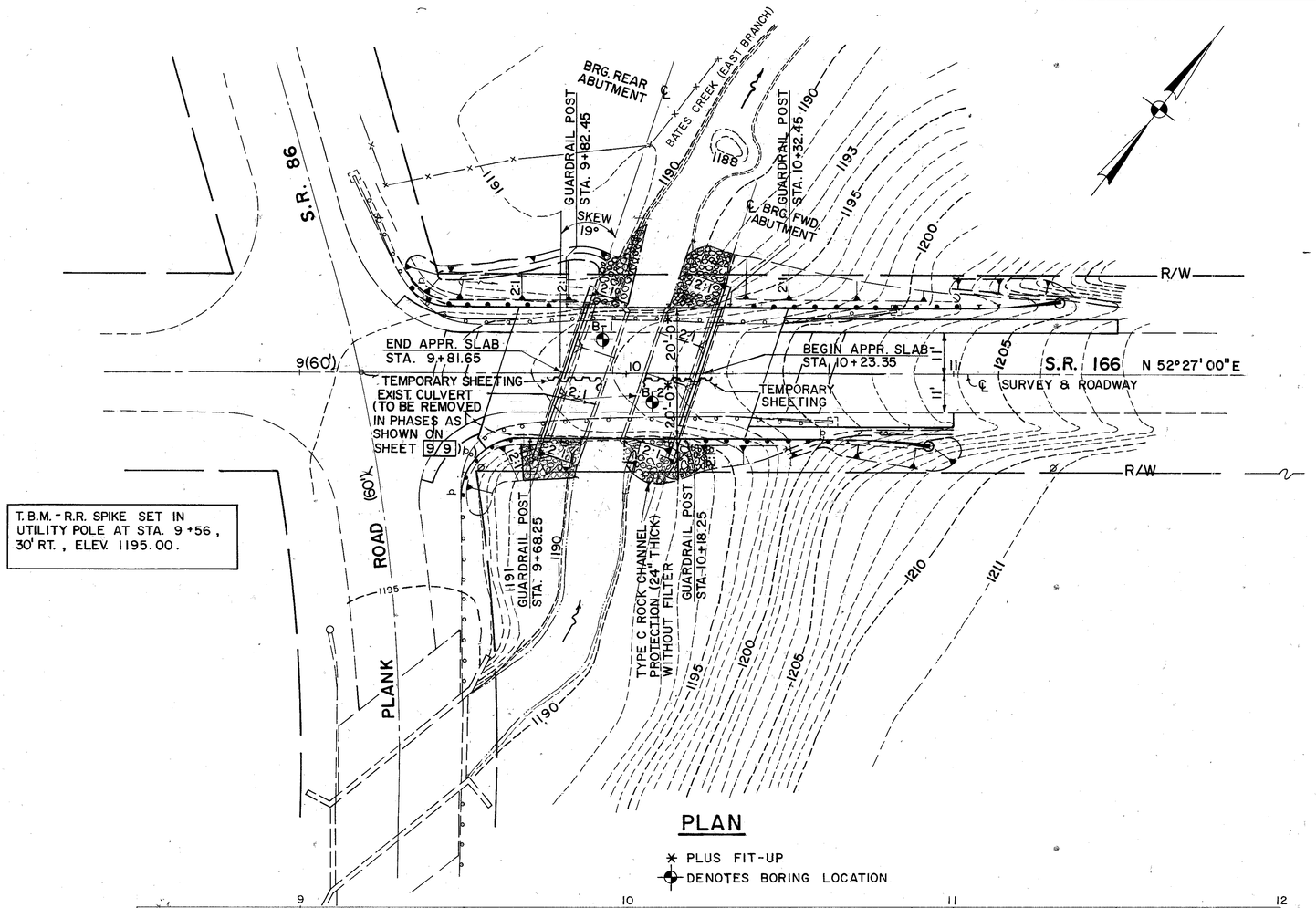
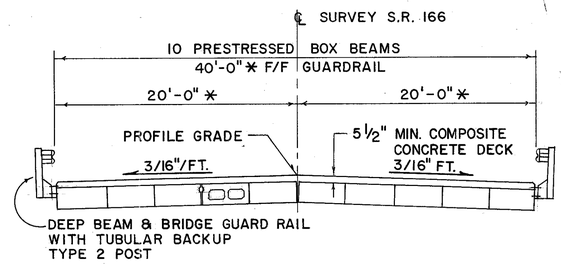
CALC. BY ____ DATE ____		OHIO	16/26
CHKD. BY ____ DATE ____		FHWA REGION 5	

GEAUGA COUNTY
GEA - 166 - 4.12



PLAN

✳ PLUS FIT-UP
⊕ DENOTES BORING LOCATION



TYPICAL CROSS-SECTION

✳ PLUS FIT-UP

DRAINAGE AREA	= 1450 ACRES
Q 25	= 637 CFS
V 25	= 6.74 FPS
25 HW	= 1192.76
Q 100	= 876 CFS
V 100	= 8.47 FPS
100 HW	= 1193.60

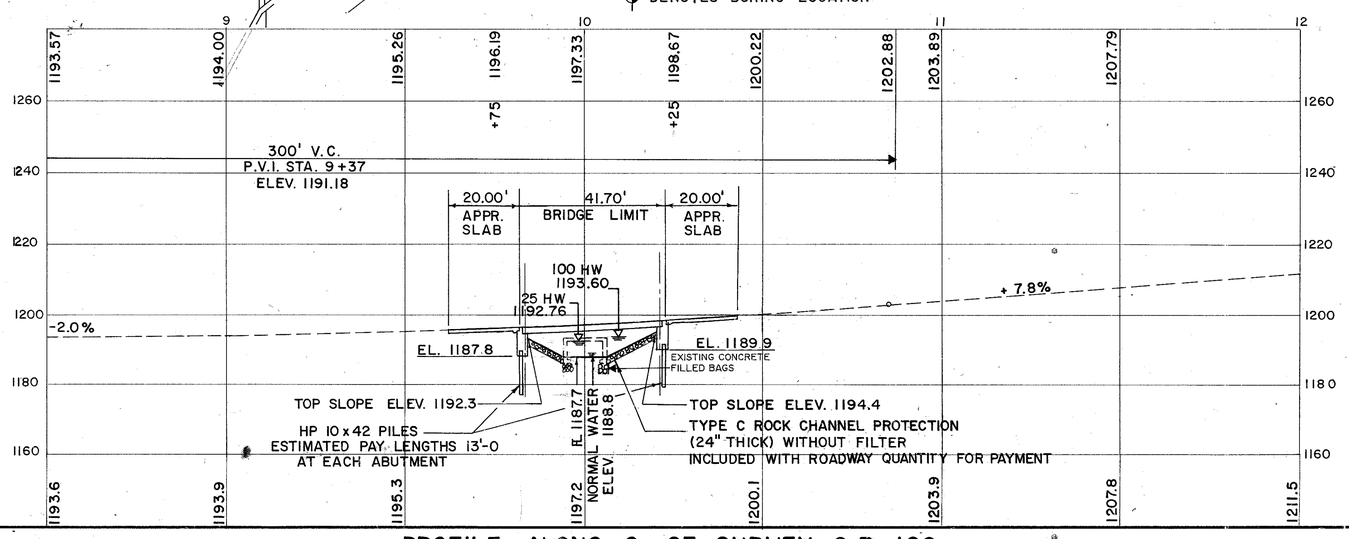
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

AVERAGE DAILY TRAFFIC

1991 2460
2011 3200

REVIEWED BY BURGESS & NIPLE, LTD.
T.A.B. 10-30-92

0 10 20 40
SCALE IN FEET



PROFILE ALONG ℄ OF SURVEY S.R. 166

EXISTING STRUCTURE

TYPE: REINFORCED CONCRETE SLAB ON CONCRETE GRAVITY ABUTMENTS.
SPAN: 10' F/F ABUTMENTS
SKEW: 19° LF
ALIGNMENT: TANGENT
ROADWAY: 28'± F/F RAILS
LOADING: H-15
WEARING SURFACE: ASPHALT CONCRETE

STRUCTURE FILE NO.: 2801086

PROPOSED STRUCTURE

TYPE: PRECAST PRESTRESSED CONCRETE BOX BEAMS ON REINFORCED CONCRETE ABUTMENTS.
SPAN: 38'-0" C/C BEARINGS
SKEW: 19° LF
ALIGNMENT: TANGENT
ROADWAY: 40' F/F GUARDRAIL
APPROACH SLABS: 20'-0"
LOADING: HS 20-44 AND THE ALTERNATE MILITARY LOADING.
WEARING SURFACE: CONCRETE

CROWN: 3/16" / FT.

1/9

STEPHEN HOVANCSEK & ASSOCIATES
CONSULTING ENGINEERS

SITE PLAN

BRIDGE NO GEA-166-412
OVER EAST BRANCH OF BATES CREEK

GEAUGA COUNTY STA. 9+81.65
STA. 10+23.35

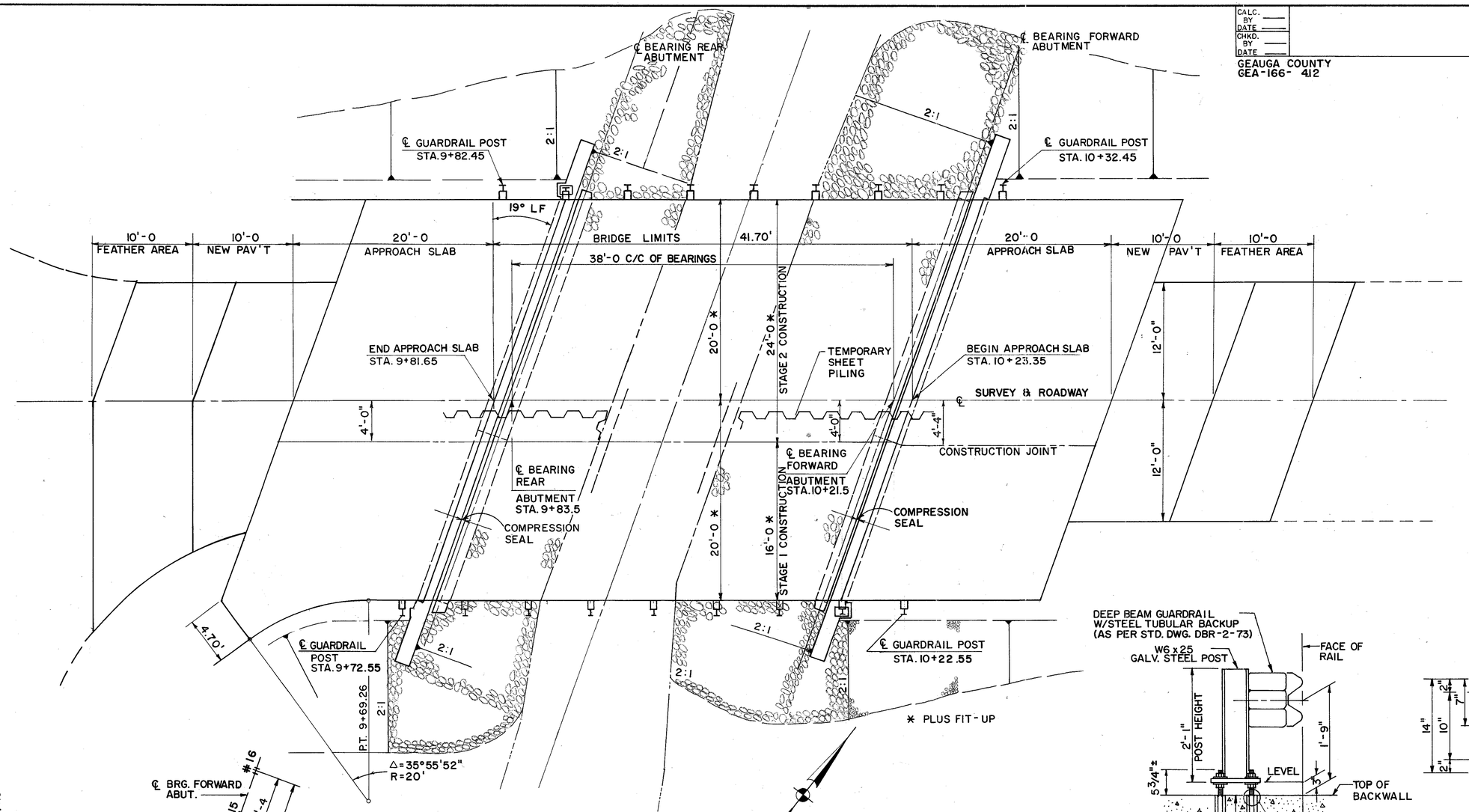
DESIGNED:	DRAWN:	TRACED:	CHECKED:	REVIEWED:	DATE:	REVISED:
LJB		T.C.	RPW	R.J.S.	7-1-92	DI2 CKH 12-21-92

BRUNING 44-132 67199

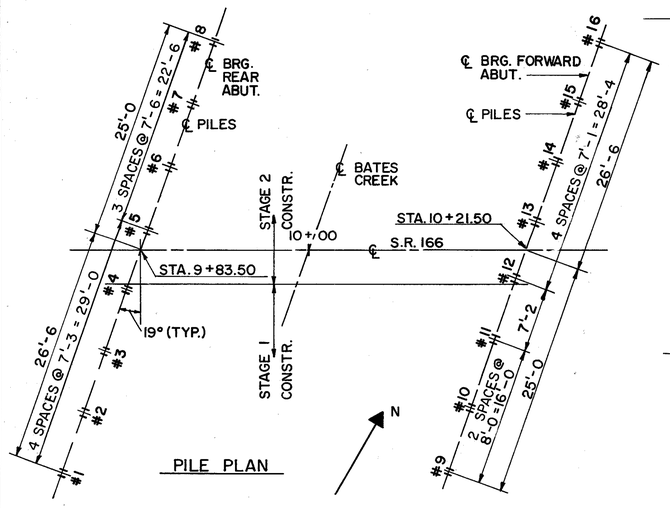
SITE PLAN

CALC. BY ___ DATE ___		OHIO	17/26
CHKD. BY ___ DATE ___		FHWA REGION 5	

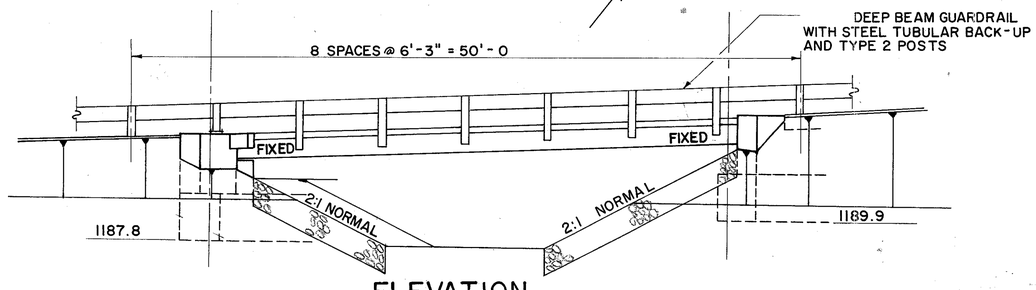
GEAUGA COUNTY
GEA-166- 412



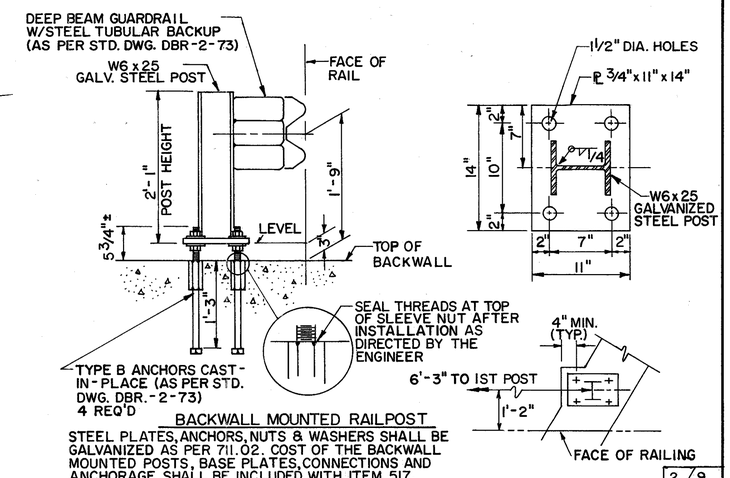
PLAN



PILE PLAN



ELEVATION



BACKWALL MOUNTED RAILPOST

STEEL PLATES, ANCHORS, NUTS & WASHERS SHALL BE GALVANIZED AS PER 711.02. COST OF THE BACKWALL MOUNTED POSTS, BASE PLATES, CONNECTIONS AND ANCHORAGE SHALL BE INCLUDED WITH ITEM 517, RAILING FOR PAYMENT.

2/9

STEPHEN HOVANCSEK & ASSOCIATES
CONSULTING ENGINEERS

GENERAL PLAN AND DETAILS

BRIDGE NO. GEA-166-0412
OVER BATES CREEK (EAST BRANCH)
GEAUGA COUNTY STA. 9+81.65
STA. 10+23.35

DESIGNED:	DRAWN:	TRACED:	CHECKED:	REVIEWED:	DATE:	REVISED:
LJB			T.C.	D.J.W.	7-1-92	DIZ CKH 12-21-92

GENERAL NOTES

REFERENCES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81	DATED: 11-27-81
DBR-2-73	DATED: 4-10-73
PSBD-1-81	DATED: 6-20-89 REVISED
EXJ-3-82	DATED: 8-01-84
PCB-91	DATED: 4-24-92

AND TO SUPPLEMENTAL SPECIFICATION

849	DATED: 12-24-85
949	DATED: 9-26-86

DESIGN SECIFICATION

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1989 INCLUDING THE 1990 AND 1991 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN LOADING

DESIGN LOADING – HS20-44 AND ALTERNATE MILITARY LOADING.

DESIGN STRESSES

CONCRETE CLASS C – UNIT STRESS 1333 P.S.I. (SUBSTRUCTURE)

CONCRETE CLASS S – UNIT STRESS 1500 P.S.I. (SUPERSTRUCTURE)

REINFORCING STEEL ASTM A615, A616 OR A617
GRADE 60 – UNIT STRESS 24,000 P.S.I.

CONCRETE FOR PRESTRESSED BEAMS –
UNIT STRESS 2200 P.S.I. COMPRESSION
444 P.S.I. TENSION

PRESTRESSING STRAND ASTM A416
F'S = 270,000 P.S.I.
INITIAL STRESS = 0.70 F'S

PRESTRESS BEAM REINFORCING STEEL –
ASTM A615, A616 OR A617
YIELD STRENGTH 40,000 P.S.I. MINIMUM

ABUTMENT PILING:
ABUTMENT PILING BENDING STRESS MAY APPROACH, REACH OR EXCEED YIELD STRESS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERED TO CMS SECTIONS 102.05, 105.02 AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

REMOVAL OF EXISTING STRUCTURES

THE EXISTING STRUCTURE SHALL BE REMOVED IN PHASES AS SHOWN ON SHEET 9/9 AND TO LIMITS DESCRIBED IN SECTION 202.03.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL, SEALING OF CONCRETE SURFACES AND STEEL DRIP STRIP.

ITEM SPECIAL, SEALING OF CONCRETE SURFACES

A CONCRETE SEALER SHALL BE APPLIED AS SHOWN ON THE PLANS. FOR SEALER LIMITS ON SUPERSTRUCTURE SEE SHEETS 6/9 AND 9/9 . FOR SEALER LIMITS ON ABUTMENTS, SEE SHEETS 4/9 AND 5/9 . SEE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, APPLICATION RATES, MATERIAL REQUIREMENTS AND APPLICATION PROCEDURES.

PILES DRIVEN TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS ATTAINED BY PENETRATING SOFT BEDROCK WITH A MINIMUM RESISITANCE OF 20 BLOWS PER INCH, OR REFUSAL SHALL BE CONSIDERED AS ATTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE DESIGN LOAD IS 41 TONS PER PILE FOR THE ABUTMENT PILES.

EMBANKMENT CONSTRUCTION

THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE. EXCAVATION MAY THEN BE MADE FOR THE ABUTMENTS AND PILES DRIVEN.

UTILITY LINES

ALL EXPENSES INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

PREBORING HOLES IN BEDROCK

A PREBORED HOLE SHALL BE DRILLED FOR EACH PILE OF BOTH ABUTMENTS PRIOR TO DRIVING THE PILE. THE DEPTH OF EACH PREBORED HOLE SHALL BE A MINIMUM OF 10 FEET BELOW THE FOOTING ELEVATION. THE DIAMETER OF EACH PREBORED HOLE SHALL BE A MINIMUM OF 15 INCHES. THE PILE SHALL BE PLACED IN THE PREBORED HOLE AND THE VOIDS SURROUNDING THE PILE SHALL BE FILLED WITH SAND. THEN, THE PILE SHALL BE DRIVEN TO REFUSAL ON BEDROCK AS SPECIFIED IN THE PLANS.

IF SOME PILES CAN BE DRIVEN TO A PENETRATION OF 10 FEET OR MORE BELOW THE FOOTING ELEVATION WITHOUT PILE DAMAGE, THE PREBORED HOLE FOR THESE PILES MAY BE NON-PREFORMED.

PAYMENT FOR THE PREBORED HOLES SHALL BE IN ACCORDANCE WITH ITEM 507.

1/8" PREFORMED BEARING PADS, 711.21

6"x 9"x 1/8" PREFORMED BEARING PADS, 711.21, SHALL BE PROVIDED TO BE USED AS SHIMS, WHERE REQUIRED TO ACCOUNT FOR ANY UNEVEN SEATING OF BEAMS. ANY UNUSED PADS SHALL BECOME THE PROPERTY OF THE STATE.

MECHANICAL CONNECTORS

AN APPROVED TYPE MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECCOMMENDED PROCEDURES. IF A DOWEL BAR SPLICE TYPE CONNECTOR IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE AS GIVEN BY THE DIMENSION "L" SHOWN ON THE PLANS.

CONNECTORS AND DOWEL BARS USED WITH EPOXY COATED BARS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY MAY BE REPAIRED AS DIRECTED BY THE ENGINEER OR THEY SHALL BE REPLACED WITH MATERIAL WHICH MEETS THE SPECIFICATIONS.

CONNECTORS AND DOWEL BAR EXTENTIONS SHALL CONFORM WITH ITEM 509 AND BE INCLUDED IN THE BID PRICE PER POUND FOR ITEM 509.

ITEM 511, CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN

A. PLACEMENT LIMITATIONS

CONCRETE SHALL NOT BE PLACED IF THE AMBIENT AIR TEMPERATURE OR PREDICTED AMBIENT AIR TEMPERATURE DURING THE DURATION OF THE POUR IS 80° F OR GREATER.

PLACEMENT OF CONCRETE SHALL BE COMPLETED UNDER FAVORABLE ATMOSPHERIC CONDITIONS. FAVORABLE ATMOSPHERIC CONDITIONS EXIST WHEN THE SURFACE EVAPORATION RATE IS AFFECTED BY THE AMBIENT AIR TEMPERATURE, CONCRETE TEMPERATURE, RELATIVE HUMIDITY, AND WIND VELOCITY IS 0.1 POUNDS PER SQUARE FOOT PER HOUR OR LESS. FIGURE (1) SHALL BE USED TO DETERMINE GRAPHICALLY, THE SURFACE EVAPORATION RATE. FIGURE (1) MAY BE FOUND ON PAGE 11 OF SUPPLEMENTAL SPECIFICATION 845. FAVORABLE ATMOSPHERIC CONDITIONS MAY REQUIRE REPLACEMENT DURING LATE EVENINGS (6:00 PM TO OFFICIAL SUNSET), NIGHT (OFFICIAL SUNSET TO OFFICIAL SUNRISE), OR EARLY MORNING (SUNRISE TO 8:00 AM). PLACEMENT DURING THESE TIMES WILL BE CONSIDERED TO MEET THE REQUIREMENTS FOR FAVORABLE ATMOSPHERIC CONDITIONS PROVIDED THAT THE TEMPERATURE LIMITATION ABOVE IS MET.

IF PLACEMENT OF THE CONCRETE IS TO BE MADE AT NIGHT, THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA AT LEAST 15 CALENDER DAYS IN ADVANCE AND RECIEVE WRITTEN APPROVAL FROM THE ENGINEER BEFORE PLACING THE CONCRETE.

ESTIMATED QUANTITIES

CALCULATED BY: LJB CHECKED BY: RJS.

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	SUPER STRUCT.	GENERAL
202	11000	LUMP		STRUCTURE REMOVED			EACH
503	11100	LUMP SUM		COFFERDAMS, CRIBS AND SHEETING			LUMP SUM
503	21100	112	CU. YD.	UNCLASSIFIED EXCAVATION	112		
505	11100	LUMP SUM		PILE DRIVING EQUIPMENT MOBILIZATION	LUMP SUM		
507	11100	208	LIN. FT.	STEEL PILES HP 10x42	208		
507	92200	112	LIN. FT.	PREBORED HOLES	112		
509	15800	9140	LB.	EPOXY COATED REINFORCING STEEL, GRADE 60	7036	2104	
511	43500	87	CU. YD.	CLASS C CONCRETE, ABUTMENT INCLUDING FOOTING	87		
511*	33404	31	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, USING SHRINKAGE CONPENSATING CEMENT. Δ		31	
511*	33410	LUMP SUM		CLASS S CONCRETE, USING SHRINKAGE COMPENSATING CEMENT, FOR PRE-PLACEMENT TESTING.		LUMP SUM	
SPECIAL	85050000	31	CU. YD.	SUPERPLASTICIZED CONCRETE, SUPERSTRUCTURE Δ		31	
SPECIAL	51267500	260	SQ. YD.	SEALING OF CONCRETE SURFACES Δ		260	
SPECIAL	51267502	50	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY) Δ	50		
512	44400	3	SQ. YD.	TYPE B WATERPROOFING	3		
SPECIAL	51273000	8	SQ. YD.	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN Δ		8	
515	54830	10	EACH	PRESTRESSED CONCRETE BOX BEAM (40-50' LENGTH) 41 FEET LONG, CB17-48 Δ (Composite)		10	
516	10500	89	LIN. FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC COMPRESSION SEAL		89	
516	41100	20	EACH	1/8"x 6"x 9" PREFORMED BEARING PAD, 711.21		20	
516	43100	40	EACH	1"x6"x9" LAMINATED ELASTOMERIC BEARING (NEOPRENE)		40	
517	72300	100	LIN. FT.	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND ANCHOR BOLTS)		100	
518	21200	34	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	34		
SPECIAL	51822200	34	SQ. FT.	STEEL DRIP STRIP		34	

* ALTERNATE BID ITEM: THESE TWO ITEMS SHALL CONSITUTE ON ALTERNATE BID TO SUPERPLASTICIZED CONCRETE, SUPERSTRUCTURE.

Δ SEE PROPOSAL NOTE

B. CURING

THE BRIDGE DECK SHALL BE WATER CURED PER CMS 511.14 METHOD (A) USING CONTINUOUS SPRINKLING AND NO PLASTIC SHEETING.

AN EVAPORATION RETARDANT AND FINISHING AID MAY BE USED AT THE CONTRACTOR'S OPTION PRIOR TO THE TINING OPERATION. ANY PRODUCT USED FOR SUCH PURPOSE SHALL BE SPECIFICALLY MARKETED FOR SAID USE. (PLAIN WATER IS NOT ACCEPTABLE) THE APPLICATION RATE SHALL NOT EXCEED THE HOURLY SURFACE EVAPORATION RATE AS DETERMINED BY FIGURE 1 IN SS845 ON PAGE 11.

IMMEDIATELY AFTER THE TEXTURING OPERATION, THE CONTRACTOR SHALL SPRAY AN EVATORATION RETARDANT OVER THE TEXTURED AREA. THE APPLICATION RATE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE WET BURLAP CURE SHALL FOLLOW THIS OPERATION AS CLOSELY AS POSSIBLE.

SIDEWALKS, CURBS, AND PARAPETS MAY BE MEMBRANE CURED PER SS836 UNLESS OTHERWISE NOTED.

C. POUR SEQUENCE

IN ORDER TO PREVENT WATER FROM ENTERING THE FRESH CONCRETE, ALL POURS SHALL BE MADE "UPGRADE" WHENEVER POSSIBLE. ALL OTHER PROVISIONS OF 511 SHALL REMAIN IN EFFECT.

D. PROPORTIONING

THE PROPORTIONS OF COARSE AND FINE AGGREGATES SHALL BE MODIFIED TO PROVIDE THE MAXIMUM AMOUNT OF COARSE AGGREGATE POSSIBLE AND STILL PROVIDE A WORKABLE AND FINISHABLE MIX. THE USE OF FLAT, ANGULARLY BROKEN AGGREGATE SHALL BE AVOIDED.

ITEM SPECIAL, STEEL DRIP STRIP

AFTER THE DECK IS SCARIFIED AND BEFORE THE CONCRETE OVERLAY IS PLACED, A STEEL DRIP STRIP, AS DETAILED ON SHEET 9/9 SHALL BE INSTALLED ALONG THE FULL LENGTH OF EACH SIDE OF THE BRIDGE. THE STRIPS SHALL BE FASTENED AT 3' C/C MAXIMUM WITH POWER DRIVEN PINS OR NO. 10 GALVANIZED SCREWS AND EXPANSION ANCHORS. WHERE SPLICES ARE REQUIRED, THE INDIVIDUAL PIECES SHALL BE BUTTED TIGHTLY TOGETHER, NOT LAPPED. STEEL FOR GALVANIZED STRIPS SHALL BE 0.105" THICK AND SHALL MEET THE REQUIREMENTS OF ASTM A568 WITH GALVANIZING IN ACCORDANCE WITH 711.02. STAINLESS STEEL SHALL BE 20 GAUGE ASTM A167, TYPE 304, MILL FINISH.

PAYMENT SHALL BE AT THE CONTRACT PRICE BID FOR ITEM SPECIAL, SQ. FT., STEEL DRIP STRIP AND SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE ITEM.

Revised 7-12-93

STEPHEN HOVANCSEK & ASSOCIATES
CONSULTING ENGINEERS

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. GEA -166- 4.12

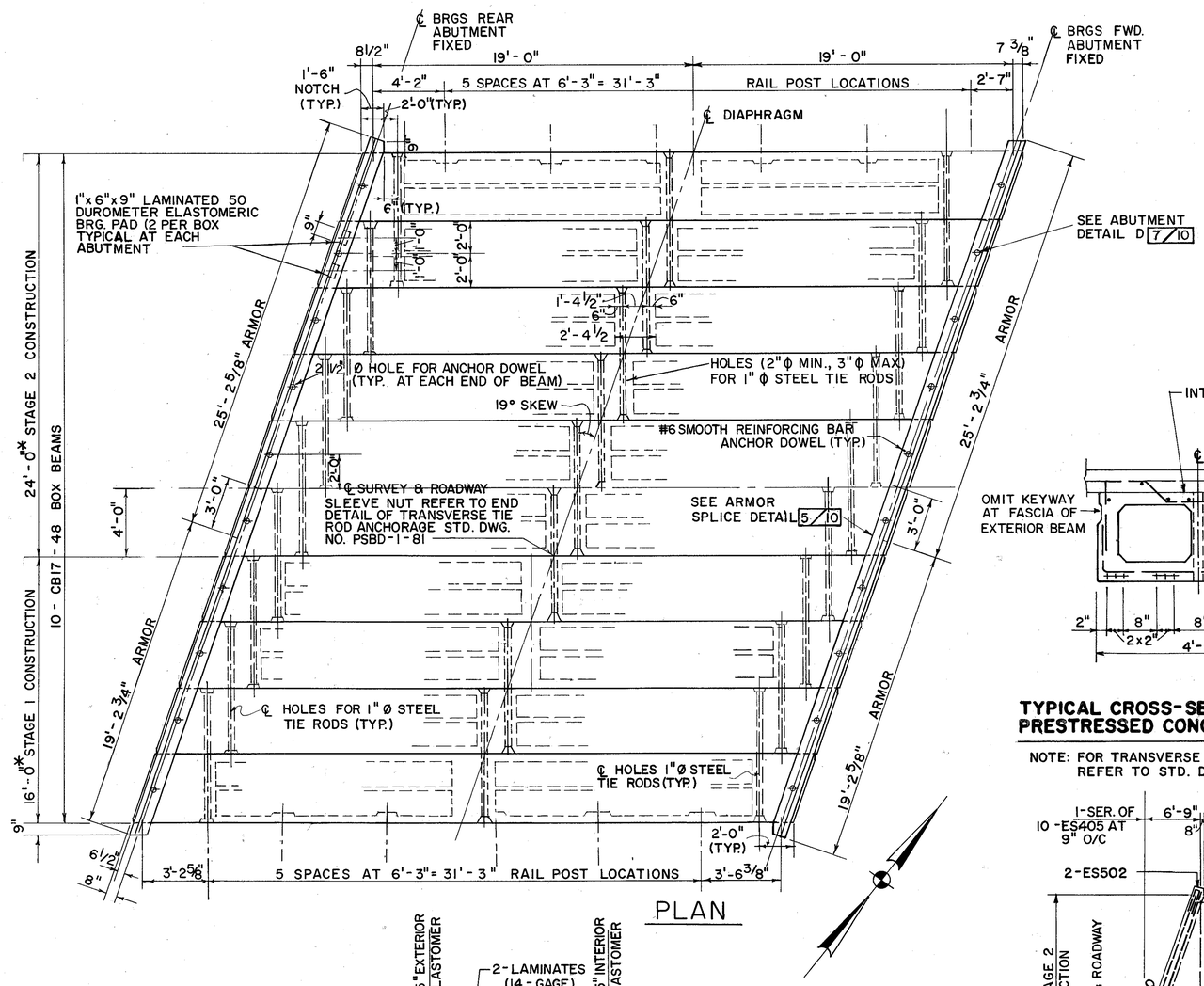
OVER BATES CREEK (EAST BRANCH)

GEAUGA COUNTY STA. 9+81.65 STA.10+23.35

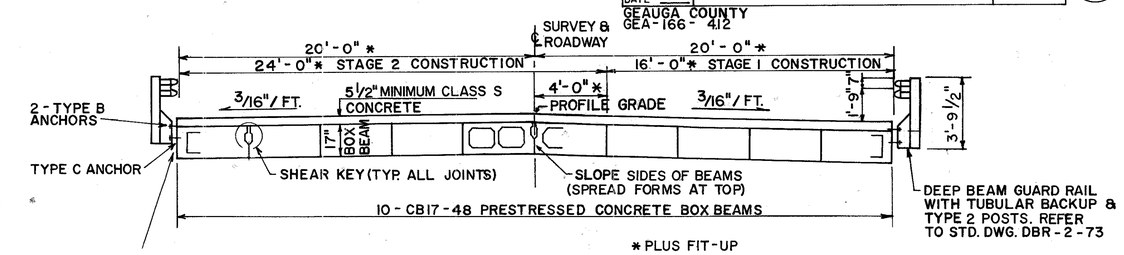
DESIGNED:	DRAWN:	TRACED:	CHECKED:	REVIEWED:	DATE:	REVISED:
LJB			T.C.	DJW.	10-2-92	DI2 CKH 12-21-92

CALC. BY		OHIO	21 / 26
DATE		FHWA REGION 5	
CHKD. BY			
DATE			

GEAUGA COUNTY
GEA-166-412

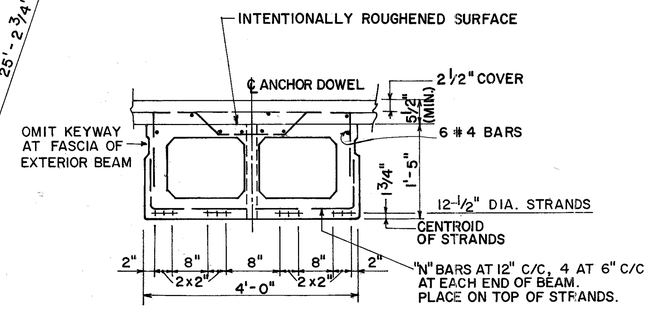


PLAN



SEE RAILING ANCHOR DETAIL 7/9
AND DRIP STRIP DETAIL 9/9

TRANSVERSE SECTION



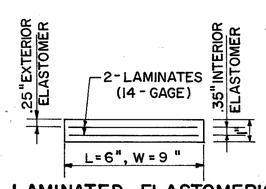
TYPICAL CROSS-SECTION OF CB 17-48 PRESTRESSED CONCRETE BOX BEAM

NOTE: FOR TRANSVERSE REBARS OF BOX BEAM REFER TO STD. DWG. PSBD-1-81

SEALING JOINTS AND CRACKS IN CONCRETE DECKS WITH HMWM RESIN: AFTER CONCRETE DECKS HAVE BEEN DRY AIR CURED AS NOTED BELOW, ALL VERTICAL DECK CONSTRUCTION JOINTS, JOINTS BETWEEN DECK UPPER SURFACES AND METAL DECK ELEMENTS (END DAMS, ETC.), AND ALL BUTT JOINTS BETWEEN OVERLAYS AND ABUTTING CONCRETE OR METAL DECK ELEMENTS, SHALL BE SEALED WITH A HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) SEALER AS PER THE HMWM PROPOSAL NOTE. SEALANT APPLICATION SHALL BE 6" WIDE CENTERED ON JOINTS. THE DRY AIR CURE SHALL BE 28 DAYS FOR DECK CONCRETE AND 8 DAYS FOR LATEX OVERLAYS. THE COSTS FOR THIS WORK INCLUDING ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO PROVIDE COMPLETE AND ACCEPTABLE WORK SHALL BE INCLUDED WITH ITEM SPECIAL, TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN FOR PAYMENT.

DECKS SHALL BE EXAMINED AFTER OVERLAY PLACEMENT. CRACKS VISIBLE TO UNAIDED EYES SHALL BE SEALED FROM THE DECK UPPER SURFACES AS SPECIFIED ABOVE FOR JOINTS. THE COST FOR SEALING CRACKS, INCLUDING ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO PROVIDE ACCEPTABLE WORK SHALL BE INCLUDED WITH DECK AND OVERLAY CONCRETE ITEMS FOR PAYMENT. NO SEPARATE PAYMENT FOR SEALING CRACKS WILL BE MADE.

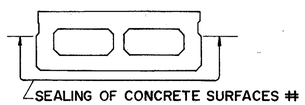
COMPOSITE CONCRETE DECK SLAB: CALCULATED CAMBER OF BEAMS AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP IS 1". ESTIMATED DEFLECTION OF BEAMS DUE TO WEIGHT OF DECK SLAB AND RAILING IS 1/4". NET CAMBER IS 3/4". MIDDLE ORDINATE OF VERTICAL CURVATURE IS 3/4". NET CURVATURE IS 1 1/2", WHICH IS MORE THAN NECESSARY TO PLACE THE DECK SLAB SURFACE PARALLEL TO THE PROPOSED ROADWAY SURFACE. TO COMPENSATE FOR THIS EXCESS CURVATURE, THE DECK SLAB SHALL BE THICKENED FROM 5 1/2" AT MID SPAN TO 7" AT SPAN ENDS.



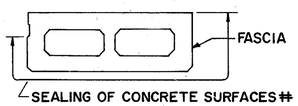
LAMINATED ELASTOMERIC BEARING DETAIL

SERVICE LOAD REACTIONS (PER PAD)
DEAD LOAD - 8.6 KIPS
LIVE LOAD - 12.1 KIPS
MAX DESIGN LOAD - 20.7 KIPS

BEARINGS
ABUTMENTS-
2 LAMINATED ELASTOMERIC BEARINGS PER BOX END 1"X6"X9": (2 LAYERS 0.2263" THICK INTERNAL ELASTOMER 2 LAYERS 0.1616" THICK EXTERNAL ELASTOMER AND 3-14 GA. STEEL INTERNAL LAMINATES) 50 HARDNESS

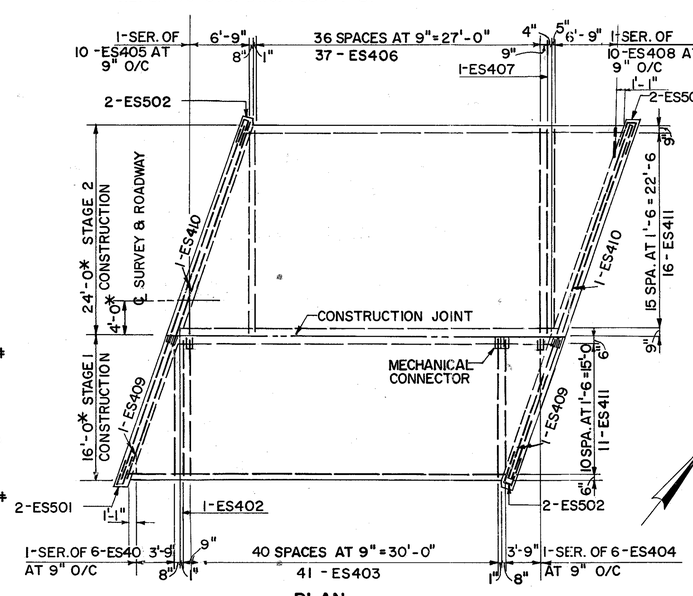


INTERIOR BEAM



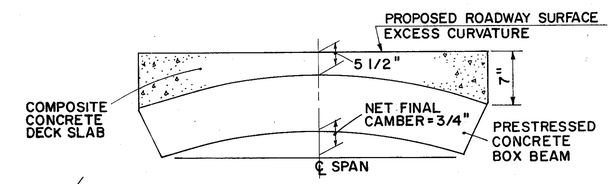
EXTERIOR BEAM

APPLY SEALER ALONG FULL LENGTH OF BEAM AND AT EACH END OF BEAM.



PLAN

SHOWING REINFORCEMENT IN COMPOSITE CONCRETE TOPPING



DECK SLAB THICKNESS DIAGRAM

6 / 9

STEPHEN HOVANCSEK & ASSOCIATES
CONSULTING ENGINEERS

SUPERSTRUCTURE PLAN AND DETAILS

BRIDGE NO. GEA-166-412
OVER EAST BRANCH OF BATES CREEK

GEAUGA COUNTY STA. 9+81.65
STA. 10+23.35

DESIGNED:	DRAWN:	TRACED:	CHECKED:	REVIEWED:	DATE:	REVISED:
LJB			T.C.	AJW	7-2-92	