

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MICROFILMED
JUN 24 1980
DEC 5 1985

OHIO	1 8
FHWA REGION 5	
FEDERAL PROJECT	

PLAN NO. BR-62-77

*Blue
512*

BUT - 4 - 14.76/14.85

LEMON TOWNSHIP BUTLER COUNTY

BRIDGE REPAIR

1977 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

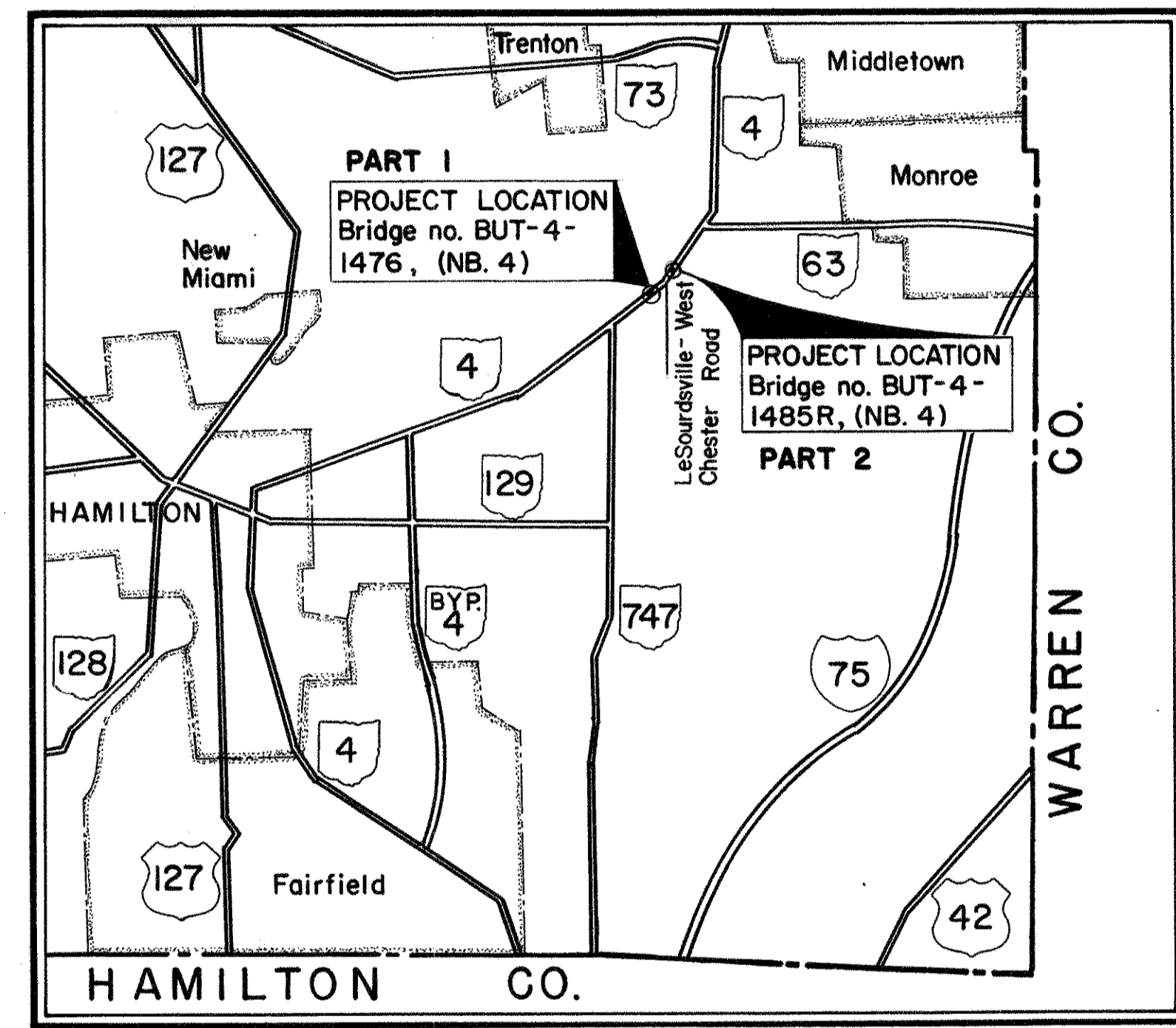
I hereby approve these plans and declare that the making of this improvement will not require closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth herein.

CONVENTIONAL SIGNS

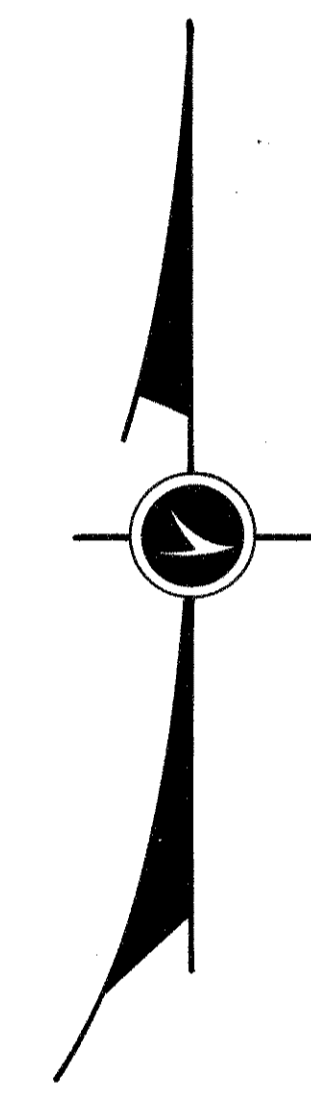
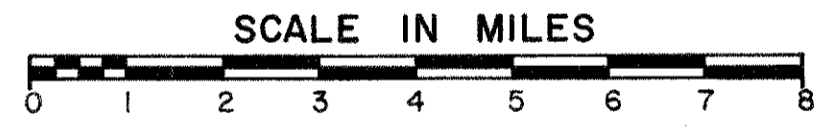
County Line	-----	Limited Access (only)	----- LA -----
Township Line	-----	Right of Way (only)	----- RW -----
Section Line	-----	Limited Access & Right of Way	----- LA & RW -----
Corporation Line	----- or -----	Existing Right of Way	-----
Fence Line (existing)	-x-x- (proposed) -x-x-	Property Line	----- (in existing fence) -x-x-
Center Line	----- 352 ----- 353 -----	Railroad	----- or -----
Trees, Stumps, (to be removed)	☺, ☹, ☹	Guardrail (existing)	----- (proposed) -----
Utility Poles: Telephone, Power, Light	⊕, ⊕, ⊕		

INDEX OF SHEETS

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LOCATION MAP



LINE DATA

	PART 1	PART 2
Begin Work	Sta. 5+21	Sta. 9+48
End Work	Sta. 6+56	Sta. 11+75
Net length of Work =	135' or .026 Mi.	227' or .043 Mi.
Begin Project		Sta. 10+04.43
End Project		Sta. 10+57.59
Net length of Project =	0	53.16' or .010 Mi.

Portion to be improved: _____
 State & Federal Routes: _____
 Other Roads: _____

SCALES

Plan: _____
 Profile: _____ Horizontal _____, Vertical _____
 Cross Section: Horizontal _____, Vertical _____

SUPPLEMENTAL SPECIFICATIONS

808	1-1-71
836	3-12-75

Approved William W. Brayshaw
 Date 8-12-77 District Deputy Director of Transportation

Approved Robert B. Pfeiffer
 Date 10-11-77 Engineer, Bureau of Bridges and Structural Design

Approved George M. Nelson
 Date 10-24-77 Chief Engineer, Operations

Approved David L. Weir
 Date 10-24-77 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-7	12-6-76				
GR-2B	12-6-76				
GR-3	12-6-76				
GR-3B	12-6-76				
GR-4	12-6-76				
DBR-2-73	4-10-73				
PSBD-1-71	9-1-71				
RB-1-55	2-2-59				

Plan Prepared By:
DISTRICT 8 BRIDGE DEPT.

SEAL

Project: BUT - 4 - 14.76/14.85
 Date of Letting: 19____, Contract No. _____
 LD0300 Rev. 9-3-75

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

GR - 2B DATED 12-6-76
 GR - 3B DATED 12-6-76
 RB - 1-55 DATED 2-2-59

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

808 DATED 1-1-71
 836 DATED 3-12-75

DESIGN SPECIFICATIONS:

SEE SHEET 5

DESIGN DATA:

DESIGN LOADING - H-15 (1930)
 CONCRETE CLASS C - UNIT STRESS 1333 PSI. FOR SUBSTRUCTURE.
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 PSI.
 STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20,000 PSI.

DIMENSIONS & CONDITIONS AT THE SITE SHALL BE VERIFIED BY THE CONTRACTOR BEFORE WORK BEGINS AS PER 102.05. DIMENSIONS FOR NEW STRINGERS AND FLANGE PLATES SHALL BE ESPECIALLY CHECKED BEFORE NEW STRUCTURAL STEEL IS ORDERED. A PLAN OF THE EXISTING BRIDGE IS AVAILABLE FOR REFERENCE AT THE DISTRICT 8 OFFICE OF THE OHIO DEPT. OF TRANSPORTATION, LEBANON, OHIO.

PROTECTION OF PERSONS & PROPERTY:

SEE SHEET 5

PORTIONS OF STRUCTURE REMOVED: THIS WORK SHALL INVOLVE REMOVING THE EXISTING STEEL BRIDGE RAILING (INCLUDING HANDRAIL AND BRACKETS) AND THE EXISTING STEEL FASCIA STRINGERS ON BOTH SIDES OF THE BRIDGE. ALL MATERIAL REMOVED SHALL BE DISPOSED OF OFF THE JOB SITE. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 202 - LUMP SUM - PORTIONS OF STRUCTURE REMOVED.

EPOXY BONDING: THIS ITEM SHALL INVOLVE PLACING EPOXY BETWEEN THE EXISTING CONCRETE DECK AND THE TOP FLANGE OF THE NEW FASCIA STRINGERS TO PROVIDE A STRONG, WATERPROOF BOND. THE TOP FLANGE OF THE NEW STRINGERS SHALL BE FREE FROM ALL PAINT, RUST OR OTHER CONTAMINANTS THAT WOULD INTERFERE WITH OBTAINING PROPER BOND. ALL VOIDS BETWEEN THE TOP FLANGE AND THE DECK SHALL BE COMPLETELY FILLED WITH EPOXY BY USING AN INJECTION SYSTEM. EPOXY SHALL BE APPLIED BY THOSE EXPERIENCED IN THIS TYPE OF WORK AND SHALL BE ACCORDING TO THE EPOXY MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. EPOXY SHALL BE FROM SIKA CHEMICAL CORPORATION, COLUMBUS, OHIO OR AN APPROVED EQUAL. ONE KNOWN INSTALLER OF EPOXY IS PENETRYN SYSTEM, INC., WILLOUGHBY, OHIO. PAYMENT FOR ALL THE ABOVE WORK WILL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM SPECIAL - EPOXY BONDING.

STRUCTURAL STEEL: THIS ITEM SHALL INCLUDE WELDING NEW FLANGE PLATES TO THE INTERMEDIATE FLOOR BEAMS AND INSTALLING NEW FASCIA STRINGERS AS SHOWN IN THE PLANS. DURING REPLACEMENT OF THE FASCIA STRINGERS, TEMPORARY SUPPORTS SHALL BE USED TO SUPPORT THE EXISTING CONCRETE DECK. THE METHOD OF SUPPORT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANY PORTIONS OF THE DECK DAMAGED BY INADEQUATE TEMPORARY SUPPORT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. PREPARATION OF THE INTERMEDIATE FLOOR BEAM FLANGES FOR WELDING ON THE NEW FLANGE PLATES SHALL INCLUDE THOROUGH CLEANING BY SANDBLASTING TO REMOVE ALL PAINT AND SCALE. THE ENDS OF THE FLANGE PLATES SHALL BE SEALED BY WELDING SO THAT NO MOISTURE CAN PENETRATE BETWEEN THE EXISTING AND NEW FLANGES. PAYMENT FOR ALL THE DESCRIBED WORK WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 513 - LBS. - STRUCTURAL STEEL.

WELD INSPECTION: ALL WELDS SHALL BE VISUALLY INSPECTED BY THE ENGINEER OR HIS REPRESENTATIVE TO CHECK FOR FLAWS AND INSUFFICIENT SIZE. IN ADDITION TO VISUAL INSPECTION, THE WELDS FOR THE NEW FLANGE PLATES ON THE INTERMEDIATE FLOOR BEAMS SHALL BE INSPECTED AS SHOWN IN THE PLANS BY THOSE CAPABLE OF PERFORMING SUCH TESTS. THE AGE AND CONDITION OF THE EXISTING STEEL SHALL BE CONSIDERED IN INTERPRETING THE RESULTS OF THE WELD INSPECTIONS. THE CONTRACTOR SHALL PROVIDE SAFE, EASY MEANS OF ACCESS TO ALL WELDED AREAS FOR INSPECTION. PAYMENT WILL BE INCLUDED WITH THE APPROPRIATE ASSOCIATED ITEM.

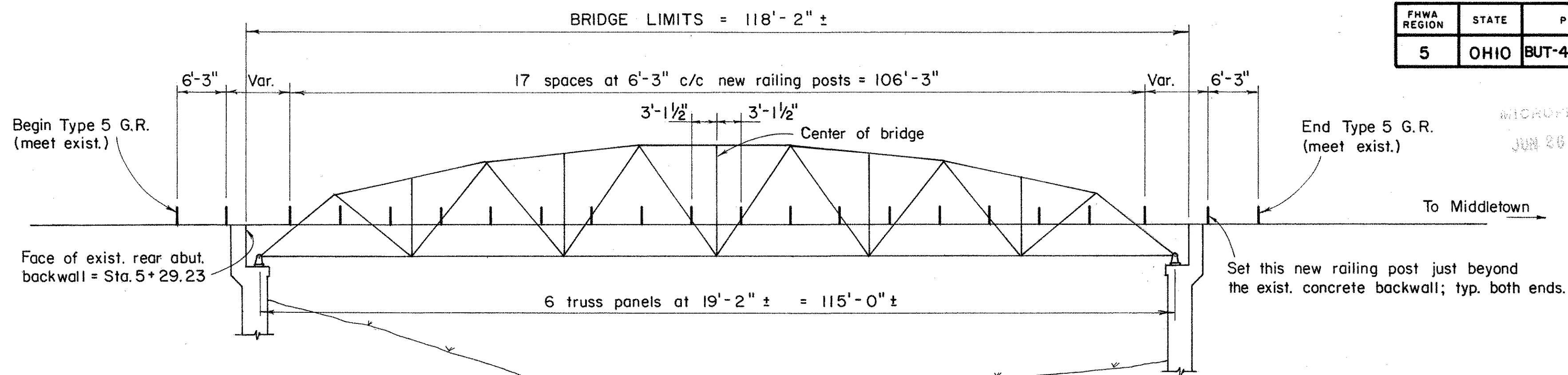
REFURBISH BOTTOM TRUSS LATERALS: THIS WORK SHALL INVOLVE THE THOROUGH CLEANING, TIGHTENING AND REPAIRING OF ALL EXISTING BOTTOM TRUSS LATERAL STEEL RODS (12 TOTAL) WHICH ARE APPROXIMATELY 1" DIAMETER AND HAVE THREADED ENDS, WITH NUTS. BENT OR DAMAGED RODS SHALL BE STRAIGHTENED AND REPAIRED. RODS WITH DETERIORATED OR WEAKENED ENDS SHALL HAVE THOSE ENDS REPLACED BY NEW ENDS BUTT WELDED TO THE EXISTING ROD. AT THE OPTION OF THE CONTRACTOR, ANY RODS REQUIRING REPAIRS MAY BE COMPLETELY REPLACED WITH NEW STEEL RODS 1" IN DIAMETER WITH THREADED ENDS AND NUTS. THIS WORK SHALL INCLUDE ANY PAINTING REQUIRED AS PER 514 OF EXISTING RODS THAT HAVE PAINT DAMAGED BY THE CONTRACTOR'S WORK OR ANY NEW ROD SECTIONS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL THE ABOVE WORK WILL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 513 - REFURBISH BOTTOM TRUSS LATERALS.

RAILING: THE NEW BRIDGE RAILING INCLUDING THE DEEP BEAM RAIL, THE W6 X 25 POSTS, THE BRACKETS, THE FASTENERS AND ALL OTHER RAILING HARDWARE SHALL BE GALVANIZED ACCORDING TO 711.02.

PATCHING CONCRETE STRUCTURES: SEE SHEET 5

BRIDGE TERMINAL ASSEMBLIES SHALL BE SIMILAR TO TYPE G AS SHOWN IN STANDARD DRAWING GR-3B EXCEPT THAT THE WHEELGUARD SHALL BE OMITTED. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 606 - EACH - BRIDGE TERMINAL ASSEMBLY, AS PER PLAN.

GUARDRAIL TYPE 5 SHALL INCLUDE THE NEW GUARDRAIL BEYOND THE BRIDGE LIMITS AS SHOWN ON THIS SHEET. INCIDENTAL WITH THIS ITEM IS ALL WORK NECESSARY TO CONNECT THE EXISTING APPROACH GUARDRAIL TO THE NEW TYPE 5 GUARDRAIL. THIS INCLUDES CUTTING THE EXISTING GUARDRAIL AND REMOVING OVERLAPPING POSTS.



GENERAL ELEVATION

FHWA REGION	STATE	PROJECT	PART
5	OHIO	BUT-4-1476/1485	1

2
8

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To Middletown

PROPOSED WORK

DURING THE TIME THAT THE LEFT LANE OF NORTHBOUND S.R. 4 IS CLOSED TO TRAFFIC, THE FOLLOWING WORK SHALL BE DONE:

1. REMOVE EXISTING BRIDGE RAILING ON LEFT SIDE.
2. REPLACE FASCIA STRINGERS LEFT SIDE.
3. INSTALL NEW BRIDGE RAILING LEFT SIDE.
4. REPAIR TRUSS BEARINGS LEFT SIDE.

DURING THE TIME THAT THE RIGHT LANE OF NORTHBOUND S.R. 4 IS CLOSED TO TRAFFIC, THE FOLLOWING WORK SHALL BE DONE:

5. REPAIR THE RIGHT SIDE OF THE BRIDGE IN A SIMILAR MANNER.

THE FOLLOWING WORK MAY BE DONE WHEN EITHER LANE IS CLOSED:

6. PATCH THE EXISTING ABUTMENTS AS PER ITEM 519.
7. REFURBISH BOTTOM TRUSS LATERALS.
8. PLACE NEW CONCRETE PEDESTALS AND NEW END FLOOR BEAM BEARINGS AS SHOWN IN THE PLANS.
9. PAINT NEW STRUCTURAL STEEL.

REFURBISH TRUSS BEARING DEVICES: THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY RESTORE TO FULL WORKING CAPACITY THE FOUR EXISTING TRUSS BEARINGS (TWO ROCKERS AND TWO BOLSTERS). THE EXISTING 6-1/2" DIAMETER BEARING PINS SHALL BE REPLACED WITH NEW PINS AS PER 513.13 AND AS SHOWN IN THE PLANS. THE TEMPORARY TRUSS SUPPORTS AS DESCRIBED IN THE PLANS TO BE USED DURING PIN REPLACEMENT SHALL FULLY SUPPORT THE TRUSS; THE NEW END FLOOR BEAM BEARINGS TO BE ERRECTED AT THE CENTERLINE SHALL NOT BE USED AS TEMPORARY TRUSS SUPPORTS AND SHALL NOT BE IN PLACE DURING TRUSS BEARING PIN REPLACEMENT. THE EXISTING NUTS FOR THE EXISTING TRUSS BEARING PINS MAY BE REUSED FOR THE NEW PINS. THE BOTTOM BEARING SURFACES OF THE TWO TRUSS ROCKERS SHALL BE THOROUGHLY CLEANED AND GIVEN SMOOTH SURFACES. CLEANING SHALL BE DONE BY SAND-BLASTING, HAND TOOLS OR OTHER METHODS AS NECESSARY TO REMOVE ALL RUST AND SCALE. THE CORRODED TRUSS GUSSET PLATES THAT BEAR ON THE BEARING PIN AS SHOWN IN THE PLANS SHALL BE CLEANED AND RESTORED TO THEIR ORIGINAL SHAPE BY FILLING IN THE NECKED DOWN AREAS WITH WELD METAL; THE WELDED AREAS SHALL BE GROUND SMOOTH TO PROVIDE A SATISFACTORY BEARING SURFACE FOR THE NEW PINS. ALL AREAS OF THE BEARINGS THAT ARE CLEANED OR HAVE DAMAGED OR MISSING PAINT SHALL BE PAINTED AS PER 514. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR THE DESCRIBED WORK WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - EACH - REFURBISH TRUSS BEARING DEVICES, AS PER PLAN.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	SUPER	GEN'L	AS BUILT
202	Lump	Lump	Portions of structure removed			Lump	
509	40	Lbs.	Reinforcing steel	40			
510	6	Each	Dowel holes	6			
511	0.5	Cu.Yds.	Class C concrete, bearing seats	0.5			
513	15,880	Lbs.	Structural steel		15,880		
Special	Lump	Lump	Epoxy bonding		Lump		
513	Lump	Lump	Refurbish bottom truss laterals		Lump		
514	15,880	Lbs.	Field painting of structural steel		15,880		
516	2	Each	Bearing devices		2		
516	4	Each	Refurbish truss bearing devices, as per plan		4		
517	236.34	Lin. Ft.	Railing (deep beam rail with steel posts, brackets & bolts)		236.34		
519	200	Sq. Ft.	Patching concrete structures	200			
606	25	Lin. Ft.	Guardrail, type 5			25	
606	4	Each	Bridge terminal assembly, as per plan			4	
808	0.5	Units	Chemical admixture for concrete, type A, B or D	0.5			

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WT.	SHP	BENDING DIAGRAM
A501	6	4'-2"	26	B	
A502	6	2'-3"	14	S	

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BUREAU OF BRIDGES
 DISTRICT 8

GENERAL ELEVATION, GENERAL NOTES
 PROPOSED WORK & ESTIMATED QUANT'S.

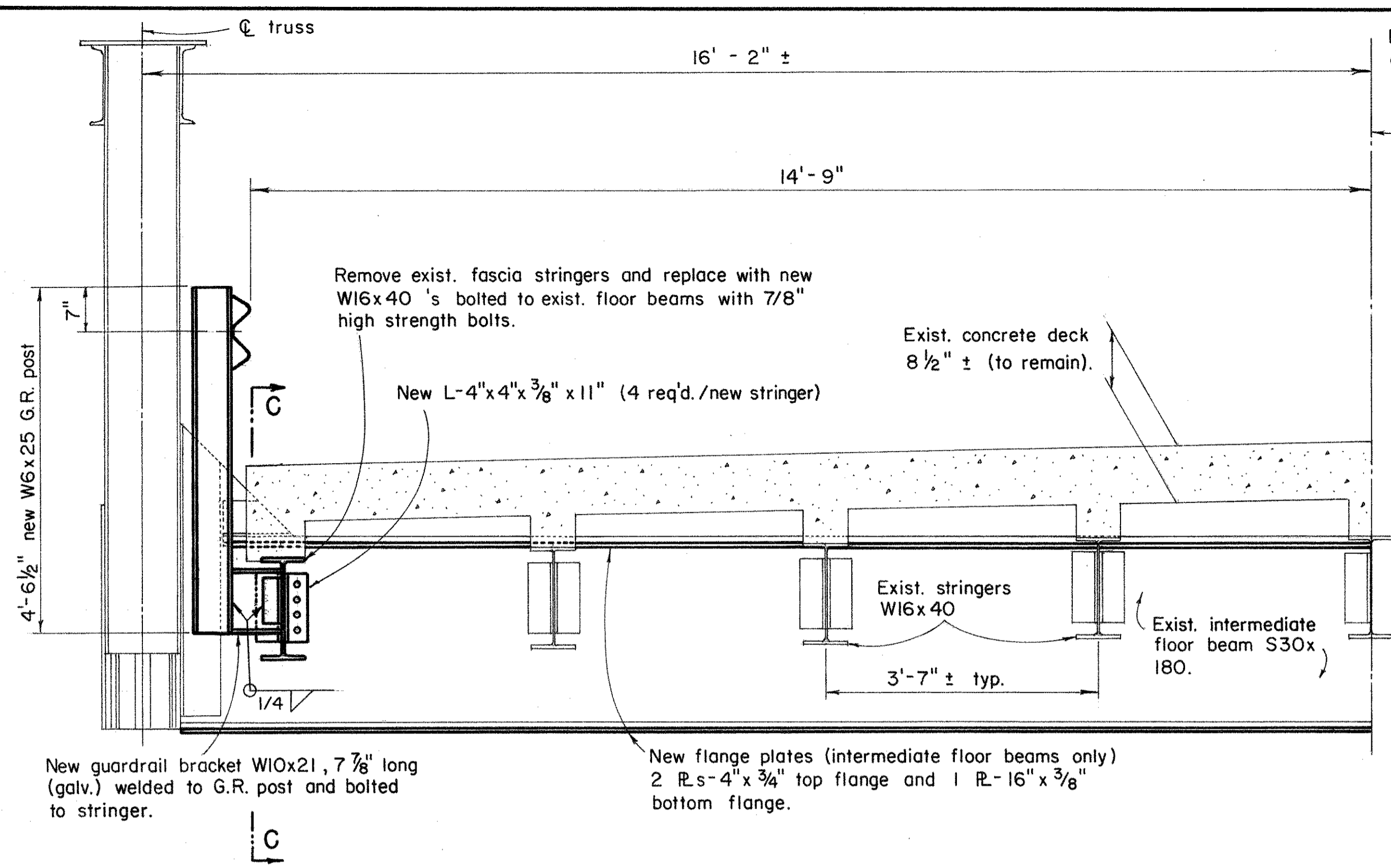
BRIDGE NO. BUT-4-1476
 OVER GREGORY CREEK

BUTLER CO. S.R. 4

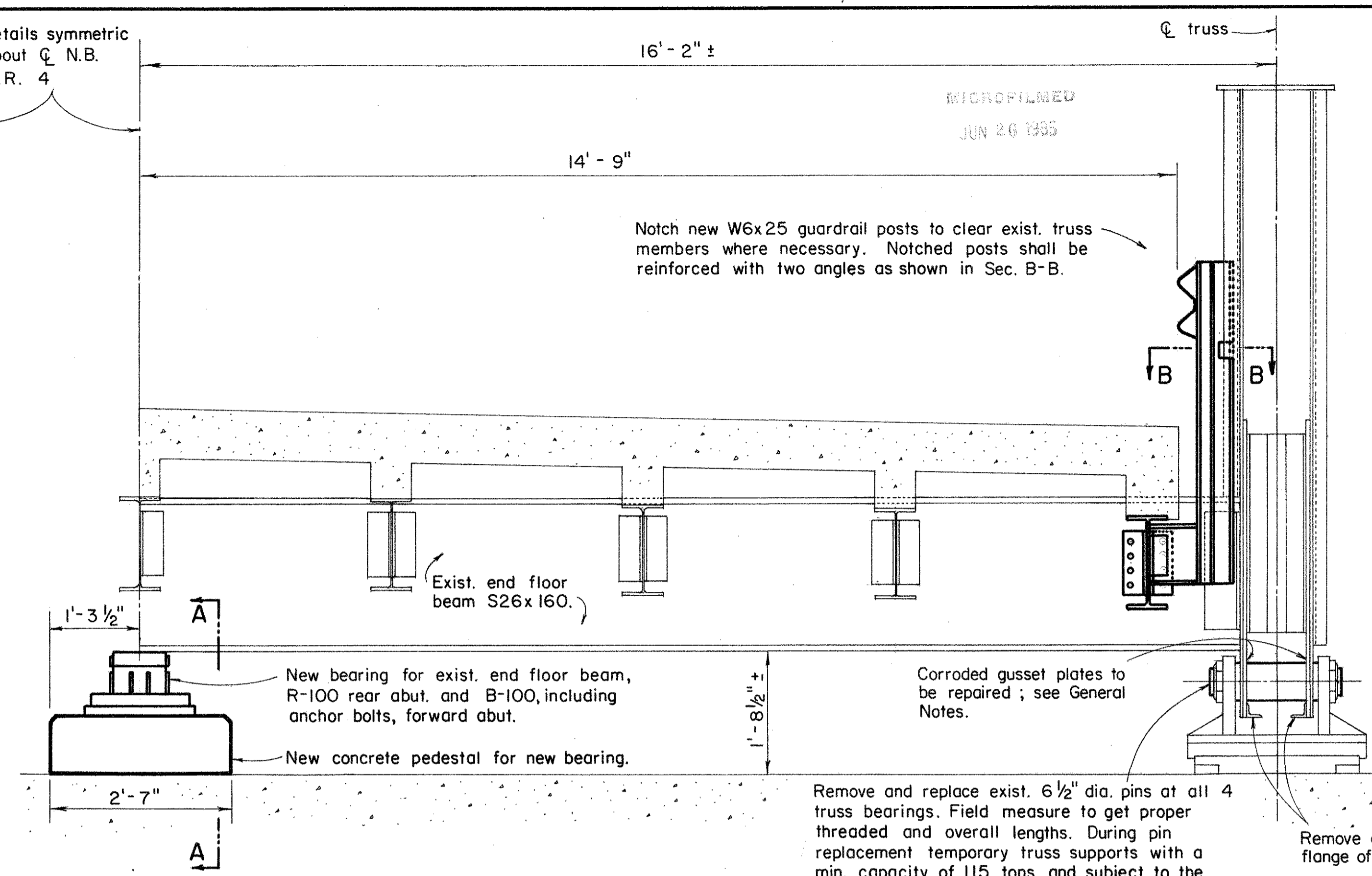
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLE	RLE					

FHWA REGION	STATE	PROJECT	PART	3 8
5	OHIO	BUT-4-1476/1485	1	

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JUN 26 1985

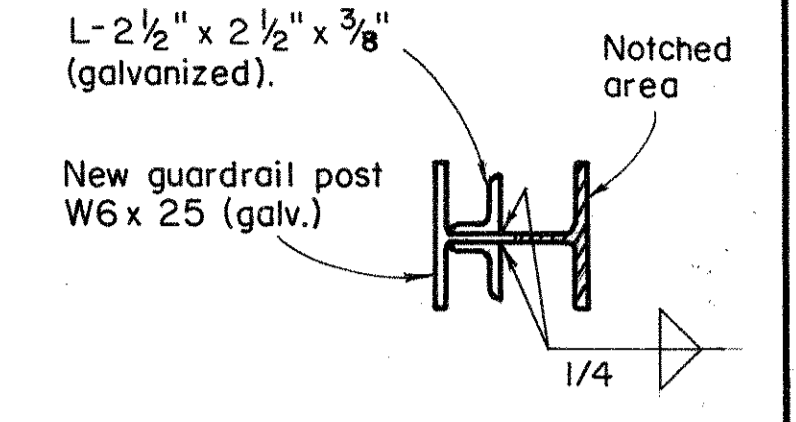


INTERMEDIATE SECTION

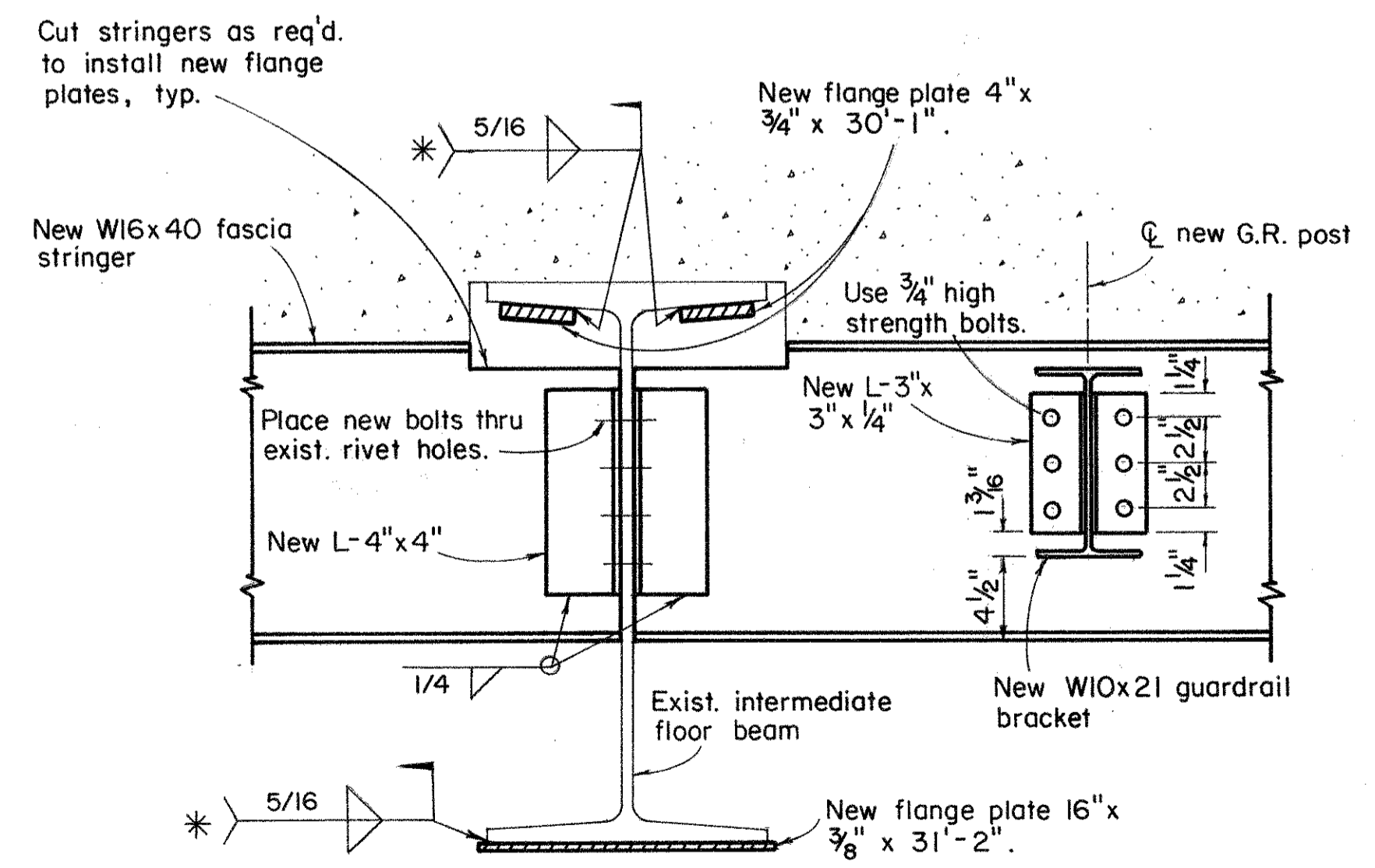


END SECTION

SECTION B-B

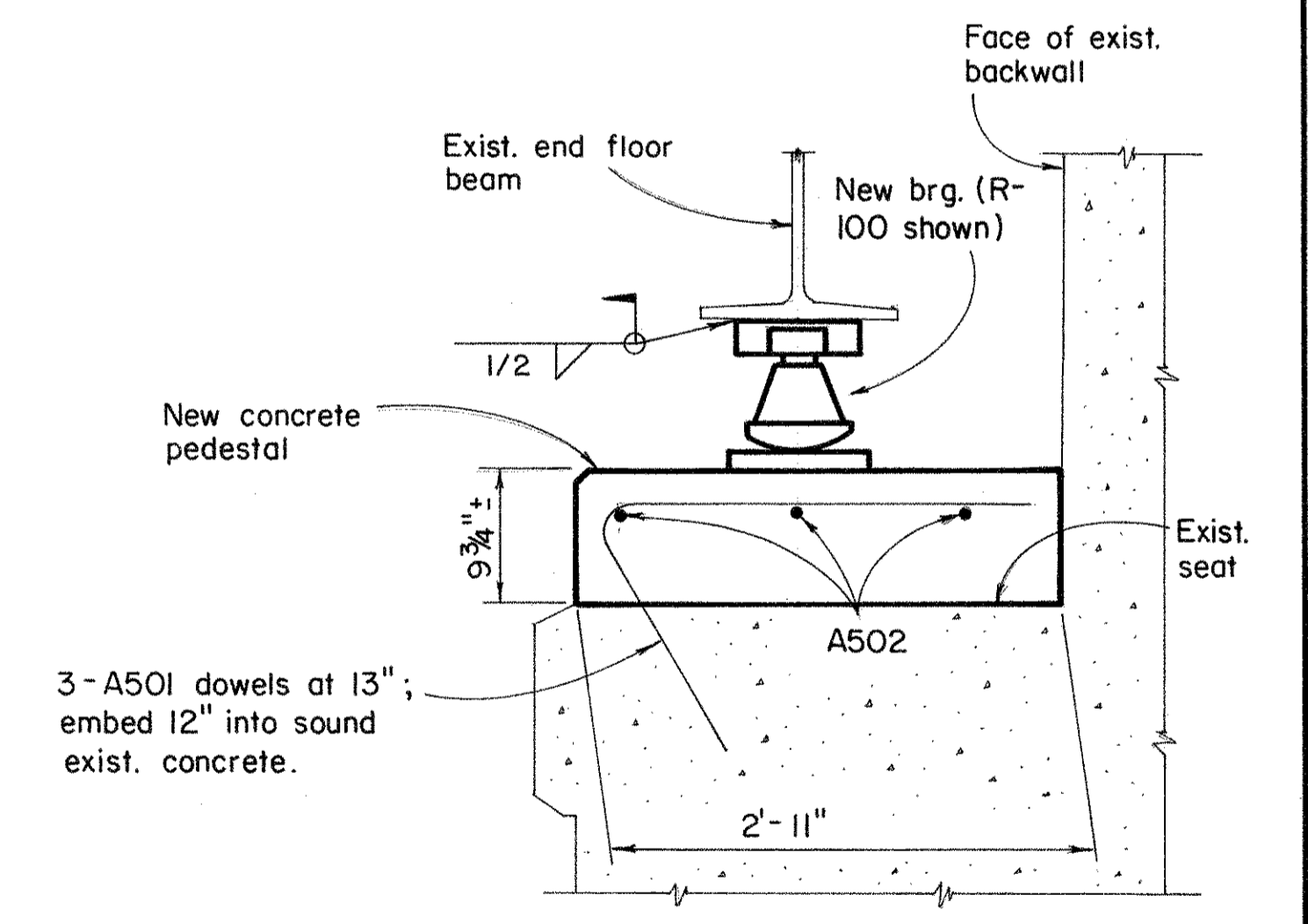


COMPOSITE TRANSVERSE SECTION



SECTION C-C

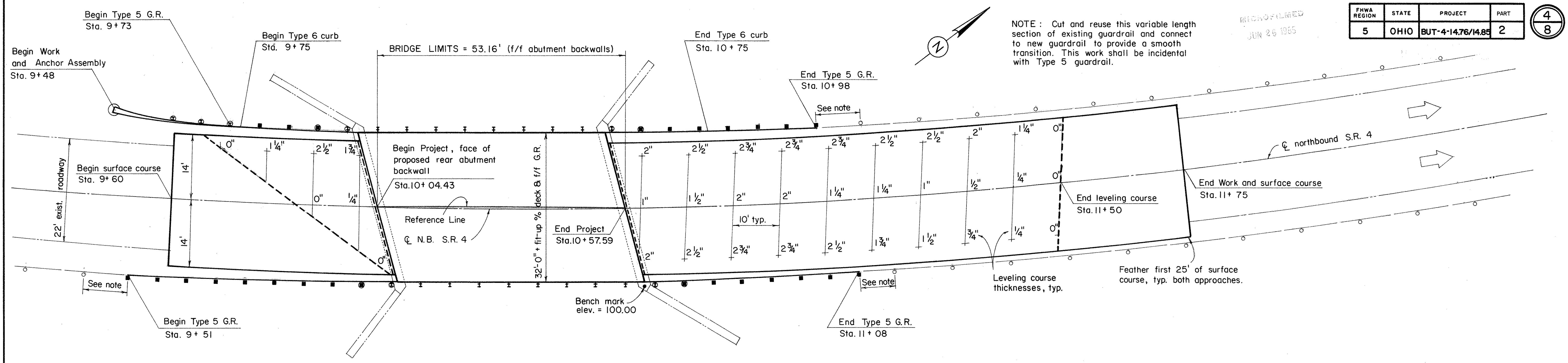
Magnetic
* particle testing required as per 513.21.



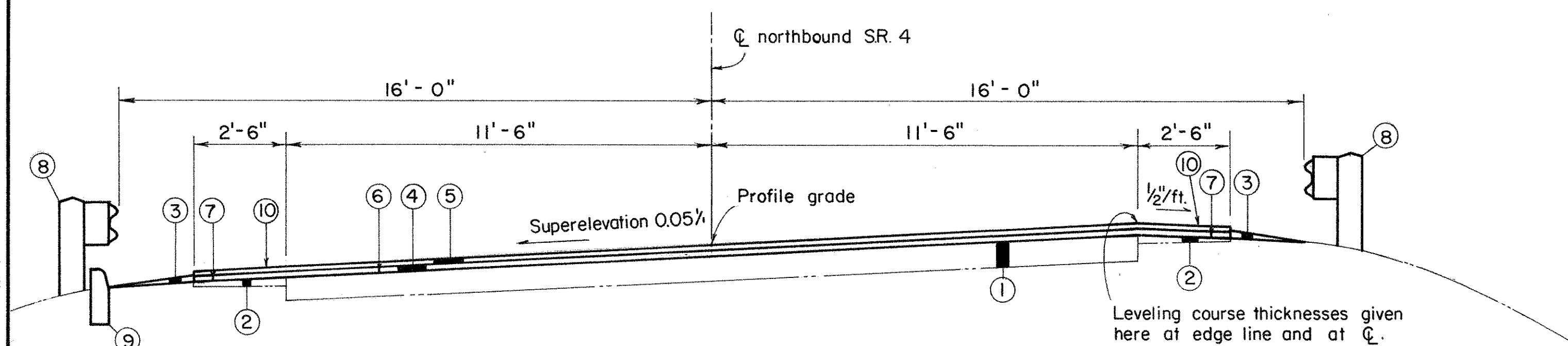
SECTION A-A

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES						DISTRICT 8	2 / 2
SUPERSTRUCTURE REPAIRS							
BRIDGE NO. BUT-4-1476 OVER GREGORY CREEK							
BUTLER CO.						S.R. 4	
DESIGNED RLE	DRAWN RLE	TRACED	CHECKED	REVIEWED	DATE	REVISED	

MICROFILMED
JUN 26 1965

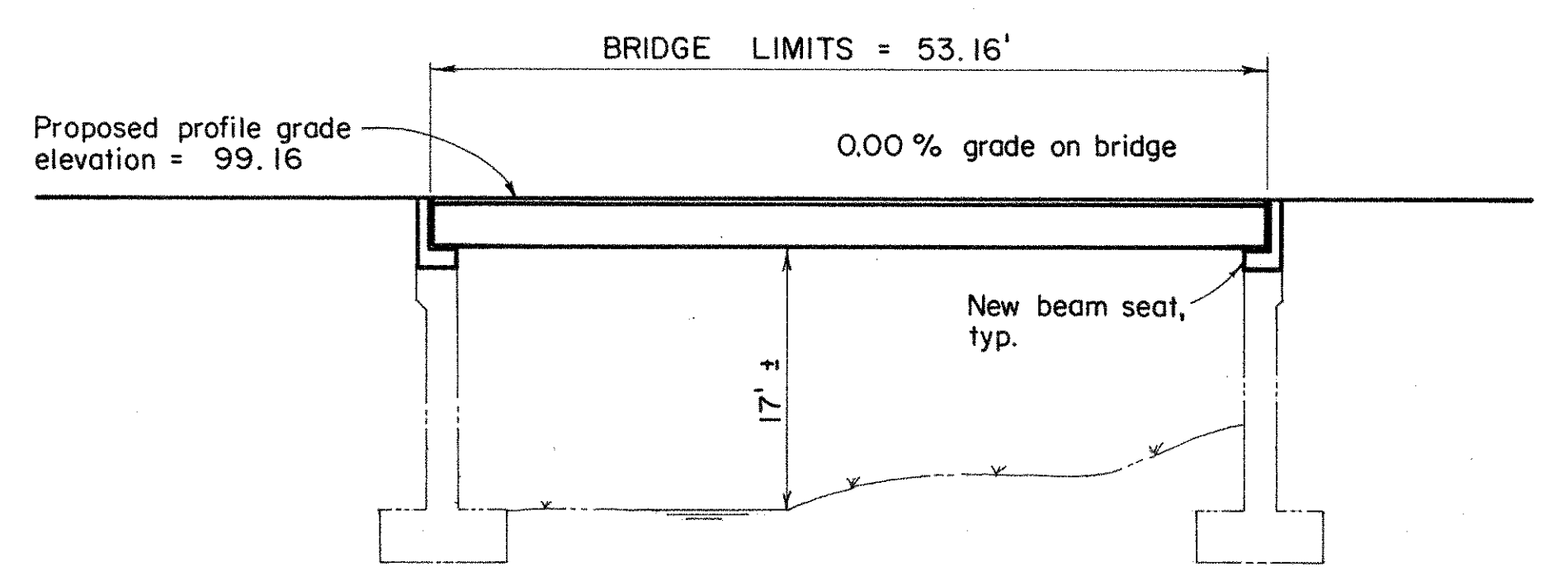


GENERAL PLAN



LEGEND

- Existing asphalt pavement
- Existing shoulder
- Item 203- Linear grading
- Item 403- Asphalt concrete, AC-20 (variable thickness leveling course)
- Item 404- Asphalt concrete, AC-20 (3/4" surface course)
- Item 407- Tack coat : 702.02, RC-250 ; or 702.04, SS-1, SS-1H, MS-2 or RS-1 applied at the rate of 0.10 gal./sq.yd.
- Item 408- Bituminous prime coat : 702.02, MC-30 or MC-70 ; 702.03, Primer 20 ; or 702.09, RT-2 or RT-3 at 0.50 gal./sq.yd.
- Item 606- Guardrail, type 5
- Item 609- Curb, type 6
- Item 409 - Seal coat bituminous material : MC-800, MC-3000, RT-9, RT-10, CBAE-800, RS-2 or CRS-2 applied at 0.35 gal./sq.yd. and Seal coat cover aggregate no. 8 applied at 0.0084 cu.yd./sq.yd.



EXISTING STRUCTURE	PROPOSED STRUCTURE
TYPE: Single span concrete beams with concrete deck and substructure	TYPE: Prestressed concrete non-composite box beams with exist. substructure and new concrete beam seats
SPAN: 49'-10 1/2" clear	SPAN: 51.95' c/c bearings
ROADWAY: 29'-0" f/f curbs	ROADWAY: 32'-0" + beam fit-up f/f guardrail
LOADING: H-15 (original)	LOADING: HS-20 and Interstate Alternate
SKEW: 15° R.F.	SKEW: 15° R.F.
ALIGNMENT: 5° L.C.	ALIGNMENT: 5° L.C. (beams straight)
WRG. SURF.: 3" brick + 6" ± asphalt	WRG. SURF.: 2 1/2" min. asphalt with Type D waterproofing

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES						1 / 4
GENERAL PLAN & TYPICAL SECTION						
BRIDGE NO. BUT-4-1485 R OVER COLDWATER CREEK						
BUTLER CO.			S.R. 4			
DESIGNED RLE	DRAWN RLE	TRACED	CHECKED	REVIEWED	DATE	REVISED

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

BP - 7	DATED 12-6-76
GR -2B	DATED 12-6-76
GR - 3	DATED 12-6-76
GR - 4	DATED 12-6-76
DBR -2-73	DATED 4-10-73
PSBD -1-71	DATED 9-1-71

AND THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

808	DATED 1-1-71
836	DATED 3-12-75

DESIGN SPECIFICATIONS: THE MODIFICATIONS TO THIS STRUCTURE CONFORM TO THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1973, INCLUDING THE 1974, 1975 AND 1976 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS20-44 AND INTERSTATE ALTERNATE
 CONCRETE CLASS C - UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
 REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 PSI.
 CONCRETE FOR PRESTRESSED CONCRETE BEAMS - UNIT STRESS 2200 PSI COMPRESSION, 444 PSI TENSION
 PRESTRESSING STRAND - ASTM A416, F's = 270,000PSI INITIAL STRESS = 0.70 F's.

DIMENSIONS & CONDITIONS AT THE SITE SHALL BE VERIFIED BY THE CONTRACTOR AS PER 102.05. SPAN LENGTHS SHALL BE CHECKED BEFORE PRESTRESSED CONCRETE BEAMS ARE ORDERED.

PROTECTION OF PERSONS & PROPERTY: THE CONTRACTOR'S ATTENTION IS CALLED TO SECTION 107 OF THE SPECIFICATIONS. ANY DAMAGE TO ABUTTING PROPERTY, PASSING VEHICLES, PEDESTRIANS OR TO THE REMAINING PORTIONS OF THE STRUCTURE DUE TO HIS OPERATIONS, SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AND HE SHALL CARRY FULL COVERAGE INSURANCE TO PROMPTLY PAY ALL JUSTIFIABLE CLAIMS FOR DAMAGE TO PRIVATE PROPERTY, VEHICLES AND THEIR OCCUPANTS, AND PEDESTRIANS.

PORTIONS OF STRUCTURE REMOVED: THIS WORK SHALL INVOLVE THE REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE SUPERSTRUCTURE AND PORTIONS OF THE ABUTMENTS. THE EXISTING SUPERSTRUCTURE INCLUDES THE ASPHALT AND BRICK WEARING SURFACE, THE REINFORCED CONCRETE DECK AND BEAMS, AND THE CONCRETE CURBS AND RAILINGS. PORTIONS OF THE ABUTMENTS TO BE REMOVED INCLUDE THE CONCRETE FASCIA LEDGES BELOW THE OUTSIDE BEAM SEATS, THE 6" x 2" KEY IN THE BEAM SEATS, AND THE CONCRETE BACKWALLS AS SHOWN IN THE PLANS. ALL EXCAVATION REQUIRED FOR REPLACEMENT OF THE EXISTING BACKWALLS IS INCLUDED WITH THIS ITEM. SUITABLE WASTE MASONRY FROM THE SUPERSTRUCTURE REMOVAL SHALL BE USED FOR SLOPE PROTECTION AT THE REAR ABUTMENT AND PLACED TO THE SATISFACTION OF THE ENGINEER. ALL OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF THE JOB SITE. PAYMENT FOR ALL THE ABOVE WORK WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 202 - LUMP SUM - PORTIONS OF STRUCTURE REMOVED.

REINFORCING STEEL SAMPLES: REFER TO THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTIONS 106.03, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

DOWEL HOLES: THE ITEM 510 QUANTITY FOR DOWEL HOLES INCLUDES THE HOLES FOR BARS MARKED A801 AND B801 AS WELL AS THE HOLES FOR THE BEAM ANCHOR DOWELS.

PRESTRESSED CONCRETE BEAMS: THESE ITEMS SHALL CONSIST OF FURNISHING AND ERECTING PRESTRESSED CONCRETE BOX BEAMS AS SHOWN IN THE PLANS. REFER TO STANDARD DRAWING PSBD-1-71 FOR THE FOLLOWING DETAILS:

- BEAM LIFTING INSERTS (33" DEEP BEAMS)
- WALL THICKENING AT GUARDRAIL ANCHORS
- ANCHOR DOWELS
- DETAILS AND REINFORCEMENT OF BEAM ENDS (WITHOUT NOTCH)
- TYPICAL PLANS OF DIAPHRAGMS AND TRANSVERSE TIE RODS (SKEW = 15 DEGREES)
- BEAM DIMENSIONAL TOLERANCES
- END DETAILS OF TRANSVERSE TIE ROD ANCHORAGE
- REINFORCING STEEL BENDING DIAGRAMS
- LONGITUDINAL REINFORCING STEEL
- B33-36 AND B33-48 SECTIONS (TOP RESTEEL CLEARANCE TO BE 2" INSTEAD OF AS SHOWN)

PRESTRESSING STRANDS ARE TO BE 1/2 INCH 7-WIRE UNCOATED, STRESS RELIEVED STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND AN INITIAL TENSION OF 28,900 LBS PER STRAND. THE TOP SURFACE OF THE PRESTRESSED CONCRETE BEAMS SHALL BE IN ACCORDANCE WITH 451.09 EXCEPT THAT THE SURFACE SHALL BE FINISHED WITH A BURLAP DRAG TO PROVIDE A UNIFORM SURFACE WITH A GRITTY TEXTURE. PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT PRICES BID FOR ITEMS 515 - LIN. FT. - PRESTRESSED CONCRETE BRIDGE MEMBERS, 3' OR 4' WIDE.

GALV. STEEL DRIP STRIP SHALL BE PROVIDED ALONG THE EDGES OF THE FASCIA BEAMS AS SHOWN IN THE PLANS. THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE DECK BETWEEN THE ABUTMENT FACES. STEEL SHALL MEET THE REQUIREMENTS OF ASTM A568 AND GALVANIZING SHALL BE IN ACCORDANCE WITH 711.02. PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL - SQ. FT. - GALVANIZED STEEL DRIP STRIP, WHICH SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS TO COMPLETE THIS ITEM.

BEARING PAD SHIMS SHALL BE PROVIDED TO ACCOMMODATE ANY NON-PARALLELISM BETWEEN THE BOTTOM OF THE PRESTRESSED CONCRETE BEAMS AND THE BEAM SEATS. PAYMENT FOR THESE SHIMS, WHICH SHALL BE 7" x 12" x 1/8", WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - SQ. FT. - 1/8 INCH THICK ELASTOMERIC BEARING PAD SHIMS.

TEMPORARY GUARDRAIL SHALL BE FURNISHED AND INSTALLED ON THE BRIDGE AS SHOWN IN THE PLANS SO THAT AT LEAST ONE LANE OF TRAFFIC IS MAINTAINED AT ALL TIMES. THE TEMPORARY GUARDRAIL NEED NOT BE GALVANIZED. AFTER ONE SIDE OF THE BRIDGE HAS BEEN REPAIRED, THE TEMPORARY GUARDRAIL SHALL BE MOVED OVER TO ITS POSITION ON THE NEW SIDE AS SHOWN IN THE PLANS. TEMPORARY GUARDRAIL ANCHOR BOLTS PROTRUDING FROM THE TOP OF THE NEW PRESTRESSED CONCRETE BEAM SHALL BE CUT OFF AFTER THEY ARE NO LONGER NEEDED SO THAT THEY WON'T EXTEND ABOVE THE SURFACE OF THE NEW ASPHALT OVERLAY. THESE ANCHOR BOLTS AS WELL AS THE SELF-DRILLING ANCHORS REQUIRED IN THE EXISTING CONCRETE BEAMS ARE INCIDENTAL WITH THIS ITEM. ALL THE ABOVE WORK AND MATERIAL INCLUDING FURNISHING, INSTALLING, MOVING AND REMOVING THE TEMPORARY GUARDRAIL ALONG WITH ITS ACCOMPANYING ANCHORS WILL BE PAID FOR UNDER ITEM 517 - LIN. FT. - TEMPORARY GUARDRAIL, AS PER PLAN.

PATCHING CONCRETE STRUCTURES: THIS ITEM SHALL INVOLVE PATCHING PORTIONS OF THE EXISTING CONCRETE ABUTMENTS AND WINGWALLS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SAFE, EASY MEANS OF INSPECTING, SOUNDING AND MARKING AREAS TO BE PATCHED. THE COMPLETED PATCHING SHALL HAVE A NEAT, UNIFORM APPEARANCE SATISFACTORY TO THE ENGINEER. PAYMENT FOR ALL THE ABOVE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 519 - SQ. FT. - PATCHING CONCRETE STRUCTURES.

FIELD OFFICE: THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619, SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALSO A SUITABLE DEVICE THAT CAN BE HEARD OUTSIDE THE OFFICE WHEN THE TELEPHONE RINGS SHALL BE INSTALLED; THIS DEVICE SHALL HAVE AN ON/OFF SWITCH AND SHALL BE TO THE SATISFACTION OF THE ENGINEER. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 - FIELD OFFICE.

		ESTIMATED QUANTITIES								
ITEM	TOTAL	UNIT	DESCRIPTION	APPR.	SUPER.	ABUTS.	GEN'L.	AS BUILT		
202	Lump	Lump	Portions of structure removed					Lump		
202	181	Lin. Ft.	Guardrail removed	181						
203	3.24	Sta.	Linear grading	3.24						
403	20.7	Cu. Yds.	Asphalt concrete, AC-20	14.1	6.6					
404	15.5	Cu. Yds.	Asphalt concrete, AC-20	8.9	6.6					
407	41	Gallons	Tack coat: 702.02, RC-250; or 702.04, SS-1, SS-1H, MS-2 or RS-1	41						
407	1.5	Tons	Cover aggregate	1.5						
408	45	Gallons	Bituminous prime coat: 702.02, MC-30 or MC-70; 702.03, Primer 20; or 702.09, RT-2 or -3	45						
409	32	Gallons	Seal coat bituminous material: MC-800, MC-3000, RT-9, RT-10, CBAE-800, RS-2 or CRS-2	32						
409	1	Cu. Yds.	Seal coat cover aggregate	1						
509	1746	Lbs.	Reinforcing steel					1746		
510	66	Each	Dowel holes					66		
511	16.5	Cu. Yds.	Class C concrete, beam seats and backwalls					16.5		
512	2.8	Sq. Yds.	Type B waterproofing					2.8		
512	196	Sq. Yds.	Type D waterproofing					196		
515	424	Lin. Ft.	Prestressed concrete bridge members, 3' wide					424		
515	106	Lin. Ft.	Prestressed concrete bridge members, 4' wide					106		
Special	67	Sq. Ft.	Galvanized steel drip strip					67		
516	23.3	Sq. Ft.	1 inch thick elastomeric bearing pads					23.3		
516	11.7	Sq. Ft.	1/8 inch thick elastomeric bearing pad shims					11.7		
516	74	Lin. Ft.	Joint sealer					74		
516	198	Sq. Ft.	1 inch thick preformed expansion joint filler					198		
517	106.32	Lin. Ft.	Railing (deep beam rail with steel tubular back-up, steel posts & bolts)					106.32		
517	53.16	Lin. Ft.	Temporary guardrail, as per plan					53.16		
519	200	Sq. Ft.	Patching concrete structures					200		
606	175.68	Lin. Ft.	Guardrail, type 5	175.68						
606	1	Each	Anchor assembly, type A	1						
606	4	Each	Bridge terminal assembly, type B	4						
609	47	Lin. Ft.	Curb, type 6	47						
614	Lump	Lump	Maintaining traffic					Lump		
619	Lump	Lump	Field office					Lump		
623	Lump	Lump	Construction layout stakes					Lump		
808	15.6	Units	Chemical admixture for concrete, type A, B or D					15.6		

RECORDED
 JUN 26 1983

FHWA REGION	STATE	PROJECT	PART
5	OHIO	BUT-4-14.76/14.85	2

5
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PROPOSED WORK

1. INSTALL MAINTENANCE OF TRAFFIC DEVICES AND TEMPORARY GUARDRAIL TO CLOSE THE LEFT LANE OF NORTHBOUND S.R. 4 TO TRAFFIC.
2. REMOVE THE EXISTING CONCRETE SUPERSTRUCTURE, PORTIONS OF ABUTMENTS, AND APPROACH GUARDRAIL ON THE LEFT SIDE AS SHOWN IN THE PLANS.
3. PLACE NEW BEAM SEATS AND NEW PRESTRESSED CONCRETE BEAMS FOR THE LEFT SIDE.
4. PLACE NEW LEFT SIDE BACKWALLS. (ALSO PLACE NEW CORNER AT LEFT REAR ABUTMENT ONLY).
5. INSTALL NEW BRIDGE RAILING, PLACE TYPE D WATERPROOFING, AND PLACE ASPHALT OVERLAYS ON THE BRIDGE AND APPROACHES, LEFT SIDE.
6. ERECT APPROACH GUARDRAIL LEFT SIDE.
7. MOVE TEMPORARY GUARDRAIL AND CHANGE MAINTENANCE OF TRAFFIC DEVICES TO REOPEN THE LEFT LANE AND CLOSE THE RIGHT LANE OF NORTHBOUND S.R. 4.
8. REBUILD RIGHT SIDE IN A SIMILAR MANNER.
9. COMPLETE ALL WORK.
10. REMOVE TEMPORARY GUARDRAIL AND MAINTENANCE OF TRAFFIC DEVICES TO REOPEN THE ENTIRE BRIDGE TO TRAFFIC.

REINFORCING STEEL LIST					
MARK	NO.	LENGTH	WT.	SHR.	BENDING DIAGRAMS
A501	8	15'-6"	129	S	
A502	8	18'-1"	151	S	
A503	23	4'-1"	98	B	
A504	23	7'-10"	188	B	
A601	8	5'-11"	72	B	
A602	6	5'-6"	50	S	
A801	23	4'-0"	246	S	
B501	8	18'-1"	151	S	
B502	8	15'-6"	129	S	
B504	23	4'-1"	98	B	
B801	23	4'-0"	246	S	

2 / 4

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 BUREAU OF BRIDGES DISTRICT 8

GENERAL NOTES, PROPOSED WORK & ESTIMATED QUANTITIES

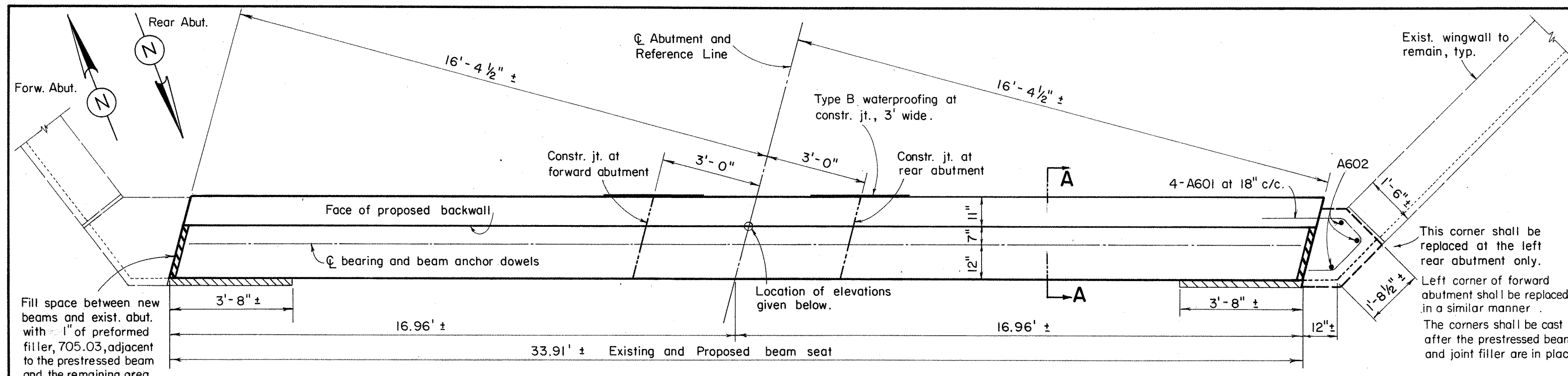
BRIDGE NO. BUT-4-1485 R
 OVER COLDWATER CREEK

BUTLER CO. S.R. 4

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLE	RLE					

MICROFILMED
JUN 20 1985

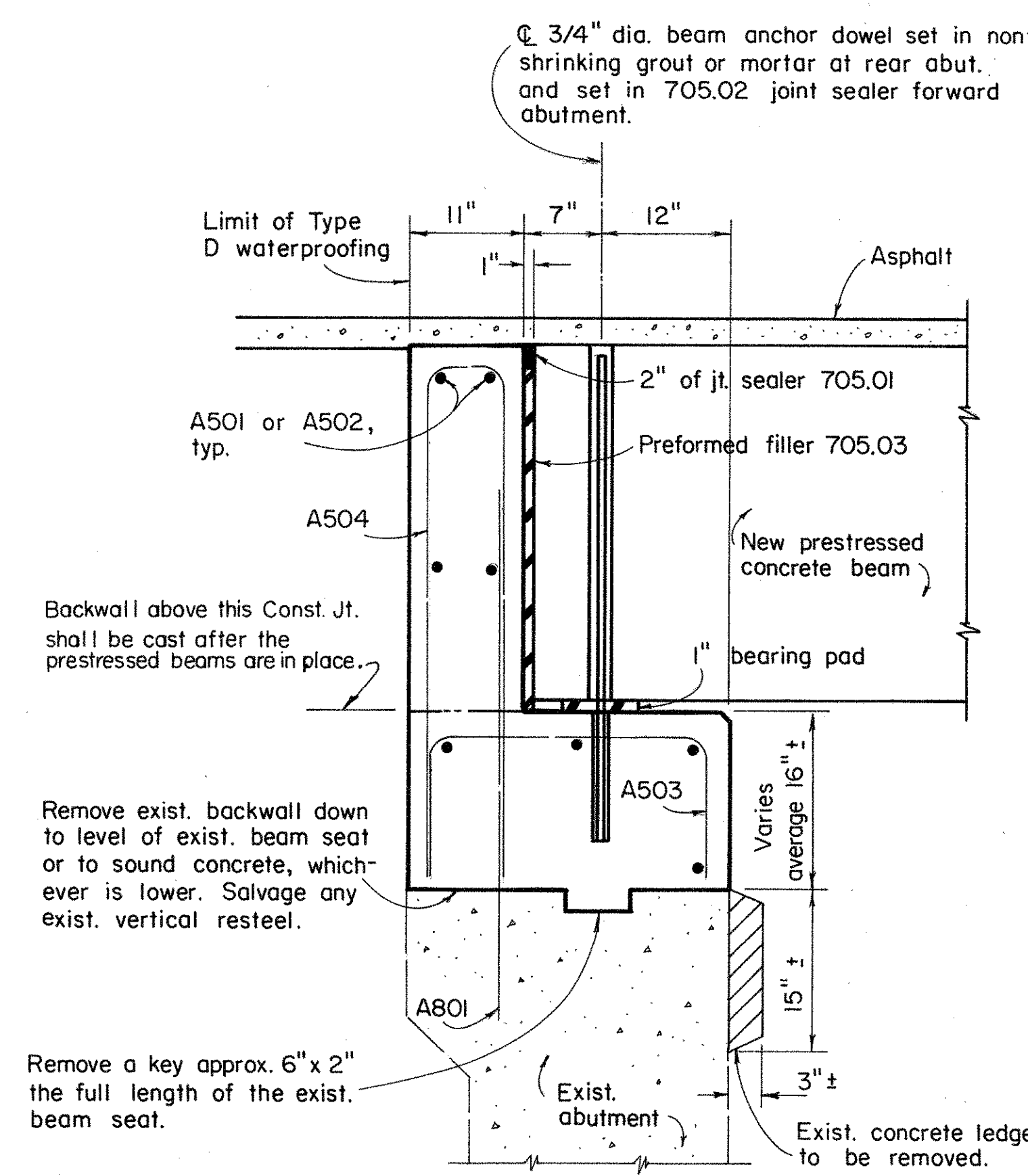
FHWA REGION	STATE	PROJECT	PART	6 8
5	OHIO	BUT-4-1476/1485	2	



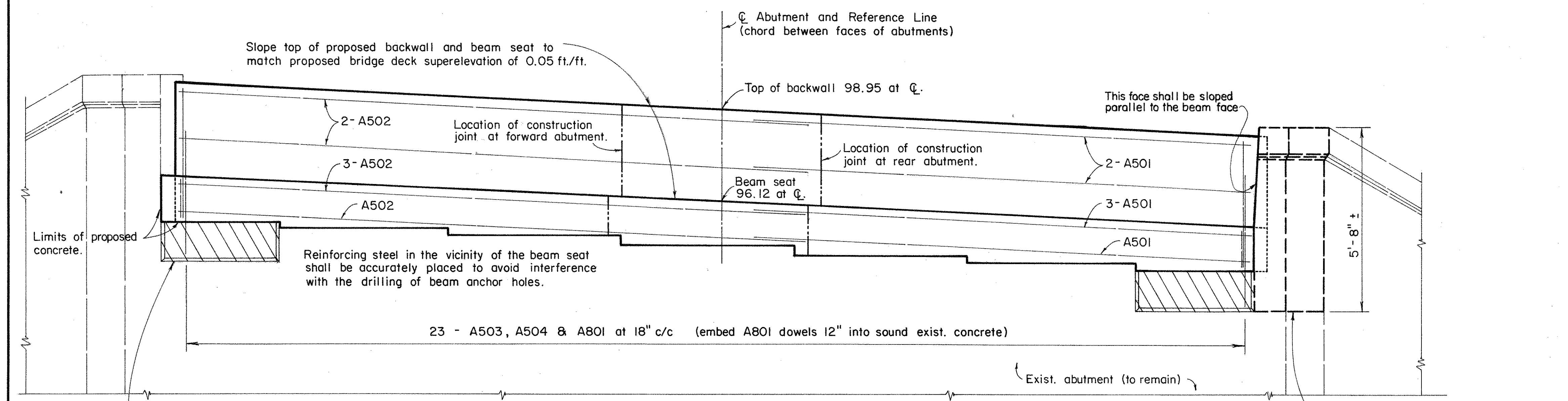
PLAN - REAR & FORWARD ABUTMENTS

Fill space between new beams and exist. abut. with 1" of preformed filler, 705.03, adjacent to the prestressed beam and the remaining area with non-shrinking grout or mortar. Care shall be taken to keep the grout or mortar from flowing under the prestressed beams. The top 2" of the joint shall be filled with joint sealer, 705.01. Non-Shrinking grout or mortar shall be included with Item 515 for payment.

This corner shall be replaced at the left rear abutment only. Left corner of forward abutment shall be replaced in a similar manner. The corners shall be cast after the prestressed beams and joint filler are in place.



SECTION A-A



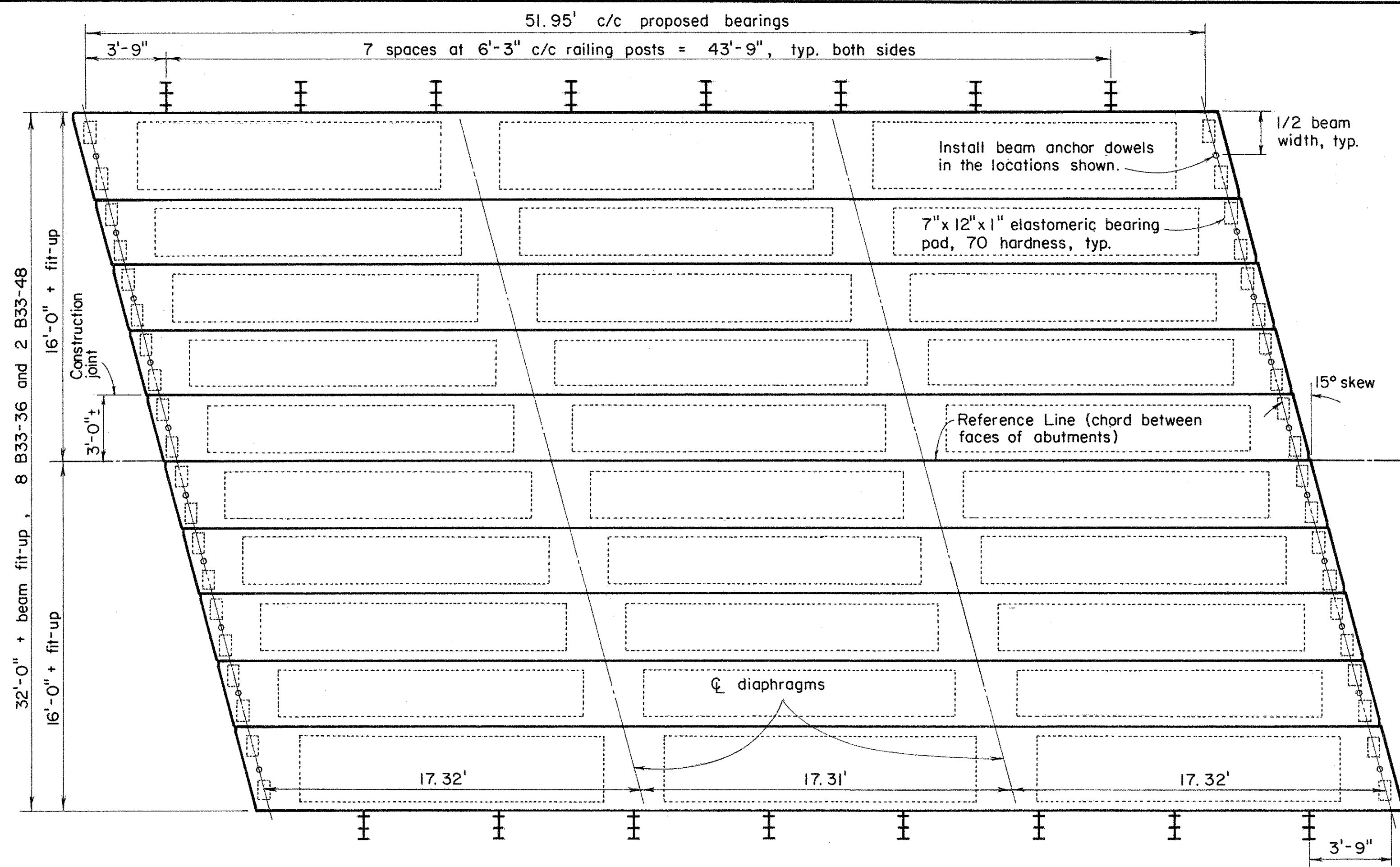
Remove exist. concrete ledges as shown in Sec. A-A. The finished surface shall be flush with and conform in appearance with the proposed abutment face to the satisfaction of the Engineer.

Repair of concrete below this level at left rear abutment will be paid for under Item 519.

ELEVATION

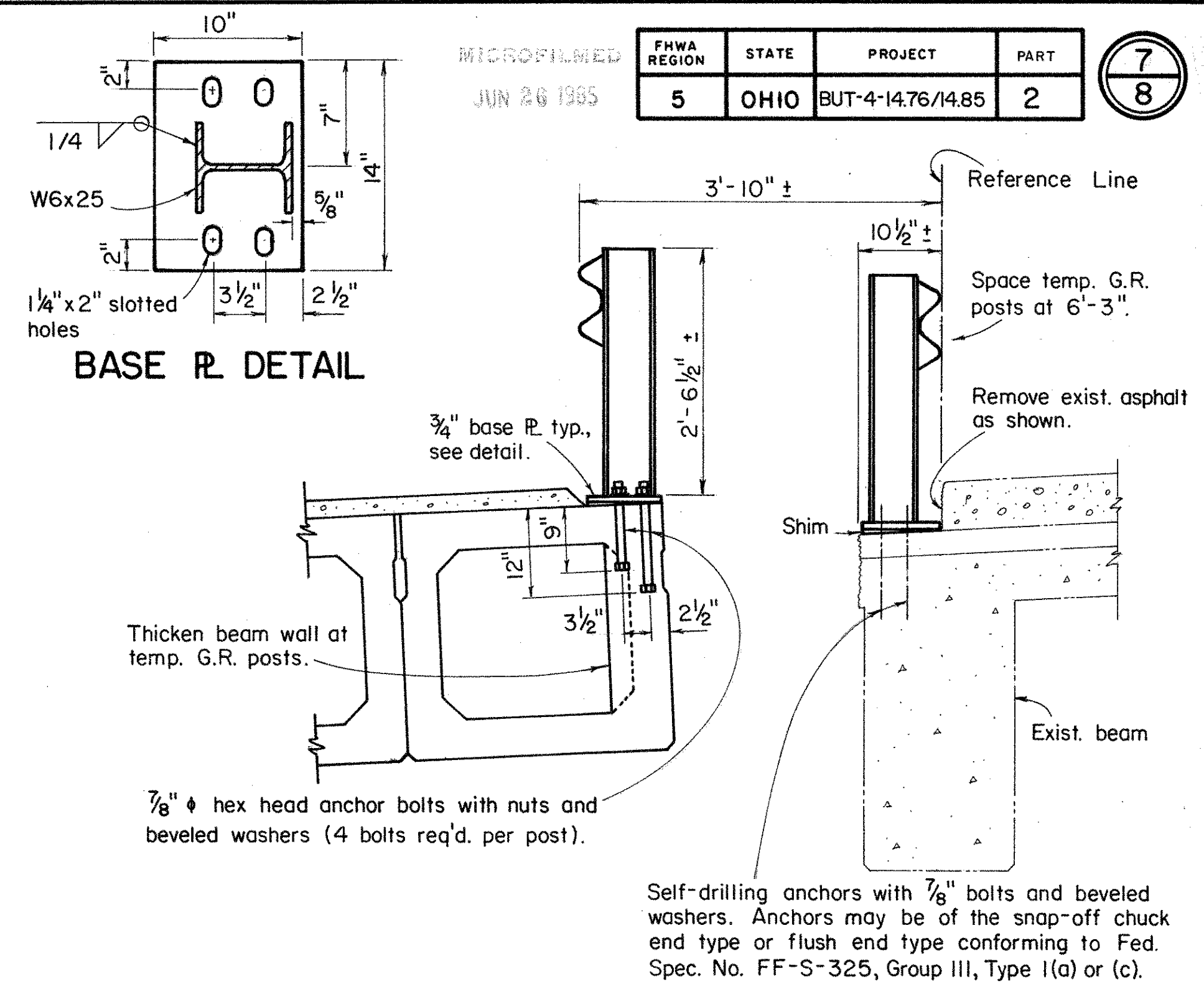
Rear abutment shown, forward abutment slopes opposite way and has reinforcing steel marked BXXX.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES						3 / 4
ABUTMENT DETAILS						
BRIDGE NO. BUT-4-1485 R OVER COLDWATER CREEK						
BUTLER CO.						S. R. 4
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RLE	RLE					

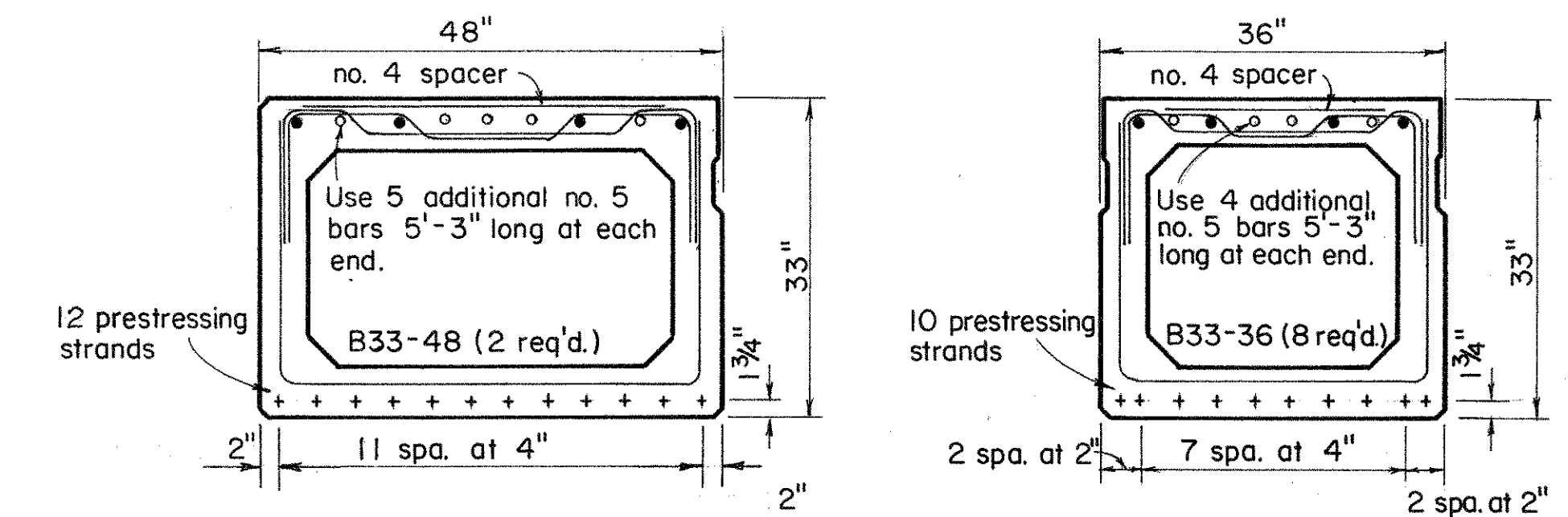


PROPOSED DECK PLAN

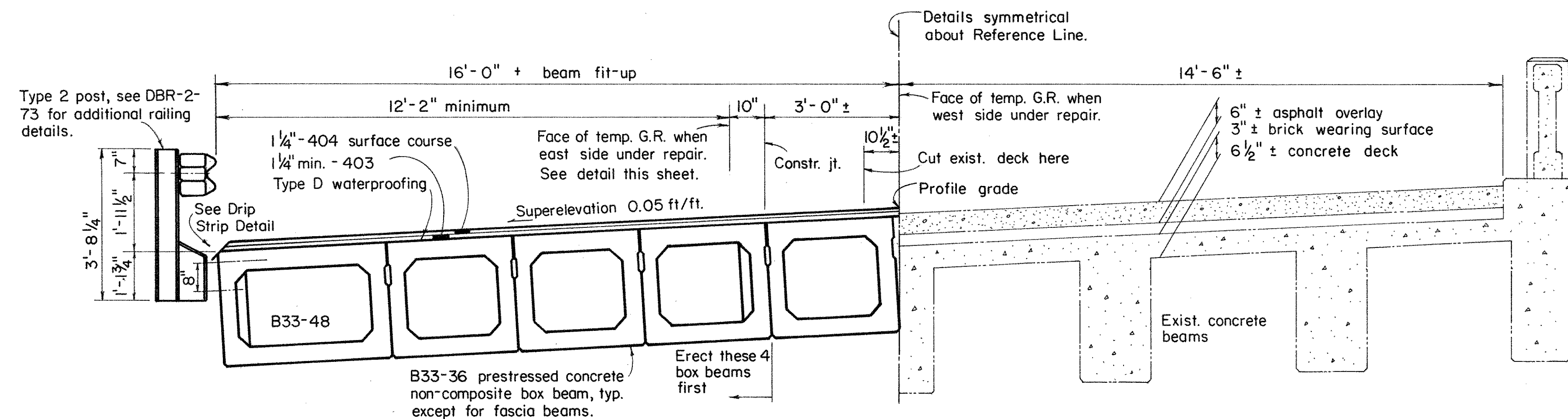
Calculated camber at time of paving, including allowance for camber growth due to creep is 1/8". Calculated deflection due to weight of surface course and railing is 1/8". Net final camber of beams equals required camber. No variation in thickness of 403 leveling course is required.



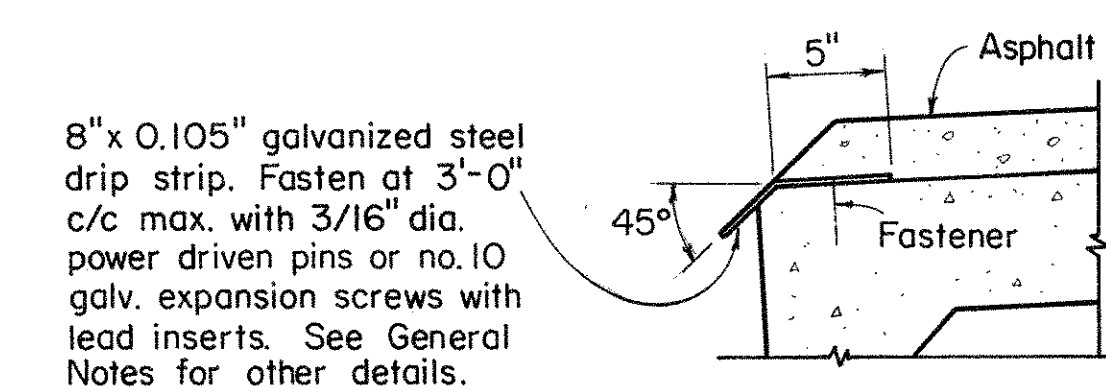
TEMPORARY GUARDRAIL DETAILS



BEAM DETAILS



PROPOSED COMPOSITE TRANSVERSE SECTION EXISTING (TO BE REMOVED)



DRIP STRIP DETAIL

FHWA REGION	STATE	PROJECT	PART	7/8
5	OHIO	BUT-4-14.76/14.85	2	

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES				4/4	DISTRICT 8
SUPERSTRUCTURE DETAILS					
BRIDGE NO. BUT-4-1485 R OVER COLDWATER CREEK					
BUTLER CO.			S.R. 4		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
RLE	RLE				

FHWA REGION	STATE	PROJECT	PART
5	OHIO	BUT-4-1476/1485	1 & 2

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UNRECORDED
JUN 26 1965

GENERAL

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF THE CONTRACTOR AND THE TRAVELLING PUBLIC. ANY VARIANCES FROM THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE ENGINEER, EXCEPT AS MODIFIED BELOW OR AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS. THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISIONS, AND PERTINENT ITEMS OF THE SPECIFICATION AND PROPOSAL SHALL APPLY.

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, MEN AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE APPROVED BY THE ENGINEER. VEHICLES AND EQUIPMENT SHALL ALWAYS MOVE WITH, AND NOT ACROSS OR AGAINST THE FLOW OF TRAFFIC. VEHICLES AND EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS, AND SHALL ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL TRAFFIC FLOW. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

EQUIPMENT, VEHICLES AND MATERIAL SHALL NOT BE STORED OR PARKED ON THE PROJECT WITHIN (30) FEET OF THE EDGE OF THE TRAVELLED PAVEMENT, UNLESS BEHIND GUARD RAIL.

THE USE OF BERMS TO MAINTAIN TRAFFIC IS PROHIBITED EXCEPT WHERE THE PLANS PROVIDE FOR A NEW BERM SPECIFICALLY TO CARRY TRAFFIC, OR UNLESS OTHERWISE APPROVED BY THE ENGINEER. SHOULD ANY EXISTING OR NEW BERM AREAS BECOME DAMAGED OR DESTROYED DUE TO THE CONTRACTOR'S NEGLIGENCE OR FAILURE TO PROVIDE ADEQUATE SIGNS, BARRICADES, CONES, FLAGMEN, OR OTHER TRAFFIC CONTROL DEVICES, THE RESTORATION OF THE BERMS WILL BE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL ARRANGE TRAFFIC CONTROL DEVICES SO TRAFFIC TO AND FROM THE FREEWAY, IS MAINTAINED AT ALL TIMES, AT ALL INTERCHANGES, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE STANDARD DEVICE FOR CLOSING ANY LANES TO TRAFFIC SHALL BE WEIGHTED, PROPERLY REFLECTORIZED, 55-GALLON DRUMS SPACED AT 50 FOOT INTERVALS UNLESS OTHERWISE SPECIFIED. DRUMS PLACED ON THE SURFACE COURSE SHALL BE PLACED ON 1/2 INCH THICK PLYWOOD. OPTIONAL 28" TRAFFIC CONES MAY BE USED FOR DAYTIME OPERATIONS IN LIEU OF 55-GALLON DRUMS, OR AS DIRECTED BY THE ENGINEER. CONES MUST BE WEIGHTED TO INCREASE STABILITY BY DOUBLE STACKING, SAND BAGS, OR AS APPROVED BY THE ENGINEER. STEEL RINGS OR CHAINS OF ANY TYPE OVER THE CONE WILL NOT BE PERMITTED.

TAPERS FOR LANE CLOSURES SHALL HAVE 55-GALLON REFLECTORIZED DRUMS SPACED 50 FEET APART WITH CONSTRUCTION ARROWS (OW-138) MOUNTED ON THE FIRST, FIFTH AND LAST DRUMS. SEE DETAIL (A). AN ELECTRIC FLASHING ARROW SHALL BE INSTALLED IN EACH TAPER CLOSING A LANE TO TRAFFIC, CENTERED IN THE CLOSED LANE APPROXIMATELY 150 FEET FROM THE END OF THE TAPER.

TANGENT SECTIONS OF LANE CLOSURES AND BERM CLOSURES, OR ON EXISTING OR TEMPORARY ROADWAYS WHERE TRAFFIC IS BEING MAINTAINED SHALL HAVE 55-GALLON REFLECTORIZED DRUMS SPACED 100 FEET APART WITH CONSTRUCTION ARROWS (OW-138) MOUNTED ON DRUMS AT 1000 FOOT INTERVALS. ALL DRUMS IN TANGENT SECTIONS ARE TO BE PLACED TWO (2) FEET FROM THE EDGE OF THE TRAVELLED LANE, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN, LEGIBLE AND GOOD WORKING CONDITION) AND REMOVE ALL LIGHTS, SIGNS, BARRICADES, CONES AND ALL OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC, INCLUDING REGULATORY SIGNS AND PAVEMENT MARKINGS. ALL SIGNS THAT ARE TO CONVEY THEIR MESSAGES DURING THE HOURS OF DARKNESS SHALL BE REFLECTORIZED OR ILLUMINATED. ALL SIGNS SHALL BE POST MOUNTED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

PLACEMENT OF ALL TRAFFIC CONTROL DEVICES SHALL START AND PROCEED IN THE DIRECTION OF THE FLOW OF TRAFFIC. REMOVAL OF TRAFFIC CONTROL DEVICES SHALL START AT THE END OF THE CONSTRUCTION AREA AND PROCEED TOWARD ONCOMING TRAFFIC. THE CONTRACTOR SHALL PROVIDE FOR THE INSTALLATION OF ALL NECESSARY TRAFFIC CONTROL DEVICES BEFORE BEGINNING WORK AND THEIR IMMEDIATE REMOVAL AS SOON AS WORK IS SUSPENDED OR COMPLETED.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THESE PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN THE TRAVELLED PAVEMENT SAFELY.

DURING ALL HOURS WHEN TRAFFIC IS RESTRICTED TO LESS THAN THE NUMBER OF EXISTING LANES THE CONTRACTOR SHALL EMPLOY AT LEAST ONE FULL TIME QUALIFIED PERSON TO PATROL THE RESTRICTED AREA(S), TO MAINTAIN ALL LIGHTS, SIGNS, BARRICADES, CONES, DRUMS, ETC., IN ORDER TO PROVIDE A SAFE FACILITY FOR THE TRAVELLING PUBLIC.

SIGNING

EXISTING SPEED LIMIT SIGNS IN AREAS WHERE TRAFFIC IS RESTRICTED TO LESS THAN TWO(2) LANES SHALL BE COVERED. THE PROJECT ENGINEER SHALL RECORD COVERED SIGNS IN THE PROJECT DIARY.

THE CONTRACTOR SHALL FURNISH AND INSTALL "ROAD CONSTRUCTION AHEAD" SIGNS (OW-128) AS FOLLOWS:
 MAINLINE = 1500 FEET IN ADVANCE OF THE PROJECT WORK LIMITS OR IN THE LOCATION REQUIRED FOR LANE CLOSURE SIGNING, WHICHEVER IS APPLICABLE.

THE CONTRACTOR SHALL FURNISH AND INSTALL "ROAD CONSTRUCTION - TRAFFIC MAINTAINED" SIGNS (OC-4) ON TYPE III BARRICADES AS FOLLOWS:
 MAINLINE = ON PROJECTS TWO (2) MILES OR LESS IN LENGTH, DUALLED SIGNS 1000 FEET DOWNSTREAM FROM THE "ROAD CONSTRUCTION AHEAD" SIGNS (OW-128).

SPECIAL PROVISIONS

ONE LANE OF TRAFFIC ON NORTHBOUND S.R. 4 SHALL BE MAINTAINED AT ALL TIMES BY USE OF A ONE LANE CLOSURE AS SHOWN ON THIS SHEET. WHEN THE LEFT (WEST) SIDES OF THE BRIDGES ARE BEING REPAIRED, THE TAPER SHOWN IN THE ONE LANE CLOSURE SHALL BE REVERSED FROM THAT SHOWN AND THE APPROPRIATE SIGNS USED.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES REQUIRED BY THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" CURRENT EDITION, LATEST REVISIONS, THESE PLANS, AND PERTINENT ITEMS OF THE SPECIFICATIONS AND PROPOSAL SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

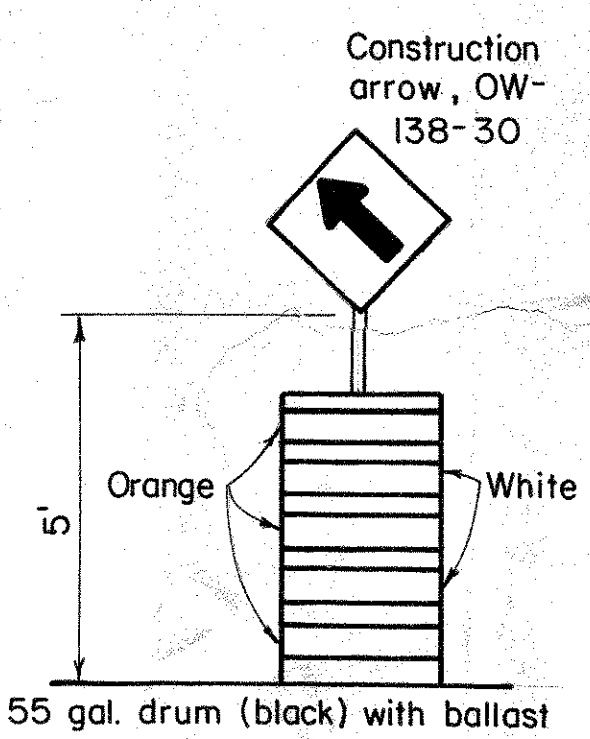
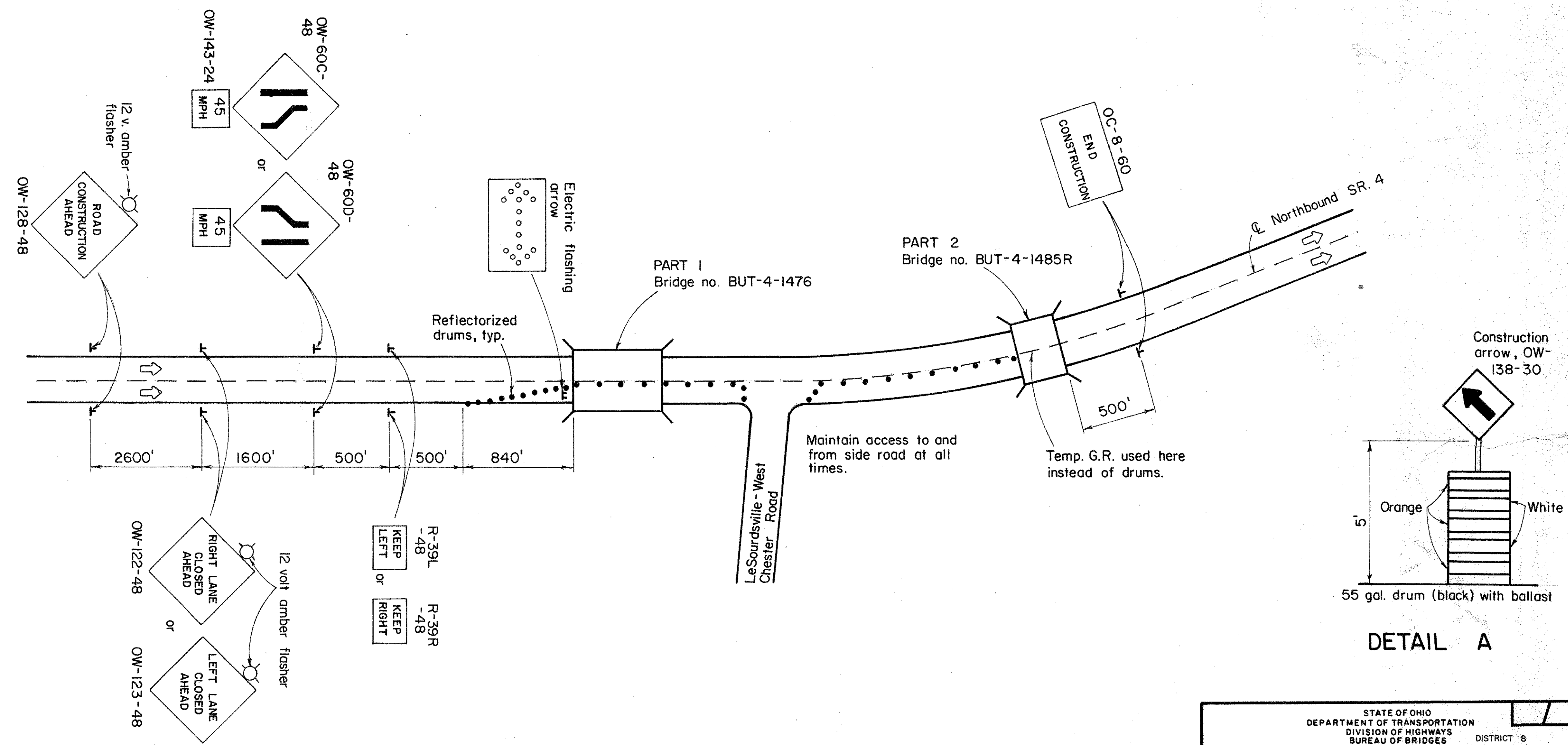
ELECTRIC FLASHING ARROW

THE ELECTRIC FLASHING ARROW SHALL CONSIST OF A RECTANGULAR PANEL WITH MINIMUM DIMENSIONS OF 8' X 4', PAINTED FLAT BLACK AND SUPPORTED SO THAT THE BOTTOM OF THE PANEL IS A MINIMUM OF 8' ABOVE THE PAVEMENT. A MINIMUM OF TEN (10) LIGHTS SHALL BE ARRANGED IN THE PANEL SO AS TO FORM A LARGE ARROW.

LIGHTS SHALL BE 12 VOLT, TYPE 4434-A PAR 36 AMBER LENS OR EQUIVALENT WITH FLAT BLACK STEEL VISORS. LIGHTS SHALL FLASH AT A RATE OF 25 TO 35 CYCLES PER MINUTE WITH A 50 PERCENT DWELL TIME. LIGHTS SHALL FLASH SIMULTANEOUSLY OR SEQUENTIALLY TO INDICATE DIRECTION OF VEHICLE MOVEMENT REQUIRED. AN AUTOMATIC DIMMER SHALL BE USED TO DIM THE LIGHTS AT NIGHT.

PAYMENT

PAYMENT FOR ALL OF THE ABOVE INCLUDING PROVIDING, ERECTING, MAINTAINING, AND REMOVING ALL LIGHTS, SIGNS, BARRICADES, DRUMS, CONES, ELECTRIC FLASHING ARROWS, REGULATORY SIGNS, TEMPORARY PAVEMENT MARKINGS, OBLITERATION OF EXISTING AND TEMPORARY MARKINGS, REFERENCING THE EDGES OF EXISTING PAVEMENTS AND THE BEGINNING AND ENDING OF NO PASSING CENTER LINES, AND ALL OTHER TRAFFIC CONTROL DEVICES, SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.



STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES		DISTRICT 8	
MAINTENANCE OF TRAFFIC			
BUTLER CO.		S.R. 4	
DESIGNED	DRAWN	TRACED	CHECKED
RLE			
REVIEWED	DATE	REVISED	