6-12-09 Letting, Item 156

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
183	06-01124-00-BR	SHELBY	14	1

CONTRACT NO. 95583

INDEX OF SHEETS

FOR INDEX OF
PLAN SHEETS SEE
SHEET NUMBER 2 OF
14 SHEETS

HIGHWAY STANDARDS

FOR LIST OF
HIGHWAY STANDARDS
SEE SHEET NUMBER 2
OF 14 SHEETS

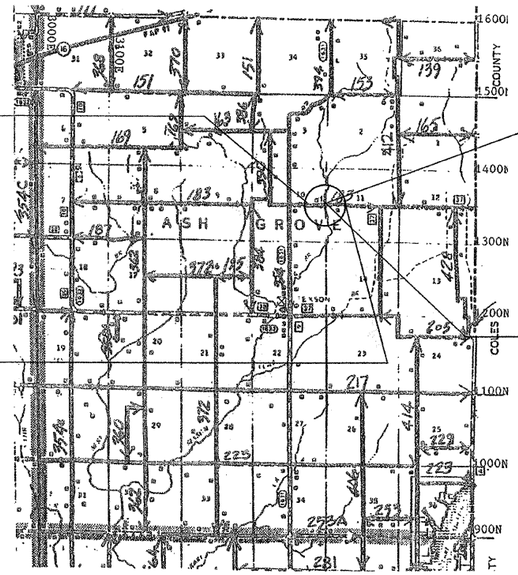
STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

ASH GROVE DISTRICT
SECTION 06–01124–00–BR
PROJECT BROS – 173 (166)
SHELBY COUNTY
T. R. ROUTE 183
JOB NO. C – 97 – 086 – 09
PROPOSED STRUCTURE NO. 087– 3562

TWP 11 NORTH, RANGE 6 EAST



PROJECT LOCATION MAP

950 FEET = 0.180 MILES = NET LENGTH OF SECTION

LOCATION OF SECTION INDICATED THUS: –

DESIGN INFORMATION

DESIGN CLASSIFICATION: LOCAL ROAD
CURRENT ADT: 350
DESIGN YEAR ADT: 440
DESIGN YEAR: 2029
DESIGN SPEED 40 M.P.H.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123 (TOLL FREE)

CONTRACT NO. 95583

PLANS PREPARED BY:
SHELBY CO HWY DEPT
R. R. 3 BOX 38A
SHELBYVILLE IL 62565
217–774–2721

S. ALAN SPESARD ILLINOIS

PLANS PREPARED BY:

S. ALAN SPESARD, COUNTY ENGINEER, PE — DATE 2 APRIL 2009
ILLINOIS PROFESSIONAL ENGINEER 062–052965
EXPIRES 11–30–09

2 April 20 09
APPROVED
HIGHWAY COMMMISSIONER

2 APRIL 20 09
APPROVED
COUNTY ENGINEER, SHELBY COUNTY

4-10 20 09
PASSED
District Seven Engineer of
Local Roads and Streets

4-10 20 09
RELEASING FOR BID BASED ON LIMITED REVIEW
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

\Bridge Cover base 01124 .dgn 3/31/2009 1:38:14 PM

CONTRACT NO. 95583

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	06-01124-00-BR	SHELBY	14	2

• TR - 183

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	QUANTITY
	20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	20
	20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	25
	20200100	EARTH EXCAVATION	CU YD	425
	20300100	CHANNEL EXCAVATION	CU YD	549
	20400800	FURNISHED EXCAVATION	CU YD	1551
	25000200	SEEDING, CLASS 2	ACRE	0.9
	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	81
	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	81
	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	81
	25100115	MULCH, METHOD 2	ACRE	0.9
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	200
	28000300	TEMPORARY DITCH CHECKS	EACH	5
	28000400	PERIMETER EROSION BARRIER	FOOT	100
	28000500	INLET AND PIPE PROTECTION	EACH	1
	28100207	STONE RIPRAP, CLASS A4	TON	498
	28200200	FILTER FABRIC	SQ YD	571
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	965
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50200100	STRUCTURE EXCAVATION	CU YD	96
	50300225	CONCRETE STRUCTURES	CU YD	29.3
	50300280	CONCRETE ENCASEMENT	CU YD	2.8
	50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1804
	50800105	REINFORCEMENT BARS	POUND	3810
*	50900205	STEEL RAILING, TYPE S1	FOOT	153
	51201600	FURNISHING STEEL PILES HP12X53	FOOT	336
	51202305	DRIVING PILES	FOOT	336
	51203600	TEST PILE STEEL HP12X53	EACH	2
	51500100	NAME PLATES	EACH	1
	542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	42
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
*	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
	67100100	MOBILIZATION	L SUM	1
*	78201000	TERMINAL MARKER – DIRECT APPLIED	EACH	4

* SPECIALTY ITEMS

INDEX OF PAGES

HIGHWAY STANDARDS	
STANDARD NUMBER	STANDARD NAME
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGE
630301-05	SHOULDER WIDENING FOR TYPE 1 SPECIAL GUARDRAIL TERMINALS
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 24-2	MAIL BOX TURNOUTS
BLR 27 -1	TRAFFIC BARRIER TERMINAL TYPE 5 A

SHELBY COUNTY
ASH GROVE TOWNSHIP
SECTION 06-01124-00-BR

CONTRACT NO. 95583

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	06-01124-00-BR	SHELBY	14	3

• TR - 183

UTILITIES:

UTILITIES; THE ONLY UTILITIES KNOWN TO BE ON THIS PROJECT ARE AS FOLLOWS;

(**) POWER **JAMES MATLOCK ENGINEER**
(***) **SHELBY ELECTRIC OOPERATIVE**
P.O. BOX 560
SHELBYVILLE, IL 62565
217-774-3986

(**) WATER **LINCOLN PRAIRIE WATER**
P.O. BOX 336
DIETRICH ILLINOIS 62424
800-542-0705

(**) TELEPHONE **GERRY MEYERS**
(***) **CONSOILDATED TELEPHONE COMPANY**
121 SOUTH 17 TH
MATTOON ILLINOIS 61938
217- 234 - 9979

(**) ESTIMATED DATE OF RELOCATION; DURING CONSTRUCTION
(***) J.U.L.I.E. MEMBER

FOR JOINT UTILITY INFOMRTION CALL 1-800-892-0123

RATES OF APPLICATION

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

AGGREGATE SURFACE COURSE = 2.05 TONS/CU.YD.

FERTILIZER NUTRIENT = 90.0 POUNDS OF NUTRIENT / ACRE

MULCH, METHOD 2 = 2.0 TON / ACRE

PERMANENT SEEDING CLASS 2 MIX = 200 POUND / ACRE

TEMPORARY EROSION SEEDING = 200.0 POUND / ACRE

STONE RIP-RAP CLASS A-4 = 0.67 TON/SQ.YD.

GENERAL NOTES

WHEREVER IN THE PLANS OR SPECIFICATIONS THE TERM STANDARD SPECIFICATIONS IS USED, IT SHALL BE UNDERSTOOD BY THE CONTRACTOR TO MEAN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS PREPARED BY THE DEPARTMENT OF TRANSPORTATION OF THE STATE OF ILLINOIS AND ADOPTED JANUARY 1, 2007.

ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE U.S.G.S. DATUM.

WHERE SECTION, SUB-SECTION MARKERS, OR U.S. ARMY CORPS OF ENGINEER MARKERS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE DEPARTMENT AND AUTHORIZED AGENT OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE DEPARTMENT AS SHOWN ON THE SCHEDULE OF THE STANDARD DRAWINGS ON THE COVER SHEET.

ALL UNDERGROUND UTILITIES. CONTACT J.U.L.I.E., PHONE 800-892-0123, AND ALL UTILITY COMPANIES PRIOR TO DIGGING.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION OPERATIONS.

UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES AT THE TIME OF CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THEY PERFORM THEIR WORK.

GRADING SHALL BE DONE BY HAND AROUND LIGHT POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES, OR OTHER NATURAL OR MANMADE OBJECTS WHERE SHALLOW FILLS OR CUTS ARE ADJACENT TO THESE ITEMS. IT IS THE INTENT THAT THE LIMITS OF CONSTRUCTION BE SUCH TO PRESERVE IN THE ORIGINAL STATE AS MUCH AREA OF TEMPORARY EASEMENT AS POSSIBLE. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

EARTH STOCK PILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN 14 DAYS.

TEMPORARY EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

SEEDING SHALL BE DONE ON ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE ENGINEER. SEEDING SHALL BE PAID FOR ONLY WITHIN THE PROPOSED RIGHT-OF-WAY OR EASEMENT LIMITS. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMIT SHALL BE SEEDED AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGHTS OF PIPE CULVERTS PRIOR TO ODERING THESE ITEMS.

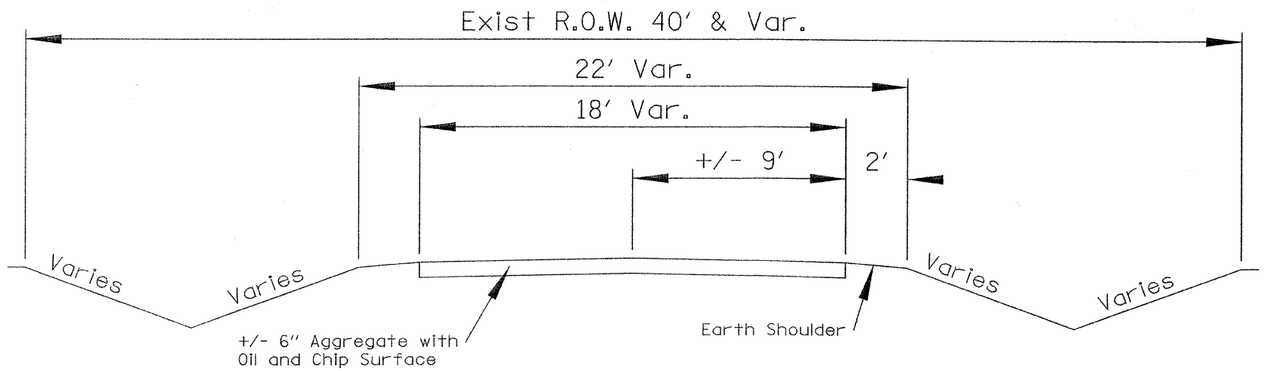
THE CONTRACTOR SHALL NOTIFY THE SHELBY COUNTY HIGHWAY DEPARTMENT RESIDENT ENGINEER AND THE COUNTY ENGINEER 72 HOURS IN ADVANCE OF CONSTRUCTION WORK.

SHELBY COUNTY
ASH GROVE TOWNSHIP
SECTION 06-01124-00-BR

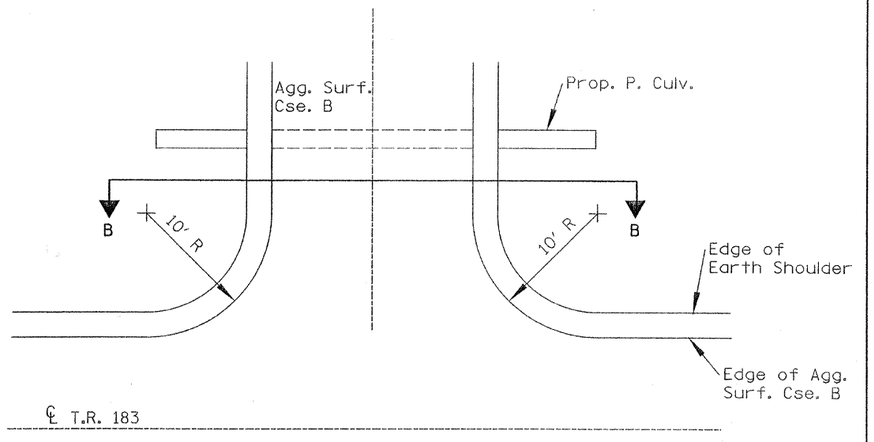
CONTRACT NO. 95583

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
**	06-01124-00-BR	SHELBY	14	4

** TR-183

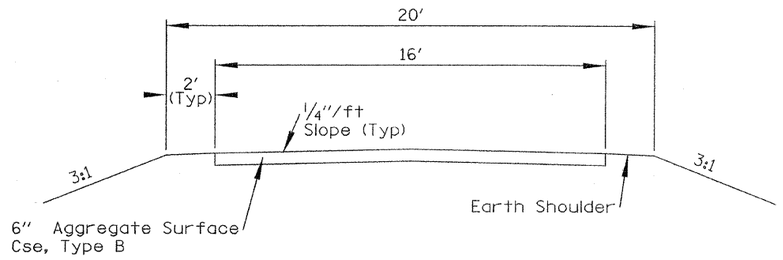


Existing Typical Section
STA 23+50 TO STA 33+00



Proposed Field Entrance Detail

Proposed Typical Section
STA 23+50 TO STA 33+00



Section B-B

SHELBY COUNTY
ASH GROVE TOWNSHIP
SECTION 06-01124-00-BR
TYPICAL SECTIONS

\x sec & fe detail 01124-00-BR dgn 2/17/2009 8:10:03 AM

CONTRACT NO. 95583

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	06-01124-00-BR	SHELBY	14	5

* TR - 183

PROPOSED GUARDRAIL & BRIDGE RAILING INSTALLATION				
O/S	STA TO STA	(EACH) TRAFFIC BARRIER TERMINAL TY 1 SPECIAL (TANG)	(EACH) TRAFFIC BARRIER TERMINAL TY 5A	(FOOT) TYPE S – 1
RT	27+62.50 TO 28+12.50	1.0	-	-
RT	28+12.50 TO 28+25.75	-	1.0	-
LT	28+25.75 TO 29+02.25	-	-	76.5
RT	28+25.75 TO 29+02.25	-	-	76.5
LT	29+02.25 TO 29+15.50	-	1.0	-
LT	29+15.50 TO 29+65.50	1.0	-	-
	TOTAL	2.0	2.0	153.0

TERMINAL MARKER – DIRECT APPLIED		
STA	O/S	QUANTITY
27+62.50	RIGHT	1.0 EACH
28+25.75	LEFT	1.0 EACH
29+02.25	RIGHT	1.0 EACH
29+15.50	LEFT	1.0 EACH

	TOTALS	4.0 EACH

EARTH WORK SUMMARY

EARTH EXCAVATION = 425

FURNISHED EXCAVATION = 1551

* CHANNEL EXCAVATION = 549

* CHANNEL EXCAVATION NOT INCLUDED AS SUITABLE FOR USE AS EMBANKMENT. THE COST OF DISPOSAL OF CHANNEL EXCAVATION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE CHANNEL EXCAVATION.

NOTE: EMBANKMENT REQUIRED FOR THE ENTRANCES IS INCLUDED IN THE FURNISHED EXCAVATION QUANTITY.

TEMPORARY DITCH CHECKS		
STA	O/S	QUANTITY
24+50	LT	1.0 EACH
24+50	RT	1.0 EACH
27+00	RT	1.0 EACH
30+00	LT	1.0 EACH
30+00	RT	1.0 EACH

	TOTAL	5.0 EACH

INLET & PIPE PROTECTION		
STA	O/S	QUANTITY
26+80	24' LT	1.0 EACH

SHELBY COUNTY
ASH GROVE TOWNSHIP
SECTION 06-01124-00-BR

...\COUNTY detail base plate.dgn 2/17/2009 1:20:20 PM

SHELBY COUNTY
SECTION: 06-01124-00-BR
ROUTE: T.R. 183
SHEET 6 OF 14 SHEETS

CONTRACT NO. 95583

STA. 28+62
EXIST. STRUCTURE NO. 087-3138
SINGLE SPAN DECK GIRDER WITH
CLOSED TIMBER ABUTMENTS,
TIMBER WINGWALLS
40'-0" BK.-BK. ABUTMENTS

Parcel No. 1
John W. Welsh & Carolyn Welsh

PIPE CULVERT, TY. 1, 15" CS/A
42 FEET, LENGTH
USFL 24' LT. STA. 26+80, ELEV. = 660.30
DSFL 24' LT. STA. 27+22, ELEV. = 659.67

STA. 28+64
PROPOSED STRUCTURE NO. 087-3562
1 SPAN, P.P.C. DECK BEAM BRIDGE
76'-6" BK.-BK. ABUTMENTS
24'-0" FACE-FACE OF RAIL
SKEW = 0°

Parcel No. 4
Robert Gastone & Lawrence Montgomery

Parcel No. 2
Joseph R. Curry, II & Lori M. Smyser

BEGIN PROJECT STA. 23+50

23+50, 20' LT.
25+00, 20' LT
27+00, 30' LT.
29+00, 40' LT.
30+00, 35' LT.
31+00, 30' LT.
32+00, 27' LT.
33+00, 20' LT.

END PROJECT STA. 33+00

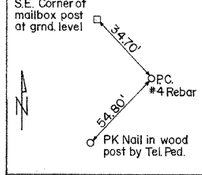
EXIST. R.O.W.
PROP. R.O.W.

23+50, 20' RT.
24+00, 20' RT.
25+00, 25' RT.
26+00, 25' RT.
27+00, 30' RT.
29+00, 40' RT.
30+00, 35' RT.
31+00, 25' RT.
32+00, 20' RT.
33+00, 20' RT.

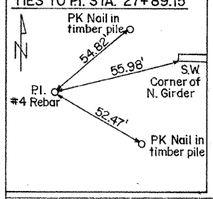
TRANSITION ROADWAY WIDTH
STA. 23+50 TO STA. 24+00

TRANSITION ROADWAY WIDTH
STA. 32+50 TO STA. 33+00

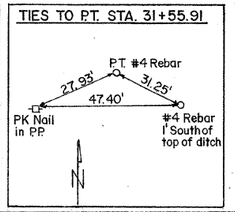
TIES TO PC. STA. 24+21.53



TIES TO P.I. STA. 27+89.15



TIES TO P.T. STA. 31+55.91



Parcel No. 3
Lowell Joseph Elson Trust
& Wanda B. Elson Trust

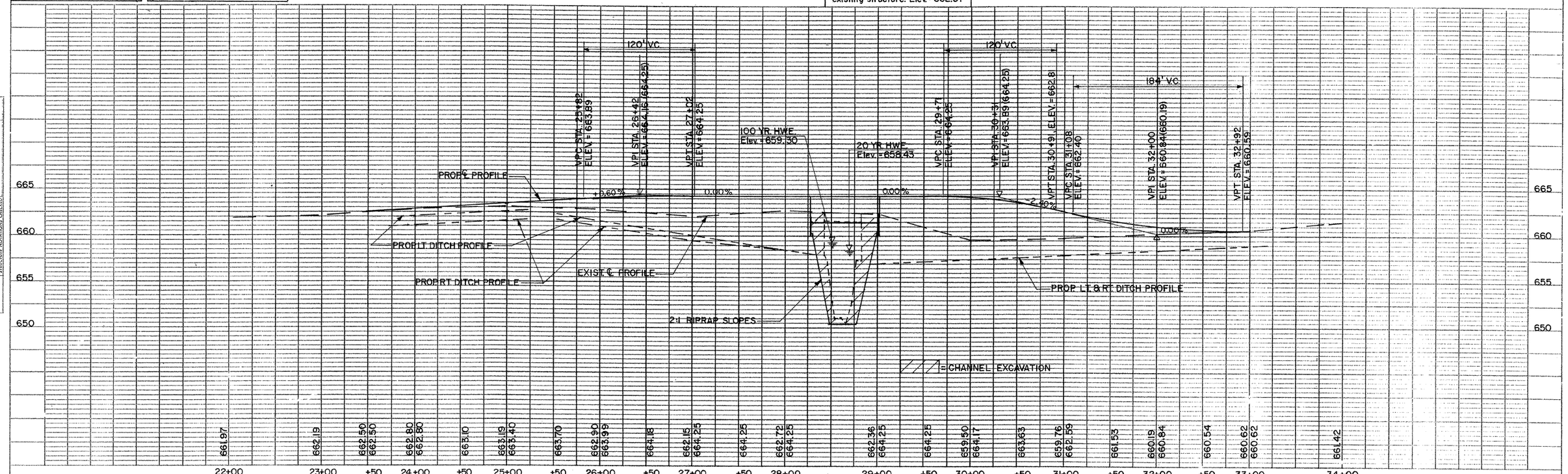
Parcel No. 5
Robert Gastone & Lawrence Montgomery

BM 1 = SW Corner of the top flange of north girder of the existing structure. Elev. = 662.97

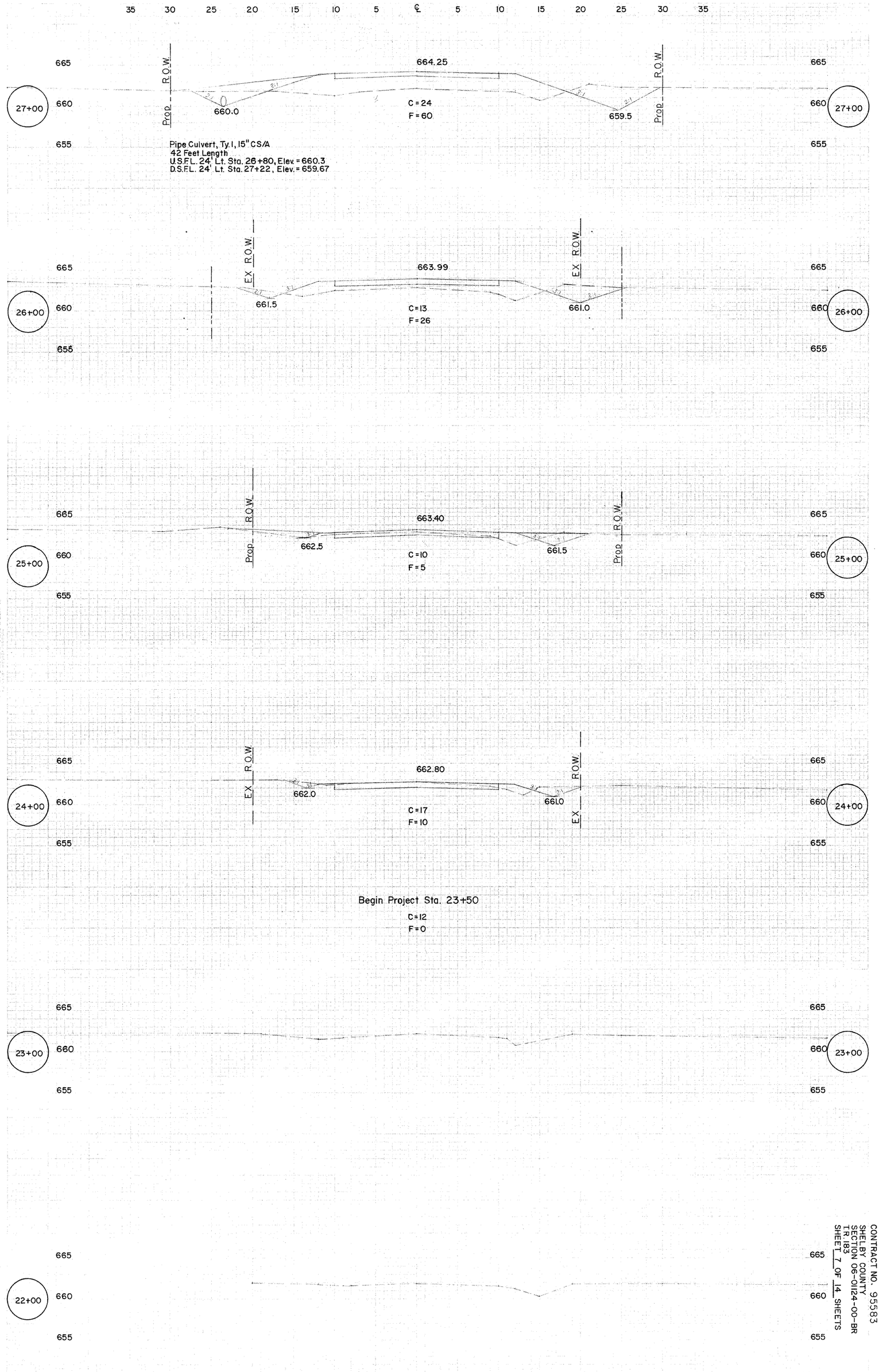
CURVE DATA

P.I. STA. 27+89.15

P.C. STA. 24+21.53
P.T. STA. 31+55.91
Δ = 6°-46'-26"
D = 0°-55'-21"
R = 6,211.66 ft.
T = 367.62 ft.
L = 734.38 ft.
E = 10.87 ft.
S.E. = Not Required



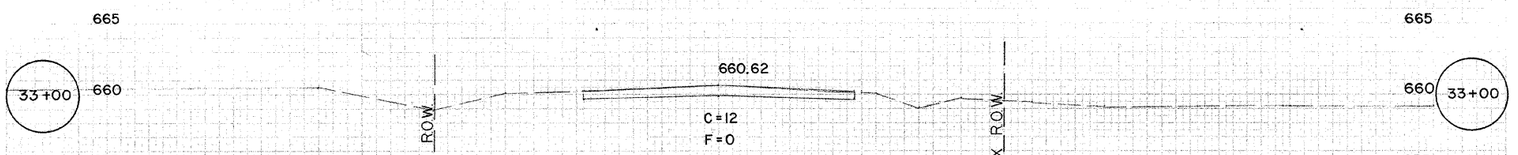
HIGHWAY FEDERAL AID DIRECT
PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
NATIONAL PRINTOUT
PRINTED IN U.S.A.

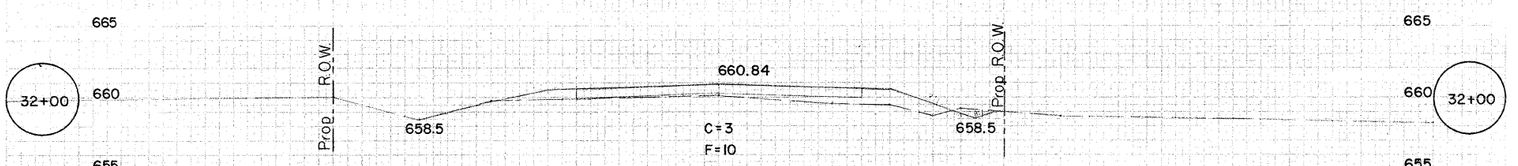


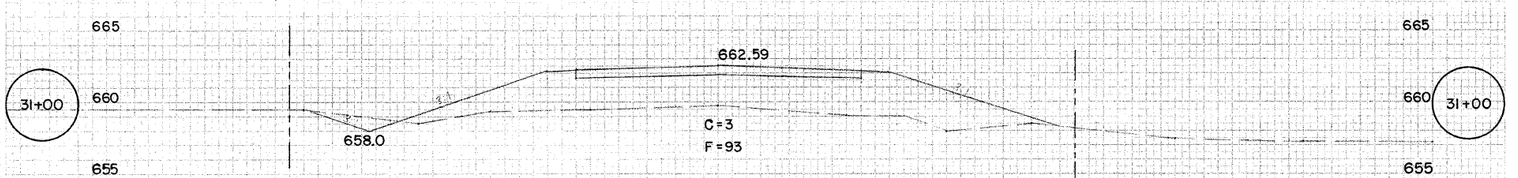
CONTRACT NO. 95583
SHELBY COUNTY
SECTION 06-0124-00-BR
T.R. 183
SHEET 7 OF 14 SHEETS

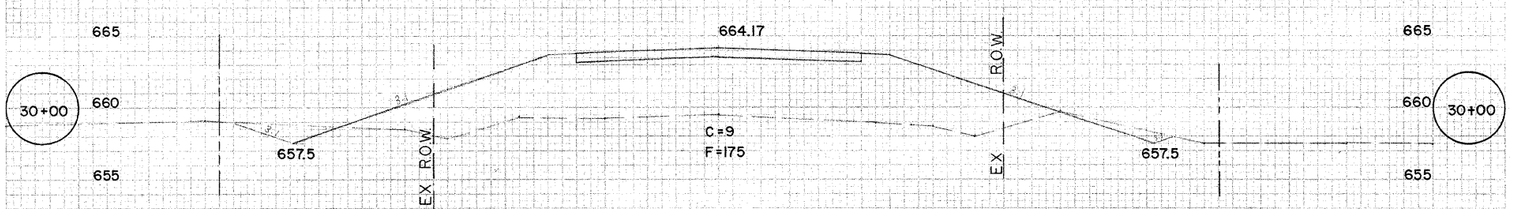
40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40

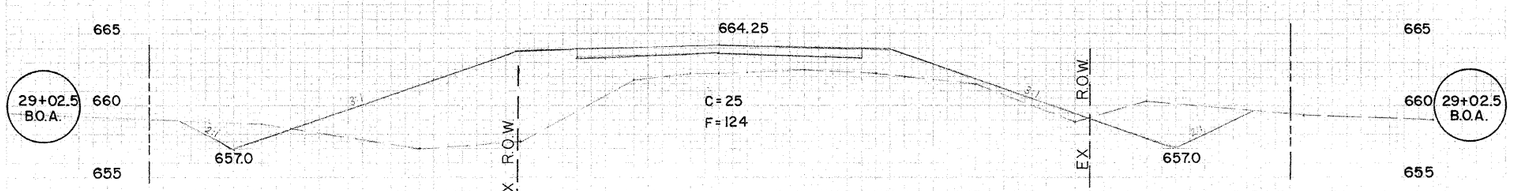
End Project Sta. 33+00







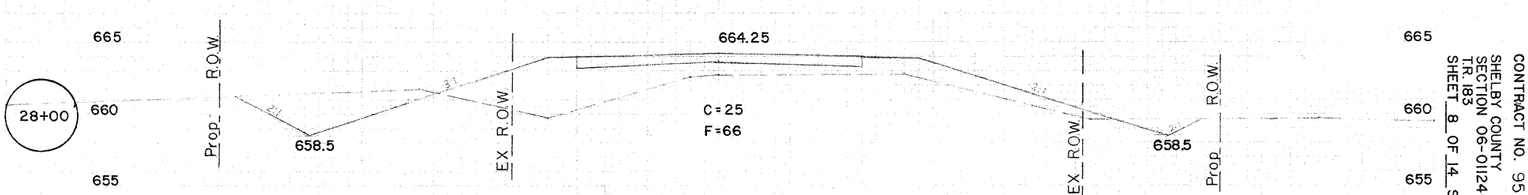




B.O.A. W. ABUT. STA. 28+25.75

C=25

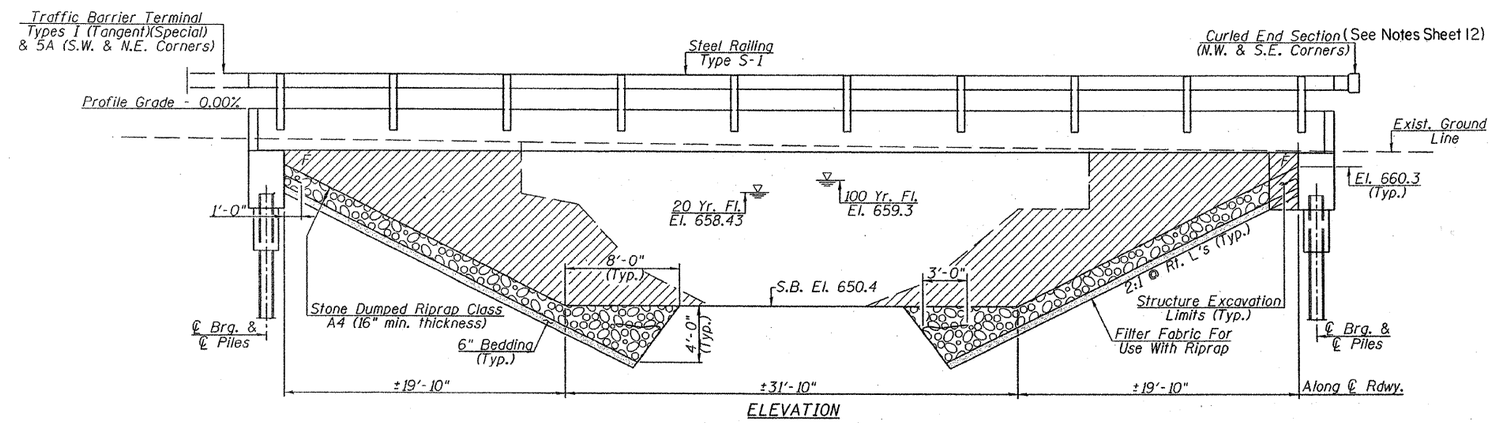
F.=66



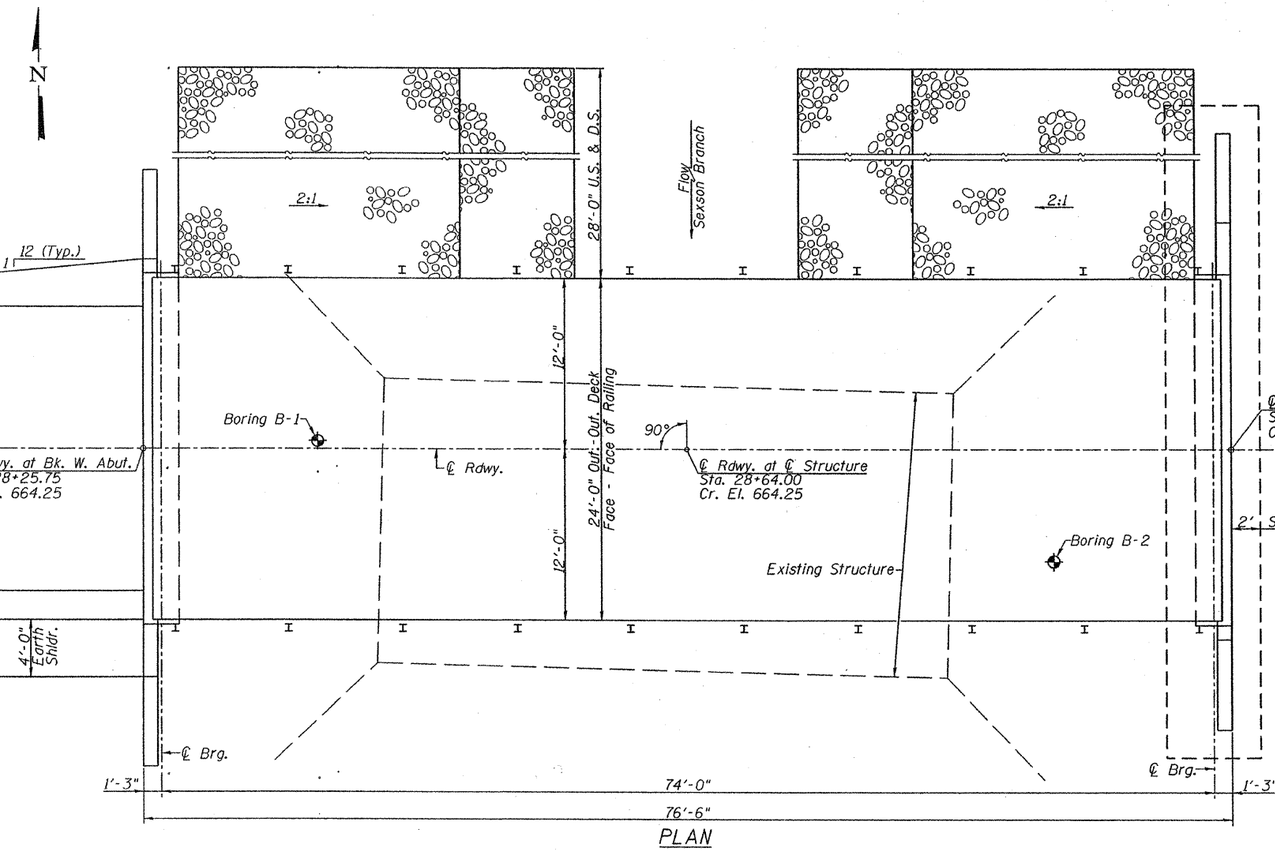
40 35 30 25 20 15 10 5 ℄ 5 10 15 20 25 30 35 40

CONTRACT NO. 95583
SHELBY COUNTY
SECTION 06-01124-00-BR
TR. 183
SHEET 8 OF 14 SHEETS

Benchmarks: BM#1 - S.W. Corner of the top flange of North girder of the existing structure Elev. 662.97



ELEVATION



PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			549
Stone Dumped Riprap, Class A4	Ton			498
Filter Fabric	Sq. Yd.			571
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		96	96
Concrete Structures	Cu. Yd.		29.3	29.3
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1804		1804
Reinforcement Bars	Pound		3810	3810
Steel Railing, Type S-1	Foot	153		153
Furnishing Steel Piles HP 12x53	Foot		336	336
Driving Piles	Foot		336	336
Test Pile Steel HP 12x53	Each		2	2
Name Plates	Each		1	1

WATERWAY INFORMATION

Drainage Area = 3.79 Sq. Mi. Low Grade Elev. = 660.5 @ Sta. 32+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - ft. Exist.	Head - ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	1607	158.2	327.1	658.4				
Base	100	2550	209.6	372.2	659.3				
Exist. Overtop.	>500								
Prop. Overtop.	>500								
Max. Calc.	500								

Note: Waterway Information provided by Shelby County Highway Department

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, with 2008 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3500 psi
fy = 60000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6000 psi
f'ci = 5000 psi
fpu = 270000 psi (½"ϕ low lax strands)
fpbt = 201960 psi (½"ϕ low lax strands)

SEXSON BRANCH
BUILT 200_ BY
SHELBY COUNTY
SECTION 06-01124-00-BR
STA. 28+64.00
STR. NO. 087-3562 LOADING HL-93

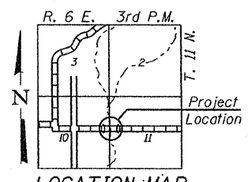
NAME PLATE
(Standard 515001)

GENERAL NOTES

See Proposal for Boring Data.
Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provisions.
The layout of the riprap slopewall may be varied to suit ground conditions in the field as determined by the Engineer.
The contractor shall drive one test pile in a permanent location at both abutments as directed by the Engineer in the field prior to ordering the remainder of piles.

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. LRFD Bridge Design Specifications."

Mark A. Henderson 2/18/09
Expiration Date 11/30/2010



LOCATION MAP

MARK A. HENDERSON 5513 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS

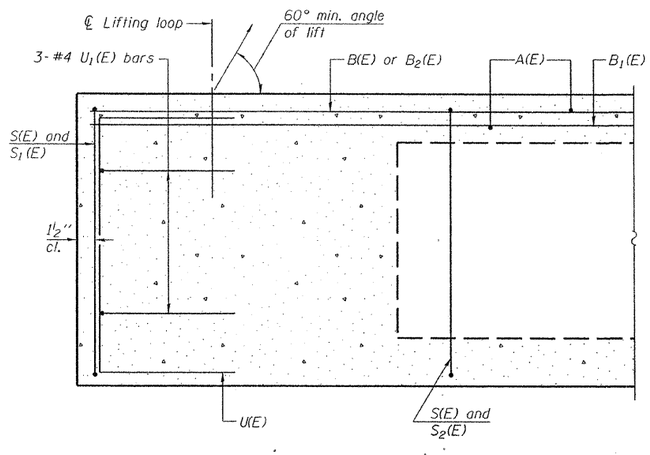
FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN - J.R.P.	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907

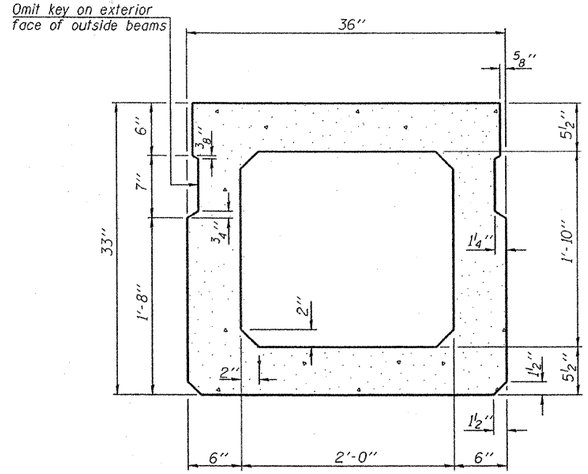
GENERAL PLAN & ELEVATION

SCALE: 1" = 5' | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

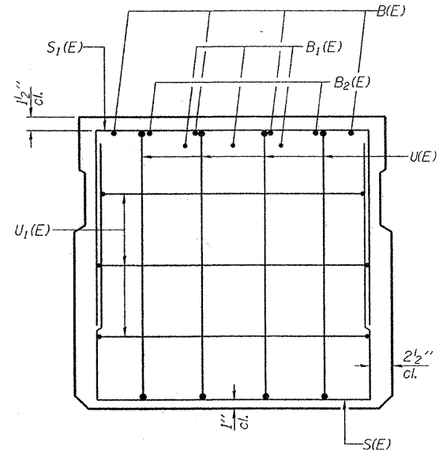
T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
183	06-01124-00-BR	SHELBY	14	9
		CONTRACT NO. 95583		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



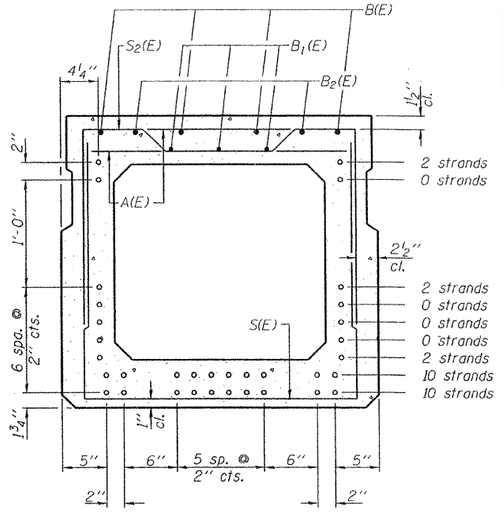
SECTION C-C



SECTION A-A
(Showing dimensions)

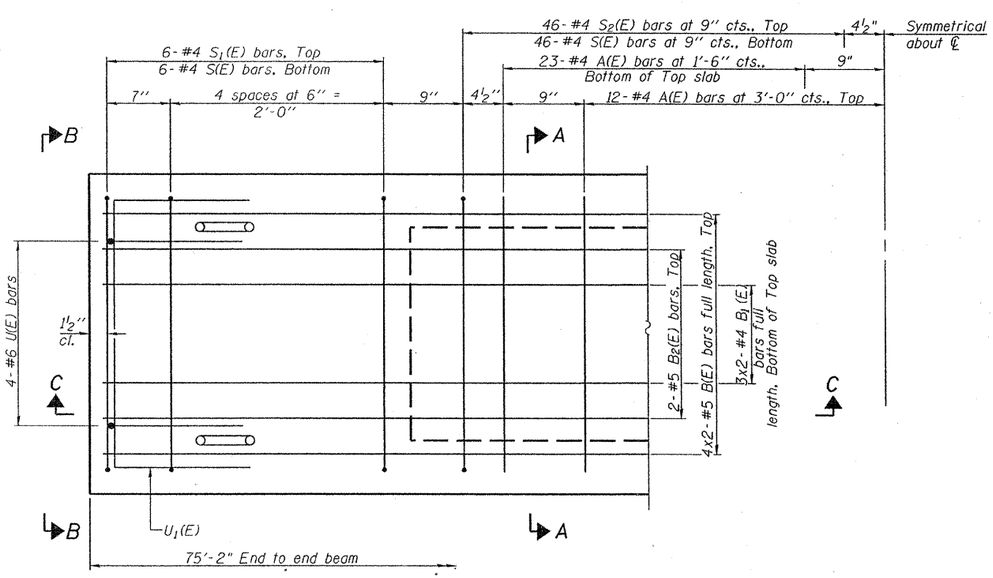


VIEW B-B



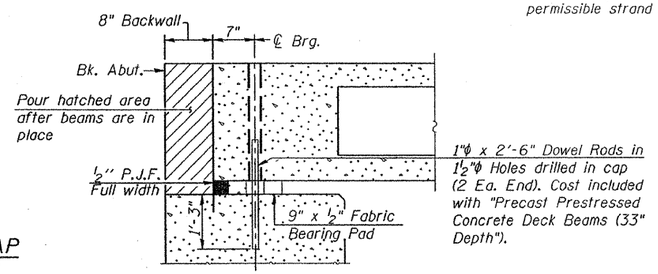
SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



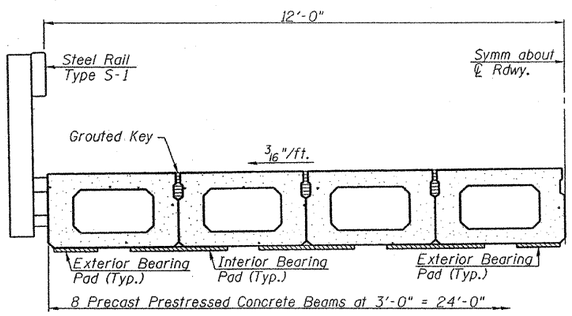
PLAN VIEW

Note: Spacing of S(E) and $S_2(E)$ bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION THRU ABUTMENT
(At Right Angles)

MIN. BAR LAP
#4 bar = 1'-4"
#5 bar = 1'-8"



HALF CROSS SECTION

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	70	#4	2'-7"	—
B(E)	8	#5	38'-4"	—
B1(E)	6	#4	38'-3"	—
B2(E)	2	#5	38'-3"	—
S(E)	104	#4	7'-5"	⌴
S1(E)	12	#4	6'-3"	⊓
S2(E)	92	#4	6'-6"	⊓
U(E)	8	#6	5'-0"	⊏
U1(E)	6	#4	5'-0"	⊓

Note: See sheet 3 of 6 for additional details and Bill of Material.

PD-3336-0 5-16-08

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - F.L.L.	REVISED - ---
		DRAWN - M.J.S.	REVISED - ---
	PLOT SCALE = $SCALE$	CHECKED - M.A.H.	REVISED - ---
	PLOT DATE = $DATE$	DATE - --------	REVISED - ---

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SUPERSTRUCTURE

SCALE: NONE | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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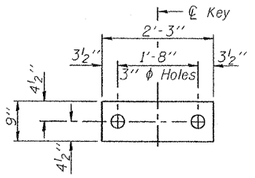
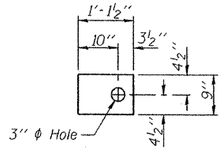
		CONTRACT NO. 95583		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

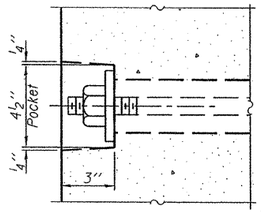


FABRIC BEARING PAD
(Interior)

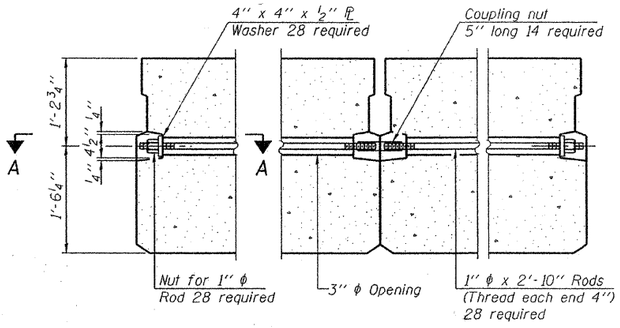


FABRIC BEARING PAD
(Exterior)

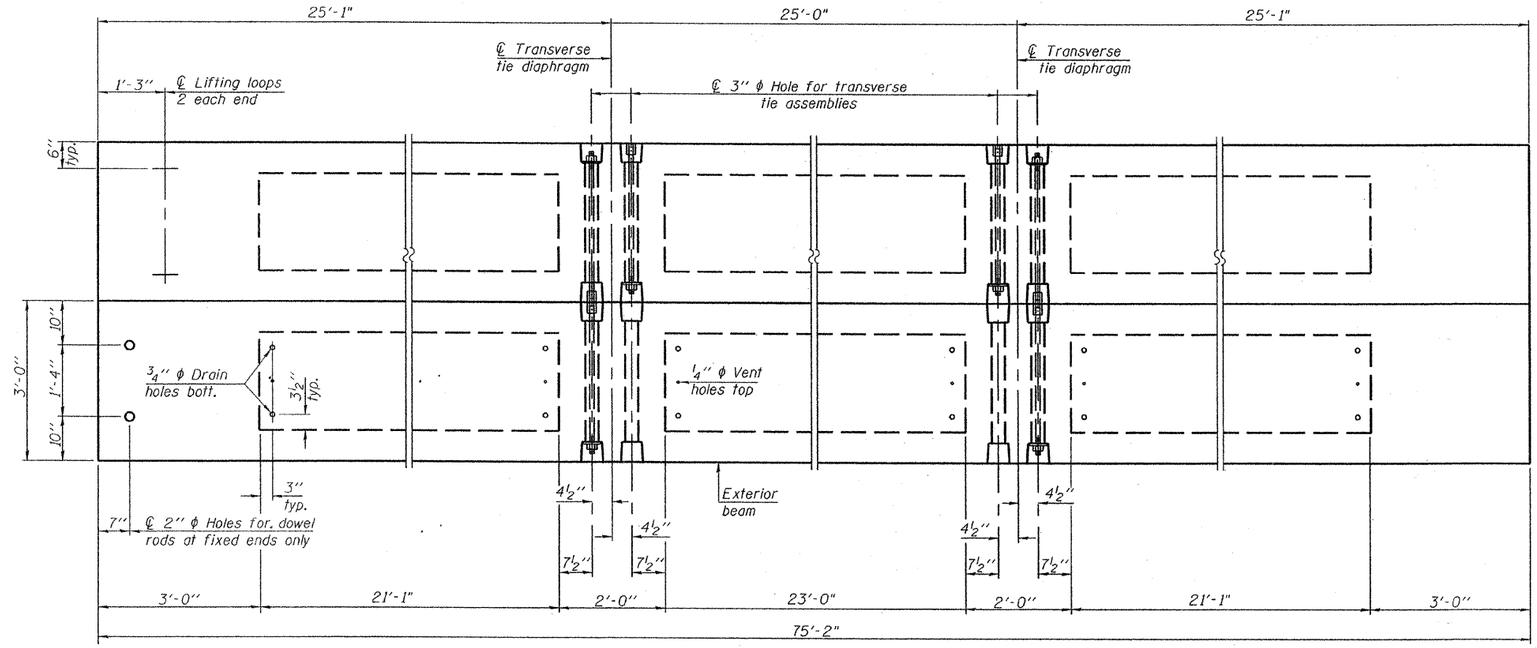
FIXED



SECTION A-A

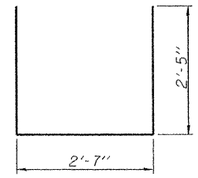


TYPICAL TRANSVERSE TIE ASSEMBLY

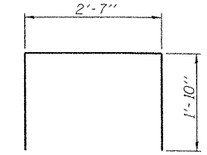


PLAN VIEW

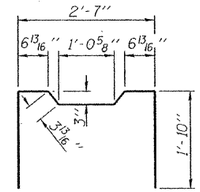
Note: Connect beams in pairs with the transverse tie configuration shown.



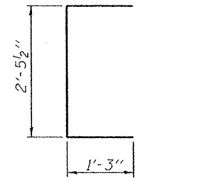
BAR S(E)



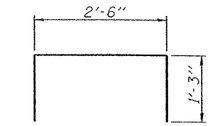
BAR S_1(E)



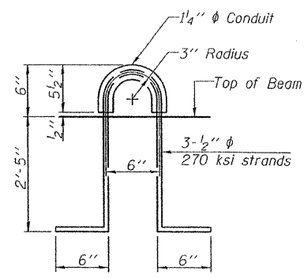
BAR S_2(E)



BAR U(E)



BAR U_1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

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

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	1804

PD-3336-0D 5-16-08

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - F.L.L.	REVISED - ---
		DRAWN - M.J.S.	REVISED - ---
	PLOT SCALE = $SCALE$	CHECKED - M.A.H.	REVISED - ---
	PLOT DATE = $DATE$	DATE - --------	REVISED - ---

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No. 184-001907

SUPERSTRUCTURE

SCALE: NONE | SHEET NO. 3 OF 6 SHEETS | STA. | TO STA.

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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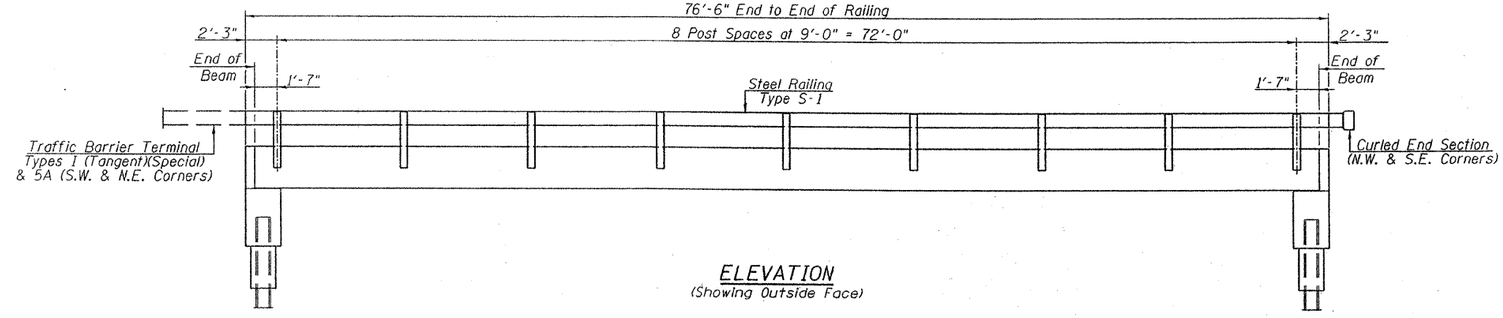
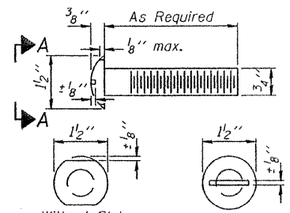
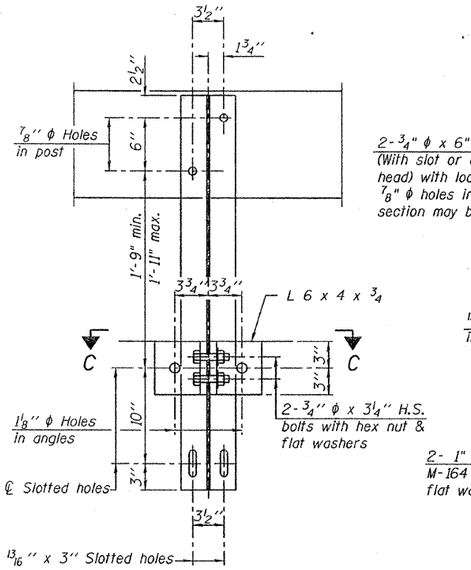
		CONTRACT NO. 95583		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		



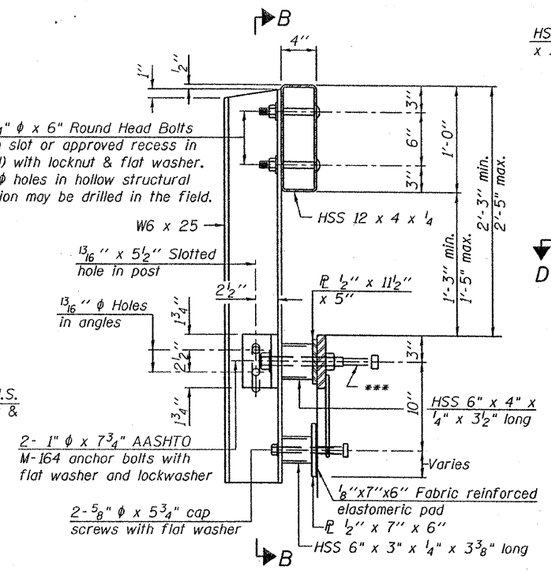
ELEVATION
(Showing Outside Face)



VIEW A-A
ROUND HEAD BOLT

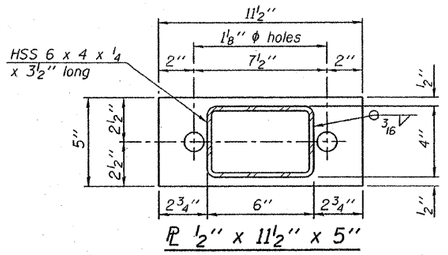


SECTION B-B

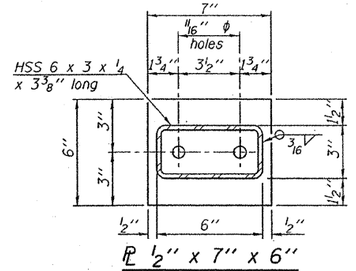


SECTION AT RAILING POST

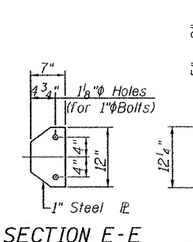
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



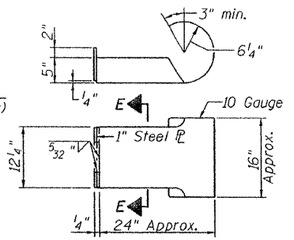
℄ 1/2" x 11 1/2" x 5"



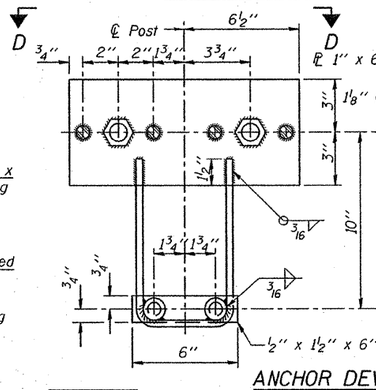
℄ 1/2" x 7" x 6"



SECTION E-E

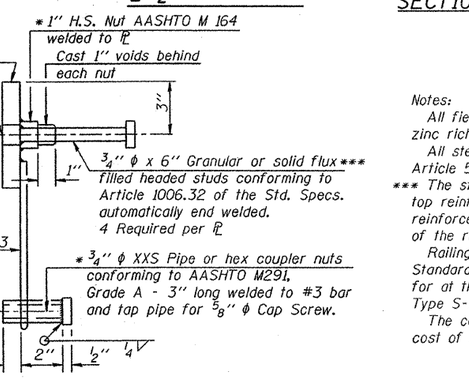


CURLED END SECTION DETAILS (2 Required)



ANCHOR DEVICE

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



Notes:

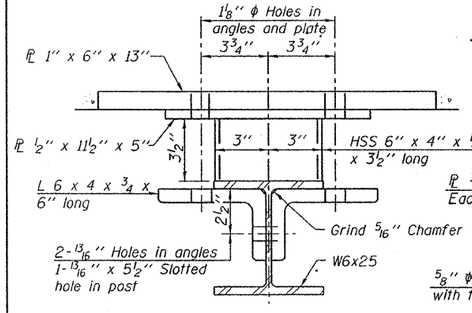
All field drilled holes shall be coated with an approved zinc rich paint before erection.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

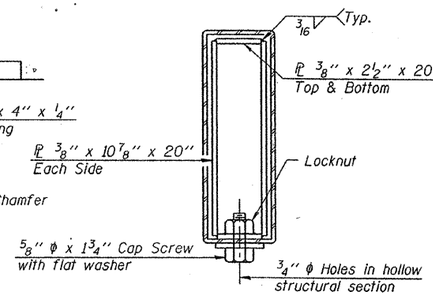
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

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 S-1.

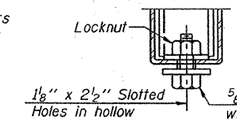
The cost of curled end sections shall be included in the cost of Steel Railing, Type S1.



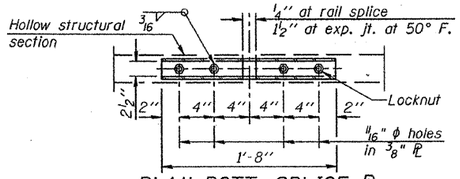
SECTION C-C



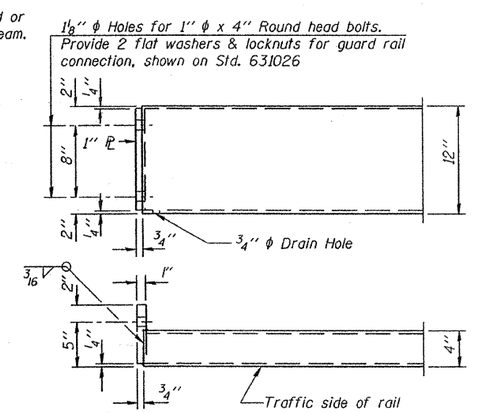
SECTIONS AT RAIL SPLICE



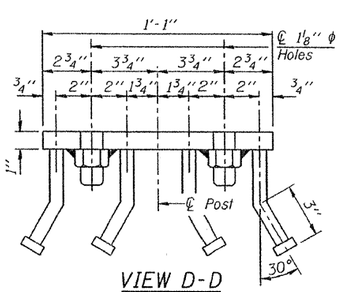
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE ℄ TYPICAL



END OF RAIL DETAILS

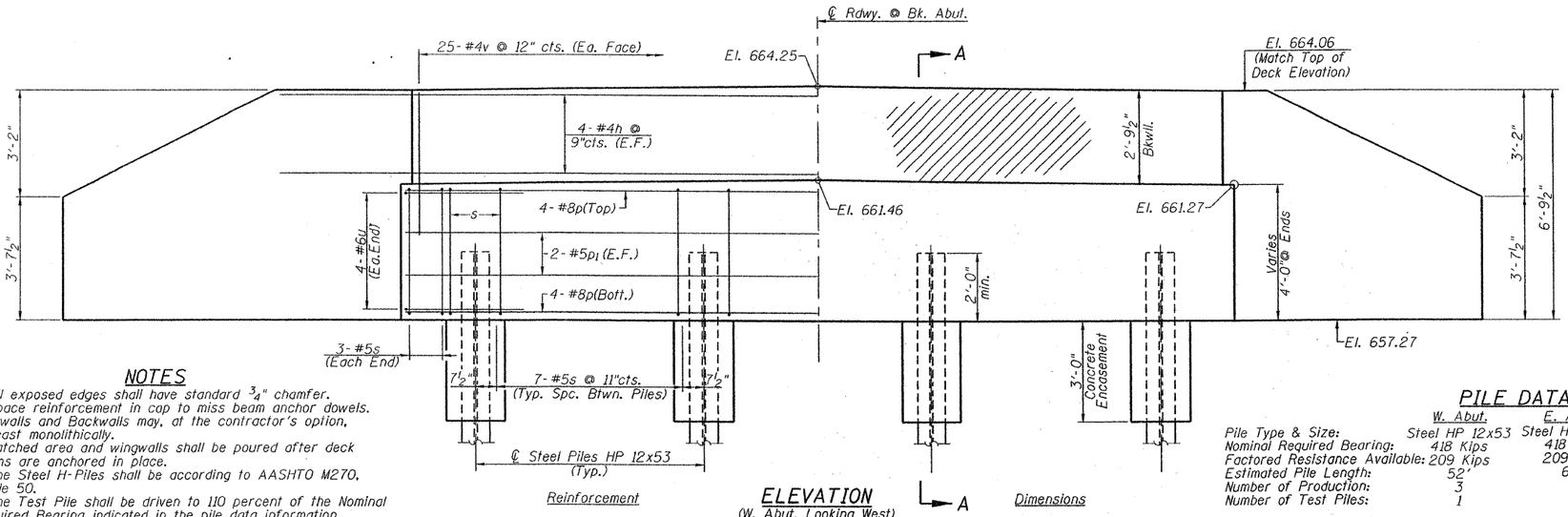


VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	153

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - F.L.L.	REVISED - ---	Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	STEEL RAILING, TYPE S-1	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - M.J.S.	REVISED - ---			183	06-01124-00-BR	SHELBY	14	12
	PLOT SCALE = $SCALE$	CHECKED - M.A.H.	REVISED - ---						CONTRACT NO. 95583	
	PLOT DATE = $DATE$	DATE - _____	REVISED - ---		SCALE: NONE / SHEET NO. 4 OF 6 SHEETS / STA. / TO STA.		FED. ROAD DIST. NO. -	ILLINOIS	FED. AID PROJECT	



NOTES

All exposed edges shall have standard ¾" chamfer.

Space reinforcement in cap to miss beam anchor dowels. Wingwalls and Backwalls may, at the contractor's option, be cast monolithically.

Hatched area and wingwalls shall be poured after deck beams are anchored in place.

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.

Reinforcement

ELEVATION

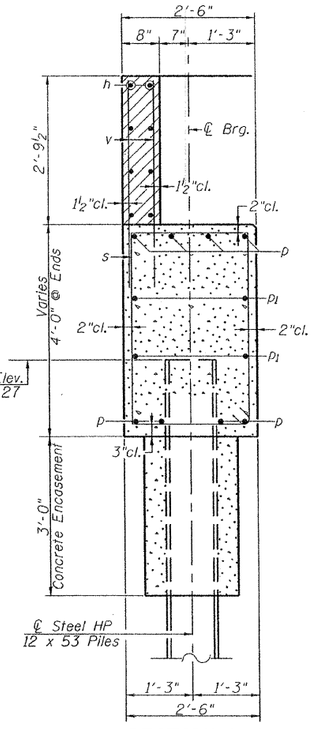
(W. Abut. Looking West)
(E. Abut. Looking East)

Dimensions

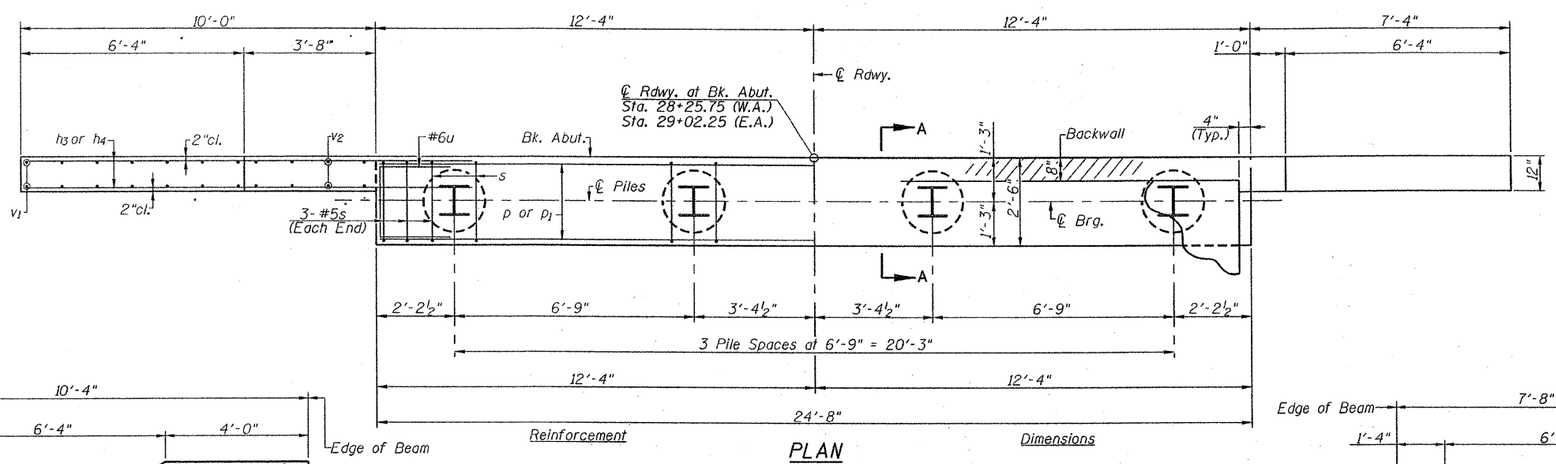
PILE DATA

	W. Abut.	E. Abut.
Pile Type & Size:	Steel HP 12x53	Steel HP 12x53
Nominal Required Bearing:	418 Kips	418 Kips
Factored Resistance Available:	209 Kips	209 Kips
Estimated Pile Length:	52'	60'
Number of Production:	3	3
Number of Test Piles:	1	1

Cutoff Elev. El. 659.27



SECTION A-A



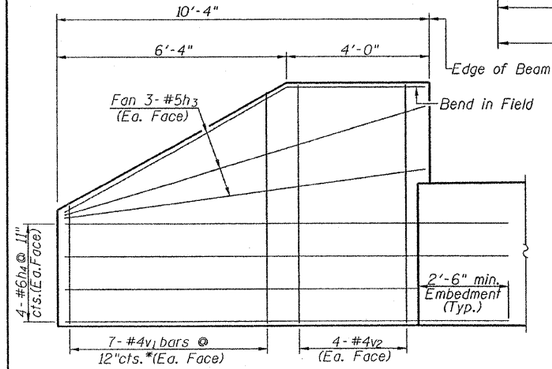
Reinforcement

PLAN

Dimensions

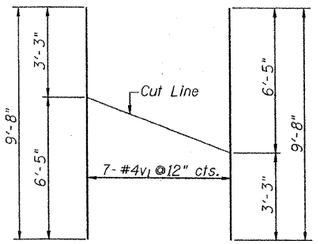
TWO ABUTMENTS BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	29'-0"	——
h1	16	#6	10'-0"	——
h2	12	#5	7'-4"	——
h3	12	#5	10'-0"	——
h4	16	#6	12'-8"	——
p	16	#8	24'-4"	——
p1	8	#5	24'-4"	——
s	54	#5	12'-5"	⌑
u	16	#6	10'-1"	⊏
v	100	#4	4'-3"	——
v1	28	#4	9'-8"	——
v2	20	#4	6'-6"	——
Concrete Structures			Cu. Yd.	29.3
Reinforcement Bars			Pound	3810
Furnishing Steel Piles HP 12x53			Foot	336
Driving Piles			Foot	336
Test Pile Steel HP 12x53			Each	2
Concrete Encasement			Cu. Yd.	2.8
Structure Excavation			Cu. Yd.	96



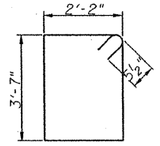
APPROACH WINGWALL ELEVATION

(Showing Reinforcement)
* See v_1 - bar cut diagram

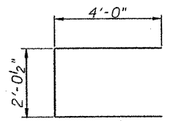


v1 - BAR CUT DIAGRAM

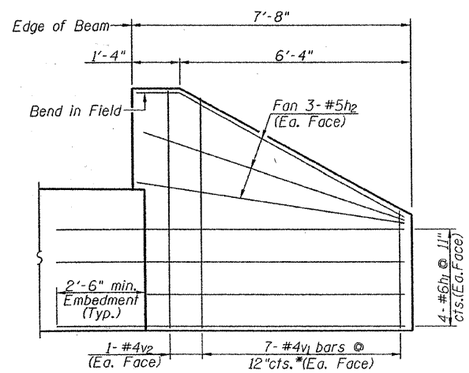
Order v_1 bars full length. Layout in field according to diagram. Cut v_1 bars along cut line. Use remainder of each bar in opposite face.



BAR s



BAR u



WINGWALL ELEVATION

* See v_1 - bar cut diagram

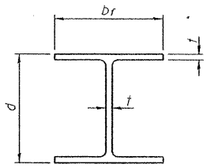
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - F.L.L.	REVISED - ---	
		DRAWN - M.J.S.	REVISED - ---	
	PLOT SCALE = $SCALE$	CHECKED - M.A.H.	REVISED - ---	
	PLOT DATE = $DATE$	DATE - --------	REVISED - ---	

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

ABUTMENTS

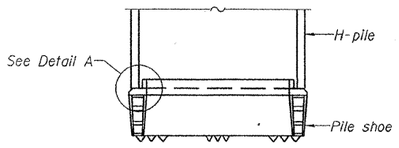
SCALE: NONE | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
183	06-01124-00-BR	SHELBY	14	13
		CONTRACT NO. 95583		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

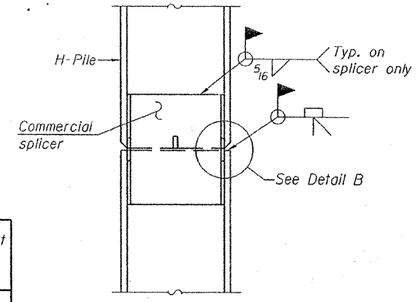


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}''$	$14\frac{7}{8}''$	$\frac{13}{16}''$	30"
x102	14"	$14\frac{3}{4}''$	$\frac{11}{16}''$	30"
x89	$13\frac{7}{8}''$	$14\frac{3}{4}''$	$\frac{5}{8}''$	30"
x73	$13\frac{5}{8}''$	$14\frac{5}{8}''$	$\frac{1}{2}''$	30"
HP 12x84	$12\frac{1}{4}''$	$12\frac{1}{4}''$	$\frac{11}{16}''$	24"
x74	$12\frac{1}{8}''$	$12\frac{1}{4}''$	$\frac{5}{8}''$	24"
x63	12"	$12\frac{1}{8}''$	$\frac{1}{2}''$	24"
x53	$11\frac{3}{4}''$	12"	$\frac{7}{16}''$	24"
HP 10x57	10"	$10\frac{1}{4}''$	$\frac{9}{16}''$	24"
x42	$9\frac{3}{4}''$	$10\frac{1}{8}''$	$\frac{7}{16}''$	24"
HP 8x36	8"	$8\frac{1}{8}''$	$\frac{7}{16}''$	18"



ELEVATION



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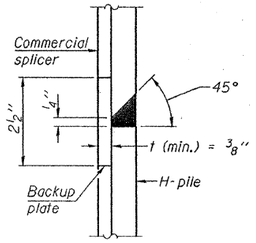
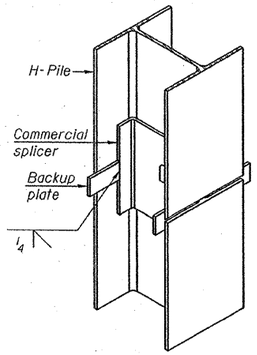
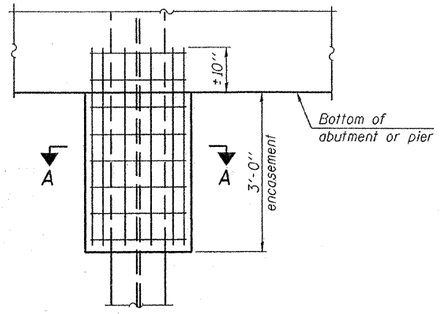


DETAIL "B"

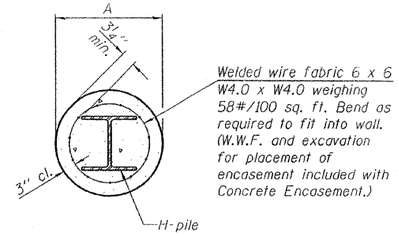


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



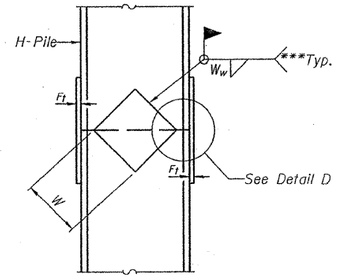
ELEVATION



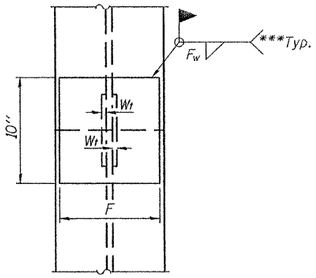
SECTION A-A

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

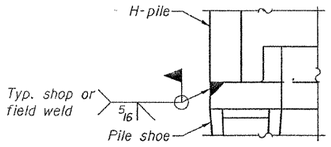
PILE ENCASEMENT



ELEVATION

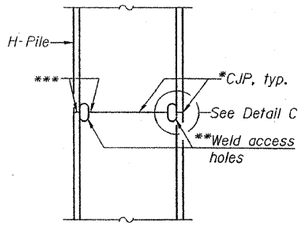


END VIEW

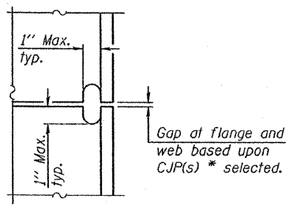


DETAIL A

H-PILE SHOE ATTACHMENT



ELEVATION



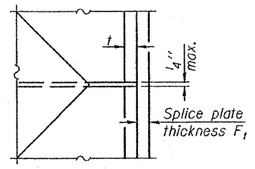
DETAIL C

COMPLETE PENETRATION WELD SPLICE

*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code-Steel.

**Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code-Steel.

***Interrupt welds ¼" from end of each pile.



DETAIL D

Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	$12\frac{1}{2}''$	1"	$\frac{7}{8}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x102	$12\frac{1}{2}''$	$\frac{7}{8}''$	$\frac{3}{4}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x89	$12\frac{1}{2}''$	$\frac{3}{4}''$	$\frac{11}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x73	$12\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{9}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
HP 12x84	10"	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x74	10"	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x63	10"	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x53	10"	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 10x57	8"	$\frac{3}{4}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x42	8"	$\frac{5}{8}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 8x36	7"	$\frac{5}{8}''$	$\frac{7}{16}''$	$4\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$

WELDED PLATE FIELD SPLICE

Note: The steel H-piles shall be according to AASHTO M270 Grade 50.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - F.L.L.	REVISED -	Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	HP PILE DETAILS	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - M.J.S.	REVISED -			183	06-01124-00-BR	SHELBY	14	14
	PLOT SCALE = $SCALE$	CHECKED - M.A.H.	REVISED -					CONTRACT NO. 95583		
	PLOT DATE = $DATE$	DATE -	REVISED -		SCALE: NONE / SHEET NO. 6 OF 6 SHEETS / STA. / TO STA.	FED. ROAD DIST. NO. -	ILLINOIS	FED. AID PROJECT		