FED. AID PROJ. NO.	FED. ROAD DIST. NO.	STATE	COUNTY	File DOCKET NO.	ROUTE NO	SHEET NO.	TOTAL SHEETS
	14	S.C.	Clarendon	14.361	301	1	54

INDEX

SHEET NO. 1 DESCRIPTION
4 TITLE SHEET
5-37 PLANS
53-54 RECAPITULATION SHEETS
2 Pouring Record
3 Pile Record
38 Summary of Quantities
39-41 Sketches Showing changes on Culverts
42-52 X-Sections on Culverts

SOUTH CAROLINA STATE HIGHWAY DEPARTMENT

FINAL CONSTRUCTION PLANS

BRIDGE

OVER Black River & Eleven Culverts on U.S. Rt. 301 (2 Culv. Deleted)

File DOCKET NO. 14361 F.A.PROJ. NO. F-330 (5)

COUNTY Clarendon

ON RT. 301 BETWEEN Manning AND Turbeville

CONTRACTOR Dickerson, Inc.

TYPE OF BRIDGE Reinforced Concrete & Structural Steel

On Culverts - Extending Culverts - Reinforced Concrete

BRIDGE ENGINEER W. J. GOODING

BRIDGE FIELD ENGINEER

RESIDENT ENGINEER R. M. FALLAW

PROGRESS DATA

CONTRACT AWARDED Jan. 27 19 64

WORK BEGAN Feb. 17 19 64

PROJECT ACCEPTED 19

NOTES TO RESIDENT ENGINEER:

Notes on recapitulation sheets should be read carefully and complied with in full. The Resident Engineer should personally check the plans against the following list:—

	RES. ENG'R. CHECK	COL'A. OFFICE CHECK
1. Ink drawings and computations of all excavation, ~~showing division of Dry, Wet and Rock excavation.~~	✓	✓
2. Ink drawings on translucent paper of pile bents or foundation piles and pile record, so arranged that the location of each pile, its length, penetration and bearing capacity is shown	✓	✓
3. Ink drawings on translucent paper of all changes from plans, with computations of changes in Quantities	✓	✓
4. Summary of Quantities	✓	✓
5. Cement record ~~to substantiate adjustments~~		
6. P.R. 47 - 2 copies (Federal Aid Project only)		
7. Force Account Claims and bills (if necessary)		
~~8. Adjustment of cement cost due to variation in yield (5 copies)~~	~~—~~	~~—~~
~~9. Cement Invoices accompanying adjustments~~	~~—~~	~~—~~
10. Freight Bills and Register		
11. Overrun and Underrun sheets (2 copies)		
12. Property Releases (if necessary)		
13. Estimate (5 copies)		
14. Statement of the amount to be deducted due to overtime		
15. Letter of Transmittal		
16. Final Roadway Profile		
17. Tie between S.C.H.D. Datum and Mean Sea Level		

Overruns and Underruns are to be explained in such a manner as to leave no doubts as to the reasons.

Following data to be inked on front of each note book:— Docket Number (as shown by original plans), Book Number, Contents, Contractor, Resident Engineer, Date Completed, Type of Bridge.

THE FINAL NOTE BOOKS, PROPERLY MARKED AND DESCRIBED, SUBMITTED HEREWITH AS A PART OF THESE FINAL CONSTRUCTION PLANS ARE AS FOLLOWS:—

BOOK NO. 1 - Original X-Sections On Culverts

BOOK NO. 2 - Final X-Sections on Culverts

BOOK NO. 3 - Pouring Records & Pile Records

BOOK NO. 4 - Earthwork Computation Sheets on Culverts

BOOK NO.

DIARY

DATA CORRECT R. M. Fallaw (RESIDENT ENGINEER) 3/12/65 DATE

WBB PLANS AND QUANTITIES CHKD. R. H. Billings (BRIDGE ESTIMATE ENGINEER) 4-6-65 DATE

EXAMINED W. E. Crum (DESIGNING ENGINEER) 10-14-65 DATE

SOURCE OF SUPPLY OF MATERIAL

ITEM	MANUFACTURER	GRADE
SAND	Becker Co. Sand & Gr. Hagood S.C.	#10
CRUSHED STONE		
GRAVEL	Becker Co. Sand & Gr. Hagood, S.C.	#4
CEMENT	Carolina Giant Harleyville, S.C.	Type II
REINF. STEEL	Carolina Rebar Catawba S.C.	Intermediate
STRUCT. STEEL	Owen Steel Co. Columbia S.C.	
TREATED TIMBER		
STEEL H PILING		
TR. STRUCT. TIMBER		
HARDWARE	Carolina Steel Corp. Greensboro, N.C.	
EXPANSION PLATES	Old North Mfg. Co. Lenoir N.C.	
PAINT	Piedmont Paint Co. Greenville S.C.	
WATERPROOFING		
HANDRAIL (STEEL)		
Pre-Cast Piling	S&G Prestress Co. Wilmington N.C.	Class X-Conc.
Spillway Assemblies	Sonoco Products Hartsville, S.C.	

TABLE OF OVERRUNS AND UNDERRUNS

ITEM	UNIT	PLAN QUANTITIES	RES. ENGINEER QUANTITIES	PAY QUANTITIES COL'A. OFFICE	OVERRUN	UNDERRUN	EXPLANATION
EXCAVATION							
DRY EXCAVATION	C.Y.						
WET "	C.Y.						
ROCK "	C.Y.						
WET AND DRY EXCAV.	C.Y.		502		162		Under-estimated, also
Unclassified Excavation (Culverts)	C.Y.	340	(519)		(179)		~~Final Quantities are x-Section Measurements, along~~ with changes being made on three Culverts. (Note: 2 deleted Culverts had only Small Plan Exc.)
CEMENT							
CLASS "AA" CONCRETE	C.Y.						
CLASS "A" CONCRETE (Bridge)	C.Y.	379.4	379.6		0.2		Method "A" Used at End of Flare Curbs
CLASS "A" CONCRETE (Culverts)	C.Y.	239.5	236.8			2.7	Two Culverts were deleted & three others were changed. (-2.7 being net difference)
REINFORCING STEEL							
REINFORCING STEEL (Bridge)	LBS.	67,912	68,136 / 67,912		224		For additional anchor bolts, quantity omitted by mistake on Plans.
REINFORCING STEEL (Culverts)		35,578	34,097			1481	Two Culverts were eliminated along with changes being made on three others.
STRUCTURAL TIMBER							
TREATED STRUCT. TIMBER	M.B.M.						
UNTREATED STRUCT. TIMBER	M.B.M.						
HARDWARE							
HARDWARE	LBS.						
STRUCTURAL STEEL							
STRUCTURAL STEEL (New)	LBS.	~~27,800~~ 27,500	27,500		4,700		Plans in error — should have been 27,500 #.
STEEL SUPERSTRUCTURE	L.SUM	Nec	100%				
~~STRUCTURAL STEEL (SALV.)~~	~~L.S.~~	~~108,400~~	~~108,400~~				
PILING							
UNTREATED TIMBER PILING	L.F.						
CREOSOTED " "	L.F.						
CUT-OFF C.T. PILING @ 40 %	L.F.						
CUT-OFF C.T. PILING @ 25 %	L.F.						
14 IN. PRE-CAST R.C. PILING	L.F.	2180	2180				
IN. PRE-CAST R.C. PILING	L.F.						
STEEL H PILING (IN. LBS.)	L.F.						
PAINTING							
FIELD PAINTING STRUCTURAL STEEL	L.SUM						
HANDRAIL							
METAL HANDRAIL	L.F.						
PIPE "	L.F.						
TIMBER "	L.F.						
OTHER ITEMS							
8" Pipe - Slope Drains	L.F.	75	46 58			17 29	Slopes are ~~steeper than 2:1~~ Over-est'd.
Intake Spillway Assemblies	Each	4	4				

(NO S.A. WBB)

POURING RECORD ON ~~DOCKET~~ File NO. 14.361

Black-River BRIDGE & Culverts on U.S.#301

Fed. Road Div. No.	State	County	~~Docket~~ File No.	Route No.	Sheet No.	Total Sheets
3	S.C.	Clarendon	14.361	301	2	54

DATE	PART OF STRUCTURE	MATERIAL RECORD: CEMENT TYPE	CEMENT BRAND	COARSE AGGREGATE TYPE	COARSE AGGREGATE SOURCE	SAND SOURCE	APPROX QUANT. C.Y.	THERO. BAGS REQ'D	TOTAL BAGS USED	CEMENT NOT TO BE ADJUSTED: PAR. 7IG 5 (a) WASTE	BEYOND PAY LINES	PAR. 7IG 5(c) OVER OR UNDER THEO	CEMENT TO BE ADJUSTED
8/20	Caps Bt# 1 x 2 Lt.	II	Giant	#4	Becker Co.	Becker Co.	4.60	28.9	28.9				
8/14	Caps Bt# 3 x 4 Lt.	"	"	"	"	"	4.60	28.9	29.4				
8/18	Caps Bt# 5 x 6 Lt.	"	"	"	"	"	4.60	28.9	29.4				
8/21	Caps Bt# 7 x 8 Lt.	"	"	"	"	"	4.60	28.9	28.9				
8/27	Caps Bt# 9 x 10 Lt.	"	"	"	"	"	6.90	43.1	45.3				
8/21	Caps Bt# 12 x 13 Lt.	"	"	"	"	"	4.60	28.9	29.7				
9/10	Caps Bt# 14 x 15 Lt.	"	"	"	"	"	4.60	28.9	29.7				
9/11	Caps Bt# 16 x 17 Lt.	"	"	"	"	"	4.60	28.9	29.4				
8/25	Caps Bt# 19-21 Rt.	"	"	"	"	"	6.90	43.1	45.3				
9/29	Caps Bt# 5 Rt.	"	"	"	"	"	2.30	14.4	14.4				
9/24	Caps Bt# 4 & 6 Rt.	"	"	"	"	"	6.90	43.1	45.3				
9/29	Caps Bt# 8 & 9 Rt.	"	"	"	"	"	4.60	28.9	29.4				
9/25	Caps Bt# 10 & 11 Rt.	"	"	"	"	"	4.60	28.9	29.7				
9/16	Caps Bt# 11-12 & 13 Rt.	"	"	"	"	"	6.90	43.1	43.8				
9/18	Caps Bt# 14-15 & 16 Rt.	"	"	"	"	"	6.90	43.1	45.3				
10/13	S Pan # 1 Lt.	"	"	"	"	"	15.7	98.1	100.0				
10/19	S Pan # 2 Lt.	"	"	"	"	"	14.6	91.2	93.8				
10/21	S Pan # 3 Lt.	"	"	"	"	"	14.6	91.2	93.8				
10/21	S Pan #4 Lt.	"	"	"	"	"	14.6	91.2	93.8				
10/28	S Pan #5 Lt.	"	"	"	"	"	14.6	91.2	93.8				
10/29	S Pan #6 Lt.	"	"	"	"	"	14.6	91.2	93.8				
10/31	S Pan #7 Lt.	"	"	"	"	"	14.6	91.2	93.8				
11/3	S Pan #8 Lt.	"	"	"	"	"	15.7	98.1	100.0				
11/5	S Pan #8 Rt.	"	"	"	"	"	15.7	98.1	100.0				
11/6	S Pan #9 Rt.	"	"	"	"	"	14.6	91.2	92.5				
11/11	S Pan #6 Rt.	"	"	"	"	"	14.6	91.2	93.8				
11/12	S Pan #5 Rt.	"	"	"	"	"	14.6	91.2	93.8				
11/18	S Pan #4 Rt.	"	"	"	"	"	14.6	91.2	93.8				
11/19	S Pan #3 Rt.	"	"	"	"	"	14.6	91.2	93.8				
11/19	S Pan #2 Rt.	"	"	"	"	"	14.6	91.2	93.8				
11/25	S Pan #1 Rt.	"	"	"	"	"	15.7	98.1	100.0				
11/9	Curb S Pan # 1 & 2 Lt.	"	"	"	"	"	5.5	34.3	35.0				
11/10	Curb S Pan # 3 & 4 Lt.	"	"	"	"	"	5.4	33.8	34.4				
11/11	Curb S Pan # 5-6 7 & 8 Lt.	"	"	"	"	"	10.9	68.1	68.8				
11/18	Rail S Pan # 3 & 4 Lt.	"	"	"	"	"	4.5	28.1	28.1				
12/2	Rail S Pan # 5 & 6 Lt.	"	"	"	"	"	2.2	13.8	15.6				
12/3	Rail S Pan # 7 & 8 Lt.	"	"	"	"	"	2.2	13.8	13.8				
11/19	Curb S Pan # 7 & 8 Rt.	"	"	"	"	"	5.5	34.3	35.0				
11/25	Curb S Pan # 5 & 6 Rt.	"	"	"	"	"	5.4	33.8	35.0				
12/2	Curb S Pan # 3 & 4 Rt.	"	"	"	"	"	5.4	33.8	35.0				
12/8	Curb S Pan # 1 & 2 Rt.	"	"	"	"	"	5.5	34.3	35.0				
12/11	Rail S Pan # 5-6 7 & 8 Rt.	"	"	"	"	"	4.5	28.1	28.1				
12/16	Rail S Pan # 3 & 4 Rt.	"	"	"	"	"	2.2	13.8	15.6				
12/17	Rail S Pan # 1 & 2 Rt.	"	"	"	"	"	2.2	13.8	13.8				
12/22	Flare Curbs (2)	"	"	"	"	"	.9	5.6	5.6				
1/5	Flare Curbs (2)	"	"	"	"	"	.9	5.6	5.6				
	Method "A" Used at ends of Flare Curb	Total Conc. for (4)					.2	1.3	1.3				
	Pouring Record - Black River Bridge See Book #3 Sheets # 31 - 56												
	Total Conc. on Bridge						379.6						

CARRIED FORWARD

DATE	PART OF STRUCTURE	MATERIAL RECORD: CEMENT TYPE	CEMENT BRAND	COARSE AGGREGATE TYPE	COARSE AGGREGATE SOURCE	SAND SOURCE	APPROX QUANT. C.Y.	THERO. BAGS REQ'D	TOTAL BAGS USED	CEMENT NOT TO BE ADJUSTED: PAR. 7IG 5 (a) WASTE	BEYOND PAY LINES	PAR. 7IG 5(c) OVER OR UNDER THEO	CEMENT TO BE ADJUSTED
	Single 10'x8' Culvert Sta. 4+30												
5/29	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	11.20	70.0	71.9				
5/29	Footing Rt.	"	"	"	"	"	13.00	81.2	84.3				
6/29	Barrel Lt.	"	"	"	"	"	15.30	95.6	96.9				
6/19	Barrel Rt.	"	"	"	"	"	18.40	115.0	117.1				
							57.90						
	Single 6'x5' Culvert Sta. 27+50												
4/24	Footing Rt.	II	Giant	#4	Becker Co.	Becker Co.	3.68	23.0	23.4				
4/20	Footing Lt.	"	"	"	"	"	3.68	23.0	23.1				
5/15	Barrel Lt.	"	"	"	"	"	2.97	18.6	18.8				
5/15	Barrel Rt.	"	"	"	"	"	2.97	18.6	18.8				
							13.30						
	Single 6'x4' Culvert Sta. 81+00												
6/6	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	3.63	22.7	23.1				
5/6	Footing Rt.	"	"	"	"	"	2.93	18.3	18.8				
6/25	Barrel Lt.	"	"	"	"	"	4.40	27.5	27.5				
6/11	Barrel Rt.	"	"	"	"	"	2.60	16.3	16.3				
							13.56						
	Single 5'x3' Culvert Sta. 107+77												
4/6	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	3.55	22.2	23.4				
4/16	Footing Rt.	"	"	"	"	"	4.75	29.7	29.7				
5/13	Barrel Lt.	"	"	"	"	"	2.95	18.4	18.8				
5/13	Barrel Rt.	"	"	"	"	"	4.05	25.3	25.9				
							15.30						
	Single 6'x5' Culvert Sta. 108+14												
4/17	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	5.23	32.7	33.4				
4/21	Footing Rt.	"	"	"	"	"	5.23	32.7	33.4				
5/7	Barrel Lt.	"	"	"	"	"	5.42	33.9	34.3				
5/7	Barrel Rt.	"	"	"	"	"	5.42	33.9	34.3				
							21.30						
	Single 6'x5' Culvert Sta. 125+93												
5/21	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	4.58	28.6	28.7				
5/19	Footing Rt.	"	"	"	"	"	4.58	28.6	28.7				
6/2	Barrel Lt.	"	"	"	"	"	5.18	32.4	32.8				
5/26	Barrel Rt.	"	"	"	"	"	5.18	32.4	32.8				
							19.52						
	Single 5'x3' Culvert Sta. 132+15												
4/1	Footing Rt.	II	Giant	#4	Becker Co.	Becker Co.	3.72	23.2	24.1				
4/3	Footing Lt.	"	"	"	"	"	3.72	23.2	24.1				
5/7	Barrel Lt.	"	"	"	"	"	3.18	19.9	20.0				
5/7	Barrel Rt.	"	"	"	"	"	3.18	19.9	20.0				
							13.80						
	Single 6'x5' Culvert Sta. 137+44												
3/23	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	4.51	28.2	29.4				
3/27	Footing Rt.	"	"	"	"	"	4.51	28.2	29.4				
5/1	Barrel Lt.	"	"	"	"	"	4.31	26.9	27.5				
5/1	Barrel Rt.	"	"	"	"	"	4.31	26.9	27.5				
							17.64						
							172.32						

CARRIED FORWARD

DATE	PART OF STRUCTURE	MATERIAL RECORD: CEMENT TYPE	CEMENT BRAND	COARSE AGGREGATE TYPE	COARSE AGGREGATE SOURCE	SAND SOURCE	APPROX QUANT. C.Y.	THERO. BAGS REQ'D	TOTAL BAGS USED	CEMENT NOT TO BE ADJUSTED: PAR. 7IG 5 (a) WASTE	BEYOND PAY LINES	PAR. 7IG 5(c) OVER OR UNDER THEO	CEMENT TO BE ADJUSTED
	Single 6'x4' Culvert Sta. 170+10												
5/12	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	8.74	23.4	24.1				
5/13	Footing Rt.	"	"	"	"	"	3.01	18.9	20.4				
5/20	Barrel Lt.	"	"	"	"	"	3.86	24.1	24.4				
5/20	Barrel Rt.	"	"	"	"	"	3.69	23.1	23.1				
							14.30						
	Single 8'x3' Culvert Sta. 296+10												
6/4	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	5.05	31.6	32.2				
5/29	Footing Rt.	"	"	"	"	"	5.06	31.6	32.2				
6/11	Barrel Lt.	"	"	"	"	"	4.15	25.9	26.6				
6/4	Barrel Rt.	"	"	"	"	"	4.15	25.9	25.9				
							18.40						
	Double 6'x5' Culvert Sta. 296+30												
3/5	Footing Lt.	II	Giant	#4	Becker Co.	Becker Co.	8.06	50.4	53.1				
3/11	Footing Rt.	II	"	"	"	"	8.06	50.4	53.1				
4/23	Barrel Rt.	"	"	"	"	"	7.85	49.1	50.0				
4/24	Barrel Lt.	"	"	"	"	"	7.85	49.1	50.0				
							31.82						
							172.32						
	Total Conc. in Culverts includes C.O. Walls - # All Conc. is to be Below Bottom of Slabs						236.84						

Note: Single 4'x4' Culvert at sta. 147+50 & Single 3'x5 Culvert at Sta. 255+60 were eliminated from Contract. See Letter from State Highway Engineer Dated December 7 - 1964.

Pouring Record - Culverts on Route 301 See Book #3 - Sheets # 1 - 33

Total Conc. in Culverts 236.84

CARRIED FORWARD

GRAND TOTAL

File

PILE RECORD ON DOCKET NO. 14.361

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	301	3	54

Bridge Widening in Black River - U.S. Route # 301

14" SQ Prestressed Piles (Per 10 Blows) WEIGHT OF HAMMER 21500 lbs. TYPE Diesel - Delmag D-12

DATE	BENT NO.	FOOTING	PILE NO.	DIAM. AT BUTT	DIAM. AT TIP	ORIG. LENGTH	BUILD-UP OR SPLICE	TOTAL LENGTH	LENGTH C.O.	NET LENGTH	ELEV. C.O.	ELEV. OF TIP WHEN PLAN BEARING VALUE IS OBTAINED	ELEV. PILE TIP	ELEV. ORIG. GROUND OR BOTTOM OF FOOTING	PEN. IN GROUND OR BELOW FOOTING	* PEN. PER BLOW (See Remarks)	FALL OF HAMMER	BEARING VALUE (As Used)	PAY LENGTH	C.O. @ 40 %	C.O. @ 25 %
8-18-64	1	-	1			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.0625	8'	80 Tons	25'		
8-18-64	1		2			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.0625	8'	80 Tons	25'		
8-21-64	1		3			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.0625	7'	70 Tons	25		
8-21-64	1		4			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.0625	7'	70 Tons	25		
8-17-64	2		1			33		33	0.0	33	45.22	25.0	12.2	39.2	27.0	.0625	8	80 Tons	33		
8-17-64	2		2			33		33	3.5	29.5	45.22	26.0	15.7	39.2	23.5	-	-	Refusal	33		
8-20-64	2		3			33		33	1.0	32.0	45.22	25.0	13.2	39.2	26.0	.1250	8'	68 Tons	33		
8-20-64	2		4			33		33	0.0	33	45.22	25.0	12.2	39.2	27.0	.0625	8'	80 Tons	33		
8-7-64	3		1			33		33	0.0	33	45.28	22.0	12.8	39.3	27.0	.1250	8'	68 Tons	33		
8-7-64	3		2			33		33	0.0	33	45.28	22.0	12.3	39.3	27.0	.0833	7'	64 Tons	33		
8-20-64	3		3			33		33	0.0	33	45.28	23.0	12.3	39.3	27.0	.0625	7'	70 Tons	33		
8-20-64	3		4			33		33	0.0	33	45.28	23.0	12.3	39.3	27.0	.0625	7'	70 Tons	33		
8-10-64	4		1			33		33	0.0	33	45.33	22.0	12.3	39.3	27.0	.1250	8'	68 Tons	33		
8-10-64	4		2			33		33	0.0	33	45.33	20.0	12.3	39.3	27.0	.0625	8	80 Tons	33		
8-21-64	4		3			33		33	0.0	33	45.33	24.0	12.3	39.3	27.0	.1250	8'	68 Tons	33		
8-21-64	4		4			33		33	0.0	33	45.33	24.0	12.3	39.3	27.0	.0833	7'	64 Tons	33		
8-7-64	5		1			33		33	0.0	33	45.37	22.0	12.4	39.4	27.0	.0625	7'	70 Tons	33		
8-10-64	5		2			33		33	4.3	28.7	45.37	24.0	16.6	39.4	22.7	-	-	Refusal	33		
8-21-64	5		3			33		33	0.0	33	45.37	24.0	12.3	39.4	27.0	.0833	7'	64 Tons	33		
8-21-64	5		4			33		33	0.0	33	45.37	24.0	12.3	39.4	27.0	.1250	8'	68 Tons	33		
8-6-64	6		1			33		33	0.0	33	45.41	22.0	12.4	39.4	27.0	.0833	8'	73 Tons	33		
8-6-64	6		2			33		33	0.0	33	45.41	22.0	12.4	39.4	27.0	.0625	8'	80 Tons	33		
9-23-64	6		3			33		33	0.0	33	45.41	23.0	12.4	39.4	27.0	.1667	8'	69 Tons	33		
9-22-64	6		4			33		33	0.0	33	45.41	23.0	12.4	39.4	27.0	.0625	7'	70 Tons	33		
8-6-64	7		1			33		33	0.0	33	45.43	22.0	12.4	39.4	27.0	.1250	8'	68 Tons	33		
8-6-64	7		2			33		33	3.6	29.4	45.43	25.0	16.0	39.4	23.4	.0833	8'	73 Tons	33		
9-22-64	7		3			33		33	0.0	33	45.43	24.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
9-22-64	7		4			33		33	0.0	33	45.43	24.0	12.4	39.4	27.0	.1458	8'	64 Tons	33		
8-11-64	8		1			33		33	2.5	30.5	45.44	25.0	14.9	39.4	24.5	-	-	Refusal	33		
8-11-64	8		2			33		33	0.0	33	45.44	20.0	12.4	39.4	27.0	.0625	7'	70 Tons	33		
9-23-64	8		3			33		33	3.5	29.5	45.44	27.5	15.9	39.4	23.5	-	-	Refusal	33		
9-23-64	8		4			33		33	3.5	29.5	45.44	27.5	15.9	39.4	23.5	-	-	Refusal	33		
8-11-64	9		1			33		33	0.0	33	45.45	23.0	12.5	39.4	27.0	.0833	8'	73 Tons	33		
8-11-64	9		2			33		33	0.0	33	45.45	23.0	12.5	39.4	27.0	.1250	8	68 Tons	33		
9-24-64	9		3			33		33	2.0	31.0	45.45	27.5	14.6	39.4	25.0	-	-	Refusal	33		
9-24-64	9		4			33		33	0.0	33	45.45	25.0	12.5	39.4	27.0	.0625	7'	70 Tons	33		
8-12-64	10		1			33		33	0.0	33	45.44	20.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
8-18-64	10		2			33		33	0.0	33	45.44	22.0	12.4	39.4	27.0	.1667	8'	69 Tons	33		
9-24-64	10		3			33		33	0.0	33	45.44	25.0	12.5	39.4	27.0	.0833	7'	64 Tons	33		
9-24-64	10		4			33		33	0.0	33	45.44	26.0	12.4	39.4	27.0	.1250	8'	68 Tons	33		
8-12-64	11		1			33		33	0.0	33	45.43	23.0	12.4	39.4	27.0	.1458	8'	68 Tons	33		
8-18-64	11		2			33		33	1.0	32	45.43	23.0	13.4	39.4	26.0	.1250	8	68 Tons	33		
8-26-64	11		3			33		33	0.0	33	45.43	23.0	12.4	39.4	27.0	.1250	8'	68 Tons	33		
8-26-64	11		4			33		33	0.0	33	45.43	22.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
8-13-64	12		1			33		33	0.0	33	45.41	22.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
8-19-64	12		2			33		33	0.0	33	45.41	22.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
8-19-64	12		3			33		33	0.0	33	45.41	22.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
8-25-64	12		4			33		33	0.0	33	45.41	22.0	12.4	38.4	26.0	.0625	7'	70 Tons	33		
8-13-64	13		1			33		33	0.0	33	45.37	22.0	12.4	39.4	27.0	.0625	8'	80 Tons	33		
8-19-64	13		2			33		33	0.0	33	45.37	23.0	12.4	39.4	27.0	.0833	7'	64 Tons	33		
8-25-64	13		3			33		33	0.0	33	45.37	22.0	12.4	39.4	25.0	.0625	7'	70 Tons	33		
8-25-64	13		4			33		33	0.0	33	45.37	22.0	12.4	39.4	27.0	.0625	7'	70 Tons	33		
8-14-64	14		1			33		33	0.0	33	45.33	23.0	12.3	39.4	27.0	.0833	7'	64 Tons	33		
8-14-64	14		2			33		33	0.0	33	45.33	23.0	12.3	39.4	27.0	.0833	7'	64 Tons	33		
8-27-64	14		3			33		33	0.0	33	45.33	24.0	12.3	39.4	27.0	.0833	8'	68 Tons	33		
8-27-64	14		4			33		33	0.0	33	45.33	23.0	12.3	39.4	27.0	.0833	8'	73 Tons	33		
8-14-64	15		1			33		33	0.0	33	45.28	22.0	12.3	39.4	27.0	.1250	8'	68 Tons	33		
8-14-64	15		2			33		33	0.0	33	45.28	22.0	12.3	39.4	27.0	.0833	7'	64 Tons	33		
8-27-64	15		3			33		33	0.0	33	45.28	24.0	12.3	39.4	27.0	.0833	8'	73 Tons	33		
8-27-64	15		4			33		33	0.0	33	45.28	24.0	12.3	39.4	27.0	.1250	8'	68 Tons	33		
8-19-64	16		1			33		33	0.0	33	45.22	22.0	12.2	39.4	27.0	.0833	7'	64 Tons	33		
8-18-64	16		2			33		33	0.0	33	45.22	22.0	12.2	39.4	27.0	.0833	8	73 Tons	33		
8-27-64	16		3			33		33	0.0	33	45.22	23.0	12.2	39.4	27.0	.0625	7'	70 Tons	33		
8-27-64	16		4			33		33	0.0	33	45.22	23.0	12.2	39.4	27.0	.0833	7'	64 Tons	33		
8-28-64	17		1			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.1250	8'	68 Tons	25		
8-28-64	17		2			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.0833	7	64 Tons	25		
9-24-64	17		3			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.1250	8'	68 Tons	25		
9-24-64	17		4			25		25	0.0	25	45.15	26.0	20.2	45.0	24.0	.1250	8'	68 Tons	25		
TOTAL						2180													2180		

Pile Record - Black River Bridge
See Book # 3 Sheets # 57-64

Av. elev. of New Piles by Bents — if not given below, it is the same as Pile No. 1 in that Bent:

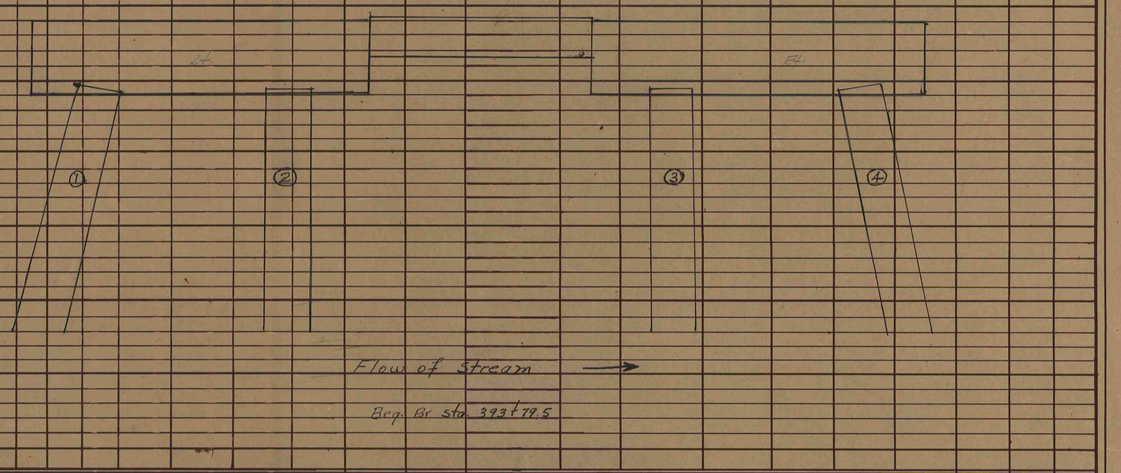
Bt. 2 = 13.3 Bt. 8 = 14.8
Bt. 5 = 13.4 Bt. 9 = 13.0
Bt. 7 = 13.3 Bt. 11 = 12.7

DATE	BENT NO.	FOOTING	PILE NO.	DIAM. AT BUTT	DIAM. AT TIP	ORIG. LENGTH	BUILD-UP OR SPLICE	TOTAL LENGTH	LENGTH C.O.	NET LENGTH	ELEV. C.O.	ELEV. OF TIP WHEN PLAN BEARING VALUE IS OBTAINED	ELEV. PILE TIP	ELEV. ORIG. GROUND OR BOTTOM OF FOOTING	PEN. IN GROUND OR BELOW FOOTING	PEN. PER BLOW	FALL OF HAMMER	BEARING VALUE	PAY LENGTH	C.O. @ 40 %	C.O. @ 25 %

TOTAL
GRAND TOTAL

End Br. Sta. 397+80.5

Sketch of Bent is typical of all Bents # 1 thru # 11



NOTES CONCERNING ANY UNUSUAL FOUNDATION CONDITIONS

BENT NO.	FOOTING	PILE NO.	REMARKS
2		3	These three Piles were stopped due to the fact that they began to show damage to the Pile. All other Piles showing a cut-off were driven until they showed refusal.
7		2	
11		2	

* "Penetration per blow" is to be given on this sheet in decimals of an inch. This is used as "S" in the formula $P = \frac{2WH}{S+C}$. By refering to Notebook # 3 it can be seen that the Res. Eng. placed on this sheet, the "Pen. per 10 blows" in decimals of a foot. Actually, in most cases, this did not affect final Bearing Value.

NOTES:
PAY LENGTH SHOULD INCLUDE ALLOWANCE FOR SPLICING STEEL PILES AND ANY OTHER AUTHORIZED ALLOWANCES.

NUMBERING PILES:
A SKETCH OF BENT OR FOOTING TO BE DRAWN ON THIS SHEET AND PILES TO BE NUMBERED, ALSO FLOW OF STREAM TO BE SHOWN.

PENETRATION PER BLOW: GIVE THIS INFORMATION IN DECIMALS OF AN INCH.

WBB

PILE RECORD _____ DOCKET NO. _____

BRIDGE DEPARTMENT

SUMMARY OF FINAL CONSTRUCTION QUANTITIES

File ~~DOCKET~~ NO. 14.361

PIERS OR BENTS

ITEM	PLAN ELEVATION UPSTREAM	PLAN ELEVATION DNSTREAM	FINAL ELEVATION UPSTREAM	FINAL ELEVATION DNSTREAM	DIFFERENCE UPSTREAM	DIFFERENCE DNSTREAM	DRY EXCAVATION	WET EXCAVATION	ROCK EXCAVATION	TREATED TIMBER PILING	UNTREATED TIMBER PILING	REINFORCED CONC. PILING	STEEL H-PILING	CLASS "A-A" CONCRETE	CLASS "A" CONCRETE	CLASS "B" CONCRETE	REINFORCING STEEL	STRUCTURAL STEEL	TREATED STRUC. TIMBER	WELDING		REMARKS	SHEET REF.
Bent #1			47.49	47.49								100			4.6	1	768						
Bent #2			47.56	47.56								132			4.6	2	768						
Bent #3			47.62	47.62								132			4.6	3	(768) 800						
Bent #4			47.67	47.67								132			4.6	4	768						
Bent #5			47.71	47.71								132			4.6	5	(768) 800						
Bent #6			47.75	47.75								132			4.6	6	768						
Bent #7			47.77	47.77								132			4.6	7	(768) 800						
Bent #8			47.78	47.78								132			4.6	8	768						
Bent #9			47.79	47.79								132			4.6	9	(768) 800						
Bent #10			47.78	47.78								132			4.6	10	768						
Bent #11			47.77	47.77								132			4.6	11	(768) 800						
Bent #12			47.75	47.75								132			4.6	12	768						
Bent #13			47.71	47.71								132			4.6	13	(768) 800						
Bent #14			47.67	47.67								132			4.6	14	768						
Bent #15			47.62	47.62								132			4.6	15	(768) 800						
Bent #16			47.56	47.56								132			4.6	16	768						
Bent #17			47.49	47.49								100			4.6	17	768						
TOTAL												2180			78.2		(13,056) 13280						

SUPERSTRUCTURE

ITEM	PLAN QUANTITIES CONCRETE	PLAN QUANTITIES REIN. STEEL	PLAN QUANTITIES STRUC. STEEL		CONCRETE	REINFORCING STEEL	STRUCTURAL STEEL (LBS.)	STRUCTURAL STEEL (L.S.)	TREATED STRUC. TIMBER	UNTREATED STRUC. TIMBER	WELDING	HARDWARE	WATER PROOFING	14" Square Prest. Piles	L.F. 8" Pipe Slope Drain	Intake Stations Assemblies (Each)	REMARKS	SHEET REF.
		3200	New	Salv.			New	Salv.										
50'-6" End Spans (2)	78.6	13,992	3,700	28,200	78.6	13,992	(2) 3,700	28,200										
50'-0" Inter Spans (4)	220.8	40,734	23800	75,200	220.8	40,734	(2) 23,800	75,200										
Flared Curb & Gutter (4)	1.8	130	19,600		1.8	130									46 (3) 58	4	Method "A" Used at Ends of Flare Curb	
					0.2													
Bent Totals	78.2	13,056			78.2	13,280 (1) 13,056								2180				
TOTAL	379.4	67,912	27,500	103,400	379.6	67,912	27,500	103,400						2180	46	4		

(1) 224# for 84 Anchor Bolts omitted by mistake on Plans.

(2) Mistakes on Plans, corrected after Contract was let.

(3) By letter 3-25-65 (See General File) Res. Eng. says to pay 12' more.

(BRIDGE) 22,800 68,136 58 (3)

WBB

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	F. A. PROJ. NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S C	CLARENDON	14.361	F-330(5)	301	~~5~~ 4	~~33~~ 54

INDEX OF SHEETS

SHEET NO. 1. TITLE
2. TRAFFIC CONTROL DEVICES
2A. CONSTRUCTION IDENTIFICATION SIGNS
3. FLARED CURB AND GUTTER
4. SLOPE DRAINS
5. STANDARD NOTES
6. STANDARD DETAILS
7. BRIDGE PLAN AND PROFILE
8. 14" SQUARE PRESTRESSED CONCRETE PILES
9. 25'-50' SPAN SUPERSTRUCTURE
10. 25'-50' SPAN SUPERSTRUCTURE DETAILS
11. & 12. EXISTING BRIDGE
13.- 21. CULVERT PLAN AND PROFILES
22.- 30. CULVERT DETAILS
31.- 33. CULVERT CROSS SECTIONS

SOUTH CAROLINA
STATE HIGHWAY DEPARTMENT
COLUMBIA

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

FED. AID PROJ. NO. F-330(5)
DOCKET NO. 14.361
ROUTE 301
CLARENDON COUNTY
WIDENING BRIDGE OVER BLACK RIVER
AND
EXTENDING 13 CULVERTS

SINGLE 6'x4' R.C. CULVERT STA. 81+00
EXTEND 9'-0"LT. & 4'-0" RT. SKEWED 45°

SINGLE 6'x5' R.C. CULVERT STA. 27+55
EXTEND 5'-0" LT. & RT.

Deleted
SINGLE 4'x4' R.C. CULVERT STA. 17+50
EXTEND 6'-6" LT. & RT.

SINGLE 10'x8' R.C. CULVERT STA. 4+30
EXTEND 10'-6"LT. & 16'-0"RT. SKEWED 45°

PLACE CONSTRUCTION IDENTIFICATION SIGN AT
APPROX. STA. 3+30 AS DIRECTED BY ENGINEER

SINGLE 5'x3' R.C. CULVERT STA. 107+77
EXTEND 8'-6"LT. & 13'-6" RT.

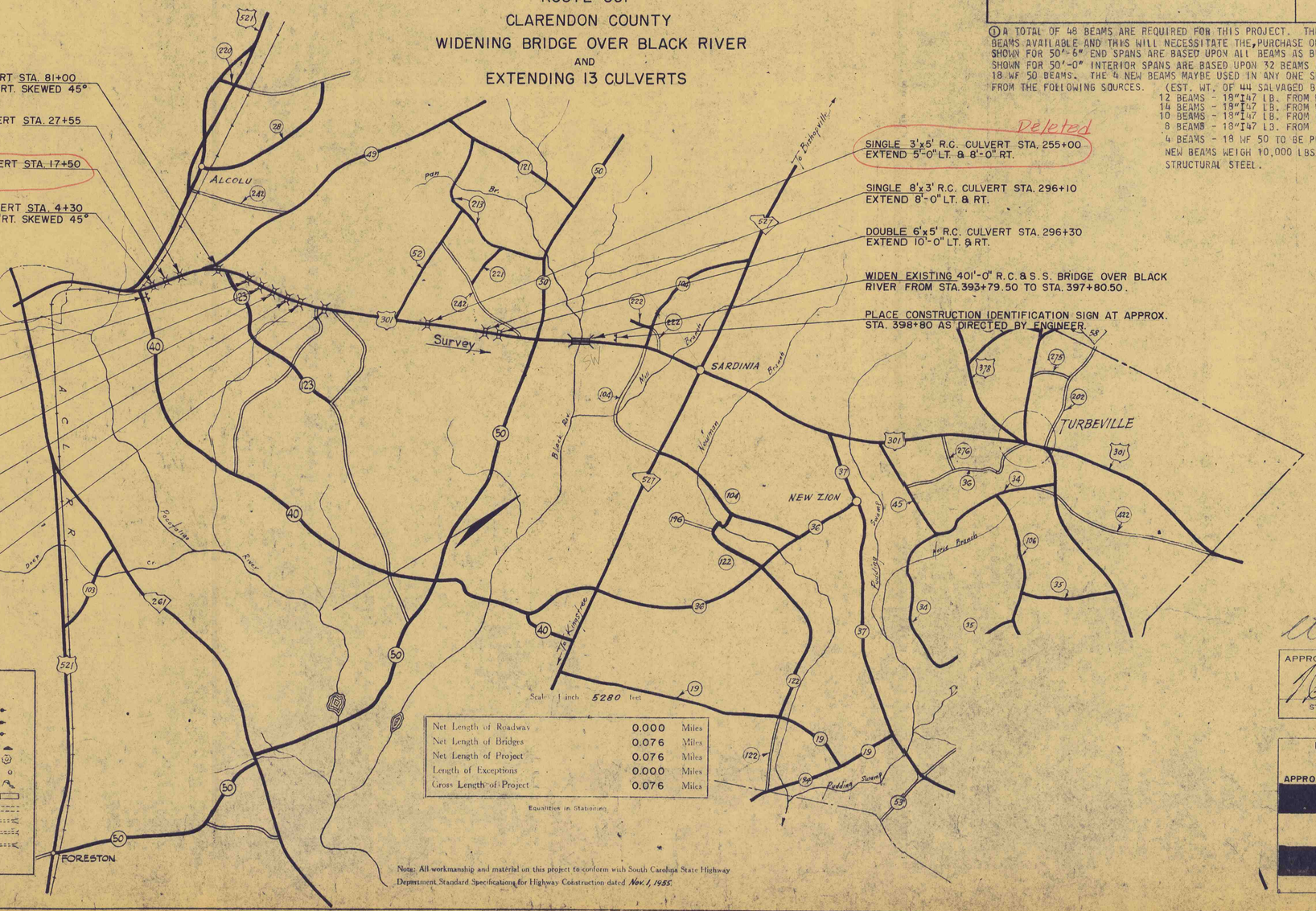
SINGLE 6'x5' R.C. CULVERT STA. 108+14
EXTEND 11'-6"LT. & RT.

SINGLE 6'x5' R.C. CULVERT STA. 125+93
EXTEND 4'-0" LT. & RT.

SINGLE 5'x3' R.C. CULVERT STA. 132+15
EXTEND 9'-6" LT. & RT.

SINGLE 6'x5' R.C. CULVERT STA. 132+44.5
EXTEND 8'-6" LT. & RT.

SINGLE 6'x4' R.C. CULVERT STA. 170+10
EXTEND 8'-6" LT. & 7'-0" RT.



Net Length of Roadway	0.000	Miles
Net Length of Bridges	0.076	Miles
Net Length of Project	0.076	Miles
Length of Exceptions	0.000	Miles
Gross Length of Project	0.076	Miles

Equalities in Stationing

CONVENTIONAL SIGNS

State Line	Trolley Poles
County Line	Power Poles
City or Town Limits	Telephone or Telegraph Poles
Property Line	Marsh
Fence	Trees
Retaining Wall	Brush
Existing Road	Stumps
℄ and R.O.W. Lines of	Buildings
Proposed Road	Bridge
Railroad	Concrete Box Culvert
Levee or Embankment	Pipe Culvert
Guard Rail	Drop Inlet and Culvert
Point of Intersection (P. I.)	Hub on Center Line

Deleted
SINGLE 3'x5' R.C. CULVERT STA. 255+00
EXTEND 5'-0"LT. & 8'-0" RT.

SINGLE 8'x3' R.C. CULVERT STA. 296+10
EXTEND 8'-0" LT. & RT.

DOUBLE 6'x5' R.C. CULVERT STA. 296+30
EXTEND 10'-0" LT. & RT.

WIDEN EXISTING 401'-0" R.C. & S.S. BRIDGE OVER BLACK
RIVER FROM STA. 393+79.50 TO STA. 397+80.50.

PLACE CONSTRUCTION IDENTIFICATION SIGN AT APPROX.
STA. 398+80 AS DIRECTED BY ENGINEER

SUMMARY OF ESTIMATED QUANTITIES

	BRIDGE	CULVERTS	TOTAL	
UNCLASSIFIED EXCAVATION	———	340	340	C.Y.
CONCRETE CLASS "A"	379.4	239.5	618.9	C.Y.
REINFORCING STEEL	67,912	35,578	103,490	LBS.
① STRUCTURAL STEEL (NEW) 27,500	~~22,800~~	———	~~22,800~~ 27,500	LBS.
① ERECTING AND PAINTING SALVAGED STRUCTURAL STEEL	NECESSARY	———	NECESSARY	L.S.
14" SQUARE PRESTRESSED PILING	2,180	———	2,180	L.F.
8" PIPE SLOPE DRAINS	75	———	75	L.F.
INTAKE SPILLWAY ASSEMBLY	4	———	4	EACH

① A TOTAL OF 48 BEAMS ARE REQUIRED FOR THIS PROJECT. THE S.C.H.D. HAS ONLY 44 SALVAGED 18"I47 LB. BEAMS AVAILABLE AND THIS WILL NECESSITATE THE PURCHASE OF 4 NEW (18WF50) BEAMS. THE QUANTITIES SHOWN FOR 50'-6" END SPANS ARE BASED UPON ALL BEAMS AS BEING SALVAGED 18"I47 LB. THE QUANTITIES SHOWN FOR 50'-0" INTERIOR SPANS ARE BASED UPON 32 BEAMS AS BEING SALVAGED 18"I47 LBS. AND 4 NEW 18 WF 50 BEAMS. THE 4 NEW BEAMS MAYBE USED IN ANY ONE SPAN. THE 48 BEAMS WILL BE OBTAINED FROM THE FOLLOWING SOURCES. (EST. WT. OF 44 SALVAGED BEAMS 103,400 LBS. - SEE SPECIAL PROVISIONS)

12 BEAMS - 18"I47 LB. FROM MARION MAINTENANCE SHOP
14 BEAMS - 18"I47 LB. FROM WALTERBORO MAINTENANCE SHOP
10 BEAMS - 18"I47 LB. FROM CAMDEN MAINTENANCE SHOP
8 BEAMS - 18"I47 LB. FROM FLORENCE MAINTENANCE SHOP
4 BEAMS - 18 WF 50 TO BE PURCHASED BY THE CONTRACTOR. THESE 4 NEW BEAMS WEIGH 10,000 LBS. AND ARE INCLUDED IN QUANTITY FOR (NEW) STRUCTURAL STEEL.

Note: All workmanship and material on this project to conform with South Carolina State Highway Department Standard Specifications for Highway Construction dated Nov. 1, 1955.

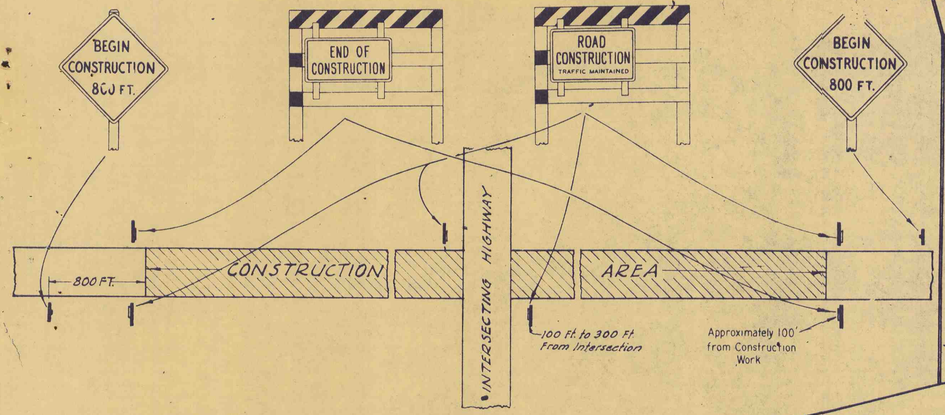
10/8

APPROVED
J. Hendrix 10/29/63
STATE HIGHWAY ENGINEER DATE

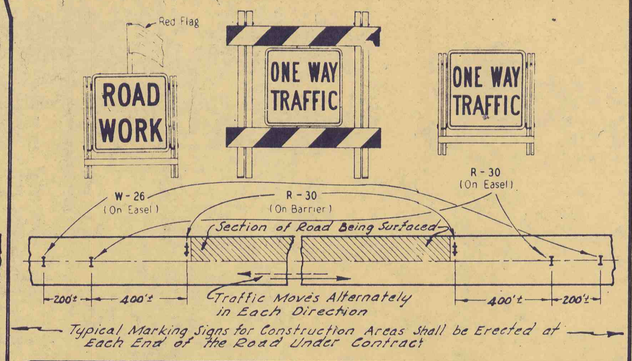
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:
[redacted] [redacted]
DISTRICT ENGINEER DATE
[redacted] [redacted]

Fed. Road Div. No.	State	County	Docket No.	Route No.	Sheet No.	Total Sheets
3	S.C.	Clarendon	14.261	301	5	54

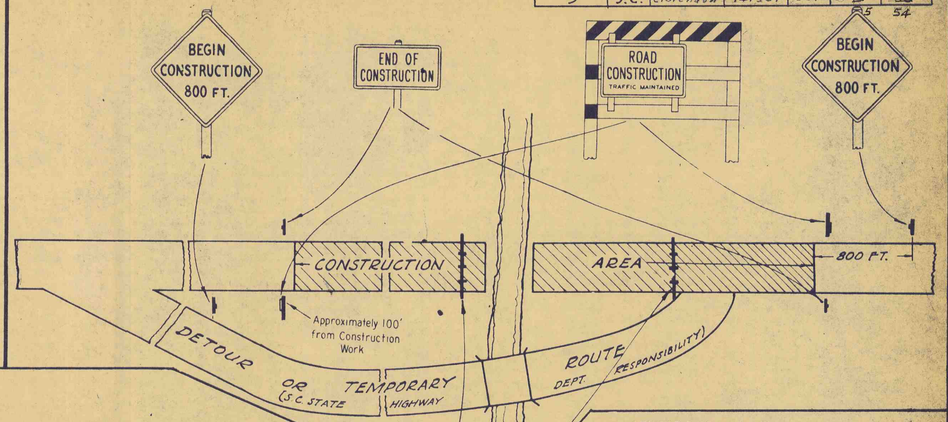
TYPICAL MARKING FOR CONSTRUCTION AREAS



APPLICATION OF STANDARD SIGNS WHEN ROADWAY IS BEING SURFACED



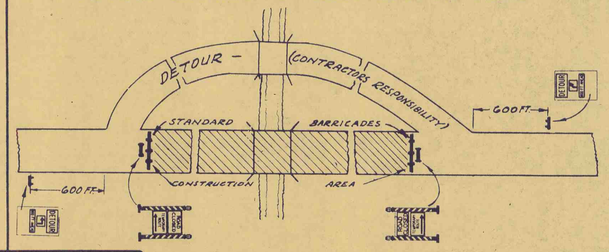
TYPICAL MARKING FOR CONSTRUCTION AREAS



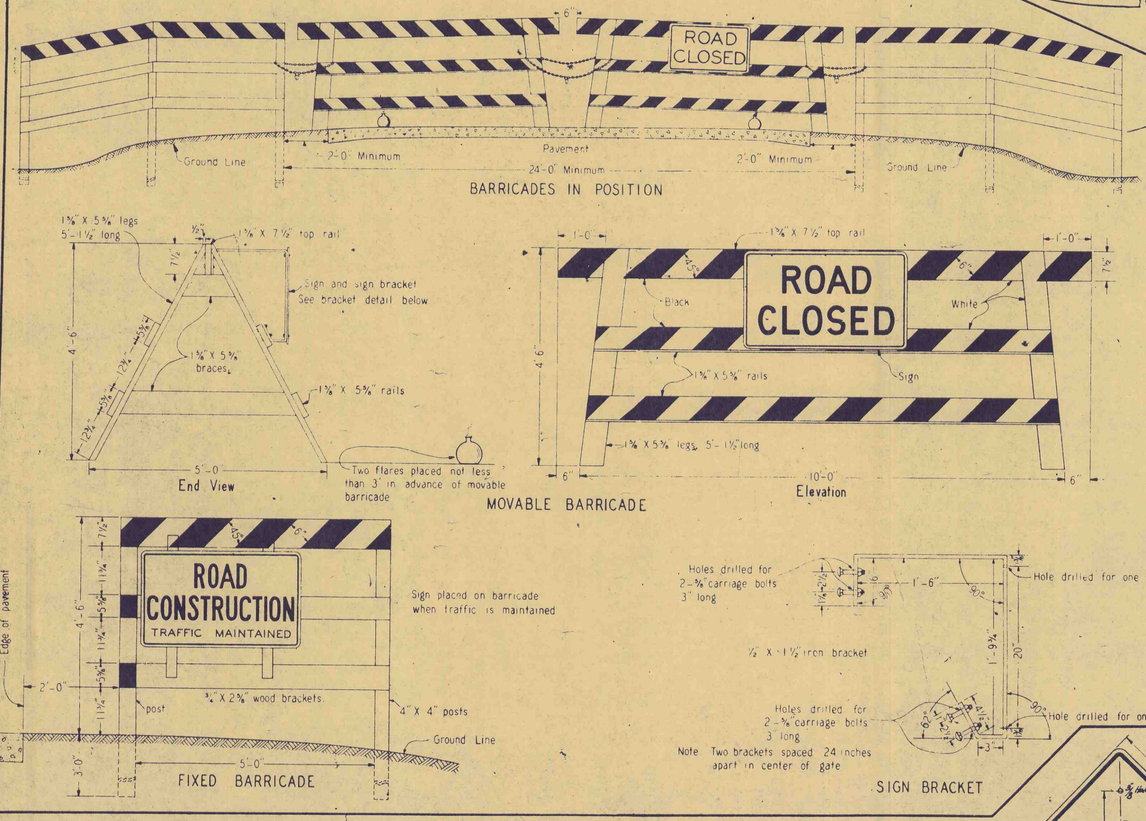
DETOUR 600 FT. AHEAD ASSEMBLY



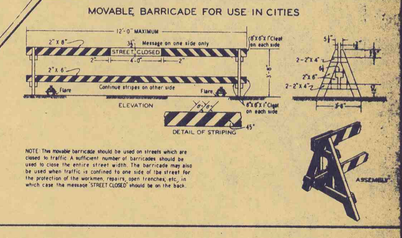
TYPICAL MARKING FOR CONSTRUCTION AREAS



STANDARD BARRICADES

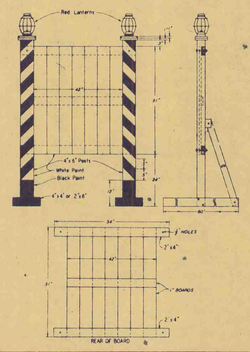


MOVABLE BARRICADE FOR USE IN CITIES



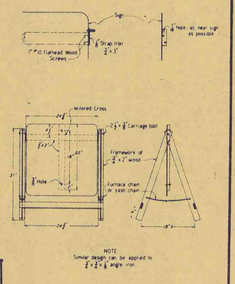
NOTE The movable barricade should be used on streets which are closed to traffic. A sufficient number of barricades should be used to close the entire street width. The barricade may also be used when traffic is confined to one side of the street for the protection of the workmen, repairs, open trenches, etc. in which case the message STREET CLOSED should be on the back.

ROAD CLOSED STANDARD

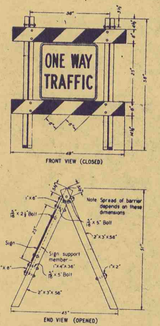


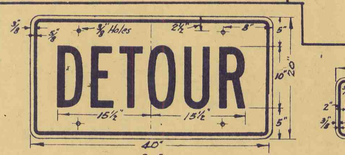
STANDARD SIGN EASEL

SWINGING TYPE



STANDARD PORTABLE SIGN BARRIER

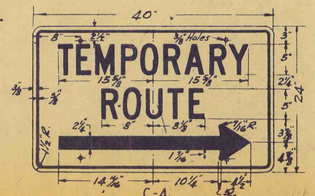




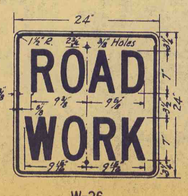




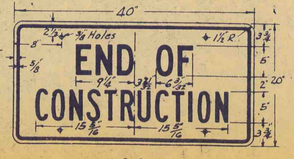
DRAWINGS SHOWING DIMENSIONS OF SIGNS

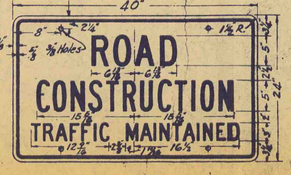


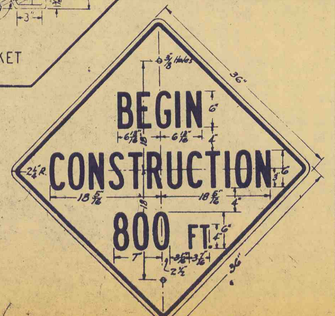












Notes

ANY CONDITIONS NOT COVERED BY DETAILS AND SIGNS ON THIS DRAWING SHALL CONFORM TO THE LATEST S. C. STANDARD SPECIFICATIONS AND TO THIS LATEST S. C. STANDARDS AND SPECIFICATIONS FOR UNIFORM TRAFFIC CONTROL DEVICES. THE LOCATION OF TYPICAL WARNINGS SHOWN HEREON MAY BE VARIED TO CONFORM TO FIELD CONDITIONS.

THE CONTRACTOR SHALL PROVIDE AND ERECT APPROPRIATE SIGNS AND BARRICADES THE FIRST DAY ANY WORK IS PERFORMED ON AT THE TIME HE MOVES ANY MATERIAL OR EQUIPMENT ON TO THE PROJECT, WHICHEVER IS FIRST. HE SHALL MAINTAIN THESE SIGNS THROUGHOUT THE LIFE OF THE PROJECT UNTIL FINAL ACCEPTANCE OF THE CONTRACT, AT WHICH TIME THEY SHALL BE REMOVED.

WHEREVER SURFACING WORK IS BEING PERFORMED ON THE ROADWAY AND ONE-WAY TRAFFIC IS BEING MAINTAINED THROUGH THE SECTION BEING SURFACED, THE STANDARD SIGNS SHALL BE PLACED AND, ALSO, FLAGMEN SHALL BE POSTED AT EACH END OF THE SECTION OF ROAD BEING SURFACED EXCEPT IN CASES WHERE TRAFFIC VOLUME IS LIGHT AND HIGH SPEEDS DO NOT PREVAIL, OR IN CASES WHERE THE SECTION OF ROAD BEING SURFACED IS NOT MORE THAN 100 FEET IN LENGTH AND THE SIGNS ARE CLEARLY VISIBLE FOR A DISTANCE OF 500 FEET.

THE DEPARTMENT WILL ERECT AND MAINTAIN PROPER SIGNS IN ACCORDANCE WITH THE MANUAL FOR UNIFORM CONTROL DEVICES ON ALL DETOURS OR TEMPORARY ROUTES THAT THE CONTRACTOR IS NOT REQUIRED TO MAINTAIN. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND MAINTAIN PROPER DETOUR SIGNS AT AND ALONG ALL DETOURS FOR WHICH HE IS RESPONSIBLE.

THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN AND RELOCATE, WHERE NECESSARY, ALL NECESSARY, WARNING AND GUIDE SIGNS IN PLACE, OR THOSE THAT MAY BE ERECTED BY THE DEPARTMENT, WITHIN THE LIMITS OF HIS CONTRACT.

BETWEEN THE HOURS OF SUNSET AND SUNRISE, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TWO FLARES OR RED LANTERNS AT EACH BARRICADE, "ROAD CLOSED" SIGN, OBSTRUCTION OR AT SUCH OTHER POINTS AS ARE NECESSARY TO PROTECT THE TRAVELING PUBLIC.

ALL SIGNS SHALL BE REFLECTORIZED EXCEPT THOSE TEMPORARY SIGNS THAT ARE USED ONLY DURING DAYLIGHT HOURS. DRAWINGS SHOWING SIZES OF SIGNS, LETTERS AND NUMERALS ARE DETAILED HEREON. ALL SIGNS SHALL HAVE BLACK LETTERS OR NUMERALS ON A WHITE BACKGROUND EXCEPT THE "ROAD WORK" (W-26), "BEGIN CONSTRUCTION - 800 FT." (C-9) AND "DETOUR" (C-5) SIGNS WHICH SHALL HAVE A YELLOW BACKGROUND.

THE "ROAD CONSTRUCTION - TRAFFIC MAINTAINED" (C-7) SIGN SHALL BE MOUNTED ON A BARRICADE ON EACH SIDE OF THE INTERSECTION FACING TRAFFIC AT ALL IMPORTANT ROAD INTERSECTIONS. ON MAJOR ROUTES BEING CONSTRUCTED, THE BARRICADE SHALL BE ON BOTH SIDES OF THE ROAD AT THE EXTREME LIMITS OF THE PROJECT BUT THE SIGN MAY BE OMITTED ON THE BARRICADE ON THE LEFT SIDE OF ROAD FACING TRAFFIC. THE "END OF CONSTRUCTION" (C-8) SIGN MAY BE PLACED ON THE BACK OF THIS BARRICADE INSTEAD OF ON A POST.

WHEN A BRIDGE IS UNDER CONSTRUCTION AND TRAFFIC IS MAINTAINED, THE WORD "BRIDGE" SHALL BE SUBSTITUTED FOR "ROAD" ON THE "ROAD CONSTRUCTION - TRAFFIC MAINTAINED" SIGN AND THE SIGN ERECTED IN A LIKE MANNER.

DETAILS
SHOWING
STANDARD SIGNS, BARRIERS, LIGHTS, AND BARRICADES TO BE FURNISHED, ERECTED, AND MAINTAINED BY THE CONTRACTOR WHERE APPLICABLE ON ALL ROAD OR BRIDGE CONTRACTS

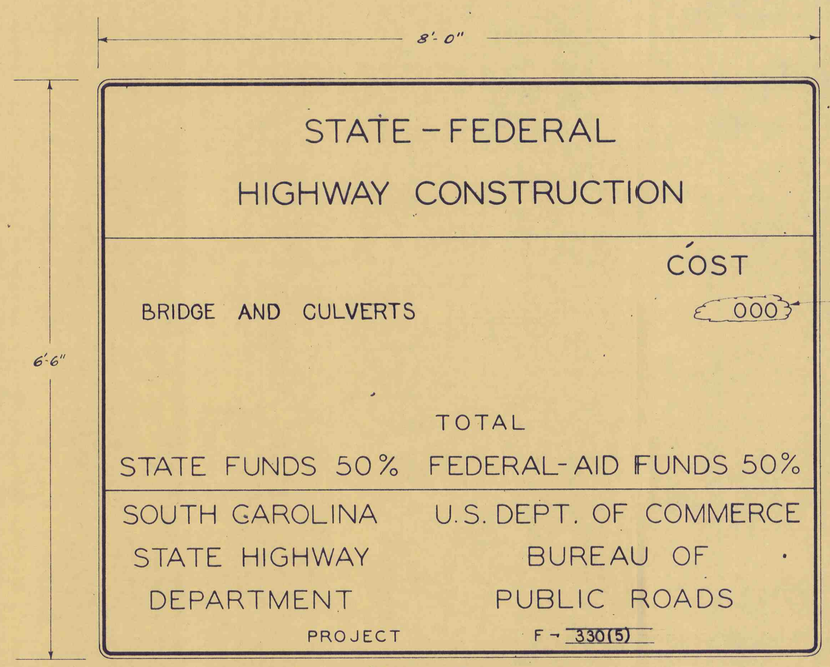
APPROVED S.N. Pearman STATE HIGHWAY ENGINEER
DATE 2/14/60

S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA, S. C.

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	F-330(5)	301	~~5~~ 6	~~33~~ 54

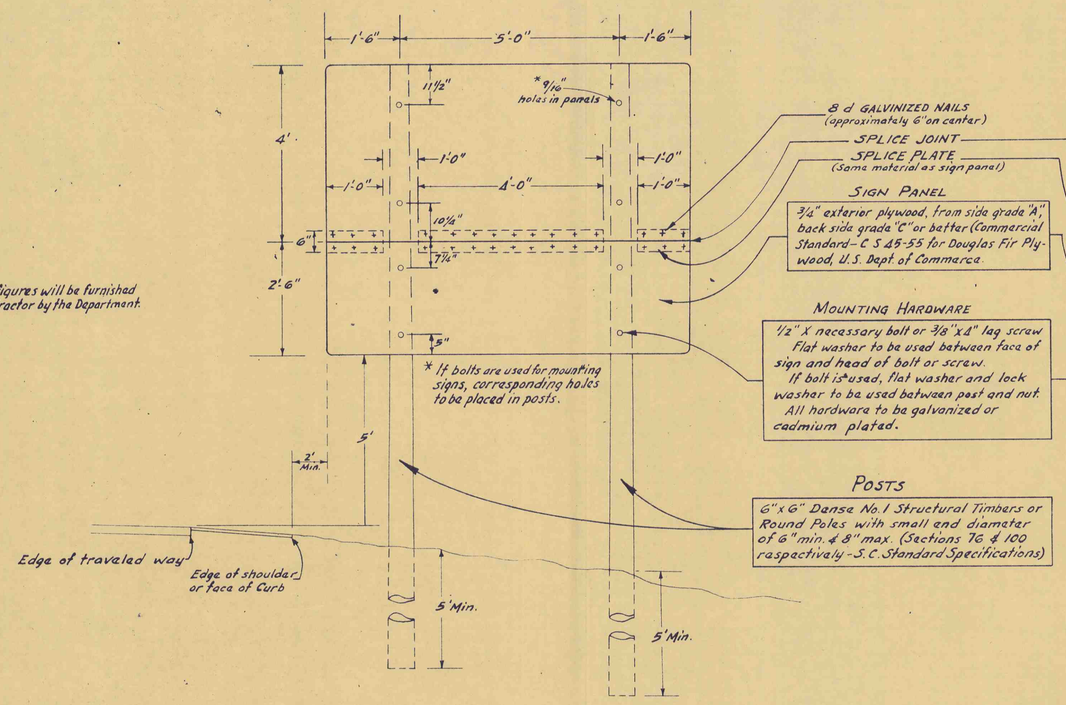
CONSTRUCTION IDENTIFICATION SIGN

FEDERAL-AID PRIMARY SYSTEM



The cost figures will be furnished to the contractor by the Department.

LEGEND & BORDER: BLACK
BACKGROUND: WHITE



SIGNS REQUIRED

2 Signs will be required for this contract. See title sheets No. 1.

FABRICATION

Only one horizontal joint, at the location shown above, and no vertical joints will be permitted. Panels shall be cut to size and mounting holes bored before painting is begun. Care should be exercised in sawing and drilling to avoid splintering. After cutting, all panels shall receive the following treatment:

1. Paint fronts, backs and all edges with a coat of "Outside White Paint" (Section 80, S. C. Standard Specifications), applying a heavy coat to edges. Allow panels to air-dry with good air circulation for at least 24 hours, longer if necessary, to assure that the panels are throughly dry.
2. Repeat step 1.
3. Abrade face of panel lightly with fine sandpaper or steel wool.
4. Repeat step 1.
5. Apply legend and border as shown on drawings at a rate necessary to assure a full cover and uniform copy. Paints for legends shall be a high quality exterior silk screen enamel for screen application and a high quality exterior bulletin lettering enamel for brush application.

LEGEND

Letters and numerals shall correspond to the "Standard Alphabet for Highway Signs" as published by the Bureau of Public Roads, U. S. Department of Commerce. Drawings showing layout of the legends and spacings between characters will be available to the contractor from the Department's Offices at 1100 Senate Street, Columbia, South Carolina, and sign legends shall correspond with those drawings.

ERECTION

Sign panels shall be assembled into a single unit, using splice plates and nails as shown above. The nails shall be clinched at the rear of the splice plate.

Posts shall be set as indicated, throughly tamping the replaced soil in six inch layers. The posts shall be painted with two coats of "Outside White Paint", allowing at least 24 hours after each coat, or untill the paint is throughly dry. The signs shall be mounted as indicated above.

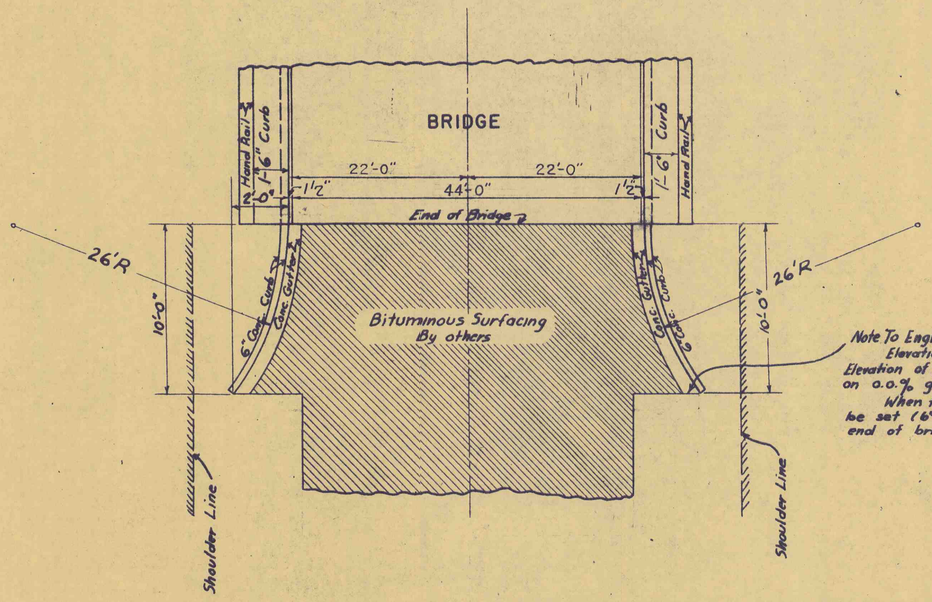
REMOVAL AND OWNERSHIP

The signs shall be removed by the Contractor and shall be the property of the Contractor upon completion of the contract.

Approved

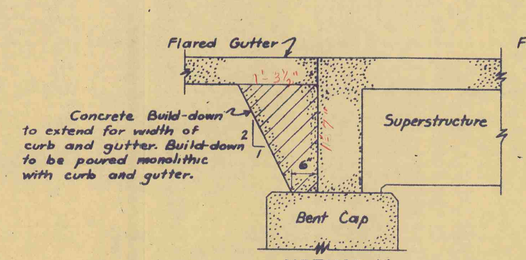
W. P. Gaddelson 4-9-62
State Highway Engineer — Date

Fed Road Div. No.	State	County	Docket No.	Route No.	Sheet No.	Total Sheets
3	S.C.	CLARENDON	14361	301	~~3~~ 7	~~33~~ 54

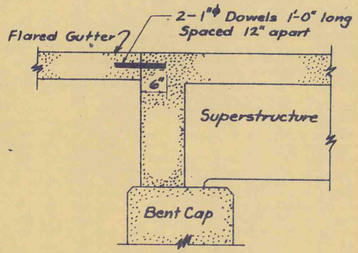


PLAN OF FLARED CURBS
SCALE 1"=5'-0"

Note To Engineers
Elevation of this point to be set 6" below Elevation of gutter at end of bridge where approach is on 0.0% grade.
When the approach is on a grade this point should be set (6" ± % of grade x 10') below elevation of gutter at end of bridge.



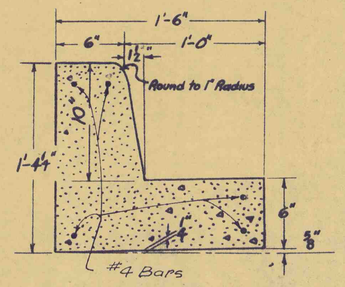
METHOD 'A'



METHOD 'B'

Note:- Ends of Curb and Gutter adjacent to bridge to be supported by one of the methods shown above.
Use Method "A" when there is sufficient width and length of bent cap to support concrete build-down. Otherwise, use Method "B"
The quantity of concrete or reinforcing steel involved shall be computed by the Engineer and added to the quantities shown on this sheet.

CURB AND GUTTER SUPPORT
SCALE 3/4" = 1'-0"



DETAIL OF CONC. CURB AND GUTTER
SCALE 1"=6"

CURB AND GUTTER QUANTITIES-ONE END ONE BRIDGE
CLASS 'A' CONCRETE FOR ONE END OF BRIDGE - 0.9 C.Y.
REINFORCING STEEL - 65 LBS.
Reinf. consists of 10 #4 Bars 9'-9" long

All costs of constructing the concrete curb and gutter at the ends of the bridge will be included in payment for the concrete and steel involved of the Unit Price Bid for those items.

Rev.	2-58	G.K.B.	6-58
	For Reinf.		
Quant.			
Tr.	J.L.B.	R.A.B.	
Dr.			
Des.			
	Ckd.	By	Date

REV.			
REV.			
REV.	CDK	RBP	1-63
REV.	GKB	WEB	6-58
	FOR REINF.		

REVIEWED HDL IN CHARGE

	BY	CHKD	DATE
QUAN.			
TR.	RAB	JLB	
DR.			
DES.			

S. C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA, S.C.

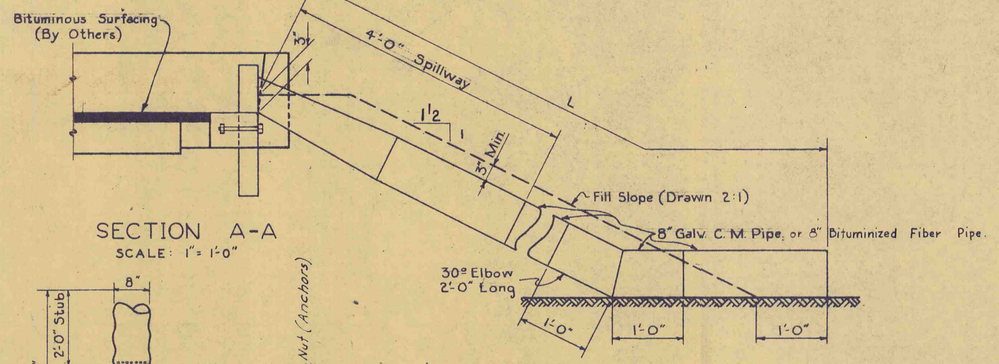
DETAILS OF FLARED CURB & GUTTER AT ENDS OF BRIDGE

DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	CLARENDON	301	1-63

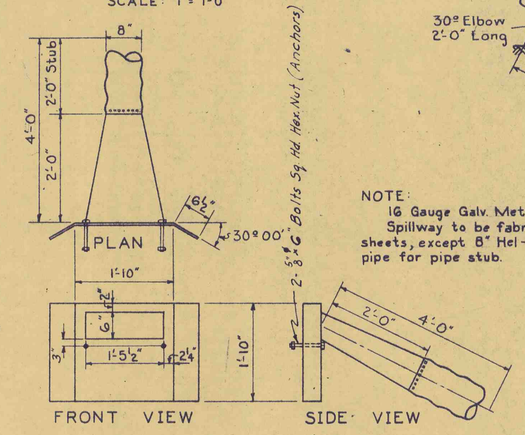
APPROVED BY W. E. Crum BRIDGE DESIGN & PLANS ENGINEER

APPROVED BY H. Gooding BRIDGE ENGINEER

FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14.361	301	~~4~~ 8	~~33~~ 54

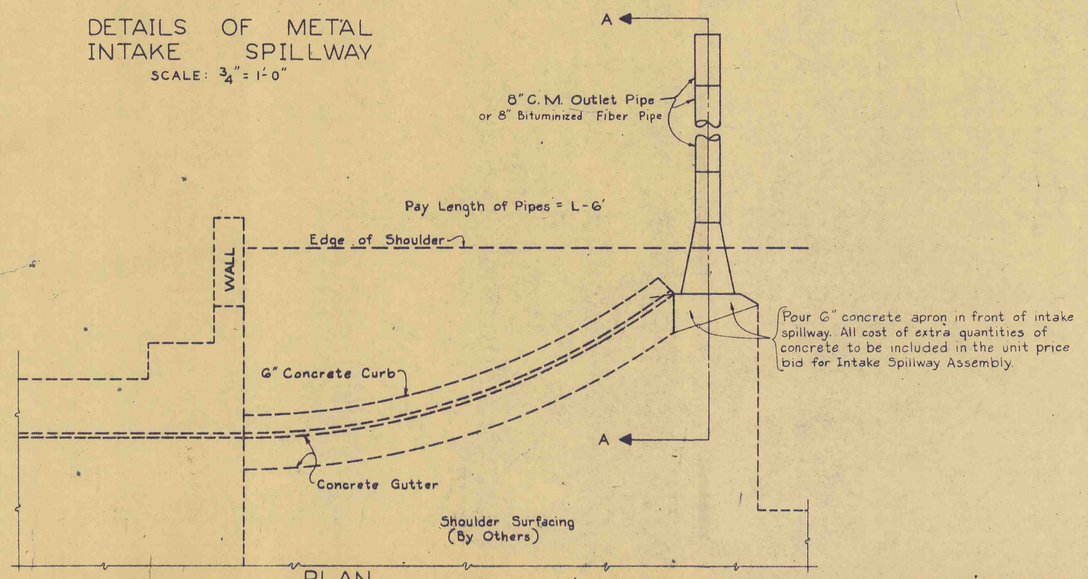


SECTION A-A
SCALE: 1" = 1'-0"



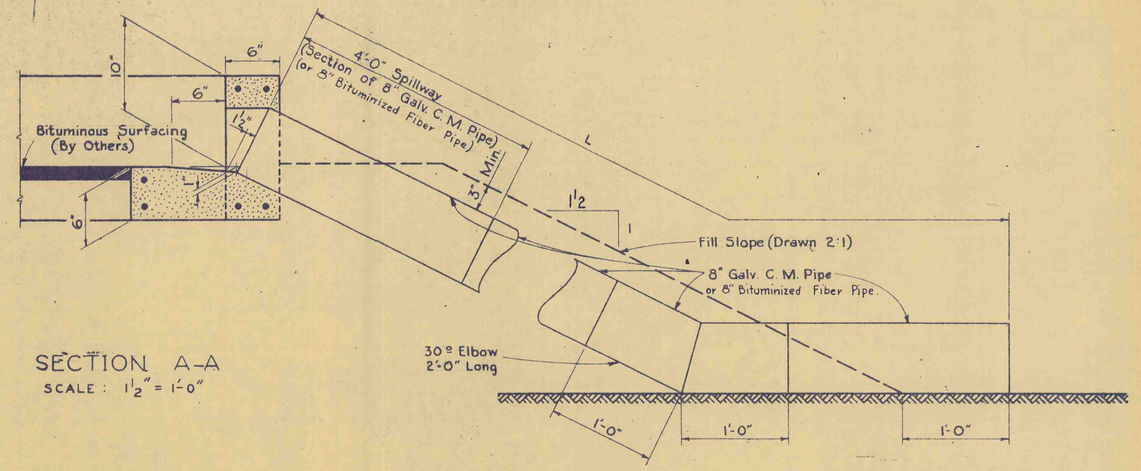
DETAILS OF METAL INTAKE SPILLWAY
SCALE: 3/4" = 1'-0"

NOTE:
16 Gauge Galv. Metal to be used thruout.
Spillway to be fabricated from flat smooth sheets, except 8" Hel-Cor or equal non-perforated pipe for pipe stub.

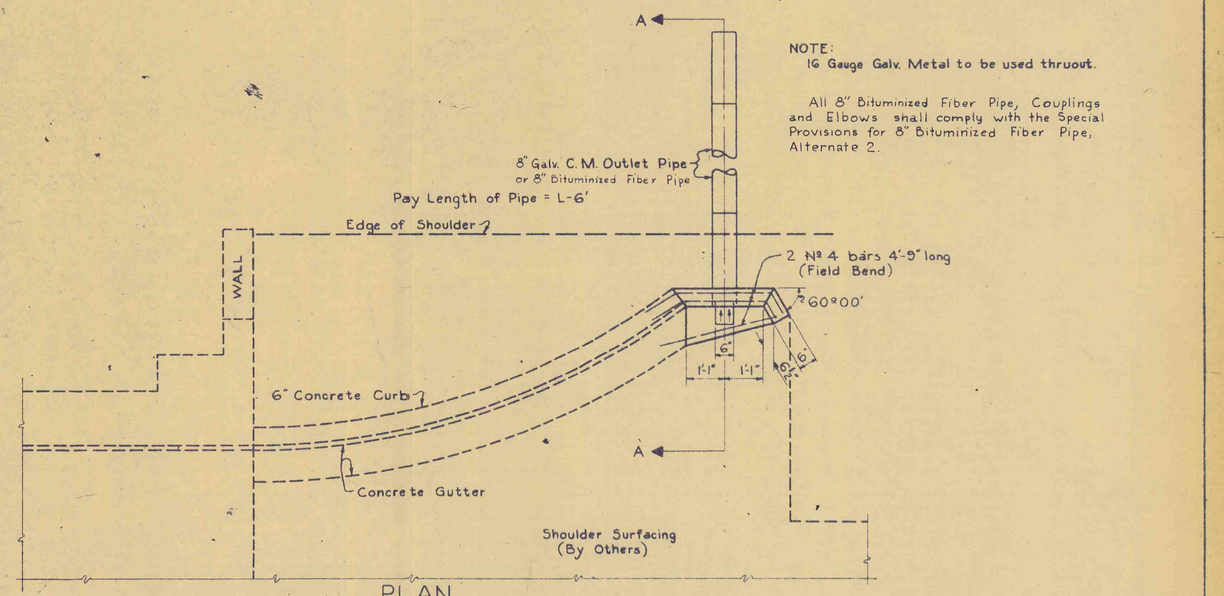


PLAN
SCALE: 1/2" = 1'-0"

METAL INTAKE OPTION



SECTION A-A
SCALE: 1 1/2" = 1'-0"



PLAN
SCALE: 1/2" = 1'-0"

CONCRETE INTAKE OPTION

NOTE:
16 Gauge Galv. Metal to be used thruout.

All 8" Bituminized Fiber Pipe, Couplings and Elbows shall comply with the Special Provisions for 8" Bituminized Fiber Pipe, Alternate 2.

BID ITEMS	
Intake Spillway Assembly (Includes one 4'-0" Spillway Intake and one 30° Elbow 2'-0" long)	4 Each
8" Galv. C. M. Pipe Slope Drain - Alternate 1.	75 L.F.
8" Bituminized Fiber Pipe Slope Drain - Alternate 2.	75 L.F.

REV.				
REV.	CDK	RBP	3-63	
REV.	WFL	LEW	11-62	Anchor Bolts added
REV.	WAE	WFL	7/62	Apron Added
REVIEWED HDL IN CHARGE				
QUAN.				
TR.				
DR.	W.A.E.	WFL	12/60	
DES.				
	BY	CK'D	DATE	

S. C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA, S.C.

DETAILS OF METAL PIPE SLOPE DRAINS

DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	CLARENDON	301	1-63

APPROVED BY: W. E. Quinn — BR. DESIGN & PLANS ENGR.
APPROVED BY: W. A. Harding — BRIDGE ENGINEER

FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14.361	301	~~5~~ 9	~~33~~ 54

WIDENING EXISTING CONCRETE STRUCTURES

Existing structure is indicated on the plans by light lines, new structure by heavy lines.

All dimensions of new construction are subject to existing conditions.

Connecting surfaces of the old concrete shall be thoroughly roughened, cleaned of loose material, wetted and flushed with 1:2 cement mortar immediately before pouring new concrete, except as noted on other sheets of these plans.

All reinforcing steel protruding beyond surface after chipping shall be left in place and imbedded in new concrete if feasible. Reinforcing steel which can not be imbedded in new concrete shall be cut off flush with surface of concrete where asphalt surfacing will cover. Where exposed the old reinforcing shall be cut off 1/2" below the exposed concrete surface and the hole patched with dry 1:3 mortar to the satisfaction of the Engineer.

The Contractor shall repair or replace at his own expense, and in a manner satisfactory to the Engineer, any portion of the existing structure damaged as a result of his carelessness or negligence.

The entire cost of the above work including all drilling and chipping, and removing and disposing of portions of old structure necessary to construct new structure, shall be included in the unit price bid for Class "A" Concrete.

If expansion anchor bolts are called for they shall be similar and equal to Rawl's Multi-Calk Anchor or American Exp. Bolt and shall be installed in accordance with the manufacturer's directions.

Expansion anchor bolts will be paid for at unit price bid for reinforcing steel.

Unless otherwise specified in these plans or Special Provisions the Contractor shall provide necessary temporary supports for utilities attached to the bridge to maintain service during construction.

The owner will make all necessary changes in alignment and elevation of the utility and furnish permanent supports which shall be placed in the concrete by the Contractor.

All costs of the work to be performed by the Contractor shall be included in the unit price bid for Class "A" Concrete.

SPECIAL NOTE

Generally, in case of discrepancy, this standard sheet of notes shall govern over the Specifications, but the remainder of the plans shall govern over notes hereon, and Special Provisions shall govern over all. See Standard Specifications paragraph 5.04.

EXCAVATION FOR PILE TYPE END BENT

All cost of excavation necessary to construct end bents and to remove material under superstructure to an elevation 1'-0" below tops of end bent caps shall be included in the unit price bid for Class "A" Concrete.

EXCAVATION FOR CONCRETE FTG. END BENT

If a concrete footing is used for the end bent the excavation below that included for the cap and berm in the above paragraph will be paid for at the unit price bid for excavation. Excavation above this shall be included in the unit price bid for Class "A" Concrete.

DRIVING PILES THROUGH FILL

Where piles occur in fill exceeding 10 ft. in height, the fill shall be in place before piles are driven.

HAMMER FOR STEEL PILES

Steel piles where required bearing exceeds 37 tons shall be driven with a diesel, steam or air hammer having a minimum energy of 14,000 ft-lbs.

HAMMER FOR CONCRETE PILES

Concrete Piles shall be driven with steam, or air single-acting hammer or Diesel hammer of suitable size. The drop hammer allowed in Parag. 101.05 of the Standard Specifications may not be used.

ALLOWANCE FOR DEAD LOAD DEFLECTION AND SETTLEMENT

Bridges shall be built on the grade or vertical curve shown on plans. Handrails, slabs and curbs shall conform to the grade or curve.

In setting forms for structural steel ~~or prestressed concrete beam~~ bridges, an allowance shall be made for dead load deflections in addition to the elevations shown.

In setting falsework and forms for reinforced concrete spans an allowance shall be made for dead load deflections, settlement of falsework, and permanent camber which shall be provided for in addition to the elevations shown. After removal of the falsework, the finished structure shall conform to the elevations shown plus the allowance for permanent camber specified by the Engineer.

BRONZE EXPANSION PLATES

Bronze plates to be self-lubricating Exp. type. Manufactured from a rolled bronze alloy complying with A.S.T.M. B100 Alloy 1, or A.S.T.M. B22 Gr. B casting, and to have special inserts consisting of graphite and metallic substances with a lubricating binder in top face only. Installation of ~~"~~ to be in accord with manufacturers directions. The coef. of friction shall not exceed 0.1. The bronze plates shall be similar to those manufactured by Merriman Bros., Inc., 183 Amory St., Boston 30, Mass., or Spadone-Alta Corp., South Norwalk, Conn., or an approved equal.

STRUCTURAL STEEL

Beams shall be cambered for vertical curve and dead load deflection either in mill or shop.

Layout dimensions and standard lengths of beams shown are horizontal dimensions and must have the additional lengths added for lengths along grade.

All rivets shall be 7/8" ϕ unless noted.

All high-tensile-strength bolts shall be 7/8" ϕ unless noted.

All holes shall be 15/16" ϕ unless noted.

Holes in all main member splices shall be sub-punched, the connecting members shop assembled in their proper positions, and the holes reamed to full size while assembled.

Floor beam connections shall be reamed to a metal template.

All stiffeners at floor beams and at pier reactions shall have fills. All interior stiffeners between floor beams shall be crimped or filled.

Shims shall be placed between beam flange and pocket plate where required and shall be adjusted to bring top of beam to theoretical grade.

Bearing plates ~~and rocker plates~~ to be rolled steel.

Nuts on Anchor Bolts at Expansion Ends to be tightened 1/8 clear to allow for movement.

Anchor bolt assemblies will be paid for as reinforcing steel and are included in the bent quantities unless specifically stated elsewhere as included in the structural steel quantities.

Mill and shop inspection of the structural steel will be performed by Froehling & Robertson, Inc., 814 West Cary St., Richmond, Virginia. The contractor shall notify that company of the name and address of the fabricator of the structural steel as soon as the fabricator has been given the contract to fabricate so that the inspection procedure can be set up. The contractor shall also stipulate in his order to the fabricator that Froehling & Robertson, Inc., will perform the mill and shop inspection of the structural steel.

COMPOSITE BEAMS

A 5 day interval shall be allowed between time of pouring slab and sidewalk.

Tops of beam flanges shall not be painted.

All equipment, materials and workmanship for electric arc welded stud shear connectors shall be in accordance with the recommendations of the manufacturer and Special Provisions.

Alternate for welded studs: an approved alternate method of securing composite action between beams and slab may be used at no additional cost to the Dept. Details must be submitted for approval in advance of making the change.

7/8" ϕ studs may be substituted for 3/4" ϕ studs. The 7/8" ϕ studs shall be placed with the same number in each transverse row as the 3/4" ϕ studs. The pitch of the 7/8" ϕ studs shall be equal to 1.86 times the pitch of the 3/4" ϕ studs. The 7/8" ϕ studs must be welded within the recommended area of an approved arc stabilizer coat.

PRESTRESSED BEAMS

Tops of beams shall be rough floated. At the approximate time of initial set entire top of beam shall be scrubbed with a coarse wire brush to remove all laitance, and to produce a roughened surface for bonding slab.

Membrane curing compound shall not be used on tops or ends of beams.

Concrete in prestressed beams shall be class "A" as described in the Special Provisions.

The prestressing strands, wire or bars must be thoroughly cleaned of any loose rust, dirt, grease, form lubricant or other deleterious substances, to the satisfaction of the Engineer, before the concrete is placed.

Beams shall not be transported to the bridge site until concrete has cured for at least 5 days.

CONCRETE

All concrete shall be Class "A" unless noted below or on other sheets of these plans.

Build-ups on bent caps shall be cast monolithic with cap unless shown or noted elsewhere on these plans.

Top of each build-up shall be level.

Payment for Concrete in slab will be based on theoretical plan quantity.

Any necessary adjustment for Camber shall be at the Contractor's expense.

All exposed edges shall be chamfered 3/4" unless otherwise noted.

For simple spans over 70 Ft. in length, the center portion (approximately 2/3 of the length) of the slab shall be poured first and allowed to cure for not less than 4 days before the remaining end sections are poured. However, when the temperature permits (in the opinion of the engineer) the entire slab may be poured, provided a suitable retarding agent is used in such amounts that the slab concrete shall not have had its initial set prior to the completion of the casting of the slab concrete.

BEARINGS

For concrete beams bearing on concrete the top of caps, or tops of build-ups, under bearing areas of beams shall receive a steel trowel finish to insure a smooth and level bearing surface. See Standard Specifications paragraph 7.16.22.

DESIGN DATA

SPECIFICATIONS: A.A.S.H.O. 1961 with rev. thru. 1962.

LIVE LOAD: H15-S12-44 ~~Includes provision for alternate loading of 2 axles 4' apart with each axle weighing 75% of rear loading for spans under 40'~~

UNIT STRESSES

STRUCTURAL STEEL & REINFORCED CONCRETE:
fs (struct.) = 18,000 psi. New; 16,000 psi Old
fs (reinf.) = 20,000 psi

CLASS "A" CONCRETE:
fc = 1200 psi, n = 10, v = 225 psi, L = 300 psi

~~CLASS "X" CONCRETE~~
~~fc = 2400 psi, n = 6, v = 375 psi, L = 351 psi~~

PRESTRESSED CONCRETE:
fc = 5000 psi, fci = 4000 psi, fc = 2,000 psi

PRESTRESSING STEEL:
fs = 250,000 psi, fs = 175,000 psi

MATERIAL AND WORKMANSHIP

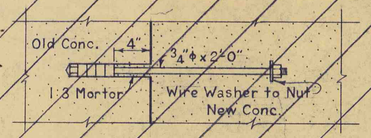
Except as may otherwise be specified on plans or in the Special Provisions, all material and workmanship shall be in accordance with the South Carolina Highway Department Standard Specifications for Highway Construction dated November 1, 1955.

REV.					
REV.					
REV.					
REV.	CDK RBP 1-63				
REVIEWED IN CHARGE	HDL				
QUAN.	DOCKET NO.	COUNTY	ROUTE NO.	DATE	
TR. APD. RWH 4-61	14.361	CLARENDON	301	1-63	
DR. APD. RWH 4-61	APPROVED BY:		APPROVED BY:		
DES.					
BY CK'D DATE	BRIDGE DESIGN & PLANS ENGR.		BRIDGE ENGINEER		

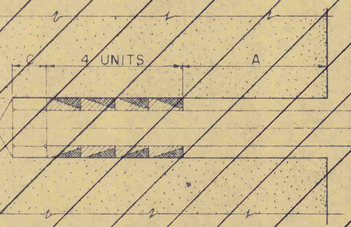
S.C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA, S. C.

STANDARD NOTES

Fed. Rd. Div. No.	State	County	Docket No.	Route No.	Sheet No.	Total Sheets
3	S.C.	Clarendon	14.361	301	~~6~~ 10	~~33~~ 54



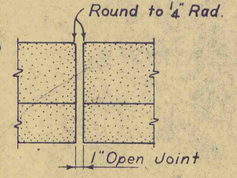
ANCHOR BOLT ASSEMBLY
SCALE: 1½" = 1'-0"



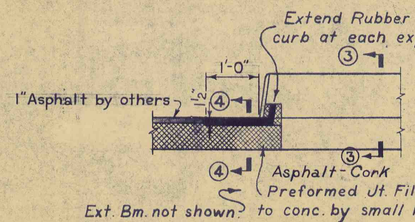
DETAIL OF EXPANSION ANCHOR
SCALE: 6" = 1'-0"

EXPANSION ANCHOR MAY BE EITHER PLAIN STANDARD "CINCH" ANCHOR, TYPE IA, PLAIN STANDARD "RAM" ANCHOR, TYPE IA, RAWL MULTI-CALK ANCHOR, STAR SLUGIN ANCHOR, OR AN EQUAL TYPE EXPANSION ANCHOR.

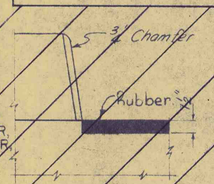
BOLT DIAMETER	A	B	C
¾"	4"	1⅜"	HEIGHT OF HEAD
1"	4"	1⅝"	HEIGHT OF HEAD



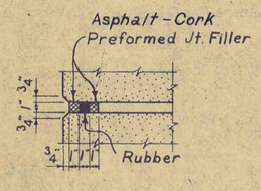
SECTION ③-③
SCALE: 1"=1'-0"



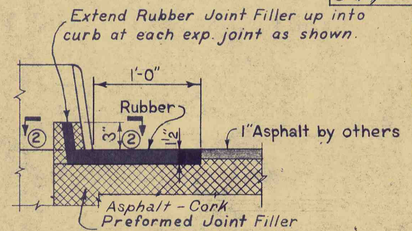
SECTION ALONG EXP. JT.
SCALE: ¾"=1'-0"



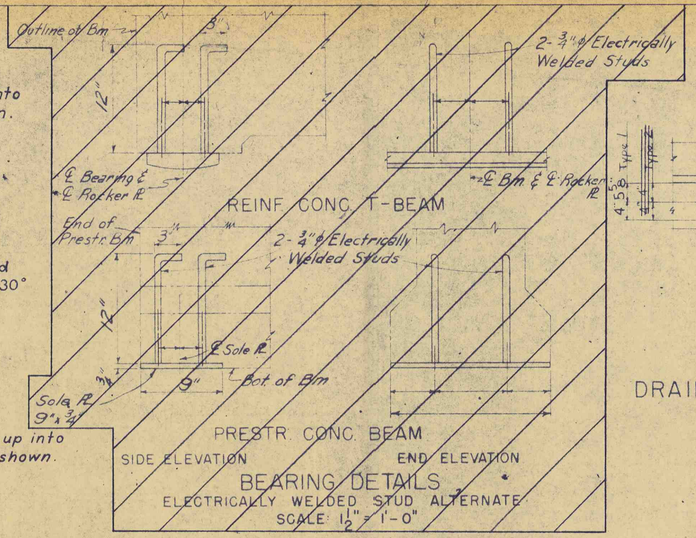
SECT. ALONG CONSTR. OR CONTR. JT.
SCALE: 1½" = 1'-0"



SECTION ②-②
SCALE: 1½" = 1'-0"

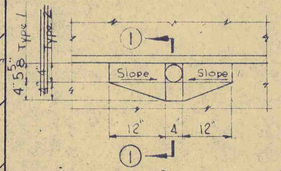


SECTION ALONG EXP. JT.
SCALE: 1½" = 1'-0"



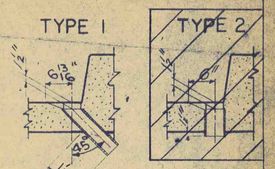
PRESTR. CONC. BEAM
SIDE ELEVATION END ELEVATION

BEARING DETAILS
ELECTRICALLY WELDED STUD ALTERNATE
SCALE: 1½" = 1'-0"



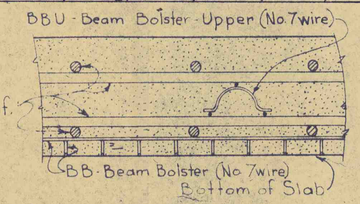
PLAN

DRAIN DETAILS
SCALE: ¾" = 1'-0"



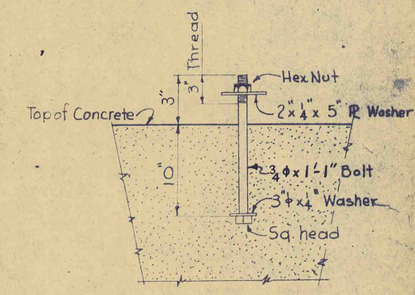
SECTION ①-①

4" I.D. Metal (.076" Min. Thickness) or Asbestos Cement Drain Pipe. Pipe to be unpainted before placing.



SECTION PARALLEL TO ℄ RDWY.
BOLSTER DETAIL
SCALE: 3" = 1'-0"

Note:
Bolsters shall be spaced so that they provide adequate support for the slab reinforcing steel. The BBU bolsters shall be spaced at approx. 3'-0" ctrs. The BB bolsters shall be placed with one row near each edge of slab & with a max. spacing of approx. 3'-0" between.
Bolsters shall be equal to beam bolsters BB and BBU as Mfgd by Meadow Steel Co. or Richmond Screw Anchor Co.
The lengths of bolsters shown in reinforcing steel schedules are approximate. Weights are included in the reinforcing steel quantities and payment will be made at the unit price bid for Reinforcing Steel.

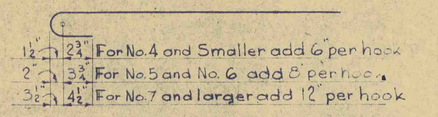


DETAIL OF ANCHOR BOLT
SCALE: 1½" = 1'-0"

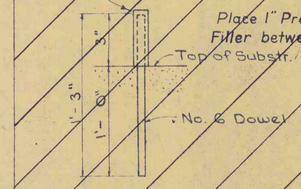
ANCHOR BOLT SCHEDULE				
Bent No.	No. per Bent	Size	Length	*Wt. per Bent, Lbs.
1, 2, 4, 6 & 8	12	¾"ϕ	1'-1"	32
10, 14, 16 & 17	12	¾"ϕ	1'-1"	32
3, 5, 7 & 9	24	¾"ϕ	1'-1"	64
11, 13, & 15	24	¾"ϕ	1'-1"	64

* Complete Assembly

Note:
Anchor bolt assemblies will be paid for as reinforcing steel and are included in the bent quantities, unless specifically stated elsewhere as included in the structural steel quantities.



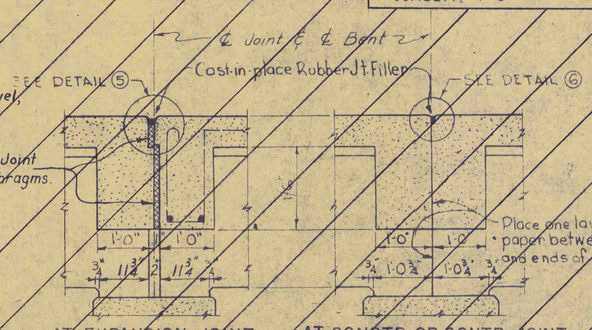
HOOK DETAILS
FOR STEEL REINFORCING BARS



DOWEL DETAIL
SCALE 1½" = 1'-0"

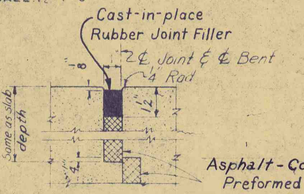
Dowel to be wrapped with tar paper, rubber, or other seepage proofed compressable material to allow ¼" thickness of compressable material between concrete and dowel, both above and all around.

Place 1" Preformed Joint Filler between diaphragms.



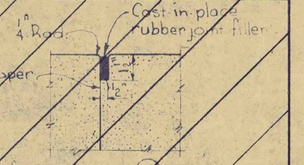
AT EXPANSION JOINT AT CONSTR. OR CONTR. JOINT

SECTIONS THRU JOINT
(LOOKING IN DIRECTION PARALLEL TO JOINT)
SCALE: ¾" = 1'-0"



Asphalt-Cork Preformed Joint Filler (See Special Provisions).

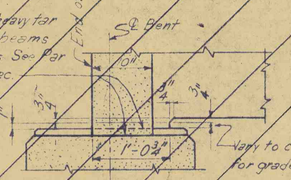
SECTION ④-④
SCALE: 3"=1'-0"



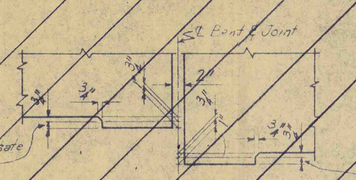
DETAIL ⑧
SCALE: 3"=1'-0"

Place one layer of heavy tar paper under fixed and contraction ends of beams and two layers under expansion ends. Place one layer under end diaphragms. See paragraph 7.1.D.19.(a)(1) of the Specifications.

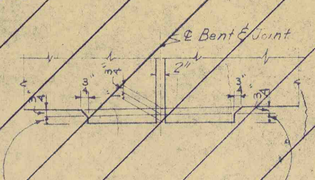
JOINT DETAILS



AT END OF BRIDGE
(SECTION NORMAL TO CAP)



AT BENT



AT BENT
AT BENT

BEAM BUILD DOWN DETAILS
SCALE: 1"=1'-0"



DETAIL SHOWING LOCATION OF INCLINED STIRRUPS AT ENDS OF CONCRETE BEAMS (OTHER REINFORCING NOT SHOWN)
SCALE: 1½" = 1'-0"

REV	C.D.K.	E.A.S.	4-62	Jt. Details & New Foil
REV	C.D.K.	M.D.S.	4-60	Exp. Anchor Detail

REV	AMZ	H.D.L.	4-59	Bearing Detail
REV	W.E.B.	M.D.S.	2-58	Drain Detail
REV	AMZ	R.W.H.	1-58	Build-down Detail
REV	R.W.H.	A.E.H.	7-57	Add Dowel Detail

REVIEWED H.D.L.
IN CHARGE

	QUAN.			
TR.	W.C.F.	E.A.S.	12-56	
DR.	J.C.W.	E.A.S.	12-56	
DES.				
	BY.	CHK'D	DATE	

S. C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA, S.C.

STANDARD DETAILS

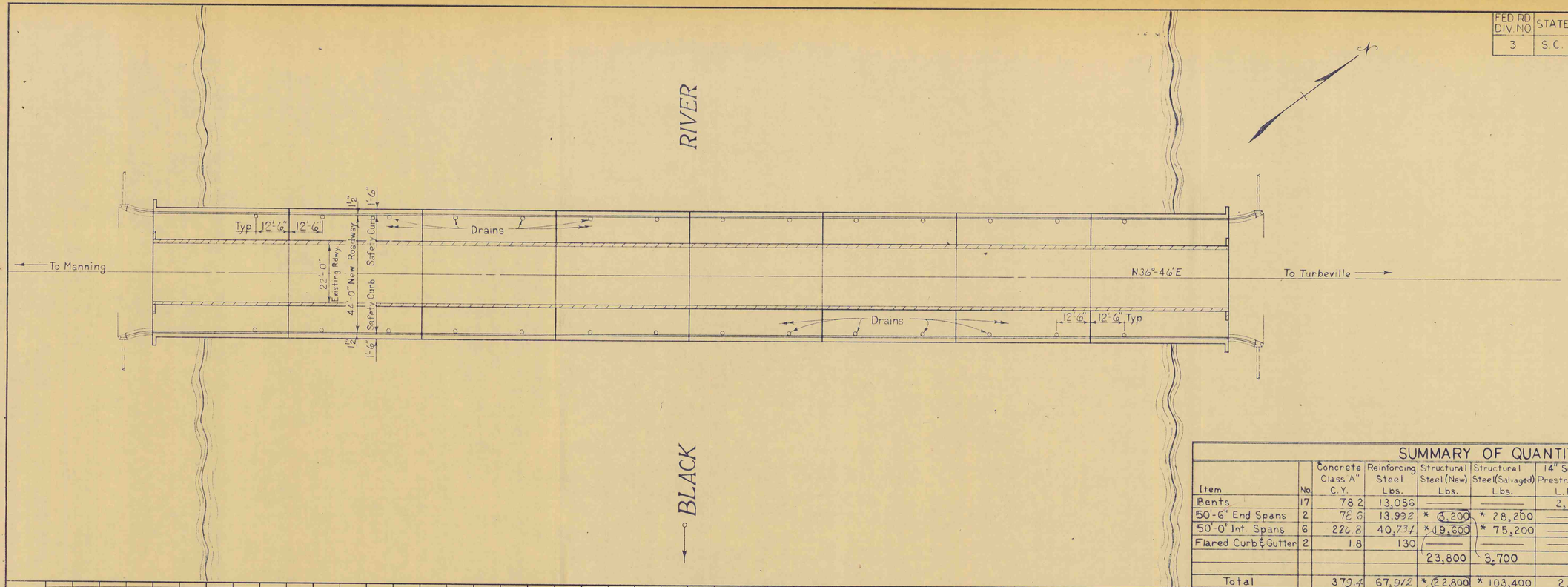
DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	CLARENDON	301	1-63

APPROVED BY: W. E. Crum — BRIDGE DESIGN & PLANS ENG.
APPROVED BY: W. Mundy — BRIDGE ENGINEER

190a

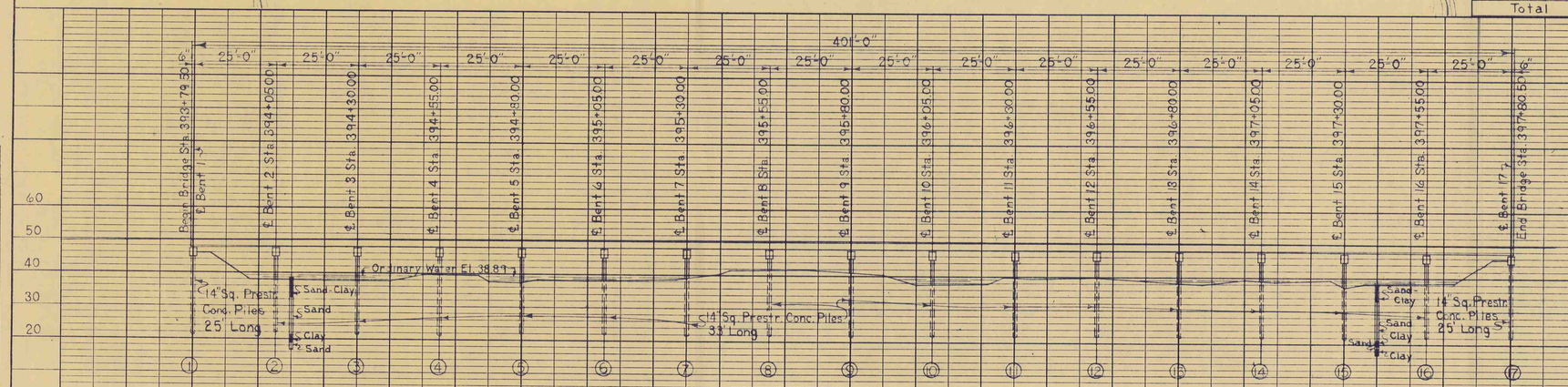
FED RD DIV NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14 361	301	7 / 11	~~33~~ 54

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, NOTE BOOK, NO., BY, DATE



SUMMARY OF QUANTITIES

Item	No.	Concrete Class A" C.Y.	Reinforcing Steel Lbs.	Structural Steel (New) Lbs.	Structural Steel (Salvaged) Lbs.	14" Square Prestr. Piling L.F.	8" Pipe Slope Drains L.F.	Intake Spillway Assemblies Each
Bents	17	78.2	13,056	———	———	2,180	———	———
50'-6" End Spans	2	76.6	13,992	* 3,200	* 28,200	———	———	———
50'-0" Int. Spans	6	226.8	40,734	* 19,600	* 75,200	———	———	———
Flared Curb & Gutter	2	1.8	130	———	———	———	75	4
				23,800	3,700			
Total		379.4	67,912	* 27,500 * 22,800	* 103,400	2,180	75	4



Borings shown on this sheet were taken from old plans.

PROFILE — SURVEYED, PLOTTED, NOTE BOOK, NO., BY, DATE, QUANT. CHECKED, TR. CHECKED, DR. CHECKED, DES. CHECKED, B. M.'S NOTED, STRUCTURE NO. 17 NSCHKO

Notes:

Construct flared curb and gutter and slope drains on both sides of roadway at each end of Bridge.

The Engineer shall obtain existing F.G. Elevations on the Bridge and adjacent roadway (at 25' intervals for about 100' from each end of Bridge) for the purpose of establishing a new Finished Grade. The new F.G. shall be set so as to assure a minimum of 1" of new surfacing on the existing Bridge. All new surfacing will be done by S.C.H.D. Forces.

The Contractor shall not interfere with traffic. The widening and new rail shall be completed on one side of roadway before the old railing is removed on that side. The existing bridge roadway shall not be used at anytime to support the Contractors pile driving equipment.

* A total of 48 beams are required for this project. The S.C.H.D. have only 44 salvaged 18" I 47 lbs. beams available and this will necessitate the purchase of 4 new (18 WF 50) Beams. The quantities shown for 50'-6" End Spans are based upon all beams as being salvaged 18" I 47 lb. The quantities shown for 50'-0" Interior Spans are based upon 32 beams as being salvaged 18" I 47 lb. and 4 new 18 WF 50 beams. The 4 new beams maybe used in any one span. The 48 beams will be obtained from the following source:

12 Beams - 18" I 47 lb. from Marion Maintenance Shop.
14 Beams - 18" I 47 lb. From Walterboro Maintenance Shop.
10 Beams - 18" I 47 lb. from Camden Maintenance Shop.
8 Beams - 18" I 47 lb. from Florence Maintenance Shop.
4 Beams - 18 WF 50 to be purchased by the Contractor. These 4 new beams weigh 10,000 lbs. and is included in quantity for (new) Structural Steel.

S.C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA S.C.

PLAN AND PROFILE

FOR WIDENING BRIDGE OVER

BLACK RIVER

REVIEWED HDL IN CHARGE

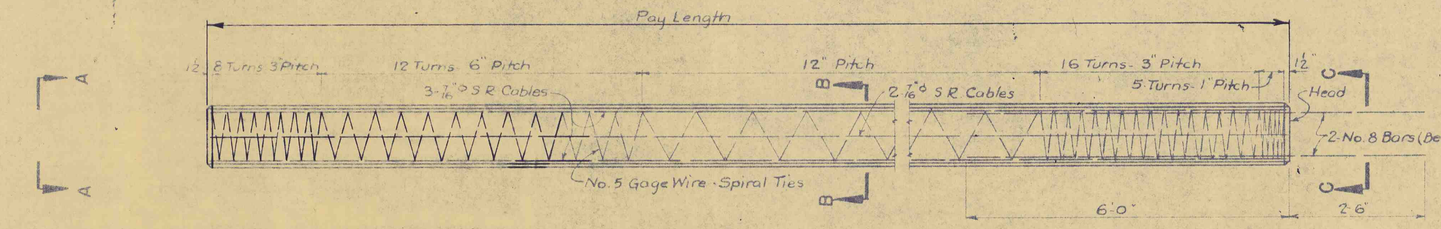
	BY	CHKD	DATE
QUANT.			
TR.			
DR.	CDK	EBP	1-63
DES.			

DOCKET NO.	COUNTY	ROUTE NO.	DATE
14 361	CLARENDON	301	1-63

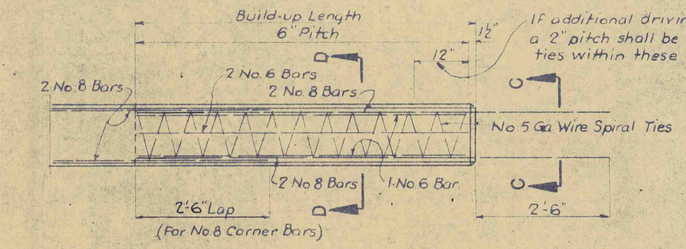
APPROVED BY: BRIDGE DESIGN & PLANS ENGR.
APPROVED BY: BRIDGE ENGINEER

PLATE 1 - PLAN - PROFILE O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

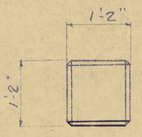
FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S C	CLARENDON	14.361	301	~~8~~ 12	~~33~~ 54



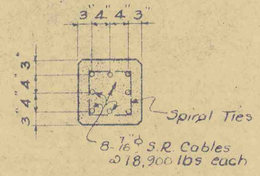
14" SQUARE PRESTRESSED COMPOSITE PILE



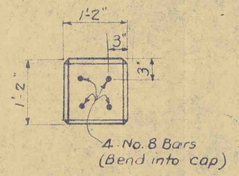
BUILD-UP



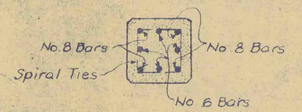
ELEVATION A-A



SECTION B-B

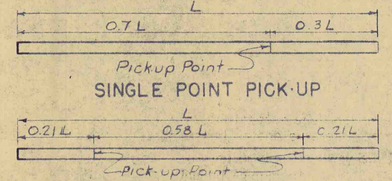


SECTION C-C



SECTION D-D

Concrete Quantity per pile = 0.0504 C.Y./L.F.



Note: Piles shall be marked at Pick-up Points to indicate proper points for attaching handling lines.

NOTES:

Spiral ties shall be tied to all corner cables and reinf. bars.

All dimensions relative to reinforcing steel are to centers of bars.

Chamfer all exposed edges ¾" unless otherwise noted.

All concrete shall be Class "X" -See Special Provisions.

Prestressed piles shall not be transported to the bridge site or driven until the concrete has cured for at least 6 days.

In case it is necessary to cut off a prestressed concrete pile and the remaining embedment of the reinforcing bars projecting from the pile head is 20" or less, the point of cutting prestressing strands shall be 24" above the cut-off so that the prestressing strands may be embedded in the pile cap for 24".

f'c = 5000 psi
fci = 4000 psi
fs = 20,000 psi
fc = 2,000 psi
fsi = 175,000 psi

REV			
REV			
REV			
REV	J.R.G. 10-58 Remove Split Point		
REVIEWED	HDL IN CHARGE		
QUAN.			
T.R.	D.W.S.	TED	10-58
DR.	E.M.S.	P.M.O.	2-59
DES.			
	BY	CHK'D	DATE

S.C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA, S.C.

14" SQ. PRESTRESSED CONCRETE PILES

DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	CLARENDON	301	1-63

APPROVED BY: [signature] BRIDGE DESIGN & PLANS ENG.

APPROVED BY: [signature] BRIDGE ENG.

FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14.361	301	~~9~~ 13	~~33~~ 54

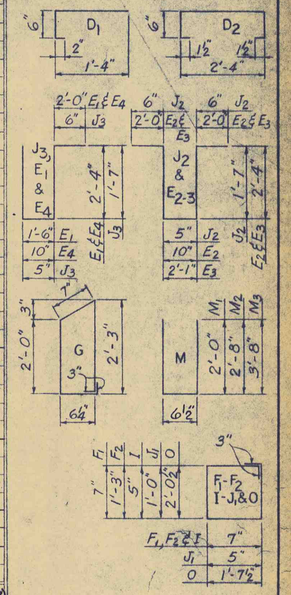
REINFORCING STEEL SCHEDULE. (BOTH SIDES RDWY.)

MARK	SIZE NO.	D	ONE INT. SPAN REQ'D.	ONE INT. SPAN LENGTH
A	4	S	400	12'-0"
B	4	S	58	49'-8"
C	5	S	100	0'-10"
D_1	3	B	84	2'-0"
D_2	4	B	32	3'-7"
E_2	4	B	16	9'-6"
E_3	4	B	4	10'-9"
E_4	4	B	8	7'-6"
F_1	2	B	48	2'-10"
G	4	B	32	5'-10"
H_1	4	S	16	24'-6"
I	2	B	72	2'-6"
J_1	*4	B	32	3'-4"
J_2	4	B	24	4'-7"
J_3	4	B	8	4'-1"
K	4	S	32	2'-5"
BB	1" Ht.	—	—	500'
BBU	2" Ht.	—	—	410'
Tie Rod	1" ϕ	S	32	3'-3"

MARK	SIZE NO.	D	ONE END SPAN REQ'D	ONE END SPAN LENGTH
A	4	S	402	12'-0"
B	4	S	58	50'-2"
C	5	S	104	0'-10"
D_1	3	B	84	2'-0"
D_2	4	B	34	3'-7"
E_1	4	B	4	8'-2"
E_2	4	B	16	9'-6"
E_3	4	B	4	10'-9"
E_4	4	B	4	7'-6"
F_1	2	B	42	2'-10"
F_2	2	B	6	4'-2"
G	4	B	34	5'-10"
H_1	4	S	8	24'-6"
H_2	4	S	8	25'-0"
I	2	B	72	2'-6"
J_1	4	B	28	3'-4"
J_2	4	B	24	4'-7"
K	4	S	28	2'-5"
L_1	4	S	4	15'-1"
L_2	4	S	4	4'-7"
L_3	4	S	4	3'-0"
L_4	4	S	8	4'-2"
L_5	4	S	4	4'-9"
M_1	4	B	20	4'-7"
M_2	4	B	4	5'-11"
M_3	4	B	8	7'-11"
BB	1" Ht.	—	—	500'
BBU	2" Ht.	—	—	410'
J_3	4	B	4	4'-1"
Tie Rod	1" ϕ	—	28	3'-3"

MARK	SIZE NO.	D	ONE BENT (1 Thru 17) REQ'D	ONE BENT (1 Thru 17) LENGTH
N	8	S	16	12'-1"
O	4	B	34	7'-10"
P	4	S	4	12'-1"
Lag Screw	¾" ϕ	—	4	1'-4"

BENDING DETAILS



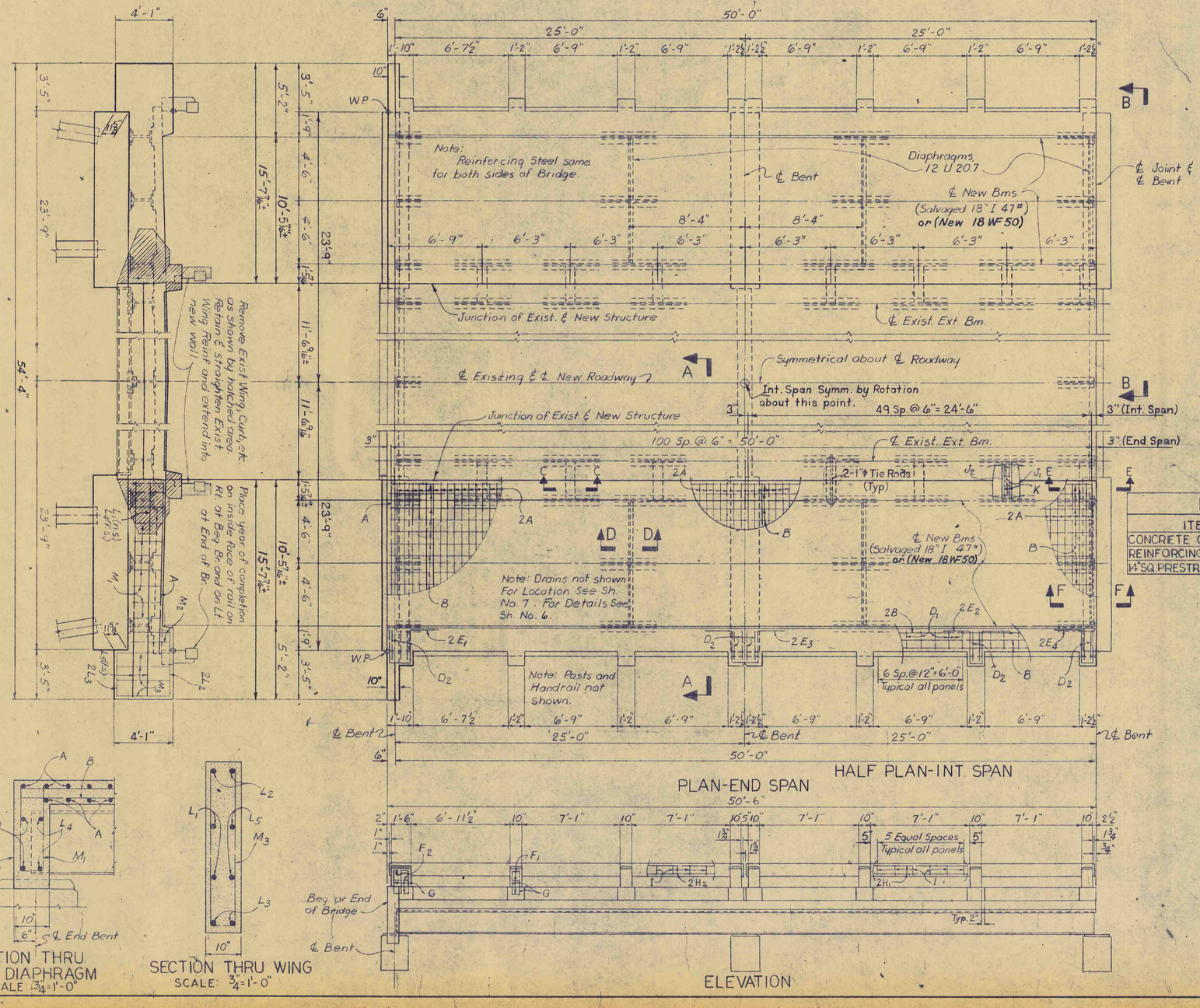
BENT QUANTITIES

ITEM	UNIT	ONE BENT
CONCRETE CLASS "A"	C.Y.	4.6
REINFORCING STEEL	LBS.	② 768
14" SQ. PRESTR. CONC. PILES	L.F.	See Summary Sh. 7

SUPERSTRUCTURE QUANTITIES

ITEM	UNIT	1 END SPAN	1 INT. SPAN
CONCRETE CLASS "A"	C.Y.	39.3	36.8
REINFORCING STEEL	LBS.	① 6,996	③ 6,789
NEW STRUCTURAL STEEL	LBS.	See Summary Sh. No. 7	
SALVAGED STEEL BEAMS	LBS.	See Summary Sh. No. 7	

① Includes 296 Lbs. for Bolsters & 269 Lbs. for Tie Rod Assemblies.
② " 32 " " Anchor Bolts & 10 Lbs. for Lag Screws. For Bents 3,5,7,9,11,13, & 15 add 32 Lbs. for 12 more Anchor Bolts - See Summary of Quantities - Sh. No. 7.
③ Includes 296 Lbs. for Bolsters & 308 Lbs. for Tie Rod Assemblies.
For Standard Notes See Sh. No. 5.
For Standard Details See Sh. No. 6.



THIS SHEET TO ACCOMPANY SHEET NO. 10.
SCALE: 1/4" = 1'-0" OR AS NOTED

REV.				
REV.				
REV.				
REV.	HDL	CDK	REP	1-63
REVIEWED	HDL	IN CHARGE		
QUAN.	AGW	RRS	10-62	
TR.				
DR.	AGW	RRS	10.62	
DES.	RRS	AGW	10-62	
	BY	CHK'D	DATE	

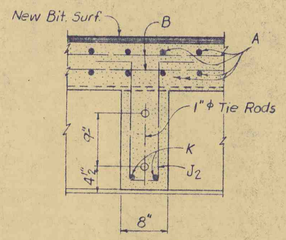
S. C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA S. C.

25'-50' SPAN SUPERSTRUCTURE
FOR WIDENING BRIDGE
OVER
BLACK RIVER

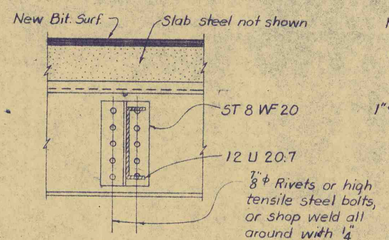
DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	CLARENDON	301	1-63

APPROVED BY: O. B. Quem — BRIDGE DESIGN & PLANS ENGINEER
APPROVED BY: L. G. Harding — BRIDGE ENGINEER

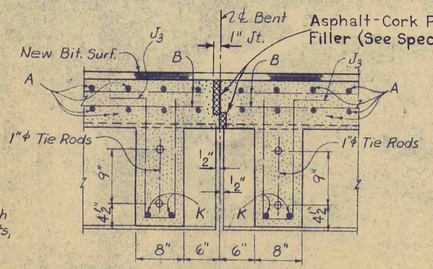
FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14.361	301	~~10~~ 14	~~33~~ 54



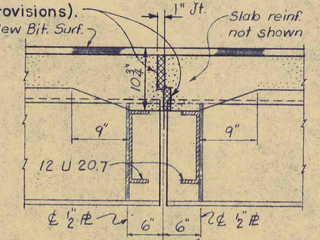
SECTION C-C
SCALE: 1"=1'-0"



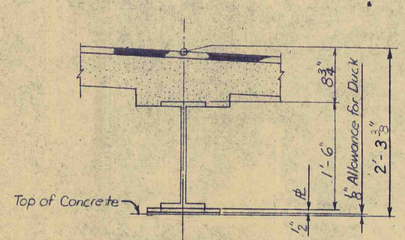
SECTION D-D
SCALE: 1"=1'-0"



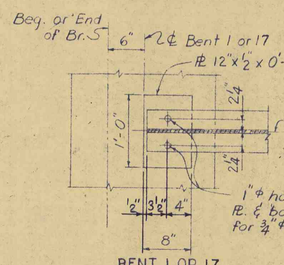
SECTION E-E
SCALE: 1"=1'-0"



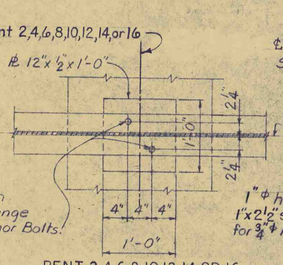
SECTION F-F
SCALE: 1"=1'-0"



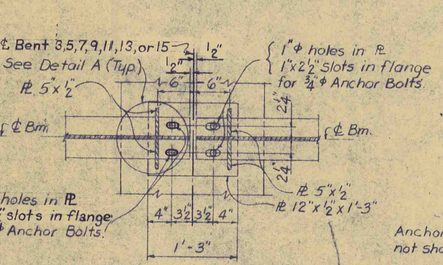
SKETCH FOR COMPUTING BEAM SEAT ELEVATIONS AT ℄ BEARING
SCALE: 1"=1'-0"



BENT 1 OR 17

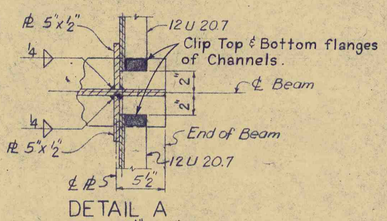


BENT 2,4,6,8,10,12,14,OR 16

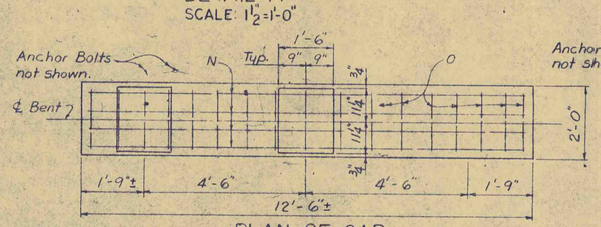


BENT 3,5,7,9,11,13,OR 15

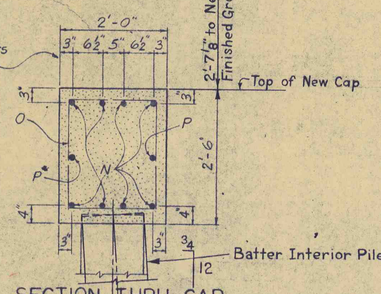
BEARING DETAILS
SCALE: 1"=1'-0"



DETAIL A
SCALE: 1½"=1'-0"

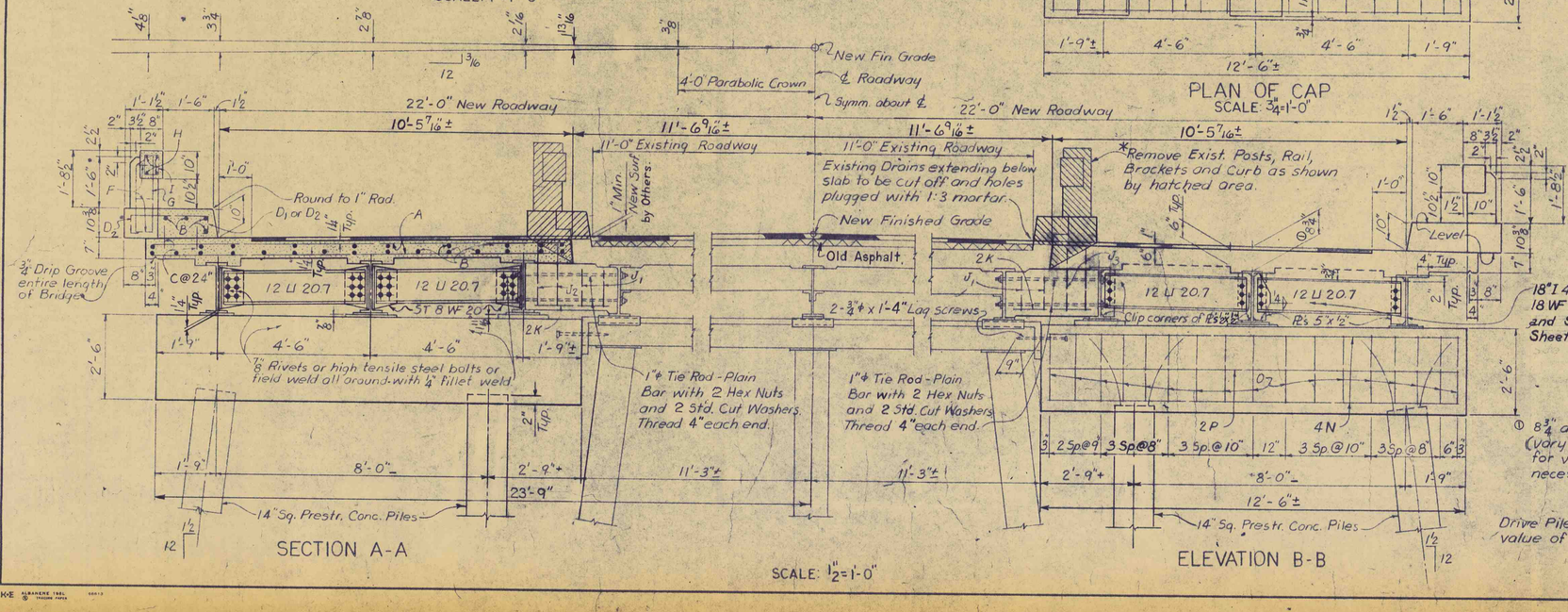


PLAN OF CAP
SCALE: ¾"=1'-0"



SECTION THRU CAP
SCALE: ¾"=1'-0"

*Note: During construction the contractor is to remove only that portion of the existing bracket that interferes with the new slab so that the exist. curb, post and rail may remain in place until widening has been completed.



18"I 47 (Salvaged) Beams or 18 WF 50 (New) Beams see Notes and Summary of Quantities on Sheet No. 7.

① 8¾" at ℄ Bearing - All beams. (vary in Span to compensate for variation in camber if necessary.)

Drive Piles to a minimum bearing value of 30 Tons per pile.

THIS SHEET TO ACCOMPANY SHEET NO. 9.
SCALE AS NOTED

REV.			
REV.			
REV.			
REV.	HDL	CDK	RBP 1-63
REVIEWED	HDL	IN CHARGE	
QUAN.			
TR.			
DR.	AGW	RBS	10-62
DES.	RBS	AGW	10-62
	BY	CHK'D	DATE

S.C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA S.C.

25'-50' SPAN SUPERSTRUCTURE DETAILS
FOR WIDENING BRIDGE
OVER
BLACK RIVER

DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	CLARENDON	301	1-63

APPROVED BY: BRIDGE DESIGN & PLANS ENGINEER
APPROVED BY: BRIDGE ENGINEER

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET No.	ROUTE No.	SHEET No.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	301	~~14~~ 15	~~53~~ 54

GABLE SCHOOL DISTRICT No 35
By: OFFICIALS
D. 4.15.32
(75'R/W)

16 lin ft of Guard Rail in place each side Reset as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Reset as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Salvage

BRIDGE No 5
Construct 101 Ft S-319 Bridge
Sta 393+35 to Sta 397+80.5
as shown on sheet no. 10

16 lin ft of Guard Rail in place each side. Salvage, ~~and Reset at end of New Bridge~~
16 lin ft of Guard Rail in place each side Salvage
* as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Reset as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Salvage

16 lin ft of Guard Rail in place each side Salvage

Exception to Project Sta 401+32 to Sta 408+19

Standing Water

BLACK RIVER

BLACK RIVER SWAMP

75'R/W

75' ROW

N 36° 46 E

S.C. Continental Tel. Co.

BRIDGE No 3
Widen 29 Ft Treated Timber Bridge - Sta 380+77 to Sta 381+06
as shown on sheet no 9

BRIDGE No 4
Widen 43 Ft Treated Timber Bridge Sta 393+90 to Sta 394+33
as shown on sheet no. 9

Salvage 29 Ft Treated Timber Bridge - Sta 392+16 to Sta 392+45

Salvage 324 ft Treated Timber Bridge Sta 396+17 to Sta 399+41

BRIDGE No 6
Widen 57 Ft Treated Timber Bridge
Sta 401+35 to Sta 401+92
as shown on sheet no 9

Salvage 15 Ft Treated Timber Bridge Sta 408+17 to Sta 408+32

16 lin ft of Guard Rail in place each side Reset as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Reset as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Salvage

16 lin ft of Guard Rail in place each side Salvage and Reset at end of New Bridge as shown on sheet no 2-A

16 lin ft of Guard Rail in place each side Salvage

Salvage 43 Ft Treated Timber Bridge Sta 339+69 to Sta 400+12

16 lin ft of Guard Rail in place each side Reset as shown on sheet no 2-A

Salvage Sta 392+00 to Sta 394+00 (C.N.E.H. Proj. No. 320-3 Sec.)

GABLE SCHOOL DISTRICT No. 35
By: OFFICIALS
D. 4.15.32
(75'R/W)

EXCEPTION TO PROJECT Sta 401+32 To Sta 408+19

EXCEPTION TO PROJECT Sta 401+32 To Sta 408+19

BRIDGE No 3
WIDEN 29 FT. TREATED TIMBER BRIDGE
STA. 380+77 TO STA. 381+06
Yardage and Surfacing Omitted

BRIDGE No 4
WIDEN 43 FT TREATED TIMBER BRIDGE
STA. 393+90 TO STA. 394+33
Yardage and Surfacing Omitted

EXC. 734 EMB - 612
10% - 122
TOT - 734 TOT - 734
OVERHAUL = 340 C.Y.S.

BRIDGE No. 5
CONSTRUCT 101 FT. S-319 BRIDGE
STA. 393+79.5 TO STA. 397+80.5
YARDAGE AND SURFACING OMITTED

101'-0" Out to Out of Bridge

100' V.C.

150' V.C.

393+05 El=192.10

395+80 El=192.93

398+55 El=192.10

+0.30%

-0.30%

+2.31%

-2.31%

0.00%

Toe of Fill 183

Toe of Fill 172

℄ Bent #1 Sta. 393+80

℄ Bent #17 Sta. 397+30

380+72 El=186.79

400+85 El=186.79

HIGH WATER El=188.8 (1928)

Subgrade

Water level: 182.1'

Water Level 182.8

Water Levels 1933

Slope 1.5 to 1

Stone Fill

SAND CLAY SAND CLAY SAND CLAY SAND CLAY SAND CLAY SAND

Beginning of Bridge

End of Bridge

Construct Low Bank Both Sides Sta 395+00 to Sta 398+00 excl. of Bridge

No attempt has been made to show probable pile penetration. Old fills under new bridge to be removed to elevation of original ground and shall be paid for as "Channel Excavation". The earth shall be removed before driving piles and shall be placed in the new fill as directed by the Engineer.

Use 100 tons of Rip-rap on tops of fill at Bridge.

FINISH GRADE ELEV. OVER BENTS

BENTS		
1	17	193.00
2	16	193.07
3	15	193.13
4	14	193.18
5	13	193.22
6	12	193.26
7	11	193.28
8	10	193.29
9		193.30

B.M. #20 Nail in Log 10 Elev 36.64 Sta 393+30 El 193.11

B.M. #21 Nail in Log 36 Elev Stump 30.71 Ft Sta 2021+27 El 184.72

B.M. #22 Nail in Log 18 Elev Stump 30.81 Sta 408+27 El 184.72

EXC. 0 - EMB 1126

EXC. - EMB 117
Bor. 1400 Tot. 1406

Beginning of Bridge

End of Bridge

EXCEPTION TO PROJECT Sta 401+32 To Sta 408+19

EXCEPTION TO PROJECT Sta 401+32 To Sta 408+19

Water Levels 1933

For Information Only

PLATE 1 - PLAN - PROFILE OF P.W.A. & W.U. STANDARD

FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14.361	301	16	64

Revised Note about Flashing; Wing Walls Changed to Parallel Type; Sheet Added; Dimensions Changed; Quantities Revised — REV. BY J.L.D. 2-25-36

Revised Note about Br. Rail; Cuts Changed; Sheet Added; Dimensions Changed; Quantities Revised — REV. BY J.L.D. 8-18-36

Revised Note about Br. Rail; Cuts Changed; Sheet Added; Dimensions Changed; Quantities Revised — REV. BY J.L.D. 11-18-36

COPPER FLASHING Rev. BY J.L.D. 2-25-36
Changes in Sheet Added, Dimensions and Quantities Revised
Checked By: R.H.W. & C.E.P. Date 2-27-36

COPPER FLASHING Rev. BY J.L.D. 8-18-36
Changes in Sheet Added, Dimensions and Quantities Revised
Checked By: R.H.W. & C.E.P. Date 8-20-36

COPPER FLASHING Rev. BY J.L.D. 11-18-36
Changes in Sheet Added, Dimensions and Quantities Revised
Checked By: R.H.W. & C.E.P. Date 11-20-36

Drawn By: J.L.D. Date: 2-25-36
Traced By: J.L.D. Date: 2-26-36
Checked By: R.H.W. & C.E.P. Date: 2-27-36

Drawn By: J.L.D. Date: 8-18-36
Traced By: J.L.D. Date: 8-19-36
Checked By: R.H.W. & C.E.P. Date: 8-20-36

Drawn By: J.L.D. Date: 11-18-36
Traced By: J.L.D. Date: 11-19-36
Checked By: R.H.W. & C.E.P. Date: 11-20-36

Approved: [illegible] Engineer of Bridges

Approved: [illegible] Engineer of Bridges

Approved: [illegible] Engineer of Bridges

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	301	~~17~~ 17	~~33~~ 54

PLAN — SURVEYED / PLOTTED / NOTE BOOK / No. — DRAWN / CHECKED / TRACED / CHECKED

PROFILE — SURVEYED / PLOTTED / NOTE BOOK / No. — DRAWN / CHECKED / STRUCTURE QUANTITIES CHECKED

E- FED. AID.
SURVEY STA. 0+00 BEGINNING OF ~~STATE~~ PROJ. ~~SC-14~~. AT INTERSECTION WITH ROUTE/NO. 26 NEAR TOWN OF MANNING.
4+30

STUMPS: 8" OAK; 46°; 33'; BOT. ⊙ 0+00.0

PI = 5+51.3
Δ = 7°18'57" LT
D = 5°-30'
T = 298.3
L = 580.9'
E = 141.8'

4 SWEET GUMS; 5 SWEET GUMS

H. M. THOMAS
D. 6.2.31
(75' DEED)

TO MANNING STATE HWY.

SUBSOIL TREATMENT

S.C. CONT. TEL. CO.

TO SUMTER

BOT. 0+00.5

R/W 37½'

FIRST RAIL STA. 2+33.4
SECOND RAIL STA. 2+47.6
ANGLE = 19°-28'-LT.

POCOTALIGO RIVER SWAMP

Remove Present Culvert Sta. 4+30

Remove Present Culvert Sta. 12+19.9

Remove Present Culvert Sta. 17+50

MRS. E.C. NETTLES ALSBROOK
D. 6.4.31
(75' DEED)

MRS. E.C. NETTLES ALSBROOK
D. 6.13.31
(75' DEED)

A.C.L. RAILROAD

TO SUMTER

OLD BORROW PIT PARTIALLY COVERED WITH WATER

N 38°-49'-E

DWELLING 100'±L

ROAD

COUNTY

V. B. HUGGINS. D. 7.11.31
(75' DEED)

In Place 10'x8'x54' R.C. Box
culvert on 45° skew Sta. 4+30
Extend 10'-6" Left & 16'-0" Right

In Place 4'x4'x38' R.C.
Box Culvert Sta. 17+50
Extend 6'-6" Left & Right

B.M. #1A CROSS IN NE. CORNER TOP END HANDRAIL 82.0 FT. ⊙ PROJ. 46 EL. = 186.67

B.M. NAIL IN ROOT OF 6" OAK 140' RIGHT OF STA. 15+20 ELEV. = 190.77

NOTE TO RESIDENT ENGINEER:-

Changes involving increased cost of project or changes in alignment must be specifically authorized by the State Highway Engineer in advance of being made. The Resident Engineer, may authorize minor alterations not in conflict with the standard practices of the Department and not involving increase in cost.

Keep a record on your set of plans of all changes made during construction and forward each month to Columbia office information necessary to check monthly estimates.

All ditches will be paid for at the unit price bid per cu. yd. for common excavation in accordance with Section 13 of the Roadway Specifications.

All curves of one degree and over are to be superelevated as shown on sheet no. 5. Elevations shown are normal elevations before superelevation is added.

All buildings etc. are to be moved from the Right-of-way so as to secure an unobstructed Right-of-way for the width shown on the plans.

All telephone and Power poles are to be moved from the roadway.

Make proper grade connection with existing road at beginning and end of project.

All guard rail to be re-set is to be retained.

The Resident Engineer is to have the contractor exercise care so as not to damage present guard rail during construction.

All ditches are to be constructed on the right of way lines through out project.

Excavation necessary in cleaning out, widening, deepening or re-shaping existing ditches or digging new ditches will be measured and paid for at the contract unit price for Common Excavation or Solid Rock Excavation as the case may be. Material obtained from said ditches may be used in roadway, widening fills, or disposed of as directed by the Engineer.

The department reserves the right to increase or decrease the length of road on which stabilizer material is to be used, also to increase or decrease the quantity of stabilizer to be used per square yard.

PROFILE — SURVEYED / PLOTTED / NOTE BOOK / No. — DRAWN / CHECKED / STRUCTURE QUANTITIES CHECKED

E- FED AID.
SURVEY STA. 0+00 BEGINNING OF ~~STATE~~ PROJ. ~~SC-14~~. AT INTERSECTION WITH ROUTE/NO. 26 NEAR TOWN OF MANNING.
4+30

E.I.C. = 259'
B.O.C. = 239'
TOT. = 498'
NO OVERHAUL

E.M.B. = 152
20% = 830
TOT. = 982

E.I.C. = 1285
B.O.C. = —
TOT. = 1285

E.M.B. = 1071
20% = 214
TOT. = 1285

Berm ditch elevations right

Left berm ditch elevations

This ditch to be increased to 6'x6' foot bottom during construction.

3 C.M.P. 1+38.88 EL. = 183.88
2 C.M.P. 2+15.62 EL. = 182.02
1 C.M.P. 2+47.5 EL. = 182.02

1+71 EL. = 187.17

3+00 EL. = 189.10

3 C.M.P. V.C. D.A. = 2.16 Ac. C = .40

2 C.M.P. V.C. D.A. = 1.20 Ac. C = .40

1 C.M.P. EL. = 183.94

DASHED LINE SHOWS GRADE AS CONSTRUCTED UNDER PREVIOUS CONTRACT

8+00 EL. = 186.50

Berm Ditch On Left Is To Be Widened

D.A. = 25.9 Ac. C = .40

+0.74%; +0.52%; +0.44%; +0.45%; +0.44%; +0.66%

This project was originally graded for thirty-four (34) foot cuts. It will be noted that the typical section for the new work calls for a minimum of thirty-six (36) foot cuts.

The existing back slopes in cut section will be shaped at the direction and in the manner prescribed by the Engineer. The material thus obtained will be used in roadway, widening fills, or disposed of as directed by the Engineer.

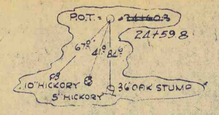
Grades shown hereon represent the approximate grades as constructed under a previous grading contract.

Lump sum bid will cover Clearing and Grubbing of entire R/w including that at bridges and proposed bridge sites unless otherwise noted.

FOR INFORMATION ONLY

| | | |

FED ROAD Div. NO.	STATE	COUNTY	DOCKET NO.	ROUTE SEC	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	301	17 18	53 54



MRS E C. NETTLES ALSBROOK
D.6.4.31 (75' DEED)

~~Build 14 foot timber bridge~~
~~on Sta 23+03 at 75° RT.~~

~~Set a 30 in C.I. pipe in dec.~~

POST 21+59.8

BARN 50' L

NEGRO HOUSE 51' L

37½' R.O.W.

37½' R.O.W.

N 73° 49' E

Miss Virginia L. Thompson
(75' COND.)
R.E. Thompson, (GUAR.)

+86 RL

R.O.W. 37½'

R.O.W. 37½'

~~Build 14 foot timber bridge~~
~~on Sta 27+11 at 90° RT.~~

V. B. HUGGINS
(75' DEED)
D. 7.11.31

In Place 6'x5'x42' RC Box
Culvert Sta. 27+55
Extend 5'-0" Left & Right

3 M.M. # 4 A NAIL IN ROOT 16" WALNUT
82' RT. STA 23+85 EL = 195.73

~~B.M. # 3 NAIL IN ROOT 18" OAK~~
~~30' LT. STA 26+00 EL = 196.51~~
B.M. NAIL IN ROOT 14" PINE
50' RT. STA. 25+90 EL. 196.12.

Right Berm Ditch Elevations

+4+22 EIC = 678 BOC = 802 TOT = 678 EMB = 565 80% = 113 TOT = 678 +4+10

+4+53 EIC = 2488 BOC = TOT = 2453 EMB = 2044 20% = 409 TOT = 2453

+4+19

EIC = 1454 BOR = 456 TOT = 1610 EMB = 1342 20% = 268 TOT = 1610

+4+90 EIC = 697 BOC = TOT = 697 EMB = 581 80% = 116 TOT = 697 +5+00

+58 191.89

78 + 71
EL. 195.37

Begin 6 ft. bottom berm ditch

+0.44%

-0.54%

+0.16%

+0.06%

+0.06%

+4+10 40' VC

Berm Ditch Left side

Berm Ditch Right Side
DA: 378 ac
C = 40

6 ft. bottom berm ditch

Berm Ditch Both Sides
Berm Ditch Elevations

FOR INFORMATION ONLY

187.01 187.41 187.81 188.21 188.61 189.01 189.41 189.81 190.12 190.28 190.43 190.62 190.78 190.92 191.08 191.24 191.40 191.56 191.72 191.88 192.04 192.10 192.16 192.22 192.28 192.34 192.40 192.46 192.52 192.58 192.64

191.78 192.22 192.66 193.10 193.54 193.98 194.42 194.64 194.83 195.00 195.15 195.20 195.27 195.42 195.45 195.50 195.51 195.56 195.62 195.68 195.74 195.80 195.86 195.92 195.98 196.04 196.10 196.16 196.22 196.28 196.34 196.40 196.46 196.52 196.58 196.64 196.70

20 1 2 3 4 5 6 7 8 9 30 1 2 3 4 5 6 7 8 9 40 1 2 3 4 5 6 7 8 9 50

PLATE I—PLAN PROFILE O.P.R.S.H.E.'S STANDARD
J. C. H. WEIL & CO. PHILADELPHIA

FED.ROAD DIV. NO.	STATE	COUNTY	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14:361	301	~~15~~ 19	~~33~~ 54

PLAN — SURVEYED 1-31 — PLOTTED 2-31 — NOTE BOOK: HIGHWAY CHECKED 2-31, R/W MAPS CHECKED — No. — STRUCTURE MOTIONS CHECKED — M.V. NOTES

PROFILE — SURVEYED — PLOTTED — NOTE BOOK: HIGHWAY CHECKED — No. — STRUCTURE MOTIONS CHECKED

4" SWEET GUM F3 — 8" SWEET GUM F3 — 35° — 45° — 8" MAPLE — 85+27.2

MISS VIRGINIA L. THOMPSON (75' CONO.) C.7.16.31
(R.E. THOMPSON, GUAR.)

BURNT [illegible] STACK POLE

LOCAL ROAD P.I.

37½ RAINS

D.W. ALDERMAN & SONS CO. (75' DEED)

SMALL BRANCH

RT. 52.9

Superelevation ends on left side 94 +52.9

PRESENT ROAD

97+30.2 POT. = 97+38.1

HUB — TEL. POLE — 66° — 51° — 83° — 97+30.2 POT. = 97+38.1

ABANDONED SHACK 49 Lt

S.C. CONTINENTAL TEL. CO.

R.R. CROSSING

Train Road

34" TWIN OAK — HUB — HUB — 36° — 75° — POT. = 108+86.1

108+86.1 POT. = 108+86.1 — 108+26.2

R.O.W. 37½

85+27.2
P.I. = 85+08.8
Δ = 44° 12' RT.
D = 39° 00'
T = 775.6
L = 1673.3'
E = 115.5

In Place 6'X4'X5'12 C. Box
culvert on 30° skew Sta. 81+00
Extend 9'-0" Left & 4'-0" Right

D.W. ALDERMAN & SONS CO.
D6.9.37
(0° DEED)

B.M. #4-A NAIL IN ROOT 12" PINE
60' LT. STA. 81+40 EL. = 199.37

B.M. #3-A NAIL IN ROOT 12" SWEET GUM
47' RT. STA. 93+46 EL. = 209.46

E.V.C. = 1825 — E.M.B. = 3748 — B.C.C. = 2853 — 20% = 750 — TOT. = 2298 — TOT. = 4273 — NO OVERHAUL

+220 — E.V.C. = 1908 — E.M.B. = 1590 — B.C.C. = 2% = 318 — TOT. = 1908 — TOT. = 1908 — OVERHAUL = 862 C.Y.S.

+1.05% — +1.00% — -0.28% — 600' V.C. — 400' V.C. Subgrade — 104+32.6 EL. 222.83

Berm ditch both sides
8 Ft. bottom berm ditch
Berm ditch elevations

BC 80+00 EL. 198.50 — D = 250.9 — C = 20

FOR INFORMATION ONLY

198.37 — 199.26 — 199.52 — 200.03 — 200.52 P.T. — 201.50 — 202.50 — 203.50 — 204.50 — 205.50 — 206.50 — 207.50 — 208.50 — 209.50 — 210.50 — 211.50 — 212.50 — 213.50 — 214.50 — 215.50 — 216.50 — 217.50 — 218.50 — 219.50 — 219.83 + 32.8 P.C. — 220.00 — 220.43 — 220.87 — 221.23 — 221.55 — 221.81 — 222.33 + 32.8 — 221.93 — 222.66 — 222.15 — 222.17 — 222.15 — 222.07 — 221.99 + 32.8 = P.T. — 221.80 — 221.52 — 221.24

80 1 2 3 4 5 6 7 8 9 90 1 2 3 4 5 6 7 8 9 100 1 2 3 4 5 6 7 8 9 110

230 220 210 200 190

PLATE I—PLAN PROFILE U. P. R. & R. E. STANDARD
J. H. WEIL & CO. PHILADELPHIA

FED ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14361	301	~~76~~ 20	~~33~~ 54

PLAN — SURVEYED / PLOTTED / NOTE BOOK / No. — DRAWN / CHECKED / ALIGNMENT CHECKED / M.S. ENT. CHECKED / STRUCTURE QUANTITIES CHECKED

PROFILE — SURVEYED / PLOTTED / NOTE BOOK / No. — DRAWN / CHECKED / STRUCTURE QUANTITIES CHECKED

N

P.I. = 90+03.0
Δ = 5°-17'-00"
D = 0°-30'
T = 520.4
L = 1040.0
E = 11.8

P.I. 90+03.0
82°
79°
60°
B
18" Pine Stump
B
Took
18" Pine

Telephone Poles
91°
85°
P.O.T. 97+82.6

D.W. ALDERMAN SONS CO.

J.B. LEE D. I. 20 32
(75' DEED)

(75' DEED) D. 6 P. 31
D.W. ALDERMAN SONS CO.

In Place 6'x5'x34' R.C. Box Culvert Sta. 108+14
Extend 11'-6" Left & Right

~~In Place 18ft. of 18in. R.C. Pipe. No Headwalls. Retain~~

~~In Place 21ft of 18in. R.C. Pipe. No Headwalls. Retain~~

5'-3"x4'-5" R.C. Box Culvert IN place
Extend 8'-6" Left & 13'-6" Right Sta. 107+77

~~Cast cut fall ditch on Right. Est. 300 cu. yds.~~

R.O.W. 37½'

R.O.W. 37½'

N. 60°-38'-E

PRESENT ROAD R/L

N. 65°-60'-E

P.C. = 84+82.6

P.T. = 95+22.6

R/L

Tenant House

S.C. Continental Tel. Co.

R.F. DUBOSE C. 7/16/31
(75' COND.)

MANNING'S BANK
D. 6 P. 31
(75' DEED)

BRANCH

R/L 77

SWAMP

BM. NOS NAIL IN ROOT ON OAK TREE
18 FT. RT. STA 90+52 EL. = 25.22

SUBGRADE

-0.60%

+0.82%

+0.90%

-1.00%

-2.26%

0.00%

+1.00%

100 V.C.

400 V.C.

400 V.C.

98+049
EL. 223.44

105+50
EL. 215.99

High Water El. = 213.6 (1928)

High Water El. = 212.2 (1938)

Q = 800 Ac.
T = 30

Berm ditch both sides
Berm ditch elevations

Berm ditch both sides
Berm ditch elevations

Note To Resident Engineer
Open Berm Ditch on left.

Berm ditch both sides
Berm ditch elevations

217.42 216.73 216.10 215.53 214.99 +85 211.98 +59 212.02 212.32 212.56 213.02 213.92 214.82 215.72 216.62 217.32 220.00 219.40 218.80 218.20 P.C. 217.92 217.67 217.46 217.28 217.14 217.04 216.97 216.94 216.98 217.05 217.16 217.36 217.69 217.94 218.33 218.55 218.91 219.30 P.T. 220.13 220.94 221.76 221.80 +049 P.T. 222.12 222.38 222.51 222.56 222.63 049 222.44 222.24 221.92 221.69 221.44 049 P.T. 220.63 219.49 218.69 217.99 P.C. 217.53 217.12 216.77 216.49 216.27 216.12 216.03 215.99 P.T. 215.99 215.99 215.99 215.99

FOR INFORMATION ONLY

PLATE 1—PLAN PROFILE | O. P. R. & R. E. STANDARD
H. WEIL & CO. PHILADELPHIA

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14-361	301	~~17~~ 21	~~33~~ 54

D.W. ALDERMAN & SONS CO. D.6-9-31
(75' DEED)

J.B. LEE D. 1-21-32
(75' DEED)

EQUALITY:
STA ~~34+00~~ (BACK) = 135+05.9
= STA ~~34+00~~ (AHEAD) 96+79.9

129+82.7
PI = ~~131+85~~ T
81°
86°
20" PINE
8" OAK
12" PINE

~~Retain 18" RCP~~
~~Pipe in place~~

+33 PI

D.W. ALDERMAN & SONS CO.
(75' DEED) D.6-9-31

~~In Place 39 Lin. Ft. of~~
~~15 in RC Pipe. Retain~~

~~Salvage 3-67 Sec~~
~~in place~~

~~In Place 55 Lin. Ft.~~
~~RCP. To Remain~~
~~Retain~~

~~Cut out & clean out~~
~~Ext. 650 +/-~~

S.C. CONTINENTAL TEL. CO.

OLD DUBOSE CUT

R.O.W. 37½

N 58°-01'-E

121+59.2
RC = ~~122+59.2~~

PI STREAM

129+82.7
PI = ~~131+85.7~~
Δ = 20°-37'-15"
D = 0°-15'
T = 573.5
L = 1066.7
E = 6.7

DWELLING +70

FLEET DUBOSE
(75' COND.)

In Place 6'x5'x32' R.C. Box culvert
Extend 4'-0" Left & Right Sta. 125+93

PT = ~~137+05.9~~ 135+05.9

R.O.W. 37½

B.M. 6-A = B.M. #2 NAIL IN ROOT 52" OAK 280' LT. STA 112+90 LINE 2
42' LT. STA 73+18 ORIG. LINE EL = 224.00

~~B.M. 5 NAIL IN ROOT 10" ORK 30' RT. STA 126+70 ON LINE~~
~~49' RT. STA 90+55 ORIG. LINE EL = 215.22~~

B.M. NAIL IN ROOT 16" PINE
40' RT. STA. 129+00 EL. 215.12

B.M. 6 NAIL IN ROOT 12" OAK
30' RT. STA 112+28 EL = 215.20

~~ETOA 1859~~	~~EMB = 1529~~
~~BOE =~~	~~20% = 310~~
~~TOT = 1859~~	~~TOT = 1859~~
~~OVERHAUL = 3357 CU. YD. STA.~~	

EXC = 2663	EMB = 2219
BOE = ——	20% = 444
TOT = 2663	TOT = 2663
OVERHAUL = 5223 CU. YD. STA.	

~~NOTE TO RESIDENT ENGINEER:~~
~~Dig new Berm Ditch on right~~
~~from (approx) Sta 101 to Sta 125+~~ and
~~Fill up old Berm Ditch.~~

400' V.C.

-0.28%

+0.82%

S 60°-59'-E

S 79°-27'-46" E
EL = 216.90

DA = 208 Ac.
C = 60
HIGH WATER EL. (1928) = 215.6

FOR INFORMATION ONLY

EQUALITY:
~~186+28 = 34+00~~
135+05.9 = 96+79.9

| | | |

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	SC	CLARENDON	14761	301	~~77~~ 22	~~77~~ 54

PLAN — SURVEYED / PLOTTED / CHK'D / QUANT. CHECKED / R/W PLAT CHECKED / STRUCTURE OUTLINES CHECKED — NOTE BOOK No. — DATE

PROFILE — SURVEYED / PLOTTED / CHK'D / C. W. HOLT / STRUCTURE OUTLINES CHECKED — NOTE BOOK No. — DATE

Tel. Pole
POT. = 117+68.19
Pecan

D.W. ALDERMAN SONS CO.
(75' DEED)

FEDERAL LAND BANK.

MRS. E.J. BROWN
(75' DEED)

J. MILTON GRAHAM
(75' DEED)

~~In Place 36" R.C. Box Culvert~~
~~Extend to Match Existing~~
~~Retain~~

TH.

Conc. Pecan Trees

Tobacco Barn Shed

B. B. DOUM JR.
(93' DEED)

S.C. Continental Tel. Co.

N 60° 38' E

R.O.W. 37½

Old Bridge Pile

Approx. Ditch Bot. 200'+

~~Superelevation Begins Sta. 130+~~
~~Full Superelevation~~
~~Begins Sta. 130+~~
+28.6

MANNINS BANK
(93' DEED)

J. MILTON GRAHAM.
(93' DEED)

In Place 6'x5'3" R.C. Box Culvert
Extend 8'-6" Left & Right
Sta. 132+44.5

In Place 5'x3'x40' R.C. Box Culvert
Extend 9'-6" Left & Right - Sta. 132+15

B.M. #6 NAIL IN ROOT OF ~~30' RT. STA. 112+28 EL. 215.76~~
B.M. NAIL IN ROOT & CHERRY.
15' RT. STA. 112+35 EL. 215.64

B.M. #7 NAIL IN ROOT 12' OAK
43' LT. STA. 135+38 EL. = 216.65

E/C = 1826 E/M = 1822
BOR = 20% 304
TOT = 1826 TOT = 1826
OVERHAUL = 2293 CU. YD. STA.

E/C = 2190 E/M = 1825
BOR = 20% 365
TOT = 2190 TOT = 2190
NO OVERHAUL

700
E/C = 1064 E/M = 887
BOR = 20% 177
TOT = 1064 TOT = 1064

400' V.C.
+0.00%
+0.36%
Sta. 113+00
EL. 215.99
Berm ditch both sides

Sta. 120+25
EL. 222.35
600' V.C.
-0.52%
-0.57%
Berm ditch both sides

800' V.C.
+0.66%
+1.04%
High Water El. 216.50 (9.28)
Sta. 133+50
EL. 216.58
D.A. = 525.9 ac
C = .30
Berm ditch both sides

Sta. 120+00
EL. 221.53
400' V.C.

Berm ditch elevations

FOR INFORMATION ONLY

PLATE 1 - PLAN PROFILE. P.P.R. & R.E. STANDARD

FED ROAD DIV. NO	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14361	301	~~19~~ 23	~~33~~ 54

PLAN
SURVEYED
PLOTTED
NOTE BOOK
ALIGNMENT CHECKED
R/W OR WAY CHECKED
No.

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
GRADES CHECKED
R/W OR WAY CHECKED
STRUCTURE MEMORANDA CHECKED
No.

P.I. = ~~180+000~~ 180+33.8
54°
23° 15'
Tel. Pole
12" Pine Stump & 18" Pine

R. FLEET DUBOSE
(75' COND.)

~~In Place 24"Dia R.C.P.C.C.C. Superstructure, Box &g Abutments. Retain~~

180+33.8
P.I. = ~~180+000~~
Δ = 76°56'-LT.
D = 0°-30'
T = 634.2'
L = 1386'
E = 71.0

~~Retain 21ft. 18in R.C. Pipe in place~~

~~In Place 24"Dia R.C.P.C.C. Superstructure, Box &g Abutments. Retain~~

~~Retain~~

~~Set Soft. C.I. Shoe~~

~~P.O.T. = 174+000~~

FORFEITED LAND COMMISSION OF CLARENDON CO.
(75' DEED)
(W. C. KENNEDY LAND)

In Place 6'x4'x38' R.C. Box Culvert
Extend 8'-6" Left & 7'-0" Right Sta. 170+10

MRS. A. R. CHANDLER
(75' DEED)

193+19.8
P.O.T. = ~~193+000~~
48°
7'
10" Pecan
48" Oak

193+19.8
P.O.T. = ~~193+000~~
193+86.9 (No Ref.)
P.O.T. = ~~193+000~~

~~Place Silt Retaining Dike (No Measurement)~~

Barn +65

Crib 13'

Crib 37'

Dwelling 23'

Barn 72'

Store

Pasture

R.O.W. 37½'

R.O.W. 37½'

N-37°-11°-E

OLD AGREON ST.

PRESENT ROAD

~~Retain 20ft. 24in RC Pipe in place~~

~~Some fill may remain on property~~

MRS. A. R. CHANDLER
(75' DEED)

~~In Place 18ft 24in RC Pipe Retain~~

~~In Place 18ft 24in RC Pipe Remove & Some fill may remain~~
Cut off walk Retain

~~In Place 18ft 24in RC Pipe Remove & Some fill may remain~~

~~Set 8" x 16" Stone 100 ft. Bdry on mnt.~~

B.M. #9 NAIL IN ROOT 22" PINE STUMP
22' RT. STA. 170+22 EL. = 225.05

B.M. #10 NAIL IN ROOT 12" CYPRESS
72' RT. STA. 196+27 EL. = 225.33

	+219	+577	+269	
EXC.	684	647		
BOR.	—	—		
TOT.	684	647		
EMB.	570	539		
20%	114	108		
TOT.	684	647		

EXC.	1230
BOR.	
TOT.	1230
EMB.	1025
20%	205
TOT.	1230

OVERHAUL = 652 CU. YD. STA

EXC.	383
BOR.	
TOT.	383
EMB.	323
20%	65
TOT.	388

Berm ditch elevations

Berm ditch elevations right

Berm ditch left

Berm ditch right side

Berm ditch both sides

Berm ditch both sides
D.S. = 166'
C = .40

Berm ditch elevations left

Subgr.

100' V.C.

+2.00%

+0.18%

+0.32%

+0.14%

-2.40%

+0.16%

Sta. 173+10
EL. = 222.99

D.S. = 243.9'
C = .40

Sta. 182+50
EL. = 224.68

FOR INFORMATION ONLY

PLATE 1—PLAN PROFILE, O.P.R.&R.E. STANDARD
J. H. WEIL & CO., PHILADELPHIA

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON.	14.361	301	~~24~~ 24	~~53~~ 54

232+98.0
POT. = ~~2331055~~
60°
55°
80°
Id. Oak
Tel. Pole
3" Pine

D. W. ALDERMAN SONS CO.
(75' DEED)

~~11 Excv. 18ft. 22in RC~~
~~Pipe to Recover~~
~~Retain~~

232+98.0
POT. = ~~2331055~~
Abandoned Drive & Fence
Negro House
3 F.

~~11 Excv. 18ft. 22in RC~~
~~Pipe to Recover~~
~~Retain~~

D. W. ALDERMAN SONS CO.
(75' DEED)

~~11 Excv. 18ft. 22in RC~~
~~Pipe to Recover~~
~~Retain~~

CATHERINE M. WERBER
(75' DEED)

~~STORE HOUSE~~

~~Retain 21ft. 24in RC~~
~~Pipe in place~~

~~Salvage 30" RCP~~

~~Salvage 30" RCP~~

CATHERINE M. WERBER
(75' DEED)

~~16 In. Excv. for 30in RC~~
~~Pipe to Recover~~
~~Retain~~

HARMONY ELIZABETH PRESBYTERIAN CHURCH
(66' DEED)
Abandoned Shack
Negro School
66' x 67'

~~Salvage 30" RCP~~

~~Retain 18ft. 24in RC~~
~~Pipe in place~~

S.C. Continental Tel. Co.

~~16 In. Excv. for 30in RC~~
~~Pipe to Recover~~
~~Retain~~

Abandoned Shack

In Place 3'X5'X42' RC. Box Culvert Sta. 255+00
Extend 5'-0" Left & 8'-0" Right

~~BM. NAIL IN ROOT 12" PINE STUMP~~
~~23' LT. STA. 244+84 EL. 224.62~~
BM. NAIL IN TOP 12" PINE STUMP
50 LT. STA. 244+82 EL. 224.75

BM. NAIL IN ROOT 12" OAK
40' LT. STA. 255+55 EL. 223.01

	EXC.	EMB.
BOR		2075
SWELL		650
TOT	4547	2725

HAUL = 0.23 CUS.D STA

SUBGRADE

-0.11%
-0.19%
-0.08%

Berm ditch both sides
Berm ditch elevations
~~Berm ditch right side~~
~~Berm ditch elevations~~

D84+20.96
C=40

FOR INFORMATION ONLY

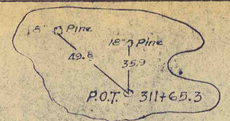
PROFILE
SURVEYED
PLOTTED
NOTE-BOOK
No.
QUANTITIES CHECKED
BY SI WAY CHECKED
STRUCTURE QUANTITIES CHECKED

PLATE 1—PLAN PROFILE O. P. R. & R. F. STANDARD
J. H. WEIL & CO. PHILADELPHIA

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	1436	301	~~37~~ 25	~~39~~ 54

LAN SURVEYED / PLOTTED / DRAWN / CHECKED / ST. PLANE CHECKED / STRUCTURE MISSION - CHECKED — NOTE BOOK — DATE / BY / No.

PROFILE — SURVEYED / PLOTTED / DRAWN / CHECKED / ST. PLANE CHECKED / STRUCTURE MISSION - CHECKED — NOTE BOOK — DATE / BY / No.



D.W. ALDERMAN SONS CO. (75' DEED)

R. H. FLEMING (75' DEED)

A.S. RAWLINSON (75' DEED)

~~Cut off top of pipe & Fill~~
~~Put on end of Culvert.~~

~~Return 21" R.C.P.~~
~~Pipe in place~~

P.O.T. 311+65.3

P.O.T. 317+72 (No 21" R.C.)

R.O.W. 37½

N 37° 11' E

S.C. Continental Tel. Co.

GARDEN

Barn

~~Return~~

21" R.C.P. ROAD

R.C. 1.35

In Place double 6'x5'x32' R.C. Box culvert Sta. 296+30
Extend 10'-0" Left & Right

D.W. ALDERMAN SONS CO. (75' DEED)

E.L. ARD (75' DEED)

ROBERT ARD (75' DEED)

8'x3'x40' R.C. Box culvert in place Sta. 296+10
Extend 8'-0" Left & Right

~~B.M. 1/2 NAIL IN ROOT 16" PINE 34 Lt. STA. 311+84 EL. 202.81~~

B.M. NAIL IN ROOT 12" BLACK GUM 60' Lt. STA. 312+40 EL. 203.42

~~EIC = 758 BOR = 1535 TOT = 2293~~ ~~EMB 101 20% 382 TOT 220~~

~~EIC = 363 BOR = 1353 TOT = 1716~~ ~~EMB 470 20% 296 TOT = 1742~~

~~EIC = 445 BOR = TOTAL 445~~ EMB = 371 20% = 74 TOT = 445

~~EIC = 206 BOR = 206~~ ~~EMB 72 20% 34 TOT = 206~~

SUBGRADE

400' V.C.

318+00 EL. 205.27

-0.14% Hub Water El. 202.46 (328)

0.00%

+0.16%

+0.40%

+0.18%

-0.39%

306+50 EL. 203.20

Berm ditch both sides

Berm ditch elevations

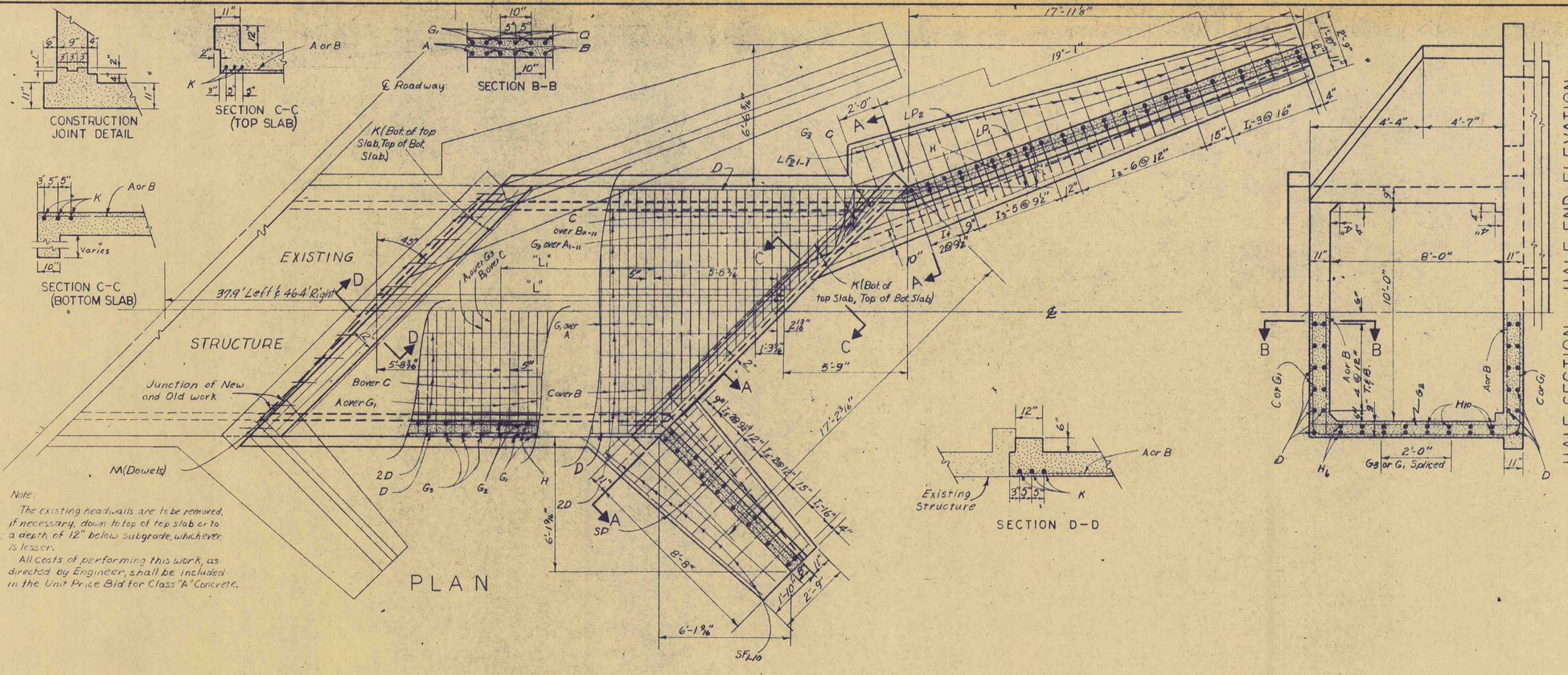
Berm ditch both sides

Berm ditch elevations

FOR INFORMATION ONLY

PLATE 1—PLAN PROFILE O.P.R. & P.E. STANDARD
J. H. WEIL & CO., PHILADELPHIA

FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Clarendon	14.361	301	~~27~~ 26	~~33~~ 54



Note:
The existing headwalls are to be removed, if necessary, down to top of top slab or to a depth of 12" below subgrade, whichever is lesser.
All costs of performing this work, as directed by Engineer, shall be included in the Unit Price Bid for Class "A" Concrete.

STEEL SCHEDULE

MARK	SIZE NO.	*NO.	*LENGTH	SPACING	LOCATION
A	7	(L/10+1)/2	11'-2"	10"C.toC.	T. & B. Slabs
A_{1-11}	7	4 ea.	10'-2" to 1'-10" Vary by 10"	"	"
B	6	(L/10)2	11'-2"	"	"
B_{1-11}	6	4 ea.	10'-7" to 2'-3" Vary by 10"	"	"
C	4	L/10+4	6'-0"	"	Corners
D	4	44	L - 5"	12"C.toC.	T. & B. Slabs
SF_{1-10}	4	1 ea.	2'-8" to 4'-9" Vary by 2 3/4"	As Shown	Short Wing Footing
LF_{1-21}	4	1 ea.	2'-6" to 4'-6" Vary by 1 9/16"	"	Long Wing Footing
G_1	6	(L/10+1)/2	22'-3"	10"C.toC.	S. Walls & Slabs
G_2	4	(L/5+1)/2	9'-6"	15"C.toC.	Sidewalls
G_3	6	48	7'-9"	10"C.toC.	Corners & S. Walls
H_{1-4}	4	2 ea.	L+5'-3" to L+18'-3" Vary by 4'-4"	12"C.toC.	Sidewalls & Long Wing
H_5	4	8	L + 18'-9"	"	"
H_{6-9}	4	2 ea.	L+2'-3" to L+8'-3" Vary by 2'-0"	"	Sidewalls & Short Wing
H_{10}	4	8	L + 8'-4"	"	"
I_1	4	9	5'-11"	16"C.toC.	Wings & Footings
I_2	4	16	7'-3"	12"C.toC.	"
I_3	4	13	9'-2"	9 1/2" C.toC.	"
I_4	4	6	10'-5"	"	"
J_1	5	2	21'-6"	As Shown	Long Wing
J_2	5	2	11'-6"	"	Short Wing
K	8	12	15'-9"	"	T. & B. Slabs
M	6	32	1'-6"	"	Dowels
SP	4	5	12'-0"	"	S. Wing Footing
LP_1	4	4	26'-0"	"	L. Wing Footing
LP_2	4	1	23'-3"	"	"

* "L" or "L_1" in inches. Disregard fractions.
Use "L_1" for figuring No. of A, B and G_1 Bars.
Use "L" for figuring No. of C, and G_2 Bars and lengths of D and H Bars.

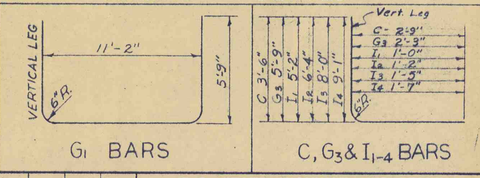
UNCLASSIFIED EXCAVATION (Both Ends) - 50 C.Y.

QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
4130	10'-6" Av.	3559 LBS.	23.1 CY
4130	16'-0" Ft.	4963 LBS.	30.1 CY
		LBS.	CY
		LBS.	CY
TOTAL		8522 LBS.	53.2 CY

Note:
Method used in figuring quantities.
Reinforcing Steel = 877 + 255.4 L*
Class "A" Concrete = 9.736 + 1.272 L*
* in feet

BENDING DETAILS



Notes:
Design Specifications: "Standard Specifications for Highway Bridges" A.A.S.H.O. - 1961 - f_s = 20,000 psi, f_c = 1,200 psi, n = 10. v = 90 psi., u = 300 psi., H20 Loading, 10' Earth fill (max.) and also meets the requirements of alternate interstate tandem axle live load.
Center of main reinforcing steel shall be 2" from the surface of the Concrete.
All concrete shall be Class "A" Concrete.
Chamfer all exposed edges 3/4".
Spacing of bars is from center to center.
Depth of Cut-off walls shall be determined by the Engineer in the field and quantities added to those shown.

Notes (cont'd)
Work to be done consists of removing that portion of the existing structure interfering with construction of new structure and extending in accordance with these plans.
The holes for dowels are to be drilled 9" into old concrete and dowels firmly set in a 1:3 mortar.
All costs of removing and disposing of portions of old structure, drilling and chipping, whether shown or not, necessary to construct new structure, shall be included in the Unit Price Bid for Class "A" Concrete.
The contractor shall replace or repair, at his own expense and to the satisfaction of the Engineer any portion of the existing structure damaged due to his carelessness or negligence.

Concrete P.F.L. Barrel	1.272 C.Y.
Concrete P.F.L. Cut-Off Wall (1 end) -	1.309 C.Y.
Excavation P.F.L. P.F.D. Barrel	0.6111 C.Y.
Reinforcing Steel P.F.L. Barrel	255.40 lbs.

THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS.
WITH REVISIONS THROUGH 1961

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

REV.		
REV.		
REV.		
REV.	GMA WBB 12-63 DKY. IV. 361	
REVIEWED		
IN CHARGE		
QUAN.	H.B.W.	WBB amp 4-63
TR.		
DR.	H.B.W.	WBB amp 4-63
DES.	NEW	STD.
	BY	CHK'D DATE

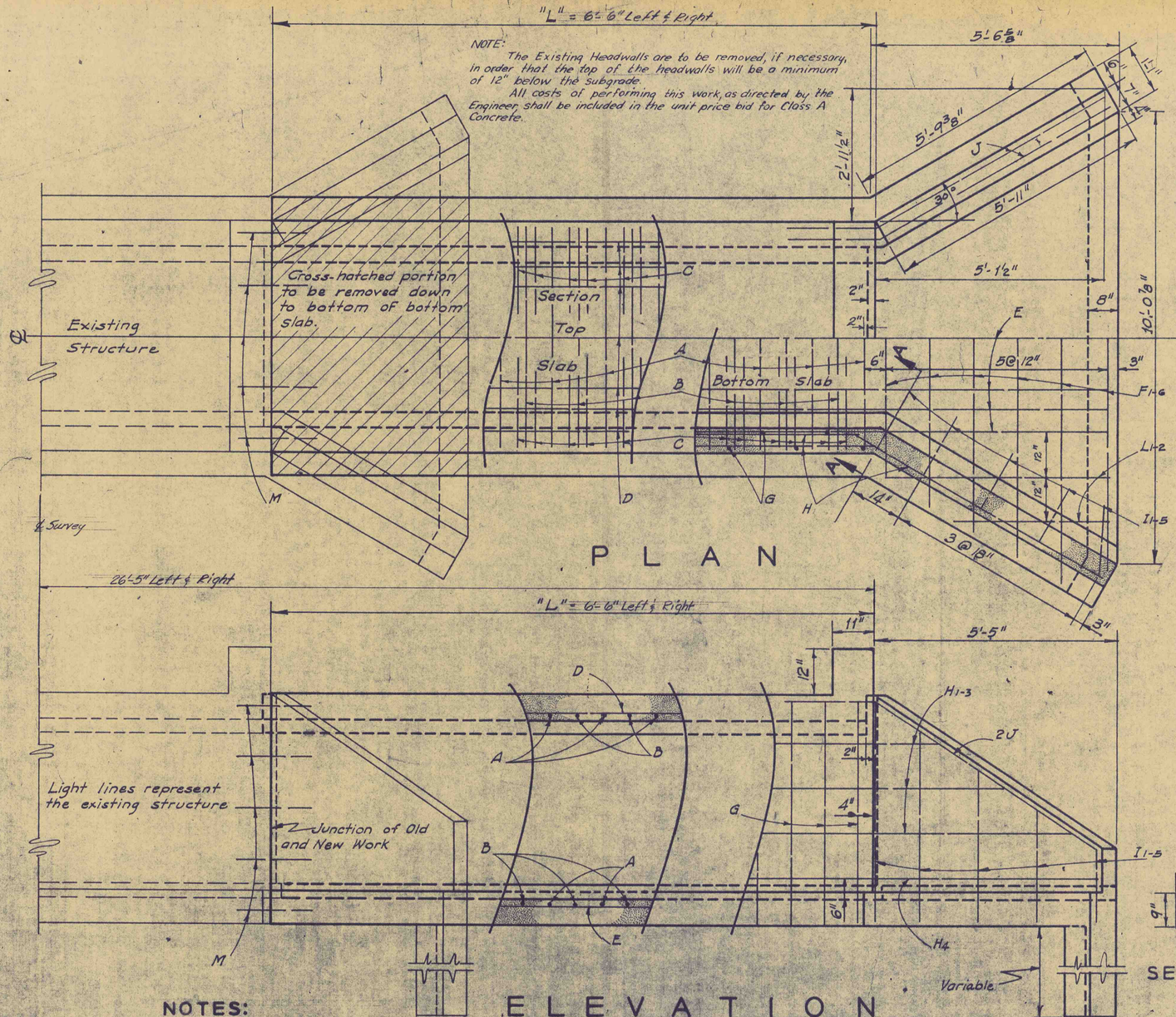
S.C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA S.C.

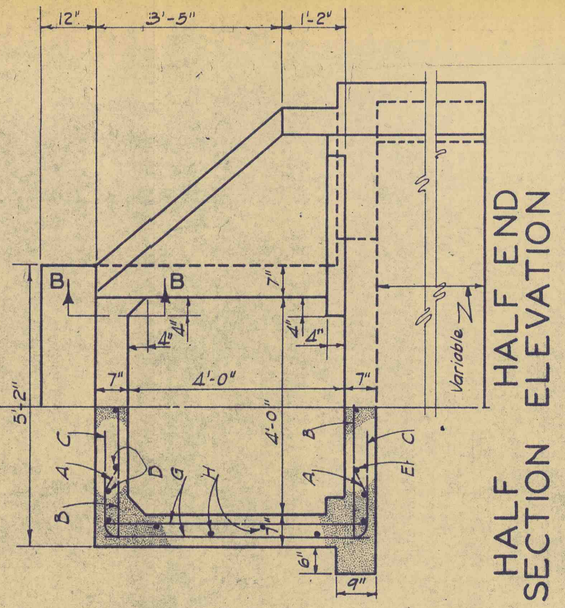
CONCRETE CULVERT REINFORCED BOX TYPE SINGLE 10'X 8' SK. 45° EXTENSION

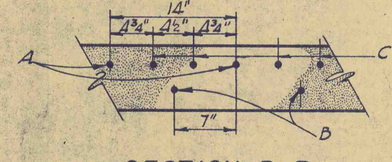
DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	Clarendon	301	4-63

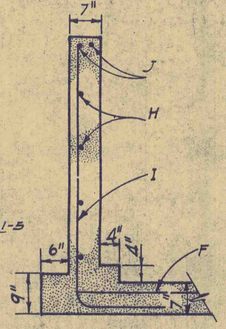
APPROVED BY O. E. Crum — BRIDGE DESIGN & PLANS ENGINEER
APPROVED BY — BRIDGE ENGINEER

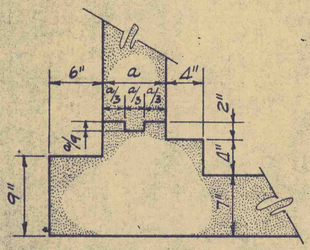
FED ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	301	~~23~~ 27	~~33~~ 54

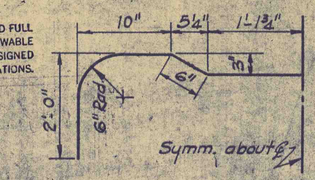


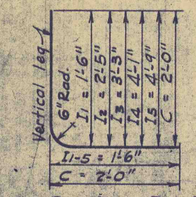












STEEL SCHEDULE ONE END

MARK	No. Units	SIZE	LENGTH	SPACING	LOCATION
A	(L/4) 2	#2 φ	8'-6"	14" C to C.	T. & B. Slabs
B	(L/4) 2	#2 φ	4'-10"	"	"
C	(L/4) 8	#4 φ	3'-9"	As Shown	Corners
D	7	#2 φ	L+(6'-4")	"	Top Slab
E	7	#2 φ	L+(5'-1")	"	Bot. Slab
F1	1	#2 φ	10'-4"	12" C to C	Apron
F2	1	#2 φ	10'-10"	"	"
F3	1	#2 φ	9'-8"	"	"
F4	1	#2 φ	8'-6"	"	"
F5	1	#2 φ	7'-4"	"	"
F6	1	#2 φ	6'-2"	"	"
G	(4A) 2	#2 φ	4'-10"	9" Stag'd	Sidewalls
H1	2	#2 φ	L+(1'-6")	12" "	S.W. & Wings
H2	2	#2 φ	L+(3'-2")	12" "	"
H3	2	#2 φ	L+(5'-0")	12" "	"
H4	2	#2 φ	L+(5'-8")	12" "	"
I1	2	#2 φ	2'-9"	As Shown	Wings & Apron
I2	2	#2 φ	3'-8"	"	"
I3	2	#2 φ	4'-6"	"	"
I4	2	#2 φ	5'-4"	"	"
I5	2	#2 φ	6'-0"	"	"
J	4	#8 φ	9'-0"	"	Wings
L1	2	#2 φ	5'-0"	"	Top of Apron
L2	2	#2 φ	3'-0"	"	"
M	16	#4 φ	1'-6"	"	Dowels

✱ Disregard Fractions.

Concrete R.F.L. Bbl. ____ 0.4362 C.Y.
Concrete R.F.D Cut-Off Wall (1 end) ____ 0.2934 C.Y.
Excavation R.F.L., R.F.D. Bbl. ____ 0.3766 C.Y.
Reinforcing Steel R.F.L. Bbl. ____ 77.2 Lbs

QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
17+50	6'-6" Left	694 LBS.	4.95 C.Y.
17+50	6'-6" Right	694 LBS.	4.95 C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
TOTAL		1388 LBS.	9.9 C.Y.

NOTE:
Method used in figuring Quantities
Reinf. Steel = 192.0 + 77.2 L
Class "A" Concrete = 2.119 + 0.4362 L

UNCLASSIFIED EXCAVATION (Both Ends) - 15 C.Y.

Deleted ✓

S.C. STATE HIGHWAY DEPARTMENT COLUMBIA

CONCRETE CULVERT

REINFORCED BOX TYPE

SINGLE 4' x 4' EXTENSION

S.C. DOCKET NO. 14.361 Clarendon COUNTY

ROUTE NO. 301 DATE 3-1965

B 1.44 EXT.

NOTES:

Design Specifications: "Standard Specifications for Highway Bridges", A.A.S.H.O.-1941 (except fs) fs = 20,000 #/in², fc = 1,000 #/in², n = 10, v = 90 #/in², u = 165 #/in², H15 Loading, 10' earth fill (Max.)

Work to be done consists of removing the designated portions of the existing structure and extending in accordance with these plans.

The holes for the dowels to be drilled 9" into old concrete and the dowels firmly set in a 1:3 mortar.

The Contractor shall replace or repair at his own expense, and to the satisfaction of the Engineer, any portion of the Existing Structure damaged, due to his carelessness or negligence.

Structural grade reinforcing steel not permitted.

Center of main reinforcing steel shall be 2" from the surface of the concrete.

All concrete shall be Class "A".

Chamfer all exposed edges ¾".

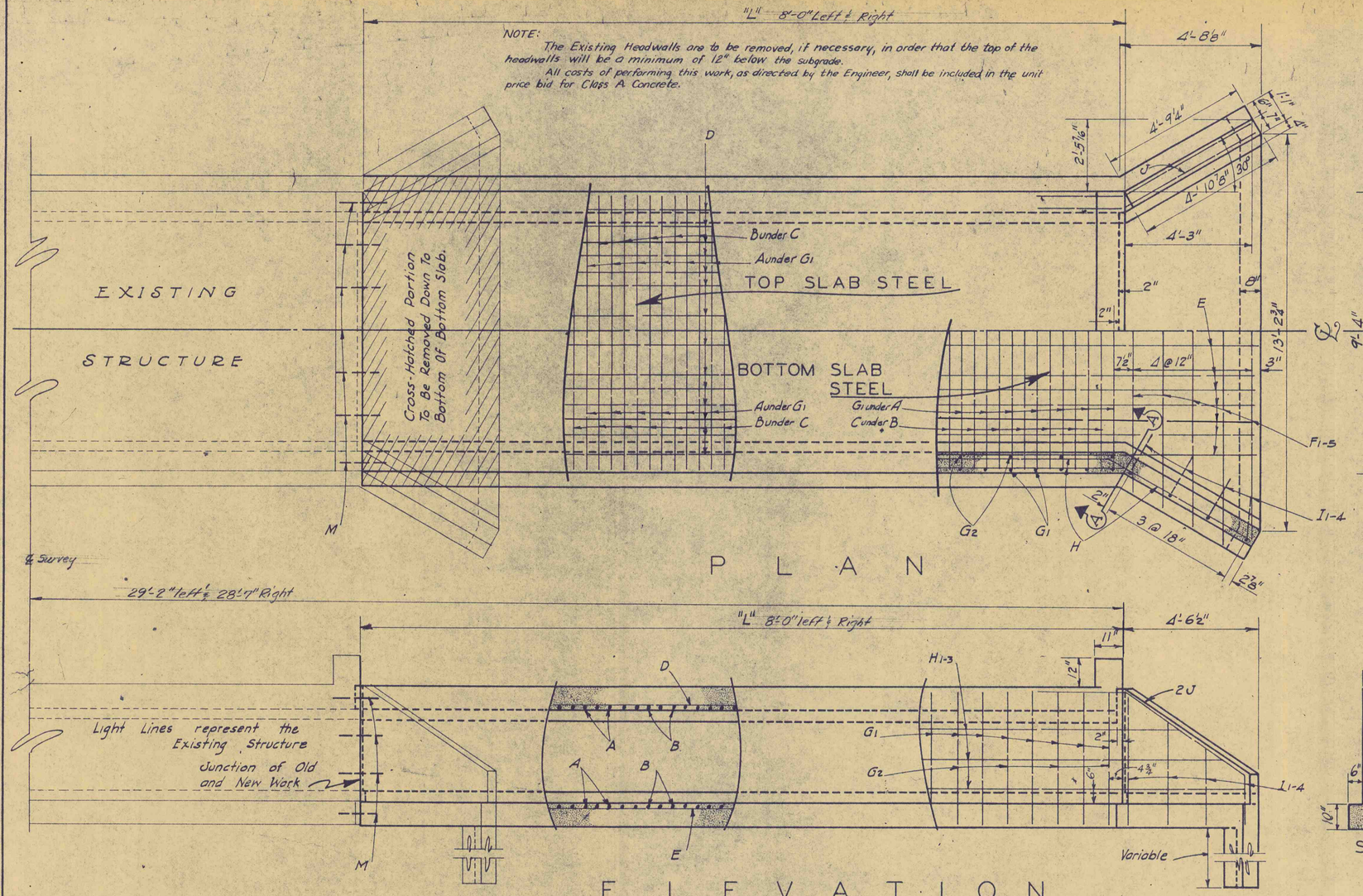
Depth of cut-off wall shall be determined by the Engineer and quantities added to those shown.

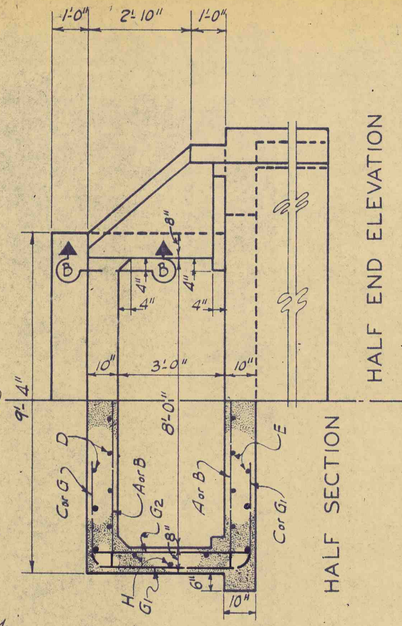
All the costs of removing the designated portions of existing structure, drilling and chipping, are to be included in unit price bid for Class "A" Concrete.

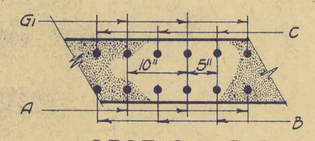
THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS WITH REVISIONS THROUGH 1961.

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

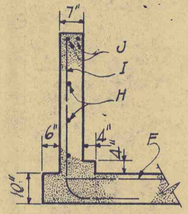
Rev.	GMP	G.K.B.	3-63
	For Dft. 14.361		
Quant.	G.K.B.	W.B.B.	7-45
Tr.	W.R.T.	W.B.B.	8-45
Dr.	G.K.B.	W.B.B.	7-45
Des.	G.K.B.	W.B.B.	7-45
	BY	CHKD	DATE



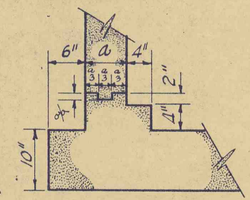




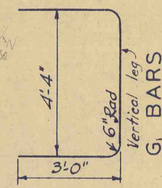
SECTION B-B

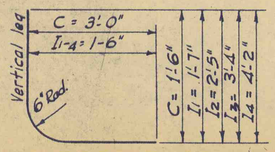


SECTION A - A



CONSTRUCTION JOINT DETAIL





C & I_{1-4} BARS

NOTES:-

Design Specifications: "Standard Specifications for Highway Bridges" A.A.S.H.O.-1941 (except fs.) fs=20,000#/in², fc=1000#/in², n=10, v=90#/in, u=165#/in., H15 loading, 10' earth fill (max).
Work to be done consists of removing the designated portions of the existing structure and extending in accordance with these plans.
The holes for dowels to be drilled 9" into old concrete and the dowels firmly set in a 1:3 mortar.
All costs of removing the designated portions of the existing structure, drilling and chipping, are to be included in the unit price bid for Class "A" Concrete.
The Contractor shall replace or repair at his own expense, and to the satisfaction of the Engineer, any portion of the existing structure damaged, due to his carelessness or negligence.
Structural grade reinforcing steel not permitted.
Center of main reinforcing steel shall be 2" from the surface of the Concrete.
All concrete shall be Class "A".
Chamfer all exposed edges ¾".
Depth of Cut-Off wall shall be determined by the Engineer and quantities added to those shown.

THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS. WITH REVISIONS THROUGH 1961.

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

Rev.	GMP	G.K.B.	3-63
	Rev. A, B, D, E-Bars		
Quant.	G.K.B.	W.B.B.	7-45
Tr.	W.R.T.	W.B.B.	9-45
Dr.	G.K.B.	W.B.B.	9-45
Des.	G.K.B.	W.B.B.	7-45
	BY	CHK'D	DATE

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	301	~~27~~ 28	~~53~~ 54

STEEL SCHEDULE 1 END

MARK	NO. (* NO. in Inches)	SIZE	LENGTH	SPACING	LOCATION
A	(1/10) 2	¾" ϕ	9'-0"	10" c. to c.	T & B Slabs.
B	(1/10) 2	½" ϕ	9'-0"	"	"
C	(1/10) 4	⅝" ϕ	4'-3"	"	Corners.
D	14	½" ϕ	L - (6'-4")	As Shown	Top Slab.
E	14	½" ϕ	L + (4'-2")	"	Bot. Slab.
F1	1	½" ϕ	13'-4"	12" c. to c.	Apron.
F2	1	½" ϕ	13'-10"	"	"
F3	1	½" ϕ	12'-8"	"	"
F4	1	½" ϕ	11'-6"	"	"
F5	1	½" ϕ	10'-4"	"	"
G1	(1/20) 2	¾" ϕ	9'-10"	10" c. to c.	S.W. & Slabs.
G2	(1/20) 2	½" ϕ	4'-4"	20" c. to c.	Side Walls.
H1	2	½" ϕ	L + (2'-0")	12" Stag'd.	S.W. & Wings.
H2	2	½" ϕ	L + (3'-7")	"	"
H3	2	½" ϕ	L + (4'-8")	"	"
I1	2	½" ϕ	2'-10"	18" c. to c.	Wings & Apron.
I2	2	½" ϕ	3'-8"	"	"
I3	2	½" ϕ	4'-7"	"	"
I4	2	½" ϕ	5'-5"	"	"
J	4	⅝" ϕ	8'-0"	As Shown	Wings.
M	18	¾" ϕ	1'-6"	"	Dowels.

* Disregard Fractions

Concrete P.F.L. Barrel ____ 0.7675 C.Y.
Concrete P.F.D. Cut-Off wall (1 end) 0.3713 C.Y.
Excavation P.F.L., P.F.D. Barrel ____ 0.5309 C.Y.
Reinforcing Steel P.F.L. Barrel ____ 129.8 LBS.

QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
296+10	8'-0" left	1,226 LBS.	8.85 C.Y.
296+10	8'-0" Right	1,226 LBS.	8.85 C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
TOTAL		2,452 LBS.	17.7 C.Y.

NOTE :-
Method used in figuring Quantities
Reinforcing Steel = 187.1 + 129.8 L
Class "A" Concrete = 2.717 + 0.7675 L

UNCLASSIFIED EXCAVATION (Both Ends) - 30 C.Y.

S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA

CONCRETE CULVERT

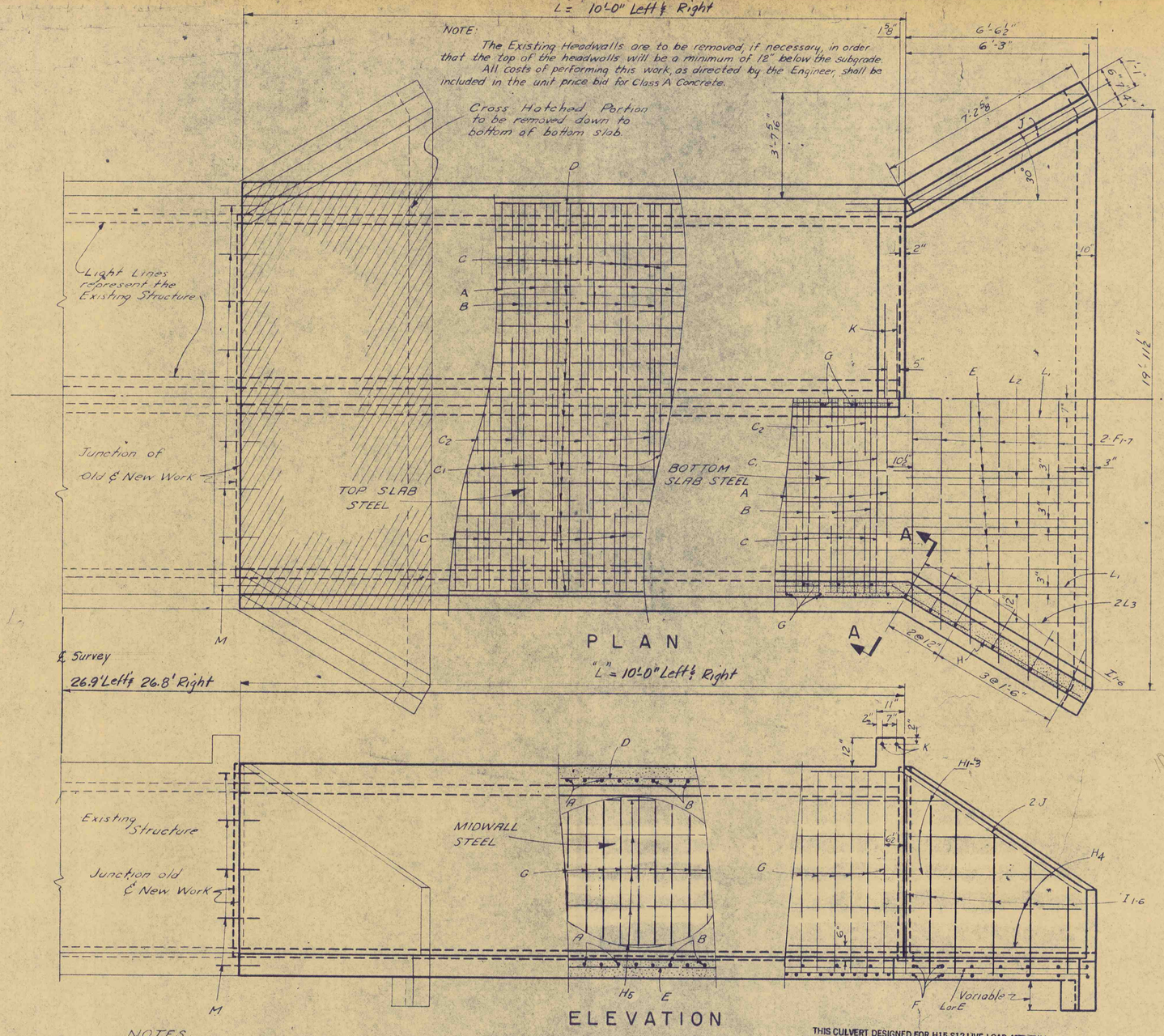
REINFORCED BOX TYPE

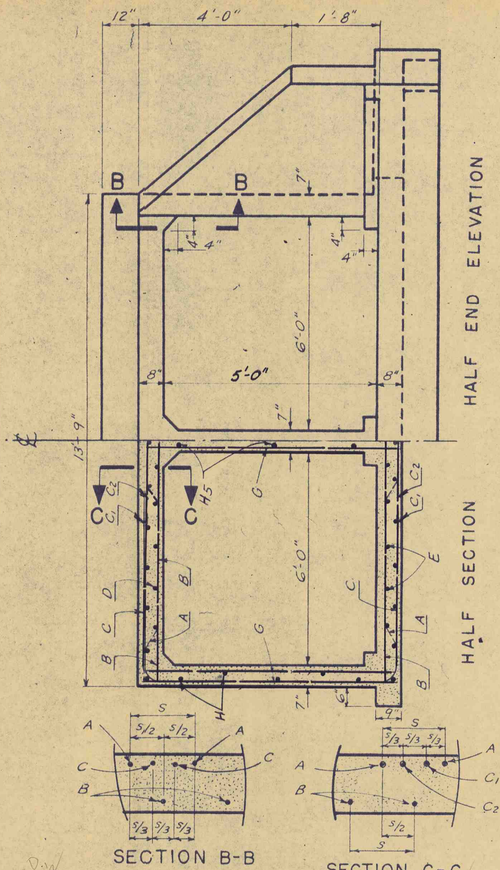
SINGLE 8'x3' EXTENSION

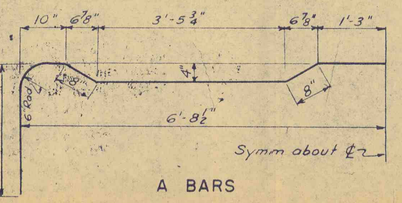
S.C. DOCKET NO. 14,361 Clarendon COUNTY

ROUTE NO. 301 DATE 3-1963

B 1.83 EXT.







REV	GMP	GKG	3-63
	From	22.66	
DWN	RBS	WBB	7-54
TR	EAG	WBB	7-54
DR	RCS	WBB	7-54
DES	DFD	WBB	7-63
	BY	CHKD	DATE

NOTES

Design Specifications: "Standard Specifications Highway Bridges" AASHO-1941 (except fs)
fs=20,000psi, fc=1000psi, n=10, v=90psi, u=165psi, H15 loading, 10' earth fill (max.)
Work to be done consists of removing the designated portions of the existing structure and extending in accordance with these plans.
The holes for dowels to be drilled 9" into old concrete and dowels firmly set in a 1:3 mortar.
All costs of removing the designated portions of the existing structure, drilling and chipping, are to be included in the Unit Price Bid for Class "A" Concrete.
The Contractor shall replace or repair at his own expense, and to the satisfaction of the Engineer, any portion of the existing structure damaged due to his carelessness or negligence.
Structural grade reinforcing steel not permitted.
Center of main reinforcing steel shall be 2" from the surface of the concrete.
All concrete shall be class "A"
Chamfer all exposed edges ¾"
Depth of Cut-Off Wall shall be determined by the Engineer and quantities added to those shown.
All dimensions relative to reinforcing steel are to center of bars.

THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS, WITH REVISIONS THROUGH 1961.

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

FED ROAD DIV NO	STATE	COUNTY	DOCKET NO	ROUTE NO	SHEET NO	TOTAL SHEETS
3	S.C	Clarendon	14.361	301	~~25~~ 29	~~33~~ 54

STEEL SCHEDULE ONE END

MARK	* No "L" in Inches	SIZE NO.	LENGTH	SPACING	LOCATION
A	(L/4)2	5	18'-4"	14" C to C	T&B Slabs
B	(L/4)2	5	13'-5"	"	"
C	(L/4)8	4	4'-9"	As Shown	Corners
C_1	(L/4)2	6	8'-4"	"	T&B Slabs
C_2	(L/4)2	6	5'-4"	"	"
D	23	4	L-(0'-4")	"	Top Slab
E	23	4	L+(6'-2")	"	Bot Slab
F_1	2	4	20'-1"	12" C to C	Apron
F_2	2	4	20'-7"	"	"
F_3	2	4	19'-5"	"	"
F_4	2	4	18'-3"	"	"
F_5	2	4	17'-1"	"	"
F_6	2	4	15'-11"	"	"
F_7	2	4	14'-9"	"	"
G	(L/7)3	4	6'-0"	7" Stgd	Walls
H_1 to H_3	2-20	4	L+(1'-8") to L+(5'-4") Varying by 1'-10"	12" Stgd	S.W.& Wings
H_4	4	4	L+(7'-0")	"	"
H_5	5	4	L-(0'-4")	"	Mid Wall
I_1	2	4	3'-7"	As Shown	Wings
I_2	2	4	4'-5"	"	"
I_3	2	4	5'-3"	"	"
I_4	2	4	6'-1"	"	"
I_5	2	4	6'-7"	"	"
I_6	2	4	7'-3"	"	"
J	4	5	10'-6"	"	"
K	2	5	6'-6"	"	Headwall
L_1	4	4	6'-3"	"	Top of Apron
L_2	4	4	6'-3"	"	Bot of Apron
L_3	4	4	5'-7"	"	T&B Apron
M	27	6	1'-6"	"	Dowels

* Disregard Fractions

Concrete PFL Barrel _____ 1.0556 CY
Concrete PFD Cut-Off Wall (1 End) __ 0.6689 CY
Excavation PFL, PFD Barrel _____ 0.6944 CY
Reinforcing Steel PFL Barrel ____ 175.1 Lbs

QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
296+30	10'-0" Left	2,252 LBS	15.3 CY
296+30	10'-0" Right	2,252 LBS	15.3 CY
		LBS	CY
		LBS	CY
		LBS	CY
		LBS	CY
TOTAL		4,504 LBS	30.6 CY

NOTE
Method used in figuring Quantities
Reinforcing Steel = 500.7 + 175.1 L
Class "A" Concrete = 4.7737 + 1.0556 L

UNCLASSIFIED EXCAVATION (Both Ends) - 65 C.Y.

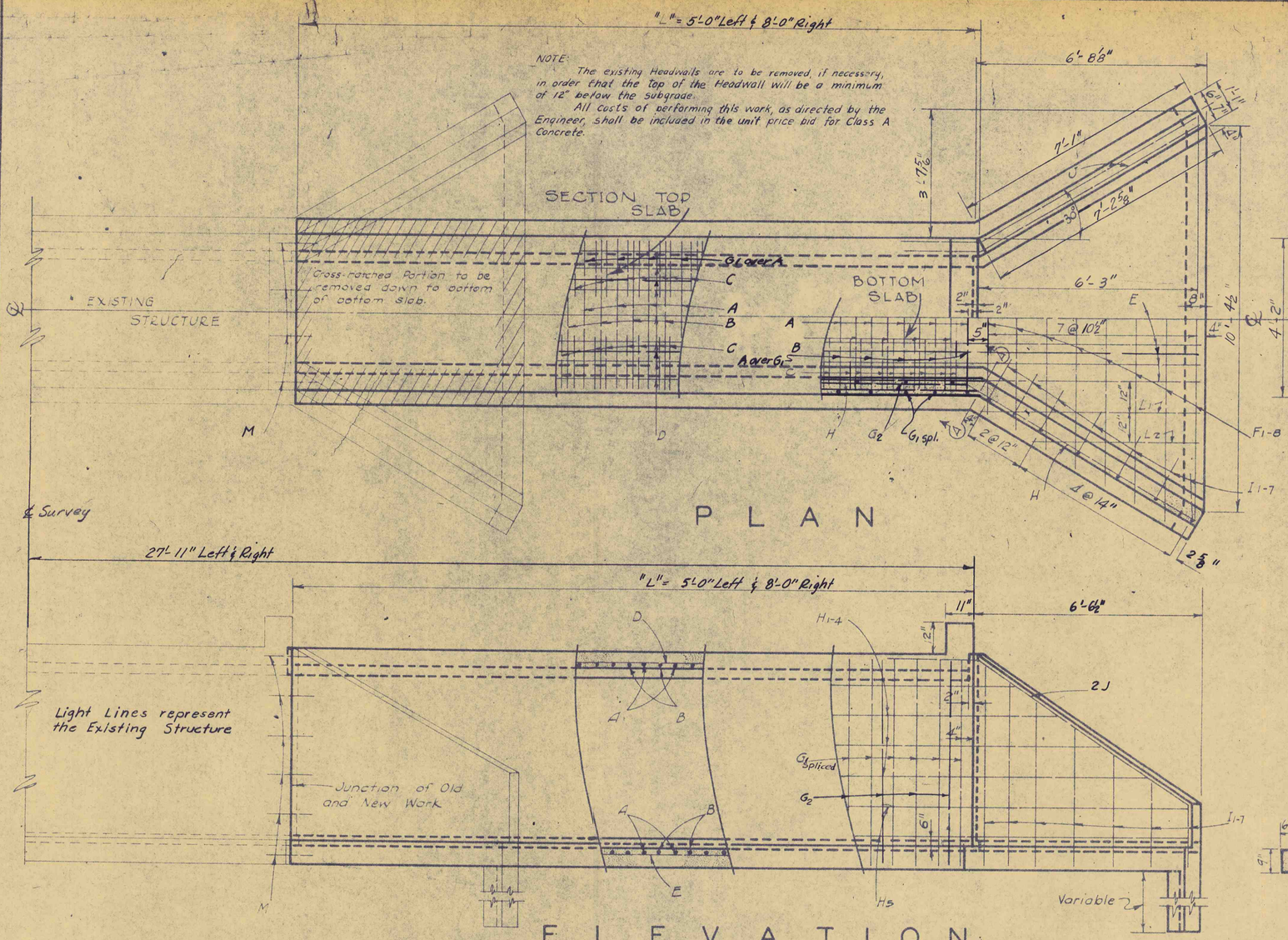
S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA

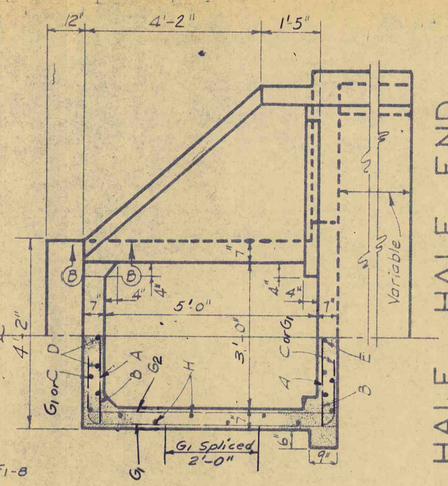
CONCRETE CULVERT
REINFORCED BOX TYPE
DOUBLE 6'X5' EXT.

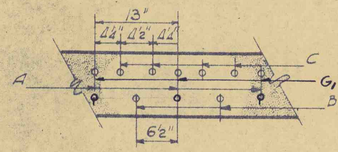
S. C. DOCKET NO. 14.361 Clarendon COUNTY
ROUTE NO. 301 DATE 4-1963

B 2.65 EXT.

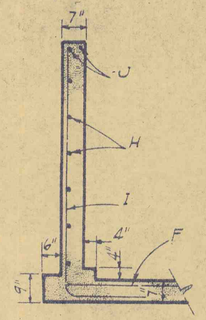
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	301	~~26~~ 30	~~33~~ 54

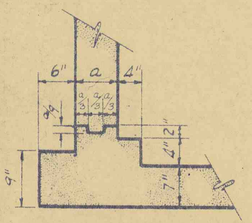






SECTION B-B





STEEL SCHEDULE ONE END

MARK	* No. in Inches	SIZE	LENGTH	SPACING	LOCATION
A	(7/12) 2	2" ϕ	3'-10"	13" c. to c.	T & B Slabs
B	(7/12) 2	2" ϕ	3'-10"	"	"
C	(7/12) 8	5/8" ϕ	3'-3"	As Shown	Corners
D	9	2" ϕ	L-(0'-4")	"	Top Slab
E	9	2" ϕ	L+(6'-1")	"	Bot. Slab
F1	1	2" ϕ	10'-8"	10½" c. to c.	Apron
F2 to F8	1 ea.	2" ϕ	11'-1" to 5'-1" Vary by 1'-0"	"	"
G2	(7/12) 2	2" ϕ	5'-10"	19½" C. to C.	Side Walls
H1 to H4	2 ea.	2" ϕ	L+(0'-8") to L+(5'-2") Vary by 1'-6"	10½" Stag'd.	S.W. & Wings
H5	4	2" ϕ	L+(6'-10")	"	"
I1 to I9	2 ea.	2" ϕ	3'-0" to 5'-8" Vary by 8"	As Shown	Wings & Apron
I6	2	2" ϕ	6'-3"	"	"
I7	2	2" ϕ	6'-10"	"	"
J	4	5/8" ϕ	10'-0"	"	Wings
L1	2	2" ϕ	5'-6"	"	Apron
L2	2	2" ϕ	3'-9"	"	"
M	16	¾" ϕ	1'-6"	"	Dowels
G1	(7/12) 4	½" ϕ	5'-2"	13" C. to C.	S.W. & Corners

* Disregard Fractions

Concrete P.F.L. Barrel ____ 0.4362 C.Y.
Concrete P.F.D. cut off wall (1 end) 0.3008 C.Y.
Excavation P.F.L., P.F.D. Barrel ____ 0.3395 C.Y.
Reinforcing Steel P.F.L. Barrel ____ 72.1 LBS.

QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
255+00	5'-0" Left	610 LBS.	4.8 C.Y.
255+00	8'-0" Right	827 LBS.	6.2 C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
TOTAL		1,437 LBS.	11.0 C.Y.

NOTE:
Method used in figuring Quantities
Rein. Steel = 249.9 + 72.1 L
Class "A" Concrete = 2.643 + 0.4362 L

UNCLASSIFIED EXCAVATION (Both Ends) – 15 C.Y.

Deleted

NOTES:

Design Specifications: "Standard Specifications for Highway Bridges" A.A.S.H.O. - 1941 (except fs) fs = 20,000 #/in², fc = 1000 #/in², n = 10, v = 90 #/in², w = 165 #/in², H15 loading, 10' Earth fill (Max).

Work to be done consists of removing the designated portions of the existing structure and extending in accordance with these plans.

The holes for the dowels to be drilled 9" into old concrete and the dowels firmly set in a 1:3 Mortar.

All costs of removing the designated portions of existing structure, drilling and chipping, are to be included in the unit price bid for Class "A" Concrete.

The Contractor shall replace or repair at his own expense, and to the satisfaction of the Engineer, any portion of the existing structure damaged, due to his carelessness or negligence.

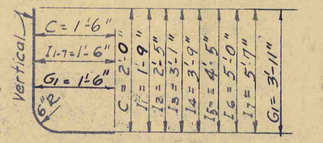
Structural grade reinforcing steel not permitted.

Center of main reinforcing steel shall be 2" from the surface of the concrete.

All Concrete shall be Class "A".

Chamfer all exposed edges ¾".

Depth of Cut-Off Wall shall be determined by the Engineer and quantities added to those shown.



C, G1 & I1-7 BARS

THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS. WITH REVISIONS THROUGH 1961.

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

Rev.	GMP	G.F.C.	3-63
	From 4'x6'		
QUAN	GKB	NBB	8-63
EX	NRT	NBB	7-63
DR	GKB	NBB	8-63
DES	GKB	NBB	8-63
	BY	CHKD	DATE

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA

CONCRETE CULVERT

REINFORCED BOX TYPE

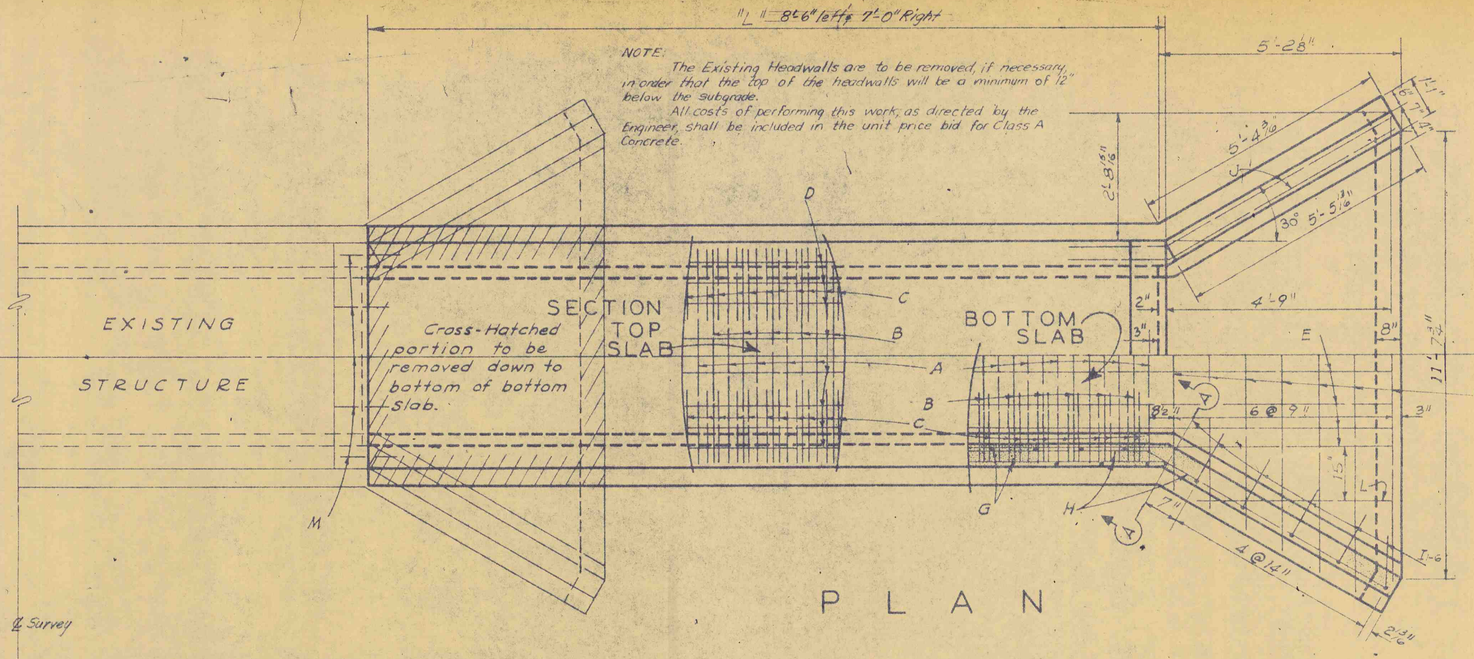
SINGLE 3' × 5' EXTENSION

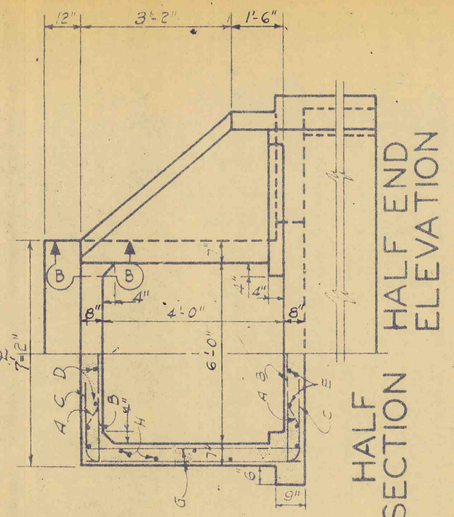
S.C. DOCKET NO. 14.361 CLARENDON COUNTY

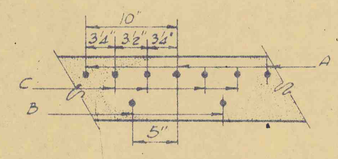
ROUTE NO. 301 DATE 4-1963

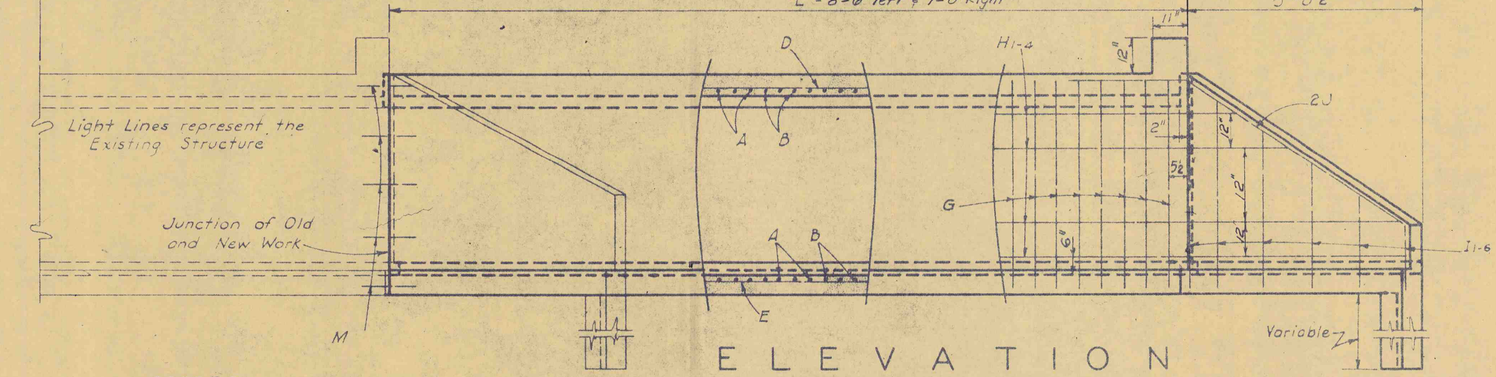
B 1.35 EXT.

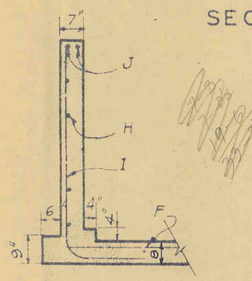
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14,361	301	31	64

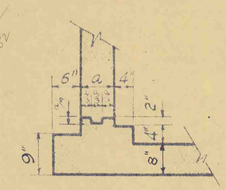












STEEL SCHEDULE JEND

MARK	No. Lin. Inch	SIZE	LENGTH	SPACING	LOCATION
A	(4/10)2	½" ϑ	10'-6"	10" C to C.	T.E.B. Slabs
B	(4/10)2	⅝" ϑ	6'-10"	"	"
C	(4/10)8	⅝" ϑ	4'-3"	As Shown	Corners
D	8	2" ϕ	L=(6'-4")	"	Top Slab
E	8	2" ϕ	L=(4'-8")	"	Bot. Slab
F	1	2" ϕ	11'-10"	9" c to c.	Apron
F2	1	2" ϕ	12'-7"	"	"
F3	1	2" ϕ	11'-9"	"	"
F4	1	2" ϕ	10'-11"	"	"
F5	1	2" ϕ	10'-1"	"	"
F6	1	2" ϕ	9'-3"	"	"
F7	1	2" ϕ	8'-3"	"	"
G	(7/8)2	⅝" ϑ	5'-0"	7½" Staqd	Side Walls
H1	2	½" ϕ	L=(11'5")	12" Staqd	S.W. & Wings
H2	2	2" ϕ	L=(3'-2")	"	"
H3	2	2" ϕ	L=(3'-11")	"	"
H4	2	2" ϕ	L=(5'-4")	"	"
I1	2	2" ϕ	3'-2"	As Shown	Wings & Apron
I2	2	2" ϕ	3'-10"	"	"
I3	2	2" ϕ	4'-6"	"	"
I4	2	2" ϕ	5'-2"	"	"
I5	2	2" ϕ	5'-10"	"	"
I6	2	2" ϕ	6'-2"	"	"
J	4	⅝" ϑ	8'-6"	"	Wings
K	2	2" ϕ	4'-2"	"	Top of Apron
M	16	¾" ϑ	1'-6"	"	Dowels

*Disregard Fractions

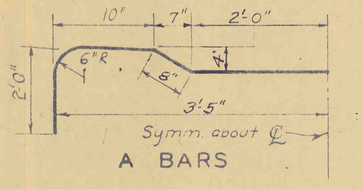
Concrete P.F.L. Barrel	0.5669 C.Y.
Concrete P.F.D. Cut Off Wall (One End)	0.3322 C.Y.
Excavation P.F.L., P.F.D. Barrel	0.4506 C.Y.
Reinforcing Steel P.F.L. Barrel	109.2 Lbs.

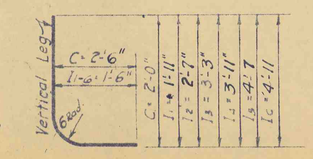
QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
170+10	8'-6" Left	1,136 LBS	7.3 C.Y.
170+10	7'-0" Right	973 LBS	6.4 C.Y.
		LBS	C.Y.
		LBS	C.Y.
		LBS	C.Y.
		LBS	C.Y.
TOTAL		2,109 LBS	13.7 C.Y.

Note:
Method used in figuring Quantities
Reinf. Steel = 208.2 + 109.2 L
Class "A" Concrete = 2.450 + 0.5669 L

UNCLASSIFIED EXCAVATION (Both Ends) - 20 C.Y.





NOTES:

Design Specifications: "Standard Specifications for Highway Bridges," A.A.S.H.O.-1941 (except fs) fs = 20,000 #/in², fc = 1,000 #/in², n=10, v = 90 #/in², u = 165 #/in², H15 loading, 10' Earth fill (Max).

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Structural grade reinforcing steel not permitted.

Center of main reinforcing steel shall be 2" from the surface of the concrete.

All concrete shall be class "A".

Chamfer all exposed edges ¾".

Depth of Cut-Off Wall shall be determined by the Engineer and quantities added to those shown.

All dimensions relative to reinforcing steel are to center of bars.

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AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

Rev.	G.M.P.	G.K.B.	3-63
Rev.	G.K.B.	G.M.P.	12-59
	B1.64 EXT.		
Rev.	R.D.E.	W.B.B.	7-58
	Copied on Foil		
Rev.	R.C.W.R.T.		8-52
	From G.K.B.		EXT.
Quan.	G.K.B.	W.B.B.	7-45
Tr.	W.R.T.	W.B.B.	8-45
Dr.	G.K.B.	W.B.B.	7-45
Des.	G.K.B.	W.B.B.	7-45
	BY	CHKD	DATE

S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA

CONCRETE CULVERT

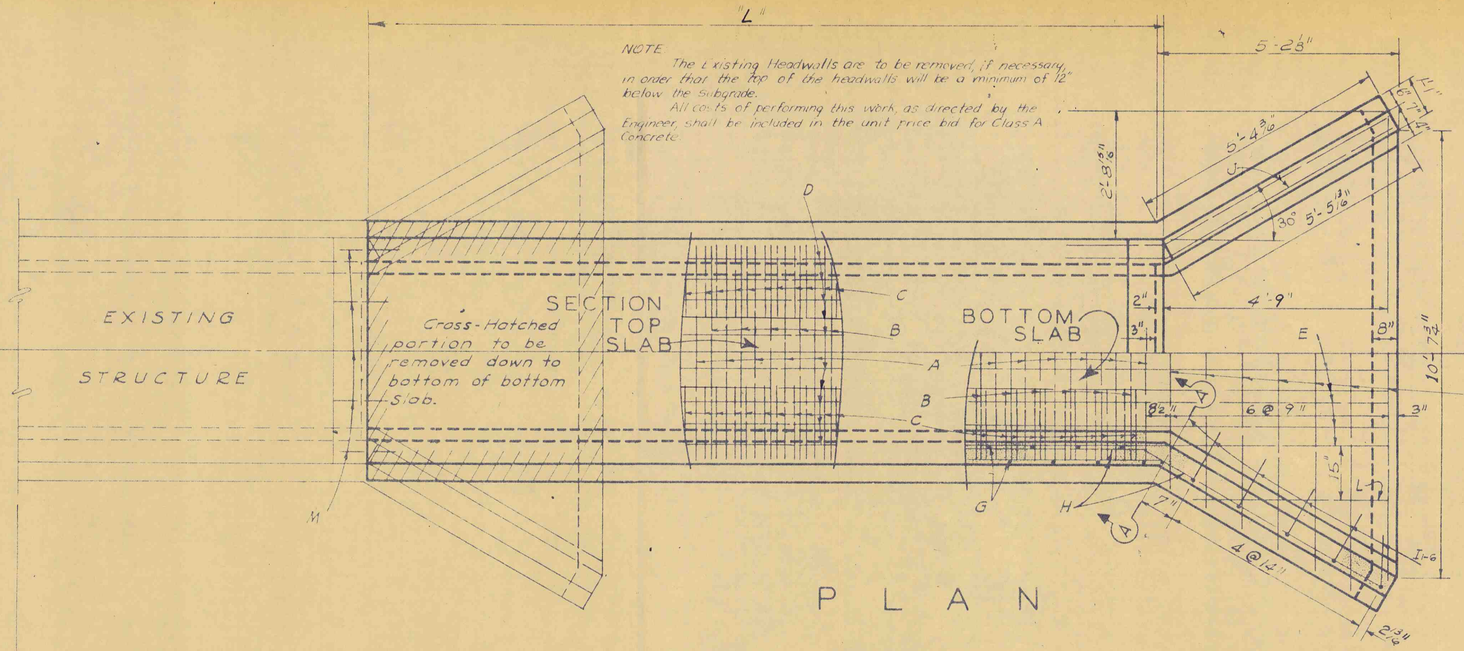
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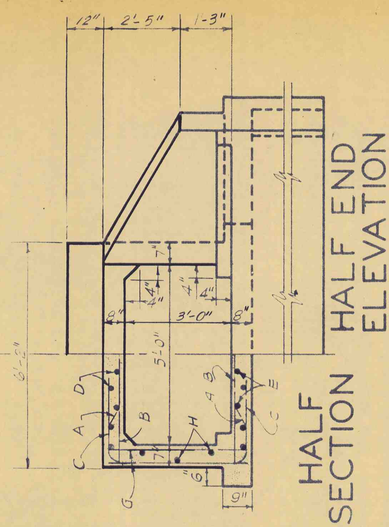
SINGLE 6'x4' EXTENSION

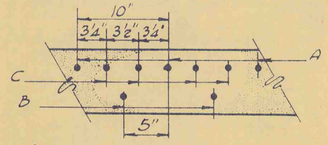
S. C. DOCKET NO. 14,361 Clarendon COUNTY

ROUTE NO. 301 DATE 3-1963

B1.64 EXT.

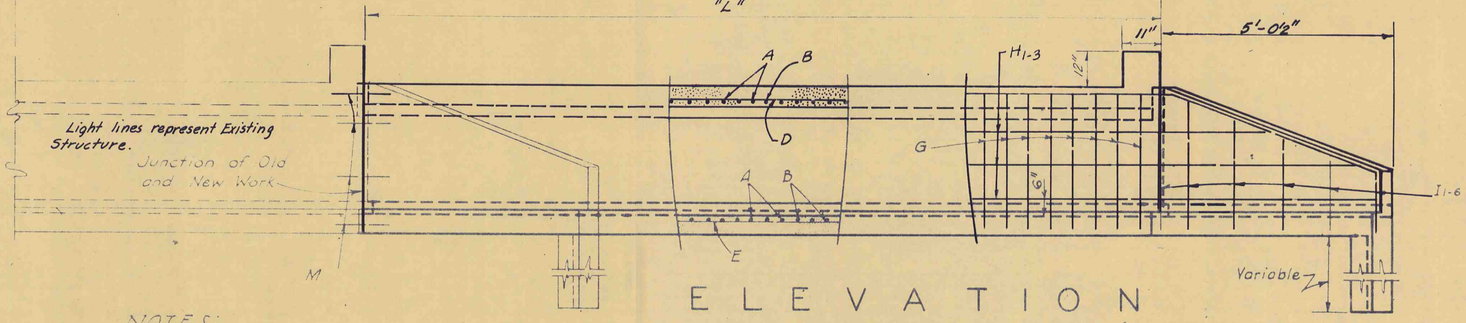


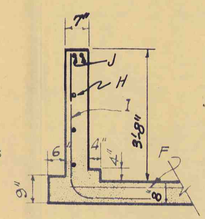


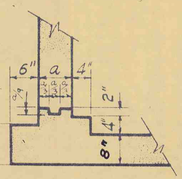


℄ Survey

Sta. 107+77-33'-0" Left & 34'-11" Right
Sta. 132+15- 31'-11" Left & Right

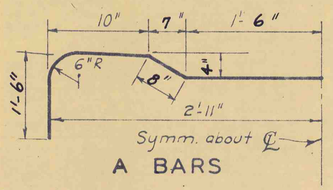


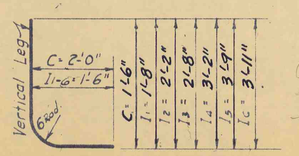




8-6 / 7-0½ / 15-6½ / 25-6 / 41-0½

13-6 / 7-0½ / 20-6½ / 21-6 / 42-0½





9-6 / 7-0½ / 16-6½ / 23-6 / 40-0½

NOTES:

Design Specifications: "Standard Specifications for Highway Bridges," A.A.S.H.O.-1941 (except fs). fs = 20,000 #/in², fc = 1000 #/in², n=10, v=90 #/in², u=165 #/in², H 15 loading, 10' Earth fill (Max).

Work to be done consists of removing the designated portions of the existing structure and extending in accordance with these plans.

The holes for the dowels to be drilled 9" into old concrete and the dowels firmly set in a 1:3 Mortar.

All costs of removing the designated portions of existing structure, drilling and chipping, are to be included in unit price bid for class "A" concrete.

The Contractor shall replace or repair at his own expense, and to the satisfaction of the Engineer, any portion of the existing structure damaged, due to his carelessness or negligence.

Structural grade reinforcing steel not permitted.

Center of main reinforcing steel shall be 2" from the surface of the concrete.

All concrete shall be class "A".

Chamfer all exposed edges ¾".

Depths of Cut-Off Wall shall be determined by the Engineer and quantities added to those shown.

All dimensions relative to reinforcing steel are to center of bars.

THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS. WITH REVISIONS THROUGH 1961.

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.

Rev.	G.M.	G.K.B.	3-63
Rev.	H.L.E.	S.P.B.	2-63
Rev.	C.O.R.E.	G.O.F.	1-63
Orig.	J.W.S.	D.K.C.	11-62
Drawn	D.R.B.	W.D.D.	11-62
Tr.	D.A.C.	P.A.B.	11-62
Tr.	G.K.B.	P.B.B.	11-62
Des.	G.K.B.	P.B.B.	7-62
	P.	W.D.	Date

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	301	~~31~~ 32	~~53~~ 54

STEEL SCHEDULE LEGEND

MARK	No. in Inch	SIZE	LENGTH	SPACING	LOCATION
A	(4/10) 2	⅝" ϕ	8'-7"	10" C to C.	T.E.B. Slabs
B	(4/10) 2	⅝" ϕ	5'-10"	"	"
C	(4/10) 8	⅝" ϕ	3'-3"	As Shown	Corners
D	10	2" ϕ	L-(3'-4")	"	Top Slab
E	10	½" ϕ	L+(6'-8")	"	Bot. Slab
F1	1	½" ϕ	10'-10"	7" c to c.	Apron
F2	1	½" ϕ	11'-7"	"	"
F3	1	½" ϕ	10'-9"	"	"
F4	1	½" ϕ	9'-11"	"	"
F5	1	½" ϕ	9'-1"	"	"
F6	1	½" ϕ	8'-3"	"	"
F7	1	½" ϕ	7'-3"	"	"
G	(4-7½)2	⅝" ϕ	4'-0"	7½" Stagd	Side Walls
H1	2	½" ϕ	L+(2'-11")	12" Stagd	S.W. & Wings
H2	2	½" ϕ	L+(4'-4")	"	"
H3	2	½" ϕ	L+5'-2"	"	"
I1	2	½" ϕ	2'-11"	As Shown	Wings & Apron
I2	2	½" ϕ	3'-5"	"	"
I3	2	½" ϕ	3'-11"	"	"
I4	2	½" ϕ	4'-5"	"	"
I5	2	½" ϕ	5'-0"	"	"
I6	2	½" ϕ	5'-2"	"	"
J	1	⅝" ϕ	8'-0"	"	Wings
L	2	½" ϕ	4'-2"	"	Top of Apron
M	14	¾" ϕ	1'-6"	"	Dowels

*Disregard Fractions

Concrete P.F.L. Barrel	0.4743 C.Y.
Concrete P.F.D. Cut-Off wall (One End)	0.3075 C.Y.
Excavation P.F.L., P.F.D. Barrel	0.4136 C.Y.
Reinforcing Steel P.F.L. Barrel	99.3 Lbs.

QUANTITIES

STATION	LENGTH "L"	REINFORCING STEEL	CLASS "A" CONCRETE
107+77	8'-6" Left	1,037 LBS.	6.2 C.Y.
107+77	13'-6" Right	1,534 LBS.	8.5 C.Y.
132+15	9'-6" Left	1,137 LBS.	6.6 C.Y.
132+15	9'-6" Right	1,137 LBS.	6.6 C.Y.
		LBS.	C.Y.
		LBS.	C.Y.
TOTAL		4,845 LBS.	27.9 C.Y.

NOTE:
Method used in figuring Quantities
Reinf. Steel = 193.3 + 99.3 L
Class "A" Concrete = 2.1330 + 0.4743L

UNCLASSIFIED EXCAVATION (Both Ends) - Sta. 107+77 - 20 C.Y.
Sta. 132+15 - 20 C.Y.

S. C. STATE HIGHWAY DEPARTMENT
COLUMBIA

CONCRETE CULVERT

REINFORCED BOX TYPE

SINGLE 5' x 3' EXTENSION

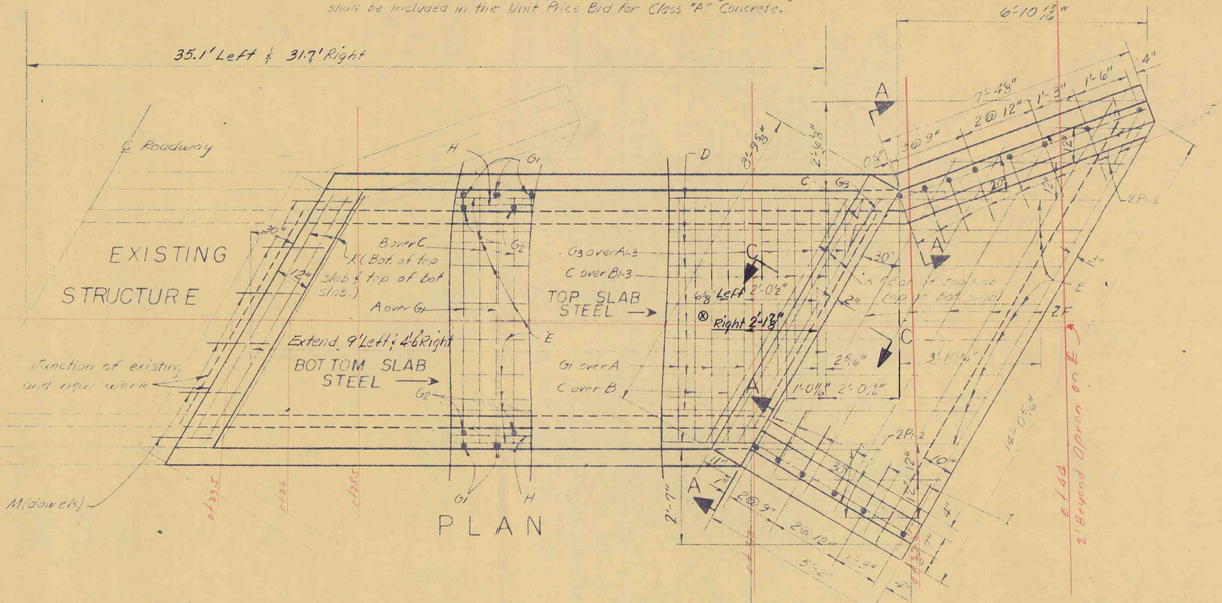
S. C. DOCKET NO. 14.361 Clarendon COUNTY

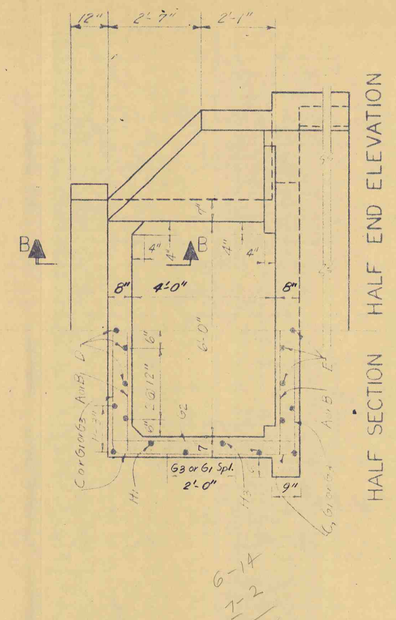
ROUTE NO. 301 DATE 4-1963

B1.53 EXT.

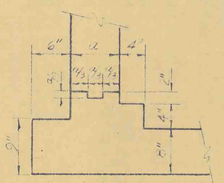
NOTES:-
The existing headwalls are to be removed, if necessary, down to the top of the top slab or to a depth of 12" below subgrade, which ever is the lesser.
All costs of performing this work, as directed by the Engineer shall be included in the Unit Price Bid for Class "A" Concrete.

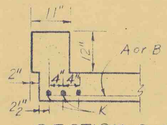
35.1' Left & 31.7' Right

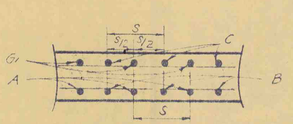


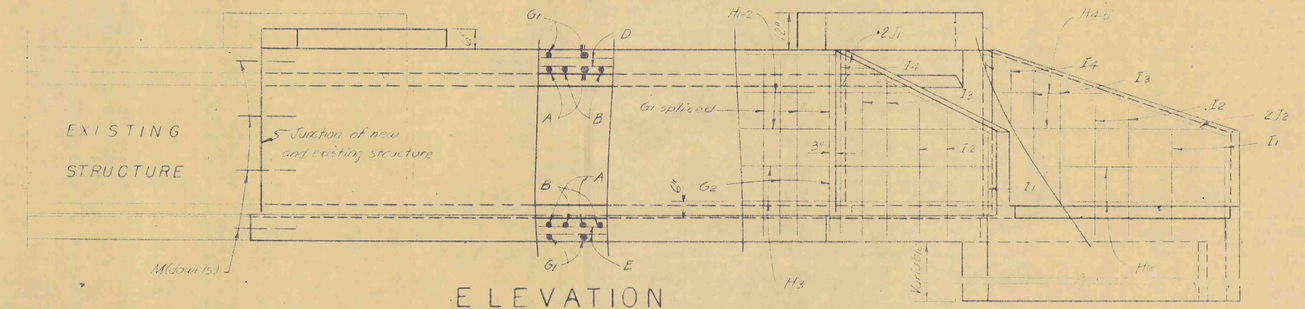


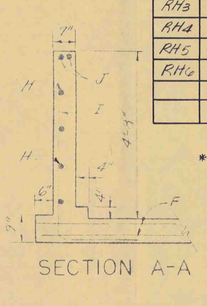
® Left or Right denotes Left or Right Extension.
There are no "B" bars in the right extension.











FED. RD. DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	301	~~23~~ 33	~~35~~ 54

STEEL SCHEDULE (Both Ends)

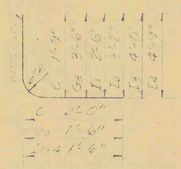
MARK	SIZE NO.	NO.	LENGTH	SPACING	LOCATION
A	6	14	6'-10"	11" C. to C.	I. & B. Slabs
A1	6	6	5'-0"	"	"
A2	6	6	3'-5"	"	"
A3	6	8	1'-10"	"	"
B	5	10	6'-10"	"	"
B1	5	6	5'-10"	"	"
B2	5	6	4'-3"	"	"
B3	5	6	2'-8"	"	"
C	4	52	3'-6"	"	Corners
*L1	4	11	8'-6"	As Shown	Top Slab
L2	4	11	14'-6"	"	Bottom Slab
F1	4	4	12'-3"	12" C. to C.	Apron
F2	4	4 ea.	3'-10 to 10'-1	"	"
F3	4		Vary 1 at 1'-3"		
G1	5	14	13'-5"	11" C. to C.	Slabs & Walls
G2	4	22	5'-0"	16" C. to C.	Side walls
G3	5	32	4'-9"	11" C. to C.	Corners & Skew
L1	4	1	10'-4"	12" Stag'd.	Wall & Short Wing
L1a	4	1	12'-3"	"	"
L2	4	2	13'-10"	"	"
L2a	4	1	11'-5"	"	Wall & Long Wing
L3	4	1	14'-6"	"	"
L3a	4	2	16'-0"	"	"
I1	4	6	3'-9"	As Shown	Wings & Apron
I2	4	6	4'-5"	"	"
I3	4	8	5'-3"	"	"
I4	4	6	6'-0"	"	"
J1	5	4	7'-3"	"	Short Wing
J2	5	4	9'-3"	"	Long Wing
K	6	68	7'-10"	"	I. & B. Slabs
M	6	32	2'-6"	"	Dowels
H1	4	2	4'-8"	"	Apron
H2	4	2	4'-8"	"	"
RD	4	11	4'-0"	"	Top Slab
RE	4	11	10'-0"	"	Bottom Slab
RH1	4	1	6'-4"	12" Stag'd.	Wall & Short Wing
RH2	4	1	8'-4"	"	"

STEEL SCHEDULE CONTINUED

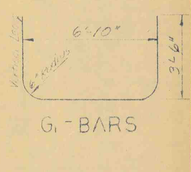
MARK	SIZE NO.	NO.	LENGTH	SPACING	LOCATION
RH3	4	2	9'-6"	12" Stag'd.	Wall & Short Wing
RH4	4	1	7'-4"	"	Wall & Long Wing
RH5	4	1	10'-2"	"	"
RH6	4	2	11'-8"	"	"

* Note:-
Prefix "L" denotes bar in left extension only and prefix "R" denotes bar in right extension only.

BENDING DETAILS



C, G3 & I1-4 BARS



TOTAL QUANTITIES (Both Ends)

CLASS A CONCRETE	13.7	C.Y.
REINFORCING STEEL	2,071	LBS.
UNCLASSIFIED EXCAVATION (BOTH ENDS)	20	C.Y.
Concrete P.F.L. Barrel	0.5670	C.Y.
Excavation in P.F.L. P.F.D. Barrel	0.4506	C.Y.
Concrete P.F.D. Cut-off Walls & Ends	0.3650	C.Y.

Notes:-
Design Specifications:- "Standard Specifications for Highway Bridges", A.A.S.H.O. - 1961 - fs=20,000 psi., fc=1,200 psi., n=10, v=70 psi., u=300 psi., H20 Live Load, 10' Earth Fill (max.) and also meets the requirements of alternate interstate tandem axle live load.
Center of main reinforcing steel shall be 2" from the surface of the concrete.
All concrete shall be Class "A" Concrete
Chamfer all exposed edges ¾".
Spacing of bars is the perpendicular distance from center to center.
Depth of cut-off walls shall be determined by the Engineer in the field and quantities added to those shown.
Work to be done consists of removing that portion of the existing structure interfering with construction of new structure and extending in accordance with these plans.
The holes for dowels to be drilled 3" into old concrete and dowels firmly set in a 1:3 mortar.
All costs of removing and disposing of portions of old structure, drilling and shipping, whether shown or not, necessary to construct new structure, shall be included in the Unit Price Bid for Class "A" Concrete.
The contractor shall replace or repair, at his own expense and to the satisfaction of the Engineer, any portion of the existing structure damaged due to his carelessness or negligence.

REV.			
REV.			
REV.			
REV.	GMP GKB 3-63 for Dkt 14.361		
REVIEWED	G.K.B. IS IN CHARGE		
QUAN.	GMP GKB 11-62		
TR.			
DR.	GMP GKB 11-62		
DES.	STD.		
	BY	CHK'D	DATE

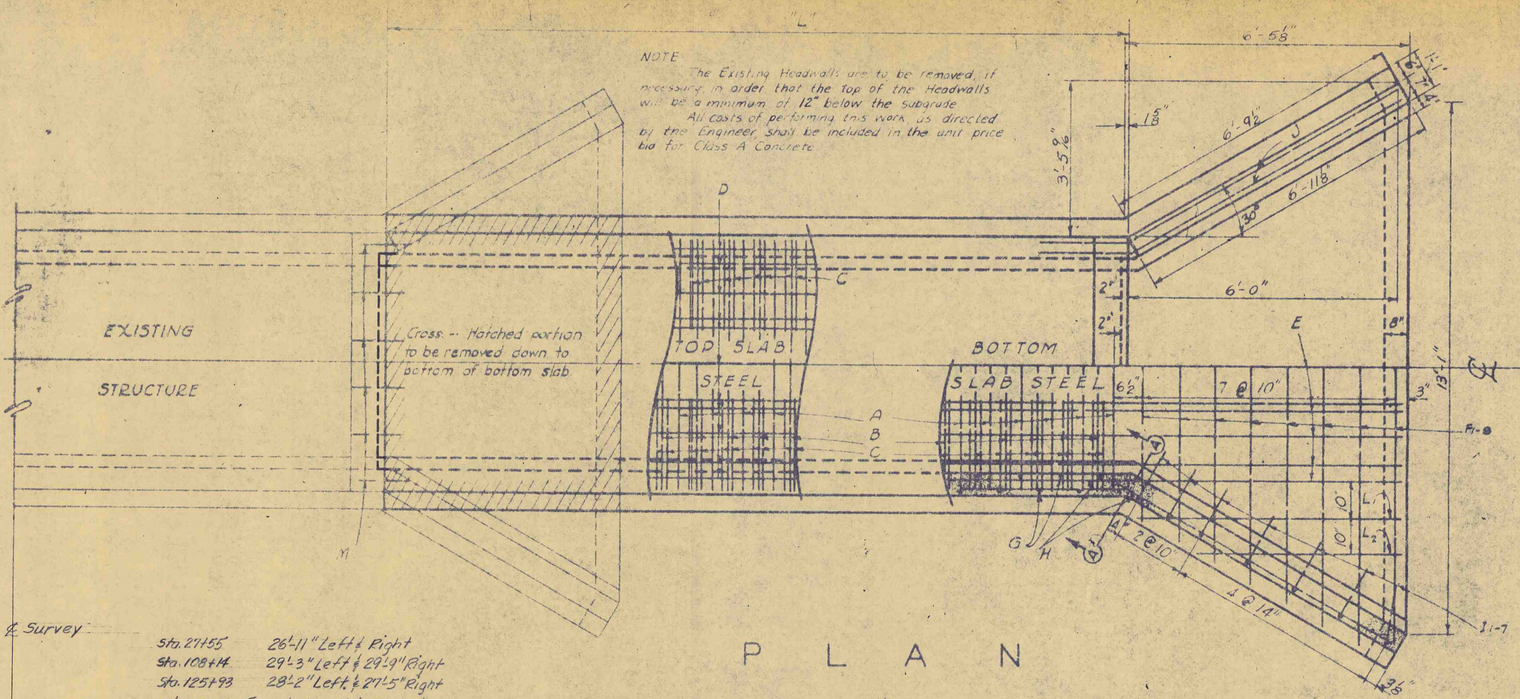
S.C. STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION
COLUMBIA S.C.

CONCRETE CULVERT REINFORCED BOX TYPE
SINGLE 6'x4' SKEW 30° EXTENSION
EXTEND S.C. LEFT & 4'-6" RIGHT
STA. 31+00

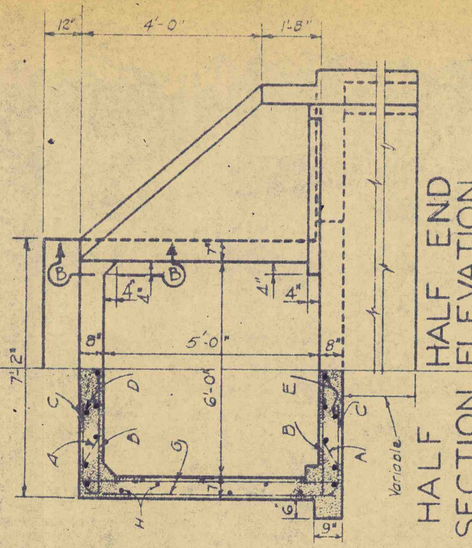
DOCKET NO.	COUNTY	ROUTE NO.	DATE
14.361	Clarendon	301	3-63

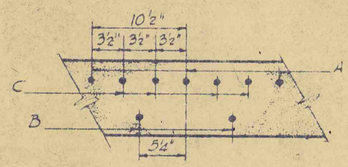
APPROVED BY: [signature] BRIDGE DESIGN & PLANS ENGINEER
APPROVED BY: [signature] BRIDGE ENGINEER

FED ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	301	~~31~~ 34	~~33~~ 54



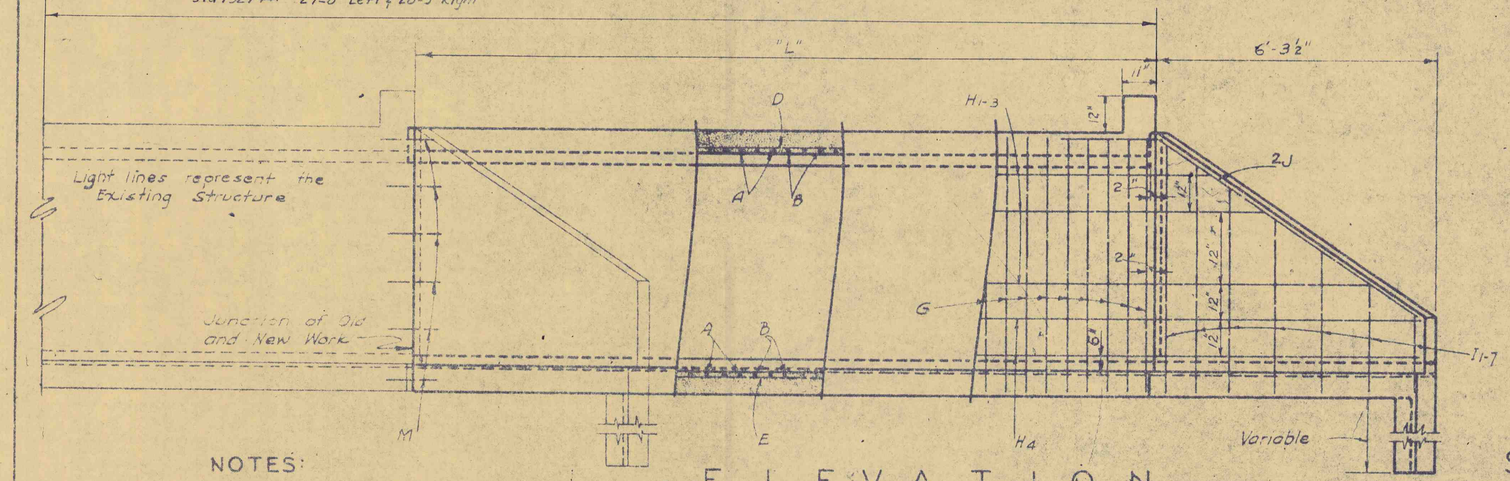
PLAN



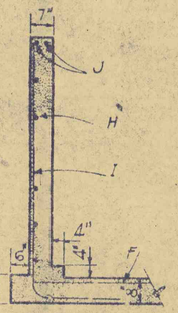


SECTION B-B

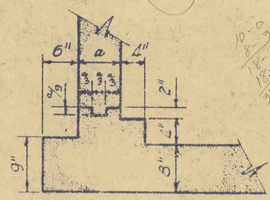
Survey	
Sta. 27+55	26'-11" Left & Right
Sta. 108+14	29'-3" Left & 29'-9" Right
Sta. 125+93	28'-2" Left & 27'-5" Right
Sta 132+44.5	27'-8" Left & 28'-3" Right



ELEVATION



SECTION A-A



CONSTRUCTION JOINT DETAIL

STEEL SCHEDULE I END

MARK	NO (Each Unit)	SIZE	LENGTH	SPACING	LOCATION
A	4 (4½2)8	⅝"ϕ	11'-7"	10½" C to C.	T&D SLABS
B	4 (4½2)2	½"ϕ	4'-10"	"	"
C	(4½2)8	½"ϕ	4'-9"	As Shown	CORNERS
D	11	½"ϕ	L+(0'-4")	"	TOP SLAB
E	11	½"ϕ	L+(5'-11")	"	BOT SLAB
F1	1	½"ϕ	13'-3"	10" C to C.	APRON
F2 to F8	1 ea.	½"ϕ	13'-11 to 8'-2" Vary by 11½"	"	"
G	4 (4½2)2	½"ϕ	6'-0"	6½" Stagd	SIDE WALLS
H1 to H3	2 ea.	½"ϕ	L+(11'-7") to L+(5'-1") Vary by 1'-9"	12" "	S.W. & WINGS
H4	4	½"ϕ	L+(6'-8")	"	"
I1 to I5	2 ea.	½"ϕ	3'-4" to 6'-0" Vary by 8"	As Shown	WING & APRON
I6	2	½"ϕ	6'-6"	"	"
I7	2	½"ϕ	7'-0"	"	"
J	4	⅝"ϕ	10'-0"	"	WINGS
L1	2	½"ϕ	6'-0"	"	TOP OF APRON
L2	2	½"ϕ	4'-7"	"	"
M	20	¾"ϕ	1'-6"	"	DOWELS

* Disregard Fractions

Concrete P.F.L. Barrel _____ 0.6101 C.Y.
Concrete P.F.D Cut-Off Wall (1end) 0.3683 C.Y.
Excavation P.F., P.F.D. Barrel 0.4506 C.Y.
Reinforcing Steel P.F.L. Barrel 103.2 LBS.

QUANTITIES

STATION	LENGTH "L"	REINFORC'G STEEL	CLASS "A" CONCRETE
27+55	5'-0" left	799 LBS	6.35 C.Y.
27+55	5'-0" Right	799 LBS	6.35 C.Y.
108+14	11'-6" left	1,470 LBS	10.32 C.Y.
108+14	11'-6" Right	1,470 LBS	10.32 C.Y.
125+93	4'-0" left	696 LBS	5.74 C.Y.
125+93	4'-0" Right	696 LBS	5.74 C.Y.
132+44.5	8'-6" left	1,160 LBS	8.49 C.Y.
132+44.5	8'-6" Right	1,160 LBS	8.49 C.Y.
TOTAL		8,250 LBS	61.8 C.Y.

Method used in figuring Quantities
Reinforcing Steel 282.8 + 103.2 ℄
Class "A" Concrete 3.300 + 0.6101 ℄

UNCLASSIFIED EXCAVATION (Both Ends) - Sta. 27+55 - 20 C.Y.
Sta. 108+14 - 25 C.Y.
Sta. 125+93 - 15 C.Y.
Sta. 132+44.5 - 25 C.Y.

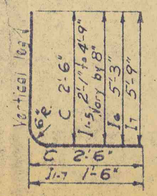
NOTES:

Design Specifications: "Standard Specifications for Highway Bridges" A.A.S.H.O.-1941 (except fs) fs = 20,000 #/in², fc=1,000 #/in², n=10, v=90 #/in², u=163 #/in². H 15 loading, 10' Earth fill(max).
Work to be done consists of removing the designated portions of the existing structure and extending in accordance with these plans.
The holes for dowels to be drilled 9" into old concrete and the dowels firmly set in a 1:3 Mortar.
All costs of removing the designated portions of the existing structure, drilling, and chipping are to be included in unit price bid for Class "A" Concrete.
The Contractor shall replace or repair at his own expense, and to the satisfaction of the Engineer, any portion of the existing structure damaged due to his carelessness or negligence.
Structural grade reinforcing steel not permitted.
Center of main reinforcing steel shall be 2" from the surface of the concrete.
All Concrete shall be Class "A".
Chamfer all exposed exposed edges ¾".
Depth of cut-off wall shall be determined by the Engineer and quantities added to those shown.
All dimensions relative to reinforcing steel are to center of bars.

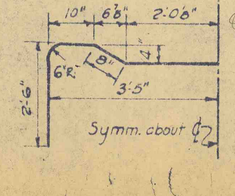
Rev.	GMD G.K.B. 3-63 For Dct. 14.361
Rev.	A.G.W. R.J.P. 8-56 From B1.66 Ext.
Rev.	G.K.B. 10-60
Rev.	G.K.B. 1-61
Rev.	G.K.B. 3-63

THIS CULVERT DESIGNED FOR H15-S12 LIVE LOAD AND FULL DEAD LOAD. THE STRESSES ARE WITHIN THE ALLOWABLE UNIT STRESSES FOR H20-S16 LIVE LOAD WHEN DESIGNED IN ACCORDANCE WITH THE 1957 A.A.S.H.O. SPECIFICATIONS. WITH REVISIONS THROUGH 1961.

AND ALSO MEETS REQUIREMENTS OF ALTERNATE INTERSTATE TANDEM AXLE LIVE LOAD.



C & I1-7 BARS



A-BARS

S.C. STATE HIGHWAY DEPARTMENT
COLUMBIA

CONCRETE CULVERT

REINFORCED BOX TYPE

SINGLE 6' x 5' EXTENSION

S.C. DOCKET NO. 14.361 Clarendon COUNTY
ROUTE NO. 301 DATE 3-1963

B1.65 EXT.

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14361		301	35	35

Sta. 4+30 10'x8' R.C. CULVERT SKEWED 45°
NO. C3

Sta. 11+50 4'x4' R.C. Culvert
NO. C4

Sta. 27+35 6'x5' R.C. Culvert
NO. C5

Sta. 81+00 6'x4' R.C. Culvert SKEWED
No. E7

Sta. 107+77 5'x3' R.C. Culvert
No. E8

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Template Sections Revised by
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Quantities Transferred and Inked by

K-E

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14361		301	36	~~35~~

Sta 102+16 6'x5' R.C. Culvert No. E9

Sta 125+93 6'x6' R.C. Culvert No. E10

Sta 132+15 5'x3' R.C. Culvert No. E11

Sta 192+48.5 6'x5' R.C. Culvert No. E12

Sta 170+10 6'x4' R.C. Culvert No. E13

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Template Sections Platted by _____
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Areas by _____
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Template Sections Revised by _____
" " Checked by _____
Final Areas by _____
" " Checked by _____
Quantities Transferred and Inked by _____

K&E KEUFFEL & ESSER CO. 10073

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14,361		901	37	83

20 10 0 10 20 25 20 10 0 10 20 25 20 10 0 10 20

5'0"

27'11"

50

40

Sta. 290+00 3'x5' R.C. Culvert No. F14

29.2'

29.6'

9'6"

8'0"

28.7'

8'6"

50

40

Sta. 290+10 3'x5' R.C. Culvert No. F15

26.9'

10'0"

26.8'

10'0"

50

40

Sta. 290+30 Do. 6'x6' R.C. Culvert No. F16

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" Checked by_____
Template Sections Revised by_____
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Final Areas by_____
" " Checked by_____
Quantities Transferred and Inked by_____

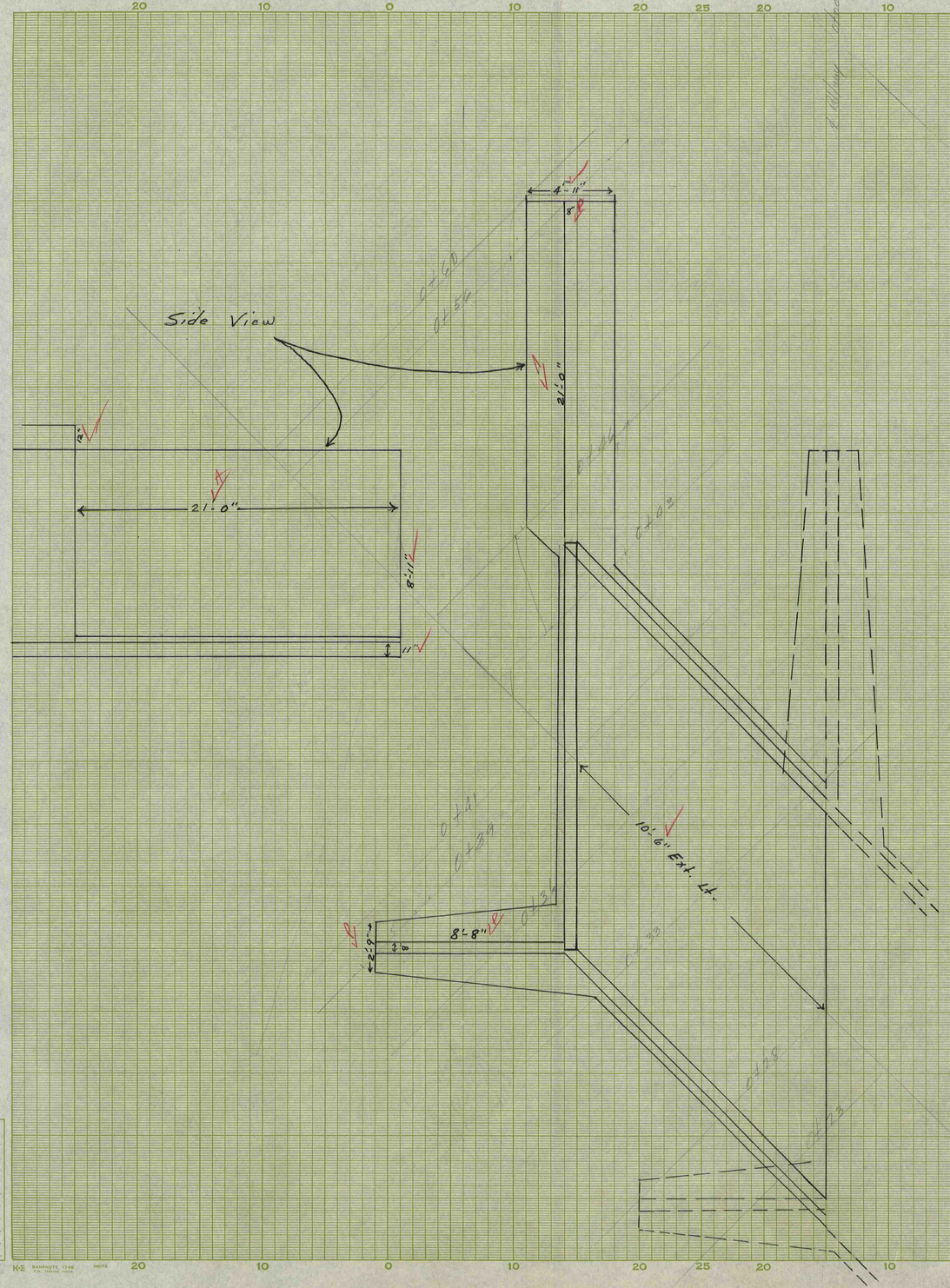
K-E BANKNOTE 1948 46078

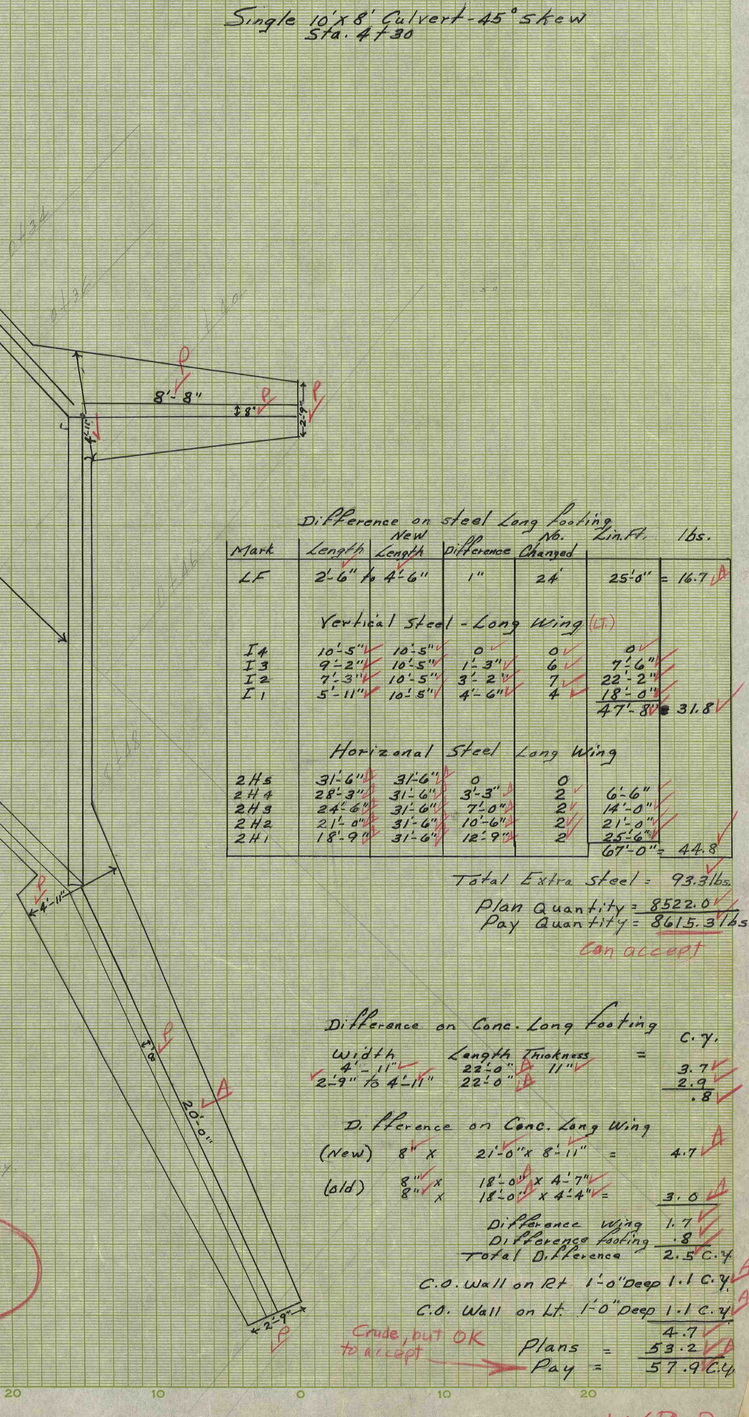
20 10 0 10 20 25 20 10 0 10 20 25 20 10 0 10 20

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon 1	4-361	F-3306(6)	301	39	54





Difference on steel Long footing

Mark	Length	New Length	Difference	No. Changed	Lin. Ft.	lbs.
LF	2'-6" to 4'-6"		1"	24'	25'-0"	= 16.7
	Vertical steel - Long Wing (LT)					
I4	10'-5"	10'-5"	0	0	0	
I3	9'-2"	10'-5"	1'-3"	6	7'-6"	
I2	7'-3"	10'-5"	3'-2"	7	22'-2"	
I1	5'-11"	10'-5"	4'-6"	4	18'-0"	
					47'-8"	= 31.8
	Horizontal steel Long Wing					
2H5	31'-6"	31'-6"	0	0		
2H4	28'-3"	31'-6"	3'-3"	2	6'-6"	
2H3	24'-6"	31'-6"	7'-0"	2	14'-0"	
2H2	21'-0"	31'-6"	10'-6"	2	21'-0"	
2H1	18'-9"	31'-6"	12'-9"	2	25'-6"	
					67'-0"	= 44.8

Total Extra steel = 93.3 lbs.

Plan Quantity = 8522.0

Pay Quantity = 8615.3 lbs

Can accept

Difference on Conc. Long footing

Width	Length	Thickness	= C.Y.
4'-11"	22'-0"	11"	3.7
2'-9" to 4'-11"	22'-0"		2.9
			.8

Difference on Conc. Long Wing

(New)	8" x	21'-0" x 8'-11"	=	4.7
(old)	8" x	18'-0" x 4'-7"		
	8" x	18'-0" x 4'-4"	=	3.0
		Difference Wing		1.7
		Difference footing		.8
		Total Difference		2.5 C.Y.

C.O. Wall on Rt 1'-0" Deep 1.1 C.Y.

C.O. Wall on Lt. 1'-0" Deep 1.1 C.Y.

4.7

Plans = 53.2

Pay = 57.9 C.Y.

Crude, but OK to accept

C.O. wall on Rt 1'-0" 3.75 x 1.0 x .33 = 1.1 C.Y.

SEE SCALE SKETCH at back of Plans

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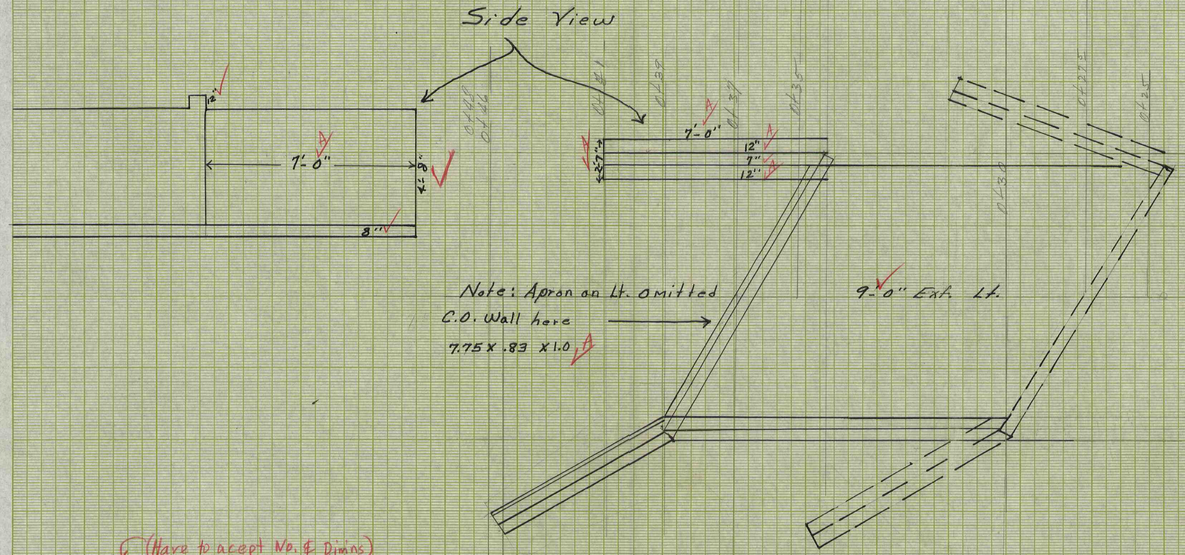
WBB

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	F-330(6)	301	40	54

Single 6'x4' Culvert - 30° Skew
Sta. 81+00



(Have to accept No. & Dimns)

Steel Deducted for Apron

Mark	Size	No.	Length	total Length
A	4	4	4'-5"	17'-8"
E	4	11	6'-10"	75'-2"
				92'-10" =

-62 lbs

Added Steel in Footing - Long Wing

LF	4	9	2'-3"	20" 3"
LP	4	2	8'-6"	17'-0"
				37'-3

+ 25 lbs (?)

" Vertical Steel Long Wing

Mark	Size	No.	Length	New Length	Lin. Ft.
I	4	2	3'-9"	6'-0"	4'-6"
I2	4	2	4'-5"	6'-0"	3'-2"
I3	4	2	5'-3"	6'-0"	1'-10"
					9'-2"

" Horizonal Steel Long Wing

Mark	Size	No.	Length		
H6	4	2	16'-0"	16'-0"	—
H5	4	1	14'-6"	16'-0"	1'-6"
H4	4	1	11'-8"	16'-0"	4'-4"
					5'-10"
					9'-2"
					15'-0" = +100 lbs

Lbs. 2,071 − 62 + 10 = 2,019 → 2044 Pay Quantity

Plan Quantity on Steel

2071 − 62 + 10 = 2019 → 2044

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No Changes on Rt.
Conc for C.O. Wall on Rt. = .43 C.y
1'-0" Below Bottom of Bottom Slab

Final Difference on Concrete

Footing	7.0 x 2.58 x .75		
	7.0 x .33 x .33	=	14.3 C.F.
Wing	7.0 x .58 x 4.67	=	19.0 C.F.
			33.3 / 27 = 1.2 C.y.

Original

Footing	5.16 x .75 x 1.42		
	5.16 x .25 x .33	=	9.7 C.F.
Wing	5.16 x .58 x 2.08		
	5.16 x .58 x 1.33	=	10.2
			19.9 / 27 = .70 C.y.

Increase = 0.5 C.y.
0.6 (accept 0.5)

Apron Omitted

7.42 x .67 x 5.16
2.42 x .67 x 5.16 = 34.05 / 27 = 1.3 C.y.

7.75
7.5 x .83 x 1.0 C.O. Wall on Lt. = .238 C.y.

Plan Quantity On Conc. = 13.7 C.y
+ 0.5
14.2
Less Apron − 1.3
12.90 C.y
C.O. Wall Lt. + .23
" " Rt. + .43
Pay 13.56 C.y.

SEE SCALE SKETCH at back of Plans

Conc. & Steel now OK → WBB

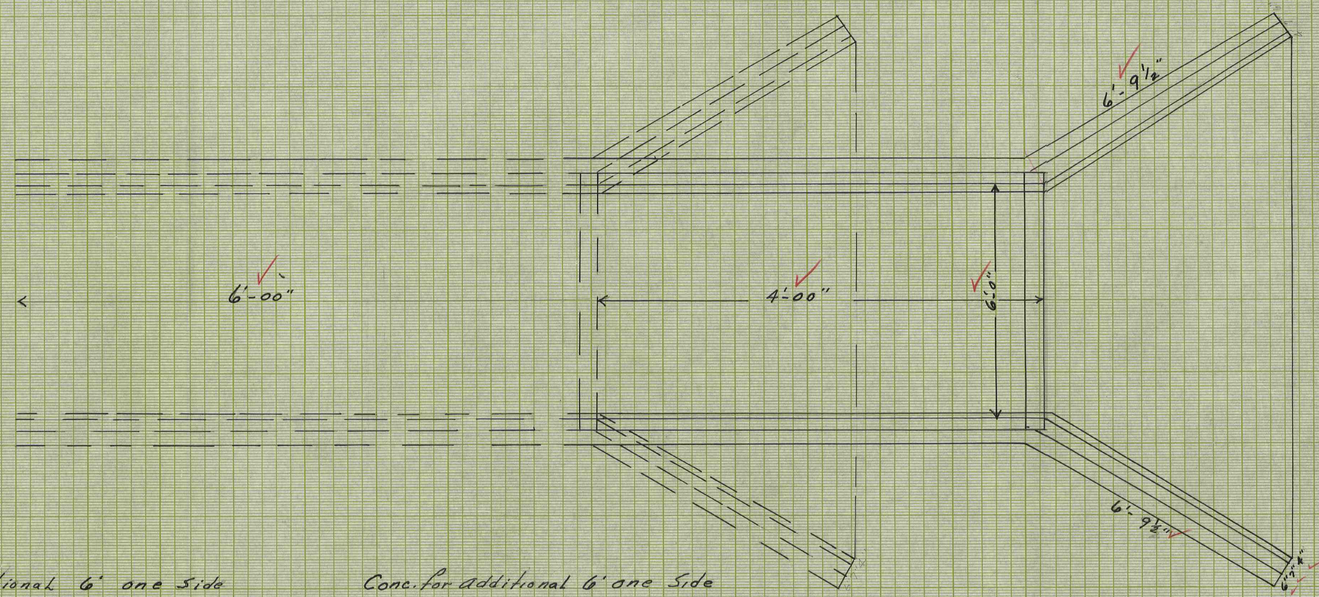
CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14.361	F-330(6)	301	41	54

Single 6'x5' Culvert
Sta. 125+93

Note: This Culvert was set up to be Extended 4'-0" Rt & 4'-00" Lt. The existing walls were Constructed out of Concrete Blocks for a distance of 6'-0" Rt & 6'-0" Lt. This portion was Removed, making the overall extension 10'-0" Rt. & 10'-0" Lt.



Steel for additional 6' one Side

Mark	Size	Spacing	Length	Tot. No. Bars	Lin. Ft.	Lbs.
A	5/8"	10 1/2"	11'-7"	14	162'-2"	= 169.1
B	1/2"	10 1/2"	6'-10"	14	95'-8"	64
C	1/2"	10 1/2"	4'-9"	14	66'-6"	44 178
D	1/2"	11"	5'-6"	12	66'-0"	44 40
E	1/2"	11"	6'-0"	12	72'-0"	48 44
G	1/2"	6 1/2"	6'-0"	S.W. 26	156'-0"	104
H	1/2"	4 each	6'-0"	S.W. 8 10	48'-0"	32 40
				One Side	505	lbs. 639
				Two Sides	1010	1278
				Plans	1392	
				Pay	2402	2670

Pay - OK

Conc. for additional 6' one Side

12.0' x .75 x 1.42 = 12.78
12.0' x .63 x 6.0 = 45.36
12.0' x .56 x 6.0 = 40.32
98.46 / 27 = 3.64 C.Y.
x 2

Two Sides - 7.28 C.Y.
Plans - 11.48
18.76
C.O. Walls .76
Pay 19.52

(.378 Each) - 15.25 x .67 x 1.0 C.O. Wall 1'-0" in Depth below Bottom of Bottom Slab

From Plans: 2[3.3 + (0.6101 x 10.0)] = 18.8 C.Y.!

See Note below

Note: "Plan" Steel wt. for 2-10 Ext. = 2[2828 + (103.2 x 10)] = 2630#

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CROSS SECTIONS

Scale 1 inch = 5 feet

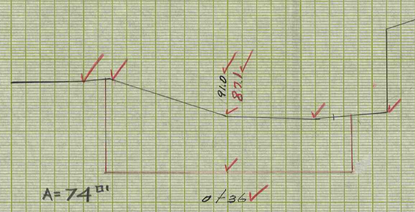
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE	SHEET NO.	TOTAL SHEETS
3	S. C.	Clarendon	14.361	F330(5)	US 301		

Single 10 x 8 Box Culvert at 45° Skew
Sta 4+30
Lt. Side

Sheet Total = 62 C.Y.

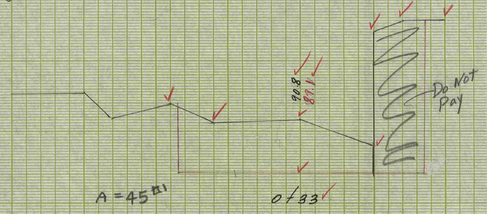
WBB

$\frac{74+82}{2} \times \frac{3}{27} = 8.6$

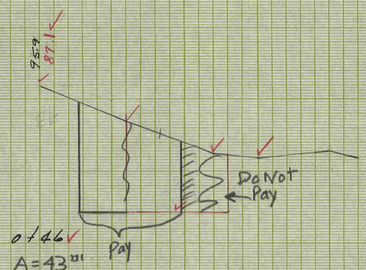


$\frac{43+38}{2} \times \frac{10}{27} = 15$ C.Y. (15) C=(14) C.Y.

$\frac{45+74}{2} \times \frac{3}{27} = 6.6$ C=(8) C.Y.



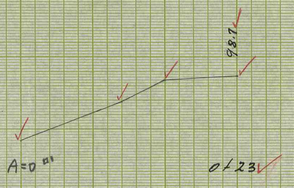
$\frac{53+43}{2} \times \frac{3}{27} = 5.3$ C=52 C.Y.



$\frac{29+45}{2} \times \frac{5}{27} = 6.9$ C=(10) C.Y.



Vol. = $\frac{0+29}{2} \times \frac{5}{27} = 2.7$ C.Y. C=3 C.Y.

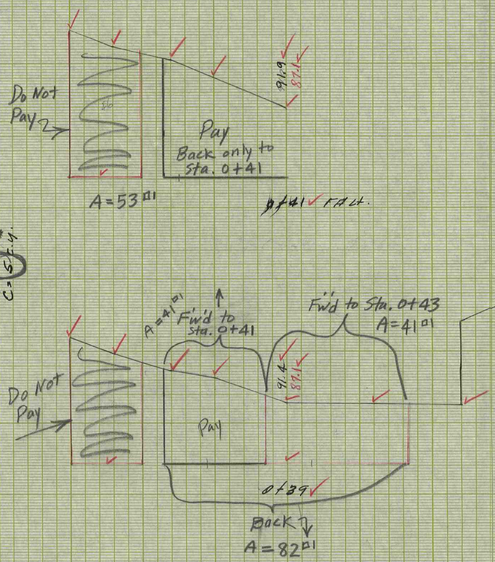


To 0+43

$\frac{41+53}{2} \times \frac{4}{27} = 6.9$ C=(7) C.Y.

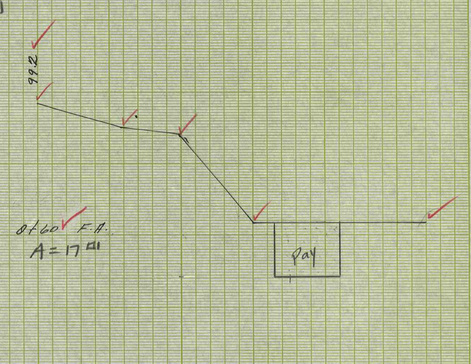
To 0+41

$\frac{41+53}{2} \times \frac{2}{27} = 3.4$ C=(4) C.Y.

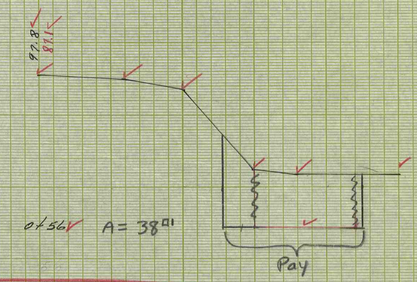


Use Sta. 0+62 as 00 sect.
A=0 □'

$\frac{17+0}{2} \times \frac{2}{27} = 0.62$ C=1 C.Y.



$\frac{38+17}{2} \times \frac{4}{27} = 4.1$ C=(2) C.Y.



SEE SCALE SKETCH at back of Plans

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Quantities Transferred and Inked by

WBB

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Darlington	14-361	F-3306(6)	U.S. 301		54

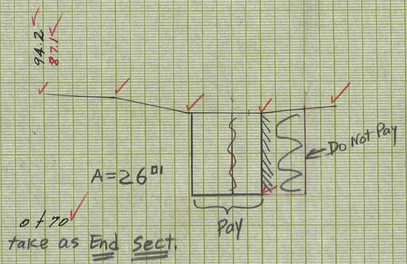
Single 10x8 RC Box Culvert, 45° skew
Sta. 4+30
Rt. Side

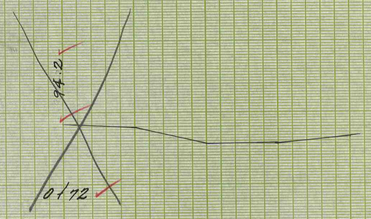
Sheet Total = 59 C.Y. (WBB)

Culvert Total = 121 C.Y.

$\frac{80+56}{2} \times \frac{4}{27} = 10.1$ C = 10 C.Y.

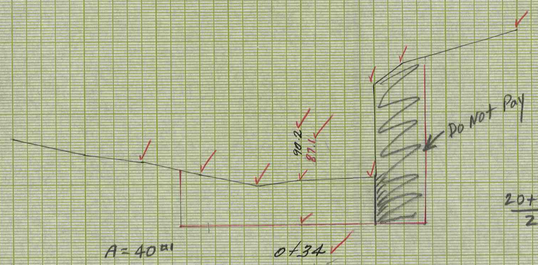




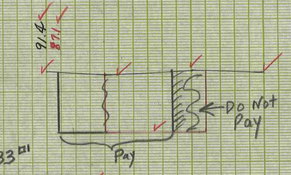


$\frac{33+26}{2} \times \frac{22}{27} = 24.1$ C = 24 C.Y.

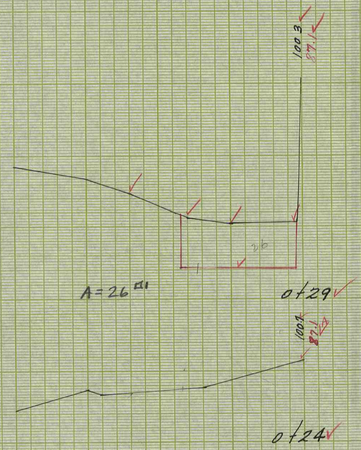
$\frac{40+80}{2} \times \frac{2}{27} = 4.4$ C = 5 C.Y.



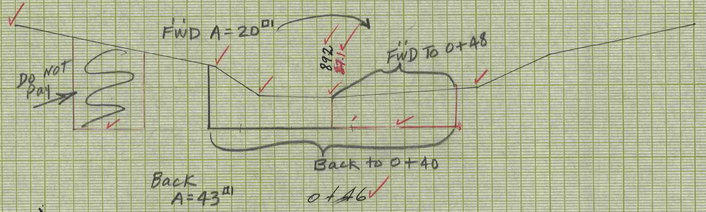
$\frac{20+33}{2} \times \frac{2}{27} = 1.9$ C = 2 C.Y.



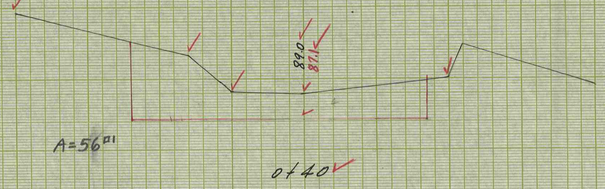
$\frac{26+40}{2} \times \frac{5}{27} = 6.1$ C = 6 C.Y.



$\frac{0+26}{2} \times \frac{5}{27} = 2.4$ C = 2 C.Y.



$\frac{56+43}{2} \times \frac{6}{27} = 11.0$ C = 11 C.Y.



SEE SCALE SKETCH at back of Plans

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" Checked by _____
Template Sections Revised by _____
" " Checked by _____
Final Areas by _____
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Quantities Transferred and Inked by _____

WBB

CROSS SECTIONS

Scale 1 inch = 5 feet

File

FED. ROAD DIV. NO.	STATE	COUNTY	NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Clarendon	14-361	F-330(2)	301	43	54

Single 6'x5' R.C. Box Culvert - Sta. 27 / 55

ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

EXCAVATION 9 CU. YDS.
EMBANKMENT CU. YDS.

92.0 92.3

C = 0 of 35

C = 0 of 30

92.2 92.3

C = 1 of 27

C = 4 CY.

92.2 92.3 OK OK

C = 37 of 22

Left

92.4 92.3

C = 2 of 35

C = 1 CY.

92.4 92.3

C = 3 of 30

C = 4 CY.

92.1 92.3

C = 4 of 27

C = 4 CY.

92.7 92.3 OK OK

C = 40 of 22

Right

Ground Surface Platted by HB
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Template Sections Platted by HB
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Areas by JN
" Checked by HB
Template Sections Revised by
" " Checked by
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Quantities Transferred and Inked by

WB13

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Clarendon	14.361	F-330(6)	US 301		

Single 6 x 4 Box Culvert
Sta 81+00
Lt & Rt.

LT. SIDE = 22
RT. SIDE = 19
Total = 41

FWD: (Both)
$\frac{18+12}{2} \times \frac{2}{27} = 1$
$\frac{17+14}{2} \times \frac{2}{27} = 1$

Back $= \frac{36+42}{2} \times \frac{2}{27} = 2.9$

$\frac{48+36}{2} \times \frac{3}{27} = 4.7$

$\frac{48+48}{2} \times \frac{2}{27} = 3.6$

$\frac{19+48}{2} \times \frac{2.5}{27} = 3.1$

Vol. $= \frac{0+19}{2} \times \frac{2.5}{27} = 0.87$

C = 2 C.Y.
C = 3 C.Y.
C = 4 C.Y.
C = 1 C.Y.

Pay A=18
Add for Back.
Pay A=17
Pay
Pay and Back A=18
0+37
Pay
A=36
0+35
Pay
95.4 91.9
96.2 91.9
95.9 91.9
95.7 91.9
A=48
0+32
A=48
0+30
99.6 91.9
A=19
0+27.5
Pay to here only
99.6
0+25
Lt. Side

C = 1 C.Y.
0+48 Do not use

$\frac{15+20}{2} \times \frac{4}{27} = 2.6$

C = 3 C.Y.
98.0 91.9
A=20
0+46
Pay (Final on Lt. ℄)
96.2 91.9
A=15
A=18
Pay
0+42
Pay (Final on Rt. ℄)

C = 1 C.Y.
$\frac{13+15}{2} \times \frac{1}{27} = 0.51$
$\frac{18+18}{2} \times \frac{1}{27} = 0.66$
96.9 91.9
A=13
A=18
Pay
0+41
Pay

C = 2 C.Y.
$\frac{12+13}{2} \times \frac{2}{27} = 1$
$\frac{14+18}{2} \times \frac{2}{27} = 1$
95.3 91.9
A=12
A=14
Pay
0+39
Pay

C = 1 C.Y.
95.3 91.9
A=40
0+37 ℄ use as 0+38.5 & as End Sect.

$\frac{39+40}{2} \times \frac{5.5}{27} = 8.04$

95.4 91.9
A=39
0+33

$\frac{44+39}{2} \times \frac{4.5}{27} = 6.9$

C = 7 C.Y.
94.5 91.9
A=44
0+28.5

$\frac{19+44}{2} \times \frac{2.5}{27} = 2.9$

M C = 2 C.Y.
98.6 91.9
A=19
0+26
Pay

$\frac{0+19}{2} \times \frac{2.5}{27} = 0.9$

C = 1 C.Y.
98.6
0+23.5
Rt. Side

95.6 91.9
0+44 ℄ A.

↑ This is not 2' beyond apron on ℄ (use 0+38.5 above)

SEE SCALE SKETCH at back of Plans

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Areas by
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Template Sections Revised by
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Final Areas by
" " Checked by
Quantities Transferred and Inked by

WBB

CROSS SECTIONS

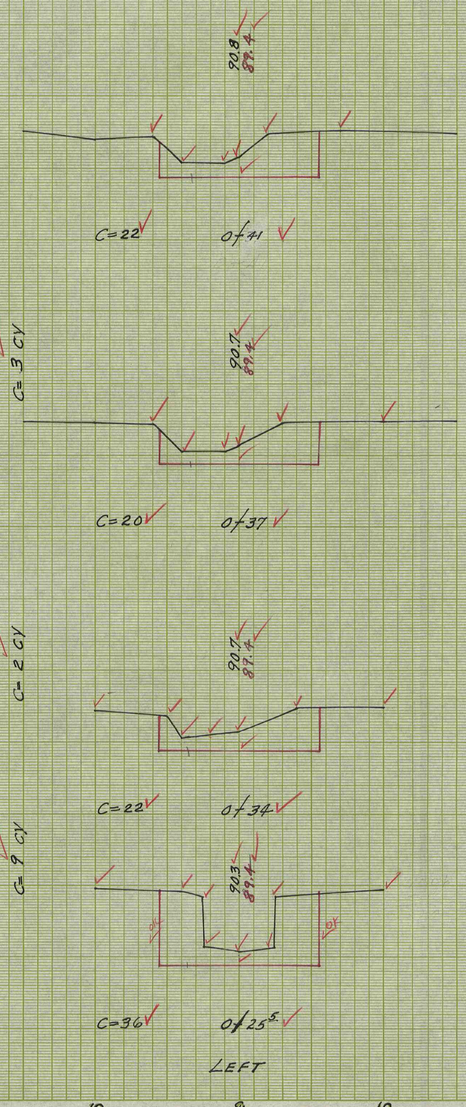
Scale 1 inch = 5 feet

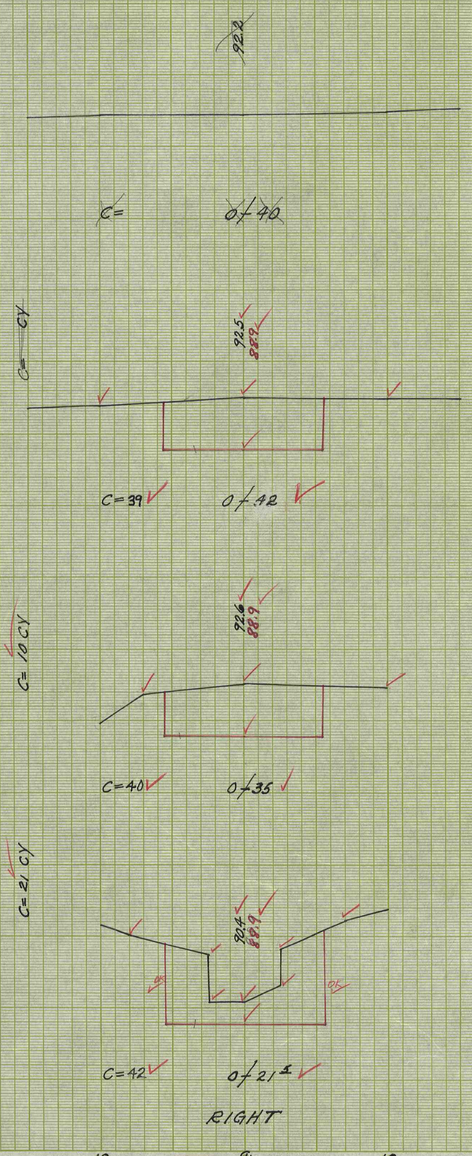
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14-361	F-330(6)	US-301	45	54

Single 5'x3' R.C. Box Culvert-Sta. 107+77

ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

EXCAVATION 45 CU. YDS.
EMBANKMENT CU. YDS.





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K&E DARKNOTE 1746 69075

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CROSS SECTIONS

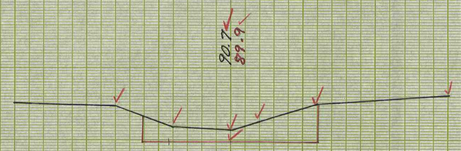
Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14-361	F-330(6) U.S. 301		46	54

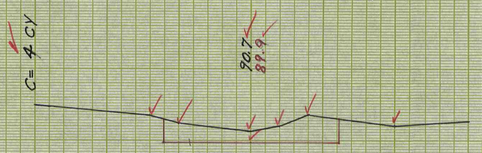
Single 6'x5' R.C. Box Culvert - Sta. 108+14

ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

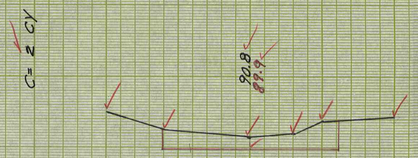
EXCAVATION 39 / 40 CU. YDS.
EMBANKMENT CU. YDS.



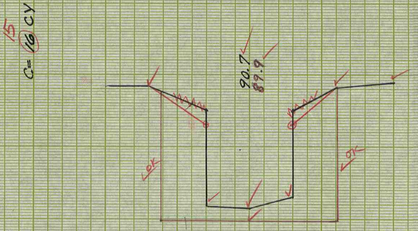
C= 18 ✓ 0 / 38² ✓



C= 17 ✓ 0 / 32± ✓

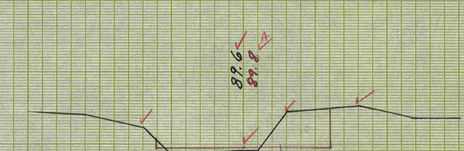


C= 16 ✓ 0 / 29± ✓



C= 59 55 0 / 18 ✓

LEFT



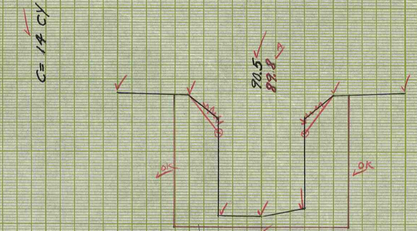
C= 10 ✓ 0 / 38² ✓



C= 14 ✓ 0 / 33± ✓



C= 8 ✓ 0 / 29± ✓



C= 56 ✓ 0 / 18 ✓

RIGHT

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Final Areas by
" " Checked by
Quantities Transferred and Inked by

K&E DAVIDSON 1748 10079

WBB

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Clarendon	14.361	F-330(6)	US-301	47	54

Single 6'x5' R.C. Box Culvert Sta. 125+93

ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

EXCAVATION 5345 CU. YDS.
EMBANKMENT CU. YDS.

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K-E DARKNOTE ITAB 69073

20 10 0 10 20 25 20 10 0 10 20 25 20 10 0 10 20

℄

Left

C=6 CY
C=33 O/S 37
925 911
C=9 CY
C=25 O/S 28.5
927 911
C=4 CY
C=33 O/S 24.5
923 911
C=12 CY
C=72 O/S 18.5
922 911

Right

C=9 CY
C=28 O/S 37
926 909
C=9 CY
C=30 O/S 28.5
926 909
C=42 O/S 24
926 909
C=9 CY
C=84 O/S 18.5
920 909

WBB

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	F-330(6)	US-301	48	54

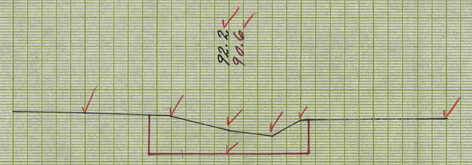
Single 5'x3' R.C. Box Culvert - Sta. 132+15

ORIGINAL NOTES BOOK NO. PAGE NO.

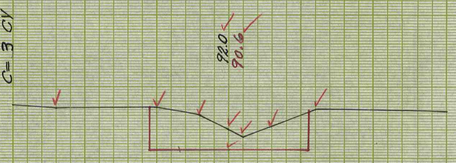
FINAL NOTES BOOK NO. PAGE NO.

EXCAVATION 30 CU. YDS.

EMBANKMENT CU. YDS.



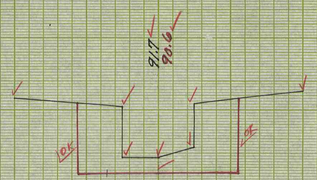
C= 22 Of 40



C= 23 Of 36

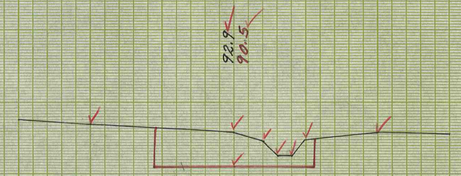


C= 22 Of 33

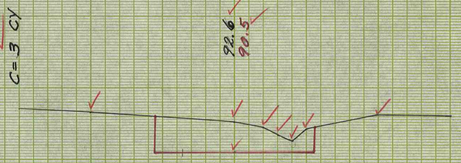


C= 36 Of 23 E

LEFT



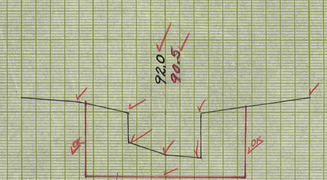
C= 24 Of 39



C= 23 Of 35



C= 19 Of 32



C= 38 Of 22 E

RIGHT

Ground Surface Platted by HB
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Areas by JN
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Final Areas by
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Quantities Transferred and Inked by

WBB

CROSS SECTIONS

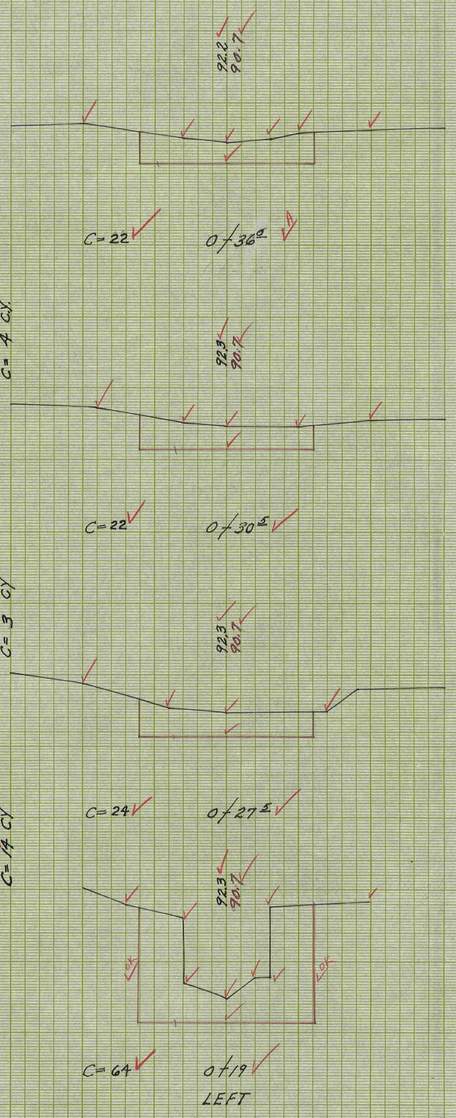
Scale 1 inch = 5 feet

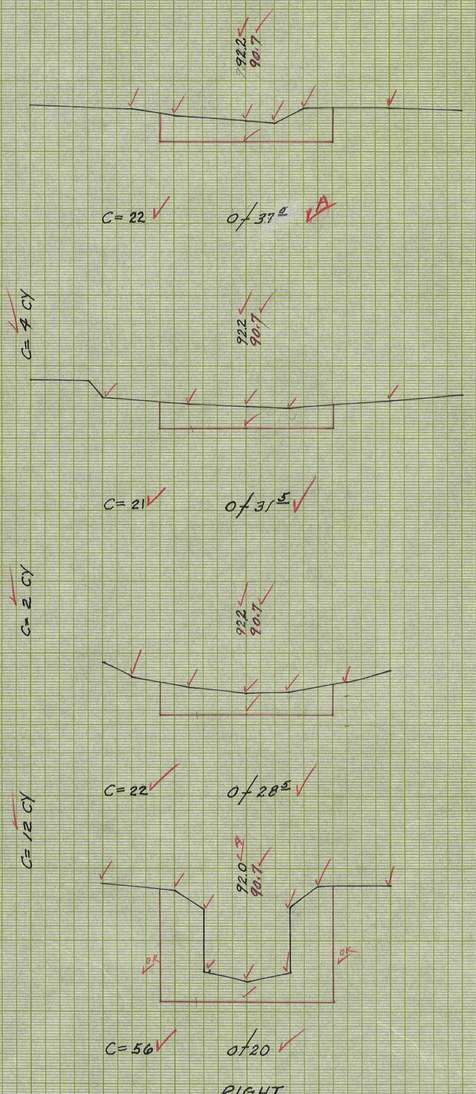
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	F-330(5)	US-301	49	54

Single 6'X5' R.C. Box Culvert - Sta 132+44

ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

EXCAVATION 39 CU. YDS.
EMBANKMENT CU. YDS.





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Final Areas by	
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Quantities Transferred and Inked by	

K-E BARKNOTE ITEM 69079

WBB

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	CLARENDON	14-361	F-330(6)	US-301	50	54

Single 6'x4' R.C. Box Culvert - Sta. 170+10

ORIGINAL NOTES BOOK NO. _____ PAGE NO. _____
FINAL NOTES BOOK NO. _____ PAGE NO. _____

EXCAVATION 23 CU. YDS.
EMBANKMENT _____ CU. YDS.

92.8 / 91.8

C= 9 0+35 A

C= 2 CY

92.8 / 91.8

C= 10 0+30

C= 1 CY

93.0 / 91.8

C= 15 0+28 Σ

C= 9 CY

92.5 / 91.8

C= 44 0+19 Σ LEFT

92.6 / 91.9

C= 9 0+34 A

C= 1 CY

92.6 / 91.9

C= 13 0+31

C= 2 CY

92.1 / 91.9

C= 19 0+27

C= 8 CY

92.6 / 91.9

C= 44 0+20 Σ RIGHT

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Areas by	J.N.
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Quantities Transferred and Inked by	

K&E 8807A

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CROSS SECTIONS

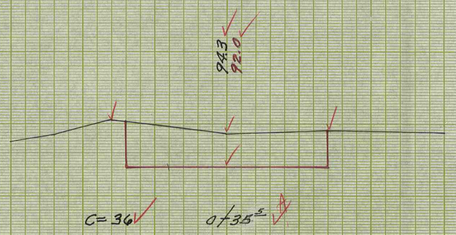
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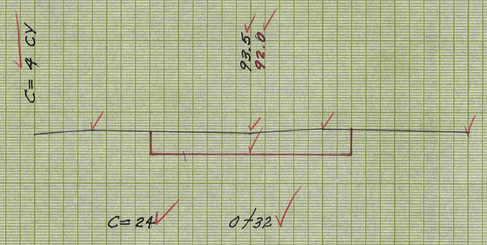
FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14-361		US-301	51	54

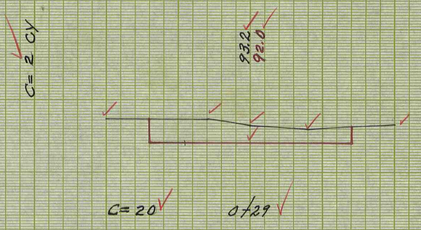
Single 8'x3' R.C. Box Culvert - Sta. 296+10

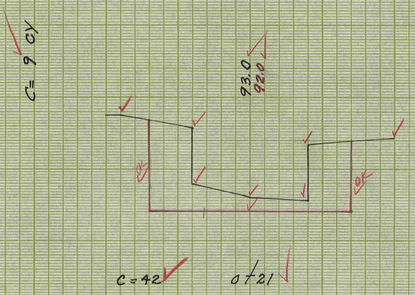
ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

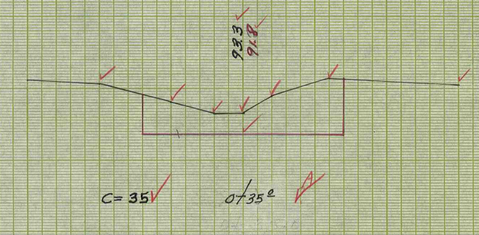
EXCAVATION 33 CU. YDS.
EMBANKMENT CU. YDS.

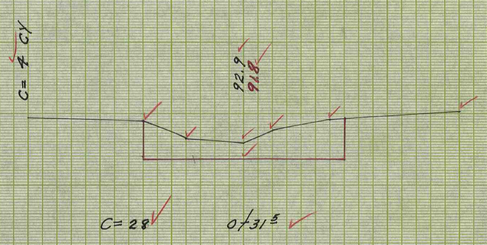


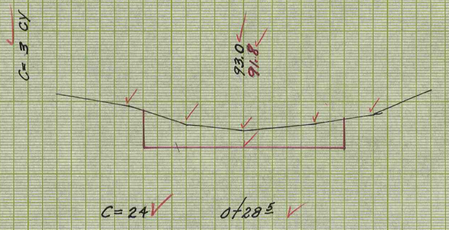


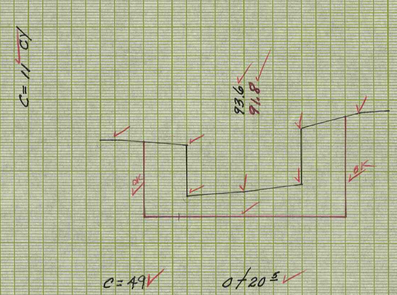












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K+E 46RANOTE 1749 89073

WBB

CROSS SECTIONS

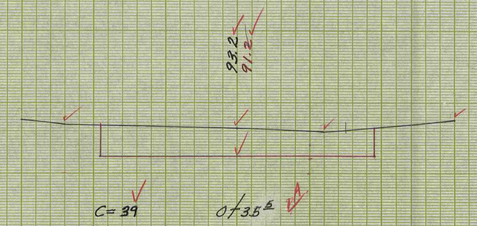
Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	CLARENDON	14.361	F-330(5)	U.S-301	52	54

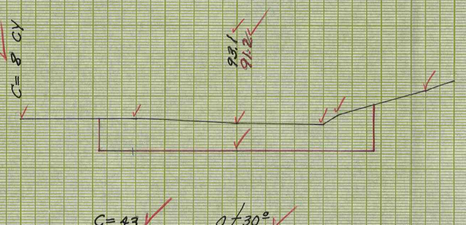
Double 6'X5' R.C. Box Culvert - Sta. 296+30

ORIGINAL NOTES BOOK NO. PAGE NO.
FINAL NOTES BOOK NO. PAGE NO.

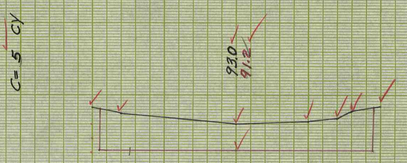
EXCAVATION 77 CU. YDS.
EMBANKMENT CU. YDS.



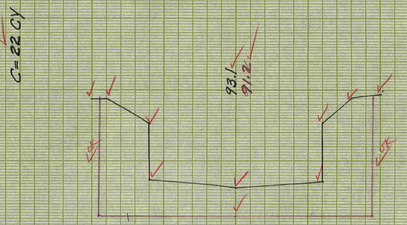
C= 39 ✓ 0 f 35² ✓



C= 43 ✓ 0 f 30² ✓

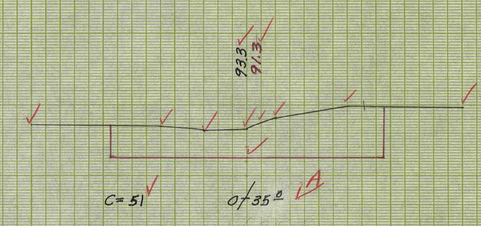


C= 44 ✓ 0 f 27² ✓

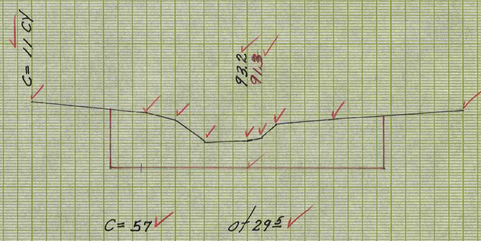


C= 76 ✓ 0 f 17² ✓

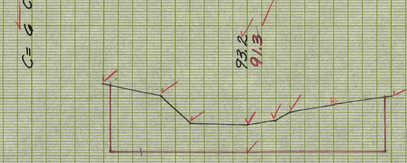
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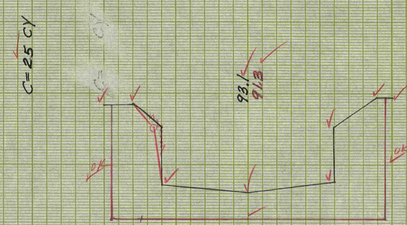
C= 51 ✓ 0 f 35² ✓



C= 57 ✓ 0 f 29⁵ ✓



C= 57 ✓ 0 f 26⁵ ✓



C= 77 ✓ 0 f 16⁵ ✓

RIGHT

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Final Areas by
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3 Changed sheet 122 (overrun)
2 deleted were planned only 30 cy (both) } Rest have +70 Overrun

CLEARING & GRUBBING-WITHIN R.O.W.

Contract Lump Sum ____ $
Adjusted Lump Sum ____ $
In case of adjustment see detail of respective acreage on cross section Sheet No. ____

CLEARING & GRUBBING PITS & Ditches

Pit No.	Length	Width	Sq. Ft.	Acres	Type of Pit	Reference	Remarks
			None				
Ditches See Sh. Nos. ___							
Total							

Show on Plans

OVERHAUL

Sheet No.	G.Y. H.M.	Class of Material	Pit No.	Remarks
		Roadway		
		"		
		"		
		"

SHEET "File"

FED. AID PROJ. NO.	FED. ROAD DIST. NO.	STATE	COUNTY	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
	12	S.C.	Clarendon	14-361	301	54	54

REINFORCED CONC. BOX CULVERTS (Roadway)

Station	Length	Size	"B" Conc.	Steel	Exc. Str.	Piling	Remarks
4+30	10'-6" Lt	10X8	27.80	3652			Book #3 sh. 28-30
4+30	16'-0" Rt	10X8	30.10	4963			" "
27+55	5'-0" Lt	6X5	6.65	799			Book #3 sh. 16-18
27+55	5'-0" Rt	6X5	6.65	799			" "
81+00	9'-0" Lt	6X4	8.03	1354			Book #3 sh. 25-27
81+00	4'-6" Rt	6X4	5.53	690			" "
107+77	8'-6" Lt	5X3	6.50	1037			Book #3 sh. 10-12
107+77	13'-6" Rt	5X3	8.80	1534			" "
108+14	11'-6" Lt	6X5	10.65	1470			Book #3 sh. 13-15
108+14	11'-6" Rt	6X5	10.65	1470			" "
125+93	10'-0" Lt	6X5	9.76	1335			Book #3 sh. 22-24
125+93	10'-0" Rt	6X5	9.76	1335			" "
Totals							

Brand of Cement _____ F. Bag _____ Csc. Bag _____ Mix _____ Water _____

REINF. CONC. BOX CULV. (~~20Ft Span and Over~~)

Station	Length	Size	"B" Conc.	Steel	Exc. Str.	Piling	Remarks
132+15	9'-6" Lt	5X3	6.90	1137			Book #3 sh. 1-3
132+15	9'-6" Rt	5X3	6.90	1137			" "
132+42	8'-6" Lt	6X5	8.82	1160			Book #3 sh. 4-6
132+42	8'-6" Rt	6X5	8.82	1160			" "
170+10	8'-6" Lt	6X4	7.60	1136			Book #3 sh. 19-21
170+10	7'-0" Rt	6X4	6.70	978			" "
296+10	8'-0" Lt	8X3	9.20	1226			Book #3 sh. 31-33
296+10	8'-0" Rt	8X3	9.20	1226			" "
296+30	10'-0" Lt	Dbl 6X5	15.91	2252			Book #3 sh. 1-3
296+30	10'-0" Rt	Dbl 6X5	15.91	2252			" "
Totals			236.84	34,097			

Brand of Cement _____ F. Bag _____ Csc. Bag _____ Mix _____ Water _____

PIPE-TYPE _____ Brand _____ Reference _____

Station	15"	18"	24"	30"	36"	Type of Hdwl. Lt	Type of Hdwl. Rt	"B" Conc	Steel	Remarks
Totals										

None

Correct Plans & Profile to agree with above

PIPE-TYPE _____ Brand _____ Reference _____

Station	12"	15"	18"	24"	30"	36"				Remarks
Totals										

None

Correct Plans & Profile to agree with above - Show source of Reloid Pipe.

PIPE-TYPE _____ Reference _____

Station	12"	15"	18"	24"	30"	36"				Remarks
Totals										

None

Correct Plans & Profile to agree with above

RIP-RAP Brand _____ Reference _____

Station	Tons	C.Y.	Remarks
Totals			

Submit Freight Bills or Measurements

MISCELLANEOUS

Show on Plans and/or Profile where applicable

SIDEWALK - CURB AND GUTTER - DRIVEWAYS

Sheet No.	SY 2½" Sidewlk	SY 6" Sidewlk	SY 6" D'Way		Lin. Ft. Curb&G		Remarks
Totals							

None

Brand of Cement _____ F. Bag _____ Csc. Bag _____ Mix _____ Water _____

Show Complete & Detailed Layout where Practicable

REMOVAL AND DISPOSAL OF OLD PAVEMENT ETC.

Sheet No.	SY. Old Pave.	SY. Old Swk.	S.Y.	Lin. Ft. Old C&G		Remarks
Totals						

None

CATCH BASINS - DROP INLETS - MANHOLES

Sta	Side	Type of Catch B. 1	2	3	4	5	6	7	Drop Inlet 24X24	24X36	Man Holes	Adjusted C.B	D.I.	M.H.	Remarks
Totals															Show on Plan & Profile

None

COMPLETE STATEMENT OF FORCE ACCOUNT WORK

Station	Date	Amount	Description

None

ROADSIDE IMPROVEMENT

Sheet No.	SY. Planting Slopes & Shlds	C.Y. Sel. Material	C.Y. H.H. Overhaul (Sel. Mat.)	Fertilizer		Remarks
Totals						

None

Do not include Sel. Mat. & Overhaul on Preceding Sheet

LENGTH

Ending Station			
Begining Station			
Equalities Plus/Minus			
Gross Length		=	Miles
Exceptions		=	Miles
Net Length		=	Miles
Bridges		=	Miles
Length of Roadway		=	Miles

See Original Plans to determine what Constitutes an Exception to Length.

EQUALITIES

Station	= Station	Plus	Minus	
Totals				
Net Value				

Show on Plans, Profile and Cross Sections

EXCEPTIONS

Station to Station	Exception to Grade (Lgth)	Exception to Surf. (Lgth)	Exception to Proj. (Lgth.)	Nature of Exception	Remarks
Totals					

Show on Plans, Profile and Cross Sections

RELOCATIONS

Sta to Sta	Reason

Show on Plans Accurately

GRADE CHANGES

Sta to Sta	Reason

Show on Plans Accurately

SUMMARY OF REIN. STEEL

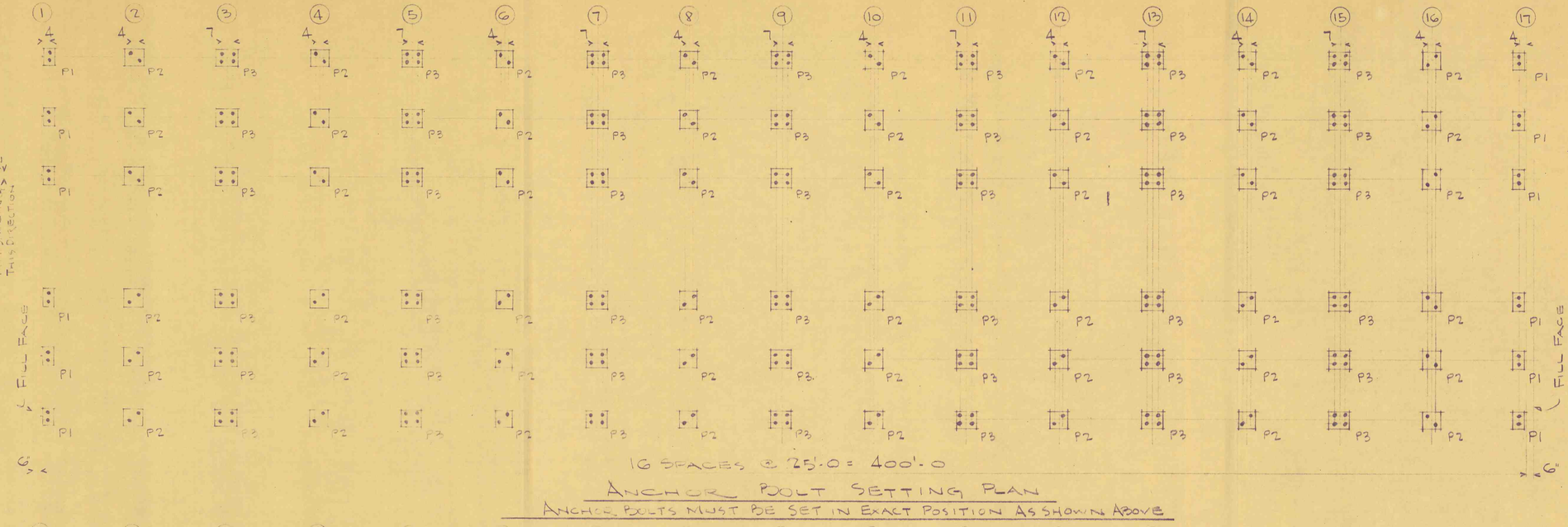
	Lbs Roadway	Lbs 20' Span & Over
Box Culv.		
Headwalls		———
Totals		

F.A. MARKERS - No PLATES

Station	Markers	Plates	
Totals			

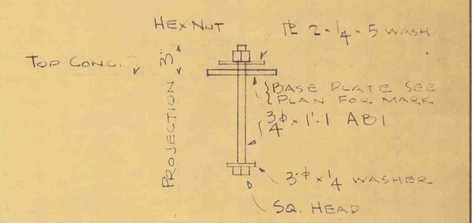
MISCELLANEOUS

DKT. NO. 14.361

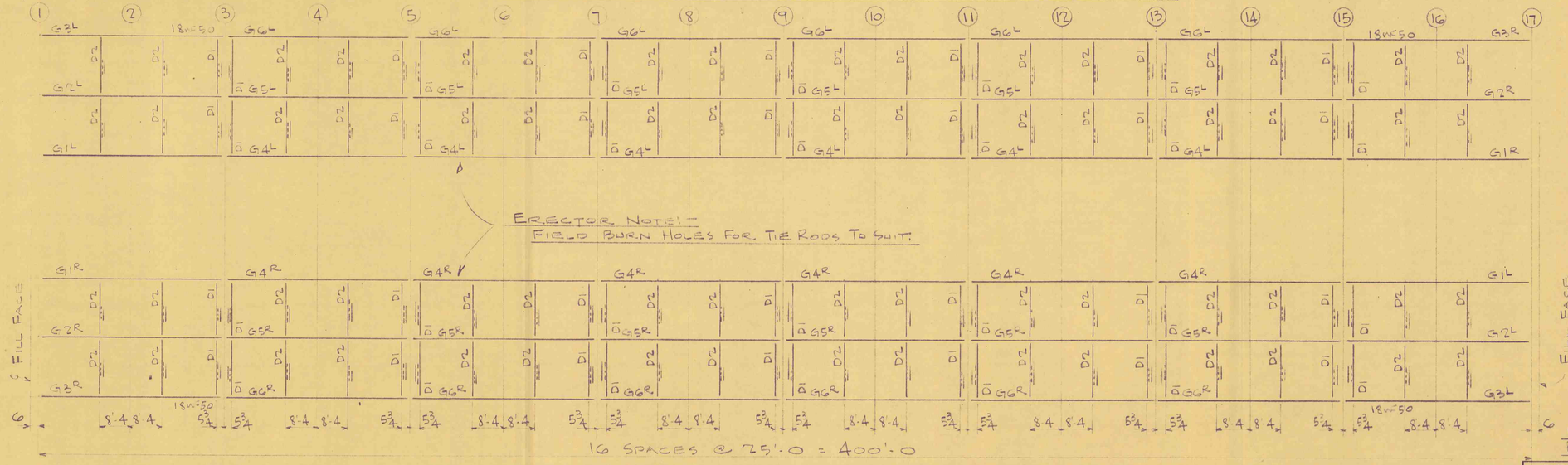


ANCHOR BOLT SETTING PLAN

ANCHOR BOLTS MUST BE SET IN EXACT POSITION AS SHOWN ABOVE



TYPICAL ANCHOR BOLT DETAIL



Erector Note:
Field Burn Holes For Tie Rods To Suit.

DECK FRAMING PLAN

ALL GIRDERS REUSED 18I47 UNLESS NOTED

ALL DIAPHRAGMS 12C20.7

FOR FINAL APPROVAL
DO NOT USE THESE PLANS FOR ERECTION
JUN 19 1964

U.S. 301 BETWEEN MANNING & TURBEVILLE
BRIDGE OVER BLACK RIVER

SHOP PAINT: S.C.H.D. RED LEAD				SHOP COPY	
				FIELD USE	
				APPROVAL	5 6-1
	REVISION	DATE	DESCRIPTION	PRINTS	NO. DATE

SHOP CONNECTIONS: WELDED

FIELD CONNECTIONS: ⅞" H.S. Bolts

HOLES UNLESS NOTED

EDGE DISTANCE UNLESS NOTED

OWEN STEEL COMPANY
COLUMBIA, S. C.

JOB S.C. DOCKET 14.361
LOCATION CLARENDON COUNTY, S.C.
DRWG. COVERS BRIDGE ERECTION PLAN
ARCH. OR ENG'R S.C. HIGHWAY DEPT.
CONTRACTOR DICKERSON INC.

DETAILS BY JRE DATE 5-29-64
CHECKED BY J.E.S. DATE 6-19-64

JOB NO. 64-81

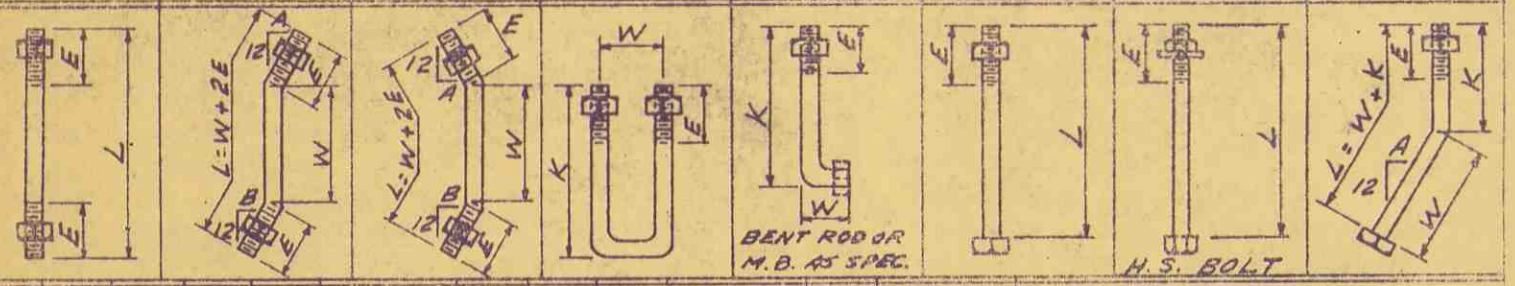
DRWG. NO. E1 OF

U.S. 301 OVER BLACK RIVER

OWEN STEEL CO.

JOB S.C. DOCKET 14.361	DRWG. BY J.R.B.	SHEET B1 OF
LOCATION CLARENDON Co., S.C.	CHK'D BY N.E.S.	JOB NO. 64-81
CONTRACTOR DICKERSON INC.	REVISED	DATE 5-29-64

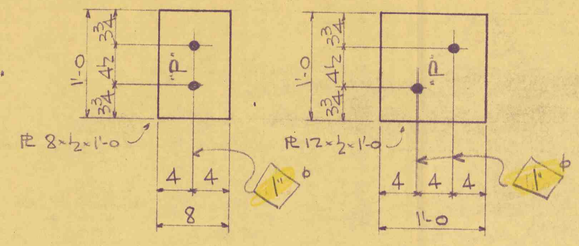
TYPE "A" | TYPE "B" | TYPE "C" | TYPE "D" | TYPE "E" | TYPE "F" | TYPE "H" | TYPE "K"



ITEM	QUAN.	MARK	TYPE	DIAM.	LGTH. L FT.	LGTH. L IN.	K	W	E	BEVEL A	BEVEL B	STOCK	ORDERED JOB	ORDERED WHSE	LOCATION & REMARKS
1															Sq. HD., 3" ϕ × ¼ R WASHER, 2" × ¼ × 5 Sq. WASHER & HEX NUT (13/16" HOLES)
2	288	A81	F	¾	1	1									
3															
4															
5															
6															
7	350		H	⅞	0	2½									
8	800		H	⅞	0	2									
9	1150	HARDENED WASHERS								For ⅞" ϕ H.S. BOLTS					
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
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28															
29															

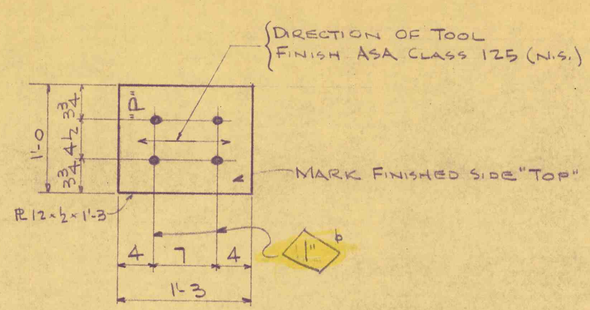
FOR FINAL APPROVAL
DO NOT USE THESE PLANS FOR ERECTION

JUN 19 1964

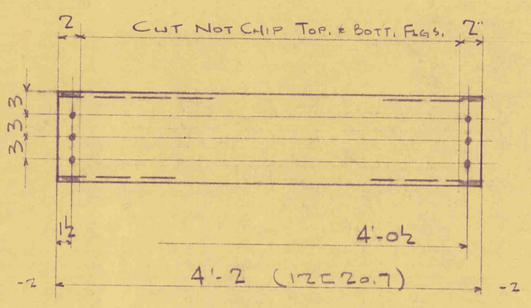


12 - PLATES P1

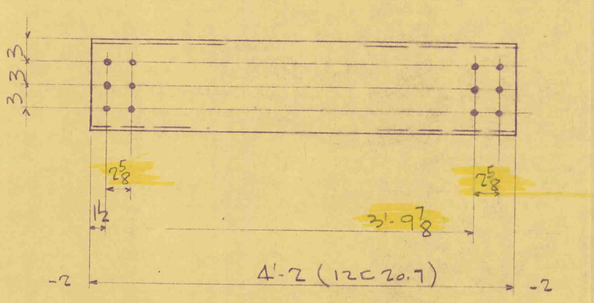
48 - PLATES P2



42 - PLATES P3



56 - DIAPHRAGMS D1



64 - DIAPHRAGMS D2

SHOP NOTE:

NO PAINT WITHIN 3 INCHES OF ANY OPEN HOLES UNLESS NOTED "P"

SCHEDULE OF MATERIAL

MILL ORD.	NO.	SIZE	LENGTH	MARK	REMARK	PUNCH
	12	PL 8 x 1/2	1'-0	P1	(ASTM A7)	
	48	PL 12 x 1/2	1'-0	P2	do	
	42	PL 12 x 1/2	1'-3	P3	FIN. 1 SIDE do	
	56	12 C 20.7	4'-2	D1	ASTM A7	X
	64	do	4'-2	D2	ASTM A7	X
	~~336~~	~~7/8 H.S. BOLTS x 2 1/2"~~				
	~~768~~	~~7/8 H.S. BOLTS x 2"~~				

FOR FINAL APPROVAL
DO NOT USE THESE PLANS FOR ERECTION
JUN 19 1964

U.S. 301 OVER BLACK RIVER

SHOP PAINT: S.C.H.D. RED LEAD SEE NOTE				SHOP COPY	
				FIELD USE	
				APPROVAL	5 6-1
	REVISION	DATE	DESCRIPTION	PRINTS NO.	DATE

SHOP CONNECTIONS: —

FIELD CONNECTIONS: 7/8" H.S. BOLTS

HOLES UNLESS NOTED: 15 & 16

EDGE DISTANCE UNLESS NOTED:

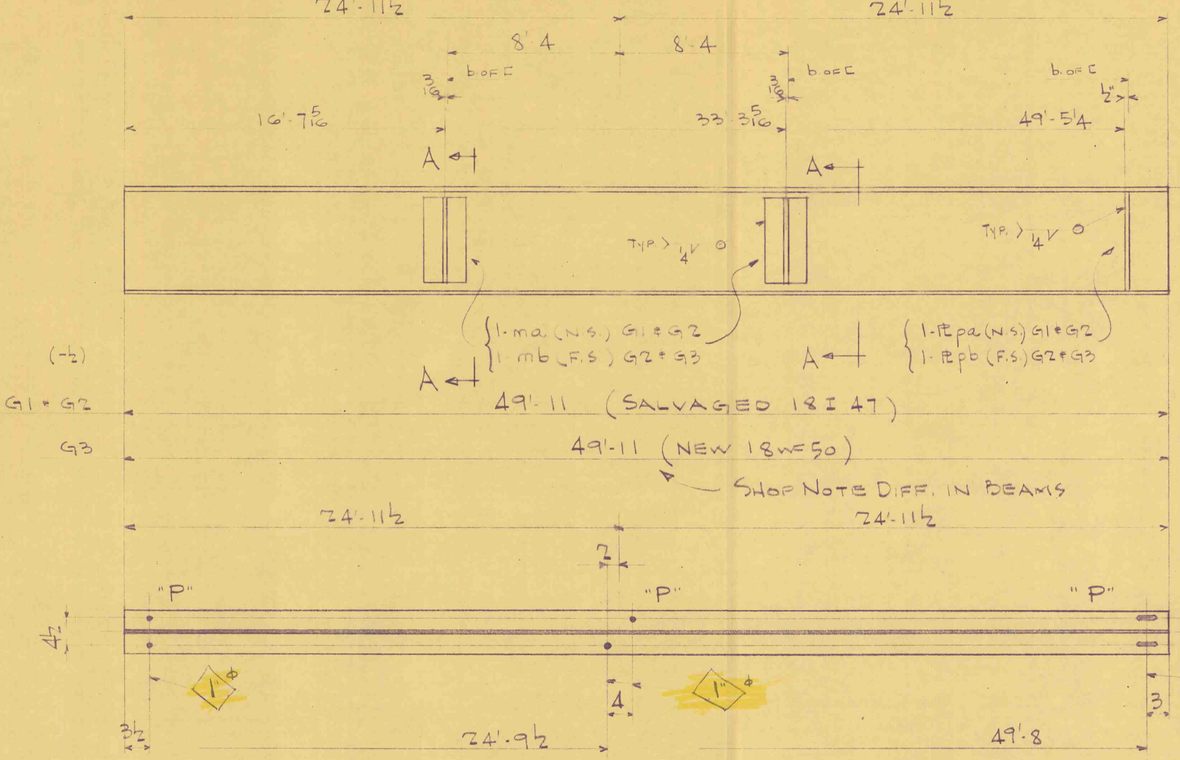
OWEN STEEL COMPANY
COLUMBIA, S. C.

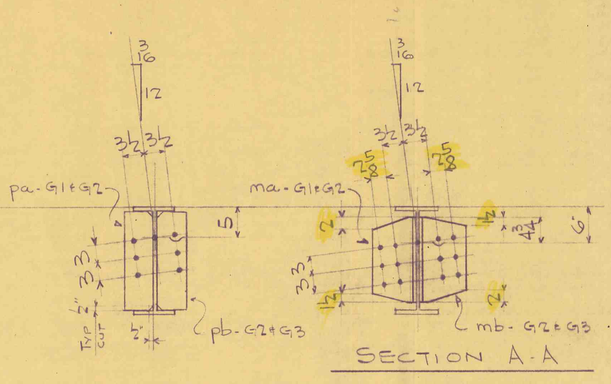
JOB: S.C. DOCKET # 14,361
LOCATION: CLARENDON COUNTY, S.C.
DRWG. COVERS: BEARING PLs & DIAPHRAGMS
ARCH. OR ENG'R: S.C. BRIDGE DEPT.
CONTRACTOR: DICKERSON INC.

DETAILS BY: JRB DATE 5-29
CHECKED BY: M.L.S. DATE 6-19-64

JOB NO. 64-81

DRWG. NO. 1 OF-





(-½)

SHOP NOTE:
NO PAINT WITHIN 3 INCHES OF ANY OPEN HOLES UNLESS NOTED "P"

2 - GIRDERS G1R (AS SHOWN)				2 - GIRDERS G1L (OPP. HAND)			
2	do	G2R	(do)	2 -	do	G2L	(do)
2	do	G3R	(do)	2 -	do	G3L	(do)

SCHEDULE OF MATERIAL

MILL ORD.	NO.	SIZE	LENGTH	MARK	REMARK	PUNCH
	2	18 I 47	49'-11	G1R	SALVAGED MATERIAL	
	2		49'-11	G1L		
	2		49'-11	G2R		
	2		49'-11	G2L		
	2	18WF50	49'-11	G3R	NEW A36 STEEL	
	2	18WF50	49'-11	G3L	" " "	
	8	PL's 5 x ½	1'-4⅞	pa		
	8	PL's 5 x ½	1'-4⅞	pb		
	16	ST 8WF20	1'-3½	ma		
	16	do	1'-3½	mb		

FOR FINAL APPROVAL
DO NOT USE THESE PLANS FOR ERECTION

JUN 19 1964

U.S. 301 BETWEEN MANNING & TURBEVILLE
BRIDGE OVER BLACK RIVER

SHOP PAINT: S.C.H.D. RED LEAD UNLESS NOTED

SHOP CONNECTIONS: WELDED

FIELD CONNECTIONS: ⅞ø H.S. BOLTS

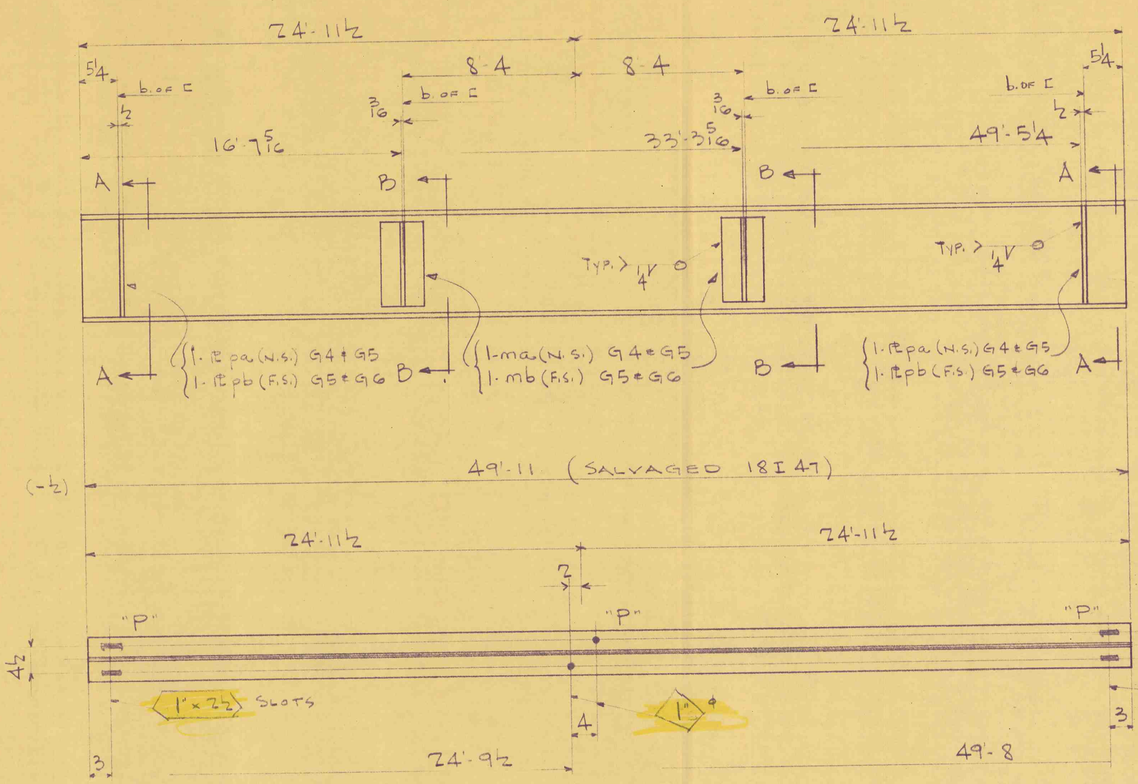
HOLES UNLESS NOTED: 15/16ø

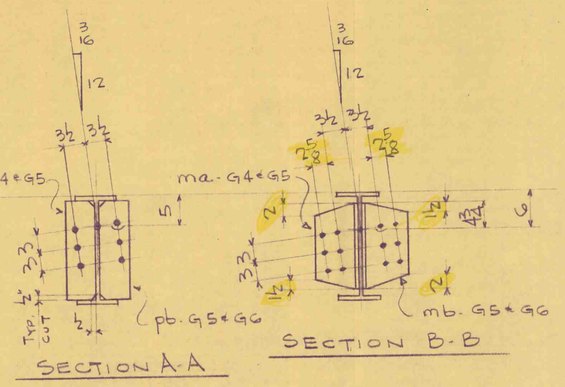
EDGE DISTANCE UNLESS NOTED:

REVISION	DATE	DESCRIPTION	PRINTS	NO.	DATE
			SHOP COPY		
			FIELD USE		
			APPROVAL	5	6-1

OWEN STEEL COMPANY
COLUMBIA, S. C.

JOB S.C. DOCKET 14,361
LOCATION CLARENDON COUNTY, S.C.
DRWG. COVERS GIRDER DETAILS
ARCH. OR ENG'R S.C. HIGHWAY DEPT.
CONTRACTOR DICKERSON, INC.
DETAILS BY JRB DATE 5-1-64
CHECKED BY M.E.S. DATE 6-12-64
JOB NO. 64-81
DRWG. NO. 2 OF





SHOP NOTE:
NO PAINT WITHIN 3 INCHES OF ANY OPEN HOLES UNLESS NOTED "P"

6 - GIRDERS	G4R (AS SHOWN)		6 - GIRDERS	G4L (OPP. HAND)	
6	do	G5R (do)	6 -	do	G5L (do)
6	do	G6R (do)	6 -	do	G6L (do)

SCHEDULE OF MATERIAL

MILL ORD.	NO.	SIZE	LENGTH	MARK	REMARK	PUNCH
	6	18I47	49'-11	G4R	SALVAGED MATERIAL	
	6		49'-11	G4L		
	6		49'-11	G5R		
	6		49'-11	G5L		
	6		49'-11	G6R		
	6	do	49'-11	G6L		
	48	PL 5 x ½	1'-4⅞	pa		
	48	PL 5 x ½	1'-4⅞	pb		
	48	ST 8WF20	1'-3½	ma		
	48	do	1'-3½	mb		

FOR FINAL APPROVAL
DO NOT USE THESE PLANS FOR ERECTION
JUN 19 1964

U.S. 301 BETWEEN MANNING & TURBEVILLE
BRIDGE OVER BLACK RIVER

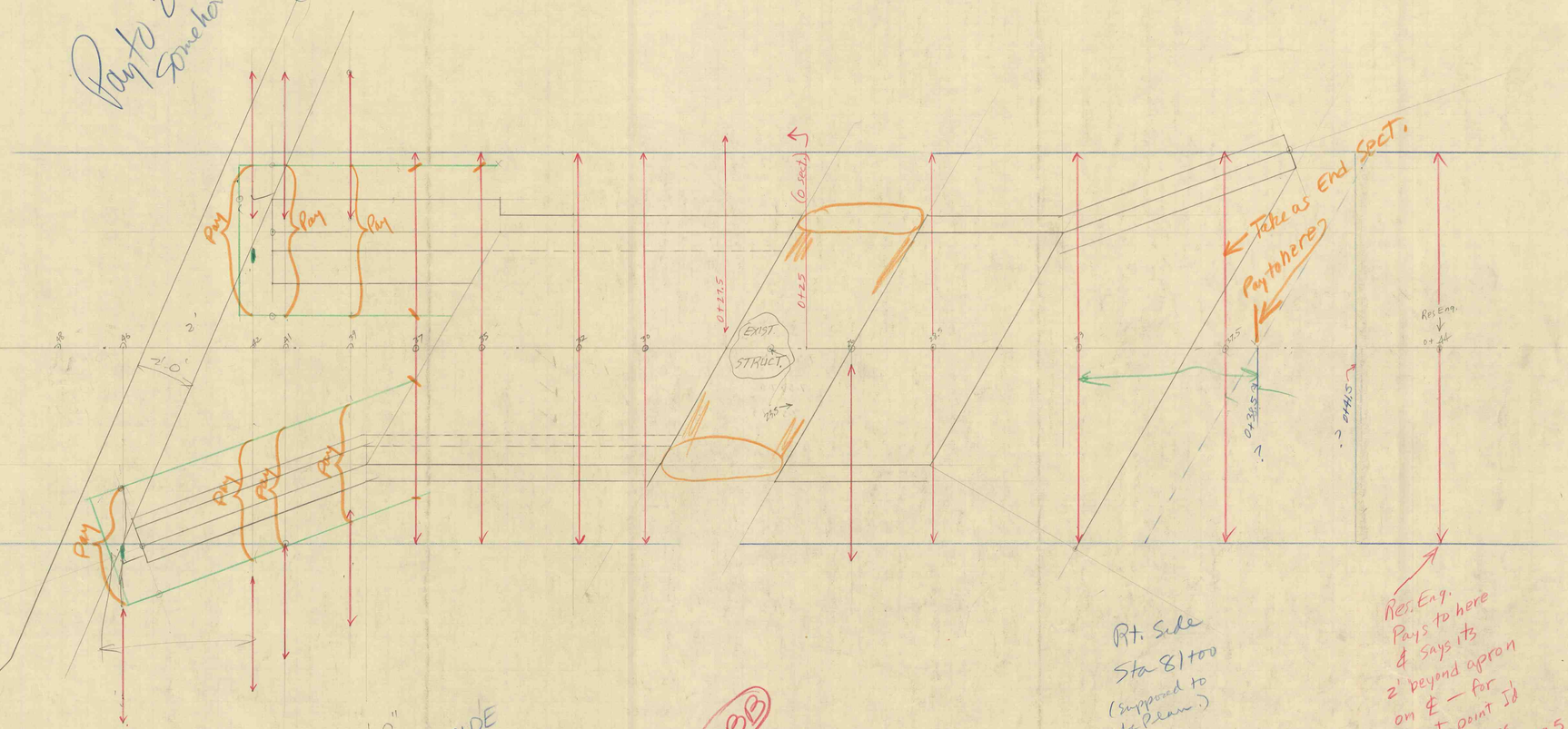
REVISION	DATE	DESCRIPTION	PRINTS	NO.	DATE
			SHOP COPY		
			FIELD USE		
			APPROVAL	5	6-1

SHOP PAINT: S.C. H.D. RED LEAD UNLESS NOTED
SHOP CONNECTIONS: WELDED
FIELD CONNECTIONS: ⅞⌀ H.S. BOLTS
HOLES UNLESS NOTED: 15/16 ⌀
EDGE DISTANCE UNLESS NOTED:

OWEN STEEL COMPANY
COLUMBIA, S. C.

JOB: S.C. DOCKET 14.361
LOCATION: CLARENDON COUNTY, S.C.
DRWG. COVERS: GIRDER DETAILS
ARCH. OR ENG'R: S.C. HIGHWAY DEPT.
CONTRACTOR: DICKERSON, INC.
DETAILS BY: JRP DATE 5-1-64
CHECKED BY: MES DATE 6-12-64
JOB NO. 64-81
DRWG. NO. 3 OF

Pay to 2' out side somehow + Forget it (Both sides)



½" = 1'-0"

LEFT SIDE
Sta. 81+00
(Apron omitted — normal Long Wing (Near Side) — and Sh. Wing actually built as shown (more or less))

WPB
File
14.361

Rt. Side
Sta 81+00
(Supposed to be Beam)

Res. Eng.
Pays to here
& says its
2' beyond apron
on ℄ — for
That point Id
say Sta. was
approx. 0+38.5 !

Have to show GKB to decide what limit Sta. to pay to.

CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Saluda	41.328	F-258(8) F-263(3)	19	25	36

Bent 5 Sta 5+88

Plan Col. 22.59

El. 55.92

El. 53.42

Conc

Cap Lt. 7.5 x 2.5 x 13 - ((.04 x 0.437) x 2.5)

= 80.11 ÷ 27 = 2.97 cy

← Down Stream Lt

Conc.

2nd Column Lt. 2 x 2 x 20.18 ÷ 27

= 2.99 cy

20.18 — 2.41' short

20.17 — 2.42' short

Conc

1st Column Lt. 2 x 2 x 20.17 ÷ 27

= 2.99 cy

Conc

Cap Rt. 2.5 x 2.5 x 13 - ((.04 x 0.437) x 2.5)

= 80.11 ÷ 27 = 2.97 cy

Conc

1st Column Rt. 2 x 2 x 19.60 ÷ 27 = 2.90 cy

19.60 — 2.99' short

El. 55.92

El. 53.42

18.22 — 4.37' short

Up Stream →

Rt

Orig El. 43.95

Conc.

2nd Column Rt. 2 x 2 x 18.22 ÷ 27 = 2.70 cy

Orig El. 41.32.

Dry Exc 7.5 x 7.5 x 7 x 7.48 ÷ 27 = 13.51 cy — 15.58 cy

Wet Exc 7.5 x 7.5 x 7 x 0.46 ÷ 27 = 0.84 cy — 0.96 cy

Rock Exc 7.5 x 7.5 x 7 x 2.56 ÷ 27 = 4.65 cy — 5.33 cy

Conc 5 x 5 x 3 ÷ 27 = 2.78 cy

Dry Exc 7.5 x 7.5 x 7 x 10.11 ÷ 27 = 18.35 cy — 21.06 cy

Wet Exc 7.5 x 7.5 x 7 x 0.46 ÷ 27 = 0.84 cy — 0.96 cy

Rock Exc 7.5 x 7.5 x 7 x 1.18 ÷ 27 = 2.14 cy — 2.46 cy

Conc 5 x 5 x 3 ÷ 27 = 2.78 cy

Wet Exc 7.5 x 7.5 x 7 x 1.26 ÷ 27 = 2.29 cy — 2.63 cy

Rock Exc 7.5 x 7.5 x 7 x 1.04 ÷ 27 = 1.89 cy — 2.17 cy

Conc 5 x 5 x 3 ÷ 27 = 2.78 cy

Deduct Steel Wt

C: 12.19 x 21.36 = 260.38 #

D: 6 x 2.63 = 15.78

276.16 #

Pay = 4349 - 276 = 4073 #

Wet El. 33.84

El. 33.24

Orig El. 32.54

Rock El. 31.28

El. 30.24

2nd Footing Lt

Wet El. 33.84

El. 33.25

Orig El. 32.32

Rock El. 31.38

El. 30.25

1st Footing Lt

Wet El. 33.84

El. 33.82

Rock El. 33.38

El. 30.82

1st Footing Rt

El. 35.20

Wet El. 33.84

Rock El. 33.38

El. 32.20

2nd Footing Rt

Wet Exc 7.5 x 7.5 x 7 x 0.94 ÷ 27 = 1.71 cy — 1.96 cy

Rock Exc 7.5 x 7.5 x 7 x 1.13 ÷ 27 = 2.05 cy — 2.35 cy

Conc 5 x 5 x 3 ÷ 27 = 2.78 cy

Ref Book 1 Pages 9-11, 26-27

Ref Book 1 Pages 42-44, 54-56

Dry Exc	31.92 cy	36.64 cy
Wet Exc	5.68 cy	6.51 cy
Rock Exc	10.73 cy	12.31 cy
Conc.	28.64 cy	
Steel	(4349) 185	
	4073	

Ground Surface Platted by

" " Checked by

Template Sections Platted by

" " Checked by

Areas by

" Checked by

Template Sections Revised by

" " Checked by

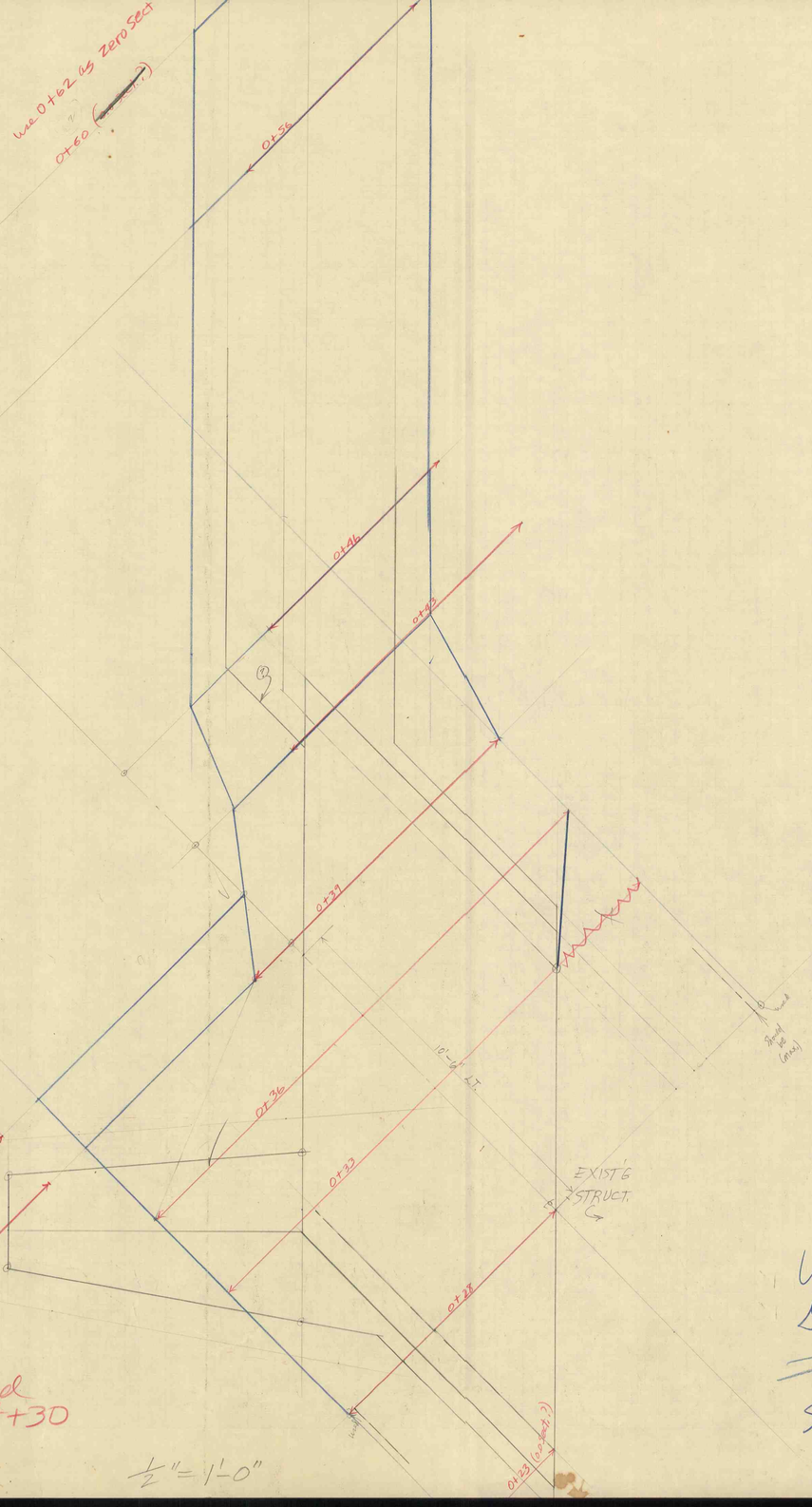
Final Areas by

" " Checked by

Quantities Transferred and Inked by

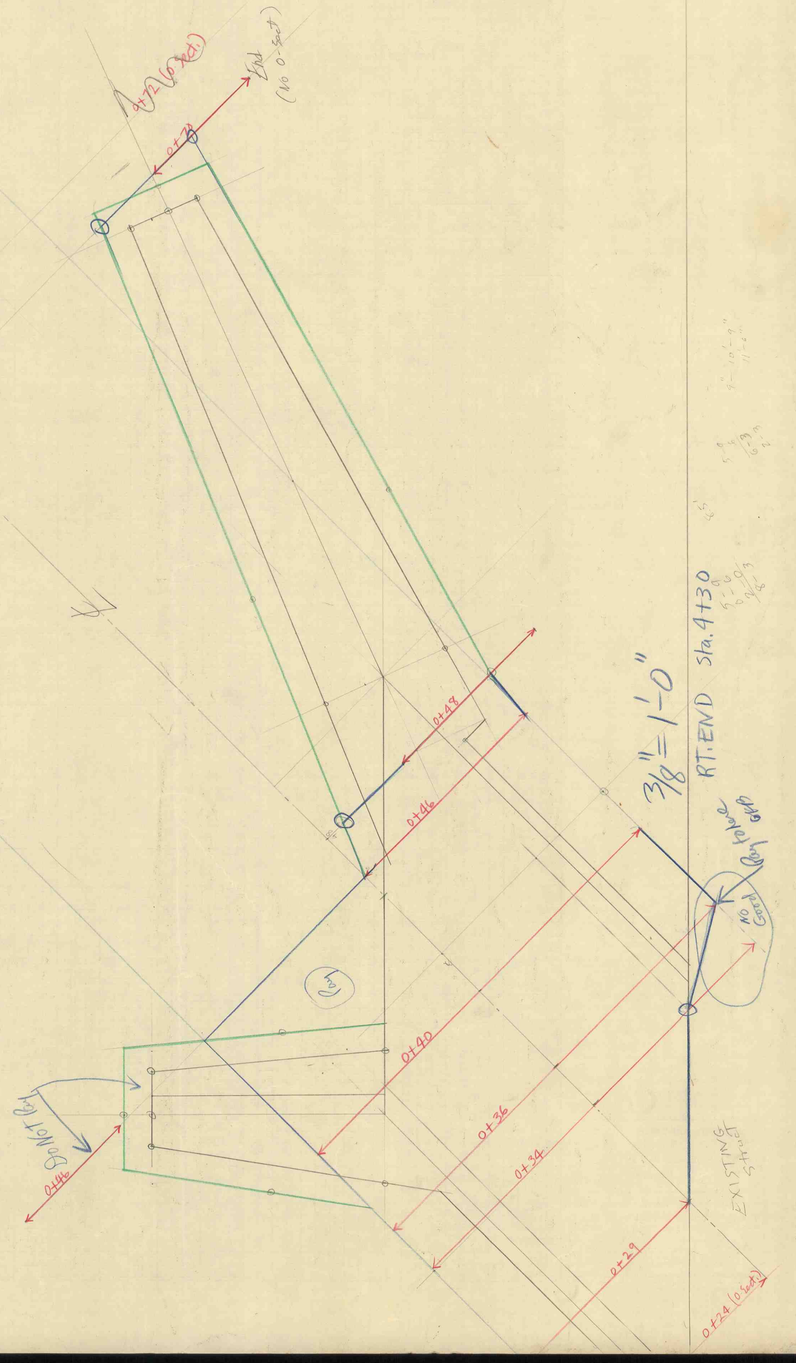
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WB13



W313
Dock. 14.361

Single 10'x8' Excava. (45° SKEW)
Sta. 4+30



CROSS SECTIONS

Scale 1 inch = 5 feet

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Saluda	41.328	F-258(9) F-263(3)	19	26	36

14.361

Bent 6 Sta 6+10

Plan Col. 22.59'

El. 55.92

El. 53.42

CONC

Cap Lt 2.5X2.5X18.0-(1.04X0.437X2.5)
= 80.11 ÷ 27 = 2.97 cy

CONC.

2nd Column Lt 2X2X20.27 ÷ 27 = 3.00 cy

Down Stream Lt

20.27 — 2.32' short

Wet Exc 7.5X7.5 / 7X7X1.08 ÷ 27 = 1.96 cy 2.25 cy

Rock Exc 7.5X7.5 / 7X7X2.14 ÷ 27 = 3.88 cy 4.46 cy

CONC 5X5X3 ÷ 27 = 2.78 cy

El. 33.15

Wet El. 33.84

Orig El. 33.31

Rock El. 32.29

5'-0"

El. 30.15

2nd Footing Lt

CONC

1st Column Lt 2X2X20.30 ÷ 27 = 3.01 cy

20.30 — 2.25' short

Deduct Steel Weight:

C: 10.51 X 21.36 = 224.49 #

D: 5 X 2.63 = 13.15

237.64 #

Pay = 4349 - 238 = 4,111 #

El. 33.08

Wet El. 33.84

Orig El. 32.96

Rock El. 31.79

3'-0"

El. 30.08

1st Footing Lt

Wet Exc 7.5X7.5 / 7X7X1.17 ÷ 27 = 2.12 cy 2.44 cy

Rock Exc 7.5X7.5 / 7X7X1.71 ÷ 27 = 3.10 cy 3.56 cy

CONC 5X5X3 ÷ 27 = 2.78 cy

El. 55.92

El. 53.42

CONC

Cap Rt 2.5X2.5X13-(1.04X0.437X2.5)
= 80.11 ÷ 27 = 2.97 cy

CONC.

1st Column Rt 2X2X19.60 ÷ 27 = 2.90 cy

19.60 — 2.99' short

CONC.

2nd Column Rt 2X2X19.64 ÷ 27 = 2.91 cy

19.64 — 2.95' short

UP Stream Rt

El. 33.82

Wet El. 33.84

Orig El. 32.91

Rock El. 32.83

3'-0"

El. 30.82

1st Footing Rt

Wet Exc 7.5X7.5 / 7X7X.88 ÷ 27 = 1.60 cy 1.83 cy

Rock Exc 7.5X7.5 / 7X7X1.21 ÷ 27 = 2.20 cy 2.52 cy

CONC 5X5X3 ÷ 27 = 2.78 cy

El. 33.78

Wet El. 33.84

Orig El. 33.41

Rock El. 32.33

5'-0"

El. 30.78

2nd Footing Rt

	None	None
Dry Exc.		
Wet Exc	7.64 cy	8.77 cy
Rock Exc	11.99 cy	13.77 cy
CONC	2.889 cy	
Steel	4349 lbs.	
	4,111	

Ref. Book 1 Pages 6-9

Ref. Book 1 Pages 42-44, 51-56

Ground Surface Platted by
" " Checked by
Template Sections Platted by
" " Checked by
Areas by
" Checked by
Template Sections Revised by
" " Checked by
Final Areas by
" " Checked by
Quantities Transferred and Inked by

20833

WBB