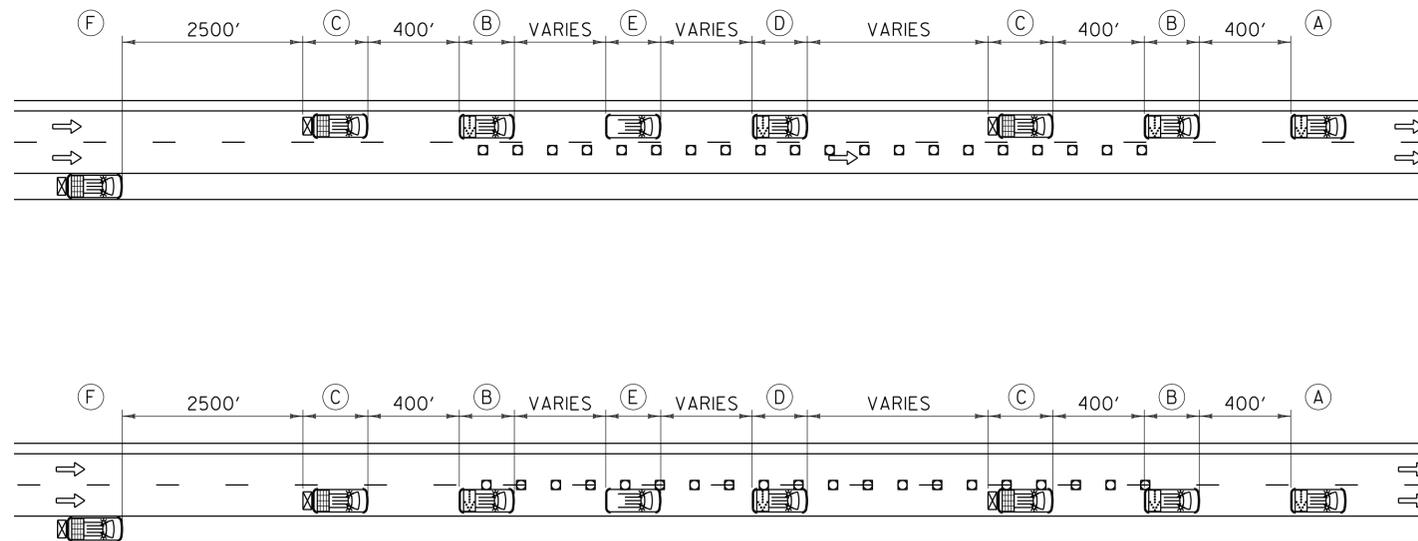
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[Signature]
HIGHWAY SAFETY & DESIGN ENGINEER
[Signature]
DIRECTOR OF PROGRAM DEVELOPMENT
[Signature]
MARK D. RICHTER
FEDERAL HIGHWAY ADMINISTRATION



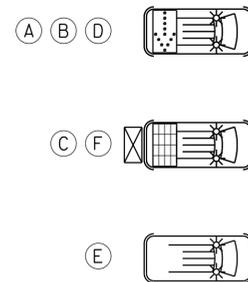
**STANDARD
T-13**



APPROACH SIGNING FOR RAMPS



EDGE LINE MARKING OPERATION



OPERATION VEHICLE SYMBOLOGY

LEGEND

- ➔ FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- CONE
- ⚡ FLASHING ARROW PANEL
- Ⓜ CHANGEABLE MESSAGE BOARD
- Ⓜ TRUCK MOUNTED ATTENUATOR
- Ⓜ PAVEMENT MARKING OPERATION VEHICLE
- (A) PAVEMENT MARKING VEHICLE WITH FLASHING ARROW PANEL
- (B) CONE TRUCK WITH FLASHING ARROW PANEL
- (C) PROTECTION VEHICLE WITH CHANGEABLE MESSAGE SIGN AND TRUCK MOUNTED ATTENUATOR
- (D) SUPPLY TRUCK WITH FLASHING ARROW PANEL AND MOUNTED SIGN (OPTIONAL)
- (E) UNIFORMED TRAFFIC OFFICER (OPTIONAL)
- (F) ADVANCED WARNING VEHICLE WITH CHANGEABLE MESSAGE SIGN AND TRUCK MOUNTED ATTENUATOR

GENERAL NOTES:

1. ALL WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS, IN ADDITION TO VEHICLE HAZARD LIGHTS.
2. CONE SPACING SHALL BE TWICE THE SPEED LIMIT, IN FEET.
3. THE SECOND CONE TRUCK SHALL NOT RETRIEVE CONES UNTIL THE NEW PAVEMENT MARKINGS ARE DRY.
4. THE NUMBER OF CHANNELIZING DEVICES 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.
5. ALL DISTANCES ARE DESIRABLE MINIMUMS, FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
6. CONE VEHICLES SHALL HAVE CAGES TO PROTECT THE PERSON PLACING AND RETRIEVING CONES.
7. APPROACH SIGNING IS FOR MAINLINE CLOSURE AT ENTRANCE RAMPS AND EXIT RAMPS AND WHEN THE ADVANCED WARNING VEHICLE IS NOT USED. APPROACH SIGNING SHALL BE USED FOR THE APPROPRIATE LANE CLOSURE. 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.
8. RAMP SIGNING SHALL BE IN PLACE PRIOR TO BEGINNING MAINLINE PAVEMENT MARKING OPERATIONS.
9. MAXIMUM ALLOWABLE LANE CLOSURE IS THREE MILES.

OTHER STDS. REQUIRED: T-1, T-12, T-23

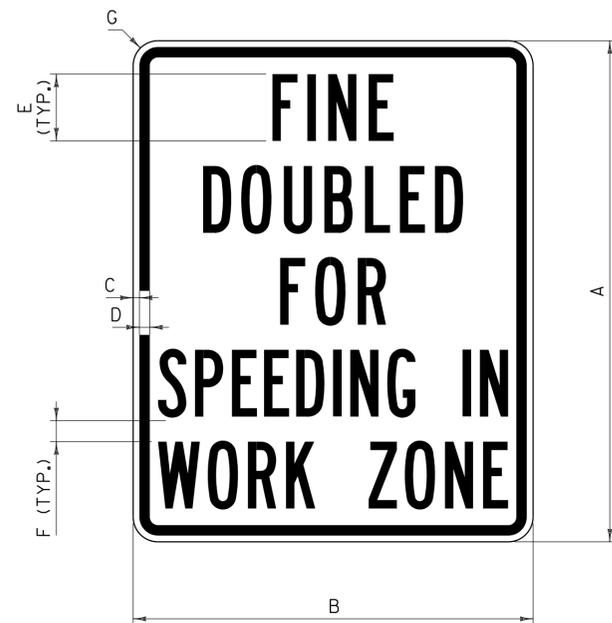
REVISIONS AND CORRECTIONS
AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED
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**TRAFFIC CONTROL FOR
PAVEMENT MARKING
ON DIVIDED HIGHWAY**



**STANDARD
T-22**

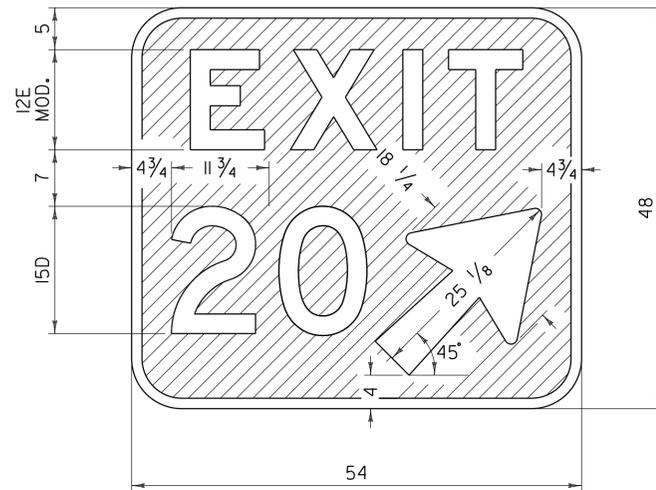


VR-355

SIGN	DIMENSIONS						
	A	B	C	D	E	F	G
STANDARD	36	30	1/2	3/4	4C	2 1/4	1 7/8
EXPRESSWAY/ FREEWAY	60	48	3/4	1 1/4	8B	3	3

NOTES:

- "SPEEDING IN" AND "WORK ZONE" SHALL EACH HAVE A SPECIFIED WIDTH OF 26 INCHES FOR STANDARD AND 42 INCHES FOR EXPRESSWAY/FREEWAY.
- THE SIGN SHALL HAVE BLACK LEGEND AND BORDER ON A WHITE BACKGROUND WITH RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE III.
- LEGEND SHALL BE CENTERED HORIZONTALLY AND VERTICALLY.



VC5-1A

NOTES:

- THE SIGN SHALL BE WHITE RETROREFLECTIVE LEGEND ON A GREEN RETROREFLECTIVE BACKGROUND. BOTH SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE III.
- CORNERS SHALL BE ROUNDED TO A SIX INCH RADIUS.
- THE SIGN SHALL HAVE A 1/4 INCH WIDE BORDER ALONG THE EDGE OF THE SIGN.
- EXIT NUMBER SHALL BE AS PER PLANS, OPTICALLY SPACED.
- "EXIT" SHALL BE CENTERED HORIZONTALLY.

GENERAL NOTES:

- ALL DIMENSIONS IN INCHES.

OTHER STDS. REQUIRED: T-1

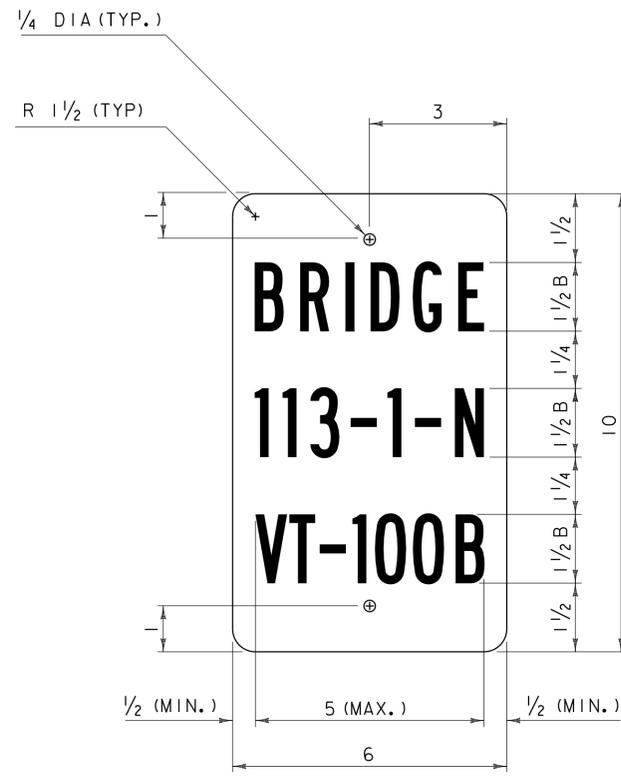
REVISIONS AND CORRECTIONS
AUG. 6, 2012 - ORIGINAL APPROVAL DATE

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[Signature]
HIGHWAY SAFETY & DESIGN ENGINEER
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DIRECTOR OF PROGRAM DEVELOPMENT
[Signature]
MARK D. RICHTER
FEDERAL HIGHWAY ADMINISTRATION

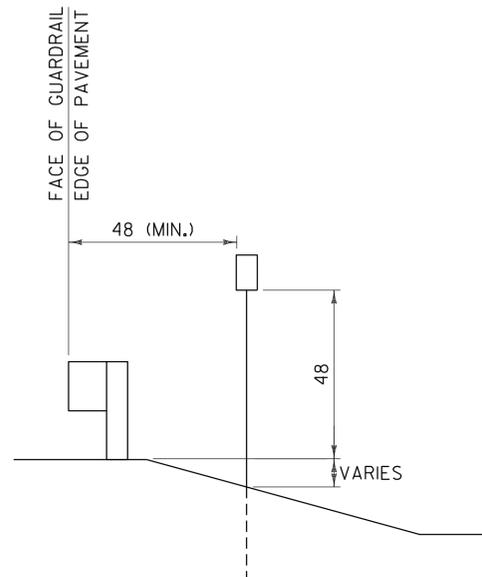
CONSTRUCTION SIGN
DETAILS



STANDARD
T-31



VD-701



VD-701 INSTALLATION DETAIL

GENERAL NOTES:

- BRIDGE NUMBER PLAQUES ARE TO BE INSTALLED ALONG THE FEDERAL AID HIGHWAY SYSTEM INCLUDING ALL STATE HIGHWAYS AND TOWN HIGHWAYS ON THE FEDERAL AID HIGHWAY SYSTEM.
- BRIDGE NUMBER PLAQUES SHALL BE LOCATED ON BOTH BRIDGE APPROACHES AT THE NEAREST VISIBLE LOCATION.
- THE SIGN BASE MATERIAL SHALL BE 0.063 INCH FLAT SHEET ALUMINUM.
- THE SIGN SHALL BE WHITE RETROREFLECTIVE LEGEND ON A GREEN RETROREFLECTIVE BACKGROUND, BOTH SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE III.
- THE SECOND LINE OF TEXT INDICATES THE BRIDGE NUMBER. THE BRIDGE NUMBER CAN BE OBTAINED USING THE VERMONT AGENCY OF TRANSPORTATION (VAOT) ROUTE LOGS OR BY CONSULTING WITH THE VAOT STRUCTURES SECTION.
- THE THIRD LINE OF TEXT INDICATES THE STATE ROUTE NUMBER. IN ALL CASES THIS WILL BE DEPICTED USING THE LETTER ABBREVIATION, FOLLOWED BY A HYPHEN, FOLLOWED BY THE ROUTE NUMBER. FOR EXAMPLE US ROUTE 2 WOULD BE IDENTIFIED USING US-2.
- THE SECOND AND THIRD LINES OF TEXT SHALL BE CENTERED HORIZONTALLY AND SHALL BE AS DEFINED IN THE PLANS.
- A SINGLE 14 GAGE, 1.75 INCH SQUARE STEEL POST AND 12 GAGE, TWO INCH SQUARE ANCHOR SHALL BE USED FOR INSTALLATION. THE ANCHOR SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
- ALL DIMENSIONS SHOWN IN INCHES.

OTHER STDS. REQUIRED: T-45

REVISIONS AND CORRECTIONS
APRIL 9, 2014 - ORIGINAL APPROVAL DATE

APPROVED

 HIGHWAY SAFETY & DESIGN ENGINEER

 DIRECTOR OF PROGRAM DEVELOPMENT

 FEDERAL HIGHWAY ADMINISTRATION

BRIDGE NUMBER PLAQUE



STANDARD
T-42

1 - ADDISON	2 - BENNINGTON	3 - CALEDONIA	4 - CHITTENDEN	5 - ESSEX	6 - FRANKLIN	7 - GRAND ISLE	8 - LAMOILLE
0101 ADDISON 0102 BRIDPORT 0103 BRISTOL 0104 CORNWALL 0105 FERRISBURGH 0106 GOSHEN 0107 GRANVILLE 0108 HANCOCK 0109 LEICESTER 0110 LINCOLN 0111 MIDDLEBURY 0112 MONKTON 0113 NEW HAVEN 0114 ORWELL 0115 PANTON 0116 RIPTON 0117 SALISBURY 0118 SHOREHAM 0119 STARKSBORO 0120 VERGENNES 0121 WALTHAM 0122 WEYBRIDGE 0123 WHITING	0201 ARLINGTON 0202 BENNINGTON 0203 DORSET 0204 GLASTENBURY 0205 LANDGROVE 0206 MANCHESTER 0207 PERU 0208 POWNAL 0209 READSBORO 0210 RUPERT 0211 SANDGATE 0212 SEARSBURG 0213 SHAFTSBURY 0214 STAMFORD 0215 SUNDERLAND 0216 WINHALL 0217 WOODFORD	0301 BARNET 0302 BURKE 0303 DANVILLE 0304 GROTON 0305 HARDWICK 0306 KIRBY 0307 LYNDON 0308 NEWARK 0309 PEACHAM 0310 RYEGATE 0311 ST JOHNSBURY 0312 SHEFFIELD 0313 STANNARD 0314 SUTTON 0315 WALDEN 0316 WATERFORD 0317 WHEELLOCK	0401 BOLTON 0402 BUELS GORE 0403 BURLINGTON 0404 CHARLOTTE 0405 COLCHESTER 0406 ESSEX 0407 HINESBURG 0408 HUNTINGTON 0409 JERICHO 0410 MILTON 0411 RICHMOND 0412 ST GEORGE 0413 SHELburne 0414 SO BURLINGTON 0415 UNDERHILL 0416 WESTFORD 0417 WILLISTON 0418 WINOOSKI	0501 AVERILL 0502 AVERYS GORE 0503 BLOOMFIELD 0504 BRIGHTON 0505 BRUNSWICK 0506 CANAAN 0507 CONCORD 0508 EAST HAVEN 0509 FERDINAND 0510 GRANBY 0511 GUILDHALL 0512 LEMINGTON 0513 LEWIS 0514 LUNENBURG 0515 MAIDSTONE 0516 NORTON 0517 VICTORY 0518 WARNERS GRANT 0519 WARREN GORE	0601 BAKERSFIELD 0602 BERKSHIRE 0603 ENOSBURG 0604 FAIRFAX 0605 FAIRFIELD 0606 FLETCHER 0607 FRANKLIN 0608 GEORGIA 0609 HIGHGATE 0610 MONTGOMERY 0611 RICHFORD 0612 ST ALBANS CITY 0613 ST ALBANS TOWN 0614 SHELDON 0615 SWANTON	0701 ALBURGH 0702 GRAND ISLE 0703 ISLE LA MOTTE 0704 NORTH HERO 0705 SOUTH HERO	0801 BELVIDERE 0802 CAMBRIDGE 0803 EDEN 0804 ELMORE 0805 HYDE PARK 0806 JOHNSON 0807 MORRISTOWN 0808 STOWE 0809 WATERVILLE 0810 WOLCOTT

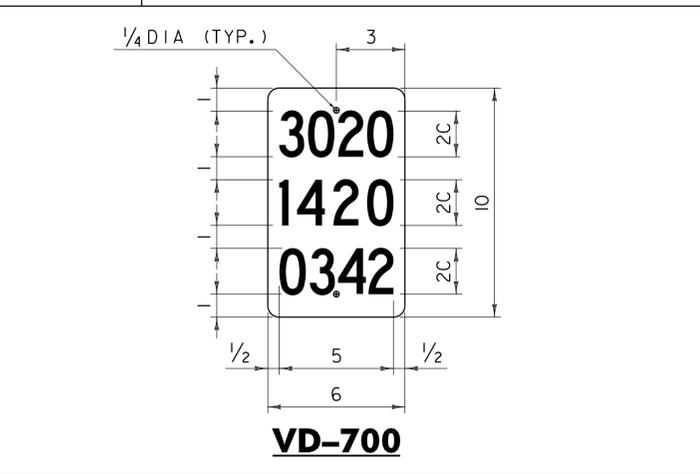
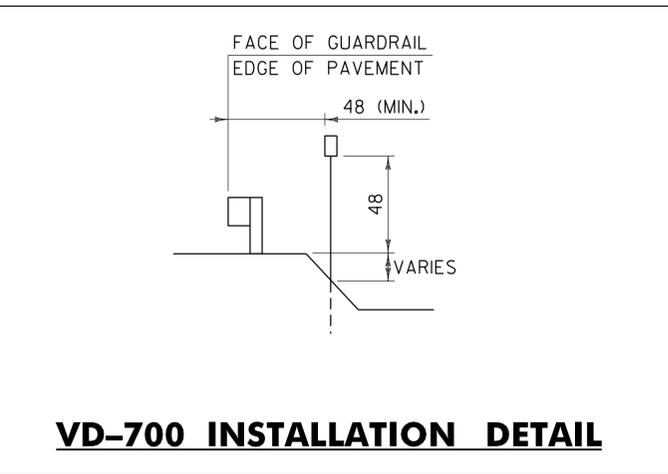
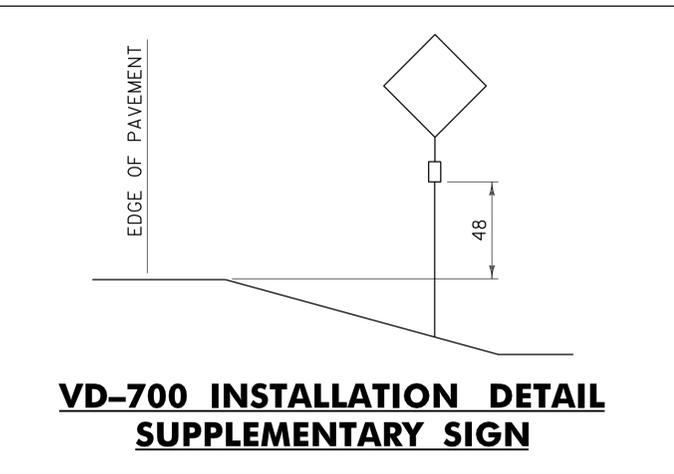
9 - ORANGE	10 - ORLEANS	11 - RUTLAND	12 - WASHINGTON	13 - WINDHAM	14 - WINDSOR
0901 BRADFORD 0902 BRAINTREE 0903 BROOKFIELD 0904 CHELSEA 0905 CORINTH 0906 FAIRLEE 0907 NEWBURY 0908 ORANGE 0909 RANDOLPH 0910 STRAFFORD 0911 THETFORD 0912 TOPSHAM 0913 TUNBRIDGE 0914 VERSHIRE 0915 WASHINGTON 0916 WEST FAIRLEE 0917 WILLIAMSTOWN	1001 ALBANY 1002 BARTON 1003 BROWNINGTON 1004 CHARLESTON 1005 COVENTRY 1006 CRAFTSBURY 1007 DERBY 1008 GLOVER 1009 GREENSBORO 1010 HOLLAND 1011 IRASBURG 1012 JAY 1013 LOWELL 1014 MORGAN 1015 NEWPORT CITY 1016 NEWPORT TOWN 1017 TROY 1018 WESTFIELD 1019 WESTMORE	1101 BENSON 1102 BRANDON 1103 CASTLETON 1104 CHITTENDEN 1105 CLARENDON 1106 DANBY 1107 FAIR HAVEN 1108 HUBBARDTOWN 1109 IRA 1110 MENDON 1111 MIDDLETOWN SPRINGS 1112 MT HOLLY 1113 MT TABOR 1114 PAWLET 1115 PITTSFIELD 1116 PITTSFORD 1117 POULTNEY 1118 PROCTOR 1119 RUTLAND CITY 1120 RUTLAND TOWN 1121 KILLINGTON 1122 SHREWSBURY 1123 SUDBURY 1124 TINMOUTH 1125 WALLINGFORD 1126 WELLS 1127 WEST HAVEN 1128 WEST RUTLAND	1201 BARRE CITY 1202 BARRE TOWN 1203 BERLIN 1204 CABOT 1205 CALAIS 1206 DUXBURY 1207 E MONTPELIER 1208 FAYSTON 1209 MARSHFIELD 1210 MIDDLESEX 1211 MONTPELIER 1212 MORETOWN 1213 NORTHFIELD 1214 PLAINFIELD 1215 ROXBURY 1216 WAITSFIELD 1217 WARREN 1218 WATERBURY 1219 WOODBURY 1220 WORCESTER	1301 ATHENS 1302 BRATTLEBORO 1303 BROOKLINE 1304 DOVER 1305 DUMMERSTON 1306 GRAFTON 1307 GUILFORD 1308 HALIFAX 1309 JAMAICA 1310 LONDONDERRY 1311 MARLBORO 1312 NEWFANE 1313 PUTNEY 1314 ROCKINGHAM 1315 SOMERSET 1316 STRATTON 1317 TOWNSEND 1318 VERNON 1319 WARDSBORO 1320 WESTMINSTER 1321 WHITINGHAM 1322 WILMINGTON 1323 WINDHAM	1401 ANDOVER 1402 BALTIMORE 1403 BARNARD 1404 BETHEL 1405 BRIDGEWATER 1406 CAVENDISH 1407 CHESTER 1408 HARTFORD 1409 HARTLAND 1410 LUDLOW 1411 NORWICH 1412 PLYMOUTH 1413 POMFRET 1414 READING 1415 ROCHESTER 1416 ROYALTON 1417 SHARON 1418 SPRINGFIELD 1419 STOCKBRIDGE 1420 WEATHERSFIELD 1421 WESTON 1422 WEST WINDSOR 1423 WINDSOR 1424 WOODSTOCK

- 9020 BARNET STATE HIGHWAY
9025 BENNINGTON NORTH STATE HIGHWAY
9030 BERLIN STATE HIGHWAY
9090 BRATTLEBORO STATE HIGHWAY
9150 CASTLETON STATE HIGHWAY
9180 COVENTRY STATE HIGHWAY
9210 FAIR HAVEN STATE HIGHWAY
9240 FAIRLEE STATE HIGHWAY
9270 FERRISBURGH STATE HIGHWAY
9330 MAIDSTONE STATE HIGHWAY
9360 MIDDLESEX STATE HIGHWAY
9390 MONTPELIER STATE HIGHWAY
9420 MONTPELIER JUNCTION STATE HIGHWAY
9430 NEWBURY STATE HIGHWAY
9480 NORTON STATE HIGHWAY
9540 NORWICH STATE HIGHWAY
9600 PUTNEY STATE HIGHWAY
9630 QUECHEE STATE HIGHWAY
9720 ST ALBANS STATE HIGHWAY SOUTH
9730 ST JOHNSBURY STATE HIGHWAY
9750 SOUTH ALBURGH STATE HIGHWAY
9840 WESTMINSTER STATE HIGHWAY
9870 WILDER STATE HIGHWAY
9900 WINHALL STATE HIGHWAY
9990 WEST RUTLAND - RUTLAND (BUSINESS US-4)
9991 BELLOWS FALLS S0117 (ROCK - WEST ST)
9992 BELLOWS FALLS S0117 (BRIDGE ST)
9993 BURLINGTON (ALTERNATE US-7)
9994 DERBY (ALTERNATE US-5)
9995 MONTPELIER (BUSINESS US-2)
9996 NEWPORT (ALTERNATE US-5)
9997 ST JOHNSBURY (ALTERNATE US-5)
9998 SO BURLINGTON - KENNEDY DRIVE

NAMED STATE AND TOWN HIGHWAYS ROUTE NUMBERS

GENERAL NOTES:

- MILEMARKERS ARE TO BE INSTALLED ALONG THE FEDERAL AID HIGHWAY SYSTEM INCLUDING ALL STATE HIGHWAYS AND TOWN HIGHWAYS ON THE FEDERAL AID HIGHWAY SYSTEM.
- MILEMARKERS WILL NORMALLY BE INSTALLED AT EACH 0.20 MILE INTERVAL, ALTERNATING SIDES OF THE ROAD, RESULTING IN A SIGN FACING TRAFFIC EACH 0.40 MILES. A MILEMARKER WILL ALSO BE INSTALLED AT EACH INTERSECTION, ON THE SAME POST AS THE STOP SIGN (MILEMARKER TO BE PLACED PARALLEL TO MAINLINE TRAVELED WAY, VISIBLE TO TRAFFIC). ANY MILEMARKER LOCATION FALLING WITHIN 0.05 MILE OF AN INTERSECTION WILL BE OMITTED. WHEN THE NORMAL LOCATION OF A MILEMARKER IS UNDESIRABLE, SUCH AS ON A LAWN, DRIVEWAY, OR LEDGE, AN ATTEMPT WILL BE MADE TO LOCATE IT ON THE OPPOSITE SIDE OF THE ROAD. IF NO SUITABLE LOCATION CAN BE FOUND WITHIN 20 FEET OF THE NORMAL LOCATION, IT MAY BE OMITTED.
- ON CLASS I TOWN HIGHWAYS OR OTHER CONGESTED LOCATIONS MILEMARKERS WILL ONLY BE INSTALLED ON EXISTING SIGN POSTS AND WILL CARRY THE ACTUAL MILEAGE TO THAT LOCATION. A MILEMARKER LOCATED EVERY 0.10 MILES IS DESIRABLE THROUGH THESE LOCATIONS.
- THE FIRST LINE OF TEXT ON MILEMARKERS INDICATE THE STATE ROUTE NUMBER. THE FOURTH NUMERAL BEING THE CORRESPONDING ROUTE NUMBER LETTER DESIGNATION. FOR EXAMPLE US-2 (WHICH HAS NO LETTER DESIGNATION) WOULD BE IDENTIFIED USING 0020 AND VT-100B WOULD BE IDENTIFIED USING 1002. FOR ANY NAMED FEDERAL AID HIGHWAY SYSTEM HIGHWAYS, THE FOUR DIGIT ROUTE NUMBER (9000 SERIES) LISTED UNDER "NAMED STATE AND TOWN HIGHWAYS ROUTE NUMBERS" SHALL BE UTILIZED.
- THE SECOND LINE OF TEXT ON MILEMARKERS INDICATE THE COUNTY AND TOWN. THE COUNTY IS INDICATED IN THE FIRST AND SECOND NUMERALS AND THE TOWN IN THE THIRD AND FOURTH NUMERALS. THE APPROPRIATE FOUR DIGIT DESIGNATIONS ARE LISTED PER TOWN, UNDER "COUNTY AND TOWN DESIGNATIONS."
- THE THIRD LINE OF TEXT ON MILEMARKERS INDICATE THE MILEAGE, IN HUNDREDTHS, FROM THE TOWN LINE OR BEGINNING OF A ROUTE. MILEAGE IS ALWAYS MEASURED TRAVELING FROM THE SOUTH TO NORTH OR FROM THE WEST TO EAST. THE ROUTE DIRECTION IS ESTABLISHED USING THE VERMONT AGENCY OF TRANSPORTATION (VAOT) ROUTE LOGS.
- THE SIGN BASE MATERIAL SHALL BE 0.063 INCH FLAT SHEET ALUMINUM.
- THE SIGN SHALL BE WHITE RETROREFLECTIVE LEGEND ON A GREEN RETROREFLECTIVE BACKGROUND, BOTH SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE III.
- CORNERS SHALL BE ROUNDED TO A 1/2 INCH RADIUS.
- ALL LINES OF TEXT SHALL BE CENTERED HORIZONTALLY AND SHALL BE AS IDENTIFIED IN THE PLANS. THE THREE LINES OF TEXT WILL EACH CONTAIN FOUR NUMERALS.
- WHEN INSTALLED ON ITS OWN POST, A SINGLE 14 GAGE, 1.75 INCH SQUARE STEEL POST AND 12 GAGE, 2 INCH SQUARE ANCHOR SHALL BE USED FOR INSTALLATION. THE ANCHOR SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
- ALL DIMENSIONS SHOWN IN INCHES.



REVISIONS AND CORRECTIONS
APRIL 9, 2014 - ORIGINAL APPROVAL DATE

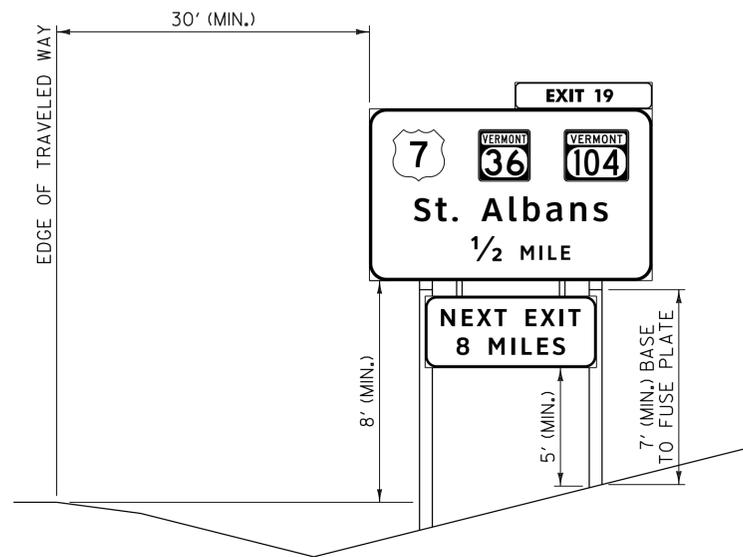
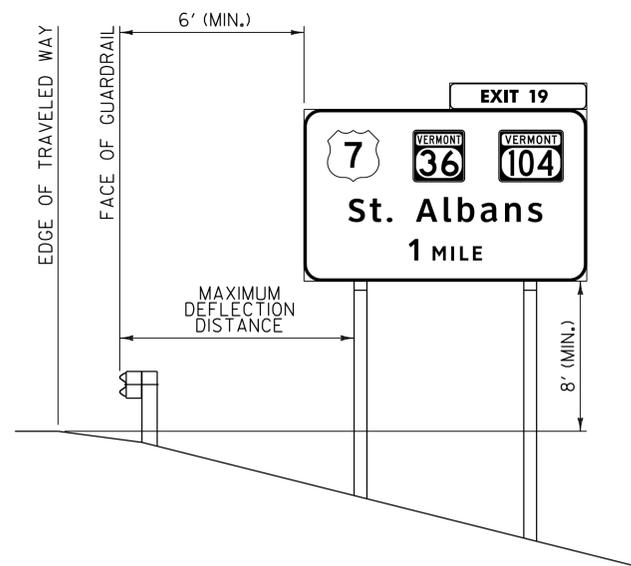
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DIRECTOR OF PROGRAM DEVELOPMENT
[Signature]
MARK D. RICKTER
FEDERAL HIGHWAY ADMINISTRATION

**MILEMARKER DETAILS
STATE AND TOWN
HIGHWAYS**

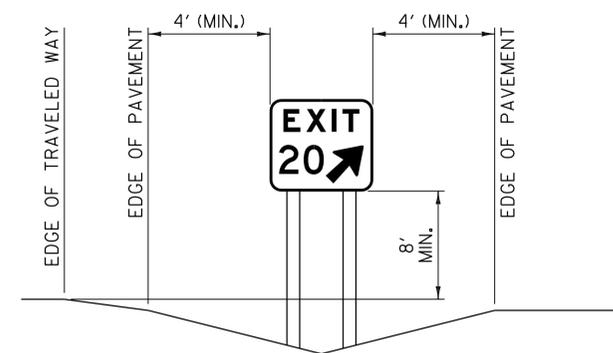


**STANDARD
T-44**

TYPE "B" SIGN PLACEMENT DETAILS



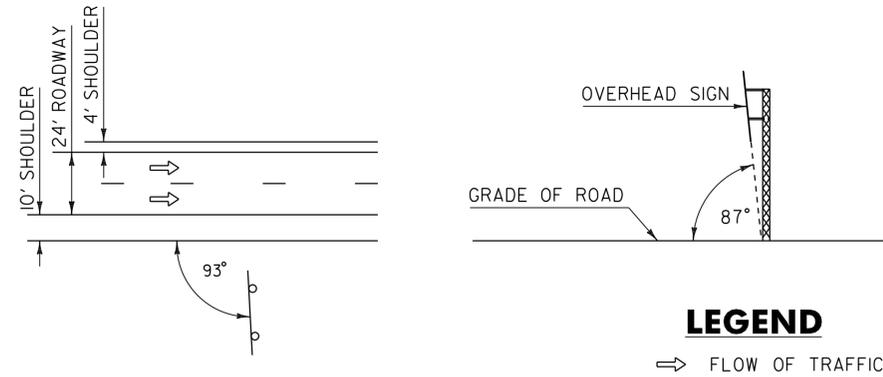
GORE SIGN



NOTE:

- FOR MAXIMUM DEFLECTION DISTANCE SEE THE MOST RECENT EDITION OF THE "ROADSIDE DESIGN GUIDE" PUBLISHED BY THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO).

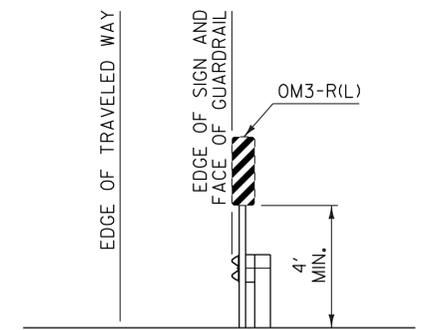
SIGN INSTALLATION DETAILS



NOTES:

- SIGNS SHOULD BE MOUNTED AT 93 DEGREES TO THE DIRECTION OF TRAFFIC. ON CURVED ALIGNMENT THE ANGLE OF PLACEMENT SHOULD BE DETERMINED BY THE PATH OF APPROACHING TRAFFIC RATHER THAN BY THE ROADSIDE EDGE AT THE POINT WHERE THE SIGN IS LOCATED.
- INSTALL OVERHEAD SIGNS 87 DEGREES TO THE GRADE OF THE ROAD.
- ROADWAY AND SHOULDER WIDTHS MAY VARY.

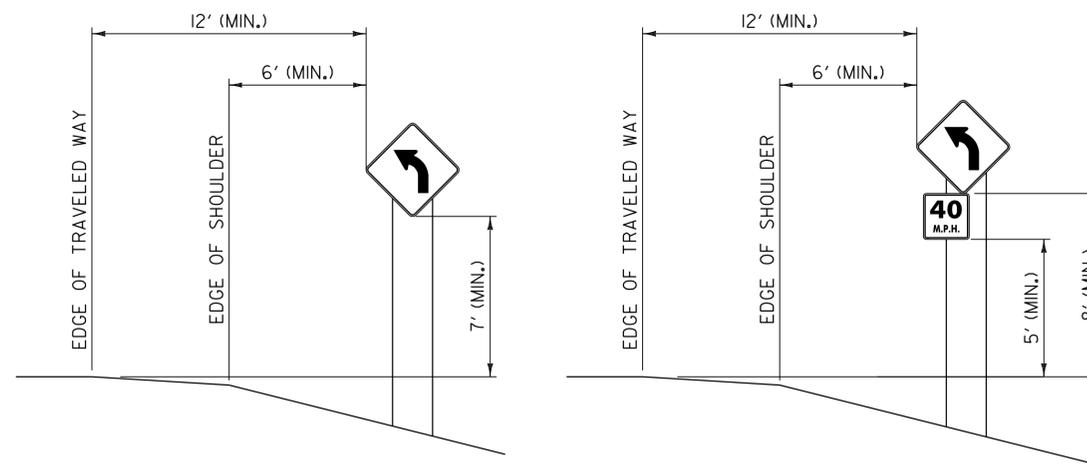
BRIDGE OBJECT MARKER DETAIL



NOTES:

- INSTALL AT THE BEGINNING OF BRIDGE CURB OR WHERE ROADWAY IS REDUCED TO THE NARROWEST POINT FOR THE BRIDGE.
- MARKERS SHALL HAVE DIAGONAL STRIPES SLOPING DOWNWARD TOWARD TRAVELED LANE.

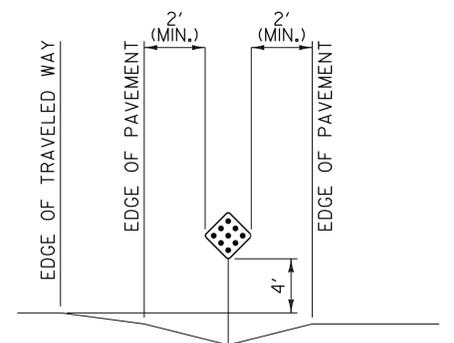
TYPE A SIGN PLACEMENT



NOTE:

- THE MINIMUM LATERAL OFFSET FROM THE EDGE OF TRAVELED WAY IS 12 FEET. IF A SHOULDER WIDER THAN SIX FEET EXISTS, THE MINIMUM LATERAL OFFSET FOR POST MOUNTED SIGNS SHOULD BE SIX FEET FROM THE EDGE OF SHOULDER.

OBJECT MARKER PLACEMENT IN GORE



REV.	DATE	DESCRIPTION
0	OCT. 26, 2015	ORIGINAL APPROVAL
OTHER STANDARDS REQUIRED: NONE		
VTRANS AND FHWA APPROVAL ON FILE WITH CONTRACT ADMINISTRATION		

SIGN PLACEMENT EXPRESSWAY & FREEWAY



STANDARD
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