

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
234 A	04-20118-00-BR	SHELBY	24	1

CONTRACT NO. 95557

INDEX OF SHEETS

- 1 TITLE SHEET
- 2-3 DETAILS SHEETS
- 4 PLAN & PROFILE
- 5-6 CROSS SECTIONS
- 7 EROSION CONTROL PLAN
- 8 GENERAL PLAN & ELEVATION
- 9-24 BRIDGE DETAILS

HIGHWAY STANDARDS

- 00001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901 TRAFFIC CONTROL DEVICES
- BLR 21-7 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

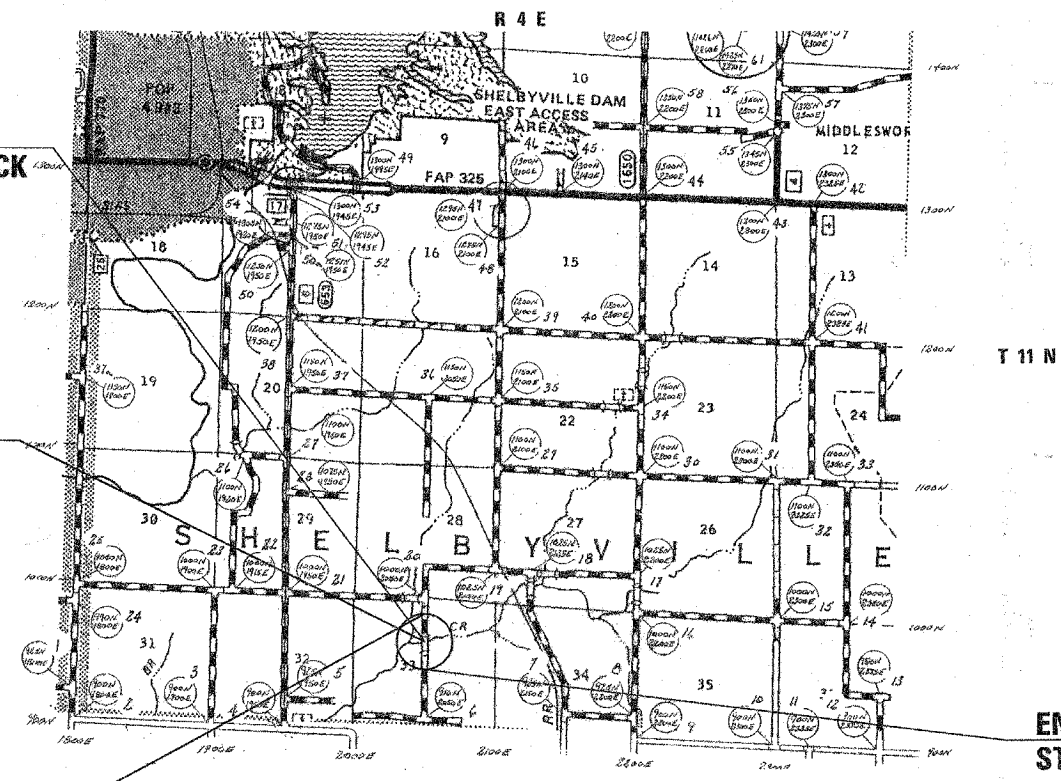
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM**

SHELBYVILLE ROAD DISTRICT
SECTION 04-20118-00-BR
PROJECT BROS - 173 (160)
SHELBY COUNTY
T. R. ROUTE 234A OVER JORDAN CREEK TRIB.
JOB NO. C - 97 - 079 - 08
PROPOSED STRUCTURE NO. 087- 3547



EXISTING STRUCTURE STA 54+52
2 SPAN DECK GIRDER, STEEL PAN DECK
WITH ASPHALT SURFACE
ON CLOSED CONCRETE ABUTMENTS
AND A TIMBER PILE BENT PIER
STRUCTURE # - 087-3170

PROPOSED STRUCTURE STA 54+35
3 SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE
ON PILE BENT ABUTMENTS & PIERS
91'-6" BK-BK 24'-0" FACE TO FACE
0 DEGREE SKEW
STRUCTURE # - 087-3547



BEGIN PROJECT
STA 49+50

PROJECT LOCATION MAP
TOTAL PROJECT LENGTH = 800 FOOT = 0.15 MILES

END PROJECT
STA 57+50

DESIGN INFORMATION

DESIGN CLASSIFICATION: LOCAL ROAD (RURAL)
CURRENT ADT: 75
DESIGN ADT: 100
DESIGN YEAR: 2028
DESIGN SPEED 30 M.P.H.

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

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

PLANS PREPARED BY:

S. Alan Spesard
S. ALAN SPESARD, COUNTY ENGINEER, PE
ILLINOIS PROFESSIONAL ENGINEER 062-052965
EXPIRES 11-30-09



5/28/2008
DATE

APPROVED *Robin Roberts* May 28 20 08
HIGHWAY COMMISSIONER
SHELBYVILLE TOWNSHIP

APPROVED *S. Alan Spesard* May 28 20 08
COUNTY ENGINEER SHELBY COUNTY

PASSED *Maureen Kostel* 6-2 20 08
District Seven Engineer of
Local Roads and Streets

June 3 20 08
RELEASING FOR
BID BASED ON
LIMITED REVIEW *Peter Z. Dushoff*
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 234	*	SHELBY	24	2

PROJECT BROS-173()

* 04-2018-00-BR

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	0.3
20200100	EARTH EXCAVATION	CU YD	940
20300100	CHANNEL EXCAVATION	CU YD	537
20400800	FURNISHED EXCAVATION	CU YD	2694
25000200	SEEDING, CLASS 2	ACRE	1.1
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	99
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	99
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	99
25100115	MULCH, METHOD 2	ACRE	1.1
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150
28000300	TEMPORARY DITCH CHECKS	EACH	6
28000400	PERIMETER EROSION BARRIER	FOOT	100
28000500	INLET AND PIPE PROTECTION	EACH	2.0
28100207	STONE RIPRAP, CLASS A4	TON	475
28102600	STONE RIPRAP DITCH	TON	551
28200200	FILTER FABRIC	SQ YD	556
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	800
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.0
50300225	CONCRETE STRUCTURES	CU YD	31.4
50300280	CONCRETE ENCASEMENT	CU YD	15.9
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2154
50800105	REINFORCEMENT BARS	POUND	4080
* 50900205	STEEL RAILING, TYPE S1	FOOT	180
51201400	FURNISHING STEEL PILES HP 10X42	FOOT	720
51202305	DRIVING PILES	FOOT	720
51203400	TEST PILE STEEL HP 10X42	EACH	4.0
51500100	NAME PLATES	EACH	1.0
542D0220	PIPE CULVERTS, CLASS D, TYPE I 15"	FOOT	126
67100100	MOBILIZATION	L SUM	1.0
* 78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	4.0
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1.0
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1.0

X080-2A

EARTHWORK SUMMARY

EARTH EXCAVATION = 940 CU. YD.
 CHANNEL EXCAVATION = 537 CU. YD.
 TOTAL FILL REQUIRED = 3600 CU. YD.

ESTIMATE OF FILL FROM EARTH EX. = 705 CU. YD.
 ESTIMATE OF FILL FROM CHANNEL EX. = 201 CU. YD.
 FURNISHED EXCAVATION REQUIRED = 2694 CU. YD.

GENERAL NOTES

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

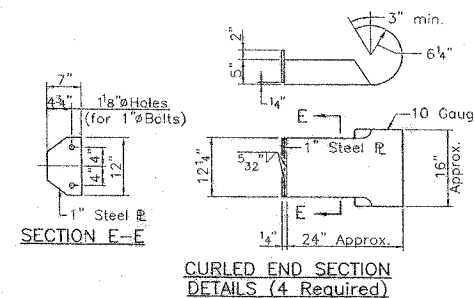
THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGTHS OF PIPE CULVERTS PRIOR TO ORDERING THESE ITEMS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.

* SPECIALTY ITEMS

TREE REMOVAL, ACRES

Rt. Sta. 49+50 to Rt. Sta. 51+50
 Rt. Sta. 53+50 to Rt. Sta. 54+85
 Rt. Sta. 56+47 to Rt. Sta. 57+00
 Total Quantity = 0.3 Acres



ALL OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M-183 EXCEPT POSTS AND ANGLES SHALL CONFORM TO A.A.S.H.T.O., M-223, GRADE 50.

BOLTS, CAP SCREWS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-307 EXCEPT FOR HIGH STRENGTH BOLTS, NUTS, AND WASHERS NOTED WHICH SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M-164.

ALL BOLTS, NUTS, CAP SCREWS, WASHERS, AND LOCK WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.A.S.H.T.O. DESIGNATION M-232.

ALL FIELD DRILLED HOLES SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERECTION.

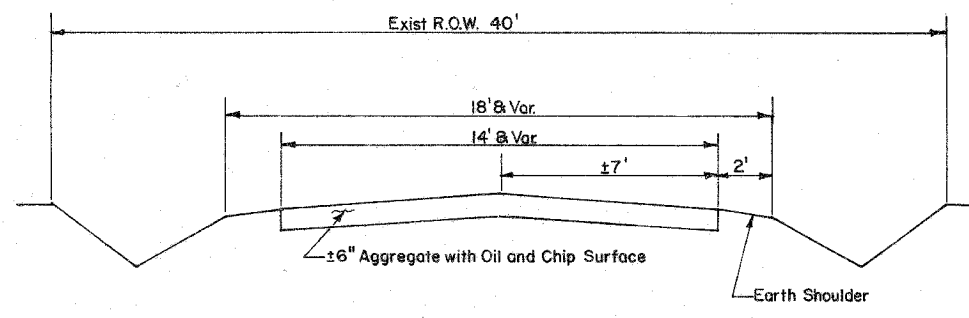
THE COST OF CURLED END SECTIONS ARE INCLUDED IN THE COST OF STEEL RAILING TYPE S-1

UTILITIES

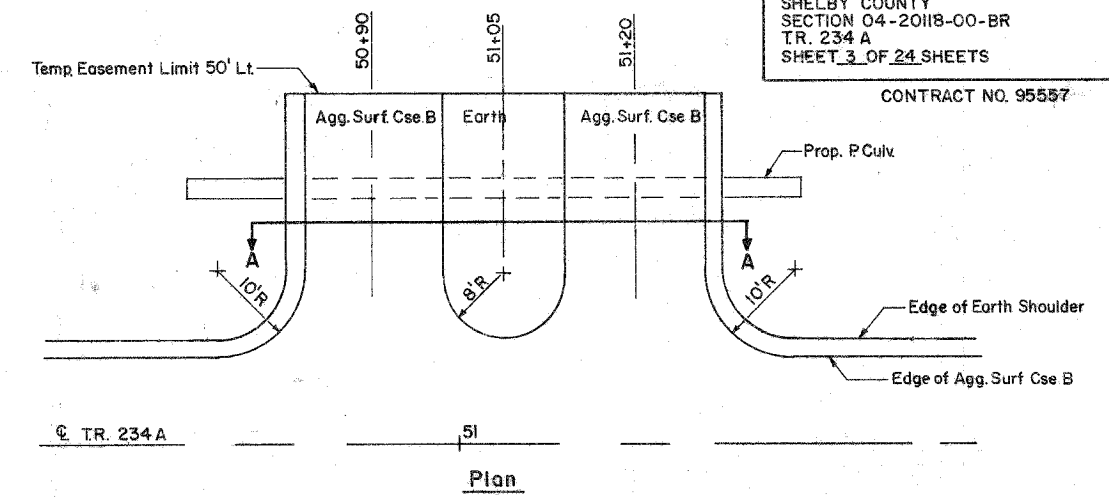
SHELBY ELECTRIC COOPERATIVE
 NORTH ROUTE 128
 SHELBYVILLE, ILLINOIS 62565
 1-217-774-3986

CONSOLIDATED COMMUNICATIONS INC.
 121 SOUTH 17TH STREET
 MATTOON, ILLINOIS 61938-3915
 1-217-235-3311

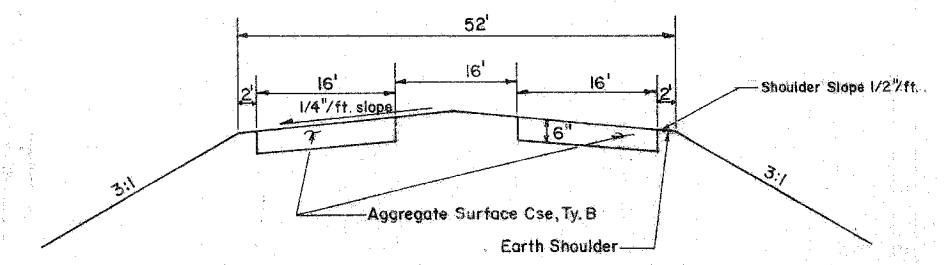
SUMMARY OF QUANTITIES,
 DETAILS, & GENERAL NOTES



Existing Typical Section

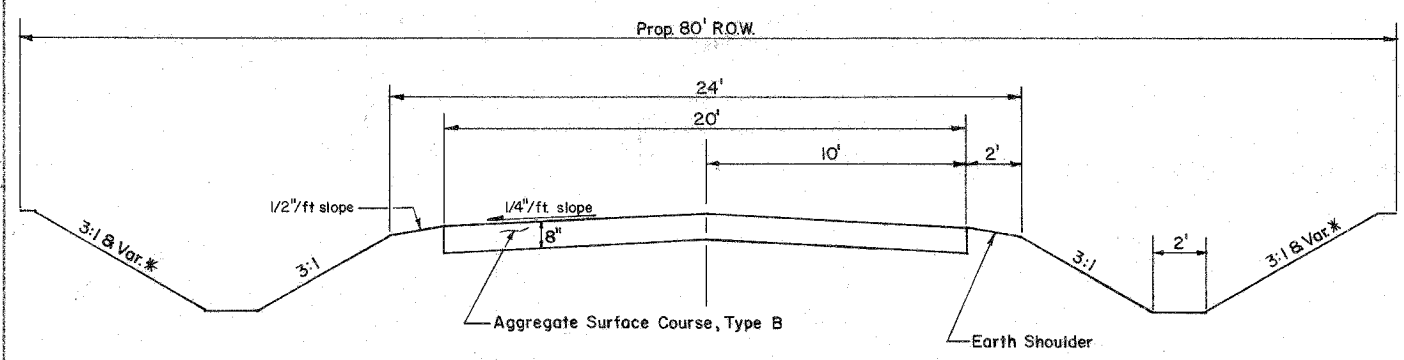


Plan



Section A-A

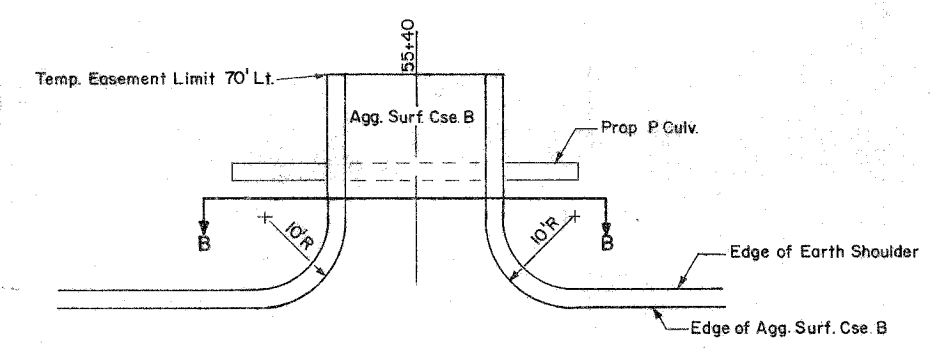
Proposed F.E. Lt. Sta. 51+05



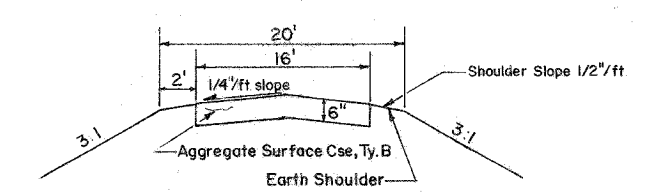
Proposed Typical Section

Sta. 50+00 to Sta. 57+00

* See Cross Sections

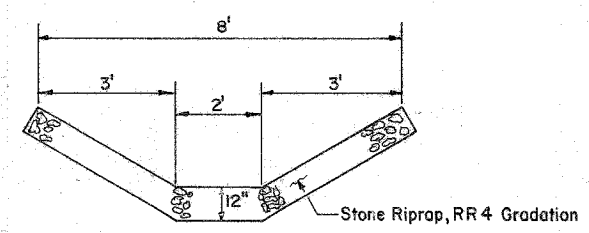


Plan



Section B-B

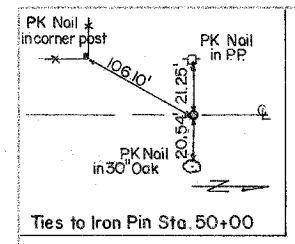
Proposed F.E. Lt. Sta. 55+40



Stone Riprap Ditch

Lt. & Rt. Sta. 49+75 to 53+90
Lt. & Rt. Sta. 54+82 to 57+25

TYPICAL SECTIONS & ENTRANCE DETAILS			
SCALE:	APPROVED BY:	DESIGNED BY:	
DATE:		REVISED:	
			DRAWING NUMBER:



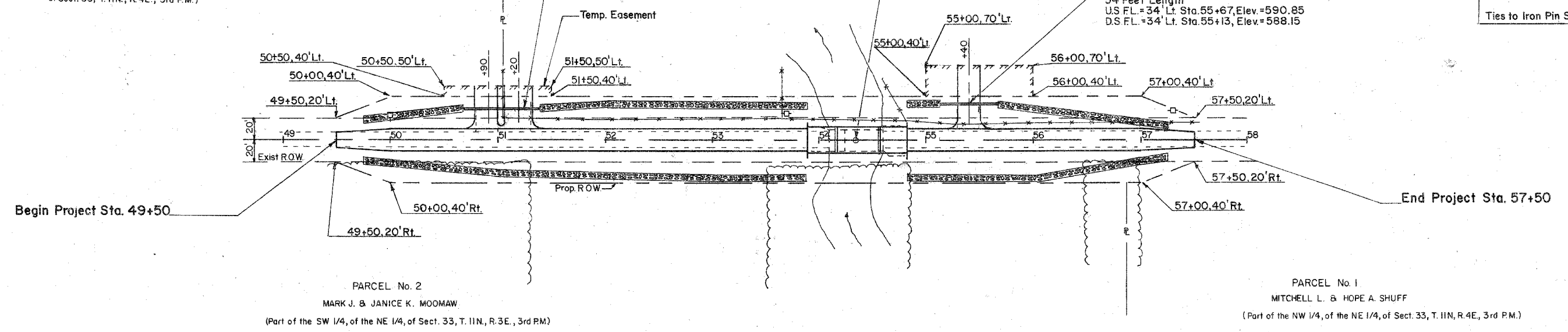
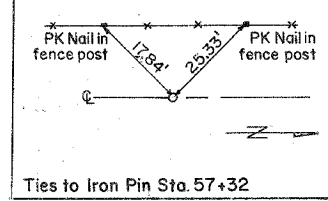
PARCEL No. 4
 RUBY MILLER
 (Part of the S. 40 rods of the SE. 1/4, of the NW. 1/4, of Sect. 33, T. 11N., R. 4E., 3rd P.M.)

Pipe Culvert, C.I.D., Ty. I, 15"
 72 Feet Length
 U.S.F.L. = 30' Lt. Sta. 50+69, Elev. = 596.92
 D.S.F.L. = 30' Lt. Sta. 51+41, Elev. = 589.90

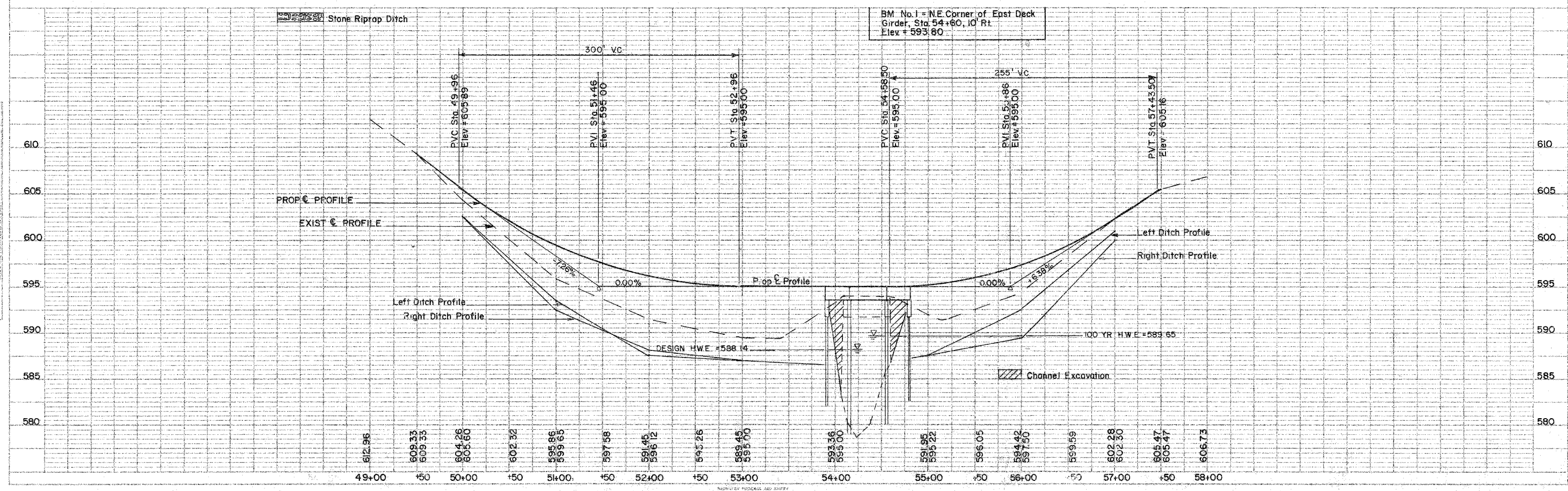
PARCEL No. 3
 CURTIS D. & PAMELA M. RINCKER
 (Part of the E. 1/2, of the NW. 1/4, of Sect. 33, T. 11N., R. 4E., 3rd P.M.)

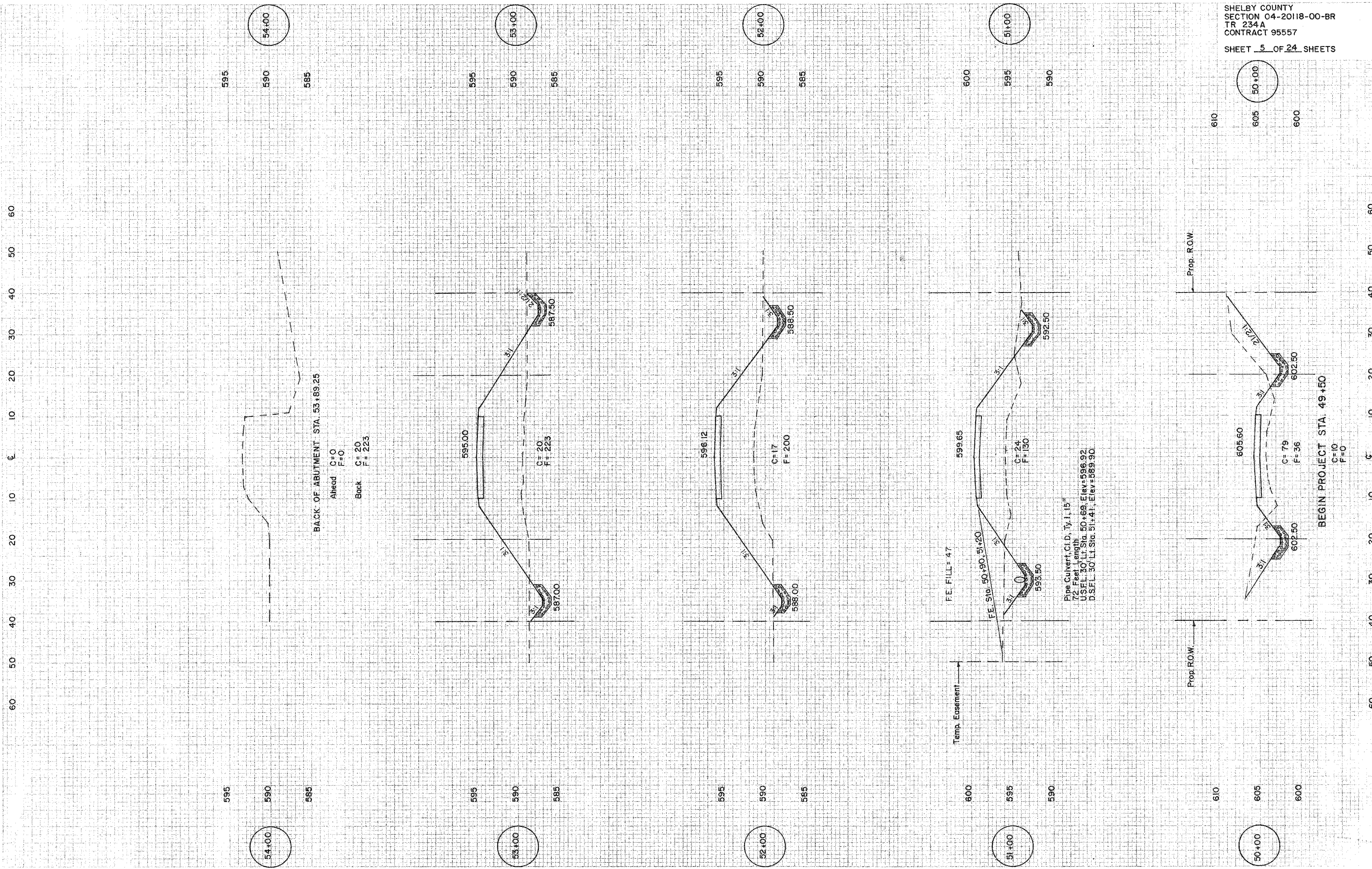
Sta. 54+35 @ Rdwy at @ Structure
 Proposed Structure = 3 Span Precast
 Prestressed Concrete Deck Beams (17)
 on Pile Bent Abutments and Piers
 91'-6" Bk. - Bk. Abutments, 24'-0" Clear
 Deck Width, Type S-1 Railing, 0° Skew

Pipe Culvert, C.I.D., Ty. I, 15"
 54 Feet Length
 U.S.F.L. = 34' Lt. Sta. 55+67, Elev. = 590.85
 D.S.F.L. = 34' Lt. Sta. 55+13, Elev. = 588.15



Note: Transition Existing to Proposed Roadway Width
 Sta. 49+50 to 50+00, Sta. 57+00 to 57+50





BACK OF ABUTMENT STA. 53+89.25
Ahead C=0
F=0
Back C=20
F=223

595.00
C=20
F=223

596.12
C=17
F=200

F.E. FILL= 47

F.E. Sta. 50+90.51+20
C=24
F=130

Pipe Culvert, C.I.D., Ty. I, 1.5"
72 Feet length
USFL 30" Lt. Sta. 50+69. Elev=596.92
D.S.F.L. 30" Lt. Sta. 51+41. Elev=589.90

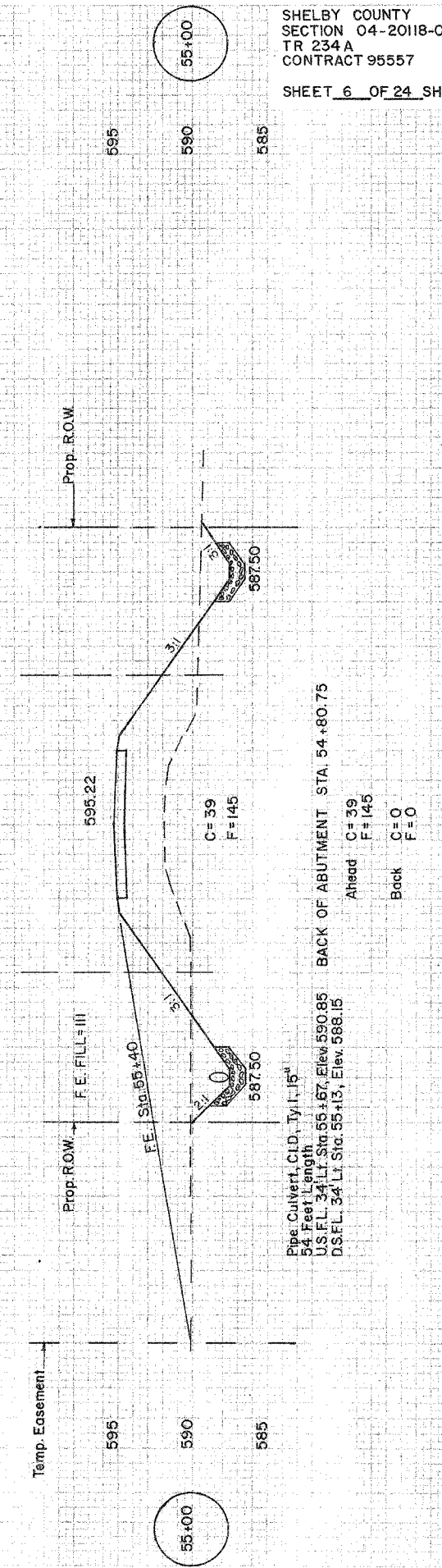
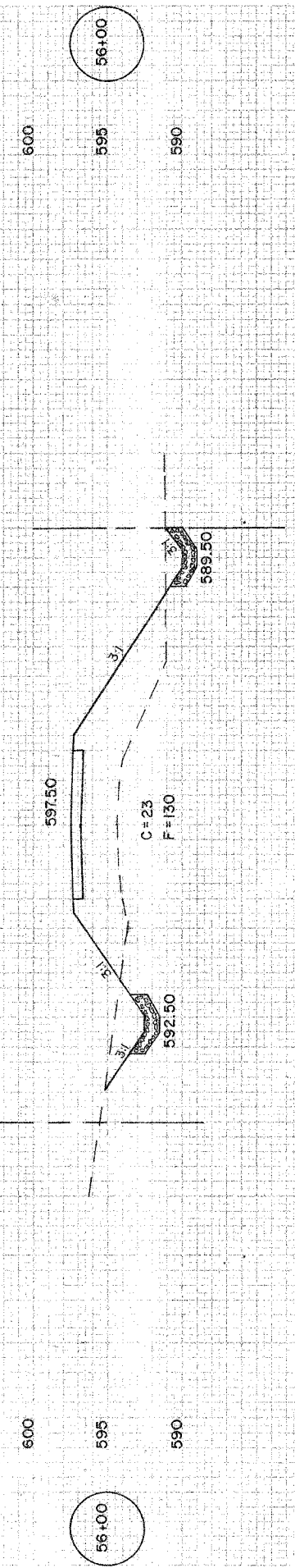
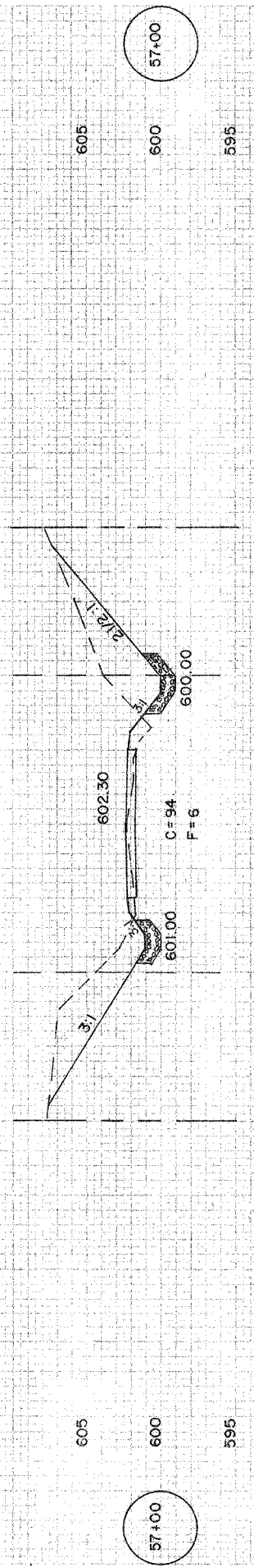
BEGIN PROJECT STA. 49+50
C=10
F=0

DATE: 04/11/18
DRAWN BY: [Name]
CHECKED BY: [Name]
SCALE: AS SHOWN

70 60 50 40 30 20 10 0 10 20 30 40 50 60

70 60 50 40 30 20 10 0 10 20 30 40 50 60

END PROJECT STA. 57+50
C=10
F=0

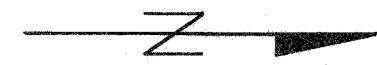


Pipe Culvert, C.I.D., T.Y.I., 15"
54 Feet Length
U.S.F.L. 34' Lt. Sta. 55+57, Elev. 590.85
D.S.F.L. 34' Lt. Sta. 55+13, Elev. 588.15

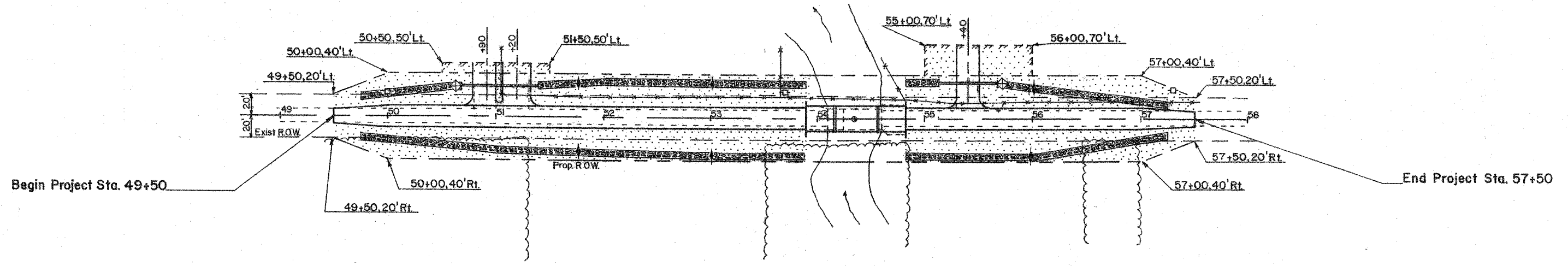
BACK OF ABUTMENT STA. 54+80.75

Ahead C=39
F=145
Back C=0
F=0

DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE.



1. REMOVAL OF THE EXISTING STRUCTURE.
2. CONSTRUCTION OF THE REPLACEMENT STRUCTURE.
3. PLACEMENT OF THE ROADWAY EMBANKMENT TO RAISE THE ROADWAY TO PROPOSED GRADE.
4. DRAINAGE STRUCTURES, INCLUDING DITCHES, WILL BE INSTALLED BEFORE AND/OR DURING THE COMPLETION OF THE EMBANKMENT.
5. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
6. FINAL GRADING, PLACING AGGREGATE AND OTHER MISCELLANEOUS ITEMS.
7. PLACEMENT OF PERMANENT EROSION CONTROL.
8. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.



TEMPORARY EROSION CONTROL	
	Perimeter Erosion Barrier
	Temporary Ditch Check
	Inlet and Pipe Protection
PERMANENT EROSION CONTROL	
	Seeding, Class 2, Fertilizers, Mulch Method 2
	Stone Riprap Ditch

TEMPORARY DITCH CHECKS	
Lt. Sta. 51+75	= 1 Each
Rt. Sta. 51+75	= 1 Each
Lt. Sta. 53+00	= 1 Each
Rt. Sta. 53+00	= 1 Each
Lt. Sta. 56+00	= 1 Each
Rt. Sta. 56+00	= 1 Each
Total	6 Each

INLET & PIPE PROTECTION	
Lt. Sta. 50+69	= 1 Each
Lt. Sta. 55+67	= 1 Each
Total	2 Each

ITEM	UNIT	QUANTITY
Temporary Erosion Control Seeding	Pound	150
Temporary Ditch Checks	Each	6
Perimeter Erosion Barrier	Foot	100 *
Inlet and Pipe Protection	Each	2

The above quantities are estimates only. Actual quantities for erosion control will be determined by the Engineer in the field and there will be no adjustment in any price due to a change in plan quantity.

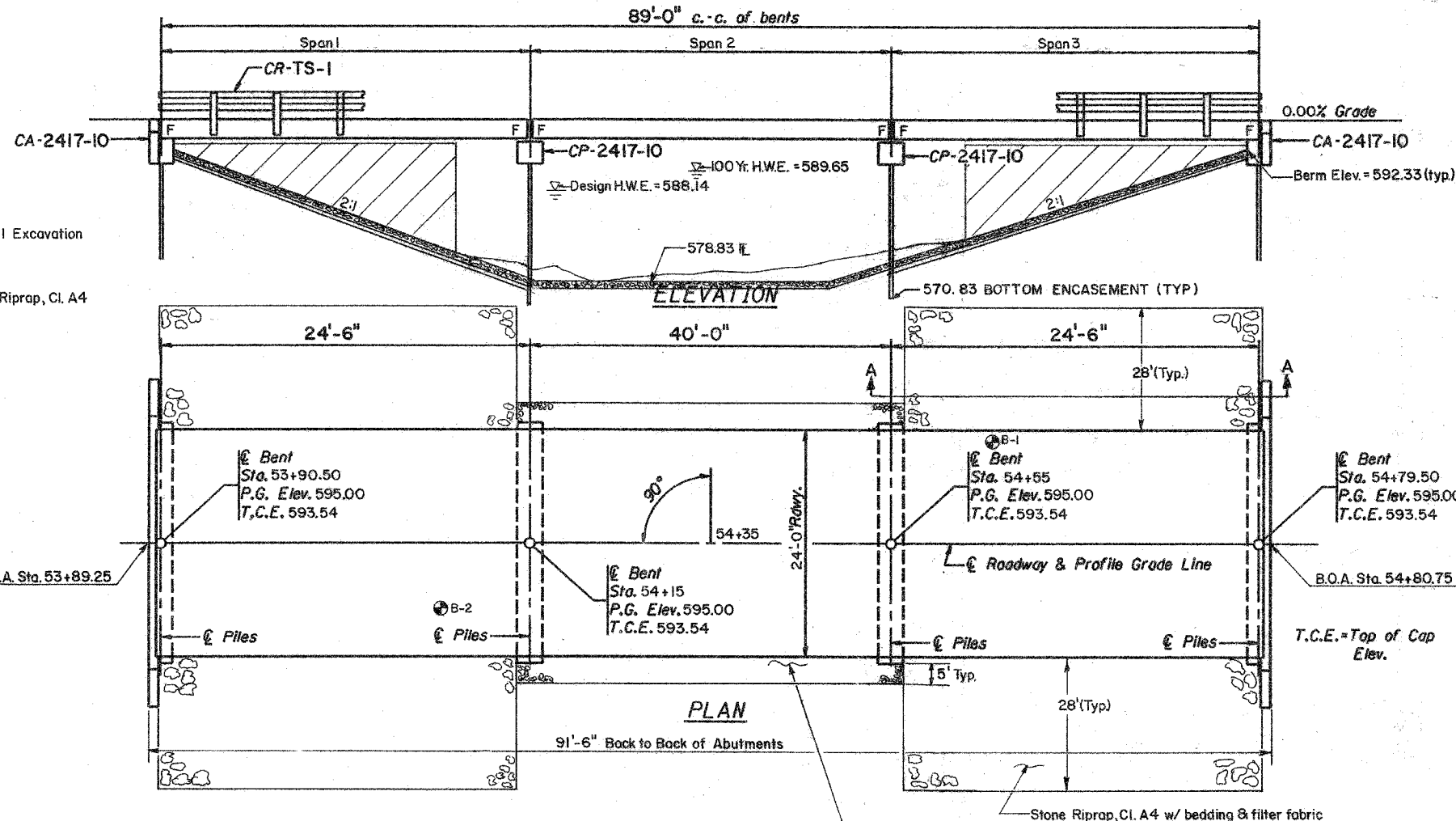
* This quantity is listed to establish a unit price.

SHELBY COUNTY HIGHWAY DEPARTMENT
EROSION CONTROL PLAN
Section: 04-2018-00-BR

B.M. -N.E. Corner of East Deck Girder,
Sta. 54+60, 10' Rt. Elev. = 593.80
Existing Structure-2 Span Deck Girder,
Steel Deck Pan w/Asphalt on Closed Concrete
Abutments and Timber Pile Bent Pier
Structure No. 087-3170

Salvage- None

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL
TR. 234	*	SHELBY	24	8
FED. ROAD DIST. NO. 7		ILL. PROJ. NO.	FED. ROAD PROJECT	
		* 04-20118-00-BR	CONTRACT NO. 95557	



GENERAL NOTES

- The Contractor shall drive 4 test piles, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- The test pile shall be driven to 110 percent of the nominal required bearing indicated in the pile data information.
- The steel H-Piles shall be according to A.A.S.H.T.O. M270, Grade 50.
- The Bituminous Concrete Surface Course and the Waterproofing Membrane System shown on the plans shall not be provided for this project.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each				1
Concrete Structures	Cu. Yd.		14.8	16.6	31.4
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,154			2,154
Steel Railing, Type S-1	Foot	180			180
Reinforcement Bars	Pound		1,860	2,220	4,080
Furnishing Steel Pile, HP 10x42	Foot		450	270	720
Driving Piles	Foot		450	270	720
Test Piles	Each		2	2	4
Name Plates	Each			1	1
Concrete Encasement	Cu. Yd.		13.8	2.1	15.9
Underwater Struct. Ex. Prof. - Loc. 1 (Pier 1)	Each		1		1
Underwater Struct. Ex. Prof. - Loc. 2 (Pier 2)	Each		1		1

DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications - 17th ed.

LOADING HS20-44
Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.061g
Site Coefficient (S) = 1.0

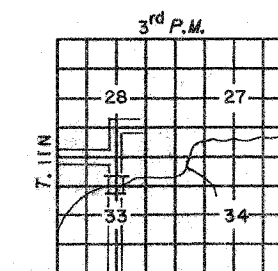
PILE DATA (2-PIERS)
Type: Steel HP 10x42
Nominal Required Bearing: 335 Kips
Allowable Resistance Available: 111 Kips
Estimated Pile Length: 75 ft./pile
Number of Production Pile: 6
Number of Test Pile: 2

PILE DATA (2-ABUTS.)
Type: Steel HP 10x42
Nominal Required Bearing: 234 Kips
Allowable Resistance Available: 78 Kips
Estimated Pile Length: 45 ft./pile
Number of Production Pile: 6
Number of Test Pile: 2

Stone Riprap, Cl. A4, 24" thick,
No Bedding or Filter Fabric between piers.

STATION 54+35
JORDAN CREEK
SEC. 04-20118-00-BR BUILT 20____
SHELBYVILLE ROAD DIST.
SHELBY COUNTY
LOADING HS20-44
STR. NO. 087-3547

LETTERING FOR NAME PLATE
Locate Name Plate at Southeast
Corner of Bridge (See Std. CN)

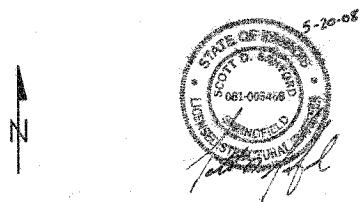


PROPOSED R. 4 E
BRIDGE

LOCATION SKETCH

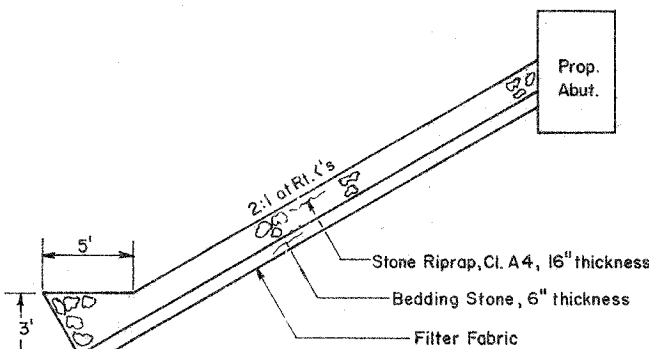
INDEX OF STANDARDS

- Standard CA-2417-10
- Standard CP-2417-10
- Standard CN
- Standard CR-TS-1
- Standard CX-1



"I certify that to the best of my knowledge, information and belief, this bridge box culvert 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. The capacity of the pile foundation, hydraulics and quantities were determined by Others and are not covered by this certification."

HEREBY CERTIFY THAT THE OPENING WAS SIZED IN ACCORDANCE WITH THE POLICIES AND PROCEDURES OF THE DRAINAGE MANUAL AND THE QUANTITIES WERE DETERMINED BY ME OR BY A FULL TIME MEMBER OF MY STAFF WORKING UNDER MY PERSONAL SUPERVISION.
S. ALAN SPESARD P.E. DATE 5/16/08
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS NUMBER 062-062965
DATE OF LICENSE EXPIRATION 11-30-2008

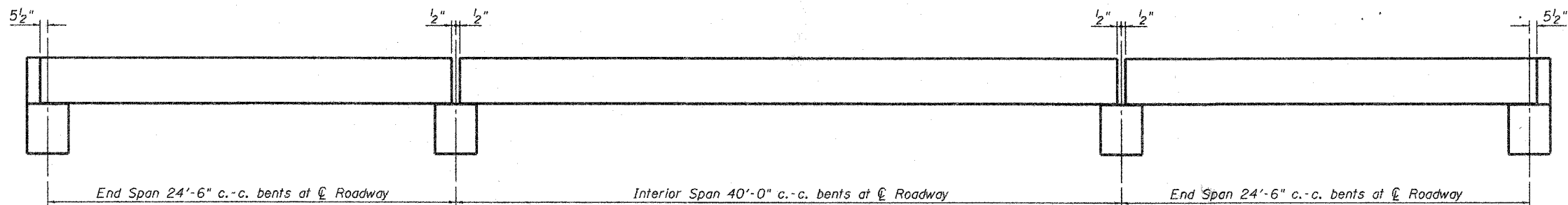


RIPRAP DETAIL
Section A-A

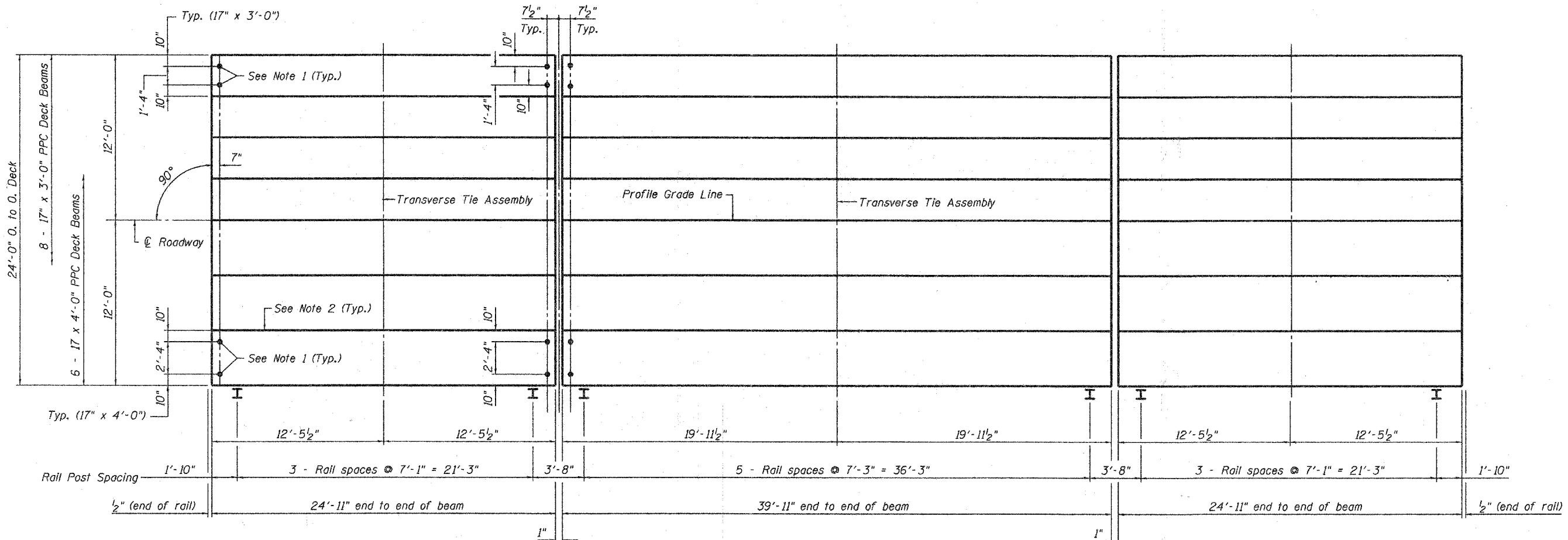
WATERWAY INFORMATION

Drainage Area = 7.85 Sq. Mi		Low Grade Elev. = 593.54 @ Sta. 54+35								
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater EL.	Exist.	Prop.	Exist.	Prop.
Design	15	1760	319	368	588.14	0.03	0.12			
Base	100	2850	389	454	589.65	0.35	0.37			
Overlapping										
Max. Calc.	500	3525								

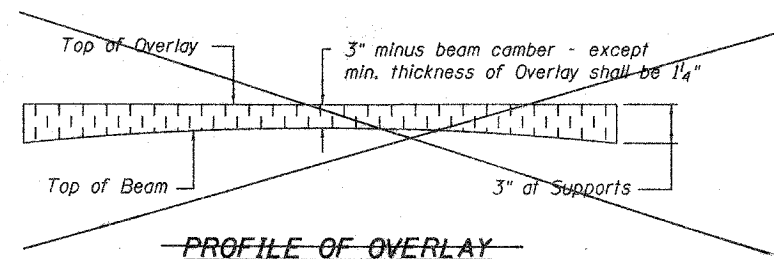
GENERAL PLAN & ELEVATION
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STATION 54+35



ELEVATION



PLAN



NOTES

1. 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 min. 24 hrs. prior to grouting the shear keys.
2. Longitudinal keys shall be grouted.

DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

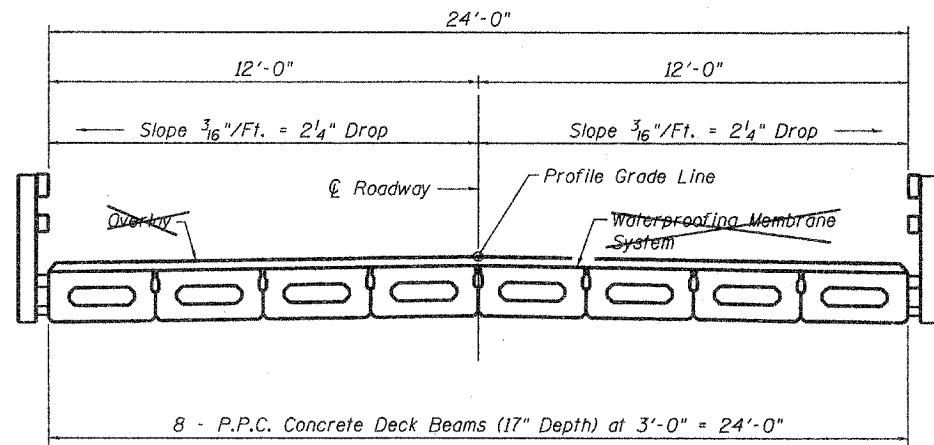
WHKS & CO.

ENGINEERS PLANNERS LAND SURVEYORS

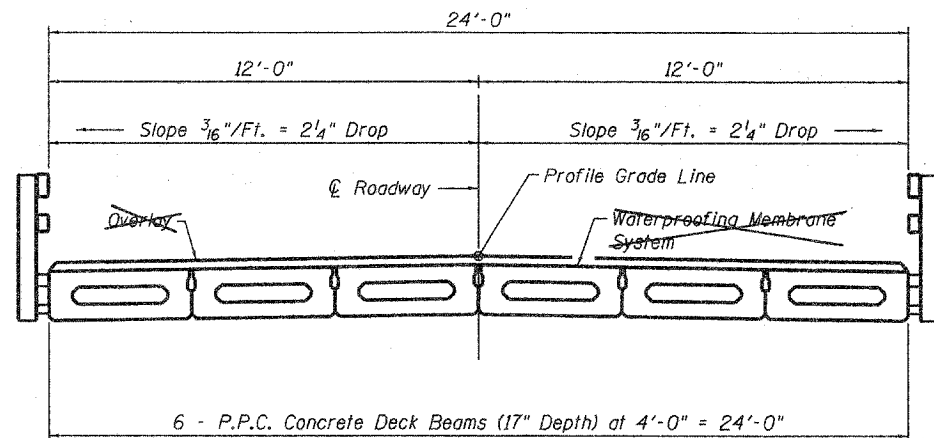
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

SUPERSTRUCTURE DETAILS
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

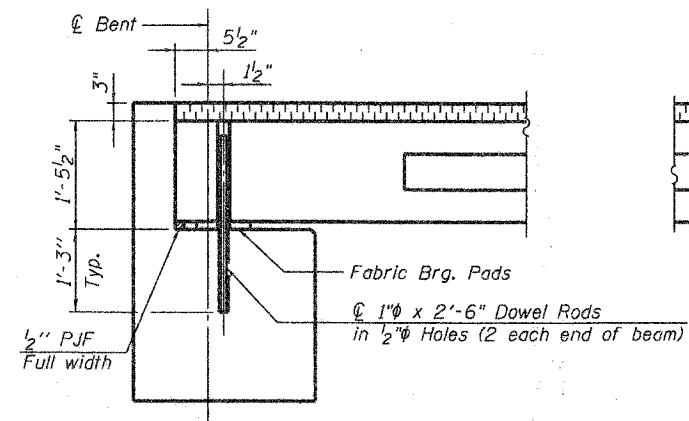
Date: 5/23/2008
 Operator: chaberling
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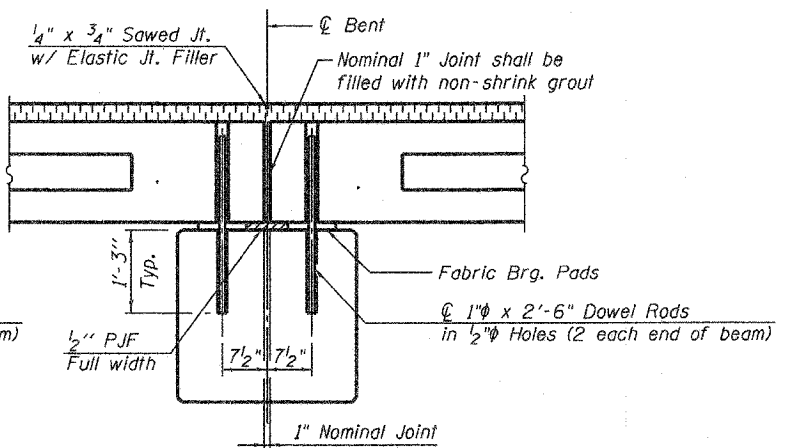
CROSS SECTION
(Showing 17" x 3'-0" Beams)



CROSS SECTION
(Showing 17" x 4'-0" Beams)



SECTION AT ABUTMENTS
(Along ☉ Beams)



SECTION AT ABUTMENTS
(Along ☉ Beams)

QUANTITIES FOR ONE SPAN

P.P.C. Concrete Deck Beams (17" Depth)	2,154 Sq. Ft.
Steel Railing, Type S1	180 Ft.

DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.

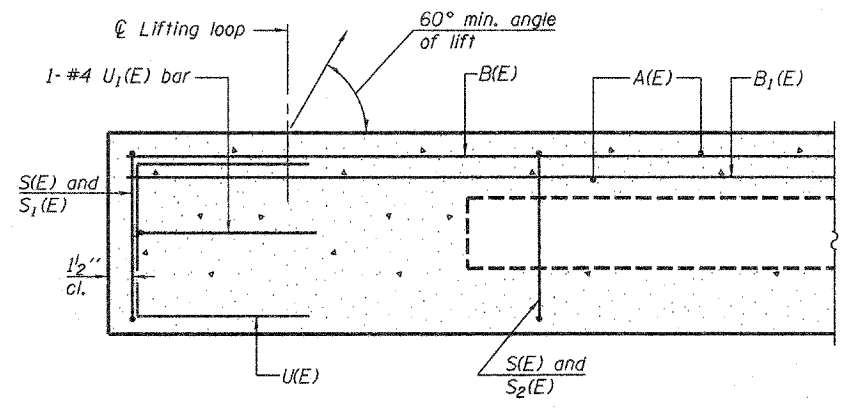
ENGINEERS PLANNERS LAND SURVEYORS

MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

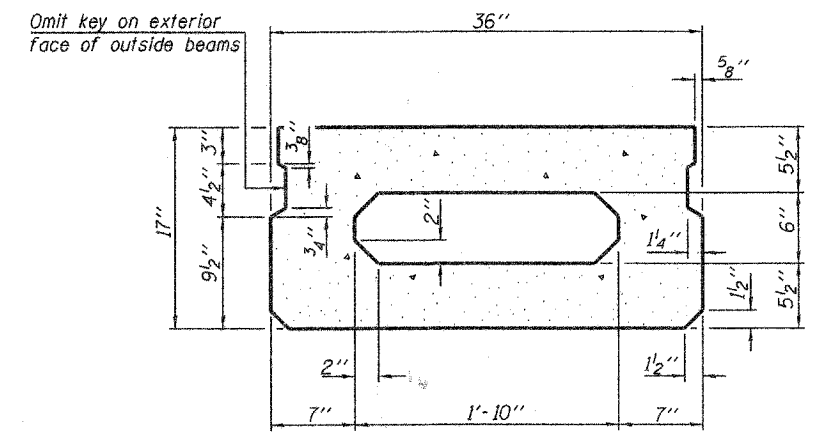
SUPERSTRUCTURE DETAILS
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

Operator: chbeberlin Date: 5/23/2008 File name: L:\Jobs\DOT\BBS\9557\BBS_Various_Various\9557_05\CADD - Sheet\Shelby 04-20118-00-BR.dgn

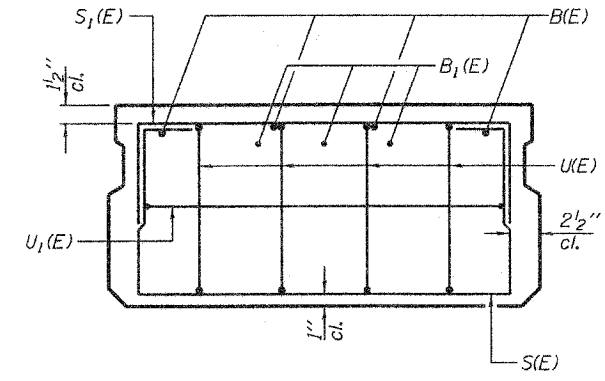
* 04-20118-00-BR CONTRACT NO. 95557



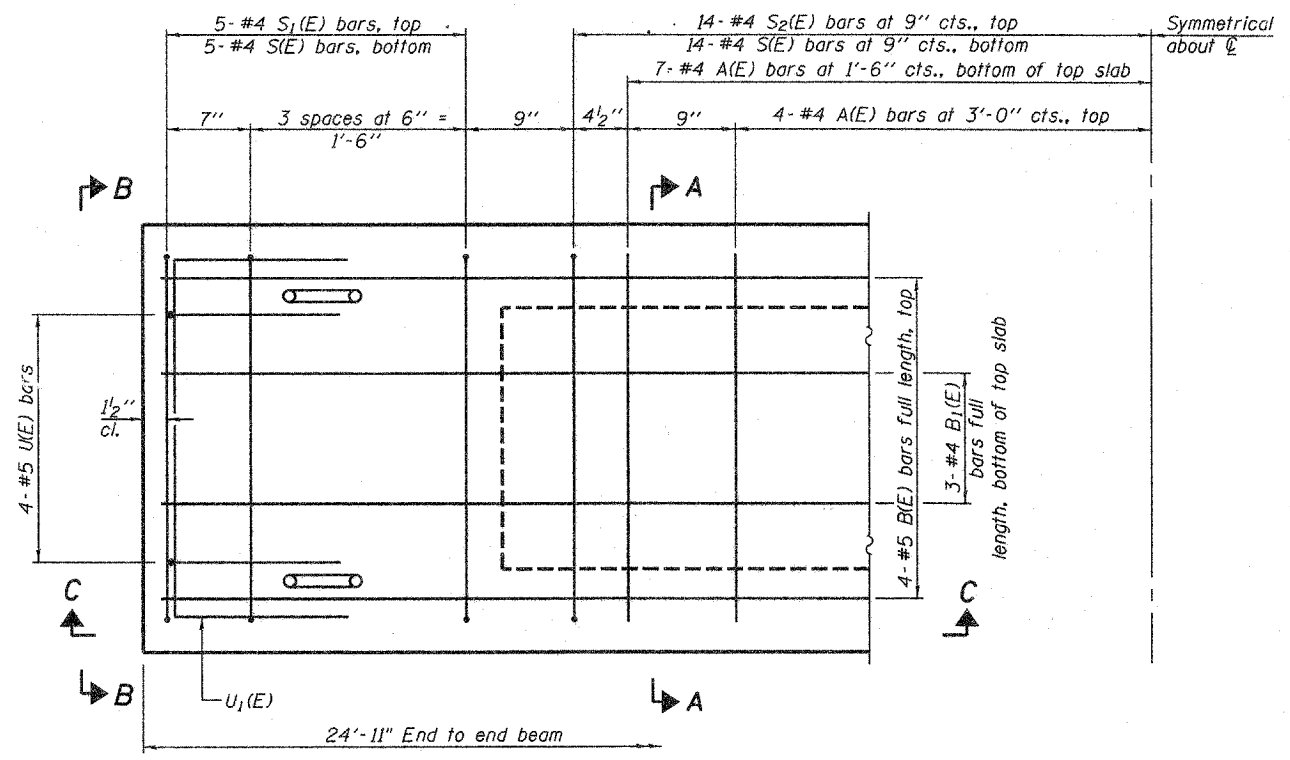
SECTION C-C



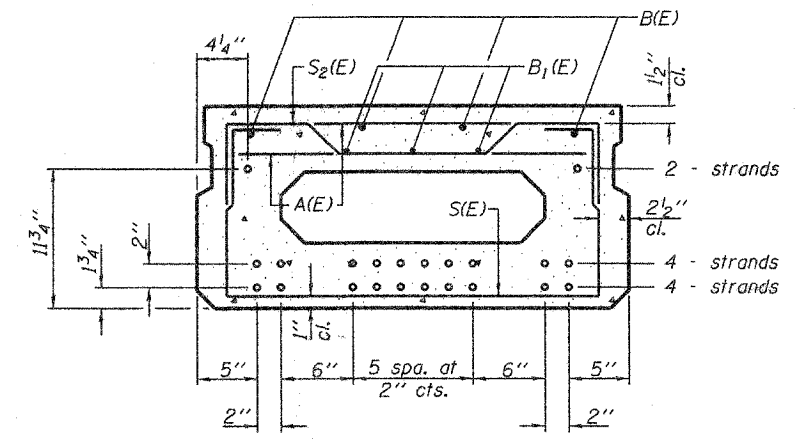
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



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.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	22	#4	2'-7"	—
B(E)	4	#5	24'-8"	—
B1(E)	3	#4	24'-8"	—
S(E)	38	#4	5'-9"	U
S1(E)	10	#4	4'-11"	U
S2(E)	28	#4	5'-2"	U
U(E)	8	#5	3'-8"	U
U1(E)	2	#4	5'-0"	U

Note: Spacing of S(E) and S2(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.

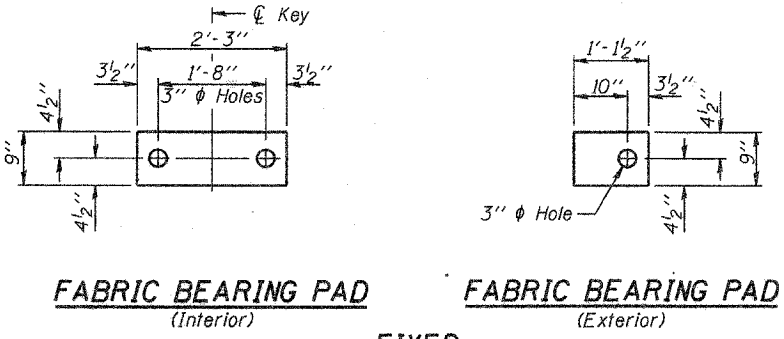
DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

PD-1736-0

8-29-07

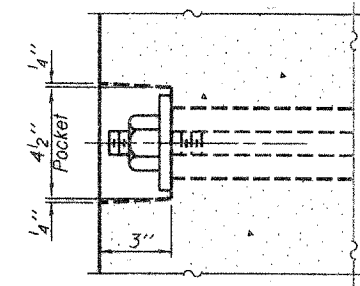
PPC DECK BEAM DETAILS (17" X 3'-0")
SPANS 1 AND 3
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35



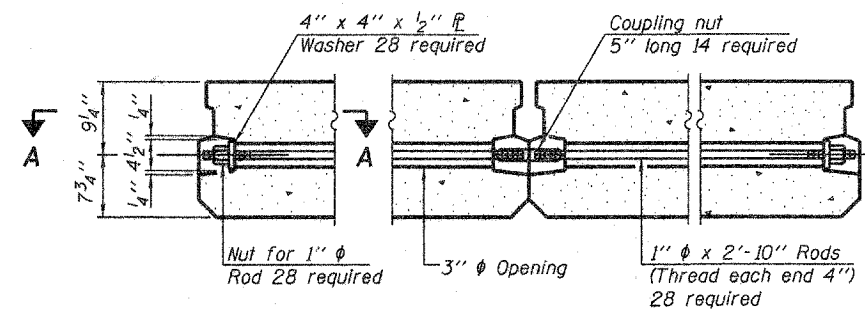
FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)

FIXED

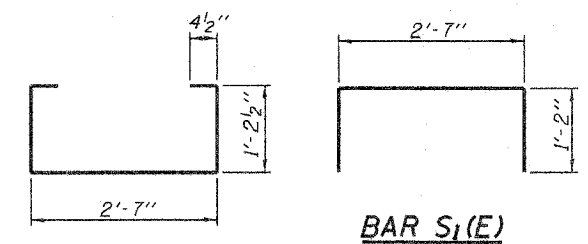
Note: Omit holes when using expansion bearings.



SECTION A-A

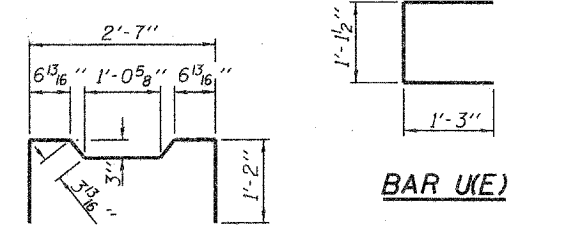


TYPICAL TRANSVERSE TIE ASSEMBLY



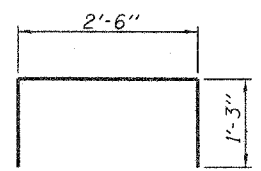
BAR S(E)

BAR S₁(E)

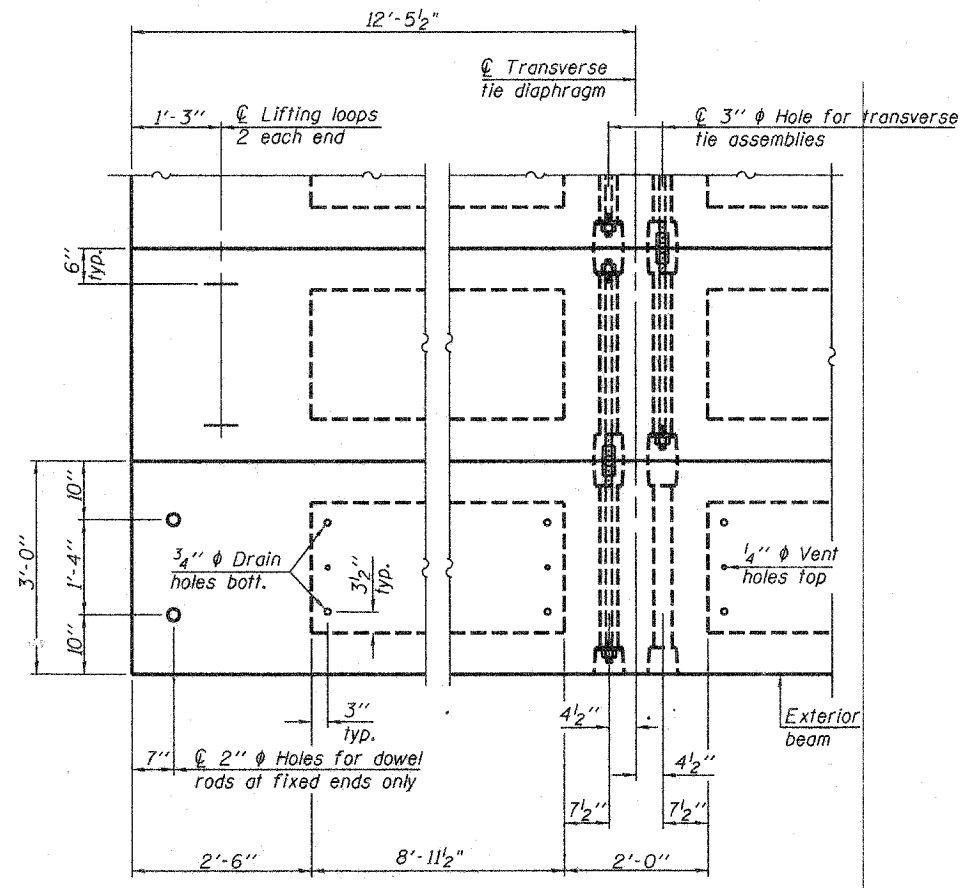


BAR UE

BAR S₂(E)

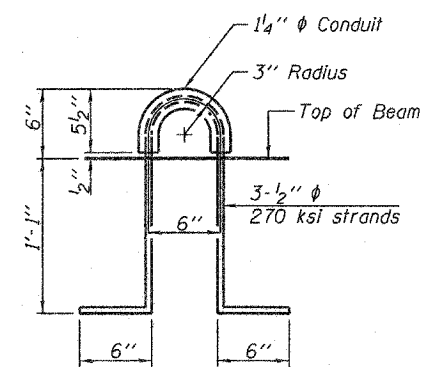


BAR U₁(E)



PLAN VIEW

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



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,196
---	---------	-------

PPC DECK BEAM DETAILS (17" X 3'-0")

SPAN 1 AND 3
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

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. The 1" 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 (IL MOD), Grade 60. (See Special Provisions)

Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2 1/2" diameter 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.

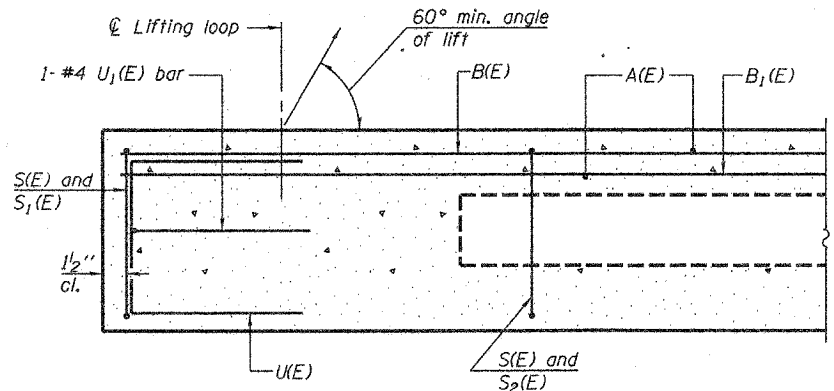
DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

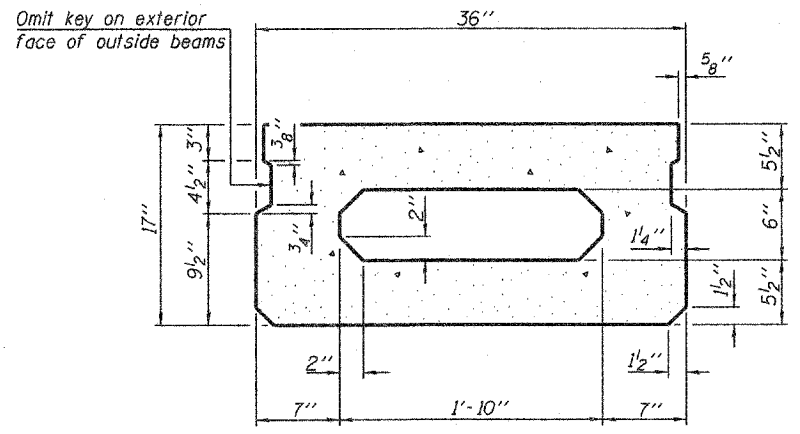
PD-1736-OD

8-29-07

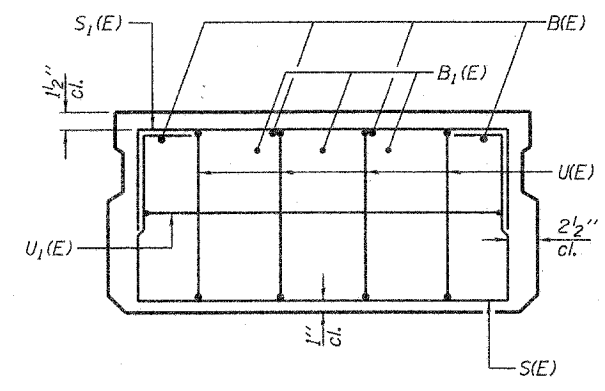
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SECTION C-C

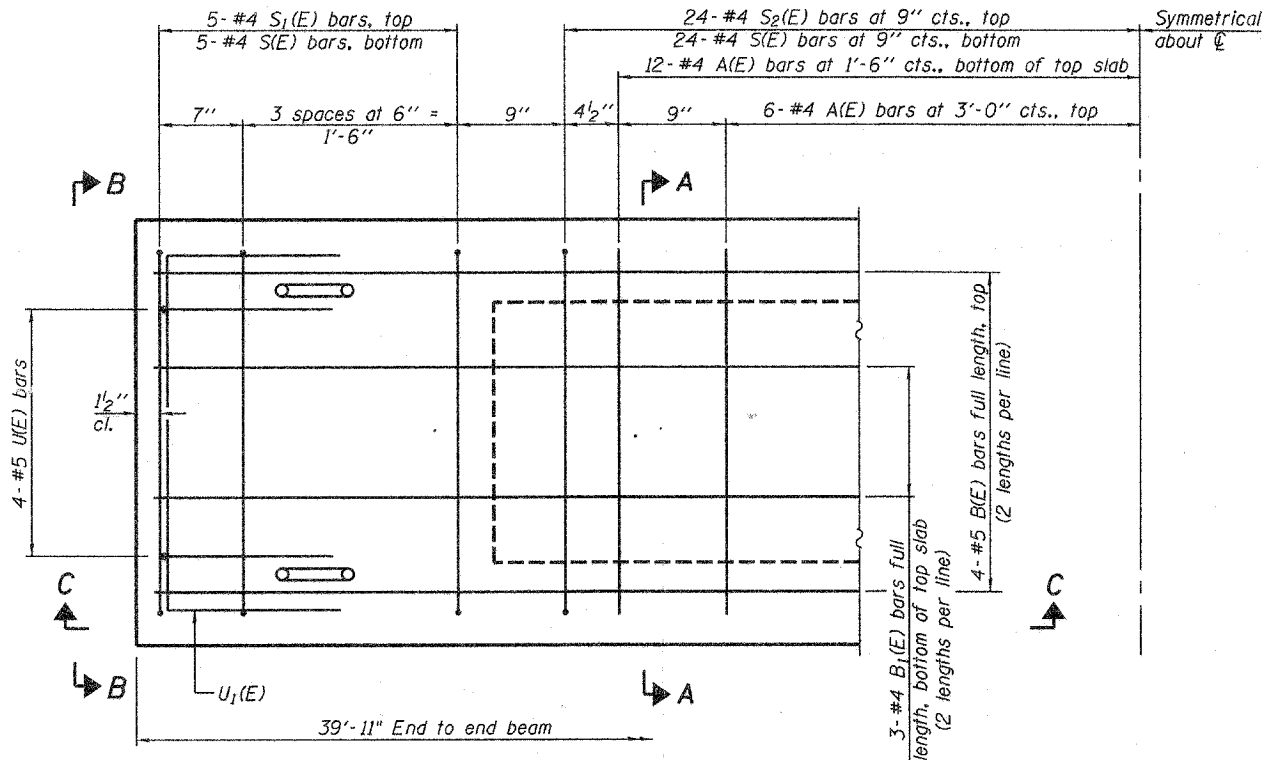


SECTION A-A
(Showing dimensions)



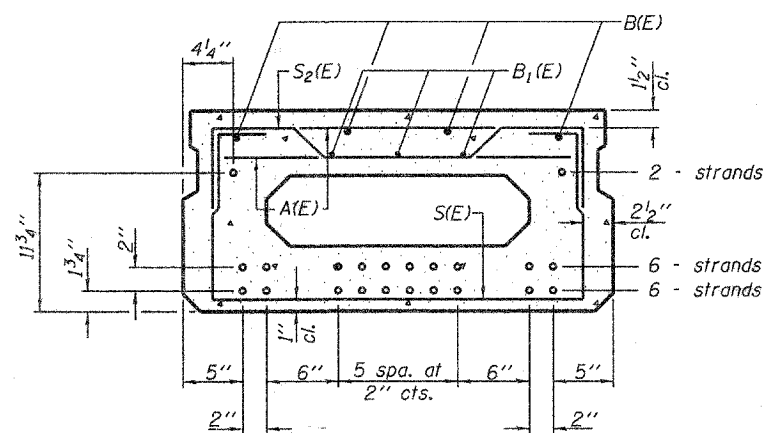
VIEW B-B

MIN. BAR LAP
#4 Bar = 1'-8"
#5 Bar = 2'-2"



PLAN VIEW

Note: Spacing of S(E) and S2(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 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.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	36	#4	2'-7"	—
B(E)	8	#5	20'-11"	—
B1(E)	6	#4	20'-8"	—
S(E)	58	#4	5'-9"	U
S1(E)	10	#4	4'-11"	U
S2(E)	48	#4	5'-2"	U
U(E)	8	#5	3'-8"	U
U1(E)	2	#4	5'-0"	U

PPC DECK BEAM DETAILS (17" X 3'-0")

SPAN 2
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

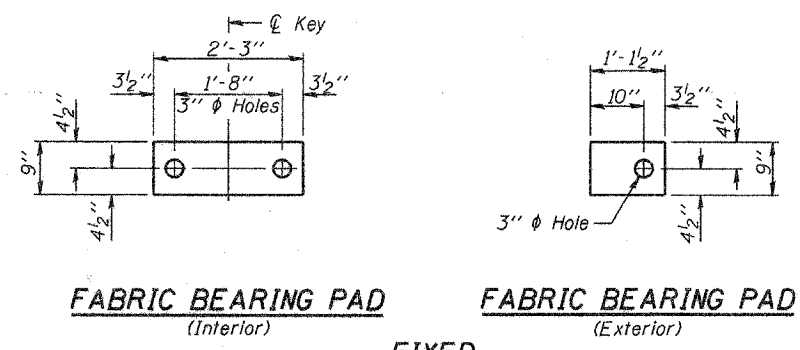
DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

PD-1736-0

8-29-07

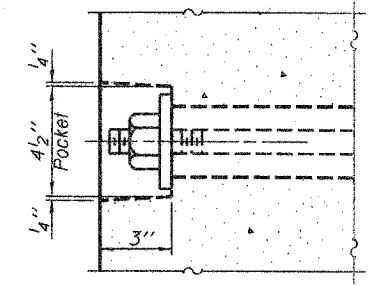
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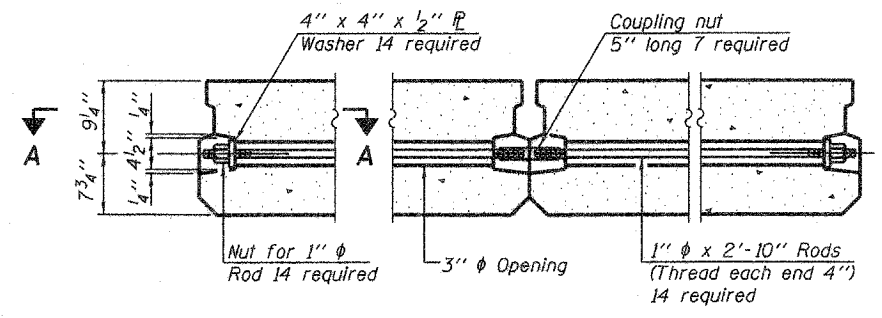
FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)

FIXED

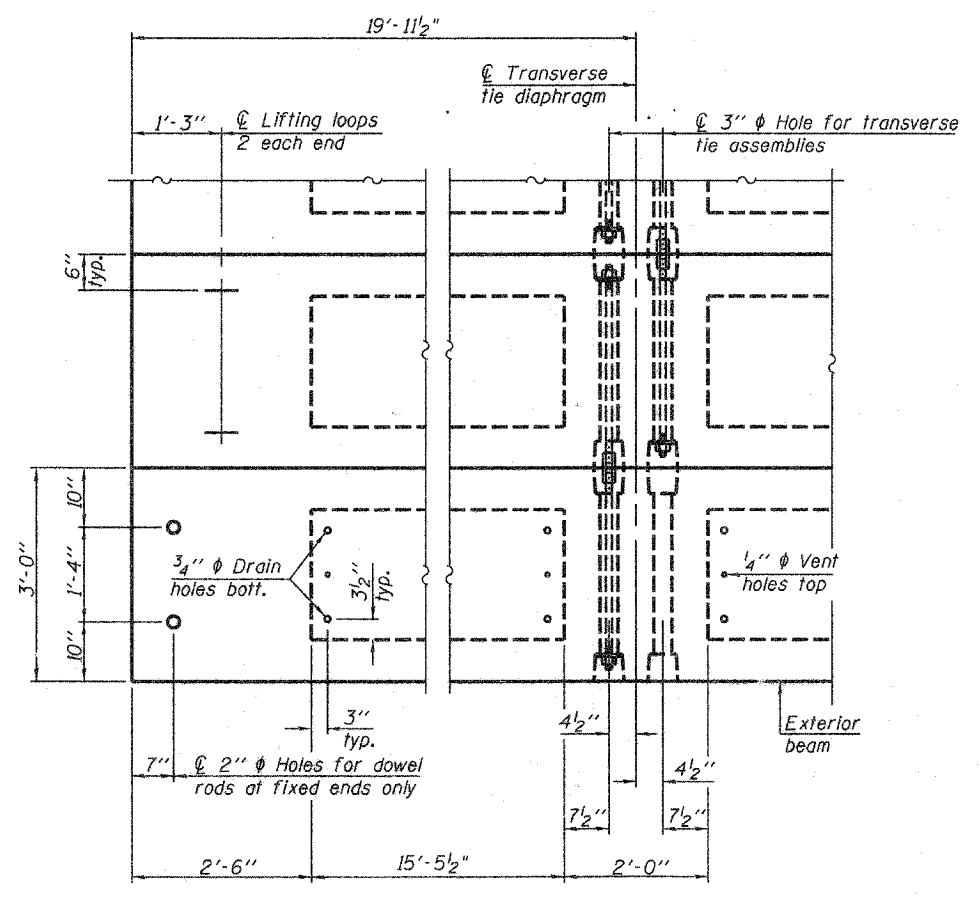
Note: Omit holes when using expansion bearings.



SECTION A-A

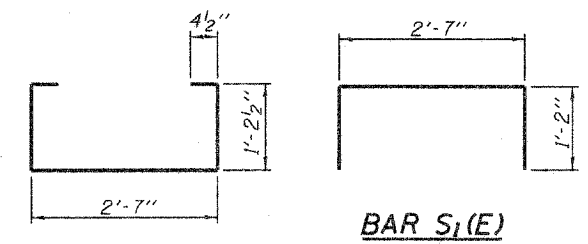


TYPICAL TRANSVERSE TIE ASSEMBLY



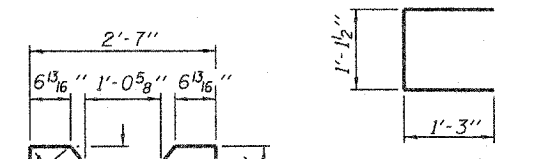
PLAN VIEW

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



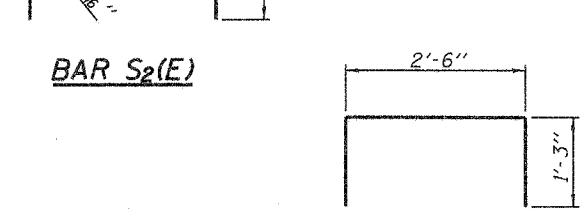
BAR S₁(E)

BAR S(E)

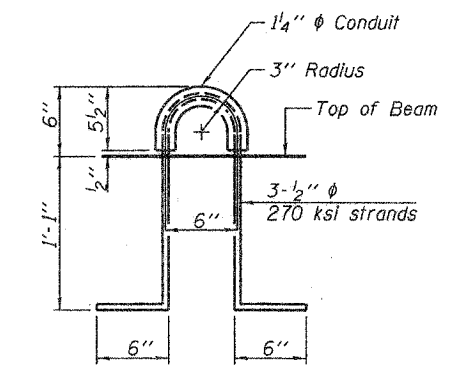


BAR U₁(E)

BAR S₂(E)



BAR U₂(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	958
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PPC DECK BEAM DETAILS (17" X 3'-0")

SPAN 2
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

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. The 1" 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 (IL MOD), Grade 60. (See Special Provisions) Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2 1/2" 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.

DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

PD-1736-0D

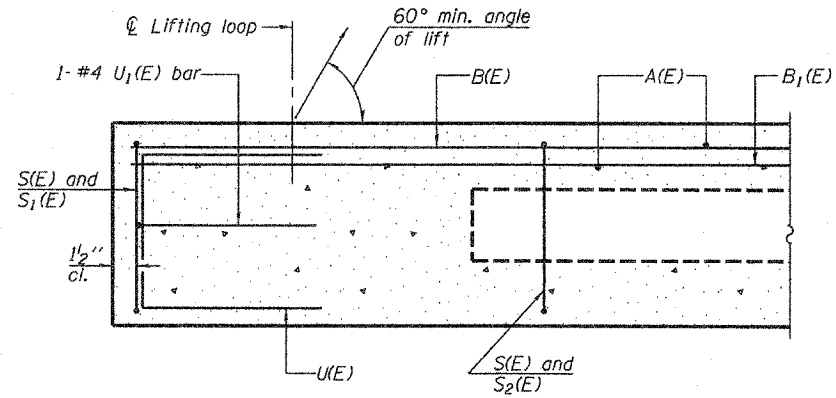
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

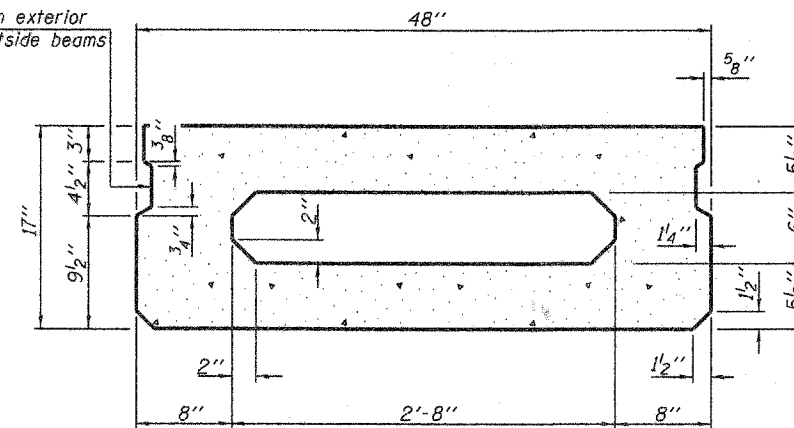
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 OF 17 SHEETS
TR 234A	"	SHELBY	24	15	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

* 04-20118-00-BR CONTRACT NO.95557

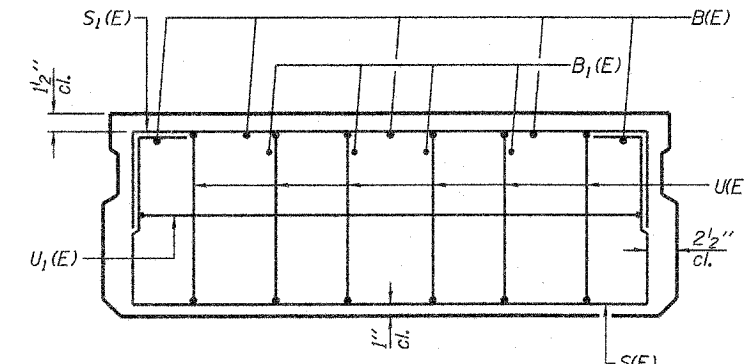


SECTION C-C

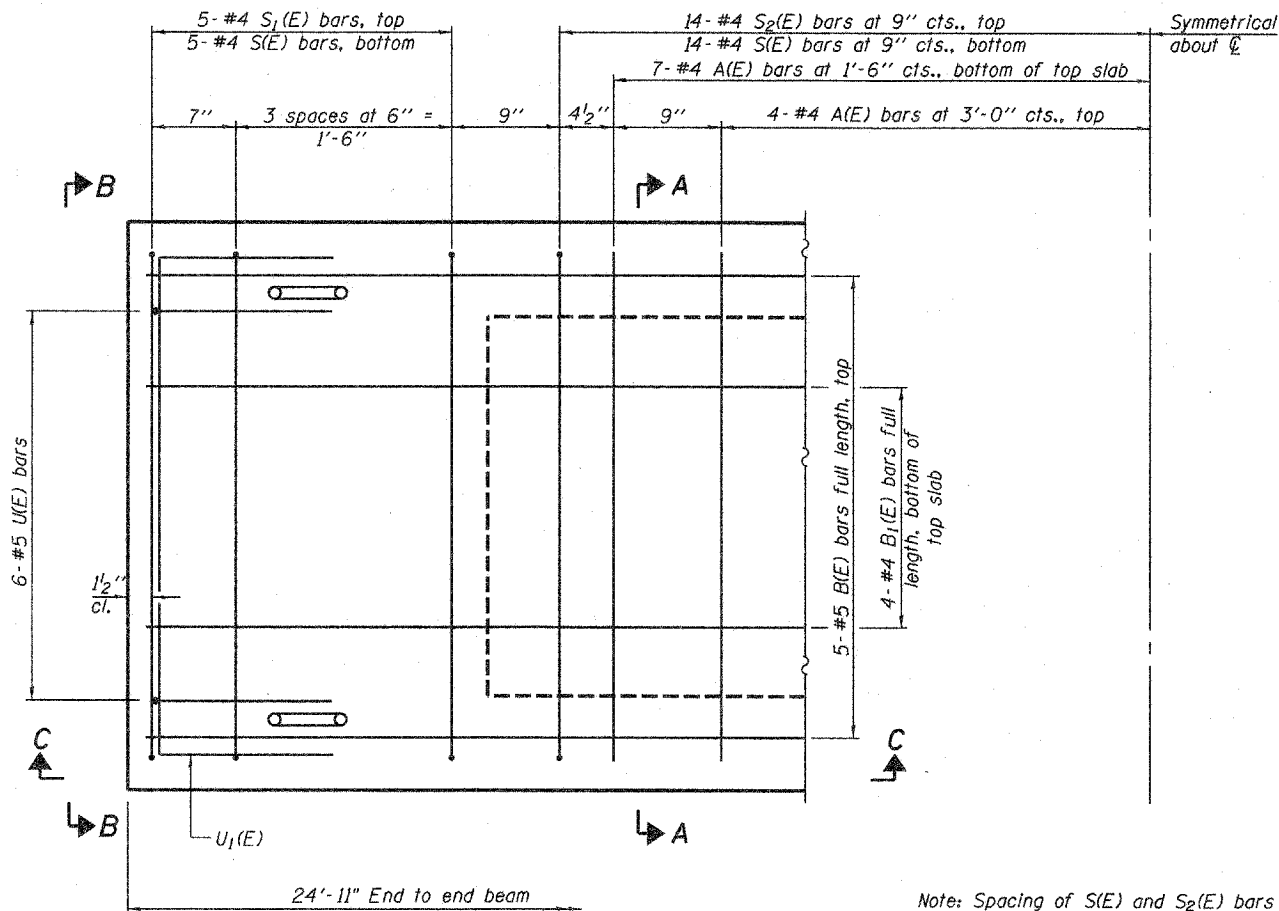
Omit key on exterior face of outside beams



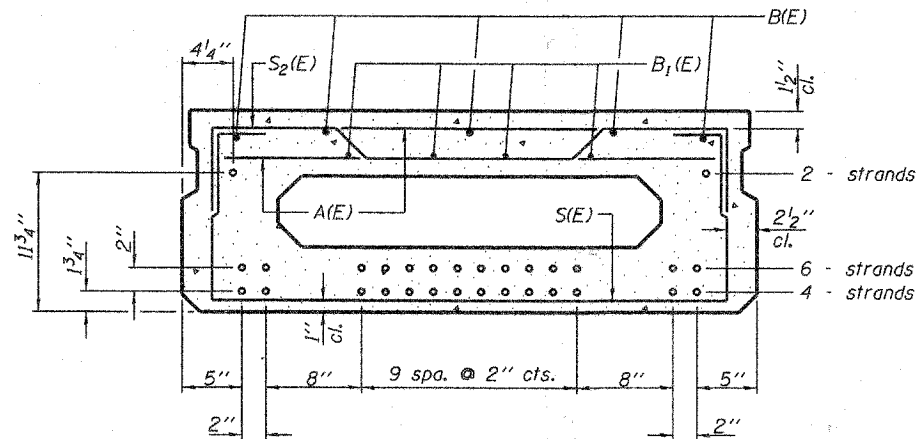
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



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.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	22	#4	3'-7"	—
B(E)	5	#5	24'-8"	—
B1(E)	4	#4	24'-8"	—
S(E)	38	#4	6'-9"	□
S1(E)	10	#4	5'-11"	□
S2(E)	28	#4	6'-2"	□
U(E)	12	#5	3'-8"	□
U1(E)	2	#4	6'-0"	□

Note: Spacing of S(E) and S2(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.

DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

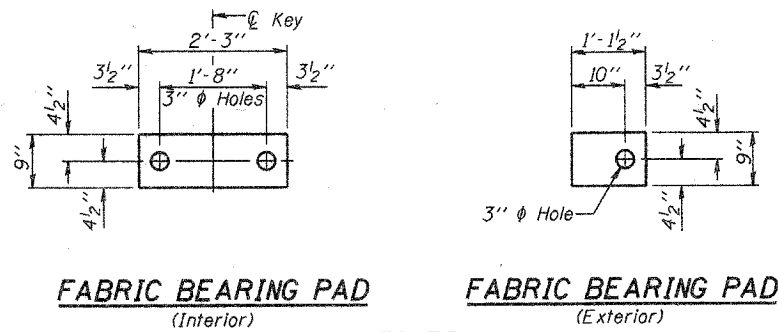
PD-1748-0

8-29-07

PPC DECK BEAM DETAILS (17" X 4'-0")
SPANS 1 AND 3
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

Operator: dhs/bdf/rlf Date: 5/23/2008 File name: L:\apps\DOT\BBS\6956\BBS_Various\Various\6956_05\CADD_Struct\Shelby_04-20118-00-BR.dwg

* 04-20118-00-BR CONTRACT NO. 95557

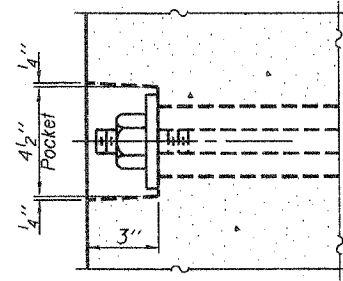


FABRIC BEARING PAD
(Interior)

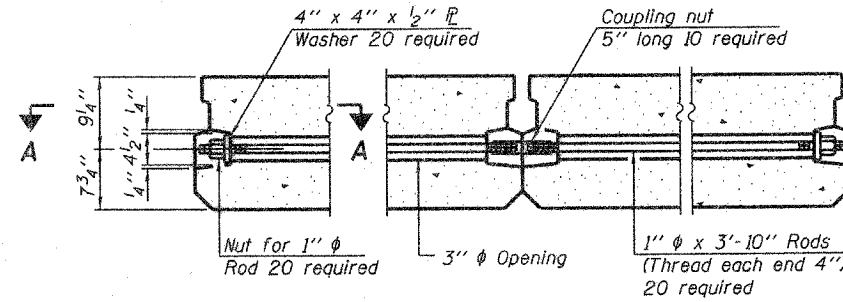
FABRIC BEARING PAD
(Exterior)

FIXED

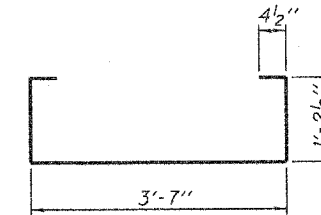
Note: Omit holes when using expansion bearings.



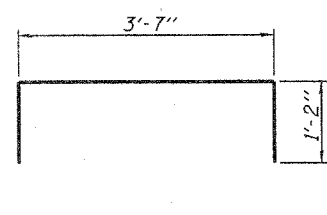
SECTION A-A



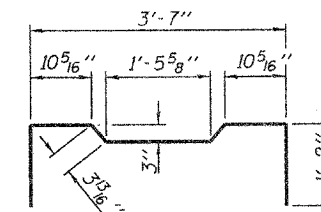
TYPICAL TRANSVERSE TIE ASSEMBLY



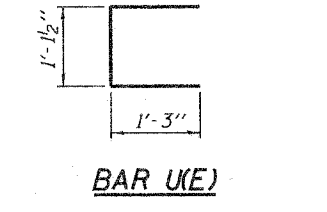
BAR S(E)



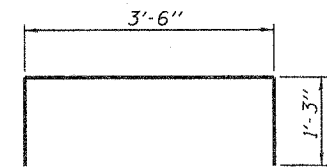
BAR S1(E)



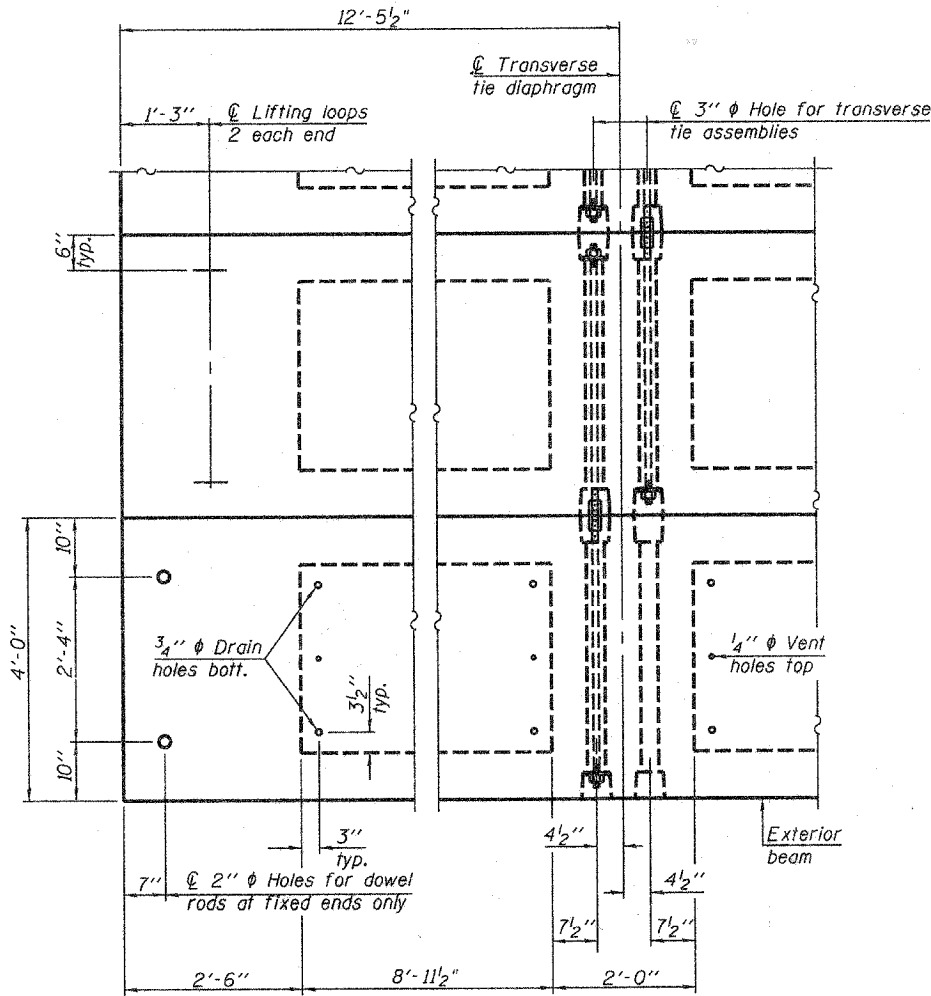
BAR S2(E)



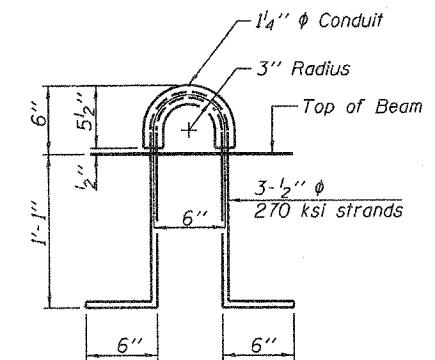
BAR U(E)



BAR U1(E)



PLAN VIEW



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,196
---	---------	-------

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

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. The 1" 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 (IL MOD), Grade 60. (See Special Provisions)
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter 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.

DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

PD-1748-0D

8-29-07

PPC DECK BEAM DETAILS (17" x 4'-0")

SPANS 1 AND 3

TR ROUTE 234A

OVER JORDAN CREEK

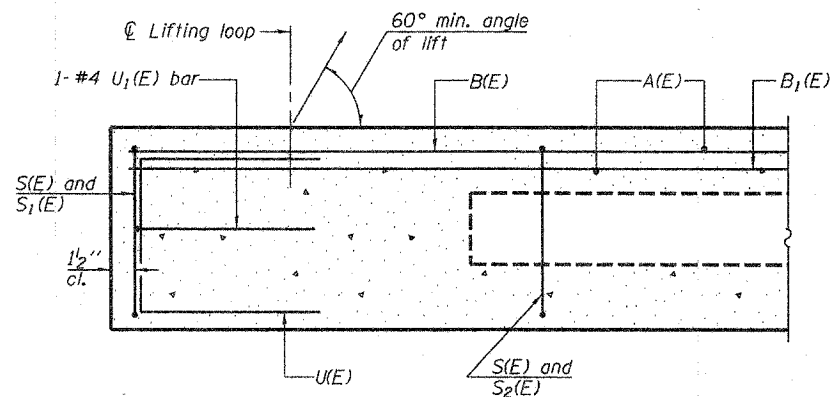
SECTION 04-20118-00-BR

SHELBY COUNTY

STA. 54+35

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

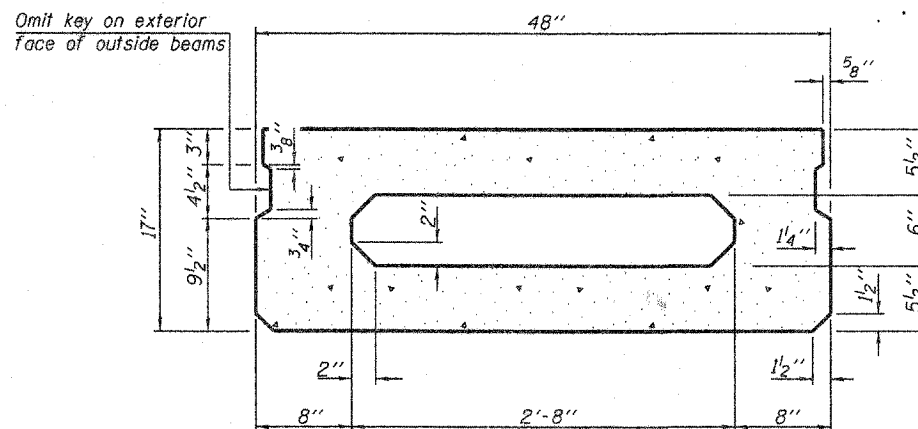
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 10
TR 234A	#	SHELBY	24	17	17 SHEETS
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		
* 04-20118-00-BR		CONTRACT NO. 95557			



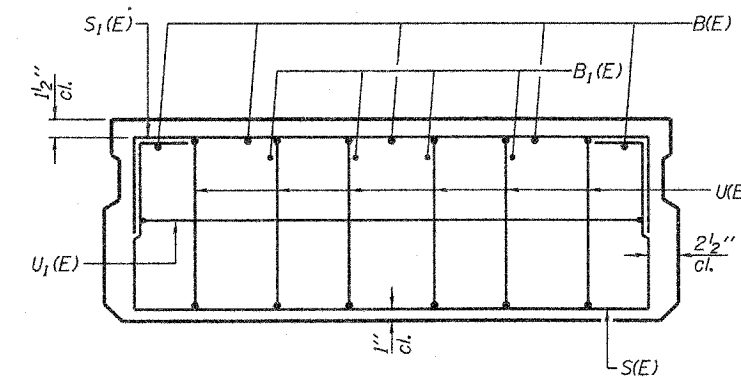
SECTION C-C

MIN. BAR LAP

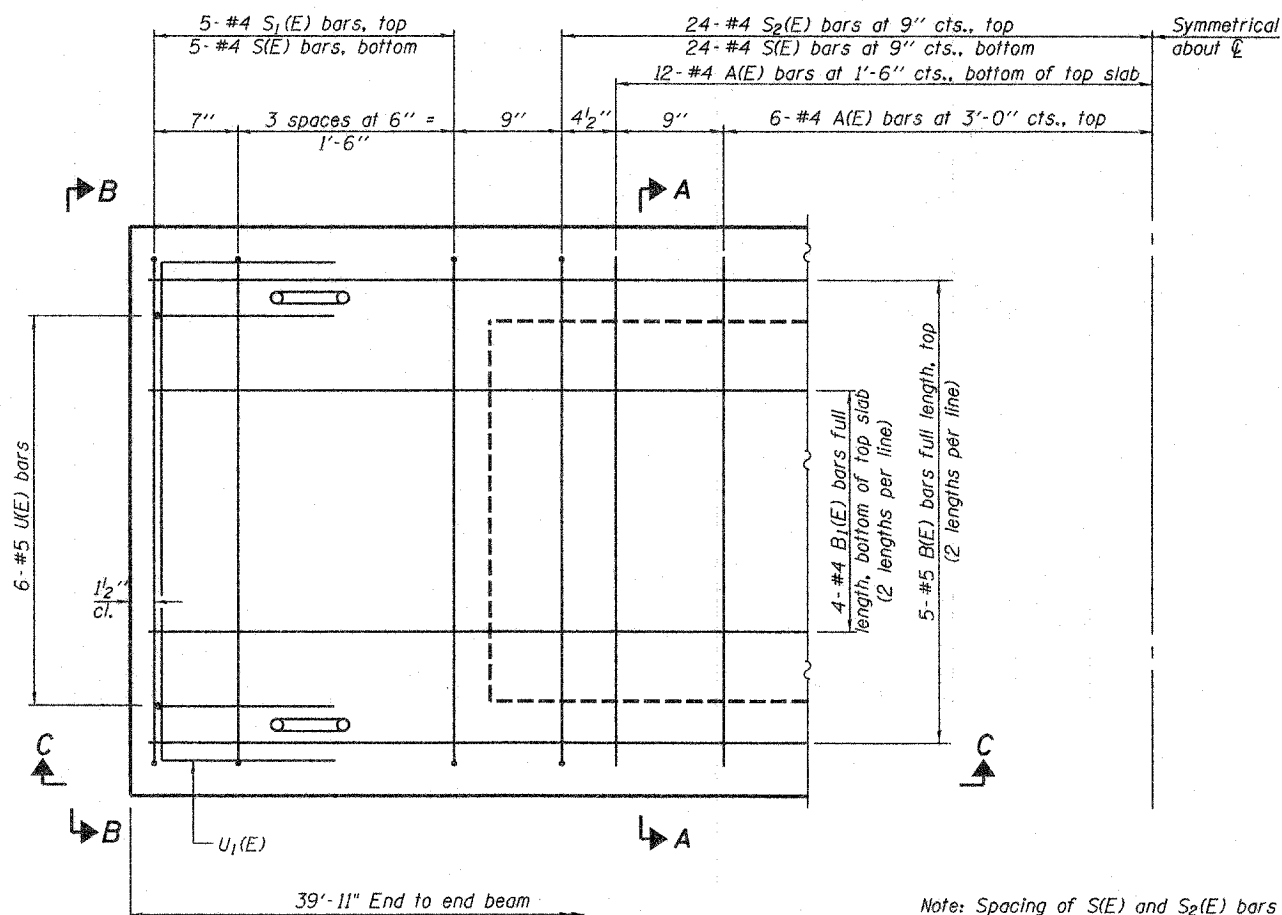
#4 Bar = 1'-8"
#5 Bar = 2'-2"



SECTION A-A
(Showing dimensions)

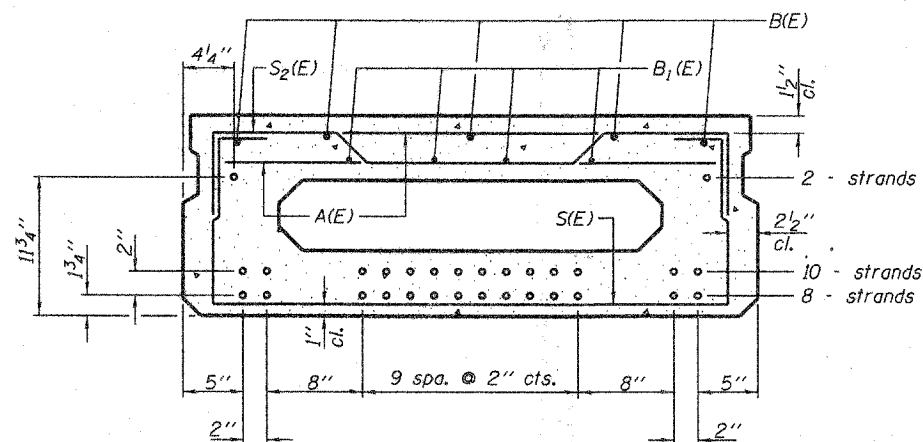


VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S2(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 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.

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	26	#4	3'-7"	—
B(E)	10	#5	20'-11"	—
B1(E)	8	#4	20'-8"	—
S(E)	38	#4	6'-9"	U
S1(E)	10	#4	5'-11"	U
S2(E)	48	#4	6'-2"	U
U(E)	12	#5	3'-8"	C
U1(E)	2	#4	6'-0"	C

PPC DECK BEAM DETAILS (17" X 4'-0")

SPAN 2

TR ROUTE 234A
OVER JORDAN CREEK

SECTION 04-20118-00-BR

SHELBY COUNTY

STA. 54+35

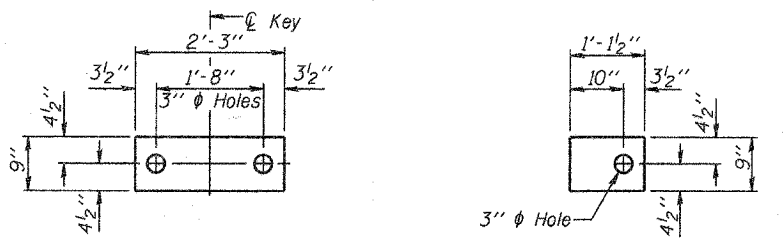
DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

PD-1748-0

8-29-07

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

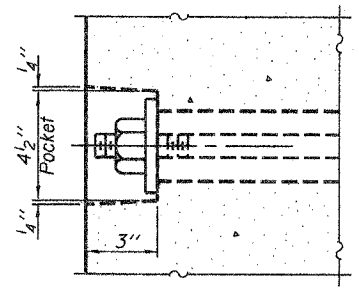
Operator: chehab@idot.illinois.gov Date: 5/23/2008 File Name: L:\pcc\DOT_BBS\BBS\BBS_Various_Various\05\CADD_Struct\Sheet\04-20118-00-BR.dgn



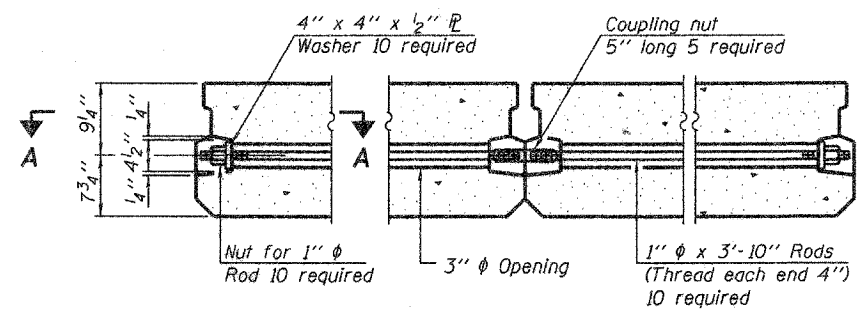
FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)

FIXED

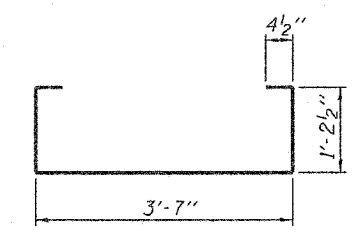
Note: Omit holes when using expansion bearings.



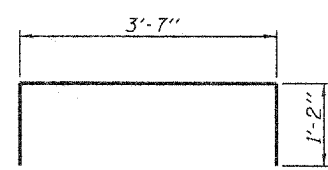
SECTION A-A



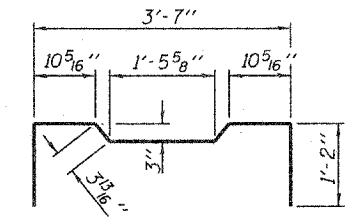
TYPICAL TRANSVERSE TIE ASSEMBLY



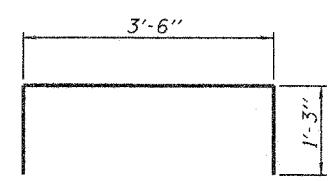
BAR S1(E)



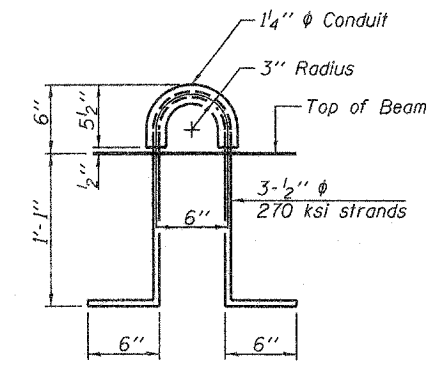
BAR S2(E)



BAR U1(E)



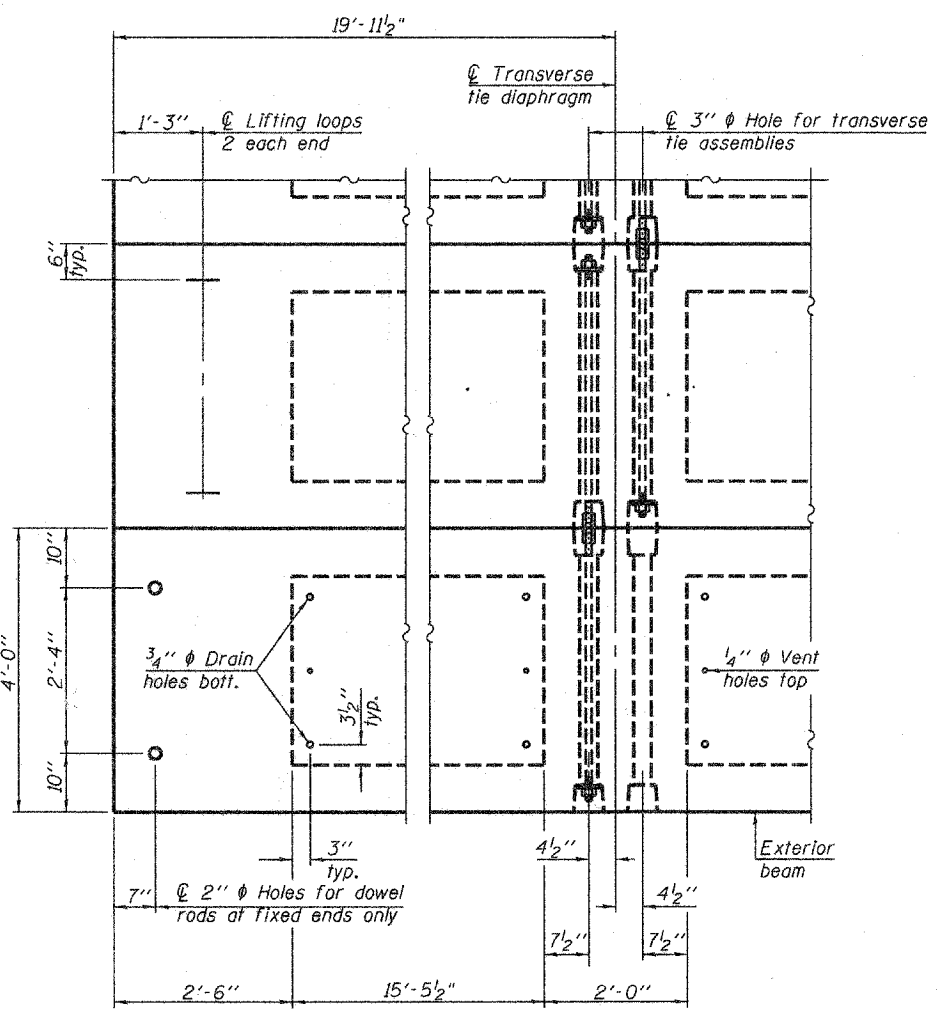
BAR U2(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	958
---	---------	-----



PLAN VIEW

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

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. The 1" 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 (IL MOD), Grade 60. (See Special Provisions)
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter 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.

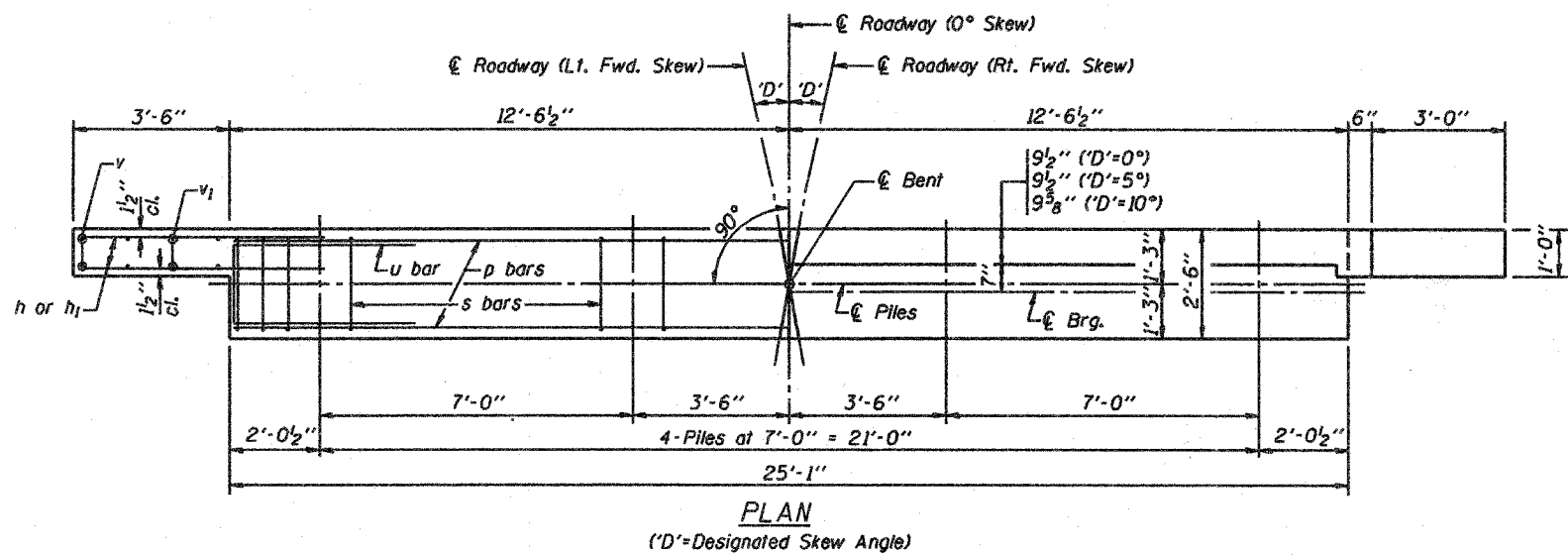
PPC DECK BEAM DETAILS (17" x 4'-0")

SPAN 2
TR ROUTE 234A
OVER JORDAN CREEK
SECTION 04-20118-00-BR
SHELBY COUNTY
STA. 54+35

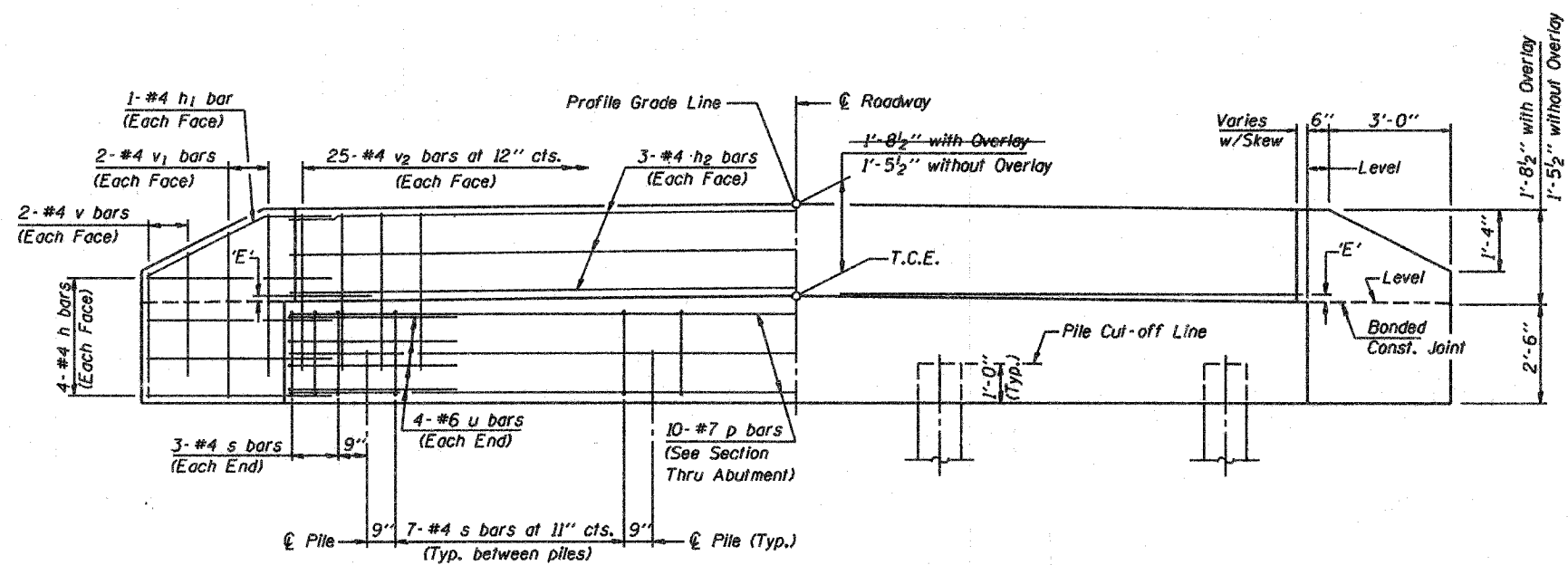
DESIGNED	SDS
CHECKED	CWC
DRAWN	DLH
CHECKED	SDS

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IOWA DUBUQUE, IOWA AMES, IOWA
E. DUBUQUE, ILLINOIS SPRINGFIELD, ILLINOIS ROCHESTER, MINNESOTA

Operator: dtheberling Date: 5/23/2008 File Name: L:\CAD\DOT\BBS\9556\BBS\Various\Various\9556\05\CADD_Straus\Shelby_04-20118-00-BR.dgn



PLAN
(D=Designated Skew Angle)



ELEVATION

DIMENSION 'E'

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 1/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/2"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

MAXIMUM PILE LOADS

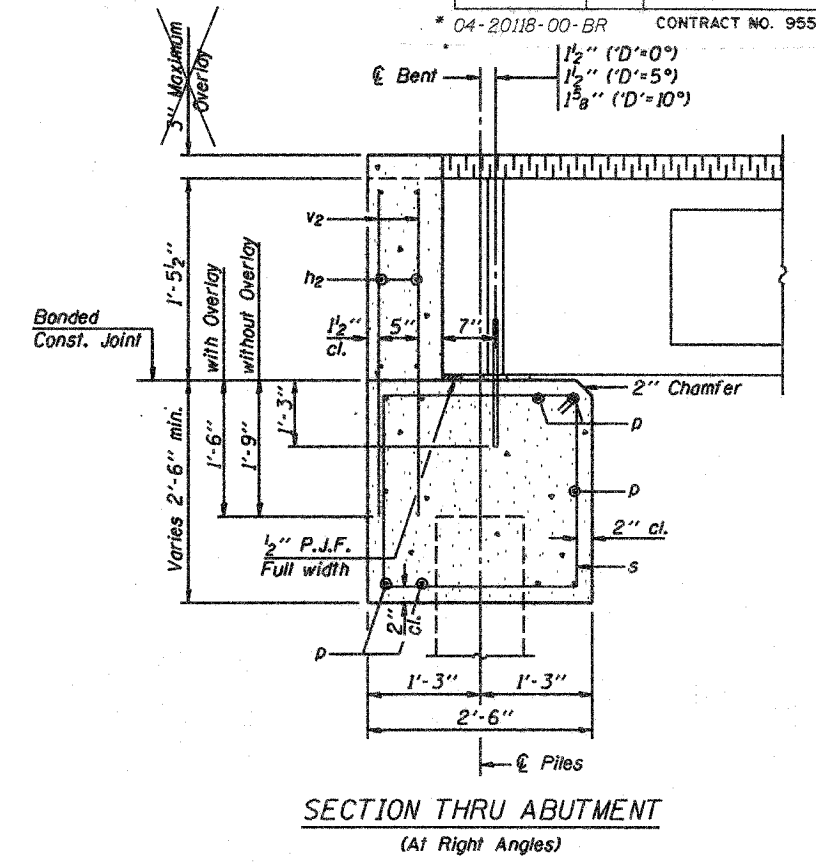
SPAN	TONS
25'	25
30'	26
35'	28
40'	30

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 the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

DESIGN STRESSES

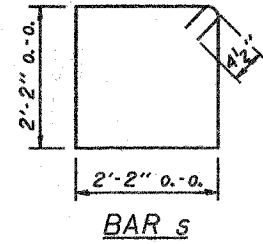
f'c = 3,500 psi
fy = 60,000 psi



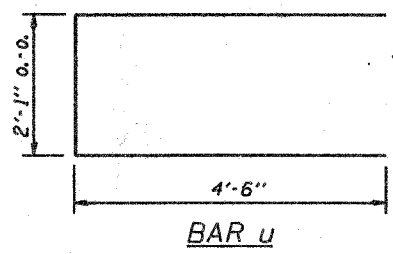
SECTION THRU ABUTMENT
(At Right Angles)

BILL OF MATERIAL FOR ONE ABUTMENT

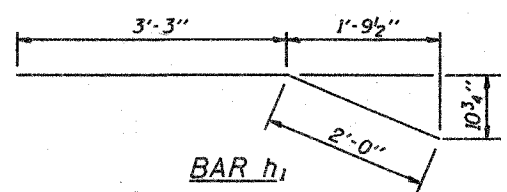
Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	24'-9"	—
p	10	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	2'-6"	—
v1	8	#4	3'-5"	—
v2	50	#4	3'-1"	—
Concrete Structures			8.3 Cu. Yds.	
Reinforcement Bars			1110 Lb.	



BAR s



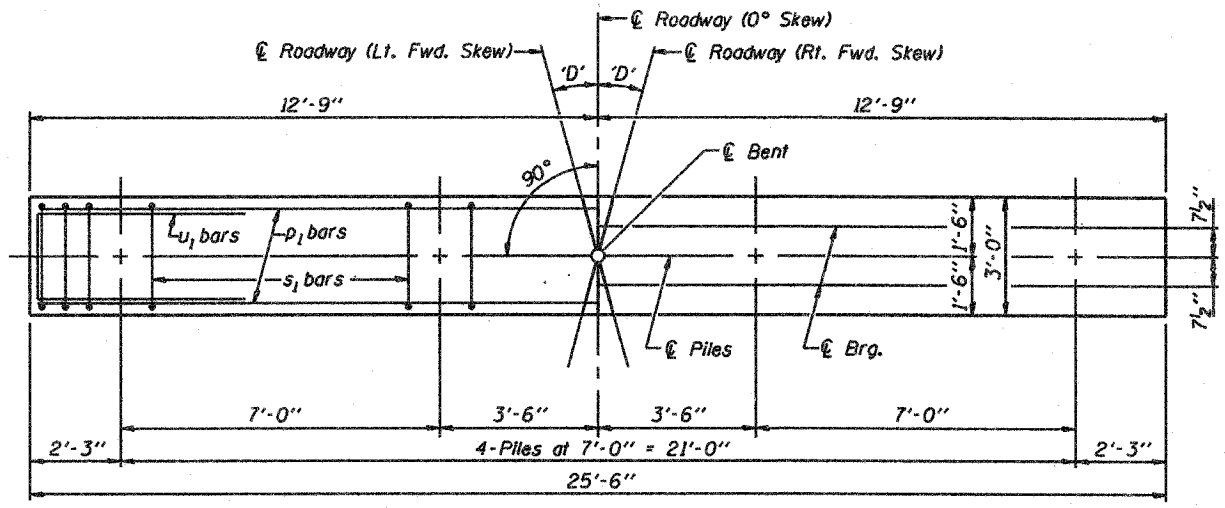
BAR u



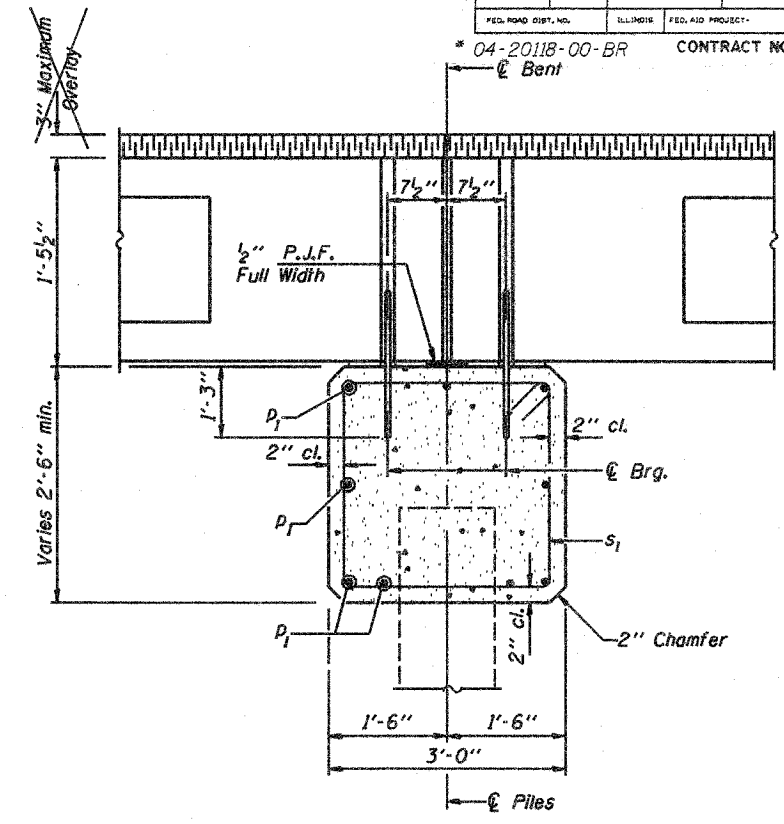
BAR h1

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

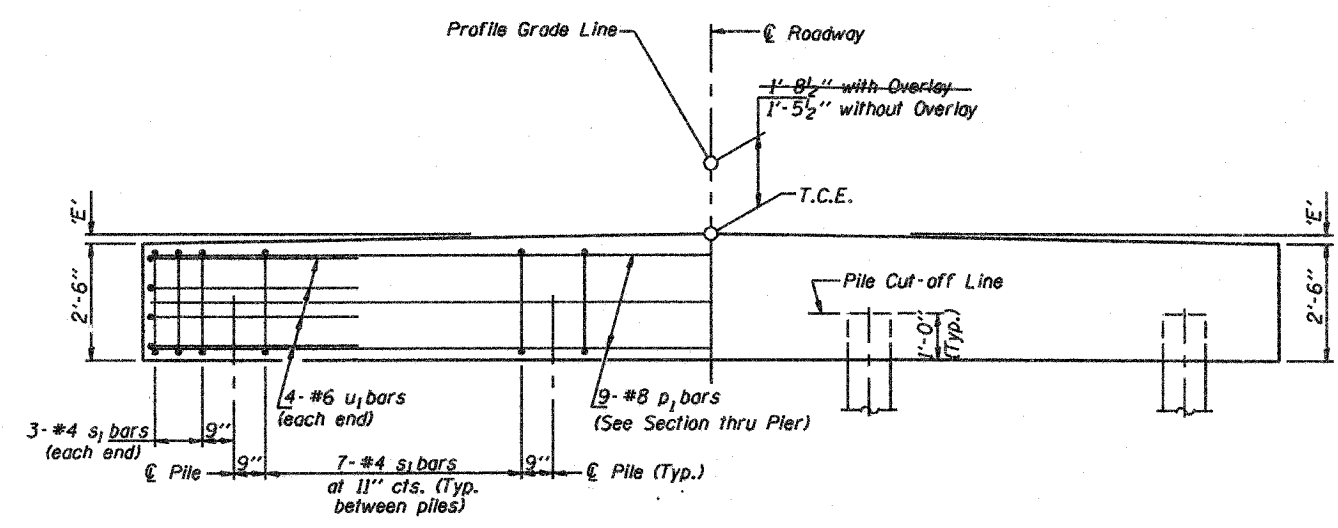
P.P.C. DECK BEAMS
 PILE BENT ABUTMENT
 24' RDWY. | 17" BMS. | 'D'=0°, 5° OR 10°
 STANDARD CA-2417-10



PLAN
(D' = Designated Skew Angle)



SECTION THRU PIER
(At Right Angles)



ELEVATION

DIMENSION 'E'

GRADE	D'=0°		D'=5°		D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 3/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/8"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

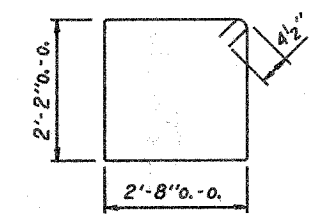
MAXIMUM PILE LOADS

SPAN	TONS
25'	34
30'	38
35'	42
40'	45

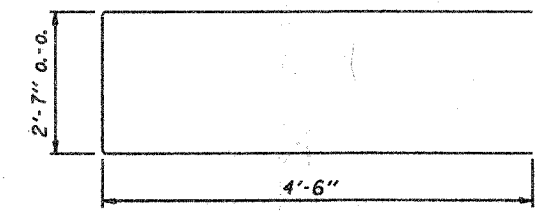
Larger of Either Span Supported by Pier.

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi



BAR s1



BAR u1

BILL OF MATERIAL FOR ONE PIER

Bar	No.	Size	Length	Shape
p1	9	#8	25'-2"	—
s1	27	#4	10'-5"	□
u1	8	#6	11'-7"	▭
Concrete Structures			7.4	Cu. Yds.
Reinforcement Bars			930	Lb.

NOTE

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.

**P.P.C. DECK BEAMS
PILE BENT PIER**

24' RDWY.	17" BMS.	D'=0°, 5° OR 10°
STANDARD CP-2417-10		

Illinois Department of Transportation

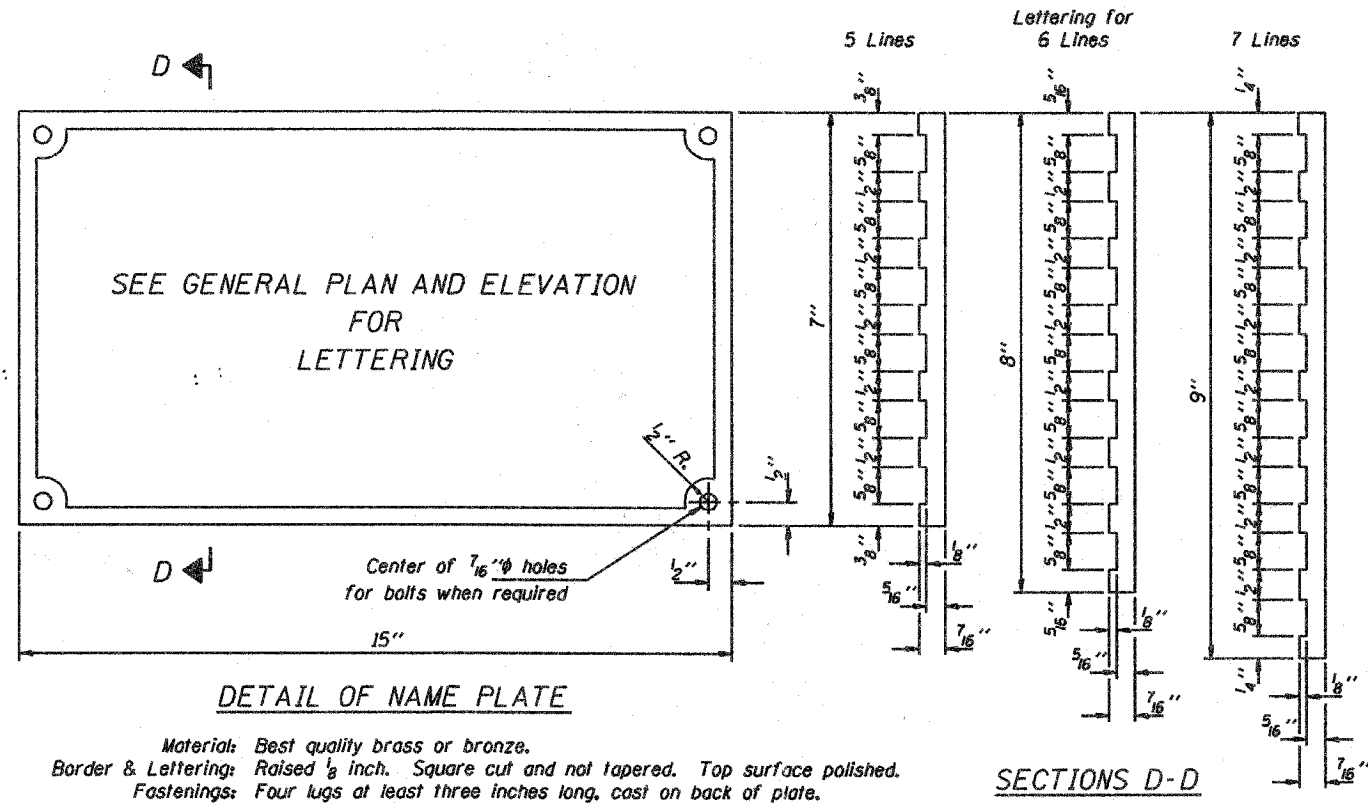
PASSED APRIL 4, 2005

Thom D. Demagala
Engineer of Bridge Design

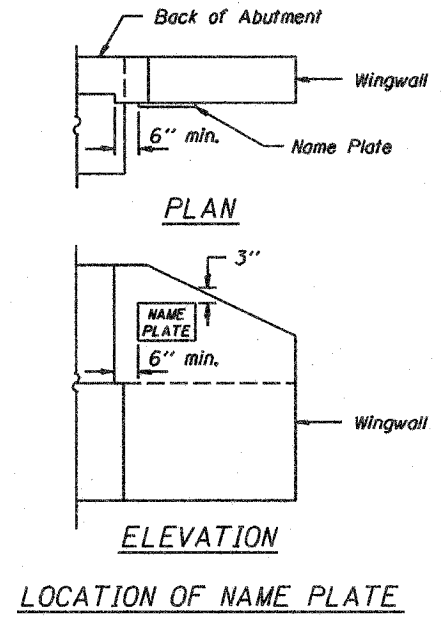
APPROVED APRIL 4, 2005

Ralph E. Anderson
Engineer of Bridges and Structures

100-1-1 03/05/01



Material: Best quality brass or bronze.
 Border & Lettering: Raised $\frac{1}{8}$ 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. Namanaka
 Engineer of Bridge Design

APPROVED APRIL 4, 2005

Ralph E. Walker
 Engineer of Bridges and Structures

568-1-4 03/05/1

NAME PLATE

STANDARD CN

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-III 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.

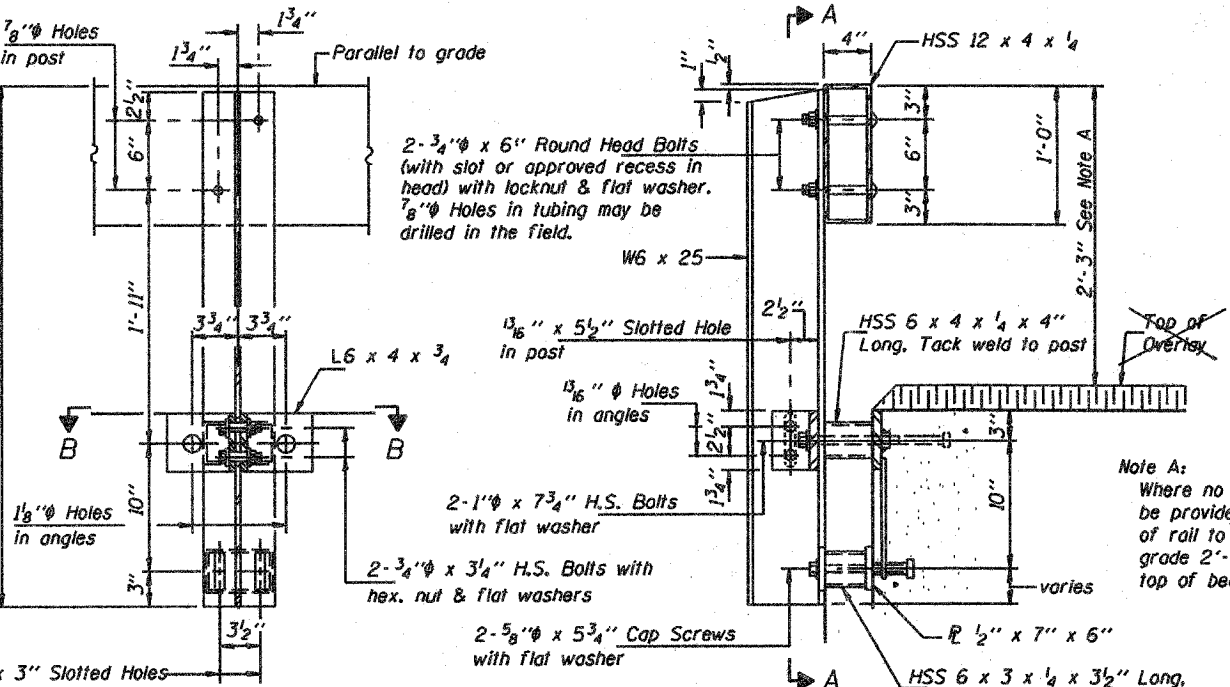
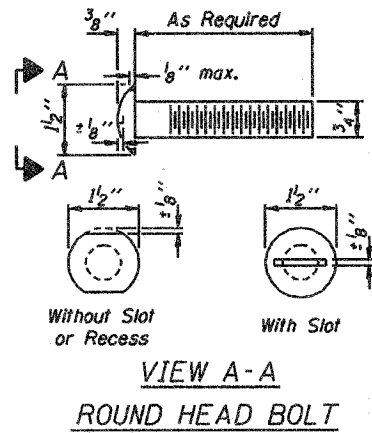
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

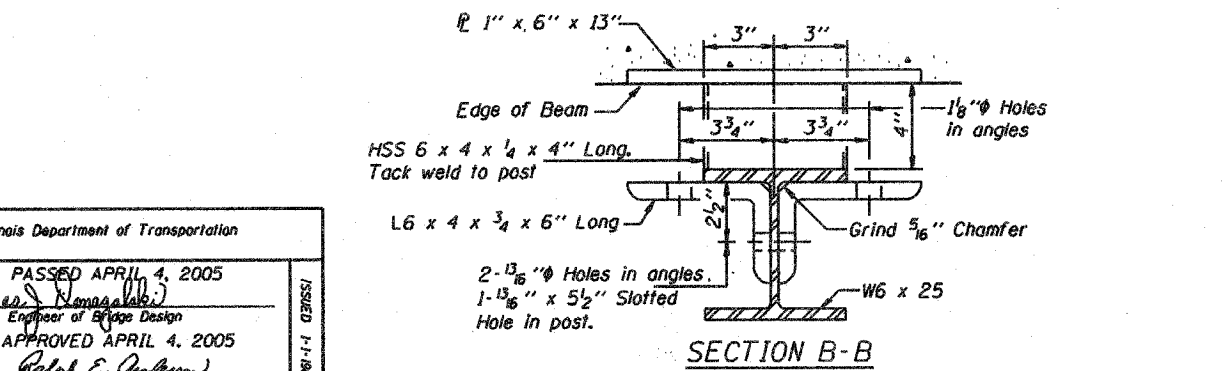
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

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 (1)(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.

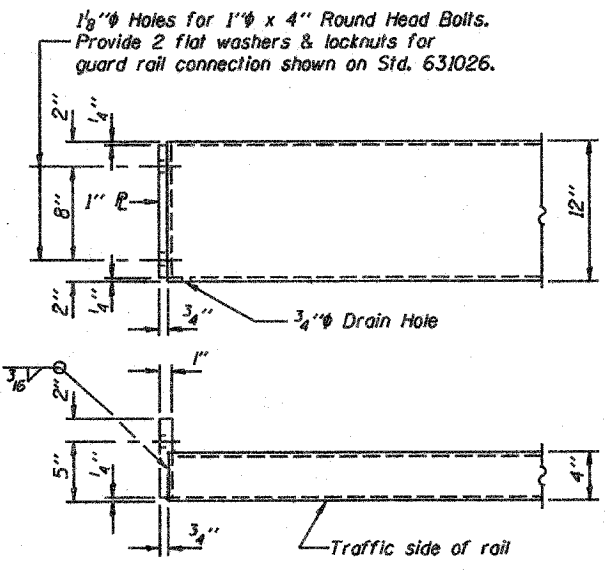
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6"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



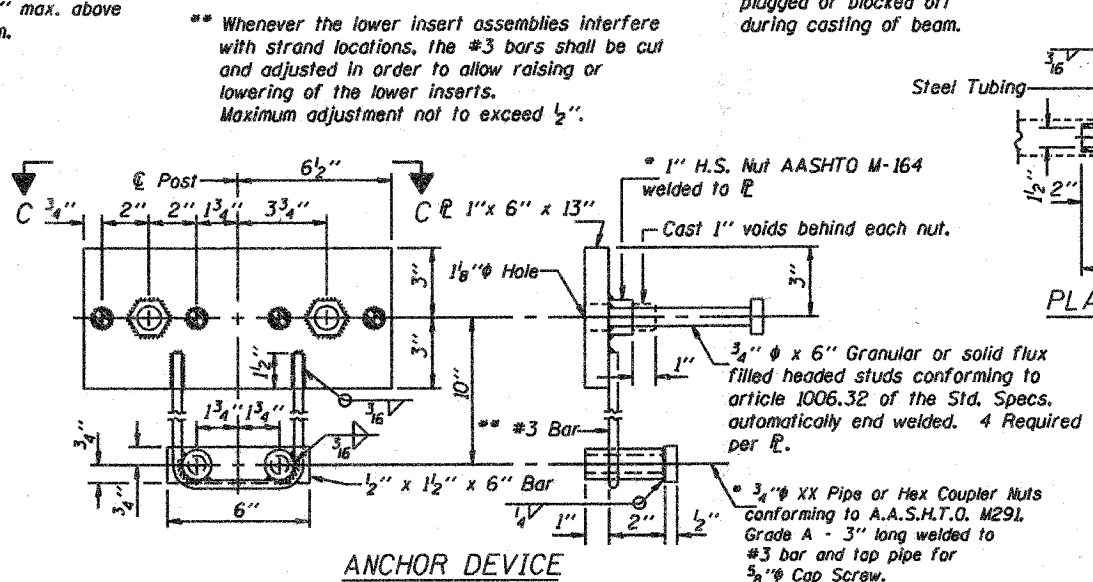
SECTION A-A



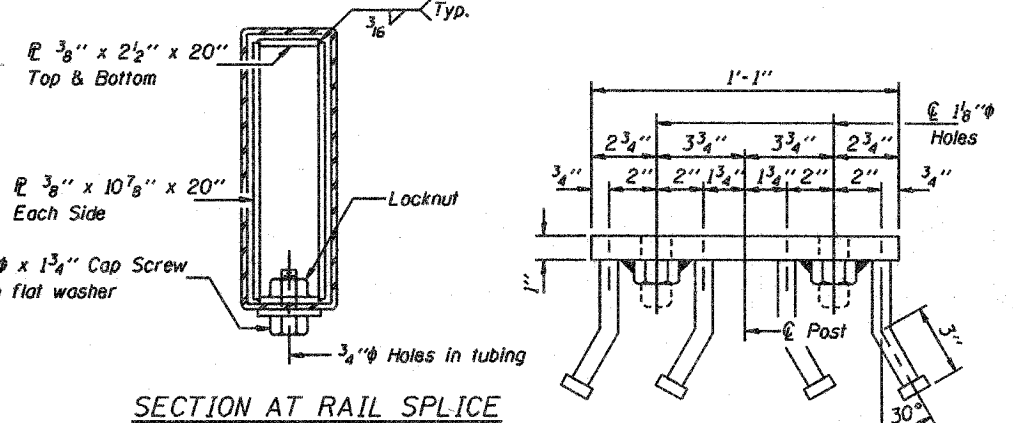
SECTION B-B



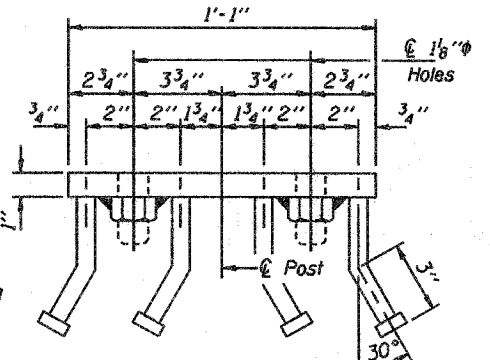
END OF RAIL DETAILS



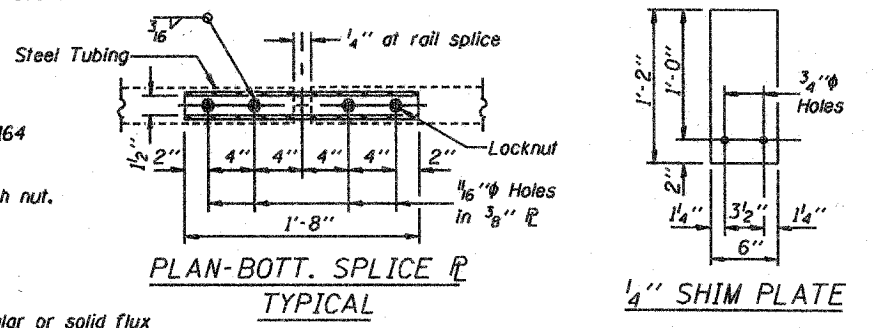
ANCHOR DEVICE



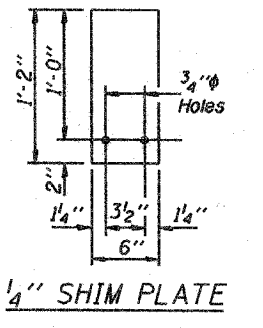
SECTION AT RAIL SPLICE



VIEW C-C



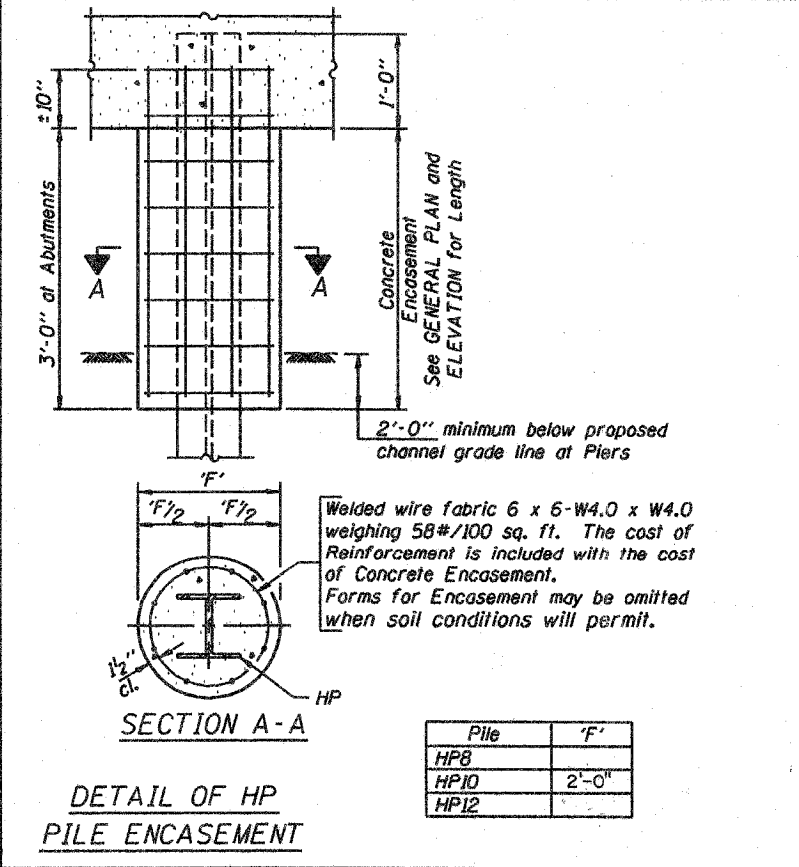
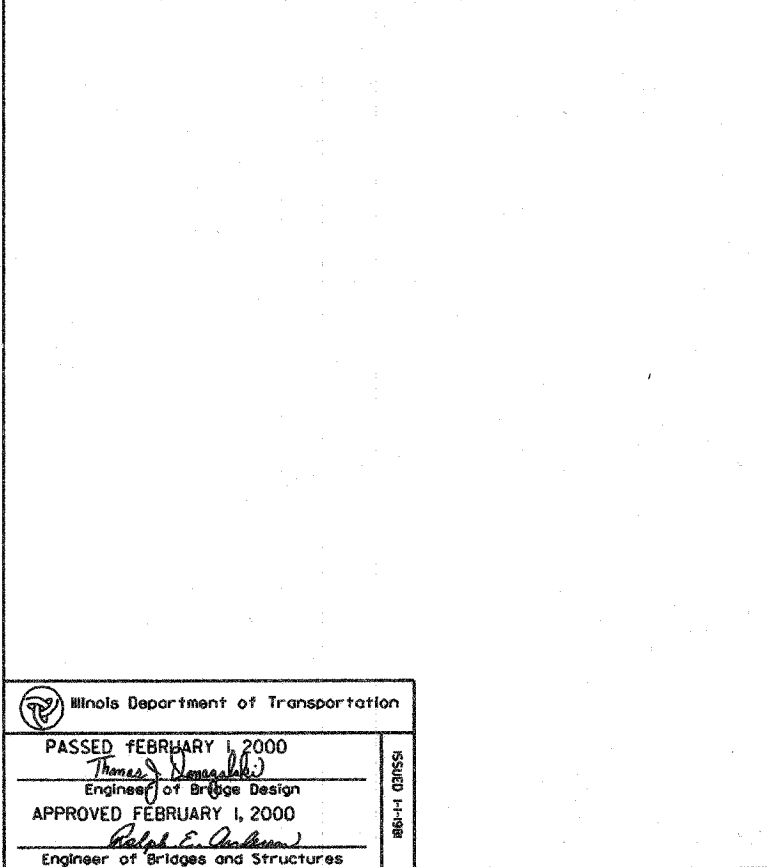
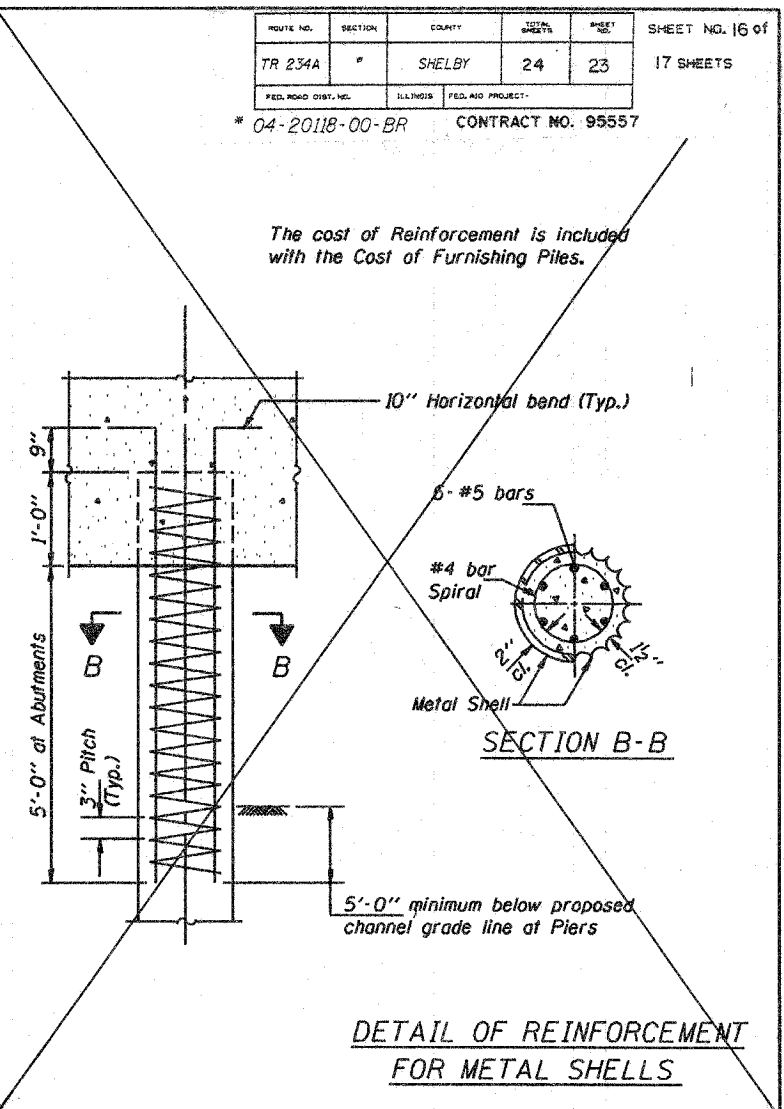
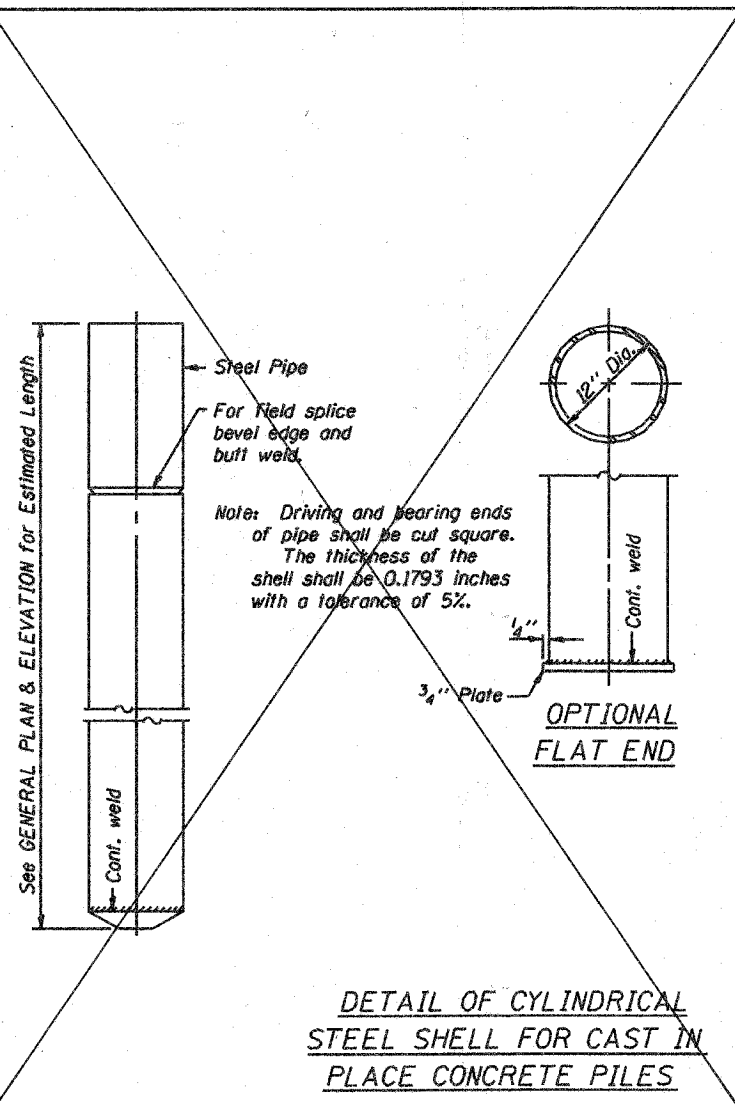
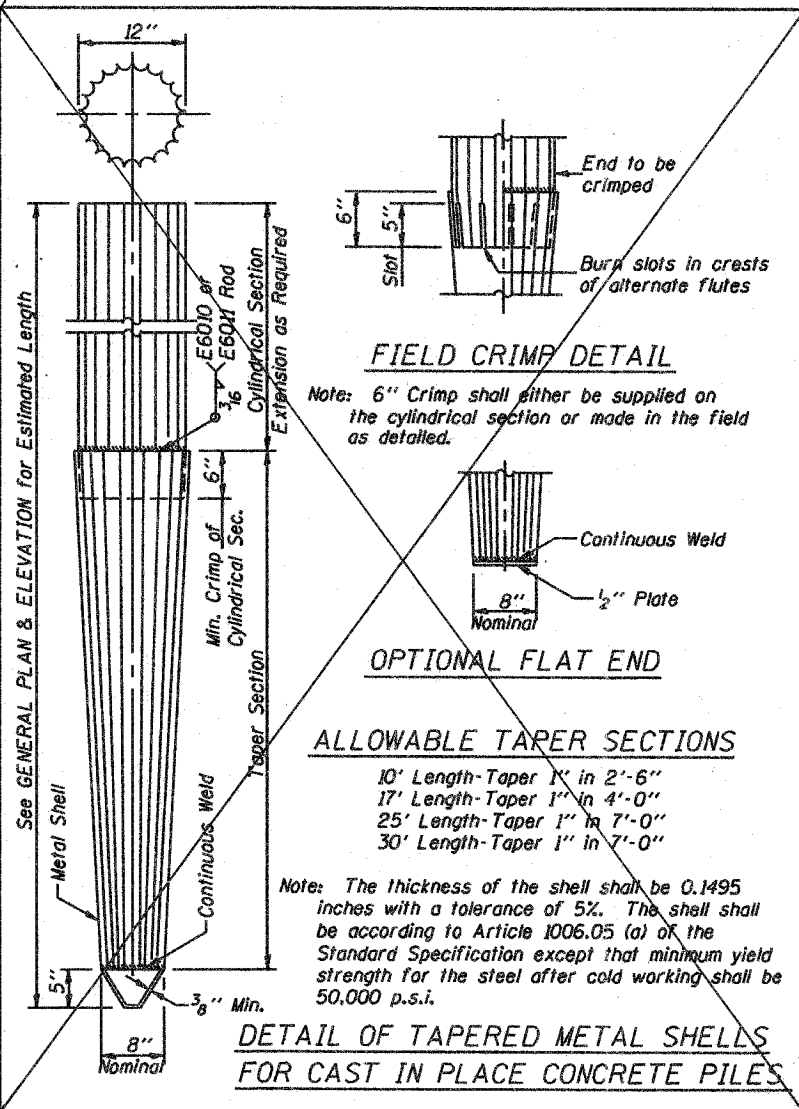
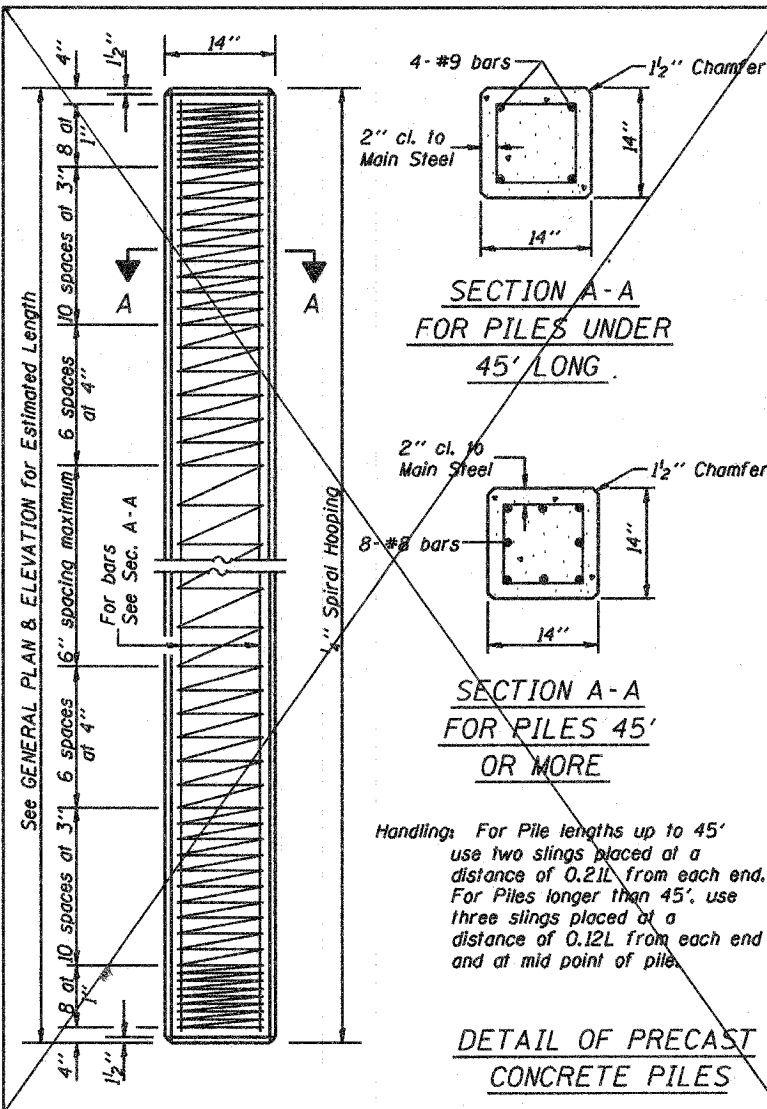
PLAN-BOTT. SPLICE TYPICAL



1/4\"/>

Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Approved by: [Signature]
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Approved by: [Signature]
 Engineer of Bridges and Structures

STEEL RAILING, TYPE S-1
 STANDARD CR-TS1



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.

PILE DETAILS

STANDARD CX-1

Illinois Department of Transportation

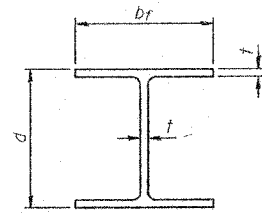
PASSED FEBRUARY 1, 2000

Thomas J. Hennig
Engineer of Bridge Design

APPROVED FEBRUARY 1, 2000

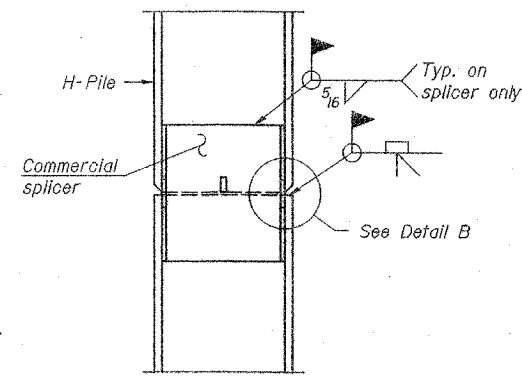
Ralph E. Anderson
Engineer of Bridges and Structures

186-H-031654

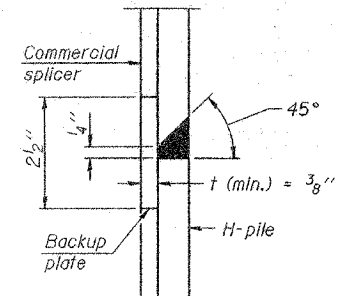


STEEL PILE TABLE

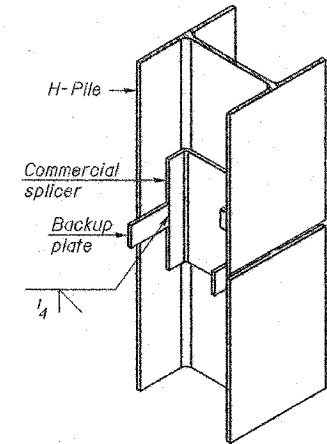
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

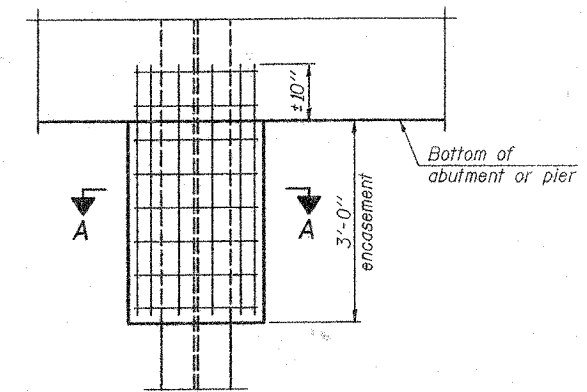


DETAIL "B"



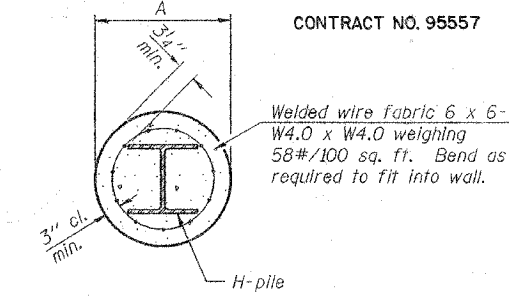
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



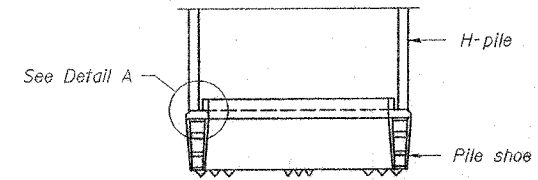
ELEVATION

PILE ENCASEMENT

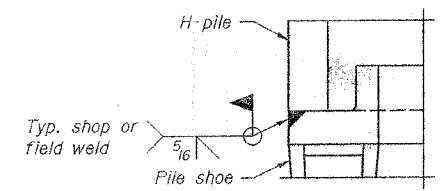


SECTION A-A

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

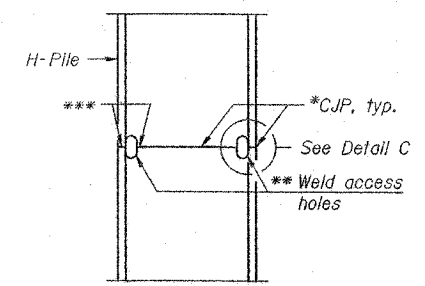


ELEVATION

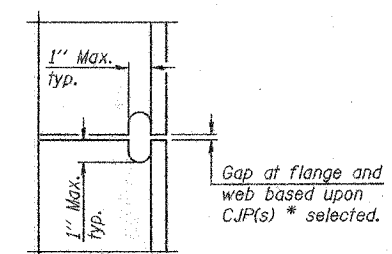


DETAIL A

H-PILE SHOE ATTACHMENT

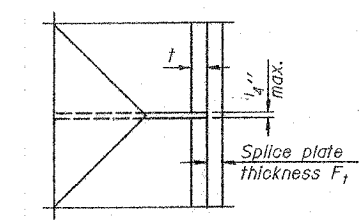


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F ₁	F _w	W	W ₁	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

STEEL H PILE DETAILS

* 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 1/4" from end of each pile.

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