

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
PIKE COUNTY
DERRY ROAD DISTRICT
SECTION 07-05107-00-BR
TOWNSHIP ROAD 148 OVER
KISER CREEK TRIBUTARY
PROJECT NO. BROS-0149(040)
JOB NUMBER C-96-221-10

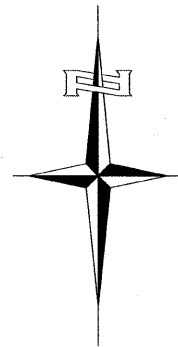
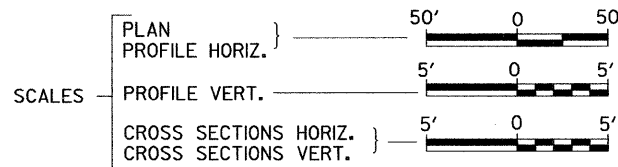
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 148	07-05107-00-BR	PIKE	18	1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 93532	

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	GENERAL NOTES, DETAILS, TYPICAL SECTIONS
3.	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4.	TRAFFIC CONTROL PLAN
5.	EROSION CONTROL PLAN
6.	PLAN AND PROFILE
7.-13.	STRUCTURE PLANS
14.-18.	CROSS SECTIONS

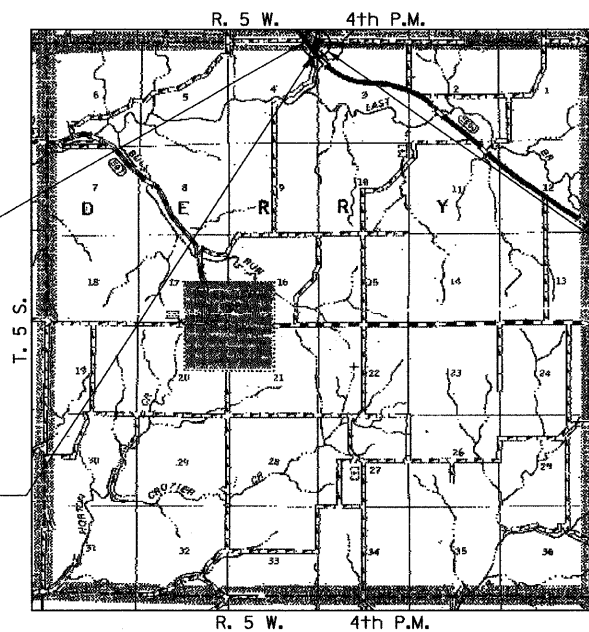
REQUIRED HIGHWAY STANDARDS

- 000001-05
- 280001-05
- 515001-03
- 635006-03
- 701001-02
- 701006-03
- 701011-02
- 701201-03
- 701301-03
- 701326-03
- 701901-01
- BLR 21-8



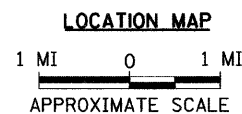
PROPOSED STRUCTURE SN 075-3315
 SINGLE SPAN 27" PPC DK BM STRUCTURE
 ON SPILL THRU PILE BENT ABUTMENTS
 64'-3" BK TO BK, AND 28'-0" O TO O
 DECK, 40° SKEW LT AH

SECTION 07-05107-00-BR
 ENDS
 STATION 62+50.00



EXISTING STRUCTURE 075-3084
 SINGLE SPAN REINFORCED CONCRETE SLAB
 WITH CONCRETE RAIL/CURB SUPERSTRUCTURE
 ON TIMBER CLOSED ABUTMENTS,
 ±29'-0" BK. TO BK., AND ±20'-0" O. TO O.,
 SKEW 40° LT AH (TO BE REMOVED)

SECTION 07-05107-00-BR
 BEGINS
 STATION 58+40.00



NET LENGTH OF PROJECT = 410.00 FEET = 0.078 MILES
 DESIGN CLASSIFICATION: LOCAL ROAD (NON-URBAN)
 DESIGN ADT = 50 (2010)
 DESIGN SPEED = 30 MPH

UTILITY COMPANIES

VERIZON
 JACKSONVILLE, ILLINOIS

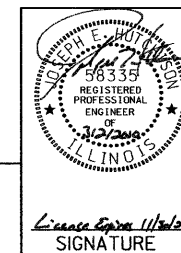
PIKE CO. WATER DIST. #1
 ROCKPORT, ILLINOIS

ILLINOIS RURAL ELECTRIC
 WINCHESTER, ILLINOIS

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

APPROVED	<u>3-3-10</u>	2010
	<i>Raymond Schmitt</i>	
	DERRY ROAD DISTRICT HIGHWAY COMMISSIONER	
APPROVED	<u>3-3</u>	2010
	<i>Ch. R. Johnson</i>	
	PIKE COUNTY ENGINEER	
PASSED	<u>March 15</u>	2010
	<i>Terrence Fontana</i>	
	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS	
PASSED	<u>March 15</u>	2010
	<i>Ron Archambeau</i>	
	DISTRICT SIX ENGINEER OF CONSTRUCTION	
Released For Bid Based on Limited Review	<u>March 15</u>	2010
	<i>Roger Dushella</i>	
	DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER	
	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

Hutchison Engineering, Inc.
 JACKSONVILLE ILLINOIS



Raymond Schmitt
 SIGNATURE

ENGINEERS SEAL

2010

JOB#2569

2569E001

DERRY ROAD DISTRICT

CONTRACT NO. 93532

GENERAL NOTES

PLAN QUANTITIES FOR TREE REMOVAL HAVE BEEN BASED ON ALL TREES WITHIN THE EXISTING RIGHT OF WAY. THIS QUANTITY MAY BE REVISED DURING CONSTRUCTION, AT THE DIRECTION OF THE ENGINEER, BY DELETING FROM THE TREE REMOVAL QUANTITIES, SUCH TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION.

THE REMOVAL OF EXISTING OIL & CHIP SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE NEW BRIDGE SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

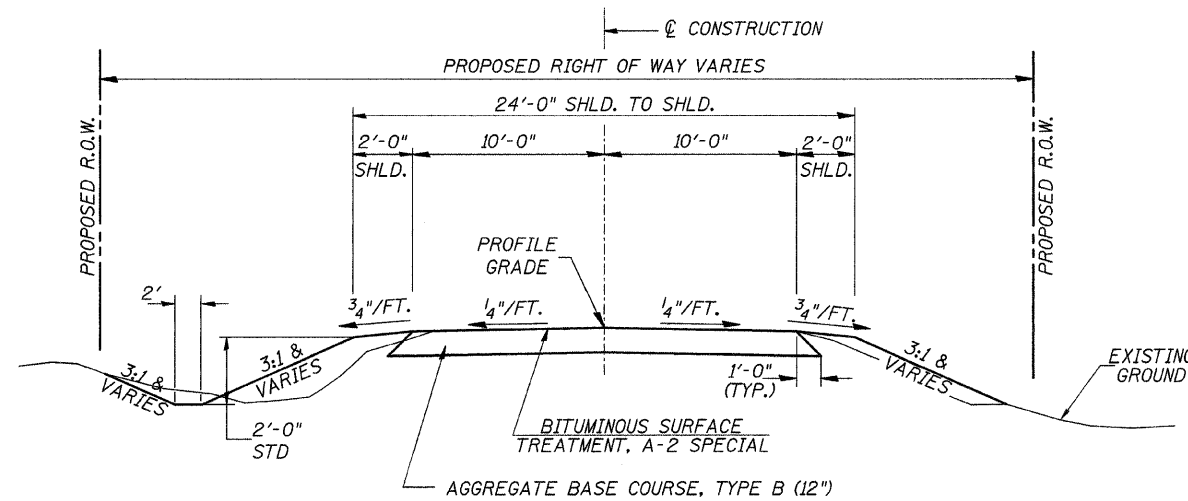
ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

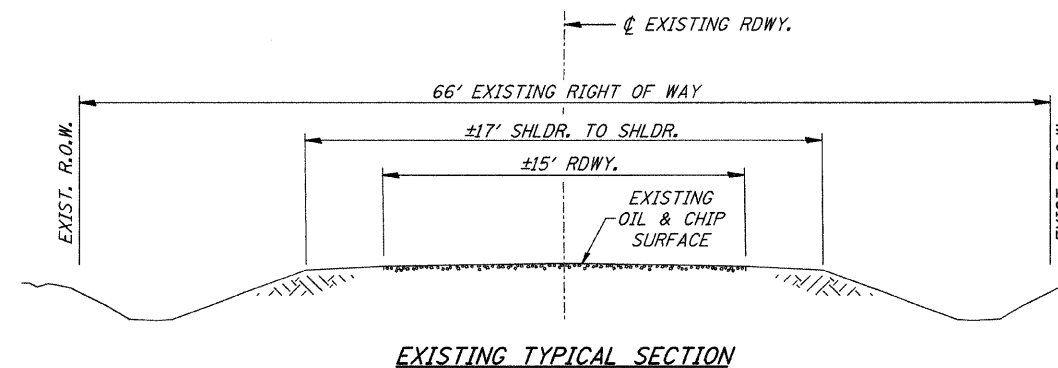
ALL ELEVATIONS SHOWN REFER U.S.G.S. MEAN SEA LEVEL DATUM.



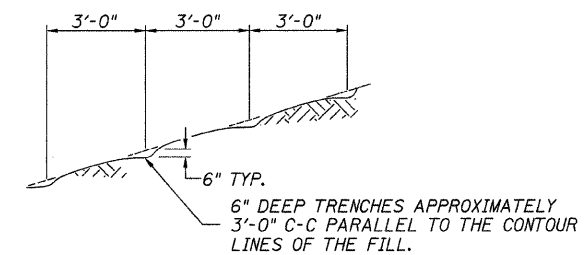
PROPOSED TYPICAL SECTION

STA. 58+40.00 TO STA. 59+72.00
 STA. 60+36.25 TO STA. 62+50.00
 EXCEPT TRANSITIONS

BRIDGE OMISSION
 STA. 59+72.00 TO STA. 60+36.25



EXISTING TYPICAL SECTION



NOTE: ALL SLOPES 3:1 OR STEEPER AND GREATER THAN 5' IN HEIGHT SHALL BE CONTOUR PLOWED AS SHOWN IN DETAIL. COST SHALL BE INCLUDED WITH SEEDING, CLASS 2 (SPECIAL).

DETAIL OF CONTOUR PLOWING

FILE NAME = V:\Bridge\2569-Pike\2569t\001.dgn	USER NAME = cthomas	DESIGNED -	REVISED -	PIKE COUNTY TOWNSHIP ROAD 148 OVER KISER CREEK TRIBUTARY	GENERAL NOTES, DETAILS, TYPICAL SECTIONS	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			TR 148	07-05107-00-BR	PIKE	18	2	
		CHECKED -	REVISED -			SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA. 58+40.00 TO STA. 62+50.00	
		DATE -	REVISED -			CONTRACT NO. 93532 FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR05-0149040					

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	160
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	27
20200100	EARTH EXCAVATION	CU YD	160
20300100	CHANNEL EXCAVATION	CU YD	170
① 20400800	FURNISHED EXCAVATION	CU YD	500
① 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150
① 28000305	TEMPORARY DITCH CHECKS	FOOT	48
28000400	PERIMETER EROSION BARRIER	FOOT	295
① 28101700	RIPRAP, SPECIAL	TON	240
35101400	AGGREGATE BASE COURSE, TYPE B	TON	579
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	60
50300225	CONCRETE STRUCTURES	CU YD	30.8
50300280	CONCRETE ENCASEMENT	CU YD	4.2
① 50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,732
① 50800105	REINFORCEMENT BARS	POUND	3,370
* 50900205	STEEL RAILING, TYPE S1	FOOT	129
① 51201400	FURNISHING STEEL PILES HP10x42	FOOT	190
① 51202305	DRIVING PILES	FOOT	190
① 51203400	TEST PILE STEEL HP10x42	EACH	2
51500100	NAME PLATES	EACH	1
① 59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	22.0
67100100	MOBILIZATION	L SUM	1
① 70103700	TRAFFIC CONTROL COMPLETE	L SUM	1
* ① 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
① XX004450	BITUMINOUS SURFACE TREATMENT, A-2 SPECIAL	SQ YD	1,080

① SEE SPECIAL PROVISIONS
* SPECIALTY ITEMS

CONSTRUCTION TYPE CODE: X080-2A

TREE REMOVAL

STATION	OFFSET	SIDE	6 TO 15 UNITS	OVER 15 UNITS
59+89	22'	LEFT	12	
60+07	26'	LEFT	14	
60+08	32'	RIGHT	12	
60+08	32'	RIGHT	12	
60+08	32'	RIGHT	12	
60+31	16'	LEFT	10	
60+31	16'	LEFT	10	
60+31	16'	LEFT	12	
60+35	17'	LEFT	13	
60+60	28'	LEFT	6	
60+72	32'	LEFT	6	
60+88	23'	LEFT	6	
60+93	32'	LEFT	8	
61+76	22'	LEFT	15	
62+15	20'	LEFT		27
62+28	22'	LEFT	12	
TOTAL			160	27

PERIMETER EROSION BARRIER

STATION TO STATION	SIDE	FOOT
58+25 - 59+57	RIGHT	155
59+05 - 59+87	LEFT	115
62+25 - 62+50	RIGHT	25
TOTAL		295

TEMPORARY DITCH CHECKS

STATION	SIDE	FOOT
60+20	RIGHT	12
60+70	LEFT	12
61+25	RIGHT	12
61+60	LEFT	12
TOTAL		48

AGGREGATE BASE COURSE, TYPE B

STATION TO STATION	THICKNESS	WIDTH	LENGTH	TON
58+40.00 - 59+23.17	1.00'	VARIES	83.17'	202
59+23.17 - 59+72.00	1.00'	21.00'	48.83'	72
60+36.25 - 62+00.00	1.00'	21.00'	163.75'	241
62+00.00 - 62+50.00	1.00'	18.29' AVG.	50.00'	64
TOTAL				579

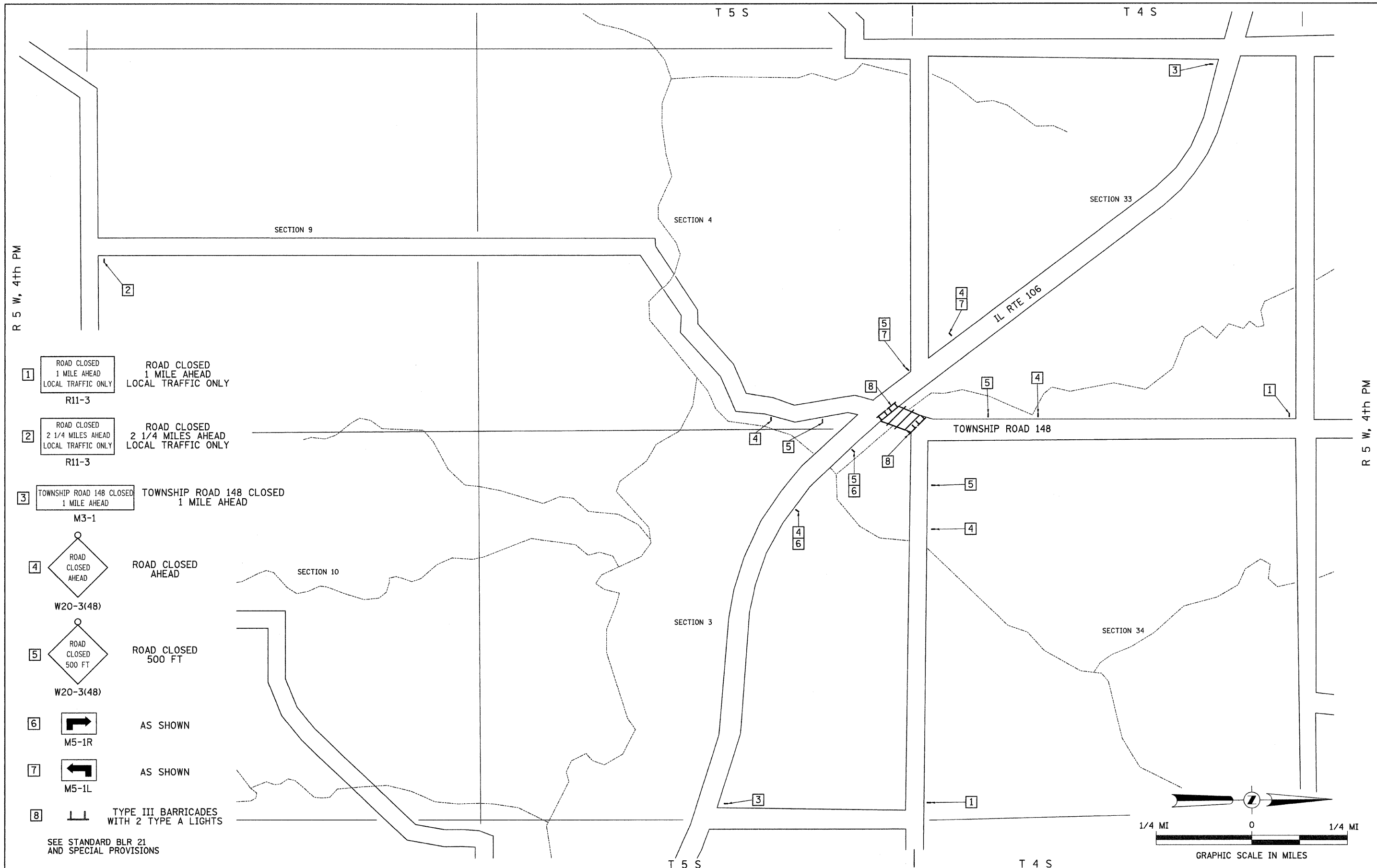
EARTHWORK SUMMARY

STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
	CU YD	CU YD	CU YD	CU YD	CU YD
RDWY 58+40.00 - 59+72.00	42			240	(209)
RDWY 60+36.25 - 62+50.00	116			377	(290)
CHANNEL		170			
STRUCTURE			60		
TOTAL	158	170	60	617	(499)
USE	160	170	60	-	(500)

(@ 25% SHRINKAGE)

BITUMINOUS SURFACE TREATMENT, TYPE A-2

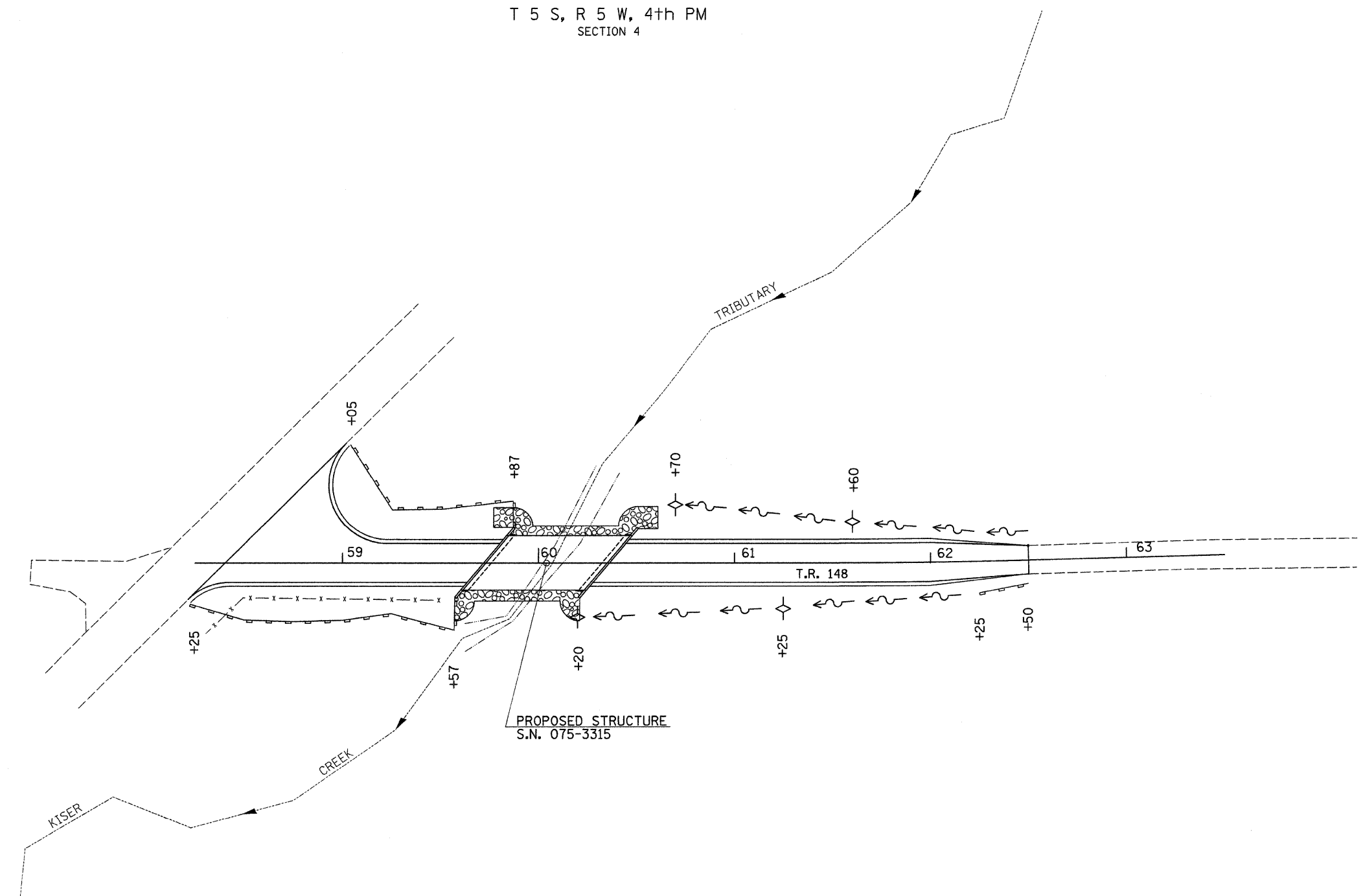
STATION TO STATION	WIDTH	LENGTH	SQ YD
58+40.00 - 59+23.17	VARIES	83.17'	311
59+23.17 - 59+72.00	20.00'	48.83'	109
59+72.00 - 60+36.25	BRIDGE DECK		200
60+36.25 - 62+00.00	20.00'	163.75'	364
62+00.00 - 62+50.00	17.29' AVG.	50.00'	96
TOTAL			1,080



- 1 ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY R11-3
 - 2 ROAD CLOSED 2 1/4 MILES AHEAD LOCAL TRAFFIC ONLY R11-3
 - 3 TOWNSHIP ROAD 148 CLOSED 1 MILE AHEAD M3-1
 - 4 ROAD CLOSED AHEAD W20-3(48)
 - 5 ROAD CLOSED 500 FT W20-3(48)
 - 6 AS SHOWN M5-1R
 - 7 AS SHOWN M5-1L
 - 8 TYPE III BARRICADES WITH 2 TYPE A LIGHTS
- SEE STANDARD BLR 21 AND SPECIAL PROVISIONS





FILE NAME = V:\Bridge\2569-Pike\2569h001.dgn	USER NAME = cthomas	DESIGNED - ---	REVISED - ---	PIKE COUNTY TOWNSHIP ROAD 148 OVER KISER CREEK TRIBUTARY	TRAFFIC CONTROL PLAN	RTE. TR 148	SECTION 07-05107-00-BR	COUNTY PIKE	TOTAL SHEETS 18	SHEET NO. 4		
PLOT SCALE = 1:8000 / IN.	CHECKED - ---	REVISED - ---	SCALE: NONE			SHEET NO. 1 OF 1 SHEETS	STA. 58+40.00 TO STA. 62+50.00	CONTRACT NO. 99592				
PLOT DATE = 3/1/2010	DATE - ---	REVISED - ---										
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR05-01490401												

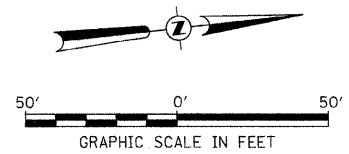
T 5 S, R 5 W, 4th PM
SECTION 4



NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.

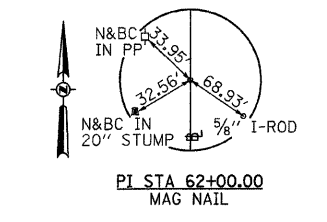
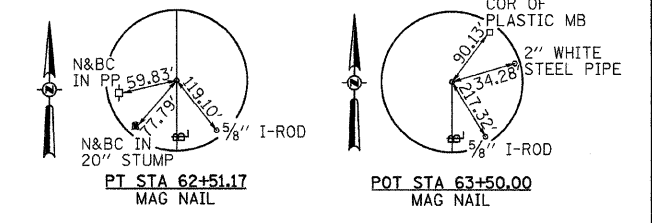
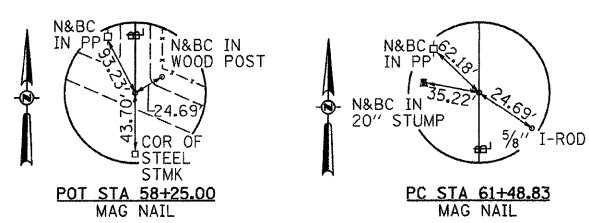
LEGEND

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  PROPOSED RIPRAP



T 5 S, R 5 W, 4th PM
SECTION 4

FILE NAME = V:\Bridge\2569-Pike\2569S001.dgn	USER NAME = cthomas	DESIGNED -	REVISED -	PIKE COUNTY TOWNSHIP ROAD 148 OVER KISER CREEK TRIBUTARY	EROSION CONTROL PLAN	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 30,0000' / IN.	DRAWN -	REVISED -			TR 148	07-05107-00-BR	PIKE	18	5
	PLOT DATE = 3/1/2010	CHECKED -	REVISED -			CONTRACT NO. 93532				
	DATE -	REVISED -	FED. ROAD DIST. NO. 7 (ILLINOIS) FED. AID PROJECT BROS-014910401							
					SCALE: 1" = 30'-0"	SHEET NO. 1 OF 1 SHEETS		STA. 58+40.00 TO STA. 62+50.00		



SECTION 07-05107-00-BR
BEGINS
STATION 58+40.00

PROPOSED STRUCTURE SN 075-3315
STATION 60+40.13
SEE SH.#7 THRU 13 FOR DETAILS
SEE SH.#7 FOR HYDRAULICS

SECTION 07-05107-00-BR
ENDS
STATION 62+50.00

PROPOSED LIMITS OF
CONSTRUCTION (TYP.)

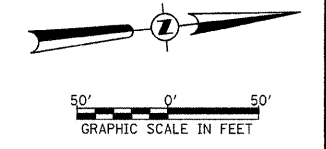
PROPOSED R.O.W.
LINE (TYP.)

EXISTING R.O.W. LINE

EXISTING STRUCTURE SN 075-3084
TO BE REMOVED

CURVE DATA
PI STA. = 62+00.00
 $\Delta = 1^\circ 33' 49''$ (LT)
D = $1^\circ 31' 40''$
R = 3,750.00'
T = 51.17'
L = 102.34'
E = 0.35'
P.C. STA. = 61+48.83
P.T. STA. = 62+51.17
S.E. RUN = N/A

LEGEND
 TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
 PROPOSED RIPRAP PLACEMENT
 SPECIAL DITCH WITH FLOW DIRECTION

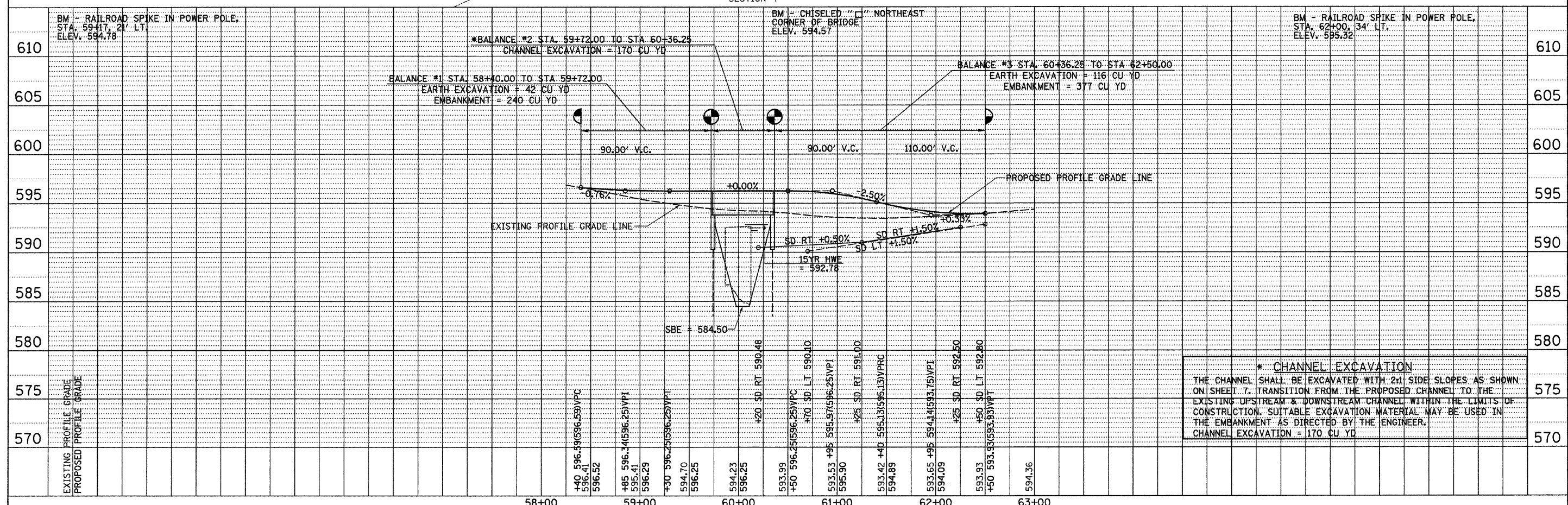


T 5 S, R 5 W, 4th PM
SECTION 4

T 5 S, R 5 W, 4th PM
SECTION 4

DATE	
BY	
SURVEYED	
PLOTTED	
CHECKED	
RT. OF WAY CHECKED	
NOTE BOOK NO.	
ADD FILE NAME	

DATE	
BY	
SURVEYED	
PLOTTED	
CHECKED	
RT. OF WAY CHECKED	
NOTE BOOK NO.	
STRUCTURE NOTATION CHRG	



*** CHANNEL EXCAVATION**
 THE CHANNEL SHALL BE EXCAVATED WITH 2:1 SIDE SLOPES AS SHOWN ON SHEET 7. TRANSITION FROM THE PROPOSED CHANNEL TO THE EXISTING UPSTREAM & DOWNSTREAM CHANNEL WITHIN THE LIMITS OF CONSTRUCTION. SUITABLE EXCAVATION MATERIAL MAY BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.
 CHANNEL EXCAVATION = 170 CU YD

FILE NAME = V:\Bridge\2569-Pike\2569p001.dgn	USER NAME = cthomas	DESIGNED -	REVISED -	PIKE COUNTY TOWNSHIP ROAD 148 OVER KISER CREEK TRIBUTARY	PLAN AND PROFILE	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			TR 148	07-05107-00-BR	PIKE	18	6	
		CHECKED -	REVISED -			CONTRACT NO. 93532					
		DATE -	REVISED -			FED. ROAD DIST. NO. 7 [ILLINOIS] FED. AID PROJECT BR05-019X0409					

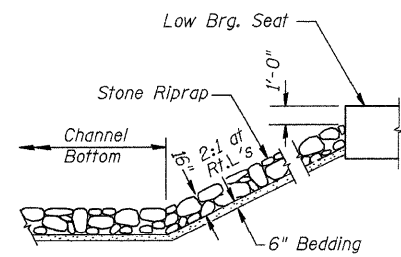
B.M.: RR Spike in Power Pole
Sta. 59+17, 21' Lt.
Elev. 594.78

RR Spike in Power Pole,
Sta. 62+00, 34' Lt.
Elev. 595.32

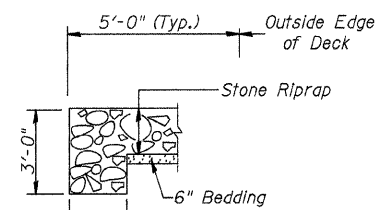
Existing Structure:
Single span reinforced concrete slab on timber closed abutments.
The structure is ±29' back to back of abutments,
±20' out to out of deck and is skewed ±40°.
Str. No. 075-3084

Salvage: None

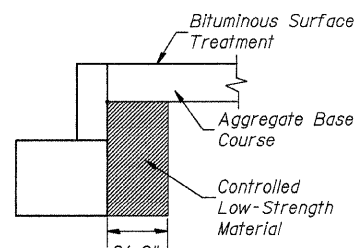
Road to be closed to traffic during construction.



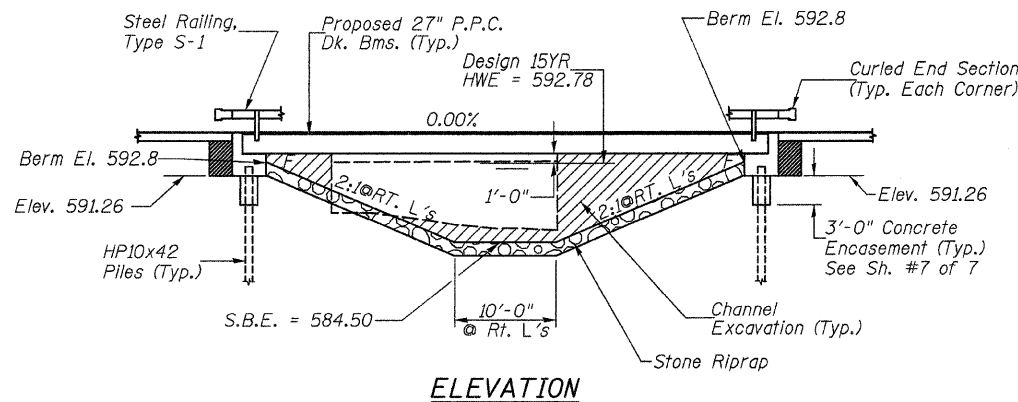
STONE RIPRAP DETAIL



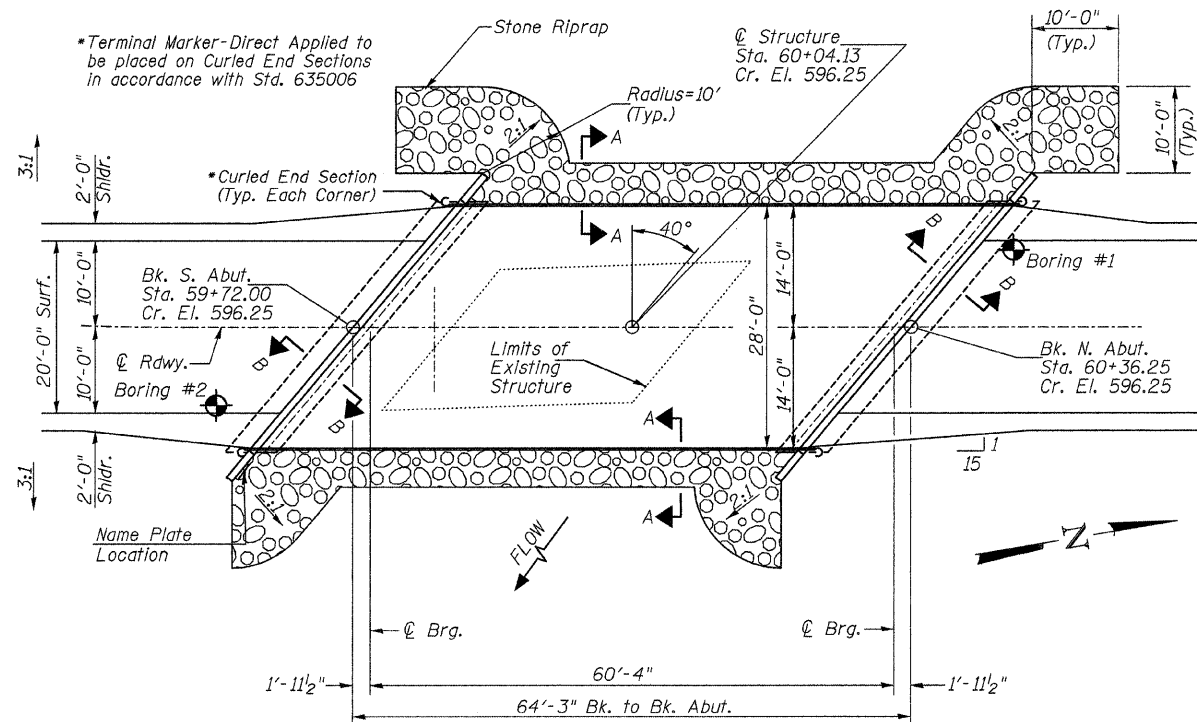
SECTION A-A



SECTION B-B



ELEVATION



PLAN

DESIGN SCOUR TABLE

Location	S. Abut	N. Abut
Design Scour Elevation	591.26	591.26

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	891	138	220	592.78	0.31	0.14	593.09	592.92
Base	100	1,470	138	248	593.44	1.61	0.46	595.05	593.90

OVER-THE-ROAD AREA

Freq. Yr.	Existing	Proposed
15	0	0
100	1	0

DESIGNED	C.T.M.
CHECKED	J.E.H.
DRAWN	C.T.M.
CHECKED	J.E.H.

2569b001

GENERAL NOTES

The Contractor shall drive test piles to 100% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles.
For Soil Boring Logs, See Special Provisions.
A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Article 1020.05(b)(12) of the Standard Specifications.
Reinforcement Bars shall conform to the requirements of ASTM A706 Grade 60. Reinforcement Bars designated (E) shall be epoxy coated.
Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
Excavation behind existing abutment walls shall be done before removing existing Superstructure.
The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

KISER CREEK TRIBUTARY
BUILT 20L BY
DERRY ROAD DISTRICT
PIKE COUNTY
SEC. 07-05107-00-BR
T.R. 148 STATION 60+04.13
F.A. PROJ. BROS-0149(040)
STR. NO. 075-3315 LOADING HL-93

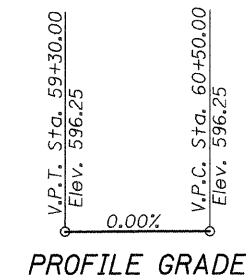
NAME PLATE

Locate Name Plate at S.E. Wingwall
Corner of Bridge (See Std. 515001)

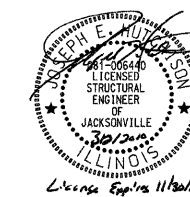
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	---	170	170
Riprap, Special	TON	---	240	240
Removal of Existing Structures	EACH	---	---	1
Structure Excavation	CU YD	---	60	60
Controlled Low-Strength Material	CU YD	---	22.0	22.0
Concrete Structures	CU YD	---	30.8	30.8
Precast Prestressed Concrete Deck Beams (27" Depth)	SQ FT	1,732	---	1,732
Reinforcement Bars	POUND	---	3,370	3,370
Steel Railing, Type S1	FOOT	129	---	129
Furnishing Steel Piles HP10x42	FOOT	---	190	190
Driving Piles	FOOT	---	190	190
Test Pile Steel HP10x42	EACH	---	2	2
Concrete Encasement	CU YD	---	4.2	4.2
Name Plates	EACH	---	1	1
Bituminous Surface Treatment, A-2 Special	SQ YD	200	---	200

① See Special Provisions

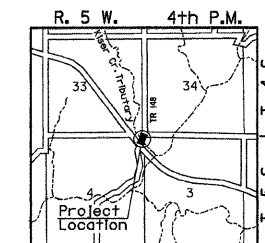


PROFILE GRADE



I certify that to the best of my knowledge, information and belief, 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 Specification for Highway Bridges.
This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

3/2/2010
Illinois Structural No. 6440
Expires 11/30/2010



LOCATION SKETCH

DESIGN SPECIFICATIONS

2007 AASHTO (LRFD) & Interims

DESIGN STRESSES

(FIELD UNITS) $f'_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i. (Rein.)

(PRECAST PRESTRESSED UNITS) $f'_c = 6,000$ p.s.i.
 $f'_{ci} = 5,000$ p.s.i.
 $f'_s = 270,000$ p.s.i. ($\frac{1}{2}$ " Strands)
 $f'_{si} = 201,960$ p.s.i. ($\frac{1}{2}$ " Strands)

LOADING HL-93

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

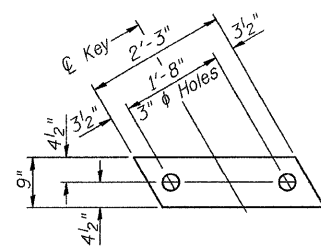
GENERAL PLAN & ELEVATION

PIKE COUNTY

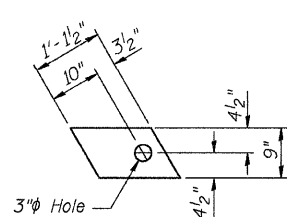
SECTION 07-05107-00-BR

T.R. 148 OVER KISER CREEK TRIBUTARY

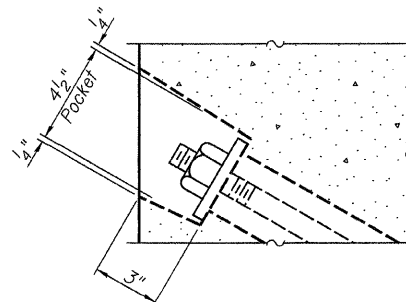
SHEET NO. 1	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7 SHEETS	TR 148	07-05107-00-BR	PIKE	18	7
S.N. 075-3315			CONTRACT NO. 98532		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BROS-0149(040)		



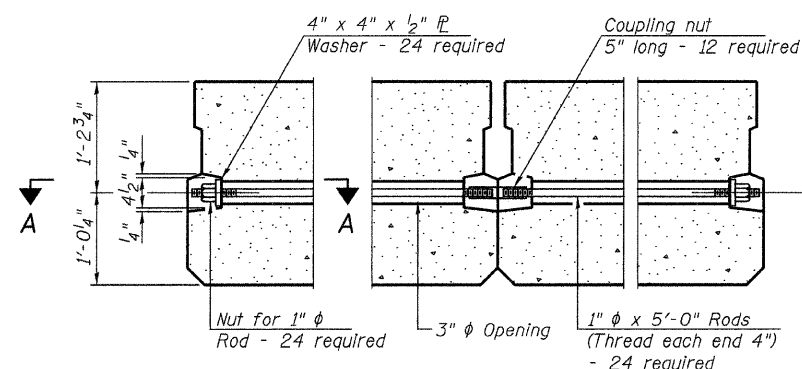
1/2" FABRIC BEARING PAD
(Interior) 12 Required



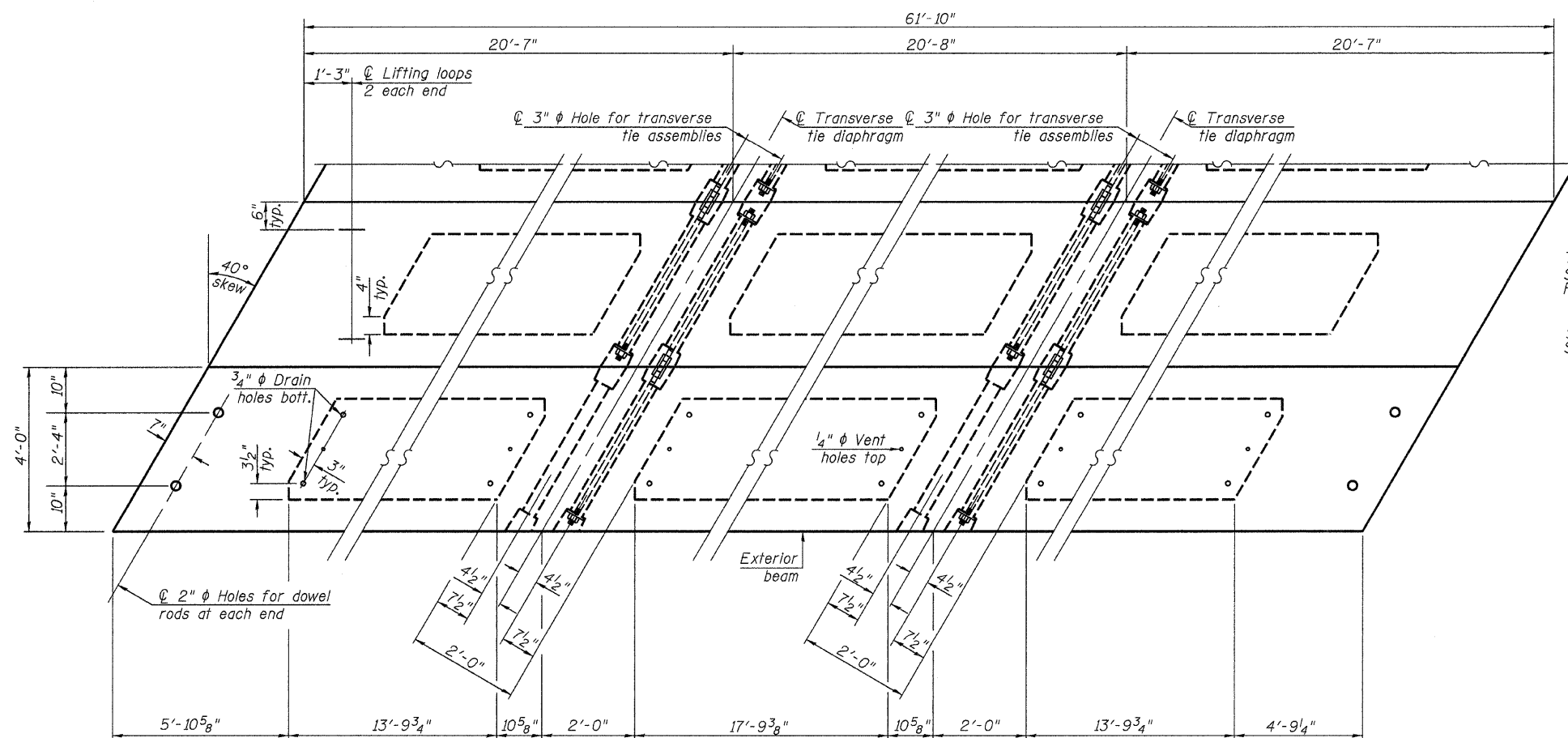
1/2" FABRIC BEARING PAD
(Exterior) 4 Required
FIXED



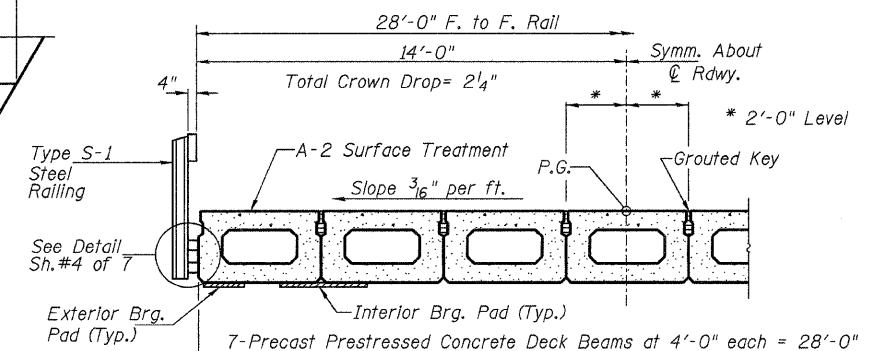
SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW



HALF CROSS SECTION

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.
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'ci, shall be 5000 psi.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
① Precast Prestressed Concrete Deck Beams (27" Depth)	SQ FT	1,732

① See Special Provisions

SUPERSTRUCTURE

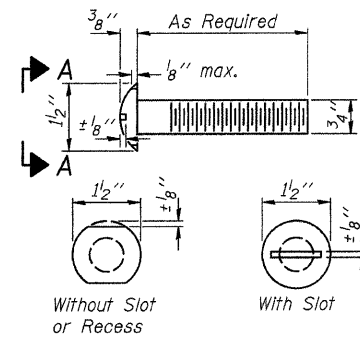
PIKE COUNTY

SECTION 07-05107-00-BR

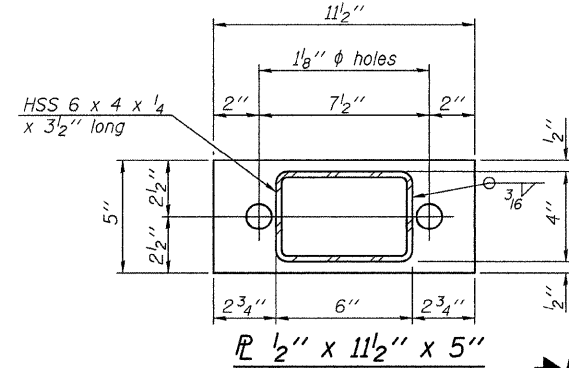
T.R. 148 OVER KISER CREEK TRIBUTARY

SHEET NO. 2	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7 SHEETS	TR 148	07-05107-00-BR	PIKE	18	8
S.N. 075-3315			CONTRACT NO. 93532		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BROS-0149(040)		

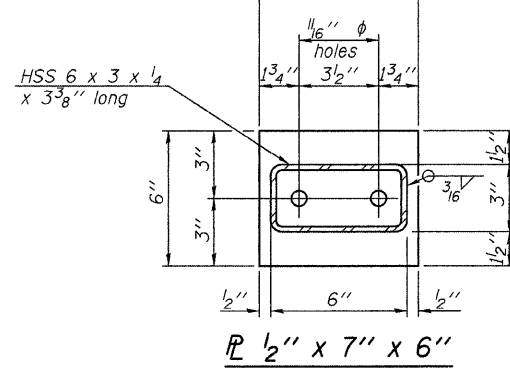
FOR RAIL POST SPACING SEE SH.#5 OF 7



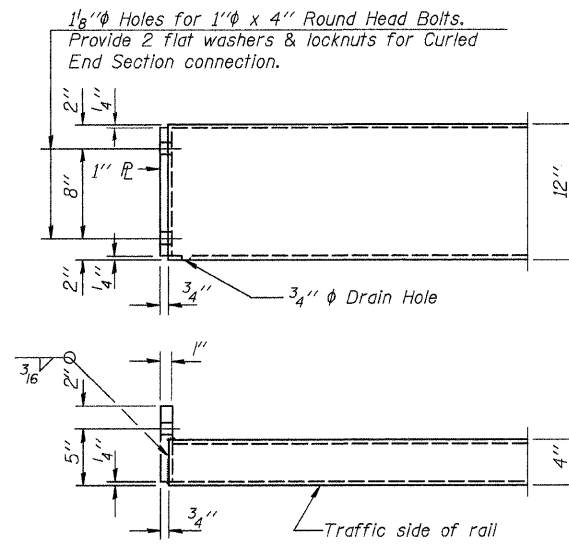
VIEW A-A
ROUND HEAD BOLT



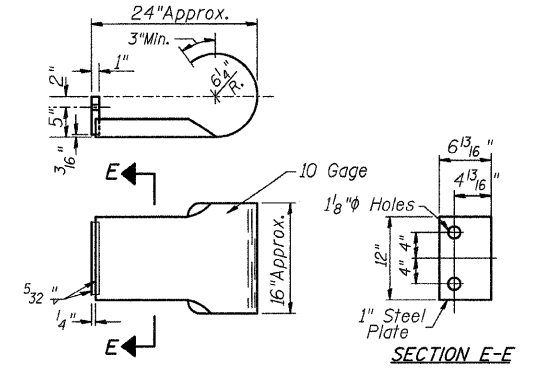
PL 1/2" x 11 1/2" x 5"



PL 1/2" x 7" x 6"



END OF RAIL DETAILS

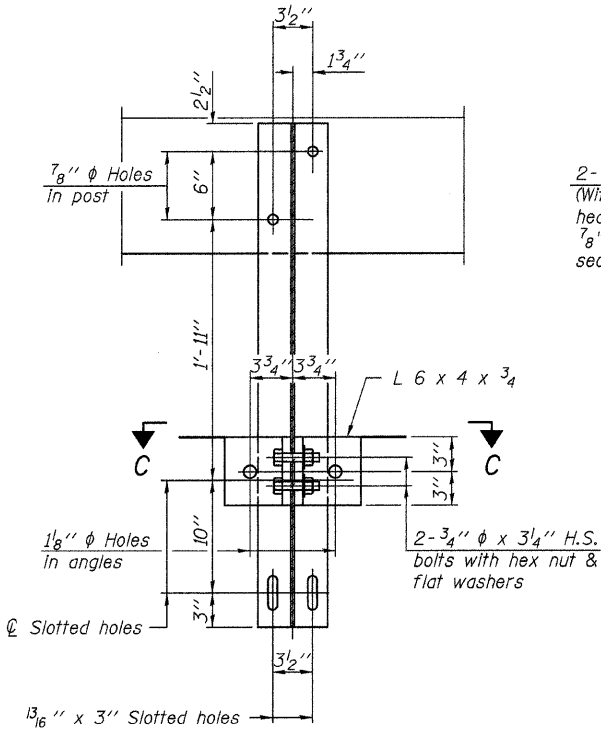


SECTION E-E
CURLED END SECTION

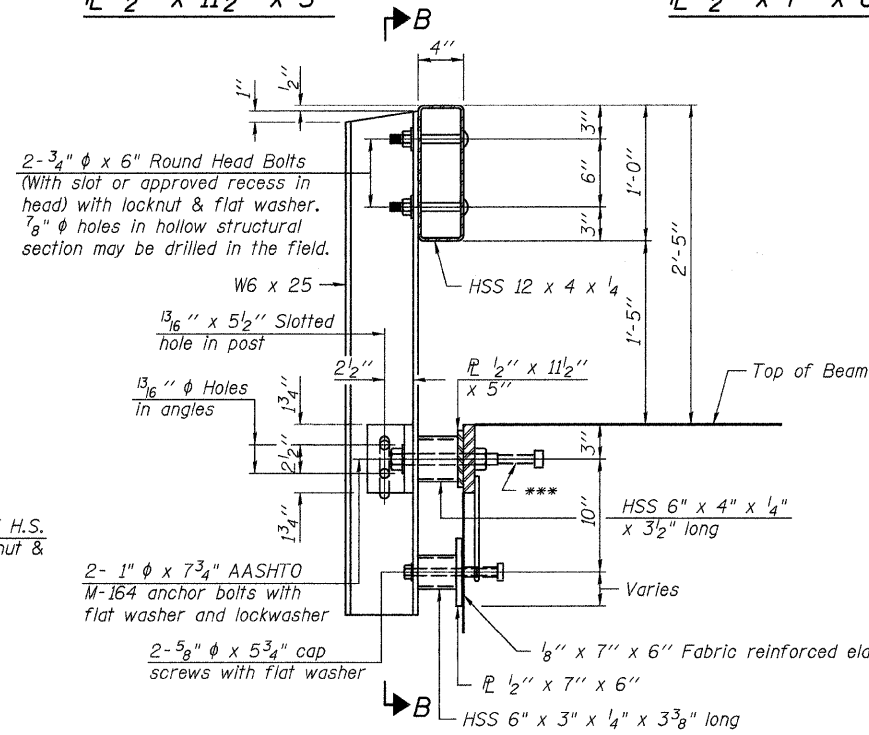
(4 Req'd) Cost Included with Steel Railing, Type S-1. Terminal Markers - Direct Applied shall be placed on end of each Curled End Section. (Each Corner)

NOTES

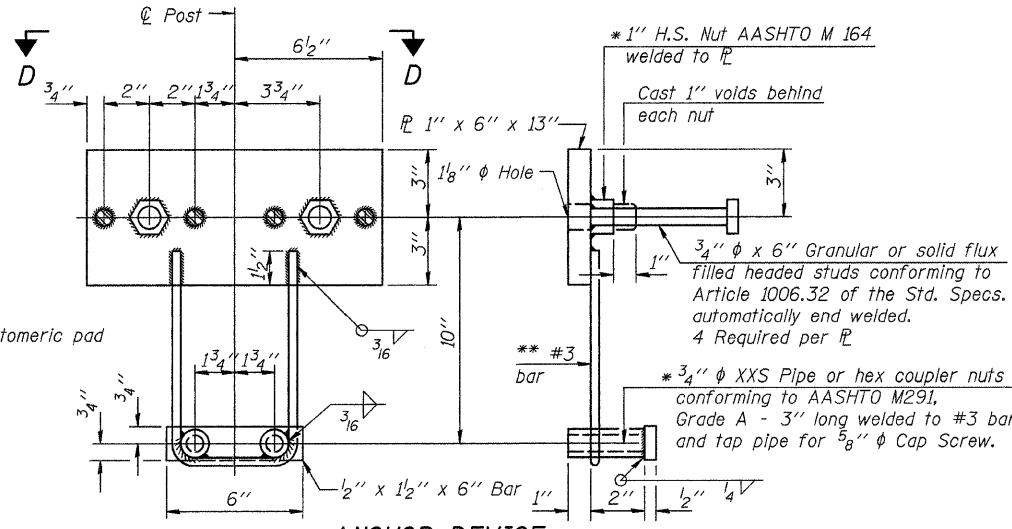
- All field drilled holes shall be coated with an approved zinc rich paint before erection.
- For multi-span bridges, sufficient 1/4 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
- All steel rail elements 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.



SECTION B-B

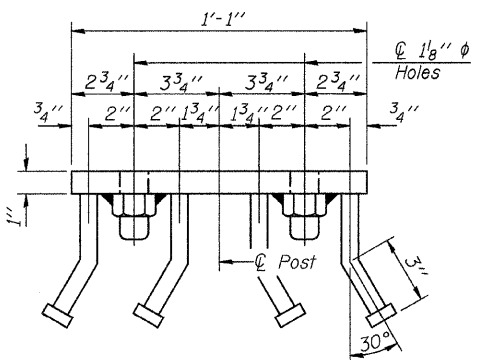


SECTION AT RAILING POST

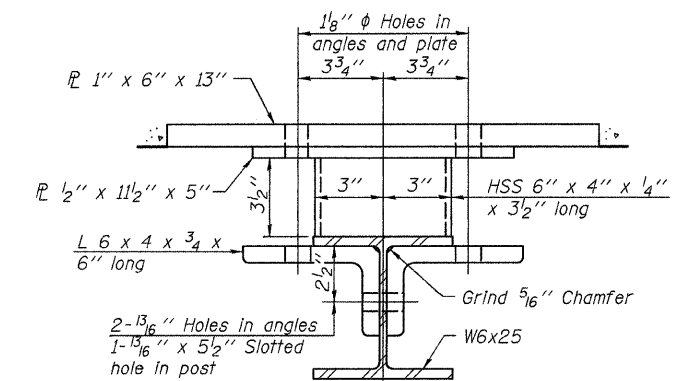


ANCHOR DEVICE

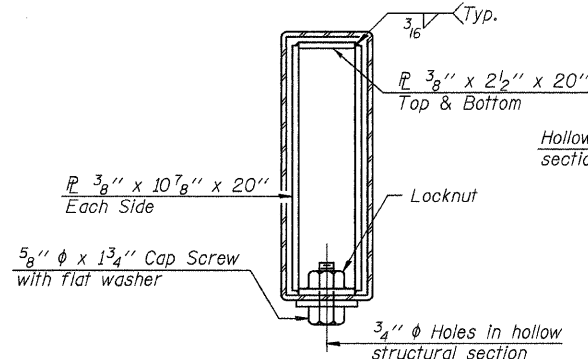
* Threaded areas shall be plugged or blocked off during casting of beam.



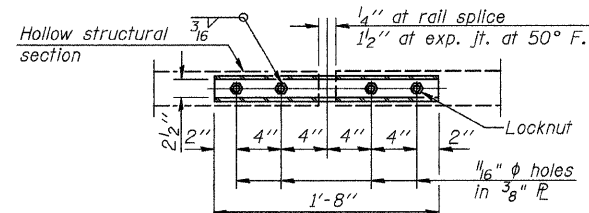
VIEW D-D



SECTION C-C



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE PL TYPICAL

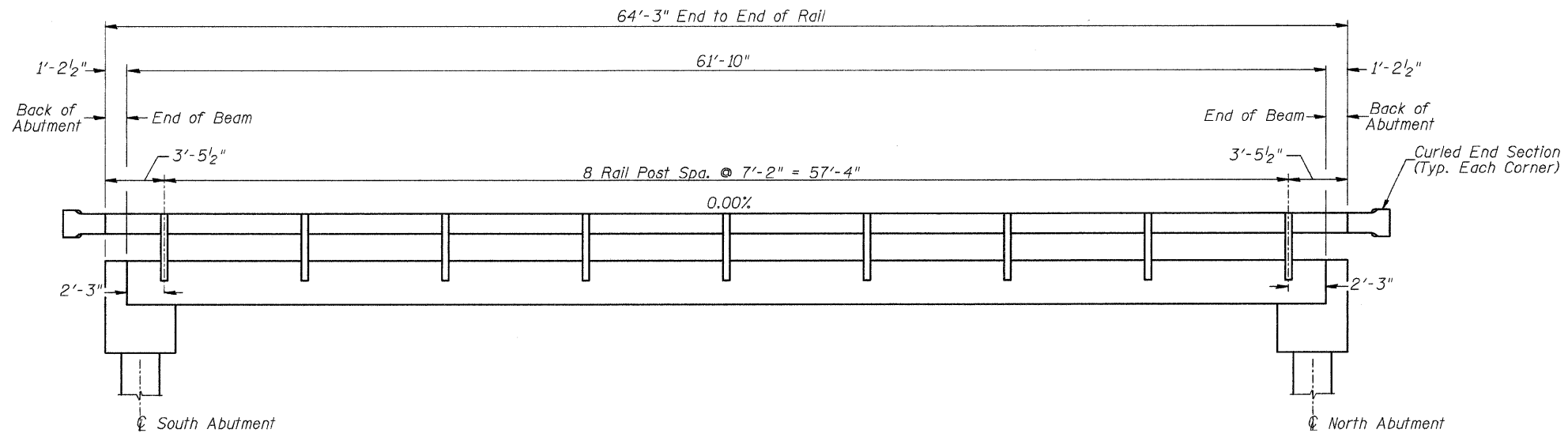
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	FOOT	129

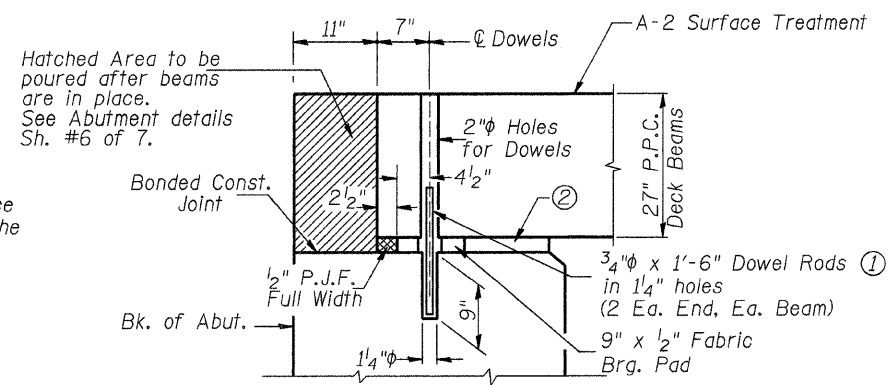
STEEL RAILING, TYPE S-1
PIKE COUNTY
SECTION 07-05107-00-BR
T.R. 148 OVER KISER CREEK TRIBUTARY

SHEET NO.	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	TR 148	07-05107-00-BR	PIKE	18	10
7 SHEETS	S.N. 075-3315		CONTRACT NO. 93532		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BROS-0149(040)		



RAIL POST SPACING

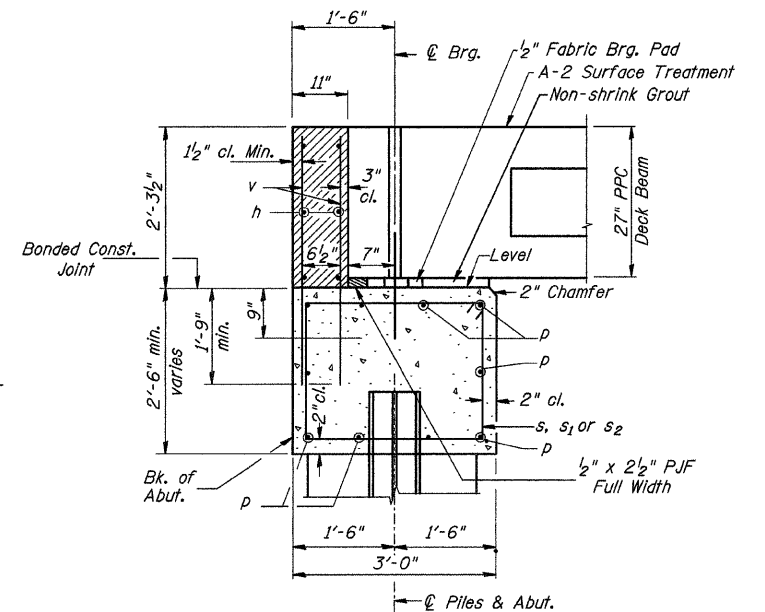
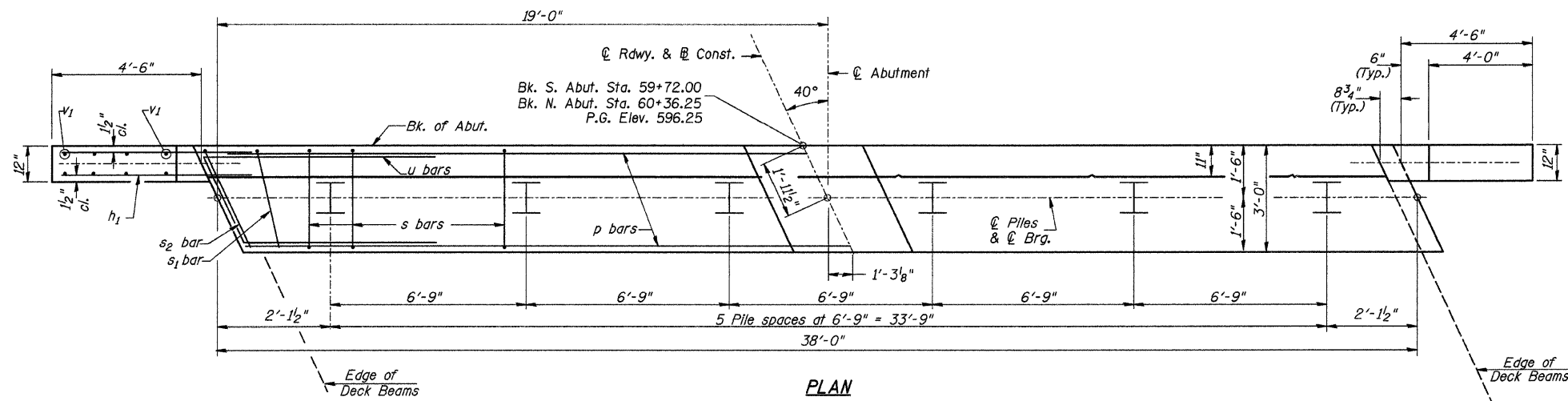
- ① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.
- ② The area between the top of substructure caps and the bottom of the beams shall be filled with non-shrink grout to prevent the beams from rocking.
The cost of all grouting items shall be included with Precast Prestressed Concrete Deck Beams (27" Depth).



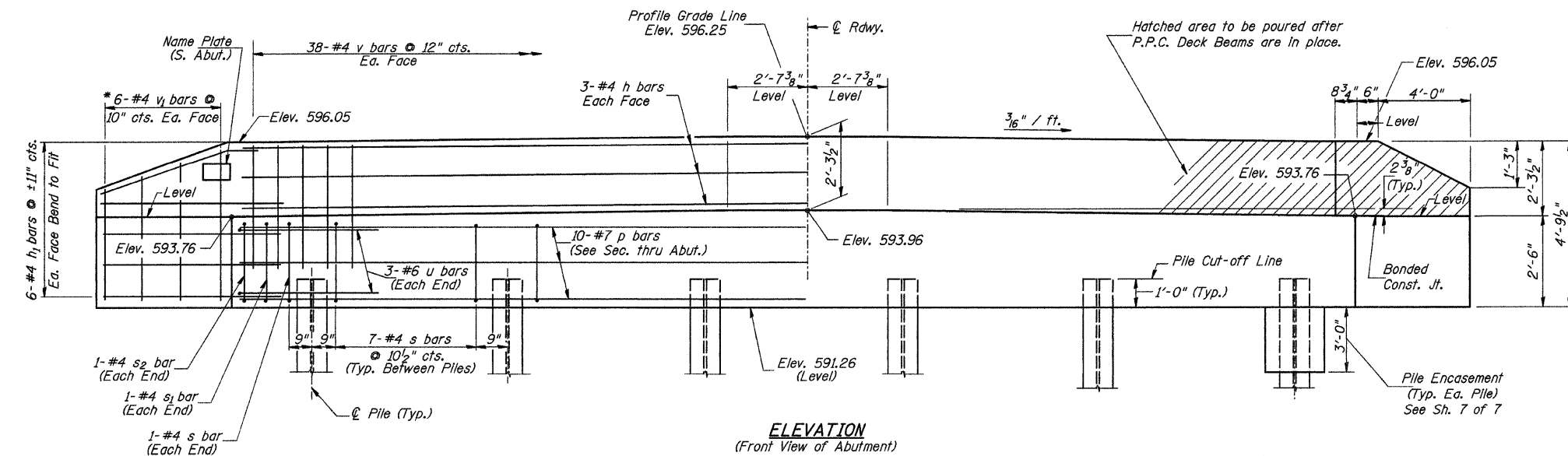
SECTION THRU ABUTMENT
(At Right Angles)

**SUPERSTRUCTURE DETAILS
AND RAIL POST SPACING
PIKE COUNTY
SECTION 07-05107-00-BR
T.R. 148 OVER KISER CREEK TRIBUTARY**

SHEET NO. 5 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 148	07-05107-00-BR	PIKE	18	11
	S.N. 075-3315		CONTRACT NO. 93532		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BROS-0149(040)		



SECTION THRU ABUT.
(At Right Angles)



ELEVATION
(Front View of Abutment)

TWO ABUTMENTS
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	12	#4	37'-9"	—
h ₁	48	#4	6'-6"	—
p	20	#7	37'-9"	—
s	74	#4	10'-5"	□
s ₁	4	#4	7'-10"	□
s ₂	4	#4	9'-2"	□
u	12	#6	12'-5"	—
v	152	#4	4'-0"	—
v ₁	24	#4	7'-9"	—
Concrete Structures		CU YD	30.8	
① Reinforcement Bars		POUND	3,370	
Structure Excavation		CU YD	60	
Name Plates		EACH	1	
① Furnishing Steel Piles HP10x42		FOOT	190	
① Driving Piles		FOOT	190	
① Test Pile Steel HP10x42		EACH	2	
Concrete Encasement		CU YD	4.2	

① See Special Provisions

DESIGN STRESSES

$f'_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i.

PILE DATA

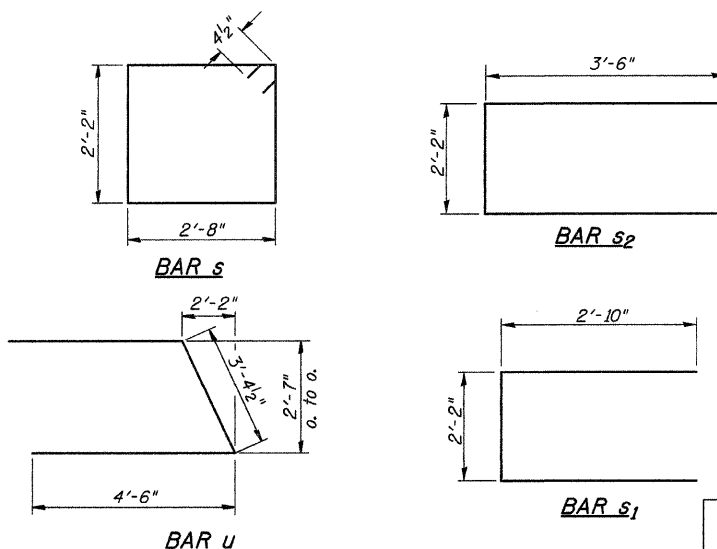
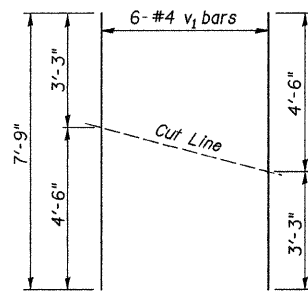
Type & Size: Steel HP10x42
Nominal Required Bearing: 335 kips
Factored Resistance Available: 167 kips
Est. Length: 19' Each Abutment
No. Req'd.: 12 (Includes 1 Test Pile at Each Abut.)

NOTES

- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to ASTM A706 Grade 60.

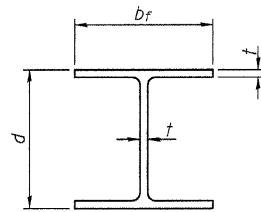
BAR CUTTING DIAGRAM

* Order v₁ bars full length. Cut as shown and use remainder of bars in opposite face.



SHEET NO. 6 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 148	07-05107-00-BR	PIKE	18	12
	S.N. 075-3315		CONTRACT NO. 93532		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BROS-01491040		

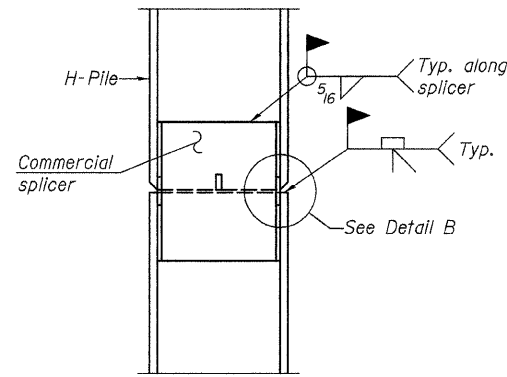
ABUTMENTS
PIKE COUNTY
SECTION 07-05107-00-BR
T.R. 148 OVER KISER CREEK TRIBUTARY



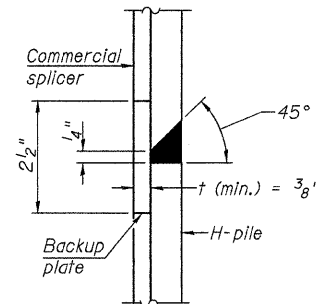
STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/6"	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"	1/6"	24"
x74	12 1/8"	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 1/8"	7/16"	18"

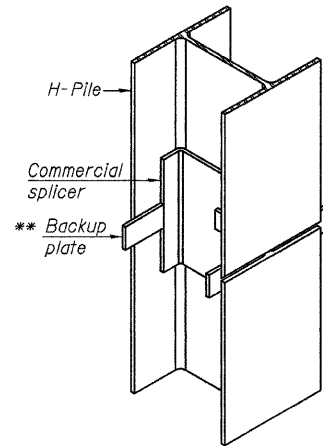
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

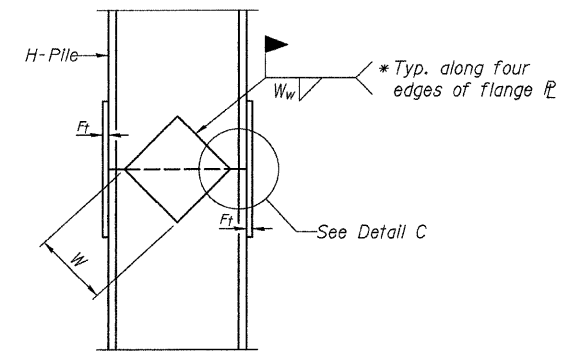


DETAIL "B"

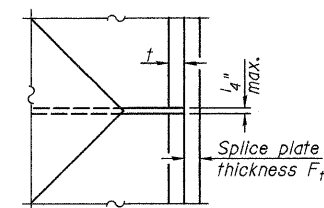


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

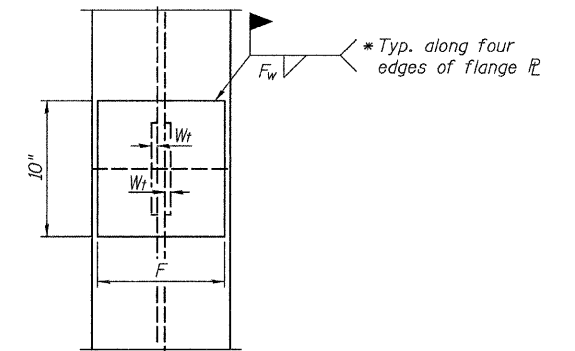


ELEVATION



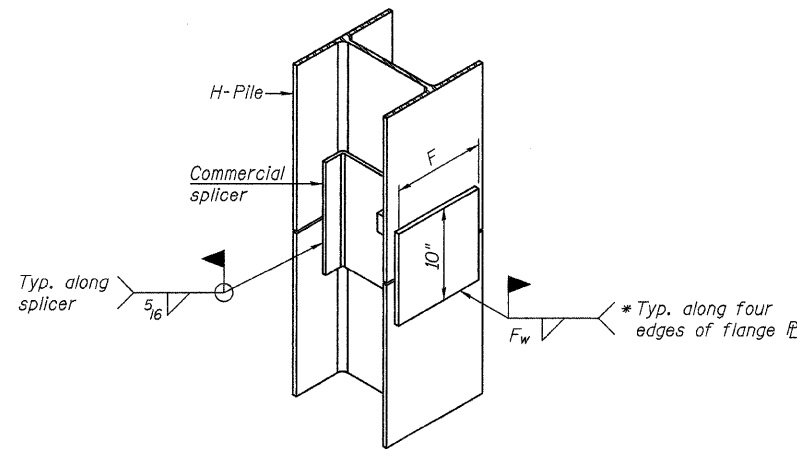
DETAIL C

WELDED PLATE FIELD SPLICE



END VIEW

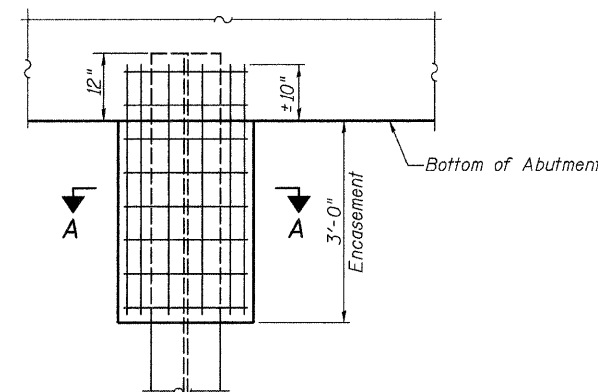
Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/6"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/6"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/6"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	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"



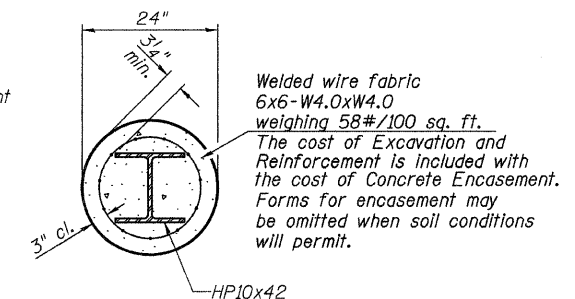
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.



ABUTMENT ELEVATION



SECTION A-A

PILE ENCASEMENT

Welded wire fabric
6x6-W4.0xW4.0
weighing 58#/100 sq. ft.
The cost of Excavation and Reinforcement is included with the cost of Concrete Encasement. Forms for encasement may be omitted when soil conditions will permit.

PILE DETAILS

PIKE COUNTY

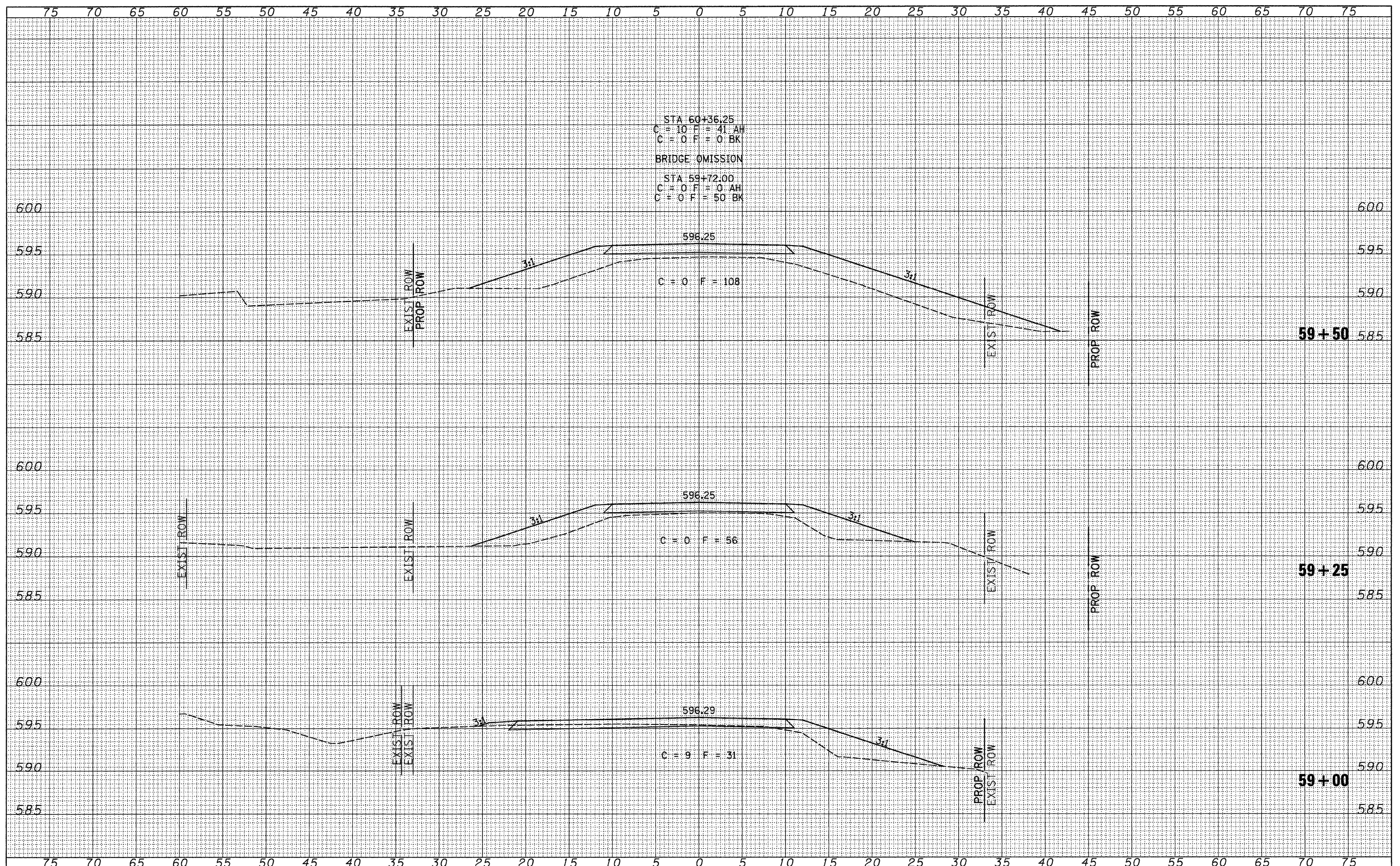
SECTION 07-05107-00-BR

T.R. 148 OVER KISER CREEK TRIBUTARY

SHEET NO. 7 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 148	07-05107-00-BR	PIKE	18	13
	S.N. 075-3315		CONTRACT NO. 93532		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BROS-0149(040)			

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
	TEMPLATE	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
	TEMPLATE	
	AREAS CHECKED	



STA 60+36.25
 C = 10 F = 41 AH
 C = 0 F = 0 BK
 BRIDGE OMISSION
 STA 59+72.00
 C = 0 F = 0 AH
 C = 0 F = 50 BK

C = 0 F = 108

C = 0 F = 56

C = 9 F = 31

FILE NAME =
 V:\Bridge\2569-Pike\2569\sshta.dgn

USER NAME = othomas
 PLOT SCALE = 5.0000' / IN.
 PLOT DATE = 3/1/2010

DESIGNED - JEH
 DRAWN - JCW
 CHECKED - JEH
 DATE - 04/03/09

REVISED -
 REVISED -
 REVISED -
 REVISED -

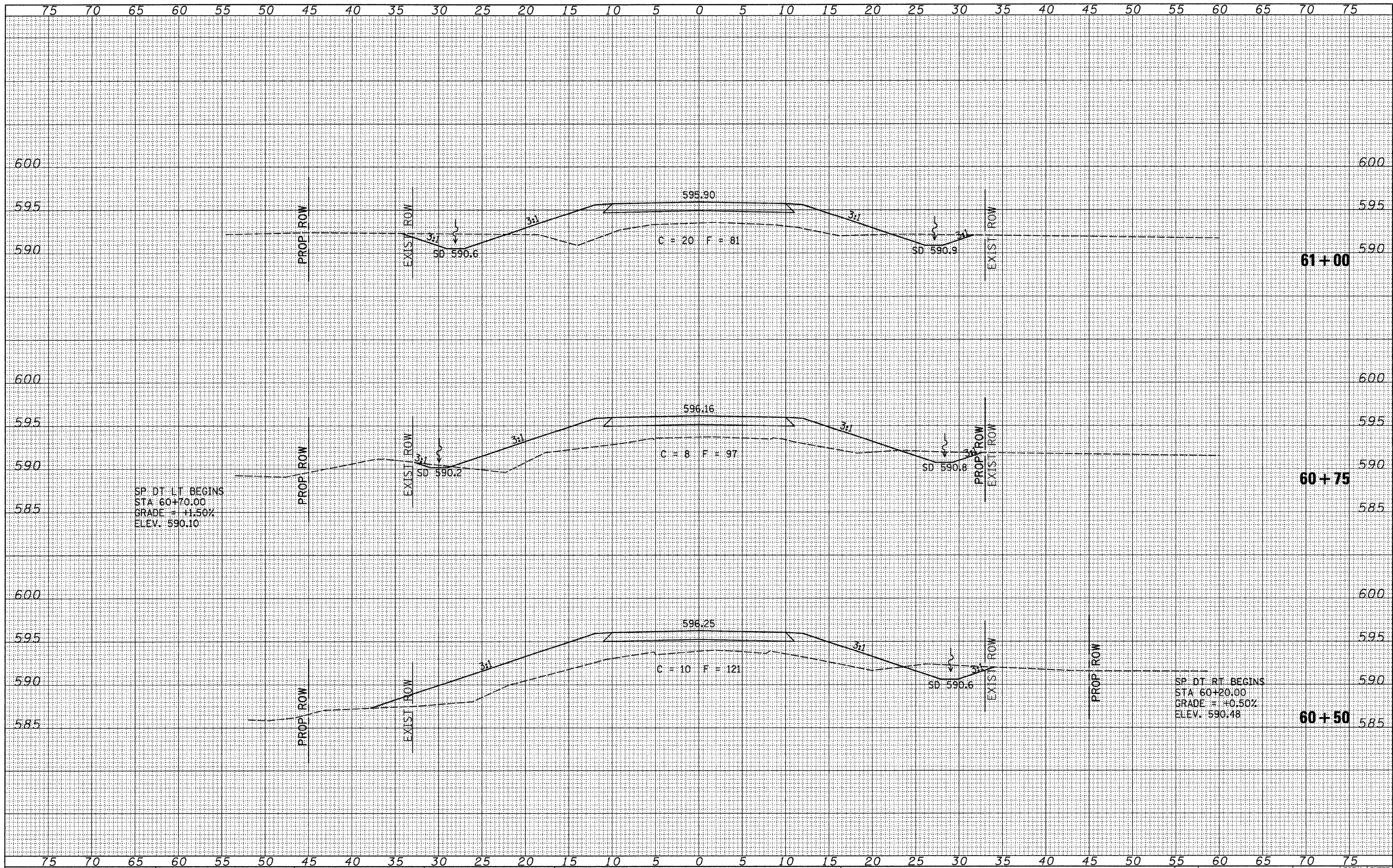
**PIKE COUNTY
 TOWNSHIP ROAD 148 OVER
 KISER CREEK TRIBUTARY**

CROSS SECTIONS
 SCALE: 1"=5'-0" SHEET NO. 2 OF 5 SHEETS STA. 59+00 TO STA. 59+50

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 148	07-05107-00-BR	PIKE	18	15
CONTRACT NO. 93532				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BROS-0149(040)				

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	PLOTTED	
NO.	TEMPLATE	
	AREAS CHECKED	



FILE NAME =
 W:\Bridge\2569-Pike\2569xshts.dgn

USER NAME = ethomas
 PLLOT SCALE = 6.0000' / IN.
 PLOT DATE = 3/1/2010

DESIGNED - JEH
 DRAWN - JCW
 CHECKED - JEH
 DATE - 04/03/09

REVISED -
 REVISED -
 REVISED -
 REVISED -

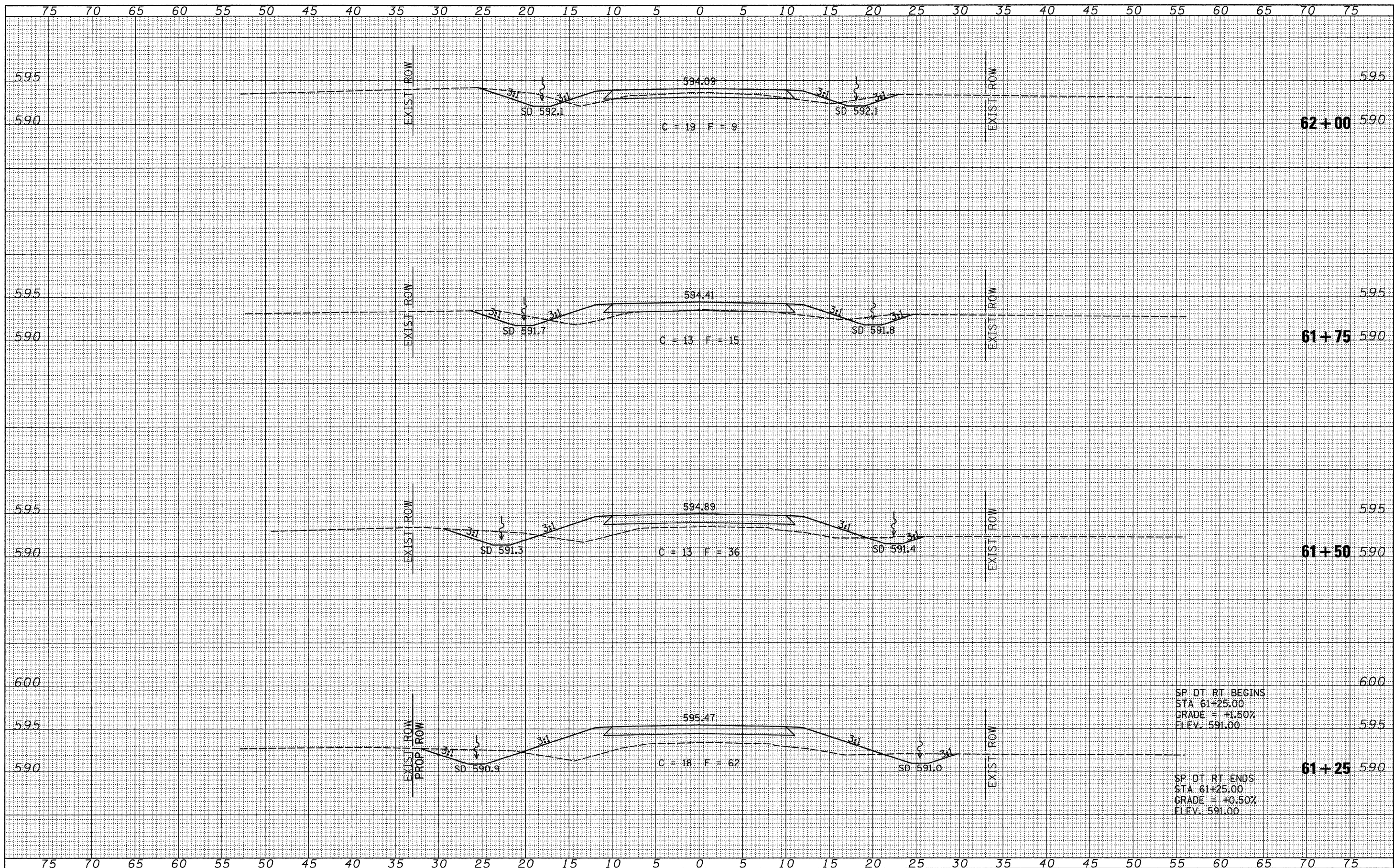
**PIKE COUNTY
 TOWNSHIP ROAD 148 OVER
 KISER CREEK TRIBUTARY**

CROSS SECTIONS
 SCALE: 1"=5'-0"
 SHEET NO. 3 OF 5 SHEETS
 STA. 60+50 TO STA. 61+00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 148	07-05107-00-BR	PIKE	18	16
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 93532	
FED. AID PROJECT BROS-0149040				

FINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPLATE	
	AREAS CHECKED	

ORIGINAL SURVEY NO.	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPLATE	
	AREAS CHECKED	



SP DT RT BEGINS
 STA 61+25.00
 GRADE = +1.50%
 ELEV. 591.00

SP DT RT ENDS
 STA 61+25.00
 GRADE = +0.50%
 ELEV. 591.00

FILE NAME = V:\bridge\2569-Pike\2569\sshta.dgn

USER NAME = cthomas
 PLLOT SCALE = 5.00000' / IN.
 PLOT DATE = 3/1/2010

DESIGNED - JEH
 DRAWN - JCW
 CHECKED - JEH
 DATE - 04/03/09

REVISED -
 REVISED -
 REVISED -
 REVISED -

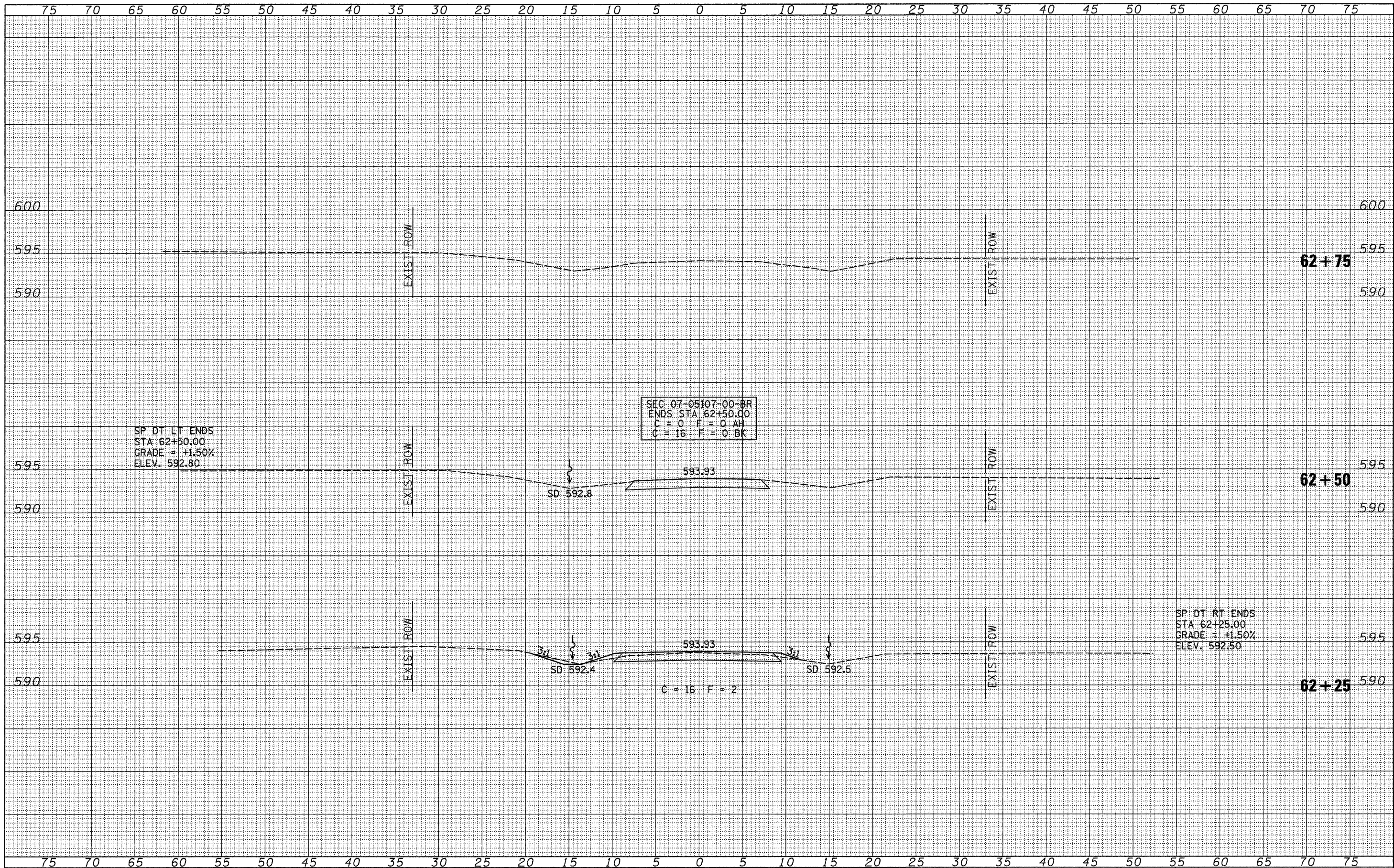
**PIKE COUNTY
 TOWNSHIP ROAD 148 OVER
 KISER CREEK TRIBUTARY**

CROSS SECTIONS
 SCALE: 1"=5'-0" SHEET NO. 4 OF 5 SHEETS STA. 61+25 TO STA. 62+00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 148	07-05107-00-BR	PIKE	18	17
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 93532	
FED. AID PROJECT BROS-0149040				

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPLATE	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPLATE	
	AREAS CHECKED	



FILE NAME =
 W:\Bridge\2569-Pike\2569xshts.dgn

USER NAME = othomas	DESIGNED - JEH	REVISED -
	DRAWN - JCW	REVISED -
	CHECKED - JEH	REVISED -
	DATE - 04/03/09	REVISED -

**PIKE COUNTY
 TOWNSHIP ROAD 148 OVER
 KISER CREEK TRIBUTARY**

CROSS SECTIONS

SCALE: 1"=5'-0" SHEET NO. 5 OF 5 SHEETS STA. 62+25 TO STA. 62+75

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 148	07-05107-00-BR	PIKE	18	18
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 93532	
FED. AID PROJECT BROS-0149040				