

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	1
FED. ROAD DIST. NO. 7	ILLINOIS	CONTRACT NO. 95636		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM
SECTION 03-03126-00-BR
JONATHAN CREEK TOWNSHIP
TR 99A
MOULTRIE COUNTY

JOB NO. C-97-152-10
PROJECT NO. BROS-0139 (057)

INDEX OF SHEETS

- 1 COVER SHEET
- 2 SUMMARY OF QUANTITIES
- 3 PLAN AND PROFILE
- 4 BRIDGE PLAN AND ELEVATION
- 5-6 PRECAST CONCRETE BRIDGE SLAB
- 7 TYPE S-1 STEEL RAILING
- 8 ABUTMENT DETAILS
- 9 PIER DETAILS
- 10 METAL SHELL PILE DETAILS
- 11 EROSION CONTROL PLAN
- 12-14 CROSS SECTIONS

HIGHWAY STANDARDS

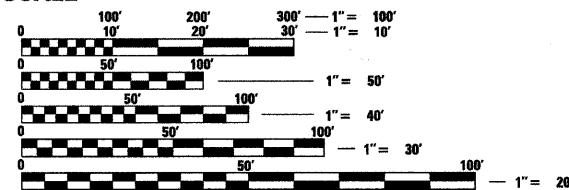
- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATES FOR BRIDGES
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901-01 TRAFFIC CONTROL DEVICES
- BLR 21-8 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITIES

- AMERON CIPS
- COLES MOULTRIE
- VERIZON
- MOULTRIE INDEPENDENT TELE
- MOULTRIE CITY RURAL PUBLIC WATER

ADT-CURRENT 75 (2010) DESIGN ADT 100 (2030)
CLASS-LOCAL RURAL ROAD
DESIGN SPEED-30 MPH

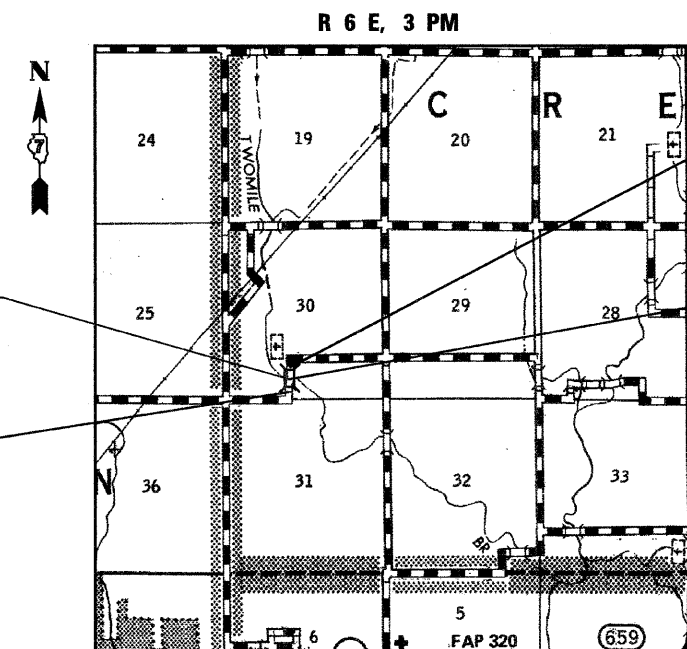
SCALE



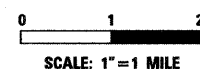
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

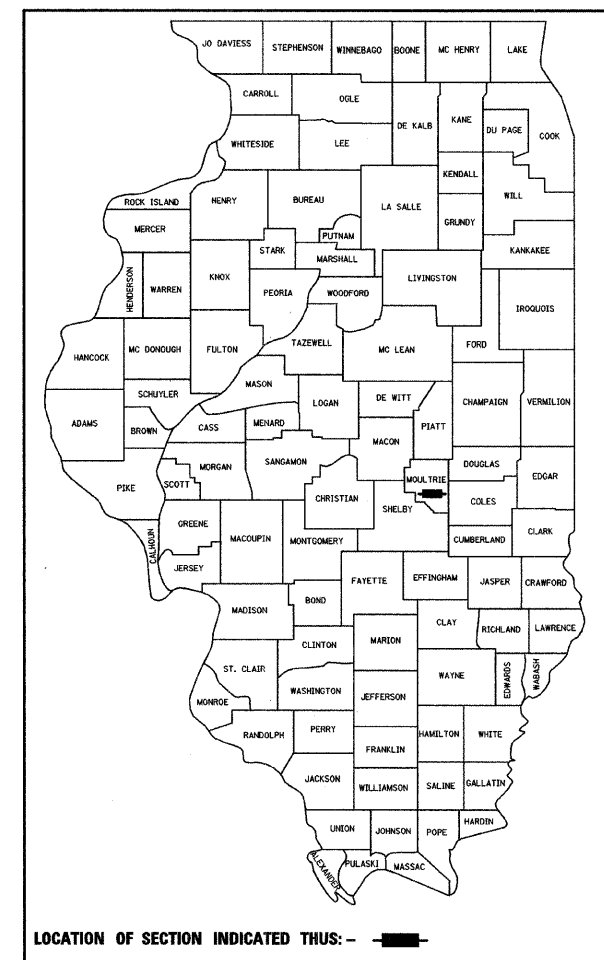
CONTRACT NO. 95636



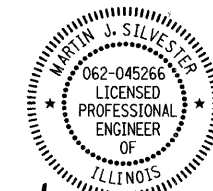
LOCATION MAP



TOTAL AND NET LENGTH OF PROJECT = 600 FT. = 0.11 MI.



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -



Martin J. Silvester
02-10-2011
MARTIN SILVESTER, P.E.
LICENSE EXP. DATE 11-30-2011

APPROVED FEBRUARY 15 20 11
John L. Buel
COUNTY ENGINEER

PASSED 2-22 20 11
Maurice Kasal
DISTRICT SEVEN ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW 2/22 20 11
Robert Druehler
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 UNITS DIAMETER)	UNIT	141
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	78
20200100	EARTH EXCAVATION	CU. YD.	560
20300100	CHANNEL EXCAVATION	CU. YD.	80
20400800	FURNISHED EXCAVATION	CU. YD.	345
* 25000200	SEEDING, CLASS 2	ACRE	1.0
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	90
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	90
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	90
* 25100115	MULCH, METHOD 2	ACRE	1.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	60
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28000400	PERIMETER EROSION BARRIER	FOOT	1300
28100105	STONE RIPRAP, CLASS A3	SQ. YD.	355
28100207	STONE RIPRAP, CLASS A4	TON	409
28200200	FILTER FABRIC	SQ. YD.	610
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	519
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	135
50300225	CONCRETE STRUCTURES	CU. YD.	86
50300280	CONCRETE ENCASEMENT	CU. YD.	7.6
* 50400105	PRECAST CONCRETE BRIDGE SLAB	SQ. FT.	1831
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6720
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	140
51200957	FURNISHING METAL SHELL PILES 12" x 0.250"	FOOT	442
51202305	DRIVING PILES	FOOT	442
51203200	TEST PILE METAL SHELLS	EACH	2
51500100	NAME PLATES	EACH	1
54200223	PIPE CULVERTS, CLASS D, TYPE 1, 18"	FOOT	25
60100965	PIPE DRAINS 18"	FOOT	65
60100975	PIPE DRAINS 21"	FOOT	20
67100100	MOBILIZATION	L. SUM	1
Δ 78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4
* X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
* X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1

* SEE SPECIAL PROVISIONS
 Δ SPECIALTY ITEMS

TREE REMOVAL 6 TO 15 UNITS DIAMETER

STA	OFSET	RT/LT	UNITS
13+50	42'	RT	12
14+52	24'	RT	12
14+52	27'	RT	12
14+41	38'	RT	10
14+41	38'	RT	10
14+41	38'	RT	10
14+82	45'	RT	12

STA	OFSET	RT/LT	UNITS
14+97	33'	LT	13
15+00	50'	LT	13
15+06	41'	LT	7
15+06	41'	LT	8
15+18	42'	LT	7
15+43	49'	LT	8
15+46	41'	LT	7
TOTAL			141

TREE REMOVAL OVER 15 UNITS DIAMETER

STA	OFSET	RT/LT	UNITS
13+03	22'	RT	18
13+30	27'	RT	24
14+03	30'	RT	36
TOTAL			78

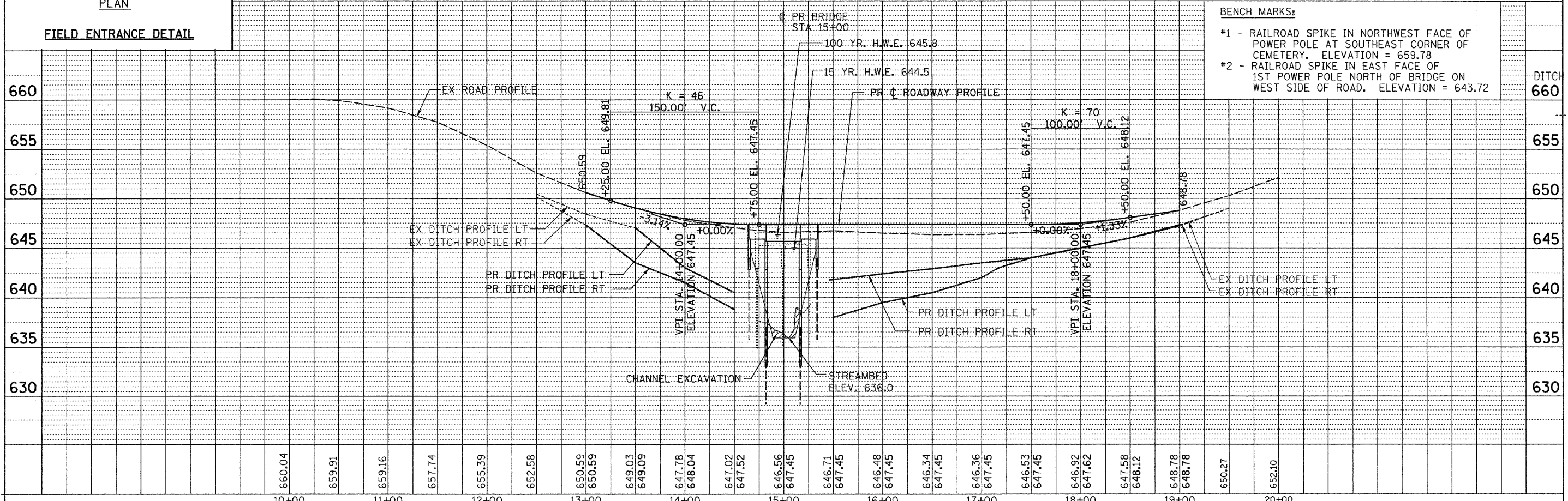
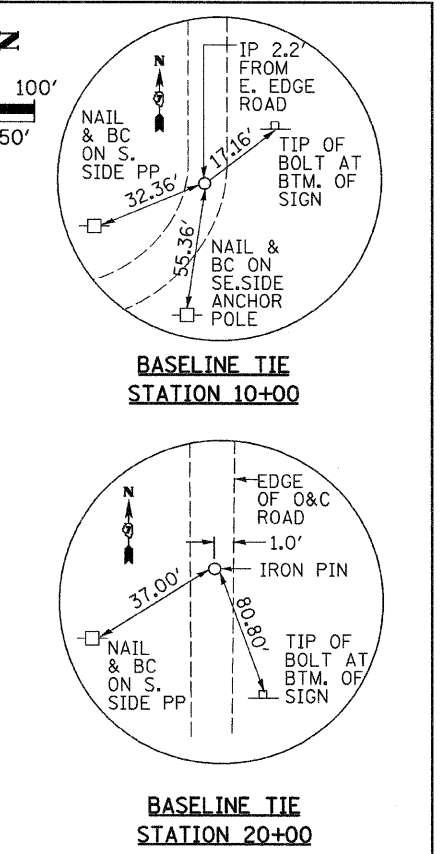
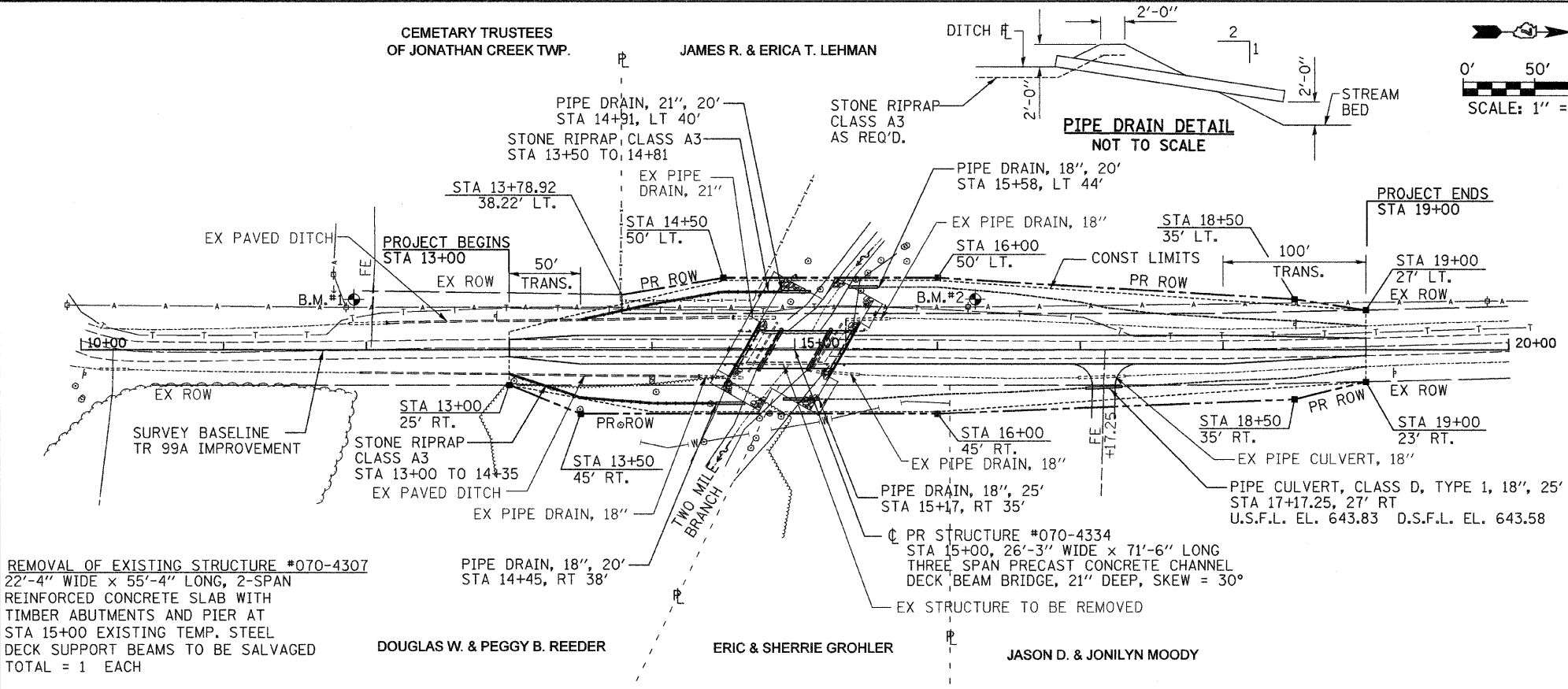
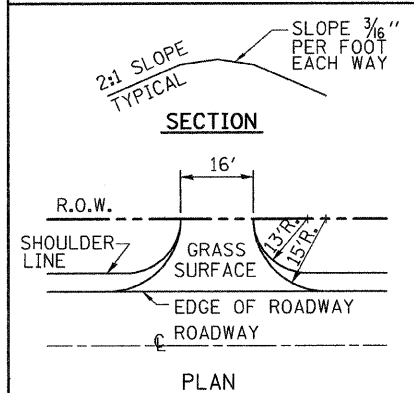
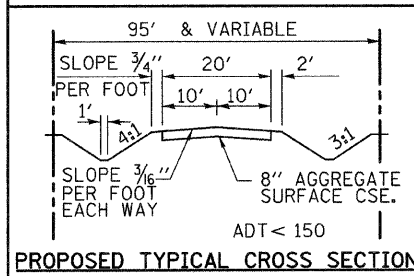
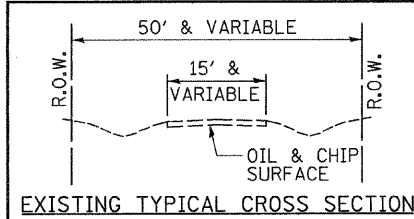
EARTHWORK SCHEDULE

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 13+00 TO STA 14+64.25	86	60	20	125	278	-153
STA 15+35.75 TO STA 19+00	474	75	20	427	619	-192
TOTAL	560	135	40	552	897	-345

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 50% 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

GENERAL NOTES

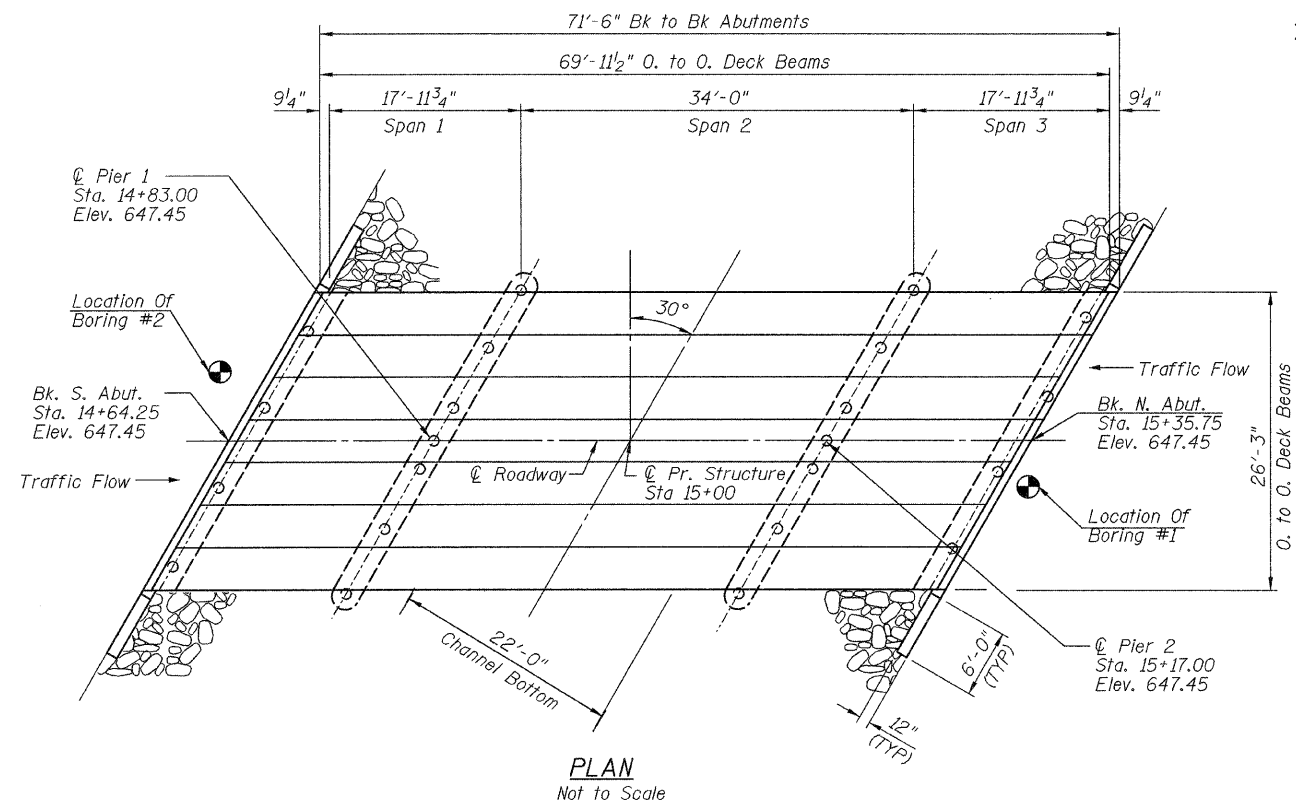
- TEMPORARY EROSION CONTROL TO BE IMPLEMENTED PER THE PLANS AND AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE POSTIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS AND PREVENT DRAINAGE OR PONDING OF WATER ONTO PRIVATE PROPERTY.
- THE FOLLOWING APPLICATION RATES HAVE BEEN USED TO CALCULATE THE ITEMS NECESSARY FOR SEEDING CLASS 2:
 FERTILIZER NUTRIENTS:
 NITROGEN 90 LBS PER ACRE
 PHOSPHOROUS 90 LBS PER ACRE
 POTASSIUM 90 LBS PER ACRE
 MULCH 2 TONS PER ACRE
 THE SEEDING MIXTURE SHALL CONFROM TO ROADSIDE MIXTURE TYPE 2, DURING THE PERIOD BETWEEN NOVEMBER 1 AND DECEMBER 1. THE CONTRACTOR SHALL SUBSTITUTE 10 POUNDS OF PERENNIAL RYE FOR 48 POUNDS OF OATS, SPRING.
- ONLY TREES OR SHRUBS MARKED FOR REMOVAL BY THE ENGINEER SHALL BE REMOVED BY THE CONTRACTOR.
- ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE R.O.W. AND EASEMENTS SHALL BE SEEDDED AS DIRECTED BY THE ENGINEER.



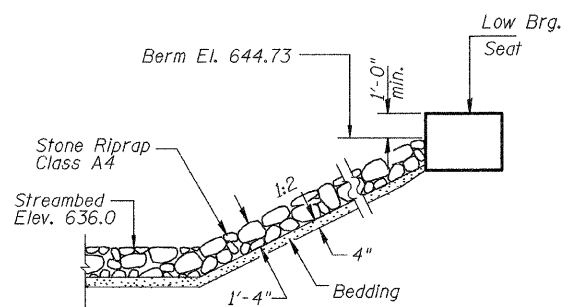
BENCH MARKS:

- #1 - RAILROAD SPIKE IN NORTHWEST FACE OF POWER POLE AT SOUTHEAST CORNER OF CEMETERY. ELEVATION = 659.78
- #2 - RAILROAD SPIKE IN EAST FACE OF 1ST POWER POLE NORTH OF BRIDGE ON WEST SIDE OF ROAD. ELEVATION = 643.72

FILE NAME =	USER NAME = .USER.	DESIGNED - MJS	REVISED -	JONATHAN CREEK TOWNSHIP MOULTRIE COUNTY STATE OF ILLINOIS	PLAN AND PROFILE TR 99A OVER TWO MILE BRANCH	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
...V8704334-003-P1anProf.dgn		DRAWN - AGG/GEW	REVISED -			TR99A	03-03126-00-BR	MOULTRIE	14	3	
THE UPCHURCH GROUP, INC.	PLOT SCALE = #SCALE#	CHECKED -	REVISED -			CONTRACT NO. 95636					
	PLOT DATE = 2/18/2011 10:25:59 AM	DATE -	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					



PLAN
Not to Scale



STONE RIPRAP DETAIL
Not to Scale

GENERAL NOTES

1. The contractor shall drive (2) test piles of the nominal required bearing specified in production locations at substructures specified or approved by the engineer before ordering the remainder of the piles.
2. Boring data is shown in the special provisions only as a guide to the bidders in estimating soil conditions that may be encountered.
3. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provision.
4. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the engineer.
5. Reinforcement bars designated (E) shall be epoxy coated.

DESIGN STRESSES:

SUBSTRUCTURE
 $f_y = 60,000$ p.s.i. (Reinforcement)
 $f'_c = 3,500$ p.s.i.

SUPERSTRUCTURE
 $f_y = 60,000$ p.s.i. (Reinforcement)
 $f'_c = 4,500$ p.s.i.

DESIGN LOADING

HL 93

DESIGN SPECIFICATIONS

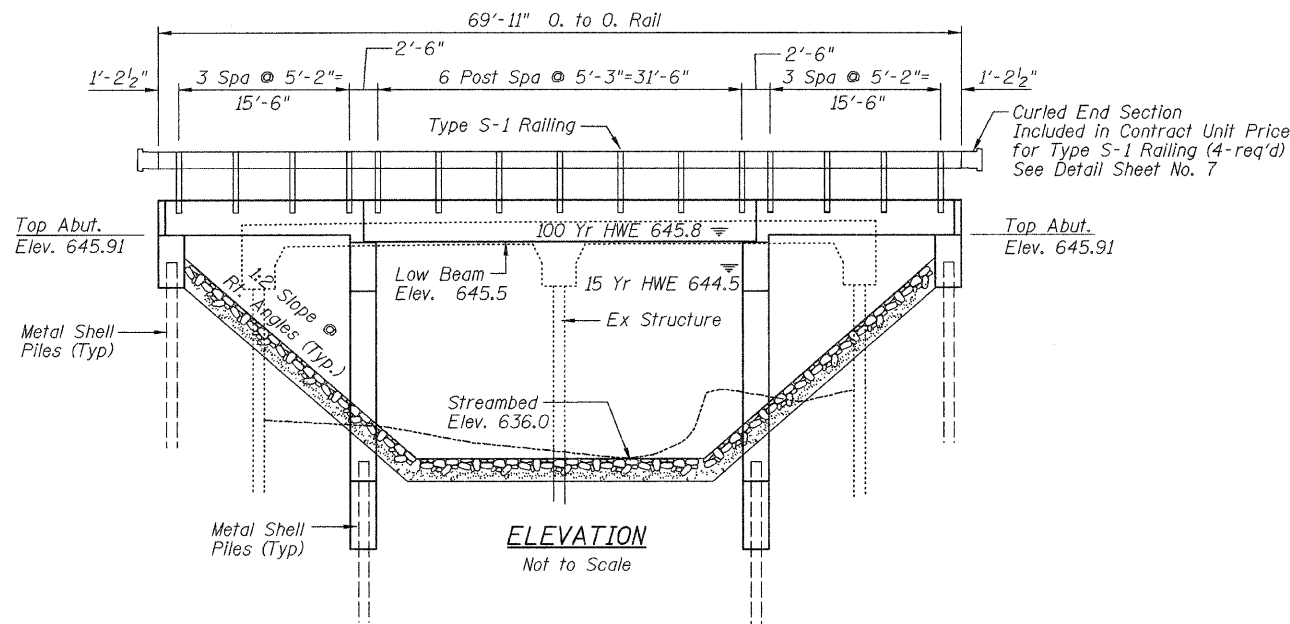
2007 LRFD AASHTO 4th Edition

This structure has been designed to be stable for scour conditions in accordance with the FHWA Technical Advisory - T 5140.23, "Evaluating scour at Bridges" and hydraulic engineering circular 18 - Evaluating Scour at Bridges.

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 the requirements of the current AASHTO - Standard Specifications for Highway Bridges.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton		409	409
Filter Fabric	Sy. Yd.		610	610
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		135	135
Concrete Structures	Cu. Yd.		86	86
Concrete Encasement	Cu. Yd.		7.6	7.6
Precast Concrete Bridge Slab	Sq. Ft.	1831		1831
Reinforcement Bars, Epoxy Coated	Pound		6720	6720
Steel Railing, Type S-1	Foot	140		140
Furnishing Metal Shell Piles, 12"x0.250"	Foot		442	442
Driving Piles	Foot		442	442
Test Pile Metal Shells	Each		2	2
Name Plate	Each		1	1
Underwater Structure Excavation Protection Special, Location 1	Each		1	1
Underwater Structure Excavation Protection Special, Location 2	Each		1	1



ELEVATION
Not to Scale

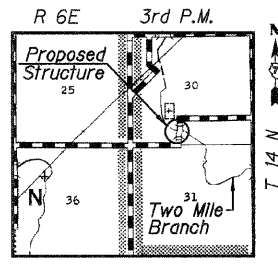
WATERWAY INFORMATION

Drainage Area = 12.5 Sq. Mi. - Pr. Low Grade Elev. = 647.35 @ Sta. 15+00

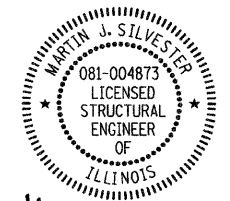
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exlst.	Prop.		Exlst.	Prop.	Exlst.	Prop.
Design	15	1069	326	367	644.5	0.2	0.2	644.7	644.6
Base	100	1835	359	422	645.8	0.6	0.4	646.4	646.2
Overtopping									
Max. Calc.	500	2439	359	422	646.6	1.2	0.7	647.8	647.3

TWO MILE BRANCH
 BUILT 20__ BY
 MOULTRIE COUNTY
 JONATHAN CREEK TOWNSHIP
 SEC. 03-03126-00-BR
 STATION 15+00 PROJECT NO ____
 STR. NO. 070-4334 LOADING HL-93

LETTERING FOR NAME PLATE
 LOCATE ON THE SE WINGWALL



LOCATION SKETCH



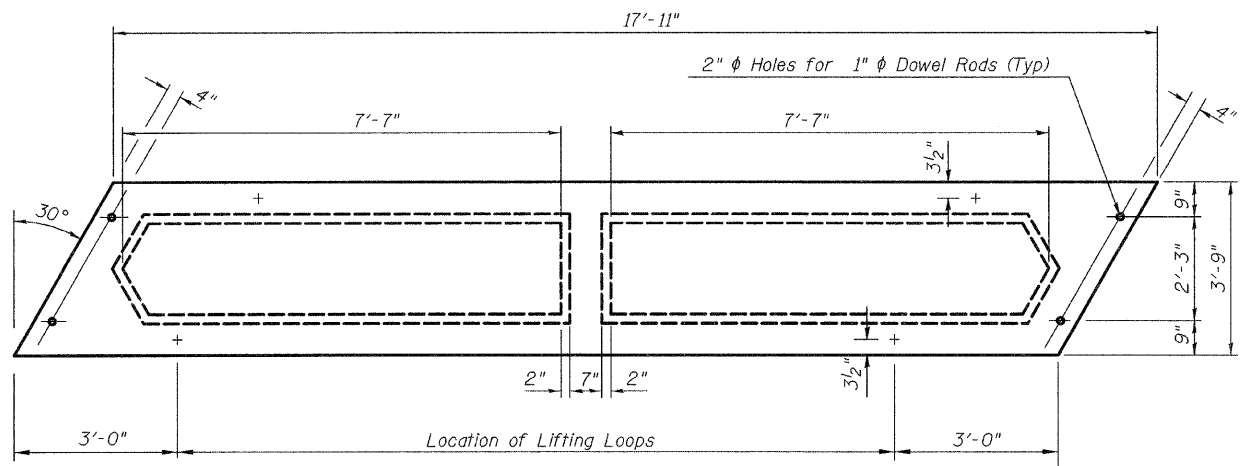
MARTIN J. SILVESTER, S.E.
 LICENSE EXP. DATE 11-30-12

GENERAL PLAN & ELEVATION
TR 99A OVER TWO MILE BRANCH
SECTION 03-01326-00-BR
STATION 15+00
MOULTRIE COUNTY
STRUCTURE NO. 070-4334

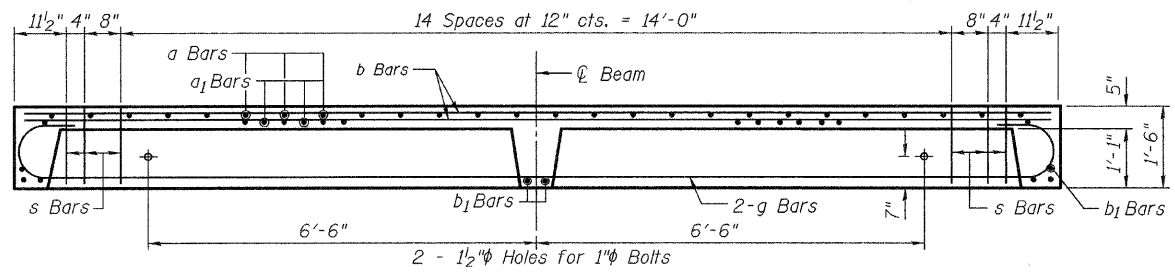
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	4
CONTRACT NO. 95636				

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT

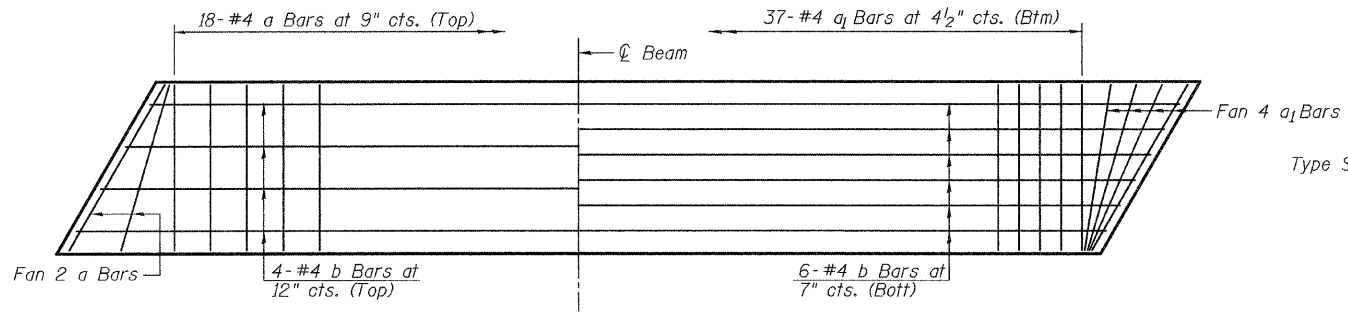
THE UPCHURCH GROUP, INC.



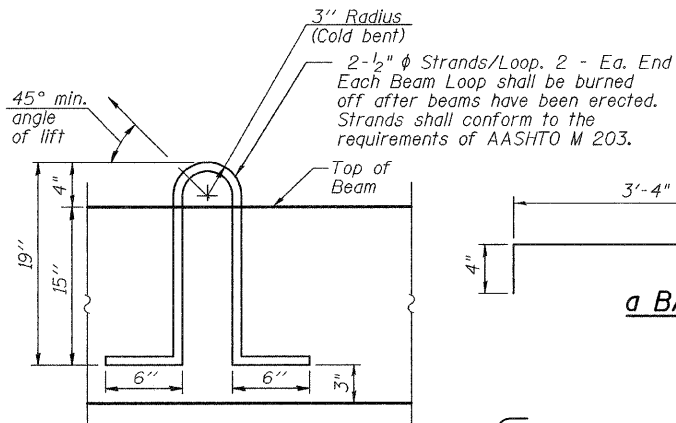
PLAN



LONGITUDINAL SECTION

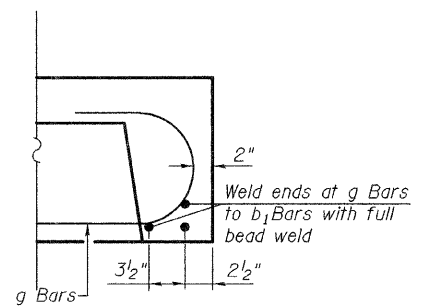
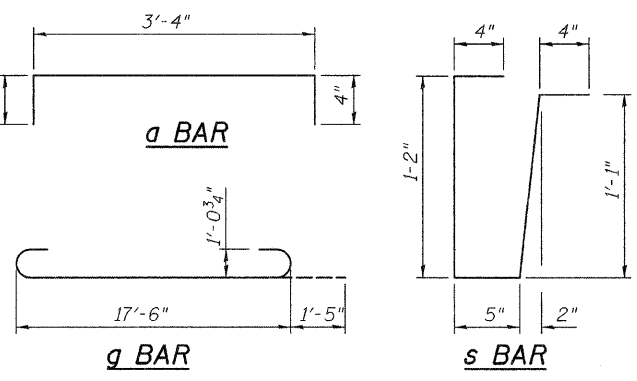


SLAB REINFORCEMENT

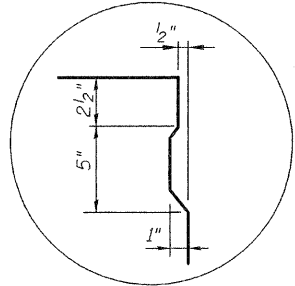


LIFTING LOOP DETAIL

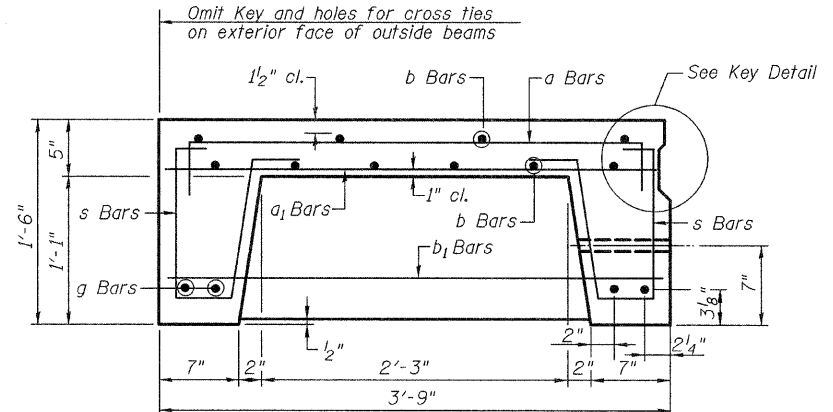
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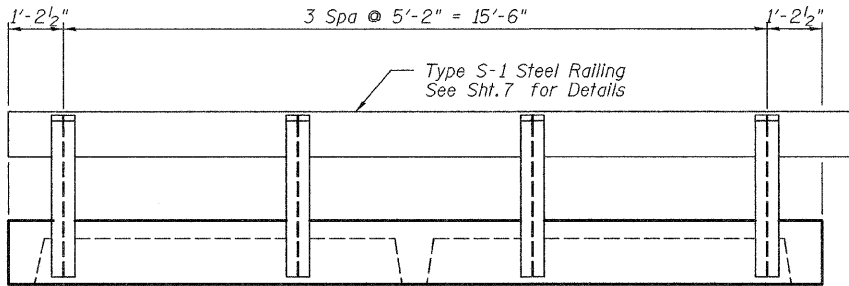
DETAIL A



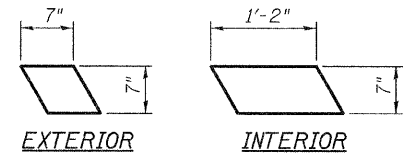
KEY DETAIL



TYPICAL SECTION



OUTSIDE BEAM POST SPACING DETAIL

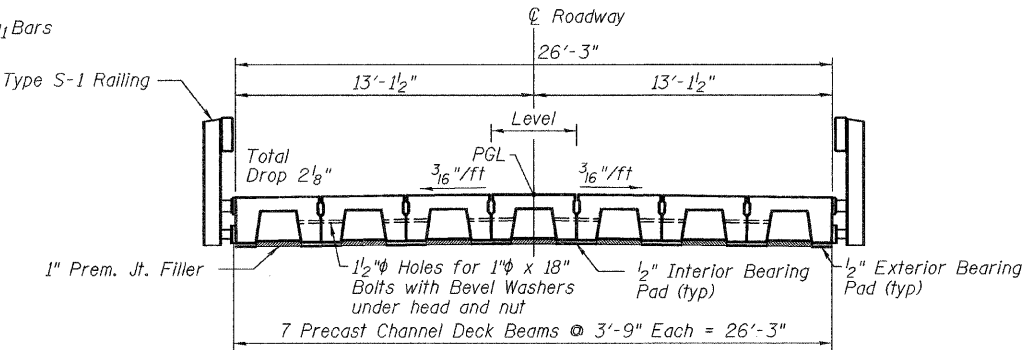


BEARING PADS

(1/2" - 8 Required - Exterior)
(1/2" - 24 Required - Interior)

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
a	22	#4	4'-0"	┌
a1	45	#4	3'-3"	┌
b	10	#4	17'-6"	┌
b1	8	#4	3'-6"	┌
g	4	#10	20'-5"	┌
s	38	#3	3'-4"	┌



TYPICAL CROSS SECTION

NOTES

The units shall remain on the bottom supporting forms until the concrete has attained a compressive strength of not less than 3,500 pounds per square inch. This work shall be done and paid for in accordance with Section 504 of the Standard Specifications effective January 1, 2007. In case of conflict these notes shall take precedence. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Space reinforcement to miss holes for dowel rods. Reinforcement bars shall conform to ASTM A 706, Grade 60. See Special Provisions. Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Unless otherwise approved by the Engineer, lifting loops shall be 1/2" diameter non-galvanized high strength stress relieved wire strands. A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling. Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1" diameter bolts and of grouting longitudinal shear key is included in the Unit bid price for "Precast Concrete Bridge Slab." Tack welding of stirrups to longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer.

BILL OF MATERIAL

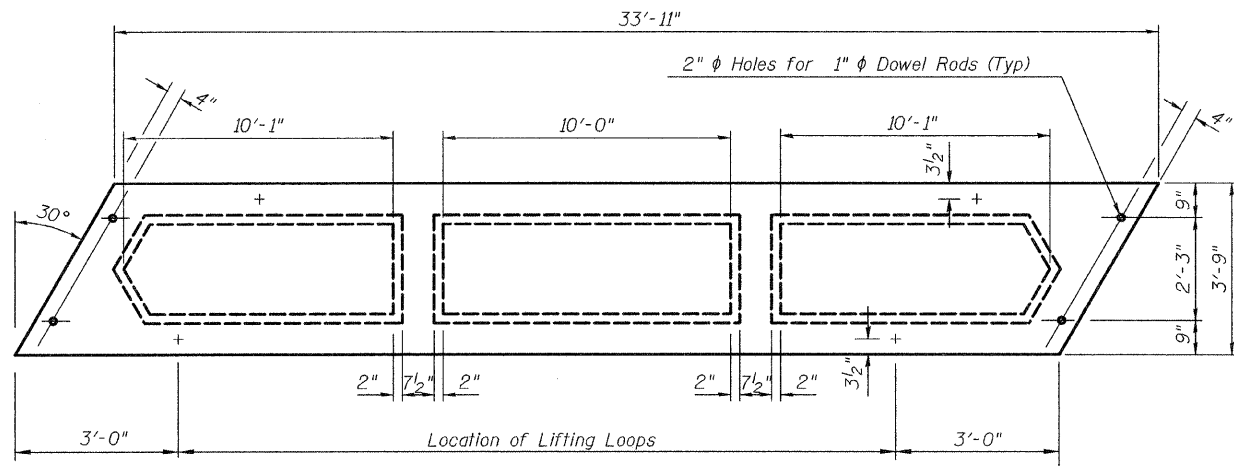
ITEM	UNIT	QUANTITY
Precast Concrete Bridge Slab	Sq. Ft.	941

18" x 45" PRECAST CONCRETE BRIDGE SLAB
STRUCTURE NO. 070-4334

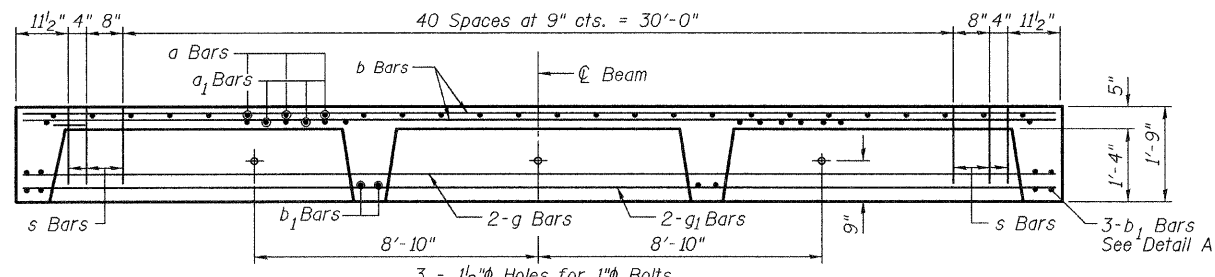
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THE UPCHURCH GROUP, INC.

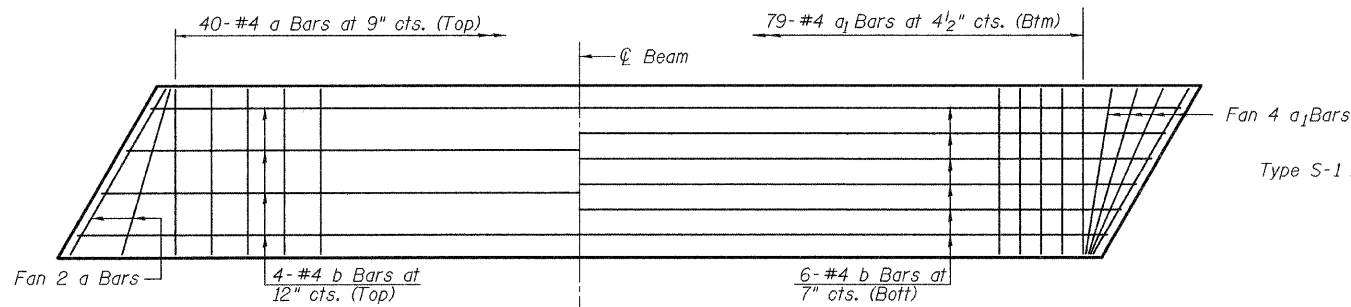
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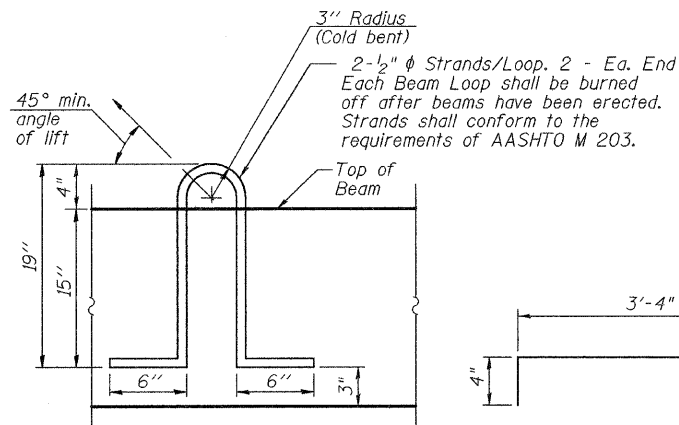
PLAN



LONGITUDINAL SECTION



SLAB REINFORCEMENT

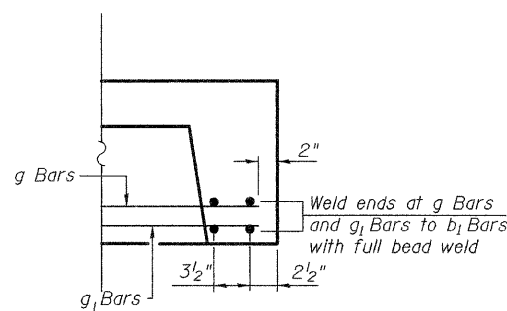


LIFTING LOOP DETAIL

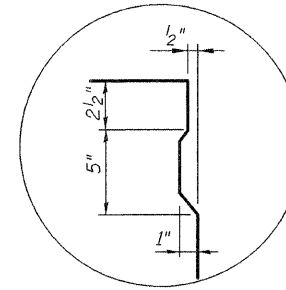
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a BAR

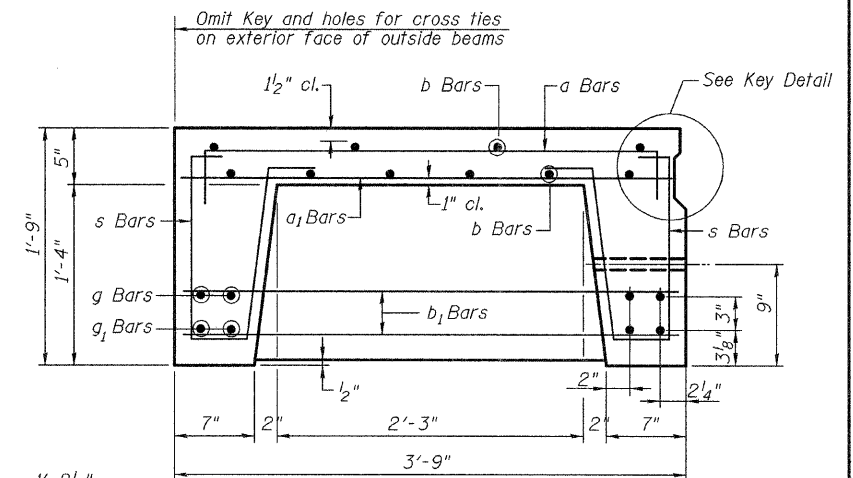
s BAR



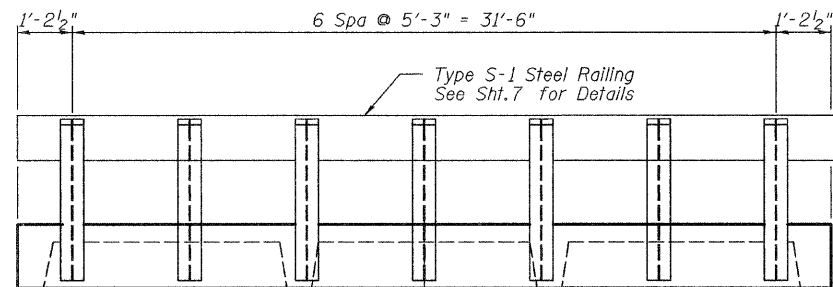
DETAIL A



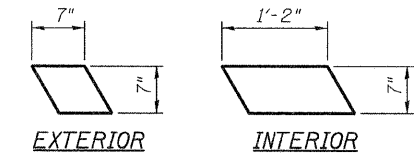
KEY DETAIL



TYPICAL SECTION



OUTSIDE BEAM POST SPACING DETAIL

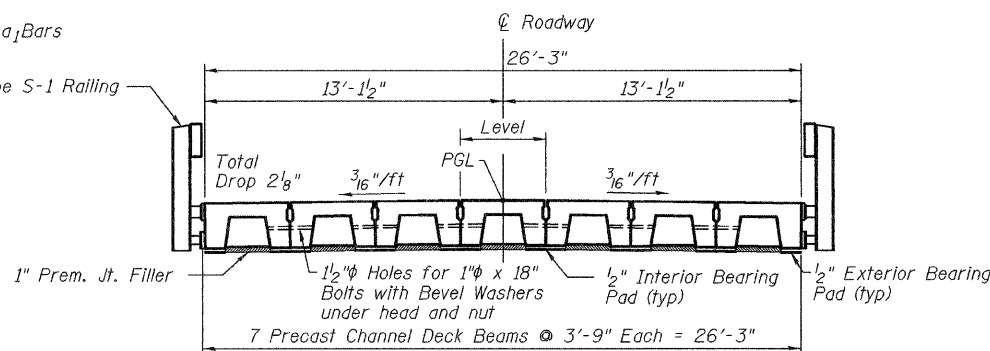


BEARING PADS

(1/2" - 4 Required - Exterior)
(1/2" - 12 Required - Interior)

**BAR LIST
ONE BEAM ONLY**
(For information only)

Bar	No.	Size	Length	Shape
a	44	#4	4'-0"	□
a1	87	#4	3'-3"	—
b	10	#4	33'-6"	—
b1	12	#4	3'-6"	—
g	4	#10	33'-7"	—
g1	4	#11	33'-7"	—
s	90	#3	3'-10"	□



TYPICAL CROSS SECTION

NOTES

The units shall remain on the bottom supporting forms until the concrete has attained a compressive strength of not less than 3,500 pounds per square inch.

This work shall be done and paid for in accordance with Section 504 of the Standard Specifications effective January 1, 2007. In case of conflict these notes shall take precedence.

The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set.

Space reinforcement to miss holes for dowel rods.

Reinforcement bars shall conform to ASTM A 706, Grade 60. See Special Provisions.

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

Unless otherwise approved by the Engineer, lifting loops shall be 1/2" non-galvanized high strength stress relieved wire strands. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.

Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels, of furnishing and assembling of 1" bolts and of grouting longitudinal shear key is included in the Unit bid price for "Precast Concrete Bridge Slab."

Tack welding of stirrups to longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Concrete Bridge Slab	Sq. Ft.	890

21" x 45" PRECAST CONCRETE BRIDGE SLAB

STRUCTURE NO. 070-4334

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	6

CONTRACT NO. 95636

THE UPCHURCH GROUP, INC.

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT

NOTES

Hollow structural steel shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

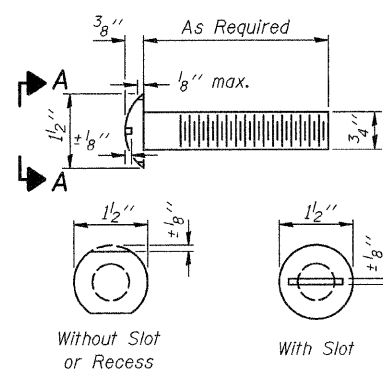
All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pad between the post and concrete.

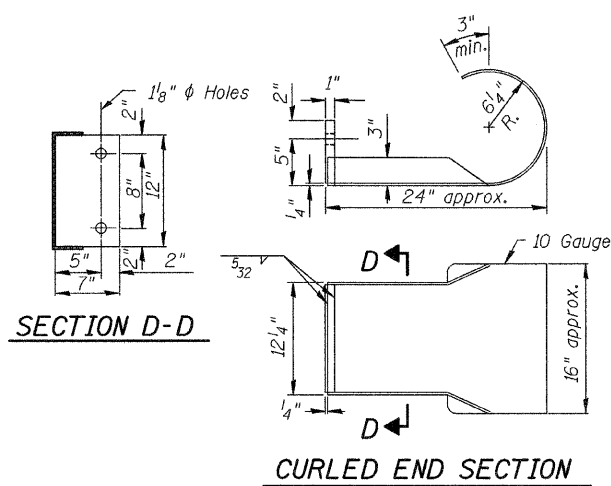
The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

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.

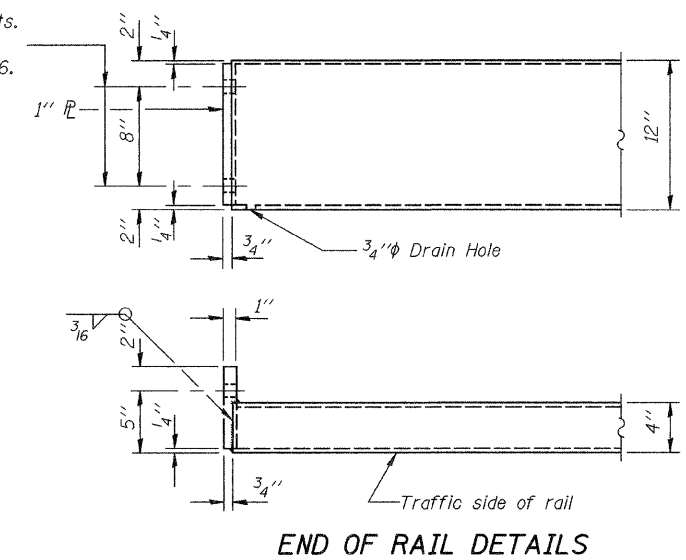
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



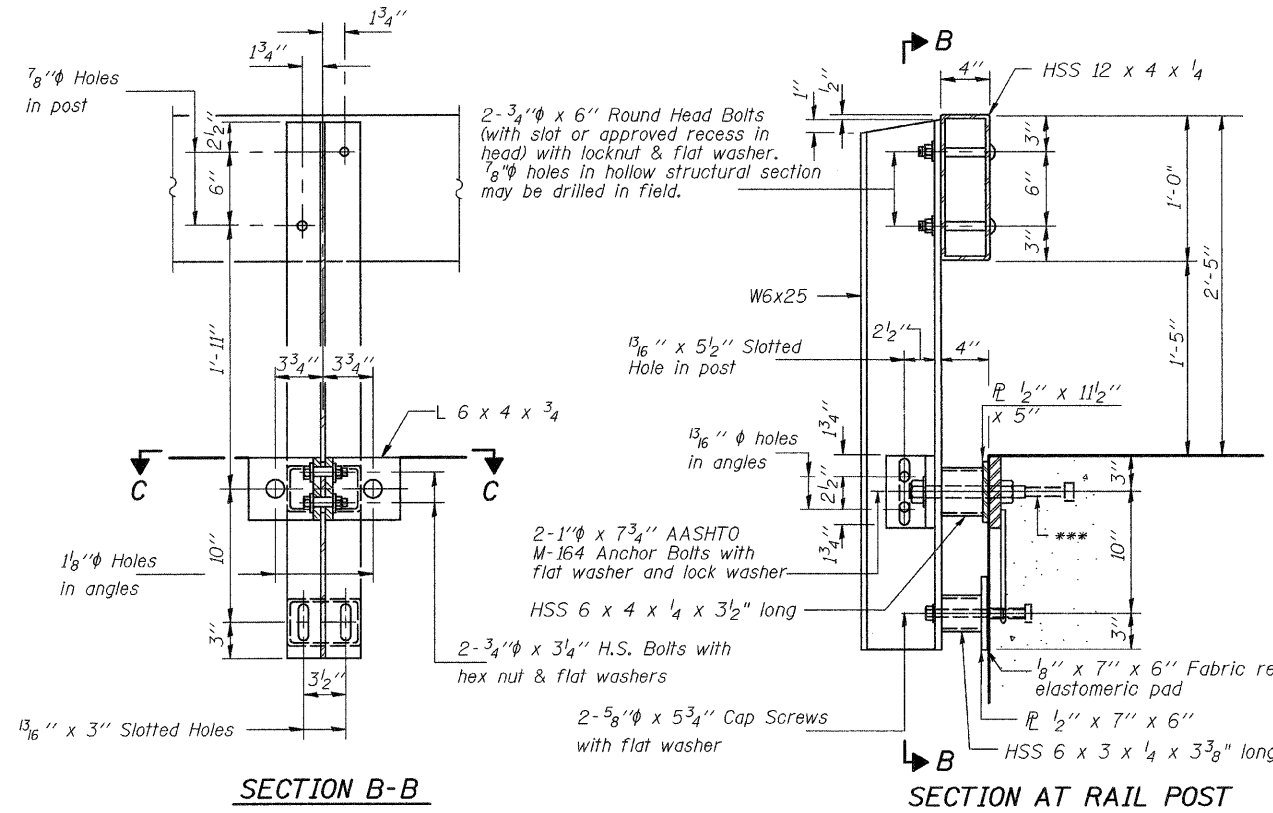
**VIEW A-A
ROUND HEAD BOLT**



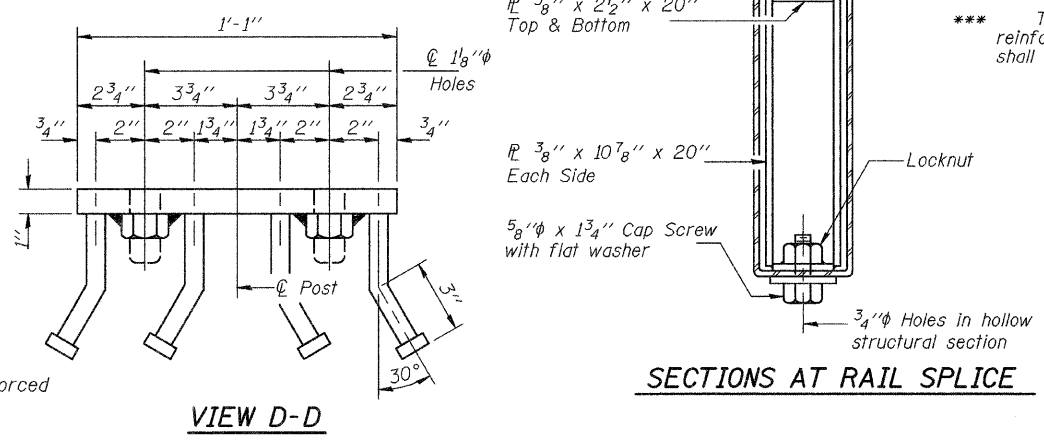
1/8" Holes for 1" x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guardrail connection shown on Std. 631026.



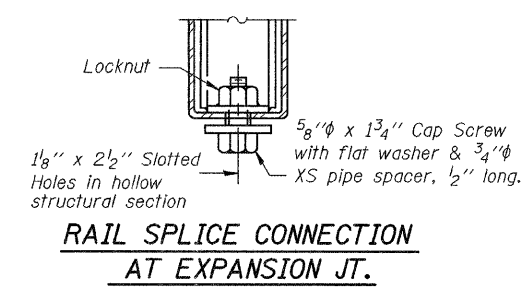
END OF RAIL DETAILS



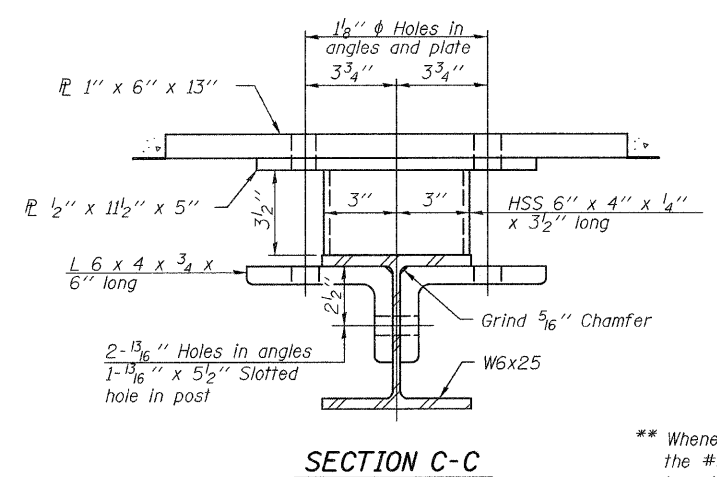
SECTION AT RAIL POST



SECTIONS AT RAIL SPLICE



**RAIL SPLICE CONNECTION
AT EXPANSION JT.**

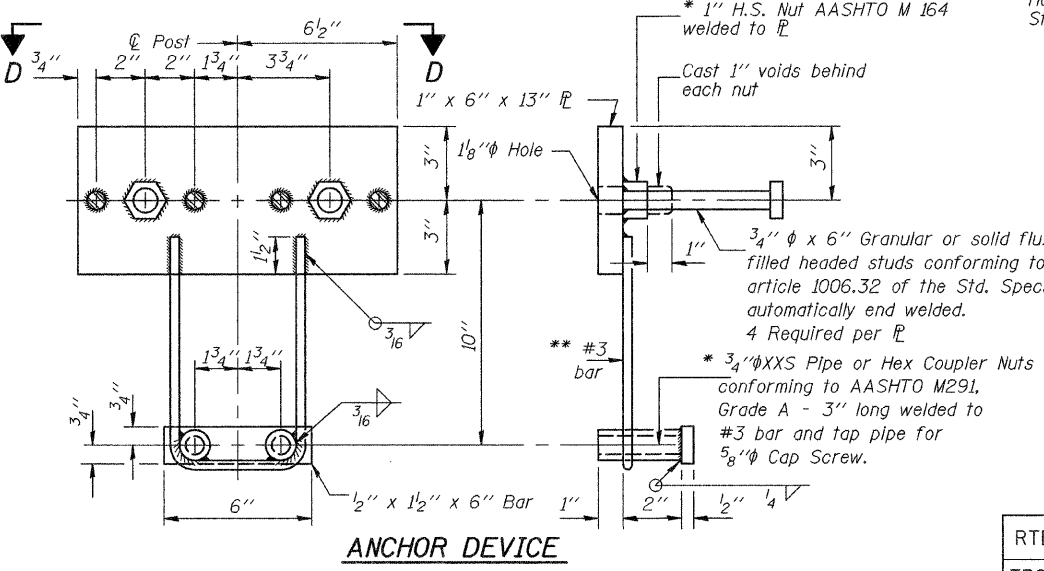


SECTION C-C

BILL OF MATERIAL

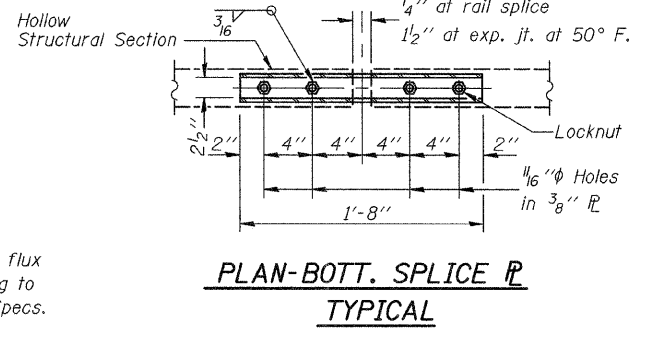
Item	Unit	Quantity
Steel Railing Type S-1	Foot	140

*** 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".



ANCHOR DEVICE

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



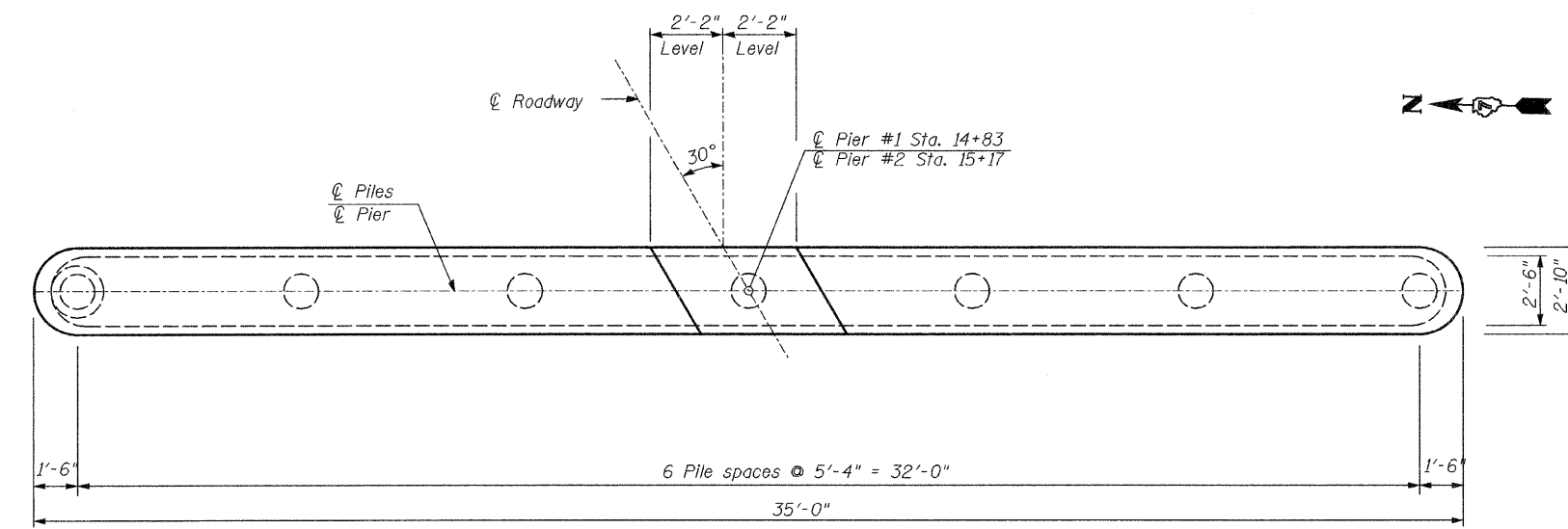
**PLAN-BOTT. SPLICE R
TYPICAL**

**TYPE S-1 STEEL RAILING
STRUCTURE NO. 070-4334**

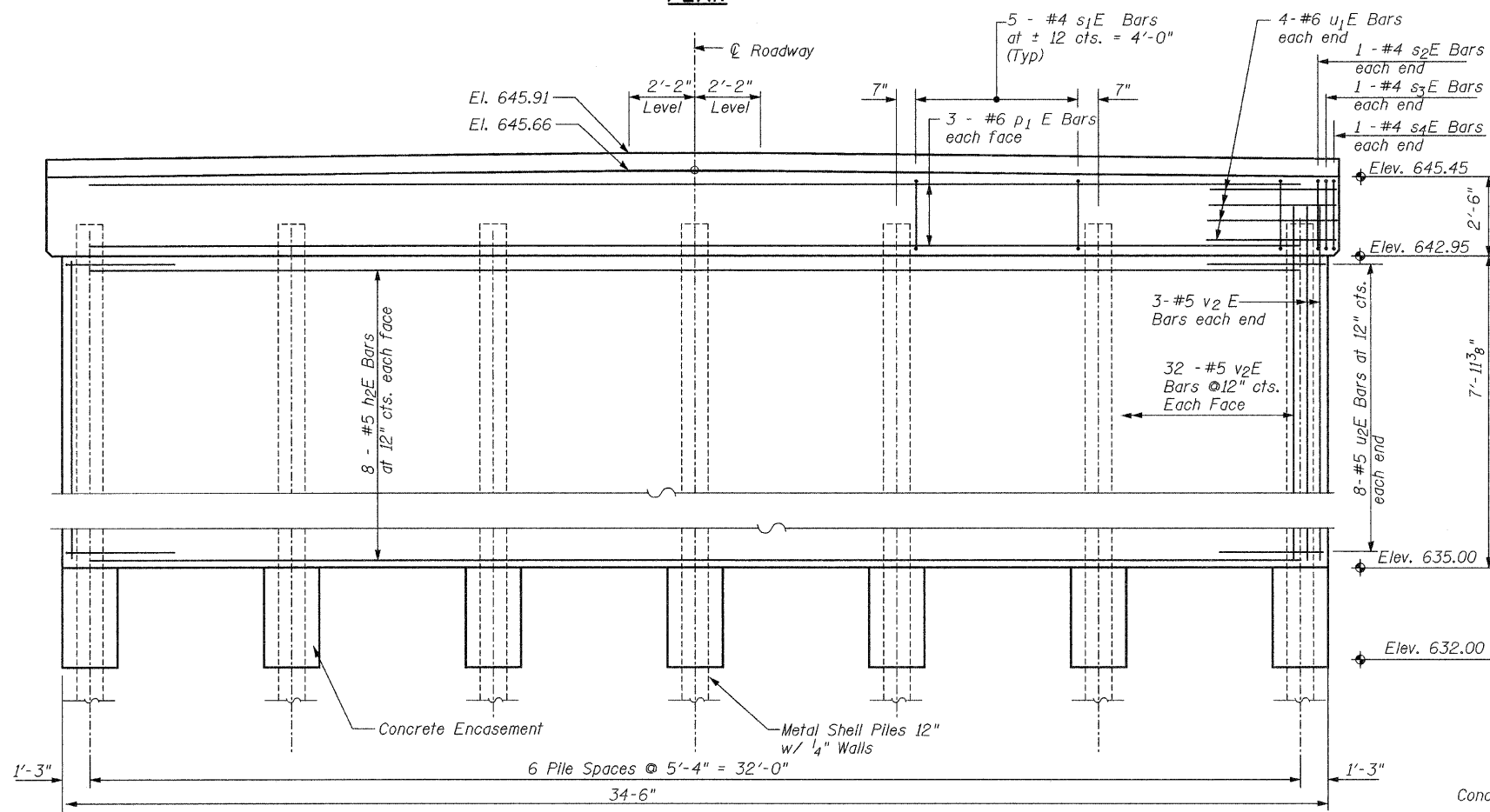
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	7
CONTRACT NO. 95636				

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT

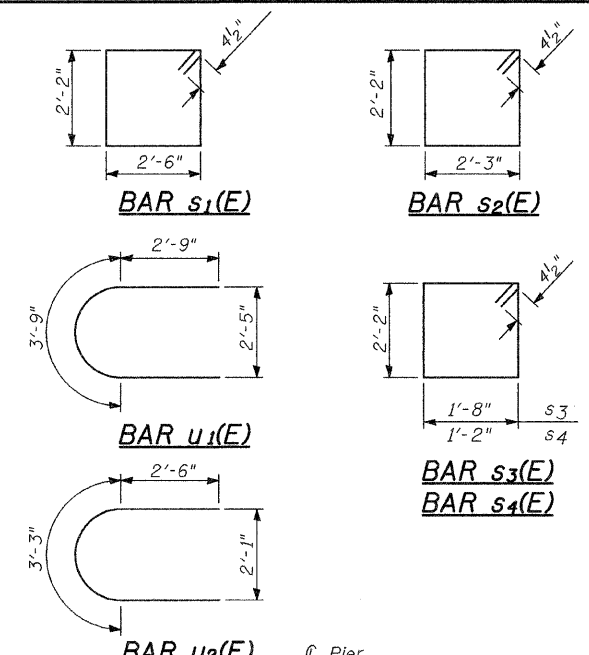
THE UPCHURCH GROUP, INC.



PLAN



ELEVATION
(Looking North)



SECTION THRU PIER

BILL OF MATERIAL

BOTH PIERS				
Bar	No.	Size	Length	Shape
h ₂ E	32	#5	31'-6"	
p ₁ E	12	#6	31'-6"	
s ₁ E	60	#4	10'-1"	
s ₂ E	4	#4	9'-7"	
s ₃ E	4	#4	8'-5"	
s ₄ E	4	#4	7'-5"	
u ₁ E	16	#6	9'-3"	
u ₂ E	32	#5	8'-3"	
v ₂ E	140	#5	8'-9"	
Structure Excavation			Cu.Yd.	60
Concrete Structures			Cu.Yd.	66
Concrete Encasement			Cu.Yd.	7.6
Reinforcement Bars, Epoxy Coated			Pound	3870
Furnishing Metal Shell Piles 12"x0.250"			Foot	322
Driving Piles			Foot	322
Underwater Structure Excavation Protection Location 1			Each	1
Underwater Structure Excavation Protection Location 2			Each	1

PILE DATA

Type & Size:	Metal Shell Piles 12" x 0.250"
No. Required (Pier 1):	7
No. Required (Pier 2):	7
Nominal Required Bearing:	200 kips
Allowable Resistance Available:	100 kips
Est. Length (Pier 1):	23 Ft.
Est. Length (Pier 2):	23 Ft.

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.
See sheet 10 of 14 for bearing pad details.

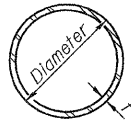
PIER DETAILS
STRUCTURE NO. 070-4334

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	9
CONTRACT NO. 95636				

*1/4" Jt. shall be filled with non-shrink grout. 1/4" dimension may vary to accommodate tolerance in beam lengths.

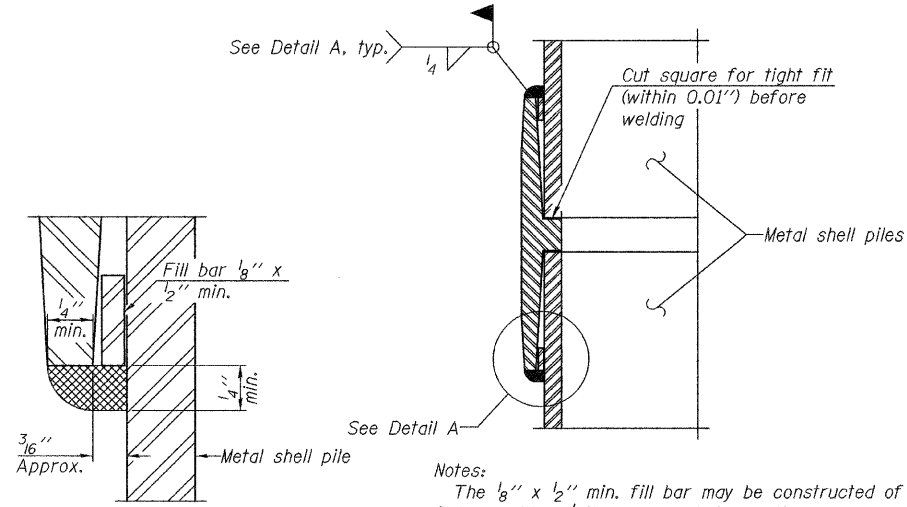
THE UPCHURCH GROUP, INC.

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT



METAL SHELL PILE TABLE

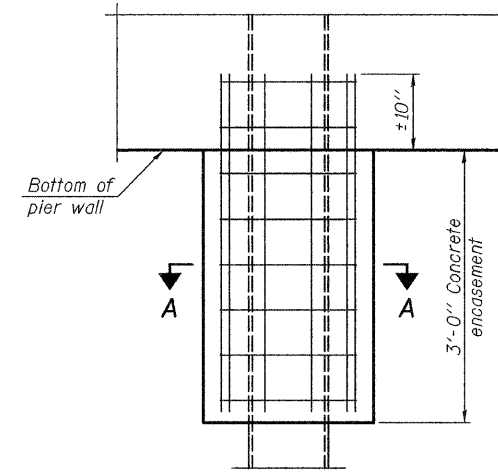
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



DETAIL A

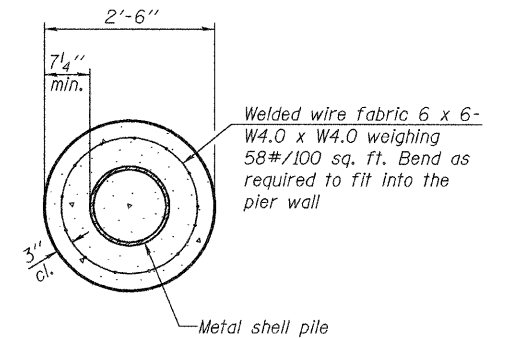
Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



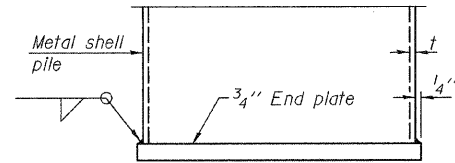
ELEVATION

CONCRETE ENCASEMENT AT PIERS

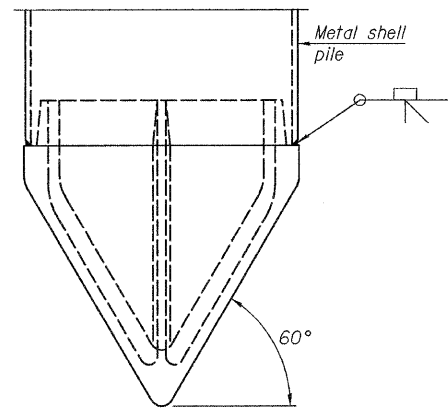


SECTION A-A

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



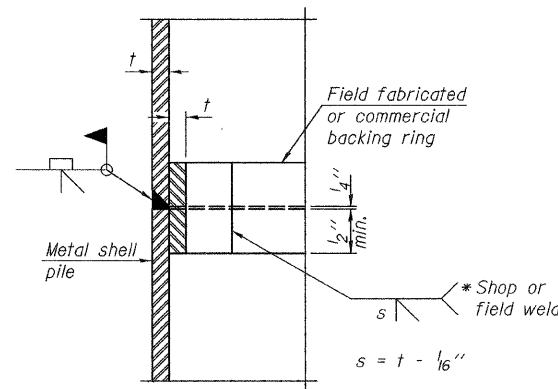
END PLATE ATTACHMENT



Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

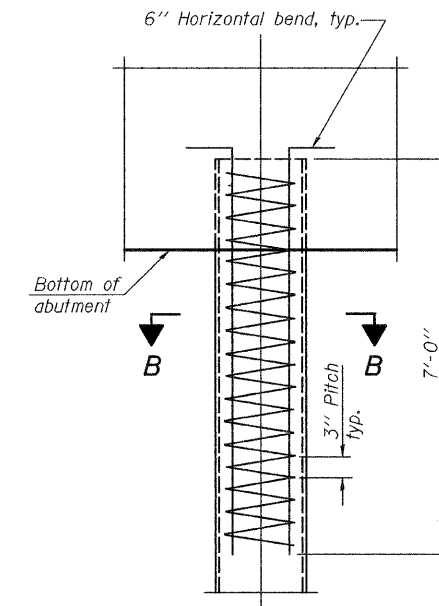
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)



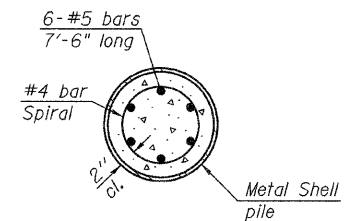
COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION

METAL SHELL REINFORCEMENT AT ABUTMENTS



SECTION B-B

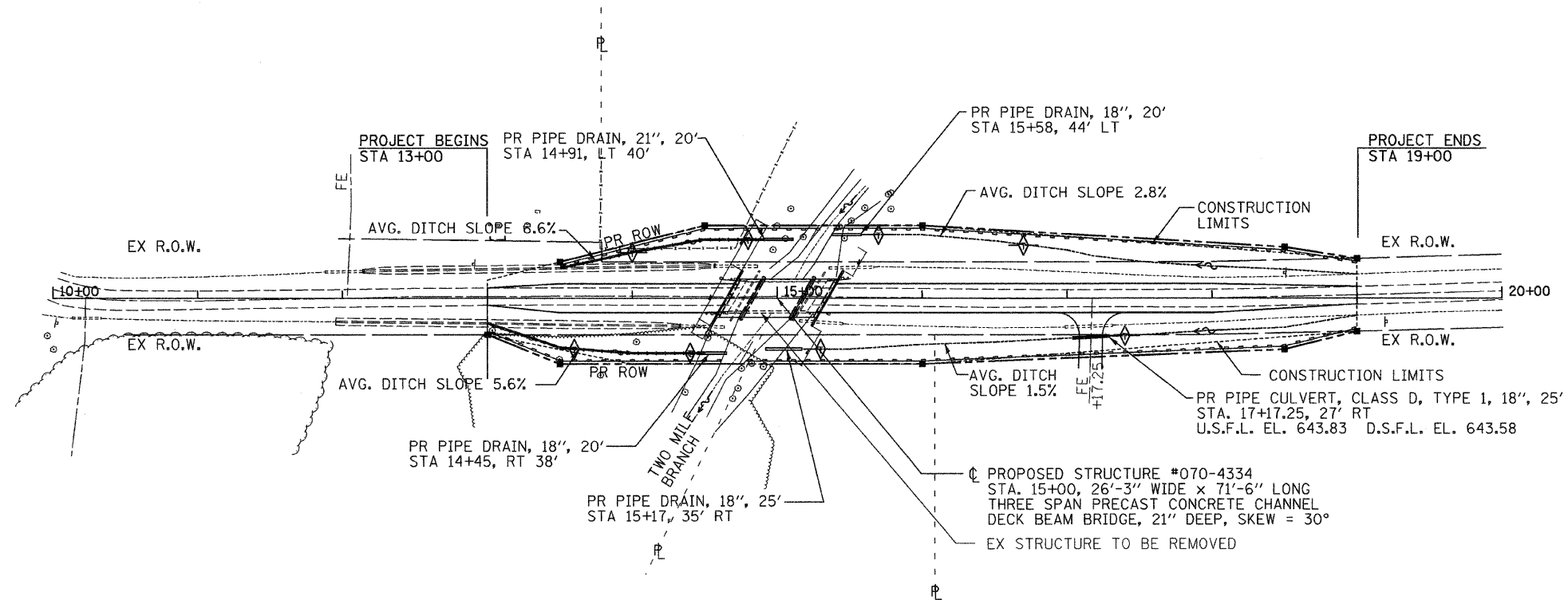
**METAL SHELL PILE DETAILS
 STRUCTURE NO. 070-4334**

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	10
CONTRACT NO. 95636				

Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

THE UPCHURCH GROUP, INC.

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT



GENERAL NOTES:

1. SEE STANDARD 280001
2. SEEDING CL.2 WITH FERTILIZER AND MULCH WITHIN CONSTRUCTION LIMITS AND ALL DISTURBED AREAS.
3. PERIMETER EROSION BARRIER NEEDS TO BE ERECTED BEFORE ANY WORK BEGINS SEE STD. 280001-04.
4. MAINTENANCE OF ALL EROSION CONTROL DEVICES WILL BE PERFORMED IMMEDIATELY AFTER A RAIN EVENT OR ANY DISTURBANCE OF THE CONTROL.
5. 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 : 1.1 ACRES

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

LEGEND

- PERIMETER EROSION BARRIER
- DITCH CHECK

TEMPORARY DITCH CHECK SCHEDULE

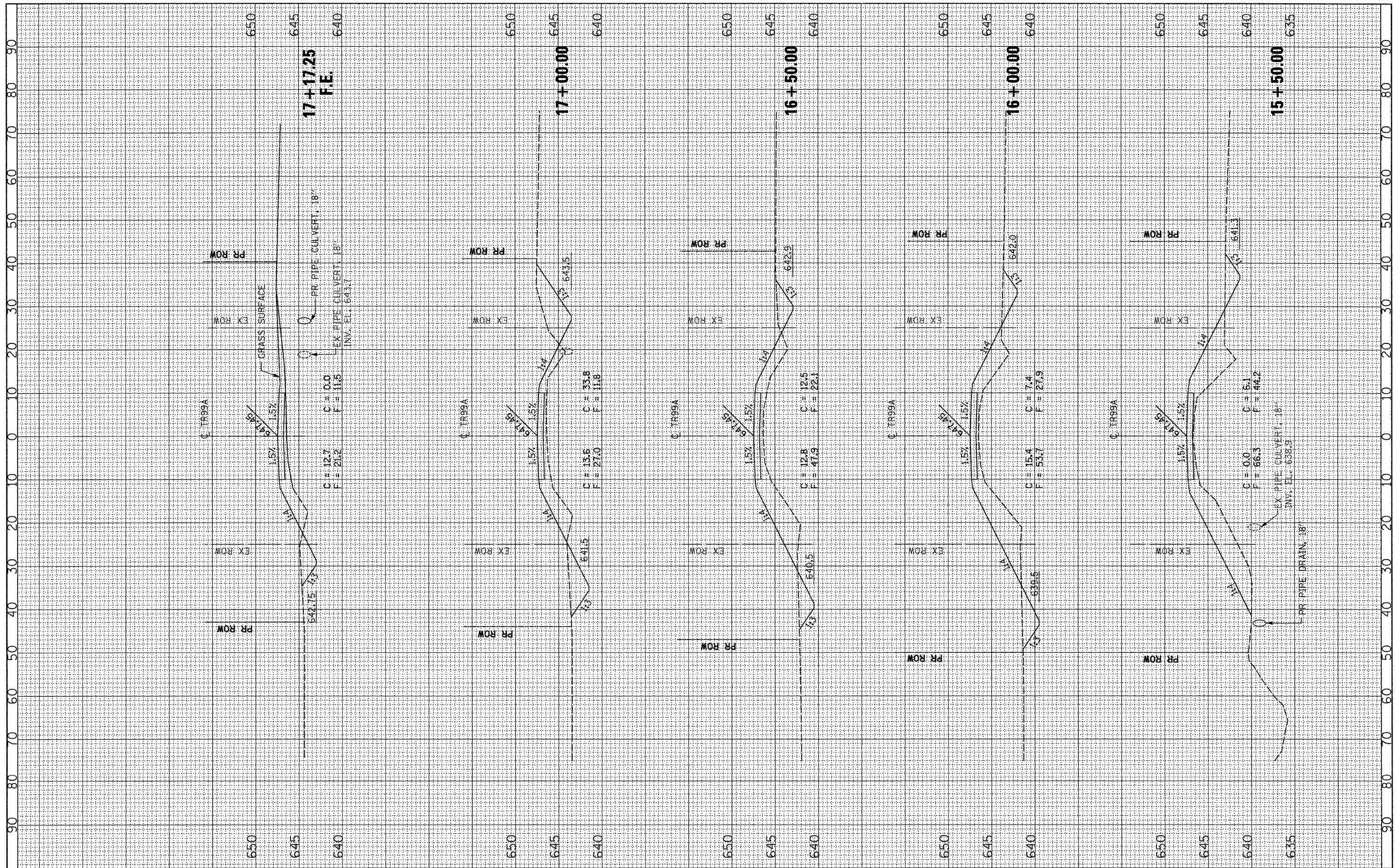
STATION	LT	RT
13+60		35'
14+00	31'	
14+40		38'
14+80	40'	
15+30		35'
15+70	44'	
16+70	36'	
17+40		26'

BILL OF MATERIAL

ITEM	UNIT	QTY
TEMPORARY EROSION CONTROL SEEDING	POUND	60
TEMPORARY DITCH CHECKS	FOOT	40
PERIMETER EROSION BARRIER	FOOT	1300

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

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



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 CHECKED -
 DATE -

REVISIONS
 REVISION NO. DATE DESCRIPTION
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JONATHAN CREEK TOWNSHIP
MOULTRIE COUNTY
STATE OF ILLINOIS

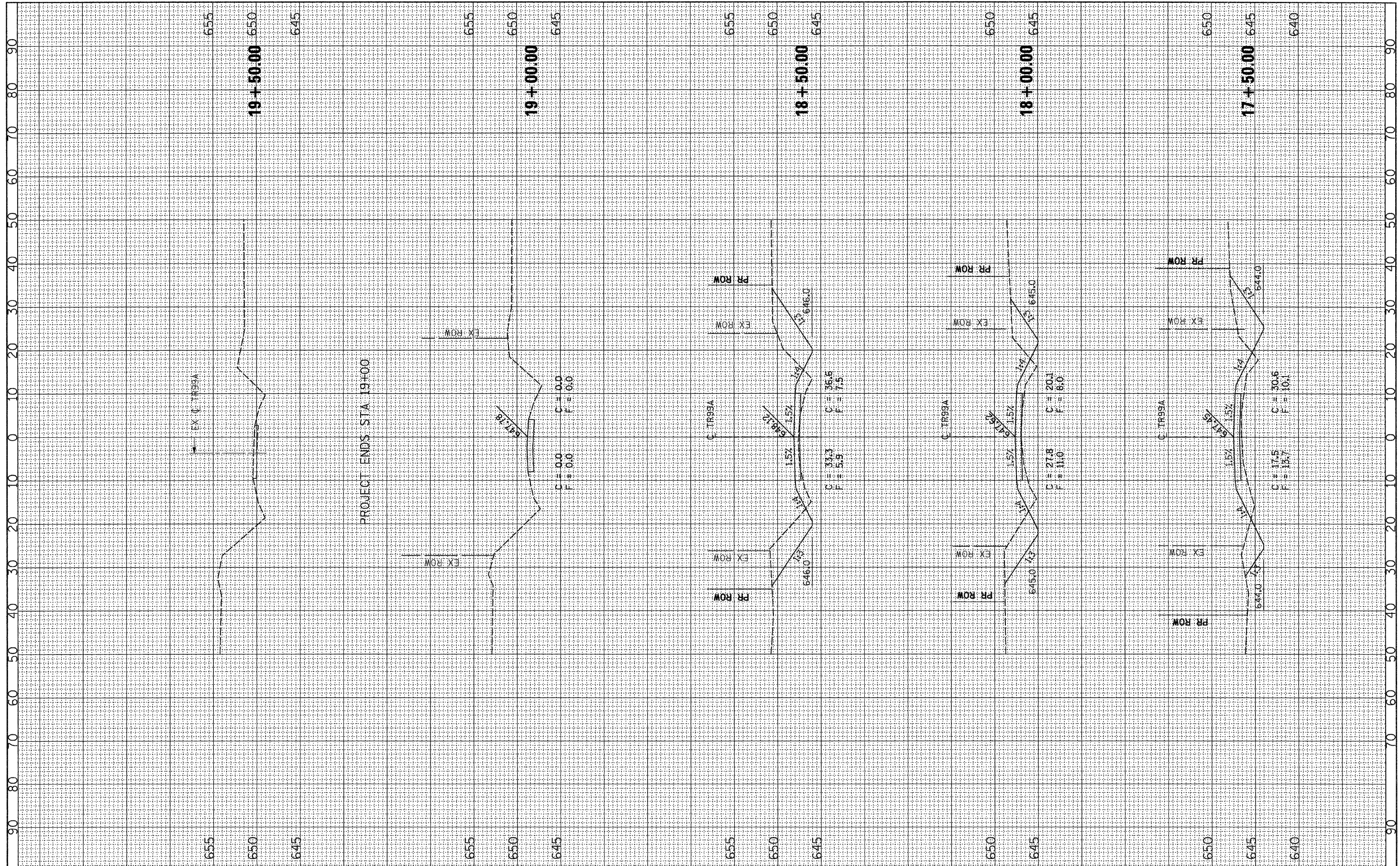
CROSS SECTIONS
TR 99A OVER TWO MILE BRANCH

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

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	13
CONTRACT NO. 95636			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT	

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

ORIGINAL SURVEY
 SURVEYED _____ BY _____ DATE _____
 PLOTTED _____
 NOTE BOOK _____
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 REVISED -
 REVISED -
 REVISED -

**JONATHAN CREEK TOWNSHIP
 MOULTRIE COUNTY
 STATE OF ILLINOIS**

**CROSS SECTIONS
 TR 99A OVER TWO MILE BRANCH**
 SCALE: SHEET NO. OF SHEETS STA. TO STA.

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR99A	03-03126-00-BR	MOULTRIE	14	14
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT			CONTRACT NO. 95636	