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HIGHWAY STANDARDS

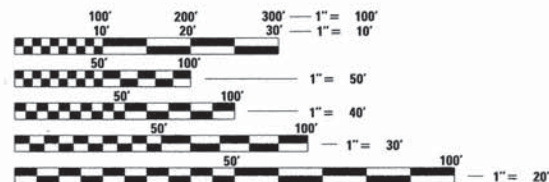
- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 631011-09 TRAFFIC BARRIER TERMINAL, TYPE 2
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901-04 TRAFFIC CONTROL DEVICES
- BLR-21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION OF RURAL LOCAL HIGHWAYS
- BLR-27-1 TRAFFIC BARRIER TERMINAL, TYPE 5A

UTILITIES

ELECTRIC: COLES MOUTRIE ELECTRIC COOPERATIVE, INC.
104 DEWITT AVE
MATTOON, IL 61938 (217) 235-0341

TELEPHONE: ILLINOIS CONSOLIDATED TELEPHONE
121 SOUTH 17TH STREET
MATTOON IL 61938 (217) 235-3355

FUNCTIONAL CLASSIFICATION = LOCAL ROAD (NON-URBAN)
DESIGN SPEED = 30 MPH
DESIGN ADT = 150 (2015), 175 (2035)
DESIGN DHV = 18 (2015), 21 (2035)
% TRUCKS = 8% (2035)



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

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

PROJECT ENGINEER
PROJECT MANAGER

CONTRACT NO. 95768

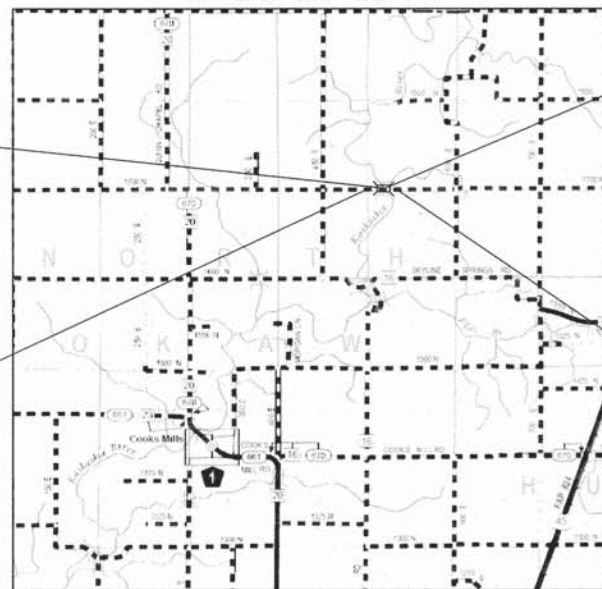
The Upchurch Group, Inc.
architects - engineers - surveyors
123 North 15th Street
Mattoon, IL 61938
217.235.3177
IL PROFESSIONAL DESIGN FIRM LICENSE NO. 184-003401

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

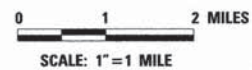
PLANS FOR PROPOSED
STP-BRIDGE

NORTH OKAW ROAD DISTRICT
SECTION 96-09117-00-BR
COLES COUNTY
PROJECT NO. BROS-0029(299)
T.R. 23
JOB NO. C-97-038-14

R. 7 E. OF THE 3RD PM



LOCATION MAP



GROSS LENGTH OF PROJECT = 1066 FT. = 0.20 MI.
NET LENGTH OF PROJECT = 1066 FT. = 0.20 MI.

EXISTING STRUCTURE # 015-3060
STA 15+00, 19' WIDE X 189' LONG
FIVE SPAN PRECAST CONCRETE BEAM
WITH CONCRETE PEIRS & ABUTMENTS.

IMPROVEMENT BEGINS
STA. 10+07.87

PROPOSED STRUCTURE # 015-3379
STA. 15+00, 24'-0" WIDE x 247'-0"
LONG, THREE SPAN PRECAST,
PRESTRESSED CONCRETE DECK BEAM
BRIDGE, 42" DEPTH, SKEWED 40° RIGHT

IMPROVEMENT ENDS
STA. 20+74.15



Andy L. Baker
Licensed Professional Engineer
State of Illinois No. 062-057920
Expires 11-30-2015
Date: 3-27-2015

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 23	96-09117-00-BR	COLES	19	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO.	95768	



LOCATION OF SECTION INDICATED THUS: -

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

APPROVED March 27 2015

Willa J. ...
COUNTY ENGINEER

PASSED 4-13 2015

Maureen D. Kaxtl
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS AND STREETS

RELEASING FOR
BID BASED ON
LIMITED REVIEW

4-13 2015

Roger L. ...
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

CODE	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNIT DIAMETER)	UNIT	20
20100210	TREE REMOVAL (OVER 15 UNIT DIAMETER)	UNIT	200
20100500	TREE REMOVAL, ACRES	ACRE	0.70
20200100	EARTH EXCAVATION	CU. YD.	122
20300100	CHANNEL EXCAVATION	CU. YD.	880
20400800	FURNISHED EXCAVATION	CU. YD.	8921
25000200	SEEDING, CLASS 2	ACRE	1.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	113
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	113
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	113
25100115	MULCH, METHOD 2	ACRE	1.25
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	500
28000305	TEMPORARY DITCH CHECKS	FOOT	72
28000400	PERIMETER EROSION BARRIER	FOOT	1470
28100207	STONE RIPRAP, CLASS A4	TON	1004
28200200	FILTER FABRIC	SQ. YD.	1102
• 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	953
• 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	52
50200300	COFFERDAM EXCAVATION	CU. YD.	88
50201121	COFFERDAM (TYPE 2) (LOCATION-1)	EACH	1
50201122	COFFERDAM (TYPE 2) (LOCATION-2)	EACH	1
50300225	CONCRETE STRUCTURES	CU. YD.	172.6
50300280	CONCRETE ENCASEMENT	CU. YD.	10.5
• 50400705	PRECAST PRESTRESSED CONCRETE DECK BEAMS (42" DEPTH)	SQ. FT.	5880
50800105	REINFORCEMENT BARS	POUND	11000
△ 50900205	STEEL RAILING, TYPE S1	FOOT	494
51201600	FURNISHING STEEL PILES HP12X53	FOOT	1508
51202305	DRIVING PILES	FOOT	1508
51203600	TEST PILE STEEL HP12X53	EACH	4
51500100	NAME PLATES	EACH	1
54201063	PIPE CULVERTS, CLASS D, TYPE 2 18"	FOOT	70
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU. YD.	89
60107700	PIPE UNDERDRAINS 6"	FOOT	335
△ 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2
△ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
△ 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2
△ 66500105	WOVEN WIRE FENCE, 4'	FOOT	325
67100100	MOBILIZATION	L. SUM	1
△ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
• X6650202	WOVEN WIRE FENCE REMOVAL	FOOT	336

- See Special Provisions
- △ Specialty Items

TREE REMOVAL OVER 15 UNITS

STA	OFSET	RT/LT	UNITS
12+65	22'	LT	20" STUMP
13+08	23'	LT	28" STUMP
13+97	26'	RT	24"
14+00	31'	RT	28"
14+00	55'	RT	24"
14+00	55'	RT	20"
14+00	55'	RT	18"
14+18	38'	RT	38"

TREE REMOVAL 6 to 15 UNITS

STA	OFSET	RT/LT	UNITS
13+97	26'	RT	10"
14+12	55'	RT	10"

TREE REMOVAL SCHEDULE

STA 15+40 TO STA 20+74 LT = 0.36 ACRE
 STA 16+00 TO STA 20+74 RT = 0.31 ACRE
 TOTAL = 0.67 ACRES

GENERAL NOTES

1. TEMPORARY EROSION CONTROL TO BE IMPLEMENTED PER THE PLANS AND AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS AND PREVENT DRAINAGE OR PONDING OF WATER ONTO PRIVATE PROPERTY.
3. ONLY TREES OR SHRUBS MARKED FOR REMOVAL BY THE ENGINEER SHALL BE REMOVED BY THE CONTRACTOR.
4. ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE R.O.W. AND EASEMENTS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER.

EARTHWORK SCHEDULE

1 LOCATION	2 EARTH EXCAVATION CU YD	3 STRUCTURE EXCAVATION CU YD	4 *CHANNEL EXCAVATION CU YD	5 EARTH EXCAVATION ADJUSTED FOR SHRINKAGE CU YD	6 EMBANKMENT CU YD	7 EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CU YD
STA 10+07.87 TO STA 13+76.50	96	20	429	409	3574	-3165
STA 16+23.50 TO STA 20+74.15	26	32	363	316	6072	-5756
TOTAL	122	52	792	725	9646	-8921

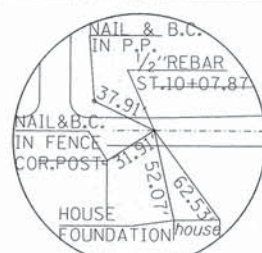
COLUMN 1,2,6 - LOCATION AND QUANTITIES FROM CROSS SECTIONS,
 CUT = EARTH EXCAVATION FILL = EMBANKMENT

COLUMN 3 - QUANTITIES OF STRUCTURAL EXCAVATION (CUT) FROM BRIDGE PLANS

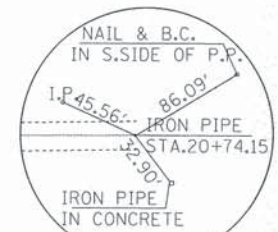
COLUMN 4 - *QUANTITY OF CHANNEL EXCAVATION (CUT) REDUCED 10% FOR UNSUITABLE MATERIAL FOR USE AS FILL

COLUMN 5 - QUANTITY OF EARTH EXCAVATION (CUT) ADJUSTED FOR A SHRINKAGE FACTOR OF 25%

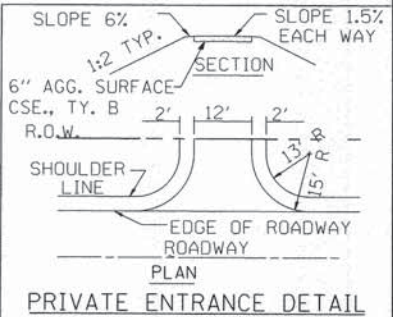
COLUMN 7 - EARTHWORK BALANCE (-) = QUANTITY OF FURNISHED EXCAVATION NEEDED EARTHWORK BALANCE
 (+) = QUANTITY OF EARTH EXCAVATION ADJUSTED FOR SHRINKAGE TO BE WASTED



WOVEN WIRE FENCE REMOVAL
 STA 10+00 25' LT TO STA 13+36 23' LT
 WOVEN WIRE FENCE 4'
 STA 10+00 25' LT TO STA 13+25 59' LT
 PIPE UNDERDRAINS 6"
 STA 10+00 23' LT TO STA 13+35 58' LT



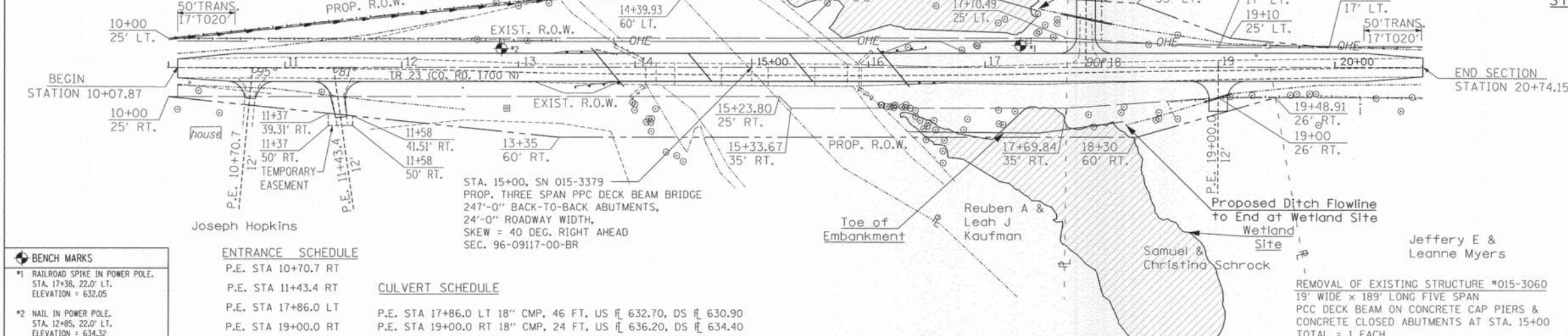
CENTERLINE TIE
 STA. 20+74.15



DATE	
BY	
PLAN	
NO.	
DATE	
BY	
PROFILE	
NO.	

DATE	
BY	
PROFILE	
NO.	
DATE	
BY	
PLAN	
NO.	

CENTERLINE TIE
 STA. 10+07.87



BENCH MARKS

*1 RAILROAD SPIKE IN POWER POLE.
 STA. 17+38, 22.0' LT.
 ELEVATION = 632.05

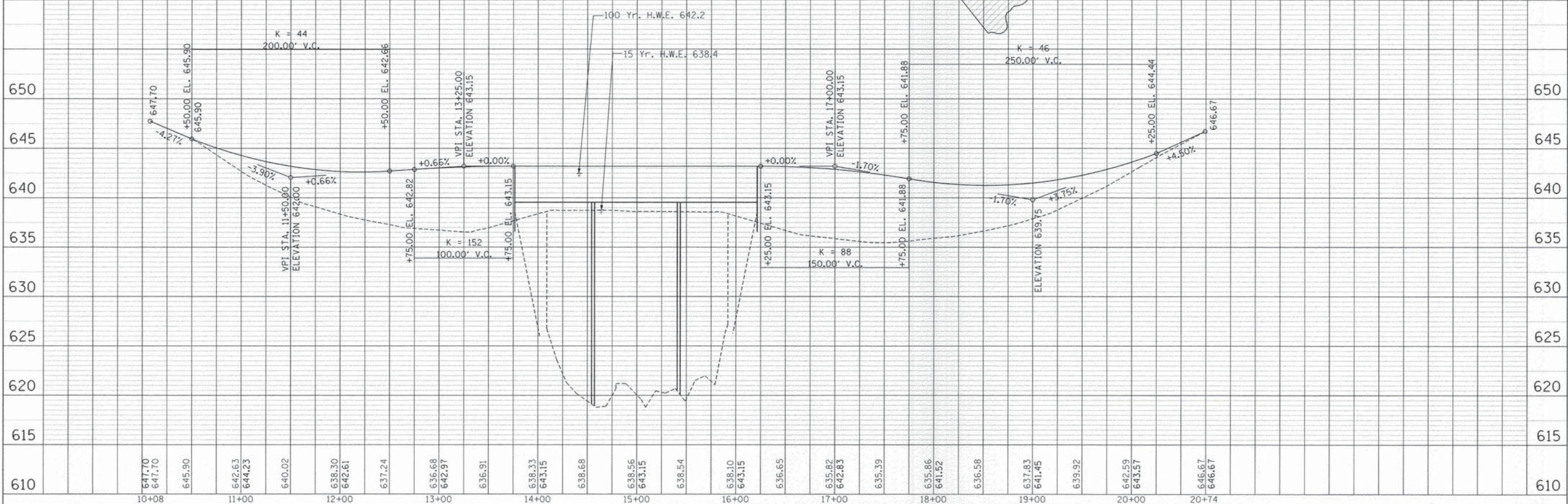
*2 NAIL IN POWER POLE.
 STA. 12+85, 22.0' LT.
 ELEVATION = 634.32

ENTRANCE SCHEDULE

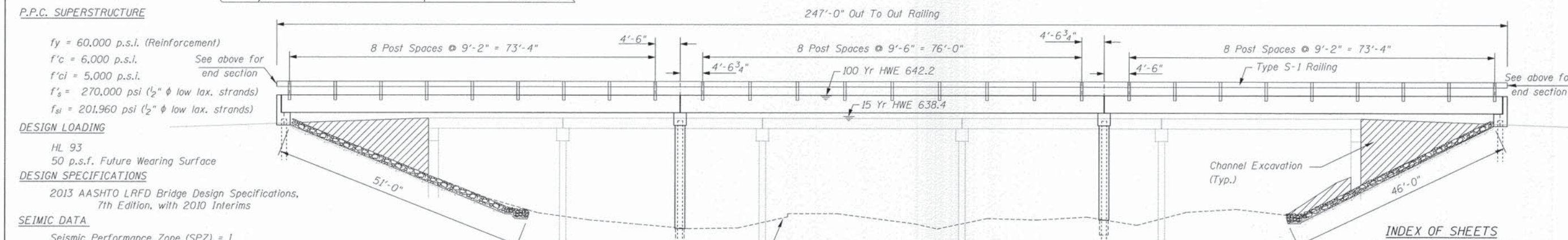
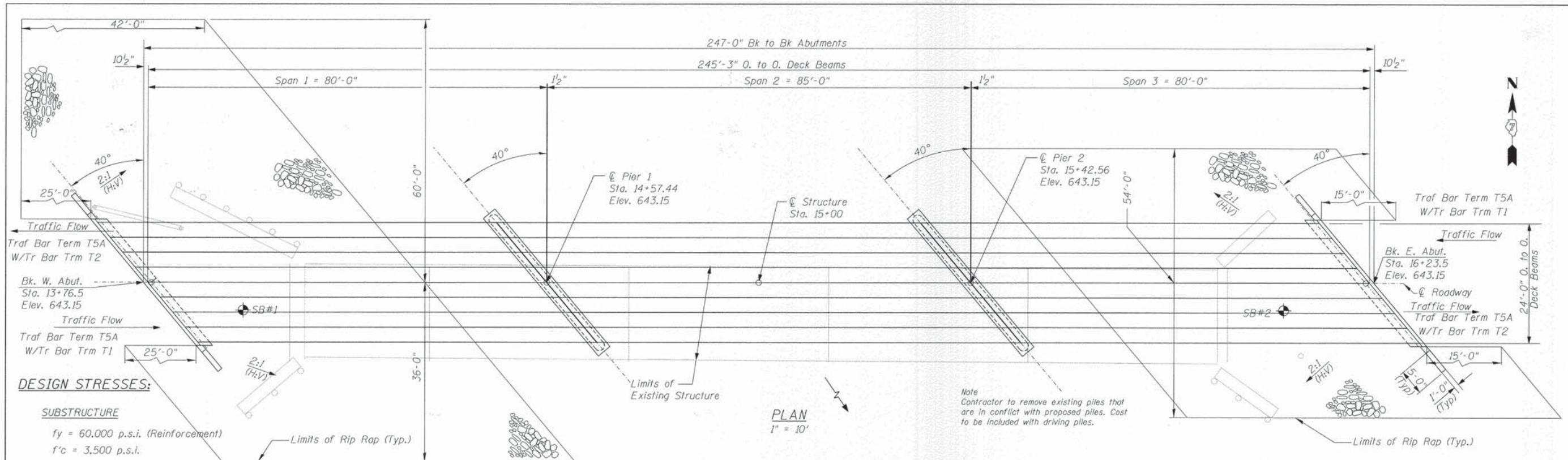
P.E. STA 10+70.7 RT
 P.E. STA 11+43.4 RT
 P.E. STA 17+86.0 LT
 P.E. STA 19+00.0 RT

CULVERT SCHEDULE

P.E. STA 17+86.0 LT 18" CMP, 46 FT, US \bar{E} 632.70, DS \bar{E} 630.90
 P.E. STA 19+00.0 RT 18" CMP, 24 FT, US \bar{E} 636.20, DS \bar{E} 634.40

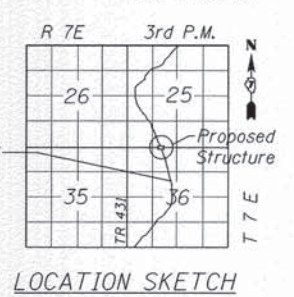
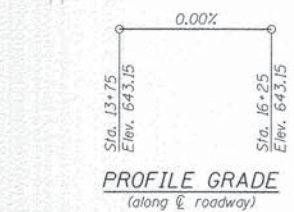
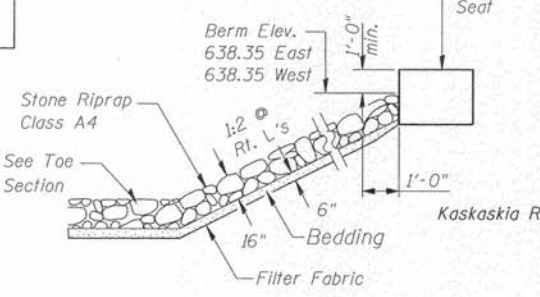
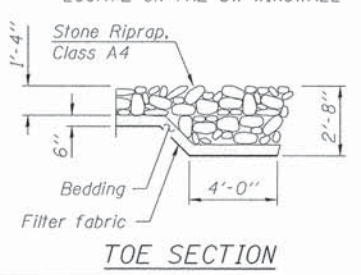


FILE NAME =	USER NAME = Station 15	DESIGNED -	REVISED -	The Upchurch Group 123 North 15th Street Mattoon, Illinois 61938 <small>Professional Design Firm Corporation License No. 194-003401</small>	Plan & Profile NORTH OKAW TOWNSHIP, COLES COUNTY, ILLINOIS		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
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Default	PLOT SCALE = 50.0000 "/td> <td>CHECKED -</td> <td>REVISED -</td> <td colspan="7">CONTRACT NO. 95768</td>	CHECKED -	REVISED -		CONTRACT NO. 95768								
	PLOT DATE = 3/27/2015	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



KASKASKIA RIVER
 BUILT 20__ BY
 COLES COUNTY
 NORTH OKAW TOWNSHIP
 SEC. 96-09117-00-BR
 PROJECT NO. BROS-0029 (299)
 STR. NO. 015-3379 LOADING HL 93

LETTERING FOR NAME PLATE
 LOCATE ON THE SW WINGWALL



- INDEX OF SHEETS**
- General Plan and Elevation
 - General Details
 - 42" PPC Deck Beam Span 1 & 3
 - 42" PPC Deck Beam Details Span 1 & 3
 - 42" PPC Deck Beam Span 2
 - 42" PPC Deck Beam Details Span 2
 - Steel Railing, Type S-1
 - Abutment Details
 - Pier Details 1 & 2
 - HP Pile Details
 - Boring Logs

DESIGN SCOUR ELEVATION TABLE

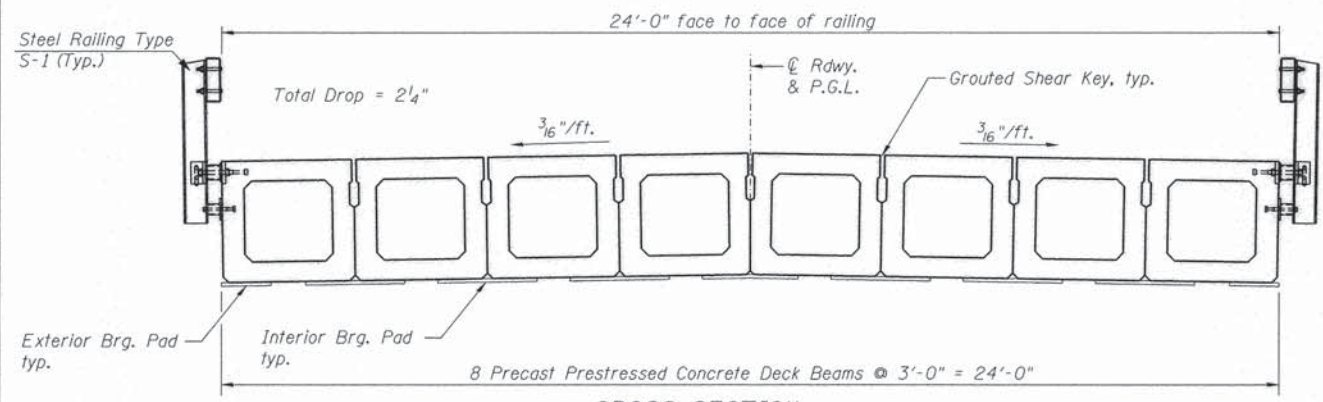
Design Scour Elevation (ft.)	W. Abut. Pier 1	Pier 2	E. Abut.
	636.80	615.2	636.80

WATERWAY INFORMATION

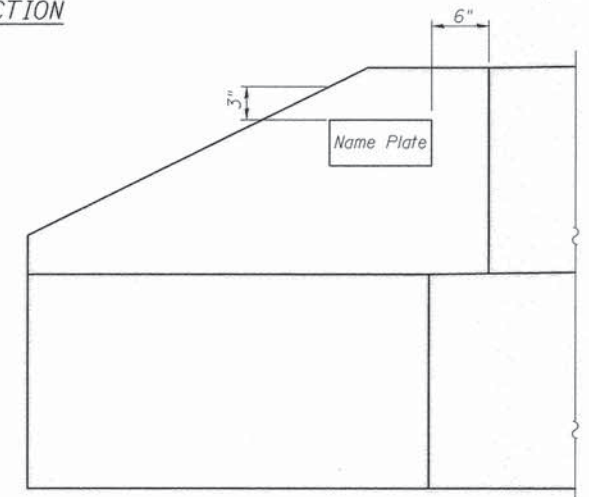
Drainage Area = 421.6 Sq. Mi. Pr. Low Grade Elev. = 641.21 @ Sta. 18+50

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	8158	2436	3585	638.4	0.8	0.0	639.2	638.4
Base	100	12700	2436	3778	642.1	0.2	0.1	642.2	642.2
Overtopping									
Max. Calc.	500	16400	2436	3847	644.9	0.1	0.2	645.0	645.2

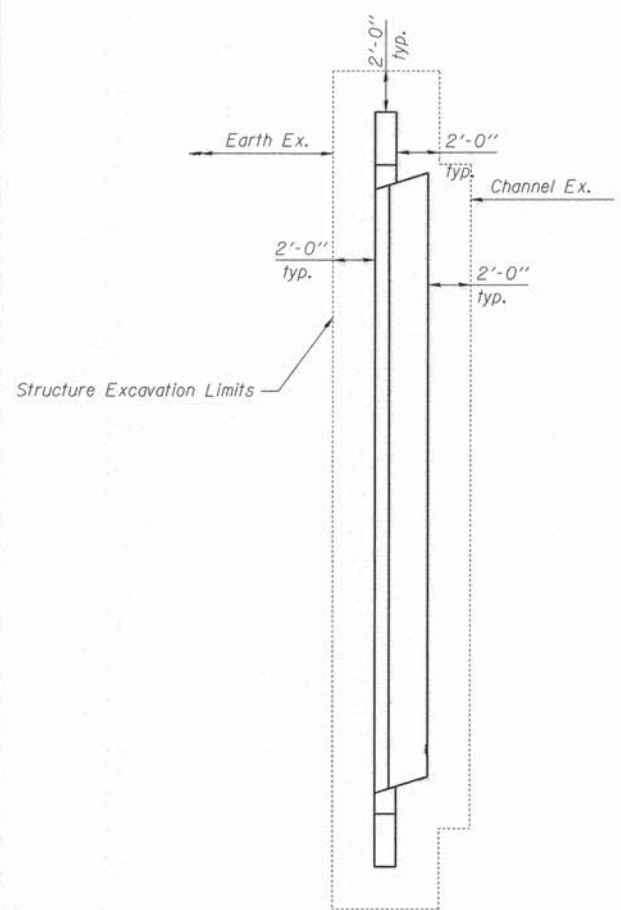
10 year velocity through prop. bridge = 2.3 fps



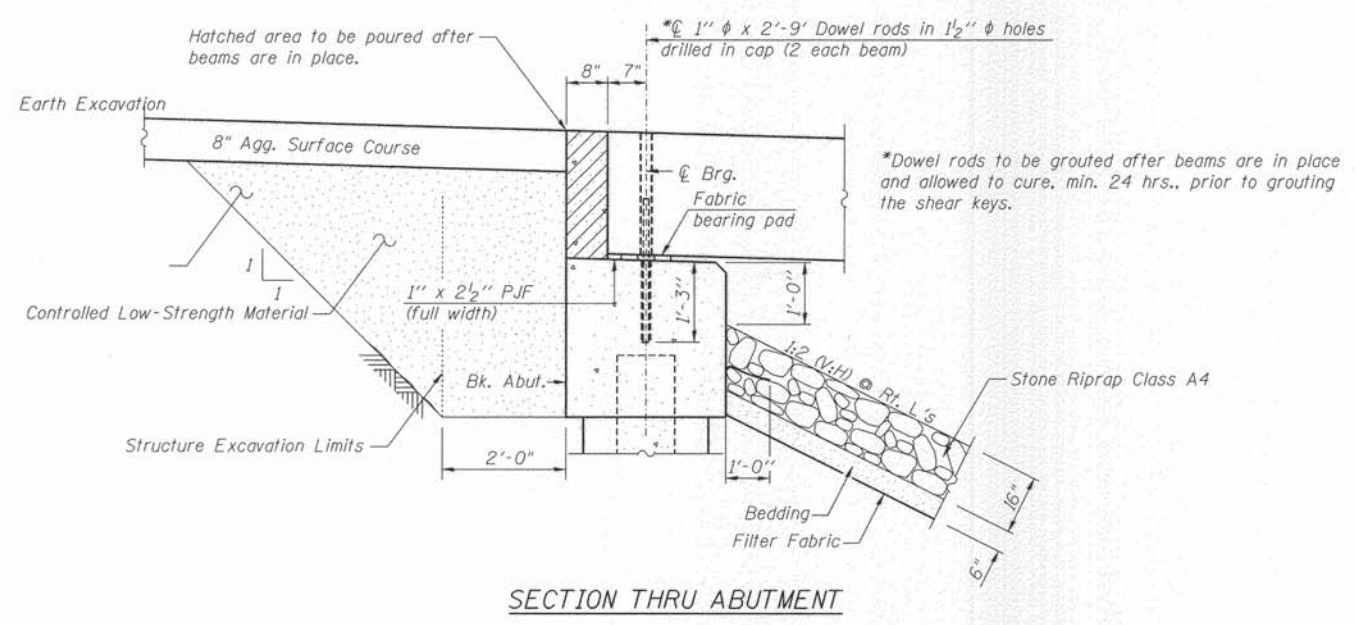
CROSS SECTION



SOUTHWEST WINGWALL ELEVATION

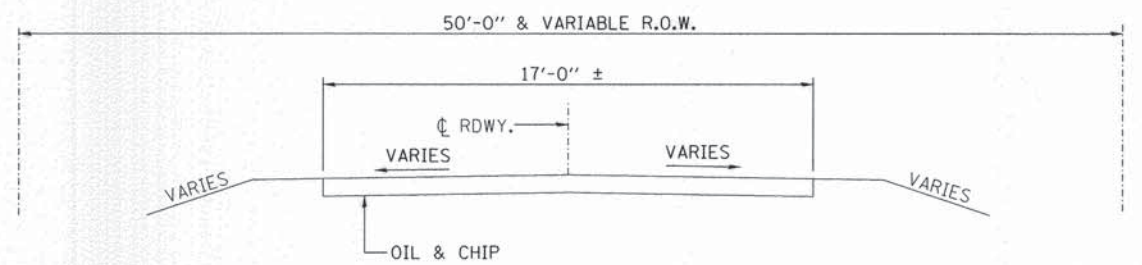


PARTIAL PLAN



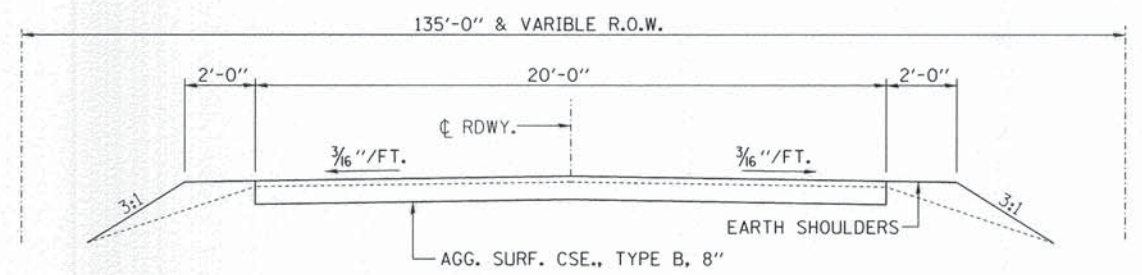
SECTION THRU ABUTMENT

Pay limits of Controlled Low-Strength Material shall extend to within 2'-6" from the end of each wingwall. Place up to the bottom of Aggregate Surface Course, Type B.



EXISTING APPROACH ROADWAY SECTION

STA. 10+07 TO 13+76.5
STA. 16+23.5 TO 20+74.2



PROPOSED APPROACH ROADWAY SECTION

STA. 10+07 TO 13+76.5
STA. 16+23.5 TO 20+74.2

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton		1004	1004
Filter Fabric	Sy. Yd.		1102	1102
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		52	52
Cofferdam Excavation	Cu. Yd.		88	88
Concrete Structures	Cu. Yd.		172.6	172.6
Concrete Encasement	Cu. Yd.		10.5	10.5
Precast Prestressed Concrete Deck Beams (42" Depth)	Sq. Ft.	5880		5880
Reinforcement Bars	Pounds		11,000	11,000
Steel Railing, Type S-1	Foot	494		494
Furnishing Steel Piles HP 12X53	Foot		1508	1508
Driving Piles	Foot		1508	1508
Test Pile Steel HP 12X53	Each		4	4
Name Plate	Each		1	1
Cofferdam (Type2) (Location-1)	Each		1	1
Cofferdam (Type2) (Location-2)	Each		1	1

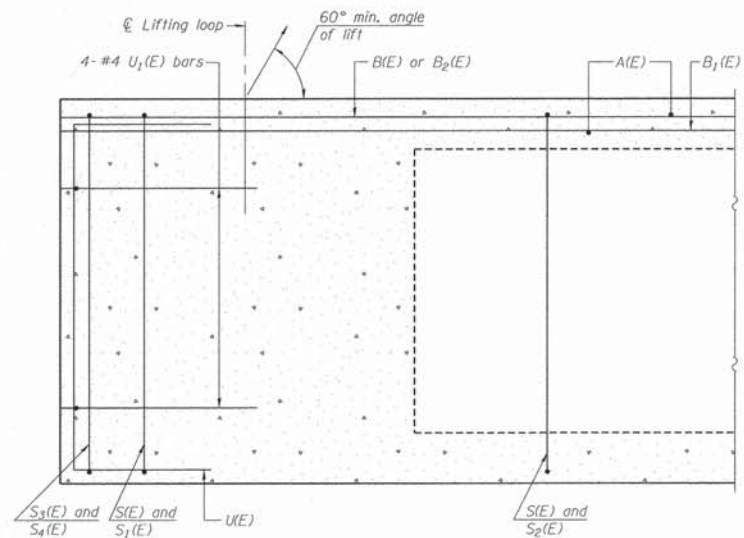
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12_Pile Details	PLOT SCALE = 1:8000" / in.	CHECKED -	REVISED -
	PLOT DATE = 3/27/2015	DATE -	REVISED -

NORTH OKAW TWP
COLES COUNTY, ILLINOIS

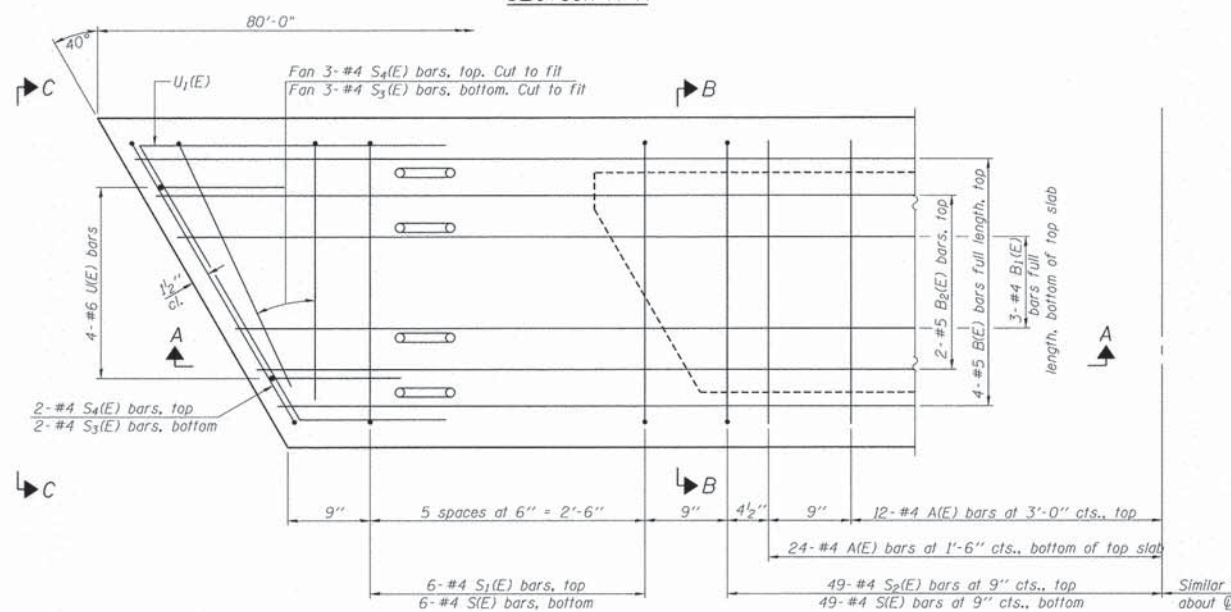
GENERAL DETAILS
STRUCTURE NO. 087-3583

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	5
CONTRACT NO. 95768				
[ILLINOIS] FED. AID PROJECT				

SCALE: SHEET 2 OF 11 SHEETS STA. TO STA.



SECTION A-A

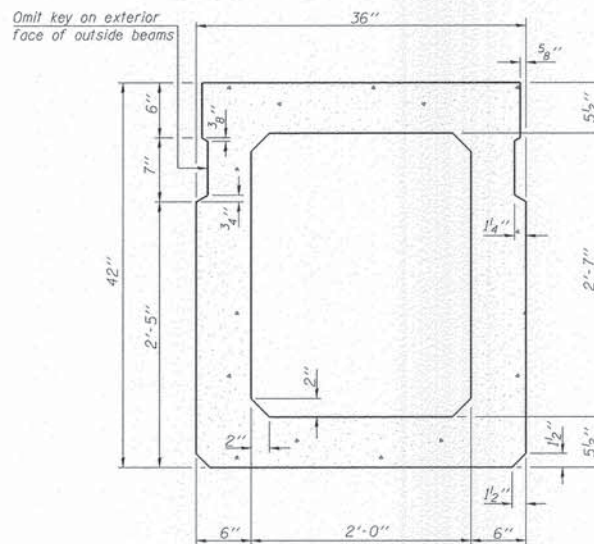


PLAN VIEW

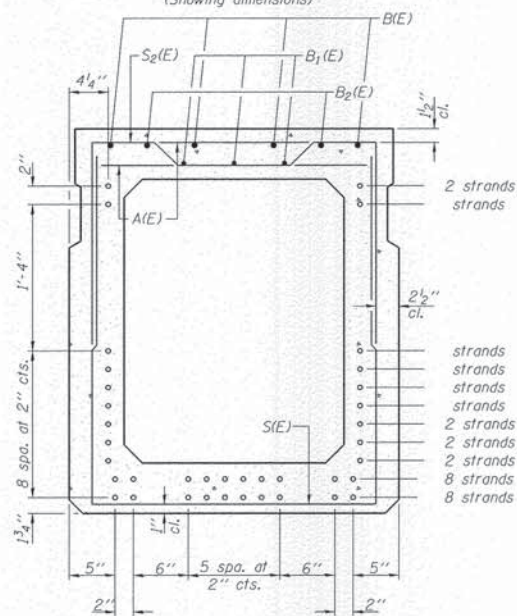
Note: Spacing of S1(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

MINIMUM BAR LAP

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

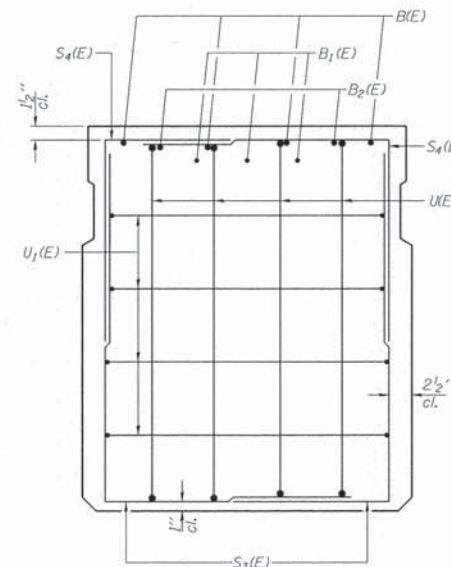


SECTION B-B
(Showing dimensions)



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

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



VIEW C-C

- Note:
- Omit shear key on outside beams.
 - See sheet 4 of 19 for location of steel railing anchoring devices.
 - See sheet 10 of 19 for details of anchors.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	72	#4	2'-7"	—
B(E)	12	#5	28'-3"	—
B1(E)	9	#4	27'-3"	—
B2(E)	4	#5	10'-0"	—
S(E)	110	#4	8'-11"	U
S1(E)	12	#4	6'-3"	U
S2(E)	98	#4	6'-6"	U
S3(E)	10	#4	5'-7"	U
S4(E)	10	#4	4'-3"	U
UK(E)	8	#6	5'-9"	U
U1(E)	8	#4	7'-10"	U

Note: See sheet 7 of 19 for additional details and Bill of Material.

Reinforcement bars designated (E) shall be epoxy coated.

PD-4236-R 7-1-10

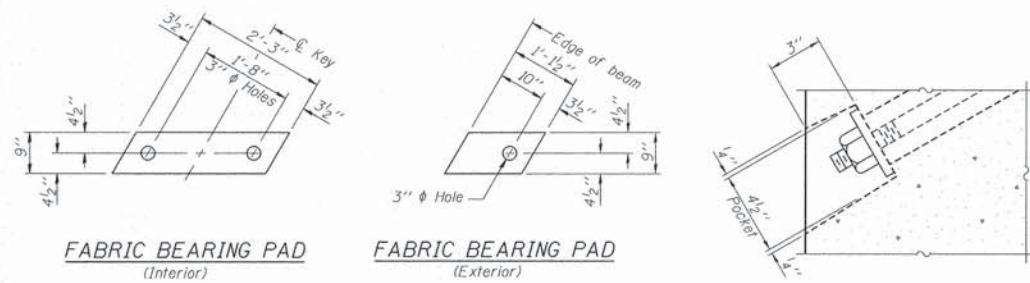
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Default	PLOT SCALE = 1.0000" / 1"	DATE -	REVISED -
	PLOT DATE = 3/27/2015		

NORTH OKAW TWP
COLES COUNTY, ILLINOIS

42" x 36" PPC DECK BEAM SPAN 1 & 3
STRUCTURE NO. 015-3379

SCALE: SHEET 3 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	6
CONTRACT NO. 95768			ILLINOIS FED. AID PROJECT	



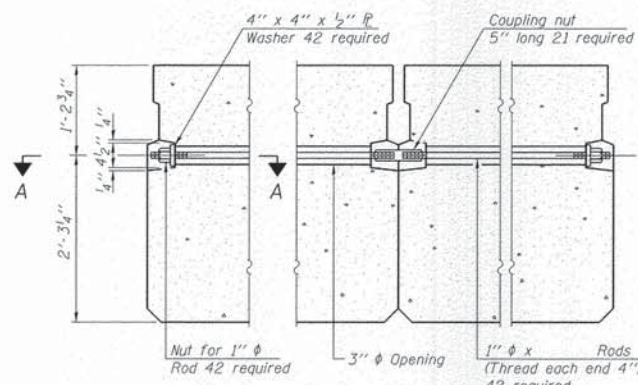
FABRIC BEARING PAD (Interior)

FABRIC BEARING PAD (Exterior)

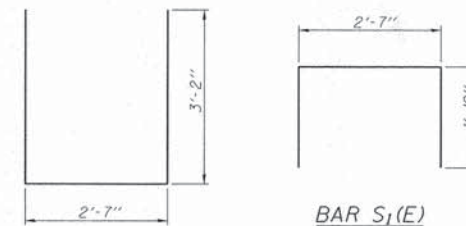
FIXED

Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.

SECTION A-A

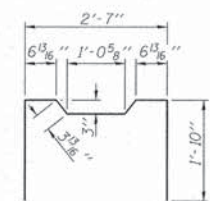


TYPICAL TRANSVERSE TIE ASSEMBLY



BAR S₁(E)

BAR S(E)



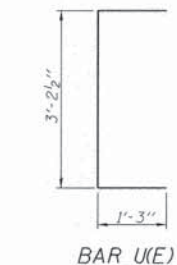
BAR S₂(E)



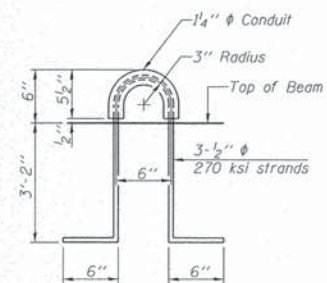
BAR S₃(E)



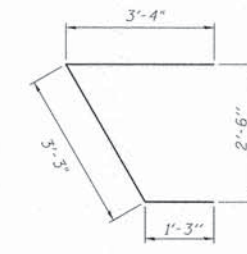
BAR S₄(E)



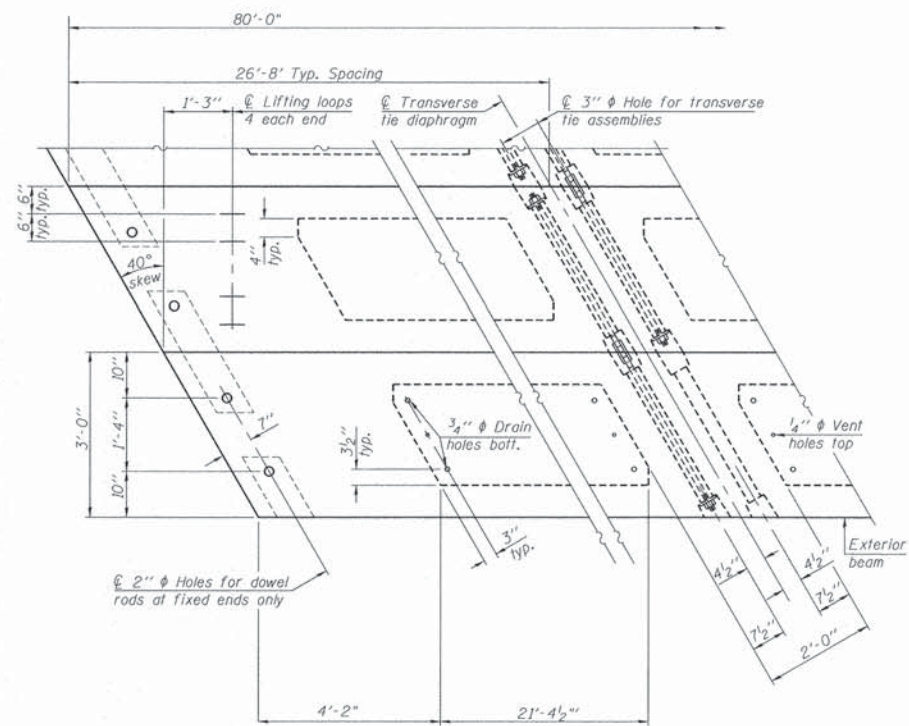
BAR U(E)



LIFTING LOOP DETAIL



BAR U₁(E)



PLAN VIEW

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

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
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

Precast Prestressed Conc. Deck Bms. (42" depth)	3840	Sq. Ft.
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PD-4236-RD 7-1-10

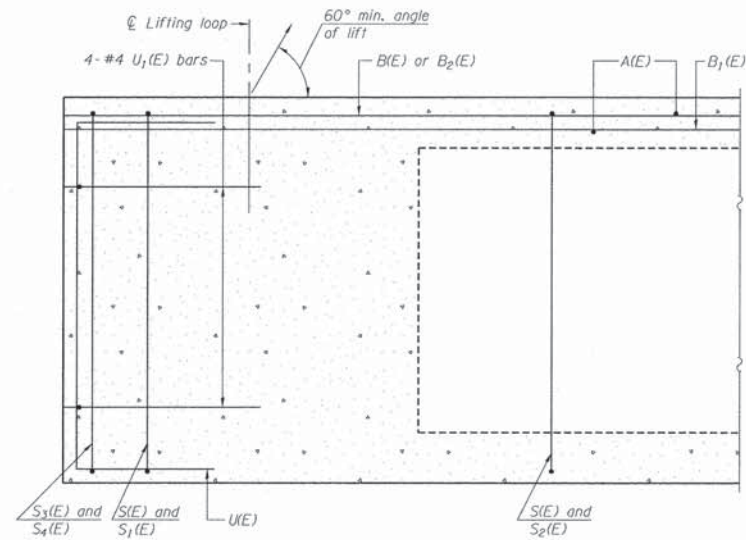
FILE NAME *	USER NAME * Station 15	DESIGNED -	REVISED -
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Default	PLOT SCALE * 1.0000" / in.	DATE -	REVISED -
	PLOT DATE * 3/27/2015		

NORTH OKAW TWP
COLES COUNTY, ILLINOIS

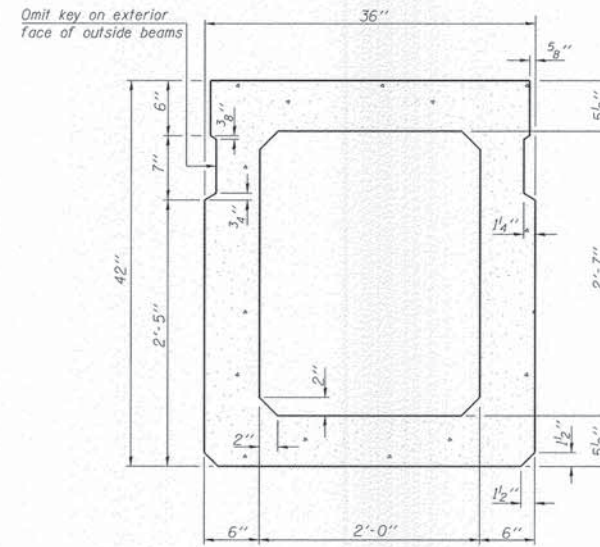
42" x 36" PPC DECK BEAM DETAILS SPAN 1 & 3
STRUCTURE NO. 015-3379

SCALE: SHEET 4 OF 11 SHEETS STA. TO STA.

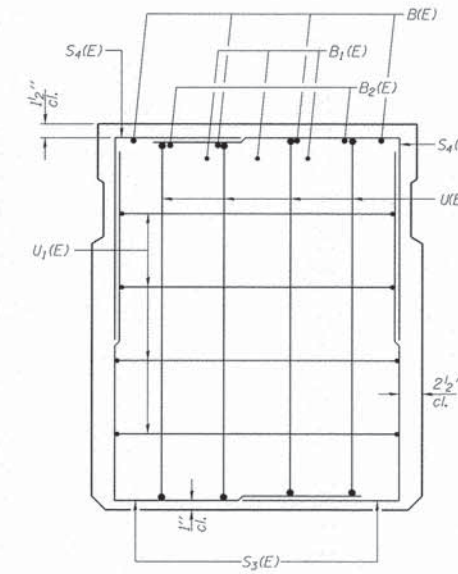
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	7
CONTRACT NO. 95768				
ILLINOIS FED. AID PROJECT				



SECTION A-A

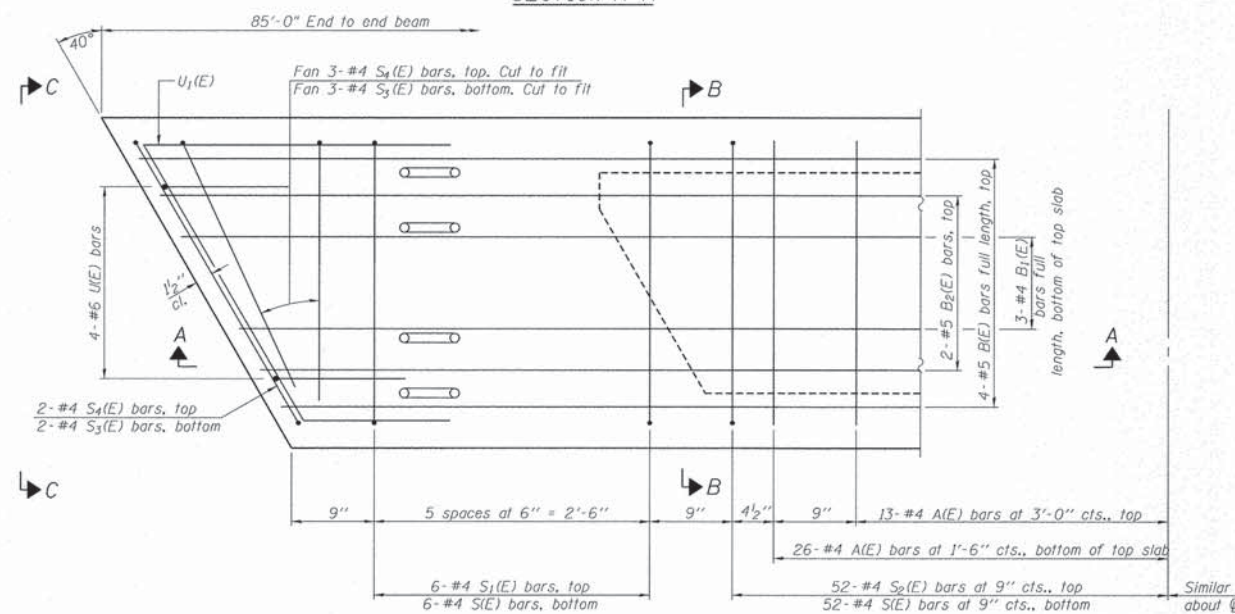


SECTION B-B (Showing dimensions)



VIEW C-C

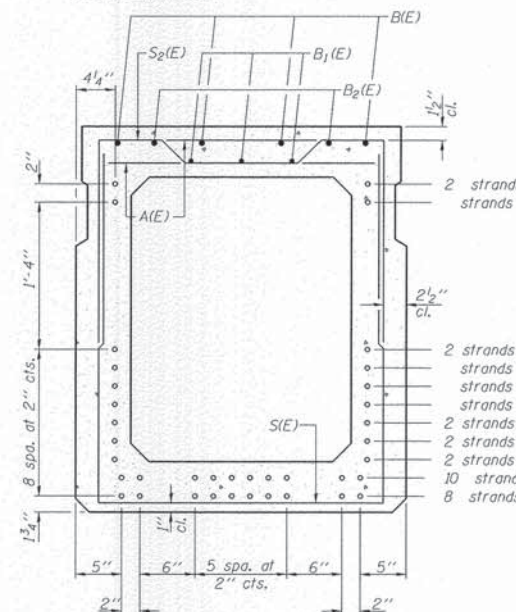
- Note:
- Omit shear key on outside beams.
 - See sheet 4 of 19 for location of steel railing anchoring devices.
 - See sheet 10 of 19 for details of anchors.



PLAN VIEW

Note: Spacing of S1(E) and S4(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.

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



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

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

BAR LIST
 ONE BEAM ONLY
 (For information only)

Bar	No.	Size	Length	Shape
A(E)	78	#4	2'-7"	—
B(E)	12	#5	30'-0"	—
B1(E)	9	#4	29'-0"	—
B2(E)	4	#5	10'-0"	—
S(E)	116	#4	8'-11"	—
S1(E)	12	#4	6'-3"	┌
S2(E)	104	#4	6'-6"	┌
S3(E)	10	#4	5'-7"	┌
S4(E)	10	#4	4'-3"	┌
U(E)	8	#6	5'-9"	┌
U1(E)	8	#4	7'-10"	┌

Note: See sheet 9 of 18 for additional details and Bill of Material.

Reinforcement bars designated (E) shall be epoxy coated.

PD-4236-R 7-1-10

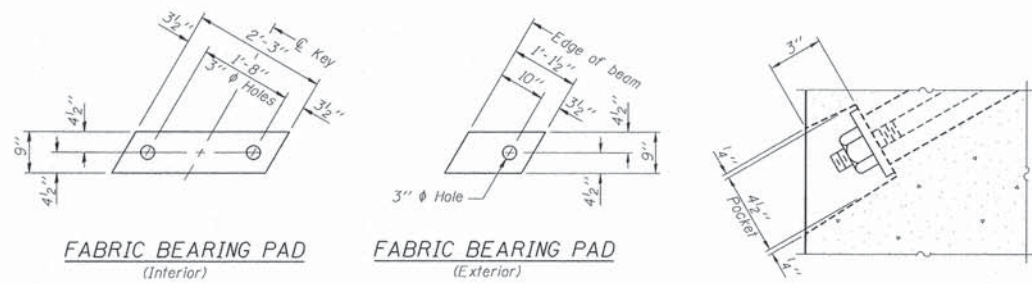
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Default	PLOT SCALE = 1/8" = 1' / in.	CHECKED :	REVISED :
	PLOT DATE = 3/27/2015	DATE :	REVISED :

NORTH OKAW TWP
 COLES COUNTY, ILLINOIS

42" x 36" PPC DECK BEAM SPAN 2
 STRUCTURE NO. 015-3379

SCALE: SHEET 5 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	8
			CONTRACT NO. 95768	
ILLINOIS FED. AID PROJECT				



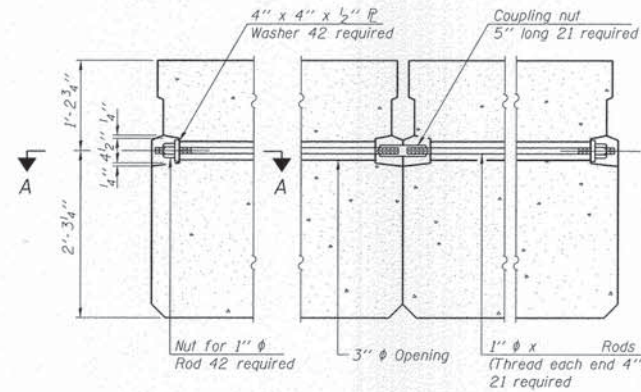
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

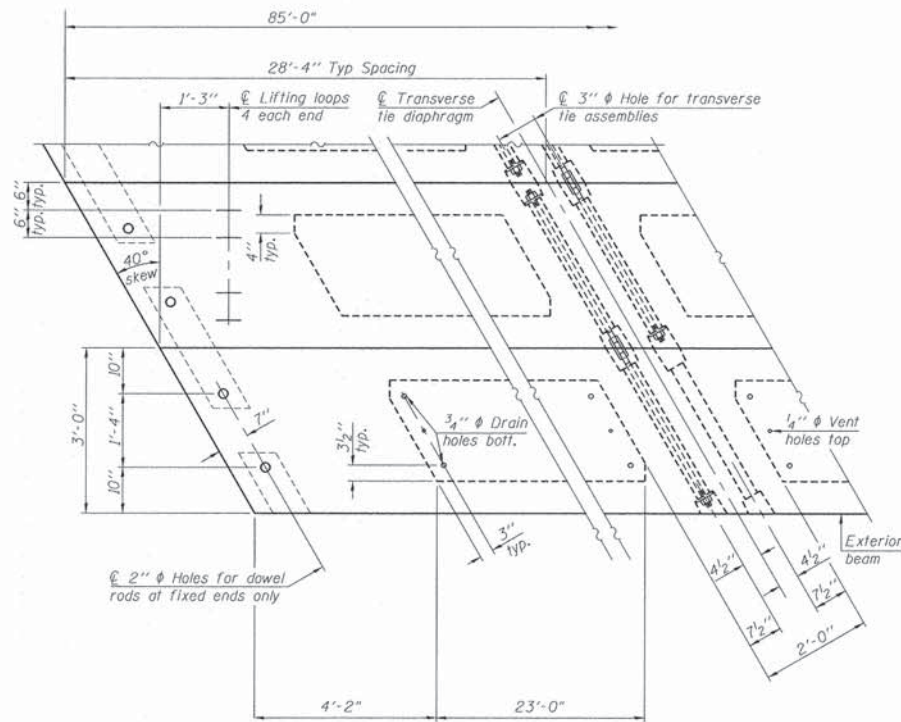
FIXED

Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.

SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

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

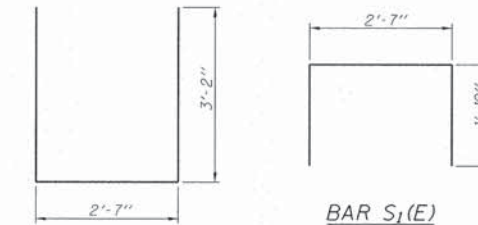
NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 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.

Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

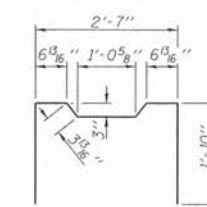
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



BAR S₁(E)

BAR S(E)

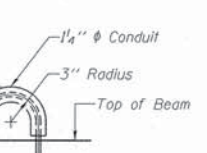


BAR S₂(E)

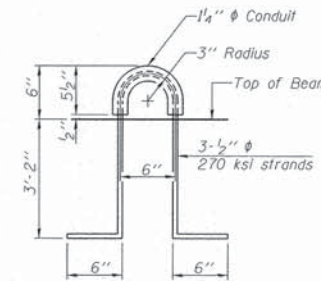


BAR S₃(E)

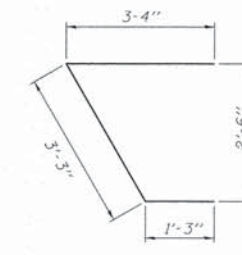
BAR S₄(E)



BAR U(E)



LIFTING LOOP DETAIL



BAR U₁(E)

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (42" depth)	2040	Sq. Ft.
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PD-4236-RD 7-1-10

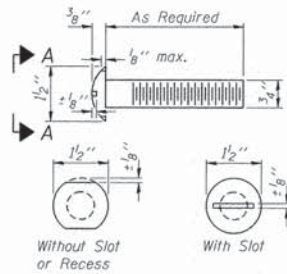
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**NORTH OKAW TWP
COLES COUNTY, ILLINOIS**

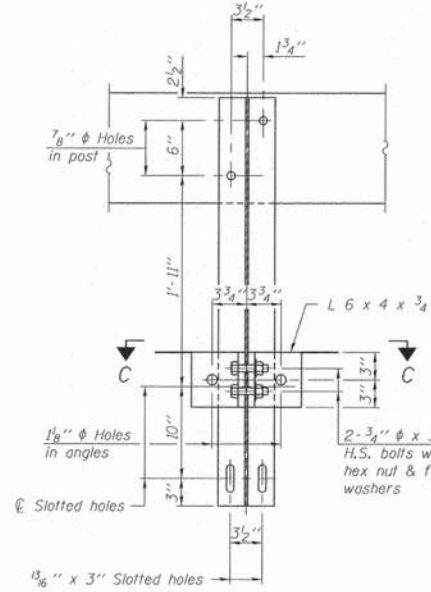
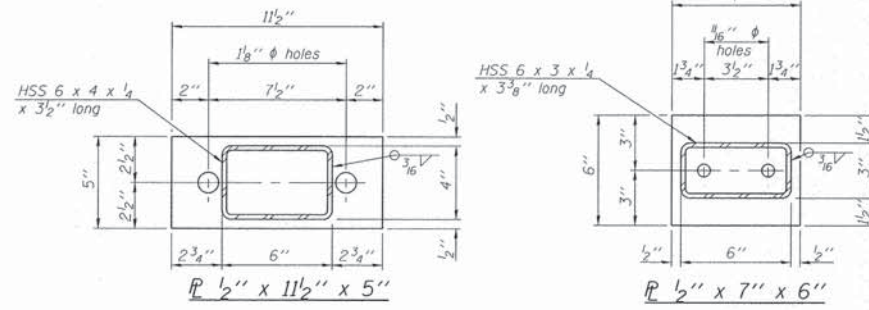
**42" x 36" PPC DECK BEAM DETAILS SPAN 2
STRUCTURE NO. 015-3379**

SCALE: SHEET 6 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	9
			CONTRACT NO. 95768	
ILLINOIS FED. AID PROJECT				



VIEW A-A
ROUND HEAD BOLT

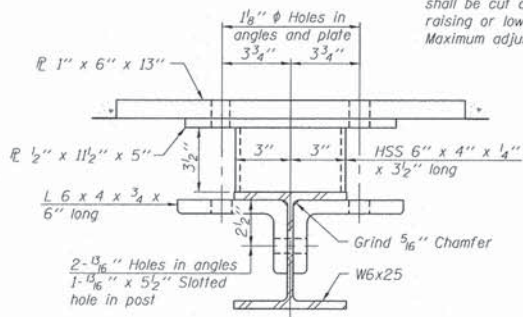


SECTION B-B

2- 3/4" x 6" Round Head Bolts
(With slot or approved recess
in head) with locknut & flat washer.
7/8" holes in hollow structural
section may be drilled in the field.

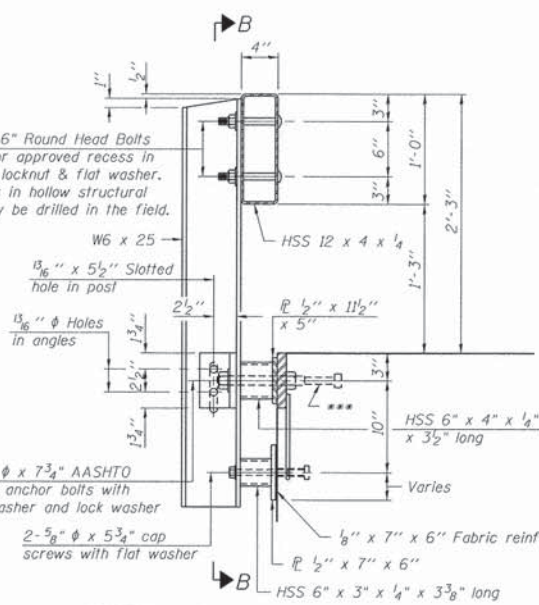
2- 1" x 7 3/4" AASHTO
M-164 anchor bolts with
flat washer and lock washer

2- 5/8" x 5 3/4" cap
screws with flat washer



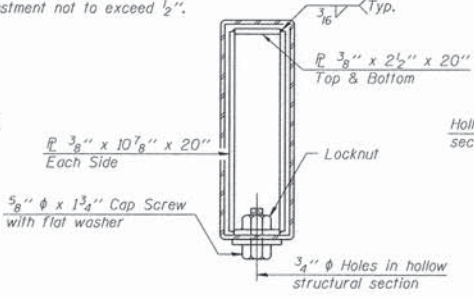
SECTION C-C

(10'-9" Maximum Post Spacing)

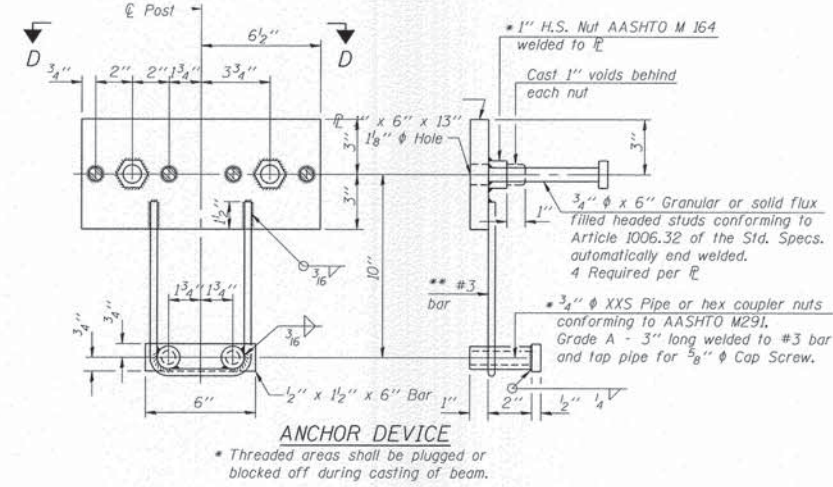


SECTION AT RAILING POST

** 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".

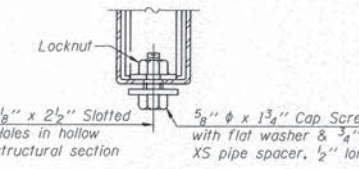


SECTIONS AT RAIL SPLICE

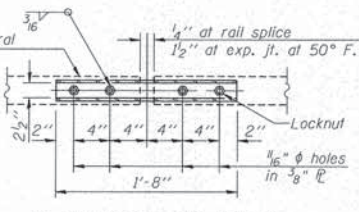


ANCHOR DEVICE

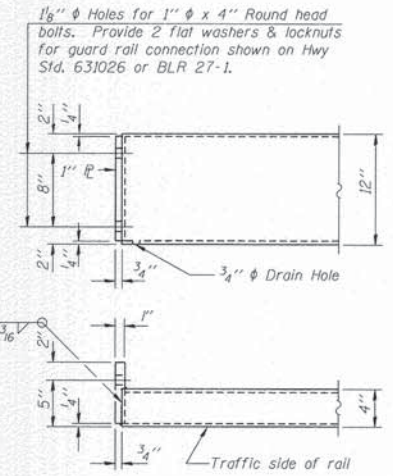
* Threaded areas shall be plugged or
blocked off during casting of beam.



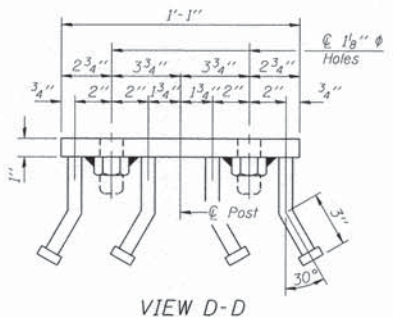
RAIL SPLICE CONNECTION
AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	494

Notes:
All field drilled holes shall be coated with
an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x
6" x 1'-2" galvanized steel shims shall be
provided to align rail between adjacent spans.
Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized
according to Article 509.05 of the Standard
Specifications.
*** The studs of the anchor devices shall be
placed below the top reinforcement bars and
the outermost longitudinal reinforcement bar
shall be placed directly above the studs of
the rail post anchor device.

R-23A

7-1-10

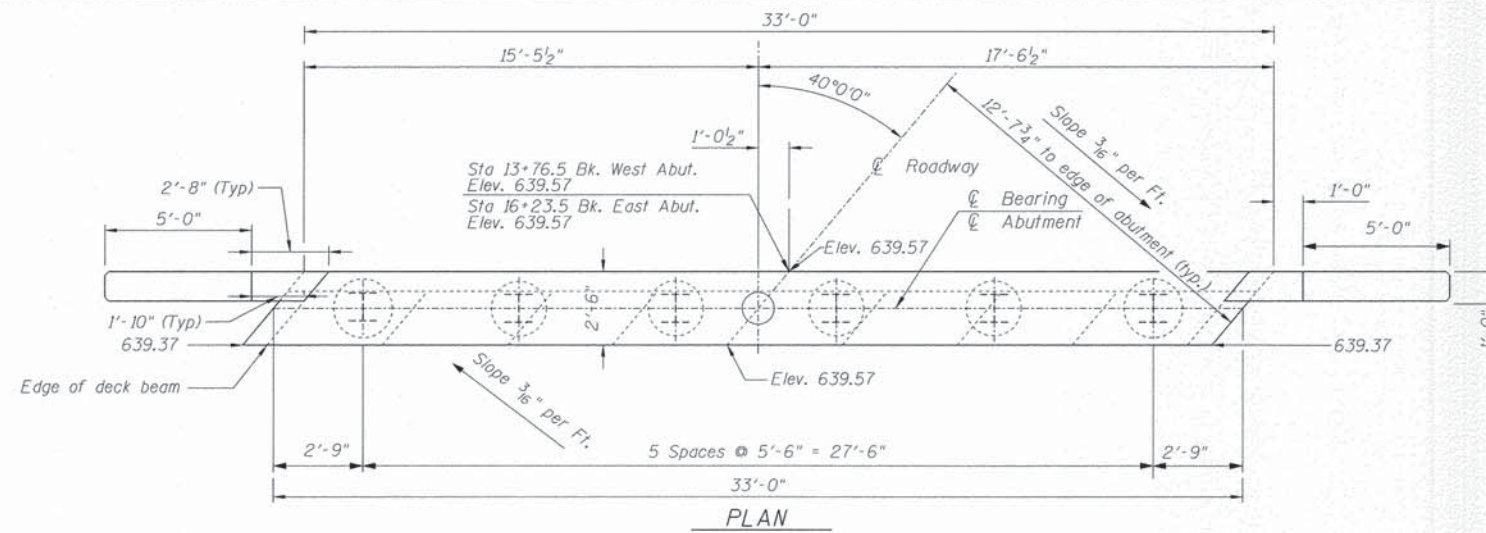
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NORTH OKAW TWP
COLES COUNTY, ILLINOIS

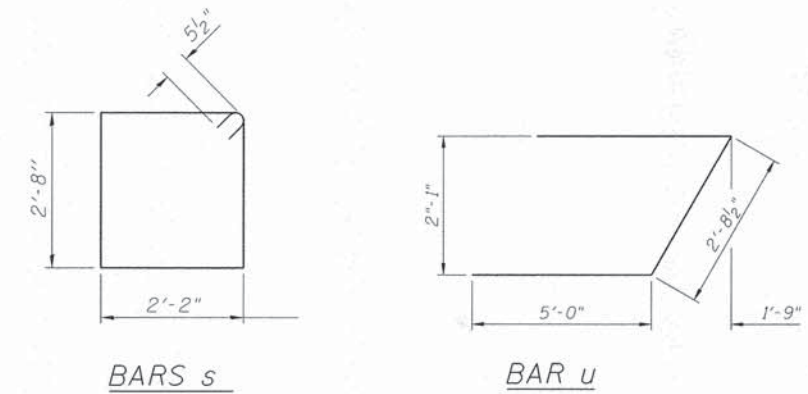
STEEL RAILING, TYPE S-1
STRUCTURE NO. 015-3379

SCALE: SHEET 7 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEET NO.
TR23	96-09117-00-BR	COLES	19 10
			CONTRACT NO. 95768
ILLINOIS FED. AID PROJECT			

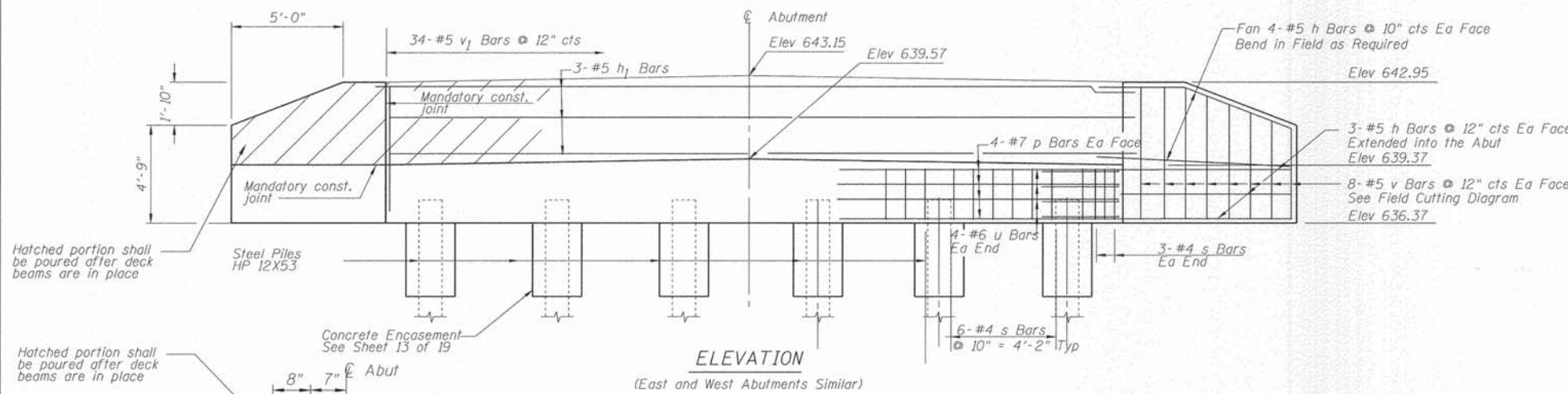


PLAN
(East and West Abutments Similar)

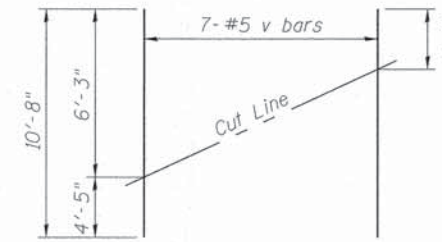


BARS s

BAR u

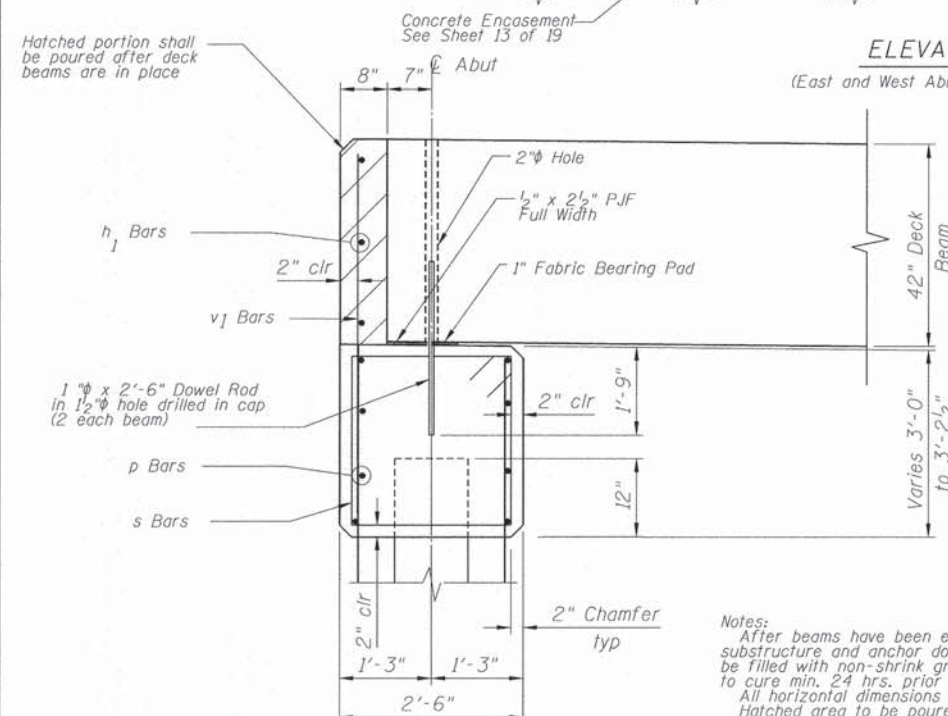


ELEVATION
(East and West Abutments Similar)



FIELD CUTTING DIAGRAM

Order v full length. Cut as shown and use remainder of bars in opposite face of each wingwall.



SECTION THRU ABUTMENT
Not to Scale

Notes:
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
All horizontal dimensions are at right angles to beam ends.
Hatched area to be poured after beams are in place.
See sheet 78.9 of 19 for bearing pad details.

PILE DATA

Type: Steel Pile HP12X53
No. Required: 6* (E. Abut.)
No. Required: 6* (W. Abut.)
Nominal Required Bearing: 419 kips
Allowable Resistance Available: 230 kips
Est. Length (E. Abut.): 58 Ft.
Est. Length (W. Abut.): 58 Ft.

*Includes one Test Pile at East Abutment and one Test Pile at West Abutment

BILL OF MATERIAL

BOTH ABUTMENTS AND FOUR WINGS				
BAR	SIZE	NO. REQ'D.	LENGTH	SHAPE
h	#5	56	8'-4"	—
h ₁	#5	6	32'-8"	—
p	#7	16	32'-8"	—
s	#4	72	10'-7"	□
u	#6	16	12'-9"	—
v	#5	28	10'-8"	—
v ₁	#5	68	5'-10"	—
Structure Excavation		Cu. Yd.	20.9	
Concrete Structures		Cu. Yd.	30.6	
Reinforcement Bars		Pound	3300	
Furnishing Steel Piles HP 12X53		Foot	580	
Driving Piles		Foot	580	
Test Pile Steel HP 12X53		Each	2	
Concrete Encasement		Cu. Yd.	4.2	

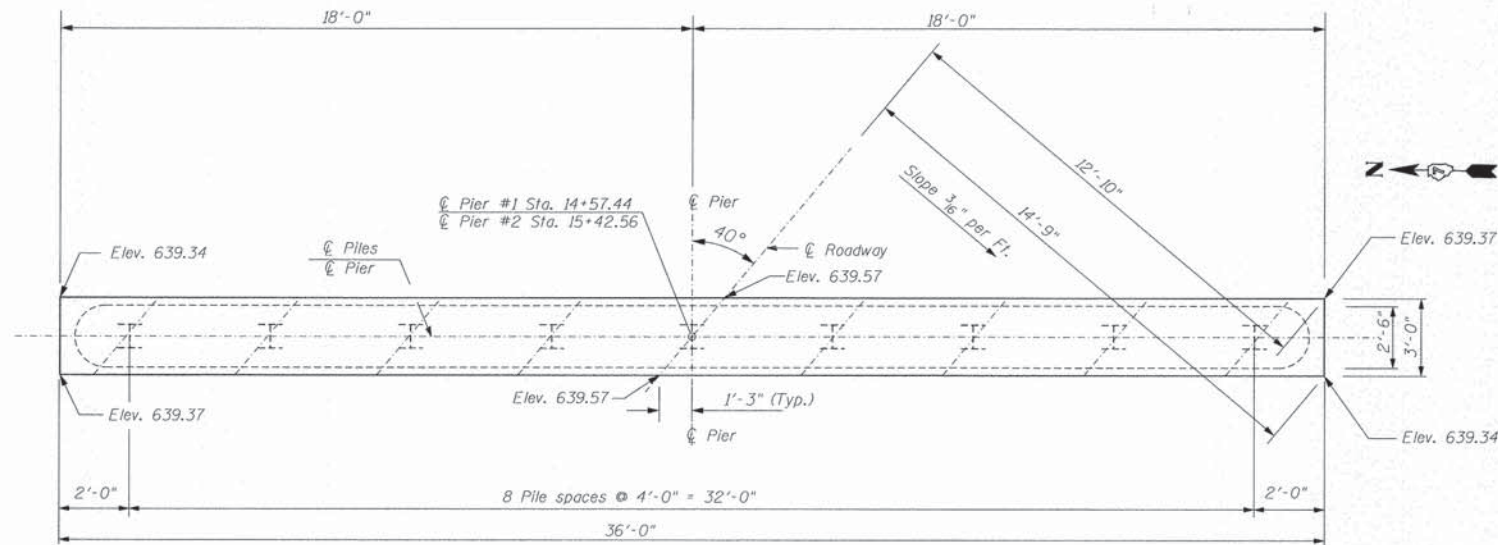
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NORTH OKAW TWP
COLES COUNTY, ILLINOIS

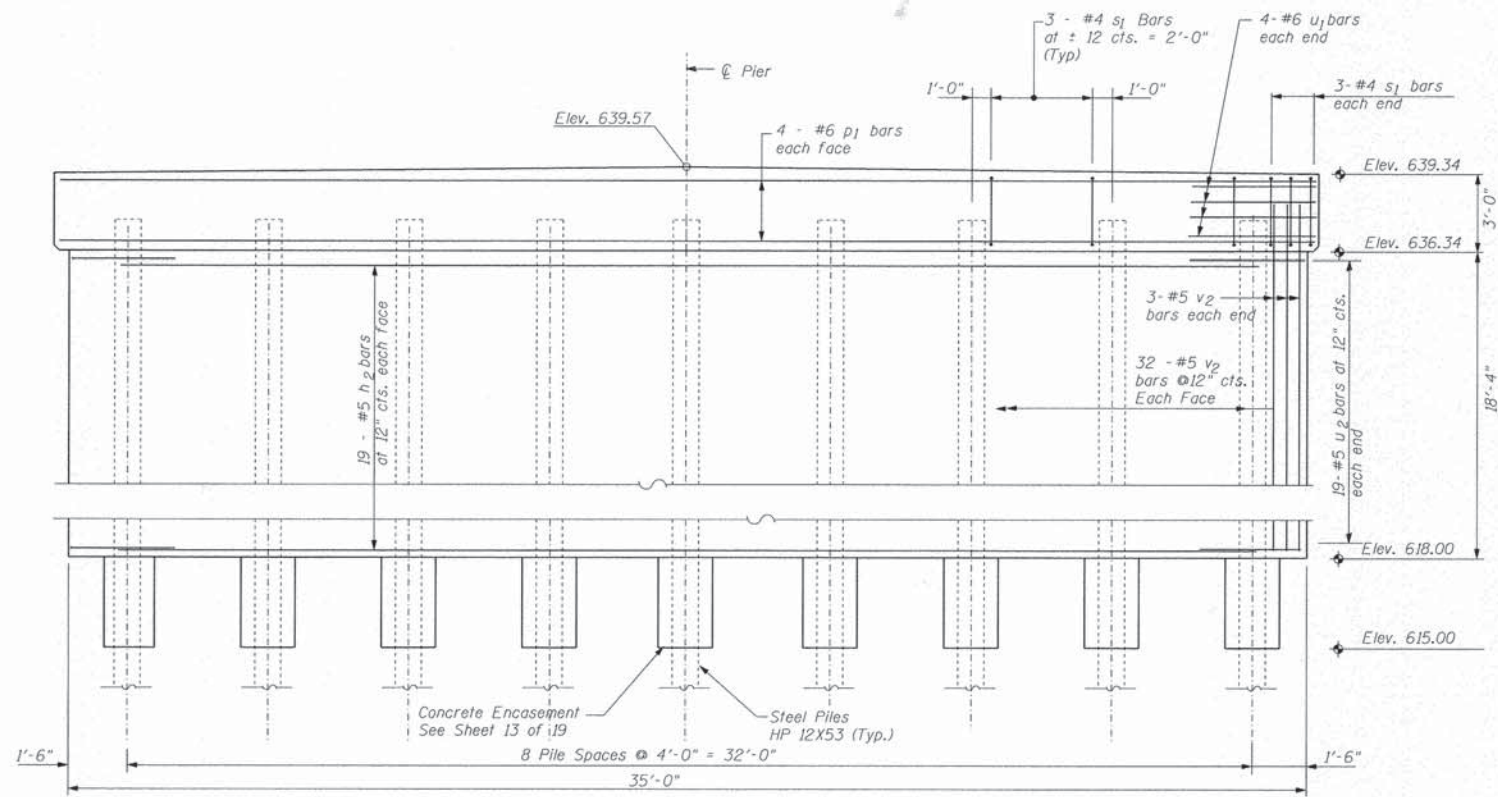
ABUTMENT DETAILS

SCALE: SHEET 8 OF 11 SHEETS STA. TO STA.

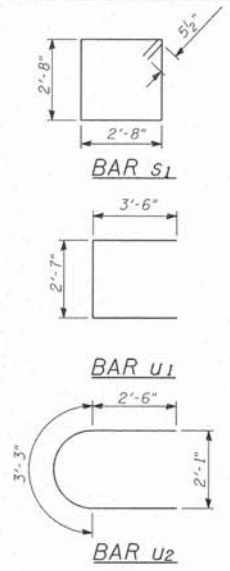
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	11
CONTRACT NO. 95768				
ILLINOIS FED. AID PROJECT				



PLAN

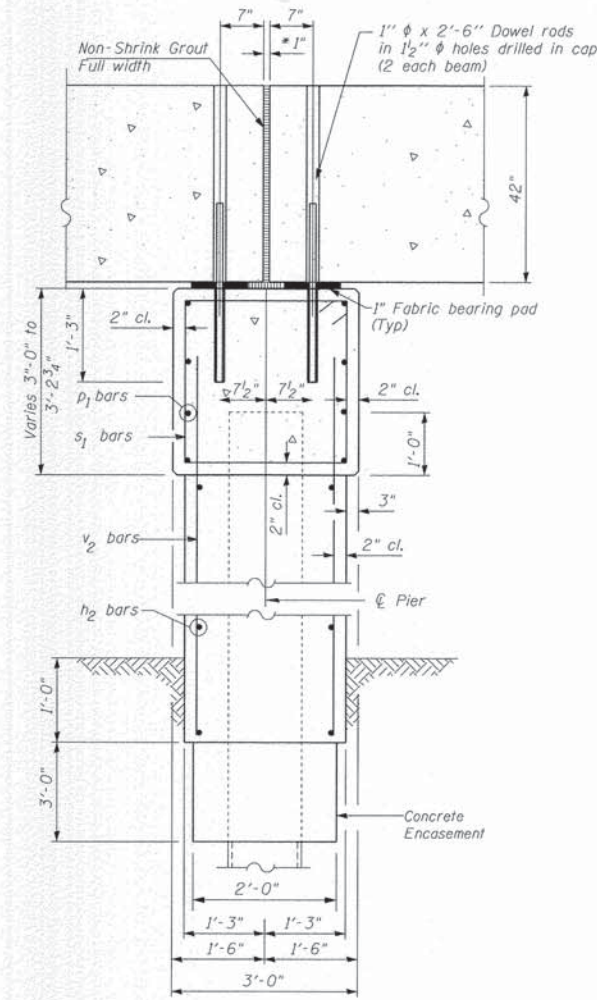


ELEVATION
(Looking East)



BILL OF MATERIAL

BOTH PIERS				
Bar	No.	Size	Length	Shape
h ₂	76	#5	32'-2"	—
p ₁	16	#6	35'-8"	—
s ₁	60	#4	11'-7"	□
u ₁	16	#6	9'-7"	┌
u ₂	76	#5	8'-3"	└
v ₂	140	#5	20'-2"	—
Structure Excavation		Cu.Yd.	30.8	
Cofferdam Excavation		Cu.Yd.	88	
Concrete Structures		Cu.Yd.	142.0	
Concrete Encasement		Cu.Yd.	6.3	
Reinforcement Bars		Lbs.	7700	
Furnishing Steel Piles HP 12X53		Ft.	928	
Driving Piles		Ft.	928	
Test Pile Steel HP 12X53		Each	2	
Cofferdam (Type 2) (Location-1)		Each	1	
Cofferdam (Type 2) (Location-2)		Each	1	



SECTION THRU PIER

*1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

PILE DATA

Type: Steel Piles HP 12X53
No. Required (Pier 1): 9**
No. Required (Pier 2): 9**
Nominal Required Bearing: 419 kips
Allowable Resistance Available: 230 kips
Est. Length (Pier 1): 58 Ft.
Est. Length (Pier 2): 58 Ft.

** Includes one Test Pile at Pier 1 and one Test Pile at Pier 2.

Notes:
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
All horizontal dimensions are at right angles to beam ends. Hatched area to be poured after beams are in place. See sheet 7 & 9 of 19 for bearing pad details.

PIER DETAILS
STRUCTURE NO. 015-3379

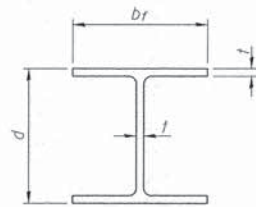
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	PLOT DATE = 3/27/2015	DATE -	REVISED -

NORTH OKAW TWP
COLES COUNTY, ILLINOIS

PIER 1 & 2
DETAILS

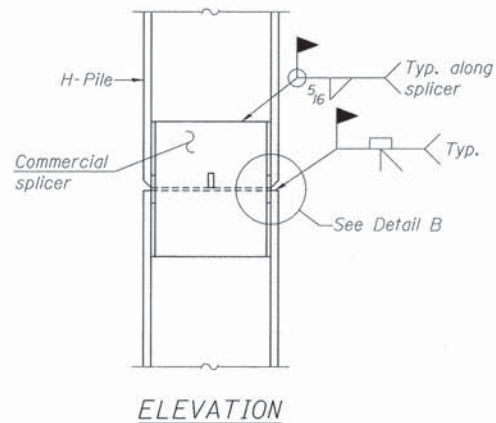
SCALE: SHEET 9 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	12
				CONTRACT NO. 95768
ILLINOIS FED. AID PROJECT				

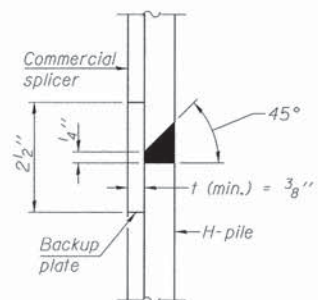


STEEL PILE TABLE

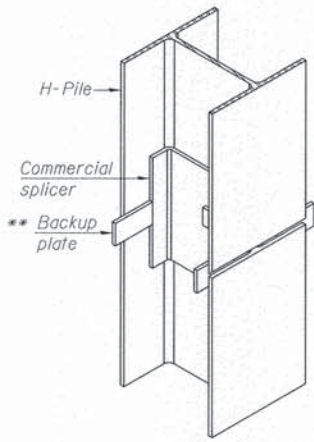
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



ELEVATION

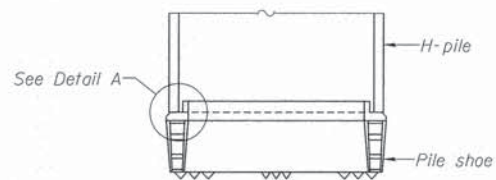


DETAIL "B"

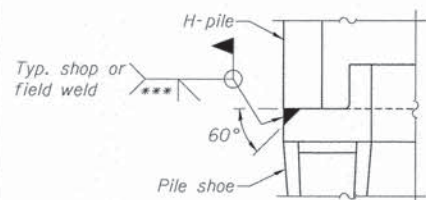


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

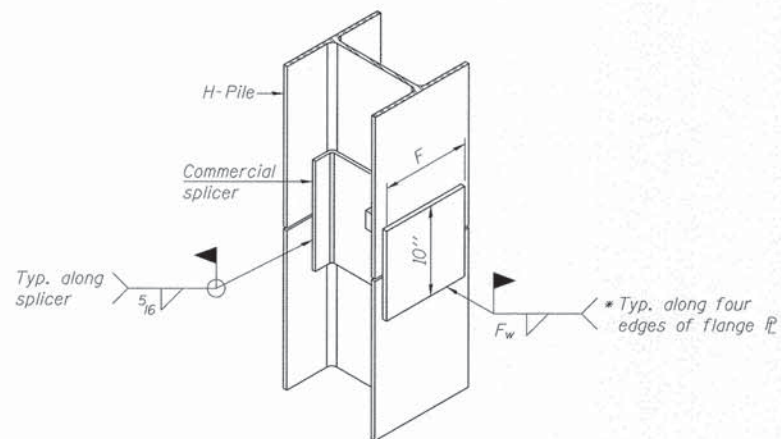


ELEVATION



DETAIL A

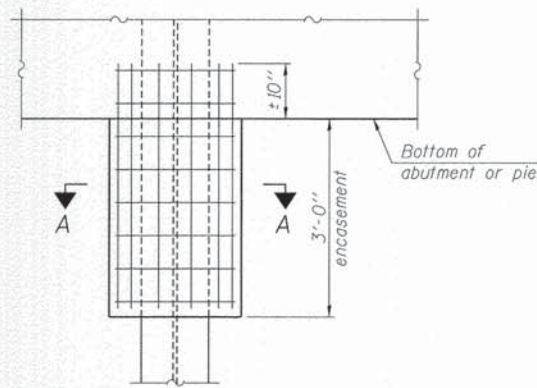
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

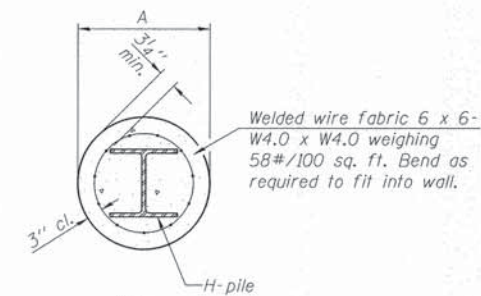
WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



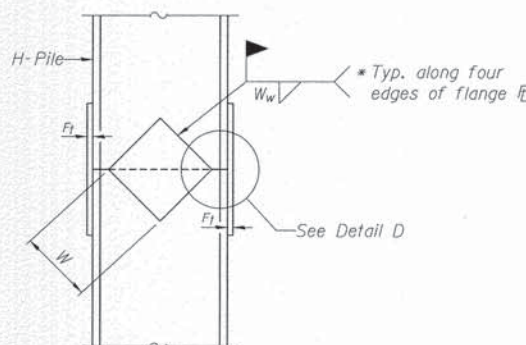
ELEVATION

PILE ENCASEMENT

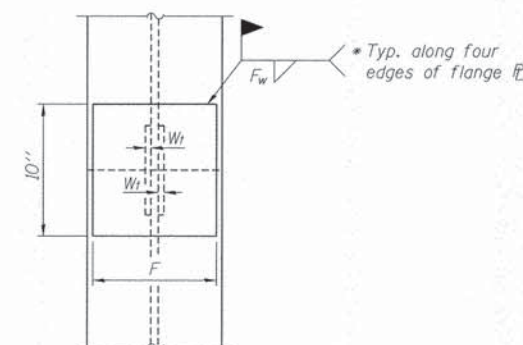


SECTION A-A

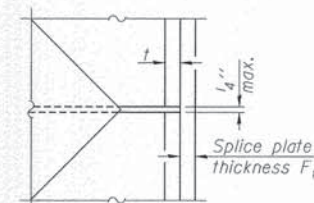
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

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

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

F-HP

7-1-10

FILE NAME = P:\C111\COLES.COUNTY\NDK05.2013\version_6113116\Drawings\Plate\Det_015-3379.dgn	USER NAME = Station 15	DESIGNED -	REVISED -
PLOT SCALE = 1:80000' / in.		DRAWN - ALB	REVISED -
PLOT DATE = 3/27/2015		CHECKED -	REVISED -
		DATE -	REVISED -

NORTH OKAW TWP
COLES COUNTY, ILLINOIS

HP PILE DETAILS
STRUCTURE NO. 015-3379

SCALE: SHEET 10 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	13
CONTRACT NO. 95768			[ILLINOIS] FED. AID PROJECT	

	N	Qu	W
Ground Surface 638.12	0		
Brown Silty Clay - Clay Loam Backfill			
5	6	B 1.0	17
632.22			
Brown Silty Clay Backfill			
5		B 1.2	23
10	4	B 1.0	24
624.67			
Blackish Gray Sandy Clay Loam - Loam Free Water			
15	3	B 1.0	22
621.72			
Brown Gray Clay Loam Sandy Clay Loam			
2		B 0.5	26
20	3		
617.78			
Coarse Brown Sand			
8			
614.17			
25	8		
610.24			
Fine Brown Sand			
30	21		
605.31			
Fine Gray Sand			
35	16	B 2.5	16
599.74			
Brown Sandy Clay Loam Till			
40	12		
595.14			
Gray Silt			
45	100	E 10+	7.5
590.55			
Gray Sandy Clay Loam Clay Loam Till			
50	100	E 10+	8.1
581.04			
Gray Clayey Shale			
55	85	E 10+	8.7
577.76			
Gray Brown Clayey Shale			
60	66	E 10+	12
577.76			
Limit of Boring			

SOIL BORING #1
Sta. 13+96.65, Center Line

	N	Qu	W
Ground Surface 638.12	0		
Brown Silty Clay Backfill			
5	5	B 2.1	23
601.05			
Brown Silty Clay Backfill			
5		B 1.2	22
40	2	B 1.2	24
594.16			
Gray Brown Mottled Sandy Clay Loam Clay Loam Till			
3			
624.67			
Gray Mottled Silty Clay Loam			
15	2	B 0.9	27
621.06			
Medium Gray Sand			
20	2		
615.16			
Gray Loam			
25	3		
611.22			
Brown Silt to Silt Loam Varved			
30	12	B 2.7	23
577.76			
Limit of Boring			

SOIL BORING #2
Sta. 16+05.32, 3.28' RT.

	N	Qu	W
Ground Surface 638.12	0		
Brown Silt to Silt Loam Varved			
35	14	B 2.3	25
601.05			
Gray Brown Mottled Sandy Clay Loam Clay Loam Till			
40	36	B 9.9	9.5
594.16			
Gray Brown Pink Sandy Clay Loam - Clay Loam Till			
45	36	B 10.5	11
590.55			
Gray Mottled Shale			
50	100	E 10+	12
581.04			
Dark Gray - Black Shale			
60	100	E 10+	12
577.76			
Limit of Boring			

N - standard penetration test - number of blows to drive 2" O.D. split spoon 12" with 140 LB. Hammer Falling 30"
W - water content - percentage of oven dry weight - %

Type of Failure:
B - Bulge Failure
S - Shear Failure
E - Estimated value
P - Penetrometer
Qu - Unconfined compressive strength - Tons/S.F.

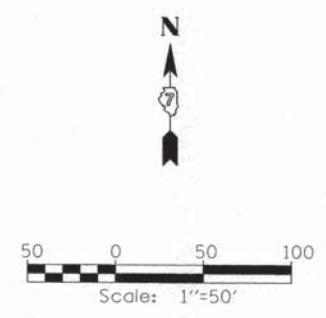
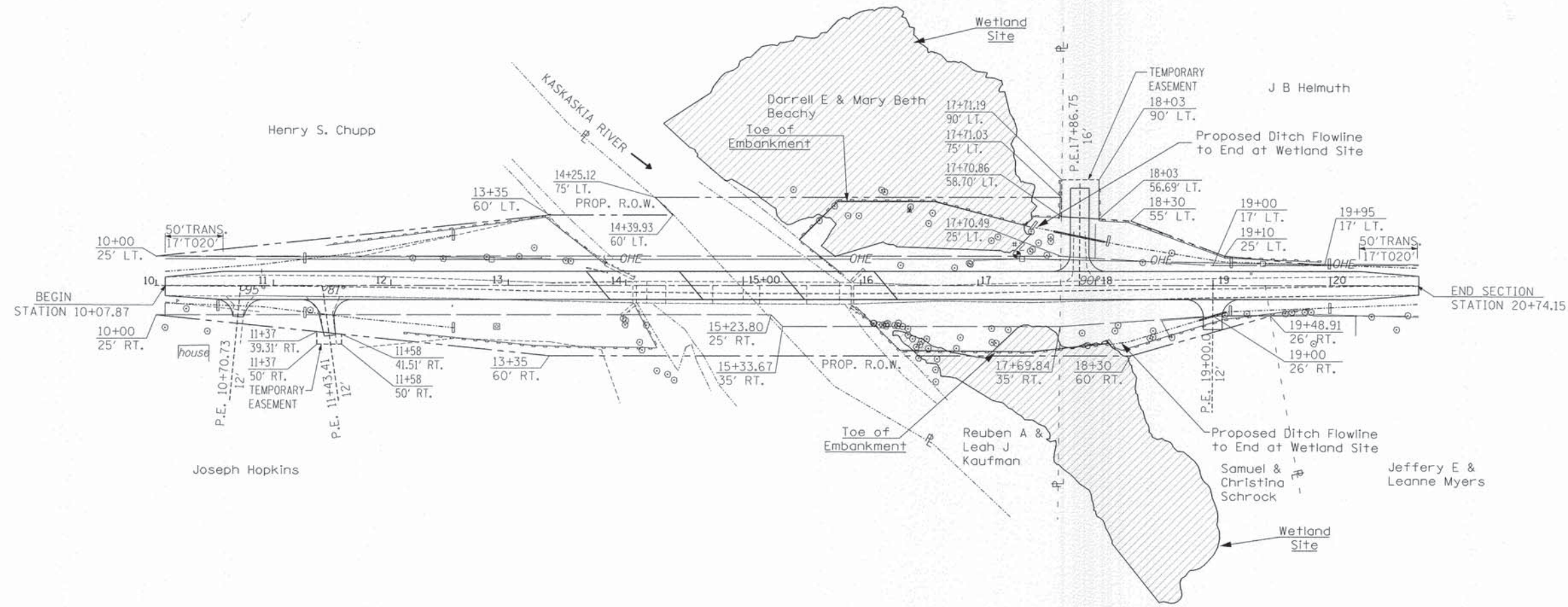
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Default	PLOT SCALE = 50.0000 FT / in.	DRAWN - ALB	REVISED -
	PLOT DATE = 3/27/2015	CHECKED -	REVISED -
		DATE -	REVISED -

**NORTH OKAW TWP
COLES COUNTY, ILLINOIS**

BORING LOGS

SCALE: SHEET 11 OF 11 SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	14
CONTRACT NO. 95768			ILLINOIS FED. AID PROJECT	



GENERAL NOTES:

1. SEEDING CL. 2 WITH FERTILIZER AND MULCH WITHIN CONSTRUCTION LIMITS AND ALL DISTURBED AREAS.
2. PERIMETER EROSION BARRIER NEEDS TO BE ERECTED AS DIRECTED BY THE ENGINEER BEFORE ANY WORK BEGINS SEE STD. 280001.
3. MAINTENANCE OF ALL EROSION CONTROL DEVICES WILL BE PERFORMED IMMEDIATELY AFTER A RAIN EVENT OR ANY DISTURBANCE OF THE CONTROL.
4. REMOVAL AND PROPER CLEAN UP OF ALL TEMPORARY EROSION DEVICES WILL BE REQUIRED AFTER PERMANENT EROSION CONTROL IS IN PLACE AND FUNCTIONING.

TOTAL AREA OF CONSTRUCTION : 95,832 S.F.

ESTIMATED RUNOFF COEFFICIENT AFTER CONSTRUCTION:
 COURSE TEXTURED GRASS
 SOIL GREATER THAN 40% CLAY
 MODERATE SLOPE
 C=0.25



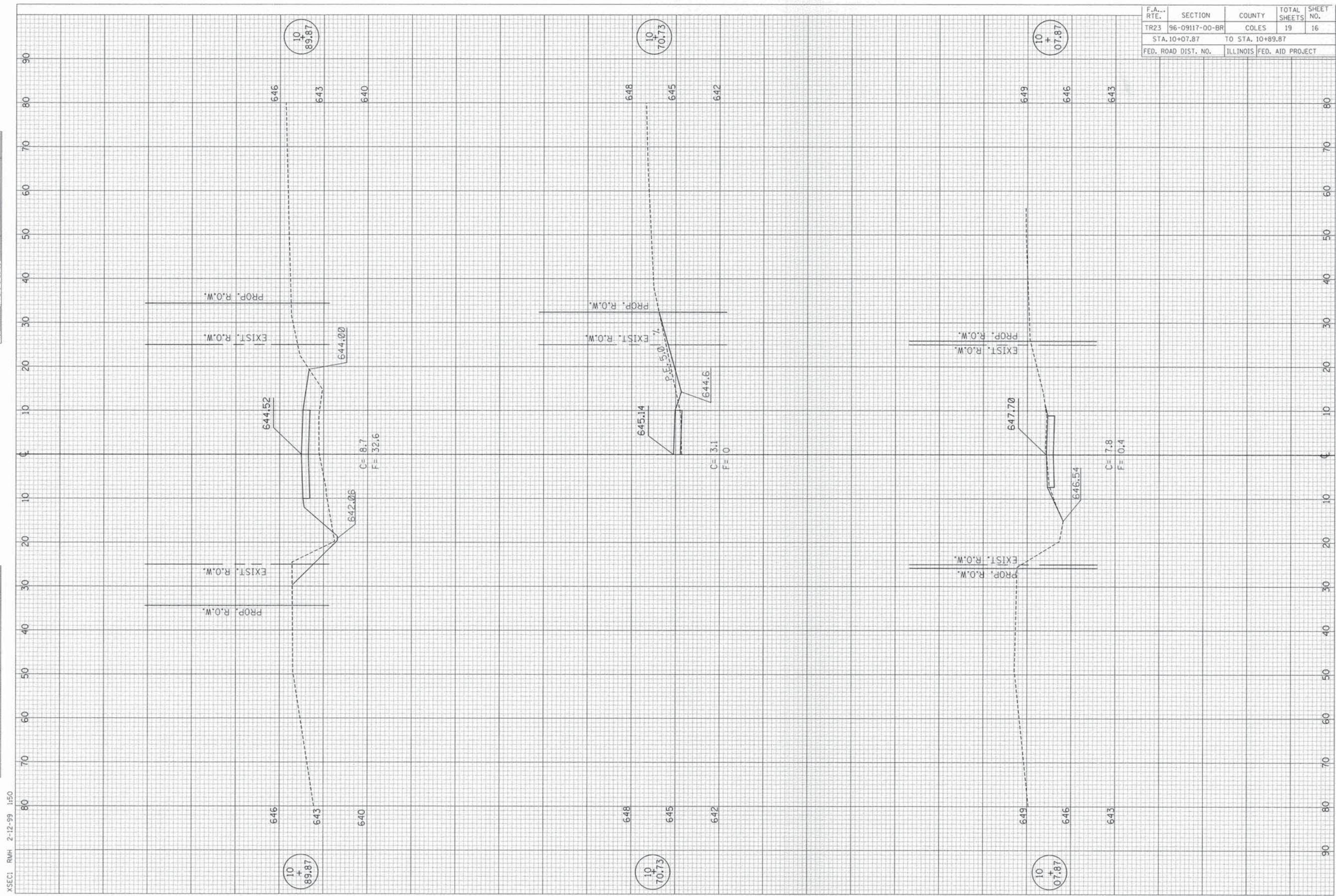
TEMPORARY DITCH CHECK SCHEDULE

STATION	LT	RT	LENGTH
10+53		17'	6'
11+27	24'	23'	12'
12+54	43'	36'	12'
17+47	51'		6'
18+09	40'		6'
18+14		51'	6'
19+15	21'	23'	12'
20+00	18'	18'	12'

BILL OF MATERIAL

ITEM	UNIT	QTY
TEMPORARY EROSION CONTROL SEEDING	POUND	500
TEMPORARY DITCH CHECKS	FOOT	72
PERIMETER EROSION BARRIER	FOOT	1470

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	16
STA. 10+07.87		TO STA. 10+89.87		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

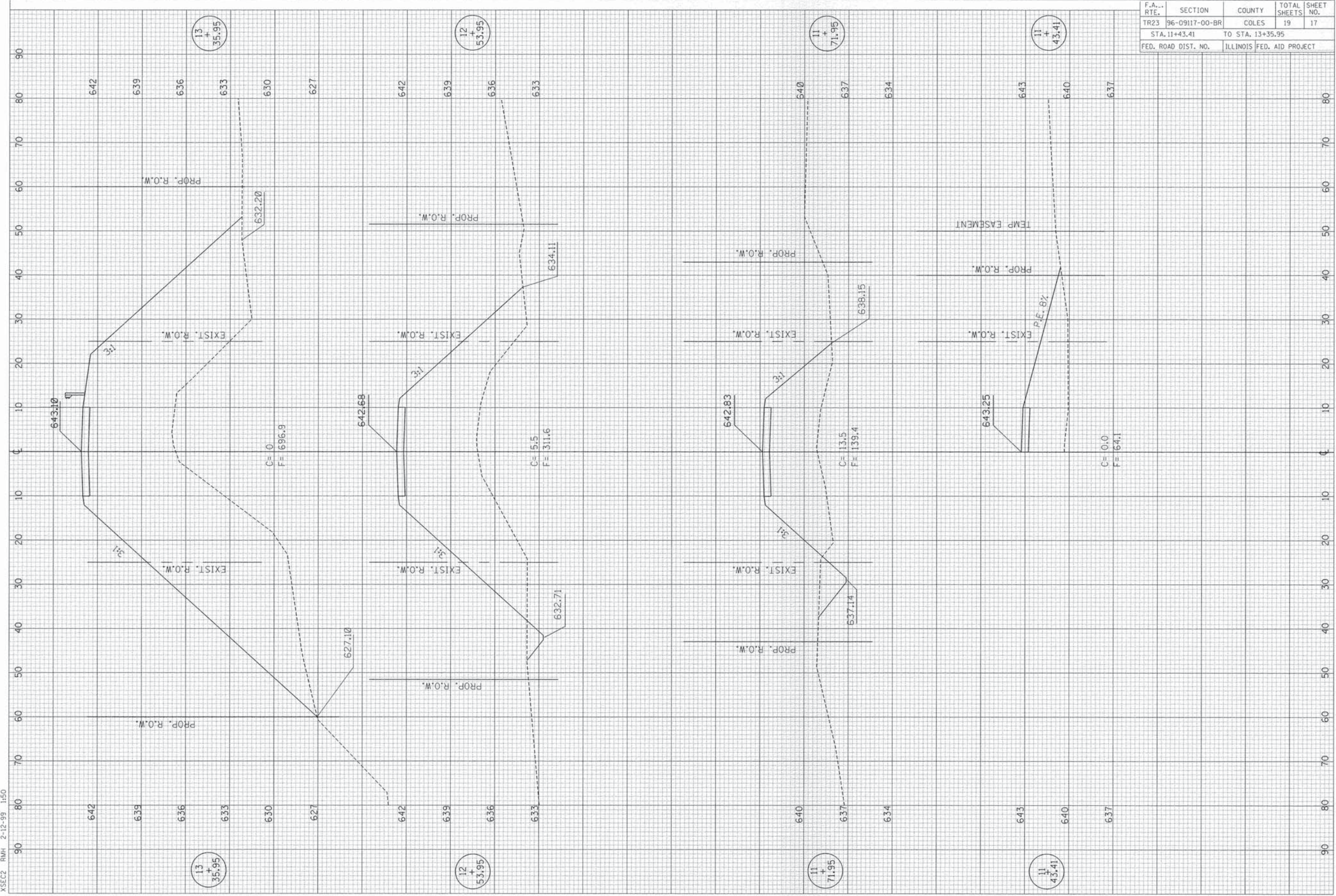


FINAL SURVEY DATE _____ BY _____
 SURVEY NO. _____
 NOTE BOOK NO. _____
 TEMPLATE NO. _____
 AREAS CHECKED _____

ORIGINAL SURVEY DATE _____ BY _____
 SURVEY NO. _____
 NOTE BOOK NO. _____
 TEMPLATE NO. _____
 AREAS CHECKED _____

XSECI RMH 2-12-99 1:50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	17
STA. 11+43.41		TO STA. 13+35.95		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

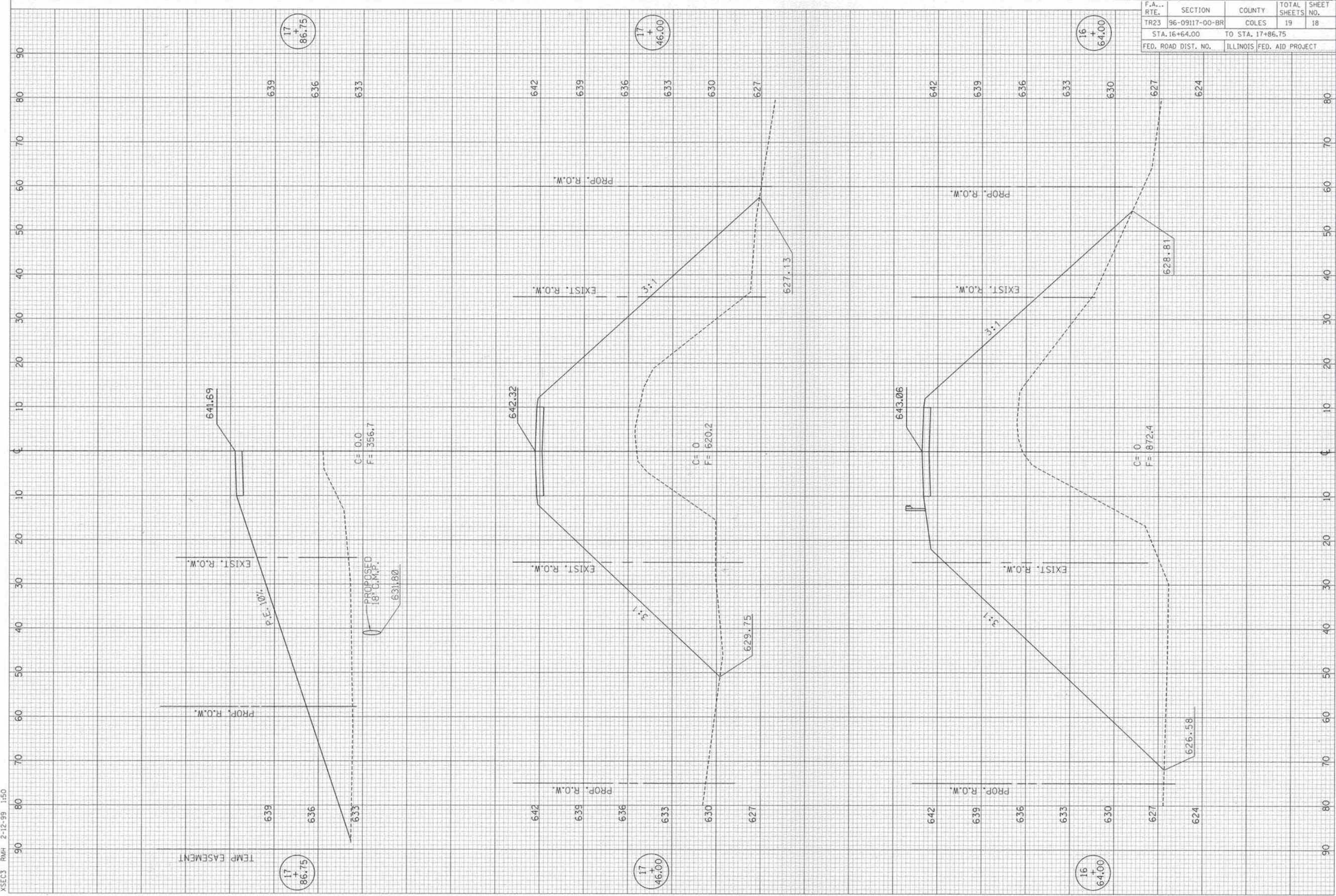


FINAL SURVEY PLOTTED DATE
 NOTE BOOK NO. AREAS CHECKED

ORIGINAL SURVEY PLOTTED DATE
 NOTE BOOK NO. AREAS CHECKED

XSEC2 RMH 2-12-99 1:50

F.A. ... RTE.	SECTION	COUNTY	TOTAL SHEET NO.
TR23	96-09117-00-BR	COLES	19 18
STA. 16+64.00		TO STA. 17+86.75	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	



FINAL SURVEYED
SURVEY PLOTTED
NOTE BOOK DATE
AREAS CHECKED

NO. _____

BY _____

DATE _____

ORIGINAL SURVEYED
SURVEY PLOTTED
NOTE BOOK DATE
AREAS CHECKED

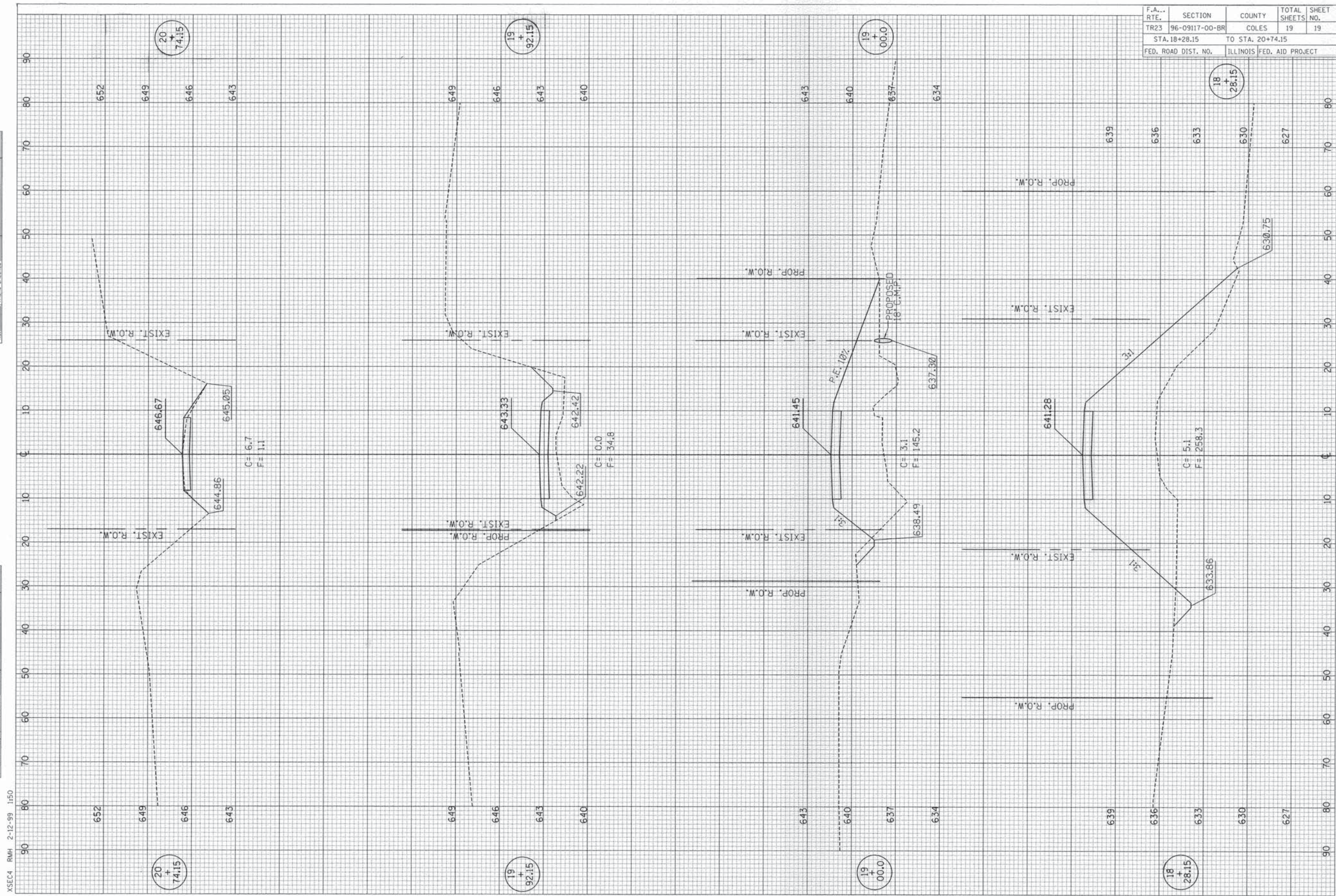
NO. _____

BY _____

DATE _____

XSECS3 RMH 2-12-99 1:50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR23	96-09117-00-BR	COLES	19	19
STA. 18+28.15		TO STA. 20+74.15		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



FINAL SURVEY	DATE
BY	
NO.	
DATE	
BY	
NO.	
DATE	
BY	
NO.	

ORIGINAL SURVEY	DATE
BY	
NO.	
DATE	
BY	
NO.	
DATE	
BY	
NO.	

XSEC4 RMH 2-12-99 1:50

TR23, CROSS SECTIONS STA. 18+28.15 TO STA. 20+74.15