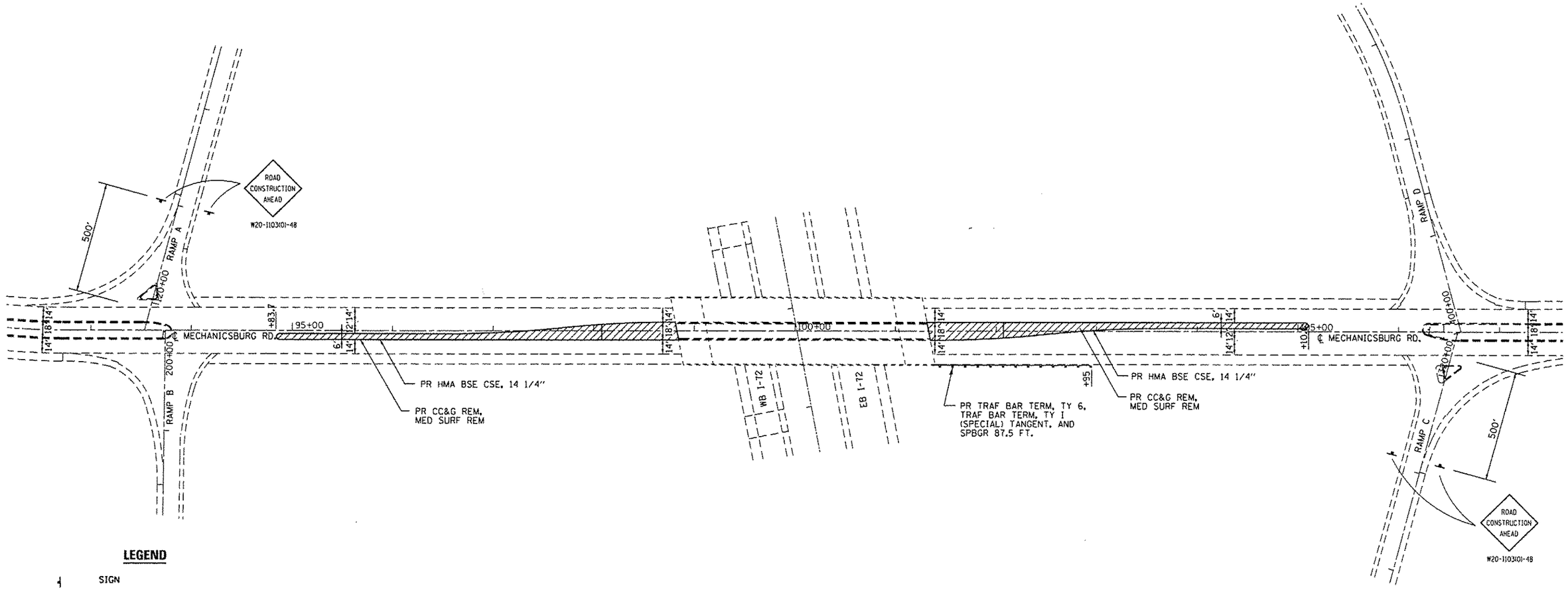


LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

0' 50' 100'

USER NAME = sparksgv	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:19:57AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

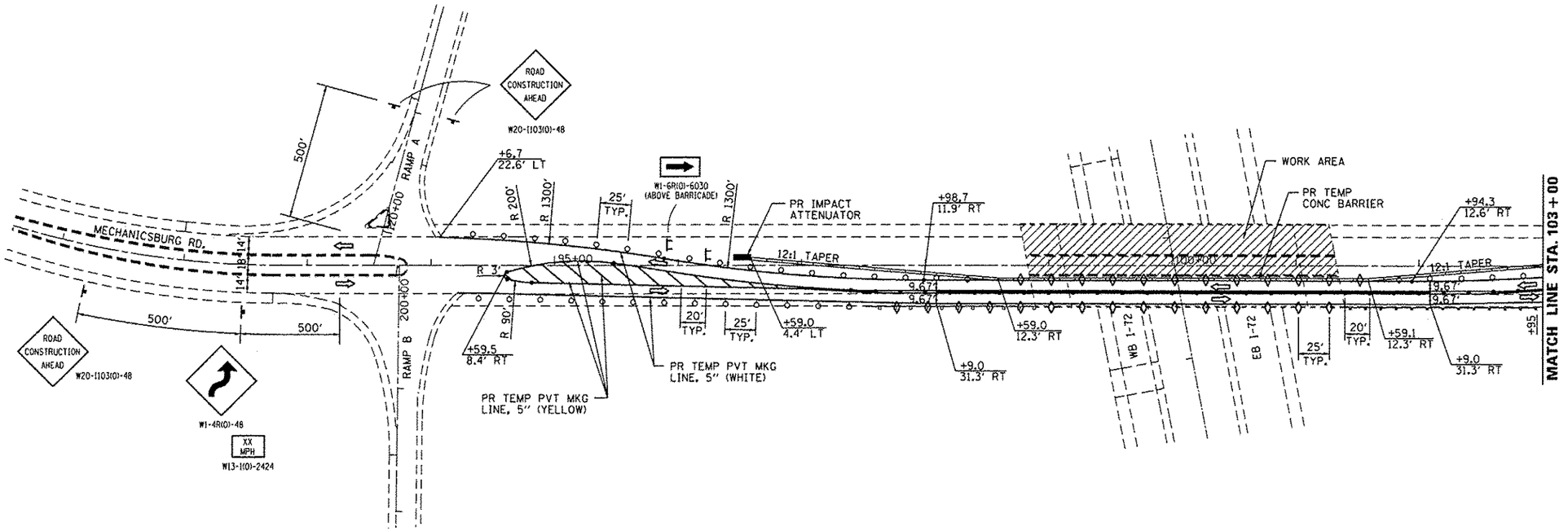
MAINTENANCE OF TRAFFIC – MECHANICSBURG RD.
PRE-STAGE I

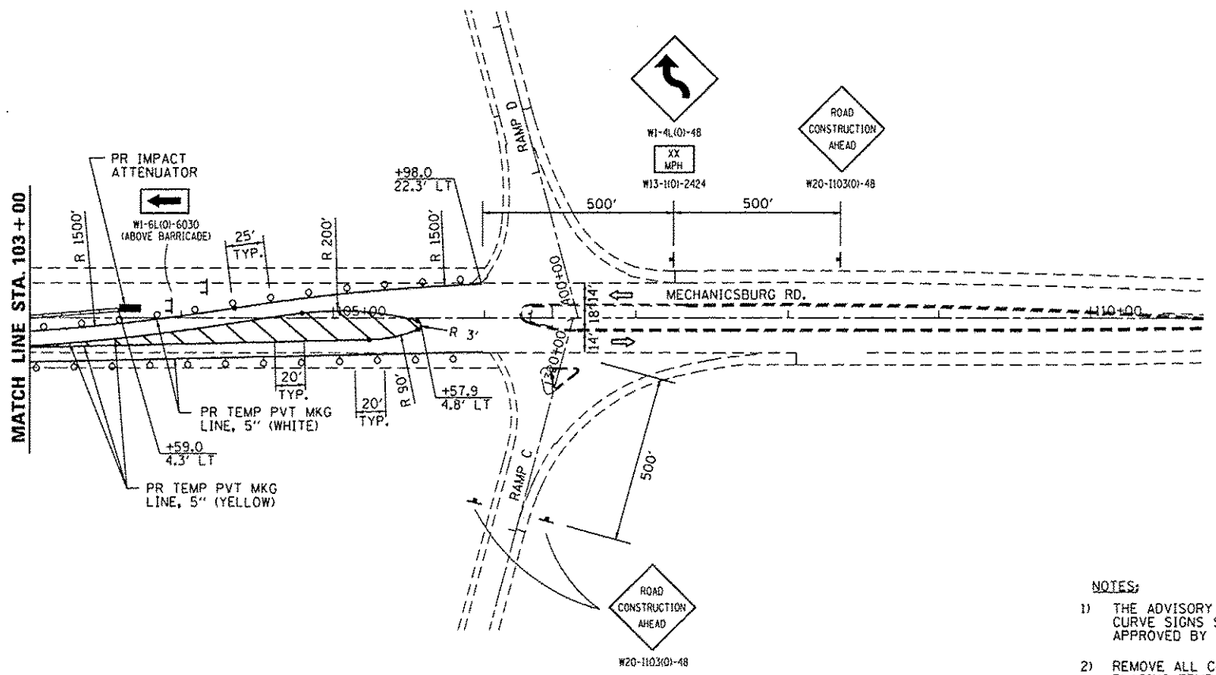
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	101
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksgv\d0359822\D672C90_sht_mot04.dgn





LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

NOTES;

1) THE ADVISORY SPEED TO BE SHOWN BELOW THE REVERSE CURVE SIGNS SHALL BE DETERMINED AT THE SITE AND APPROVED BY THE ENGINEER.

2) REMOVE ALL CONFLICTING PAVEMENT MARKINGS PRIOR TO PLACING TEMPORARY STRIPING.

0' 50' 100'

USER NAME = sparksgw	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-26-2013 09:28:26AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

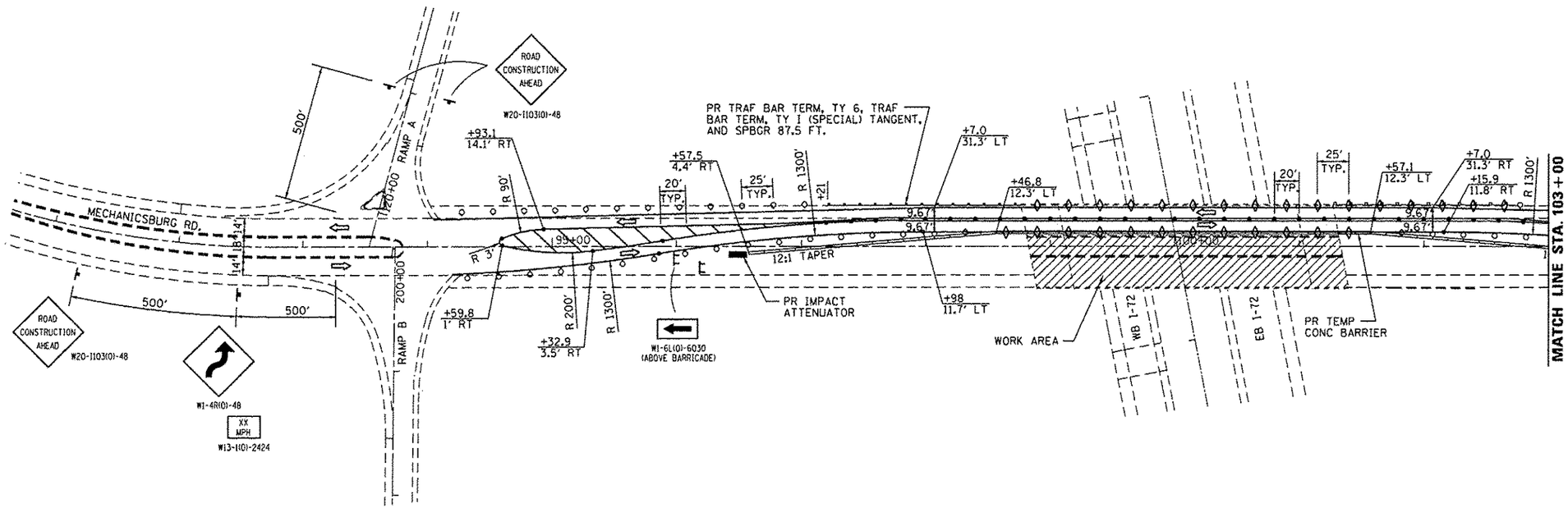
MAINTENANCE OF TRAFFIC – MECHANICSBURG RD.
STAGE I

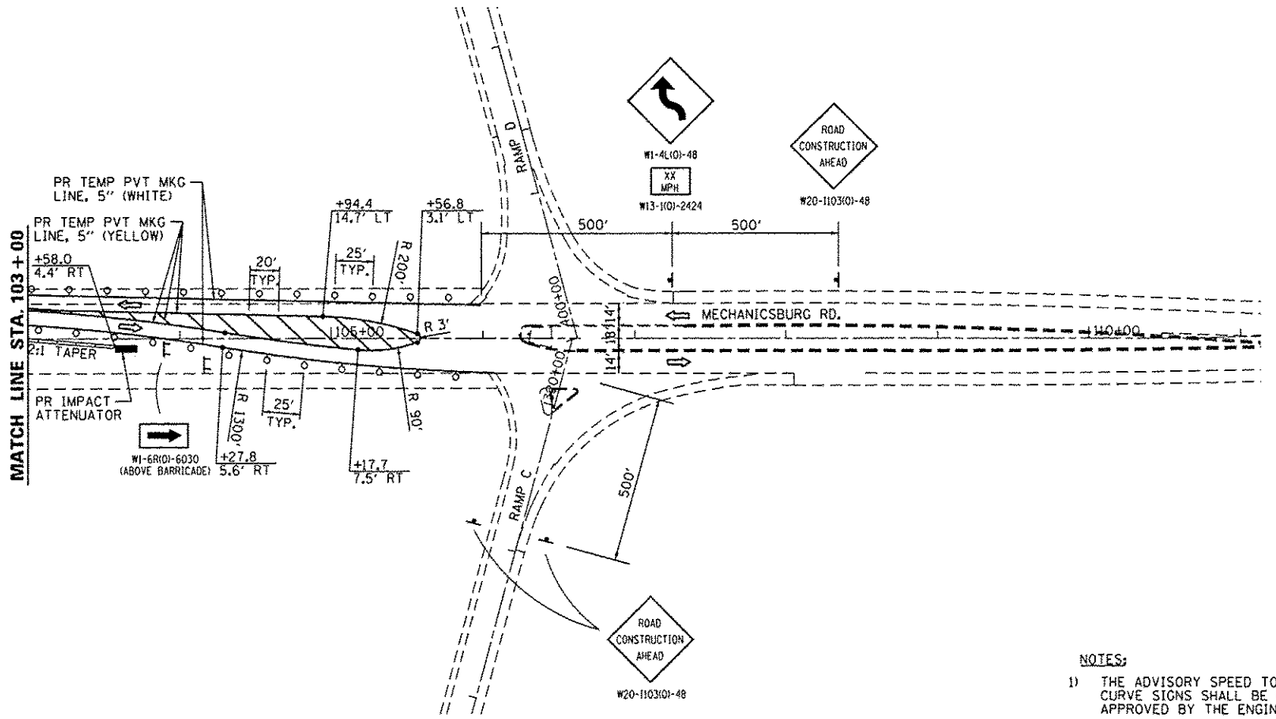
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	102
*(84-10-1RS-3,84-10-2RS-4)BR,1		CONTRACT NO. 72C90		
ILLINOIS	FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksgw\d0359822\D072C90_sht_mot05.dgn





LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

NOTES:

1) THE ADVISORY SPEED TO BE SHOWN BELOW THE REVERSE CURVE SIGNS SHALL BE DETERMINED AT THE SITE AND APPROVED BY THE ENGINEER.

0' 50' 100'

USER NAME = sparksge	DESIGNED - BTM	REVISED -
	DRAWN - BTM	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -
PLOT DATE = Sep-06-2013 09:28:58AM	DATE - 12/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

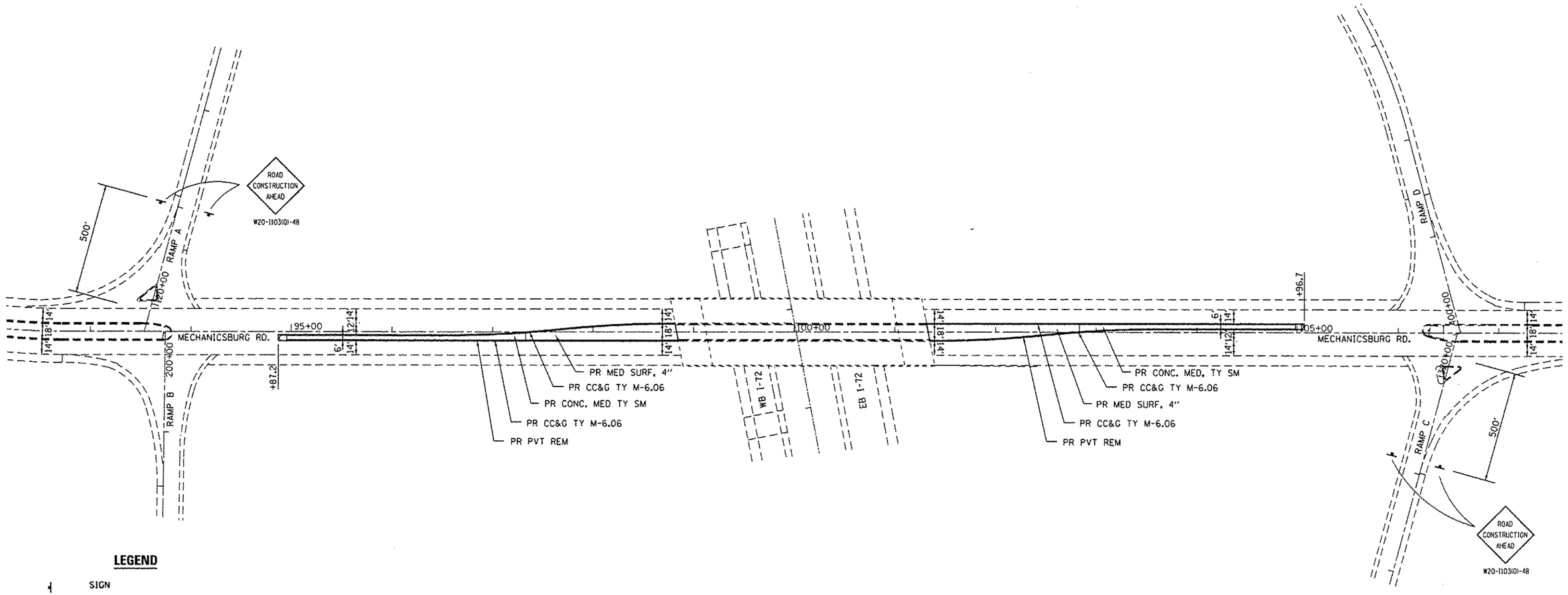
MAINTENANCE OF TRAFFIC – MECHANICSBURG RD. STAGE II

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	103
*(84-10-1RS-3,84-10-2RS-4)BR,1		CONTRACT NO. 72C90		
	ILLINOIS	FED. AID PROJECT		

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksge\d0359822\D72C90_sht_mot06.dgn



LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

0' 50' 100'

USER NAME = sparksgw	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:21:22AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

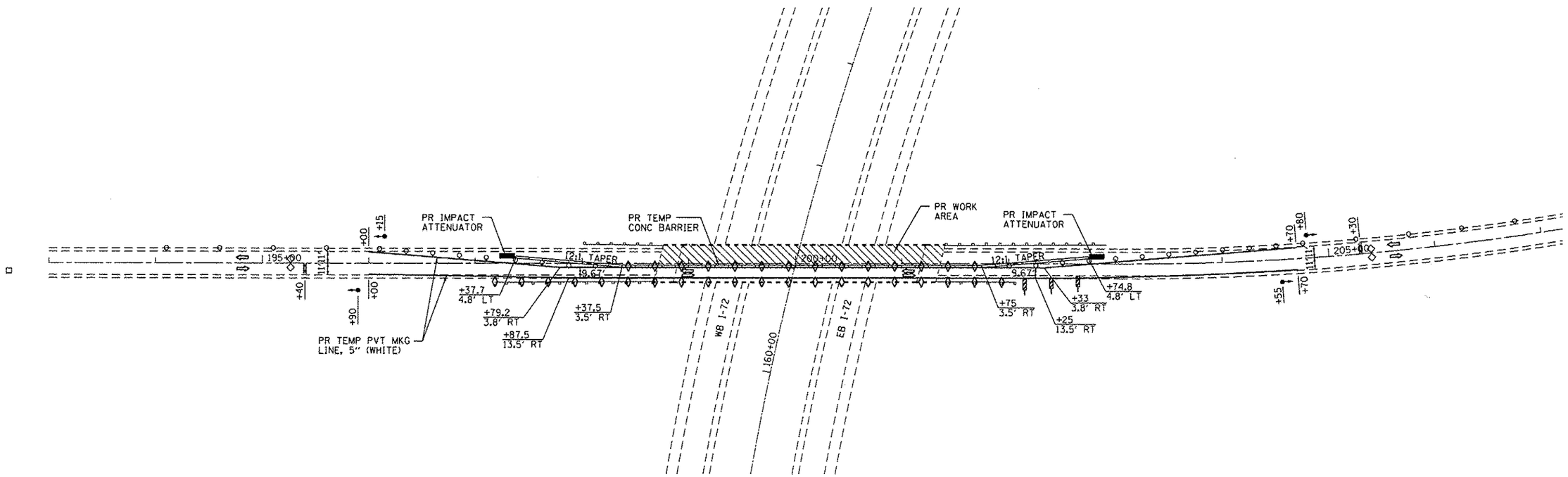
MAINTENANCE OF TRAFFIC – MECHANICSBURG RD.
STAGE III

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	104
*(84-10-1RS-3,84-10-2RS-4)BR,)		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksgw\d0359822\D072C90_sht_mot07.dgn



LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

0' 50' 100'

USER NAME = sparkesgr	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-26-2013 09:21:55AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

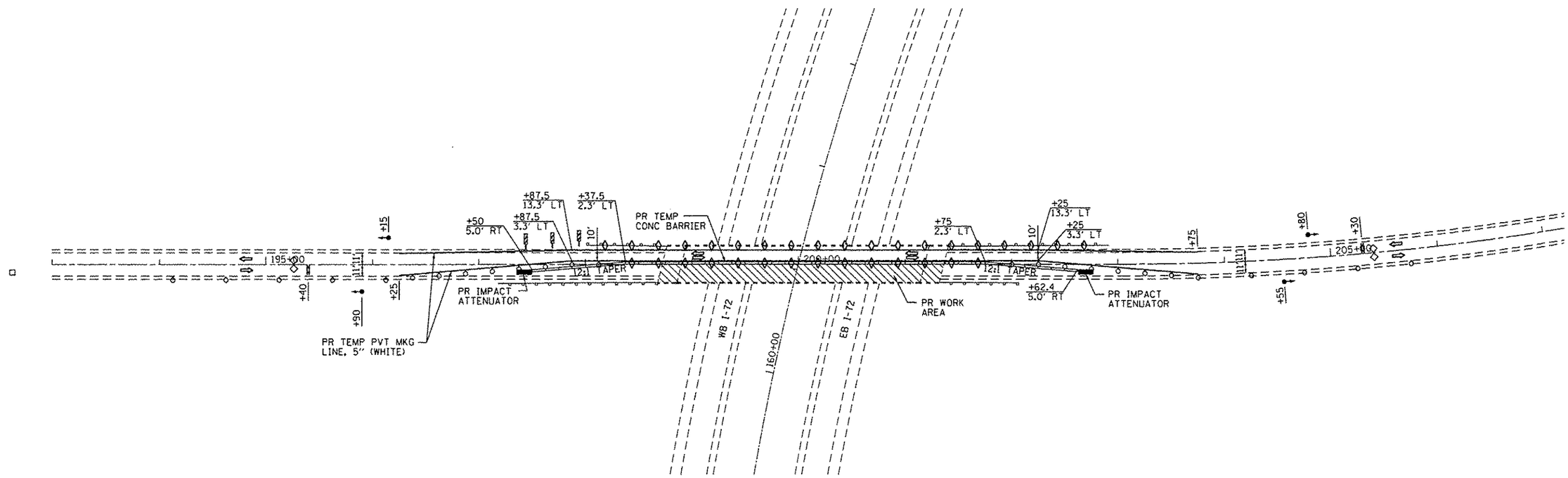
MAINTENANCE OF TRAFFIC – TR 171
STAGE 1

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	105
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparkesgr\d0359822\D672C90_sht_mot08.dgn



LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

USER NAME = sparksgv	DESIGNED - BTM	REVISED -
	DRAWN - BTM	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -
PLOT DATE = Sep-26-2013 09:22:18AM	DATE - 12/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

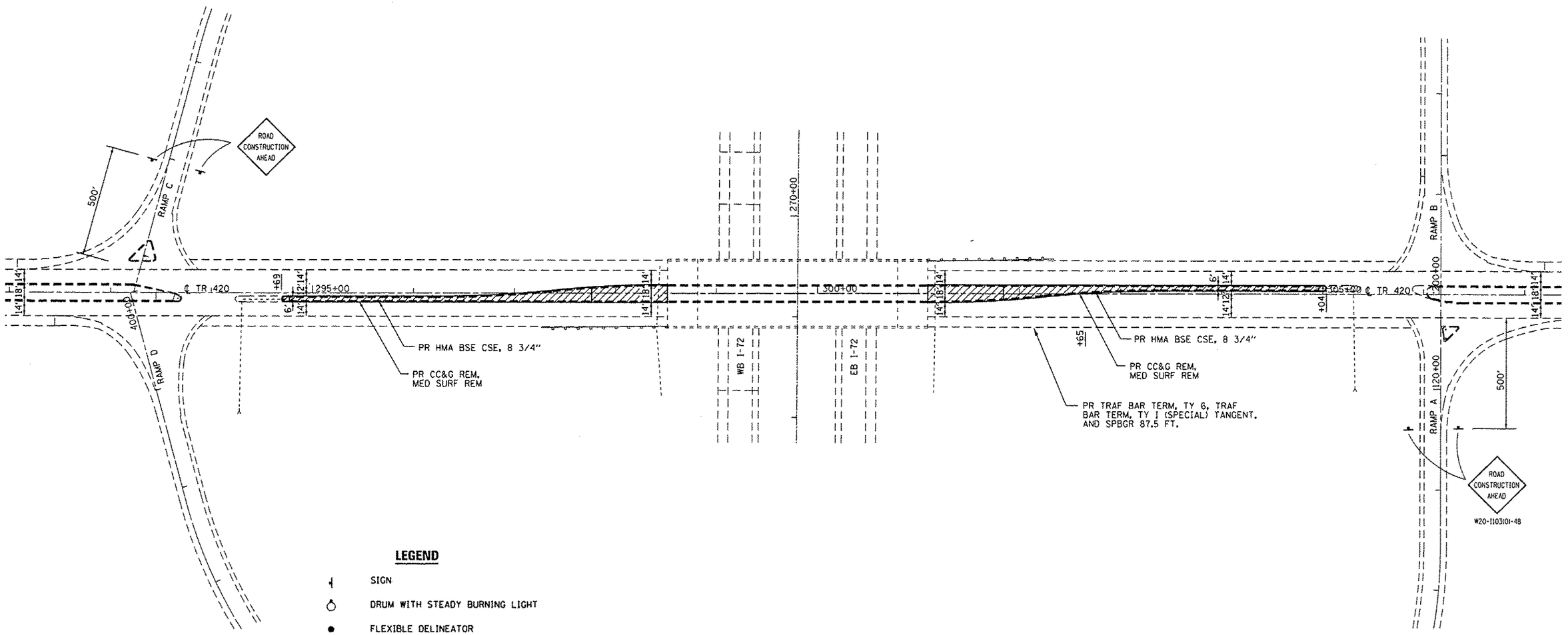
MAINTENANCE OF TRAFFIC – TR 171
STAGE II

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	106
	*(84-10-1RS-3,84-10-2RS-4)BR,1	CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

FILE NAME = c:\pw_work\pwidot\sparksgv\d0359822\D672C90_sht_mot89.dgn

(84-10-1,2)RS-3 & (84-10-2)RS-4



LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

0' 50' 100'

USER NAME = sparksgw	DESIGNED - BTM		REVISED -
	DRAWN - BTM		REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA		REVISED -
PLOT DATE = Sep-05-2013 09:22:44AM	DATE - 12/19/12		REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

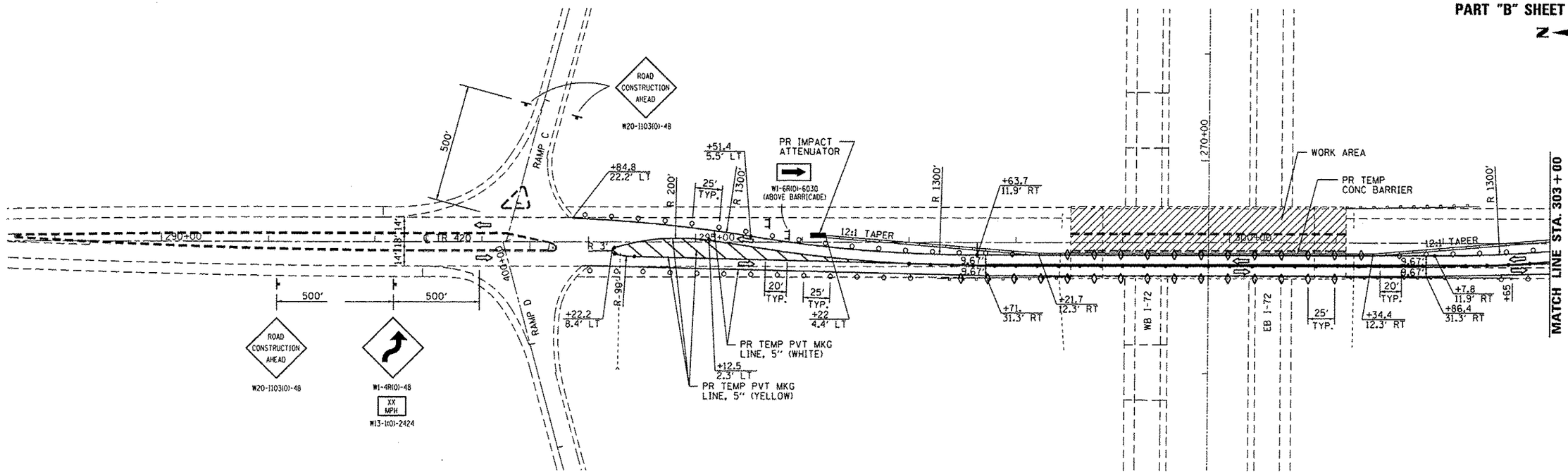
MAINTENANCE OF TRAFFIC – TR 420
PRE-STAGE I

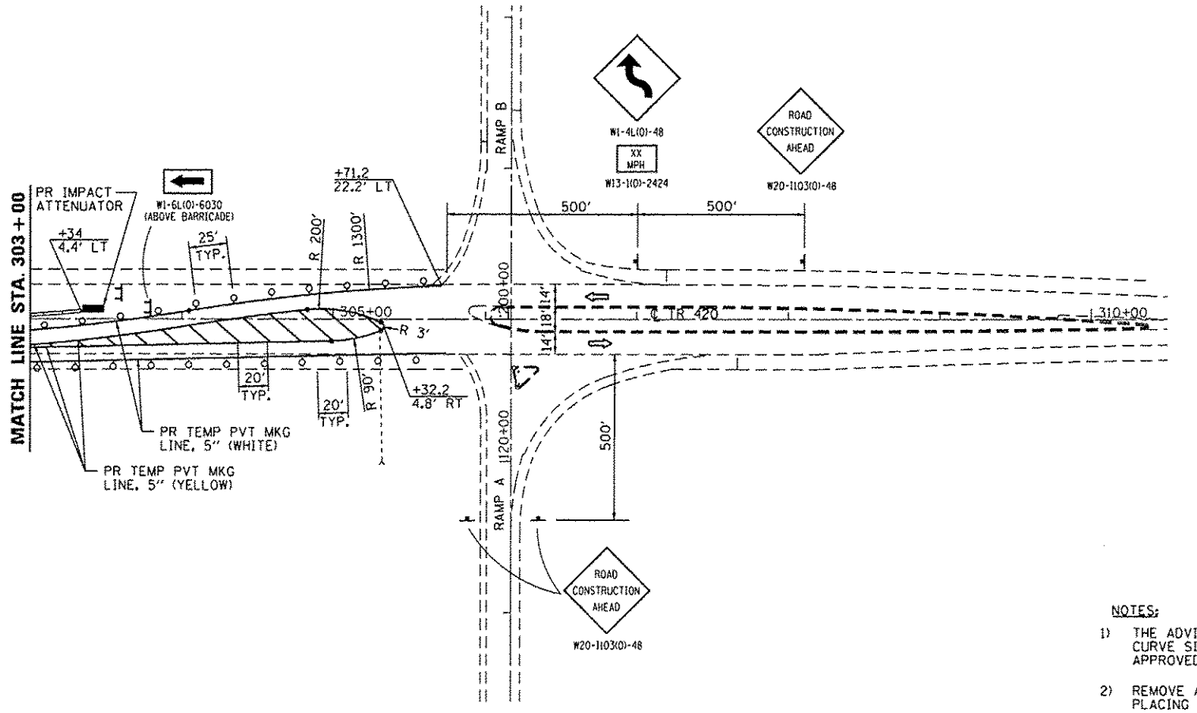
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	107
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksgw\d0359822\D672C90_sht_mst10.dgn





LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

NOTES:

1) THE ADVISORY SPEED TO BE SHOWN BELOW THE REVERSE CURVE SIGNS SHALL BE DETERMINED AT THE SITE AND APPROVED BY THE ENGINEER.

2) REMOVE ALL CONFLICTING PAVEMENT MARKINGS PRIOR TO PLACING TEMPORARY STRIPING.

0' 50' 100'

USER NAME = sparksgw	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:23:51AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC – TR 420
STAGE I

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	108
	*(84-10-1RS-3,84-10-2RS-4)BR,1	CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

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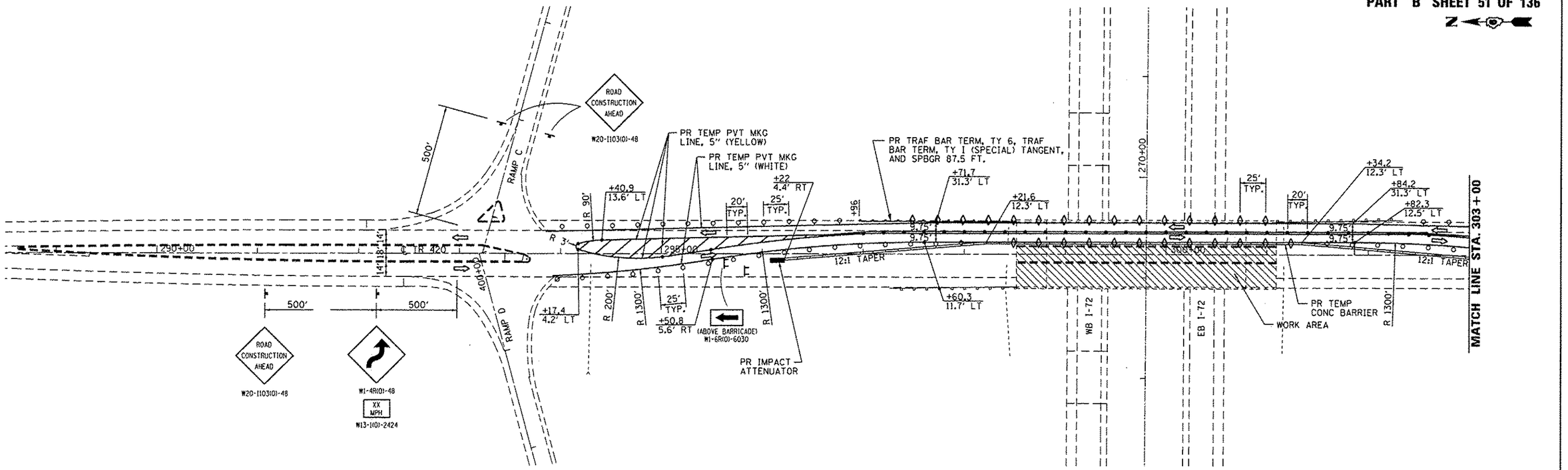

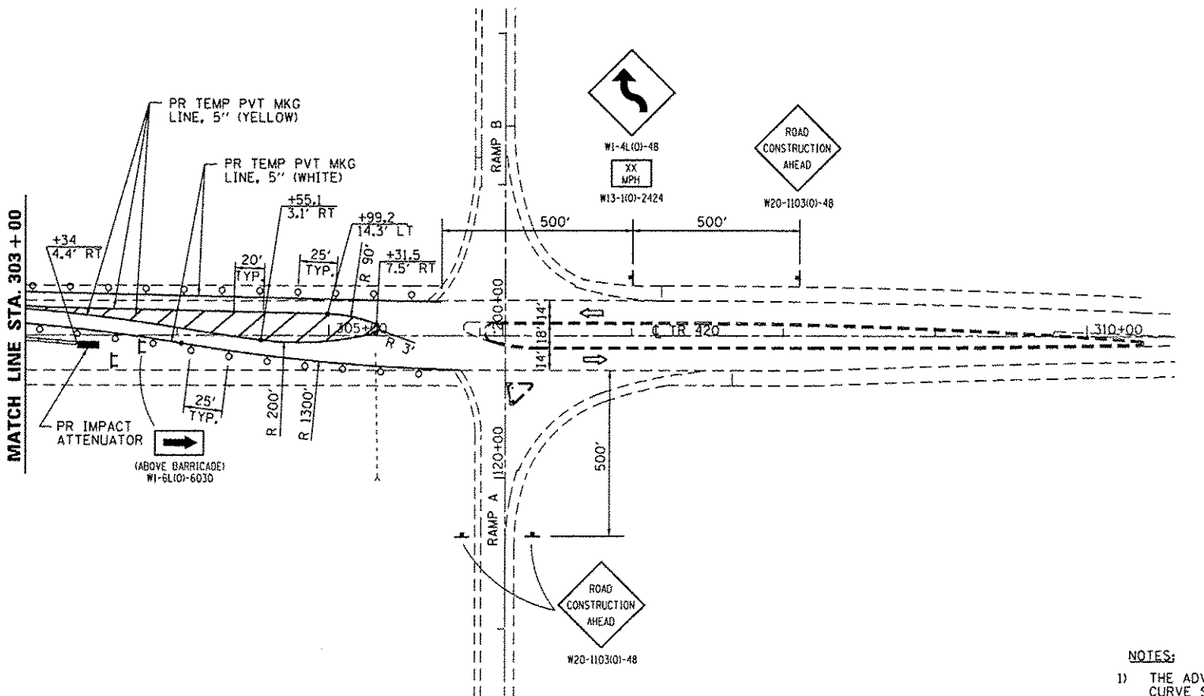

LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

NOTES:

1) THE ADVISORY SPEED TO BE SHOWN BELOW THE REVERSE CURVE SIGNS SHALL BE DETERMINED AT THE SITE AND APPROVED BY THE ENGINEER.

0' 50' 100'

USER NAME = sparksgw	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:24:15AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC – TR 420
STAGE II

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	109
* (84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		

(84-10-1,2)RS-3 & (84-10-2)RS-4

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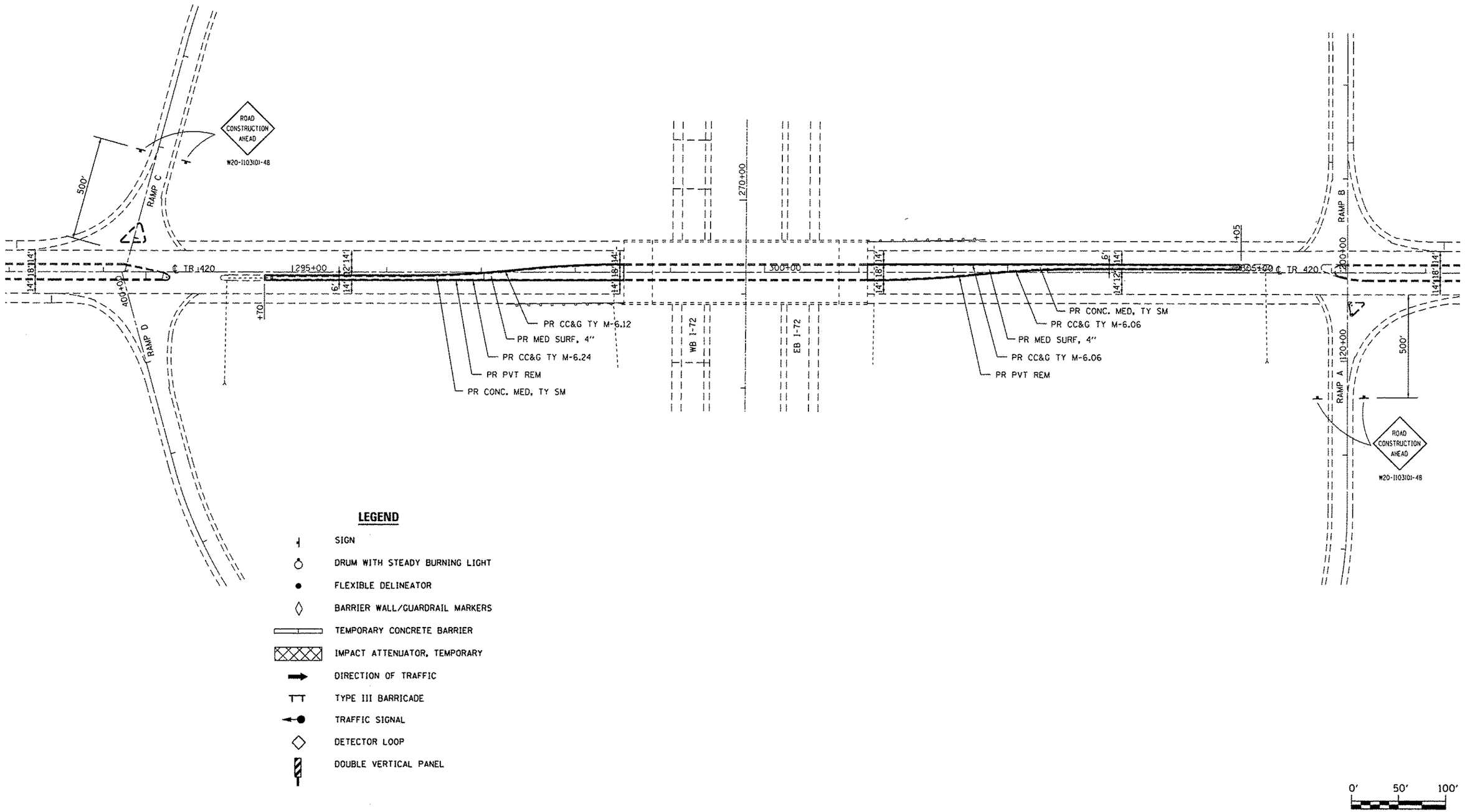


LEGEND

- SIGN
- DRUM WITH STEADY BURNING LIGHT
- FLEXIBLE DELINEATOR
- BARRIER WALL/GUARDRAIL MARKERS
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE
- TRAFFIC SIGNAL
- DETECTOR LOOP
- DOUBLE VERTICAL PANEL

0' 50' 100'

USER NAME = sparkesg	DESIGNED - BTM	REVISED -
	DRAWN - BTM	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED - JSA	REVISED -
PLOT DATE = Sep-06-2013 09:24:51AM	DATE - 12/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

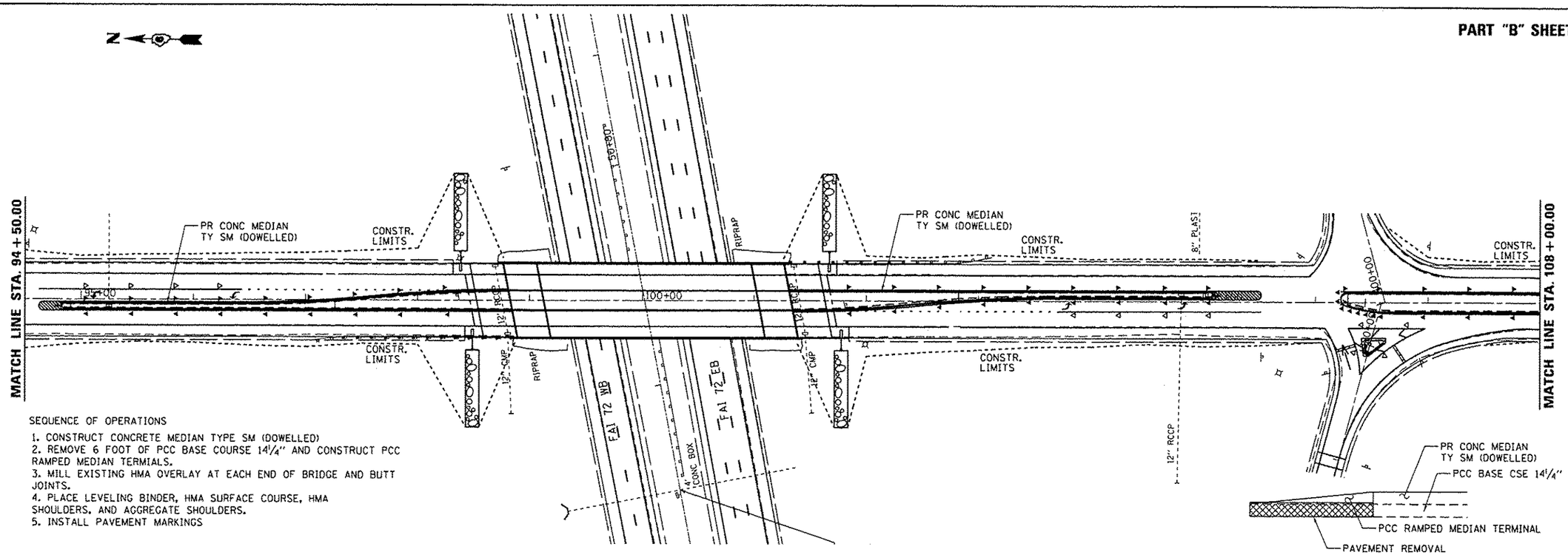
MAINTENANCE OF TRAFFIC – TR 420
STAGE III

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	110
*(84-10-1RS-3,84-10-2RS-4)BR,1		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

FILE NAME = c:\pw_work\pwidot\sparkesg\d0359822\D672C90.sht_mot13.dgn

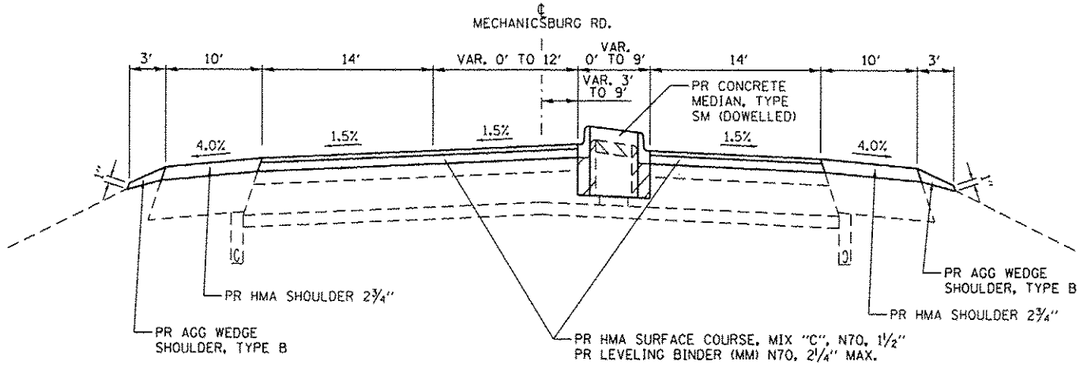
(84-10-1,2)RS-3 & (84-10-2)RS-4



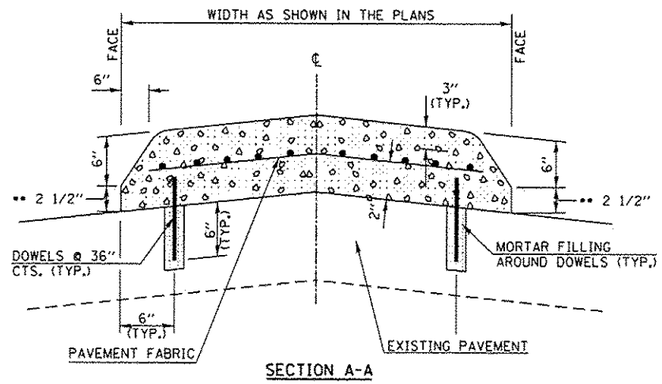
PCC RAMPED MEDIAN TERMINAL

SEQUENCE OF OPERATIONS

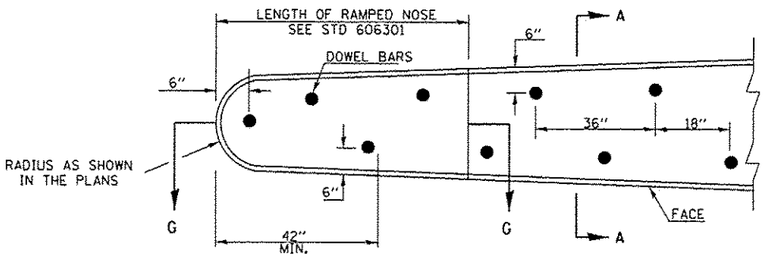
1. CONSTRUCT CONCRETE MEDIAN TYPE SM (DOWELLED)
2. REMOVE 6 FOOT OF PCC BASE COURSE 14¼" AND CONSTRUCT PCC RAMPED MEDIAN TERMIALS.
3. MILL EXISTING HMA OVERLAY AT EACH END OF BRIDGE AND BUTT JOINTS.
4. PLACE LEVELING BINDER, HMA SURFACE COURSE, HMA SHOULDERS, AND AGGREGATE SHOULDERS.
5. INSTALL PAVEMENT MARKINGS



STA. 94+84.16 TO STA. 98.46.99
STA. 101+63.10 TO STA. 105+10.33



SECTION A-A



PLAN OF CONCRETE MEDIAN TY SM (DOWELLED)

USER NAME = sparksg	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0002 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:25:20AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

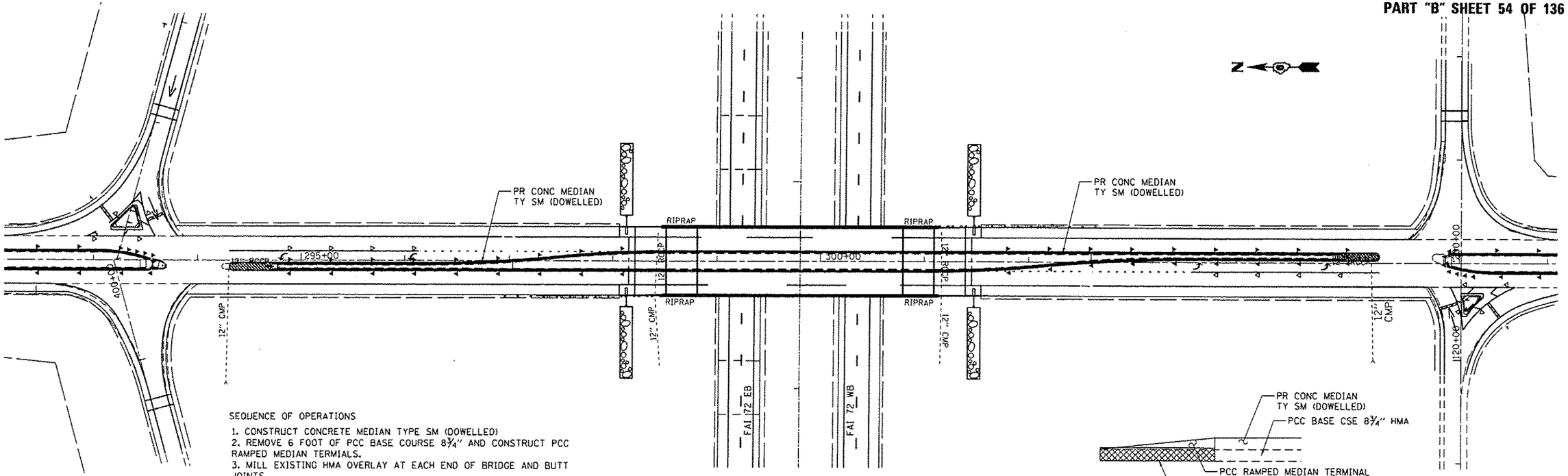
DOWELED MEDIAN DETAIL
CH 12 (MECHANICSBURG RD.) – FINAL PHASE

SCALE: | SHEET NO. OF SHEETS | STA. 94+50.00 TO STA. 108+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	111
*(84-10-1RS-3,84-10-2RS-4)BR,1		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

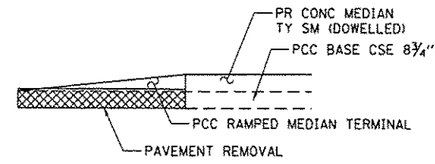
(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksg-\d0359822\D672C90-SHT-Doweled DT CH 12.dgn

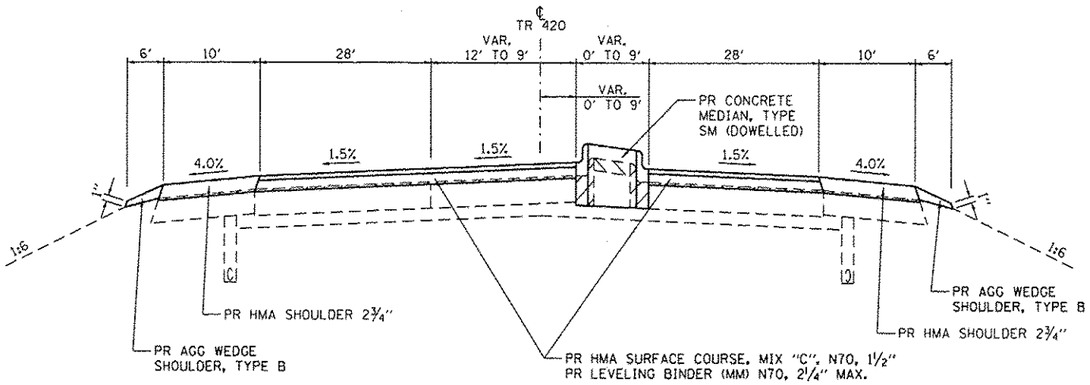


SEQUENCE OF OPERATIONS

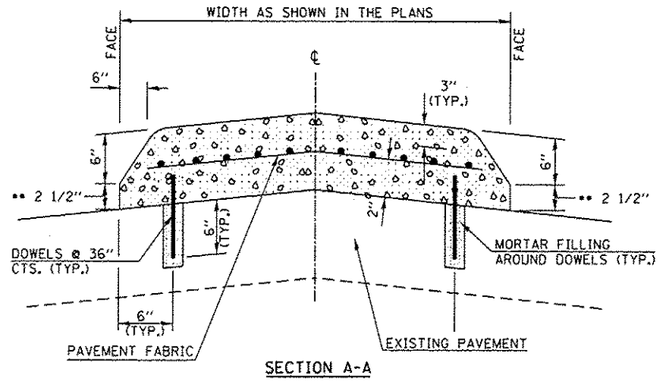
1. CONSTRUCT CONCRETE MEDIAN TYPE SM (DOWELLED)
2. REMOVE 6 FOOT OF PCC BASE COURSE 8¾" AND CONSTRUCT PCC RAMPED MEDIAN TERMIALS.
3. MILL EXISTING HMA OVERLAY AT EACH END OF BRIDGE AND BUTT JOINTS.
4. PLACE LEVELING BINDER, HMA SURFACE COURSE, HMA SHOULDERS, AND AGGREGATE SHOULDERS.
5. INSTALL PAVEMENT MARKINGS



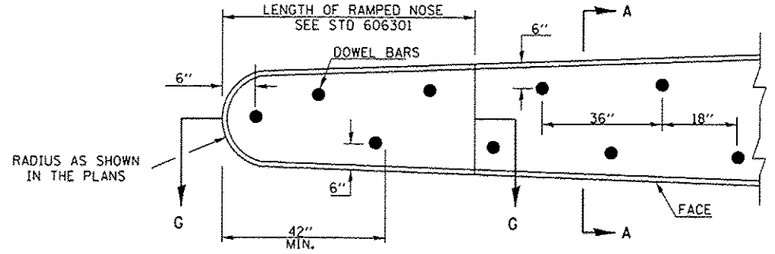
PCC RAMPED MEDIAN TERMINAL



STA. 294+70 TO STA. 298+21.40 TR 420
STA. 301+39.20 TO STA. 305+05.00TR 420



SECTION A-A



PLAN OF CONCRETE
MEDIAN TY SM (DOWELLED)

USER NAME = sparksgv	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 100.0202 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:25:43AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DOWELED MEDIAN DETAIL
TR 420 (OVERPASS RD.) – FINAL PHASE

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1722	*	SANGAMON	194	112
*184-10-1RS-3,184-10-2RS-4(BR,)1		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksgv\d0359022\D672C90-SHT-Doweled Of TR 420.dgn

Benchmark #100: Chisled square in top NW corner of NW approach parapet of bridge SN 084-0150 NAVD88, Elev. 571.65.

Benchmark #101: Chisled square in top SE corner of SE approach parapet of bridge SN 084-0150, NAVD88, Elev. 571.22.

Existing Structure: S.N. 084-0150 built in 1974 under section 84-10-1HB is a 2 span continuous welded plate girder structure with CIP concrete deck, supported by vaulted abutments supported on steel piles and a trapezoidal 5-column pier supported on steel piles. The existing structure is 195'-1" back to back existing abutments with 27'-7" vaulted approach spans at each end. The bridge deck is 8" thick with a 1½" overlay, 68'-0" out to out with an 18'-0" median. In 1995, the overlay was replaced.

Bridge to be reconstructed using stage construction. One lane of Traffic to be maintained at all times.

No Salvage.

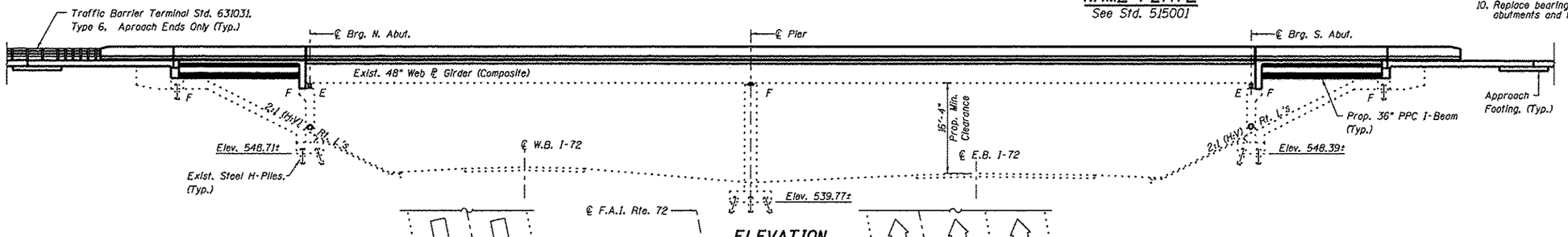
STATION 48+76.46
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RTE. 72
SEC. (84-10-1,2) RS-3
LOADING HS-20
STRUCTURE NO. 084-0150

NAME PLATE
See Std. 515001

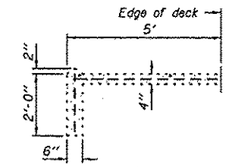
Existing Name Plate shall be cleaned and relocated next to New Name Plate. Cost included with Name Plate.

SCOPE OF WORK

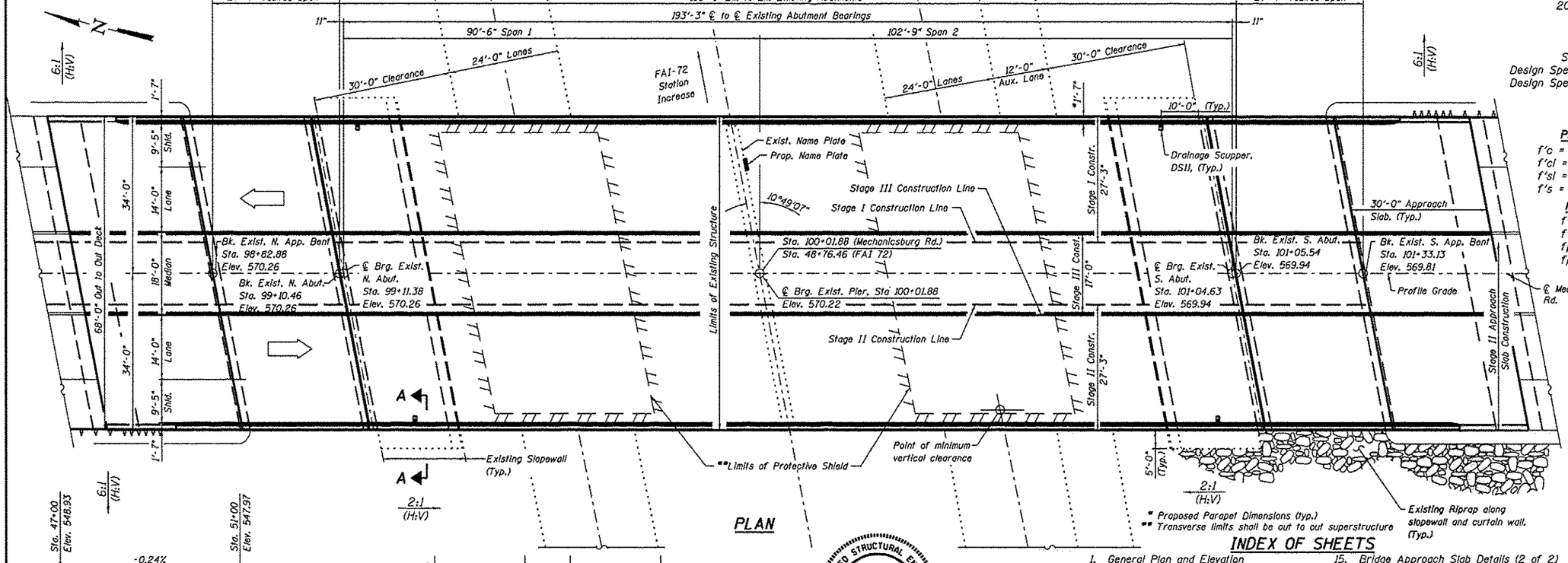
1. Remove and replace deck.
2. Remove and replace approach span.
3. Remove and replace abutment back walls.
4. Remove and replace wingwalls.
5. Install approach slab.
6. Replace the damaged slopewall sections.
7. Replace end diaphragm with channel diaphragm.
8. Install Shear Studs in Negative Moment region of Deck.
9. Jack and remove existing bearings at abutments and pier and raise profile elevation 6" while deck is off.
10. Replace bearings with new elastomeric bearings at abutments and fixed bearings at pier.



ELEVATION

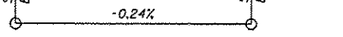


SECTION A-A



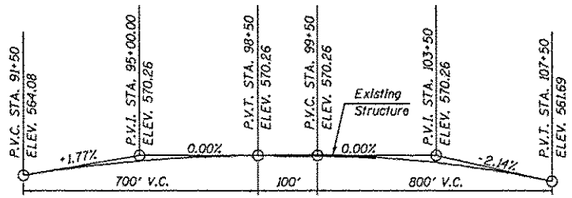
* Proposed Parapet Dimensions (typ.)
** Transverse limits shall be out to out superstructure

PLAN



EXISTING PROFILE GRADE-F.A.I. RT. 72
(Median Edge of Pavement)

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



PROPOSED PROFILE GRADE-MECHANICSBURG RD.
(℄ Roadway)

LICENSED STRUCTURAL ENGINEER ★ MICHAEL T. HALEY 81-5991 CHATHAM ★ STATE OF ILLINOIS

Michael T. Haley 9-18-2013
Michael T. Haley — Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2014

INDEX OF SHEETS

LOADING HS20-44

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

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.065g
Design Spectral Acceleration at 2.0 sec. (S_{DS}) = 0.179g
Soil Site Class = B

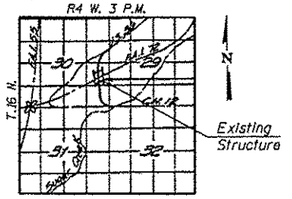
DESIGN STRESSES

PRECAST PRESTRESSED UNITS (Exist.)
f'c = 5,000 psi
f'ci = 4,000 psi
f'si = 173,600 psi (7/16" ϕ stress relieved strands)
f's = 248,000 psi (7/16" ϕ stress relieved strands)

PRECAST PRESTRESSED UNITS (Prop.)
f'c = 6,000 psi
f'ci = 5,000 psi
fpbt = 201,960 psi (½" ϕ low lax strands)
fpu = 270,000 psi (½" ϕ low lax strands)

FIELD UNITS (Exist. Constr.)
fc = 1,400 psi (Substructure)
fc = 1,200 psi (Slab)
fs = 20,000 psi (Steel)
fs = 20,000 psi (Reinforcement)

FIELD UNITS (New Const.)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Steel)



LOCATION SKETCH

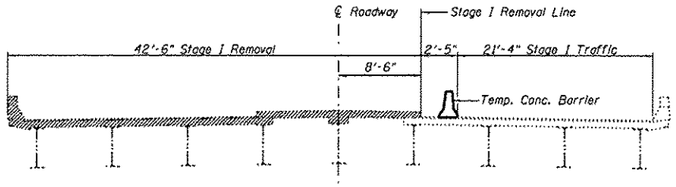
GENERAL PLAN & ELEVATION
MECHANICSBURG ROAD OVER
F.A.I. RTE. 72
SECTION (84-10-1,2) RS-3
SANGAMON COUNTY
STRUCTURE NO. 084-0150
STA. 48+76.46

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	
		CHECKED - MTH	REVISED -	
PLOT SCALE =		DRAWN - TJW	REVISED -	
PLOT DATE =		CHECKED - MTH	REVISED -	

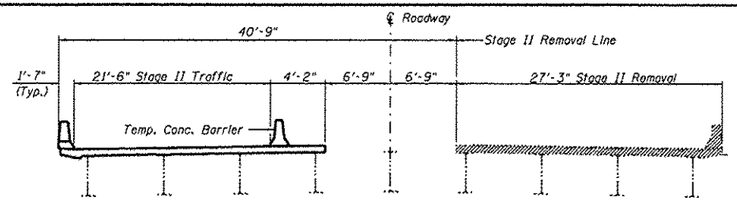
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
MECHANICSBURG ROAD OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 1 OF 27 SHEETS

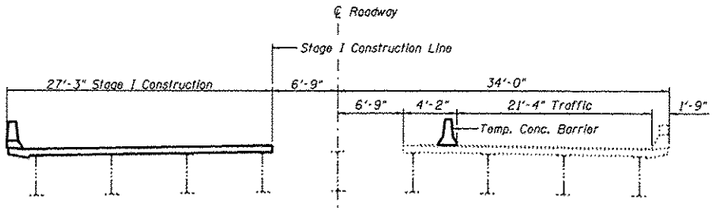
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	113
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



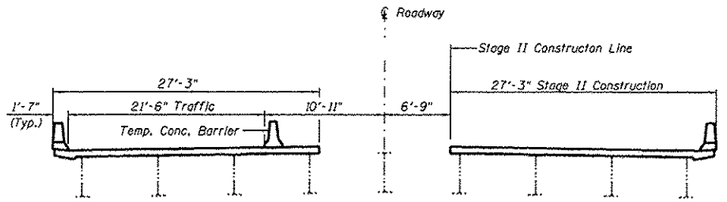
STAGE I REMOVAL
(Looking South)



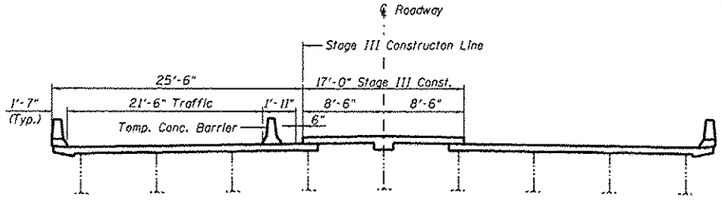
STAGE II REMOVAL
(Looking South)



STAGE I CONSTRUCTION
(Looking South)



STAGE II CONSTRUCTION
(Looking South)



STAGE III CONSTRUCTION
(Looking South.
Staging of main spans shown; approach spans similar)

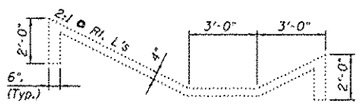
Note:
See sheet 3 of 27 for Temporary Concrete Barrier Details.

Hatched area indicates Removal of Existing Concrete Deck.

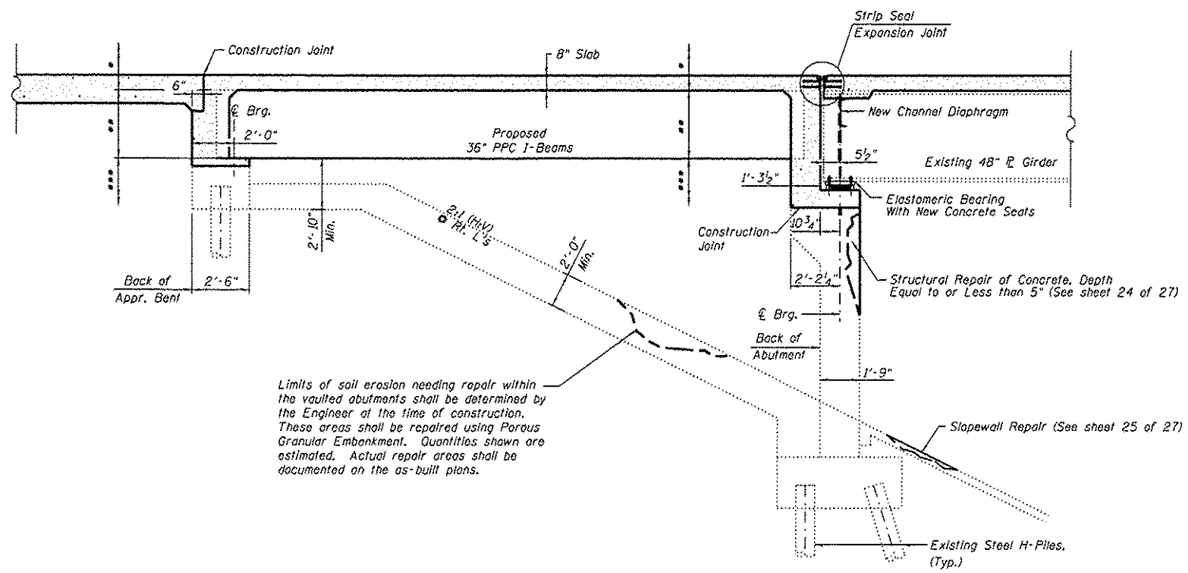
For quantity of Temporary Concrete Barrier, see roadway plans.

Removal of existing bridge railing and bituminous wearing surface is included with Removal of Concrete Deck.

Approach Concrete Removal Limits:
- ▪ Removal of Existing Concrete Deck
- ▪▪ Concrete Removal (Superstructure)
- ▪▪▪ Concrete Removal (Substructure)



SECTION THROUGH SLOPEWALL



SECTION THRU VAULTED ABUTMENT
(Horiz. Dim.'s ◎ Rt. L's)

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{3}{4}$ in. ϕ, holes $\frac{13}{16}$ in. ϕ, unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to 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 of 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 at the unit price bid for the work.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$" (0.01 Ft.)

Concrete Sealer shall be applied to designated areas of the abutments.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1.

The contractor shall resurvey the I-72 vertical clearance over each lane and shoulder following the deck replacement. This work will not be paid for separately, but shall be included with the contract lump sum price for "Construction Layout".

Slipforming of Parapets not allowed.

Cleaning and field painting of structural steel shall be done under a separate painting contract.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	1	-	1
Concrete Removal	Cu. Yd.	40.2	59.0	99.2
Protective Shield	Sq. Yd.	596	-	596
Concrete Structures	Cu. Yd.	-	120.5	120.5
Concrete Superstructure	Cu. Yd.	810.9	-	810.9
Bridge Deck Grooving	Sq. Yd.	1,247	-	1,247
Protective Coat	Sq. Yd.	2,465	-	2,465
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36"	Foot	370.0	-	370.0
Furnishing and Erecting Structural Steel	Pound	4,940	7,960	12,900
Stud Shear Connectors	Each	1,656	-	1,656
Reinforcement Bars, Epoxy Coated	Pound	178,450	14,670	193,120
Bar Splicers	Each	234	50	284
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	136	-	136
Elastomeric Bearing Assembly, Type 1	Each	-	18	18
Anchor Bolts, 1"	Each	-	36	36
Anchor Bolts, 1¼"	Each	-	18	18
Concrete Sealer	Sq. Ft.	-	2,455	2,455
Asbestos Bearing Pad Removal	Each	-	27	27
Removal of Existing Concrete I-Beams	Each	14	-	14
Structural Repair of Concrete, Depth Equal to or Less than 5"	Sq. Ft.	-	145	145
Drainage Scupper, DS-11	Each	4	-	4
Jacking Existing Superstructure	L. Sum	-	1	1
Slope Wall Removal	Sq. Yd.	-	10	10
Slope Wall, 4"	Sq. Yd.	-	10	10
Controlled Low Strength Material	Cu. Yd.	-	5	5
Structural Steel Removal	Pound	6,800	-	6,800
Porous Granular Embankment	Ton	-	25	25

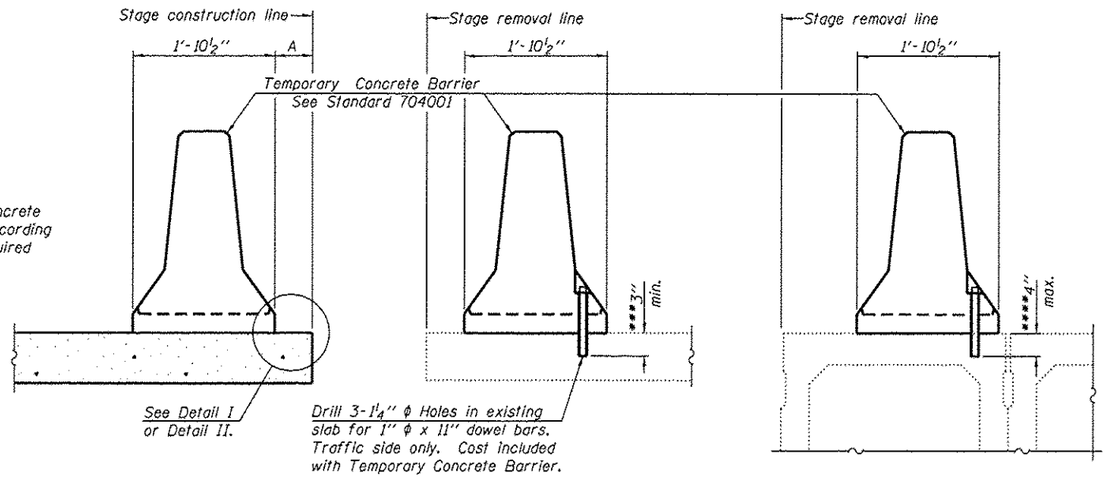
FILE NAME = CM12 over FA1-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
MECHANICSBURG ROAD OVER F.A.I.–72 – S.N. 084–0150
SHEET NO. 2 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	114
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

When "A" is 3'-6" 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'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel ℄ 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 ℄ 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.

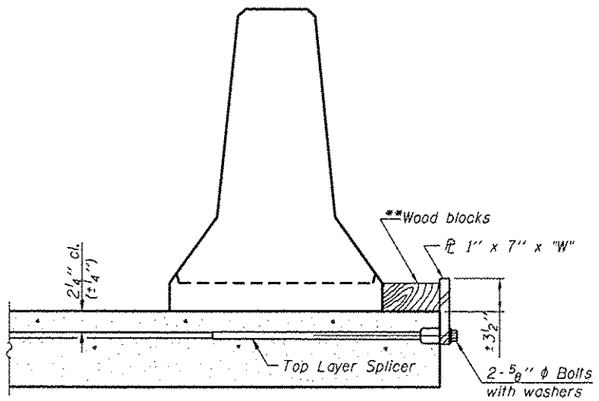
Cost of anchorage is included with Temporary Concrete Barrier.

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.

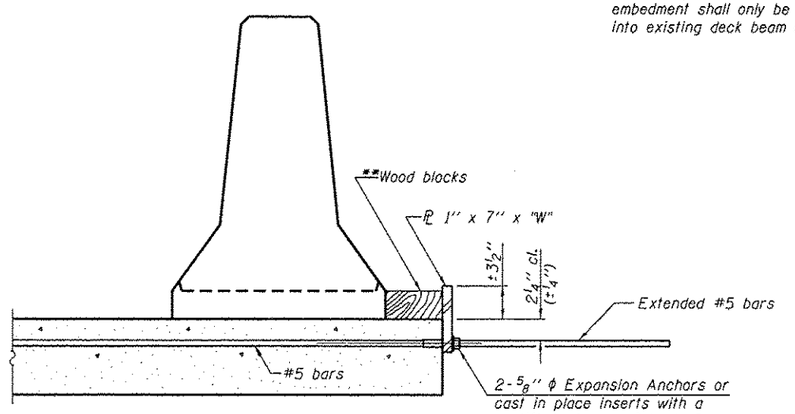
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



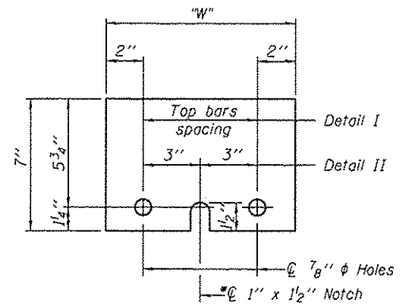
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



STEEL RETAINER ℄ 1" x 7" x "W"

* Required only with Detail II

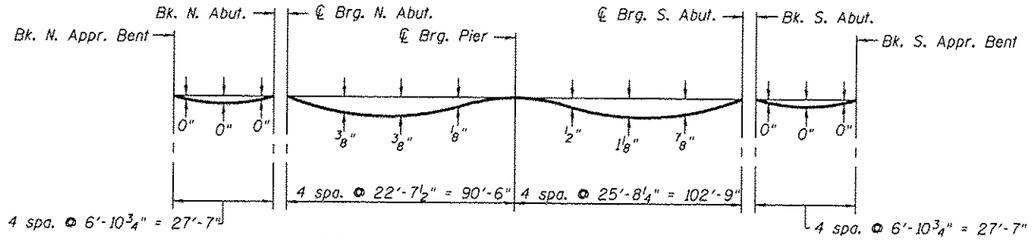
R-27 7-1-10

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
MECHANICSBURG RD. OVER F.A.I.-72 - S.N. 084-0150
SHEET NO. 3 OF 27 SHEETS

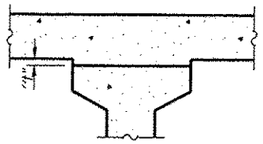
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	115
	* (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



DEAD LOAD DEFLECTION DIAGRAM

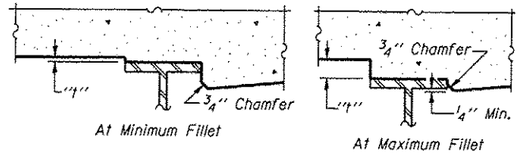
(Includes weight of concrete only.)

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 on sheets 5 & 6 of 27.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheets 5 & 6 of 27, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

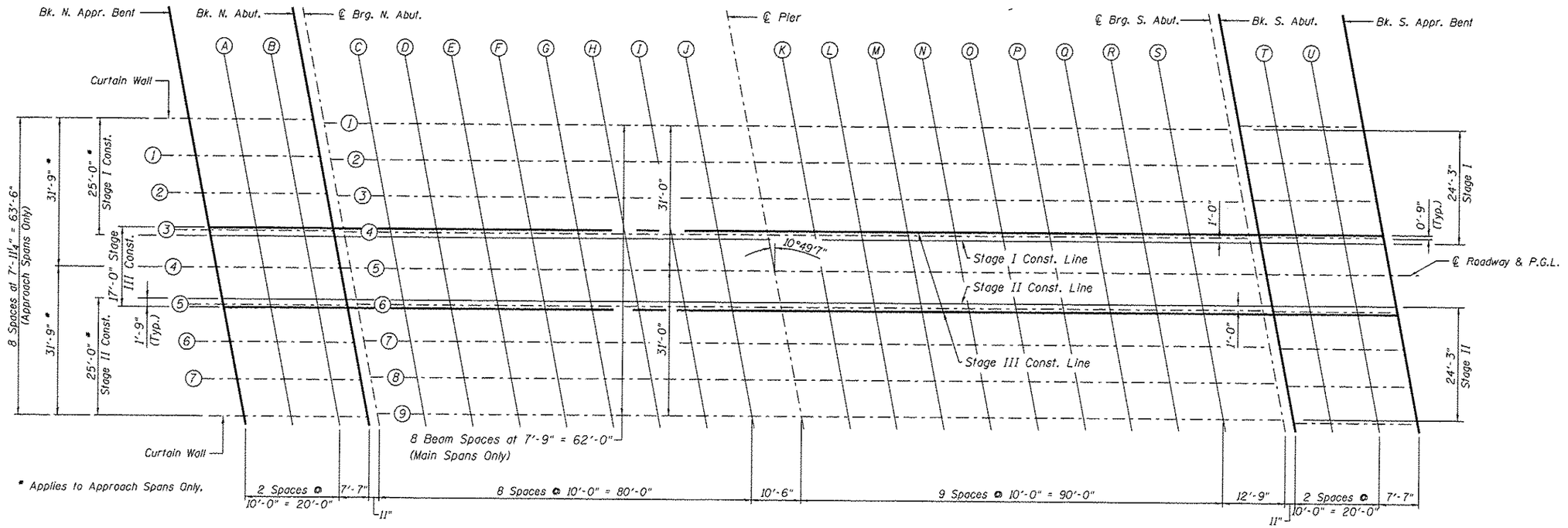
FILLET HEIGHTS



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below and on sheets 5 & 6 of 27, minus slab thickness, equals the fillet heights "t" above top flange of Beams.

FILLET HEIGHTS

N



PLAN

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS (1 OF 3) MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	(84-10-1,2) RS-3	SANGAMON	194	116
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 4 OF 27 SHEETS				CONTRACT NO. 72C90	
	PLOT DATE =	CHECKED - MTH	REVISED -			FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

BEAM 1 (EAST CURTAIN WALL*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+76.81	-31.75	569.72	569.72
A	98+86.81	-31.75	569.72	569.73
B	98+96.81	-31.75	569.72	569.73
Bk. N. Abut.	99+04.39	-31.75	569.72	569.72
℄ Brg N. Abut.	99+05.46	-31.00	569.73	569.73
C	99+15.46	-31.00	569.73	569.75
D	99+25.46	-31.00	569.73	569.76
E	99+35.46	-31.00	569.73	569.77
F	99+45.46	-31.00	569.73	569.77
G	99+55.46	-31.00	569.73	569.76
H	99+65.46	-31.00	569.73	569.75
I	99+75.46	-31.00	569.72	569.73
J	99+85.46	-31.00	569.71	569.71
℄ Exist. Pier	99+95.96	-31.00	569.70	569.70
K	100+05.96	-31.00	569.68	569.70
L	100+15.96	-31.00	569.66	569.70
M	100+25.96	-31.00	569.64	569.70
N	100+35.96	-31.00	569.62	569.70
O	100+45.96	-31.00	569.60	569.69
P	100+55.96	-31.00	569.57	569.67
Q	100+65.96	-31.00	569.54	569.62
R	100+75.96	-31.00	569.50	569.57
S	100+85.96	-31.00	569.46	569.50
℄ Brg S. Abut.	100+98.71	-31.00	569.41	569.41
Bk. S. Abut.	100+99.47	-31.75	569.39	569.39
T	101+09.47	-31.75	569.35	569.36
U	101+19.47	-31.75	569.31	569.32
Bk. S. Appr. Bent	101+27.06	-31.75	569.27	569.27

BEAM 2 (BEAM 1*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+78.33	-23.81	569.88	569.88
A	98+88.33	-23.81	569.88	569.89
B	98+98.33	-23.81	569.88	569.89
Bk. N. Abut.	99+05.91	-23.81	569.88	569.88
℄ Brg N. Abut.	99+06.94	-23.25	569.89	569.89
C	99+16.94	-23.25	569.89	569.92
D	99+26.94	-23.25	569.89	569.92
E	99+36.94	-23.25	569.89	569.93
F	99+46.94	-23.25	569.89	569.93
G	99+56.94	-23.25	569.89	569.92
H	99+66.94	-23.25	569.89	569.91
I	99+76.94	-23.25	569.88	569.89
J	99+86.94	-23.25	569.87	569.87
℄ Exist. Pier	99+97.44	-23.25	569.86	569.86
K	100+07.44	-23.25	569.84	569.86
L	100+17.44	-23.25	569.83	569.86
M	100+27.44	-23.25	569.81	569.86
N	100+37.44	-23.25	569.78	569.86
O	100+47.44	-23.25	569.76	569.85
P	100+57.44	-23.25	569.73	569.83
Q	100+67.44	-23.25	569.70	569.78
R	100+77.44	-23.25	569.66	569.73
S	100+87.44	-23.25	569.63	569.66
℄ Brg S. Abut.	101+00.19	-23.25	569.57	569.57
Bk. S. Abut.	101+00.99	-23.81	569.56	569.56
T	101+10.99	-23.81	569.52	569.53
U	101+20.99	-23.81	569.47	569.48
Bk. S. Appr. Bent	101+28.58	-23.81	569.43	569.43

BEAM 3 (BEAM 2*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+79.85	-15.88	570.01	570.01
A	98+89.85	-15.88	570.01	570.02
B	98+99.85	-15.88	570.01	570.02
Bk. N. Abut.	99+07.43	-15.88	570.01	570.01
℄ Brg N. Abut.	99+08.42	-15.50	570.02	570.02
C	99+18.42	-15.50	570.02	570.04
D	99+28.42	-15.50	570.02	570.04
E	99+38.42	-15.50	570.02	570.05
F	99+48.42	-15.50	570.02	570.05
G	99+58.42	-15.50	570.02	570.05
H	99+68.42	-15.50	570.01	570.03
I	99+78.42	-15.50	570.00	570.01
J	99+88.42	-15.50	570.00	570.00
℄ Exist. Pier	99+98.92	-15.50	569.98	569.98
K	100+08.92	-15.50	569.97	569.98
L	100+18.92	-15.50	569.95	569.98
M	100+28.92	-15.50	569.93	569.98
N	100+38.92	-15.50	569.90	569.98
O	100+48.92	-15.50	569.88	569.97
P	100+58.92	-15.50	569.85	569.95
Q	100+68.92	-15.50	569.82	569.90
R	100+78.92	-15.50	569.79	569.85
S	100+88.92	-15.50	569.75	569.78
℄ Brg S. Abut.	101+01.67	-15.50	569.70	569.70
Bk. S. Abut.	101+02.51	-15.88	569.69	569.69
T	101+12.51	-15.88	569.65	569.66
U	101+22.51	-15.88	569.60	569.61
Bk. S. Appr. Bent	101+30.10	-15.88	569.56	569.56

BEAM 4 (BEAM 3*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+81.36	-7.94	570.14	570.14
A	98+91.36	-7.94	570.14	570.15
B	99+01.36	-7.94	570.14	570.15
Bk. N. Abut.	99+08.94	-7.94	570.14	570.14
℄ Brg N. Abut.	99+09.90	-7.75	570.14	570.14
C	99+19.90	-7.75	570.14	570.16
D	99+29.90	-7.75	570.14	570.16
E	99+39.90	-7.75	570.14	570.17
F	99+49.90	-7.75	570.14	570.17
G	99+59.90	-7.75	570.14	570.17
H	99+69.90	-7.75	570.13	570.15
I	99+79.90	-7.75	570.13	570.14
J	99+89.90	-7.75	570.12	570.12
℄ Exist. Pier	100+00.40	-7.75	570.10	570.10
K	100+10.40	-7.75	570.09	570.10
L	100+20.40	-7.75	570.07	570.10
M	100+30.40	-7.75	570.05	570.10
N	100+40.40	-7.75	570.03	570.10
O	100+50.40	-7.75	570.00	570.10
P	100+60.40	-7.75	569.97	570.07
Q	100+70.40	-7.75	569.94	570.03
R	100+80.40	-7.75	569.91	569.97
S	100+90.40	-7.75	569.87	569.90
℄ Brg S. Abut.	101+03.15	-7.75	569.82	569.82
Bk. S. Abut.	101+04.02	-7.94	569.81	569.81
T	101+14.02	-7.94	569.77	569.78
U	101+24.02	-7.94	569.72	569.73
Bk. S. Appr. Bent	101+31.61	-7.94	569.69	569.69

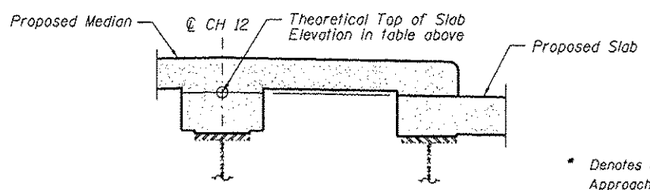
STAGE I CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+81.59	-6.75	570.16	570.16
A	98+91.59	-6.75	570.16	570.17
B	99+01.59	-6.75	570.16	570.17
Bk. N. Abut.	99+09.17	-6.75	570.16	570.16
℄ Brg N. Abut.	99+10.09	-6.75	570.16	570.16
C	99+20.09	-6.75	570.16	570.18
D	99+30.09	-6.75	570.15	570.18
E	99+40.09	-6.75	570.15	570.19
F	99+50.09	-6.75	570.15	570.19
G	99+60.09	-6.75	570.15	570.18
H	99+70.09	-6.75	570.15	570.17
I	99+80.09	-6.75	570.14	570.15
J	99+90.09	-6.75	570.13	570.13
℄ Exist. Pier	100+00.59	-6.75	570.12	570.12
K	100+10.59	-6.75	570.10	570.11
L	100+20.59	-6.75	570.09	570.12
M	100+30.59	-6.75	570.07	570.12
N	100+40.59	-6.75	570.04	570.12
O	100+50.59	-6.75	570.02	570.11
P	100+60.59	-6.75	569.99	570.09
Q	100+70.59	-6.75	569.96	570.04
R	100+80.59	-6.75	569.92	569.99
S	100+90.59	-6.75	569.89	569.92
℄ Brg S. Abut.	101+03.34	-6.75	569.83	569.83
Bk. S. Abut.	101+04.25	-6.75	569.83	569.83
T	101+14.25	-6.75	569.79	569.80
U	101+24.25	-6.75	569.74	569.75
Bk. S. Appr. Bent	101+31.84	-6.75	569.71	569.71

℄ RDWY., CROWN, PGL & BEAM 5 (BEAM 4*)

(Projected Slab Elevation below the median. See detail below)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+82.88	0.00	570.26	570.26
A	98+92.88	0.00	570.26	570.27
B	99+02.88	0.00	570.26	570.27
Bk. N. Abut.	99+10.46	0.00	570.26	570.26
℄ Brg N. Abut.	99+11.38	0.00	570.26	570.26
C	99+21.38	0.00	570.26	570.28
D	99+31.38	0.00	570.26	570.29
E	99+41.38	0.00	570.26	570.29
F	99+51.38	0.00	570.26	570.29
G	99+61.38	0.00	570.26	570.29
H	99+71.38	0.00	570.25	570.27
I	99+81.38	0.00	570.25	570.26
J	99+91.38	0.00	570.24	570.24
℄ Exist. Pier	100+01.88	0.00	570.22	570.22
K	100+11.88	0.00	570.21	570.22
L	100+21.88	0.00	570.19	570.22
M	100+31.88	0.00	570.17	570.23
N	100+41.88	0.00	570.15	570.22
O	100+51.88	0.00	570.12	570.22
P	100+61.88	0.00	570.09	570.19
Q	100+71.88	0.00	570.06	570.15
R	100+81.88	0.00	570.03	570.09
S	100+91.88	0.00	569.99	570.03
℄ Brg S. Abut.	101+04.63	0.00	569.94	569.94
Bk. S. Abut.	101+05.54	0.00	569.94	569.94
T	101+15.54	0.00	569.89	569.90
U	101+25.54	0.00	569.85	569.86
Bk. S. Appr. Bent	101+33.13	0.00	569.81	569.81



DETAIL THRU PROP. DECK

* Denotes description variations for Approach Spans associated with Main Span callouts.

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (2 OF 3)
MECHANICSBURG RD. OVER F.A.I.–72 – S.N. 084–0150
SHEET NO. 5 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	117
	* (84-10-1RS-3, 84-10-2RS-R1BR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

STAGE II CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+84.17	6.75	570.16	570.16
A	98+94.17	6.75	570.16	570.17
B	99+04.17	6.75	570.16	570.17
Bk. N. Abut.	99+11.75	6.75	570.16	570.16
℄ Brg N. Abut.	99+12.67	6.75	570.16	570.16
C	99+22.67	6.75	570.16	570.18
D	99+32.67	6.75	570.15	570.18
E	99+42.67	6.75	570.15	570.19
F	99+52.67	6.75	570.15	570.19
G	99+62.67	6.75	570.15	570.18
H	99+72.67	6.75	570.15	570.17
I	99+82.67	6.75	570.14	570.15
J	99+92.67	6.75	570.13	570.13
℄ Exist. Pier	100+03.17	6.75	570.12	570.12
K	100+13.17	6.75	570.10	570.11
L	100+23.17	6.75	570.09	570.12
M	100+33.17	6.75	570.07	570.12
N	100+43.17	6.75	570.04	570.12
O	100+53.17	6.75	570.02	570.11
P	100+63.17	6.75	569.99	570.09
Q	100+73.17	6.75	569.96	570.04
R	100+83.17	6.75	569.92	569.99
S	100+93.17	6.75	569.89	569.92
℄ Brg S. Abut.	101+05.92	6.75	569.83	569.83
Bk. S. Abut.	101+06.83	6.75	569.83	569.83
T	101+16.83	6.75	569.79	569.80
U	101+26.83	6.75	569.74	569.75
Bk. S. Appr. Bent	101+34.42	6.75	569.71	569.71

BEAM 6 (BEAM 5*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+84.40	7.94	570.14	570.14
A	98+94.40	7.94	570.14	570.15
B	99+04.40	7.94	570.14	570.15
Bk. N. Abut.	99+11.98	7.94	570.14	570.14
℄ Brg N. Abut.	99+12.86	7.75	570.14	570.14
C	99+22.86	7.75	570.14	570.16
D	99+32.86	7.75	570.14	570.16
E	99+42.86	7.75	570.14	570.17
F	99+52.86	7.75	570.14	570.17
G	99+62.86	7.75	570.14	570.17
H	99+72.86	7.75	570.13	570.15
I	99+82.86	7.75	570.13	570.14
J	99+92.86	7.75	570.12	570.12
℄ Exist. Pier	100+03.36	7.75	570.10	570.10
K	100+13.36	7.75	570.09	570.10
L	100+23.36	7.75	570.07	570.10
M	100+33.36	7.75	570.05	570.10
N	100+43.36	7.75	570.03	570.10
O	100+53.36	7.75	570.00	570.10
P	100+63.36	7.75	569.97	570.07
Q	100+73.36	7.75	569.94	570.03
R	100+83.36	7.75	569.91	569.97
S	100+93.36	7.75	569.87	569.90
℄ Brg S. Abut.	101+06.11	7.75	569.82	569.82
Bk. S. Abut.	101+07.06	7.94	569.81	569.81
T	101+17.06	7.94	569.77	569.78
U	101+27.06	7.94	569.72	569.73
Bk. S. Appr. Bent	101+34.65	7.94	569.69	569.69

BEAM 7 (BEAM 6*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+85.91	15.88	570.01	570.01
A	98+95.91	15.88	570.01	570.02
B	99+05.91	15.88	570.01	570.02
Bk. N. Abut.	99+13.49	15.88	570.01	570.01
℄ Brg N. Abut.	99+14.34	15.50	570.02	570.02
C	99+24.34	15.50	570.02	570.04
D	99+34.34	15.50	570.02	570.04
E	99+44.34	15.50	570.02	570.05
F	99+54.34	15.50	570.02	570.05
G	99+64.34	15.50	570.02	570.05
H	99+74.34	15.50	570.01	570.03
I	99+84.34	15.50	570.00	570.01
J	99+94.34	15.50	570.00	570.00
℄ Exist. Pier	100+04.84	15.50	569.98	569.98
K	100+14.84	15.50	569.97	569.98
L	100+24.84	15.50	569.95	569.98
M	100+34.84	15.50	569.93	569.98
N	100+44.84	15.50	569.90	569.98
O	100+54.84	15.50	569.88	569.97
P	100+64.84	15.50	569.85	569.95
Q	100+74.84	15.50	569.82	569.90
R	100+84.84	15.50	569.79	569.85
S	100+94.84	15.50	569.75	569.78
℄ Brg S. Abut.	101+07.59	15.50	569.70	569.70
Bk. S. Abut.	101+08.57	15.88	569.69	569.69
T	101+18.57	15.88	569.65	569.66
U	101+28.57	15.88	569.60	569.61
Bk. S. Appr. Bent	101+36.16	15.88	569.56	569.56

BEAM 8 (BEAM 7*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+87.43	23.81	569.88	569.88
A	98+97.43	23.81	569.88	569.89
B	99+07.43	23.81	569.88	569.89
Bk. N. Abut.	99+15.01	23.81	569.88	569.88
℄ Brg N. Abut.	99+15.82	23.25	569.90	569.90
C	99+25.82	23.25	569.90	569.92
D	99+35.82	23.25	569.89	569.92
E	99+45.82	23.25	569.89	569.93
F	99+55.82	23.25	569.89	569.93
G	99+65.82	23.25	569.89	569.92
H	99+75.82	23.25	569.89	569.91
I	99+85.82	23.25	569.88	569.89
J	99+95.82	23.25	569.87	569.87
℄ Exist. Pier	100+06.32	23.25	569.86	569.86
K	100+16.32	23.25	569.84	569.86
L	100+26.32	23.25	569.83	569.86
M	100+36.32	23.25	569.81	569.86
N	100+46.32	23.25	569.78	569.86
O	100+56.32	23.25	569.76	569.85
P	100+66.32	23.25	569.73	569.83
Q	100+76.32	23.25	569.70	569.78
R	100+86.32	23.25	569.66	569.73
S	100+96.32	23.25	569.63	569.66
℄ Brg S. Abut.	101+09.07	23.25	569.57	569.57
Bk. S. Abut.	101+10.09	23.81	569.56	569.56
T	101+20.09	23.81	569.52	569.53
U	101+30.09	23.81	569.47	569.48
Bk. S. Appr. Bent	101+37.68	23.81	569.43	569.43

BEAM 9 (WEST CURTAIN WALL*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	98+88.95	31.75	569.72	569.72
A	98+98.95	31.75	569.72	569.73
B	99+08.95	31.75	569.72	569.73
Bk. N. Abut.	99+16.53	31.75	569.72	569.72
℄ Brg N. Abut.	99+17.30	31.00	569.73	569.73
C	99+27.30	31.00	569.73	569.75
D	99+37.30	31.00	569.73	569.76
E	99+47.30	31.00	569.73	569.77
F	99+57.30	31.00	569.73	569.77
G	99+67.30	31.00	569.73	569.76
H	99+77.30	31.00	569.73	569.75
I	99+87.30	31.00	569.72	569.73
J	99+97.30	31.00	569.71	569.71
℄ Exist. Pier	100+07.80	31.00	569.70	569.70
K	100+17.80	31.00	569.68	569.70
L	100+27.80	31.00	569.66	569.70
M	100+37.80	31.00	569.64	569.70
N	100+47.80	31.00	569.62	569.70
O	100+57.80	31.00	569.60	569.69
P	100+67.80	31.00	569.57	569.67
Q	100+77.80	31.00	569.54	569.62
R	100+87.80	31.00	569.50	569.57
S	100+97.80	31.00	569.46	569.50
℄ Brg S. Abut.	101+10.55	31.00	569.41	569.41
Bk. S. Abut.	101+11.61	31.75	569.39	569.39
T	101+21.61	31.75	569.35	569.36
U	101+31.61	31.75	569.31	569.32
Bk. S. Appr. Bent	101+39.20	31.75	569.27	569.27

* *Denotes description variations for Approach Spans associated with Main Span callouts.*

FILE NAME = CH12 over FAI-72.dgn | USER NAME = | PLOT SCALE = | PLOT DATE =

DESIGNED - SAL | CHECKED - MTH | DRAWN - TJW | CHECKED - MTH

REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (3 OF 3)
MECHANICSBURG RD. OVER F.A.I.–72 – S.N. 084–0150
SHEET NO. 6 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	118
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+47.19	-32.417	569.70
A	98+57.19	-32.417	569.70
B	98+67.19	-32.417	569.70
S. End N. Appr. Slab	98+77.19	-32.417	569.70
N. End S. Appr. Slab	101+26.44	-32.417	569.25
C	101+36.44	-32.417	569.20
D	101+46.44	-32.417	569.15
S. End S. Appr. Slab	101+56.44	-32.417	569.09

℄ ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+53.38	0.000	570.26
A	98+63.38	0.000	570.26
B	98+73.38	0.000	570.26
S. End N. Appr. Slab	98+83.38	0.000	570.26
N. End S. Appr. Slab	101+32.63	0.000	569.81
C	101+42.63	0.000	569.76
D	101+52.63	0.000	569.71
S. End S. Appr. Slab	101+62.63	0.000	569.65

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+48.98	-23.000	569.90
A	98+58.98	-23.000	569.90
B	98+68.98	-23.000	569.90
S. End N. Appr. Slab	98+78.98	-23.000	569.90
N. End S. Appr. Slab	101+28.23	-23.000	569.45
C	101+38.23	-23.000	569.40
D	101+48.23	-23.000	569.35
S. End S. Appr. Slab	101+58.23	-23.000	569.29

WEST EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+55.10	9.000	570.12
A	98+65.10	9.000	570.12
B	98+75.10	9.000	570.12
S. End N. Appr. Slab	98+85.10	9.000	570.12
N. End S. Appr. Slab	101+34.35	9.000	569.67
C	101+44.35	9.000	569.62
D	101+54.35	9.000	569.57
S. End S. Appr. Slab	101+64.35	9.000	569.51

EAST EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+51.66	-9.000	570.12
A	98+61.66	-9.000	570.12
B	98+71.66	-9.000	570.12
S. End N. Appr. Slab	98+81.66	-9.000	570.12
N. End S. Appr. Slab	101+30.91	-9.000	569.67
C	101+40.91	-9.000	569.62
D	101+50.91	-9.000	569.57
S. End S. Appr. Slab	101+60.91	-9.000	569.51

WEST EDGE OF PAVEMENT

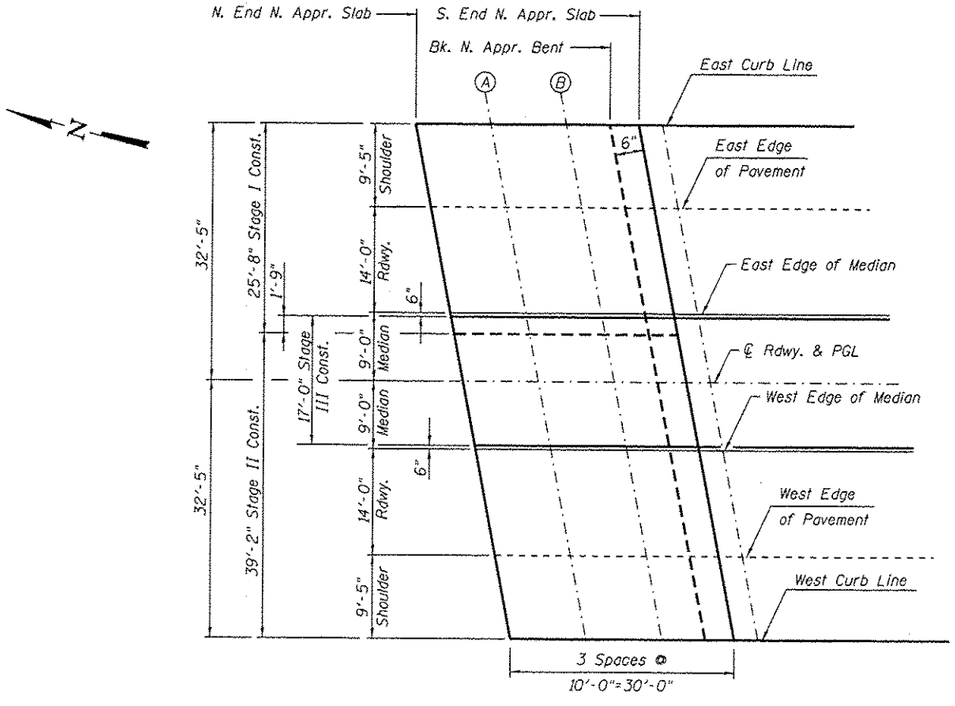
Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+57.78	23.000	569.90
A	98+67.78	23.000	569.90
B	98+77.78	23.000	569.90
S. End N. Appr. Slab	98+87.78	23.000	569.90
N. End S. Appr. Slab	101+37.03	23.000	569.45
C	101+47.03	23.000	569.40
D	101+57.03	23.000	569.35
S. End S. Appr. Slab	101+67.03	23.000	569.29

STAGE I/II CONSTRUCTION JOINT

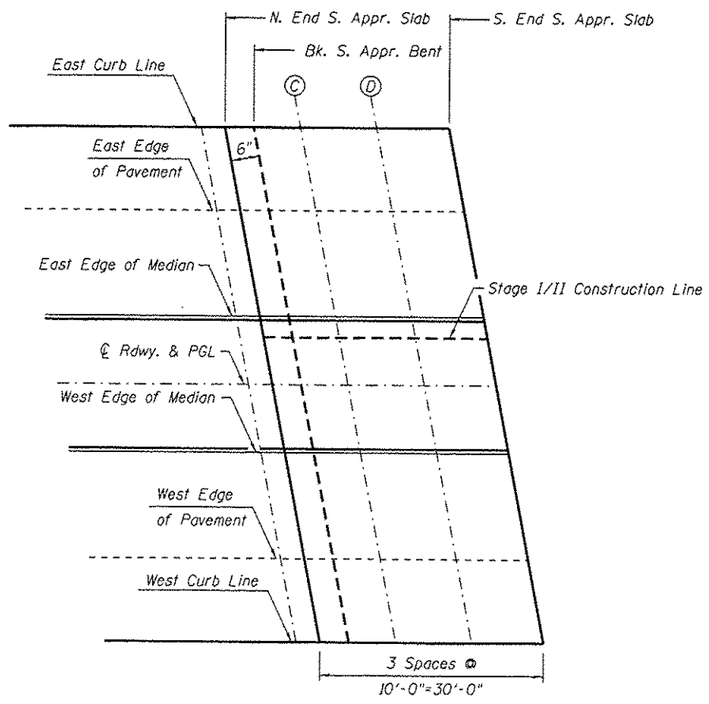
Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+52.09	-6.750	570.15
A	98+62.09	-6.750	570.15
B	98+72.09	-6.750	570.15
S. End N. Appr. Slab	98+82.09	-6.750	570.15
N. End S. Appr. Slab	101+31.34	-6.750	569.70
C	101+41.34	-6.750	569.65
D	101+51.34	-6.750	569.60
S. End S. Appr. Slab	101+61.34	-6.750	569.54

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	98+59.58	32.417	569.70
A	98+69.58	32.417	569.70
B	98+79.58	32.417	569.70
S. End N. Appr. Slab	98+89.58	32.417	569.70
N. End S. Appr. Slab	101+38.83	32.417	569.25
C	101+48.83	32.417	569.20
D	101+58.83	32.417	569.15
S. End S. Appr. Slab	101+68.83	32.417	569.09



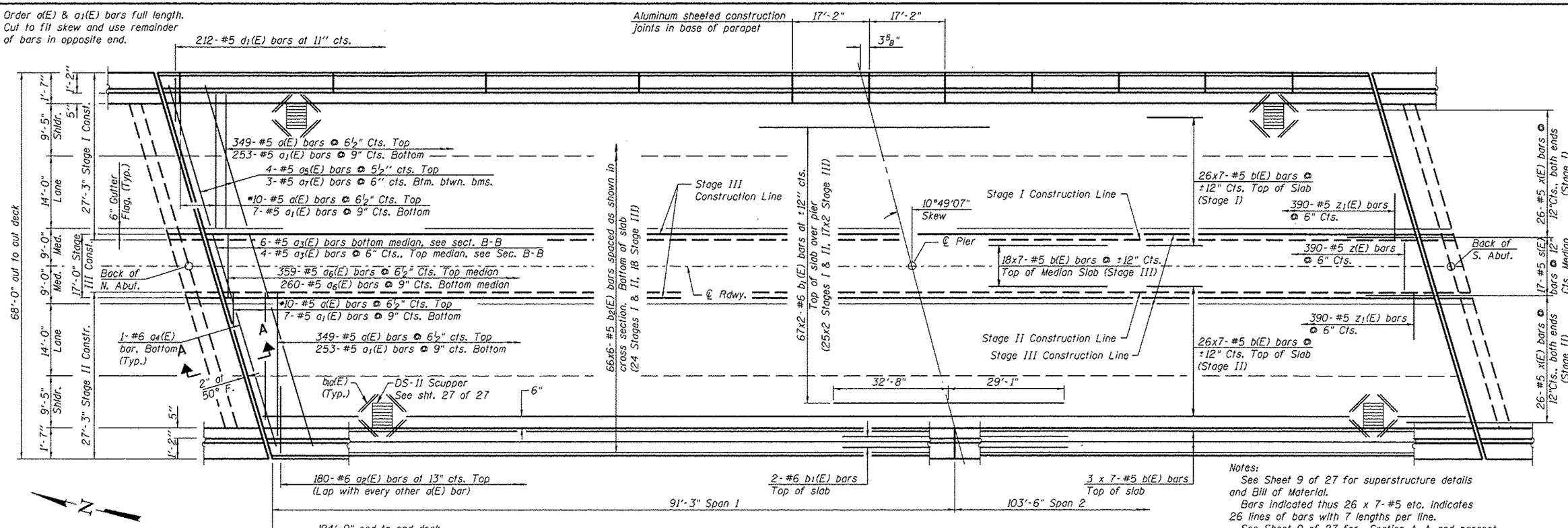
PLAN
(North Approach)



PLAN
(South Approach)

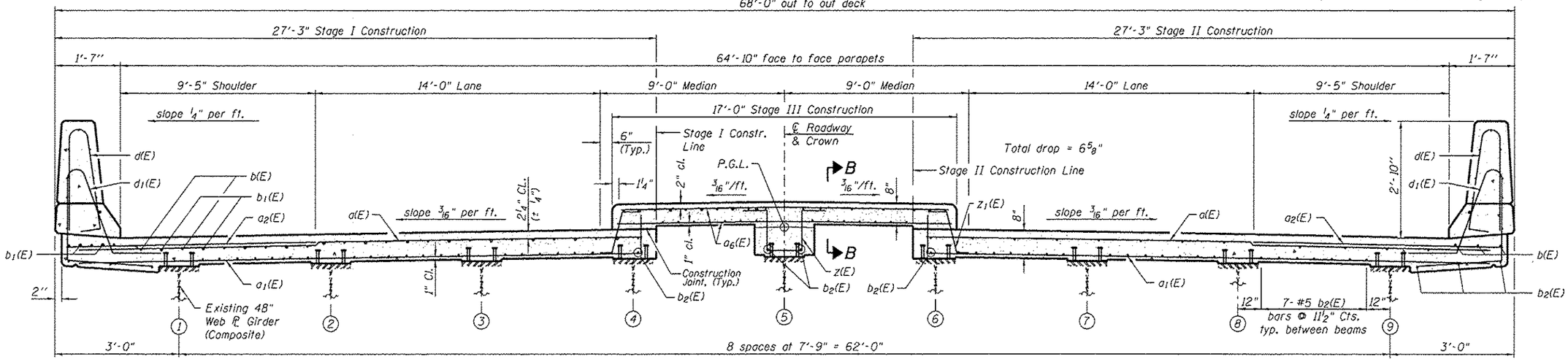
FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF APPROACH SLAB ELEVATIONS MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	119
	PLOT SCALE =	DRAWN - TJW	REVISED -				* (84-10-1RS-3, 84-10-2RS-R)BR.I	CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 7 OF 27 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

* Order $a(E)$ & $a_1(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.



Notes:
See Sheet 9 of 27 for superstructure details and Bill of Material.
Bars indicated thus 26 x 7-#5 etc. indicates 26 lines of bars with 7 lengths per line.
See Sheet 9 of 27 for Section A-A and parapet reinforcement.
Cut longitudinal bars to clear drainage scuppers.

PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking South)

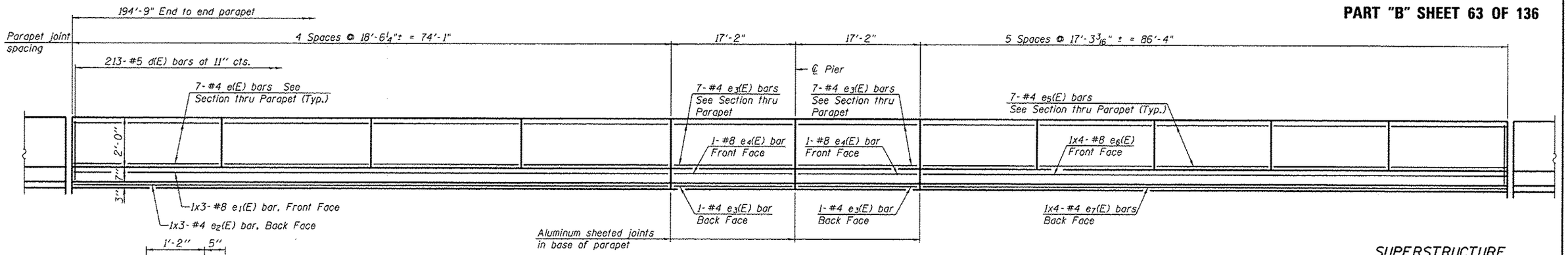
MIN. BAR LAP
(Deck)
#5 Bar = 2'-7"
#6 Bar = 3'-1"

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

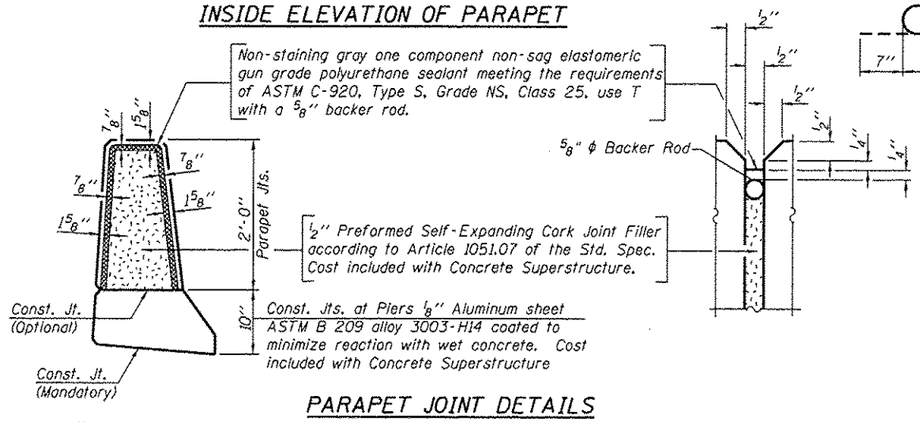
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
MECHANICSBURG RD. OVER F.A.I.–72 – S.N. 084–0150
SHEET NO. 8 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	120
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS

Notes:

Drains shall be located clear of all diaphragms.

The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

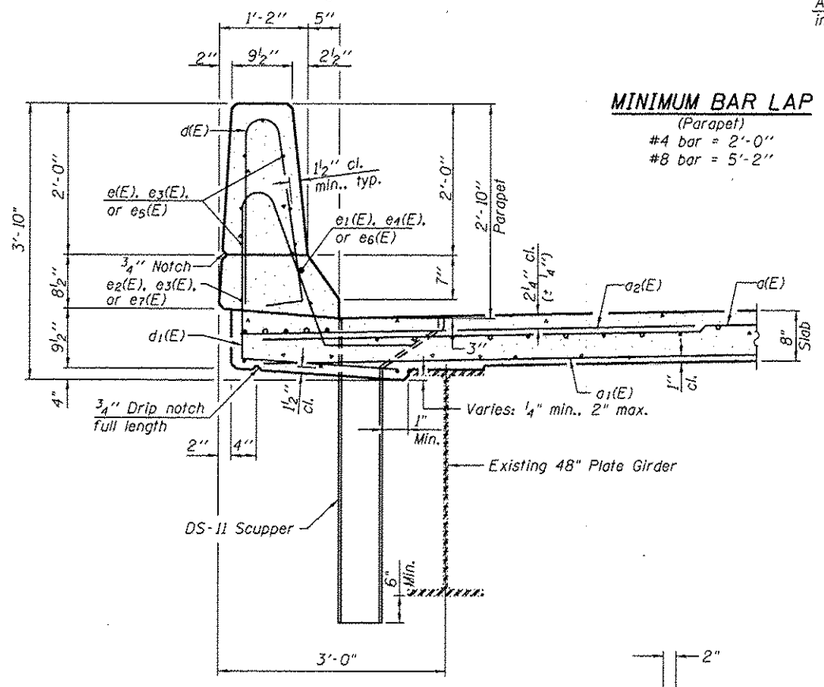
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Cost of Drainage Scuppers.

MINIMUM BAR LAP

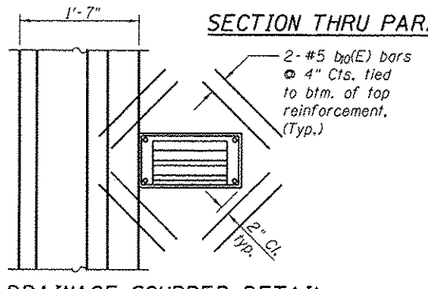
(Parapet)

#4 bar = 2'-0"

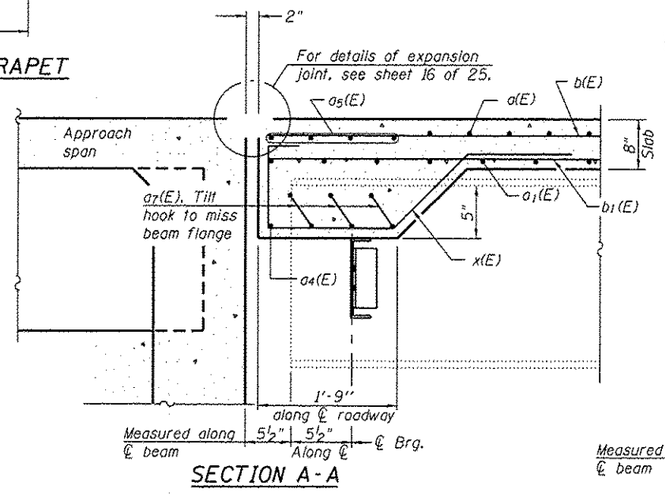
#8 bar = 5'-2"



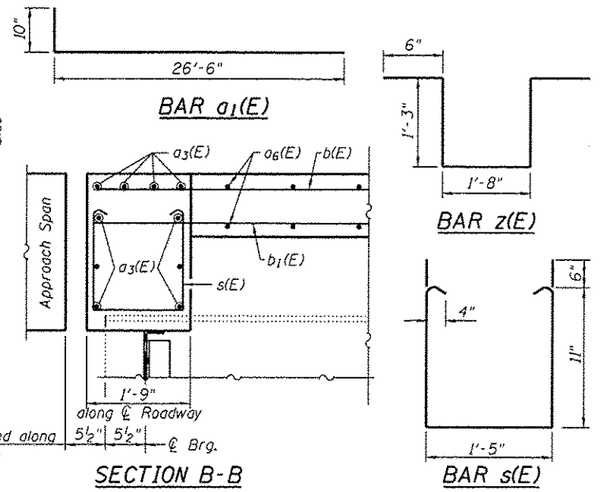
SECTION THRU PARAPET



DRAINAGE SCUPPER DETAIL



SECTION A-A

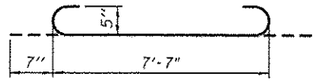


BAR a1(E)

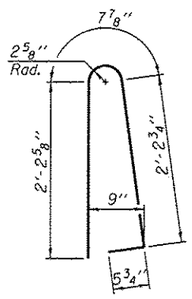
BAR z(E)

SECTION B-B

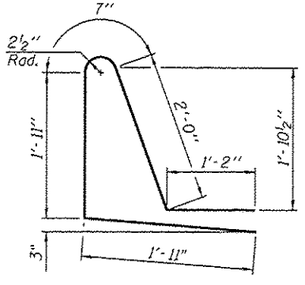
BAR s(E)



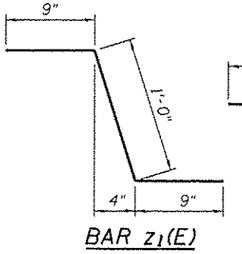
a7(E) BAR



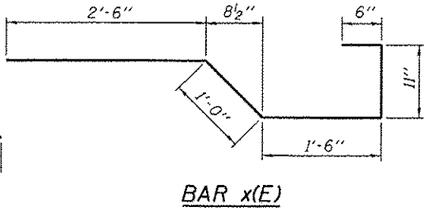
BAR d(E)



BAR d1(E)



BAR z1(E)



BAR x(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	718	#5	26'-6"	
a1(E)	520	#5	27'-4"	
a2(E)	360	#6	6'-6"	
a3(E)	20	#5	16'-11"	
a4(E)	4	#6	26'-8"	
a5(E)	16	#5	26'-11"	
a6(E)	619	#5	16'-8"	
a7(E)	36	#5	8'-9"	
b(E)	532	#5	30'-0"	
b1(E)	134	#6	32'-5"	
b2(E)	372	#5	34'-7"	
b10(E)	32	#5	2'-0"	
d(E)	426	#5	5'-7"	
d1(E)	424	#5	7'-7"	
e(E)	56	#4	18'-2"	
e1(E)	6	#8	28'-1"	
e2(E)	6	#4	26'-0"	
e3(E)	32	#4	16'-10"	
e4(E)	4	#8	16'-10"	
e5(E)	70	#4	16'-11"	
e6(E)	8	#8	25'-5"	
e7(E)	8	#4	23'-1"	
s(E)	34	#4	4'-3"	
x(E)	104	#5	6'-5"	
z(E)	390	#5	5'-2"	
z1(E)	780	#5	2'-6"	
Reinforcement Bars, Epoxy Coated			Pound	100,880
Concrete Superstructure			Cu. Yds.	414.5

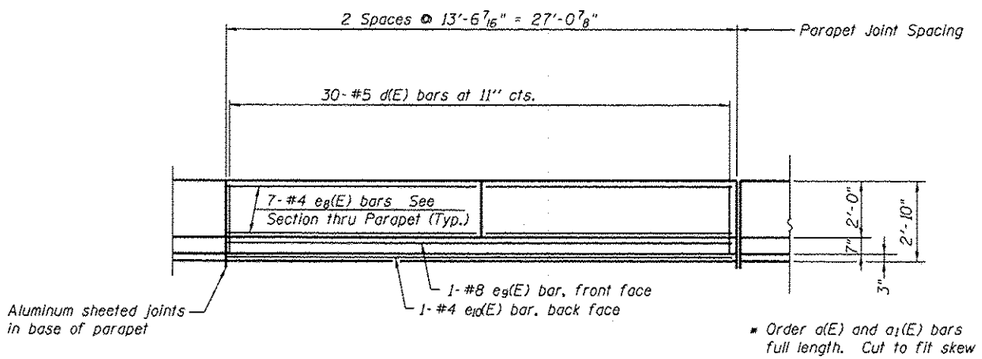
Bars indicated thus 1 x 3 -#8 etc. indicates 1 line of bars with 3 lengths per line.

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

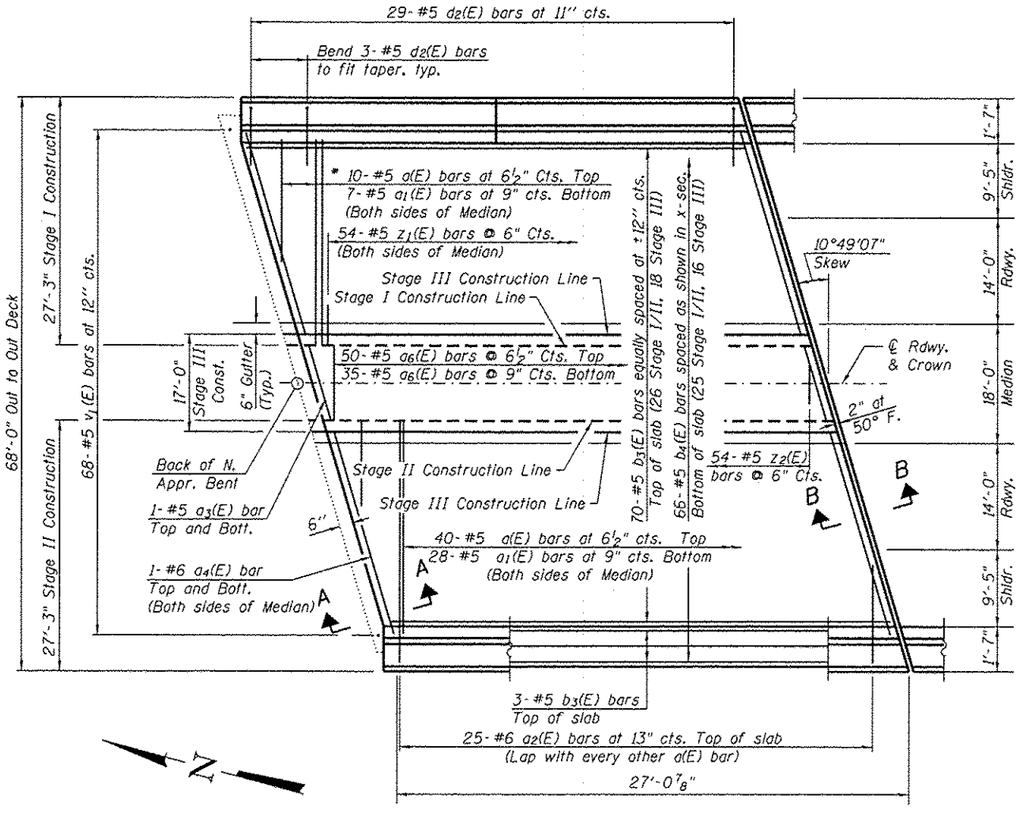
SUPERSTRUCTURE DETAILS
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 9 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	121
	* (84-10-1RS-3, 84-10-2RS-R)BR.I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS FED. AID PROJECT			



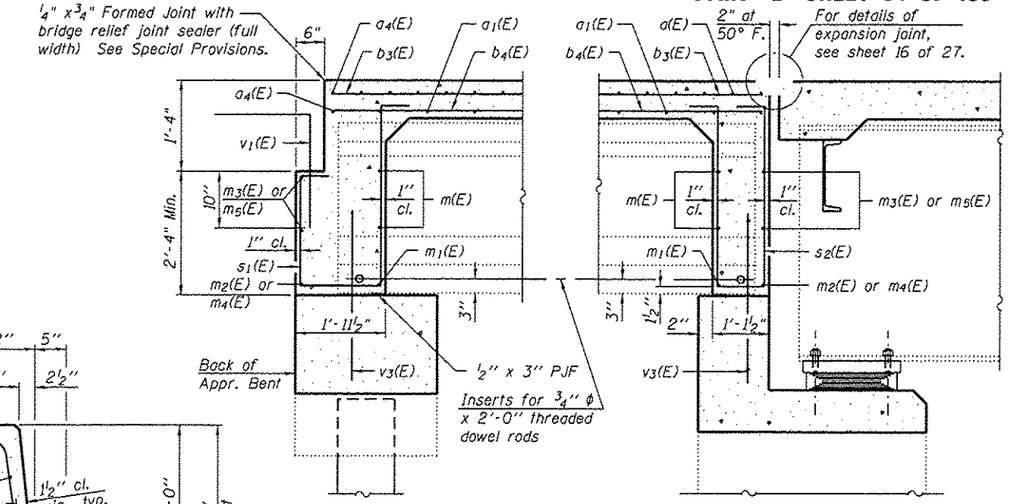
INSIDE ELEVATION OF PARAPET

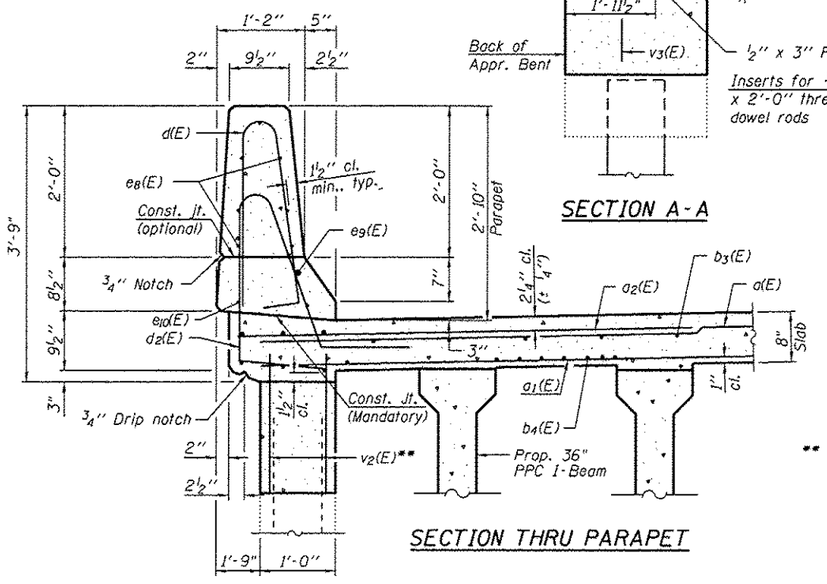
* Order a(E) and a_1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



PLAN

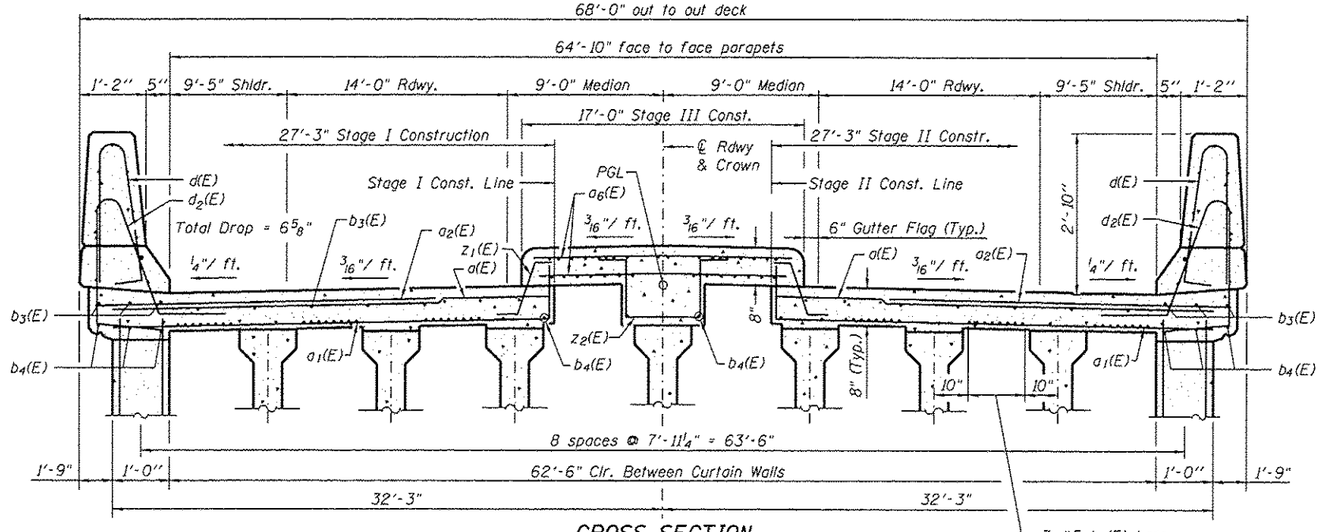
(N. Approach Span Shown, S. Approach Span Similar)





** v_2(E) bars shall tie existing bars in curtain wall to the new construction.

Existing vertical bars shall be cleaned, and straightened and will overlap v_2(E) bars a minimum of 2'-0" when incorporated in new construction.

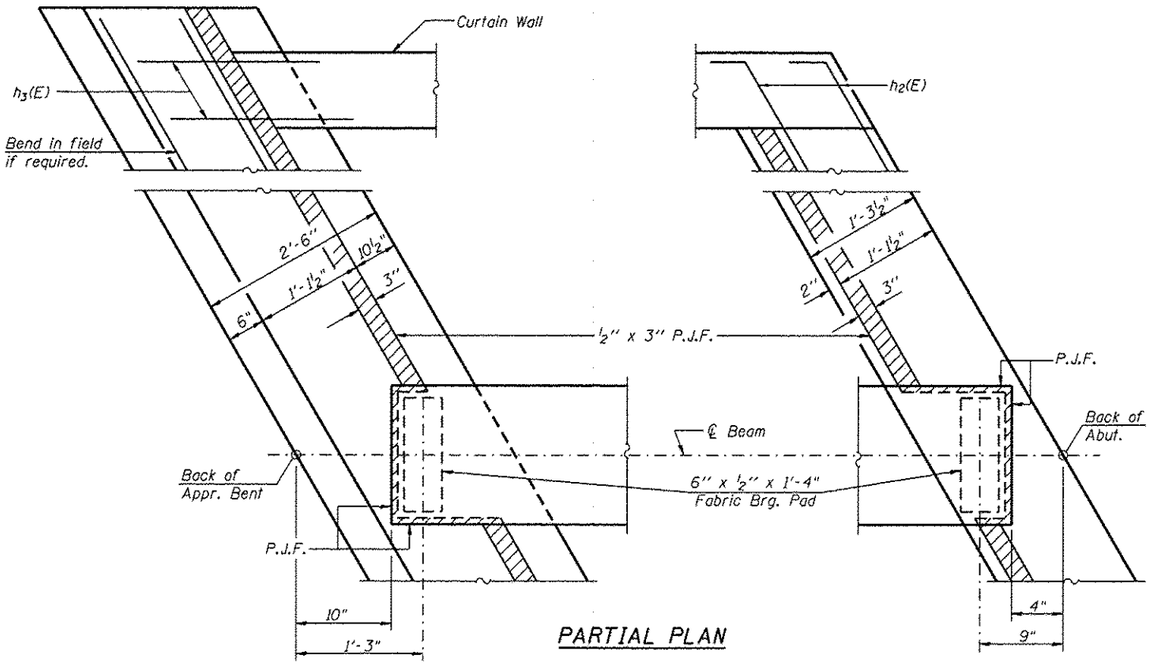


CROSS SECTION

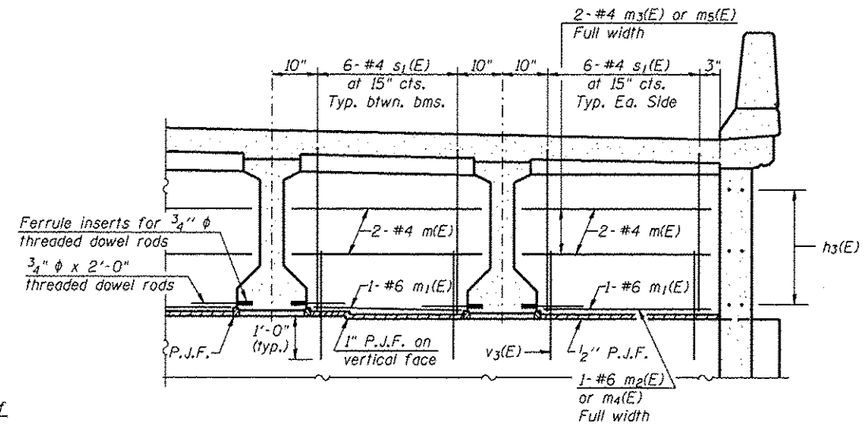
(Looking South)

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VAULTED ABUTMENT APPROACH SPAN MECHANICSBURG ROAD OVER F.A.I.-72 – S.N. 084-0150
		CHECKED - MTH	REVISED -		
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 10 OF 27 SHEETS
	PLOT DATE =	CHECKED - MTH	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	122
* (84-10-1RS-3, 84-10-2RS-R)BR,I		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



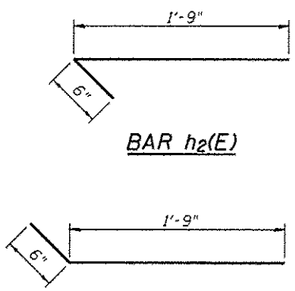
PARTIAL PLAN



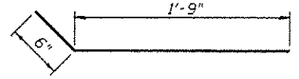
DIAPHRAGM AT APPROACH BENT

For location of m(E), m_1(E), m_2(E), m_3(E), m_4(E) and m_5(E) bars see Section B-B on sheet 10 of 27.

(See "Diaphragm at Abutment" for Staging Details.)



BAR h_2(E)

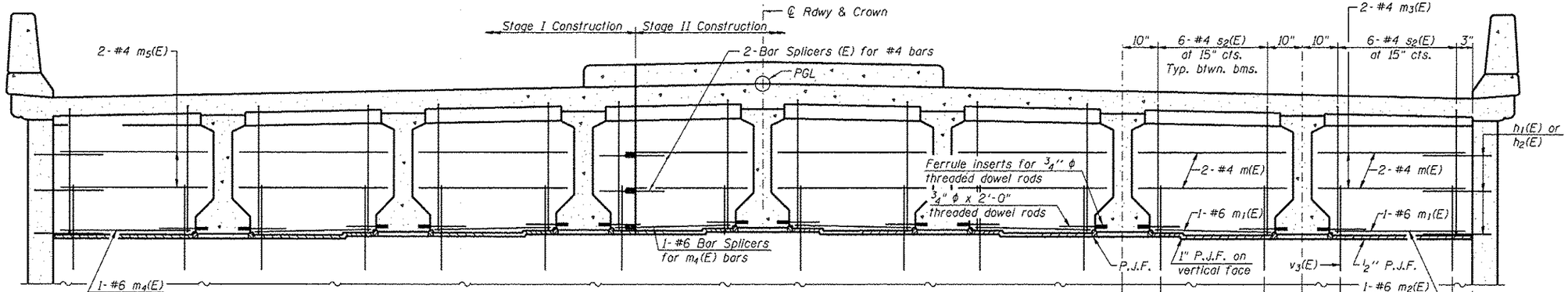


BAR h_1(E)

TWO APPROACH SPANS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	200	#5	26'-6"	
* a_1(E)	140	#5	27'-4"	
a_2(E)	100	#6	6'-6"	
a_3(E)	4	#5	16'-11"	
a_4(E)	8	#6	26'-8"	
a_6(E)	170	#5	16'-9"	
b_3(E)	152	#5	26'-8"	
b_4(E)	132	#5	26'-9"	
d(E)	120	#5	5'-7"	
d_2(E)	116	#5	6'-11"	
e_8(E)	56	#4	13'-2"	
e_9(E)	4	#8	26'-9"	
e_{10}(E)	4	#4	26'-9"	
h_1(E)	12	#5	2'-3"	
h_2(E)	12	#5	2'-3"	
h_3(E)	24	#5	2'-0"	
m(E)	32	#4	7'-1"	
m_1(E)	16	#6	6'-0"	
m_2(E)	4	#6	39'-6"	
m_3(E)	8	#4	39'-6"	
m_4(E)	4	#6	25'-9"	
m_5(E)	8	#4	25'-9"	
s_1(E)	96	#4	8'-0"	
s_2(E)	96	#4	8'-3"	
v_1(E)	136	#5	3'-9"	
v_2(E)	100	#5	5'-6"	
v_3(E)	192	#5	2'-0"	
* z_1(E)	216	#5	2'-6"	
z_2(E)	108	#5	4'-10"	
Reinforcement Bars, Epoxy Coated		Pound	28,880	
Concrete Superstructure		Cu. Yd.	156	
Concrete Removal		Cu. Yd.	40.2	

* Diagram for a_1(E) and z_1(E) bars on sht 9 of 27

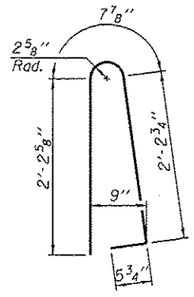


DIAPHRAGM AT ABUTMENT

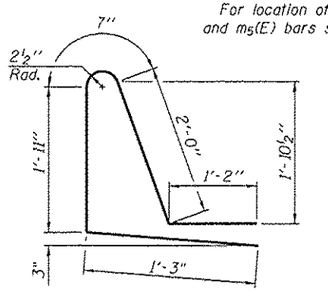
(Looking South at S. Abut., N. Abut. Similar)

For location of m(E), m_1(E), m_2(E), m_3(E), m_4(E) and m_5(E) bars see Section B-B on sheet 10 of 27.

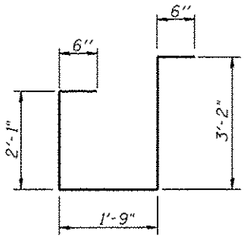
Note: Removal of existing diaphragms will be paid for as Concrete Removal.



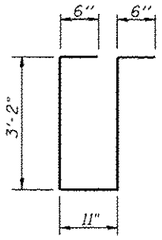
BAR d(E)



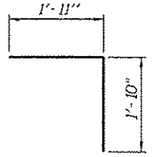
BAR d_2(E)



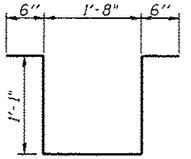
BAR s_1(E)



BAR s_2(E)



BAR v_1(E)



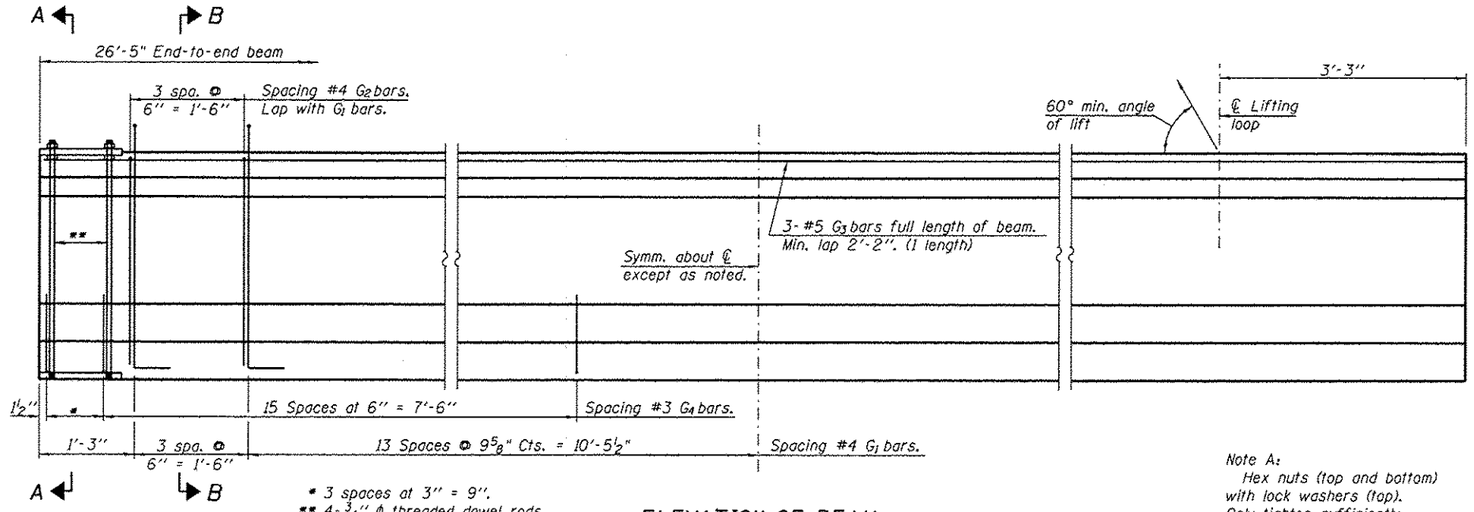
BAR z_2(E)

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VAULTED ABUTMENT APPROACH SPAN DETAILS
MECHANICSBURG ROAD OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 11 OF 27 SHEETS

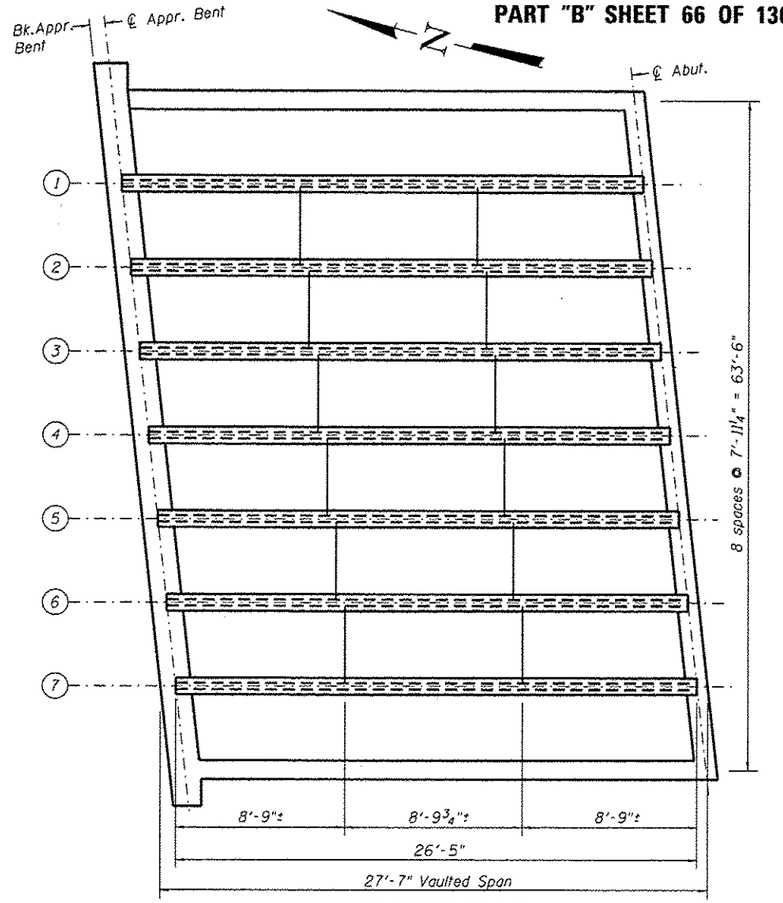
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	123
	* (84-10-1RS-3, 84-10-2RS-RIBR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



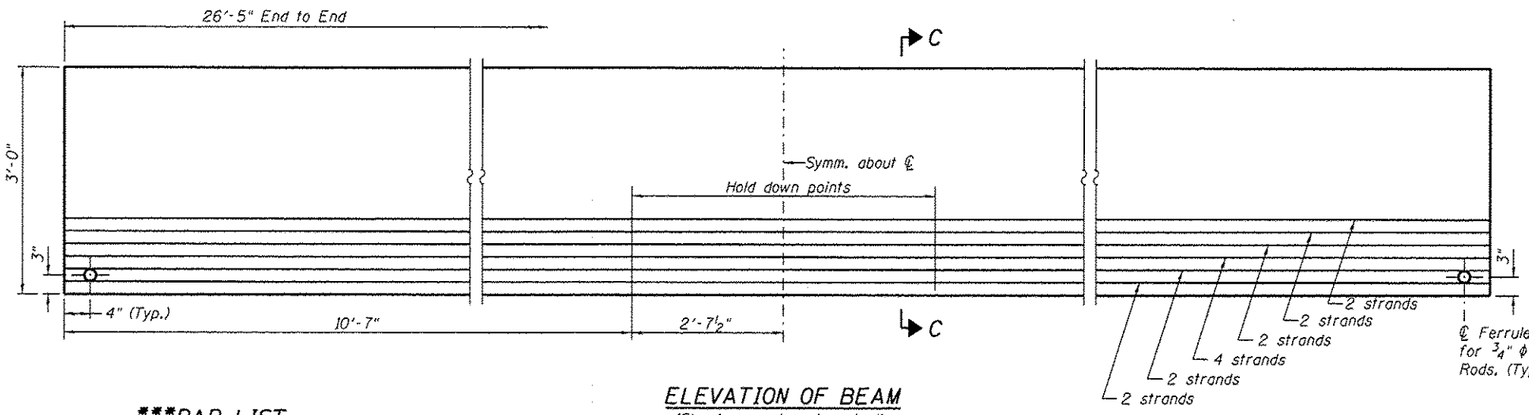
* 3 spaces at 3" = 9".
** 4-¾" ϕ threaded dowel rods at 3" cts., Each Face

ELEVATION OF BEAM
(Showing reinforcement & dimensions)

Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



FRAMING PLAN
(N. Approach Span shown, S. Approach Span similar)



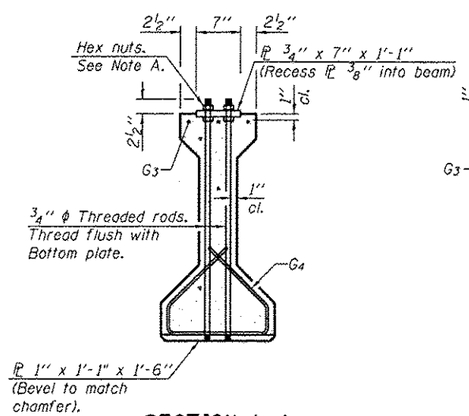
ELEVATION OF BEAM
(Showing prestressing steel)

***BAR LIST
ONE BEAM ONLY

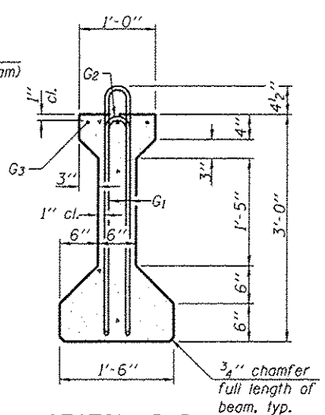
Bar	No.	Size	Length	Shape
G_1	33	#4	7'-5"	
G_2	33	#4	5'-8"	
G_3	3	#5	26'-1"	
G_4	38	#3	4'-1"	

***For information only

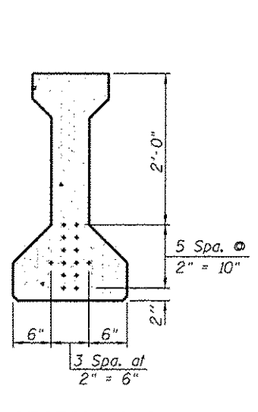
Notes:
See sheet 13 of 27 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5,000 psi.



SECTION A-A



SECTION B-B



SECTION C-C

ELEVATION OF BEAM
(Showing prestressing steel)

I: Non-composite moment of inertia of beam section (in.⁴).
I': Composite moment of inertia of beam section (in.⁴).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
S_b': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
S_t: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
S_t': Composite section modulus for the top fiber of the prestressed beam (in.³).
ℓ: Un-factored non-composite dead load (kips/ft.).
Mℓ: Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
sℓ: Un-factored long-term composite (superimposed) dead load (kips/ft.).
M_sℓ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment on the composite section (kip-ft.).
M_I: Un-factored moment due to impact on the composite section (kip-ft.).

INTERIOR BEAM MOMENT TABLE		0.5 Sp. 2
I	(in^4)	48,648
I'	(in^4)	173,929
S_b	(in^3)	3,165
S_b'	(in^3)	5,929
S_t	(in^3)	2,358
S_t'	(in^3)	26,094
ℓ	(k/')	1.256
Mℓ	('k)	102
sℓ	(k/')	0.689
M_sℓ	('k)	56
M_L	('k)	155
M_I	('k)	47

INTERIOR BEAM REACTION TABLE		Abut.
Rℓ	(k)	16.0
R_sℓ	(k)	8.8
R_L	(k)	34.2
R_I	(k)	10.3
R_{Total}	(k)	69.3

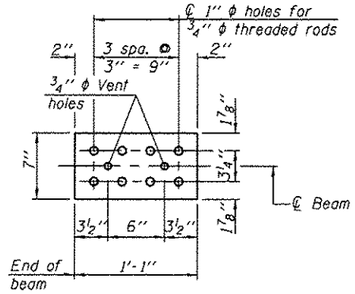
PI-4-36 7-1-10

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

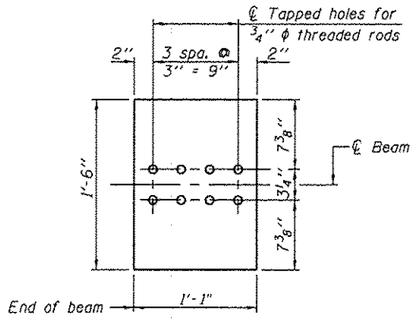
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

36" PPC I-BEAMS & FRAMING PLAN
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 12 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	194	124
	• (84-10-1RS-3, 84-10-2RS-RBR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

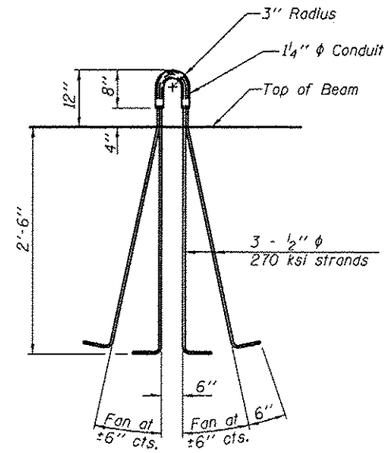


TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.



LIFTING LOOP DETAIL

NOTES

Inserts for 3/4" ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

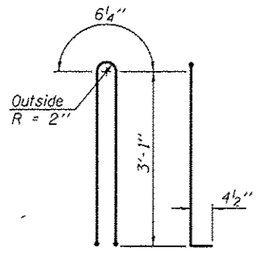
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.

A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.

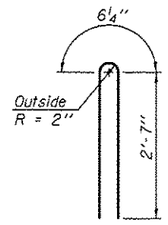
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.

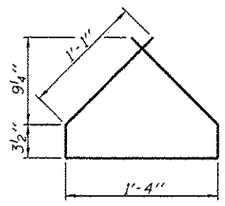
Threaded rods shall be ASTM F 1554 Grade 55.



BAR G1



BAR G2



BAR G4

Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16"ϕ unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

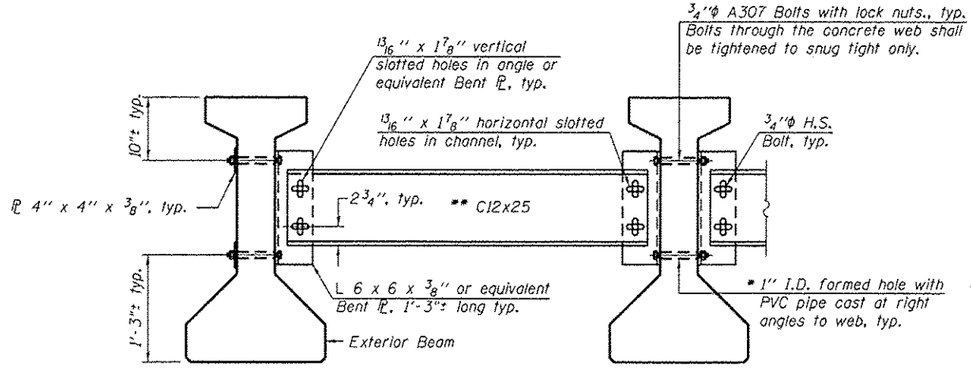
All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate C12x30 channels are permitted to facilitate material acquisition.



PERMANENT BRACING DETAILS FOR 36" PPC I-BEAMS

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36"	Ft.	370.0

PI-4-36D 1-28-11

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

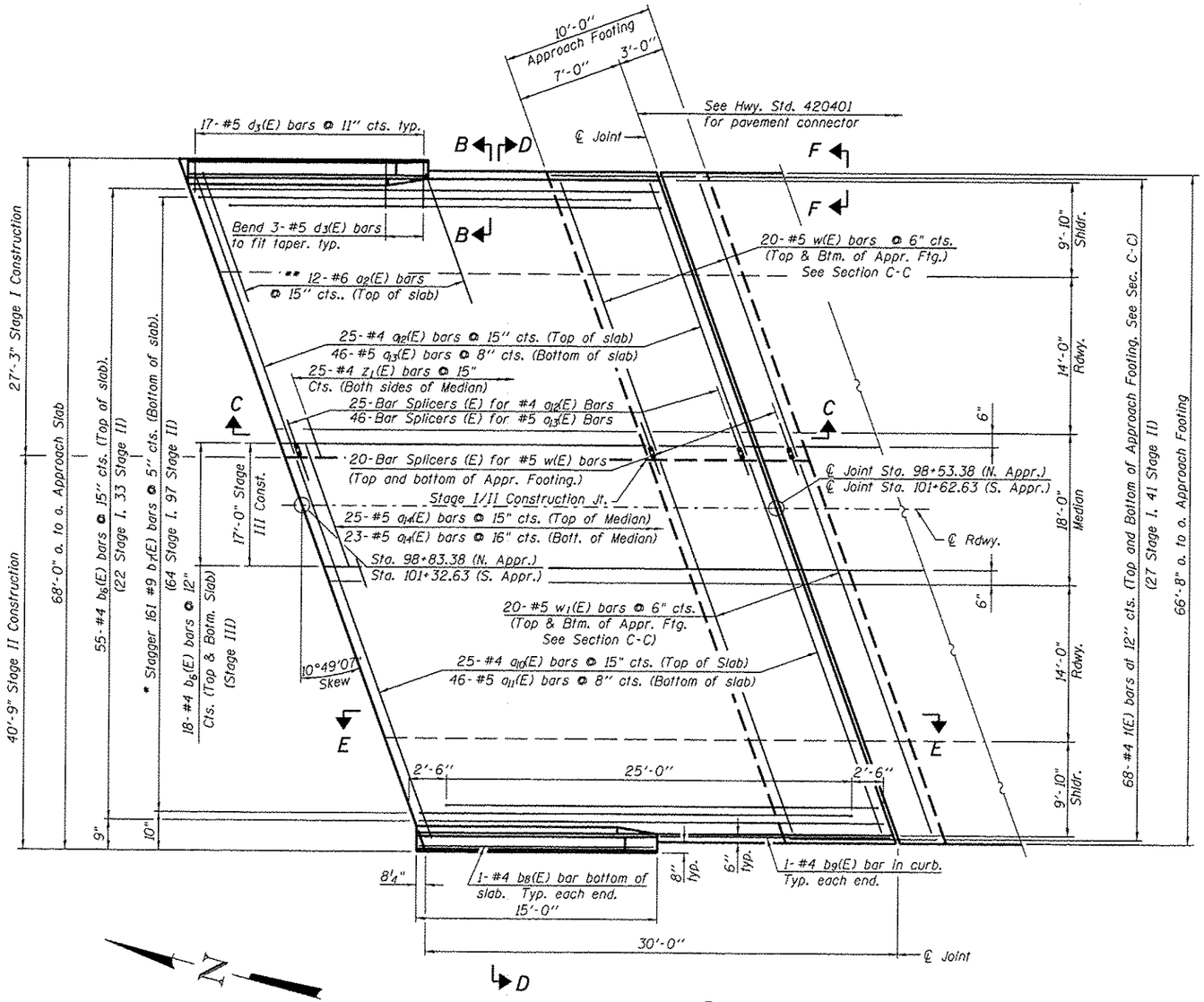
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

36" PPC I-BEAM DETAILS
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 13 OF 27 SHEETS

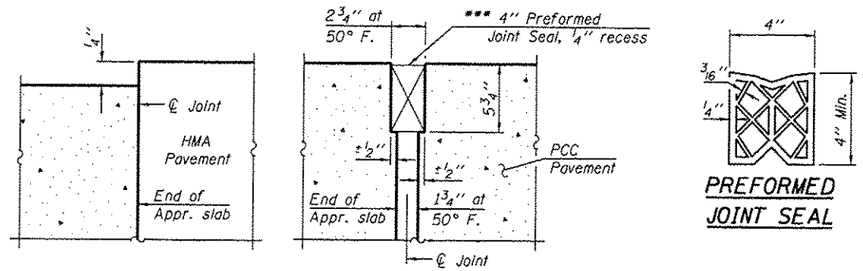
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	125
	* (84-10-1RS-3, 84-10-2RS-R)BR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

Notes:
See sheet 15 of 27 for Sections C-C & D-D and View E-E.
$a_{10}(E)$, $a_{11}(E)$, $a_{12}(E)$ and $a_{13}(E)$ bar spacings measured along ℄ Rdwy.

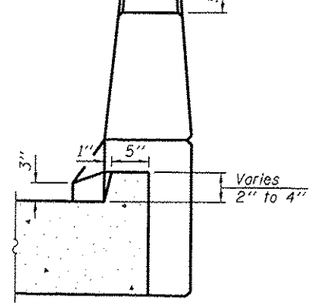
*** Cost included with Concrete Superstructure.



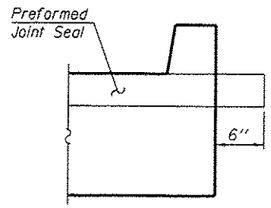
PLAN
(S. Appr. Shown. N. Appr. Similar)



DETAIL A



VIEW B-B

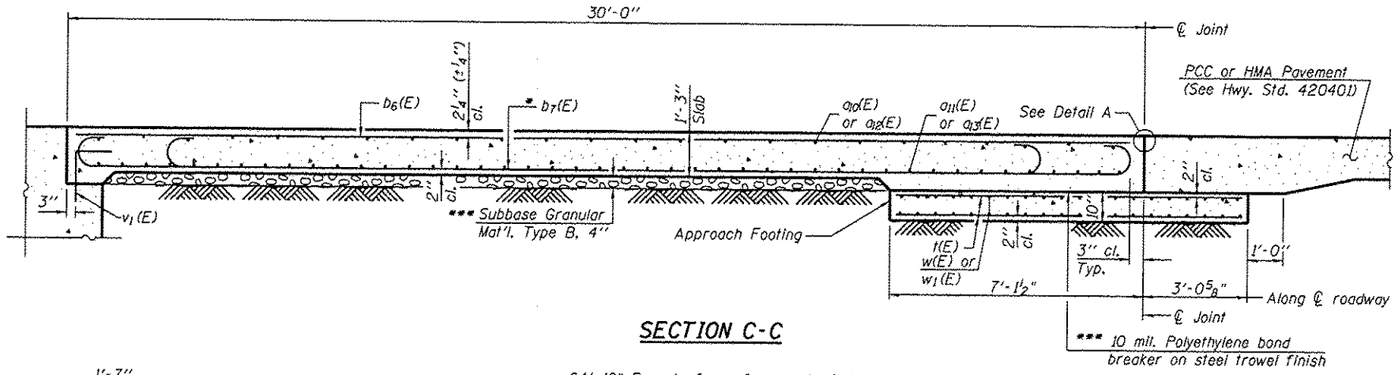


VIEW F-F

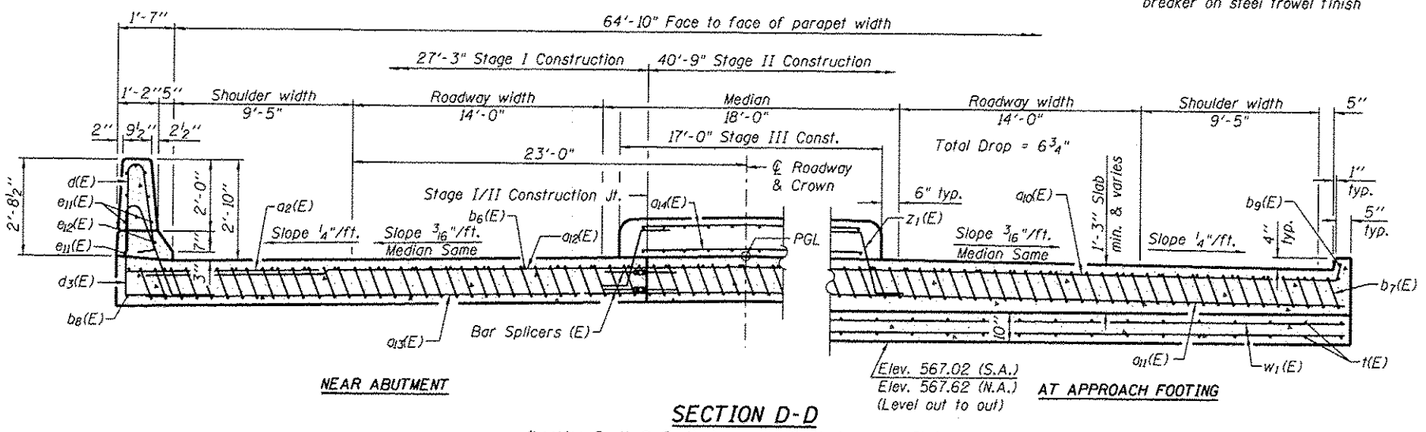
* Tilt #9 $b_7(E)$ bars as required to maintain clearance.
** Space between $a_{10}(E)$ or $a_{12}(E)$ bars, typ. each parapet.

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
		CHECKED - MTH	REVISED -		
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 14 OF 27 SHEETS
	PLOT DATE =	CHECKED - MTH	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	126
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



SECTION C-C

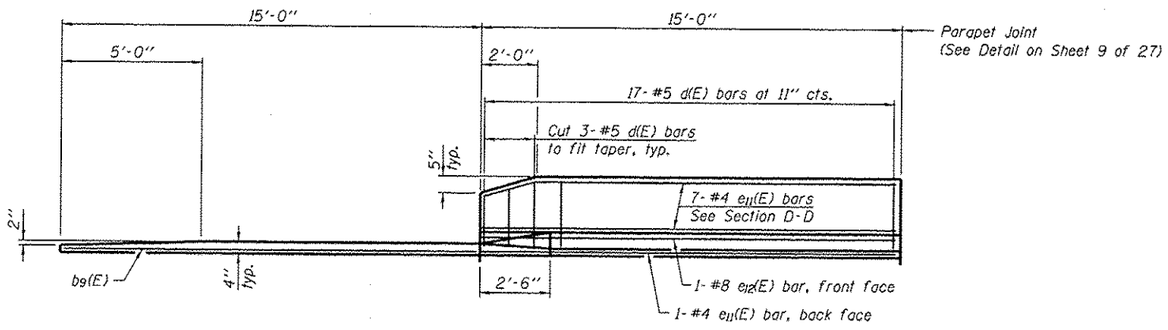


NEAR ABUTMENT

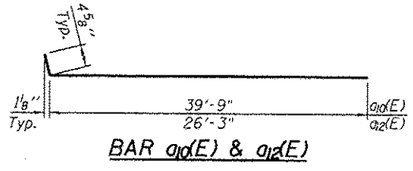
AT APPROACH FOOTING

SECTION D-D

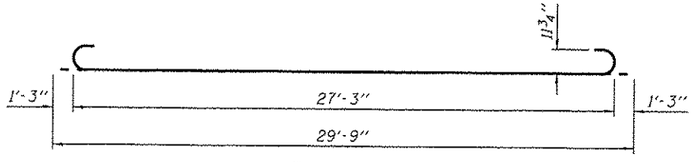
(Looking South ℄ South Approach, North Approach Similar)
(See Plan for dimensions not shown)



VIEW E-E

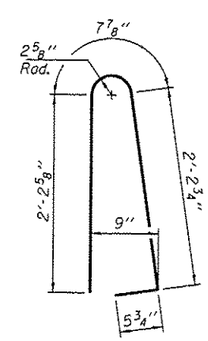


BAR $a_{10}(E)$ & $a_{12}(E)$

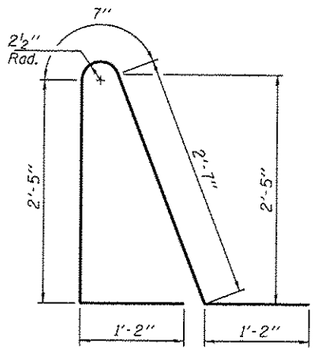


BAR $b_7(E)$

Notes:
See sheet 14 of 27 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 $v_1(E)$ bar details, see sheet 11 of 27.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For additional parapet details, see sheet 14 of 27.



BAR d(E)



BAR $d_3(E)$

* Tilt #9 $b_7(E)$ bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_{12}(E)$	48	#6	6'-6"	
$a_{10}(E)$	50	#4	40'-2"	
$a_{11}(E)$	92	#5	39'-10"	
$a_{12}(E)$	50	#4	26'-8"	
$a_{13}(E)$	92	#5	26'-4"	
$a_{14}(E)$	96	#5	16'-11"	
$b_6(E)$	182	#4	29'-8"	
$b_7(E)$	322	#9	29'-9"	
$b_8(E)$	4	#4	14'-8"	
$b_9(E)$	4	#4	14'-10"	
d(E)	68	#5	5'-7"	
$d_3(E)$	68	#5	7'-11"	
$e_{11}(E)$	32	#4	14'-8"	
$e_{12}(E)$	4	#8	14'-8"	
t(E)	272	#4	9'-10"	
w(E)	80	#5	25'-11"	
$w_1(E)$	80	#5	39'-3"	
* $z_1(E)$	100	#5	2'-6"	
Concrete Superstructure			Cu. Yd.	240.4
Concrete Structures			Cu. Yd.	42.0
Reinforcement Bars, Epoxy Coated			Pound	55,910

*Dimensions for $z_1(E)$ bar on sht 9 of 27.

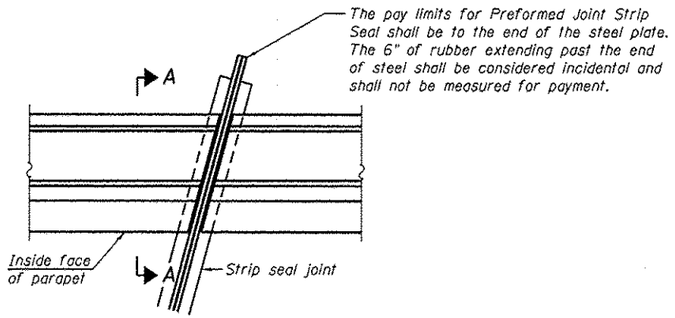
(Sheet 2 of 2)

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

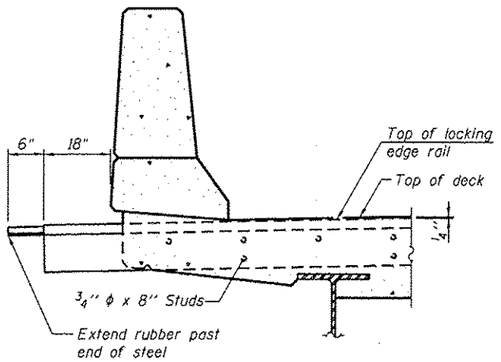
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 15 OF 27 SHEETS

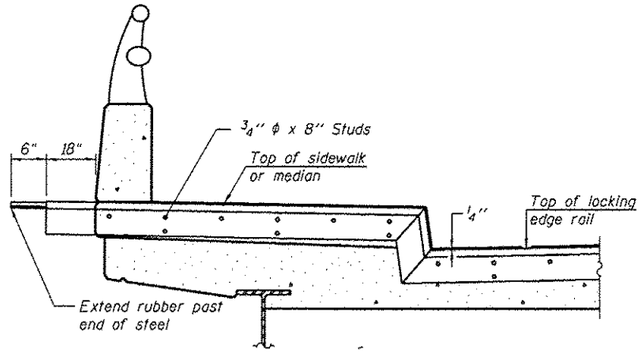
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	127
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

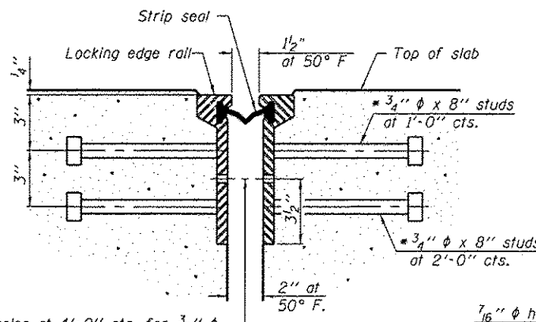


SECTION A-A



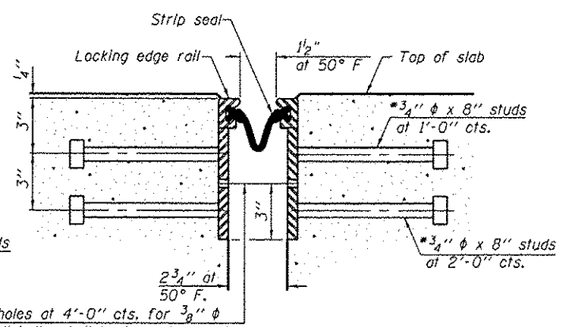
TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

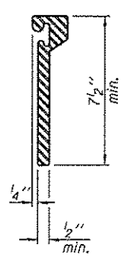
SECTION THRU ROLLED RAIL JOINT



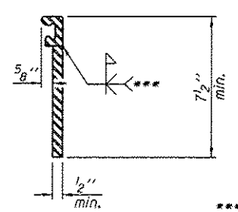
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

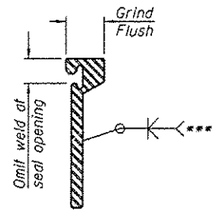
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

BILL OF MATERIAL

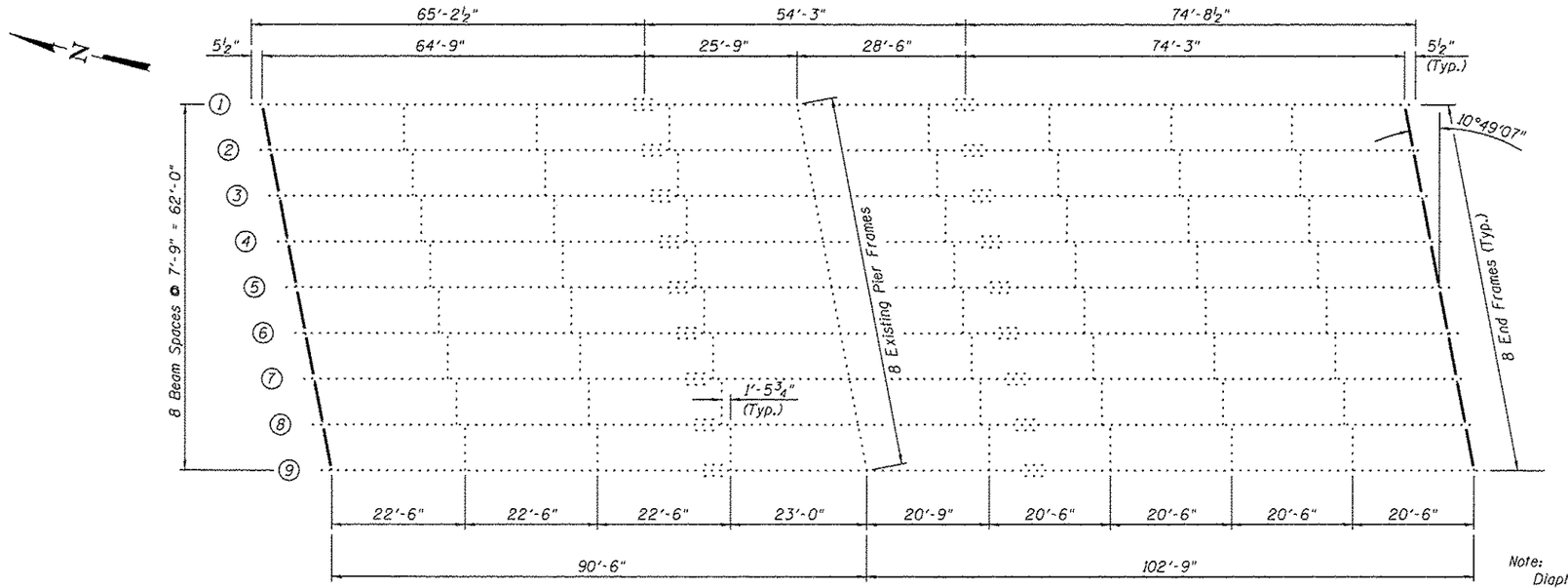
Item	Unit	Total
Preformed Joint Strip Seal	Foot	136

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 16 OF 27 SHEETS

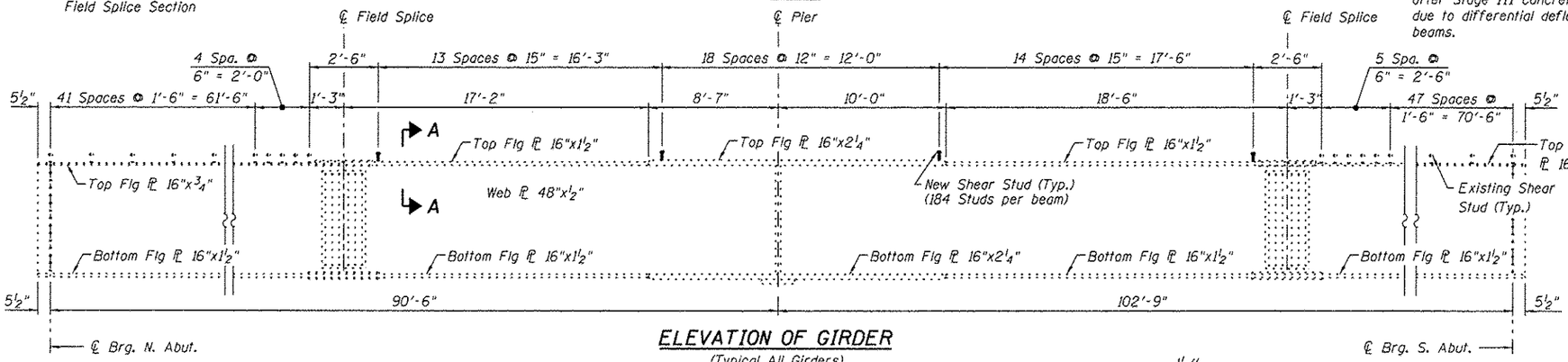
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	128
	* (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

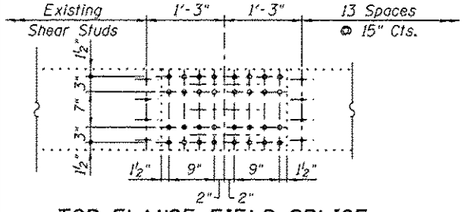
* See Top Flange Field Splice Section

Note:
Diaphragms will need to be unbolted along staging lines until after Stage III concrete is poured, due to differential deflections of beams.



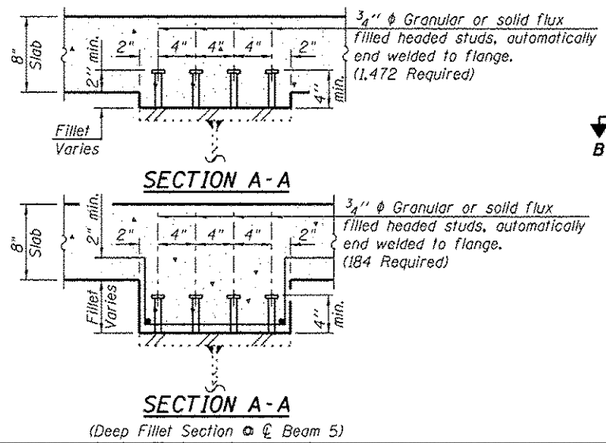
ELEVATION OF GIRDER

(Typical All Girders)



TOP FLANGE FIELD SPLICE

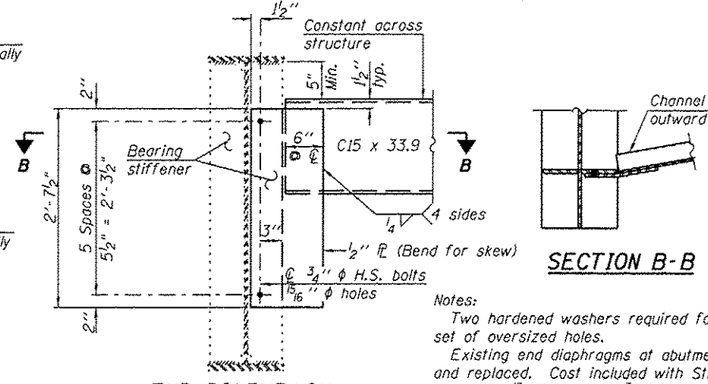
(Solid Circles indicate Sheer Studs
Open Circles indicate Splice Plate Bolts)



SECTION A-A

SECTION A-A

(Deep Fillet Section ℄ ℄ Beam 5)



END DIAPHRAGM

SECTION B-B

Notes:
Two hardened washers required for each set of oversized holes.
Existing end diaphragms at abutments shall be removed and replaced. Cost included with Structural Steel Removal. Field drill 15/16" ϕ holes for ¾" bolts.
Contractor will be responsible for checking to see if proposed hole locations conflict with existing holes. In such a case, match existing holes.

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	24,929	50,090	24,929
$I_c(n)$	(in^4)	67,413	57,050	67,413
$I_c(3n)$	(in^4)	47,912	57,050	47,912
S_s	(in^3)	1218	1908	1218
$S_c(n)$	(in^3)	1659	2000	1659
$S_c(3n)$	(in^3)	1525	2000	1525
ϱ	(k/')	1.063	1.185	1.063
$M\varrho$	('k)	470	1448	760
$s\varrho$	(k/')	0.528	0.528	0.528
$M_s\varrho$	('k)	269	676	400
M_L	('k)	789	815	934
M_{Imp}	('k)	183	183	205
$\frac{5}{3}[M_L + Imp]$	('k)	1620	1663	1898
M_a	('k)	3067	4923	3975
* M_u	('k)	5860	5848	5860
f_s ϱ non-comp	(ksi)	4.63	9.11	7.49
f_s ϱ (comp)	(ksi)	2.12	4.06	3.15
f_s $\frac{5}{3}[M_L + M_{Imp}]$	(ksi)	11.72	9.98	13.73
f_s (Overload)	(ksi)	18.47	23.15	24.37
** f_s (Total)	(ksi)	-	-	-
VR	(k)	48.1	58.4	59.9

* Compact Section
** Braced non-compact and partially braced section

INTERIOR GIRDER REACTION TABLE				
		N. Abut.	Pier	S. Abut.
$R\varrho$	(k)	47.6	199.7	59.1
R_L	(k)	44.4	71.2	45.1
Imp.	(k)	10.3	16.5	9.9
R_{Total}	(k)	102.3	287.4	114.1

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).
$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).
$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

ϱ: Un-factored non-composite dead load (kips/ft.).
$M\varrho$: Un-factored moment due to non-composite dead load (kip-ft.).
$s\varrho$: Un-factored long-term composite (superimposed) dead load (kips/ft.)
$M_s\varrho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment (kip-ft.).
M_I: Un-factored moment due to impact (kip-ft.).
M_a: Factored design moment (kip-ft.).
$1.3\ [M\varrho + M_s\varrho + \frac{5}{3}(M_L + M_I)]$
M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\varrho + M_s\varrho + \frac{5}{3}(M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\varrho + M_s\varrho + \frac{5}{3}(M_L + M_I)]$
VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

BILL OF MATERIAL

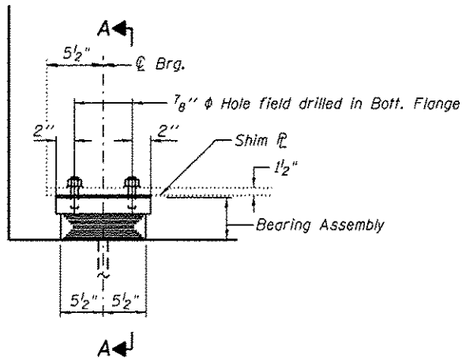
Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	4,940
Structural Steel Removal	Pound	6,800

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

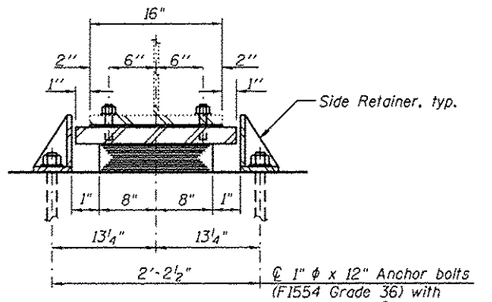
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & BEAM DETAILS
MECHANICSBURG RD. OVER F.A.I.–72 – S.N. 084–0150
SHEET NO. 17 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	129
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

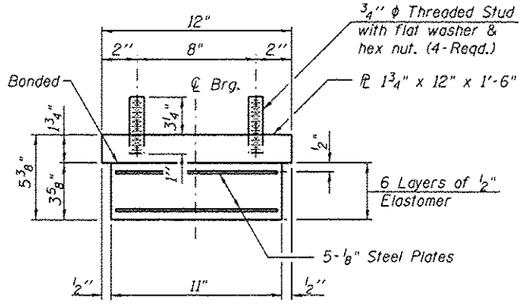


ELEVATION AT ABUT.



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

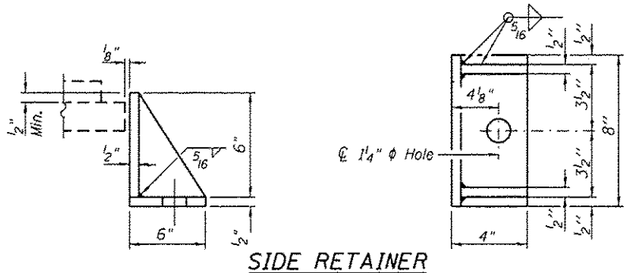
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

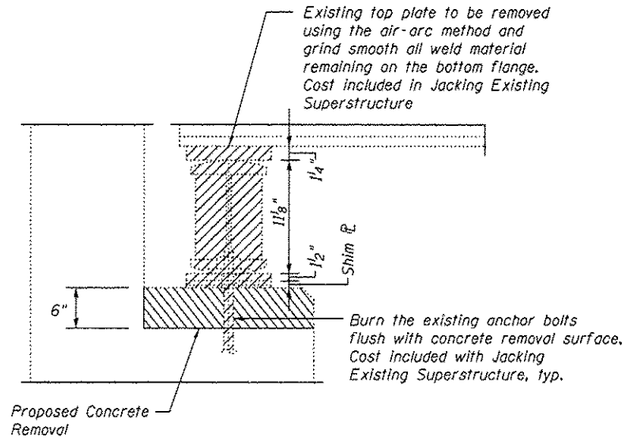
Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as needed and as shown on bearing details.

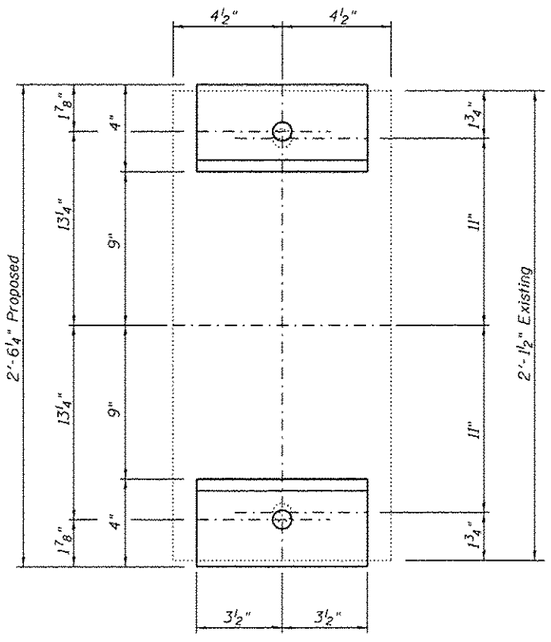


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

EXISTING ABUTMENT BEARING REMOVAL





ANCHOR BOLT LAYOUT

Note: Shown for visual only, new bearing seats will prevent interference with existing anchor bolts.

JACK AND REMOVE EXISTING BEARING PROCEDURE

(North and South Abutments)

1. The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new bearings prior to commencing any related work.
2. Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the concrete deck.
3. Prior to ordering any material, the Contractor shall verify shim plate thickness required at each bearing so that total height of new bearing and fill matches height of existing bearing and shim.
4. There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
5. For limitations on lift amounts, see Special Provisions.
6. The new bearing shall be in place and the jacks shall be lowered before the new conctete deck is poured. Existing diaphragms to be unbolted due to differential deflections during stage construction.
7. Jacking against diaphragms is prohibited.
8. Cross frames are to be removed at the stage line prior to jacking and re-installed prior to the final deck pour.
9. Re-bolt existing diaphragms after completion of Stage III deck pour.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

NORTH ABUTMENT BEAM REACTIONS

(Steel only)

RQ	(k)	12.9

Min. Jack Capacity = 10 Ton (Without Deck)

SOUTH ABUTMENT BEAM REACTIONS

(Steel only)

RQ	(k)	16.0

Min. Jack Capacity = 12 Ton (Without Deck)

BILL OF MATERIAL

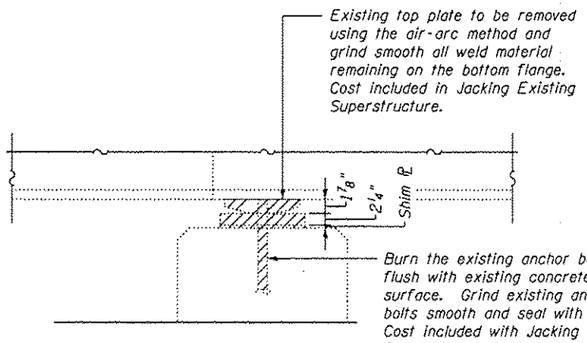
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18
Anchor Bolts, 1"	Each	36
Jacking Existing Superstructure	L. Sum	1

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT BEARING DETAILS
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 18 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	130
* (84-10-1RS-3, 84-10-2RS-R)BR,I		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



EXISTING PIER BEARING REMOVAL

JACK AND REMOVE EXISTING BEARING PROCEDURE

1. The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new bearings prior to commencing any related work.
2. Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the concrete deck.
3. Prior to ordering any material, the Contractor shall verify shim plate thickness required at each bearing so that total height of new bearing and fill matches height of existing bearing and shim.
4. There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
5. For limitations on lift amounts, see Special Provisions.
6. The new bearing shall be in place and the jacks shall be lowered before the new concrete deck is poured. Existing diaphragms to be unbolted due to differential deflections during stage construction.
7. Jacking against diaphragms is prohibited.
8. Cross frames are to be removed at the stage line prior to jacking and re-installed prior to the final deck pour.
9. Re-bolt existing diaphragms after completion of Stage III deck pour.

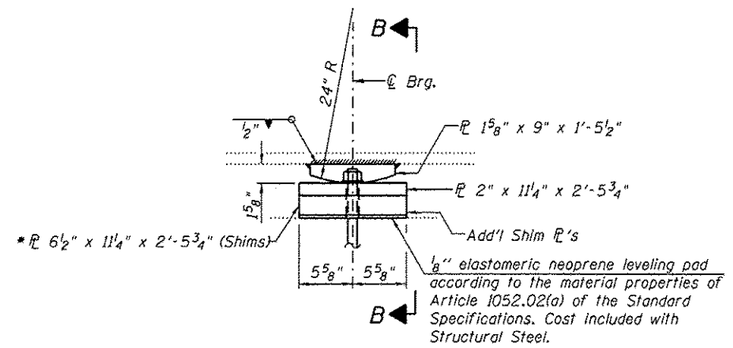
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

PIER BEAM REACTIONS

(Steel only)

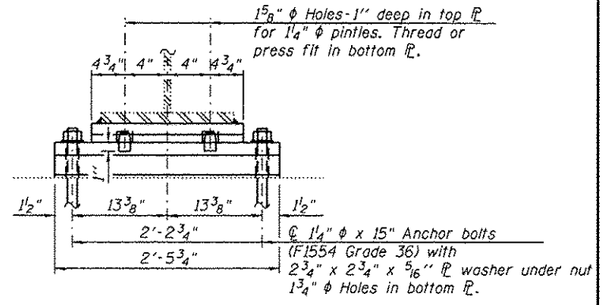
RD	(k)	36

Min. Jack Capacity = 27 Ton (Without Deck)



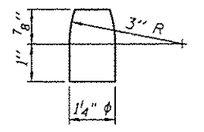
ELEVATION AT PIER

* Lower shim plate can be compsed of multiple, thinner plates for case of fabrication.



SECTION B-B

FIXED BEARING



PINTLE

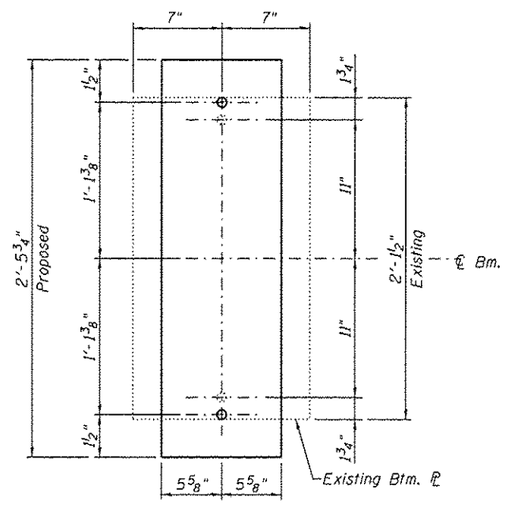
Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts of fixed bearings shall be installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as needed and as shown on bearing details.



ANCHOR BOLT LAYOUT

BILL OF MATERIAL

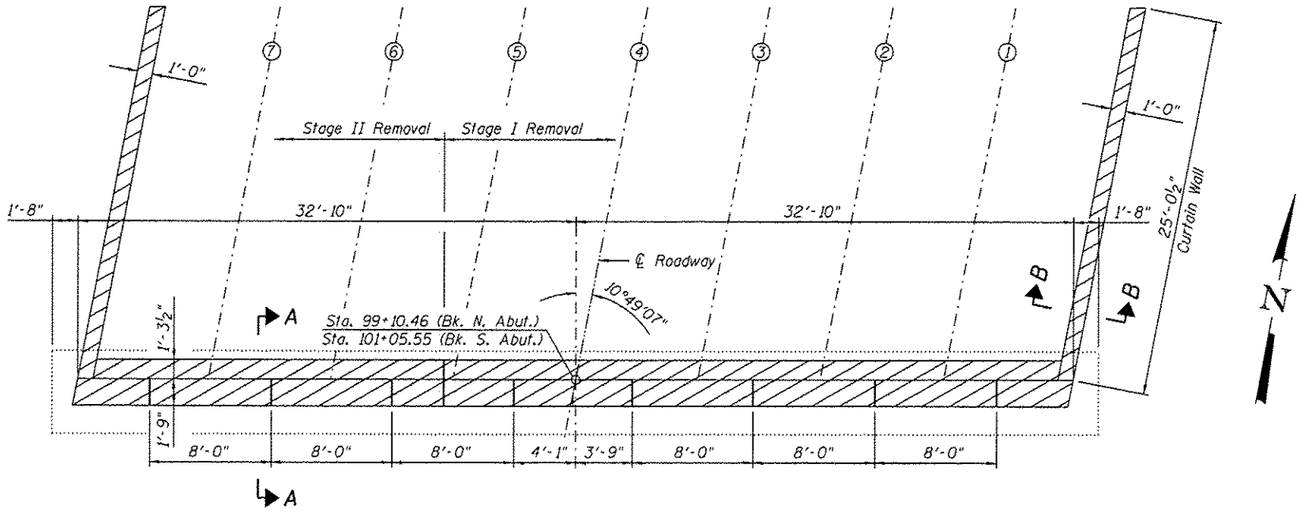
Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	7,960
Anchor Bolts, 1 1/4"	Each	18
Jacking Existing Superstructure	L. Sum	1

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

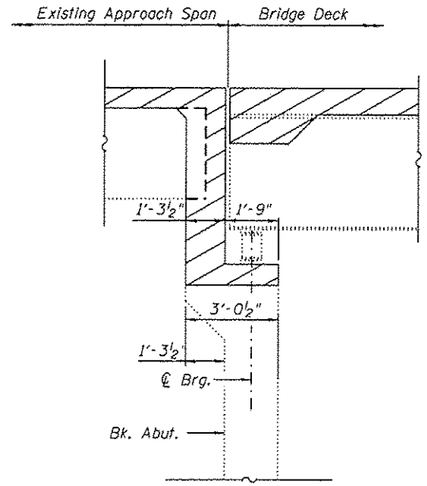
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER BEARING DETAILS
MECHANICSBURG RD. OVER F.A.I.–72 – S.N. 084–0150
SHEET NO. 19 OF 27 SHEETS

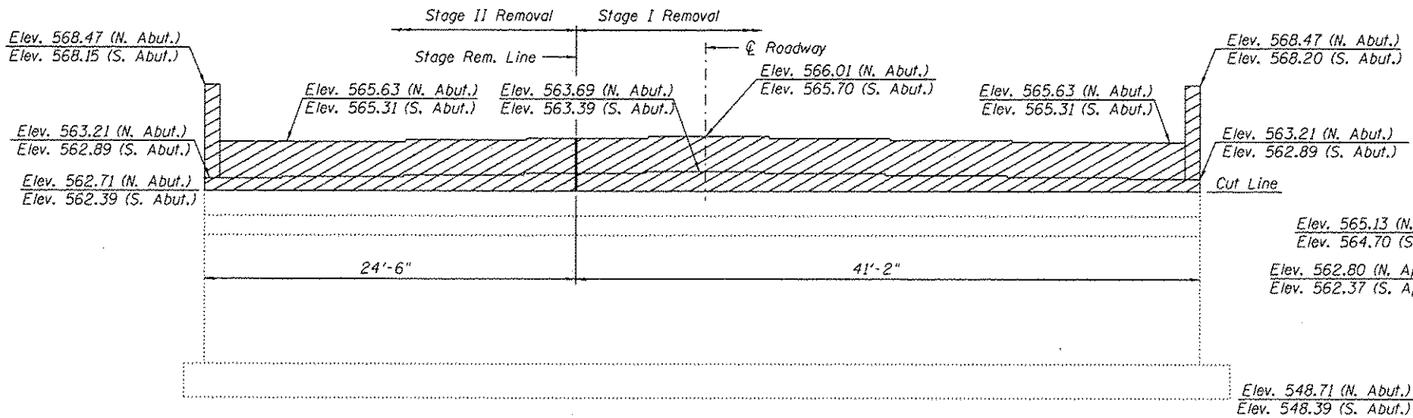
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	131
	* (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

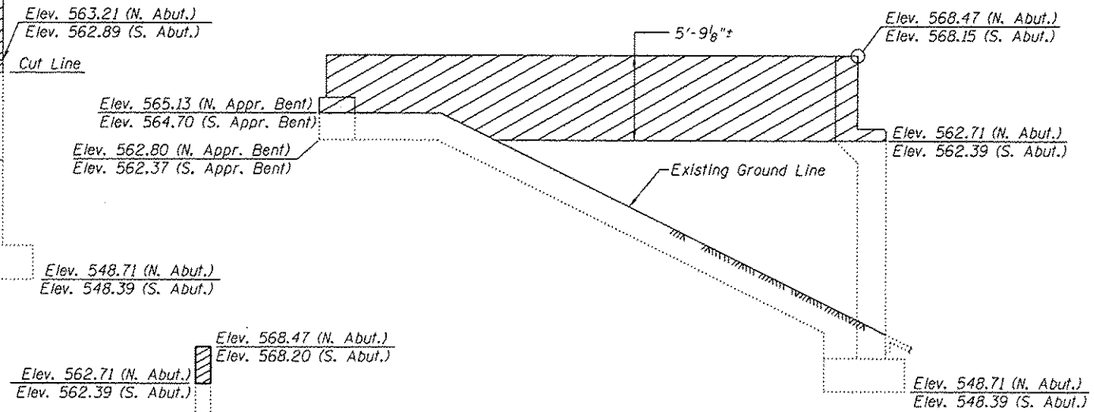


SECTION A-A



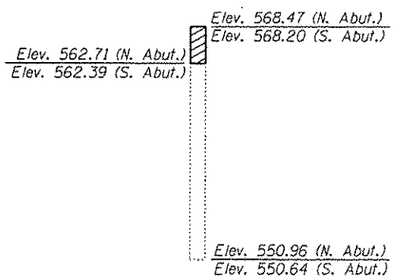
ELEVATION

(N. Abut. Shown, S. Abut. Similar)



OUTSIDE ELEVATION
OF CURTAIN WALL

(Looking East)



SECTION B-B

Notes:

Hatched area indicates Concrete Removal.

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

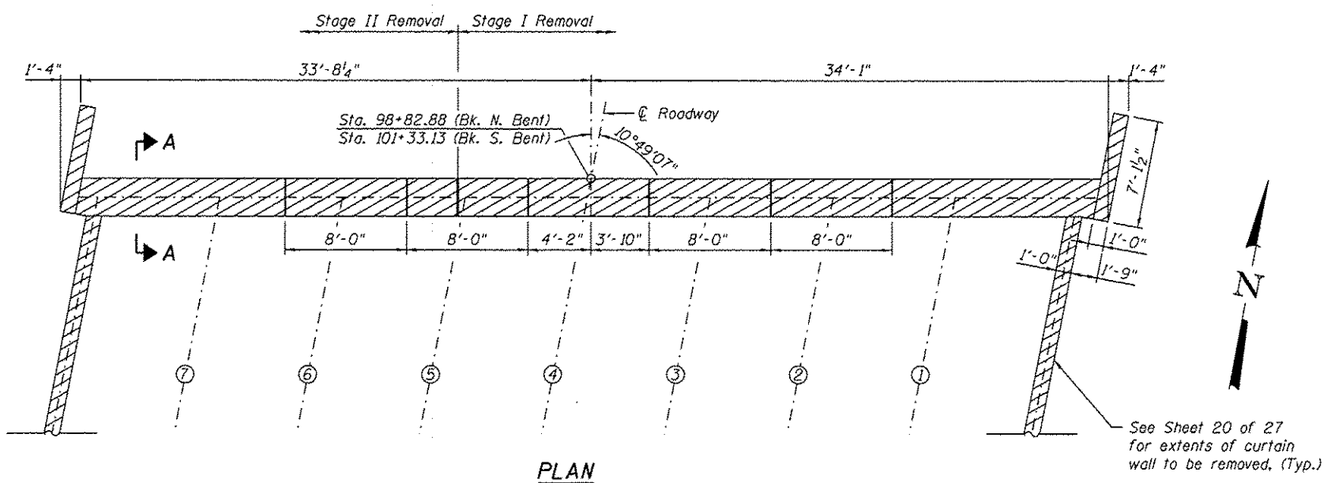
Elevations based off datum difference of -0.62' from existing plans

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

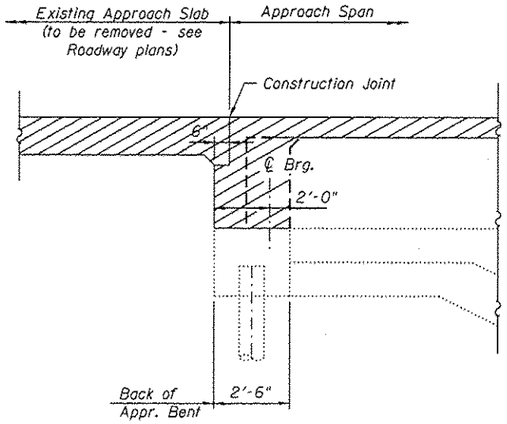
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL, ABUTMENTS
MECHANICSBURG ROAD OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 20 OF 27 SHEETS

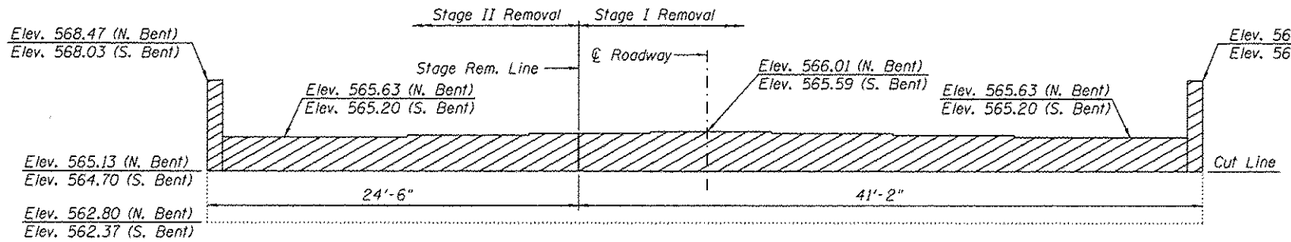
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	132
* (84-10-1RS-3, 84-10-2RS-R)BR.I		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

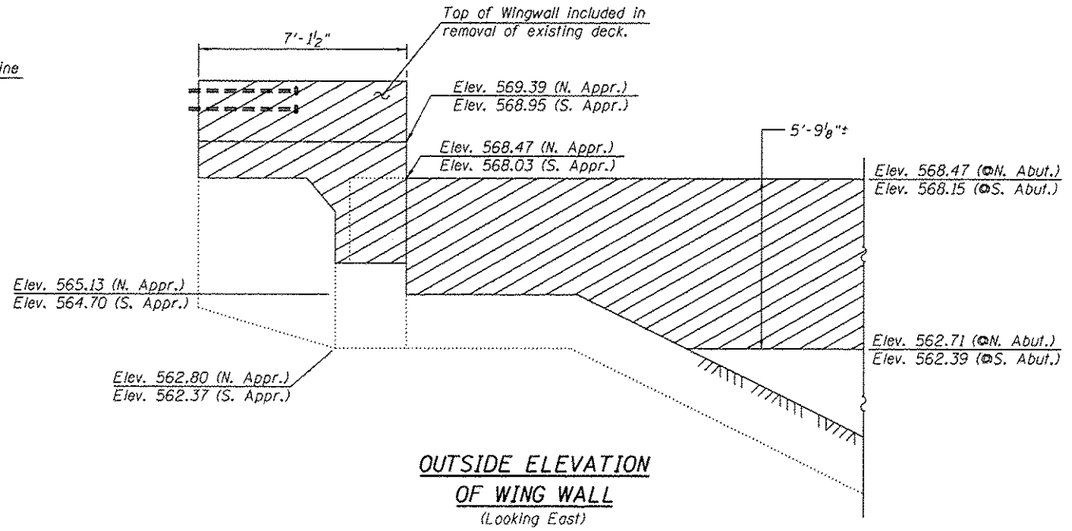


SECTION A-A



ELEVATION

(N. Appr. Bent Shown, S. Appr. Bent Similar)



OUTSIDE ELEVATION
OF WING WALL
(Looking East)

Notes:

Hatched area indicates Concrete Removal.

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

Elevations based off datum difference of -0.62' from existing plans

BILL OF MATERIAL

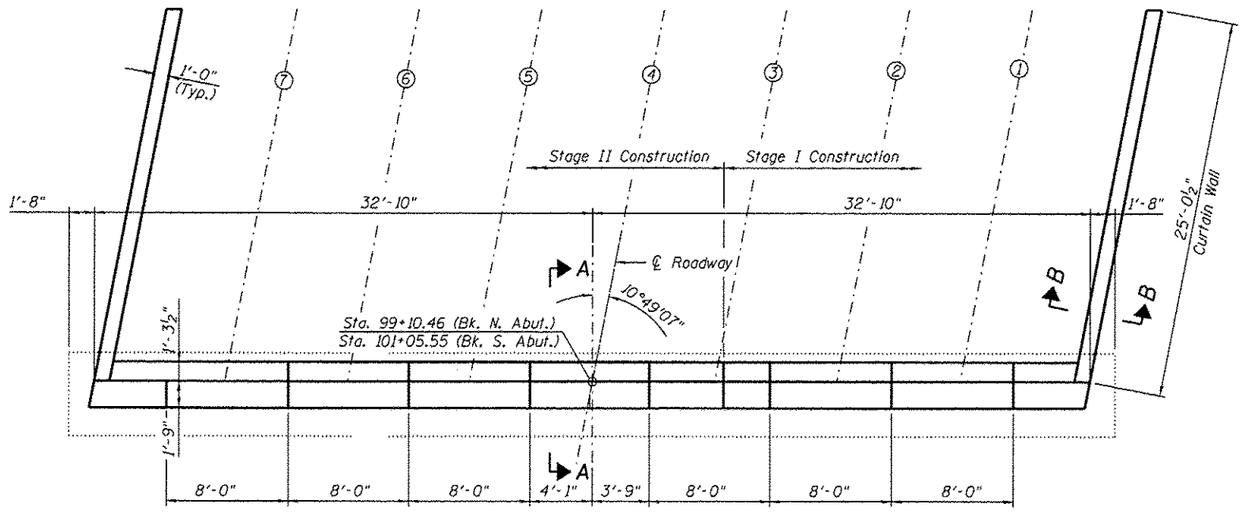
Item	Unit	Total
Concrete Removal	Cu. Yd.	59.0

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

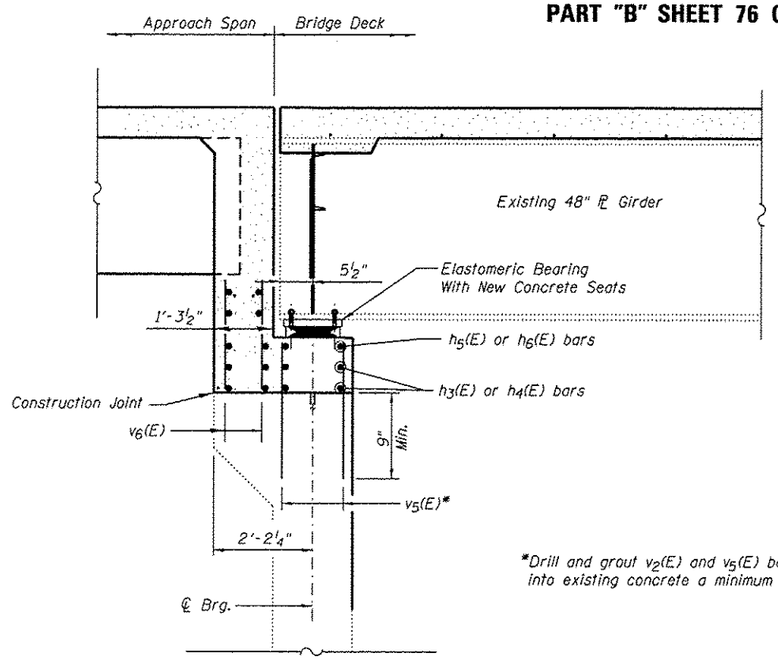
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL, APPROACH BENTS
MECHANICSBURG RD. OVER F.A.I.-72 ~ S.N. 084-0150
SHEET NO. 21 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	133
* (84-10-1RS-3, 84-10-2RS-R1BR.)		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

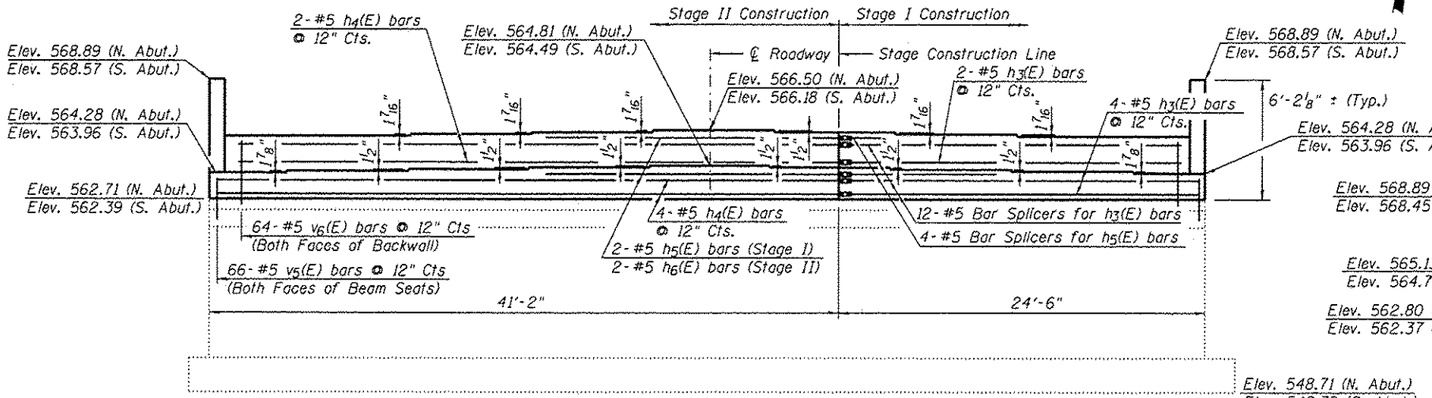


PLAN



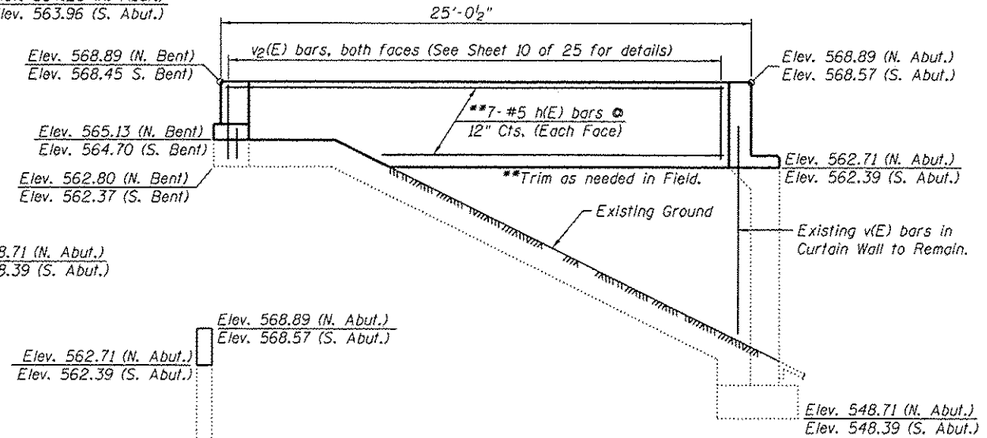
*Drill and grout $v_2(E)$ and $v_5(E)$ bars into existing concrete a minimum of 9".

SECTION A-A



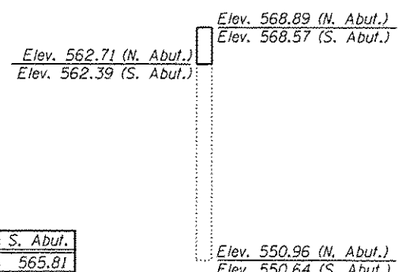
ELEVATION

(N. Abut. Shown, S. Abut. Similar)



OUTSIDE ELEVATION OF CURTAIN WALL

(Looking East)



SECTION B-B

Notes:

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

Concrete Sealer shall be applied to the front and side faces of the proposed backwall and on all the new concrete for the bridge seat extensions.

BEAM SEAT ELEVATIONS

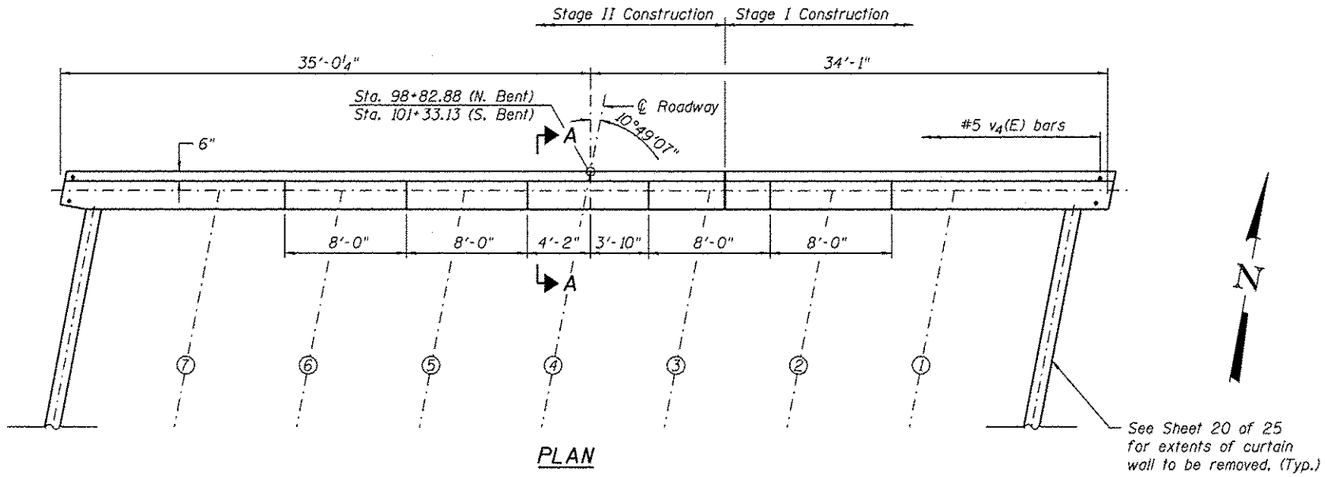
Beam Seat Elev.	N. Abut.	S. Abut.
Beam 1	564.28	563.96
Beam 2	564.45	564.12
Beam 3	564.57	564.25
Beam 4	564.69	564.37
Beam 5	564.81	564.49
Beam 6	564.69	564.37
Beam 7	564.57	564.25
Beam 8	564.45	564.12
Beam 9	564.28	563.96

APPROACH SPAN BEAM SEAT ELEVATIONS

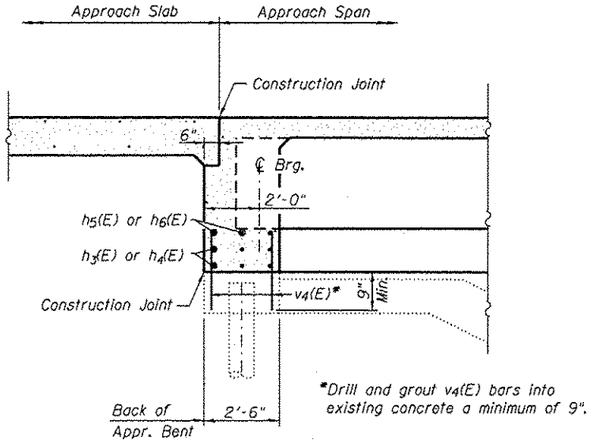
Beam Seat Elev.	N. Appr.	N. Abut.	S. Appr.	S. Abut.
Beam 1	566.14	566.14	565.69	565.81
Beam 2	566.26	566.26	565.81	565.93
Beam 3	566.38	566.38	565.93	566.06
Beam 4	566.50	566.50	566.05	566.18
Beam 5	566.38	566.38	565.93	566.06
Beam 6	566.26	566.26	565.81	565.93
Beam 7	566.14	566.14	565.69	565.81

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENTS MECHANICSBURG ROAD OVER F.A.I.–72 – S.N. 084–0150
		CHECKED - MTH	REVISED -		
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 22 OF 27 SHEETS
	PLOT DATE =	CHECKED - MTH	REVISED -		

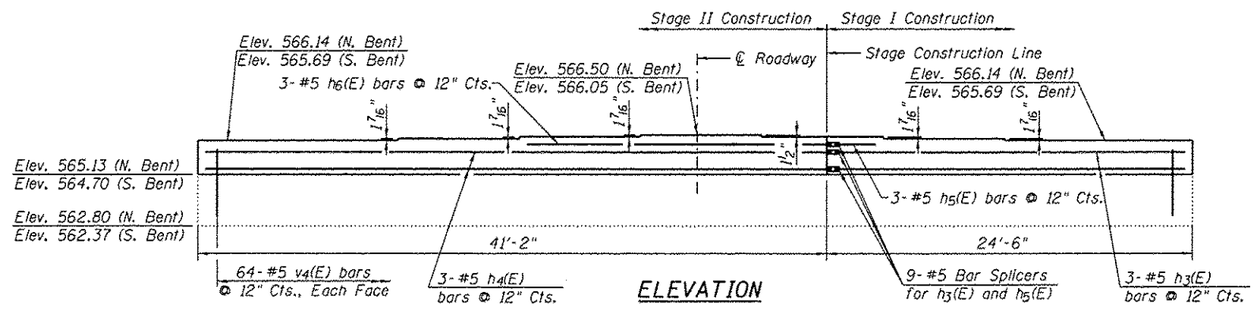
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	134
	* (84-10-1RS-3, 84-10-2RS-RIBR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

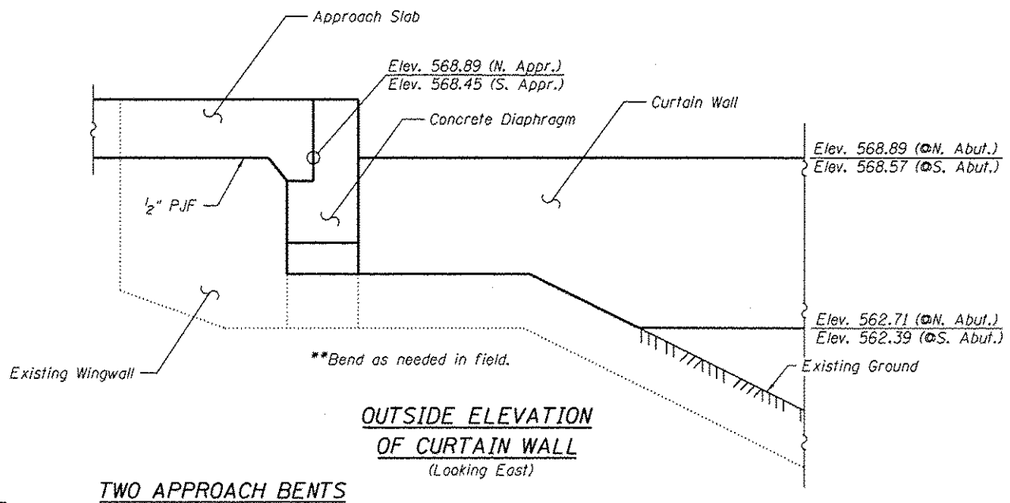


SECTION A-A



ELEVATION

(N. Appr. Bent Shown, S. Appr. Bent Similar)
See Sheet 20 of 27 for Beam Seat Elevations.



OUTSIDE ELEVATION OF CURTAIN WALL
(Looking East)

Notes:

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

TWO ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	56	#5	24'-9"	
h3(E)	24	#5	24'-2"	
h4(E)	24	#5	40'-10"	
h5(E)	8	#5	3'-2"	
h6(E)	8	#5	20'-0"	
v5(E)	264	#5	2'-4"	
v6(E)	256	#5	4'-2"	

TWO APPROACH BENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h3(E)	12	#5	24'-2"	
h4(E)	12	#5	40'-10"	
h5(E)	6	#5	3'-2"	
h6(E)	6	#5	20'-0"	
h7(E)	88	#5	6'-8"	
v4(E)	256	#5	1'-9"	
v7(E)	56	#5	6'-9"	

BILL OF MATERIAL

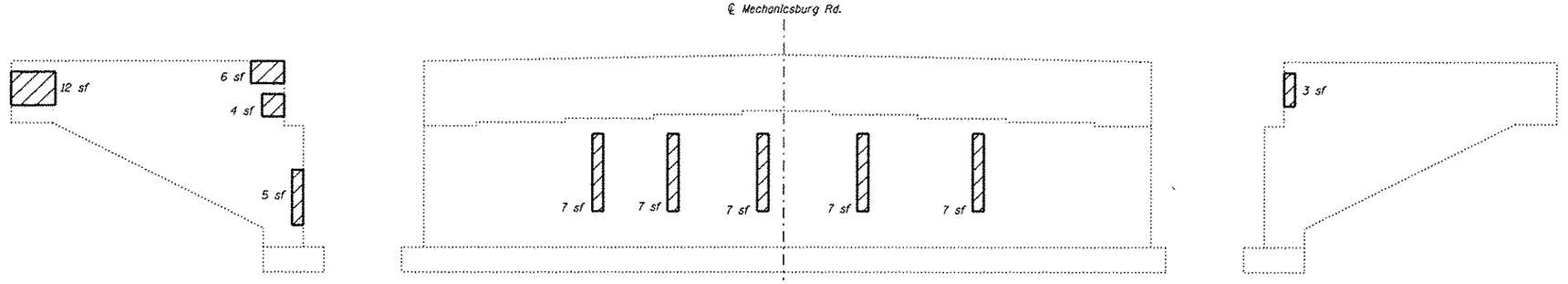
Item	Unit	Total
Concrete Structure	Cu. Yd.	78.5
Reinforcement Bars, Epoxy Coated	Sq. Yd.	7450
Bar Splicers	Each	50

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

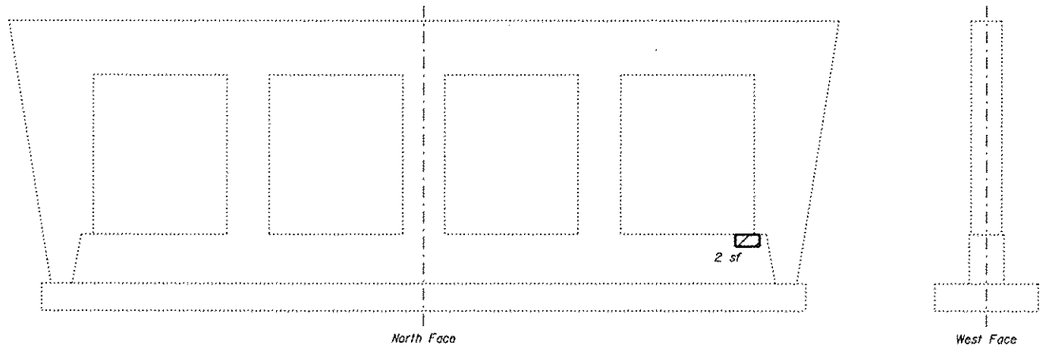
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

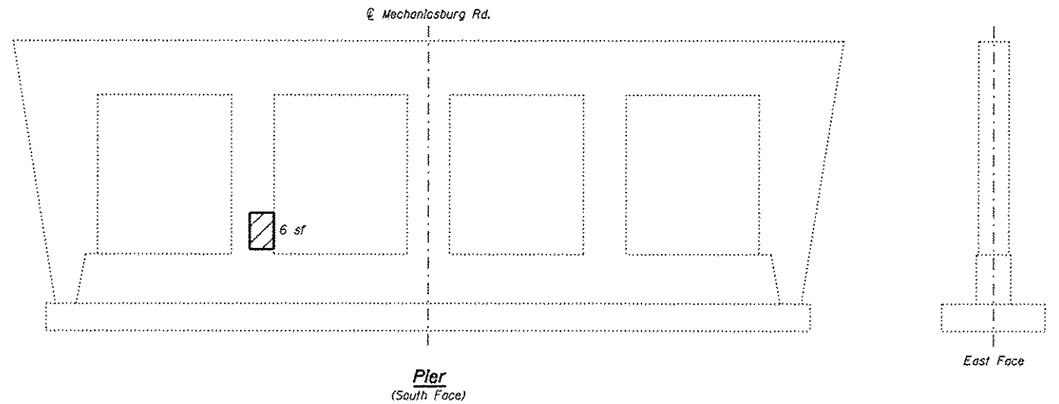
APPROACH BENTS
MECHANICSBURG RD. OVER F.A.I.-72 - S.N. 084-0150
SHEET NO. 23 OF 27 SHEETS

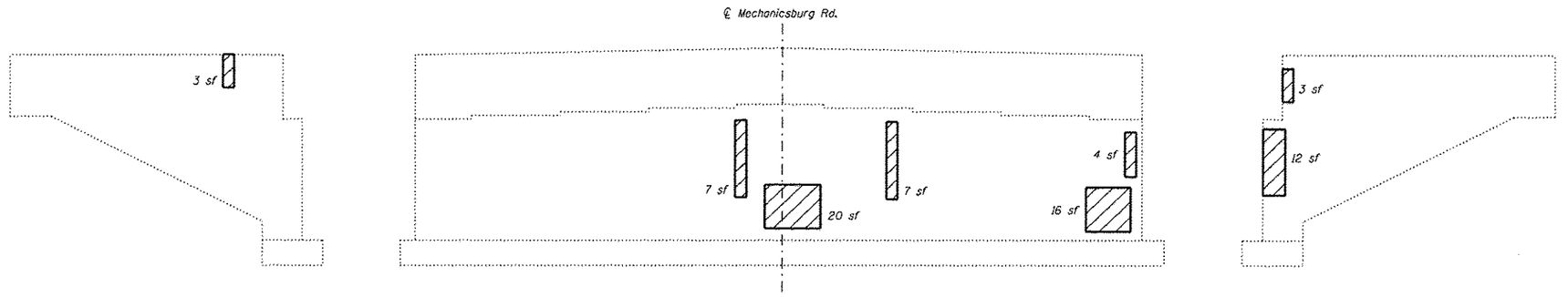
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	194	135
	• (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



N. ABUTMENT
(Looking North)







S. ABUTMENT
(Looking South)

LEGEND

Structural Repair of Concrete

sf square feet

NOTES

Repair of existing concrete shall include, but may not be limited to, the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction and documented on the as-built plans.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth < 5")	Sq. Ft.	145

FILE NAME = CH12 over FA1-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
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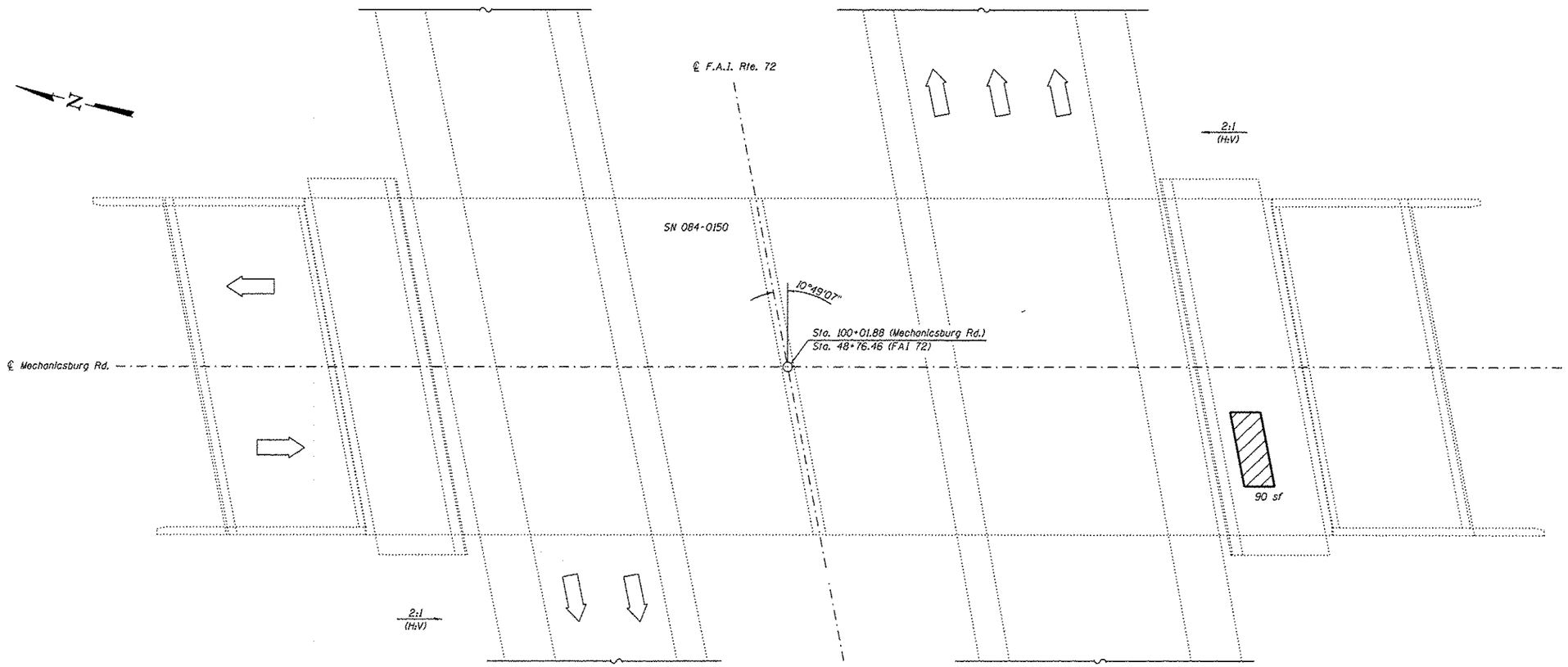
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS
MECHANICSBURG ROAD OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 24 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	136
	* (84-10-1RS-3, 84-10-2RS-RIBR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

LEGEND

Slopewall, 4"

sf square feet

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Removal	Sq. Yd.	10
Slope Wall, 4"	Sq. Yd.	10
Controlled Low Strength Material	Cu. Yd.	5

Notes:

Slopewall shall be reinforced with welded wire fabric, 6"x 6" - W4.0 x W4.0. weighing 58 lbs. per 100 sq. ft. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slopewall Repair.

Existing and new welded wire fabric must be lapped at least 6".

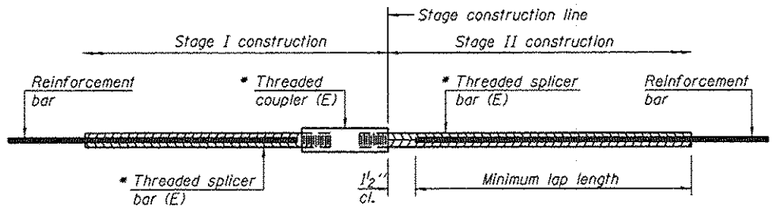
Repair of the existing slope walls shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPEWALL REPAIR DETAILS
MECHANICSBURG ROAD OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 25 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	137
	* (84-10-1RS-3, 84-10-2RS-1)BR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

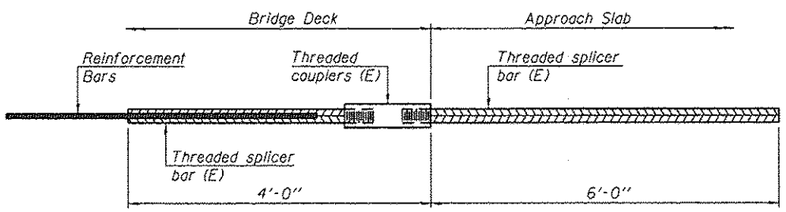
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

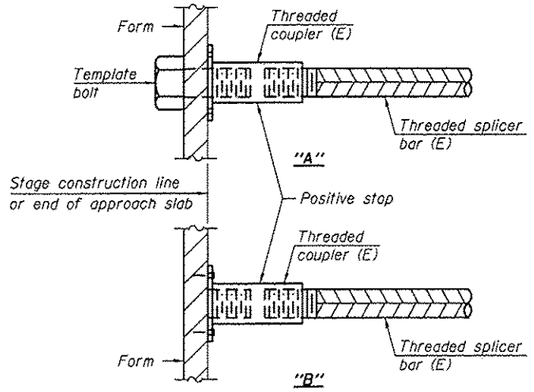
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Diaphragm	#4	8	3
	#6	4	3
Abutments	#5	32	3
	-	-	-
Approach	#4	50	4
	#5	172	3
Approach Bent	#5	18	3
	-	-	-



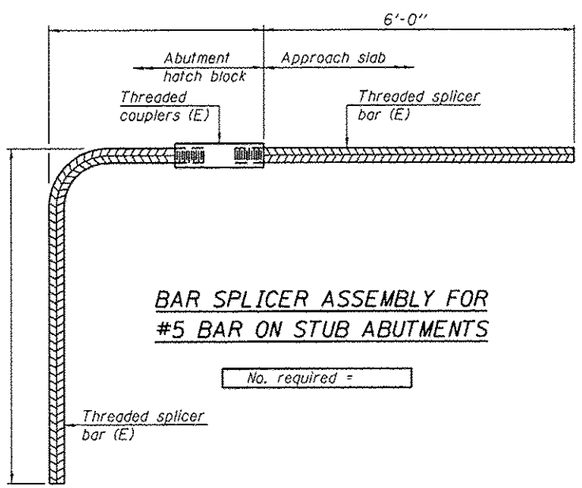
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



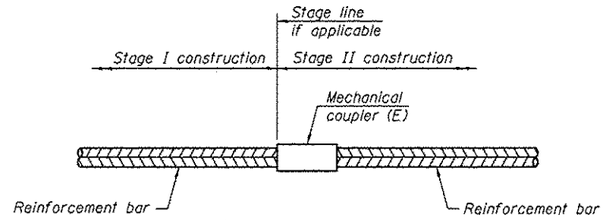
INSTALLATION AND SETTING METHODS

"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.



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies 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.

BSD-1 1-27-12

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
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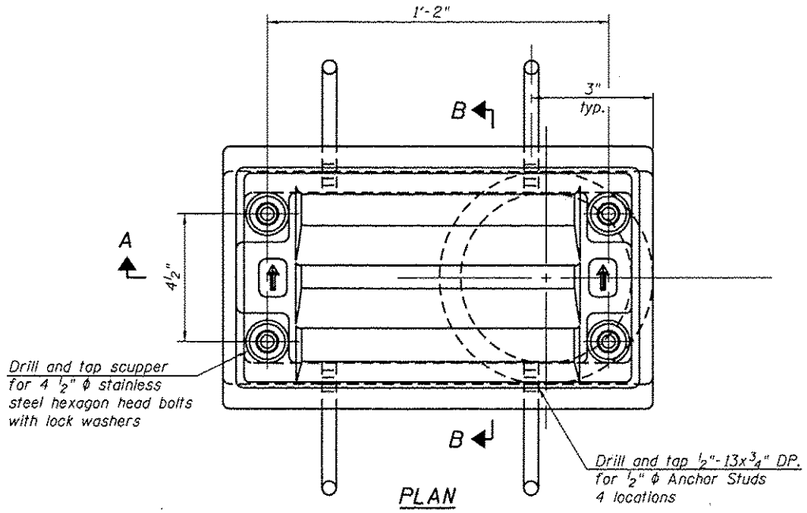
	PLOT DATE =	CHECKED - MTH	REVISED -

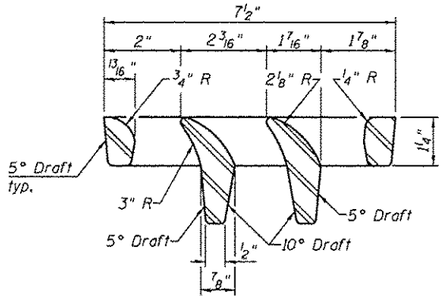
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 26 OF 27 SHEETS

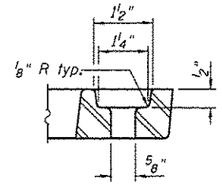
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	138
* (84-10-1RS-3, 84-10-2RS-RBR,I		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

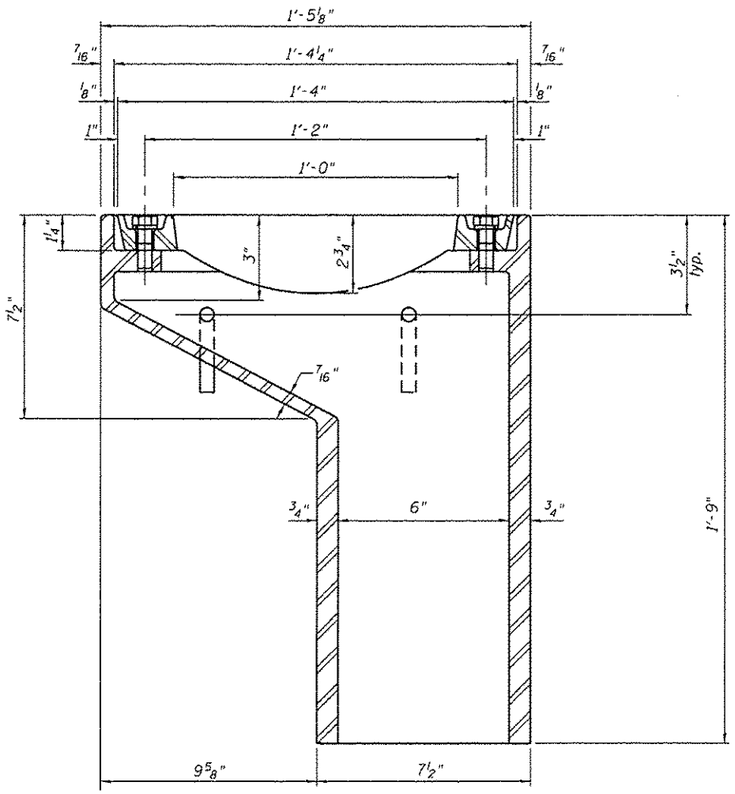
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

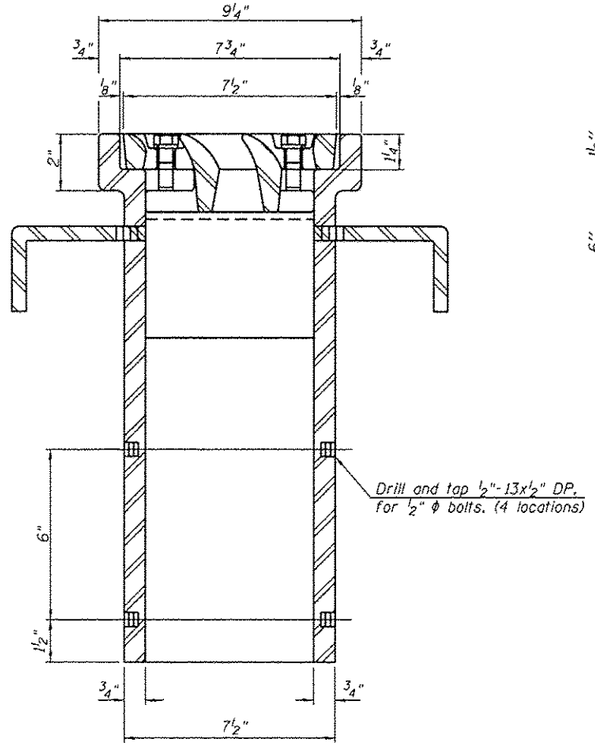
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

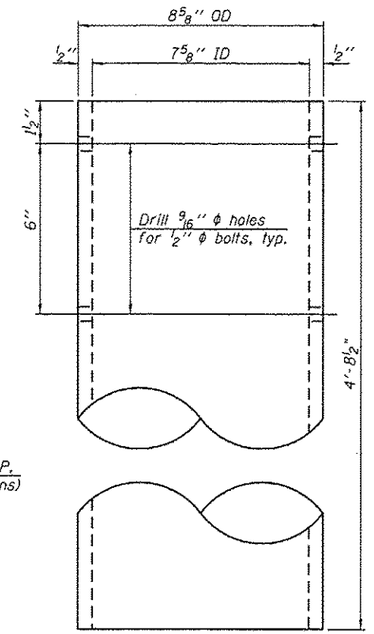


SECTION A-A

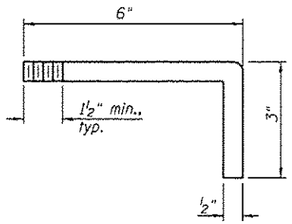
See sheet 9 of 25 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scupper, DS-11	Each	4

DS-11 7-1-10

FILE NAME = CH12 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

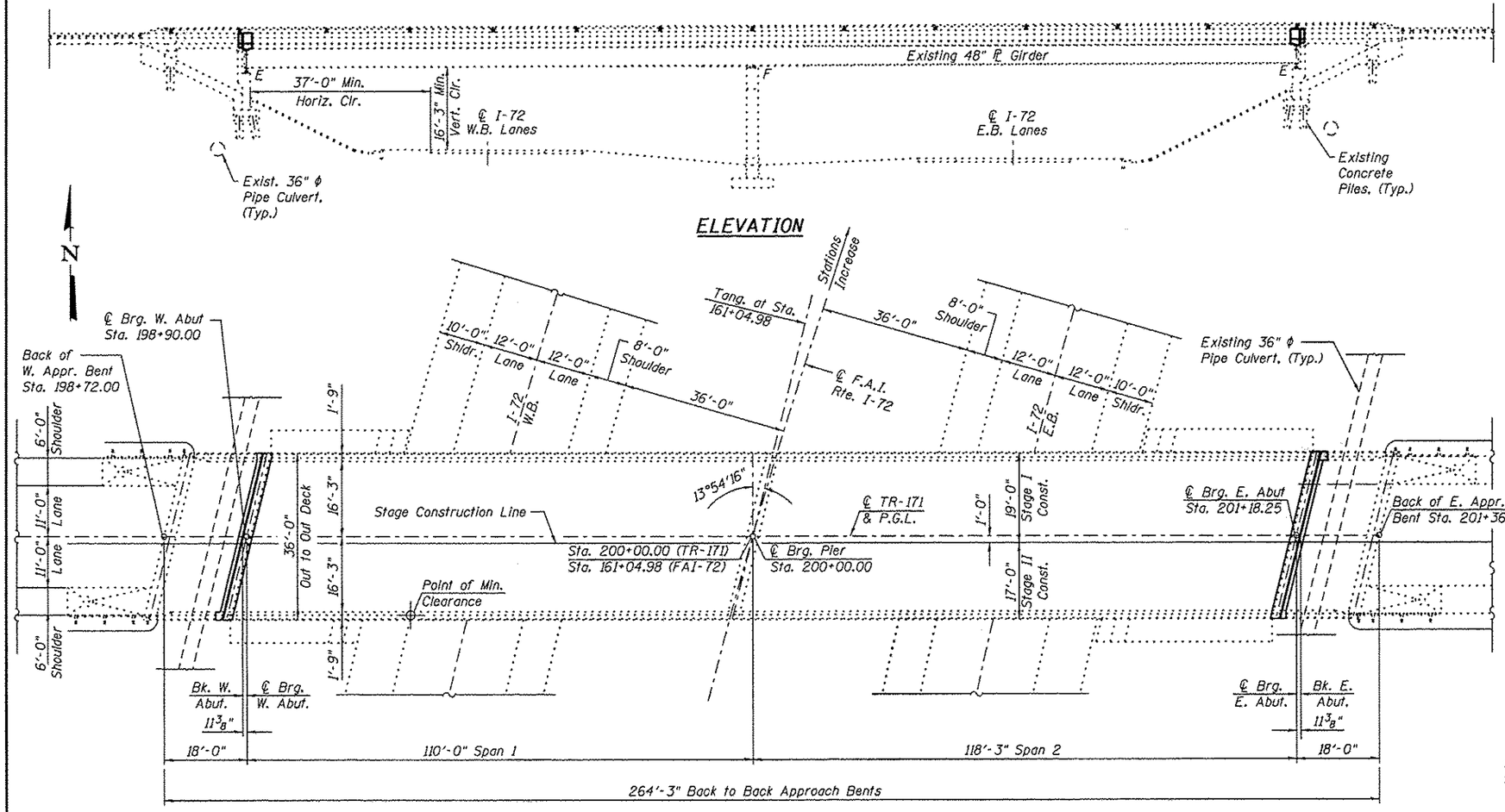
DRAINAGE SCUPPER, DS-11
MECHANICSBURG RD. OVER F.A.I.-72 – S.N. 084-0150
SHEET NO. 27 OF 27 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	139
(84-10-1RS-3,84-10-2RS-4)BR,1		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

(84-10-1,2)RS-3 & (84-10-2)RS-4

Existing Structure: S.N. 084-0151 was originally built under FAI 72, Section (84-10-1HB-1) in 1974. It is a two-span, steel continuous structure with vaulted approaches. The structure length is 264'-3" back-to-back approach bents and the width is 36'-0" out-to-out. The two steel span lengths are 110'-0" and 118'-3", respectively moving up-station. The approach spans are each 18'-0". In 1998, the expansion joints and overlay were removed and replaced.

Structure to be repaired using staged construction. Silicone Joints will be replaced. One lane to remain open during construction.



PLAN

GENERAL NOTES

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding ¼ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to 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 of 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 at the unit price bid for the work.

Cleaning and field painting of structural steel shall be done under a separate painting contract.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Concrete Removal	Cu. Yd.	5.4	-	5.4
	Protective Shield	Sq. Yd.	313	-	313
	Concrete Superstructure	Cu. Yd.	5.4	-	5.4
*	Protective Coat	Sq. Yd.	26.0	-	26.0
	Reinforcement Bars, Epoxy Coated	Pound	1,330	-	1,330
	Bar Splicers	Each	20	-	20
	Preformed Joint Strip Seal	Foot	72	-	72
	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	20	-	20
	Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	10	-	10
	Deck Slab Repair (Partial)	Sq. Yd.	50	-	50

* Apply on top and inside surfaces of new Concrete only.

DESIGN STRESSES

FIELD UNITS (NEW)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

FIELD UNITS (EXISTING)

fc = 1,400 psi (Substructure)
fc = 1,200 psi (Deck slab)
fs = 20,000 psi (Reinforcement)
fs = 27,000 psi (Steel)

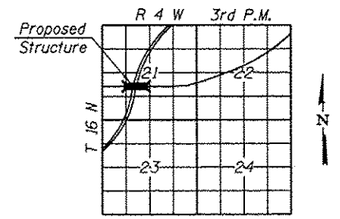
INDEX OF SHEETS

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"

EXISTING LOADING HS 20-44

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



LOCATION SKETCH

GENERAL PLAN & ELEVATION
TR-171 OVER F.A.I. RTE. 72
SECTION (84-10-1,2) RS-3
SANGAMON COUNTY
STATION 200+00.00
STRUCTURE NO. 084-0151

LICENSED STRUCTURAL ENGINEER * MICHAEL T. HALEY 81-5991 CHATHAM * STATE OF ILLINOIS

Michael T. Haley 9-5-13
Date

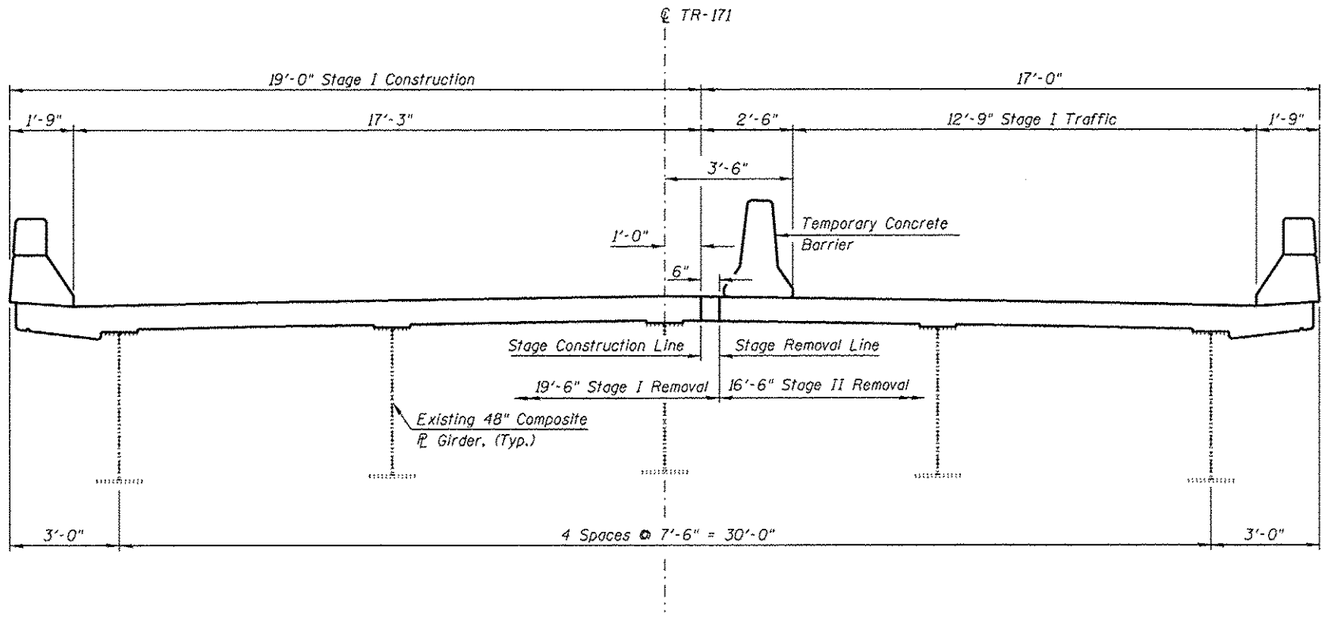
Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2014

FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

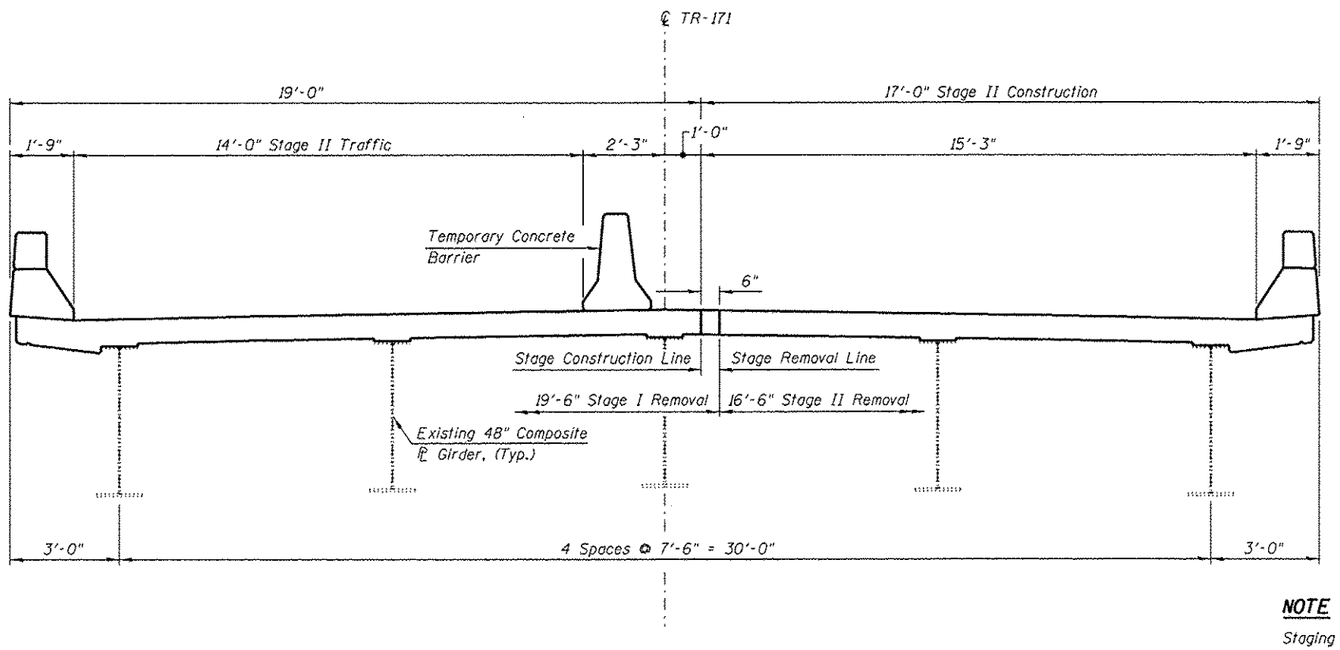
GENERAL PLAN AND ELEVATION
OAK CREST RD. (TR-171) OVER F.A.I.-72 – S.N. 084-0151
SHEET NO. 1 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2)RS-3	SANGAMON	194	140
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



STAGE I TYPICAL BRIDGE SECTION

(LOOKING EAST)



STAGE II TYPICAL BRIDGE SECTION

(LOOKING EAST)

NOTE

Staging similar for Approaches.

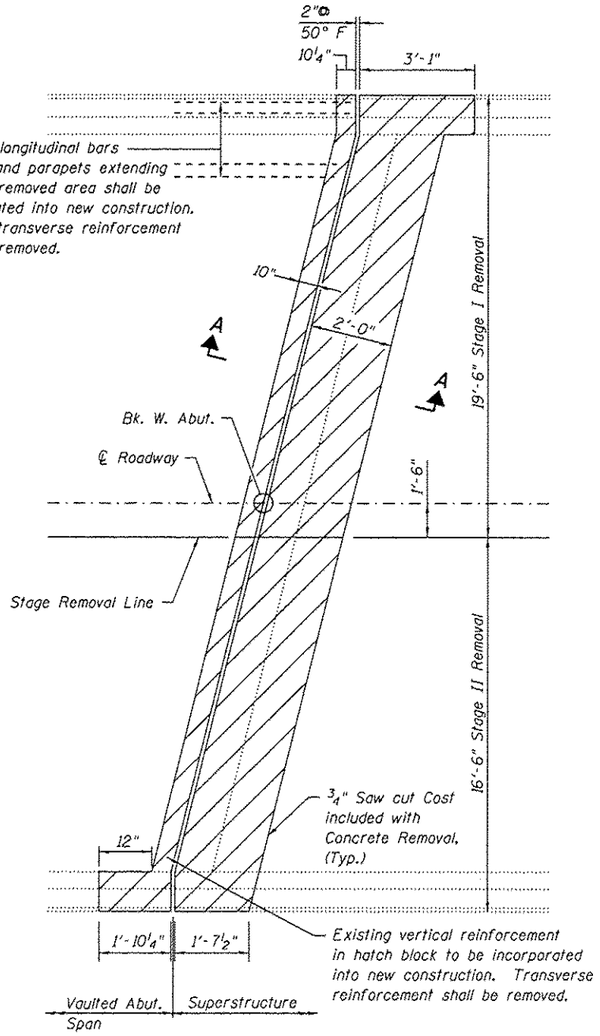
FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGING TYPICAL OAK CREST RD. (TR-171) OVER F.A.I.-72 - S.N. 084-0151	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	141
	PLOT SCALE =	DRAWN - TJW	REVISED -			* (84-10-1RS-3, 84-10-2RS-RIBR.)		CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 2 OF 8 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

NOTES:

Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

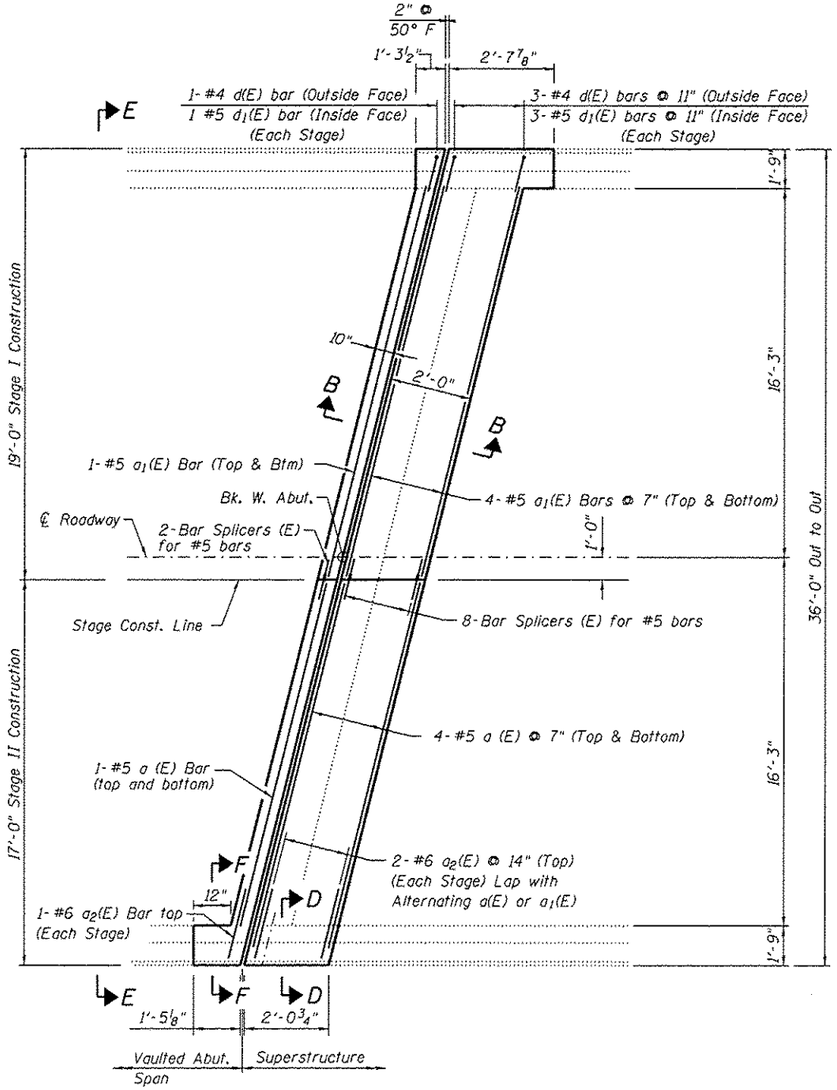
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Work this sheet with Sheet 4 of 8. Hatched areas indicate concrete removal.



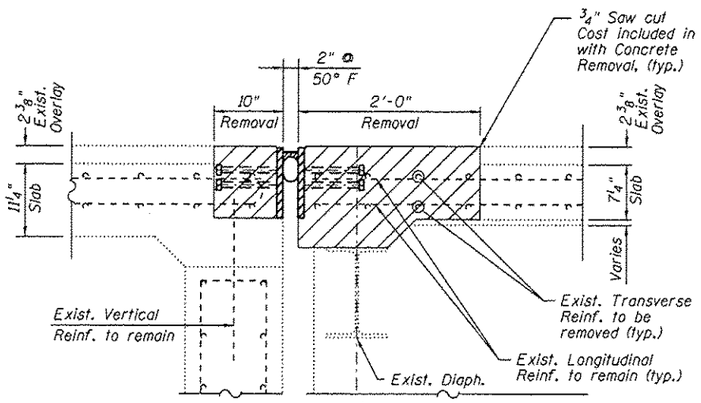
CONCRETE REMOVAL PLAN

(W. Abut. Shown, E. Abut. Similar)



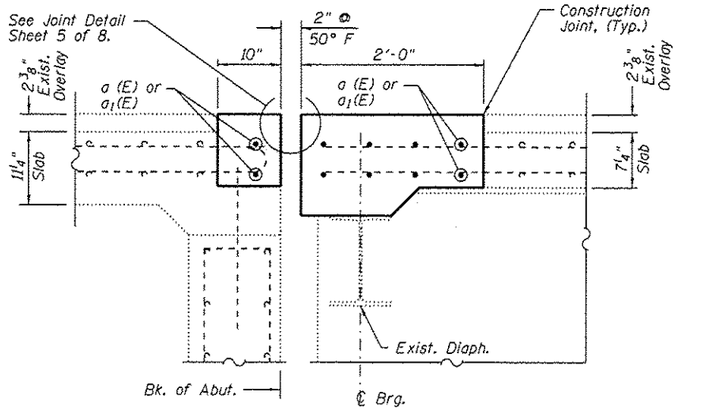
CONCRETE REPLACEMENT PLAN

(W. Abut. Shown, E. Abut. Similar)



SECTION A-A

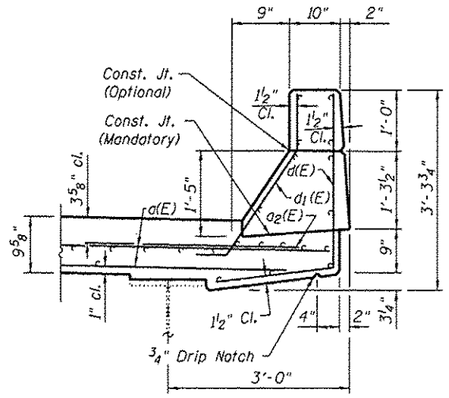
(Showing removal at deck. Dimensions at Rt. ℄'s)



SECTION B-B

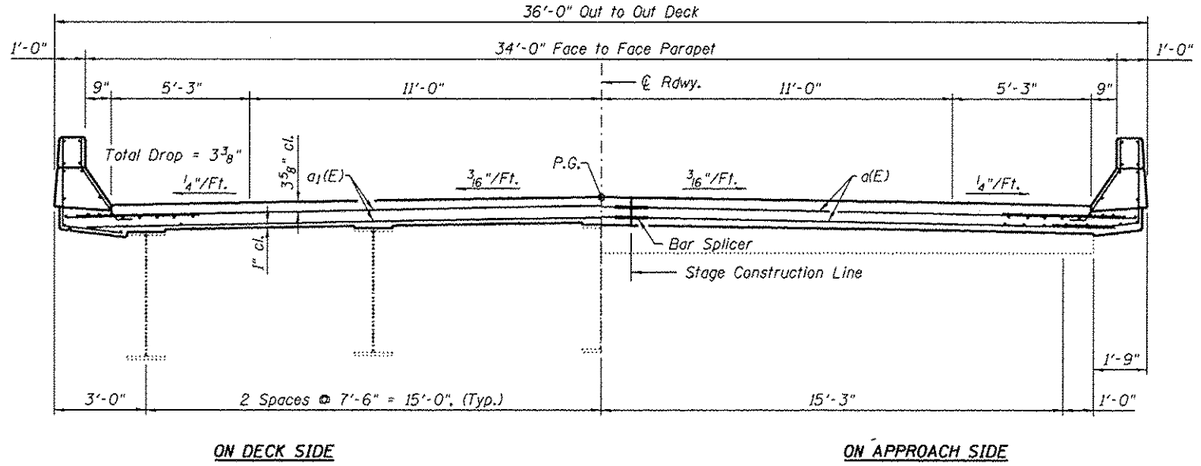
(Showing Proposed Section at Roadway. Dimensions at Rt. ℄'s)

FILE NAME : Oak Crest Rd. over I-72.dgn	USER NAME :	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK JOINT REPAIRS (1 OF 2) OAK CREST RD. (TR-171) OVER F.A.I.-72 – S.N. 084-0151	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	142
	PLOT SCALE :	DRAWN - TJW	REVISED -			* (84-10-1RS-3, 84-10-2RS-RIBR.)		CONTRACT NO. 72C90		
	PLOT DATE :	CHECKED - MTH	REVISED -		SHEET NO. 3 OF 8 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



SECTION D-D

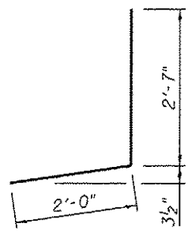
(Showing Parapet at Superstructure. Horizontal dimensions at Rt. L's)



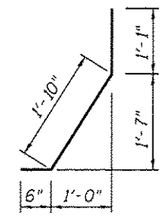
ON DECK SIDE

ON APPROACH SIDE

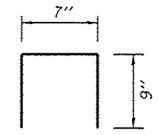
SECTION E-E



BAR d(E)



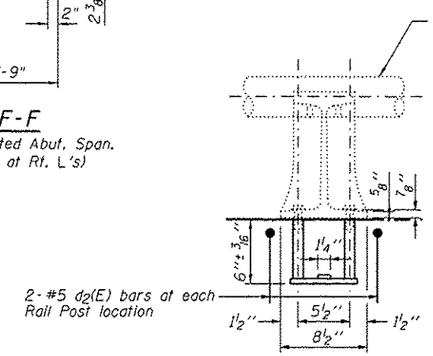
BAR d1(E)



BAR d2(E)

SECTION F-F

(Showing Parapet at Vaulted Abut. Span. Horizontal dimensions at Rt. L's)



RAIL POST DETAIL

(Rail posts to be removed and re-erected at W. Abutment only. Two (2) new anchors required.)

BILL OF MATERIAL

(Two abutments)

Bar	No.	Size	Length	Shape
a(E)	20	#5	16'-11"	
a1(E)	20	#5	19'-0"	
a2(E)	12	#6	4'-0"	
d(E)	16	#4	4'-7"	
d1(E)	16	#5	3'-5"	
d2(E)	4	#5	2'-1"	
Concrete Removal			Cu. Yd.	5.4
Concrete Superstructure			Cu. Yd.	5.4
Reinforcement Bars, Epoxy Coated			Pound	1,330
Bar Splicers			Each	20
Protective Coat			Sq. Yd.	26.0

NOTES:

Seat perimeter of base of post to parapet with two-component non-staining gray sealing compund with polysulfide liquid polymers, gun grade, with primer. Fabric bearing pad shall have same dimensions as base of post.

Existing reinforcement shall be cleaned and incorporated into the new construction, as noted. Cost included with Concrete Removal.

Any Reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Removal of all existing expansion joints shall be included in the cost of Concrete Removal.

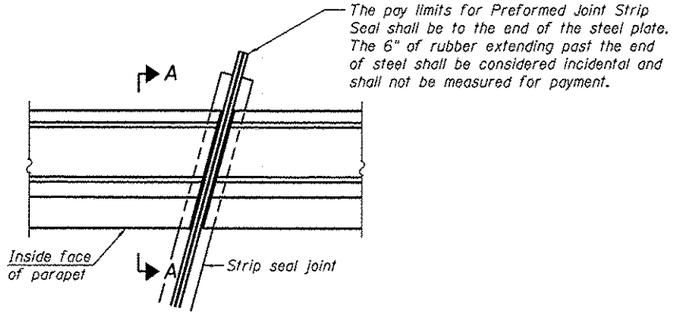
Work this sheet with sheet 3 of 8.

FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

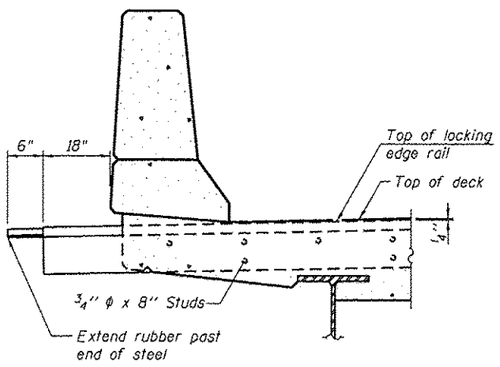
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK JOINT REPAIRS (2 OF 2)
OAK CREST RD. (TR-171) OVER F.A.I.-72 – S.N. 084-0151
SHEET NO. 4 OF 8 SHEETS

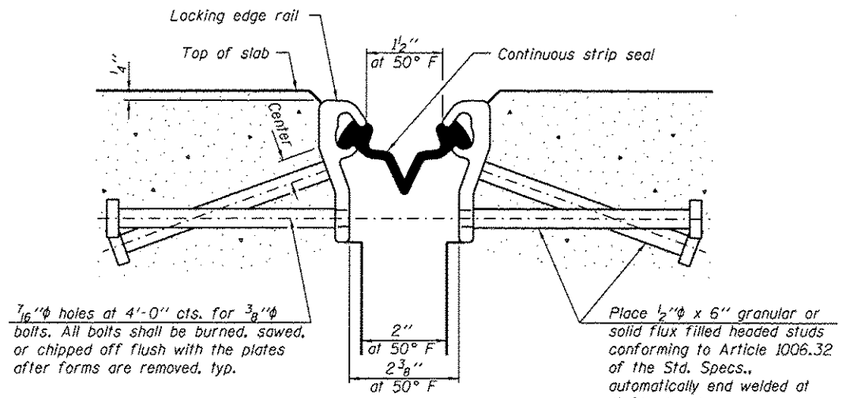
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	143
	* (84-10-1RS-3, 84-10-2RS-R)BR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



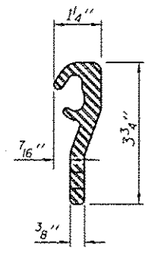
PLAN



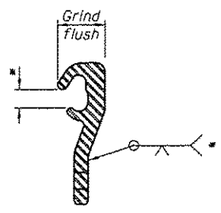
SECTION A-A



SECTION THRU STRIP SEAL JOINT
(Dimensions at Rt. L's)



LOCKING EDGE RAIL



LOCKING EDGE RAIL SPLICE

* Omit weld at seal opening.

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joint.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

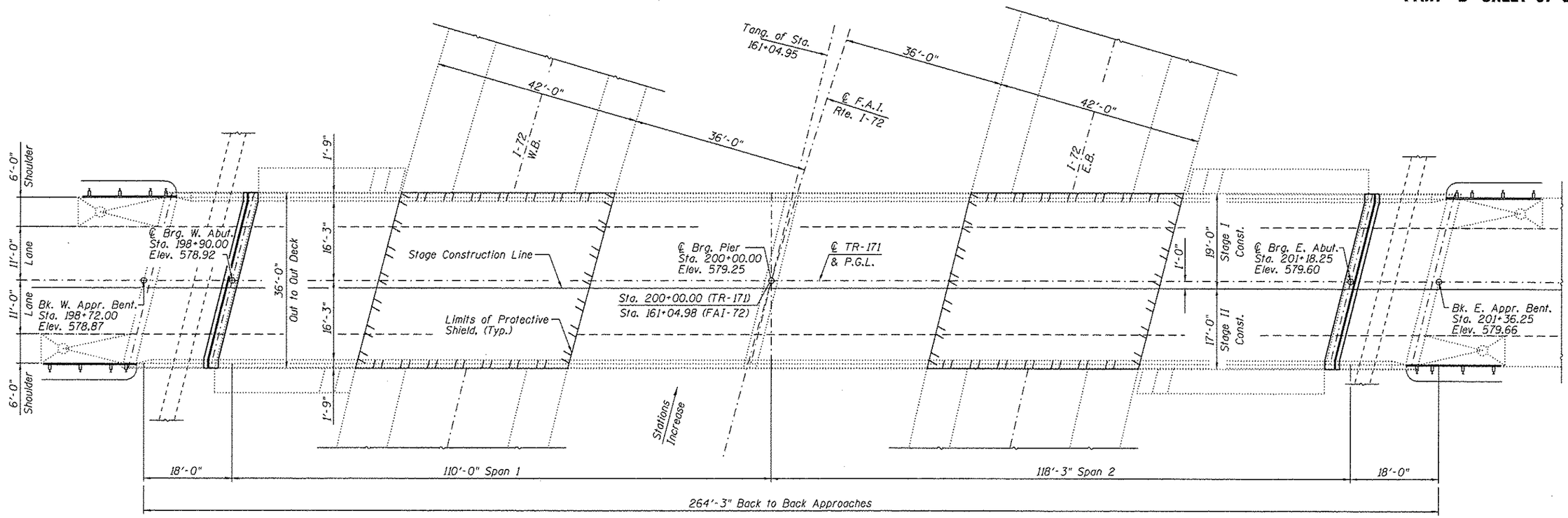
Parapet plates and anchorage studs included in the cost of Preformed Joint Strip Seal.

The inside of the Locking Edge Railing groove shall be free of weld residue.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	72

FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL OAK CREST RD. (TR-171) OVER F.A.I.-72 – S.N. 084-0151	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	144
	PLOT SCALE =	DRAWN - TJW	REVISED -			* (84-10-1RS-3, 84-10-2RS-RIBR.I		CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 5 OF 8 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



Patch No.	Size	Deck Slab Repair (Part Depth)
PD1	EST	50
PD2		
PD3		
PD4		
PD5		
PD6		
PD7		
PD8		
PD9		
PD10		
PD11		
PD12		
PD13		
PD14		

Patch No.	Size	Deck Slab Repair (FD TY I)	Deck Slab Repair (FD TY II)
FD1	EST	20	10
FD2			
FD3			
FD4			
FD5			
FD6			
FD7			
FD8			
FD9			
FD10			
FD11			
FD12			
FD13			
FD14			

NOTES:

Following removal of HMA Surface, Contractor shall notify resident engineer to inspect & sound existing deck.

Quantities are estimated, actual quantities to be determined by the Resident Engineer.

Protective Shield shall be installed as directed by resident engineer to protect traffic below.

PATCHING LEGEND

Partial Depth

Full Depth

BILL OF MATERIAL

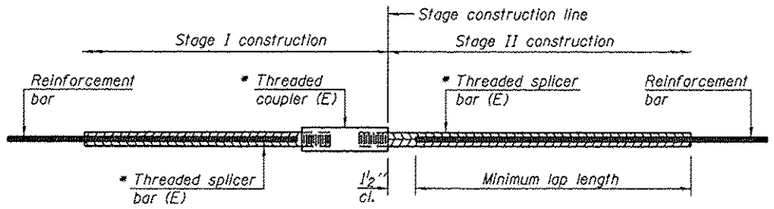
Item	Unit	Total
Deck Slab Repair (Partial)	Sq. Yd.	50
Deck Slab Repair (Full Depth Type I)	Sq. Yd.	20
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	10
Protective Shield	Sq. Yd.	313.0

FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PATCHING PLAN
OAK CREST RD. (TR-171) OVER F.A.I.-72 – S.N.084-0151
SHEET NO. 6 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	134	145
	• (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

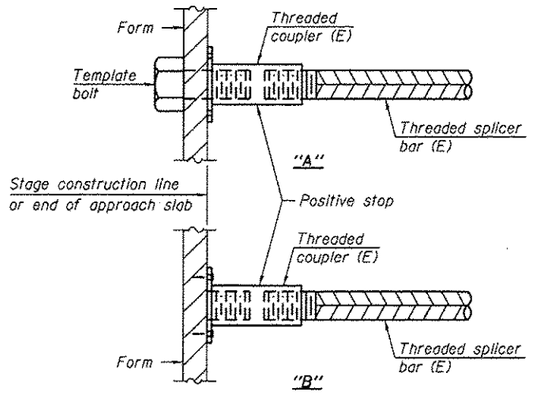
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

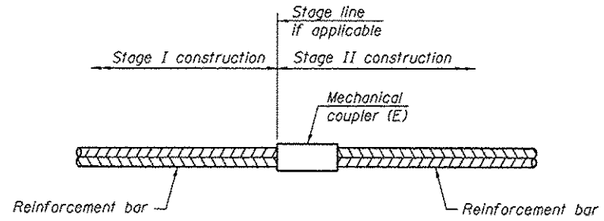
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
N. Abut.	#5	10	3
S. Abut.	#5	10	3



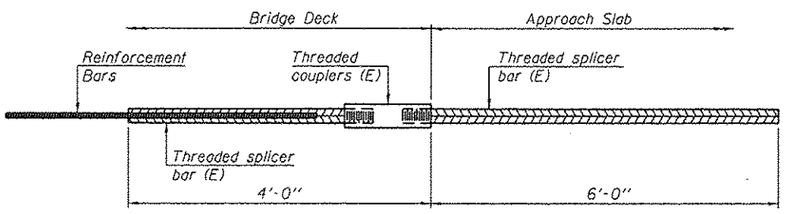
INSTALLATION AND SETTING METHODS

"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.



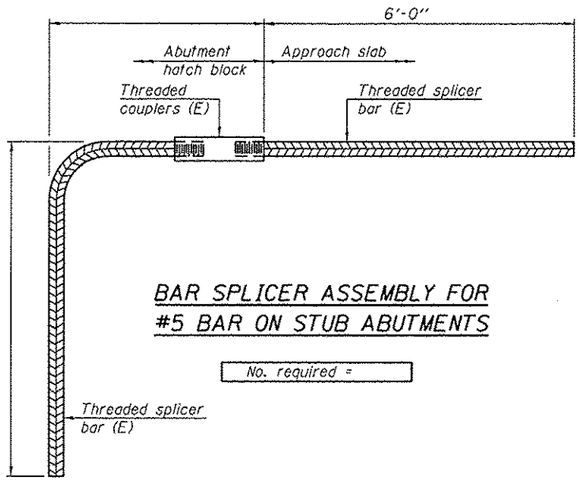
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. 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.

BSD-1 1-27-12

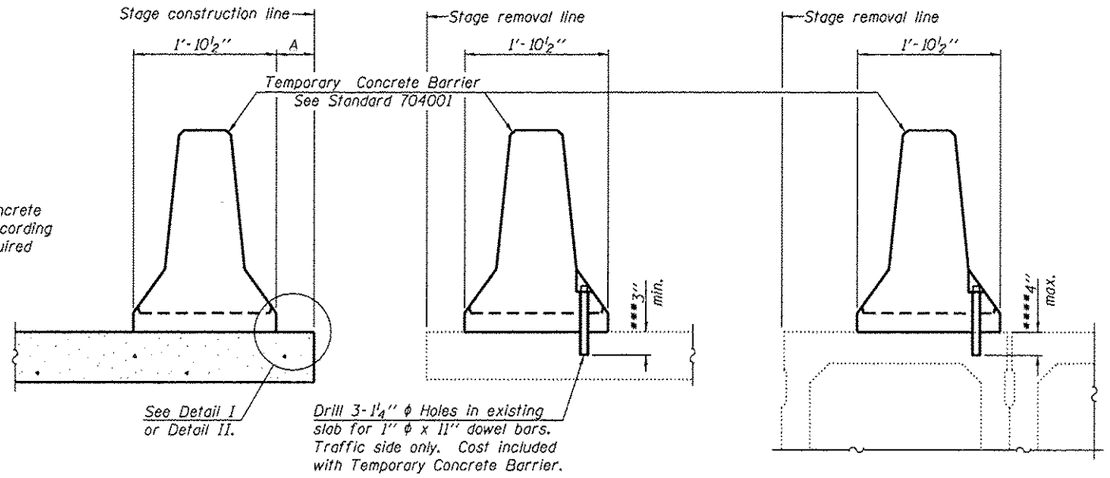
FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
OAK CREST RD. (TR-171) OVER F.AI.-72 - S.N. 084-0151
SHEET NO. 7 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	146
	* (84-10-1RS-3, 84-10-2RS-1)BR,1	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

When "A" is 3'-6" 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'-6".



NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7' 'x "W" steel ℙ 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 ℙ 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.

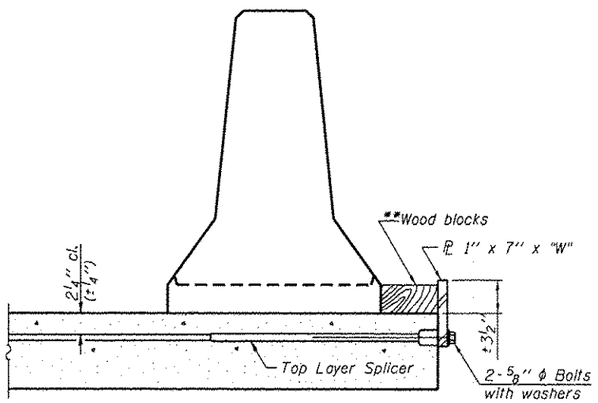
Cost of anchorage is included with Temporary Concrete Barrier.

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.

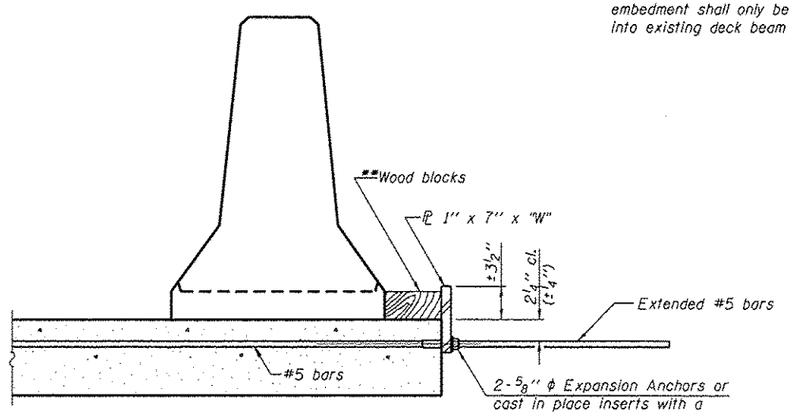
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



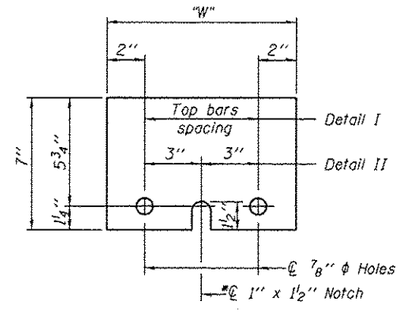
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



STEEL RETAINER ℙ 1" x 7" x "W"

* Required only with Detail II

R-27 7-1-10

FILE NAME = Oak Crest Rd. over I-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION OAK CREST RD. (TR 171) OVER F.A.I. 72 – S.N. 084-0151	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	147
	PLOT SCALE =	DRAWN - TJW	REVISED -			* (84-10-1RS-3, 84-10-2RS-RIBR.I		CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 8 OF 8 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

Benchmark: B.M. #1 - Chisled square in on north end of south median nose, Sta. 305+97.70, 5.30' Rt., NAVD88, Elev. 597.60.

Existing Structure: SN 084-0154 built in 1974 under section 84-10-1HB-2 is a 2 span continuous welded plate girder structure with CIP concrete deck, supported by vaulted abutments supported on steel piles and a trapezoidal 5-column pier supported on steel piles. The existing structure is 199'-11" back to back existing abutments with 28'-11½" vaulted approach spans at each end. The bridge deck is 7¼" thick with a 2⅜" overlay, 68'-0" out to out with an 18'-0" median. In 1999, the overlay and expansion joints were replaced.

Bridge to be reconstructed using stage construction. One lane of traffic to be maintained at all times.

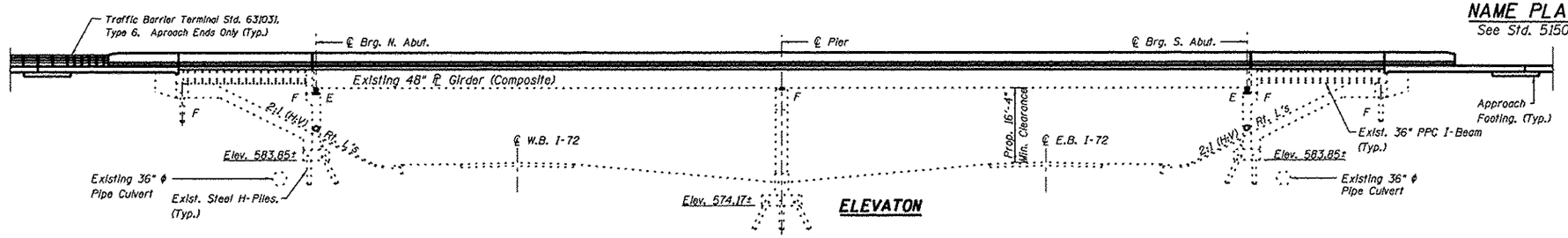
No Salvage.

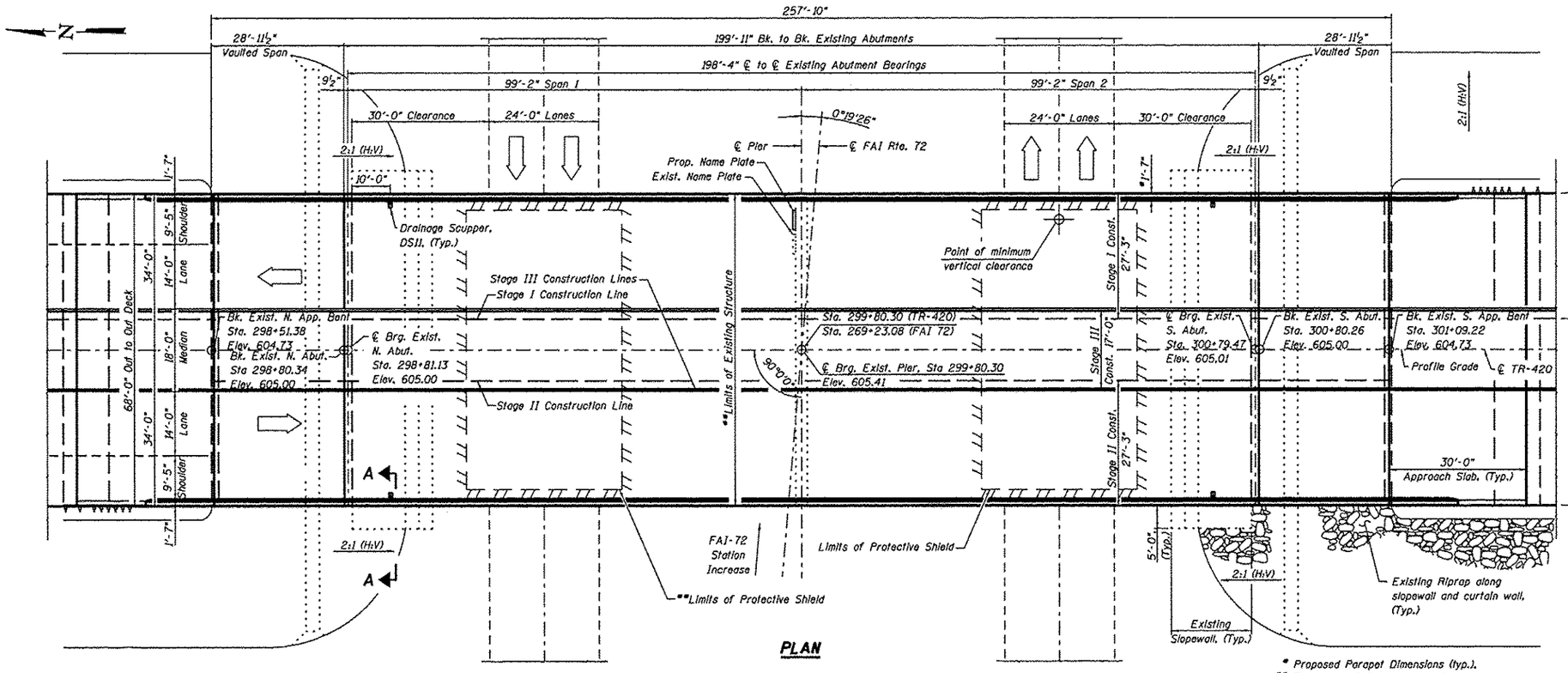
STATION 269+23.08
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RTE. 72
SEC. (84-10-1,2) RS-3
LOADING HS-20
STRUCTURE NO. 084-0154

NAME PLATE
See Std. 515001

SCOPE OF WORK

1. Remove and replace deck and expansion joints.
2. Extend wingwalls and Curtain walls to mach new elevation.
3. Install approach slabs.
4. Repair the damaged slopewall sections.
5. Replace end diaphragm with channel diaphragm.
6. Install Shear Studs in Negative Moment Region of Deck.
7. Jack and remove existing bearings at abutments and Pier and raise Profile Elevation 6" While Deck is off.
8. Replace bearings with new elastomeric bearings at the Abutments and fixed bearings at Pier.





PLAN

* Proposed Parapet Dimensions (typ.).
** Transverse limits shall be out to out superstructure.

LOADING HS20-44

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

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO "Standard Specifications for Highway Bridges"

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.062g
Design Spectral Acceleration at 2.0 sec. (S_{DS}) = 0.164g
Soil Site Class = B

DESIGN STRESSES

PRECAST PRESTRESSED UNITS (Exist.)

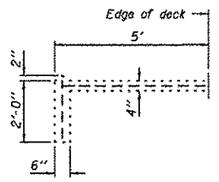
f'c = 5,000 psi
f'ci = 4,000 psi
f'si = 188,700 psi (7/16" ϕ stress relieved strands)
f's = 270,000 psi (7/16" ϕ stress relieved strands)

FIELD UNITS (Exist. Constr.)

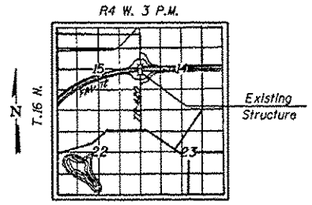
fc = 1,400 psi (Substructure)
fc = 1,200 psi (Slab)
fs = 20,000 psi (Steel)
fs = 20,000 psi (Reinforcement)

FIELD UNITS (New Const.)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (Steel)

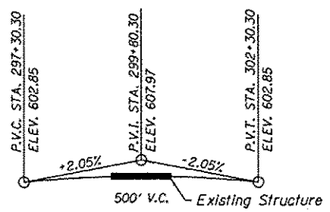


SECTION A-A

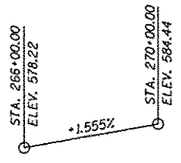


LOCATION SKETCH

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



PROPOSED PROFILE GRADE-TR-420
(℄ Roadway)



EXIST. PROFILE GRADE-F.A.I. Rte. 72
(Median Edge of Pavement)

LICENSED STRUCTURAL ENGINEER
MICHAEL T. HALEY
81-5991
CHATHAN
STATE OF ILLINOIS

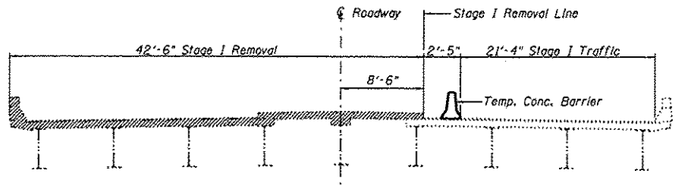
Michael T. Haley 9-18-2013
Date

Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2014

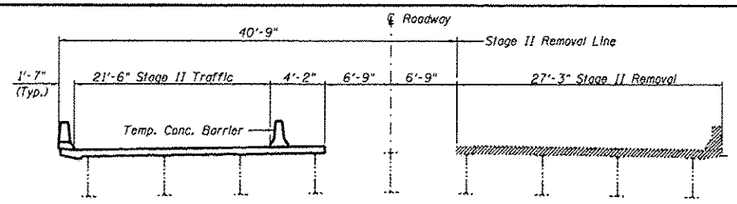
INDEX OF SHEETS

GENERAL PLAN & ELEVATION
TR-420 OVER
F.A.I. RTE. 72
SECTION (84-10-1,2) RS-3
SANGAMON COUNTY
STRUCTURE NO. 084-0154
STA. 269+23.08

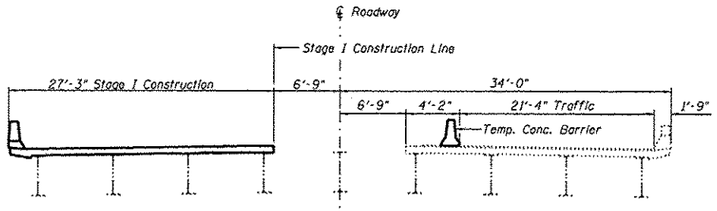
FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION OVERPASS ROAD (TR-420) OVER F.A.I.-72 – S.N. 084-0154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	(84-10-1,2) RS-3	SANGAMON	194	148
	PLOT SCALE =	DRAWN - TJW	REVISED -						CONTRACT NO. 72C90	
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 1 OF 25 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



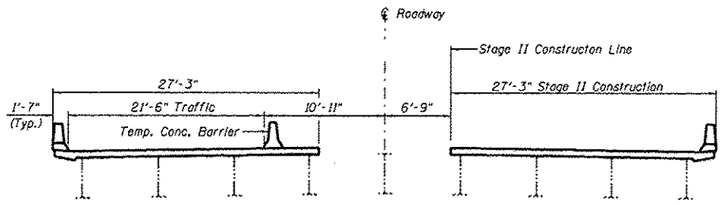
STAGE I REMOVAL
(Looking South)



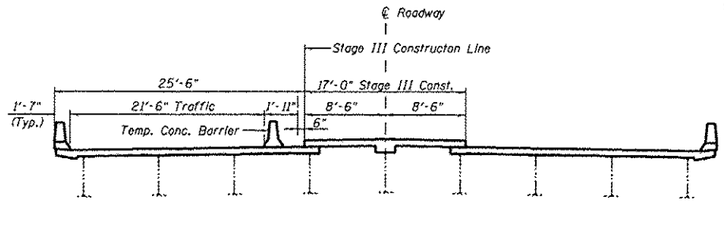
STAGE II REMOVAL
(Looking South)



STAGE I CONSTRUCTION
(Looking South)



STAGE II CONSTRUCTION
(Looking South)



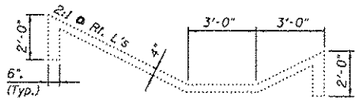
STAGE III CONSTRUCTION
(Looking South.
Staging of main spans shown,
approach spans similar)

Note:
See sheet 3 of 25 for Temporary Concrete Barrier Details.

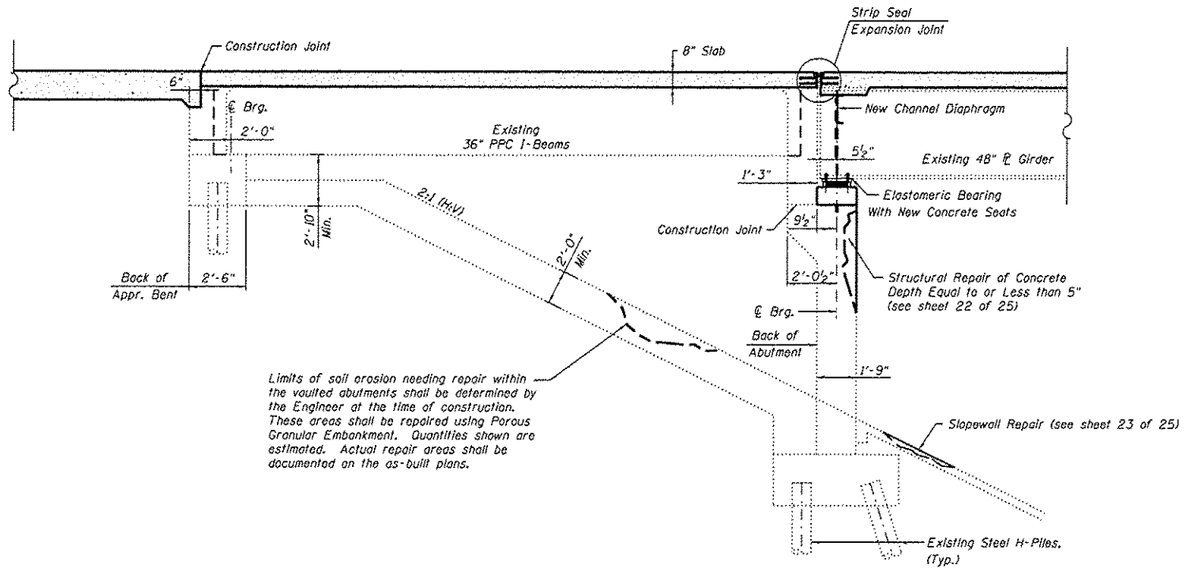
Hatched area indicates Removal of Existing Concrete Deck.

For quantity of Temporary Concrete Barrier, see roadway plans.

Removal of existing bridge railing and bituminous wearing surface is included with Removal of Existing Concrete Deck.



SECTION THROUGH SLOPEWALL



SECTION THRU VAULTED ABUTMENT
(Horiz. Dim.'s ℄ Rt. L's)

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $^{3}/_{4}$ in. ϕ, holes $^{13}/_{16}$ in. ϕ, unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $^{1}/_{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to 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 of 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 at the unit price bid for the work.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$" (0.01 Ft.)

Concrete Sealer shall be applied to designated areas of the abutments.

Cleaning and field painting of structural steel shall be done under a separate painting contract.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

All new structural steel shall be be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type I.

The Contractor shall resurvey the I-72 vertical clearance over each lane and shoulder following the deck replacement. This work will not be paid for separately, but shall be included with the contract lump sum price for "Construction Layout".

Slipforming of parapets is not allowed.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	1	-	1
Concrete Removal	Cu. Yd.	-	2.6	2.6
Protective Shield	Sq. Yd.	496	-	496
Concrete Structures	Cu. Yd.	-	56.0	56.0
Concrete Superstructure	Cu. Yd.	756.4	-	756.4
Bridge Deck Grooving	Sq. Yd.	1,547	-	1,547
Protective Coat	Sq. Yd.	2,604	-	2,604
Furnishing and Erecting Structural Steel	Pound	5,540	8,230	13,770
Stud Shear Connectors	Each	1,710	-	1,710
Reinforcement Bars, Epoxy Coated	Pound	182,250	9,170	191,420
Bar Splicers	Each	222	12	234
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	134	-	134
Elastomeric Bearing Assembly, Type I	Each	-	18	18
Anchor Bolts, 1"	Each	-	36	36
Anchor Bolts, 1½"	Each	-	18	18
Concrete Sealer	Sq. Ft.	-	392	392
Asbestos Bearing Pad Removal	Each	-	27	27
Structural Repair of Concrete, Depth Equal to or Less than 5"	Sq. Ft.	-	28	28
Drainage Scupper, DS-11	Each	4	-	4
Jacking Existing Superstructure	L. Sum	-	1	1
Slope Wall Removal	Sq. Yd.	-	8	8
Slope Wall, 4"	Sq. Yd.	-	8	8
Controlled Low Strength material	Cu. Yd.	-	4	4
Structural Steel Removal	Pound	6,900	-	6,900
Porous Granular Embankment	Ton	-	25	25

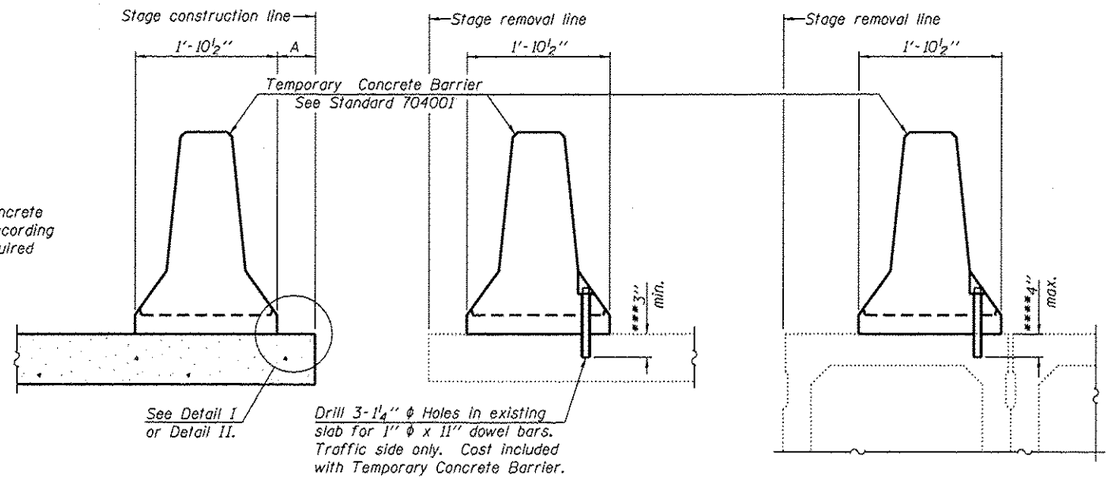
FILE NAME TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 2 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	149
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

When "A" is 3'-6" 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'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel ℄ 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 ℄ 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.

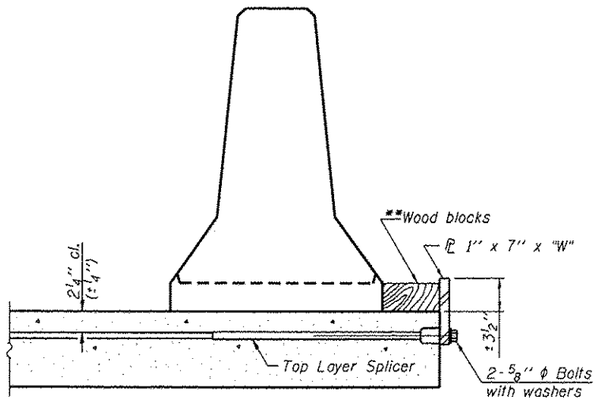
Cost of anchorage is included with Temporary Concrete Barrier.

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.

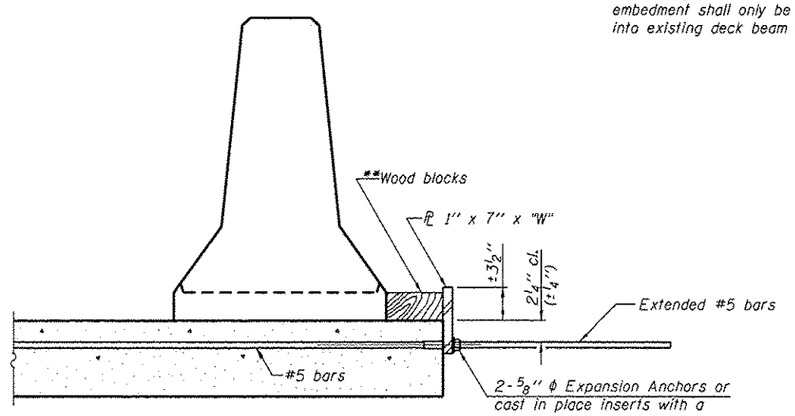
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



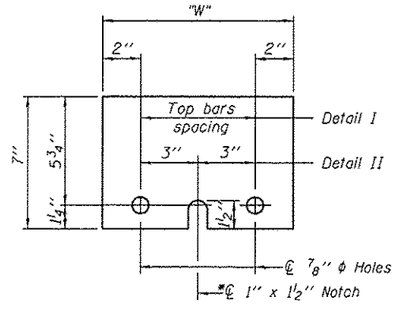
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



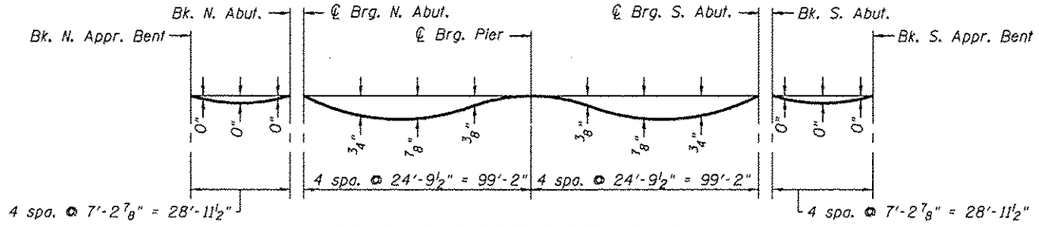
STEEL RETAINER ℄ 1" x 7" x "W"

* Required only with Detail II

R-27 7-1-10

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
		CHECKED - MTH	REVISED -		
	PLOT SCALE =	DRAWN - TJW	REVISED -		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 3 OF 25 SHEETS

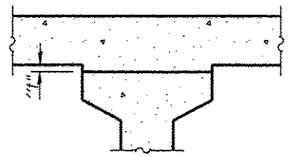
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	150
	* (84-10-1RS-3, 84-10-2RS-RIBR.I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



DEAD LOAD DEFLECTION DIAGRAM

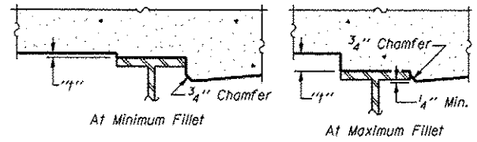
(Includes weight of concrete only.)

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 on sheets 5 & 6 of 25.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheets 5 & 6 of 25, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

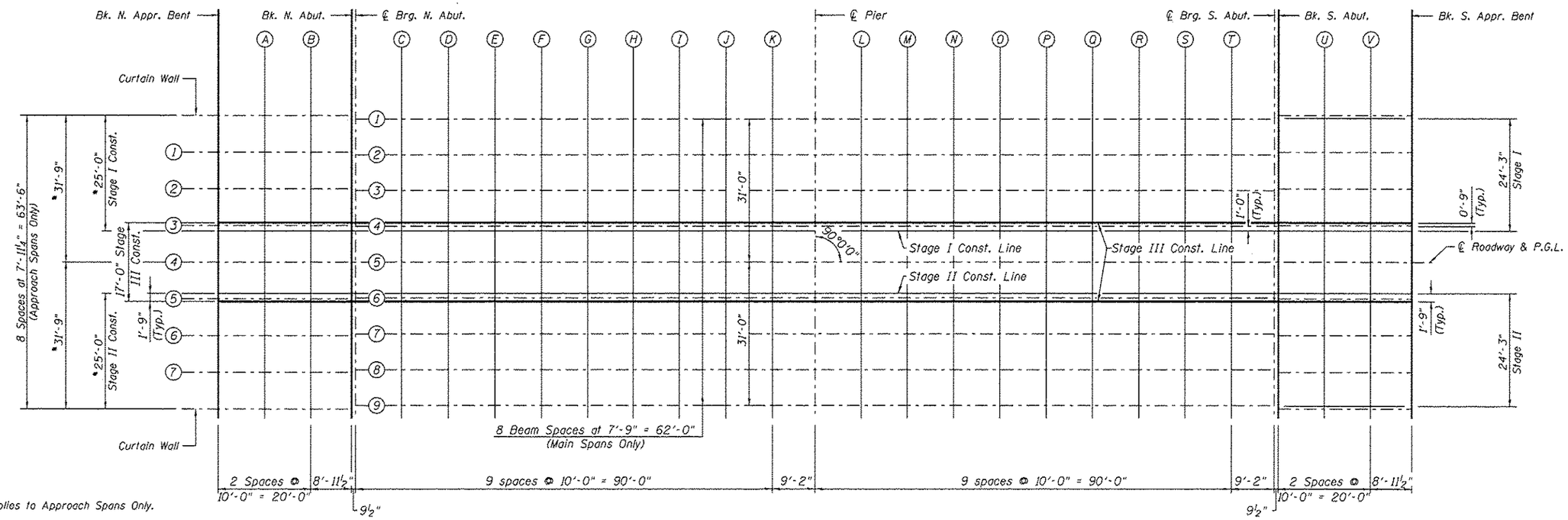
FILLET HEIGHTS



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown below and on sheet 5 & 6 of 25, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

N



PLAN

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS (1 OF 3) OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	(84-10-1,2) RS-3	SANGAMON	194	151
	PLOT SCALE =	DRAWN - TJW	REVISED -						CONTRACT NO. 72C90	
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 4 OF 25 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

BEAM 1 (E. CURTAIN WALL*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	-31.75	604.19	604.19
A	298+61.38	-31.75	604.28	604.28
B	298+71.38	-31.75	604.38	604.38
Bk. N. Abut.	298+80.34	-31.75	604.46	604.46
℄ Brg N. Abut.	298+81.13	-31.00	604.48	604.48
C	298+91.13	-31.00	604.55	604.57
D	299+01.13	-31.00	604.63	604.68
E	299+11.13	-31.00	604.68	604.75
F	299+21.13	-31.00	604.74	604.82
G	299+31.13	-31.00	604.78	604.85
H	299+41.13	-31.00	604.82	604.88
I	299+51.13	-31.00	604.85	604.89
J	299+61.13	-31.00	604.87	604.89
K	299+71.13	-31.00	604.88	604.89
℄ Exist. Pier	299+80.30	-31.00	604.88	604.88
L	299+90.30	-31.00	604.88	604.89
M	300+00.30	-31.00	604.87	604.89
N	300+10.30	-31.00	604.85	604.89
O	300+20.30	-31.00	604.82	604.88
P	300+30.30	-31.00	604.79	604.86
Q	300+40.30	-31.00	604.74	604.82
R	300+50.30	-31.00	604.69	604.76
S	300+60.30	-31.00	604.62	604.67
T	300+70.30	-31.00	604.56	604.58
℄ Brg S. Abut.	300+79.47	-31.00	604.48	604.48
Bk. S. Abut.	300+80.26	-31.75	604.46	604.46
U	300+90.26	-31.75	604.37	604.37
V	301+00.26	-31.75	604.28	604.28
Bk. S. Appr. Bent	301+09.22	-31.75	604.19	604.19

BEAM 2 (BEAM 1*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	-23.81	604.35	604.35
A	298+61.38	-23.81	604.45	604.45
B	298+71.38	-23.81	604.55	604.55
Bk. N. Abut.	298+80.34	-23.81	604.62	604.62
℄ Brg N. Abut.	298+81.13	-23.25	604.64	604.64
C	298+91.13	-23.25	604.72	604.74
D	299+01.13	-23.25	604.79	604.84
E	299+11.13	-23.25	604.85	604.92
F	299+21.13	-23.25	604.90	604.98
G	299+31.13	-23.25	604.94	605.01
H	299+41.13	-23.25	604.98	605.04
I	299+51.13	-23.25	605.01	605.05
J	299+61.13	-23.25	605.03	605.05
K	299+71.13	-23.25	605.04	605.05
℄ Exist. Pier	299+80.30	-23.25	605.05	605.05
L	299+90.30	-23.25	605.05	605.05
M	300+00.30	-23.25	605.03	605.05
N	300+10.30	-23.25	605.01	605.05
O	300+20.30	-23.25	604.98	605.04
P	300+30.30	-23.25	604.95	605.02
Q	300+40.30	-23.25	604.90	604.98
R	300+50.30	-23.25	604.85	604.92
S	300+60.30	-23.25	604.78	604.83
T	300+70.30	-23.25	604.72	604.74
℄ Brg S. Abut.	300+79.47	-23.25	604.64	604.64
Bk. S. Abut.	300+80.26	-23.81	604.62	604.62
U	300+90.26	-23.81	604.54	604.54
V	301+00.26	-23.81	604.44	604.44
Bk. S. Appr. Bent	301+09.22	-23.81	604.35	604.35

BEAM 3 (BEAM 2*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	-15.88	604.48	604.48
A	298+61.38	-15.88	604.58	604.58
B	298+71.38	-15.88	604.68	604.68
Bk. N. Abut.	298+80.34	-15.88	604.75	604.75
℄ Brg N. Abut.	298+81.13	-15.50	604.77	604.77
C	298+91.13	-15.50	604.84	604.86
D	299+01.13	-15.50	604.91	604.96
E	299+11.13	-15.50	604.97	605.04
F	299+21.13	-15.50	605.03	605.11
G	299+31.13	-15.50	605.07	605.14
H	299+41.13	-15.50	605.11	605.17
I	299+51.13	-15.50	605.13	605.17
J	299+61.13	-15.50	605.16	605.17
K	299+71.13	-15.50	605.16	605.17
℄ Exist. Pier	299+80.30	-15.50	605.17	605.17
L	299+90.30	-15.50	605.17	605.17
M	300+00.30	-15.50	605.15	605.17
N	300+10.30	-15.50	605.14	605.17
O	300+20.30	-15.50	605.10	605.16
P	300+30.30	-15.50	605.07	605.14
Q	300+40.30	-15.50	605.02	605.10
R	300+50.30	-15.50	604.97	605.04
S	300+60.30	-15.50	604.90	604.95
T	300+70.30	-15.50	604.84	604.86
℄ Brg S. Abut.	300+79.47	-15.50	604.77	604.77
Bk. S. Abut.	300+80.26	-15.88	604.75	604.75
U	300+90.26	-15.88	604.67	604.67
V	301+00.26	-15.88	604.57	604.57
Bk. S. Appr. Bent	301+09.22	-15.88	604.48	604.48

BEAM 4 (BEAM 3*)

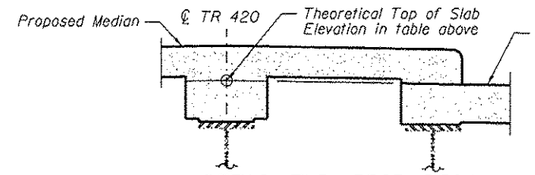
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	-7.94	604.61	604.61
A	298+61.38	-7.94	604.70	604.70
B	298+71.38	-7.94	604.80	604.80
Bk. N. Abut.	298+80.34	-7.94	604.87	604.87
℄ Brg N. Abut.	298+81.13	-7.75	604.89	604.89
C	298+91.13	-7.75	604.96	604.98
D	299+01.13	-7.75	605.03	605.08
E	299+11.13	-7.75	605.09	605.16
F	299+21.13	-7.75	605.15	605.23
G	299+31.13	-7.75	605.19	605.26
H	299+41.13	-7.75	605.23	605.29
I	299+51.13	-7.75	605.25	605.29
J	299+61.13	-7.75	605.28	605.29
K	299+71.13	-7.75	605.28	605.29
℄ Exist. Pier	299+80.30	-7.75	605.29	605.29
L	299+90.30	-7.75	605.29	605.29
M	300+00.30	-7.75	605.27	605.29
N	300+10.30	-7.75	605.26	605.29
O	300+20.30	-7.75	605.22	605.28
P	300+30.30	-7.75	605.19	605.26
Q	300+40.30	-7.75	605.14	605.22
R	300+50.30	-7.75	605.09	605.16
S	300+60.30	-7.75	605.03	605.08
T	300+70.30	-7.75	604.96	604.98
℄ Brg S. Abut.	300+79.47	-7.75	604.89	604.89
Bk. S. Abut.	300+80.26	-7.94	604.87	604.87
U	300+90.26	-7.94	604.79	604.79
V	301+00.26	-7.94	604.69	604.69
Bk. S. Appr. Bent	301+09.22	-7.94	604.61	604.61

STAGE I CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	-6.75	604.62	604.62
A	298+61.38	-6.75	604.72	604.72
B	298+71.38	-6.75	604.82	604.82
Bk. N. Abut.	298+80.34	-6.75	604.89	604.89
℄ Brg N. Abut.	298+81.13	-6.75	604.90	604.90
C	298+91.13	-6.75	604.98	605.00
D	299+01.13	-6.75	605.05	605.10
E	299+11.13	-6.75	605.11	605.18
F	299+21.13	-6.75	605.16	605.24
G	299+31.13	-6.75	605.20	605.27
H	299+41.13	-6.75	605.24	605.30
I	299+51.13	-6.75	605.27	605.31
J	299+61.13	-6.75	605.29	605.31
K	299+71.13	-6.75	605.30	605.31
℄ Exist. Pier	299+80.30	-6.75	605.31	605.31
L	299+90.30	-6.75	605.31	605.32
M	300+00.30	-6.75	605.29	605.31
N	300+10.30	-6.75	605.27	605.31
O	300+20.30	-6.75	605.24	605.30
P	300+30.30	-6.75	605.21	605.28
Q	300+40.30	-6.75	605.16	605.24
R	300+50.30	-6.75	605.11	605.18
S	300+60.30	-6.75	605.04	605.09
T	300+70.30	-6.75	604.98	605.00
℄ Brg S. Abut.	300+79.47	-6.75	604.90	604.90
Bk. S. Abut.	300+80.26	-6.75	604.89	604.89
U	300+90.26	-6.75	604.81	604.81
V	301+00.26	-6.75	604.71	604.71
Bk. S. Appr. Bent	301+09.22	-6.75	604.62	604.62

℄ ROADWAY, CROWN, PGL & BEAM 5 (BEAM 4*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	0.00	604.73	604.73
A	298+61.38	0.00	604.83	604.83
B	298+71.38	0.00	604.92	604.92
Bk. N. Abut.	298+80.34	0.00	605.00	605.00
℄ Brg N. Abut.	298+81.13	0.00	605.01	605.01
C	298+91.13	0.00	605.08	605.10
D	299+01.13	0.00	605.15	605.20
E	299+11.13	0.00	605.21	605.28
F	299+21.13	0.00	605.27	605.35
G	299+31.13	0.00	605.31	605.38
H	299+41.13	0.00	605.35	605.41
I	299+51.13	0.00	605.37	605.41
J	299+61.13	0.00	605.40	605.41
K	299+71.13	0.00	605.40	605.41
℄ Exist. Pier	299+80.30	0.00	605.41	605.41
L	299+90.30	0.00	605.41	605.41
M	300+00.30	0.00	605.39	605.41
N	300+10.30	0.00	605.38	605.41
O	300+20.30	0.00	605.34	605.40
P	300+30.30	0.00	605.31	605.38
Q	300+40.30	0.00	605.26	605.34
R	300+50.30	0.00	605.21	605.28
S	300+60.30	0.00	605.15	605.20
T	300+70.30	0.00	605.08	605.10
℄ Brg S. Abut.	300+79.47	0.00	605.01	605.01
Bk. S. Abut.	300+80.26	0.00	605.00	605.00
U	300+90.26	0.00	604.92	604.92
V	301+00.26	0.00	604.82	604.82
Bk. S. Appr. Bent	301+09.22	0.00	604.73	604.73



DETAIL THRU PROP. DECK

* Denotes description variations for Approach Spans associated with Main Span callouts.

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (2 OF 3)
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 5 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	152
	* (84-10-1RS-3, 84-10-2RS-R)BR.I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

STAGE II CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	6.75	604.62	604.62
A	298+61.38	6.75	604.72	604.72
B	298+71.38	6.75	604.82	604.82
Bk. N. Abut.	298+80.34	6.75	604.89	604.89
℄ Brg N. Abut.	298+81.13	6.75	604.90	604.90
C	298+91.13	6.75	604.98	605.00
D	299+01.13	6.75	605.05	605.10
E	299+11.13	6.75	605.11	605.18
F	299+21.13	6.75	605.16	605.24
G	299+31.13	6.75	605.20	605.27
H	299+41.13	6.75	605.24	605.30
I	299+51.13	6.75	605.27	605.31
J	299+61.13	6.75	605.29	605.31
K	299+71.13	6.75	605.30	605.31
℄ Exist. Pier	299+80.30	6.75	605.31	605.31
L	299+90.30	6.75	605.31	605.32
M	300+00.30	6.75	605.29	605.31
N	300+10.30	6.75	605.27	605.31
O	300+20.30	6.75	605.24	605.30
P	300+30.30	6.75	605.21	605.28
Q	300+40.30	6.75	605.16	605.24
R	300+50.30	6.75	605.11	605.18
S	300+60.30	6.75	605.04	605.09
T	300+70.30	6.75	604.98	605.00
℄ Brg S. Abut.	300+79.47	6.75	604.90	604.90
Bk. S. Abut.	300+80.26	6.75	604.89	604.89
U	300+90.26	6.75	604.81	604.81
V	301+00.26	6.75	604.71	604.71
Bk. S. Appr. Bent	301+09.22	6.75	604.62	604.62

BEAM 6 (BEAM 5*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	7.94	604.61	604.61
A	298+61.38	7.94	604.70	604.70
B	298+71.38	7.94	604.80	604.80
Bk. N. Abut.	298+80.34	7.94	604.87	604.87
℄ Brg N. Abut.	298+81.13	7.75	604.89	604.89
C	298+91.13	7.75	604.96	604.98
D	299+01.13	7.75	605.03	605.08
E	299+11.13	7.75	605.09	605.16
F	299+21.13	7.75	605.15	605.23
G	299+31.13	7.75	605.19	605.26
H	299+41.13	7.75	605.23	605.29
I	299+51.13	7.75	605.25	605.29
J	299+61.13	7.75	605.28	605.29
K	299+71.13	7.75	605.28	605.29
℄ Exist. Pier	299+80.30	7.75	605.29	605.29
L	299+90.30	7.75	605.29	605.29
M	300+00.30	7.75	605.27	605.29
N	300+10.30	7.75	605.26	605.29
O	300+20.30	7.75	605.22	605.28
P	300+30.30	7.75	605.19	605.26
Q	300+40.30	7.75	605.14	605.22
R	300+50.30	7.75	605.09	605.16
S	300+60.30	7.75	605.03	605.08
T	300+70.30	7.75	604.96	604.98
℄ Brg S. Abut.	300+79.47	7.75	604.89	604.89
Bk. S. Abut.	300+80.26	7.94	604.87	604.87
U	300+90.26	7.94	604.79	604.79
V	301+00.26	7.94	604.69	604.69
Bk. S. Appr. Bent	301+09.22	7.94	604.61	604.61

BEAM 7 (BEAM 6*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	15.88	604.48	604.48
A	298+61.38	15.88	604.58	604.58
B	298+71.38	15.88	604.68	604.68
Bk. N. Abut.	298+80.34	15.88	604.75	604.75
℄ Brg N. Abut.	298+81.13	15.50	604.77	604.77
C	298+91.13	15.50	604.84	604.86
D	299+01.13	15.50	604.91	604.96
E	299+11.13	15.50	604.97	605.04
F	299+21.13	15.50	605.03	605.11
G	299+31.13	15.50	605.07	605.14
H	299+41.13	15.50	605.11	605.17
I	299+51.13	15.50	605.13	605.17
J	299+61.13	15.50	605.16	605.17
K	299+71.13	15.50	605.16	605.17
℄ Exist. Pier	299+80.30	15.50	605.17	605.17
L	299+90.30	15.50	605.17	605.17
M	300+00.30	15.50	605.15	605.17
N	300+10.30	15.50	605.14	605.17
O	300+20.30	15.50	605.10	605.16
P	300+30.30	15.50	605.07	605.14
Q	300+40.30	15.50	605.02	605.10
R	300+50.30	15.50	604.97	605.04
S	300+60.30	15.50	604.90	604.95
T	300+70.30	15.50	604.84	604.86
℄ Brg S. Abut.	300+79.47	15.50	604.77	604.77
Bk. S. Abut.	300+80.26	15.88	604.75	604.75
U	300+90.26	15.88	604.67	604.67
V	301+00.26	15.88	604.57	604.57
Bk. S. Appr. Bent	301+09.22	15.88	604.48	604.48

BEAM 8 (BEAM 7*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	23.81	604.35	604.35
A	298+61.38	23.81	604.45	604.45
B	298+71.38	23.81	604.55	604.55
Bk. N. Abut.	298+80.34	23.81	604.62	604.62
℄ Brg N. Abut.	298+81.13	23.25	604.64	604.64
C	298+91.13	23.25	604.72	604.74
D	299+01.13	23.25	604.79	604.84
E	299+11.13	23.25	604.85	604.92
F	299+21.13	23.25	604.90	604.98
G	299+31.13	23.25	604.94	605.01
H	299+41.13	23.25	604.98	605.04
I	299+51.13	23.25	605.01	605.05
J	299+61.13	23.25	605.03	605.05
K	299+71.13	23.25	605.04	605.05
℄ Exist. Pier	299+80.30	23.25	605.05	605.05
L	299+90.30	23.25	605.05	605.05
M	300+00.30	23.25	605.03	605.05
N	300+10.30	23.25	605.01	605.05
O	300+20.30	23.25	604.98	605.04
P	300+30.30	23.25	604.95	605.02
Q	300+40.30	23.25	604.90	604.98
R	300+50.30	23.25	604.85	604.92
S	300+60.30	23.25	604.78	604.83
T	300+70.30	23.25	604.72	604.74
℄ Brg S. Abut.	300+79.47	23.25	604.64	604.64
Bk. S. Abut.	300+80.26	23.81	604.62	604.62
U	300+90.26	23.81	604.54	604.54
V	301+00.26	23.81	604.44	604.44
Bk. S. Appr. Bent	301+09.22	23.81	604.35	604.35

BEAM 9 (W. CURTAIN WALL*)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Appr. Bent	298+51.38	31.75	604.19	604.19
A	298+61.38	31.75	604.28	604.28
B	298+71.38	31.75	604.38	604.38
Bk. N. Abut.	298+80.34	31.75	604.46	604.46
℄ Brg N. Abut.	298+81.13	31.00	604.48	604.48
C	298+91.13	31.00	604.55	604.57
D	299+01.13	31.00	604.63	604.68
E	299+11.13	31.00	604.68	604.75
F	299+21.13	31.00	604.74	604.82
G	299+31.13	31.00	604.78	604.85
H	299+41.13	31.00	604.82	604.88
I	299+51.13	31.00	604.85	604.89
J	299+61.13	31.00	604.87	604.89
K	299+71.13	31.00	604.88	604.89
℄ Exist. Pier	299+80.30	31.00	604.88	604.88
L	299+90.30	31.00	604.88	604.89
M	300+00.30	31.00	604.87	604.89
N	300+10.30	31.00	604.85	604.89
O	300+20.30	31.00	604.82	604.88
P	300+30.30	31.00	604.79	604.86
Q	300+40.30	31.00	604.74	604.82
R	300+50.30	31.00	604.69	604.76
S	300+60.30	31.00	604.62	604.67
T	300+70.30	31.00	604.56	604.58
℄ Brg S. Abut.	300+79.47	31.00	604.48	604.48
Bk. S. Abut.	300+80.26	31.75	604.46	604.46
U	300+90.26	31.75	604.37	604.37
V	301+00.26	31.75	604.28	604.28
Bk. S. Appr. Bent	301+09.22	31.75	604.19	604.19

* *Denotes description variations for Approach Spans associated with Main Span callouts.*

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	-32.417	603.83
A	298+31.88	-32.417	603.95
B	298+41.88	-32.417	604.07
S. End N. Appr. Slab	298+51.88	-32.417	604.17
N. End S. Appr. Slab	301+08.72	-32.417	604.17
C	301+18.72	-32.417	604.07
D	301+28.72	-32.417	603.95
S. End S. Appr. Slab	301+38.72	-32.417	603.83

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	-23.000	604.03
A	298+31.88	-23.000	604.15
B	298+41.88	-23.000	604.27
S. End N. Appr. Slab	298+51.88	-23.000	604.37
N. End S. Appr. Slab	301+08.72	-23.000	604.37
C	301+18.72	-23.000	604.27
D	301+28.72	-23.000	604.15
S. End S. Appr. Slab	301+38.72	-23.000	604.03

EAST EDGE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	-9.000	604.25
A	298+31.88	-9.000	604.37
B	298+41.88	-9.000	604.49
S. End N. Appr. Slab	298+51.88	-9.000	604.59
N. End S. Appr. Slab	301+08.72	-9.000	604.59
C	301+18.72	-9.000	604.49
D	301+28.72	-9.000	604.37
S. End S. Appr. Slab	301+38.72	-9.000	604.25

STAGE CONSTRUCTION I/II JOINT

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	-6.750	604.28
A	298+31.88	-6.750	604.40
B	298+41.88	-6.750	604.52
S. End N. Appr. Slab	298+51.88	-6.750	604.62
N. End S. Appr. Slab	301+08.72	-6.750	604.62
C	301+18.72	-6.750	604.52
D	301+28.72	-6.750	604.40
S. End S. Appr. Slab	301+38.72	-6.750	604.28

℄ ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	0.000	604.39
A	298+31.88	0.000	604.51
B	298+41.88	0.000	604.63
S. End N. Appr. Slab	298+51.88	0.000	604.73
N. End S. Appr. Slab	301+08.72	0.000	604.73
C	301+18.72	0.000	604.63
D	301+28.72	0.000	604.51
S. End S. Appr. Slab	301+38.72	0.000	604.39

WEST EDGE OF MEDIAN

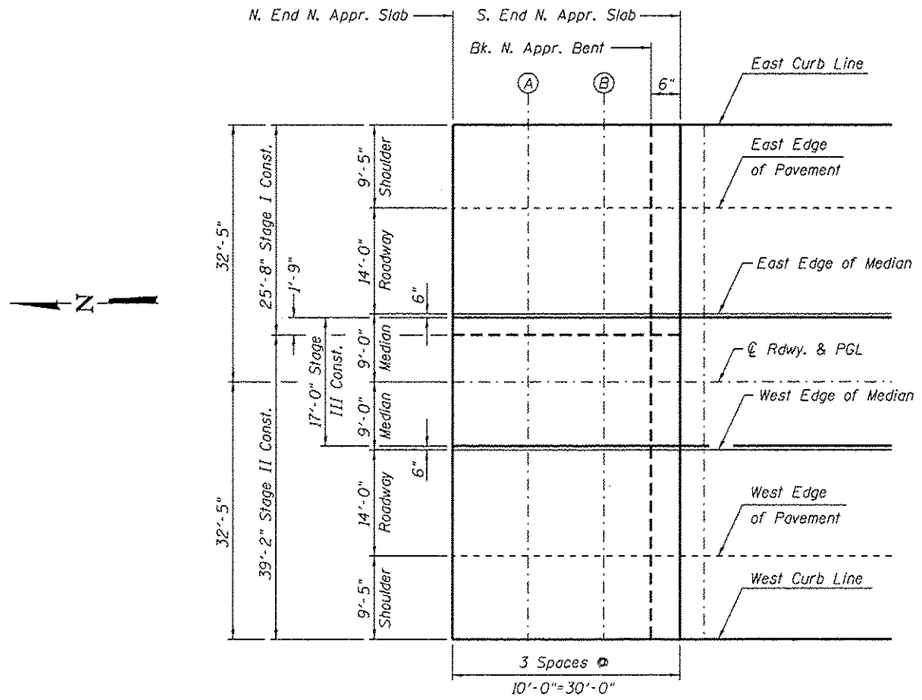
Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	9.000	604.25
A	298+31.88	9.000	604.37
B	298+41.88	9.000	604.49
S. End N. Appr. Slab	298+51.88	9.000	604.59
N. End S. Appr. Slab	301+08.72	9.000	604.59
C	301+18.72	9.000	604.49
D	301+28.72	9.000	604.37
S. End S. Appr. Slab	301+38.72	9.000	604.25

WEST EDGE OF PAVEMENT

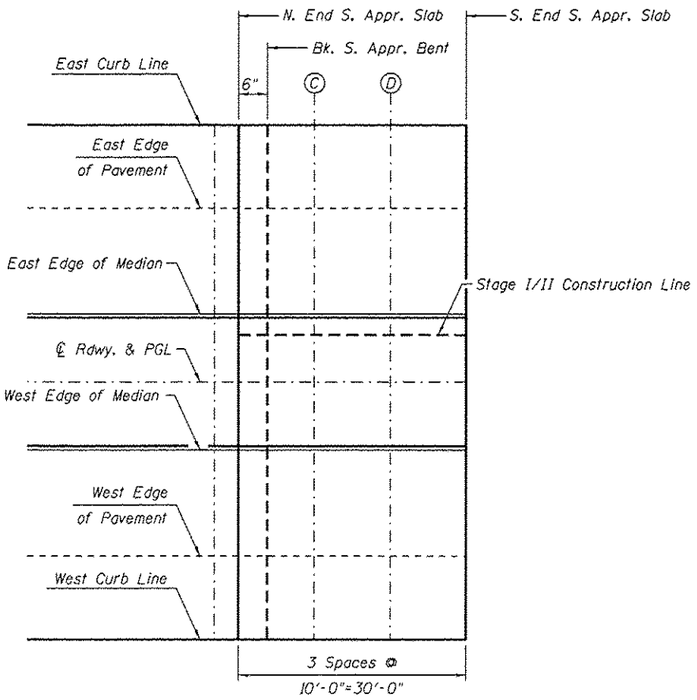
Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	23.000	604.03
A	298+31.88	23.000	604.15
B	298+41.88	23.000	604.27
S. End N. Appr. Slab	298+51.88	23.000	604.37
N. End S. Appr. Slab	301+08.72	23.000	604.37
C	301+18.72	23.000	604.27
D	301+28.72	23.000	604.15
S. End S. Appr. Slab	301+38.72	23.000	604.03

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Slab	298+21.88	32.417	603.83
A	298+31.88	32.417	603.95
B	298+41.88	32.417	604.07
S. End N. Appr. Slab	298+51.88	32.417	604.17
N. End S. Appr. Slab	301+08.72	32.417	604.17
C	301+18.72	32.417	604.07
D	301+28.72	32.417	603.95
S. End S. Appr. Slab	301+38.72	32.417	603.83



PLAN
(North Approach)



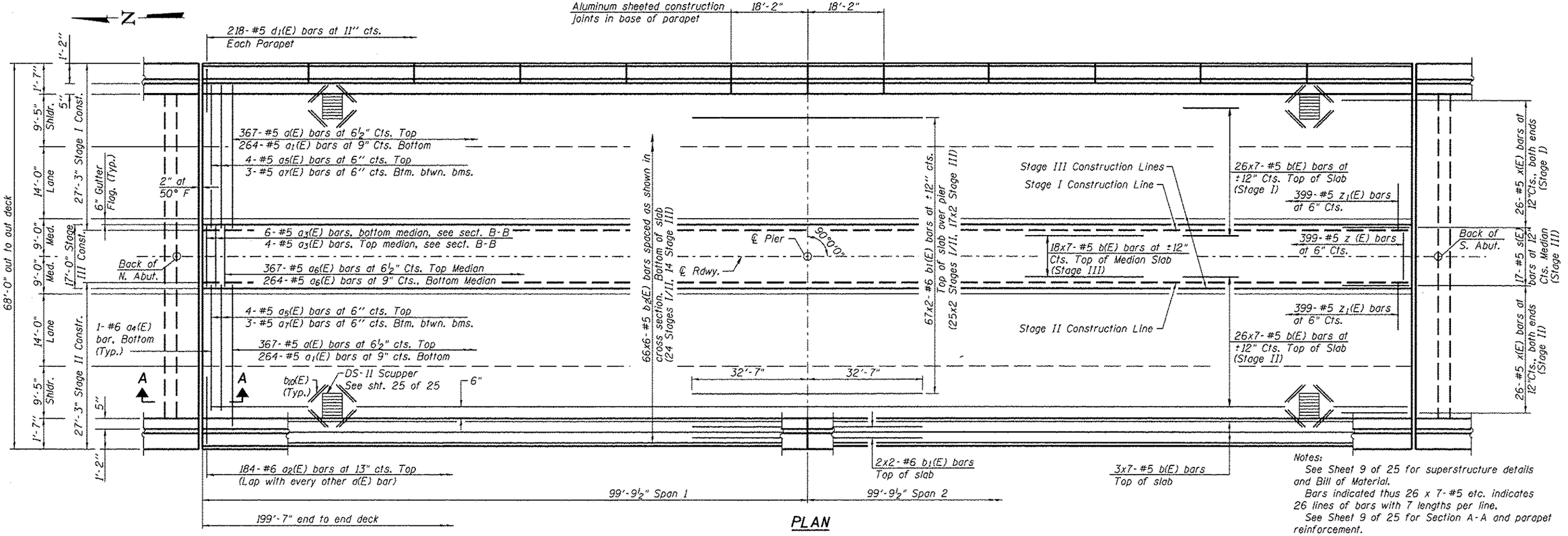
PLAN
(South Approach)

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

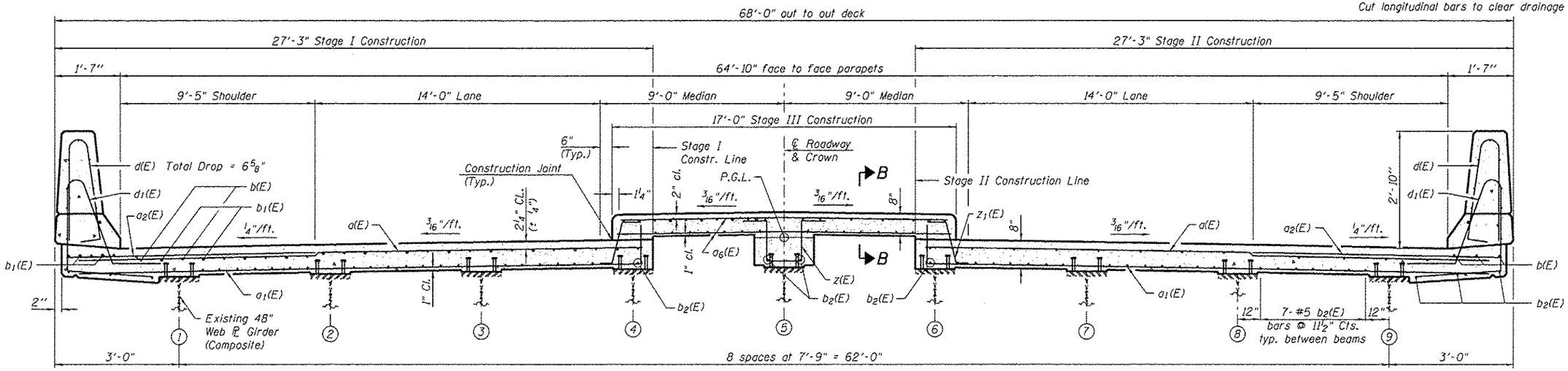
TOP OF APPROACH SLAB ELEVATIONS
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 7 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	154
	* (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS FED. AID PROJECT			



PLAN

Notes:
See Sheet 9 of 25 for superstructure details and Bill of Material.
Bars indicated thus 26 x 7-#5 etc. indicates 26 lines of bars with 7 lengths per line.
See Sheet 9 of 25 for Section A-A and parapet reinforcement.
Cut longitudinal bars to clear drainage scuppers.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking South)

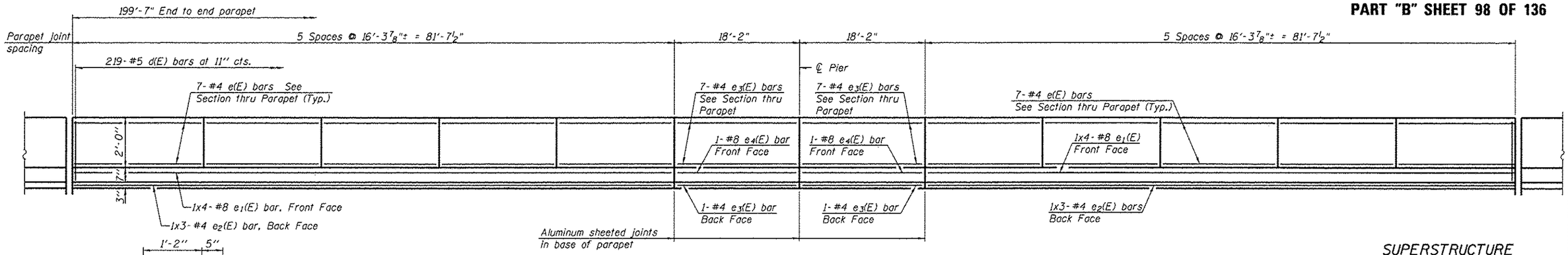
MINIMUM BAR LAP
(DECK)
#5 Bar = 2'-7"
#6 Bar = 3'-1"

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

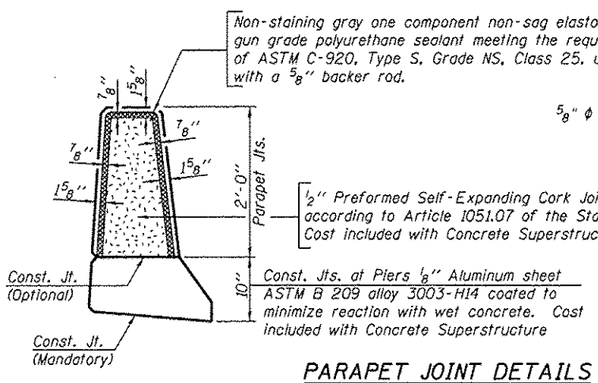
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

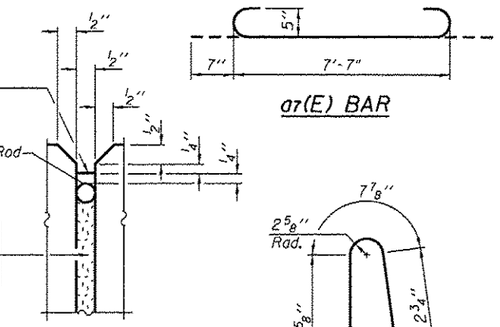
SUPERSTRUCTURE
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 8 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	155
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



INSIDE ELEVATION OF PARAPET

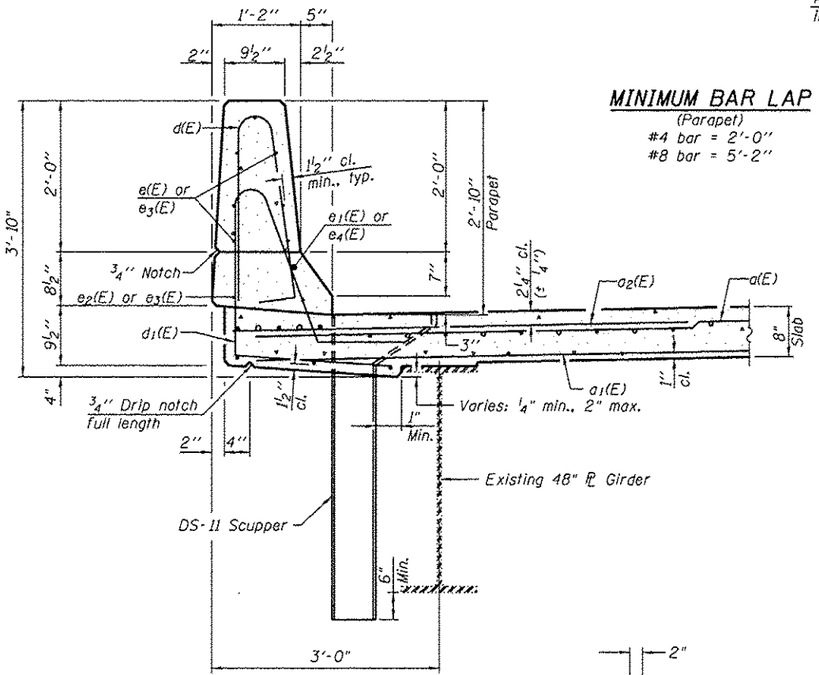




a7(E) BAR

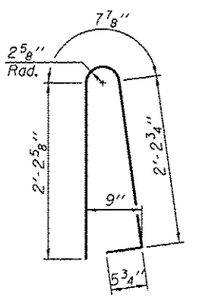
MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



PARAPET JOINT DETAILS

Notes:
Drains shall be located clear of all diaphragms.
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Cost of Drainage Scuppers.

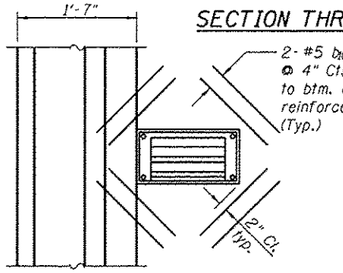


BAR d(E)

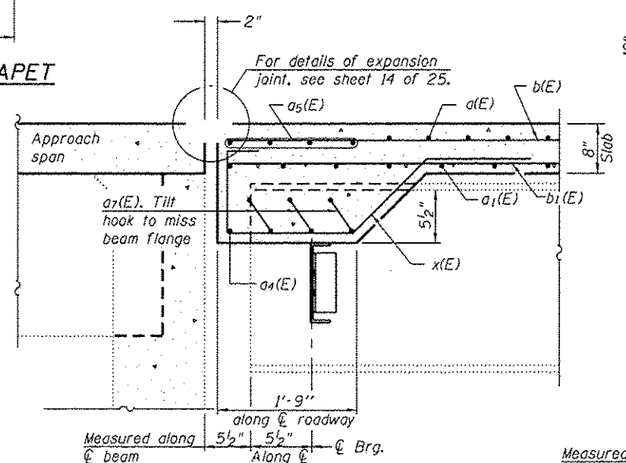
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	734	#5	26'-6"	
a1(E)	528	#5	26'-4"	
a2(E)	368	#6	6'-6"	
a3(E)	20	#6	16'-10"	
a4(E)	4	#6	26'-9"	
a5(E)	16	#5	26'-11"	
a6(E)	631	#5	16'-8"	
a7(E)	36	#5	8'-9"	
b(E)	532	#5	30'-9"	
b1(E)	142	#6	34'-2"	
b2(E)	372	#5	35'-5"	
b10(E)	32	#5	2'-0"	
d(E)	438	#5	5'-7"	
d1(E)	436	#5	7'-7"	
e(E)	140	#4	16'-0"	
e1(E)	16	#8	24'-4"	
e2(E)	12	#4	28'-7"	
e3(E)	32	#4	17'-10"	
e4(E)	4	#8	17'-10"	
s(E)	34	#5	4'-3"	
x(E)	104	#5	6'-5"	
z(E)	399	#5	5'-2"	
z1(E)	798	#5	2'-6"	
Reinforcement Bars, Epoxy Coated			Pound	103,370
Concrete Superstructure			Cu. Yds.	408.8

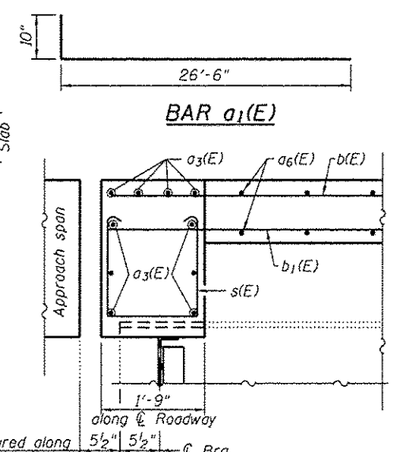
Bars indicated thus 1 x 4 -#8 etc. indicates 1 line of bars with 4 lengths per line.



DRAINAGE SCUPPER DETAIL

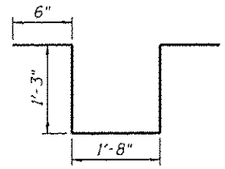


SECTION A-A

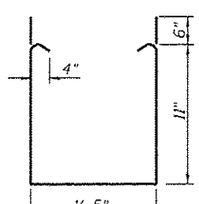


SECTION B-B

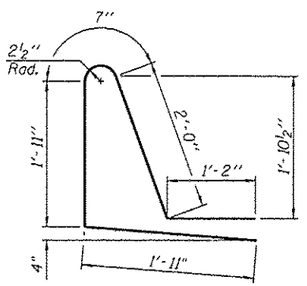
BAR a1(E)



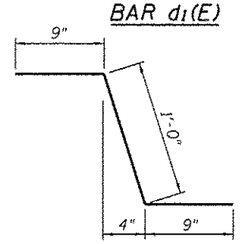
BAR z(E)



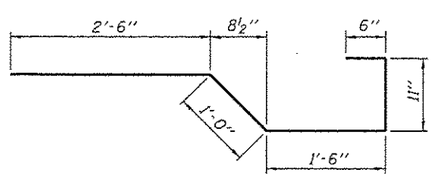
BAR s(E)



BAR d1(E)



BAR z1(E)



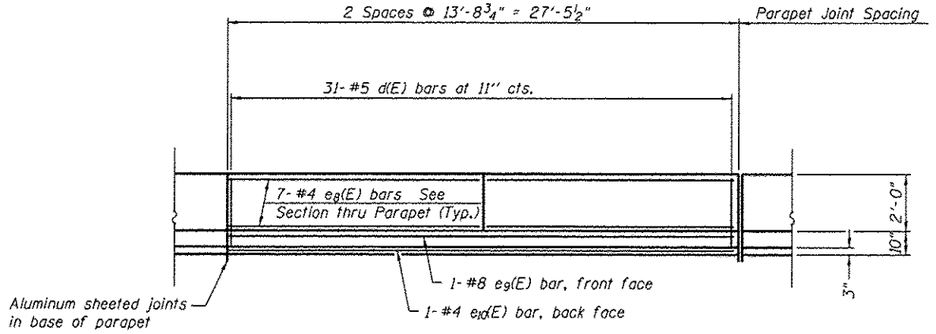
BAR x(E)

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

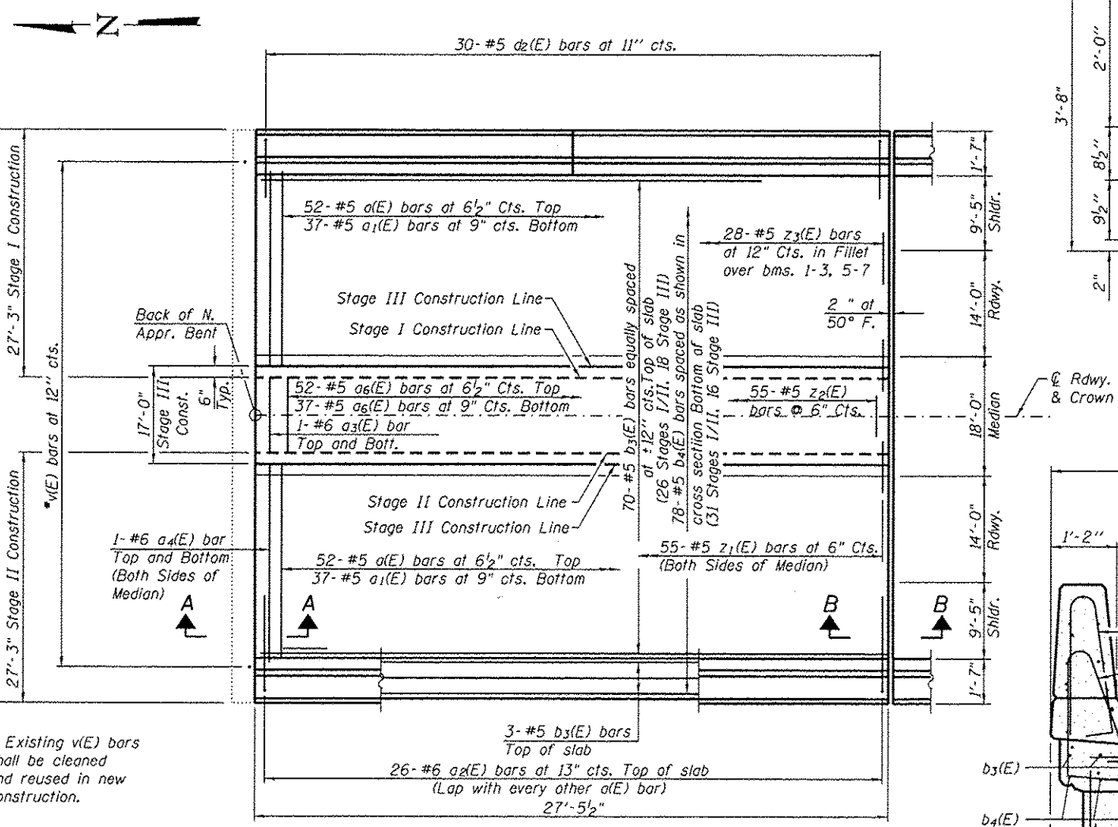
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 9 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	156
	* (84-10-1RS-3, 84-10-2RS-RIBR,1	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



INSIDE ELEVATION OF PARAPET

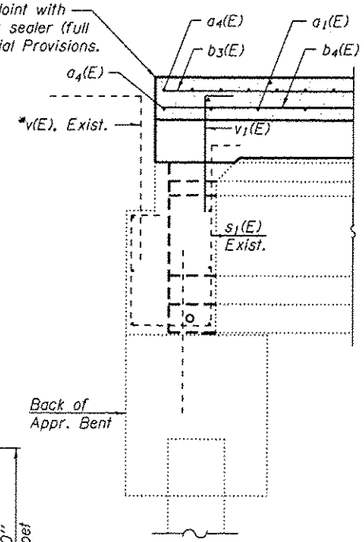


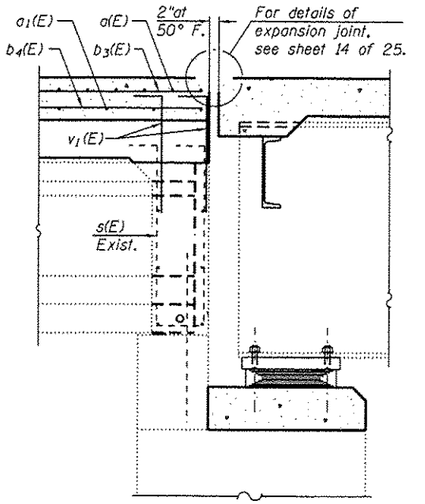
* Existing v(E) bars shall be cleaned and reused in new construction.

PLAN

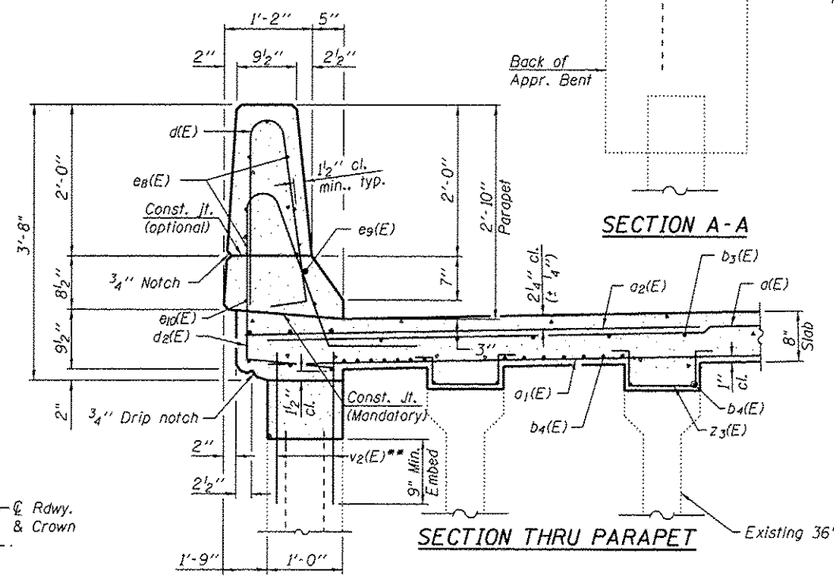
(N. Approach Span Shown, S. Approach Span Similar)

Note: Contractor shall exercise extreme care while removing concrete around PPC I- beams to ensure no damage is done to the beams.





SECTION B-B

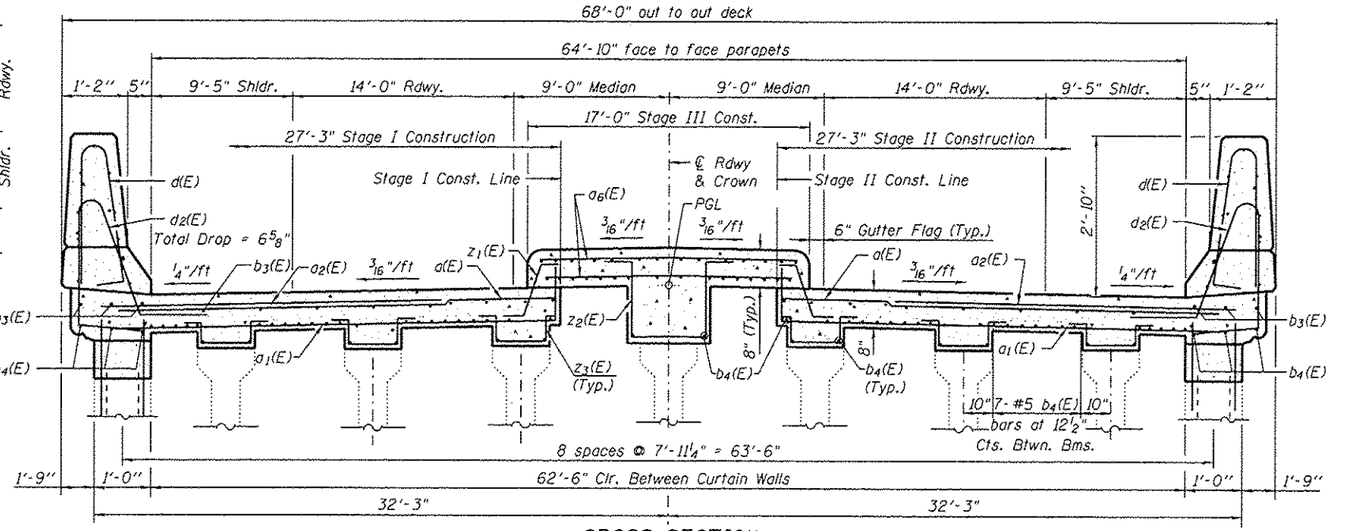


SECTION A-A

**v2(E) bars shall tie existing bars in curtain wall to new construction. (28- #5 bars at 12" Cts., Each Face) Existing vertical bars shall be cleaned, and straightened, and will lap with new v2(E) bars. Drill and grout v2(E) bars a minimum of 9".

SECTION THRU PARAPET

Existing 36" PPC I-Beam

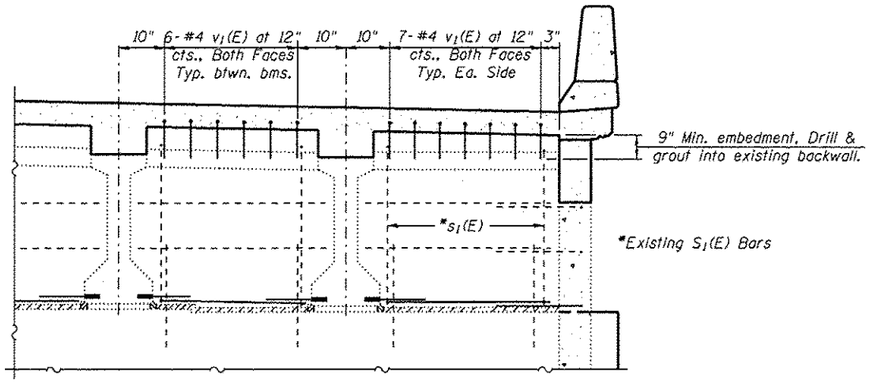


CROSS SECTION

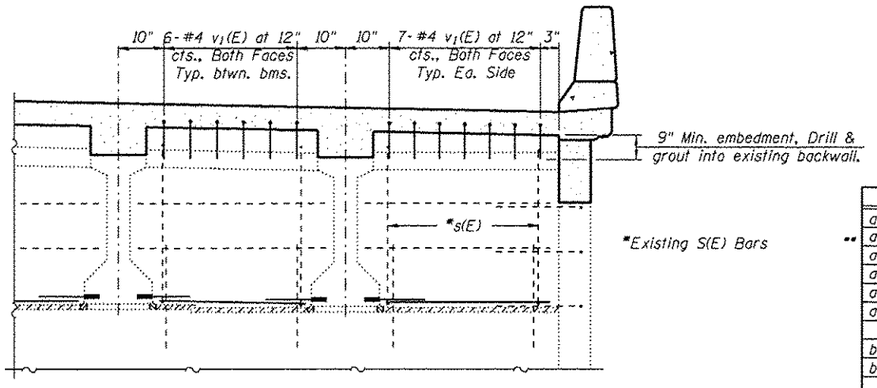
(Looking South)

FILE NAME TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VAULTED ABUTMENT APPROACH SPAN OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
		CHECKED - MTH	REVISED -		
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 10 OF 25 SHEETS
	PLOT DATE =	CHECKED - MTH	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	-	SANGAMON	194	157
	• (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



DIAPHRAGM AT APPROACH BENT



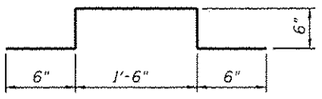
DIAPHRAGM AT ABUTMENT

TWO APPROACH SPANS

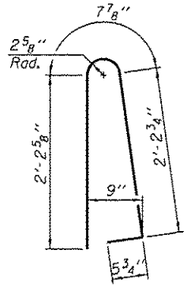
BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	a(E)	208	#5	26'-6"	
**	a1(E)	148	#5	26'-4"	
	a2(E)	104	#6	6'-6"	
	a3(E)	4	#6	16'-10"	
	a4(E)	8	#6	26'-9"	
	a6(E)	178	#5	16'-8"	
	b3(E)	152	#5	27'-1"	
	b4(E)	156	#5	27'-2"	
	d(E)	124	#5	5'-7"	
	d2(E)	120	#5	6'-10"	
	e8(E)	56	#4	13'-6"	
	e9(E)	4	#8	27'-3"	
	e10(E)	4	#4	27'-3"	
	v1(E)	300	#5	2'-4"	
	v2(E)	224	#5	1'-5"	
**	z1(E)	220	#5	2'-6"	
	z2(E)	110	#5	4'-10"	
	z3(E)	336	#5	3'-6"	
	Reinforcement Bars, Epoxy Coated			Pound	28,930
	Concrete Superstructure			Cu. Yd.	124.8

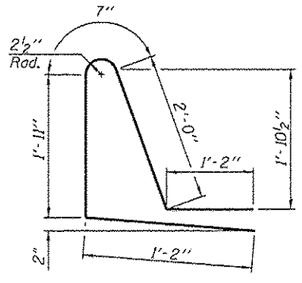
**Diagrams for a1(E) and z1(E) Bars on Sheet 9 of 25.



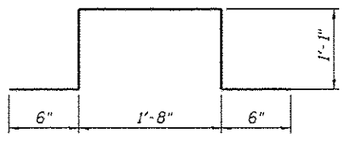
BAR z3(E)



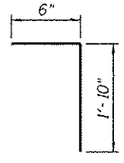
BAR d(E)



BAR d2(E)



BAR z2(E)



BAR v1(E)

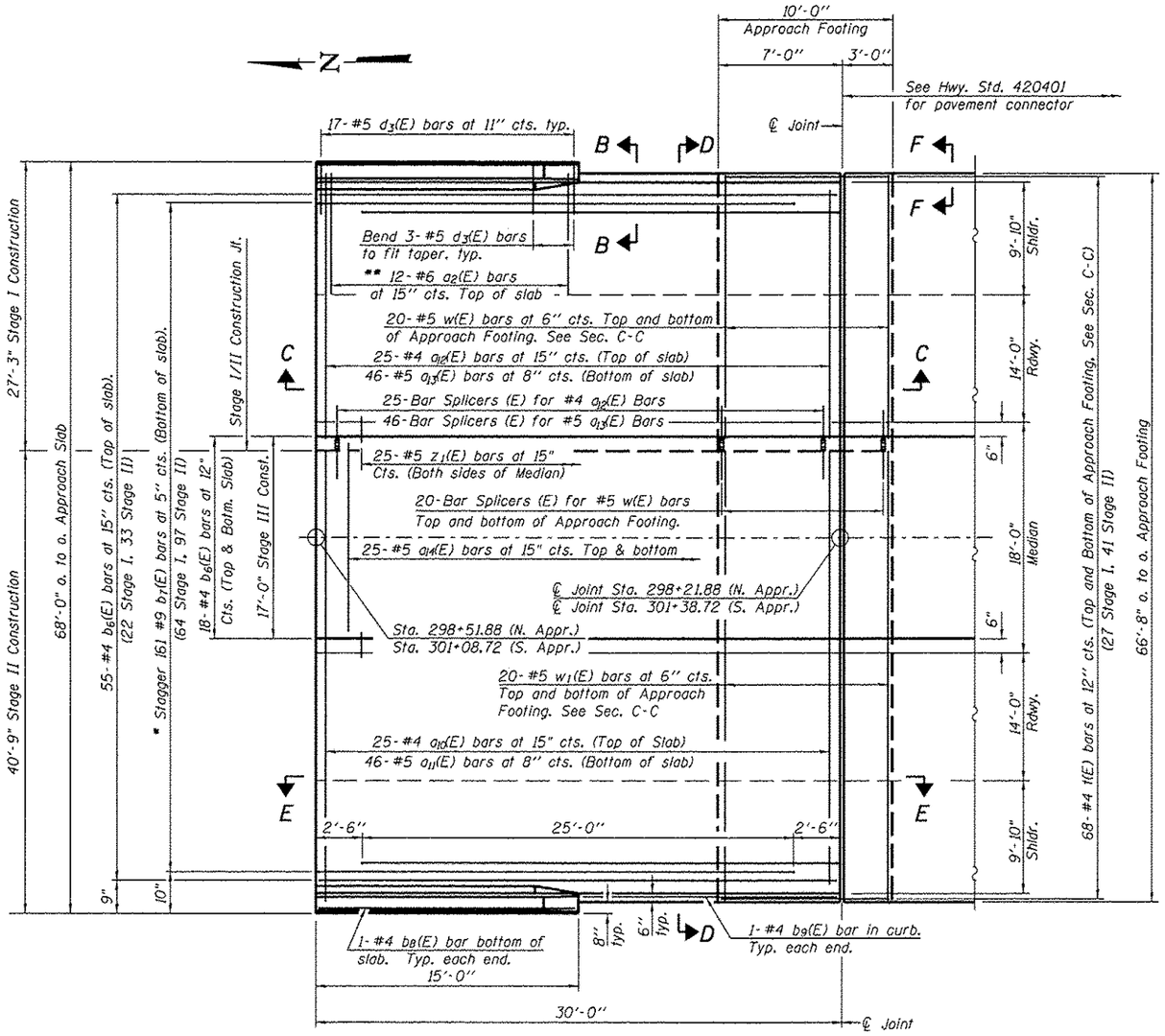
FILE NAME TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VAULTED ABUTMENT APPROACH SPAN DETAILS
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 11 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	158
* (84-10-1RS-3, 84-10-2RS-1)BR.)		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

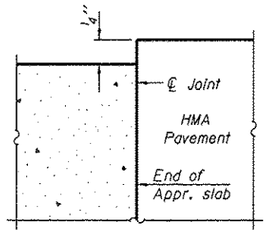
Notes:
See sheet 13 of 25 for Sections C-C & D-D and View E-E. $a_{10}(E)$, $a_{11}(E)$, $a_{12}(E)$, $a_{13}(E)$ and $a_{14}(E)$ bar spacings measured along ℄ Rdwy.



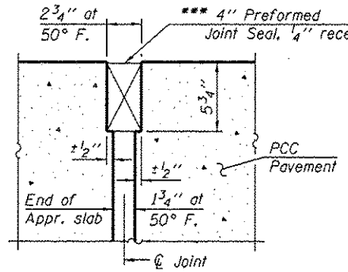
PLAN
(South Approach Shown, North Approach Similar)

* Tilt #9 $b_7(E)$ bars as required to maintain clearance.
** Space between $a_{10}(E)$ or $a_{12}(E)$ bars, typ. ea. parapet.

*** Cost included with Concrete Superstructure.

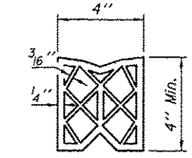


FLEXIBLE PAVEMENT

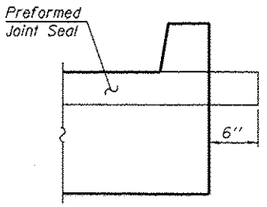


RIGID PAVEMENT

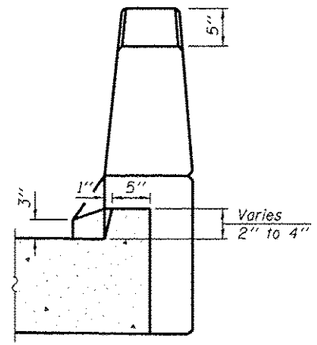
DETAIL A



PREFORMED JOINT SEAL



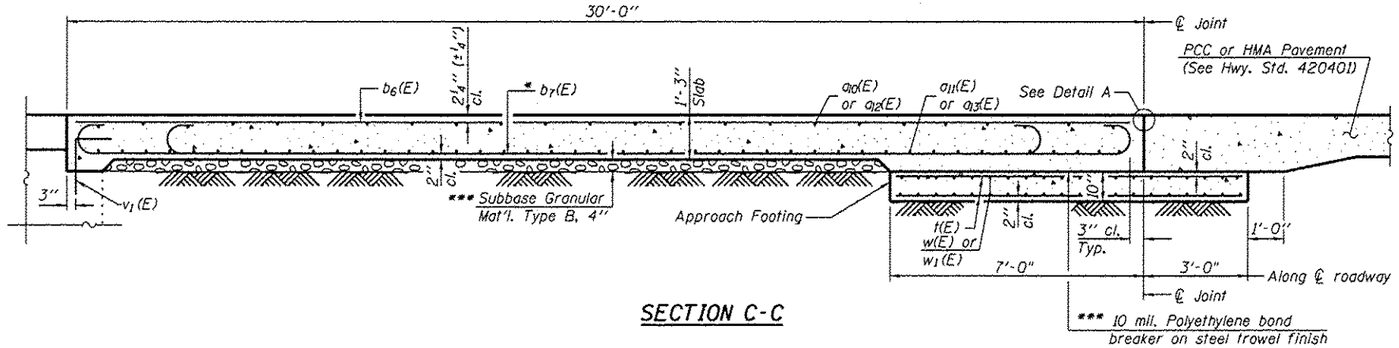
VIEW F-F



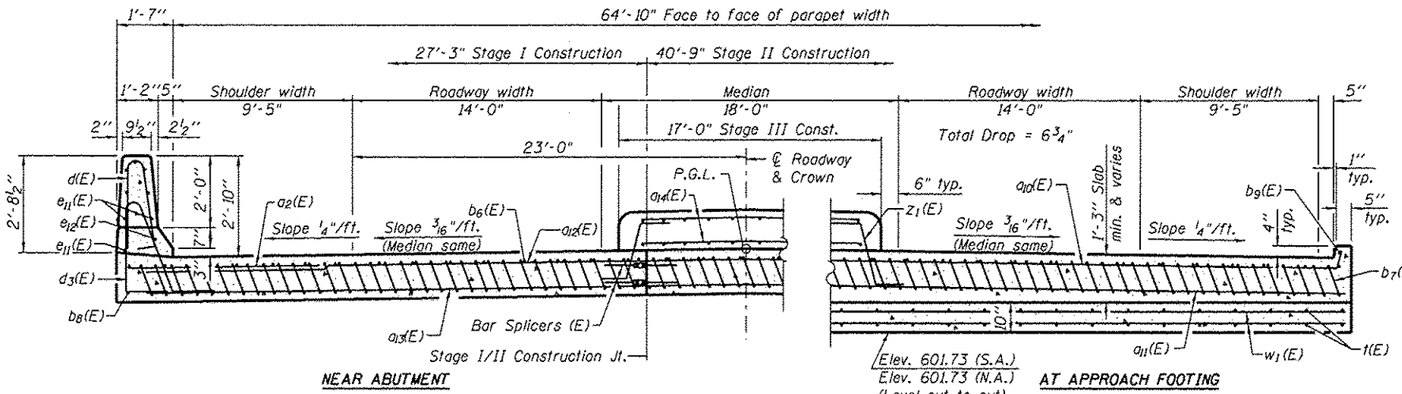
VIEW B-B

(Sheet 1 of 2)

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	(84-10-1.2) RS-3	SANGAMON	194	159
	PLOT SCALE =	DRAWN - TJW	REVISED -					CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 12 OF 25 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



SECTION C-C

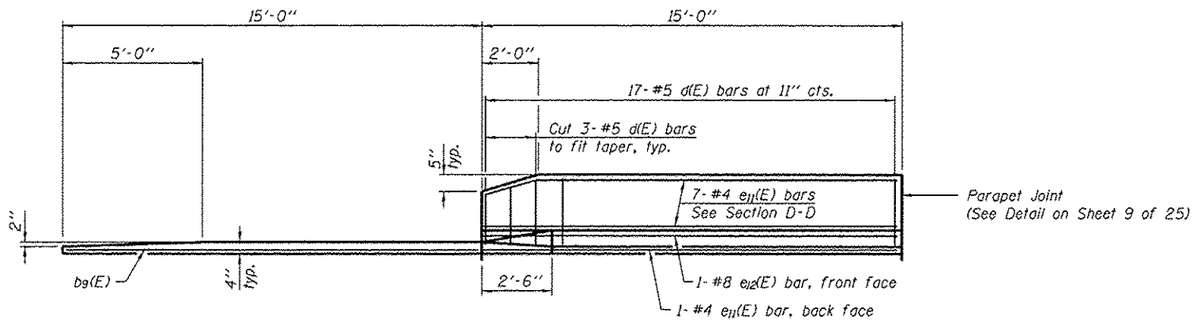


NEAR ABUTMENT

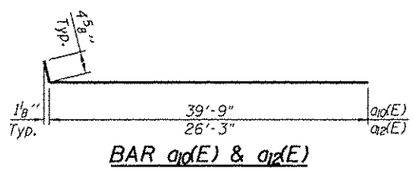
AT APPROACH FOOTING

SECTION D-D

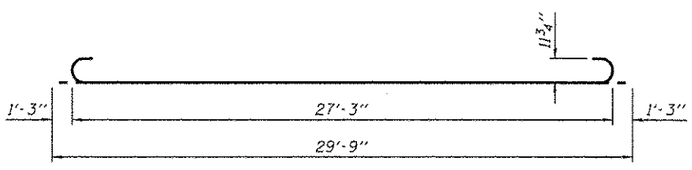
(Looking South ⊙ South Approach, North Approach Similar)
(See Plan for dimensions not shown)



VIEW E-E

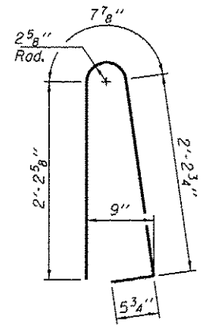


BAR $a_{10}(E)$ & $a_{12}(E)$

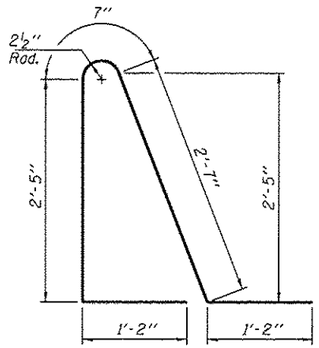


BAR $b_7(E)$

Notes:
See sheet 12 of 25 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 $v_1(E)$ bar details, see sheet 11 of 25.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For additional parapet details, see sheet 12 of 25.



BAR d(E)



BAR $d_3(E)$

* Tilt #9 $b_7(E)$ bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

TWO APPROACHES BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	$a_2(E)$	48	#6	6'-6"	
	$a_{10}(E)$	50	#4	40'-2"	
	$a_{11}(E)$	92	#5	39'-10"	
	$a_{12}(E)$	50	#4	26'-8"	
	$a_{13}(E)$	92	#5	26'-4"	
	$a_{14}(E)$	96	#5	16'-9"	
	$b_6(E)$	182	#4	29'-8"	
	$b_7(E)$	322	#9	29'-9"	
	$b_8(E)$	4	#4	14'-8"	
	$b_9(E)$	4	#4	14'-10"	
	d(E)	68	#5	5'-7"	
	$d_3(E)$	68	#5	7'-11"	
	$e_{11}(E)$	32	#4	14'-8"	
	$e_{12}(E)$	4	#8	14'-8"	
	t(E)	272	#4	9'-8"	
	w(E)	80	#5	26'-3"	
	$w_1(E)$	80	#5	39'-9"	
**	$z_1(E)$	100	#5	2'-6"	
	Concrete Superstructure			Cu. Yd.	222.8
	Concrete Structures			Cu. Yd.	42.0
	Reinforcement Bars, Epoxy Coated			Pound	57,220

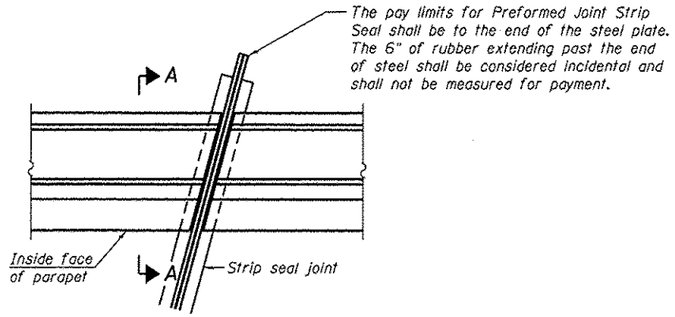
** Diagram for $z_1(E)$ bar on Sheet 9 of 25.

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

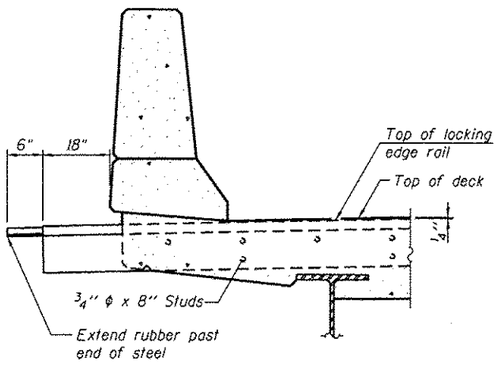
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 13 OF 25 SHEETS

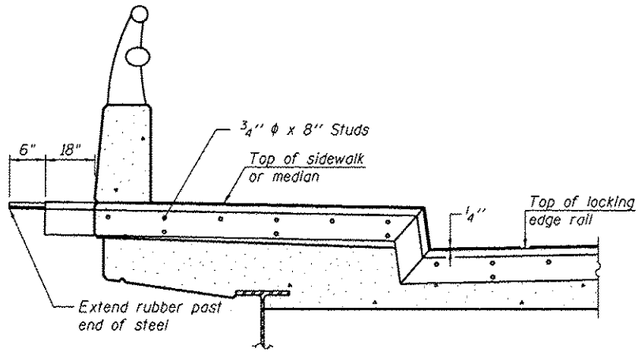
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1.2) RS-3	SANGAMON	194	160
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN



SECTION A-A



TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

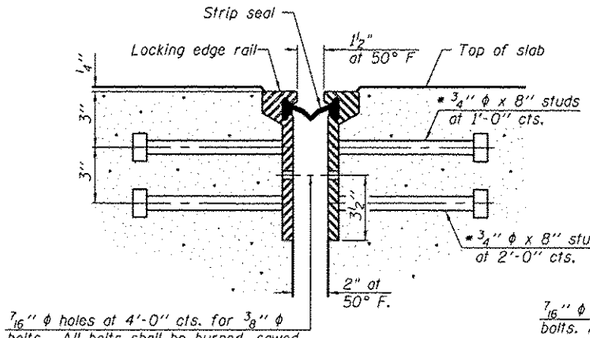
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

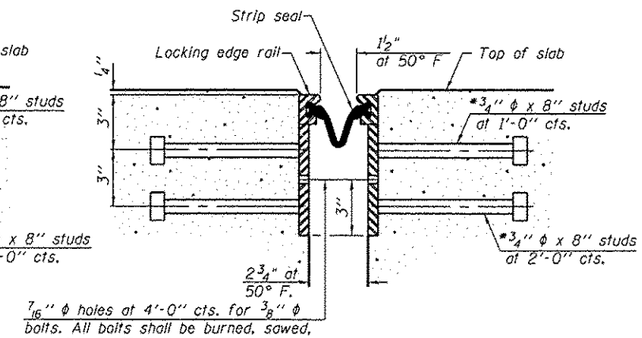
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

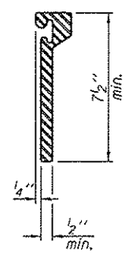


SECTION THRU ROLLED RAIL JOINT

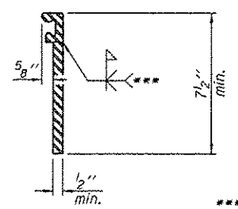


SECTION THRU WELDED RAIL JOINT

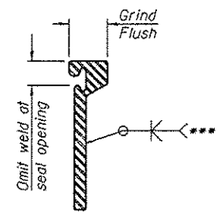
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

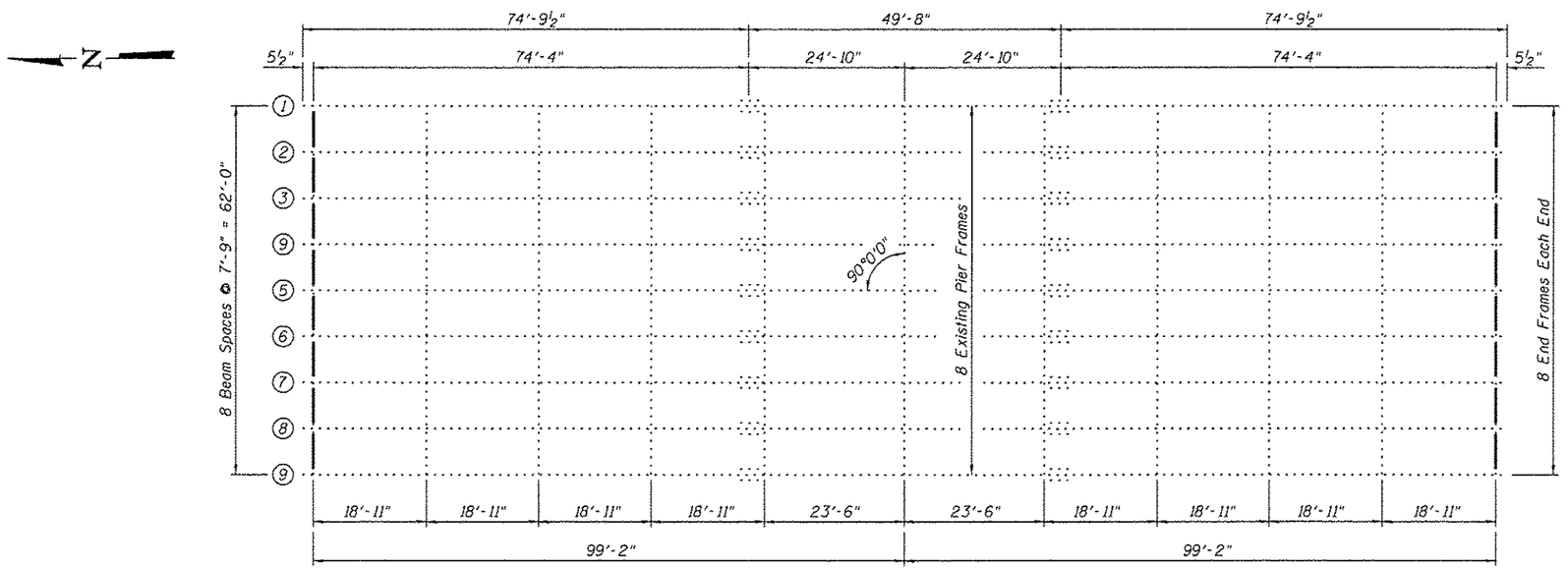
Item	Unit	Total
Preformed Joint Strip Seal	Foot	134

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

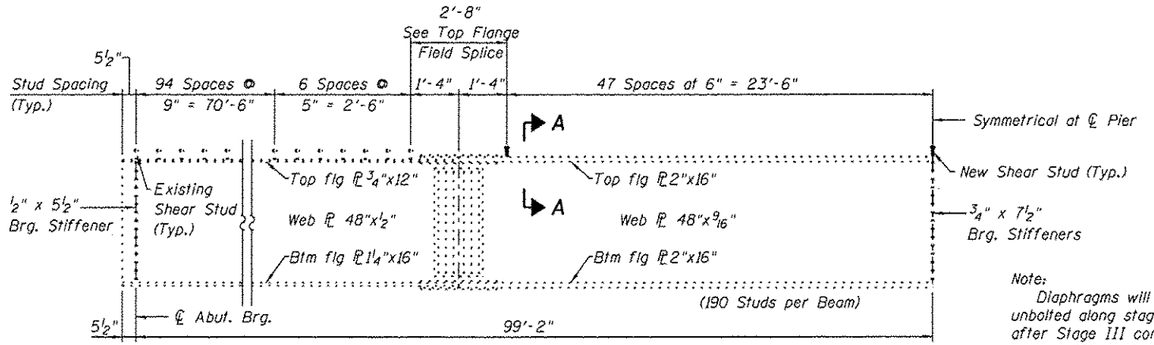
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 14 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	161
	* (84-10-1RS-3, 84-10-2RS-R)BR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN



ELEVATION OF GIRDER

(Typical All Girders)

Note:
Diaphragms will need to be unbolted along staging lines until after Stage III concrete is poured, due to differential deflections of beams.

INTERIOR BEAM MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in^4)	20,679	45,205
$I_c(n)$	(in^4)	60,462	52,030
$I_c(3n)$	(in^4)	42,912	52,030
S_s	(in^3)	1,029	1,739
$S_c(n)$	(in^3)	1,462	1,833
$S_c(3n)$	(in^3)	1,340	1,833
ℓ	(k/')	1.030	1.160
M_ℓ	('k)	601	1,580
$s\ell$	(k/')	0.528	0.528
$M_s\ell$	('k)	330	734
M_L	('k)	866	881
M_I	('k)	193	196
$\frac{5}{3}[M_L + I]$	('k)	1,765	1,795
M_a	('k)	3,505	5,342
* M_u	('k)	5,255	7,386
f_s ℓ non-comp	(ksi)	7.0	10.9
f_s ℓ (comp)	(ksi)	3.0	4.8
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	14.5	11.8
f_s (Overload)	(ksi)	24.5	27.5
** f_s (Total)	(ksi)	-	-
VR	(k)	48.9	58.5

*Compact section
**Braced non-compact and partially braced section

INTERIOR BEAM REACTION TABLE			
		Abuts.	Pier
$R\ell$	(k)	53.2	206.8
R_L	(k)	45.1	74.7
R_I	(k)	10.1	16.7
R_{Total}	(k)	108.4	298.2

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total and Overload) due to short-term composite live loads (in.⁴ and in.³).

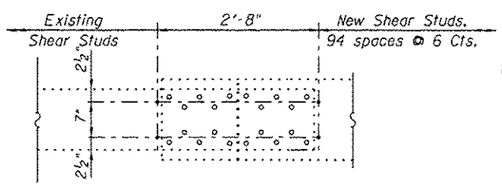
$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

ℓ: Un-factored non-composite dead load (kips/ft.).
$M\ell$: Un-factored moment due to non-composite dead load (kip-ft.).
$s\ell$: Un-factored long-term composite (superimposed) dead load (kips/ft.)
$M_s\ell$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_L: Un-factored live load moment (kip-ft.).
M_I: Un-factored moment due to impact (kip-ft.).
M_a: Factored design moment (kip-ft.).
$1.3\ [M\ell + M_s\ell + \frac{5}{3}(M_L + M_I)]$
M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\ell + M_s\ell + \frac{5}{3}(M_L + M_I)$
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\ell + M_s\ell + \frac{5}{3}(M_L + M_I)]$
VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

BILL OF MATERIAL

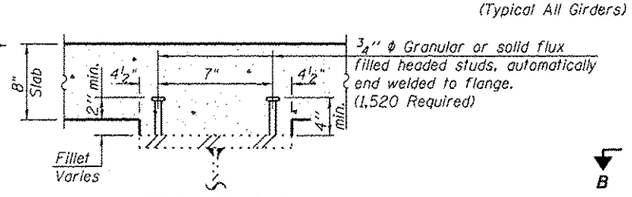
Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	5,540
Structural Steel Removal	Pound	6,900
Stud Shear Connectors	Each	1,710

Notes:
Two hardened washers required for each set of oversized holes.
Existing end diaphragms at abutments shall be removed and replaced. Cost included with Structural Steel Removal. Field drill 15/16" ϕ holes for ¾" ϕ bolts.
Contractor will be responsible for checking to see if proposed hole locations conflict with existing holes. In such a case, match existing holes.

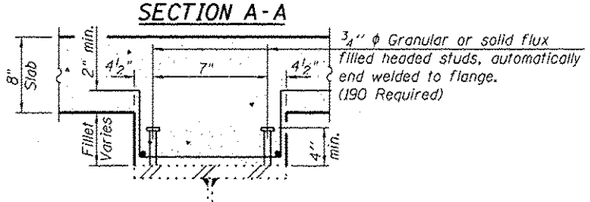


TOP FLANGE FIELD SPLICE

(Solid Circles indicate Shear Studs
Open Circles indicate Splice Plate Bolts)

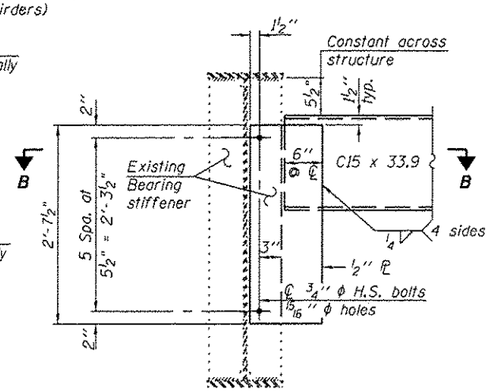


SECTION A-A



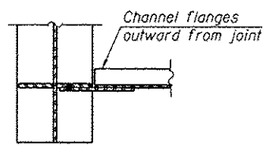
SECTION A-A

(Deep Fillet Section @ ℄ Beam 5)



END DIAPHRAGM

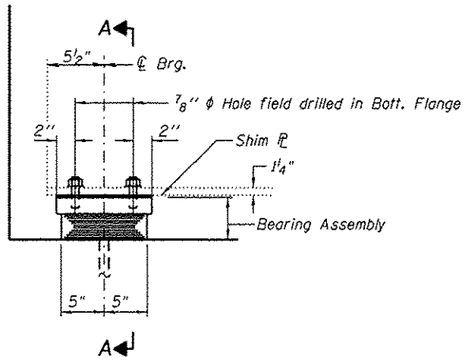
Note: Two hardened washers required for each set of oversized holes.



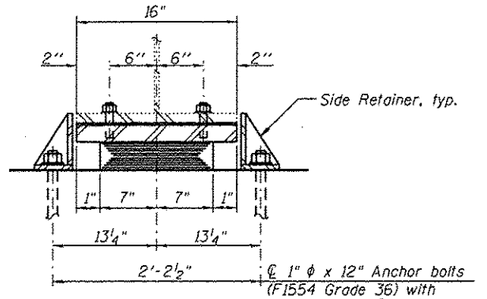
SECTION B-B

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN & BEAM DETAILS OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
		CHECKED - MTH	REVISED -		
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 15 OF 25 SHEETS
	PLOT DATE =	CHECKED - MTH	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	162
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		

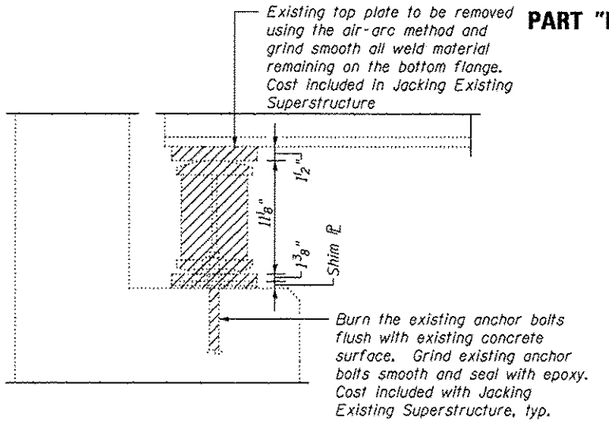


ELEVATION AT ABUT.

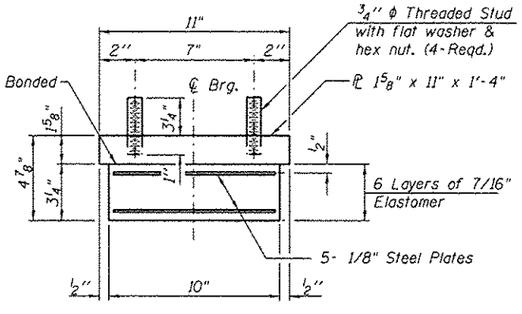


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

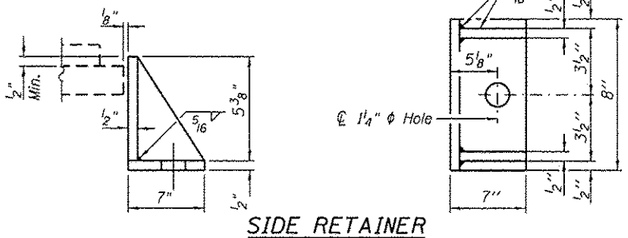


EXISTING ABUTMENT BEARING REMOVAL



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

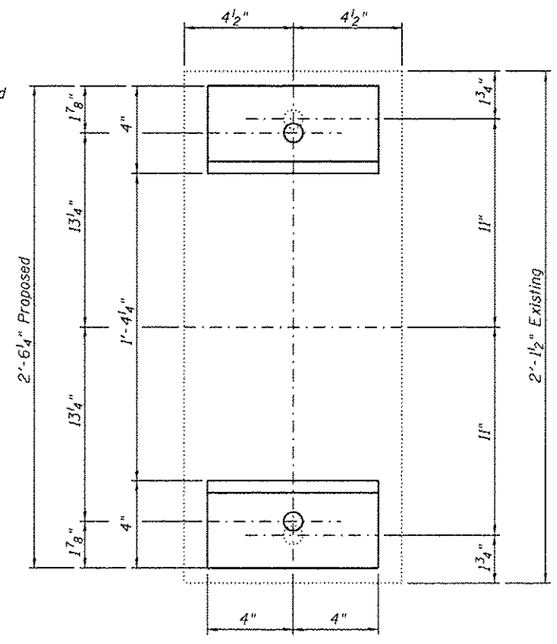
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as needed and as shown on bearing details.



ANCHOR BOLT LAYOUT

Note: Shown for visual only, new bearing seats will prevent interference with existing anchor bolts.

JACK AND REMOVE EXISTING BEARING PROCEDURE

(North and South Abutments)

1. The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new bearings prior to commencing any related work.
2. Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the concrete deck.
3. Prior to ordering any material, the Contractor shall verify shim plate thickness required at each bearing so that total height of new bearing and fill matches height of existing bearing and shim.
4. There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
5. For limitations on lift amounts, see Special Provisions.
6. The new bearing shall be in place and the jacks shall be lowered before the new concrete deck is poured. Existing diaphragms to be unbolted due to differential deflections during stage construction.
7. Jacking against diaphragms is prohibited.
8. Cross frames are to be removed at the stage line prior to jacking and re-installed prior to the final deck pour.
9. Re-bolt existing diaphragms after completion of Stage III deck pour.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BEAM REACTIONS

(Steel only)

RD	(k)	13.2

Min. Jack Capacity = 10 Ton (Without Deck)

BILL OF MATERIAL

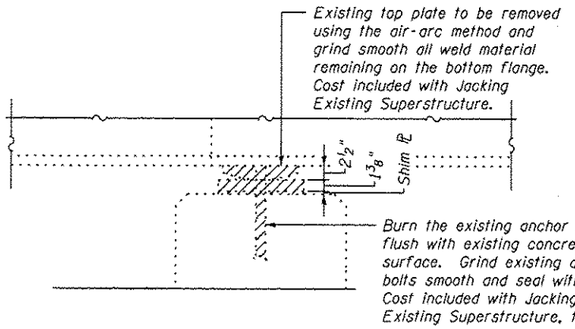
Item	Unit	Total
Elastomeric Bearing Assembly Type 1	Each	18
Anchor Bolts, 1"	Each	36
Jacking Existing Superstructure	L. Sum	1

FILE NAME = TR-420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT BEARING DETAILS
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 16 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	163
* (84-10-1RS-3, 84-10-2RS-RIBR.)		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



EXISTING PIER BEARING REMOVAL

JACK AND REMOVE EXISTING BEARING PROCEDURE

(Center Pier)

1. The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new bearings prior to commencing any related work.
2. Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the concrete deck.
3. Prior to ordering any material, the Contractor shall verify shim plate thickness required at each bearing so that total height of new bearing and fill matches height of existing bearing and shim.
4. There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
5. For limitations on lift amounts, see Special Provisions.
6. The new bearing shall be in place and the jacks shall be lowered before the new conctete deck is poured. Existing diaphragms to be unbolted due to differential deflections during stage construction.
7. Jacking against diaphragms is prohibited.
8. Cross frames are to be removed at the stage line prior to jacking and re-installed prior to the final deck pour.
9. Re-bolt existing diaphragms after completion of Stage III deck pour.

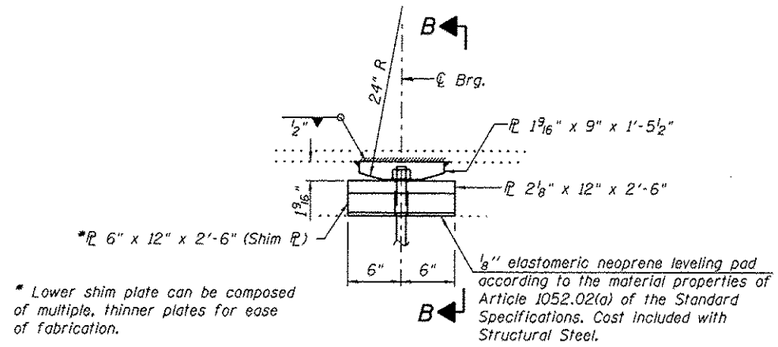
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BEAM REACTIONS

(Steel only)

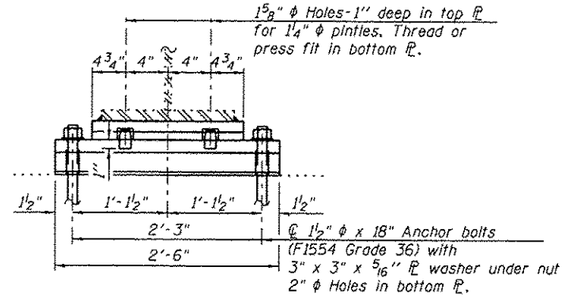
RD	(k)	38

Min. Jack Capacity = 30 Ton (Without Deck)



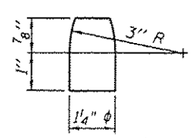
* Lower shim plate can be composed of multiple, thinner plates for ease of fabrication.

ELEVATION AT PIER

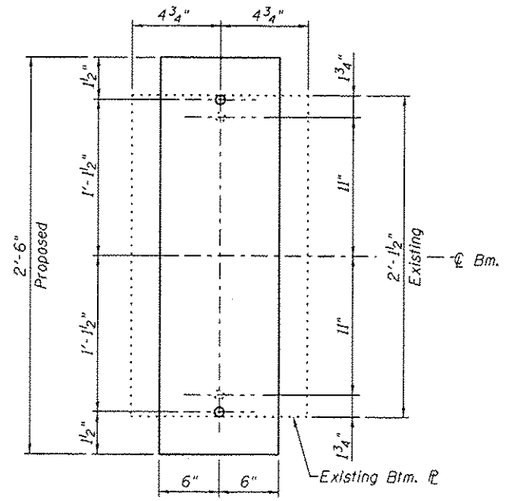


SECTION B-B

FIXED BEARING



PINTLE



ANCHOR BOLT LAYOUT

Note: Some elements not to scale for clarity.

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings shall be installed in holes drilled after the supported member is in place.

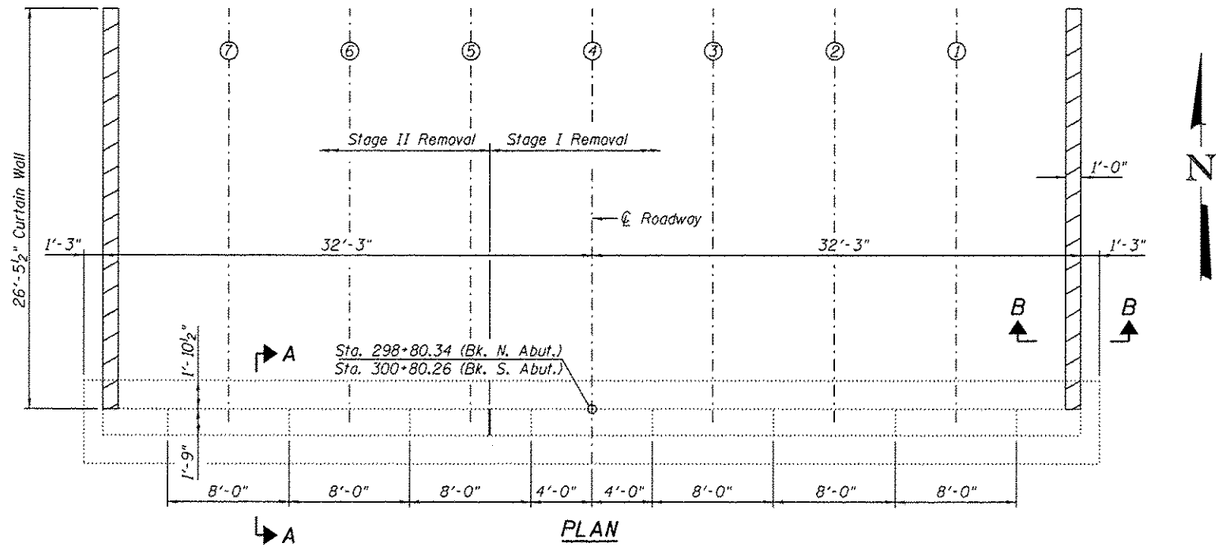
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as needed and as shown on bearing details.

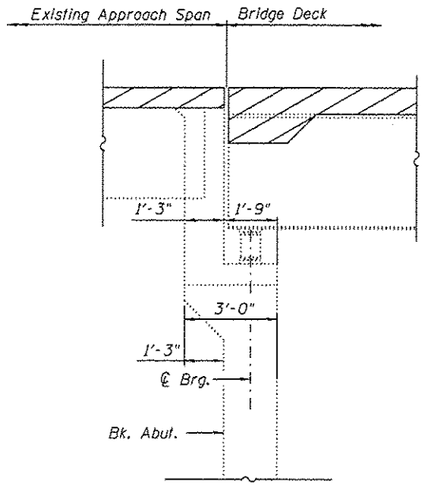
BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	8230
Anchor Bolts, 1½"	Each	18
Jacking Existing Superstructure	L. Sum	1

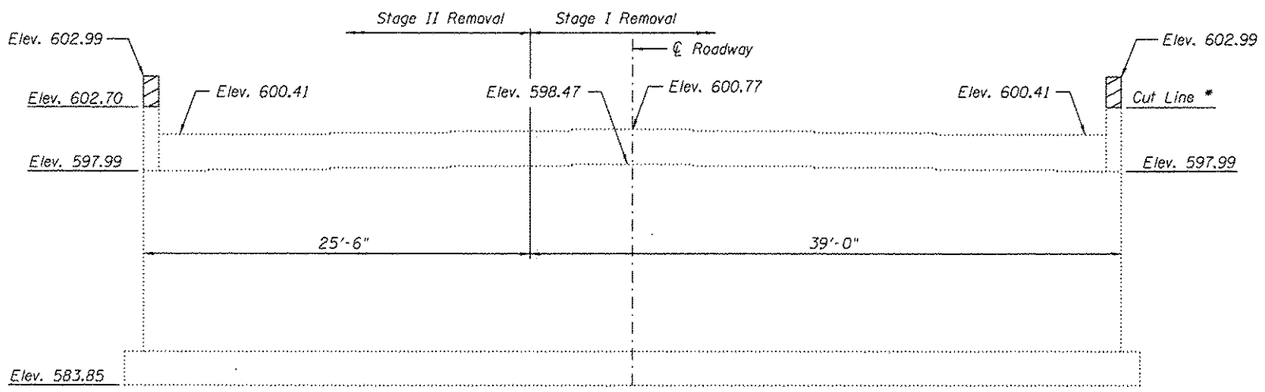
FILE NAME = TR-420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER BEARING DETAILS OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	(84-10-1,2) RS-3	SANGAMON	194	164
	PLOT SCALE =	DRAWN - TJW	REVISED -		SHEET NO. 17 OF 25 SHEETS			CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -			FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

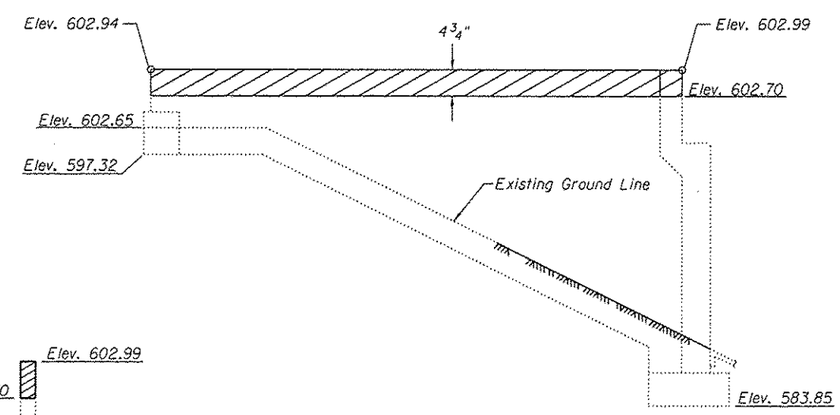


SECTION A-A



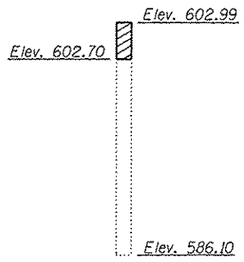
ELEVATION

(N. Abut. Shown, S. Abut. Similar)



OUTSIDE ELEVATION
OF CURTAIN WALL

(Looking East)



SECTION B-B

Notes:

Hatched area indicates Concrete Removal.

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

Elevations based off a datum difference of -0.49' from existing plans.

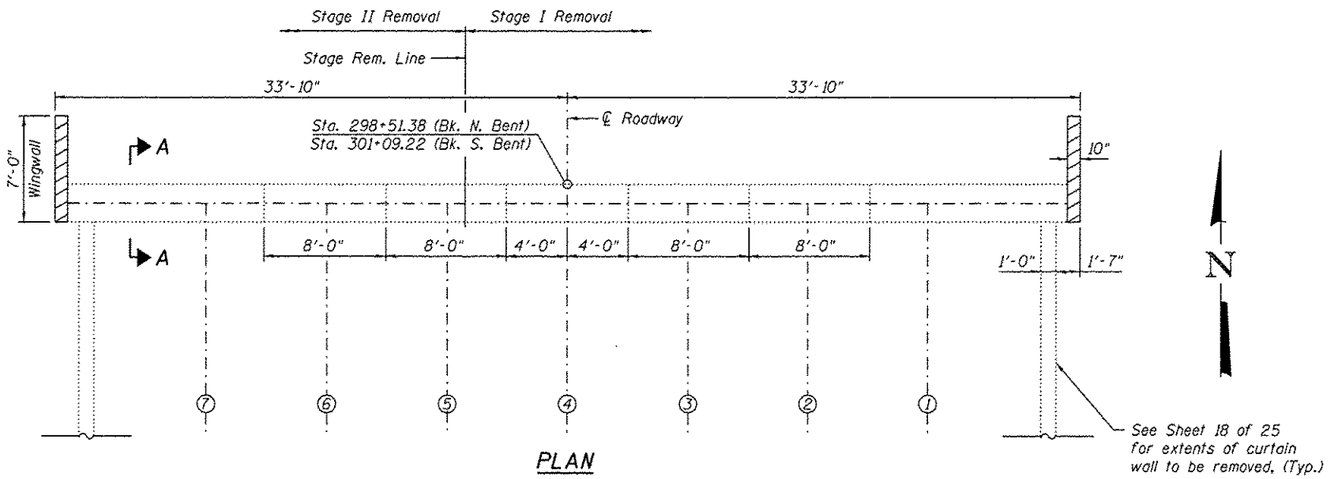
* Top of Curtain Wall shall be removed to expose the existing rebar to allow access for extension without damaging the existing reinforcement.

FILE NAME TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

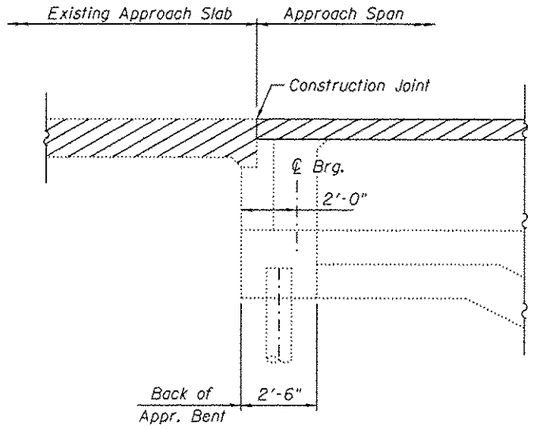
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL, ABUTMENTS
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 18 OF 25 SHEETS

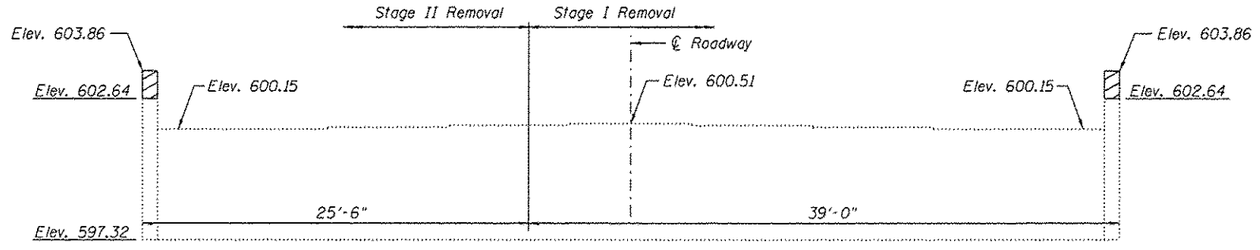
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	165
	* (84-10-1RS-3, 84-10-2RS-R)BR,I	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

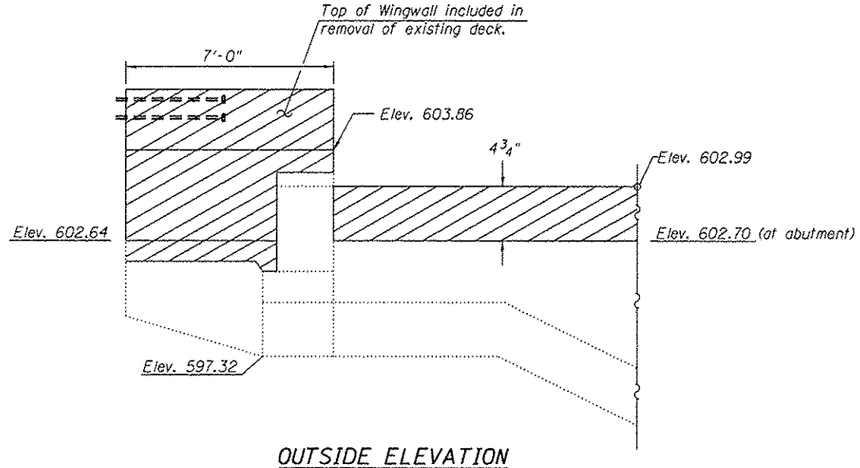


SECTION A-A



ELEVATION

(N. Appr. Bent Shown, S. Appr. Bent Similar)



OUTSIDE ELEVATION OF WING WALL

(Looking East)

Notes:

Hatched area indicates Concrete Removal.

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

Elevations based off a datum difference of -0.49' from existing plans.

BILL OF MATERIAL

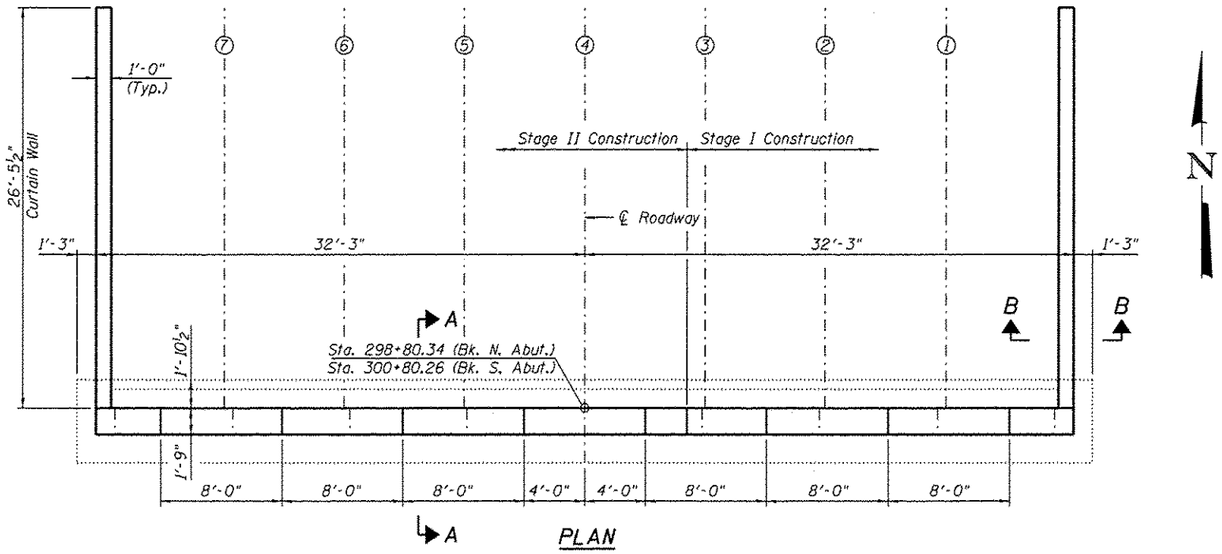
Item	Unit	Total
Concrete Removal	Cu. Yd.	2.6

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

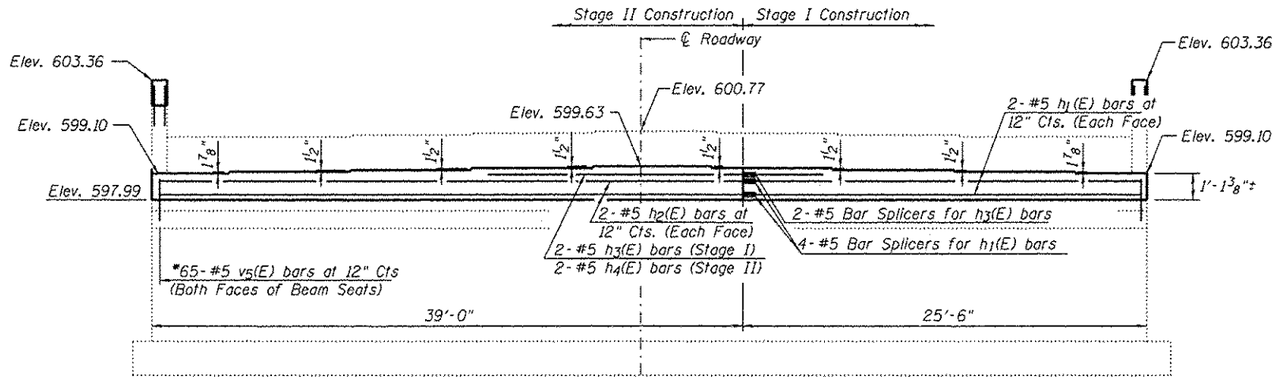
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REMOVAL, APPROACH BENTS
OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 19 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	166
	* (84-10-1RS-3, 84-10-2RS-R)BR,I	CONTRACT NO. 72C90		
	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT	



PLAN



ELEVATION

(N. Abut. Shown, S. Abut. Similar)

Notes:

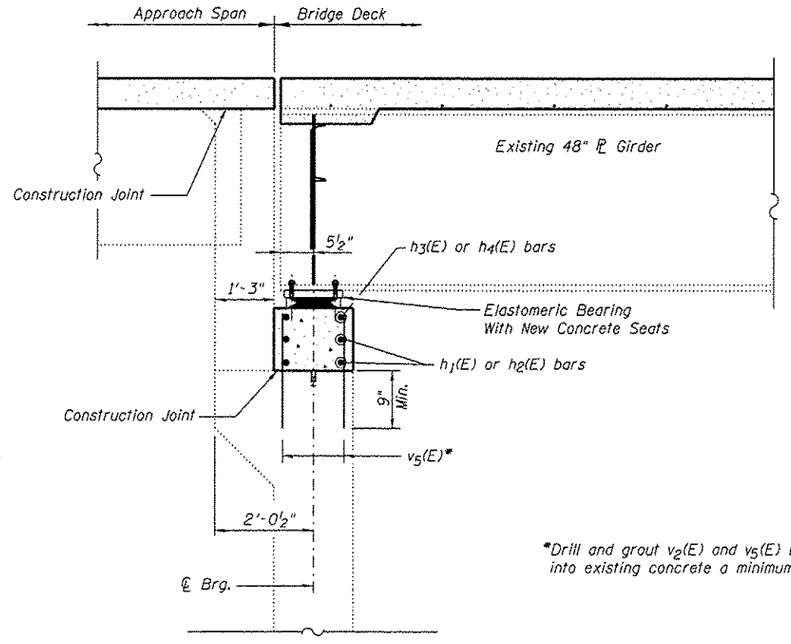
Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

Concrete Sealer shall be applied to the front and side faces of the proposed backwall and on all the new concrete for the bridge seat extensions.

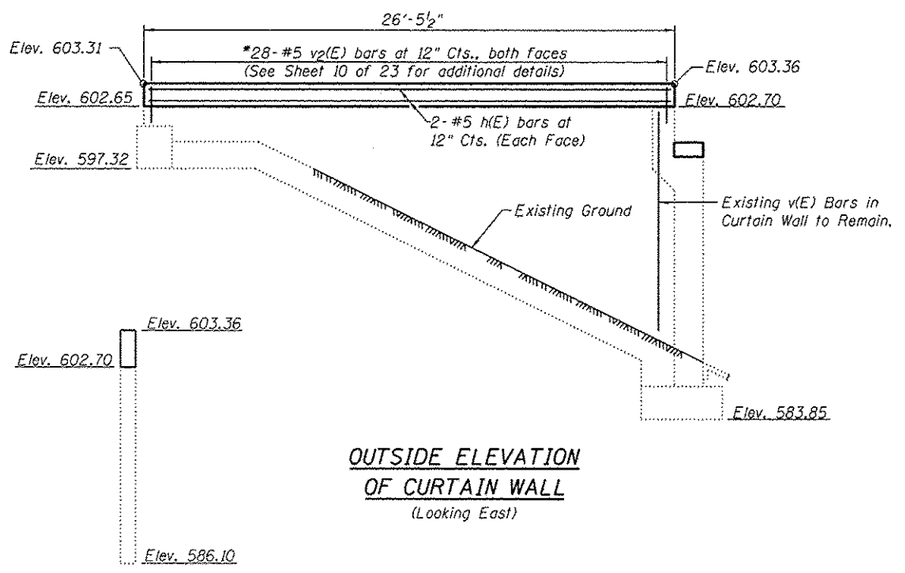
BEAM SEAT ELEVATIONS

Beam Seat Elev.	N. Abut.	S. Abut.
Beam 1	599.10	599.10
Beam 2	599.26	599.26
Beam 3	599.39	599.39
Beam 4	599.51	599.51
Beam 5	599.63	599.63
Beam 6	599.51	599.51
Beam 7	599.39	599.39
Beam 8	599.26	599.26
Beam 9	599.10	599.10



*Drill and grout $v_2(E)$ and $v_5(E)$ bars into existing concrete a minimum of 9".

SECTION A-A

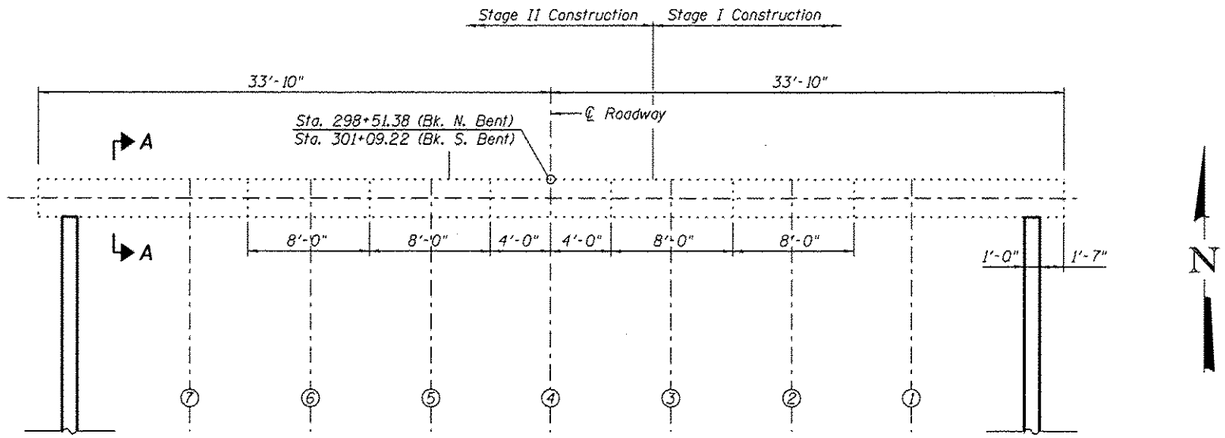


OUTSIDE ELEVATION OF CURTAIN WALL

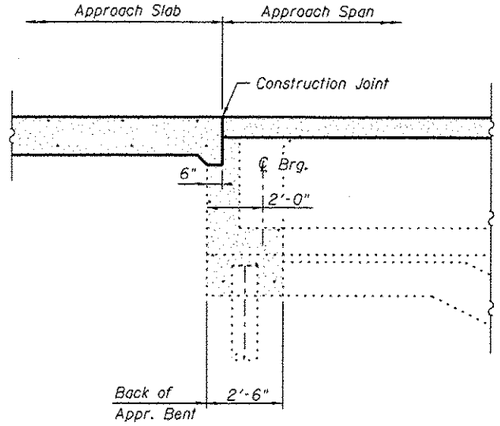
(Looking East)

SECTION B-B

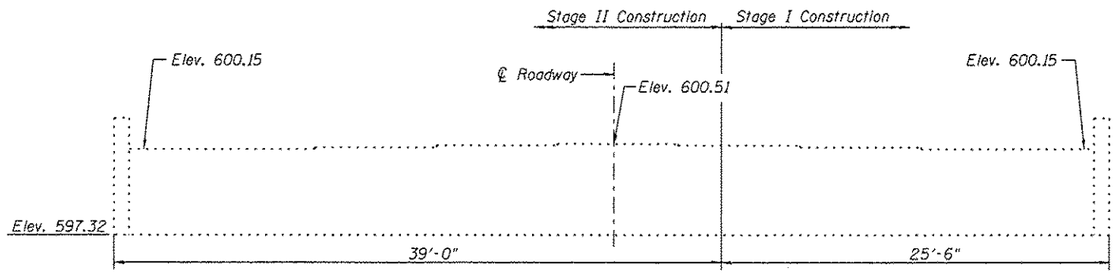
FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENTS OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	167
	PLOT SCALE =	DRAWN - TJW	REVISED -			* (84-10-1RS-3, 84-10-2RS-RIBR.)		CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 20 OF 25 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

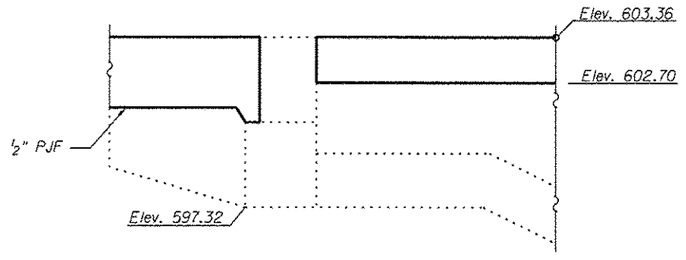


SECTION A-A



ELEVATION

(N. Appr. Bent Shown, S. Appr. Bent Similar)



OUTSIDE ELEVATION
OF WING WALL

(Looking East)

Notes:

Existing reinforcement bars extending into the new construction shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement bars not extending into the new construction shall be cut off and covered with a 2" layer of cement grout. Cost included with Concrete Removal.

TWO ABUTMENTS*
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$	16	#5	26'-2"	
$h_1(E)$	8	#5	25'-2"	
$h_2(E)$	8	#5	38'-8"	
$h_3(E)$	4	#5	3'-2"	
$h_4(E)$	4	#5	17'-8"	
$v_5(E)$	260	#5	1'-9"	

* Includes Curtainwall Quantities

TWO APPROACH BENTS**
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_5(E)$	24	#5	6'-9"	
$v_4(E)$	56	#6	2'-4"	

** Includes Wingwall Quantities

BILL OF MATERIAL

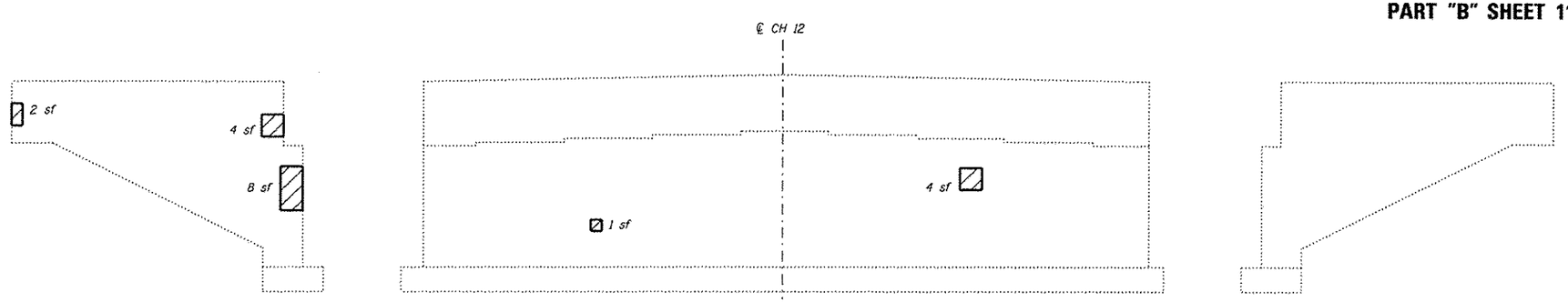
Item	Unit	Total
Concrete Structures	Cu. Yd.	14.0
Reinforcement Bars, Epoxy Coated	Pound	1,900
Bar Splicers	Each	12
Concrete Sealer	Sq. Ft.	392

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

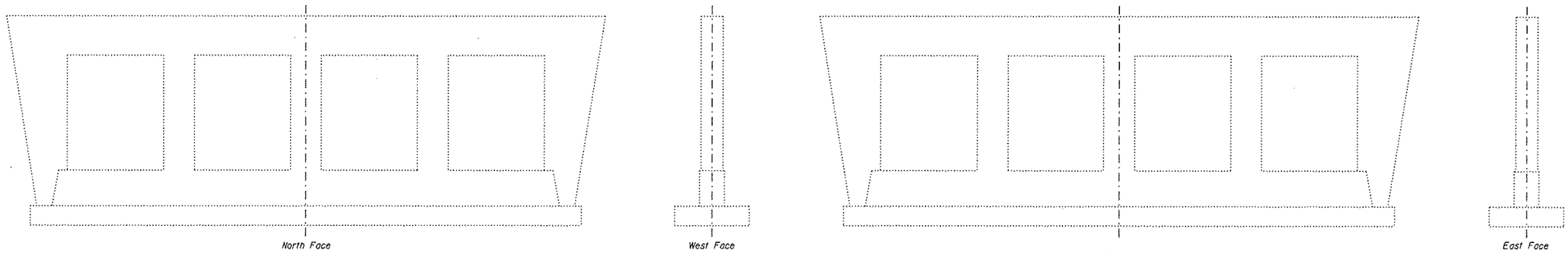
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH BENTS
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 21 OF 25 SHEETS

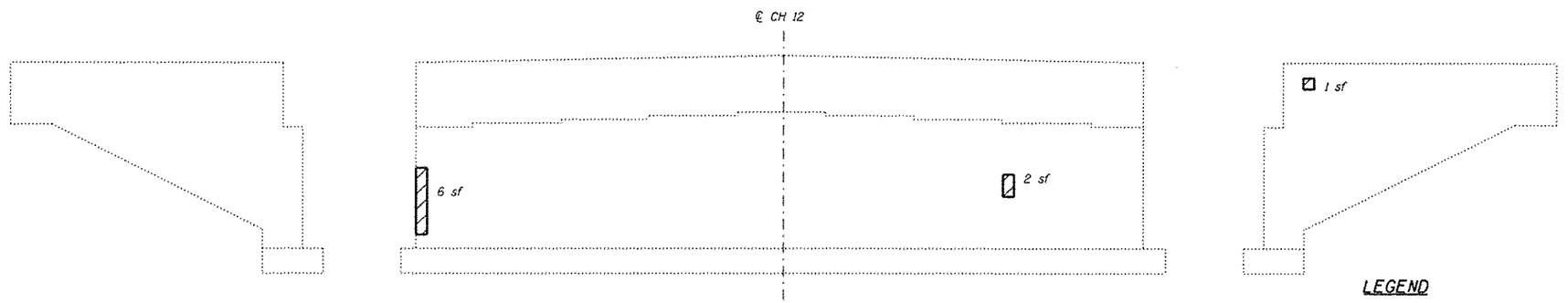
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1.2) RS-3	SANGAMON	194	168
		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



N. ABUTMENT
(Looking North)



Pier
(South Face)



S. ABUTMENT
(Looking South)

LEGEND

Structural Repair of Concrete

sf square feet

NOTES

Repair of existing concrete shall include, but may not be limited to, the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction and documented on the as-built plans.

BILL OF MATERIAL

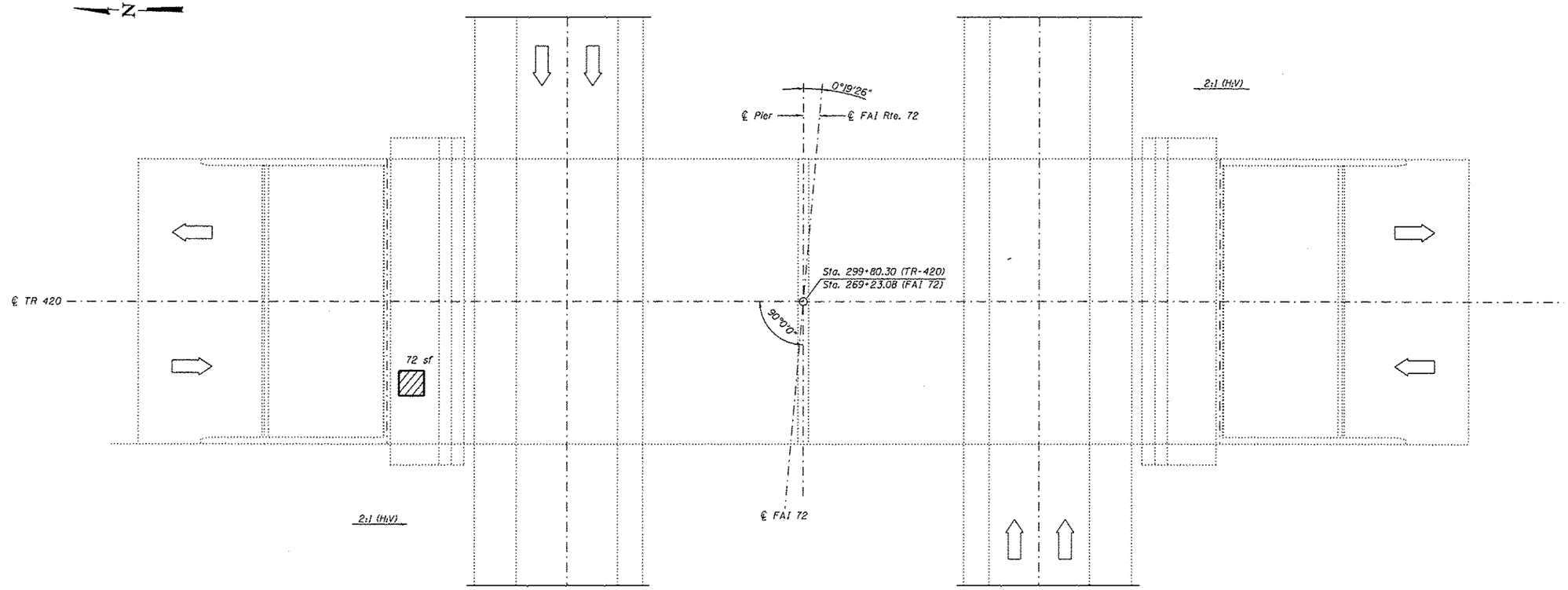
Item	Unit	Total
Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.	28

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS
OVERPASS ROAD (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 22 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	169
	* (84-10-1RS-3, 84-10-2RS-1)BR.1	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN

LEGEND

Slopewall, 4"

sf square feet

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Removal	Sq. Yd.	8
Slope Wall, 4"	Sq. Yd.	8
Controlled Low Strength Material	Cu. Yd.	4

Notes:

Slopewall shall be reinforced with welded wire fabric, 6"x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Slopewall Repair.

Existing and new welded wire fabric must be lapped at least 6".

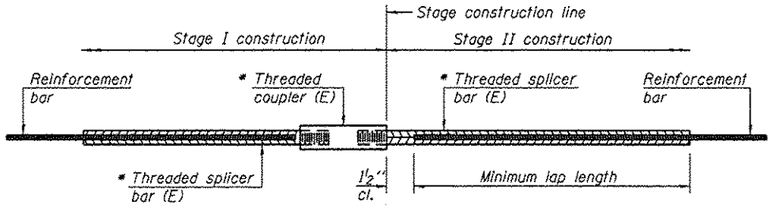
Repair of the existing slope walls shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPEWALL REPAIR DETAILS
OVERPASS ROAD (TR-420) OVER F.A.I.-72 – S.N. 084-0154
SHEET NO. 23 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	170
	* (84-10-1RS-3, 84-10-2RS-RIBR.)	CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

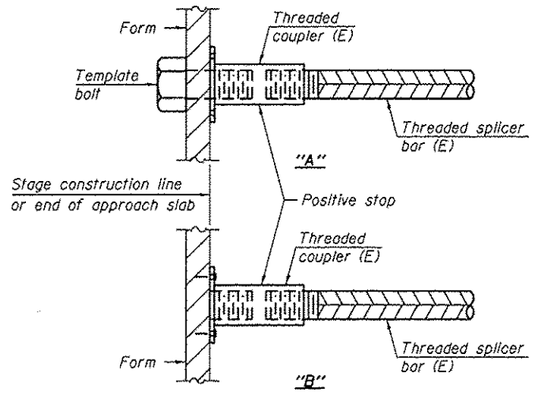
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

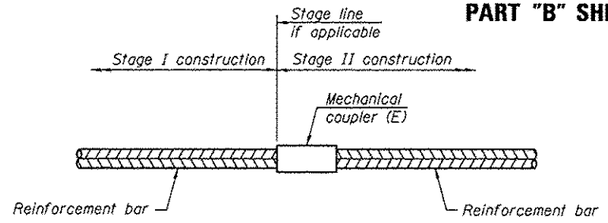
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Diaphragm	-	-	-
	-	-	-
Abutments	#5	12	3
	-	-	-
Approach	#4	50	4
	#5	172	3
Approach Bent	-	-	-
	-	-	-



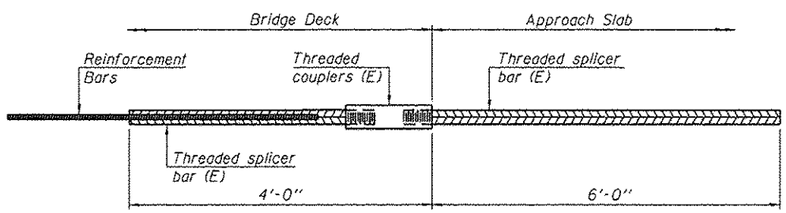
INSTALLATION AND SETTING METHODS

"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.



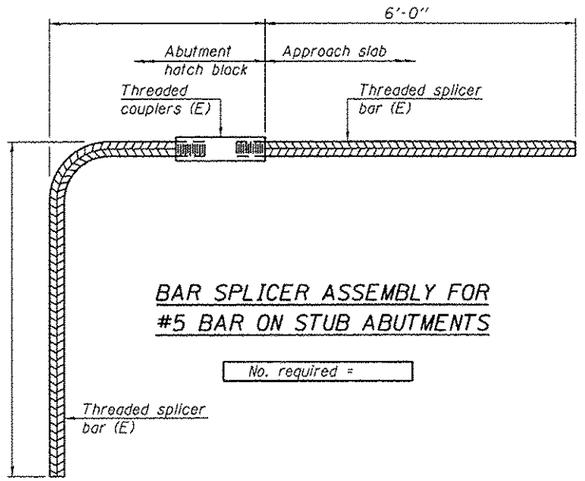
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. 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.

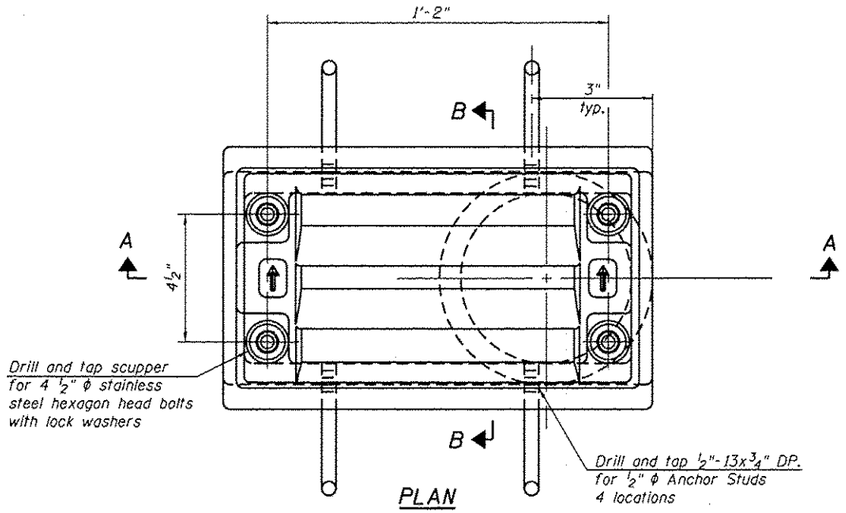
All reinforcement shall be lapped and tied to the splicer bars.

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

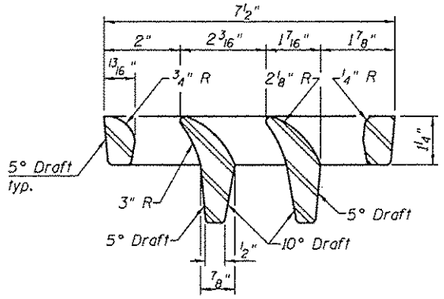
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 1-27-12

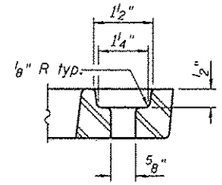
FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS OVERPASS RD. (TR-420) OVER F.A.I.-72 – S.N. 084-0154	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MTH	REVISED -			72	*	SANGAMON	194	171
	PLOT SCALE =	DRAWN - TJW	REVISED -			* (84-10-1RS-3, 84-10-2RS-R)BR,I		CONTRACT NO. 72C90		
	PLOT DATE =	CHECKED - MTH	REVISED -		SHEET NO. 24 OF 25 SHEETS	FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

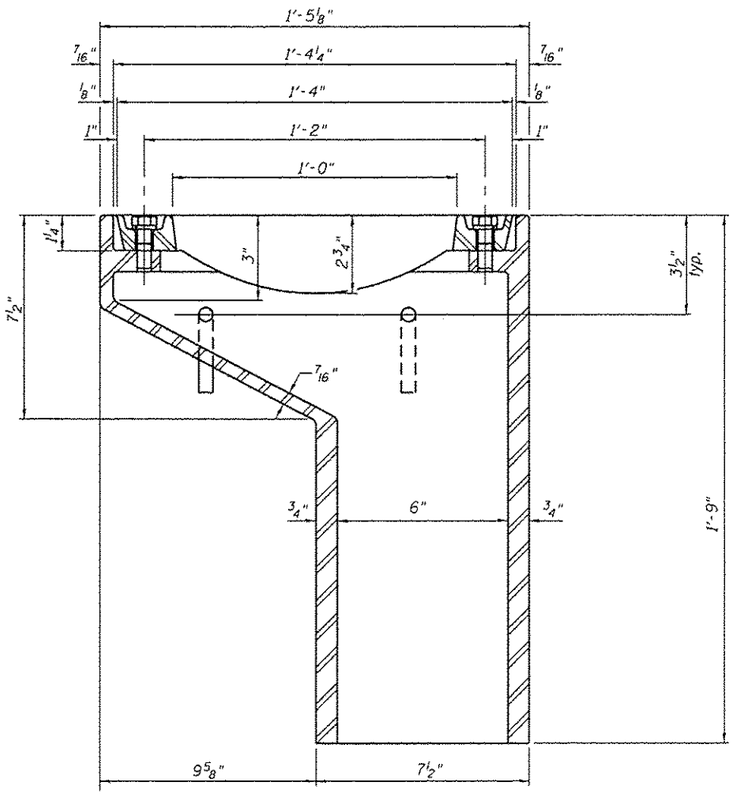
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

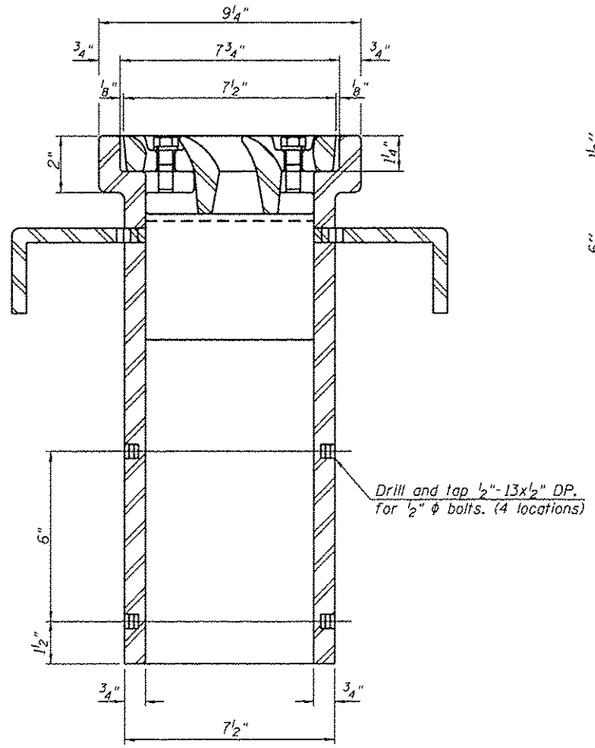
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

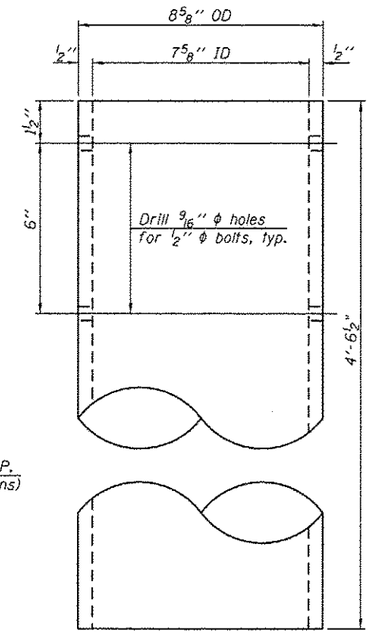


SECTION A-A

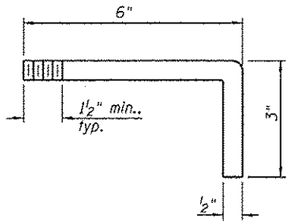
See sheet 9 of 25 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scupper, DS-11	Each	4

DS-11

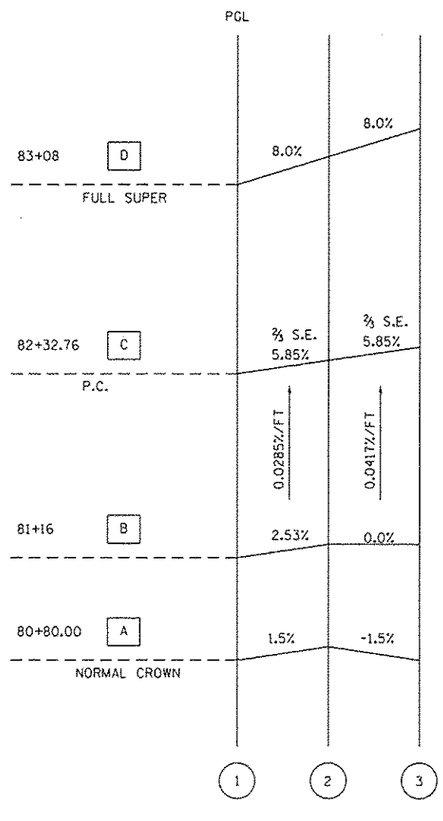
7-1-10

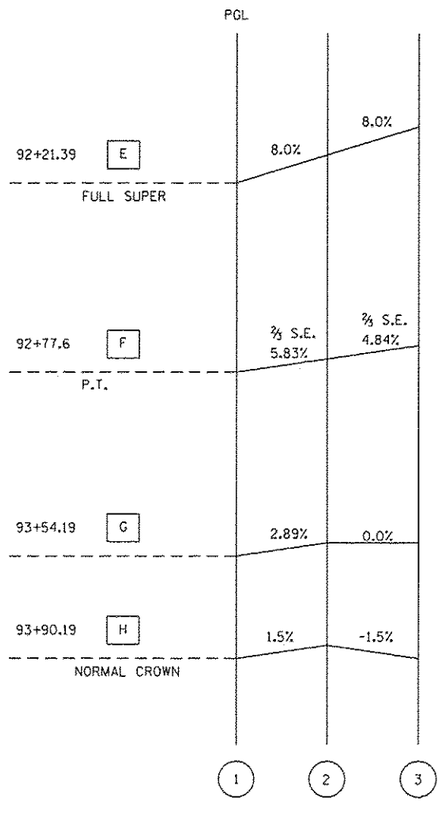
FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISED -
		CHECKED - MTH	REVISED -
	PLOT SCALE =	DRAWN - TJW	REVISED -
	PLOT DATE =	CHECKED - MTH	REVISED -

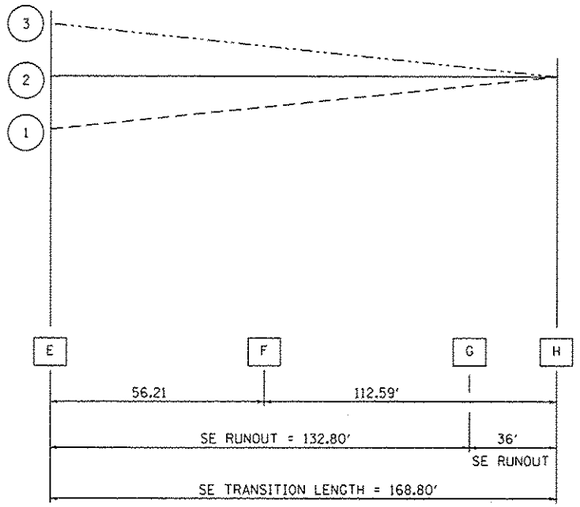
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

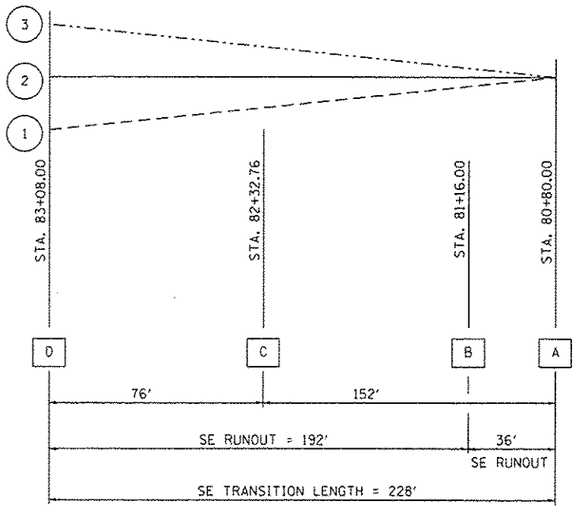
DRAINAGE SCUPPER, DS-11
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
SHEET NO. 25 OF 25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	172
* (84-10-1RS-3, 84-10-2RS-R)BR,I		CONTRACT NO. 72C90		
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT		









SE = 8.0%, SE RUNOFF LENGTH = 192'/138.8'

USER NAME = sparkagw	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:27:03AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERELEVATION TRANSITION DETAILS
CH 12

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	173
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

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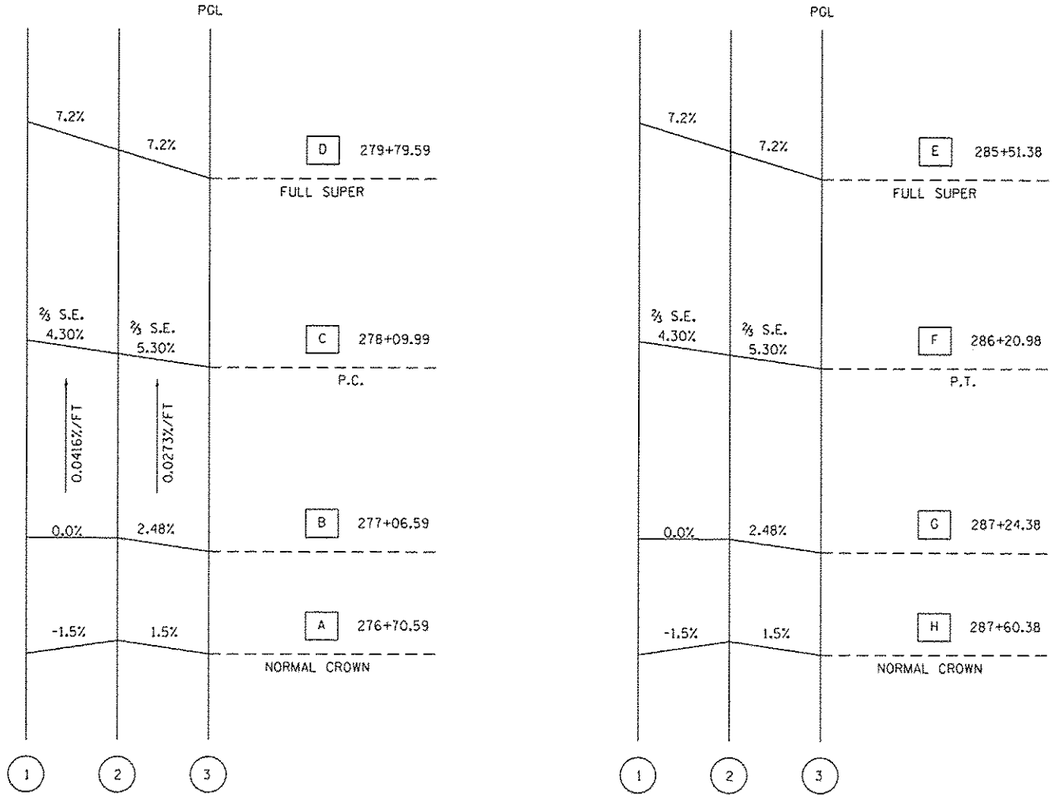

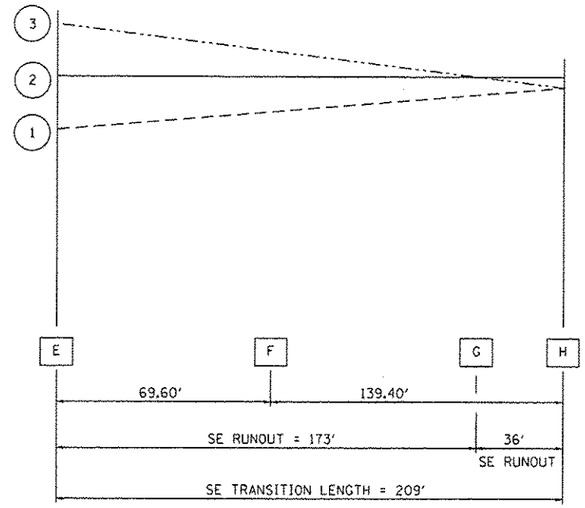

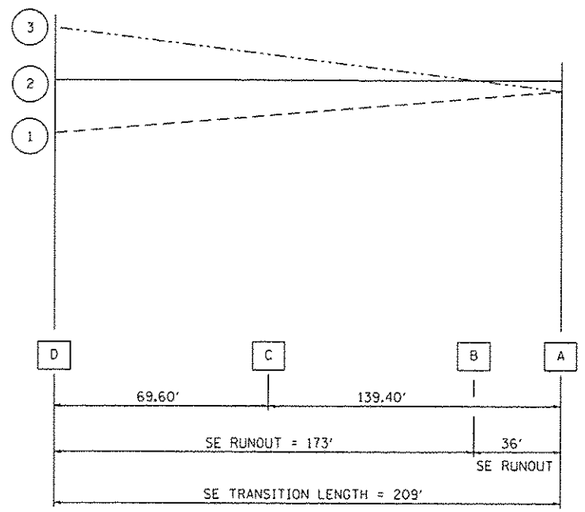

SE = 7.2%, SE RUNOFF LENGTH = 173'

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	DRAWN - BTM	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep 06 2013 09:27:22AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERELEVATION TRANSITION DETAILS
TR 420

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	174
	*(84-10-1RS-3,84-10-2RS-4)BR,1	CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

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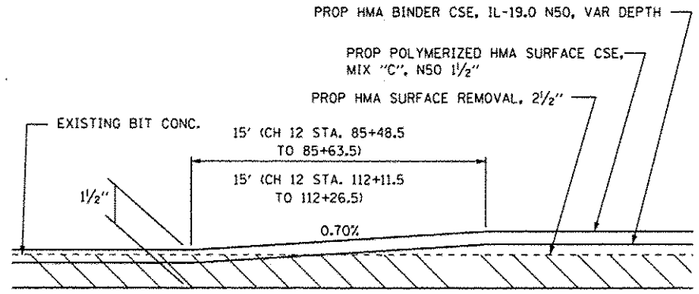
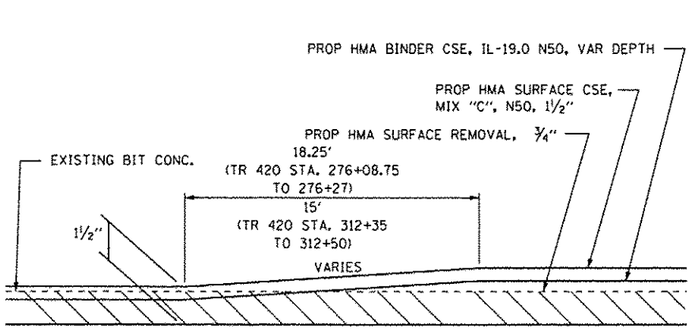


BUTT JOINT DETAIL CH 12



BUTT JOINT DETAIL TR 420

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PLOT DATE = Sep-06-2013 09:27:49AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT & RAMP DETAILS

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	175
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

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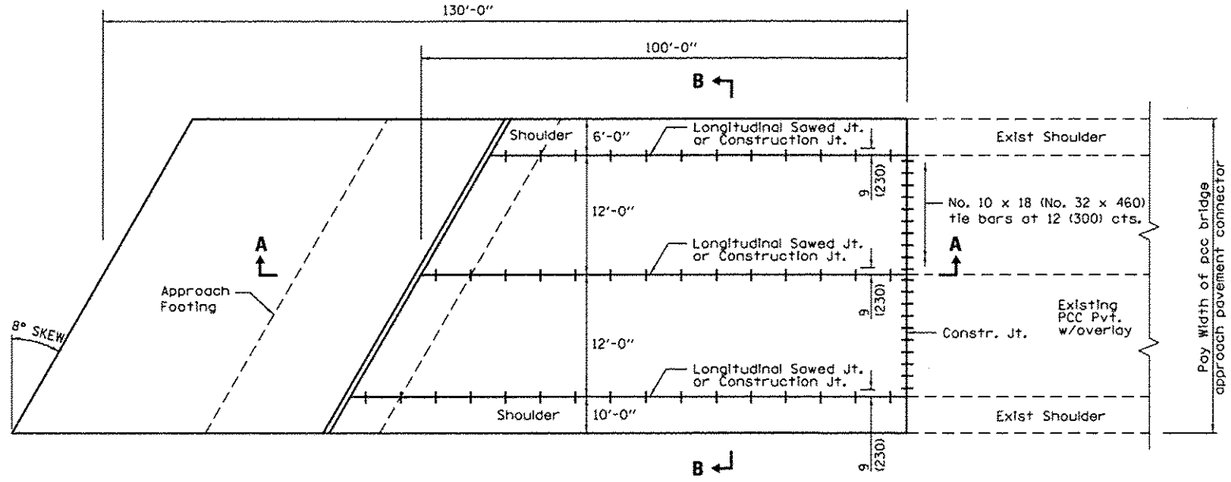
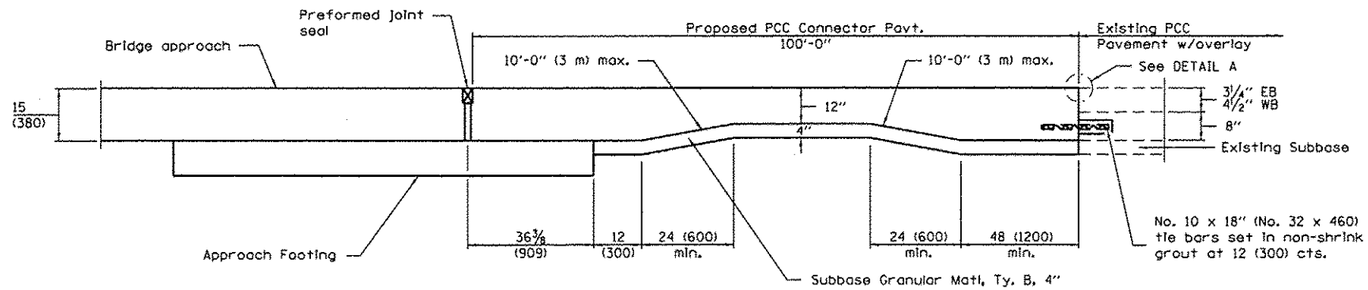
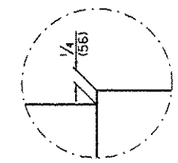
(84-10-1,2)RS-3 & (84-10-2)RS-4



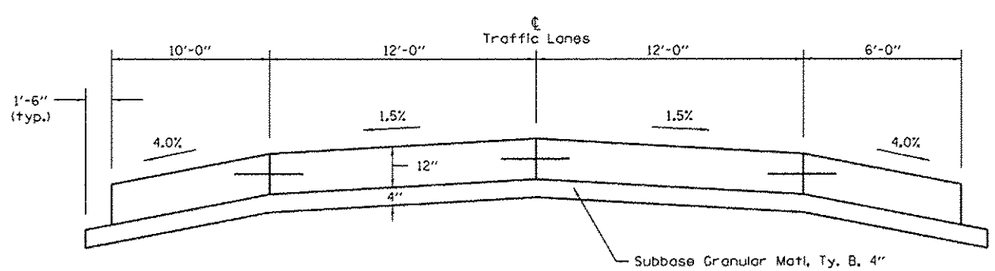
BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)



SECTION A-A



DETAIL A



SECTION B-B

GENERAL NOTES

See Standard 421001 for reinforcement details not shown.

See Standard 420001 for joint details not shown.

See structural plans for additional details of the approach pavement.

See plans for details of bridge approach, approach footing, and preformed joint seal.

All dimensions are in inches unless otherwise indicated.

Reinforcement and tie bars will not be paid for separately, but shall be included in the cost for Bridge Approach Pavement Connector (PCC).

Reinforcement bars shall be epoxy coated.

USER NAME = sparksga	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 04:28:15AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH PAVEMENT CONNECTOR (PCC) DETAIL

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	176
	*(84-10-1RS-3,84-10-2RS-4)BR,1	CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

(84-10-1,2)RS-3 & (84-10-2)RS-4

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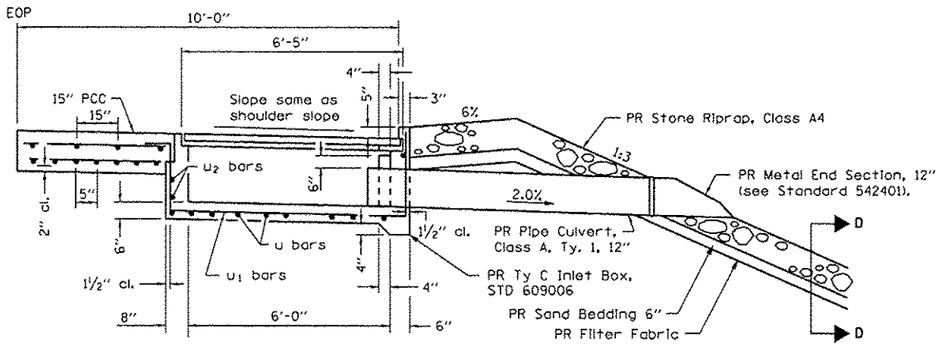
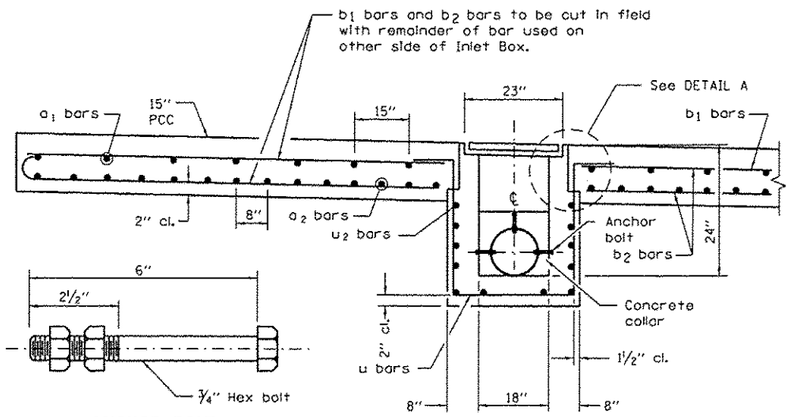


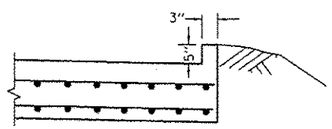
SECTION B–B



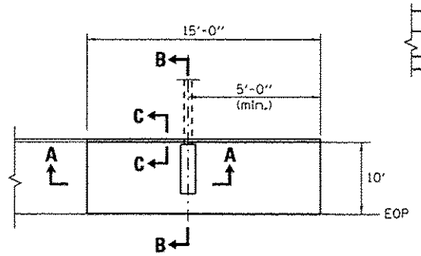
ANCHOR BOLT

(Used to tie pipe to concrete collar)

SECTION A–A



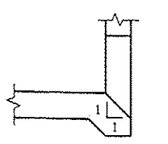
SECTION C–C



TYPICAL DETAIL PLAN

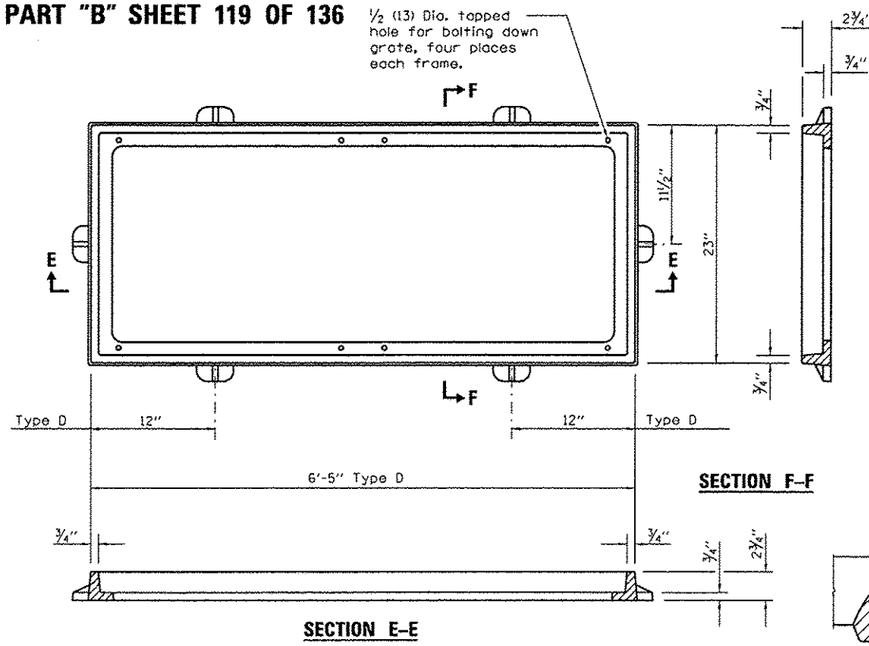
APPROACH SHOULDER & DRAIN DETAIL

STA. 1946+81.24 LT
STA. 1946+81.24 RT
STA. 1946+81.24 LT
STA. 1946+81.24 RT



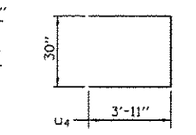
BOX OUTLET WHEN PRECAST

INLET TYPE	SHOULDER WIDTH	O-O GRATING FRAME	INLET BOX INSIDE WIDTH	INLET BOX INSIDE LENGTH
Type D	10'	6'-5"	6'-0"	18"

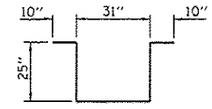


SECTION E–E

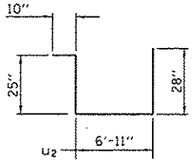
DETAIL OF CAST FRAME



BAR u2



BAR u

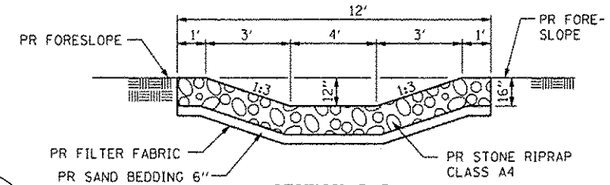


BAR u1

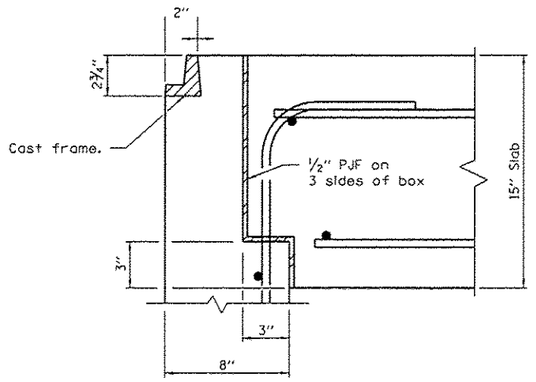
INLET BOX

REQUIRED MATERIAL				
TYPE C				
Bar	Qty.	Size	Shape	Length
u	6	#4		8'-5"
u₁	3	#4		12'-2"
u₂	4	#4		10'-4"
Concrete		cu. yds.		1.1
Reinf. bars		lbs.		97
Grating		sq. ft.		10.9

DETAIL B

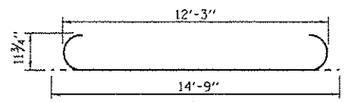


SECTION D–D

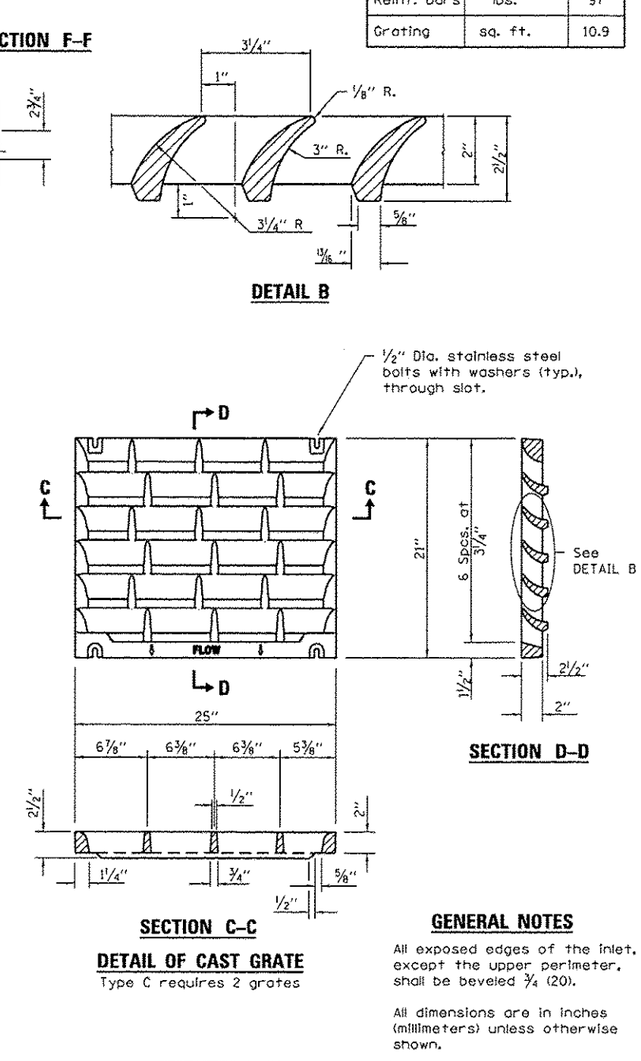


DETAIL A

REQUIRED MATERIAL				
APPROACH SHLDR PVT				
Bar	Qty.	Size	Shape	Length
a₁	13	#4	——	9'-9"
a₂	31	#5	——	9'-9"
b₁	5	#4	——	14'-9"
b₂	15	#9		14'-9"
Concrete		cu. yds.		5.7
Reinf. bars		lbs.		1,202



BAR b2



SECTION C–C

DETAIL OF CAST GRATE

Type C requires 2 grates

SECTION D–D

GENERAL NOTES

All exposed edges of the inlet, except the upper perimeter, shall be beveled ¾ (20).

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = sparksgw	DESIGNED - BTM	REVISED -	
	DRAWN - BTM	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - JSA	REVISED -	
PLOT DATE = Sep-06-2013 09:20:48AM	DATE - 12/19/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH PAVEMENT SHOULDER & DRAINS DETAILS & MISCELLANEOUS DETAILS

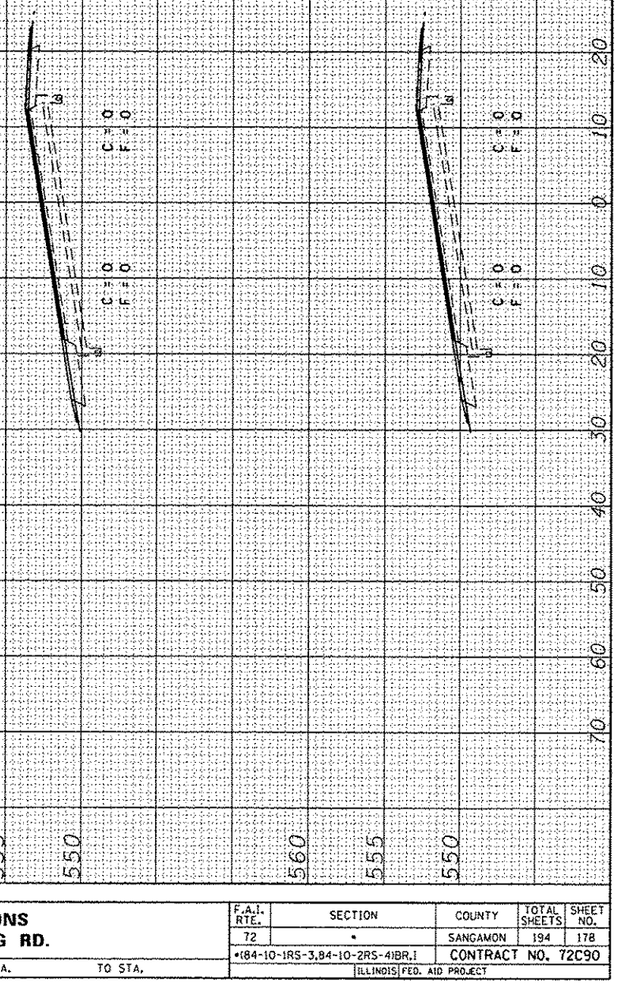
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	177
* (84-10-1RS-3,84-10-2RS-4)BR,1		CONTRACT NO. 72C90		
	ILLINOIS	FED. AID PROJECT		

(84-10-1,2)RS-3 & (84-10-2)RS-4

FILE NAME = c:\pw_work\pwidot\sparksgw\d0359822\D672C90-SHT-MISC-DETAIL.dgn

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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	PLOT DATE = Sep-26-2013 10:48:36AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

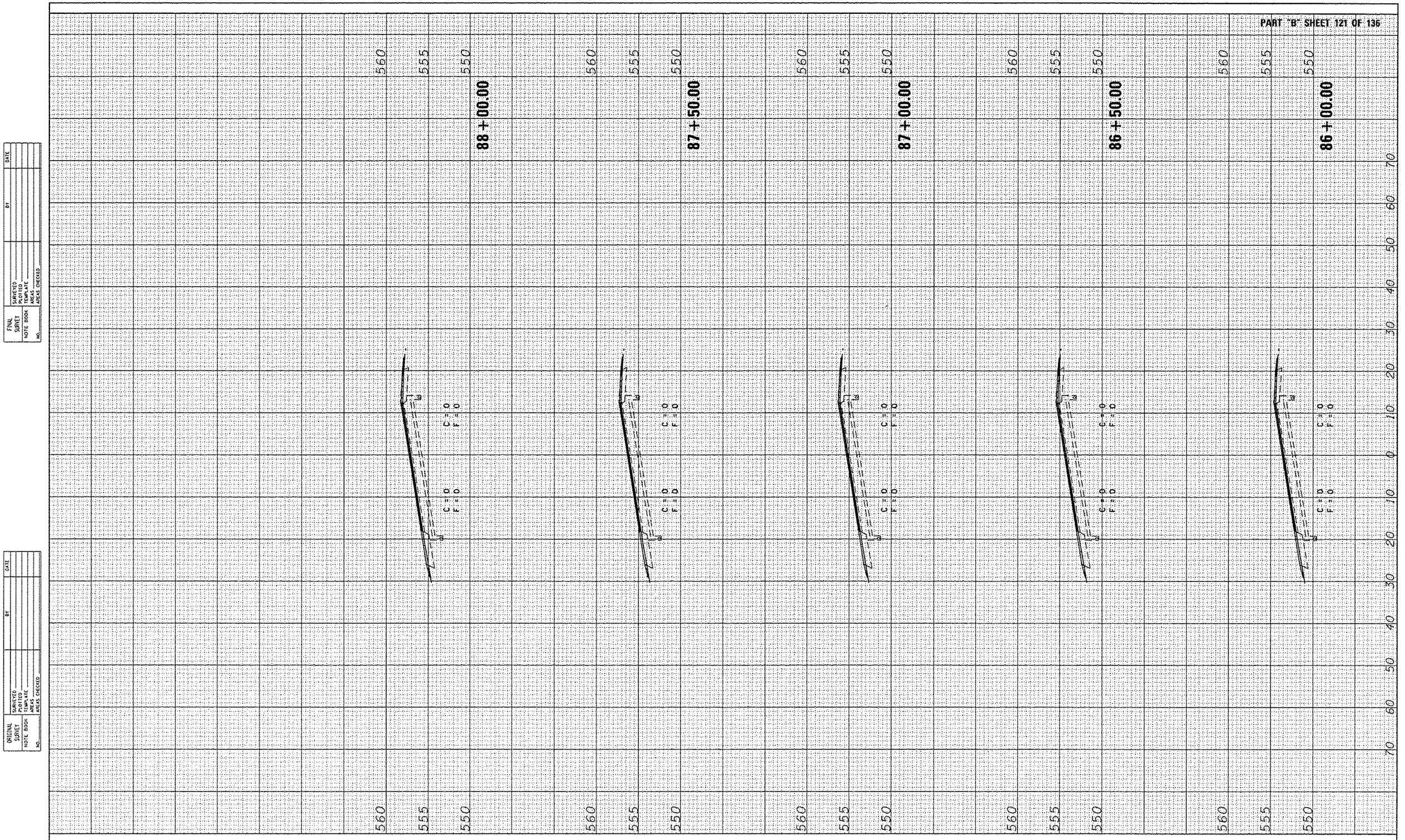
CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	178
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	CROSS SECTIONED		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	CROSS SECTIONED		
	AREAS		
	AREAS CHECKED		



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

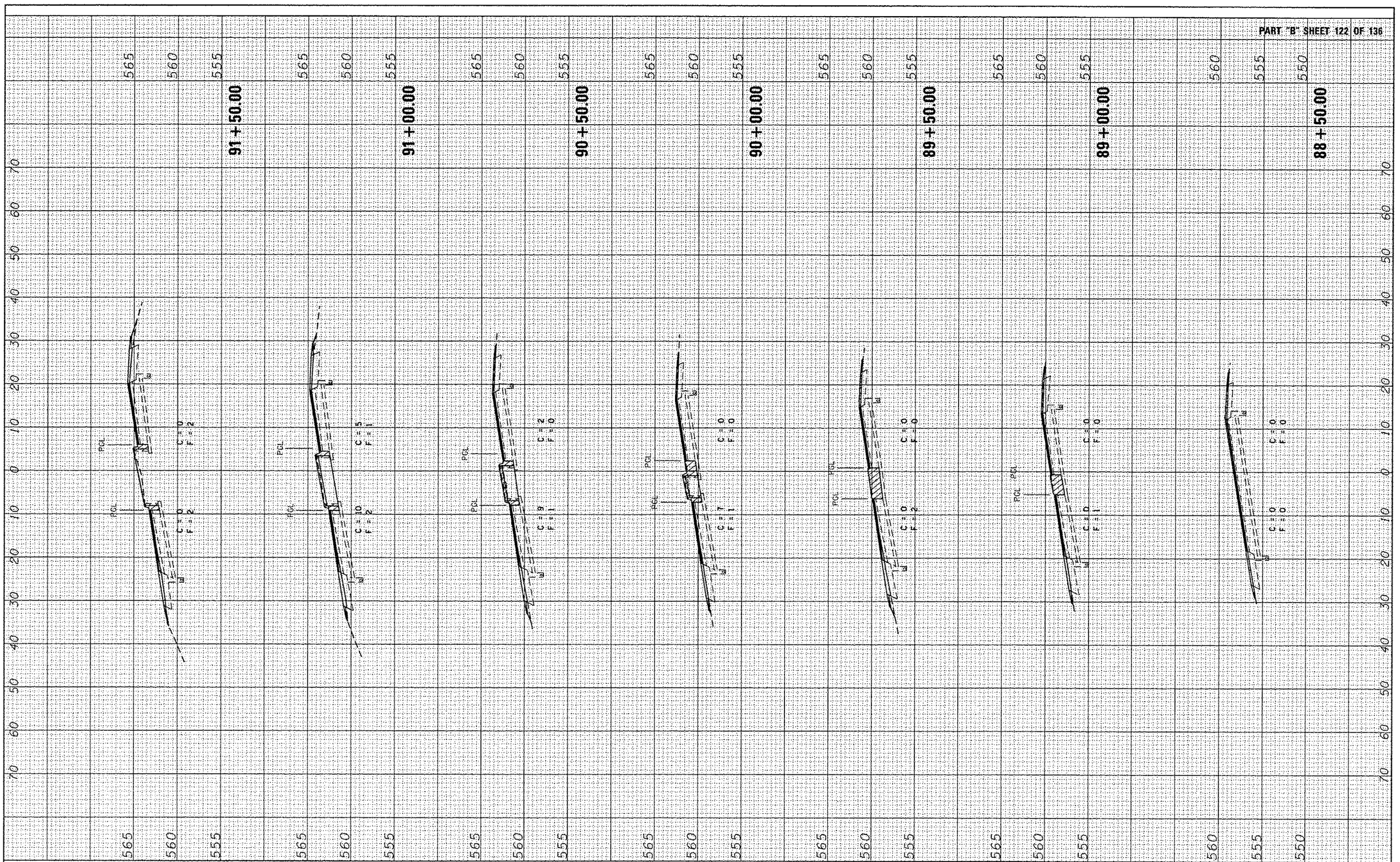
CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	179
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS	FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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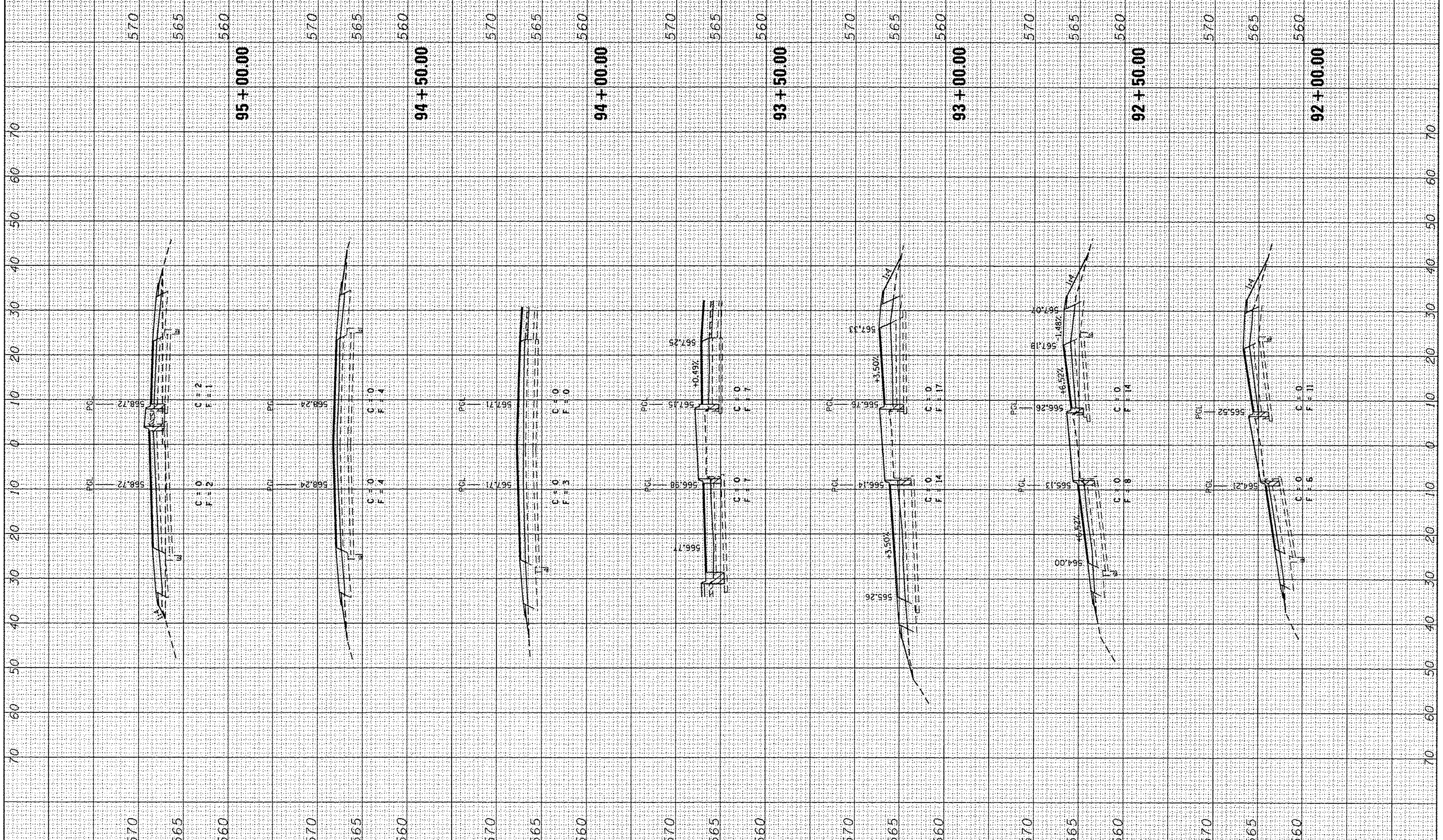
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. 88+50 TO STA. 91+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	194	180
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
MECHANICSBURG RD.

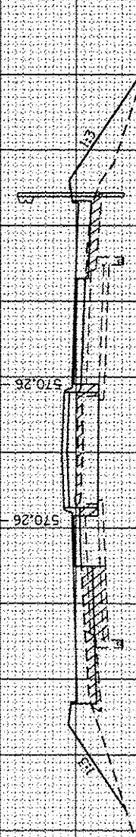
SCALE: | SHEET NO. OF SHEETS | STA. 92+00 TO STA. 95+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	181
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		

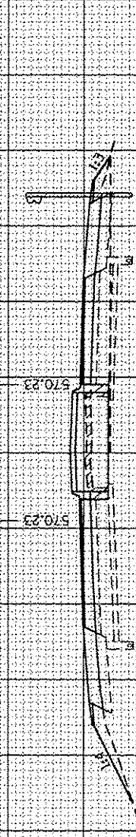
FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

BRIDGE OMISSION STA. 98+82.88 TO STA. 101+33.13

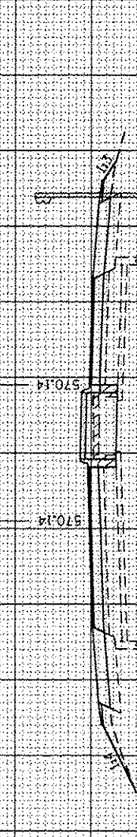
98+50.00



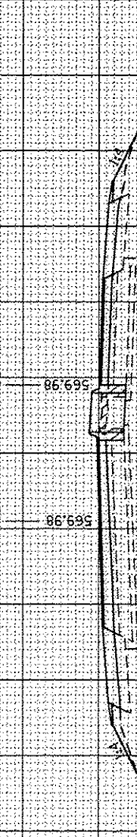
98+00.00



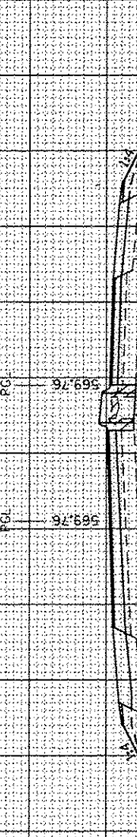
97+50.00



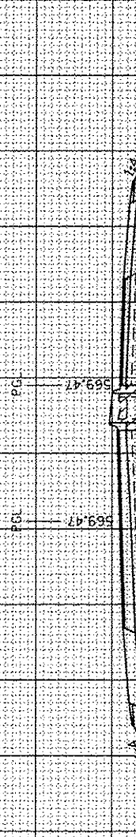
97+00.00



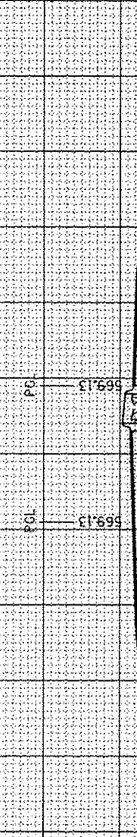
96+50.00



96+00.00



95+50.00



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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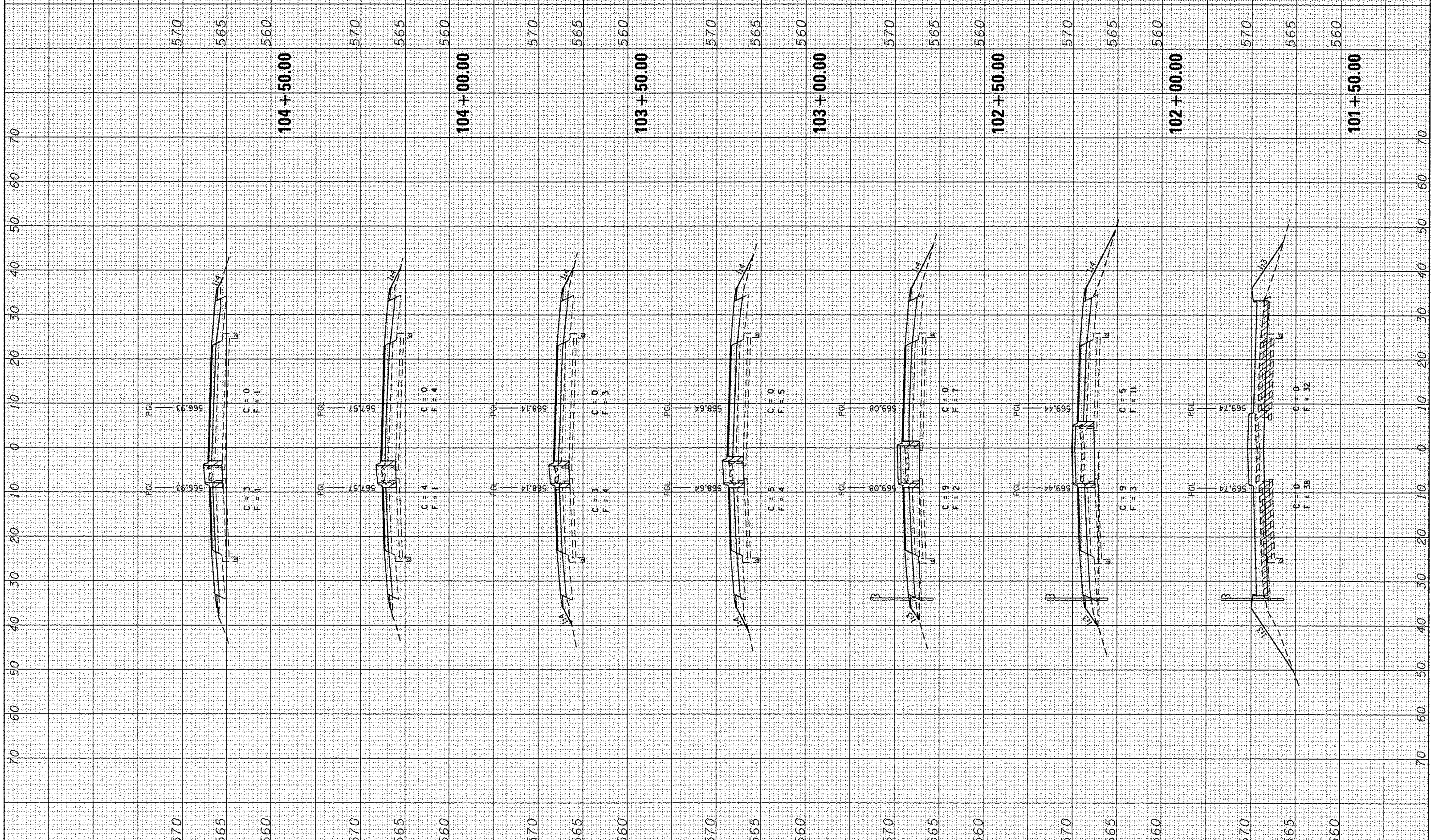
	PLOT DATE = Sep-06-2013 10:49:53AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. 95+50 | TO STA. 98+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	182
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		



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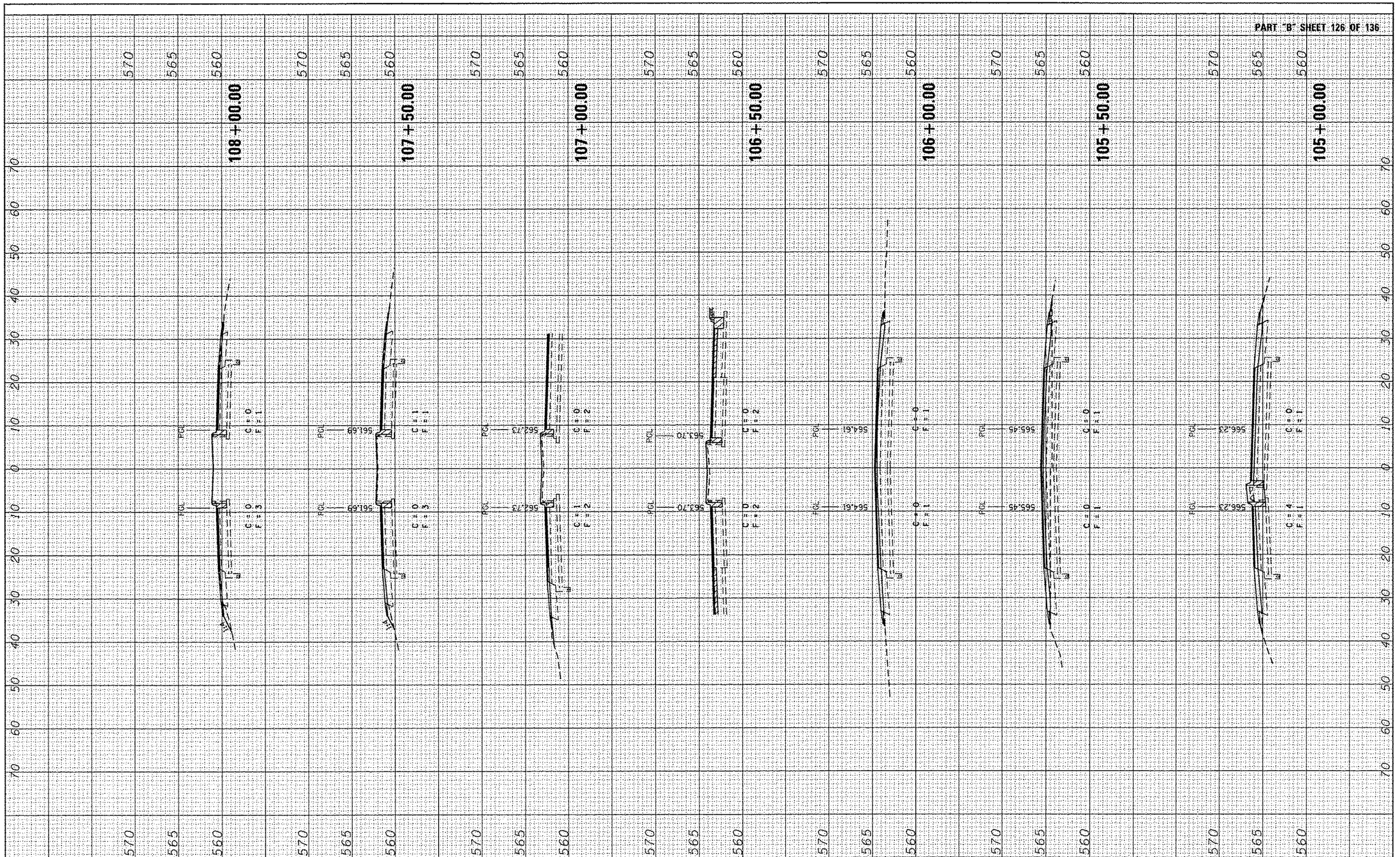
		DRAWN - BTM	REVISED -		
	PLOT SCALE = 20.0000 ' / in.	CHECKED - JSA	REVISED -		
	PLOT DATE = Sep-06-2013 10:50:10AM	DATE - 9/20/12	REVISED -		SCALE: SHEET NO. OF SHEETS STA. 101+50 TO STA. 104+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	183
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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	PLOT DATE = Sep-06-2013 10:50:28AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

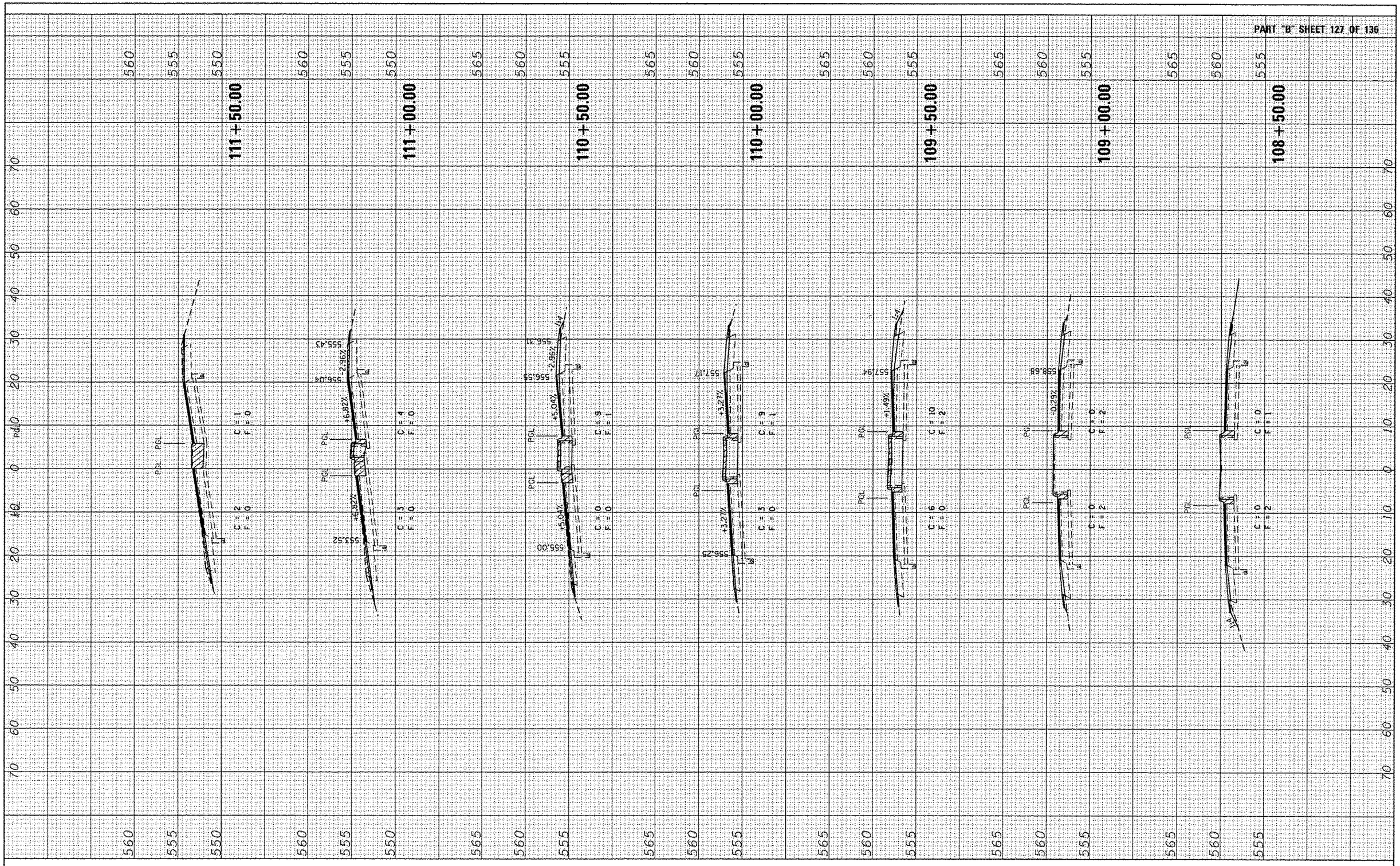
CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. 105+00 TO STA. 108+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	184
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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	PLOT DATE = Sep-26-2013 10:50:44AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. 108+50 | TO STA. 111+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	185
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS	FED. AID PROJECT			

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

201+50.00 RAMP B

201+00.00 RAMP B

200+50.00 RAMP B

119+50.00 RAMP A

119+00.00 RAMP A

112+50.00

112+00.00

FILE NAME :	USER NAME = sparksgw	DESIGNED - BTM	REVISED -
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	PLOT SCALE = 20.0000 ' / in.	CHECKED - JSA	REVISED -
	PLOT DATE = Sep-06-2013 10:51:00AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
MECHANICSBURG RD.

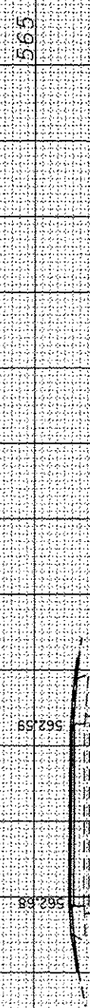
SCALE: | SHEET NO. OF SHEETS | STA. 112+00 | TO STA. 112+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	186
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS	FED. AID PROJECT			

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

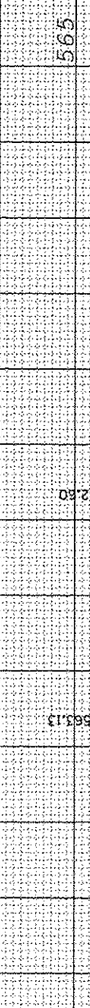
ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

401+00.00 RAMP D



400+50.00 RAMP D

320+00.00 RAMP C



319+50.00 RAMP C

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

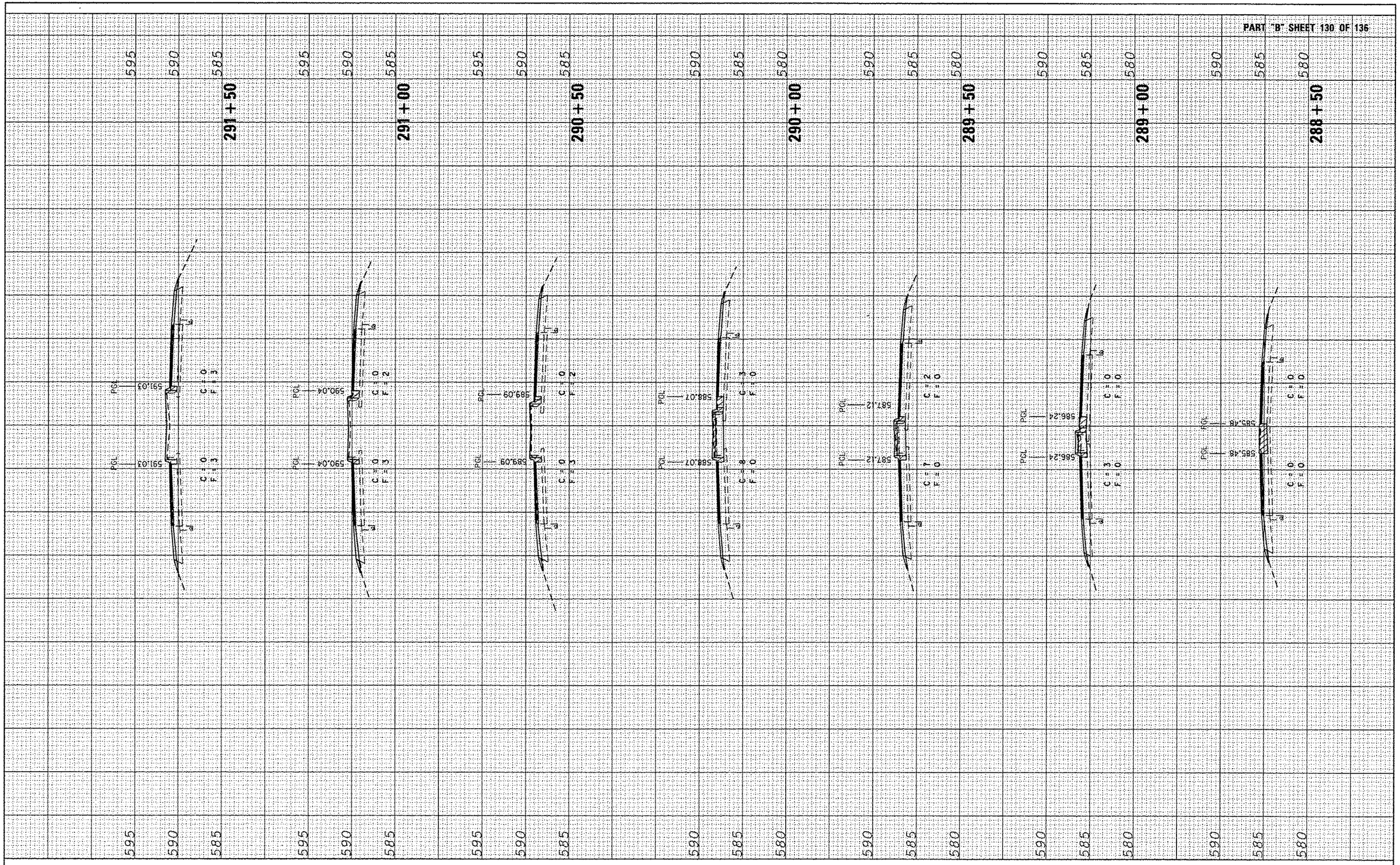
CROSS SECTIONS
MECHANICSBURG RD.

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	194	187
•(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TYPING	
	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TYPING	
	AREAS	
	AREAS CHECKED	



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	PLOT DATE = Sep-26-2013 09:45:54AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 420 (OVERPASS RD.)

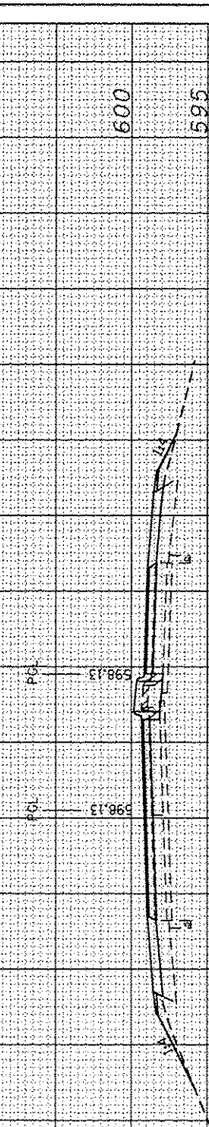
SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	188
*(B4-10-1RS-3,B4-10-2RS-4)BR,I		CONTRACT NO. 72C90		
		ILLINOIS FED. AID PROJECT		

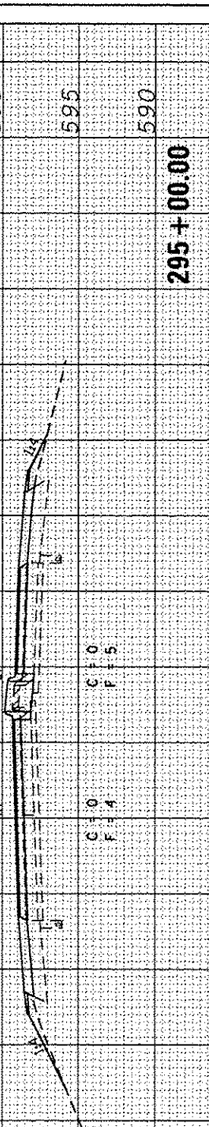
FINAL SURVEY NOTE BOOK NO.
SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED
BY
DATE

ORIGINAL SURVEY NOTE BOOK NO.
SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED
BY
DATE

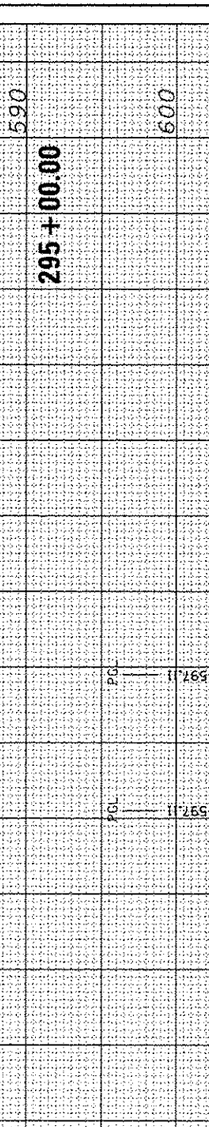
295 + 00.00



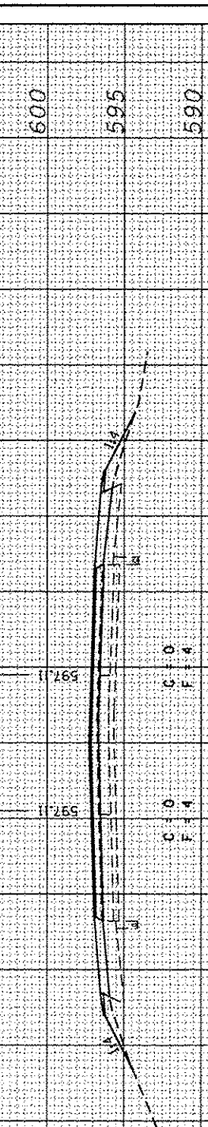
294 + 50.00



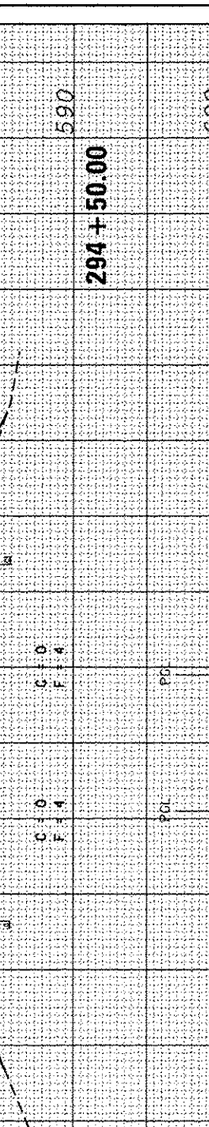
294 + 00.00



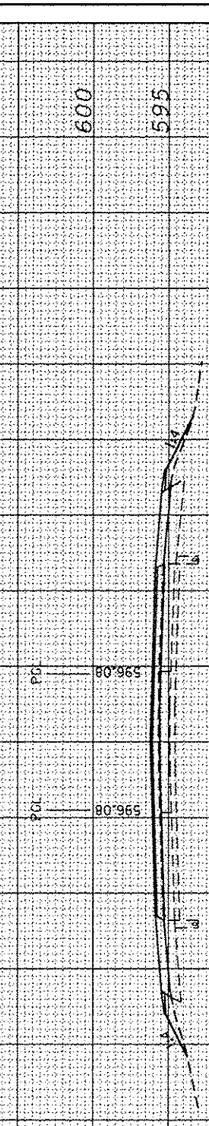
293 + 50.00



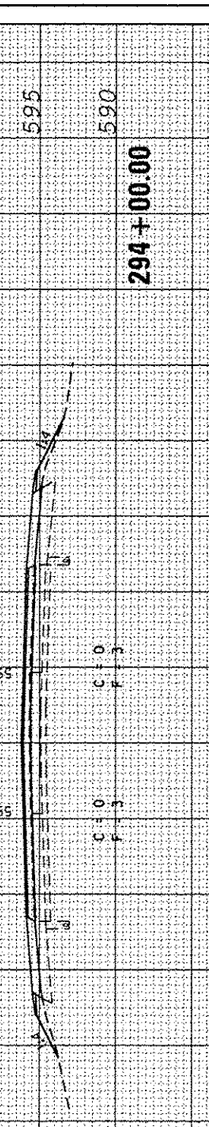
293 + 00.00



292 + 50.00



292 + 00.00



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	PLOT DATE = Sep-06-2013 09:45:37AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

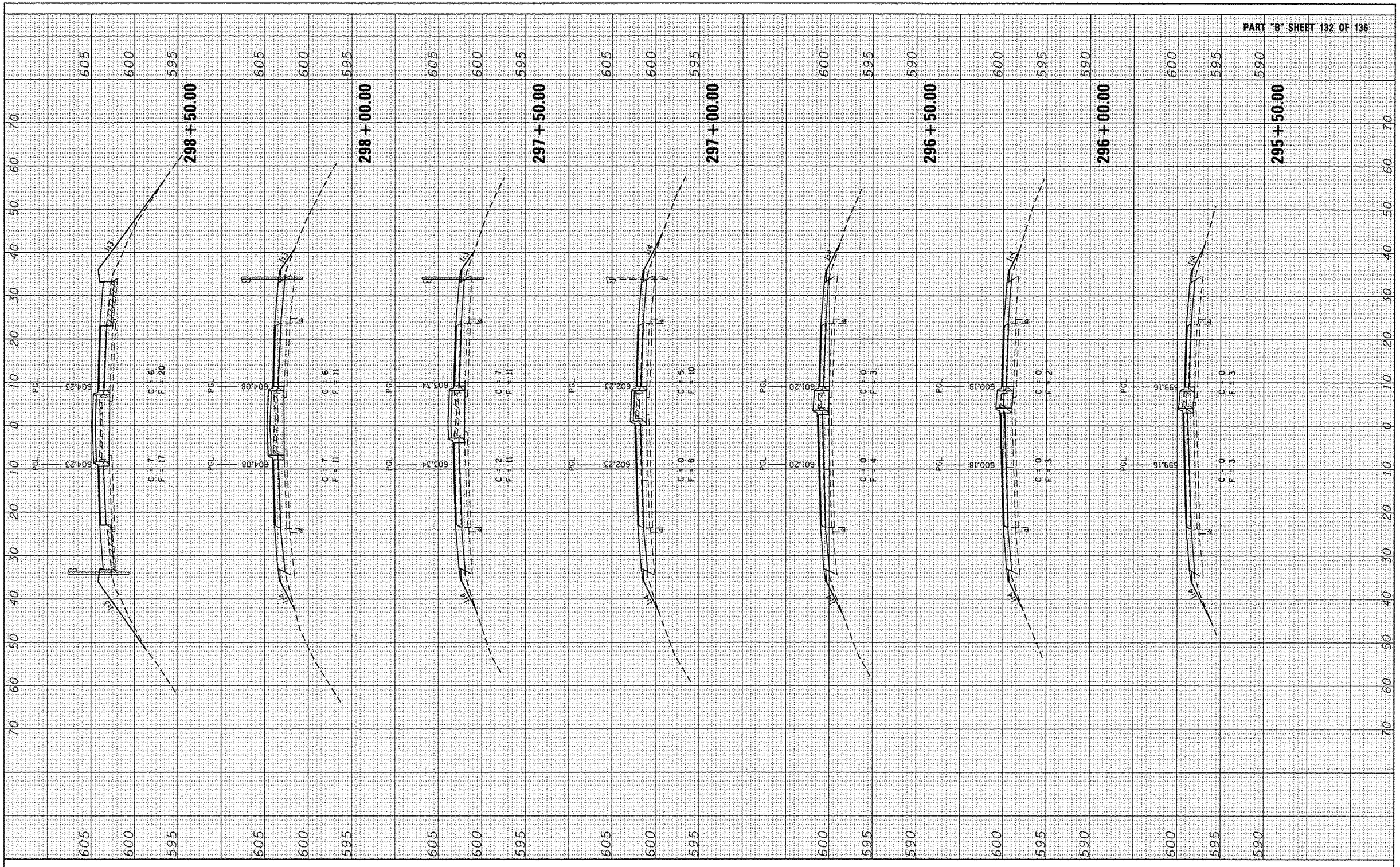
CROSS SECTIONS
TR 420 (OVERPASS RD.)

SCALE: | SHEET NO. OF SHEETS | STA. 292+00 | TO STA. 295+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	189
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS	FED. AID PROJECT			

FINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	DRAWN BY	
	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	DRAWN BY	
	AREAS	
	AREAS CHECKED	



FILE NAME :	USER NAME = sparksgw	DESIGNED - BTM	REVISED -
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	PLOT DATE = Sep-06-2013 09:45:18AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 420 (OVERPASS RD.)

SCALE: | SHEET NO. OF SHEETS | STA. 295+50 | TO STA. 298+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	194	190
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

305 + 00.00

304 + 50.00

304 + 00.00

303 + 50.00

303 + 00.00

302 + 50.00

302 + 00.00

BRIDGE OMISSION STA. 298 + 51.38 TO STA. 301 + 09.22

FILE NAME :	USER NAME = sparksgv	DESIGNED - BTM	REVISED -
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	PLOT DATE = Sep-06-2013 09:45:02AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 420 (OVERPASS RD.)

SCALE: | SHEET NO. OF SHEETS | STA. 302+00 | TO STA. 305+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	191
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

308 + 50.00

PGL 590.33 — C : 0 F : 2

308 + 00.00

PGL 591.28 — C : 0 F : 5

307 + 50.00

PGL 592.16 — C : 0 F : 2

307 + 00.00

PGL 593.23 — C : 0 F : 1

306 + 50.00

PGL 594.25 — C : 0 F : 3

306 + 00.00

PGL 595.28 — C : 0 F : 0

305 + 50.00

PGL 596.30 — C : 0 F : 3

FILE NAME =	USER NAME = sparksgw	DESIGNED - BTM	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 420 (OVERPASS RD.)

SCALE: | SHEET NO. OF SHEETS | STA. 305+50 TO STA. 308+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	192
*(84-10-1RS-3,84-10-2RS-4)BR,I		CONTRACT NO. 72C90		
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	
NOTE BOOK	PLOTTED		DATE
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	
NOTE BOOK	PLOTTED		DATE
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

200+50.00 RAMP B

120+50.00 RAMP A

120+00.00 RAMP A

310+50.00

310+00.00

309+50.00

309+00.00

FILE NAME = c:\pw_work\pwidot\sparksgw\d0359822\D672C90.sht_xs tr420.dgn	USER NAME = sparksgw	DESIGNED - BTM	REVISED -
		DRAWN - BTM	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

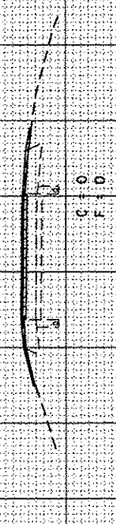
CROSS SECTIONS
TR 420 (OVERPASS RD.)

SCALE: | SHEET NO. OF SHEETS | STA. 309+00 TO STA. 310+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	•	SANGAMON	194	193
	•184-10-1RS-3,84-10-2RS-4IBR,1	CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			

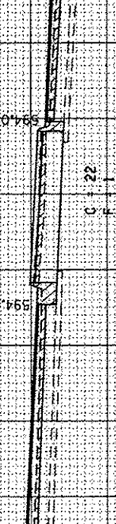
FINAL SURVEY — NOTE BOOK — NO.
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED
BY — DATE

401+50.00 RAMP D



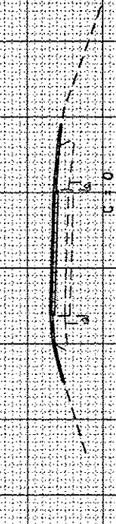
401+00.00 RAMP D

401+50.00 RAMP D



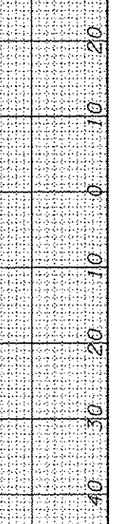
319+00.00 RAMP C

318+50.00 RAMP C



318+00.00 RAMP C

201+00.00 RAMP B



ORIGINAL SURVEY — NOTE BOOK — NO.
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED
BY — DATE

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	PLOT DATE = Sep-06-2013 09:43:47AM	DATE - 9/20/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
TR 420 (OVERPASS RD.)

SCALE: | SHEET NO. OF SHEETS | STA. 88+50 TO STA. 91+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	*	SANGAMON	194	194
	*(84-10-1RS-3.84-10-2RS-4)BR,I	CONTRACT NO. 72C90		
	ILLINOIS FED. AID PROJECT			