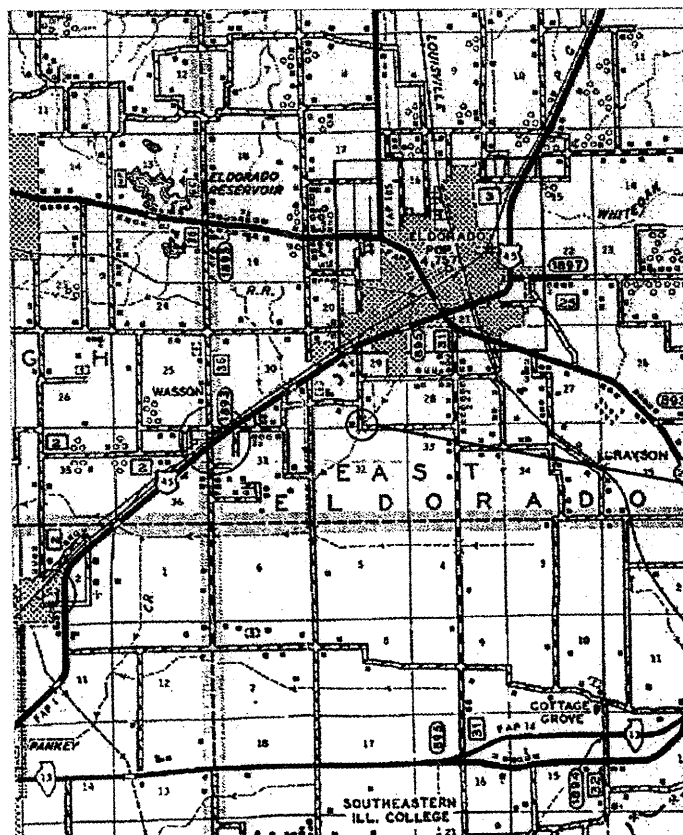


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED  
**HIGHWAY BRIDGE PROGRAM**

TOWNSHIP ROUTE 143 (AIRSHAFT ROAD)  
EAST ELDORADO TOWNSHIP  
SECTION 02-04118-00-BR  
PROJECT NO. BROS-165(26)  
JOB NO. C-99-534-05  
SPOIL BANK DITCH

**SALINE COUNTY**

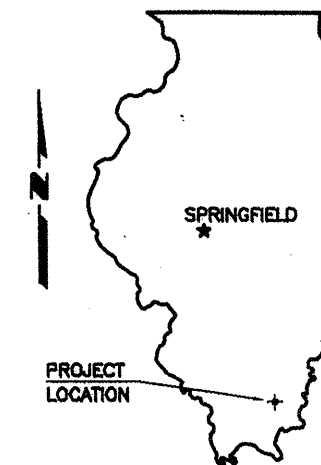


LOCATION MAP

SCALE: 1" = 2 MILES

NET LENGTH OF IMPROVEMENT = 662.00 FT. = 0.1254 MILES

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	1
PROJECT NO. BROS-165(26)			CONTRACT NO. 99315	



SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	2,825
20300100	CHANNEL EXCAVATION	CU YD	316
25000200	SEEDING, CLASS 2	ACRE	1.2
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	108
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	108
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	108
25000700	AGRICULTURAL GROUND LIMESTONE	TON	2.4
25100120	MULCH, METHOD 2	TON	0.6
25100630	EROSION CONTROL BLANKET	SQ YD	4,471
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	120
28000300	TEMPORARY DITCH CHECKS	EACH	10
28000400	PERIMETER EROSION BARRIER	FOOT	480
28000500	INLET AND PIPE PROTECTION	EACH	2
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	151
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1,033
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	46
50200100	STRUCTURE EXCAVATION	CU YD	24
50300225	CONCRETE STRUCTURES	CU YD	20.8
50300280	CONCRETE ENCASEMENT	CU YD	2.1
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,366
50800105	REINFORCEMENT BARS	POUND	2,642
50900205	STEEL RAILING, TYPE S1	FOOT	114
51201400	FURNISHING STEEL PILES HP10X42	FOOT	182
51202305	DRIVING PILES	FOOT	182
51203400	TEST PILE STEEL PILES HP10X42	EACH	1
51500100	NAME PLATES	EACH	1
542A1069	PIPE CULVERTS, CLASS A, TYPE 2 24"	FOOT	50
542A2749	PIPE CULVERTS, CLASS A, TYPE 4 24"	FOOT	28
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	75
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	2
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	2

\* SPECIALTY ITEMS

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
J.U.L.I.E. 1-800-892-0123  
CONTACT 48 HOURS BEFORE EXCAVATING

CONTRACT NO. 99315

**E. MILLER ENGINEERING, INC.**  
CONSULTING ENGINEERS  
HARRISBURG, ILLINOIS



*Edward W. Miller*  
Edward W. Miller  
PROFESSIONAL ENGINEER  
#062-025277  
EXPIRES NOV. 30, 2009

INDEX OF SHEETS

1. COVER SHEET
  2. PLAN AND PROFILE
  3. EROSION CONTROL PLAN
  4. GENERAL PLAN AND ELEVATION
  5. DECK BEAMS 27" X 36
  6. ABUTMENTS
  7. STEEL RAILING
  8. NAME PLATES
  9. PILE DETAILS
  - 10.-11. CROSS SECTIONS
- STANDARDS 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS  
230001-04 TEMPORARY EROSION CONTROL SYSTEMS  
630301-04 SHOULDER WIDENING TYPE 1 GUARDRAIL TERMINALS  
635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT  
701901 TRAFFIC CONTROL DEVICES  
BLR-21-7 TRAFFIC CONTROL  
BLR-26 STEEL PLATE BEAM GUARD RAIL  
BLR-27 TRAFFIC BARRIER TERMINAL TYPE 5A

CLASSIFICATION : LOCAL ROAD (RURAL)  
ADT : 11  
DESIGN SPEED : 30 MPH

ILLINOIS DEPARTMENT OF TRANSPORTATION	
Approved	<u>02-20-08</u> <i>Ray Brown</i> Highway Commissioner East Eldorado Township
Approved	<u>02-20-08</u> <i>[Signature]</i> Saline County Engineer
Passed	<u>2/22/08</u> <i>Dennis W. Hill</i> District 9 Engineer of Local Roads and Streets
Releasing for Bid Based on Limited Review	<u>2/25/08</u> <i>Mary C. Lammie</i> Deputy Director of Highways, Region 5 Engineer

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	2
PROJECT NO. BROS-165(26)			CONTRACT NO. 99315	

B.M. - RR Spike in PP  
161' Rt. Sta. 14+19  
Elev. 370.00 (Assumed)

Birdle Gray Limited Partnership  
SW 1/4, SE 1/4, Sec 29, T 8 S, R 7 E, 3rd P.M.

Existing Structure - Single span  
timber deck on steel stringers  
with closed timber pile bent  
abutments. 20' W x 60' L

Guardrail installation typical near approach side  
Traf. Bar. Term., Ty. 5A - 1 Each  
Steel Plate Beam Guardrail, Ty. A - 37.5'  
Traf. Bar. Term. Ty. 1 Spl. (Tang.) - 1 Ea.

Begin Improvement - Station 10+57

End Improvement - Station 17+19

Pipe Culvert, Class A, Type 4 24" - 28 Ft.  
Us E Elev. 365.27 - 16.14' Rt. Sta. 10+58.32  
DS E Elev. 365.14 - 21.07' Rt. Sta. 10+89.19

Exist. 18" x 28" RCCP  
to be removed

Pipe Culvert, Class A, Type 2 24" - 50 Ft.  
Us E Elev. 364.81 - 28.27' Rt. Sta. 15+01.93  
DS E Elev. 364.63 - 30.17' Rt. Sta. 14+56.33

Virginia DeViliez Trust  
SE 1/4, SW 1/4, Sec 29, T 8 S, R 7 E, 3rd P.M.

Ruth Carter  
NW 1/4, NE 1/4, Sec 32, T 8 S, R 7 E, 3rd P.M.

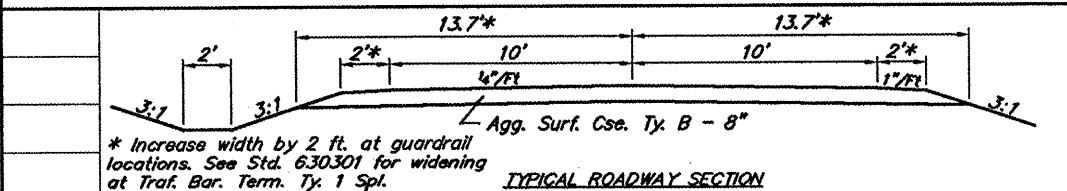
**CURVE DATA**  
Δ = 38°16'13" T = 104.19'  
D = 19°05'55" L = 200.56'  
R = 300.00' E = 17.58'  
S.E. = 0.040'/Ft.  
Attain Sta. 10+57.0 to Sta. 11+41.0  
Remove Sta. 13+00.0 to Sta. 13+21.7\*

**CURVE DATA**  
Δ = 51°33'17" T = 144.88'  
D = 19°05'55" L = 269.94'  
R = 300.00' E = 33.15'  
S.E. = 0.040'/Ft.  
Attain Sta. 13+85.3\* to Sta. 14+07.0  
Remove Sta. 16+35.0 to Sta. 17+19.0

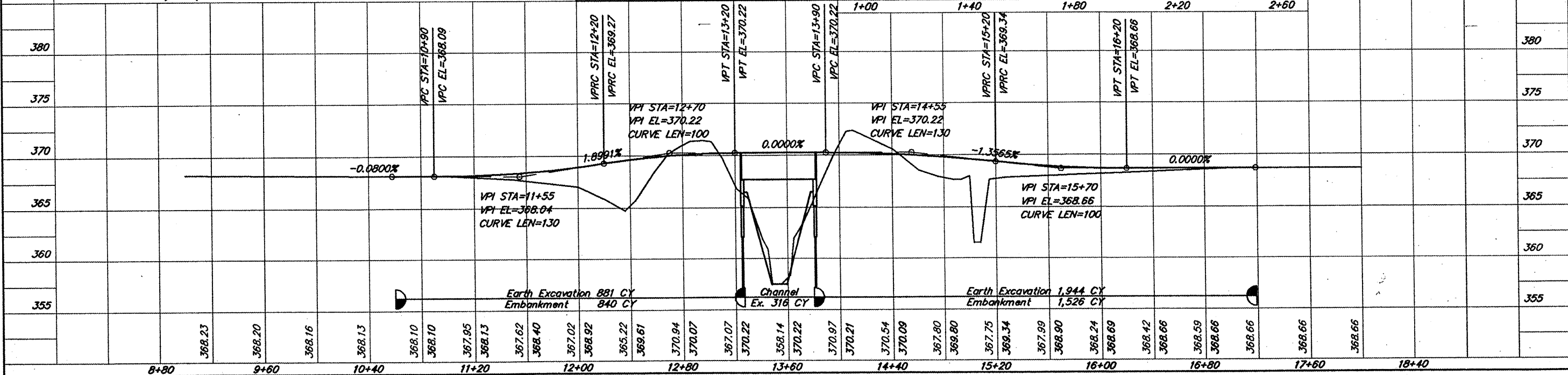
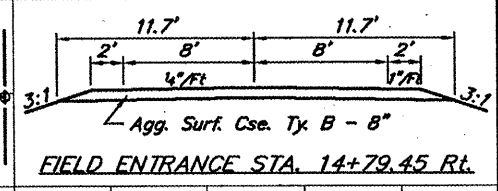
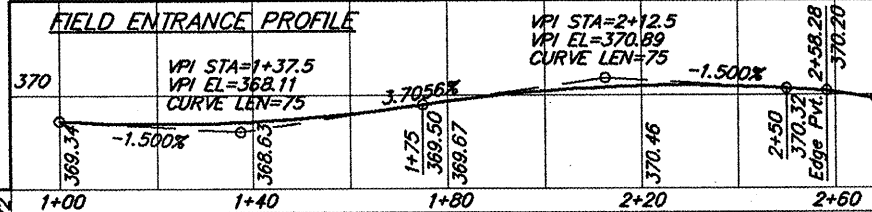
**EE CURVE DATA**  
Δ = 53°41'08"  
R = 100.00'

\*Note: Match Bridge SE (0.0258'/Ft)

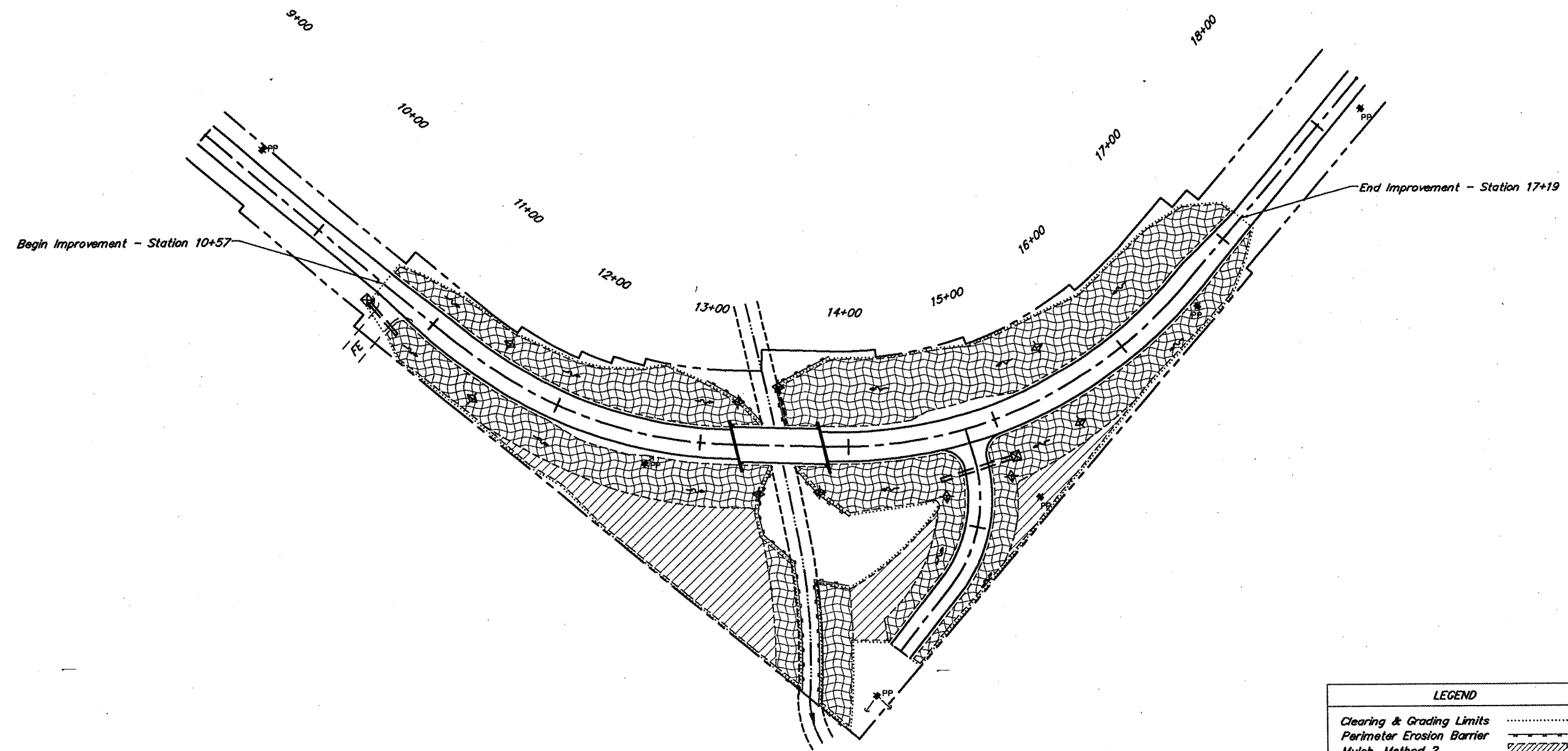
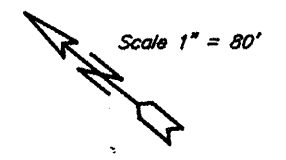
SCALES:  
1" = 80' HOR  
1" = 10' VER



Exist Structure to be removed.  
Shape slopes at 2:1 normal to channel  
Channel Ex. 269 CY



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	3
PROJECT NO. BROS-165(26)		CONTRACT NO. 99315		



**TOTAL BILL OF MATERIAL**

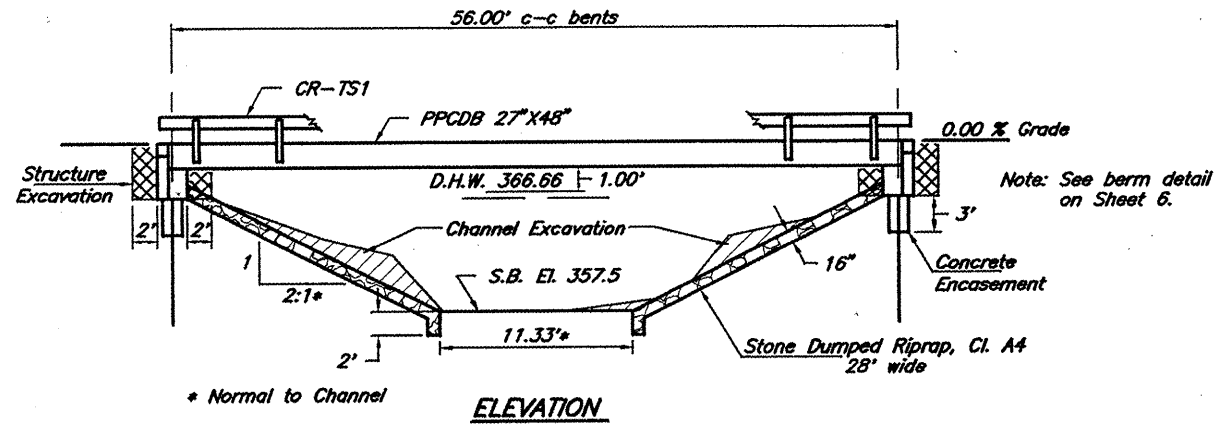
Item	Unit	Total
Erosion Control Blanket	Sq. Yd.	4,471
Temporary Erosion Control Seeding	Pound	120
Temporary Ditch Checks	Each	10
Perimeter Erosion Barrier	Foot	480
Inlet and Pipe Protection	Each	2
Mulch, Method 2	Tons	0.6

LEGEND	
Clearing & Grading Limits	-----
Perimeter Erosion Barrier	-----
Mulch, Method 2	////
Temporary Ditch Check	◆
Flow Indicator	~
Erosion Control Blanket	▨
Inlet & Pipe Protection	⊠

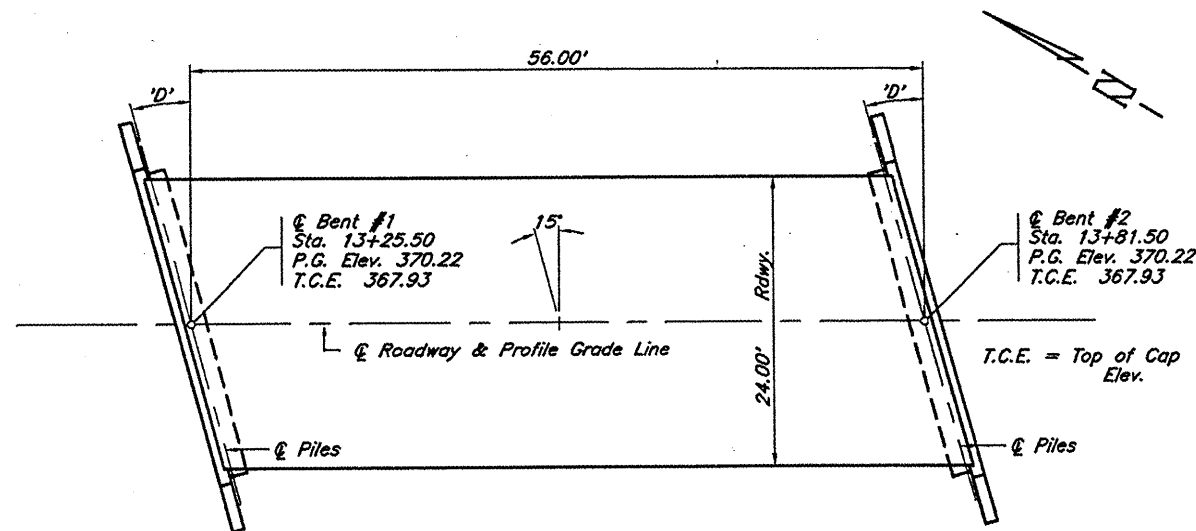
EROSION CONTROL PLAN  
 TOWNSHIP ROUTE 143  
 SPOIL BANK DITCH  
 SECTION 02-04118-00-BR  
 SALINE COUNTY

B.M. - RR Spike in Power Pole  
126' Rt. Station 14+20  
Assumed Elev. 370.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 14J	02-04118-00-BR	SALINE	11	4
PROJECT NO. BROS-165(26)			CONTRACT NO. 99315	



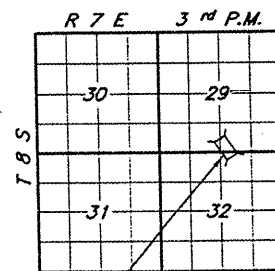
Existing Structure - Single span timber deck on steel stringers with closed timber pile bent abutments. 20'W x 60'L



Boring 1-S  
98.2' Rt. Sta. 13+35.6  
Rock El. 344.9

Skew Angle "D" = 15° Right Forward

Boring 2-S  
131.2' Rt. Sta. 14+10.2  
Rock El. 341.9



SPOIL BANK DITCH  
SEC. 02-04118-00-BR BUILT 20  
EAST ELDORADO TOWNSHIP  
SALINE COUNTY  
LOADING HS20  
STR. NO. 083-3230

**LETTERING FOR NAME PLATE**

Locate Name Plate at Northwest Corner of Bridge (See Std. CN)

**PILE DATA (2-ABUTS.)**

Type & Size : HP10X42  
Nominal Required Bearing : 80 kips  
Allowable Resistance Available : 240 kips  
Estimated Length : 26 Feet  
Number Required : 8 (Includes 1 Test Pile located in Bent #2)

**DESIGN SPECIFICATIONS**

2002 AASHTO Standard Specifications - 17<sup>th</sup> ed.

**LOADING HS20-44**

Allow 25#/sq. ft. for future wearing surface

**SEISMIC DATA**

Seismic Performance Category (SPC) = B  
Bedrock Acceleration Coefficient (A) = 10.0%  
Site Coefficient (S) = 1.0

**WATERWAY INFORMATION**

		Drainage Area = 5.680 Sq. Mi. Low Grade Elev. = 368.09 At Sta. 10+95							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural H.W.E. Exist. Prop.	Head-Ft. Exist. Prop.	Headwater El. Exist. Prop.	Headwater El. Exist. Prop.	Headwater El. Exist. Prop.	Headwater El. Exist. Prop.
Design	15	1,200	272.1 272.0	366.53 366.66	0.00 0.00	366.53 366.66	366.53 366.66	366.53 366.66	366.53 366.66
Base	100	1,698	340.3 324.0	367.90 368.02	0.00 0.06	367.90 368.08	367.90 368.08	367.90 368.08	367.90 368.08
Overtopping	±101	1,700	324.0	368.03	0.06	368.09	368.09	368.09	368.09
Max. Calc.	500								

Note: Proposed bridge located 128 feet upstream from the existing bridge.

**GENERAL NOTES**

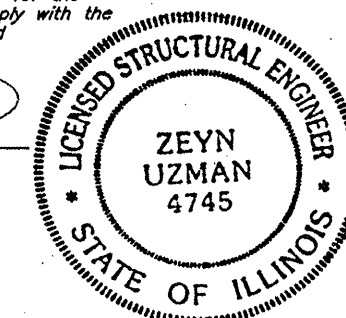
- Steel H piles shall meet AASHTO M270 Grade 50 specifications.
- Test Piles shall be driven to 110% of the Nominal Required Bearing indicated in the pile data.
- The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See special provisions for boring logs.
- A Corrosion inhibitor, as covered in the Standard Specifications, shall be used in the precast prestressed concrete deck beams.

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each				1
Concrete Structures	Cu. Yds.			20.8	20.8
P.P. Conc. Dk. Bm. 27" Dp.	Sq. Ft.	1,366			1,366
Steel Railing, Type S1	Foot	114			114
Reinforcement Bars	Pound			2,642	2,642
Furnishing Steel Piles HP10X42	Foot			182	182
Driving Piles	Foot			182	182
Test Pile Steel HP10X42	Each			1	1
Concrete Encasement	Cu. Yds.			2.1	2.1
Name Plates	Each			1	1
Structure Excavation	Cu. Yds.			24	24
Channel Excavation	Cu. Yds.			47	47
Stone Dumped Riprap, Class A4	Tons			151	151

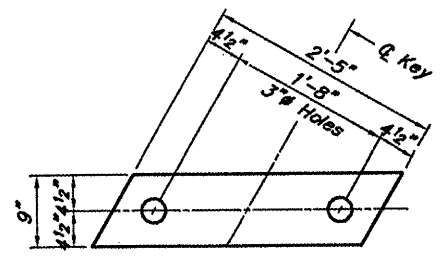
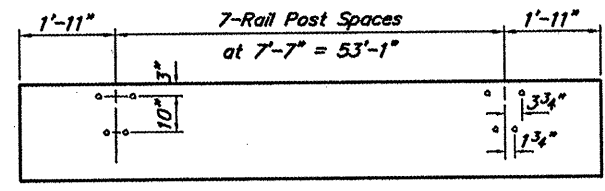
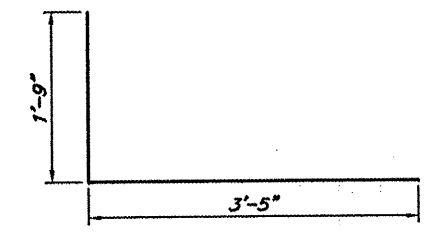
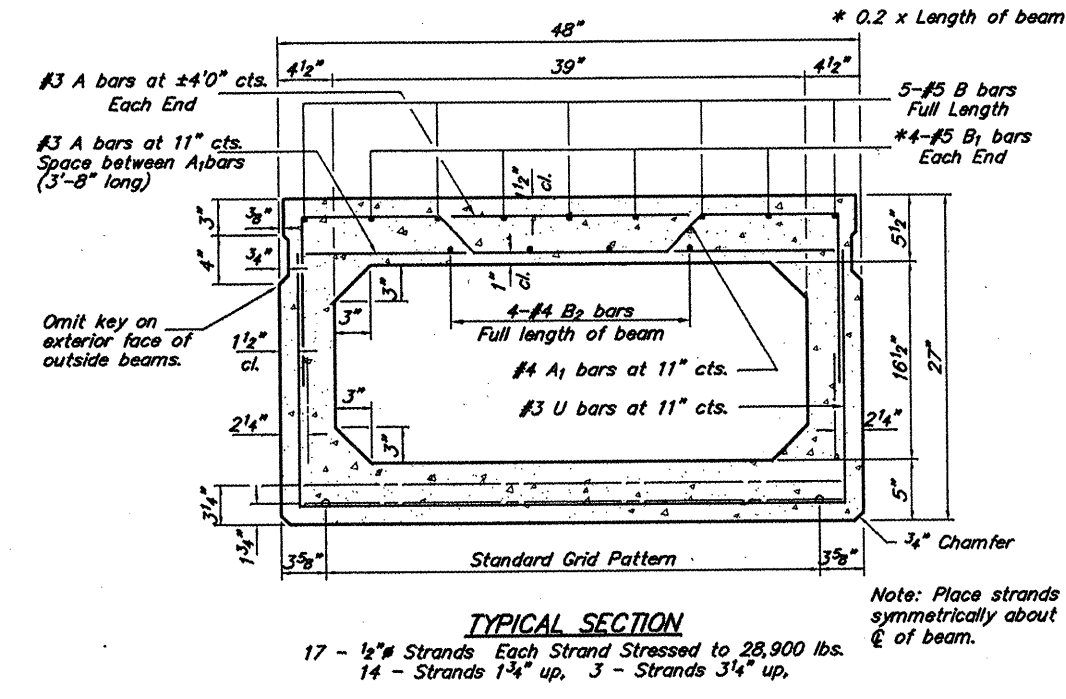
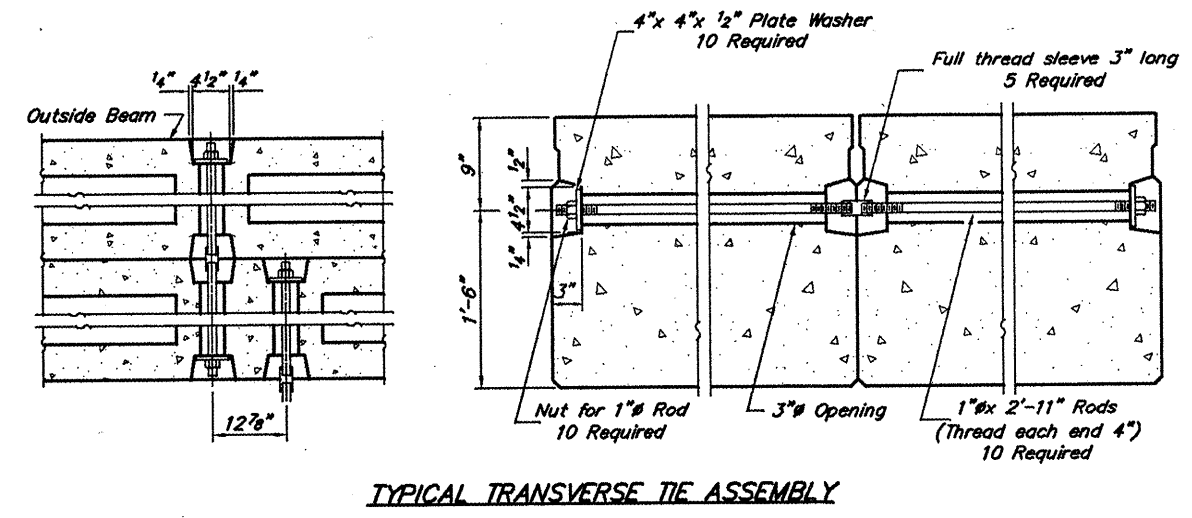
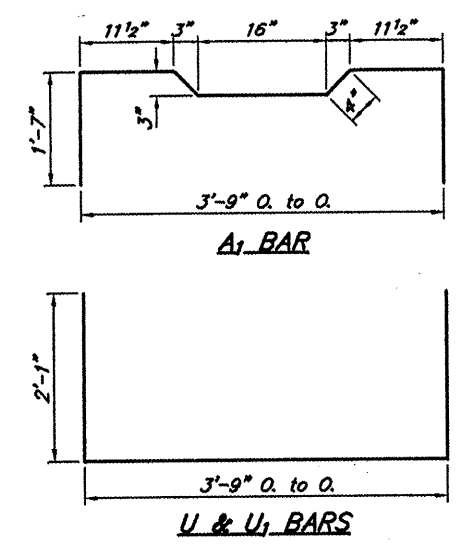
I certify that to the best of my knowledge, information and belief, the revised standard detail sheets and/or special component sheets included with the standard bridge detail sheets are structurally adequate for the design loading shown on the plans and comply with the requirements of the current AASHTO Standard Specifications for Highway Bridges.

Zeyn B. Uzman  
S.E. #81-4745  
Expires Nov. 30, 2008  
11/12/07

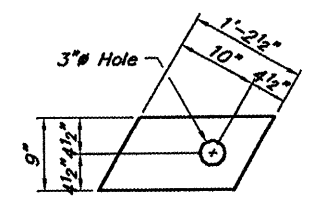


GENERAL PLAN & ELEVATION  
TOWNSHIP ROUTE 14J  
SPOIL BANK DITCH  
SECTION 02-04118-00-BR  
SALINE COUNTY

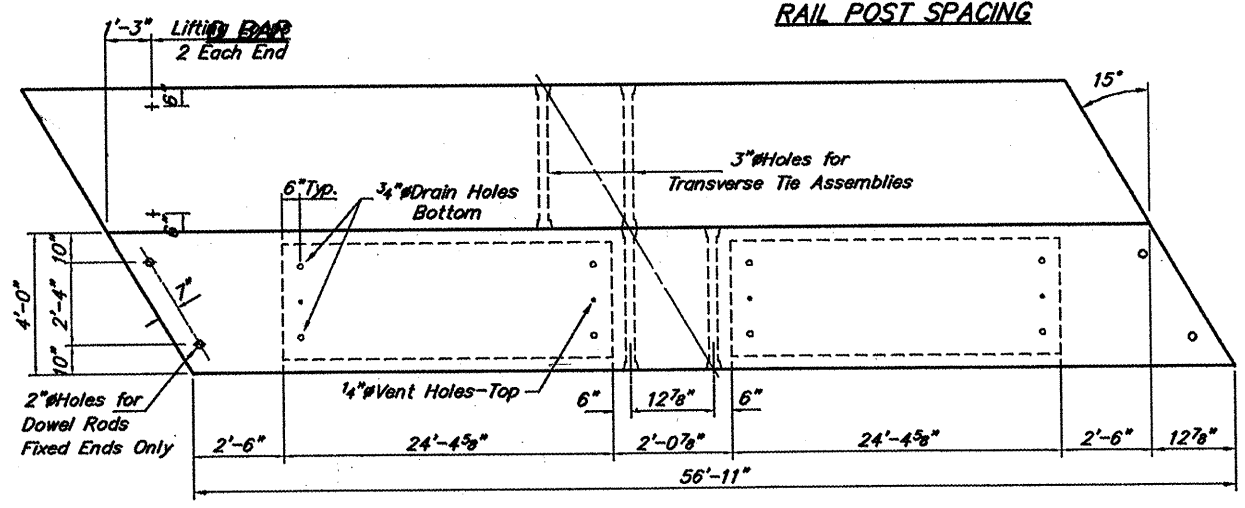
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	5
PROJECT NO. BROS-165(26)		CONTRACT NO. 99315		



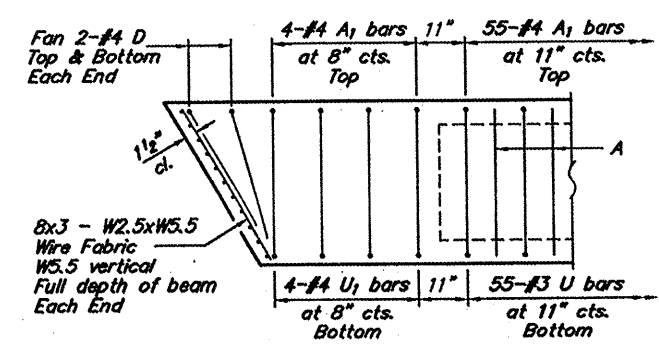
FABRIC BEARING PAD (Interior)



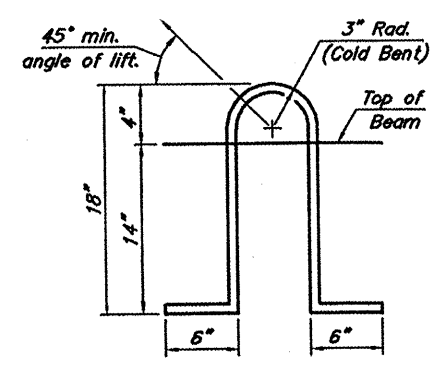
FABRIC BEARING PAD (Exterior)



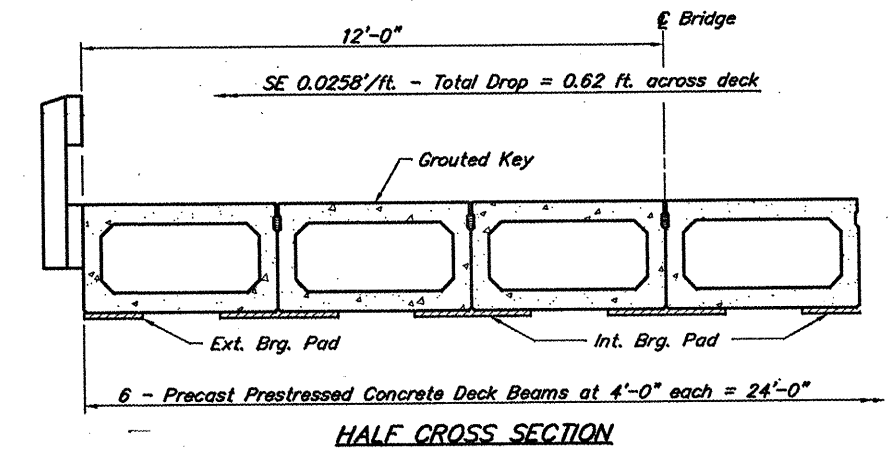
PLAN



END PLAN



LIFTING LOOP DETAIL



HALF CROSS SECTION

NOTES

Reinforcement bars shall conform to AASHTO M-31 or M-322, Grade 60. Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Required release strength,  $f_{ci}$ , shall be 4,000 p.s.i. An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.

Lifting loops shall be 3/4" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 45,000 lbs. or 3-1/2"-270 ksi strands, as shown.

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 the top of the beam and the bottom edge of the key.

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.

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.

After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.

Nominal 1" joint at C Pier shall be filled with non-shrink grout.

Rail Post Anchor Devices shall be cast into exterior face of outside beams as elsewhere specified.

Cast of reinforcement and accessories cast into the beam, of bearing pads, and of grouting longitudinal shear keys is incidental to Precast Prestressed Concrete Deck Beams.

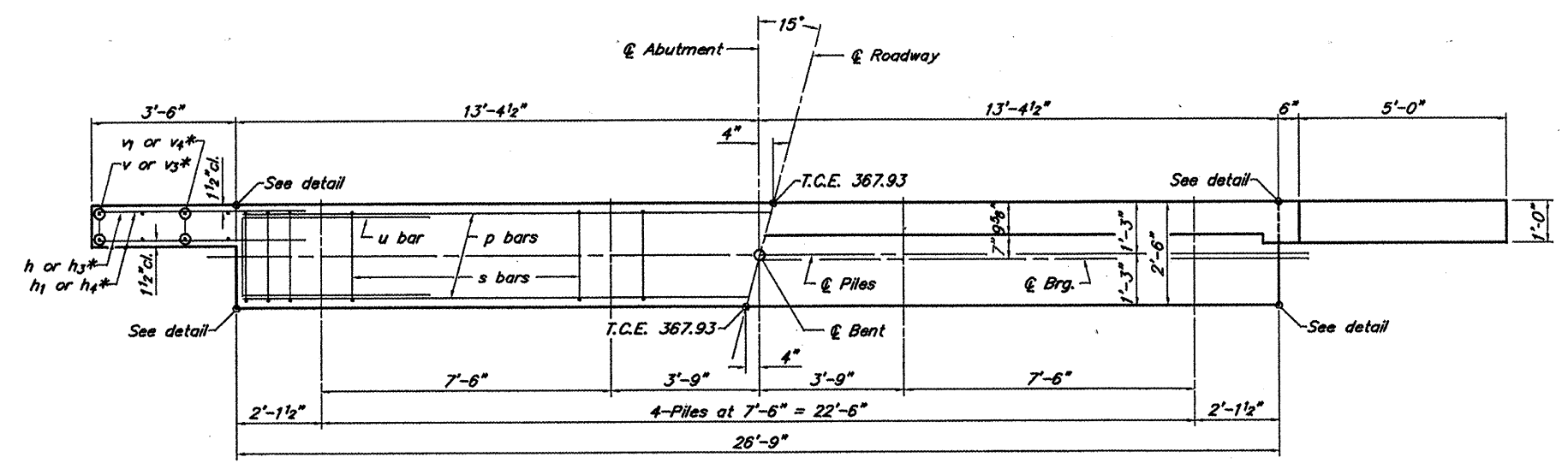
When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a min. of 1/4".

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
A	62	#3	2'-8"	—
A1	63	#4	6'-1"	□
B	5	#5	56'-8"	—
B1	8	#5	11'-5"	—
B2	4	#4	56'-8"	—
D	8	#4	5'-2"	□
U	55	#3	6'-3"	□
U1	8	#4	6'-3"	□
Precast Prestressed Concrete Deck Beams		Sq. Ft.	1,366	

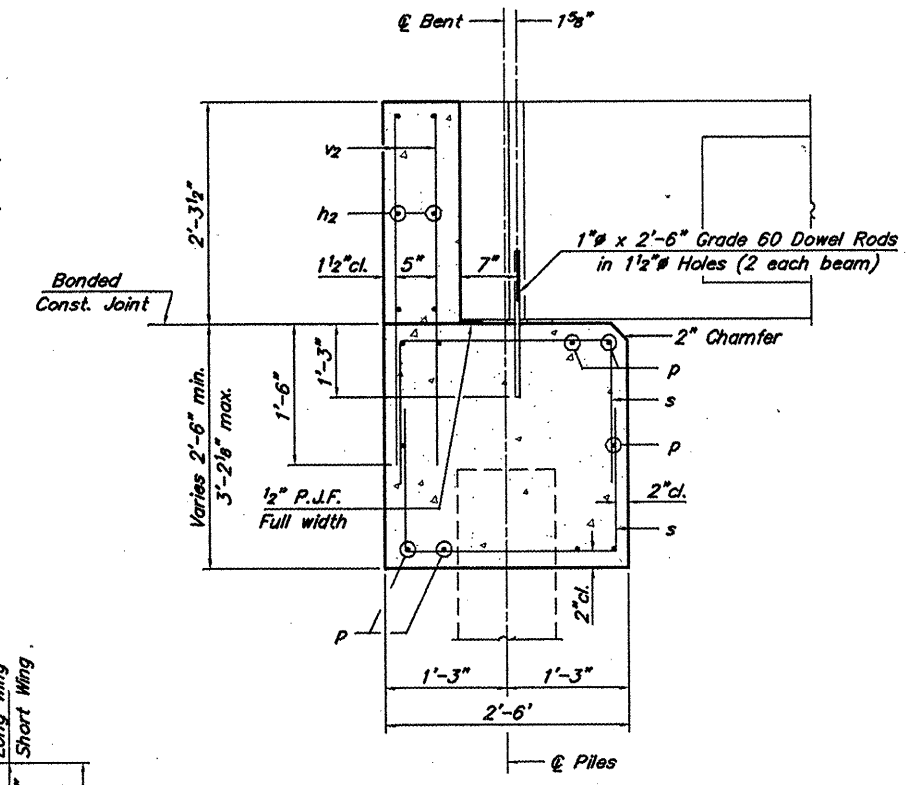
DECK BEAMS 27" X 48"  
TOWNSHIP ROUTE 143  
SPOIL BANK DITCH  
SECTION 02-04118-00-BR  
SALINE COUNTY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	6
PROJECT NO. BROS-165(26)		CONTRACT NO. 99315		



\*  $v_4$ ,  $v_1$ ,  $h$  and  $h_1$  bars in short wing  
 $v_3$ ,  $v_6$ ,  $h_3$  and  $h_4$  bars in long wing

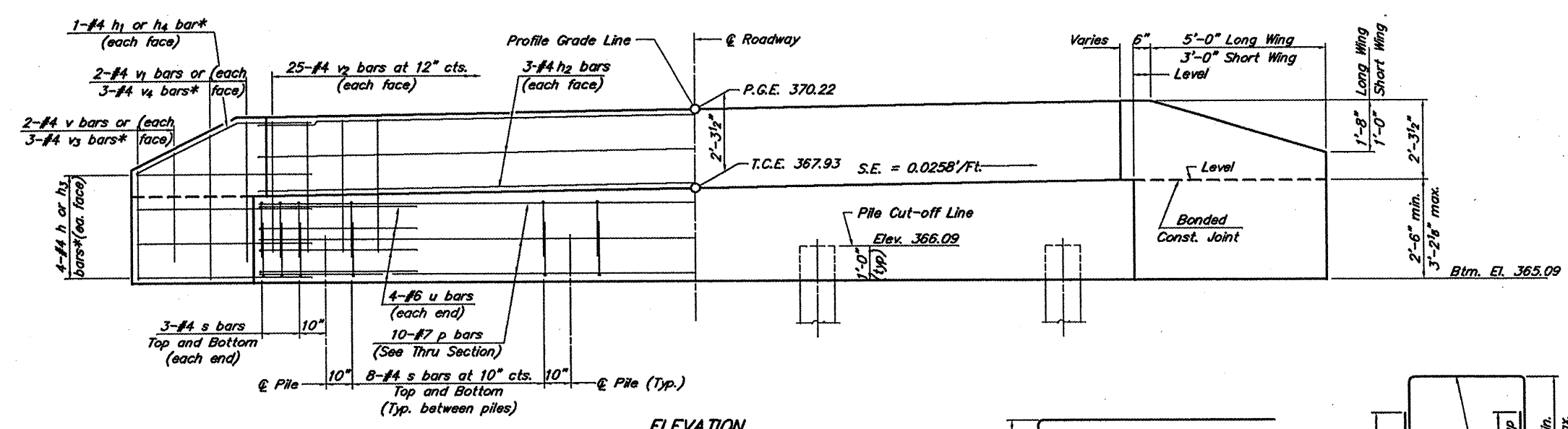
**PLAN**  
 (S. Abut. shown. Move backwall and wings across cap for N. Abut.)



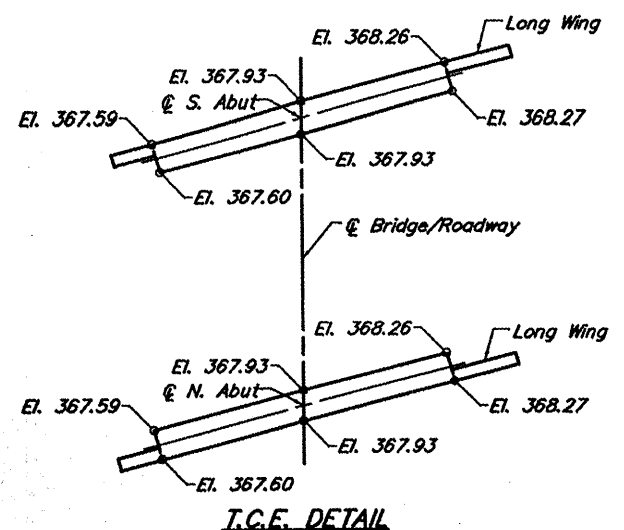
**SECTION THRU ABUT.**  
 (At Right Angles)

**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
$h$	8	#4	5'-0"	—
$h_1$	2	#4	5'-0"	—
$h_2$	6	#4	26'-5"	—
$h_3$	8	#4	7'-0"	—
$h_4$	2	#4	7'-1"	—
$p$	10	#7	26'-5"	—
$s$	60	#4	6'-6"	U
$u$	8	#6	11'-1"	—
$v$	4	#4	3'-8"	—
$v_1$	4	#4	4'-5"	—
$v_2$	50	#4	3'-11"	—
$v_3$	6	#4	4'-4"	—
$v_4$	6	#4	5'-1"	—
Concrete Structures			10.4	Cu. Yds.
Reinforcement Bars			1321	Lbs.



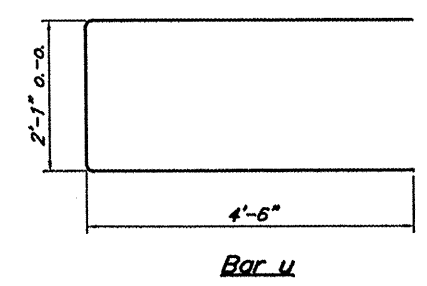
**ELEVATION**



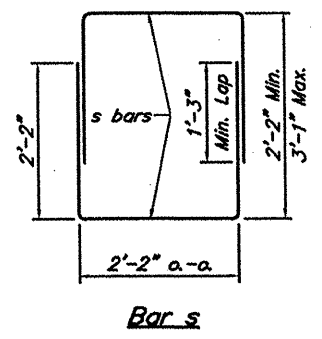
**I.C.E. DETAIL**

- NOTES**
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
  - Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

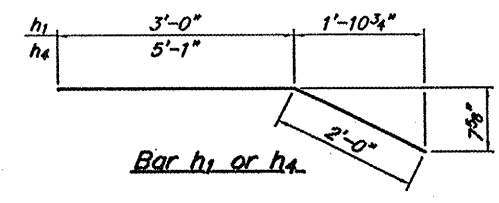
**DESIGN STRESSES**  
 $f_c = 3,500$  psi  
 $f_y = 60,000$  psi



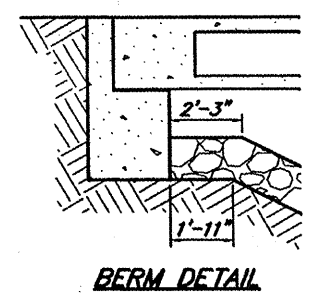
**Bar u**



**Bar s**



**Bar h1 or h4**



**BERM DETAIL**

ABUTMENTS  
 TOWNSHIP ROUTE 143  
 SPOIL BANK DITCH  
 SECTION 02-04118-00-BR  
 SALINE COUNTY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	7

PROJECT NO. BROS-165(26) CONTRACT NO. 99316

**NOTES**

Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 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 requirement of ASTM designation A307 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.

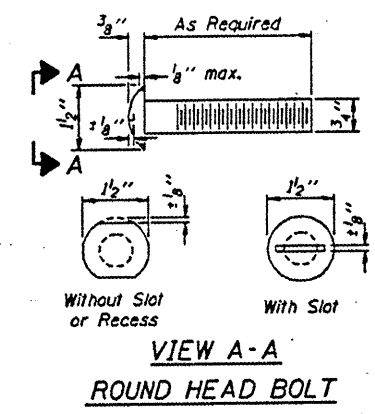
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

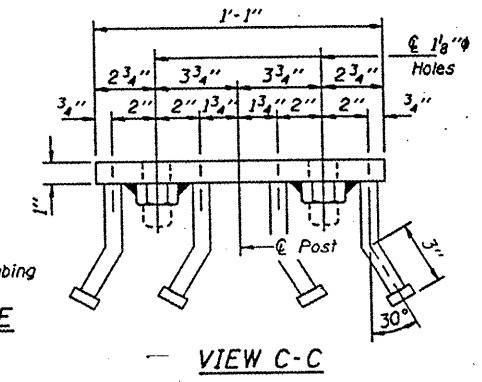
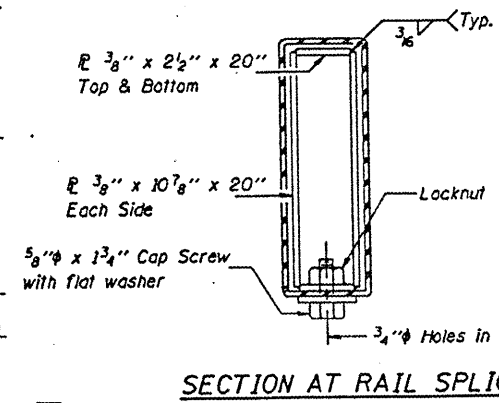
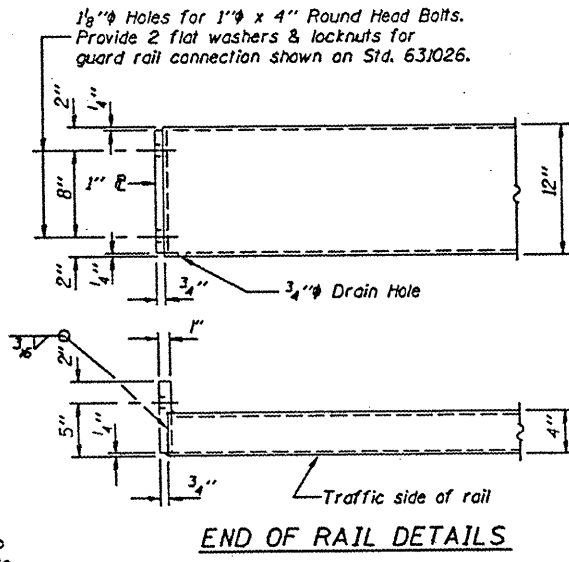
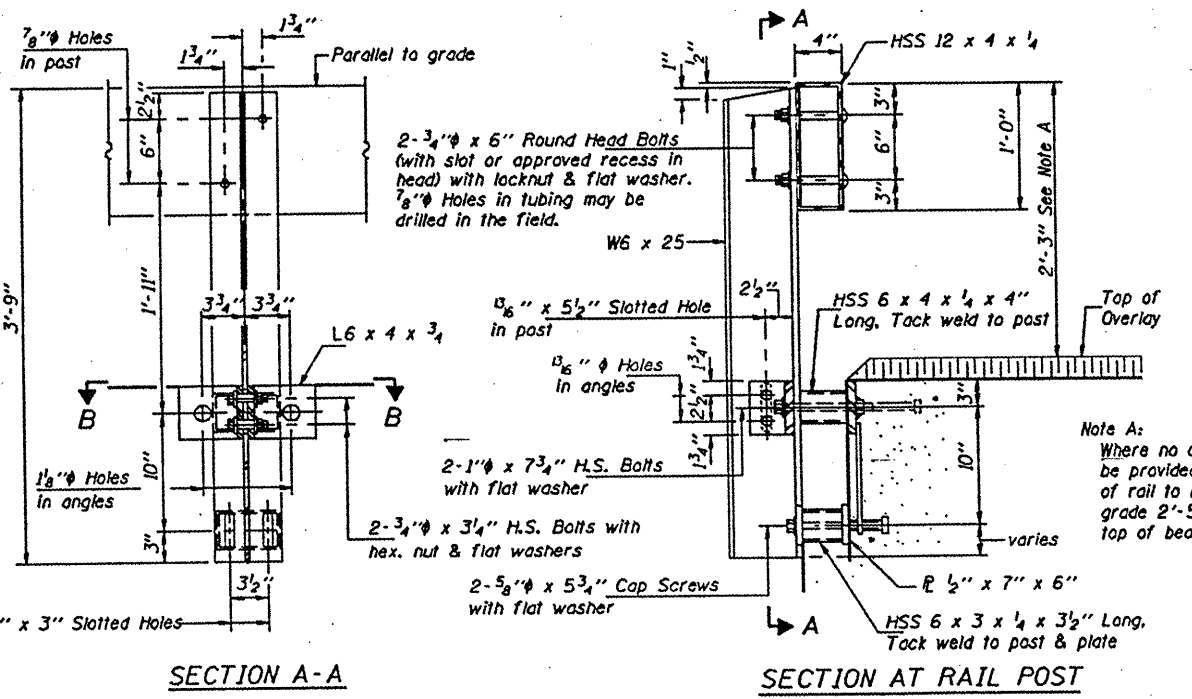
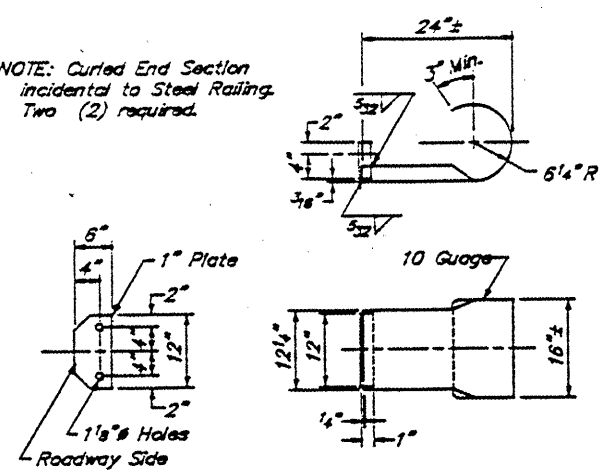
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

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 (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 maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6" or less.

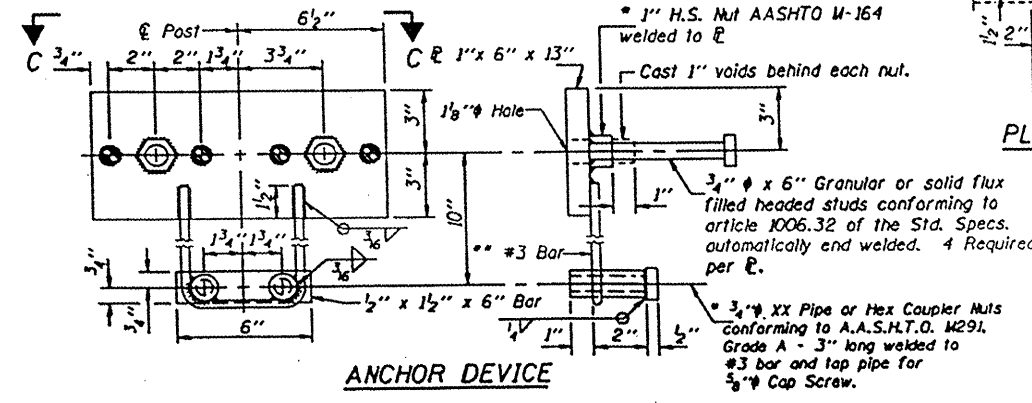
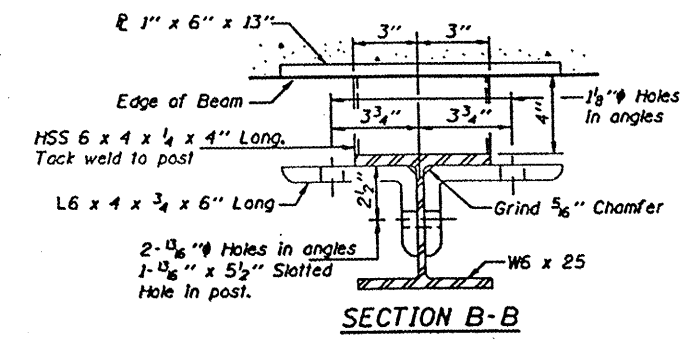
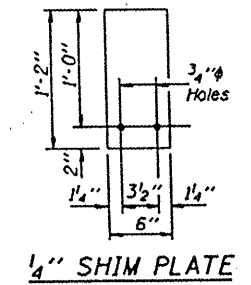
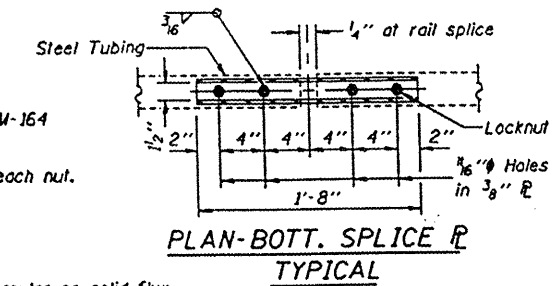


NOTE: Curled End Section incidental to Steel Railing. Two (2) required.



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

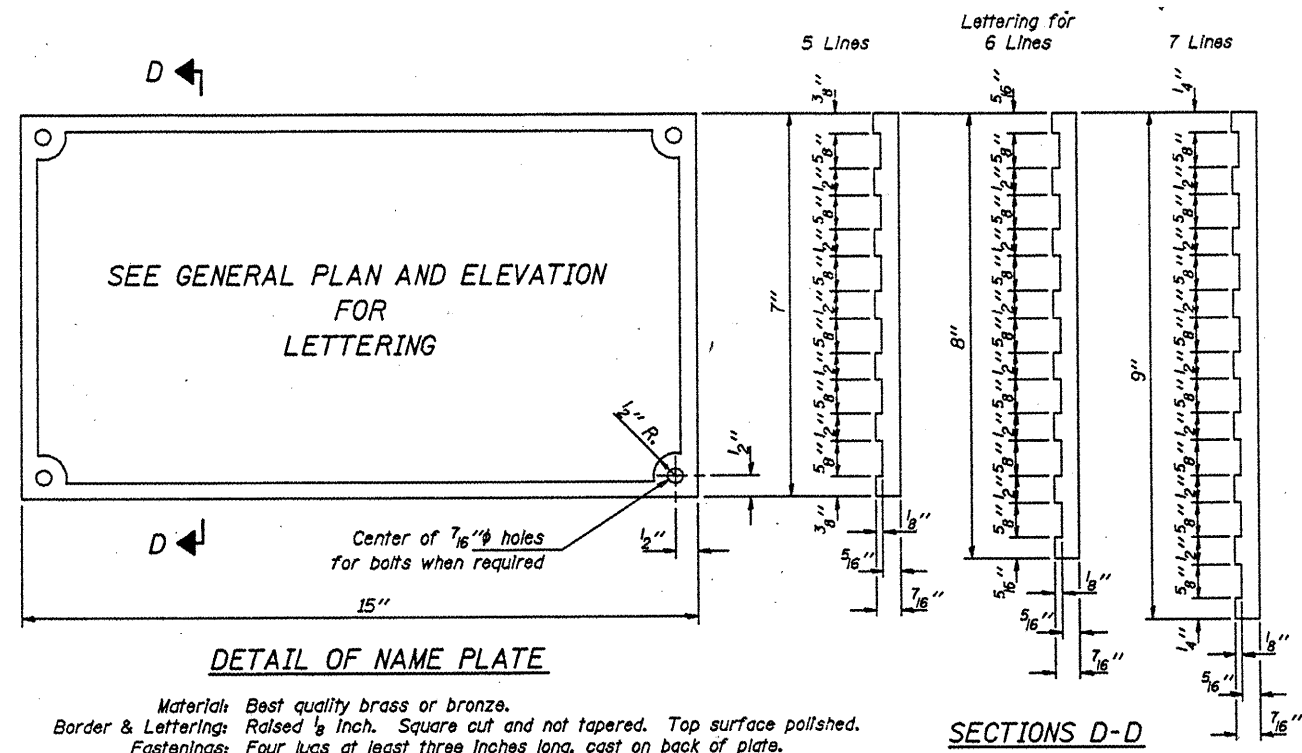
\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



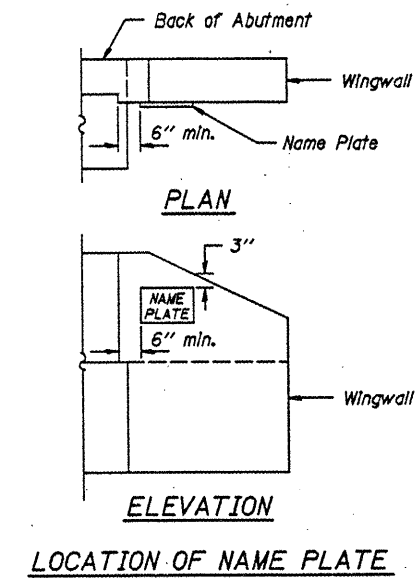
**STEEL RAILING, TYPE S-1  
STANDARD CR-TS1**

Illinois Department of Transportation  
 PASSED APRIL 4, 2005  
 Theresa S. Hanna, M.S.E.  
 Engineer of Bridge Design  
 APPROVED APRIL 4, 2005  
 Ralph E. Anderson  
 Engineer of Bridges and Structures

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	8
PROJECT NO. BROS-165(26)			CONTRACT NO. 99315	



Material: Best quality brass or bronze.  
 Border & Lettering: Raised 1/8 Inch. Square cut and not tapered. Top surface polished.  
 Fastenings: Four lugs at least three inches long, cast on back of plate.



Illinois Department of Transportation

PASSED APRIL 4, 2005

*Thomas S. Reynolds*  
 Engineer of Office Design

APPROVED APRIL 4, 2005

*Ralph E. Anderson*  
 Engineer of Bridges and Structures

5867-1-1 GENRES

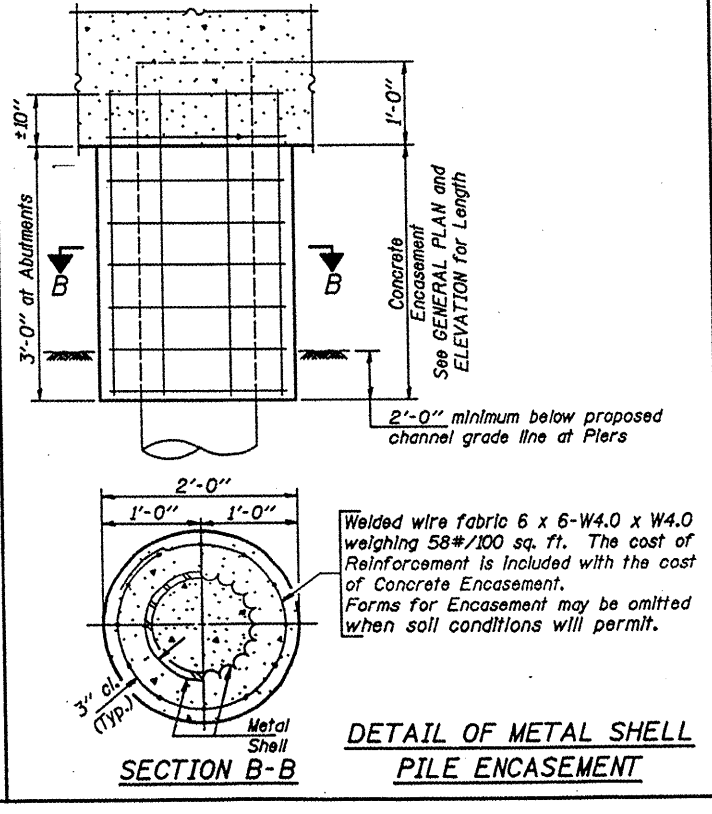
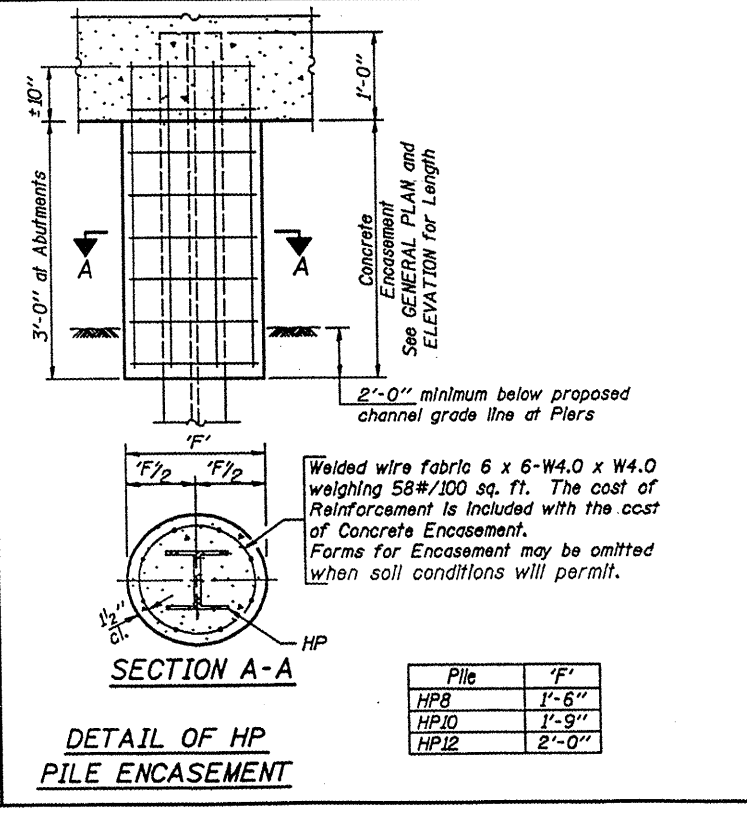
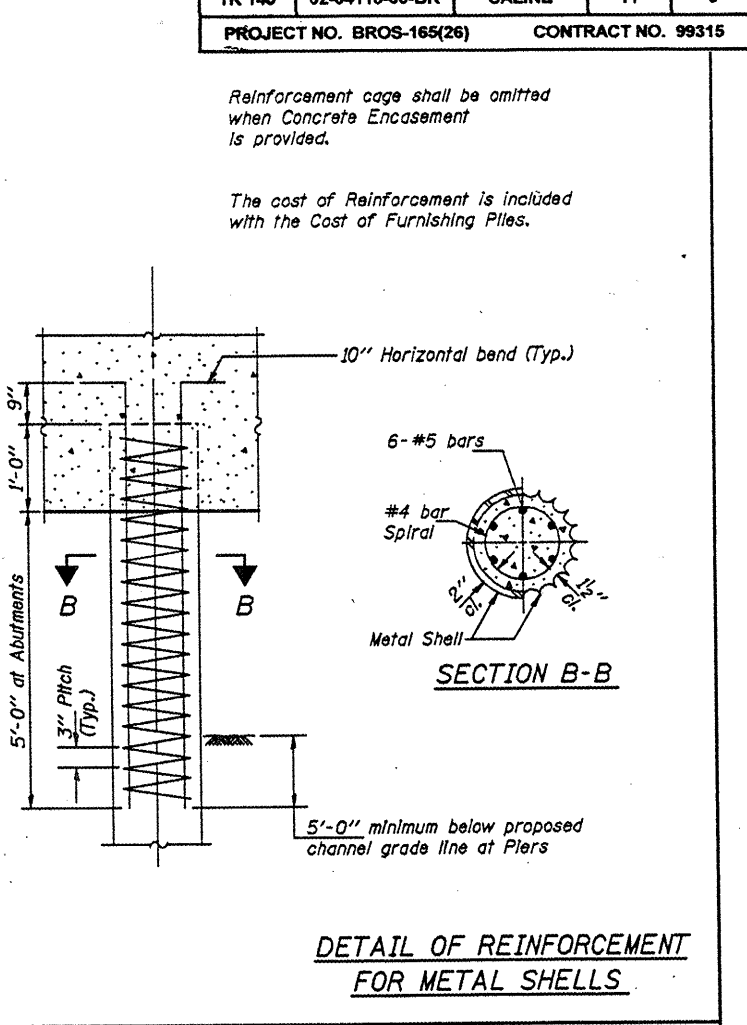
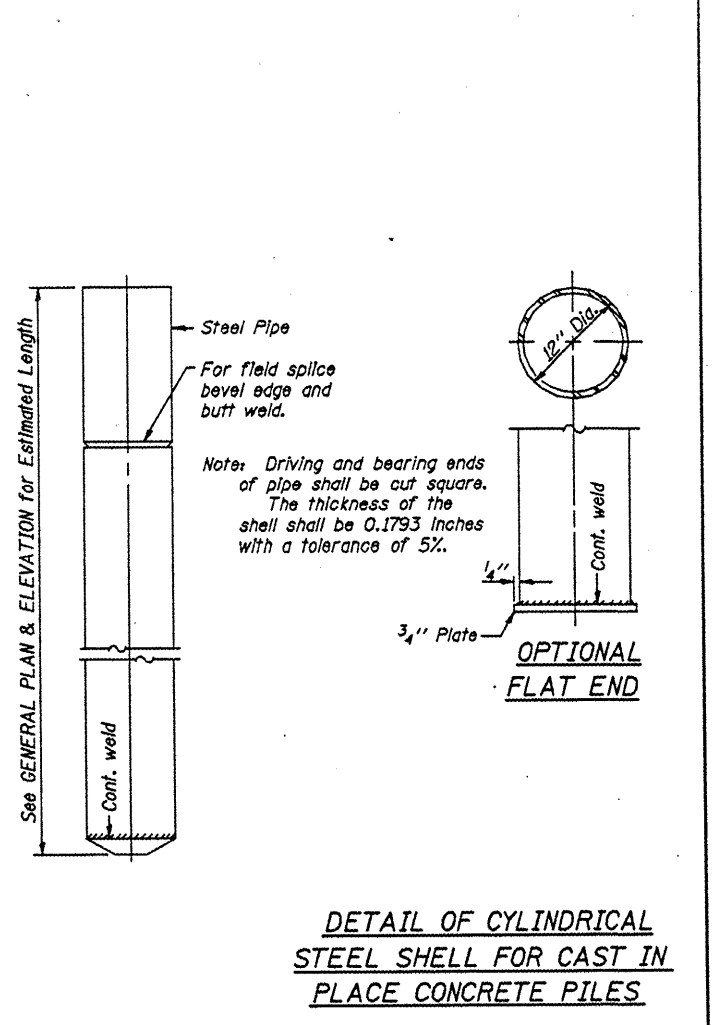
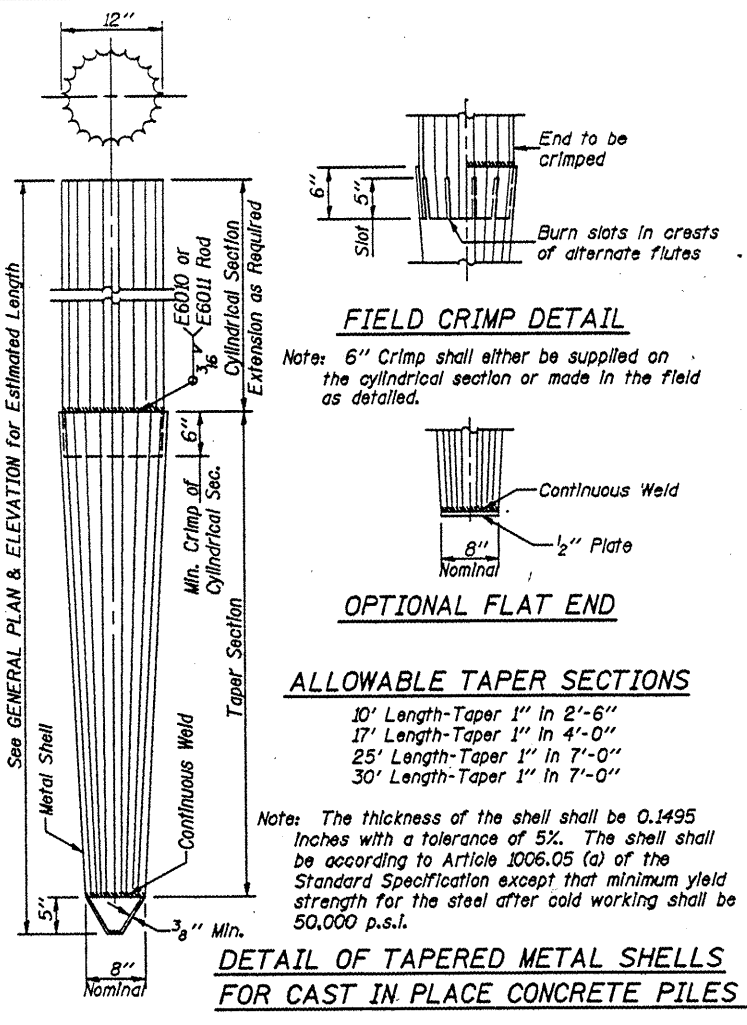
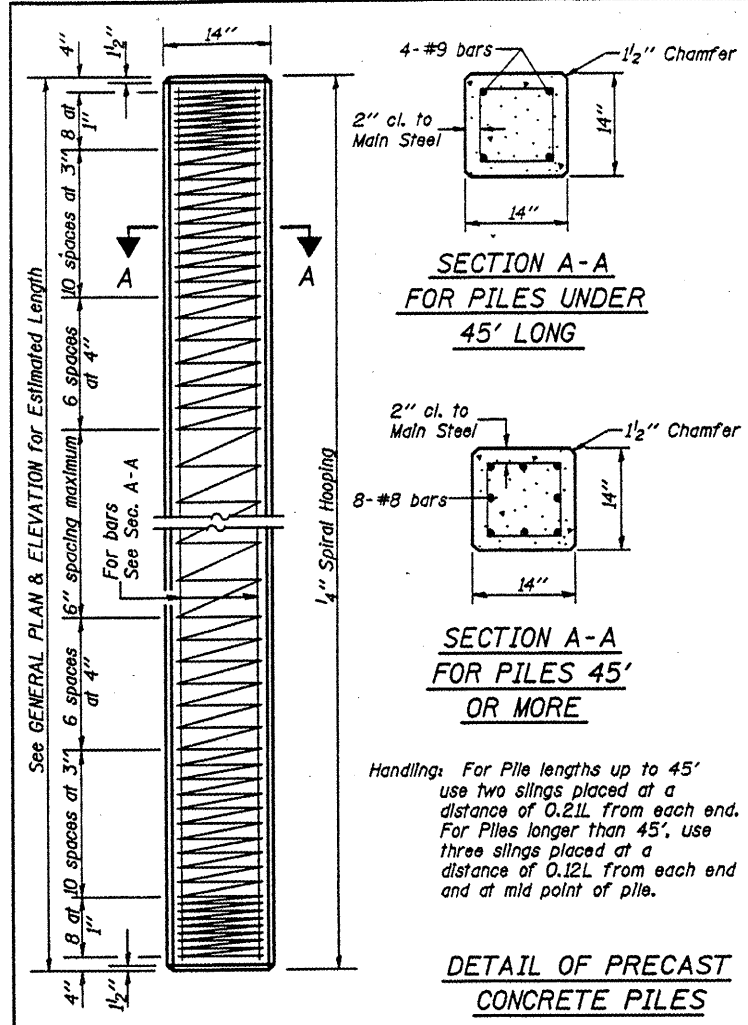
NAME PLATE  
 STANDARD CN



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 143	02-04118-00-BR	SALINE	11	9
PROJECT NO. BROS-165(26)			CONTRACT NO. 99315	

Reinforcement cage shall be omitted when Concrete Encasement is provided.

The cost of Reinforcement is included with the Cost of Furnishing Piles.



**QUANTITIES/FT. OF ENCASEMENT (STEEL PILES)**

Pile Size	Item	Quantity
HP8	Concrete Encasement	0.063 C.Y.
HP10	Concrete Encasement	0.086 C.Y.
HP12	Concrete Encasement	0.112 C.Y.

**(METAL SHELL PILES)**

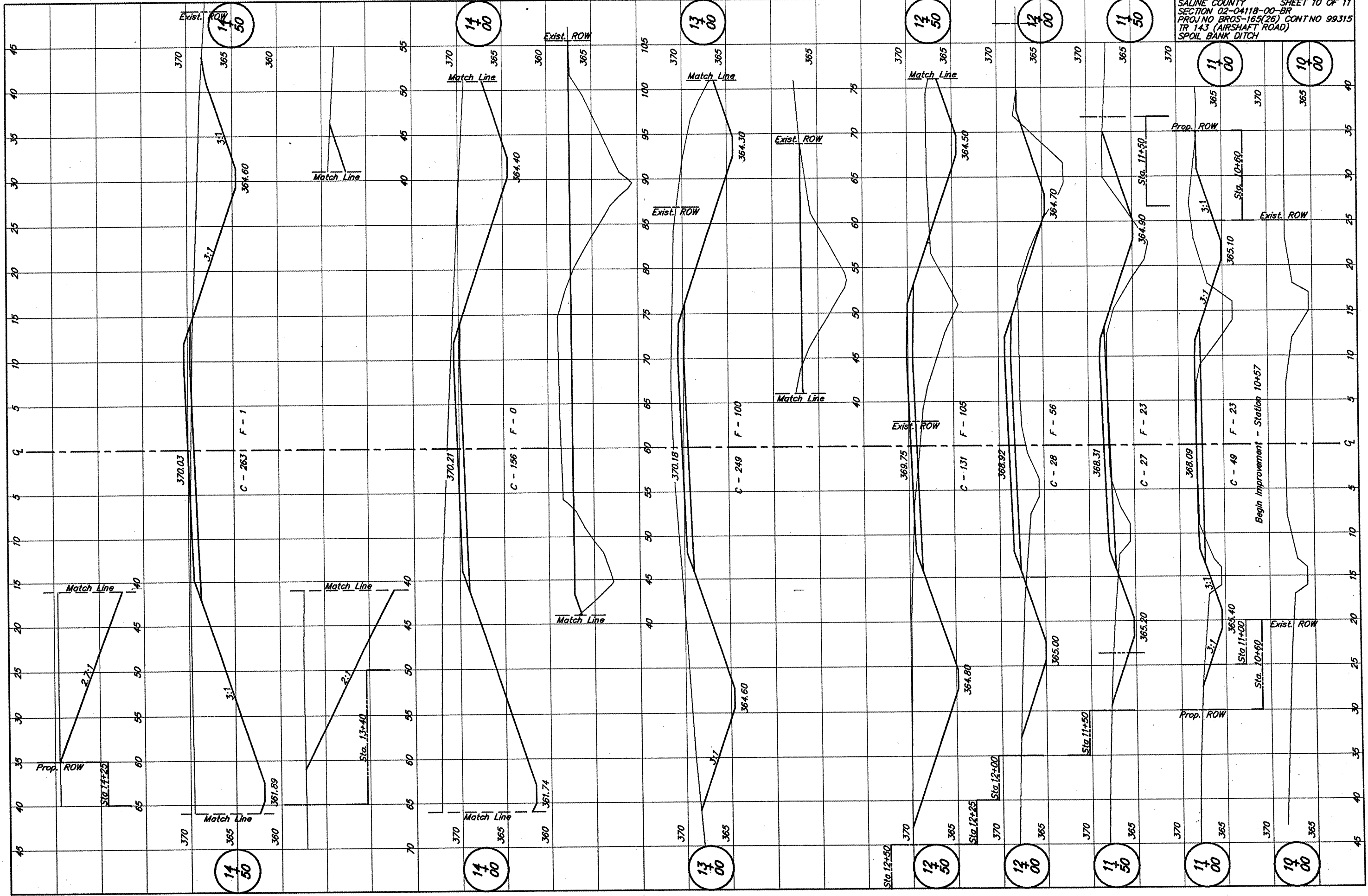
Pile Size	Item	Quantity
12" Dia.	Concrete Encasement	0.087 C.Y.

<b>PILE DETAILS</b>	
<b>STANDARD CX-1</b>	

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000  
*Thomas J. Donnell*  
 Engineer of Bridge Design

APPROVED FEBRUARY 1, 2000  
*Ralph E. Anderson*  
 Engineer of Bridges and Structures



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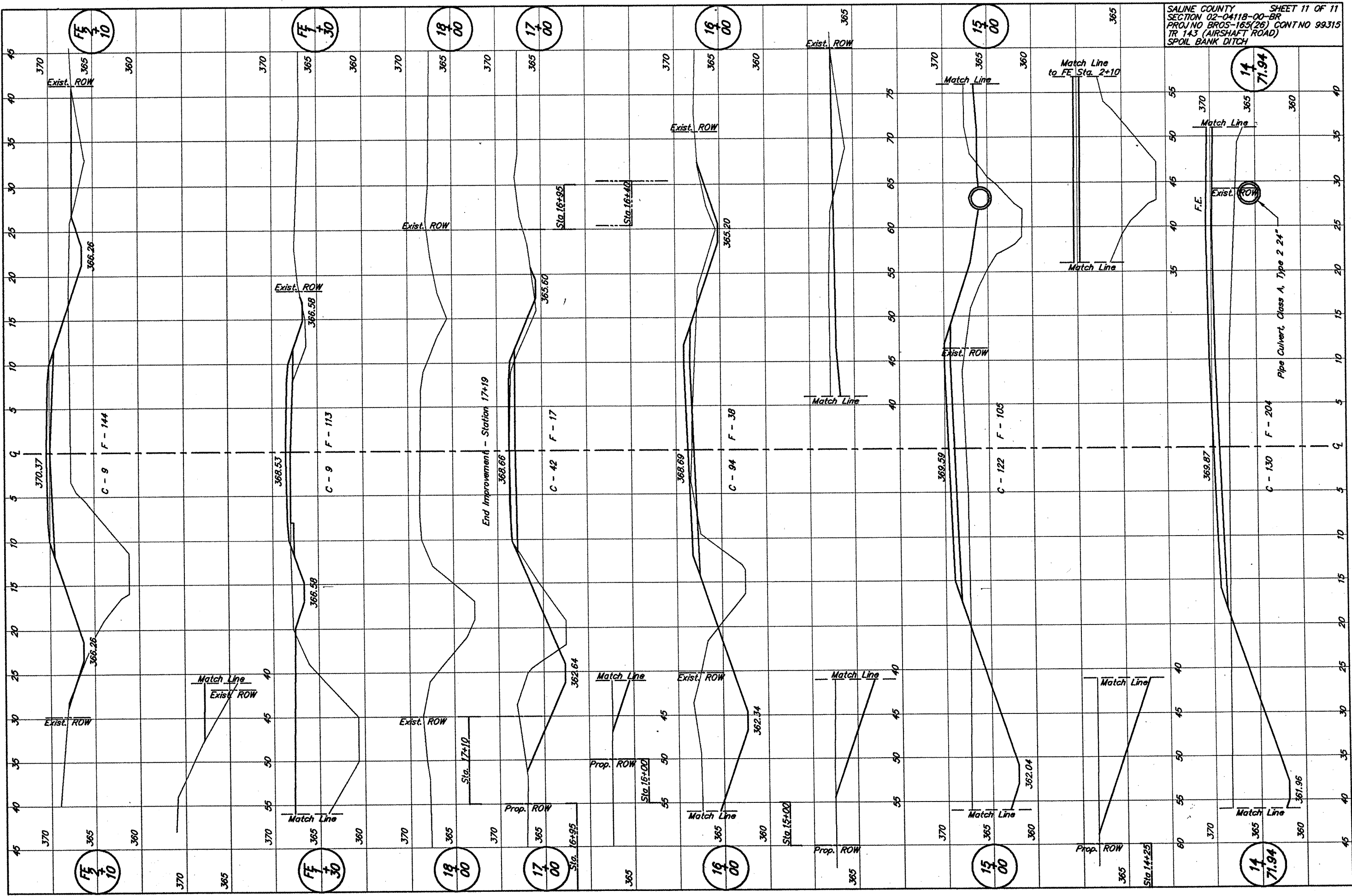
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FF 2 10

FF 1 30

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FF 2 10

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