

STA-30-00 92

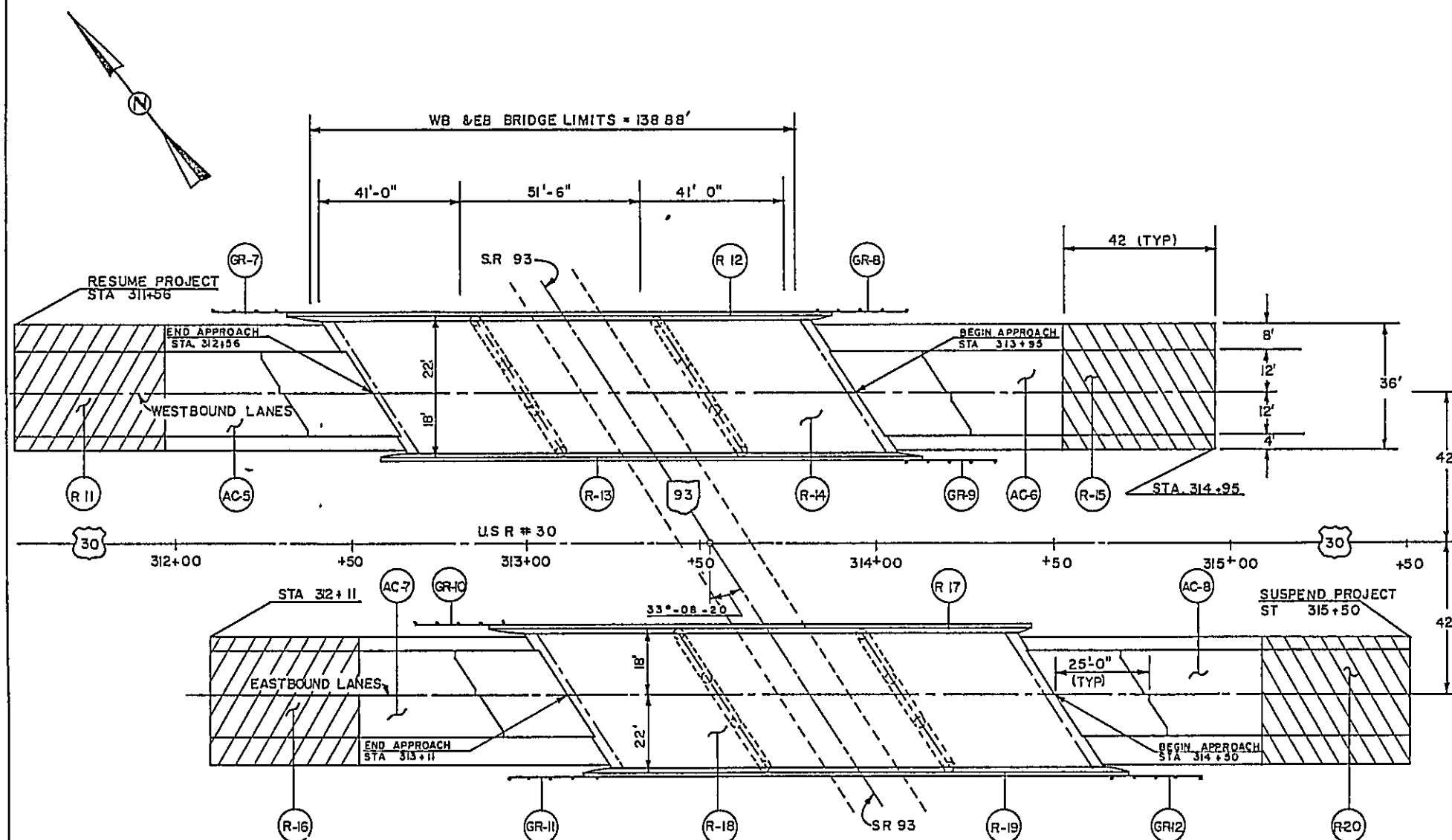
PLAN NO

OHIO

FHWA
REGION 5FEDERAL
PROJECT17
34

BR-39-90

NOTE: DRAWING NOT TO SCALE



PLAN

PART NO 2 STA-30-0264 L&R

PART NO 2 STA-30-0264L (US 30 WESTBOUND STRUCTURE OVER STATE ROUTE 93)

REFERENCE NUMBER	STATION TO STATION (BASED ON WESTBOUND & ONLY)	SIDE	202	202	202	202	254	404	407	606	606	606
			GUARDRAIL REMOVED	BRIDGE TERMINAL ASSEMBLY REMOVED	BRIDGE RAILING REMOVED FOR STORAGE	PORTION OF STRUCTURES REMOVED	PAVEMENT PLACING BITUMINOUS (T=0 to 1)	ASPHALT CONCRETE, AC-20	TACK COAT	GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEMBLY TYPE AA	BRIDGE TERMINAL ASSEMBLY TYPE AT
			LF	EACH	LF	SY	SY	CY	GAL	LF	EACH	EACH
GR-7	312+07 TO 312+32	LT	25	1						25		1
GR-8	313+91 TO 314+16	LT	25	1						25	1	
GR-9	314+17 TO 314+42	RT	25	1						25	1	
R-11	311+56 TO 311+98	L/R					168					
R-12	312+34 TO 313+90	LT			156							
R-13	312+60 TO 314+16	RT			156							
R-14	312+56 TO 313+95	L/R				576						
R-15	314+53 TO 314+95	L/R					168					
AC-5	311+56 TO 312+56	L/R						15	40			
AC-6	313+95 TO 314+95	L/R						15	40			
TOTAL, WESTBOUND STRUCTURE			75	3	312	576	336	30	80	75	2	1

PART NO 2 STA-30-0264R (US 30 EASTBOUND STRUCTURE OVER STATE ROUTE 93)

REFERENCE NUMBER	STATION TO STATION (BASED ON EASTBOUND & ONLY)	SIDE	202	202	202	202	254	404	407	606	606	606
			GUARDRAIL REMOVED	BRIDGE TERMINAL ASSEMBLY REMOVED	BRIDGE RAILING REMOVED FOR STORAGE	PORTION OF STRUCTURES REMOVED	PAVEMENT PLACING BITUMINOUS (T=0 to 1)	ASPHALT CONCRETE, AC-20	TACK COAT	GUARDRAIL, TYPE 5	BRIDGE TERMINAL ASSEMBLY TYPE AA	BRIDGE TERMINAL ASSEMBLY TYPE AT
			LF	EACH	LF	SY	SY	CY	GAL	LF	EACH	EACH
GR-10	312+64 TO 312+89	LT	25	1						25	1	
GR-11	312+90 TO 313+15	RT	25	1						25	1	
GR-12	314+74 TO 314+99	RT	25	1						25		1
R-16	312+11 TO 312+53	L/R					168					
R-17	312+91 TO 314+47	LT			156							
R-18	313+11 TO 314+50	L/R				576						
R-19	313+17 TO 314+73	RT			156							
R-20	315+08 TO 315+50	L/R					168					
AC-7	312+11 TO 313+11	L/R						15	40			
AC-8	314+50 TO 315+50	L/R						15	40			
TOTAL, EASTBOUND STRUCTURE			75	3	312	576	336	30	80	75	2	1

DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISION

STRUCTURE NOTES

STA-30-00 92
BR-39-90

OHIO	20
FHWA REGION 5	34
FEDERAL PROJECT	

CONTINUED FROM SHEET NO 10

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR

THIS ITEM SHALL BE USED TO PATCH MINOR SPALLING AND/OR HONEY-COMBED AREAS (I.E. LESS THAN FOUR (4) INCHES IN UNSOUND THICKNESS) ON PART NOS. 3 AND 4 AT THE FULL-LENGTH HORIZONTAL JOINT WHERE THE EXISTING EXPOSED BACKWALL MEETS THE UNDERSIDE OF THE CONCRETE DECK SLAB REFER TO THE 'BACKWALL SECTION' VIEW ON SHEET NO 22, FOR THIS LOCATION. ALSO, SEE THE PROPOSAL NOTE FOR DETAILS. THE COST OF ALL LABOR, TOOLS, EQUIPMENT, INCIDENTALS, AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR.

ITEM SPECIAL - PATCHING OF CONCRETE BRIDGE DECK USING CLASS 'S' CONCRETE (VARIABLE DEPTH)

AFTER THE TOP ONE (1 0) INCH OF EXISTING CONCRETE BRIDGE DECK SURFACE HAS BEEN UNIFORMLY GROUND/SCARIFIED AS PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED (T=1"), THE EXISTING DECK SHALL BE IDENTICALLY PREPARED ACCORDING TO SUPPLEMENTAL SPECIFICATION 850 05 WITH THE OMISSION OF THE FIRST SENTENCE. THE CONTRACTOR SHALL PERFORM THE INITIAL SOUNDING OF THE DECK AND OUTLINE AREAS OF UNSOUND (I.E. DETERIORATED, CRACKED/FRACTURED, SPALLED, HONEY-COMBED, ETC.) CONCRETE FOR REMOVAL SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. ALL OTHER RE-SOUNDING OF THE DECK SHALL BE PERFORMED BY ODOT FIELD PERSONNEL UNDER THE DIRECTION OF THE PROJECT ENGINEER. THE CONTRACTOR SHALL MAKE AVAILABLE TO THE ENGINEER SUFFICIENT SPRAY (MARKING) PAINT TO OUTLINE THE REMOVAL AREAS. THE COST OF THE SPRAY PAINT SHALL BE INCLUDED IN ITEM SPECIAL - PATCHING OF CONCRETE BRIDGE DECK USING CLASS 'S' CONCRETE (VARIABLE DEPTH). IN THE EVENT OF RAIN, THE FINAL SOUNDING SHALL BE PERFORMED NO SOONER THAN 24 HOURS AFTER THE RAIN, WHICH SHALL INCLUDE 8 HOURS OF GOOD DRYING WEATHER. IN NO CASE SHALL THE FINAL SOUNDING BE PERFORMED IF THE DECK IS DAMP. THE CONTRACTOR SHOULD REALIZE THAT THE "FINAL SOUNDING" OPERATION(S) MAY INCLUDE ONE OR MORE SUCCESSIVE RE-SOUNDING PROCESSES TO ENSURE THAT ALL IDENTIFIABLE DETERIORATED/UN SOUND CONCRETE HAS BEEN REMOVED TO THE SATISFACTION OF THE PROJECT ENGINEER.

UNLESS OTHERWISE DIRECTED BY THE DISTRICT CONSTRUCTION ENGINEER, NO FULL DEPTH REPAIRS WILL BE ALLOWED ON THIS CONTRACT.

THE NEWLY REMOVED 'REPAIR PATCH' AREAS OF VARIABLE THICKNESS SHALL BE PRE-PLACED WITH ITEM 511, CLASS 'S' AIR-ENTRAINED PORTLAND CEMENT CONCRETE, USING QUALITY NO 8 SIZE LIMESTONE COARSE AGGREGATE, UP TO THE PLAN LOWER BOUNDARY OF THE UNIFORM 2 3/4 INCH THICK BRIDGE DECK OVERLAY. PRE-PLACED AREAS MUST BE A MINIMUM OF 1 INCH IN DEPTH. THE PERIMETER OF THESE PATCHES SHALL BE NEARLY VERTICAL OR SLIGHTLY UNDERCUT PRIOR TO PLACING CONCRETE. THE AREAS OF PRE-PLACED VARIABLE THICKNESS SHALL BE CLEANED AS PER 850 05. THE CONCRETE SHALL BE HAND VIBRATED DURING PLACEMENT, GIVEN A WIRE BROOM (TINED) FINISH, WATER CURED, AND SHALL HAVE ATTAINED A MODULUS OF RUPTURE OF 400 P.S.I. PRIOR TO LOADING. BEFORE PLACING THE UNIFORM THICKNESS OF SDC, ALL SURFACES INCLUDING THE CURED PRE-PLACED VARIABLE THICKNESS AREAS SHALL BE BLAST CLEANED AS PER 850.05.

PRE-PLACED CLASS 'S' CONCRETE (VARIABLE THICKNESS) AREAS SHALL BE FIELD MEASURED AND THE VOLUME CALCULATED IN CUBIC YARDS. PAIMENT SHALL BE MADE AT THE PRICE BID FOR ITEM SPECIAL - PATCHING OF CONCRETE BRIDGE DECK USING CLASS 'S' CONCRETE (VARIABLE THICKNESS). THE CONTRACT BID PRICE FOR THIS ITEM INCLUDES THE COST OF FURNISHING AND PLACING THE VARIABLE THICKNESS REPAIR PATCH. IT ALSO INCLUDES THE COST OF REMOVAL OF ALL CONCRETE EXCEPT THAT REMOVED BY ITEM 202 - PORTIONS OF STRUCTURE REMOVED (T=1"). THE COST OF THE EXTRA BRIDGE DECK OVERLAY MATERIAL, WHICH IS GREATER THAN 2 3/4-INCHES THICK AND IS DIRECTLY CAUSED BY OVERSCARIFICATION (I.E. EXCESSIVE PLANING), SHALL BE BORNE BY THE CONTRACTOR.

BRIDGE DECK OVERLAY LIMITATIONS

NO PORTLAND CEMENT CONCRETE PAVEMENT PLANING SHALL BE PERFORMED AFTER OCTOBER 1. BRIDGE DECKS THAT ARE PLANNED PRIOR TO OCTOBER 1 SHALL BE PLACED NO LATER THAN OCTOBER 15 AS PER SUPPLEMENTAL SPECIFICATION 850 09. NO TWENTY-FOUR (24) HOUR LANE CLOSURES SHALL BE PERMITTED BETWEEN NOVEMBER 15 AND MARCH 1. IF THE CONTRACTOR FAILS TO HAVE THE BRIDGE DECKS OPEN BY NOVEMBER 15, THE COMPANY SHALL BE RESPONSIBLE TO PLACE ITEM 404 - ASPHALT CONCRETE, AC-20, ON THE DECKS TO ALLOW THE SAFE TRAVEL OF THE PUBLIC. THIS WORK SHALL BE PERFORMED AT THE DIRECTION OF THE PROJECT ENGINEER AND AT THE CONTRACTOR'S EXPENSE.

ITEM SPECIAL - FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU

THE URETHANE FINISH COAT SHALL BE BLUE FS-595A-13450

ALL OTHER SYSTEM OZEU FIELD PAINTING REQUIREMENTS SHALL BE ACCORDING TO THE SPECIAL NOTES LISTED IN THE PROPOSAL.

ITEM SPECIAL - CAULKING

A QUANTITY OF 5 LINEAR FEET SHALL BE PROVIDED FOR EACH BRIDGE ON THIS PROJECT TO BE USED AS DIRECTED BY THE PROJECT ENGINEER/SUPERVISOR. SEE PROPOSAL NOTE FOR SPECIFICATIONS.

ITEM 850 - SUPERPLASTICIZED DENSE CONCRETE (SDC) OVERLAY (2 3/4" THICK)

THIS ITEM SHALL BE PERFORMED IN ACCORDANCE TO ODOT SUPPLEMENTAL SPECIFICATION 850, EXCEPT AS MODIFIED BY THE FOLLOWING. THE UNPLASTICIZED (I.E. PRIOR TO THE ADDITION OF THE SUPERPLASTICIZING ADMIXTURE) CONCRETE MIX DESIGN SHALL BE PROPORTIONED ACCORDING TO SPEC 850.04 WITH INTENTIONS OF ARRIVING FROM THE BATCH PLANT TO THE PROJECT'S PLACEMENT SITE WITH A TWO (2) INCH SLUMP HAVING A TOLERANCE OF PLUS OR MINUS ONE (1 0) INCH AS PER 499.03 OF THE C.M.S., NO UNPLASTICIZED CONCRETE SHALL BE USED IN THE WORK THAT HAS A SLUMP OF OVER FOUR (4 0) INCHES, UNLESS AN EXTREME CIRCUMSTANCE ARISES WHERE THE IMMEDIATE ADJUSTMENT IS AUTHORIZED BY THE PROJECT ENGINEER TO REDUCE THE SLUMP OF SUCCEEDING LOADS WITHOUT UNDULY INTERRUPTING THE DECK PLACEMENT PROGRESSION OR THE OVERALL MATERIAL INTEGRITY.

TO AID PLACABILITY OF THE MIX, AN APPROVED SET-RETARDING SHALL BE REQUIRED AS PER C.M.S. 499.03 (F).

DUE TO THE EXPERIMENTAL NATURE OF THE BRIDGE DECK OVERLAYS SPECIFIED IN THIS PLAN, THE CONTRACTOR SHALL NOT BE PERMITTED TO EXERCISE OPTION #1 AND/OR OPTION #2 OF C.M.S. SECTION 499.031.

UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER, IMMEDIATELY FOLLOWING THE BURLAP DRAG FROM THE SLIDING PAN OF THE FINISHING MACHINE, THE PLASTIC (OR FRESHLY PLACED) SDC OVERLAY SURFACE SHALL BE TEXTURED TRANSVERSELY WITH A "HAIVALA" BRAND (OR EQUAL) GROOVED MODIFIED BULFLOAT, IN LIEU OF A STEEL TINE RAKE, TO PROVIDE A RELATIVELY UNIFORM PATTERN OF STRIATIONS SPACED ON 5/8-INCH CENTERS WITH A TOLERANCE OF 1/8-INCH. THE INDIVIDUAL STRIATIONS (OR GROOVES) SHALL BE APPROXIMATELY 0.15 INCHES DEEP AND 0.10 INCHES WIDE. THE PLAN INTENT IS TO TEXTURE THE (NON-FIBROUS) SDC OVERLAYS IN THE SAME MANNER AS THE SFR-SDC OVERLAYS AS RECOMMENDED BY THE MANUFACTURER'S SUPPLIER, AN APPROVED EVAPORATION RETARDANT/REDUCER AND FINISHING AID SHALL BE USED AFTER THE FINISHING/FLOATING OPERATION(S) AND PRIOR TO THE TEXTURING OPERATION.

ALL LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 850 - SUPERPLASTICIZED DENSE CONCRETE (SDC) OVERLAY (2 3/4" THICK).

ITEM SPECIAL - STEEL FIBER REINFORCED SUPERPLASTICIZED DENSE CONCRETE OVERLAY (T= 2 3/4")

THIS ITEM SHALL BE IN ACCORDANCE WITH THE PLAN REQUIREMENTS SPECIFIED FOR ITEM 850 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY (T= 2 3/4") WITH THE ADDITION OF THE FOLLOWING:

- I) **DESCRIPTION** STEEL FIBER REINFORCED SUPERPLASTICIZED DENSE CONCRETE (SFR-SDC) IS A COMPOSITE MATERIAL CONSISTING OF SUPERPLASTICIZED PORTLAND CEMENT CONCRETE CONTAINING A RANDOM DISPERSION OF DISCONTINUOUS DISCRETE STEEL FIBERS.
- II) **OBJECTIVE** SFR-SDC IS REPORTED TO TRANSFORM THE BRITTLE MATRIX OF CONVENTIONAL (NON-FIBROUS) SDC INTO A MORE HOMOGENEOUS AND ISOTROPIC DUCTILE MATERIAL. RECENT LABORATORY STUDIES HAVE CONCLUDED THAT THE ADDITION OF QUALITY, RANDOMLY DISPERSED STEEL FIBERS WILL SIGNIFICANTLY INCREASE THE DUCTILITY, TOUCHNESS, IMPACT RESISTANCE, ULTIMATE FLEXURAL STRENGTH, POST CRACK LOAD CARRYING CAPACITY, SHEAR AND TORSIONAL STRENGTH, FATIGUE STRENGTH, AND SHOCK RESISTANCE WITHOUT A REDUCTION IN PLACEMENT WORKABILITY. THE STEEL FIBERS ARE SOLD TO MINIMIZE THE FORMATION AND PROPAGATION OF CRACKS/MICROCRACKS IN THE SDC THAT COULD OTHERWISE COMPROMISE THE ABILITY OF THE DENSIFIED PORTLAND CEMENT CONCRETE MATRIX TO RESIST THE INGRESS OF DEICING SALT SOLUTIONS. THIS PROJECT SHALL INITIATE AN UNBIASED, CONTROLLED PILOT FIELD DEMONSTRATION TO SUBSTANTIATE THE LONG-TERM MATERIAL PERFORMANCE AND BASIC VALIDITY OF THE AFOREMENTIONED MARKETABLE CLAIMS.

III) MATERIALS:

- | | |
|------------------------------------|---|
| 1) SUPERPLASTICIZED DENSE CONCRETE | 850 02 (AND ASTM C1116-89, TYPE I) |
| 2) STEEL FIBERS | CARBON STEEL |
| A) TYPE | ASTM A820-85, TYPE I (COLD DRAWN WIRE) |
| B) CONFIGURATION OR SHAPE | DEFORMED LENGTH * WITH ROUND OR CRESCENT SHAPED CROSS-SECTION |

*CRIMPED OR CORRUGATED ALONG THE ENTIRE FULL LENGTH OR "HOOKED" AT EACH END. COLLATION OR GLUED TOGETHER INTO SMALL FIBER BUNDLES WITH A QUICK WATER SOLUBLE ADHESIVE SHALL BE PERMITTED. STRAIGHT STEEL FIBERS WILL NOT BE PERMITTED.

- | | |
|---------|--|
| C) SIZE | 2 00 IN ≤ LENGTH ≤ 2 25 IN
OR
50 MM ≤ LENGTH ≤ 60 MM |
|---------|--|

0.020 INCH ≤ EQUIVALENT DIAMETER ≤ 0.035 INCH
OR

.50 MM ≤ EQUIVALENT DIAMETER ≤ .90 MM

TOLERANCE REQUIREMENTS ASTM A820-85, SECTION NOS 8.1.2 & 8.2.2

STA-30-00 92
BR-39-90

OHIO
FHWA
REGION 5
FEDERAL
PROJECT

21
34

STRUCTURE NOTES

- 1) THE LENGTH SHALL NOT VARY FROM THE ABOVE SPECIFIED RANGE BY MORE THAN $\pm 10\%$.
- 2) THE DIAMETER OR EQUIVALENT DIAMETER SHALL NOT VARY FROM THE ABOVE SPECIFIED RANGE BY MORE THAN $\pm 10\%$.

D) NOMINAL ASPECT RATIO, R_n $60 \leq R_n \leq 100$

WHERE R_n = LENGTH OF FIBER, L
EQUIVALENT DIAMETER OF FIBER, D

TOLERANCE REQUIREMENTS ASTM A820-85, SECTION NO 8 2 3

- 1) THE ASPECT RATIO SHALL NOT VARY FROM THE ABOVE SPECIFIED RANGE BY MORE THAN $\pm 15\%$

E) DOSAGE RATE 100 LBS PER CUBIC YARD OF
PORTLAND CEMENT CONCPETE

F) PHYSICAL PROPERTY REQUIREMENTS

- 1) TENSILE REQUIREMENTS ASTM A820-85, SECTION 9 1
- THE AVERAGE TENSILE STRENGTH SHALL NOT BE LESS THAN 50,000 P S I
- 2) BENDING REQUIREMENTS ASTM A820-85, SECTION 10 1
- STEEL FIBERS SHALL WITHSTAND BENDING AROUND A 0 125-INCH INSIDE DIAMETER TO AN ANGLE OF NINETY DEGREES (90°) AT ROOM TEMPERATURES OF NOT LESS THAN SIXTY DEGREES (60° F) WITHOUT BREAKING
THE PROJECT ENGINEER SHALL BE ABLE TO FIELD BEND THE STEEL FIBERS BY HAND

G) SAMPLE SIZE ASTM A820-85, SECTION 13 1
10 RANDOMLY SELECTED STEEL FIBERS FOR EACH 5 TONS (OR FOR EACH SHIPMENT IF < 5 TONS)
TAKE ONE (1) FIBER FROM EACH OF TEN PACKAGES.

H) RETESTS ASTM A820-85, SECTION 14 1
IF ANY SPECIMENS FAIL TO MEET THE ABOVE PHYSICAL TEST REQUIREMENTS, DOUBLE THE NUMBER OF RANDOMLY SAMPLED SPECIMENS

I) SURFACE CONDITION ASTM A820-85, SECTION 11

- STEEL FIBERS SHALL NOT BE REJECTED BECAUSE OF SEAMS, SURFACE IRREGULARITIES, OR MINOR MILL SCALE PROVIDED THAT THE ABOVE PHYSICAL PROPERTIES ARE MET
EXCESSIVE RUSTING, MILL SCALE, OR OTHER UNDESIRE COATINGS MAY BE CAUSE FOR REJECTION IF THE PROJECT ENGINEER IS CONVINCED THAT THESE "CONTAMINATED" FIBERS EXHIBIT A DETRIMENTAL EFFECT ON MIXING.

J) PACKAGE AND STORAGE ASTM A820-85, SECTION 16

- STEEL FIBERS SHALL BE PACKAGED IN PLY PAPER/POLYETHYLENE BAGS WEIGHING NO LESS THAN 50 POUNDS AND NO MORE THAN 70 POUNDS FIBERS ARE TO BE STORED IN A MANNER THAT PREVENTS CORROSION BY MOISTURE (OR OTHER AGENTS) AND CONTAMINATION BY DUST

- EACH SHIPMENT DELIVERED TO THE PROJECT SITE SHALL BE MARKED WITH THE PURCHASE ORDER NUMBER, MATERIAL TYPE AND SIZE, SPECIFICATION DESIGNATION, NET WEIGHT, AND THE PRODUCER'S NAME OR TRADEMARK

K) SUGGESTED MANUFACTURERS AND SUPPLIERS

NOVOCON INTERNATIONAL, INC
WESTERVILLE, OHIO
(614) 898-0161 OR 1-800-668-8993
BRAND NAME KOREA, 2"

EUROSTEEL, INC (BELGIUM)
LOCAL SUPPLIER
BAKER CONCRETE CONSTRUCTION, INC
MONROE, OHIO
(513) 539-4000
BRAND NAME EUROSTEEL 60/1 00

BEKAERT CORPORATION
MARIETTA, GEORGIA
(404) 421-8520 OR 1-800-241-4126
BRAND NAME DRAMIX ZC 50/ 50 OR ZC 60/ 80

STEP	MATERIAL DESCRIPTION	DESIRED CHARACTERISTICS
1	UNPLASTICIZED MATERIAL	NOMINAL SLUMP = 2" $\pm$ 1"
2	ADD H.R.W.R. (OR SUPERPLASTICIZER)	DOSAGE RATE = 12 TO 15 FL.OZ /C.WT OF CEMENT (OR AS RECOMMENDED BY THE SUPPLIER)
3	MIX FOR TWO (2) MINUTES	
4	ALLOW TO REST FOR TWO (2) MINUTES (MANUALLY DUMP/SHAKE THE LOOSE STEEL FIBERS FROM THE PACKAGING BAG DIRECTLY INTO THE FRESH MIX AT THE TOP CHUTE OPENING OF THE APPROVED READY-MIX PRODUCER'S TRANSIT TRUCK.	

NOTE IN ORDER TO ASSURE WORKER SAFETY THE CONTRACTOR SHALL
SUPPLY AT LEAST THE FOLLOWING PROTECTIVE AND HANDLING EQUIPMENT

- A) PROTECTIVE GLOVES
- B) GOGGLES
- C) RODS AND/OR SMALL PRONGED HAND HELD GARDEN FORKS (I E TO BE USED TO BREAK UP NESTED OR INTERLOCKED STEEL FIBERS SHOULD MINOR BRIDGING OCCUR OVER THE HOPPER EXITS, GATES, FINS, AND/OR OTHER POSSIBLE RESTRICTED OPENING)

5 MIX FOR FOUR (4)
ADDITIONAL MINUTES

IV) CERTIFICATION ASTM A820-85, SECTION 15
THE PRODUCER OR SUPPLIER SHALL FURNISH A REPORT OF THE TEST RESULTS AND MUST RENDER A CERTIFICATE STATING THAT EACH LOT HAS BEEN SAMPLED, TESTED, AND INSPECTED IN ACCORDANCE WITH ASTM A820-85

V) SDC MATERIAL REQUIREMENTS
- SAME AS SUPPLEMENTAL SPECIFICATION 850 02

VI) EQUIPMENT
- SAME AS SUPPLEMENTAL SPECIFICATION 850 03 EXCEPT AS MODIFIED BY PLAN ITEM 850 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY (T= 2 3/4")

- ONLY TRANSIT MIXING TRUCKS CERTIFIED BY THE OHIO DEPARTMENT OF TRANSPORTATION MAY BE USED TO DELIVER MATERIAL TO THE PROJECT.

VII) PROPORTIONING, BATCHING, AND MIXING
- PROPORTIONING SHALL BE THE SAME AS SUPPLEMENTAL SPECIFICATION 850 04, EXCEPT AS MODIFIED BY THE ITEM 850 - SDC CONCRETE OVERLAY (T= 2 3/4") PLAN NOTES AND THE PLAN STEEL FIBER DOSAGE RATE OF 100 LBS /CU YD OF PORTLAND CEMENT CONCRETE.

- BATCHING AND MIXING SHALL BE THE SAME AS SUPPLEMENTAL SPECIFICATION 850 04, EXCEPT AS MODIFIED BY THE ITEM 850 PLAN NOTE(S) AND THE FOLLOWING

THE MAXIMUM SLUMP AND THE AIR CONTENT OF THE FRESH UNVIBRATED SFR-SDC AT THE TIME OF PLACEMENT SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 850.04

IT IS IMPORTANT THAT THE STEEL FIBERS BE DISPERSED UNIFORMLY THROUGHOUT THE MIX TO ACCOMPLISH THIS OUTCOME, THE SUPERPLASTICIZER DOSAGE RATE AND THE AIR ENTRAINING ADMIXTURE'S DOSAGE RATE WILL MOST LIKELY FALL INTO THE "HIGH END" OF THE RECOMMENDED RANGE AS PROVIDED BY THE MANUFACTURER

IF ENCOUNTERED, ALL STEEL FIBER CLUMPS (OR BALLS) SHALL NOT BE USED IN THE NEW BRIDGE DECK OVERLAY AND SHALL BE DISCARDED OFF THE BRIDGE AS DIRECTED BY THE PROJECT ENGINEER

VIII) PREPARATION OF EXISTING DECK
- SAME AS SUPPLEMENTAL SPECIFICATION 850.05, EXCEPT AS MODIFIED BY THE ITEM 850 PLAN NOTE

IX) FINISHING MACHINE DRY RUN AND PLACING, CONSOLIDATING, FINISHING, AND CURING
- SAME AS SUPPLEMENTAL SPECIFICATION NOS 850 06 AND 850 07, EXCEPT AS MODIFIED BY THE ITEM 850 PLAN NOTE

X) LIMITATION ON PLACING OPERATIONS
- SAME AS SUPPLEMENTAL SPECIFICATION 850.08, EXCEPT AS MODIFIED BY THE PLAN NOTE ENTITLED " BRIDGE DECK OVERLAY LIMITATIONS"

XI) METHOD OF MEASUREMENT

- THE BID PRICE FOR THIS ITEM OF WORK SHALL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO OVERLAY THE ACTUAL EXISTING CONCRETE BRIDGE DECKS IN SQUARE YARDS OVERLAID IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CLOSE CONFORMITY WITH THE UNIFORM THICKNESS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER THIS WORK SHALL INCLUDE BLAST CLEANING, FURNISHING, PLACING, FINISHING, TEXTURING (WITH "HAIVALA" BRAND MODIFIED RIBBED BULLFLOAT AS PER ITEM 850 PLAN NOTE), AND CURING OF A STEEL FIBER REINFORCED SUPERPLASTICIZED DENSE CONCRETE (SFR-SDC) OVERLAY, AND ALL OTHER INCIDENTAL OPERATIONS NECESSARY TO COMPLETE THIS WORK ACCORDING TO THESE SPECIFICATIONS AND PLAN NOTES AS WELL AS TO THE SATISFACTION OF THE ENGINEER

ITEM 850 - TEST SLAB
ITEM SPECIAL - TEST SLAB

NOT LESS THAN EIGHT (8) DAYS PRIOR TO THE SCHEDULED BRIDGE DECK OVERLAY PLACEMENT DATE, THE CONTRACTOR SHALL MAKE THE FOLLOWING TRIAL BATCHES: ONE (1) TEST SLAB FOR ITEM 850 NON-FIBROUS SDC AND ONE (1) TEST SLAB FOR ITEM SPECIAL SFR-SDC. EACH TEST SLAB SHALL BE 8 FOOT LONG AND 6 FOOT WIDE BY 2 3/4" INCHES THICK THE TEST SLABS SHALL BE TEXTURED WITH THE "HAIVALA" MODIFIED GROOVED BULLFLOAT AS PER THE ITEM 850 PLAN NOTE AND THE GROOVES SHALL BE CHECKED FOR CONFORMITY TO THE SPECIFICATIONS GIVEN HEREIN. THE CONTRACTOR MAY MAKE ADJUSTMENTS IN THE MIX PROPORTIONS AT THAT TIME TO ENSURE A GOOD AND WORKABLE MIX THE CONTRACTOR SHALL CONDUCT QUALITY CONTROL TESTS FROM EACH TEST BATCH AND THE ENGINEER MAY ELECT TO CAST TEST SPECIMEN(S) FOR QUALITY ASSURANCE CONCRETE FOR THE TEST SLABS REQUIRED UNDER 850 05 AND UNDER THIS PLAN NOTE SHALL BE PAID FOR ON A LUMP SUM BASIS

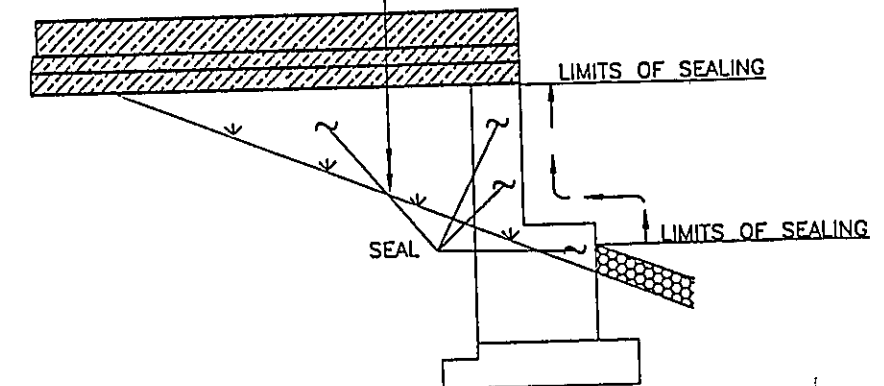
STRUCTURE NOTES AND DETAILS

F.H.W.A. REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

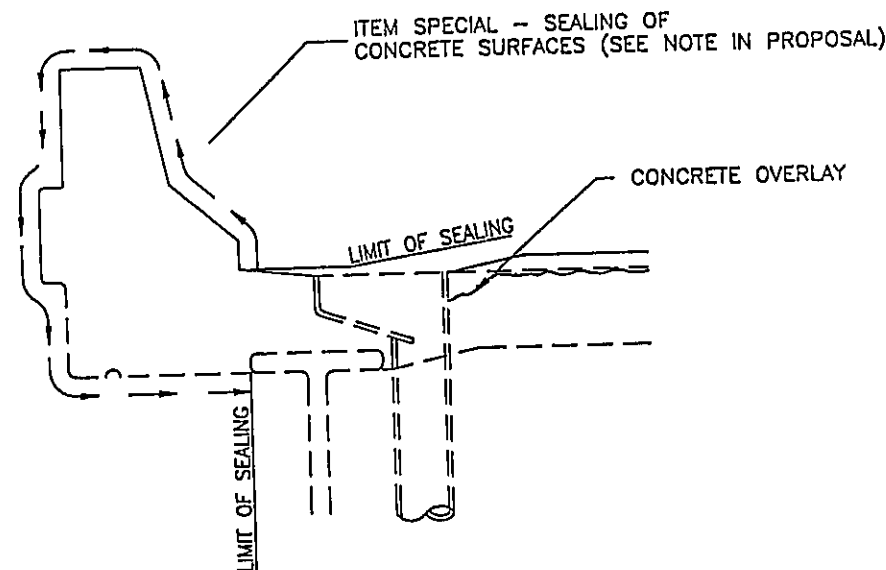
22
34

STA-30-00 92
BR-39-90

LIMITS OF SEALING, SEE
PARAPET SECTION



WINGWALL ELEVATION



PARAPET SECTION

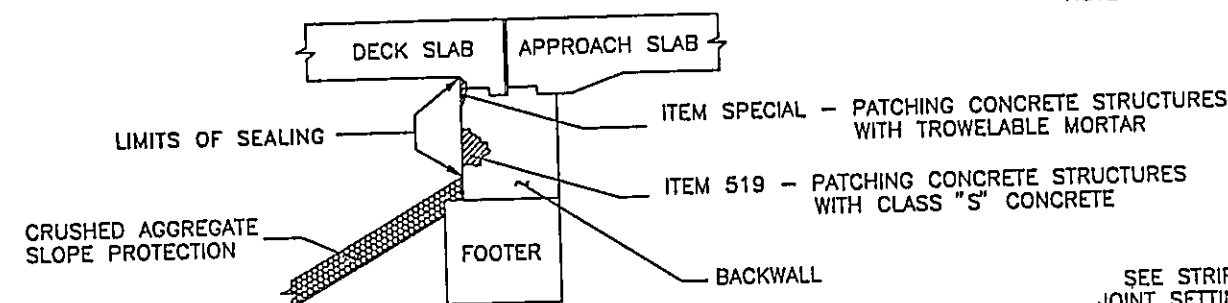
ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY)

THE EXPOSED SURFACE OF THE CONCRETE BARRIER WALL PARAPETS SHALL BE SEALED THROUGHOUT THE ENTIRE LENGTH OF THE BRIDGE, INCLUDING WINGWALLS, TO THE SPECIFIC LIMITS AS SHOWN BELOW IN THE "PARAPET SECTION" VIEW AND IN THE "WINGWALL ELEVATION" VIEW

ALONG WITH SEALING THE PARAPETS AND WINGWALLS, THE ENTIRE LENGTH OF VERTICALLY EXPOSED ABUTMENT WALLS AND BACKWALLS, AS WELL AS THE HORIZONTAL BEAMSEATS, SHALL BE SEALED FROM THE CRUSHED AGGREGATE SLOPE PROTECTION UP TO THE UNDERSIDE OF THE CONCRETE BRIDGE DECK REFER TO THE "BACKWALL SECTION" AS SHOWN BELOW

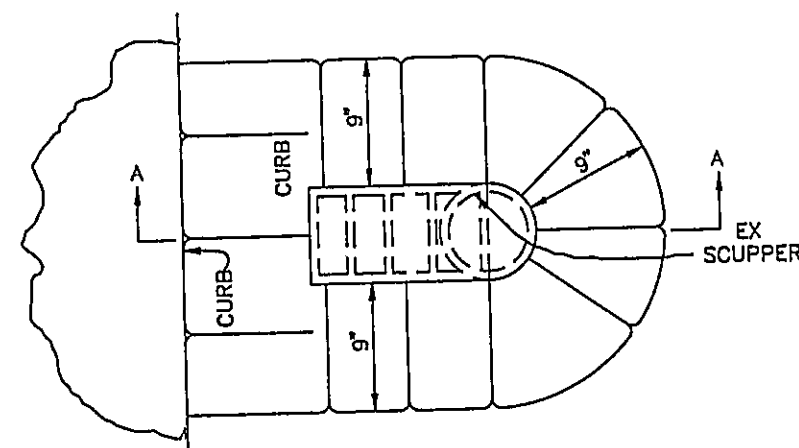
FOR THE COMPLETE SPECIFICATION AND DETAILED MATERIAL REQUIREMENTS, SEE THE SPECIAL NOTES LISTED IN THE PROPOSAL

NOTE DRAWINGS NOT TO SCALE

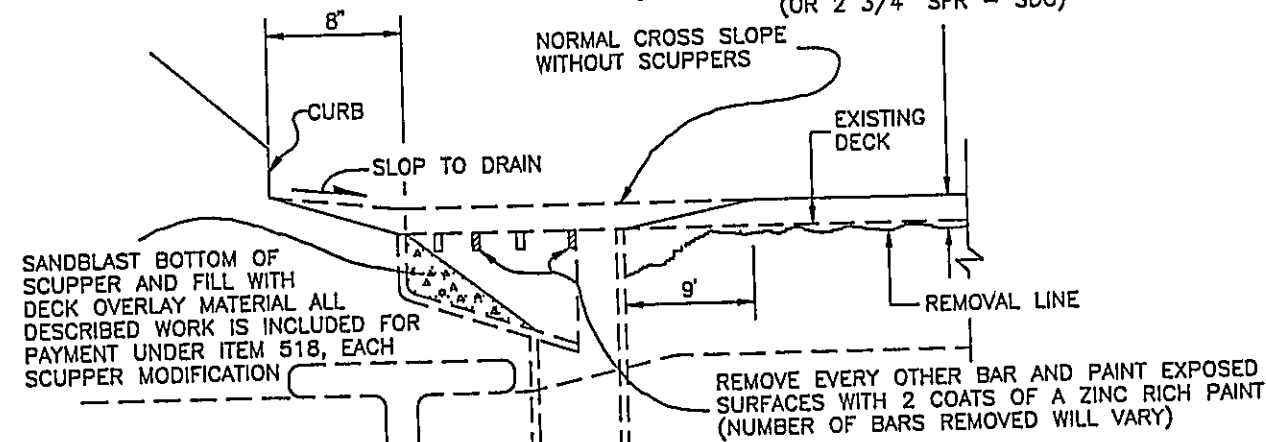


BACKWALL SECTION

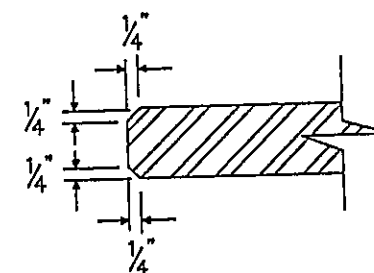
(PART NOS 3 AND 4 SHOWN, PART NOS 1 AND 2 SIMILAR)



2 3/4" SUPERPLASTICIZED DENSE CONCRETE
(OR 2 3/4" SFR - SDC)

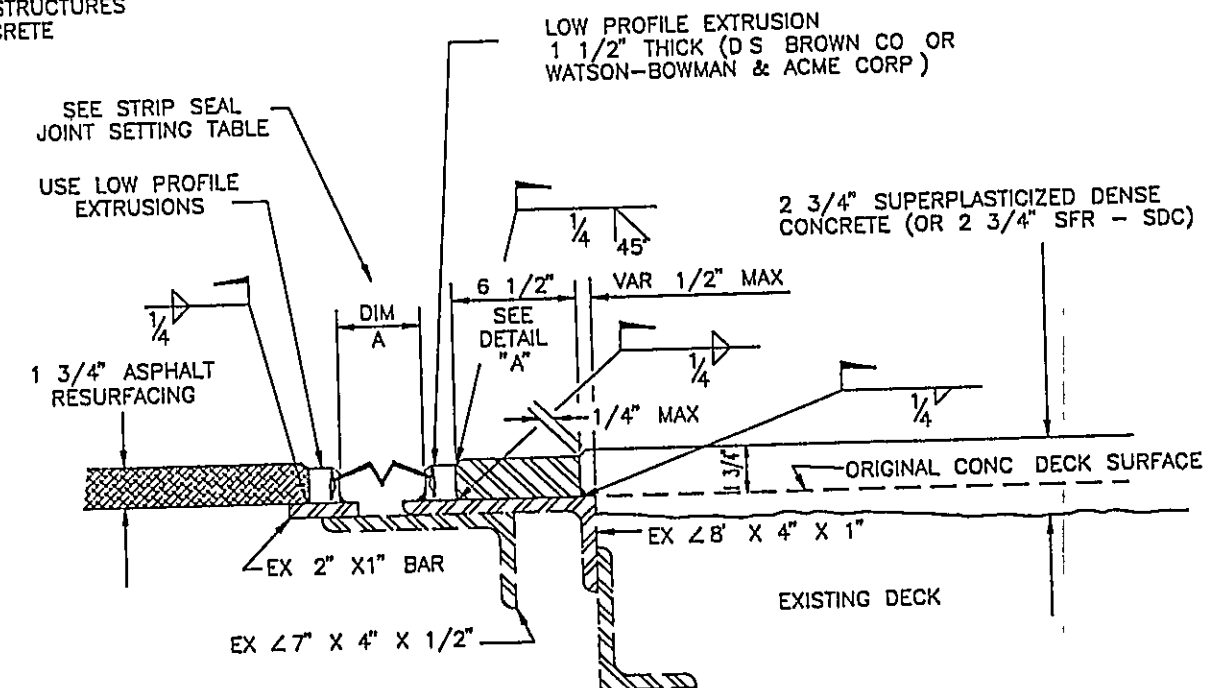


SECTION A-A
TYPICAL OVERLAY DETAIL AT SCUPPERS



DETAIL "A"

WIDTH OF BAR RELATIVE TO
EXIST EXPANSION JOINT
OPENING TO BE FIELD VERIFIED
PRIOR TO ORDERING BAR WIDTH



VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT
WITH ELASTOMERIC STRIP SEAL, AS PER PLAN

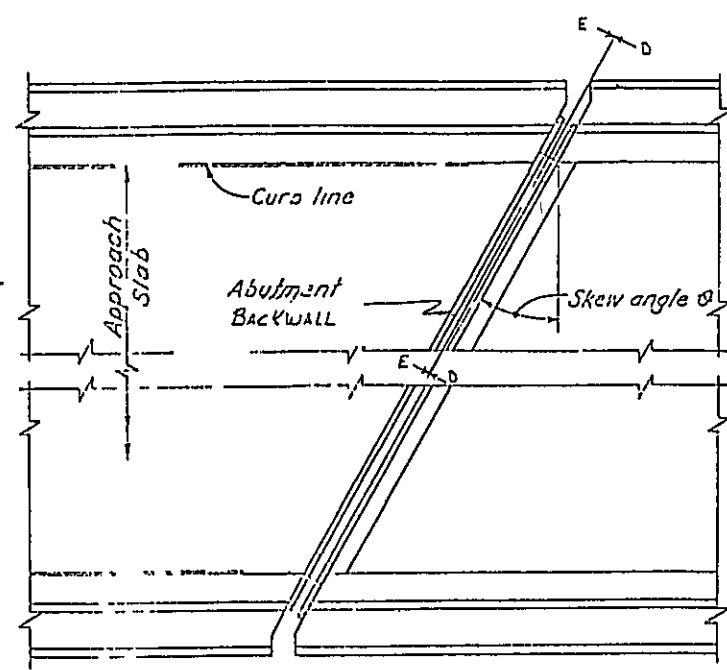
BRIDGE NO	30'	40'	50'	60'	70'	80'	90'
STA-30-0092 L	2 3/16"	2 1/8"	2 1/16"	2"	1 15/16"	1 7/8"	1 3/16"
STA-30-0092 R	2 3/16"	2 1/8"	2 1/16"	2"	1 15/16"	1 7/8"	1 3/16"
STA-30-0264 L	2 3/16"	2 1/8"	2 1/16"	2"	1 15/16"	1 7/8"	1 3/16"
STA-30-0264 R	2 3/16"	2 1/8"	2 1/16"	2"	1 15/16"	1 7/8"	1 3/16"

STRIP SEAL JOINT SETTING TABLE

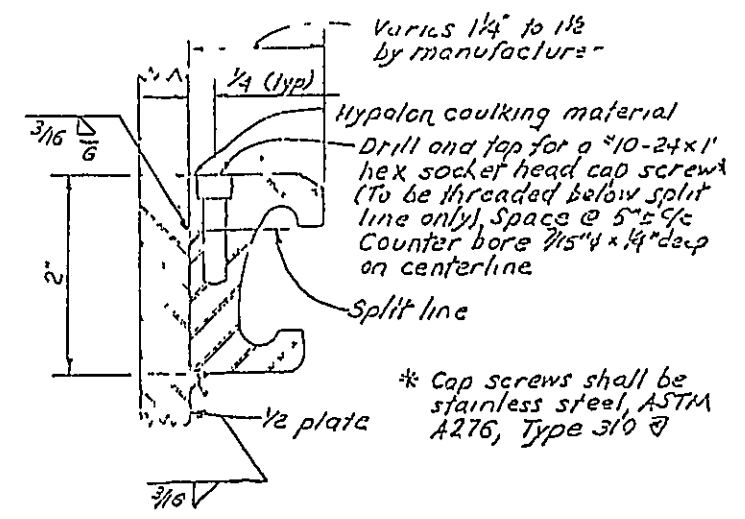
NOTE THE ABOVE SETTINGS ARE THE MINIMUM JOINT OPENING DISTANCES (DIMENSION "A")
AT THE TIME OF INSTALLATION OF THE REQUIRED 3" STRIP SEAL GLANDS
FOR ADDITIONAL INFORMATION, REFER TO STANDARD DRAWING EXJ-4-87, PG 5 OF 5

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES							
STRUCTURE NOTES AND DETAILS							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	

STA-30-00 92
BR-39-90

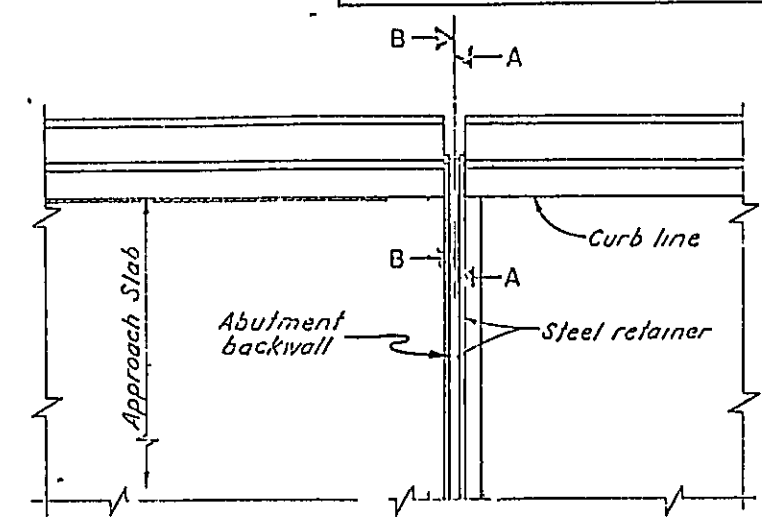


PLAN AT ABUTMENT
FOR SKEWED (OVER 15°) BRIDGES WITH
DEFLECTOR PARAPET RAILING

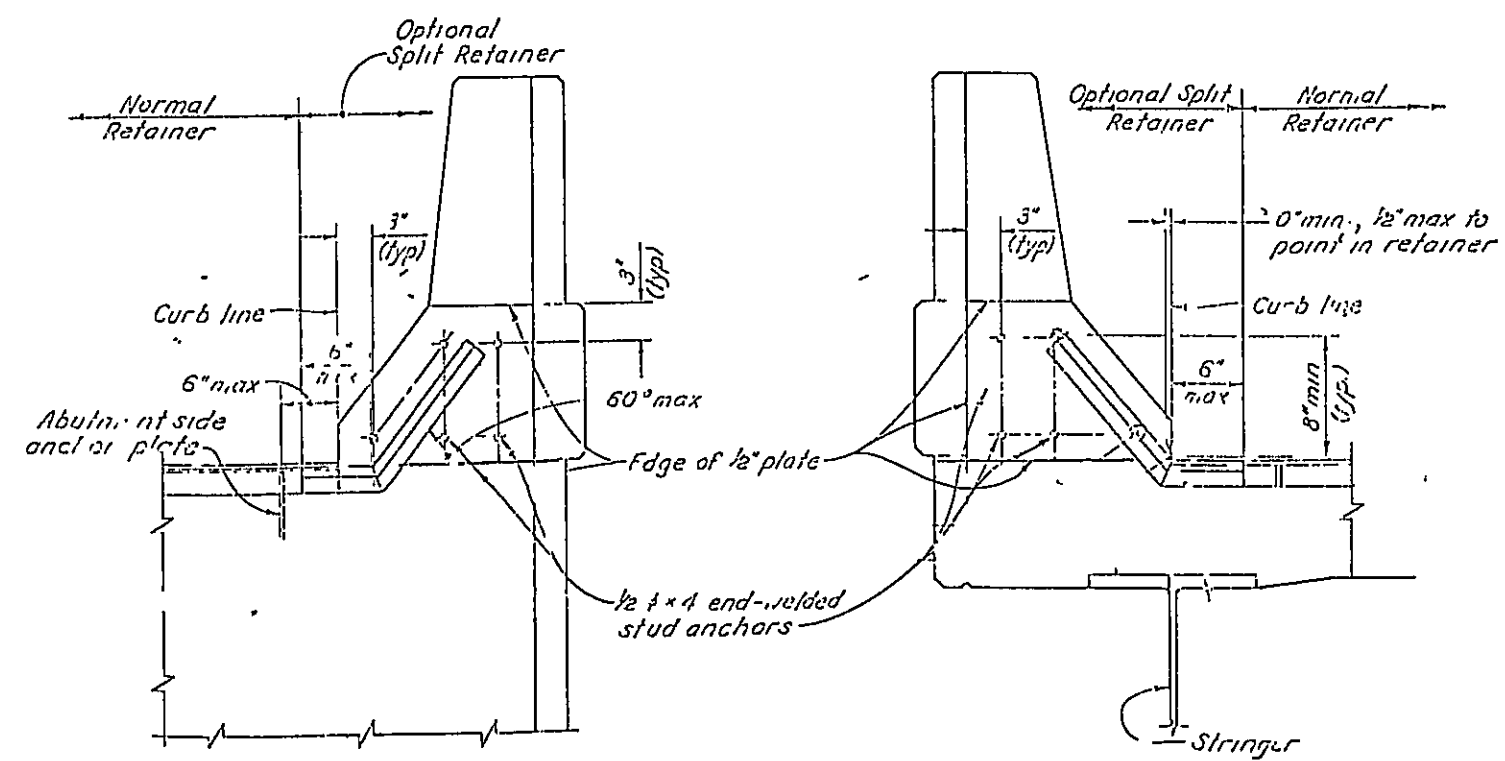


SPLIT RETAINER DETAIL
NORMAL RETAINER SIMILAR

The split retainer shown above is a normal retainer which has been modified as indicated. At joint upturns, especially on skewed bridge decks, the use of split retainers may be necessary to ensure good seal gland installation. On shop drawings, where the split retainer is not used, the seal gland manufacturer or his agent warrants to the Director that the furnished configuration will provide for ready installation and replacement of the gland.

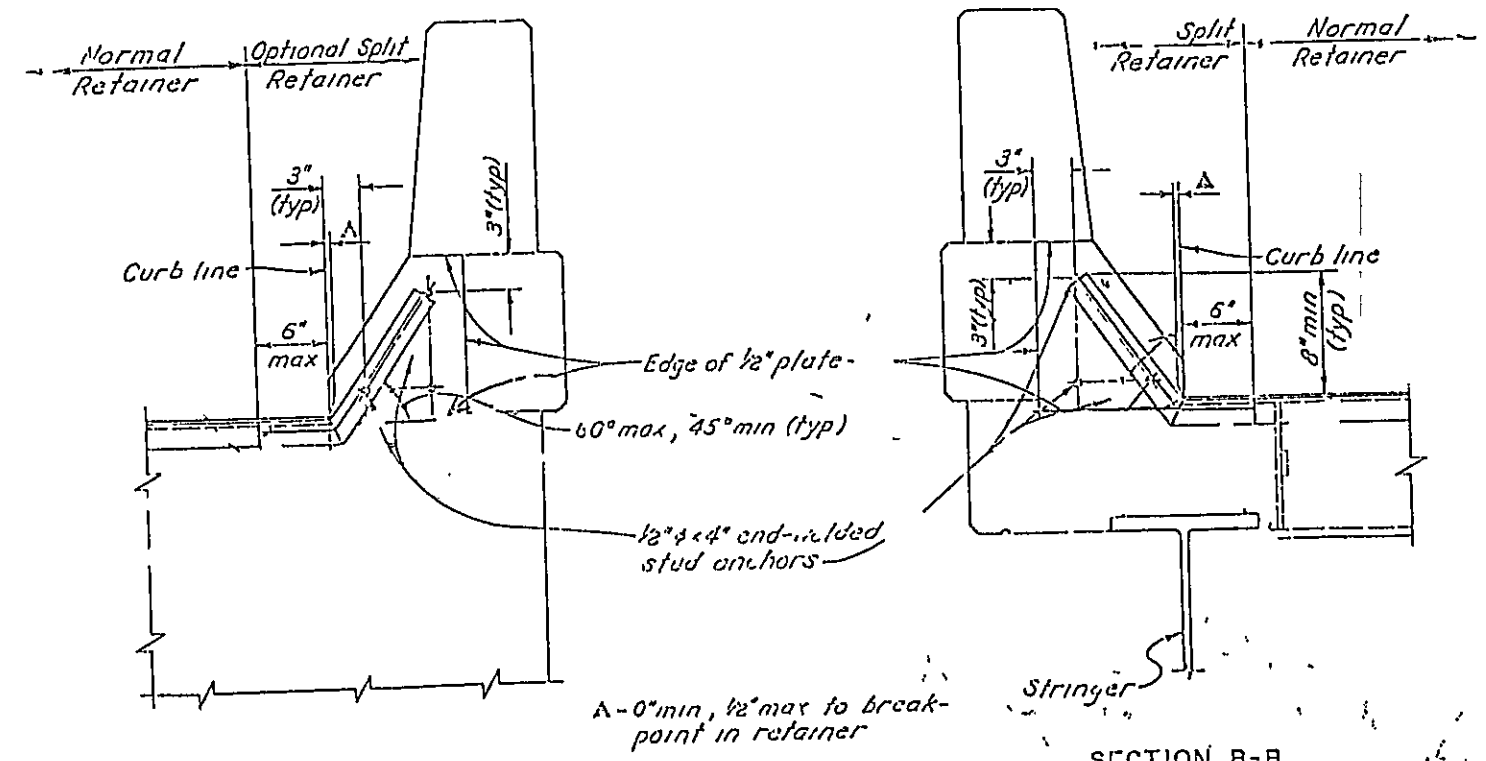


PART PLAN AT ABUTMENT
FOR SQUARE OR LOW SKEWED (15° OR LESS)
BRIDGES WITH DEFLECTOR PARAPET RAILING



SECTION D-D Δ

SECTION C-E Δ



SECTION A-A

SECTION B-B

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES						
STRIP SEAL EXPANSION JOINTS AT ABUTMENTS FOR STEEL STRINGER STRUCTURES						
DESIGNED	CHECKED	INCHES	SCALE	REVISION	DATE	REMARKS

BR-37-90

F.H.W.A. REGION	STATE	PROJECT NO.	FUND.
5	OHIO		

STA-30-00 92

25
34

BRIDGE DECK OVERLAY NOTES AND DETAILS

EXISTING REINFORCING STEEL

ANY REINFORCING STEEL DESIGNATED TO REMAIN IN THE CONTRACT PLANS THAT IS EXPOSED IN THE PROCESS OF REMOVING THE EXISTING CONCRETE SHALL BE THOROUGHLY CLEANED AND ANY APPRECIABLE REDUCTION OF AREA RESTORED AS DIRECTED BY THE ENGINEER. PAYMENT FOR CLEANING OF THE REINFORCING STEEL WILL BE INCLUDED UNDER THE APPROPRIATE S11 ITEM.

ANY EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND WHICH ARE MADE UNUSABLE BY THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED WITH NEW STEEL AT HIS COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL AND SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR ITEM 509 - EPOXY COATED REINFORCING STEEL.

AN ALLOWANCE OF 500 LBS OF ITEM 509 - EPOXY COATED REINFORCING STEEL HAS BEEN FORWARDED TO THE GENERAL SUMMARY TO BE UTILIZED AT THE DIRECTION OF THE PROJECT ENGINEER FOR REPLACING UNUSABLE CORRODED EXISTING REINFORCING STEEL.

CUTTING OF EXISTING REINFORCING BARS SHALL BE INCLUDED UNDER ITEM 202 - PORTIONS OF STRUCTURES REMOVED FOR PAYMENT.

ALL REQUIRED SPLICES (AND RANDOM SPLICES) SHALL BE MADE BY OVERLAPPING THE ENDS OF THE BARS NOT LESS THAN SHOWN IN THE FOLLOWING TABLE:

BAR SIZE	LAP LENGTH
#4	1'-4"
#5	1'-8"
#6	2'-0"
#7	2'-6"
#8	3'-3"

LONGITUDINAL JOINTS IN THE OVERLAY

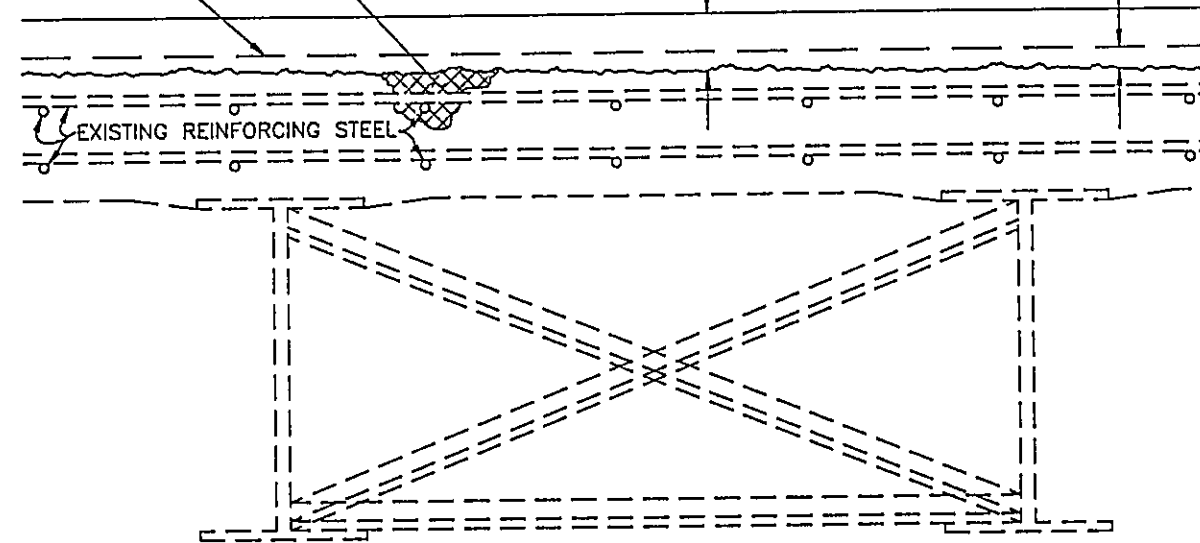
LONGITUDINAL JOINTS IN THE BRIDGE DECK OVERLAY ARE PERMITTED BUT ONLY TO THE EXTENT NECESSARY TO ACCOMMODATE THE WIDTH OF THE FINISHING MACHINE, TO FACILITATE CHANGES IN THE ROADWAY CROWN AND TO PERMIT MAINTENANCE OF VEHICULAR TRAFFIC, EXCEPT AS APPROVED BY THE DIRECTOR. JOINTS SHALL NOT BE USED ADJACENT TO RAISED CURBS, BARRIERS, OR EDGES OF DECK. AS SOON AS THE OVERLAY HAS BEEN CURED, ALL LONGITUDINAL JOINTS AND ABUTTING SURFACES SHALL BE SEALED WITH AN APPROVED HIGH MOLECULAR WEIGHT METHACRYLATE SEALER. THE SEALER SHALL BE PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ITEM SPECIAL - CLASS "S"
CONCRETE (VARIABLE DEPTH)

ORIGINAL CONCRETE
DECK SURFACE

ITEM 850 - SUPERPLASTICIZED
DENSE CONCRETE (2 3/4" THICK)
(OR SFR - SDC, T=2 3/4", AS PER PLAN)

ITEM - 202
PORTIONS OF STRUCTURE REMOVED (T=1")



CONCRETE OVERLAY

NOTE: STEEL BEAM BRIDGE SHOWN ABOVE.
OVERLAY CONDITIONS ARE SIMILAR
FOR THE CONCRETE DECK SLAB STRUCTURES.

DUST CONTROL

IN CASE OF SAND BLASTING AND/OR THE CLEANING OF BRIDGE DECKS PRIOR TO PLACEMENT OF THE OVERLAY AND PAVEMENT GRINDING, THE CONTRACTOR SHALL BE REQUIRED TO PERFORM ADDITIONAL WORK, SUPPLY ADDITIONAL EQUIPMENT OR ERECT TEMPORARY PROTECTIVE SCREENING TO PROTECT ADJACENT TRAFFIC AND PROPERTY FROM THE DUST ORIGINATING FROM THESE OPERATIONS. THE CONTRACTOR SHALL SUBMIT HIS METHOD OF CONTROLLING DUST FOR APPROVAL TO THE ENGINEER AT LEAST ONE WEEK PRIOR TO BEGINNING WORK. THESE PROVISIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE PROJECT. THIS REQUIREMENT IS IN ADDITION TO THE PROVISIONS OF SECTION 107.12 OF THE SPECIFICATIONS AND SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATION TO PROTECT PROPERTY FROM HIS OTHER OPERATIONS, AND RESTORE IT IF DAMAGED.

BRIDGE DECK CLEANING AFTER SANDBLASTING

UPON COMPLETION OF SANDBLASTING BRIDGE DECKS IN PREPARATION FOR AN OVERLAY, THE DECK SHALL BE CLEANED WITH A VACUUM TYPE APPARATUS APPROVED BY THE ENGINEER. THE USE OF THIS APPARATUS IS TO MINIMIZE DUST AND OBJECTIONAL AIRBORNE MATERIAL. IN NO CASE SHALL THE MATERIAL BE REMOVED BY DIRECT COMPRESSED AIR.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
BRIDGE DECK OVERLAY NOTES AND DETAILS						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

STA-30-0092

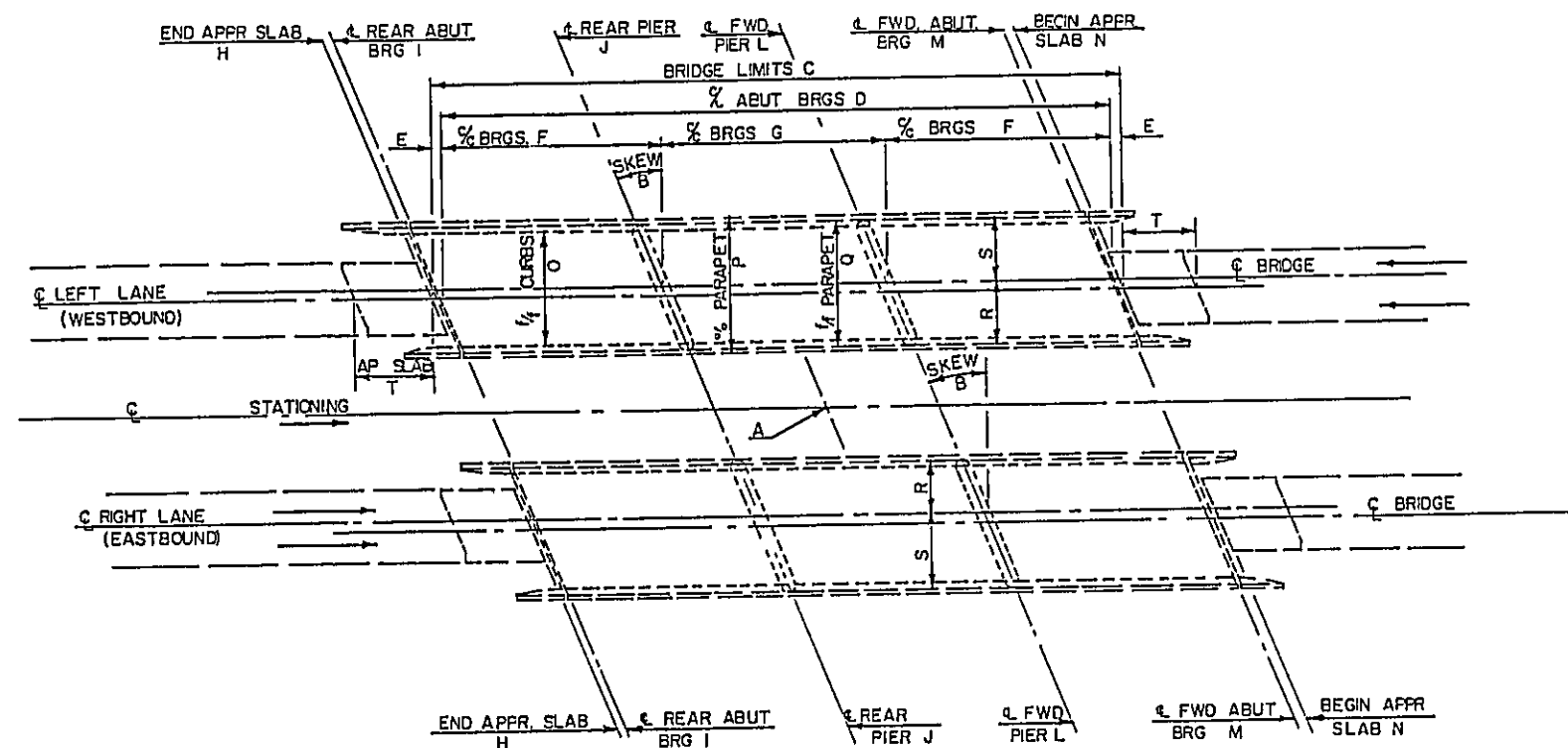
PLAN NO BR-39-90

OHIO

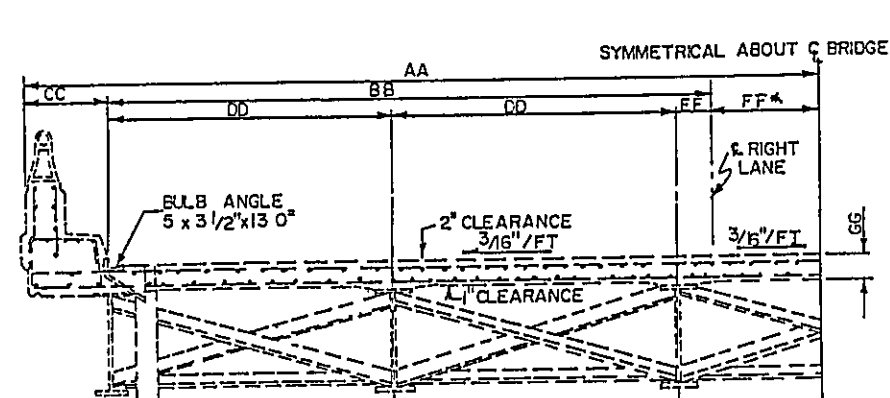
FHWA
REGION 5FEDERAL
PROJECT

26

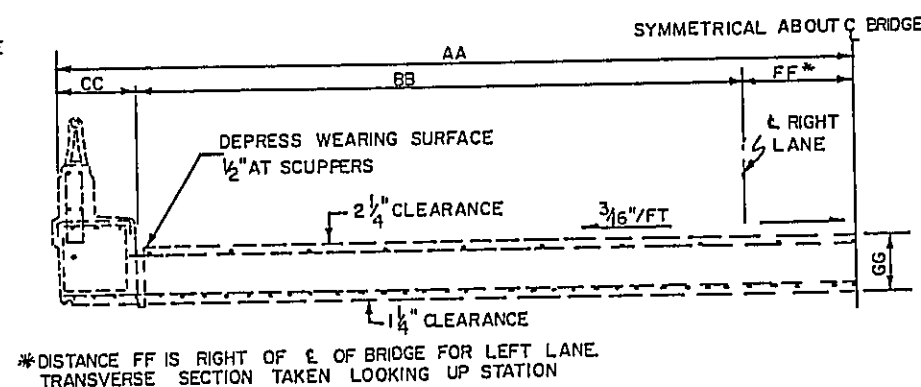
34



PLAN VIEW



TRANSVERSE HALF SECTION A



TRANSVERSE HALF SECTION B

EXISTING AND PROPOSED STRUCTURE INFORMATION							
STRUCTURE NO	TRAFFIC FLOW DIRECTION	BRIDGE LENGTH	EXISTING WIDTH	EXISTING DECK AREA	PROPOSED WIDTH	PROPOSED DECK AREA	BRIDGE DECK OVERLAY TREATMENT (T=2 3/4")
		LF	LF	SY	LF	SY	
STA-30-0092 L	WESTBOUND	118 24	38	499 24	39	512 37	SDC
STA-30-0092 R	EASTBOUND	118 24	38	499 24	39	512 37	SFR-SDC
STA-30-0264 L	WESTBOUND	136 38	38	575 83	39	590 98	SFR-SDC
STA-30-0264 R	EASTBOUND	136 38	38	575 83	39	590 98	SDC
STA-30-0535 L	WESTBOUND	104	38	439 11	39	450 67	SDC
STA-30-0535 R	EASTBOUND	104	38	439 11	39	450 67	SFR-SDC
STA-30-0603 L	WESTBOUND	104	38	439 11	39	450 67	SFR-SDC
STA-30-0603 R	EASTBOUND	117	38	494	39	507	SDC

EXISTING STRUCTURE DATA

	STA-30 0092-L OVER ALABAMA AVE	STA-30 0092-R OVER- ALABAMA AVE	STA-30 0264-L OVER SR 93	STA-30 0264-R OVER SR 93	STA-30 0535-L OVER PIGEON RUN RD	STA-30 0535-R OVER PIGEON RUN RD	STA-30 0603-L OVER CARMONT AVE	STA-30 0603-R OVER CARMONT AVE
A	222+87 96		313+52 78		457+10 69		492+54 65	
B	18 25'20"		33 08'20"		8 15'04"	10 40'43"	20 13'20"	
C	120 74'		138 88'		105 52'		105 60'	118 60'
D	116 00'		133 5'		104 00'		104 00'	117 00'
E	2 37'		2 69'		0 76'		0 80'	
F	37 00'	33 00'	41 00'		32 00'		32 0'	36 0'
G	46 00'		51 5'		40 0'		40 0'	45 0'
H	222+11	222+39	312+56	313+11	456+72	456+50	491+86	492+11
I								
J								
K								
L								
M								
N	223+32	223+60	313+95	314+50	457+77	457+55	492+92	493+29
O	38'-00"		38'-00"		38'-00"		38'-00"	
P	42'-00"		42'-00"		42'-00"		42'-00"	
Q	40'-00"		40'-00"		40'-00"		40'-00"	
R	18'-00"		18'-00"		18'-00"		18'-00"	
S	22'-00"		22'-00"		22'-00"		22'-00"	
T	25'-00"		25'-00"		25'-00"		25'-00"	
TRANSVERSE SECTION	A		A		B		B	
AA	21'-00"		21'-00"		21'-00"		21'-00"	
BB	17'-00"		17'-00"		17'-00"		17'-00"	
CC	2'-00"		2'-00"		2'-00"		2'-00"	
DD	9'-6"		9'-6"					
FF	2'-00"		2'-00"		2'-00"		2'-00"	
GG	9"		9"		1'-6"		1'-6"	
REMARKS	3 SPAN	SAME AS LT STR EXCEPT WHERE INDICATED	3 SPAN	SAME AS LT STR EXCEPT WHERE INDICATED	3 SPAN	SAME AS LT STR EXCEPT WHERE INDICATED	3 SPAN	SAME AS LT STR EXCEPT WHERE INDICATED
PART	1		2		3		4	

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGESLEFT AND RIGHT
EXISTING STRUCTURE DATA

DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISION

COMPLETED BY _____ DATE _____
CHECKED BY _____ DATE _____

F.H.W.A. REGION	STATE	PROJECT NO	FUNDS
5	OHIO		

STA-30-00 92
BR-39-90

27
34

PART 1 ALABAMA AVE		PART 2 S R 93		PART 3 PIGEON RUN		PART 4 CARMONT AVE		PARTICIPATION			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION
0092 L	0092 R	0264 L	0264 R	0535 L	0535 R	0603 L	0603 R								
499	499	576	576	439	439	439	494				202		3,961	SQ YDS	PORTIONS OF STRUCTURES REMOVED (T=1")
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP				202		LUMP		PORTIONS OF STRUCTURES REMOVED
6,686	6,686	7,499	7,499	4,620	4,620	4,646	5,333				509		47,586	POUND	EPOXY COATED REINFORCING STEEL
592	592	660	660	408	408	408	480				510		4,208	EACH	DOWEL HOLES
36	36	41	41	26	26	26	29				511		342	CU YDS	CLASS 'S' CONCRETE SUPERSTRUCTURE, AS PER PLAN
80	80	91	91	-0-	-0-	-0-	-0-				516		261	LIN FT	STRUCTURAL EXPANSION JOINTS INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN
80	80	91	91	-0-	-0-	-0-	-0-				516		342	LIN FT	VERTICAL EXTENTION OF STRUCTURAL EXPANTION JOINTS
2	2	2	2	-0-	-0-	-0-	-0-				516		8	LIN FT	HORIZONTAL EXTENTION OF STRUCTURAL EXPANTION JOINTS
12	12	16	16	16	16	16	20				518		124	EACH	SCUPPER MODIFICATION, AS PER PLAN
-0-	-0-	-0-	-0-	32	32	26	30				519		120	SQ FT	PATCHING CONCRETE STRUCTURES
512	-0-	-0-	591	451	-0-	-0-	507				850		2,061	SQ YDS	SUPERPLASTICIZED DENSE CONCRETE (SDC) OVERLAY (2 3/4" THICK)
LUMP			LUMP	LUMP			LUMP				850		LUMP		TEST SLAB, SDC
-0-	512	591	-0-	-0-	451	451	-0-				SPECIAL		2,005	SQ YDS	STEEL FIBER REINFORCED SDC OVERLAY (2 3/4" THICK)
	LUMP	LUMP			LUMP	LUMP					SPECIAL		LUMP		TEST SLAB, SFR-SDC
17											SPECIAL		17	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS 'S' CONCRETE (VARIABLE THICKNESS) (STA-30-0092 L)
	14										SPECIAL		14	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS "S" CONCRETE (VARIABLE THICKNESS) (STA-30-0092 R)
		25									SPECIAL		26	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS "S" CONCRETE (VARIABLE THICKNESS) (STA-30-0264 L)
			18								SPECIAL		18	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS 'S' CONCRETE (VARIABLE THICKNESS) (STA-30-0264 R)
				6							SPECIAL		6	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS "S" CONCRETE (VARIABLE THICKNESS) (STA-30-0535 L)
					4						SPECIAL		4	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS "S" CONCRETE (VARIABLE THICKNESS) (STA-30-0535 R)
						12					SPECIAL		12	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS "S" CONCRETE (VARIABLE THICKNESS) (STA-30-0603 L)
							13				SPECIAL		13	CU YDS	PATCHING OF CONCRETE BRIDGE DECK USING CLASS 'S' CONCRETE (VARIABLE THICKNESS) (STA-30-0603 R)
352	352	394	394	278	278	312	284				SPECIAL		2,644	SQ YDS	SEALING OF CONCRETE SURFACES (EPOXY)
-0-	-0-	-0-	-0-	40	60	50	50				SPECIAL		200	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR
6,408											SPECIAL		6,408	S F	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU (STA-30-0092 L)
40											SPECIAL		40	MAN HRS	GRINDING FINIS, TEARS, AND SLIVERS (STA-30-0092 L)
680											SPECIAL		680	L F	GRINDING FLANGE EDGES (STA-30-0092 L)
6,408											SPECIAL		6,408	S F	FIELD PAINTING OF EXISTING STEEL, THREE COATS, SYSTEM OZEU (STA-30-0092 L)
5											SPECIAL		5	LIN FT	CAULKING (STA-30-0092 L)
LUMP											SPECIAL		LUMP		CONTAIN, COLLECT, STORE, AND EVALUATE ABRASIVES AND PAINT CHIPS (STA-30-0092 L)
LUMP											SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF NON-HAZARDOUS WASTE (STA-30-0092 L)
LUMP											SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF HAZARDOUS WASTE (STA-30-0092 L)
	6,408										SPECIAL		6,408	S F	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU (STA-30-0092 R)
	40										SPECIAL		40	MAN HRS	GRINDING FINIS, TEARS, AND SLIVERS (STA-30-0092 R)
	680										SPECIAL		680	L F	GRINDING FLANGE EDGES (STA-30-0092 R)
	6,408										SPECIAL		6,408	S F	FIELD PAINTING OF EXISTING STEEL, THREE COATS, SYSTEM OZEU (STA-30-0092 R)
	5										SPECIAL		5	LIN FT	CAULKING (STA-30-0092 R)
	LUMP										SPECIAL		LUMP		CONTAIN, COLLECT, STORE, AND EVALUATE ABRASIVES AND PAINT CHIPS (STA-30-0092 R)
	LUMP										SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF NON-HAZARDOUS WASTE (STA-30-0092 R)
	LUMP										SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF HAZARDOUS WASTE (STA-30-0092 R)
		7,539									SPECIAL		7,539	S F	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU (STA-30-0264 L)
		40									SPECIAL		40	MAN HRS	GRINDING FINIS, TEARS, AND SLIVERS (STA-30-0264 L)
		1,000									SPECIAL		1,000	L F	GRINDING FLANGE EDGES (STA-30-0264 L)
		7,539									SPECIAL		7,539	S F	FIELD PAINTING OF EXISTING STEEL, THREE COATS, SYSTEM OZEU (STA-30-0264 L)
		5									SPECIAL		5	LIN FT	CAULKING (STA-30-0264 L)
		LUMP									SPECIAL		LUMP		CONTAIN, COLLECT, STORE, AND EVALUATE ABRASIVES AND PAINT CHIPS (STA-30-0264 L)
		LUMP									SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF NON-HAZARDOUS WASTE (STA-30-0264 L)
		LUMP									SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF HAZARDOUS WASTE (STA-30-0264 L)
			7,539								SPECIAL		7,539	S F	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU (STA-30-0264 R)
			40								SPECIAL		40	MAN HRS	GRINDING FINIS, TEARS, AND SLIVERS (STA-30-0264 R)
			1,000								SPECIAL		1,000	L F	GRINDING FLANGE EDGES (STA-30-0264 R)
			7,539								SPECIAL		7,539	S F	FIELD PAINTING OF EXISTING STEEL, THREE COATS, SYSTEM OZEU (STA-30-0264 R)
			5								SPECIAL		5	LIN FT	CAULKING (STA-30-0264 R)
			LUMP								SPECIAL		LUMP		CONTAIN, COLLECT, STORE, AND EVALUATE ABRASIVES AND PAINT CHIPS (STA-30-0264 R)
			LUMP								SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF NON-HAZARDOUS WASTE (STA-30-0264 R)
			LUMP								SPECIAL		LUMP		SHIPMENT AND DISPOSAL OF HAZARDOUS WASTE (STA-30-0264 R)
WSUB															

STA-30-00 92
BR-39-90

ITEM 511 CLASS S CONCRETE SUPERSTRUCTURE, AS PER PLAN

DESCRIPTION

THIS ITEM SHALL BE USED TO RECONSTRUCT EXISTING PARAPETS USING CLASS S CONCRETE AS DETAILED ON SHEET NUMBERS 28-30. ALL COSTS OF REMOVAL SHALL BE INCLUDED UNDER ITEM 202 PORTIONS OF STRUCTURES REMOVED.

REMOVAL OF CONCRETE

IN ADDITION TO THE REMOVAL AREAS AS SHOWN ON THE STRUCTURE MODIFICATION DETAILS ALL LOOSE, SOFT, HONEYCOMBED AND DISINTEGRATED CONCRETE PLUS 1/4" DEPTH OF SOUND CONCRETE SHALL BE REMOVED AFTER COMPLETION OF THE REMOVAL OPERATION. THE ENGINEER SHALL SOUND THE REMAINING CONCRETE TO ENSURE THAT ONLY SOUND CONCRETE REMAINS. ALL WORK SHALL BE DONE IN SUCH A MANNER AS NOT TO DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN AND PREVENT THE REINFORCING STEEL THAT IS TO REMAIN FROM BEING CUT, ELONGATED OR DAMAGED. IN ANY WAY CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35 POUND CLASS.

SURFACE PREPARATION

PRIOR TO PLACING THE NEW WALL, ALL SURFACES TO WHICH THE WALL IS TO BOND, INCLUDING EXPOSED REINFORCING AND STRUCTURAL STEEL, SHALL BE CLEANED BY AN APPROVED METHOD OF WATER BLASTING. THESE SURFACES SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL, IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

REINFORCING STEEL

ALL COSTS OF LABOR AND MATERIAL NECESSARY TO CUT THE EXISTING NUMBER 5 REBARS AS SHOWN ON THE PROPOSED PARAPET DETAILS SHALL BE INCLUDED UNDER THIS ITEM OF WORK. ALL OTHER STEEL SHALL BE EPOXY COATED AND WILL BE PAID FOR SEPARATELY UNDER ITEM 509 EPOXY COATED REINFORCING STEEL.

METHOD OF MEASUREMENT

THE FINAL AMOUNT SHALL BE THE CALCULATED NUMBER OF CUBIC YARDS.

MISCELLANEOUS NOTES

AN EXTENSION OF THE WINGWALL MAY BE NECESSARY TO ACCOMMODATE THE 14 FT TRANSITION OF THE NEW CONCRETE BARRIER SAFETY SHAPE. ALL NECESSARY WORK TO BE INCLUDED IN ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN. SEE "PROPOSED WINGWALL EXTENSION" DETAIL ON SHEET NO 29. APPLIES TO ALL WINGWALLS OF PART NO 1 ONLY.

INSTALL DEFLECTION JOINTS AS PER STANDARD BRIDGE DRAWING BR-1 EXCEPT THAT SPACING SHALL BE AS SHOWN ON THIS SHEET, (DIMENSION E), WHICH PROVIDES FOR A DEFLECTION JOINT IN THE NEGATIVE MOMENT REGION OVER PIERS.

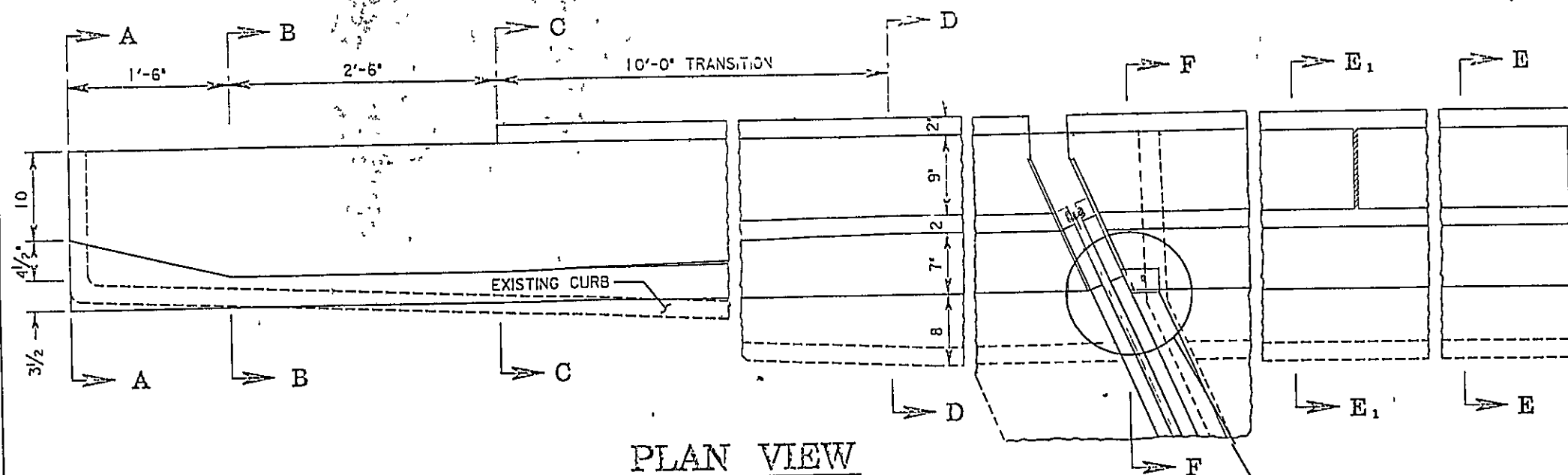
FOR DETAILS OF THE THREE BEAM GUARDRAIL BRIDGE TERMINAL ASSEMBLY AND CONNECTIONS TO THE PARAPET SEE STANDARD CONSTRUCTION DRAWING GR-3.

REFER TO STANDARD BRIDGE DRAWING BR-1, FOR DETAILS NOT SHOWN ON SHEETS 29 & 30 FOR THE PARAPET CONSTRUCTION.

THE 3/4" DOWEL BARS SHALL CONFORM TO STANDARDS AS PER SECTIONS 709.00 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS GROUT SHALL MEET THE REQUIREMENTS OF ASTM C-881, TYPE I, GRADE 3, CLASS A, B OR C.

TRANSVERSE EXTENSION OF STRUCTURAL STEEL EXPANSION JOINTS

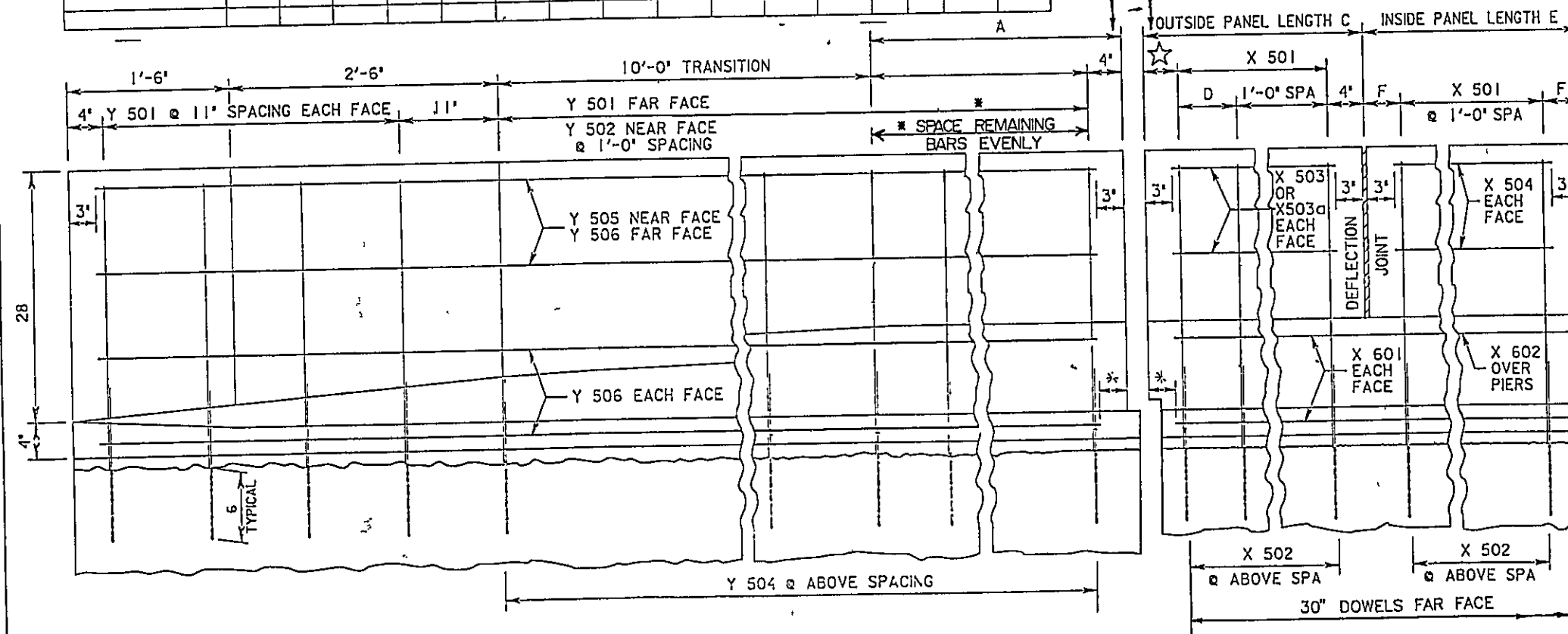
THE NEW CONCRETE BARRIER SAFETY SHAPE WILL RESULT IN A WIDER CLEAR ZONE WIDTH THAN THE EXISTING CURB AND PARAPET WALL. THIS WILL OCCURE ON ALL STRUCTURES GETTING THE NEW SAFETY SHAPE AS A RESULT THE STRUCTURAL STEEL EXPANSION JOINTS SHALL BE EXTENDED TRANSVERSELY TO THE NEW CURB PLATES AS SHOWN IN PROPOSED SECTIONS F-F AND G-G, SHEET NO 23. THE COST OF LABOR, MATERIALS AND INCIDENTALS TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 516 HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN.



PLAN VIEW

STRUCTURE NO	WINGWALLS								OUTSIDE PANELS				INSIDE PANELS			
	REAR				FORWARD				REAR		FORWARD		LEFT		RIGHT	
	A	B	A	B	A	B	A	B	C	D	C	D	E	F	E	F
STA-30-0092 L	0	0	0	0	0	0	0	0	9'-6 1/2"	10 1/2"	9'-6 1/2"	10 1/2"	11	11	9' 00"	6"
STA-30-0092 R	0	0	0	0	0	0	0	0	9'-6 1/2"	10 1/2"	9'-6 1/2"	10 1/2"	11	11	9' 00"	6"
STA-30-0264 L	7 7/8"	0	1 3/8"	0	1 3/8"	0	7 7/8"	0	12'-10 1/2"	1'-2 1/2"	12'-10 1/2"	1'-2 1/2"	11	11	10' 00"	6"
STA-30-0264 R	7 7/8"	0	1 3/8"	0	1 3/8"	0	7 7/8"	0	12'-10 1/2"	1'-2 1/2"	12'-10 1/2"	1'-2 1/2"	11	11	10' 00"	6"

SEE "PROPOSED PARAPET JOINT" DETAIL ON SHEET NO 23



PROFILE VIEW

* WHEN A SKEW IS ENCOUNTERED THE NEAR FACE Y 506 SERIES AND NEAR FACE X 601 BARS SHALL BE ADJUSTED AT THE LAP JOINT TO MEET THE 3" CLEARANCE

☆ PLACE FIRST VERTICAL BAR 4" FROM EDGE OF OLD JOINT

① ITEM 850 (OR ITEM SPECIAL) - BRIDGE DECK OVERLAY, AS PER PLAN (T=2 3/4")

② ITEM 404 - ASPHALT CONCRETE, AC-20 (T=1" TO 1 3/4")

EX ASPHALT OVERLAY SURFACE

EX APPROACH SLAB SURFACE

CUT EX STEEL @ REMOVAL LINE

EX BRIDGE DECK

REMOVE @ EX CONSTRUCTION JOINT

CUT EX STEEL @ REMOVAL LINE

REMOVAL AREA

EXISTING SECTION E-E, E₁ - E₁
EXISTING ALUMINUM RAILING NOT SHOWN

PART NO 1 ONLY

STA-30-00 92

BR-39-90

ITEM 511 CLASS S CONCRETE SUPERSTRUCTURE, AS PER PLAN

DESCRIPTION

T-S ITEM S-ALL BE USED TO RECONSTRUCT EXISTING PARAPETS USING CLASS S CONCRETE AS DETAILED ON SHEET NUMBERS 32-33 ALL COSTS OF REMOVAL SHALL BE INCLUDED UNDER ITEM 202 PORTIONS OF STRUCTURES REMOVED

REMOVAL OF CONCRETE

IN ADDITION TO THE REMOVAL AREAS AS SHOWN ON THE STRUCTURE MODIFICATION DETAILS ALL LOOSE, SOFT, HONEYCOMBED AND DISINTEGRATED CONCRETE PLUS 1/4" DEPTH OF SOUND CONCRETE SHALL BE REMOVED AFTER COMPLETION OF THE REMOVAL OPERATION, THE ENGINEER SHALL SOUND THE REMAINING CONCRETE TO ENSURE THAT ONLY SOUND CONCRETE REMAINS ALL WORK SHALL BE DONE IN SUCH A MANNER AS NOT TO DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN AND PREVENT THE REINFORCING STEEL THAT IS TO REMAIN FROM BEING CUT, ELONGATED OR DAMAGED IN ANY WAY CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 35 POUND CLASS

SURFACE PREPARATION

PRIOR TO PLACING THE NEW WALL, ALL SURFACES TO WHICH THE WALL IS TO BOND, INCLUDING EXPOSED REINFORCING AND STRUCTURAL STEEL, SHALL BE CLEANED BY AN APPROVED METHOD OF WATER BLASTING THESE SURFACES SHALL BE MADE FREE OF SPALLS, LANTANCE AND ALL TRACES OF FOREIGN MATERIAL, IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO ENSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND

REINFORCING STEEL

ALL COSTS OF LABOR AND MATERIAL NECESSARY TO CUT THE EXISTING NUMBER 5 REBARS AS SHOWN ON THE PROPOSED PARAPET DETAILS SHALL BE INCLUDED UNDER THIS ITEM OF WORK ALL OTHER STEEL SHALL BE EPOXY COATED AND WILL BE PAID FOR SEPARATELY UNDER ITEM 509 EPOXY COATED REINFORCING STEEL

METHOD OF MEASUREMENT

THE FINAL AMOUNT SHALL BE THE CALCULATED NUMBER OF CUBIC YARDS

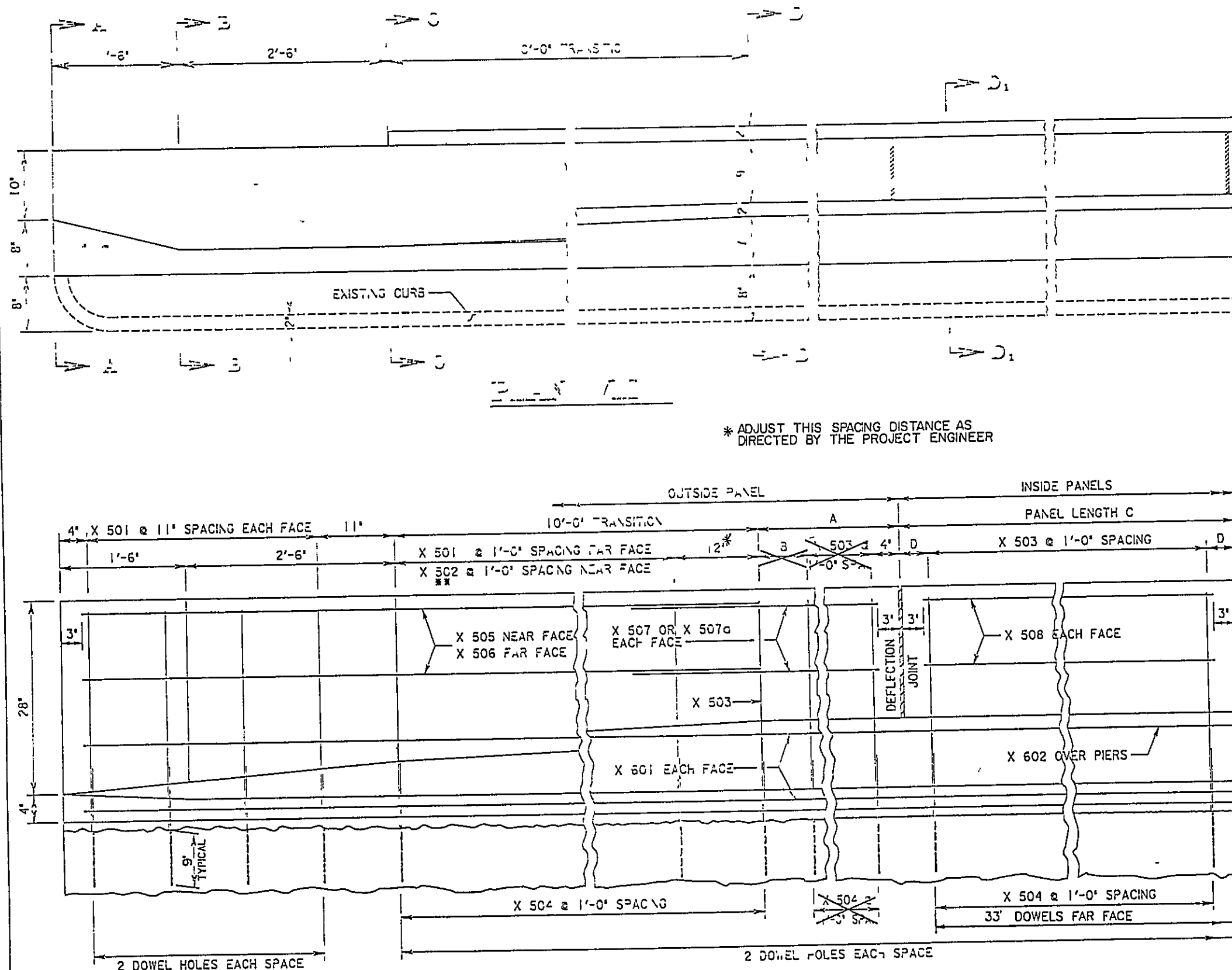
MISCELLANEOUS NOTES

INSTALL DEFLECTION JOINTS AS PER STANDARD BRIDGE DRAWING BR-1 EXCEPT THAT SPACING SHALL BE AS SHOWN ON THIS SHEET, (DIMENSION C), WHICH PROVIDES FOR A DEFLECTION JOINT IN THE NEGATIVE MOMENT REGION OVER PIERS

FOR DETAILS OF THE THREE BEAM GUARDRAIL BRIDGE TERMINAL ASSEMBLY AND CONNECTIONS TO THE PARAPET SEE STANDARD CONSTRUCTION DRAWING GR-3

REFER TO STANDARD BRIDGE DRAWING BR-1 FOR DETAILS NOT SHOWN ON SHEETS 32-33 FOR THE PARAPET CONSTRUCTION

THE 3/4" DOWEL BARS SHALL CONFORM TO STANDARDS AS PER SECTIONS 709.00 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS GROUT SHALL MEET THE REQUIREMENTS OF ASTM C-881, TYPE I, GRADE 3, CLASS A, B OR C



PROFILE VIEW

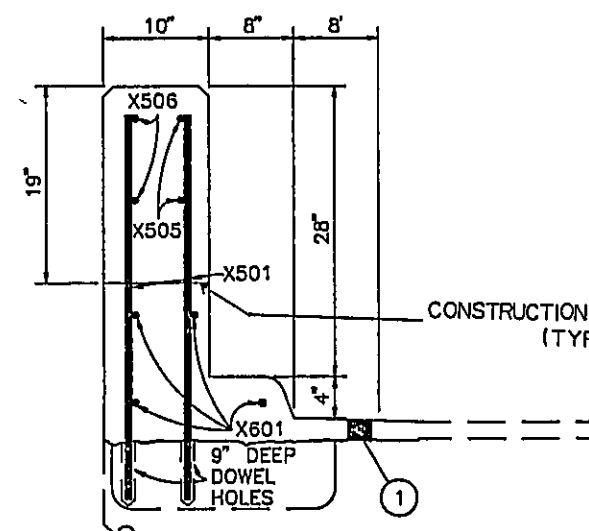
PLACE X 502 BARS PARALLEL TO PARAPET FACE

STRUCTURE NO	OUTSIDE PANELS				INSIDE PANELS			
	REAR		FORWARD		NO LEFT	NO RIGHT	C	D
	A	B	A	B				
STA-30-05.35 L	6"	0	6"	0	9	9	8.5'	9'
STA-30-05.35 R	6"	0	6"	0	9	9	8.5'	9'
STA-30-06.03 L	6 1/2"	0	6 1/2"	0	9	9	8.5'	9'
STA-30-06.03 R	3 1/2"	0	3 1/2"	0	9	9	10'	6"

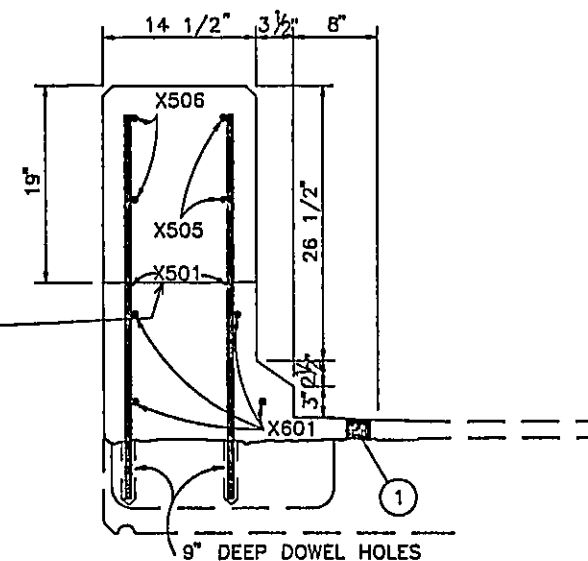
F.M.A. REGION	STATE	PROJECT
5	OHIO	

32
34

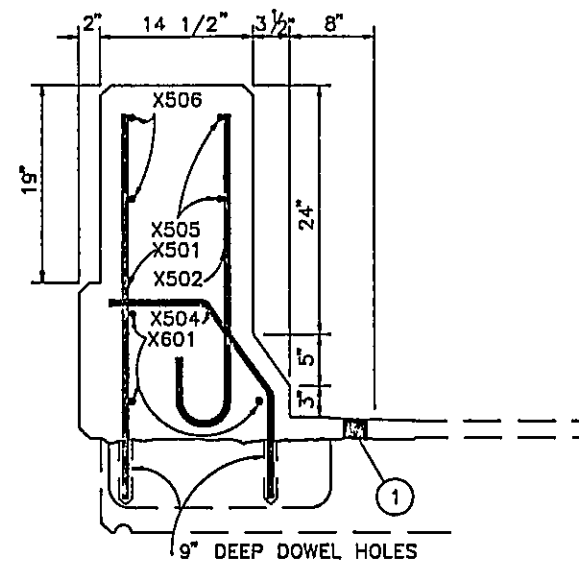
STA-30-00 92
BR-39-90



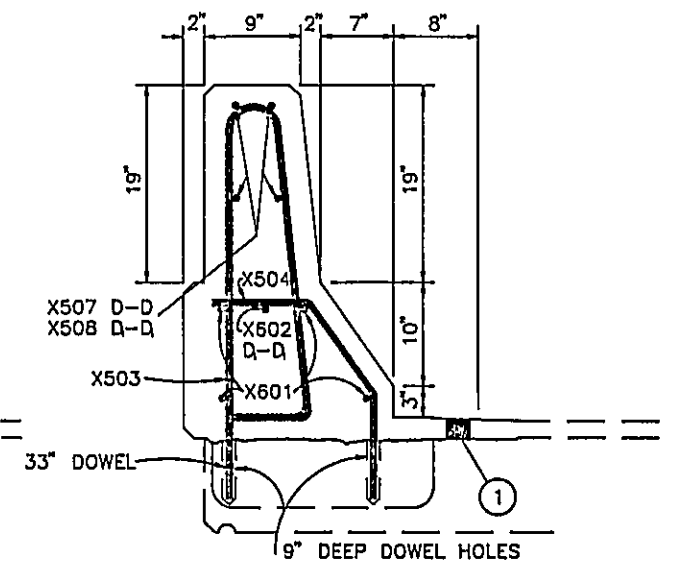
PROPOSED SECTION A-A



PROPOSED SECTION B-B

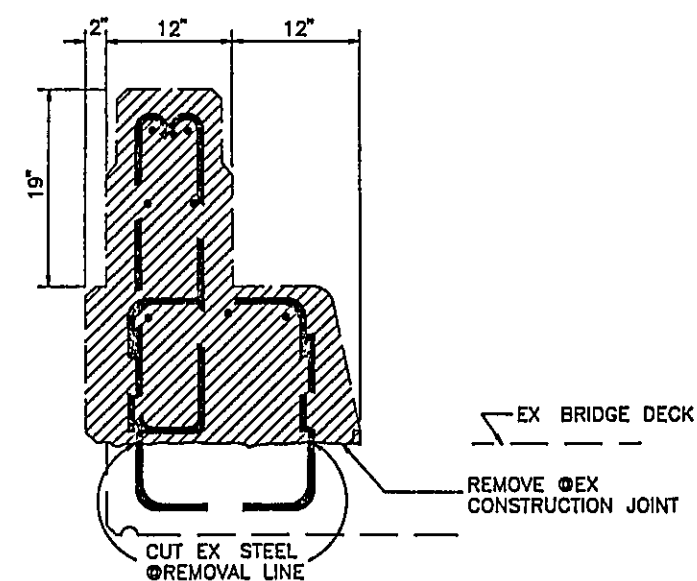


PROPOSED SECTION C-C



PROPOSED SECTION D-D & D₁ - D₁

NOTE ON EXISTING BRIDGE DECKS TO BE OVERLAYED ON THIS PROJECT
THE PROPOSED OVERLAY SHALL EXTEND TO THE FACE OF CURBS
OF THE RETROFITTED PARAPETS



① VARIABLE DEPTH (SAME MATERIAL AS EXISTING OVERLAY)



REMOVAL AREA

EXISTING SECTION A-A, B-B, C-C, D-D, & D₁ - D₁
EXISTING ALUMINUM RAILING NOT SHOWN

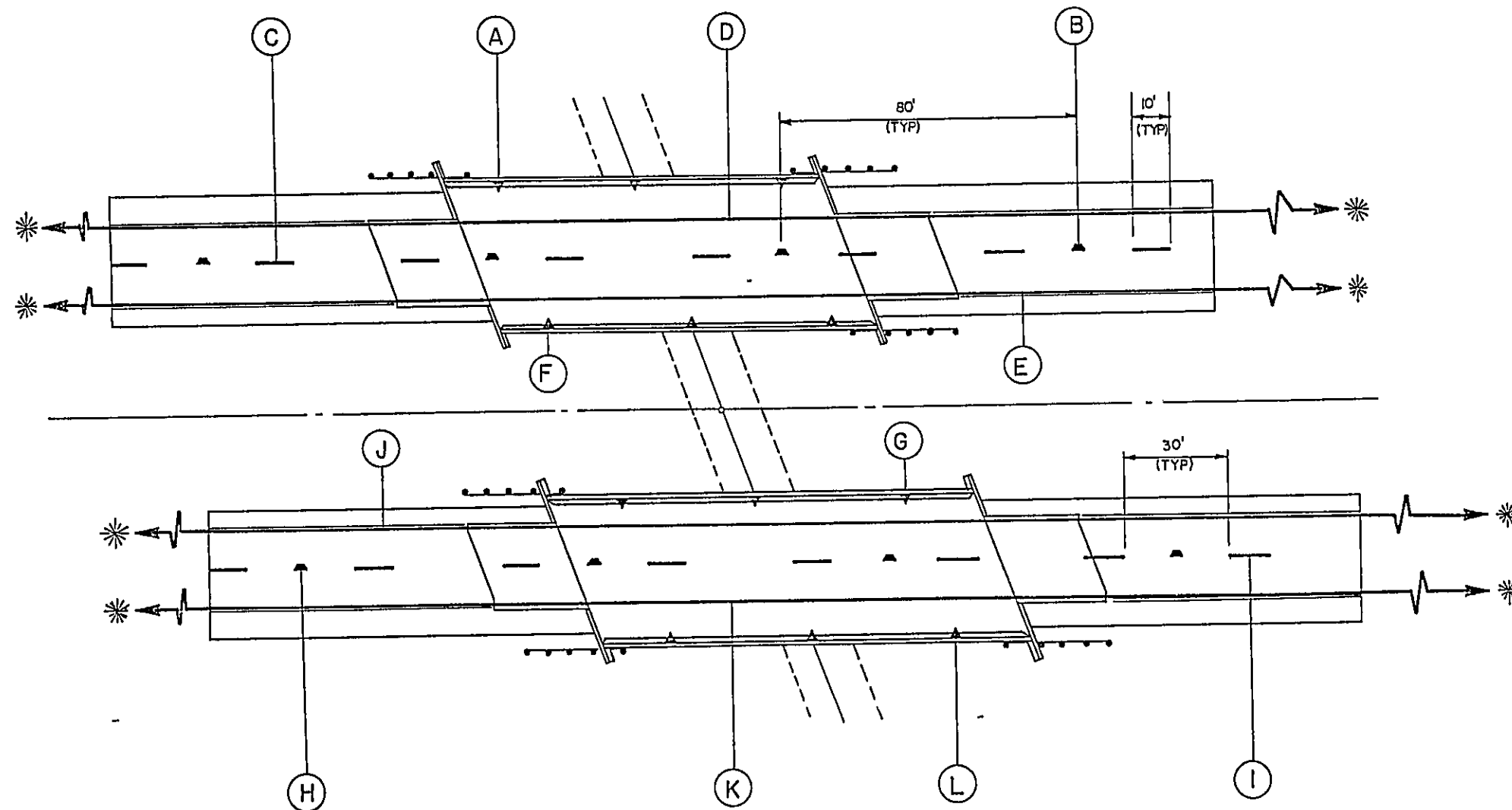
STA-30-00 92
PLAN NO BR-39-90

OHIO
FHWA
REGION 5
FEDERAL
PROJECT

34
34

* NOTE: REFER TO SHEET NO 5 FOR EDGE LINE D E J AND K
EXTENSION DETAILS THAT ARE NOT SHOWN IN THE PLAN
VIEW BELOW

NOTE DRAWING NOT TO SCALE



STARK- US ROUTE 30- (PARTS I THRU 4 INCLUSIVE)

TRAFFIC CONTROL SUB-SUMMARY

STRUCTURE NO	TRAFFIC FLOW DIRECTION	REFERENCE NO (PART NO)	STATION		SIDE	621	621	802	862
			FROM	TO		LANE LINES	EDGE LINES	BARRIER REFLECTOR TYPE B	RAISED PAVEMENT MARKERS
						MILE	MILE	EACH	EACH
STA-30-0092 L	WESTBOUND	A(1)	222+14	223+14	LT			3	
		B(1)	221+11	224+32	ε				4
		C(1)	221+11	224+32	ε	0 06			
		D(1)	219+91	230+32	LT		0 20		
		E(1)	219+91	230+32	RT		0 20		
		F(1)	222+30	223+30	RT			3	
STA-30-0092 R	EASTBOUND	G(1)	222+43	223+43	LT			3	
		H(1)	221+39	224+60	ε				4
		I(1)	221+39	224+60	ε	0 06			
		J(1)	215+39	225+80	LT		0 20		
		K(1)	215+39	225+80	RT		0 20		
		L(1)	222+56	223+56	RT			3	
STA-30-0264 L	WESTBOUND	A(2)	312+52	313+72	LT			3	
		B(2)	311+56	314+95	ε				4
		C(2)	311+56	314+95	ε	0 06			
		D(2)	310+36	320+95	LT		0 20		
		E(2)	310+36	320+95	RT		0 20		
		F(2)	312+78	313+72	RT			3	
STA-30-0264 R	EASTBOUND	G(2)	313+09	314+29	LT			3	
		H(2)	312+11	315+50	ε				4
		I(2)	312+11	315+50	ε	0 06			
		J(2)	306+11	316+70	LT		0 20		
		K(2)	306+11	316+70	RT		0 20		
		L(2)	313+35	314+55	RT			3	
STA-30-0535 L	WESTBOUND	A(3)	456+92	457+72	LT			3	
		B(3)	455+72	458+77	ε				4
		C(3)	455+72	458+77	ε	0 06			
		D(3)	454+52	464+77	LT		0 19		
		E(3)	454+52	464+77	RT		0 19		
		F(3)	456+78	457+58	RT			3	
STA-30-0535 R	EASTBOUND	G(3)	456+66	457+46	LT			3	
		H(3)	455+50	455+50	ε				4
		I(3)	455+50	455+50	ε	0 06			
		J(3)	449+50	459+75	LT		0 19		
		K(3)	449+50	459+75	RT		0 19		
		L(3)	456+54	457+34	RT			3	
STA-30-0603 L	WESTBOUND	A(4)	491+90	492+70	LT			3	
		B(4)	490+86	493+92	ε				4
		C(4)	490+86	493+92	ε	0 06			
		D(4)	489+66	499+92	LT		0 19		
		E(4)	489+66	499+92	RT		0 19		
		F(4)	492+06	492+86	RT			3	
STA-30-0603 R	EASTBOUND	G(4)	492+14	493+14	LT			3	
		H(4)	491+11	494+29	ε				4
		I(4)	491+11	494+29	ε	0 06			
		J(4)	485+11	495+49	LT		0 20		
		K(4)	485+11	495+49	RT		0 20		
		L(4)	492+30	493+30	RT			3	
TOTALS						0 48	3 14	48	32

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED