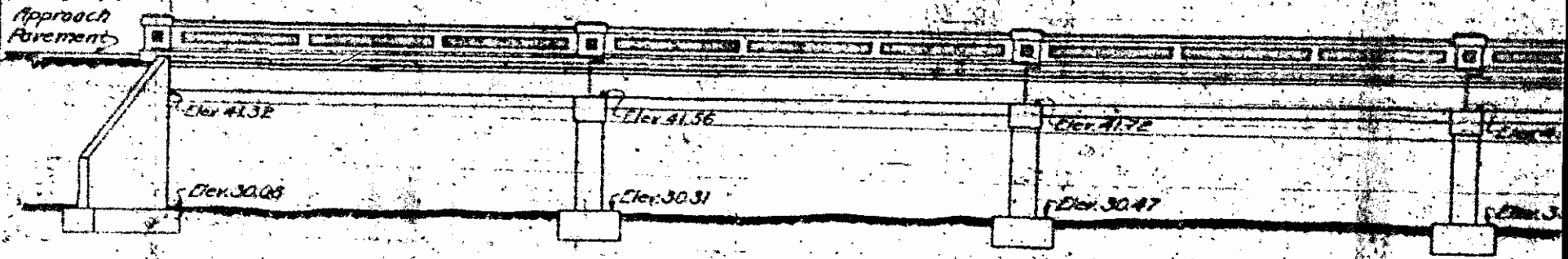
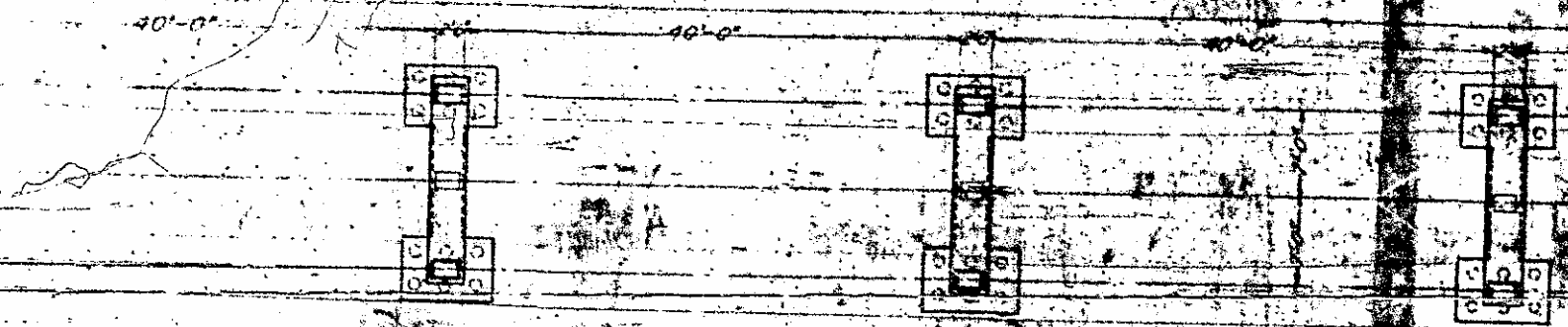


210-27-50
 FENDER
 ORIGINAL

#28
 Reel 11
 Pos 2330
 Count 19
 Proj 541



ABUT-A SPAN-A PIER-1 SPAN-B PIER-2 SPAN-C PIER-3



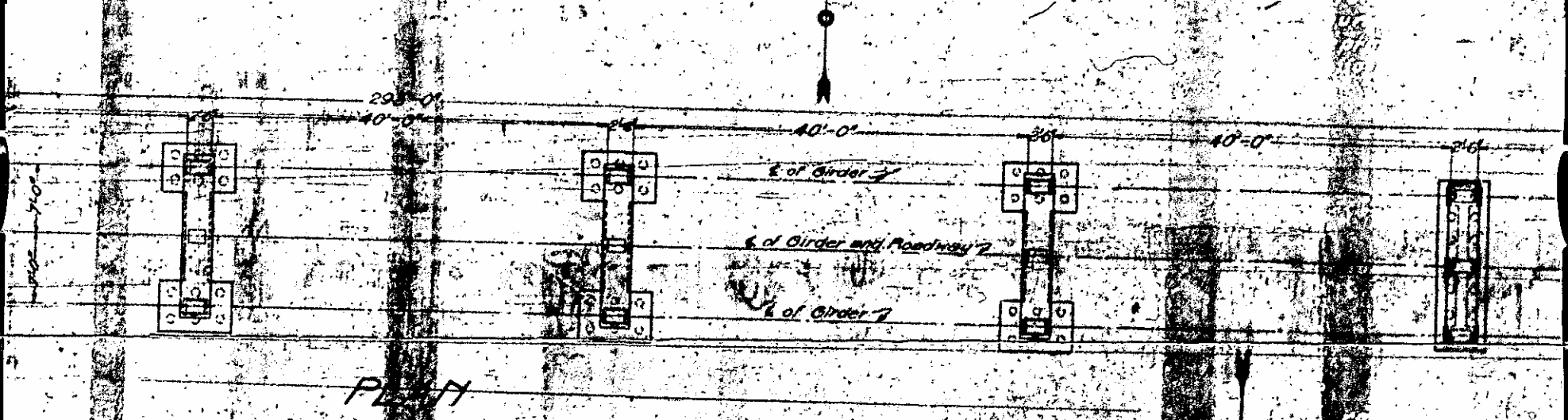
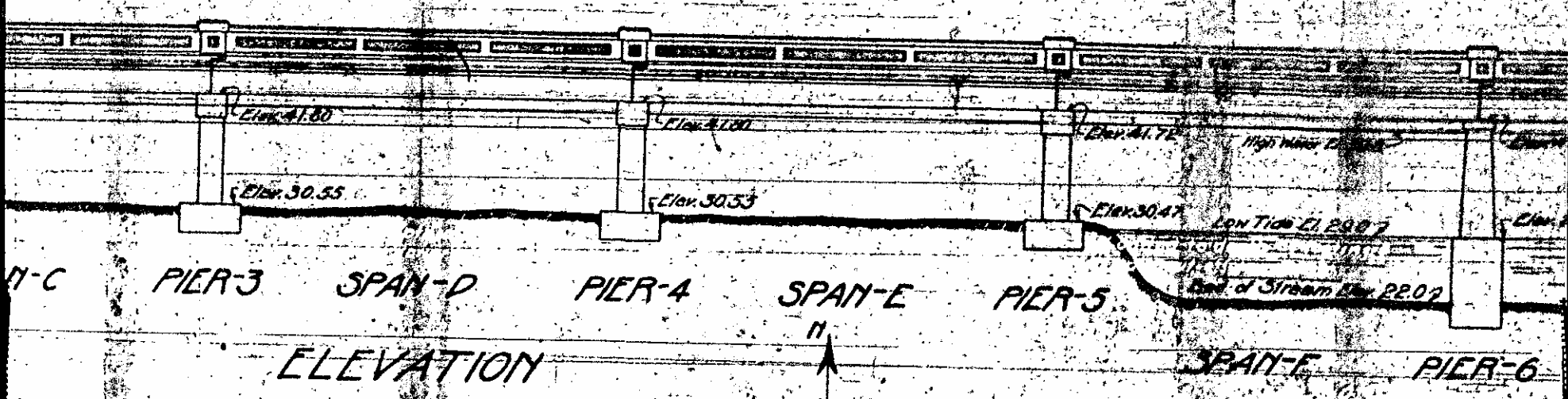
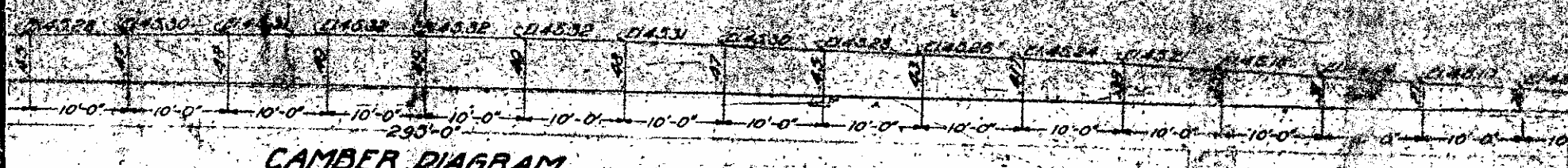
GENERAL NOTES

All concrete, etc.
 Maximum size of aggregate
 Footing of pier 6 ft
 one man, etc.
 With the permission of
 engineer, class 2
 No splices of rebar
 All reinforcing steel
 Square twisted
 All dimensions in feet
 All materials and work
 of the N.C. State

TOTAL	
SPAN A	
SPAN B	
SPAN C	
SPAN D	
SPAN E	
SPAN F	
SPAN G	
PIER 1	
PIER 2	
PIER 3	
PIER 4	
PIER 5	
PIER 6	
ABUT A	
ABUT B	
APPROACH PAVEMENT	
TOTAL	

SPECIAL		
DESIGNED BY	<i>[Signature]</i>	DATE AUG. 18, 1921
DRAWN BY	<i>[Signature]</i>	DATE AUG. 19, 1921
TRACED BY	<i>[Signature]</i>	CITY AUG. 22, 1921
CHECKED BY	<i>[Signature]</i>	DATE SEP. 13, 1921

219 1015-36



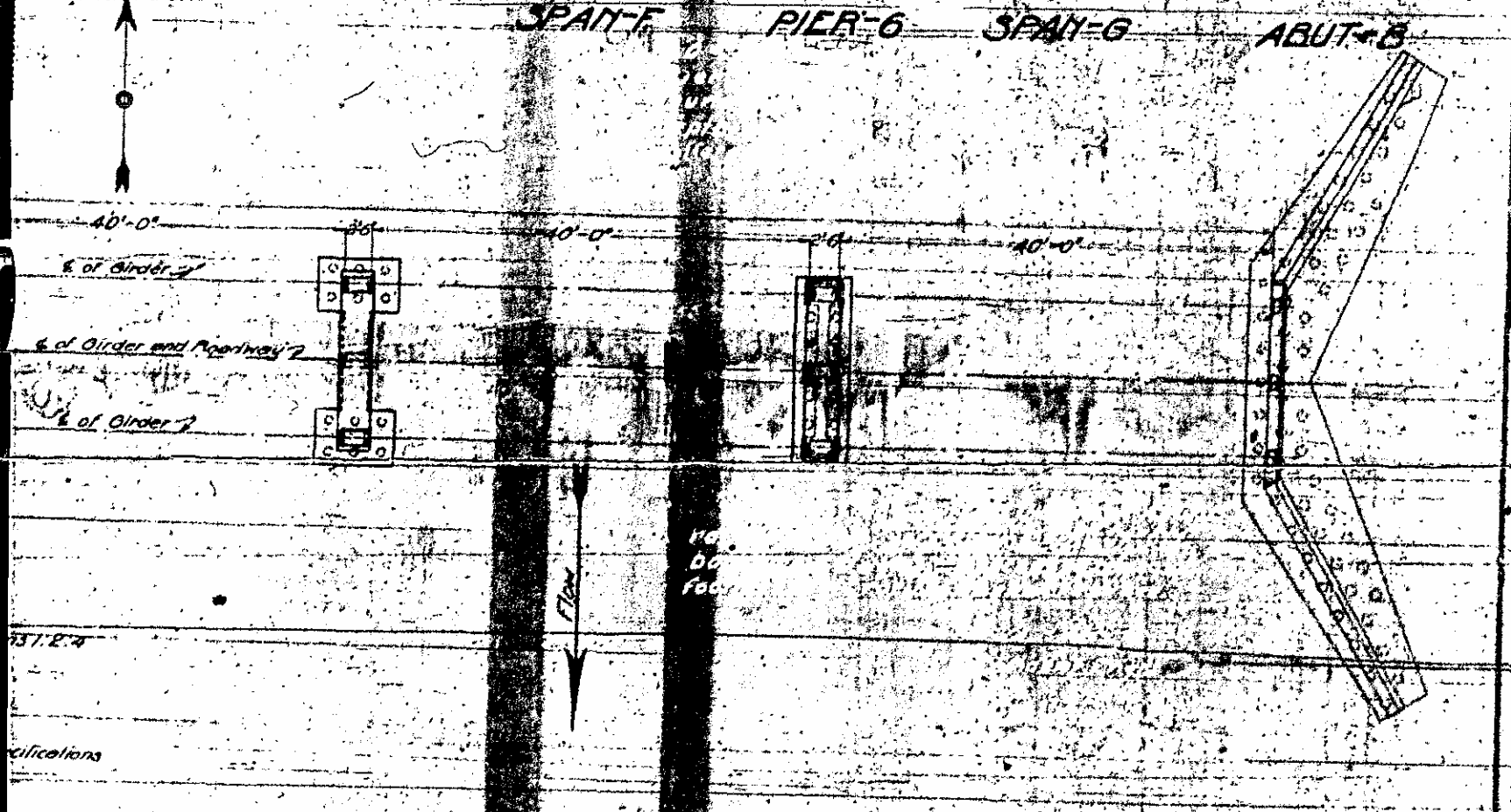
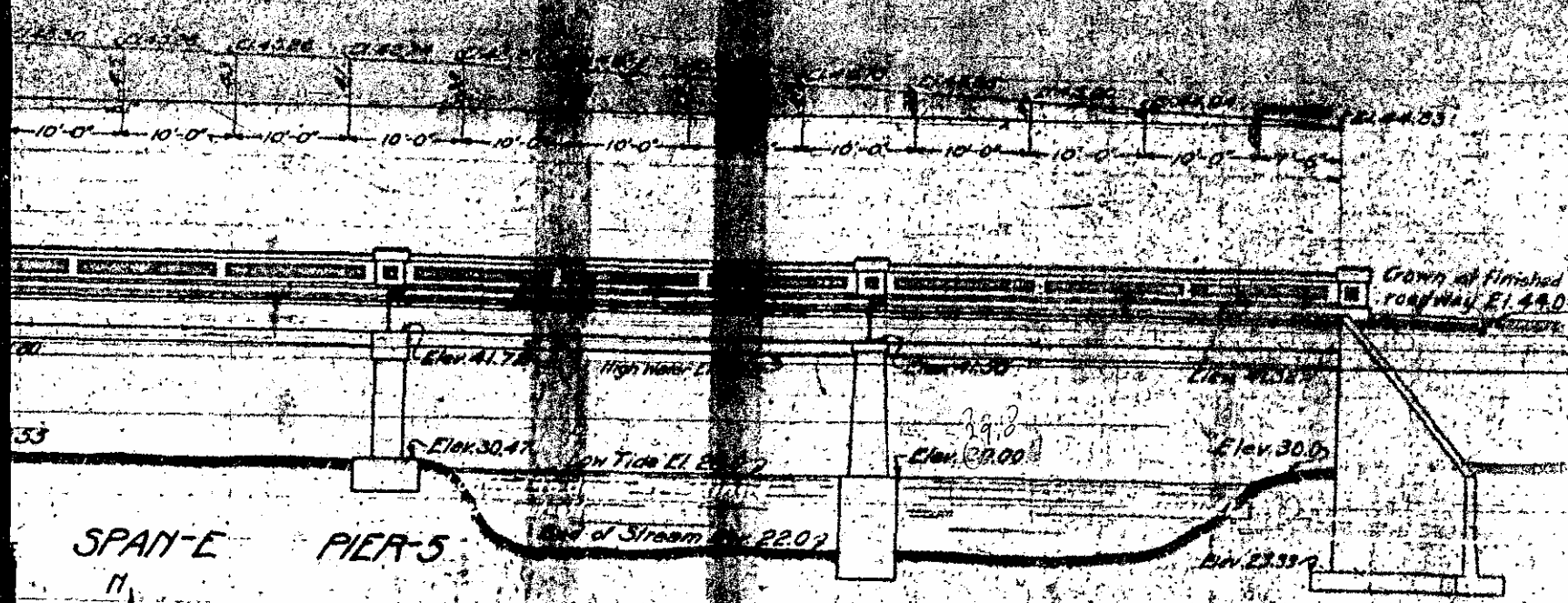
GENERAL NOTE

All concrete, except for pier 6, to be class A, Proportions 1:2:4
 Maximum size of aggregate 1 1/2"
 Footing for pier 6 to be class B concrete, Proportions 1:2:3,
 one man slope may be used for class B concrete.
 With the permission and under the direct supervision of the
 engineer, class B concrete may be poured in vertical. See specifications
 No splices of reinforcing steel other than those permitted.
 All reinforcing steel shall be deformed bars.
 Square twisted bars are to be considered as deformed bars.
 All dimensions relative to reinforcement are to centers of bars.
 All materials and workmanship as per standard specifications
 of the N.C. State Highway Commission.

Bench Mark: Elev. 32.81 - On bridge seat of abut, right

TOTAL BILL OF MATERIAL				
	REINFORCING STEEL LBS.	CONCRETE CU YDS	CONCRETE PLATES & CLASSED BOLTS LBS.	PILES NO.
SPAN A	11020	3.3	138	—
SPAN B	10959	3.2	138	—
SPAN C	10959	3.2	138	—
SPAN D	10959	3.2	138	—
SPAN E	10959	3.2	138	—
SPAN F	10959	3.2	138	—
SPAN G	10980	3.1	138	—
PIER 1	1684	7.9	140	12
PIER 2	1684	7.9	140	12
PIER 3	1684	7.9	140	12
PIER 4	1684	7.9	140	12
PIER 5	1684	7.9	140	12
PIER 6	1083	3.3	29.2	14
ABUT A	3721	3.4	69	25
ABUT B	6968	3.8	69	37
PAVEMENT	322	3.2	—	—
TOTAL	97298	55.6	29.2	156

DATE	BY	CHECKED	APPROVED
10/1/21	J. H. [unclear]	[unclear]	[unclear]



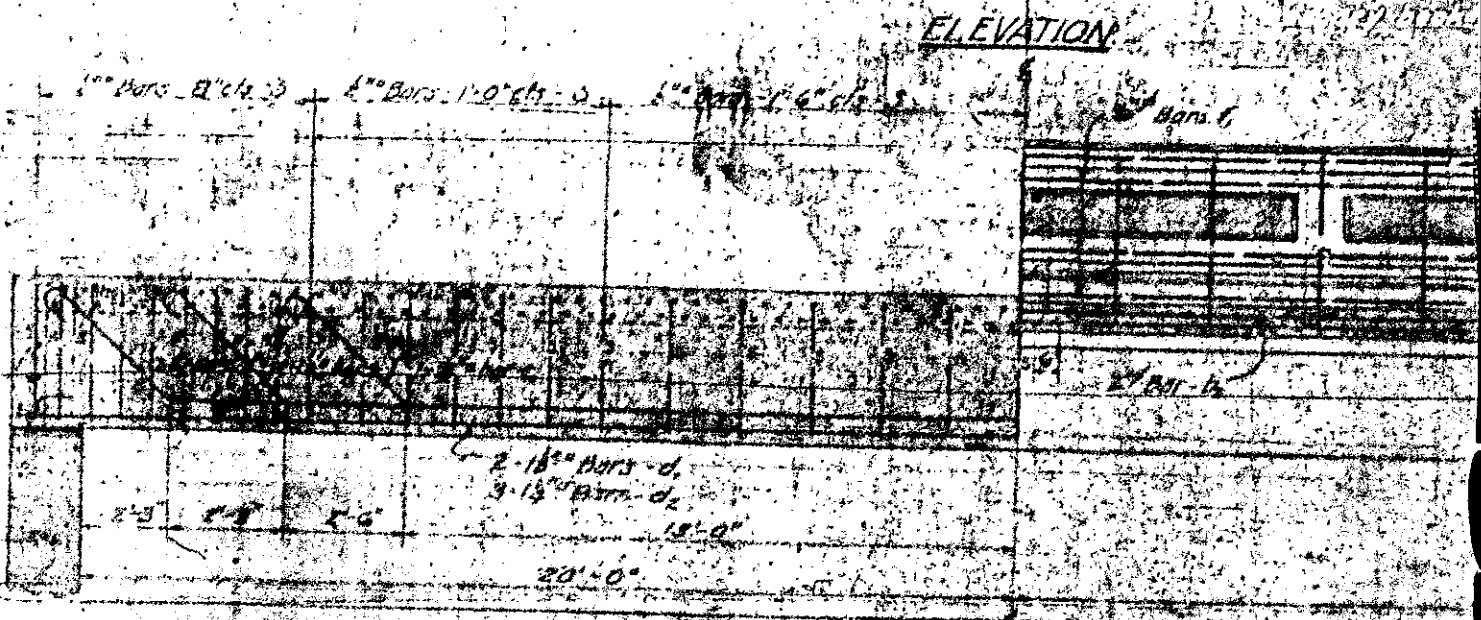
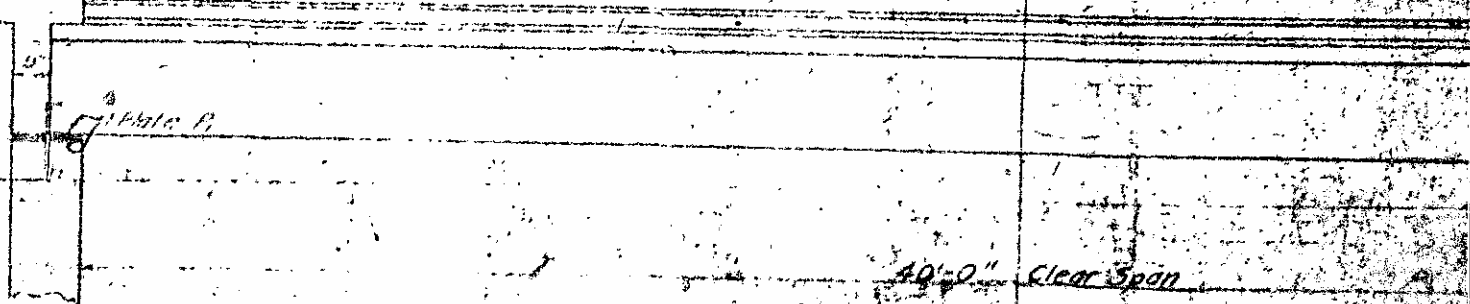
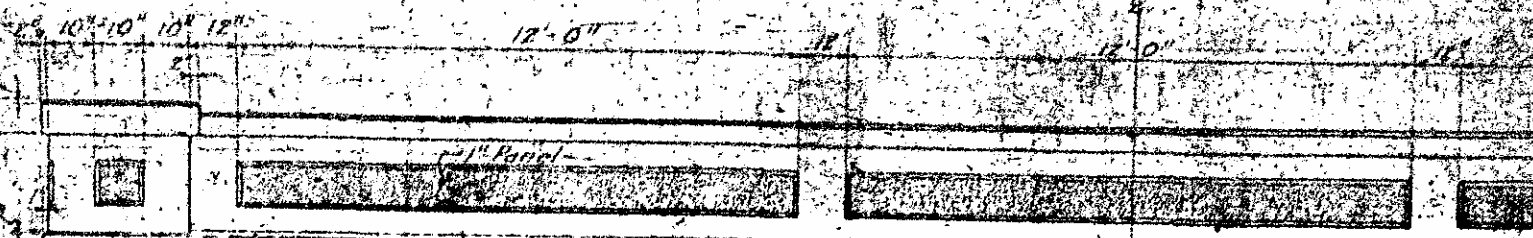
337.27
 calculations
 33.
 335.
 3

Bench Mark: Elev. 32.81 On bridge abut, right

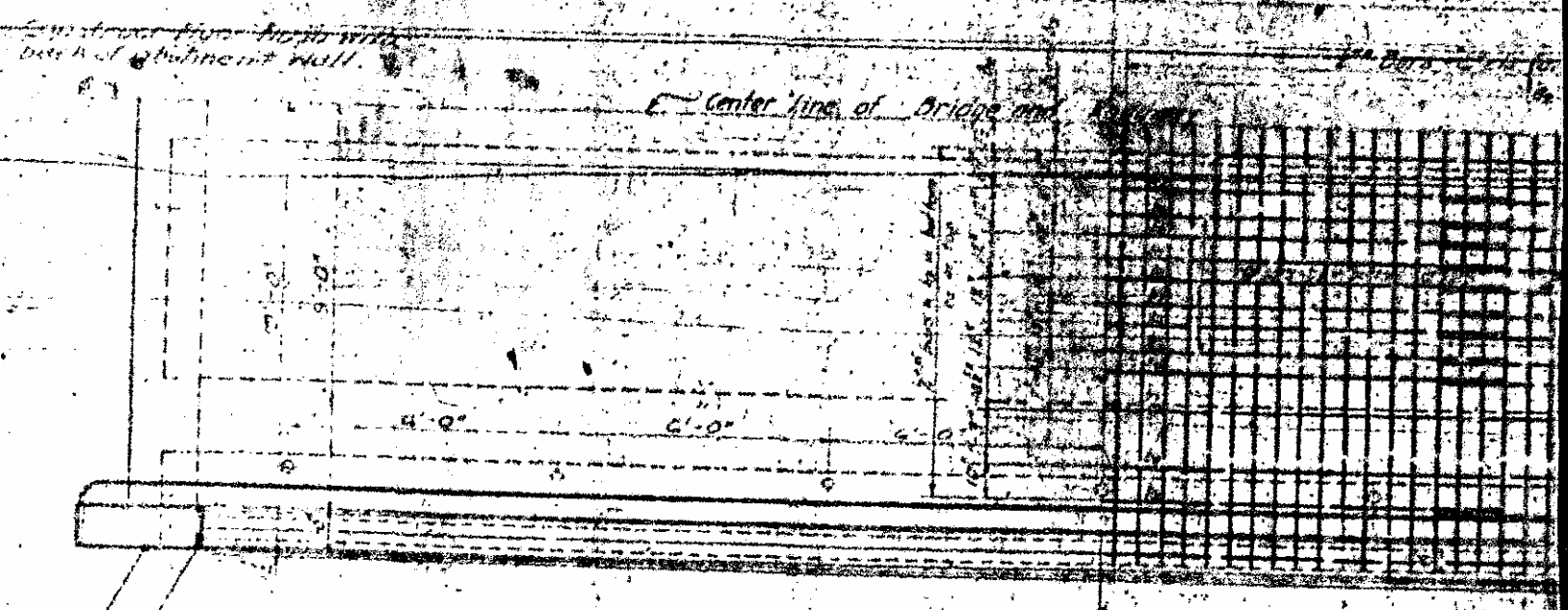
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 GENERAL DRAWING
 FOR BRIDGE AT
 STATION 1018+36
 PROJECT 541
 PENDER COUNTY
 AUG. 1921
 SCALE 1/4"=1'-0"

DESIGNED BY: J. H. [unclear]
 DRAWN BY: [unclear]
 CHECKED BY: [unclear]
 APPROVED BY: [unclear]

PLANNED
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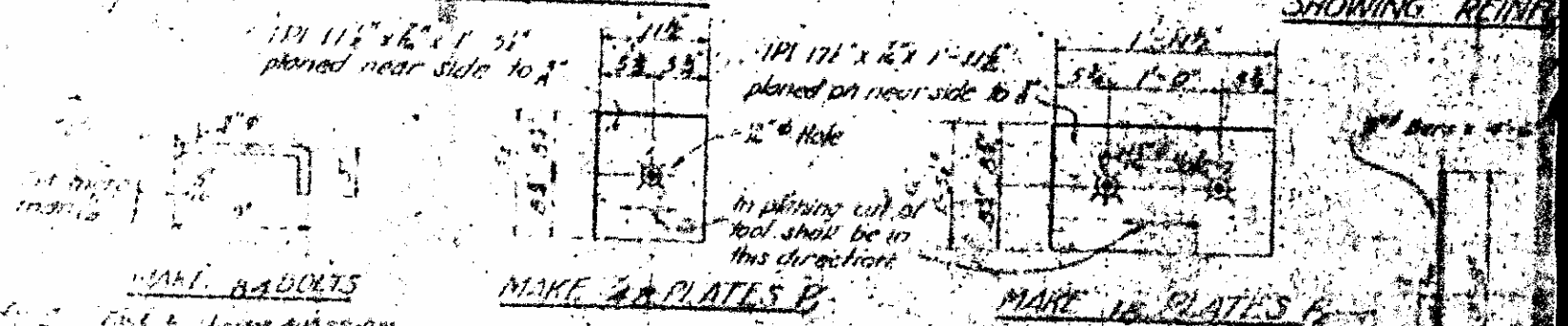
HALF SECTION A-A



SHOWING OUTLINES

HALF PLAN

SHOWING REINFORCEMENT



MAKE 8 BARS

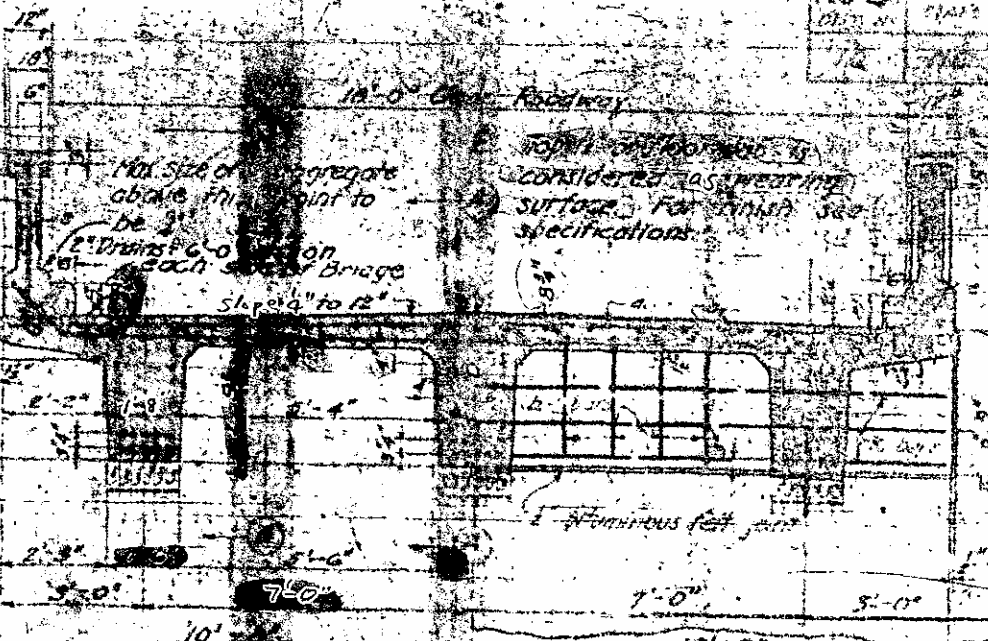
MAKE 20 PLATES B

MAKE 16 PLATES F

11\"/>

Note: The following bars do not require bending
 11\"/>

MAKE 16 BARS



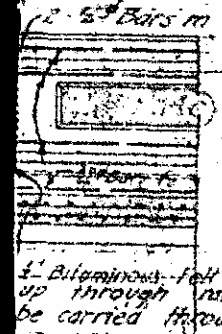
DETAIL OF MAIN GIRDER BARS

HALF INTR. SECTION

HALF SECTION AT ABUTMENT

SPAN	BILL OF MATERIAL PER SPAN											
A	32	33	10	34	8	3	6	6	6	6	6	6
B	32	33	10	34	8	3	6	6	6	6	6	6
C	32	33	10	34	8	3	6	6	6	6	6	6
D	32	33	10	34	8	3	6	6	6	6	6	6
E	32	33	10	34	8	3	6	6	6	6	6	6
F	32	33	10	34	8	3	6	6	6	6	6	6
G	32	33	10	34	8	3	6	6	6	6	6	6
TOTAL	5	5	112	370	55	21	42	42	42	42	42	42

DESIGN DATA
 Specifications: N.C. State Highway Commission
 Assumed Live Load: 80' per sq. ft. of Typical 15 Ton Truck
 Impact Allowance: 30% of Live Load
 No Ballast included on floor slab.
 Steel in Tension: 15000' per sq. in.
 Concrete in Compression: 650'
 Reinforced Concrete in Shear 110'
 This design is based on the net area of bars:
 $1\frac{1}{2}'' = 0.2965 \text{ sq. in.}$ $1\frac{1}{4}'' = 0.6875 \text{ sq. in.}$
 $1'' = 0.2500 \text{ sq. in.}$ $1\frac{3}{8}'' = 1.2656 \text{ sq. in.}$

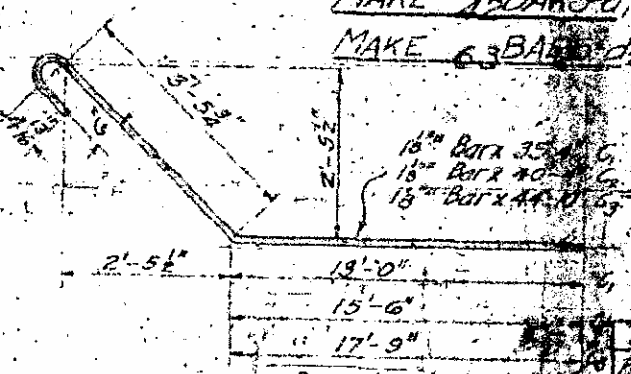


DETAIL OF DRIP DRAIN

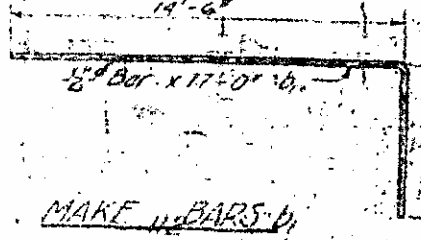
GENERAL NOTE
 Concrete 1:2:4 Mixture
 Maximum size of aggregate 1/2" size in slab.
 All reinforcing steel shall be deformed bars (type twisted bars) unless otherwise specified.
 All dimensions relative to reinforcement of bars. Whenever it is necessary to splice reinforcement drawings showing the splices shall be submitted to and approved by N.C. State Highway Commission before the steel is ordered.
 Splices shall be made at points of low stress. They shall be staggered and shall be designed to develop the strength of the slab, girders, and curbs must be poured at same time, allowing no time for initial set to take place between them. All materials and workmanship as per Specifications of the State Highway Commission.
 Camber 1/4" for each foot of span.
 The Bronze Name Plates of approval with raised figures and letters to be placed on bridge.

MAKE 9 BARS S

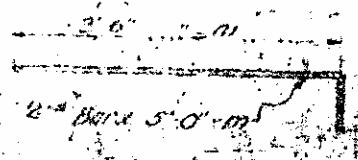
MAKE 10 BARS d₁ 2 1/8"
 MAKE 63 BARS d₂ 3 1/8"



MAKE 21 BARS C₁
 MAKE 42 BARS C₂
 MAKE 42 BARS C₃



MAKE 11 BARS D



MAKE 2 BARS M

Bars No	Length	Weight
a ₁	19'-9"	8694
a ₂	20'-6"	10122
b ₁	17'-0"	1274
b ₂	15'-8"	3935
b ₃	17'-0"	637
c ₁	35'-4"	3192
c ₂	40'-4"	7287
c ₃	44'-10"	8106
d ₁	44'-0"	7952
d ₂	44'-0"	14728
e	4'-6"	1014
f	23'-3"	311
g	22'-3"	1782
h	19'-6"	100
i	19'-3"	405
m	11'-0"	422
Reinforcement	17'-0"	8430
Concrete	17'-0"	7170

PROJECT 5-11
PENDER COUNTY
SEVEN SPANS AT STA. 10+00
AUG. 1921

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 Raleigh, N.C.

REINFORCED CONCRETE
DECK GIRDER

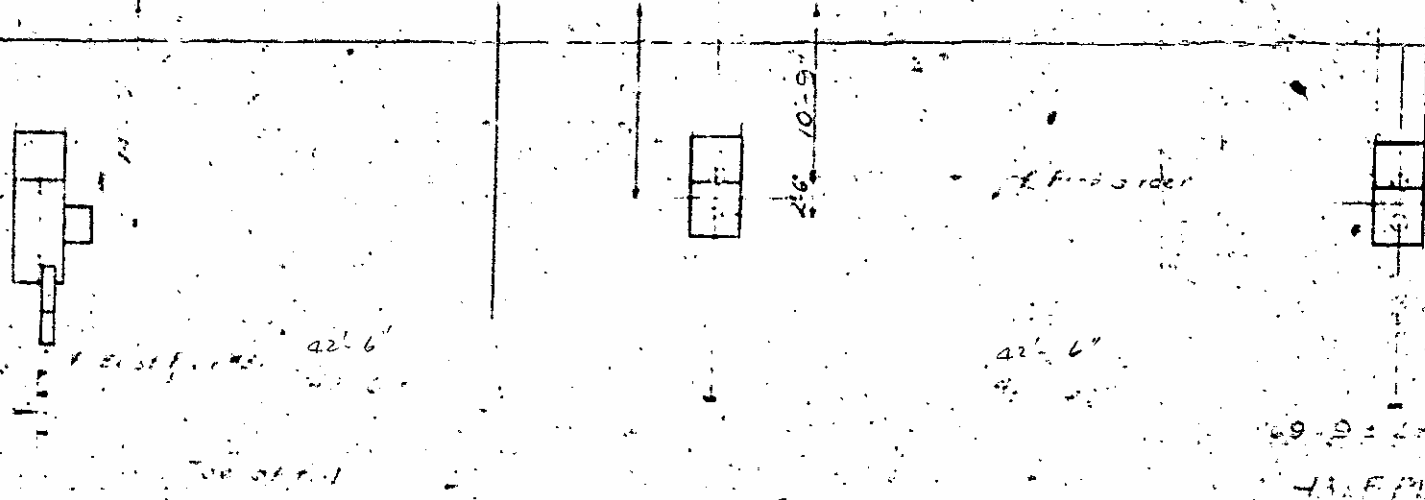
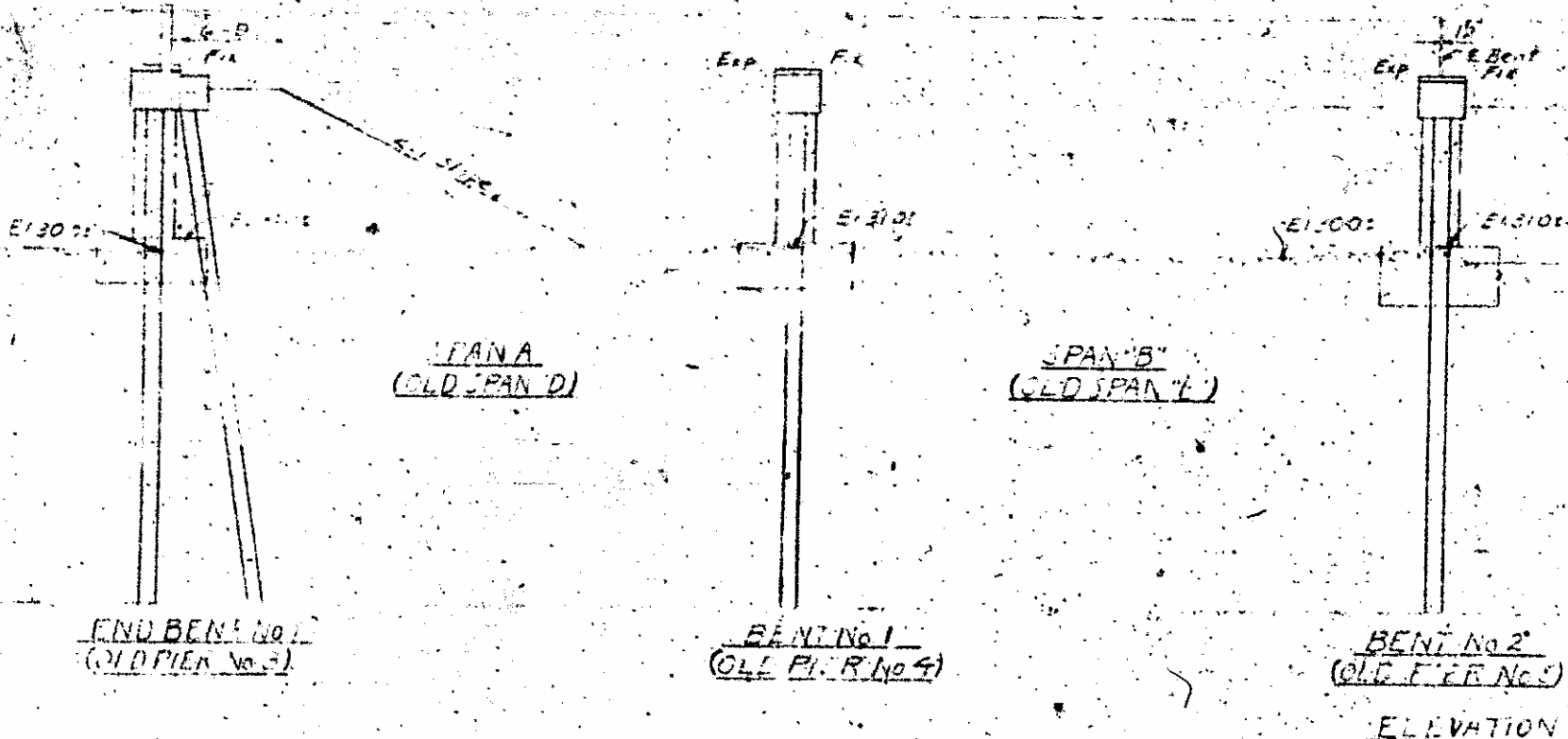
SPAN 40'-0"
 JULY 1922

210-27-50
 PENDER
 WIDENED

#28
 Reel 563
 Pos. 6
 Count 140

CAMBER DIAGRAM

Proj B.S. 3-6-27-138



3 N. 3/4" Spine in base, 2" Poplar-30 left to 5'00 E

TOTAL BILL OF MATERIAL

	Class A Conc Cords	Reinf Steel Lbs.	Creosoted Timber Piles		14" Cost In Floor Gage Piles		Creosoted Timb. Sheet Piles Ft. B.M.	Creo Struct Timber Ft. B.M.	Wearing Surface Tons	Plates & Bolts Lbs.	Hard- ware Lbs.
			No.	Lin. Ft.	No.	Lin. Ft.					
Superstructure	167.5	3,750							27	446	
End Bent #1	11.0	1,247									
Bent #1	6.3	791			4	152					
Bent #2	6.3	791			4	152					
Set #3	5.8	654			4	152					
Abutment B	41.2	2,108					184.0	276			135
Approach Curbs	5.2	76									
Cast In Place concrete		2,727									
Totals	221.3	12,303			12	608	156.0	276	* 27	446	135

* Wearing Surface to be placed by others.

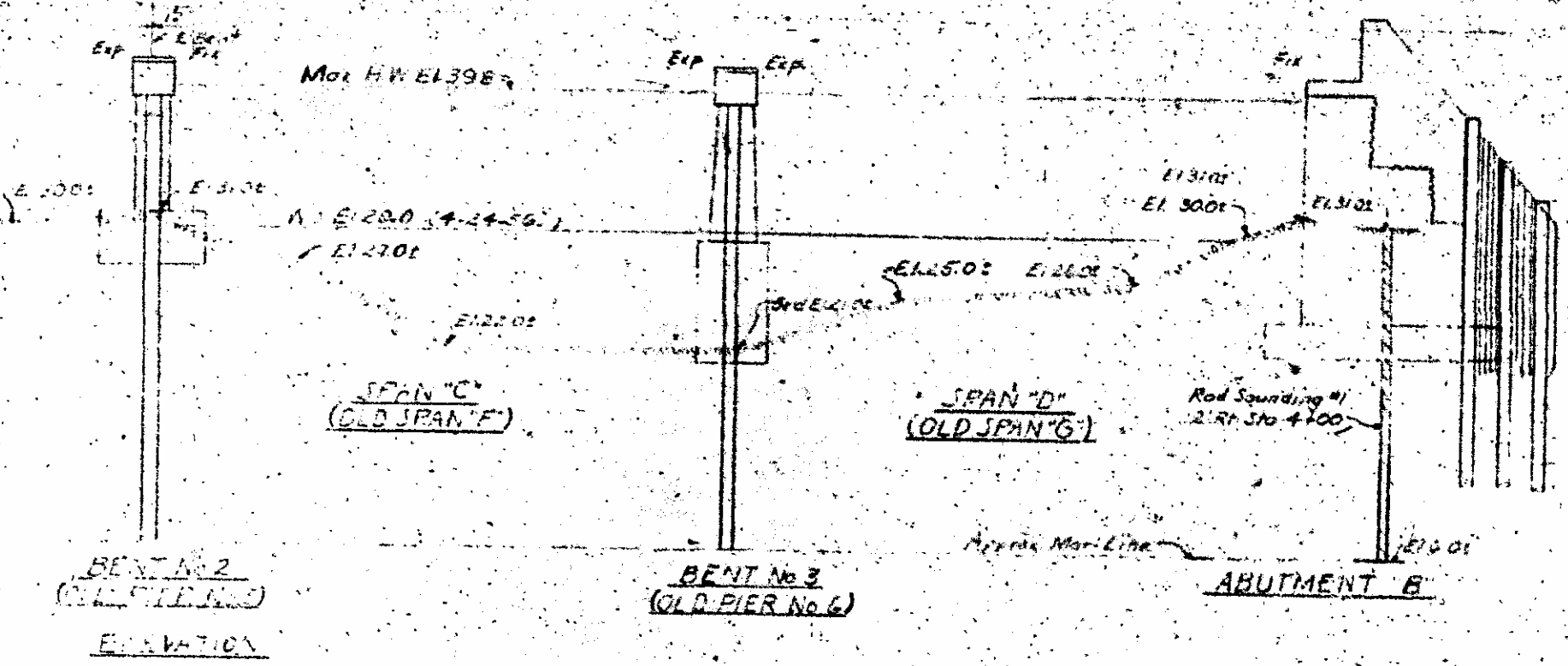
30' Span to Left of T=100' 0"

End of Curb

CAMBER DIAGRAM

Note: Elevations shown in Camber Diagram are top of curb elevations 14"-12" from E of roadway.

Portion of Bridge to be widened
Sta 3+10.5



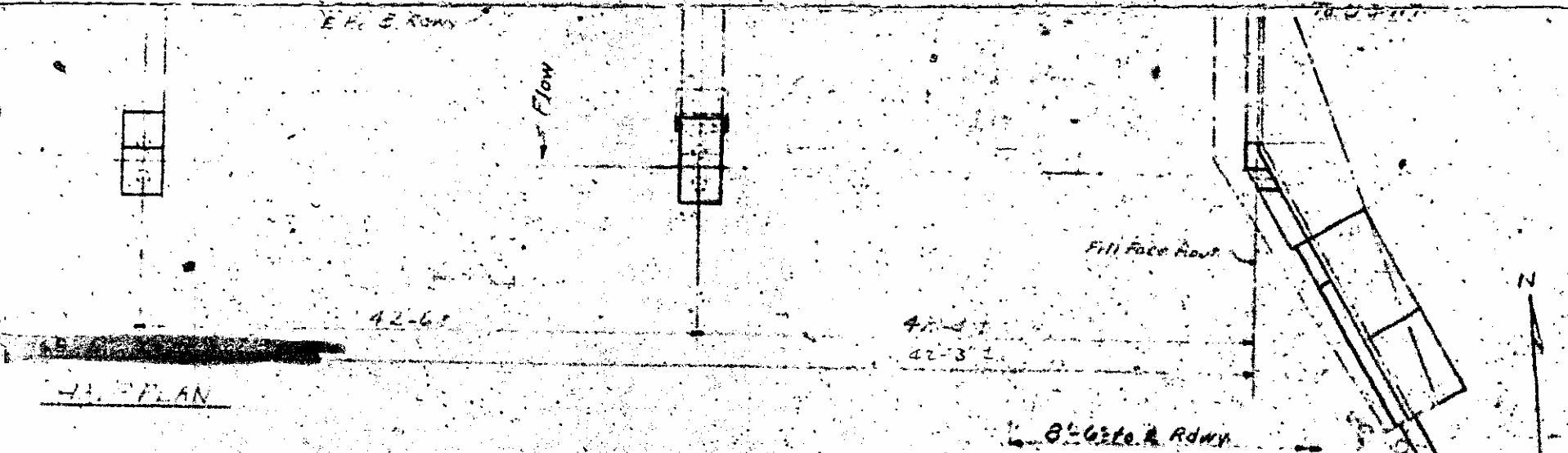
BENT No 2
(OLD PIER No 2)
ELEVATION

BENT No 3
(OLD PIER No 6)

ABUTMENT B

E. H. & ROW

Flow

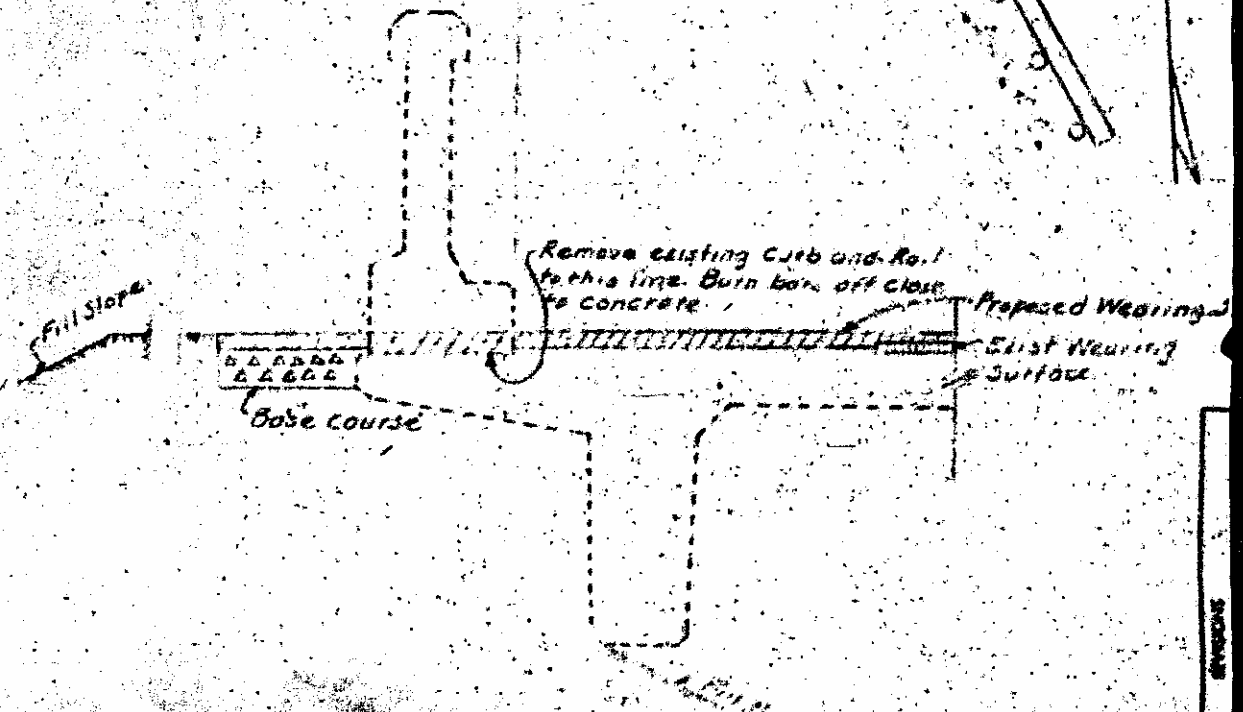


PLAN

Pier to 30' Left Sta. 5+00 El. 37.50

Wearing Surface	Plates & Bolts	Hardware		
Tons	Lbs.	Lbs.		
27	446			
		135		
27	446	135		

Checked by 07/2/13



END

2-27-138

End of curb

as shown in Camber Diagram are top elevations 14'-1/2" from E. of roadway

NOTES

Assumed Live Load H15-372

For other Des. Data and General Notes see sheet S-N.

For Surface Finish Requirements, see Special Provisions.

Crescoted Timber Piles shall be treated to retain 8 Lbs. creosote per Cu. Ft. of material, see Specifications: Crescoted Structural Timber and Crescoted Timber Sheet Piles shall be treated to retain 16 Lbs. creosote per Cu. Ft. of material see Specifications.

The Crescoted Timber Piles in End Bent #1 shall be driven to a minimum bearing capacity of 10 tons each, the 14" Steel Shell Piles in the Interior Bent shall be driven to a minimum bearing capacity of 28 tons each and the Crescoted Timber Piles in Abutment #1 shall be driven to a minimum bearing capacity of 10 tons each. Piles in End Bent #1 shall be driven through the roadway fill. No test piles will be required, order list to be based on 6 Crescoted Timber Piles 35 Ft. long for End Bent #1, 4 Crescoted Timber Piles 35 Ft. long and 2 Crescoted Timber Piles 30 Ft. long for Abutment #1 and 12-14" Steel Shell Piles 35 Ft. long for the Interior Bents.

Roadway work will be done by others.

Wearing Surface to be placed by others.

~~Existing structure shall be removed~~
~~and replaced with new structure~~
~~as shown in detail~~

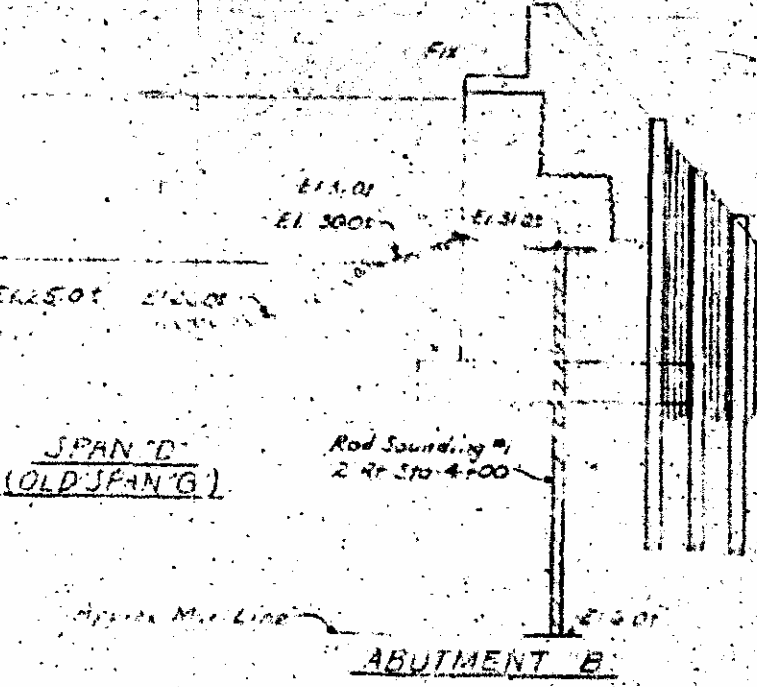
work shall not be done until the proposed fill has been placed by others. All cost of removing portions of the existing structure are to be included in the contract price for Class A Concrete.

Expansion Plates and Bolts shall be of structural steel in accordance with the requirements of Sect. 209 of the Specifications. Construction methods and payment for plates shall be as prescribed in Section 325 of the specifications. Milling and polishing will not be required.

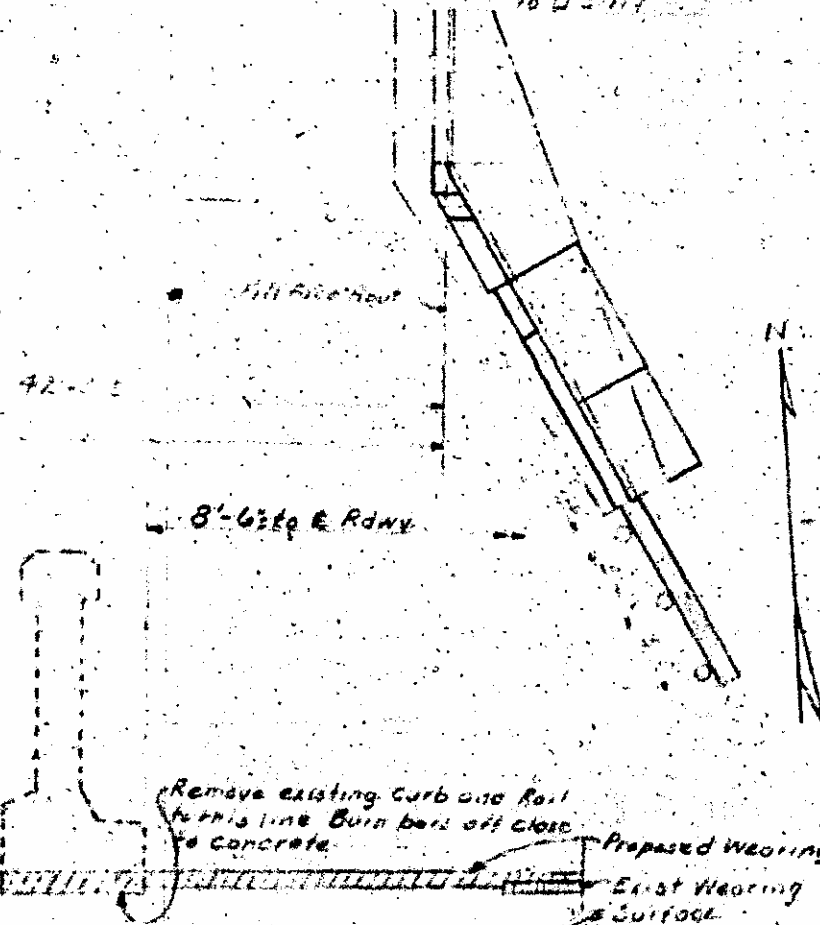
Traffic to be maintained over the existing structure during construction of the project. See Special Provisions.

Excavation required for extension of Abutment will not be measured and paid for as a separate item. This cost to be included in the unit price bid for Class A Concrete.

Bar lengths for girders are subject to change to fit actual span lengths. Span lengths shall be checked by the Resident Engineer as early as practical in order to determine whether bar lengths as shown on plans are correct.



To U.S. 117



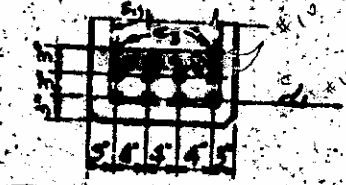
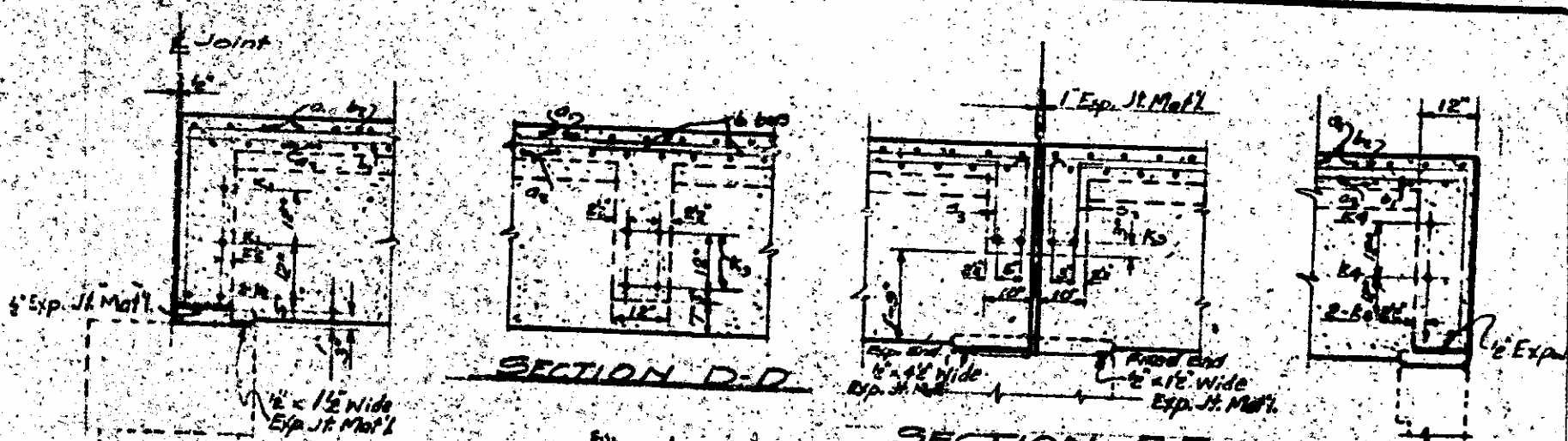
Butt. Sect. PROJECT NO. 2-4-27-138

PENDER COUNTY

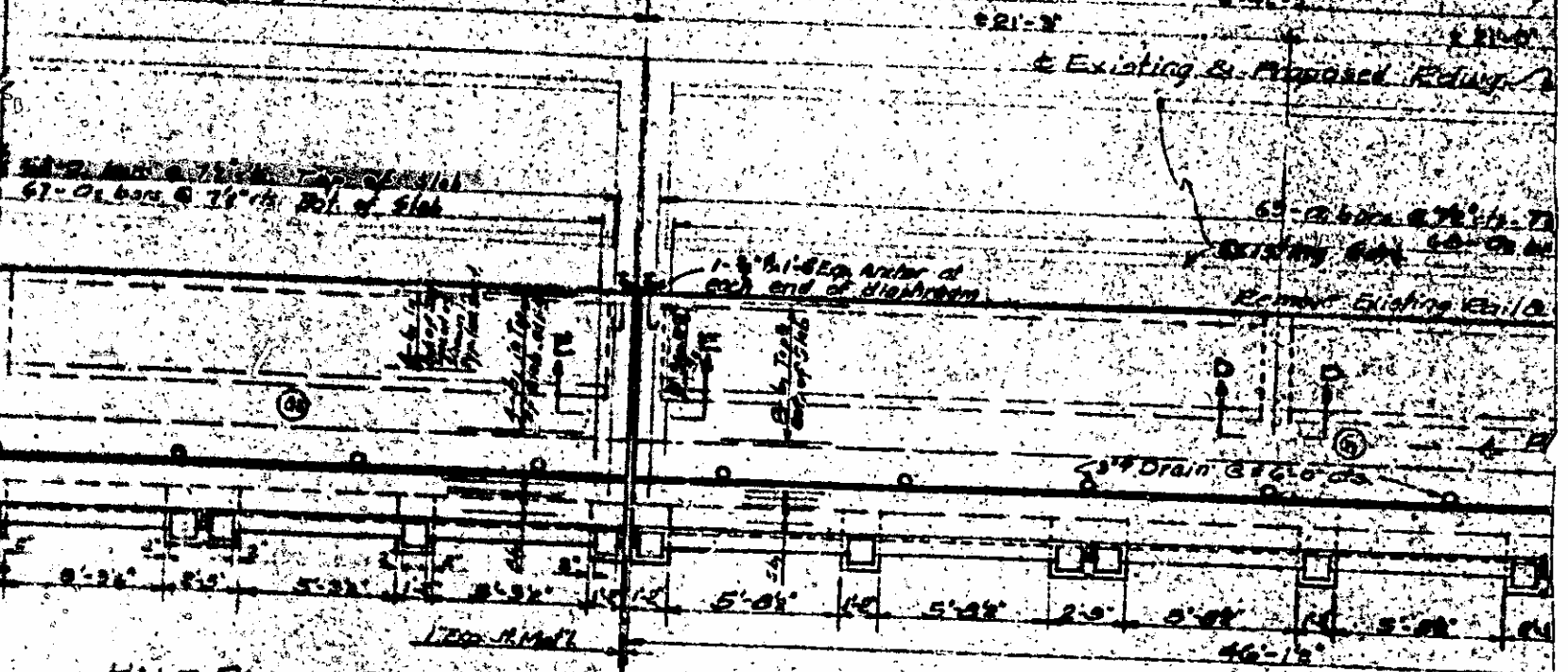
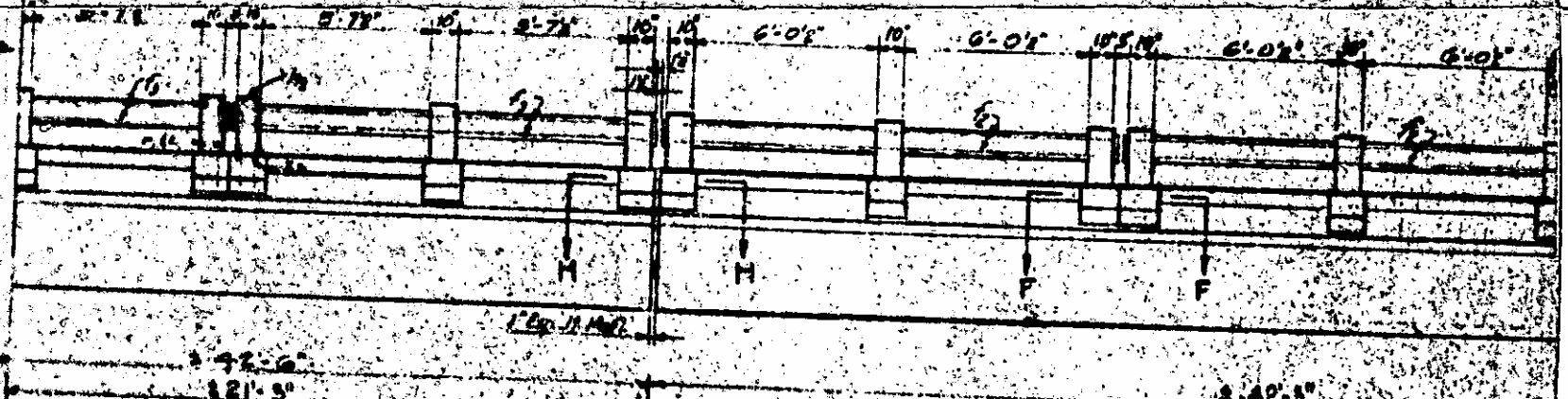
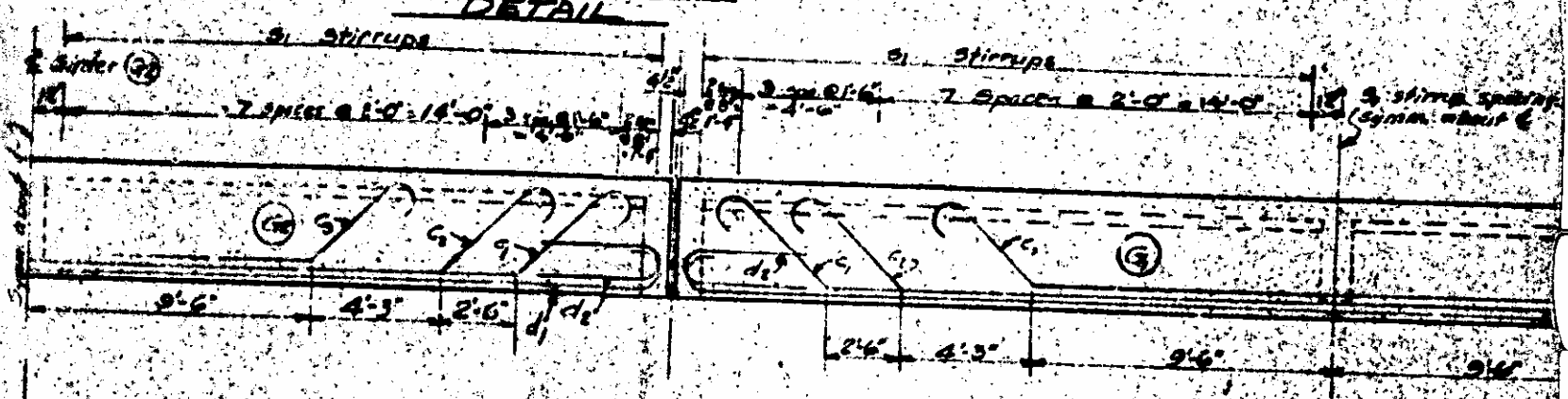
STATION: 3+10.57

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION
 GENERAL DRAWING FOR
 WIDENING OF BRIDGE OVER LONG CREEK
 ON NC 210
 APRIL 1956

REVISIONS	



Note: For fixed and Expansion ends of girders, see General Drawing.



PLAN-END DETAIL AT END BENT

HALF PLAN-SPAN (S.E. A&D SIMILAR)

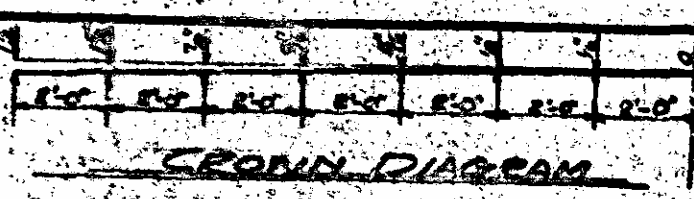
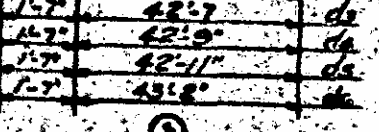
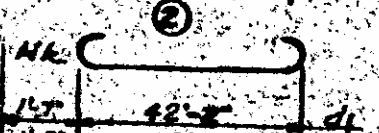
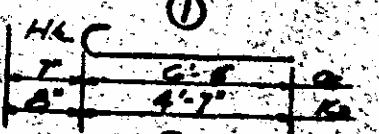
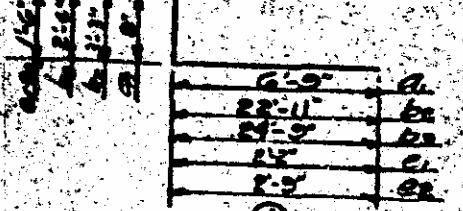
PLAN-SPAN D

NOTE: For Rail Post Details, Sections F-F, H-H, Section Thru Curb, and Drip Bend Detail, see STA. 116, sheet 5-9 & 5-10

5" Inside Dia.

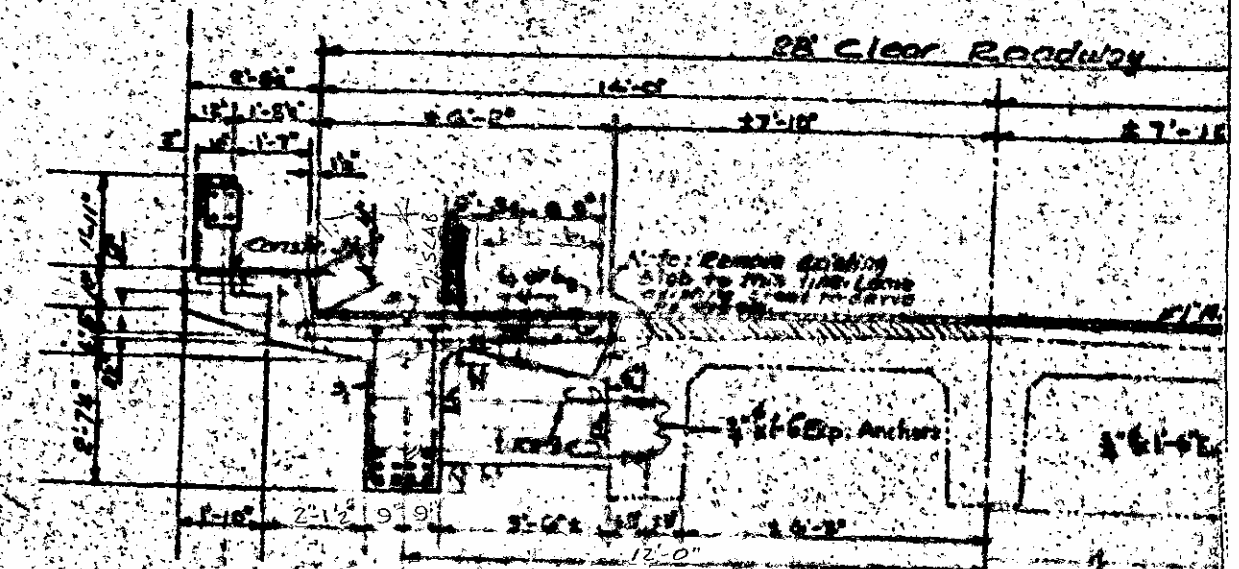
1/2" Galv. Cor. Iron Pipe

DRAIN DETAIL
REQUIRED: 56



CROSS SECTION

28' Clear Roadway



HALF INTERIOR SECTION

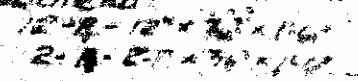
BOLT DETAIL
REQUIRED: 16 #7's



BILL OF MATERIALS

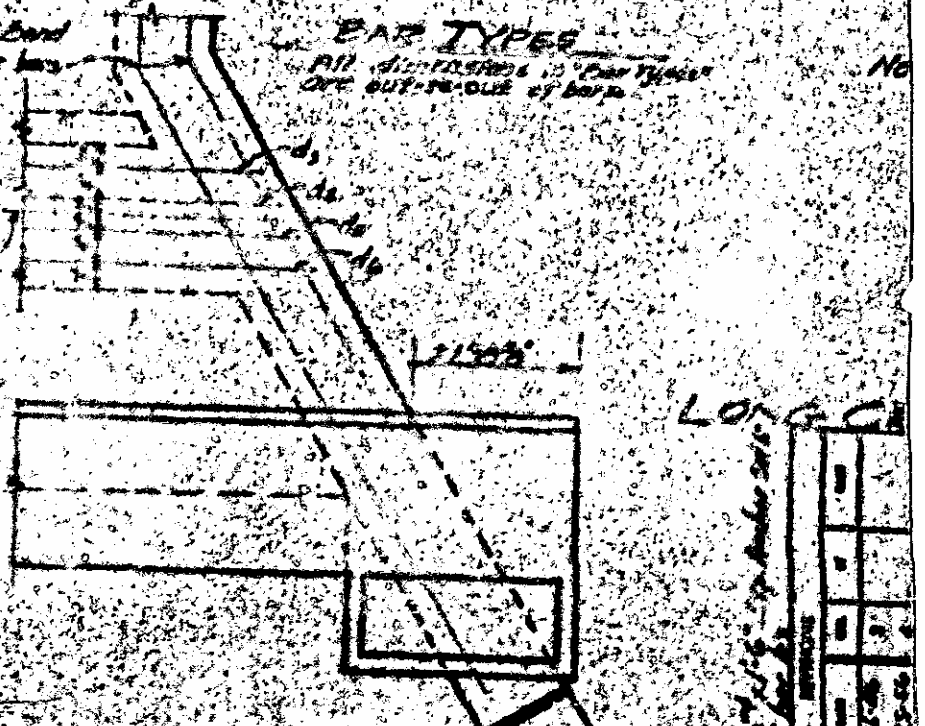
Item No.	Size	Qty
1	1/2" x 1/2" x 1/2"	1
2	5/8" x 5/8" x 5/8"	2
3	1/2" x 1/2" x 1/2"	5
4	3/4" x 3/4" x 3/4"	1
5	1/2" x 1/2" x 1/2"	1
6	1/2" x 1/2" x 1/2"	8
7	1/2" x 1/2" x 1/2"	5
8	1/2" x 1/2" x 1/2"	8
9	1/2" x 1/2" x 1/2"	3
10	1/2" x 1/2" x 1/2"	4
11	1/2" x 1/2" x 1/2"	3
12	1/2" x 1/2" x 1/2"	2
13	1/2" x 1/2" x 1/2"	5
14	1/2" x 1/2" x 1/2"	3
15	1/2" x 1/2" x 1/2"	1
16	1/2" x 1/2" x 1/2"	1
17	1/2" x 1/2" x 1/2"	5
18	1/2" x 1/2" x 1/2"	5
19	1/2" x 1/2" x 1/2"	5

PLATE DETAIL
REQUIRED: 12'-0" x 12'-0" x 1/2" 2-A-27 x 3/4"



BAR TYPES

All dimensions in Bar Types are out-to-out of bars



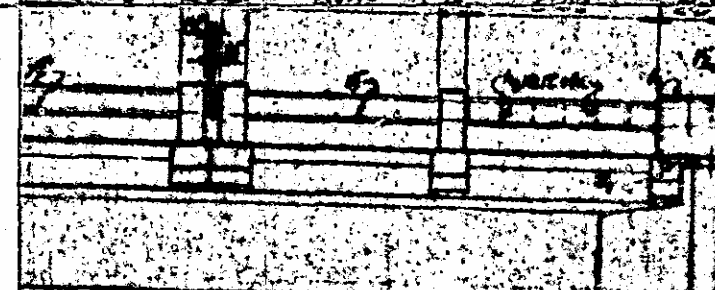
LONG CUT

ON G-E AT JUNCTION

Strip spacing on about 6'



6'-0" Max



Roadway - Symmetrical about center

Existing Abut.

4'-0" Top of Slab

6'-0" on bars @ 7" dia. out of slab

1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

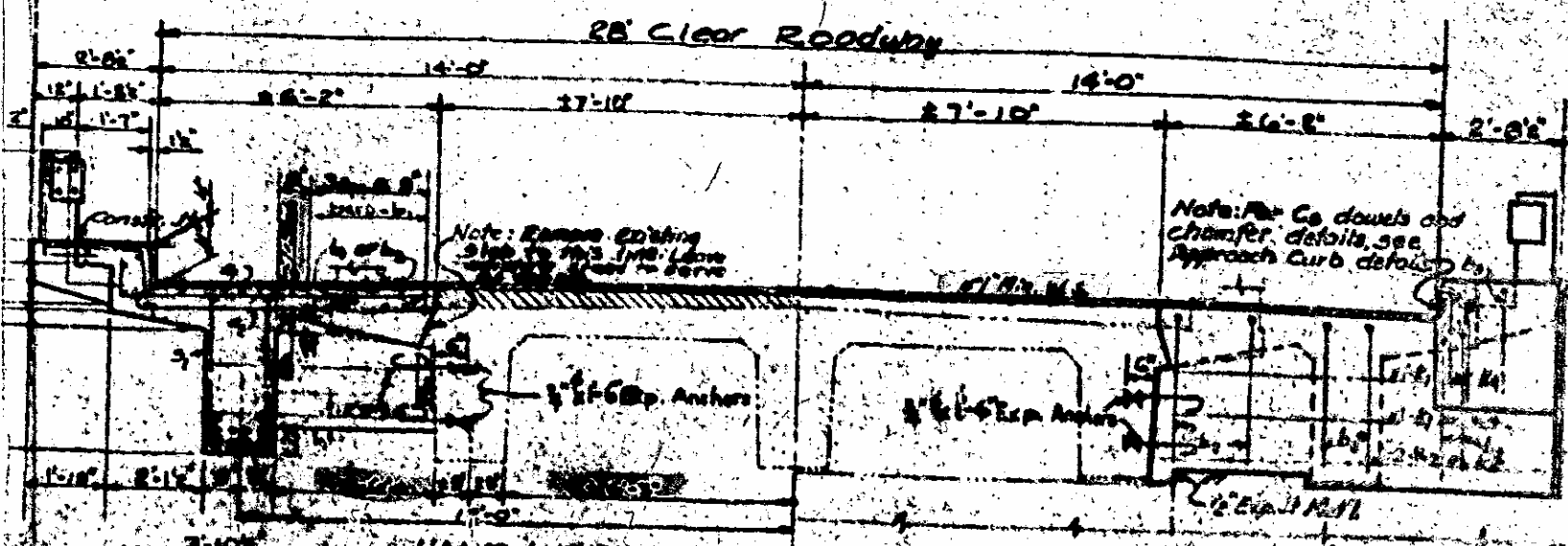
1/2" Galv. Cor. Iron Pipe

1/2" Galv. Cor. Iron Pipe

2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
-------	-------	-------	-------	-------	-------	-------

GROUND DIAGRAM

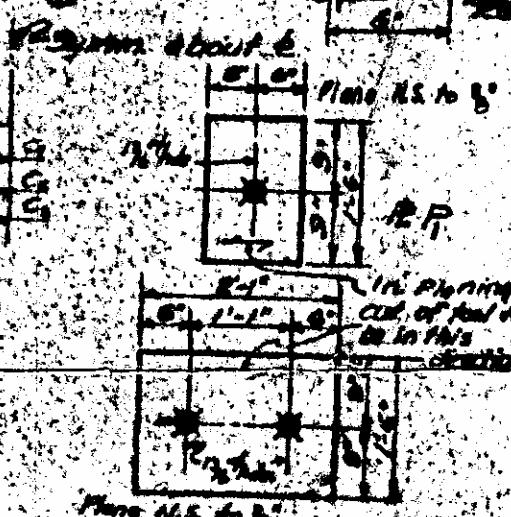
NO. 1	NO. 2	NO. 3
1	K.C.	3-6-26



HALF INTERIOR SECTION

HALF END VIEW

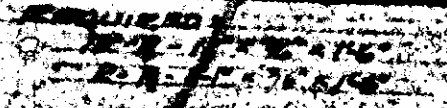
BOLT DETAIL
REQUIRED TO BE 1/2\"/>



BILL OF MATERIAL FOR SPANS A-B-C

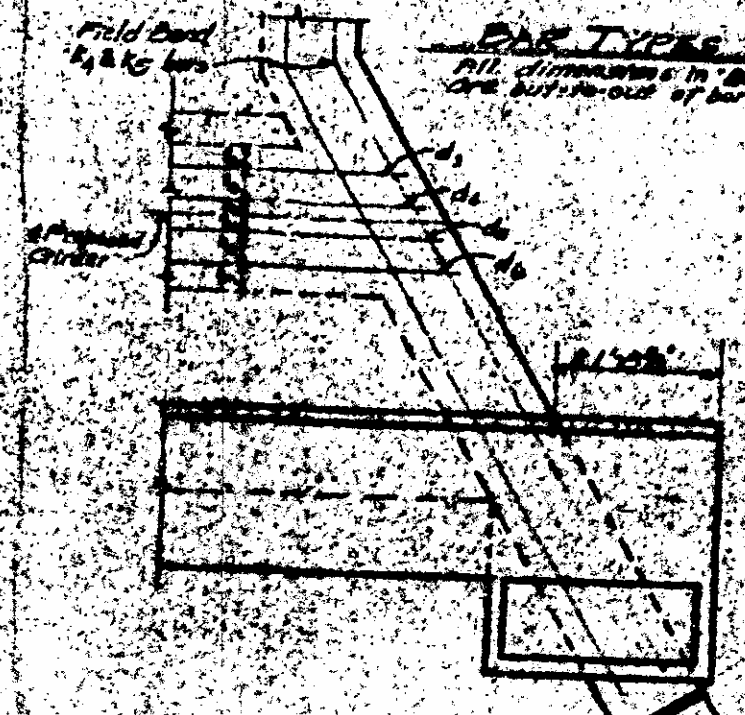
Bar No.	Size	Type	Length	Weight	Bar No.	Size	Type	Length	Weight
1A	3/4"	1	7'-0"	43.71	14	3/4"	1	7'-0"	43.71
2A	5/8"	2	7'-5"	40.68	15	5/8"	2	7'-5"	40.68
3A	1/2"	3	81'-0"	2000	16	1/2"	3	81'-0"	2000
4A	3/4"	1	8'-2"	43.0	17	3/4"	1	8'-2"	43.0
5A	1/2"	1	29'-3"	51.8	18	1/2"	1	29'-3"	51.8
6A	1/2"	2	4'-0"	10.0	19	1/2"	2	4'-0"	10.0
7A	1/2"	5	32'-0"	2607	20	1/2"	5	32'-0"	2607
8A	1/2"	5	30'-11"	2564	21	1/2"	5	30'-11"	2564
9A	3/4"	3	45'-4"	1074	22	3/4"	3	45'-4"	1074
10A	3/4"	4	8'-0"	211	23	3/4"	4	8'-0"	211
11A	3/4"	3	45'-0"	1071	24	3/4"	3	45'-0"	1071
12A	3/4"	3	46'-1"	1077	25	3/4"	3	46'-1"	1077
13A	3/4"	3	46'-4"	1081	26	3/4"	3	46'-4"	1081
14A	3/4"	1	5'-0"	100	27	3/4"	1	5'-0"	100
15A	3/4"	1	4'-0"	100	28	3/4"	1	4'-0"	100
16	3/4"	3	75'-0"	1875	29	3/4"	3	75'-0"	1875
17	3/4"	3	75'-0"	1875	30	3/4"	3	75'-0"	1875
18	3/4"	3	75'-0"	1875	31	3/4"	3	75'-0"	1875

PLATE DETAIL



BAR TYPES
All dimensions in "Bar Types" are out-to-out of bars

Notes For Design Data & General
see sheet 3-2



LONG CREEK - SPAN

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
**SUPERSTRUCTURE
DETAILS**
APRIL 1906