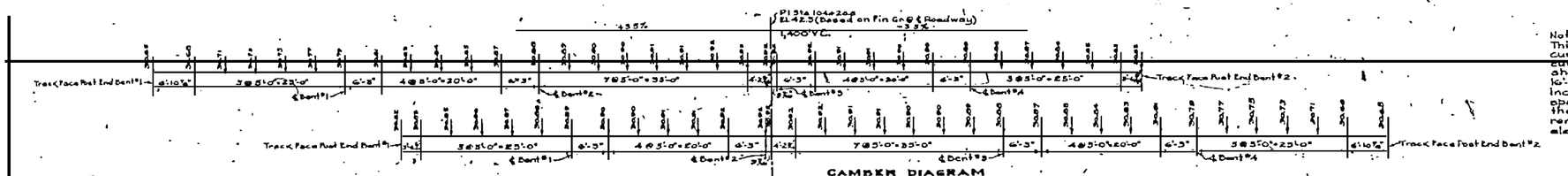
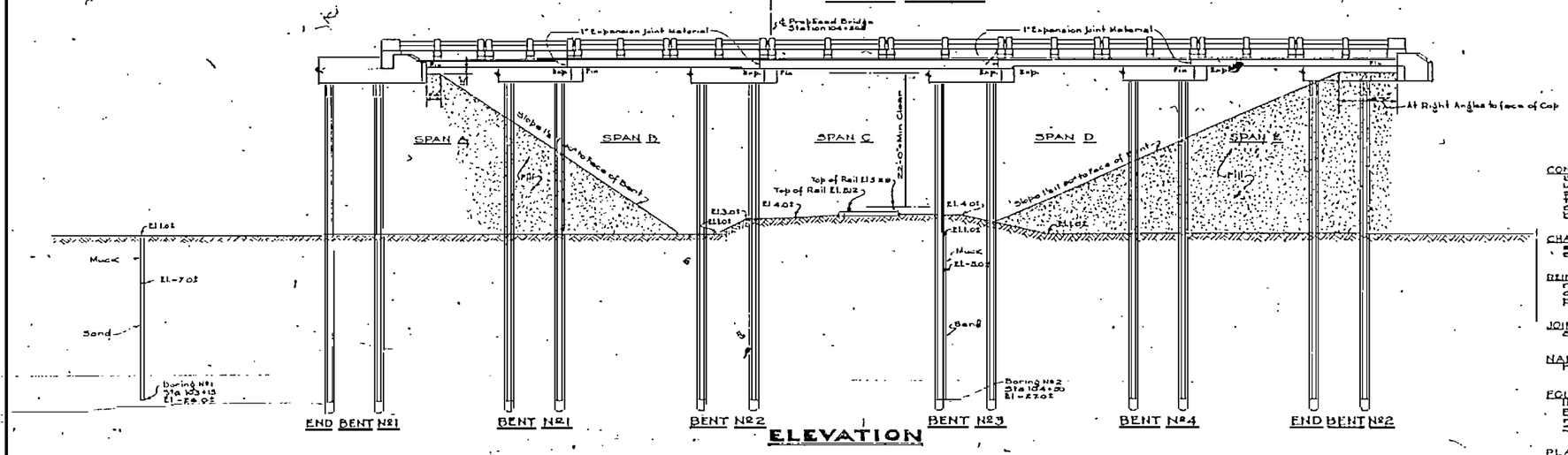
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N.C.	1022	1	5

Log of Crossing Hwy No. 9 at Sta. 103+13

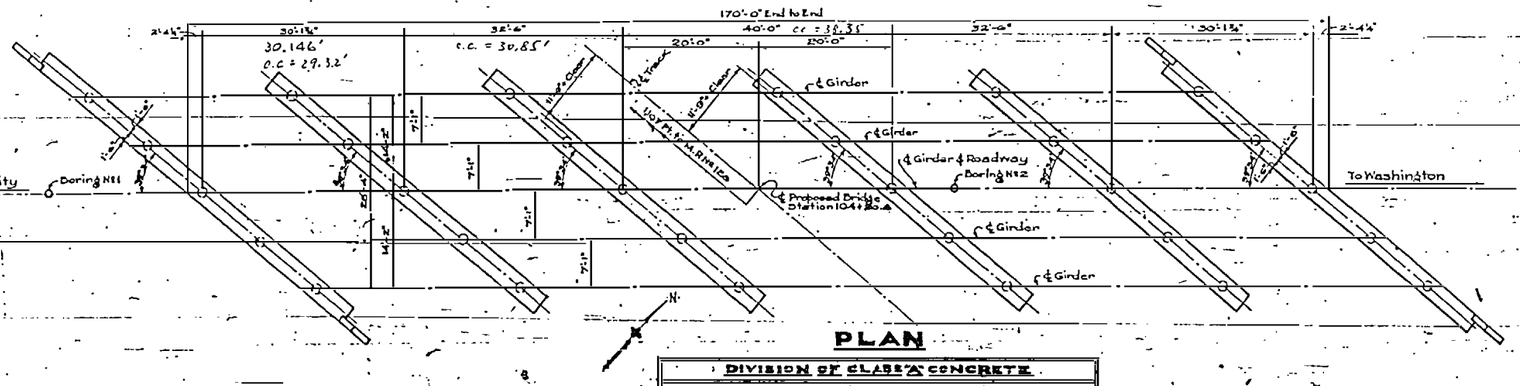
Note:
This bridge shall be built on a vertical curve. The slabs, curbs, & girders shall conform to the vertical curve. Handrail posts to be built plumb. The elevations shown on the Camber Diagram are for 15# of curb & 10'-0" from ℄ of Roadway. The elevations shown do not include any allowance for settlement of individual spans which should be provided for in addition to the elevations given. After the falsework has been removed the finished structure shall have the elevations shown.



CAMBER DIAGRAM



ELEVATION



PLAN

DESIGN DATA

Specifications	AASHO
Assumed Live Load	H-15
Impact Allowance	See Specifications
Reinforcing Steel in Tension	16,000 lbs. per sq. in.
Concrete in Compression	900 lbs. per sq. in.
Concrete in Shear	60 lbs. per sq. in.
Equivalent Fluid Pressure of Earth	30 lbs. per cu. ft.

GENERAL NOTE

CONCRETE: Class "A" Concrete shall be used throughout. Standard Size #67 coarse aggregate shall be used except in handrails in which Standard Size #57 shall be used. Coarse aggregate in precast piles shall consist of crushed stone only. Girders, slabs, curbs, walls, & curbs to be poured in one continuous operation allowing no time for initial set to take place between them. No construction joints other than those shown on plans will be permitted. All concrete except in handrails shall be compacted by Mechanical Vibration. See Specifications.

CHAMFERS: All exposed corners of concrete shall be chamfered 1" except on railings & expansion joints. Corners of rails & posts shall be chamfered ¾". Corners on expansion joints shall be chamfered ½".

REINFORCING STEEL: All reinforcing steel shall be deformed bars. All dimensions relative to reinforcement are to centers of bars. No splices of bars other than those shown on plans will be permitted. All reinforcing steel shall be securely held in correct position.

JOINT MATERIAL: Expansion joint material may be either cork or rubber compound as called for in the Specifications.

NAME PLATES: Two name plates shall be placed on the bridge, one on each right hand end post approaching the bridge.

FOUNDATION DATA: The excavation & foundation data & all elevations of ground line given are believed to be correct & are furnished for the convenience of Bidders, but the State Highway & Public Works Commission assumes no responsibility for nor guarantees as correct any of the information given. See Specifications.

PLATES & BOLTS: All bearing plates & bolts shall be phosphor bronze. See Specifications.

TRAFFIC: Highway traffic to be maintained over present route during construction.

PILES: Piles in End Bents & Bents adjacent to End Bents shall not be driven until after fill has been placed. *See Special Provisions.*

MATERIAL & WORKMANSHIP: All material & workmanship as per the Specifications of the North Carolina State Highway & Public Works Commission.

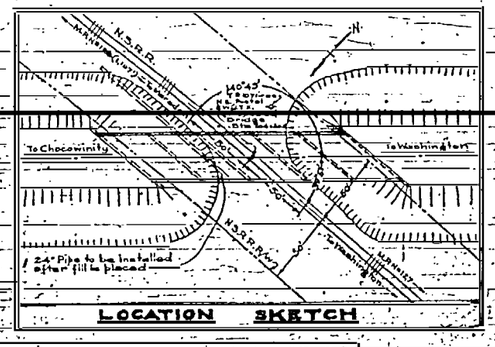
D60003
BEAUFORT
Brg #3

PROJECT NO. 1022
BEAUFORT COUNTY
STATION: 104+20.8

DIVISION OF CLASS "A" CONCRETE	
Coarse Aggregate Standard Size No. 3 Cu. Yds.	349.9
Coarse Aggregate Standard Size No. 7 Cu. Yds.	9.5
Total Class "A" Concrete Cu. Yds.	359.4

TOTAL BILL OF MATERIAL

	Class "A" Concrete Cu. Yds.	Reinforcing Steel Lbs.	Plates & Bolts Lbs.	Unloaded Timber Approach Rail No.	16" Precast Piles No.	16" Precast Piles Lin. Ft.	20" Precast Piles No.	20" Precast Piles Lin. Ft.		
SPAN A										
SPAN B										
SPAN C	255.4	30,855								
SPAN D										
SPAN E										
END BENT NO. 1	19.0	2,852			5	275				
BENT NO. 1	16.6	2,264					5	275		
BENT NO. 2	16.41	2,244					5	275		
BENT NO. 3	16.4	2,144					5	275		
BENT NO. 4	16.6	2,264					5	275		
END BENT NO. 2	19.0	2,852			5	275				
PRECAST PILES		49,010								
TOTAL	359.4	140,505	1,900	3	10	550	20	1,100		



LOCATION SKETCH

SPECIAL	ASSEMBLED BY	DATE
	CHECKED BY	DATE
STANDARD	DESIGNED BY	DATE
	DRAWN BY G.P.Hall	DATE March 1940
	TRACED BY G.P.Hall	DATE March 1940
	CHECKED BY T.T.K.	DATE

B.M. #7 Nail in side of 10" Gum Tree 107 ft. Lt. & 14.9 ft. on South Side of Tree (U.S.C. & G.S. Datum) El. 27.5

Revised for Aggregate 10-1-40 GFH

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
RALEIGH

GENERAL PLAN OVERHEAD BRIDGE N.S.R.R.

(Between Chocowinity & Washington)

MARCH 1940

SUBMITTED BY: _____ BRIDGE ENGR.

APPROVED BY: _____ DATE: _____ STATE HIGHWAY ENGINEER

PLAN NO. 1

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N. C.	1022	46	53

Fit Gr Crossing Profile FAUGH 93(3)

ELEVATION

See Sect G-G for offsets to soffit

Note: In addition to the Exp Jt Mat'l & ply roofing felt shall be placed over all joints in the Expansion Material at all vertical exp joints below top of curb The felt shall be placed on the side of the joint adjacent to the pouring

SECTION ALONG ℄ GIRDER SPANS A-B-D-E

SECTION ALONG ℄ GIRDER SPAN C

SECTION G-G

SINGLE POST

DOUBLE POST

END POST (Right)

END POST (Left)

Spans 1 & 2 as shown
Spans D & E symm abt this point by rotation.

SECTION E-E
SECTION F-F (similar)

PLAN OF DRIP BEAD

DRAIN DETAIL
Req'd 8

PLAN

HALF INTERIOR SECTION

HALF END VIEW

SECTION C-C

SECTION D-D

Note: For design data and general note see general drawing.

Note: For Sections A-A and B-B see next sheet

PROJECT NO. 1022
BEAUFORT COUNTY
STATION: 104+20.8
SPANS A-B-D & E

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
RALEIGH

SUPERSTRUCTURE DETAILS FOR BRIDGE OVER NORFOLK SOUTHERN R.R. MARCH 1940

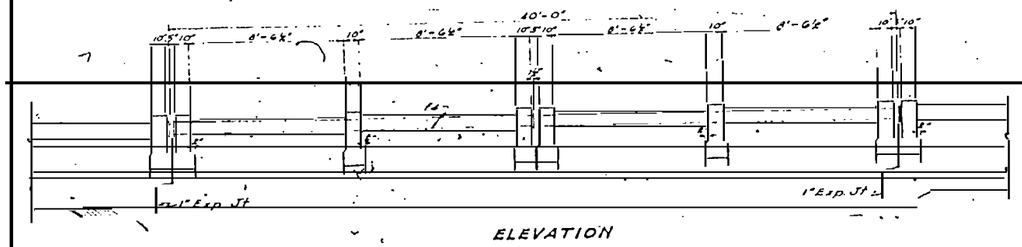
SPECIAL	
STANDARD	
DESIGNED BY	K.H. DATE
DRAWN BY	E.G. DATE 11-40
TRACED BY	DATE
CHECKED BY	DATE 11-40

SUBMITTED BY _____ BRIDGE ENGR.
APPROVED BY _____ DATE 2-20-41
STATE HIGHWAY ENGINEER

PLAN NO. 1

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N. C.	1022	47	55
F.A. Gr Crossing Proj. No. E.A.G.R-93(1)				

Note All plates and bolts shall be phosphor bronze 1/16 one near side of all plates to be planed in direction of arrow.



ELEVATION

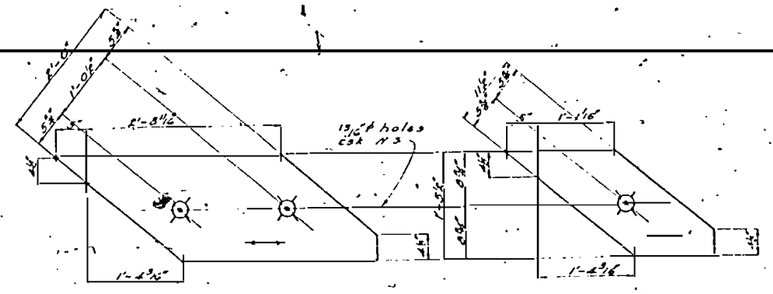
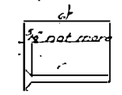
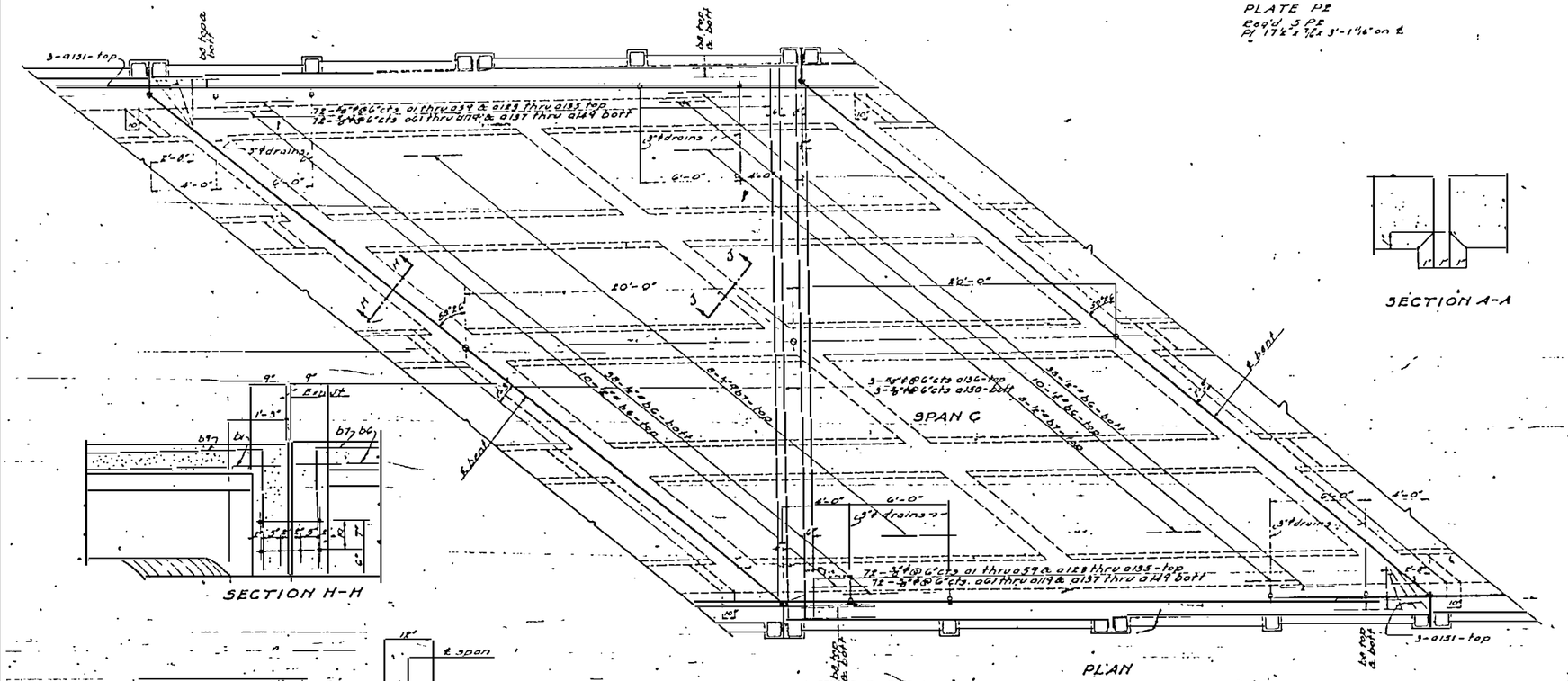


PLATE P2
Req'd 3 P2
Pl 17½" x 9½" x 3'-1 1/16" on t.

PLATE P1S (As shown)
PLATE P1A (Opp Hand)
Req'd 13 P1S
Req'd 23 P1A
Pl 17½" x 9½" x 1'-6 1/16" on t.

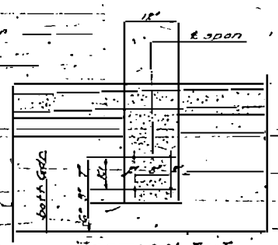


BOLT DETAIL
Req'd 30



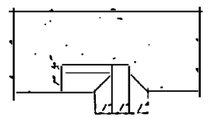
PLAN

SECTION H-H

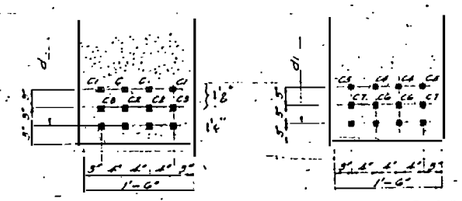


SECTION J-J

SECTION A-A



SECTION B-B



DETAIL OF GIRDER (Span C)

DETAIL OF GIRDER (others)

Note: For design data and general note see general drawing

Note: For detail of drains see preceding sheet

Note: For typical method of building up girders at bridge seats see Detail Ⓧ Sheet No. 37

PROJECT NO. 1022
BEAUFORT COUNTY
STATION: 1041+20.8
SPAN C.

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION

SUPERSTRUCTURE DETAILS FOR BRIDGE OVER NORFOLK SOUTHERN R.R. MARCH 1940

SPECIAL			
	DESIGNED BY	DATE	
REVISIONS	DRAWN BY	DATE	
	TRACED BY	DATE	
	CHECKED BY	DATE	

SUBMITTED BY _____ BRIDGE ENGR.
APPROVED BY _____ STATE HIGHWAY ENGINEER
PLAN NO.

Ban for Note - by E.A.T. - r by E.A.H. 5-30-40. V.A.K.

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N. C.	1022	45	55
F.A. Gr. Crossing Proj. No. F.A.G.H. 43(3)				

BILL OF MATERIAL
FIVE SPANS

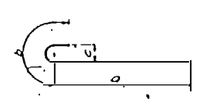
Bar	No. in each span A	B	C	D	E	Total No	Size	Type	Length a	Weight	Dimensions a	b	c
01	2	2	2	2	2	10	#4	1	5'-9"	39	5'-9"	12"	4"
02									6'-8"	46	6'-8"		
03									6'-7"	45	6'-7"		
04									5'-0"	35	5'-0"		
05									5'-5"	37	5'-5"		
06									6'-10"	47	6'-10"		
07									6'-9"	65	5'-9"		
08									6'-8"	70	5'-8"		
09									7'-1"	74	6'-1"		
010									7'-6"	78	6'-6"		
011									7'-11"	83	6'-11"		
012									8'-4"	87	7'-4"		
013									8'-9"	91	7'-9"		
014									9'-5"	96	8'-5"		
015									9'-7"	100	8'-7"		
016									9'-11"	103	8'-11"		
017									10'-2"	106	9'-2"		
018									10'-9"	112	9'-9"		
019									11'-5"	117	10'-5"		
020									11'-7"	121	10'-7"		
021									12'-0"	125	11'-0"		
022									12'-5"	130	11'-5"		
023									12'-10"	134	11'-10"		
024									13'-3"	139	12'-3"		
025									13'-3"	143	12'-3"		
026									14'-1"	147	13'-1"		
027									14'-6"	151	13'-6"		
028									14'-11"	156	13'-11"		
029									15'-4"	160	14'-4"		
030									15'-9"	164	14'-9"		
031									16'-2"	169	15'-2"		
032									16'-6"	172	15'-6"		
033									16'-11"	176	15'-11"		
034									17'-4"	181	16'-4"		
035									17'-9"	185	16'-9"		
036									18'-2"	190	17'-2"		
037									18'-7"	194	17'-7"		
038									19'-0"	198	18'-0"		
039									19'-5"	203	18'-5"		
040									19'-10"	207	18'-10"		
041									20'-3"	211	19'-3"		
042									20'-8"	216	19'-8"		
043									21'-1"	220	20'-1"		
044									21'-6"	225	20'-6"		
045									21'-11"	229	20'-11"		
046									22'-4"	233	21'-4"		
047									22'-9"	237	21'-9"		
048									23'-1"	241	22'-1"		
049									23'-6"	245	22'-6"		
050									23'-11"	249	22'-11"		
051									24'-4"	254	23'-4"		
052									24'-9"	258	23'-9"		
053									25'-5"	265	24'-5"		
054									25'-7"	267	24'-7"		
055									26'-0"	271	25'-0"		
056									26'-5"	276	25'-5"		
057									26'-10"	280	25'-10"		
058	2	2	2	2	2	10	#4	1	27'-3"	284	26'-3"		
059	1	2	2	2	1	8	#4	1	27'-4"	231	26'-0"	12"	4"
060	28	—	—	—	28	56	#3	31n	25'-10"	1509	—		
061	2	2	2	2	2	10	#4	2	3'-8"	39	2'-1"	1'-0"	
062									3'-7"	37	2'-6"		
063									4'-0"	42	2'-11"		
064									4'-5"	46	3'-4"		
065									4'-10"	50	3'-9"		
066									5'-3"	55	4'-2"		
067									5'-8"	59	4'-7"		
068									6'-1"	63	5'-0"		
069									6'-6"	68	5'-3"		
070									6'-11"	72	5'-10"		
071									7'-2"	76	6'-3"		
072									7'-7"	81	6'-8"		
073									8'-2"	85	7'-3"		
074									8'-7"	89	7'-8"		
075									9'-0"	94	7'-11"		
076									9'-4"	97	8'-3"		
077									9'-9"	102	8'-8"		
078									10'-2"	106	9'-1"		
079									10'-7"	110	9'-6"		
080									11'-0"	115	9'-11"		
081									11'-5"	119	10'-3"		
082									11'-10"	123	10'-8"		
083									12'-3"	128	11'-1"		
084									12'-8"	132	11'-6"		
085									13'-1"	136	11'-11"		
086									13'-6"	141	12'-3"		
087									13'-11"	145	12'-8"		
088									14'-4"	149	13'-1"		
089									14'-9"	154	13'-6"		
090									15'-2"	158	13'-11"		
091									15'-7"	162	14'-3"		
092									15'-11"	166	14'-8"		
093									16'-4"	170	14'-11"		
094									16'-9"	175	15'-3"		
095									17'-2"	179	15'-8"		
096									17'-7"	183	16'-0"		
097									18'-0"	188	16'-5"		
098									18'-5"	192	16'-10"		
099									18'-10"	196	17'-2"		
0100									19'-3"	201	17'-7"		
0101	2	2	2	2	2	10	#4	2	19'-8"	205	18'-0"	1'-0"	

Bar	No. in each span A	B	C	D	E	Total No	Size	Type	Length a	Weight	Dimensions a	b	c
0102	2	2	2	2	2	10	#4	2	20'-1"	209	19'-0"	1'-0"	
0103									20'-6"	214	19'-5"		
0104									20'-11"	218	19'-10"		
0105									21'-2"	222	20'-3"		
0106									21'-7"	227	20'-8"		
0107									22'-2"	231	21'-1"		
0108									22'-6"	235	21'-3"		
0109									22'-11"	239	21'-10"		
0110									23'-2"	243	22'-3"		
0111									23'-7"	248	22'-8"		
0112									24'-2"	252	23'-1"		
0113									24'-7"	256	23'-6"		
2113									25'-0"	261	23'-11"		
0113									25'-5"	265	24'-4"		
0116									25'-10"	269	24'-9"		
0117									26'-3"	273	25'-2"		
0118	2	2	2	2	2	10	#4	2	26'-8"	278	25'-7"		
0119	1	2	2	2	1	8	#4	2	27'-1"	226	26'-0"	1'-0"	
0120	—	2	—	2	—	4	#4	1	28'-1"	117	27'-1"	12"	4"
0121	—	2	—	2	—	4	#4	2	27'-6"	115	26'-5"	1'-0"	—
0122	—	24	—	24	—	48	#8	31n	26'-3"	1323	—	—	—
0123	—	—	2	—	—	2	#4	1	28'-1"	59	27'-1"	12	4
0124									28'-6"	59	27'-6"		
0125									28'-11"	60	27'-11"		
0126									29'-4"	61	28'-4"		
0127									29'-9"	62	28'-9"		
0128									30'-1"	63	29'-1"		
0129									30'-6"	64	29'-6"		
0130									30'-11"	64	29'-11"		
0131									31'-4"	65	30'-4"		
0132									31'-9"	66	30'-9"		
0133									32'-2"	67	31'-2"		
0134									32'-7"	68	31'-7"		
0135	—	—	2	—	—	2	#4	1	33'-0"	69	32'-0"	12"	4"
F5	4	—	—	—	4	8	#4	31n	14'-4"	77	—	—	—
0136	—	—	3	—	4	8	#4	3	33'-3"	110	33'-3"	12"	4"
F6	4	—	—	—	4	8	#4	31n	16'-0"	86	—	—	—
0137	—	—	2	—	—	2	#4	2	27'-6"	57	26'-5"	1'-0"	—
0138									27'-11"	58	26'-10"		
0139									28'-4"	59	27'-3"		
0140									28'-8"	60	27'-7"		
0141									29'-1"	61	28'-0"		
0142									29'-6"	62	28'-3"		
0143									29'-11"	62	28'-10"		
0144									30'-4"	63	29'-3"		
0145									30'-9"	64	29'-8"		
0146									31'-2"	65	30'-1"		
0147									31'-7"	66	30'-6"		
0148									32'-0"	67	30'-11"		
0149	—	—	2	—	—	2		2	32'-3"	68	31'-0"		
0150	—	—	3	—	—	3		9	34'-1"	107	32'-10"	1'-0"	
0151	6	6	6	6	6	30	#4	1	4'-0"	125	3'-0"	12"	4"
b2	87	87	—	87	87	348	#7	3	3'-6"	1627	1'-8½"	11-7½"	4½"
b	16	8	—	8	16	48	#7	4	18'-0"	7534	16'-4"	1'-8"	—
b1	96	96	—	96	96	384	#8	31n	17'-3"	3630	—	—	—
b1a	2	—	—	—	2	4	#8	31n	18'-10½"	101	16'-2"	2'-6"	—
b3	2	—	—	—	2	4	#8	31n	18'-0"	48	—	—	—
b4	2	—	—	—	2	4	#4	31n	19'-10½"	59	—	—	—
b5	8	16	—	16	8	48	#4	31n	17'-9"	532	—	—	—
b6	—	—	96	—	—	96	#8	31n	21'-0"	1718	—	—	—
b7	—	—	16	—	—	16	#8	4	22'-6"	306	20'-6"	2'-0"	—
b8	—	—	16	—	—	16	#4	31n	22'-0"	224	—	—	—
b9	—	8	—	8	—	16	#4	2	18'-4"	244	16'-2"	2'-0"	—
f1	4	—	—	—	4	8	#4	31n	16'-6"	88	—	—	—
f2	4	—	—	—	4	8	"	"	18'-0"	96	—	—	—
f3	—	16	—	16	—	32	"	"	13'-9"	397	—	—	—
f4	—	—	16	—	—	16	"	"	19'-6"	208	—	—	—
z1	8	—	—	—	8	4	#4	3	7'-9"	32	2'-9"	1'-3"	1'-1"
z	10	12	12	12	10	56	"	3	5'-7"	326	1"	1'-3"	1'-1"
z	22	24	24	24	22	116	#4	4	4'-0"	310	2'-9"	1'-3"	—
c1	23	24	24	24	23	118	"	4	4'-3"	333	3'-0"	1'-3"	—
z2	11	—	—	—	11	22	"	31n	4'-6"	66	—	—	—
h1	2	—	—	—	2	4	#4	6	7'-3"	11	2'-8½"	6½"	3½"
h2	10	12	12	12	10	56	"	6	3'-0"	69	6'-0"	6½"	4½"
h3	63	62	80	62	63	332	#4	6	8'-9"	138	3'-0"	7½"	4"
3	38	38	—	38	38	192	"	7	3'-3"	1095	1'-8½"	11-7½"	4½"
31	—	—	62	—	—	62	"	7	6'-1"	980	2'-1½"	11-1½"	4½"
c	—	—	10	—	—	10	1#8	8	25'-0"	1775	12'-0"	2'-0"	1'-3"
C1	—	—	10	—	—	10	"	8	30'-0"	1281	29'-0"	2'-0"	1'-3"
C2	—	—	10	—	—	10	"	8	33'-6"	1513	32'-6"	2'-4"	1'-7½"
C3	—	—	10	—	—	10	"	8	28'-0"	1807	34'-8"	2'-4"	1'-7½"
C4	10	10	—	10	10	40	1"	8	20'-8"	2765	15'-0"	1'-3"	11-0"
C5	10	10	—	10	10	40	1#8	3	23'-10"	4774	19'-0"	1'-3"	1'-0"
C6	10	10	—	10	10	40	"	8	30'-0"	5762	29'-0"	1'-9"	1'-5½"
C7	10	10	—	10	10	40	"	8	33'-6"	5766	32'-6"	1'-9"	1'-5½"
d	—	—	20	—	—	20	1#8	3	41'-6"	4410	38'-6"	1'-6"	8"
f1	20	20	—	20	20	80	1#8	3	32'-0"	11304	31'-0"	1'-6"	8"
F	4	—	—	—	4	8	"	31n	30'-0"	804	—	—	—
F1	6	12	20	12	6	56	"	"	24'-9"	1154	—	—	—
33	—	—	99	—	—	99	"	7	6'-4"	500	2'-2½"	1'-1½"	2½"
34	8	8	—	8	8	32	"	7	3'-5"	147	1'-8½"	1'-2"	4"
35	12	12	—	12	12	48	"	7	3'-8"	231	1'-9½"	1'-2"	2½"
36	—	—	8	—	—	8	"	7	6'-5"	49	2'-1½"	1'-2"	4"
37	—	—	12	—	—	12	"	7	6'-6"	66	2'-2½"	1'-2"	2½"

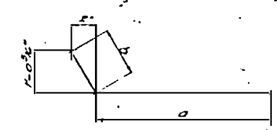
Reinforcing Steel lbs. 60855
Class A Concrete - Cu Yds. 2554

DIVISION OF CLASS A CONCRETE

Standard size No. 7 coarse aggregate Cu Yds.	9.5
Standard size No. 3 coarse aggregate Cu Yds.	245.9
Total Class A Concrete Cu Yds.	255.4



Type 1



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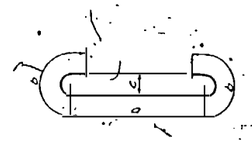

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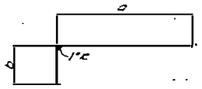

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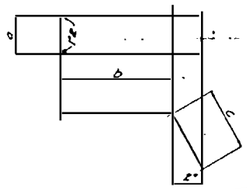

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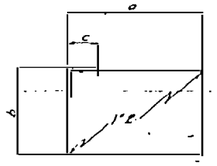

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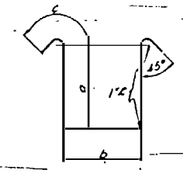

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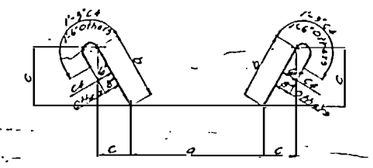

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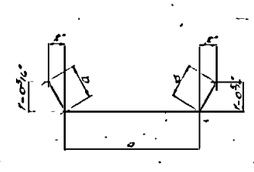


Type 9

Note: For design data and general note see general drawing.

PROJECT NO. 1022
BEAUFORT COUNTY
STATION: 104+20.8

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
RALEIGH

SUPERSTRUCTURE DETAILS FOR BRIDGE OVER NORFOLK SOUTHERN R.R.
MARCH 1940

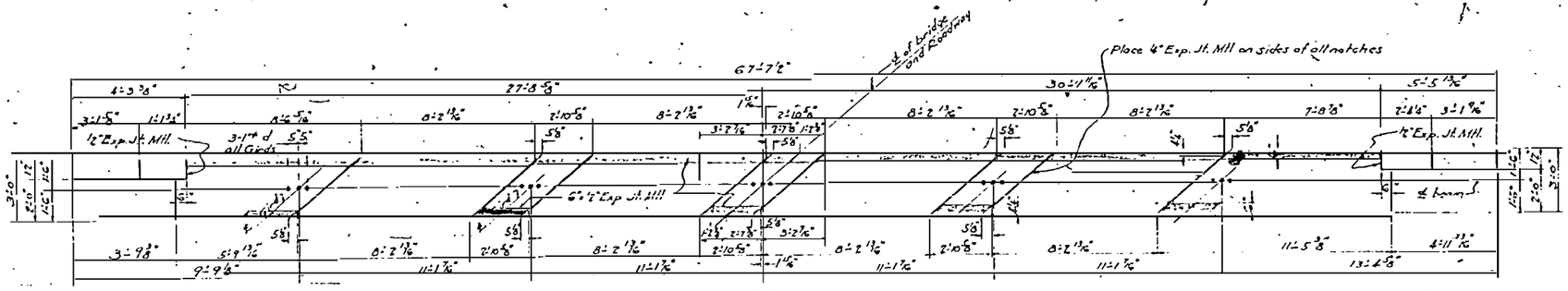
SUBMITTED BY: [illegible] BRIDGE ENGR.
APPROVED BY: [illegible] STATE HIGHWAY ENGINEER
PLAN NO.

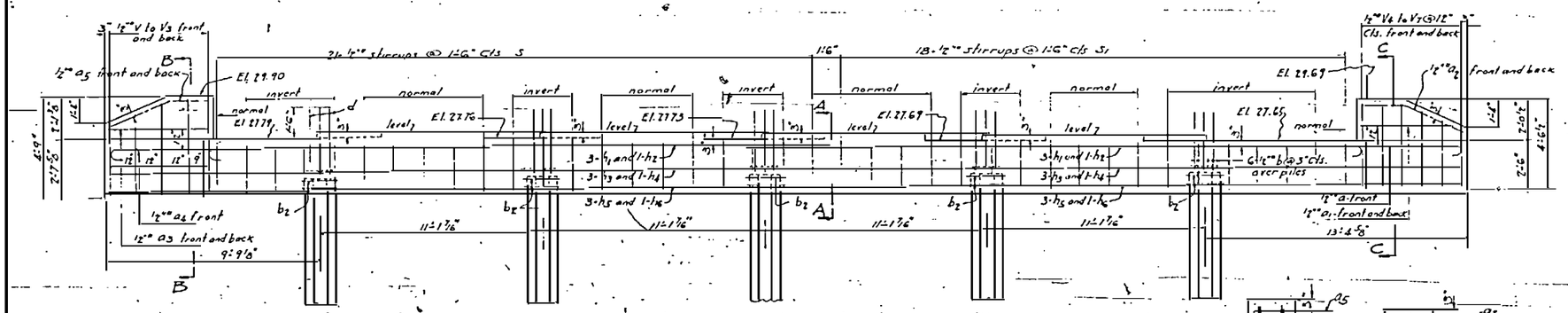
SPECIAL

DESIGNED BY: [illegible] DATE:
DRAWN BY: [illegible] DATE:
TRACED BY: [illegible] DATE:
CHECKED BY: [illegible] DATE: April 1940

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N.C.	1022	49	55

F.A. Gr. Crossing Proj. No. F.A.G. # 430)



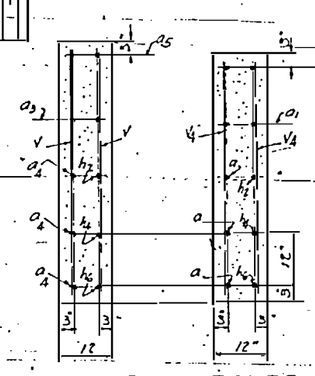


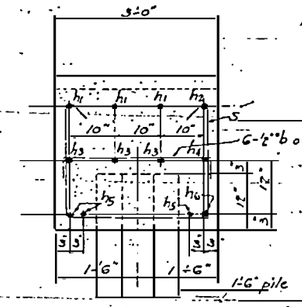
END BENT NO. 1 OR 2

BILL OF MATERIAL

Bar	No	Size	Length	Weight
a	3	½" sq	7'-0"	18
a1	2	½" sq	4'-6"	7
a2	2	½" sq	5'-6"	9
a3	2	½" sq	3'-9"	6
a4	3	½" sq	5'-9"	15
b	30	½" sq	3'-10"	98
b2	10	½" sq	8'-0"	68
d	15	1"-8	3'-0"	120
a5	2	½" sq	4'-3"	7
h1	6	1" sq	37'-4"	660
h2	2	1" sq	36'-3"	246
h3	6	3½"-8	31'-6"	784
h4	2	3½"-8	35'-6"	107
h5	6	1" sq	31'-6"	643
h6	2	1" sq	35'-6"	241
S	21	½" sq	7'-8"	137
S1	18	½" sq	7'-6"	115
V	1	½" sq	4'-6"	15
V1	2	½" sq	4'-0"	7
V2	2	½" sq	3'-6"	6
V3	2	½" sq	3'-2"	5
V4	6	½" sq	4'-3"	27
V5	2	½" sq	3'-9"	6
V6	2	½" sq	3'-3"	5
V7	2	½" sq	2'-11"	5
Reinforcing steel Lbs.				2852
Concrete Class 'A' Cu. Yds.				19.0
18" P.C. Piles No.				5
Approx. Lin. Ft. 18" P.C. Piles				275

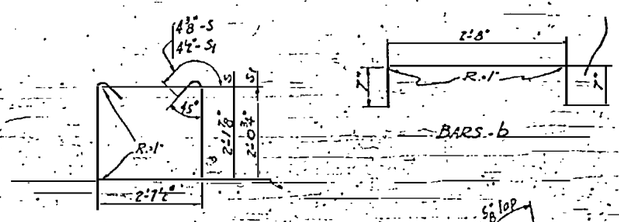
Note: Volume of concrete displaced by piles has been deducted. The portion of pile extending into cap shall be thoroughly roughened, cleaned of loose material and wetted previous to pouring concrete. See Specs.

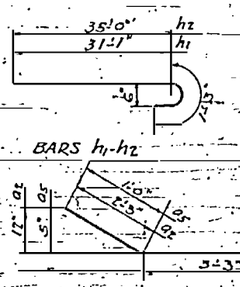




For Design Data and General Note see General Plan. For details of 18" P.C. piles see sheet No.

PROJECT NO. 1022
BEAUFORT COUNTY
STA. 104 + 20.8





Note: Piles shall be driven to a Min. bearing capacity of 25 tons each.

Revised for Elevations 5/30/40 D.W.W. W.H.K.

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION

DETAIL OF END BENTS FOR BRIDGE OVER NORFOLK-SOUTHERN R.R.

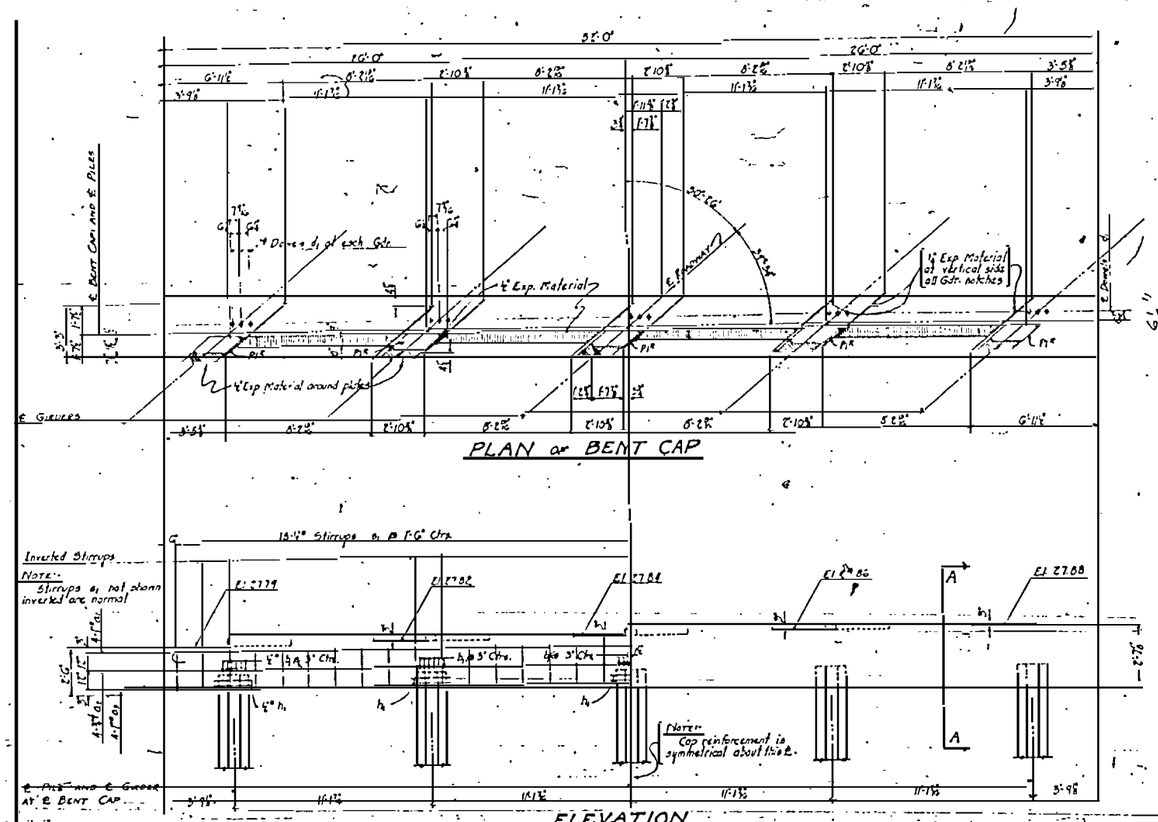
MARCH 1940

SPECIAL		
DESIGNED BY	D.W.W.	DATE March 1940
DRAWN BY	D.W.W.	DATE
TRACED BY	D.W.W.	DATE
CHECKED BY	W.H.K.	DATE

SUBMITTED BY W.H. Kearns BRIDGE ENGR.
APPROVED BY W.H. Kearns DATE 5/6/40 STATE HIGHWAY ENGINEER
PLAN NO.

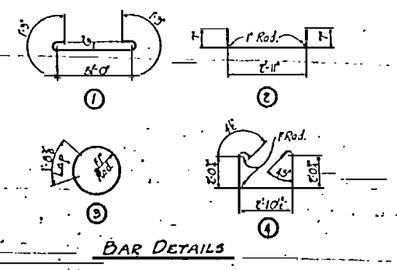
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N. C.	1022	5C	5S

F.A. Gr. Crossing Elec. No. FAGH 45(1)



BILL OF MATERIAL
FOR ONE BENT (BENT #1 OR #4)

BAR	No.	SIZE	DETAIL	LENGTH	WEIGHT
a_1	4	1"	1	55'-6"	728
a_2	4	5/8"	Straight	51'-6"	309
a_3	4	1"	1	51'-6"	700
b_1	30	1/2"	2	4'-1"	104
d_1	15	1"	Straight	5'-0"	120
h_1	10	1"	3	8'-6"	72
s_1	25	"	4	7'-9"	291
REINFORCING STEEL, Lbs.					2224
CLASS "A" CONCRETE, Cu. Yds					166
20" P.C. CONC. PILES, No.					5
20" P.C. CONC. PILES, APPROX. LIN. FT.					275



NOTE-

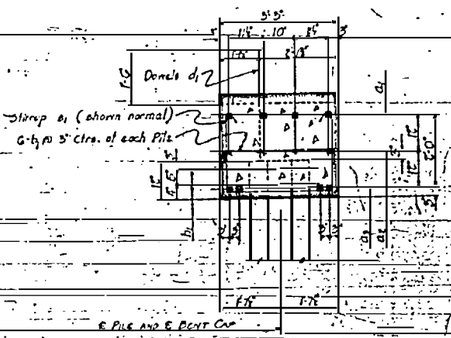
Piles shall be driven to a minimum bearing capacity of 40 tons.

That portion of precast concrete pile which extends into bent cap shall be thoroughly roughened, cleaned of loose material and wetted immediately before the cap is poured see specifications.

The volume of concrete displaced by pile heads in the bent cap has been deducted in the bill quantity of ---- Class "A" Concrete.

For detail of 20" Precast Concrete Piles see supplementary sheet.

For Design Data and General Note see General Plan.



SECT. A-A

PROJECT NO. 1022
BEAUFORT COUNTY
STATION: 104+20.8
BENT #1 OR #4

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC-WORKS COMMISSION
RALEIGH

SUBSTRUCTURE DETAILS FOR OVERHEAD BRIDGE OVER NORFOLK SOUTHERN RAILROAD
MARCH 1940

SPECIAL	DESIGNED BY R.D.W.	DATE March '40	
	CHECKED BY	DATE	
STANDARD	DESIGNED BY R.D.W.	DATE March '40	
	CHECKED BY	DATE	
	TRACED BY	DATE	
	CHECKED BY	DATE	

Revised for Elevations 5/30/40 R.D.W. D.H.K.

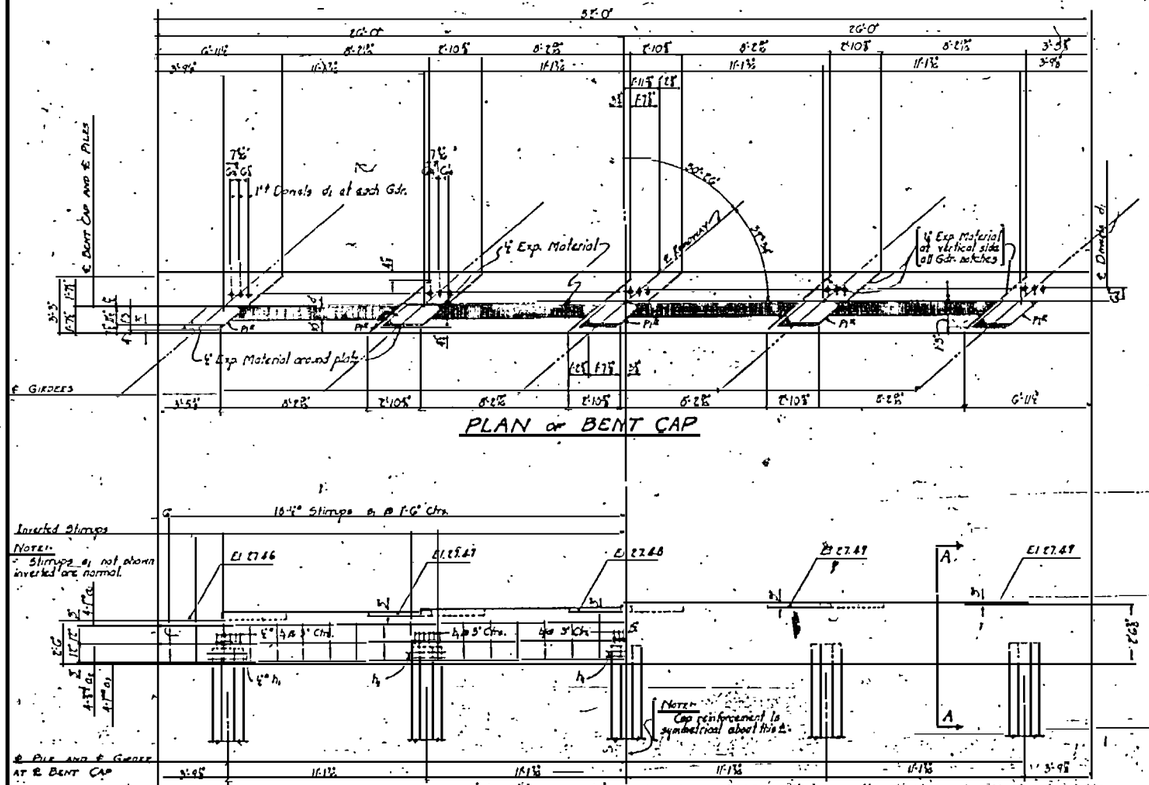
SUBMITTED BY [illegible] DIVISION ENGR.
APPROVED BY [illegible] STATE HIGHWAY ENGINEER

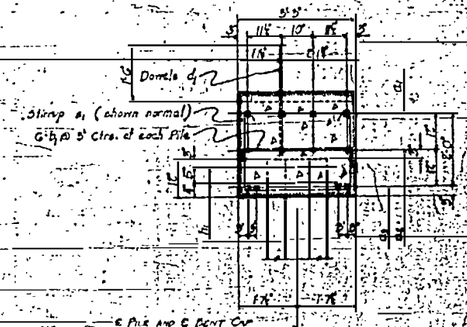
SHEET NO.

SPECIAL STD. 1022-B1

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N. C.	1022	51	62

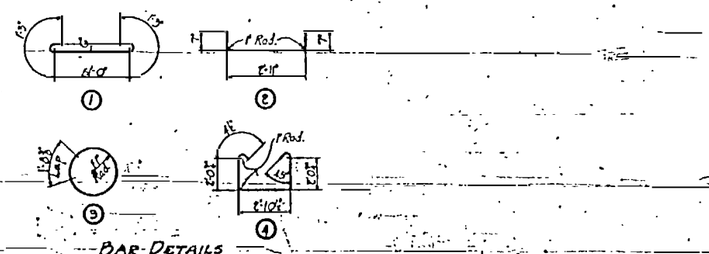
FA Gr. Crossing Proj. 16 FASTH 43(3)





BILL OF MATERIAL FOR ONE BENT (BENT #2)

BAR	No.	SIZE	DETAIL	LENGTH	WEIGHT
a_1	4	1"	1	53'-6"	728
a_2	4	3/4"	Straight	51'-6"	309
a_3	4	1"	2	51'-6"	700
b_1	30	1/2"	2	4'-1"	104
d_1	15	1"	Straight	5'-0"	120
h_1	10	1/2"	3	5'-6"	78
s_1	35	#	4	7'-9"	191
REINFORCING STEEL, Lbs.					2164
CLASS 'A' CONCRETE, Cu. Yds					164
20" P.C. CONC. PILES, No.					5
20" P.C. CONC. PILES, Approx. Lin. Ft.					275



Notes:
Piles shall be driven to a minimum bearing capacity of 40 tons.
That portion of precast concrete pile which extends into bent cap shall be thoroughly roughened, cleared of loose material and washed immediately before the cap is poured, see Specifications.
The volume of concrete displaced by pile heads in the bent cap has been deducted in the bill quantity of Class 'A' Concrete.
For detail of 20" Precast Concrete Piles, see supplementary sheet.
For Design Data and General Note see General Plan.

PROJECT NO. 1022
BEAUFORT COUNTY
STATION 104+20.8
BENT #2

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
RALEIGH

SUBSTRUCTURE DETAILS FOR OVERHEAD BRIDGE OVER NORFOLK SOUTHERN RAILROAD
MARCH, 1940

SPECIAL	APPROVED BY [illegible] DATE March '40	
STANDARD	APPROVED BY [illegible] DATE March '40	

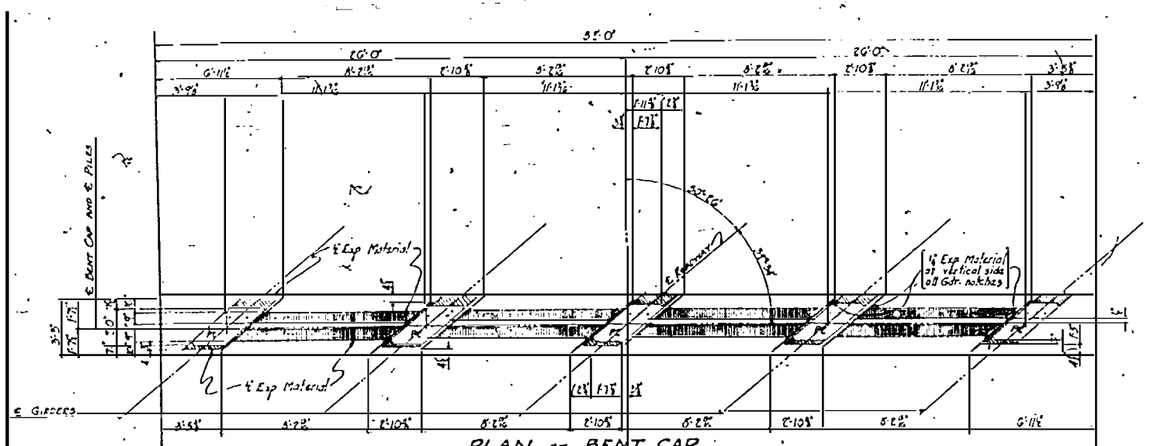
Revised for Clearance Shown 6-W-47 RFX

SPECIAL BRIDGE 1022-B1

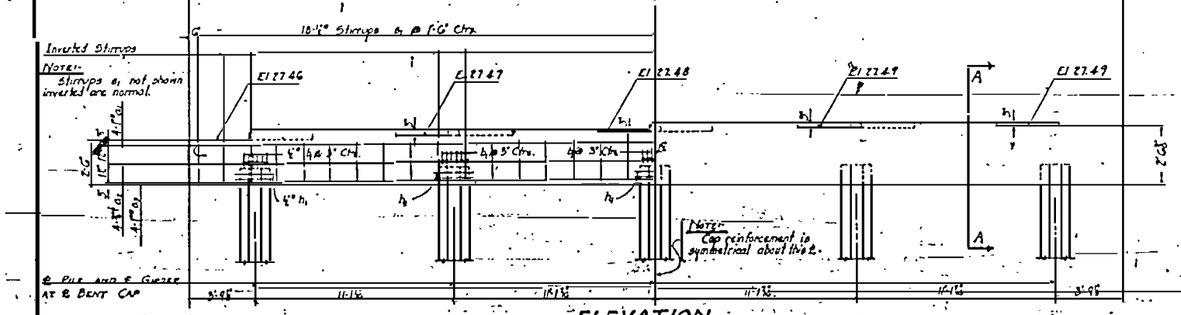
PLAN NO. 51

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N.C.	1022	5C	33

F.A.Gr. Crossing Proj. 130 FAGN 45(3)



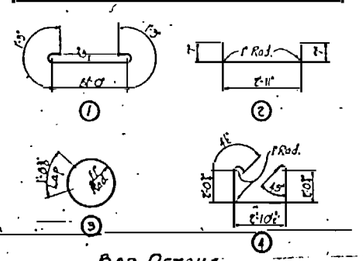
PLAN of BENT CAP



ELEVATION
(LOOKING WEST)

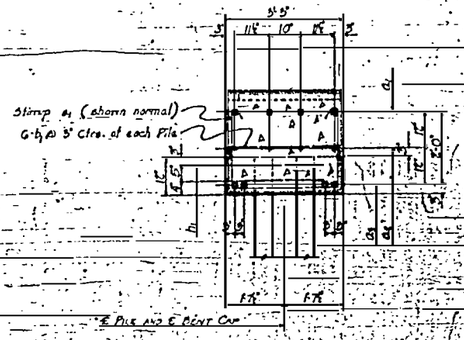
BILL OF MATERIAL FOR ONE BENT (BENT #3)

BAR	No.	SIZE	DETAIL	LENGTH	WEIGHT
a_1	4	1" ⌀	1	35'-6"	728
a_2	4	⅝" ⌀	Straight	51'-6"	389
a_3	4	1" ⌀	1	51'-6"	700
b_1	30	½" ⌀	2	4'-1"	104
h_1	10	½" ⌀	3	8'-6"	72
s_1	35	〃	4	7'-9"	251
REINFORCING STEEL, Lbs.					2144
CLASS 'A' CONCRETE, Cu. Yds.					16.4
20" P.C. CONC. PILES, No.					5
20" P.C. CONC. PILES, APPROX. Lin. Ft.					275



BAR DETAILS

NOTES:
- Piles shall be driven to a minimum bearing capacity of 40 tons.
- That portion of precast concrete p/s which extends into bent cap shall be thoroughly roughened, cleaned of loose material and wetted immediately before the cap is poured; see Specifications.
- The volume of concrete displaced by pile heads in the bent cap has been deducted in the billed quantity of Class 'A' Concrete.
- For detail of 20" Precast Concrete Piles see supplementary sheet.
- For Design Data and General Note see General Plan.



SECT. A-A

PROJECT NO. 1022
BEAUFORT COUNTY
STATION: 104+20.8
BENT: #3

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
SUBSTRUCTURE DETAILS FOR OVERHEAD BRIDGE OVER NORFOLK SOUTHERN RAILROAD
MARCH 1960

SPECIAL	ASSEMBLED BY: [illegible] DATE: March '60	SUBMITTED BY: [illegible]
STANDARD	DESIGNED BY: [illegible] DRAWN BY: TRACED BY: CHECKED BY: [illegible] DATE: March '60	APPROVED BY: [illegible] STATE HIGHWAY ENGINEER

PLAN NO. 1

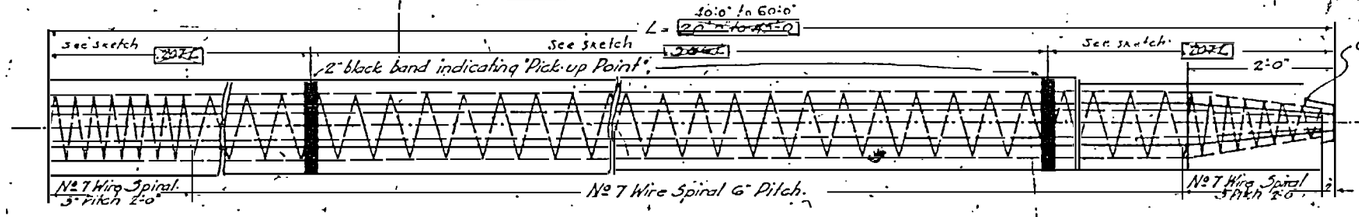
Rev. for Elevations 5/30/60 (Elev.) - W.F.Y.

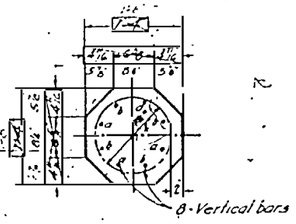
Special Sta. 1022-B1

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N. C.	1022	5	5

F.A. Gr. Crossing Proj. No. F.A.G.H. 43(3)

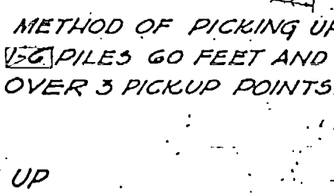
1'-8" 2-4 OCTAGONAL-PILE



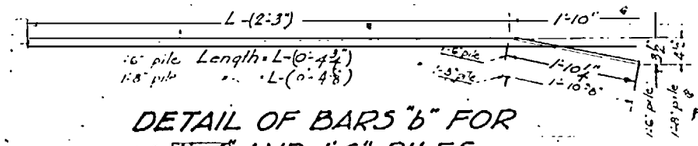


BUTT

TIP



METHOD OF PICKING UP 1'-6" PILES 60 FEET AND OVER 3 PICKUP POINTS.



DETAIL OF BARS "b" FOR 1'-8" 2-4 AND 1'-6" PILES

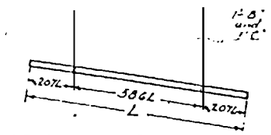
QUANTITIES FOR ONE 1'-4" OCTAGONAL PILE.

LENGTH "L"	VERTICAL REIN. BARS Bar	No	Size	Length	Total Reinf Steel Lbs	Concrete Cu. Yds.	Pile Wt. Tons	Two Pickup Points .207L	.586L
20'-0"	a	4	⅝"	17'-9"	769	1.04	2.11	4'-2"	11'-8"
	b	4		19'-7½"					
25'-0"	a	4	⅝"	22'-9"	975	1.31	2.65	5'-2	14'-8"
	b	4		24'-7½"					
30'-0"	a	4	⅝"	27'-9"	1256	1.58	3.20	6'-2½	17'-7
	b	4		29'-7½"					
35'-0"	a	4	⅝"	32'-9"	1424	1.85	3.75	7'-3"	20'-6
	b	4		34'-7½"					
40'-0"	a	4	⅝"	37'-9"	1688	2.13	4.31	8'-3½"	23'-5
	b	4		39'-7½"					
45'-0"	a	4	⅝"	42'-9"	1950	2.40	4.86	9'-4"	26'-4
	b	4		44'-7½"					

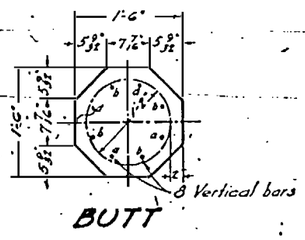
Wt. No. 7 Wire is considered as 0.0356 Lbs per Ft. American Steel and Wire Co's. Standard.

Conc. per ln. ft. of Pile = 0.0345 cu yds.
Conc. in point = 0.055 cu yds.

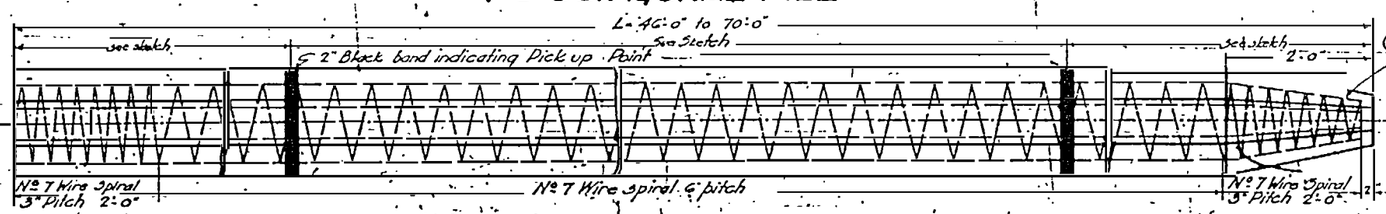
1'-8" 2-4 AND 1'-6" PILES UNDER 60 FEET 2 PICKUP POINTS



1'-6" OCTAGONAL PILE



BUTT



TIP

QUANTITIES FOR ONE 1'-6" OCTAGONAL PILE.

LENGTH "L"	VERTICAL REIN. BARS Bar	No	Size	Length	Total Reinf. Steel Lbs.	Concrete Cu. Yds	Pile Wt. Tons	Two Pickup Points .207L	.586L	Three Pickup Points .15L	.35L
40'-0"	a	4	⅞"	37'-9"	761	3.11	6.30	9'-6"	27'-0"		
	b	4		39'-7½"							
50'-0"	a	4	1"	47'-9"	1073	3.39	6.86	10'-4"	29'-4"		
	b	4		49'-7½"							
55'-0"	a	4	1"	52'-9"	1795	3.73	7.55	11'-4½"	32'-3"		
	b	4		54'-7½"							
60'-0"	a	4	1⅛"	57'-9"	2049	4.08	8.26	—	—	8'-0	21'-0
	b	4		59'-7½"							
65'-0"	a	4	1¼"	62'-9"	2749	4.42	8.95	—	—	9'-9"	22'-9"
	b	4		64'-7½"							
70'-0"	a	4	1¼"	67'-9"	2965	4.77	9.66	—	—	10'-6"	24'-6"
	b	4		69'-7½"							

Wt. No. 7 Wire is considered as .0356 lbs per ft. American Steel and Wire Co's. Standard.

Conc. per lin. ft. of Pile = 0.069 cu. yds.
Conc. in point = 0.076 cu. yds.

QUANTITIES FOR ONE 1'-8" OCTAGONAL PILE.

LENGTH "L"	VERTICAL REIN. BARS Bar	No	Size	Length	Total Reinf. Steel Lbs.	Concrete Cu. Yds	Pile Wt. Tons	Two Pickup Points .207L	.586L	Three Pickup Points .15L	.35L
40'-0"	a	4	⅞"	37'-9"	664	3.38	6.84	8'-3"	23'-6"		
	b	4		39'-7½"							
45'-0"	a	4	⅞"	42'-9"	750	3.81	7.72	9'-4"	26'-4"		
	b	4		44'-7½"							
50'-0"	a	4	1"	47'-9"	1080	4.23	8.57	10'-4"	29'-4"		
	b	4		49'-7½"							
52'-0"	a	4	1"	49'-9"	1210	4.41	8.93	10'-9"	30'-6"		
	b	4		51'-7½"							
55'-0"	a	4	1"	52'-9"	1503	4.66	9.44	11'-4½"	32'-3"		
	b	4		54'-7½"							
60'-0"	a	4	1⅛"	57'-9"	2067	5.09	10.31	—	—	9'-0	21'-0
	b	4		59'-7½"							

Wire per lin. ft. of Pile = 1.4 lbs.

Conc. per lin. ft. of pile = 0.085 Cu. Yds.
Conc. in point of Pile = 0.15 Cu. Yds.

SUMMARY OF PILES.

No.	LENGTH	DIAMETER	CONC. CU. YDS	REINF. STEEL LBS.
10	55'-0"	1'-6"	83.3	14950
20	55'-0"	1'-8"	93.7	30080
REINFORCING STEEL LBS.				45030
CONCRETE CLASS A CU. YDS.				177.0
LINEAR FEET 1'-8" PILES				1100
LINEAR FEET 1'-6" PILES				830
TOTAL PILES No.				30

Lengths of piles are subject to field conditions on each job.

GENERAL NOTE:

Concrete shall be Class A. Coarse aggregate shall consist of crushed stone only, Standard size No. 3.
All reinforcing steel shall be deformed bars. No splices of bars will be permitted. The spiral hooping shall be wired to the vertical bars at intervals of not more than 2'-0" In driving piles, a method, approved by the Engineer shall be used whereby the head of the pile is not damaged.

All material and workmanship as per the specifications of the North Carolina State Highway and Public Works Commission.

Revised, for weight of wire in 1'-6" Octagonal Pile. March [illegible]
Revised for size of coarse aggregate. April 28, 1931. B.P.R. [illegible]
Revised to allow only crushed stone for coarse aggregate. May 1, 1934.
Traced and revised as to Class A concrete & size of aggregate by ENP & W.S. ck. by R.L.B. 5-8-41
Revised May 24, 1926 for Concrete quantities and Pile weight by F.A.F.J. Checked by B.P.R.
Revised Jan. 21, 1925 for weight reinforcement, & length by [illegible]
Revised for 2" bars to 1¼" by [illegible] Checked by B.P.R.
Revised for 1¼" bars to 1⅛" by [illegible] Checked by G.P.D. Revised June 21, 1927 for Sprue Pump by B.P.R. ck. by [illegible]

SPECIAL STANDARD	APPROVED	REVISED	APPROVED
	P.D.W.		
	P.W. Schuyler	Jan. 23, 28	
	P.W. Schuyler	Jan. 23, 29	
	P.W. Schuyler	Oct. 5, 29	
	P.W. Schuyler	Oct. 7, 31	
	A.R.M. Cox	Oct. 7, 34	

PROJECT NO. 1022
BEAUFORT COUNTY
STATION 104+20.8

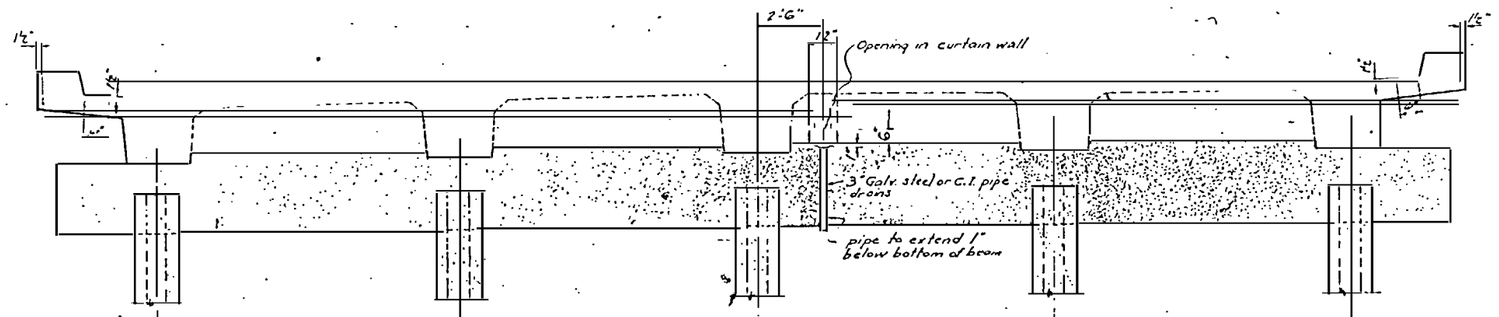
STATE OF NORTH CAROLINA
STATE HIGHWAY & PUBLIC WORKS COMMISSION

STANDARD PRE-CAST R.C. PILES

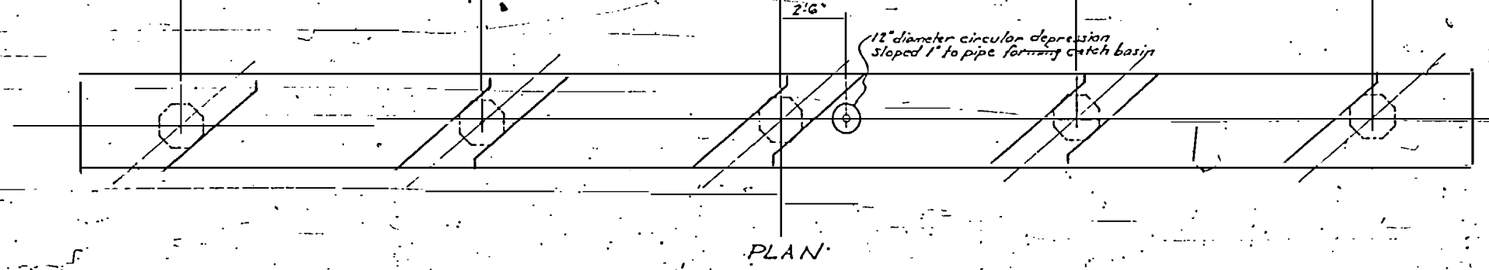
SEPTEMBER 1925

W. A. Graham
Chief Engineer

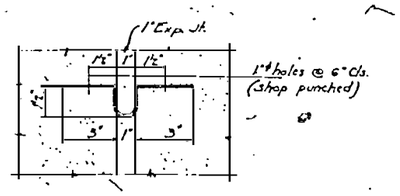
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
10	N C	1022	54	
F A Gr Crossing Proj. No F A G H 43(3)				



TYPICAL SECTION AT ℄ OF INTERIOR BENT SHOWING COPPER DRAINS THRU EXP. JT.



PLAN



DETAIL OF COPPER DRAIN

MAKE 4 PIECES 10" x 28'-9" LONG
MAKE 4 PIECES 10" x 23'-9" LONG

Note: Copper drains shall be placed in expansion Jts. between spans at all interior bents as shown. Copper flashing for drains to be of the best grade sheet Copper. See Spec's. Pipe for drains shall consist of Standard Weight Galv. Steel or C.I. pipe. Steel pipe to be galvanized after cutting. The cost of copper and pipe drains complete in place shall be included in the unit price bid for the several pay items.

PROJECT NO. 1022-
BEAUFORT COUNTY
STATION: 104+20.8

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
RALEIGH

DETAILS OF COPPER DRAINS THRU CURTAIN WALLS FOR BRIDGE OVER NORFOLK SOUTHERN R.R.

MARCH 1940.

SPECIAL	ASSEMBLED BY	DATE	
	CHECKED BY	DATE	
STANDARD	DRAWN BY	DATE	March 1940
	TRACED BY	DATE	March 1940
	CHECKED BY	DATE	March 1940

SUBMITTED BY [illegible] DIVISION ENGR.
APPROVED BY [illegible] DATE
STATE HIGHWAY ENGINEER

PLAN NO.

STANDARD D-1022