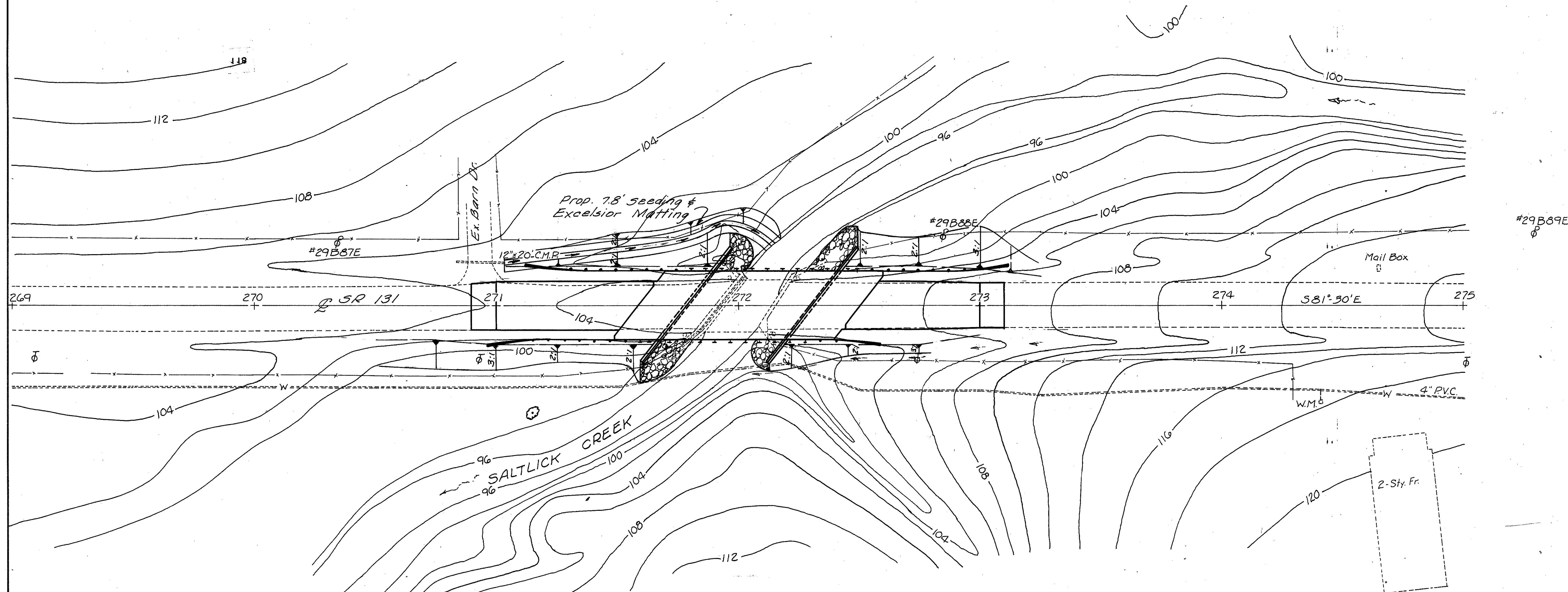


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FEB 20 1996

FHWA REGION	STATE	PROJECT
5	OHIO	BRZ-0806(2)

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21

BROWN COUNTY
BR-131-5.15



BENCH MARK
RR. Spike in N. Side of
30" Elm-45' Rt. Sta. 271+15.5
Elev. 100.00 (Assumed)

EXISTING STRUCTURE DATA
TYPE: Steel Beam
SPAN: 20.9'
LOADING: 5-12.3
SKEW: 34° LF
WEARING SURFACE: 3" Bit.
GENERAL CONDITION: Poor

PROPOSED STRUCTURE
TYPE: Single Span Prestressed Conc.
Non Composite Box Beam
SPAN: 50'
ROADWAY: 28' 5" Bridge Guardrail
LOADING: HS-20-44 & AH Military Loading
SKEW: 38° 00' 00" Left Forward
WEARING SURFACE: 2 1/2" Min. Asph. Conc.
APPROACH SLAB: AS-1-B1
ALIGNMENT: Tangent
SUPERELEVATION: None

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN
BRIDGE NO. BR-131-0515
OVER SALTICK CREEK

SEC.		STA.			
SCALE 1" = 20'					
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED

MICROFILMED
FEB 20 1986
FBI/DOJ

GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

AS-1-81 DATED 11/27/81
PSBD-1-81 DATED 9/18/81
DBR-2-73 DATED 4/10/73

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980, 1981, 1982 AND 1983 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS20-44 AND THE ALTERNATE MILITARY LOADING
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI FOR SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616 OR A617, GRADE 60
MINIMUM YIELD STRENGTH 60,000 PSI
CONCRETE FOR PRESTRESSED CONCRETE BEAM -
UNIT STRESS 2200 PSI COMPRESSION
444 PSI TENSION

PRESTRESSING STRAND: ASTM A416

f's = 270,000 PSI
INITIAL STRESS = 0.7 f's

DECK PROTECTION METHOD:

TYPE D WATERPROOFING MEMBRANE AND ASPHALT CONCRETE OVERLAY.

REMOVAL OF EXISTING STRUCTURE:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED.

STRUCTURE TO BE REMOVED: (ITEM 202)

THE REMOVAL OF EXISTING BRIDGE SUPERSTRUCTURE INCLUDES GUARDRAIL, ASPHALT CONCRETE SURFACE COURSE, TIMBER DECK, STEEL I BEAMS, AND BEARING PLATES.

EXISTING ABUTMENTS AND WINGWALLS SHALL BE REMOVED AS PER CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 202.03.

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

FOUNDATIONS:

ABUTMENT FOOTINGS: THE FOOTINGS SHALL EXTEND A MINIMUM OF THREE INCHES INTO THE BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

FOUNDATION BEARING PRESSURE: ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 2.5 TONS PER SQUARE FOOT.

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BROWN COUNTY
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ESTIMATED QUANTITIES						
ITEM	TOTAL	UNIT	DESCRIPTION	ABUT- MENTS	SUPER - STRUCTURE	GENERAL
202	LUMP SUM	LUMP SUM	STRUCTURE REMOVED			
403	8	CU.YD.	ASPHALT CONCRETE (AC-20)		8	
404	6	CU.YD.	ASPHALT CONCRETE (AC-20)		6	
503	LUMP SUM	LUMP SUM	COFFERDAMS, CRIBS AND SHEETING	LUMP SUM	LUMP SUM	LUMP SUM
503	435	CU.YD.	UNCLASSIFIED EXCAVATION INCLUDING ROCK AND/OR SHALE	435		
509	12,267	LB.	REINFORCING STEEL, GRADE 60	12,267		
511	136	CU.YD.	CLASS C CONCRETE, ABUTMENTS	136		
512	173	SQ.YD.	TYPE D WATERPROOFING		173	
515	7	EACH	PRESTRESSED CONCRETE BRIDGE MEMBER B21-48, 51'-3 1/4" LONG		7	
516	122	SQ.FT.	1" PREFORMED EXPANSION JOINT FILLER		122	
516	28	EACH	1"x6"x12" ELASTOMERIC BEARING PADS, (TO DUROMETER		28	
516	74	LIN.FT.	JOINT SEALER		74	
516	14	SQ.FT.	1/8" PREFORMED BEARING PADS, 711.21		14	
517	102.96	LIN.FT.	RAILING (DEEP BEAM GUARD RAIL WITH STEEL TUBULAR BACKUP, TYPE 2 POSTS AND BOLTS)		102.96	
518	36	CU.YD.	POROUS BACKFILL	36		
SPECIAL	26	SQ.YD.	SEALING OF CONCRETE SURFACES (SEE PROPOSAL NOTE)		26	
SPECIAL	75	SQ.FT.	STEEL DRIP STRIP		75	

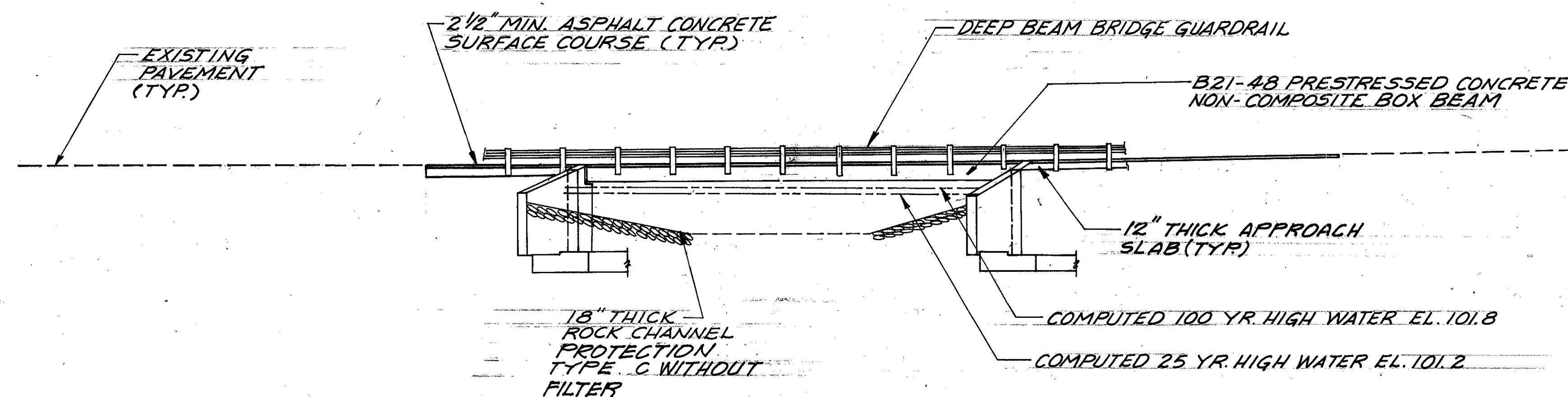
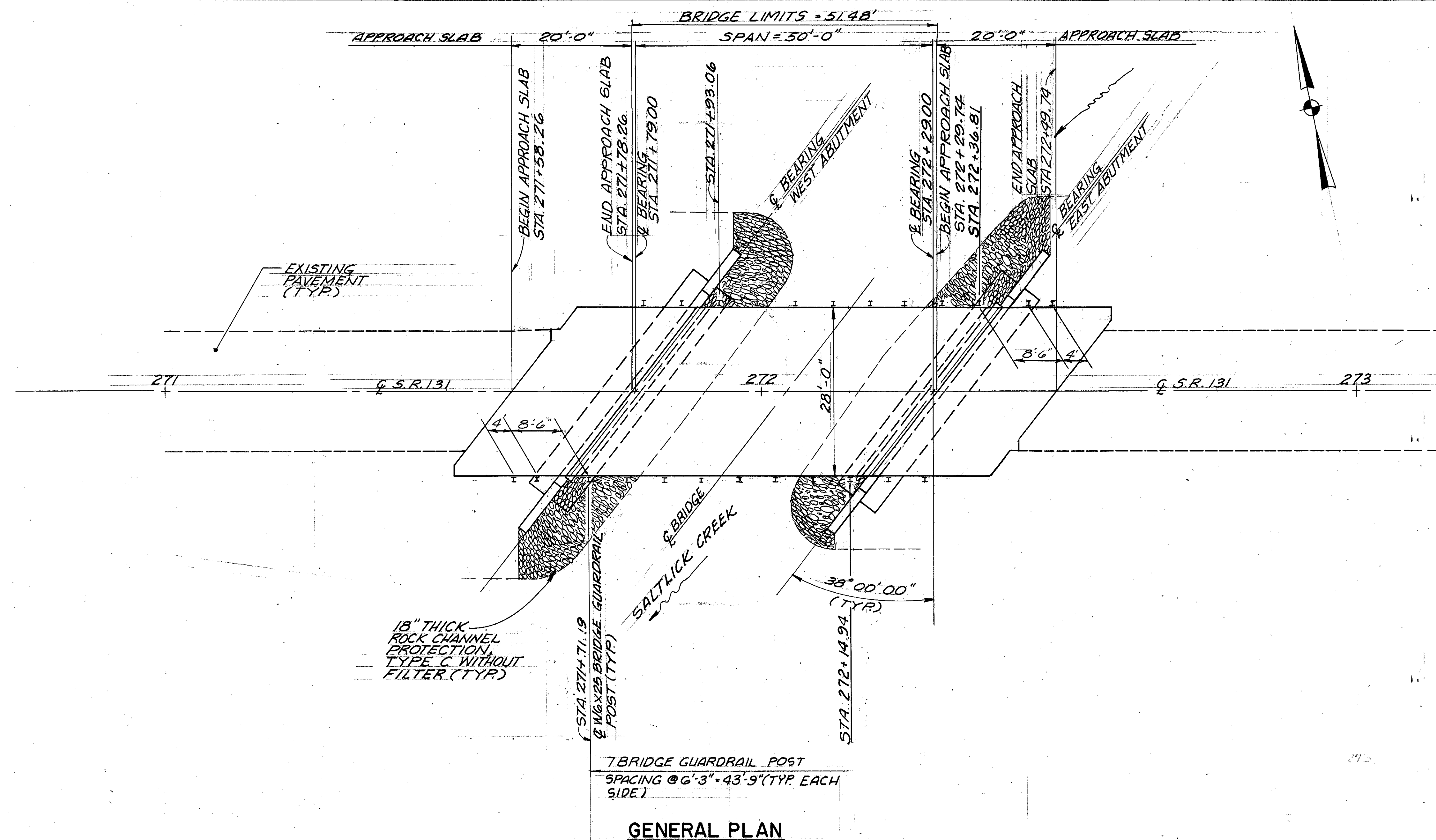
POLYTECH, INC. 216						
CONSULTING ENGINEERS CLEVELAND, OHIO						
GENERAL NOTES AND ESTIMATED QUANTITIES BRIDGE NO. BRO-131-05.15 OVER SALTICK CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CT	CT	EK	LYH	GA	2/84	

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FEB 20 1986

FHWA REGION	STATE	PROJECT
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BROWN COUNTY
BRO-131-05.15



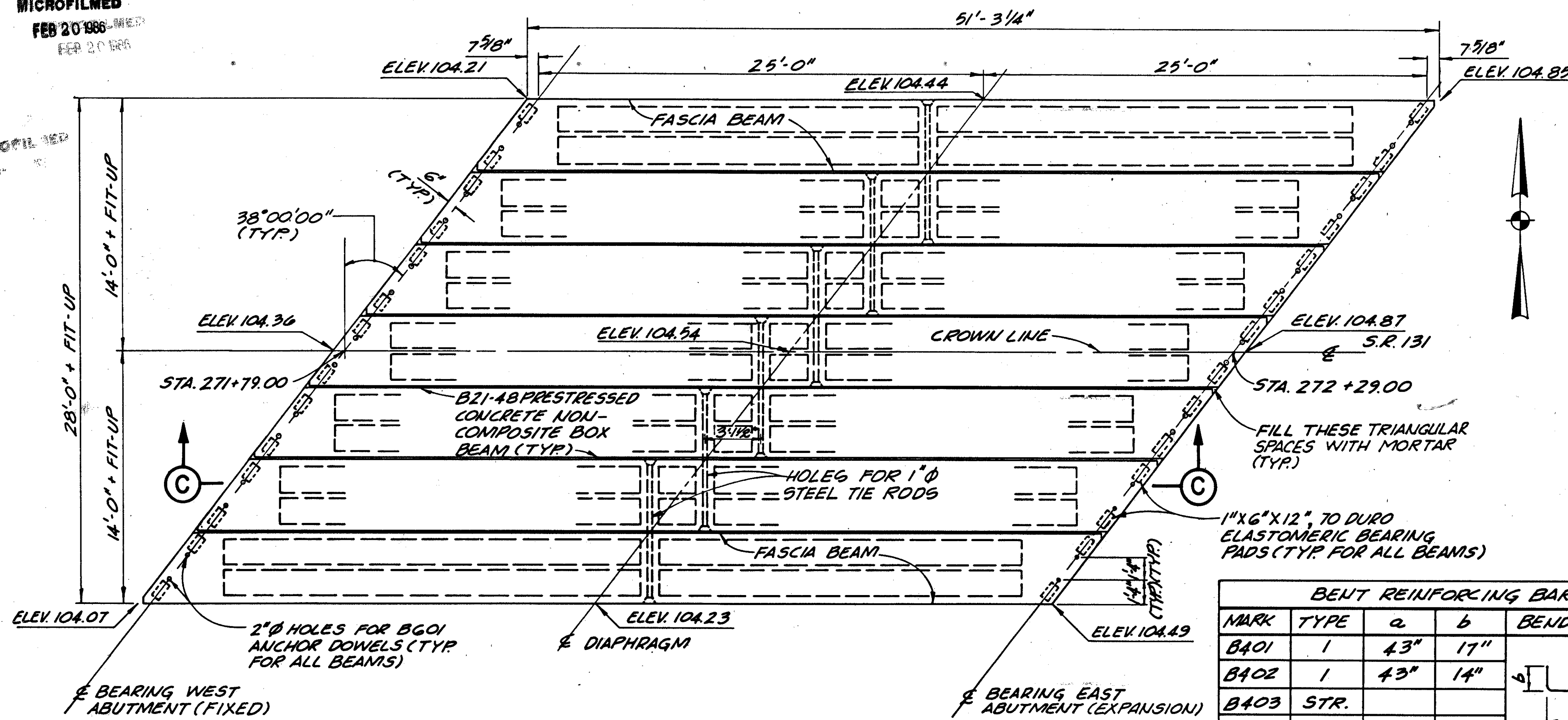
POLYTECH, INC. 3/6					
CONSULTING ENGINEERS CLEVELAND, OHIO					
GENERAL PLAN & ELEVATION					
BRIDGE NO. BRO-131-05.15 OVER SALTICK CREEK					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
CT	CT	HBM	LYH	GA	2/84

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FEB 20 1986
FEB 20 1986

FWA REGION	STATE	PROJECT
5	OHIO	BRZ-0806(2)

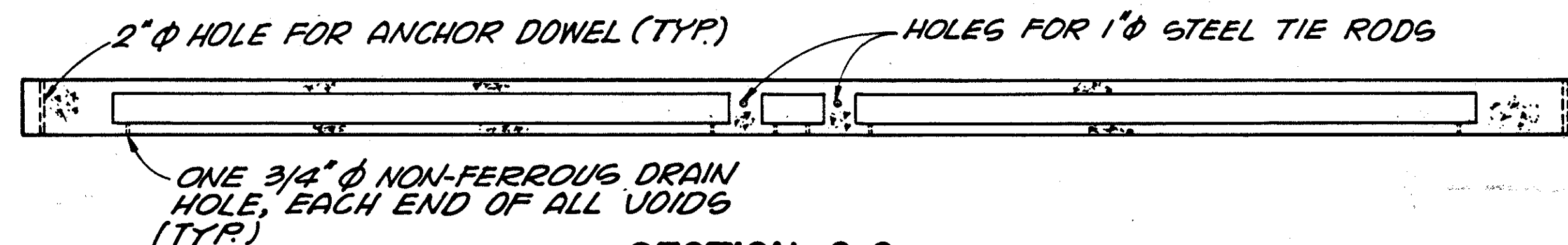
17
21

BROWN COUNTY
BRO-131-05.15



FRAMING PLAN

NOTE: ALL ELEVATION GIVEN ON ABOVE PLAN ARE ELEVATIONS AT THE TOP OF FINISHED ASPHALT CONCRETE SURFACE.



SECTION C-C

NOTES:
PRESTRESSING STRANDS ARE TO BE 1/2" DIAMETER, SEVEN-WIRE, UNCOATED AND STRESS-RELIEVED STRANDS AND AN INITIAL TENSION OF 28,900 LBS. PER STRAND.

CONCRETE STRESSES:
MINIMUM CONCRETE STRENGTH AT 28 DAYS $f'c = 5500$ PSI
MINIMUM CONCRETE STRENGTH AT TIME OF INITIAL PRESTRESS $f'c_i = 4000$ PSI

REFER TO THE STANDARD DRAWINGS PSBD-1-81 FOR THE FOLLOWING DETAILS:

- BEAM LIFTING INSERT
- ANCHOR DOWELS
- DETAILS AND REINFORCEMENT OF BEAM ENDS
- NON-SHRINKING MORTAR OR GROUT
- DRAIN HOLE DETAILS
- END DETAILS OF TRANSVERSE TIE ROD ANCHORAGE
- BEAM DIMENSIONAL TOLERANCES
- TYPICAL PLANS OF TRANSVERSE TIE RODS
- NORMAL CROWN TREATMENT AT CENTERLINE ROADWAY

ALL PRESTRESSING STRANDS, STRANDS DEBONDED, INSERTS, SLEEVES, FITTINGS, DOWELS, DOWEL HOLES, REINFORCEMENT FULLY OR PARTIALLY ENCASED IN THE MEMBERS, MORTARING OR SHEAR KEYS, TRANSVERSE TIE RODS, NON-SHRINKING GROUT OR MORTAR, 3/4" ϕ NON-FERROUS DRAIN HOLES, JOINT SEALER FOR FILLING THE DOWEL HOLES AND PREFORMED EXPANSION JOINT FILLER AROUND DOWELS ARE INCLUDED FOR PAYMENT WITH "ITEM 515, PRESTRESSED CONCRETE BRIDGE MEMBERS."

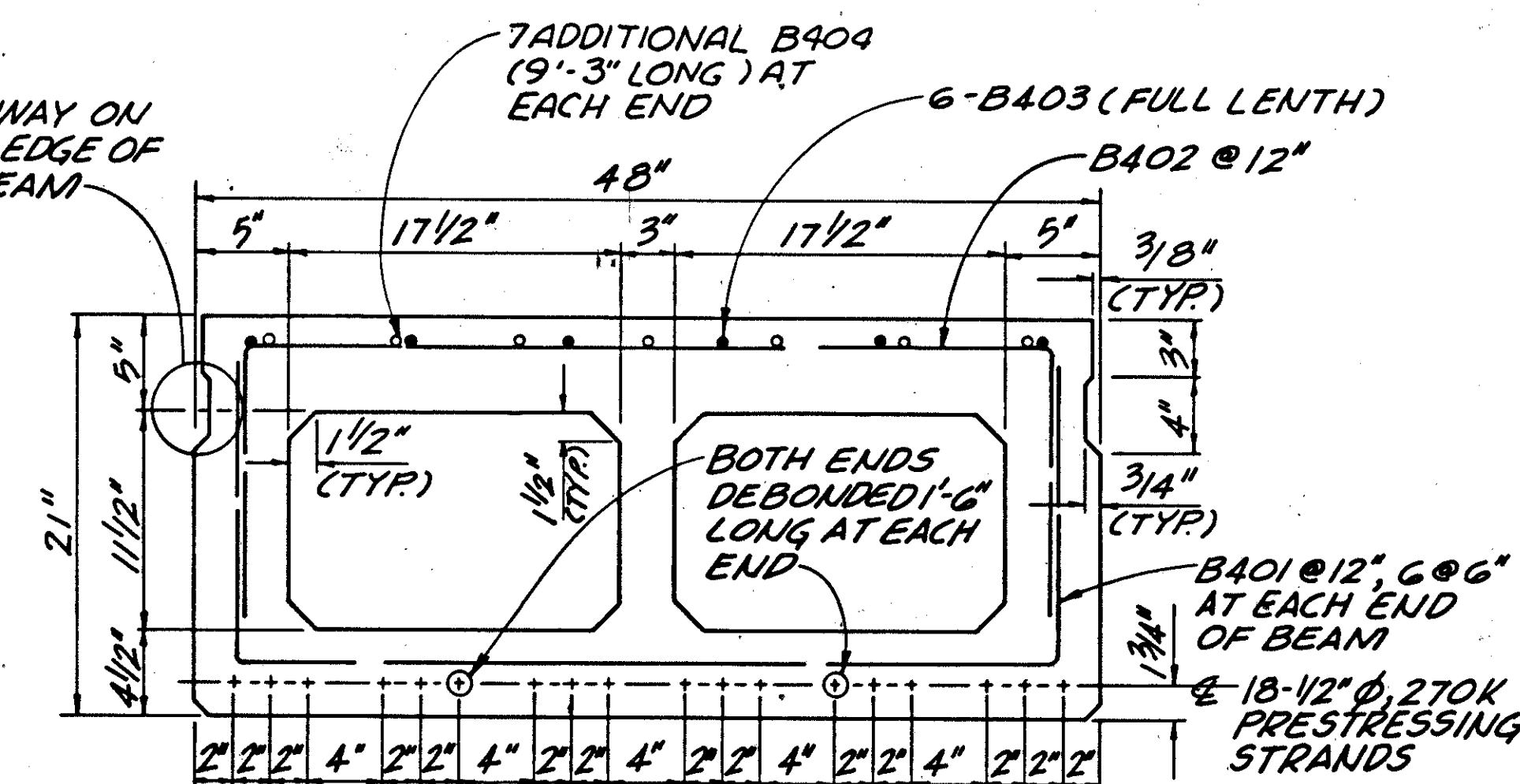
THE FABRICATOR'S SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF THE BEAM REINFORCING.

1/8" THICK PREFORMED PAD SHIMS, PLAN AREA 6" x 12", SHALL BE PLACED ON TOP OF BEARINGS WHERE REQUIRED FOR PROPER BEARING. THE NUMBER SUPPLIED SHALL BE TWO SHIMS PER BEAM. SHIMS NOT USED SHALL BECOME THE PROPERTY OF THE STATE.

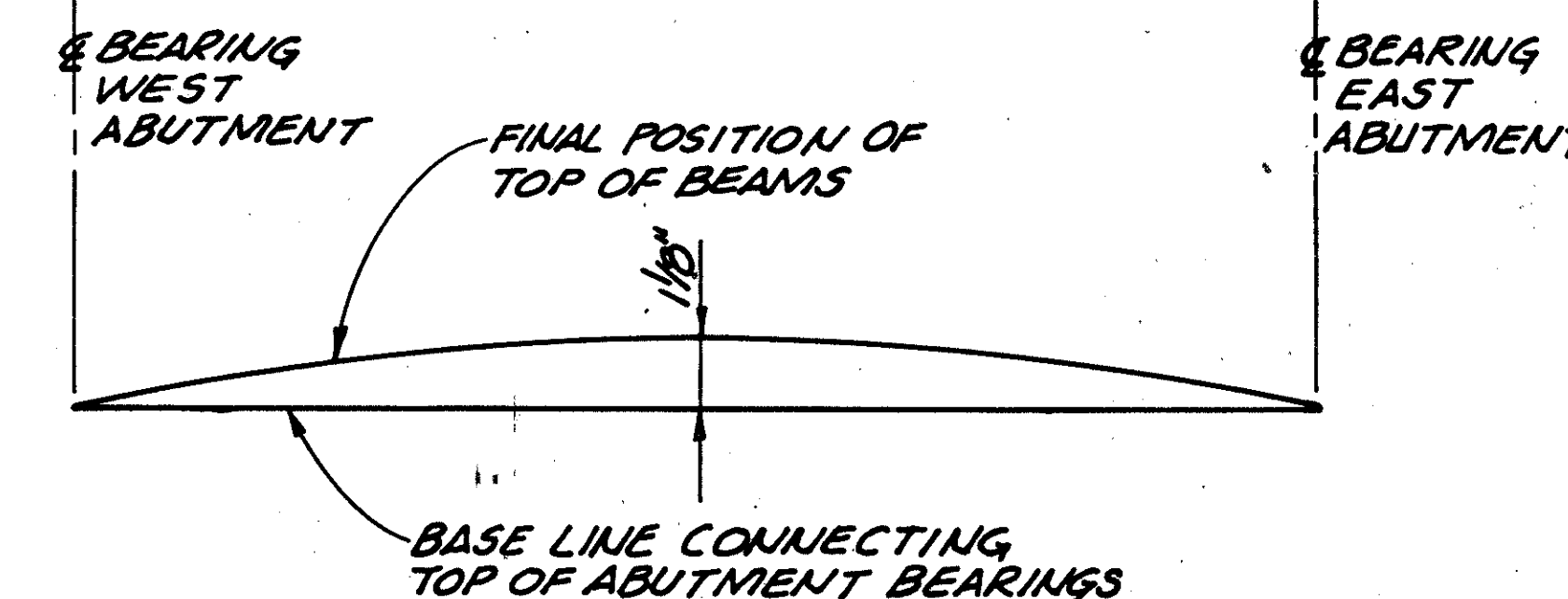
BENT REINFORCING BARS*				
MARK	TYPE	a	b	BENDING DIAGRAM
B401	1	43"	17"	
B402	1	43"	14"	
B403	STR.			
B404	STR.			
B601	STR.			

* INCLUDED WITH PRESTRESSED CONCRETE BRIDGE MEMBERS FOR PAYMENT

OMIT KEYWAY ON OUTSIDE EDGE OF FASCIA BEAM



B21-48
BEAM DETAILS



CAMBER DIAGRAM

CALCULATED CAMBER AT TIME OF PAVING, INCLUDING ALLOWANCE FOR CAMBER GROWTH DUE TO CREEP, IS 1 7/8".

CALCULATED DEFLECTION DUE TO WEIGHT OF SURFACE COURSE AND RAILING IS 1/8".

CAMBER OF MINUS (-) 7/8" AT CENTER OF SPANS IS REQUIRED FOR VERTICAL CURVE.

NET FINAL CAMBER OF BEAM IS 1 1/8". THIS IS 1 1/8" IN EXCESS OF THE AMOUNT REQUIRED TO PLACE THE TOP OF THE BEAM PARALLEL TO PROFILE GRADE. THIS EXCESS AMOUNT SHALL BE COMPENSATED FOR BY THICKENING THE 403 LEVELING COURSE FROM 1 1/4" AT CENTER OF SPAN TO 2 3/8" AT ENDS OF SPAN.

ASPHALT CONCRETE SURFACE COURSE SHALL CONSIST OF A VARIABLE THICKNESS OF 403 AND 1 1/4" THICKNESS OF 404. THE 403 SHALL BE PLACED IN TWO OPERATIONS. THE FIRST COURSE SHALL BE OF 1 1/4" UNIFORM THICKNESS. THE SECOND COURSE SHALL BE FEATHERED TO PLACE THE SURFACE PARALLEL TO AND 1 1/4" BELOW FINAL PAVEMENT SURFACE ELEVATION.

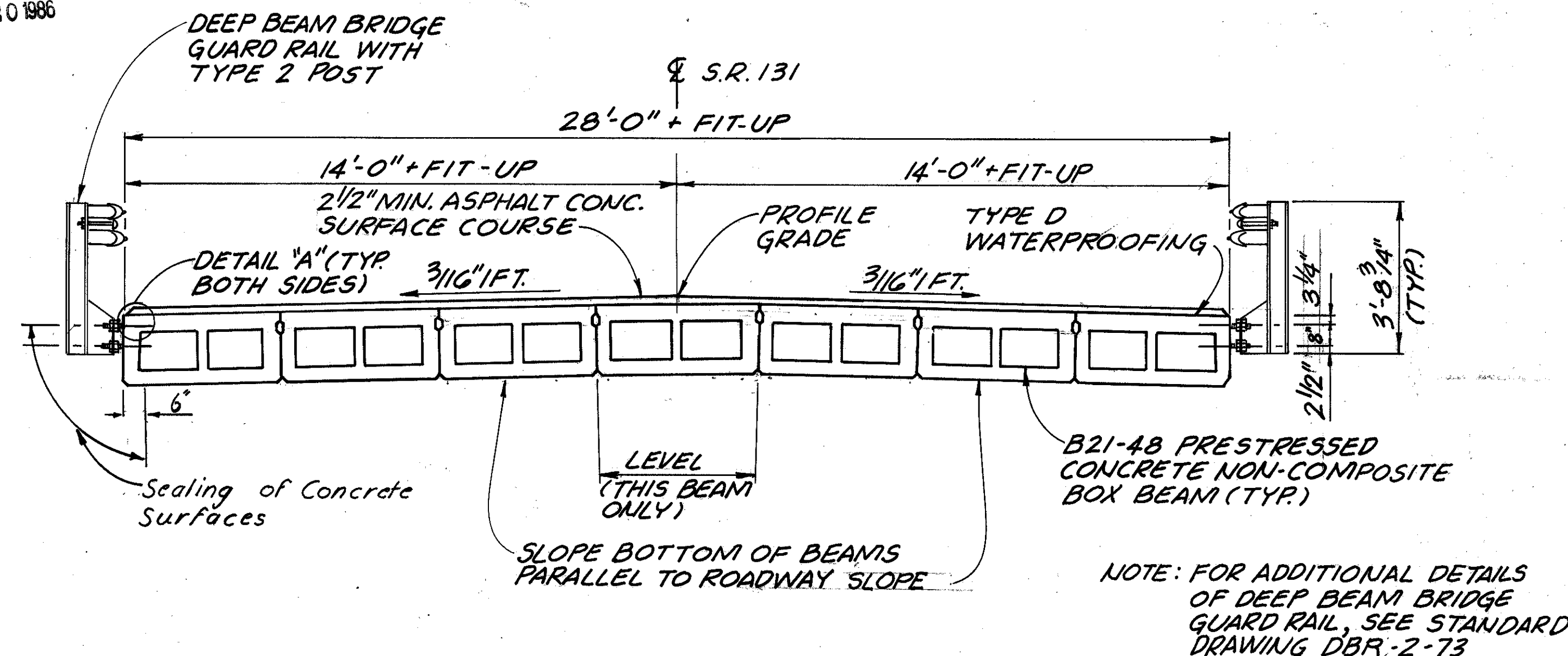
POLYTECH, INC. 4/6
CONSULTING ENGINEERS CLEVELAND, OHIO

FRAMING PLAN AND DETAILS

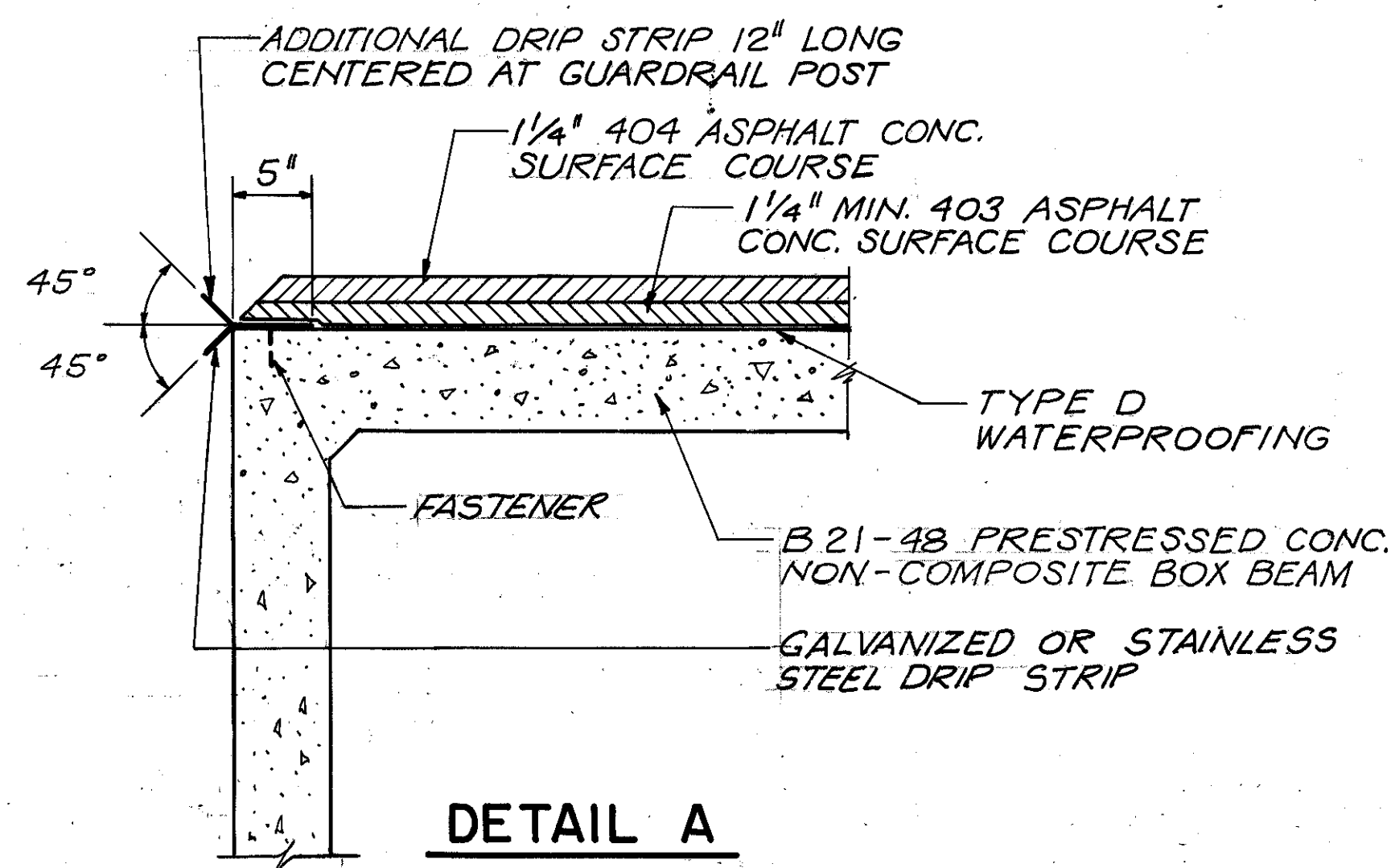
BRIDGE NO. BRO-131-05.15
OVER SALTICK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CT	CT	JLJ	LYH	GA	2/84	

REINFORCEMENT SCHEDULE FOR ABUTMENTS



TYPICAL CROSS SECTION



DETAIL A

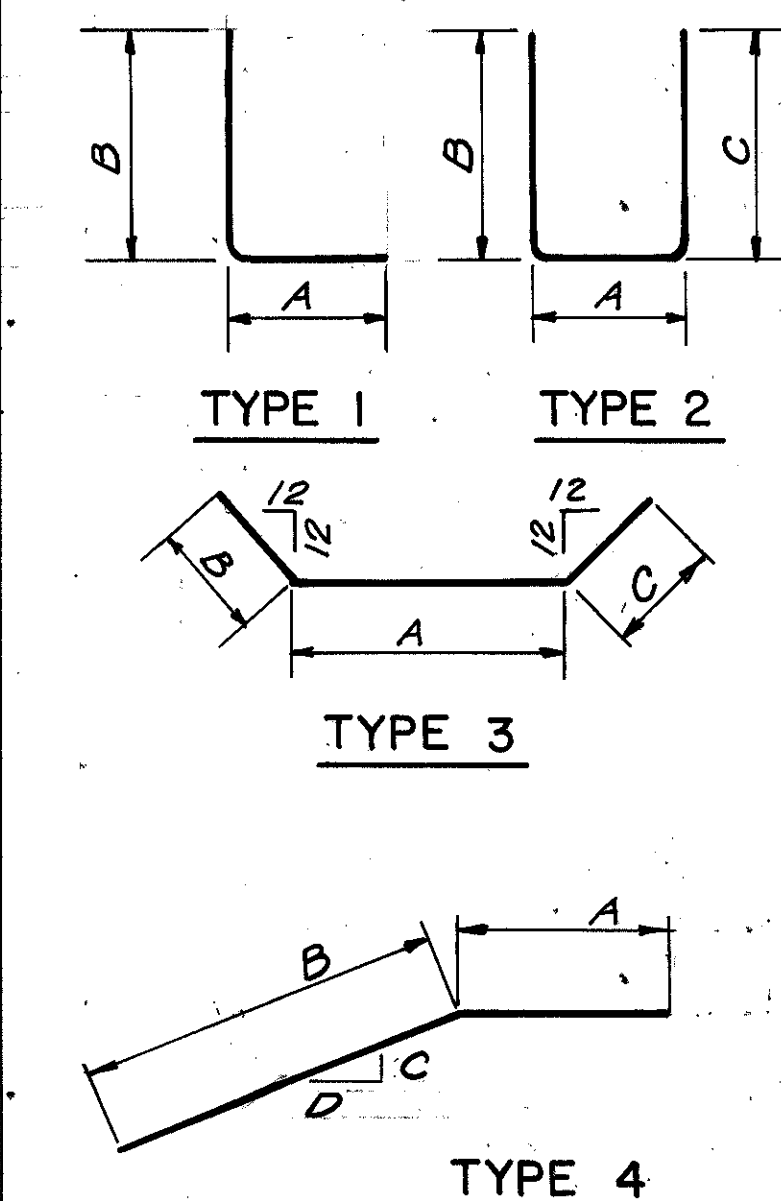
DRIP STRIP

PRIOR TO APPLYING DECK MEMBRANE WATERPROOFING,
 A BENT DRIP STRIP SHALL BE INSTALLED ALONG BOTH
 THE EDGES OF THE DECK AS SHOWN. THE STRIPS SHALL
 BE FASTENED AT 1'-6" CENTER TO CENTER MAX. WITH 1/4" x 5/32" x 1/4"
 FLAT HEAD DRIVE PIN AND WASHER (LENGTH x SHANK DIA. x HEAD
 DIA.) OR #10 GALVANIZED SCREWS AND EXP. ANCHORS, SUBJECT
 TO THE APPROVAL OF THE ENGINEER.

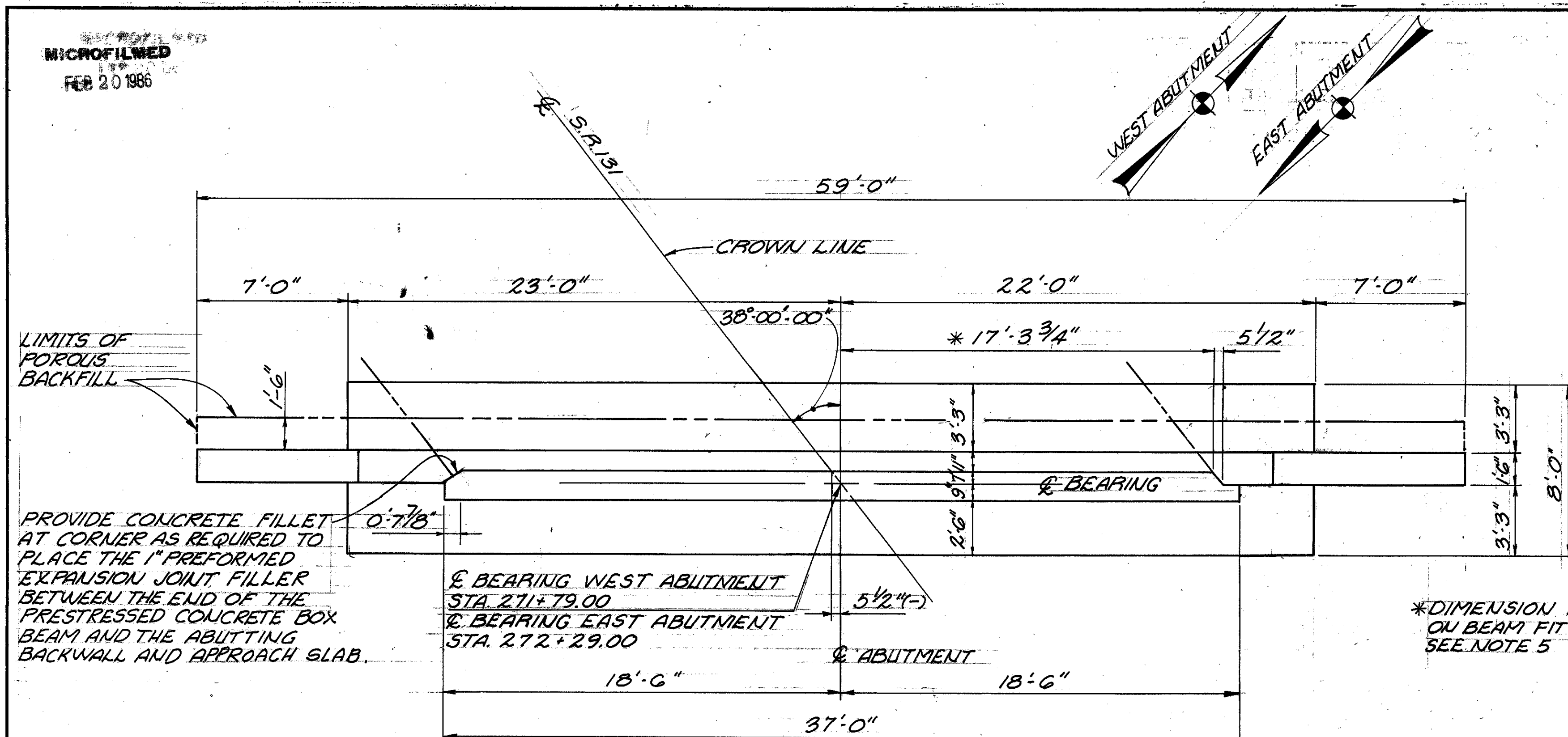
THE STRIPS SHALL BE PLACED THE FULL LENGTH OF THE
 DECK, ENDING AT THE FACE OF THE ABUTMENT WALL. WHERE
 SPLICES ARE REQUIRED A 3" (MIN.) LAP SHALL BE USED WITH
 A FASTENER THROUGH THE LAP. STEEL FOR GALVANIZED STRIPS
 SHALL BE 8" x 0.105" AND SHALL MEET THE REQUIREMENTS OF
 ASTM A 568. GALVANIZING SHALL BE IN ACCORDANCE WITH
 711.02. STAINLESS STEEL SHALL BE 20 GAGE ASTM A 167,
 TYPE 304, MILL FINISH. PAYMENT SHALL BE AT THE CONTRACT
 PRICE BID FOR ITEM SPECIAL, SQ. FT. DRIP STRIP WHICH
 SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS
 NECESSARY TO COMPLETE THE ITEM.

WEST ABUTMENT	MARK	NO.	EAST ABUTMENT	MARK	NO.	TOTAL	LENGTH	WEIGHT (LBS)	TYPE	A	B	C	D	SER. INCR.
WA501	18		EA501	18		36	44'-6"	1671	STR.					
WA502	38					38	18'-0"	317	STR.					
			EA502	38		38	8'-6"	337	STR.					
WA503	38		EA503	38		76	4'-3"	337	1	0'-11"	3'-6"			
WA504	38		EA504	38		76	4'-2"	331	2	1'-11"	1'-3"	1'-3"		
WA505	38		EA505	38		76	4'-0"	317	2	0'-7"	1'-0"	1'-0"		
WA506	2		EA506	2		4	39'-0"	163	STR.					
WA507	2		EA507	2		4	36'-8"	153	STR.					
WA508	20		EA508	20		40	36'-8"	1530	STR.					
WA509	23		EA509	23		46	12'-10"	616	STR.					
WA510	2		EA510	2		4	12'-10"	54	STR.					
WA511	2SER.2		EA511	2SER.2		4SER.2	8'-0"/10'-9"	78	STR.					2'-9"
WA512	2		EA512	2		4	11'-8"	49	4	3'-10"	7'-10"	5	12	
WA513	23		EA513	23		46	11'-10"	568	STR.					
WA514	2		EA514	2		4	9'-0"	38	STR.					
WA515	2SER.2		EA515	2SER.2		4SER.2	4'-3"/7'-0"	47	STR.					2'-9"
WA516	2		EA516	2		4	11'-6"	48	4	2'-0"	9'-6"	5	12	
WA517	2SER.B			2SER.B		2SER.B	7'-0"/10'-0"	142	STR.					5'-8"
			EA517	2SER.B		2SER.B	8'-0"/10'-10"	157	STR.					4'-8"
WA518	4					4	10'-0"	42	STR.					
			EA518	4		4	10'-10"	45	STR.					
WA519	2SER.10		EA519	2SER.10		4SER.10	6'-10"/10'-6"	362	STR.					4'-8"
WA520	3		EA520	3		6	10'-6"	66	STR.					
WAG01	92		EAG01	92		184	7'-6"	2073	STR.					
WA701	38					38	8'-3"	641	STR.					
			EAT01	38		38	8'-9"	680	STR.					
W702	38		EAT02	38		76	5'-4"	828	1	1'-2"	4'-4"			
WAB02	24		EAB02	24		48	4'-6"	577	3	1'-8"	1'-5"	1'-5"		
TOTAL								12,267						

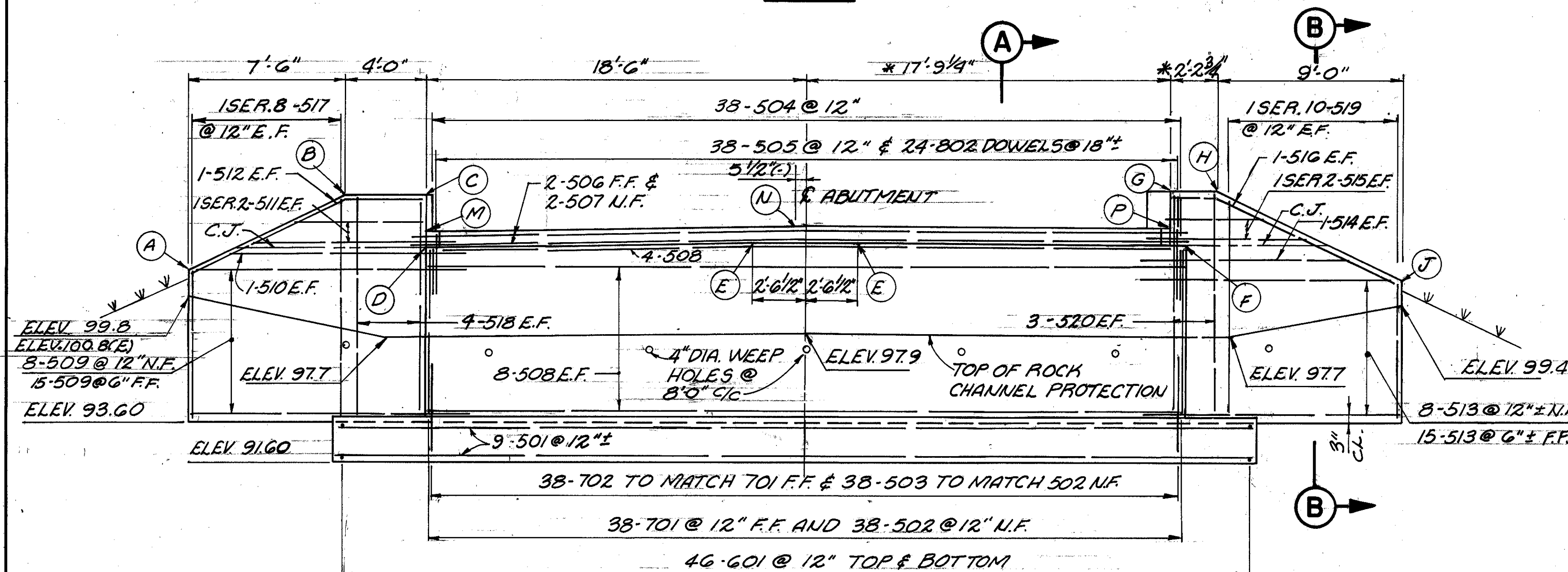
1. FOR REINFORCING STEEL SAMPLES,
 REFER TO CMS SECTIONS 106.03, 700,
 709.01 THRU 709.05 AND 709.08.
 SUFFICIENT ADDITIONAL REINFORCING
 STEEL SHALL BE PROVIDED FOR
 SAMPLING. RANDOM SAMPLES SHALL
 BE REPLACED IN THE STRUCTURE
 BY THE ADDITIONAL STEEL, SPLICED
 IN ACCORDANCE WITH 509.08
 2. ALL BARS OF A GIVEN SERIES VARY
 BY A CONSTANT INCREMENT.
 3. ALL BAR DIMENSIONS ARE GIVEN
 OUT TO OUT.



BROWN COUNTY
BRO-131-05.15



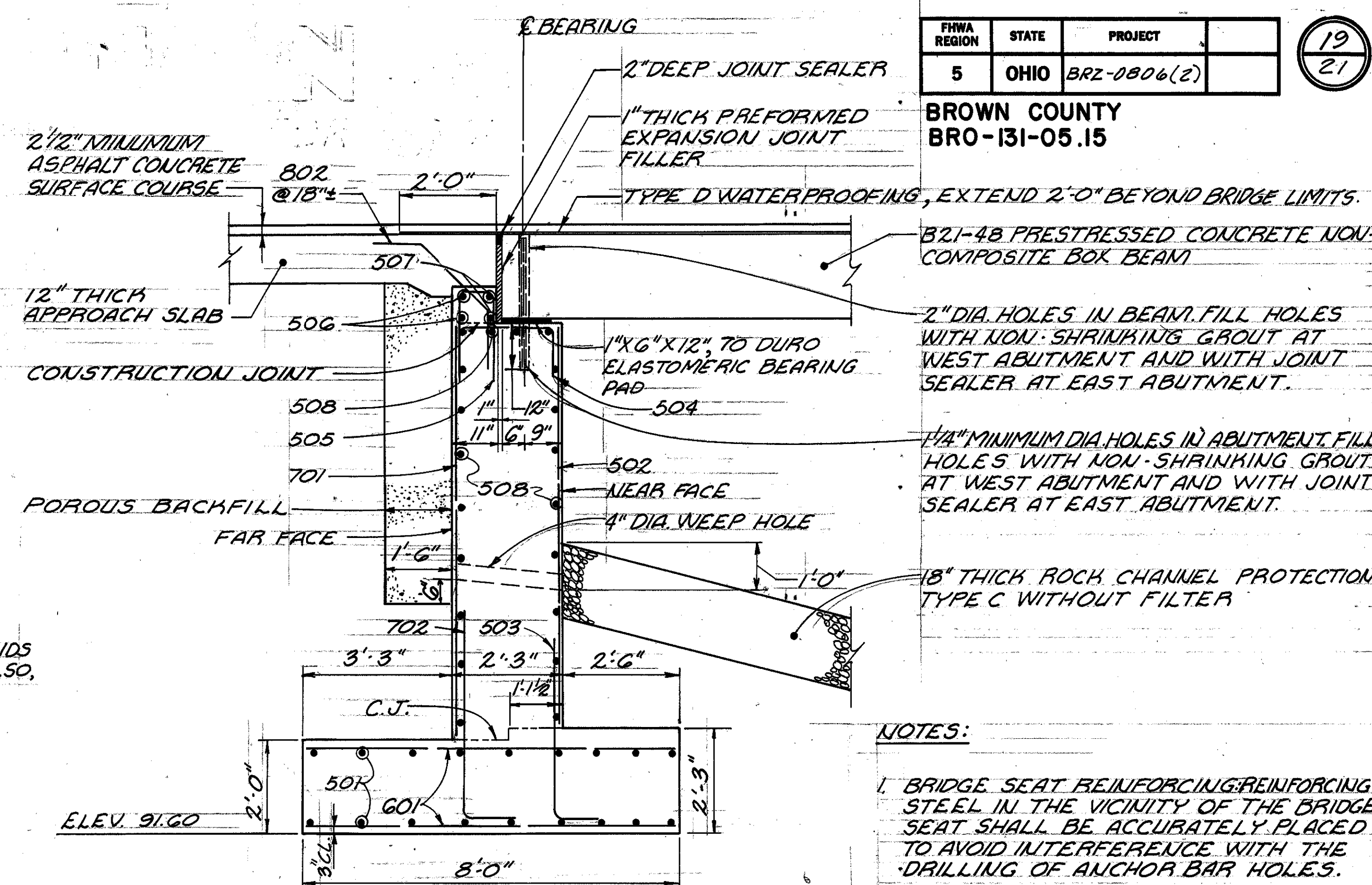
PLAN



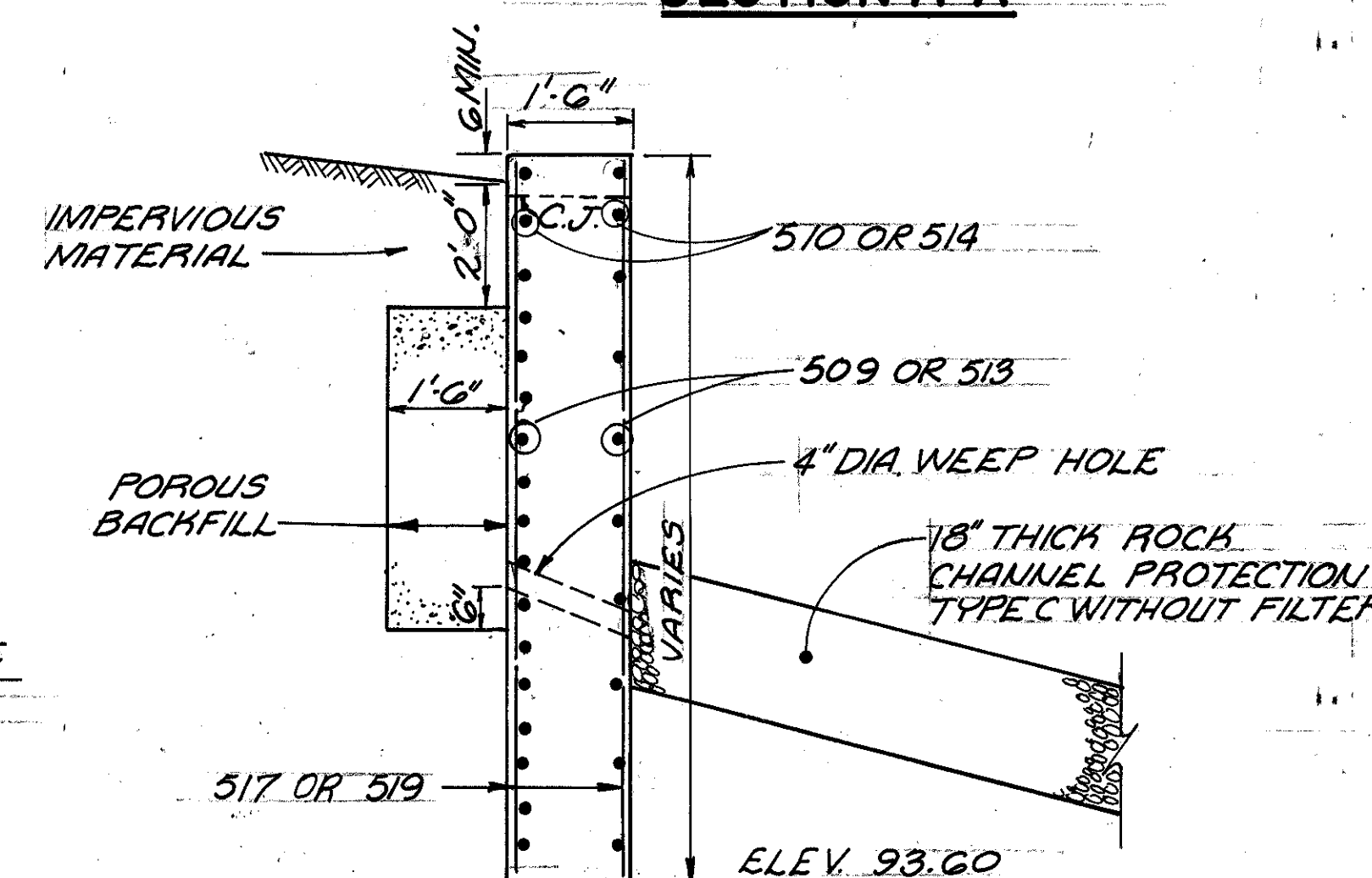
ELEVATION

MINIMUM BAR SPLICE LAP LENGTHS
#7 BAR = 2'-7"
#5 BAR = 1'-4"

	A	B	C	D	E	F	G	H	I	M	N	P
WEST ABUTMENT	101.06	104.06	104.06	102.02	102.28	102.17	104.20	104.20	100.67	102.81	103.10	102.95
EAST ABUTMENT	102.06	104.86	104.86	102.82	102.78	102.48	104.52	104.52	100.85	103.61	103.63	103.27



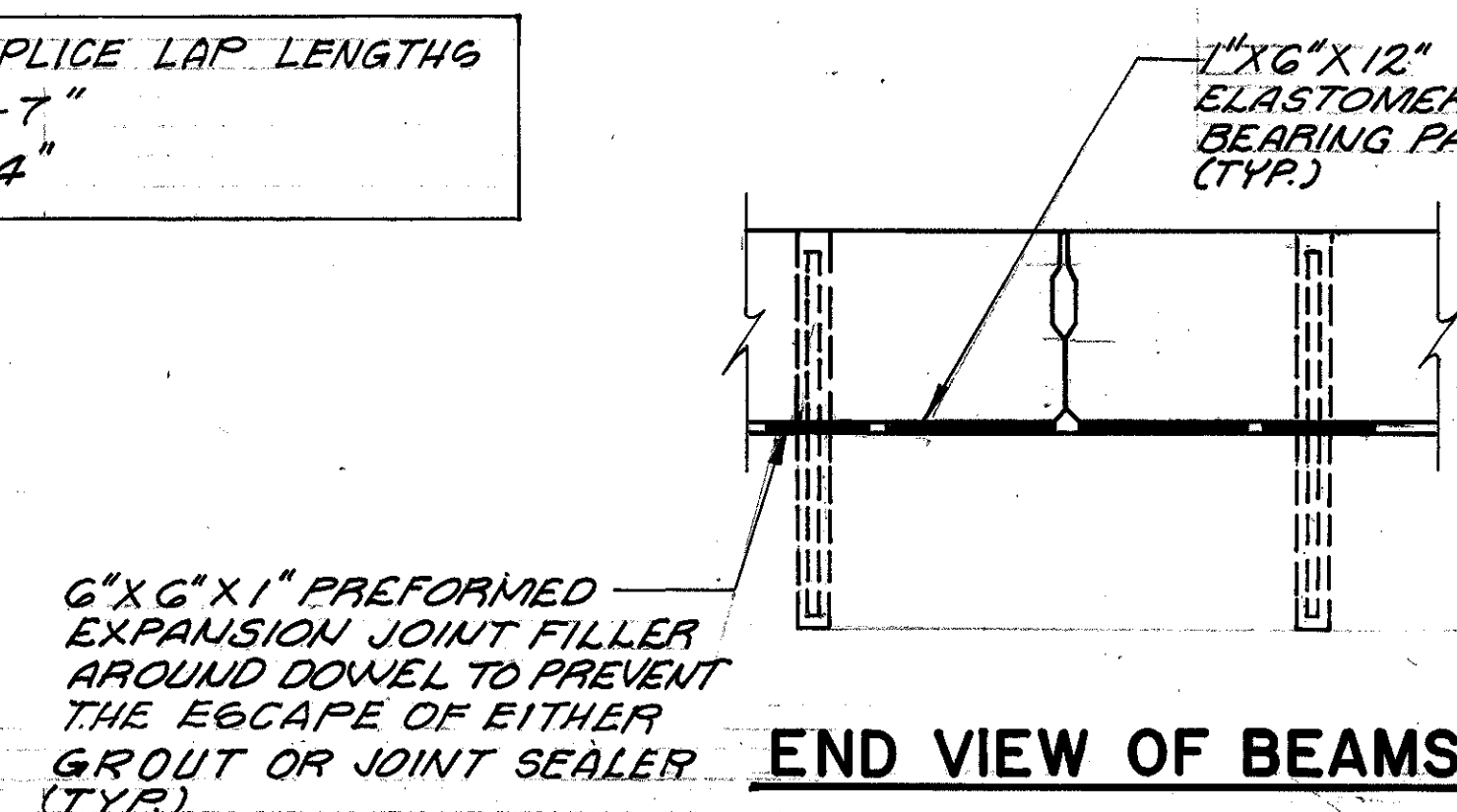
SECTION A-A



SECTION B-B

NOTES:

- BRIDGE SEAT REINFORCING/REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.
- FIELD BEND TRANSVERSE BARS TO FIT CROWN BEING TO BE INCLUDED WITH ITEM 509 FOR PAYMENT
- USE WA FOR WEST ABUTMENT AND EA FOR EAST ABUTMENT AS PREFIXES FOR REINFORCEMENT BAR MARKS.
- POROUS BACKFILL SHALL EXTEND UPWARD TO THE PLANE OF THE SUBGRADE AND/OR TO THE LIMITS AS SHOWN ON THE PLAN AND LATERALLY TO THE END OF THE WINGWALLS.
- THE BACKWALL ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT SHALL NOT BE PLACED UNTIL THE PRESTRESSED BEAMS HAVE BEEN ERECTED.
- THE FOLLOWING ABBREVIATIONS ARE USED:
N.F. = NEAR FACE, C.J. = CONSTRUCTION JOINT, F.F. = FAR FACE, ELEV. = ELEVATION, E.F. = EACH FACE, TYP. = TYPICAL
- FOR REINFORCEMENT SCHEDULE, SEE SHEET 5/6



END VIEW OF BEAMS

POLYTECH, INC. 6/6
CONSULTING ENGINEERS CLEVELAND, OHIO

ABUTMENTS AND DETAILS

BRIDGE NO. BRO-131-05.15
OVER SALTICK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CT	CT	JLJ	LYH	GA	2/84	