

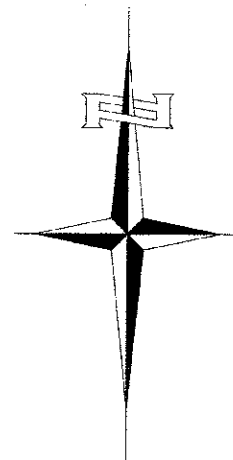
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
PIKE COUNTY
SECTION 10-00085-00-BR
F.A.S. 603 (CH 10) OVER BAY CREEK TRIBUTARY
PROJECT NO. BRS-0603(115)
JOB NUMBER C-96-224-11

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.-18.	STRUCTURE PLANS
19.-23.	CROSS SECTIONS

REQUIRED HIGHWAY STANDARDS

- 000001-06
- 280001-06
- 515001-03
- 630301-05
- 631032-07
- 635006-03
- 701901-02
- BLR 21-9



UTILITY COMPANIES

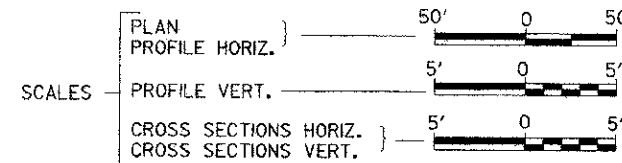
ILLINOIS RURAL ELECTRIC
WINCHESTER, ILLINOIS

PIKE COUNTY WATER DISTRICT
PITTSFIELD, ILLINOIS

FRONTIER COMMUNICATIONS
JACKSONVILLE, ILLINOIS

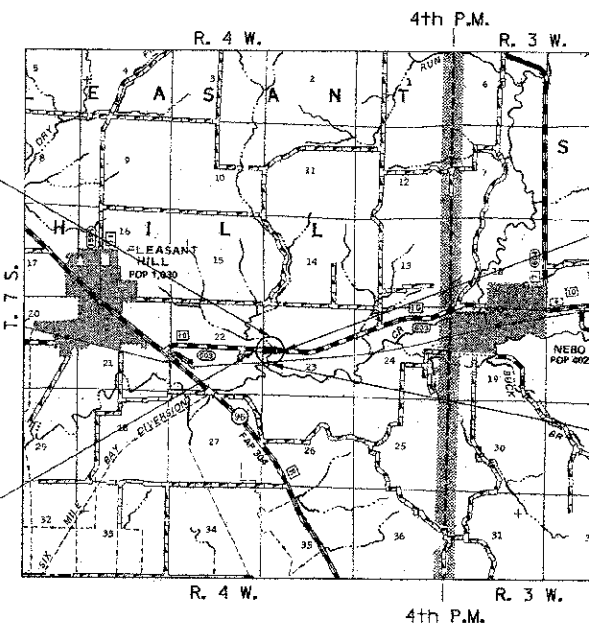
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

CONTRACT NO. 93582



PROPOSED STRUCTURE SN 075-3323
THREE SPAN 17" PPC DK BM STRUCTURE
ON SPILL THRU PILE BENT ABUTMENTS
AND CONCRETE ENCASED PILE BENT PIERS,
105'-3" BK TO BK, AND 32'-0" O TO O DECK,
NO SKEW

SECTION 10-00085-00-BR
BEGINS
STATION 58+00.00



LOCATION MAP
1 MI 0 1 MI
APPROXIMATE SCALE

SECTION 10-00085-00-BR
ENDS
STATION 62+00.00

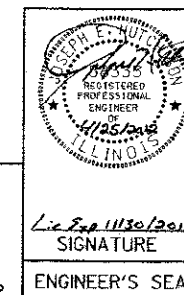
EXISTING STRUCTURE 075-3009
THREE SPAN STEEL STRINGER WITH
CONCRETE DECK SUPERSTRUCTURE ON
CONCRETE PILE BENT PIERS AND
CONCRETE PILE BENT ABUTMENTS,
±81'-0" BK. TO BK., ±26'-0" O. TO O.,
NO SKEW (TO BE REMOVED)

NET LENGTH OF PROJECT = 400.00 FEET = 0.076 MILES
DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
DESIGN ADT = 2,450 (32)
DESIGN SPEED = 50 MPH

Hutchison Engineering, Inc.
JACKSONVILLE ILLINOIS

2012

JOB#2852



Stephen E. Hutchison
SIGNATURE

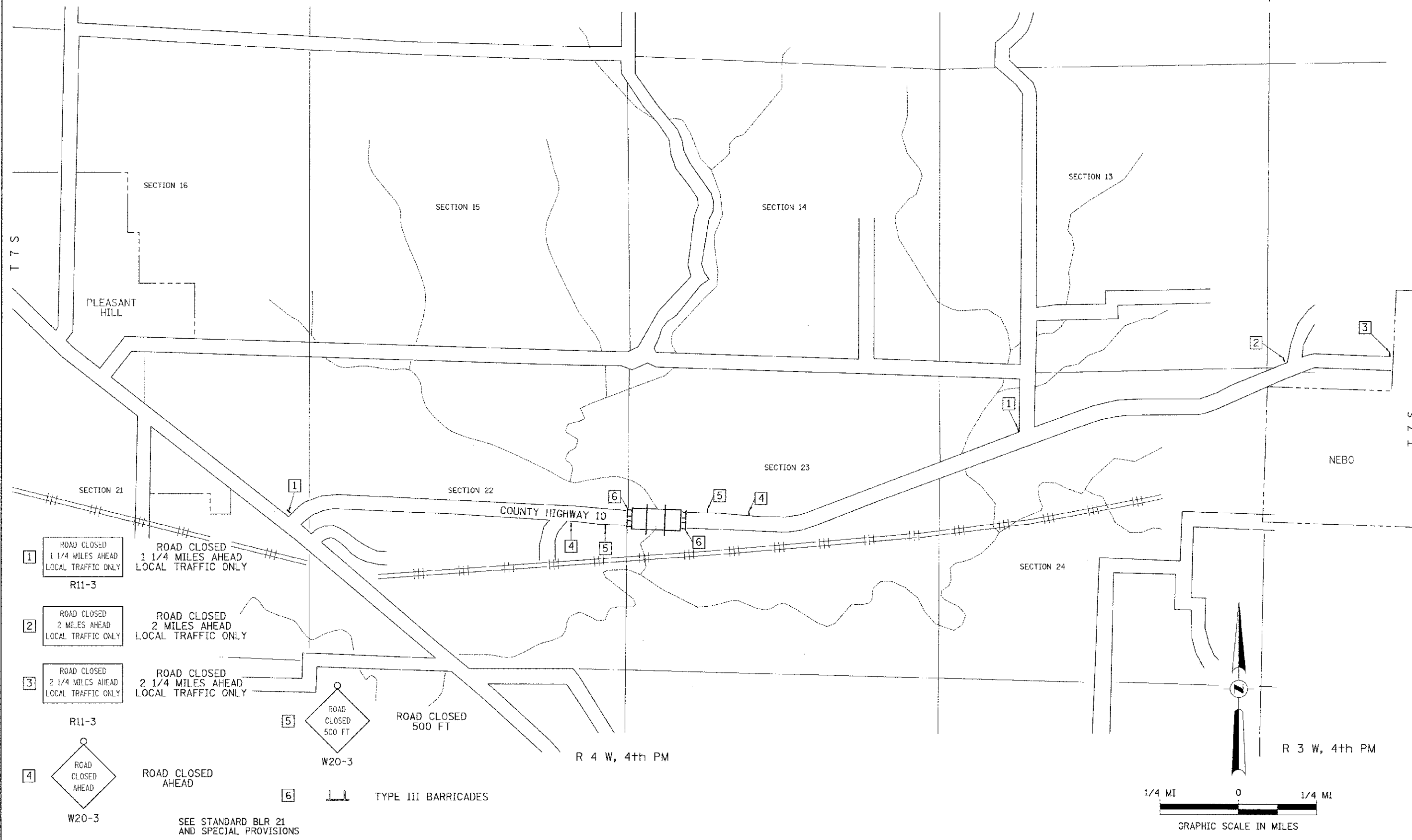
ENGINEER'S SEAL



APPROVED	<i>Ch. R. [Signature]</i>	2012
PIKE COUNTY ENGINEER		
PASSED	<i>May 4</i>	2012
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS		
PASSED	<i>May 3</i>	2012
DISTRICT SIX ENGINEER OF CONSTRUCTION		
Released For Bid Based on Limited Review	<i>May 4</i>	2012
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER		
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

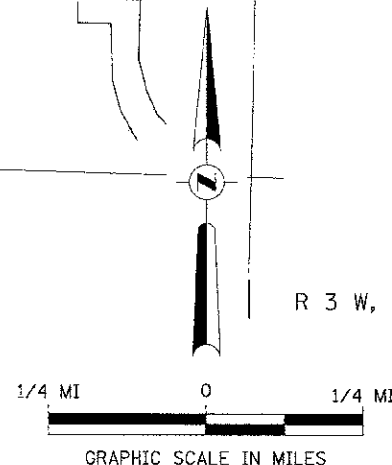
R 4 W, 4th PM

R 3 W, 4th PM



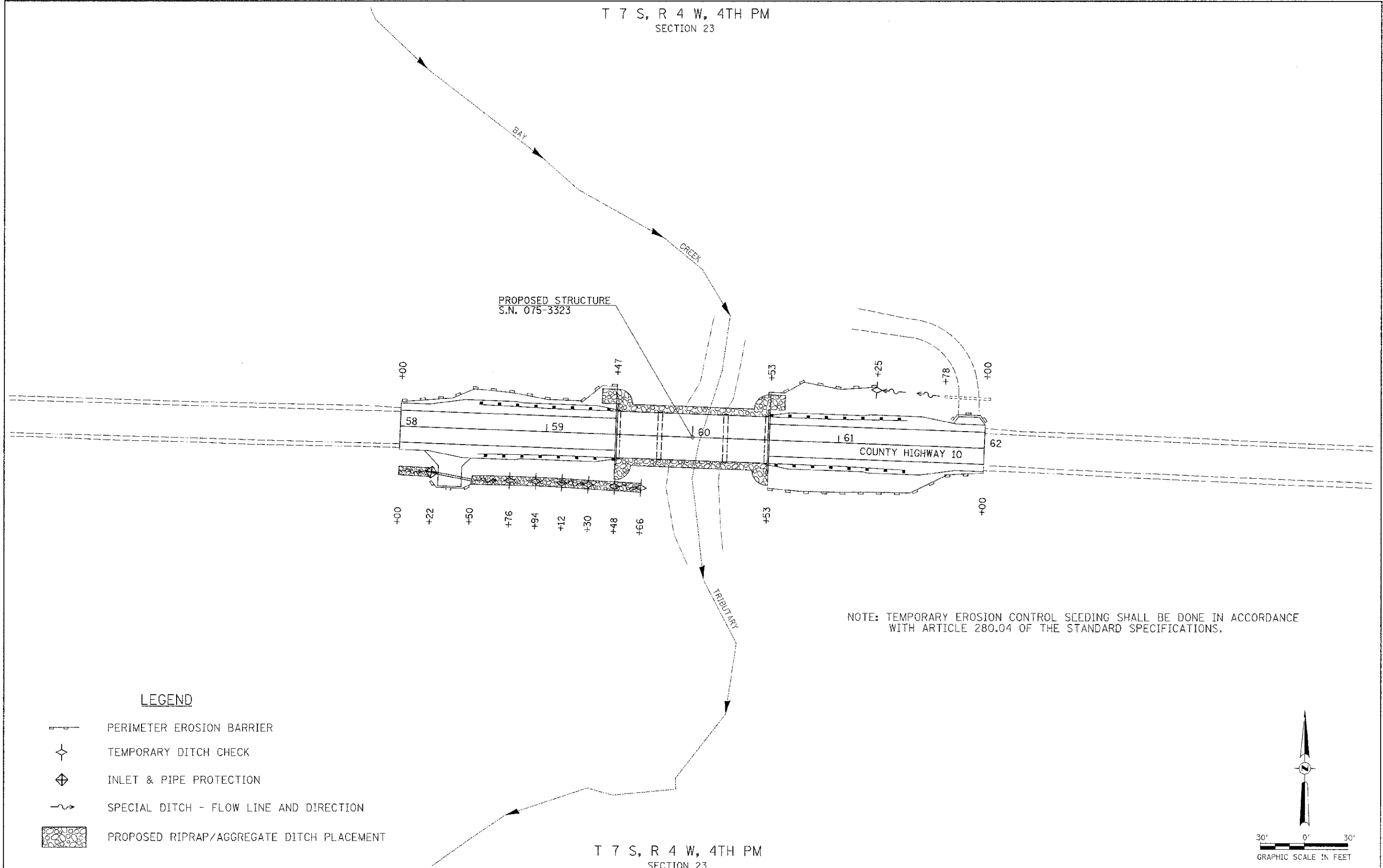
- 1 ROAD CLOSED
1 1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 2 ROAD CLOSED
2 MILES AHEAD
LOCAL TRAFFIC ONLY
- 3 ROAD CLOSED
2 1/4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 4 ROAD CLOSED
AHEAD
W20-3
- 5 ROAD CLOSED
500 FT
W20-3
- 6 TYPE III BARRICADES

SEE STANDARD BLR 21 AND SPECIAL PROVISIONS








FILE NAME = V:\9\truga\2852-Piku\2852i001.dgn	USER NAME = ethomas	DESIGNED -	REVISED -	PIKE COUNTY COUNTY HIGHWAY 10 OVER BAY CREEK TRIBUTARY	TRAFFIC CONTROL PLAN			F.A.S. RTE. 603	SECTION 10-00085-00-BR	COUNTY PIKE	TOTAL SHEETS 23	SHEET NO. 4
	PLOT SCALE = 1:8000 / in.	DRAWN -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. 58+00.00	TO STA. 62+00.00	CONTRACT NO. 93582			
	PLOT DATE = 4/24/2012	CHECKED -	REVISED -		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BR5-06031151							
		DATE = 03/02/09	REVISED -									

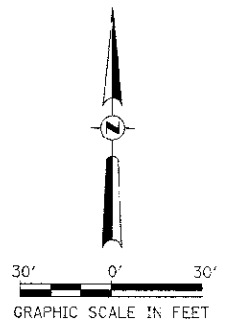
T 7 S, R 4 W, 4TH PM
SECTION 23



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
-  INLET & PIPE PROTECTION
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  PROPOSED RIPRAP/AGGREGATE DITCH PLACEMENT



T 7 S, R 4 W, 4TH PM
SECTION 23

FILE NAME = V:\B\dgn\2852-Pike\2852S201.dgn	USER NAME = cthomas	DESIGNED -	REVISED -	PIKE COUNTY COUNTY HIGHWAY 10 OVER BAY CREEK TRIBUTARY	EROSION CONTROL PLAN			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 24,925/8' / in.	DRAWN -	REVISED -					603	10-00085-00-BR	PIKE	23	5
	PLOT DATE = 4/24/2012	CHECKED -	REVISED -					CONTRACT NO. 93582				
	DATE -	REVISED -	FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT BRS-0603(115)									
				SCALE: 1"=30'		SHEET NO. 1 OF 1 SHEETS		STA. 58+00.00 TO STA. 62+00.00				

B.M.: RR Spike in Power Pole
Sta. 53+40, 41' Lt.
Elev. 493.68

RR Spike in Power Pole
Sta. 67+68, 37' Lt.
Elev. 490.99

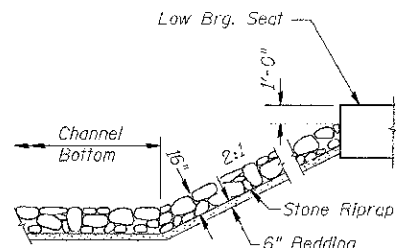
Existing Structure:
Three span steel stringer with reinforced concrete deck and steel rail superstructure on concrete pile bent piers with exposed precast concrete piles and concrete cap bent abutments. The structure is ±81' back to back of abutments, ±26' out to out deck, and is not skewed. Str. No. 075-3009

Salvage: None
Road to be closed to traffic during construction.

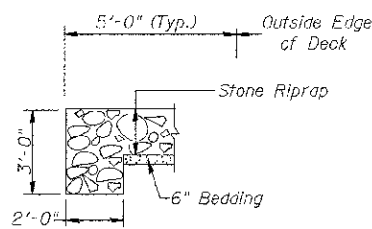
**BAY CREEK TRIBUTARY
BUILT 201 BY
PIKE COUNTY
SEC. 10-00085-00-BR
C.H. 10 STATION 60+00.00
F.A. PROJ. BRS-0603(115)
STR. NO. 075-3323 LOADING HL-93**

NAME PLATE

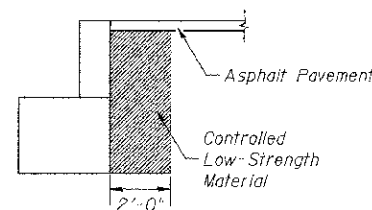
Locate Name Plate at S.W. Wingwall
Corner of Bridge (See Std. 515001)



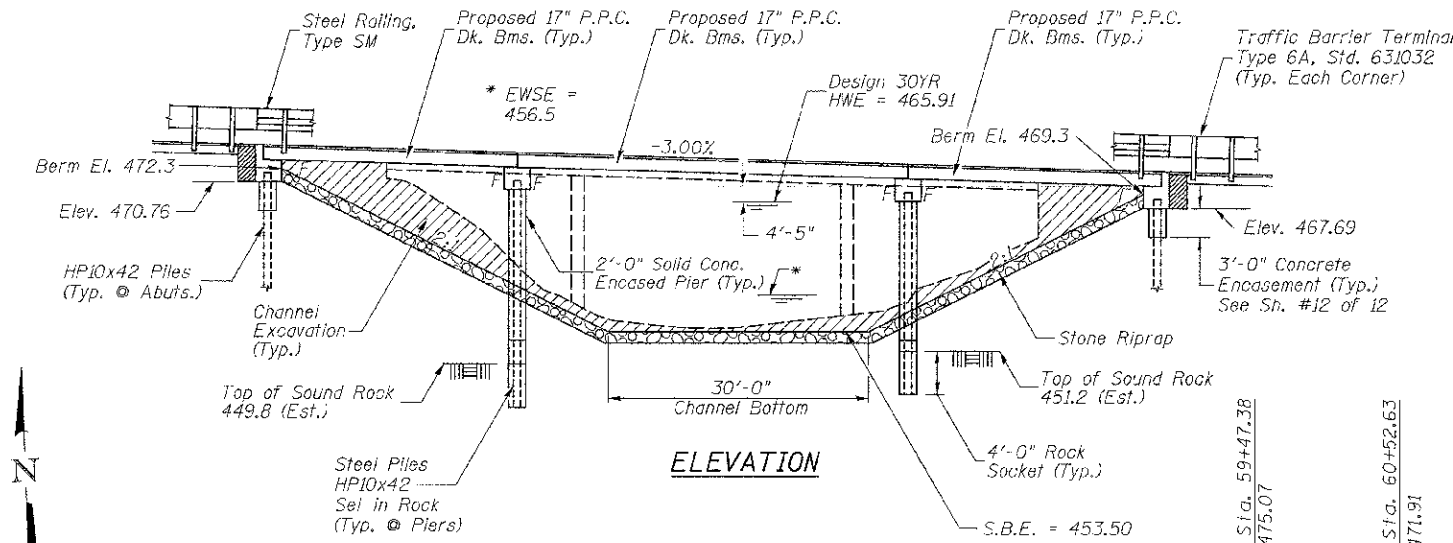
STONE RIPRAP DETAIL



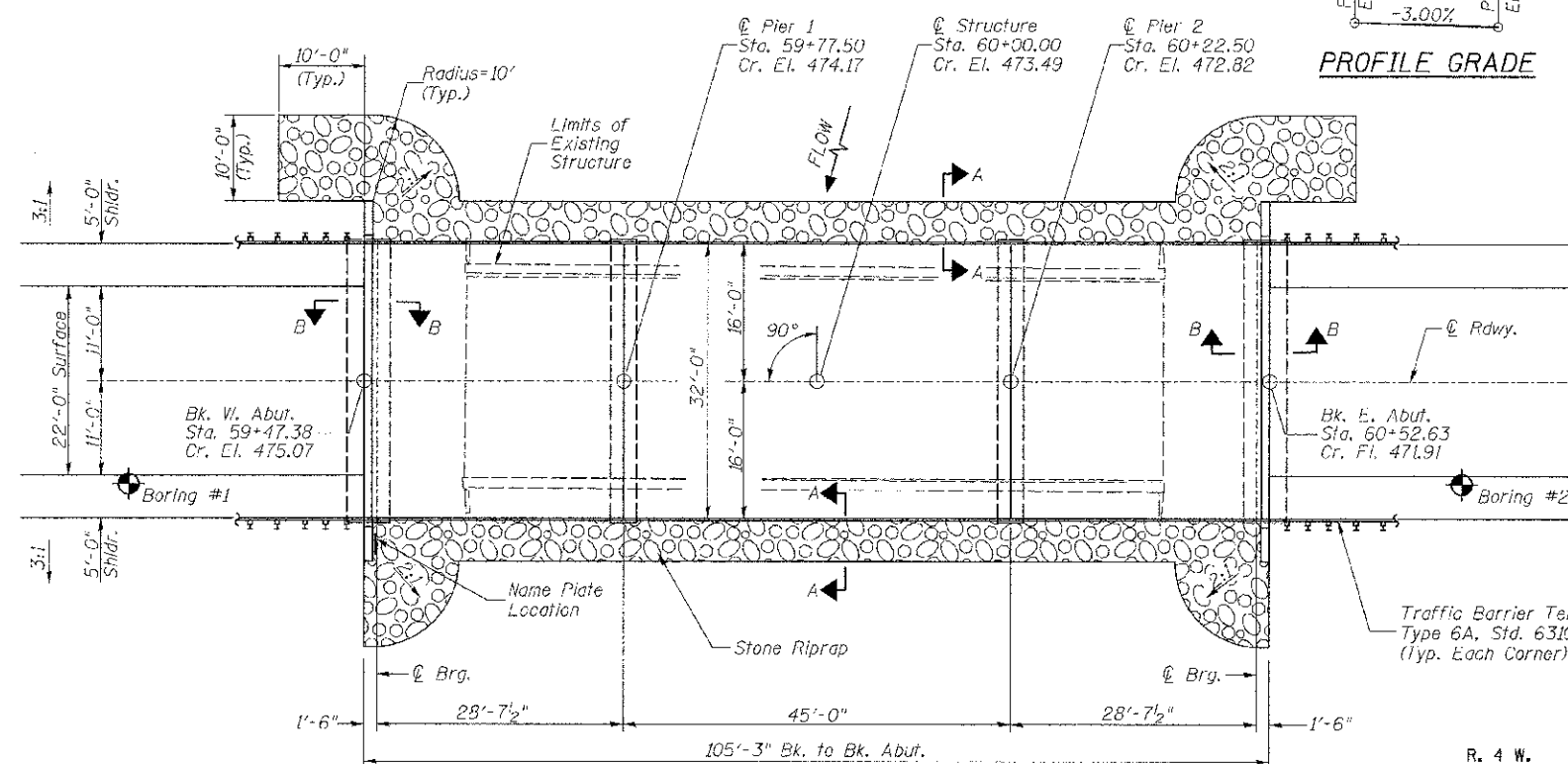
SECTION A-A



SECTION B-B



ELEVATION



PLAN

DESIGN SCOUR TABLE

Location	W. Abut.	Pier 1	Pier 2	E. Abut.
Design Scour Elevation	470.76	449.80	451.20	467.69

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.F.		Headwater El.		
			Exisl.	Prop.	Exisl.	Prop.	Exisl.	Prop.	
Design	30	2,565	531	642	465.91	0.10	0.00	466.01	465.91
Base	100	3,400	611	740	467.18	0.29	0.12	467.47	467.30

DESIGN SPECIFICATIONS

2010 AASHTO (LRFD) & Interims

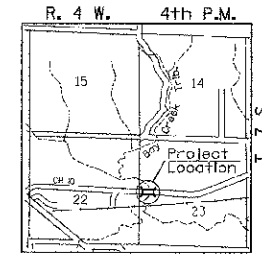
DESIGN STRESSES

(FIELD UNITS) f'c = 3,500 p.s.i. fy = 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. (1/2" Strands) f'si = 201,960 p.s.i. (1/2" Strands)

LOADING HL-93

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



LOCATION SKETCH

GENERAL NOTES

The Contractor shall drive test piles to 110% 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.
The existing structural steel coating may contain lead. The contractor should take appropriate precautions to deal with the presence of lead on this project.
The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.
Each Pier Stem shall be constructed in a single continuous concrete pour.

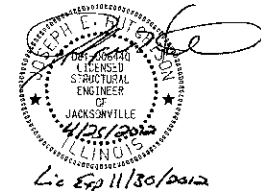
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	450	450
Stone Riprap, Class B4 (Special)	TON	—	515	515
Removal of Existing Structures	CACH	—	—	1
Structure Excavation	CU YD	—	70	70
Cofferdam Excavation	CU YD	—	75	75
Concrete Structures	CU YD	—	123.7	123.7
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	3,304	—	3,304
Reinforcement Bars	POUND	—	10,050	10,050
Steel Railing, Type SM	FOOT	211	—	211
Furnishing Steel Piles HP10x42	FOOT	—	490	490
Driving Piles	FOOT	—	196	196
Test Pile Steel HP10x42	EACH	—	2	2
Setting Piles in Rock	EACH	—	12	12
Concrete Encasement	CU YD	—	6.0	6.0
Name Plates	EACH	—	1	1
Cofferdam (Type 1) (Location-1) (Pier #1)	EACH	—	1	1
Cofferdam (Type 1) (Location-2) (Pier #2)	EACH	—	1	1
Controlled Low-Strength Material	CU YD	—	19.1	19.1
Bituminous Surface Treatment, A-2 Special	SQ YD	374	—	374

See Special Provisions

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.

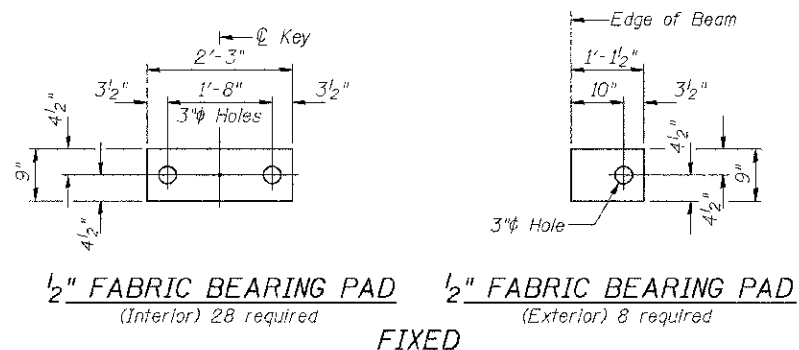
[Signature] 4/25/2012
Illinois Structural No. 6440
Expires 11/30/2012



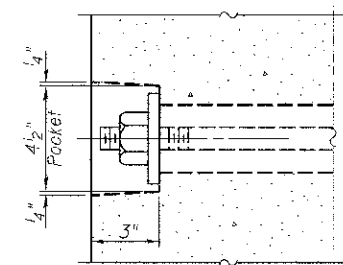
**GENERAL PLAN & ELEVATION
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY**

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

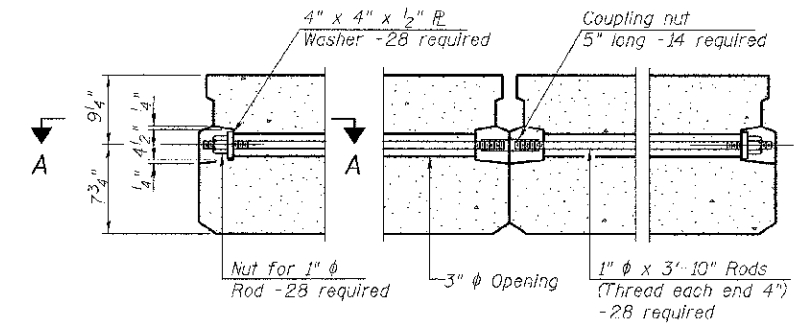
SHEET NO. 1 12 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 10	10-00085-00-BR	PIKE	23	7
S.N. 075-3323			CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0603(115)		



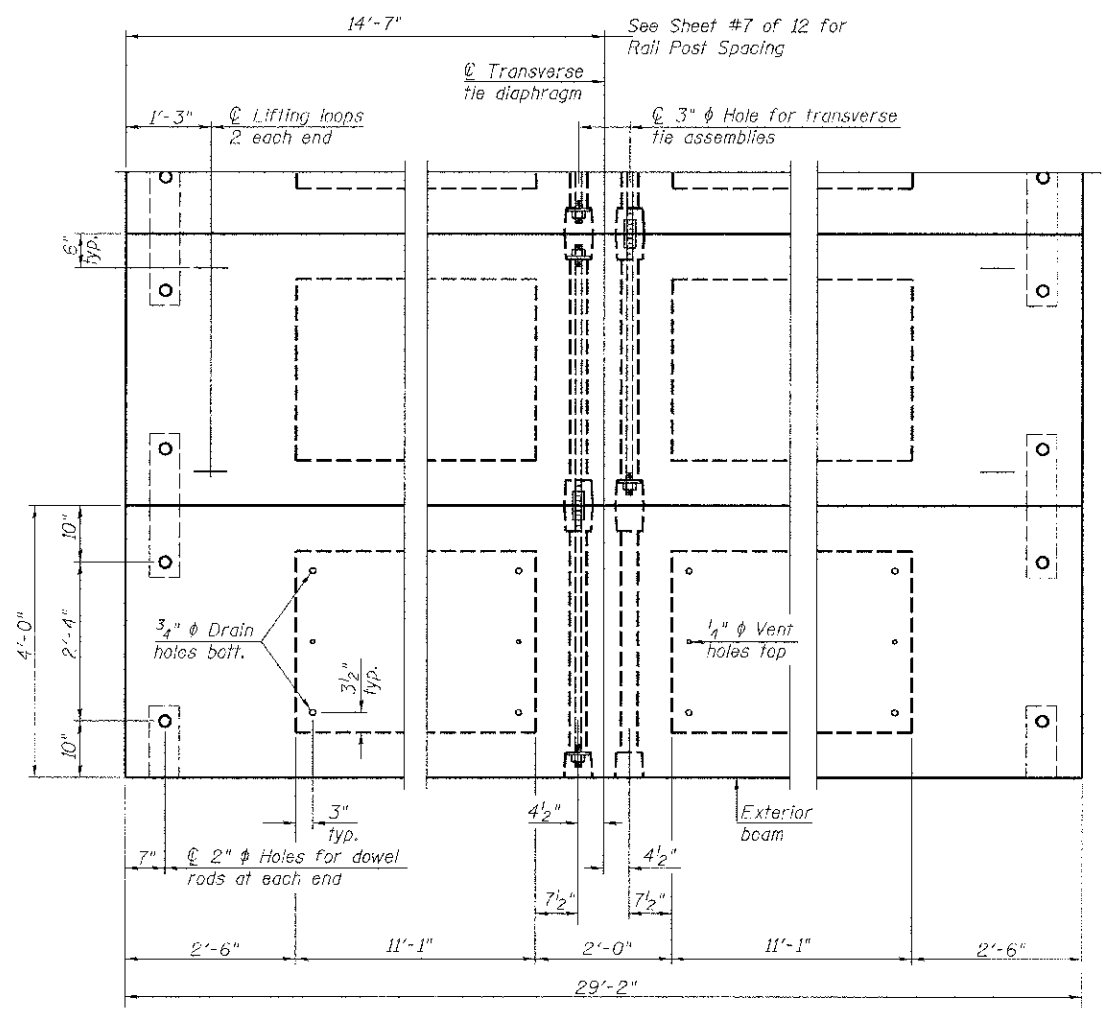
1/2" FABRIC BEARING PAD (Interior) 28 required
1/2" FABRIC BEARING PAD (Exterior) 8 required
FIXED



SECTION A-A

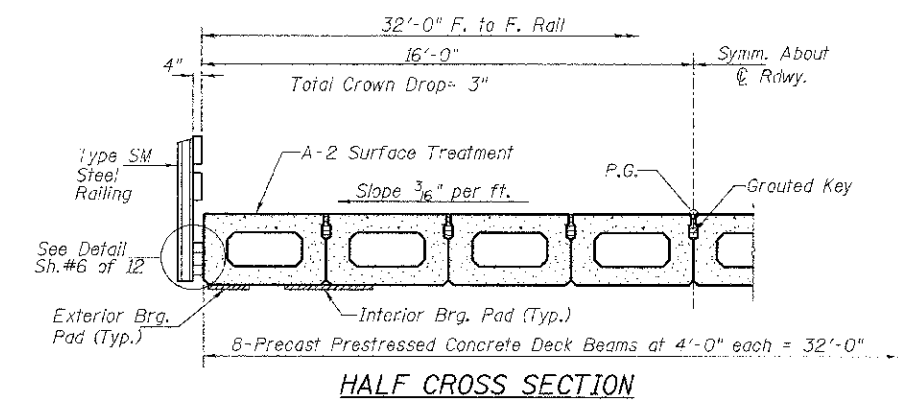


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

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



HALF CROSS SECTION

NOTES

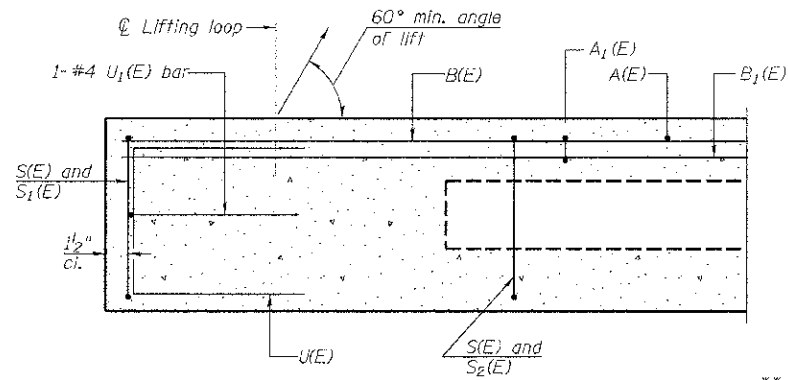
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets 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'cr, shall be 5000 psi.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	1,867

SUPERSTRUCTURE - SPANS 1 & 3
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY

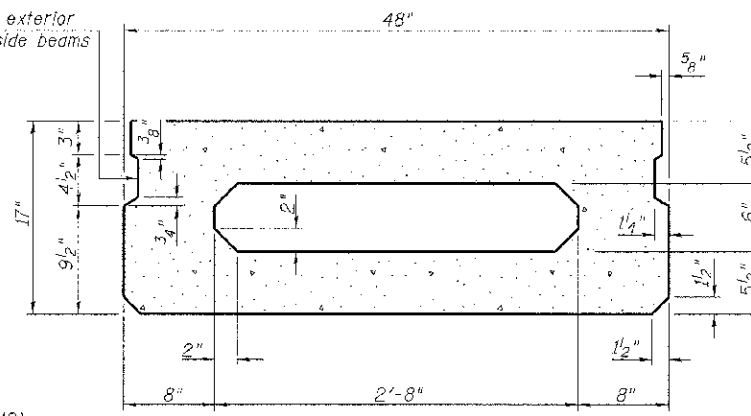
SHEET NO. 2	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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12 SHEETS	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0603(1115)		



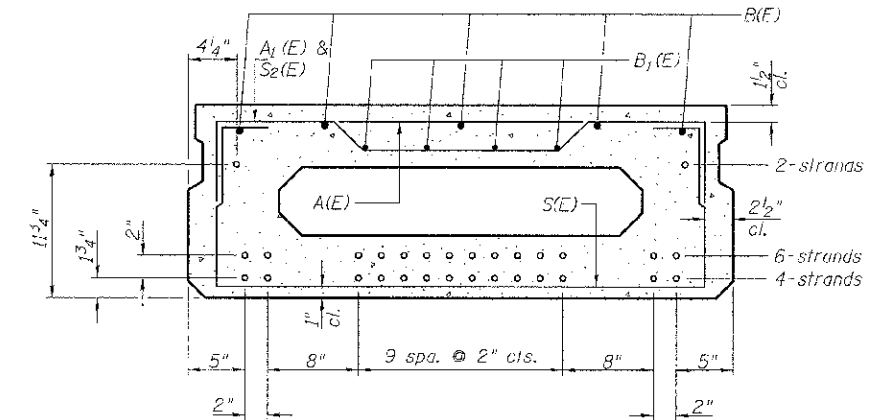
SECTION C-C

**Rail post anchor devices (Sheet 6 of 12) to be cast into exterior face of outside beams.

**Omit key on exterior face of outside beams



SECTION A-A
(Showing dimensions)



SECTION A-A
12-1/2" ϕ Strands Each Strand Stressed to 30,900 Lbs.
4-Strands 3/4" up, 6-Strands 3/4" up, 2-Strands 11/4" up
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

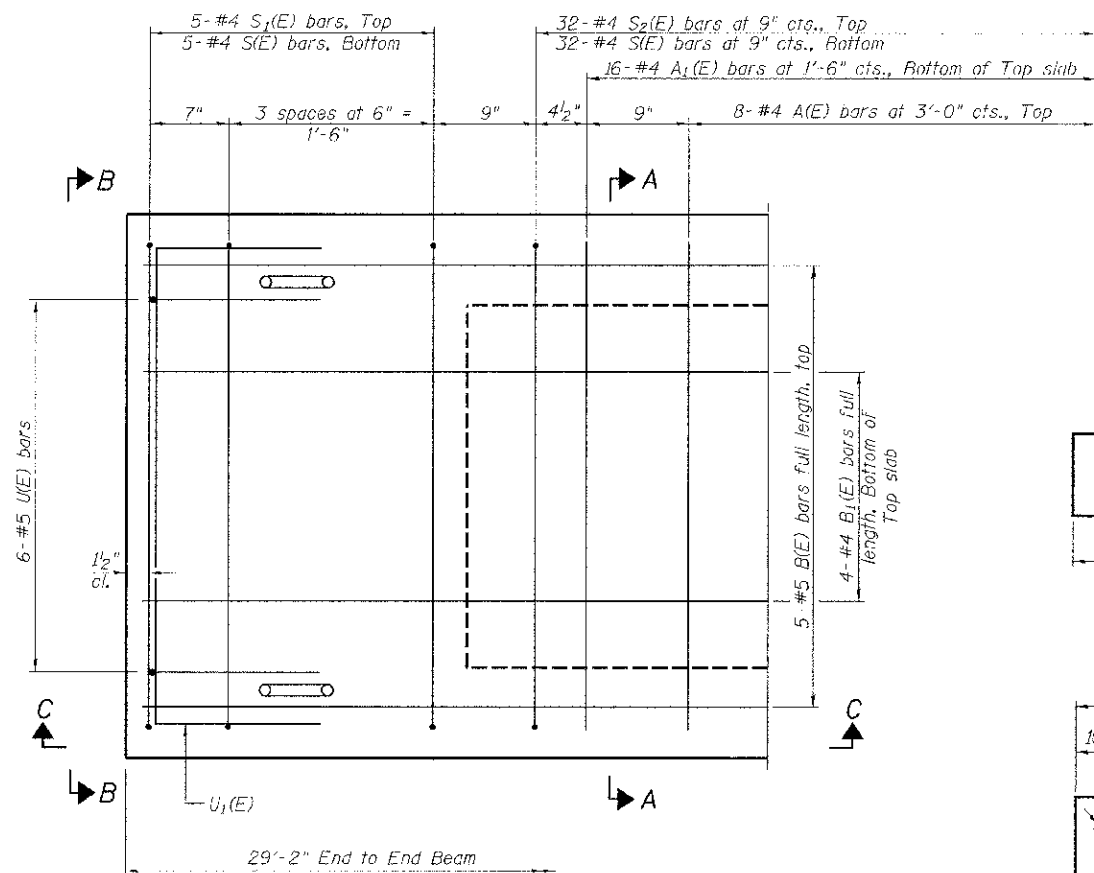
BAR LIST ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	8	#4	3'-7"	—
A1(E)	16	#4	3'-10"	—
B(E)	5	#5	*28'-11"	—
B1(E)	4	#4	*28'-11"	—
S(E)	42	#4	6'-9"	—
S1(E)	10	#4	5'-3"	—
S2(E)	32	#4	5'-6"	—
U(E)	12	#5	3'-8"	—
U1(E)	2	#4	6'-0"	—

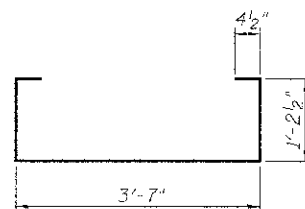
* Total Length, Lap as necessary

Note: See sheet 2 of 12 for additional details and Bill of Material.

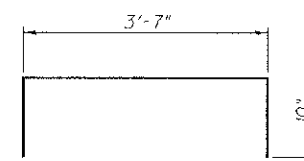


PLAN VIEW

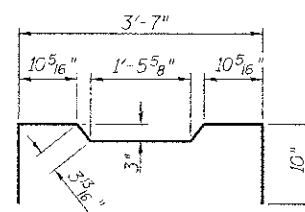
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



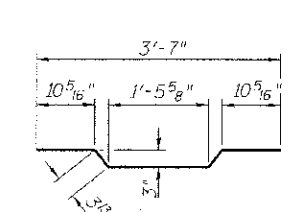
BAR S(E)



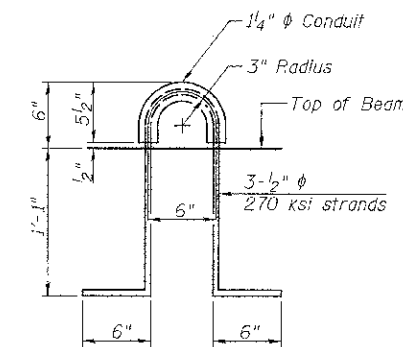
BAR S1(E)



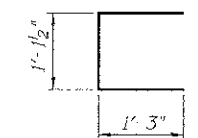
BAR S2(E)



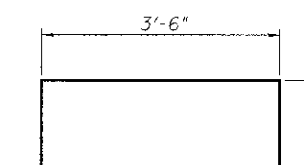
BAR A1(E)



LIFTING LOOP DETAIL



BAR U(E)

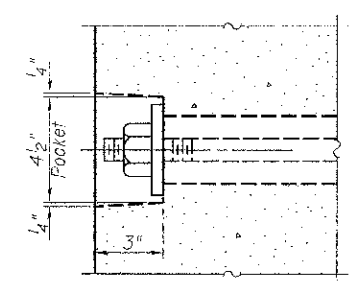
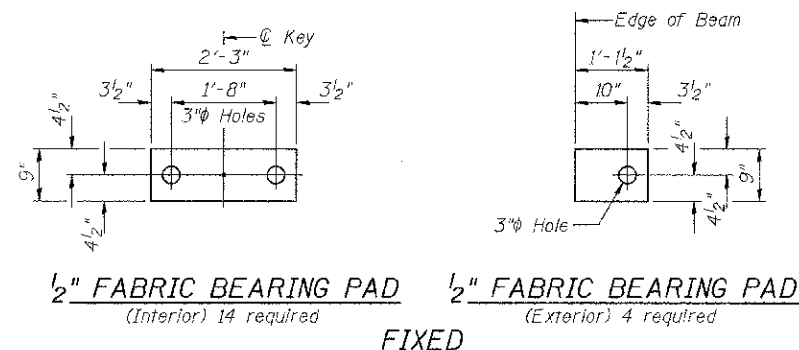


BAR U1(E)

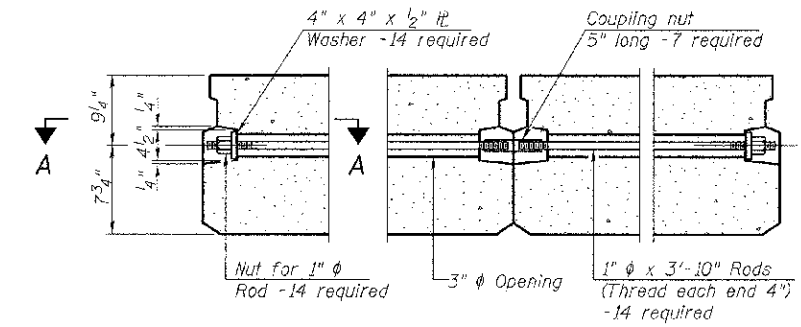
SUPERSTRUCTURE DETAILS - SPANS 1 & 3

PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY

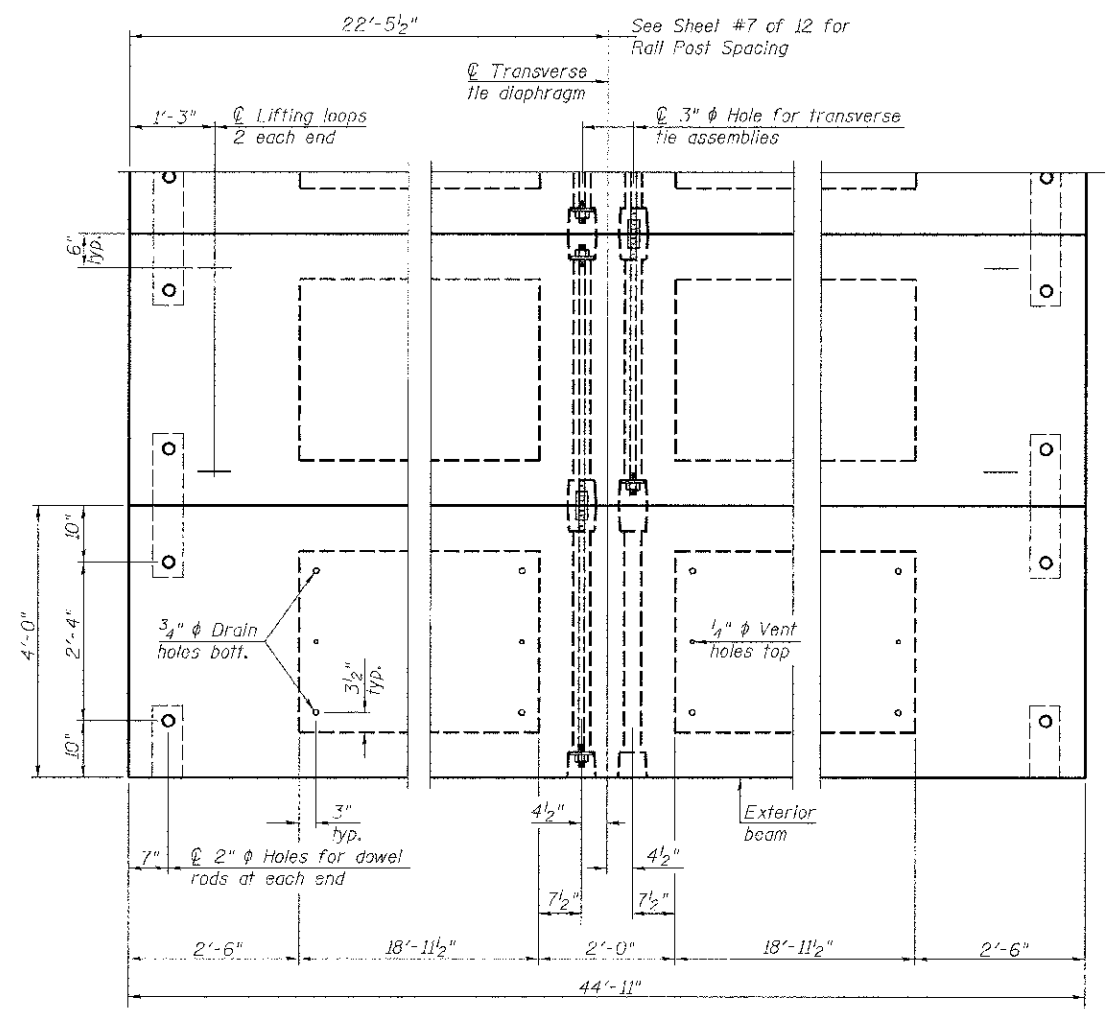
SHEET NO. 3 12 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 10	10-00085-00-BR	PIKE	23	9
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT BRS-0603(115)		



SECTION A-A

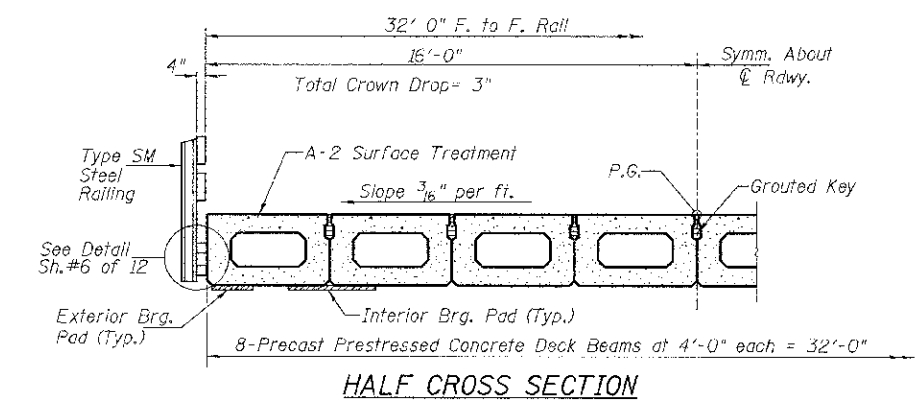


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

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



HALF CROSS SECTION

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" diameter 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.

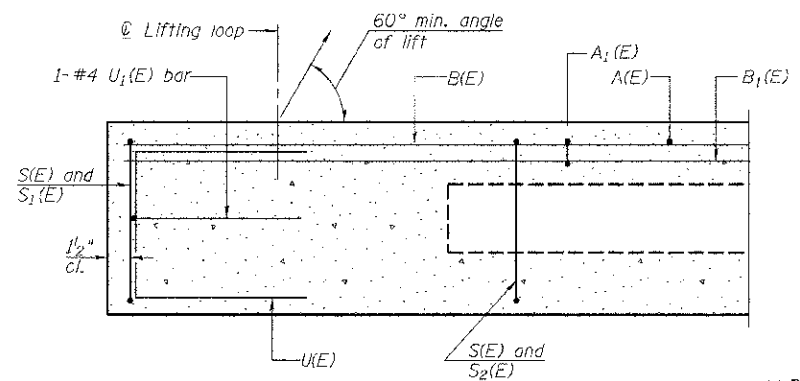
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	1,437

SUPERSTRUCTURE - SPAN 2
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY

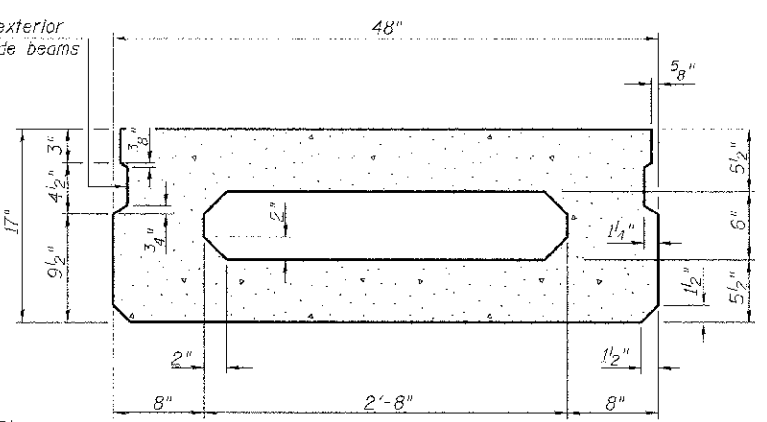
SHEET NO. 4	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12 SHEETS	CH 10	10-00085-00-BR	PIKE	23	10
S.N. 075-3323			CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0603(115)		



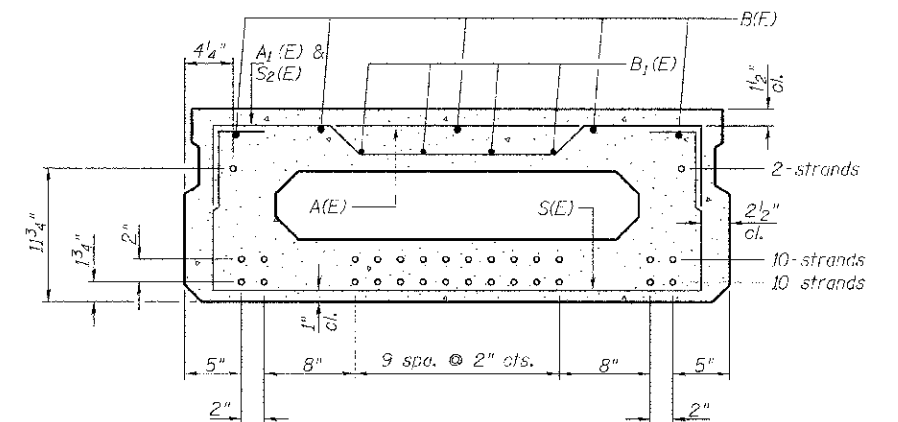
SECTION C-C

**Rail post anchor devices (Sheet 6 of 12) to be cast into exterior face of outside beams.

**Omit key on exterior face of outside beams

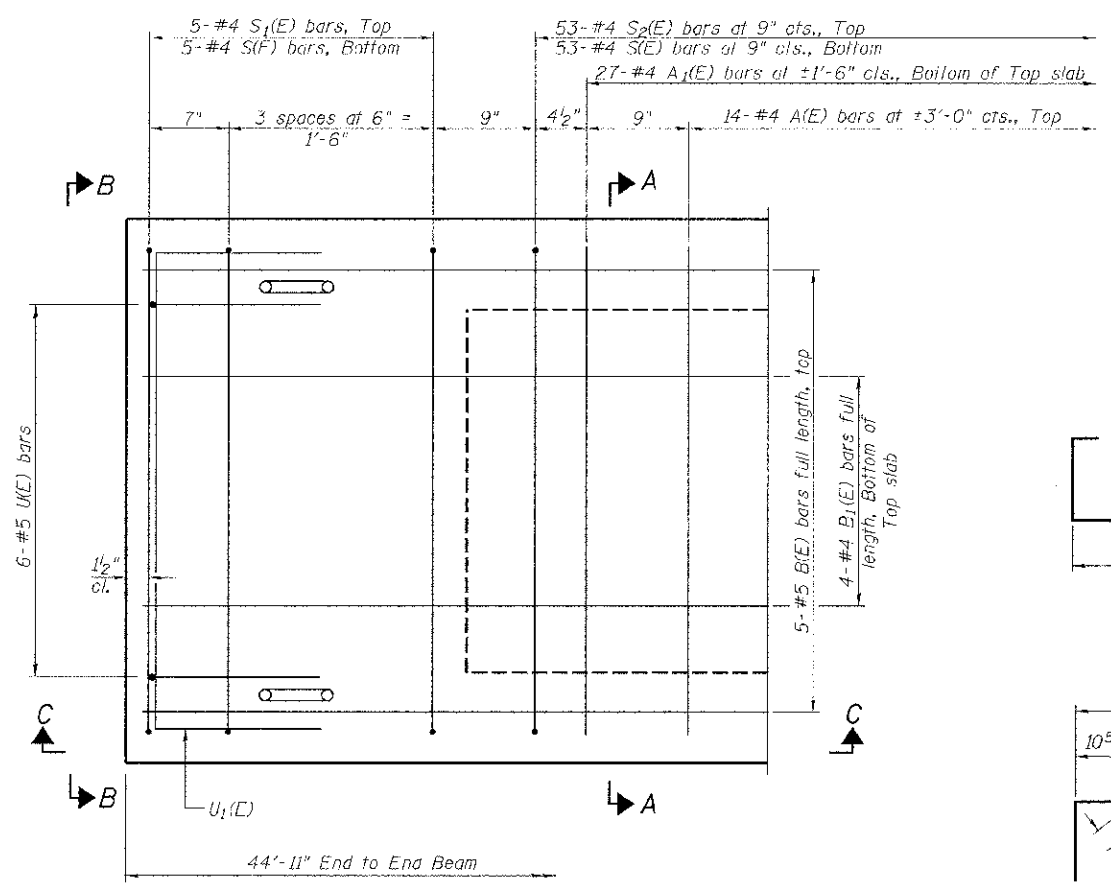


SECTION A-A
(Showing dimensions)

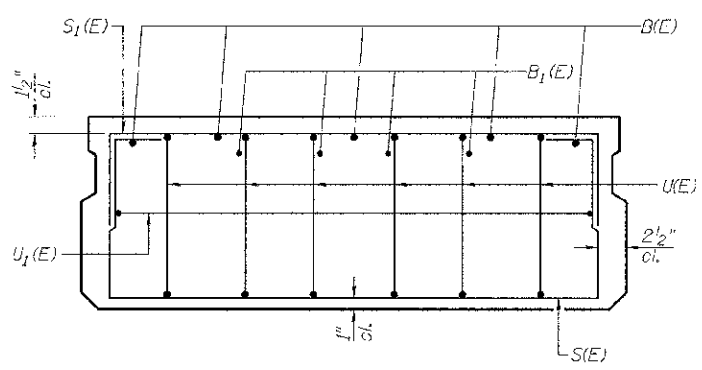


SECTION A-A

22-#5 Strands Each Strand Stressed to 30,900 Lbs.
10-Strands 1 3/4" up, 10-Strands 3 3/4" up, 2-Strands 11 3/4" up
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



PLAN VIEW



VIEW B-B

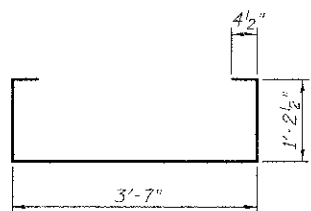
MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

BAR LIST ONE BEAM ONLY
(For information only)

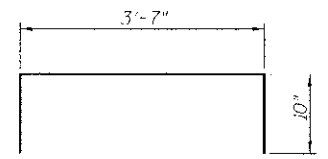
Bar	No.	Size	Length	Shape
A1(E)	14	#4	3'-7"	—
A1(E)	27	#4	3'-10"	—
B1(E)	5	#5	*44'-8"	—
B1(E)	4	#4	*44'-8"	—
S(E)	63	#4	6'-9"	—
S1(E)	10	#4	5'-3"	—
S2(E)	53	#4	5'-6"	—
U(E)	12	#5	3'-8"	—
U1(E)	2	#4	6'-0"	—

* Total Length, Lap as necessary

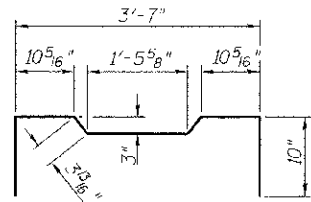
Note: See sheet 4 of 12 for additional details and Bill of Material.



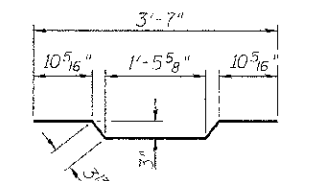
BAR S(E)



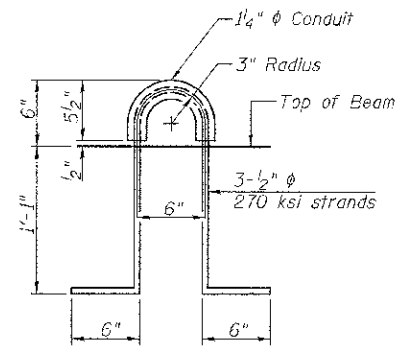
BAR S1(E)



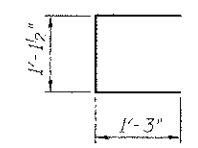
BAR S2(E)



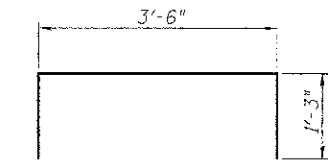
BAR A1(E)



LIFTING LOOP DETAIL



BAR U(E)



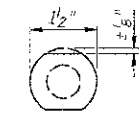
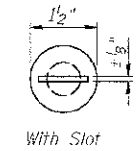
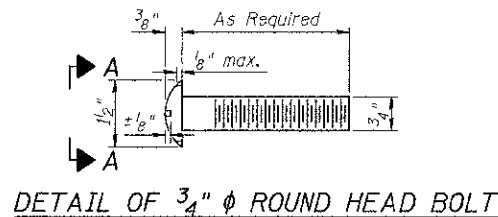
BAR U1(E)

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.

SUPERSTRUCTURE DETAILS - SPAN 2
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY

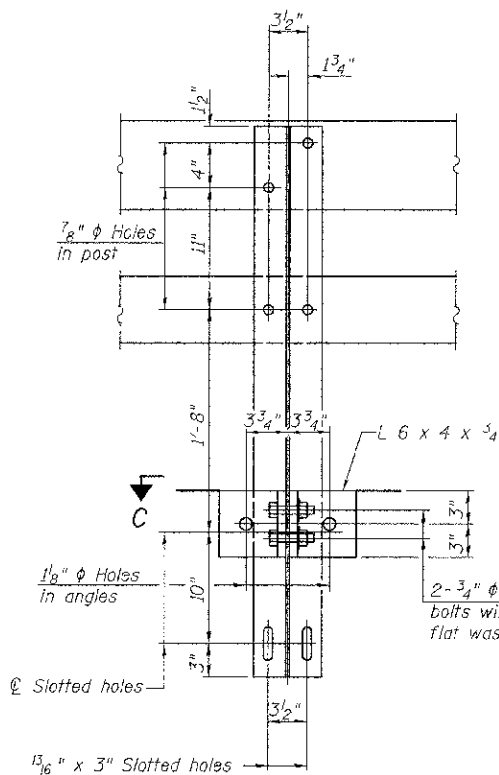
SHEET NO. 5 12 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 10	10-00085-00-BR	PIKE	23	11
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT BRS-0603(115)	

FOR RAIL POST SPACING SEE SH.#7 OF 12

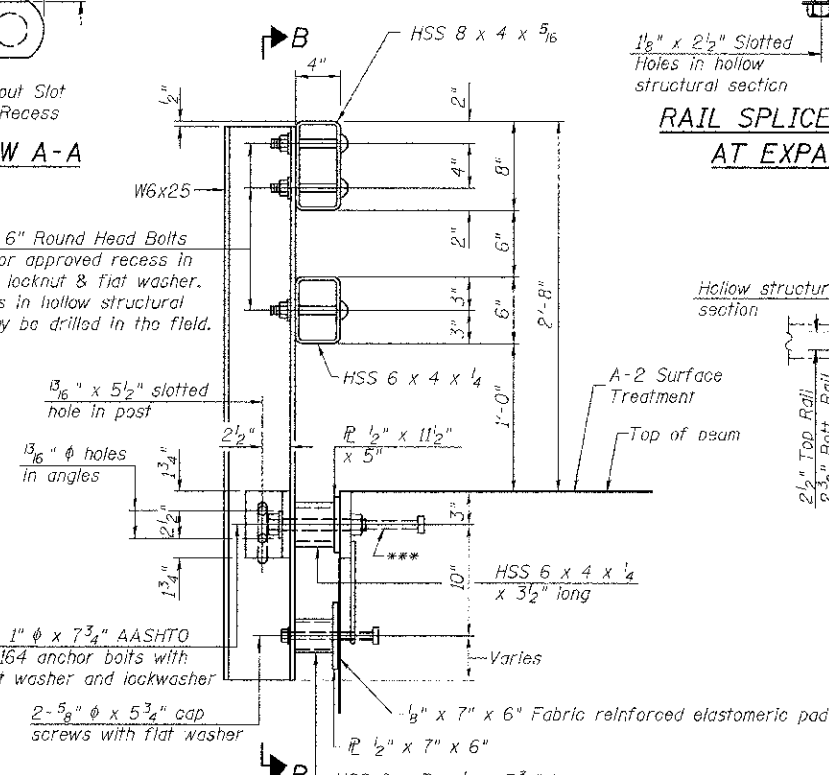


VIEW A-A

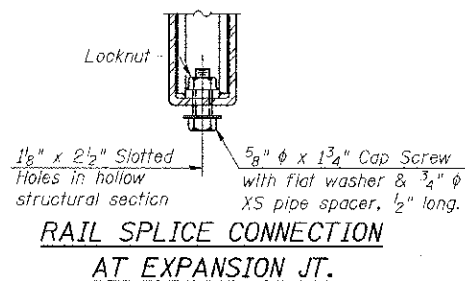
4- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



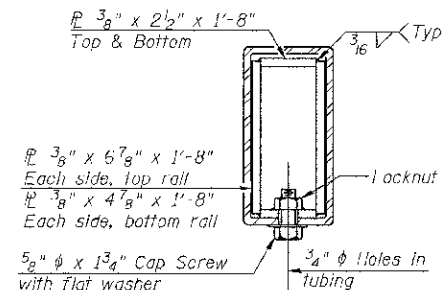
SECTION B-B



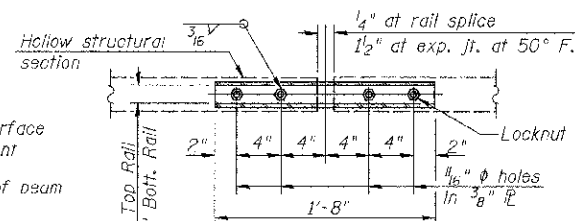
SECTION AT RAIL POST



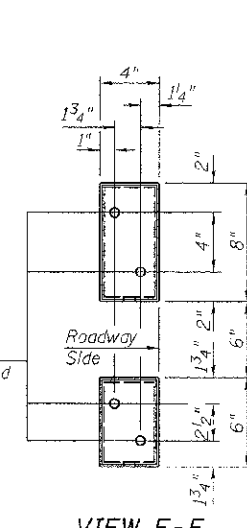
RAIL SPLICE CONNECTION AT EXPANSION JT.



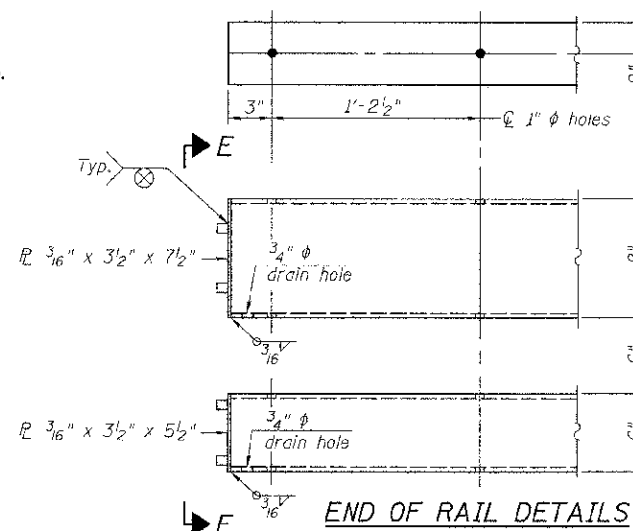
SECTION AT RAIL SPLICE



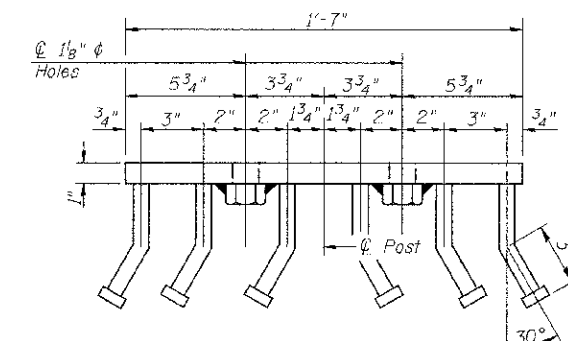
PLAN-BOTT. SPLICE AT TYPICAL



VIEW E-E



END OF RAIL DETAILS



VIEW D-D

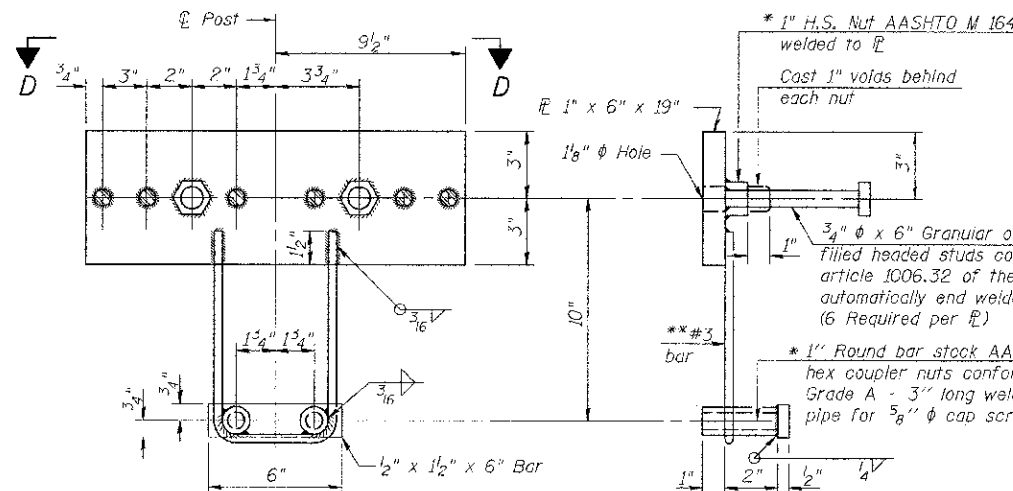
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
 All steel rail members shall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

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	FOOT	211

STEEL RAILING, TYPE SM
 PIKE COUNTY
 SECTION 10-00085-00-BR
 C.H. 10 OVER BAY CREEK TRIBUTARY

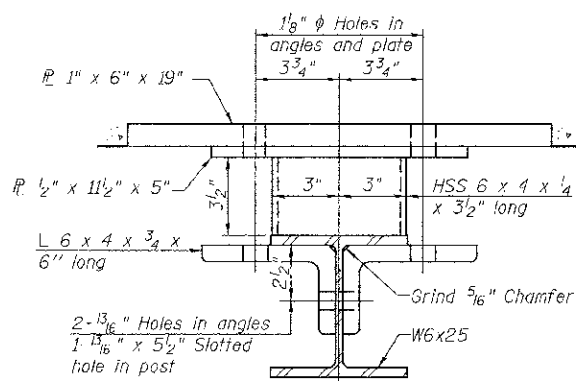
SHEET NO. 6 12 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 10	10-00085-00-BR	PIKE	23	12
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0603(115)			



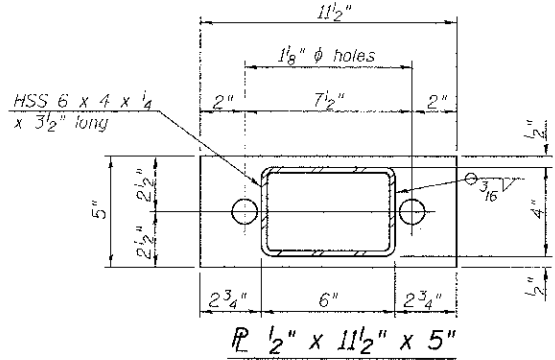
ANCHOR DEVICE

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

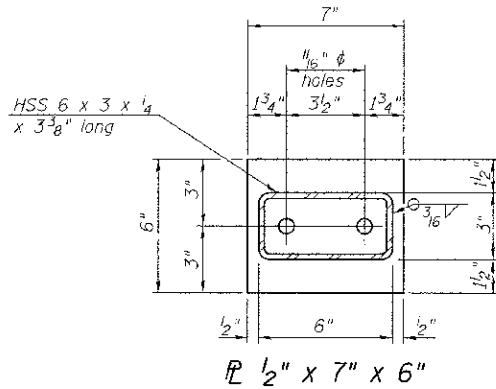
**Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



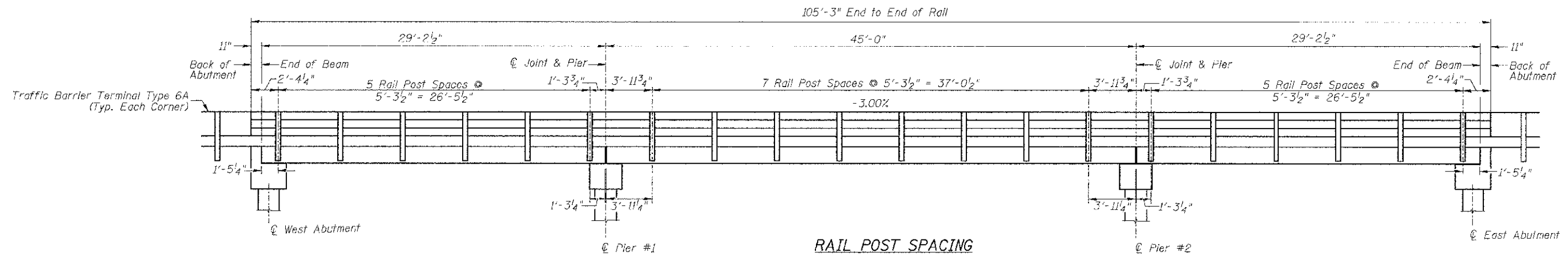
SECTION C-C



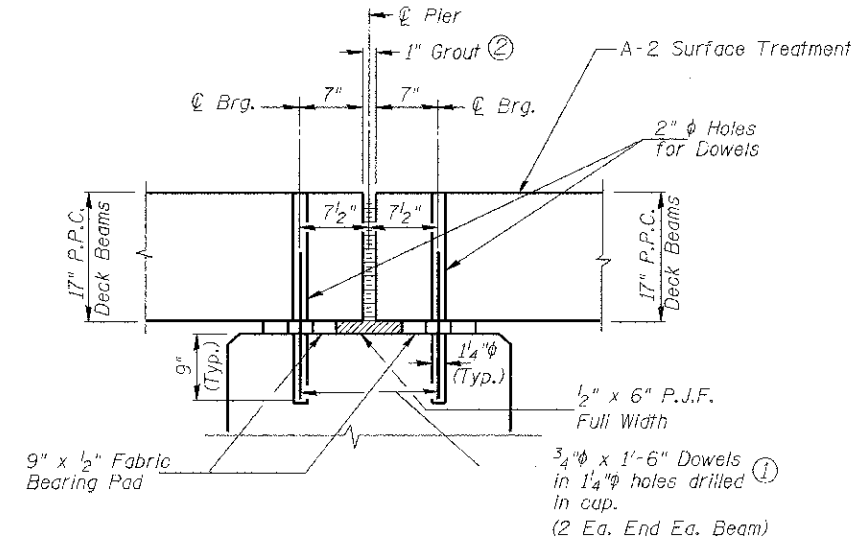
SECTION AT RAIL POST



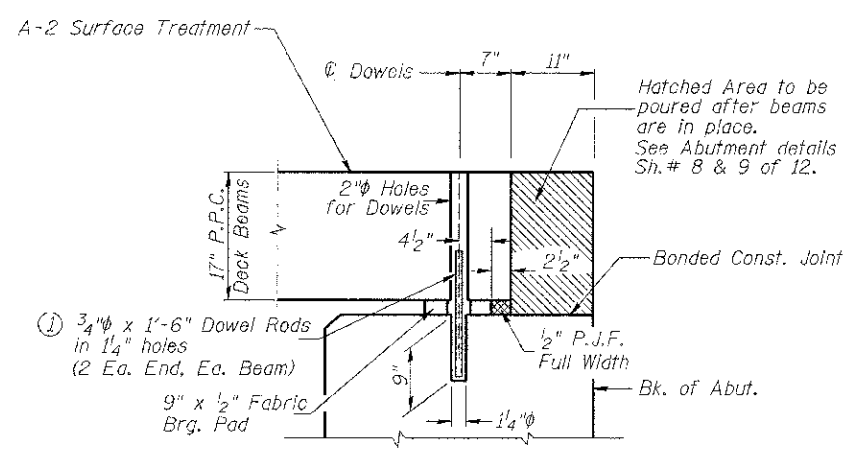
SECTION AT RAIL POST



RAIL POST SPACING



SECTION THRU PIERS

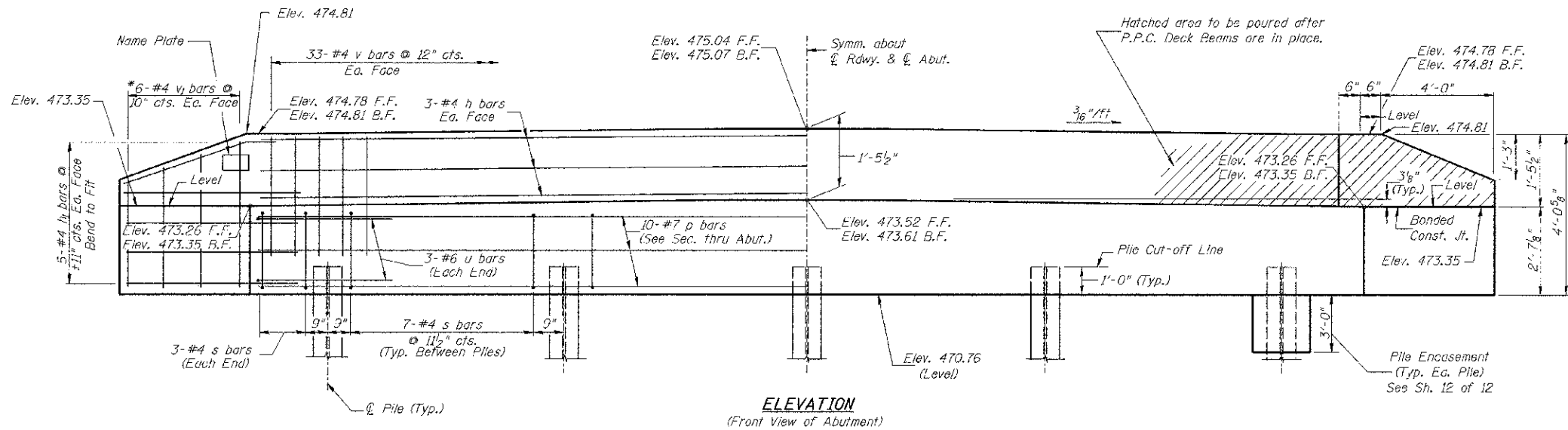
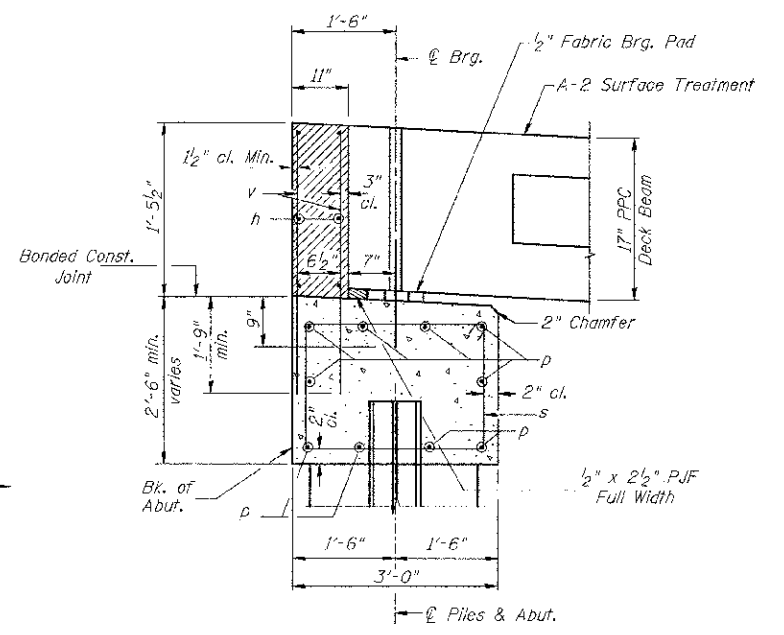
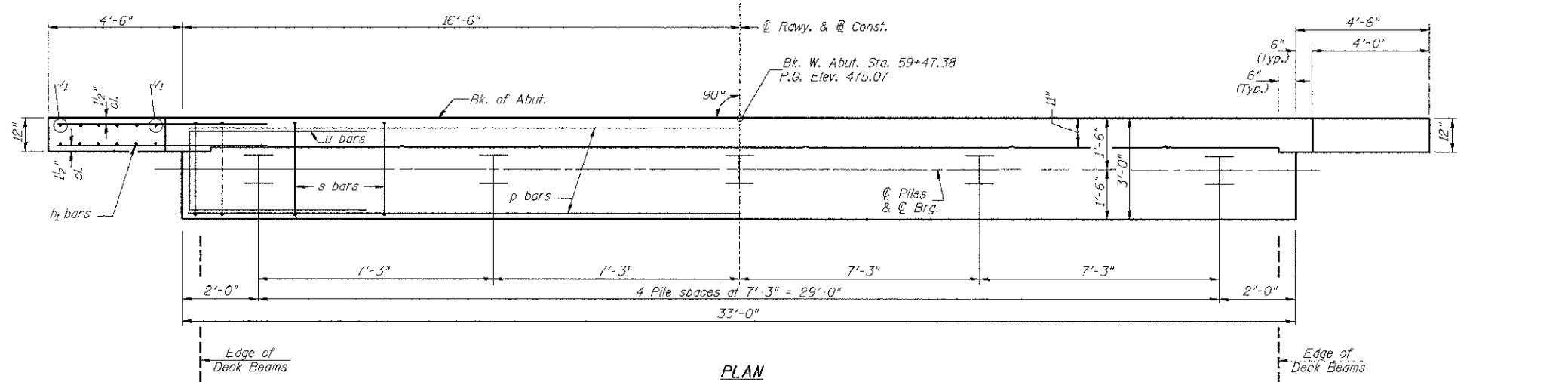


SECTION THRU ABUTMENTS

- 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 1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

RAIL POST SPACING AND
SUPERSTRUCTURE DETAILS
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY

SHEET NO. 7 12 SHEETS	ROUTE NO. CH 10	SECTION 10-00085-00-BR	COUNTY PIKE	TOTAL SHEETS 23	SHEET NO. 13
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0603(115)		



WEST ABUTMENT BILL OF MATERIAL

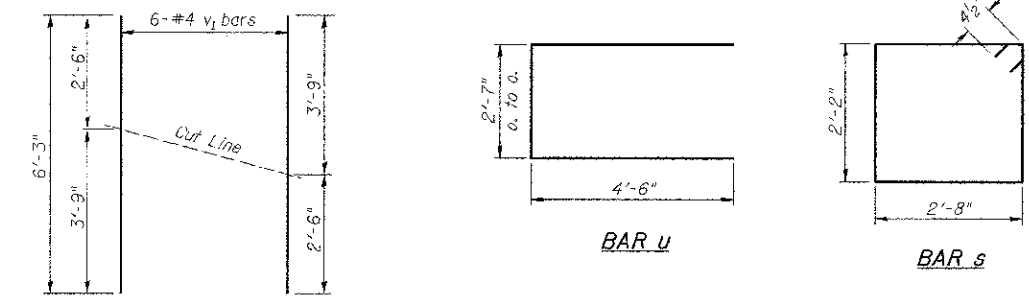
BAR	NO.	SIZE	LENGTH	SHAPE
v	66	#4	3'-2"	—
vi	12	#4	6'-3"	—
Concrete Structures		CU YD	12.6	
Reinforcement Bars		POUND	1,420	
Structure Excavation		CU YD	35	
Name Plates		EACH	1	
Furnishing Steel Piles		FOOT	80	
HP10x42				
Driving Piles		FOOT	80	
Test Pile Steel		EACH	1	
HP10x42				
Concrete Encasement		CU YD	1.7	

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

- 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.

PILE DATA

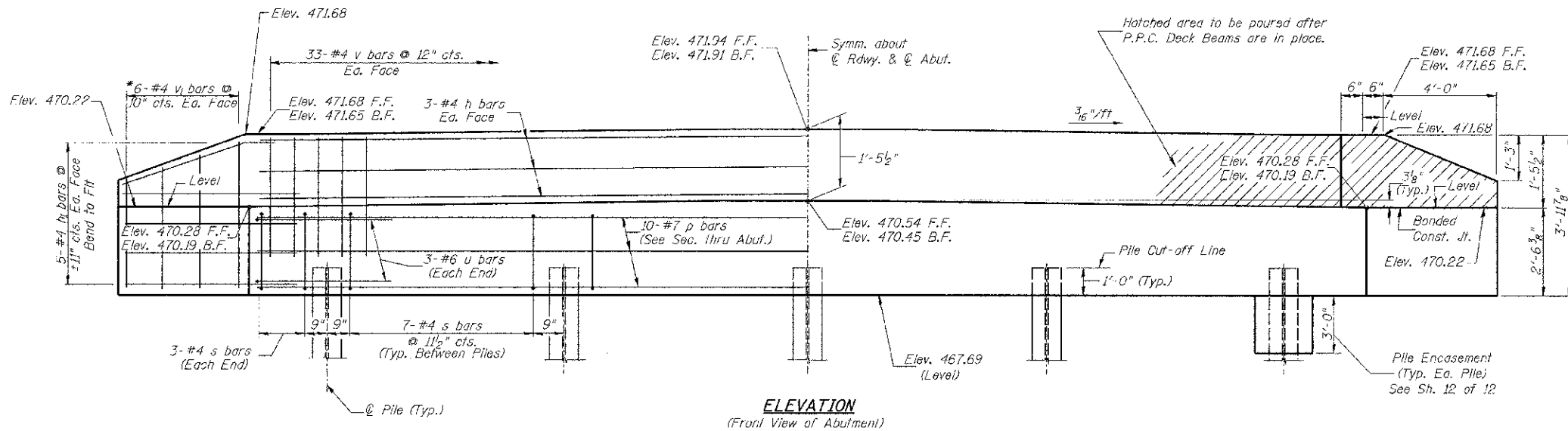
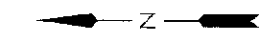
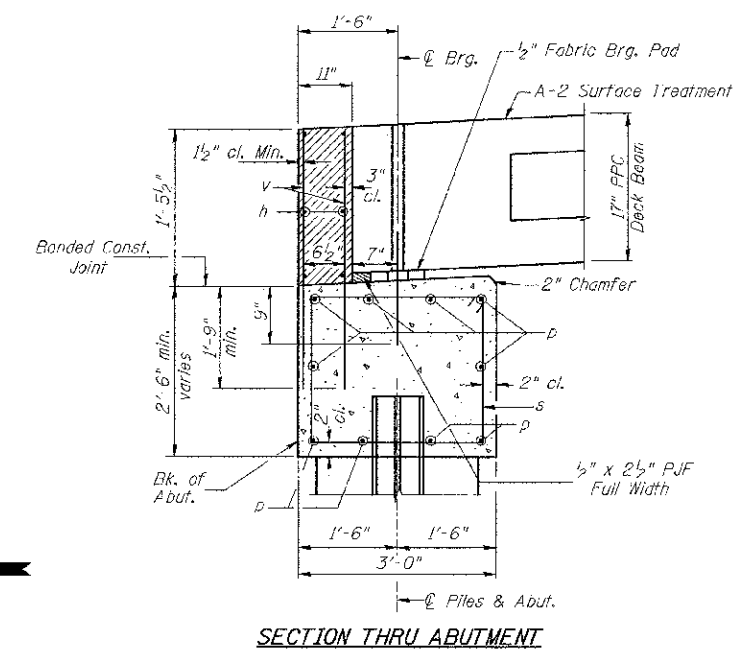
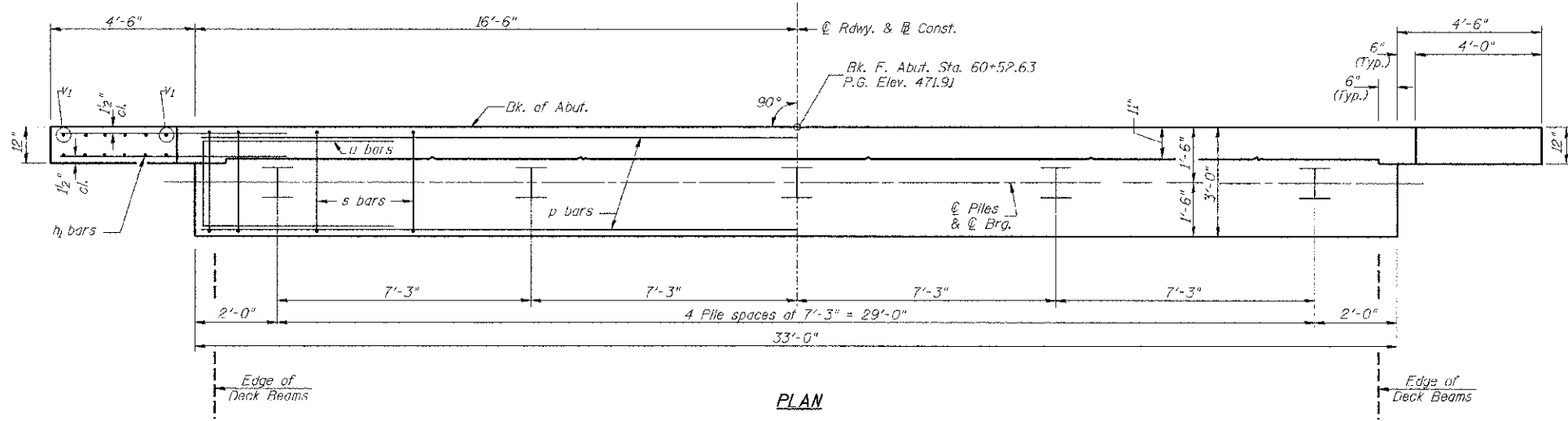
Type & Size: Steel HP10x42
 Nominal Required Bearing: 335 kips
 Factored Resistance Available: 184 kips
 Est. Length: 20'
 No. Req'd: 5 (Includes 1 Test Pile)



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

WEST ABUTMENT PIKE COUNTY SECTION 10-00085-00-BR C.H. 10 OVER BAY CREEK TRIBUTARY

SHEET NO. 8 12 SHEETS	ROUTE NO. CH 10	SECTION 10-00085-00-BR	COUNTY PIKE	TOTAL SHEETS 23	SHEET NO. 14
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0603(115)		



**EAST ABUTMENT
BILL OF MATERIAL**

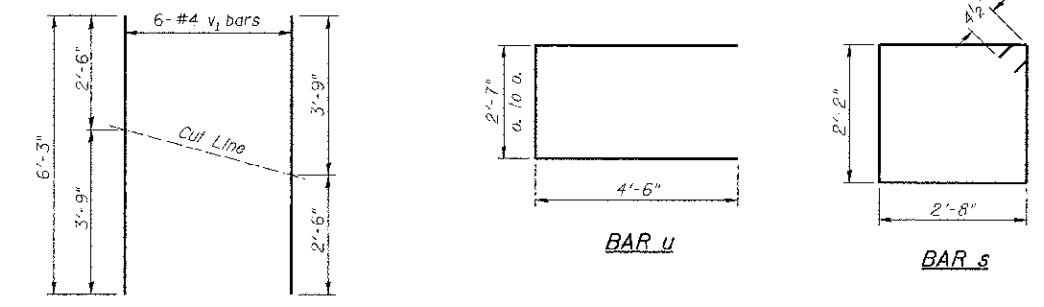
BAR	NO.	SIZE	LENGTH	SHAPE
h	6	#4	32'-9"	—
h1	29	#4	6'-6"	—
p	10	#7	32'-9"	—
s	34	#4	10'-5"	□
u	6	#6	11'-7"	□
v	66	#4	3'-2"	—
v1	12	#4	6'-3"	—
Concrete Structures		CU YD	12.6	
Reinforcement Bars		POUND	1,420	
Structure Excavation		CU YD	35	
Furnishing Steel Piles		FOOT	116	
HP10x42				
Driving Piles		FOOT	116	
Test Pile Steel HP10x42		EACH	1	
Concrete Encasement		CU YD	1.7	

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

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

PILE DATA

Type & Size: Steel HP10x42
 Nominal Required Bearing: 335 kips
 Factored Resistance Available: 184 kips
 Est. Length: 23'
 No. Req'd: 5 (Includes 1 Test Pile)



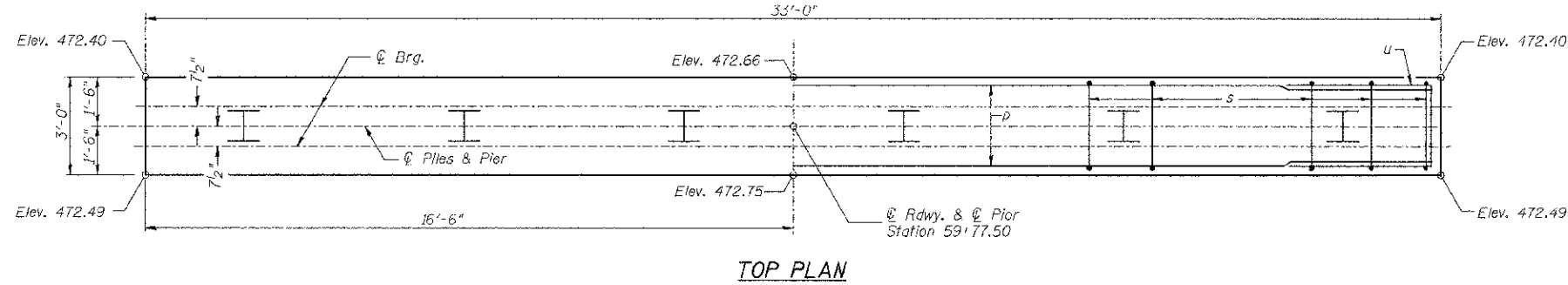
BAR CUTTING DIAGRAM
 *Order v1 bars full length. Cut as shown and use remainder of bars in opposite face.

**EAST ABUTMENT
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY**

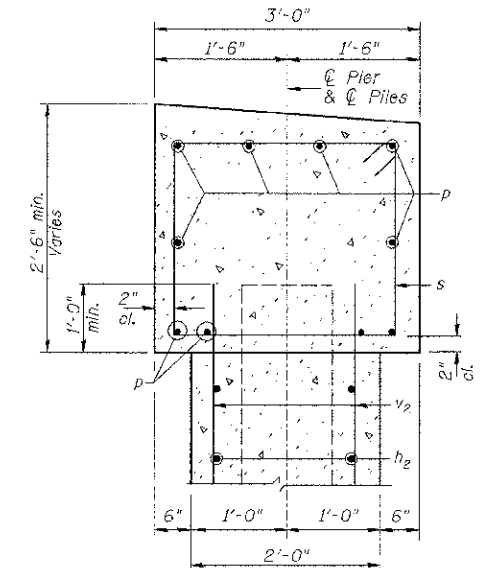
SHEET NO. 9 12 SHEETS	ROUTE NO. CH 10	SECTION 10-00085-00-BR	COUNTY PIKE	TOTAL SHEETS 23	SHEET NO. 15
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-0603(115)		

NOTES:

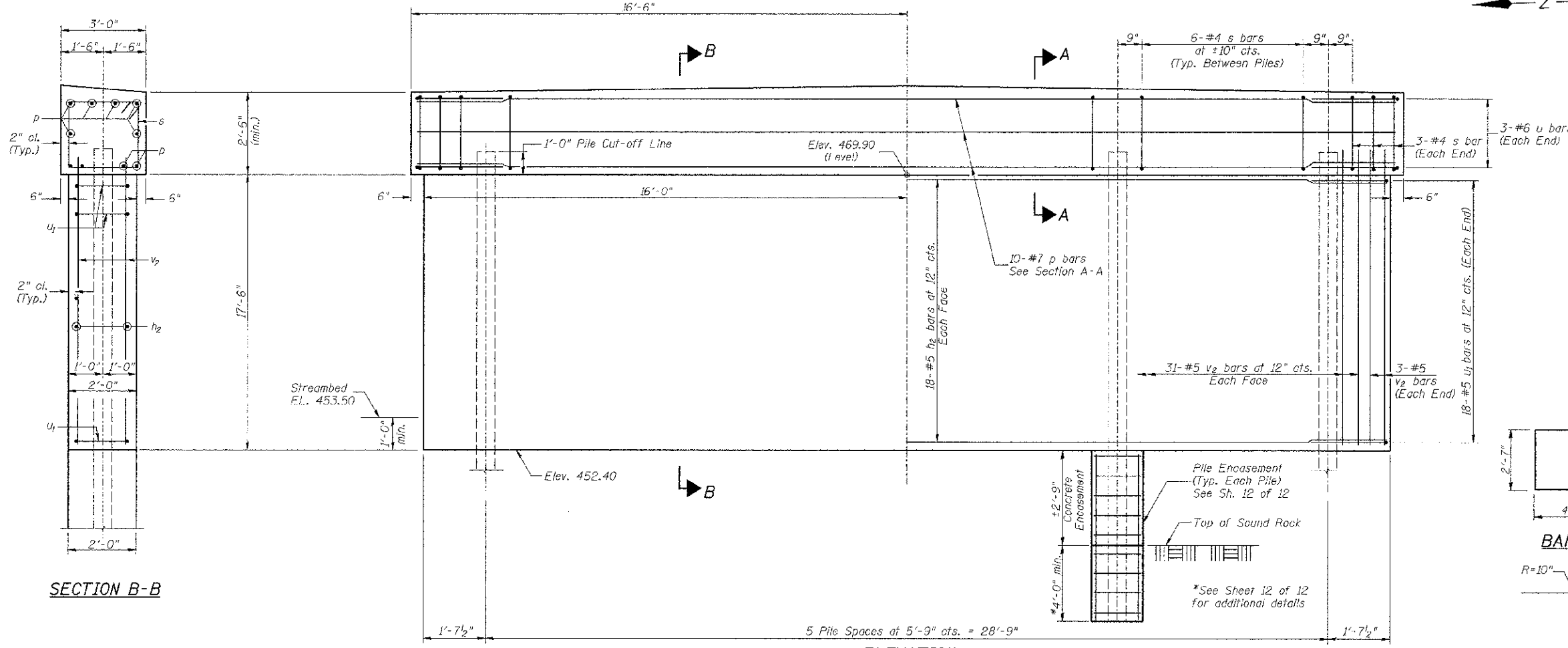
All edges shall have standard $\frac{3}{4}$ " chamfer.
The Pier Stem shall be constructed in a single continuous concrete pour.



TOP PLAN



SECTION A-A



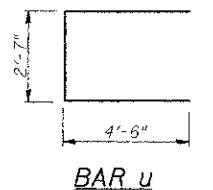
ELEVATION
(Looking Upstation)

SECTION B-B

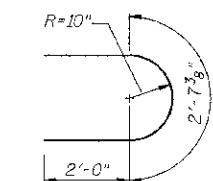
**PIER #1
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h ₂	36	#5	29'-8"	—
p	10	#7	32'-9"	—
s	36	#4	10'-5"	□
u	6	#6	11'-7"	□
u ₁	36	#5	6'-8"	□
v ₂	68	#5	18'-4"	—
Concrete Structures			CU YD	50.7
Reinforcement Bars			POUND	3,690
Cofferdam Excavation			CU YD	50
Furnishing Steel Piles HP10x42			FOOT	156
① Selling Piles in Rock			EACH	6
Concrete Encasement			CU YD	1.9
① Cofferdam (Type I) (Location-1)			EACH	1

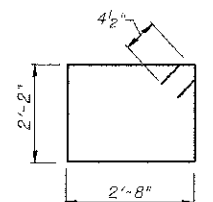
① See Special Provisions



BAR U

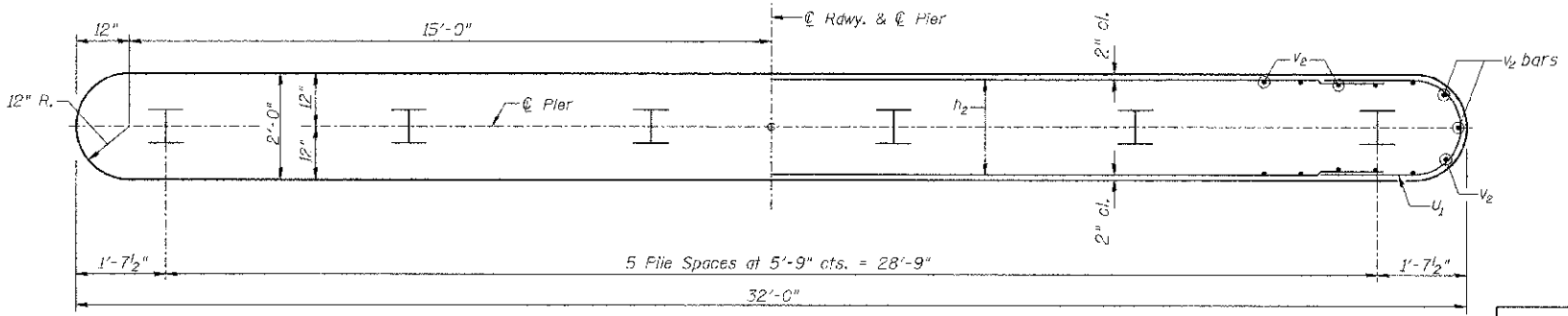


BAR U1



BAR s

PILE DATA
Type & Size: Steel HP10x42
Nominal Required Bearing: Set in Rock (335 kips)
Factored Resistance Available: Set in Rock (184 kips)
Est. Length: 26'
No. Req'd.: 6



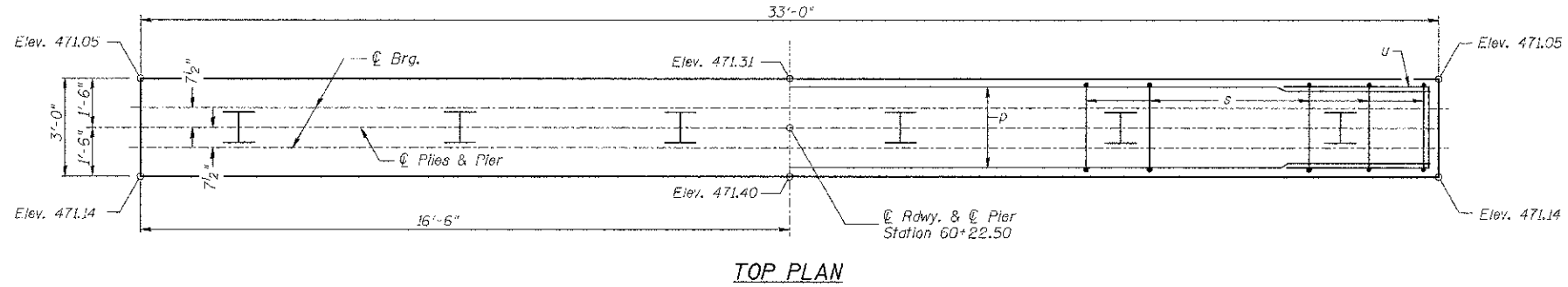
FOOTING PLAN

**PIER #1
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY**

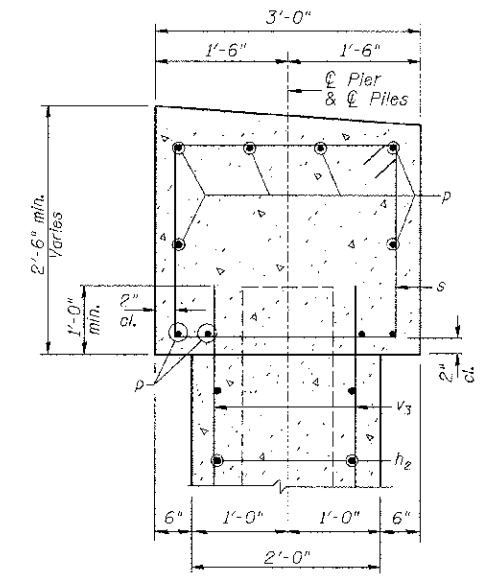
SHEET NO. 10 12 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 10	10-00085-00-BR	PIKE	23	16
S.N. 075-3323			CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0603(115)			

NOTES:

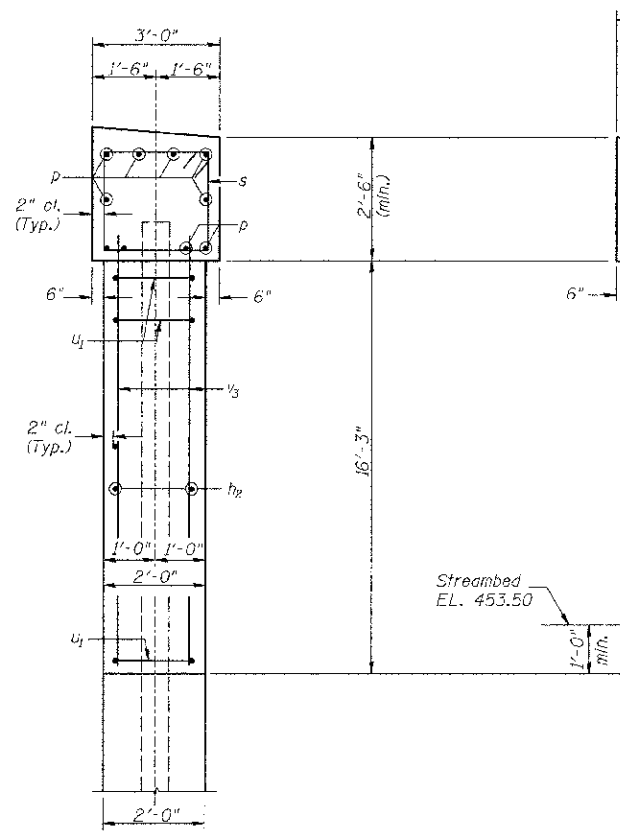
All edges shall have standard $\frac{3}{4}$ " chamfer.
The Pier Stem shall be constructed in a single continuous concrete pour.



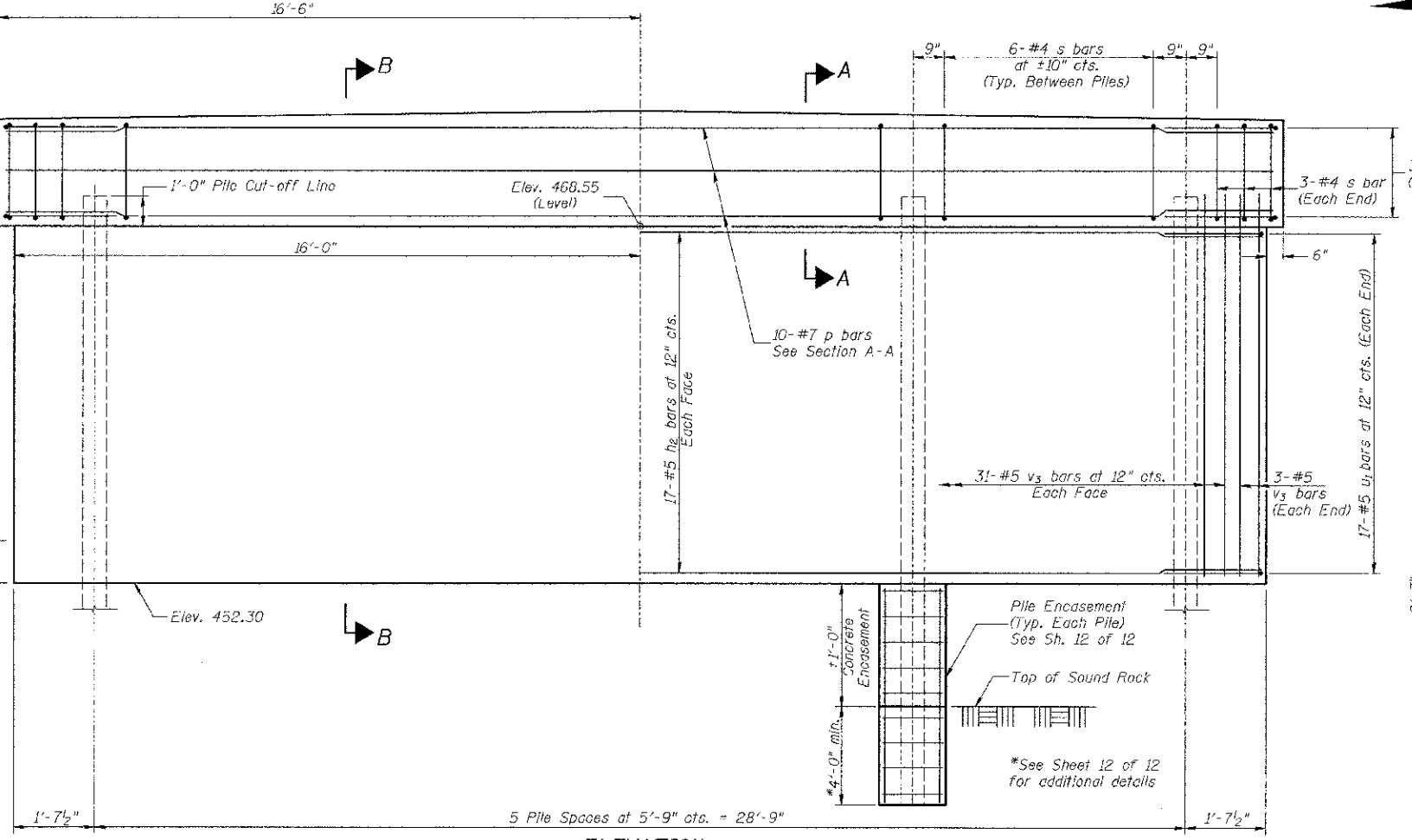
TOP PLAN



SECTION A-A



SECTION B-B

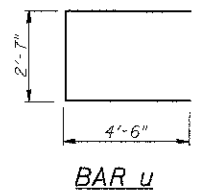


ELEVATION
(Looking Upstation)

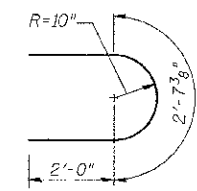
**PIER #2
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h ₂	34	#5	29'-8"	—
p	10	#7	32'-9"	—
s	36	#4	10'-5"	□
u	6	#6	11'-7"	□
u ₁	34	#5	6'-8"	□
v ₃	68	#5	17'-1"	—
Concrete Structures			CU YD	47.8
Reinforcement Bars			POUND	3,520
Cofferdam Excavation			CU YD	25
Furnishing Steel Piles HP10x42			FOOT	138
① Setting Piles in Rock			EACH	6
Concrete Encasement			CU YD	0.7
② Cofferdam (Type II) (Location-2)			EACH	1

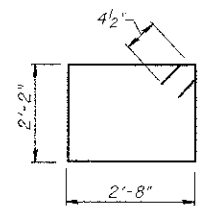
① See Special Provisions



BAR u

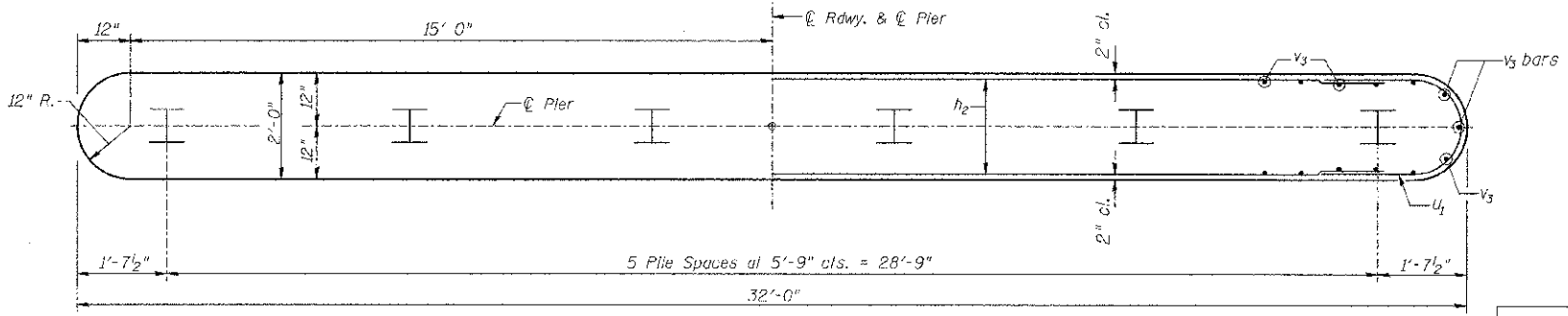


BAR u₁



BAR s

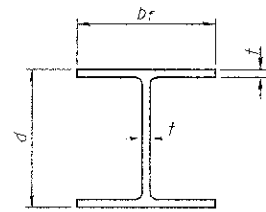
PILE DATA
Type & Size: Steel HP10x42
Nominal Required Bearing: Set in Rock (335 kips)
Factored Resistance Available: Set in Rock (184 kips)
Est. Length: 23'
No. Req'd.: 6



FOOTING PLAN

**PIER #2
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY**

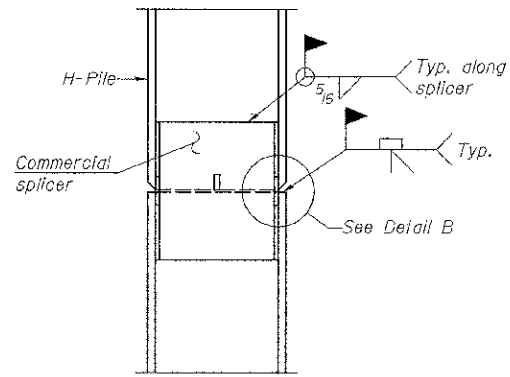
SHEET NO. 11 12 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CH 10	10-00085-00-BR	PIKE	23	17
	S.N. 075-3323		CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT BRS-0603(115)			



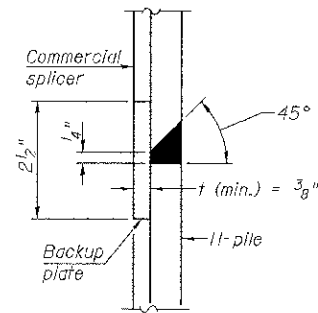
STEEL PILE TABLE

Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter
HP 14x117	14 1/4"	14 1/8"	1 3/16"	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 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/2"	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 1/2"	7/16"	24"
HP 8x36	8"	8 1/2"	7/16"	18"

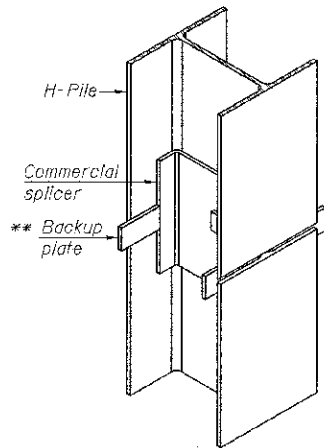
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

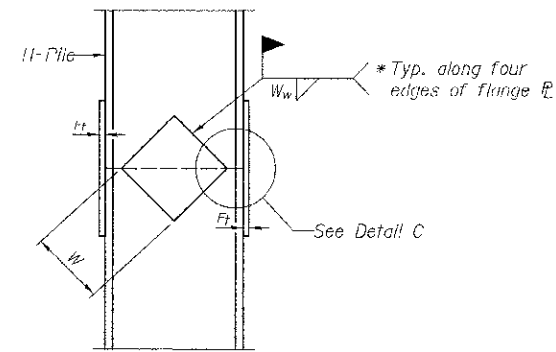


DETAIL "B"

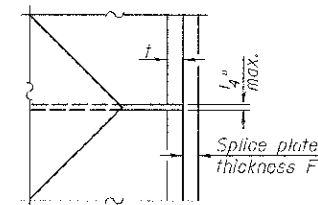


ISOMETRIC VIEW

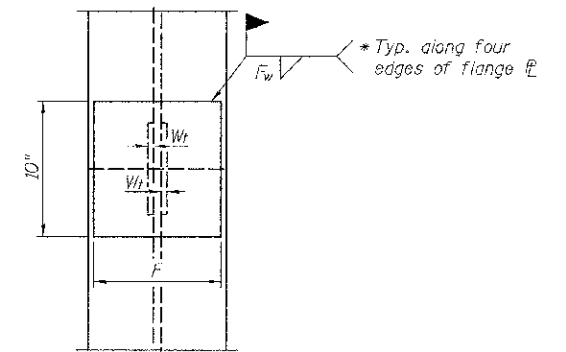
WELDED COMMERCIAL SPLICE



ELEVATION

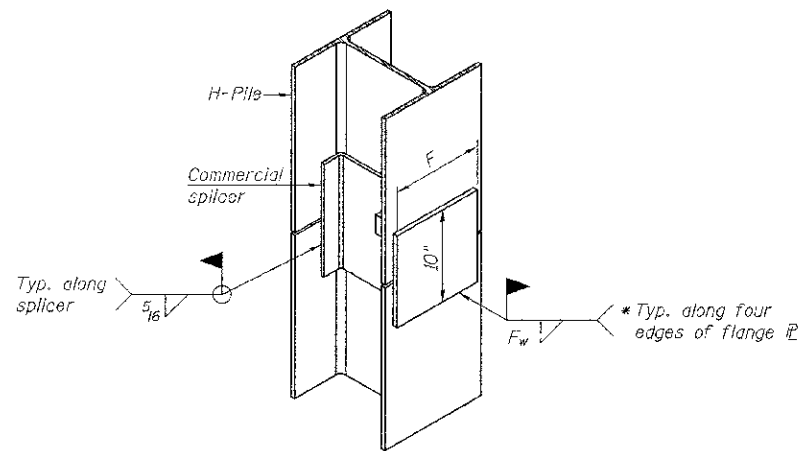


DETAIL C



END VIEW

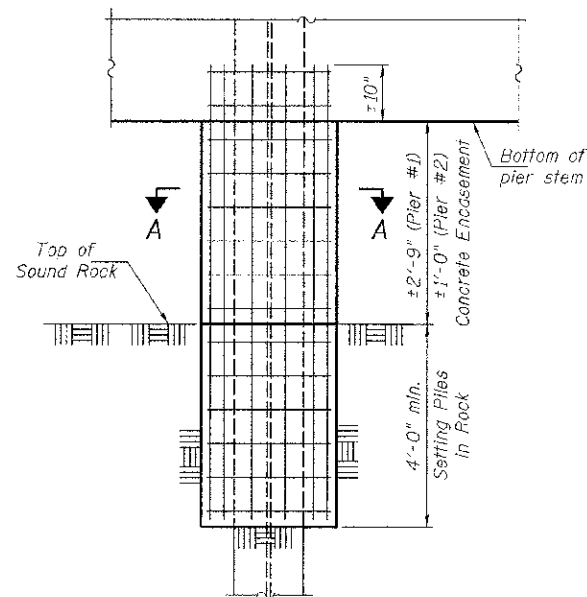
Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/2"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"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



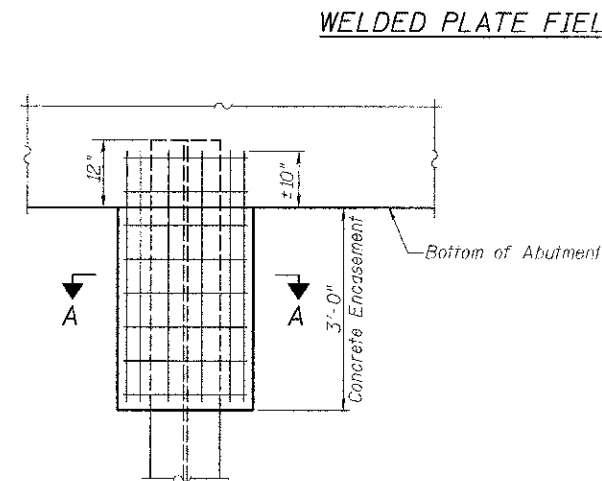
ISOMETRIC VIEW

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.

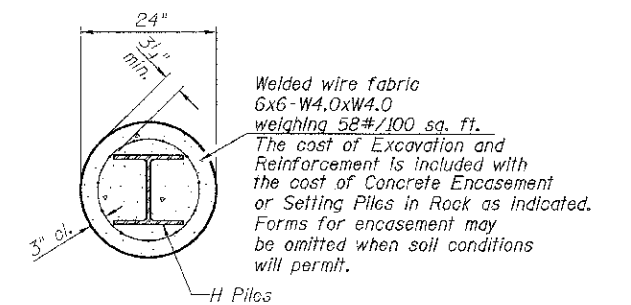


PIER ELEVATION



ABUTMENT ELEVATION

PILE ENCASEMENT



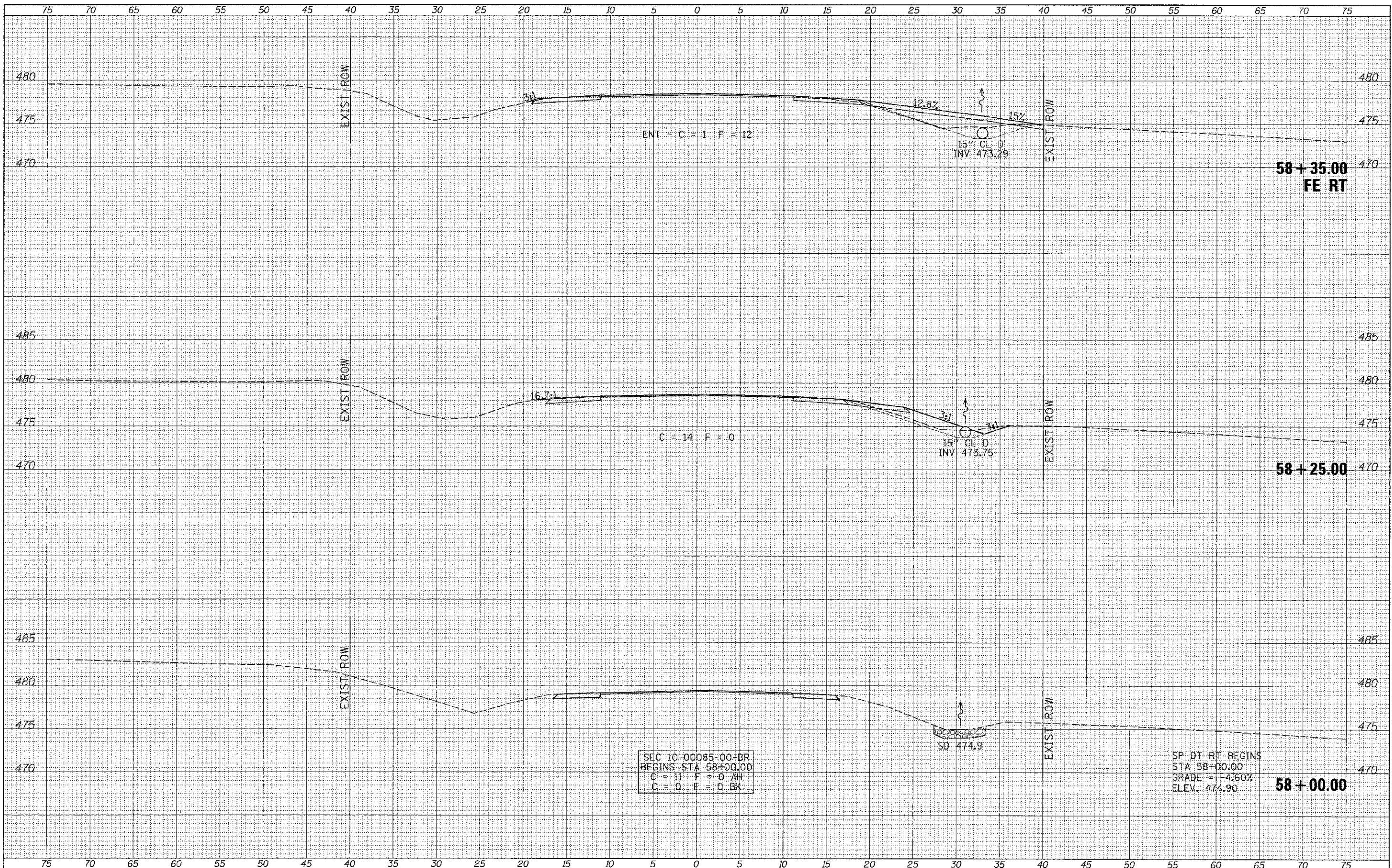
SECTION A-A

PILE DETAILS
PIKE COUNTY
SECTION 10-00085-00-BR
C.H. 10 OVER BAY CREEK TRIBUTARY

SHEET NO. 12	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12 SHEETS	CH 10	10-00085-00-BR	PIKE	23	18
S.N. 075-3323			CONTRACT NO. 93582		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BRS-0603(115)		

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
AREAS CHECKED	
NO.	

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
AREAS CHECKED	
NO.	



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 PLOT SCALE = 5/32000
 PLOT DATE = 4/24/2012

DESIGNED	-	REVISED	-
DRAWN	-	REVISED	-
CHECKED	-	REVISED	-
DATE	-	REVISED	-

**PIKE COUNTY
 COUNTY HIGHWAY 10 OVER
 BAY CREEK TRIBUTARY**

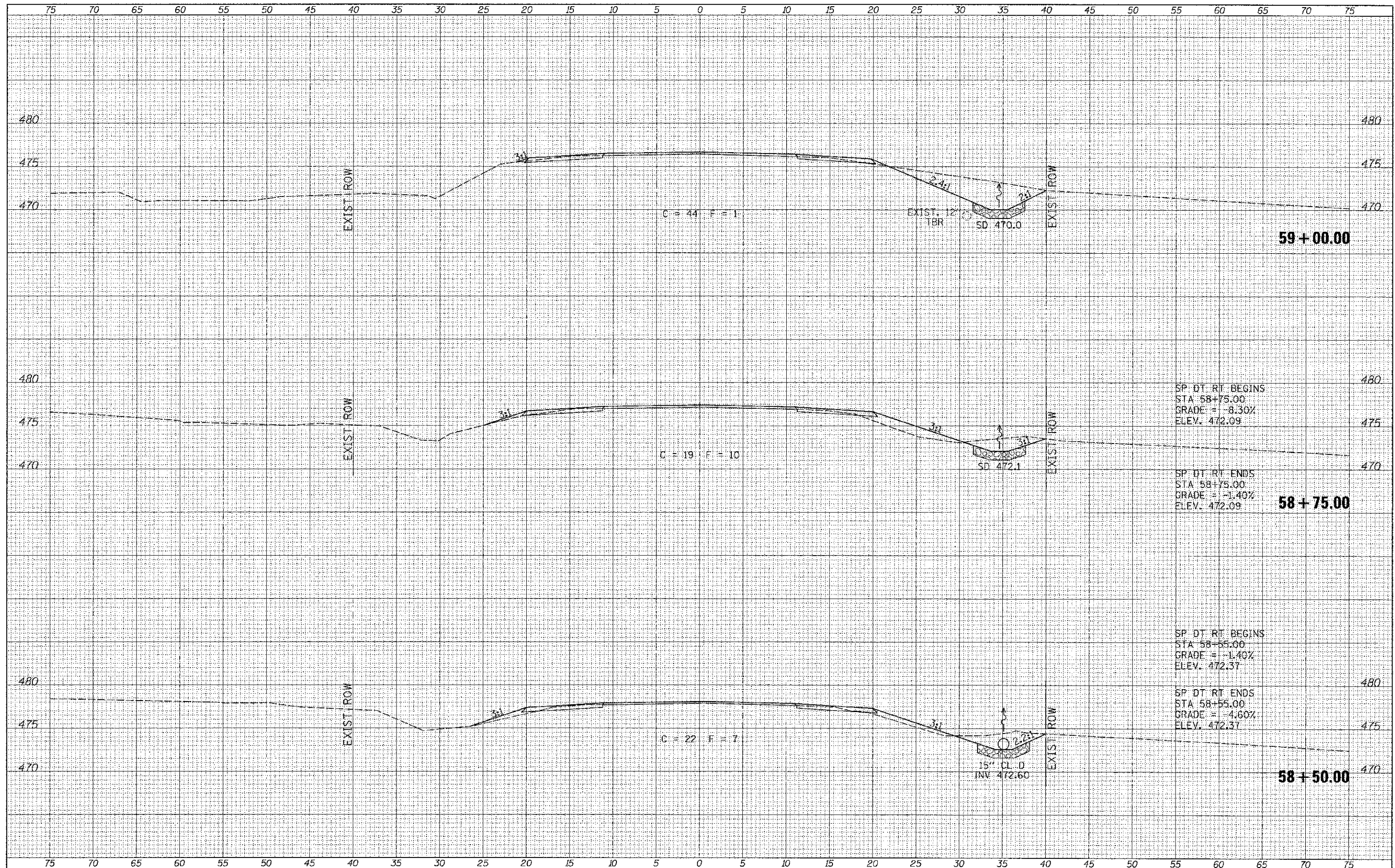
CROSS SECTIONS
 SCALE: 1"=5'
 SHEET NO. 1 OF 5 SHEETS | STA. 58+00.00 TO STA. 58+35.00

F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
603	10-00085-00-BR	PIKE	23	19
CONTRACT NO. 93582				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-0603151	

SP. DT. RT. BEGINS
 STA. 58+00.00
 GRADE = -4.60%
 ELEV. 474.90

DATE	
BY	
FINAL SURVEY	
SUPPLEMENTED	
NOTE BOOK	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
SUPPLEMENTED	
NOTE BOOK	
NO.	



SP DT RT BEGINS
 STA 58+75.00
 GRADE = -8.30%
 ELEV. 472.09

SP DT RT ENDS
 STA 58+75.00
 GRADE = -1.40%
 ELEV. 472.09

SP DT RT BEGINS
 STA 58+55.00
 GRADE = -1.40%
 ELEV. 472.37

SP DT RT ENDS
 STA 58+55.00
 GRADE = -4.60%
 ELEV. 472.37

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 PLOT SCALE = 5.00000' / in.
 PLOT DATE = 4/25/2012

DESIGNED -
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 CHECKED -
 DATE -

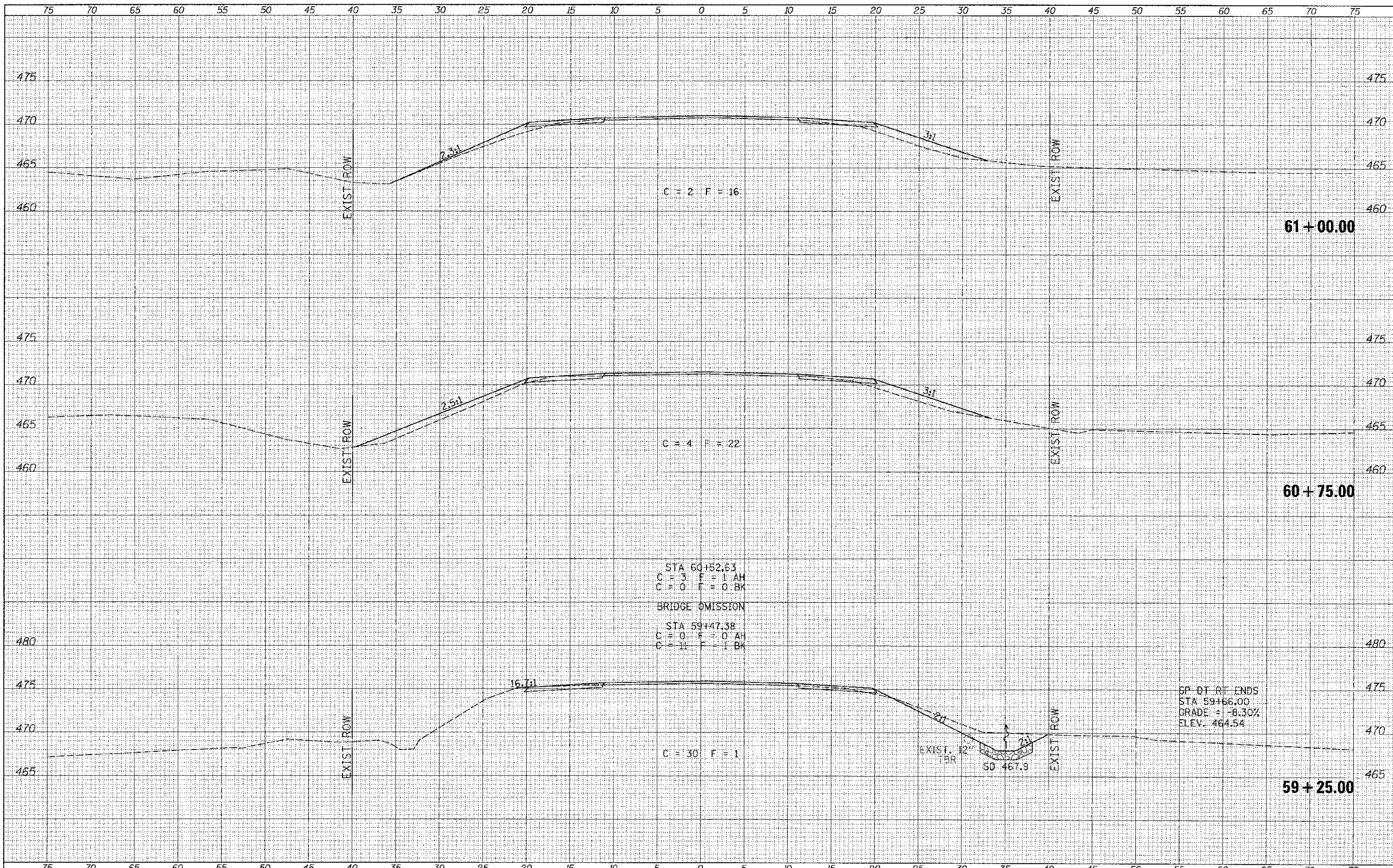
REVISED -
 REVISED -
 REVISED -
 REVISED -

**PIKE COUNTY
 COUNTY HIGHWAY 10 OVER
 BAY CREEK TRIBUTARY**

CROSS SECTIONS

SCALE: 1"=5' SHEET NO. 2 OF 5 SHEETS STA. 58+50.00 TO STA. 59+00.00

F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
603	10-00085-00-BR	PIKE	23	20
CONTRACT NO. 93582				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-0603(115)	



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

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

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 PLOT SCALE = 5.0000' / 1" in.
 PLOT DATE = 4/25/2012

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

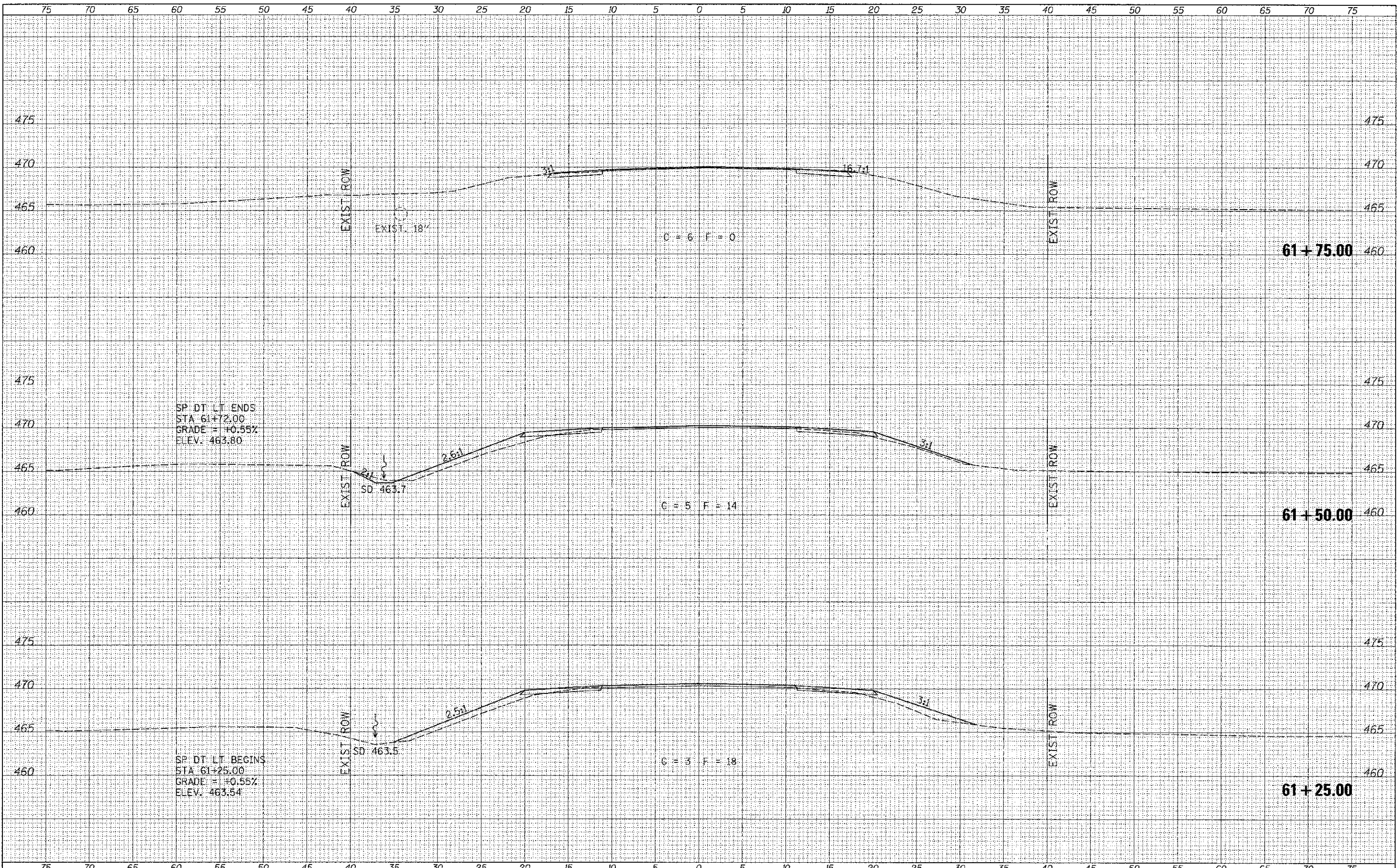
**PIKE COUNTY
 COUNTY HIGHWAY 10 OVER
 BAY CREEK TRIBUTARY**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET NO. 3 OF 5 SHEETS
 STA. 59+25.00 TO STA. 61+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
603	10-00085-00-BR	PIKE	23	21
CONTRACT NO. 93582			FED. ROAD DIST. NO. 7 ILLINOIS	
FED. AID PROJECT 985-060301				

DATE	
BY	
FINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	

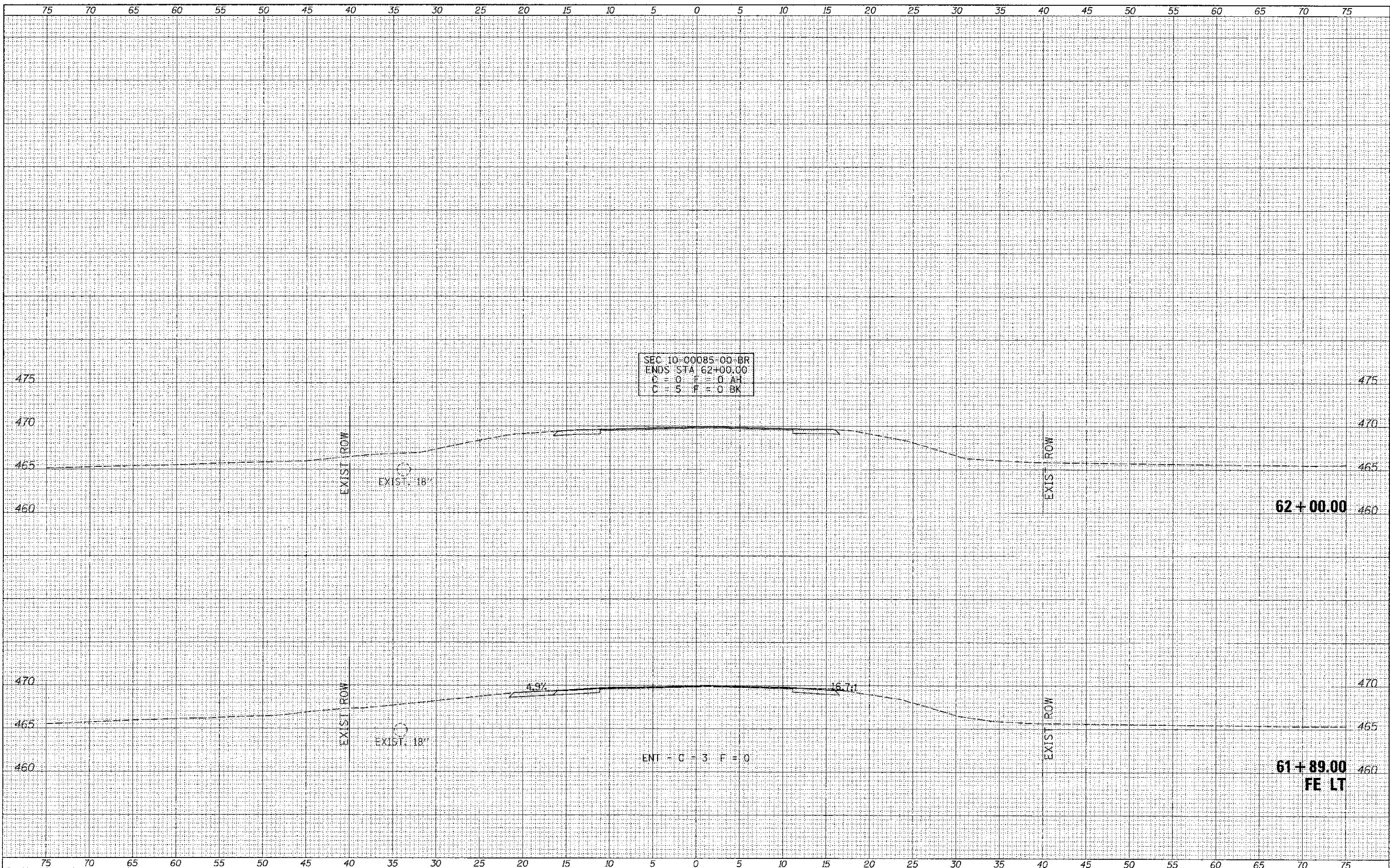
DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	



FILE NAME =	USER NAME = ethomes	DESIGNED -	REVISED -	PIKE COUNTY COUNTY HIGHWAY 10 OVER BAY CREEK TRIBUTARY	CROSS SECTIONS		F.A.S. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
\\bridge\2852\Fike\2852\sh1a.dgn		DRAWN -	REVISED -		SCALE: 1"=5'	SHEET NO. 4 OF 5 SHEETS	STA. 61+25.00 TO STA. 61+75.00	603	10-00085-00-BR	PIKE	23	22
		PLOT SCALE = 5,000' / in.	CHECKED -		REVISED -							
		PLOT DATE = 4/25/2012	DATE -		REVISED -							
							FED. ROAD DIST. NO. 7 [ILLINOIS]		FED. AID PROJECT BR5-0803(15)			CONTRACT NO. 8582

DATE	
BY	
FINAL SURVEY	
NOTED	
DATE	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
NOTED	
DATE	
AREAS CHECKED	



SEC 10-00085-00-BR
 ENDS STA 62+00.00
 C = 0 F = 0 AH
 C = S F = 0 BK

EXIST. 18"

EXIST. 18"

ENT - C = 3 F = 0

62 + 00.00

61 + 89.00
 FE LT

FILE NAME =
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USER NAME = othomas	DESIGNED -	REVISED -
	DRAWN -	REVISED -
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PLOT DATE = 4/25/2012	DATE -	REVISED -

**PIKE COUNTY
 COUNTY HIGHWAY 10 OVER
 BAY CREEK TRIBUTARY**

CROSS SECTIONS
 SCALE: 1"=5'
 SHEET NO. 5 OF 5 SHEETS
 STA. 61+89.00 TO STA. 62+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
603	10-00085-00-BR	PIKE	23	23
CONTRACT NO. 93582				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT BR5-060315	