

15th St SW Bridge Replacement Project, GP 1299
Engineering Department

Addendum 2

City of Canton, Ohio
Purchasing Department
218 Cleveland Ave. SW, 4th floor
Canton, Ohio 44702

15th St. SW Bridge Replacement Project, GP 1299

Item/Project

Engineering Department

Responsible Department

Wednesday, June 5, 2019 at 4:00 PM local time

Bids Due On or Before

Bid Proposal Submitted By:

Company Name

Street Address

City

State

Zip

Contact Person

Phone No.

Email Address

15th St SW Bridge Replacement Project, GP 1299
Engineering Department

Request for Information 1:

Question:

Are any construction plans of the existing bridge available for review?

Answer:

Yes, the existing bridge plans are attached for review.

Request for Information 2:

Question:

Are there any hydraulic studies of this part of the West Branch of the Nimishillen Creek available for review other than the FEMA FIS?

Answer:

The City of Canton does not have hydraulic studies of this part of the West Branch of the Nimishillen Creek available for review.

DESIGN DESIGNATION

1980 A.D.T. 6500
 2000 A.D.T. 7345
 D.H.V. 935
 D 50/50
 T 9.2%
 V 35 MPH

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

M-2E79(1)

FHWA REGION	STATE	PROJECT
5	OHIO	11-2E79(1)

STARK COUNTY
 CITY OF CANTON
 15 TH. STREET S.W.

STARK COUNTY

CITY OF CANTON
15 TH. STREET S.W. BRIDGE
DECK REPLACEMENT

G.P. 840

1979 SPECIFICATIONS

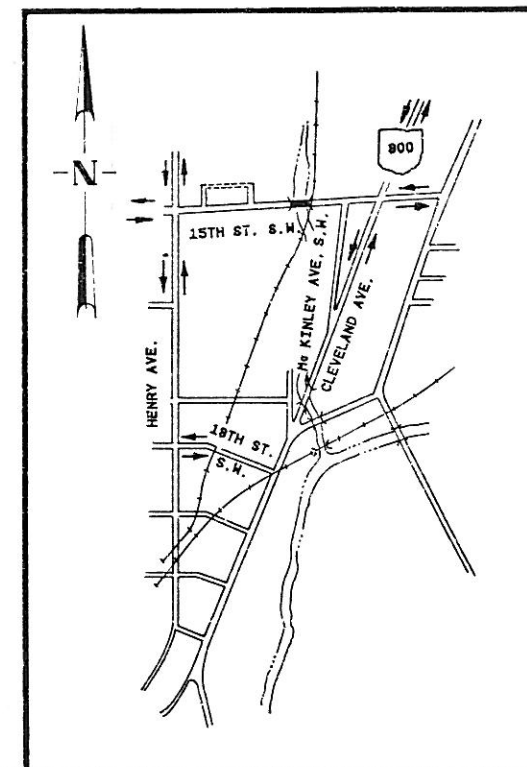
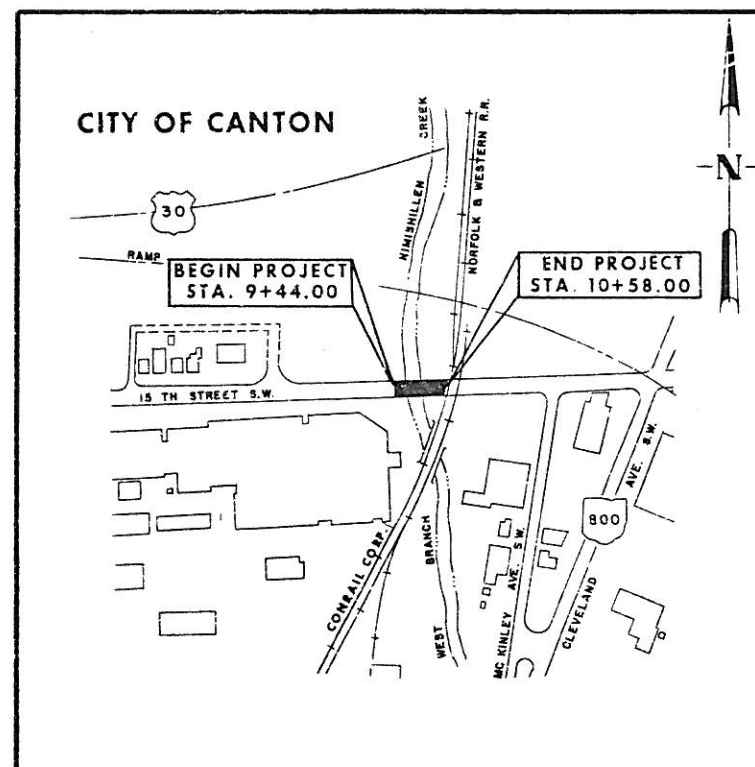
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO,
 DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND
 SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL
 GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING
 OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF 1
 STREET AND THAT DETOURS WILL BE AS SHOWN ON DETOUR MAP

CENTERLINE	_____
RIGHT OF WAY	_____ R/W _____ R/W
RAILROAD	_____ OR _____
EXISTING UTILITIES:	WATER LINE _____ W _____ W
	GAS LINE _____ G _____ G
	TELEPHONE LINE _____ T _____ T
UTILITY POLES	POWER ϕ
SEWER LINES	EXISTING _____
MANHOLES	M.H. EXISTING ϕ
CATCH BASINS	C.B. EXISTING ϕ
WATER VALVE	W.V. EXISTING ϕ

INDEX OF SHEETS

TITLE SHEET	1
GENERAL NOTES	2
GENERAL SUMMARY	3
MISCELLANEOUS DETAILS	4
PLAN AND PROFILE	5
APPROACH SLAB DETAILS	6-7
STRUCTURES OVER 20 FT. SPAN	8-15



APPROVED J. J. Gallagher
 DATE 12/18/80 CANTON TRAFFIC ENGINEER

APPROVED Philip L. Giff
 DATE 12-1-80 CANTON CITY ENGINEER

APPROVED William M. Goldman
 DATE 2-9-81 DISTRICT DEPUTY DIRECTOR OF TRANSPORT

APPROVED Robert B. Pfeiffer
 DATE 4-3-81 ENGINEER, BUREAU OF BRIDGES
 AND STRUCTURAL DESIGN

APPROVED Howard E. Nelson
 DATE 5-14-81 CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED David L. Wein
 DATE 5-14-81 DIRECTOR, DEPARTMENT OF TRANSPORTATION

LINE DATA

BEGIN PROJECT	STA. 9+44.00
END PROJECT	STA. 10+58.00
LENGTH OF PROJECT	114 FEET OR 0.021 MILES
BEGIN WORK	STA. 9+00
END WORK	STA. 10+66.00
LENGTH OF WORK	176 FEET OR 0.033 MILES

LOCATION MAP

0 200 400
 SCALE IN FEET

DETOUR MAP

0 400 800
 SCALE IN FEET

STANDARD DRAWINGS

AS-1.72	6-30-72
BP-5	4-16-79
BR-2.67	10-15-71
MC-3	6-1-73

PORTION TO BE IMPROVED

FEDERAL ROADS	_____
STATE ROADS	_____
OTHER ROADS & STREETS	_____

SCALE

PLAN	0 10 20
PROFILE HORIZONTAL	0 10 20
PROFILE VERTICAL	0 10 20

SUPPLEMENTAL SPECIFICATIONS

814	1-6-69
836	3-12-75
849	4-25-77
853	6-26-78
956	6-26-78

1001	1-3-77
------	--------

5816
2
14
3

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR

DATE

PREPARED AND RECOMMENDED BY:
 W.E. QUICKSALL AND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 NEW PHILADELPHIA, OHIO

FILE NO.	STARK COUNTY	CITY OF CANTON
	DATE OF LETTING	15TH ST. S.W.
	CONTRACT NO.	19

GENERAL NOTES

MADE BY J.M.B. 8-22-80
CHK'D BY W.D.A. 10-24-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

STARK COUNTY
CITY OF CANTON
15th STREET S.W.

FIELD OFFICE: THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE. THE ABOVE HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 619 - FIELD OFFICE

LUMP SUM

ESTIMATED QUANTITIES: SPECIFIC LOCATIONS 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.

ELEVATION DATUM: ALL ELEVATIONS ARE BASED ON THE U.S.G.S.
DATUMS.

MAINTENANCE OF TRAFFIC: DURING REMOVAL AND CONSTRUCTION OF THE BRIDGE A DETOUR SHALL BE PROVIDED AS SHOWN IN THESE PLANS, SHEET 1. THE CITY WILL PROVIDE, ERECT, MAINTAIN, AND REMOVE DETOUR SIGNING AS NECESSARY. TRAFFIC SHALL BE DETOURED UNTIL ALL CONSTRUCTION WITHIN THE WORK LIMITS HAS BEEN COMPLETED.

THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC IN ACCORDANCE WITH THE PROVISIONS OF ITEM 614.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN
THE WORK LIMITS OF THIS PROJECT:

THE CITY OF CANTON SEWER DEPARTMENT, 218 CLEVELAND
AVENUE, S. W., CANTON, OHIO 44702. PHONE: (216) 489-3450

THE CANTON WATER DEPARTMENT, 2664 HARRISBURG ROAD, N. E.,
CANTON, OHIO 44705. PHONE: (216) 489-3310

THE OHIO BELL TELEPHONE COMPANY, 832 MCKINLEY AVENUE,
N. W., ROOM 01, CANTON, OHIO 44705. PHONE: (216) 489-9931

THE OHIO POWER COMPANY, 301 CLEVELAND AVENUE, S. W.,
CANTON, OHIO 44701. PHONE: (216) 456-8173

THE EAST OHIO GAS COMPANY, 332 SECOND STREET, N. W.,
CANTON, OHIO 44705. PHONE: (216) 456-1328

WARNER CABLE TV, 2700 ATLANTIC, N. E., CANTON, OHIO 44709.
PHONE: (216) 456-8166

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

CROWN AT RAILROAD CROSSINGS: THE CROWN SHALL BE WORKED OUT OF THE PAVEMENT ON THE APPROACH SLAB BY RAISING THE EDGE OF PAVEMENT TO MEET THE RAIL ELEVATION.

WATER VALVE BOX ADJUSTED TO GRADE: THIS WORK CONSISTS OF ADJUSTING THE EXISTING WATER VALVE BOX TO GRADE. THE CONTRACTOR SHALL EXCAVATE AROUND THE EXISTING WATER VALVE BOX WITHOUT INJURING THE BOX OR PIPE. BOX SHALL THEN BE ADJUSTED TO GRADE. IF NECESSARY ADJUSTMENT IS OUTSIDE THE DESIGN LIMITS OF THE EXISTING BOX, AN EXTENSION SHALL BE ADDED OR A NEW VALVE BOX INSTALLED AS DIRECTED BY THE ENGINEER. INSTALLATION OF A VALVE BOX AND BACKFILL SHALL BE PERFORMED IN A MANNER SATISFACTORY TO THE ENGINEER. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 814 - VALVE BOX - - - - - 1 EACH

ADJUSTMENT OF EXISTING SIGNING: WHERE THE WORK REQUIRES MOVEMENT OF EXISTING TRAFFIC CONTROL SIGNS, CITY UTILITY POLES, SIGNAL SUPPORTS AND RELATED CONCRETE FOUNDATIONS. THE CITY WILL REMOVE AND RESET OR DISPOSE OF THEM. ALL SIGNING WITHIN THE RAILROAD RIGHT-OF-WAY WHICH REQUIRES REMOVAL OR RESETTNG SHALL BE BORNE BY OTHERS.

SEEDING: THE AREAS OF DISTURBED SOIL WITHIN THE WORK LIMITS SHALL BE SEEDED IN ACCORDANCE WITH ITEM 659. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 659 - SEEDING - - - - - --22.0 SQ.YD.

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

RAILROAD PAVEMENT MARKING AND SIGNING

SHALL BE FURNISHED BY THE CITY OF CANTON ACCORDING TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

DRAWN	CK'D.	CORR.	BK CK'D.
JMS	Wda		

GENERAL SUMMARY

CALC. BY C.F.D. 8-19-80
CHK'D BY D.O.Q. 10-23-80

FHWA REGION	STATE	PROJECT	
5	OHIO		

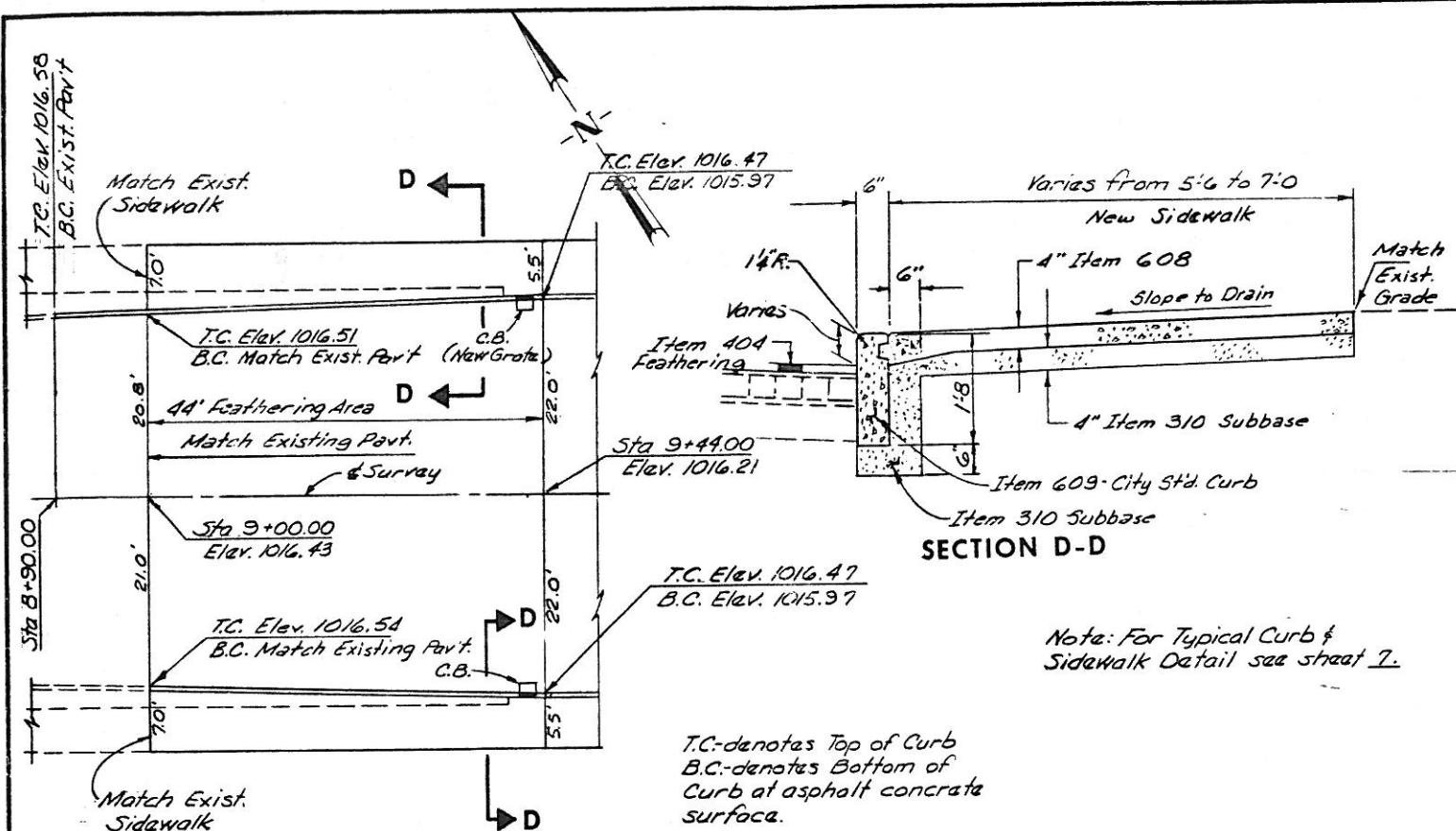
STARK COUNTY
CITY OF CANTON
15TH STREET S.W.

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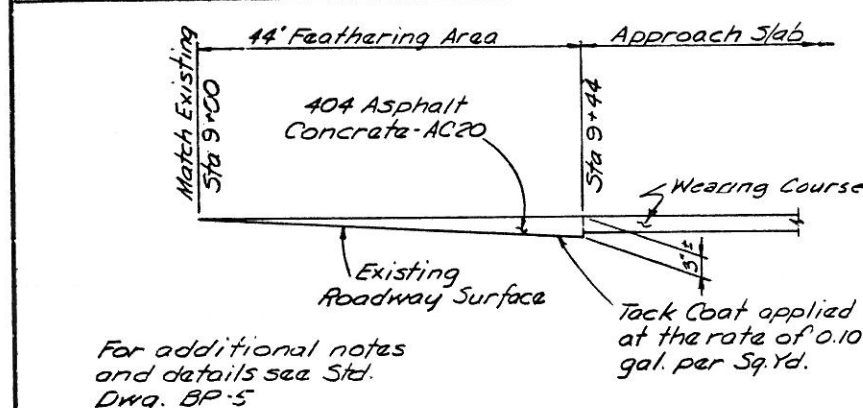
MADE BY C.F.D. 8-15-80
CHK'D BY D.O.Q. 10-23-80

FHWA REGION	STATE	PROJECT
5	OHIO	

STARK COUNTY
CITY OF CANTON
15th STREET S.W.



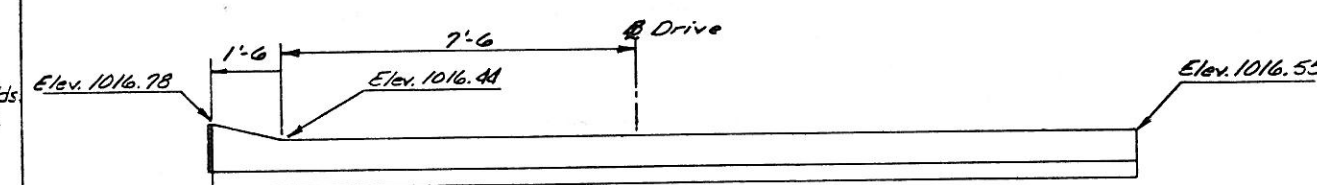
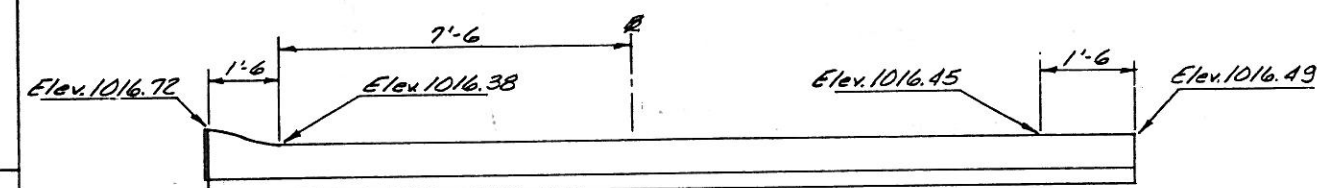
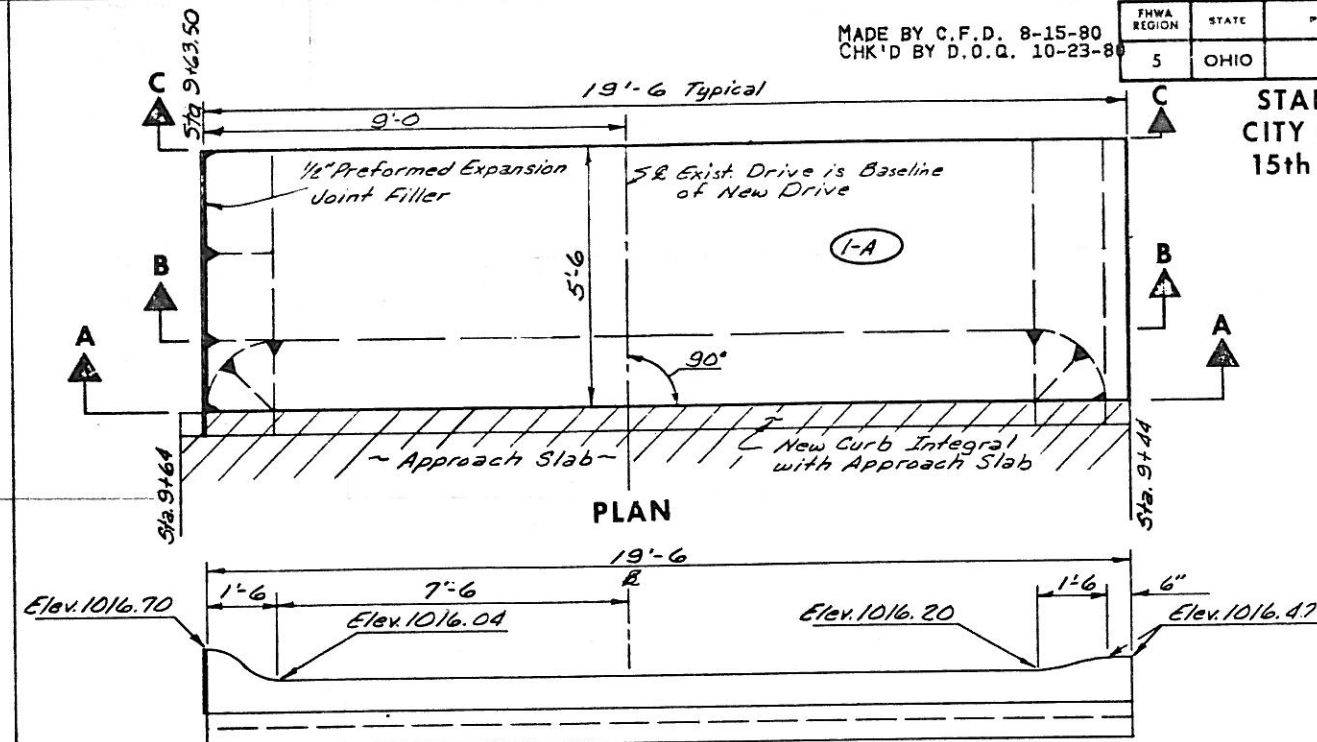
CURB AND SIDEWALK DETAILS
STA 9+00 TO STA 9+44



TYPICAL FEATHERING AREA DETAIL

Item 404 - Asphalt Concrete AC20 8.7 Cu Yds
Item 407 - Tack Coat 20 Gal.

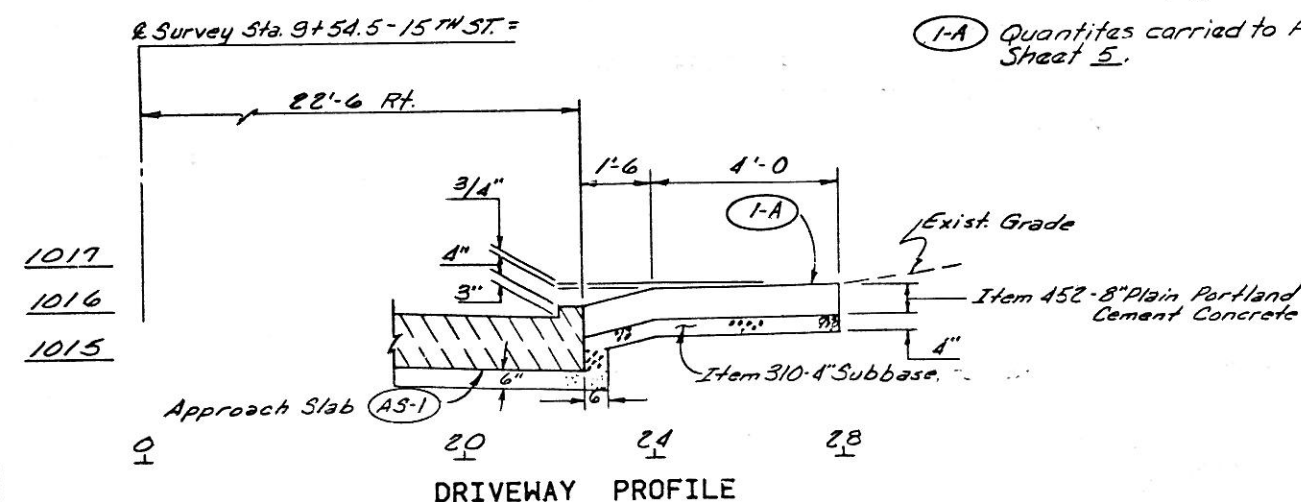
Quantities carried to General Summary Sheet 3.

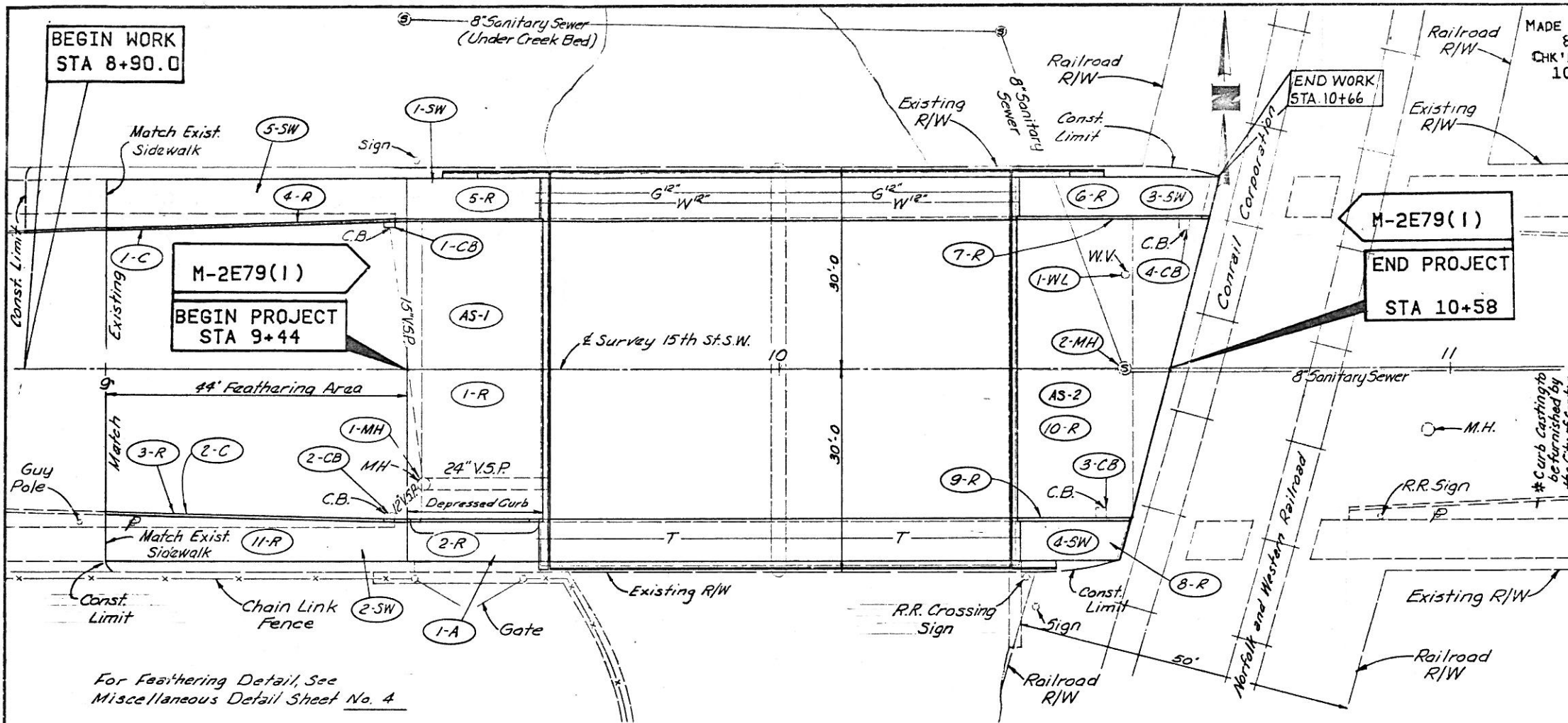


ESTIMATED QUANTITIES

Item 452 - 8" Plain Portland Cement Concrete - 11.1
Item 310 - Subbase, Type I - 1.1

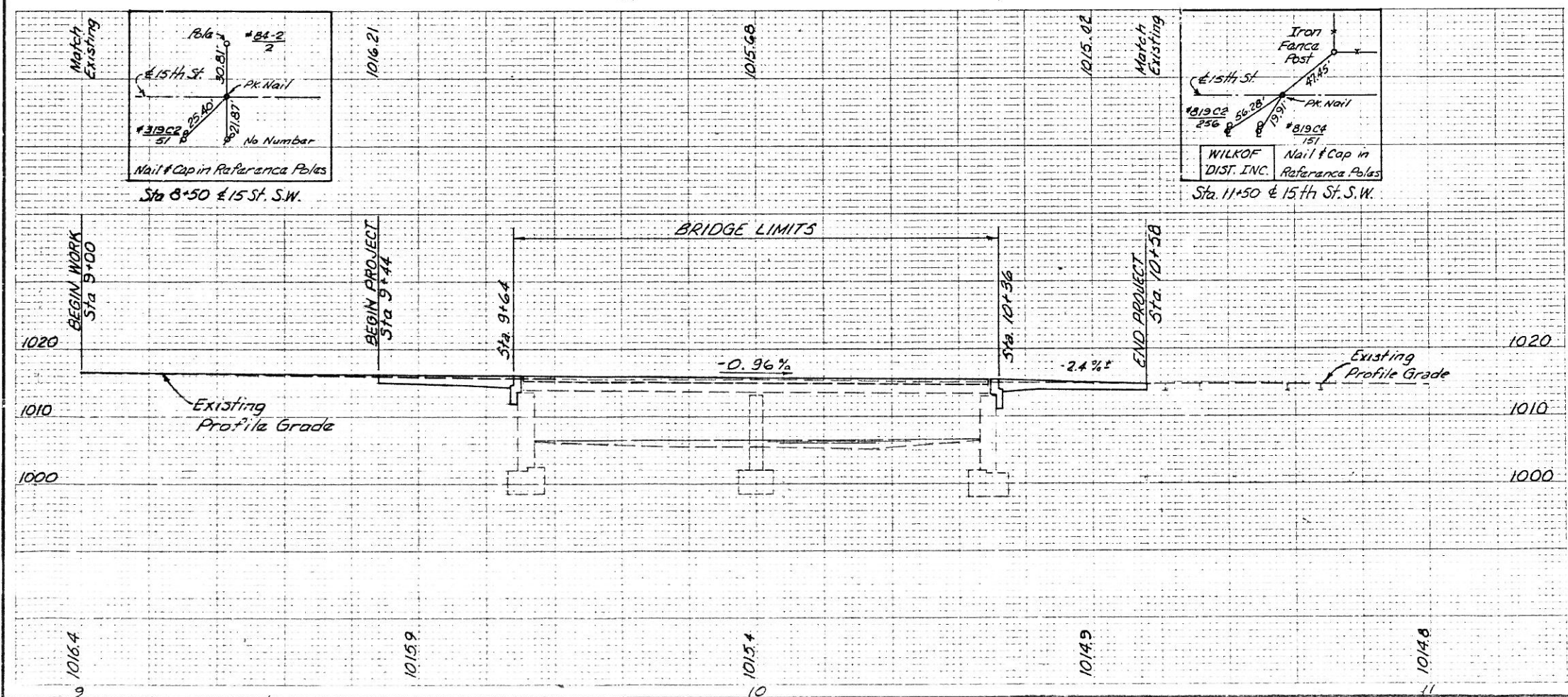
(1-A) Quantities carried to Plan & Profile Sheet 5.





MADE BY C.F.D. STARK COUNTY
8-18-80
CHK'D BY D.O.Q. CITY OF CANTON
10-16-80 15TH ST. S.W.

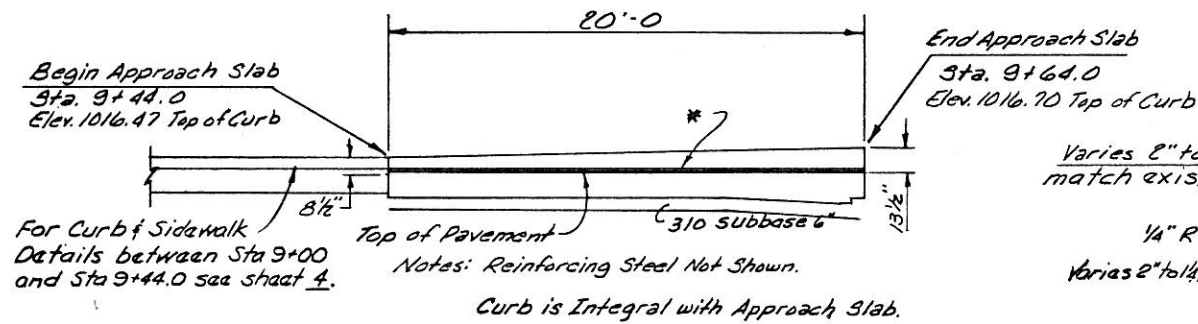
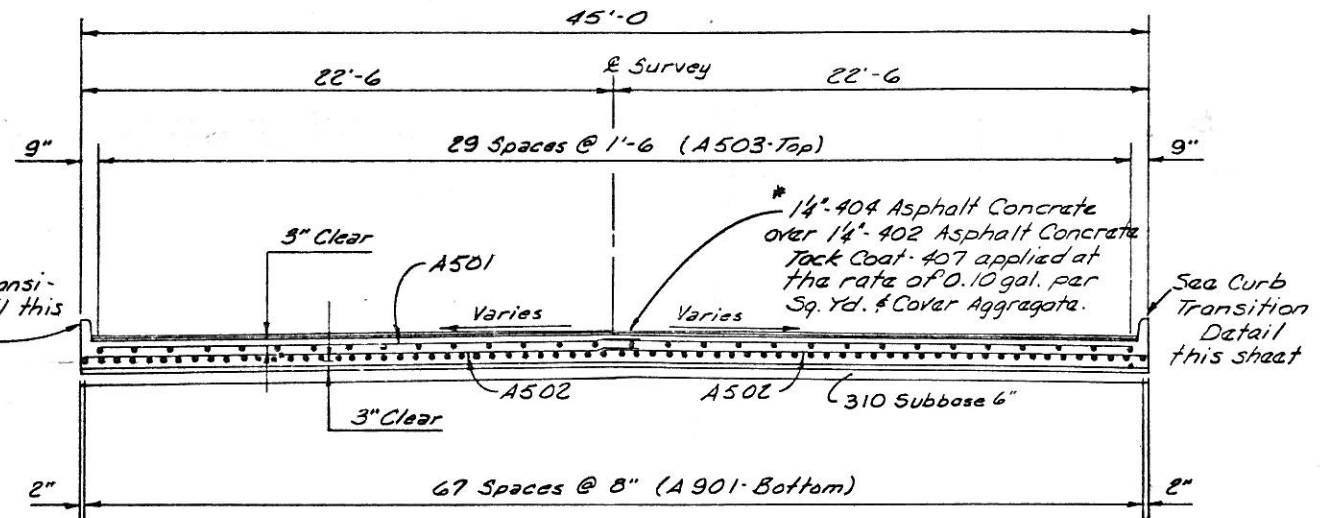
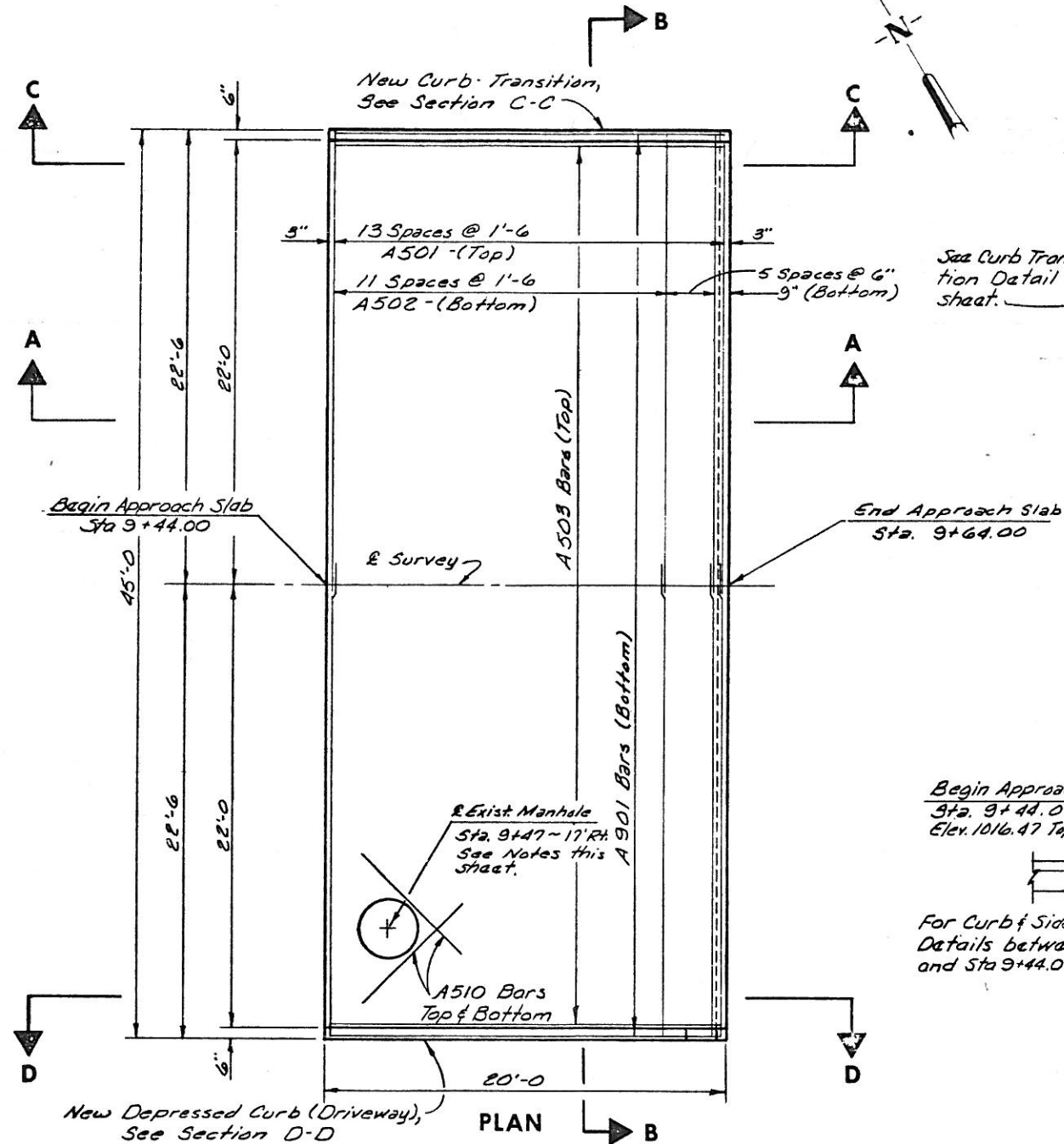
FED. REGION	STATE	PROJECT
5	OHIO	



FHWA REGION	STATE	PROJECT
5	OHIO	

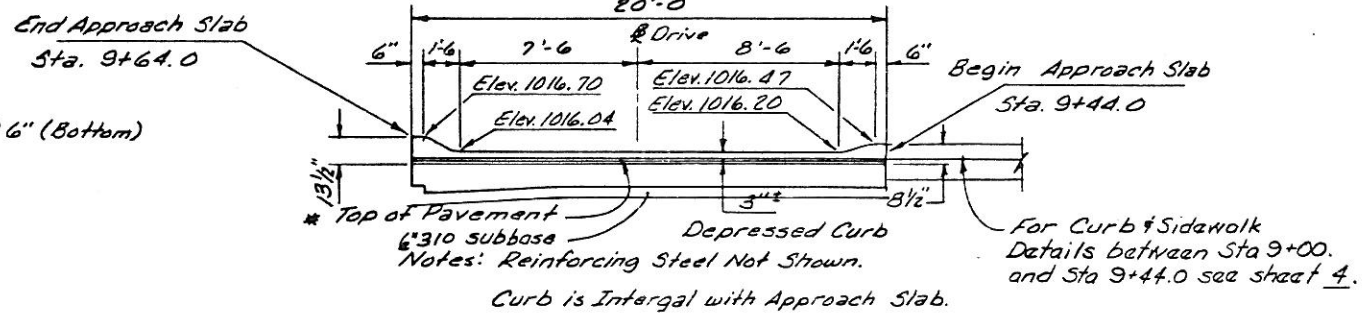
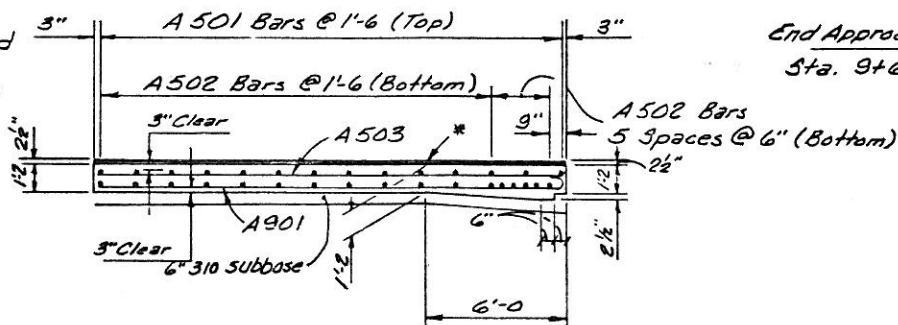
STARK COUNTY
CITY OF CANTON
15th STREET S.W.

REINFORCING STEEL			
MARK	NO. REQ'D	LENGTH	QTY
A 501	28	22'-7"	-
A 502	34	23'-2"	-
A 503	30	19'-6"	-
A-510	4	7'-7"	-
A-901	68	20'-9"	19



CURB TRANSITION DETAIL

Notes:
Existing Manhole to be adjusted to grade under Item 604. Use adjusted manhole casting to form approach slab concrete.



For additional Approach Slab & notes see std. dwg. AS-1-72.

W. E. QUICKSALL AND ASSOCIATES, INC.			
CONSULTING ENGINEERS • NEW PHILADELPHIA, OHIO			
AS-1 APPROACH SLAB D			
15th ST. S.W. BRIDGE OVER WEST BRANCH NIMISHILLEN C.			
STARK COUNTY			
DESIGNED	DRAWN	TRACED	CHECKED
W.E.Q.	W.E.Q.	W.E.Q.	W.E.Q.
DATE	DATE	DATE	DATE
10/16/72	10/16/72	10/16/72	10/16/72

FHWA REGION	STATE	PROJECT
5	OHIO	

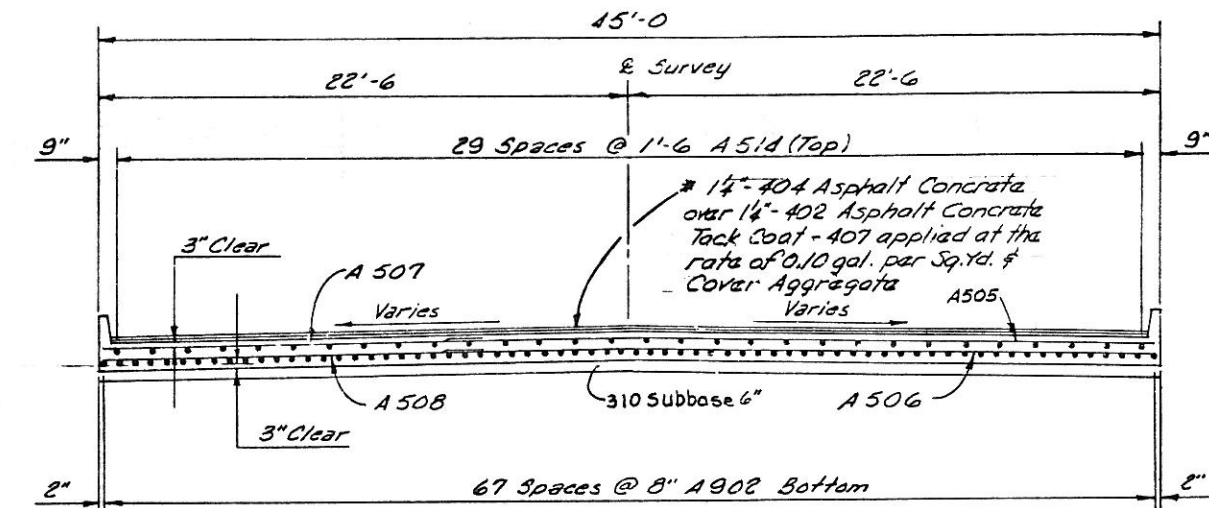
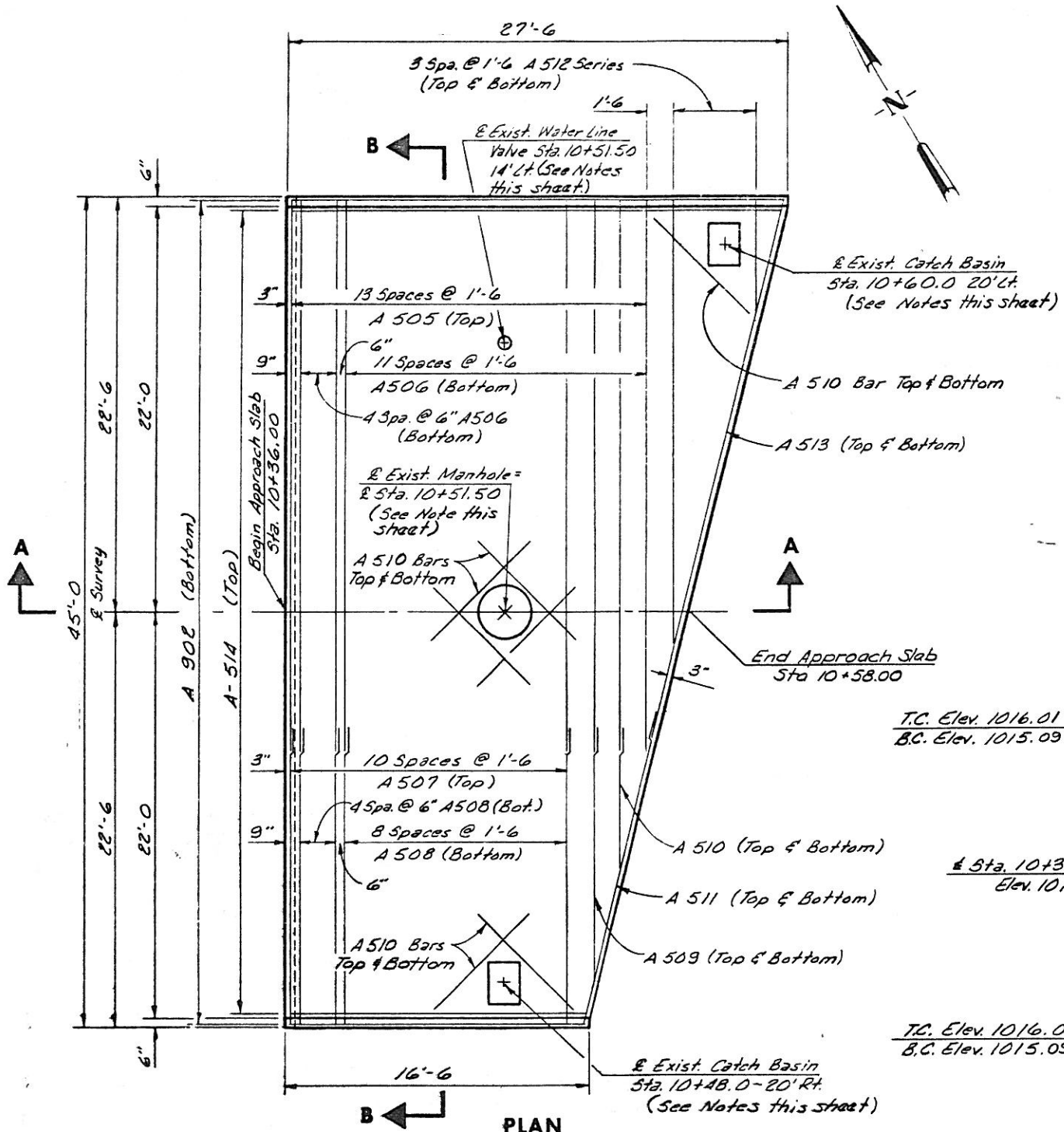
**STARK COUNTY
CITY OF CANTON
15th STREET S.W.**

REINFORCING STEEL				
MARK	No. REQD.	LENGTH	DIM.	
A505	14	30'-0"		
A506	17	30'-0"		
A507	11	16'-3"		
A508	14	16'-3"		
A509	2	13'-9"		
A510	16	7'-8"		
A511	2	17'-7"		
A512	1 Series	24'-0" to		
		6'-0"		
A513	2	30'-0"		
A514	30	16'-0" to		
		27'-0"		
A902	68	17'-3" to 16'-0"		
		28'-3"		

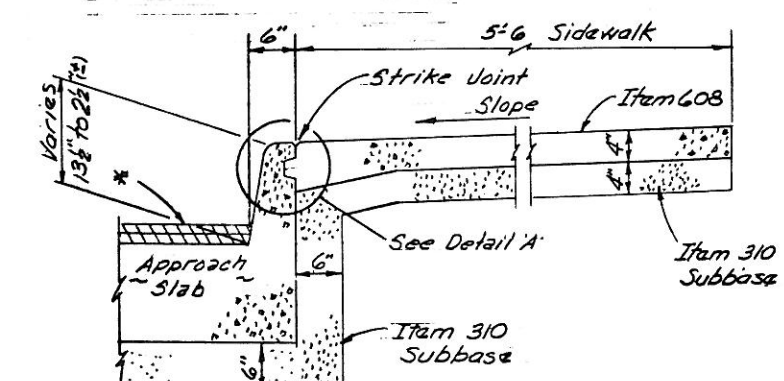
ITEM	TOTAL	UNIT	DESCRIPTION
402	3.59	Cu. Yd.	Asphalt Concre
404	3.59	Cu. Yd.	Asphalt Concre.
407	10.76	Gal.	Tack Coat
407	0.38	Tons.	Cover Aggrega
611	110	Sq. Yd.	Reinf. Concrea
310	18.3	Cu. Yd.	Subbase Type

For additional Approach Slab notes see S&D dwg. AS-1-72.

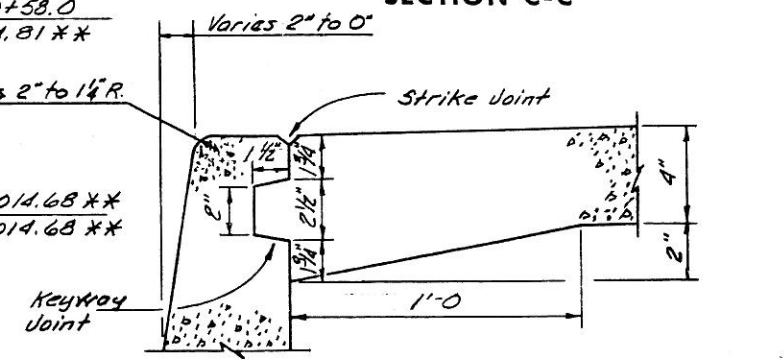
W. E. QUICKSALL AND ASSOCIATES, II CONSULTING ENGINEERS • NEW PHILADELPHIA				
AS-2 APPROACH SLAB D				
15TH ST. S.W. BRIDGE OVER WEST BRANCH NIMISHILLEN C				
STARK COUNTY			STA 10	STA 10
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
ASD	ASD	WOL	JMS	10



SECTION B-B



SECTION C-C



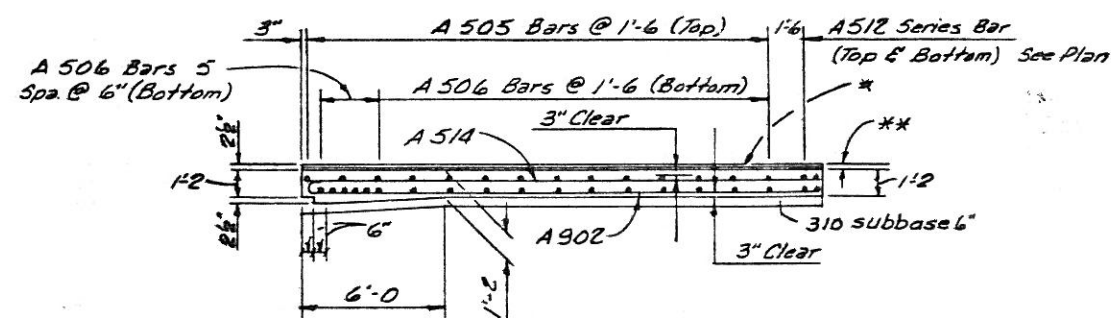
DETAIL A

**TYPICAL CURB & SIDEWALK DETAILS
AT APPROACH SLABS**

Notes: Existing Manhole & Catch Basins to be adjusted to grade under Item 604. Water Valve Box adjusted to grade under Item 814. T.C. denotes Top of Curb. B.C. denotes Bottom of Curb at asphalt concrete surface.

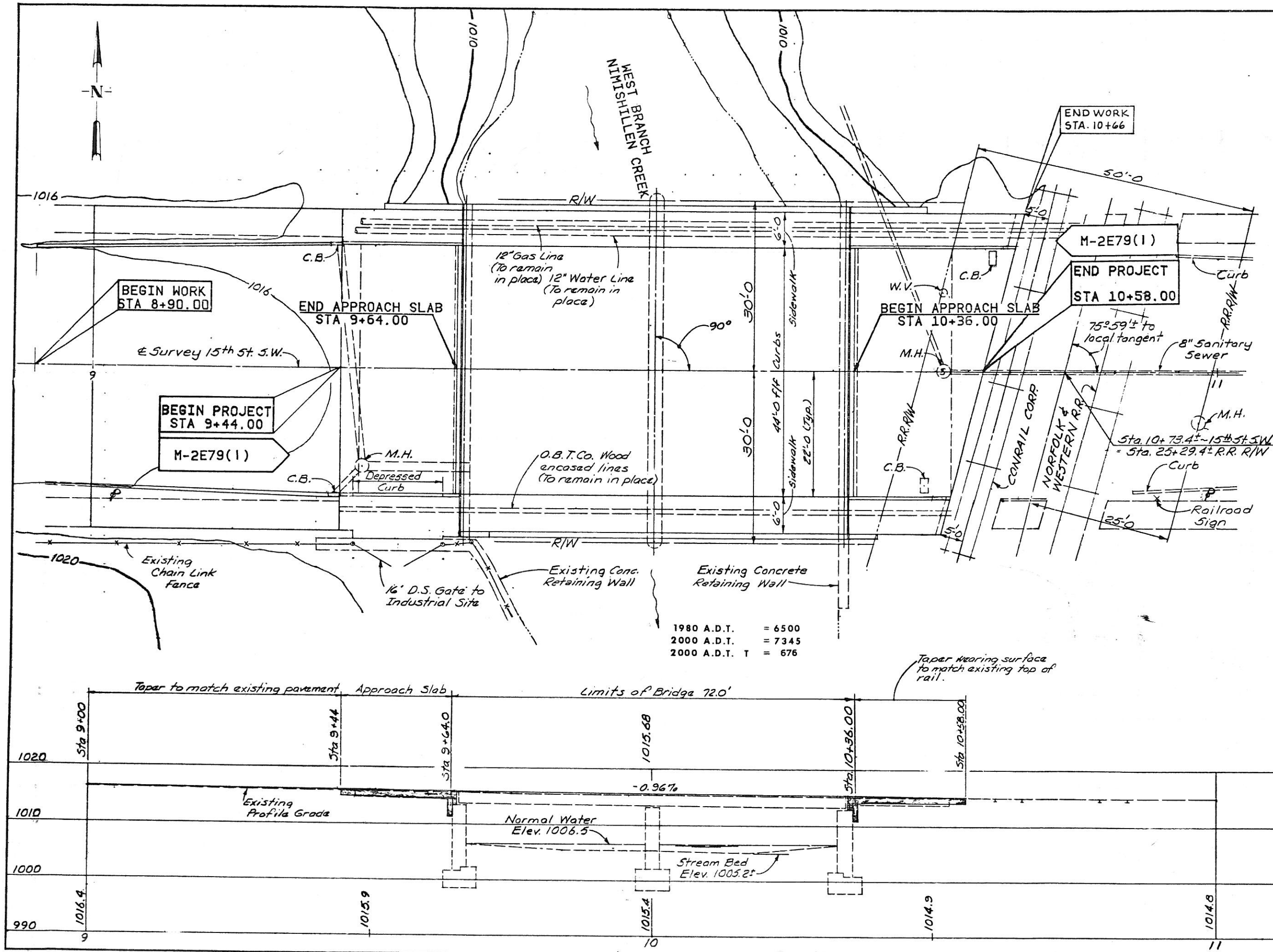
**** Note:** Elevations of Approach Slab surface where it parallels the R.R. tracks shall be set to match existing top rail elevation.

SECTION A-A



FHWA REGION	STATE	PROJECT
5	OHIO	

STARK COUNTY
CITY OF CANTON
15th STREET S.W.



EXISTING STRUCTURE

TYPE: Continuous steel beam concrete filled steel gir. and reinforced concrete substructure units.
 SPANS: 34.0'-34.0'
 SKEW: 0° 00'
 ROADWAY: 44'-0" f/f curbs + 2 sidewalks.
 APPROACH SLABS: 18'-0" long
 ALIGNMENT: Tangent

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and modified substructure units.
 SPANS: 34.0'-34.0' % Bear
 SKEW: 0° 00'
 ROADWAY: 44'-0" f/f curbs + 2 sidewalks.
 LIVE LOAD: HS20-44, Case 1 the Alternate Military Loading.
 WEARING SURFACE: Mon. Concrete
 APPROACH SLABS: 15'-1-72
 ALIGNMENT: Tangent

BENCH MARK: B.M. #1 On cor. & large door at Wilkoff Distr. Inc. Facing 15th St. S.W., Elev.

STREAM DATA

HIGH WATER DATA: *
 20 Year: Elev. 1013.5.
 100 Year: Elev. 1015.7
 * From Flood Plain Profiles by U.S. Army Corps of Engineers.

Stations along the & Survey should be verified in the field prior to construction. See General Notes, sheet 21, Sheet.

W. E. QUICKSALL AND ASSOCIATES, INC.
 CONSULTING ENGINEERS • NEW PHILADELPHIA, OHIO

SITE PLAN

15TH ST. S.W. BRIDGE OVER WEST BRANCH NIMISHILLEN CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
PMZ	PMZ		JMG	wdc	10/6

NOTES

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
5	OHIO		9 15

STARK COUNTY
CITY OF CANTON
15th STREET S.W.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GEN'L.
202	LUMP	SUM	PORTIONS OF STRUCTURES REMOVED				LUMP
503	14	CU. YD.	UNCLASSIFIED EXCAVATION	14			
509	15,416	LB.	REINFORCING STEEL	4,331		11,085	
510	280	EACH	DOWEL HOLES	280			
511	113	CU. YD.	CLASS "S" CONCRETE, SUPERSTRUCTURE			113	
511	26	CU. YD.	CLASS "C" CONCRETE, ABUTMENTS ABOVE FOOTINGS	26			
512	2	SQ. YD.	TYPE B WATERPROOFING	2			
513	5,693	LB.	STRUCTURAL STEEL	1,223		4,470	
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL, SURFACE PREP.			LUMP	
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL, SPOT PRIME			LUMP	
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL, COMP. COAT PRIME			LUMP	
514	LUMP	SUM	FIELD PAINTING OF EXISTING STEEL, COMP. COAT FINISH			LUMP	
517	171.5	LIN. FT.	RAILING (CONCRETE PARAPET WITH DOUBLE PIPE RAIL)	33		138.5	
518	25	CU. YD.	POROUS BACKFILL	25			
849	119.74	LIN. FT.	ELASTOMERIC COMPRESSION SEALS FOR STRUCTURAL STEEL, 3" WIDTH				119.74
SPECIAL	17,522	LB.	EPOXY COATED REINFORCING STEEL (SEE PROPOSAL NOTE)			17,522	

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS20-44 CASE II AND TH" ALTERNATE MILITARY LOADING.

CONCRETE CLASS S - UNIT STRESS 1200 P.S.I. (SUPERSTRUCTURE)
CONCRETE CLASS C - UNIT STRESS 1333 P.S.I. (SUPERSTRUCTURE)
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.

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP MAT ONLY.
MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED FOR DESIGN PURPOSES TO BE 1".

REFERENCE SHALL BE MADE TO:

STANDARD DRAWING: BR-2-67, REVISED 10-15-71
AS-1-72, DATED 6-30-72
SUPPLEMENTAL SPECIFICATION: 836, DATED 3-12-75
849, DATED 4-25-77
853, DATED 6-26-78
956, DATED 6-26-78

REINFORCING STEEL SPLICES:

UNLESS NOTED OTHERWISE, ALL REINFORCING STEEL SPLICES SHALL BE MADE BY OVERLAPPING THE ENDS OF THE BARS NOT LESS THAN 30 DIAMETERS.

PLANS OF THE EXISTING BRIDGE ARE ON FILE WITH AND CAN BE SEEN AT THE CANTON CITY ENGINEER'S OFFICE.

PORTIONS OF STRUCTURE TO BE REMOVED:

THE FOLLOWING PORTIONS OF THE EXISTING STRUCTURE SHALL BE REMOVED TO THE LIMITS SHOWN ON THE PLANS:

1. CONCRETE FILLED STEEL GRID DECK
2. CONCRETE FILLED STEEL GRID SIDEWALKS
3. REINFORCED CONCRETE PARAPETS
4. EXISTING STRUCTURAL STEEL END DAM ANGLES
5. APPROACH SLABS
6. ABUTMENT BACKWALLS (DOWN TO ELEVATION OF EXISTING BEAM SEATS)

SPECIAL CARE AND APPROPRIATE MEASURES SHALL BE TAKEN TO PREVENT REMOVAL DEBRIS FROM FALLING INTO THE CREEK.

NEW BRIDGE WORK SHALL CONSIST OF THE FOLLOWING:

1. REINFORCED CONCRETE ABUTMENT BACKWALLS
2. REINFORCED CONCRETE DECK AND SIDEWALKS
3. RAILING WITH CONCRETE PARAPETS
4. APPROACH SLABS

SPECIAL CARE SHALL BE TAKEN DURING BRIDGE REMOVAL AND CONSTRUCTION TO INSURE THAT NO DAMAGE OCCURS TO THE EXISTING GAS LINE, WATER LINE AND THE TELEPHONE DUCT THAT WILL REMAIN IN PLACE.

BONDING ELASTOMERIC COMPRESSION SEALS IN STRUCTURAL STEEL JOINTS

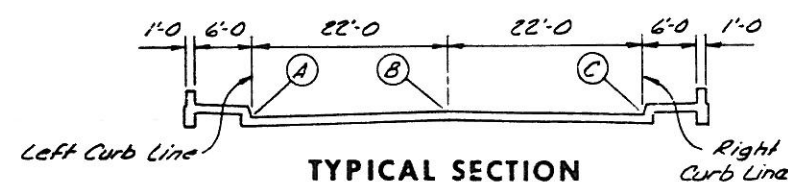
DESCRIPTION: THIS ITEM SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 849 EXCEPT AS FOLLOWS:
MATERIALS: ADHESIVES SHALL BE SIKASTIX 360, FEL-POXY FP-101 OR AN APPROVED ALTERNATE. METAL SURFACE PRIMERS ARE NOT REQUIRED.

PREPARATION FOR INSTALLATION: TO AVOID THE SUBSEQUENT CONTAMINATION OF PREPARED SURFACES, ALL EXTERIOR ELASTOMERIC SURFACES SHALL BE CLEANED WITH MEK, T OR OTHER APPROVED SOLVENT USING CLEAN DISPOSABLE CLOTHS. THEN, NOT MORE THAN SEVEN DAYS PRIOR TO SEAL INSTALLATION, A THIN COATING OF CYCLIZING PASTE* SHALL BE APPLIED TO THE ELASTOMERIC BONDING SURFACES ONLY. AFTER FROM 25 TO 40 MINUTES, THE PASTE SHALL BE WASHED FROM THE SURFACES WITH CLEAN WATER.

THE PREPARATION OF THE STEEL SURFACES SHALL BE ACCOMPLISHED NOT MORE THAN 24 HOURS PRIOR TO ADHESIVE BONDING.

INSTALLATION: IMMEDIATELY PRIOR TO ADHESIVE APPLICATION, BONDING SURFACES SHALL BE CLEAN, DRY AND WARMER THAN 45°F, AND THEY SHALL BE MAINTAINED AT OR ABOVE THIS TEMPERATURE UNTIL THE ADHESIVE HAS CURED. ADHESIVE SHALL BE APPLIED LIBERALLY TO BOTH THE STEEL AND ELASTOMERIC BONDING SURFACES USING A SERRATED SPATULA IF NECESSARY TO ACHIEVE A COMPLETE AND RELATIVELY UNIFORM COATING. THEN THE ELASTOMERIC SEAL SHALL BE COMPRESSED SUFFICIENTLY SO THAT IT CAN BE INSERTED AND ALLOWED TO EXPAND WITHIN THE JOINT. AFTER INSTALLATION, EXCESS ADHESIVE (EXCEPT FOR THE 1/4 INCH BEAD) SHALL BE REMOVED FROM THE EXPOSED SEAL SURFACES.

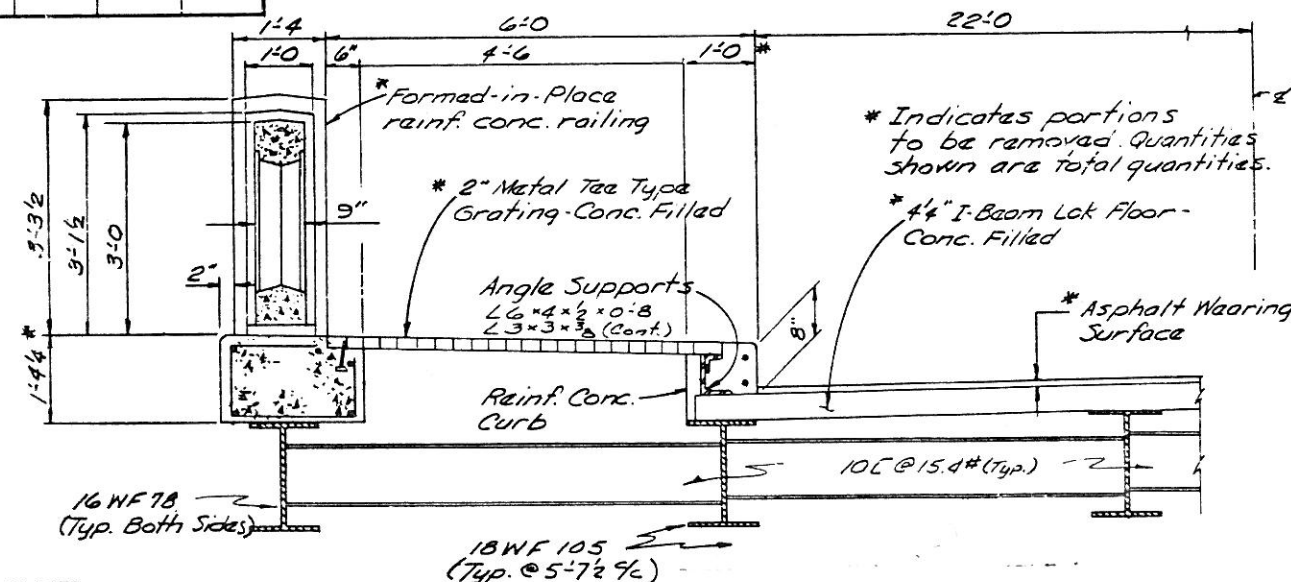
*CYCLIZING PASTE IS A MIXTURE OF ONE POUND OF PITTSBURGH PLATE GLASS INDUSTRIES' HISL 233 OR AN APPROVED ALTERNATE AND SIX POUNDS OF CONCENTRATED SULFURIC ACID (18 MOLAR). TO MIX THE PASTE, ADD HISL TO ACID SLOWLY WHILE STIRRING MIXTURE TO ACHIEVE A SMOOTH VISCOUS PASTE. NOTE: SINCE CONCENTRATED SULFURIC ACID IS VERY CORROSIVE AND HISL IS AN EXTREMELY FINE NON-TOXIC POWDER, RUBBER GLOVES AND GLASSES SHOULD BE USED BY THOSE USING THE PASTE WHILE MIXING THE PASTE.



TOP OF SLAB ELEVATIONS

STATION	POINT A	STATION	POINT B	STATION	POINT C
9+66	1015.75	9+66	1016.00	9+66	1015.75
9+83	1015.60	9+83	1015.85	9+83	1015.60
10+00	1015.43	10+00	1015.68	10+00	1015.43
10+17	1015.27	10+17	1015.52	10+17	1015.27
10+34	1015.11	10+34	1015.36	10+34	1015.11

NOTE: ELEVATIONS ARE THOSE REQUIRED BEFORE DECK CONCRETE IS PLACED TO ALLOW FOR DEAD LOAD DEFLECTION CAUSED BY THE WEIGHT OF THE CONCRETE.



EXISTING END DAM

Sheet 2

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NOTES, ESTIMATED QUANTITIES & TOP OF SLAB ELEVATIONS

15th ST. S.W. BRIDGE OVER
WEST BRANCH NIMISHILL CREEK
STA. 9+64.0

STARK COUNTY STA. 10+36

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JMS	JMS		D.O.G.	W.D.A.	1/9/80

FHWA REGION	STATE	PROJECT
5	OHIO	

STARK COUNTY
CITY OF CANTON
15th STREET S.W.

NOTES

Refer to CMS 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 structures by the addition of steel, spliced in accordance with 509.08.

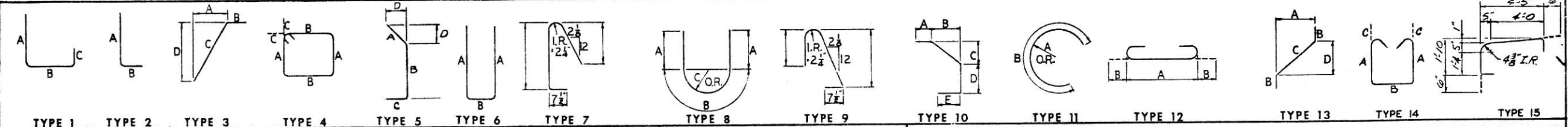
All dimensions are out-to-out.

Str. in the "TYPE" column indicates straight bars.

AN "E" DESIGNATION PRECEDING THE BAR SIZE EPOXY COATED BARS.

* INDICATES REINFORCING TO BE INCLUDED RAILING FOR PAYMENT.

ALL RAILING BARS SHALL BE EPOXY COATED AS PER PROPOSAL NOTE.



ABUTMENTS										
MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH
							REAR	FORWARD	WEIGHT	
A801	5	1'-6 1/2"	2'-4"	1'-1"	1'-1"		30	30	60	4'-10"
A601	2	2'-4"	1'-10"				57	57	114	4'-0"
A602	Str.						57	57	114	3'-2"
A603	1	2'-5"	1'-5"	8"			44	45	89	4'-2"
A604	1	3'-0"	11"	1'-7"			44	45	89	5'-2"
A605	1	3'-9"	1'-5"	1'-7"			13	12	25	6'-5"
A501	Str.						6	-	6	29'-8"
A502	Str.						5	5	10	27'-0"
A503	Str.						1	1	2	23'-0"
A504	Str.						2	-	2	7'-6"
A505	Str.						2	2	4	6'-8"
A506	Str.						2	2	4	5'-7"
A507	Str.						4	4	8	2'-4"
A508	Str.						-	6	6	29'-2"
A509	Str.						-	2	2	7'-0"
A510	Str.						-	4	4	4'-8"
A511	6	2'-2"	8"				-	1	1	4'-9"
A512	6	1'-10"	8"				-	1	1	4'-1"
A513	6	1'-2"	8"				-	1	1	2'-9"
A514	3	11"	2'-9 1/2"	2'-1 1/2"	1'-11"		-	2	2	4'-11"

RAILING BARS										
MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH
R501	Str.								16	14'-8"
R502	Str.								16	11'-9"
R503	Str.								36	4'-8"
R504	Str.								12	13'-8"
R505	6	4'-2"	8"						8	8'-9"
R506	8	1'-3"	9"	3'-4"					16	3'-3"
R507	6	3'-2"	8"						16	6'-9"
R508	14	3'-6"	8"	5"					8	8'-3"
R509	1	3'-6"	4'-8"	8"					4	8'-7"
R510	1	4'-2"	4'-8"	8"					4	9'-3"
R511	15	(See Detail)							8	6'-11"

MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH

SUPERSTRUCTURE										
MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH
S601	Str.								130	6'-9"
S501	Str.								256	23'-11"
S502	Str.								80	30'-0"
S503	Str.								40	11'-11"
S401	Str.								16	30'-0"
S402	Str.								8	11'-3"
E601	Str.								128	26'-10"
E602	Str.								128	21'-3"
E603	1	8'-2"	6'-8"	5'-2"					130	7'-6"
E501	Str.								16	30'-0"
E502	Str.								8	11'-11"
E503	4	1'-7"	10"	5"					130	5'-3"
E504	4	1'-4"	9"	5"					130	4'-7"
E505	14	2'-3"	8"	5"					130	5'-9"
E401	Str.								142	30'-0"
E402	Str.								71	11'-3"
E403	Str.								72	15'-0"

MARK	TYPE	A	B	C	D	E	NUMBER		TOTAL	LENGTH

Sheet

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REINFORCING BAR SCHEDULE

15TH ST. S.W. BRIDGE OVER
WEST BRANCH NIMISHILLEN CREEK

STA. 9+00 TO STA. 9+50

DESIGNED

DRAWN

CHECKED

REVIEWED

JMS

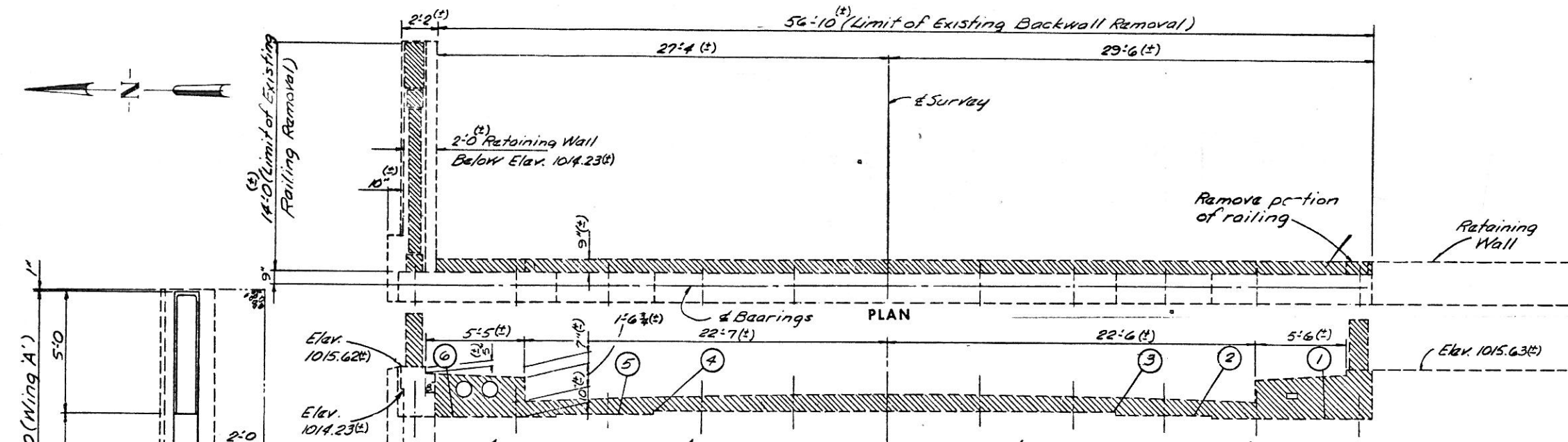
JMS

WDA

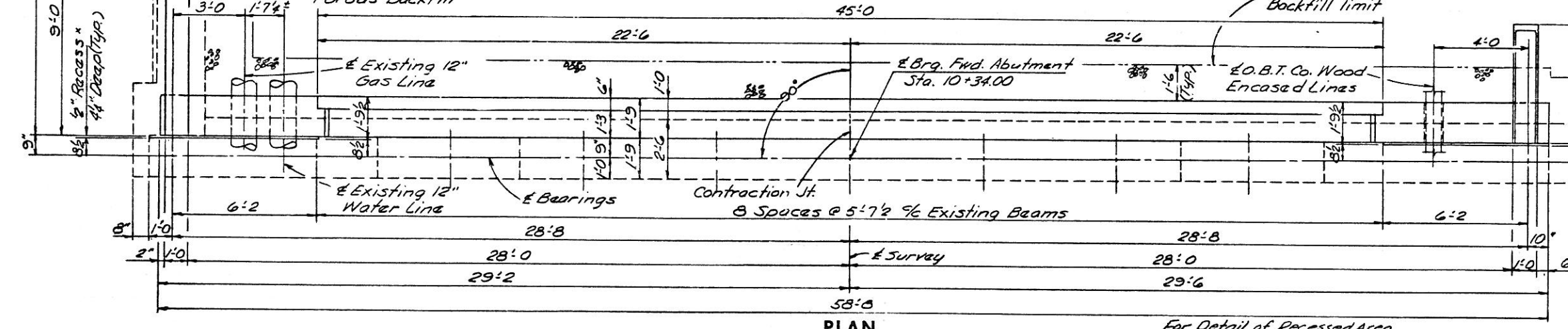
D.O.O.

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

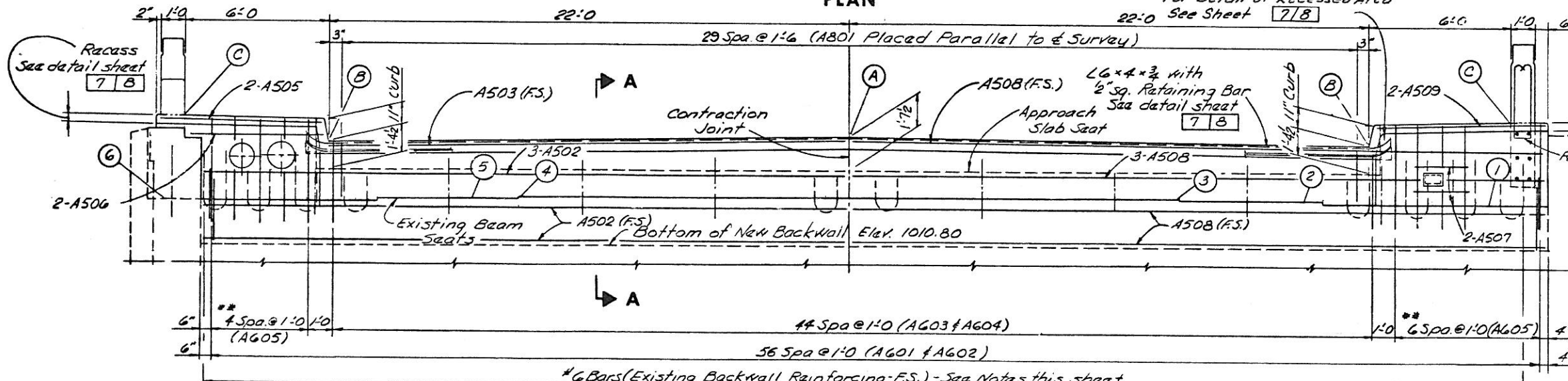
STARK COUNTY
CITY OF CANTON
15th STREET S.W.



ELEVATION
EXISTING FORWARD ABUTMENT



PLAN



ELEVATION

Notes:
Cross-hatched areas on existing abutment detail denotes portions of abutments and retaining walls to be removed (to limits shown).

All existing vertical or horizontal reinforcing steel which will extend into the new abutment backwalls and railings shall remain in place after removal of concrete. These bars be cleaned of all foreign material and (if required) to limits shown.

All existing reinforcing steel which would otherwise be exposed after final construction shall be burned off to a depth of 1 to 2 inches below surface and void filled with epoxy mortar.

For Section A-A see sheet 4/B

For Wing 'A' & Wing 'B' see detail sheet []

Any existing reinforcement which is to be replaced and becomes damaged due to removal operations, must be replaced with new dowel bars at the Contractor's expense.

Dowel holes and grout anchoring shall accordance with Item 510 and Supplement Specification 853, and paid for under Item

N.S. denotes Near Side

F.S. denotes Far Side

For Contraction Joint Detail see sheet 6/C

Note: Existing beam seat elevations are by field survey of exterior seats only. All other elevations were determined from existing plan and must be verified in the field prior to starting new construction.

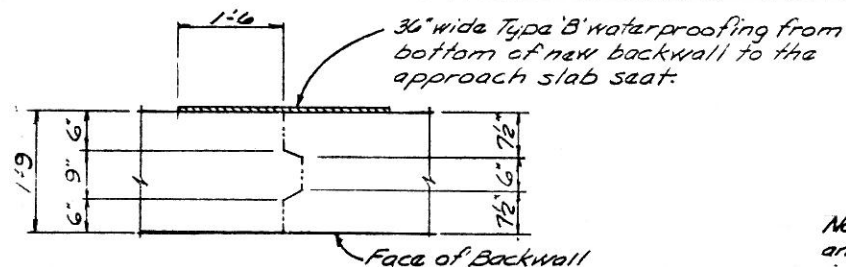
ELEVATIONS			EXISTING BEAM SEAT ELEVATIONS					
A	B	C	1	2	3	4	5	6
1015.35	1015.10	1016.10	1012.63	1012.73	1012.81	1012.80	1012.72	1012.62

W. E. QUICKSALL AND ASSOCIATES, INC.				
CONSULTING ENGINEERS • NEW PHILADELPHIA				
FORWARD ABUTMENT D				
15th ST. S.W. BRIDGE OVER WEST BRANCH NIMISHILLEN C				
STA. 9+ STA. 10				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
JMS	JMS		Wda	D.O.G.

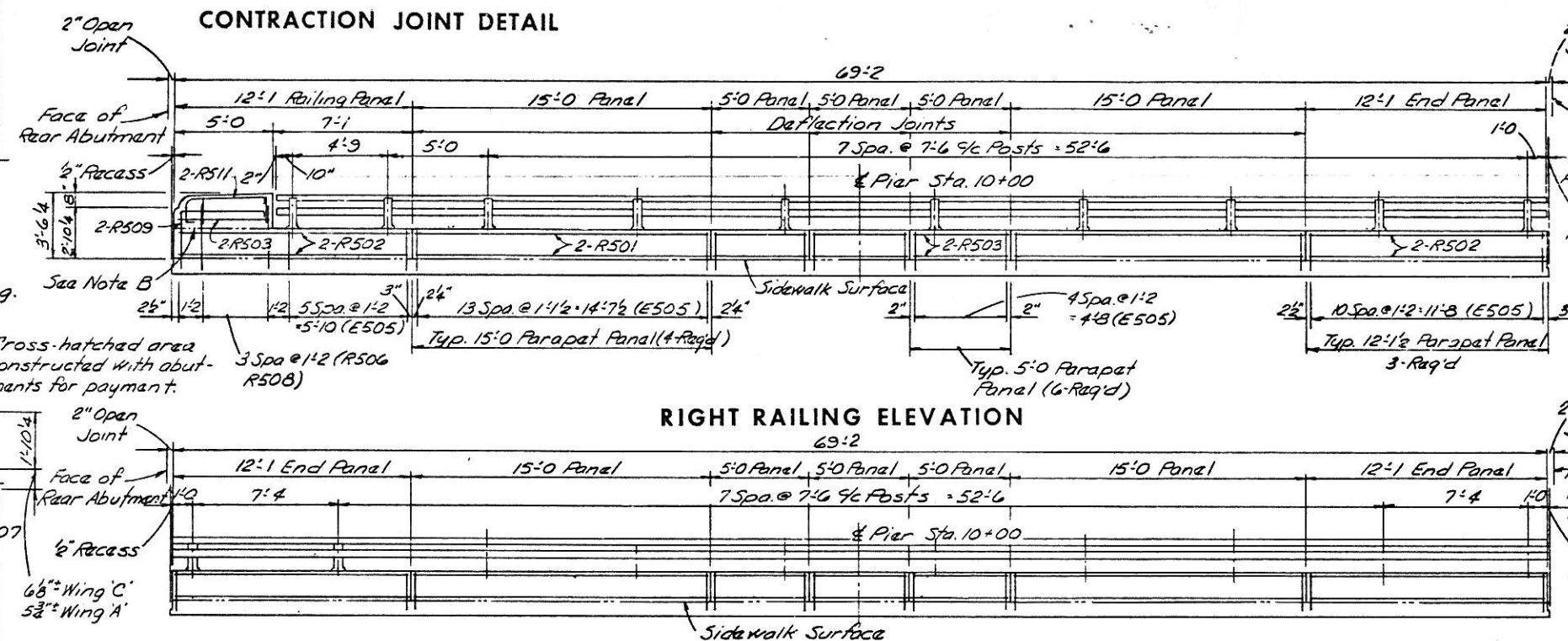
FED. RD DIVISION	STATE	PROJECT	
5	OHIO		

STARK COUNTY
CITY OF CANTON
15th STREET S.W.

Note B: For additional detail and notes above this construction joint refer to Wing 'B' details.



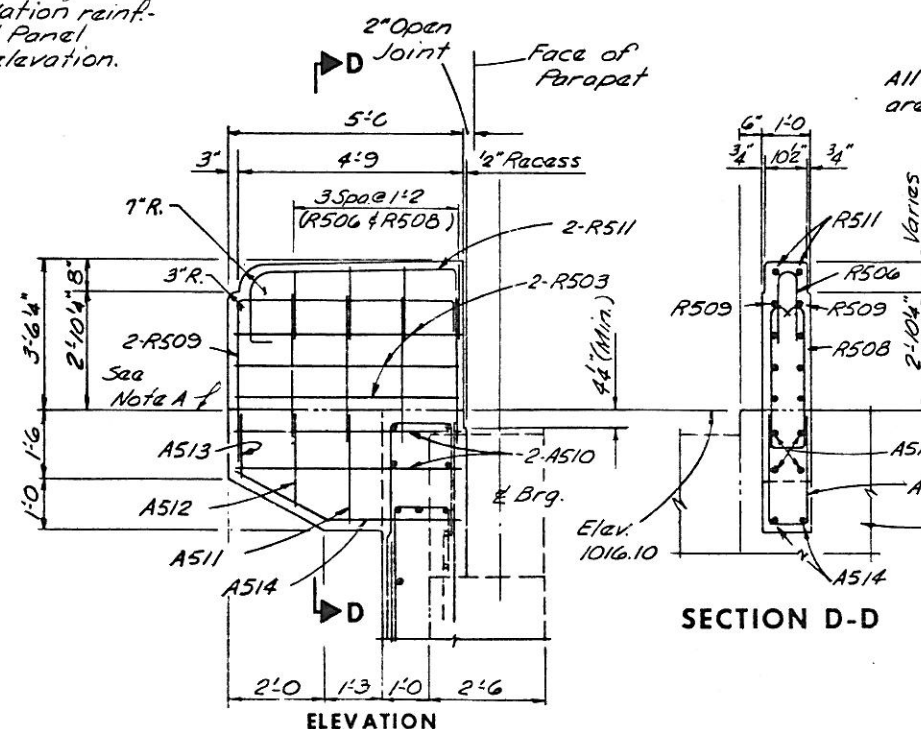
CONTRACTION JOINT DETAIL



RIGHT RAILING ELEVATION

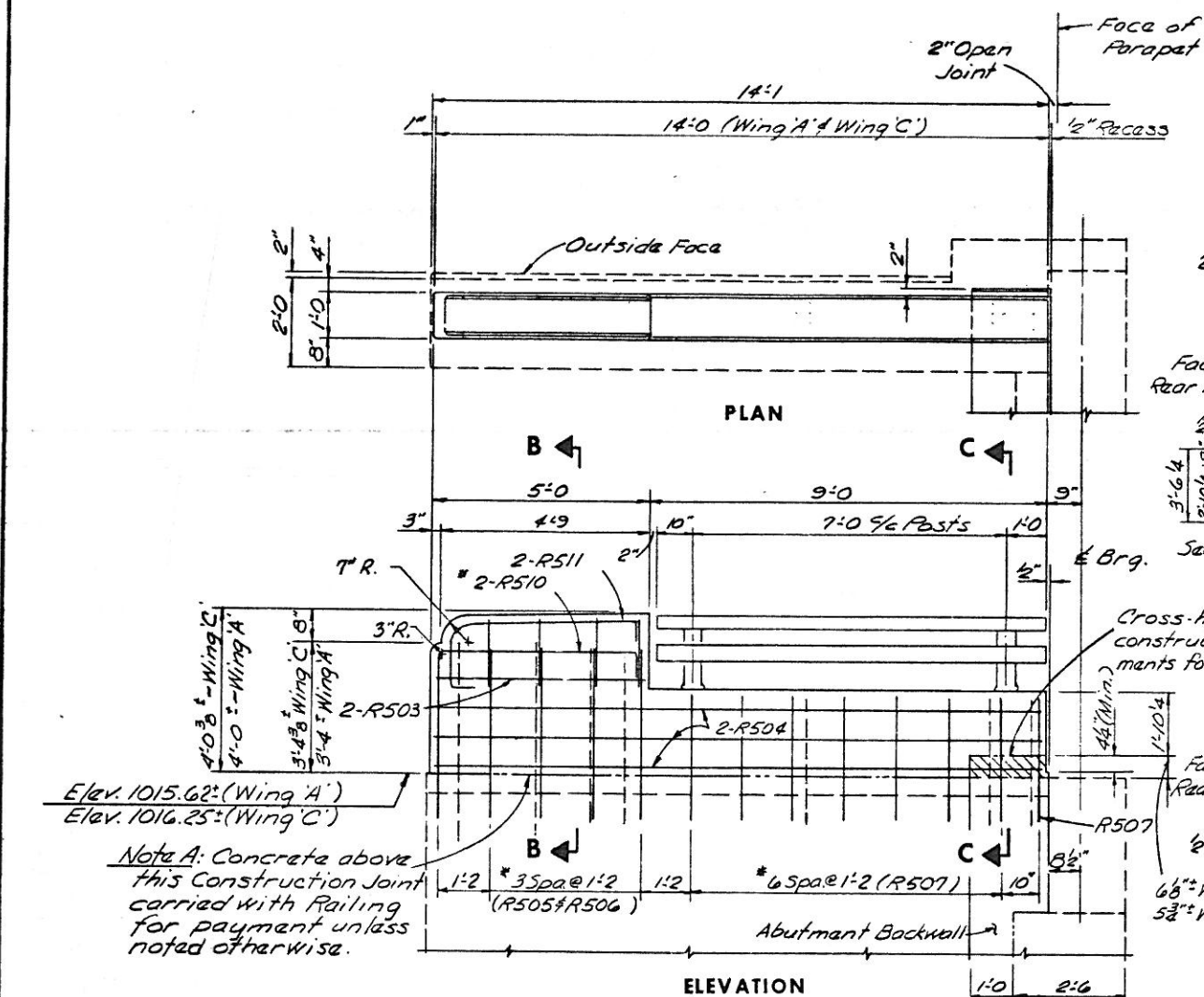
LEFT RAILING ELEVATION

Note: For mark numbers, quantities and spacing of left railing elevation reinf. refer to Typical Panel details on right elevation.

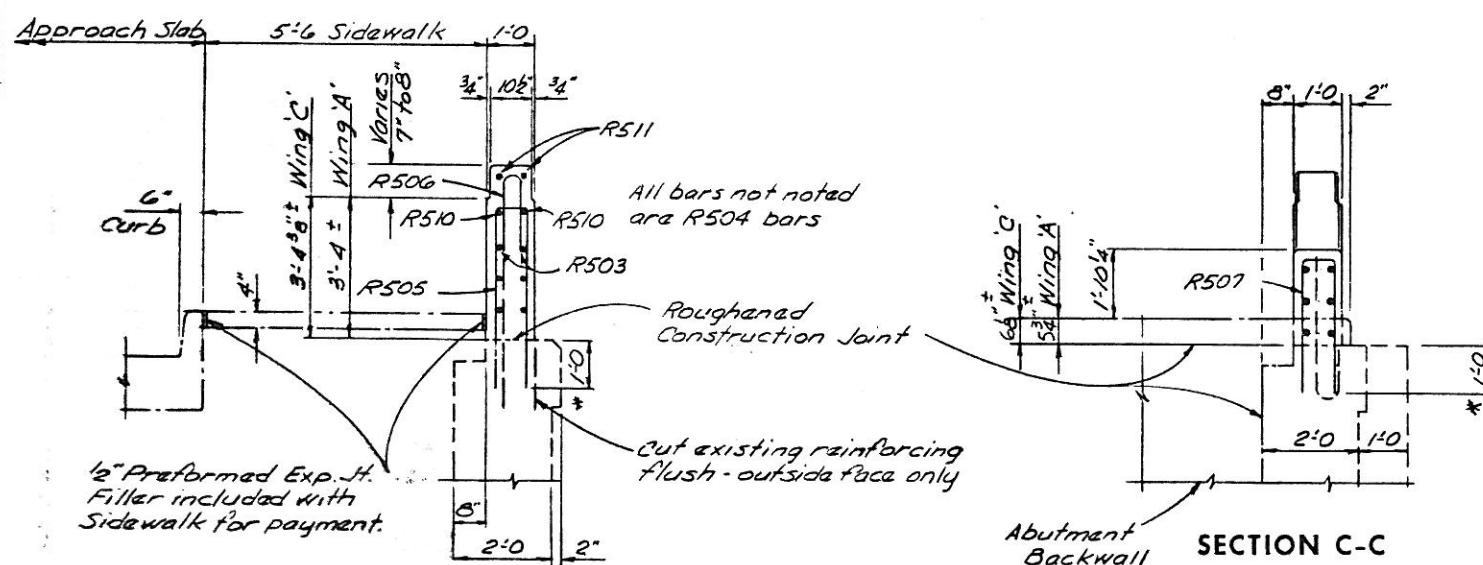


SECTION D-D

WING B



WING A (OPPOSITE HAND & AS NOTED)
WING C (AS SHOWN & AS NOTED)



SECTION B-B

SECTION C-C

* Note: Dowel Holes for R505, R507 and R510 bars shall be in accordance with Item 510, and Supplemental Specification 853, and paid for under Item 510.

All bars not noted
are R503 bars

For additional railing details refer
Standard Drawing BR-2-67.

Guardrail anchorage as shown on
BR-2-67 shall not be provided.

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SUPERSTRUCTURE DATA

15TH ST. S.W. BRIDGE OVER
WEST BRANCH NIMISHILLEN CR

STARK COUNTY STA. 9+6
STA. 10+

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JMS	JMS		W.D.	D.O.G.	10/6

Elevation	'A'	'B'	'C'
Rear Abutment	1016.01	1015.76	1016.76
Fwd. Abutment	1015.36	1015.11	1016.11

FHWA REGION	STATE	PROJECT
5	OHIO	

STARK COUNTY
CITY OF CANTON
15th STREET S.W.

WORK DESCRIPTION: THIS WORK WILL CONSIST OF SUPPLYING EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO INSTALL AN ELASTOMERIC COMPRESSION SEAL AT EACH ABUTMENT DECK JOINT IN ACCORDANCE WITH THE DETAIL DRAWINGS. THE CONTRACTOR WILL PROVIDE THE PROPER LENGTH OF SEAL AND THE NECESSARY HARDWARE INCLUDING THE STRUCTURAL STEEL JOINT ARMOR, RETAINER BARS, PRIMER AND ADHESIVE FOR THE PROPER INSTALLATION OF THE COMPRESSION SEAL. THE COMPRESSION SEAL SHALL BE PREFABRICATED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS WHERE SPECIFIC INSTRUCTIONS ARE NOT CONTAINED HEREIN, USE OF SPECIALIZED MATERIALS AND COMPOUNDS SHALL BE ACCORD TO MANUFACTURER'S RECOMMENDATIONS.

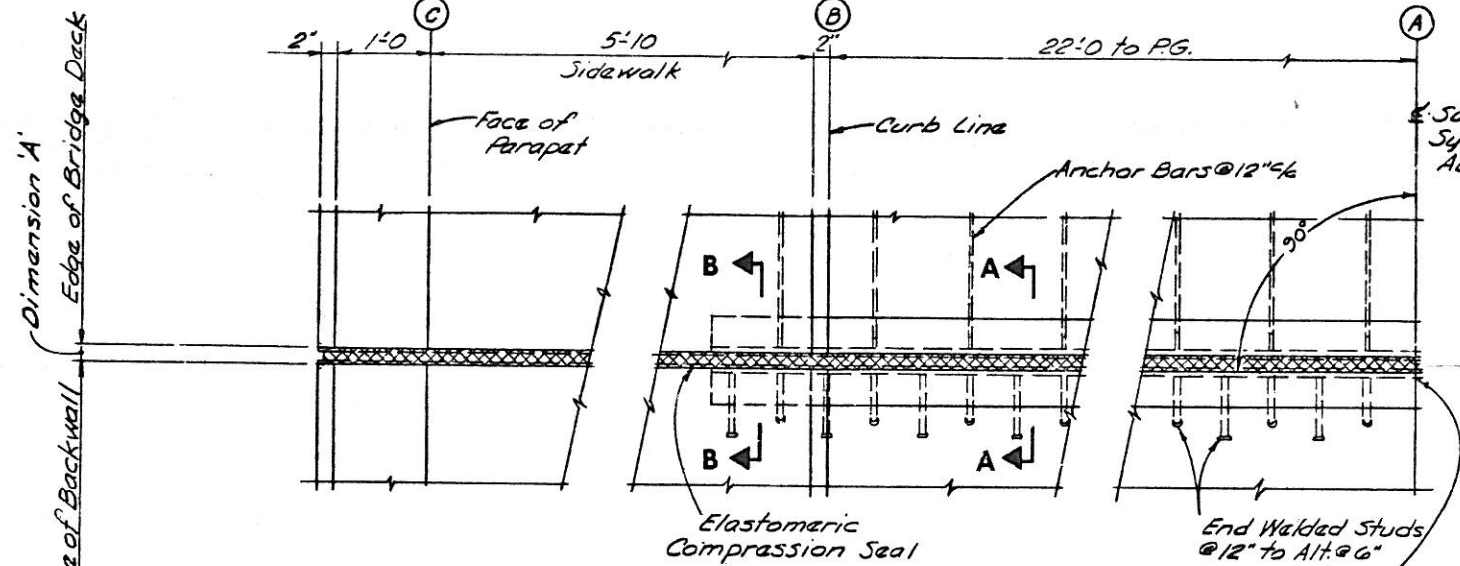
PRODUCT DESCRIPTION: THE JOINTS SHALL BE SEALED WITH A PERFORMED ELASTOMERIC COMPRESSION JOINT SEAL OF THE SIZE AND SHAPE SHOWN ON THE DETAIL DRAWINGS. THE SEAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 849, ELASTOMERIC COMPRESSION SEALS FOR STRUCTURAL STEEL JOINTS.

THE SEAL FURNISHED SHOULD BE ONE WHICH WILL COMPRESS ITSELF WITHOUT APPRECIABLE VERTICAL BUILDING OR MOVEMENT AT THE JOINT. THE PRESSURE EXERTED BY THE SEAL UPON THE SURFACES OF THE JOINT SHOULD BE NOT LESS THAN 4 PSI (BASED ON MANUFACTURER'S CALIBRATIONS) WITH THE SEAL 20% COMPRESSED.

THE CONTRACTOR SHALL INSURE THAT THE SHOP DRAWINGS OF STRUCTURAL STEEL FABRICATOR AND THE SEAL MANUFACTURER BE COORDINATED AND APPROVED PRIOR TO FABRICATION. ALL NECESSARY MATERIAL CERTIFICATIONS AND SAMPLES SHALL HAVE BEEN SUBMITTED AND APPROVED PRIOR TO THE INCORPORATION OF SUCH MATERIAL INTO THE PRODUCT.

STRUCTURAL STEEL: JOINT ARMOR AND RETAINER BARS SHALL BE IN ACCORDANCE WITH ASTM A-36.

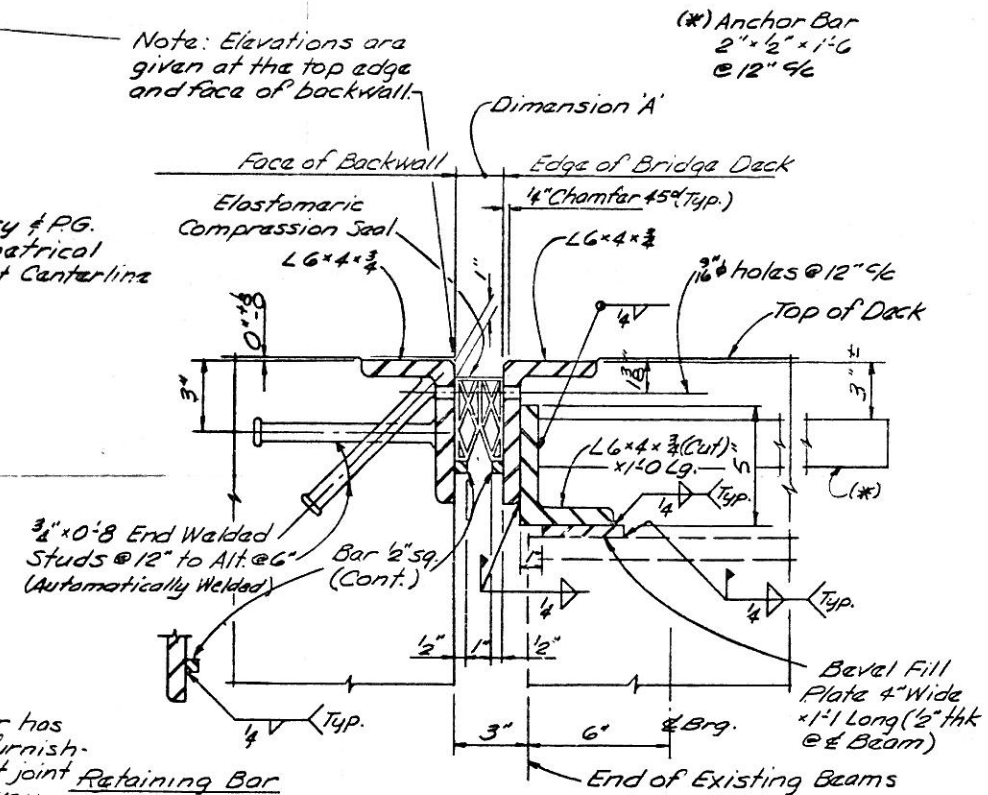
METHOD OF MEASUREMENT AND PAYMENT: JOINT ARMOR, INCLUDING RETAINER BARS SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL FOR PAYMENT.



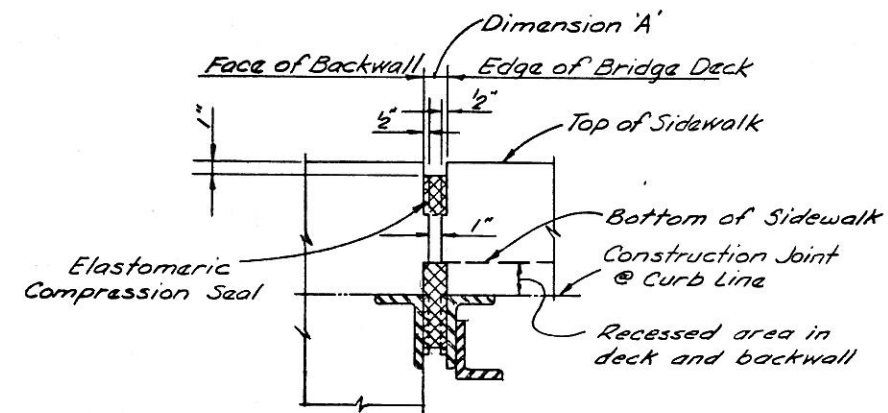
Dimension 'A' - The installation width of compression seals - 2 inches at temperatures between 40° & 80°F.

PARTIAL PLAN AT ABUTMENT DECK JOINTS

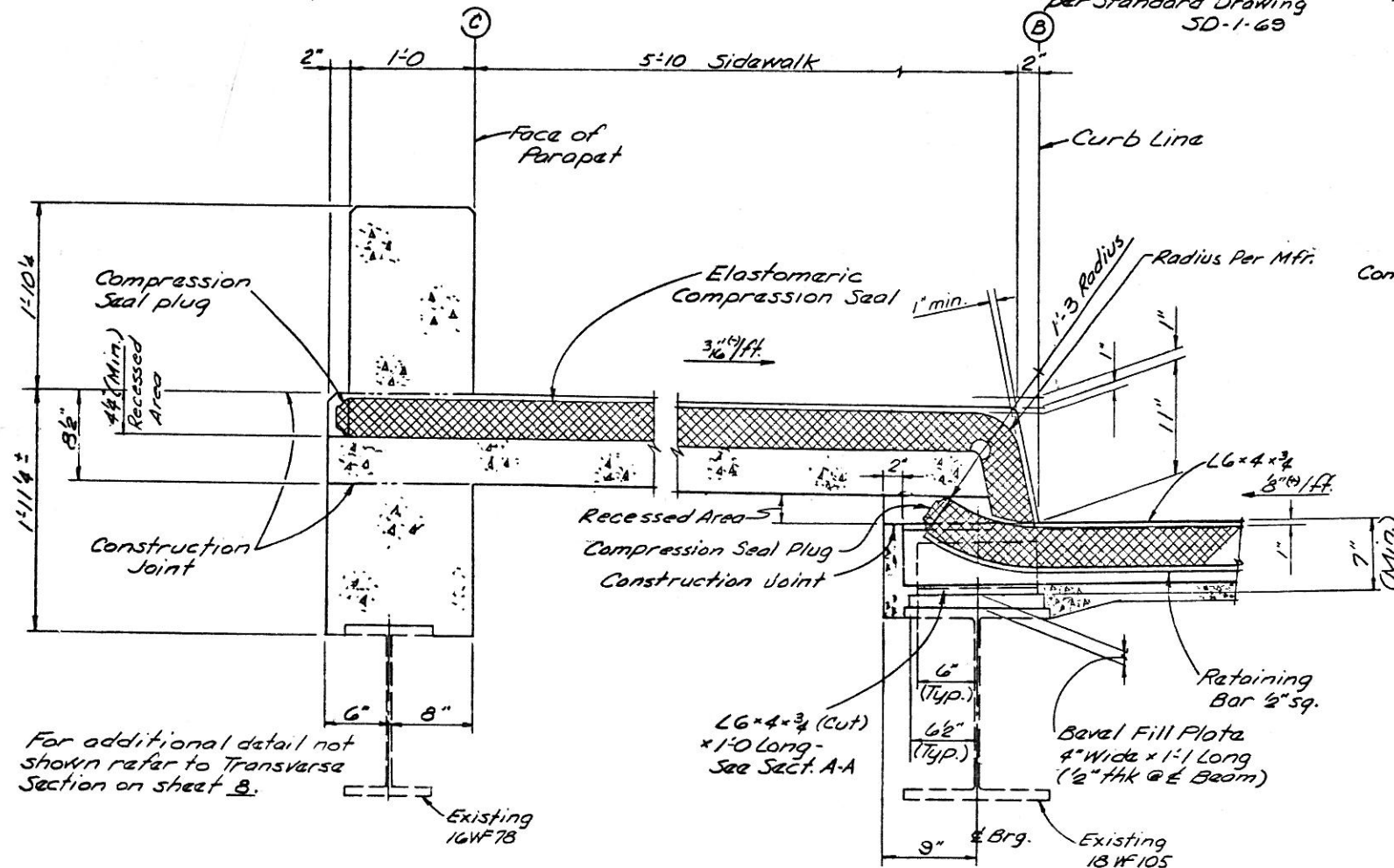
Note: Fabricator has the option of furnishing welded butt joint retaining bar at apex of roadway. Welding Detail per Standard Drawing SD-1-69.



SECTION A-A

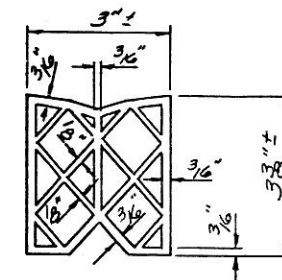


SECTION B-B



TYPICAL SECTION THRU DECK EXPANSION JOINT

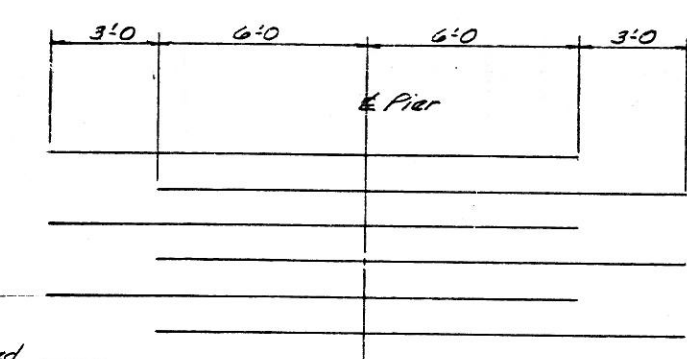
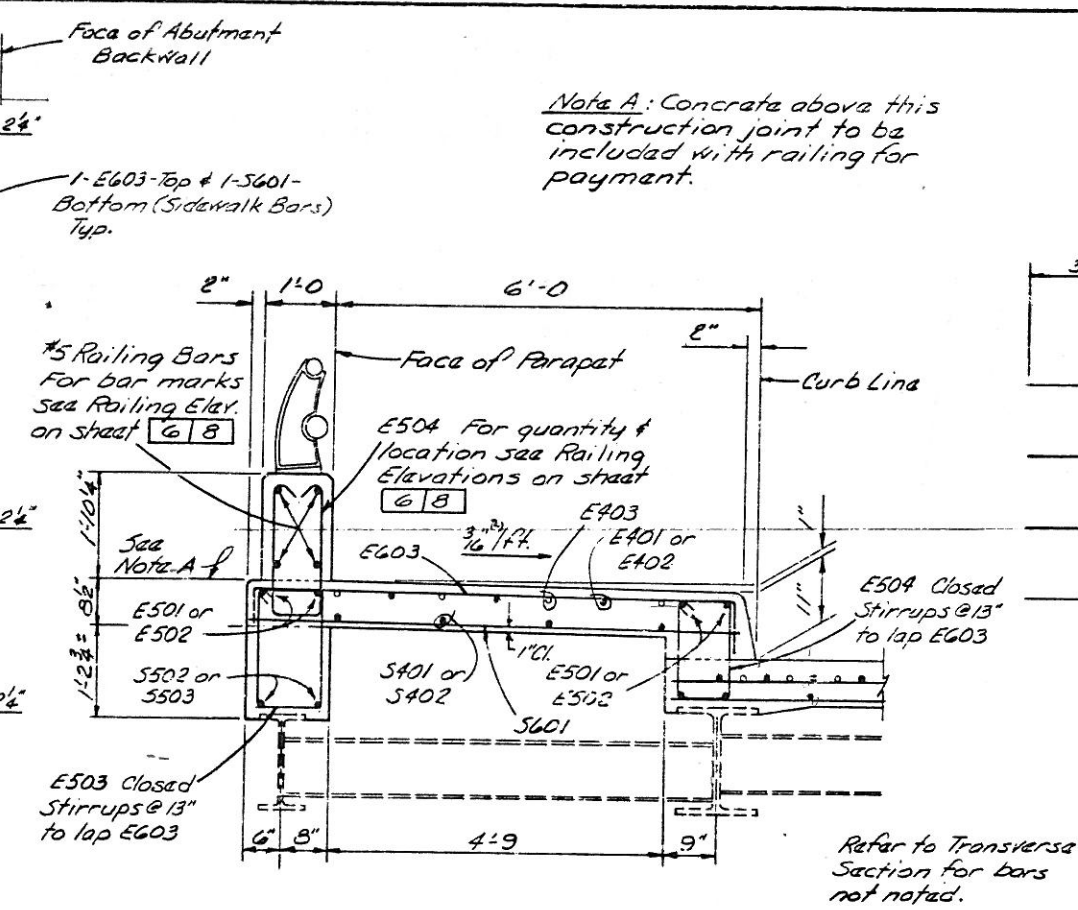
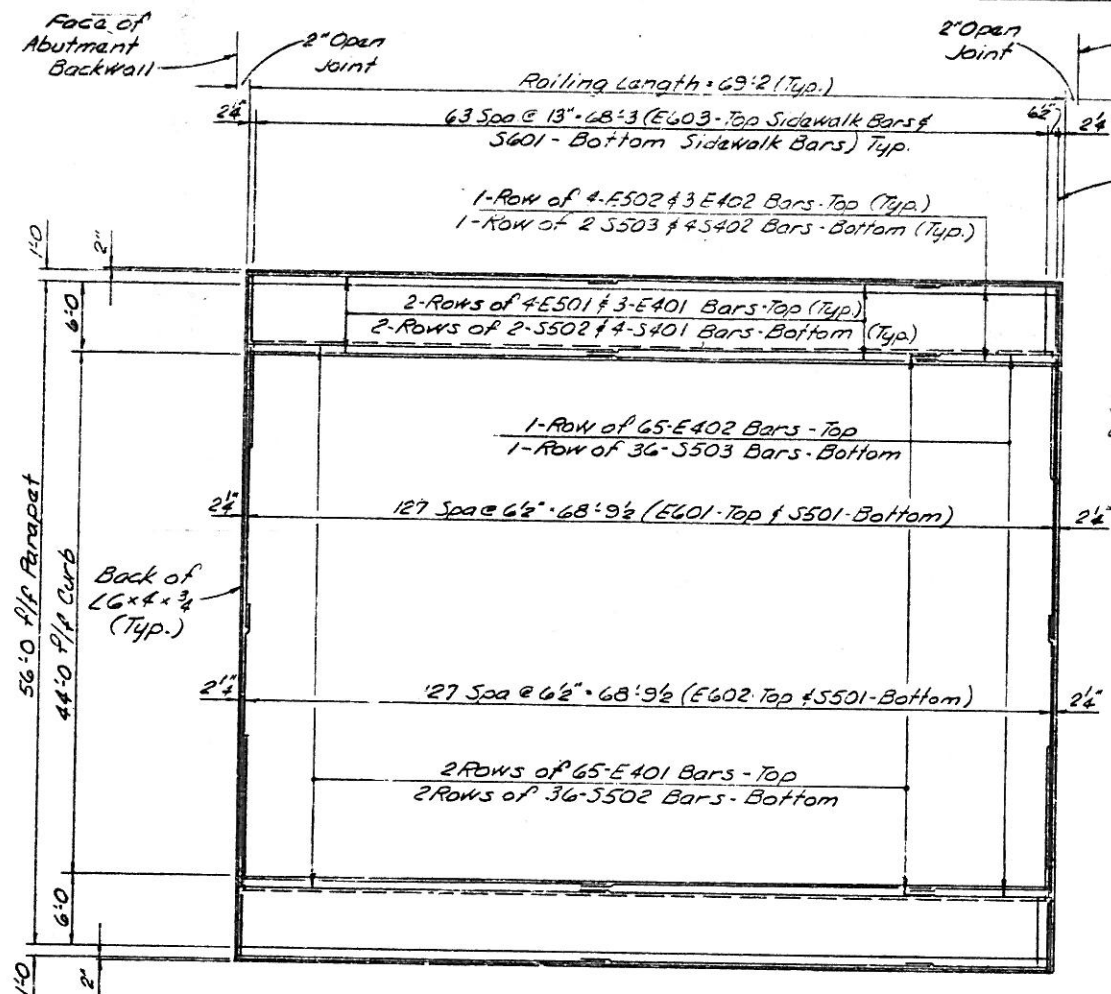
ELASTOMERIC COMPRESSION SEAL DETAIL



W. E. QUICKSALL AND ASSOCIATES, CONSULTING ENGINEERS • NEW PHILADELPHIA				
EXPANSION JOINT DETAIL				
15th ST. S.W. BRIDGE OVER WEST BRANCH NIMISHILLEN CREEK				
STA. 9+00 STA. 10+00				
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
JMG	JMS	PL	Wda	10/10

FHWA REGION	STATE	PROJECT
5	OHIO	

STARK COUNTY
CITY OF CANTON
15th STREET S.W.

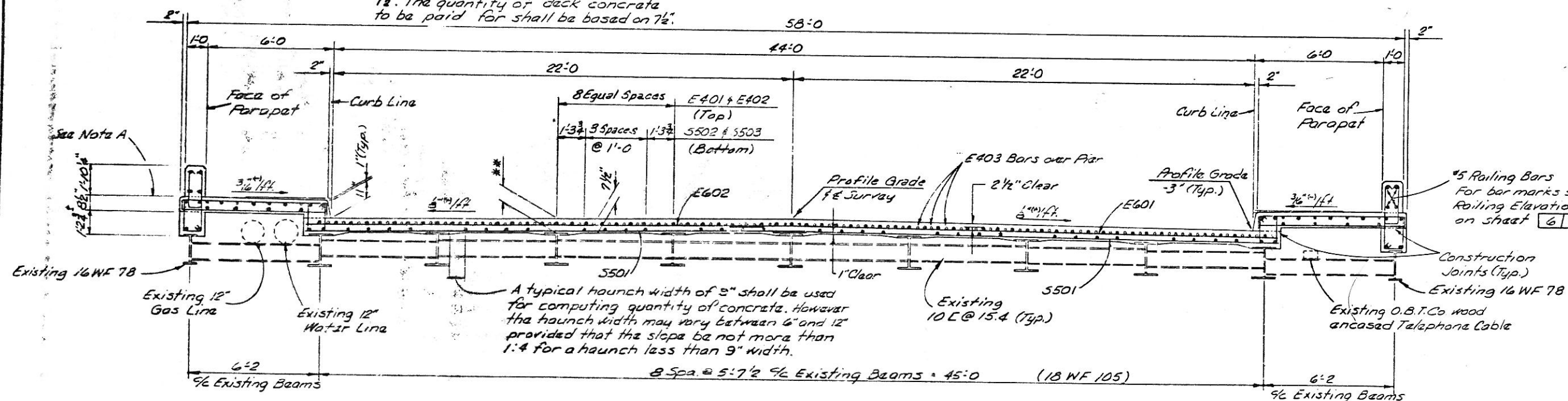


PLAN OF DECK REINFORCING STEEL

TYPICAL CURB & SIDEWALK DETAIL

Note - Minimum lap for reinforcing is:
1-3 for #4 Bars
1-7 for #5 Bars
1-11 for #6 Bars

** The distance from top of concrete to top of existing steel beams varies but in no case is the dimension less than 7 1/2". The quantity of deck concrete to be paid for shall be based on 7 1/2".



For partial transverse section of existing bridge see sheet 2/B

TRANSVERSE SECTION

Note: For bar marks not shown refer to Typical Curb & Sidewalk Detail.

Sheet

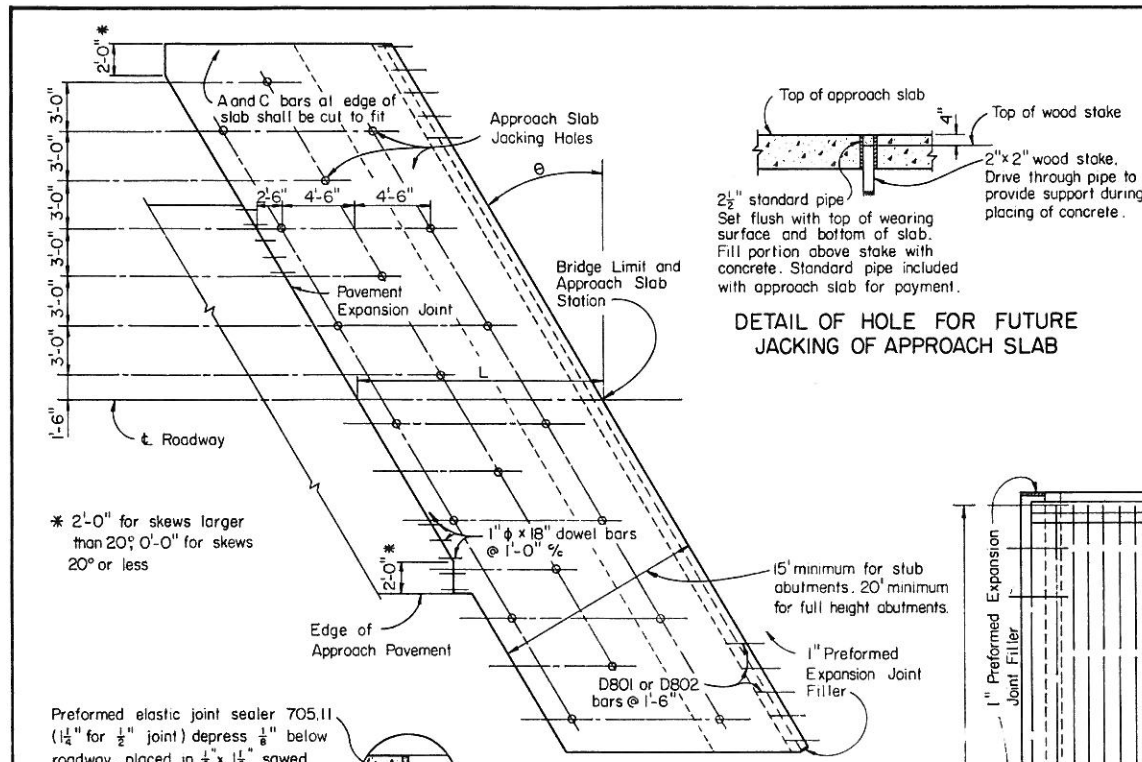
W. E. QUICKSALL AND ASSOCIATES, INC.
CONSULTING ENGINEERS • NEW PHILADELPHIA

SUPERSTRUCTURE DATA

15th ST. S.W. BRIDGE OVER
WEST BRANCH NIMISHILLEN CREEK

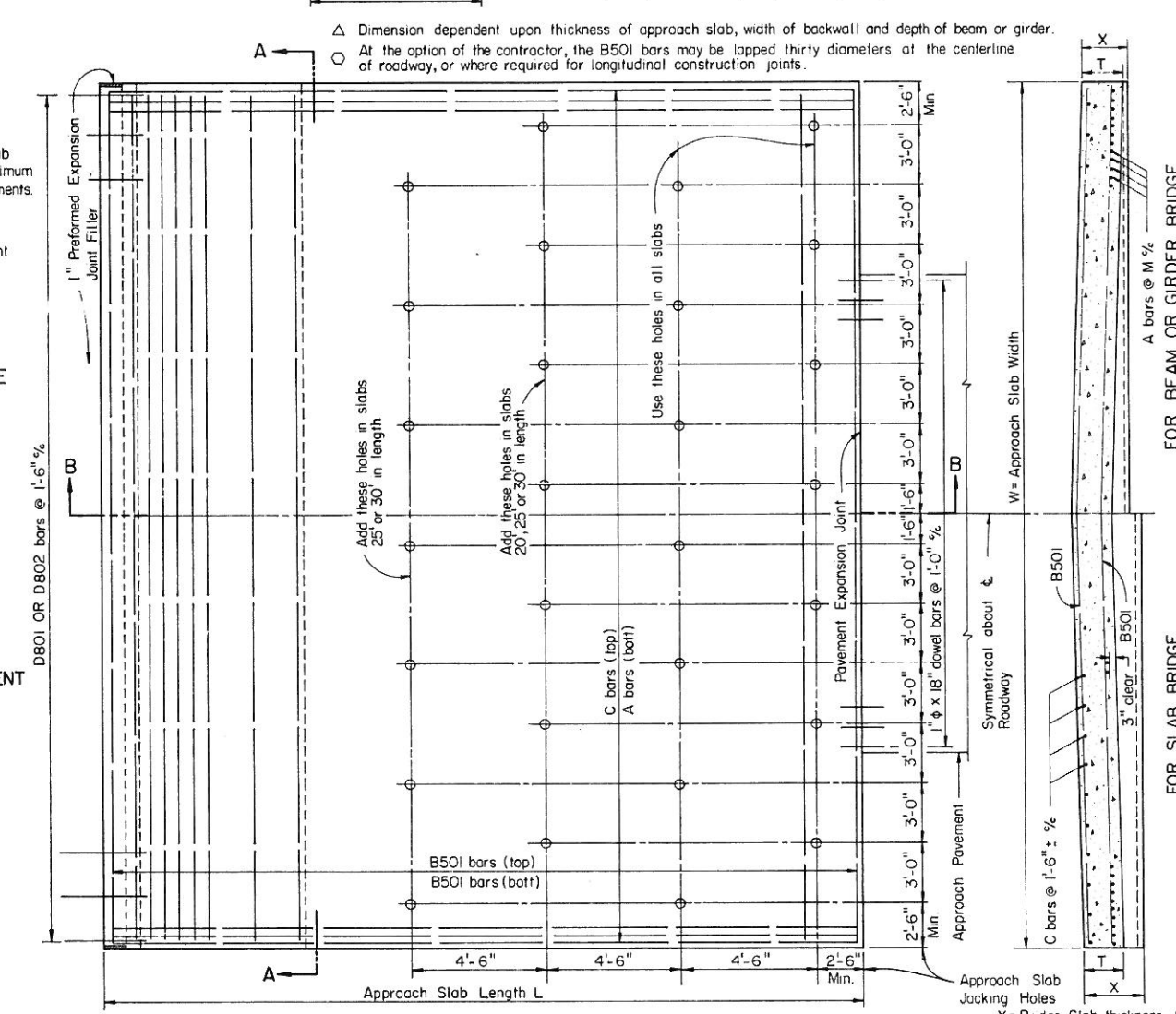
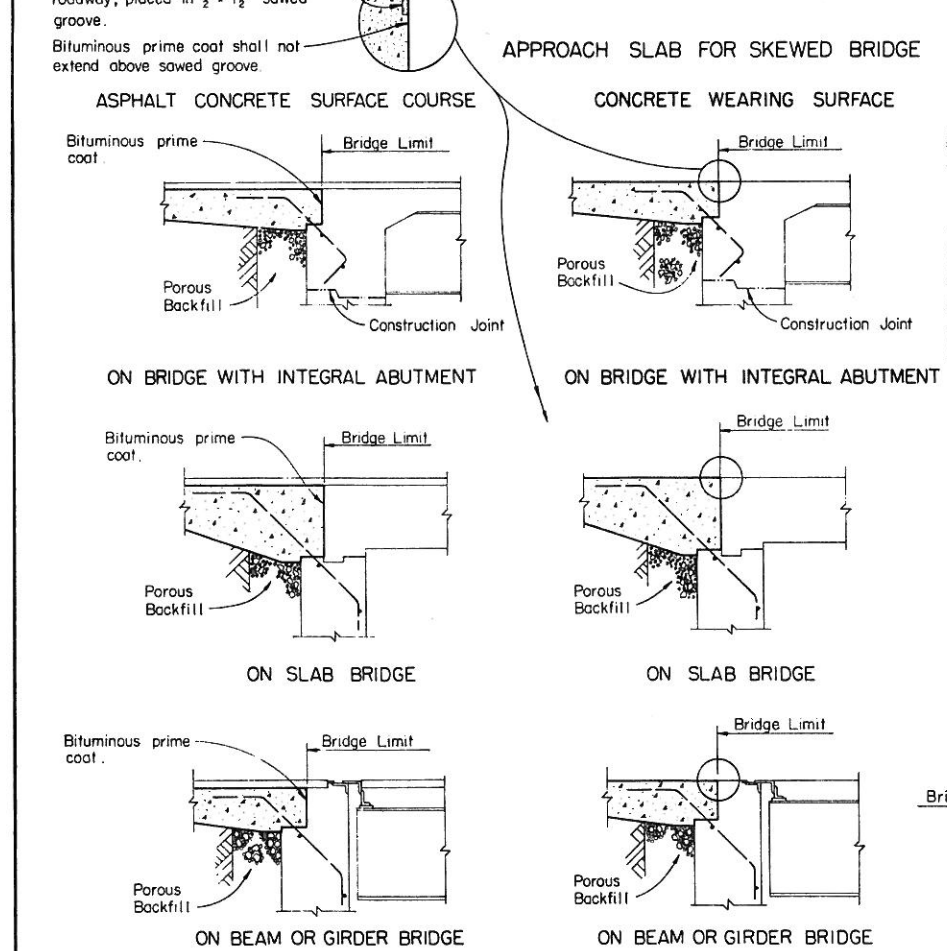
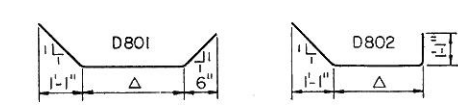
STA. 9+6.1
STA. 10+1.0

DESIGNED BY JMS DRAWN BY JMS TRACED BY JMS CHECKED BY JMS REVIEWED BY JMS DATE 10/6



REINFORCING STEEL (FOR ONE APPROACH SLAB)															D801 OR D802
Length L	Thick- ness T	A BARS					B501 (Bottom)		B501 (Top)		C BARS				
		Sp'c'g M	Mark	Length	Dimension A	No. req'd	Length	No req'd	Length	No req'd	Mark	Length	No req'd	No req'd	
15'-0"	12"	10"	A901	15'-9"	14'-6"	$\left[\begin{array}{c} * \\ + \\ 1 \end{array} \right]$	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	14	$\left[\begin{array}{c} * \\ \circ \\ 0 \end{array} \right]$	11	C501	14'-6"	$\left[\begin{array}{c} * \\ + \\ 1 \end{array} \right]$	$\left[\begin{array}{c} * \\ + \\ 1 \end{array} \right]$	
20'-0"	14"	8"	A902	20'-9"	19'-6"	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	17	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	14	C502	19'-6"	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	
25'-0"	15"	6 $\frac{1}{2}$ "	A903	25'-9"	24'-6"	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	20	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	18	C503	24'-6"	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	
30'-0"	17"	6"	A904	30'-9"	29'-6"	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	23	$\left[\begin{array}{c} \circ \\ * \\ 0 \end{array} \right]$	21	C504	29'-6"	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	$\left[\begin{array}{c} W-0.5 \\ M \end{array} \right]$	

* W = Approach Slab Width, out-to-out, in feet
 Θ = Angle of skew
 S = A bar spacing in inches



GENERAL NOTES
DESIGN SPECIFICATIONS: This standard drawing conforms to "Standard Specifications for Highway Bridges" adopted by the American Association State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.
DESIGN DATA
 Design Loading: HS20-44 and the Interstate Alternate 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.

REINFORCING STEEL: For skewed bridges the A and C bars shall be placed parallel to the center line of roadway and the B bars shall be placed parallel to the abutments.

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

PREFORMED ELASTIC JOINT SEALER shown at the bridge limit end of the approach slab shall be included in the price bid per sq. yd. for the approach slab. **LONGITUDINAL CONSTRUCTION JOINTS** required for stage construction shall be as per 511.09.

BRIDGE WITH SIDEWALKS: The curbs on the approach slabs shall transition the bridge curb height to the approach curb height on the approach slab, if the abutments have turnback wings, in which case the transition shall occur beyond the wings. This transition shall occur, on the approach pavement necessary, in a minimum of 10 feet.

EXPANSION JOINT details at the approach pavement end of the approach are used only in conjunction with concrete pavement or concrete base course. Payment for the expansion joint, including dowel bars, preformed expansion filler and joint sealer, is included in the price bid per sq. yd. for the approach slab.

DESIGN NOTES
GENERAL: This drawing provides design and general construction details. Project plans will show length, skew, curbs (if any), estimated quantities and special notes and details where necessary. For conditions other than indicated hereon, the approach slab shall be adapted to fit the ends of the approach pavement.

APPROACH SLAB WIDTH (W): Generally approach slabs shall be the same as the bridge roadway. For bridges constructed with raised sidewalks, bridge railing or other types of construction which retain roadway surface drainage, approach slabs shall either include curbs or be constructed in conjunction with curbs.

LENGTH of approach slabs shall be shown on project plans.

CROWN shall conform to that of the approach pavement and bridge deck. If the rate of crown of the bridge deck differs from that of the approach pavement, a smooth transition shall be provided within the limits of the approach slab.

WEARING SURFACE: If an asphalt concrete surface course is specified for the bridge it shall also be used on the approach slab. Membrane waterproofing should not be used on the approach slab.

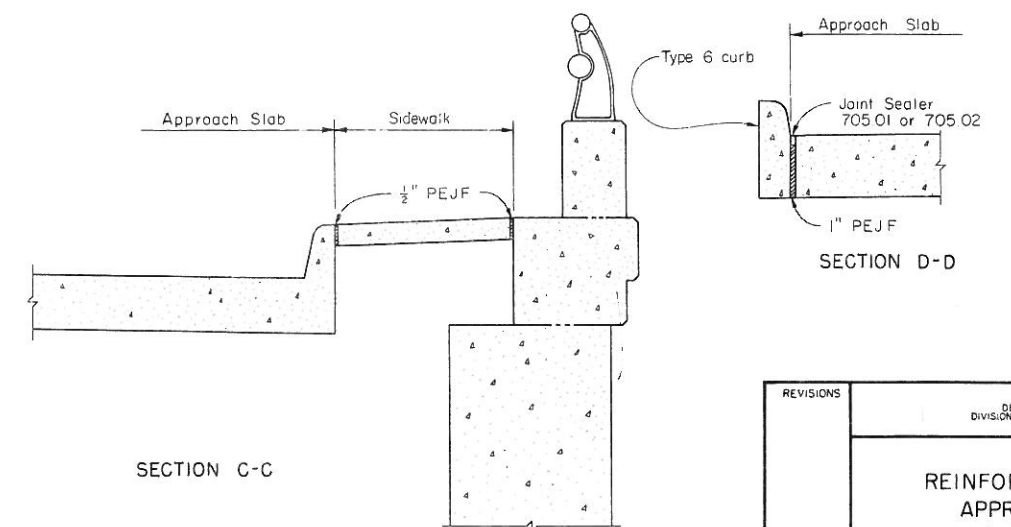
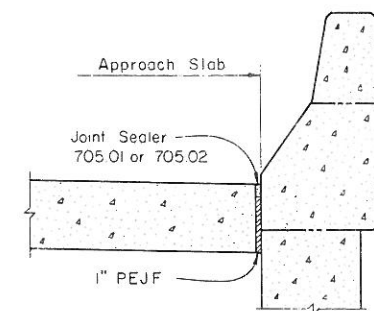
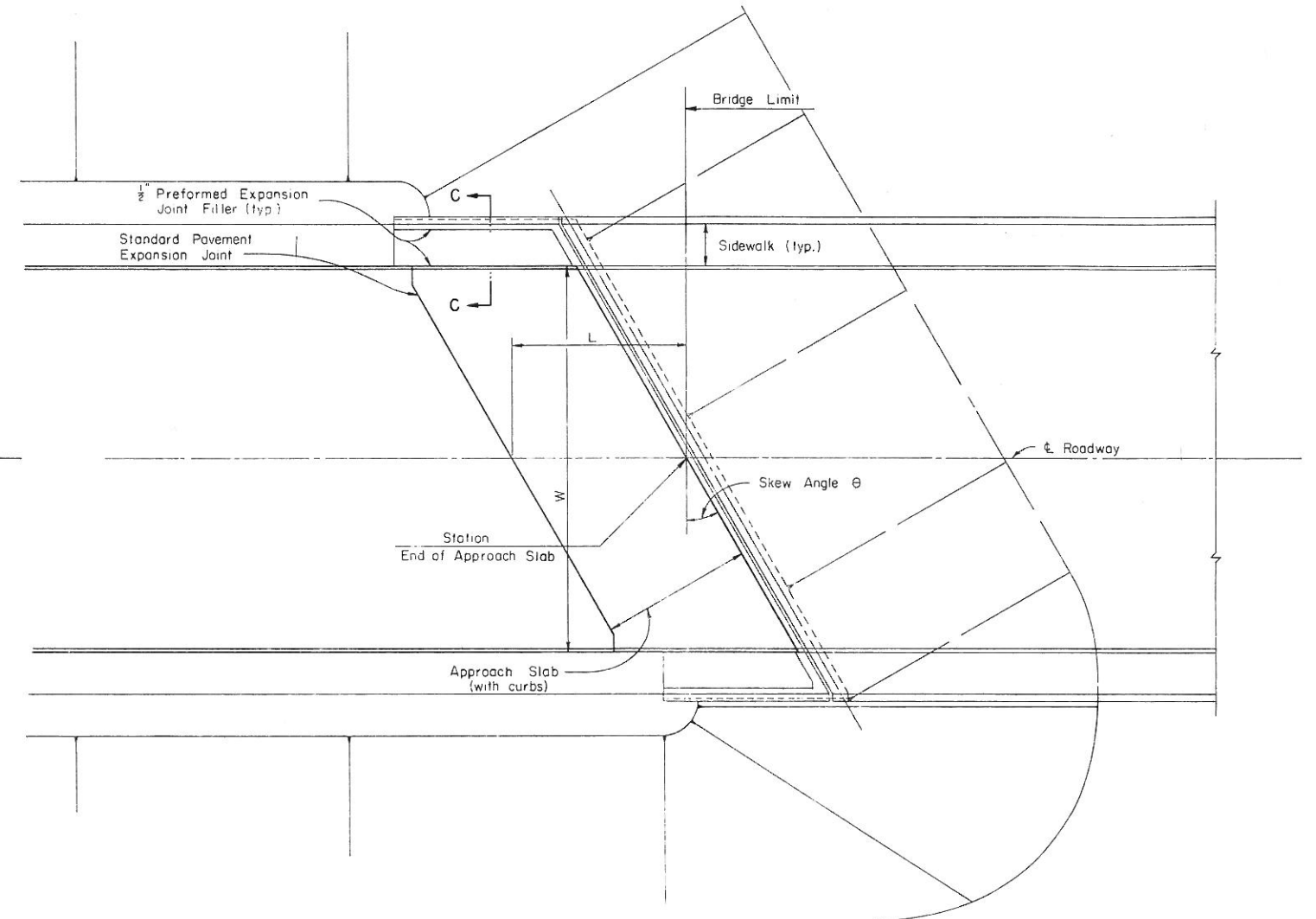
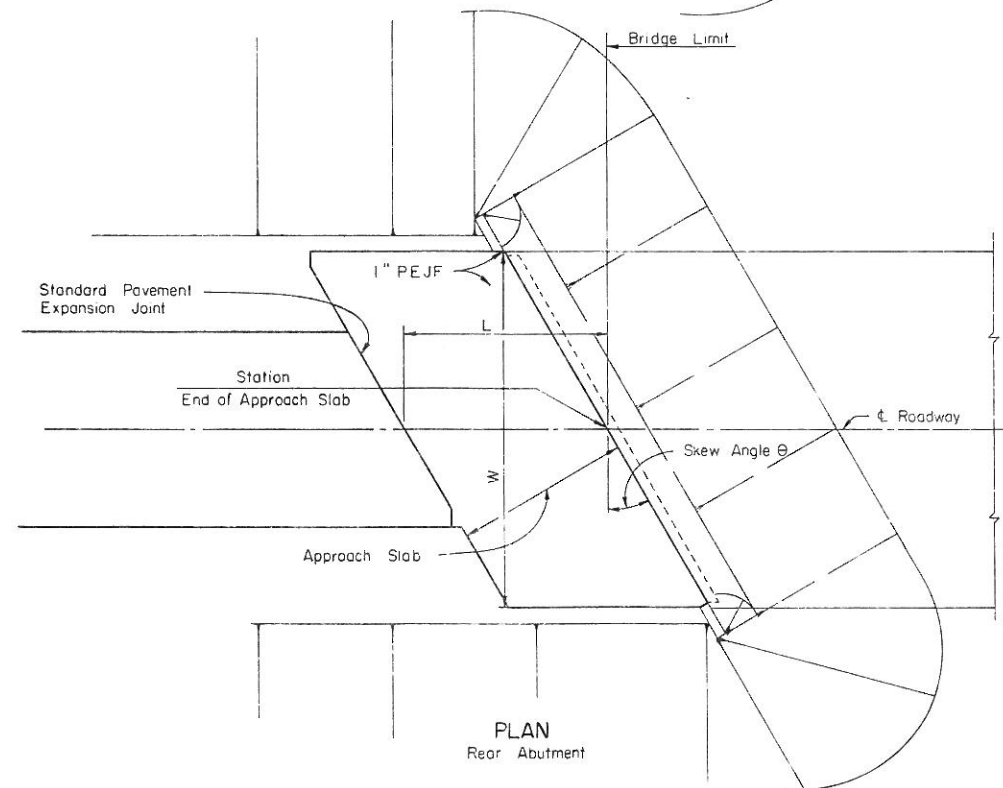
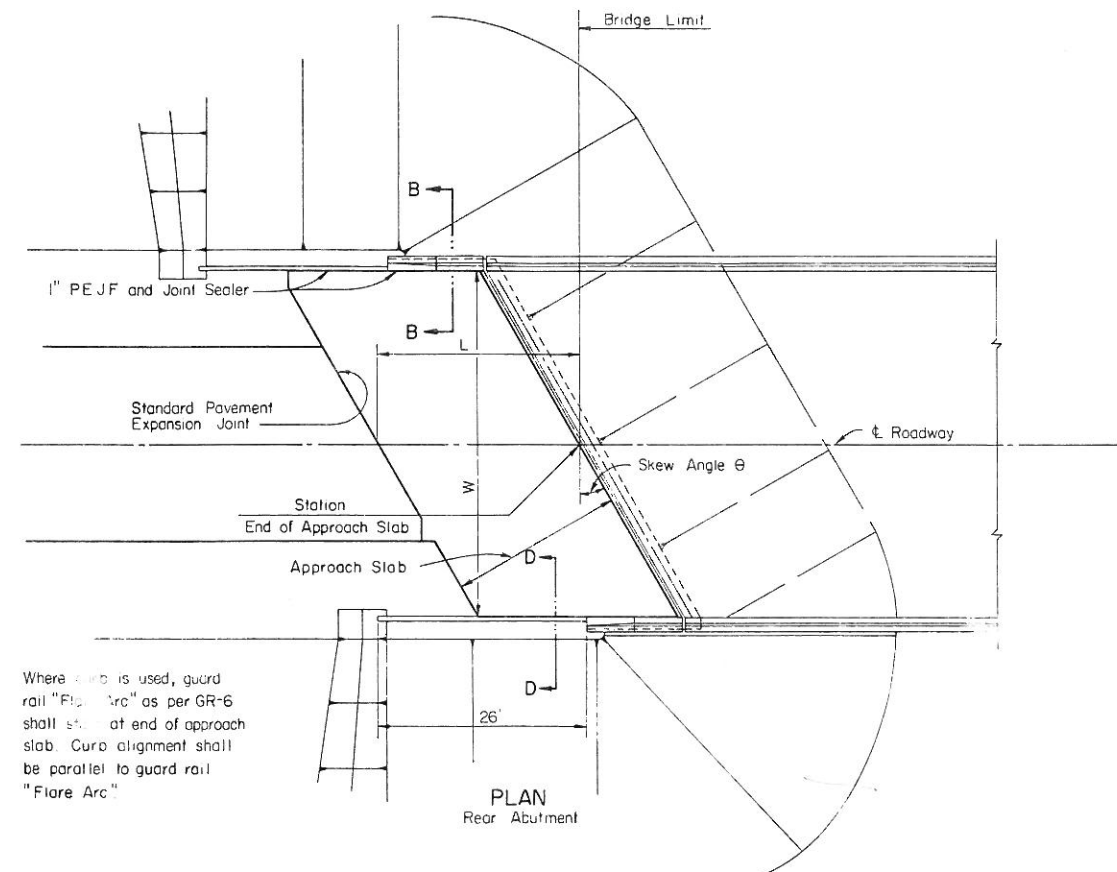
APPROACH SLAB JACKING HOLES: shown are those required for a two-lane (44' wide) approach slab. If a different width approach slab is used, jacking holes shall be provided following approximately the same pattern and spacing as shown in Supplemental Specification 813 and Mudjacking Concrete Pavement instructions on file with each Division Operations Engineer, should be used as guides for mudjacking the approach slab.

ANCHOR BARS D801 or D802 shall be detailed for the specific bridge and shall be included with 509 under abutments or superstructure for payment.

X = Bridge Slab thickness + 2 1/2" but never less than T + 2 1/2"

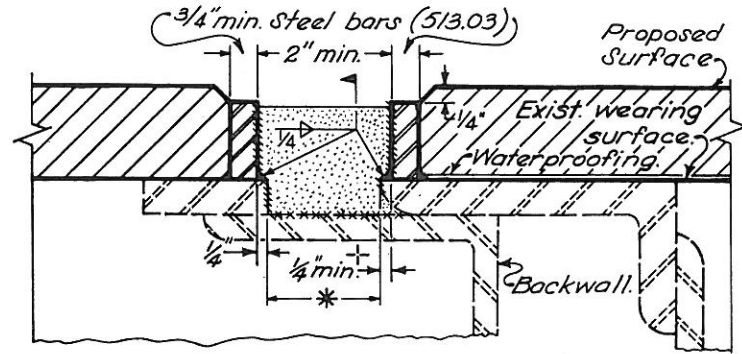
REVISIONS				
DATE	BY	CHKD	APP'D	REMARKS
6-30-72	P. D. Delaney			
PREPARED	TRACED	CHECKED	REVIEWED	SH OF
DLM	TGC	CPD	BFG	51

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF DESIGN AND CONSTRUCTION
 BUREAU OF BRIDGES
 STANDARD
REINFORCED CONCRETE APPROACH SLABS
 LENGTHS - 15'-0", 20'-0", 25'-0" AND 30'-0"



REVISIONS				
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES				
STANDARD				
REINFORCED CONCRETE APPROACH SLABS				
LENGTHS - 15'-0", 20'-0", 25'-0" AND 30'-0"				
APPROVED DATE 6-30-72 ENGINEER OF BRIDGES				
PREPARED DLM	TRACED TGC	CHECKED CPD	REVIEWED BFG	DR AS SH OF

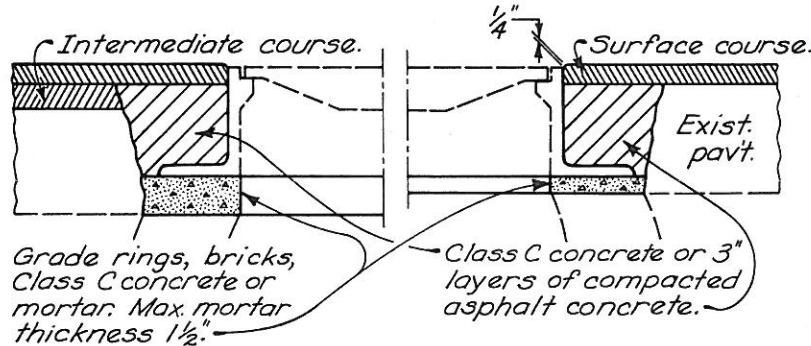
† Increase as necessary to maintain 2" min. opening.
 * Vertical extension of joints found to be closed to 1/2" or less may be non-performed as directed by the Engineer.



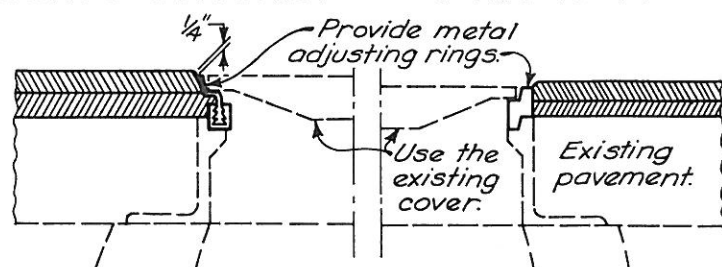
As a part of item 516, seal joint with a hot-applied bridge deck waterproofing material which also meets the requirements of 705.01. Sandblast vertical surfaces (1/2\") and wipe clean. Seal joint before rust forms. If rust forms, re-sandblast. Use bond breaker on the horizontal surface (*****).

MAINTENANCE OF TRAFFIC: Generally the bars shall be welded while the lane is closed for waterproofing or resurfacing. However, if traffic is routed over the bars before resurfacing, temporary ramps shall be constructed to the tops of the bars using 402 or 404 feathering at a max. slope of 6 ft/in. The ramps shall be removed prior to resurfacing. Payment for placing and removing the ramps shall be included in the lump sum bid for item 614.

VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS



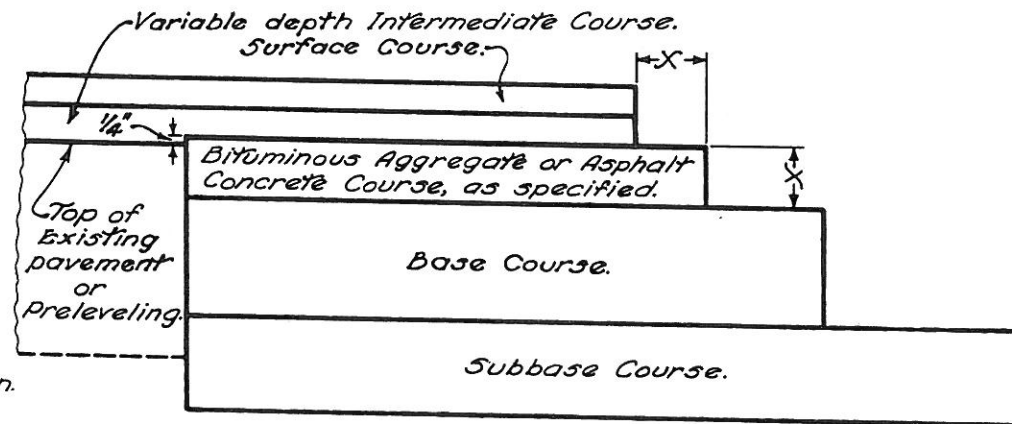
USING CONCRETE OR MORTAR



The metal adjusting rings shall be equal to the Series R-1979 by the Neenah Foundry Co. or the models LS, LB, SB, NB or MB by the National Utility Products Co. or an approved equal. Adjustment range 1\"/>

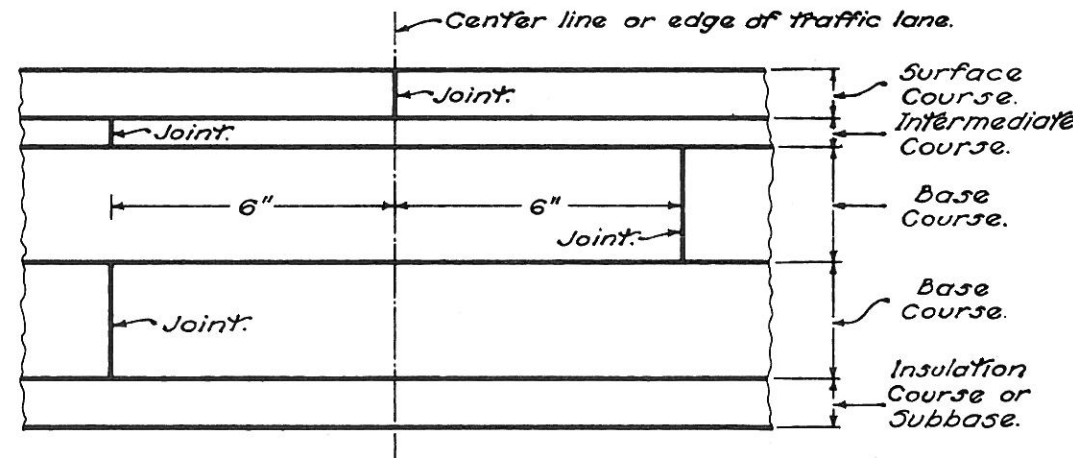
USING METAL ADJUSTING RINGS MANHOLES ADJUSTED TO GRADE

RESURFACING

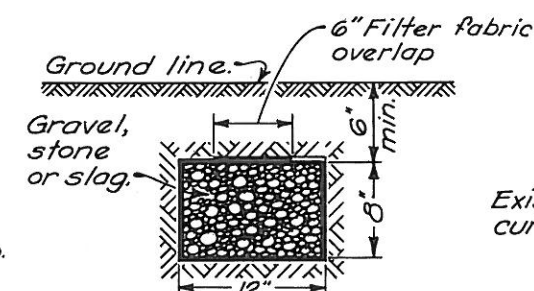


The Bituminous Aggregate in the upper part of the base widening shall finish approximately 1/4\"/>

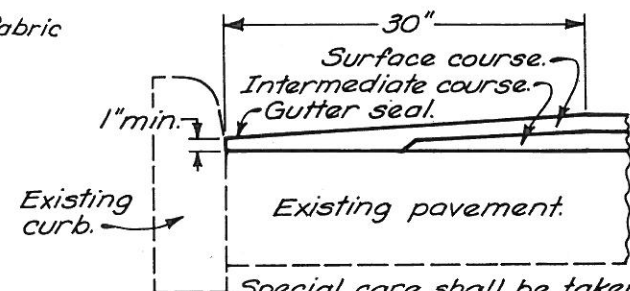
COURSE DETAIL FOR WIDENING



LAPPING LONGITUDINAL JOINTS



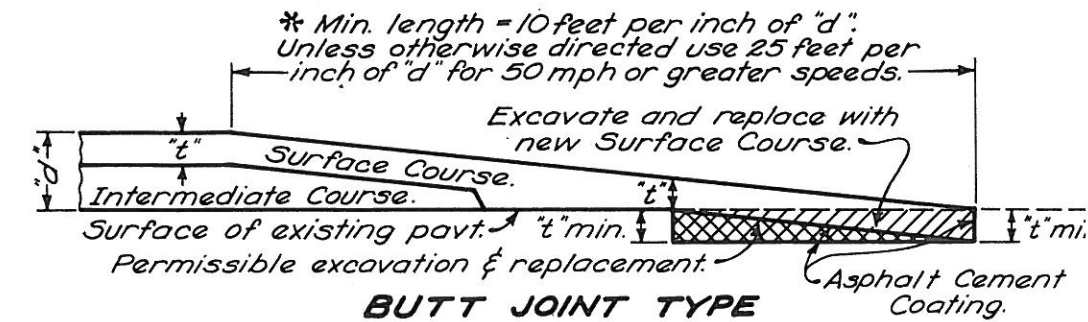
Aggregate drains to be placed where and as directed by Engineer. Provide filter fabric when specified as a separate pay item.
AGGREGATE DRAIN



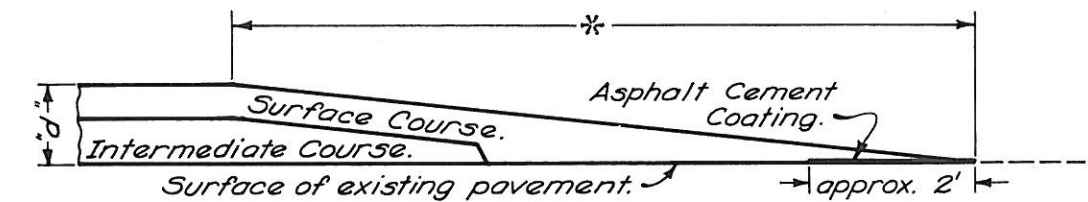
Special care shall be taken during construction to obtain maximum compaction of bituminous concrete in gutters.

GUTTER FINISH

NOTE: Either type feathered area may be used unless type is specified by the plan.

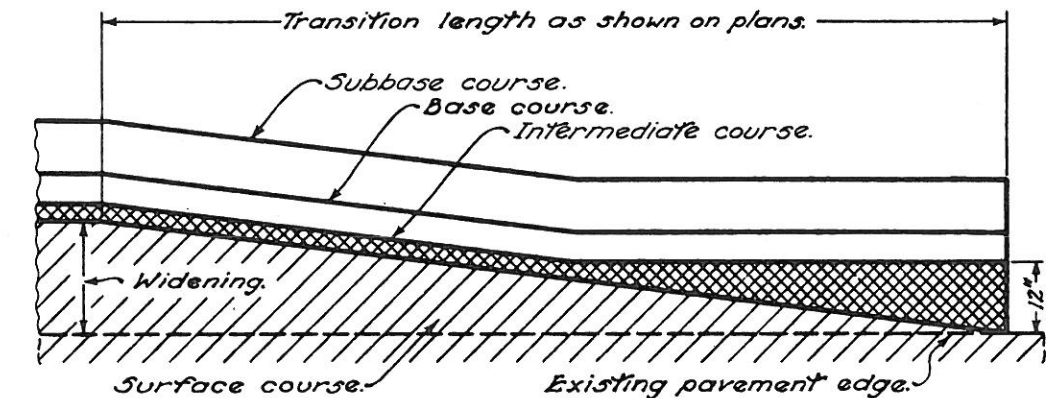


BUTT JOINT TYPE

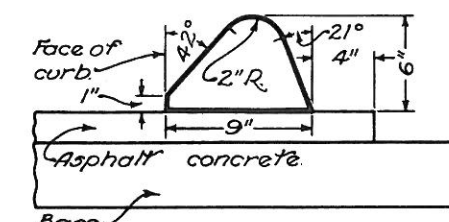


FEATHER EDGE TYPE

PLACING FEATHERED AREAS



MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT



TYPE I ASPHALT CONCRETE CURB

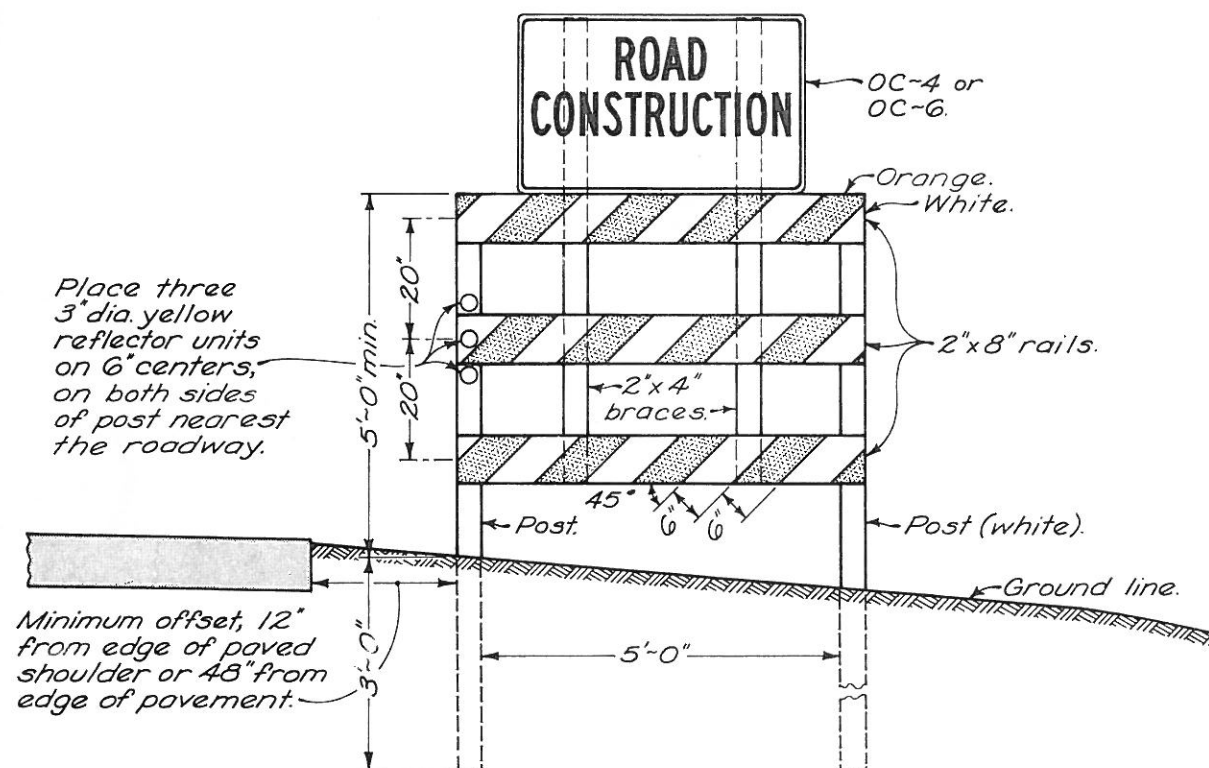
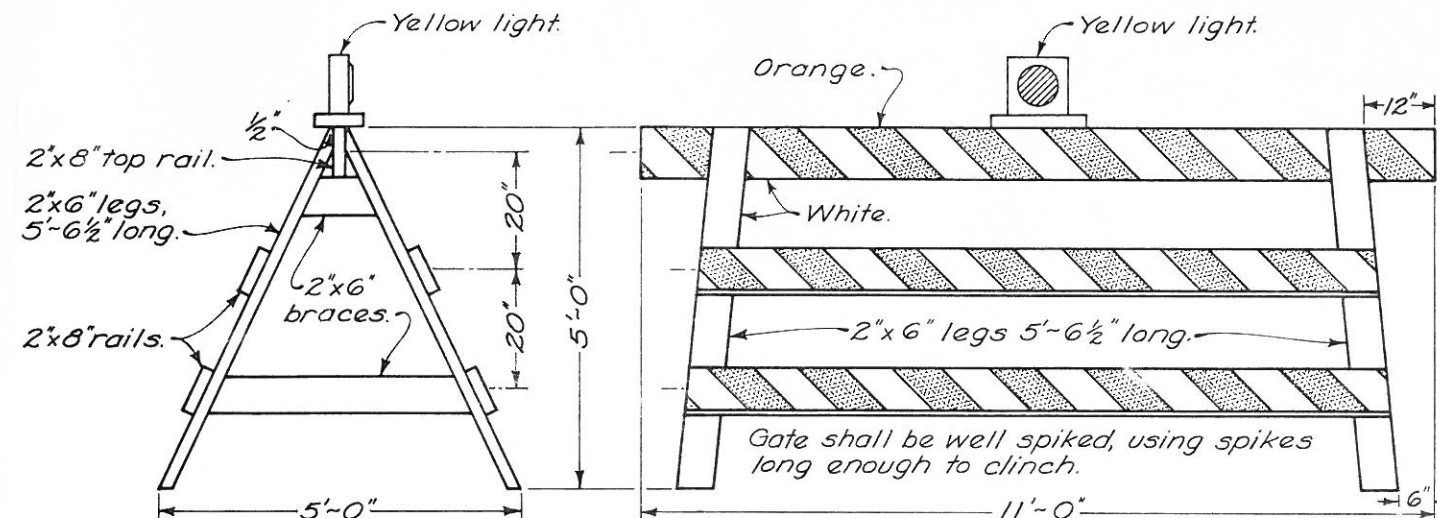
BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

RESURFACING

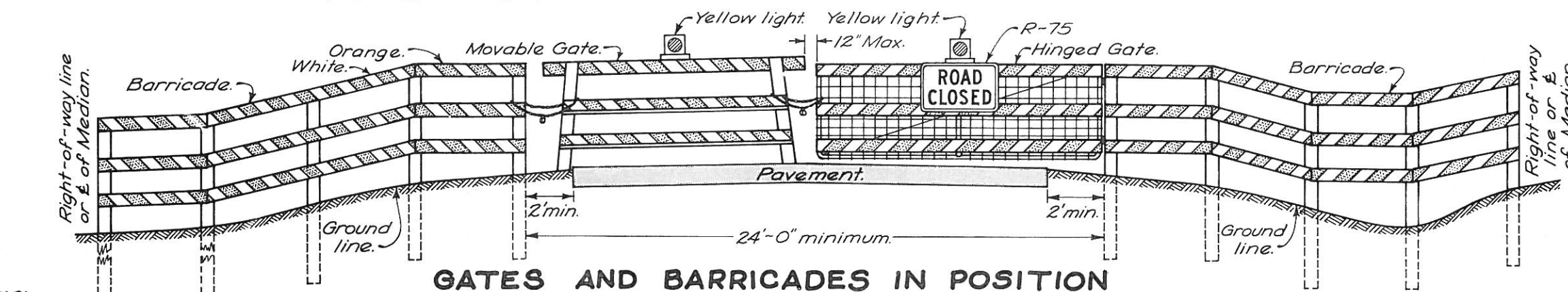
STANDARD CONSTRUCTION DRAWING
 APPROVED: *M. J. Cunningham* ENGR., L.D.
 BP-5

DATE
6-1-11
1-1-11
6-1-11
8-1-11
4-16-11

MOVABLE GATE



WING BARRICADE



GATES AND BARRICADES IN POSITION

NOTES

BARRICADES shall be constructed according to details shown. Where traffic is maintained during construction, wing barricades shall be used on each shoulder: (1) at both ends of the project, (2) on all interchange entrance ramps or on the cross road preceding the entrance ramp, (3) on all other major approach roads as directed by the Engineer. When the road is closed to traffic, barricades and gates shall be used to effectively close the entire roadway including the median of divided highways. In urban areas and at locations where it is impracticable to extend the barricade to the right-of-way line because of a sidewalk or other obstruction, the ends of the barricade shall be located as directed by the Engineer to effect the desired closing of the highway.

PAINTING AND REFLECTORIZATION: All rails of the barricades and gates shall be reflectorized with orange and white reflectorized sheeting in 6" wide alternate stripes which slope downward toward the center line of the road at an angle of 45°. All three rails of the Road Closed barricade shall be striped on the side facing traffic. All three rails of the wing barricade and all gate rails shall be striped on both sides. All posts, braces, gate legs and any unstriped rails shall be painted white.

GATES: One gate shall be erected for each traffic lane. Gates shall be chained and padlocked to one another and to adjacent posts of the barricades. Chains shall be 1/4" stock or larger with welded links.

A hinged gate may be used and shall be an approved 12' by 4' steel frame farm type, or a type approved by the Engineer. The gate shall be hung on hinge screw hooks, or as otherwise approved. Striping similar to that used on the movable gate shall be accomplished with 1"x8" lumber or with metal strips fastened to the gate. The gate shall be supported at the center in an approved manner.

YELLOW LIGHT: Each gate shall be equipped with a steady burning yellow light, conspicuously visible at all distances up to 1000' under normal atmospheric conditions. The light, operated by battery, electric generator, commercial power or propane gas, shall be in operation at all times between sunset and sunrise during the period the highway is closed.

SIGNS: Where the road is closed to traffic by the erection of gates and barricades, a **ROAD CLOSED** sign (R-75) shall be mounted on the gate as shown. On three-lane pavement, the sign shall be mounted on the middle gate facing traffic.

Where traffic is maintained, a **ROAD CONSTRUCTION TRAFFIC MAINTAINED** sign (OC-4) shall be used on the right shoulder wing barricade on the approaches to major construction or maintenance jobs less than 2 miles in length. A **ROAD CONSTRUCTION NEXT MILES** sign (OC-6) shall be used on the right shoulder wing barricade on the approaches to any major construction or maintenance job of 2 miles or more in length. An **END CONSTRUCTION** sign (OC-8) shall be erected above the right hand wing barricade facing traffic leaving the construction section. The signs on the wing barricades shall be erected above the top rail of the wing barricade on braces, as detailed hereon.

LUMBER used in the construction of the gates and barricades shall be No. 1 common yellow pine or No. 1 common Douglas fir, surfaced on four sides standard, or other materials approved by the Engineer. All sizes are nominal.

POSTS shall be sound 4"x4" sawed or 4 1/2" round. Rails of the barricade shall be bolted to the posts with 3/8" bolts.

BUREAU OF ROADWAY DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
BARRICADES AND GATES	
STANDARD CONSTRUCTION DRAWING	MC-3
APPROVED <i>E. J. Schaefer</i> ENGR., R. D.	