

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM**

TOWNSHIP ROAD 68
SECTION 05-07106-00-BR
FEDERAL PROJECT BROS-049(154)
EFFINGHAM COUNTY
MASON ROAD DISTRICT

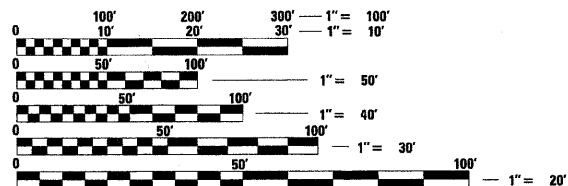
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 95593	

INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES, TYPICAL CROSS SECTIONS, GENERAL NOTES AND MISCELLANEOUS DETAILS
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- 7-22 BRIDGE PLANS S.N. 025-3318
- 23-25 CROSS SECTIONS

HIGHWAY STANDARD DETAILS

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREA OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGE
- 601101-01 CONCRETE HEADWALL FOR PIPE DRAIN
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- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
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- 720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- B.L.R. 21-8 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- B.L.R. 22-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

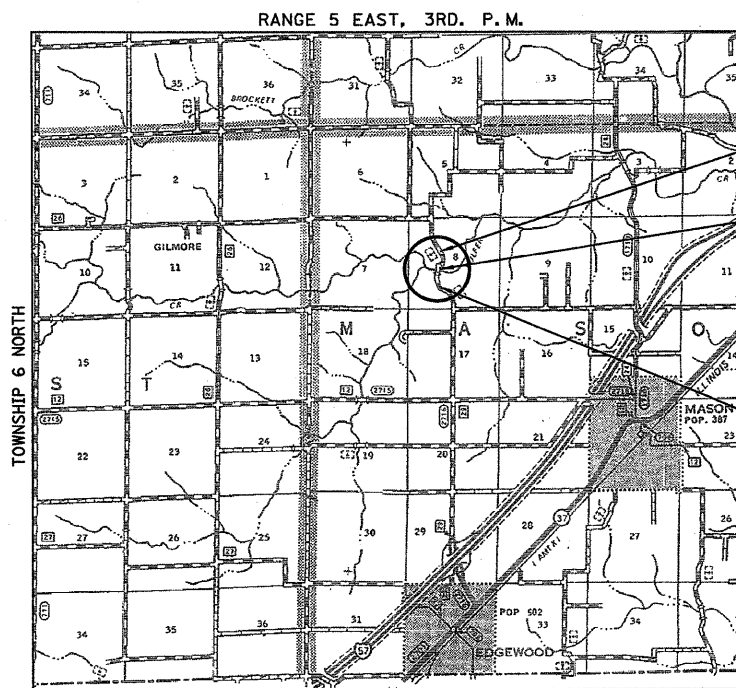
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

JOB NUMBER C-97-115-07
CONTRACT NUMBER 95593
CONSTRUCTION TYPE CODE: ROADWAY: E000
BRIDGE: X081

FUNCTIONAL CLASSIFICATION: RURAL LOCAL ROAD
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 150 (2027)
% TRUCKS: 5.0
% PASSENGER VEHICLES: 95.0

UTILITIES

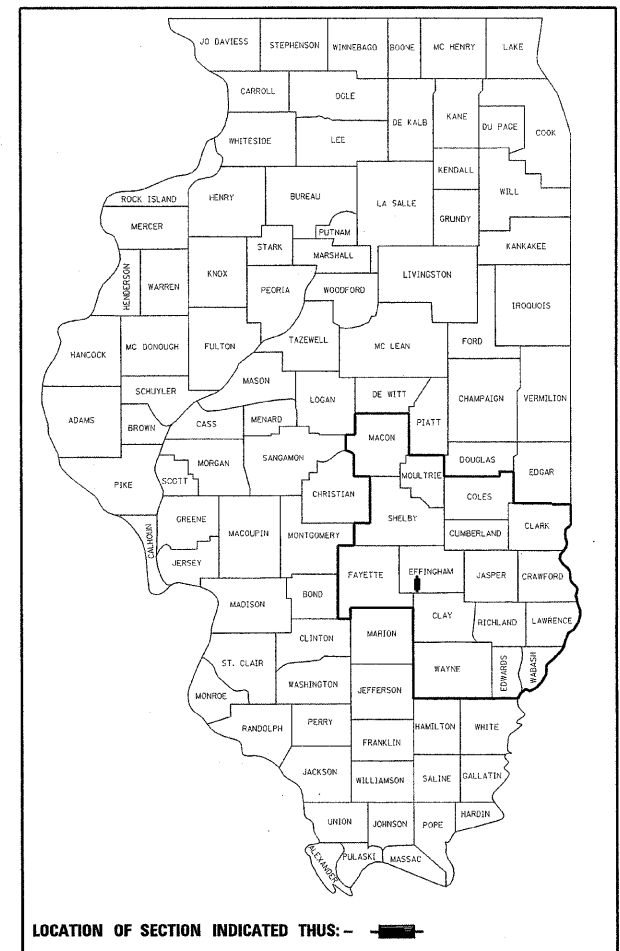
POWER - SOUTHWESTERN ELECTRIC
TELEPHONE - FRONTIER COMMUNICATIONS
WATER - EJ WATER CORPORATION



LOCATION MAP

GROSS LENGTH OF PROJECT = 600.00 FT = 0.114 MILE
NET LENGTH OF PROJECT = 600.00 FT = 0.114 MILE

C-97-115-07



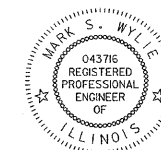
LOCATION OF SECTION INDICATED THUS: - [shaded box] -

IMPROVEMENT ENDS STA. 13+00.00
PROPOSED STRUCTURE NO. 025-3318 AT STATION 9+96.25 BRIDGE REPLACEMENT OVER FULFER CREEK
IMPROVEMENT BEGINS STA. 7+00.00

APPROVED *[Signature]* 7/23/09
EFFINGHAM COUNTY HIGHWAY DEPARTMENT, COUNTY ENGINEER

PASSED *[Signature]* 7/2/09
DISTRICT 7 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED REVIEW
[Signature] 7/2/09
DEPUTY DIRECTOR OF HIGHWAYS, REGION 4 ENGINEER



Mark S. Wylie Date 6/22/09
MARK S. WYLIE
ILLINOIS PROFESSIONAL ENGINEER
NO. 062-043716
EXPIRATION 11/30/09

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	TOTAL	ROADWAY E000	STRUCTURE NO. 025-3318 X081-2#
* 20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	141	141	
* 20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	40	40	
* 20200100	EARTH EXCAVATION	CU YD	891	891	
* 20300100	CHANNEL EXCAVATION	CU YD	3,565		3,565
* 20700300	POROUS GRANULAR EMBANKMENT, SPECIAL	TON	106		106
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.6	0.6	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	290	290	
28000300	TEMPORARY DITCH CHECKS	EACH	12	12	
28000500	INLET AND PIPE PROTECTION	EACH	2	2	
* 28100207	STONE RIPRAP, CLASS A4	TON	550		550
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	474	474	
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50200100	STRUCTURE EXCAVATION	CU YD	74		74
50200400	ROCK EXCAVATION FOR STRUCTURES	CU YD	46		46
50300225	CONCRETE STRUCTURES	CU YD	49.8		49.8
50300265	SEAL COAT CONCRETE	CU YD	4		4
* 50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	757		757
* 50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	937		937
* 50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1078		1078
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	8770		8770
△ 50900205	STEEL RAILING, TYPE S1	FOOT	234		234
51201400	FURNISHING STEEL PILES HP10X42	FOOT	90		90
51202305	DRIVING PILES	FOOT	90		90
51203400	TEST PILE STEEL HP10X42	EACH	2		2
51500100	NAME PLATES	EACH	1		1
* 542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	29	29	
* 542D5473	PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 18"	FOOT	24	24	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	30		30
* 60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	116		116
63500105	DELINEATORS	EACH	10	10	
67100100	MOBILIZATION	L SUM	1	1	
△* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
* 60240260	INLETS, TYPE B, TYPE 60 GRATE	EACH	1	1	
* X0323116	REFLECTOR MARKERS, TYPE B	EACH	6	6	
* X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1		1
* X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1		1

* SPECIAL PROVISION △ SPECIALTY ITEMS

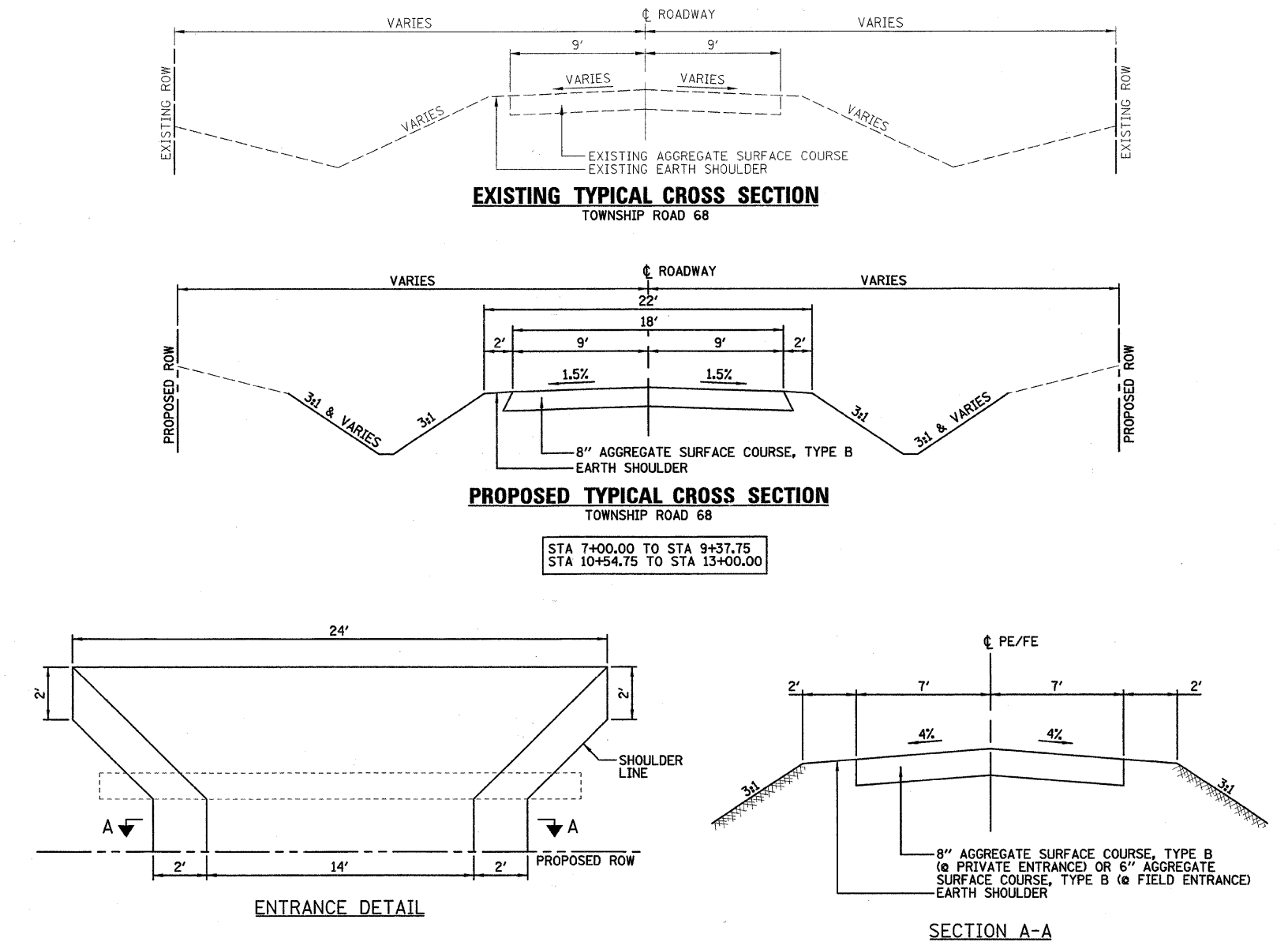
DESIGNED - JML	REVISED -
DRAWN - JJO	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

SUMMARY OF QUANTITIES, TYPICAL CROSS SECTIONS, GENERAL NOTES AND MISCELLANEOUS DETAILS

T.R. 68 OVER FULFER CREEK SECTION 05-07106-00-BR EFFINGHAM, COUNTY

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	2
CONTRACT NO. 93573				



GENERAL NOTES

ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDDED SHALL BE DETERMINED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 1-800-892-0123. A MINIMUM OF FORTY-EIGHT HOURS ADVANCE NOTICE IS REQUIRED.

THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO ANY STRUCTURE WORK OR ROADWAY CONSTRUCTION ACTIVITIES.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

SEE SHEET 3 FOR TRANSIT LINE AND CONTROL POINT TIES.

ANY ITEMS TO BE REMOVED WHICH ARE ATTACHED TO THE EXISTING STRUCTURE SHALL BE INCLUDED WITH THE UNIT PRICE BID FOR "REMOVAL OF EXISTING STRUCTURES".

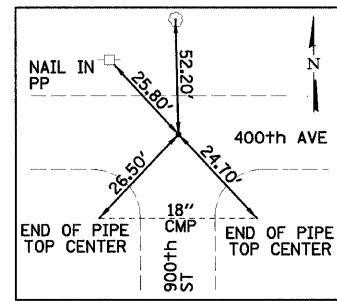
THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES IN AREAS TO BE SEEDDED OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF "EARTH EXCAVATION".

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS INCLUDED IN THESE PLANS.

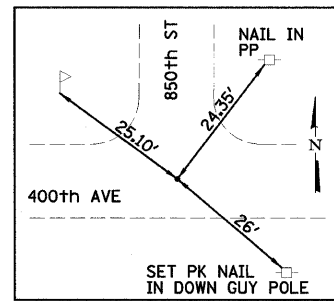
ONLY THOSE TREES DESIGNATED BY THE ENGINEER OR LISTED IN THE TREE REMOVAL SCHEDULE SHALL BE REMOVED. THE CONTRACTOR SHALL PROTECT ALL REMAINING TREES FROM DAMAGE DUE TO THEIR OPERATIONS.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

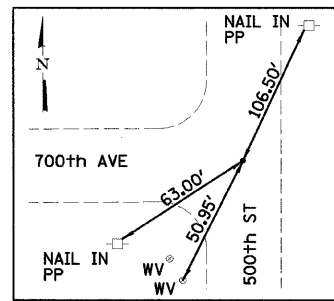
IN ORDER TO AVOID IMPACTS TO THE STATE THREATENED TIMBER RATTLESNAKE (CROTALIS HORRIDUS), THE RESIDENT ENGINEER, CONTRACTOR, SUPERVISORS ON THE JOB, AND EACH INDIVIDUAL WORKER SHOULD BE INFORMED AND EDUCATED THAT ANY SNAKE ENCOUNTERED MUST NOT BE KILLED OR HARMED. THE TIMBER RATTLESNAKE IS LEGALLY PROTECTED UNDER THE ILLINOIS ENDANGERED SPECIES PROTECTION ACT, AND A VIOLATION IS A CLASS A MISDEMEANOR. (CLASS A MISDEMEANORS CARRY A FINE OF UP TO \$1,000 AND UP TO 364 DAYS IN JAIL.



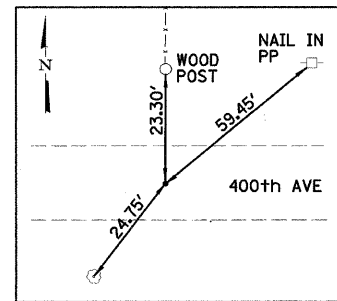
IR 12" DEEP AT SE COR SEC 9



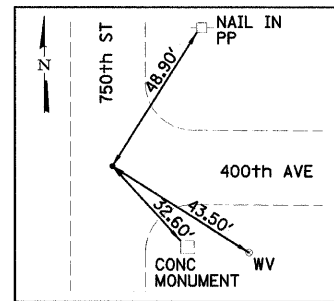
EX IR S 1/4 COR SEC 9



EX IR NW COR SEC 8



EX IR SE COR SEC 8 IN-LINE WITH FENCE NORTH



EX IR S 1/4 COR SEC 8

TREE REMOVAL (6 TO 15 UNITS DIAMETER)

LOCATION	UNIT
STA 9+55 LT	8
STA 9+60 LT	15
STA 9+65 RT	12
STA 9+71 LT	15
STA 9+75 RT	12
STA 9+79 RT	7
STA 9+79 RT	12
STA 10+38 RT	14
STA 10+39 LT	12
STA 10+44 LT	8
STA 10+47 RT	14
STA 10+64 LT	12
TOTAL	141

TREE REMOVAL (OVER 15 UNITS DIAMETER)

LOCATION	UNIT
STA 9+72 RT	20
STA 10+40 RT	20
TOTAL	40

SEEDING TABLE

LOCATION	SEEDING, CLASS 2 (SPECIAL) ACRE	TEMPORARY EROSION CONTROL SEEDING POUND
STA 7+00 TO STA 9+37.75 LT	0.13	65
STA 10+54.74 TO STA 13+00 LT	0.18	90
STA 7+00 TO STA 9+37.75 RT	0.12	60
STA 10+54.75 TO STA 13+00 RT	0.15	75
TOTAL	0.58	290

EARTHWORK

LOCATION	EARTH EXCAVATION CU YD	EXCAVATION ADJUSTED FOR SHRINKAGE* CU YD	EMBANKMENT CU YD	EARTH BALANCE WASTE (+) OR SHORTAGE (-) CU YD
STA 7+00 TO STA 9+37.75	369	277	47	+230
STA 10+54.75 TO STA 13+00	522	392	268	+124
TOTAL	891	669	315	+354

*SHRINKAGE FACTOR = 25%

TEMPORARY DITCH CHECKS

LOCATION	EACH
STA 7+50 RT	1
STA 8+00 LT & RT	2
STA 8+50 LT	1
STA 9+00 LT & RT	2
STA 10+66 LT & RT	2
STA 11+54 LT	1
STA 11+72 RT	1
STA 12+50 LT	1
STA 12+75 RT	1
TOTAL	12

INLET AND PIPE PROTECTION

LOCATION	EACH
STA 7+50 LT	1
STA 8+55 RT	1
TOTAL	2

AGGREGATE SURFACE COURSE, TYPE B

LOCATION	TON
STA 7+00 TO STA 9+37.75	219
STA 10+54.75 TO STA 13+00	225
STA 7+81.6 LT (PE)	18
STA 8+70.00 RT (FE)	12
TOTAL	474

PIPE CULVERTS, CLASS D, TYPE 1, 18"

LOCATION	FOOT
STA 7+81.6 LT (PE)	29
TOTAL	29

PIPE CULVERTS, CLASS D, TYPE 1 EQUIVALENT ROUND-SIZE 18"

LOCATION	EACH
STA 8+70.00 RT (FE)	24
TOTAL	24

DELINEATORS

LOCATION	EACH
STA 10+80 LT & RT	2
STA 11+20 LT & RT	2
STA 11+60 LT & RT	2
STA 12+00 LT & RT	2
STA 12+85 LT & RT	2
TOTAL	10

TERMINAL MARKER - DIRECT APPLIED

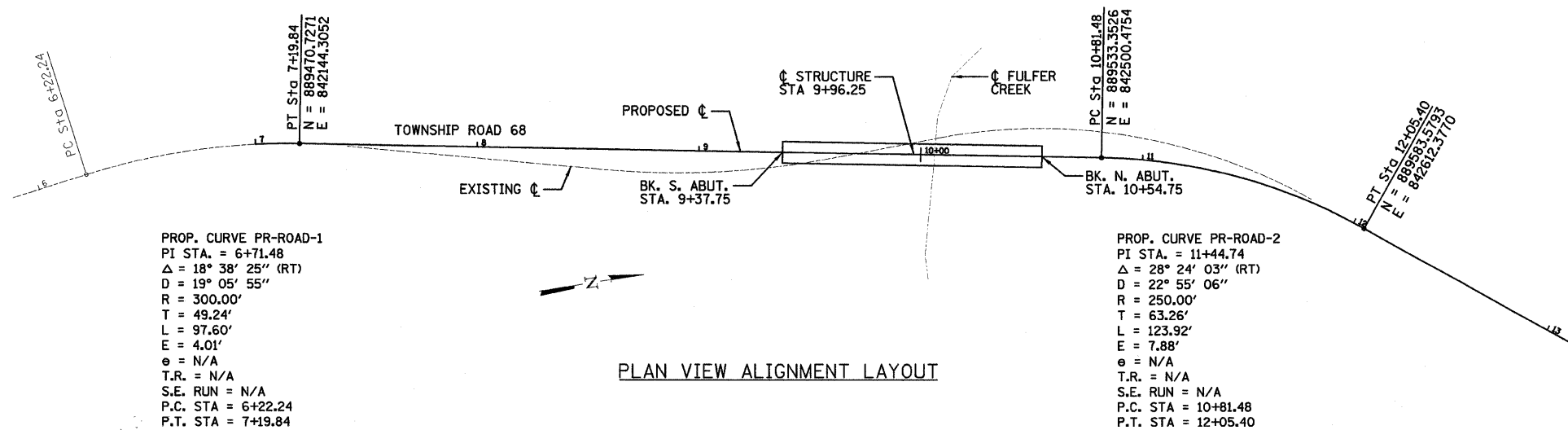
LOCATION	EACH
STA 9+35.75 LT & RT	2
STA 10+56.75 LT & RT	2
TOTAL	4

REFLECTOR MARKERS, TYPE B

LOCATION	EACH
STA 9+46.25 LT & RT	2
STA 9+96.25 LT & RT	2
STA 10+46.25 LT & RT	2
TOTAL	6

INLETS TYPE B WITH TYPE 60 GRATE

LOCATION	EACH
STA 7+97 LT	1
TOTAL	1



DESIGNED - JML	REVISED -
DRAWN - JJO	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

SCHEDULE OF QUANTITIES, TRANSIT LINE TIES AND CONTROL POINT TIES	
SCALE:	SHEET NO. 3 OF 25 SHEETS STA. TO STA.

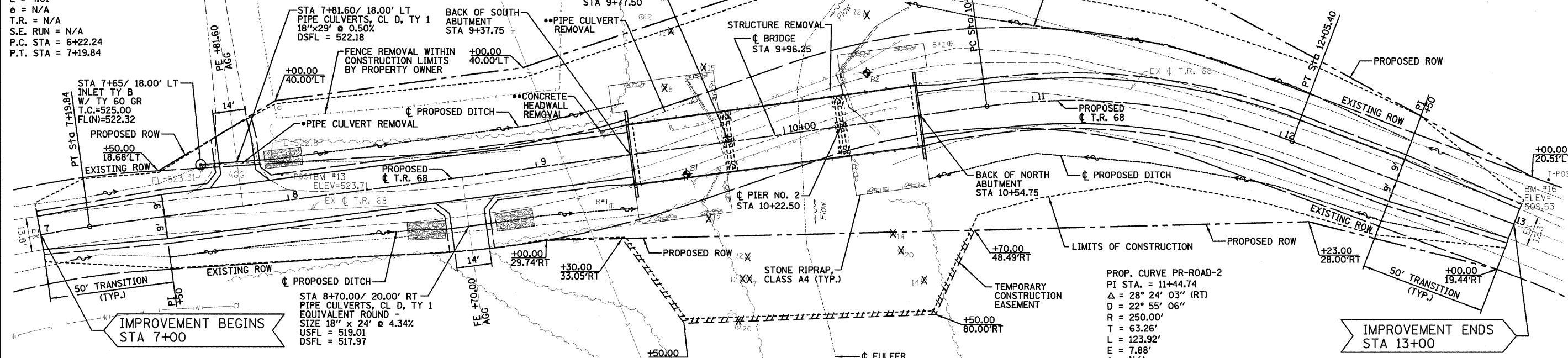
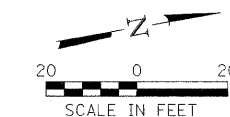
T.R. 68 OVER FULFER CREEK SECTION 05-07106-00-BR EFFINGHAM, COUNTY

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	3
CONTRACT NO. 95593				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

PROP. CURVE PR-ROAD-1
 PI STA. = 6+71.48
 $\Delta = 18^\circ 38' 25''$ (RT)
 $D = 19^\circ 05' 55''$
 $R = 300.00'$
 $T = 49.24'$
 $L = 97.60'$
 $E = 4.01'$
 $\theta = N/A$
 $T.R. = N/A$
 $S.E. RUN = N/A$
 $P.C. STA = 6+22.24$
 $P.T. STA = 7+19.84$

NOTES:

- 1.) *COST INCLUDED WITH PIPE CULVERTS, CL D, TY 1 18".
- 2.) **COST INCLUDED WITH REMOVAL OF EXISTING STRUCTURES.



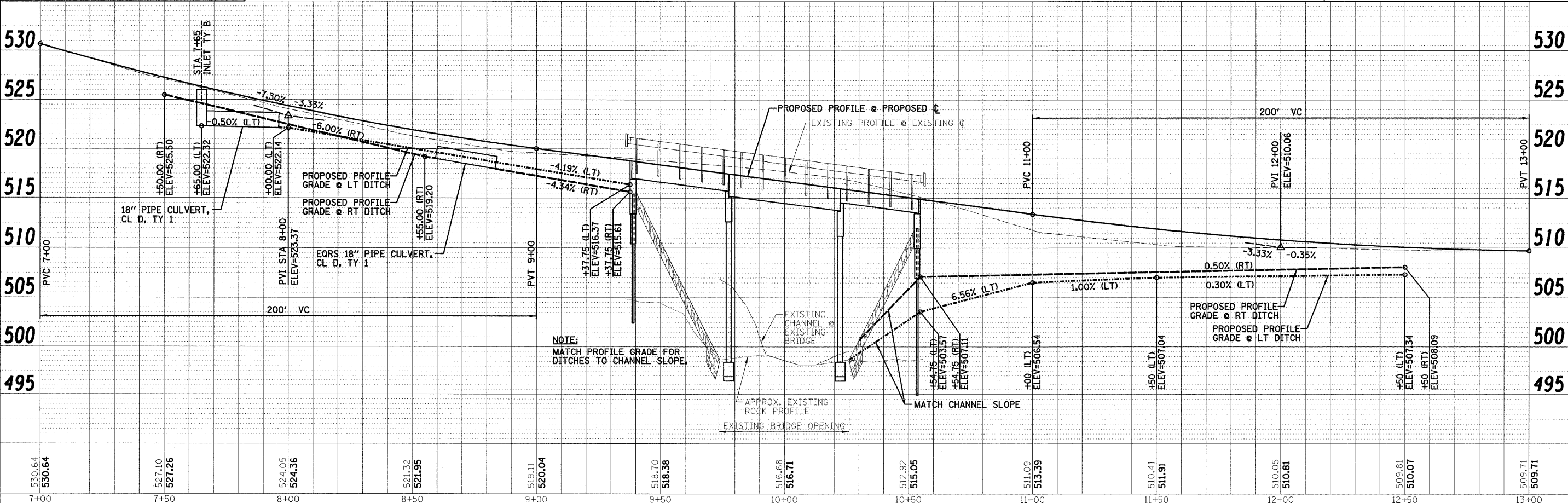
BENCHMARK #13
 T-POST #175' SOUTH OF BRIDGE ALONG
 ROADWAY, STA. 7+99/11' LT., ELEV. = 523.71.

12 TONS OF STONE RIPRAP,
 CLASS A3 TO BE INSTALLED
 BY THE TOWNSHIP.

SECTION 8 T6N, R5E, 3rd P.M. EVA E. ALBERTERNST

PROP. CURVE PR-ROAD-2
 PI STA. = 11+44.74
 $\Delta = 28^\circ 24' 03''$ (RT)
 $D = 22^\circ 55' 06''$
 $R = 250.00'$
 $T = 63.26'$
 $L = 123.92'$
 $E = 7.88'$
 $\theta = N/A$
 $T.R. = N/A$
 $S.E. RUN = N/A$
 $P.C. STA = 10+81.48$

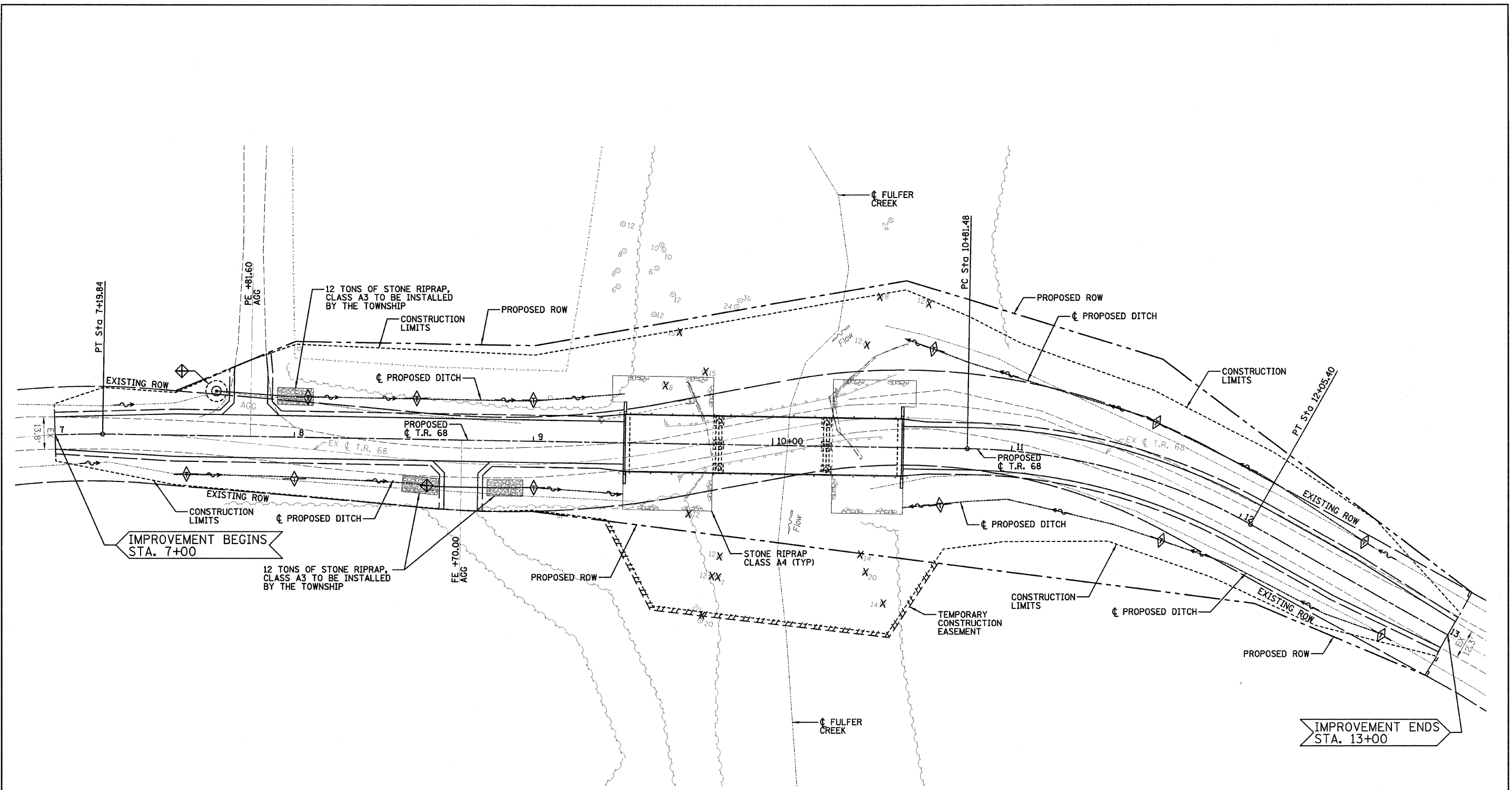
BENCHMARK #16
 T-POST #250' NORTH OF BRIDGE ALONG
 ROADWAY, STA. 13+07/20' LT., ELEV. = 509.53.



DESIGNED - JML	REVISIONS	EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS	PLAN & PROFILE	T.R. 68 OVER FULFER CREEK SECTION 05-07106-00-BR EFFINGHAM, COUNTY	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN - JJO	REVISIONS				68	05-07106-00-BR	EFFINGHAM	25	4
CHECKED - MSW	REVISIONS				CONTRACT NO. 95593				
DATE - 06/22/09	REVISIONS				FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX



IMPROVEMENT BEGINS STA. 7+00

IMPROVEMENT ENDS STA. 13+00

- NOTES:**
- 1.) ALL SEDIMENT AND EROSION CONTROL SYSTEMS SHALL BE CONSTRUCTED WITHIN THE RIGHT-OF-WAY.
 - 2.) ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH 1/2" OR GREATER RAIN EVENT.

LEGEND

- TEMPORARY DITCH CHECK @ 50' SPACING (SOUTH) OR 100' SPACING (NORTH)
- TEMPORARY INLET AND PIPE PROTECTION
- STONE RIPRAP, CLASS A4
- TREE REMOVAL



DESIGNED - JML	REVISED -
DRAWN - JJO	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

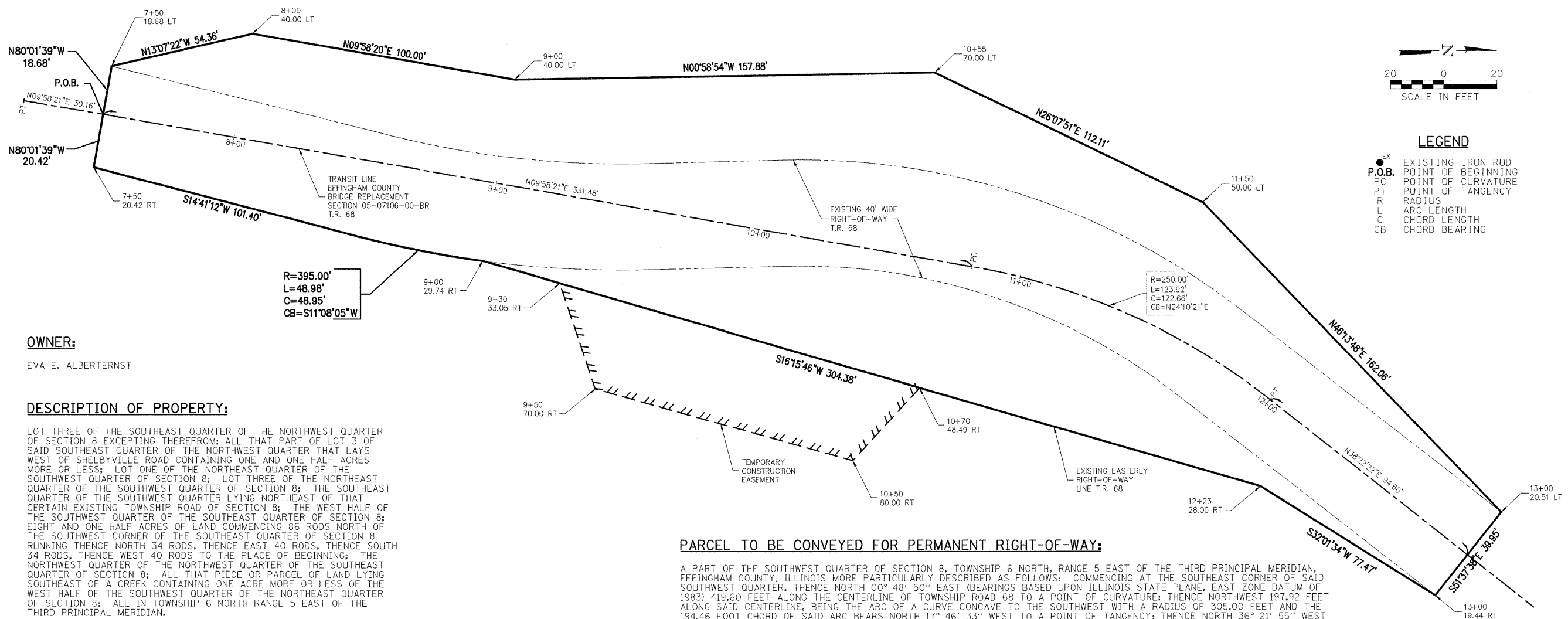
EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

EROSION CONTROL PLAN

SCALE: SHEET NO. 5 OF 25 SHEETS STA. TO STA.

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY**

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	5
CONTRACT NO. 95593				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



OWNER:
EVA E. ALBERTERST

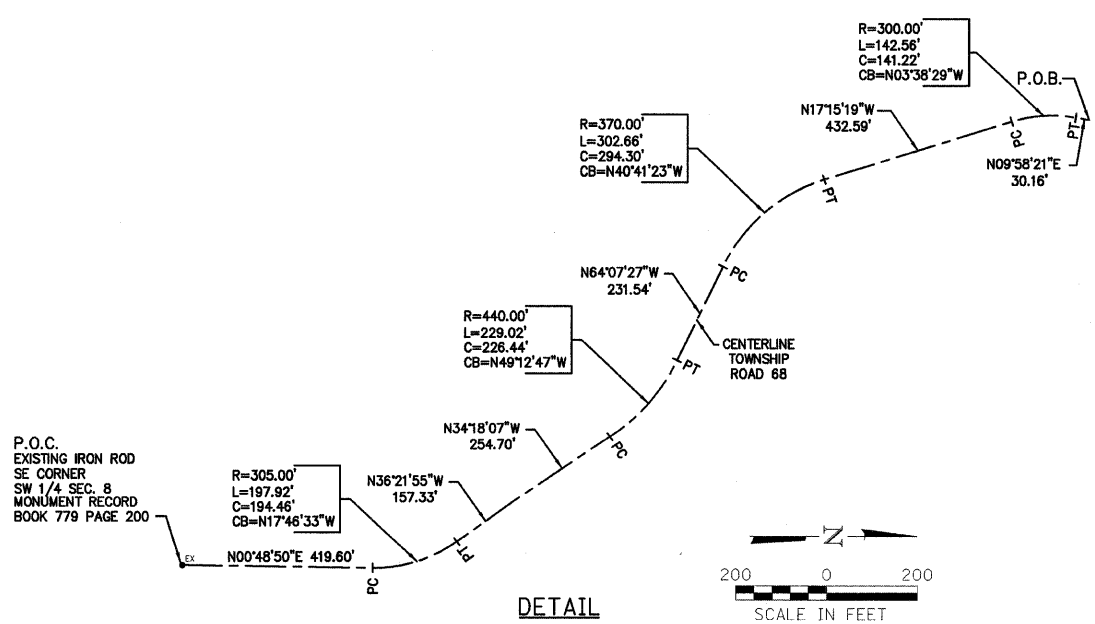
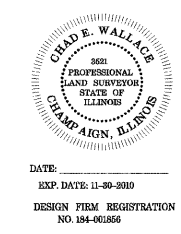
DESCRIPTION OF PROPERTY:
LOT THREE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 8 EXCEPTING THEREFROM; ALL THAT PART OF LOT 3 OF SAID SOUTHWEST QUARTER OF THE NORTHWEST QUARTER THAT LAYS WEST OF SHELBYVILLE ROAD CONTAINING ONE AND ONE HALF ACRES MORE OR LESS; LOT ONE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8; LOT THREE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8; THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER LYING NORTHEAST OF THAT CERTAIN EXISTING TOWNSHIP ROAD OF SECTION 8; THE WEST HALF OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8; EIGHT AND ONE HALF ACRES OF LAND COMMENCING 86 RODS NORTH OF THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SECTION 8 RUNNING THENCE NORTH 34 RODS, THENCE EAST 40 RODS, THENCE SOUTH 34 RODS, THENCE WEST 40 RODS TO THE PLACE OF BEGINNING; THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8; ALL THAT PIECE OR PARCEL OF LAND LYING SOUTHWEST OF A CREEK CONTAINING ONE ACRE MORE OR LESS OF THE WEST HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8; ALL IN TOWNSHIP 6 NORTH RANGE 5 EAST OF THE THIRD PRINCIPAL MERIDIAN.

PARCEL TO BE CONVEYED FOR PERMANENT RIGHT-OF-WAY:
A PART OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 6 NORTH, RANGE 5 EAST OF THE THIRD PRINCIPAL MERIDIAN, EFFINGHAM COUNTY, ILLINOIS MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER, THENCE NORTH 00° 48' 50" EAST BEARINGS BASED UPON ILLINOIS STATE PLANE, EAST ZONE DATUM OF 1983) 419.60 FEET ALONG THE CENTERLINE OF TOWNSHIP ROAD 68 TO A POINT OF CURVATURE; THENCE NORTHWEST 197.92 FEET ALONG SAID CENTERLINE, BEING THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST WITH A RADIUS OF 305.00 FEET AND THE 194.46 FOOT CHORD OF SAID ARC BEARS NORTH 17° 46' 33" WEST TO A POINT OF TANGENCY; THENCE NORTH 36° 21' 55" WEST 157.33 FEET ALONG SAID CENTERLINE; THENCE NORTH 34° 18' 07" WEST 254.70 FEET ALONG SAID CENTERLINE TO A POINT OF CURVATURE; THENCE NORTHWEST 229.02 FEET ALONG SAID CENTERLINE, BEING THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST WITH A RADIUS OF 440.00 FEET AND THE 226.44 FOOT CHORD OF SAID ARC BEARS NORTH 49° 12' 47" WEST TO A POINT OF TANGENCY; THENCE NORTH 64° 07' 27" WEST 231.54 FEET ALONG SAID CENTERLINE TO A POINT OF CURVATURE; THENCE NORTHWEST 302.66 FEET ALONG SAID CENTERLINE, BEING THE ARC OF A CURVE CONCAVE TO THE NORTHEAST WITH A RADIUS OF 370.00 FEET AND THE 294.30 FOOT CHORD OF SAID ARC BEARS NORTH 40° 41' 23" WEST TO A POINT OF TANGENCY; THENCE NORTH 17° 15' 19" WEST 432.59 FEET ALONG SAID CENTERLINE TO A POINT OF CURVATURE; THENCE NORTHWEST 142.56 FEET ALONG SAID CENTERLINE, BEING THE ARC OF A CURVE CONCAVE TO THE NORTHEAST AND THE 141.22 FOOT CHORD OF SAID ARC BEARS NORTH 03° 38' 29" WEST TO A POINT OF TANGENCY; THENCE NORTH 09° 58' 21" EAST 30.16 FEET ALONG SAID CENTERLINE TO STATION 7+50 ON THE TRANSIT LINE FOR THE EFFINGHAM COUNTY BRIDGE REPLACEMENT SECTION 05-07106-00-BR - T.R. 68 PROJECT, ALSO BEING THE POINT OF BEGINNING. FROM SAID POINT OF BEGINNING, THENCE NORTH 80° 01' 39" WEST 18.68 FEET TO A POINT 18.68 FEET LEFT OF STATION 7+50 OF SAID TRANSIT LINE; THENCE NORTH 13° 07' 22" WEST 54.36 FEET TO A POINT 40.00 FEET LEFT OF STATION 8+00 OF SAID TRANSIT LINE; THENCE NORTH 09° 58' 20" EAST 100.00 FEET TO A POINT 40 FEET LEFT OF STATION 9+00 OF SAID TRANSIT LINE; THENCE NORTH 00° 58' 54" WEST 157.88 FEET TO A POINT 70.00 FEET LEFT OF STATION 10+55 OF SAID TRANSIT LINE; THENCE NORTH 26° 07' 51" EAST 112.11 FEET TO A POINT 50.00 FEET LEFT OF STATION 11+50 OF SAID TRANSIT LINE; THENCE NORTH 46° 13' 48" EAST 162.06 FEET TO A POINT 20.51 FEET LEFT OF STATION 13+00 OF SAID TRANSIT LINE; THENCE SOUTH 51° 37' 38" EAST 39.95 FEET TO A POINT 19.44 FEET RIGHT OF STATION 13+00 OF SAID TRANSIT LINE; THENCE SOUTH 32° 01' 34" WEST 77.47 FEET TO A POINT 28.00 FEET RIGHT OF STATION 12+23 OF SAID TRANSIT LINE; THENCE SOUTH 16° 15' 46" WEST 304.38 FEET TO A POINT 29.74 FEET RIGHT OF STATION 9+00 OF SAID TRANSIT LINE, SAID POINT ALSO BEING ON THE EXISTING EASTERLY RIGHT-OF-WAY LINE OF SAID TOWNSHIP ROAD 68; THENCE SOUTHWEST 48.98 FEET ALONG SAID EASTERLY RIGHT-OF-WAY LINE, BEING THE ARC OF A NON-TANGENT CURVE CONCAVE TO THE NORTHWEST WITH A RADIUS OF 395.00 FEET AND THE 48.95 FOOT CHORD OF SAID ARC BEARS SOUTH 11° 08' 05" WEST TO A POINT OF NON-TANGENCY; THENCE SOUTH 14° 41' 12" WEST 101.40 FEET ALONG SAID EASTERLY RIGHT-OF-WAY LINE TO A POINT 20.42 FEET RIGHT OF STATION 7+50 OF SAID TRANSIT LINE; THENCE NORTH 80° 01' 39" WEST 20.42 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINS THE FOLLOWING AREAS:
TOTAL AREA REQUIRED: 1.002 ACRE
AREA IN EXISTING RIGHT-OF-WAY: 0.509 ACRE
NET AREA REQUIRED: 0.493 ACRE

FARNSWORTH GROUP, INC.
1817 SOUTH NEIL STREET, SUITE F
CHAMPAIGN, ILLINOIS 61820

BY: CHAD E. WALLACE
PROFESSIONAL LAND SURVEYOR 3521



DESIGNED - CEW	REVISED -
DRAWN - CEW	REVISED -
CHECKED - TP	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

RIGHT-OF-WAY PLAT	
SCALE:	STA. TO STA.

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY**

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	6
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT			CONTRACT NO. 95593	

FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

24-7945

Benchmark: T-Post #13 set ±175' South of Bridge along C.R. road,
Elevation = 523.71/Sta. 7+99/11' LT.
T-Post #16 set ±290' North of Bridge along C.R. road,
Elevation = 509.53/Sta. 13+07/20' LT.

Existing Structure: SN 025-3150 was originally constructed in 1909 by the Township.
The structure consists of a single span steel thru girder and floor
beam superstructure with closed concrete abutments supported by
spread footings. The back to back abutment dimension measures
±56'-0" and the width measures ±19'-0". The structure is to be
replaced during road closure.

No Salvage.

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi (Cast-In-Place Concrete)
f'y = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
f's = 270,000 psi (1/2" φ Low Relaxation Strands)
f'si = 201,960 psi (1/2" φ Low Relaxation Strands)

DESIGN SPECIFICATIONS

AASHTO 2002

LOADING HS20-44

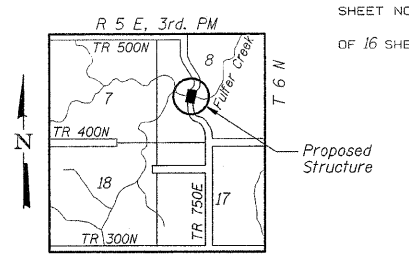
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

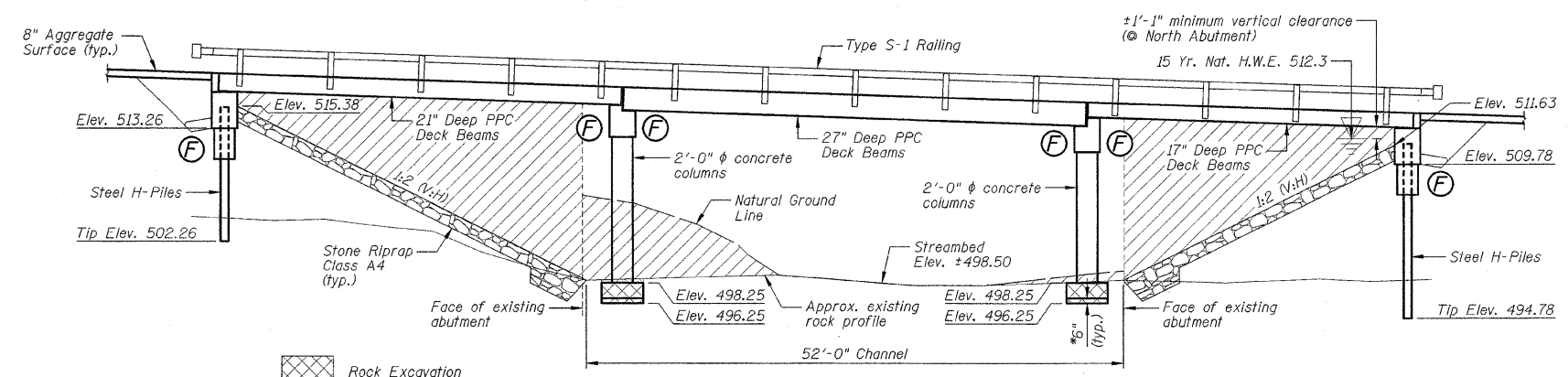
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.075
Site Coefficient (S) = 1.0

WATERWAY INFORMATION

Drainage Area = 42.0 Sq. Mi.		Low Grade Elev. 509.7 ft. @ Sta. 13+50						
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El.
Design	15	5654	1611	1929	512.3	0.2	0.0	512.5
Base	100	9441	2297	2648	513.6	0.2	0.0	513.8
Overtopping								
Max. Calc.								

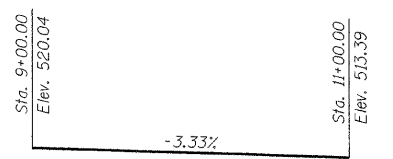


LOCATION SKETCH



ELEVATION

*Approximate thickness of Seal Coat Concrete.



PROFILE GRADE
(Along C.R. Roadway)

FULFER CREEK
BUILT BY
MASON ROAD DISTRICT
EFFINGHAM COUNTY
SEC. 05-07106-00-BR
STATION 9+96.25
STR. NO. 025-3318 LOADING HS20

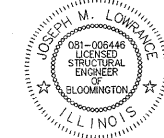
NAME PLATE

See Standard 515001

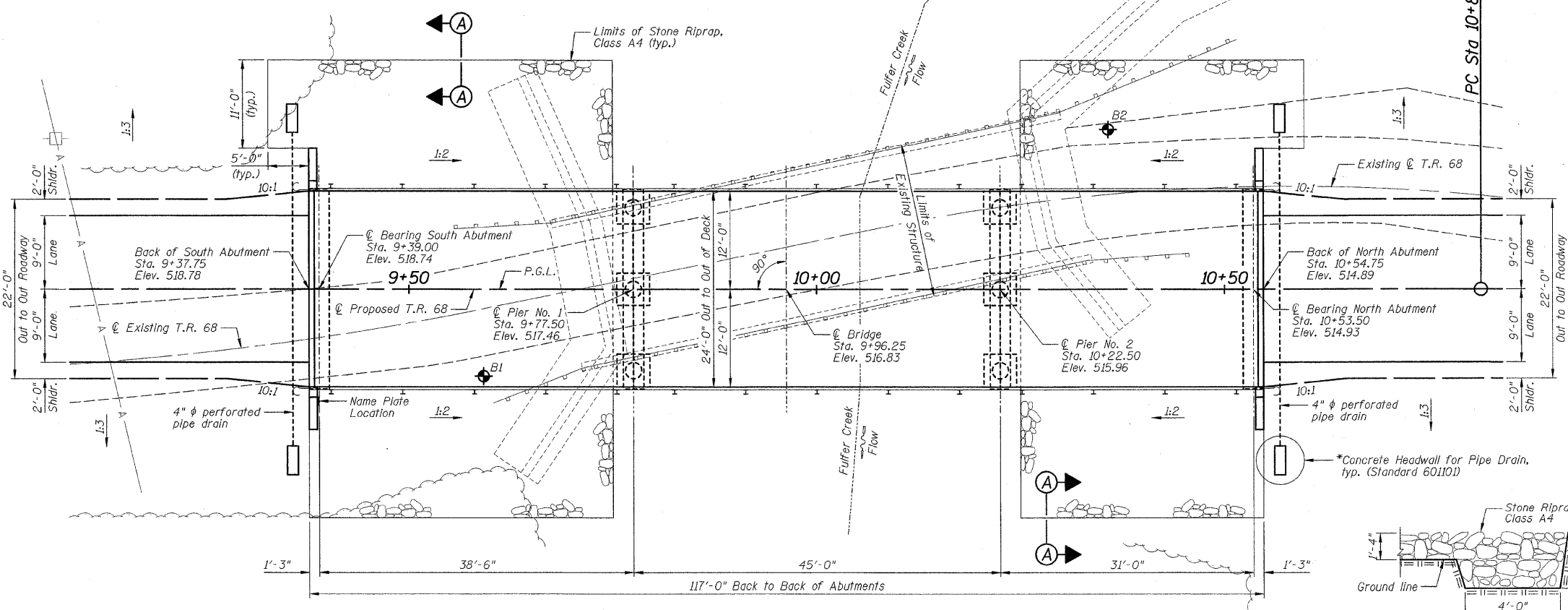
INDEX TO SHEETS

SHEET NO.	TITLE
B1	GENERAL PLAN AND ELEVATION
B2	BILL OF MATERIAL, GENERAL NOTES AND MISCELLANEOUS DETAILS
B3	SUPERSTRUCTURE CROSS SECTIONS
B4	21"x48" PPC DECK BEAM
B5	21"x48" PPC DECK BEAM DETAILS
B6	27"x48" PPC DECK BEAM
B7	27"x48" PPC DECK BEAM DETAILS
B8	17"x48" PPC DECK BEAM
B9	17"x48" PPC DECK BEAM DETAILS
B10	STEEL RAILING, TYPE S-1
B11	SOUTH ABUTMENT
B12	NORTH ABUTMENT
B13	PIER NO. 1
B14	PIER NO. 2
B15	HP PILE DETAILS
B16	SOIL BORING LOGS

I certify that to the best of my knowledge, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current 'AASHTO Standard Specifications for Highway Bridges'.



Joseph M. Lowrance Date 06-22-09
JOSEPH M. LOWRANCE
ILLINOIS STRUCTURAL ENGINEER
NO. 081-006446
Exp. Date 11/30/10



PLAN

For Existing and Proposed ROW, see Plan & Profile Sheet.

SECTION A-A

*Included in cost of Pipe Underdrains for Structures.

P.G.L. denotes Profile Grade Line.

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

GENERAL PLAN AND ELEVATION

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318**

T.R.	SECTION	COUNTY	TOTAL SHEETS NO.	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	7
CONTRACT NO. 95393				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

FARNSWORTH GROUP, INC.

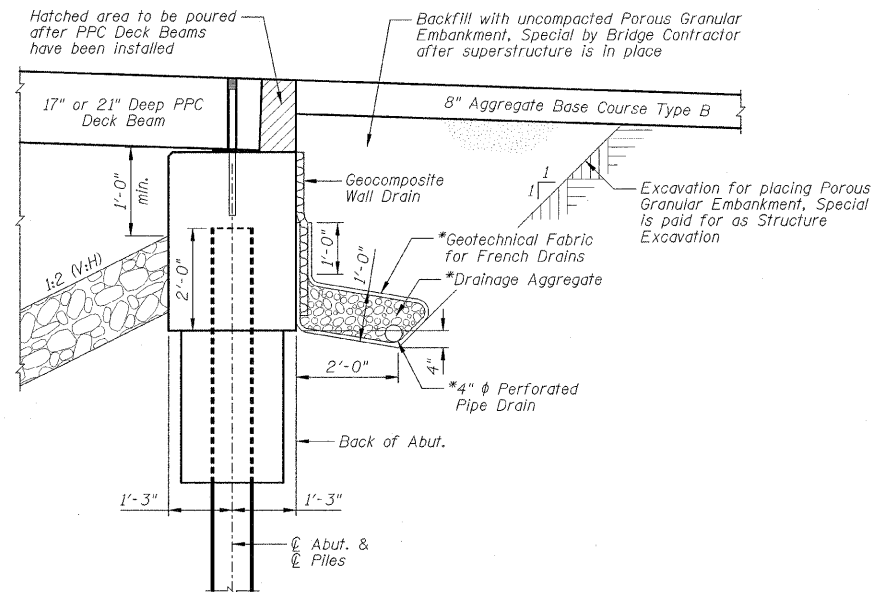
CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

TOTAL BILL OF MATERIAL

ITEMS	UNITS	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		3565	3565
Porous Granular Embankment, Special	Ton		106	106
Stone Riprap, Class A4	Ton		550	550
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		74	74
Rock Excavation For Structures	Cu. Yd.		46	46
Concrete Structures	Cu. Yd.		49.8	49.8
Seal Coat Concrete	Cu. Yd.		4	4
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	757		757
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	937		937
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1078		1078
Reinforcement Bars, Epoxy Coated	Pound		8770	8770
Steel Railing, Type S1	Foot	234		234
Furnishing Steel Piles HP10x42	Foot		90	90
Driving Piles	Foot		90	90
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each		1	1
Geocomposite Wall Drain	Sq. Yd.		30	30
Pipe Underdrains For Structures 4"	Foot		116	116
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1

GENERAL NOTES:

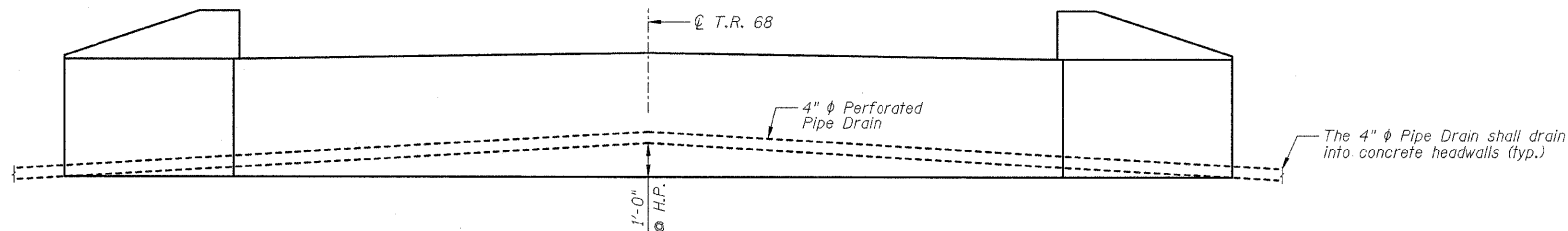
- 1.) Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- 2.) Reinforcement bars designated (E) shall be epoxy coated.
- 3.) Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 4.) The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
- 5.) The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
- 6.) Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
- 7.) After the beams have been erected, holes shall be drilled into the substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to the top of the beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.
- 8.) The cost of removing the existing guardrail in all four quadrants of the existing bridge shall be included in the cost of Removal of Existing Structures.
- 9.) The quantity Rock Excavation for Structures includes 32 Cu. Yd. for riprap placement and 14 Cu. Yd. for pier footings.



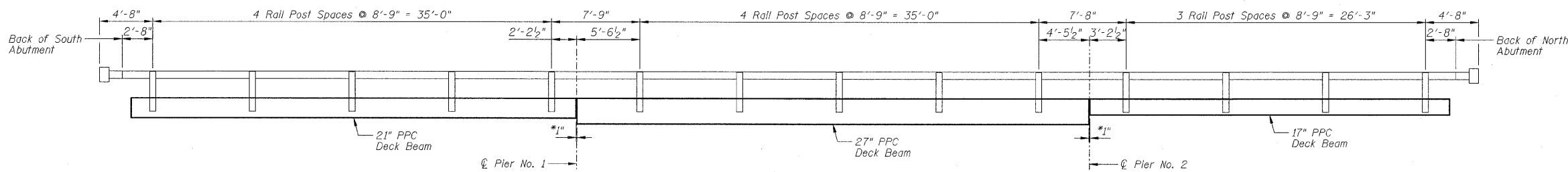
SECTION THRU INTEGRAL ABUTMENT

NOTES:

- 1.) *Included in cost of Pipe Underdrains for Structures.
- 2.) All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



ABUTMENT ELEVATION, TYPICAL DRAIN DETAIL



RAIL POST SPACING DETAIL

*Approximate distance between PPC Deck Beams.

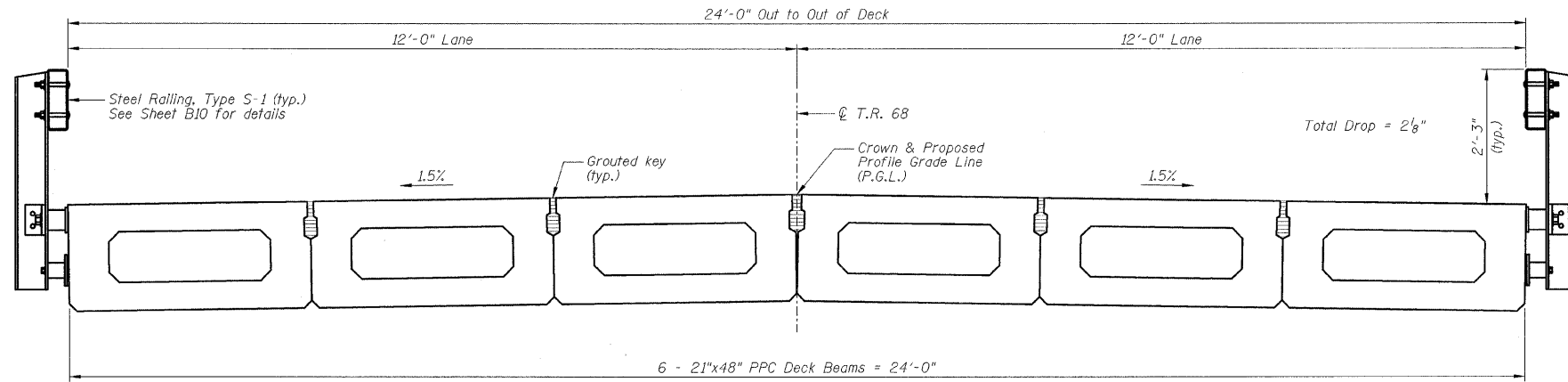
DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

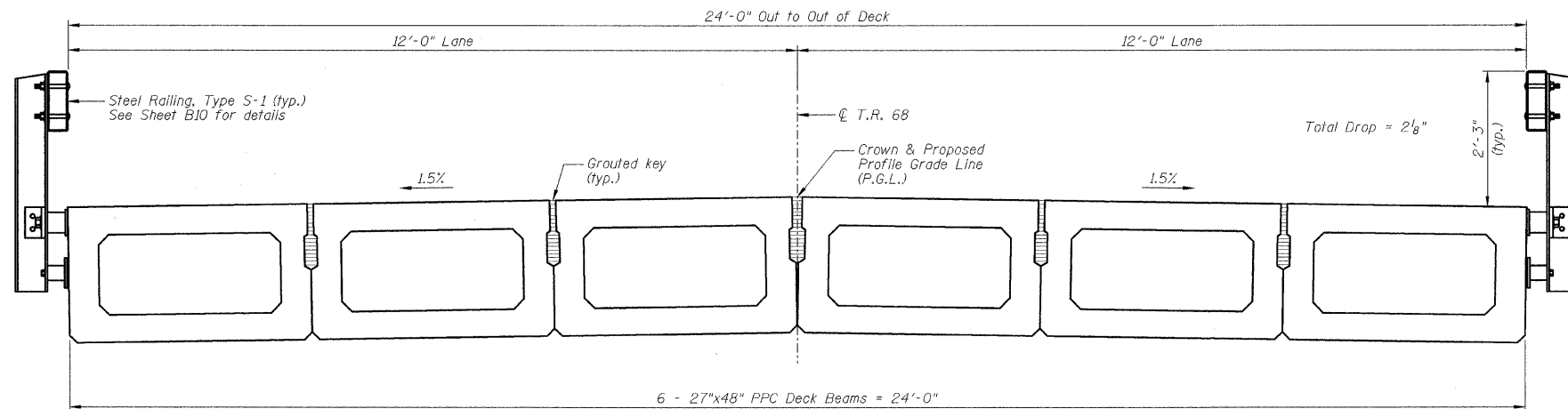
BILL OF MATERIAL, GENERAL NOTES AND MISCELLANEOUS DETAILS

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318**

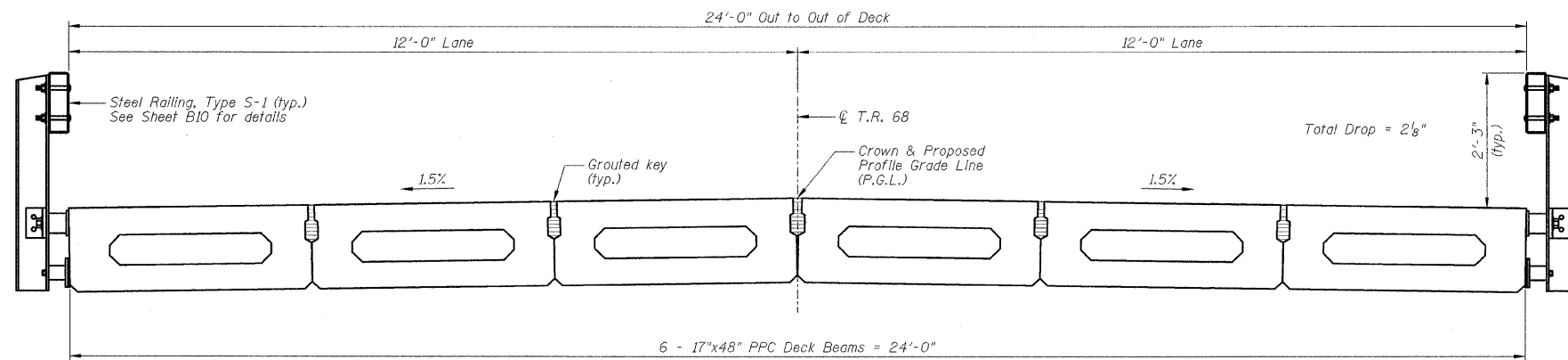
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	8
CONTRACT NO. 95593				
<small>FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT</small>				



CROSS SECTION - SPAN #1



CROSS SECTION - SPAN #2



CROSS SECTION - SPAN #3

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

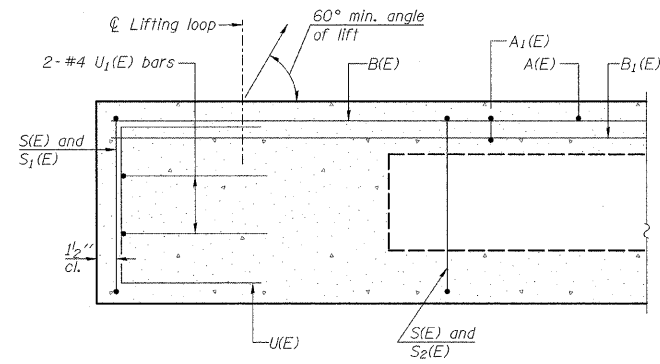
EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

SUPERSTRUCTURE CROSS SECTIONS

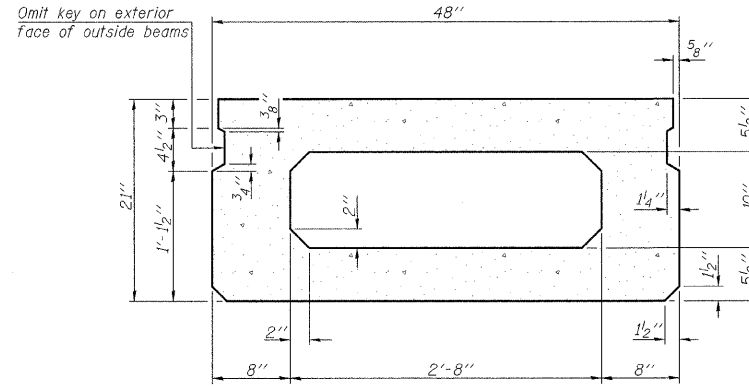
SCALE: SHEET NO. 9 OF 25 SHEETS STA. TO STA.

T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

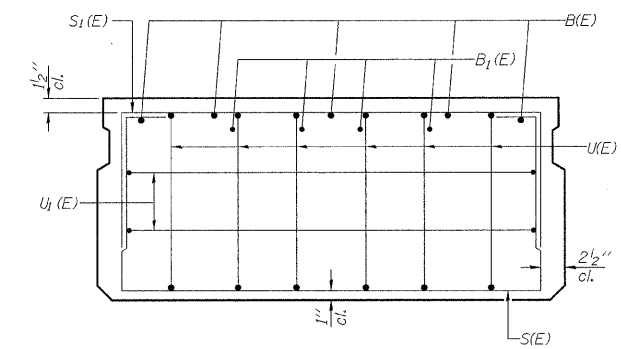
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68	05-07106-00-BR	EFFINGHAM	25	9
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT			CONTRACT NO. 95593	



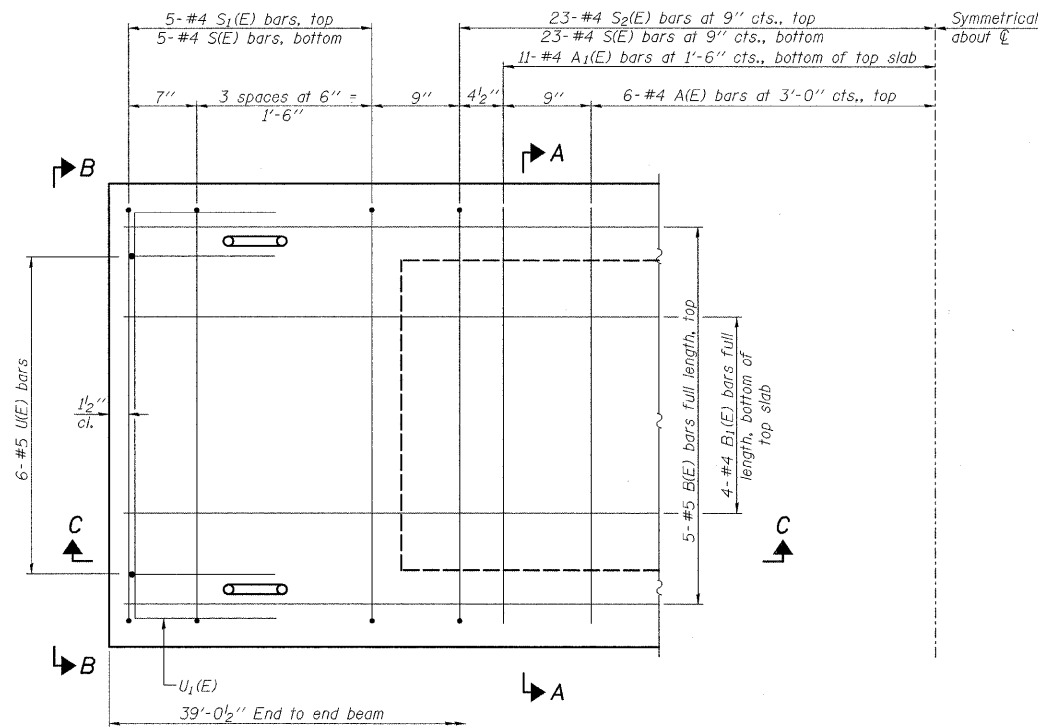
SECTION C-C



SECTION A-A
(Showing dimensions)

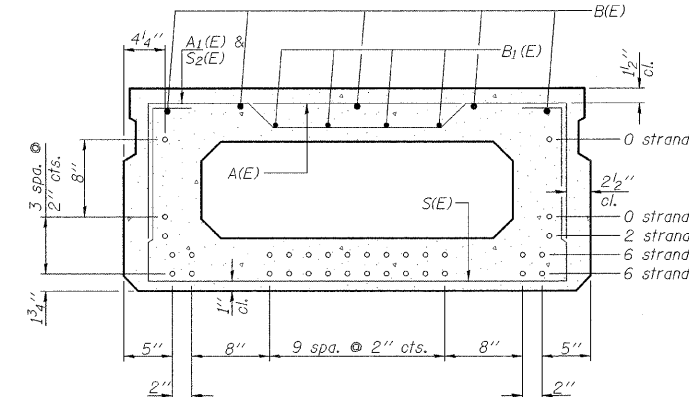


VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION A-A

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For Information Only)

Bar	No.	Size	Length	Shape
A(E)	12	#4	3'-7"	—
A1(E)	22	#4	3'-10"	—
B(E)	5	#5	38'-9"	—
B1(E)	4	#4	38'-9"	—
S(E)	56	#4	7'-5"	□
S1(E)	10	#4	5'-11"	□
S2(E)	46	#4	6'-2"	□
U(E)	12	#5	4'-0"	□
U1(E)	4	#4	6'-0"	□

Note: See Sheet B5 for additional details and Bill of Material.

PD-2148-0

10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

21" x 48" PPC DECK BEAM

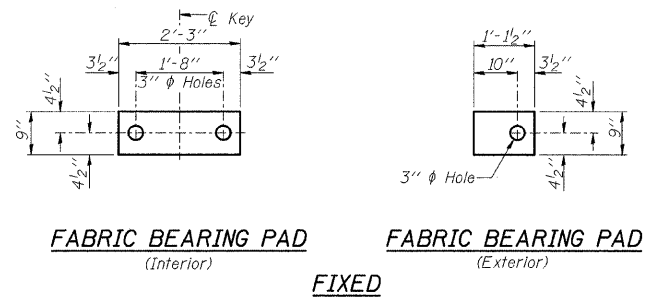
T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT			CONTRACT NO. 95392	

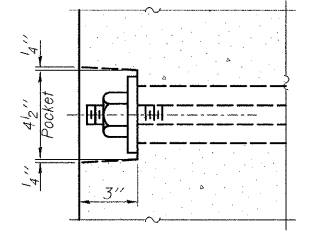
FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

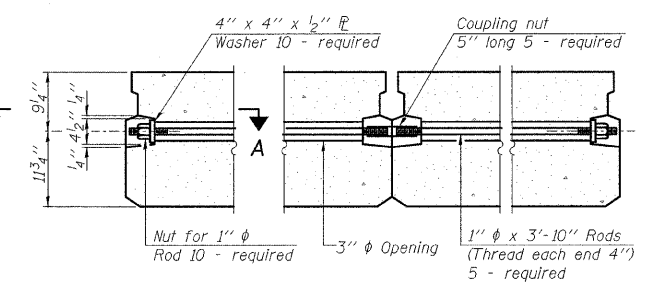
24-7945



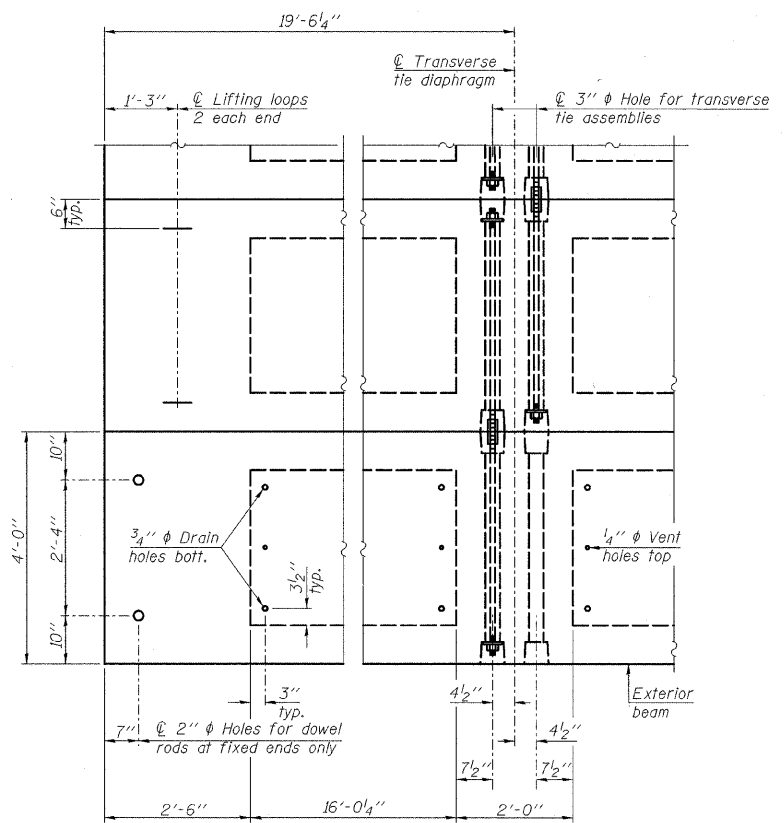
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SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

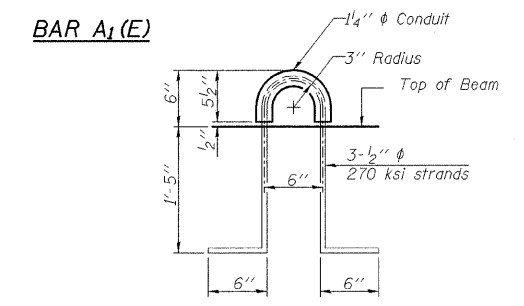
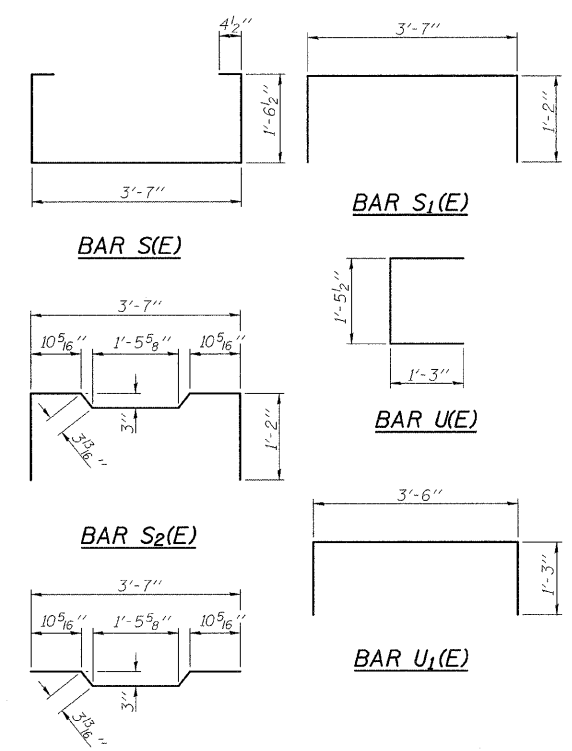


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 5/8" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 5/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	937
---	---------	-----

PD-2148-OD 10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

21" x 48" PPC DECK BEAM DETAILS

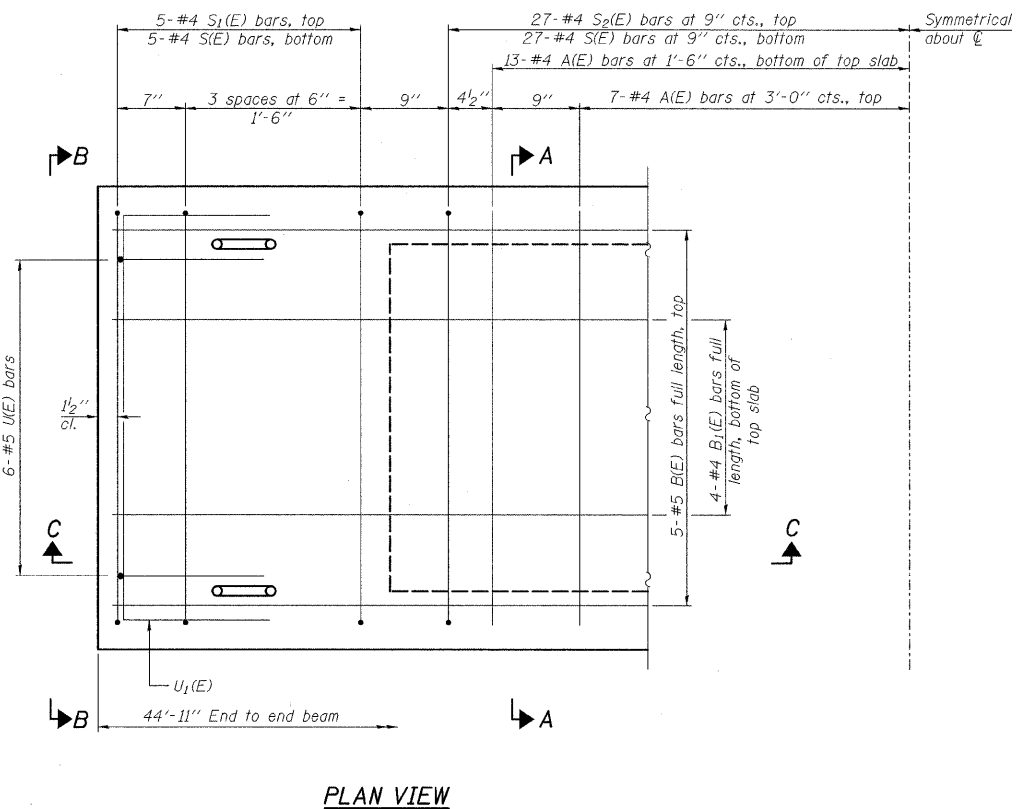
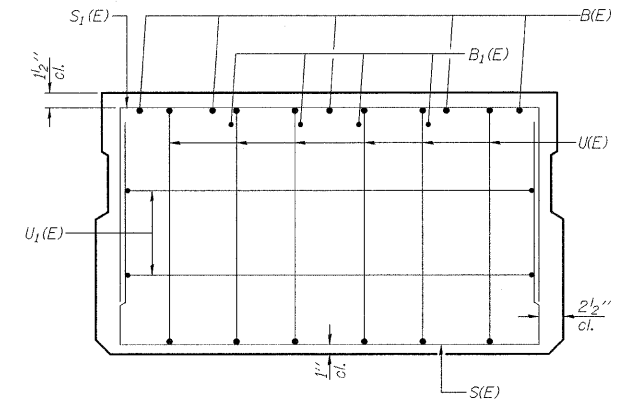
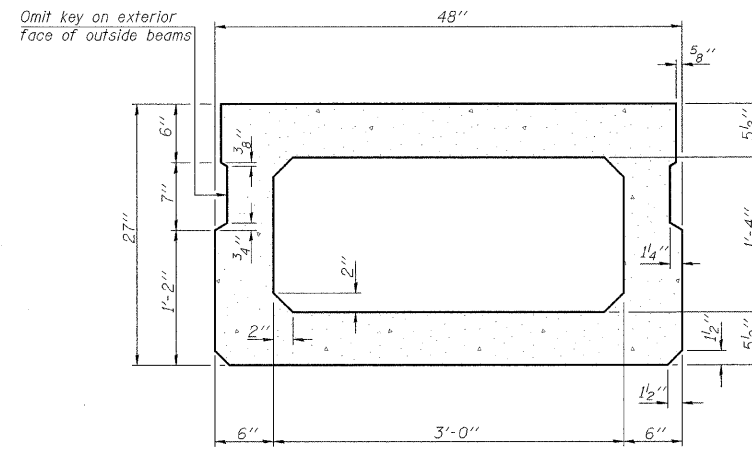
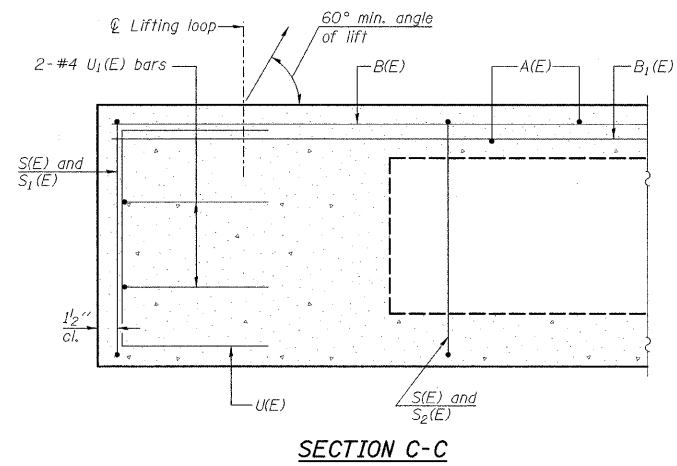
SCALE:	SHEET NO. 11 OF 25 SHEETS	STA.	TO STA.
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**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318**

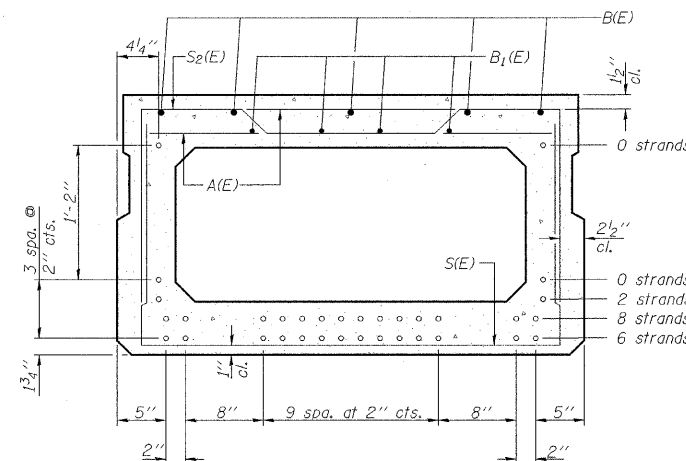
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	11
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				CONTRACT NO. 95572

FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX



SECTION A-A
(Showing dimensions)



SECTION A-A

(Showing reinforcement and permissible strand locations)
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	40	#4	3'-7"	—
B(E)	5	#5	44'-8"	—
B1(E)	4	#4	44'-8"	—
S(E)	64	#4	7'-5"	□
S1(E)	10	#4	6'-11"	□
S2(E)	54	#4	7'-2"	□
U(E)	12	#5	4'-6"	□
U1(E)	4	#4	6'-0"	□

Note: See Sheet B7 for additional details and Bill of Material.

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

PD-2748-0 10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

27" x 48" PPC DECK BEAM

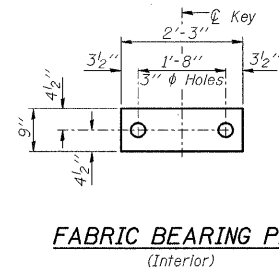
T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	12
FED. ROAD DIST. NO. 7 ILLINOIS/FED. AID PROJECT			CONTRACT NO. 95593	

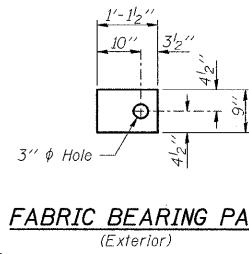
FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

24-7945

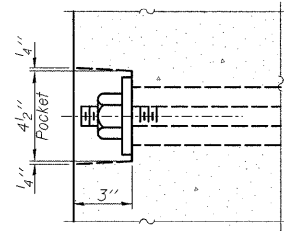


FABRIC BEARING PAD
(Interior)

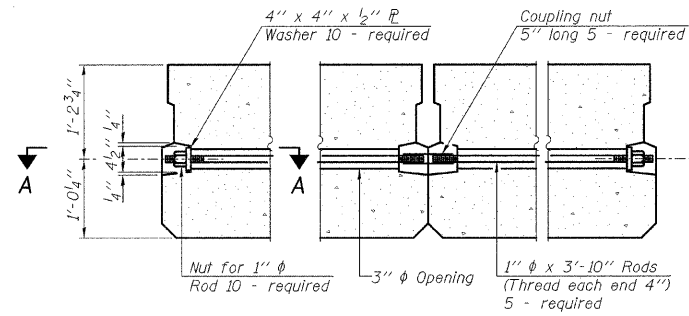


FABRIC BEARING PAD
(Exterior)

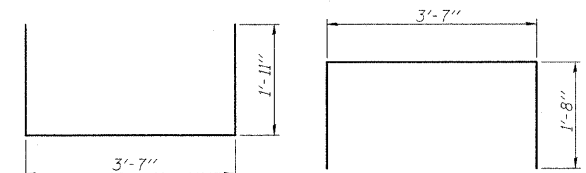
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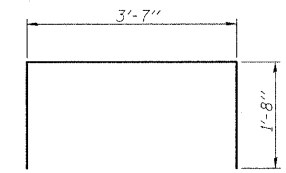
SECTION A-A



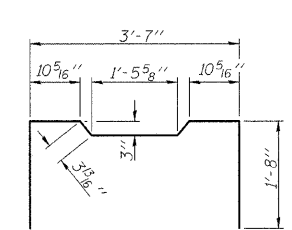
TYPICAL TRANSVERSE TIE ASSEMBLY



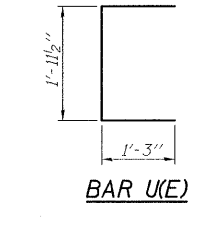
BAR S(E)



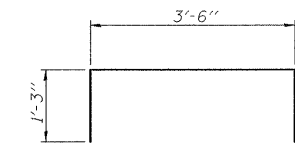
BAR S1(E)



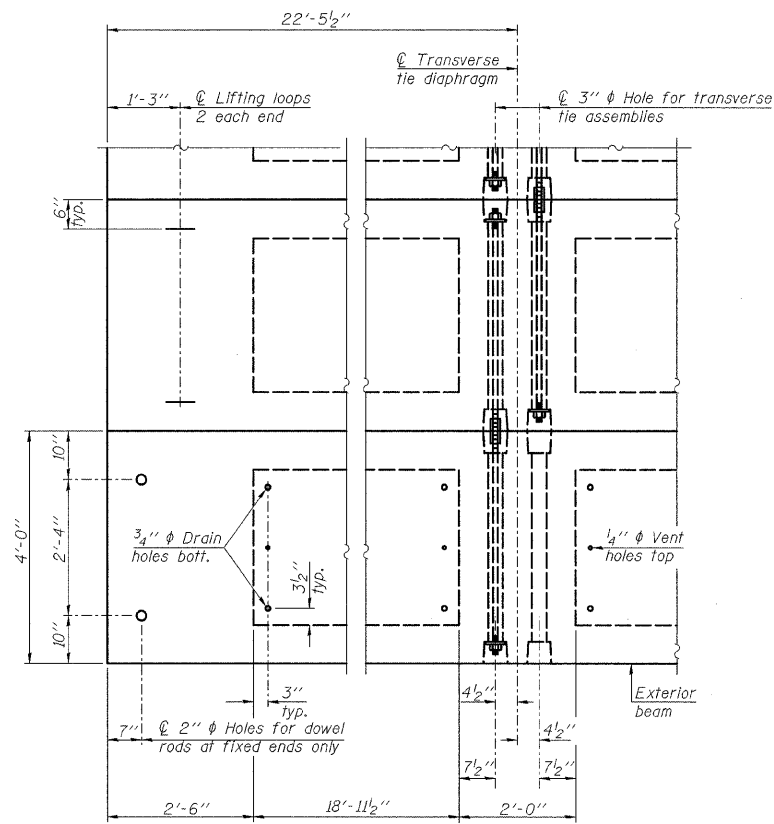
BAR S2(E)



BAR U(E)



BAR U1(E)



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

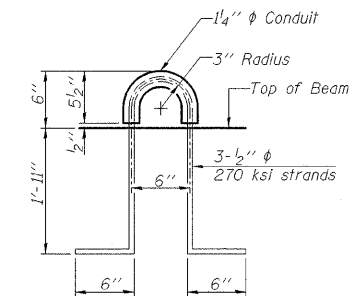
NOTES

- 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.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'cl, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1078
---	---------	------

LIFTING LOOP DETAIL



PD-2748-0D

10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

27" x 48" PPC DECK BEAM DETAILS

SCALE: SHEET NO. 13 OF 25 SHEETS STA. TO STA.

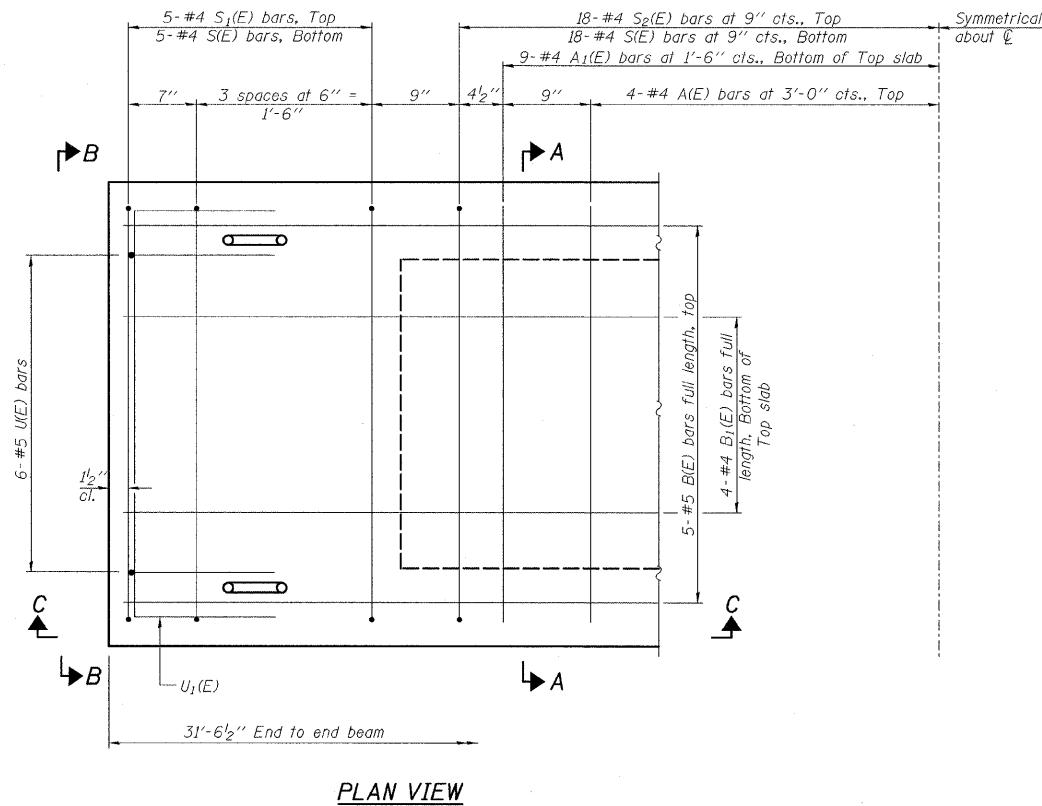
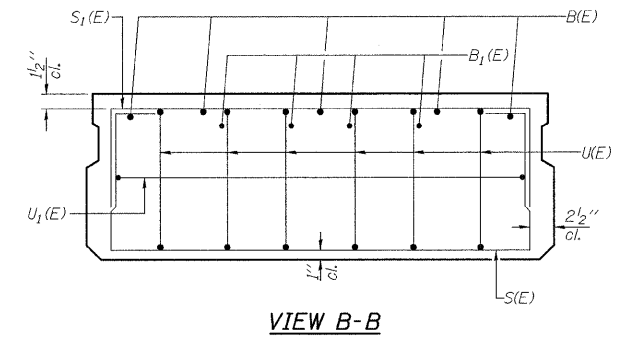
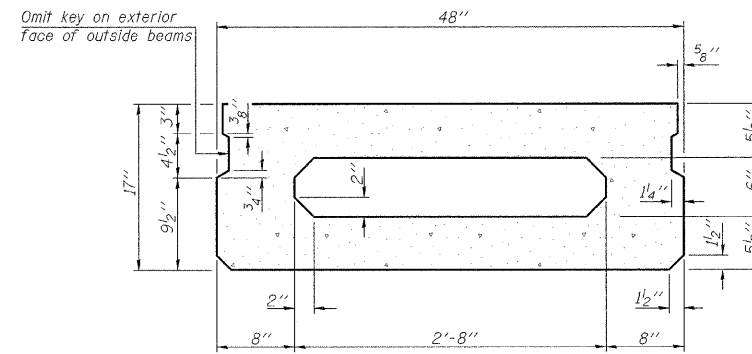
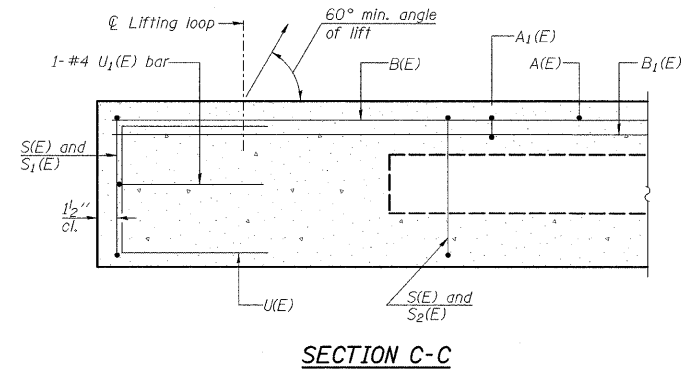
T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	13
				CONTRACT NO. 95593
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

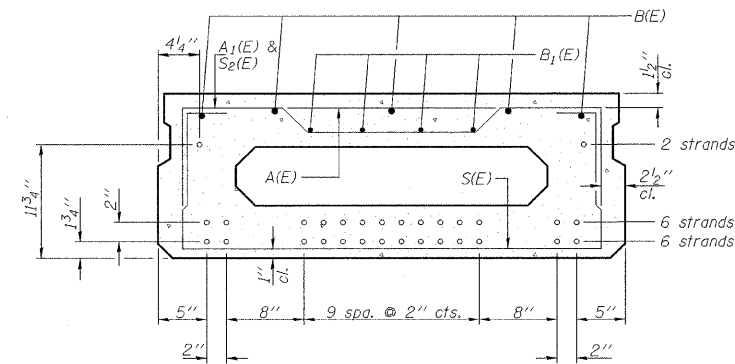
FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

24-7945



SECTION A-A
(Showing dimensions)



SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	8	#4	3'-7"	—
A1(E)	18	#4	3'-10"	—
B(E)	5	#5	31'-3"	—
B1(E)	4	#4	31'-3"	—
S(E)	46	#4	6'-9"	□
S1(E)	10	#4	5'-3"	□
S2(E)	36	#4	5'-6"	□
U(E)	12	#5	3'-8"	□
U1(E)	4	#4	6'-0"	□

Note: See Sheet B9 for additional details and Bill of Material.

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

PD-1748-0

10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

17" x 48" PPC DECK BEAM

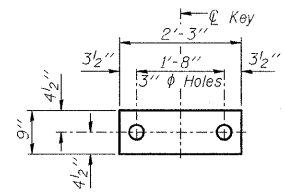
T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 95593			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT	

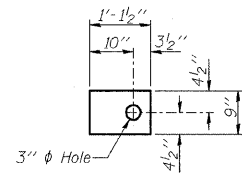
FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

24-7945

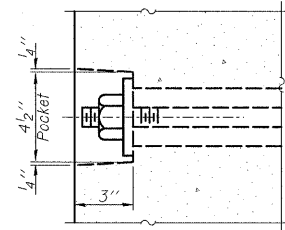


FABRIC BEARING PAD
(Interior)

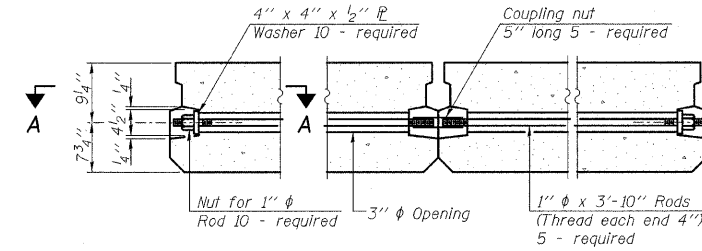


FABRIC BEARING PAD
(Exterior)

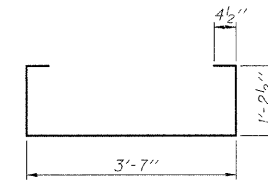
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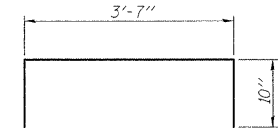
SECTION A-A



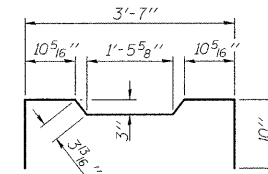
TYPICAL TRANSVERSE TIE ASSEMBLY



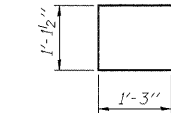
BAR S(E)



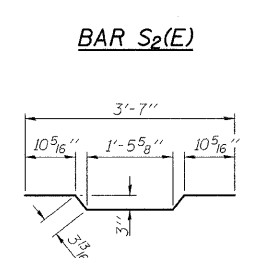
BAR S1(E)



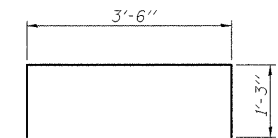
BAR S2(E)



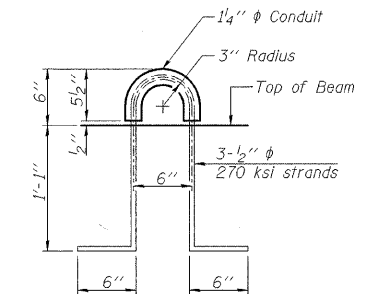
BAR U(E)



BAR A1(E)



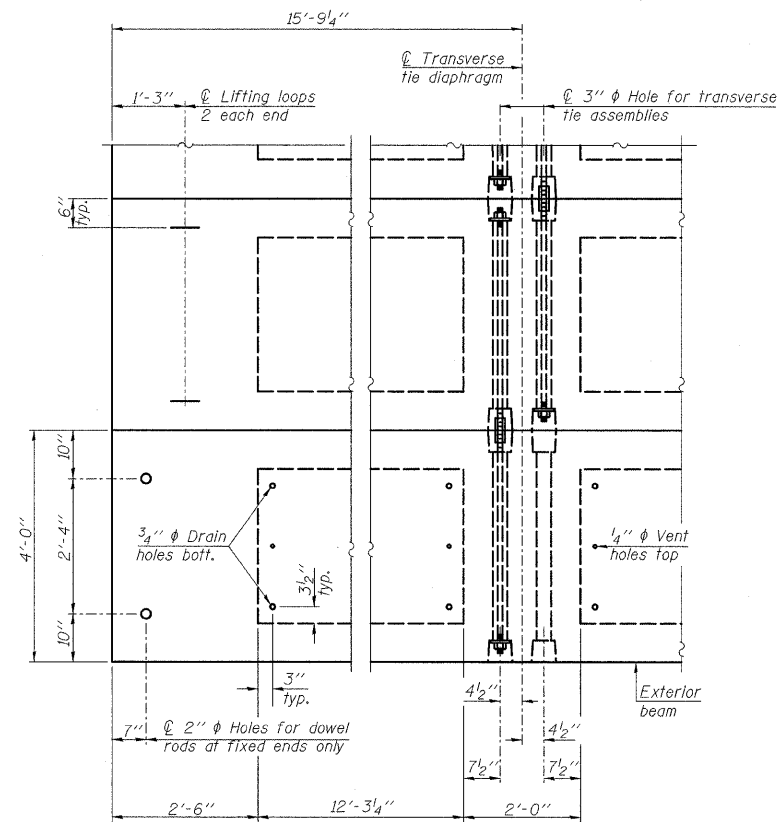
BAR U1(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	757



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

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.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(BK12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

PD-1748-OD

10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

17" x 48" PPC DECK BEAM DETAILS

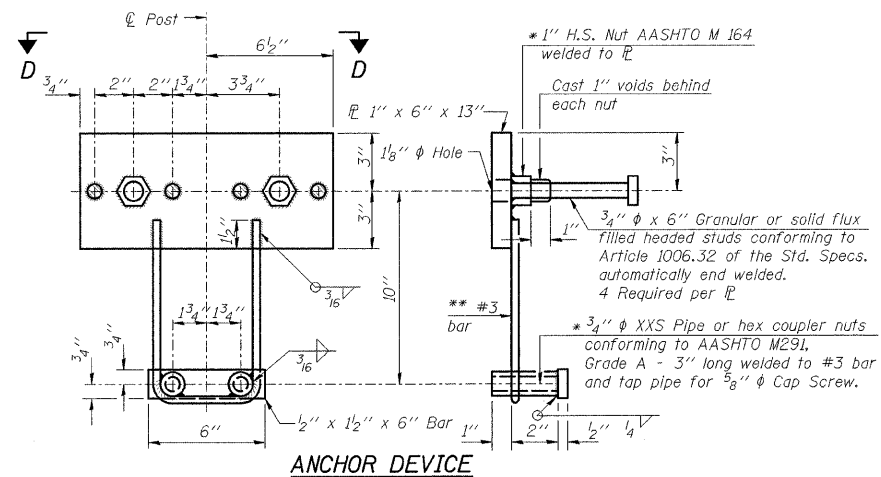
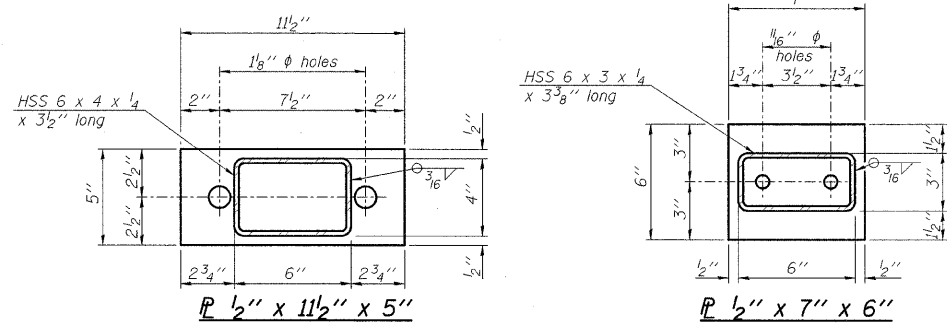
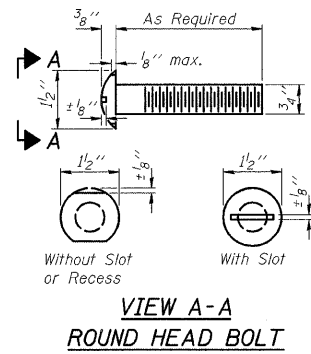
**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318**

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	15
FED. ROAD DIST. NO. 7 [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 95593	

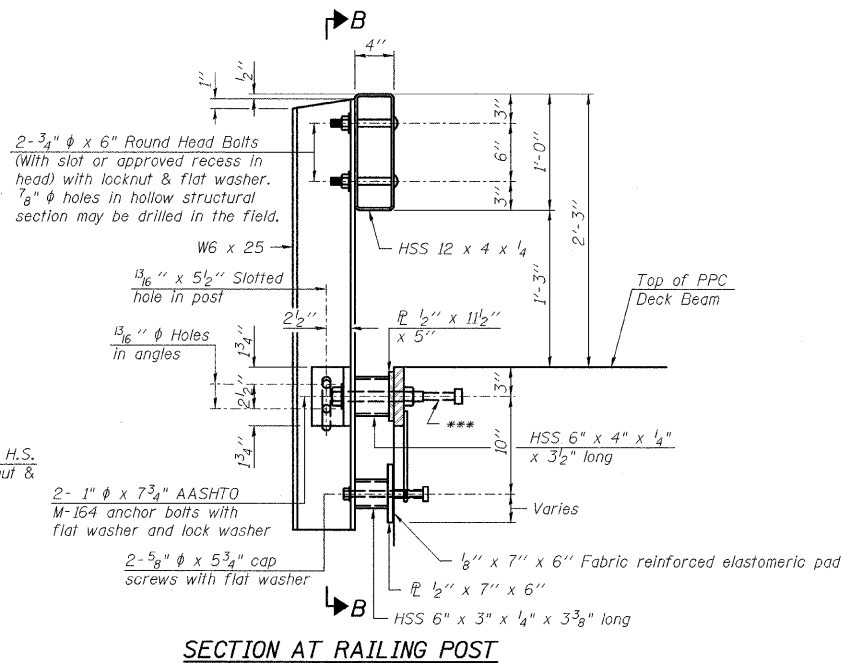
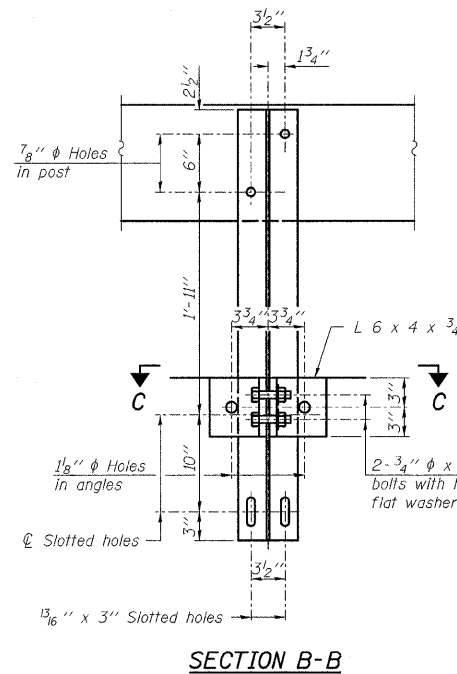
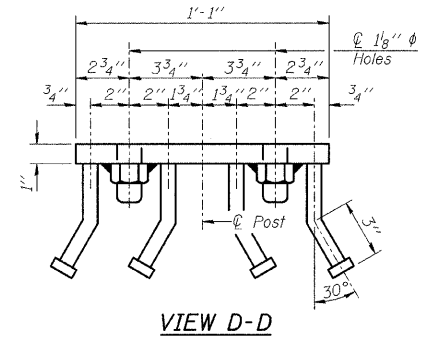
FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

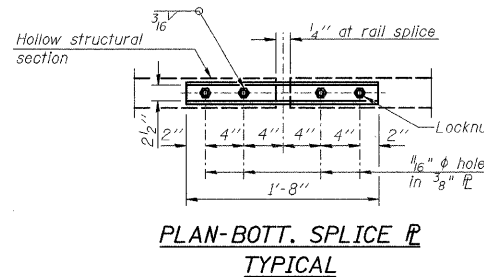
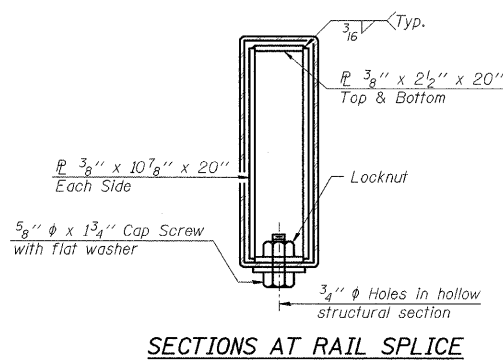
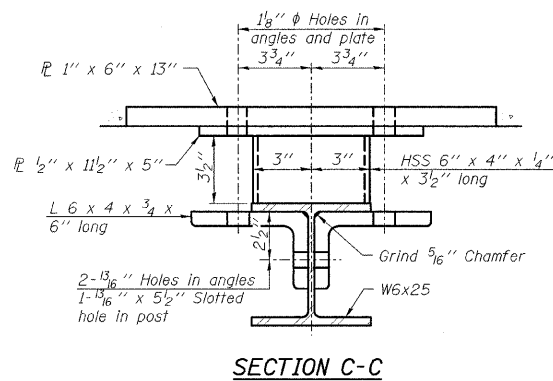
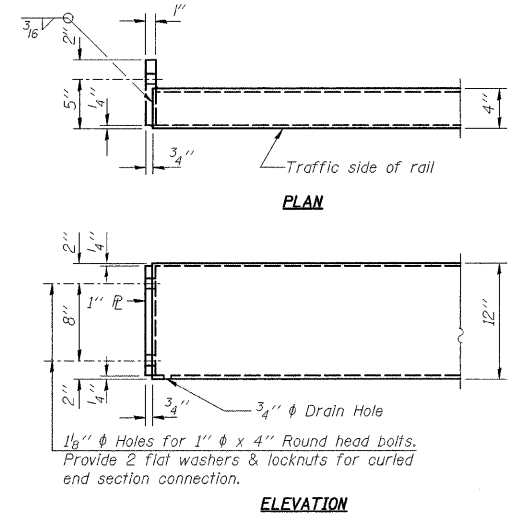
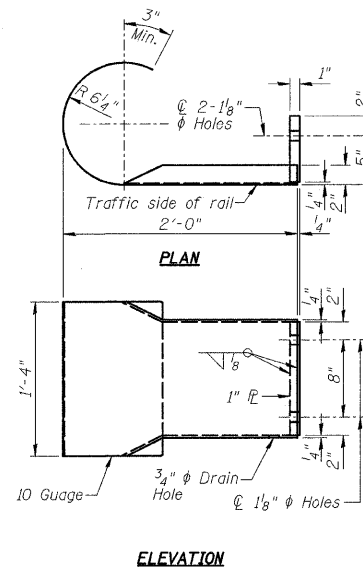
24-7945



Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
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 included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post 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".



CURLED END SECTION

END OF RAIL DETAILS

NOTE:
The cost of the curled end sections shall be included in the cost of Steel Railing, Type S-1.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	234

R-23A 10-1-08 (10'-9" Maximum Post Spacing)

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

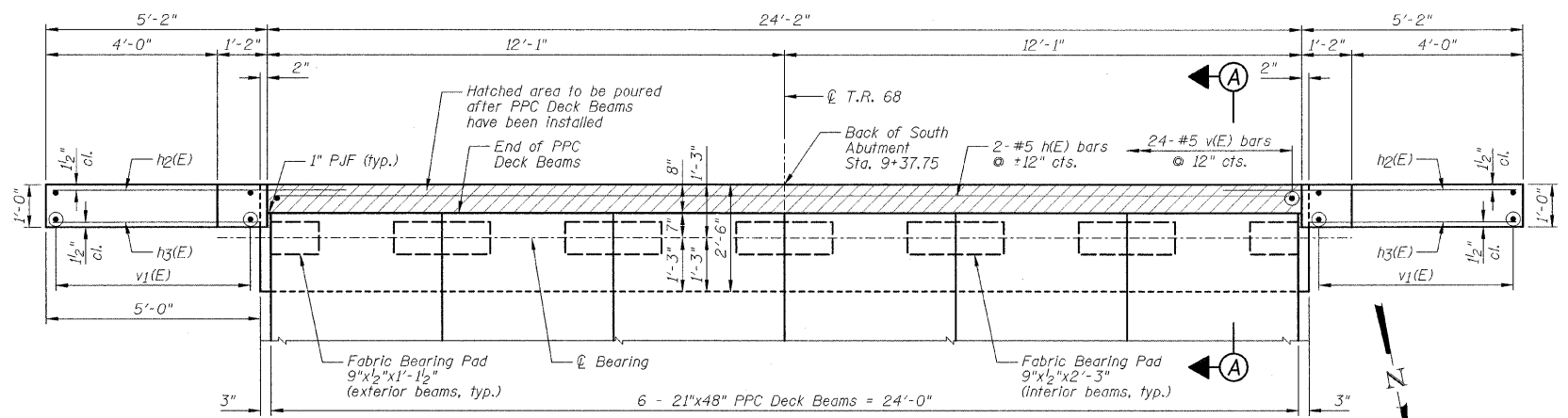
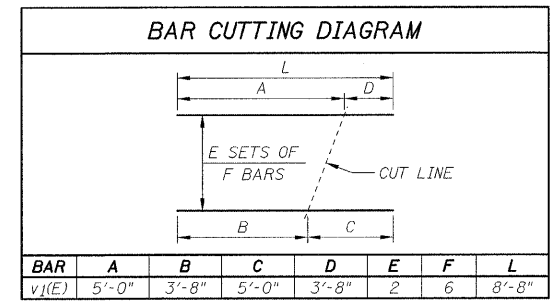
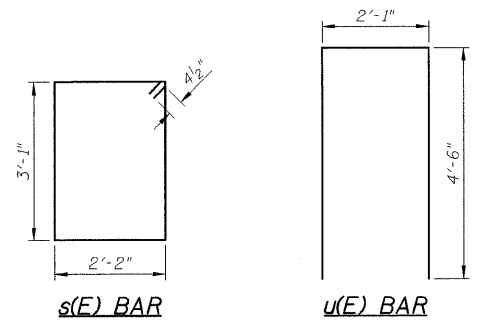
STEEL RAILING, TYPE S-1

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318**

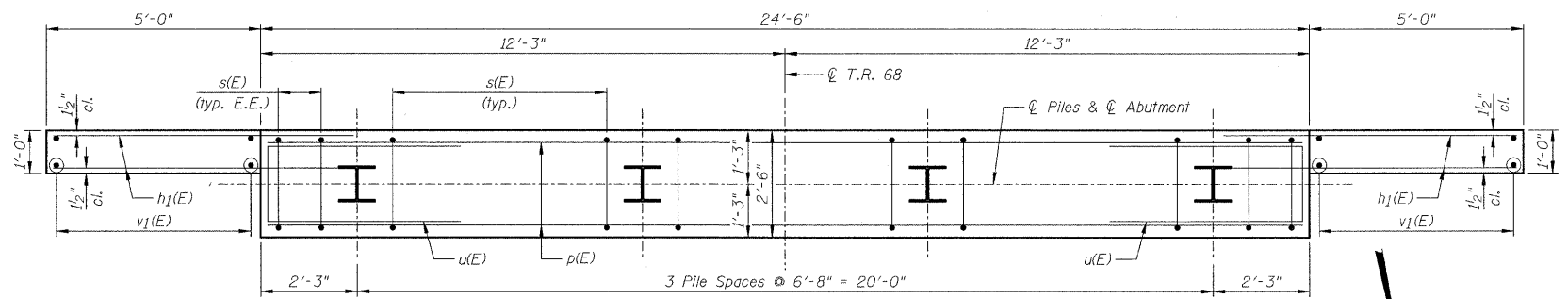
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	16
			CONTRACT NO. 95593	
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

**SOUTH ABUTMENT
BILL OF MATERIAL**

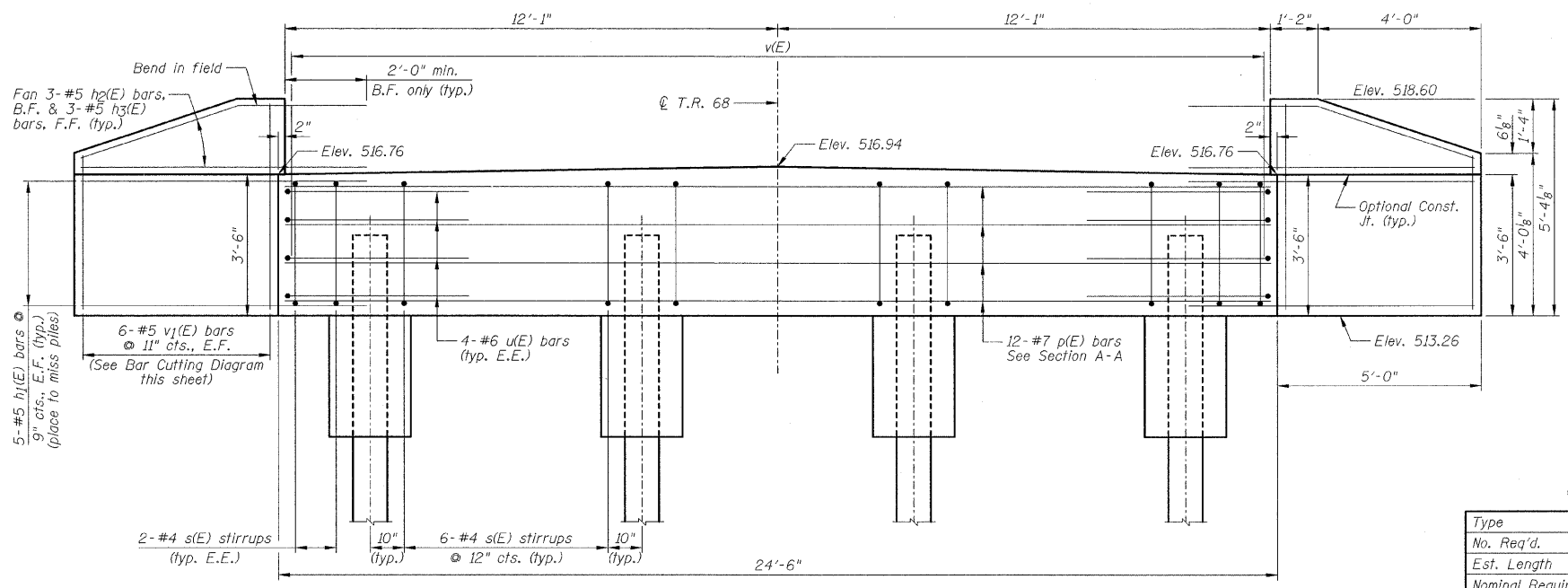
Bar	No.	Size	Length	Shape
h(E)	2	#5	23'-10"	—
h1(E)	20	#5	6'-10"	—
h2(E)	6	#5	7'-3"	—
h3(E)	6	#5	4'-10"	—
p(E)	12	#7	24'-2"	—
s(E)	22	#4	11'-3"	□
u(E)	8	#6	11'-1"	—
v(E)	24	#5	3'-8"	—
v1(E)	12	#5	8'-8"	—
Item	Unit	Quantity		
Porous Granular Embankment, Special	Ton	56		
Structure Excavation	Cu. Yd.	39		
Concrete Structures	Cu. Yd.	11.1		
Reinforcement Bars, Epoxy Coated	Pound	1360		
Furnishing Steel Piles HP10x42	Foot	39		
Driving Piles	Foot	39		
Test Pile Steel HP10x42	Each	1		
Geocomposite Wall Drain	Sq. Yd.	16		
Pipe Underdrains For Structures 4"	Foot	58		



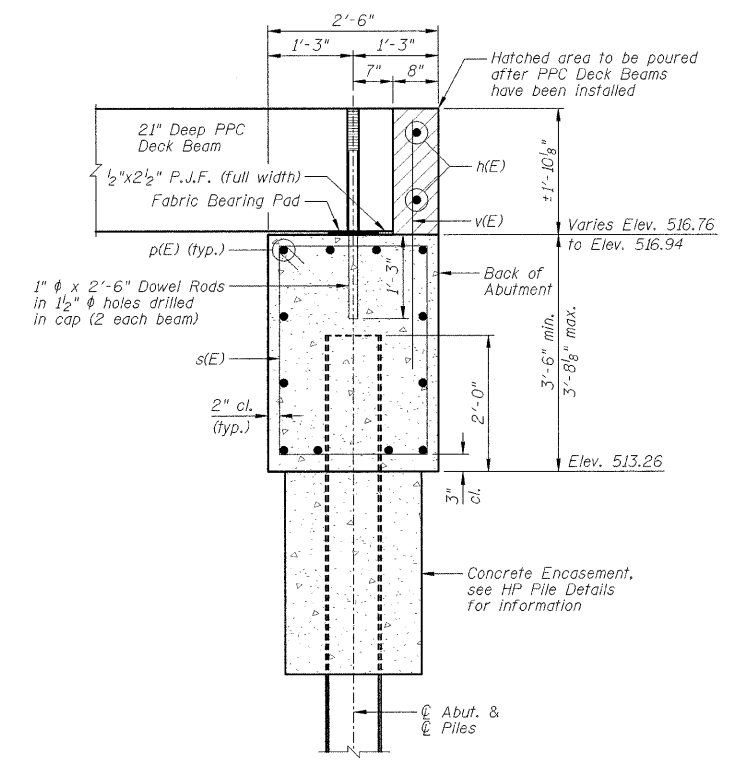
PLAN



PLAN - PILE CAP



ELEVATION
(Looking South)



SECTION A-A

PILE DATA:

Type	HP10x42 Steel
No. Req'd.	3+1 Test Pile
Est. Length	13 feet
Nominal Required Bearing	335 kips
Allowable Resistance Available	112 kips

- NOTES:**
- 1.) E.E. denotes Each End, E.F. denotes Each Face, F.F. denotes Front Face & B.F. denotes Back Face.
 - 2.) Order v1(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of v1(E) bars in opposite face of wingwall.
 - 3.) The Contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

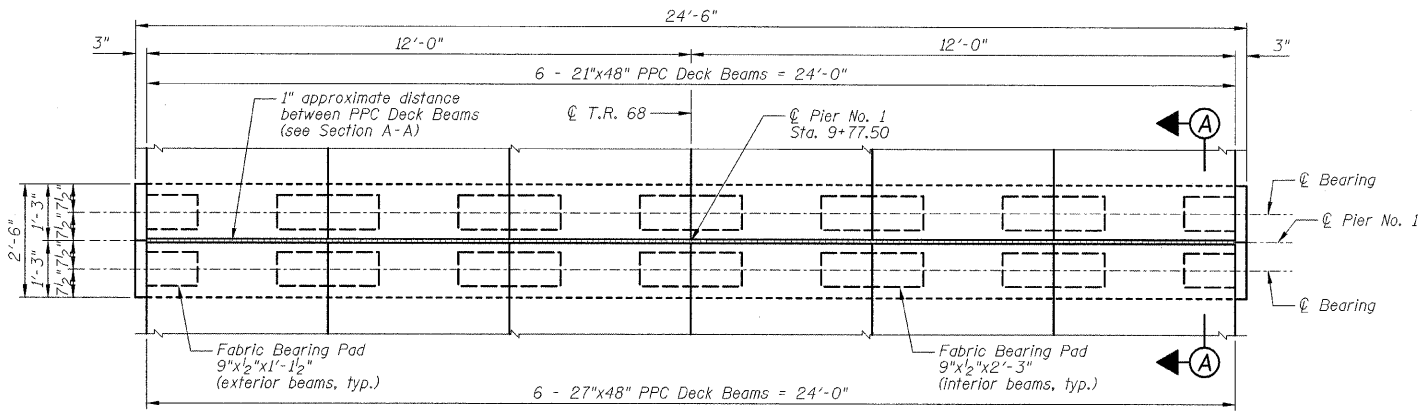
SOUTH ABUTMENT

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318**

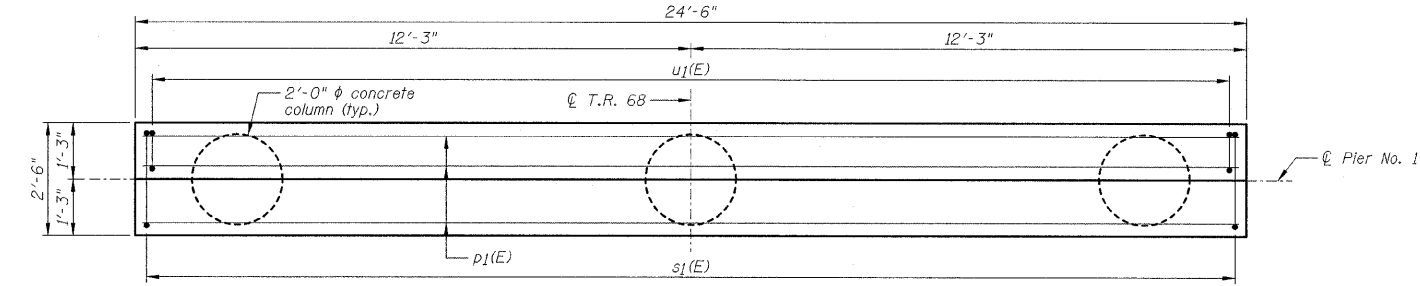
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	17
CONTRACT NO. 95593			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT	

FARNSWORTH GROUP, INC.

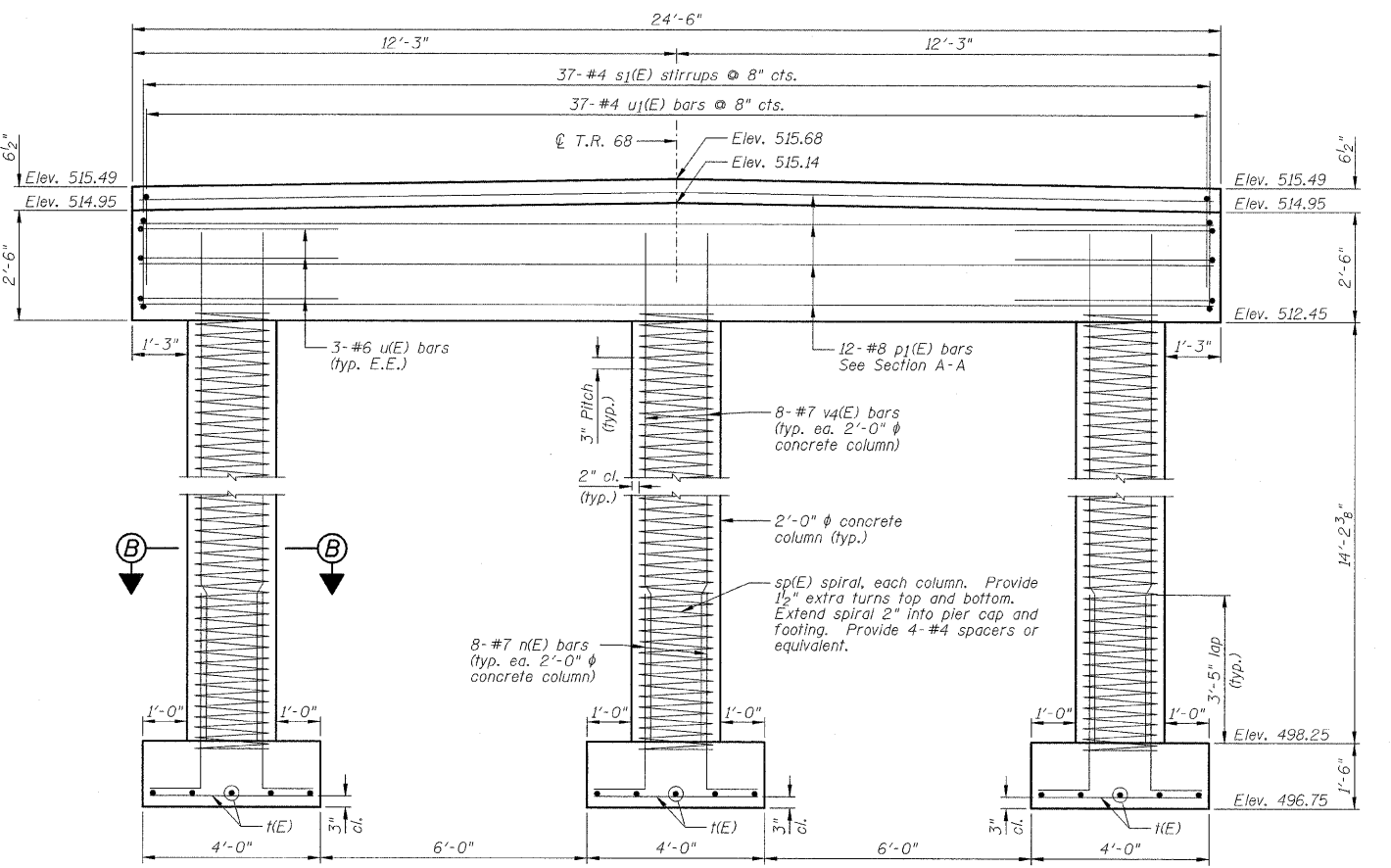
CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX



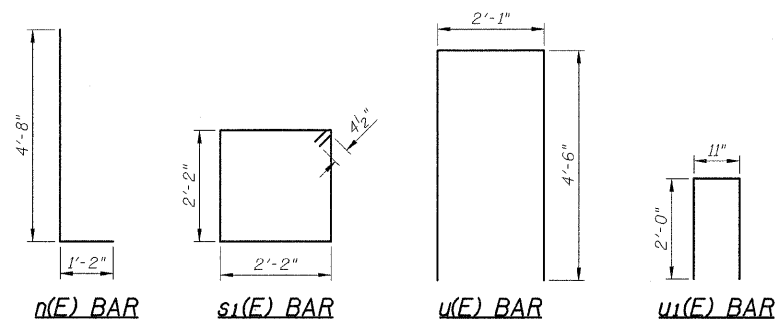
PLAN



PLAN - PILE CAP



ELEVATION
(Looking South)



n(E) BAR s1(E) BAR u(E) BAR u1(E) BAR

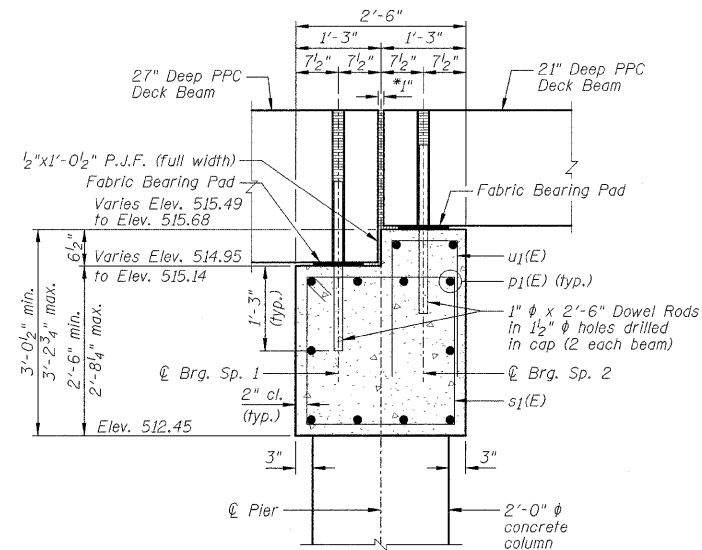
PIER NO. 1
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n(E)	24	#7	5'-10"	
p1(E)	12	#8	24'-2"	
s1(E)	37	#4	9'-5"	□
sp(E)	3	#4	314'-0"	∩∩∩
t(E)	30	#6	3'-8"	
u(E)	6	#6	11'-1"	□
u1(E)	37	#4	4'-11"	□
v4(E)	24	#7	16'-2"	
Item		Unit	Quantity	
Rock Excavation for Structures		Cu. Yd.	7	
Concrete Structures		Cu. Yd.	14.1	
Seal Coat Concrete		Cu. Yd.	2	
Reinforcement Bars, Epoxy Coated		Pound	3100	

**Length is height of spiral.

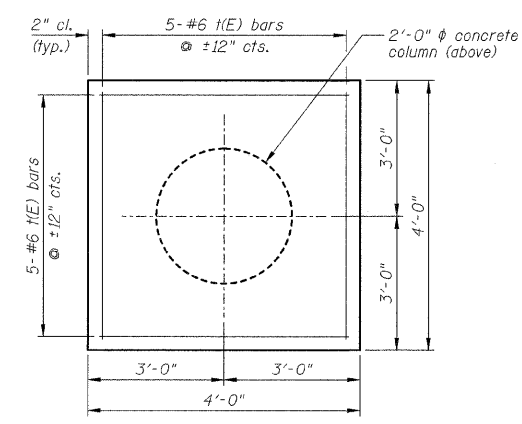
NOTE:

The quantity of Rock Excavation for Structures shown above is only for the Pier Footings and does not include the rock excavation quantity required for riprap placement.

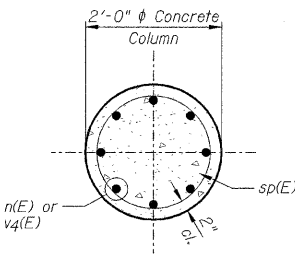


SECTION A-A

*1" approximate distance between PPC Deck Beams shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.



FOOTING PLAN



SECTION B-B

NOTES:

- 1.) E.E. denotes Each End.
- 2.) Calculated maximum footing bearing pressure = 12.3 ksf (service).
- 3.) If a portion of the pier footing is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications.

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

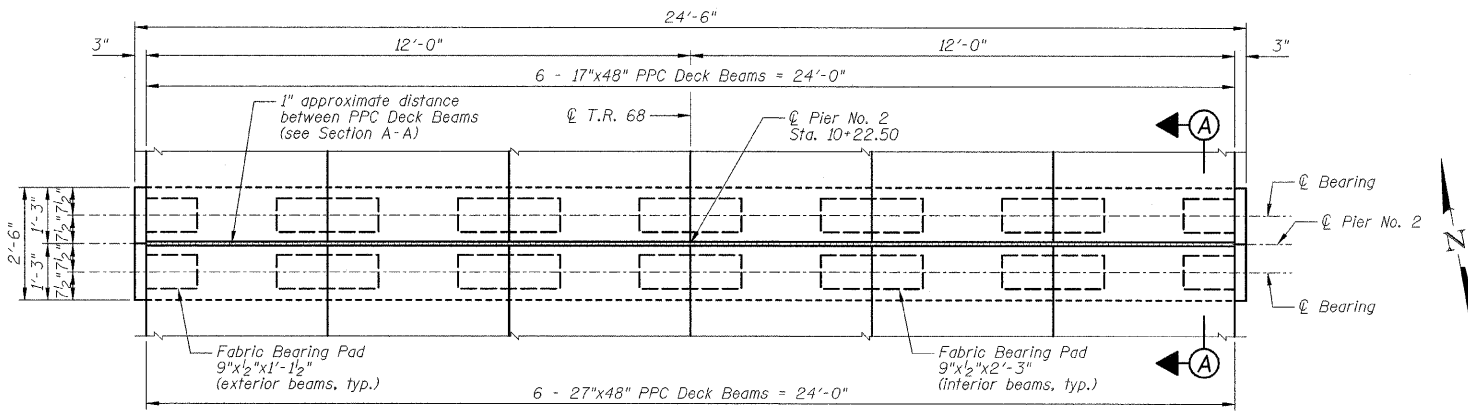
PIER NO. 1

T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

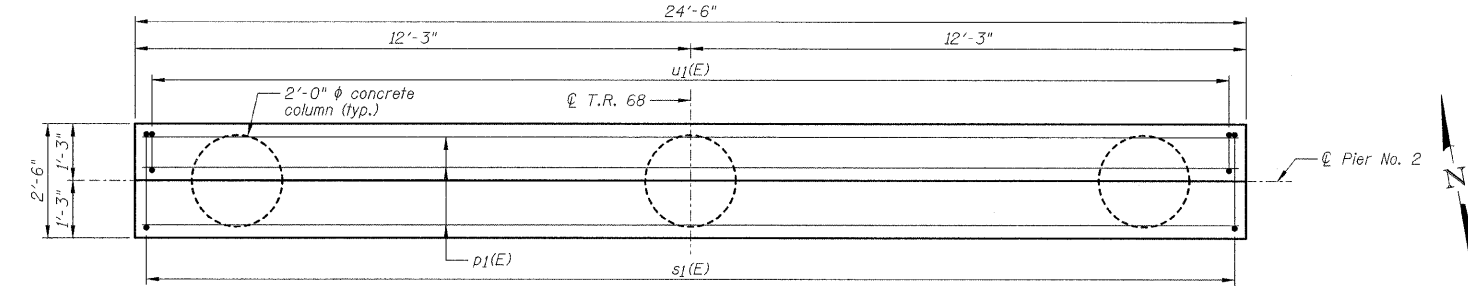
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	19
CONTRACT NO. 95593				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

FARNSWORTH GROUP, INC.

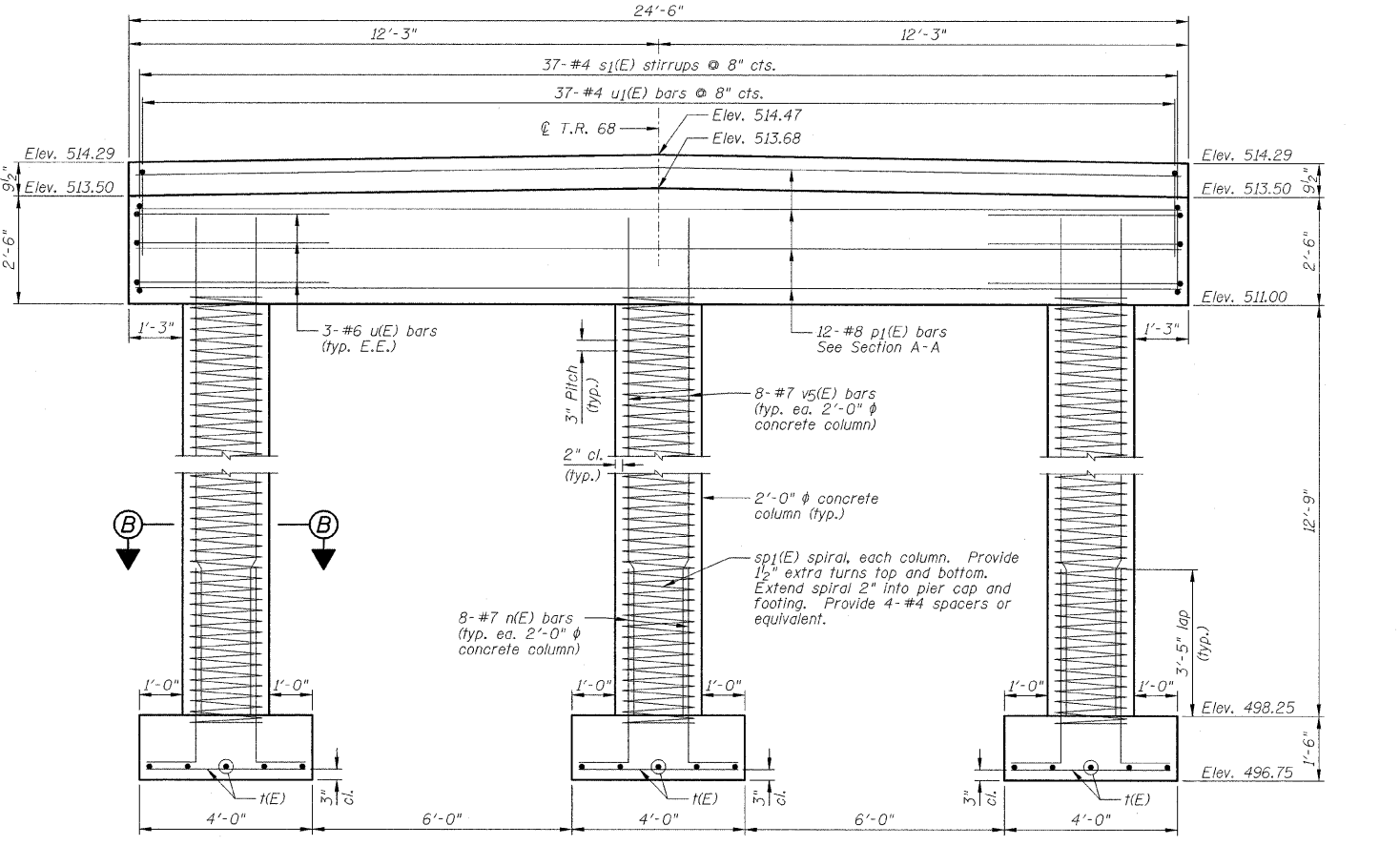
CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX



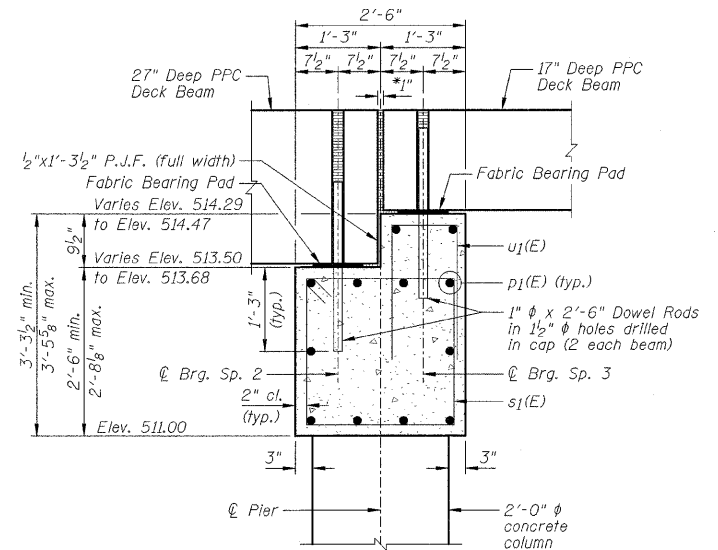
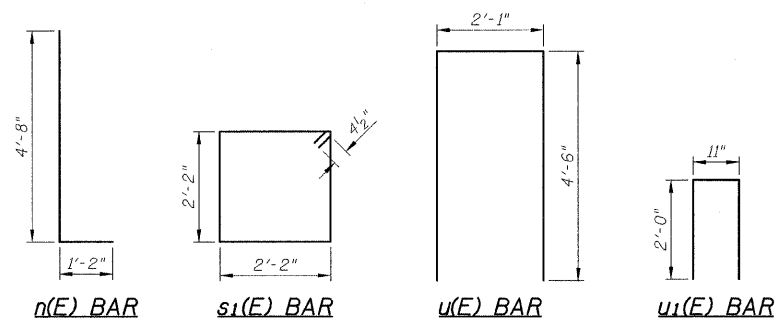
PLAN



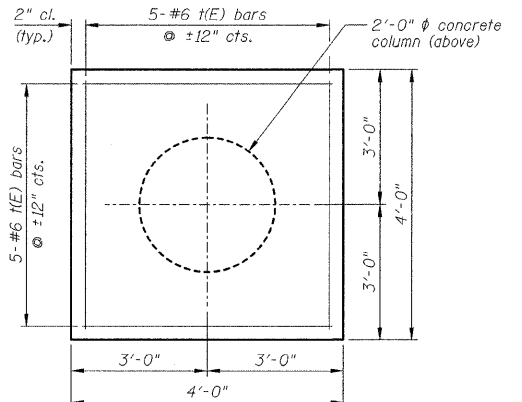
PLAN - PILE CAP



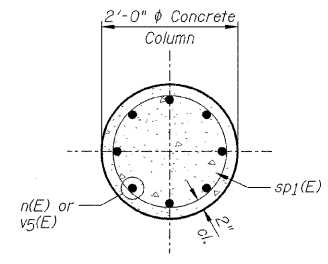
ELEVATION
(Looking North)



SECTION A-A



FOOTING PLAN



SECTION B-B

PIER NO. 2
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n(E)	24	#7	5'-10"	┌
p1(E)	12	#8	24'-2"	—
s1(E)	37	#4	9'-5"	□
**sp1(E)	3	#4	283'-0"	∩∩
t(E)	30	#6	3'-8"	—
u(E)	6	#6	11'-1"	└
u1(E)	37	#4	4'-11"	└
v5(E)	24	#7	14'-9"	—
Item		Unit	Quantity	
Rock Excavation for Structures		Cu. Yd.	7	
Concrete Structures		Cu. Yd.	13.9	
Seal Coat Concrete		Cu. Yd.	2	
Reinforcement Bars, Epoxy Coated		Pound	2970	

**Length is height of spiral.

NOTE:

The quantity of Rock Excavation for Structures shown above is only for the Pier Footings and does not include the rock excavation quantity required for riprap placement.

NOTES:

- 1.) E.E. denotes Each End.
- 2.) Calculated maximum footing bearing pressure = 10.8 ksf (service).
- 3.) If a portion of the pier footing is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications.

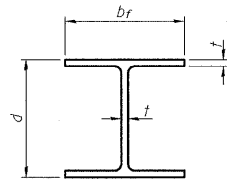
DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE - 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

PIER NO. 2
SCALE: SHEET NO. 20 OF 25 SHEETS STA. TO STA.

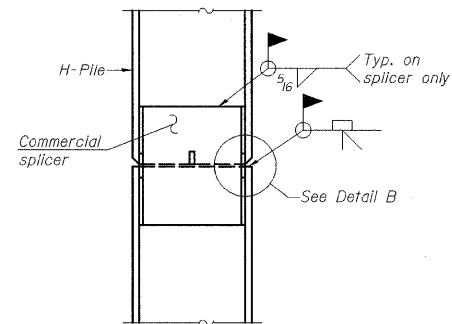
T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	20
CONTRACT NO. 95593			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT	

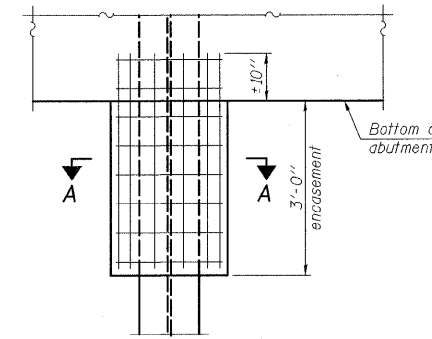


STEEL PILE TABLE

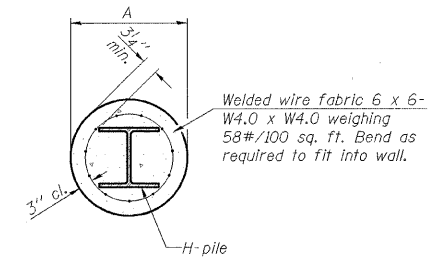
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 5/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 5/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 5/8"	7/16"	18"



ELEVATION



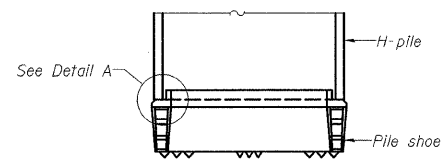
ELEVATION



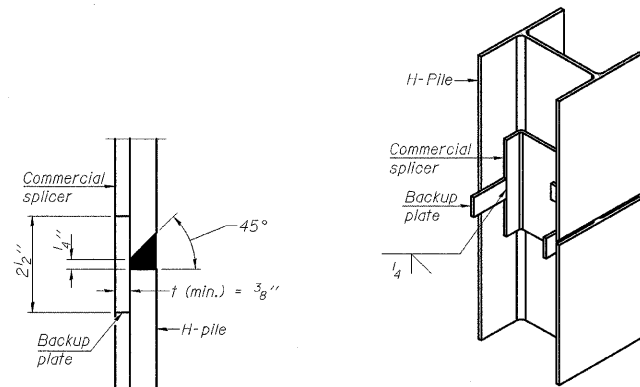
SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

PILE ENCASEMENT

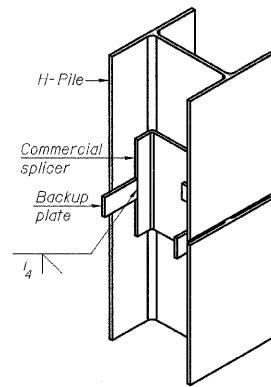


ELEVATION

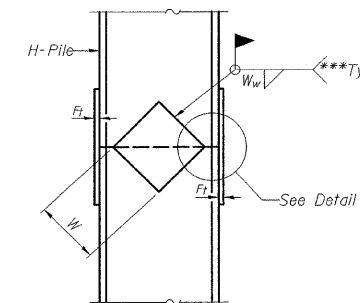


DETAIL "B"

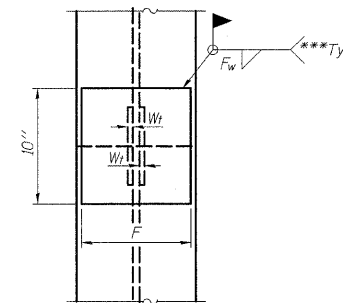
WELDED COMMERCIAL SPLICE



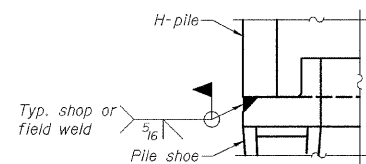
ISOMETRIC VIEW



ELEVATION

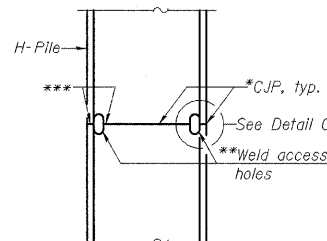


END VIEW



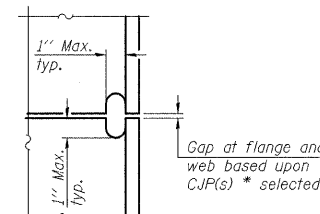
DETAIL A

H-PILE SHOE ATTACHMENT

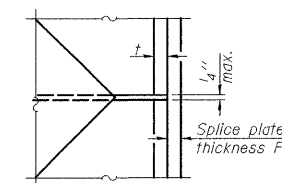


ELEVATION

COMPLETE PENETRATION WELD SPLICE



DETAIL C



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

- * Use joint conforming to Figure 3.4 in AWS D1.1. Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1. Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 10-1-08

DESIGNED - JML	REVISED -
DRAWN - DJM	REVISED -
CHECKED - MSW	REVISED -
DATE 06/22/09	REVISED -

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

HP PILE DETAILS

T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM COUNTY
STATION 9+96.25 STRUCTURE NO. 025-3318

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	21
CONTRACT NO. 95593				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

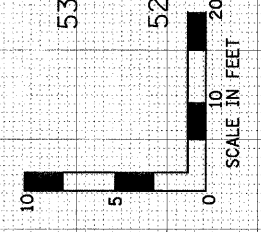
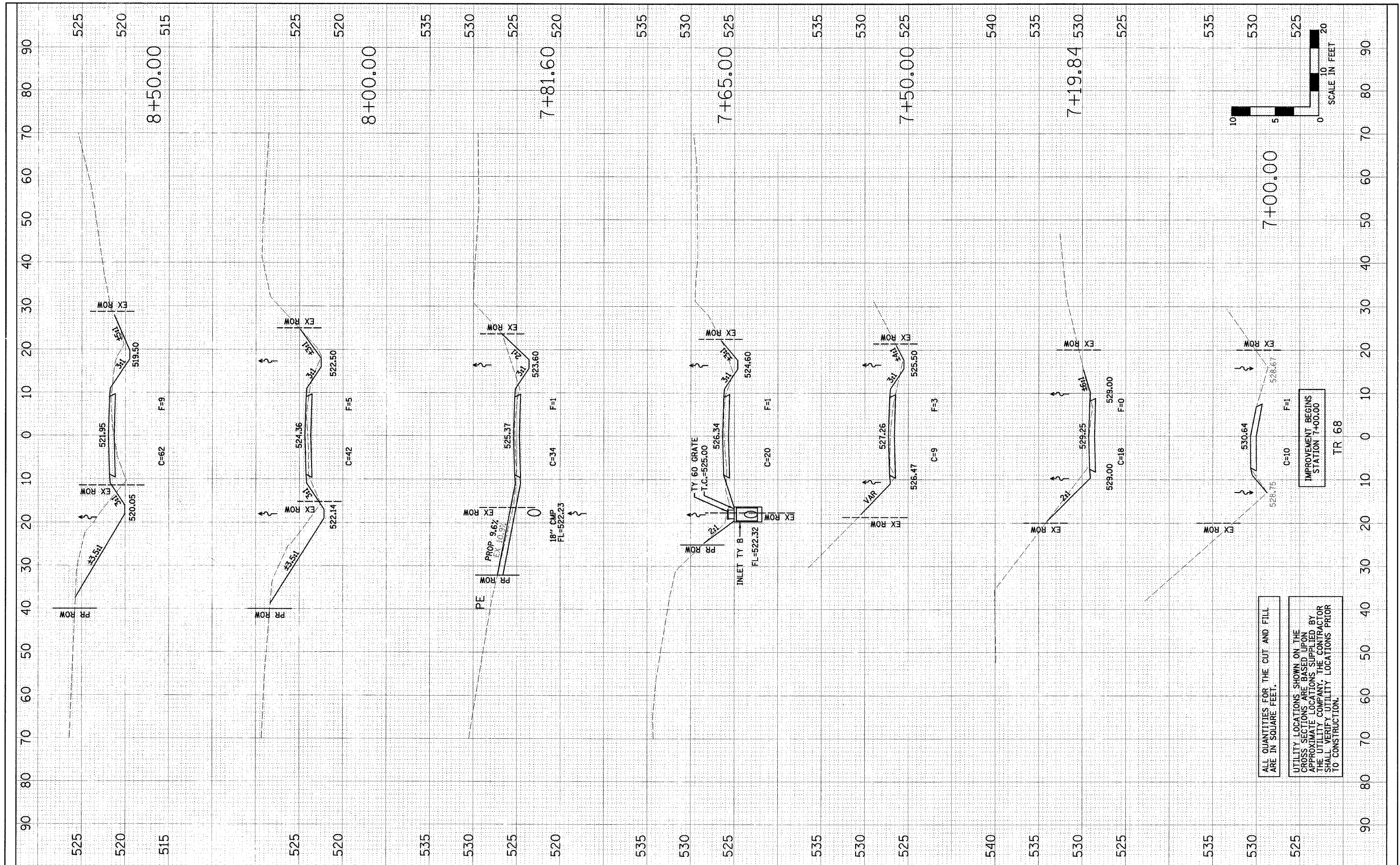
FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

24-7945

FINAL	DESIGNED	DATE
SURVEY	PLOTTED	
NOTE BOOK	TEMPLATE	
AREAS	CHECKED	

ORIGINAL	CHECKED	DATE
SURVEY	PLOTTED	
NOTE BOOK	TEMPLATE	
AREAS	CHECKED	



ALL QUANTITIES FOR THE CUT AND FILL ARE IN SQUARE FEET.

UTILITY LOCATIONS SHOWN ON THE CROSS SECTIONS ARE BASED UPON APPROXIMATE LOCATIONS SUPPLIED BY THE UTILITY COMPANY. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

IMPROVEMENT BEGINS STATION 7+00.00

TR 68

DESIGNED	JML	REVISED
DRAWN	JJO	REVISED
CHECKED	MSW	REVISED
DATE	06/22/09	REVISED

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

CROSS SECTIONS	
SCALE:	SHEET NO. 23 OF 25 SHEETS
STA. 7+00.00	TO STA. 8+50.00

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY**

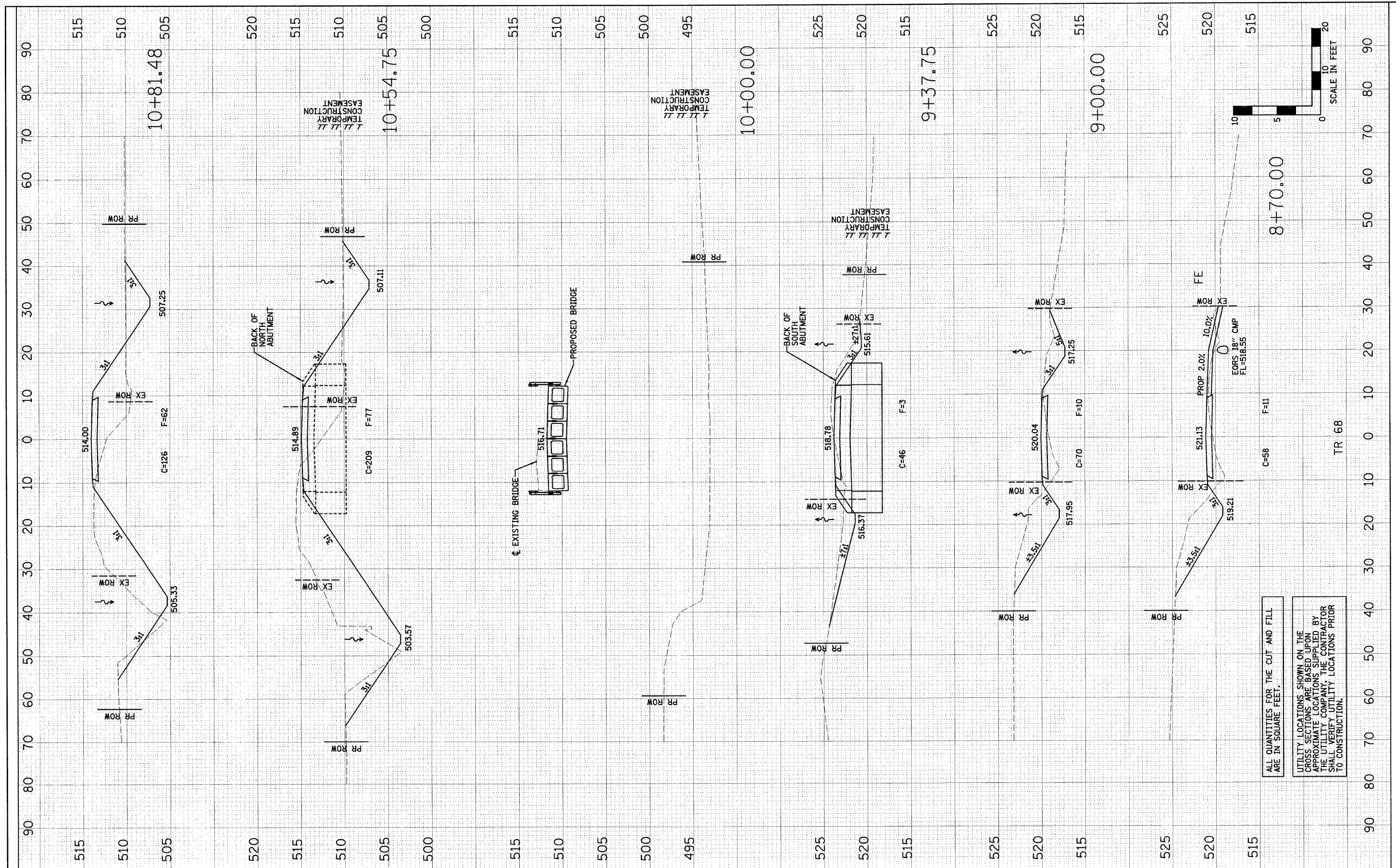
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	23
CONTRACT NO. 95593				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

FARNSWORTH GROUP, INC.

CONSULTING ENGINEERS - 2709 MCGRAW DRIVE BLOOMINGTON, ILLINOIS 61704 (309) 663-8435 / (309) 663-1571 FAX

FILED	FORWARDED	BY	DATE
DATE	DATE		
NO.	NO.		

ORIGINAL	FORWARDED	BY	DATE
SURVEY	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	NO.		



ALL QUANTITIES FOR THE CUT AND FILL ARE IN SQUARE FEET.

UTILITY LOCATIONS SHOWN ON THE CROSS SECTIONS ARE BASED UPON APPROXIMATE LOCATIONS SUPPLIED BY THE UTILITY COMPANY. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

DESIGNED	JML	REVISED
DRAWN	JJO	REVISED
CHECKED	MSW	REVISED
DATE	06/22/09	REVISED

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

CROSS SECTIONS

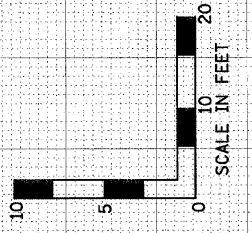
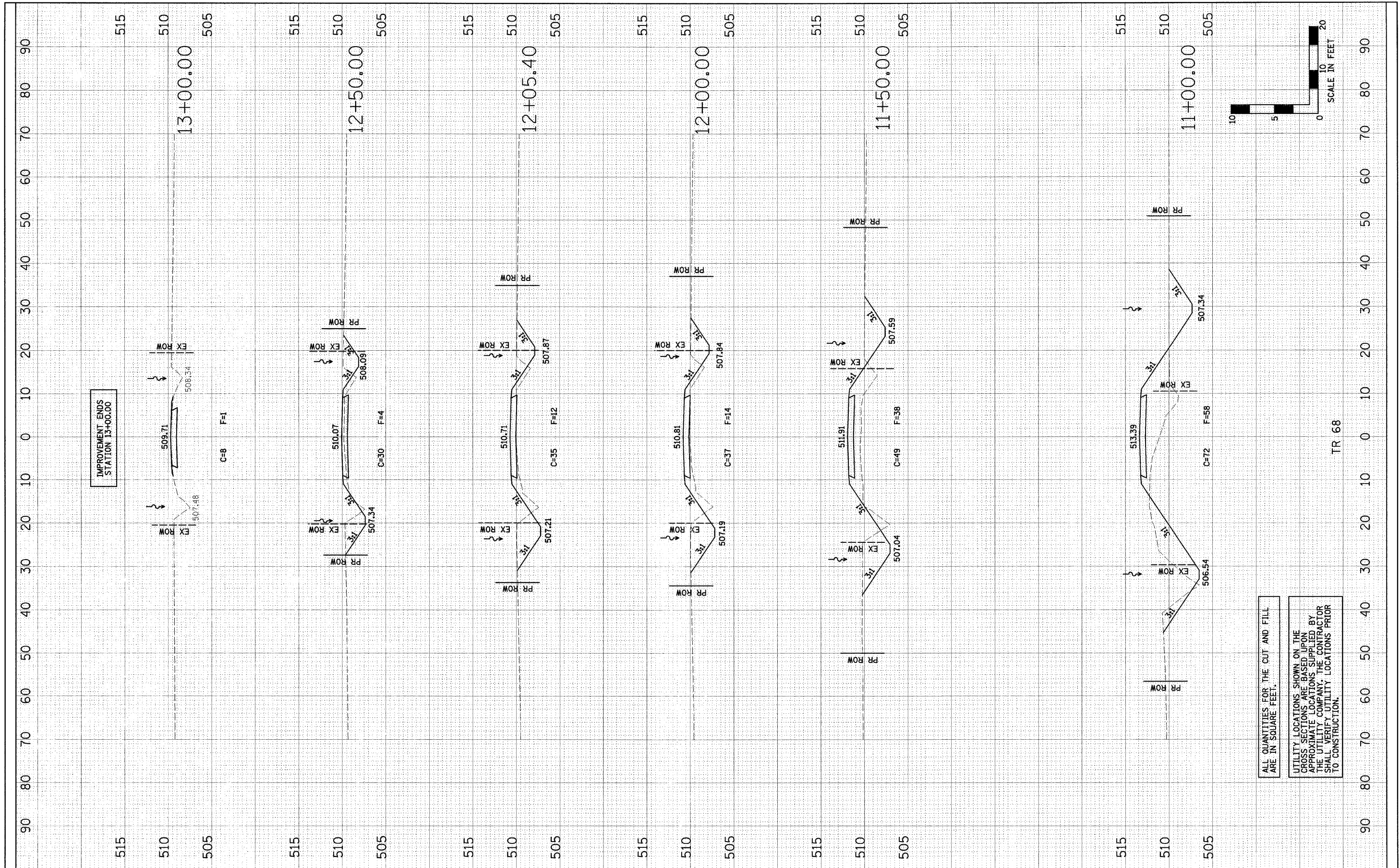
SCALE: SHEET NO. 24 OF 25 SHEETS STA. 9+00.00 TO STA. 11+00.00

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY**

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	24
CONTRACT NO. 95393				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

FINAL SURVEY	APPROVED	DATE
NOTE BOOK	PLOTTED	
	TEMPLATE	
	AREAS	
	CHECKED	

ORIGINAL SURVEY	DATE
NOTE BOOK	



IMPROVEMENT ENDS
STATION 13+00.00

ALL QUANTITIES FOR THE CUT AND FILL ARE IN SQUARE FEET.

UTILITY LOCATIONS SHOWN ON THE CROSS SECTIONS ARE BASED UPON APPROXIMATE LOCATIONS SUPPLIED BY THE UTILITY COMPANY. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

TR 68

DESIGNED	JML	REVISED
DRAWN	JJO	REVISED
CHECKED	MSW	REVISED
DATE	06/22/09	REVISED

EFFINGHAM COUNTY DEPARTMENT OF HIGHWAYS

CROSS SECTIONS

**T.R. 68 OVER FULFER CREEK
SECTION 05-07106-00-BR
EFFINGHAM, COUNTY**

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
68	05-07106-00-BR	EFFINGHAM	25	25
CONTRACT NO. 93523				

SCALE: SHEET NO. 25 OF 25 SHEETS STA. 11+50.00 TO STA. 13+00.00