

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
T.R. 101	03-03127-00-BR	MOULTRIE	15
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 95490

INDEX OF SHEETS

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4. PLAN AND PROFILE
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- 9.-14. BRIDGE PLANS
15. BORINGS

HIGHWAY STANDARDS:

- 000001-04 STANDARD SYMBOLS AND ABBREVIATIONS
- 280001-03 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-02 NAME PLATE FOR BRIDGES
- 542301-01 PRECAST REINFORCED CONCRETE FLARED END SECTION
- 702001-06 TRAFFIC CONTROL DEVICES
- BLR 21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SCALES	}	PLAN		0' = 50'
		PROFILE HORIZ.		0' = 50'
		PROFILE VERT.		0' = 5'
		CROSS SECTIONS		0' = 5'

PROJECT BROS-0139 (51)

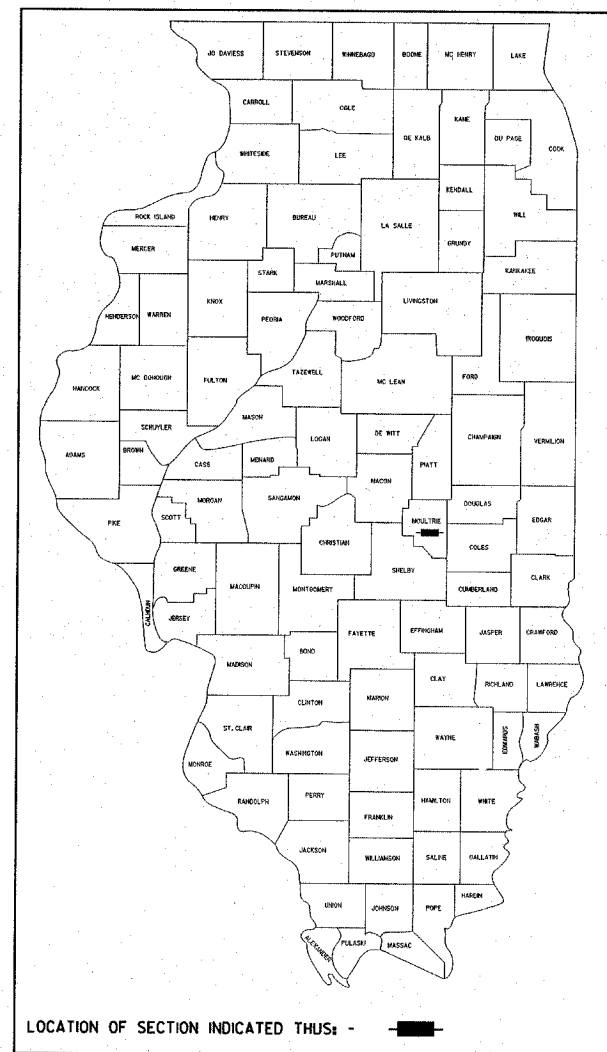
SECTION 03-03127-00-BR

JONATHAN CREEK ROAD DISTRICT

MOULTRIE COUNTY

T.R. 101 OVER JONATHAN CREEK

C-97-019-07



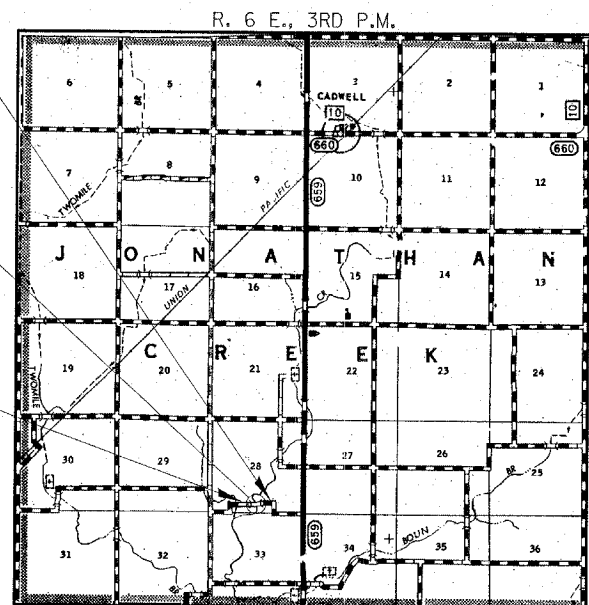
UTILITIES

VERIZON
1312 EAST EMPIRE STREET
P.O. BOX 2955
BLOOMINGTON, IL 61701

STA. 9+95 - SPECIAL BRIDGE DESIGN
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE. TWO SPANS: 54'-0", 40'-0"
27'-0" RDWY.; SKEW = 15°
PROPOSED STRUCTURE NUMBER 070-4333
EXISTING STRUCTURE NUMBER 070-4311

IMPROVEMENT ENDS
STATION 12+50

IMPROVEMENT BEGINS
STATION 8+00



LAYOUT

APPROXIMATE SCALE:

NET LENGTH OF SECTION = 450 FEET = 0.085 MILES

DESIGN FUNCTIONAL CLASSIFICATION:
LOCAL ROAD 0-250 ADT
DESIGN TRAFFIC: 125 ADT
DESIGN SPEED: 30 M.P.H.



APPROVED *October 3 2006*
Polina Perrine
ROAD DISTRICT COMMISSIONER

APPROVED *October 3 2006*
Stephen E. DeLong
COUNTY ENGINEER

PASSED *11/28 2006*
Maurice Cantel
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS & STREETS

Releasing For
Bid Based on
Limited Review *11/28 2006*
Christina Reed
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: *10-2-06*

BY: *Steven W. Mezzanese*

LICENSE
EXPIRES: *NOVEMBER 30, 2007*

LICENSE NO. 50051

STEVEN W. MEZZANESE
50051 LICENSED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS

HLR

3085 STEVENSON AVE., SUITE 200
SPRINGFIELD ILLINOIS 62703
(217) 544-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06

SUMMARY OF QUANTITIES			
		CONSTRUCTION CODE	
		X080-2A	
CODE NO	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	90
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	24
20200100	EARTH EXCAVATION	CU YD	170
20300100	CHANNEL EXCAVATION	CU YD	265
20400800	FURNISHED EXCAVATION	CU YD	105
> 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000400	PERIMETER EROSION BARRIER	FOOT	600
> 28100207	STONE RIPRAP, CLASS A4	TON	330
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	380
> 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	25.5
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	2,538
50800105	REINFORCEMENT BARS	POUND	3,630
50900205	STEEL RAILING, TYPE S1	FOOT	184
51201400	FURNISHING STEEL PILES HP10X42	FOOT	360
51202305	DRIVING PILES	FOOT	360
51203400	TEST PILE STEEL HP10X42	EACH	1
50300280	CONCRETE ENCASEMENT	CU YD	5.8
51500100	NAME PLATES	EACH	1
> 542A0220	PIPE CULVERTS, CLASS A, TYPE 1 15"	FEET	52
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	4
> 67100100	MOBILIZATION	L SUM	1

SEE SPECIAL PROVISIONS

GENERAL NOTES

ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2007," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

ALL CLEARING AND GRUBBING AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL OF THE EXISTING BITUMINOUS SURFACE WILL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. PROPER DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE LOCATIONS OF EXISTING GAS MAINS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

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

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

AGGREGATE SURFACE COURSE	2.05 TON/CU YD
STONE RIPRAP, CLASS A4	1.75 TON/CU YD

THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.4 ACRES

TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.

EARTHWORK SCHEDULE						
LOCATION	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE* EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
STA. 6+50 TO STA. 9+47.27	99	25%	100%	74	130	-56
STA. 9+47.27 TO STA. 10+42.73	-	25%	100%	-	-	-
STA. 10+42.73 TO STA. 12+50	69	25%	100%	52	214	-163
CHANNEL EXCAVATION	265	25%	70%	139		139
ENTRANCES					23	-23
TOTAL	168			265	368	-103
USE:	170			-		105

* AVAILABLE EXCAVATION = EXC. x (1-SHRINKAGE FACTOR) x % USED (FURN EXC)

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS

HLR

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

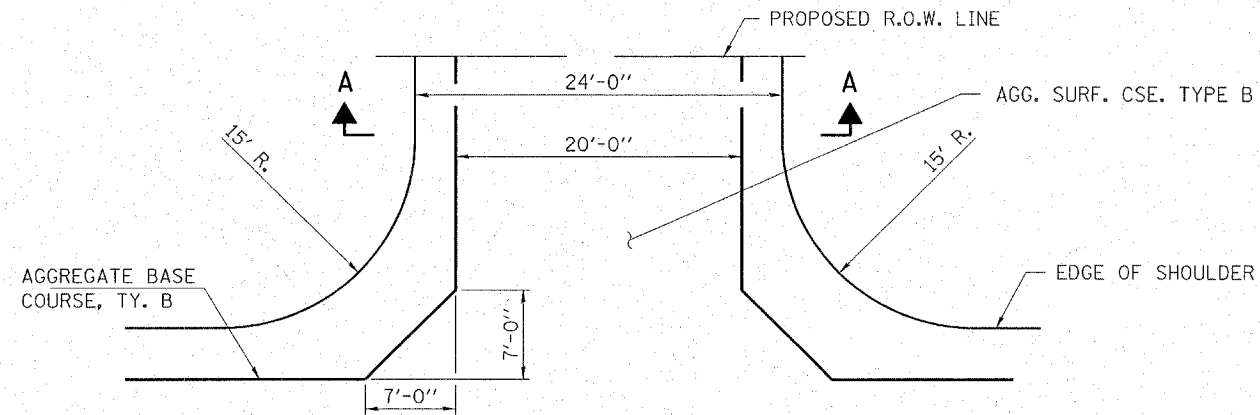
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

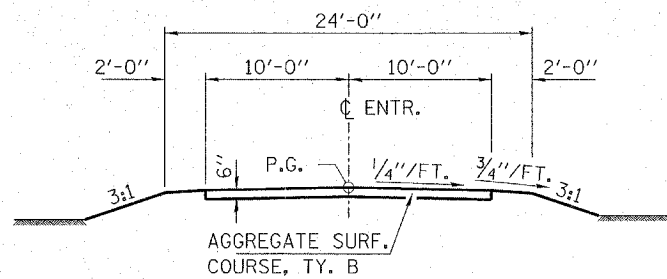
**SUMMARY OF QUANTITIES
AND GENERAL NOTES**
JONATHAN CREEK ROAD DISTRICT
SECTION 03-03127-00-BR
MOULTRIE COUNTY

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
T.R. 101	03-03127-00-BR	MOULTRIE	15	3
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

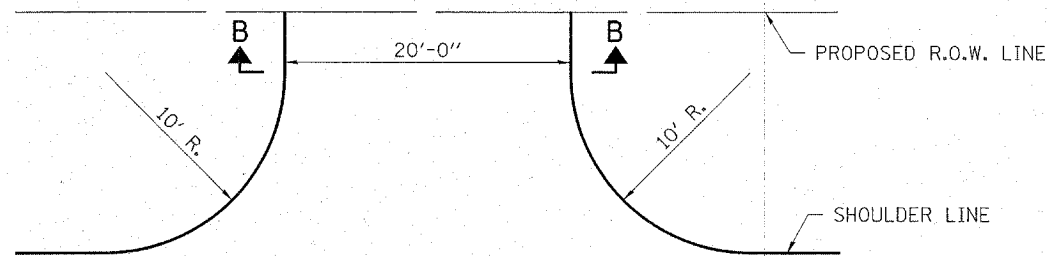
CONTRACT NO. 95490



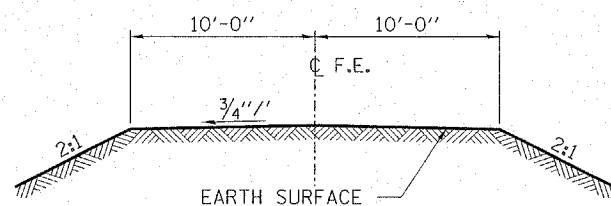
PRIVATE ENTRANCE DETAIL



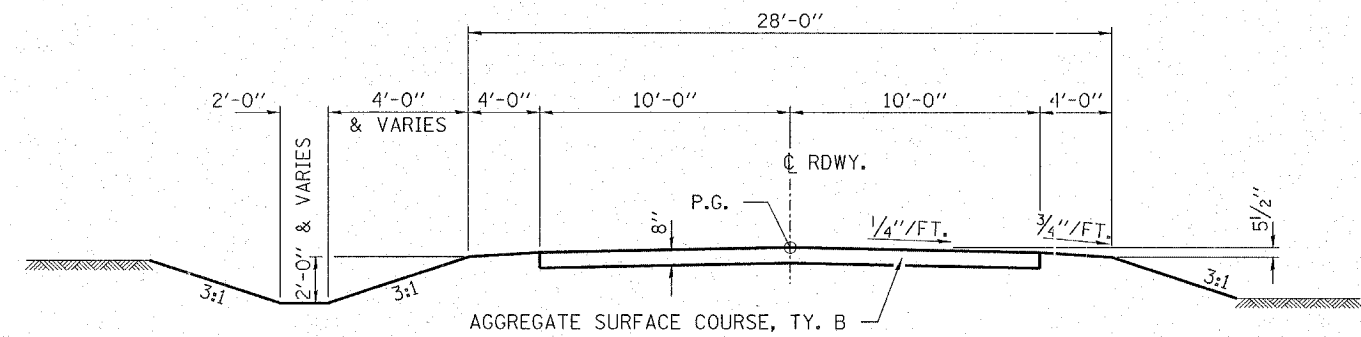
SECTION A-A



FIELD ENTRANCE DETAIL



SECTION B-B



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

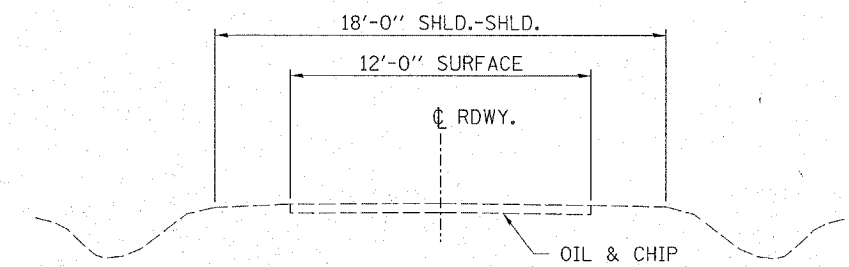
SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

ROAD CLASSIFICATION - LOCAL ROAD 0-250 ADT
CURRENT ADT 29
DESIGN SPEED: 30 M.P.H.

TYPICAL CROSS SECTION

STA. 8+50 TO 12+00

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 8+00 TO 8+50 AND STA. 12+00 TO 12+50. SEE SHEET 9 FOR TRANSITION AT BRIDGE.



EXISTING CROSS SECTION

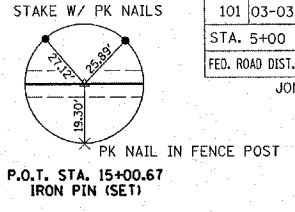
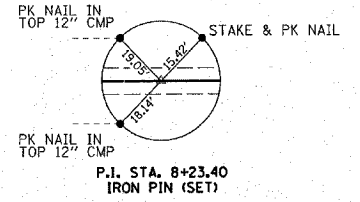
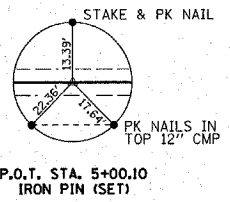
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS

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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

TYPICAL CROSS SECTIONS
JONATHAN CREEK ROAD DISTRICT
SECTION 03-03127-00-BR
MOULTRIE COUNTY



THE VIRGINIA O. PORTA, IRREVOCABLE TRUST
SW/4, SE/4, SEC 28, T. 14 N., R. 6 E., 3RD P.M.

LYLE G. ELZY
PARCEL 1
SW/4, SE/4, SEC 28, T. 14 N., R. 6 E., 3RD P.M.

WILBUR E. & BRENDA K. SCHROCK
PARCEL 2
SW/4, SE/4, SEC 28, T. 14 N., R. 6 E., 3RD P.M.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
101	03-03127-00-BR	MOULTRIE	15	15
STA. 5+00		TO STA. 15+00		
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95490	
JONATHAN CREEK ROAD DISTRICT				

CURVE DATA
P.I. STA. 8+23.41
 $\Delta = 6^\circ 29' 39''$ (LT)
 $D = 2^\circ 17' 31''$
 $T = 141.83'$
 $R = 2,500.00'$
 $L = 283.36'$
 $E = 4.02'$
P.C. STA. 6+81.57
P.T. STA. 9+64.94
NO S.E.

CURVE DATA
P.I. STA. 13+11.67
 $\Delta = 7^\circ 14' 06''$ (RT)
 $D = 3^\circ 49' 11''$
 $T = 94.83'$
 $R = 1,500.00'$
 $L = 189.41'$
 $E = 2.99'$
P.C. STA. 12+16.84
P.T. STA. 14+06.25
NO S.E.

LT. STA. 8+12 P.E.
PIPE CULVERTS, CL. A, TY. 1, 15" (R.C.C.P.)
30' LONG
15' LT. STA. 7+85 U.S.F.L. 634.0
18' LT. STA. 8+20 D.S.F.L. 633.0
EXISTING 12" CMP TO BE REMOVED
PROFES 15" = 2 EACH

RT. STA. 8+04 F.E.
PIPE CULVERTS, CL. A, TY. 1, 15" (R.C.C.P.)
22' LONG
EXISTING 12" CMP TO BE REMOVED
PROFES 15" = 2 EACH

STATION 9+95 - SPECIAL BRIDGE DESIGN
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE, 2 SPANS: 54'-0" 40'-0"
27'-0" ROW, SKEW = 15°
PROPOSED STRUCTURE NO. 070-4333

DONALD W. HUTTON II & PAMELA J. HUTTON
PARCEL 3
SW/4, SE/4, SEC 28, T. 14 N., R. 6 E., 3RD P.M.

LAMAR A. SCHROCK & CYNTHIA K. SCHROCK
PARCEL 4
SW/4, SE/4, SEC 28, T. 14 N., R. 6 E., 3RD P.M.

TREE REMOVAL ✕
6 TO 15 UNITS - DIAMETER = 90 UNITS
OVER 15 UNITS - DIAMETER = 24 UNITS

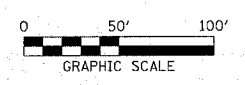
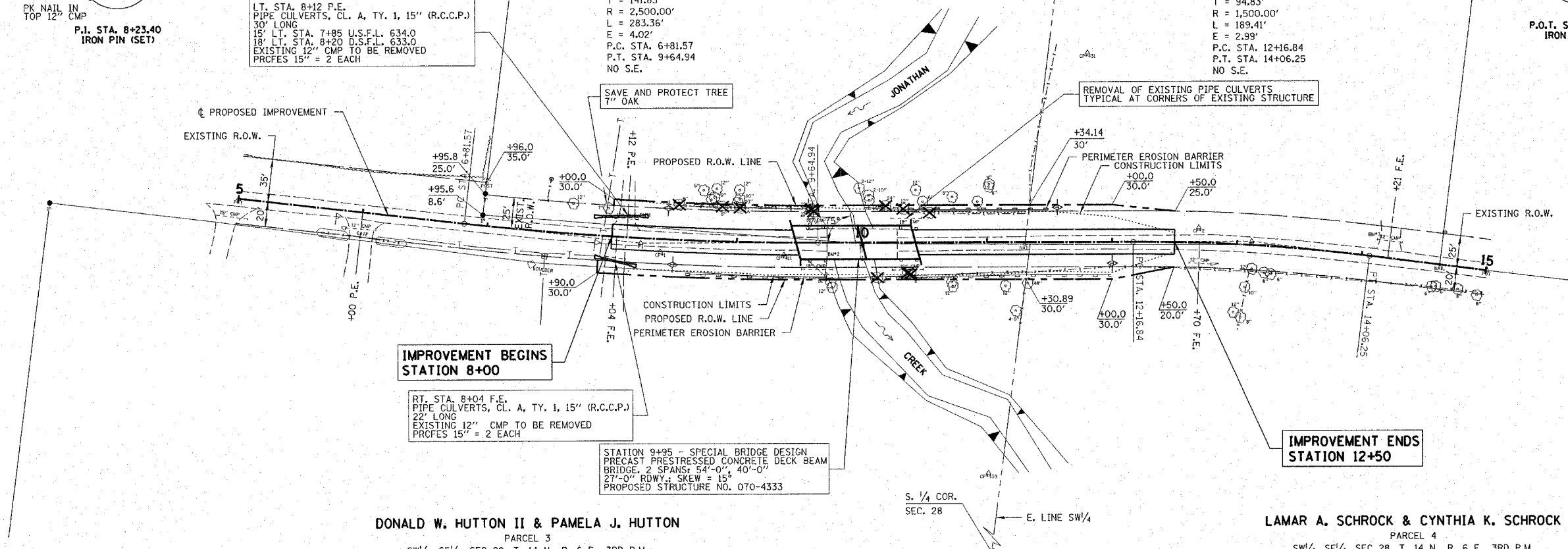
ENTRANCES TO BE BUILT
RT. STA. 8+04 F.E. - 22% 20' EARTH SURF.
LT. STA. 8+12 P.E. +7.5% 20' AGG. SURF.
QUANTITIES INCLUDED IN EARTHWORK TABLE

PERIMETER EROSION BARRIER
TOTAL = 600 FOOT
LOCATION AS APPROVED BY ENGINEER.

TEMPORARY DITCH CHECKS ✕
TOTAL = 4 EACH
LOCATION AS APPROVED BY ENGINEER.

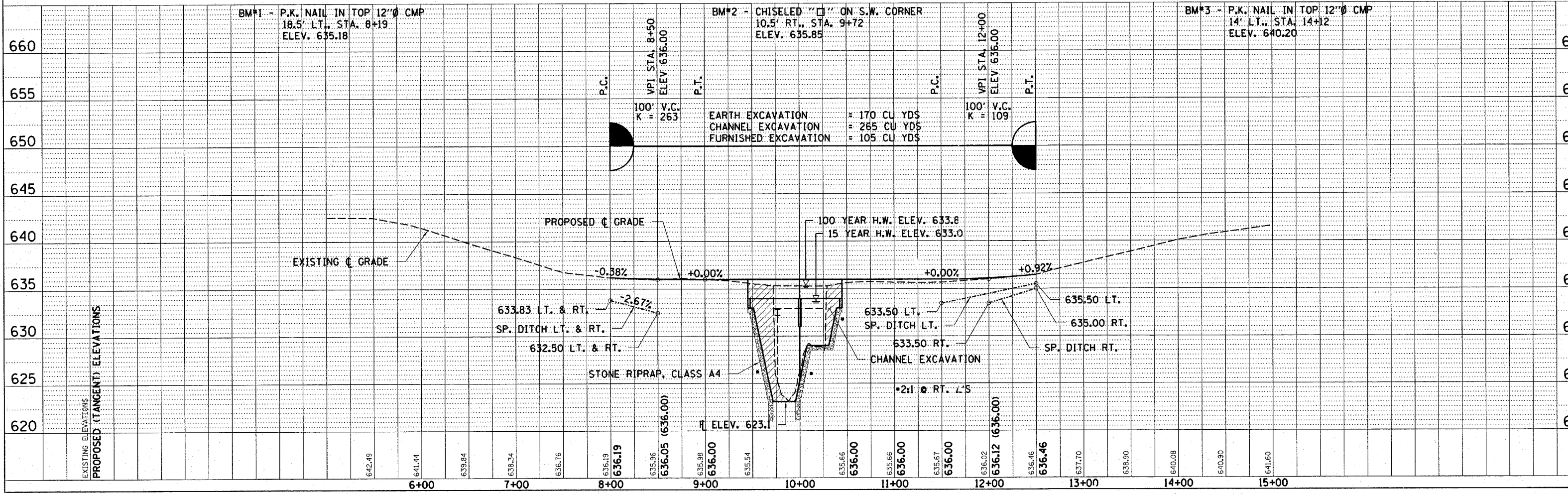
CHANNEL EXCAVATION
THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS OF THE PROPOSED STRUCTURE, THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. ONLY SUITABLE EXCAVATED MATERIAL SHALL BE USED IN THE EMBANKMENT.

EXISTING STRUCTURE NO. 070-4311
STATION 10+00 - 2 SPAN REINFORCED CONCRETE SLAB BRIDGE W/CONC CURB & HANDRAIL ON CLOSED TIMBER ABUTMENTS AND PIER. STEEL I-BEAM SUPPORT ON STEEL PILES AT WEST ABUTMENT. 54.65' FC. TO FC. ABUTS; 24.3' O.-O. DECK.
REMOVAL OF EXISTING STRUCTURES = 1 EACH



DATE	BY	REVISION

DATE	BY	REVISION

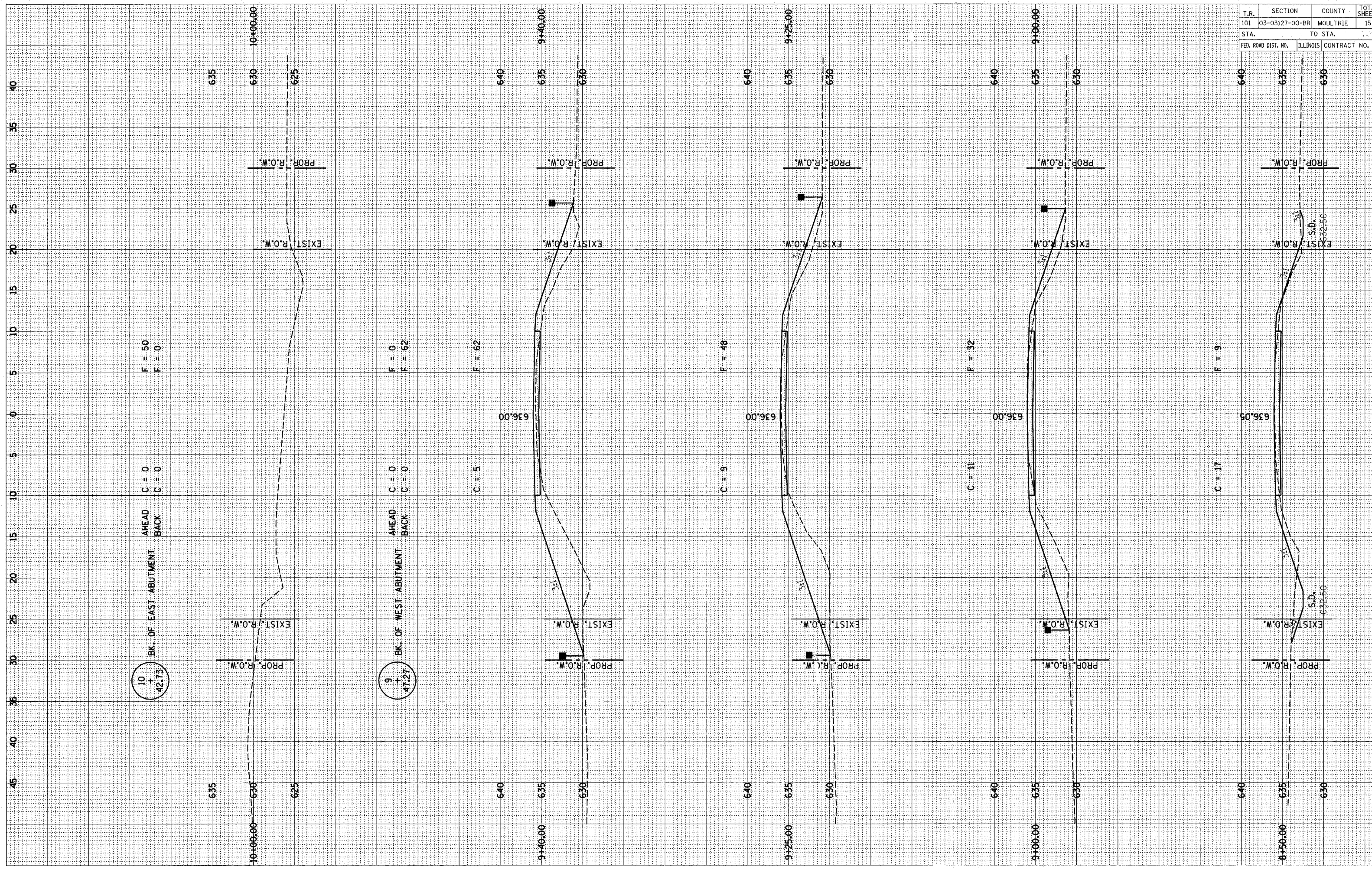


STATION	ELEVATION
6+00	642.49
6+00	641.44
7+00	639.84
7+00	638.34
8+00	636.76
8+00	636.19
8+00	635.96
8+00	636.05 (636.00)
9+00	635.98
9+00	636.00
9+00	635.84
10+00	635.66
10+00	636.00
10+00	635.66
10+00	636.00
11+00	635.67
11+00	636.00
11+00	636.02
11+00	636.12 (636.00)
12+00	636.46
12+00	637.70
12+00	638.90
14+00	640.08
14+00	640.90
15+00	641.60

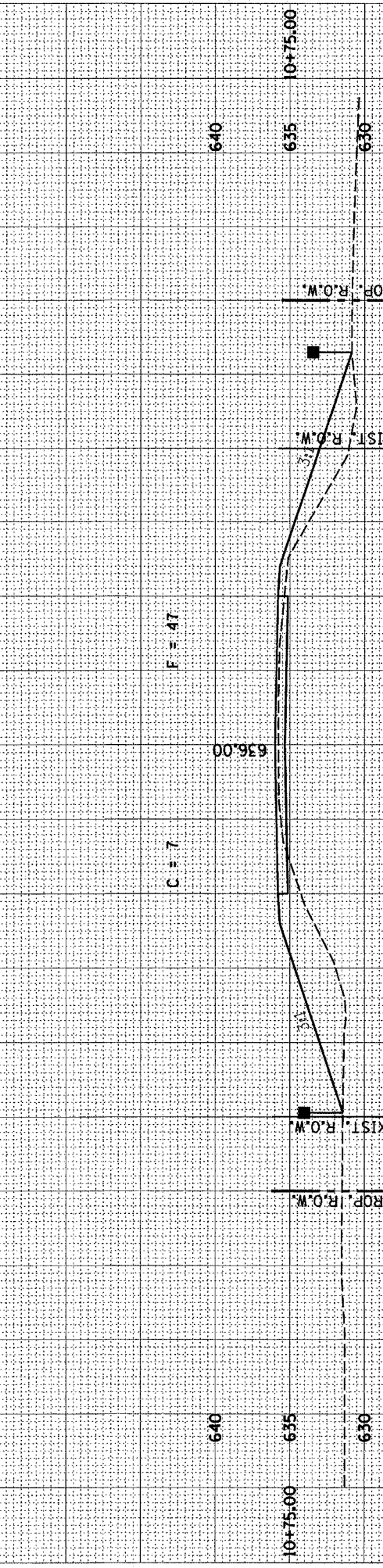
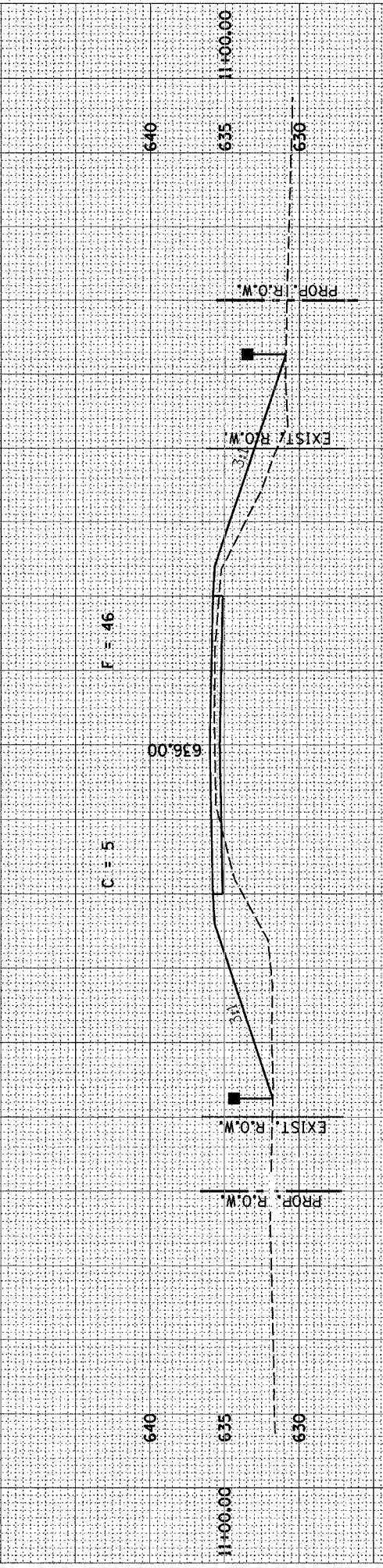
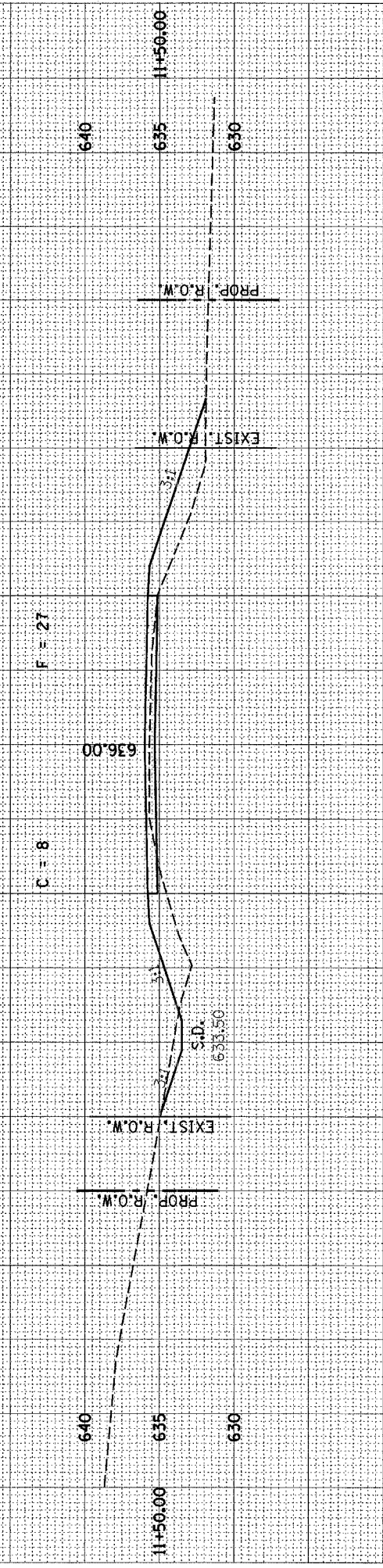
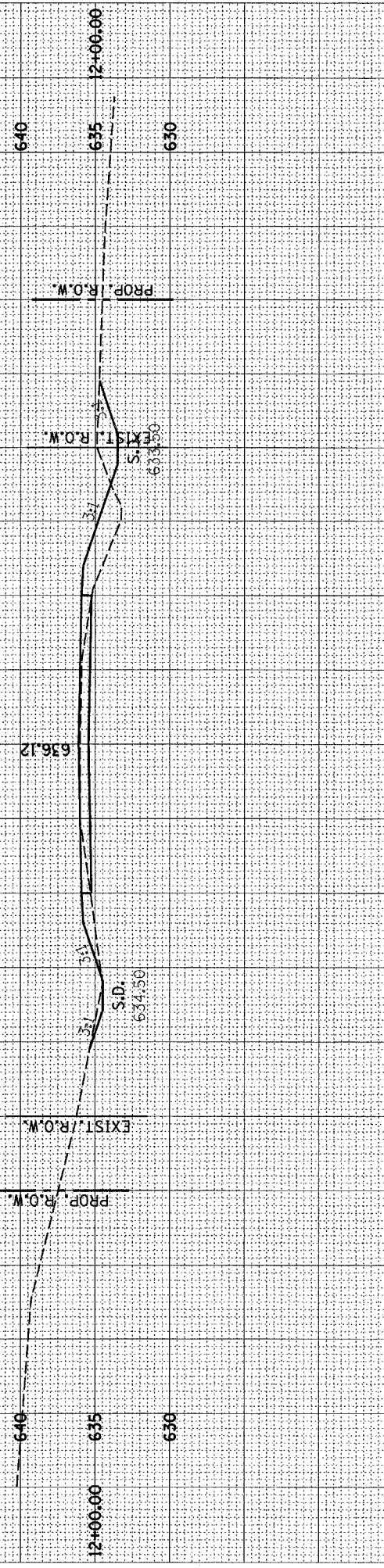
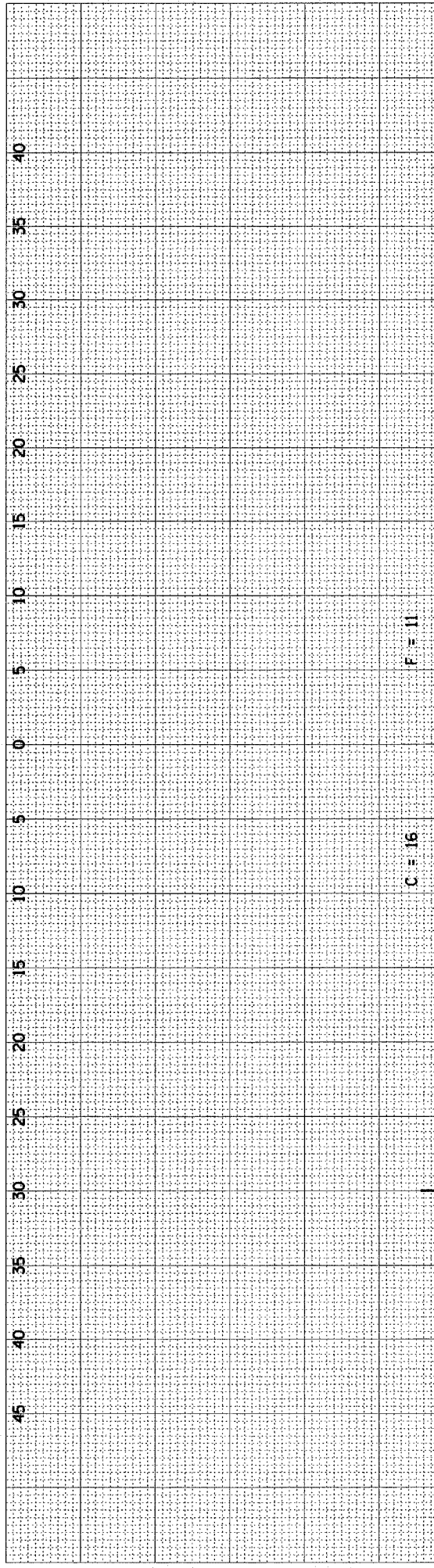
NOTE BOOK TEMPLATE AREAS CHECKED

NOTE BOOK TEMPLATE AREAS CHECKED

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
101	03-03127-00-BR	MOULTRIE	15	15
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 9249C		



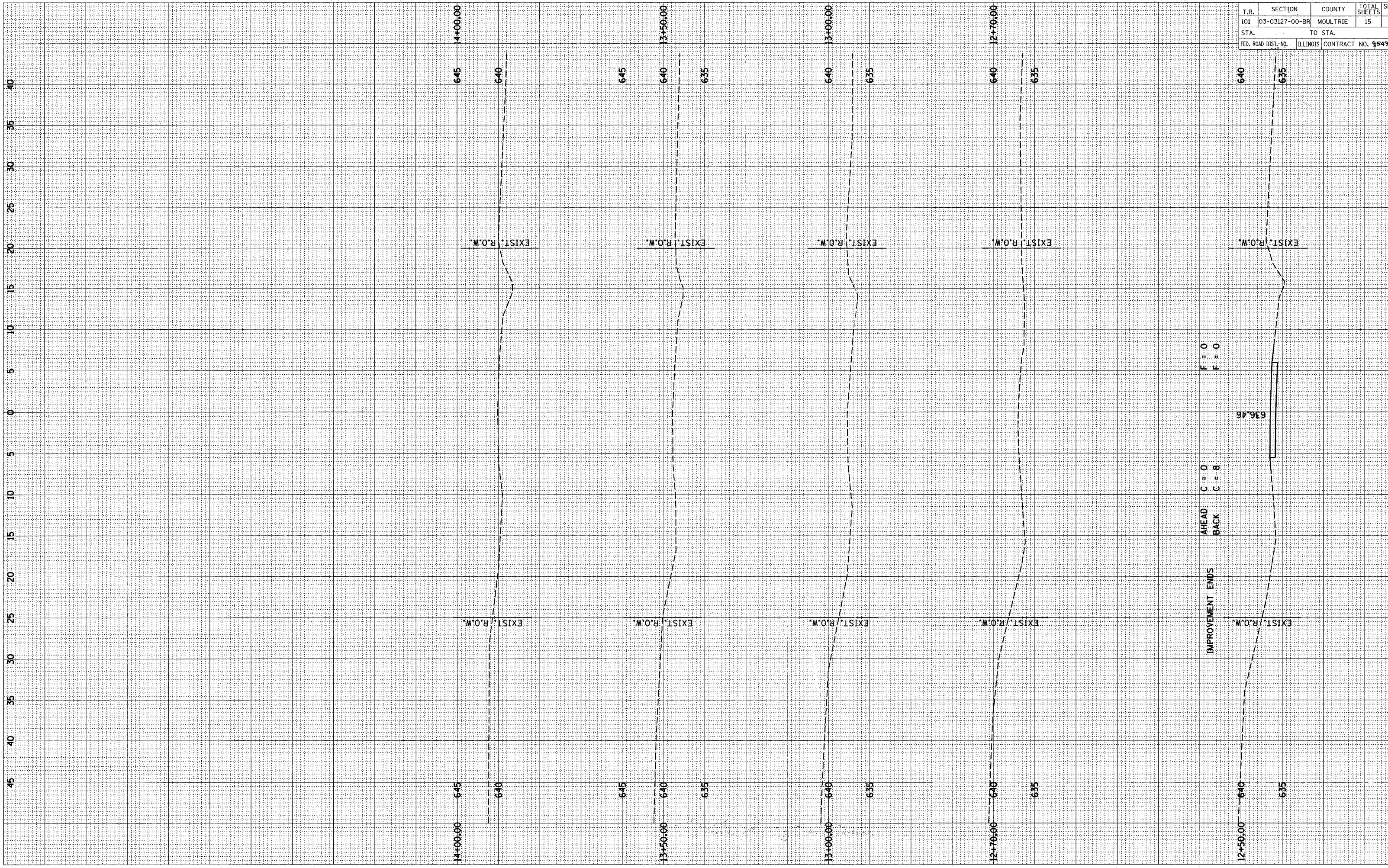
T.R.	SECTION	COUNTY	TOTAL SHEETS
101	03-03127-00-BR	MOULTRIE	15
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO.	9549



NOTE BOOK NO. TEMPLATE AREAS CHECKED

NOTE BOOK NO. TEMPLATE AREAS CHECKED

T.R.	SECTION	COUNTY	TOTAL SHEETS	SH
101	03-03127-00-8R	MOULTRIE	15	N
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95490	



NOTE BOOK TEMPLATE
NO. AREAS CHECKED

NOTE BOOK TEMPLATE
NO. AREAS CHECKED

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 101	03-03127-00-BR	MOULTRIE	15	9
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

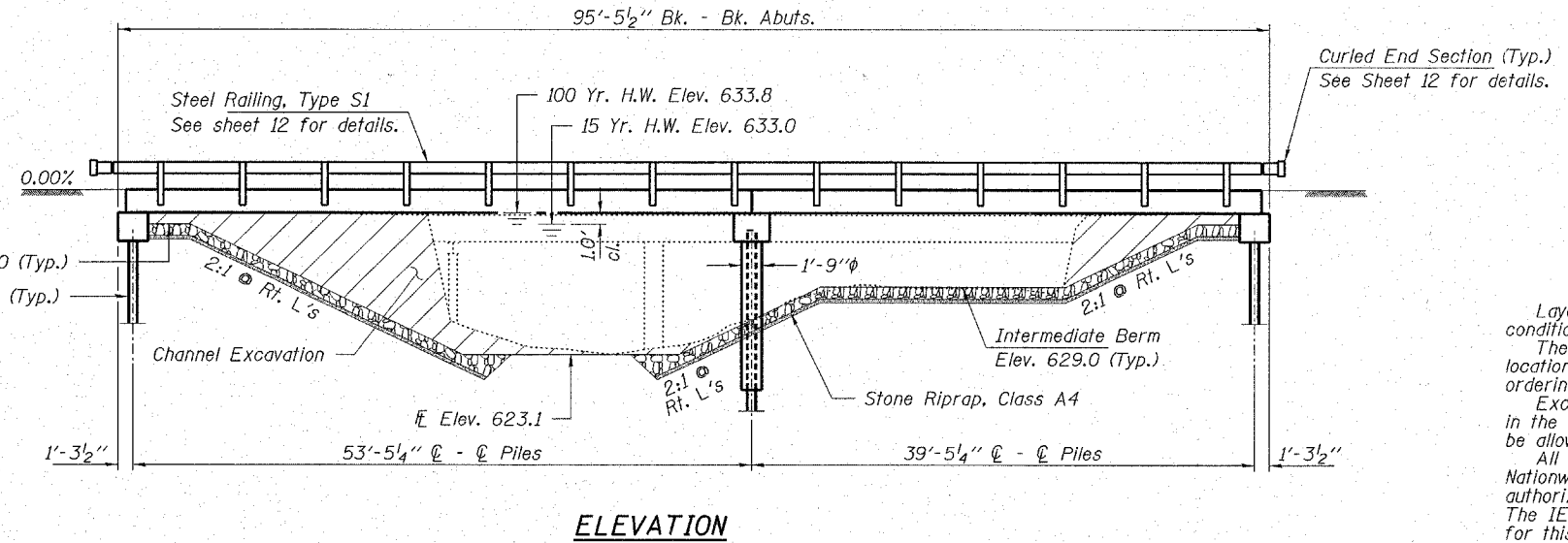
CONTRACT NO. 95490

JONATHAN CREEK
 BUILT 200_ BY
 MOULTRIE COUNTY
 SEC. 03-03127-00-BR
 F.A. PROJ. BROS-0139 (51)
 STR. NO. 070-4333 LOADING HS 20

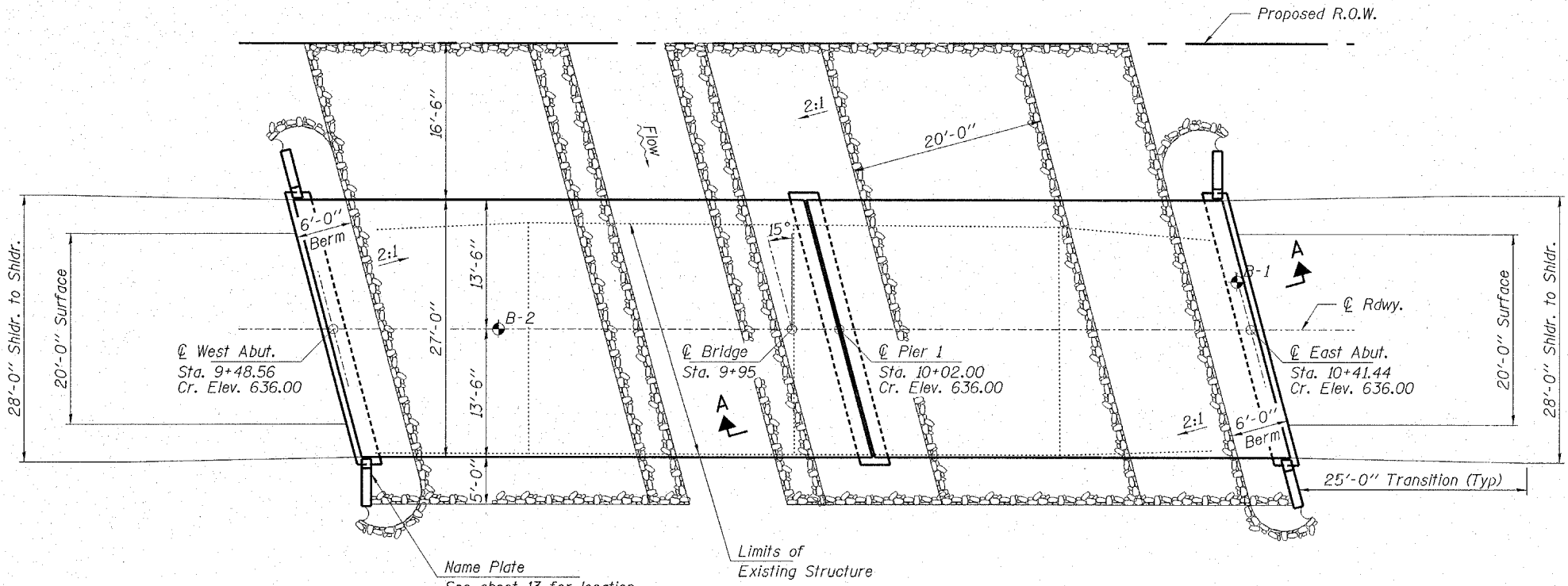
NAME PLATE
 See Std. 515001

GENERAL NOTES

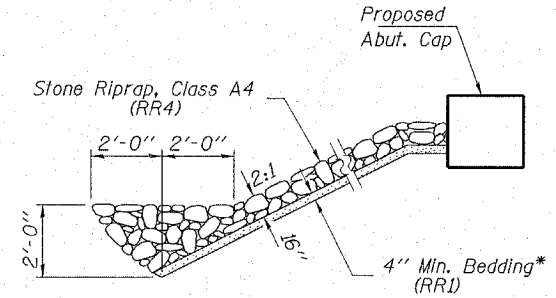
Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.
 The Contractor shall drive one steel test pile in a permanent location at the West Abutment, as directed by the Engineer before ordering the remainder of the piles.
 Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
 All proposed construction activity shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act.
 The IEPA has Issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.
 See Sheet 15 for Borings.



ELEVATION

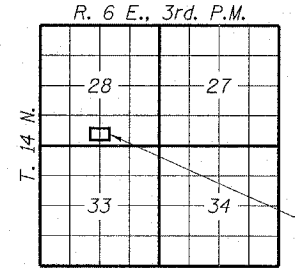


PLAN



SECTION A-A

Note: See Special Provisions for Stone Riprap, Class A4.
 * Estimated quantity 95 tons
 Cost included in Stone Riprap, Class A4



LOCATION SKETCH

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

Loading HS 20-44
 Design Specifications: 2002 AASHTO & all applicable Interims.
 25#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

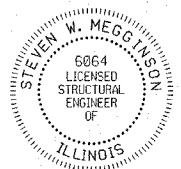
Seismic Performance Category (SPC) = B
 Bedrock Acceleration Coefficient (A) = 0.10g
 Site Coefficient (S) = 1.5

WATERWAY INFORMATION

Drainage Area = 21.2 Sq. Mi.		Low Grade Elev. 636.0 @ Sta. 10+00			
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural Head - Ft.	Headwater El.
			Exist. Prop.	H.W.E. Exist. Prop.	Exist. Prop.
Design	15	1530	365 450	633.0 0.4 0.2	633.4 633.2
Base	100	2330	405 520	633.8 0.9 0.5	634.7 634.3
Overtopping					
Max. Calc.	500	2950	415 530	634.4 0.8 0.3	635.2 634.7

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 Specifications for Highway Bridges".

Steven W. Megginson 10-20-06
 ILLINOIS STRUCTURAL ENGINEER NO. 6064



Expires 11-30-08

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS

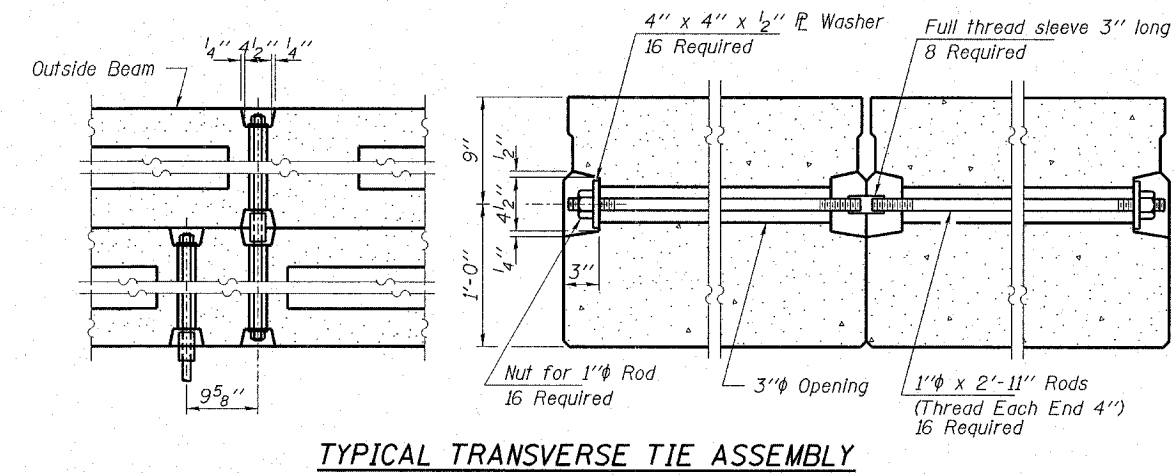
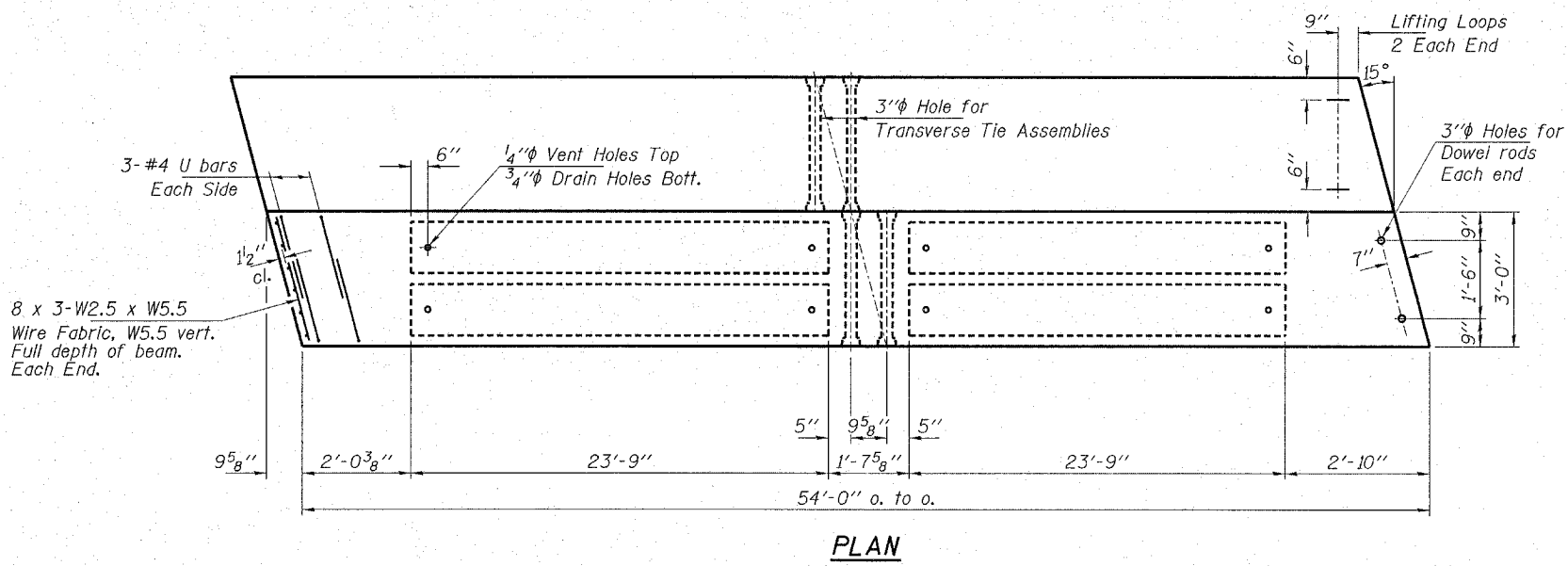
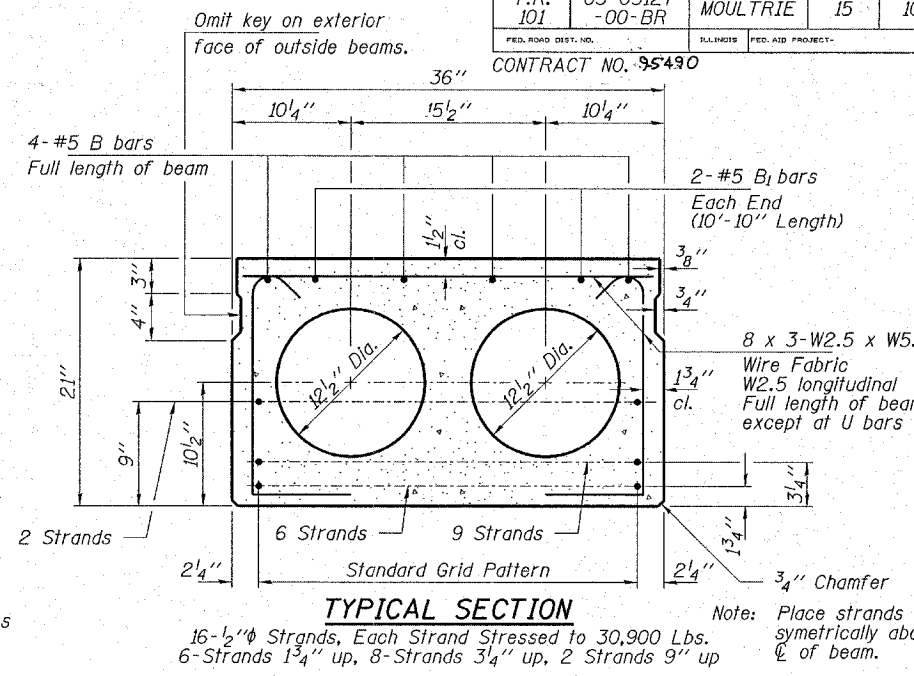
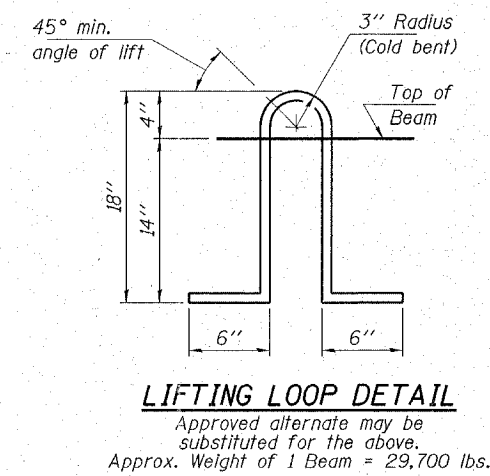
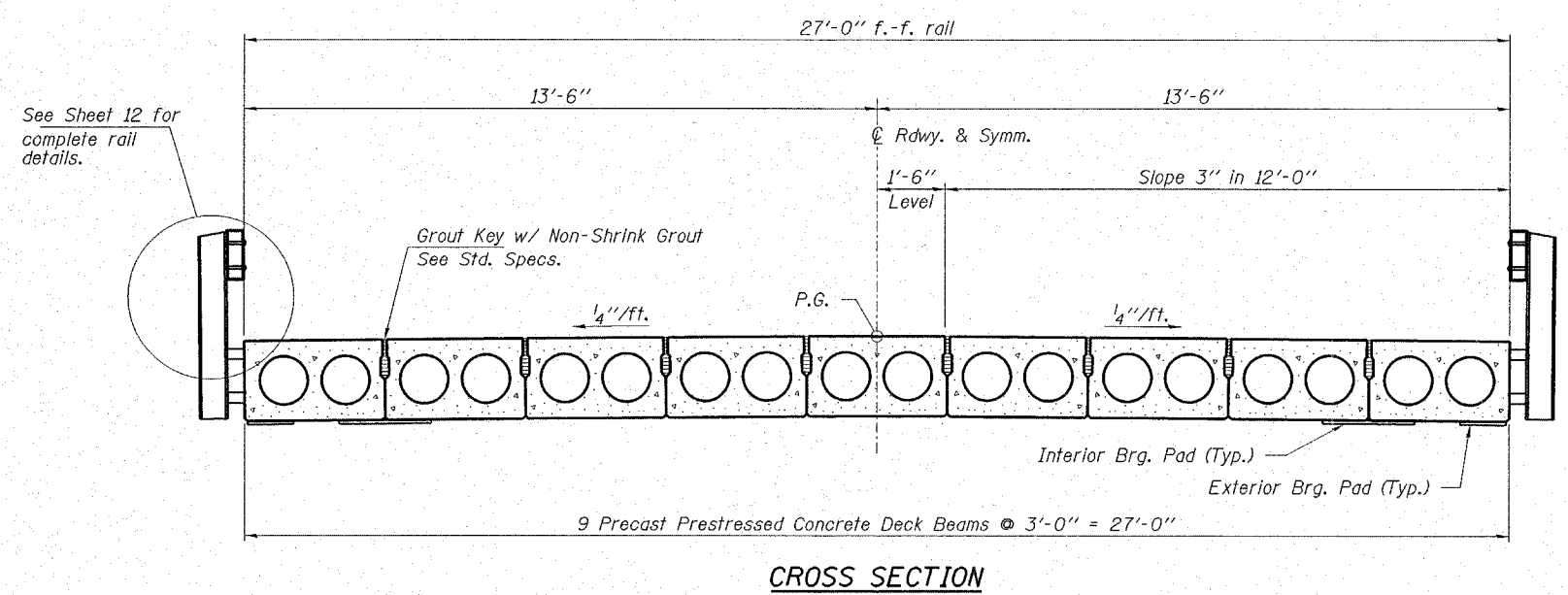
3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

GENERAL PLAN AND ELEVATION
 JONATHAN CREEK ROAD DISTRICT
 SECTION 03-03127-00-BR
 MOULTRIE COUNTY
 STR. NO. 070-4333 / STATION 9+95

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 101	03-03127-00-BR	MOULTRIE	15	10
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 95490	



NOTES

Prestressing steel shall be non-galvanized 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. Lifting loops shall be 2-2" ∅-270 ksi strands, as shown.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 3/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

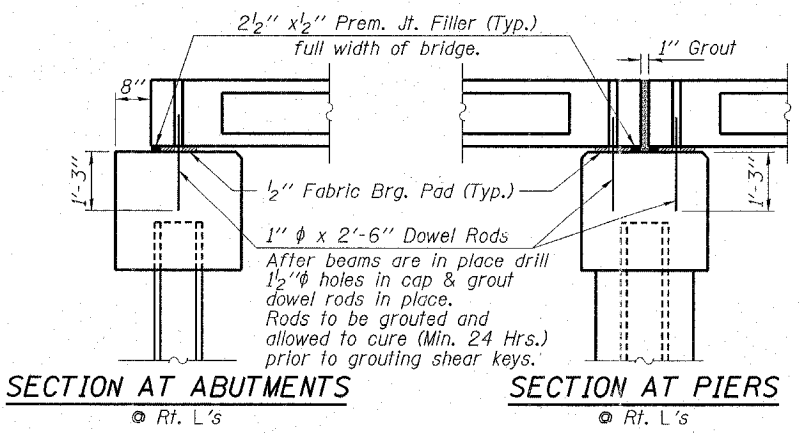
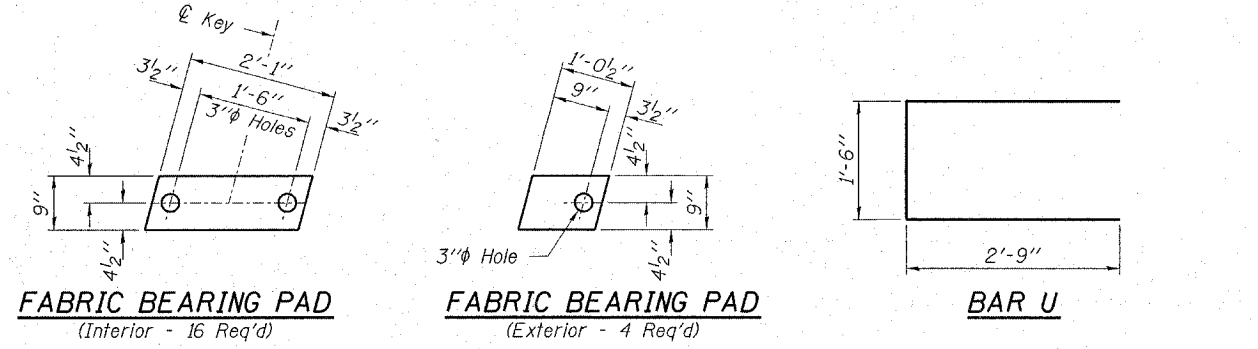
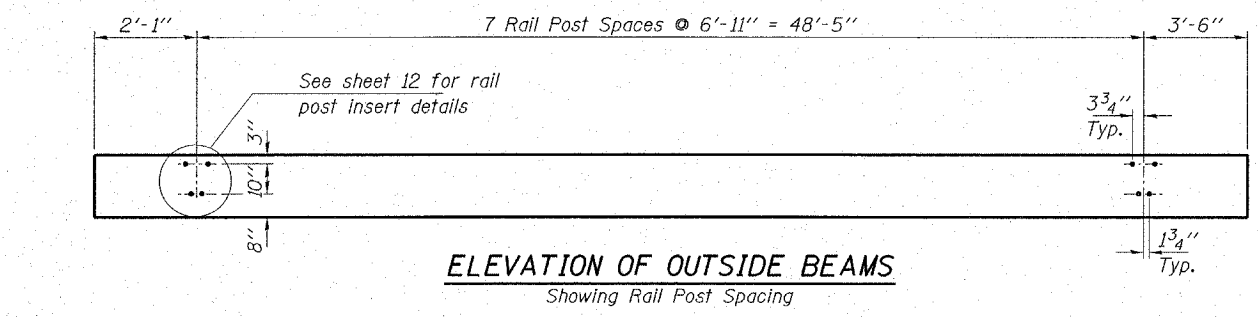
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

Required Release Strength, f'ci, shall be 4,000 p.s.i.

The 1" ∅ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,458



HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS

HLR

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 548-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

SUPERSTRUCTURE

JONATHAN CREEK ROAD DISTRICT

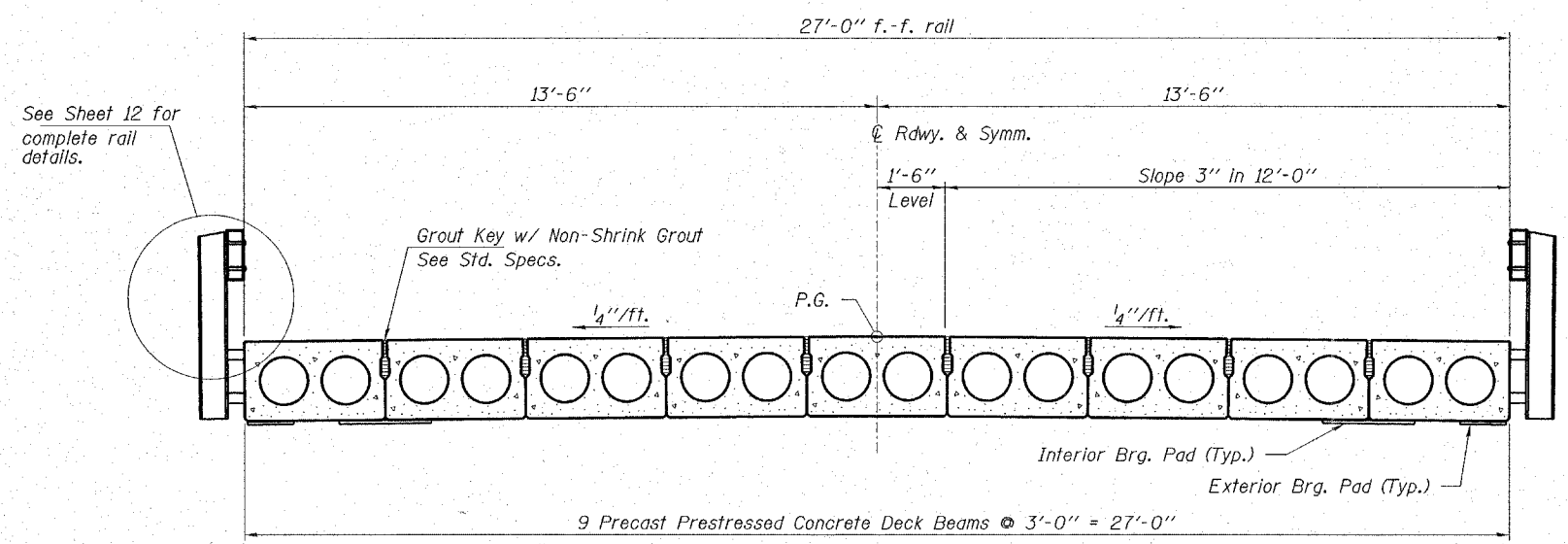
SECTION 03-03127-00-BR

MOULTRIE COUNTY

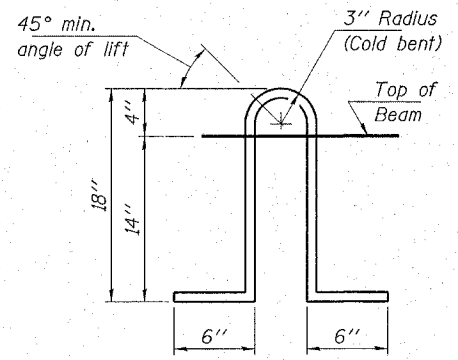
STR. NO. 070-4333 / STATION 9+95

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 101	03-03127-00-BR	MOULTRIE	15	11
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

CONTRACT NO. 95490

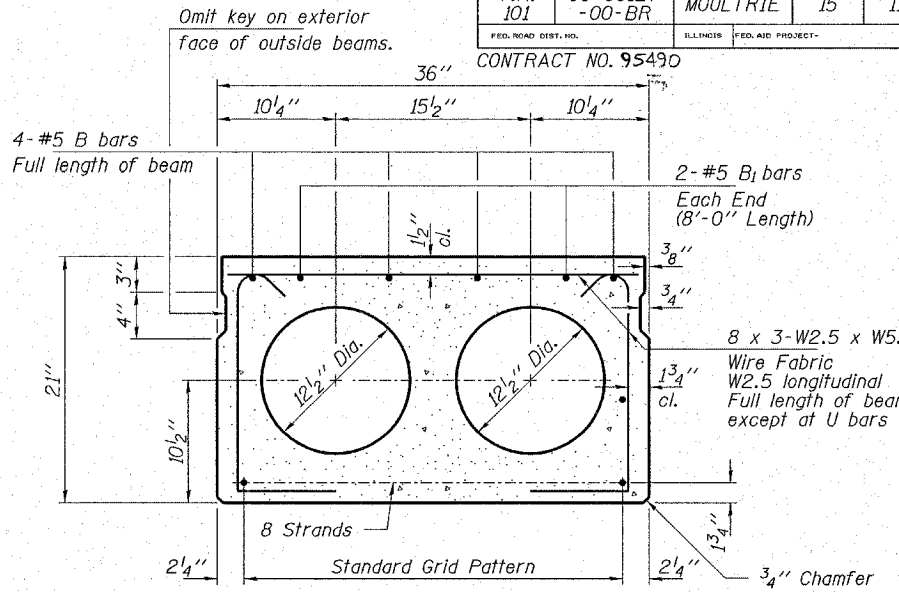


CROSS SECTION



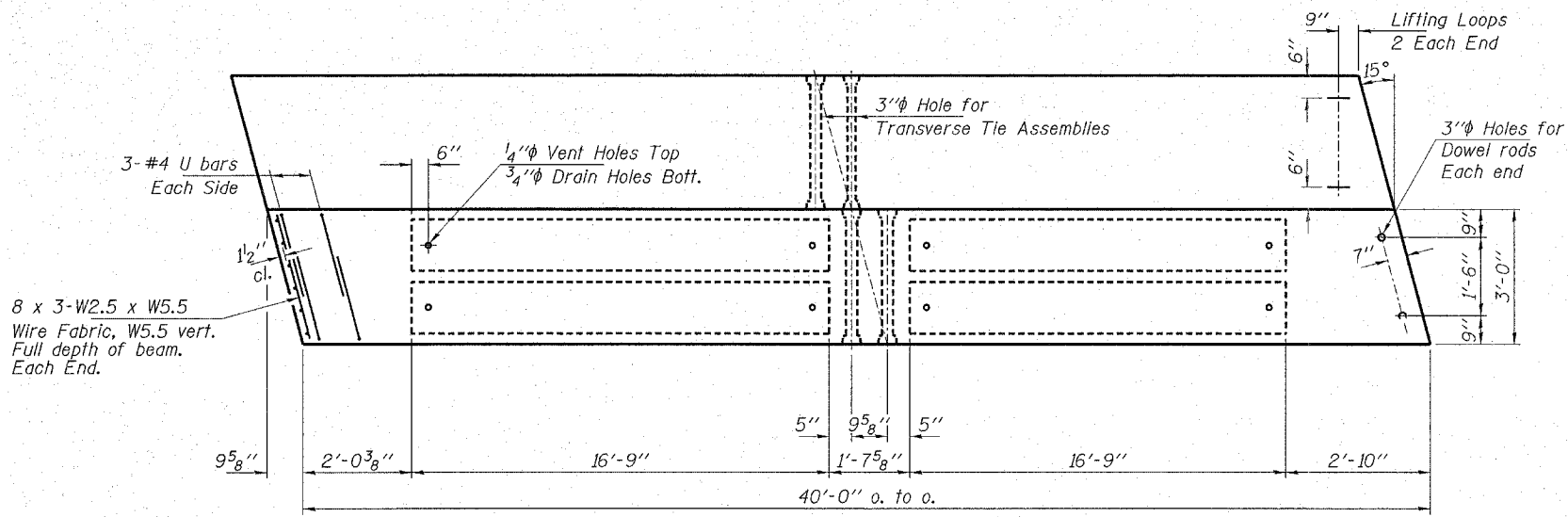
LIFTING LOOP DETAIL

Approved alternate may be substituted for the above.
Approx. Weight of 1 Beam = 24,200 lbs.

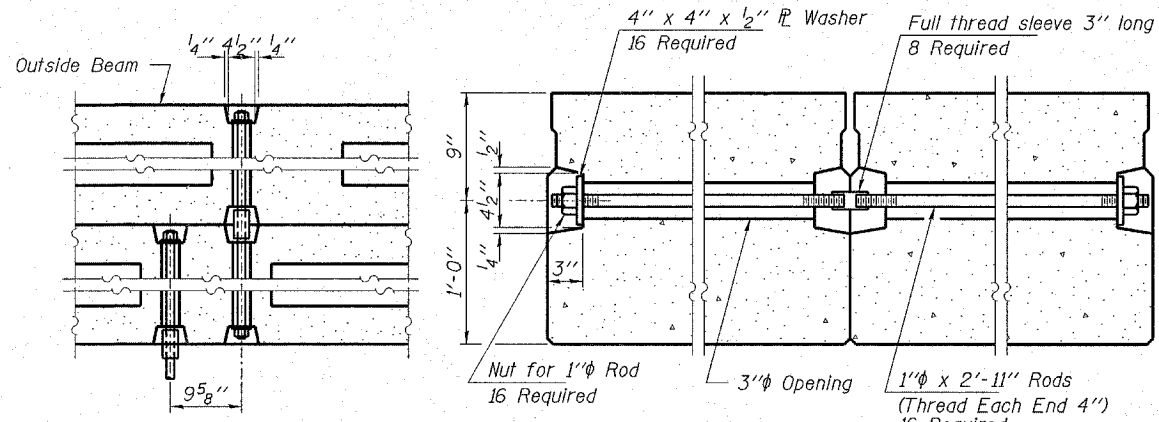


TYPICAL SECTION

Note: Place strands symmetrically about center of beam.
8-1/2" Strands, Each Strand Stressed to 30,900 Lbs.
8-Strands 1 3/4" up



PLAN



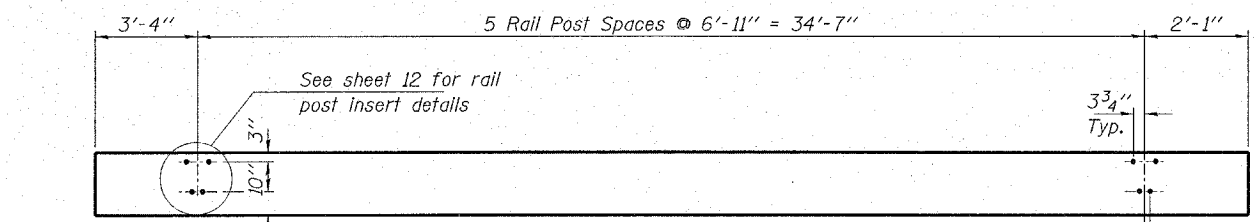
TYPICAL TRANSVERSE TIE ASSEMBLY

NOTES

Prestressing steel shall be non-galvanized 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. Lifting loops shall be 2-1/2" phi-270 ksi strands, as shown. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Required Release Strength, f'cl, shall be 4,000 p.s.i. The 1" phi rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

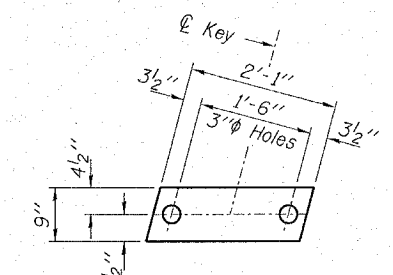
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,080

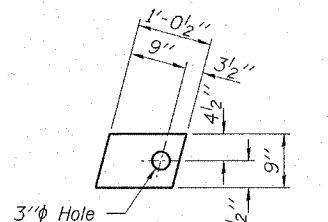


ELEVATION OF OUTSIDE BEAMS

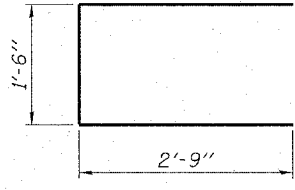
Showing Rail Post Spacing



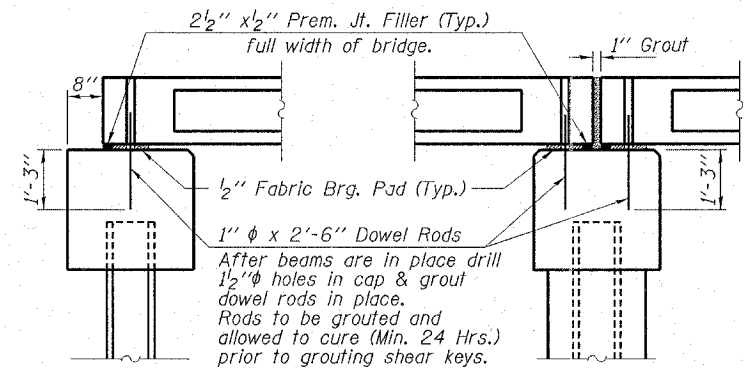
FABRIC BEARING PAD
(Interior - 16 Req'd)



FABRIC BEARING PAD
(Exterior - 4 Req'd)



BAR U



SECTION AT ABUTMENTS
© Rt. L's

SECTION AT PIERS
© Rt. L's

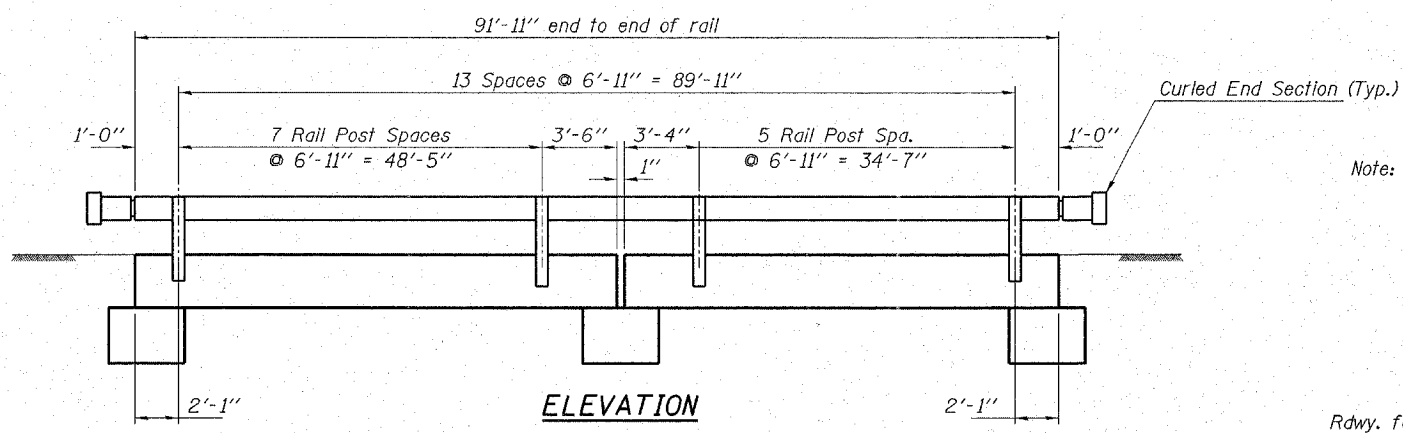
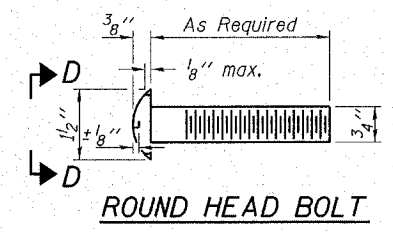
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

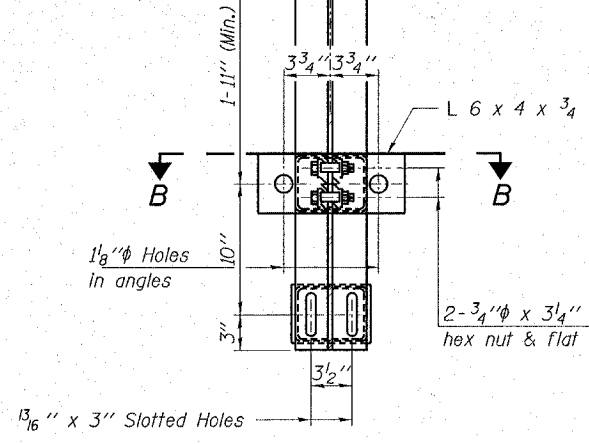
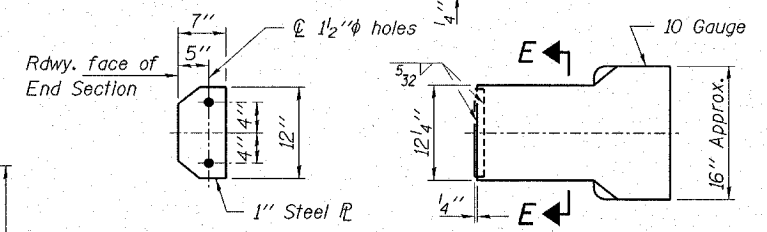
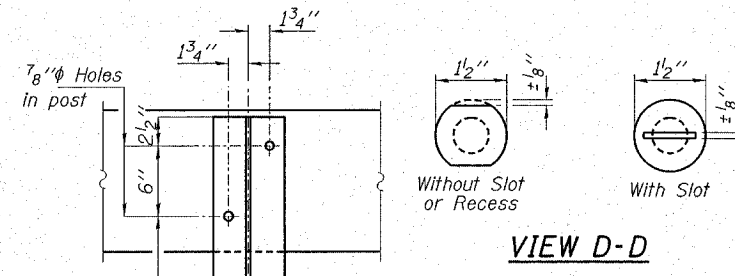
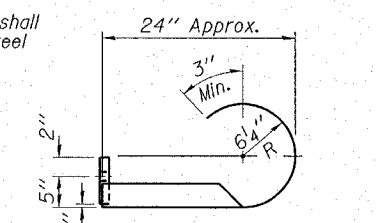
ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

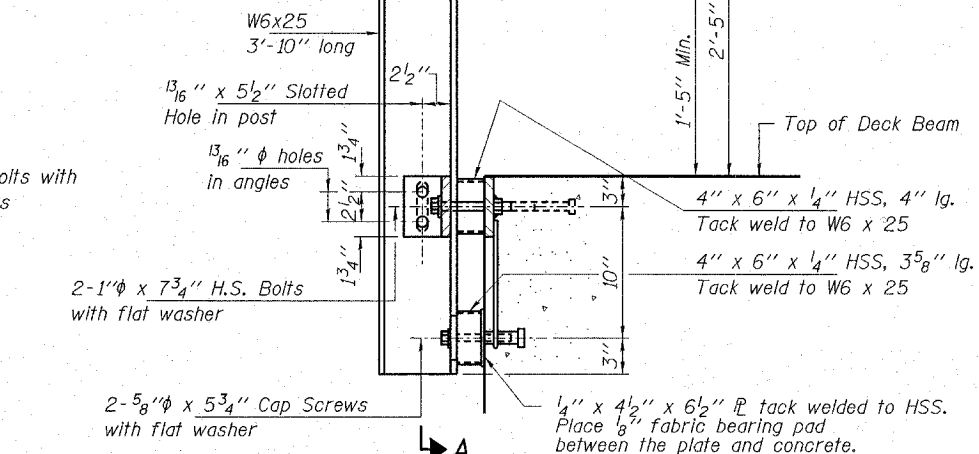
SUPERSTRUCTURE
JONATHAN CREEK ROAD DISTRICT
SECTION 03-03127-00-BR
MOULTRIE COUNTY
STR. NO. 070-4333 / STATION 9+95



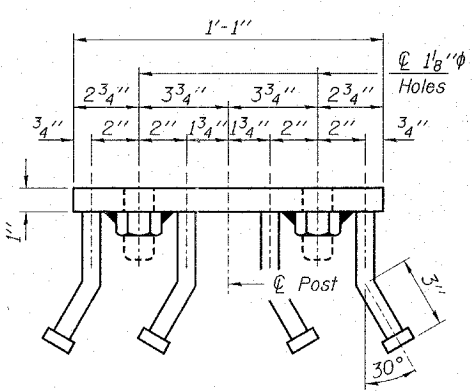
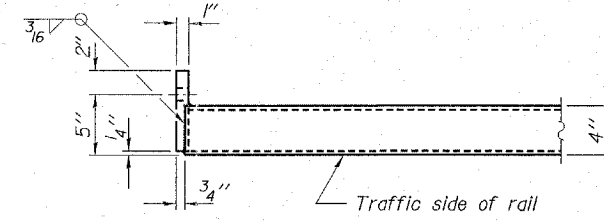
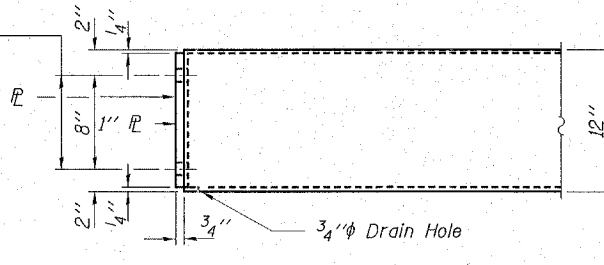
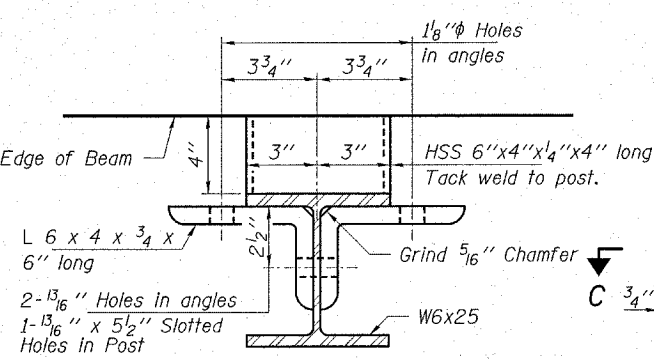
Note: Cost of curled end sections shall be included in the cost of Steel Railing, Type S1. (4 Required)



2-3/4" 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.



** 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".



NOTES

Hollow structural sections shall conform to the requirements of A.S.T.M. 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 A.A.S.H.T.O. designation M-270 Grade 36 except posts and angles shall conform to A.A.S.H.T.O. M-270 Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. designation M-164.

All bolts, nuts, cap screws, washers and lockwashers shall be galvanized in accordance with A.A.S.H.T.O. designation M-232.

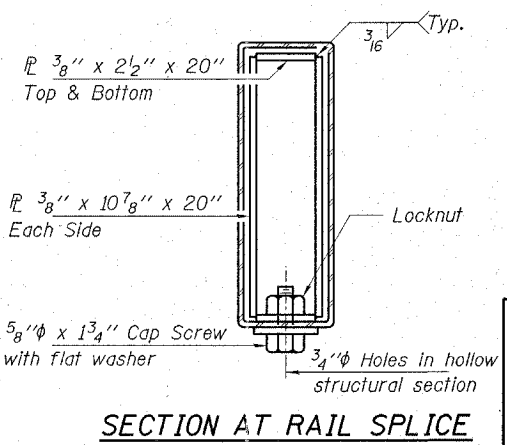
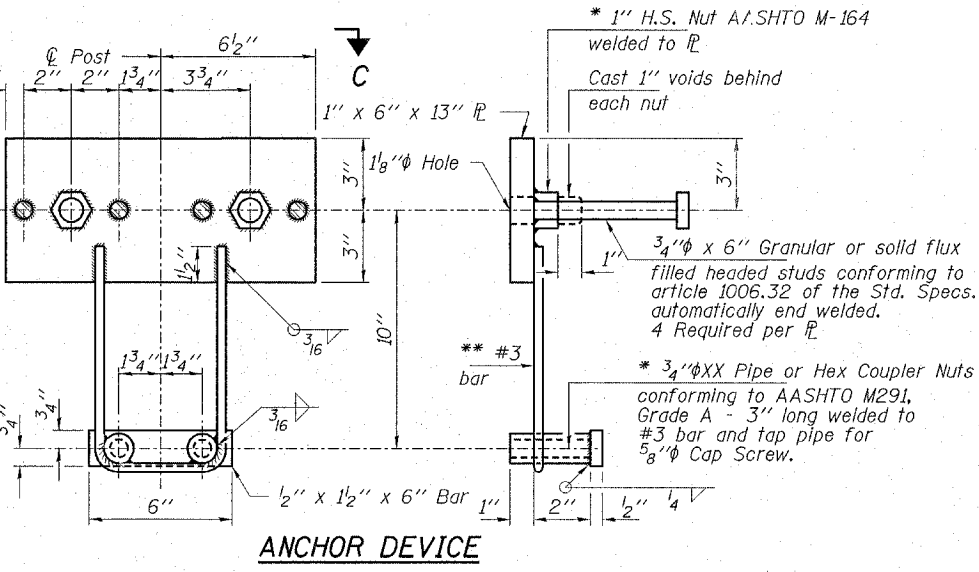
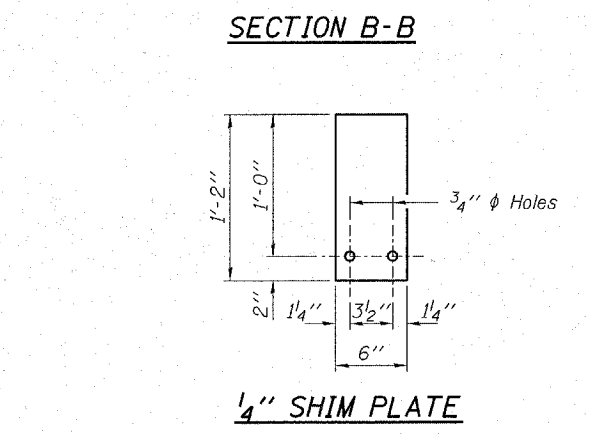
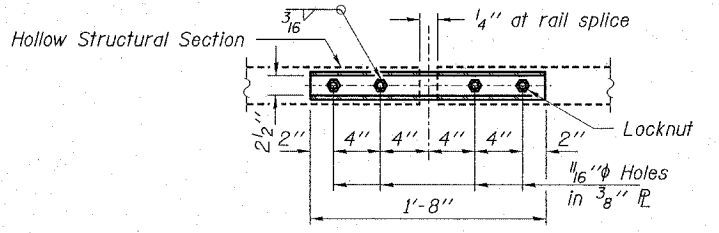
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. A-385 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL RAILING, TYPE S1.

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

The 3/4" φ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Art. 505.04(f)(2) of the Standard Specifications. The 1" φ 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" φ 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 S1.



BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	184

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS

3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

RAILING DETAILS

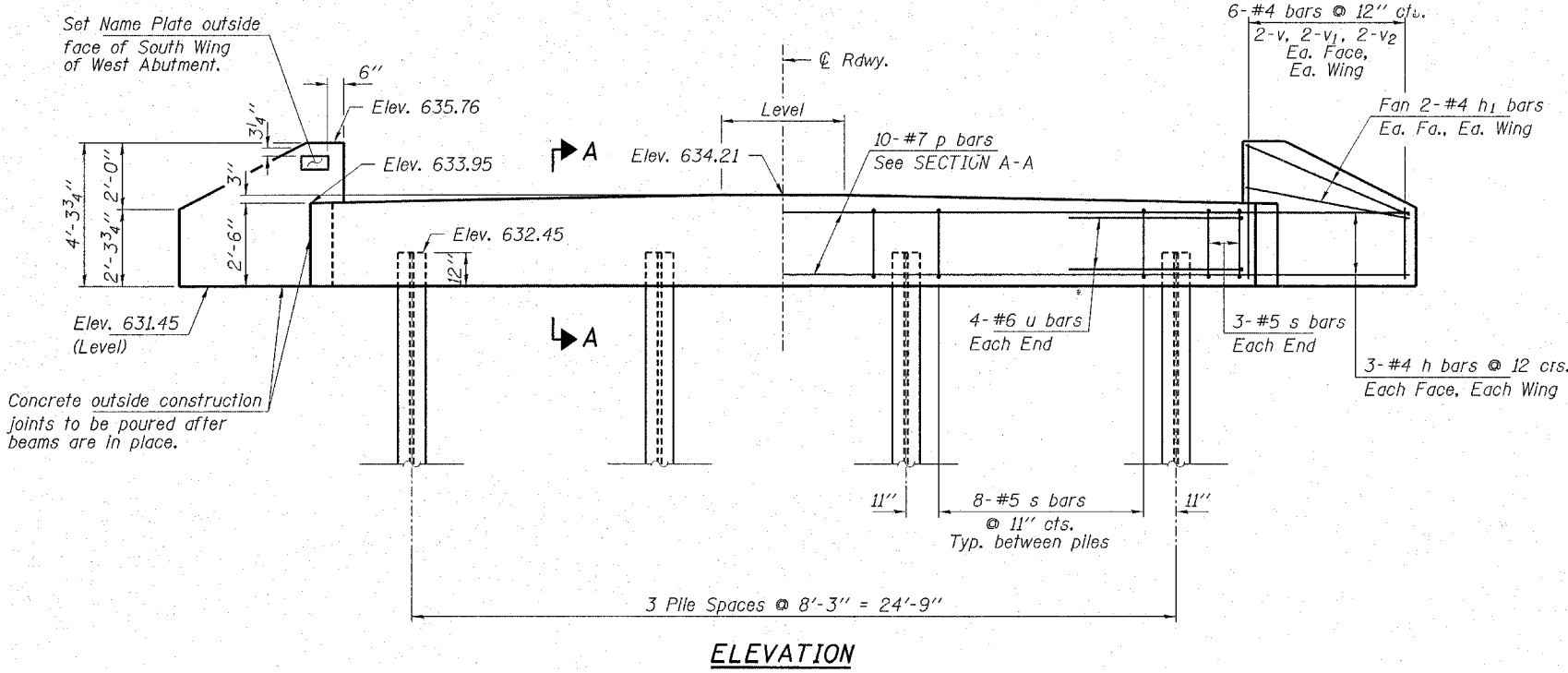
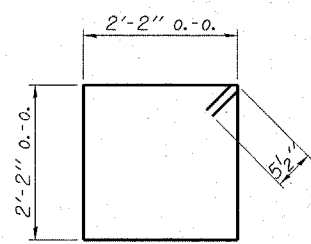
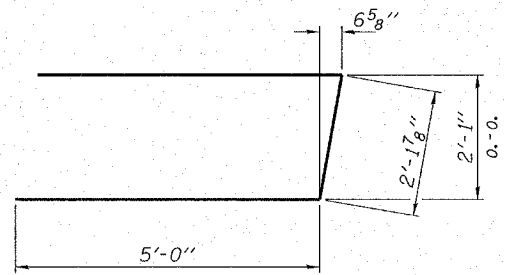
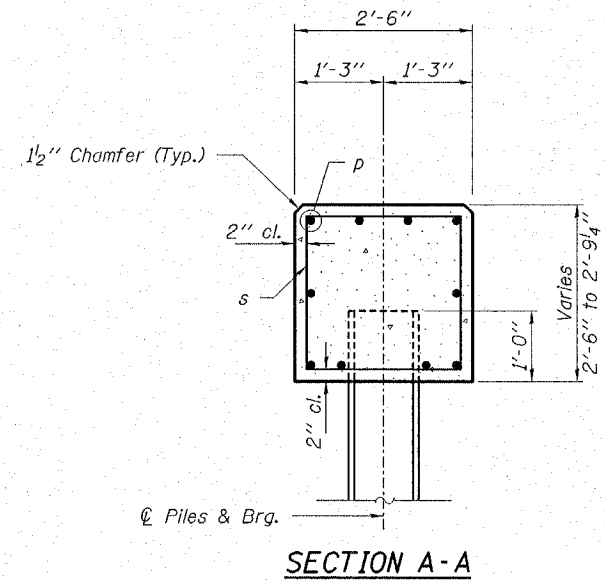
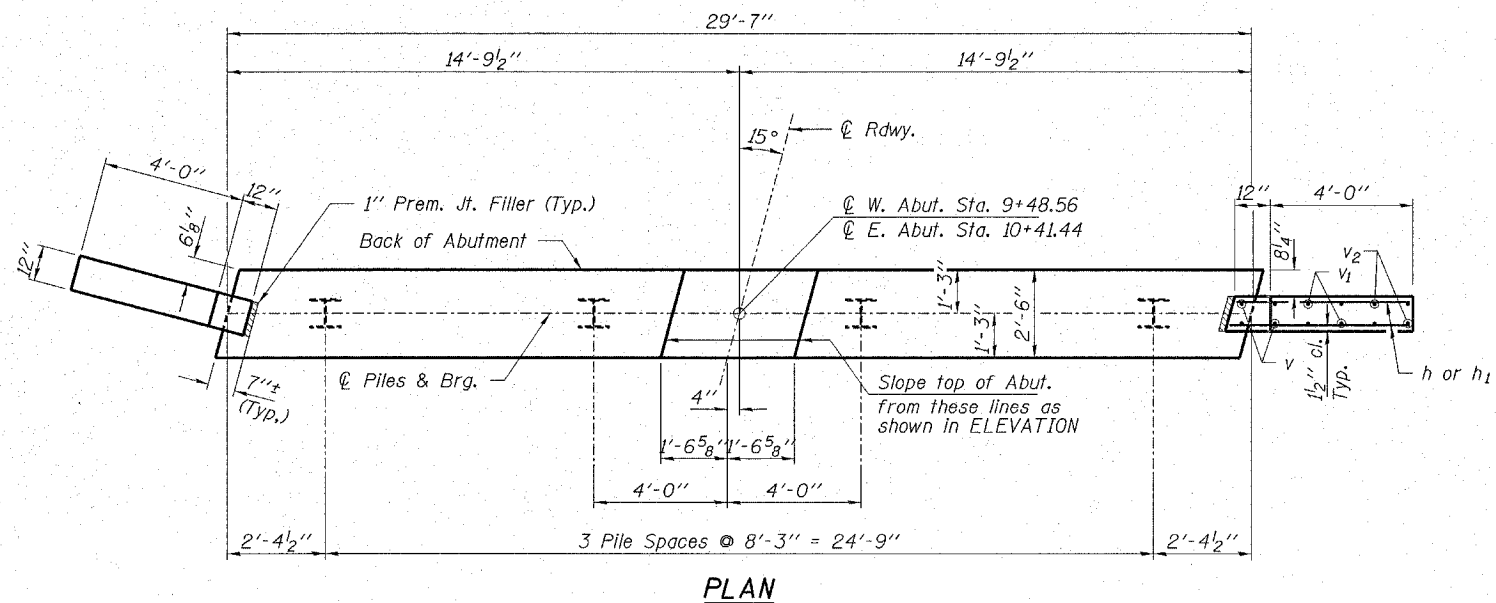
JONATHAN CREEK ROAD DISTRICT

SECTION 03-03127-00-BR

MOULTRIE COUNTY

STR. NO. 070-4333 / STATION 9+95

CONTRACT NO. 95430



Note: Extend h bars into abut. cap.

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	24	#4	5'-9"	—
h ₁	16	#4	4'-9"	—
p	20	#7	29'-4"	—
s	60	#5	9'-7"	□
u	16	#6	12'-2"	U
v	16	#4	4'-0"	—
v ₁	16	#4	3'-0"	—
v ₂	16	#4	2'-0"	—
Concrete Structures			Cu. Yd.	16.8
Reinforcement Bars			Pound	2,330
Steel Piles HP10x42			Foot	210
Test Pile Steel HP10x42			Each	1
Name Plates			Each	1

PILE DATA

Type.....Steel HP10x42
 No. Req'd. (2 Abut.).....8*
 Design Capacity @ W. Abut.....39 Tons/Pile
 Design Capacity @ E. Abut.....34 Tons/Pile
 Est. Length.....30 Feet/Pile

* Includes one test pile to be driven in a permanent location at the West Abutment.

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS

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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

ABUTMENTS

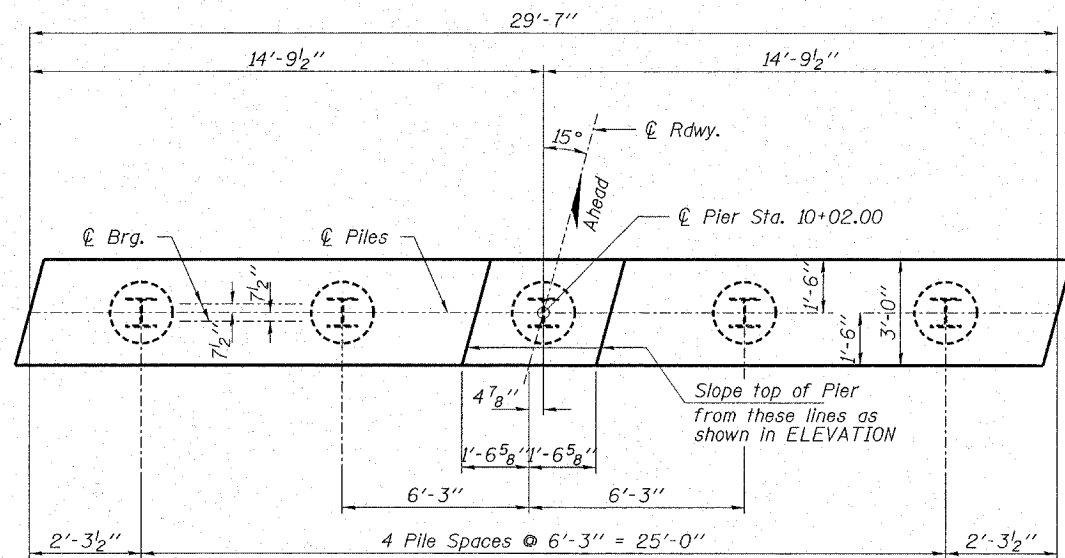
JONATHAN CREEK ROAD DISTRICT

SECTION 03-03127-00-BR

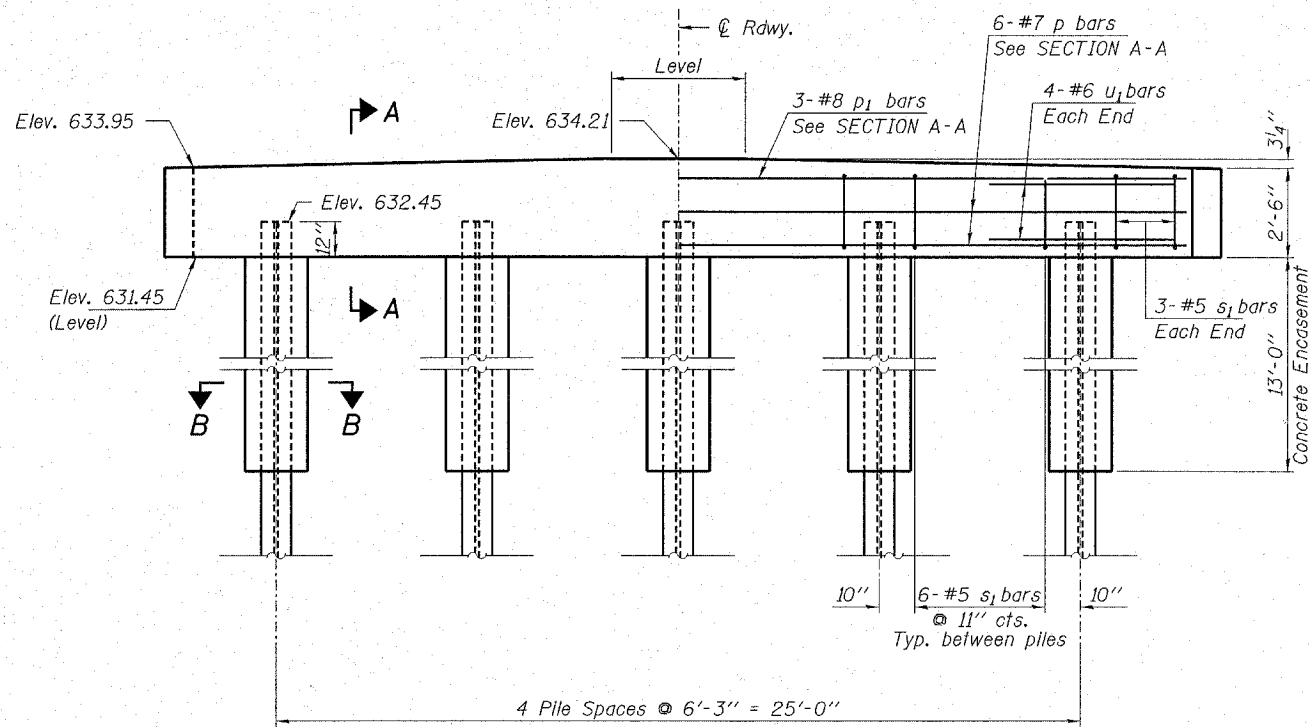
MOULTRIE COUNTY

STR. NO. 070-4333 / STATION 9+95

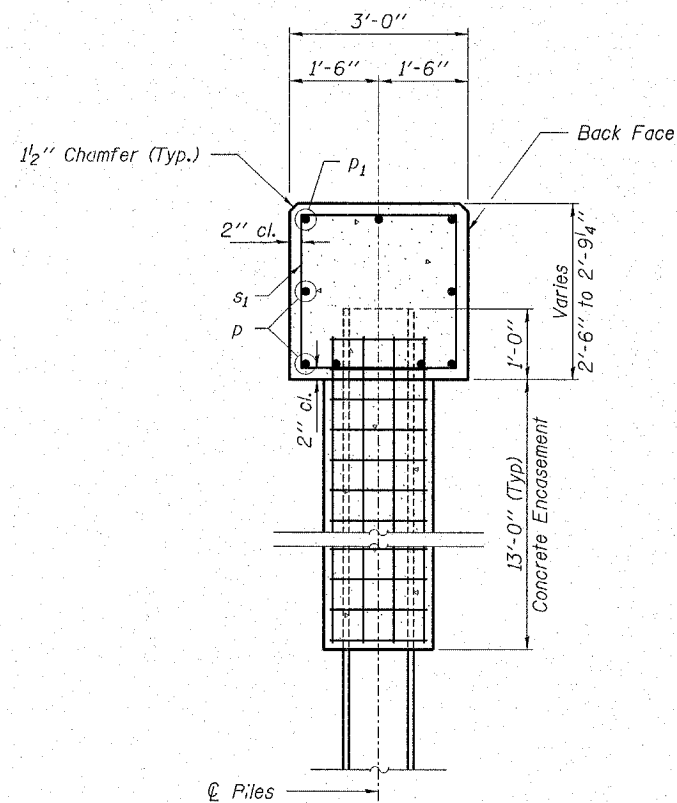
CONTRACT NO. 9549D



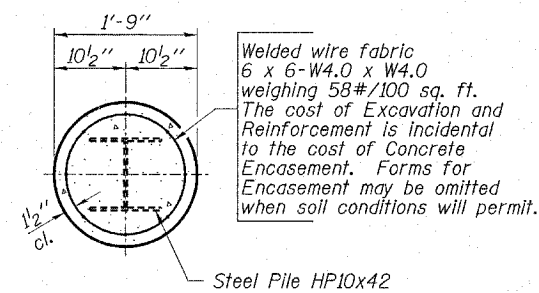
PLAN



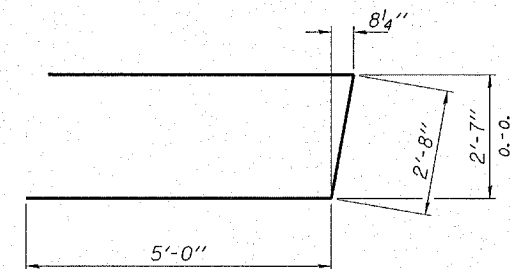
ELEVATION
(Looking North)



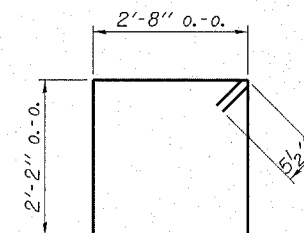
SECTION A-A



SECTION B-B



BAR u1



BAR s1

BILL OF MATERIAL - PIER

BAR	NO.	SIZE	LENGTH	SHAPE
p	6	#7	29'-4"	—
p1	3	#8	29'-4"	—
s1	50	#5	10'-7"	□
u1	8	#6	12'-8"	▱
Concrete Structures			Cu. Yd.	8.7
Reinforcement Bars			Pound	1,300
Steel Piles HP10x42			Foot	150
Concrete Encasement			Cu. Yd.	5.8

PILE DATA

Type.....Steel HP10x42
 No. Req'd. (1 Pier)5
 Capacity.....46 Ton/Pile
 Est. Length.....30 Feet/Pile

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS

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ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/06
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PIER
 JONATHAN CREEK ROAD DISTRICT
 SECTION 03-03127-00-BR
 MOULTRIE COUNTY
 STR. NO. 070-4333 / STATION 9+95



Illinois Department of Transportation
Division of Highways
DOT - Dist 8

SOIL BORING LOG

Page 1 of 1

Date 6/22/04

ROUTE 1500N DESCRIPTION 4 Miles SW of Cadwell LOGGED BY CNA

SECTION 03-03127-00-BR LOCATION SE, SEC. 28, TWP. 14N, RNG. 6E, 3rd PM

COUNTY Moultrie DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO.	STATION	DEPT	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	DEPT	BLOW	UCS	MOIST
071-4311	10+00	H	S	Qu	T			H	S	Qu	T
		(ft)	(#6")	(tsf)	(%)			(ft)	(#6")	(tsf)	(%)
Brown Mottled Silty Clay (Backfill)						Blue/Green Clay Loam Till (continued)					
	635.50										
		1						17			
		1			21			36	6.1		8
		2						50	S		
		1									
		1	1.1		21						
		2	S								
	627.00	91.5									
Dark Gray Loam						End of Boring					
		1					605.50	70.0			
		1	1.0		23			42	9.2		8
		2	B					42	S		
	624.00	88.5									
Gray/Brown Clay Loam Till											
		2									
		3			13						
		4	B								
	622.50	87.0									
Gray Poorly Sorted Coarse Sand with Small Gravel											
		0									
		1									
		2									
	616.50	81.0									
Blue/Green Clay Loam Till											
		1									
		2	1.9		21						
		4	B								

10/9/2004 2:34:21 PM S:\SOILBORING LOGS\MOULTRIE CNTY\070-4311\EXT.GPJ

An assumed centerline elevation of 100.00 and station of 10+00 is used when this information is not available.
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N Value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

BORING 1



Illinois Department of Transportation
Division of Highways
DOT - Dist 8

SOIL BORING LOG

Page 1 of 1

Date 6/22/04

ROUTE 1500N DESCRIPTION 4 Miles SW of Cadwell LOGGED BY CNA

SECTION 03-03127-00-BR LOCATION SE, SEC. 28, TWP. 14N, RNG. 6E, 3rd PM

COUNTY Moultrie DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO.	STATION	DEPT	BLOW	UCS	MOIST	Surface Water Elev.	Stream Bed Elev.	DEPT	BLOW	UCS	MOIST
071-4311	10+00	H	S	Qu	T			H	S	Qu	T
		(ft)	(#6")	(tsf)	(%)			(ft)	(#6")	(tsf)	(%)
Brown Mottled Silty Clay Loam (Backfill)						Gray Poorly Sorted Coarse to Very Coarse Sand with Small Gravel (continued)					
	635.40										
		1									
		2			17						
		2									
		2			8						
	629.90	94.5									
Black Silty Clay						Gray Sandy Clay Loam Till to Loam Till					
		0									
		2			29						
		2									
	627.40	92.0									
Dark Gray to Gray Loam with Small Gravel						End of Boring					
		0									
		1			24						
		2									
		0			23						
		1									
		2									
	622.40	87.0									
(Trace of Free Water)						End of Boring					
		0									
		2			26						
		2									
		3			7						
		3									
		3									

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An assumed centerline elevation of 100.00 and station of 10+00 is used when this information is not available.
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N Value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

BORING 2

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS

3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-72-0015-1 DATE: 07/12/08
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

BORINGS

JONATHAN CREEK ROAD DISTRICT

SECTION 03-03127-00-BR

MOULTRIE COUNTY

STR. NO. 070-4333 / STATION 9+95