FHWA REGION	STATE	PROJECT	
5	OHIO	M-IJ96(1)	

M-IJ96(1)

1/15

SMOTHERS ROAD
FRA. CO. RD. Nº 20

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SMOTHERS ROAD
OVER BIG WALNUT CREEK
BLENDON TOWNSHIP
FRANKLIN COUNTY
BRIDGE Nº BL.20-2.73

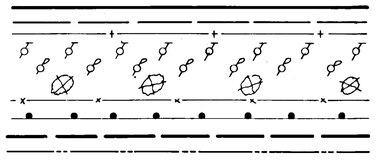
MICROFILMED
JUL 24 1984

DESIGN DESIGNATION

1980 ADT = 3,937
2000 ADT = 4,482
DHV = 583
DIR. DIST. = 65%
T = 3%
V = 40 MPH

CONVENTIONAL SIGNS

Proposed Right-of-Way
Existing Right-of-Way
Centerline Construction
Telephone Poles
Power Poles
Trees to be Removed
Fence Line
Guard Rail Proposed
Temporary Right-of-Way
County Line



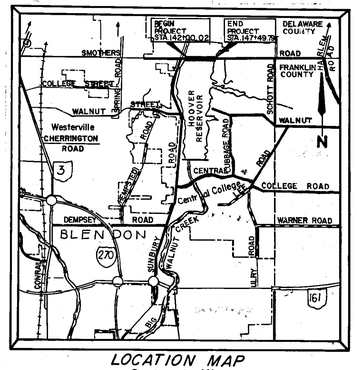
INDEX OF SHEETS

Title Sheet	1
Centerline Survey Schematic & Detour	2
Typical Sections	3
General Notes & Summary	4
Plan & Profile	5,6
Cross Section	7
Structure Details	8-15

LINE DATA

Begin Project Sta. 142+00.02
End Project Sta. 147+49.79
Net Length of Project = 549.77 Lin. Ft. or 0.104 Miles

Begin Work Sta. 135+05.5
End Work Sta. 165+18.54
Net Length of Work 3013.04 Lin. Ft. or .570 Miles



LOCATION MAP
Scale of Miles
0 1 2 3

Denotes Portion To Be Improved

Interstate
State Route
County Road
Township Road
Detour

SCALES

Plan 0 10' 20' 50'
Profile Horizontal 0 10' 20' 50'
Vertical 0 5' 10'
Cross Sect. Horizontal 0 5' 10'
Vertical 0 5' 10'

LATITUDE N 40° 07' 41"
LONGITUDE W 82° 52' 39"
GALENA QUADRANGLE, OHIO

1979 SPECIFICATIONS

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

The right-of-way for this improvement is provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway and that provisions for the maintainance and safety of the traffic will be as set forth on the plans and estimates.

We, the Commissioners of Franklin County in formal Session hereby approve these plans, and certify that the necessary Right Of Way is available for the construction, maintenance & repair of the highway.

Approved Edward Hunter
Date 4/19/79 Franklin County Deputy Engineer

Approved Peter E. McPherson
Date 4-19-79 Franklin County Engineer

Approved Gary W. Imhoff
Date 4-19-79 Franklin County Auditor

Michael J. Dorian
Approved
Date 4-19-79 Franklin County Commissioners

Approved G. A. OBINO
Date 4/25/79 District Deputy Director of Transportation

Approved Robert B. Pfeifer
Date 5/31/79 Engineer, Bureau of Bridges and Structural Design

Approved
Date ____ Chief Engineer, Planning and Design

Approved David L. Weir
Date 6-20-79 Director, Department of Transportation

Approved Melvin B. Dodge
Date 4-20-79 Director, Parks Div. City of Columbus

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

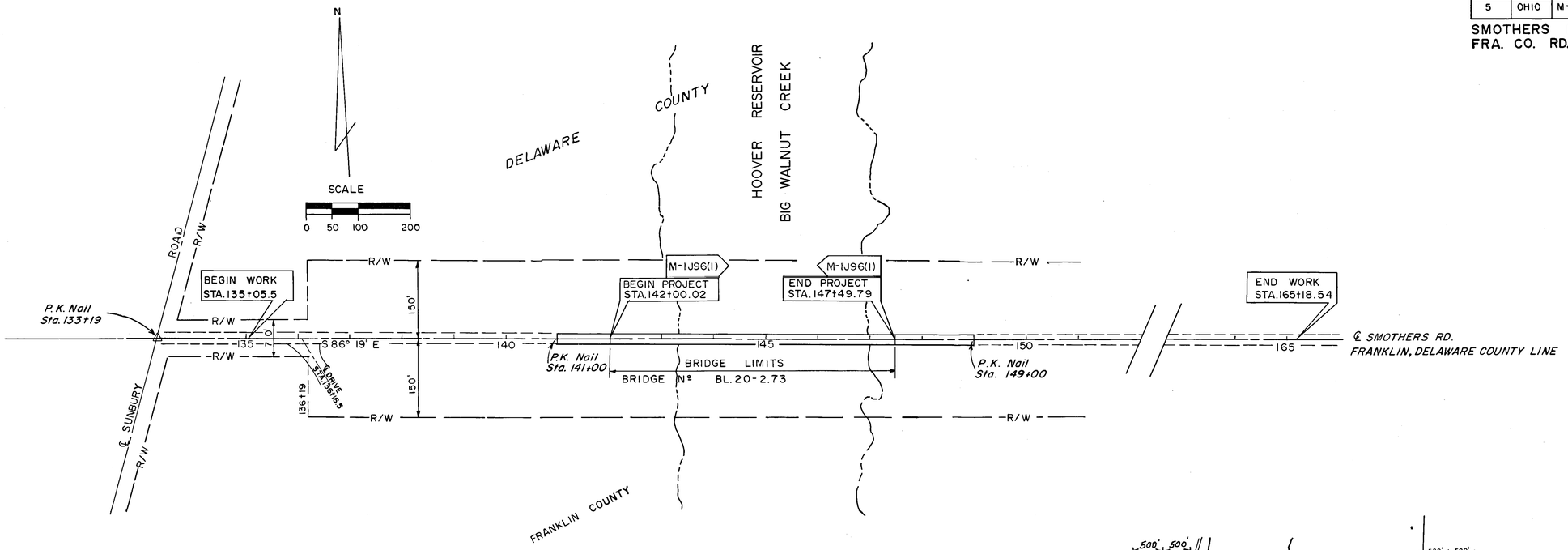
SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
BP-5	8-11-75		
GR-2B	12-6-76		
GR-4	12-6-76		
MC-3	6-1-73	1001	1-3-77
GR-1	12-6-76		
GR-3	12-6-76		
AS-1-72	6-30-72		
GR-4A	7-26-76		

FILE Nº	FRANKLIN COUNTY TWP. RD. 20
	DATE OF LETTING
	CONTRACT Nº

FHWA REGION	STATE	PROJECT	
5	OHIO	M-1J96(1)	

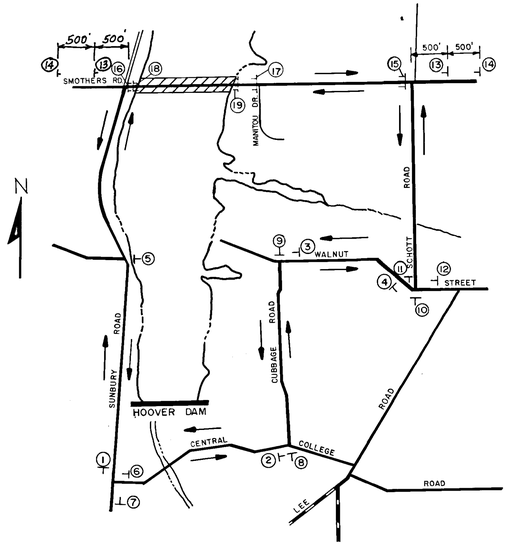
2
15

SMOTHERS ROAD
FRA. CO. RD. Nº 20



SIGN NUMBER	DESCRIPTION
1,2,3,4	30" x 24" OC-29L (SMOTHERS ROAD) Street name sign.
5,6,7,8,9,10,11	30" x 24" OC-29R " " " " "
12	30" x 24" M-40, D-14, OM-23, M-26
13	36" x 36" OW127 AND 24" x 24" OW143
14	36" x 36" OW120 AND 24" x 24" OW143
* 15	60" x 30" R-76B "BRIDGE OUT 1.1 MILES AHEAD, LOCAL TRAFFIC ONLY"
	AND 48" x 24" OC14L, MOUNTED ON TYPE III PORTABLE BARRICADE.
* 16	60" x 30" R-76B "BRIDGE OUT 0.2 MILES AHEAD, LOCAL TRAFFIC ONLY"
	AND 48" x 24" OC14R, MOUNTED ON TYPE III PORTABLE BARRICADE.
* 17	48" x 30" R-75 "ROAD CLOSED" MOUNTED ON TYPE III PORTABLE BARRICADE.
* 18, 19	TYPE III BARRICADES AND GATES, 48" x 30" R-75 "ROAD CLOSED".
	* TO BE PROVIDED BY CONTRACTOR, SEE GENERAL NOTES

DETOUR SIGNING



DETOUR PLAN

Rev 7-26-79

4420	010	DETOUR PLAN	2.73	1979	0020	060

DETOUR PLAN, SCHEMATIC ~ ℄ CONSTRUCTION

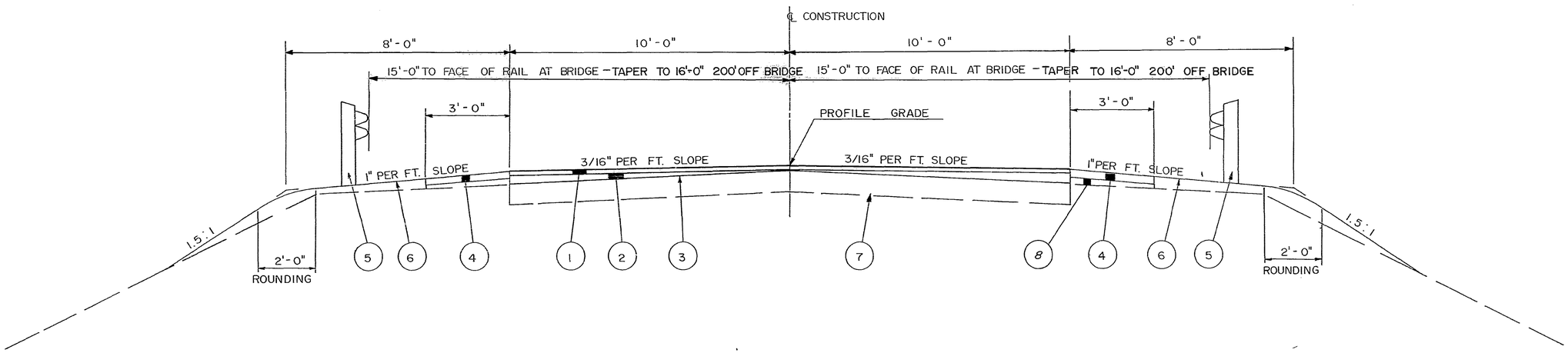
FHWA REGION	STATE	PROJECT	
5	OHIO	M-1J96(1)	

3
15

SMOTHERS ROAD
COUNTY ROAD Nº 20

TYPICAL SECTION

404



1. ITEM 404 ~ 1 1/4" ASPHALT CONCRETE, AC-20
2. ITEM 403 ~ 0" MIN. ASPHALT CONCRETE LEVELING COURSE, AC-20
3. ITEM 407 ~ TACK COAT: RC-250, MS-2, RS-1, SS-1, or SS-1h
4. ITEM 304 ~ 0" MINIMUM AGGREGATE BASE
5. ITEM 606 ~ GUARD RAIL, TYPE 5
6. ITEM 659 ~ SEEDING AND MULCHING
7. EXISTING PAVEMENT, 404 ON WATERBOUND MACADAM BASE
8. EXISTING BERM, SURFACE TREATED AGGREGATE BASE

GENERAL NOTES & GENERAL SUMMARY

QUANTITY CALCULATIONS
BY: MPM DATE: 8-1-78
CHECKED M.M. DATE: 8-2-78

FHWA REGION	STATE	PROJECT	
5	OHIO	M-IJ96(1)	

SMOTHERS ROAD
COUNTY ROAD Nº 20

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE

LEVELING

THE 403 (0" MIN.) LEVELING MATERIAL SHALL BE PLACED ON THE EXISTING PAVEMENT, WHERE NOTED ON THE PLANS, IN ORDER TO CORRECT ANY EXISTING LONGITUDINAL, CROWN OR GRADE DEFICIENCIES. AN ESTIMATED AMOUNT OF 27 CUBIC YARDS HAS BEEN CARRIED TO GENERAL SUMMARY.

ITEM 659 FERTILIZING AND SEEDING:

THE NUMBER OF SQUARE YARDS OF SEEDING SHALL BE DETERMINED BY FINAL MEASUREMENT. THE QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS 10 FEET OUTSIDE THE WORK LIMITS. SEED MIXTURE FOR THIS PROJECT SHALL BE THAT SPECIFIED FOR RURAL AREA IN SECTION 659.09,. FERTILIZER FOR SEEDING SHALL BE 18-46-0 COMMERCIAL GRADE, APPLIED AT THE RATE OF 15 LBS. PER 1000 SQ. FT. THE FOLLOWING ESTIMATED QUANTITIES HAS BEEN INCLUDED IN THE GENERAL SUMMARY:

ITEM 659 SEEDING AND MULCHING 631 SQ. YDS.
ITEM 659 COMMERCIAL FERTILIZER 0.06 TONS

ALL AREAS OUTSIDE THESE LIMITS WHERE VEGETATIVE GROWTH HAS BEEN INJURIOUSLY DISTURBED OR DESTROYED BY THE CONTRACTOR SHALL BE RESTORED AND SEEDED BY THE CONTRACTOR AT HIS OWN EXPENSE.

RIGHT-OF-WAY

ALL WORK ON THIS PROJECT IS WITHIN THE EXISTING RIGHT-OF-WAY AND NO ADDITIONAL AQUISITIONS WILL BE REQUIRED.

MAINTAINING TRAFFIC

NO WORK SHALL BE STARTED THAT WILL CLOSE THE BRIDGE UNLESS IT IS THE INTENT OF THE CONTRACTOR TO WORK FULL TIME WITH A FULL FORCE IN ORDER TO COMPLETE THE WORK WITH NO UNECESSARY DELAYS. FRANKLIN COUNTY AND THE STATE OF OHIO SHALL BE INFORMED SEVEN(7) DAYS BEFORE THE CLOSING OF THE BRIDGE.

IN ADDITION TO THE REQUIREMENTS OF ITEM 614 THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

1) PROVIDE, ERECT AND MAINTAIN STANDARD WING BARRICADES AND GATES AS PER STD. DRAWING MC-3 AT STATIONS 136+75 AND 164+75.
2) PROVIDE, ERECT AND MAINTAIN A PORTABLE TYPE III BARRICADE AT THE INTERSECTION OF SMOTHERS RD. AND SUNBURY RD. THIS BARRICADE SHALL HAVE MOUNTED ON IT A STANDARD R-76B, "BRIDGE OUT, 0.2 MILES AHEAD" SIGN AND A STANDARD OC-14R DETOUR SIGN.
3) PROVIDE, ERECT AND MAINTAIN A PORTABLE TYPE III BARRICADE AT THE INTERSECTION OF SMOTHERS RD. AND SCHOTT RD. THIS BARRICADE SHALL HAVE MOUNTED ON IT A STANDARD R-76B, "BRIDGE OUT, 1.1 MILES AHEAD" SIGN AND A STANDARD OC-14L DETOUR SIGN.
4) PROVIDE ERECT AND MAINTAIN A PORTABLE TYPE III BARRICADE AT THE INTERSECTION OF SMOTHERS RD. AND MANITOU DR. THIS BARRICADE SHALL HAVE MOUNTED ON IT A STANDARD R-75 "ROAD CLOSED" SIGN. ALL OTHER SIGNS, LIGHTS AND BARRICADES REQUIRED FOR THE DETOUR AND NOT LISTED ABOVE WILL BE PROVIDED, ERECTED AND MAINTAINED BY FRANKLIN COUNTY.

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING LIGHTS, SIGNS AND SIGN SUPPORTS SHOWN ON THESE PLANS AND CALLED FOR UNDER ITEM 614 SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, "MAINTAINING TRAFFIC".

CLOSING OF THE BRIDGE AND ROADWAY WILL NOT BE PERMITTED BETWEEN DEC. 1 AND MARCH 1.

If the Contractor's work schedule provides for only a portion of the bridge deck work to be completed before Dec. 1, then prior to opening the bridge to traffic for the period Dec. 1 thru March 1, he shall:
Waterproof and overlay the completed portion of the deck.
Provide an asphalt ramp between the existing and new deck pavement (1" in 10')
Provide an acceptable temporary connection between existing and new bridge railing. *Maintaining Traffic Note continued below.*

ITEM 623 CONSTRUCTION LAYOUT.

ENGINEERING AND INSPECTION WILL BE PERFORMED BY THE FRANKLIN COUNTY ENGINEERING DEPARTMENT.

ITEM 611 APPROACH SLAB

JACKING HOLES, AS SHOWN ON AS-1-72, SHALL BE OMITTED. THE REINFORCING IN THE TOP OF THE SLAB SHALL BE 3" CLEAR.

MAINTAINING TRAFFIC (CONTINUED FROM ABOVE)

BOAT TRAFFIC ON HOOVER RESERVOIR SHALL BE MAINTAINED AT ALL TIMES WITH A MINIMUM BOAT LANE WIDTH EQUAL TO 25% OF THE TOTAL BRIDGE SPANS AND 12 FOOT HEIGHT ABOVE THE WATER SURFACE. PERIODIC REMOVAL OF ANY FLOATING DEBRIS, RESULTING FROM THIS PROJECT, SHALL BE DONE BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
DANGER SIGNS, AS SHOWN, SHALL BE HUNG FROM EACH SIDE OF THE BRIDGE AT A HEIGHT OF EIGHT FEET FROM THE WATER SURFACE WHEN THE WATER LANE BELOW THE BRIDGE IS CLOSED. THE WATER LANE BENEATH THE BRIDGE WHICH IS TO BE CLOSED SHALL BE BARRICADED BY MEANS OF SUSPENDING BUOYS FROM THE BRIDGE. A DOZEN BUOYS CAN BE OBTAINED FROM THE DIVISION OF PARKS, MAINTAINANCE DEPARTMENT, 2933 RIVERSIDE DRIVE, WITH A $300.00 DEPOSIT TO COVER DAMAGE IF ANY IS SUSTAINED. THESE BUOYS ARE CURRENTLY WHITE PLASTIC FOAM AND IT WILL BE NECESSARY TO PAINT THEM ORANGE.
THE ABOVE SIGNS AND BUOYS SHALL BE REMOVED AT THE END OF EACH DAYS WORK.
COST OF THE ABOVE SHALL BE INCLUDED IN ITEM 614, "MAINTAINING TRAFFIC.

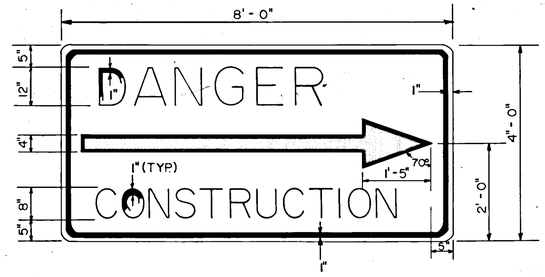
GUARD RAIL

THE EXISTING GUARD RAIL WILL BE REMOVED AND DISPOSED OF BY THE FRANKLIN COUNTY ENGINEERING DEPT. WHEN REQUESTED BY THE CONTRACTOR, (SEE PUBLIC SAFETY NOTES).

THE EXISTING GUARDRAIL SHALL BE REPLACED WITH TYPE 5 GUARDRAIL AND TYPE A ANCHOR ASSEMBLIES WITHIN THE STATIONS GIVEN ON SHEETS 5 & 6. THE NEW GUARDRAIL SHALL BE TAPERED FROM 30' FACE TO FACE AT THE BRIDGE TO 32' FACE TO FACE 200' OFF THE BRIDGE LIMITS, POSTS SHALL BE 6"x 8" SQUARE-SAWED PRESSURE TREATED WOOD.
THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT TO ASSURE THAT THE PLANNED INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

ESTIMATED QUANTITIES:
Specific location and usage of estimated quantities set up on this plan to be used as directed by the Engineer shall be made a matter of record by incorporation into the final change order governing completion of this project. Estimated quantities of materials shall not be ordered for delivery to the project unless authorized by the Engineer.

SHEET NUMBERS 5	6	7			ITEM Nº	QUANTITY TOTAL	UNIT	DESCRIPTION
								ROADWAY
2					606	2	EACH	ANCHOR ASSEMBLY, TYPE T
10	47				203	57	C.Y.	EMBANKMENT
1183	3450				606	4633	L.F.	GUARD RAIL, TYPE 5 Modified as per plan
2	2				606	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE B
2	2				606	4	EACH	ANCHOR ASSEMBLY, TYPE A
38	38				202	76	S.Y.	PAVEMENT REMOVED
								EROSION CONTROL
206	425				659	631	S.Y.	SEEDING AND MULCHING
0.02	0.04				659	0.06	TONS	COMMERCIAL FERTILIZER (18-46-0)
								PAVEMENT
4	11				304	15	C.Y.	AGGREGATE BASE
2	19				403	21	C.Y.	ASPHALT CONCRETE, AC-20
24	28				407	52	GALS.	TACK COAT, RC-250, MS-2, RS-1, SS-1, or SS-1h.
8	12				404	20	C.Y.	ASPHALT CONCRETE, AC-20
84	83				611	167	S.Y.	REINFORCED CONCRETE APPROACH SLAB (T=15")
								BRIDGE OVER 20' SPAN SEE SHEET Nº 8/13
					624	LUMP		MOBILIZATION
					619	LUMP		FIELD OFFICE
					614	LUMP		MAINTAINING TRAFFIC



BOAT TRAFFIC SIGN

BLACK LETTERS, ARROWS AND BORDER SHALL BE USED ON AN ORANGE BACKGROUND. ONE PAIR OF SIGNS WILL BE REQUIRED PER 100' FEET OF WATER LANE CLOSED. ARROWS SHALL POINT IN THE DIRECTION OF THE WATER LANE REMAINING OPEN.

MATERIALS AND DIMENSIONS NOT SHOWN SHALL CONFORM TO THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

UTILITIES

COLUMBUS & SOUTHERN OHIO ELECTRIC COMPANY
215 N. FRONT ST.
COLUMBUS, OHIO 43215
228-6411

PUBLIC SAFETY

GUARDRAIL SHALL BE IN PLACE AT ALL TIMES WHERE REQUIRED FOR PROTECTION OF AREAS USED BY THE TRAVELING PUBLIC. ANY GUARDRAIL REMOVED BY THE COUNTY WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR USING TYPE 5 GUARDRAIL. IF THE GUARDRAIL IS LEFT DOWN OVER NIGHT OR THE WEEK-END, THEN TYPE 2 BARRICADES WITH STEADY BURNING LIGHTS SHOULD BE MAINTAINED FOR THESE LOCATIONS AT 25 FOOT INTERVALS. THE ABOVE IS TO BE INCLUDED IN 614 MAINTAINING TRAFFIC. THE TIME THE BARRICADES ARE BEING USED IS TO BE HELD TO AN ABSOLUTE MINIMUM.

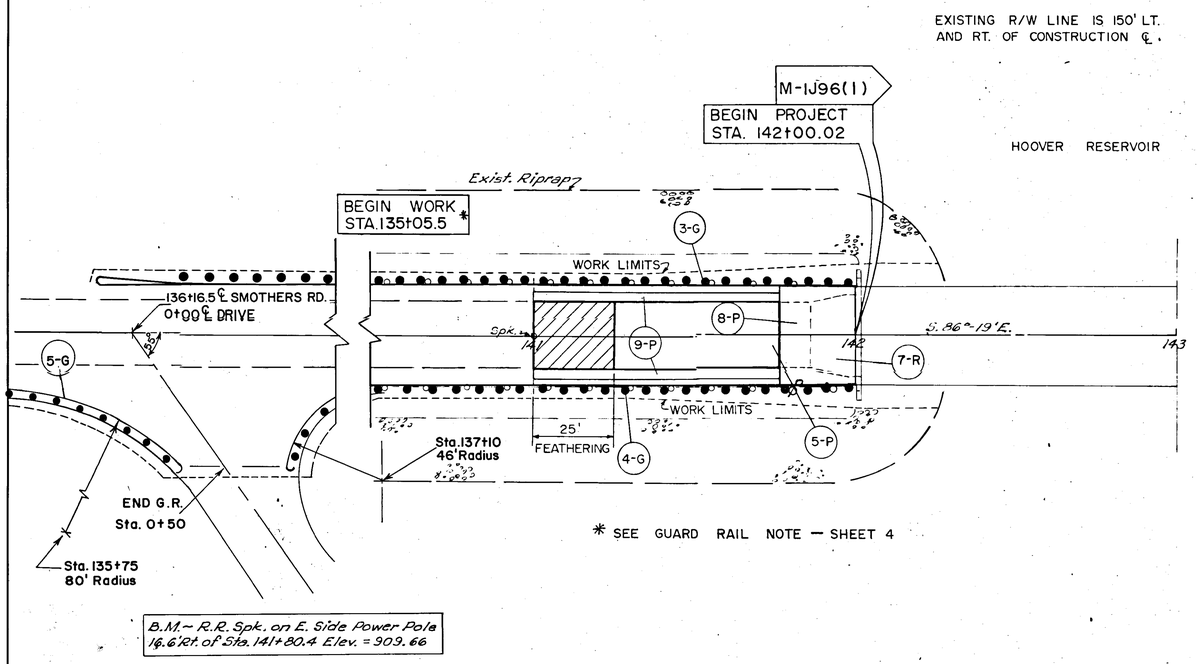
PLAN NOTE:
"THE CONTRACTOR SHALL MAKE EVERY REASONABLE EFFORT TO PREVENT DEBRIS FROM ENTERING THE STREAM DURING CONSTRUCTION OPERATIONS"

QUANTITY CALCULATIONS
BY MPM DATE 8-2-78
CHECKED MM DATE 4-2-79
FRANKLIN COUNTY ENGINEERING

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	M-IJ96(1)	

5 / 15

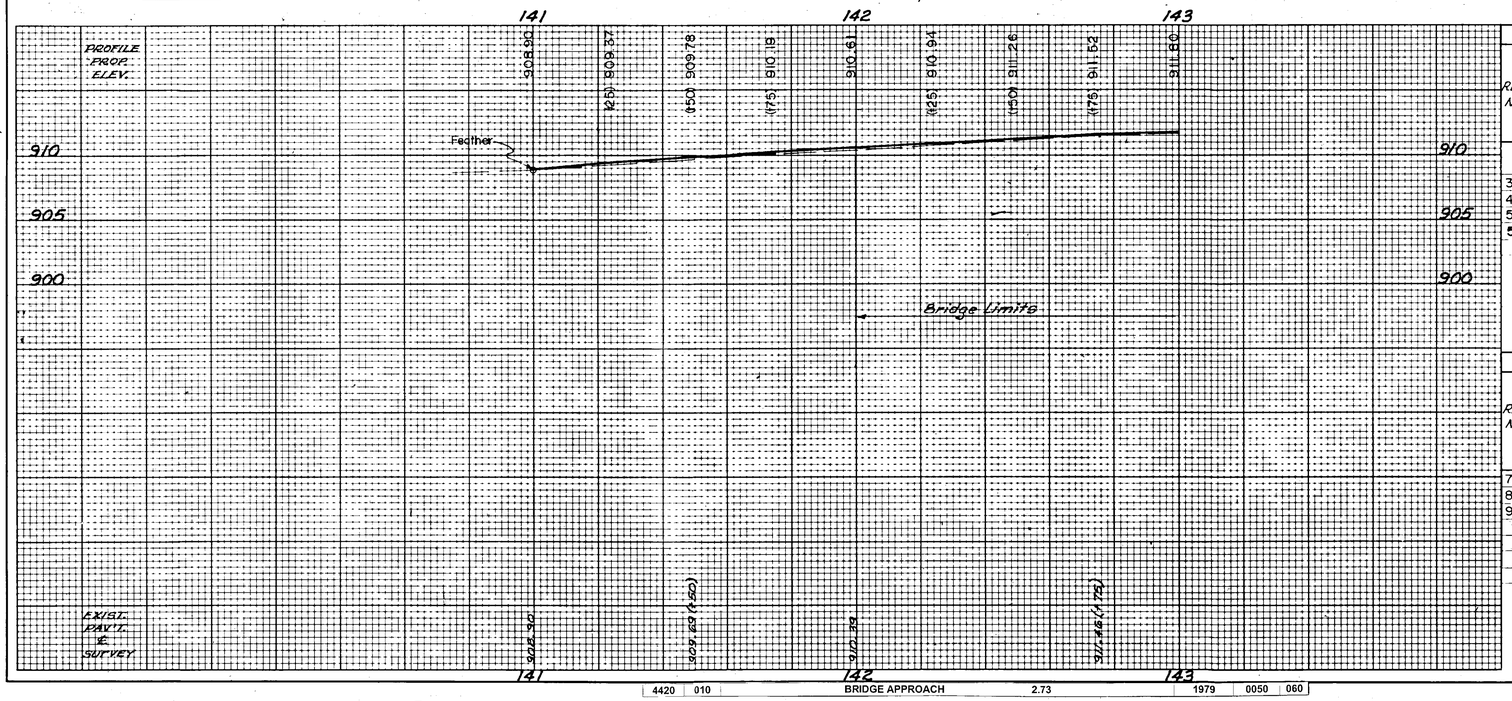
SMOTHERS ROAD
COUNTY ROAD Nº 20



B.M.~ R.R. Spk. on E. Side Power Pole
16.6' Rt. of Sta. 141+80.4 Elev. = 909.66

N.

SCALE: 1" = 20'



MISCELLANEOUS										
				606		404	403	407	606	606
REF. Nº	STATION FROM	STATION TO	SIDE	GUARD RAIL TYPE 5, Mod. as per plan.	BRIDGE TERM. ASSEMB. TYPE B	1¼" ASPHALT CONCRETE	0" MIN. PRE-LEVEL COURSE	TACK COAT	ANCHOR ASSEMB. TYPE A	ANCHOR ASSEMB. TYPE T
				LIN. FT.	EACH	CU. YDS.	CU. YDS.	GALS.	EACH	EACH
3-G	136+06.27	142+00.02	LT.	568.75	1				1	
4-G	136+71.52	142+00.02	RT.	506.0	1					1
5-P	141+00	142+00.02	L/R			8	2	24		
5-G	135+05.5*	136+32.5	RT.	108.5					1	1
TOTALS				1183.	2	8	2	24	2	2

MISCELLANEOUS										
				202	611	304	203	659		
REF. Nº	STATION FROM	STATION TO	SIDE	PAVEMENT REMOVED	15" APPR. SLAB	0" MIN. AGG. BASE	EMB.	SEED & MULCH.	FERTIL. (18-46-0)	
				SQ. YDS.	SQ. YDS.	CU. YDS.	CU. YDS.	SQ. YDS.	TONS	
7-R	141+84.75	141+99.75	L/R	38						
8-P	141+75.02	142+00.02	L/R		84					
9-P	141+00	141+75.02	L/R			4	10	206	0.02	
TOTALS				38	84	4	10	206	0.02	

4420	010	BRIDGE APPROACH	2.73	1979	0050	060

BRIDGE APPROACH ~ STA.135+05.5 to STA. 142+00.02

QUANTITY CALCULATIONS
BY MPM DATE 8-2-78
CHECKED MM DATE 4-2-79
FRANKLIN COUNTY ENGINEERING

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	M-IJ96(1)	

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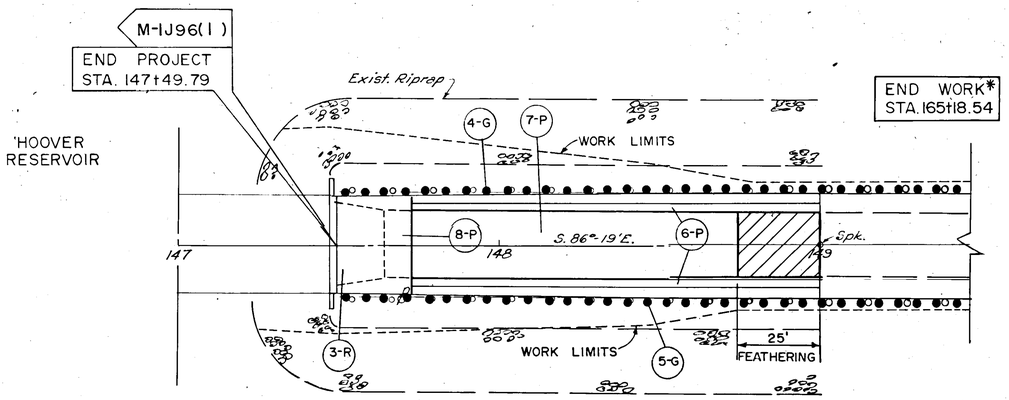
15

SMOTHERS ROAD
COUNTY ROAD Nº 20

EXISTING R/W LINE IS 150' LT. AND RT. OF CONSTRUCTION ℄.

N.

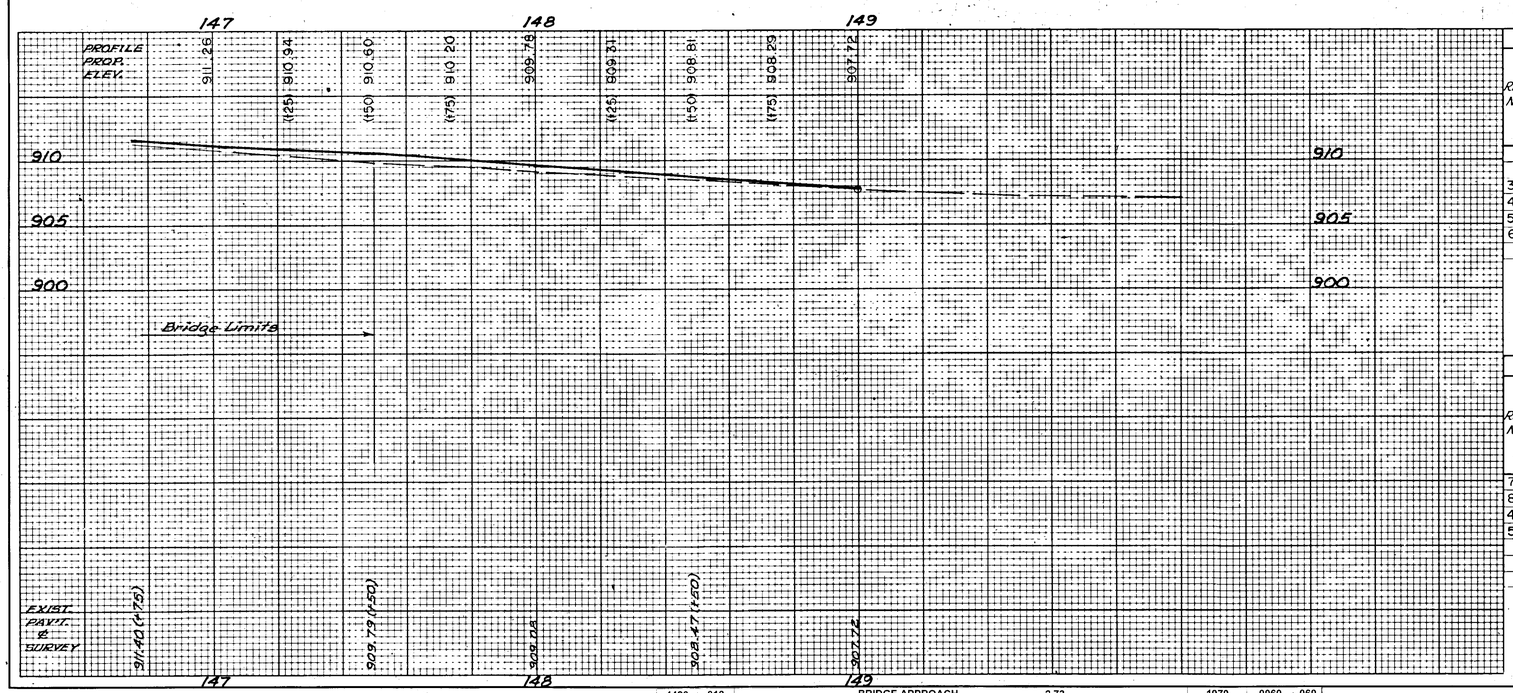


SCALE: 1" = 20'

B.M. Nº D-20 – Brass Plug top of end Bridge Railing Post, S.E. Corner. Elev. = 913.75

B.M. - Spk. on W. side Power Pole, 16' Rt. of Sta. 147+71.5 – Elev. = 909.19

*SEE GUARD RAIL NOTE — SHEET 4



MISCELLANEOUS

REF. Nº	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED	606 GUARD RAIL TYPE 5, Modified as per plan	606 BRIDGE TERM. ASSEMB. TYPE B	304 6" MIN. AGG. BASE	203 EMB.	659 SEED & MULCH.	659 FERTIL. (18-46-0)
				SQ. YDS.	LIN. FT.	EACH	CU. YDS.	CU. YDS.	SQ. YDS.	TONS
3-R	147+50.25	147+65.25	L/R	38						
4-G	147+49.79	164+81.04	LT.		1706.25	1				
5-G	147+49.79	165+18.54	RT.		1743.75	1				
6-P	147+74.98	149+00	L/R				11	47	425	0.04
TOTALS				38	3450.00	2	11	47	425	0.04

MISCELLANEOUS

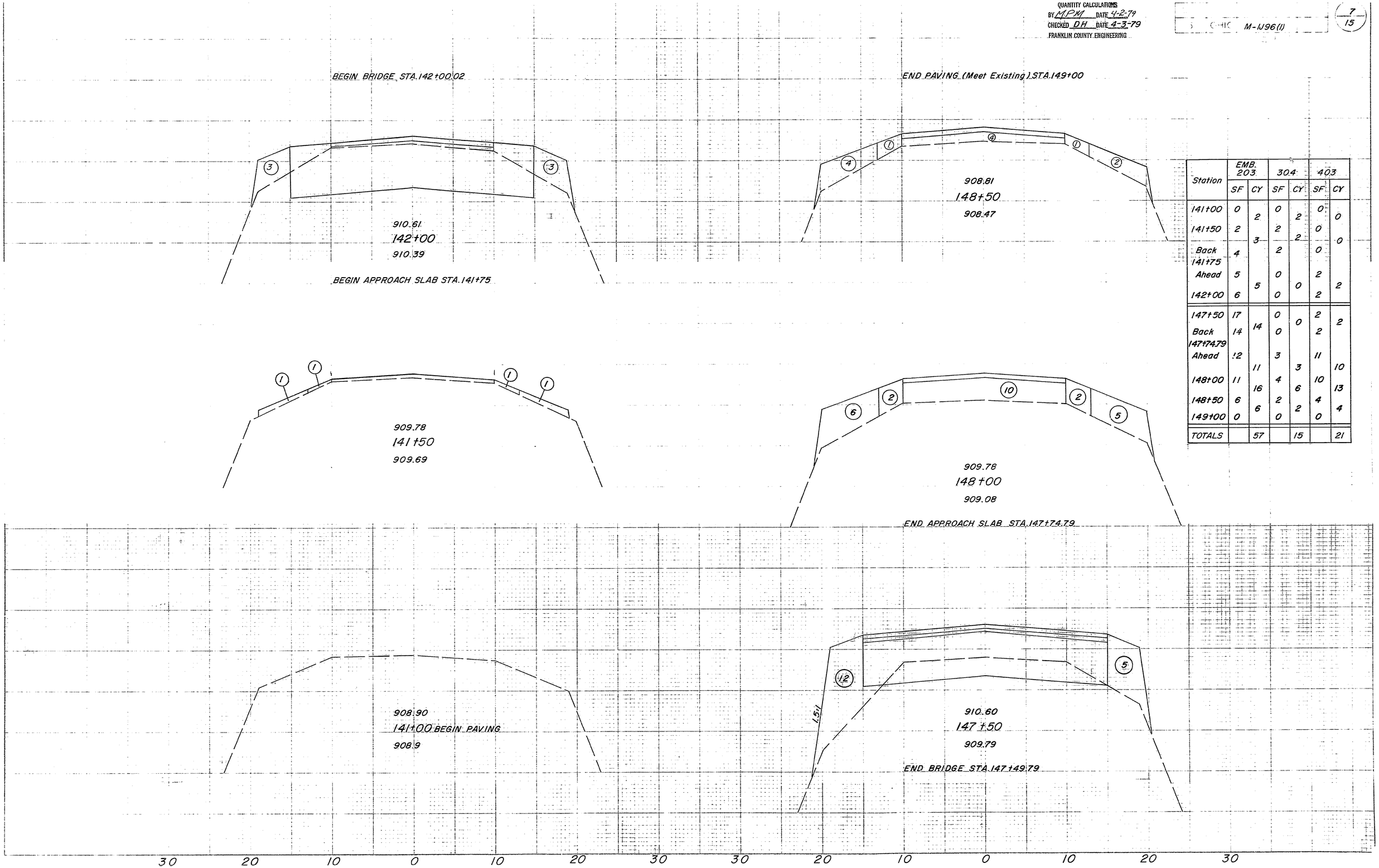
REF. Nº	STATION FROM	STATION TO	SIDE	404 1¼" ASPH. CONC.	403 0" MIN. PRE-LEVEL COURSE	407 BIT. TACK COAT		611 15" APPR. SLAB	606 ANCHOR ASSEMB. TYPE A		
				CU. YDS.	CU. YDS.	GALS.		SQ. YDS.	EACH		
7-P	147+49.17	149+00	L/R	12	19	28					
8-P	147+49.79	147+74.79	L/R					83			
4-G	147+49.79	164+81.04	LT						1		
5-G	147+49.79	165+18.54	RT.						1		
TOTALS				12	19	28		83	2		

4420	010	BRIDGE APPROACH	2.73	1979	0060 060

BRIDGE APPROACH ~ STA. 147+49.79 to STA. 165+18.54

QUANTITY CALCULATIONS
BY MPM DATE 4-2-79
CHECKED DH DATE 4-3-79
FRANKLIN COUNTY ENGINEERING

S OHIO M-IJ96(1)



Station	EMB. 203		30.4		40.3	
	SF	CY	SF	CY	SF	CY
141+00	0	2	0	2	0	0
141+50	2		2		0	
Back 141+75	4	3	2	2	0	0
Ahead	5	5	0	0	2	2
142+00	6		0		2	
147+50	17	14	0	0	2	2
Back 147+74.79	14		0		2	
Ahead	12	11	3	3	11	10
148+00	11	16	4	6	10	13
148+50	6	6	2	2	4	4
149+00	0		0		0	
TOTALS		57		15		21

M 4420 010 141+00 TO 148+50 X-SEC 0273 1979 0070 060

BENCHMARK: Franklin County D-20
S.E. corner of Bridge Elev. 913.753

EXISTING STRUCTURE	PROPOSED STRUCTURE
TYPE: Continuous steel girder with reinforced concrete deck and substructure	TYPE: New composite reinforced concrete deck on existing continuous steel girders
SPANS: 73', 100', 100', 100', 100', 73' c/c bearings	SPANS: 72'-8 3/4", 100', 100', 100', 100', 72'-6 1/2"
ROADWAY: 24'-0" c/c of 1'-6" safety curbs	ROADWAY: 30'-0" c/c guard rail
LOAD FREQUENCY RATING: CF=130 (approx. 5-15-46)	DESIGN LOADING: HS 20-44 Case II & the Alt. Military Loading
SKEW: None	SKEW: None
ALIGNMENT: Tangent	ALIGNMENT: Tangent
SURFACE COURSE: Bituminous	WEARING SURFACE: 2 1/2" Asphalt Concrete
APPROACH SLAB: As shown	APPROACH SLAB: AS-1-72 (25' long)
DATE BUILT: 1954	

NOTE:
⊗ Approximate stations due to the tilting of the existing abutments

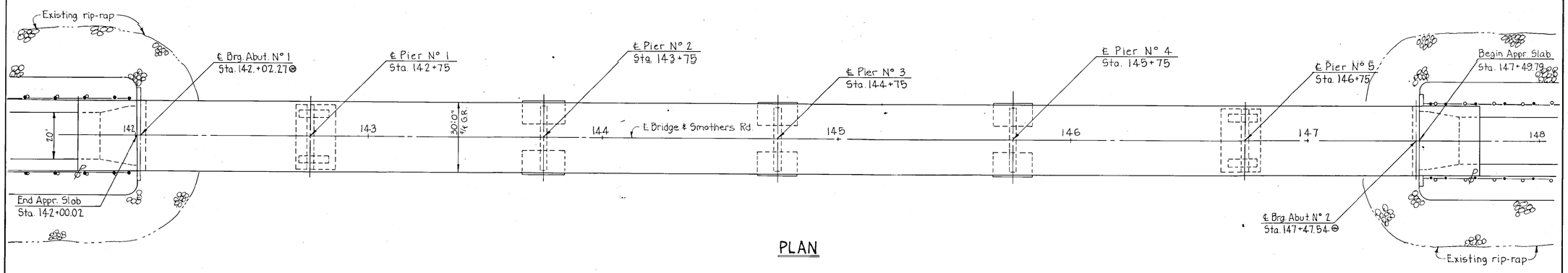
Traffic Data:
1980 ADT = 3,937 ADTT = 118
2000 ADT = 4,482 ADTT = 135

FHWA REGION	STATE	PROJECT	
5	OHIO	M-1J96 (1)	

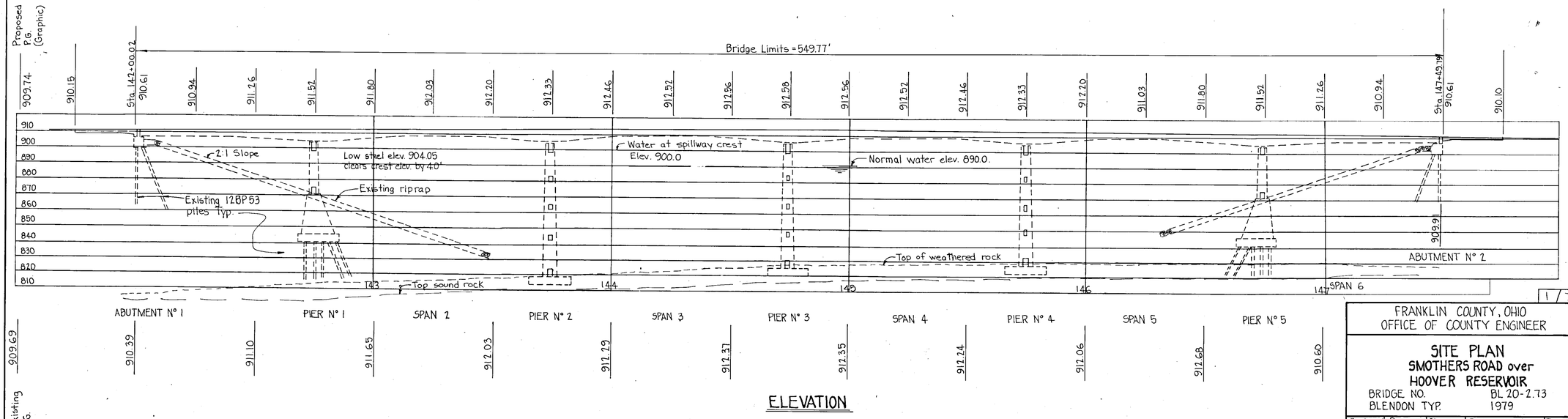
8/15

SMOTHERS ROAD
FRANKLIN COUNTY ROAD N° 20

Drainage Area = 187 sq. miles



PLAN



ELEVATION

1/7

FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

SITE PLAN
SMOTHERS ROAD over
HOOVER RESERVOIR
BRIDGE NO. BL 20-2.73
BLENDON TYP. 1979

Designed	Drawn	Checked	Reviewed	Date	Revised
M.P.M.	RO	M.M.	DLH	12/6/78	

4420 010 SITE PLAN 2.73 1979 0080 060

FHWA REGION	STATE	PROJECT	
5	OHIO	M-1396 (1)	

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SMOTHERS ROAD
FRANKLIN COUNTY ROAD N° 20

GENERAL NOTES

PLANS OF EXISTING BRIDGE will be available at Franklin County Engineering Dept., 970 Dublin Rd. Columbus, Ohio 43215

DESIGN SPECIFICATIONS: New portions of this structure conform to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1977 & the Ohio "Supplement" to these Specifications.

DESIGN DATA:

Design Loading: - HS20-44, Case I & the Alternate Military Loading.
Concrete Class S: Unit Stress 1200 p.s.i. for superstructure; 1333 p.s.i for substructure.
Deck Protective Method: Membrane waterproofing and asphalt concrete overlay.
Structural Steel: ASTM A36 - unit stress 20,000 p.s.i.
Reinforcing Steel: ASTM A615, A616 or A617 - unit stress 20,000 p.s.i.

PROPOSED WORK: shall include; Removing and replacing the reinforced concrete deck, backwalls, guardrails and the approach slabs. Installing shim plates under the abutment bearings. Adding new structural steel members, shear connectors, moment plates, end dams etc. Cleaning existing and painting all structural members.

ITEM 202 - PORTIONS OF SUPERSTRUCTURE REMOVED: The removal of the superstructure concrete shall be performed carefully so as not to damage the structural steel or the substructure. Any damaged steel or concrete that is to remain in place shall be replaced at the expense of the contractor. The Engineer shall have the final decision as to what constitutes damaged material that requires replacement. The superstructure materials removed, including all of steel railing, all of the concrete railing posts, approach slab, concrete curbs, steel expansion joint assemblies, and reinforcing steel bars, shall be removed from the site. No debris will be permitted to fall into the water.

ITEM 202 - PORTIONS OF SUBSTRUCTURE REMOVED: All existing concrete above the construction joint shall be carefully removed. The construction joint shall be saw cut 1" deep. The removal of the concrete shall be done in a manner which will retain the existing reinforcing steel as shown on the plans.

ITEM 511 - CURING CONCRETE: In lieu of the provisions of 511.14, the contractor may elect to cure the deck concrete by applying the waterproofing prime coat 512.04 immediately after the deck concrete has been placed.

ITEM 513 - RAISING, SUPPORTING AND LOWERING GIRDERS: This item includes placing the girders at the proper elevation. The necessity and the amount of jacking will be determined by the Engineer after the existing deck is removed and the top of girder elevations surveyed. This item shall also include straightening the bearings as required.

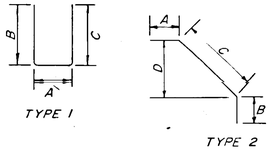
ITEM 517 - Bridge Railing: Shall include the lengths of TS 8x4x.1875 tubing from the bridge limits to 4" beyond the first post at the ends of the bridge and 6" long sections of TS 8x4x.1875 tubing used as a block out for this post.

ITEM 519 - PATCHING CONCRETE: A quantity of 50 sq.yds. has been set up to patch the portions of the existing abutments. Exact locations and dimensions shall be determined by the Engineer.

⊛ Approximate estimate; see sheet 4/7 for concrete deck note.

REINFORCING STEEL LIST
ABUTMENTS

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D
A501	24	5'-3"	131	ST.				
A502	8	6'-0"	50	1	4'-7"	1'-7"	0'-0"	
A503	36	20'-7"	773	ST.				
A601	60	7'-1"	638	1	0'-11"	3'-3"	3'-3"	
A602	60	7'-7"	683	1	1'-5"	3'-3"	3'-3"	
A603	24	5'-1"	183	ST.				
D801	44	5'-1'	598	2	1'-6"	0'-9"	3'-0"	2'-2"
Total			3055					



TYPE 1 TYPE 2

SUPERSTRUCTURE

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C
S501	836	30'-0"	26,158	ST.			
S601	900	30'-0"	40,554	ST.			
S602	2186	29'-8"	97,407	ST.			
S603	630	22'-11"	21,685	ST.			
S604	2186	10'-2"	33,381	1	1'-0"	3'-8"	5'-10"
Total			219,185				

REINFORCING STEEL SAMPLES: Refer to CMS Sections 106.05, 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 structures by additional steel, spliced in accordance with 509.08.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abut. 1	Abut. 2	Super.	General	As Built	
202	Lump	Sum	Portions of superstructure removed			Lump			
202	22	Cu.yd.	Portions of abutments removed	11	11				
403	63	Cu.yd.	Asphalt Concrete (AC-20)			63			
404	63	Cu.yd.	Asphalt Concrete (AC-20)			63			
509	222,240	Lb.	Reinforcing Steel	1527	1528	219,185			
511	600⊛	Cu.yd.	Class S concrete Superstructure			600⊛			
511	26	Cu.yd.	Class C concrete Abutments	13	13				
512	2010	Sq.yd.	Type D Waterproofing	13	13	1984			
513	Lump	Sum	Raising, supporting and lowering girders			Lump			
513	41,700	Lb.	Structural Steel	88	2093	39,519			
513	2048	Each	Welded Stud Shear Connectors			2048			
514	41,700	Lb.	Field painting of new structural steel, System B	88	2093	39,519			
517	1099.54	Lin.ft.	Railing Deep Beam rail with steel tubular back-up and steel posts and bolts			1099.54			
518	24	Cu.yd.	Porous Backfill	12	12				
518	84	Lin.ft.	6" Perforated Helical C.S.P. 707.01	42	42				
518	20	Lin.ft.	6" Non-perforated Helical C.S.P., including specials, 707.01	10	10				
519	50	Sq.ft.	Patching concrete structure				50		
514	Lump	Sum	Field painting of existing steel - surface preparation			LUMP			
514	Lump	Sum	Field painting of existing steel - spot prime			LUMP			
514	Lump	Sum	Field painting of existing steel - complete coat prime			LUMP			
514	Lump	Sum	Field painting of existing steel - complete coat finish			LUMP			

Quantities caculated by MPM 9-11-78
checked by MM 11-6-78

2/7

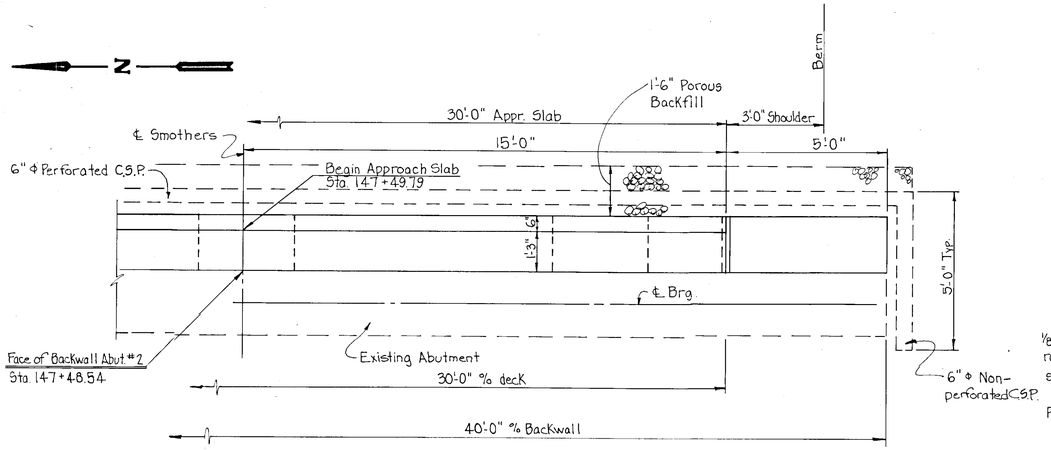
FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

GENERAL NOTES & QUANTITIES & REINFORCING STEEL LIST
SMOTHERS ROAD over HOOVER RESEVOIR
BRIDGE NO. BL. 20-2.73
BLENDON TWP. 1979

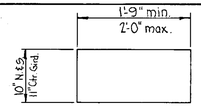
Designed	Drawn	Checked	Reviewed	Date	Revised
M.P.M.	R.A.C.	M.M.	DLH	12/6/78	

F.H.W.A. REGION	STATE	PROJECT		10
5	OHIO	M-1J96 (1)		15

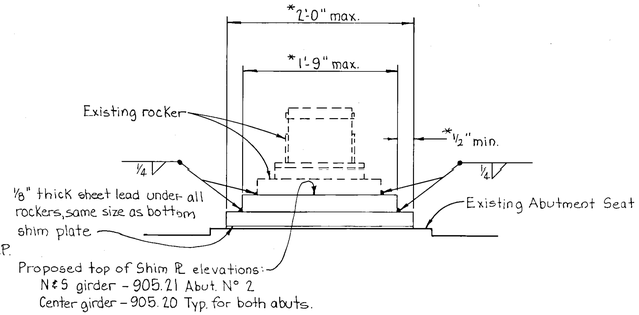
SMOTHERS ROAD
FRANKLIN COUNTY ROAD N° 20



PLAN



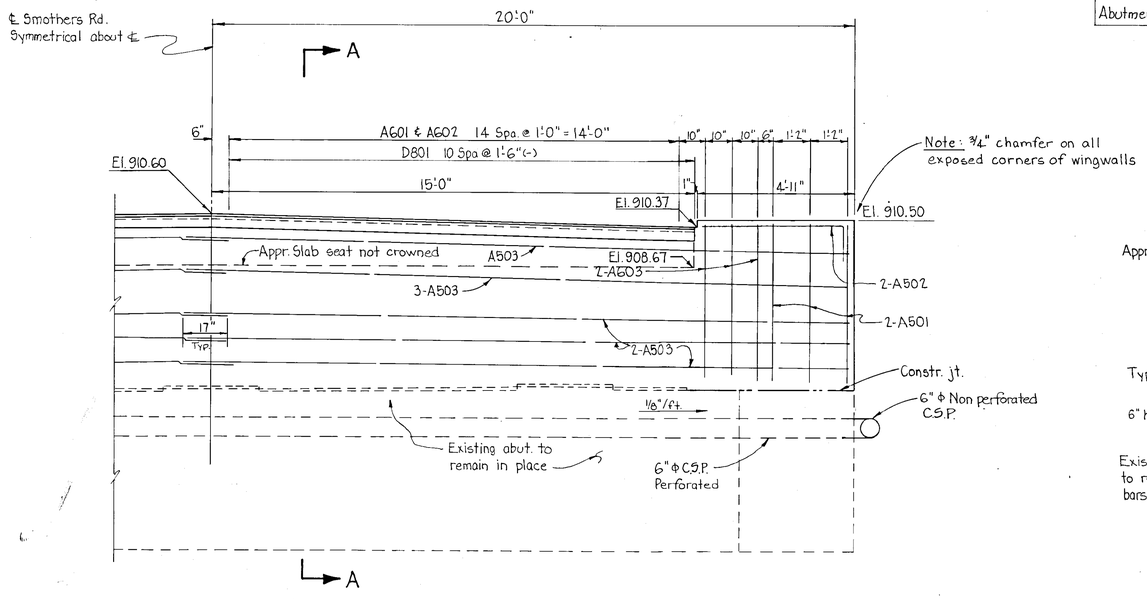
PLAN VIEW OF SHIM PLATES



BEARING DETAILS

	SHIM PLATE THICKNESS REQ'D.*		
	Beam		
	North	Center	South
Abutment N° 1	None	1"	None
Abutment N° 2	9⅝"	10⅜"	9"

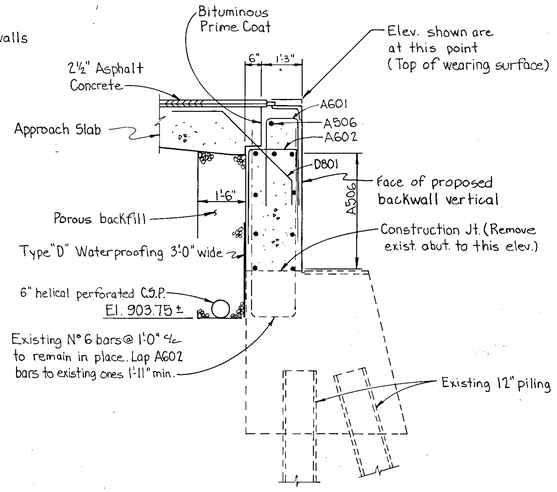
SHIM PLATES



Note: ¾" chamfer on all exposed corners of wingwalls

HALF SECTION OF ABUTMENT N° 2

Typical for both abutment



SECTION A-A

NOTES:

POROUS BACKFILL, 1'-6" thick, shall extend up to the plane of the subgrade and laterally to the limits shown on the abutment plan view.

BACKWALL CONCRETE: In addition to the provisions of 511.08 and 511.10, backwall concrete shall not be placed until after the deck concrete in the span adjacent to the abutment has been placed.

*SHIM PLATE: The shim ℞ thickness shown is for bidding purposes only. The actual thickness required will be determined by field elevations obtained after the existing deck is removed. The size of the ℞ shall meet the dimensional requirements shown on the plan. Payment is included with Item 513.

6" ϕ C.S.P. shall be outlet into riprap on existing slopes. Payment shall include all materials, labor, excavation, backfill and replacement of the existing riprap to its original contours.

END CROSSFRAME ANGLES shall be disconnected before placing the shim plates. After placement of the shim plates these angles shall be rewelded. Payment shall be included in Item 513.

EXISTING NO. 6 BARS which are shown to remain in place shall be replaced by the contractor at his expense if damaged during removal of the existing backwalls. Replacement No. 6 bars shall be 5'-0" long and shall be doweled into the abutments a minimum of 1'-6".

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FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

ABUTMENT DETAILS
SMOTHERS ROAD over HOOVER RESERVOIR

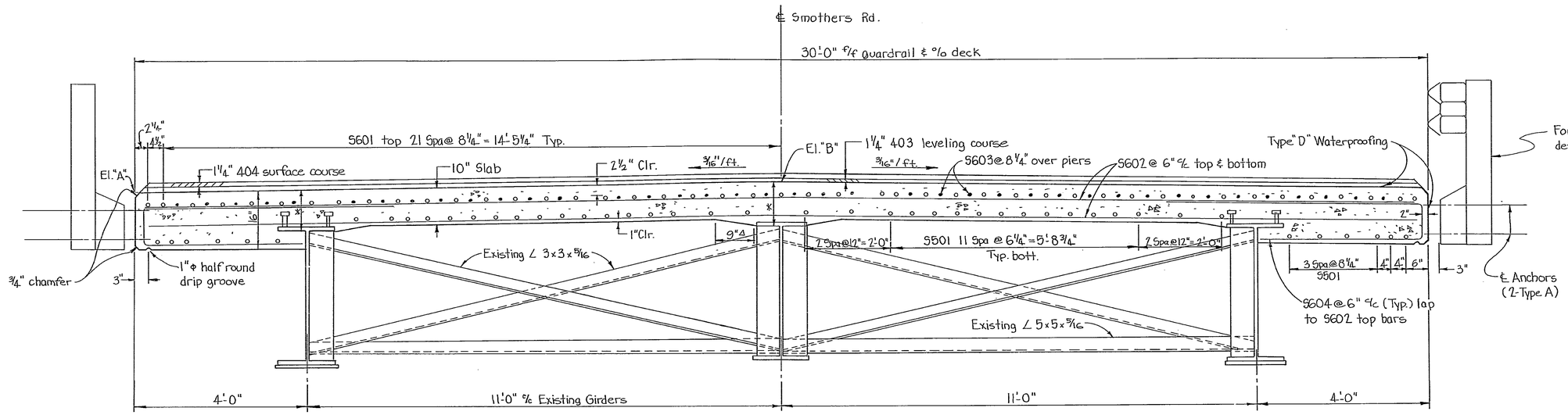
BRIDGE NO. BL 20-2.73
BLENDON TWP. 1979

Designed	Drawn	Checked	Reviewed	Date	Revised
MPM	RO	MM	DLH	12/6/78	

FHWA REGION	STATE	PROJECT	
5	OHIO	M-1J96 (1)	

11/15

SMOTHERS ROAD
FRANKLIN COUNTY ROAD N° 20



TRANSVERSE SECTION

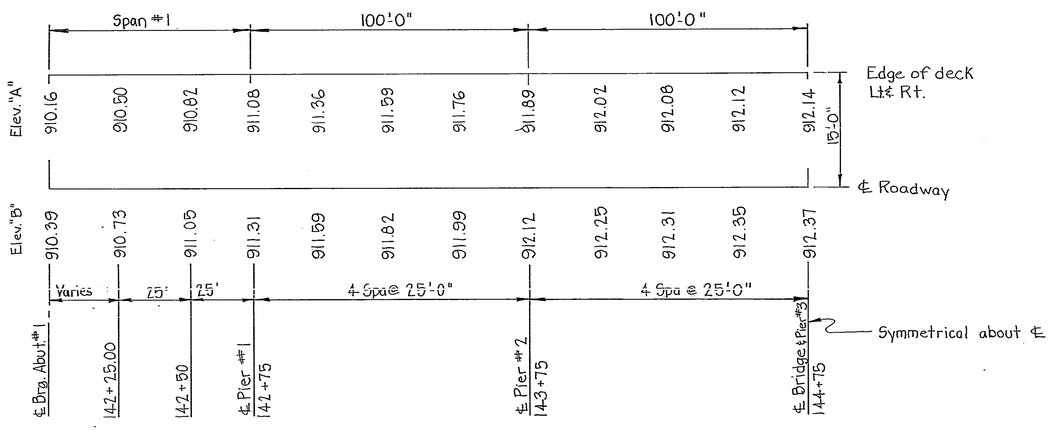
NOTES:

Δ A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" & 12" (provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

* This is a variable dimension. The quantity of the deck concrete to be paid for shall be based upon the actual dimensions determined after the deck has been surveyed (See Deck Screed Note).

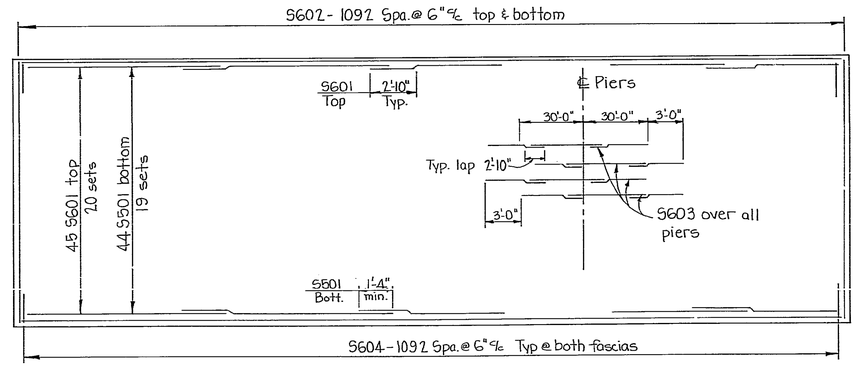
For additional superstructure details see Sheets 5,6 & 7/7

DECK CONSTRUCTION PROCEDURE:
The roadway slab shall be placed in sections between keyed construction joints in the numerical order and in the direction indicated in the diagram. This construction procedure may start at either end of the bridge.

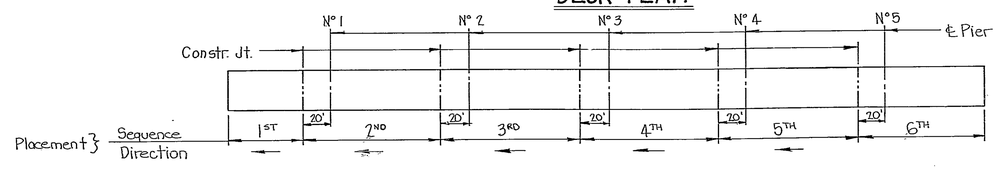


DECK SCREED ELEVATIONS

The elevations given are the design elevations at the top of the concrete deck after the concrete has been placed. The thickness of the deck will be determined by the Engineer after the existing deck has been removed and the top of beam elevations surveyed.



DECK PLAN



DECK CONSTRUCTION DIAGRAM

(See Note)

4/7

FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

SUPERSTRUCTURE DETAILS
SMOTHERS ROAD over
HOOVER RESERVOIR

BRIDGE NO. BL.20-2.73
BLENDON TWP. 1979

Designed	Drawn	Checked	Reviewed	Date	Revised
MPM	RO	MM	DLH	1/3/6/78	

4420 010 SUPERSTRUCTURE DETAILS 0273 1979 0110 060

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	M-1J96(1)	

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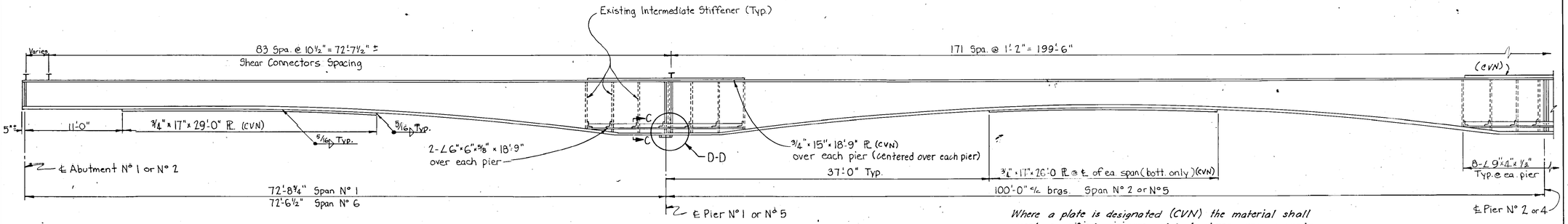
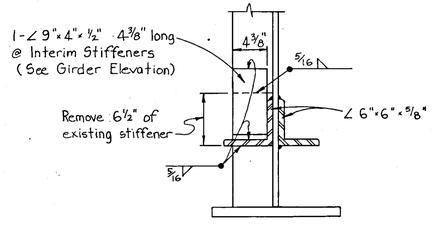
SMOTHERS ROAD
FRANKLIN COUNTY RD. N° 20

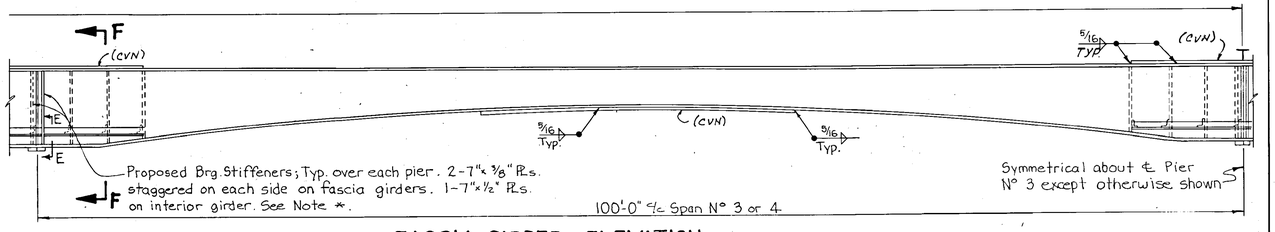


Where a plate is designated (CVN) the material shall meet specified minimum notch toughness requirements.



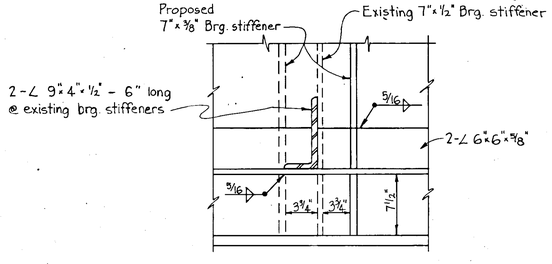
SECTION C-C

@ Intermediate Stiffeners

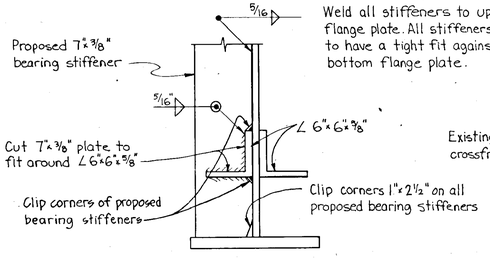


FASCIA GIRDER ELEVATION

(See NOTE *)

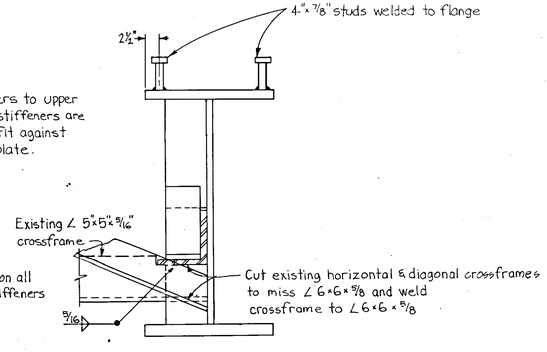


DETAIL D-D



SECTION E-E

@ Bearing Stiffeners



SECTION F-F

Stud Welding shall be as per AWS D 1.1-75, Section 4, Part F.

NOTE *: All proposed work shown on this sheet pertains to fascia girders only, except for the 7"×½" bearing stiffeners over the piers. This is the only steel work to be done to the interior girder.

FIELD WELDS: shall be tested as per 513

For details of existing Girder see sheet 15/15.

5 / 7

FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

GIRDER DETAIL
SMOTHERS ROAD over
HOOVER RESERVOIR

BRIDGE NO. BL 20-2.73
BLENDON TWP. 1978

Designed	Drawn	Checked	Reviewed	Date	Revised
MPM	RO	MM	DLH	12/6/78	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO	M-1J96 (1)	

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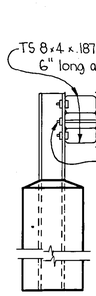
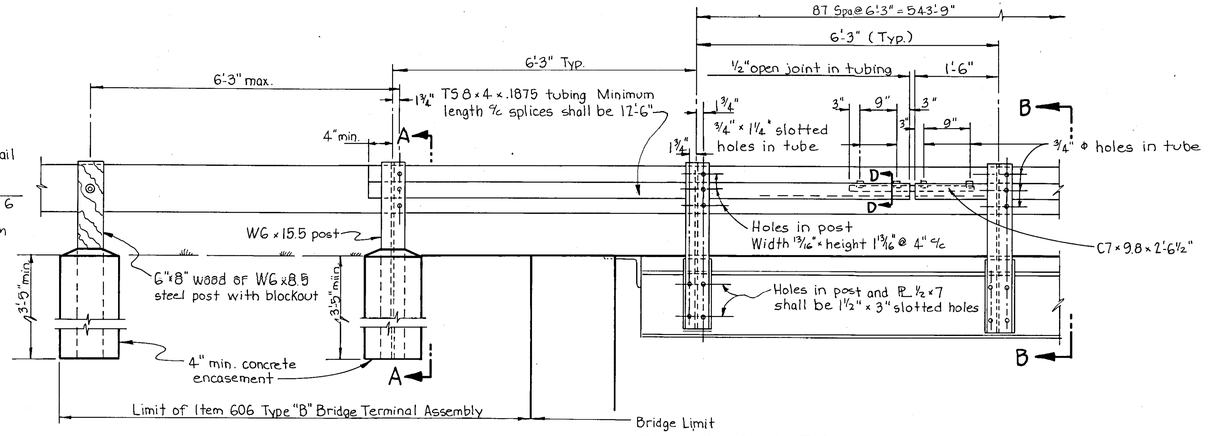
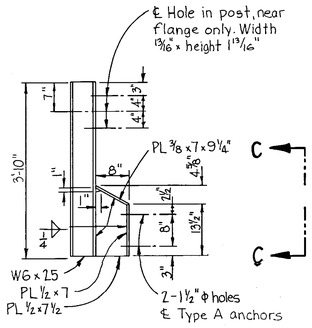
SMOTHERS ROAD
FRANKLIN COUNTY ROAD N° 20



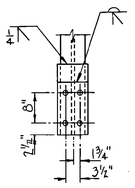
SECTION A-A



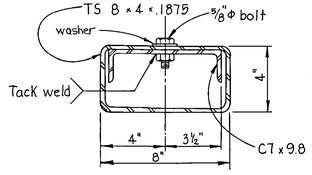
RAILING ELEVATION



SECTION B-B

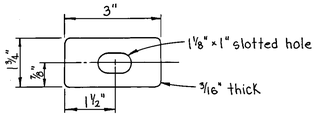


VIEW C-C

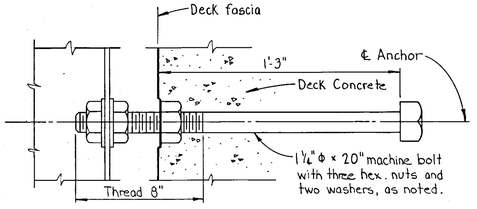


SECTION D-D

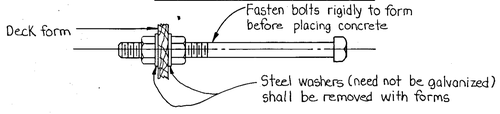
Place washer between bolt head and face of rail.



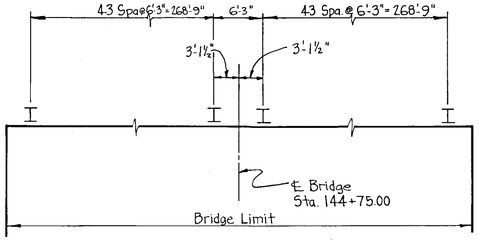
SPECIAL WASHER



TYPE A ANCHOR DETAIL



TYPE A ANCHORS SUPPORTED BY FORMS



RAIL POST SPACING

Typ. both sides

MATERIAL: All anchor bolts, nuts, and studs shall conform to the physical properties of ASTM A325 except that the minimum elongation shall be 10%. The chemical properties are waived.

GALVANIZING: All guard rail posts, tubes, hardware, and accessories shall be galvanized in accordance with ASTM A123 or ASTM A153.

FABRICATION PLANS for railing shall meet Franklin County microfilm specifications dated September 1973 and must be approved by Franklin County Engineering Department prior to any fabrication.

6/7

FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

SUPERSTRUCTURE & RAILING DETAILS
SMOTHERS ROAD over
HOOVER RESERVOIR

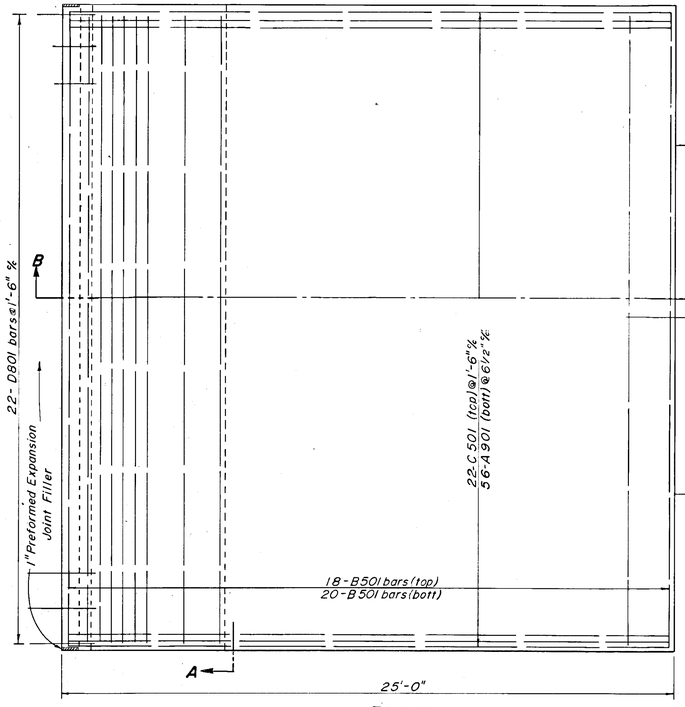
BRIDGE NO. BL 20-2.73
BLENDON TYP. 1979

Designed	Drawn	Checked	Reviewed	Date	Revised
Std.	RO	M.P.M.	DLH	12/6/78	

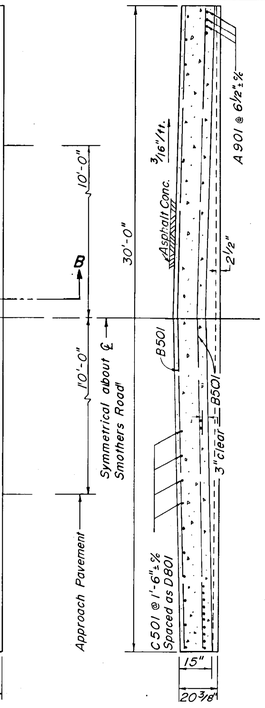
FHWA REGION	STATE	PROJECT	
5	OHIO	M-1J96 (1)	

14 / 15

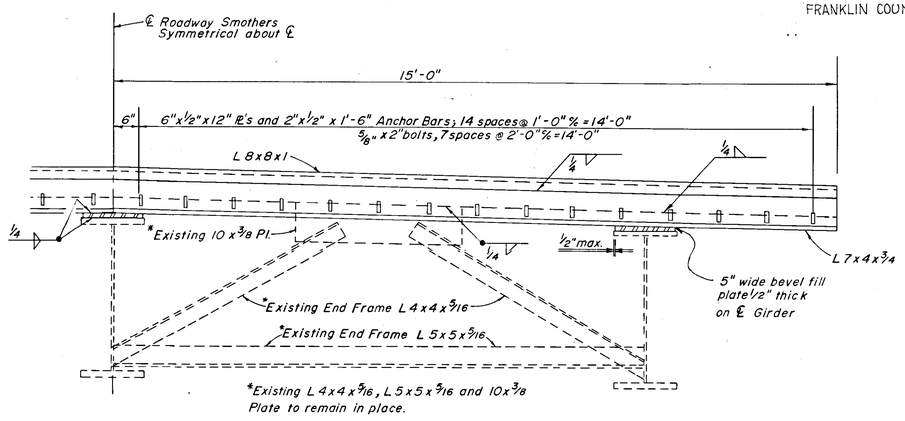
SMOTHERS ROAD
FRANKLIN COUNTY ROAD N° 20



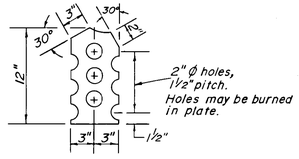
PLAN



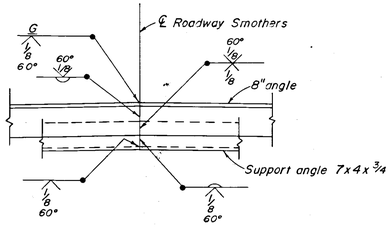
SECTION A-A



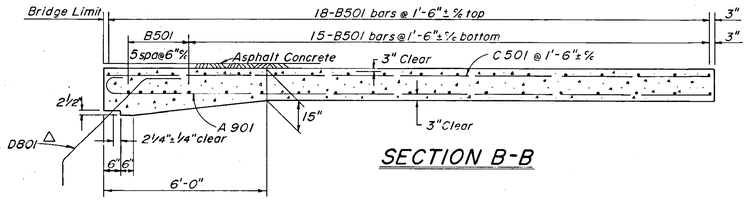
HALF SECTION OF END CROSSFRAME



DETAIL 6"x½"x12" PLATE



WELDED BUTT JOINT IN SUPERSTRUCTURE END DAM



SECTION B-B

Reinforcing Steel for one Approach Slab		
Mark	N°	Length
A901	56	25'-9"
B501	38	29'-6"
C501	22	24'-6"

GENERAL NOTES

DESIGN SPECIFICATIONS: This drawing conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1977, including the Ohio "Supplement" to these specifications.

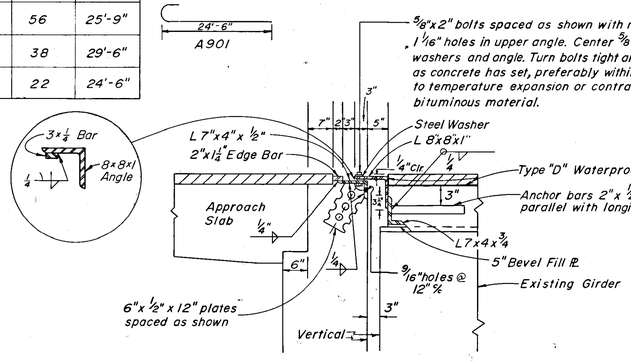
DESIGN DATA

Design Loading: HS20-44 and the Alternate Military Loading
Concrete Class C: Unit stress 1,333 p.s.i.
Reinforcing Steel: ASTM A615, A616 or A617, unit stress 20,000 p.s.i.

PREFORMED EXPANSION JOINT FILLER at the corners and sides of the approach slab shall be included in the price bid per sq.yd. for the approach slab.

△ Included with Item 509 under Abutments for payment.
For additional details see Abutment Plans Sheet 3 / 7

APPROACH SLAB DETAIL



END DAM DETAIL

⅝"x2" bolts spaced as shown with nuts tack welded to under side of lower angle.
1 1/16" holes in upper angle. Center ⅝" bolt in 1 1/16" holes. Apply flake graphite between washers and angle. Turn bolts tight and release one-half turn. Remove bolts as soon as concrete has set, preferably within two hours after placing, to avoid damage due to temperature expansion or contraction of superstructure. Fill holes with bituminous material.

NOTE

END DAM INSTALLATION: Existing bevel fill plates and angles above top of girder to be removed by field cutting existing welds at top of flange and around 10x⅜ plate. New bevel fill plates, L 8x8x1 angle and L 7x4x¾ angle shall be welded in place after sandblast cleaning the girders. Payment for removal of portions of the existing end dam shall be included in Item 202, superstructure removed.

7 / 7

FRANKLIN COUNTY, OHIO
OFFICE OF COUNTY ENGINEER

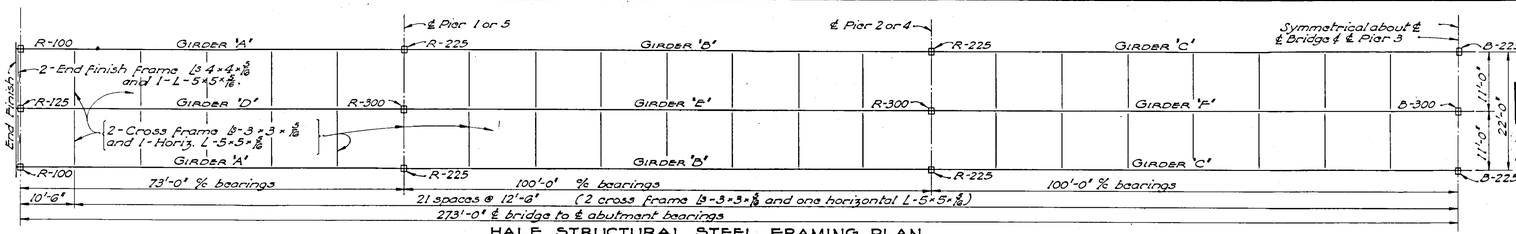
REINFORCED CONCRETE APPROACH SLAB
SMOTHERS ROAD over HOOVER RESERVOIR

BRIDGE NO. BL. 20-2.73
BLENDON TWP. 1979

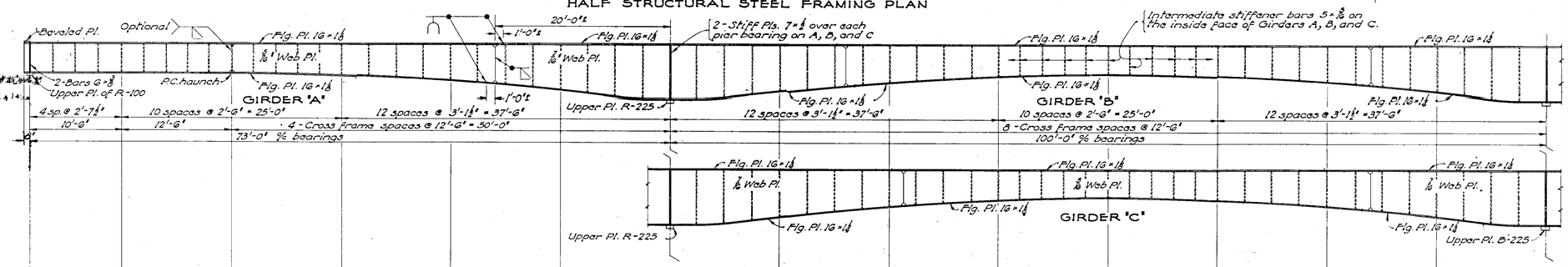
Designed	Drawn	Checked	Reviewed	Date	Revised
M.P.M.	R.A.C.	M.M.		12/6/78	

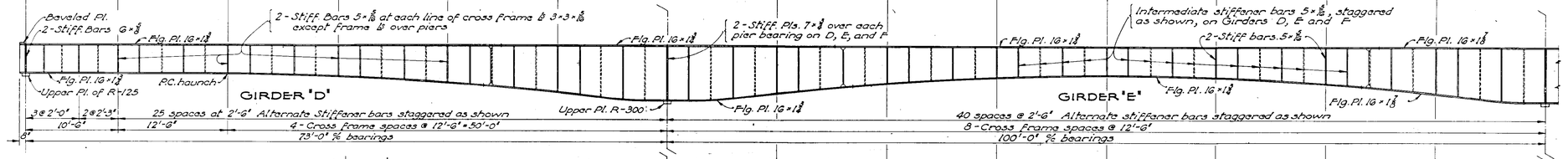
FHWA REGION	STATE	PROJECT
5	OHIO	M-1J96(1)

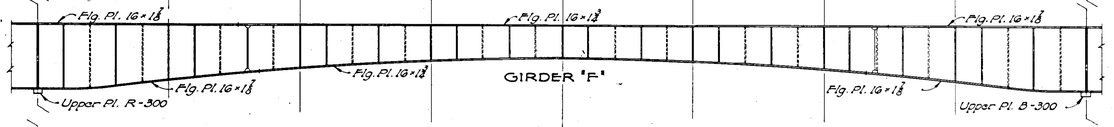
SMOTHERS ROAD
FRA. CO. RD. № 20

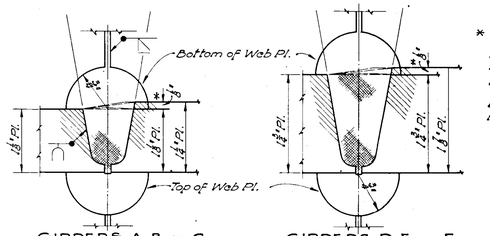


HALF STRUCTURAL STEEL FRAMING PLAN



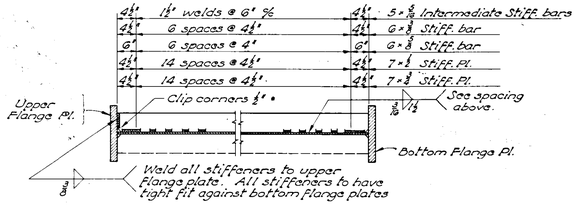




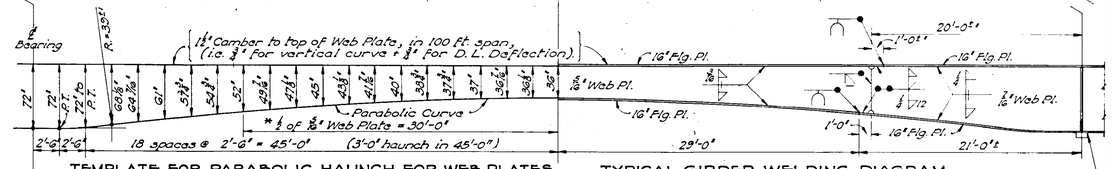


FULL SIZE SECTIONS OF FLANGE BUTT WELDS

* The web plate depth, as shown for a parabolic haunch, may be increased up to 1/8" where necessary to keep lower surfaces of flange plates in the same plane.



STIFFENER WELDING DETAILS



TEMPLATE FOR PARABOLIC HAUNCH FOR WEB PLATES

TYPICAL GIRDER WELDING DIAGRAM
(EXCEPT STIFFENERS)

EXISTING GIRDER
FOR INFORMATION ONLY

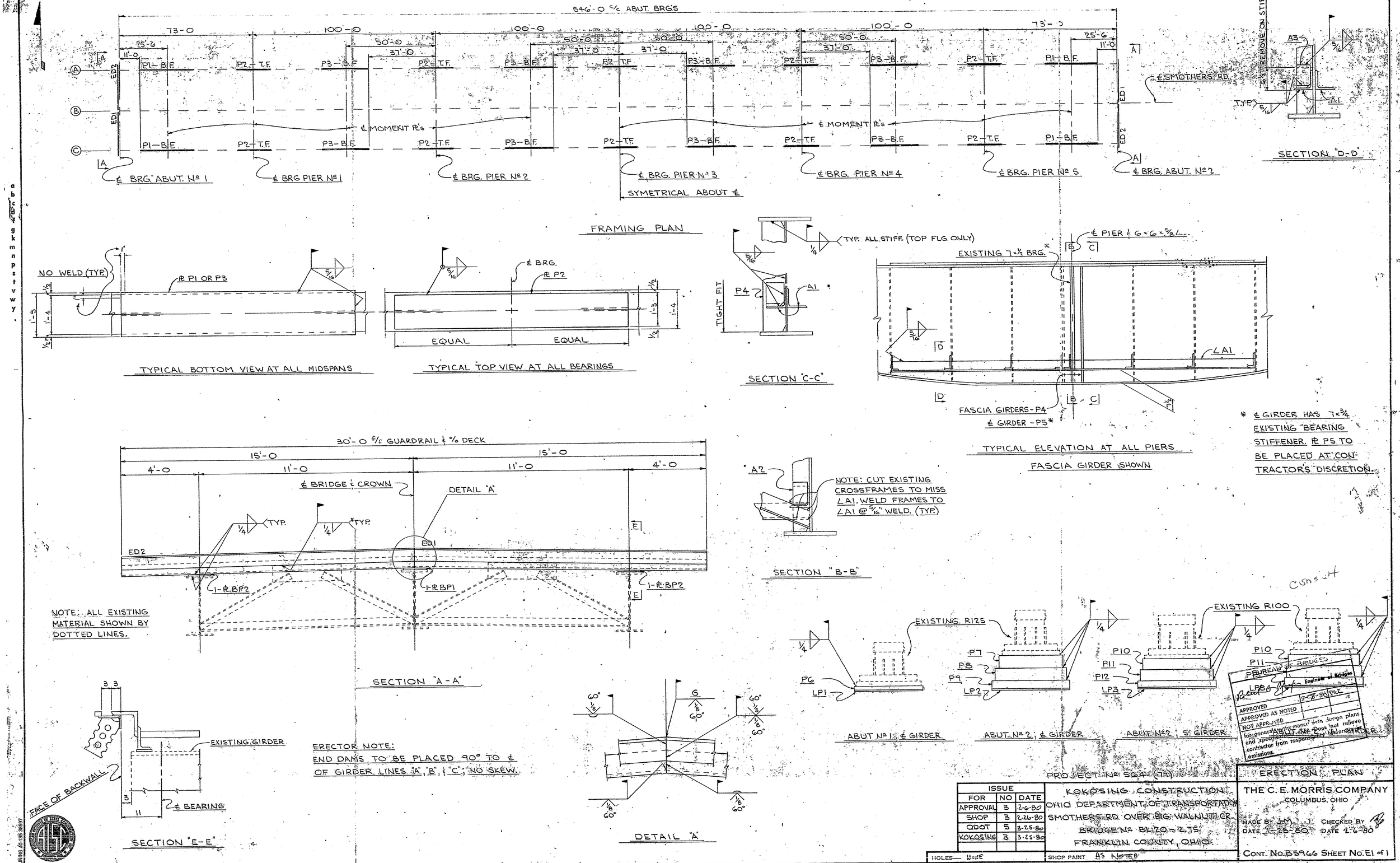
The field splices shown on the girder details may be made in the shop and a new field splice made in each girder over each pier without staggering flange and web splices. If field splices are made over the piers, the 2-7×1/2 or 2-7×3/8 bearing stiffener plates over each pier bearing shall be changed to two pairs of 6×7/16 stiffener bars, 8" % over each pier bearing.

CITY OF COLUMBUS, OHIO
DELAWARE-FRANKLIN COUNTY LINE ROAD
JANUARY 1953 BRIDGE
GIRDER DETAILS
STRUCTURE FRAMING PLANS
SCALE 3/16" = 1'-0"
JANUARY 1953
BURGESS & NIPLE
CONSULTING ENGRS.
COLUMBUS, OHIO

WELDING SYMBOLS

FIELD WELD — ALL ARO. NO WELD AT ALL CONTACT SURFACES — OTHER SIDE OF JOINT — ARROW SIDE OF JOINT — SQUARE-GROOVE — BACKING — BEVEL GROOVE — J GROOVE — VEE-GROOVE — "U" GROOVE — FILLET — PLUG — WELD SIZE — LINEAL INCHES OF WELD — NOTES — LENGTH EACH WELD — DEPTH OF WELD — AT COMMON FACE OF MEMBERS JOINED — ROOT OPN G (ASSUMED TO BE 0 IF NOT SHOWN) — ARROW POINTS TO MEMBER TO BE BEVELED — 60° = ANGLE AT ROOT OF WELD — FLUSH — M MILL — G GRIND

NOTE ON DOUBLE MEMBERS WHERE F & MEMBER S NOT SHOWN WELD SAME AS N & MEMBER NOTED

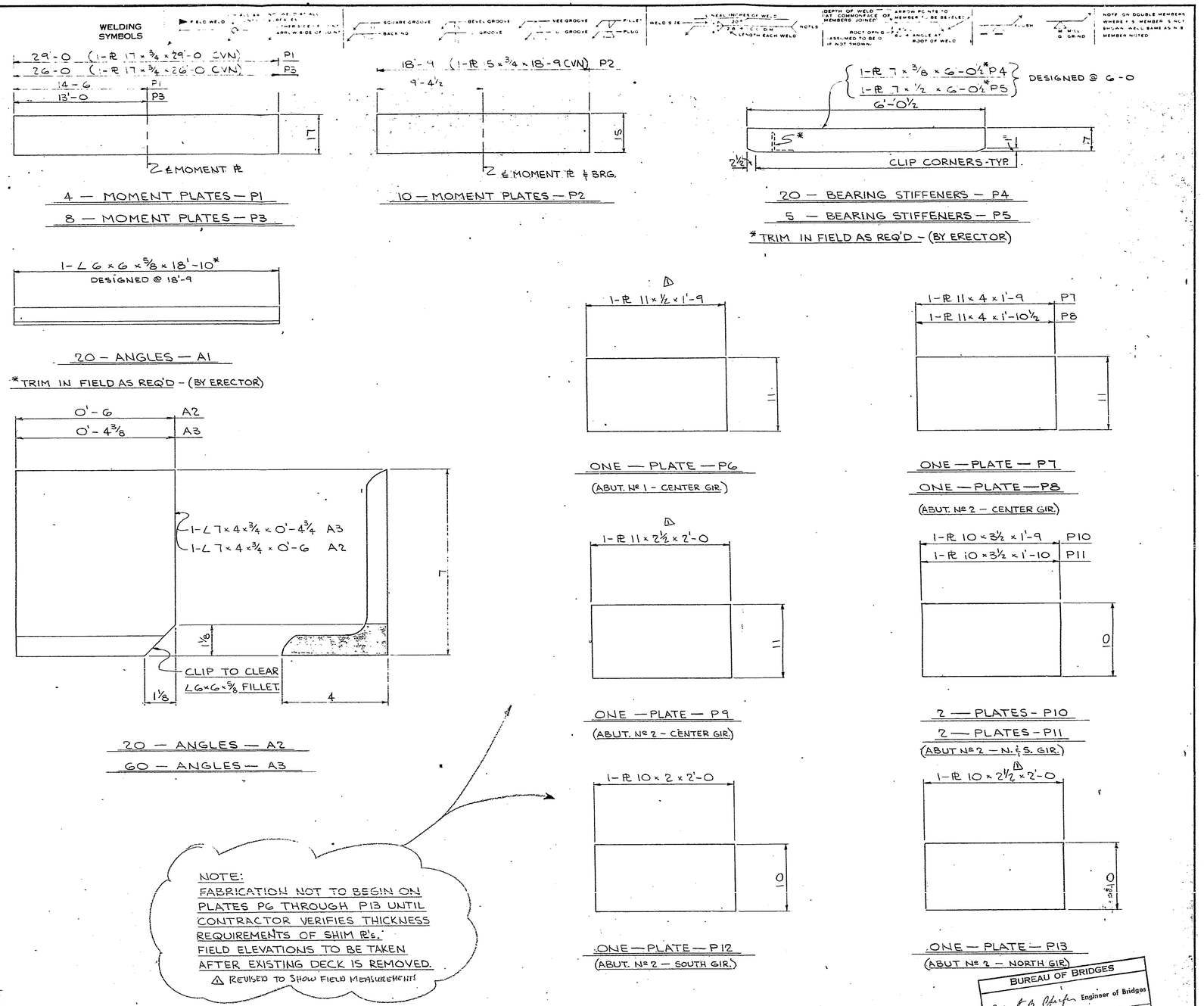


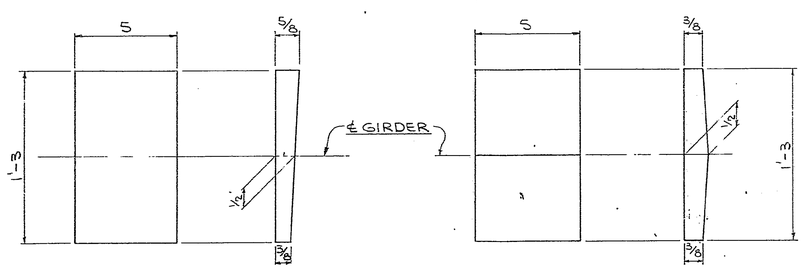
GENERAL NOTES

1. THIS STRUCTURE WILL CONFORM TO THE OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (DATED 1979).
2. ALL STEEL WILL BE ASTM-A36.
3. ALL WELDS WILL BE IN ACCORDANCE WITH CURRENT A.W.S. SPECIFICATIONS AND OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (DATED 1979).
4. ALL WELDS OF A36 MATERIAL WILL BE LOW HYDROGEN (E7018 OR E7028) OR SUBMERGED ARC ELECTRODE (GRADE F-72-EM12K).
5. REFERENCE WILL BE MADE TO STANDARD DRAWINGS:
   (a) SD-1-69 SHT. Nº 1 OF 4. (DATED 6-12-69).
6. MICROFILMS ARE TO BE FURNISHED AS PER OHIO DEPARTMENT OF TRANSPORTATION "CONSTRUCTION AND MATERIAL SPECIFICATIONS" 501.05 (DATED 1979).
7. FABRICATION WILL NOT BEGIN ON SHIMS FOR ABUTMENT ROCKERS UNTIL CONTRACTOR HAS VERIFIED FIELD DIMENSIONS.

CHARPY — V — NOTCH IDENTIFICATION PROCEDURE

1. ALL MATERIAL (EACH PIECE) SUBJECT TO CVN TESTING WILL BE IDENTIFIED ON THE SHOP DRAWINGS.
2. IDENTIFICATION PROCEDURE WILL BE DETAILED ON THE SHOP DRAWINGS.
3. PRIOR TO FABRICATION, THE STATE'S INSPECTOR WILL BE FURNISHED WITH ONE COPY EACH OF ITEMIZED WEIGHT LIST, APPLICABLE MILL TEST REPORTS, AND MILL ORDERS FOR HIS USE. THESE WILL BE IN ADDITION TO THE MILL TESTS WHICH MUST BE SUBMITTED TO THE STATE.
4. HEAT NUMBERS WILL BE PLACED ON ALL MATERIAL AND ON SHOP ROUTING CARDS FOR EACH PIECE.
5. HEAT NUMBERS WILL BE TRANSFERED AS PIECES ARE CUT FROM LARGER PLATES.
6. ALL ENDS WILL BE COLOR-CODED WHITE.
7. COLOR CODE AND HEAT NUMBERS WILL BE PRESERVED THROUGHOUT FABRICATION.
8. IDENTIFICATION MARKED ON STEEL WILL BE MAINTAINED LEGIBLE AT ALL TIMES. ILLEGIBLE IDENTIFICATION OR OMISSION OF SAME FROM ANY MATERIAL WILL BE CAUSE FOR REJECTION OF THAT MATERIAL.





4 — BEVELED PLATES - BP1

2 — BEVELED PLATES — BP2

NOTE: ITEMS A1, P4, & P5 HAVE BEEN FURNISHED LONGER THAN DESIGNED AT CONTRACTOR'S REQUEST; TO BE TRIMMED TO TIGHT FIT IN FIELD. (NO PAY ITEM)

PLAIN LEAD PLATES

1-LEAD PL 11 x 1/8 x 1'-9 LP1 (ABUT. Nº 1: CENTER GIRDER)
1-LEAD PL 11 x 1/8 x 2'-0 LP2 (ABUT Nº 2: CENTER GIRDER)
2-LEAD PL 10 x 1/8 x 2'-0 LP3 (ABUT Nº 2: 1-N. GIRDER, 1-S. GIRDER)

BUREAU OF BRIDGES
Engineer of Bridges
APPROVED 3-28-80 PM
APPROVED AS NOTED
NOT APPROVED
for general conformance with design plans and specifications only. Does not relieve contractor from responsibility for errors or omissions.

PROJECT Nº 564 (79)

ISSUE		
FOR	NO	DATE
APPROVAL	3	2-6-80
SHOP	3	2-26-80
ODOT	5	3-25-80
KOKOSING	3	3-25-80

KOKOSING CONSTRUCTION
OHIO DEPARTMENT OF TRANSPORTATION
SMOTHERS RD. OVER BIG WALNUT CREEK
BRIDGE Nº BL20 - 2.73
FRANKLIN COUNTY, OHIO

ANGLES & PLATES
THE C. E. MORRIS COMPANY
COLUMBUS, OHIO
MADE BY JM DATE 1-20-80
CHECKED BY DATE 2-6-80
CONT. NO. B5966 SHEET NO. 1 of 2

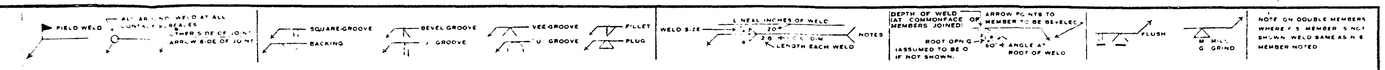
3-25-80 - REVISED TO SHOW FIELD MEASUREMENTS

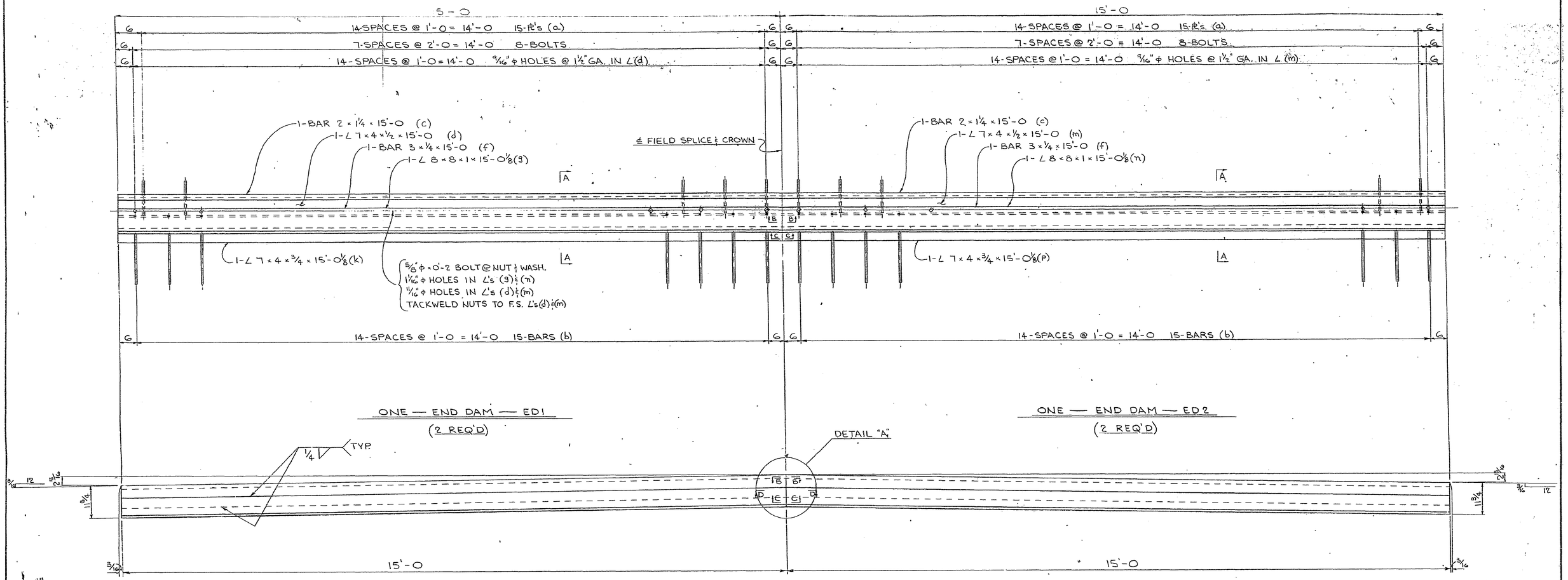
HOLES — NONE

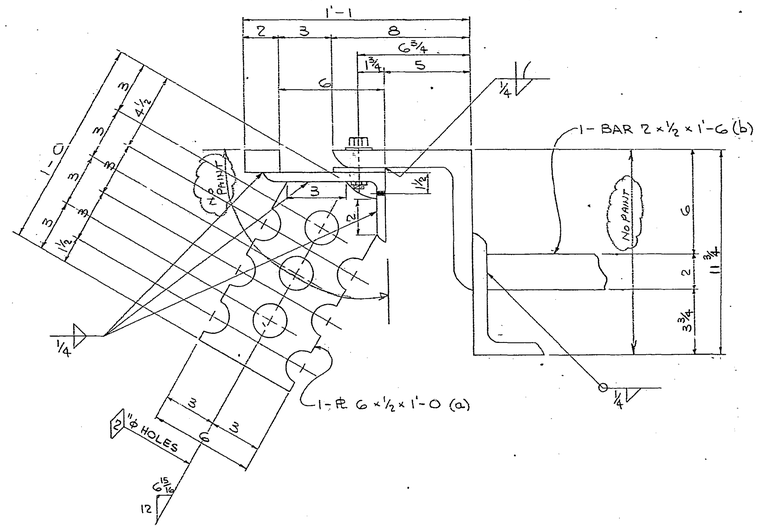
SHOP PAINT NONE (FAST PRIMER ONLY EXCEPT SHIMS & BEARING PLATES)

4420 010 ANGLES & PLATES 0273 1979 01/56 060

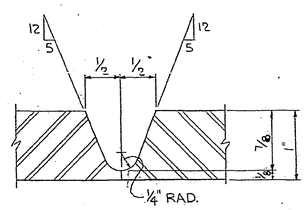
WELDING SYMBOLS



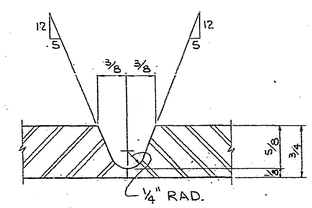




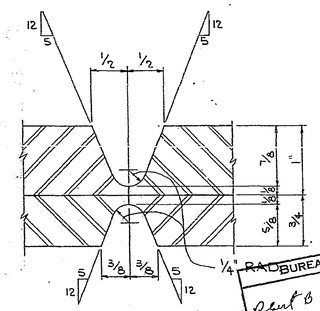
SECTION A-A



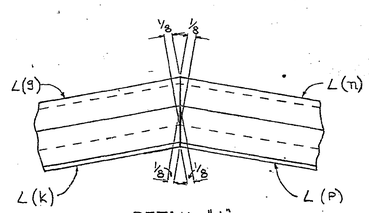
SECTION "B-B"



SECTION "C-C"



SECTION "D-D"



DETAIL "A"

BUREAU OF BRIDGES
Engineer of Bridges
APPROVED
APPROVED AS NOTED
NOT APPROVED
for general conformance with these plans and specifications only. Does not relieve contractor from responsibility for errors or omissions.

PROJECT No. 564 (79)

ISSUE		
FOR	NO	DATE
APPROVAL	3	2-6-80
SHOP	3	2-26-80
ODOT	5	3-25-80
KOKOSING	3	3-25-80

KOKOSING CONSTRUCTION.
OHIO DEPARTMENT OF TRANSPORTATION
SMOTHERS RD. OVER BIG WALNUT CREEK
BRIDGE No BL.20-2.73
FRANLIN COUNTY, OHIO.

HOLES — AS NOTED
SHOP PAINT ONE SHOP COAT 708.15 UNLESS NOTED

END DAMS — ED1 & ED2

THE C. E. MORRIS COMPANY
COLUMBUS, OHIO

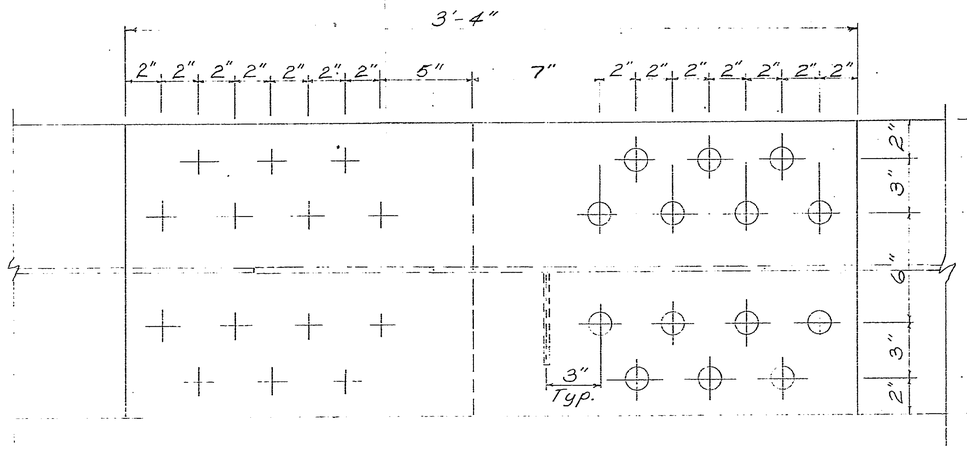
MADE BY JM DATE 1-25-80
CHECKED BY DATE 2-6-80

CONT. No. B5966 SHEET No. 2 of 2

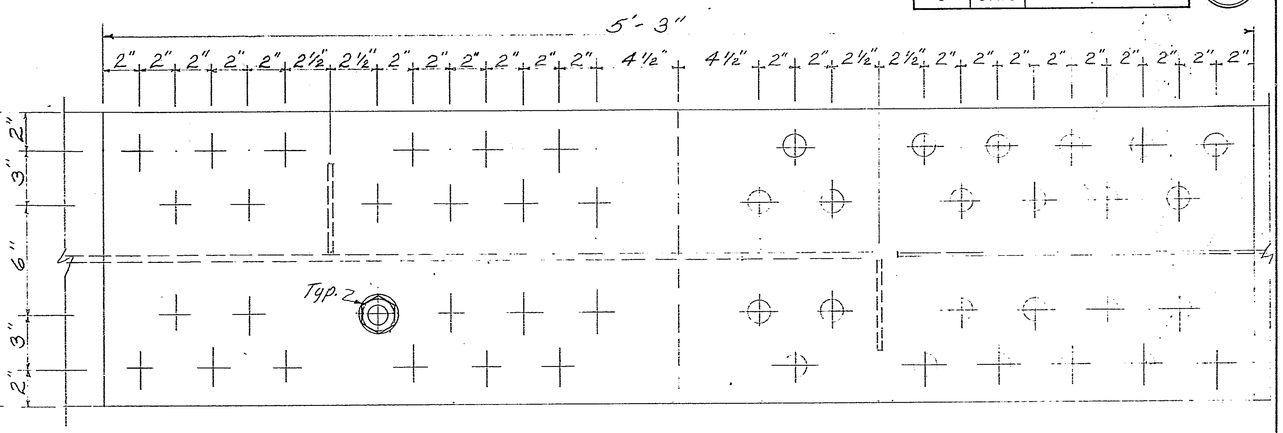
BRIUNING 40-135 38597

4420 010 END DAMS 0273 19779 01157 060

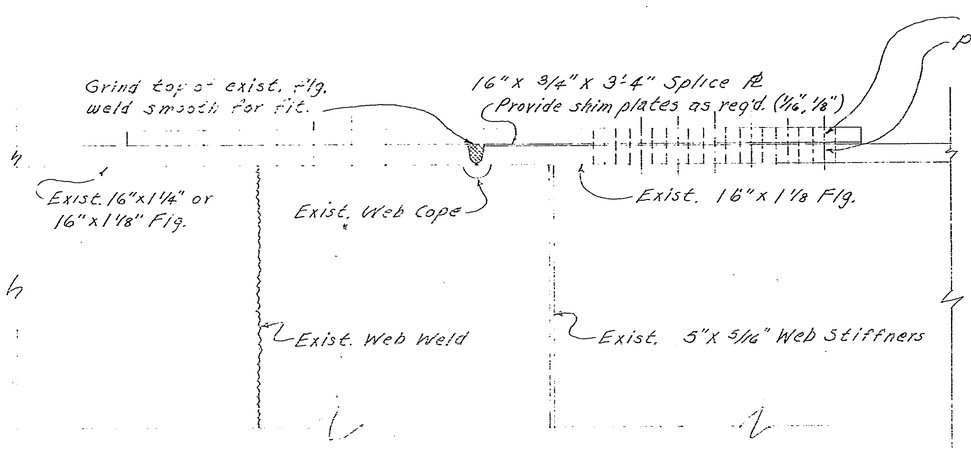
FHWA REGION	STATE	PROJECT
5	OHIO	



PLAN
Bolt Hole Layout

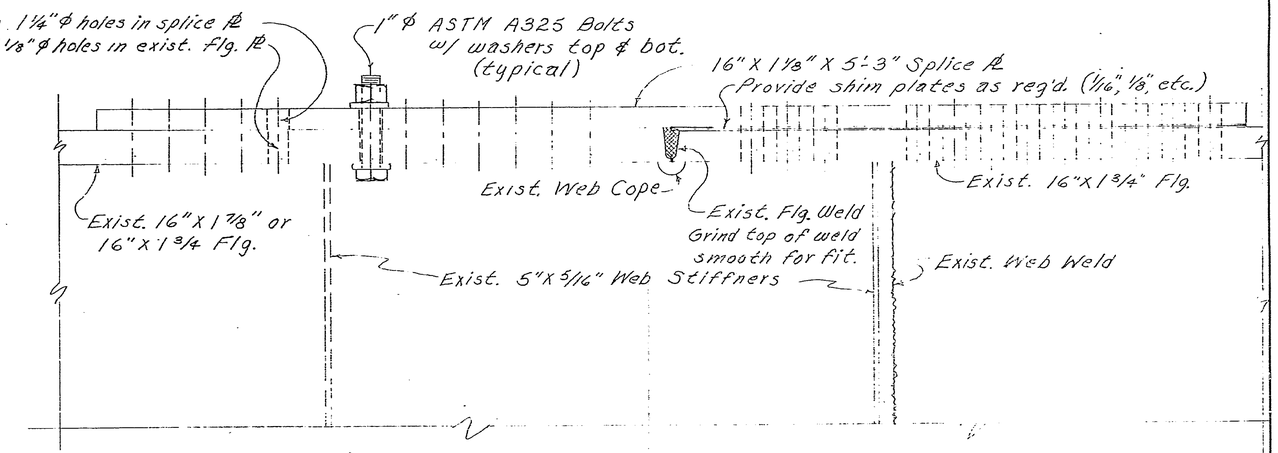


PLAN
Bolt Hole Layout



ELEVATION

TOP FLANGE SPLICE
FACIA GIRDERS
20 Required



ELEVATION

TOP FLANGE SPLICE
CENTER GIRDER
10 Required

NOTES:

1. ALL SPLICE PLATES SHALL BE ASTM A-36 STEEL MEETING THE REQUIREMENTS OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 513, STRUCTURAL STEEL.

2. ALL BOLTS SHALL BE 1 INCH DIAMETER ASTM A325 AND INSTALLED AS SPECIFIED IN 513.15, HIGH STRENGTH STEEL BOLTS, NUTS AND WASHERS. EACH BOLT SHALL BE INSTALLED WITH TWO HARDENED WASHERS.

3. HOLES IN SPLICE PLATES SHALL BE 1 1/4" DIAMETER. HOLES IN EXISTING TOP FLANGE PLATES SHALL BE 1 1/8" DIAMETER. HOLES SHALL BE AS SPECIFIED IN 513.14.

4. SPLICES SHOWN ARE TYPICAL FOR THE EXISTING TOP FLANGE FIELD WELD LOCATIONS ON THE FACIA GIRDERS AND CENTER GIRDER. PRIOR TO INSTALLATION, THE CONTRACTOR SHALL VERIFY THE SPLICE PLATE HOLE LAYOUT FOR EACH SPLICE LOCATION.

5. AT SPLICE LOCATIONS WHERE THE GIRDER FLANGE MAY BE WARPED ON EITHER SIDE OF THE EXISTING SPLICE WELD, THE CONTRACTOR WILL BE PERMITTED TO HEAT THE SPLICE PLATE TO ALLOW FOR A FLUSH FIT. HEATING SHALL BE IN ACCORDANCE WITH 513.06. QUENCHING TO ACCELERATE COOLING IS PROHIBITED.

6. THE SPLICE PLATE SHALL HAVE SHOP DRILLED HOLES AND WILL BE USED AS A TEMPLATE FOR FIELD DRILLING HOLES IN THE EXISTING GIRDER TOP FLANGE.

7. THE CONTACT SURFACE AREA OF THE EXISTING GIRDER TOP FLANGE SHALL BE CLEANED BY SANDBLASTING PRIOR TO INSTALLING THE SPLICE PLATES.

BURGESS & NIPLE LIMITED — CONSULTING ENGINEERS
COLUMBUS, OHIO

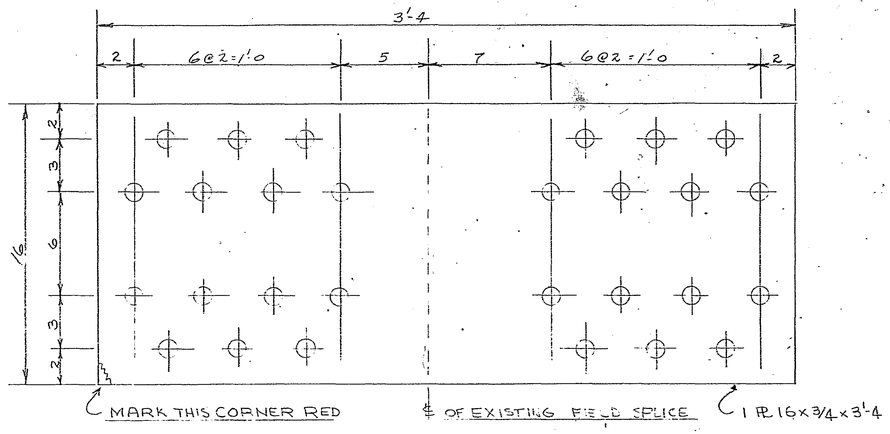
SMOTHERS ROAD BRIDGE OVER HOOVER RESERVOIR
SPLICE REINFORCEMENT DETAILS AT EXISTING TOP FLANGE FIELD WELDS

SCALE: 3"=1'-0" JUNE 3, 1980

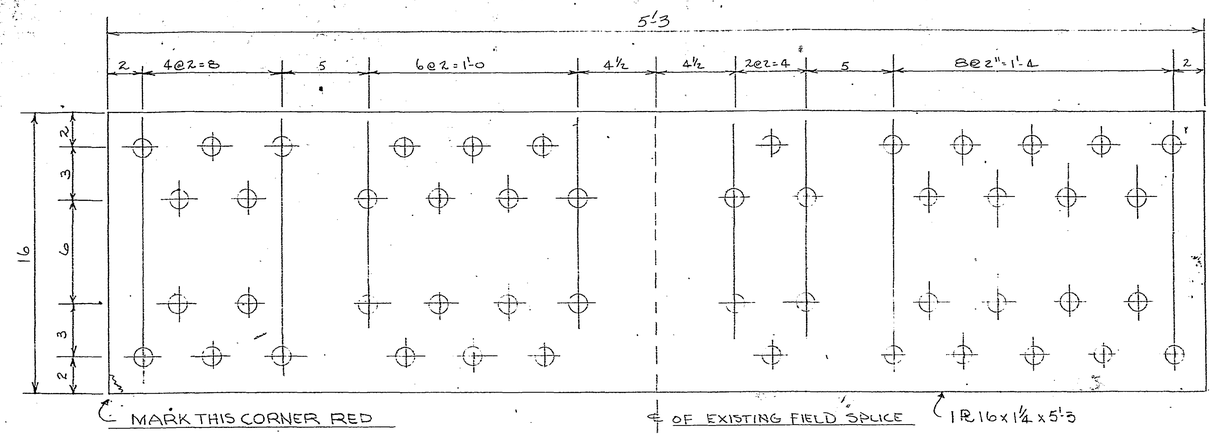
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WCR	DJR	DJR		6-4-80	6/6/80

4420 0110 SPLICE REINFORCEMENT 0273 1979 01158 060

WELDING SYMBOLS



SP1 - TOP FLANGE SPLICE-FACIA GIRDERS
20 REQ'D
DRILL $1\frac{3}{16}\phi$



SP2-TOP FLANGE SPLICE-CENTER GIRDER
10 REQ'D
DRILL $1\frac{3}{16}\phi$

TYPE I (1% ADDED)		
ASTM A-325 HIGH STRENGTH FIELD BOLTS W/HEX NUT		
566	1"ϕ HS BOLTS	0'-3¾" Lg.
485	do.	0'-4¾ Lg.
2102	1"ϕ CARB FLAT WASHERS	

PLAIN SHIMS		
15 PL	16 x 3/16 x 1'-8	P1
25 PL	16 x 1/8 x 1'-8	P2
10 PL	16 x 3/16 x 2'-7½	P3
10 PL	16 x 1/8 x 2'-7½	P-4
1 PL	16 x ¼ x 2'-7½	P-5

NOTES:

1) ALL SPLICE PLATES SHALL BE ASTM A-36
2) SHIM PLATES NEED NOT BE ASTM A-36
3) EACH HS BOLT SHALL BE INSTALLED WITH TWO HARDENED WASHERS
4) ODOT SPECIFICATIONS TO APPLY

APPROVED
FRANKLIN COUNTY ENGINEER
DATE: 7-24, 1980

PROJECT FRA-564(79) BR# BL20-2.73

ISSUE		
FOR	NO	DATE
APPV'L	3	7-23-80
COUNTY	5	
SHOP	3	
CONTR.	3	

SCIOTO ERECTORS
SMOTHERS ROAD OVER HOOVER RESERVOIR

SPLICE REINFORCEMENT DETAILS AT EXISTING TOP FLANGE FIELD WELDS

THE C. E. MORRIS COMPANY
COLUMBUS, OHIO

MADE BY EES — CHECKED BY
DATE 7-23-80 — DATE

HOLES— $1\frac{3}{16}\phi$ — SHOP PAINT NONE — BLAST- NONE

CONT. NO. B5997 SHEET NO. 1

4420 010 SPLICE REINFORCEMENT 0273 1979 01559 060

BRUNING 40-135 38597