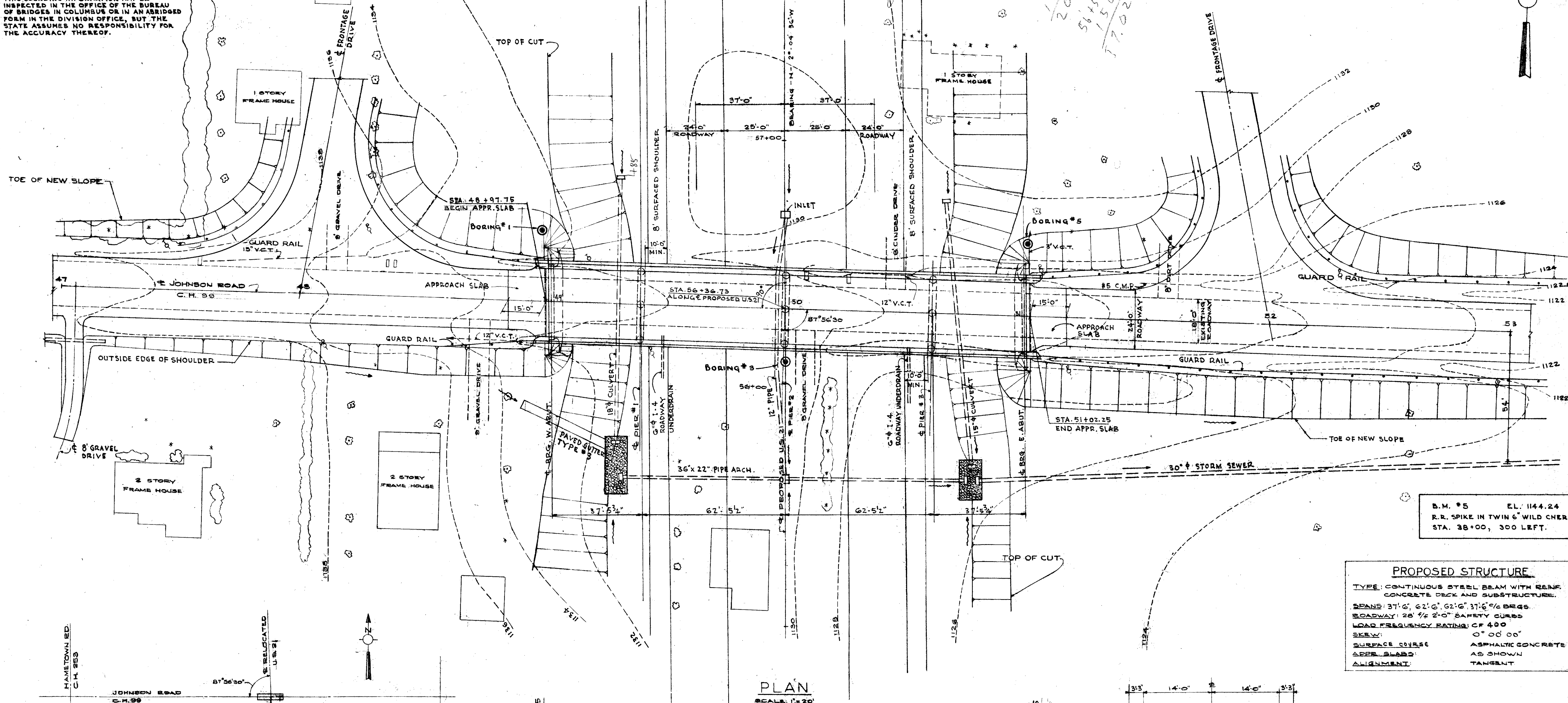


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JUL 6 1987

FOUNDATION SOUNDINGS:
FOUNDATION DESIGN AND FOUNDATION QUANTITIES ARE BASED ON A STUDY OF SOIL SAMPLING SOUNDINGS MADE AT THE SITE. THIS SOUNDING INFORMATION MAY BE INSPECTED IN THE OFFICE OF THE BUREAU OF BRIDGES IN COLUMBUS OR IN AN ABBRIDGED FORM IN THE DIVISION OFFICE, BUT THE STATE ASSUMES NO RESPONSIBILITY FOR THE ACCURACY THEREOF.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	162 193
2	OHIO			

SUMMIT COUNTY
SUM-21-0.23

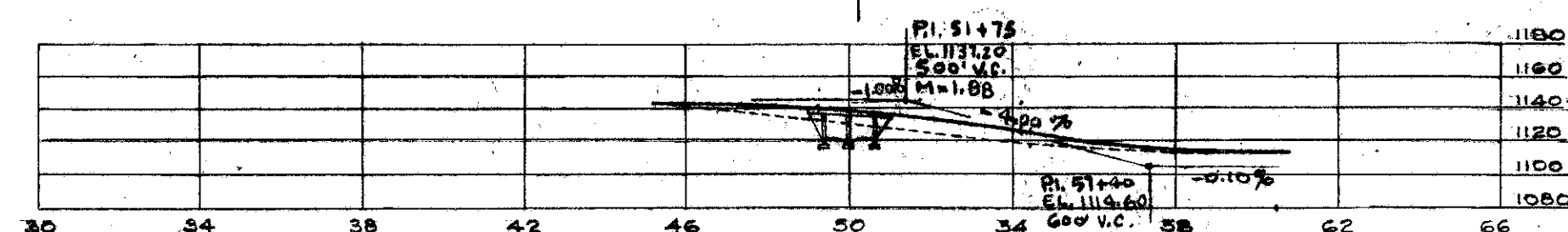


B.M. #5 EL. 1144.24
R.R. SPIKE IN TWIN WILD CHERRY
STA. 38+00, 300 LEFT.

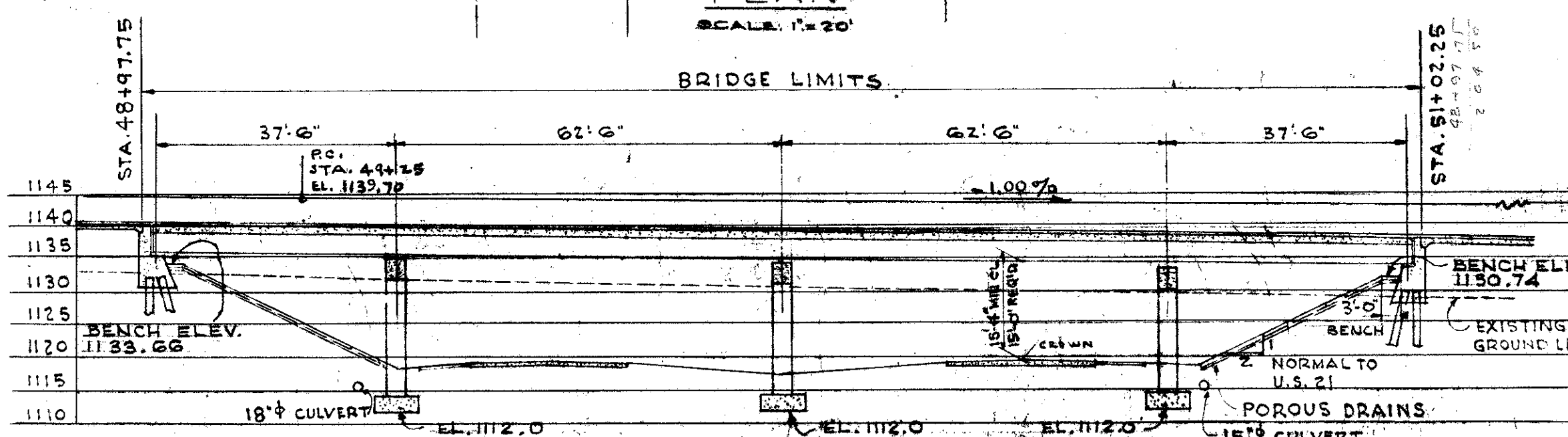
PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 37'-6", 62'-6", 62'-6", 37'-6" BRGS.
ROADWAY: 26' 2" SAFETY CURBS
LOAD FREQUENCY RATING: CP 400
SKEW: 0° 00' 00"
SURFACE COURSE: ASPHALTIC CONCRETE
APPR. SLAB: AS SHOWN
ALIGNMENT: TANGENT

ALIGNMENT JOHNSON ROAD



PROFILE JOHNSON ROAD

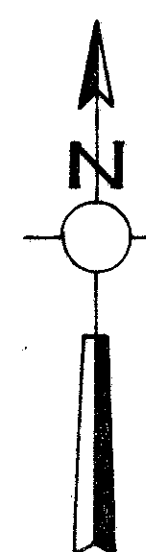


SECTION ALONG C

CROSS-SECTION OF BRIDGE

CHARLES E. DELEUW CONSULTING ENGINEER CHICAGO ILLINOIS					
SITE PLAN BRIDGE NO. SU-21-11 U.S. 21 UNDER CH 99 JOHNSON ROAD SUMMIT CO. STA 56+36.73 SEC. SU-21					
DESIGNED J.A.E.	DRAWN J.G.N.	TRACED R.S.	CHECKED M.C.	REVIEWED 8-25-55	DATE 7-6-55

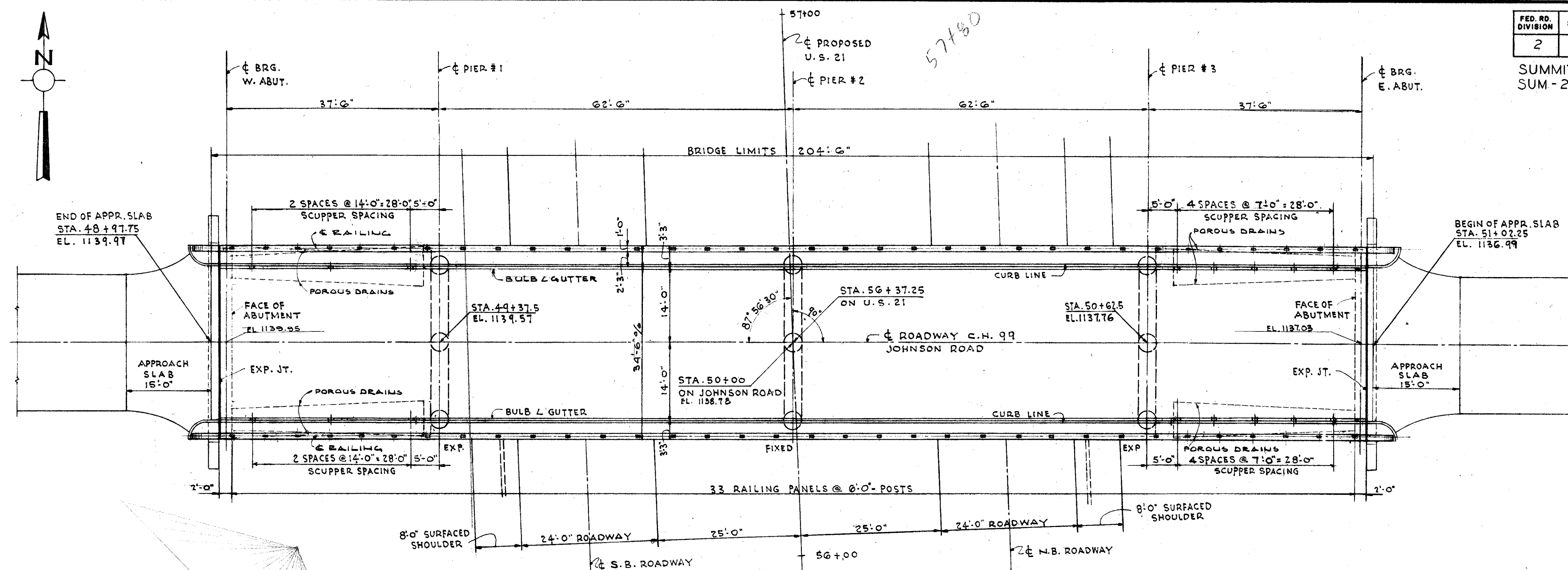
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JUL 6 1987



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

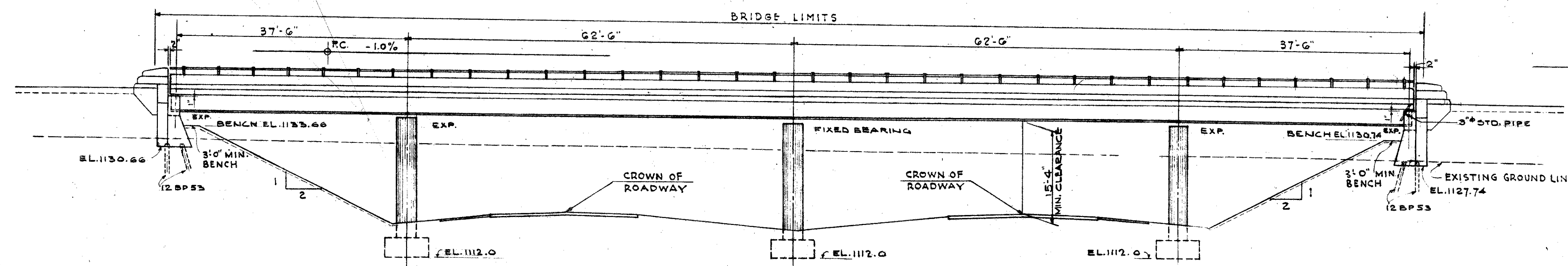
SUMMIT COUNTY
SUM-21-0.23

163
193



PLAN

SCALE: 3/32"=1'-0"



ELEVATION

SCALE: 3/32"=1'-0"

GENERAL NOTES
SPECIFICATIONS: - THIS WORK SHALL BE GOVERNED BY THE "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING REVISIONS THRU FEB. 1, 1955, SUPPLEMENTED BY THE "CONSTRUCTION AND MATERIAL SPECIFICATIONS" OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, DATED JANUARY 1, 1955, AND SUPPLEMENTAL SPECIFICATION S-114, DATED 8-30-55.

PILING
THE LENGTH OF PENETRATION OF EVERY PILE SHALL BE AT LEAST 80% OF THE ESTIMATED AVERAGE PILE LENGTH OF THE PILES AS INDICATED ON THE PLANS UNLESS A LESSER PENETRATION IS APPROVED BY THE DIRECTOR.

FOUNDATION PRESSURE: - MAX. SOIL PRESSURE = 6000 LBS/SQ. FT. PRIOR TO THE PLACING OF ANY FOUNDATION CONCRETE, THE ENGINEER SHALL BE NOTIFIED, AND WILL THEN DETERMINE WHETHER ANY CHANGE IN FOUNDATION ELEVATION IS REQUIRED.
WELDING OF STRUCTURAL STEEL SHALL BE CLASS "A" EXCEPT AS OTHERWISE SHOWN.
PAINT, BOTH SHOP AND FIELD, SHALL BE APPLIED BY BRUSHING. SPRAY APPLICATION WILL NOT BE PERMITTED.

SURFACE FINISH OF CONCRETE: - RAILING END POSTS, RAILING PARAPETS, CURBS, FASCIA, FASCIA OF DECK AND EXPOSED SURFACE OF PIERS, ABUTMENTS AND WING WALLS SHALL RECEIVE A RUBBED SURFACE FINISH. ALL OTHER EXPOSED SURFACES SHALL BE GOVERNED BY THE PROVISIONS OF ITEM S-1.
POROUS DRAINS, EXTENDING FROM FACE OF ABUTMENT TO EL. 1117.00, SHALL BE PLACED ON AND FLUSH WITH EMBANKMENT SLOPES AT ALL FOUR CORNERS OF THE BRIDGE. THE DRAINS SHALL BE 6'-0" WIDE @ THE LOW END, TAPERING TO 4'-0" WIDE AT FACE OF ABUTMENT AND ONE FT. THICK. THEY SHALL BE CENTERED UNDER THE SCUPPERS.

GRAVEL, IF USED AS THE COARSE AGGREGATE, SHALL BE ACCORDING TO SEC. M-3.93 INSTEAD OF M-3.91 FOR CLASS "C" CONCRETE, SUPERSTRUCTURE. GRAVEL MEETING THE REQUIREMENTS OF SEC. M-3.93 ALSO MAY BE USED FOR OTHER CONCRETE IN THIS STRUCTURE, INCLUDING CONCRETE FOR PIERS.
SPICE OF REINFORCING STEEL: - REINFORCING STEEL SHALL BE SPICED BY LAPPING BARS A MIN. OF 30 TIMES THE DIAMETER OF THE SMALLER BAR CONCERNED.

DRIVING PILES: - PILES SHALL BE DRIVEN TO FIRM CONTACT WITH ROCK, WHICH SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN SEC. S-18.05 IS AT LEAST 60 TONS PER PILE IF A 7000 FT.-LB. STEAM HAMMER IS USED OR 45 TONS PER PILE IF A STEAM HAMMER OR A DROP HAMMER OF 15000 FT.-LB. OR GREATER ENERGY IS USED AND IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH TO ROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT. IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THESE VALUES THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION. (THE DESIGN LOAD IS 30 TONS PER PILE).

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS #1, #2, #3	SUPER	GENERAL	As BUILT
E-2	300	CU. YD.	UNCLASSIFIED EXCAVATION	67	233			
S-1	212	CU. YD.	CLASS "C" CONCRETE, SUPERSTRUCTURE & PYLONS	2		210		C-14, -3 209
S-1	74 77	CU. YD.	CLASS "C" CONCRETE, PIERS ABOVE FOOTINGS		77			C-14, -3 74
S-1	95 96	CU. YD.	CLASS "E" CONCRETE, ABUTMENTS	96				C-14, -1 95
S-1	105	CU. YD.	CLASS "E" CONCRETE, PIER FOOTINGS		105			
S-3	606	SQ. YD.	TYPE "C" WATERPROOFING			606		
S-4	97 581	LBS.	REINFORCING STEEL	8064	27 725	62 111	81	C-13, -22 97 553
S-7	172 387	LBS.	STRUCTURAL STEEL			172 387		C-14, -64 171 713
S-8	172 387	LBS.	FIELD PAINTING OF STRUCT. STEEL			172 387		C-14, -64 171 713
S-14	404	LIN. FT.	RAILING (ALUMINUM RAIL & SUPPORTS & CONCRETE PARAPET)			404		C-14, -1 403
S-16		LUMP SUM	FIRST TEST PILE					
S-18	160 540	LIN. FT.	STEEL PILES, 12BPS3	540				C-14, -80 460
S-25	402	LIN. FT.	SUBDRAINAGE FOR WEARING SURFACE COURSE			402		
S-29	27	CU. YD.	POROUS DRAINS ON EMBANKMENT SLOPES				27	
T-35	45	CU. YD.	ASPHALTIC CONCRETE SURFACE COURSE TYPE "A" OR "C" (10-30)			45		

**GENERAL PLAN & ELEVATION
NOTES & ESTIMATED QUANTITIES**

BRIDGE NO. SU-21-11
U.S. 21 UNDER C.H. 99 JOHNSON ROAD
SUMMIT CO.
SEC. SU-21

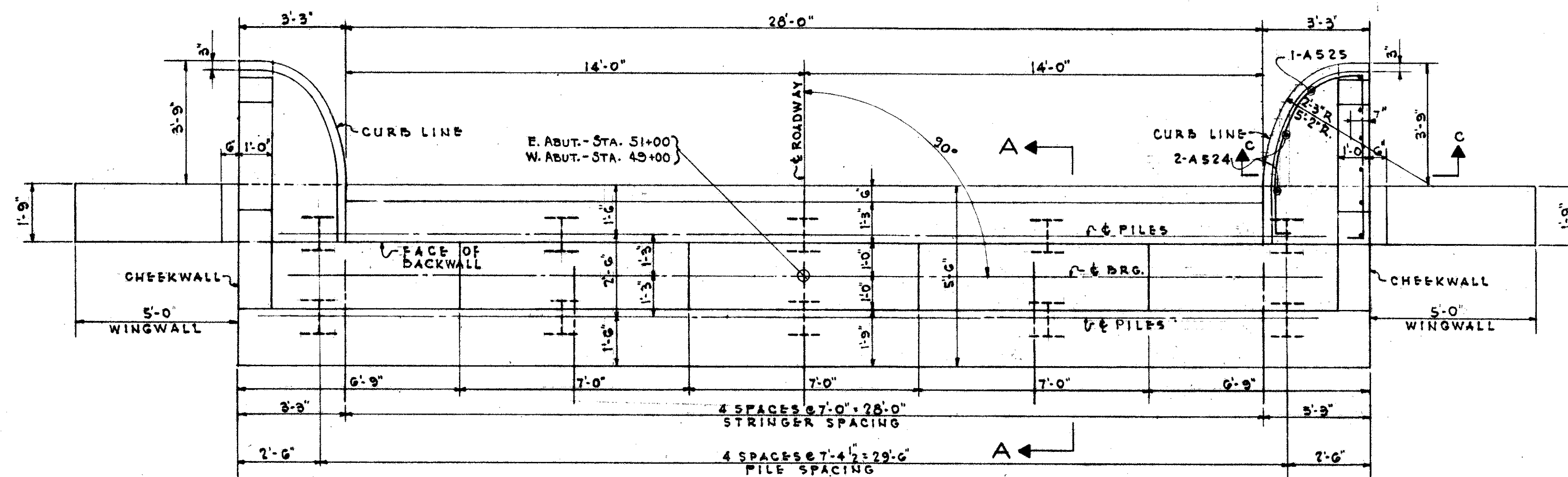
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.A.E.	Y.K.S.		E.S.M.	M.C.	8-25-55	

MICROFILMED
JUL 6 1987

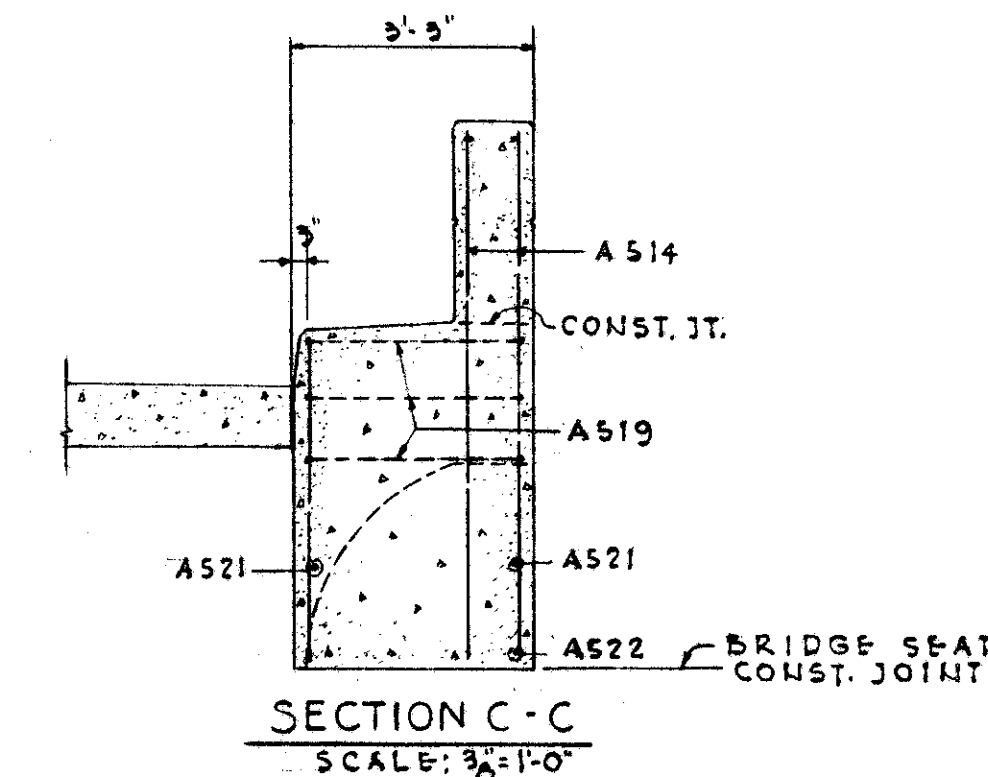
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

164
193

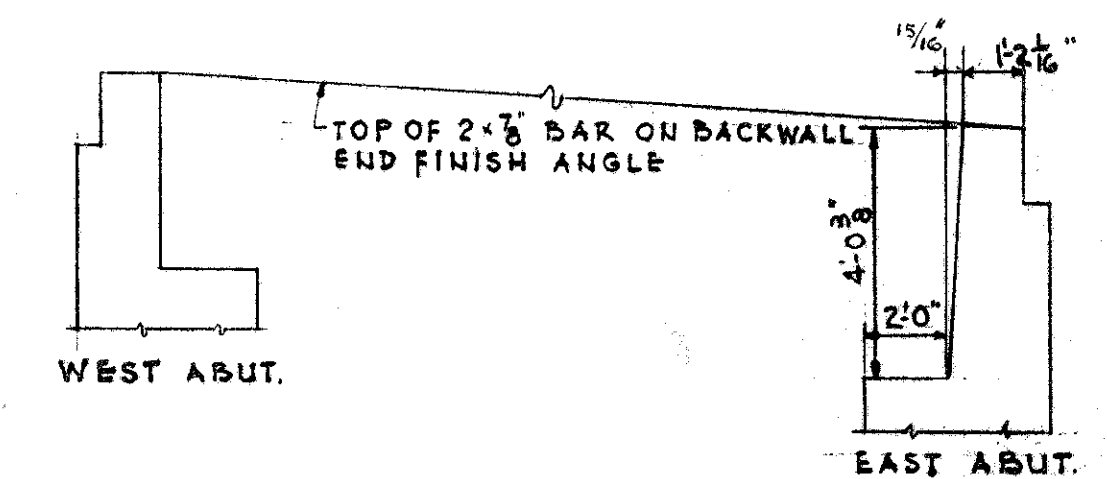
SUMMIT COUNTY
SUM-21-023



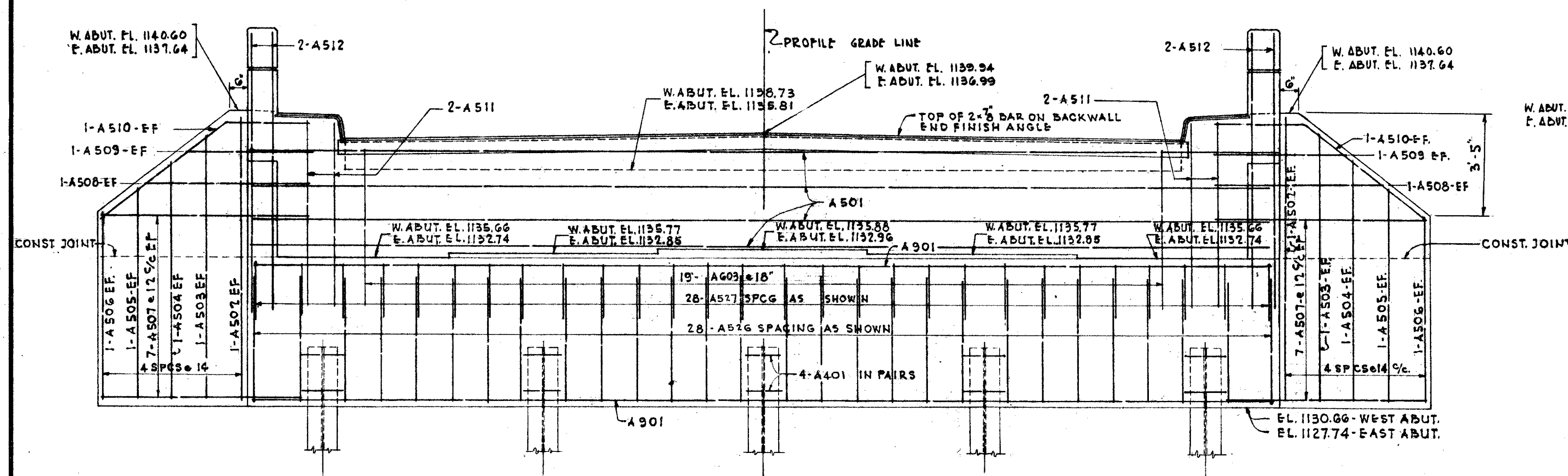
PLAN OF WEST ABUTMENT
EAST ABUTMENT SIMILAR
SCALE: $\frac{3}{8}$ " = 1'-0"



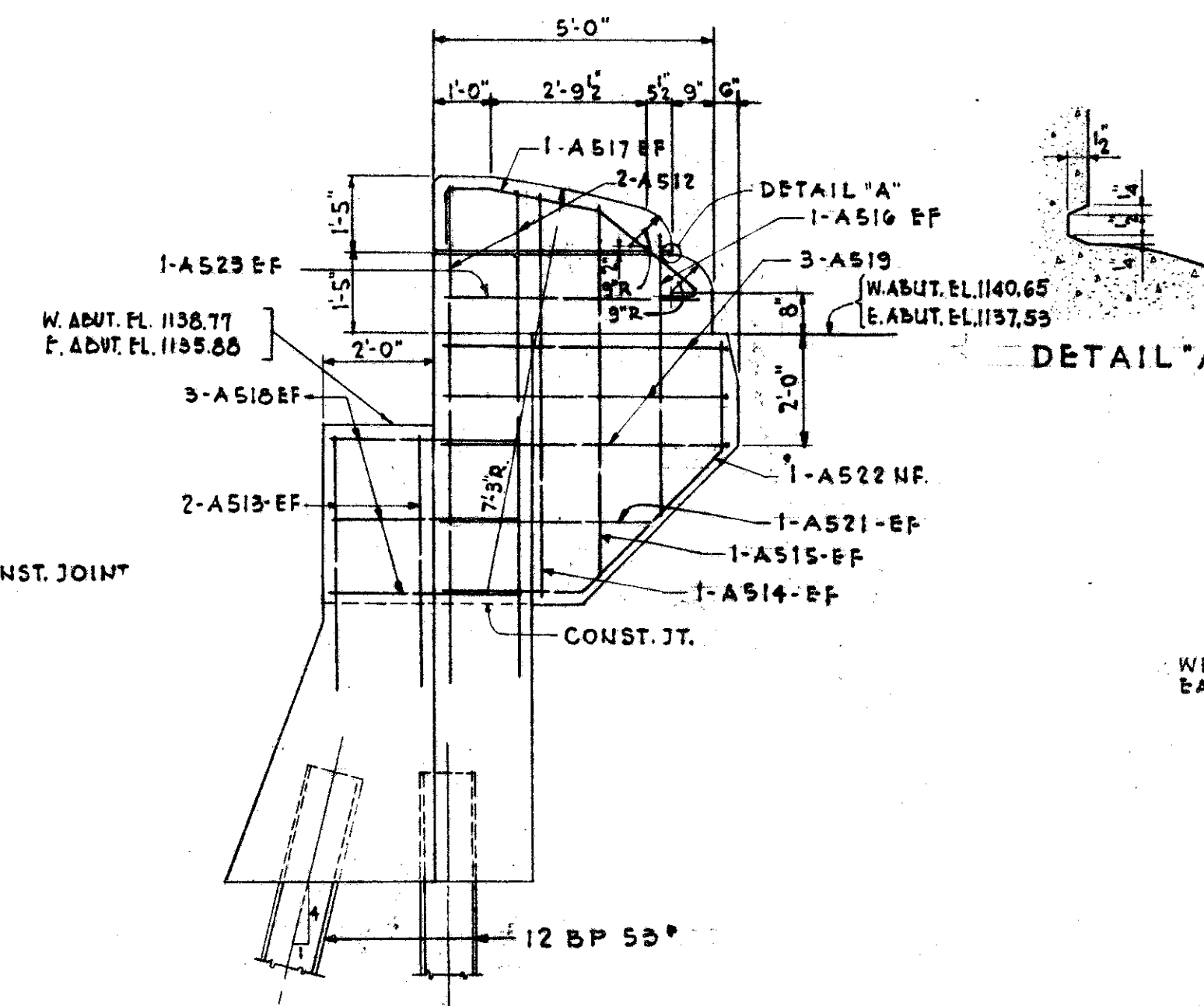
SECTION C-C
SCALE: $\frac{3}{8}$ " = 1'-0"



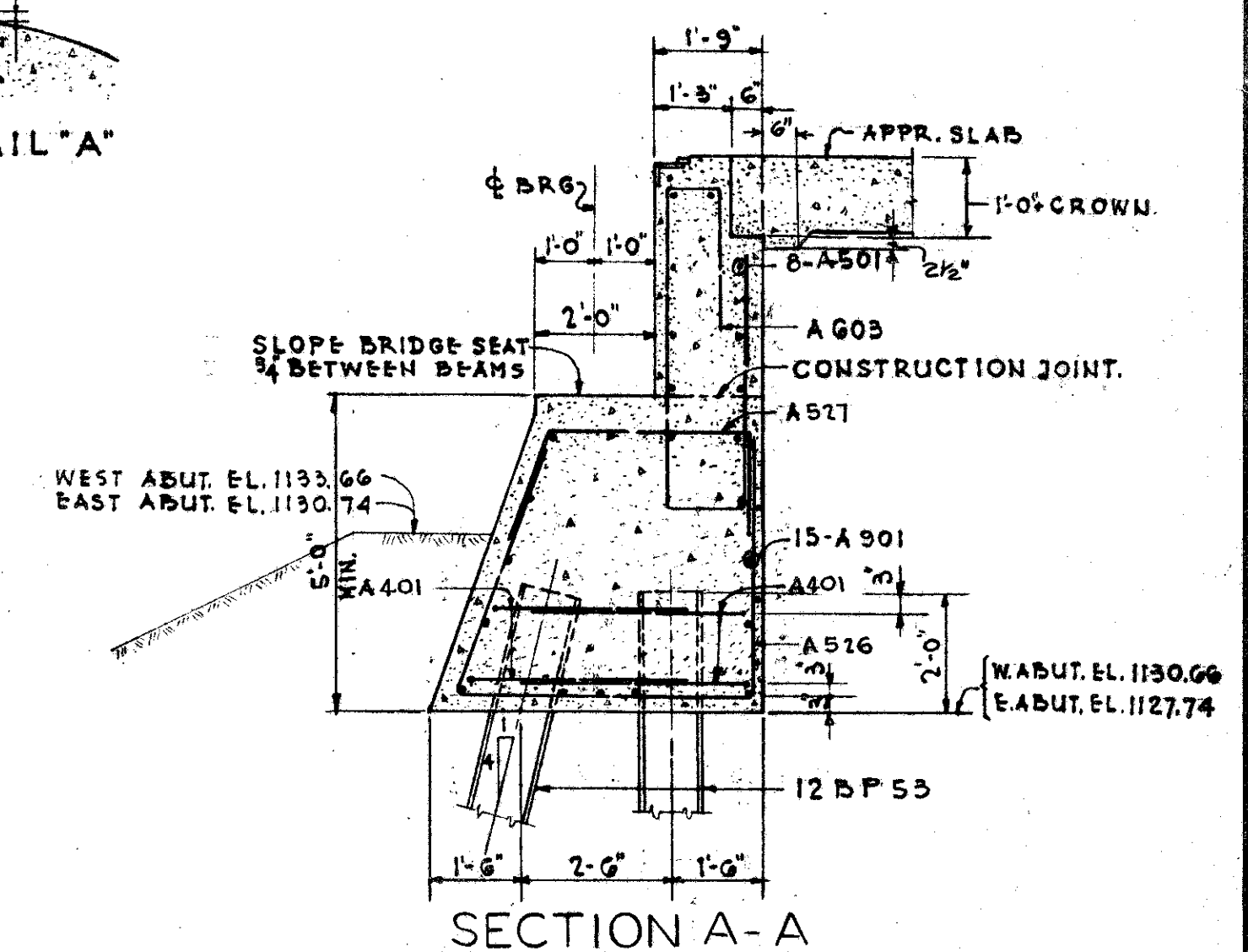
DETAIL OF BACK WALL
ON GRADE



ELEVATION OF WEST ABUTMENT
EAST ABUTMENT SIMILAR
SCALE: $\frac{3}{8}$ " = 1'-0"



SIDE ELEVATION
SCALE: $\frac{3}{8}$ " = 1'-0"



SECTION A-A

NOTES:

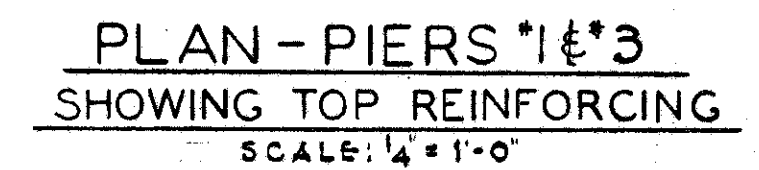
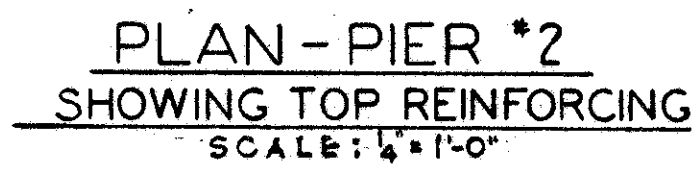
REINFORCING STEEL SHALL BE 2" CLEAR FROM
SURFACE OF CONCRETE UNLESS OTHERWISE NOTED.
CONCRETE IN Pylon TO BE INCLUDED IN ITEMS-51
CLASS "C" CONCRETE, SUPERSTRUCTURE.
REINFORCING IN TOP OF ABUTMENT BRIDGE SEAT
TO BE PLACED TO CLEAR ANCHOR BOLTS.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

ABUTMENT DETAILS

BRIDGE NO. SU-21-11
U.S. 21 UNDER C.H. 99 JOHNSON ROAD
SUMMIT CO. STA. 56+36.73
SEC. SU-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.W.	R.E.B.		E.S.M.	M.C.	8-25-58	

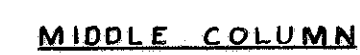
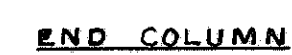


SECTION B-E
SCALE: 1/4" = 1'-0"



NOTE:
ALL REINFORCING STEEL SHALL CLEAR FACE
OF CONCRETE 2" UNLESS OTHERWISE SHOWN

2" FACE OF COLUMN
TO FACE OF REIN



CROSS SECTION AT BASE OF PIER CAP
SCALE $\frac{1}{2}" = 1'-0"$
(PIER #2 SIMILAR)



CHARLES E. DE LUW	
CONSULTING	ENGINEER
CHICAGO	ILLINOIS

<p>DETAILS OF PIERS NO. 1, 2 & 3</p> <p>BRIDGE NO. SU-21-11</p> <p>U.S. 21 UNDER C.H. 99 JOHNSON ROAD</p> <p>SUMMIT CO. STA. 56 + 37.25</p> <p>SEC. SU-21</p>	
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J. A. E.	R. E. B.		E. S. M.	M. C.	8-25-55	



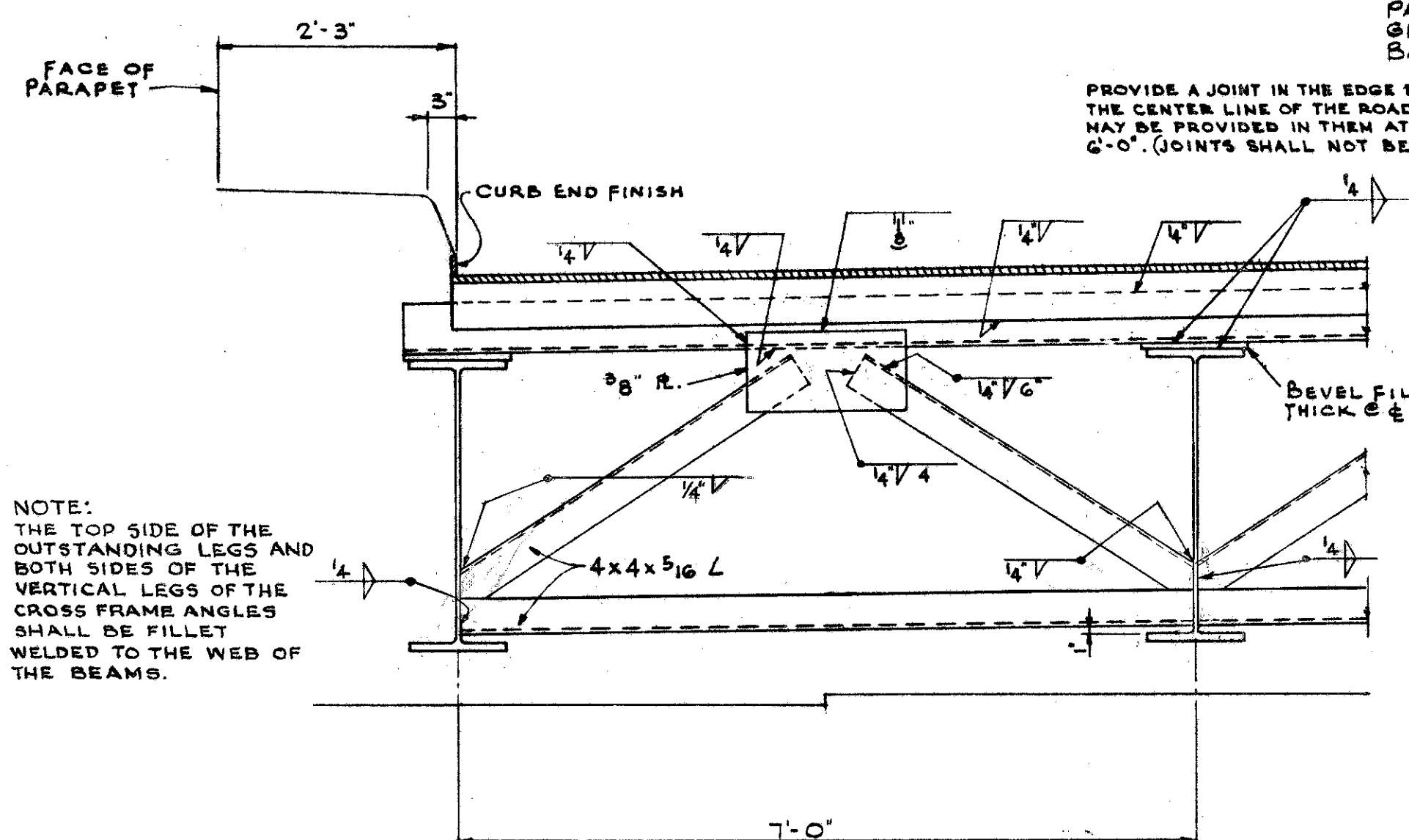
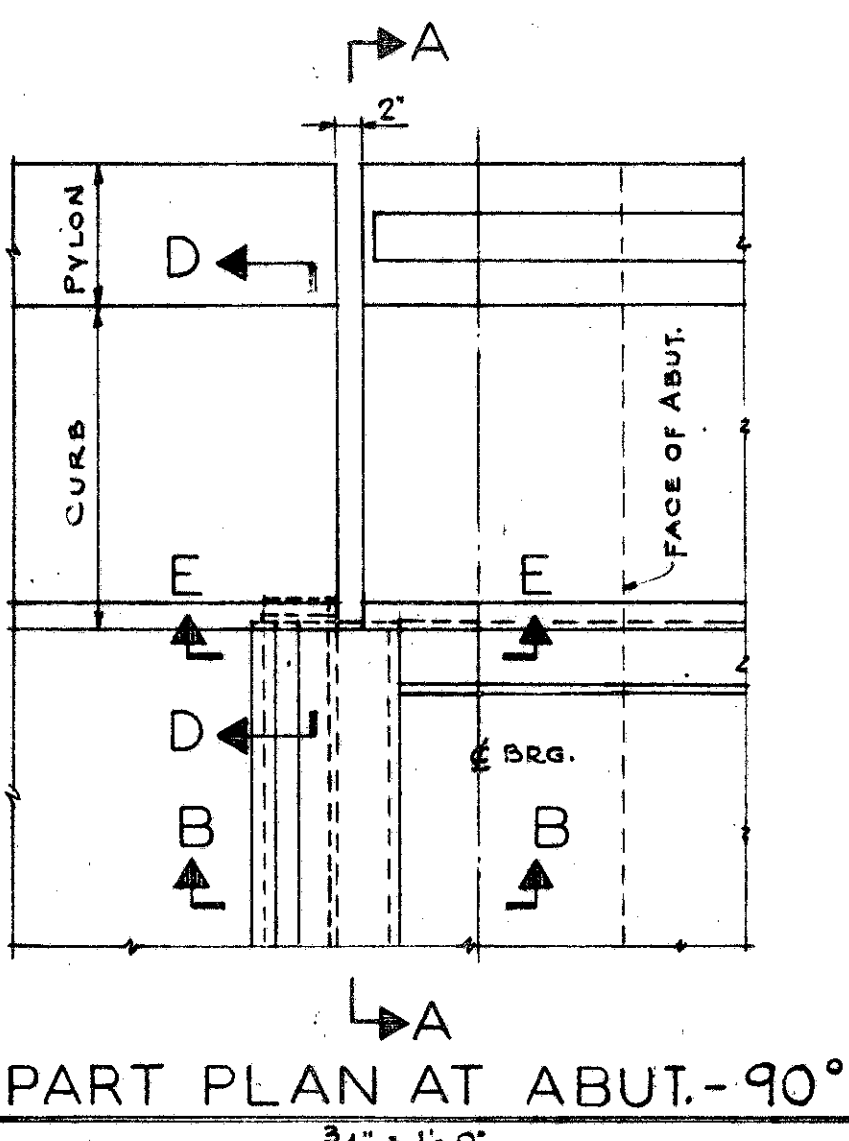
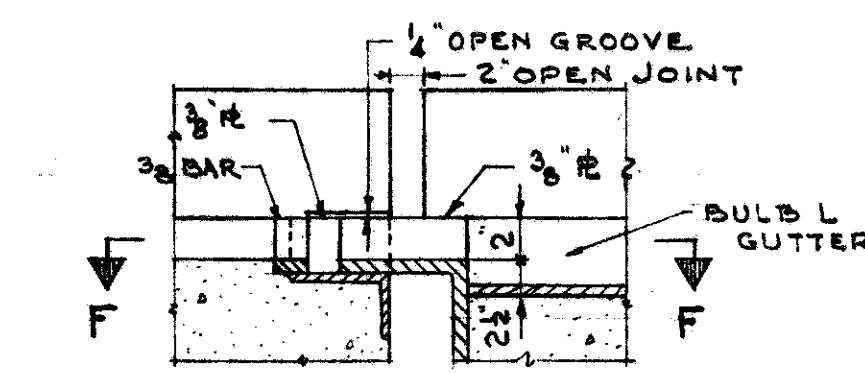
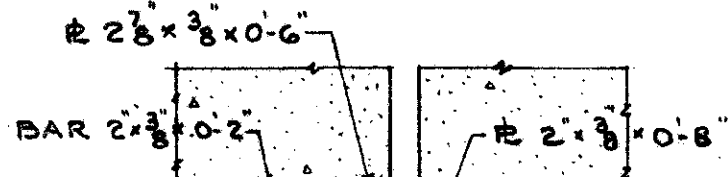
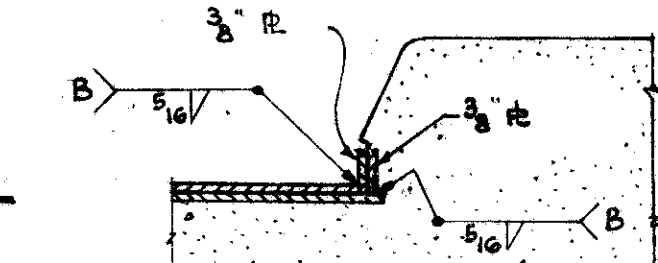
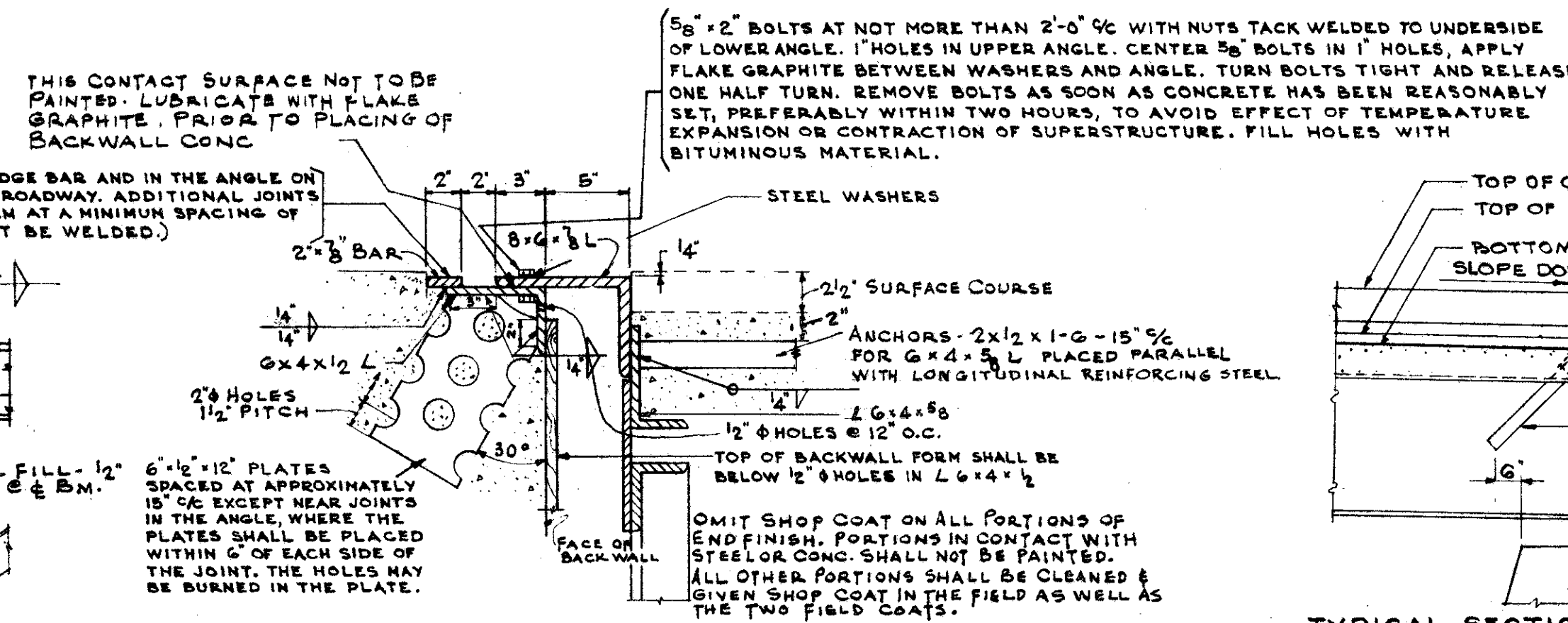
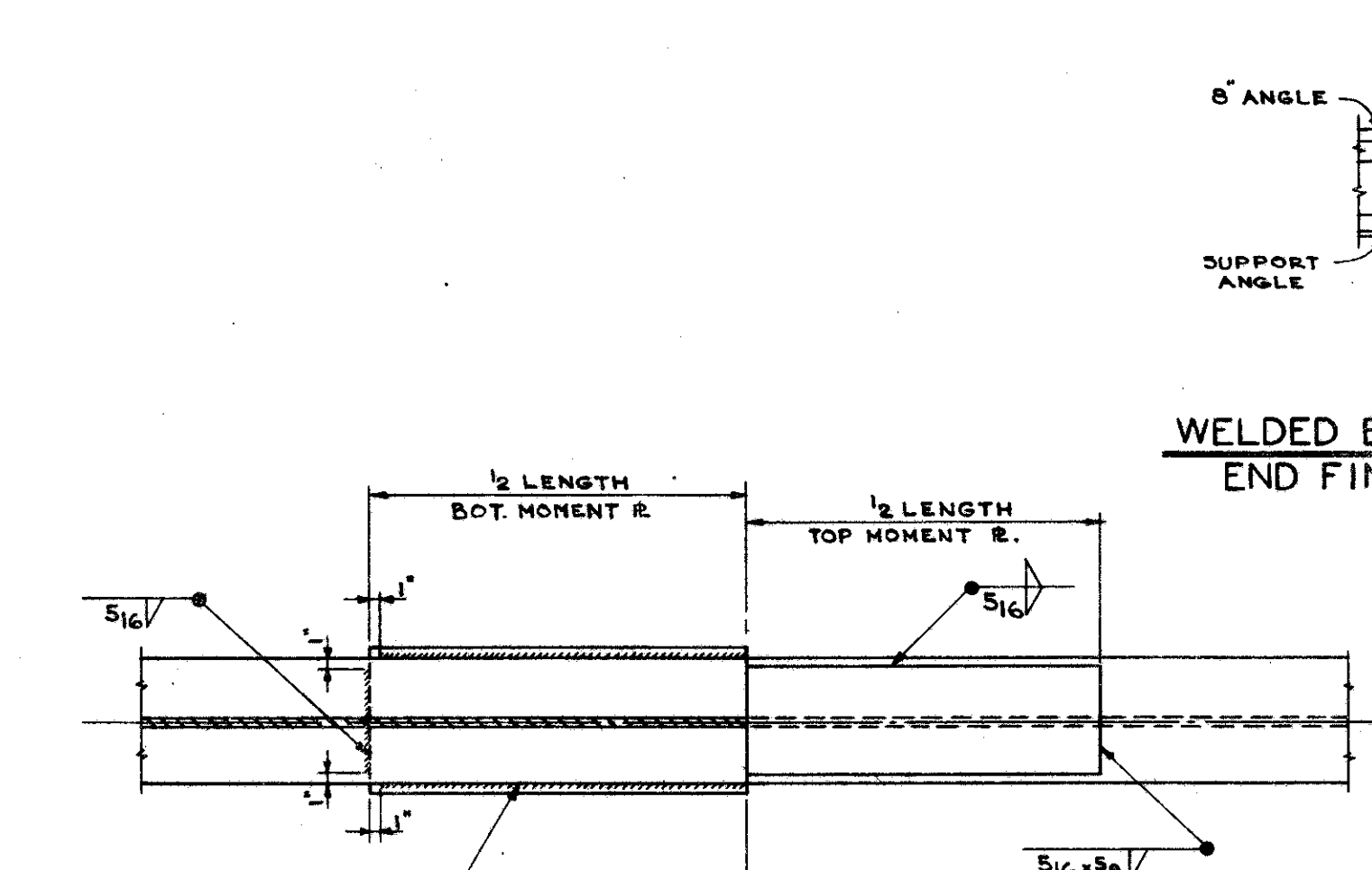
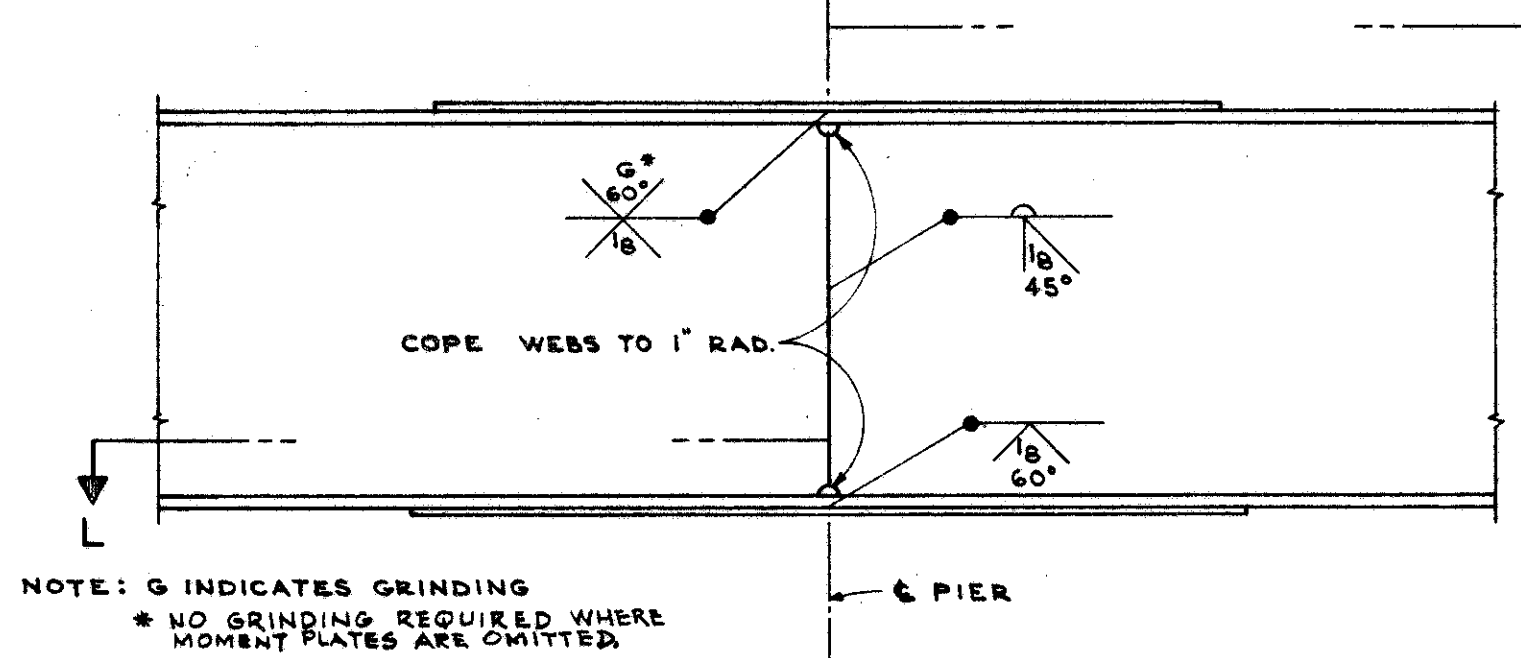
CHICAGO		ILLINOIS				
<p>SUPERSTRUCTURE DETAILS</p> <p>BRIDGE NO. SU-21-11</p> <p>U.S. 21 UNDER C. H. 99 JOHNSON ROAD</p> <p>SUMMIT CO. STA. 56+36.73</p> <p>SEC. SU-21-</p>						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J. A. E.	J. G. N. G. R. F.		E. S. M.	M. C.	8-25-55	

DEFLECTION & CAMBER						
	EXTERIOR STRINGERS			INTERIOR STRINGERS		
	END SPAN	MIDDLE SPANS 2 & 3	END SPAN 4	END SPAN 1	MIDDLE SPANS 2 & 3	END SPAN 4
DEF. DUE TO WT. OF STEEL	0	0	0	0	0	0
DEF. DUE TO REMAINING D.L.	0	1/2"	0	0	1/4"	0
CAMBER DUE TO FOM. VERT. CURVE	1/8"	3/8"	1/4"	1/8"	3/8"	1/4"
SUM OF DEFLECTION AND CAMBER	1/8"	7/8"	1/4"	1/8"	5/8"	1/4"
REQUIRED CAMBER	0 *	1"	0 *	0 *	0 *	0 *

* CAMBER : NO CAMBERING OF BEAMS IS REQUIRED BUT THE BEAMS SHALL BE SO FABRICATED THAT ANY CURVED BEAMS WILL BE PLACED WITH THE CONVEX FLANGE UP.

JUL 6 1987

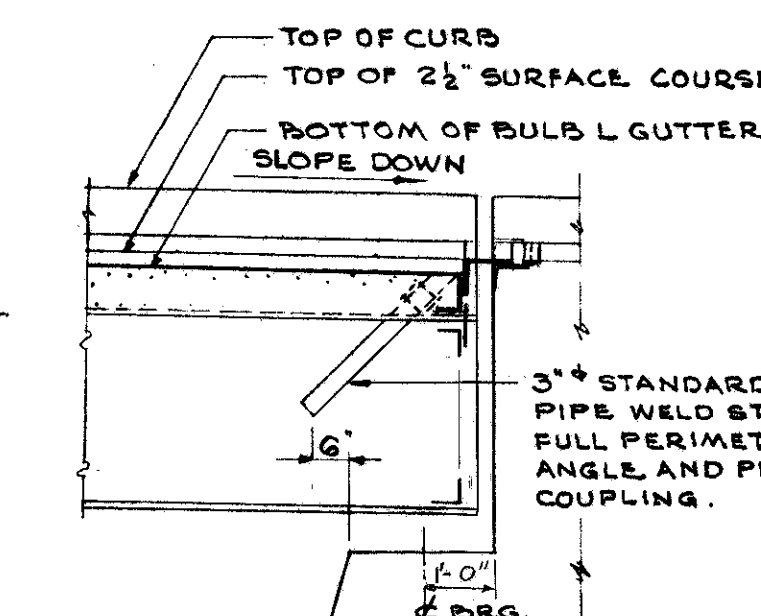
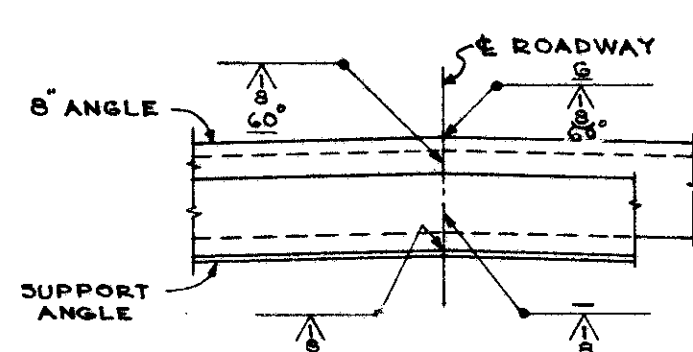
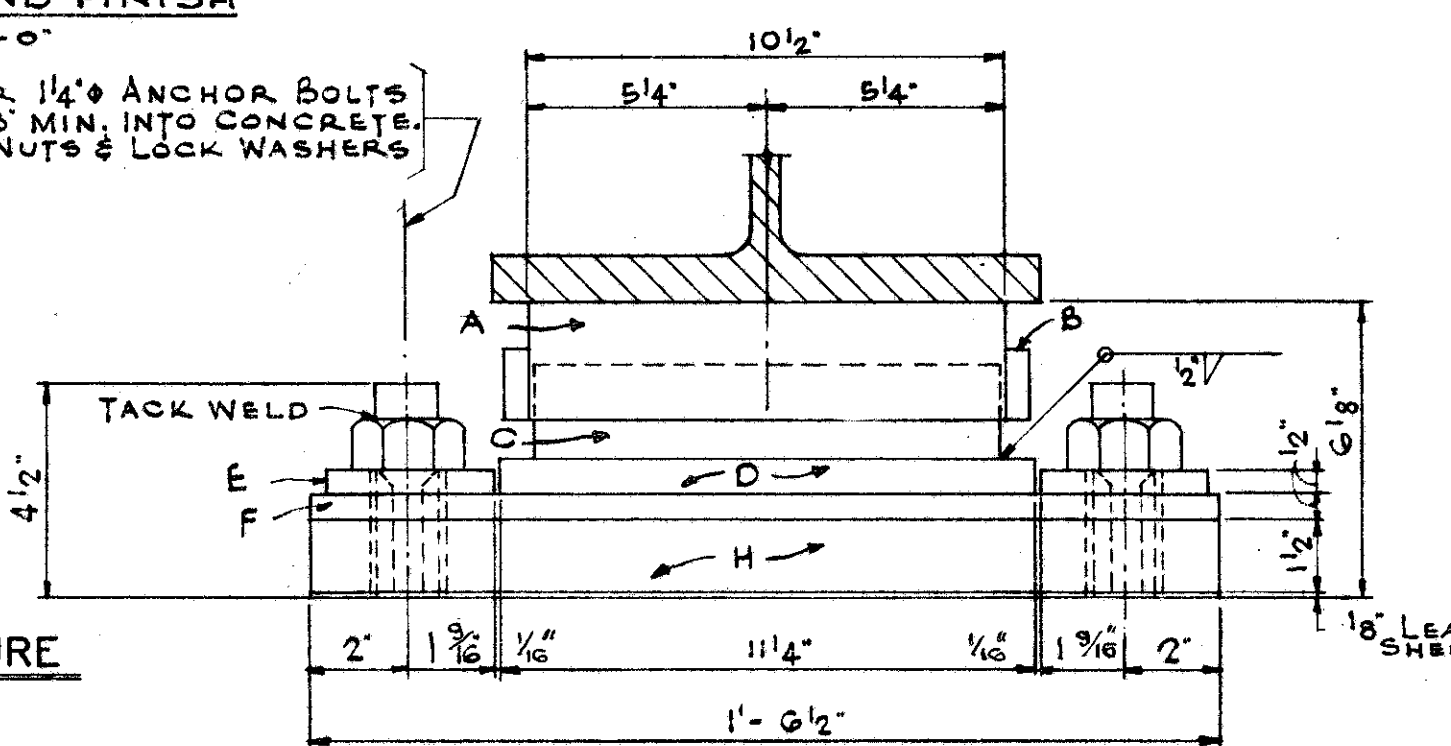
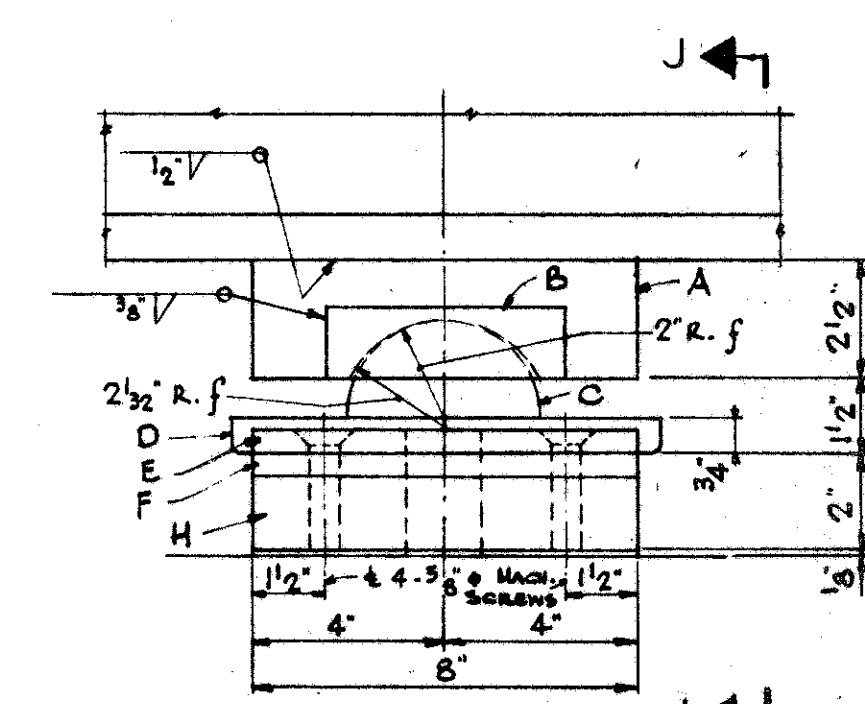
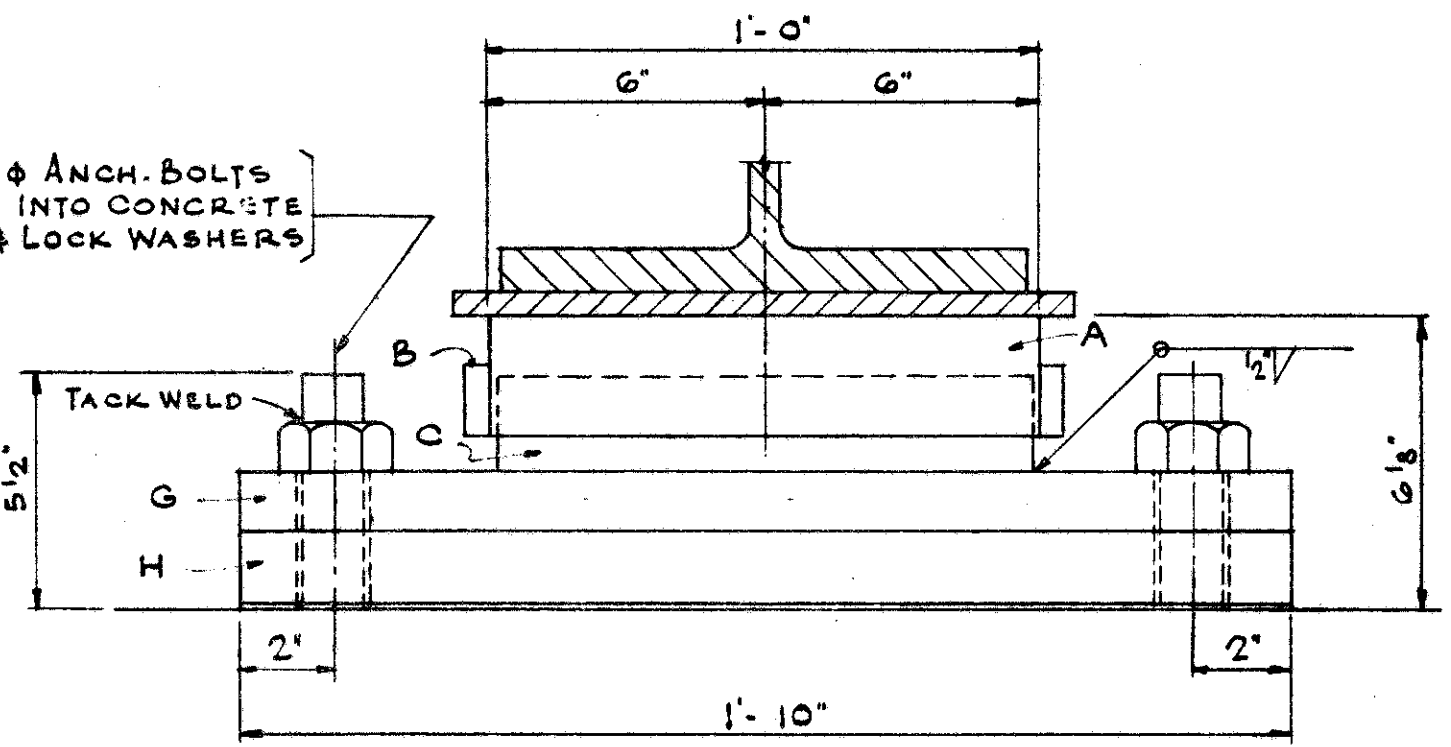
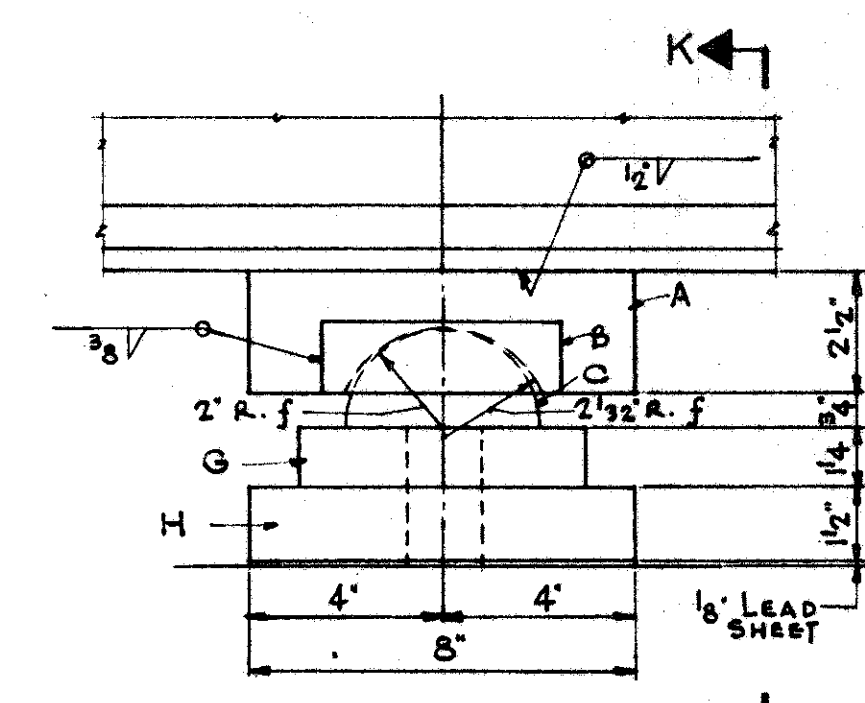
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

167
193SUMMIT COUNTY
SUM-21-023SECTION A-A
3/4" = 1'-0"PART PLAN AT ABUT.-90°
3/4" = 1'-0"SECTION E-E
1" = 1'-0"SECTION F-F
1" = 1'-0"SECTION D-D
1" = 1'-0"SECTION B-B
1 1/2" = 1'-0"SECTION L-L
1" = 1'-0"

NOTE: G INDICATES GRINDING
* NO GRINDING REQUIRED WHERE
MOMENT PLATES ARE OMITTED

BEAM SPLICE DETAILS
1" = 1'-0"

- BEAM SPLICE WELDING PROCEDURE:
1. RAISE END OF BEAM AT PIER 2 - 3"
 2. BUTT-WELD BEAM FLANGES AND WEB AT PIER 1.
 3. LOWER END OF BEAM AT PIER 2
 4. RAISE END OF BEAM AT PIER 3 - 18"
 5. BUTT-WELD BEAM FLANGES AND WEB AT PIER 2
 6. WELD TOP & BOTTOM FLANGE SPLICE PLATES AT PIER 2
 7. LOWER END OF BEAM AT PIER 3
 8. RAISE BEAM AT ABUTMENT 1/4"
 9. BUTT-WELD BEAM FLANGES AND WEB AT PIER 3

TYPICAL SECTION FOR GRADE SLOPING
DOWN TO END FINISH
3/8" = 1'-0"WELDED BUTT JOINT IN SUPERSTRUCTURE
END FINISH ANGLES AT ROADWAY
3/4" = 1'-0"SECTION J-J
1" = 1'-0"DETAIL OF EXPANSION BEARING
3" = 1'-0"ELEVATION
1" = 1'-0"SECTION K-K
1" = 1'-0"DETAIL OF FIXED BEARING
3" = 1'-0"ELEVATION
1" = 1'-0"

MATERIAL - FIXED BEARING

- A - SOLE PL. - 8x2 1/2 x 1'-0"
B - SIDE PL. - 1 1/2 x 1/2 x 0'-5"
C - PIN - HALF ROUND 4"x0'-11 1/8"
D - BOTTOM PL. 6x1 1/4 x 1'-10"
H - MASONRY PL. 8x1 1/2 x 1'-10"
2 ANCH. BOLTS - 1 1/4" x 1'-9"
LEAD SHEET - 8x1 1/8 x 1'-10"

MATERIAL - EXPANSION BEARING

- A - SOLE PL. - 8x2 1/2 x 0'-10 1/2"
B - SIDE PL. - 1 1/2 x 1/2 x 0'-5"
C - PIN - HALF ROUND 4"x0'-10 3/8"
D - SLIDING PL. - 7"x3/4 x 0'-11 1/4"
E - GUIDE PL. - 3"x1/2" x 0'-8"
F - BRONZE PL. - 8x1 1/2 x 1'-0 1/2" (SEE NOTE 'A')
H - MASONRY PL. - 8x1 1/2 x 1'-0 1/2"
2 ANCH. BOLTS - 1 1/4" x 1'-8"
4 5/8" MACHINE SCREWS
LEAD SHEET - 8x1 1/8 x 1'-6 1/2"

NOTE 'A'

LUBRICATE BRONZE EXP. PL. WITH TREPANED
INSERTS OR APPROVED EQUAL SELF
LUBRICATING BRONZE PL. MATERIAL IN
ACCORDANCE WITH A.S.T.M. B100-52, ALLOY 1.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

SUPERSTRUCTURE DETAILS

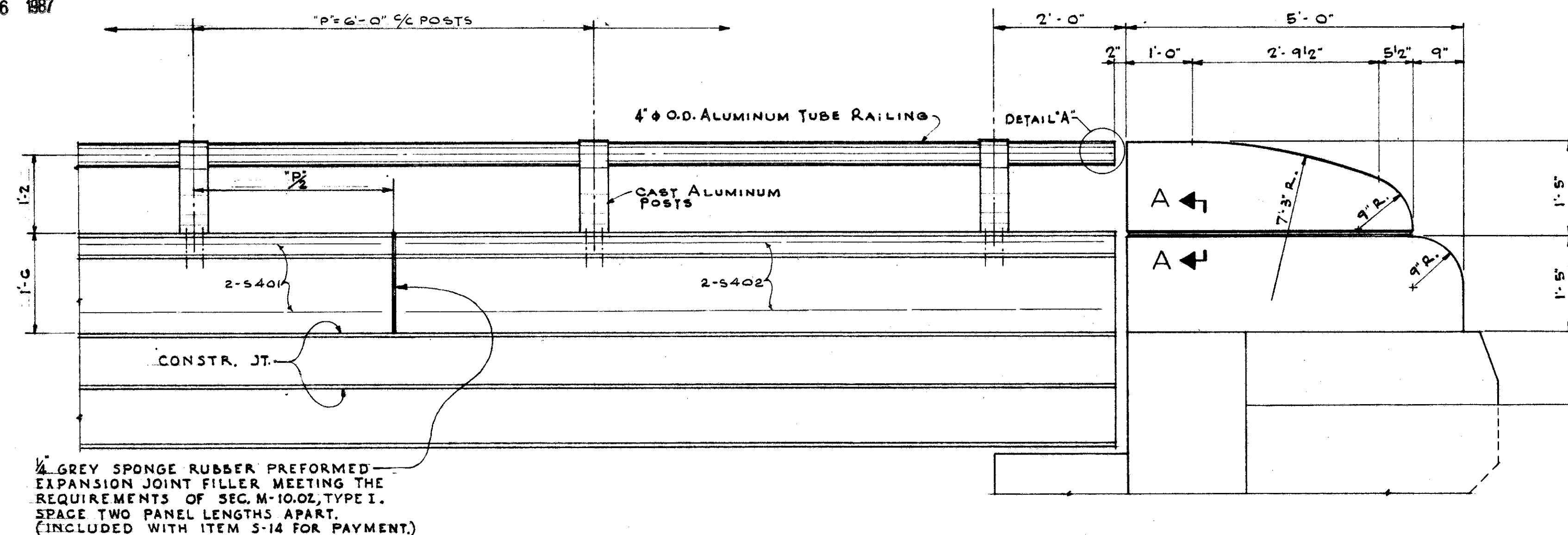
BRIDGE NO. SU-21-11
U.S. 21 UNDER C.H. 99 JOHNSON ROAD
SUMMIT CO. STA 56+37.25
SEC. SU-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.S.	R.N.		M.C.	M.C.	5-25-55	

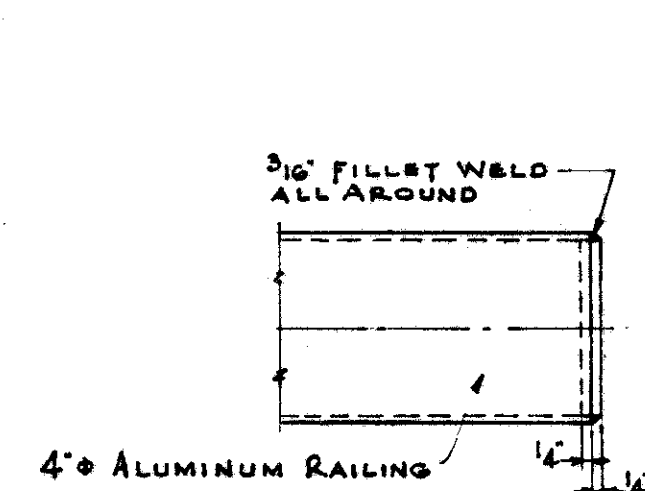
MICROFILMED
JUL 6 1987

FED. NO. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

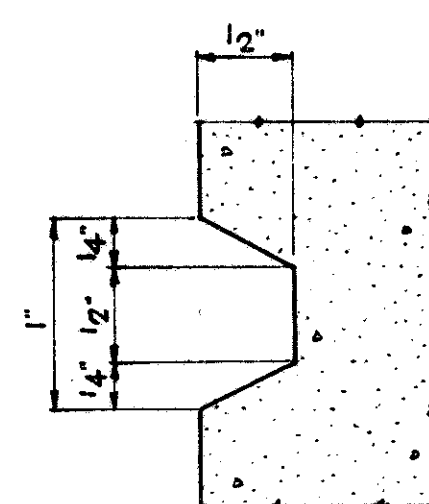
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SUM-21-0.23



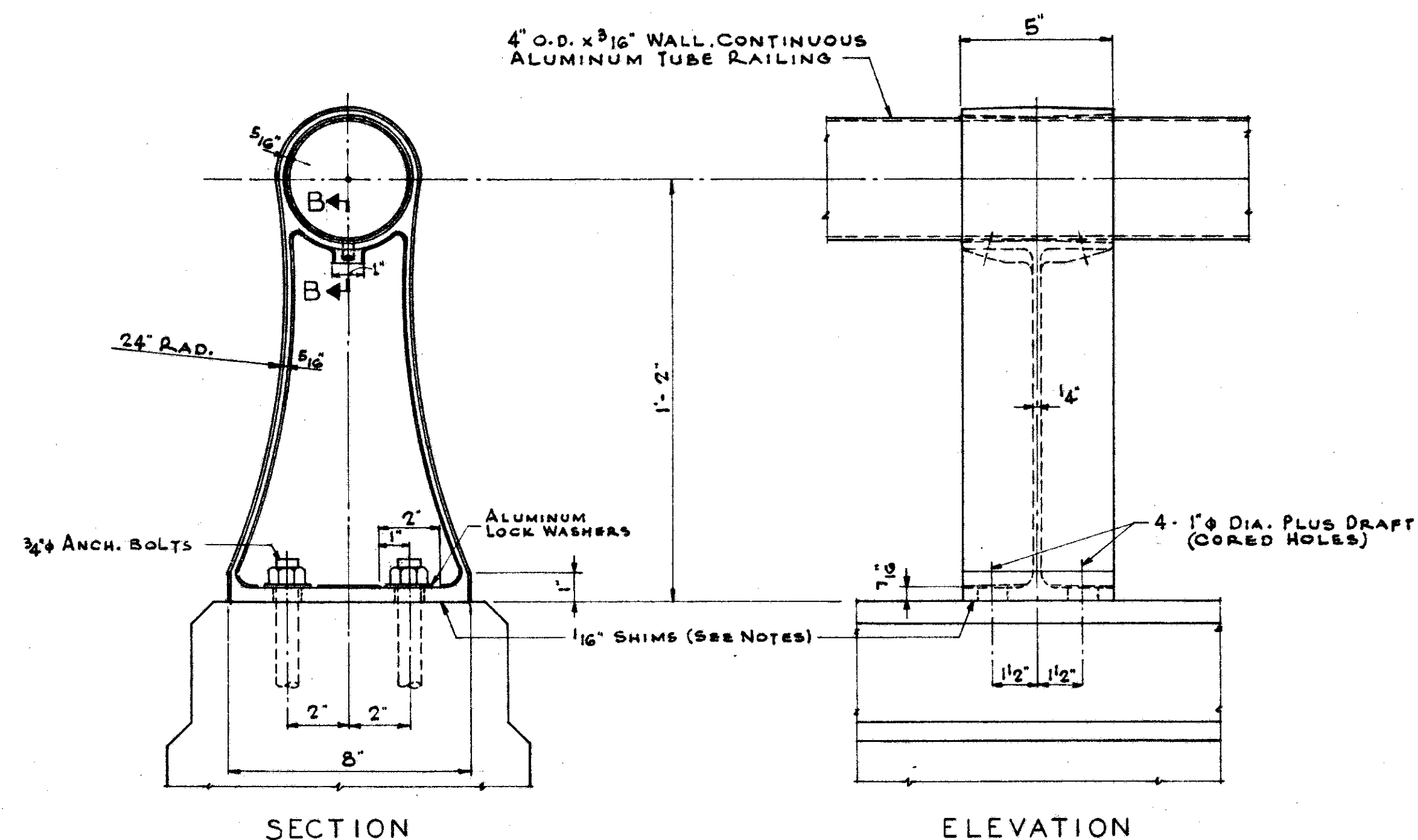
ELEVATION - HANDRAIL & PYLON
3/4" = 1'-0"



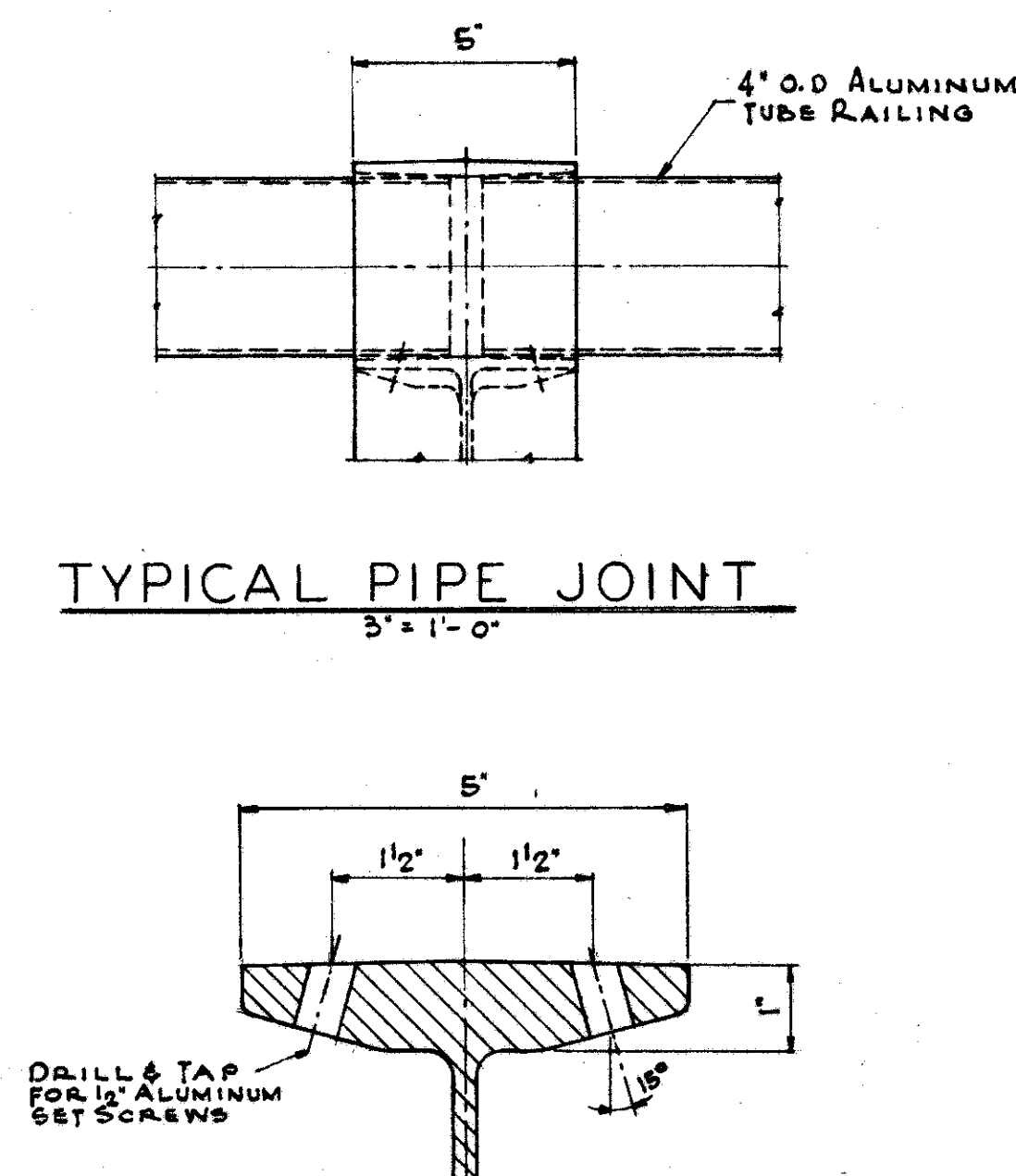
DETAIL A
3" = 1'-0"



SECTION A-A
FULL SIZE



HANDRAIL DETAILS
3" = 1'-0"



SECTION B-B
6" = 1'-0"

RAILING NOTES

RAILING ALUMINUM
THE VARIOUS MEMBERS OF AN ALUMINUM RAILING SHALL CONFORM TO THE FOLLOWING SPECIFICATION:

	ASTM	ALLOY
DESIGNATION		
EXTRUDED TUBES	B 235-54T	6S11A-T6
CAST RAIL POSTS	B 26-OR B108-54T	SG 70A-T6
BOLTS, NUTS, SCREWS	B 211-54T	CG 42A-T4
WASHERS	B 209-54T	CLAD CG 42A-T4
SHIMS	B 209-54T	990A-0

POSTS

THE POSTS SHALL BE PLACED NORMAL TO THE GRADE LINE. BEFORE ERECTION THE BOTTOM OF EACH POST SHALL BE THOROUGHLY COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND SUCH AS "ALUMILASTIC" OR AN APPROVED EQUIVALENT.

SHIMS

SHIMS SHALL BE USED WHERE NECESSARY FOR VERTICAL ALIGNMENT. THEY SHALL BE OF ALUMINUM ALLOY, 5"x8"x1/16" THICK. THE SURFACE IN CONTACT WITH THE CONCRETE SHALL BE THOROUGHLY COATED WITH AN ALUMINUM IMPREGNATED CAULKING COMPOUND (ALUMILASTIC OR EQUAL).

ANCHOR BOLTS

ANCHOR BOLTS SHALL BE 3/4" & ALUMINUM BOLTS, THREADED AND FITTED WITH ALUMINUM NUTS AT BOTH ENDS, AND EMBEDDED 1'-0" MIN. INTO CONCRETE. THE BOLT AND THE EMBEDDED NUT SHALL BE COATED WITH ZINC CHROMATE PAINT AND ALLOWED TO DRY BEFORE INSTALLATION. CARE SHALL BE EXERCISED IN PLACING THE ANCHOR BOLTS TO INSURE CORRECT HORIZONTAL ALIGNMENT OF THE RAILING.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

HANDRAIL & PYLON DETAILS
BRIDGE NO. SU-21-II
U.S. 21 UNDER G.H. 99 JOHNSON ROAD
SUMMIT CO. STA. 56+36.73
SEC. SU-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.C.	R.N.	R.N.	M.C.	M.C.	8-25-55	

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP.	BENDING DIAGRAMS				MARK	NO.	LENGTH	WEIGHT	SHP.	BENDING DIAGRAMS				MARK	NO.	LENGTH	WEIGHT	SHP.
SUPERSTRUCTURE									PIER #3									ABUTMENTS (CONT.)				
S601	401	32'-0"	19,274	S					P903	22	34'-6"	2,581	S					A517	8	6'-11"	58	B
S501	510	34'-10"	18,744	S					P801	2	36'-6"	195	B					A518	24	3'-4"	83	S
S502	401	33'-10"	14,150	S					P802	2	34'-8"	185	B					A521	8	3'-9"	31	S
S503	96	25'-0"	2,503	S					P803	2	30'-6"	163	S					A523	8	4'-6"	38	S
S504	402	6'-1"	2,550	B					P804	2	31'-0"	166	B					A525	4	2'-6"	10	S
S505	402	5'-3"	2,200	B					P807	48	18'-3"	2,336	S					A527	56	11'-9"	686	B
S506	402	3'-11"	1,642	B					P808	4	12'-0"	128	S									8,064
S401	120	11'-8"	936	S					P809	6	13'-0"	208	B									
S402	16	10'-6"	112	S					P810	48	6'-4"	811	B									
			62111						P501	6	28'-0"	175	S									
									P502	70	13'-8"	998	B									
									P504	8	8'-2"	68	B									
PIER #1									REPLACEMENT BARS													
P903	22	34'-6"	2,581	S					R901	1	6'-10"	23	S									
P801	2	36'-6"	195	B					R801	1	6'-6"	18	S									
P802	2	34'-8"	185	B					R601	2	5'-11"	18	S									
P803	2	30'-6"	163	S					R501	3	5'-7"	18	S									
P804	2	31'-0"	166	B					R401	1	5'-5"	4	S									
P805	48	20'-1"	2,570	S																		
P808	4	12'-0"	128	S																		
P809	6	13'-0"	208	B																		
P810	48	6'-4"	811	B																		
P501	6	28'-0"	175	S																		
P502	70	13'-8"	998	B																		
P504	8	8'-2"	68	B																		
P401	41	7'-2"	196	B																		
			8444																			
PIER #2									ABUTMENTS													
P901	2	36'-6"	249	B					A901	30	34'-2"	3,485	S									
P902	2	34'-8"	236	B					A401	40	7'-4"	196	B									
P903	22	34'-6"	2580	S																		
P904	2	30'-6"	207	S																		
P905	2	31'-0"	211	B																		
P906	4	12'-0"	163	S																		
P907	6	13'-0"	265	B																		
P806	48	19'-3"	2,465	S																		
P810	48	6'-4"	811	B																		
P501	6	28'-0"	175	S																		
P502	54	13'-8"	722	B																		
P504	8	8'-2"	68	B																		
P401	41	7'-2"	196	B																		
			8348																			

S505

S504

S506

P801 & P901

P802 & P902

P801, P802, P901, P902

P804

P809

P402

P502

P503

P502 & P503

SPIRAL REINFORCING STEEL						
MARK	NO.	CORE DIAM. O-O SPIRAL	LENGTH	PITCH	NO. OF TURNS	WEIGHT
SP401	3	32"	16'-9 ³ / ₈ "	42"	46	954#
SP402	3	32"	15'-11 ³ / ₈ "	42"	46	909#
SP403	3	32"	14'-11 ⁵ / ₈ "	42"	43	858#

SPIRAL REINFORCING BARS:

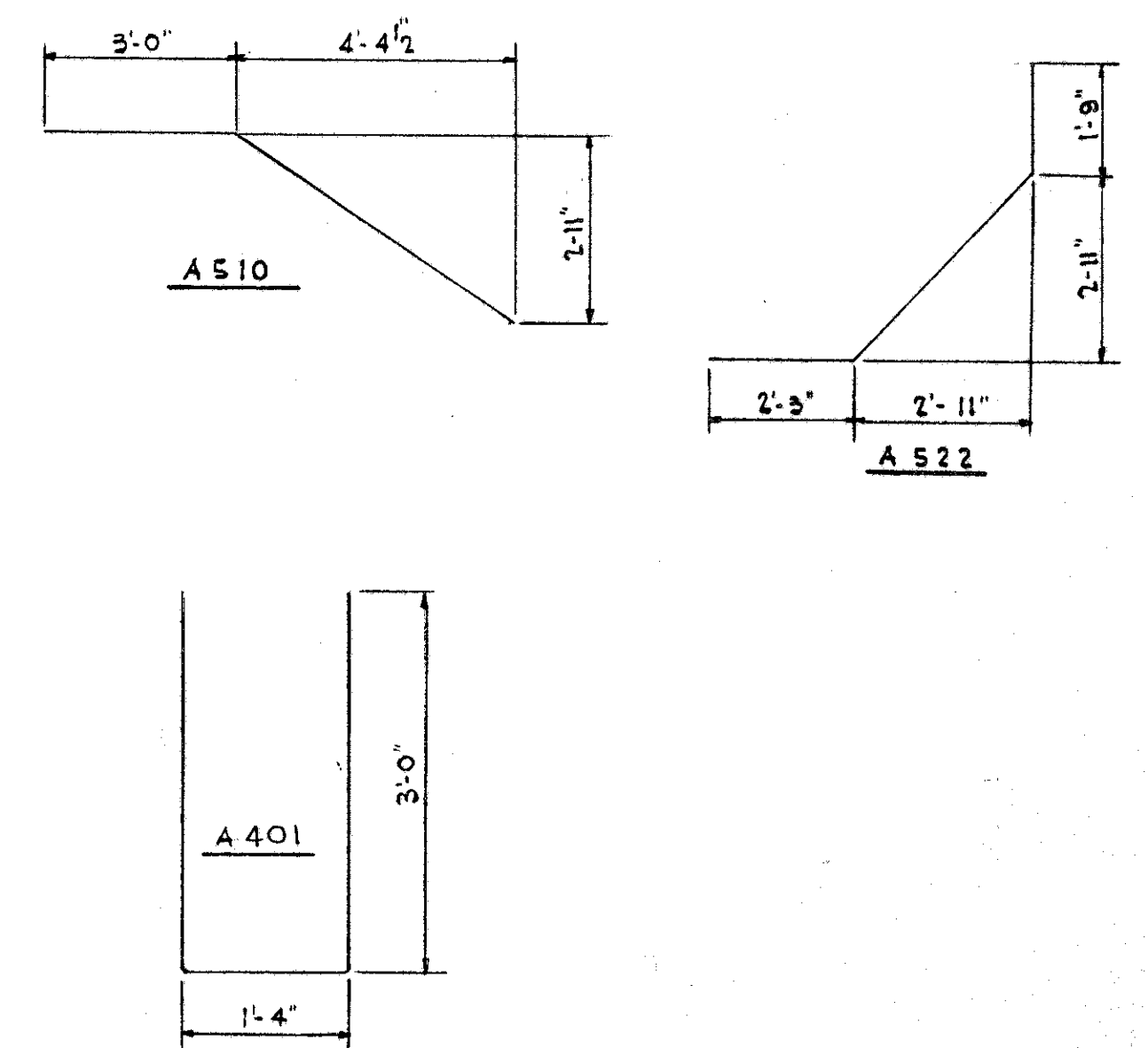
THE "LENGTH" SHOWN IN THE STEEL LIST FOR THE SPIRAL BAR IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP.

THE "NO. OF TURNS" SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE "LENGTH" DIVIDED BY THE PITCH PLUS 3 TURNS (TOTAL NUMBER OF CLOSED COILS), EXPRESSED AS THE NEAREST WHOLE NUMBER.

SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM S-4.

1/2 CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT.

FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.68 LB. PER LIN. FT. OF SPACER, SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF THE COIL. THE NUMBER OF POUNDS OF THESE SPACERS, BASED ON 0.68 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.



NOTE:
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A700 IS A NO. 7 SIZE BAR AND A1014 IS A NO. 10 SIZE.

CHARLES E. DE LEUW
CONSULTING ENGINEER
CHICAGO ILLINOIS

REINFORCING STEEL LIST

BRIDGE NO. SU-21-11
U.S. 21 UNDER C.H. 99 JOHNSON ROAD
SUMMIT CO. STA. 56+37.25
SEC. SU-21

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.A.E.H.	A.L.B.		E.S.M.	M.C.	8-25-55	