

INDEX OF SHEETS

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3	SUPERSTRUCTURE
4	STEEL RAILING DETAILS
5 & 6	CROSS-SECTIONS

STANDARDS

STD. NO.	DESCRIPTION
280001-03	TEMPORARY DITCH CHECKS
515001-02	NAME PLATES FOR BRIDGES
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-03	TRAFFIC BARRIER TERMINAL TYPE 2
702001-06	TRAFFIC CONTROL DEVICES
BLR 21-6	TRAFFIC CONTROL
BLR 22-4	TRAFFIC CONTROL

STATE OF ILLINOIS

**PLANS FOR THE
PROPOSED BRIDGE REPLACEMENT
AND REHABILITATION PROGRAM**

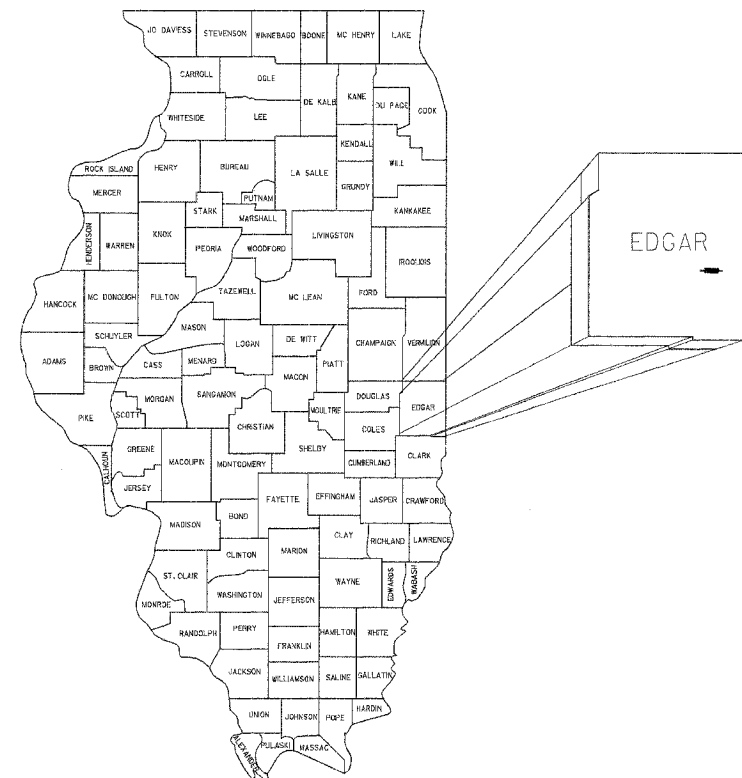
PROJECT NO. BROS-045(42)
JOB NO. C-95-322-07

TR 61A OVER N. FORK BROUILLETT'S CK
SECTION 07-10125-00-BR
PRAIRIE TOWNSHIP
EDGAR COUNTY

SUMMARY OF QUANTITIES

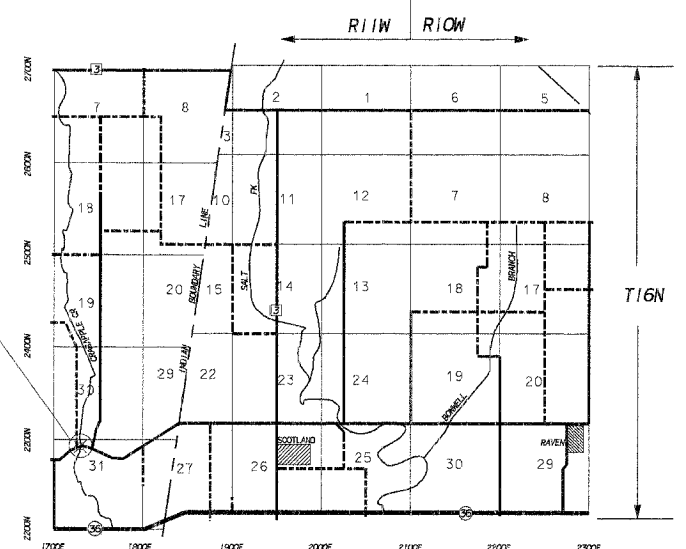
CODE NO.	ITEMS	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU.YD	7
20400800	FURNISHED EXCAVATION	CU.YD	40
20900110	POROUS GRANULAR BACKFILL	CU.YD	4
25001000	SEEDING CLASS 2 (SPECIAL)	ACRE	0.1
28000300	TEMPORARY DITCH CHECKS	EACH.	4
44213200	SAW CUTS	FOOT	181
70015970	DECK SLAB REMOVAL (PARTIAL)	SQ.YD.	72.4
50200100	STRUCTURE EXCAVATION	CU.YD.	4
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ.FT.	674
50900205	STEEL RAILING, TYPE SI	FOOT	182
51500100	NAME PLATES	EACH	1
6310045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2
6310075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
6310067	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
78201000	TERMINAL MARKER DIRECT APPLIED	EACH	2
67100100	MOBILIZATION	L SUM	1

X020-2A



LOCATION OF SECTION INDICATED THUS:

EXISTING STRUCTURE NO 023-4904
TRIPLE SPAN PRECAST CONCRETE
DECK BEAM BRIDGE ON SPILL-THRU
ABUTMENTS



LOCATION MAP

SCALE 1 INCH = 1 MILE
NET LENGTH OF SECTION = 285 FEET (0.054 MILES)
FUNCTIONAL CLASSIFICATION: LOCAL ROAD
ADT = < 350

UTILITY COMPANIES

**VERIZON, INC.
212 EAST GROVE
RANTOUL, ILL, 61866
GREG CURTIS
1-217-892-3359

**AMEREN IP
1112 WEST ANTHONY DR
P.O. BOX 17070
URBANA, IL 61803-7070
MARK HIPPLE
1-217-383-7270

TOLL FREE JOINT UTILITY
LOCATING INFORMATION
FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE * 1-800-892-0123

APPROVED March 13 20 07
Dab
EDGAR COUNTY ENGINEER

APPROVED March 13 20 07
John Hill
ROAD COMMISSIONER

PASSED 3/21 20 07
David Hill
DISTRICT 5 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW
March 20 07
Joseph E. Lane
DEPUTY DIRECTOR OF HIGHWAYS REGIONAL FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

McCLINTOCK
CIVIL ENGINEERING SERVICE
404 SHAW AVENUE, PARIS, IL 61944
PHONE (217) 466-6110

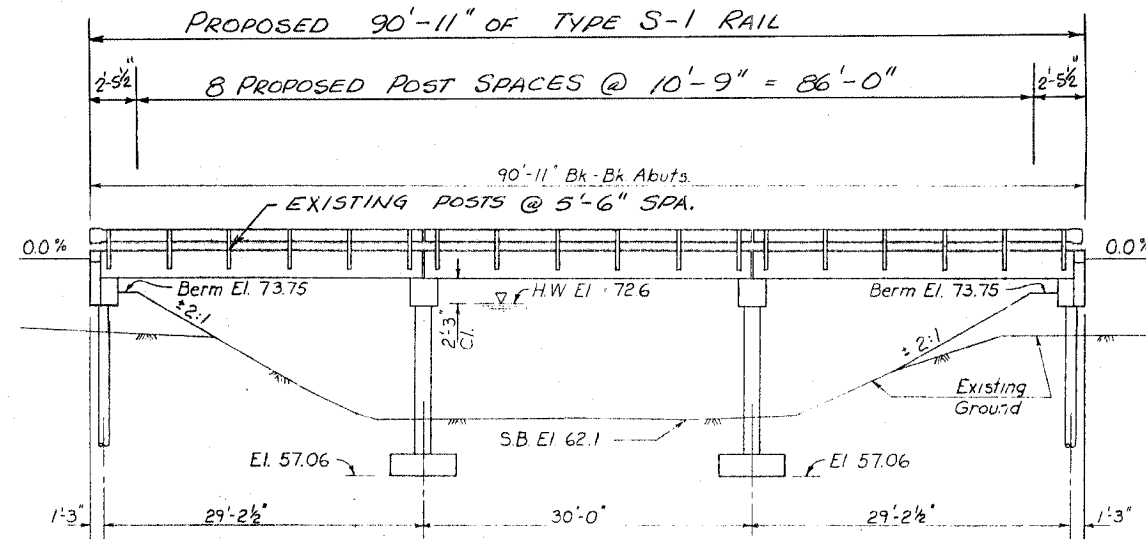
DRN SDE DATE 3/01/07 SHEET 1 OF 6
C.K. DATE
APPR. JOB NO. 3137-753-07



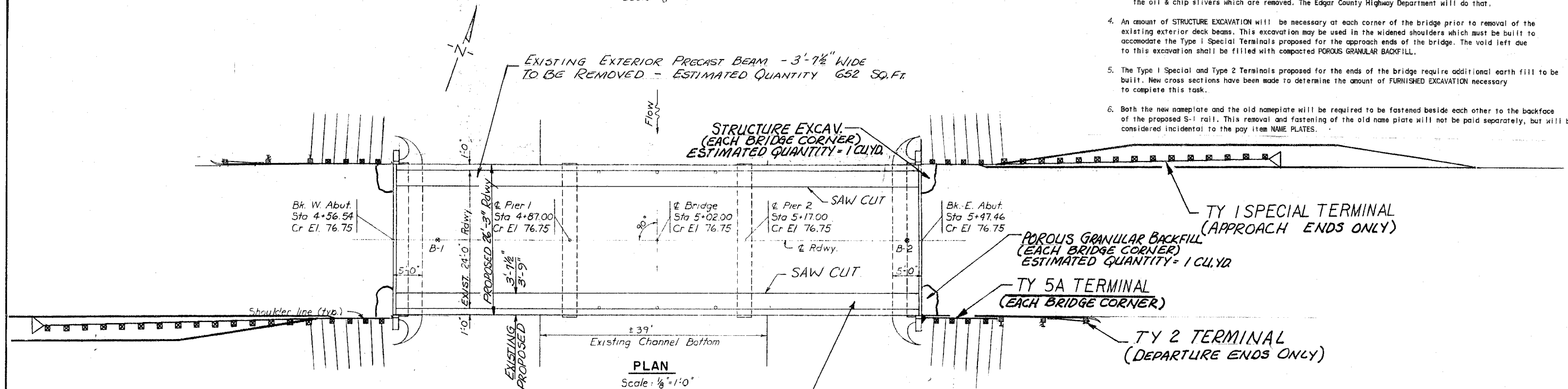
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED STRUCTURAL AND PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS.
Robert L. McClintock DATE: 3/13/07
ROBERT L. McCLINTOCK
P.E. LICENSE EXP. 11-30-07 P.E. #24158
S.E. LICENSE EXP. 11-30-08 S.E. # 3137

This work shall conform to the January 1, 2007 Standard Specifications for Road and Bridge construction adopted by the Illinois Department of Transportation.

1. A recent accident knocked out about 30 feet of bridge rail at the northeast corner of bridge. This structure was originally constructed in 1960.
2. The existing exterior precast beams exhibit a serious amount of exposed reinforcement.
3. The purpose of this rehabilitation is to remove the exterior precast beams and replace them with new ones. Also remove the existing bridge rail and replace it with new TYPE S-1 BRIDGE RAIL. This removal will be paid for at the field measured contract unit price per square yard for DECK SLAB REMOVAL (PARTIAL). It is suggested that the contractor drill and loosen the grout around the existing dowel bars and jack from the abutment caps to facilitate removal of the existing exterior deck beams.
 - A. The existing exterior precast beams are 3' - 7 1/2" wide. Such a width is no longer practical to precast. A 3' - 9" width is still available. We therefore intend to add 3' - 9" wide exterior deck beams in place of the existing beams. The distance between existing abutment wings is wide enough to allow this. The existing pier caps are too short to accommodate the added 1 1/2" width on each side. For this reason, the proposed precast bridge slab will overhang the existing (chamfered) ends of the existing pier caps by 1 1/2 inches.
 - B. When the exterior deck beams are removed, there is a danger that the existing grouted keyway may not shear off uniformly and fracture a part of the adjoining deck beam which is to remain in place. To prevent this, we intend for the contractor to saw the longitudinal keyway joint. We will pay for this work at the field measured contract unit price for SAW CUTS in accordance with Article 442.11 of the Standard Specifications even though this pay item is generally associated with pavement patching. The pay item SAW CUTS shall also cover chipping and cleaning out the existing grout in the keyway of the adjoining deck beams which is to remain in place.
 - C. The existing bridge deck is covered with a two or three inch thickness of oil & chip surface. This oil & chip covers the exterior longitudinal joints which need to be sawed. Fortunately, the oil & chip terminates near the exterior joints and the area beyond consists of a triangular sliver of oil & chip which is looser and more easily removed. The triangular slivers of oil & chip must be removed before the longitudinal joint saw cuts can be made. Perhaps a backhoe bucket or bobcat bucket could be used to remove the slivers of oil & chip. We would like a neat edge to this removal line, but it does not have to be perfect. Once the slivers are removed, the longitudinal joint can be sawed. We suggest using timber plank on the (cleaned) exterior deck beams to level the wheels of the saw with the adjacent oil & chip surface. The contractor does not have to replace the oil & chip slivers which are removed. The Edgar County Highway Department will do that.
4. An amount of STRUCTURE EXCAVATION will be necessary at each corner of the bridge prior to removal of the existing exterior deck beams. This excavation may be used in the widened shoulders which must be built to accommodate the Type 1 Special Terminals proposed for the approach ends of the bridge. The void left due to this excavation shall be filled with compacted POROUS GRANULAR BACKFILL.
5. The Type 1 Special and Type 2 Terminals proposed for the ends of the bridge require additional earth fill to be built. New cross sections have been made to determine the amount of FURNISHED EXCAVATION necessary to complete this task.
6. Both the new nameplate and the old nameplate will be required to be fastened beside each other to the backface of the proposed S-1 rail. This removal and fastening of the old name plate will not be paid separately, but will be considered incidental to the pay item NAME PLATES.



ELEVATION
Scale: 1/8" = 1'-0"

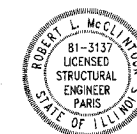


PLAN
Scale: 1/8" = 1'-0"

PROPOSED PRECAST CONCRETE BRIDGE SLAB 3'-9" WIDE
TO BE ADDED EACH SIDE OF BRIDGE
ESTIMATED QUANTITY = 674 SQ. FT.

TEMPORARY DITCH CHECKS

STA	O/S	QUANTITY
4+60	25' LT	1 EACH
4+60	25' RT	1 EACH
5+45	25' LT	1 EACH
5+45	25' RT	1 EACH
TOTAL		4 EACH



I hereby certify that I am a duly licensed Structural Engineer in accordance with the laws of the State of Illinois and that these plans were prepared by me or under my direct supervision.

Robert L. McClintock
Robert L. McClintock IL S.E. #3137
LICENSE EXPIRES 11-30-08
Date: 3/09/07

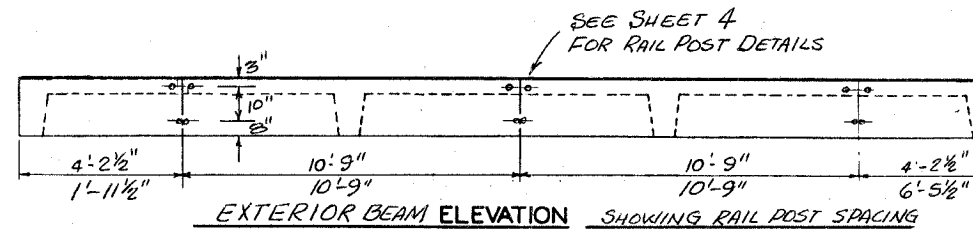
SEC. 07-10125-00-BR
PRAIRIE ROAD DISTRICT
EDGAR COUNTY
LOADING H15-S12
STR. NO. 023-4904

NAME PLATE DETAIL

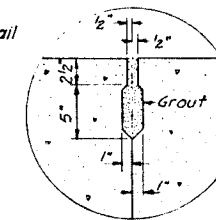
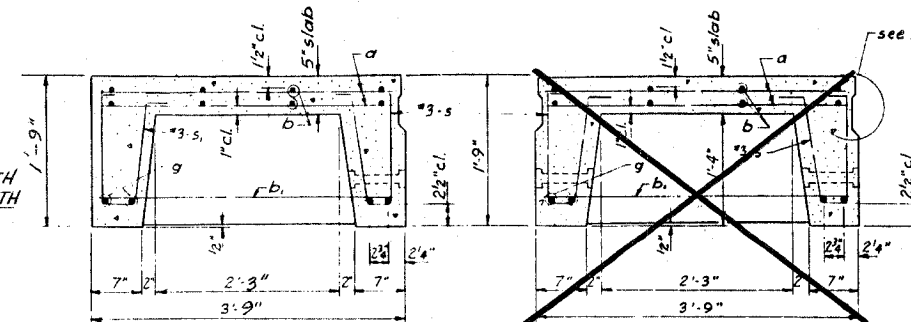
SEE STANDARD 515001

LOADING H15-S12-44

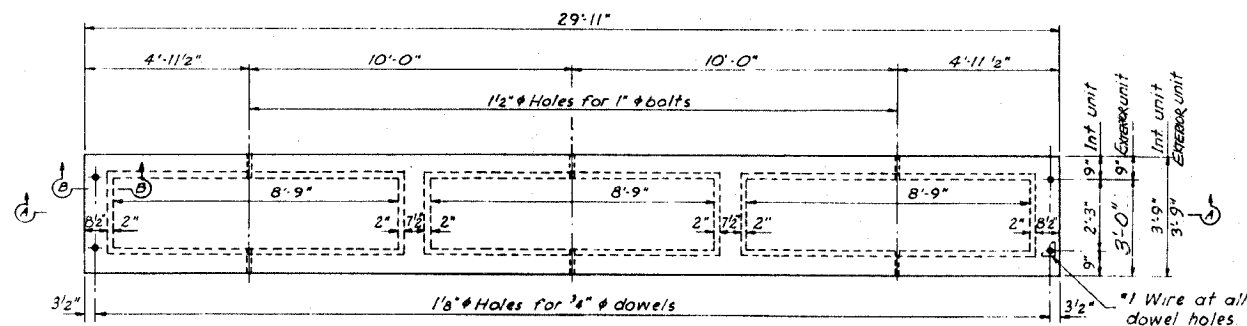
GENERAL PLAN AND ELEVATION		McCLINTOCK CIVIL ENGINEERING SERVICE 1404 SHAW AVENUE, PARSIPPAN, N.J. 07054 PHONE 973-261-0110	
SECTION 07-10125-00-BR PRAIRIE TOWNSHIP EDGAR COUNTY	DRN CK. SCALE APPR.	DATE SCALE	SHEET 2 OF 6 JOB NO. 3137-753-07



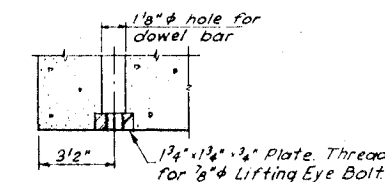
MIDDLE SPAN
SOUTH SPAN LOOKING NORTH
NORTH SPAN LOOKING SOUTH



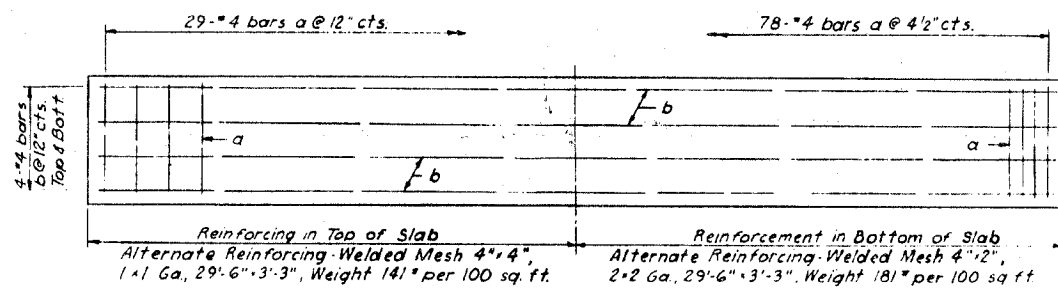
KEY DETAIL



PLAN-ONE UNIT
Showing Dimensions



LIFTING DEVICE DETAIL



PLAN
Showing Slab Reinforcement

BILL OF MATERIAL SUPERSTRUCTURE

Precast Concrete Bridge Slab	Sq Ft	674
STEEL RAILING, TYPE 3-1	FOOT	182
SAW CUT	FOOT	181

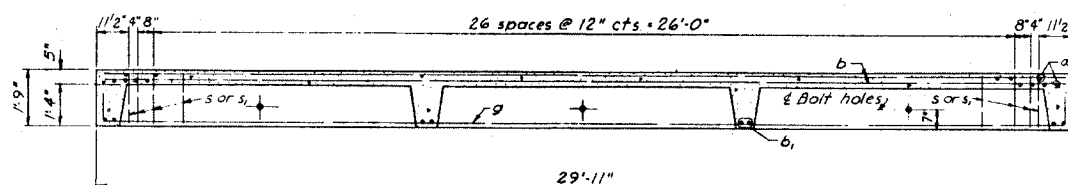
***ESTIMATED QUANTITIES**

	Concrete Cu Yds	Rein Bars Lbs.
One Exterior Unit	4.0	1124
One Int Unit	4.0	1124

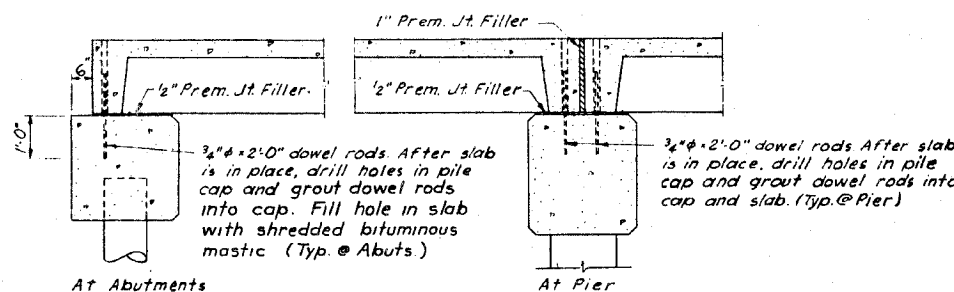
*For information of suppliers of Precast Slab Units only.

***BILL OF REINFORCEMENT BARS**

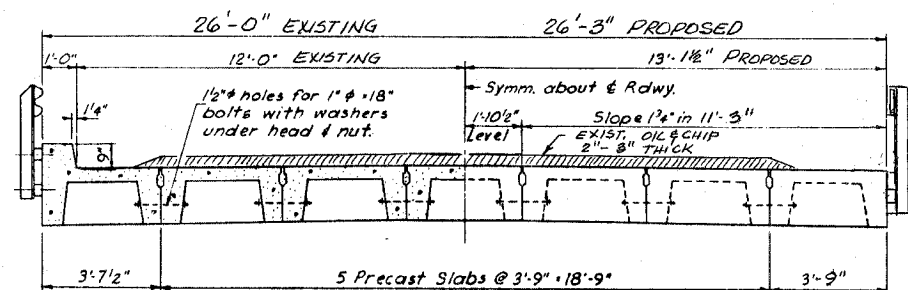
BAR	SIZE	EXTERIOR UNIT		INT. UNIT		SHAPE
		NO.	LENGTH	NO.	LENGTH	
a	#4	107	3'-3"	107	3'-3"	—
b	#4	8	29'-6"	8	29'-6"	—
b ₁	#4	8	3'-3"	8	3'-3"	—
g	#11	4	29'-6"	4	29'-6"	—
s	#3	31	3'-10"	62	3'-10"	S



SECTION A-A

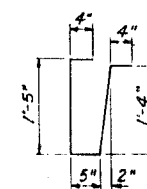


SECTION B-B



HALF SECTION EXISTING

HALF END ELEVATION PROPOSED



BAR s

DESIGN STRESSES PRECAST SLAB

$f'_c = 4500$ p.s.i.
 $f_c = 1800$ p.s.i.
 $f_s = 20,000$ p.s.i.
 $n = 8$

SUPERSTRUCTURE
SEC 07-10125-00-BR
PRAIRIE ROAD DISTRICT
EDGAR COUNTY
STATION 5+02

DESIGNED _____ CHECKED _____
DRAWN _____ DATE _____ NO. _____

MATERIAL REQUIREMENTS

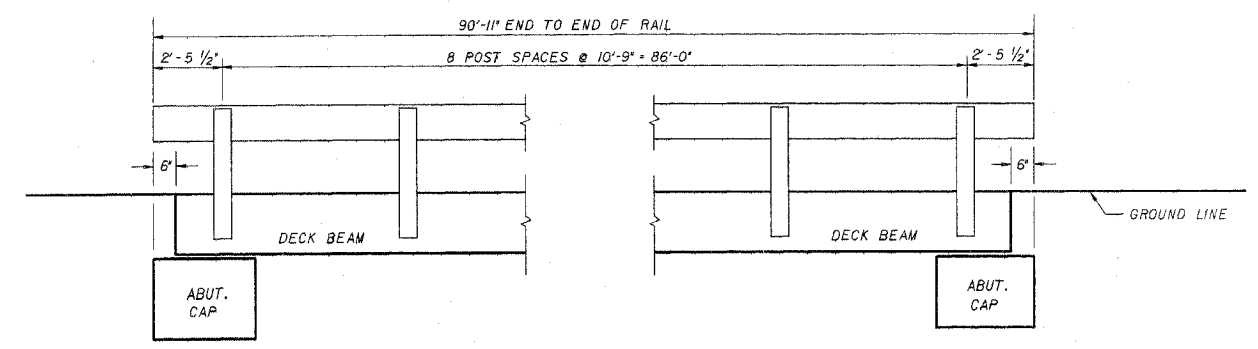
HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-500 GRADE B STRUCTURAL STEEL TUBING.
ALL OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M-183 EXCEPT POSTS AND ANGLES SHALL CONFORM TO A.A.S.H.T.O. M-223, GRADE 50.
BOLTS, CAP SCREWS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-307 EXCEPT FOR HIGH STRENGTH BOLTS, NUTS AND WASHERS NOTED WHICH SHALL CONFORM TO A.A.S.H.T.O. M-164.
ALL BOLTS, NUTS, CAP SCREWS, WASHERS AND LOCK WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.A.S.H.T.O. M-232.
ALL POST, RAILING, RAIL SPLICES, ANCHOR DEVICES AND ANGLES SHALL BE GALVANIZED AFTER SHOP FABRICATION IN ACCORDANCE WITH A.A.S.H.T.O. M-III AND A.S.T.M. A-385. GALVANIZED RAIL SHALL NOT BE PAINTED.

INSTALLATION NOTES

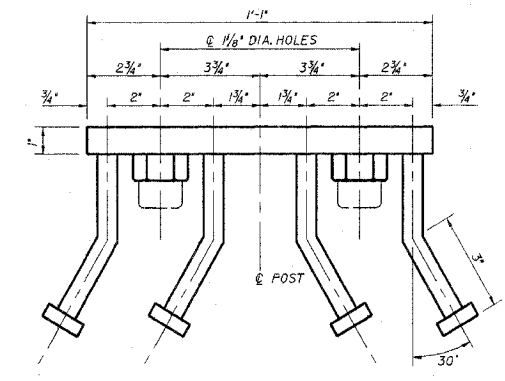
- ① FOR MULTI-SPAN BRIDGES, SUFFICIENT 1/4" x 6" x 1/2" GALVANIZED STEEL SHIMS SHALL BE PROVIDED TO ALIGN RAIL BETWEEN ADJACENT SPANS. COST INCIDENTAL TO STEEL RAILING.
ALL FIELD DRILLED HOLES SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERECTION.
THE 1/2" x 4" x 6" PLATES THAT COME IN CONTACT WITH CONCRETE SHALL RECEIVE TWO COATS OF ASPHALT PAINT CONFORMING TO SECTION 760.07 TYPE II OR PLACE 1/8" FABRIC BEARING PADS BETWEEN THE PLATES AND CONCRETE.
- ② THE 3/4" DIA. HIGH STRENGTH BOLTS USED TO CONNECT THE 6" x 4" x 3/4" ANGLES TO THE POST SHALL BE TIGHTENED IN ACCORDANCE WITH ARTICLE 505.04 (F.H.3) OF THE STANDARD SPECIFICATIONS.
- ③ THE 1" DIA. HIGH STRENGTH BOLTS CONNECTING THE ANGLES TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN. THE 3/8" DIA. CAP SCREWS SHALL BE TIGHTENED TO A SNUG FIT ONLY.
- ④ THE MAXIMUM ALLOWABLE RAIL POST SPACING SHALL BE 10'-9".

BILL OF MATERIAL

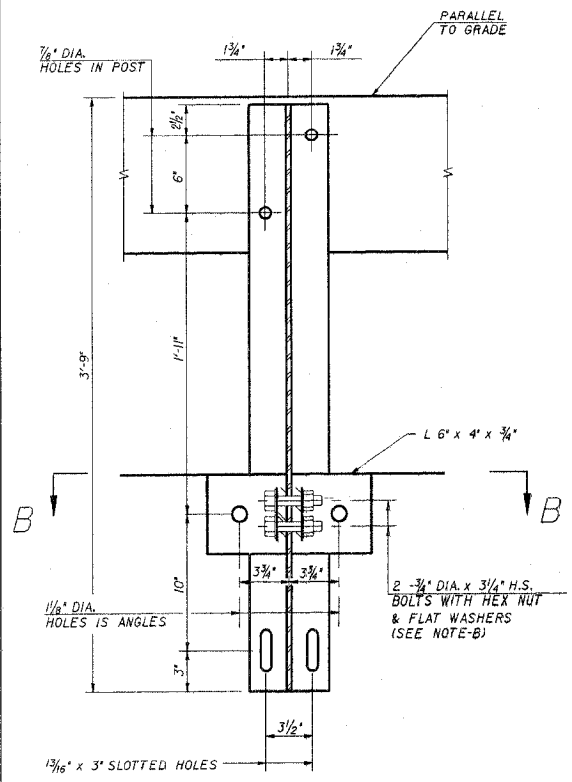
ITEM	UNIT	QUANTITY
STEEL RAILING, TYPE S-1	FOOT	182



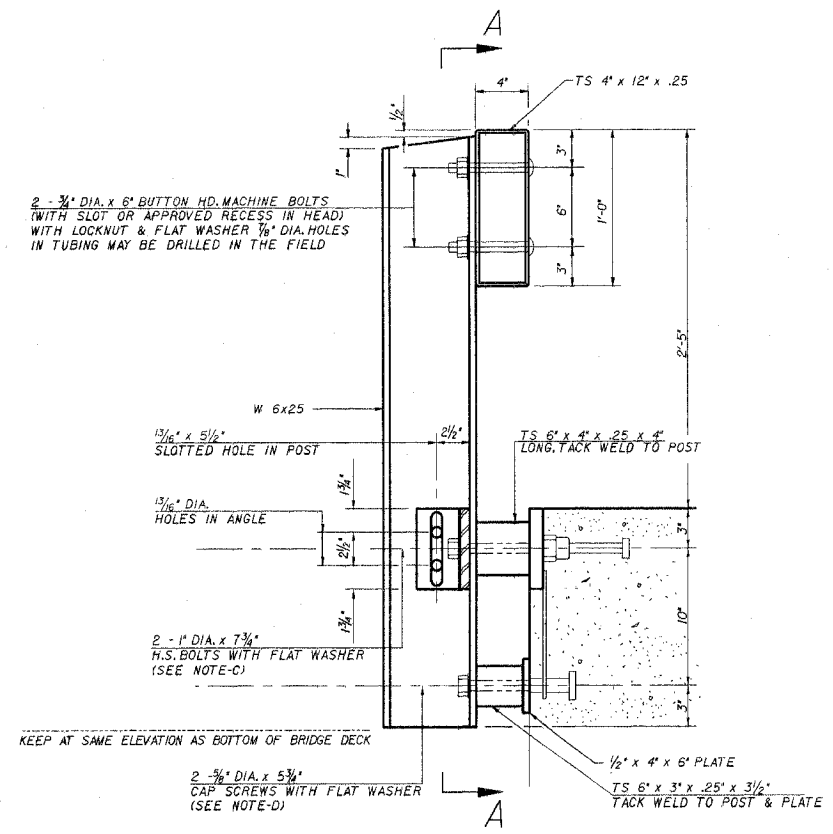
ELEVATION



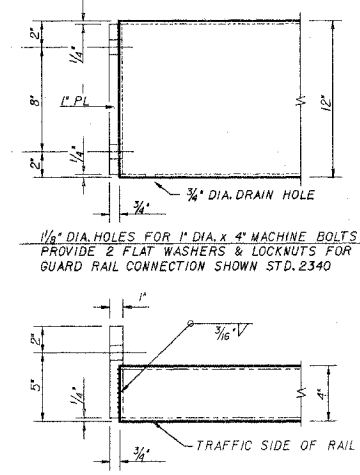
VIEW C - C



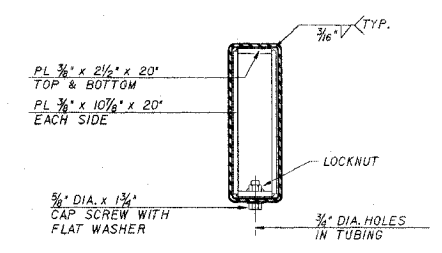
SECTION A - A



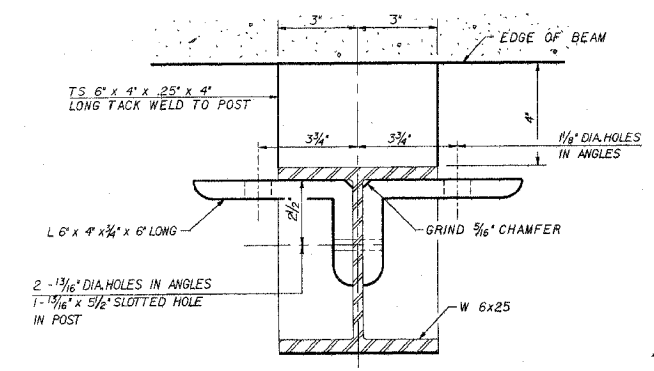
SECTION AT RAIL POST



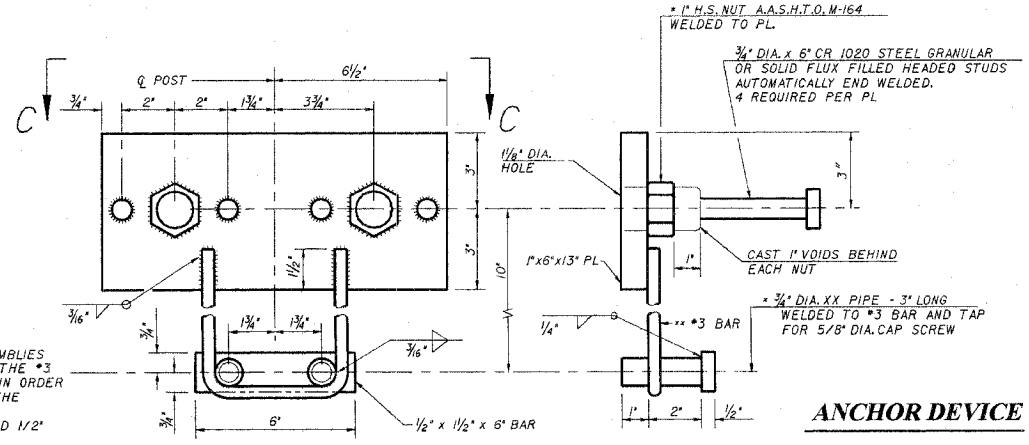
END OF RAIL DETAILS



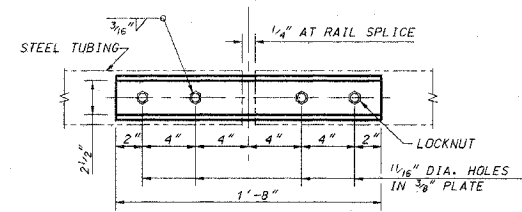
SECTION AT RAIL SPLICE



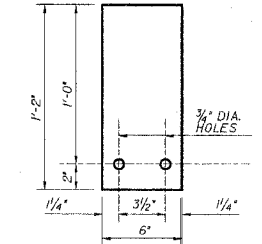
SECTION B - B



ANCHOR DEVICE



**PLAN - BOTTOM
SPLICE PL. TYPICAL**



1/4\"/>

* THREADED AREAS SHALL BE PLUGGED OR BLOCKED OFF DURING CASTING OF BEAM
** WHENEVER THE LOWER INSERT ASSEMBLIES INTERFERE WITH STRAND LOCATIONS, THE #3 BARS SHALL BE CUT AND ADJUSTED IN ORDER TO ALLOW RAISING OR LOWERING OF THE LOWER INSERTS. MAXIMUM ADJUSTMENT NOT TO EXCEED 1/2"

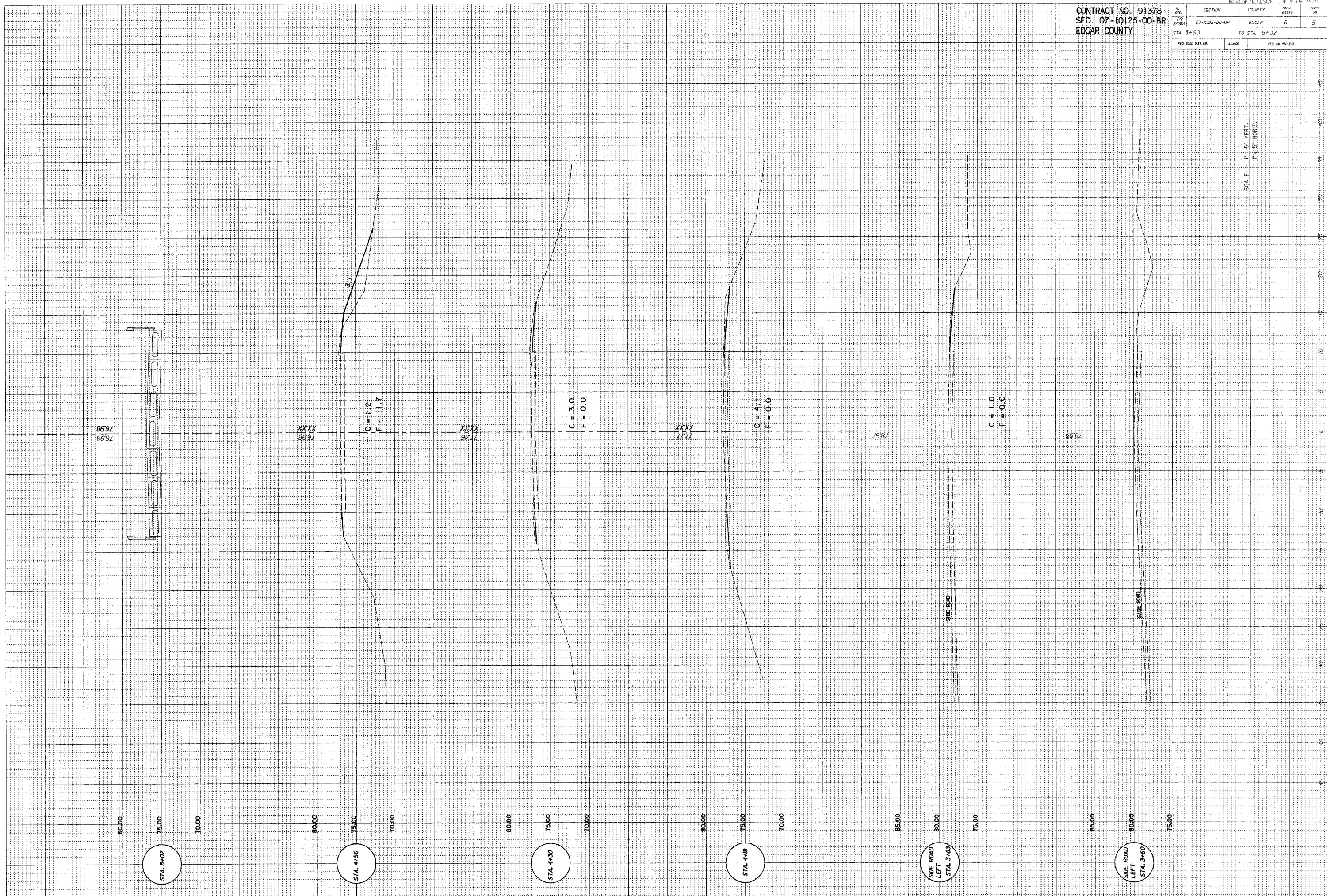
STEEL RAILING, TYPE S-1 SEC. 07-00125-00-BR PRAIRIE TOWNSHIP EDGAR COUNTY	McCLINTOCK CIVIL ENGINEERING SERVICE 404 SHAW AVENUE, PARSIPpany, IL 61944 PHONE (217) 466-6110	DRN SDE DATE 3/2/07 REV. SCALE: NTS APPR.	SHEET 4 OF 6 JOB NO. 3137-753-07
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CONTRACT NO. 91378
 SEC. 07-1Q125-00-BR
 EDGAR COUNTY

AL. SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0705A	07-1Q25-00-BR	EDGAR	6	5

STA. 3+60 TO STA. 5+02

FED. ROAD DIST. NO. ELEV. FEET. PROJ. DIST.



SCALE: H = 1" = 5' VERT.
 H = 1" = 5' HORIZ.

STA. 5+02

STA. 4+56

STA. 4+30

STA. 4+18

SIDE ROAD LEFT STA. 3+82

SIDE ROAD LEFT STA. 3+60

CONTRACT NO. 91378
 SEC. 07-10125-00-BR
 EDGAR COUNTY

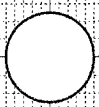
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
07-10125-00-BR	EDGAR	6	6

STA. 5+48 TO STA. 6+44

FED. ROAD DIST. NO.	ALIGNS	FED. AID PROJECT

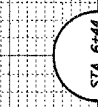
SCALE: H = 5' VERT.
 H = 5' HORIZ.

80.00



75.00

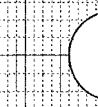
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75.00

70.00

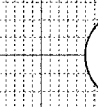
80.00



75.00

70.00

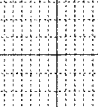
80.00



75.00

70.00

80.00



75.00

70.00

80.00



75.00

70.00

77.88
XXXX

77.54
XXXX

C = 0.0
F = 10.7

77.32
XXXX

C = 0.0
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77.23
XXXX

C = 0.0
F = 4.6

76.87
XXXX

C = 0.0
F = 12.4

40
30
20
10
0
10
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40