

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION
 PLAN AND PROFILE OF PROPOSED
 STATE HIGHWAY
 CATAWBA COUNTY

Beginning at Sta 607+00 end of Conc Part on Proj 6244 approximately 1600 Ft. west of City Limits of Conover and extending in an easterly direction to Sta 645+00 End of Proj

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7. Layout of Grade Separation US 70 & Present US 321
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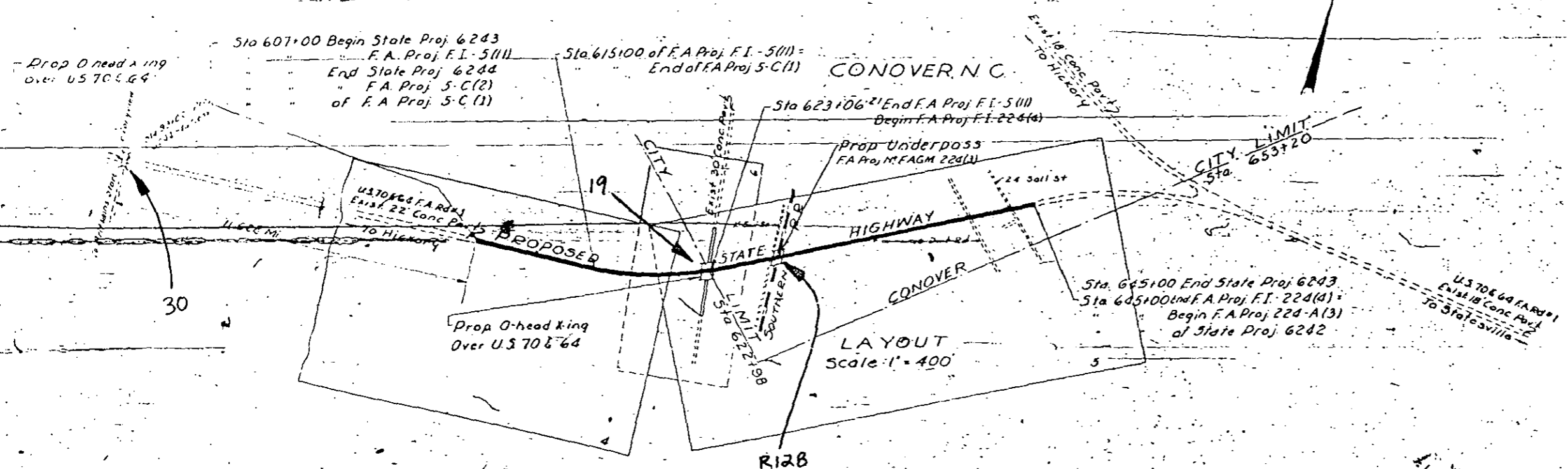
FED. ROAD DIST. NO.	STATE	STATE PROJ. NO.	TOWNSHIP	RANGE	TOTAL SHEETS
14	N.C.	6243	5	35	
F.A. Proj. No. F.I. 5(11)					
F.A. Proj. No. FAGM. 224(3)					
F.A. Proj. No. F.I. 224(4)					

CONVENTIONAL SIGNS

County Line	_____
Township Line	_____
City or Town Line	_____
Right of Way Line	_____
Survey Line	_____
Property Line	_____
Wire Fence	_____
Board Fence	_____
Present Traveled Road	_____
Railroad	_____
Grade Elevation	DATUM 8
Ground Elevation	DATUM 3
Pipe Culvert	_____
Box Culvert	_____
Woods	_____
Telephone or Telegraph Pole	_____
Tower Pole and Line	_____
Power Pole	_____
Right of way Markers	▲

SHIPPING POINT
 CONOVER, N. C.

SCALES
 PLANS - 1" = 100'
 PROFILE - 1" = 100' Hor.
 PROFILE - 1" = 10' Vert



LENGTH OF ROADWAY F.A. PROJ. NO. F.I. 5(11) 0.304 Mi.
 F.A. PROJ. NO. F.I. 224(4) 0.415 Mi.
 TOTAL LENGTH OF STATE PROJECT 6243 0.719 Mi.

The Right of way on this project is as follows:
 Sta 607+00 to Sta 645+00 150' wide

Prepared in Office of
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION
 RALEIGH, N. C.

Surveyed by: L.H. Cook
 Drawn by: P.W. McGowan
 November 1946

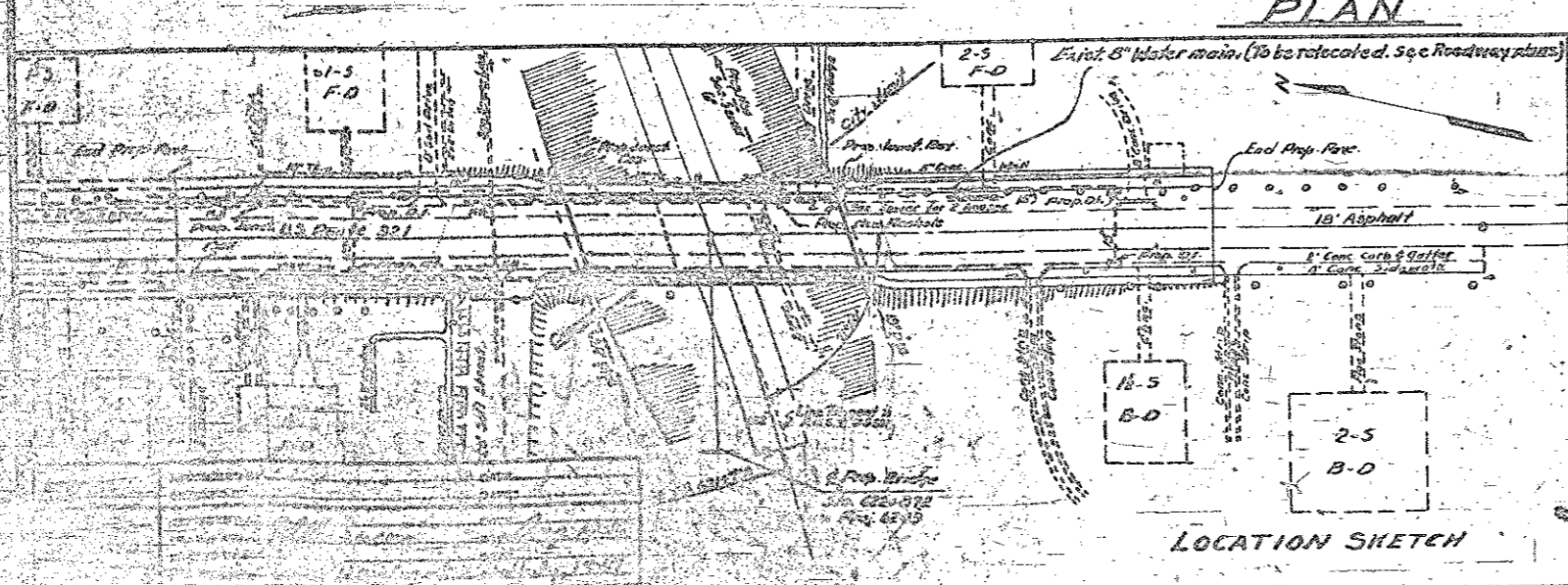
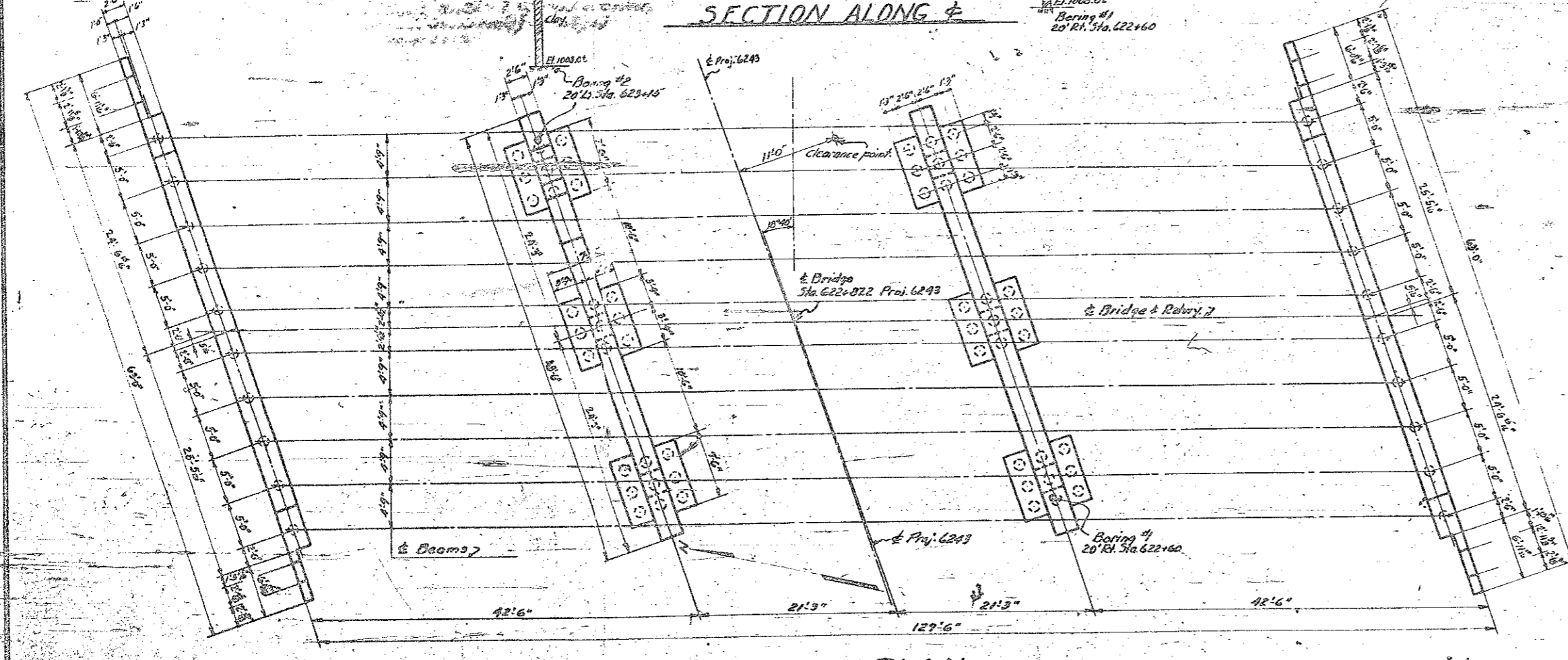
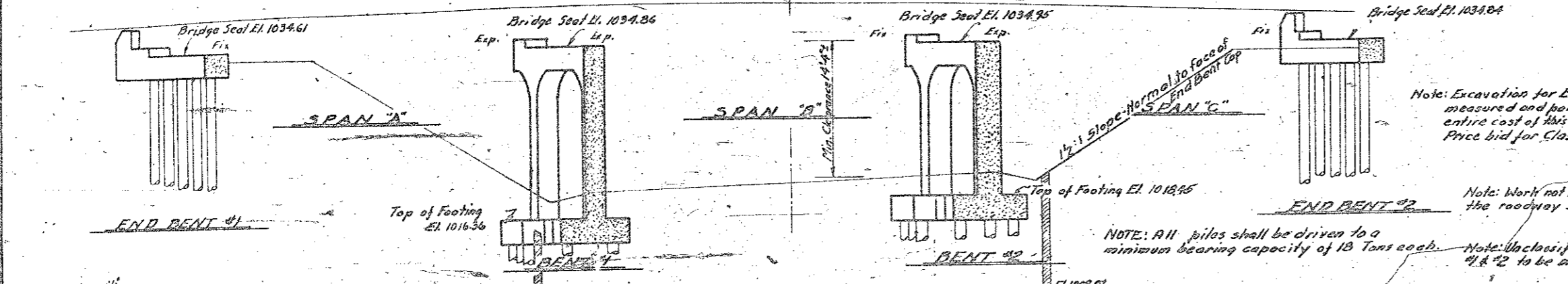
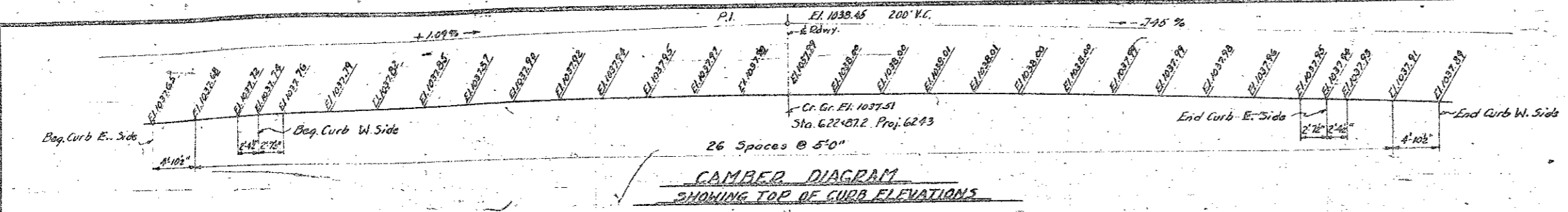
1946
 State Standard Specifications
 Approved by Bureau Control
 July 11, 1947

APPROVED: *W. T. ...*
 STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL DATE
 DISTRICT ENGINEER
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

APPROVED DATE
 DIVISION ENGINEER
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

REG. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N.C.	6243	22	35
F.A. Proj. F-1-5(11)				



Note: This bridge shall be built on a vertical curve. The handrails, slabs, curbs shall conform to the parabolic curve. Handrail posts and balustrades shall be built plumb. The elevations shown do not include any allowance for dead load deflection, which shall be provided for in addition to the elevations given. The finished structure shall have the elevations shown.

DESIGN DATA

Specifications	A.A.S.H.O. (44)
Assumed Live Load	H 15, S 12 (44)
Impact Allowance	See Specs.
Reinforcing Steel in Tension	18000 lbs per sq. in.
Tension in Web Reinforcement	16000
Stress in Extreme Fibre of Structural Steel	18000
Concrete in Compression	1000
Concrete in Shear	90
Equivalent Fluid Pressure of Earth	30

GENERAL NOTE

CONCRETE: Class A concrete using Standard Size No. 3 coarse aggregate shall be used throughout, except in footings above top of curbs in which Standard Size No. 4 shall be used. Slabs, curbs, walls, and castings shall be poured in one continuous operation allowing no time for the initial set to take place between them. No construction joints other than those shown on the plans will be permitted. All concrete except that in handrails shall be compacted by Mechanical vibration. **CHAMFERED:** All exposed corners of concrete shall be chamfered 1" except corners of handrails and expansion joints. Expansion joint corners shall be chamfered 1/2" except where otherwise noted on plans. Corners of handrails shall be chamfered 1/2". **REINFORCING STEEL:** All reinforcing steel shall be deformed bars. All dimensions relative to reinforcement are to centers of bars. No splicing of reinforcement other than those shown on the plans will be permitted. Where splicing of reinforcement is necessary, bars shall be lapped 45 diameters. All reinforcing steel shall be accurately bent in correct positions. **STRUCTURAL STEEL:** Structural steel shall meet all the requirements of the specifications and shall be given one shop coat and one field coat of red lead and tinfoil two field coats of aluminum paint. Detail drawings for structural steel shall be submitted to the Bridge Engineer for approval. No unchecked drawings will be accepted. **NAME PLATES:** Two name plates shall be placed on the bridge, one on each tight hand end joint approaching the bridge. **EXPANSION JOINT MATERIAL:** Expansion joint material may be either rubber compound or cork conforming to the requirements of A.A.S.H.O. Spec. M 58. **EXCAVATION & FOUNDATION DATA:** The excavation and foundation data and all elevations of ground line given are believed to be correct and 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. **MATERIAL & WORKMANSHIP:** All material and workmanship as per the specifications of the North Carolina State Highway & Public Works Comm. **TRAFFIC:** All traffic will be detoured during construction of this structure. See Specs. **PILE LENGTH:** Test piles will not be required. Order list for piles to be based on piles 30'-0" long in End Bent #1 & #2 and 22'-0" long in Bents #1, #2, & #3.

DIVISION OF CLASS A CONCRETE	
Standard Size Coarse Aggregate	No. 3 Cu. Yds. 2469
" " " " " "	No. 2 Cu. Yds. 136
TOTAL	Cu. Yds. 2745

PROJECT NO. 6243
CATAWBA COUNTY
STATION: 622+87.2

B.M. Nail in base 10" Repts. 175' Lt. Sta. 623+65, El. 1034.46

	Class A Concrete		Shrink Steel	Coated Timber Piles		Method "A" Motor proof	Unclass. Street Excav.
	Cu. Yds.	Lbs.		No.	Length		
Superstructure	169.7	50,770	12510				
End Bent #1	14.2	2155	10	510	13.5	1.5	
Bent #1	41.9	6397	27	522		3.5	
Bent #2	40.5	6225	27	522		3.5	
End Bent #2	14.2	2155	10	520	13.5	2.0	
TOTAL	274.5	84,122	13510	74	1720	27.0	17.0

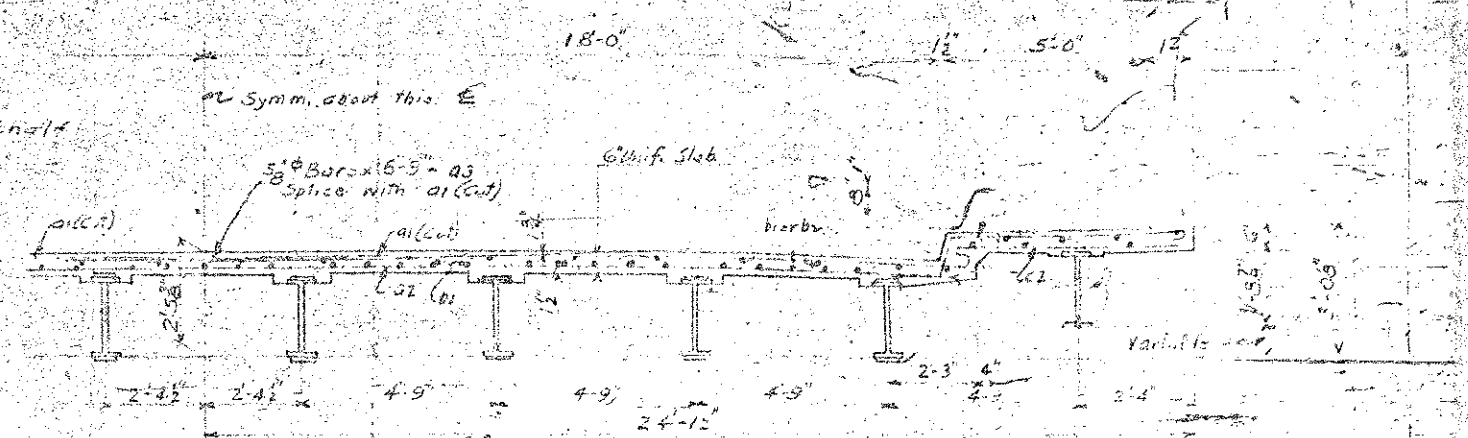
* Includes 761# Galvanized Steel to be paid for as Reinforcing Steel.

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
GENERAL DRAWING FOR OVERHEAD OVER US70 AT CONOVER
AUGUST 1946
DRAWN BY J.B. [Signature]
APPROVED BY W. [Signature]

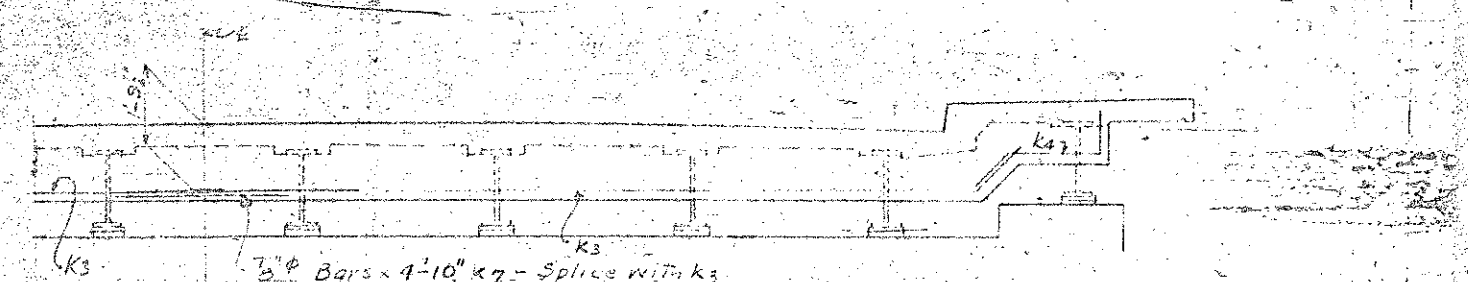
Reel 388 ✓
Pos - 13 ✓
16-79-10
CATAWBA

PROJECT NO. 6243
 DATE 6/23/48
 FA Proj. F. 2-5(11)

NOTE: 8# Bars to extend in north and south of shown



PART INTERIOR SECTION
SHOWING SPLICE - a1 WITH a3



PART END VIEW
SHOWING SPLICE - K3 WITH K3

BILL OF MATERIAL

BAR	No	SIZE	TYPE	LENGTH	WEIGHT
a3	207	5#	SH	6'-9"	1457
K3	6	5#	SH	4'-10"	30
K7	12	8#	SH	4'-10"	79
E1	12	8#	SH	21'-6"	269
Reinforcing Steel					1835

* Required for splicing K7 bars in curtain walls at End Bents.

⊕ Original bill called for only 12 K7, but 12 additional K7 bars required.

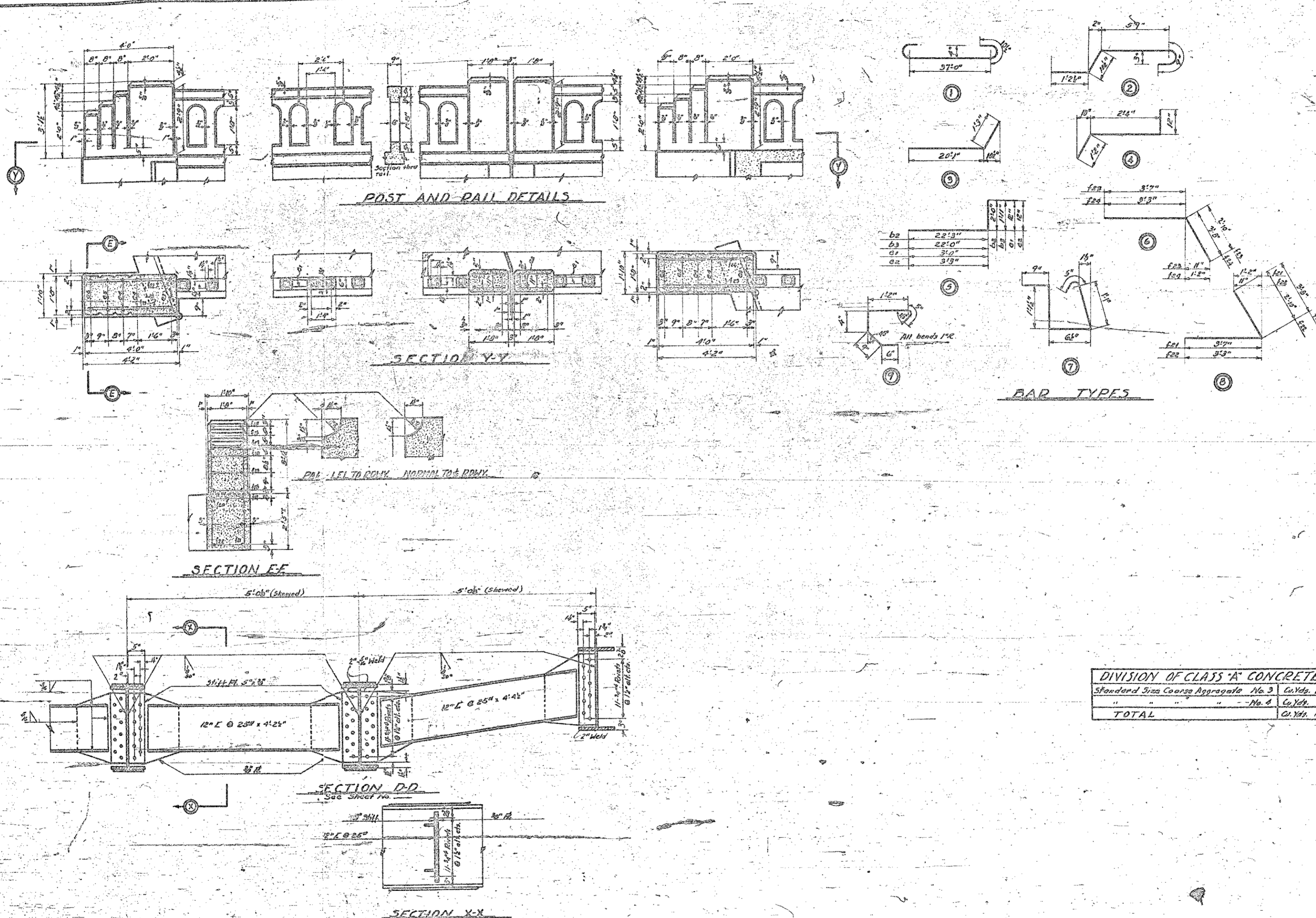
PROJECT NO. 6243
 CATAWBA COUNTY
 STATION 622+372

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION
 DIVISION
 SUPERSTRUCTURE DETAILS
 FOR OVERHEAD OVER
 US70 AT CONOVER
 APRIL - 1948
 SUBMITTED BY: [Signature]
 APPROVED BY: [Signature]

RECEIVED
 JUN 27 1948
 RUMMEL, KLEPPER & KAHN

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N. C.	6243	23	85

FA Proj. FZ-5(11)



BILL OF MATERIAL - THREE SPANS

Bar	No.	Size	Spans	Length	Weight
b1	207	5/8"	1	38'9"	850.6
b2	204	5/8"	5	37'3"	295.6
c1	294	5/8"	5	22'3"	203.6
c2	20	"	5	23'11"	28.0
d1	524	5/8"	2	8'11"	18.58
d2	378	"	5	8'0"	187.5
e1	768	3/8"	5	4'0"	114.8
e2	32	5/8"	5	4'9"	91
e3	8	"	5	3'4"	18
e4	16	"	"	4'5"	24
e5	8	"	"	4'11"	22
e6	4	5/8"	5	11'11"	3.8
f1	8	5/8"	5	11'9"	67
f2	8	"	"	11'6"	67
f3	8	"	"	11'9"	67
f4	8	"	"	11'3"	60
f5	4	"	"	11'7"	51
f6	2	"	"	11'9"	25
f7	8	3/8"	"	11'11"	35
f8	8	"	"	11'6"	67
f9	8	"	"	11'0"	77
f10	8	"	"	11'9"	34
f11	8	"	"	11'8"	77
f12	24	"	"	11'0"	16
f13	16	"	"	20'6"	13.8
f14	8	"	"	21'0"	63
f15	8	5/8"	"	11'0"	10
f16	8	"	"	21'6"	12
f17	8	"	"	31'2"	17
f18	24	"	"	31'9"	68
f19	4	5/8"	"	31'0"	24
f20	8	"	"	61'2"	21
f21	2	"	"	21'8"	28
f22	8	"	"	61'7"	18
f23	2	"	"	61'0"	19
f24	2	"	"	61'1"	12.0
f25	4	5/8"	5	11'11"	10
f26	12	5/8"	5	20'6"	23.6
f27	16	5/8"	5	21'0"	27
f28	16	5/8"	5	21'4"	6.98
f29	16	5/8"	5	21'0"	1.97
f30	4	5/8"	5	21'0"	3.6
f31	14	5/8"	5	21'11"	31.7
f32	32	5/8"	5	31'2"	11.6

Reinforcing Steel Lbs. 22,726
 Class A Concrete Cu. Yds. 163.7
 Structural Steel Approx. Lbs. 135130
 *Galvanized Steel bars to be paid for as Reinforcing Steel 761.2

DIVISION OF CLASS 'A' CONCRETE		
Standard Size Coarse Aggregate	No. 3	Cu. Yds. 150.1
"	No. 4	Cu. Yds. 18.6
TOTAL		Cu. Yds. 168.7

Note: For "Design Data" and "General Note" see Sheet No. 22

PROJECT NO. 6243
 CATAWBA COUNTY
 STATION: 622+872

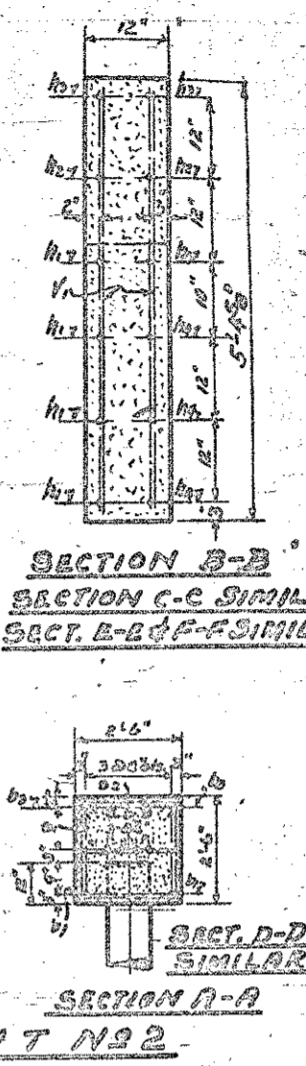
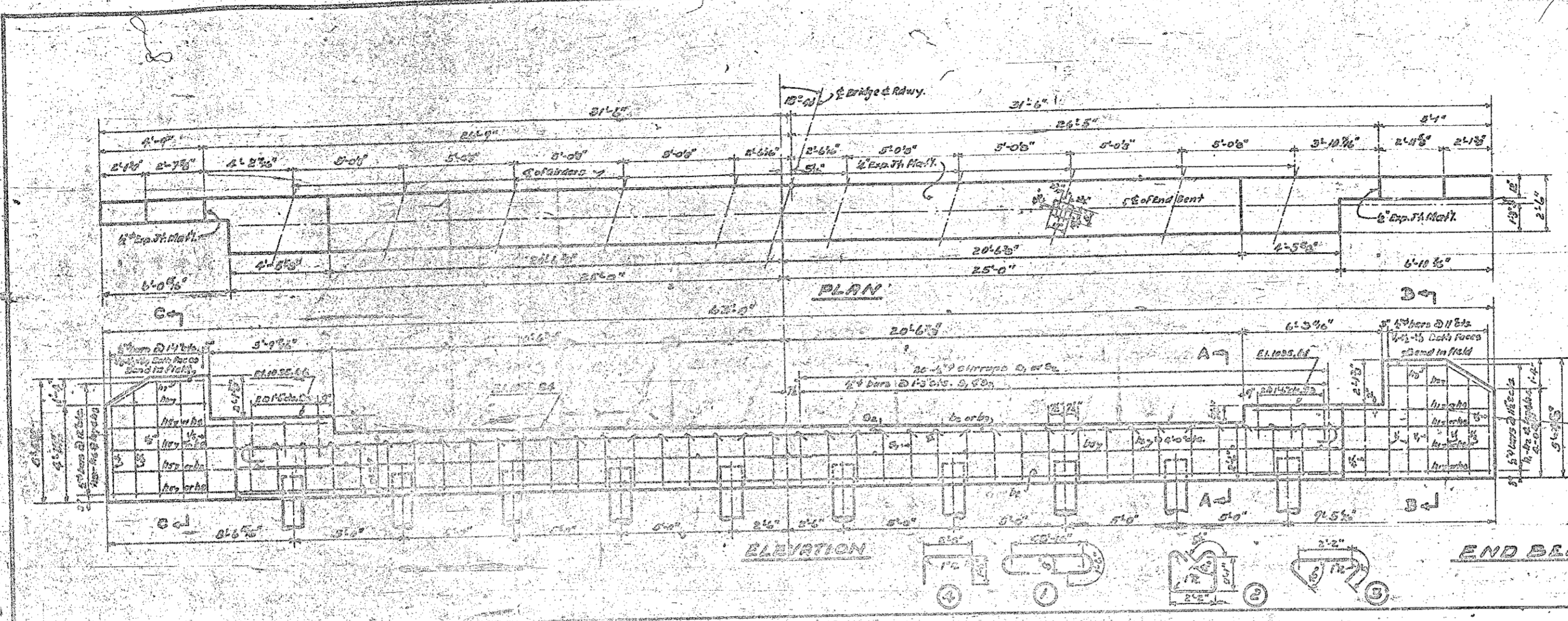
SHEET 2 of 2

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION
 SUPERSTRUCTURE DETAILS FOR OVERHEAD OVER US70 AT CONOVER
 AUGUST 1946
 SUBMITTED BY: J.B. Gentry
 APPROVED BY: W.W. Moore
 STATE HIGHWAY ENGINEER

SPECIAL	DESIGNED BY	DATE
	CHECKED BY	DATE
STANDARD	DRAWN BY	DATE
	TRACED BY	DATE
	CHECKED BY	DATE
	CHECKED BY	DATE

RECEIVED

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
5	N.C.	6243	25	25

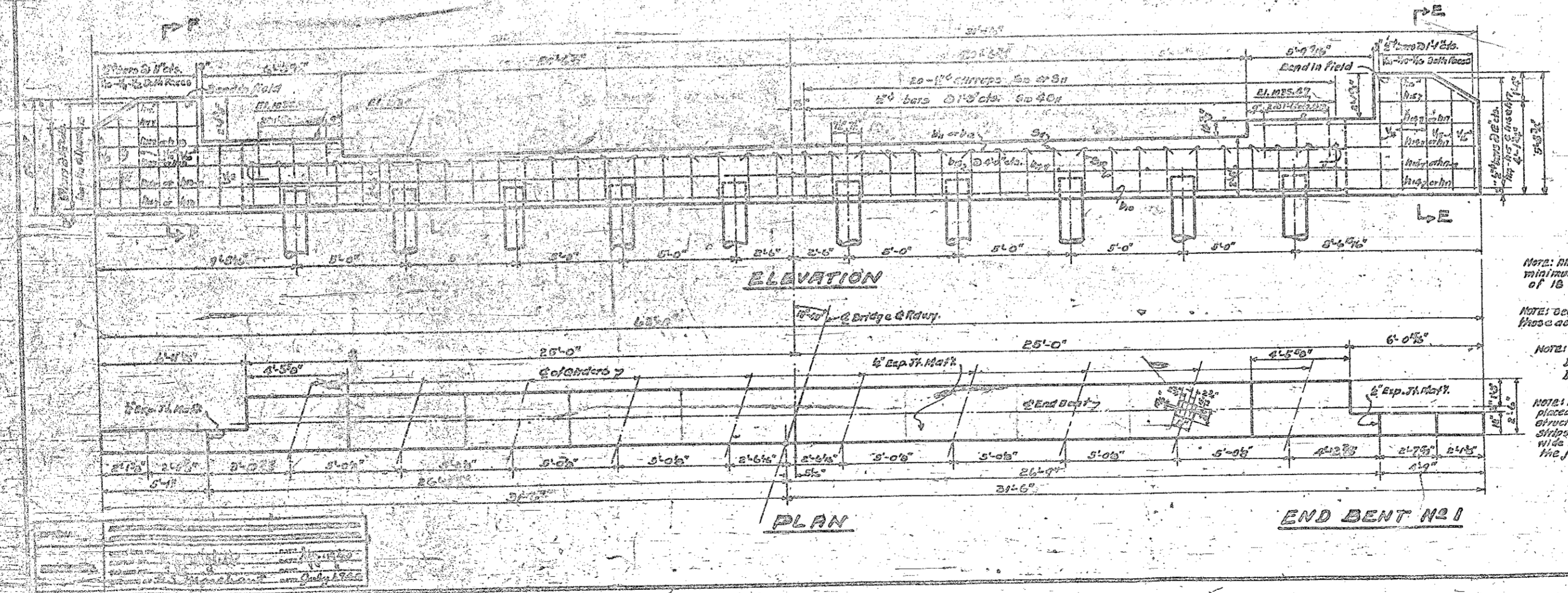


BILL OF MATERIAL ONE END BENT

Bar	No.	Size	Type	Length	Weight
B1	2	1 1/2"	Str.	44'-6"	426
B2	2	1 1/2"	Str.	41'-0"	387
B3	2	1 1/2"	Str.	41'-0"	426
B4	8	1 1/2"	Str.	26'-0"	199
B5	13	1 1/2"	Str.	2'-8"	20
B6	2	1 1/2"	Str.	11'-0"	29
B7	2	1 1/2"	Str.	11'-0"	29
B8	2	1 1/2"	Str.	5'-0"	6
B9	2	1 1/2"	Str.	10'-0"	60
B10	2	1 1/2"	Str.	10'-0"	60
B11	2	1 1/2"	Str.	10'-0"	60
B12	2	1 1/2"	Str.	10'-0"	60
B13	2	1 1/2"	Str.	10'-0"	60
B14	2	1 1/2"	Str.	10'-0"	60
B15	2	1 1/2"	Str.	10'-0"	60
B16	2	1 1/2"	Str.	10'-0"	60
B17	2	1 1/2"	Str.	10'-0"	60
B18	2	1 1/2"	Str.	10'-0"	60
B19	2	1 1/2"	Str.	10'-0"	60
B20	2	1 1/2"	Str.	10'-0"	60
B21	2	1 1/2"	Str.	10'-0"	60
B22	2	1 1/2"	Str.	10'-0"	60
B23	2	1 1/2"	Str.	10'-0"	60
B24	2	1 1/2"	Str.	10'-0"	60
B25	2	1 1/2"	Str.	10'-0"	60
B26	2	1 1/2"	Str.	10'-0"	60
B27	2	1 1/2"	Str.	10'-0"	60
B28	2	1 1/2"	Str.	10'-0"	60
B29	2	1 1/2"	Str.	10'-0"	60
B30	2	1 1/2"	Str.	10'-0"	60
B31	2	1 1/2"	Str.	10'-0"	60
B32	2	1 1/2"	Str.	10'-0"	60
B33	2	1 1/2"	Str.	10'-0"	60
B34	2	1 1/2"	Str.	10'-0"	60
B35	2	1 1/2"	Str.	10'-0"	60
B36	2	1 1/2"	Str.	10'-0"	60
B37	2	1 1/2"	Str.	10'-0"	60
B38	2	1 1/2"	Str.	10'-0"	60
B39	2	1 1/2"	Str.	10'-0"	60
B40	2	1 1/2"	Str.	10'-0"	60
B41	2	1 1/2"	Str.	10'-0"	60
B42	2	1 1/2"	Str.	10'-0"	60
B43	2	1 1/2"	Str.	10'-0"	60
B44	2	1 1/2"	Str.	10'-0"	60
B45	2	1 1/2"	Str.	10'-0"	60
B46	2	1 1/2"	Str.	10'-0"	60
B47	2	1 1/2"	Str.	10'-0"	60
B48	2	1 1/2"	Str.	10'-0"	60
B49	2	1 1/2"	Str.	10'-0"	60
B50	2	1 1/2"	Str.	10'-0"	60
B51	2	1 1/2"	Str.	10'-0"	60
B52	2	1 1/2"	Str.	10'-0"	60
B53	2	1 1/2"	Str.	10'-0"	60
B54	2	1 1/2"	Str.	10'-0"	60
B55	2	1 1/2"	Str.	10'-0"	60
B56	2	1 1/2"	Str.	10'-0"	60
B57	2	1 1/2"	Str.	10'-0"	60
B58	2	1 1/2"	Str.	10'-0"	60
B59	2	1 1/2"	Str.	10'-0"	60
B60	2	1 1/2"	Str.	10'-0"	60

Reinforcing steel Lbs. 2155
Claps of concrete cu. yds. 12.2
Method of waterproofing sq. yds. 12.2
Crossties timber piles lbs. 10
Crossties timber piles lin. ft. 10

Concrete for pile heads has been deducted.



BILL OF MATERIAL ONE END BENT

Bar	No.	Size	Type	Length	Weight
B1	2	1 1/2"	Str.	44'-6"	426
B2	2	1 1/2"	Str.	41'-0"	387
B3	2	1 1/2"	Str.	41'-0"	426
B4	8	1 1/2"	Str.	26'-0"	199
B5	13	1 1/2"	Str.	2'-8"	20
B6	2	1 1/2"	Str.	11'-0"	29
B7	2	1 1/2"	Str.	11'-0"	29
B8	2	1 1/2"	Str.	5'-0"	6
B9	2	1 1/2"	Str.	10'-0"	60
B10	2	1 1/2"	Str.	10'-0"	60
B11	2	1 1/2"	Str.	10'-0"	60
B12	2	1 1/2"	Str.	10'-0"	60
B13	2	1 1/2"	Str.	10'-0"	60
B14	2	1 1/2"	Str.	10'-0"	60
B15	2	1 1/2"	Str.	10'-0"	60
B16	2	1 1/2"	Str.	10'-0"	60
B17	2	1 1/2"	Str.	10'-0"	60
B18	2	1 1/2"	Str.	10'-0"	60
B19	2	1 1/2"	Str.	10'-0"	60
B20	2	1 1/2"	Str.	10'-0"	60
B21	2	1 1/2"	Str.	10'-0"	60
B22	2	1 1/2"	Str.	10'-0"	60
B23	2	1 1/2"	Str.	10'-0"	60
B24	2	1 1/2"	Str.	10'-0"	60
B25	2	1 1/2"	Str.	10'-0"	60
B26	2	1 1/2"	Str.	10'-0"	60
B27	2	1 1/2"	Str.	10'-0"	60
B28	2	1 1/2"	Str.	10'-0"	60
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B30	2	1 1/2"	Str.	10'-0"	60
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B52	2	1 1/2"	Str.	10'-0"	60
B53	2	1 1/2"	Str.	10'-0"	60
B54	2	1 1/2"	Str.	10'-0"	60
B55	2	1 1/2"	Str.	10'-0"	60
B56	2	1 1/2"	Str.	10'-0"	60
B57	2	1 1/2"	Str.	10'-0"	60
B58	2	1 1/2"	Str.	10'-0"	60
B59	2	1 1/2"	Str.	10'-0"	60
B60	2	1 1/2"	Str.	10'-0"	60

Reinforcing steel Lbs. 2155
Claps of concrete cu. yds. 12.2
Method of waterproofing sq. yds. 12.2
Crossties timber piles lbs. 10
Crossties timber piles lin. ft. 10

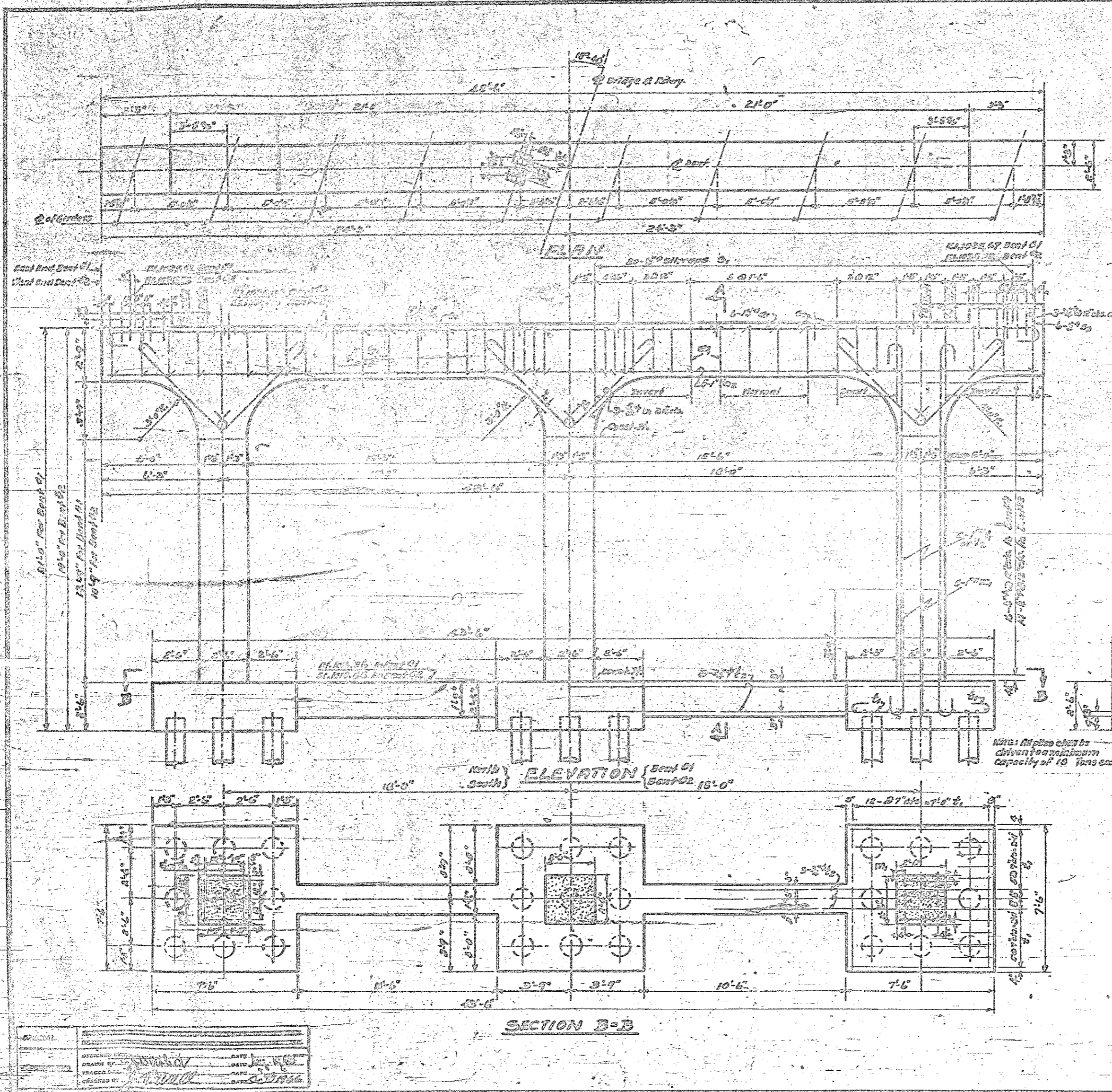
Concrete for pile heads has been deducted.

PROJECT NO. 6243
CATAWBA COUNTY
STATION: 622+07.2
END BENT NO. 1 & NO. 2

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

SUBSTRUCTURE DETAILS
FOR END BENT NO. 1 AND NO. 2
FOR OVERHEAD OVER
U.S. 470 AT CONOVER
AUGUST - 1946

DESIGNED BY: J.B. Gumpel
APPROVED BY: W. H. ...
DATE: 7-22-47



PER. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	N. C.	6243	26	25

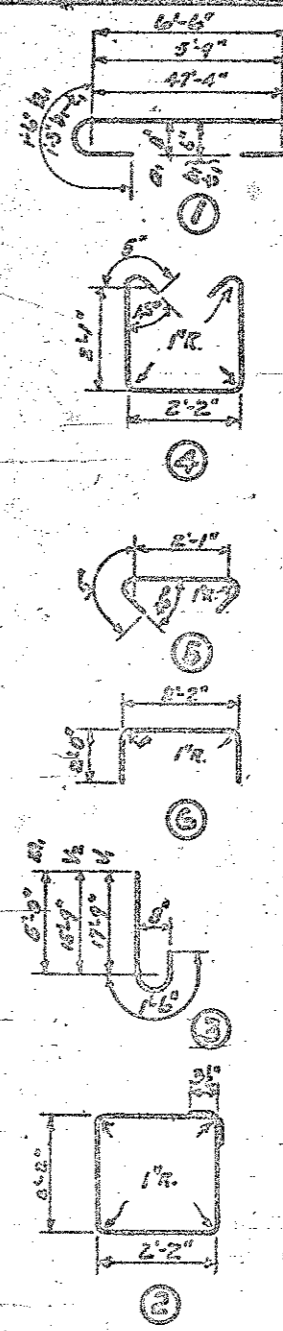
F.A. Proj. P.S. - 5(11)

BILL OF MATERIAL FOR BENTS

NO.	HT.	SIZE	TYPE	LENGTH	WEIGHT
a ₁	6	1 1/2"	1	50'-5"	1202
a ₂	9	1"	5A	48'-0"	816
a ₃	6	3/8"	5A	2'-9"	25
b ₁	13	5/8"	1	8'-3"	158
b ₂	48	1/2"	2	7'-3"	74
b ₃	42	3/4"	2	7'-3"	65
m ₁	24	1"	3	6'-6"	630
s ₁	20	1/2"	4	7'-2"	772
s ₂	32	5/8"	5	2'-7"	62
s ₃	12	3/4"	6	6'-2"	49
v ₁	60	5/8"	1	9'-0"	953
v ₂	6	3/4"	5A	60'-0"	383
v ₃	24	1"	B	10'-5"	1521
v ₄	24	1"	B	11'-3"	1403

BENT #1
 Reinforcing Steel Lbs. 4397
 Class "A" Concrete cu. yds. 217
 Crossed Timber Piles No. 27
 Crossed Timber Piles Lin. Ft. 575

BENT #2
 Reinforcing Steel Lbs. 6208
 Class "A" Concrete cu. yds. 623
 Crossed Timber Piles No. 27
 Crossed Timber Piles Lin. Ft. 575



Concrete for pile heads has been deducted

NOTE: For General Note and Design Data See General Drawing.

PROJECT NO. 6243
 CATAWBA COUNTY
 STATION: 622+07.2

BENT #1 AND BENT #2

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION

BASED ON
SUBSTRUCTURE DETAILS
 BENT #1 AND BENT #2
 FOR OVERHEAD OVER
 U.S. 470 AT CONOVER
 AUGUST 1946

DESIGNED BY: J.B. [Signature]
 APPROVED BY: W.H. [Signature]
 DATE: 7-22-47

RECEIVED
 JUN 27 1980
 RUMMEL