

RTE. NO.	SECTION	COUNTY	TOTAL SHEETS
T.R. 34	05-07157-00-BR	MACON	11
FED. ROAD DIST. NO.	ILLINOIS	PROJECT: BROS-115(59)	

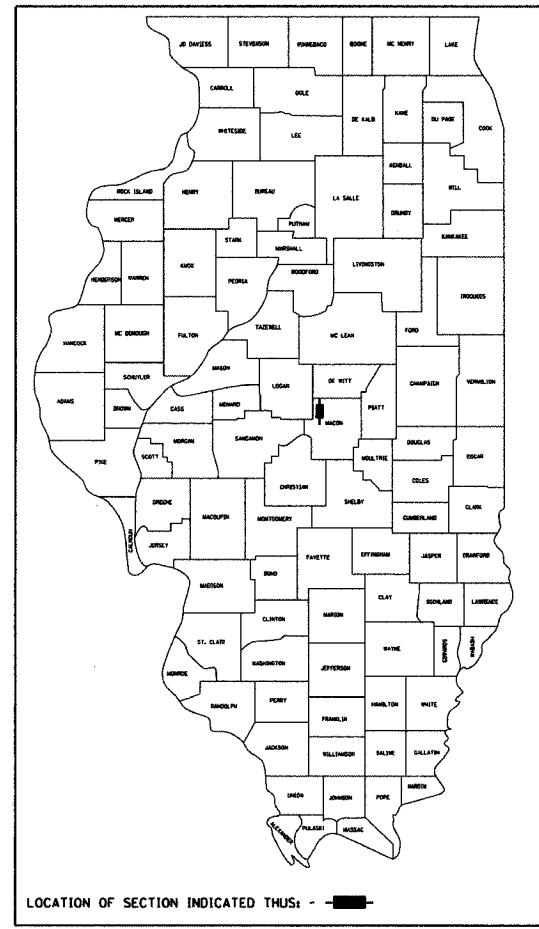
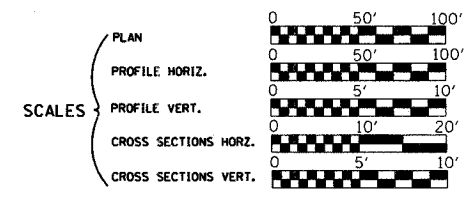
CONTRACT NO. 95494

**INDEX OF SHEETS**

- 1 Cover Sheet
- 2 Summary of Quantities, General Notes, and Typical Sections
- 3 Plan and Profile
- 4 Horizontal Layout
- 5-6 Station Cross Sections
- 7-11 Bridge Plans

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED LOCAL AGENCY IMPROVEMENT

LIST OF STANDARDS	
Standard 000001-04	Standard symbols, abbreviations and patterns
Standard 280001-03	Temporary erosion control systems
Standard 515001-02	Name plate for bridges
Standard 635006-02	Reflective and Terminal Marker Placement
Standard 701011-01	Off-road moving operations, 2-l, 2-w, day only, for speeds > 45 mph
Standard 701301-02	Lane closure, 2-l, 2-w, short time operations
Standard 702001-06	Traffic control devices
Standard BLR-21-6	Typical application of traffic control devices for Construction on Rural Local Highways
Standard BLR-22-4	Typical application of traffic control devices 2-l, 2-w, rural, Road closed to Thru Traffic



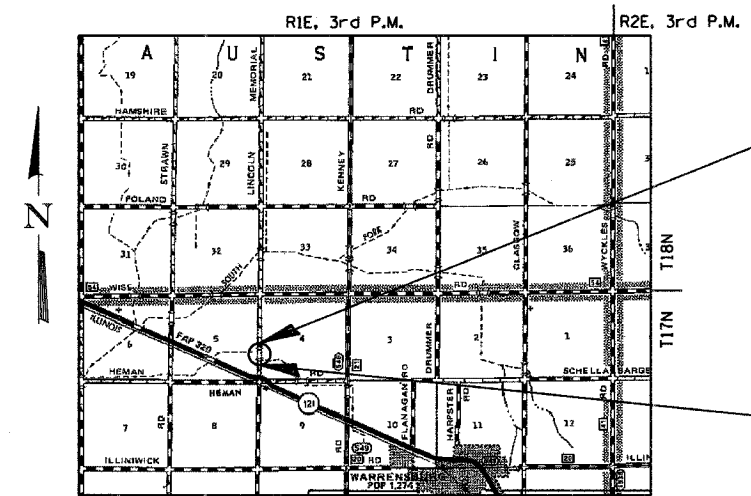
## HIGHWAY BRIDGE PROGRAM T.R. 34 OVER UNNAMED DRAINAGE DITCH SECTION 05-07157-00-BR MACON COUNTY PROJECT BROS-115(59) C-97-025-07

ROADWAY CLASSIFICATION: LOCAL ROAD, (NON-URBAN)  
2027 ADT = 75  
DESIGN SPEED: 30 MPH  
DESIGN GUIDELINES: RURAL  
VARIANCES GRANTED: NONE  
COMMITMENTS: NONE

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS  
J.U.L.I.E. Telephone No. Toll Free 1-800-892-0123

CONTRACT NO. : 95494

**URS**  
345 EAST ASH AVENUE, SUITE B  
DECATUR, ILLINOIS 62526  
PH. 217-875-4800



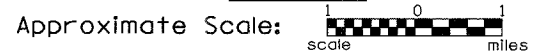
IMPROVEMENT ENDS  
STA. 17+40.00

EXIST. STR. NO. 058-3101  
PROP. STR. NO. 058-3380

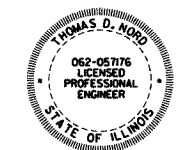
IMPROVEMENT BEGINS  
STA. 12+65.00

IMPROVEMENT CONSISTS OF THE REMOVAL OF A SINGLE SPAN CONCRETE DECK ON WF BEAM SUPERSTRUCTURE ON CLOSED CONCRETE ABUTMENTS WITH CONCRETE WINGWALLS, 0-0 DECK = 19'-6", BK.-BK. ABUTMENTS = 27'-0" AND THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE ON CONCRETE SPILL THRU ABUTMENTS, TOTAL LENGTH = 49'-10 1/8", WIDTH = 24'-0" O.-O. DECK AND NECESSARY APPROACH ROADWAY WORK.

**LAYOUT**



Total and Net Length of Improvement 475.00 Feet = 0.090 Miles



EXP. 11/30/07

*Thomas D. Wood*  
Illinois Professional No. 57176

APPROVED	<i>October 19</i>	2006
	<i>Tom B.</i>	COUNTY ENGINEER
PASSED	<i>11/28/2006</i>	
	<i>Maureen J. Kautz</i>	DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	<i>11/28/2006</i>	
	<i>Christie M. Keenan</i>	DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

*10/18/2006*  
Date

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	II	2
FED. ROAD DIST. NO.	ILLINOIS	PROJECT: BR05-115(59)		

CONTRACT NO. 95494

**SUMMARY OF QUANTITIES**

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	501
20300100	CHANNEL EXCAVATION	CU YD	39
20400800	FURNISHED EXCAVATION	CU YD	326
25000200	SEEDING, CLASS 2	ACRE	0.4
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	36
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	36
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	36
25100115	MULCH, METHOD 2	ACRE	0.4
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000400	PERIMETER EROSION BARRIER	FOOT	209
28000500	INLET AND PIPE PROTECTION	EACH	2
28100107	STONE RIPRAP, CLASS A4	SQ YD	540
28200200	FILTER FABRIC	SQ YD	540
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	482
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	22.6
50300280	CONCRETE ENCASEMENT	CU YD	3.4
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SO FT	1144
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2940
50900205	STEEL RAILING, TYPE S1	FOOT	96
51201400	FURNISHING STEEL PILES HP10X42	FOOT	261
51202305	DRIVING PILES	FOOT	261
51203400	TEST PILE STEEL HP10X42	EACH	1
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	68
67100100	MOBILIZATION	L SUM	1
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

**GENERAL NOTES**

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

CLASS OF SEEDING	BEGINNING DATES	TERMINATION
1, 1A, 1B, 2, 2A, 3 (IN SPRING)	MARCH 1	JUNE 1
1, 1A, 1B, 2, 2A, 3 (IN FALL)	AUGUST 1	NOVEMBER 15

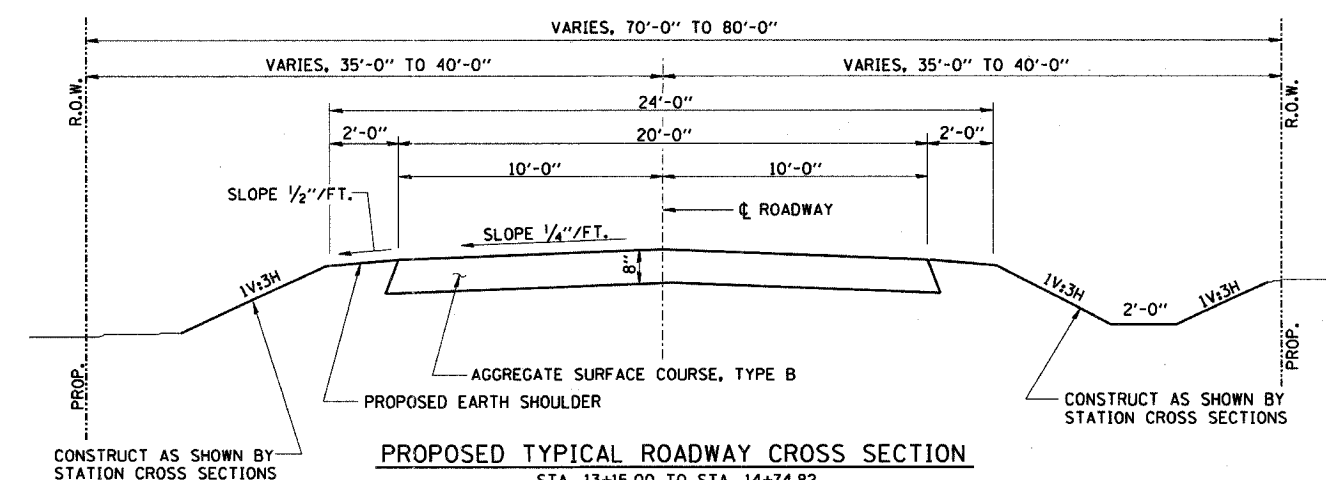
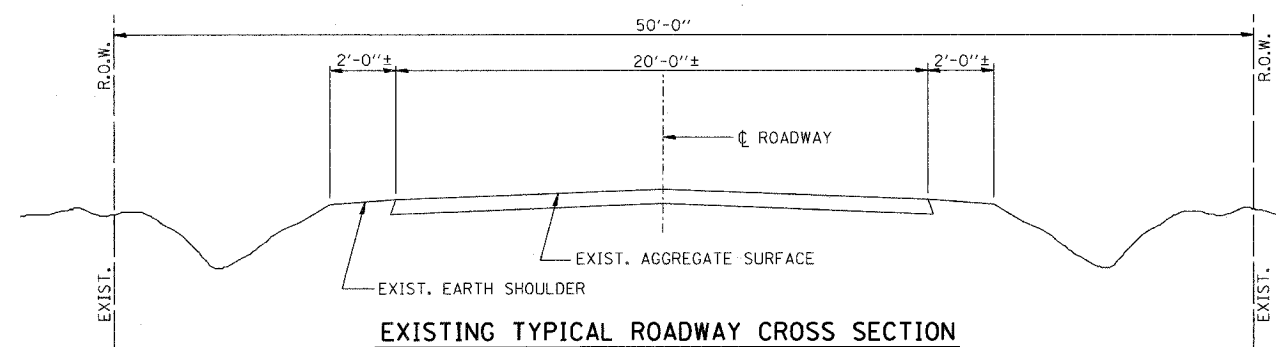
WHERE SECTION AND SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATION.

LAYOUT OF EROSION CONTROL ITEMS MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

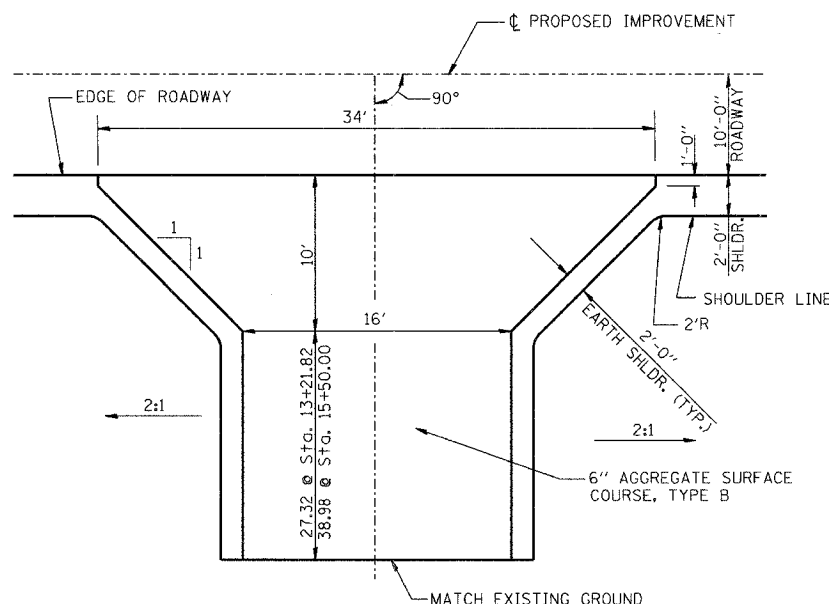
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITY FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR THEIR MARKING OF THE EXACT LOCATION.

**APPLICATION RATES**

GRANULAR MATERIALS	2.05	TONS/CU. YD.
NITROGEN FERTILIZER NUTRIENT	90	LBS./ACRE
PHOSPHORUS FERTILIZER NUTRIENT	90	LBS./ACRE
POTASSIUM FERTILIZER NUTRIENT	90	LBS./ACRE
MULCH METHOD 2	2	TONS/ACRE



STA. 13+15.00 TO STA. 14+74.82  
 STA. 15+24.66 TO STA. 16+90.00  
 TRANSITION STA. 12+65.00 TO STA. 13+15.00  
 TRANSITION STA. 16+90.00 TO STA. 17+40.00  
 AGGREGATE SURFACE COURSE, TYPE B = 445 TONS



**FIELD ENTRANCE DETAIL**  
 STA. 13+21.82 & 15+50.00  
 AGGREGATE SURFACE COURSE  
 TYPE B, TOTAL = 37 TONS

**GENERAL DATA**

Date	Designed MJP	T.R. 34 OVER UNNAMED DRAINAGE DITCH SECTION 05-07157-00-BR MACON COUNTY STA. 14+99.74 PROP. STR. NO. 058-3380
Revisions	Drawn BKN	
	Checked TDN	
	Approved TDN	
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526	URS Job No. 36431679

**BENCHMARK:**

U.S.G.S. MARKER (DE8883)  
± 0.3 MI. SOUTH OF EXIST. STR. AT N.W. CORNER OF  
IL RTE. 121 AND T.R. 34 (LINCOLN MEMORIAL PARKWAY)

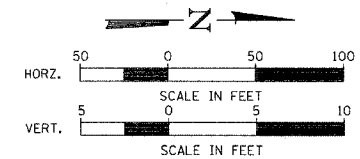
**EXISTING STRUCTURE NO. 058-3101**

SINGLE SPAN CONCRETE DECK ON WF BEAM SUPERSTRUCTURE ON  
CLOSED CONCRETE ABUTMENTS WITH CONCRETE WINGWALLS.  
27'-0" BK.-BK. ABUTMENTS  
19'-6" O.-O. DECK

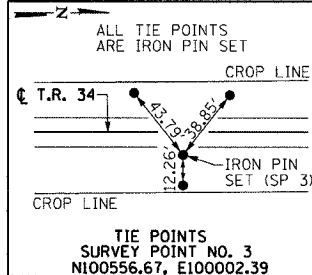
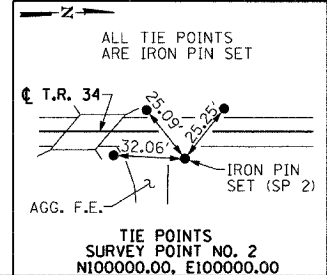
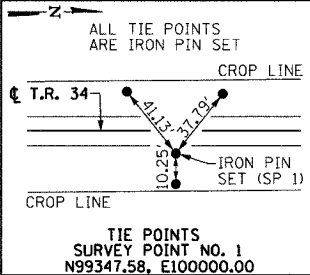
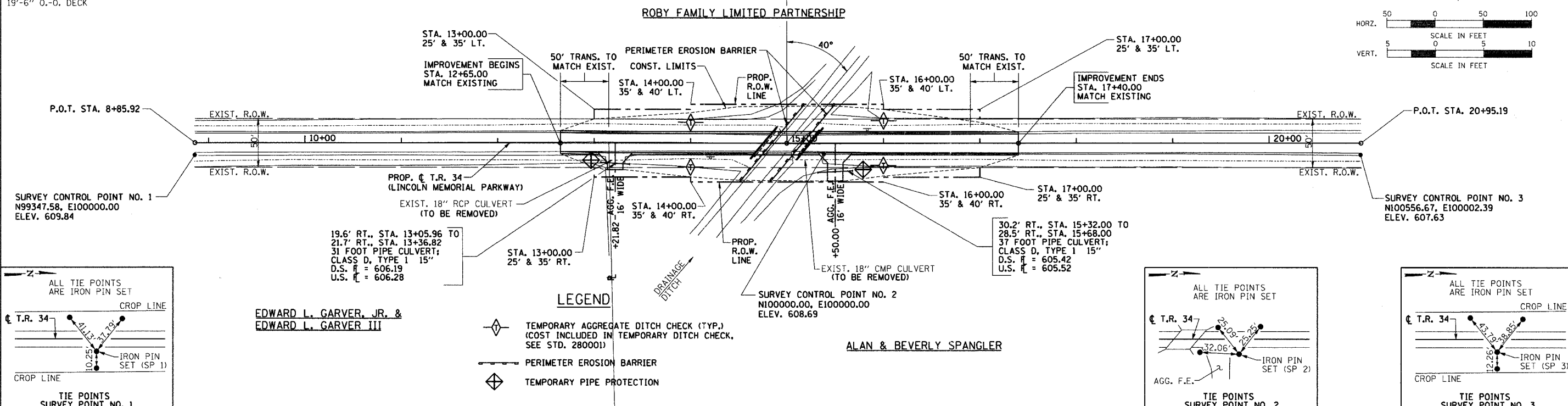
STA. 14+99.74, SPECIAL BRIDGE DESIGN,  
SINGLE SPAN PPC DECK BEAM BRIDGE,  
SPAN OF 46'-13/4" ON CONC. PILE BENT ABUT'S  
LENGTH = 49'-10 1/8" BK.-BK. ABUT'S,  
WIDTH = 24'-0" O.-O. DECK  
40° LT. FWD. SKEW  
PROP. STR. NO. 058-3380

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	11	3
STA. 8+85.92		TO STA. 20+95.19		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT:	BROS-115(49)	

CONTRACT NO. 95494



DATE	
BY	
REVISION	
NO.	
DESCRIPTION	
DATE	
BY	
REVISION	
NO.	
DESCRIPTION	
DATE	
BY	
REVISION	
NO.	
DESCRIPTION	

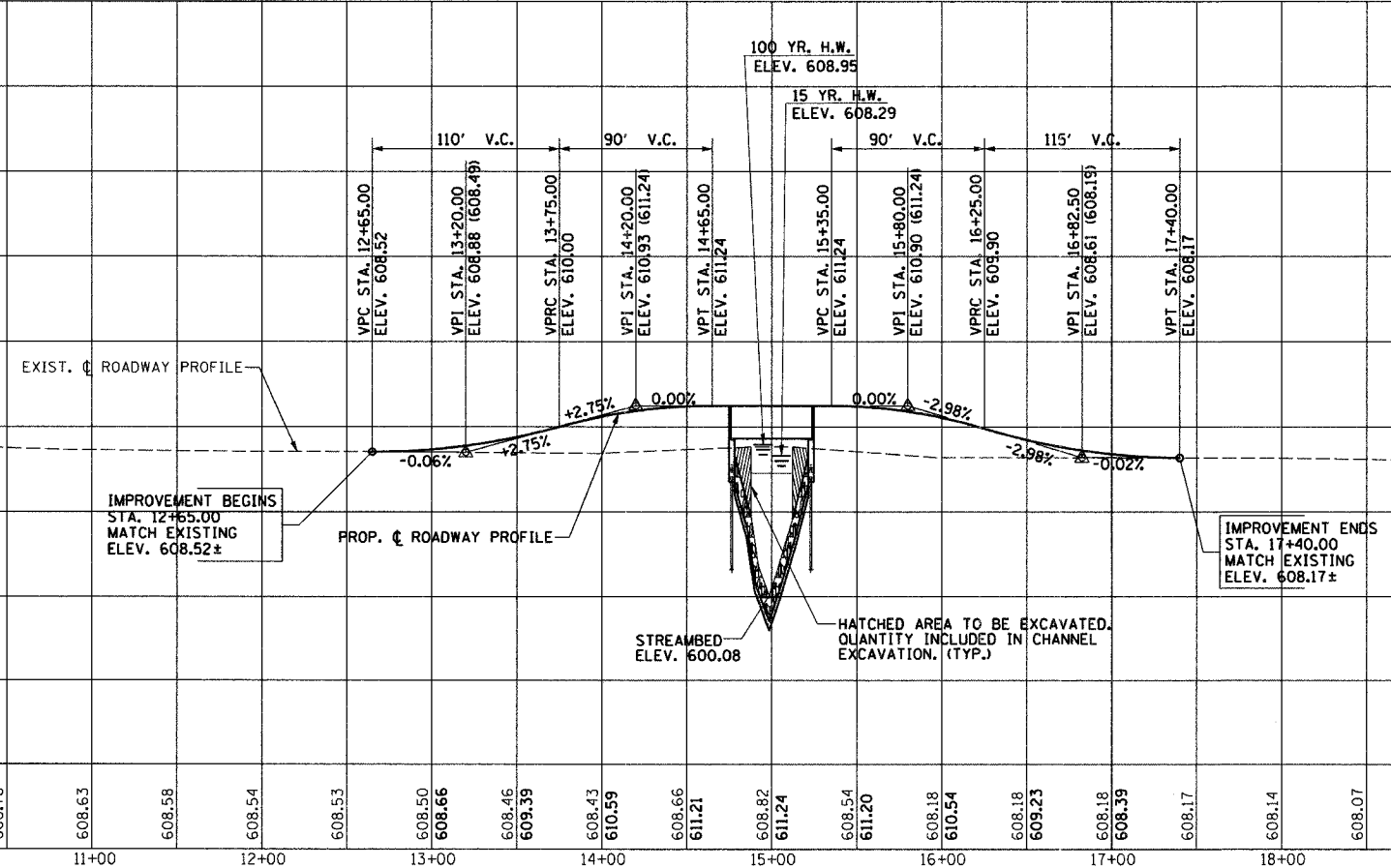


- LEGEND**
- ◇ TEMPORARY AGGREGATE DITCH CHECK (TYP.) (COST INCLUDED IN TEMPORARY DITCH CHECK, SEE STD. 280001)
  - PERIMETER EROSION BARRIER
  - ◇ TEMPORARY PIPE PROTECTION

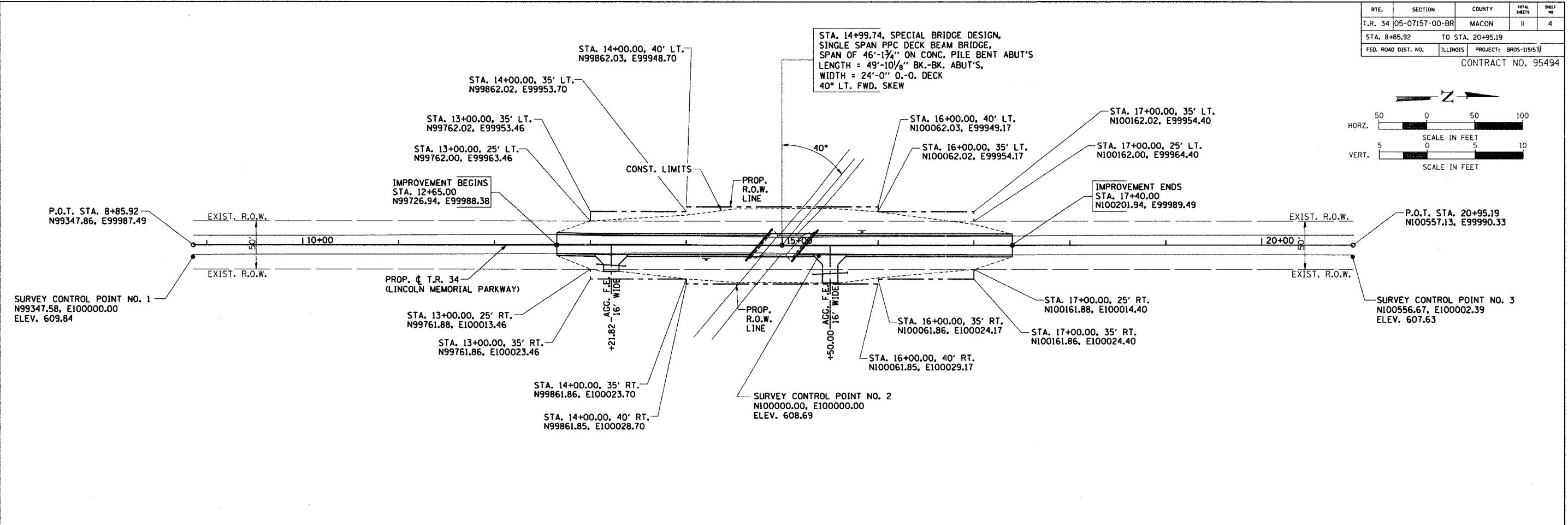
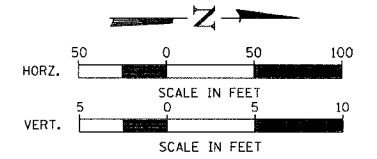
EDWARD L. GARVER, JR. &  
EDWARD L. GARVER III

ALAN & BEVERLY SPANGLER

STATION	DESCRIPTION	QUANTITY	STATION	DESCRIPTION	QUANTITY
630	TEMPORARY DITCH CHECKS STA. 14+00, LT. & RT. = 2 EACH STA. 16+00, LT. & RT. = 2 EACH TOTAL = 4 EACH		630	EARTHWORK SUMMARY EARTH EXCAVATION = 501 CU. YD. CHANNEL EXCAVATION = 39 CU. YD. FURNISHED EXCAVATION = 326 CU. YD. FOR INFORMATION ONLY, NOT A PAY ITEM MATERIAL REQUIRED FOR EMBANKMENT = 731 CU. YD. ESTIMATED EXCAVATED MATERIAL THAT WILL NOT BE SUITABLE FOR FILL = 0 CU. YD. FURNISHED EXCAVATION REQUIRED = 731 - (540 - 0) (0.75 SHRINKAGE) = 326 CU. YD.	630
625	PERIMETER EROSION BARRIER TO BE CONSTRUCTED AT LOCATIONS SHOWN ON PLANS. LAYOUT MAY VARY AS DIRECTED BY THE ENGINEER. TOTAL = 209 FOOT		625		625
620	INLET AND PIPE PROTECTION 19.6' RT., STA. 13+05.96 = 1 EACH 28.5' RT., STA. 15+68.00 = 1 EACH TOTAL = 2 EACH		620		620
615			615		615
610			610		610
605	SEEDING, CLASS 2 AREA INSIDE OF CONSTRUCTION LIMITS, LESS ROADWAY. TOTAL = 0.4 ACRES		605		605
600	NITROGEN FERTILIZER NUTRIENT TOTAL = 36 POUNDS		600		600
595	PHOSPHORUS FERTILIZER NUTRIENT TOTAL = 36 POUNDS		595		595
595	POTASSIUM FERTILIZER NUTRIENT TOTAL = 36 POUNDS		595		595
590	MULCH, METHOD 2 TOTAL = 0.4 ACRES		590		590



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	II	4
STA. 8+85.92		TO STA. 20+95.19		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT:	BROS-115(5)	
CONTRACT NO. 95494				



PROPOSED STRUCTURE LAYOUT

SOUTH ABUTMENT

BK. OF S. ABUT. STA. 14+74.82  
N99936.76, E99988.87

☐ S. ABUT. STA. 14+76.45  
N99938.39, E99988.88

FACE OF S. ABUT. STA. 14+78.08  
N99940.02, E99988.88

NORTH ABUTMENT

BK. OF N. ABUT. STA. 15+24.66  
N99986.60, E99988.99

☐ N. ABUT. STA. 15+23.03  
N99984.97, E99988.99

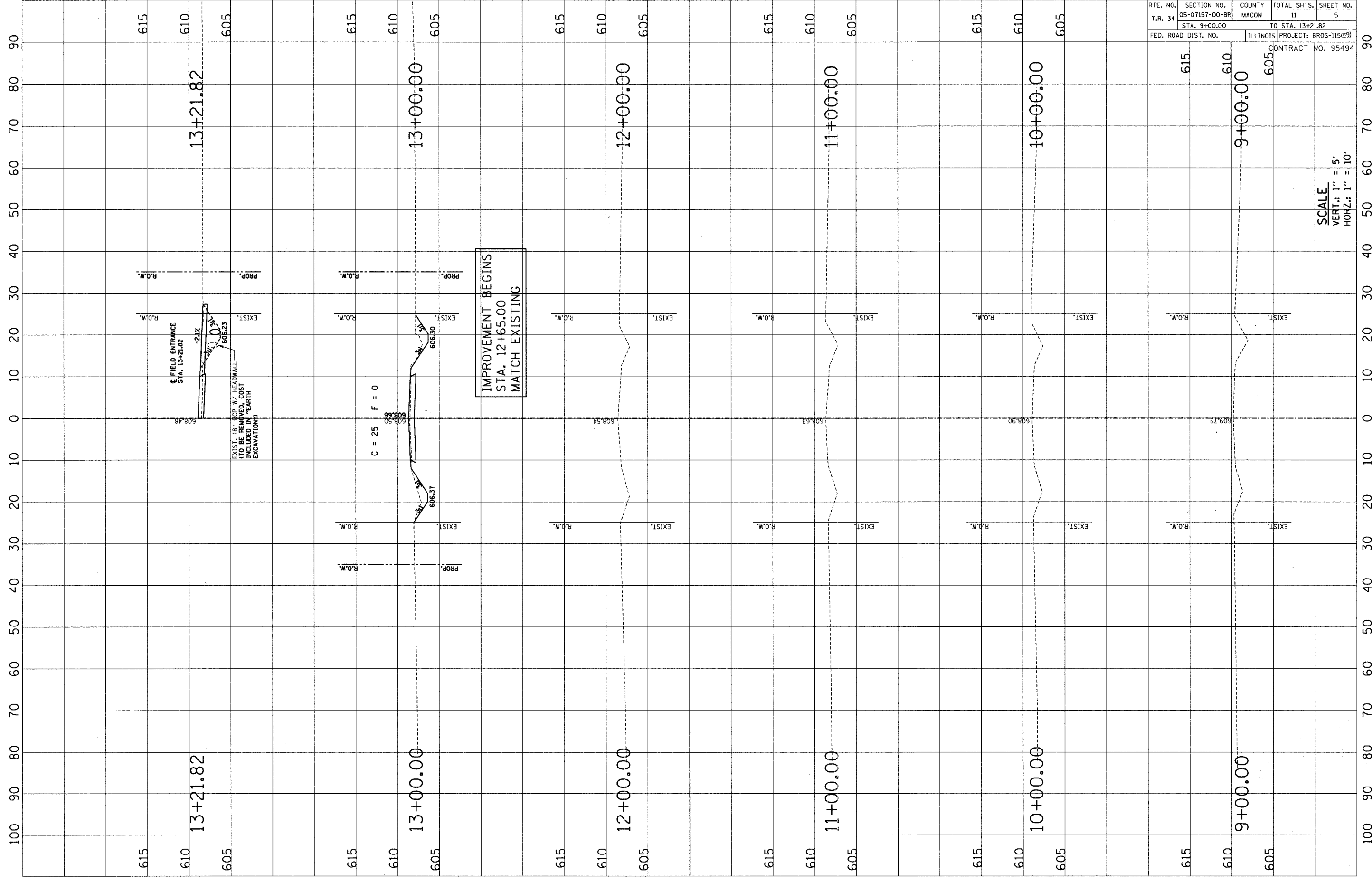
FACE OF N. ABUT. STA. 15+21.40  
N99983.34, E99988.98

**NOTE:**  
FOR TIE POINTS AND BENCHMARK LOCATION,  
SEE SHEET 3 OF 11.

HORIZONTAL LAYOUT

DATE	BY
DATE	BY
DATE	BY
DATE	BY

DATE	BY
DATE	BY
DATE	BY
DATE	BY



RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	11	5
STA. 9+00.00		TO STA. 13+21.82		
FED. ROAD DIST. NO.		ILLINOIS PROJECT: BROS-115(59)		

CONTRACT NO. 95494

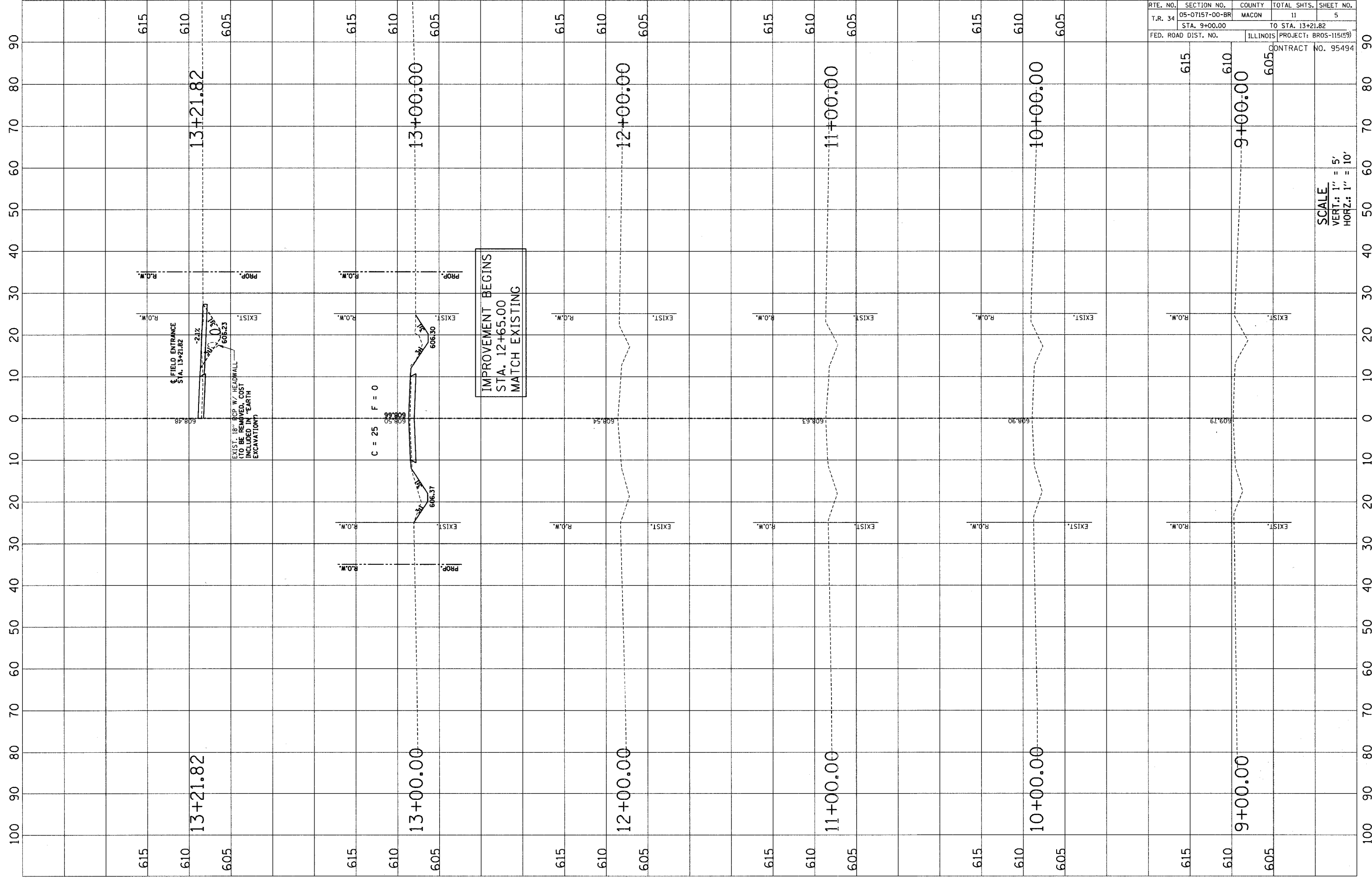
SCALE  
 VERT.: 1" = 5'  
 HORZ.: 1" = 10'

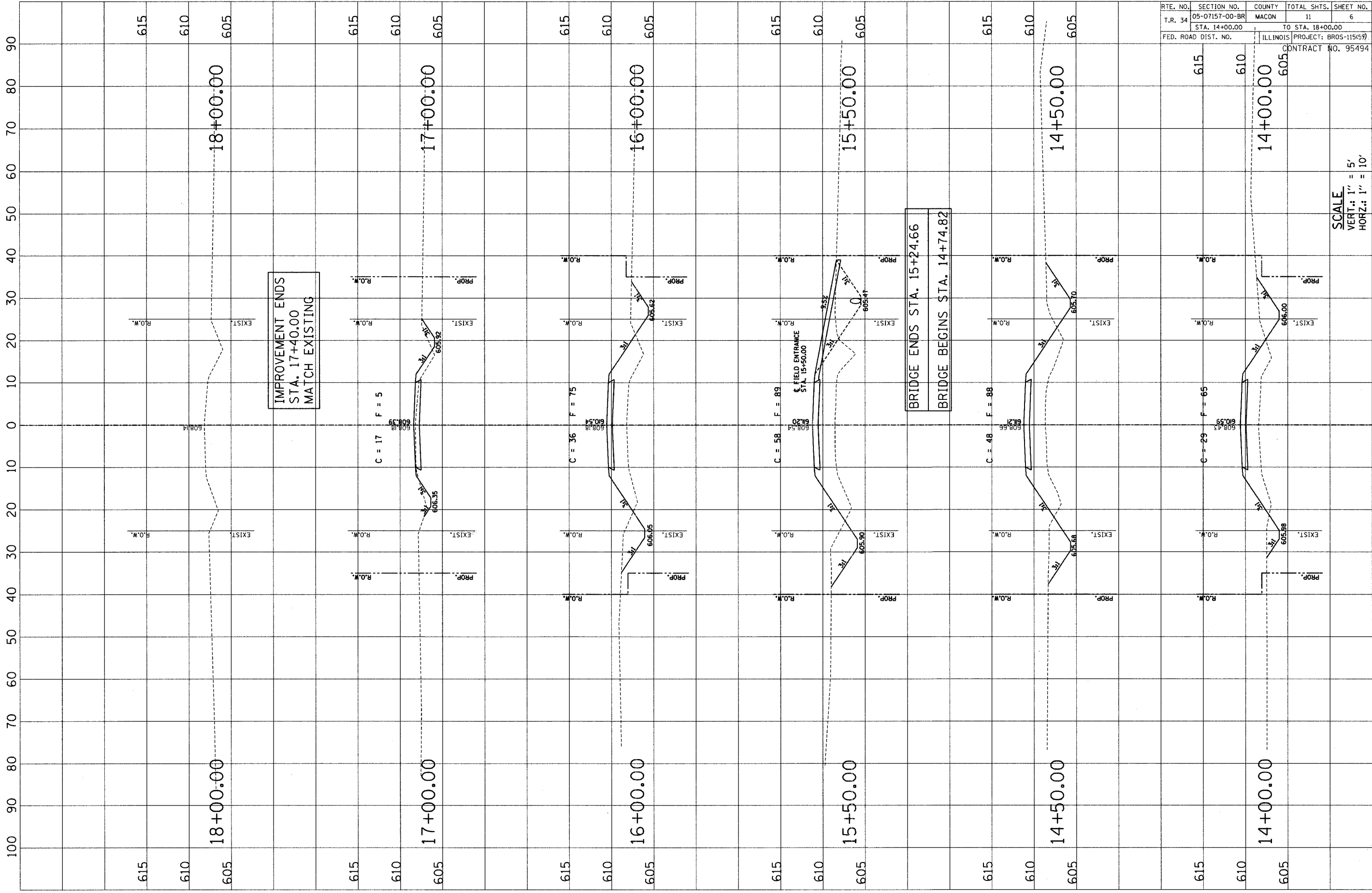
IMPROVEMENT BEGINS  
 STA. 12+65.00  
 MATCH EXISTING

EXIST. 18" RCP W/ HEADWALL  
 (TO BE REMOVED. COST  
 INCLUDED IN "EARTH  
 EXCAVATION")

FIELD ENTRANCE  
 STA. 13+21.82

C = 25 F = 0



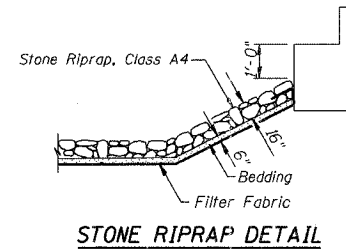
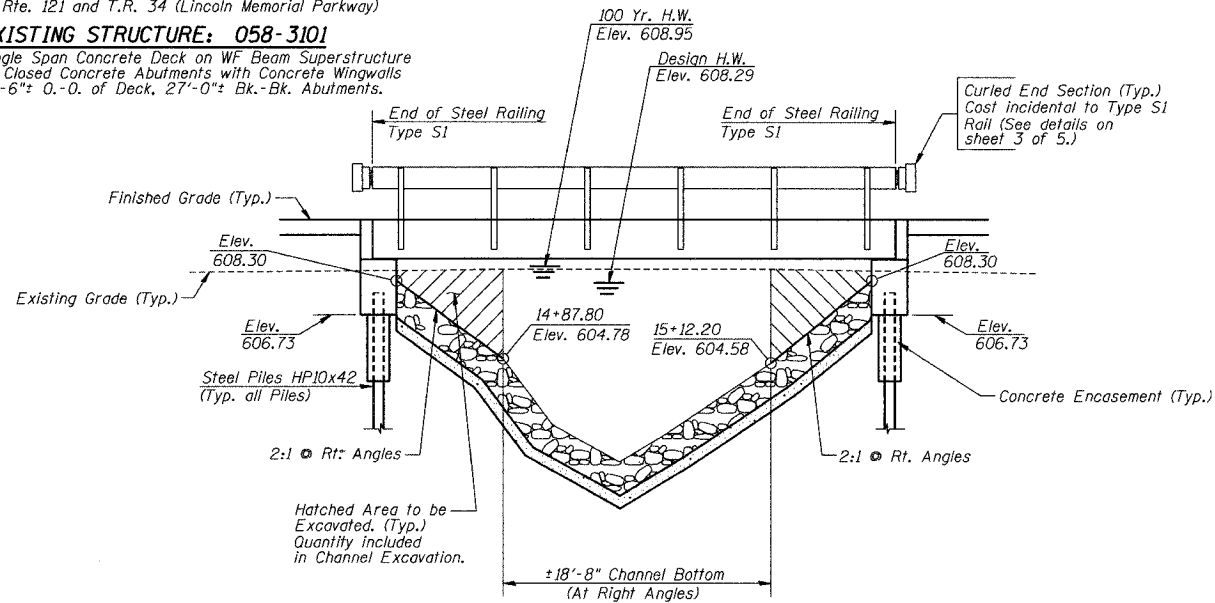


RTE. NO.	SECTION NO.	COUNTY	TOTAL SHTS.	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	11	6
STA. 14+00.00		TO STA. 18+00.00		
FED. ROAD DIST. NO.	ILLINOIS PROJECT: BROS-115(59)		CONTRACT NO. 95494	

SCALE  
 VERT.: 1" = 5'  
 HORIZ.: 1" = 10'

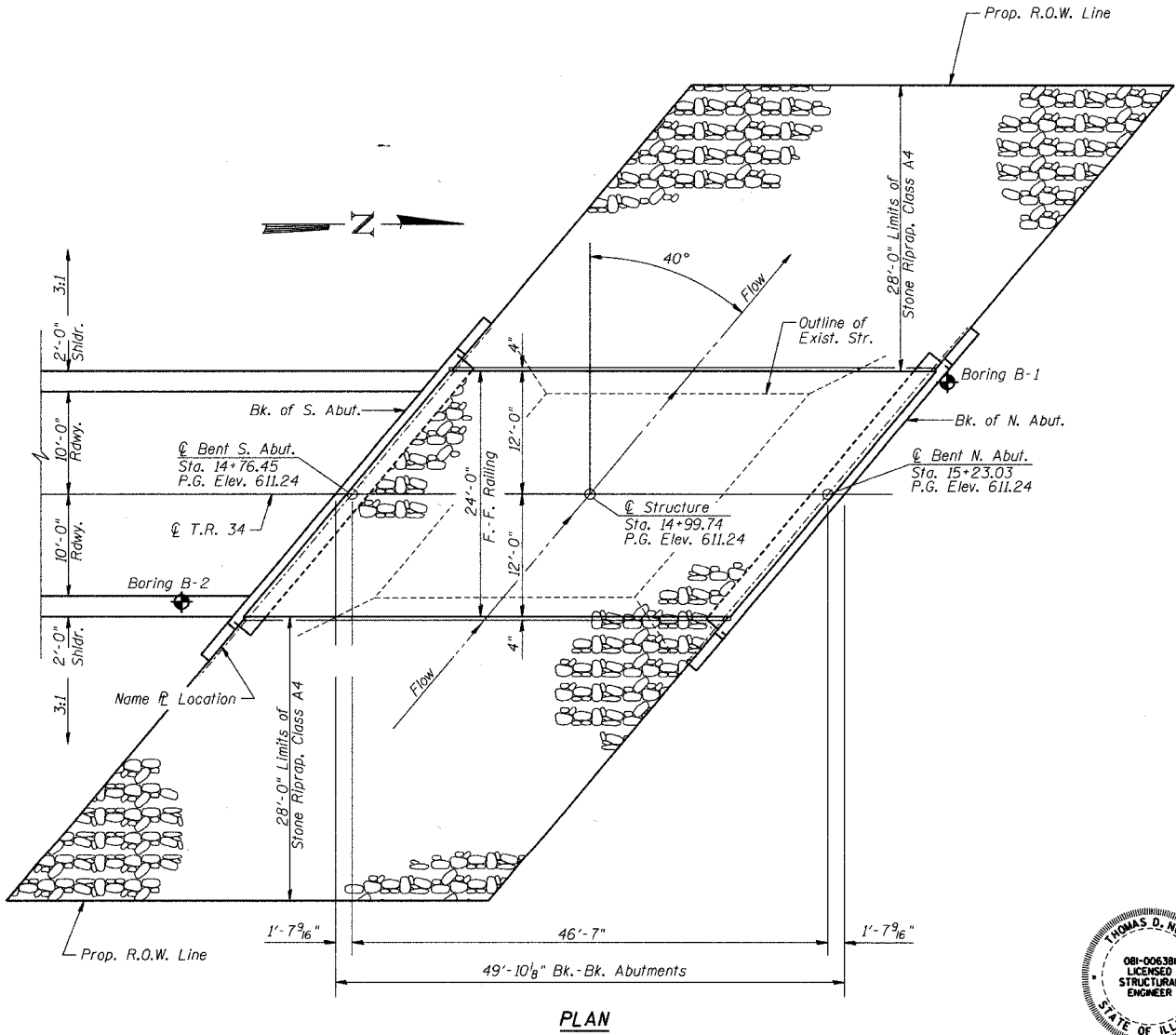
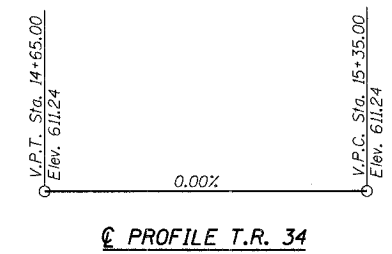
**BENCHMARK:**  
 U.S.G.S. Marker (DE8883)  
 ± 0.3 Mi. South of Exist. Str. at N.W. Corner of  
 IL Rte. 121 and T.R. 34 (Lincoln Memorial Parkway)

**EXISTING STRUCTURE: 058-3101**  
 Single Span Concrete Deck on WF Beam Superstructure  
 on Closed Concrete Abutments with Concrete Wingwalls  
 19'-6"± O.-O. of Deck, 27'-0"± Bk.-Bk. Abutments.



UNNAMED DRAINAGE DITCH  
 BUILT 200., BY  
 MACON COUNTY  
 SECTION 05-07157-00-BR  
 T.R. 34 STA. 14+99.74  
 STR. NO. 058-3380 LOADING HS-20

**NAME PLATE**  
 (See Std. 515001)



DATE: 10/18/2006  
 Thomas D. Nord  
 THOMAS D. NORD  
 ILL. STRUCTURAL NO. 6381

"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."

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	II	7
FED. ROAD DIST. NO.		ILLINOIS PROJECT: BROS-115(59)		

CONTRACT NO. 95494

**GENERAL NOTES**

Layout of Riprap Slopes may be varied in the field to suit ground conditions as directed by the Engineer.

See Proposal for Boring Data.

Reinforcement Bars shall conform to the requirements of AASHTO M-31, or M-322, Grade 60.

The Contractor shall drive one Steel Test Pile in a permanent location at the West end of the South Abutment, or as directed by the Engineer before ordering the remainder of piles.

The area between the bottom of the beams and the top of the caps shall be filled with non-shrink grout to prevent the beams from rocking.

Excavation required for Abutment Construction shall be included in Concrete Structures. No additional compensation will be provided for Structure Excavation.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		39	39
Stone Riprap, Class A4	Sq. Yd.		540	540
Filter Fabric	Sq. Yd.		540	540
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.6	22.6
P.P.C. Deck Beams (21" Depth)	Sq. Ft.	1144		1144
Reinforcement Bars, Epoxy Coated	Pound		2940	2940
Steel Railing, Type S1	Foot	96		96
Furnishing Steel Piles HP10x42	Foot		261	261
Driving Piles	Foot		261	261
Test Pile Steel HP10x42	Each		1	1
Concrete Encasement	Cu. Yd.		3.4	3.4
Name Plates	Each		1	1

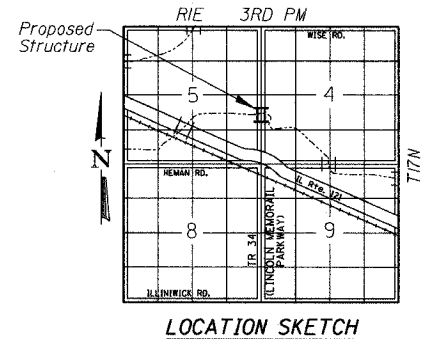
**DESIGN SPECIFICATIONS**  
 2002 AASHTO

**LOADING HS20-44**  
 Allowed 50#/sq. ft. for future wearing surface.

**DESIGN STRESSES**

FIELD UNITS  
 f'c = 3,500 p.s.i.  
 fy = 60,000 p.s.i.  
 n = 9

PPC UNITS  
 f'ci = 4,000 p.s.i.  
 f'c = 5,000 p.s.i.  
 f's = 270,000 p.s.i.  
 f'si = 201,960 p.s.i.



**WATERWAY INFORMATION**

Drainage Area = 2.4 Sq. Mi. Existing Low Grade Elev. 608.17 @ Sta. 17+40.00  
 Proposed Low Grade Elev. 608.17 @ Sta. 17+40.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E. Exist.	Prop.	Head-Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	15	593	96	147	608.29	608.29	0.23*	0.16*	608.52	608.45
Base	100	996	96	165	608.95	608.95	0.02*	0.05*	608.97	609.00
Overtopping										
Max. Calc.	500	1337	96	174	609.24	609.24	-0.02*	0.04*	609.23	609.28

Low Beam Elev. (Prop.) = 609.30

\* Over-the-Road Flow Occurs

EXISTING  
 15 Yr.: 111.3 Sq. Ft. over roadway  
 100 Yr.: 321.6 Sq. Ft. over roadway  
 500 Yr.: 495.2 Sq. Ft. over roadway

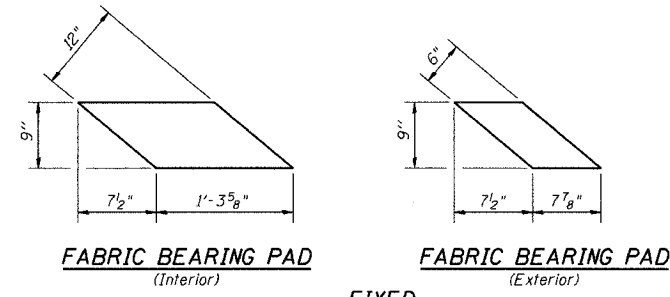
PROPOSED  
 15 Yr.: 122.0 Sq. Ft. over roadway  
 100 Yr.: 248.5 Sq. Ft. over roadway  
 500 Yr.: 378.4 Sq. Ft. over roadway

**GENERAL PLAN AND ELEVATION**

Date	Designed MJP	T.R. 34 OVER UNNAMED DRAINAGE DITCH SECTION 05-07157-00-BR MACON COUNTY STA. 14+99.74 PROP. STR. NO. 058-3380	Sheet No.
Revisions	Drawn BKN		1
	Checked TDN		
	Approved TDN		
			of 5
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		URS Job No. 36431679

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	II	8
FED. ROAD DIST. NO.		ILLINOIS PROJECT: BR05-115(9)		

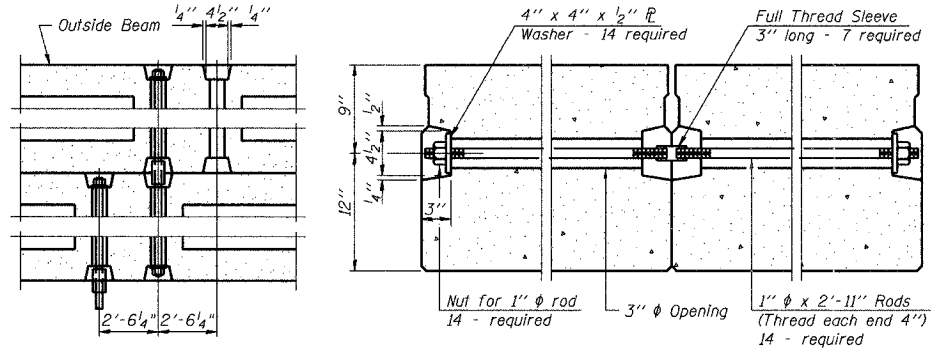
CONTRACT NO. 95494



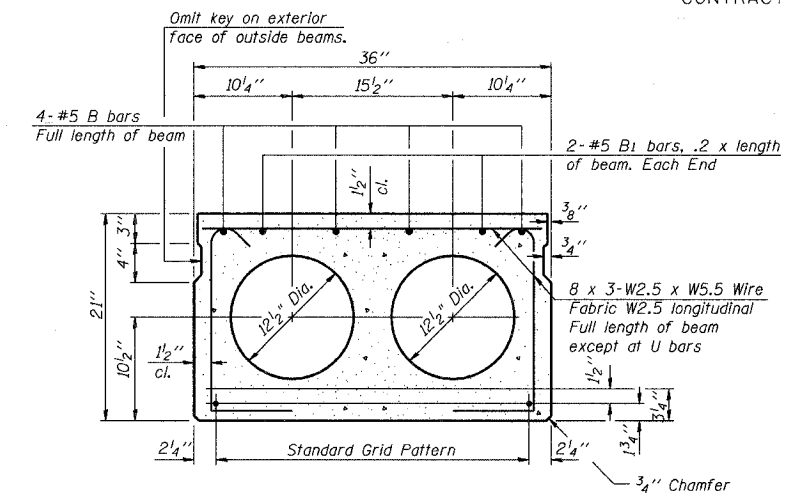
**FABRIC BEARING PAD**  
(Interior)      **FABRIC BEARING PAD**  
(Exterior)

**FIXED**

Note: Alternate Bearing Pads Required for Skews > 30°  
(See Fig. 2.3.25 of IDOT Prestressed Manual)



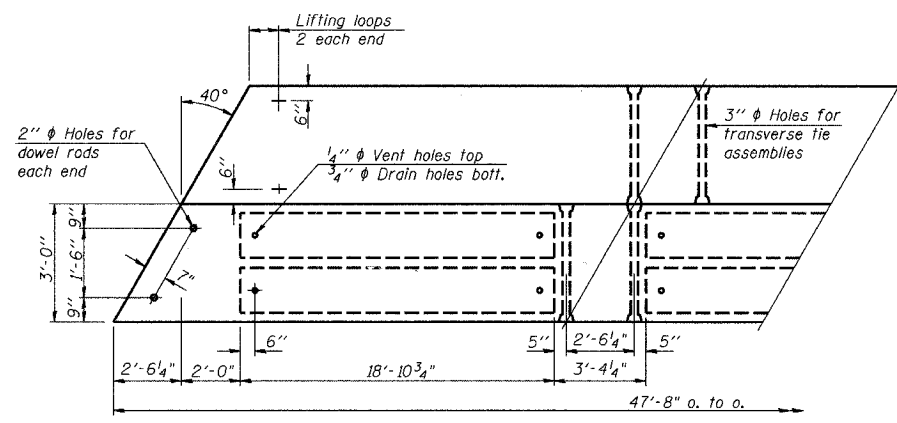
**TYPICAL TRANSVERSE TIE ASSEMBLY**



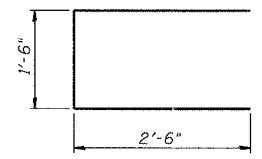
**TYPICAL SECTION**

1/2" phi Strands, Each Strand Stressed to 30,900 Lbs.  
8-Strands 1 3/4" up, 4-Strands 3/4" up,  
and 2-Strands 12" up

Note:  
Place strands symmetrically about centerline of beam.

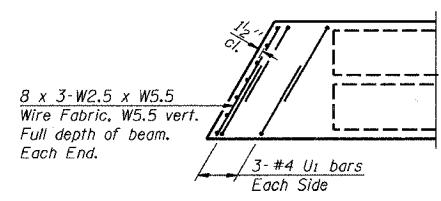
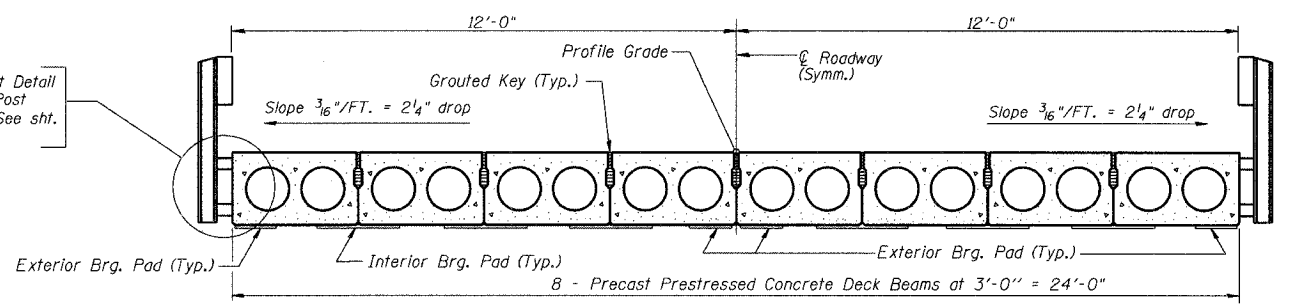


**PLAN**

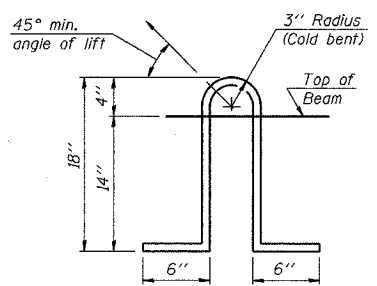


**BAR U1**

For Insert Detail and Rail Post Spacing, See sht. 3 of 5.



**END PLAN**



**LIFTING LOOP DETAIL**

**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" phi - 270 ksi strands, as shown. 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. Non prestressing steel shall conform to 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. Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'cl, shall be 4000 p.s.i. Longitudinal Keys shall be grouted.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
Precast Prestressed Conc. Deck Bms.		Sq. Ft.	1144	

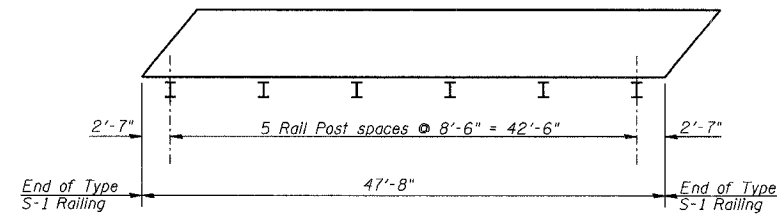
**SUPERSTRUCTURE**

Date	Designed MJP	<b>T.R. 34 OVER UNNAMED DRAINAGE DITCH</b> <b>SECTION 05-07157-00-BR</b> <b>MACON COUNTY</b> <b>STA. 14+99.74</b> <b>PROP. STR. NO. 058-3380</b>	Sheet No.
Revisions	Drawn BKN		<b>2</b>
	Checked TDN		of 5
	Approved TDN		URS Job No.
Prepared by:	<b>URS</b> 345 East Ash Avenue Decatur, IL 62526		36431679

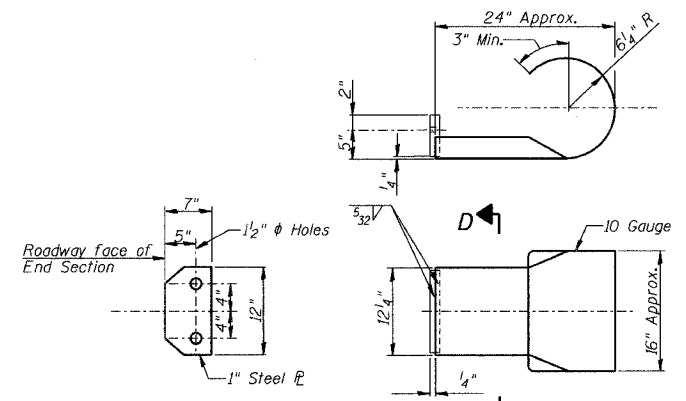


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	II	9
FED. ROAD DIST. NO.		ILLINOIS PROJECT: BROS-115(59)		

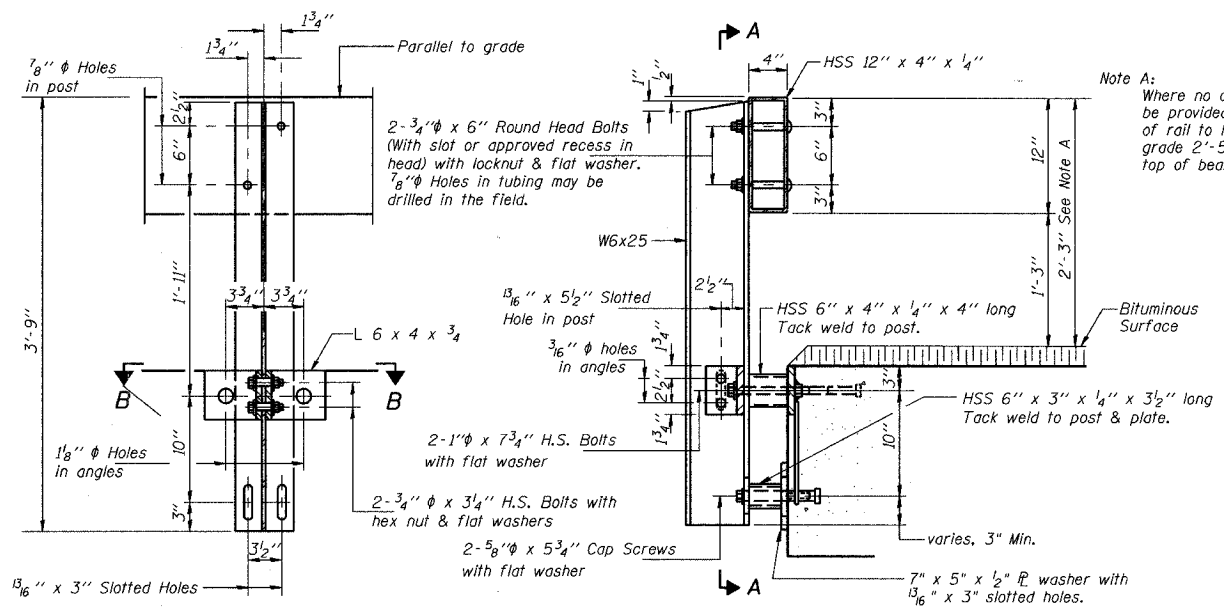
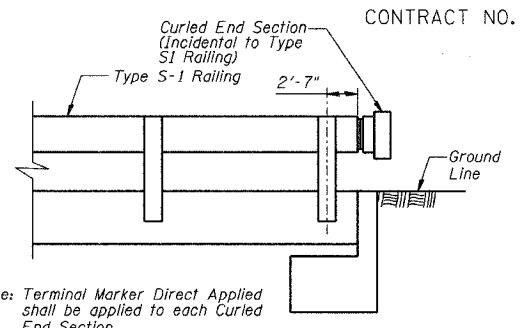
CONTRACT NO. 95494



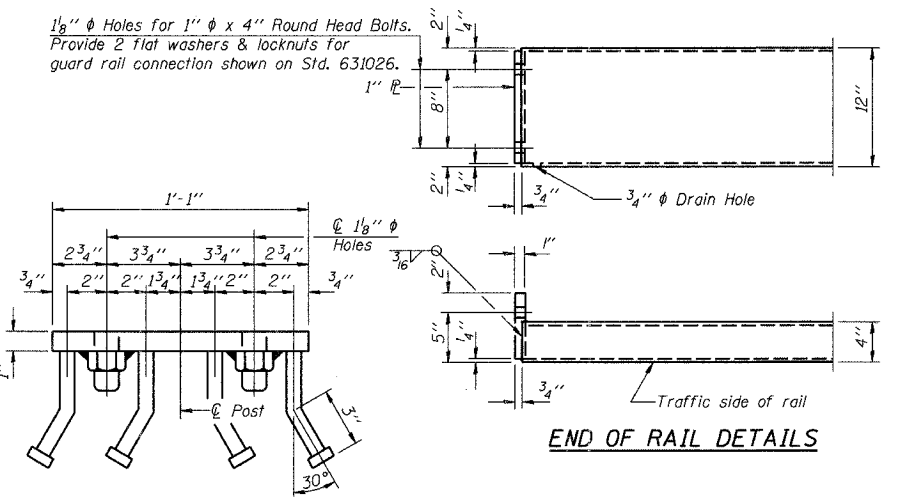
**PLAN VIEW - EXTERIOR BEAM**  
(Showing Rail Post Spacing)



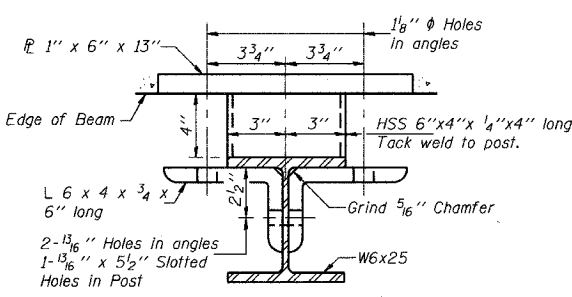
**SECTION D-D**  
**CURLLED END SECTION DETAILS**  
(4 Required)



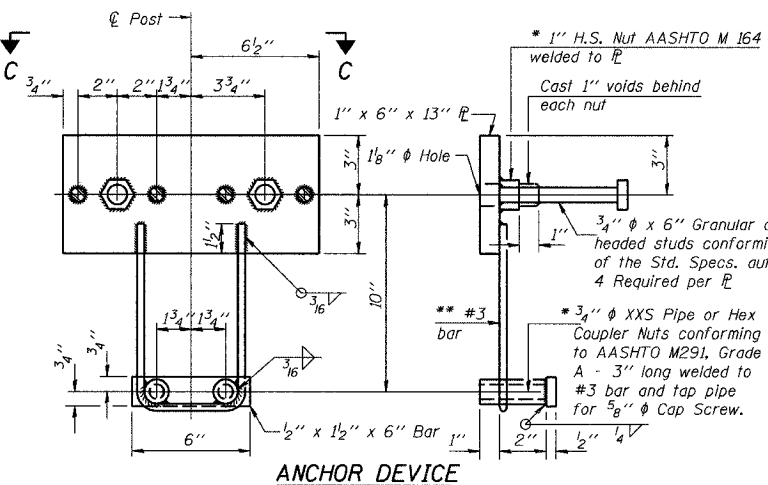
**SECTION A-A**  
**SECTION AT RAIL POST**



**VIEW C-C**  
**END OF RAIL DETAILS**

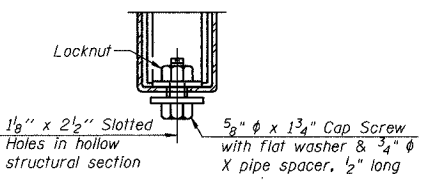


**SECTION B-B**

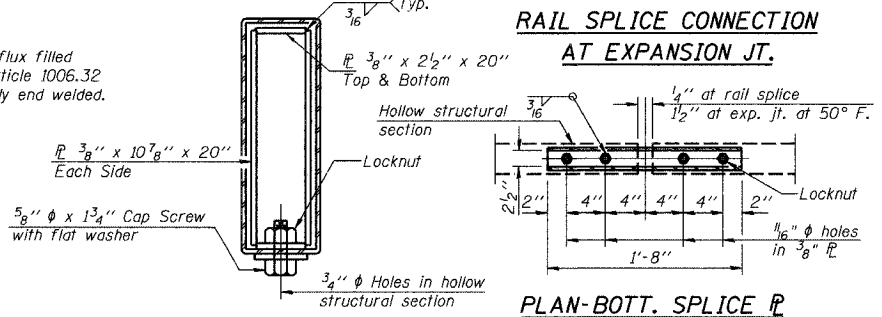


**ANCHOR DEVICE**

\*\* 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".



**RAIL SPLICE CONNECTION AT EXPANSION JT.**



**SECTIONS AT RAIL SPLICE**  
**PLAN-BOTT. SPLICE TYPICAL**

**NOTES**

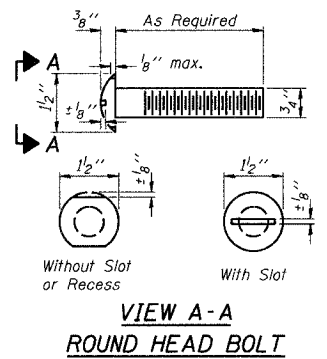
Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.  
All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and 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 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates 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(FX2) 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.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing Type S-1	Foot	96

**STEEL RAILING**

Date	Designed MJP	T.R. 34 OVER UNNAMED DRAINAGE DITCH SECTION 05-07157-00-BR MACON COUNTY STA. 14+99.74 PROP. STR. NO. 058-3380	Sheet No.
Revisions	Drawn BKN		3
	Checked TDN		of 5
	Approved TDN		
Prepared by:	URS		
	345 East Ash Avenue Decatur, IL 62526		URS Job No. 36431679

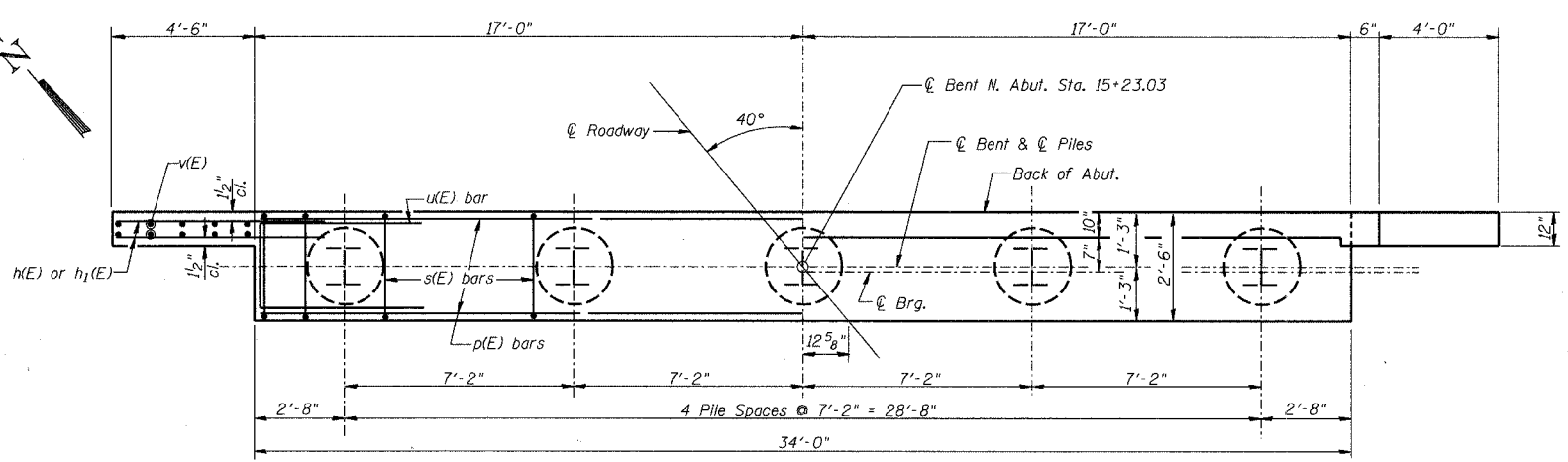


**VIEW A-A**  
**ROUND HEAD BOLT**



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 34	05-07157-00-BR	MACON	II	II
FED. ROAD DIST. NO.		ILLINOIS PROJECT: BROS-115(29)		

CONTRACT NO. 95494



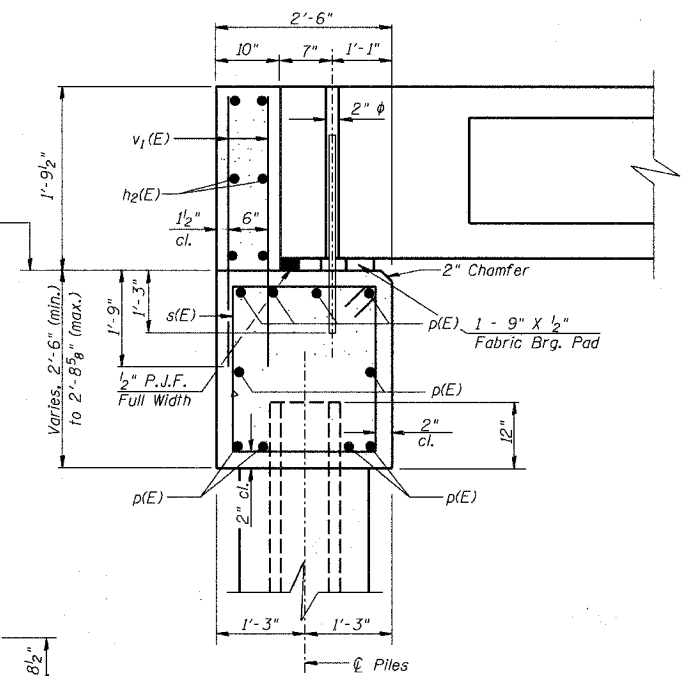
PLAN

**PILE DATA**

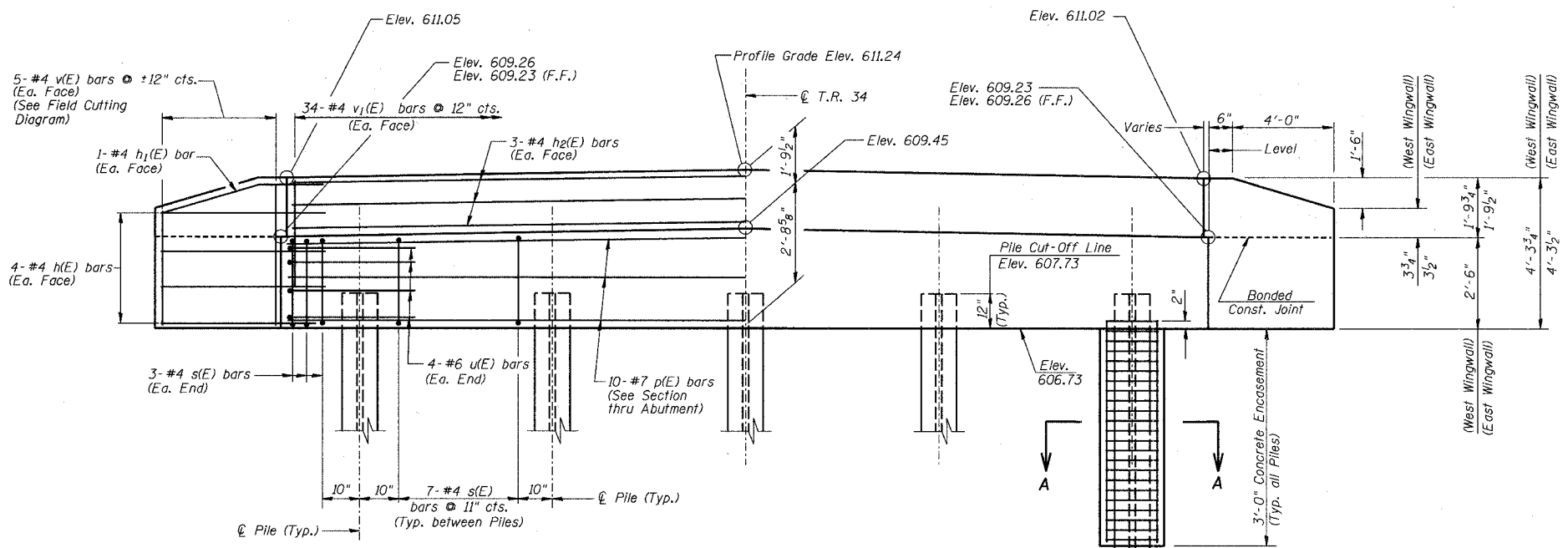
Type: Steel HP10x42  
 Nominal Required Bearing: 103 Kips  
 Allowable Resistance Available: 61 Kips  
 Est. Length: 29'-0"  
 No. Required: 5

**NOTES**

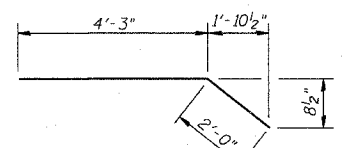
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- 1" dia. x 2'-6" dowel rods in 1 1/2" dia. holes drilled in cap (4 each beam). Dowel rods to be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to grouting the shear keys. The grout shall be an approved non-shrink grout.
- Reinforcement bars designated (E) shall be Epoxy coated.
- Space reinforcement in cap to miss dowel rods.
- All Elev. given at Bk. of Abut. Bonded Const. Jt. unless otherwise noted.
- F.F. = Front Face
- The Steel H-Piles shall be according to AASHTO M270, Grade 50.
- The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the Pile Data information.



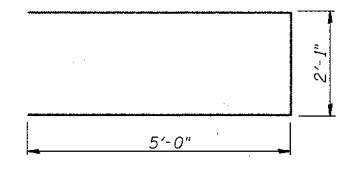
SECTION THRU ABUT.  
(At Rt. Angles)



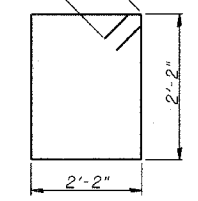
ELEVATION



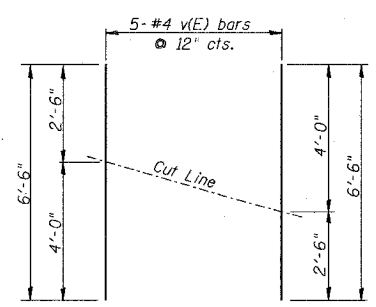
BAR h1(E)



BAR u(E)



BAR s(E)

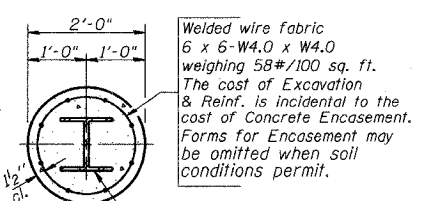


FIELD CUTTING DIAGRAM

Order bars full length. Cut to fit as shown and use remainder of bars in other face.

**BILL OF MATERIAL  
SOUTH ABUTMENT**

Bar	No.	Size	Length	Shape
h(E)	16	#4	6'-0"	—
h1(E)	4	#4	6'-3"	—
h2(E)	6	#4	33'-8"	—
p(E)	10	#7	33'-8"	—
s(E)	34	#4	9'-5"	□
u(E)	8	#6	12'-1"	—
v(E)	10	#4	6'-6"	—
v1(E)	68	#4	3'-5"	—
Concrete Structures			Cu. Yd.	11.3
Reinforcement Bars, Epoxy Coated			Pound	1470
Furnishing Steel Piles HP10x42			Foot	145
Driving Piles			Foot	145
Concrete Encasement			Cu. Yd.	1.7



SECTION A-A

**NORTH ABUTMENT**

Date	Designed MJP	T.R. 34 OVER UNNAMED DRAINAGE DITCH SECTION 05-07157-00-BR MACON COUNTY STA. 14+99.74 PROP. STR. NO. 058-3380	Sheet No.
Revisions	Drawn BKN		5
	Checked TDN		
	Approved TDN		
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		
			URS Job No. 36431679