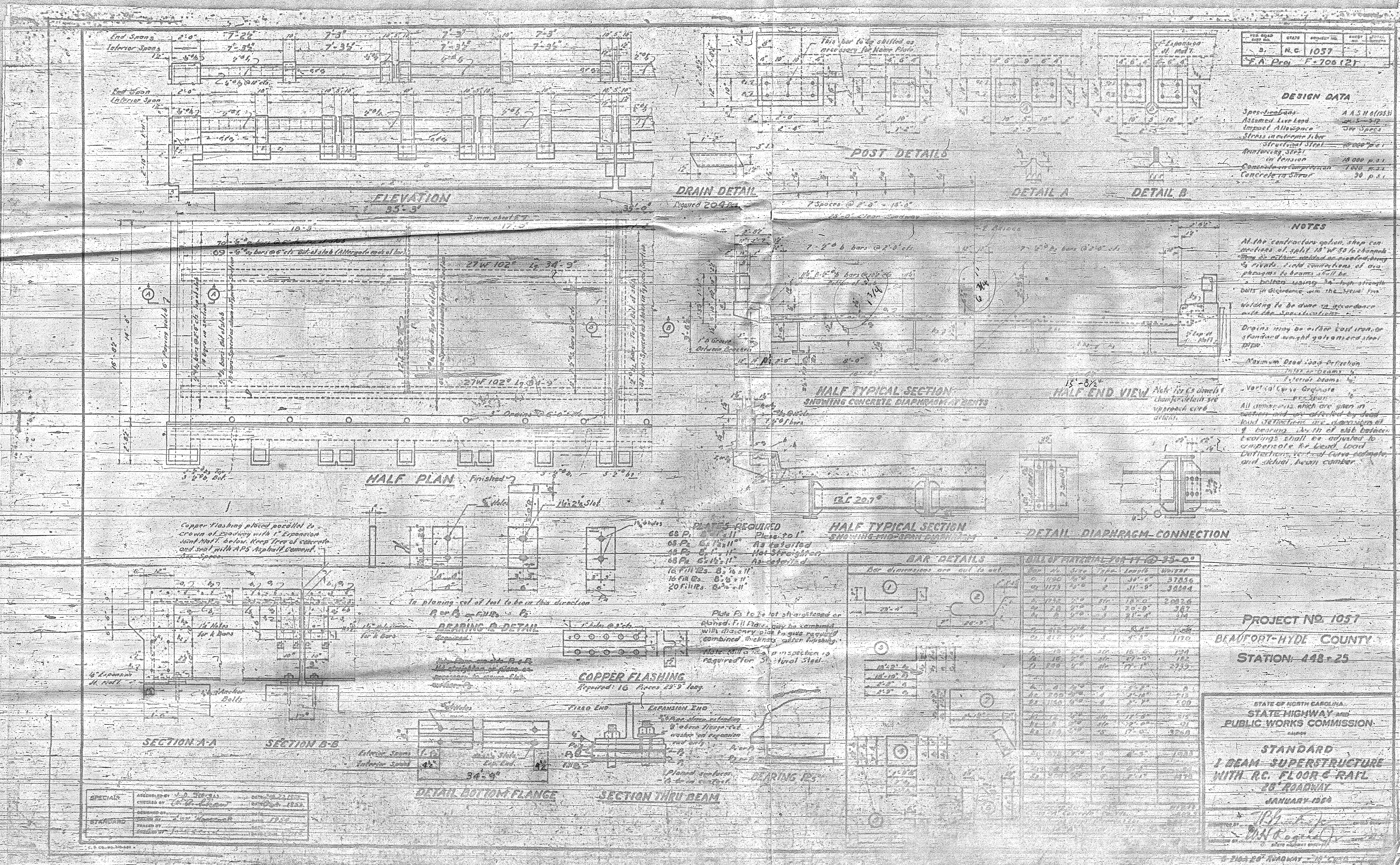
35-3
-4.5
4.5
35-3
9
37-6
(37)


End Spans
Interior Spans
End Span
Interior Span
ELEVATION
35'-3"
HALF PLAN
Finished
27W 102# Lg. 34'-9"
3" Drains @ 6'-0" c/c
POST DETAILS
DRAIN DETAIL
Required 204 Pcs.
This bar to be shifted as necessary for Name Plate
Expansion Jt. Mat'l.
DETAIL A
DETAIL B
7 Spaces @ 2'-8" = 18'-8"
HALF TYPICAL SECTION
SHOWING CONCRETE DIAPHRAGM AT BENTS
HALF END VIEW
15'-8½"
HALF TYPICAL SECTION
SHOWING MID-SPAN DIAPHRAGM
12 [20.7#
DETAIL DIAPHRAGM CONNECTION
Copper flashing placed parallel to crown of roadway with 1" Expansion Joint Mat'l. below. Keep free of concrete and seal with APS Asphalt Cement. See Specs.
PLATES REQUIRED
68 P1 — 11" Plane to 1"
68 P2 6" x 1½" x 11" As detailed
48 P3 8" x 1" x 11" Hot Straighten
68 P4 6" x 1½" x 11" As detailed
16 Fill Pls. 8" x ⅝" x 11"
16 Fill Pls. 8" x ½" x 11"
20 Fill Pls. 8" x ⅜" x 11"
To planing cut of tool to be in this direction
P1 or P2 Fill Pls. P3
BEARING PL. DETAIL
Required
Plate P3 to be hot straightened or planed. Fill Plates may be combined with masonry plate to give required combined thickness after finishing.
Note: Mill and shop inspection is required for Structural Steel.
COPPER FLASHING
Required: 16 Pieces 29'-9" long
1" Expansion Jt. Mat'l.
Anchor Bolts
1¼" Holes for k Bars
SECTION A-A
SECTION B-B
Exterior Spans
Interior Spans
34'-9"
DETAIL BOTTOM FLANGE
FIXED END
EXPANSION END
SECTION THRU BEAM
BEARING PLS.
BAR DETAILS
Bar dimensions are out to out.
BILL OF MATERIAL FOR 1 @ 35'-0"

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N.C.	1057		

F.A. Proj. F-706 (2)

DESIGN DATA

~~Specifications~~	A.A.S.H.O. (1953)
Assumed Live Load	~~H 20-S16~~
Impact Allowance	See Specs.
~~Stress in extreme fiber~~	
~~Structural Steel~~	~~18,000 p.s.i.~~
Reinforcing Steel in tension	18,000 p.s.i.
~~Concrete in Compression~~	1,000 p.s.i.
Concrete in Shear	90 p.s.i.

NOTES

At the contractors option, shop connections of split 18" W 50 to channels may be either welded or riveted, bolts & rivets. Field connections of diaphragms to beams shall be bolted using ¾" high strength bolts in accordance with the Special Prov.

Welding to be done in accordance with the Specifications.

Drains may be either cast iron, or standard weight galvanized steel pipe.

Maximum Dead Load Deflection
Interior beams
Exterior beams
Vertical Curve Ordinate
At Center

All dimensions which are given in section and are affected by dead load deflections are dimensions at ℄ bearing. Depth of slab between bearings shall be adjusted to compensate for Dead Load Deflections, Vertical Curve ordinate, and actual beam camber.

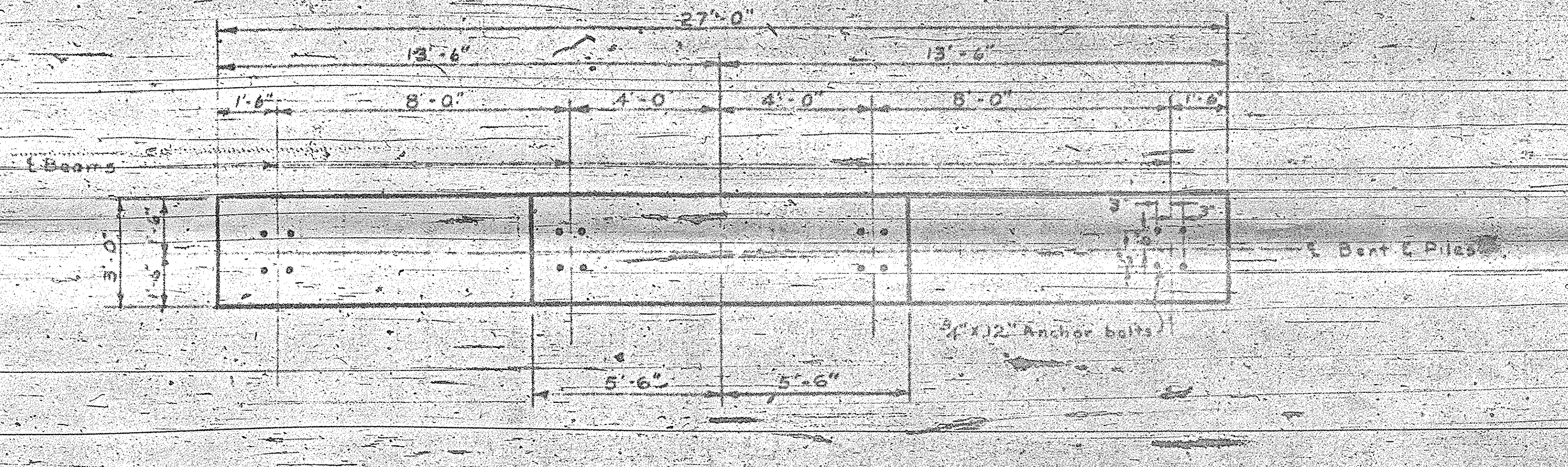
PROJECT NO. 1057
BEAUFORT-HYDE COUNTY
STATION: 448+25

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
RALEIGH

STANDARD
I BEAM SUPERSTRUCTURE
WITH R.C. FLOOR & RAIL
28' ROADWAY
JANUARY 1954

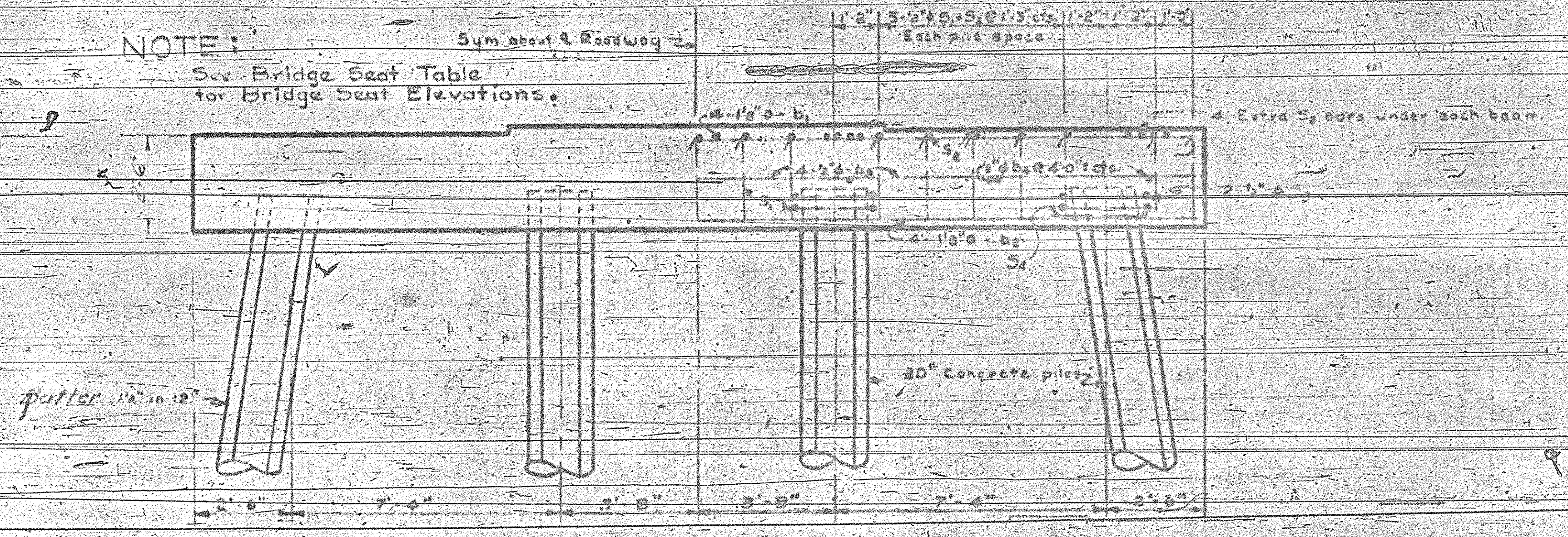
3	[illegible]	1057

F.A.P. F-706(7)

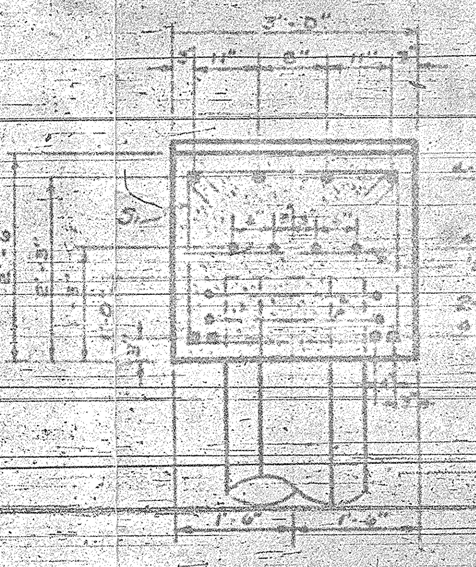

27'-0"
13'-6"
13'-6"
1'-6"
8'-0"
4'-0
4'-0"
8'-0"
1'-6"
℄ Beams
3'-0"
℄ Bent ℄ Piles
¾"x12" Anchor bolts
5'-6"
5'-6"

PLAN

NOTE:
See Bridge Seat Table
for Bridge Seat Elevations.


Sym about ℄ Roadway
1'-2"
3-½"⌀ S₂ + S₃ @ 1'-3" c/c
Each pile space
1'-2"
1'-2"
1'-0"
4-1⅛"⌀-b₁
4 Extra S₂ bars under each beam.
4-½"⌀-b₃
½"⌀ b₂ @ 4'-0" c/c
2-1⅛"⌀
4-1⅛"⌀-b₂
S₄
2'-6"
Batter 1½" in 12"
20" Concrete piles
2'-6"
7'-4"
3'-8"
3'-8"
7'-4"
2'-6"

ELEVATION


3'-0"
11"
8"
11"
4-1⅛"⌀-b₁
4-½"⌀-b₃
4-1⅛"⌀-b₂
2-1⅛"⌀
S₂
2'-6"
1'-6"
1'-6"

SECTION THRU CAP

BRIDGE SEAT ELEVATIONS

	For Inside Beams	For Outside Beams
Bent No. 1	8.00	7.90
Bent No. 2	8.51	8.41
Bent No. 3	8.94	8.84
Bent No. 4	[illegible]	[illegible]
Bent No. 5	9.57	9.47
Bent No. 6	9.77	9.67
Bent No. 7	9.89	9.79
Bent No. 8	9.95	9.85
Bent No. 9	9.90	9.80
Bent No. 10	9.79	9.69
Bent No. 11	[illegible]	[illegible]
Bent No. 12	9.32	9.22
Bent No. 13	8.98	8.88
Bent No. 14	8.55	8.45
Bent No. 15	8.05	7.95
Bent No. 16	7.47	7.37

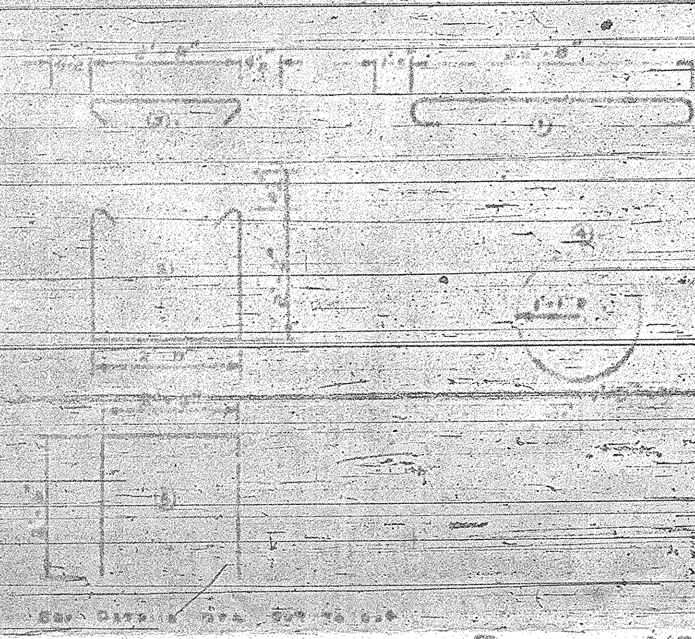
BILL OF MATERIAL
ONE BENT - 16 Required

Bar	No.	Size	Type	Length	Weight
[illegible]	5	1⅛"⌀	1	27'-6"	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	Str.	[illegible]	[illegible]
S	7	⅜"⌀	Str.	2'-3"	12
S	16	½"⌀	2	7'-9"	98
S	[illegible]	[illegible]	3	[illegible]	[illegible]
S	8	½"⌀	4	8'-3"	44
	2	1"⌀	5	7'-2"	51
Reinforcing Steel		Lbs.			1922
Class "A" Concrete		Cu. Yds.			7.3*
20" Precast Concrete Piles		No.			4

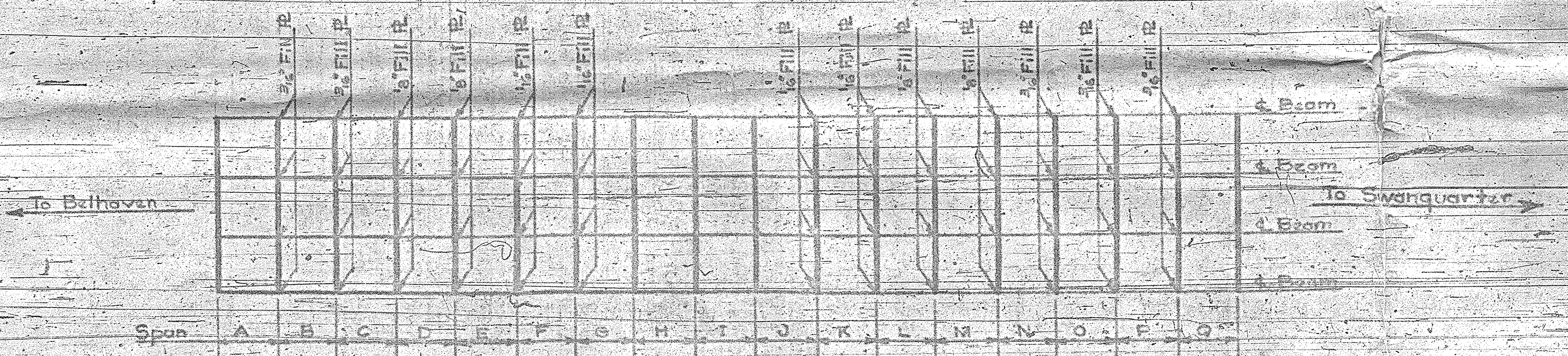
*NOTE: Concrete for pile heads has been deducted.

LIN. FT. OF PILES

BENT	LIN. FT.
No. 1	180
No. 2	[illegible]
No. 3	[illegible]
No. 4	[illegible]
No. 5	260
No. 6	[illegible]
No. 7	260
No. 8	[illegible]
No. 9	220
No. 10	200
No. 11	180
No. 12	180
No. 13	180
No. 14	180
No. 15	180
No. 16	180



BAR DETAILS


3/16" Fill Pl.
3/16" Fill Pl.
⅛" Fill Pl.
⅛" Fill Pl.
1/16" Fill Pl.
1/16" Fill Pl.
1/16" Fill Pl.
1/16" Fill Pl.
1/16" Fill Pl.
⅛" Fill Pl.
3/16" Fill Pl.
3/16" Fill Pl.
3/16" Fill Pl.
℄ Beam
℄ Beam
℄ Beam
℄ Beam
To Belhaven
To Swanquarter
Span
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q

LOCATION OF FILL PLATES

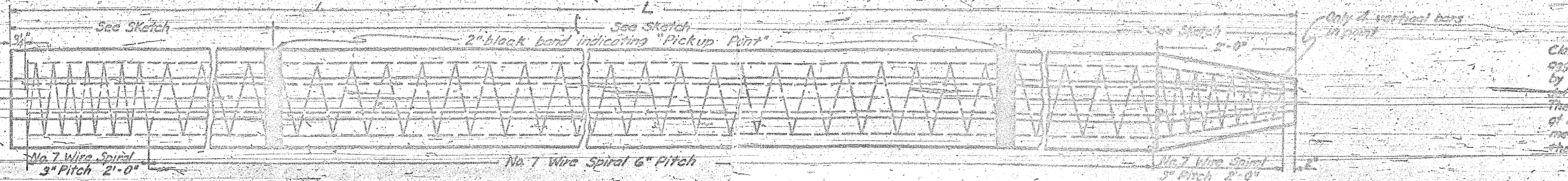
PROJECT NO. 1057
BEAUFORT-HYDE COUNTY
STATION: 443+25

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

SUBSTRUCTURE
ALL INTERIOR BENTS
SEPT., 1955

SPECIAL
DESIGNED BY
DRAWN BY G. E. Davis DATE Sept., 1955
TRACED BY DATE
CHECKED BY DATE

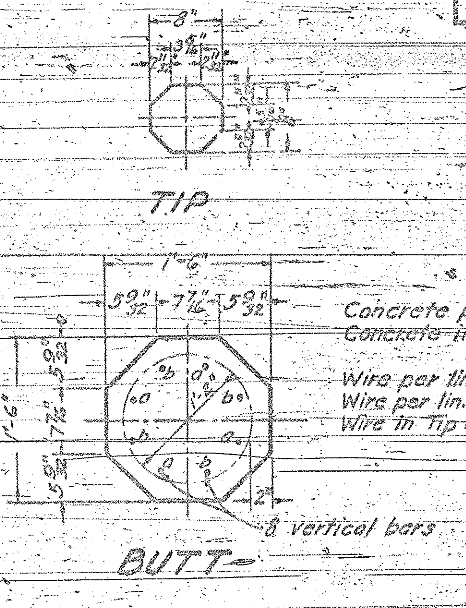
Fed. Road Dist. No.	State	Project No.	Sheet No.	Total Sheets
3	N.C.	1057		
P.A. Pro.	F-706(2)			


L
See Sketch
3½"
See Sketch
2" black band indicating "Pickup Point"
See Sketch
2'-0"
Only 4 vertical bars in point
No. 7 Wire Spiral 3" Pitch 2'-0"
No. 7 Wire Spiral 6" Pitch
No. 7 Wire Spiral 3" Pitch 2'-0"
2"

GENERAL NOTE

Class "A" concrete using standard size No 3 coarse aggregate shall be used. Concrete shall be compacted by mechanical vibration. 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.


8"
3 9/16"
2 7/32"
2 7/32"
TIP
1'-6"
5 9/32"
7 7/16"
5 9/32"
1'-6"
a
b
2"
8 vertical bars
BUTT

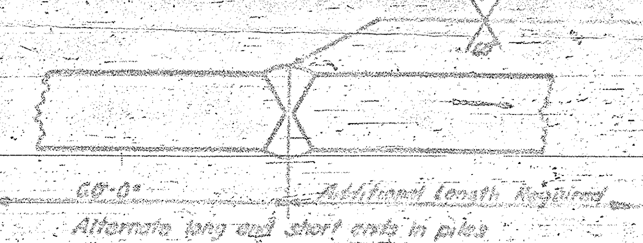
Concrete per lin. ft. of pile = 0.059 Cu. Yds.
Concrete in point = 0.076 Cu. Yds.

Wire per lin. ft. of pile @ 6" pitch = 0.618 lbs.
Wire per lin. ft. of pile @ 3" pitch = 1.228 lbs.
Wire in Tip = 1.6 lbs.

FOR 1'-6" PILE

QUANTITIES FOR ONE 1'-6" OCTAGONAL PILE

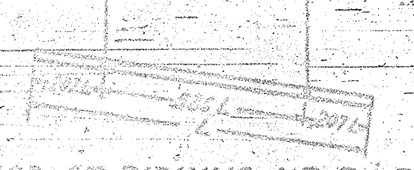
Length "L"	Vertical Reinforcing Bars				Total Reinf. Steel Lbs.	Conc. Cu. Yds.	Pile Wt. Tons	Two Pickup Points		Three Pickup Points	
	Bar	No.	Size	Length				.207 L	.586 L	.15 L	.35 L
25'-0"	a b	4 4	5/8"	22'-9" 24'-7"	214	1.6	3.37	5'-2"	14'-8"		
28'-0"	a b	4 4	3/4"	25'-9" 27'-7"	339	1.8	3.79	5'-9½"	16'-5"		
30'-0"	a b	4 4	3/4"	27'-9" 29'-7"	365	2.0	4.07	6'-2½"	17'-7"		
32'-0"	a b	4 4	3/4"	29'-9" 31'-7"	390	2.1	4.35	6'-7½"	18'-9"		
35'-0"	a b	4 4	3/4"	32'-9" 34'-7"	428	2.3	4.76	7'-3"	20'-6"		
40'-0"	a b	4 4	7/8"	37'-9" 39'-7"	659	2.7	5.47	8'-3"	23'-6"		
45'-0"	a b	4 4	7/8"	42'-9" 44'-7"	743	3.0	6.16	9'-4"	26'-4"		
47'-0"	a b	4 4	1"	44'-9" 46'-7"	1006	3.1	6.44	9'-9"	27'-6"		
50'-0"	a b	4 4	1"	47'-9" 49'-7"	1072	3.3	6.86	10'-4"	29'-4"		
55'-0"	a b	4 4	1"	52'-9" 54'-7"	1495	3.7	7.55	11'-4½"	32'-3"		
60'-0"	a b	4 4	1 1/8"	57'-9" 59'-7"	2058	4.0	8.26			9'-0"	21'-0"
65'-0"	a b	4 4	1 1/8"	62'-9" 64'-7"	2748	4.4	8.95			9'-9"	22'-9"


60°
60'-0"
Additional Length Required

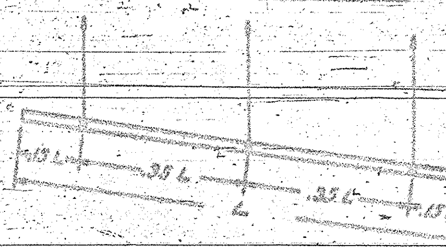
Alternate long and short ends in piles

WELD DETAIL

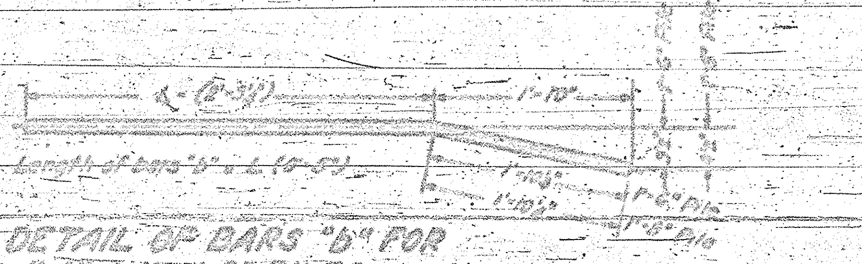
For Bars over 60'-0"


.207 L
.586 L
.207 L

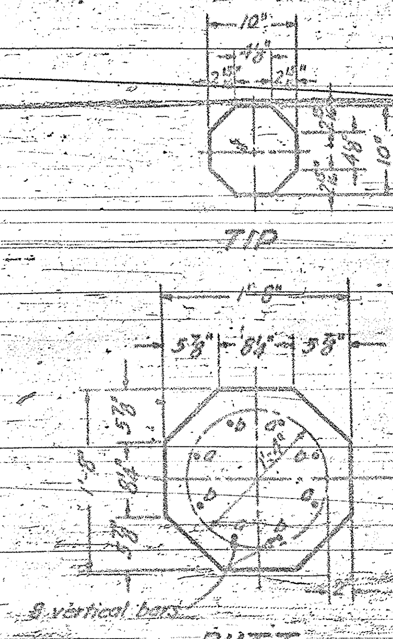
METHOD OF PICKING UP PILES UNDER 60 FEET 2 PICKUP POINTS


.15 L
.35 L
L
.35 L
.15 L

METHOD OF PICKING UP PILES 60 FEET AND OVER 3 PICKUP POINTS


L-(2'-5½")
1'-10"
Length of bars "b" = L (2'-5")
1'-10½"
1'-10¼"
1'-6" Pile
1'-8" Pile

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


10"
4 1/8"
2 15/16"
2 15/16"
4 1/8"
10"
TIP
1'-8"
5 7/8"
8 1/4"
5 7/8"
1'-8"
a
b
2"
8 vertical bars
BUTT

Concrete per lin. ft. of pile = 0.0851 Cu. Yds.
Concrete in point = 0.15 Cu. Yds.

Wire per lin. ft. of pile @ 6" pitch = 0.705 lbs.
Wire per lin. ft. of pile @ 3" pitch = 1.403 lbs.
Wire in Tip = 1.9 lbs.

FOR 1'-8" PILE

QUANTITIES FOR ONE 1'-8" OCTAGONAL PILE

Length "L"	Vertical Reinforcing Bars				Total Reinf. Steel Lbs.	Concrete Cu. Yds.	Pile Wt. Tons	Two Pickup Points		Three Pickup Points	
	Bar	No.	Size	Length				.207 L	.586 L	.15 L	.35 L
25'-0"	a b	4 4	5/8"	22'-9" 24'-7"	277	2.	4.27	5'-2"	14'-8"		
30'-0"	a b	4 4	3/4"	27'-9" 29'-7"	368	2.3	5.12	6'-2½"	17'-7"		
35'-0"	a b	4 4	3/4"	32'-9" 34'-7"	431	2.5	5.99	7'-3"	20'-6"		
37'-0"	a b	4 4	7/8"	34'-9" 36'-7"	611	3.1	6.33	7'-8"	21'-8"		
40'-0"	a b	4 4	7/8"	37'-9" 39'-7"	662	3.	6.84	8'-3"	23'-6"		
45'-0"	a b	4 4	7/8"	42'-9" 44'-7"	748	3.	7.72	9'-4"	26'-4"		
47'-0"	a b	4 4	1"	44'-9" 46'-7"	1010	3.	8.06	9'-9"	27'-6"		
50'-0"	a b	4 4	1"	47'-9" 49'-7"	1077	4.	8.57	10'-4"	29'-4"		
55'-0"	a b	4 4	1"	52'-9" 54'-7"	1500	4.	9.44	11'-4½"	32'-3"		
58'-0"	a b	4 4	1 1/8"	55'-9" 57'-7"	1993	4.	9.96	12'-0"	34'-0"		
60'-0"	a b	4 4	1 1/8"	57'-9" 59'-7"	2064	5.	10.31			9'-0"	21'-0"
63'-0"	a b	4 4	1 1/4"	60'-9" 62'-7"	2667	5.3	10.81			9'-5½"	22'-0½"
65'-0"	a b	4 4	1 1/4"	62'-9" 64'-7"	2754	5.5	11.16			9'-9"	22'-9"
70'-0"	a b	4 4	1 1/4"	67'-9" 69'-7"	2970	5.9	12.03			10'-6"	24'-6"

SUMMARY OF PILES

No.	Length	Diameter	Conc. Cu. Yds.	Reinf. Steel Lbs.
[illegible]	[illegible]	[illegible]	[illegible]	32,912
4	50'-0"	1'-8"	16.9	4,308
8	55'-0"	1'-8"	37.3	[illegible]
16	65'-0"	1'-8"	88.8	44,064

Reinforcing Steel Lbs.	93,284
Class "A" Concrete, Cu. Yds.	310.0
Linear Feet 1'-6" Piles	
Linear Feet 1'-8" Piles	3660
Total Piles, No.	32

Lengths of piles are subject to variations to suit conditions as found.

PROJECT NO. 1057
BEAUFORT-HYDE COUNTY
STATION: 448+26

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

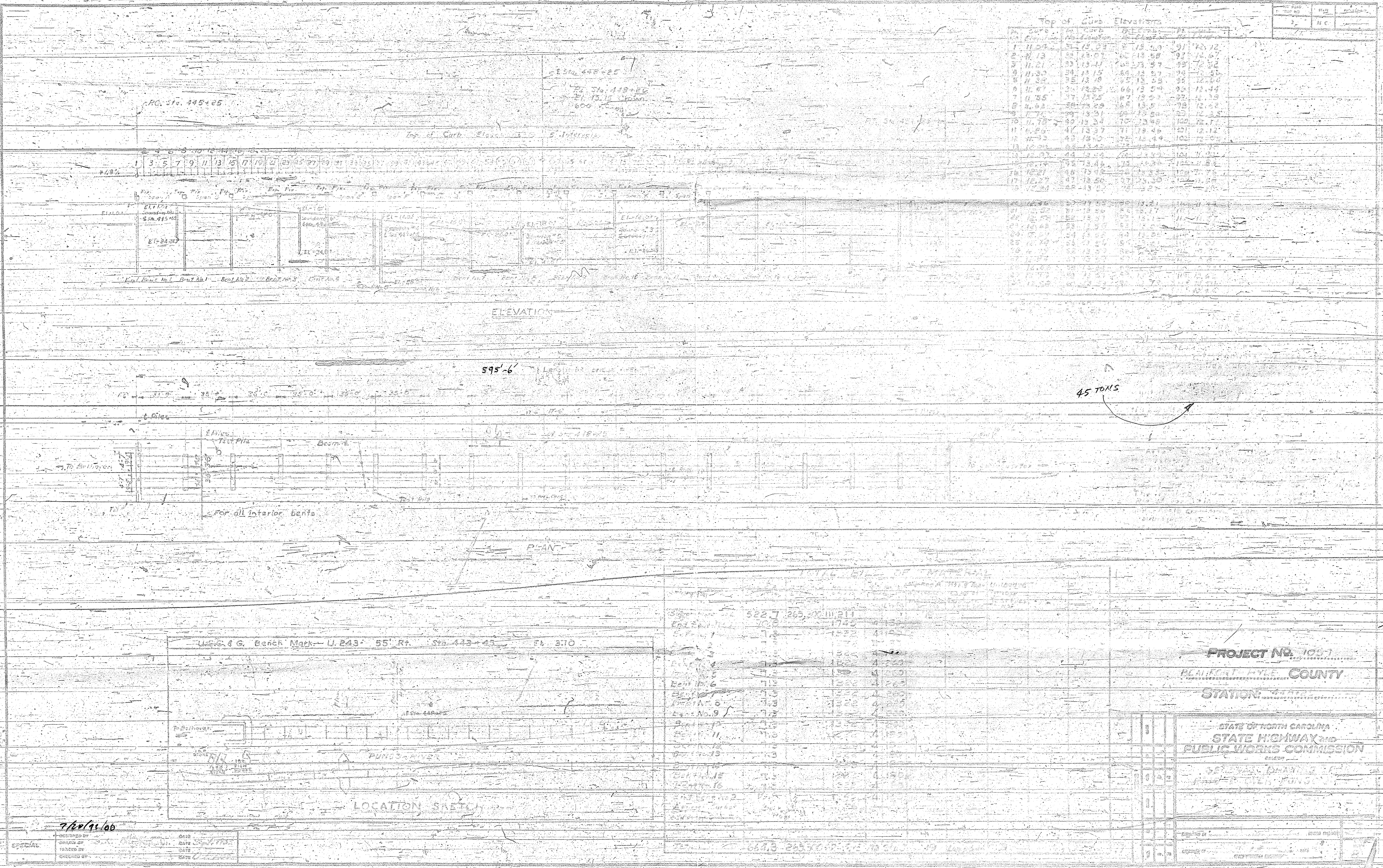
STANDARD PRE-CAST R.C. PILES

JUNE, 1953

SPECIAL	ASSEMBLED BY B.K. [illegible] Jr.	DATE Sept. 1955	
	CHECKED BY R.H. [illegible]	DATE Sept. 1955	
	DESIGNED BY	DATE	
STANDARD	DRAWN BY	DATE	
	TRACED BY [illegible]	DATE June 1953	
	CHECKED BY [illegible]	DATE May 1953	

STANDARD No. M-275

26 9-2


Top of Curb Elevations
P.C. Sta. 445+25
Sta. 448+25
Top of Curb Elev. 5' Intervals
Bent No. 1
Bent No. 2
Bent No. 3
ELEVATION
595'-6'
Length of bridge
45 TONS
To Belhaven
Test Pile
For all interior bents
PLAN
U.S.C. & G. Bench Mark U. 243 55' Rt. Sta. 443+45 El. 3.70
Pungo River
LOCATION SKETCH
7/28/72/00

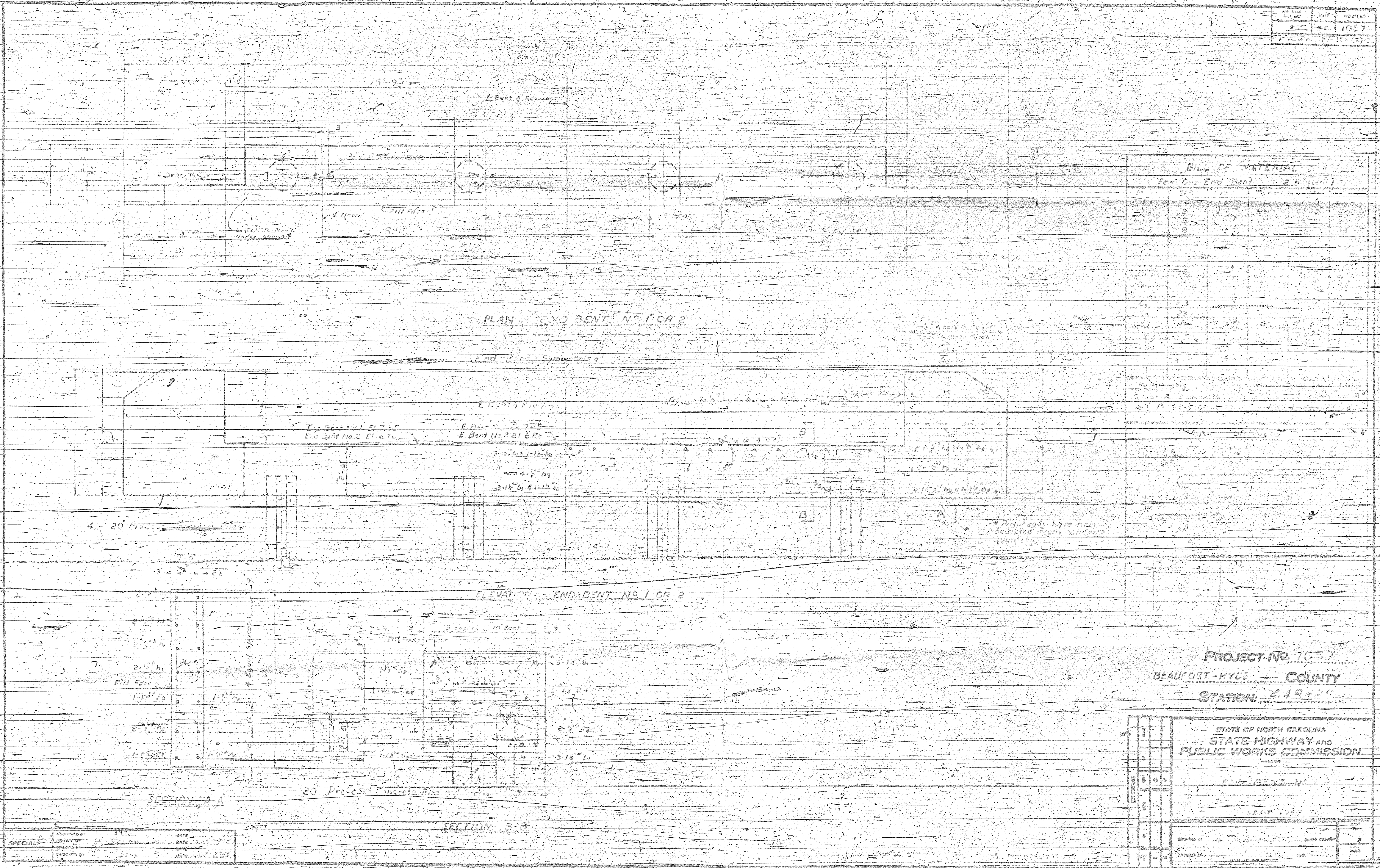
PROJECT NO. 1051

BEAUFORT-HYDE COUNTY

STATION: [illegible]

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
RALEIGH

GENERAL DRAWING FOR
BRIDGE OVER PUNGO R.


PLAN – END BENT Nº 1 OR 2
End Bent Symmetrical About ℄
E. Bent ℄ Rdwy
ELEVATION – END BENT Nº 1 OR 2
E. Bent No.1 El. 7.35
End Bent No.2 El. 6.86
* Pile lengths have been deducted from concrete quantity
SECTION A-A
SECTION B-B
20" Pre-Cast Concrete Pile
4 Equal Spaces
Fill Face
BILL OF MATERIAL
For One End Bent 2 Required
N.C.
1057

PROJECT Nº 1057

BEAUFORT-HYDE **COUNTY**

STATION: 448+25

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION

END BENT NO. 1 & 2

SPECIAL

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY
DATE