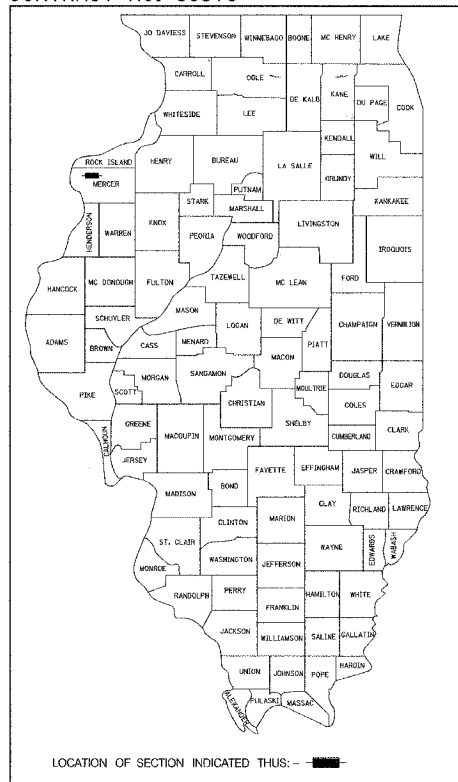


RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	1
PROJECT				

* 02-14130-00-BR

CONTRACT NO. 89378



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

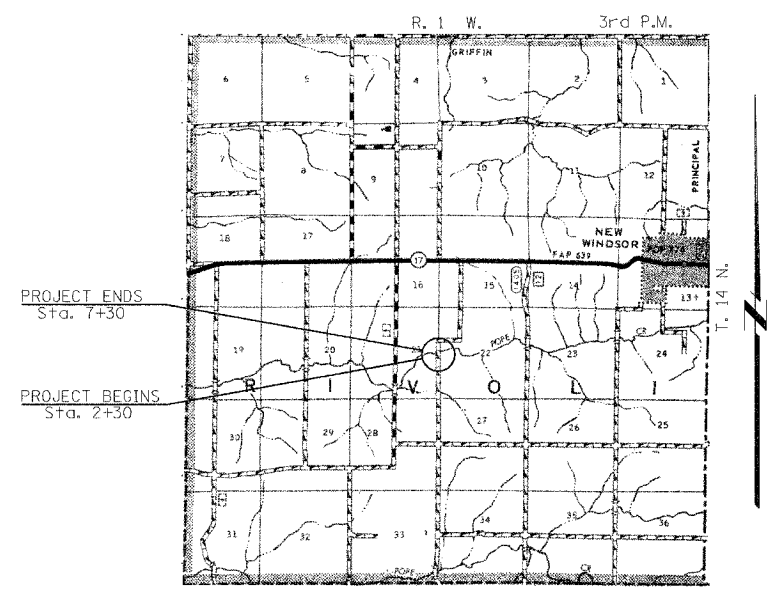
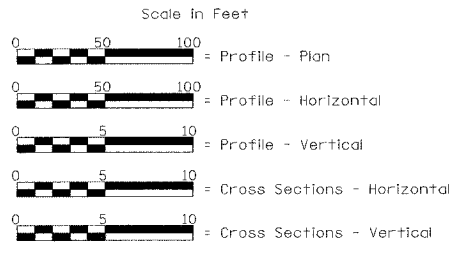
PLANS FOR PROPOSED
HIGHWAY BRIDGE REPLACEMENT
AND REHABILITATION PROGRAM
PROJECT NO. BROS-131(046)
T.R. 274 OVER NORTH POPE CREEK
SECTION 02-14130-00-BR
MERCER COUNTY
JOB NO. C-94-094-05

INDEX OF SHEETS

- 1 - TITLE SHEET
- 2 - SUMMARY OF QUANTITIES, DETAILS, & TYPICAL SECTIONS
- 3 - PLAN & PROFILE
- 4 - GENERAL PLAN & ELEVATION
- 5 - SUPERSTRUCTURE
- 6 - RAILING
- 7 - ABUTMENTS
- 8 & 9 - CROSS SECTIONS

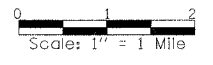
STANDARDS (In Proposal)

- STANDARD 000001-04
- STANDARD 280001-02
- STANDARD 515001-02
- STANDARD 702001-06
- STANDARD BLR 21-6



LOCATION PLAN

Length of Section = 500.00 Feet = 0.095 Miles



Land Section - 22
Land Quarter Section - S.W.
Political Township - Rivolt
A.D.T. = 75 (2004)
A.D.T. = 92 (2024)
Design Speed - 30 M.P.H.
Functional Classification - Local Road (Rural)

EXISTING STRUCTURE: SINGLE SPAN TIMBER DECK ON STEEL STRINGERS WITH OPEN CONCRETE ABUTMENTS AND TIMBER WINGWALLS. AN EXISTING STRUCTURE WITH CLOSED CONCRETE ABUTMENTS IS STILL INTACT AND HAS BEEN LEFT IN PLACE UNDERNEATH THE STRUCTURE. ±41'-0 BK.-BK. ABUTMENTS, ±15'-6" FACE-FACE OF RAILING. STEEL ANGLE RAILING. ±15° SKEW RT. FORWARD. EXISTING STRUCTURE NO. 066-4617

PROPOSED STRUCTURE: SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM (27") BRIDGE ON OPEN CONCRETE ABUTMENTS AND CONCRETE WINGWALLS. 60'-0" BK.-BK. ABUTMENTS, 24'-0" OUT.-OUT. DECK. TYPE S1 RAILING. 20° SKEW RT. FORWARD. PROPOSED STRUCTURE NO. 066-4624

Approved: *Dec 8 2005*
Darryl A. Peterson
Signature (Highway Commissioner)



Christopher P. Kohnke 1/18/06
EXPIRATION: 11/30/07

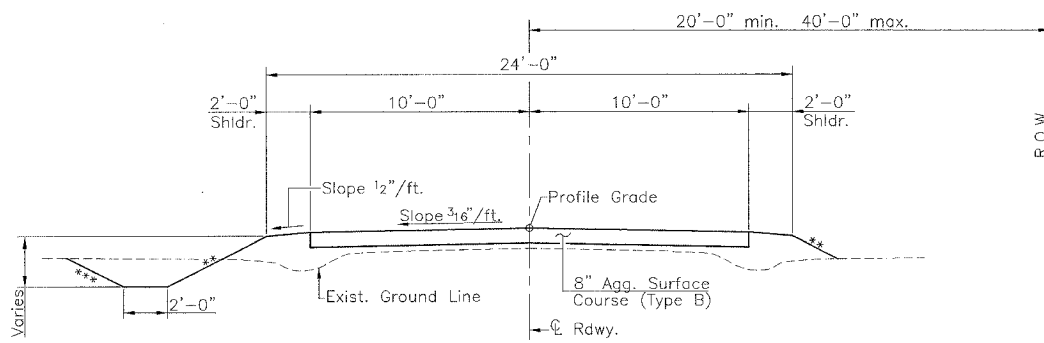
APPROVED: <i>Dec 8 2005</i> <i>Stan J. Raymond</i> COUNTY ENGINEER
PASSED: <i>JTS 2006</i> <i>John J. Tull</i> DISTRICT FOUR ENGINEER & LOCAL ROADS & STREETS
PASSED: _____ DISTRICT FOUR ENGINEER CONSTRUCTION
Resubmitting For Bid Based on Limited Review: <i>JTS 25 06</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOLL FREE
"JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"
(414) TELEPHONE NUMBER
1-800-892-0123

FILE NAME: MCR30035 (REV. 11/22/05)

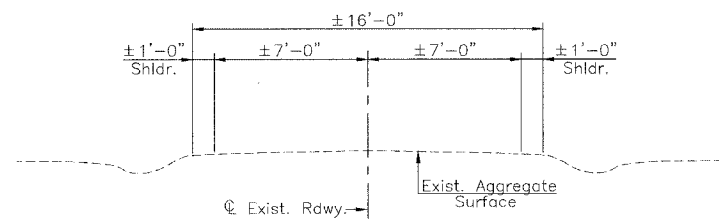
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	2

PROJECT
* 02-14130-00-BR
CONTRACT NO. 89378

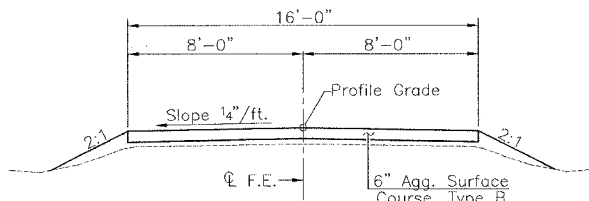


PROPOSED CROSS SECTION

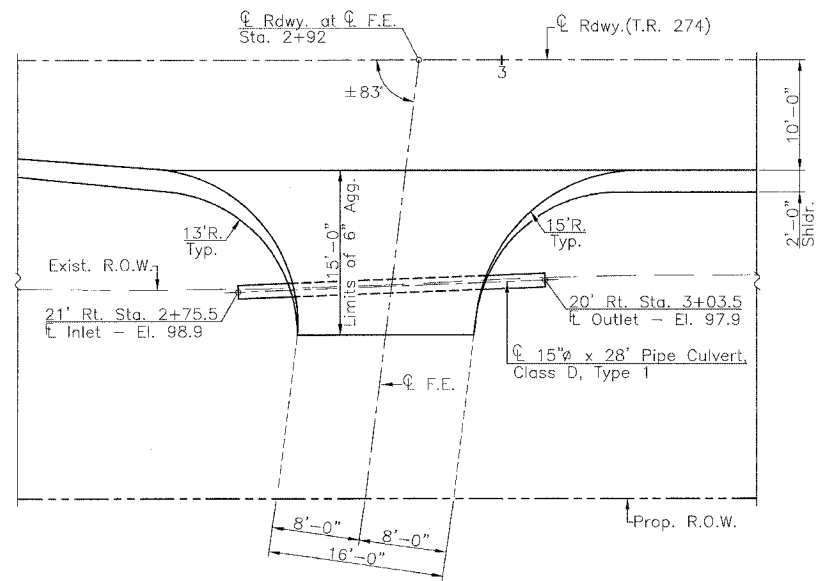
- ** - Fill $\leq 6'$ 3:1
- $\geq 6'$ 2:1
- *** - Fill $\leq 10'$ 3:1
- $\geq 10'$ 2:1



EXISTING CROSS SECTION



TYPICAL FIELD ENTRANCE
(Sta. 2+90 Rt.)



PLAN
(F.E. Rt., Sta. 2+92)

EARTHWORK SCHEDULE

Location	Earth Excavation	Earth Excavation Adjusted For Shrinkage	Embankment	Earthwork Balance Waste (+) or Shortage (-)
	Cubic Yard	Cubic Yard	Cubic Yard	Cubic Yard
Sta. 2+30 to Sta. 3+00	115	86	10	76
Sta. 3+00 to Sta. 3+60	173	130	37	93
Sta. 3+60 to Sta. 3+80	50	38	21	17
Bridge Omission—Sta. 3+80 to Sta. 4+40				
Sta. 4+40 to Sta. 4+50	12	9	12	-3
Sta. 4+50 to Sta. 5+00	51	38	105	-67
Sta. 5+00 to Sta. 6+00	48	36	226	-190
Sta. 6+00 to Sta. 7+00	20	15	78	-63
Sta. 7+00 to Sta. 7+30	4	3	1	2
Total	473	355	490	-135 ****

**** - Quantity to be reduced by 135 Cu. Yds. of suitable Channel or Structure Excavation as directed by the Engineer. No Furnished Excavation will be required. Cost to dispose of Excess Channel or Structure Excavation shall be included in the contract unit price for Earth Excavation.

SUMMARY OF QUANTITIES

x031-2A

Code No.	Item	Unit	Quantity
20100110	Tree Removal (6 to 15 Units Diameter)	Unit	63
20100210	Tree Removal (Over 15 Units Diameter)	Unit	75
20200100	Earth Excavation	Cu. Yd.	422
20300100	Channel Excavation	Cu. Yd.	350
25001000	Seeding Class 2 (Special)	Acre	0.6
28000250	Temporary Erosion Control Seeding	Pound	100
28000300	Temporary Ditch Checks	Each	4
28100709	Stone Dumped Riprap, Class A5	Sq. Yd.	531
28102500	Stone Riprap Ditch	Sq. Yd.	270
28200200	Filter Fabric	Sq. Yd.	531
40200800	Aggregate Surface Course, Type B	Ton	449
50100100	Removal of Existing Structures	Each	1
50200100	Structure Excavation	Cu. Yd.	126
50300225	Concrete Structures	Cu. Yd.	27.8
50400505	Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1406
50800105	Reinforcement Bars	Pound	2630
50900205	Steel Railing Type S1	Foot	120
51201400	Furnishing Steel Piles HP 10x42	Foot	245
51202700	Driving Steel Piles	Foot	245
51203400	Test Pile Steel HP 10x42	Each	1
51204315	Concrete Encasement	Cu. Yd.	2.2
51500100	Name Plates	Each	1
54200220	Pipe Culverts, Class D, Type 1 15"	Foot	28
70100100	Mobilization	L. Sum	1
70101700	Traffic Control & Protection	L. Sum	1
78201000	Terminal Marker - Direct Applied	Each	4

* See Special Provisions

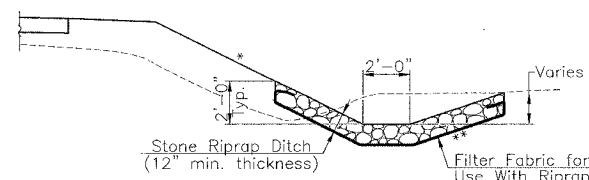
GENERAL NOTES

Where section or subsection stones are encountered, the Engineer shall be notified before such stones are removed. The contractor shall protect and preserve all property markers and monuments until the owner, authorized surveyor, or agent has witnessed or referenced their location.

Seeding: Fertilizer nutrients shall be applied at a ratio of 1:1:1 and at a rate of 270 pounds per acre.

Mulch shall be applied at the rate of 2 tons per acre.

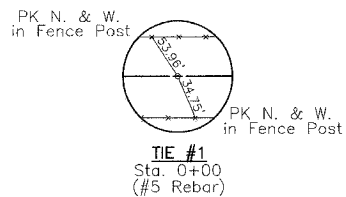
Areas to be seeded shall consist of all disturbed earth surfaces within the right-of-way as directed by the Engineer.



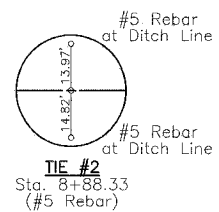
STONE RIPRAP DITCH DETAIL
(Sta. 2+70 to Sta. 3+73 Lt. & Rt.)

Note: Omit riprap underneath F.E. Sta. 2+90 Rt.

**SUMMARY OF QUANTITIES
DETAILS & TYPICAL SECTIONS
T.R. 274 OVER NORTH POPE CREEK
SECTION 02-14130-00-BR
MERCER COUNTY**



SECTION 22 T.14 N. R.1 W. 3rd P.M.



RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	3
PROJECT				

* 02-14130-00-BR
CONTRACT NO. 89378

SCHEDULE TREE REMOVAL (6 TO 15 UNITS DIAMETER)

LOCATION	QUANTITY (UNITS)
Sta. 3+13 25' Lt.	12
Sta. 3+52 22' Lt.	12
Sta. 3+59 23' Lt.	15
Sta. 3+82 26' Lt.	12
Sta. 3+82 27' Lt.	12
Total	63

SCHEDULE TREE REMOVAL (OVER 15 UNITS DIAMETER)

LOCATION	QUANTITY (UNITS)
Sta. 2+57 23' Lt.	30
Sta. 2+72 28' Lt.	24
Sta. 4+21 23' Lt.	21
Total	75

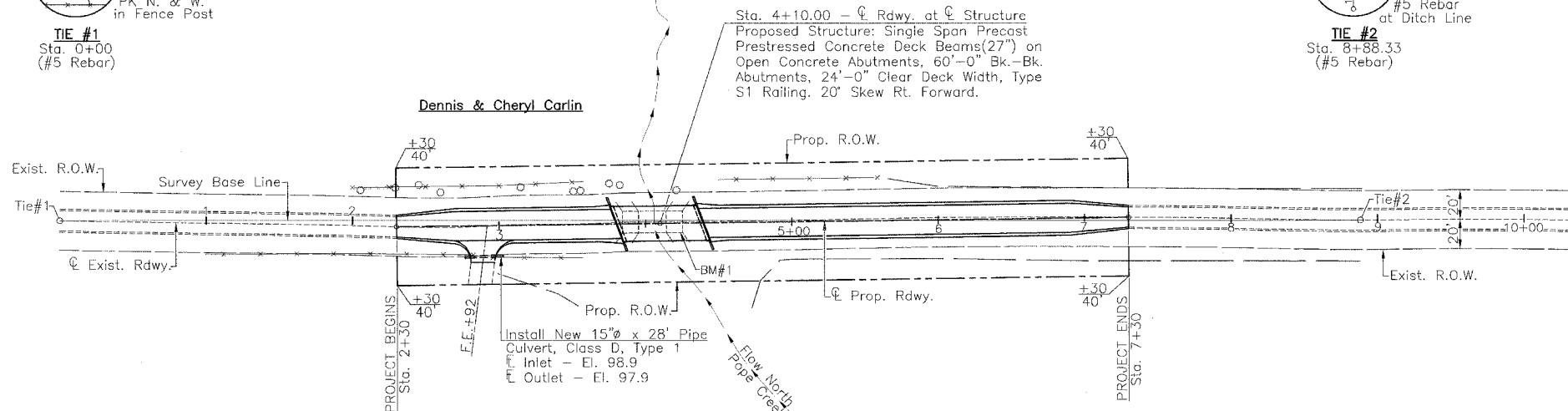
SCHEDULE FENCE REMOVAL

LOCATION	QUANTITY (FOOT)
Sta. 2+30 to Sta. 3+59 Lt. & Rt.	258
Sta. 4+50 to Sta. 5+60 Lt.	110
Total	368

(This is being provided for informational purposes only)
(Cost of this work considered incidental to contract)

UTILITIES

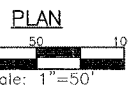
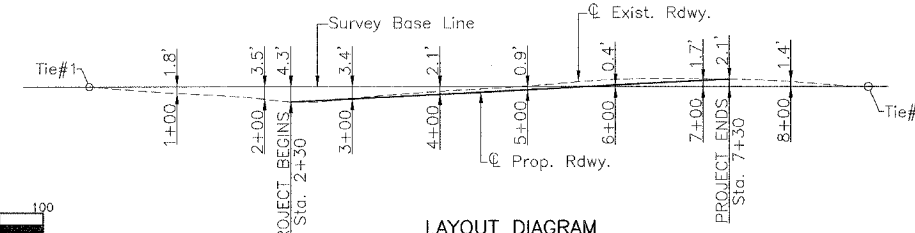
Illinois Power Company
2003 S.E. Third Street
Aledo, Illinois 61231
Frontier Telephone
Monmouth, Illinois 61231
A.N.R. Gas Company
Aledo, Illinois 61231



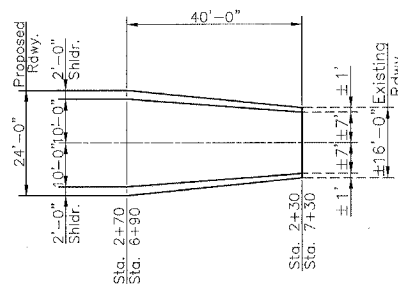
Seeding - Sta. 2+30 to Sta. 7+30 R.O.W. to R.O.W. - 0.6 Acre

SCHEDULE TEMPORARY DITCH CHECKS

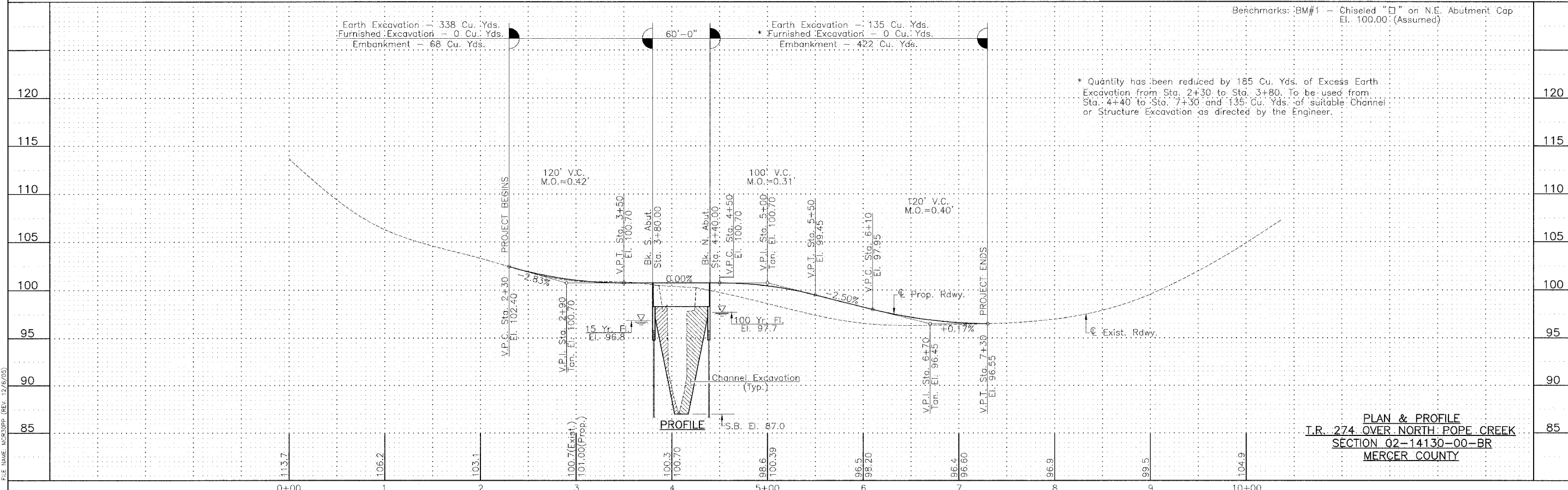
LOCATION	QUANTITY (EACH)
Sta. 3+70 25' Lt.	1
Sta. 3+80 25' Rt.	1
Sta. 4+40 25' Lt.	1
Sta. 4+50 25' Rt.	1
Total	4



LAYOUT DIAGRAM



ROADWAY TRANSITION DETAIL



Benchmarks: BM#1 - Chiseled "□" on N.E. Abutment Cap El. 100.00 (Assumed)

* Quantity has been reduced by 185 Cu. Yds. of Excess Earth Excavation from Sta. 2+30 to Sta. 3+80. To be used from Sta. 4+40 to Sta. 7+30 and 135 Cu. Yds. of suitable Channel or Structure Excavation as directed by the Engineer.

PLAN & PROFILE
T.R. 274 OVER NORTH POPE CREEK
SECTION 02-14130-00-BR
MERCER COUNTY

FILE NAME: MCR000P (REV. 12/6/03)

Existing Structure: Single Span Timber Deck on Steel Stringers with Open Concrete Abutments and Timber Wingwalls. An existing structure with closed concrete abutments is still intact and has been left in place underneath the structure. ±41'-0" Bk.-Bk. Abutments, ±15'-6" Face-Face of Railing. Steel Angle Railing. ±0' Skew. Existing Structure No. 066-4617

Benchmarks: BM #1 - Chiseled "□" on N.E. Abutment Cap
10' Rt. Sta. 4+26 El. 100.00 (Assumed)

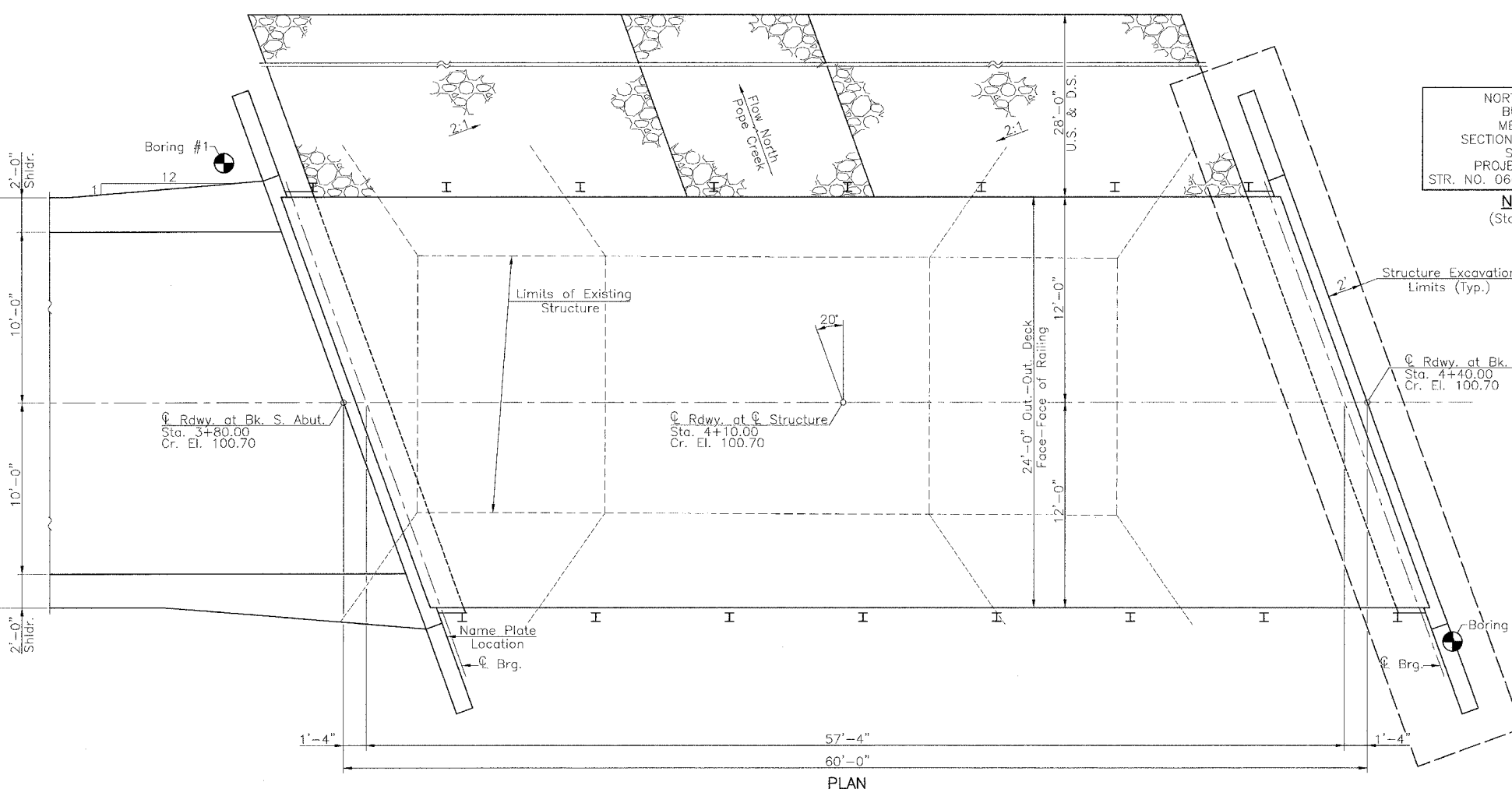
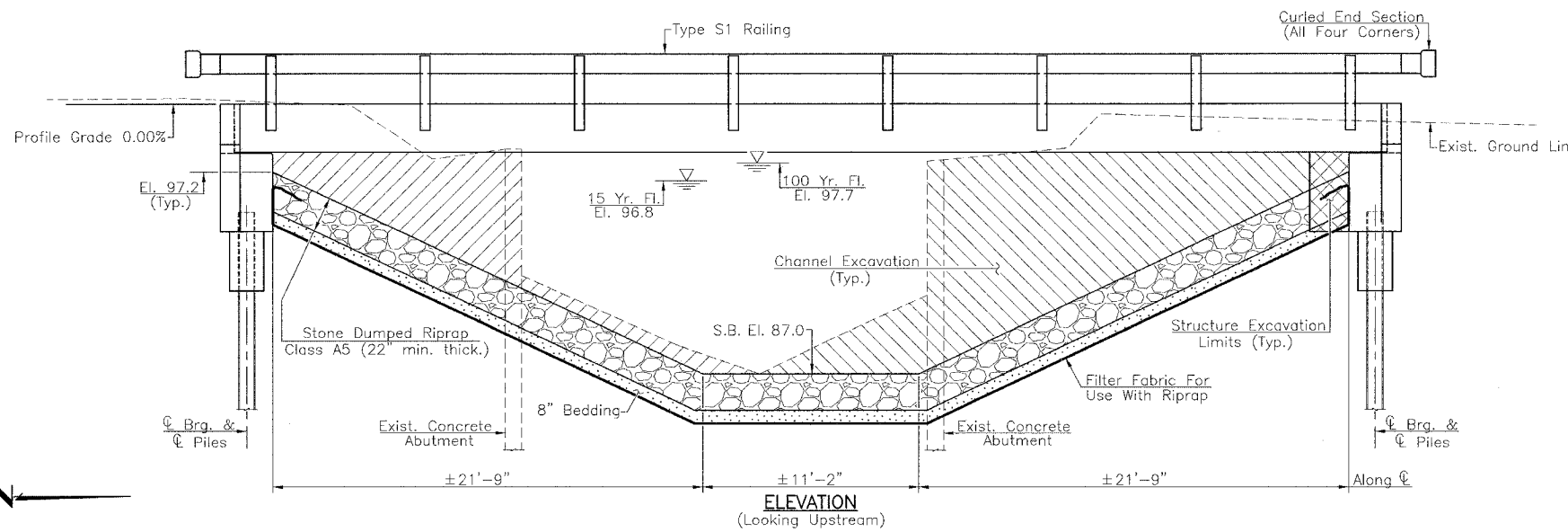
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	4
PROJECT		* 02-14130-00-BR CONTRACT NO. 89378		

TOTAL BILL OF MATERIAL

Item	Super	Sub	Total
Channel Excavation			378
Stone Dumped Riprap, Class A5			531
Filter Fabric For Use With Riprap			531
Removal of Existing Structures			1
Structure Excavation			126
Concrete Structures		27.8	27.8
Precast Prestressed Concrete Deck Beams (27" Depth)	1406		1406
Reinforcement Bars		2630	2630
Steel Railing Type S1	120		120
Furnishing Steel Piles HP 10x42		245	245
Driving Steel Piles		245	245
Test Pile, Steel HP 10x42			1
Concrete Encasement		2.2	2.2
Name Plates			1

WATERWAY INFORMATION

Drainage Area = 12.2 Sq. Miles		Low Grade Elev. = 96.55		@ Sta. 7+30		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head-Ft.	Headwater El.
Design	15	1452	Exist. 156 Prop. 293	96.8	Exist. 1.3 Prop. 0.4	Exist. 98.1 Prop. 97.2
Base	100	2371	175 342	97.7	1.2 0.8	98.9 98.5
Exist. Overtop	8.9	1250				
Prop. Overtop	14	1440				
Max. Calc.	500	3140	190 371	98.2	1.2 0.9	99.4 99.1



DESIGN STRESSES

FIELD UNITS	PRECAST PRESTRESSED UNITS
f _c = 1400 psi	f'c = 5000 psi
vc = 56.2 psi	f'ci = 4000 psi
fs = 24000 psi	f's = 270000 psi
n = 9	1/2" Strands f'si = 189000 psi

GENERAL NOTES

See Proposal for Boring Data.
Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31, M-42, or M-53, Grade 60.
The layout of the riprap slopedwall may be varied to suit conditions in the field as determined by the engineer.
The contractor shall drive one test pile in a permanent location at the South Abutment as directed by the Engineer in the field prior to ordering the remainder of piles.

DESIGN SPECIFICATIONS

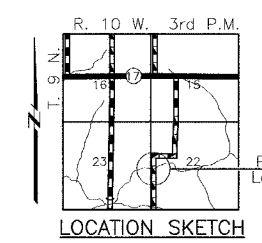
2002 A.A.S.H.T.O. Specifications and 2003 Interim Specifications.

LOADING HS 20-44

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

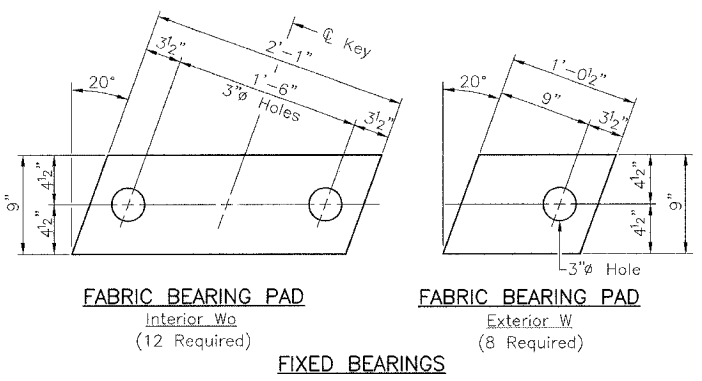
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

M. Henderson 1/18/06
Expiration Date 11/30/2006

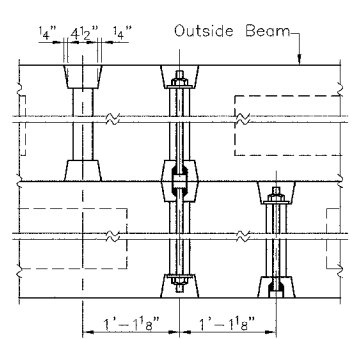


GENERAL PLAN & ELEVATION
T.R. 274 OVER NORTH POPE CREEK
SECTION 02-14130-00-BR
MERCER COUNTY

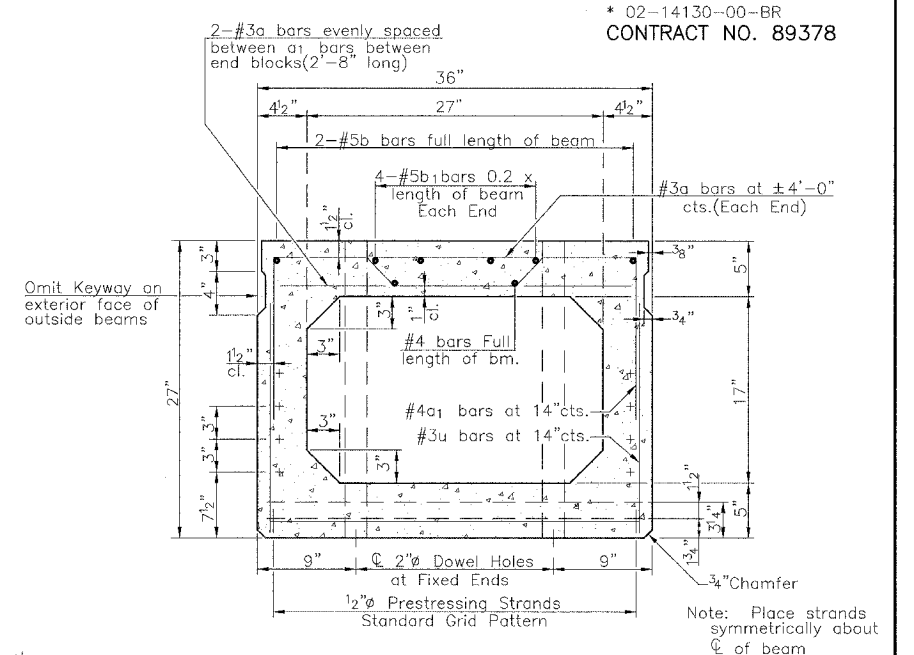
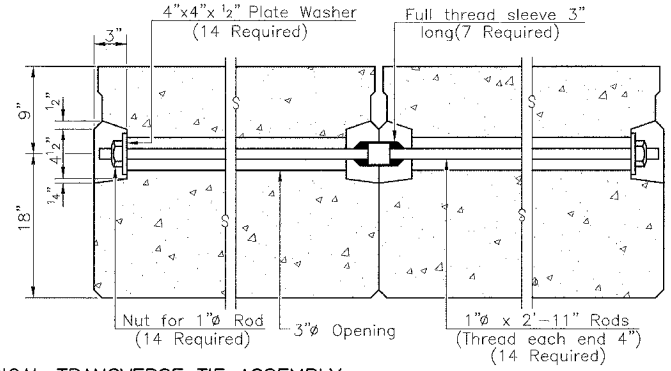
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I.R. 274	*	MERCER	9	5
PROJECT			* 02-14130-00-BR CONTRACT NO. 89378	



FIXED BEARINGS

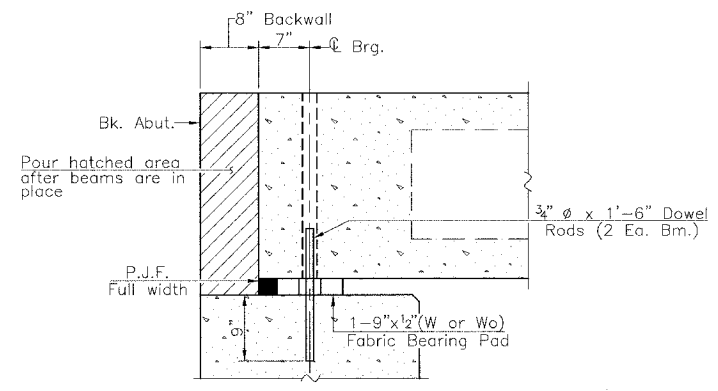


TYPICAL TRANSVERSE TIE ASSEMBLY

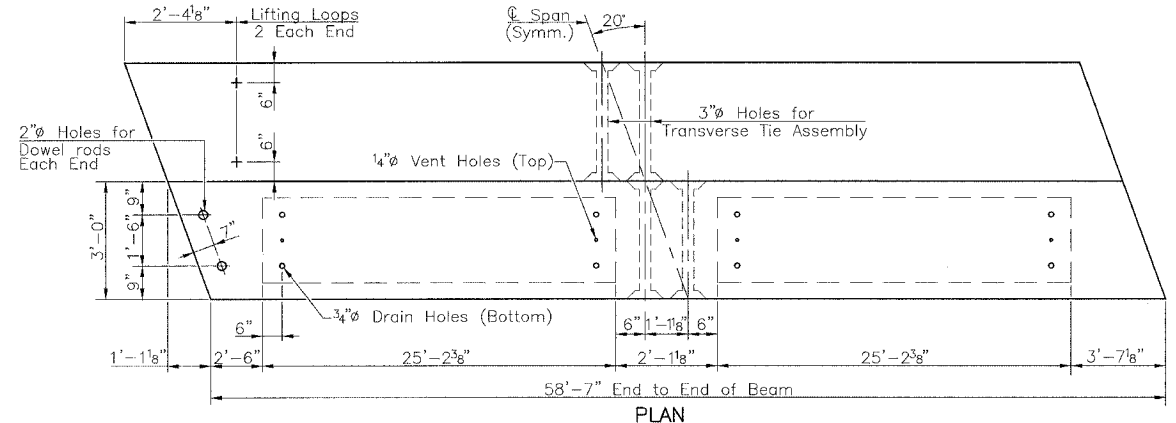


TYPICAL SECTION

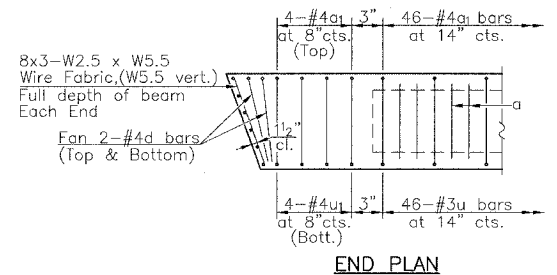
15-1/2" Strands, Each Strand Stressed to 30,900 Lbs.
7-Strands 1 3/4" up, 6 Strands 3/4" up, 2 Strands - 7/2" up



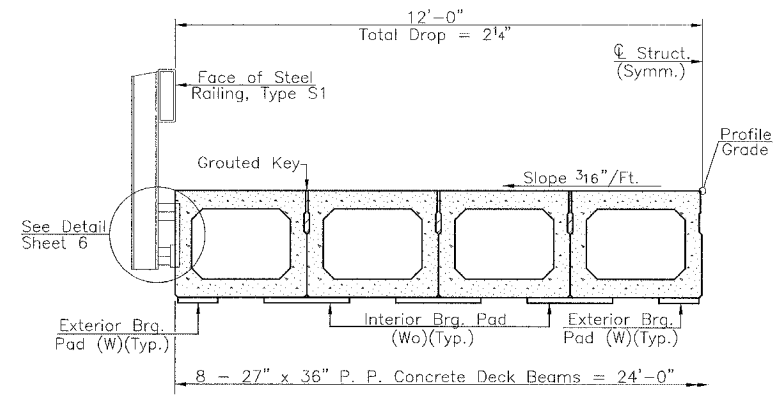
SECTION THRU ABUTMENT (At Right Angles)



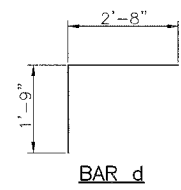
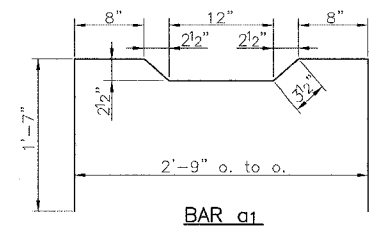
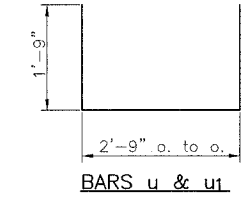
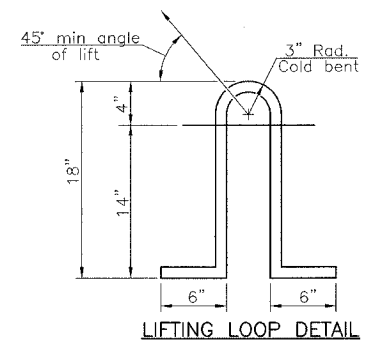
PLAN



END PLAN



HALF CROSS SECTION



NOTES

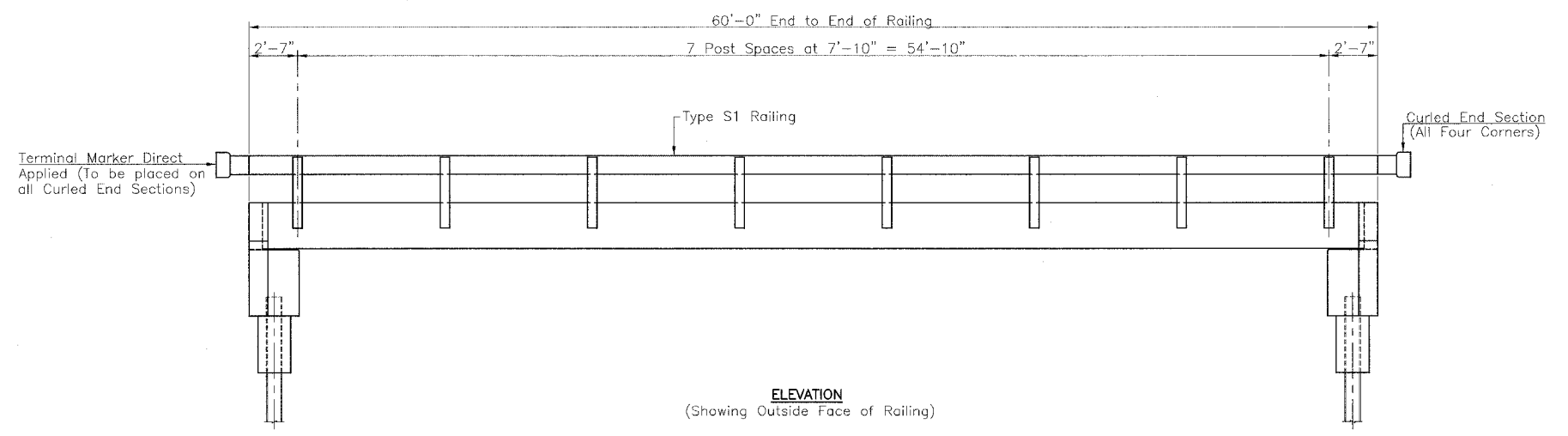
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
Lifting loops shall be 2-1/2" diameter 270 ksi strands, as shown.
Non prestressing steel shall conform to AASHTO M-31, M-42 or M-53, 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 beams and the bottom edge of the key.
Required Release Strength, f'ci, shall be 4000 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.
Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck Beams.
Rail Post Anchor Devices shall be cast into exterior face of outside beams as specified on Sheet No. 6.

BILL OF MATERIAL

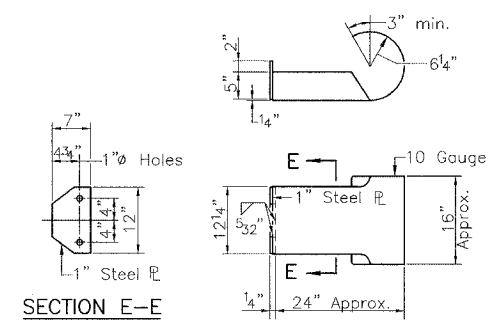
BAR	NO.	SIZE	LENGTH	SHAPE
Precast Prestressed Concrete Deck Beams (27" Depth)			Sq. Ft.	1406

SUPERSTRUCTURE
I.R. 274 OVER NORTH POPE CREEK
SECTION 02-14130-00-BR
MERCER COUNTY

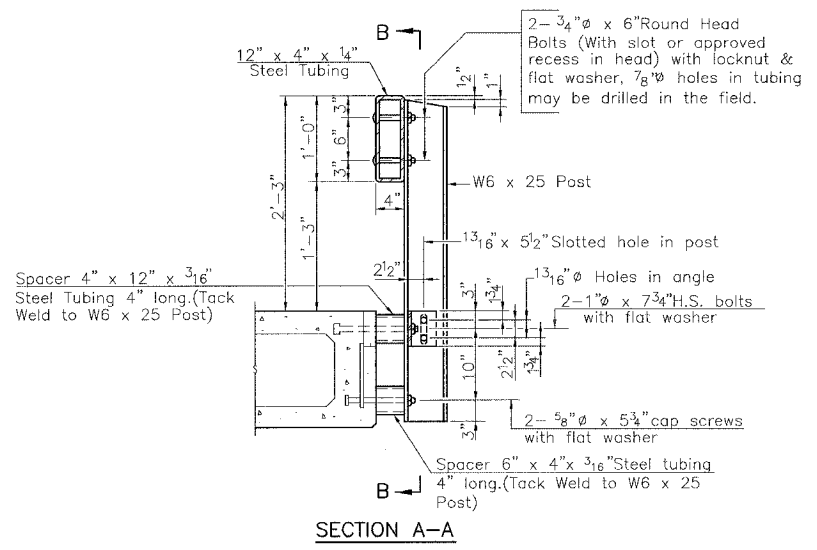
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	6
PROJECT		* 02-14130-00-BR CONTRACT NO. 89378		



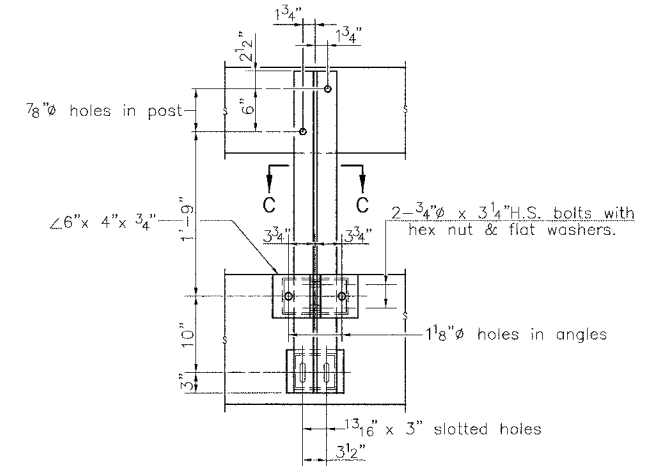
ELEVATION
(Showing Outside Face of Railing)



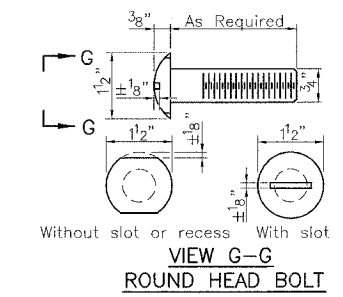
CURLED END SECTION DETAILS (4 Required)



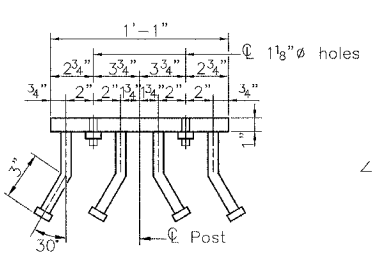
SECTION A-A



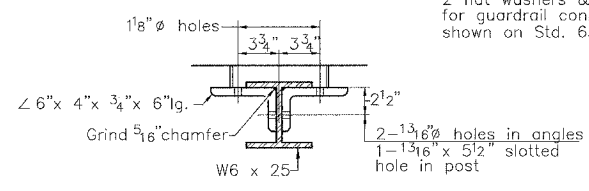
SECTION B-B



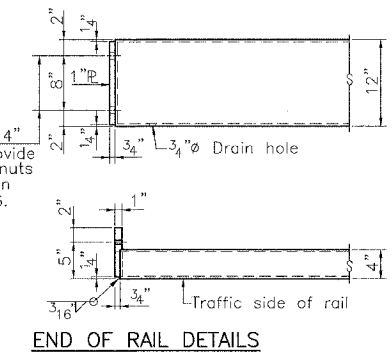
**VIEW G-G
ROUND HEAD BOLT**



SECTION D-D

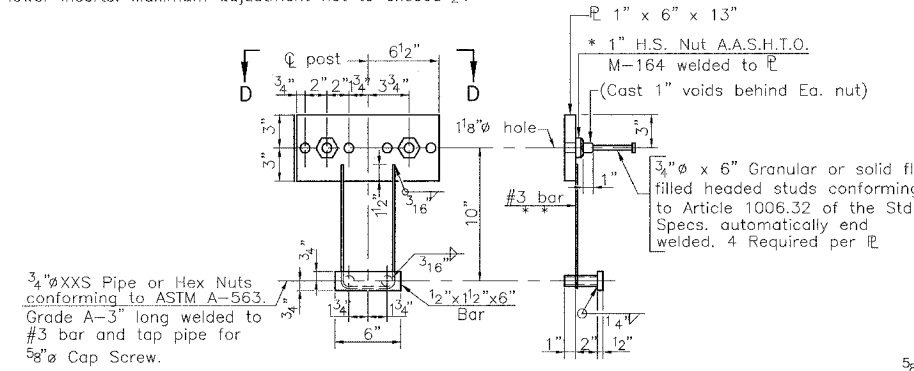


SECTION C-C



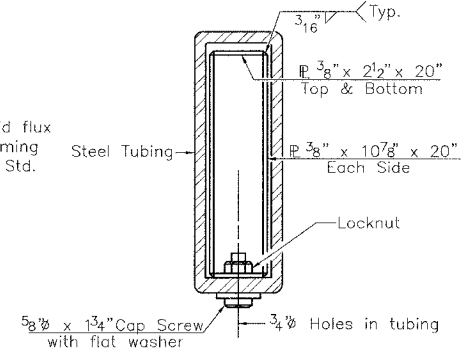
END OF RAIL DETAILS

** 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".

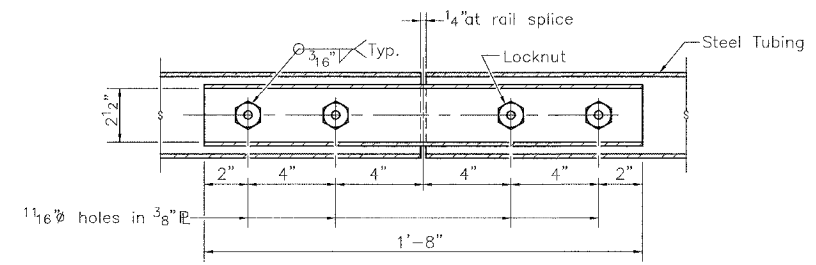


ANCHOR DEVICE

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



SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. 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. 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 requirement 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. M-164.

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

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

Railing shall be in accordance with 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 S1.

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 a 1/8" fabric bearing pad between the plate 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 in accordance with 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.

The cost of curled end sections shall be incidental to the contract unit price per foot for Steel Railing, Type S1.

BILL OF MATERIAL

Item	Foot	Total
Steel Railing, Type S1		120

RAILING
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MERCER COUNTY

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	7
PROJECT				

* 02-14130-00-BR
CONTRACT NO. 89378

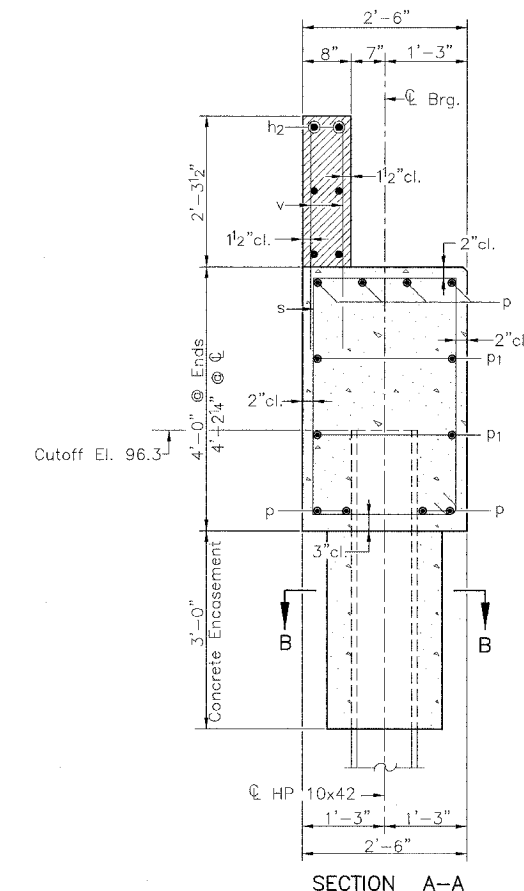
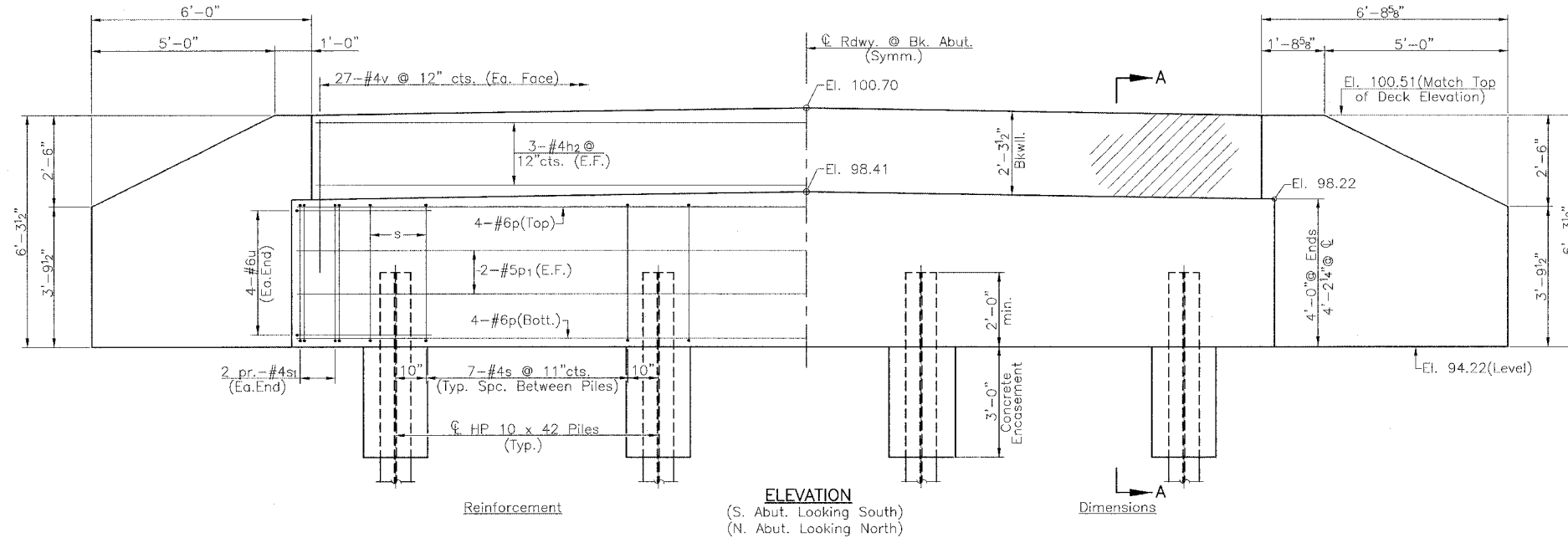
NOTES

All exposed edges shall have standard 3/4" chamfer.
Space reinforcement in cap to miss beam anchor dowels.
Wingwalls and Backwalls may, at the contractor's option, be cast monolithically.

PILE DATA

	S. Abut.	N. Abut.
Type:	Steel HP10x42	Steel HP10x42
Capacity:	Refusal	Refusal
Est. Length:	35'	35'
No. Req'd.:	3 + 1 Test Pile	4

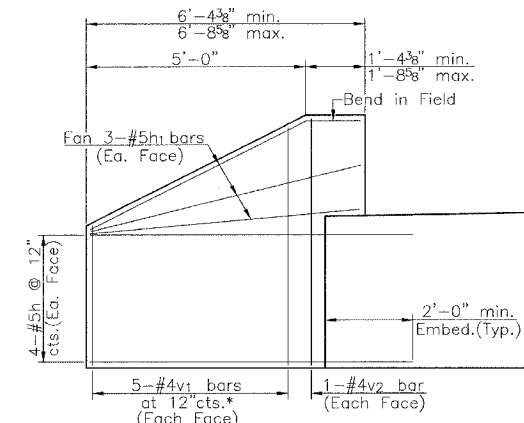
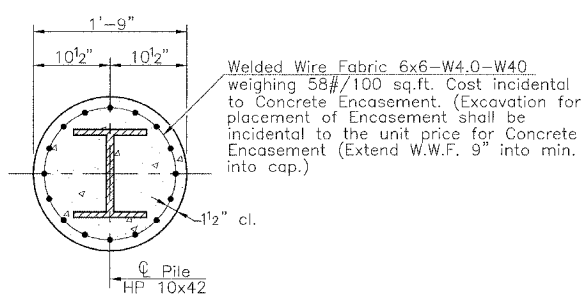
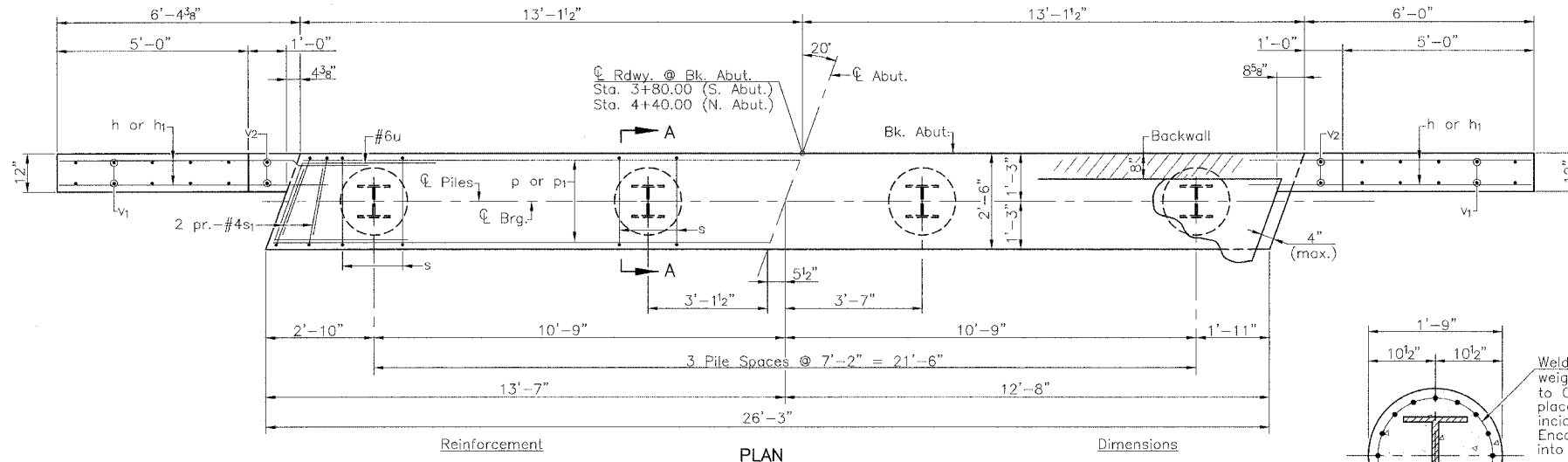
Note: Hatched area and wingwalls shall be poured after deck beams are anchored in place. Quantity for Concrete Structures is included in Bill of Material, this sheet.



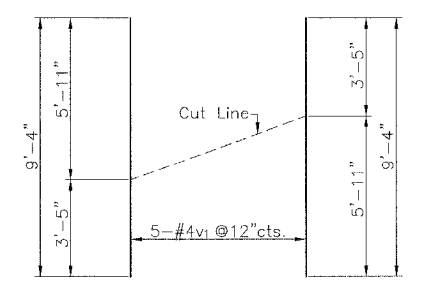
**TWO ABUTMENTS
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE	
h	32	#5	8'-6"	—	
h1	24	#5	6'-0"	—	
h2	12	#4	28'-0"	—	
P	16	#6	25'-11"	—	
P1	8	#5	25'-11"	—	
s	46	#4	12'-3"	□	
s1	16	#4	7'-11"	□	
u	16	#6	10'-3"	└	
v	108	#4	3'-9"	—	
v1	20	#4	9'-4"	—	
v2	8	#4	5'-5"	—	
Concrete Structures				Cu. Yd.	27.8
Reinforcement Bars				Pound	2630
Furnishing Steel Piles HP10x42				Foot	245
Driving Steel Piles				Foot	245
Test Pile, Steel HP10x42				Each	1
Structure Excavation				Cu. Yd.	126
Concrete Encasement				Cu. Yd.	2.2

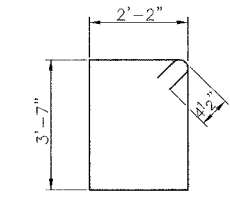
ABUTMENTS
T.R. 274 OVER NORTH POPE CREEK
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MERCER COUNTY



WINGWALL ELEVATION
(Showing Reinforcement)
* See v1-bar cut diagram

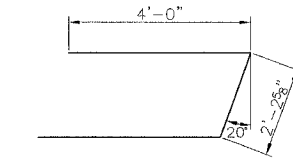


v1 - BAR CUT DIAGRAM
Order v1 bars full length; Layout in field according to diagram. Cut v1 bars along cut line. Use remainder of each bar in opposite face.



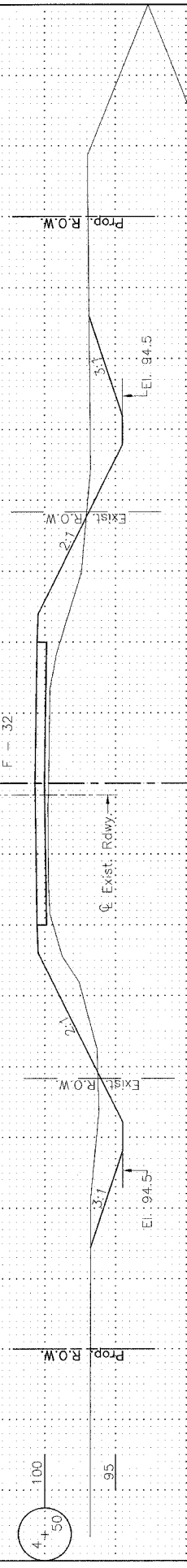
BAR s

BAR s1

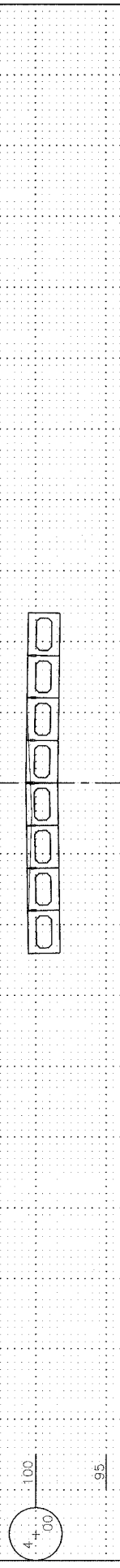


BAR u

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	8
PROJECT				
* 02-14130-00-BR				
CONTRACT NO. 89378				

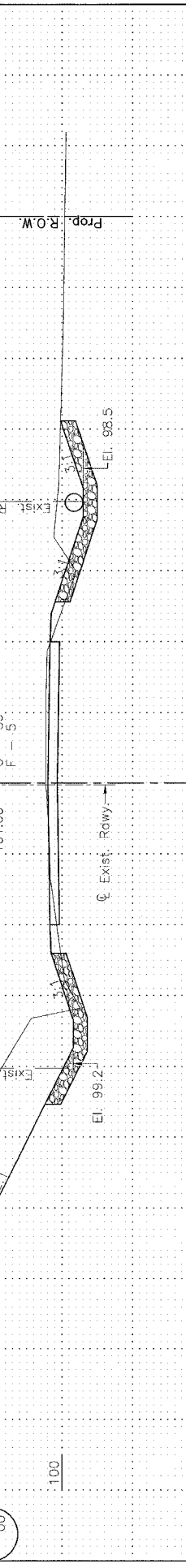
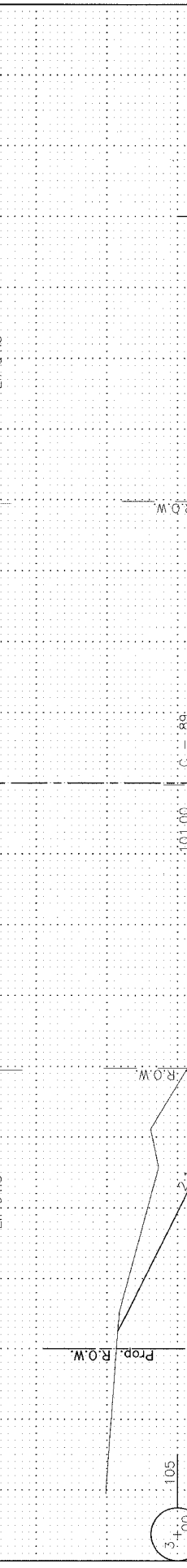
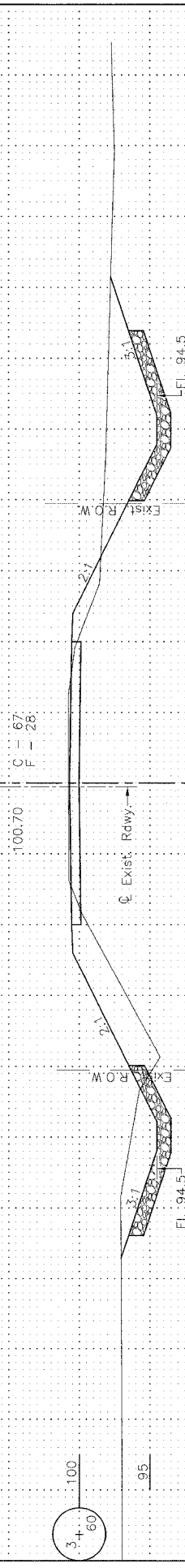


Blk. N. Abut. — Sta. 4+40



Blk. S. Abut. — Sta. 3+80

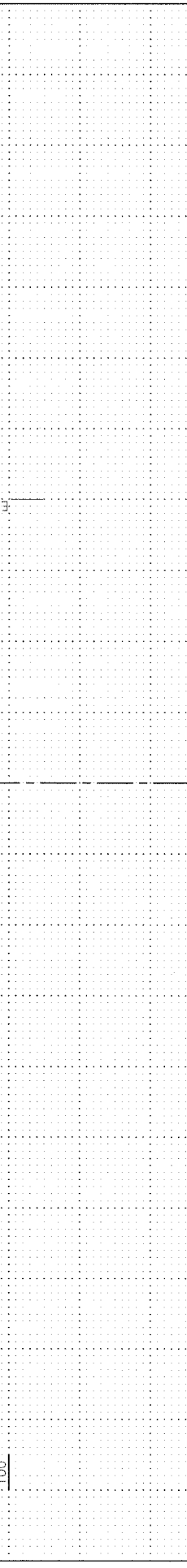
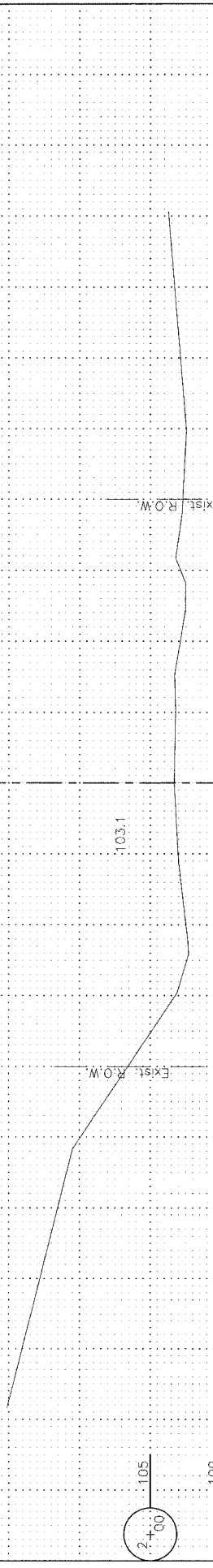
END STONE RIPRAP DITCH — Sta. 3+73 Lt. & Rt.



C. New 15" x 28" Pipe
 Culvert, Class D, Type 1.
 Inlet — El. 98.9
 Outlet — El. 97.8
 Embankment — 4' Cu. Yds.

BEGIN STONE RIPRAP DITCH — Sta. 2+70 Lt. & Rt.

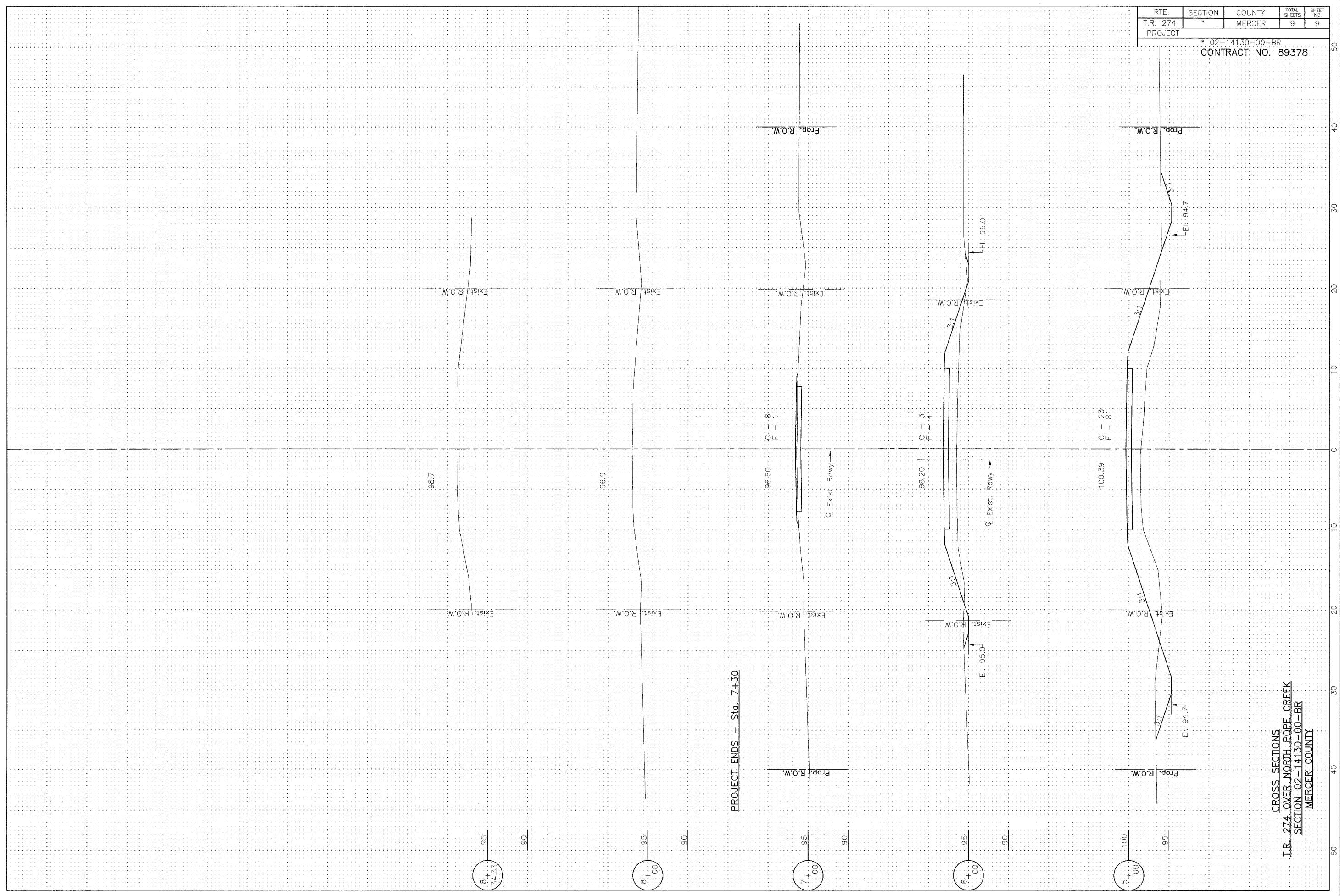
PROJECT BEGINS — Sta. 2+30



CROSS SECTIONS
 T.R. 274 OVER NORTH POPE CREEK
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 MERCER COUNTY

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 274	*	MERCER	9	9
PROJECT				

* 02-14130-00-BR
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CROSS SECTIONS
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 MERCER COUNTY