

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 REHAB BR PAINTING 2006	MONTGOMERY	9	1

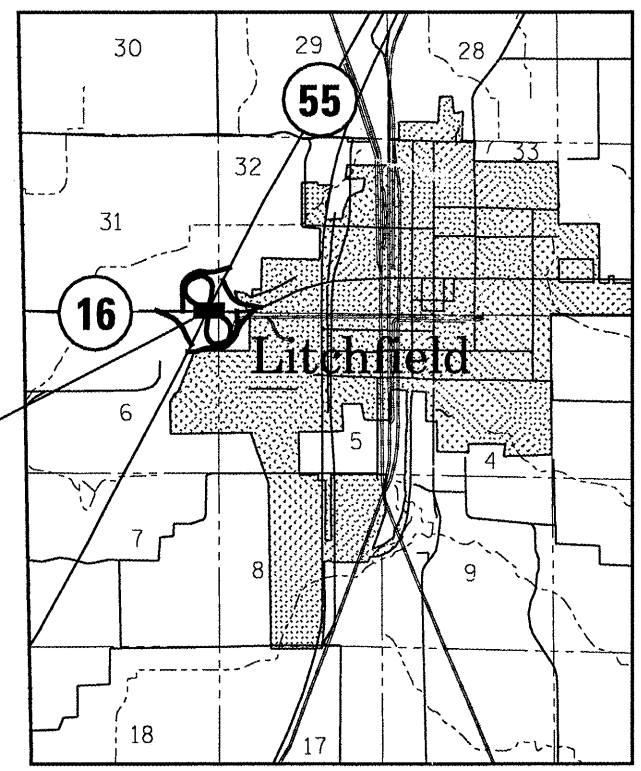
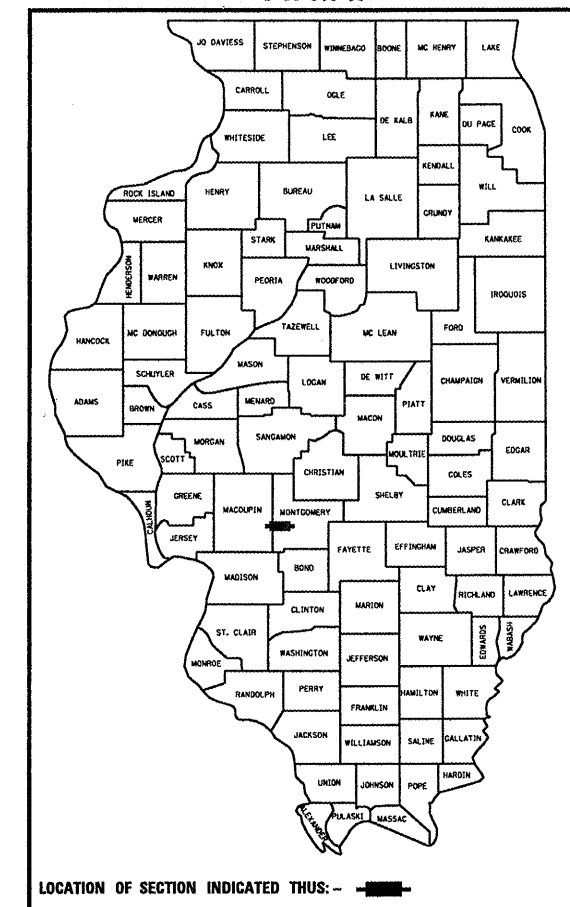
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 55 (I-55)
SECTION - D6 REHAB BR PAINTING 2006
PROJECT C-96-012-06
MONTGOMERY COUNTY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

D-96-009-06



NET LENGTH OF SECTION: 531' = 0.1 MI

OPERATIONS DESIGN & PLANNING ENGINEER
CECIL DOWNING - (217) 785-4036

BRIDGE INSPECTION ENGINEER
DAVE COPENBARGER - (217) 785-5306

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123

CONTRACT NO. 72A27

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Feb 10, 2006
Chris M. Reed
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 24, 2006
Mike Hene
ENGINEER OF DESIGN AND ENVIRONMENT

March 24, 2006
Milton R. See
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

INDEX OF SHEETS

- 1 COVER SHEET**
- 2 INDEX, GENERAL NOTES, SIGNATURES,
& SUMMARY OF QUANTITIES**
- 3-9 EXISTING STRUCTURE PLANS**

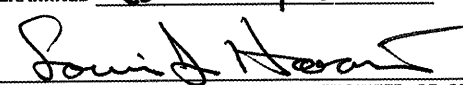

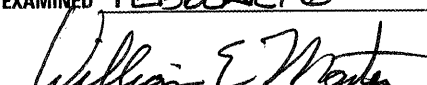
STANDARDS

- 701101-01
- 701106-01
- 701400-02
- 701402-05
- 701406-04
- 701411-03
- 701421-01
- 702001-06

GENERAL NOTES

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING - SSPC-SP10. ALL EXISTING STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZE/U. THE COLOR OF THE FINAL FINISH COAT FOR EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN, MUNSELL NO 7.5G 48. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO 5B 71.

THE SSPC-QP-1 AND SSPC-QP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED FOR THIS BRIDGE. THE USE OF AIR MONITORS WILL BE REQUIRED.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6
EXAMINED <u>January 25</u> 20 <u>06</u>  ENGINEER OF OPERATIONS
EXAMINED <u>Jan 25</u> 20 <u>06</u>  ENGINEER OF PROGRAM IMPLEMENTATION
EXAMINED <u>FEBRUARY 6</u> 20 <u>06</u>  ENGINEER OF PROGRAM DEVELOPMENT

SUMMARY OF QUANTITIES				RURAL 100% STATE MONTGOMERY
ITEM #	DESCRIPTION	UNIT	QUANTITY	SFTY-2A
X0324401	PORTABLE TEMPORARY BARRIER SYSTEM, TEST LEVEL 3	FOOT	410	410
X0324402	RELOCATE PORTABLE TEMPORARY BARRIER SYSTEM, TEST LEVEL 3	FOOT	1230	1230
X7011420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	L SUM	1	1
50600600	CLEANING AND PAINTING STEEL BRIDGE, NO. 1	L SUM	1	1
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1
67100100	MOBILIZATION	L SUM	1	1
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	L SUM	1	1

C-96-012-06

INDEX, GENERAL
NOTES, SIGNATURES,
& SUMMARY OF QTYS.

068-0051

Sheet No. 1
of 20 Sheets

FAI-55	68-118-1	MONTGOMERY	128	36
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GENERAL NOTES-

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts 3/4", open holes 1 1/8", unless otherwise noted.

Calculated weight of structure steel = 1,052,750 lbs.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the web flange for a distance equal to one-fourth the span length from pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

The Contractor shall drive one concrete test pile at Bent Cap #1 & #2, and of the Pier, all in a permanent location, as directed by the Engineer before ordering the remainder of piles.

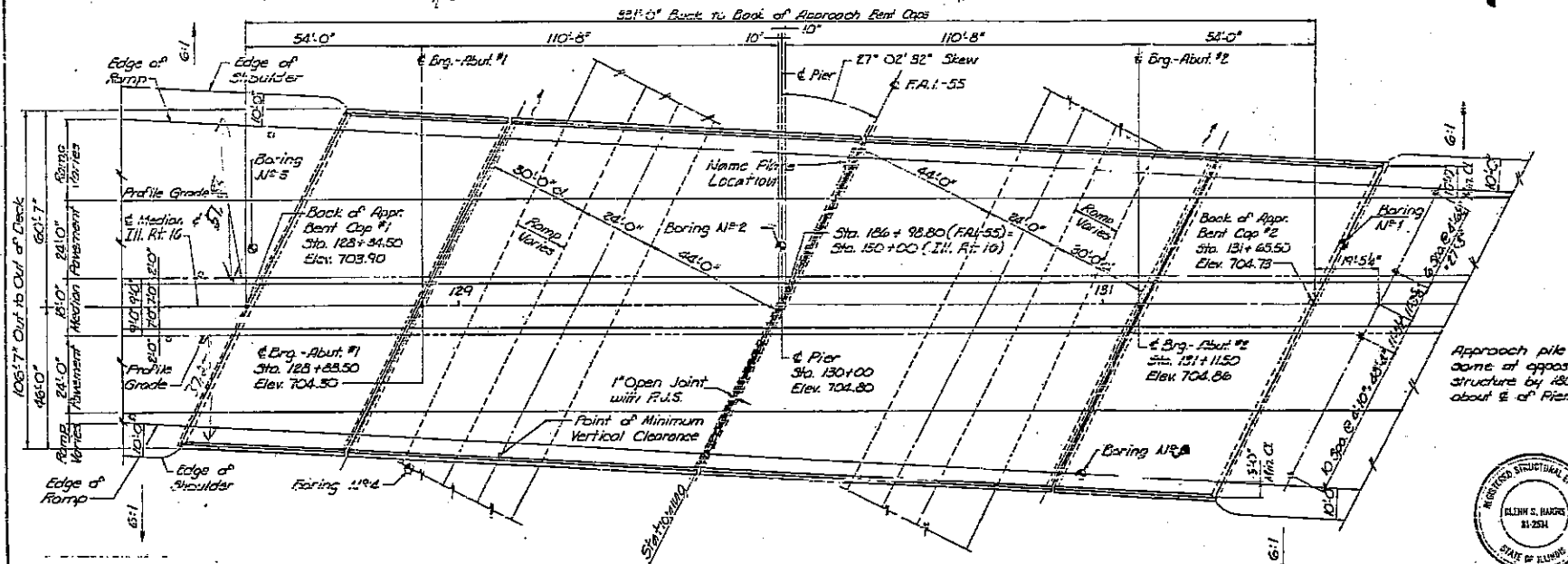
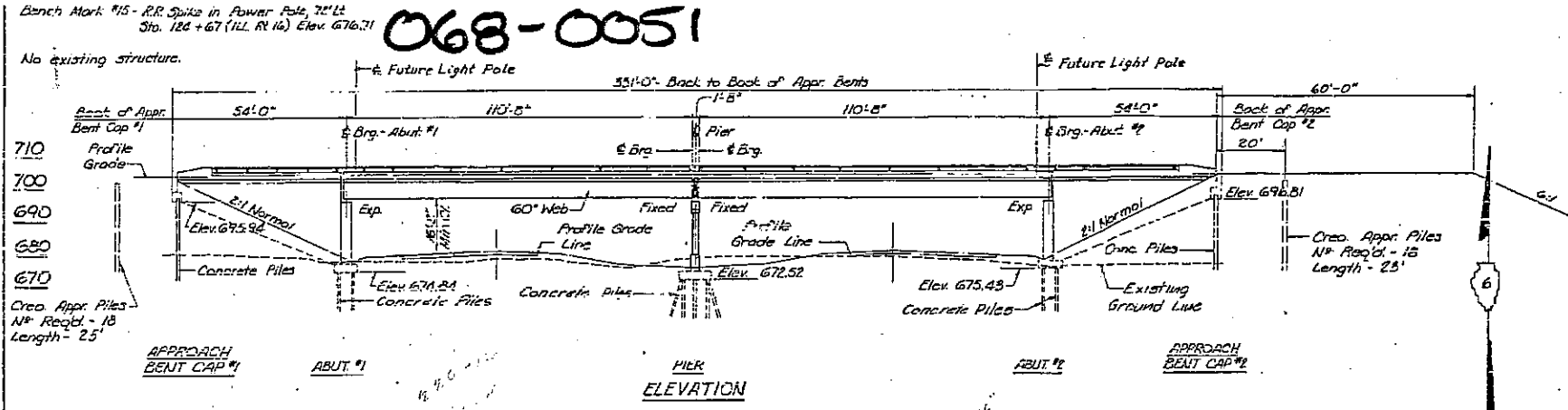
Concrete piles of Bent Caps shall be driven in holes prepared through the embankment in accordance with Article 513.09 (c) of the Standard Specifications.

An alternate strand pattern using Extra High Strength Pre-stressing Strand (E70ksi) is permitted.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The concrete rail section above the mandatory construction joint at the top of the slab, shall be constructed of Class X concrete, except the aggregates shall conform to the requirements of Nonrail Concrete.

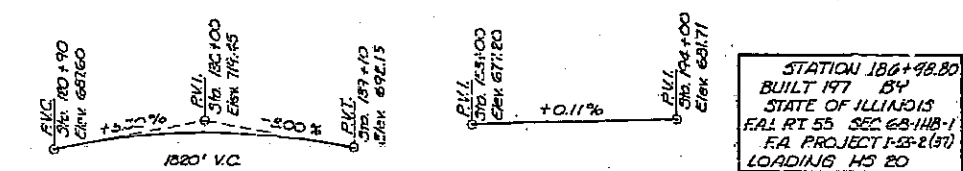
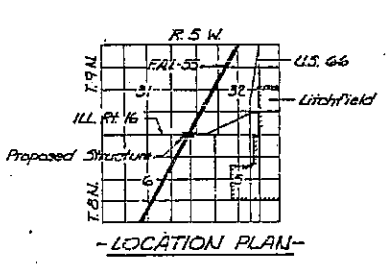
Anchor bolts shall be set before bolting cross frames over supports.



-DESIGN LOADING-
Live HS 20-44 AASHTO 1993 Specifications.
Dead load includes 25% of roadway for future wearing surface.

-DESIGN STRESSES-
fc = 1400 psi Substructure and Parapet
fc = 1200 psi Deck Slab
fs = 75 psi Footings
fs = 20,000 psi Reinforcing Steel
fs = 20,000 psi Structural Steel (A-36)
n = 10
Live Load Deflection: 1/200 for composite construction

-PRESTRESSED BEAMS-
fc = 5000 psi
fc = 4000 psi
fs = 245,000 psi
fs = 173,000 psi



STATION 126+92.80
BUILT 197 BY
STATE OF ILLINOIS
FAI RT 55 SEC 68-118-1
FA PROJECT 1-55-2(97)
LOADING HS 20

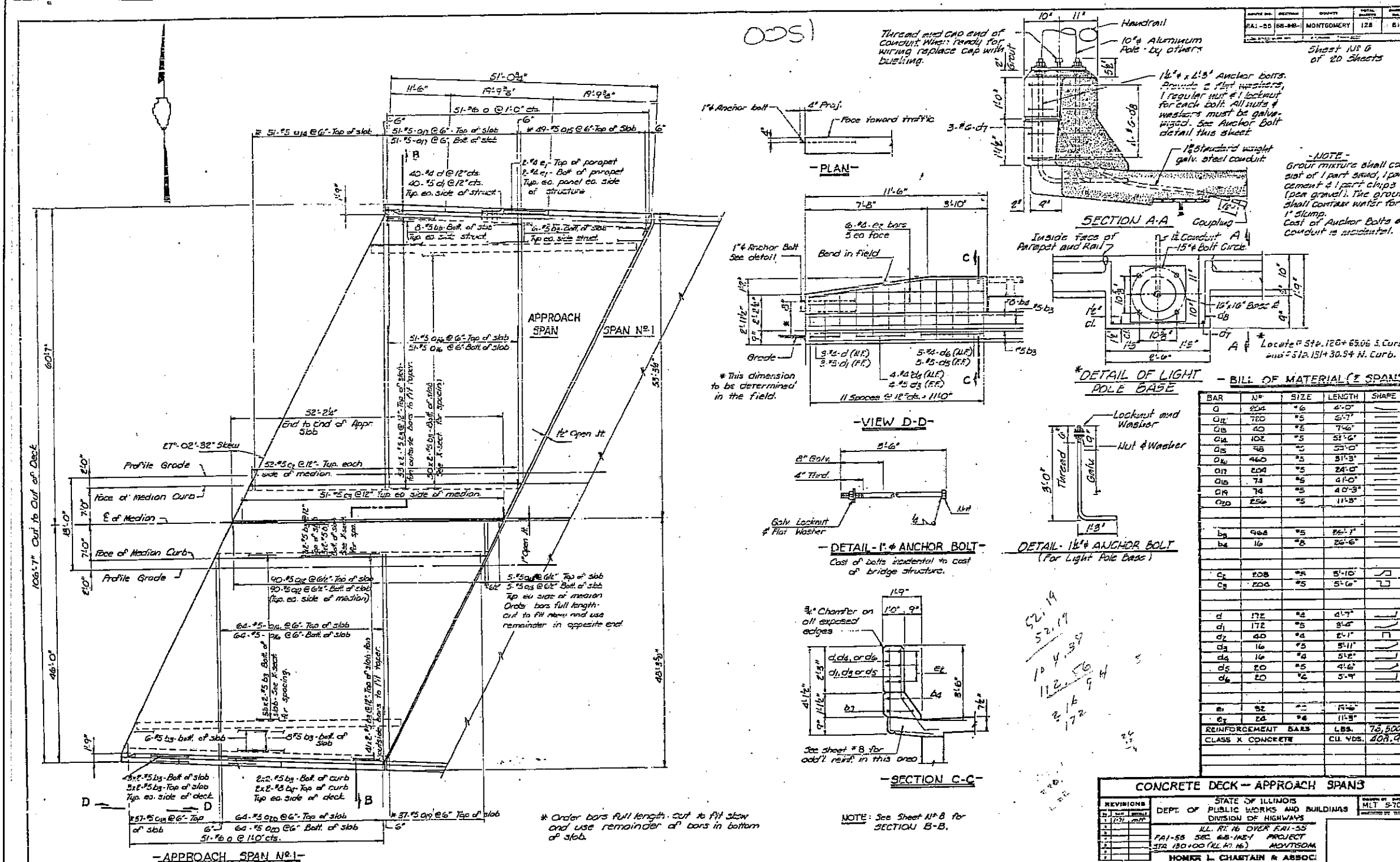


Glenn S. Harris

TOTAL BILL OF MATERIAL				
ITEM	UNIT	QUANTITY	UNIT PRICE	TOTAL
Structure Excavation	cu. yds	640	680	680
Precast Prestressed I-Beams	lin. ft.	1824	1824	1824
Class X Concrete	cu. yds	1121.2	1121.2	1121.2
Structural Steel	L.S.	L.S.	L.S.	L.S.
Steel Beam Connectors	ea.	4028	4028	4028
Aluminum Railrod	lin. ft.	544	544	544
Reinforcement Bars	lbs.	271,160	271,160	271,160
Grouted Piles (20.1' to 38')	lin. ft.	864	864	864
Concrete Piles	lin. ft.	5258	5258	5258
Protective Coat	sq. yds	2855	2855	2855
Test Piles (Concrete)	ea.	5	5	5
Performed Joint Sealer	lin. ft.	320	320	320
Name Plate	ea.	1	1	1

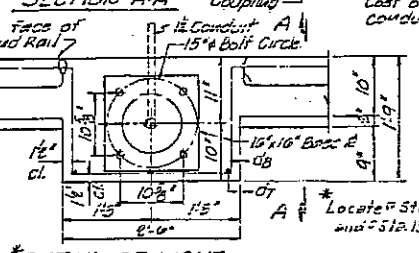
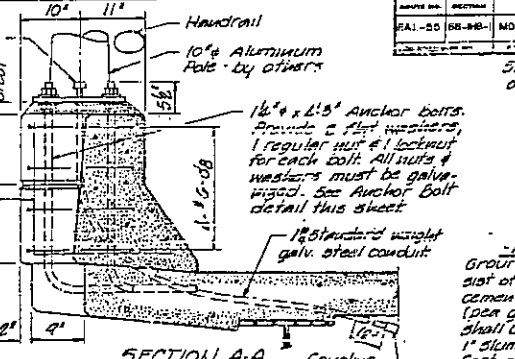
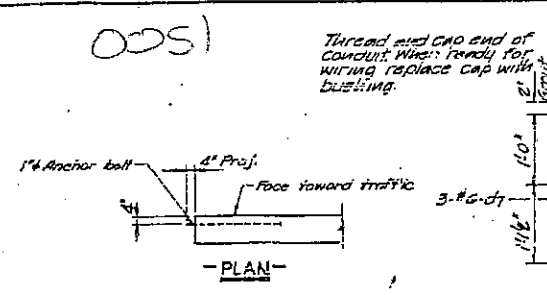
REVISIONS		GENERAL PLAN AND ELEVATION	
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2	REVISED	DIVISION OF HIGHWAYS	
3	REVISED	ILL. RT. 16 OVER FAI-55	
4	REVISED	FAI-55 SEC 68-118-1 PROJECT	
5	REVISED	STR. 130 100 (ILL. RT. 16) MONTGOMERY	
6	REVISED	HOMER L. CHARSTAIN & ASSOCIATES	
7	REVISED	CONSULTING ENGINEERS	
8	REVISED	OCCASION, ILLINOIS	

C-96-012-06
EXISTING BRIDGE PLANS
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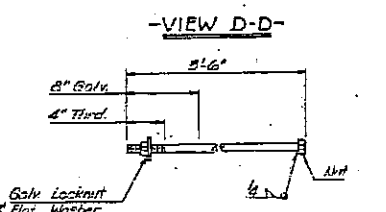
NO.	REVISION	DATE	BY	CHKD.
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NOTE -
GROUT MIXTURE SHALL CONSIST OF 1 PART SAND, 1 PART CEMENT & 1 PART CHIPS (SAND GRAVEL). THE GROUT SHALL CONTAIN WATER FOR 1" SLUMP. COST OF ANCHOR BOLTS & CONDUIT IS INCIDENTAL.

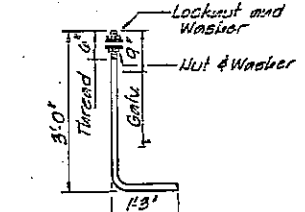


- BILL OF MATERIAL (2 SPANS) -

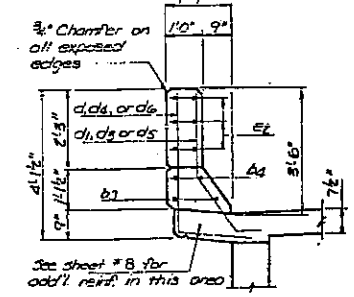
BAR	N ^o	SIZE	LENGTH	SHAPE
Q	204	#6	4'-0"	
Q1	760	#5	6'-7"	
Q1B	40	#5	7'-6"	
Q1C	102	#5	5'-16"	
Q1D	48	#5	5'-0"	
Q1E	460	#5	5'-3"	
Q1F	208	#5	2'-0"	
Q1G	78	#5	4'-0"	
Q1H	78	#5	4'-0"	
Q1I	256	#5	11'-8"	
Q2	408	#5	26'-1"	
Q2B	16	#8	26'-6"	
Q3	208	#5	5'-10"	
Q3B	204	#5	5'-6"	
Q4	172	#4	4'-7"	
Q4B	172	#5	8'-4"	
Q4C	40	#4	2'-1"	
Q4D	16	#5	5'-11"	
Q4E	16	#4	5'-2"	
Q4F	20	#5	4'-6"	
Q4G	20	#4	5'-9"	
Q5	82	#5	12'-6"	
Q5B	24	#4	11'-8"	
REINFORCEMENT BARS		LBS.	73,500	
CLASS X CONCRETE		CU. YDS.	408.9	



DETAIL - 1" ANCHOR BOLT
Cost of bolts incidental to cost of bridge structure.



DETAIL - 1 1/2" ANCHOR BOLT
(For Light Pole Base)



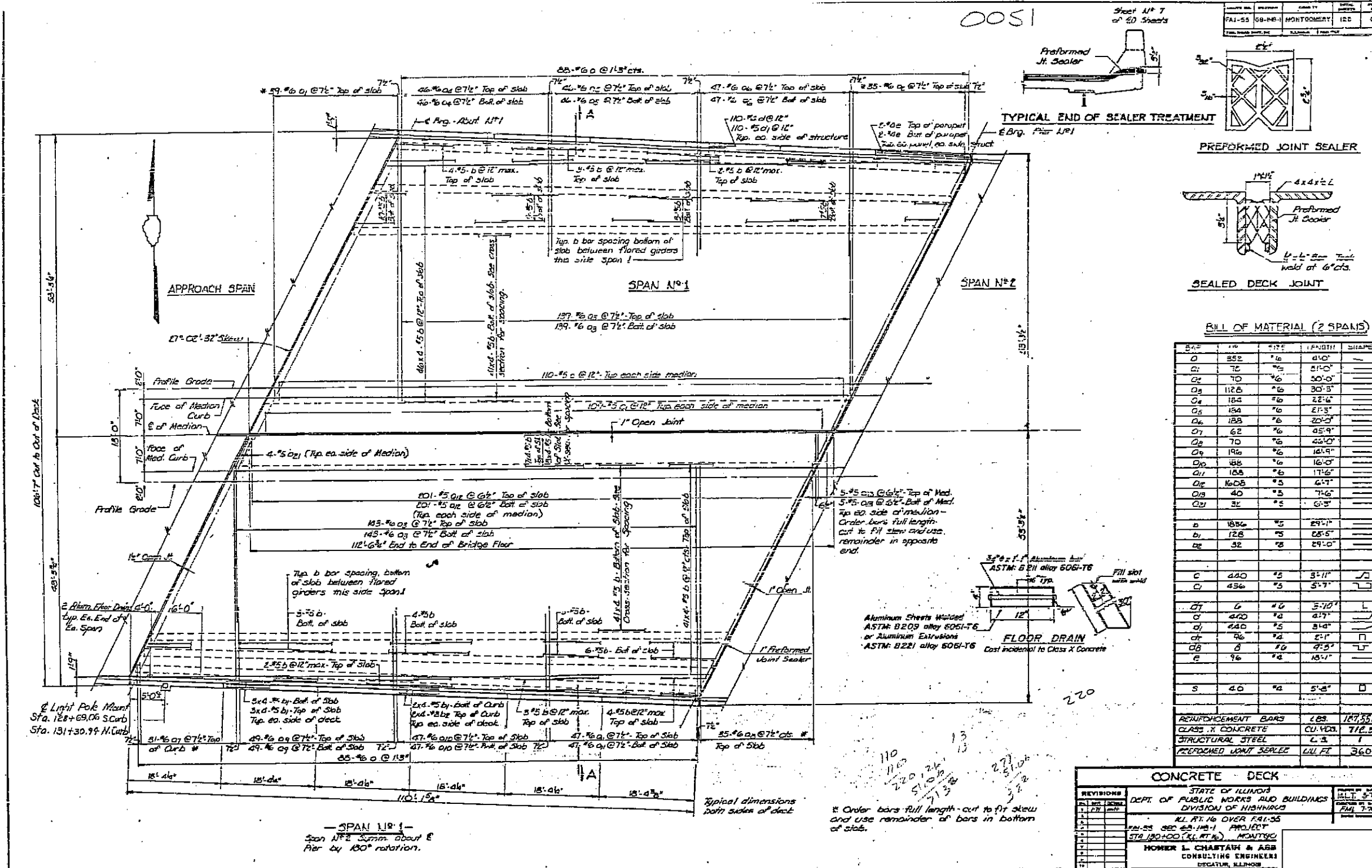
SECTION C-C

* Order bars full length. Cut to fit slab and use remainder of bars in bottom of slab.

NOTE: See Sheet # B for SECTION B-B.

CONCRETE DECK -- APPROACH SPAN3			
REVISIONS	DATE	BY	CHKD.
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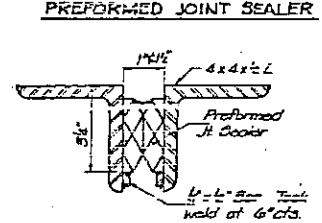
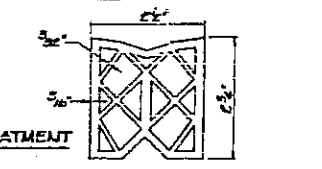
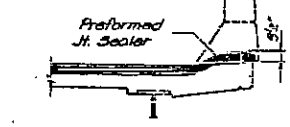
C-96-012-06
EXISTING BRIDGE PLANS
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of 10 Sheets

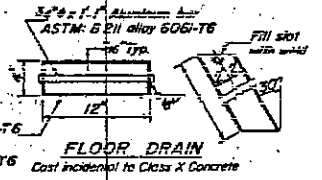
DATE	BY	CHKD BY	APP'D BY
FBI-55	GB-NB-1	MONTGOMERY	ICC



BILL OF MATERIAL (2 SPANS)

QTY	NO	TYPE	LENGTH	SHAPE
Q1	852	#6	4'-0"	—
Q2	70	#6	3'-0"	—
Q3	1126	#6	30'-3"	—
Q4	184	#6	22'-6"	—
Q5	154	#6	21'-3"	—
Q6	158	#6	20'-2"	—
Q7	62	#6	45'-9"	—
Q8	70	#6	44'-0"	—
Q9	186	#6	16'-9"	—
Q10	158	#6	17'-6"	—
Q11	1608	#3	6'-7"	—
Q12	40	#3	7'-6"	—
Q13	32	#3	6'-3"	—
a	1876	#5	29'-7"	—
b	128	#5	28'-5"	—
c	32	#5	29'-0"	—
C	420	#5	5'-11"	—
D	456	#5	5'-7"	—
DT	6	#6	5'-10"	L
D	440	#2	4'-7"	—
D1	440	#5	5'-0"	—
DT	6	#2	2'-1"	—
D2	8	#6	2'-3"	—
E	96	#2	18'-4"	—
S	4.0	#2	5'-2"	D

REINFORCEMENT BARS	283	127,550
CLASS X CONCRETE	CU. YDS.	712.3
STRUCTURAL STEEL	LBS.	1
PREFORMED JOINT SEALER	LIN. FT.	360



NO.	DATE	DESCRIPTION
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STATE OF ILLINOIS
DEPT. OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
ALL FT. 16 OVER FBI-55
FBI-55 SEP 63-118-1 PROJECT
STA 130+00 (K.L.R.#) MONTGOMERY
HOMER L. CHASTAIN & ASS
CONSULTING ENGINEERS
DECATUR, ILLINOIS

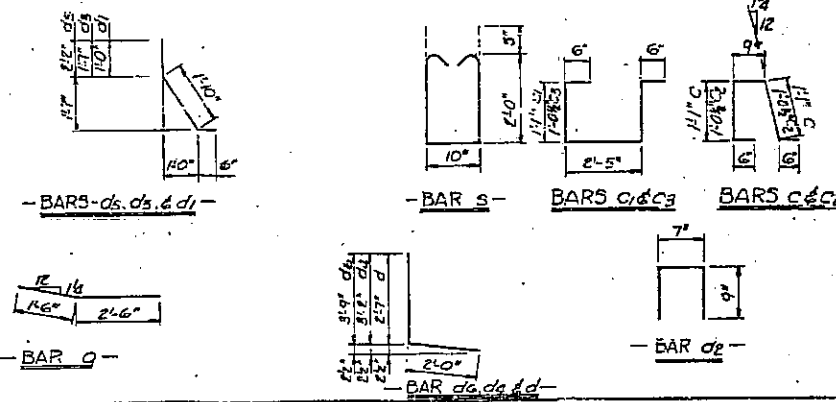
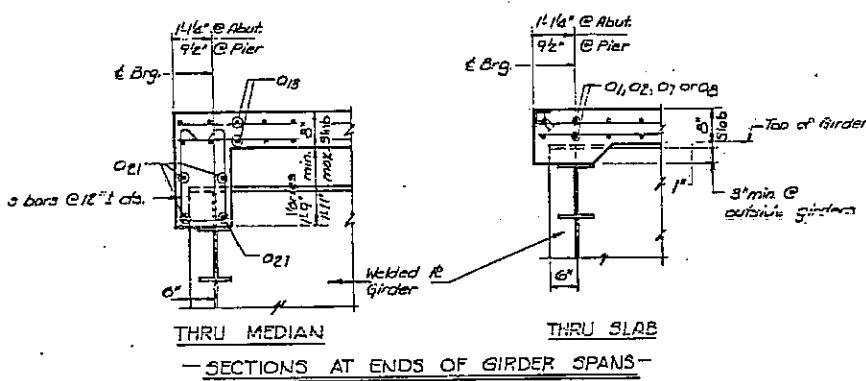
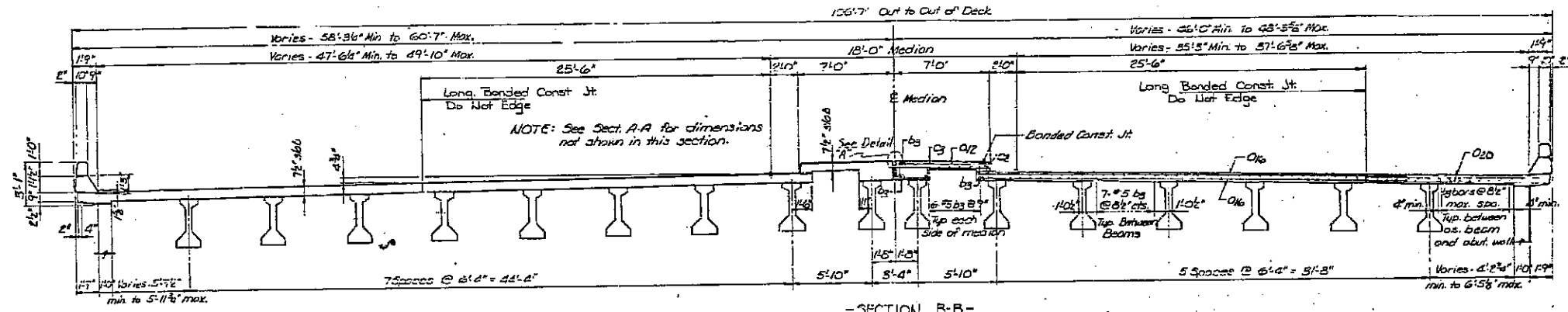
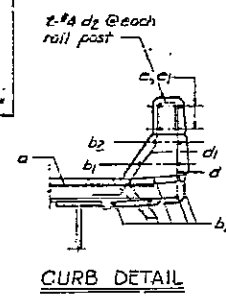
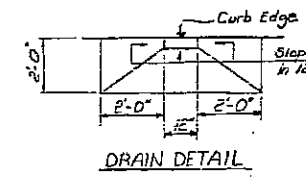
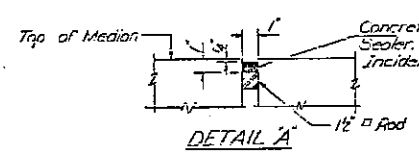
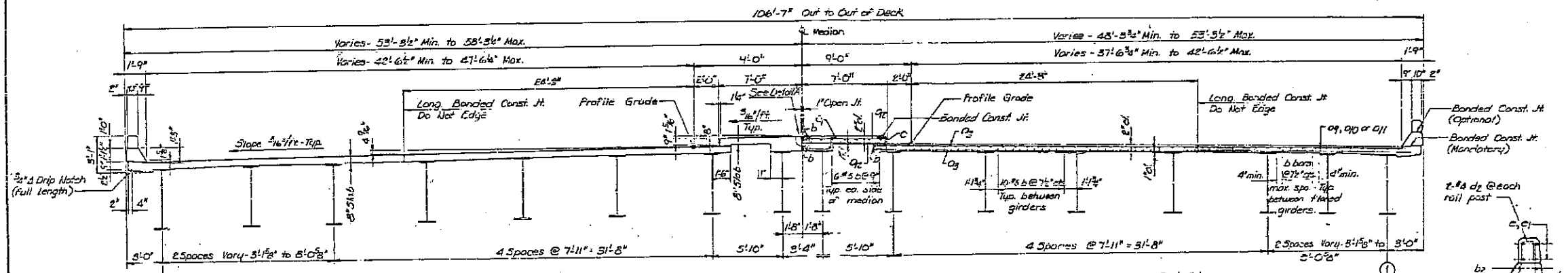
C-96-012-06

EXISTING BRIDGE PLANS
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Sheet 12 of 20 Sheets

PROJECT NO.	CONTRACT	SECTION	DATE	SCALE
F-1-55	55-46-1	MONTGOMERY	12-8	63

0051



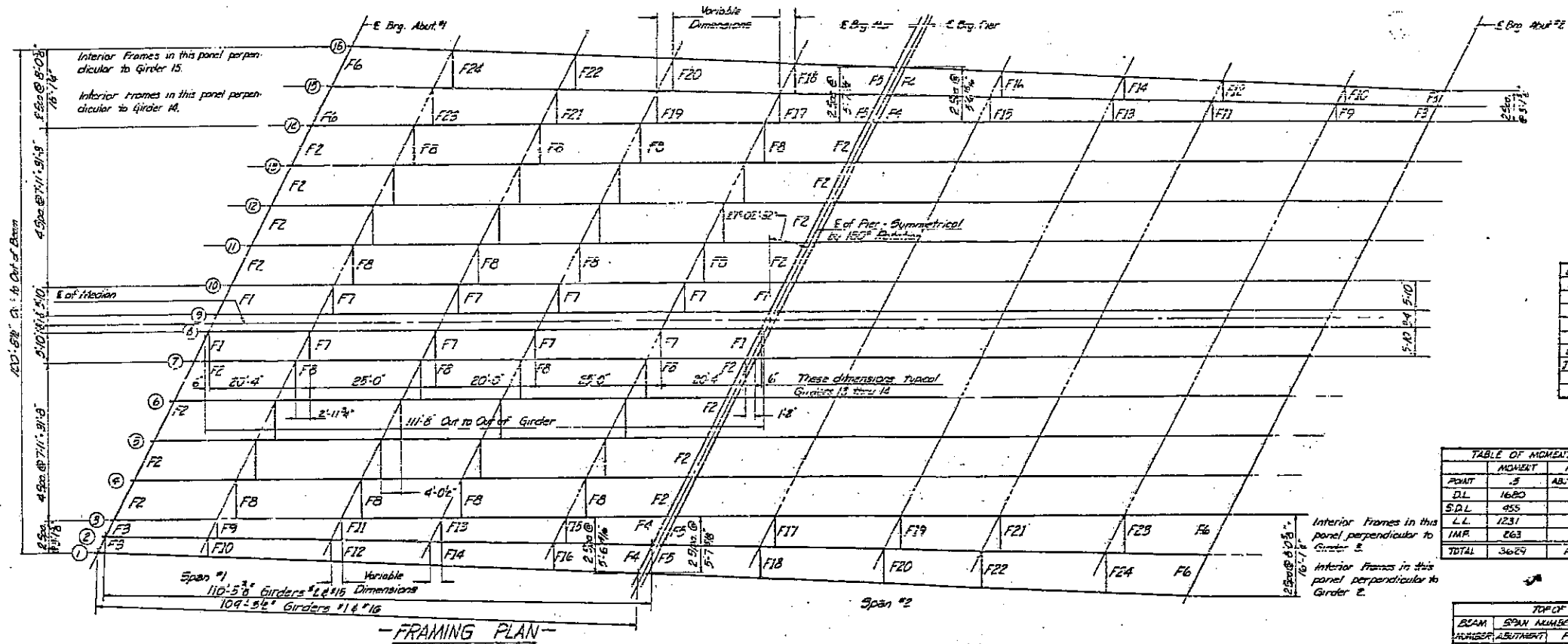
NOTES:
All reinforcement bars to have 1 1/2" min cover unless noted otherwise.
All edges shall have 3/4" chamfers.
For "Forget Joint Detail", see sheet #9

CONCRETE DECK				
REVISION	DATE	BY	CHKD	APP'D
1	12/1/55	J.M.	J.M.	J.M.
2	12/1/55	J.M.	J.M.	J.M.
3	12/1/55	J.M.	J.M.	J.M.
4	12/1/55	J.M.	J.M.	J.M.
5	12/1/55	J.M.	J.M.	J.M.
6	12/1/55	J.M.	J.M.	J.M.
7	12/1/55	J.M.	J.M.	J.M.
8	12/1/55	J.M.	J.M.	J.M.
9	12/1/55	J.M.	J.M.	J.M.
10	12/1/55	J.M.	J.M.	J.M.

C-96-012-06
EXISTING BRIDGE PLANS
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Sheet No. 12
of 20 Sheets
0051

PROJECT NO.	DATE	PROJECT	SCALE	DATE
EA-1-55	08-14-61	MONTGOMERY	1/8"	67



BEAM PROPERTIES

POINT	5
STEEL SECTION	
J'S	60,254
S'S	2133
E'S	2133
CENTROID DISTANCE	
J-COMR	117.027
ST	4911
SS	2453

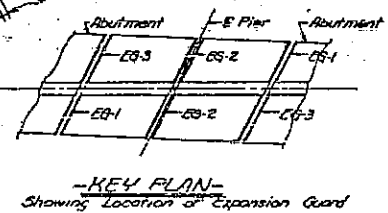
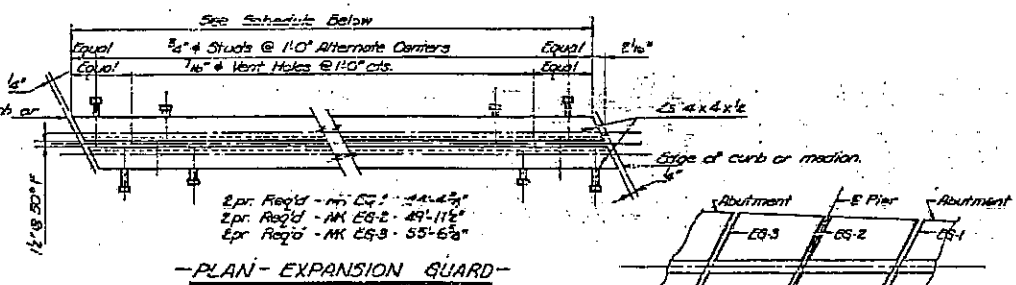
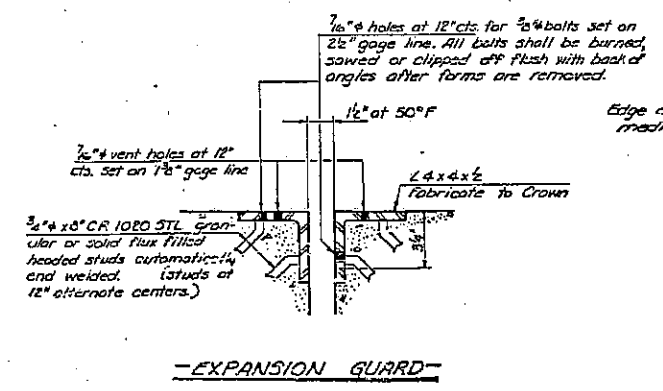
TABLE OF MOMENTS REACTIONS & SHEARS

POINT	MOMENT	REACTION	SHEAR
DL	1680	610	610
S.D.L	455	165	165
L.L	1231	574	574
IMP	263	122	122
TOTAL	3629	1471	1471

TOP OF MID ELEVATIONS*

BEAM NUMBER	SPAN NUMBER 1	PIER	PIER	SPAN NUMBER 2	ABUTMENT
1	703.68	703.77	703.77	703.77	703.77
2	703.74	703.89	703.89	703.89	703.89
3	703.80	703.98	703.98	703.98	703.98
4	703.94	703.92	703.92	703.92	703.92
5	703.07	703.65	703.65	703.65	703.65
6	703.21	703.79	703.79	703.79	703.79
7	703.94	703.92	703.92	703.92	703.92
8	703.44	704.02	704.02	704.02	704.02
9	703.53	704.02	704.02	704.02	704.02
10	703.45	703.94	703.94	703.94	703.94
11	703.94	703.85	703.85	703.85	703.85
12	703.82	703.71	703.71	703.71	703.69
13	703.11	703.70	703.70	703.70	703.70
14	702.99	703.48	703.48	703.48	703.42
15	702.94	703.40	703.40	703.40	703.41
16	702.06	703.32	703.32	703.32	703.36

* For fabrication only



STRUCTURAL STEEL DETAILS

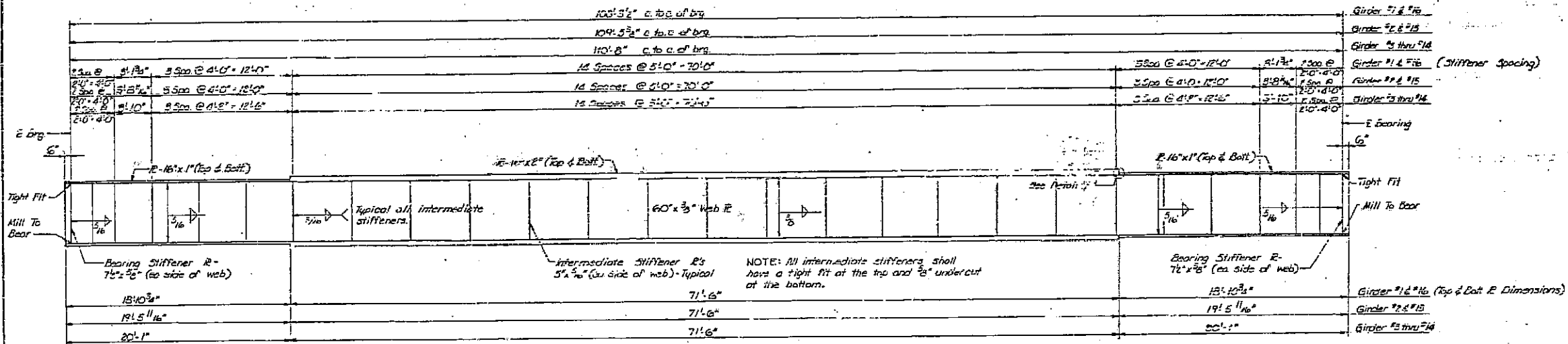
REVISIONS	STATE OF ILLINOIS DEPT. OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS ILL. RT. 16 OVER I-55 FAIRBANKS, ILL. PROJECT SHEET NO. 12 OF 16 HOMER L. CHASTAIN & ASS CONSULTING ENGINEERS DECATUR, ILLINOIS	DATE MLT #23 FAR 7-70
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C-96-012-06
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY
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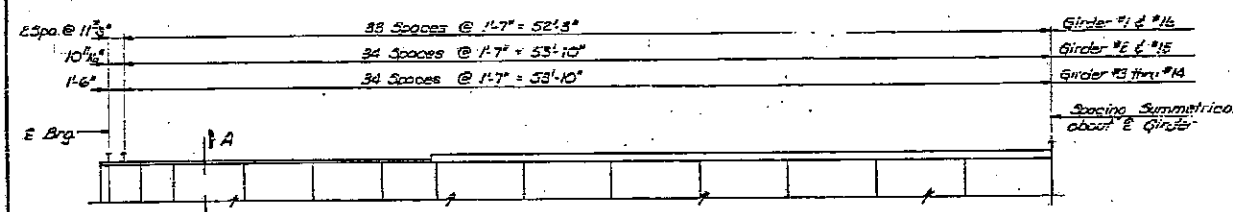
Sheet No 13
of 20 Sheets

PA-1-25	EN-1-12	MONTGOMERY	12A	AD
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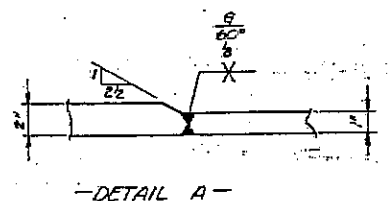
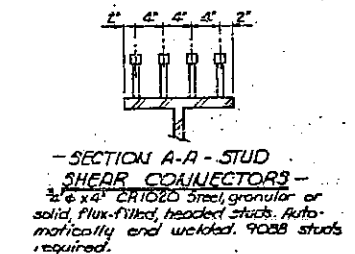
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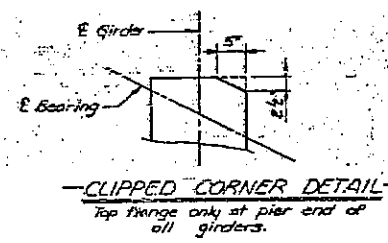
-GIRDER ELEVATION-



-STUD SHEAR CONNECTOR SPACING-
Girder #1 & #16: 284 Reqd. each girder
Girder #2 & #15: 254 Reqd. each girder
Girder #3 thru #14: 284 Reqd. each girder



-DETAIL A-



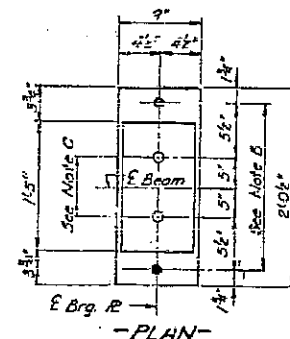
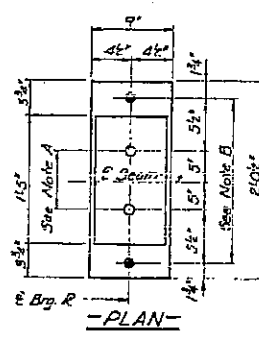
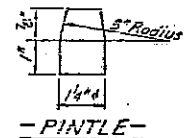
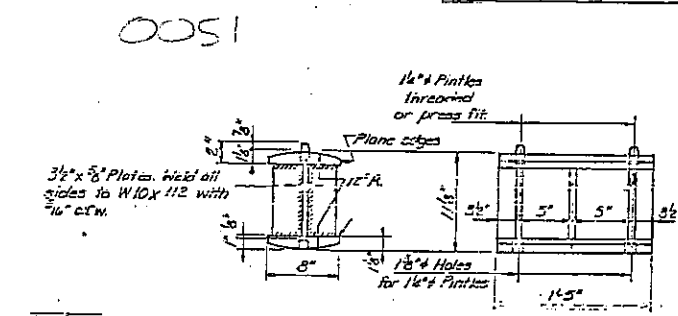
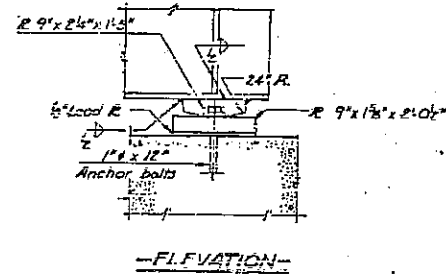
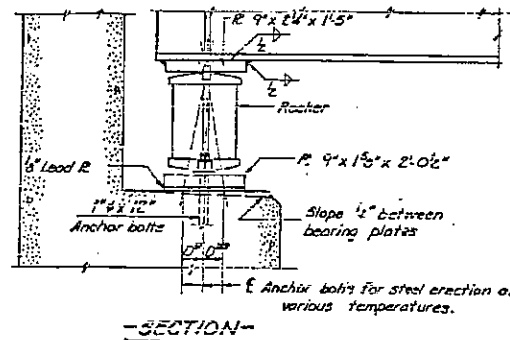
-CLIPPED CORNER DETAIL-
Top flange only at pier end of all girders.

STRUCTURAL STEEL DETAILS			
REVISIONS	STATE OF ILLINOIS	DESIGNED BY	DATE
1	DEPT. OF PUBLIC WORKS AND BUILDINGS	MLT 5-70	
2	DIVISION OF HIGHWAYS	FAIR 7-70	
3	ILL. RT. 14 OVER I-55		
4	FA-1-25 SEC. 68-1181 PROJECT		
5	SPR. 120+00 (ILL. RT. 14)		
6	MONTEB		
7	WOMEN L. CHASTAIN & ASSOC.		
8	CONSULTING ENGINEERS		
9	INDICATOR, ILLINOIS		

C-96-012-06
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY
(NOT TO SCALE)

Sheet No 18
of 20 Sheets

DATE	BY	CHECKED	APPROVED
FAL-55	ER-BEL	MONTGOMERY	12B
PER SCALE SHIP NO	ILLINOIS	PROJECT	

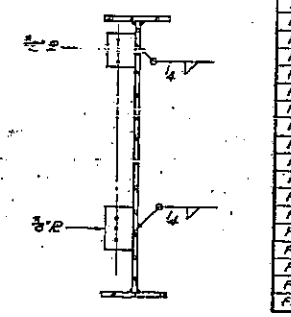
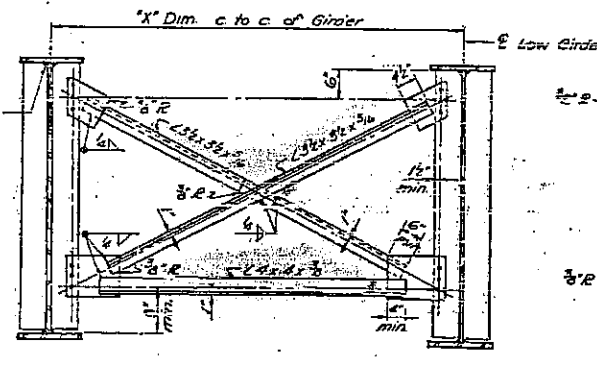
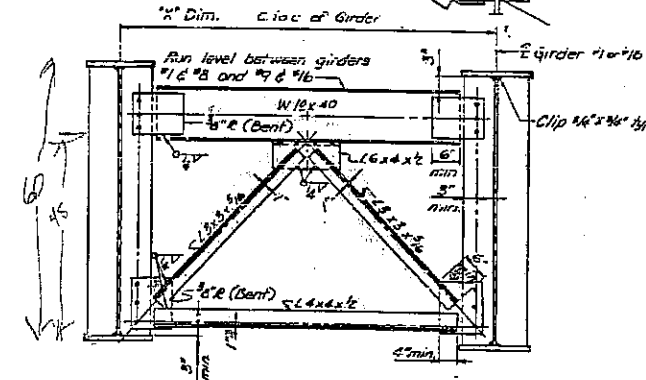
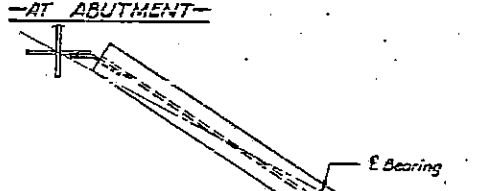


NOTE A
1 1/2" Holes - 1" deep in top flange for pintles. Thread or press fit pintles into bottom flange.

NOTE B
1 1/2" Holes for 1" anchor bolts 2 1/2" x 2 1/2" x 2 1/2" R Washers under nut.

Note: Bearings for all beams to be set at right angles to E of median.

NOTE C
1 1/2" Holes 1" deep in top flange only for 1 1/2" pintles



FRAME NO	REQ. DIM. X	
F1	32	61 1/2"
F2	32	50 1/2"
F3	4	50 1/2"
F4	4	45 1/2"
F5	4	60 1/2"
F6	4	9' 0"
F7	16	54' 0"
F8	64	71' 11"
F9	2	3' 7 1/2"
F10	2	3' 5"
F11	2	4' 2 1/2"
F12	2	4' 2 1/2"
F13	2	4' 7 1/2"
F14	2	4' 8 1/2"
F15	2	5' 2 1/2"
F16	2	5' 2 1/2"
F17	2	6' 0"
F18	2	6' 1 1/2"
F19	2	6' 7 1/2"
F20	2	6' 8 1/2"
F21	2	7' 0 1/2"
F22	2	7' 1 1/2"
F23	2	7' 7 1/2"
F24	2	7' 8 1/2"

NOTES ON SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

- D^s (Side of brg away from fixed brg.)
D^s = 8" per each 100' of expansion for every 15° fall below the normal temperature of 50°F.
 - D^w (Side of brg toward fixed brg.)
D^w = 8" per each 100' of expansion for every 15° rise above the normal temperature of 50°F.
- After beams have been erected and dimensions D^s or D^w determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

REVISIONS	DATE	BY	REASON
1	1/22/55	ER-BEL	REVISED

STATE OF ILLINOIS
DEPT. OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
ILL. RT. 16 OVER I-55 PROJECT
3RD 150' W/O (ILL. RT. 16) MONTGOMERY
HOMER L. CHASTAIN & ASSOC.
CONSULTING ENGINEERS

C-96-012-06
EXISTING BRIDGE PLANS
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