

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED  
HIGHWAY BRIDGE PROGRAM**  
HARTER ROAD DISTRICT  
SECTION 99-04128-00-BR  
CLAY COUNTY  
PROJECT NO. BROS-025(56)  
T.R. 325  
C-97-057-07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 325	99-04128-00-BR	CLAY	13	1
ROAD DIST.	ILLINOIS	HARTER		

CONTRACT NO. 95523

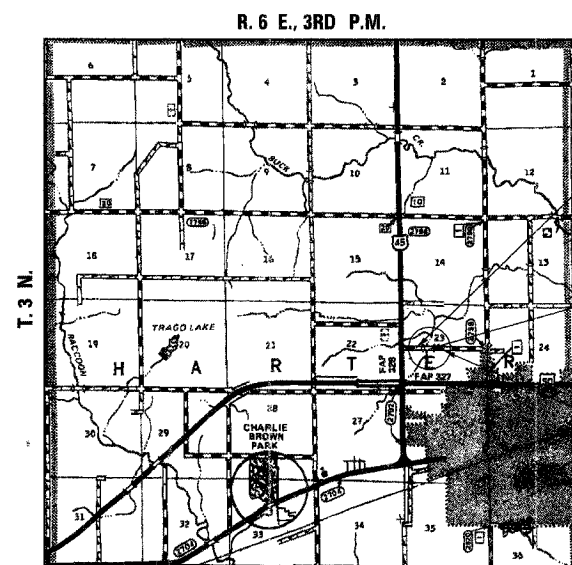
INDEX OF SHEETS	
SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.	SHOULDER AND GUARDRAIL DETAILS
5.-8.	BRIDGE PLANS
9.-13.	STATION CROSS SECTIONS

**STANDARDS:**

280001-03	TEMPORARY EROSION CONTROL SYSTEMS
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
702001-06	TRAFFIC CONTROL DEVICES
BLR 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 24-1	MAILBOX TURNOUT FOR LOCAL ROADS

**SCALES**

PLAN	0' 50' 100'
PROFILE HORIZ.	0' 50' 100'
PROFILE VERT.	0' 5' 10'
CROSS SECTIONS	0' 5' 10'



**LOCATION PLAN**

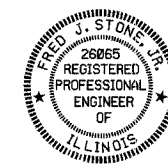
GROSS LENGTH OF SECTION = 850 FEET = 0.161 MILES  
NET LENGTH OF SECTION = 850 FEET = 0.161 MILES



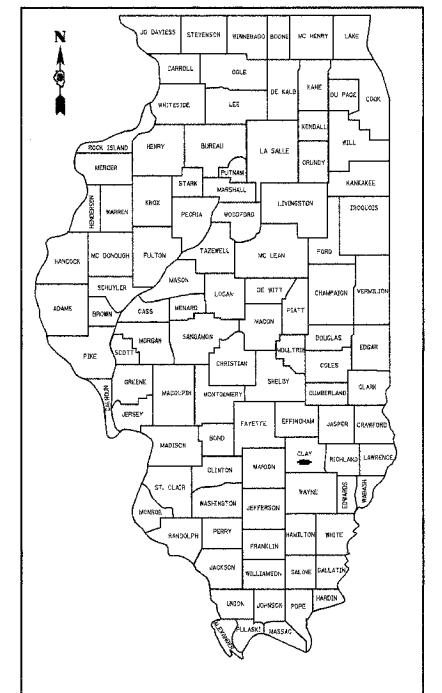
IMPROVEMENT BEGINS  
STA. 45 + 60

STA. 50 + 00 - SPECIAL BRIDGE DESIGN  
PRECAST PRESTRESSED CONCRETE DECK  
BEAM BRIDGE, SINGLE SPAN @ 54'-0",  
28'-0" ROADWAY, 0° SKEW  
EXISTING S.N. 013-3112  
PROPOSED S.N. 013-3230

IMPROVEMENT ENDS  
STA. 54 + 10



*Fred J. Stone* (7-11-07)  
ILLINOIS PROFESSIONAL NO. 26065  
EXPIRES 11-30-07



LOCATION OF SECTION INDICATED THIS:   
CLASSIFICATION: RURAL TWO-LANE LOCAL ROADS  
DESIGN VOLUME: 400-750 ADT  
CURRENT ADT: 400 (2009)  
FUTURE ADT: 500 (2029)  
DESIGN SPEED: 50 MPH

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

PASSED	<i>John Williams</i>	2007
ROAD DISTRICT COMMISSIONER		
APPROVED	<i>[Signature]</i>	2007
JULY 7		
COUNTY ENGINEER		
PASSED	<i>Maurice East</i>	2007
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS		
RELEASED FOR BID BASED ON LIMITED REVIEW	<i>Christy [Signature]</i>	2007
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER		
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

4440 ASH GROVE  
SPRINGFIELD, IL 62711  
(217) 793-8600  
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PROFESSIONAL ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS, AND SURVEYORS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 325	99-04128-00-BR	CLAY	13	2
ROAD DIST.	ILLINOIS	HARTER		

CONTRACT NO. 95523

**SUMMARY OF QUANTITIES**

NUMBER	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	870
20300100	CHANNEL EXCAVATION	CU YD	180
20400800	FURNISHED EXCAVATION	CU YD	1,338
* 20700110	POROUS GRANULAR EMBANKMENT	TON	83
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.9
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	90
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000400	PERIMETER EROSION BARRIER	FOOT	1,600
* 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	92
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1,355
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	20.0
50300280	CONCRETE ENCASEMENT	CU YD	2.8
* 50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,512
50800105	REINFORCEMENT BARS	POUND	3,060
50900205	STEEL RAILING, TYPE S1	FOOT	112
51201400	FURNISHING STEEL PILES HPI0X42	FOOT	144
51202305	DRIVING PILES	FOOT	144
51203400	TEST PILE STEEL HPI0X42	EACH	2
51500100	NAME PLATES	EACH	1
54020402	PRECAST CONCRETE BOX CULVERT 4'X2' (M273)	FOOT	50
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	36
△ 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	50
△ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
△ 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	2
67100100	MOBILIZATION	L SUM	1
△ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

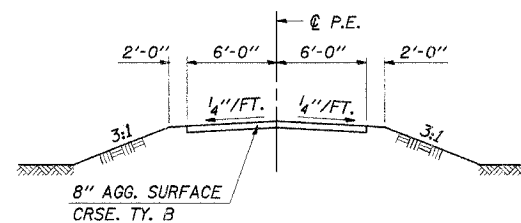
\*SEE SPECIAL PROVISIONS

△ SPECIALTY ITEMS

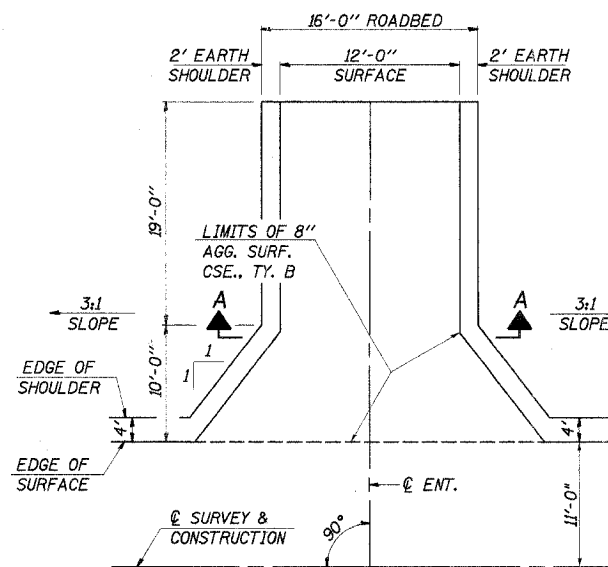
**GENERAL NOTES**

THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.9 ACRE



**SECTION A-A**



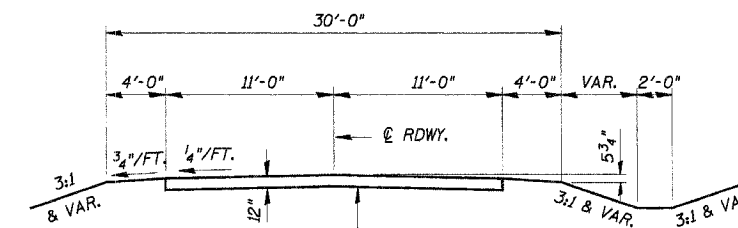
**PRIVATE ENTRANCE**

RT. STA. 51+72

**TEMPORARY EROSION CONTROL**

THE FOLLOWING QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES AND LOCATIONS FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY PRICE DUE TO A CHANGE IN PLAN QUANTITY.

- PERIMETER EROSION BARRIER = 1,600 FOOT
- TEMPORARY EROSION CONTROL SEEDING = 90 POUND
- TEMPORARY DITCH CHECKS = 4 EACH



SUGGESTED FILL SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

AGGREGATE SURFACE  
COURSE, TYPE B  
2.05 TON/CU. YD.

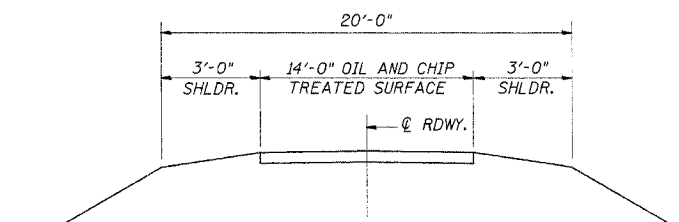
SUGGESTED CUT SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

**TYPICAL PROPOSED CROSS SECTION**

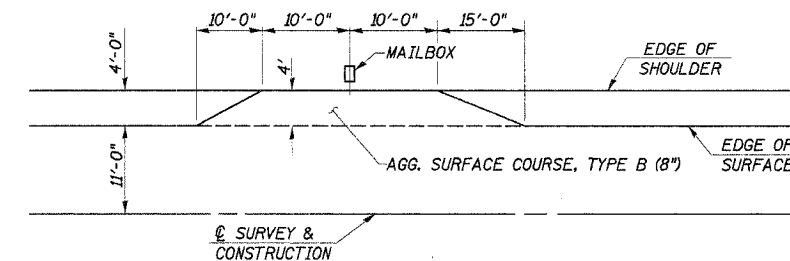
STA. 46+20 TO STA. 53+50

ROAD CLASSIFICATION: LOCAL ROAD ADT 400-750  
CURRENT ADT 400 (2009)

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY  
TO BE CONSTRUCTED FROM STA. 45+60 TO STA. 46+20 AND  
FROM STA. 53+50 TO STA. 54+10.



**EXISTING TYPICAL CROSS SECTION**



**TYPICAL MAILBOX TURNOUT**

LT. STA. 51+65

**SUMMARY OF QUANTITIES, GENERAL NOTES  
AND TYPICAL CROSS SECTION**  
SECTION 99-04128-00-BR  
HARTER ROAD DISTRICT  
CLAY COUNTY  
STATION 50+00

4440 ASH GROVE  
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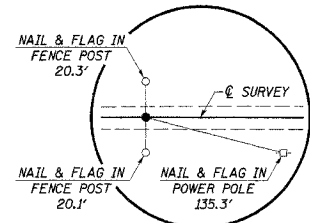
DRAWN: S.A.P.  
DATE: 11/26/06

CHECKED: F.J.S.  
DATE: 12/27/06

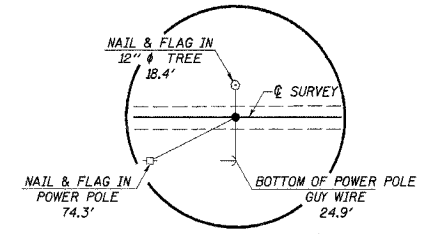
JOB NO.: 46861  
FILE: 46861SUM.DGN  
DATE: 07/05/07

MM 1/4, SEC. 23, T. 3 N., R. 6 E., 3RD P.M.  
**ROBERT BRISCO**

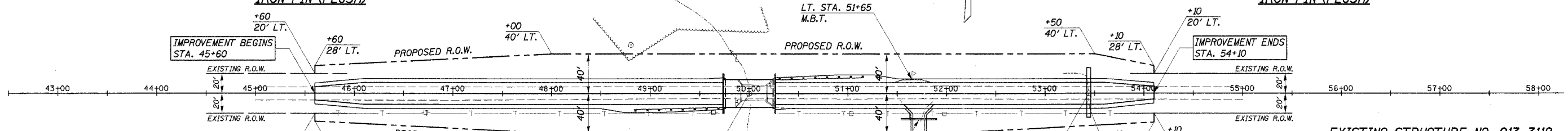
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R.	99-0412B	CLAY	13	3
STA. 43+00	TO STA. 58+00	ILLINOIS	HARTER	
CONTRACT NO. 95523				



**P.O.T. STA. 45+38.46**  
**IRON PIN (FLUSH)**



**P.O.T. STA. 58+71.30**  
**IRON PIN (FLUSH)**



**CHANNEL EXCAVATION**

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 180 CU. YD.

STA. 50+00 - SPECIAL BRIDGE DESIGN  
 PRECAST PRESTRESSED CONCRETE DECK  
 BEAM BRIDGE SINGLE SPAN 54'-0";  
 28'-0" ROADWAY; 0° SKEW.  
 PROPOSED S.N. 013-3230

**ENTRANCES TO BE BUILT**

LT. STA. 51+65, M.B.T.  
 RT. STA. 51+72, P.E. -2.0%, 16' ROADBED  
 QUANTITIES INCLUDED IN THOSE LISTED

**PIPES TO BE REMOVED**

RT. STA. 51+70, 4" STEEL PIPE, 28' LONG  
 A.R. STA. 53+44, 36" R.C.C.P., 26' LONG  
 QUANTITIES INCLUDED IN "EARTH EXCAVATION".

**EXISTING STRUCTURE NO. 013-3112**

TWO SPAN STEEL MULTI-BEAM BRIDGE WITH  
 CONCRETE DECK ON CLOSED CONCRETE ABUTMENTS  
 AND WINGWALLS AND SOLID CONCRETE PIER;  
 27'-0" BK.-BK. ABUTS.; 16.2' DECK WIDTH; SKEW = 0°

REMOVAL OF EXISTING STRUCTURES = 1 EACH

**OVERHEAD POWER**

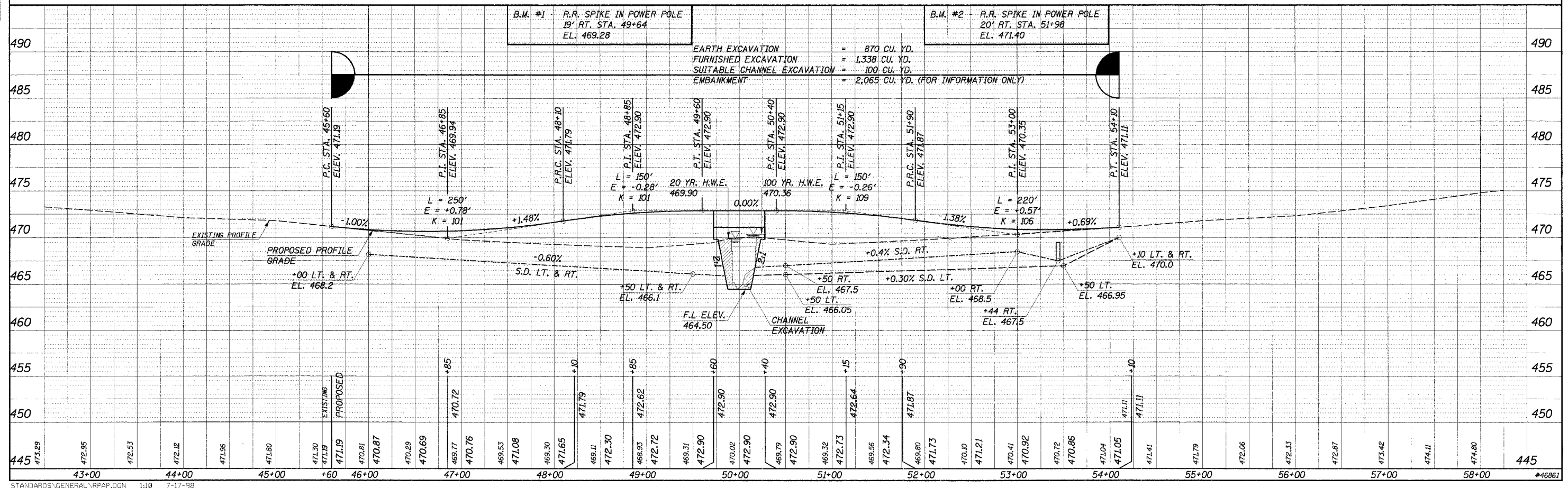
AMEREN CIPS  
 DAVID DITTER  
 618-392-5635

**BURIED CABLE**

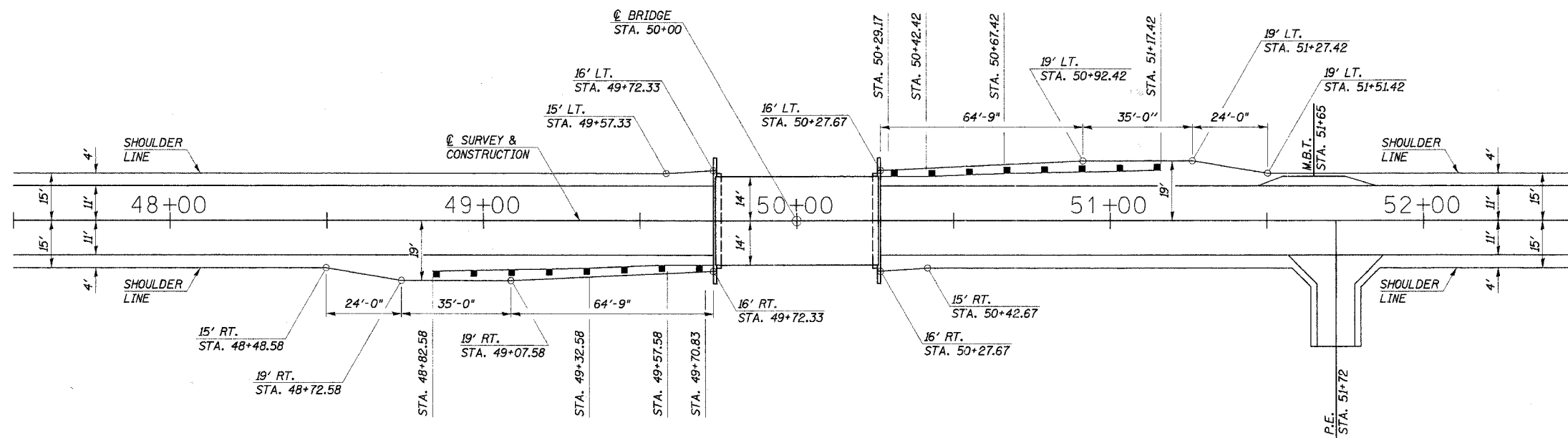
VERIZON NORTH, INC.  
 JONNA FRICKE  
 309-663-3422

**ELZA & HELMA WELTY**  
 SW 1/4, SEC. 23, T. 3 N., R. 6 E., 3RD P.M.

DATE	2012/06/06
BY	S.A.
CHECKED	
DESIGNED	
IN CHARGE	
PROF. I.E.	



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 325	99-04128-00-BR	CLAY	13	4
ROAD DIST.	ILLINOIS	HARTER		
CONTRACT NO. 95523				



SHOULDER TRANSITION PLAN

TRAFFIC BARRIER TERMINAL, 5A

14' RT. STA. 49+57.58 TO 14' RT. STA. 49+70.83 = 1 EACH  
 14' LT. STA. 50+29.17 TO 14' LT. STA. 50+42.42 = 1 EACH  
 TOTAL = 2 EACH

STEEL PLATE BEAM GUARD RAIL, TYPE A

15' RT. STA. 49+32.58 TO 14' RT. STA. 49+57.58 = 25 FOOT  
 14' LT. STA. 50+42.42 TO 15' LT. STA. 50+67.42 = 25 FOOT  
 TOTAL = 50 FOOT

TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)

16' RT. STA. 48+82.58 TO 15' RT. STA. 49+32.58 = 1 EACH  
 15' LT. STA. 50+67.42 TO 16' LT. STA. 51+17.42 = 1 EACH  
 TOTAL = 2 EACH

NOTE: ALL DIMENSIONS REFER TO FRONT FACE OF PROPOSED RAILING.

SHOULDER AND GUARDRAIL DETAILS  
 SECTION 99-04128-00-BR  
 HARTER ROAD DISTRICT  
 CLAY COUNTY  
 STATION 50+00

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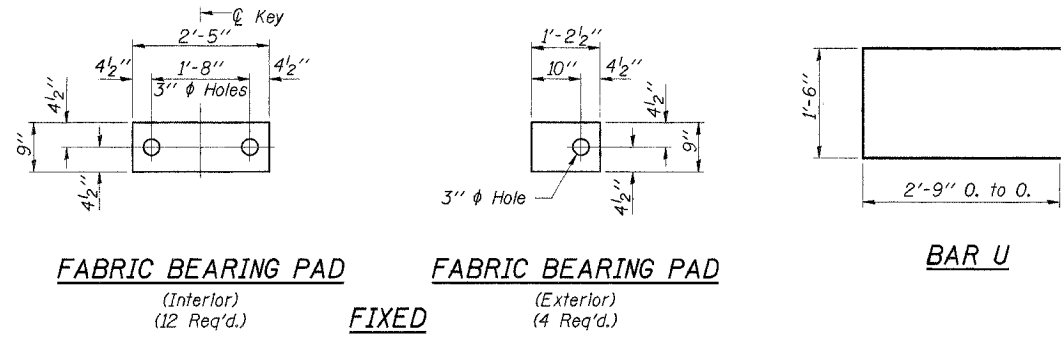
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 DATE: 09/26/06

CHECKED: F.J.S.  
 DATE: 12/26/06

JOB NO.: 46861  
 FILE: 46861SHLDR.DGN  
 DATE: 07/05/07



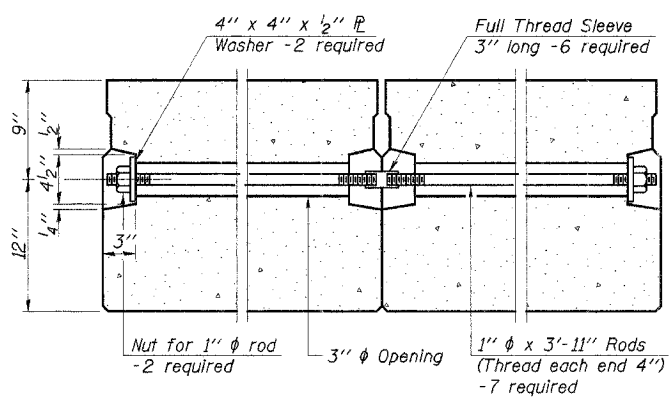
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ROAD DIST.		ILLINOIS	HARTER	
CONTRACT NO. 95523				



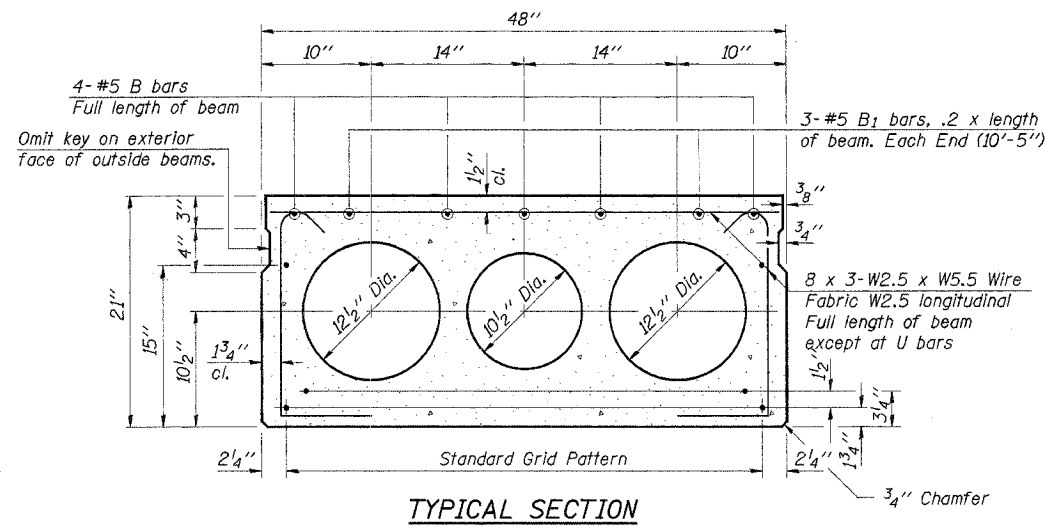
**FABRIC BEARING PAD**  
(Interior)  
(12 Req'd.)

**FABRIC BEARING PAD**  
(Exterior)  
(4 Req'd.)

**BAR U**



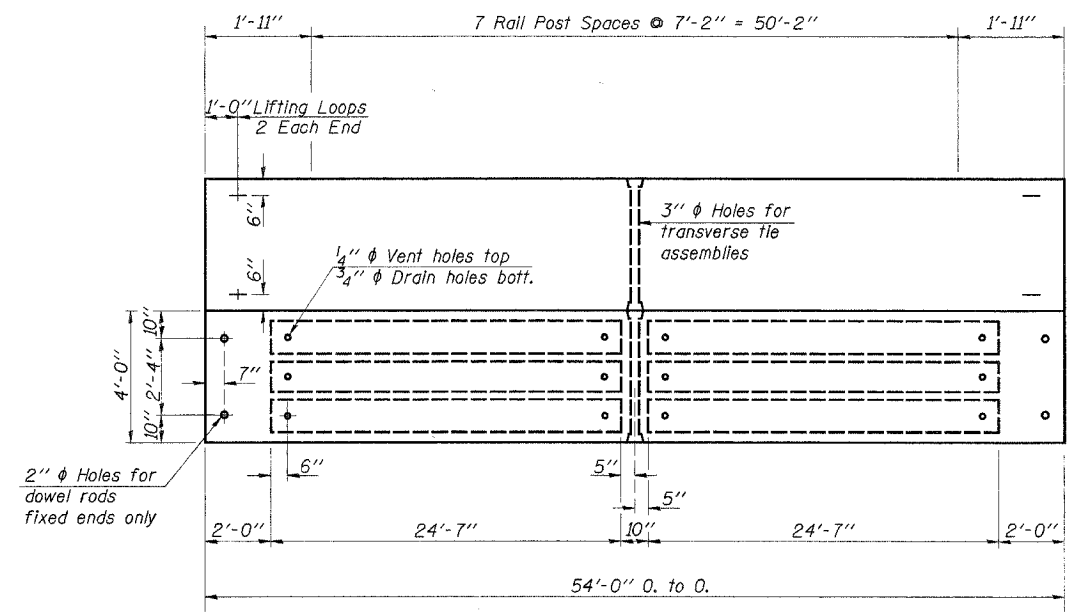
**TYPICAL TRANSVERSE TIE ASSEMBLY**



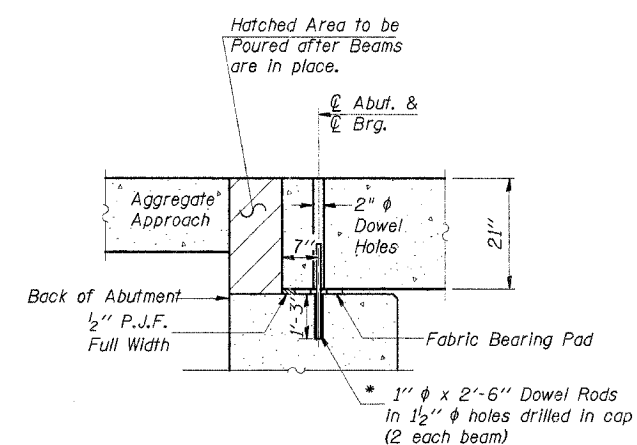
**TYPICAL SECTION**

21-1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
13-Strands 1 3/4" up, 6-Strands 3/4" up, 2-Strands 15" up.

Note: Place strands symmetrically about  $\phi$  of beam.

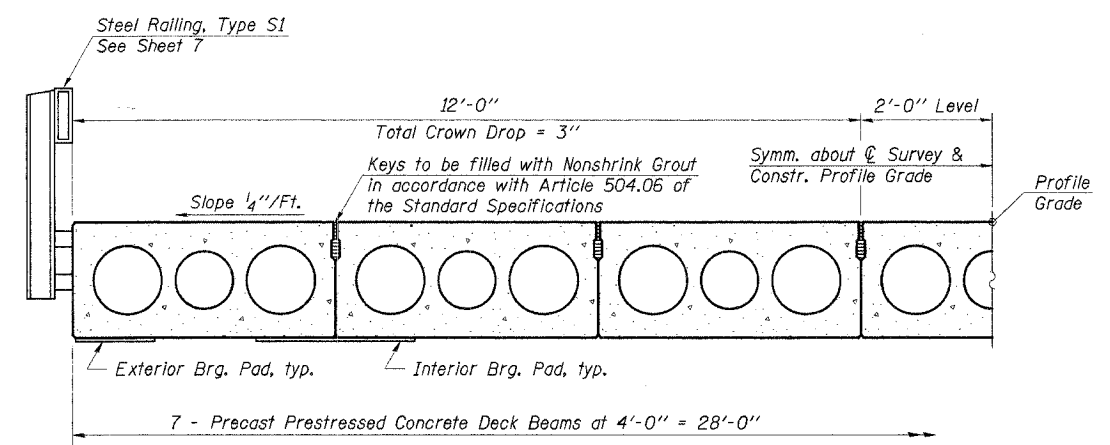


**PLAN**

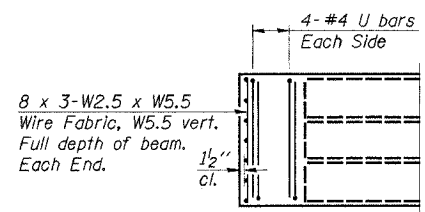


**SEC. THRU ABUT.**

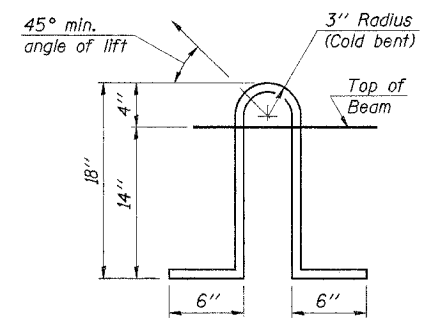
\* Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting the shear keys.



**HALF CROSS SECTION**



**END PLAN**



**LIFTING LOOP DETAIL**

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 3-1/2"  $\phi$  270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to AASHTO M-31 or M-322, Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. (32 Req'd.) Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Required Release Strength, f'ci, shall be 4,000 p.s.i. See Special Provisions for review and distribution of shop drawings. Rail post anchor devices shall be cast into outside beam as elsewhere specified.

**BILL OF MATERIAL**

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,512

Estimated Total Weight (One Beam) = 41,200 Pounds

DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.
PD-4-S	9-1-03

**SUPERSTRUCTURE**

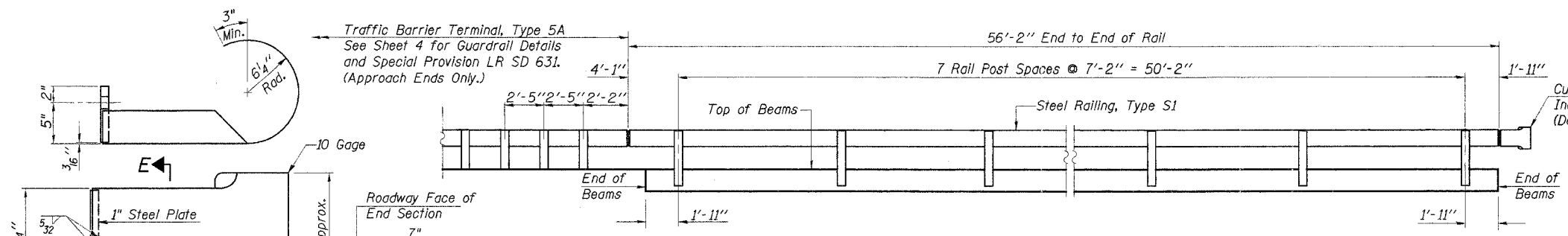
SECTION 99-04128-00-BR  
HARTER ROAD DISTRICT  
CLAY COUNTY  
STATION 50+00

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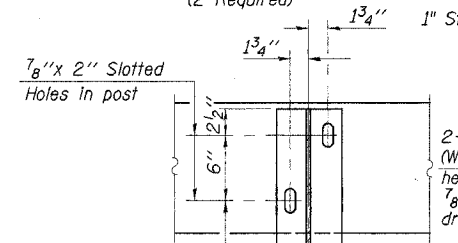
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FILE: 46861SUPER.DGN  
DATE: 07/05/07

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 325	99-04128-00-BR	CLAY	13	7
ROAD DIST.	ILLINOIS	HARTER		
CONTRACT NO. 95523				

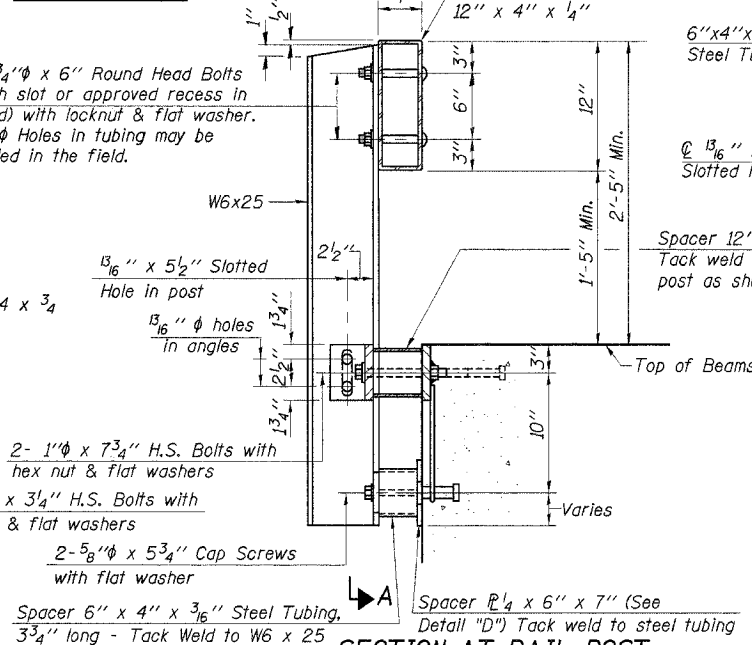


**ELEVATION**

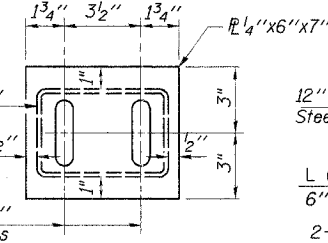
**CURLED END SECTION DETAILS**  
(2 Required)



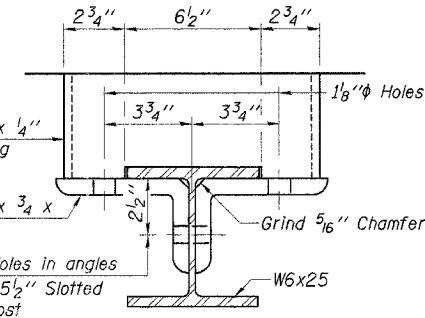
**SECTION E-E**



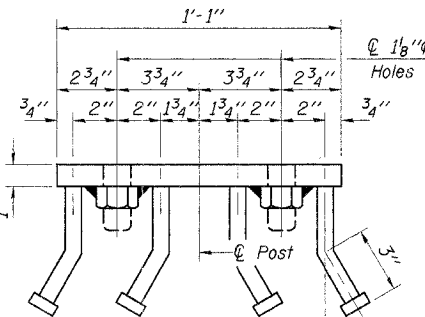
**SECTION AT RAIL POST**



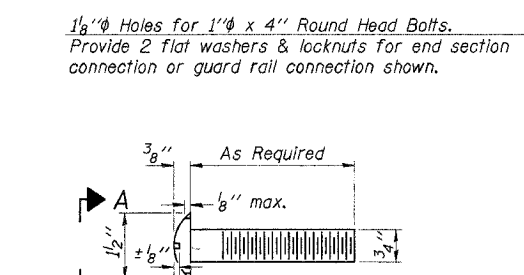
**DETAIL "D"**



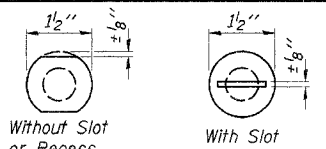
**SECTION B-B**



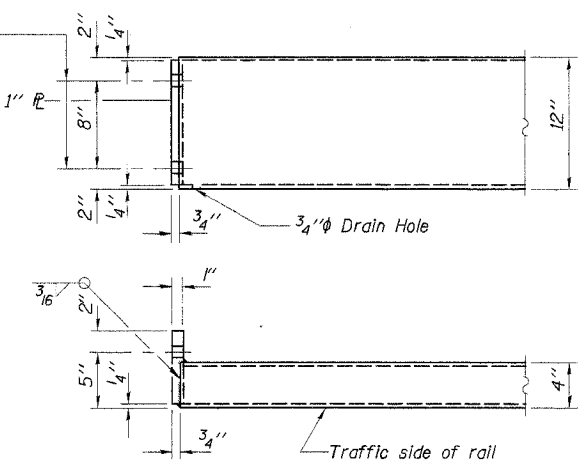
**VIEW C-C**



**DETAIL OF 3/4" ROUND HEAD BOLT**



**VIEW A-A**



**END OF RAIL DETAILS**

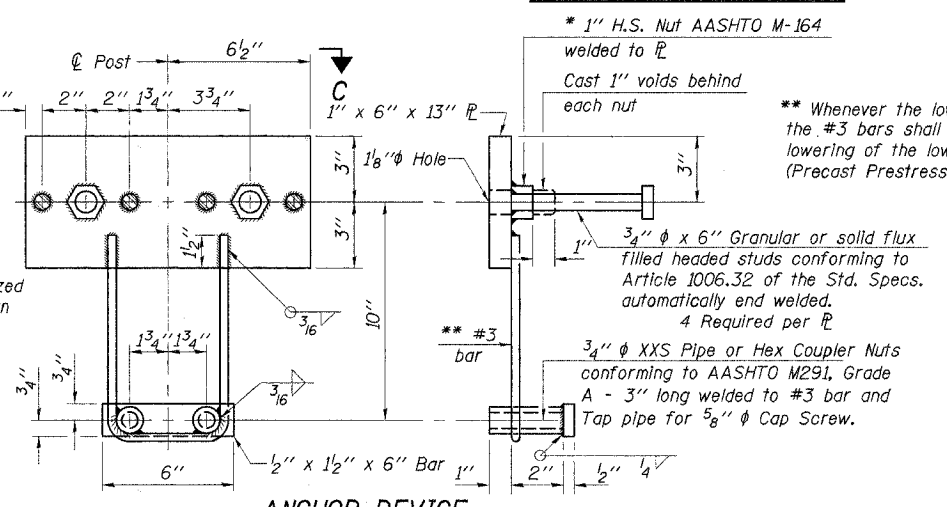
**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S1	Foot	112

**1/4" SHIM PLATE**

Note: For multi-span bridges, sufficient 1/4" x 6" x 1'-4" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.

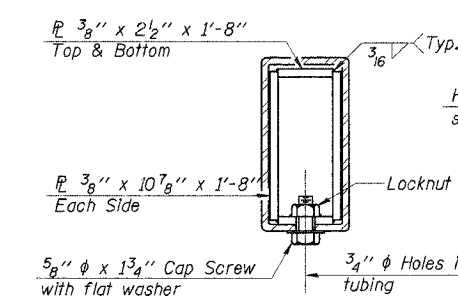
DESIGNED	F.J.S.
CHECKED	S.F.M.
DRAWN	S.A.P.
CHECKED	S.F.M.



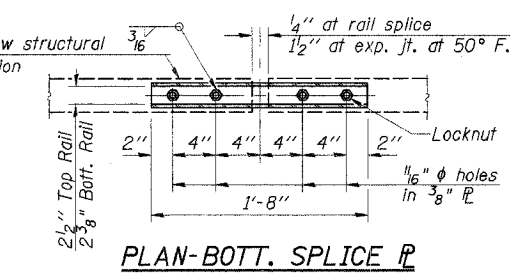
**ANCHOR DEVICE**

\* 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". (Precast Prestressed Concrete Deck Beam Bridges Only)



**SECTIONS AT RAIL SPLICE**



**PLAN-BOTT. SPLICE TYPICAL**

**STEEL RAILING, TYPE S1**  
SECTION 99-04128-00-BR  
HARTER ROAD DISTRICT  
CLAY COUNTY  
STATION 50+00

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 789-8600 www.fehr-graham.com	<b>FEHR-GRAHAM &amp; ASSOCIATES, LLC</b> ENGINEERING AND SCIENCE CONSULTANTS MEMPHIS, INDIANAPOLIS, ROCKFORD, SPRINGFIELD	JOB NO.: 46861 FILE:RAIL_S1-5A-S.dgn DATE: 07/05/07
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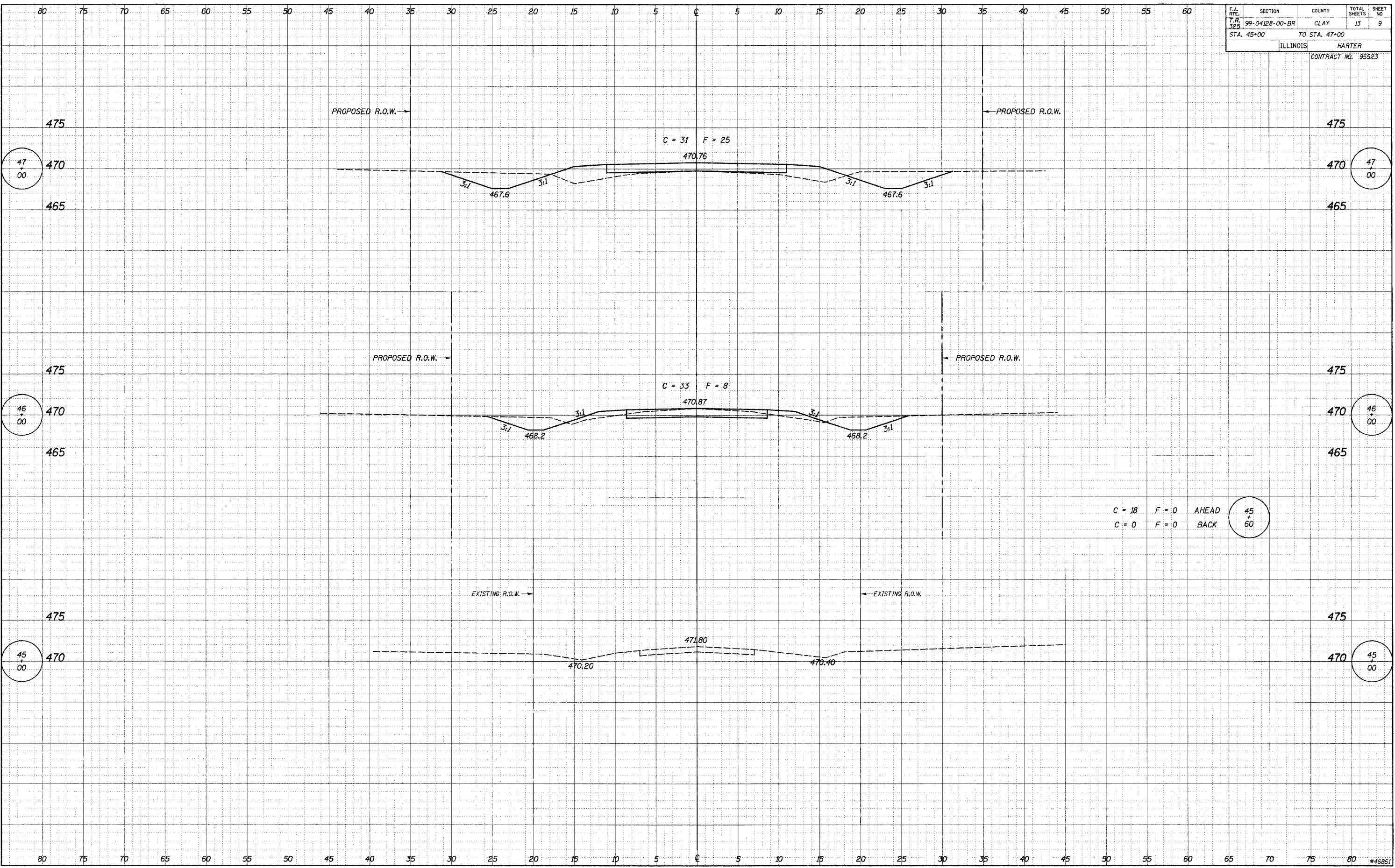




F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99-04128-00-BR	CLAY	CLAY	13	9
STA. 45+00		TO STA. 47+00		
ILLINOIS		HARTER		
CONTRACT NO. 95523				

DATE	BY
DATE	BY
DATE	BY
DATE	BY

DATE	BY
DATE	BY
DATE	BY
DATE	BY



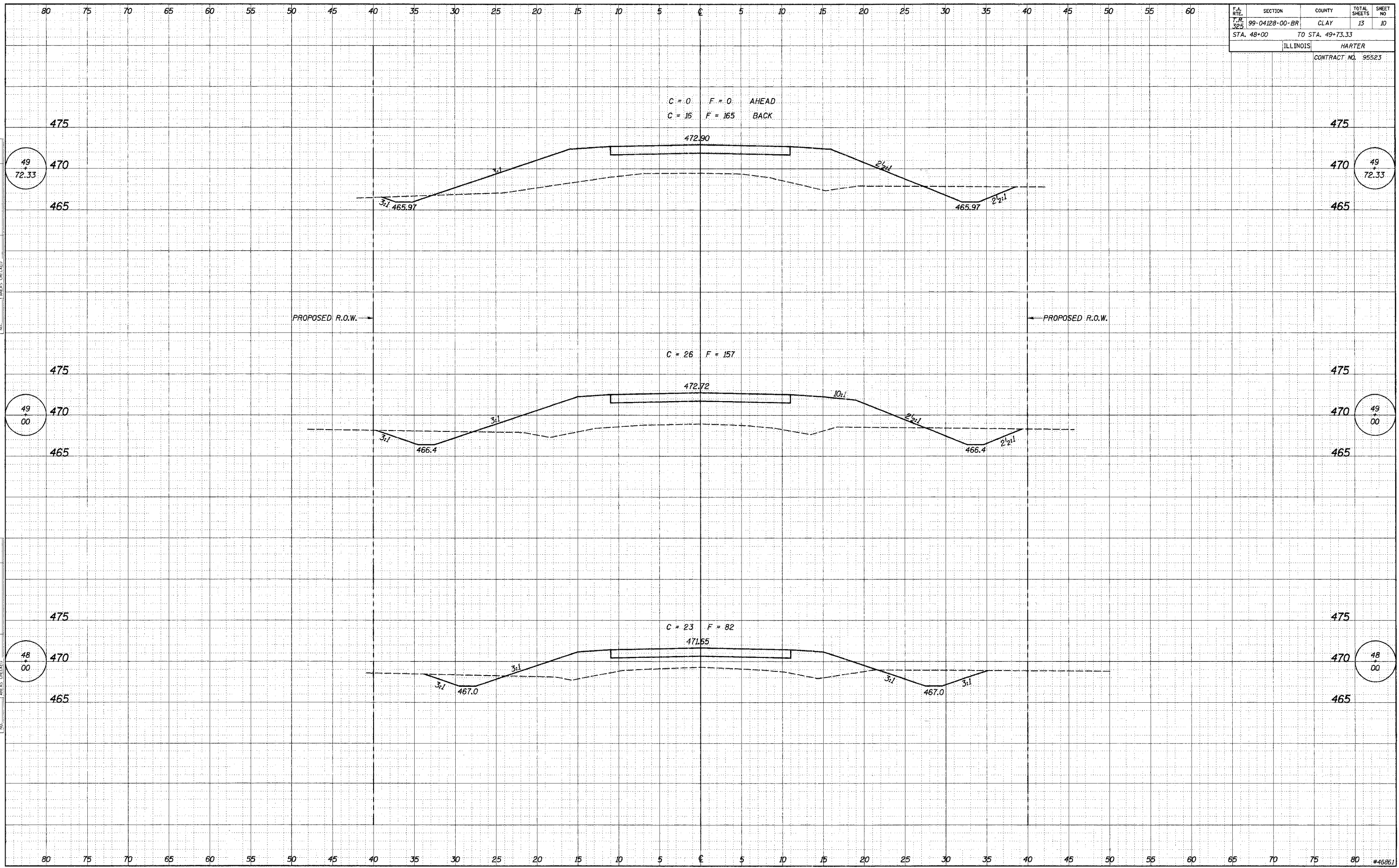
C = 18 F = 0 AHEAD  
 C = 0 F = 0 BACK

45+00

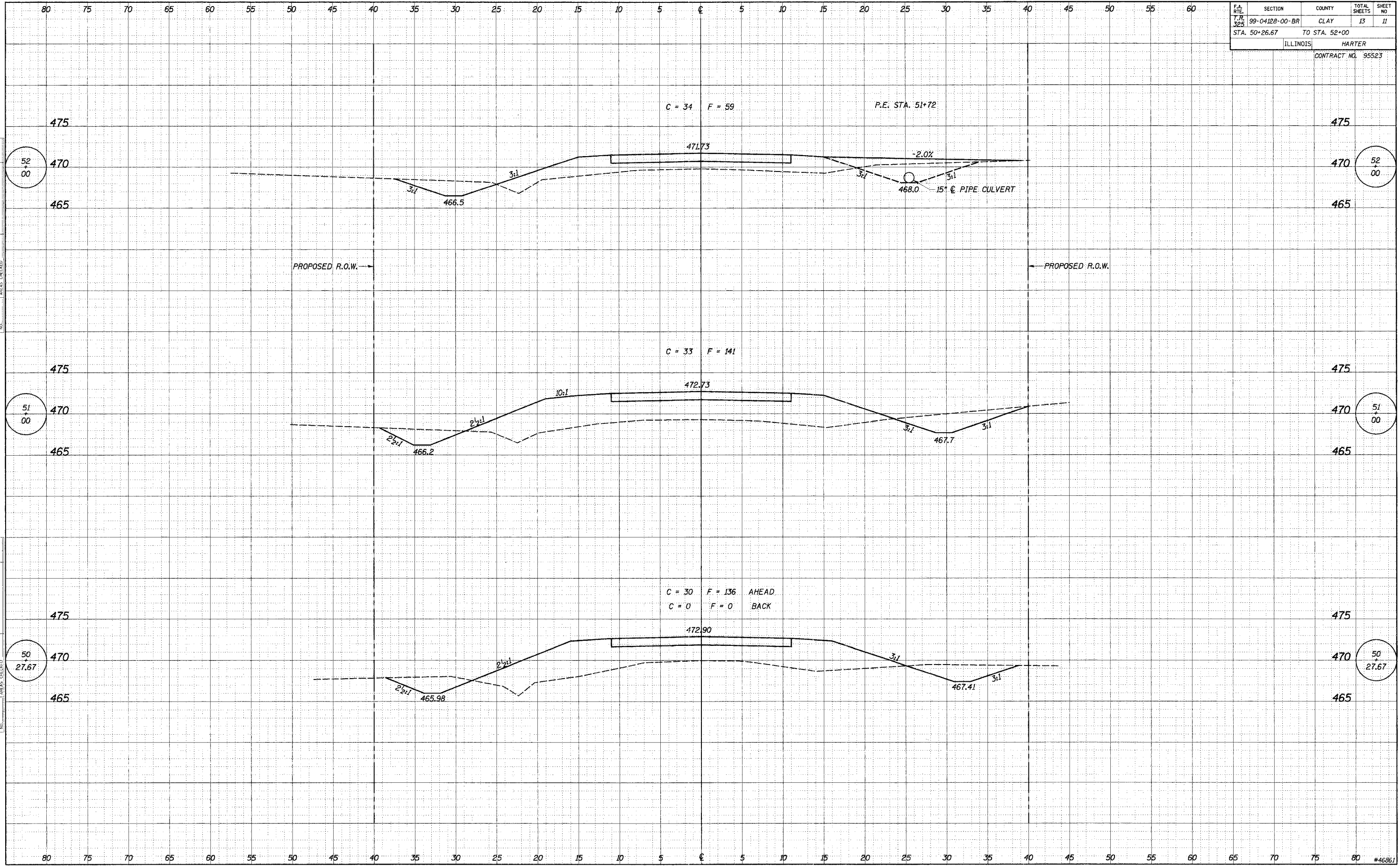
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
79-325	99-04128-00-BR	CLAY	13	10
STA. 48+00		TO STA. 49+73.33		
ILLINOIS		HARTER		
CONTRACT NO. 95523				

FINAL SURVEY	DATE
SURVEYED	
NOTED	
BOOK	
NO.	

ORIGINAL SURVEY	DATE
SURVEYED	11/22/08
NOTED	
BOOK	
NO.	



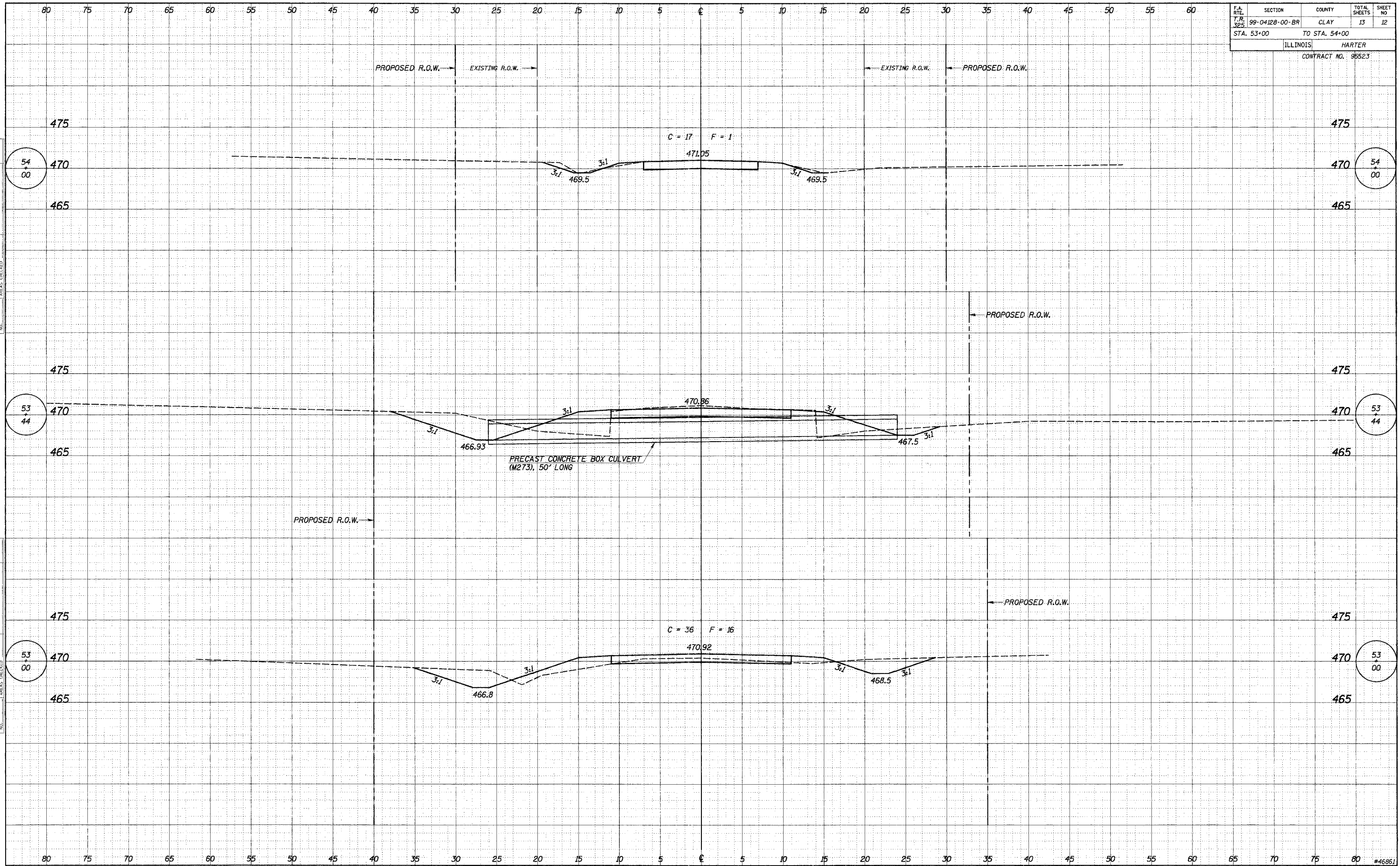
F.A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
325	99-04128-00-BR	CLAY	13	11
STA. 50+26.67		TO STA. 52+00		
ILLINOIS		HARTER		
CONTRACT NO. 95523				



DATE	BY
SURVEYED	BY
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	BY
11/27/08	S.A.P.
SURVEYED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

F.A. RT#	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	99-04128-00-BR	CLAY	13	12
STA. 53+00		TO STA. 54+00		
ILLINOIS		HARTER		
CONTRACT NO. 95523				



DATE	BY
APPROVED SURVEY	
NOTE BOOK	
TEMPLE	
AREAS CHECKED	
NO.	

DATE	BY
11/27/08	
S.A.P.	
APPROVED SURVEY	
NOTE BOOK	
TEMPLE	
AREAS CHECKED	
NO.	

80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60

F.A. RITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
325	99-04128-00-BR	CLAY	13	13
STA. 55+00		ILLINOIS HARTER		
CONTRACT NO. 95523				

FINAL SURVEY	DATE
NOTED	
ADDED	
TEMPLATE	
AREAS	
CREATED	
MS.	

ORIGINAL SURVEY	DATE
NOTED	11/21/06
ADDED	
TEMPLATE	
AREAS	
CREATED	
MS.	

