

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

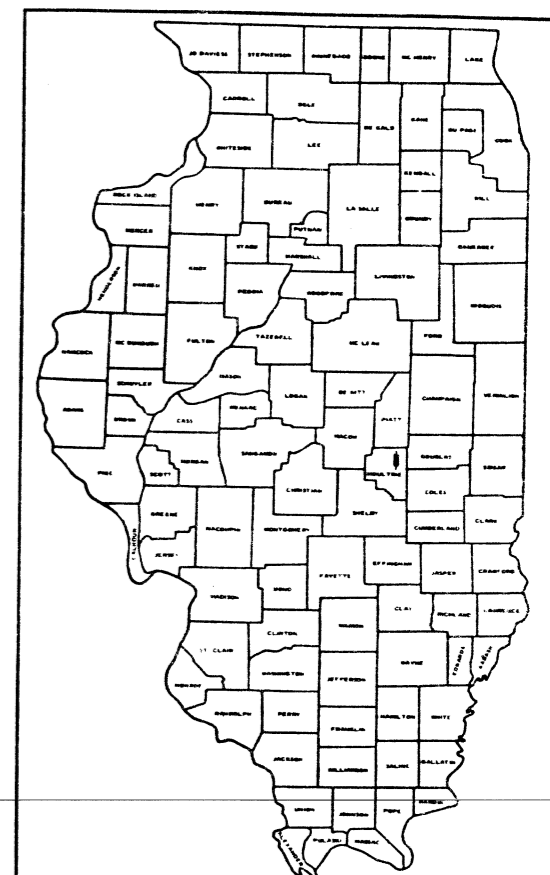
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 659	(BR-2, BR-3)	MOULTRIE	46	1
ILLINOIS PROJECT # 659 (103)		P-95-077-80		

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4

PLAN
PROFILE HORIZ.
PROFILE VERT.
CROSS SECTIONS

F.A.S. ROUTE 659, SECTION 1 (BR-2, BR-3)
MOULTRIE COUNTY
PROJECT BRS-659(103)

C-95-009-86
BRIDGE REPLACEMENT

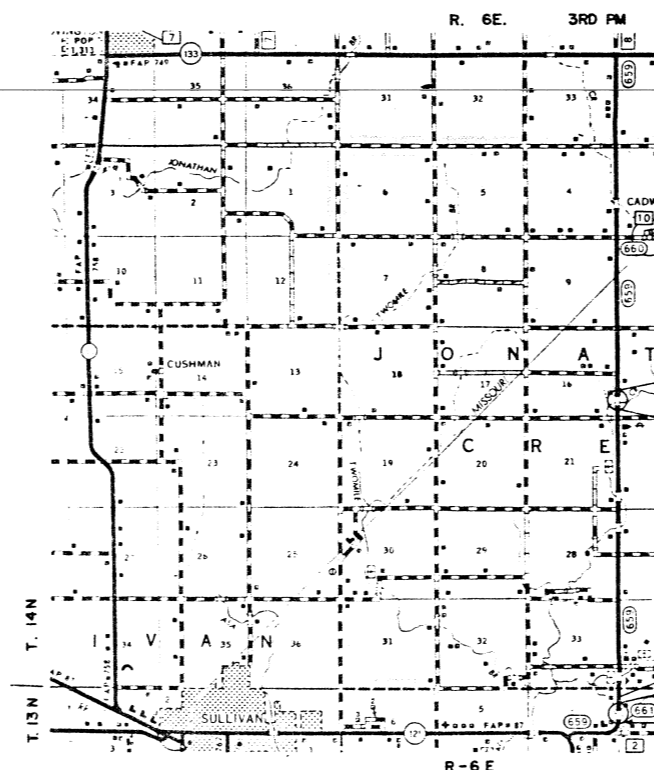


LOCATION OF SECTION INDICATED THUS: — [shaded area] —

070-0044

SHEET NO.	INDEX OF SHEETS	ITEM
1	COVER SHEET	
2-3	TYPICAL CROSS SECTIONS	
4	SUMMARY OF QUANTITIES & GENERAL NOTES	
5	PLAN AND PROFILE - SECTION	IBR-2
6	PLAN AND PROFILE - SECTION	IBR-2
7	CHANNEL RELOCATION SECT.	IBR-2
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8	PLAN & PROFILE	SECTION IBR-3
9-12 INCL.	SPECIAL DETAILS	
13-21 INCL.	STRUCTURE PLANS	- IBR-2
22-30 INCL.	STRUCTURE PLANS	- BR-3
31-38 INCL.	CROSS SECTIONS	- IBR-2
39-46 INCL.	CROSS SECTIONS	- IBR-3

STD. NO.	DESCRIPTION
1686-4	SYMBOLS & ABBREVIATIONS
1744-4	RIGHT OF WAY MARKERS
2113-2	NAMEPLATE FOR BRIDGES
2135	PERMANENT SURVEY MARKERS (Bronze Tablet)
2230-14	STEEL PLATE BEAM GUARD RAIL (2-Sheets)
2298-7	TRAFFIC CONTROL (2-Sheets)
2299-10	TRAFFIC CONTROL
2300-3	FLAGMAN TRAF. CONTROL SIGN
2301-5	TYP. APPLICATION TRAFFIC CONTROL
2303-6	TYP. APPLICATION TRAFFIC CONTROL
2305-5	TYP. APPLICATION TRAFFIC CONTROL
2306-6	TYP. APPLICATION TRAFFIC CONTROL
2307-6	TYP. APPLICATION TRAFFIC CONTROL
2308-4	TYP. APPLICATION TRAFFIC CONTROL (2 Sheets)
2323-5	PAVEMENT JOINTS
2324-6	BRIDGE APPROACH SHOULDER PAVEMENT
2336-3	TRAFFIC BARRIER TERMINAL, TY. I & IA
2341-1	TRAFFIC BARRIER TERMINAL, TY. 6
2381	TEMP. EROSION CONTROL SYSTEMS
2382-1	BRIDGE APPROACH PAVEMENT
2362-1	CONCRETE HEADWALL FOR PIPE DRAINS



SECTION IBR-3 & PROJECT BRS-659(103)
END STA. 229 + 16

SECTION IBR-3
BEGINS STA. 224 + 16

SECTION IBR-2
ENDS STATION 52 + 65

STATION EQUATION
STA 46 + 49.75 BK = 45 + 09.15 AH.

SECTION IBR-2 & PROJECT BRS-659 (103)
BEGIN STATION 42 + 37

GROSS LENGTH OF SECTION & PROJECT = 118,670 FT.
NET LENGTH OF SECTIONS = [IBR-2 = 1168.6 FT. = 0.2213 MILES
IBR-3 = 500.0 FT. = 0.0947 MILES
NET LENGTH OF PROJECT = 1668.6 FT. = 0.316 MILES

TOLL FREE J.U.L.I.E. TELEPHONE NO.
1-800-892-0123
EAST TWP. - IBR-2
JONATHAN CREEK TWP. - IBR-3

DESIGN DESIGNATION
1600(06) MAJOR COLLECTOR

CN 12363
CONTRACT NO. 40553

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: December 6, 1985

EXAMINED: 1-2, 1986

PASSED: 1-2, 1986

APPROVED: 1-2, 1986

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

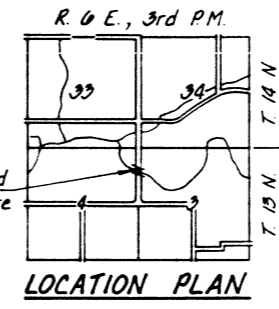
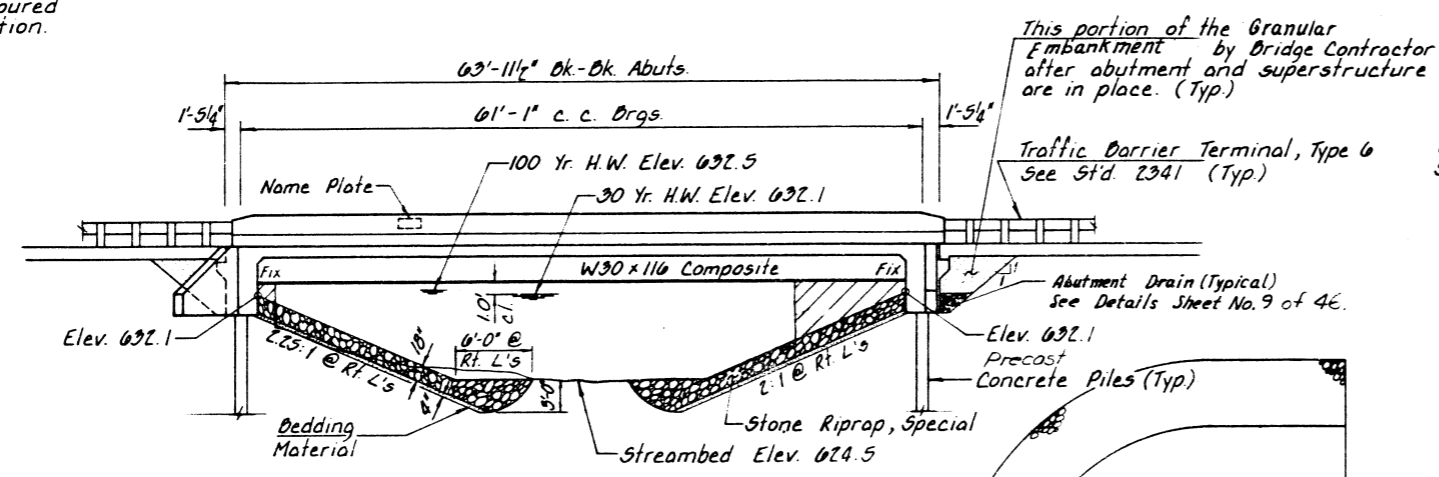
APPROVED: _____

DIVISION ADMINISTRATOR

5-133

070-0044

T.B.M. "E" ~ Railroad Spike in Power Pole, West side of road, off North end of Section 1BR-2. Elev. = 630.46
 Existing Structure No. 070-0014 ~ Single span I-beam bridge with concrete deck on closed timber abutments. 47' Ok-Bk Abuts., 25' o-o deck. To be removed. No salvage. Traffic to be detoured during construction.



INDEX OF SHEETS

1. General Plan & Elevation
2. General Notes
3. Slab Elevations
- 4-5. Superstructure
6. Beam Details
7. Abutments
8. Pile Details
9. Anchor Bolt Details

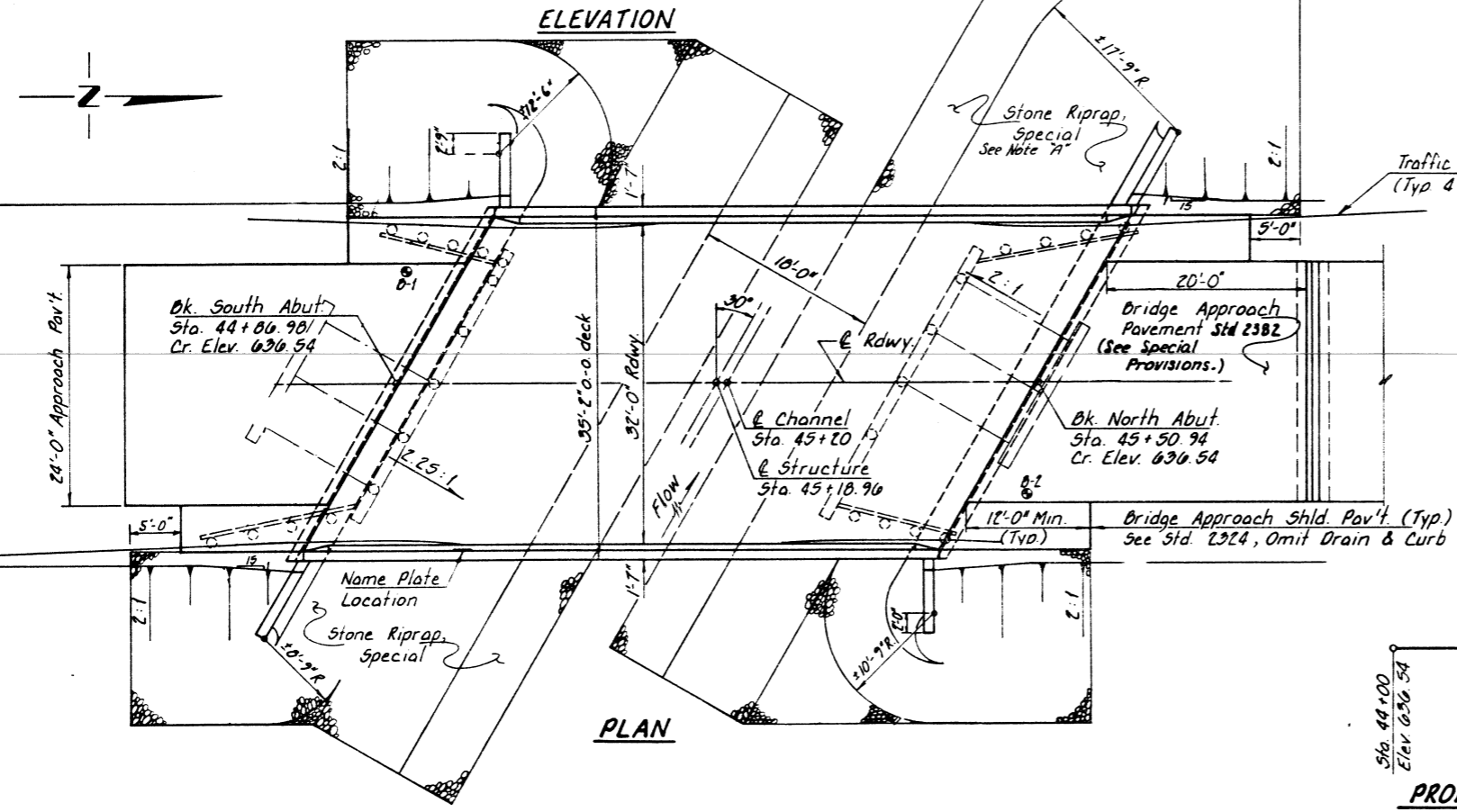
Note "A" Riprap dimensions shown on this sheet are to the approximate ditch line only. See plan details and standard cross-sections for rip-rap limits and configuration.

STATION 45+18.96
 BUILT 1982 BY
 STATE OF ILLINOIS
 FAS RT. 659 SEC. 1BR-2
 LOADING H520
 STR. No. 070-0044

LETTERING FOR NAME PLATE
 See Std. 2113

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete	Cu Yd	851	242	1093
Reinforcement Bars	Pound	1,610	3,660	5,270
Reinforcement Bars (Epoxy Coated)	Pound	15,470		15,470
Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	830		830
Name Plates	Each	1		1
Floor Drains	Each	6		6
Protective Coat	Sq Yd	279		279
Precast Concrete Piles 14"	Lin Ft		405	405
Test Piles Precast Concrete	Each		1	1
Stone Riprap, Special	Sq Yd			700
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu Yd			65
Permanent Bench Marks	Each		1	1



WATERWAY INFORMATION

Drainage Area = 7.15 Sq Mi. Low Grade Elev. 630.54 from Sta. 43+90 to 51+25

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Net H.W.E.	Head Ft.		Headwater Elev.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	30	976	240	249	632.1	0.44	0.46	632.54	632.56
Base	100	1,251	240	271	632.5	0.66	0.68	633.16	633.18
Overtopping									
Max. Calc.	500	1,601		295	633.0		0.70		633.70

10 Yr. backwater condition from Kaskaskia River reflects tailwater situation.

DESIGN STRESSES

$f'_c = 3,500$ p.s.i. (Class X Concrete)
 $f_y = 60,000$ p.s.i. (Reinforcement Bars)
 $f_y = 50,000$ p.s.i. (Structural Steel)
 $n = 9$ (Composite)
 LOADING H520-44
 DESIGN SPECIFICATIONS: AASHTO 1983 & 1984 Interims
 25# / Sq. Ft. included in dead load for future wearing surface.



APPROVED FOR STRUCTURAL AGENCY ON:
 James T. Hanson
 CONSULTING ENGINEERS

GENERAL PLAN & ELEVATION
 FAS. ROUTE 659 SECTION 1BR-2
 MOULTRIE COUNTY
 STATION 45+18.96
 STRUCTURE No. 070-0044

COLLINS AND RICE
 CONSULTING ENGINEERS
 DESIGNED M.B. CHECKED R.M.B.
 DRAWN J.B. DATE 1-28-85 NO. 1920
 Rev. 1-8-86

Final J. Stone Jr
 Illinois Structural No. 2934

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 059	1 BR-2	MOULTRIE	46	14
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT			

Sheet 2 of 9

GENERAL NOTES

See Proposal for Boring Data.

Fasteners shall be high strength bolts (AASHTO M164, Type 3). Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.

Calculated weight of Structural Steel = 30,000 pounds

All structural steel shall be AASHTO M222 and shall be used in the bare, unpainted condition.

Field welding of construction accessories will not be permitted to the bottom flange of beams. Field welding in other areas will be permitted only when approved by the Engineer.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness, Zone 2. These components are the wide flange beams.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53, Grade 60.

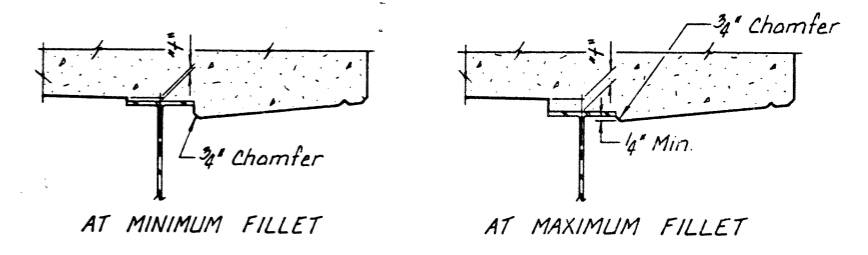
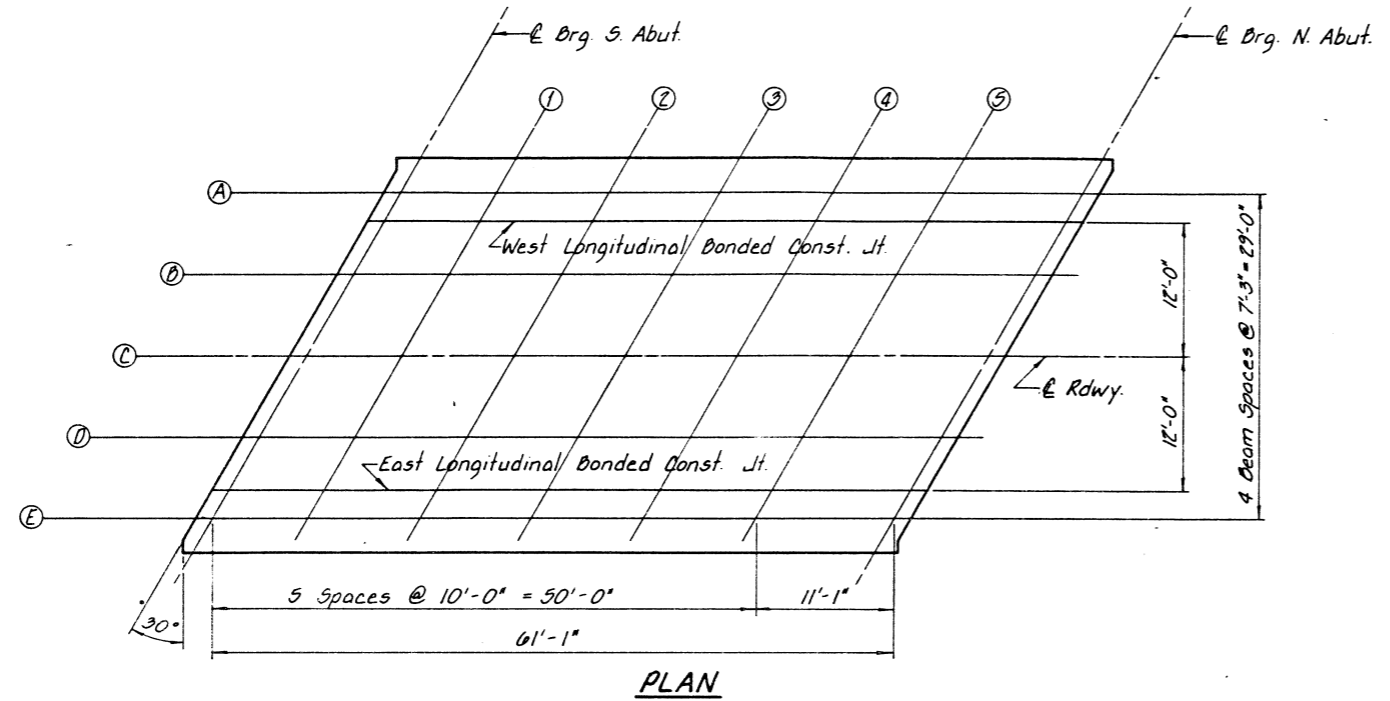
Layout of stone riprap slope walls may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall drive one concrete test pile in a permanent location of the South abutment as directed by the Engineer before ordering the remainder of the piles.

The Contractor shall remove the existing timber deadmen and $\frac{3}{4}$ " ϕ steel tie rods that will interfere with construction prior to driving the piles. This work shall be included in the contract unit price for REMOVAL OF EXISTING STRUCTURES.

*

GENERAL NOTES	
F.A.S. ROUTE 059 SECTION 1 BR-2	
MOULTRIE COUNTY	
STATION 45+18.96	
STRUCTURE No. 070-0044	
COLLINS AND RICE	
CONSULTING ENGINEERS	
DESIGNED M.D.	CHECKED R.M.D.
DRAWN J.B.	DATE 1-20-85 NO. 1920



FILLET HEIGHT "f"

To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown, minus slab thickness, equals the fillet height "f" above top flanges of beams.

BEAM A

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+96.79	14.50'	636.313	636.313
1.	45+06.79			6.382
2.	+10.79			6.432
3.	+26.79			6.451
4.	+36.79			6.435
5.	+46.79			6.388
Brig. N. Abut.	45+57.87	14.50'	636.313	636.313

WEST LONGITUDINAL BONDED CONST. JT.

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+95.35	12.00'	636.352	636.352
1.	45+05.35			6.421
2.	+15.35			6.471
3.	+25.35			6.490
4.	+35.35			6.474
5.	+45.35			6.427
Brig. N. Abut.	45+56.43	12.00'	636.352	636.352

BEAM B

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+92.61	7.25'	636.427	636.427
1.	45+02.61			6.496
2.	+12.61			6.546
3.	+22.61			6.565
4.	+32.61			6.549
5.	+42.61			6.502
Brig. N. Abut.	45+53.67	7.25'	636.427	636.427

BEAM C

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+88.42	0'	636.540	636.540
1.	+98.42			6.609
2.	45+08.42			6.659
3.	+18.42			6.678
4.	+28.42			6.662
5.	+38.42			6.615
Brig. N. Abut.	45+49.50	0'	636.540	636.540

BEAM D

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+84.23	7.25'	636.427	636.427
1.	+94.23			6.496
2.	45+04.23			6.546
3.	+14.23			6.565
4.	+24.23			6.549
5.	+34.23			6.502
Brig. N. Abut.	45+45.31	7.25'	636.427	636.427

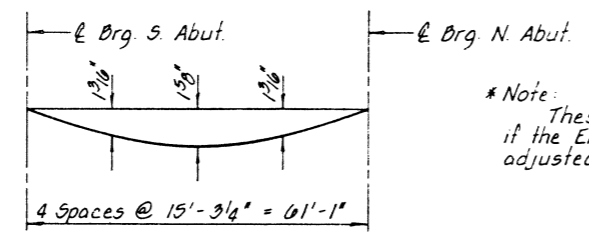
EAST LONGITUDINAL BONDED CONST. JT.

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+81.49	12.00'	636.352	636.352
1.	+91.49			6.421
2.	45+01.49			6.471
3.	+11.49			6.490
4.	+21.49			6.474
5.	+31.49			6.427
Brig. N. Abut.	45+42.57	12.00'	636.352	636.352

BEAM E

LOCATION	STATION	OFFSET	T	Adj.
Brig. S. Abut.	44+80.05	14.50'	636.313	636.313
1.	+90.05			6.382
2.	45+00.05			6.432
3.	+10.05			6.451
4.	+20.05			6.435
5.	+30.05			6.388
Brig. N. Abut.	45+41.13	14.50'	636.313	636.313

T = Theoretical Grade Elevations
Adj. = Theoretical Grade Elevations Adjusted For Dead Load Deflection



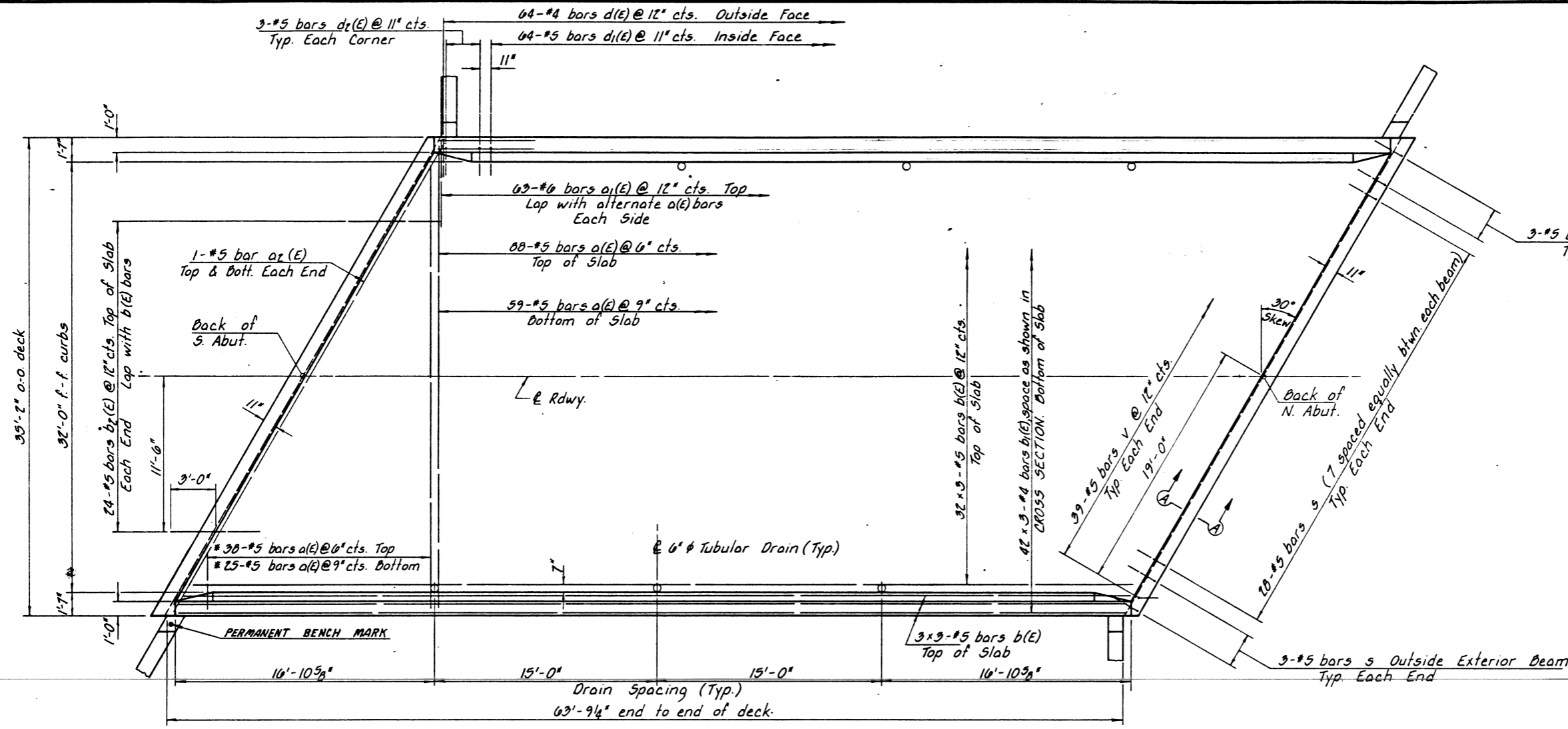
DEAD LOAD DEFLECTION DIAGRAM*
(Includes weight of concrete only)

* Note: These deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown.

SLAB ELEVATIONS
FAS ROUTE 659 SECTION 1 BR-2
MOULTRIE COUNTY
STATION 45+18.96
STRUCTURE No. 070-0044

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED M.D. CHECKED R.M.B.
DRAWN J.B. DATE 1-28-85 NO. 1920



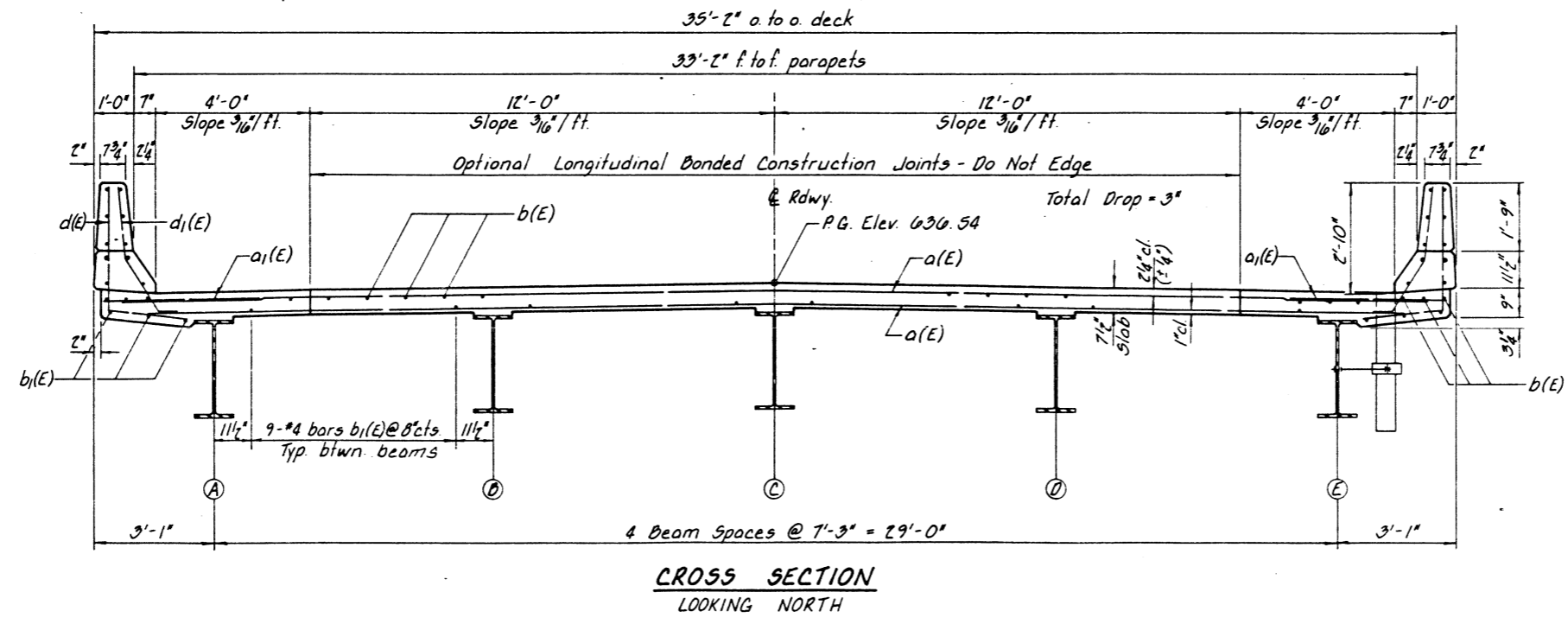
MIN. BAR LAPS

#4	1'-5"
#5	1'-9"
#6	3'-0"

BILL OF MATERIAL - SUPERSTRUCTURE

BAR	No. REQ'D	SIZE	LENGTH	SHAPE
a(E)	210	#5	33'-0"	—
a ₁ (E)	126	#6	4'-0"	—
a ₂ (E)	4	#5	40'-0"	—
a ₃	8	#6	40'-3"	—
a ₄	4	#4	19'-6"	—
a ₅	4	#4	22'-6"	—
a ₆	8	#6	8'-0"	—
a ₇	4	#6	3'-3"	—
b(E)	126	#5	22'-4"	—
b ₁ (E)	126	#4	22'-2"	—
b ₂ (E)	48	#5	6'-0"	—
b ₃ (E)	8	#6	33'-7"	—
d(E)	128	#4	4'-11"	L
d ₁ (E)	128	#5	3'-11"	L
d ₂ (E)	12	#5	4'-2"	L
e(E)	48	#4	15'-7"	L
v	78	#5	3'-3"	┘
s	68	#5	3'-10"	┘
s ₁	68	#4	8'-1"	┘
Class X Concrete		Cu. Yd	85.1	
Reinforcement Bars		Pound	1,610	
Reinf. Bars (Epoxy Coated)		Pound	13,470	
Protective Coat		Sq. Yd	279	
Floor Drains		Each	6	

* Order a(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



Notes:
 Bars indicated thus ~ 32 x 3-#5 etc... indicates 32 lines of bars with 3 lengths per line.
 Reinforcement bars designated (E) shall be epoxy coated.
 See sheet 5 for SECTION A-A.
 Work this sheet with sheet 5.

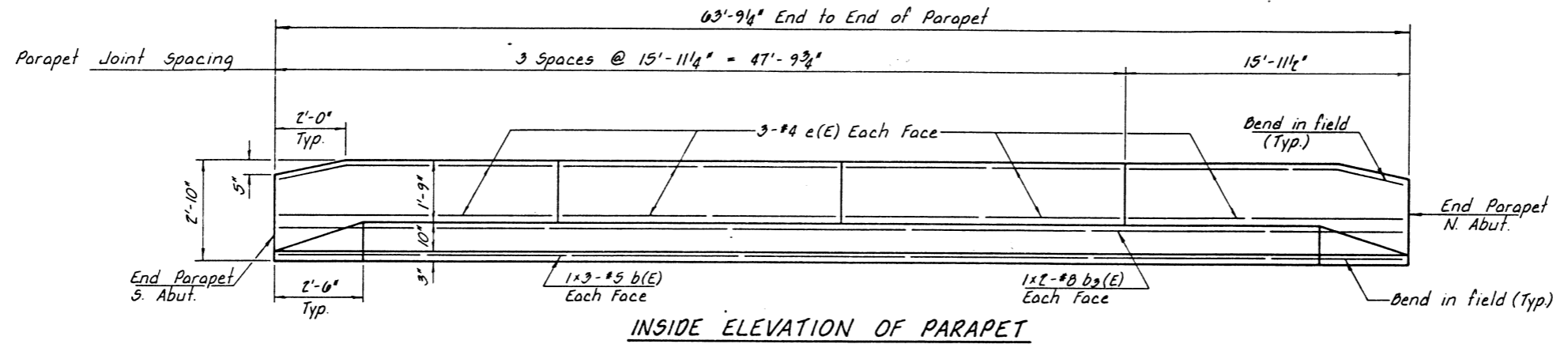
SUPERSTRUCTURE
 F.A.S. ROUTE 659 SECTION 1 BR-2
 MOULTRIE COUNTY
 STATION 45+18.96
 STRUCTURE No. 070-0044

COLLINS AND RICE
 CONSULTING ENGINEERS

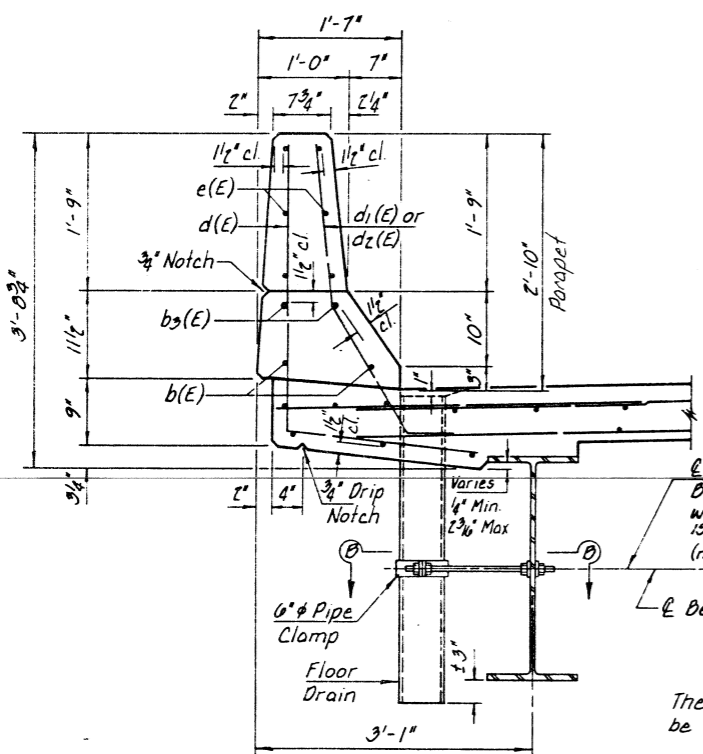
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 DRAWN J.B. DATE 1-28-85 NO. 1920

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
659	1 BR-2	MOULTRIE	46	17
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT		

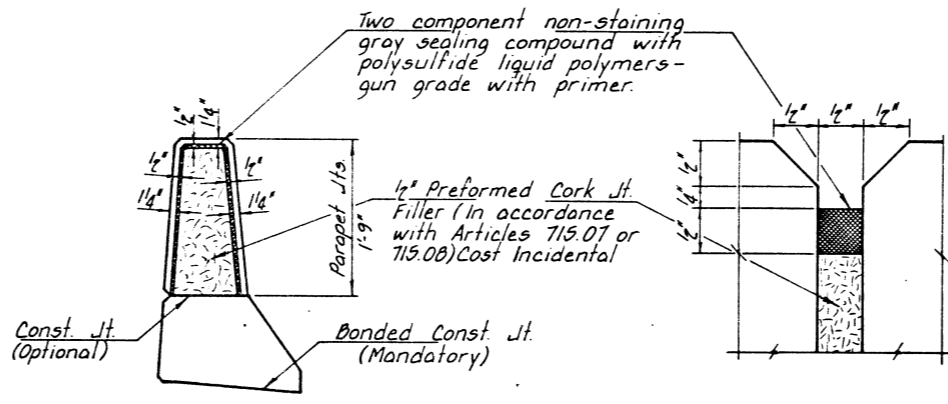
Sheet 5 of 9



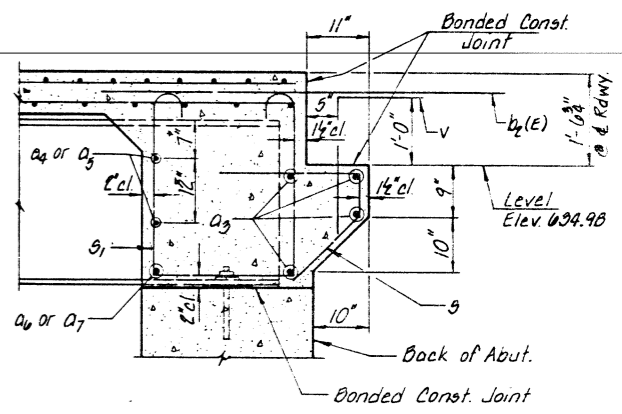
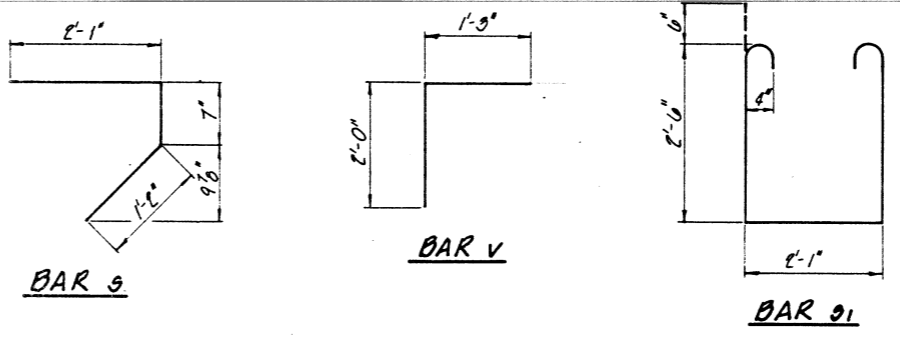
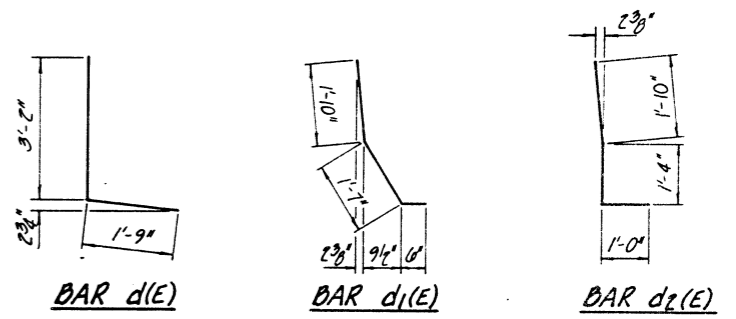
INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

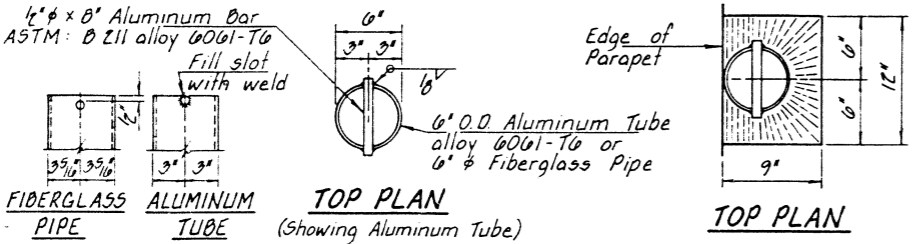


PARAPET JOINT DETAILS



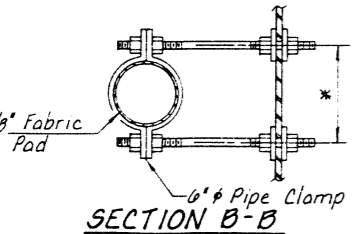
SECTION A-A

Dimensions at right angles to abut. For spacing of b2(E), s and v bars see sheet 4.



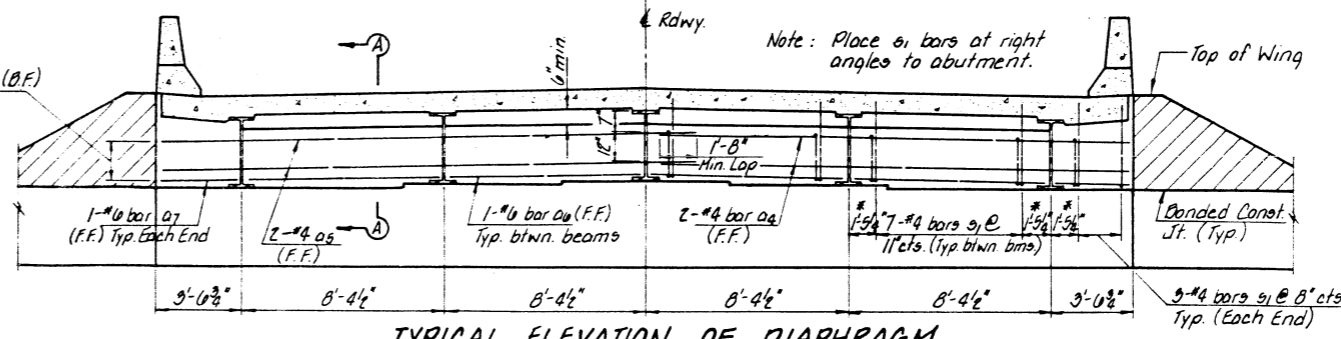
TOP PLAN

TOP PLAN



SECTION B-B

Notes:
 Fiberglass Pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
 The exterior surfaces of the floor drains shall be painted with a dark maroon vinyl enamel coat. The vinyl enamel coat may be applied in the shop with spot painting only in the field. The exterior surface of the aluminum pipe shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SPT & SSPC-Paint 27 prior to painting.



TYPICAL ELEVATION OF DIAPHRAGM

(Dimensions along ϵ Abut. Cap)
 B.F. - Back Face
 F.F. - Front Face

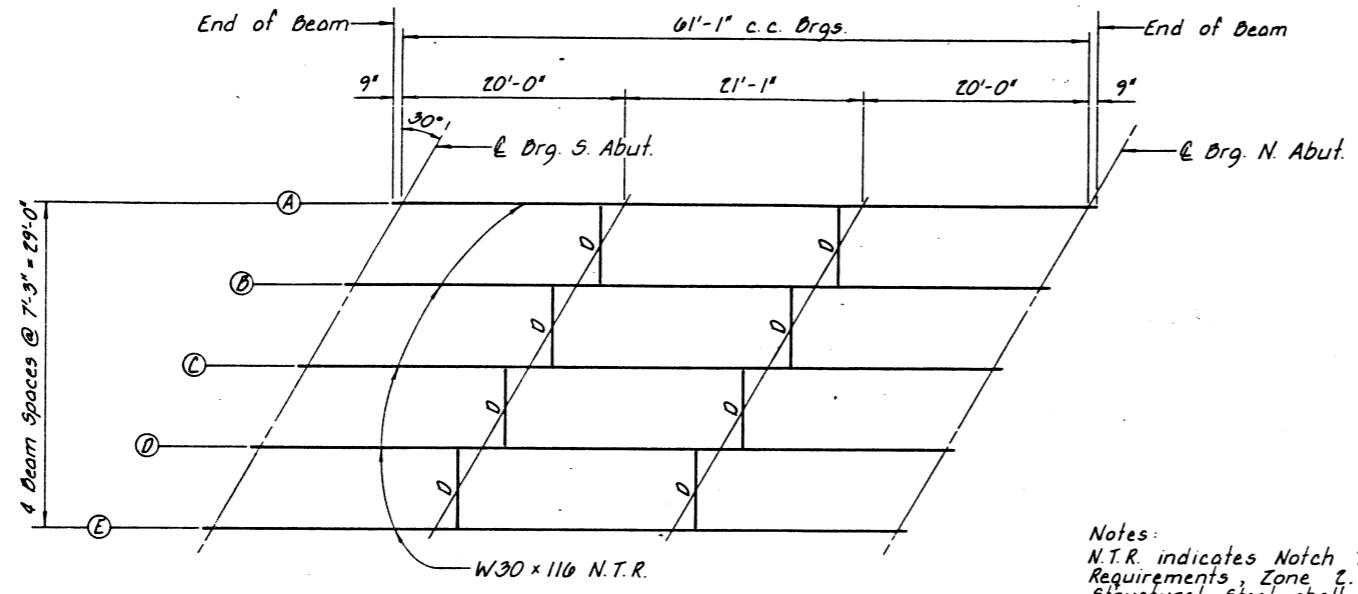
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SUPERSTRUCTURE
 F.A.S. ROUTE 659 SECTION 1 BR-2
 MOULTRIE COUNTY
 STATION 45+18.96
 STRUCTURE No. 070-0044

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED M.B.
 DRAWN J.B.

CHECKED R.M.B.
 DATE 1-28-85 NO. 1920



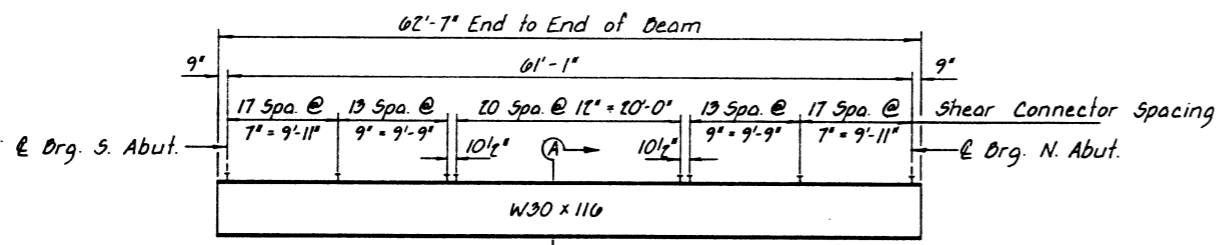
FRAMING PLAN

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (OVERLOAD).
 I_c and S_c are the moment of inertia and section modulus of the composite sections used in computing f_s (OVERLOAD).
 V_R is the maximum $(\frac{1}{2} + I)$ shear range in the span.
 f_s (OVERLOAD) is the sum of the stresses due to $M_{D.N.C.} + M_{D.C.} + S_s(M_L + I)$.
 M_a (Applied Moment) = $1.3[M_{D.N.C.} + M_{D.C.} + S_s(M_L + I)]$.
 M_u = Full Plastic Moment capacity for compact, braced section.
The Fully Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 & 10.50.1.1.
 $M_{D.N.C.}$ - Moment due to dead loads on non-composite section.
 $M_{D.C.}$ - Moment due to dead loads on composite section.
 M_L - Moment due to live load on composite section.
 I - Live load impact.

Notes:
N.T.R. indicates Notch Toughness Requirements, Zone 2.
Structural Steel shall be M 222.

INTERIOR BEAM MOMENT TABLE

		0.5 SPAN
I_s	(in. 4)	4,930
I_c	(in. 4)	10,570
I_c	(in. 4)	14,339
S_s	(in. 3)	329
S_c	(in. 3)	456
S_c	(in. 3)	504
ϕ N.C.	(K/I)	0.830
$M_{D.N.C.}$	(K)	387
ϕ C.	(K/I)	0.324
$M_{D.C.}$	(K)	151
M_L	(K)	544
M_{IMP}	(K)	147
$S_s(M_L + I)$	(K)	1,152
M_a	(K)	2,197
M_u	(K)	2,882
f_s D.N.C.	(k.s.i.)	14.1
f_s D.C.	(k.s.i.)	4.0
$f_s S_s(M_L + I)$	(k.s.i.)	27.4
f_s (OVERLOAD)	(k.s.i.)	45.5
V_R	(K)	51.0



ELEVATION

TOP OF BEAM ELEVATIONS

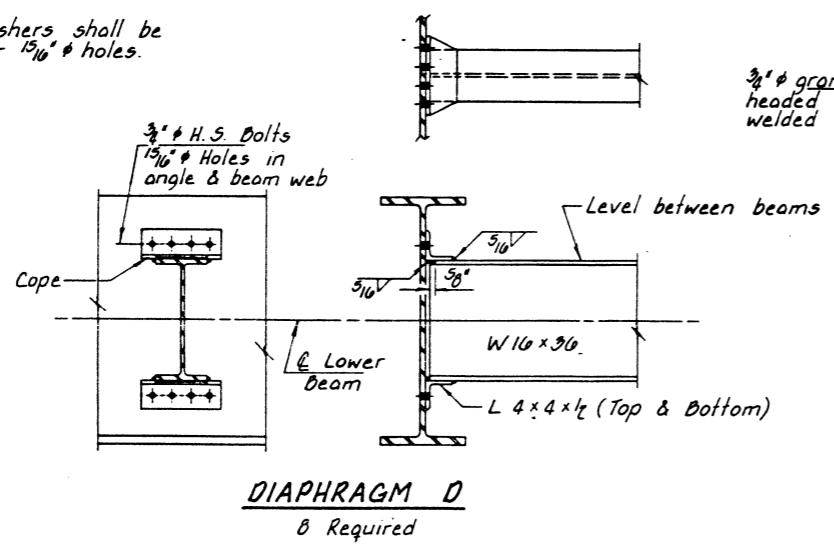
(For Fabrication Only)

LOCATION	\bar{x} Drg. ABUTS.
Beams A & E	635.646
Beams B & D	635.700
Beam C	635.873

INTERIOR BEAM REACTION TABLE

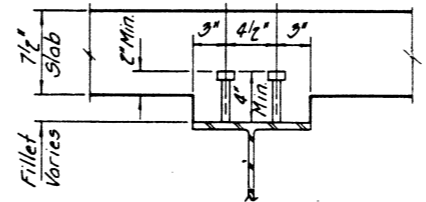
	ABUTS.
$R_{D.N.C.} + R_{D.C.}$ (K)	35.2
R_L (K)	40.2
R_{IMP} (K)	10.8
R_{TOTAL} (K)	86.2

Note: Hardened washers shall be required over $\frac{15}{16}$ " holes. (2 per bolt)



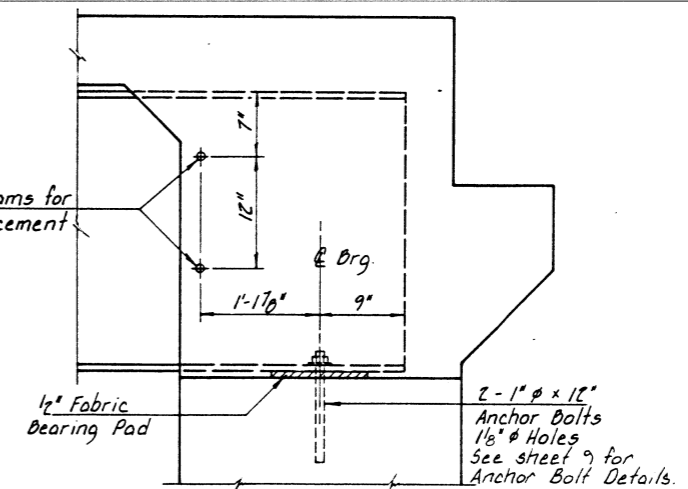
DIAPHRAGM D
B Required

$\frac{3}{8}$ " granular or solid flux filled headed studs automatically end welded to flange.

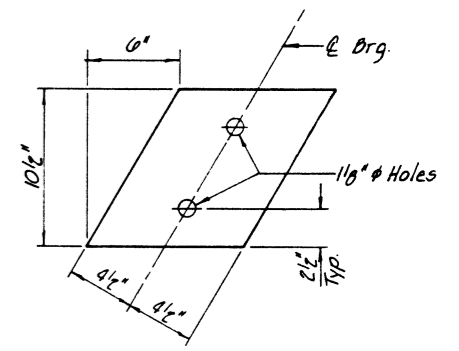


SECTION A-A
B30 Required

1" Holes in beams for horizontal reinforcement

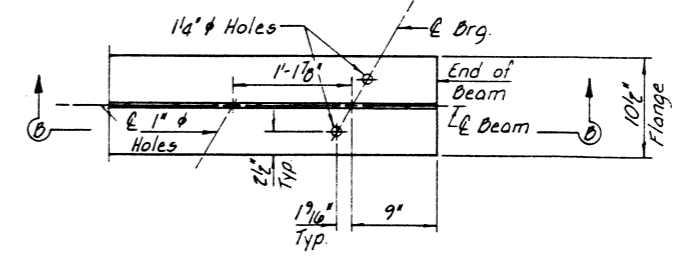


SECTION B-B



FABRIC BEARING PAD DETAILS

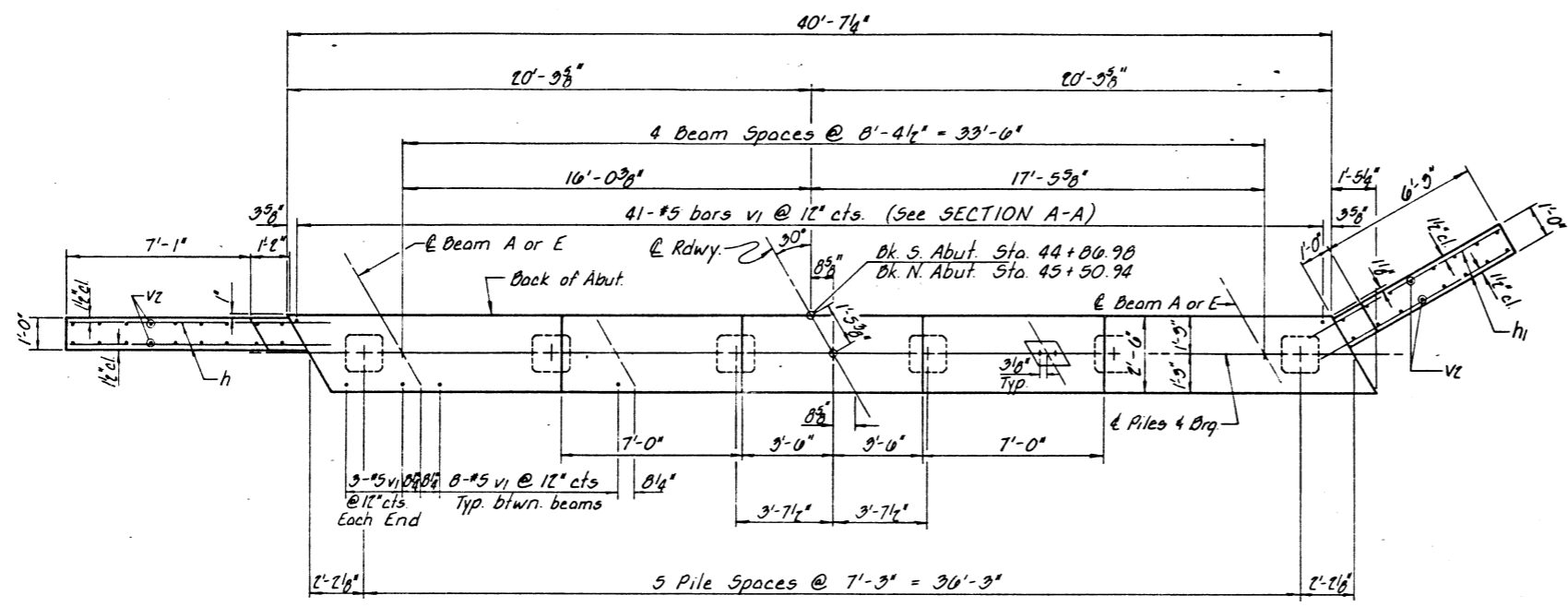
10-1/2" Bearing Pads Req'd.
20-16" Adjusting Pads Req'd.
Incidental to Structural Steel



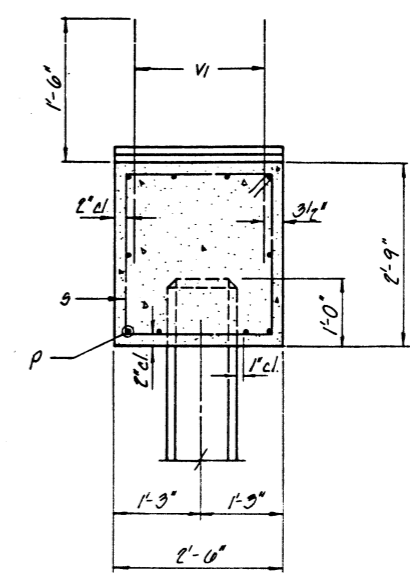
END OF BEAM-PLAN VIEW

BEAM DETAILS
F.A.S. ROUTE 659 SECTION 1 BR-2
MOULTRIE COUNTY
STATION 45+18.96
STRUCTURE No. 070-0044

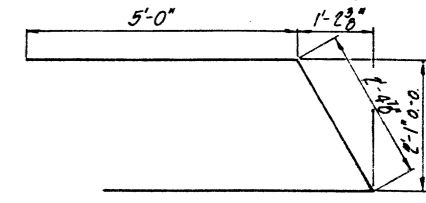
COLLINS AND RICE
CONSULTING ENGINEERS
DESIGNED M.B. CHECKED R.M.B.
DRAWN J.D. DATE 1-28-85 NO. 1920



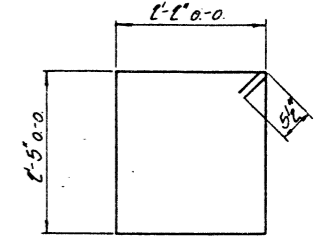
PLAN



SECTION A-A



BAR U



BAR g2

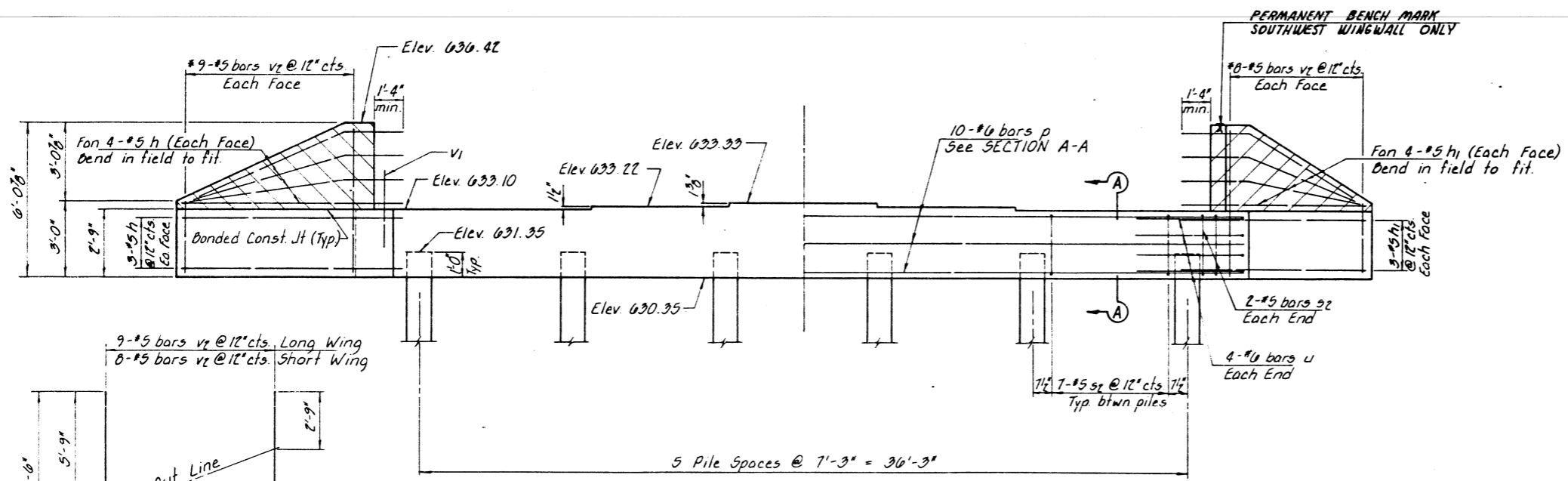
Note: Hatched area to be poured with deck after beams are in place. Quantity of Class X Concrete included with Superstructure.

BILL OF MATERIAL ~ 2 ABUTS.

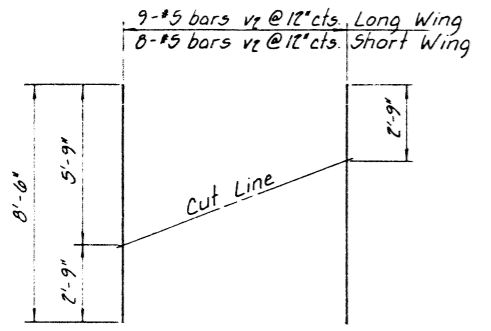
BAR	NO	SIZE	LENGTH	SHAPE
h	20	#5	10'-0"	—
h1	20	#5	8'-0"	—
p	20	#6	40'-3"	—
g2	70	#5	10'-1"	□
U	10	#6	12'-5"	—
v1	150	#5	3'-0"	—
v2	34	#5	8'-6"	—

Class X Concrete	Cu Yd	24.2
Reinforcement Bars	Pound	3,660
Precast Conc. Piles 14"	Lin Ft	405
Test Piles Precast Conc.	Each	1
Permanent Bench Marks	Each	1

See sheet 8 for concrete pile details



ELEVATION



***FIELD CUTTING DIAGRAM**
Order v2 bars full length. Cut to fit and use the remainder in the opposite end.

PILE DATA

Type ———— Precast Concrete 14"
No. Req'd (2 Abuts.) ———— 12**
Capacity ———— 40 Tons/Pile
Est. Length ———— 33 Feet/Pile S. Abut.
40 Feet/Pile N. Abut.
**Includes one test pile to be driven in a permanent location at the South Abutment.

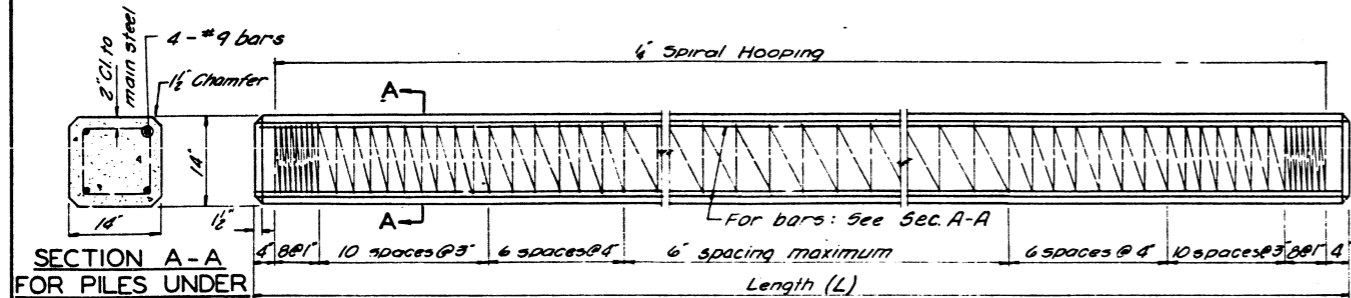
ABUTMENTS
F.A.S. ROUTE 659 SECTION 1BR-2
MOULTRIE COUNTY
STATION 45+18.90
STRUCTURE NO. 070-0044

COLLINS AND RICE
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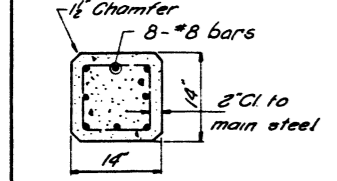
DESIGNED M.B. CHECKED R.M.B.
DRAWN M.G. & J.D. DATE 1-28-85 NO. 1920

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 659	10R-2	MOULTRIE	46	20
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT			

Sheet 8 of 9



SECTION A-A
FOR PILES UNDER
45' LONG



SECTION A-A
FOR PILES 45'
OR MORE

Handling:
For Pile Lengths up to 45 ft. use two slings placed at a distance of 0.21L* from each end. For piles longer than 45 ft. use three slings placed at a distance of 0.12L* from each end and at mid-point of pile.

*L - Over all length of pile to be handled.

DETAIL OF PRECAST CONCRETE PILES

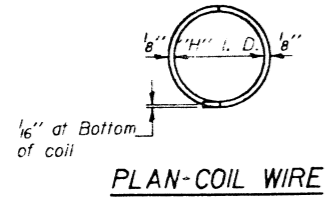
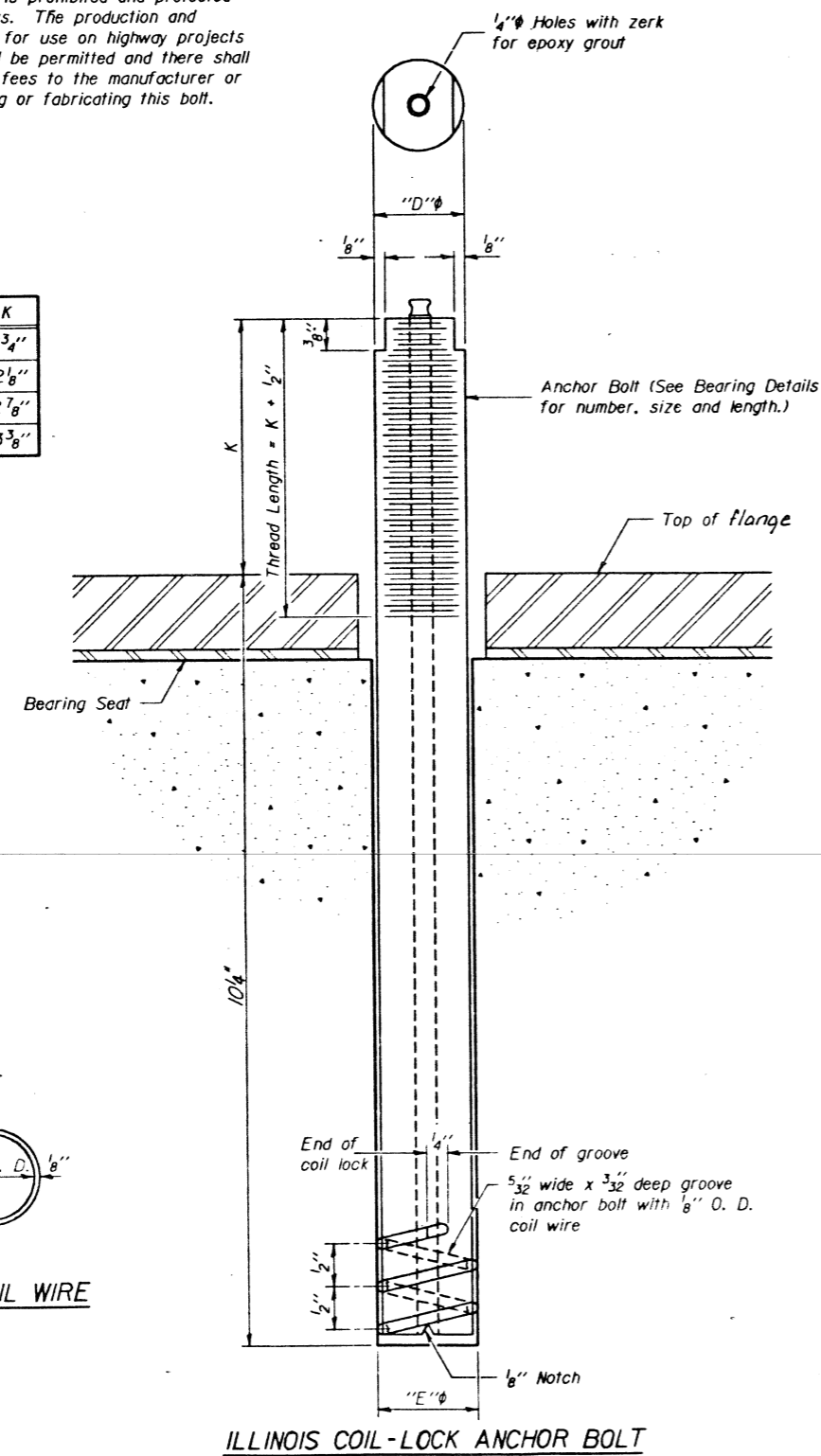
CONCRETE PILE DETAILS
 F.A.S. ROUTE 659 SECTION 10R-2
 MOULTRIE COUNTY
 STATION 45+18.96
 STRUCTURE No. 070-0044

COLLINS AND RICE
 CONSULTING ENGINEERS

DRAWN M.D. CHECKED R.M.D.
 DATE 1-20-85

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K
1"	1 1/8"	1 3/16"	1 3/4"
1 1/2"	1 5/8"	1 5/16"	2 1/8"
2"	2 1/8"	1 9/16"	2 7/8"
2 1/2"	2 5/8"	2 5/16"	3 3/8"



MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with hexagonal nuts and cut washers.
 The coil wire shall be made of any suitable soft steel wire.
 The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.
 The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade I and of a Class suitable for the temperature at installation.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.
 Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.
 The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for "Furnishing and Erecting Structural Steel".

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.
 The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
 1. A threaded rod stud with nut and washer conforming to ASTM A307.
 2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

ANCHOR BOLT DETAILS
 F.A.S. ROUTE 659 SECTION 1BR-Z
 MOULTRIE COUNTY
 STATION 45+18.96
 STRUCTURE No. 070-0044

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED M.B. CHECKED R.M.B.
 DRAWN L.B. DATE 1-28-85 NO 1920