11-06-2015 LETTING ITEM 052

MARION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15BR	MARION	57	1
	ILLINOIS	CONTRACT NO. 76A23		

52

D-98-017-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

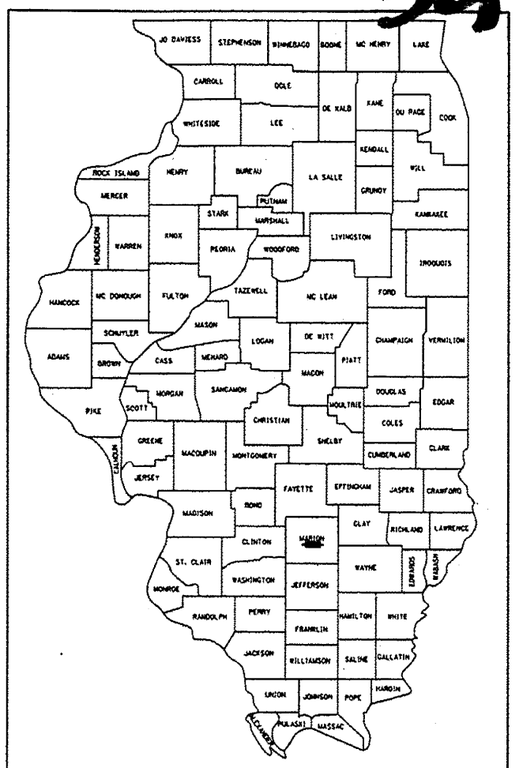
PROPOSED HIGHWAY PLANS

FAP ROUTE 327 A (US 50)
SECTION 15BR
PROJECT ACNHF-0327(064)
STRUCTURE REPLACEMENT
MARION COUNTY

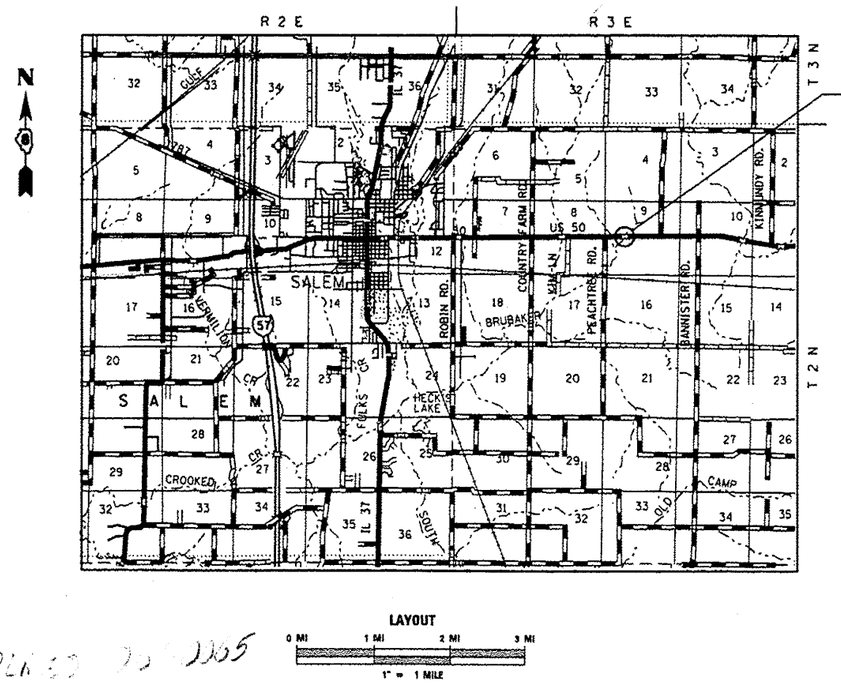
C-98-041-12

FOR INDEX OF SHEETS, SEE SHEET NO. 2

100%
10-29-2016



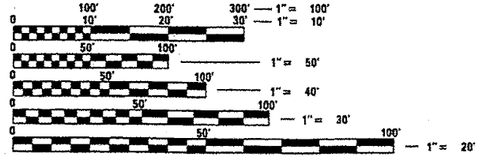
LOCATION OF SECTION INDICATED THUS: –



PROPOSED SINGLE SPAN SLAB
BRIDGE OVER BRUBAKER CREEK
43'-0" BACK TO BACK OF ABUTMENT
0 DEGREE SKEW STATION 39+39.00
RESURFACING LIMITS:
BEGIN STA. 36+90.00
END STA. 42+00.00

2012 ADT 5200
2022 ADT 5700
SU = 4.9%
MU = 11.2%

DESIGN DESIGNATION
N/A



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

REPLACED IN 2005

LAYOUT
0 MI 1 MI 2 MI 3 MI
1" = 1 MILE

GROSS LENGTH = 43 FT. = 0.008 MILE
NET LENGTH = 43 FT. = 0.008 MILE

LATITUDE: 38.62808
LONGITUDE: -88.87883

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Aug 14 20 15
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER
Oct 9 20 15
John D. Baranzelli, P.E. /a
ENGINEER OF DESIGN AND ENVIRONMENT
Oct 2 20 15
Omer Osman, P.E. /a
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

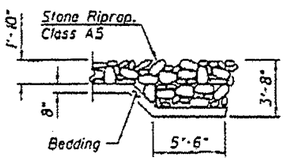
PROJECT ENGINEER: BILLIE OWEN (618) 346-3209
SQUAD CONTACT: JON DINTELMAN (618) 346-3195

CONTRACT NO. 76A23 061-0093

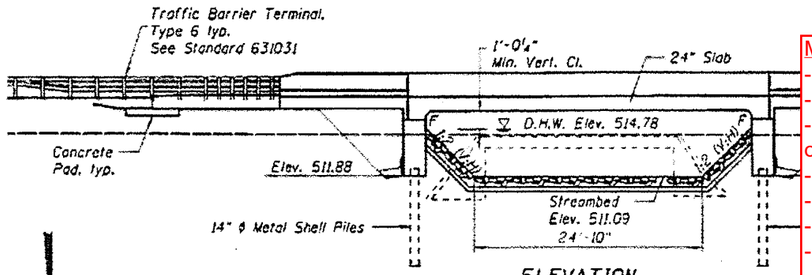
Bench Mark: B.M. 213 cut square on the Southeast Wingwall of Structure No. 061-0065 Sta. 1100+50.00 21' Lt. Elev. 517.35

Existing Structure: Structure No. 061-0065 was built in 1920 as a single span reinforced concrete deck slab structure with abutments founded on spread footings. It consists of a superstructure 22'-0" in length (back to back abutments) and provides a width of 40'-6" out to out. The structure was constructed with a 0 degree skew. The structure was reconstructed in 1951. The road shall be kept open to one lane traffic at all times utilizing stage construction.

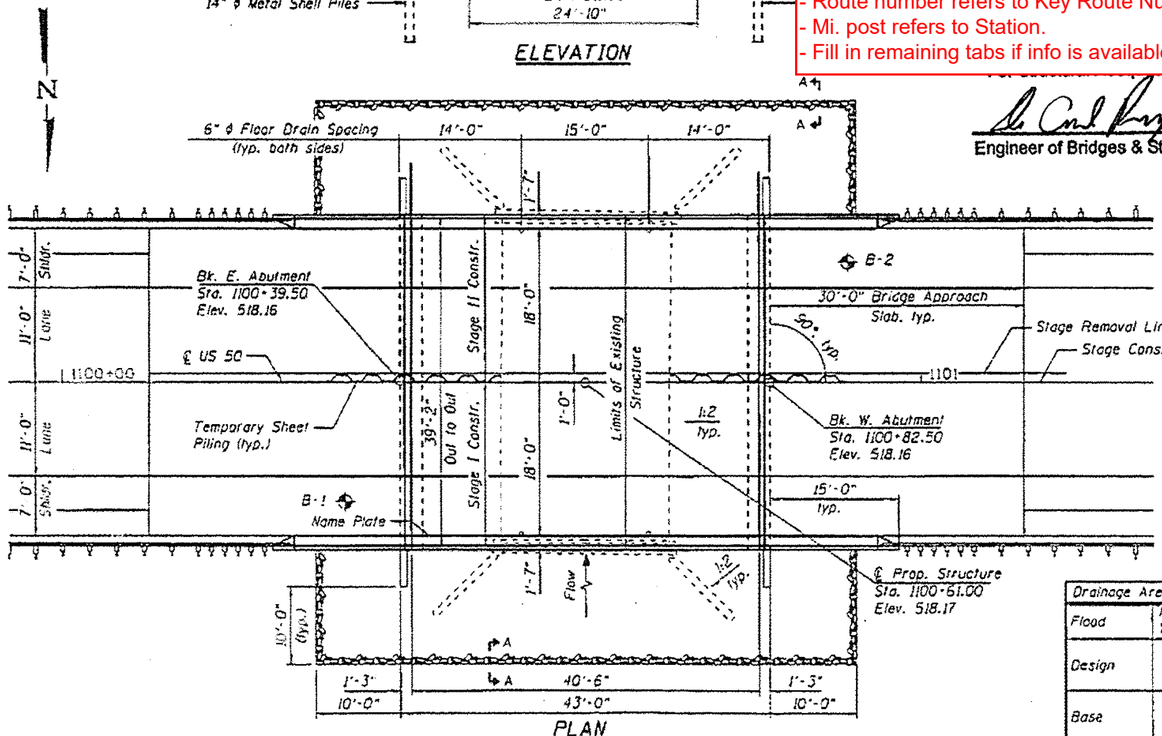
Salvage: No Salvage



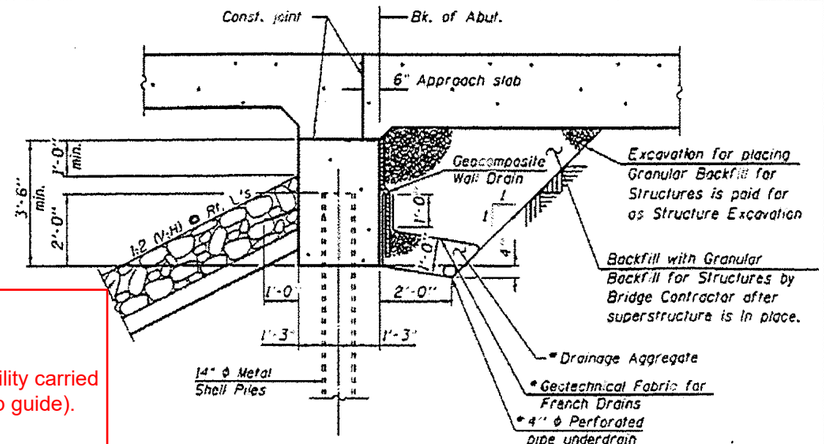
SECTION A-A



ELEVATION



PLAN



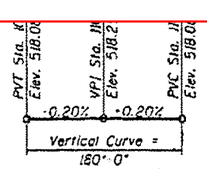
SECTION THRU ABUTMENT

* Included in the cost of Pipe Underdrains for Structures.

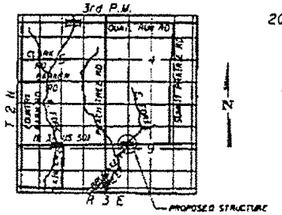
Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Main Window:
- "tut" suffix on Bridge & NBI ID indicates tutorial.
- "Template" should be unchecked in active models.
- Name includes initials of creator and latest modifier of model, facility carried over feature intersected, and acronym for structure type (see setup guide).
- Fields should match Structure Summary Report.
- Length refers to AASHTO Bridge Length (clear span).
- Route number refers to Key Route Number.
- Mi. post refers to Station.
- Fill in remaining tabs if info is available.

Engineer of Bridges & Structures



PROFILE GRADE
Along ℄ Roadway



LOCATION SKETCH

SEISMIC DATA
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (Sd1) = 0.190 g
Design Spectral Acceleration at 0.2 sec. (Sds) = 0.513 g
Soil Site Class = C

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

INDEX OF SHEETS

WATERWAY INFORMATION

Drainage Area = 1.9 Sq Miles — Low Grade Elev. 517.31 AT Sta. 1110+56.00

Flood	Freq. Yr.	SN	Q C.F.S. Exist.	Q C.F.S. Prop.	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	50	061-0065	717	747	89	112	514.78	1.66	1.42	516.44	516.20
		10'x4' Culvert	262	232	30	30					
		Total	979	979	118	142					
Base	100	061-0065	846	877	91	118	514.92	2.07	1.81	516.99	516.53
		10'x4' Culvert	304	273	31	31					
		Total	1,150	1,150	123	149					
Existing Overtopping	135	061-0065	904		92		514.97	2.34		517.31	
		10'x4' Culvert	318		32						
		Total	1,222		124						
Proposed Overtopping	333	061-0065		1,118		127	515.17		2.14		517.31
		10'x4' Culvert		322		35					
		Total		1,440		162					
Scour	10	061-0065	466	477	79	94	514.31	0.51	0.41	514.82	514.72
		10'x4' Culvert	138	127	25	25					
		Total	604	604	104	120					

Note: Existing Velocity(FT/S)/Frequency(YR) for SN 061-0065: 6.46/10; 8.40/50; 9.59/100; 10.15/500
Proposed Velocity(FT/S)/Frequency(YR) for SN 061-0093: 5.55/10; 7.15/50; 8.00/100; 9.51/500

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	511.88	511.88

STATION 1100+61.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. ROUTE 327 SEC. 15-BR
LOADING HL-93
STRUCTURE NO. 061-0093

LETTERING FOR NAME PLATE
See Std. 515001

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FRANCIS A SMITH JR 061-005880 LICENSED STRUCTURAL ENGINEER OF ILLINOIS

FRANCIS A. SMITH JR., P.E., S.E.
NO. 061-005880
EXP. DATE 11/30/2016

10/1/15

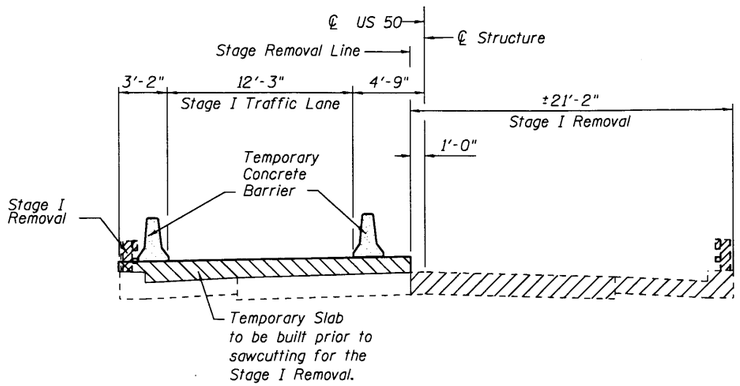
GENERAL PLAN AND ELEVATION
U.S. ROUTE 50 OVER BRUBAKER CREEK
F.A.P. 327 SEC (15-BR)
MARION COUNTY
STATION 1100+61.00
STRUCTURE NO. 061-0093

FILE NAME = 061B93-76A23 881 GPE.dgn	USER NAME = jkcook	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 9/30/2015	CHECKED - JMT	REVISED -

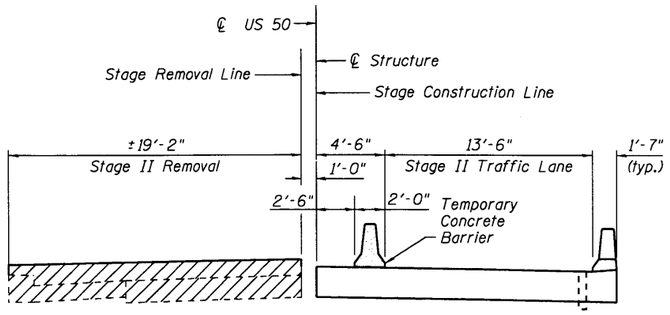
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 061-0093
SHEET NO. 1 OF 16 SHEETS

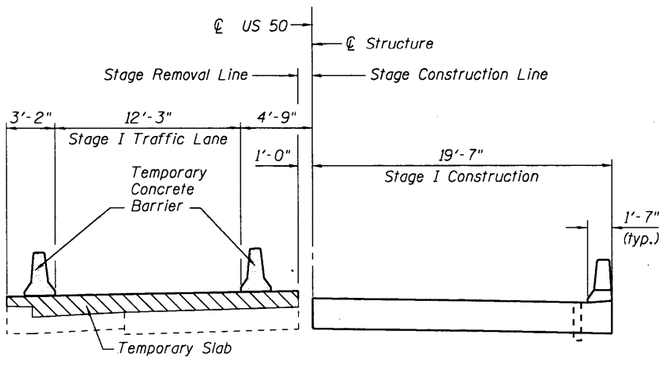
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	30
		CONTRACT NO. 76A23		
		ILLINOIS FED. AID PROJECT		



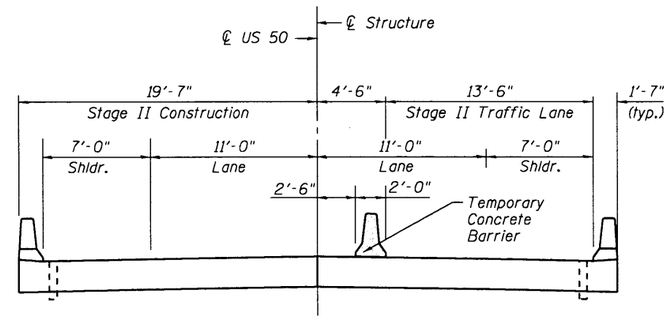
STAGE I REMOVAL



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.	Total
Granular Backfill for Structures	Cu. Yd.		83	83
Stone Riprap, Class A5	Sq. Yd.		376	376
Filter Fabric	Sq. Yd.		376	376
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		188	188
Concrete Structures	Cu. Yd.		52.2	52.2
Concrete Superstructure	Cu. Yd.	270.5		270.5
Bridge Deck Grooving	Sq. Yd.	385		385
Protective Coat	Sq. Yd.	470		470
Reinforcement Bars, Epoxy Coated	Pound	50,230	6,960	57,190
Bar Splicers	Each	282	58	340
Furnishing Metal Shell Piles 14"x0.25"	Foot		259	259
Driving Piles	Foot		259	259
Test Pile Metal Shells	Each		1	1
Name Plates	Each	1		1
Pipe Underdrains for Structures 4"	Foot		104	104
Temporary Sheet Piling	Sq. Ft.		426	426
Floor Drains	Each	4		4
Geocomposite Wall Drain	Sq. Yd.		52	52

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
3. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
4. The Contractor shall make allowance for the deflections of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
5. The Contractor is advised that the existing bridge slab is in a deteriorated condition with a reduced load-carrying capacity. It is the Contractor's responsibilty to account for the condition of the slab when developing construction procedures for stage construction and removal of the existing superstructure.

NOTES

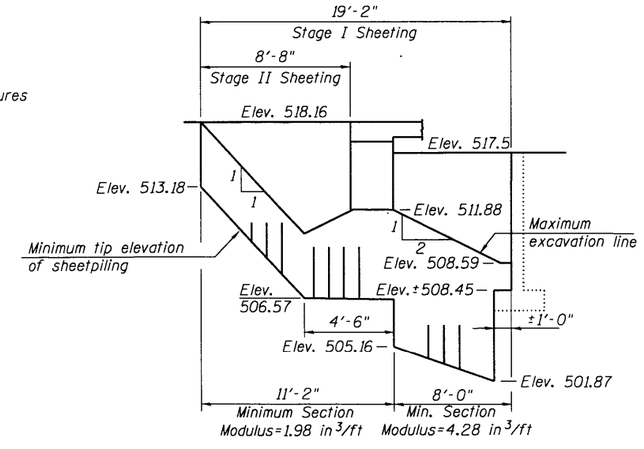
1. All staging cross sections are looking West.
2. For quantity of Temporary Concrete Barrier, see roadway plans.
3. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations signed and sealed by an Illinois Structural Engineer will be required for review and acceptance by the Engineer.
4. The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

LEGEND

Removal of Existing Structures

Temporary Slab

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax



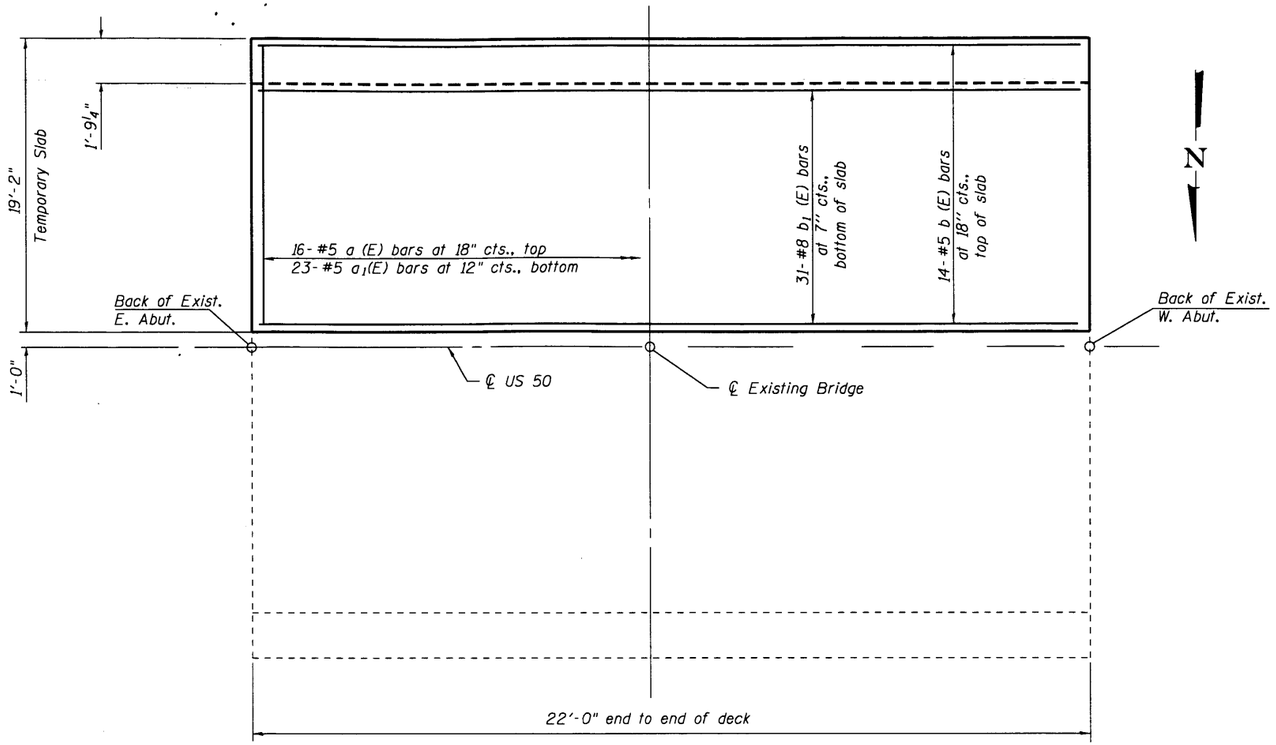
TEMPORARY SHEETING DETAIL

FILE NAME = 06100093-76A23-002-General Data.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - JMT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 061-0093
SHEET NO. 2 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	31
		CONTRACT NO. 76A23		
		ILLINOIS FED. AID PROJECT		



PARTIAL PLAN

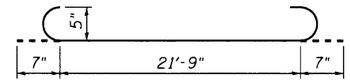
Notes:

Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

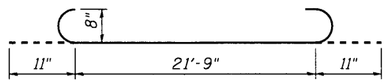
Cost of installation and subsequent removal of temporary slab shall be included with Removal of Existing Structures. All quantities shown for information only. If the Contractor chooses to alter the temporary slab design requirements shown on the plans, a design submittal including plan details and calculations sealed by a Licensed Illinois Structural Engineer will be required for review and acceptance by the Engineer.

TEMPORARY SLAB BILL OF MATERIAL FOR INFORMATION ONLY

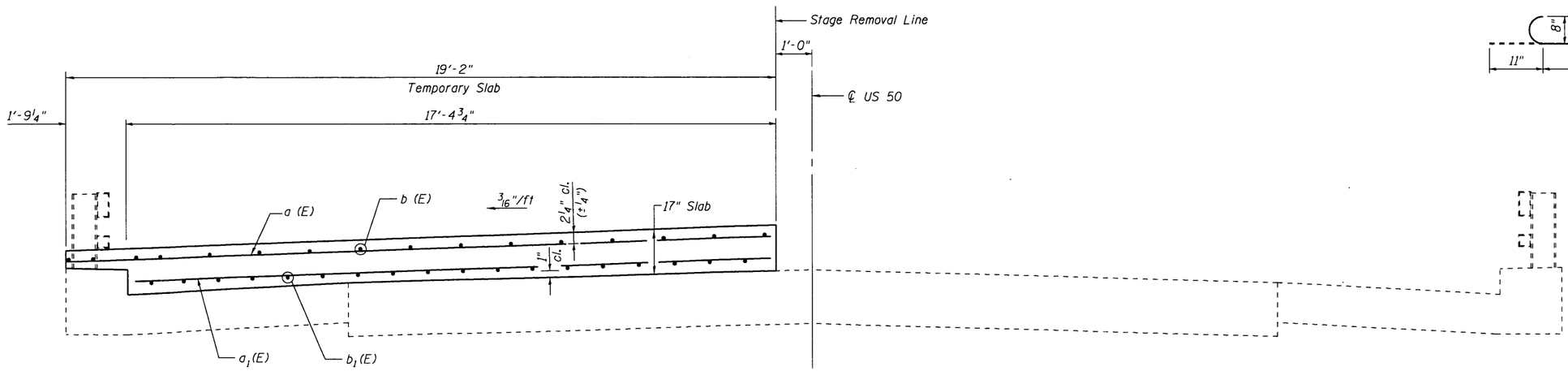
Bar	No.	Size	Length	Shape
a (E)	16	#5	18'-11"	——
a_1 (E)	23	#5	17'-1"	——
b (E)	14	#5	22'-11"	⊂——⊃
b_1 (E)	31	#8	23'-7"	⊂——⊃
Reinforcement Bars, Epoxy Coated			Lbs.	3,020
Concrete Superstructure			Cu. Yds.	21.4



bar b(E)



bar b_1(E)



CROSS SECTION
(Looking West)

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

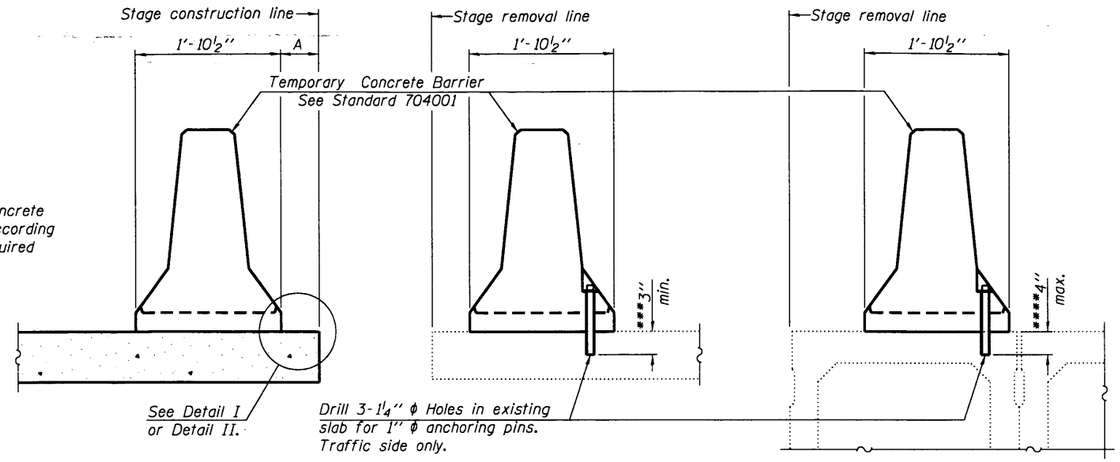
FILE NAME = 0610093-76A23-003.Temp Slab Details.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - JMT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SLAB DETAILS
STRUCTURE NO. 061-0093
SHEET NO. 3 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	32
		CONTRACT NO. 76A23		
		ILLINOIS FED. AID PROJECT		

When "A" is 3'-1" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-1".



NEW SLAB **EXISTING SLAB** **EXISTING DECK BEAM**

SECTIONS THRU SLAB OR DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" 'x "W" steel PL to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

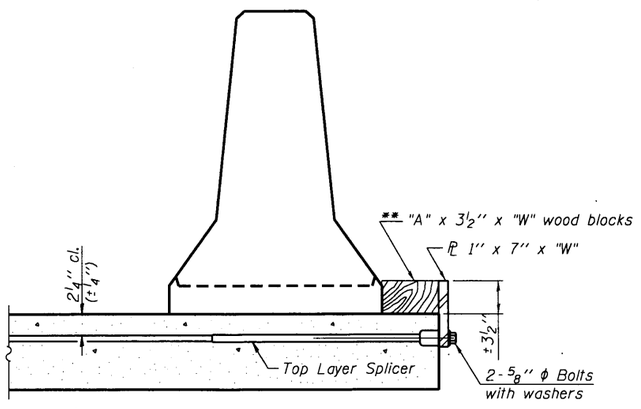
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of retainer assembly is included with Temporary Concrete Barrier.

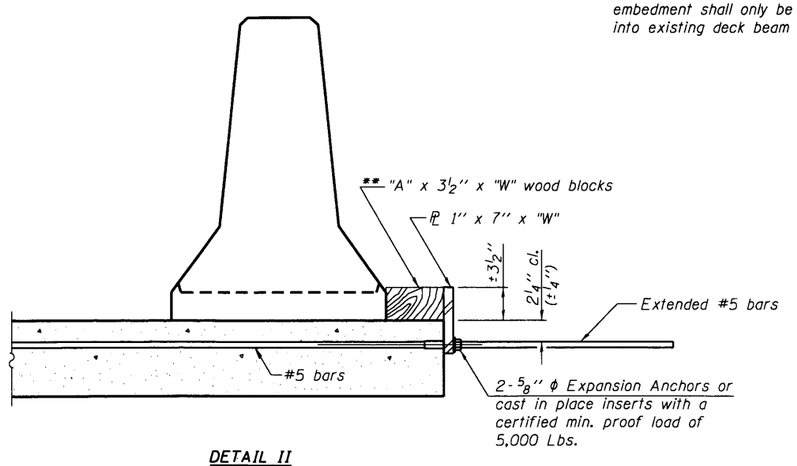
The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

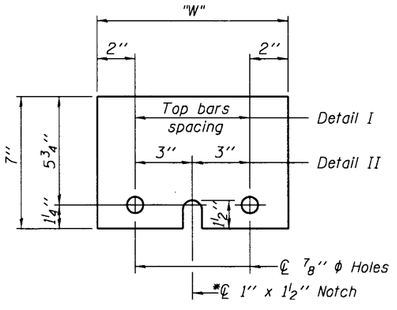
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x "W"

* Required only with Detail II

RETAINER ASSEMBLY

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

R-27

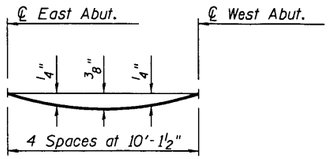
1-12-15

FILE NAME = 06180093-76A23-004_Temp Concrete Barrier.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 061-0093
SHEET NO. 4 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	33
		CONTRACT NO. 76A23		
	ILLINOIS FED. AID PROJECT			



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection.

FACE OF SOUTH PARAPET

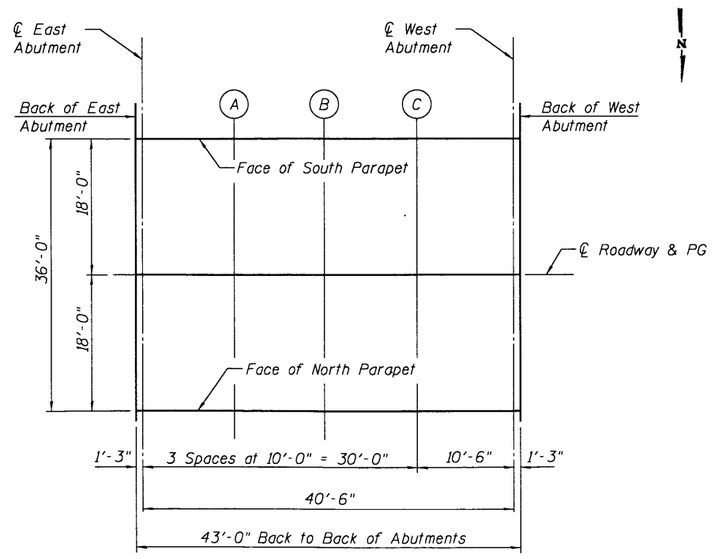
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of E. Abut.	1100+39.50	-18.00	517.85	517.85
CL E. Abut.	1100+40.75	-18.00	517.85	517.85
A	1100+50.75	-18.00	517.85	517.87
B	1100+60.75	-18.00	517.85	517.89
C	1100+70.75	-18.00	517.85	517.87
CL W. Abut	1100+81.25	-18.00	517.85	517.85
Back of W. Abut.	1100+82.50	-18.00	517.85	517.85

PG & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of E. Abut.	1100+39.50	0.00	518.16	518.16
CL E. Abut.	1100+40.75	0.00	518.17	518.17
A	1100+50.75	0.00	518.17	518.19
B	1100+60.75	0.00	518.17	518.20
C	1100+70.75	0.00	518.17	518.19
CL W. Abut	1100+81.25	0.00	518.17	518.17
Back of W. Abut.	1100+82.50	0.00	518.16	518.16

FACE OF NORTH PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of E. Abut.	1100+39.50	18.00	517.85	517.85
CL E. Abut.	1100+40.75	18.00	517.85	517.85
A	1100+50.75	18.00	517.85	517.87
B	1100+60.75	18.00	517.85	517.89
C	1100+70.75	18.00	517.85	517.87
CL W. Abut	1100+81.25	18.00	517.85	517.85
Back of W. Abut.	1100+82.50	18.00	517.85	517.85



PLAN

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FILE NAME = 0610093-76A23-005-Top of slab elev.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 061-0093
SHEET NO. 5 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	34
		CONTRACT NO. 76A23		
	ILLINOIS	FED. AID PROJECT		

FACE OF SOUTH PARAPET - EAST APPROACH

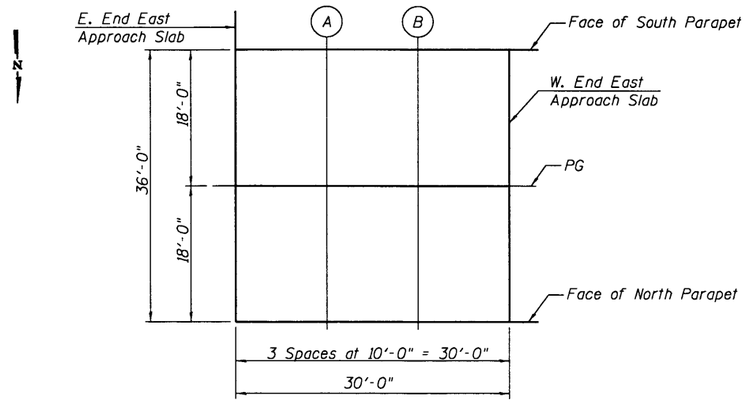
Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Slab	1100+10.00	-18.00	517.82
A	1100+20.00	-18.00	517.83
B	1100+30.00	-18.00	517.84
W. End East Appr. Slab	1100+40.00	-18.00	517.85

PG & STAGE CONSTRUCTION JOINT - EAST APPROACH

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Slab	1100+10.00	0.00	518.14
A	1100+20.00	0.00	518.15
B	1100+30.00	0.00	518.16
W. End East Appr. Slab	1100+40.00	0.00	518.17

FACE OF NORTH PARAPET - EAST APPROACH

Location	Station	Offset	Theoretical Grade Elevations
E. End East Appr. Slab	1100+10.00	18.00	517.82
A	1100+20.00	18.00	517.83
B	1100+30.00	18.00	517.84
W. End East Appr. Slab	1100+40.00	18.00	517.85



PLAN - EAST APPROACH

FACE OF SOUTH PARAPET - WEST APPROACH

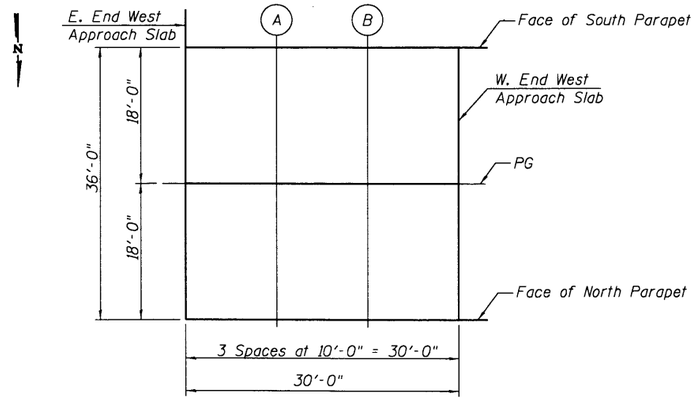
Location	Station	Offset	Theoretical Grade Elevations
E. End West Appr. Slab	1100+82.00	-18.00	517.85
A	1100+92.00	-18.00	517.84
B	1101+02.00	-18.00	517.83
W. End West Appr. Slab	1101+12.00	-18.00	517.82

PG & STAGE CONSTRUCTION JOINT - WEST APPROACH

Location	Station	Offset	Theoretical Grade Elevations
E. End West Appr. Slab	1100+82.00	0.00	518.17
A	1100+92.00	0.00	518.16
B	1101+02.00	0.00	518.15
W. End West Appr. Slab	1101+12.00	0.00	518.14

FACE OF NORTH PARAPET - WEST APPROACH

Location	Station	Offset	Theoretical Grade Elevations
E. End West Appr. Slab	1100+82.00	18.00	517.85
A	1100+92.00	18.00	517.84
B	1101+02.00	18.00	517.83
W. End West Appr. Slab	1101+12.00	18.00	517.82



PLAN - WEST APPROACH

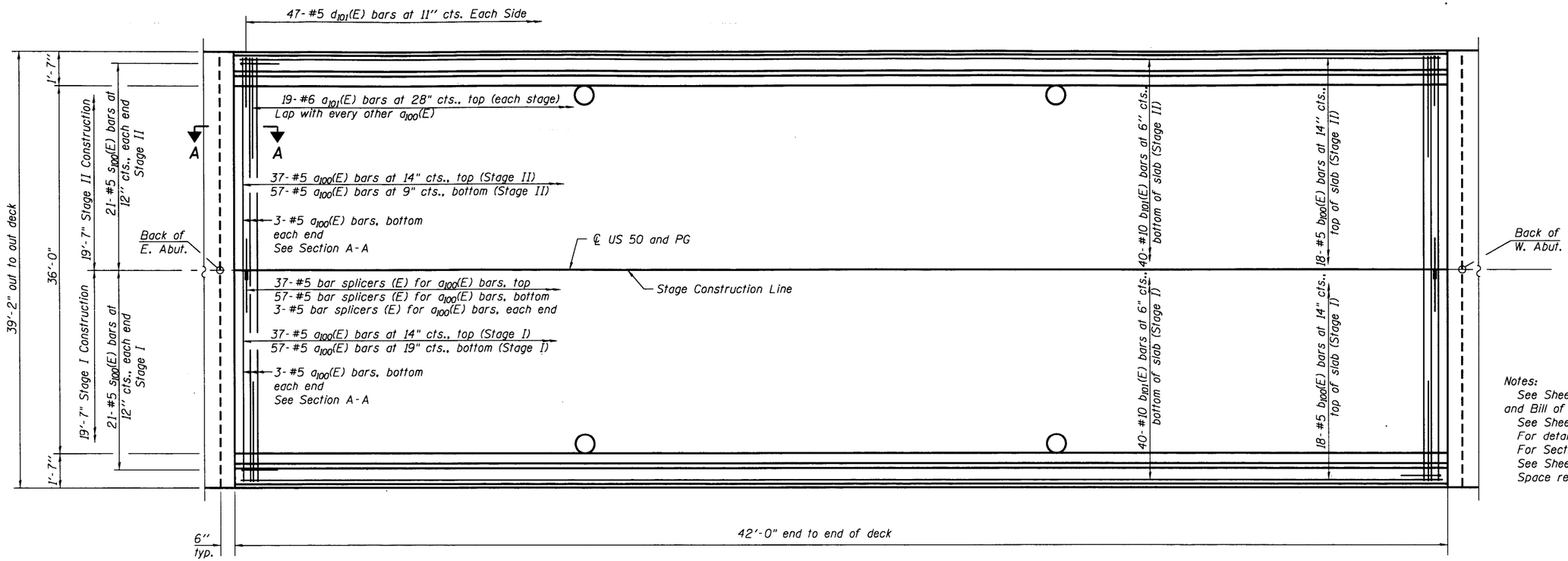
TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FILE NAME = 06120093-76A23-006-Top of Appr Slab elev.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - DMG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

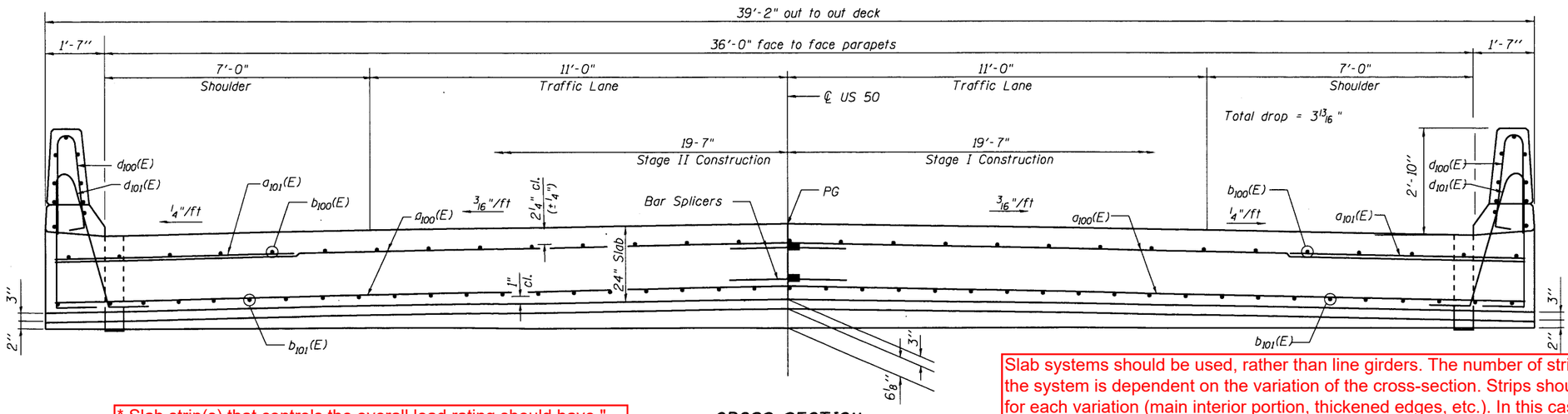
TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 061-0093
SHEET NO. 6 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	35
		CONTRACT NO. 76A23		
	ILLINOIS FED. AID PROJECT			



PLAN

Notes:
See Sheet 8 of 16 for Superstructure Details and Bill of Material.
See Sheet 8 of 16 for parapet reinforcement.
For details of Bar Splicers, see Sheet 12 of 16.
For Section A-A, see Sheet 8 of 16.
See Sheet 1 of 16 for floor drain spacing.
Space reinforcement bars to clear floor drains.



CROSS SECTION
(Looking West)

Slab systems should be used, rather than line girders. The number of strips defined in the system is dependent on the variation of the cross-section. Strips should be defined for each variation (main interior portion, thickened edges, etc.). In this case, the cross-section is uniform, so the system was defined with two equal strips. Note that if the slab contains a thickened edge beam with shear stirrup reinforcement, a separate line girder definition must be created since the slab system definition does not allow for shear stirrups.

* Slab strip(s) that controls the overall load rating should have " -X" as a suffix in the Member Name and both the "Existing" and "Current" boxes should be checked in the Member window. Non-controlling slab strips should only have the "Current" box checked.

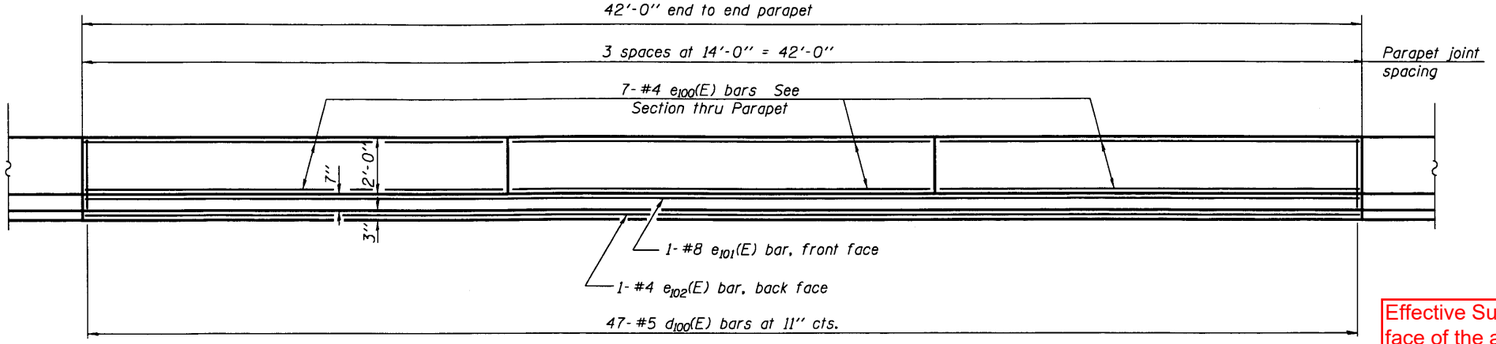
TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FILE NAME = 06180093-76A23-007-Superstructure.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - JMT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

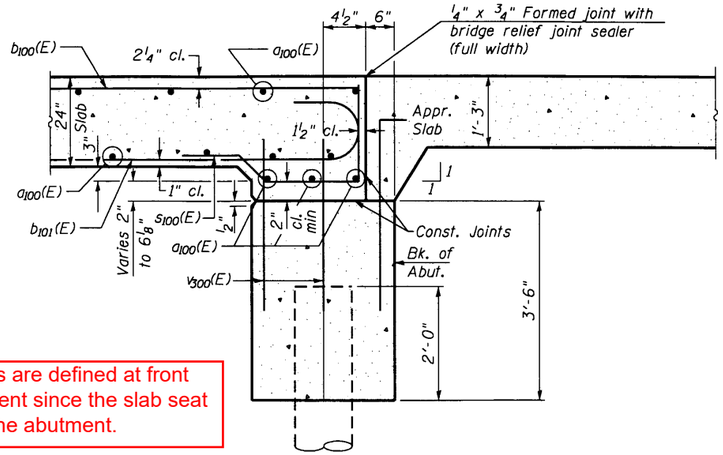
SUPERSTRUCTURE
STRUCTURE NO. 061-0093
SHEET NO. 7 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	36
		CONTRACT NO. 76A23		
		ILLINOIS FED. AID PROJECT		



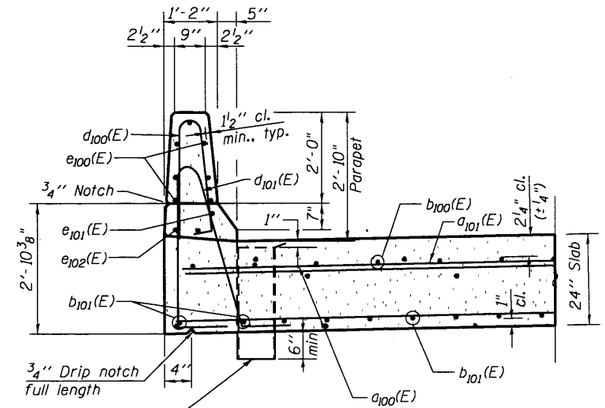
INSIDE ELEVATION OF PARAPET

(Looking North at North parapet)

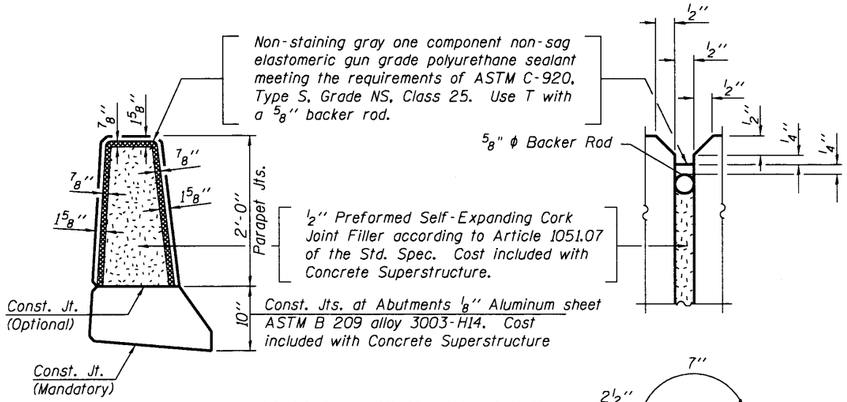


Effective Supports are defined at front face of the abutment since the slab seat rests directly on the abutment.

SECTION A-A



SECTION THRU PARAPET

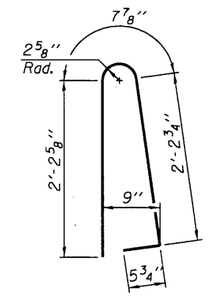


PARAPET JOINT DETAILS

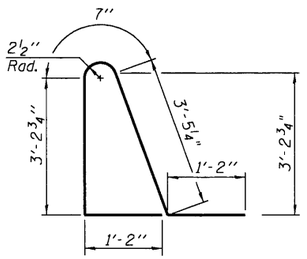
Notes:

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

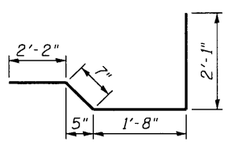
The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.



BAR $d_{100}(E)$



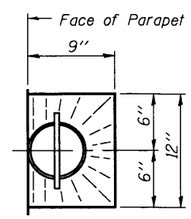
BAR $d_{101}(E)$



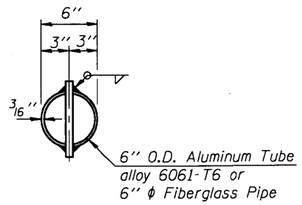
BAR $s_{100}(E)$

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100 (E)	200	#5	19'-4"	
a101 (E)	38	#6	6'-6"	
b100 (E)	36	#5	41'-9"	
b101 (E)	80	#10	44'-7"	
d100 (E)	94	#5	5'-7"	
d101 (E)	94	#5	9'-7"	
e100 (E)	42	#4	13'-9"	
e101 (E)	2	#8	41'-9"	
e102 (E)	2	#4	41'-9"	
s100 (E)	42	#5	6'-6"	
Reinforcement Bars, Epoxy Coated			Pound	23,760
Concrete Superstructure			Cu. Yds.	135.1
Bar Splicers			Each	100

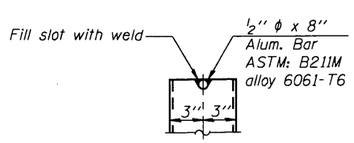


TOP PLAN

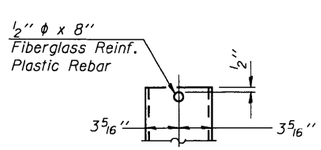


TOP PLAN

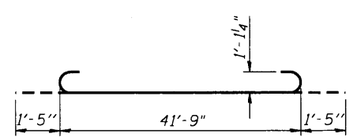
(Showing Aluminum Tube)



ALUMINUM TUBE



FIBERGLASS PIPE



BAR $b_{101}(E)$

Tran Systems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

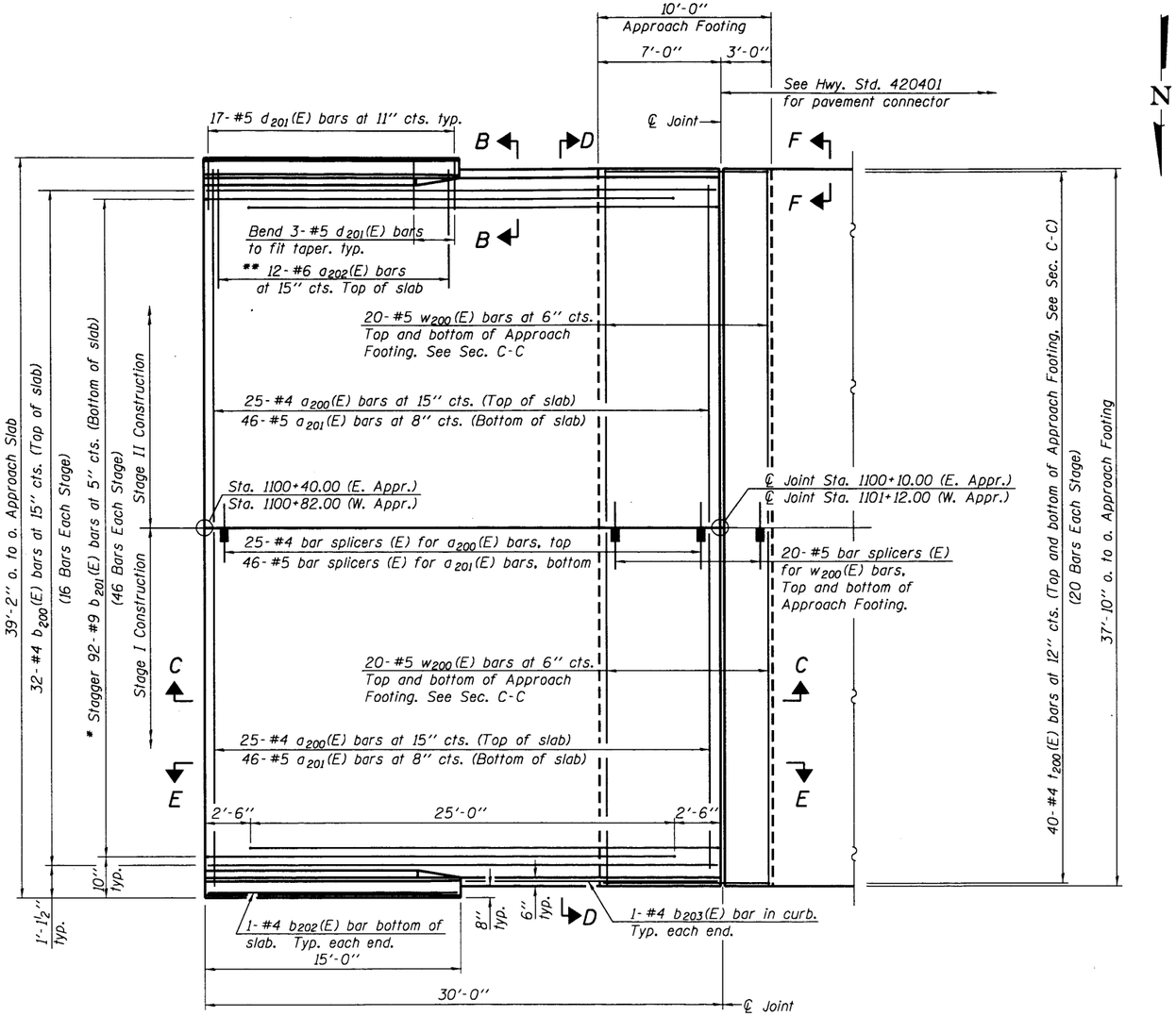
FILE NAME = 06100093-76A23-008-superstr details.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - JMT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 061-0093
SHEET NO. 8 OF 16 SHEETS

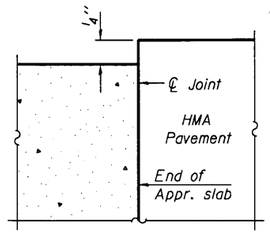
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	37
		CONTRACT NO. 76A23		
		ILLINOIS FED. AID PROJECT		

Notes:
See sheet 10 of 16 for Sections C-C & D-D and View E-E.
a_{200}(E) and a_{201}(E) bar spacings measured along ℄ Rdwy.



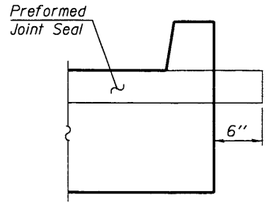
PLAN
(West approach shown)

* Tilt #9 b_{201}(E) bars as required to maintain clearance.
** Space between a_{200}(E) bars, typ. ea. parapet.

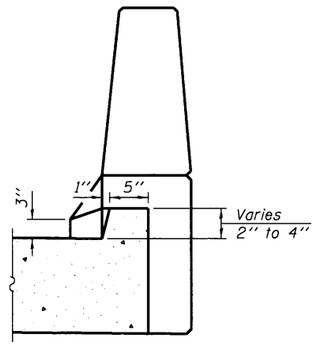


FLEXIBLE PAVEMENT

DETAIL A



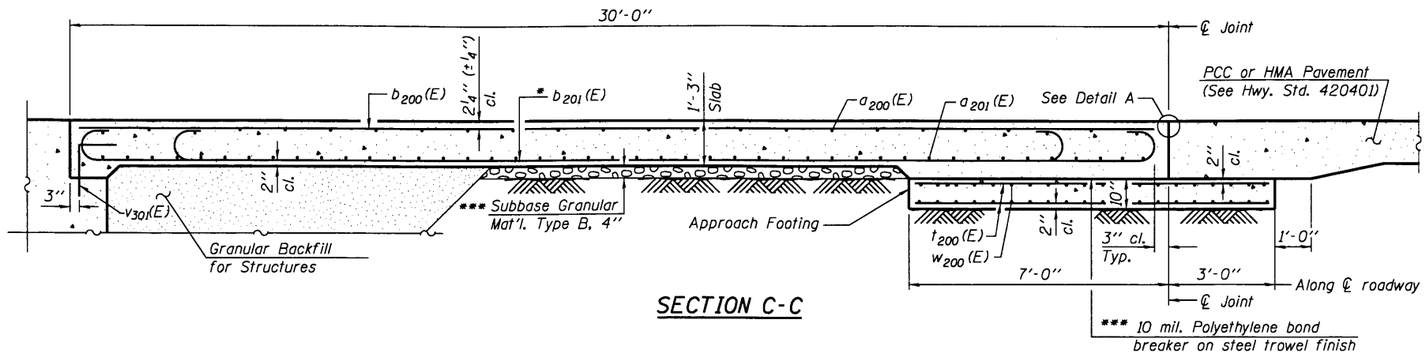
VIEW F-F



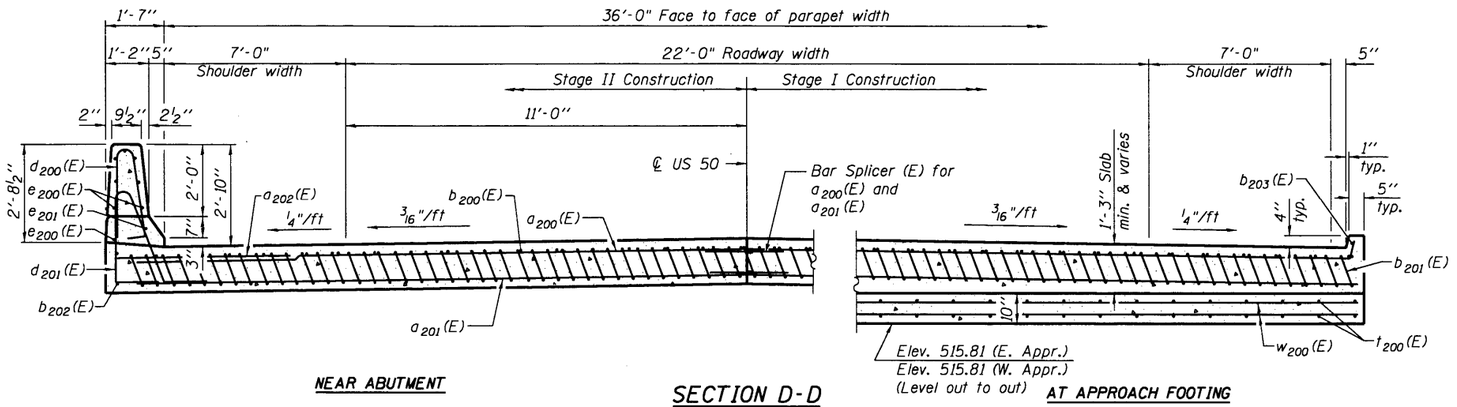
VIEW B-B

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FILE NAME = 0618093-76A23-009-Appr slab details1.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS I STRUCTURE NO. 061-0093	F.A.P. RTE. 327	SECTION 15-BR	COUNTY MARION	TOTAL SHEETS 57	SHEET NO. 38
		CHECKED - JMT	REVISED -							
	PLOT SCALE =	DRAWN - SDG	REVISED -					CONTRACT NO. 76A23		
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -		SHEET NO. 9 OF 16 SHEETS		ILLINOIS	FED. AID PROJECT		



SECTION C-C



NEAR ABUTMENT

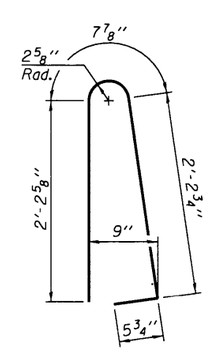
SECTION D-D

(See Plan for dimensions not shown)

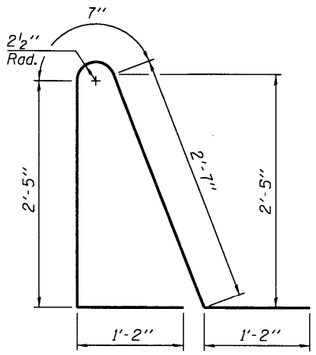
AT APPROACH FOOTING

Notes:

See sheet 9 of 16 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v_{301}(E) bar details, see sheet 11 of 16.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 12 of 16.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 12 of 16.
For additional parapet details, see sheet 8 of 16.



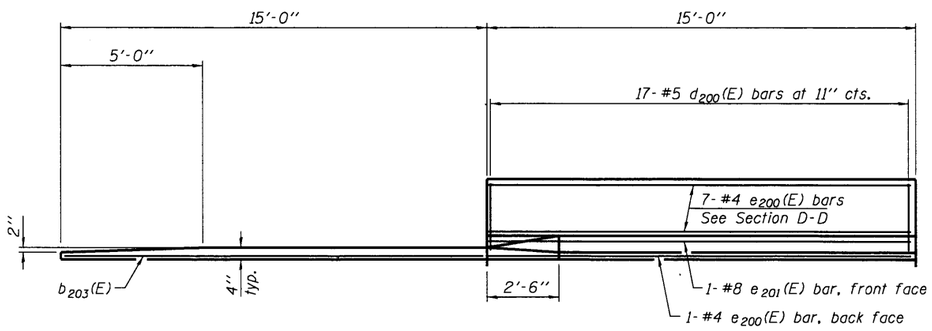
BAR d_{200}(E)



BAR d_{201}(E)

* *Tilt #9 b_{201}(E) bars as required to maintain clearance.*

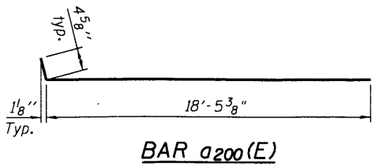
*** *Cost included with Concrete Superstructure.*



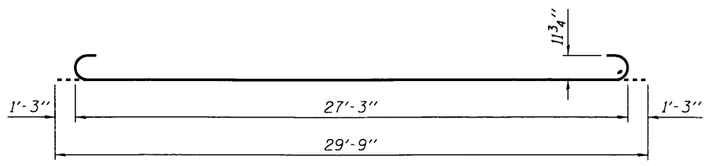
VIEW E-E

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a200 (E)	100	#4	18'-10"	
a201 (E)	184	#5	18'-8"	
a202 (E)	24	#6	6'-6"	
b200 (E)	64	#4	29'-8"	
b201 (E)	184	#9	29'-9"	
b202 (E)	4	#4	14'-8"	
b203 (E)	4	#4	14'-9"	
d200 (E)	68	#5	5'-7"	
d201 (E)	68	#5	7'-11"	
e200 (E)	32	#4	14'-8"	
e201 (E)	4	#8	14'-8"	
t200 (E)	80	#4	9'-8"	
w200 (E)	160	#5	18-8"	
Concrete Superstructure			Cu. Yd.	135.4
Concrete Structures			Cu. Yd.	23.4
Reinforcement Bars, Epoxy Coated			Pound	30,100
Bar Splicers			Each	222



BAR a_{200}(E)



BAR b_{201}(E)

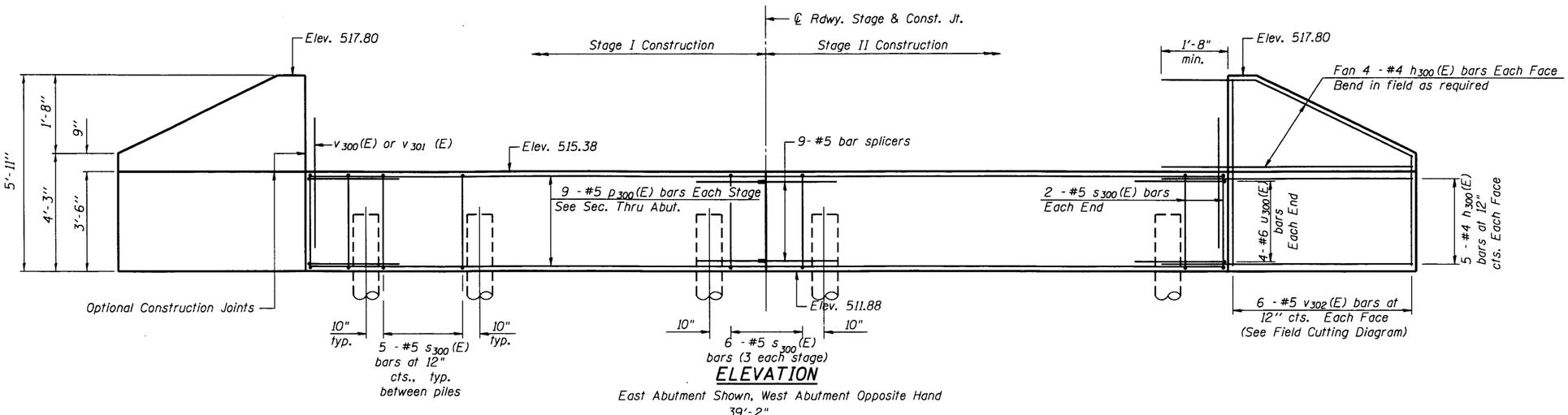
TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FILE NAME = 06180093-76A23-010-Appr slab details2.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

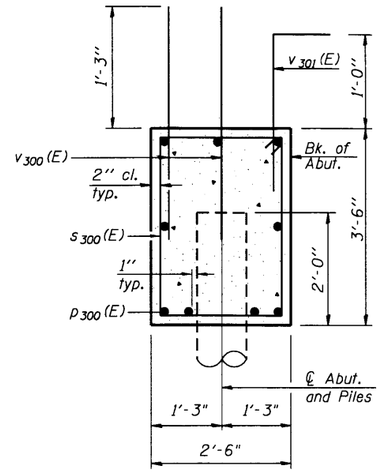
BRIDGE APPROACH SLAB DETAILS II
STRUCTURE NO. 061-0093
SHEET NO. 10 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	39
		CONTRACT NO. 76A23		
	ILLINOIS FED. AID PROJECT			

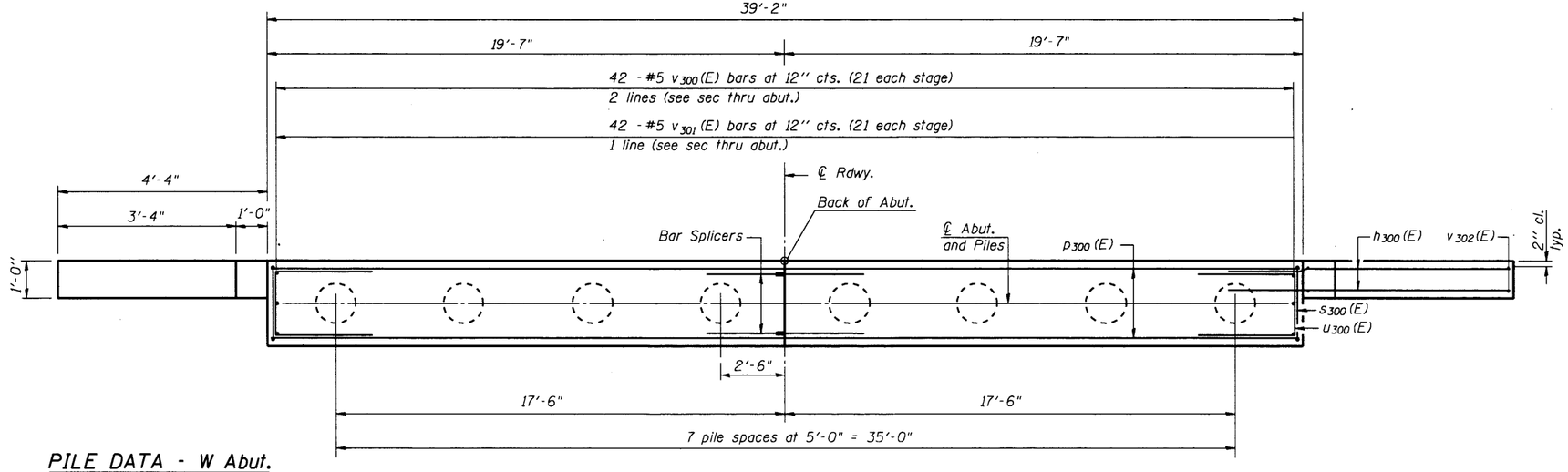


ELEVATION

East Abutment Shown, West Abutment Opposite Hand



SEC. THRU ABUT.



PLAN

East Abutment Shown, West Abutment Opposite Hand

BILL OF MATERIAL
TWO ABUTMENTS

Bar	No.	Size	Length	Shape
h_{300} (E)	72	#4	6'-3"	——
p_{300} (E)	36	#5	19'-3"	——
s_{300} (E)	80	#5	11'-7"	□
u_{300} (E)	16	#6	11'-0"	⊐
v_{300} (E)	168	#5	3'-5"	——
v_{301} (E)	84	#5	2'-8"	⊐
v_{302} (E)	24	#5	9'-6"	——

Structure Excavation	Cu. Yd.	188
Concrete Structures	Cu. Yd.	28.8
Reinforcement Bars, Epoxy Coated	Pound	3,330
Furnishing Metal Shell Piles 14" x 0.25"	Foot	259
Driving Piles	Foot	259
Test Pile Metal Shells	Each	1
Bar Splicers	Each	18

For details of Bar Splicers, see sheet 12 of 16.
For details of piles, see sheet 13 of 16.

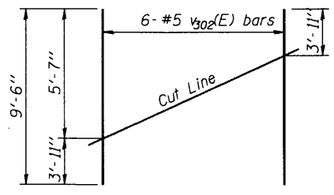
PILE DATA - W Abut.

Type:	Metal Shell - 14" ϕ x 0.25 in. walls
Nominal Required Bearing:	222 kips
Factored Resistance Available:	122 kips
Est. Length:	21 ft.
No. Production Piles:	7
No. Test Piles:	1

PILE DATA - E Abut.

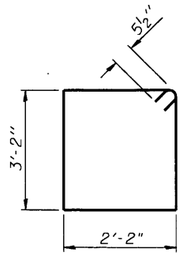
Type:	Metal Shell - 14" ϕ x 0.25 in. walls
Nominal Required Bearing:	313 kips
Factored Resistance Available:	172 kips
Est. Length:	14 ft.
No. Production Piles:	8
No. Test Piles:	0

Tran Systems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

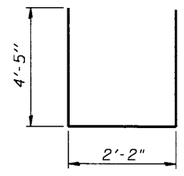


FIELD CUTTING DIAGRAM

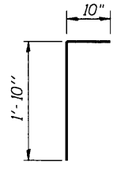
Order v_{302} (E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s_{300} (E)



BAR u_{300} (E)



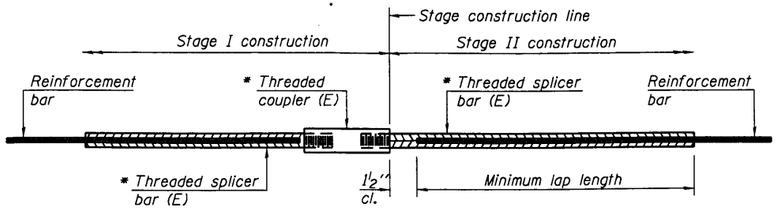
BAR v_{301} (E)

AI-0

7-1-10

FILE NAME = 86180093-76A23-011-Abut_Details.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENT DETAILS STRUCTURE NO. 061-0093
		CHECKED - JMT	REVISED -		
	PLOT SCALE =	DRAWN - SDG	REVISED -		SHEET NO. 11 OF 16 SHEETS
	PLOT DATE = 10/1/2015	CHECKED - JMT	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	40
		CONTRACT NO. 76A23		
		ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

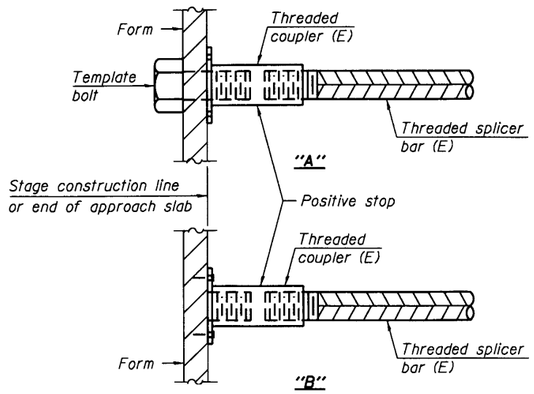
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

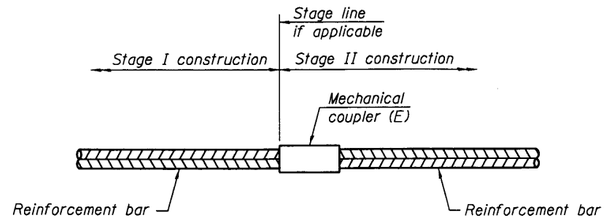
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Superstructure	#5	100	Table 4
Approach	#5	172	Table 3
Approach	#4	50	Table 3
Abutment	#5	18	Table 3



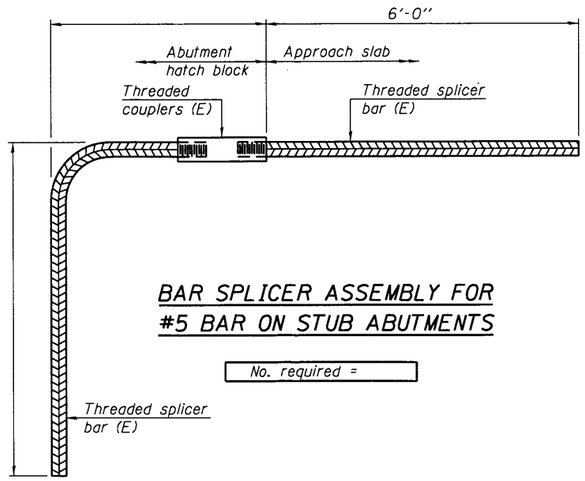
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

BSD-1

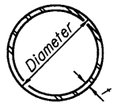
8-31-12

FILE NAME = 06108093-76A23-812-Bar Splicer details.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

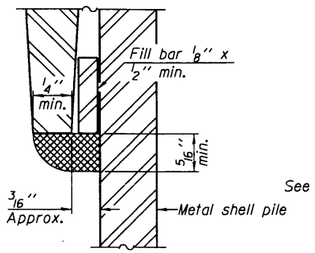
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 061-0093
SHEET NO. 12 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	41
		CONTRACT NO. 76A23		
	ILLINOIS	FED. AID PROJECT		

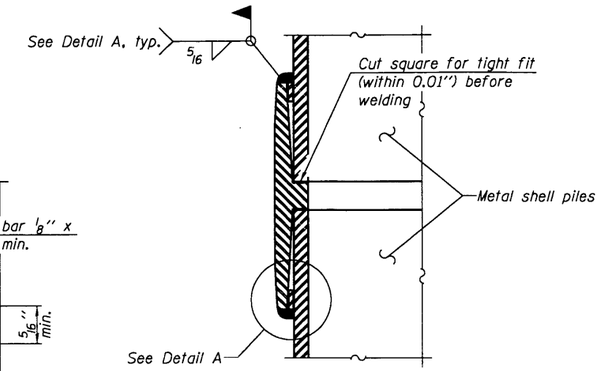


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$/ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361

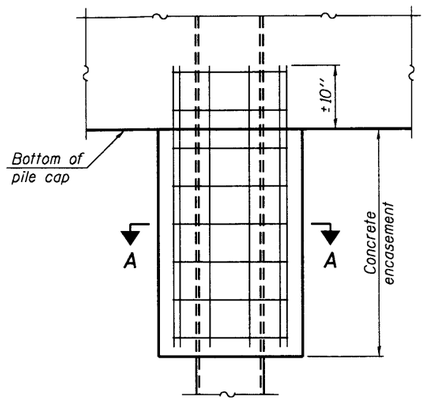


DETAIL A

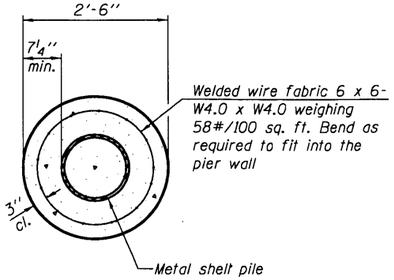


Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



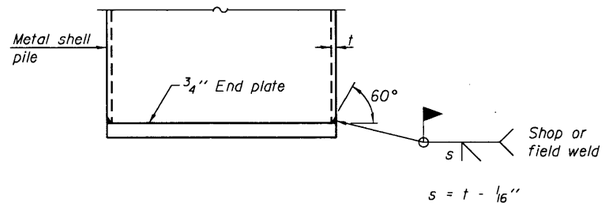
ELEVATION



SECTION A-A

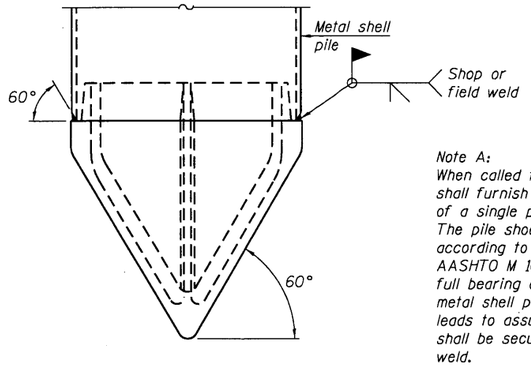
Note:
Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



$s = t - 1/16''$

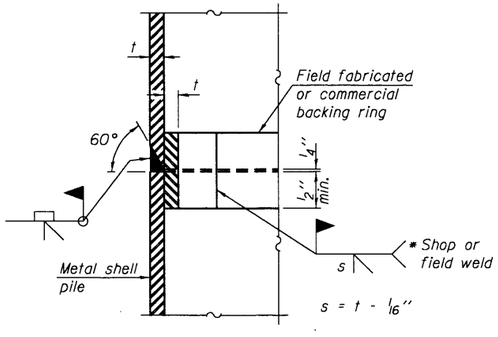
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

METAL SHELL PILE SHOE ATTACHMENT

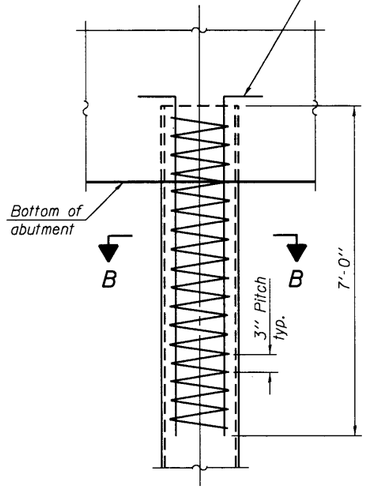
(See Note A)



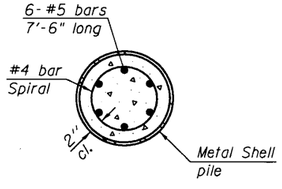
$s = t - 1/16''$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

Tran Systems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

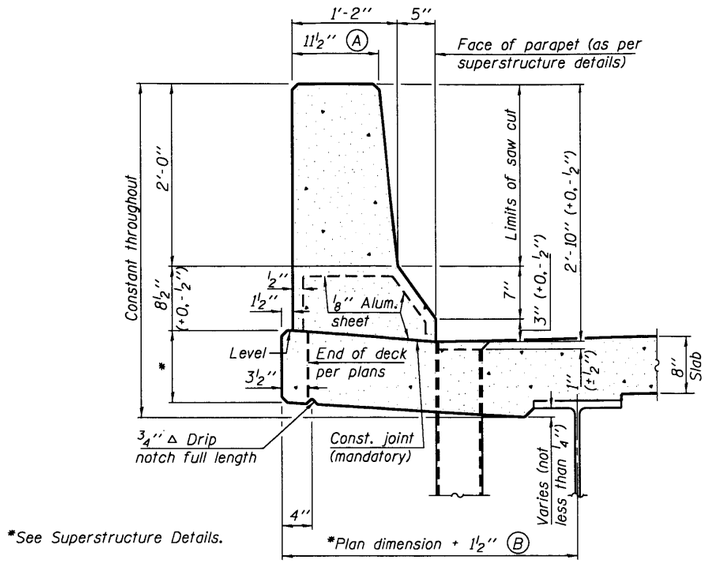
F-MS 1-27-12

FILE NAME = 0610093-76A23-013- Piles Details.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

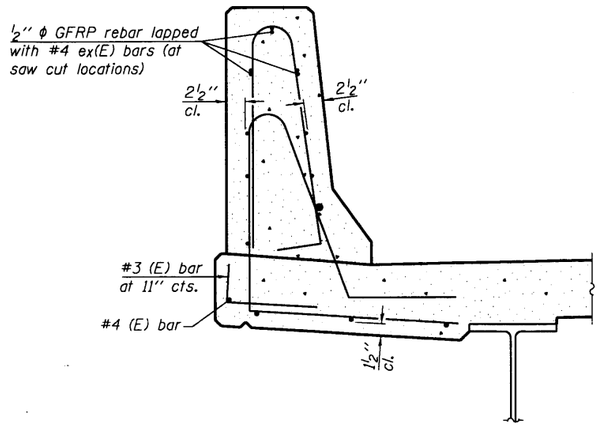
METAL SHELL PILE DETAILS
STRUCTURE NO. 061-0093
SHEET NO. 13 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	42
		CONTRACT NO. 76A23		
	ILLINOIS	FED. AID PROJECT		



34" F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

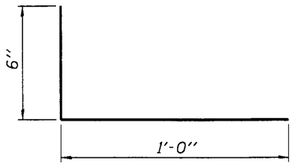
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

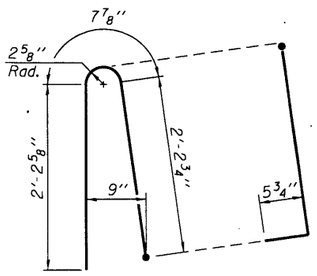
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.

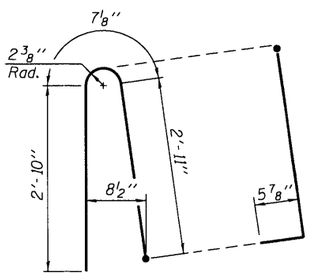


#3 (E) BAR



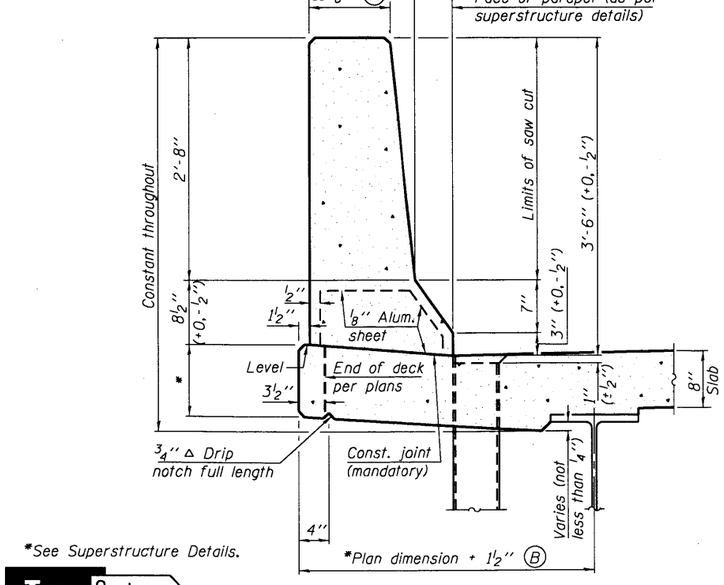
ALTERNATE BAR d(E)

(For 34" parapet when conduit is present)



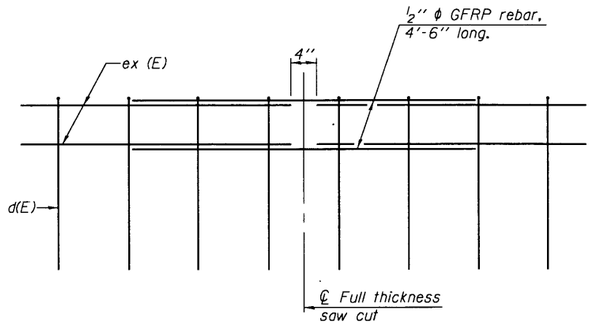
ALTERNATE BAR d(E)

(For 42" parapet when conduit is present)



42" F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

Tran Systems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

SFP 34-42

8-16-12

FILE NAME = 06180093-76A23-013a-SFP-34.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - SDG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 061-0093
SHEET NO. 14 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	43
		CONTRACT NO. 76A23		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 6/21/10

ROUTE FAP 327 DESCRIPTION US 50 over Brubaker Creek Tributary LOGGED BY VPG

SECTION 15BR LOCATION SEC. 9, TWP. 2N, RNG. 3E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0065 (E) / 061-0093 (P)
Station
BORING NO. 1 E Abut
Station 1100+33
Offset 14.00ft Right
Ground Surface Elev. 517.5 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 513.5 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Asphalt
516.5				
				Brown Silty CLAY
				A-6(13)
	1			
	2	0.77	25	
	2	S/15		
-5				
	3			
	3	1.16	25	
	4	S/5		
	3			
	3	1.55	29	
509.0	4	S/5		
				Brown Clay LOAM
-10				A-7-6(14)
	3			
	5	1.94	22	
506.0	6	S/5		
				Gray Clay LOAM
				A-7-6(16)
	4			
	6	2.65	23	
	7	S/15		
-15				
	2			
	3	1.55	21	
	4	S/5		
500.0				
				Gray Sandy LOAM
				A-2-4(0)
-20	10			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Gray Sandy LOAM
				A-2-4(0) *(continued)*
	14	4.28	11	
	20	S/0		
-25	10			
	36	4.69	11	
	34	S/0		
-30	25			
	30	5.09	11	
	43	S/0		
484.0				
				Sandy LOAM
-35	3			
	29		13	
	49	NC		
				With Shale
-40	7			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 6/21/10

ROUTE FAP 327 DESCRIPTION US 50 over Brubaker Creek Tributary LOGGED BY VPG

SECTION 15BR LOCATION SEC. 9, TWP. 2N, RNG. 3E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0065 (E) / 061-0093 (P)
Station
BORING NO. 1 E Abut
Station 1100+33
Offset 14.00ft Right
Ground Surface Elev. 517.5 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 513.5 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Sandy LOAM *(continued)*
	24		17	
	29	NC		
-45				
	54/1"			
489.5	-		--	
		NC		Borehole continued with rock coring.
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Date 6/21/10

ROUTE FAP 327 DESCRIPTION US 50 over Brubaker Creek Tributary LOGGED BY VPG

SECTION 15BR LOCATION SEC. 9, TWP. 2N, RNG. 3E, 3 PM

COUNTY Marion CORING METHOD

STRUCT. NO. 061-0065 (E) / 061-0093 (P)
Station
BORING NO. 1 E Abut
Station 1100+33
Offset 14.00ft Right
Ground Surface Elev. 517.5 ft

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 469.50 ft
Begin Core Elev. 469.50 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
469.50				19.82		Weathered SHALE
-50				19.41		
466.50				15.46		
				32.64		Gray SHALE
465.25						Core Barrel Clogged - End of Boring
-55						
-60						
-65						

Color pictures of the cores Yes
Cores will be stored for examination until Indefinite
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

FILE NAME = 06100093-76A23-014-Boring logs 1.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS I STRUCTURE NO. 061-0093
		CHECKED - JMT	REVISED -		
	PLOT SCALE =	DRAWN - DMG	REVISED -		SHEET NO. 15 OF 16 SHEETS
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	44
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 6/23/10

ROUTE FAP 327 DESCRIPTION US 50 over Brubaker Creek Tributary LOGGED BY VPG

SECTION 15BR LOCATION , SEC. 9, TWP. 2N, RNG. 2E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0065 (E) / 061-0093 (P)
Station

BORING NO. 2 W Abut
Station 1100+91.5
Offset 14.00ft Left
Ground Surface Elev. 517.5 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 500.0 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Brown and Gray Silty CLAY
	3			
	2	1.02	23	
	3	S/0		
-5	2			
	3	0.97	26	
	4	S/5		
	2			
	3	1.32	25	
509.0	4	S/5		
				Gray CLAY A-7-6(16)
-10	2			
	3	1.63	28	
	4	S/20		
	3			Brown
	3	1.55	24	
	3	S/5		
-15	6			
	10	3.67	16	
501.5	18	S/0		
				Gray Sandy LOAM A-4(2)
-20	8			
	10	4.28	12	Gray Sandy LOAM A-4(2) *(continued)*
	15	S/0		
-25	8			
	12	4.89	12	
	18	S/0		
	5			
	15		13	
488.5	17	--		
				Medium to Fine SAND
-30	5			
	5		12	
	17	NC		
483.0				
-35	10			
	26	6.93	14	Gray Silty LOAM A-4(8)
	49	S/0		
-40	12			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 6/23/10

ROUTE FAP 327 DESCRIPTION US 50 over Brubaker Creek Tributary LOGGED BY VPG

SECTION 15BR LOCATION , SEC. 9, TWP. 2N, RNG. 2E, 3 PM

COUNTY Marion DRILLING METHOD Hollow Stem Auger HAMMER TYPE 140# Automatic

STRUCT. NO. 061-0065 (E) / 061-0093 (P)
Station

BORING NO. 2 W Abut
Station 1100+91.5
Offset 14.00ft Left
Ground Surface Elev. 517.5 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 500.0 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	22	6.11	21	Gray Silty LOAM A-4(8) *(continued)*
	37	S/0		
-45				
470.5	3			
	7	2.24	15	Gray Weathered SHALE
	15	S/0		
-50				
	8			
	24	7.33	21	
464.0	74	S/0		
				END OF BORING
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

TranSystems
707 North 2nd Street
Suite 410
St. Louis, MO 63102
(314) 296-6765
(314) 241-5164 Fax

FILE NAME = 0610093-76A23-B15-Boring logs 2.dgn	USER NAME = mjreker	DESIGNED - SDG	REVISED -
		CHECKED - JMT	REVISED -
	PLOT SCALE =	DRAWN - DMG	REVISED -
	PLOT DATE = 10/1/2015	CHECKED - SLC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS II
STRUCTURE NO. 061-0093
SHEET NO. 16 OF 16 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	15-BR	MARION	57	45
		CONTRACT NO. 76A23		
	ILLINOIS FED. AID PROJECT			