

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8 in. φ, holes 15/16 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.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

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.

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

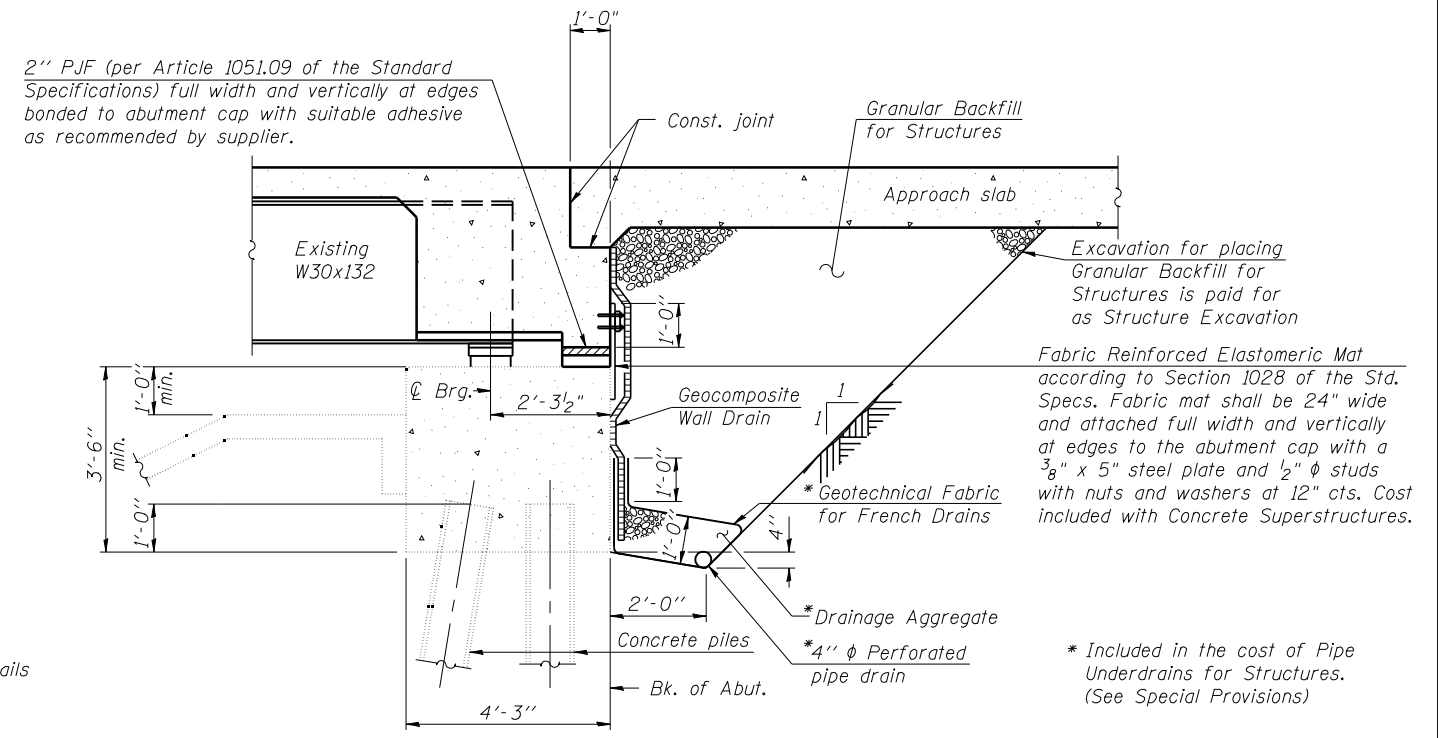
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior erection as required by the special provision Cleaning and Painting Contact Surface Areas of Existing Steel Structures.

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

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

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**SECTION THRU SEMI-INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. L's)

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

STATION 576+83.14  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.I. RTE 55  
SEC. D6 LOGAN CO BR 2011-1  
LOADING HS 20-44 & ALT.  
STRUCTURE NO. 054-0057

**NAME PLATE  
NB STRUCTURE**  
See Std. 515001

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STRUCTURE NO. 054-0058

**NAME PLATE  
SB STRUCTURE**  
See Std. 515001

Existing name plate shall be cleaned and placed next to the new name plate. Cost included in "Name Plates".

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		79.0	79.0
Removal of Existing Concrete Deck No. 1	Each	2		2
Structure Excavation	Cu. Yd.		348	348
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		77.6	77.6
Concrete Superstructure	Cu. Yd.	764.3		764.3
Bridge Deck Grooving	Sq. Yd.	1,934		1,934
Protective Coat	Sq. Yd.	2,386		2,386
Furnishing and Erecting Structural Steel	Pound	4,230		4,230
Stud Shear Connectors	Each	9,108		9,108
Reinforcement Bars, Epoxy Coated	Pound	181,375	13,055	194,430
Bar Splicers	Each	1,450	8	1,458
Name Plates	Each	2		2
Elastomeric Bearing Assembly, Type I	Each	24		24
Anchor Bolts, 1"	Each	48		48
Geocomposite Wall Drain	Sq. Yd.		192	192
Jack and Remove Existing Bearings	Each	24		24
Granular Backfill for Structures	Cu. Yd.		204	204
Structural Repair of Concrete (Depth Equal to or Less Than 5 inches)	Sq. Ft.		9	9
Temporary Sheet Piling	Sq. Ft.		961	961
Diamond Grinding (Bridge Section)	Sq. Yd.	1,826		1,826
Pipe Underdrains for Structures 4"	Foot		280	280
Slope Wall Repair	Sq. Yd.		179	179

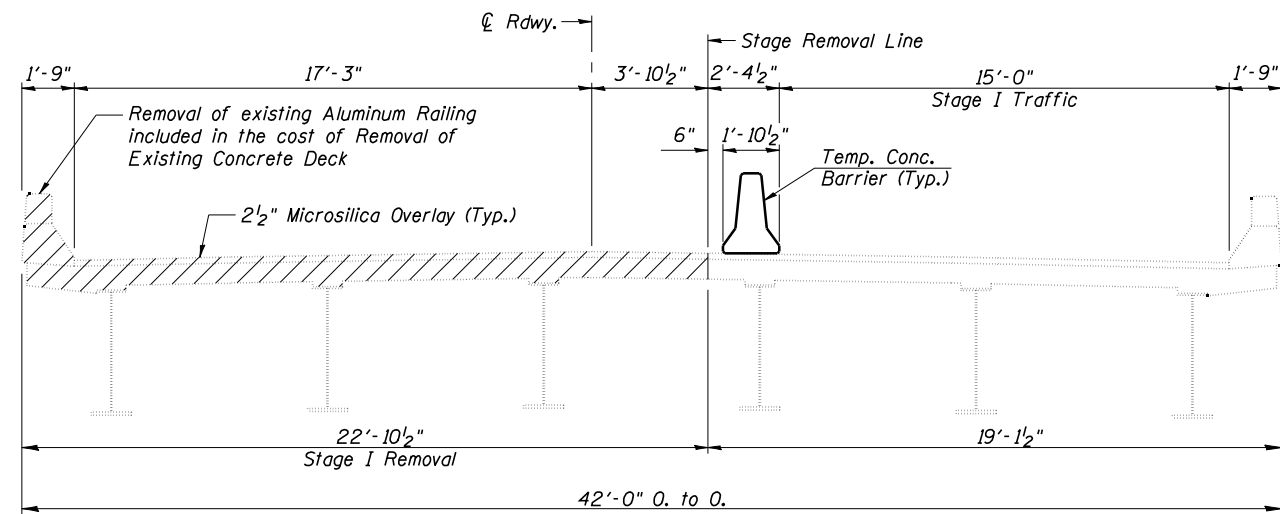
<b>CEC</b> Cummins Engineering Corporation Civil and Structural Engineering	JOB = 2276.3	DESIGNED - AAN	REVISED -
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	DATE = 2/11/2013	DRAWN - SJS	REVISED -
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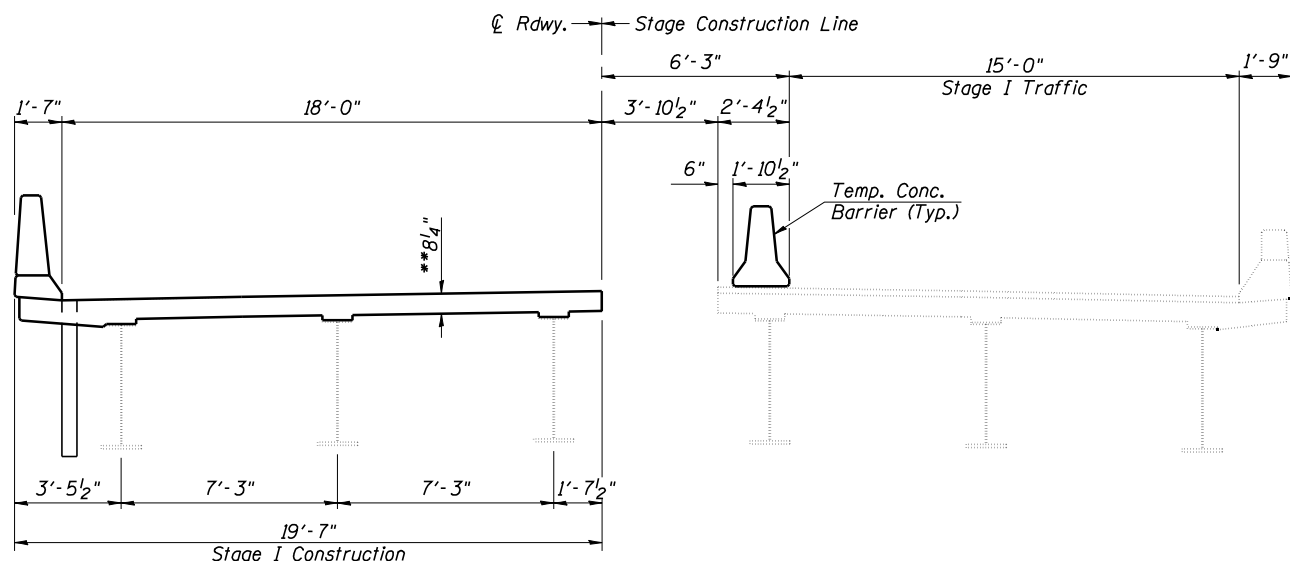
**GENERAL DATA  
STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

SHEET NO. 2 OF 31 SHEETS

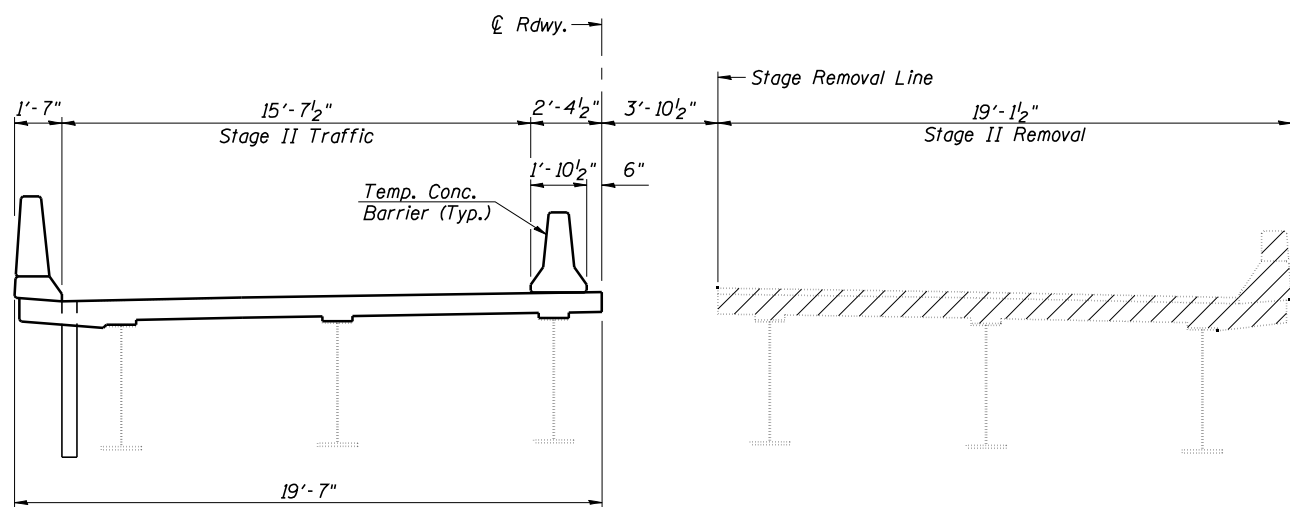
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55	D6 LOGAN CO BR 2011-1	LOGAN	429	201
			CONTRACT NO. 72E11	
ILLINOIS FED. AID PROJECT				



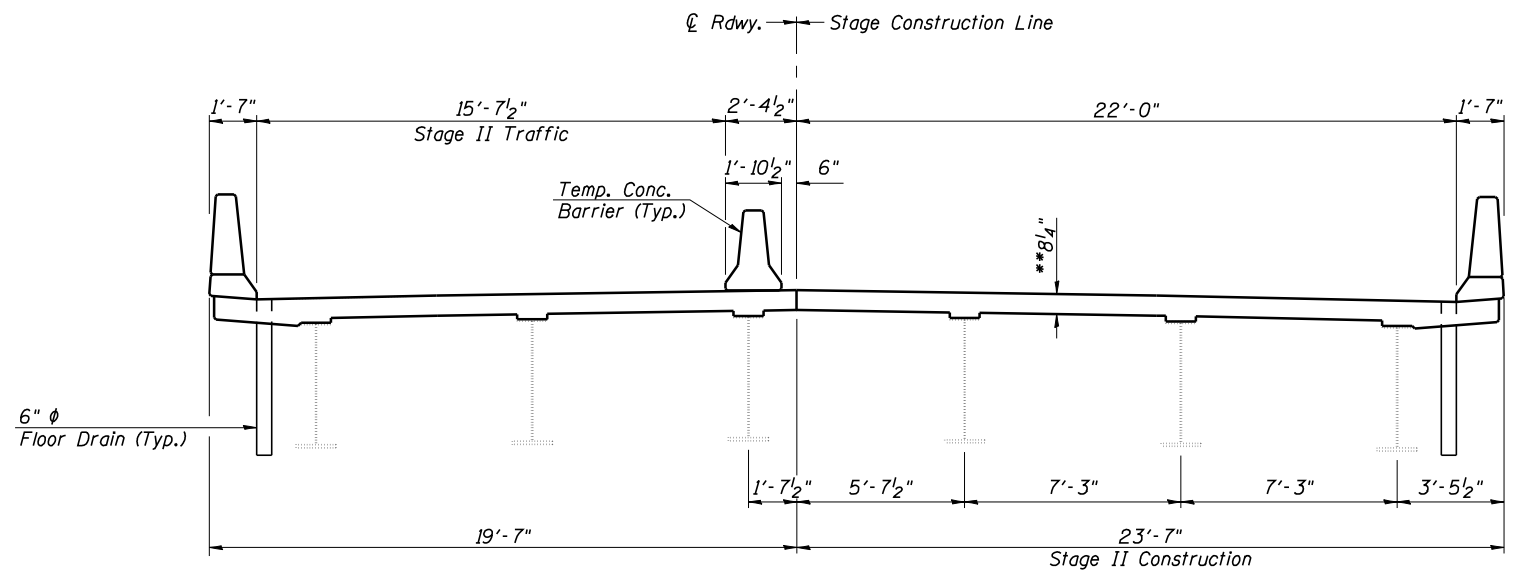
**STAGE I REMOVAL**  
(Looking in the direction of traffic)



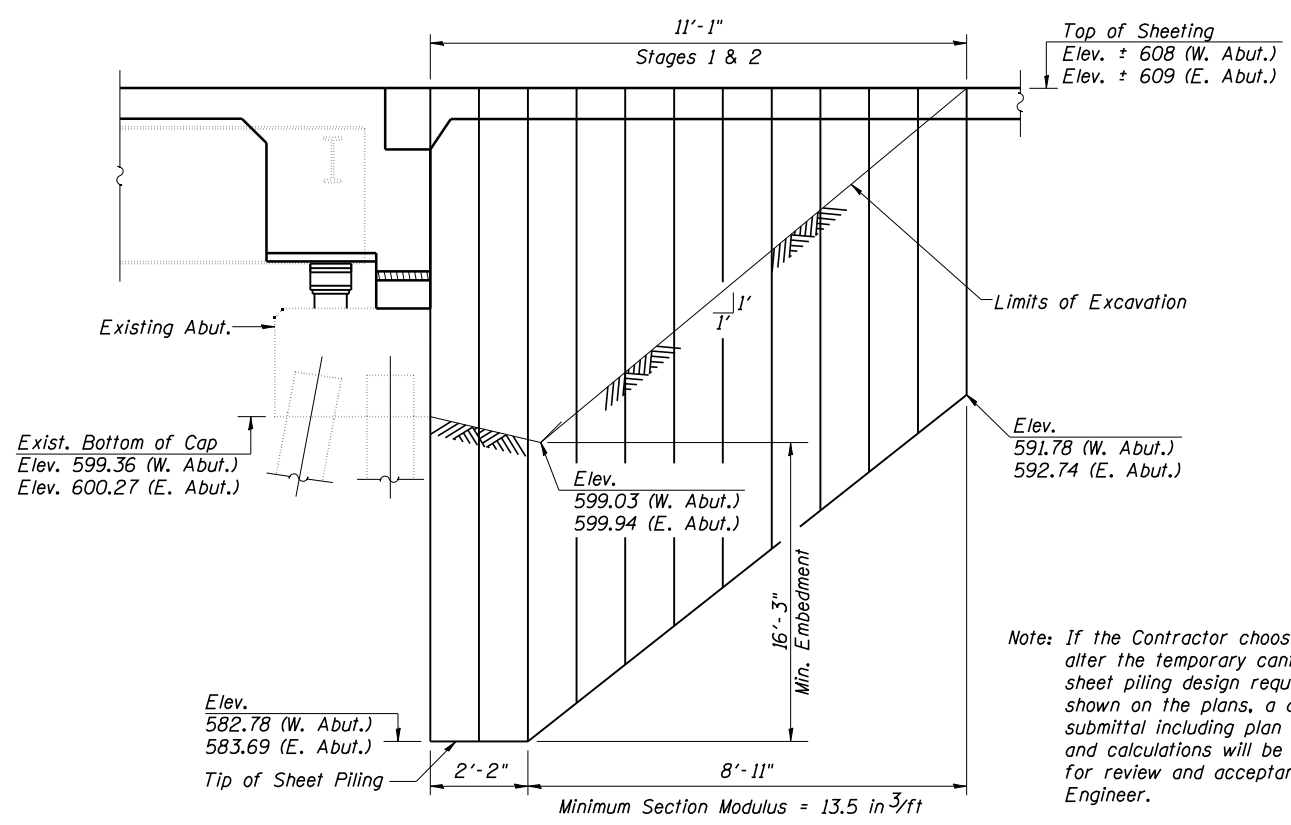
**STAGE I CONSTRUCTION**  
(Looking in the direction of traffic)



**STAGE II REMOVAL**  
(Looking in the direction of traffic)



**STAGE II CONSTRUCTION**  
(Looking in the direction of traffic)



Note: If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

Note  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum

**TEMPORARY SHEET PILING DETAILS**



JOB = 2276.3	DESIGNED - AAN	REVISED -
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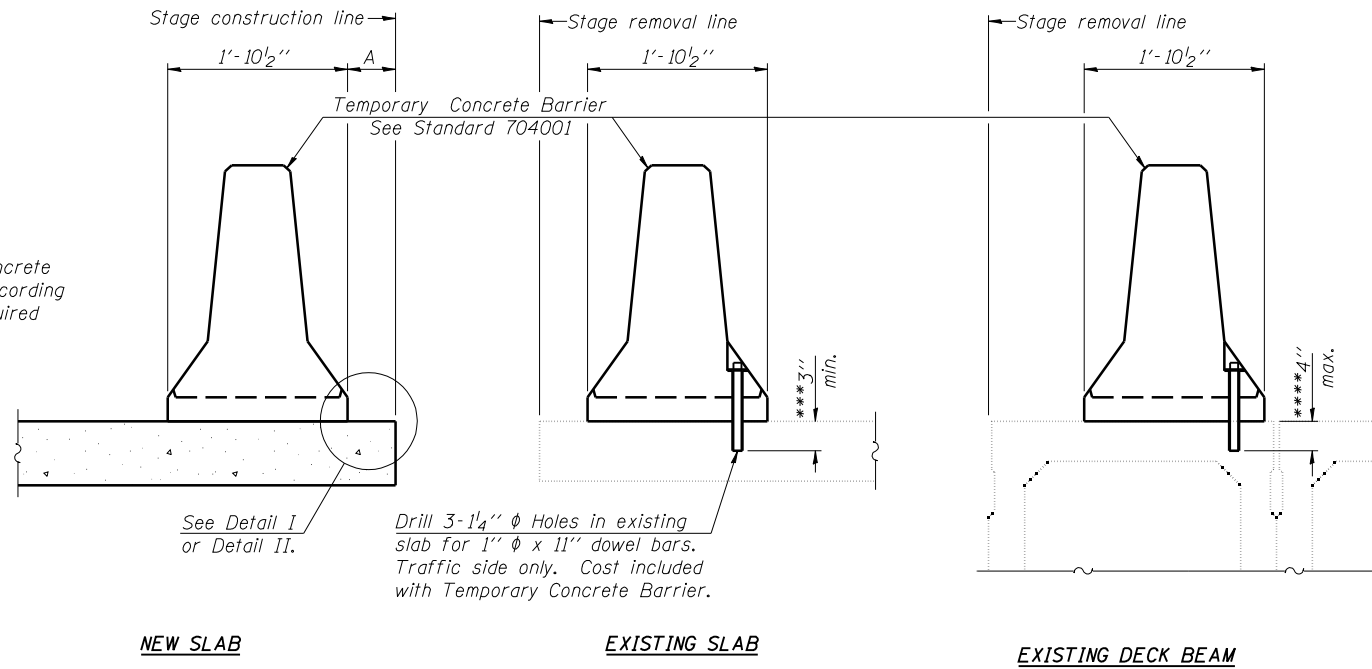
STAGE CONSTRUCTION DETAILS & TEMPORARY SHEET PILING  
STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)

SHEET NO. 3 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	202
CONTRACT NO. 72E11				

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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".



**SECTIONS THRU SLAB OR DECK BEAM**

**NOTES**

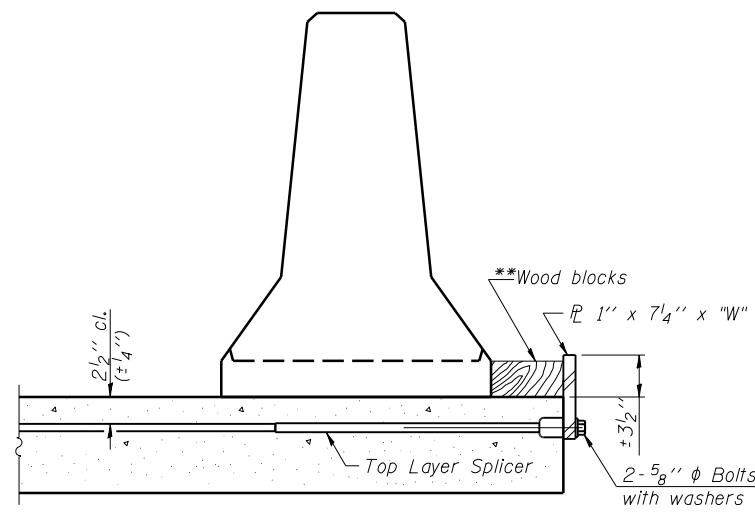
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7/4" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7/4" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

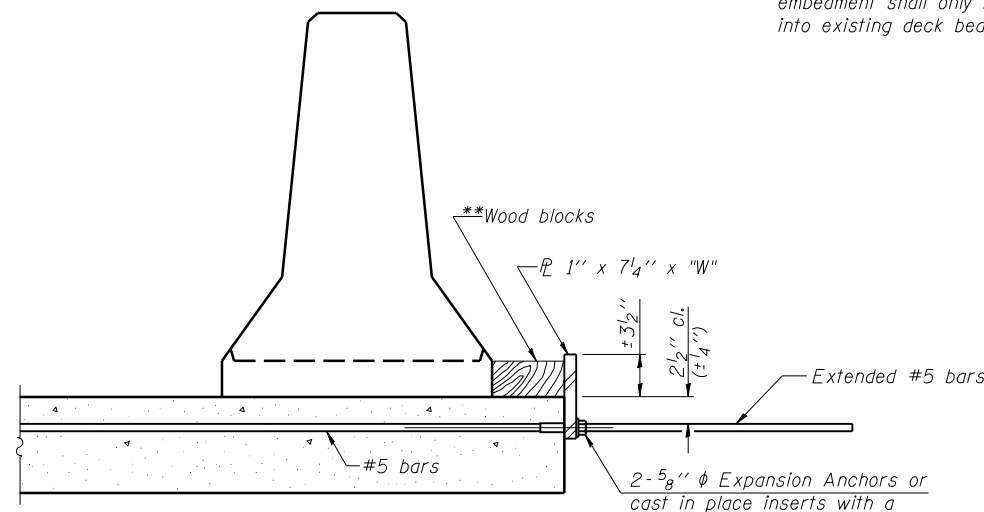
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7/4" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

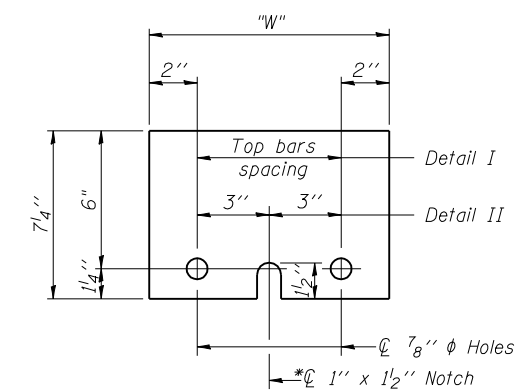
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**DETAIL I**



**DETAIL II**



**STEEL RETAINER PL 1" x 7/4" x "W"**

\* Required only with 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"

R-27 (Modified)



JOB = 2276.3	DESIGNED - AAN	REVISED -
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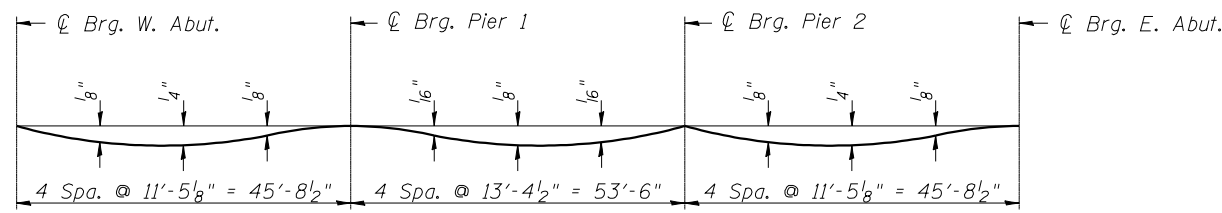
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MODIFIED TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

SHEET NO. 4 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	203
			CONTRACT NO. 72E11	

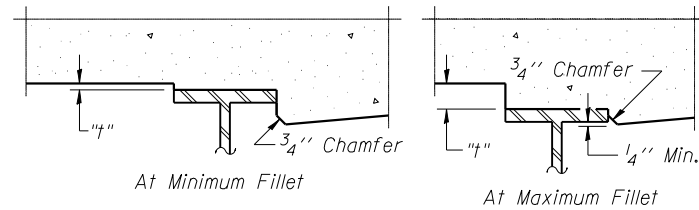
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**DEAD LOAD DEFLECTION DIAGRAM**

(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 below.



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, minus slab thickness, equals the fillet heights "t" above top flange of beams.

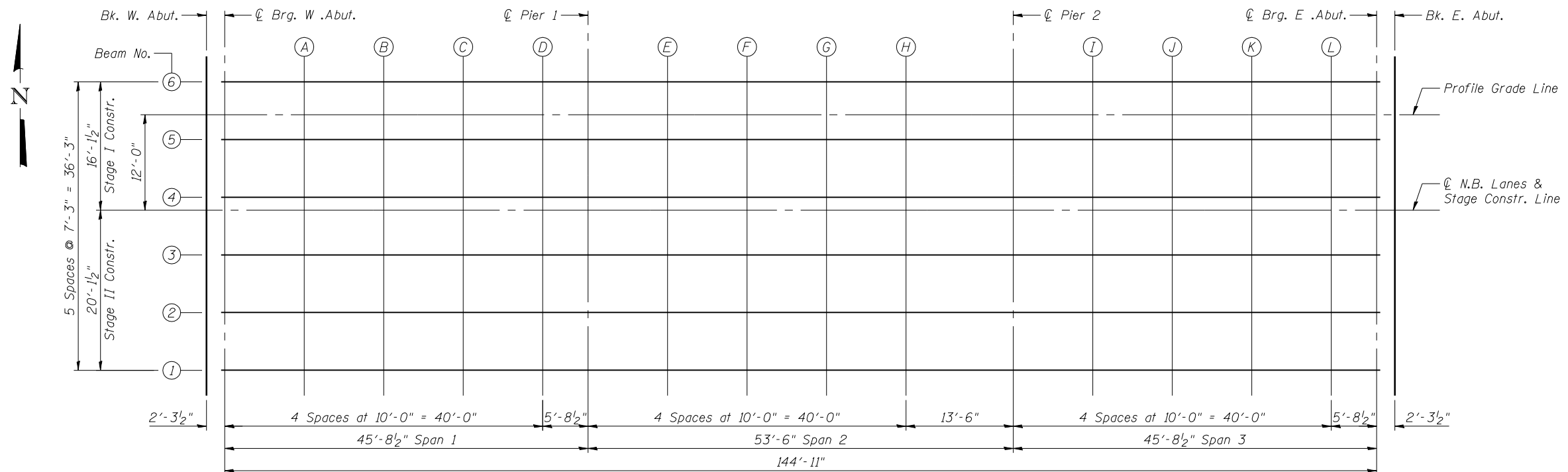
**FILLET HEIGHTS**

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	32.13	607.62	607.64
CL Brg. W. Abut.	576+11.69	32.13	607.64	607.66
A	576+21.69	32.13	607.73	607.76
B	576+31.69	32.13	607.82	607.86
C	576+41.69	32.13	607.90	607.93
D	576+51.69	32.13	607.98	608.00
CL Pier 1	576+57.40	32.13	608.02	608.04
E	576+67.40	32.13	608.09	608.12
F	576+77.40	32.13	608.16	608.19
G	576+87.40	32.13	608.23	608.26
H	576+97.40	32.13	608.29	608.32
CL Pier 2	577+10.90	32.13	608.36	608.38
I	577+20.90	32.13	608.42	608.45
J	577+30.90	32.13	608.47	608.50
K	577+40.90	32.13	608.51	608.54
L	577+50.90	32.13	608.55	608.58
CL Brg. E. Abut.	577+56.61	32.13	608.57	608.59
Bk. E. Abut.	577+58.90	32.13	608.58	608.60

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	24.88	607.77	607.79
CL Brg. W. Abut.	576+11.69	24.88	607.79	607.81
A	576+21.69	24.88	607.88	607.91
B	576+31.69	24.88	607.97	908.01
C	576+41.69	24.88	608.05	608.08
D	576+51.69	24.88	608.13	608.15
CL Pier 1	576+57.40	24.88	608.17	608.19
E	576+67.40	24.88	608.24	608.27
F	576+77.40	24.88	608.31	608.34
G	576+87.40	24.88	608.38	608.41
H	576+97.40	24.88	608.44	608.47
CL Pier 2	577+10.90	24.88	608.52	608.54
I	577+20.90	24.88	608.57	608.60
J	577+30.90	24.88	608.62	608.65
K	577+40.90	24.88	608.66	608.70
L	577+50.90	24.88	608.70	608.73
CL Brg. E. Abut.	577+56.61	24.88	608.72	608.74
Bk. E. Abut.	577+58.90	24.88	608.73	608.75



**PLAN**



JOB = 2276.3  
 FILE = 0540057\_0058-SN0057TopSlabElev.dgn  
 DATE = 2/11/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
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 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
 STRUCTURE NO. 054-0057 (NB)**

SHEET NO. 5 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	204
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	17.63	607.89	607.91
CL Brg. W. Abut.	576+11.69	17.63	607.91	607.93
A	576+21.69	17.63	608.00	608.03
B	576+31.69	17.63	608.09	608.12
C	576+41.69	17.63	608.17	608.20
D	576+51.69	17.63	608.25	608.27
CL Pier 1	576+57.40	17.63	608.29	608.31
E	576+67.40	17.63	608.36	608.39
F	576+77.40	17.63	608.43	608.46
G	576+87.40	17.63	608.50	608.53
H	576+97.40	17.63	608.56	608.59
CL Pier 2	577+10.90	17.63	608.63	608.65
I	577+20.90	17.63	608.69	608.71
J	577+30.90	17.63	608.73	608.77
K	577+40.90	17.63	608.78	608.81
L	577+50.90	17.63	608.82	608.84
CL Brg. E. Abut.	577+56.61	17.63	608.84	608.86
Bk. E. Abut.	577+58.90	17.63	608.85	608.87

**CL N.B. LANES AND STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	12.00	607.98	608.00
CL Brg. W. Abut.	576+11.69	12.00	608.00	608.02
A	576+21.69	12.00	608.09	608.12
B	576+31.69	12.00	608.17	608.21
C	576+41.69	12.00	608.26	608.29
D	576+51.69	12.00	608.33	608.36
CL Pier 1	576+57.40	12.00	608.38	608.40
E	576+67.40	12.00	608.45	608.48
F	576+77.40	12.00	608.52	608.55
G	576+87.40	12.00	608.58	608.61
H	576+97.40	12.00	608.64	608.67
CL Pier 2	577+10.90	12.00	608.72	608.74
I	577+20.90	12.00	608.77	608.80
J	577+30.90	12.00	608.82	608.86
K	577+40.90	12.00	608.87	608.90
L	577+50.90	12.00	608.91	608.93
CL Brg. E. Abut.	577+56.61	12.00	608.93	608.95
Bk. E. Abut.	577+58.90	12.00	608.94	608.96

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	10.38	607.95	607.97
CL Brg. W. Abut.	576+11.69	10.38	608.97	607.99
A	576+21.69	10.38	608.06	608.09
B	576+31.69	10.38	608.15	608.19
C	576+41.69	10.38	608.23	608.26
D	576+51.69	10.38	608.31	608.33
CL Pier 1	576+57.40	10.38	608.35	608.37
E	576+67.40	10.38	608.42	608.45
F	576+77.40	10.38	608.49	608.52
G	576+87.40	10.38	608.56	608.59
H	576+97.40	10.38	608.62	608.65
CL Pier 2	577+10.90	10.38	608.70	608.72
I	577+20.90	10.38	608.75	608.78
J	577+30.90	10.38	608.80	608.83
K	577+40.90	10.38	608.84	608.88
L	577+50.90	10.38	608.82	608.91
CL Brg. E. Abut.	577+56.61	10.38	608.90	608.92
Bk. E. Abut.	577+58.90	10.38	608.91	608.93

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	3.13	607.83	607.86
CL Brg. W. Abut.	576+11.69	3.13	607.86	607.88
A	576+21.69	3.13	607.95	607.98
B	576+31.69	3.13	608.04	608.07
C	576+41.69	3.13	608.12	608.15
D	576+51.69	3.13	608.20	608.22
CL Pier 1	576+57.40	3.13	608.24	608.26
E	576+67.40	3.13	608.31	608.34
F	576+77.40	3.13	608.38	608.41
G	576+87.40	3.13	608.44	608.47
H	576+97.40	3.13	608.51	608.54
CL Pier 2	577+10.90	3.13	608.58	608.60
I	577+20.90	3.13	608.63	608.66
J	577+30.90	3.13	608.68	608.72
K	577+40.90	3.13	608.73	608.76
L	577+50.90	3.13	608.77	608.79
CL Brg. E. Abut.	577+56.61	3.13	608.79	608.81
Bk. E. Abut.	577+58.90	3.13	608.80	608.82

**PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	0.00	607.79	607.81
CL Brg. W. Abut.	576+11.69	0.00	607.81	607.83
A	576+21.69	0.00	607.90	607.93
B	576+31.69	0.00	607.99	608.02
C	576+41.69	0.00	608.07	608.10
D	576+51.69	0.00	608.15	608.17
CL Pier 1	576+57.40	0.00	608.19	608.21
E	576+67.40	0.00	608.26	608.29
F	576+77.40	0.00	608.33	608.36
G	576+87.40	0.00	608.40	608.43
H	576+97.40	0.00	608.46	608.49
CL Pier 2	577+10.90	0.00	608.53	608.55
I	577+20.90	0.00	608.59	608.61
J	577+30.90	0.00	608.63	608.67
K	577+40.90	0.00	608.68	608.71
L	577+50.90	0.00	608.72	608.75
CL Brg. E. Abut.	577+56.61	0.00	608.74	608.76
Bk. E. Abut.	577+58.90	0.00	608.75	608.77

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-4.13	607.70	607.72
CL Brg. W. Abut.	576+11.69	-4.13	607.73	607.75
A	576+21.69	-4.13	607.81	607.84
B	576+31.69	-4.13	607.90	607.94
C	576+41.69	-4.13	607.98	608.02
D	576+51.69	-4.13	608.06	608.09
CL Pier 1	576+57.40	-4.13	608.10	608.12
E	576+67.40	-4.13	608.18	608.20
F	576+77.40	-4.13	608.25	608.28
G	576+87.40	-4.13	608.31	608.34
H	576+97.40	-4.13	608.37	608.40
CL Pier 2	577+10.90	-4.13	608.45	608.47
I	577+20.90	-4.13	608.50	608.53
J	577+30.90	-4.13	608.55	608.59
K	577+40.90	-4.13	608.59	608.63
L	577+50.90	-4.13	608.63	608.66
CL Brg. E. Abut.	577+56.61	-4.13	608.66	608.68
Bk. E. Abut.	577+58.90	-4.13	608.66	608.68



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 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
 STRUCTURE NO. 054-0057 (NB)**

SHEET NO. 6 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	205
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT

**NORTH CURB LINE**

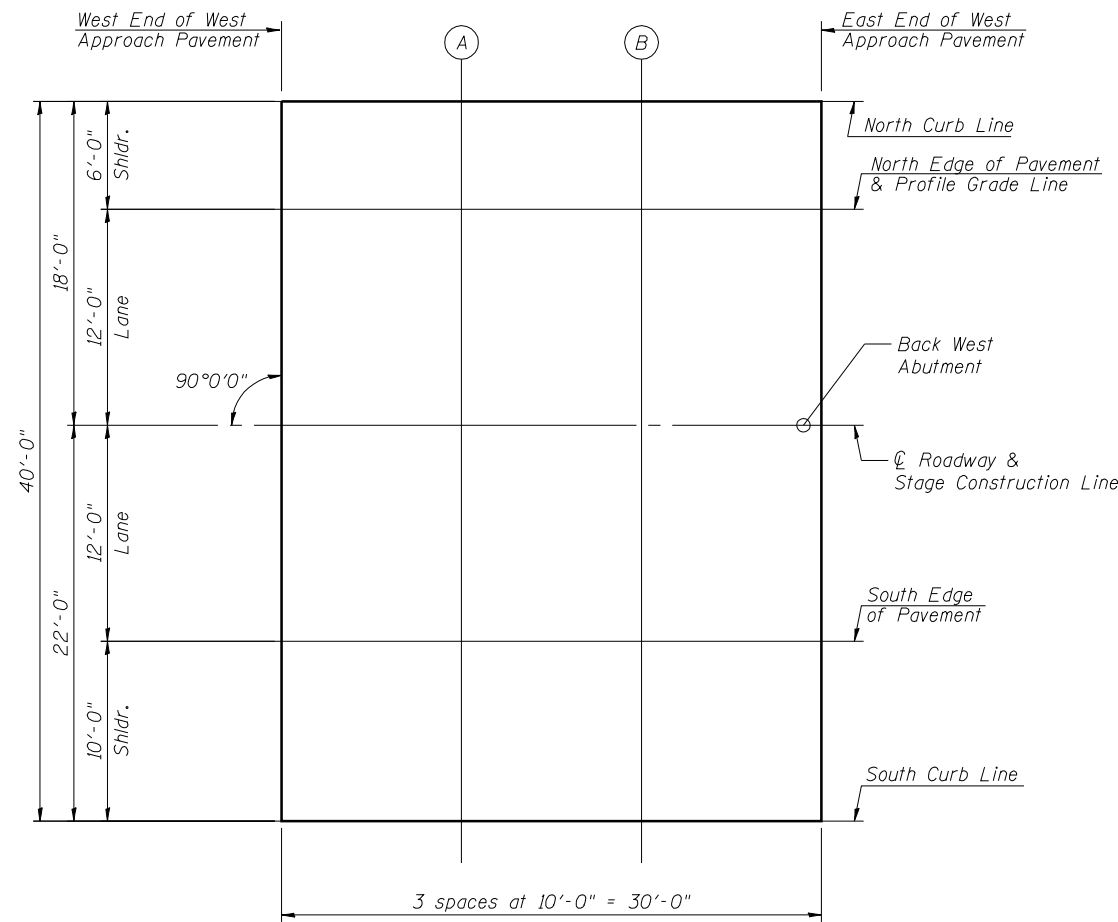
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	-6.00	607.38	607.40
A	575+90.40	-6.00	607.48	607.50
B	576+00.40	-6.00	607.58	607.60
E. End W. Appr. Pav't.	576+10.40	-6.00	607.67	607.69

**NORTH EDGE OF PAVEMENT & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	0.00	607.51	607.53
A	575+90.40	0.00	607.61	607.63
B	576+00.40	0.00	607.71	607.73
E. End W. Appr. Pav't.	576+10.40	0.00	607.80	607.82

**☉ ROADWAY AND STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	12.00	607.69	607.71
A	575+90.40	12.00	607.79	607.81
B	576+00.40	12.00	607.89	607.91
E. End W. Appr. Pav't.	576+10.40	12.00	607.99	608.01



**PLAN  
WEST APPROACH PAVEMENT - NB**

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	24.00	607.51	607.53
A	575+90.40	24.00	607.61	607.63
B	576+00.40	24.00	607.71	607.73
E. End W. Appr. Pav't.	576+10.40	24.00	607.80	607.82

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	34.00	607.30	607.32
A	575+90.40	34.00	607.40	607.42
B	576+00.40	34.00	607.50	607.52
E. End W. Appr. Pav't.	576+10.40	34.00	607.59	607.61

**NORTH CURB LINE**

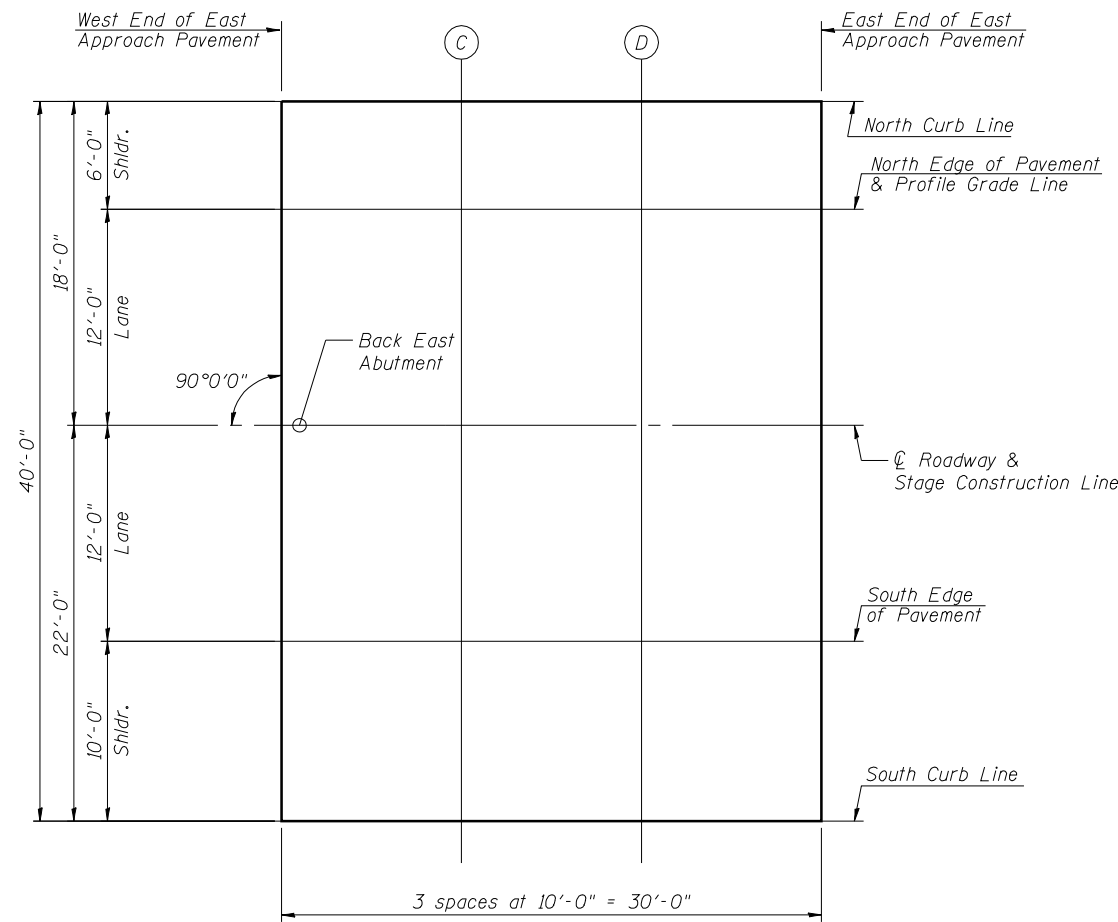
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	-6.00	608.62	608.64
C	577+67.90	-6.00	608.66	608.68
D	577+77.90	-6.00	608.69	608.71
E. End E. Appr. Pav't.	577+87.90	-6.00	608.71	608.73

**NORTH EDGE OF PAVEMENT & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	0.00	608.75	608.77
C	577+67.90	0.00	608.78	608.80
D	577+77.90	0.00	608.81	608.83
E. End E. Appr. Pav't.	577+87.90	0.00	608.84	608.86

**☉ ROADWAY AND STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	12.00	608.93	608.95
C	577+67.90	12.00	608.97	608.99
D	577+77.90	12.00	609.00	609.02
E. End E. Appr. Pav't.	577+87.90	12.00	609.03	609.05



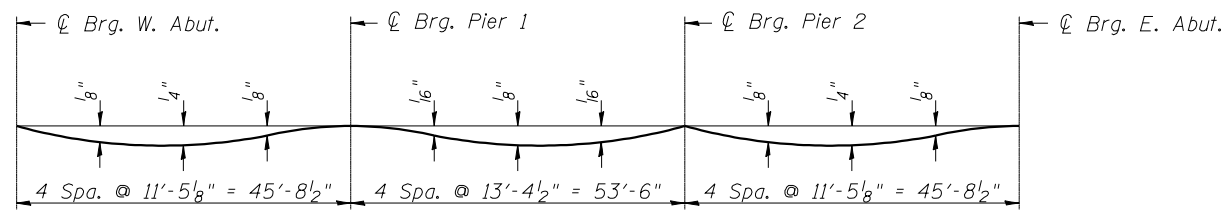
**PLAN  
EAST APPROACH PAVEMENT - NB**

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	24.00	608.75	608.77
C	577+67.90	24.00	608.78	608.80
D	577+77.90	24.00	608.81	608.83
E. End E. Appr. Pav't.	577+87.90	24.00	608.84	608.86

**SOUTH CURB LINE**

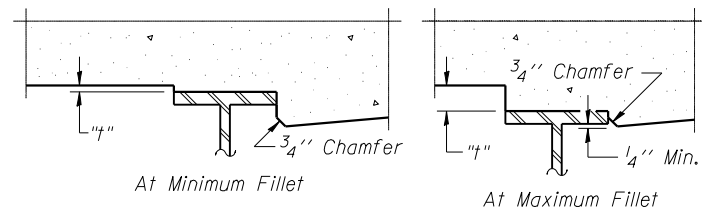
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	34.00	608.54	608.56
C	577+67.90	34.00	608.57	608.59
D	577+77.90	34.00	608.60	608.62
E. End E. Appr. Pav't.	577+87.90	34.00	608.63	608.65



**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 below.



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, minus slab thickness, equals the fillet heights "t" above top flange of beams.

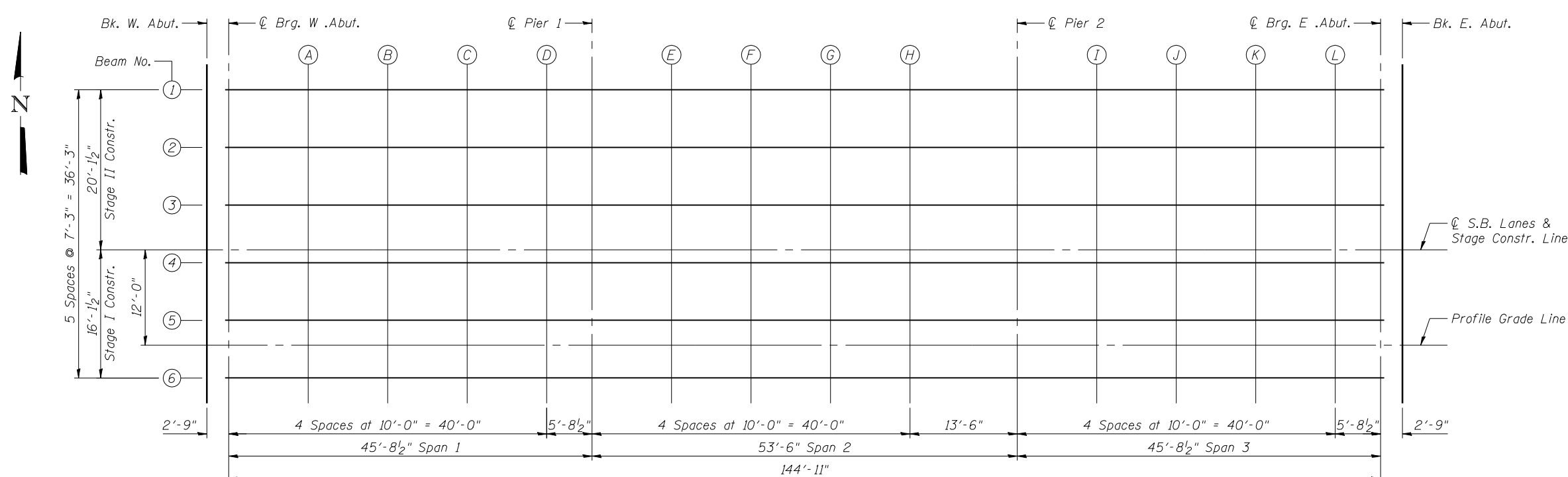
**FILLET HEIGHTS**

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-32.13	607.68	607.70
CL Brg. W. Abut.	576+11.69	-32.13	607.70	607.72
A	576+21.69	-32.13	607.79	607.82
B	576+31.69	-32.13	607.87	607.91
C	576+41.69	-32.13	607.96	607.99
D	576+51.65	-32.13	608.03	608.06
CL Pier 1	576+57.40	-32.13	608.08	608.10
E	576+77.40	-32.13	608.15	608.18
F	576+77.40	-32.13	608.22	608.25
G	576+87.40	-32.13	608.28	608.31
H	576+97.40	-32.13	608.34	608.37
CL Pier 2	577+10.90	-32.13	608.42	608.44
I	577+20.90	-32.13	608.47	608.50
J	577+30.90	-32.13	608.52	608.56
K	577+40.90	-32.13	608.56	608.60
L	577+50.90	-32.13	608.60	608.63
CL Brg. E. Abut.	577+56.61	-32.13	608.63	608.65
Bk. E. Abut.	577+58.90	-32.13	608.63	608.65

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-24.88	607.83	607.85
CL Brg. W. Abut.	576+11.69	-24.88	607.85	607.87
A	576+21.69	-24.88	607.94	607.97
B	576+31.69	-24.88	608.03	608.06
C	576+41.69	-24.88	608.11	608.14
D	576+51.65	-24.88	608.19	608.21
CL Pier 1	576+57.40	-24.88	608.23	608.25
E	576+77.40	-24.88	608.30	608.33
F	576+77.40	-24.88	608.37	608.40
G	576+87.40	-24.88	608.43	608.46
H	576+97.40	-24.88	608.49	608.52
CL Pier 2	577+10.90	-24.88	608.57	608.59
I	577+20.90	-24.88	608.62	608.65
J	577+30.90	-24.88	608.67	608.71
K	577+40.90	-24.88	608.71	608.75
L	577+50.90	-24.88	608.76	608.78
CL Brg. E. Abut.	577+56.61	-24.88	608.78	608.80
Bk. E. Abut.	577+58.90	-24.88	608.79	608.81



**PLAN**



JOB = 2276.3  
FILE = 0540057\_0058-SN0058TopSlabElev.dgn  
DATE = 2/11/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 054-0058 (SB)**

SHEET NO. 9 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	208
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT



**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-17.63	607.95	607.97
CL Brg. W. Abut.	576+11.69	-17.63	607.97	607.99
A	576+21.69	-17.63	608.06	608.09
B	576+31.69	-17.63	608.14	608.18
C	576+41.69	-17.63	608.22	608.26
D	576+51.65	-17.63	608.30	608.33
CL Pier 1	576+57.40	-17.63	608.35	608.37
E	576+77.40	-17.63	608.42	608.45
F	576+77.40	-17.63	608.49	608.52
G	576+87.40	-17.63	608.55	608.58
H	576+97.40	-17.63	608.61	608.64
CL Pier 2	577+10.90	-17.63	608.69	608.71
I	577+20.90	-17.63	608.74	607.77
J	577+30.90	-17.63	608.79	608.83
K	577+40.90	-17.63	608.83	608.87
L	577+50.90	-17.63	608.87	608.90
CL Brg. E. Abut.	577+56.61	-17.63	608.89	608.91
Bk. E. Abut.	577+58.90	-17.63	608.90	608.92

**CL S.B. LANES AND STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-12.00	608.03	608.05
CL Brg. W. Abut.	576+11.69	-12.00	608.06	608.08
A	576+21.69	-12.00	608.15	608.17
B	576+31.69	-12.00	608.23	608.27
C	576+41.69	-12.00	608.31	608.35
D	576+51.65	-12.00	608.39	608.42
CL Pier 1	576+57.40	-12.00	608.43	608.45
E	576+77.40	-12.00	608.51	608.53
F	576+77.40	-12.00	608.57	608.60
G	576+87.40	-12.00	608.64	608.67
H	576+97.40	-12.00	608.70	608.73
CL Pier 2	577+10.90	-12.00	608.78	608.80
I	577+20.90	-12.00	608.83	608.86
J	577+30.90	-12.00	608.88	608.91
K	577+40.90	-12.00	608.92	608.95
L	577+50.90	-12.00	608.96	608.99
CL Brg. E. Abut.	577+56.61	-12.00	608.98	609.00
Bk. E. Abut.	577+58.90	-12.00	608.99	609.01

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-10.38	608.01	609.03
CL Brg. W. Abut.	576+11.69	-10.38	608.03	608.05
A	576+21.69	-10.38	608.12	608.15
B	576+31.69	-10.38	608.21	608.24
C	576+41.69	-10.38	608.29	608.32
D	576+51.65	-10.38	608.37	608.39
CL Pier 1	576+57.40	-10.38	608.41	608.43
E	576+77.40	-10.38	608.48	608.51
F	576+77.40	-10.38	608.55	608.58
G	576+87.40	-10.38	608.61	608.64
H	576+97.40	-10.38	608.67	608.70
CL Pier 2	577+10.90	-10.38	608.75	608.77
I	577+20.90	-10.38	608.80	608.82
J	577+30.90	-10.38	608.85	608.89
K	577+40.90	-10.38	608.89	608.93
L	577+50.90	-10.38	608.94	608.96
CL Brg. E. Abut.	577+56.61	-10.38	608.96	608.98
Bk. E. Abut.	577+58.90	-10.38	608.97	608.99

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	-3.13	607.90	607.92
CL Brg. W. Abut.	576+11.69	-3.13	607.92	607.94
A	576+21.69	-3.13	608.01	608.04
B	576+31.69	-3.13	608.09	608.13
C	576+41.69	-3.13	608.17	608.21
D	576+51.65	-3.13	608.25	608.28
CL Pier 1	576+57.40	-3.13	608.29	608.31
E	576+77.40	-3.13	608.37	608.39
F	576+77.40	-3.13	608.44	608.47
G	576+87.40	-3.13	608.50	608.53
H	576+97.40	-3.13	608.56	608.59
CL Pier 2	577+10.90	-3.13	608.64	608.66
I	577+20.90	-3.13	608.69	608.72
J	577+30.90	-3.13	608.74	608.78
K	577+40.90	-3.13	608.78	608.82
L	577+50.90	-3.13	608.82	608.85
CL Brg. E. Abut.	577+56.61	-3.13	608.84	608.86
Bk. E. Abut.	577+58.90	-3.13	608.85	608.87

**PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	0.00	607.85	607.87
CL Brg. W. Abut.	576+11.69	0.00	607.87	607.89
A	576+21.69	0.00	607.96	907.99
B	576+31.69	0.00	608.04	608.08
C	576+41.69	0.00	608.13	608.16
D	576+51.65	0.00	608.20	608.23
CL Pier 1	576+57.40	0.00	608.25	608.27
E	576+77.40	0.00	608.32	608.35
F	576+77.40	0.00	608.39	608.42
G	576+87.40	0.00	608.45	608.48
H	576+97.40	0.00	608.51	608.54
CL Pier 2	577+10.90	0.00	608.59	608.61
I	577+20.90	0.00	608.64	608.67
J	577+30.90	0.00	608.69	608.73
K	577+40.90	0.00	608.73	608.77
L	577+50.90	0.00	608.77	608.80
CL Brg. E. Abut.	577+56.61	0.00	608.79	607.81
Bk. E. Abut.	577+58.90	0.00	608.80	608.82

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	576+09.40	4.13	607.76	607.78
CL Brg. W. Abut.	576+11.69	4.13	607.78	607.80
A	576+21.69	4.13	607.87	607.90
B	576+31.69	4.13	607.96	608.00
C	576+41.69	4.13	608.04	608.07
D	576+51.65	4.13	608.12	608.14
CL Pier 1	576+57.40	4.13	608.16	608.18
E	576+77.40	4.13	608.23	608.26
F	576+77.40	4.13	608.30	608.33
G	576+87.40	4.13	608.37	608.40
H	576+97.40	4.13	608.43	608.46
CL Pier 2	577+10.90	4.13	608.50	608.52
I	577+20.90	4.13	608.55	608.58
J	577+30.90	4.13	608.60	608.64
K	577+40.90	4.13	608.65	608.68
L	577+50.90	4.13	608.69	608.71
CL Brg. E. Abut.	577+56.61	4.13	608.71	608.73
Bk. E. Abut.	577+58.90	4.13	608.72	608.74



JOB = 2276.3  
 FILE = 0540057\_0058-SN0058TopSlabElev.dgn  
 DATE = 2/11/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
 STRUCTURE NO. 054-0058 (SB)**

SHEET NO. 10 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	209
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT

**NORTH CURB LINE**

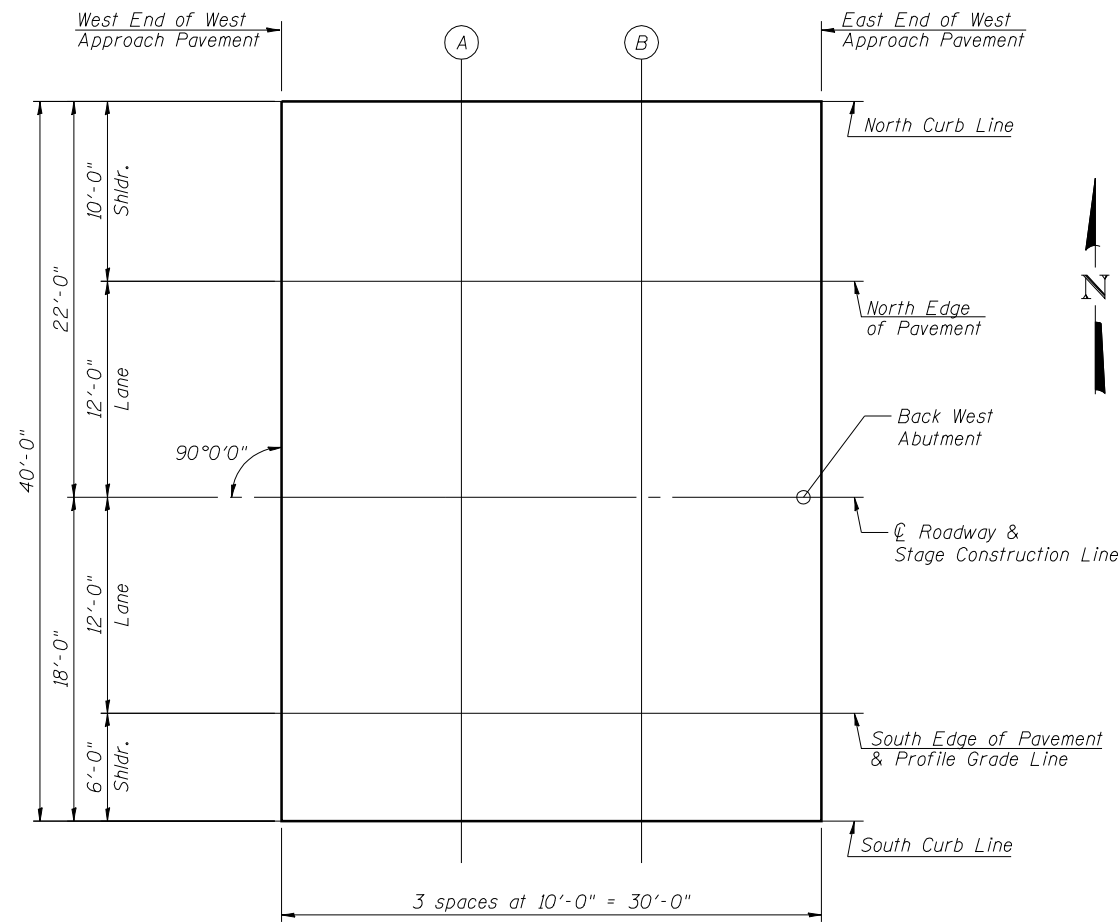
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	-34.00	607.36	607.38
A	575+90.40	-34.00	607.46	607.48
B	576+00.40	-34.00	607.56	607.58
E. End W. Appr. Pav't.	576+10.40	-34.00	607.65	607.67

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	-24.00	607.57	607.59
A	575+90.40	-24.00	607.67	607.69
B	576+00.40	-24.00	607.76	607.78
E. End W. Appr. Pav't.	576+10.40	-24.00	607.86	607.88

**CL ROADWAY AND STAGE CONTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	-12.00	607.75	607.77
A	575+90.40	-12.00	607.85	607.87
B	576+00.40	-12.00	607.95	607.97
E. End W. Appr. Pav't.	576+10.40	-12.00	608.04	608.06



**PLAN  
WEST APPROACH PAVEMENT - SB**

**SOUTH EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	0.00	607.57	607.59
A	575+90.40	0.00	607.67	607.69
B	576+00.40	0.00	607.76	607.78
E. End W. Appr. Pav't.	576+10.40	0.00	607.86	607.88

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End W. Appr. Pav't.	575+80.40	6.00	607.44	607.46
A	575+90.40	6.00	607.54	607.56
B	576+00.40	6.00	607.64	607.66
E. End W. Appr. Pav't.	576+10.40	6.00	607.73	607.75

**NORTH CURB LINE**

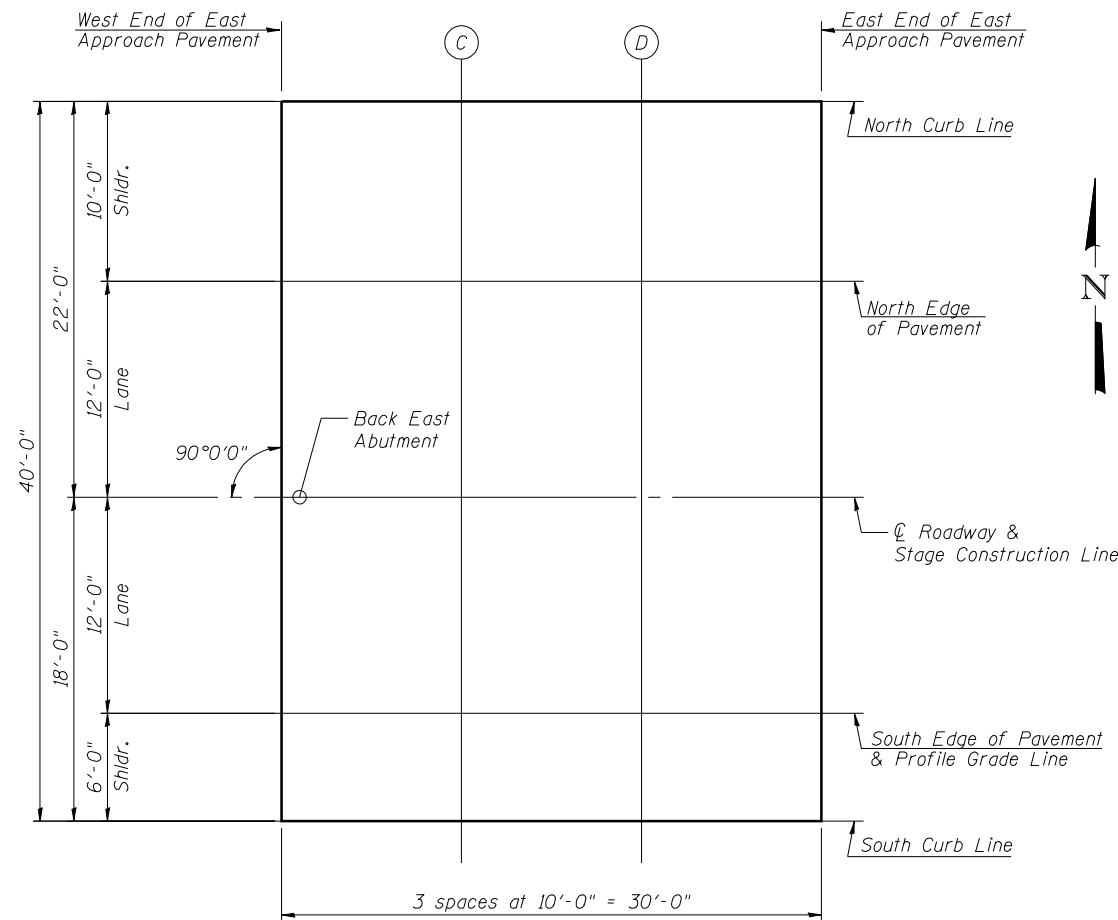
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	-34.00	608.59	608.61
C	577+67.90	-34.00	608.63	608.65
D	577+77.90	-34.00	608.66	608.68
E. End E. Appr. Pav't.	577+87.90	-34.00	608.68	608.70

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	-24.00	608.80	608.82
C	577+67.90	-24.00	608.83	608.85
D	577+77.90	-24.00	608.86	608.88
E. End E. Appr. Pav't.	577+87.90	-24.00	608.89	608.91

**☉ ROADWAY AND STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	-12.00	608.99	609.01
C	577+67.90	-12.00	609.02	609.04
D	577+77.90	-12.00	609.05	609.07
E. End E. Appr. Pav't.	577+87.90	-12.00	609.08	609.10



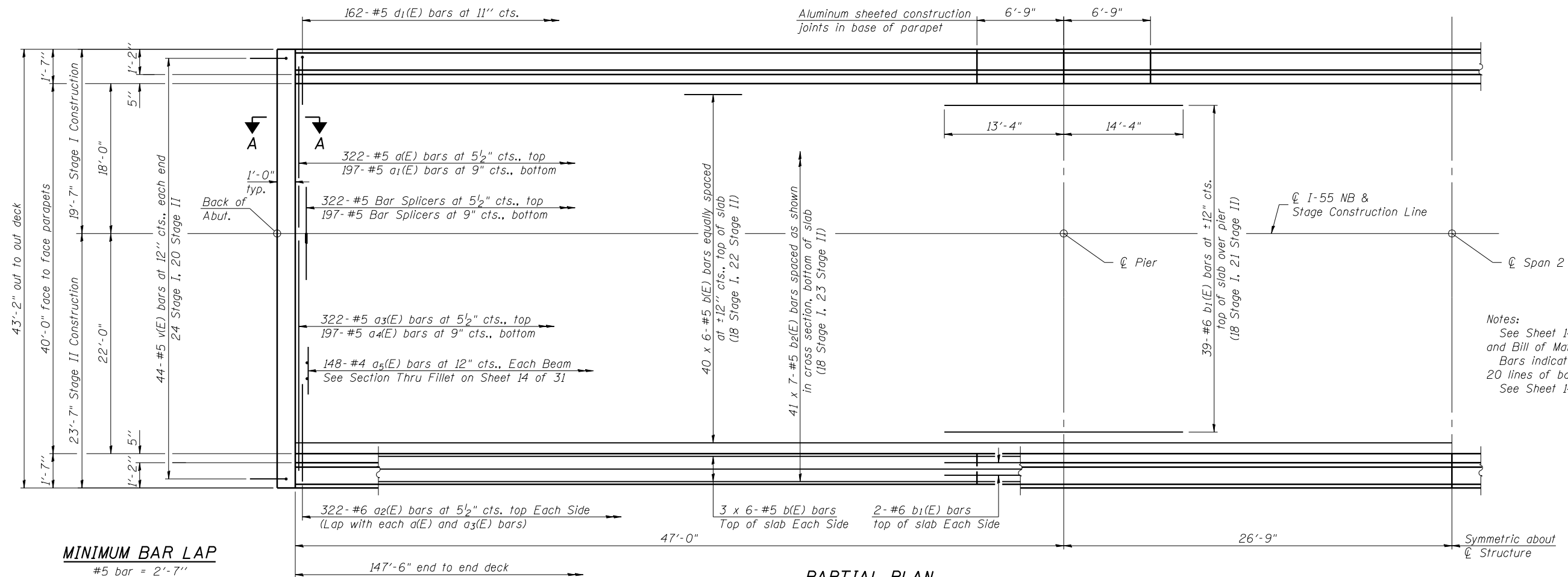
**PLAN  
EAST APPROACH PAVEMENT - SB**

**SOUTH EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	0.00	608.80	608.82
C	577+67.90	0.00	608.83	608.85
D	577+77.90	0.00	608.86	608.88
E. End E. Appr. Pav't.	577+87.90	0.00	608.89	608.91

**SOUTH CURB LINE**

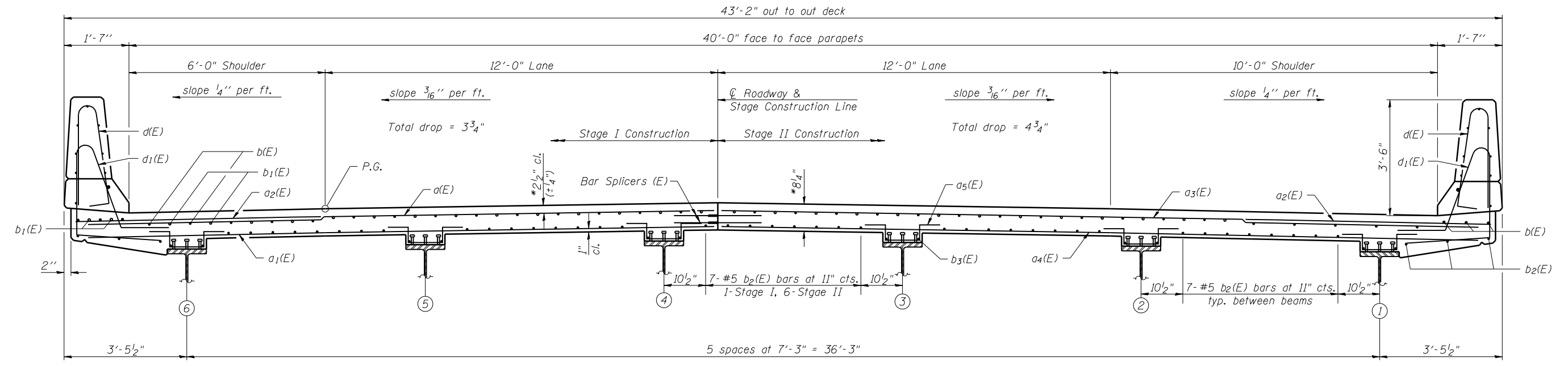
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
W. End E. Appr. Pav't.	577+57.90	6.00	608.67	608.69
C	577+67.90	6.00	608.71	608.73
D	577+77.90	6.00	608.74	608.76
E. End E. Appr. Pav't.	577+87.90	6.00	608.77	608.79



Notes:  
 See Sheet 14 of 31 for superstructure details and Bill of Material.  
 Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 See Sheet 14 of 31 for parapet reinforcement.

**MINIMUM BAR LAP**  
 #5 bar = 2'-7"  
 #6 bar = 3'-1"  
 \*Before grinding 1/4" max.

**PARTIAL PLAN**  
 (SN 054-0057 shown  
 SN 054-0058 similar)



**CROSS SECTION**  
 (Looking in direction of traffic)

SI-2-0 1-27-12



JOB = 2276.3  
 FILE = 0540057\_0058-Super.dgn  
 DATE = 2/11/2013

DESIGNED - AAN	REVISED -
CHECKED - MDC	REVISED -
DRAWN - SJS	REVISED -
CHECKED - MDC	REVISED -

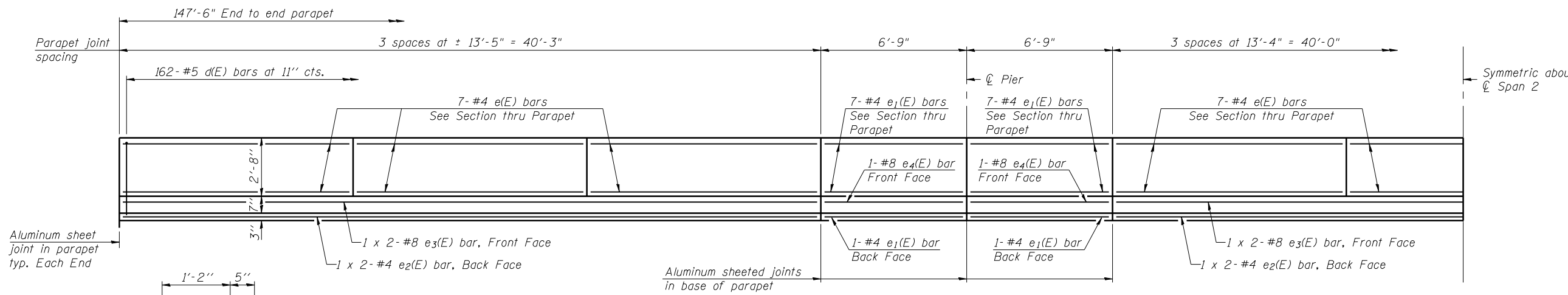
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE**  
**STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

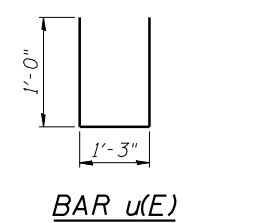
SHEET NO. 13 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	212
CONTRACT NO. 72E11				

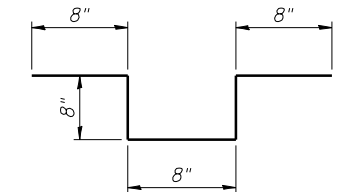
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**INSIDE ELEVATION OF PARAPET**



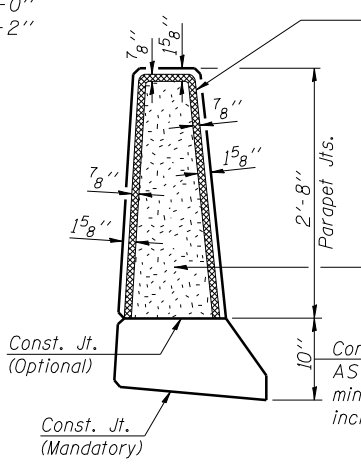
**BAR u(E)**



**BAR a5(E)**

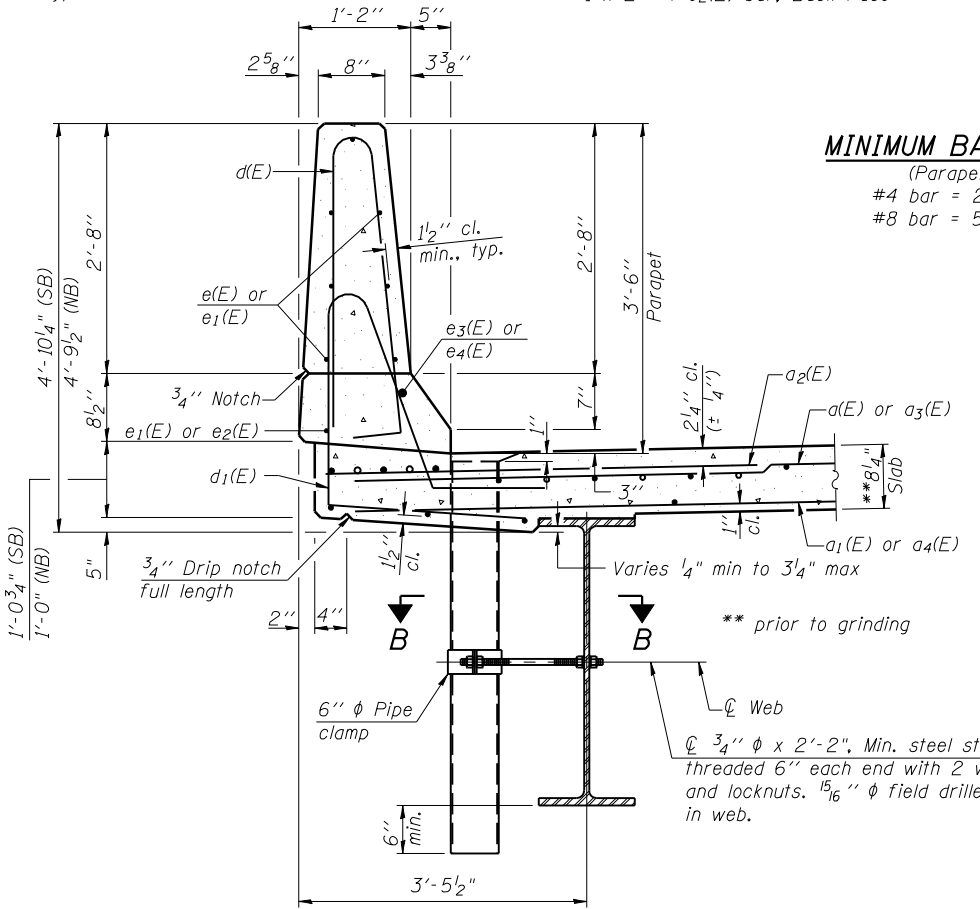
**MINIMUM BAR LAP**

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

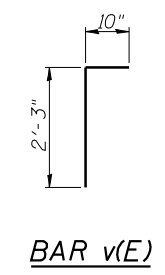


**PARAPET JOINT DETAILS**

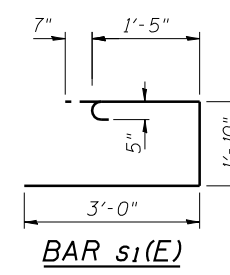
**Notes:**  
 The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Spec. SSPC-SPI prior to 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 Floor Drains. Cost of Drilling 15/16" diameter holes in existing web is included with Floor Drains.



**SECTION THRU PARAPET**



**BAR v(E)**

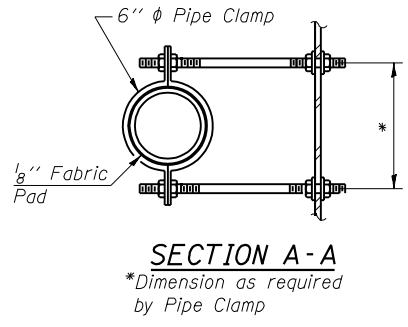


**BAR s1(E)**

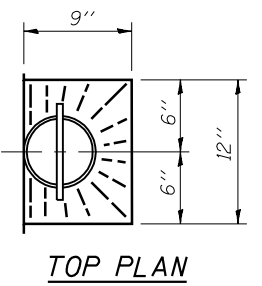
**TWO SUPERSTRUCTURES**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	644	#5	19'-0"	—
a1(E)	394	#5	18'-6"	—
a2(E)	1288	#6	6'-6"	—
a3(E)	644	#5	23'-0"	—
a4(E)	394	#5	22'-6"	—
a5(E)	1776	#4	3'-4"	—
b(E)	552	#5	26'-8"	—
b1(E)	172	#6	27'-8"	—
b2(E)	574	#5	23'-3"	—
b3(E)	144	#4	26'-2"	—
d(E)	648	#5	6'-10"	—
d1(E)	648	#5	8'-6"	—
e(E)	252	#4	13'-0"	—
e1(E)	128	#4	6'-5"	—
e2(E)	24	#4	21'-0"	—
e3(E)	24	#8	22'-7"	—
e4(E)	16	#8	6'-5"	—
m(E)	32	#6	19'-0"	—
m1(E)	24	#6	8'-7"	—
m2(E)	40	#6	6'-10"	—
m3(E)	16	#6	3'-0"	—
m4(E)	32	#6	23'-0"	—
m5(E)	24	#6	9'-11"	—
s(E)	164	#5	6'-10"	—
s1(E)	184	#5	9'-2"	—
u(E)	176	#5	3'-3"	—
v(E)	176	#5	3'-9"	—
Reinforcement Bars, Epoxy Coated		Pound	123,070	
Concrete Superstructure		Cu. Yds.	493.5	
Bar Splicers		Each	1086	

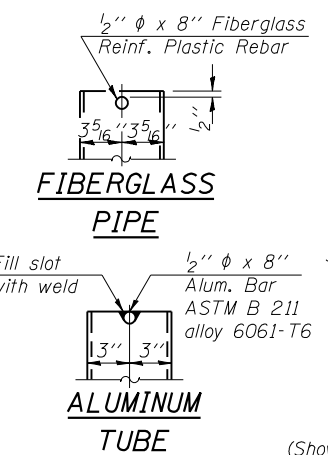
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



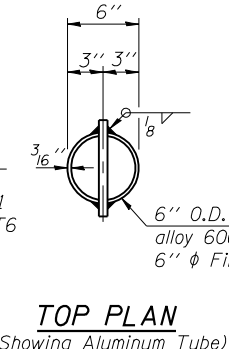
**SECTION A-A**  
 \*Dimension as required by Pipe Clamp



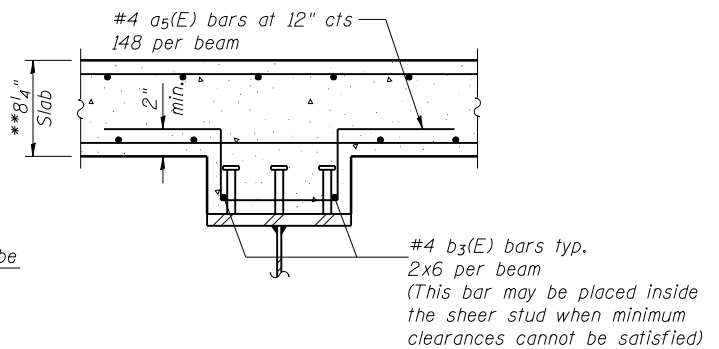
**TOP PLAN**



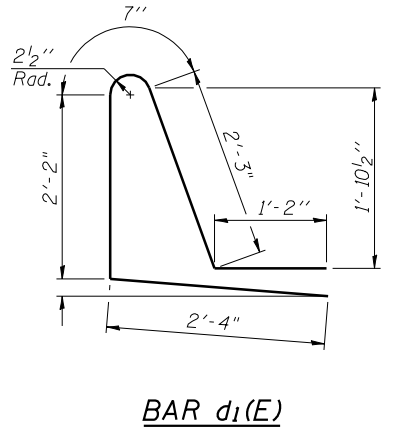
**ALUMINUM TUBE**



**TOP PLAN (Showing Aluminum Tube)**



**SECTION THRU FILLET**



**BAR d1(E)**

SI-D2-0

8-31-12

**CEC**  
 Cummins Engineering Corporation  
 Civil and Structural Engineering

JOB = 2276.3  
 FILE = 0540057\_0058-SuperDet.dgn  
 DATE = 2/11/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

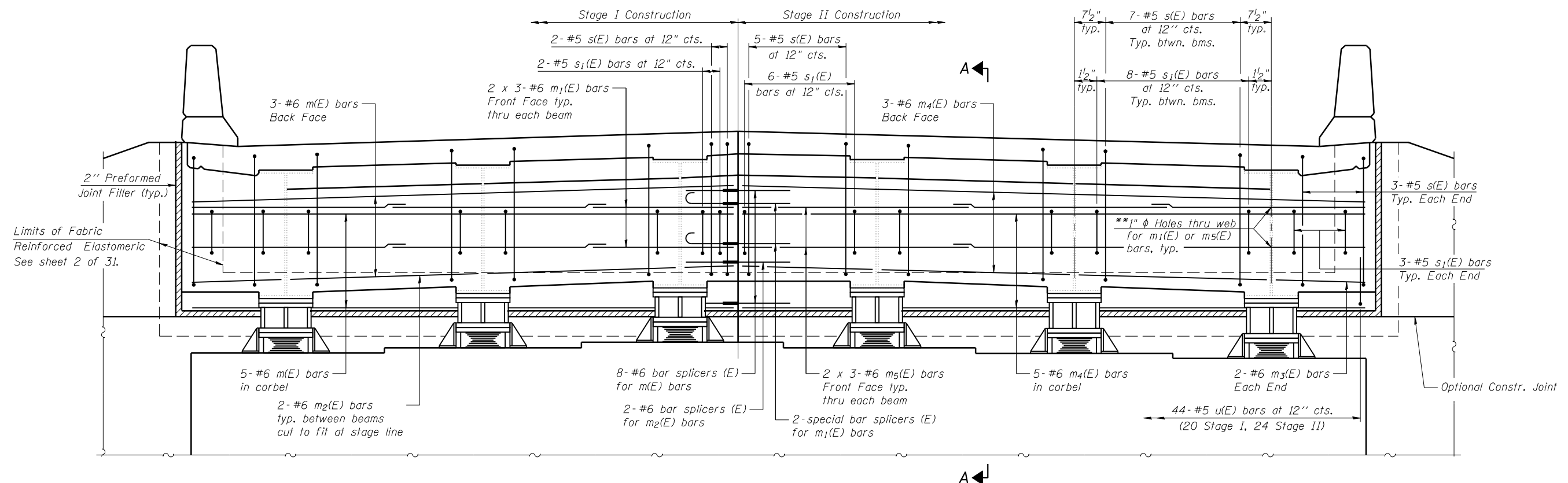
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS**  
**STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

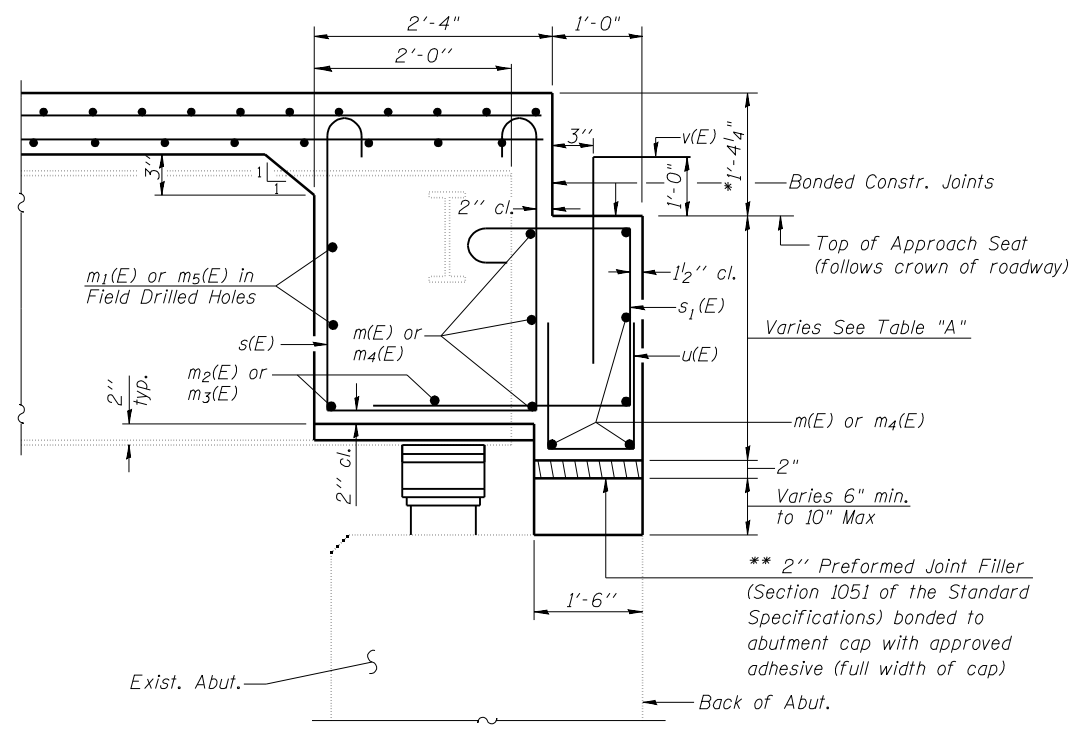
SHEET NO. 14 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	213
				CONTRACT NO. 72E11

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**DIAPHRAGM ELEVATION AT ABUTMENT**  
 (Looking East at E. Abut. N.B. Lanes, W. Abut. similar)  
 (Looking West at W. Abut. S.B. Lanes, E. Abut. similar)



**SECTION A-A**  
 Dimensions at right angles to abutment, except as shown.

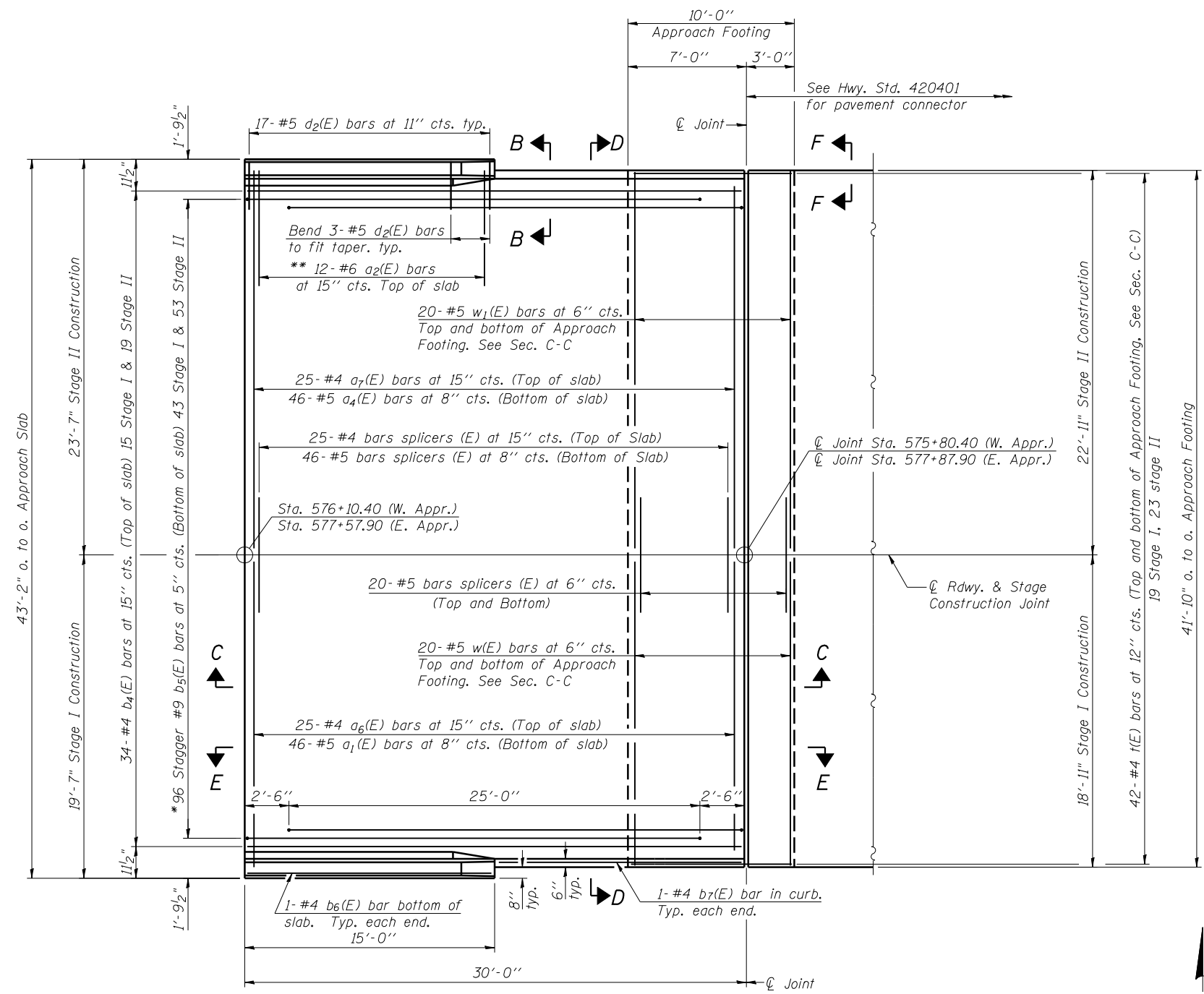
\* Prior to grinding.  
 \*\* Cost Included with Concrete Superstructure

TABLE "A"			
SN 054-0058 SB			
	North End (Min.)	Crown (Max.)	South (Median) End
West Abut.	2'-4 <sup>7</sup> / <sub>8</sub> "	2'-10"	2'-5 <sup>7</sup> / <sub>8</sub> "
East Abut.	2'-5 <sup>3</sup> / <sub>8</sub> "	2'-10 <sup>1</sup> / <sub>2</sub> "	2'-6 <sup>3</sup> / <sub>8</sub> "
SN 054-0057 NB			
	North (Median) End	Crown (Max.)	South End (Min.)
West Abut.	2'-5 <sup>1</sup> / <sub>8</sub> "	2'-9 <sup>1</sup> / <sub>4</sub> "	2'-4 <sup>1</sup> / <sub>8</sub> "
East Abut.	2'-5 <sup>3</sup> / <sub>4</sub> "	2'-9 <sup>7</sup> / <sub>8</sub> "	2'-4 <sup>3</sup> / <sub>4</sub> "

Notes:  
 Reinforcement bars and concrete in diaphragm are billed with superstructure on sheet 14 of 31.  
 For details of bars s(E) & s (E) see sheet 14 of 31.  
 The s(E) and s (E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

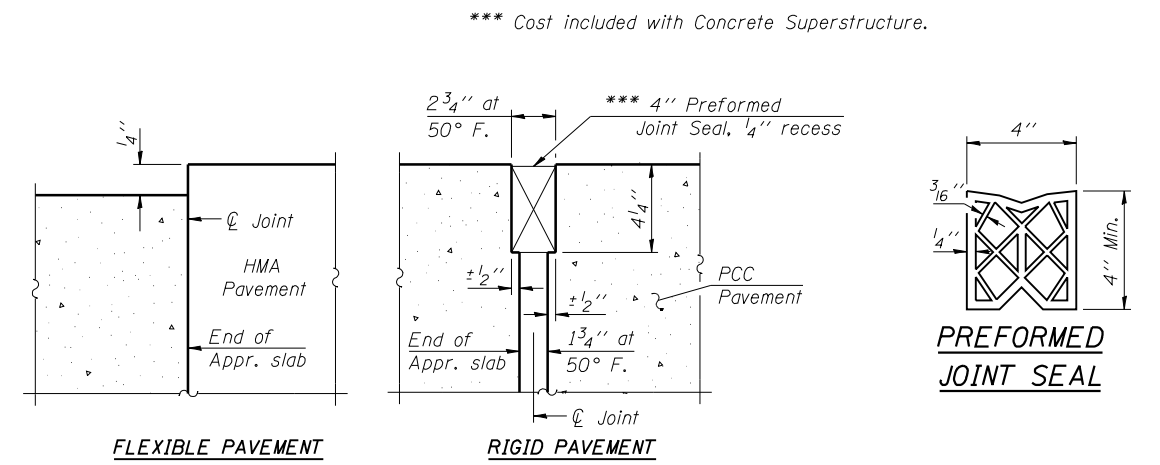
**MIN. BAR LAP**  
 #6 bar = 3'-4" (Diaphragm)

Notes:  
See sheet 17 of 31 for Sections C-C & D-D and View E-E.  
a(E) and a<sub>1</sub>(E) bar spacings measured along  $\varnothing$  Rdwy.

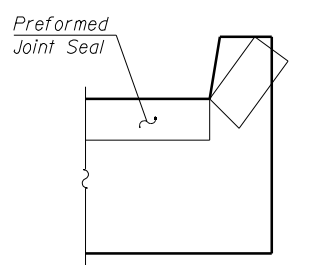


PLAN  
W. APPROACH NB & E. APPROACH SB SHOWN  
E. APPROACH NB & W. APPROACH SB SIMILAR

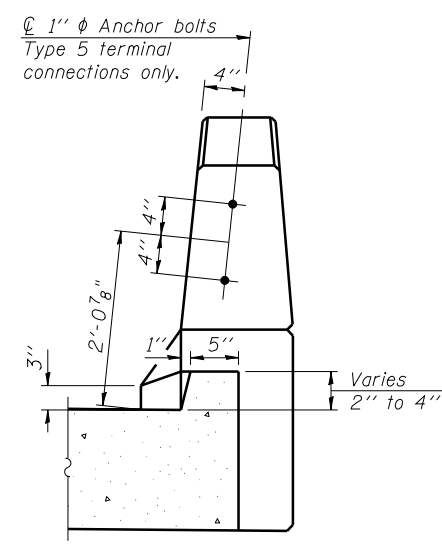
\* Tilt #9 b<sub>1</sub>(E) bars as required to maintain clearance.  
\*\* Space between a<sub>6</sub>(E) or a<sub>7</sub>(E) bars, typ. ea. parapet.



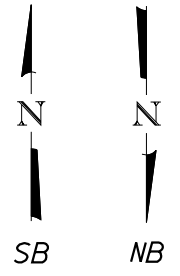
DETAIL A



VIEW F-F  
Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



VIEW B-B



BA-0 7-1-10

(Sheet 1 of 2)



JOB = 2276.3	DESIGNED - AAN	REVISED -
FILE = 0540057_0058-ApprSlab.dgn	CHECKED - MDC	REVISED -
DATE = 2/11/2013	DRAWN - SJS	REVISED -
	CHECKED - MDC	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

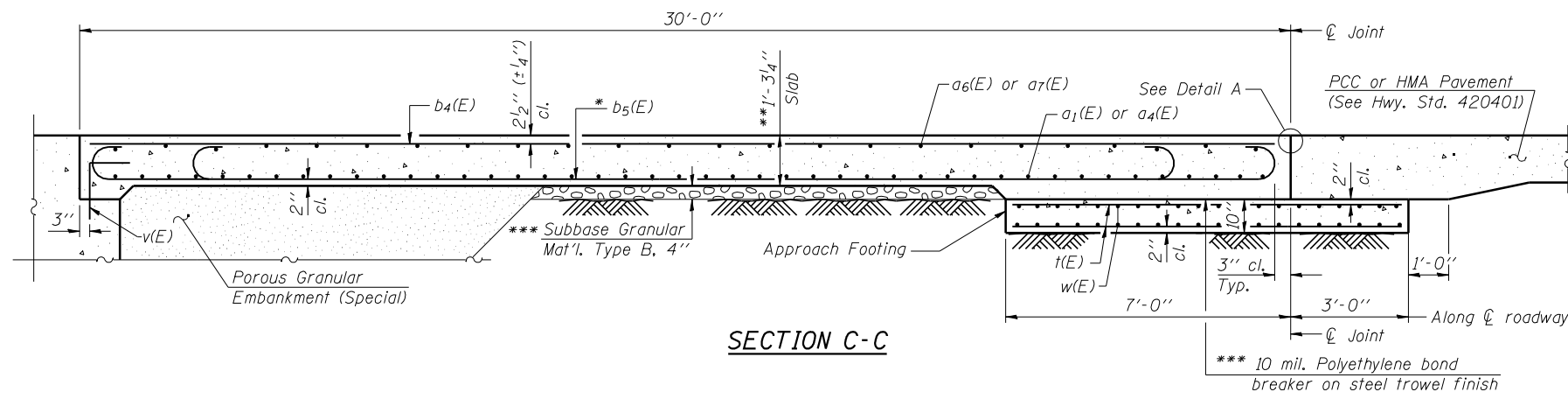
BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)

SHEET NO. 16 OF 31 SHEETS

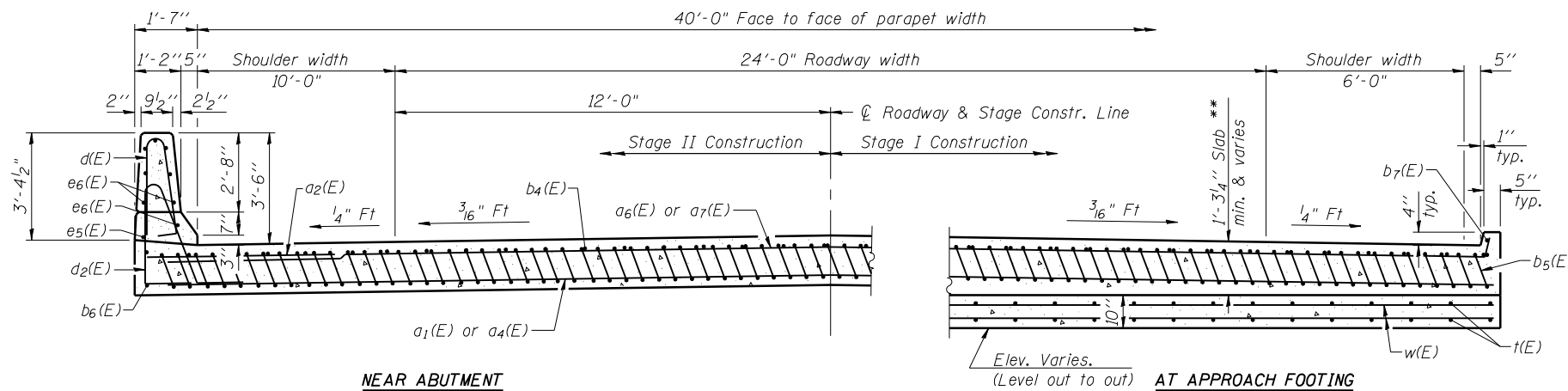
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	215
CONTRACT NO. 72E11				

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Notes:  
 See sheet 16 of 31 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(E) bar details, see Abutment Details.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 30 of 31.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 31.  
 For additional parapet details, see sheet 14 of 31.



SECTION C-C

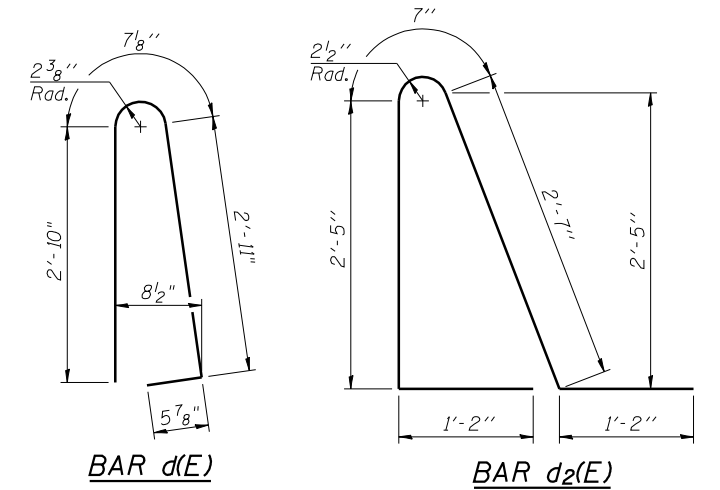


NEAR ABUTMENT

SECTION D-D

(See Plan for dimensions not shown)

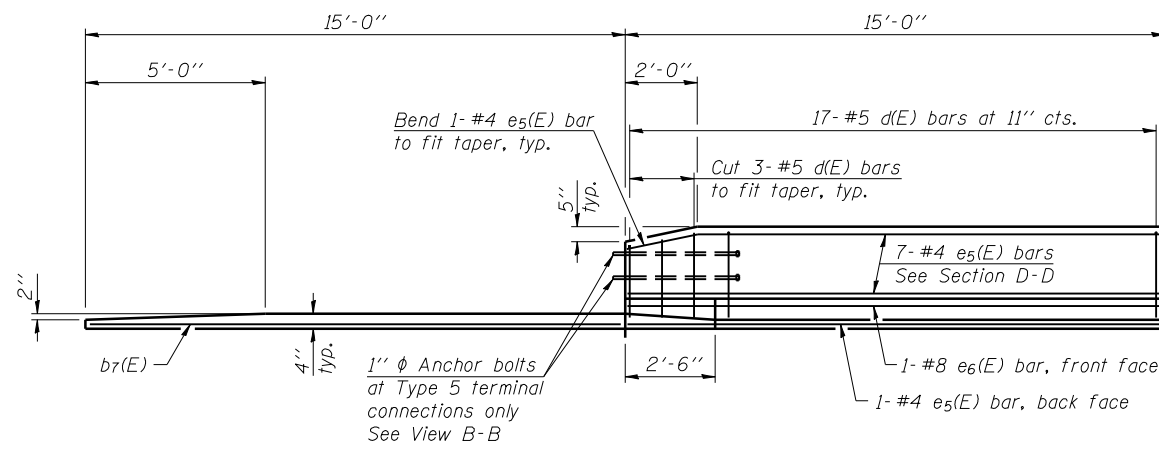
AT APPROACH FOOTING



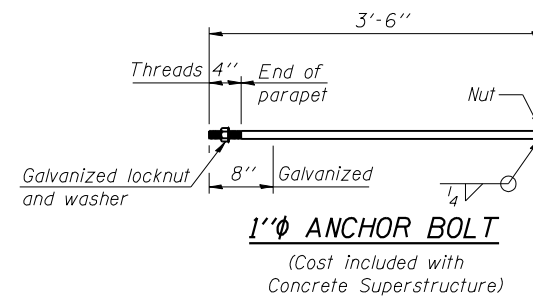
BAR d(E)

BAR d2(E)

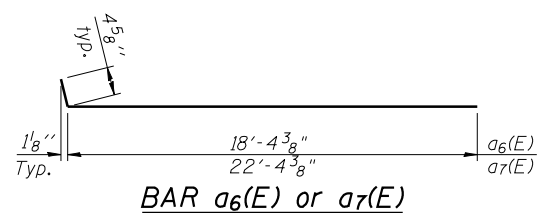
\* Tilt #9 b5(E) bars as required to maintain clearance.  
 \*\* Prior to grinding  
 \*\*\* Cost included with Concrete Superstructure.



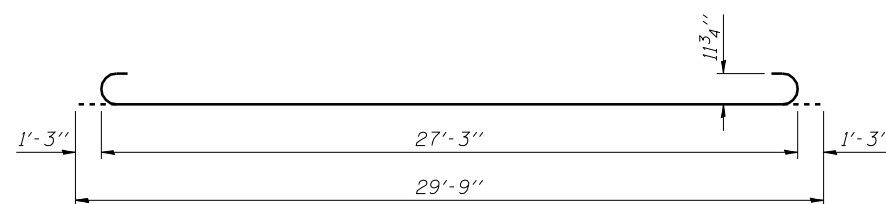
VIEW E-E



1" ANCHOR BOLT



BAR a6(E) or a7(E)



BAR b5(E)

FOUR APPROACHES  
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	184	#5	18'-6"	—
a2(E)	96	#6	6'-6"	—
a4(E)	184	#5	22'-6"	—
a6(E)	100	#4	18'-9"	—
a7(E)	100	#4	22'-9"	—
b4(E)	136	#4	29'-8"	—
b5(E)	384	#9	29'-9"	—
b6(E)	8	#4	14'-8"	—
b7(E)	8	#4	14'-6"	—
d(E)	136	#5	6'-10"	U
d2(E)	136	#5	7'-11"	U
e5(E)	64	#4	14'-8"	—
e6(E)	8	#8	14'-8"	—
t(E)	336	#4	9'-8"	—
w(E)	160	#5	18'-6"	—
w1(E)	160	#5	22'-6"	—
Concrete Superstructure			Cu. Yd.	270.8
Concrete Structures			Cu. Yd.	51.6
Reinforcement Bars, Epoxy Coated			Pound	65,320
Bar Splicers			Each	364

BA-0 1-27-12



JOB = 2276.3  
 FILE = 0540057\_0058-ApprSlab.dgn  
 DATE = 2/11/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
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BRIDGE APPROACH SLAB DETAILS  
 STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)

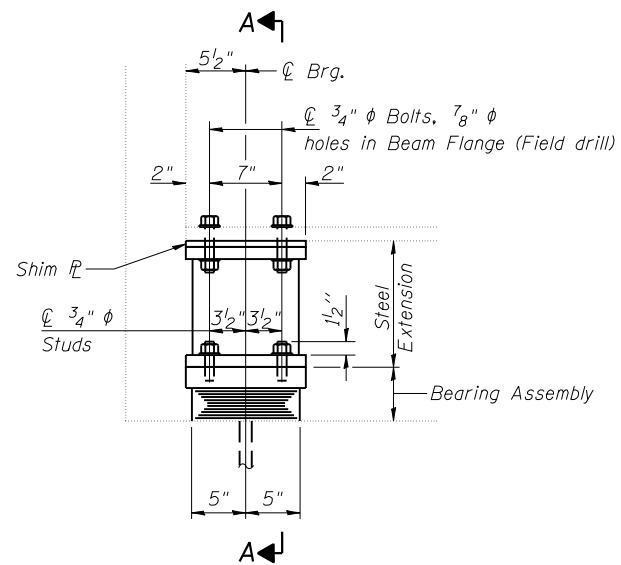
SHEET NO. 17 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	216
				CONTRACT NO. 72E11

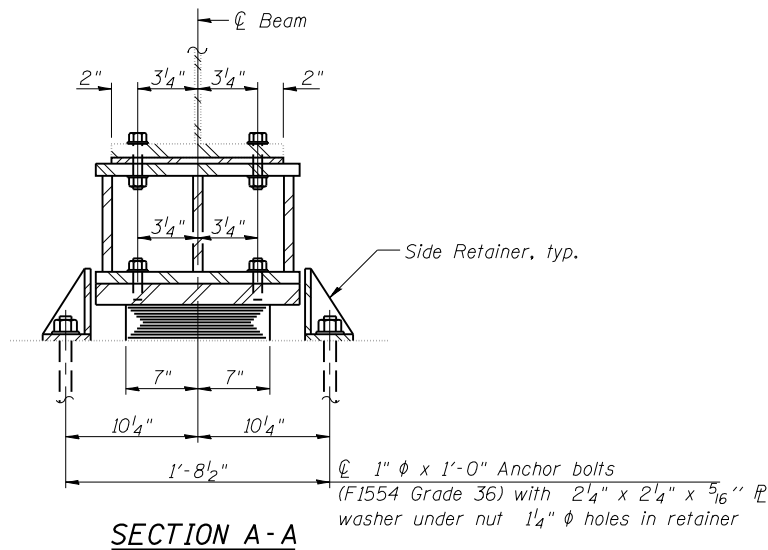
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(Sheet 2 of 2)

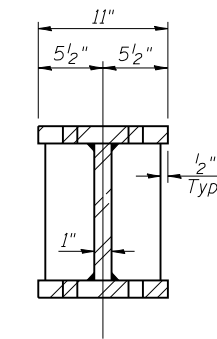




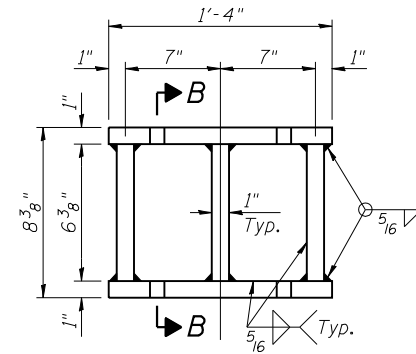
**ELEVATION AT ABUT.**



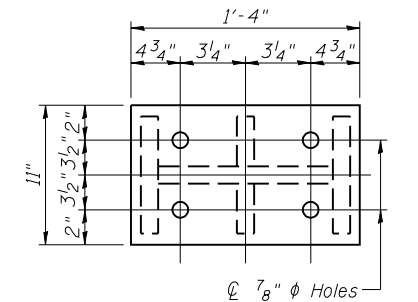
**SECTION A-A**



**SECTION B-B**



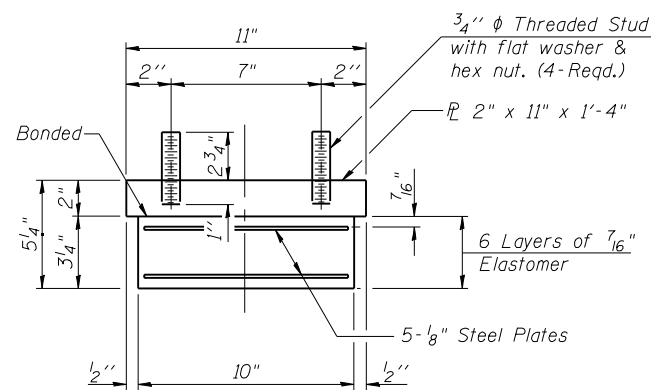
**ELEVATION**



**PLAN - TOP & BOTTOM**

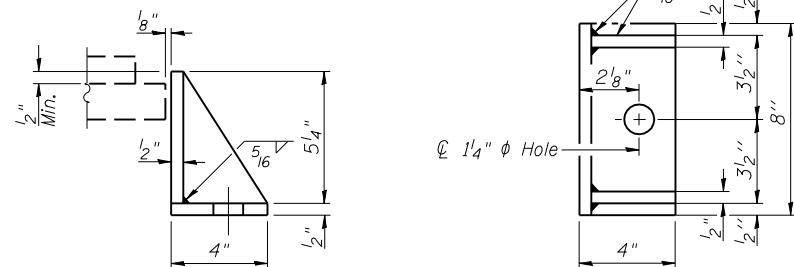
**STEEL EXTENSION**

**TYPE I ELASTOMERIC EXP. BRG.**



**BEARING ASSEMBLY**

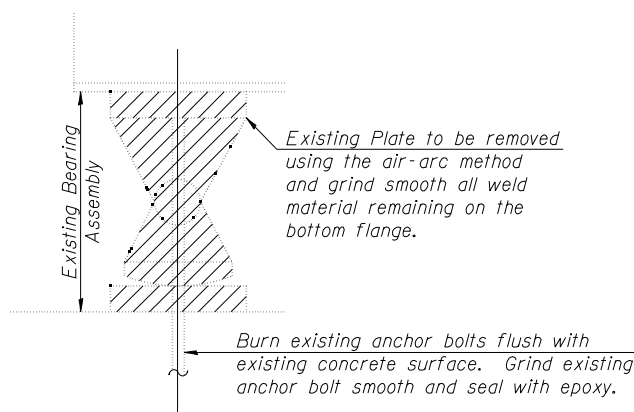
Note: Shim plates shall not be placed under Bearing Assembly.



**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.  
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
 Side retainers and shim plates required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
 Steel extensions shall be paid for as Furnishing and Erecting Structural Steel.  
 The cost of field drilling holes in bottom flange of existing beams is included in Elastomeric Bearing Assembly, Type I.



**EXISTING BEARING REMOVAL DETAIL**

Cost Included with "Jack and Remove Existing Bearings"

**INTERIOR GIRDER REACTION TABLE**

Location	Abutments
R <sub>P</sub> (K) (steel only)	17.2
R <sub>L</sub> (K)	35.9
R <sub>IMP</sub> (K)	10.4
R <sub>TOTAL</sub> (K)	105.7
Min. Jack Capacity (T)	13

Min. Jack Capacity =  $R_P + \frac{1}{2}(R_L + R_{IMP})$

**TWO STRUCTURES  
BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24
Anchor Bolts, 1"	Each	48
Furnishing and Erecting Structural Steel	Pound	4230
Jack and Remove Existing Bearings	Each	24

I-2E-1

1-27-12



JOB = 2276.3  
 FILE = 0540057\_0058-BearingDet.dgn  
 DATE = 2/11/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

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 REVISED -  
 REVISED -  
 REVISED -

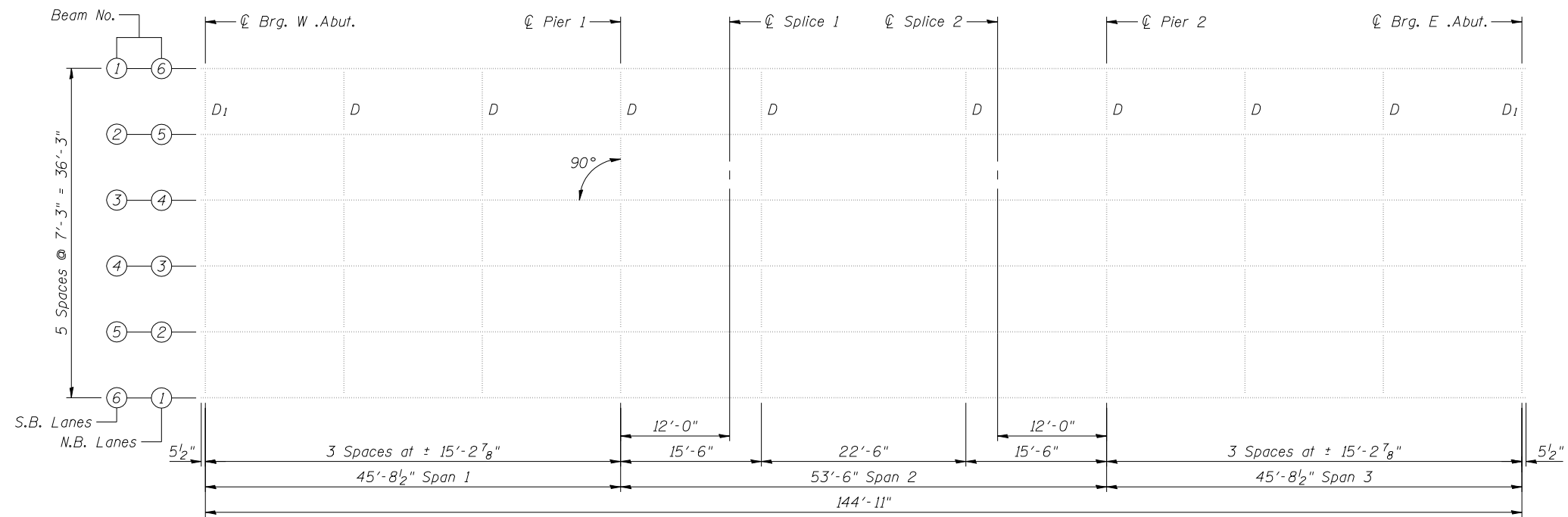
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS  
STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

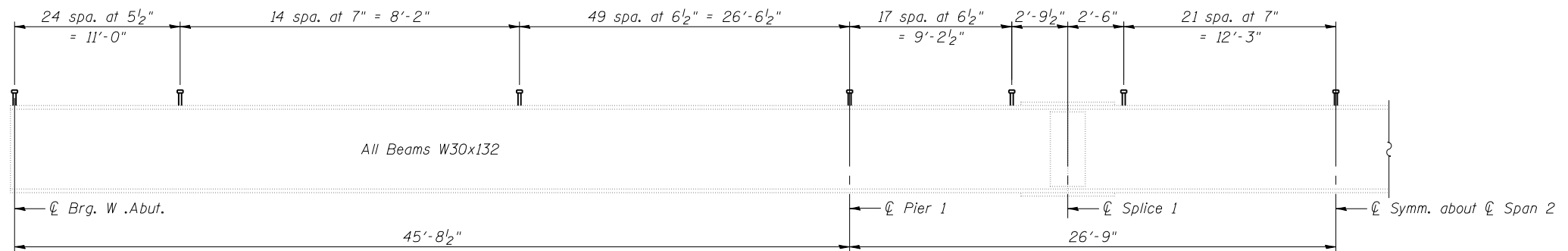
SHEET NO. 18 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	217
				CONTRACT NO. 72E11

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**DIAPHRAGM LAYOUT**



**GIRDER ELEVATION**

$I_s, S_s$ : 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  $in^3$ ).

$Q$ : Un-factored non-composite dead load (kips/ft.).

$M_Q$ : Un-factored moment due to non-composite dead load (kip-ft.).

$s_Q$ : Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s Q$ : 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.).

$1.3 [M_Q + M_s Q + \frac{5}{3} (M_L + M_I)]$

$M_u$ : 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).  $M_Q + M_s Q + \frac{5}{3} (M_L + M_I)$

$f_s$  (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).  $1.3 [M_Q + M_s Q + \frac{5}{3} (M_L + M_I)]$

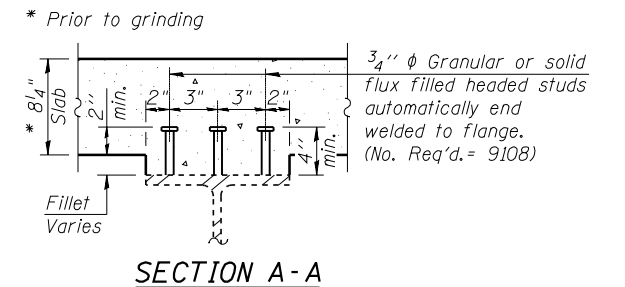
VR: Maximum  $\pm$  impact shear range within the composite portion of the span for stud shear connector design (kips).

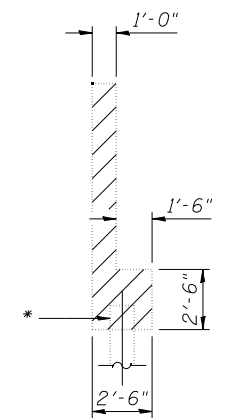
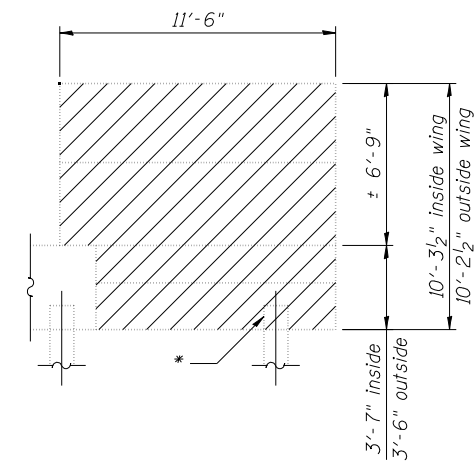
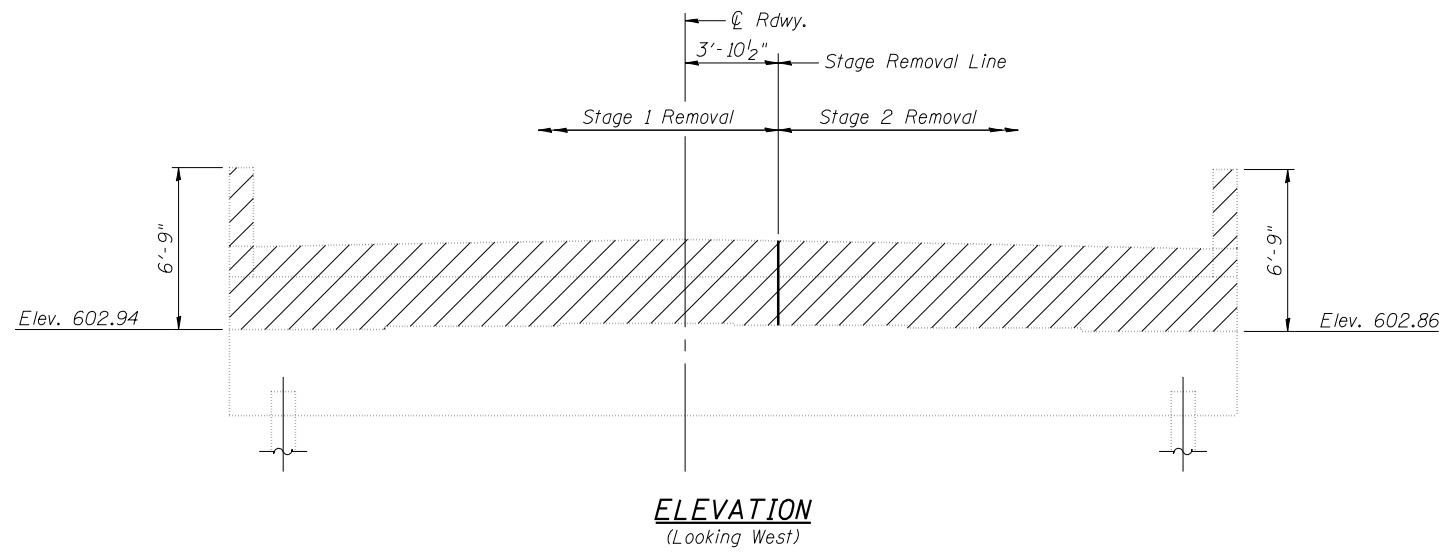
		0.4 Sp. 1 or 0.6 Sp. 3	Piers	0.5 Span 2
$I_s$	( $in^4$ )	5770	5770	5770
$I_c(n)$	( $in^4$ )	16,176	8,167	16,176
$I_c(3n)$	( $in^4$ )	11,894	8,167	11,894
$S_s$	( $in^3$ )	380	380	380
$S_c(n)$	( $in^3$ )	573	448	573
$S_c(3n)$	( $in^3$ )	517	448	517
$Q$	(k/ft)	0.977	0.977	0.977
$M_Q$	(k)	149	241	109
$s_Q$	(k/ft)	0.536	0.536	0.536
$M_s Q$	(k)	82	133	60
$M_L$	(k)	291	223	278
$M_I$	(k)	84	65	81
$\frac{5}{3} [M_L + I]$	(k)	625	480	599
$M_a$	(k)	1113	1111	999
$M_u$	(k)	2378	1829	2378
$f_s$ $Q$ non-comp	(ksi)	4.7	7.6	3.4
$f_s$ $Q$ (comp)	(ksi)	1.9	3.6	1.4
$f_s$ $\frac{5}{3} [M_L + M_I]$	(ksi)	13.1	12.9	12.5
$f_s$ (Overload)	(ksi)	19.7	24.1	17.3
$f_s$ (Total)	(ksi)	25.6	31.3	22.5
VR	(k)	51.8	57.2	39.2

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

		Abuts.	Piers
$R_Q$	(k)	59.4	83.2
$R_L$	(k)	35.9	44.6
$R_I$	(k)	10.4	12.9
$R_{Total}$	(k)	105.7	140.7

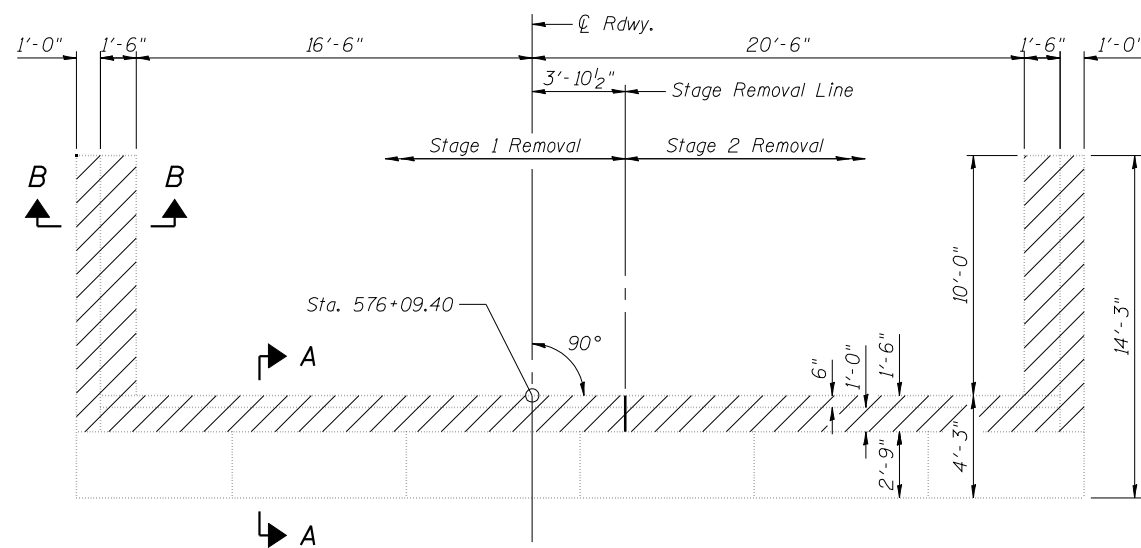
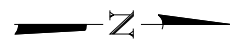
Abutment DL reactions include weight of diaphragm, approach slab and F.W.S.



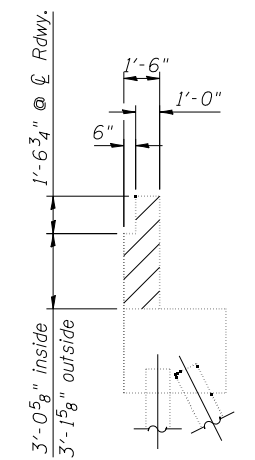


**WING WALL ELEVATION**

**SECTION B-B**



**PLAN - WEST ABUTMENTS**  
**S.N. 054-0058 SB SHOWN**  
**S.N. 054-0057 NB SIMILAR**



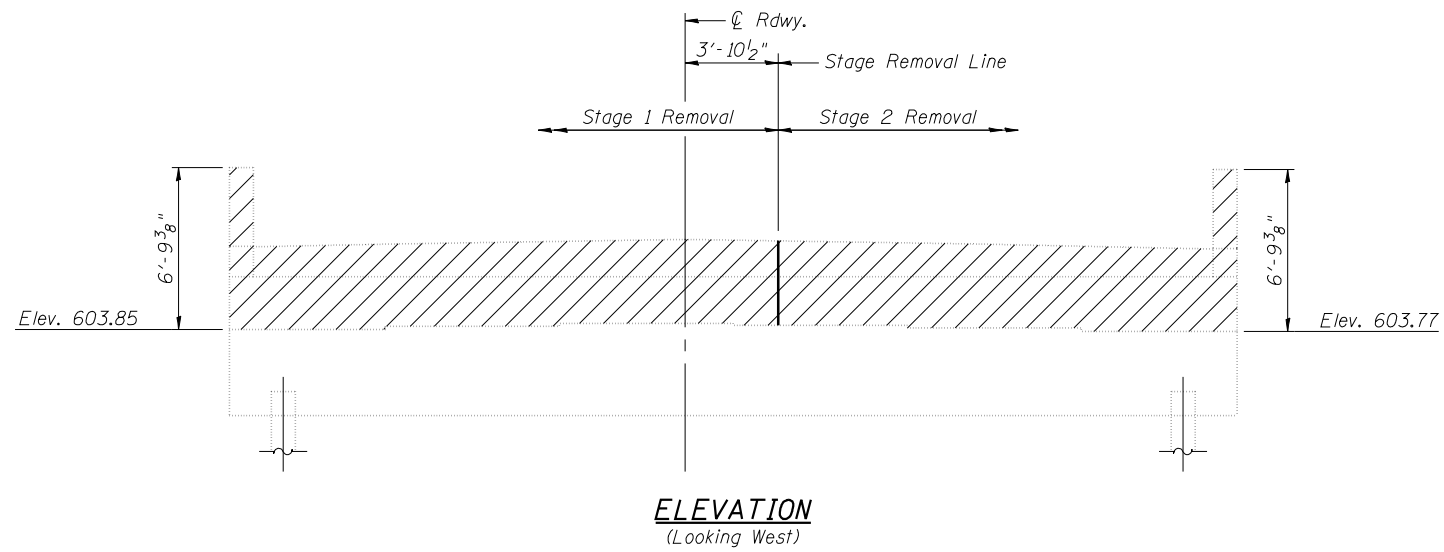
**SECTION A-A**

**TWO ABUTMENTS**  
**BILL OF MATERIAL**

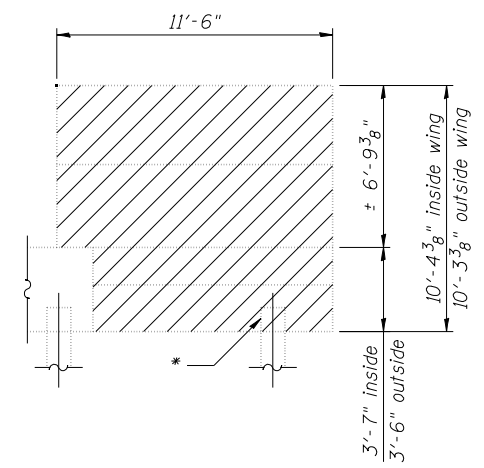
Item	Unit	Total
Concrete Removal	Cu. Yd.	39.5

**NOTE**

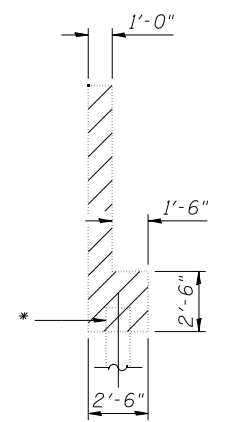
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum.



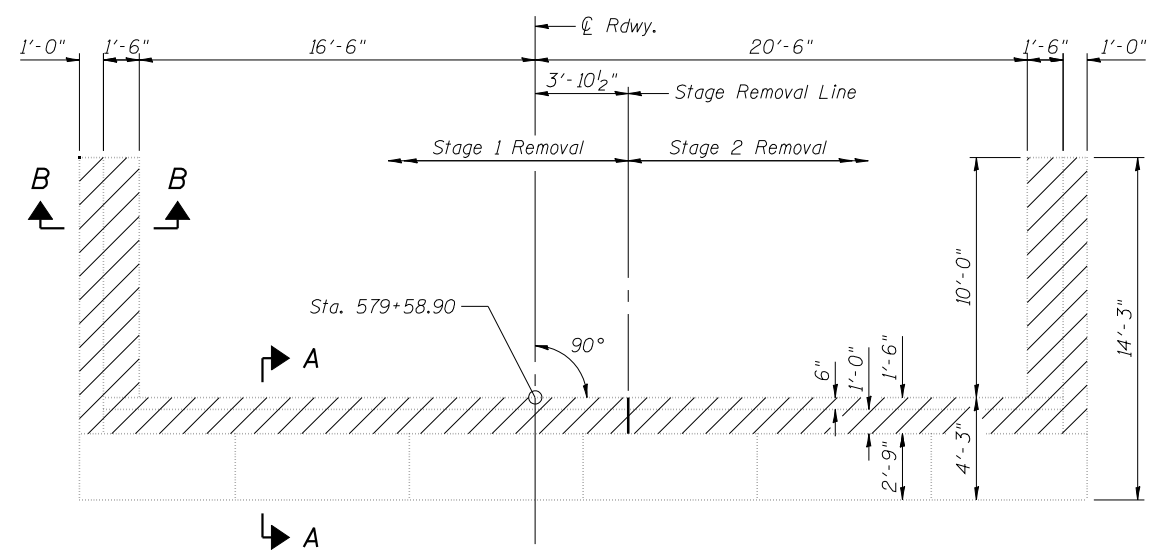
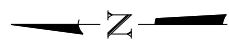
**ELEVATION**  
(Looking West)



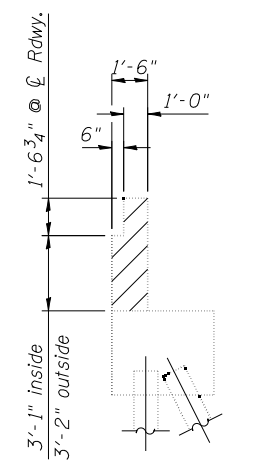
**WING WALL ELEVATION**



**SECTION B-B**



**PLAN - EAST ABUTMENTS**  
S.N. 054-0057 NB SHOWN  
S.N. 054-0058 SB SIMILAR



**SECTION A-A**

**TWO ABUTMENTS**  
**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	39.5

**NOTE**

Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum.



JOB = 2276.3  
FILE = 0540057\_0058-EastAbutRem.dgn  
DATE = 2/11/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

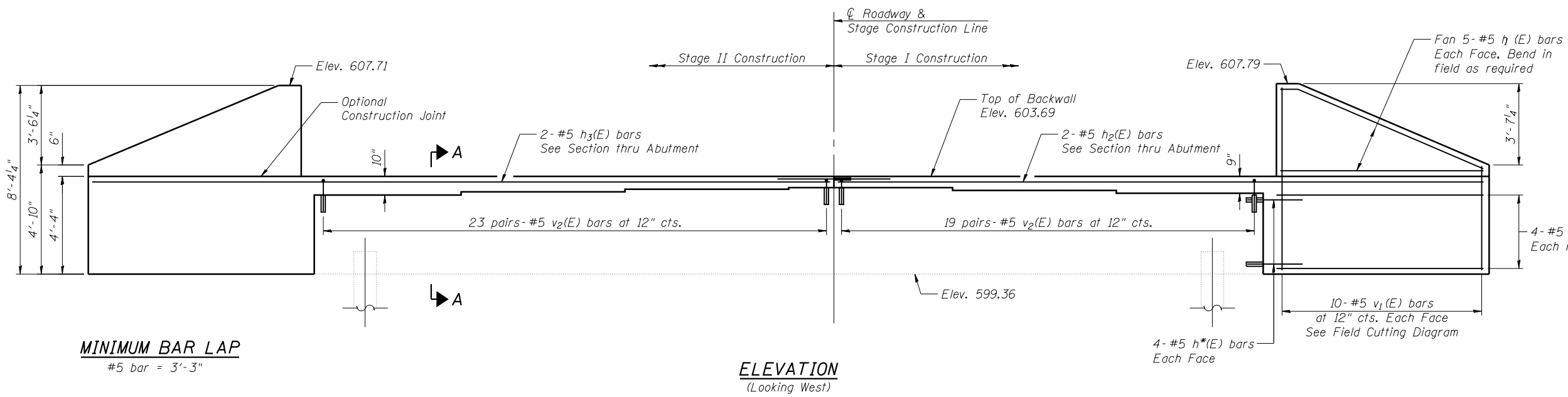
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENTS CONCRETE REMOVAL**  
**STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

SHEET NO. 21 OF 31 SHEETS

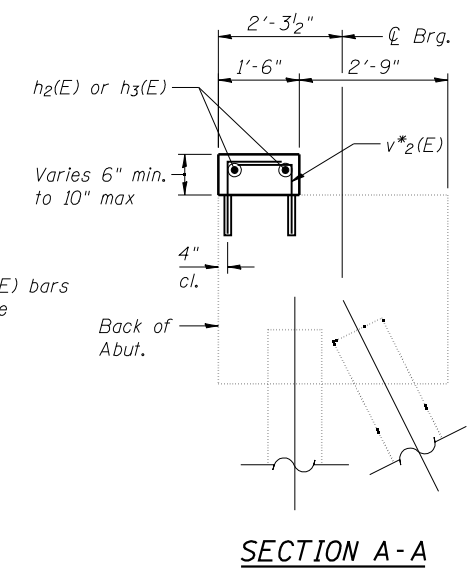
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	220
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT



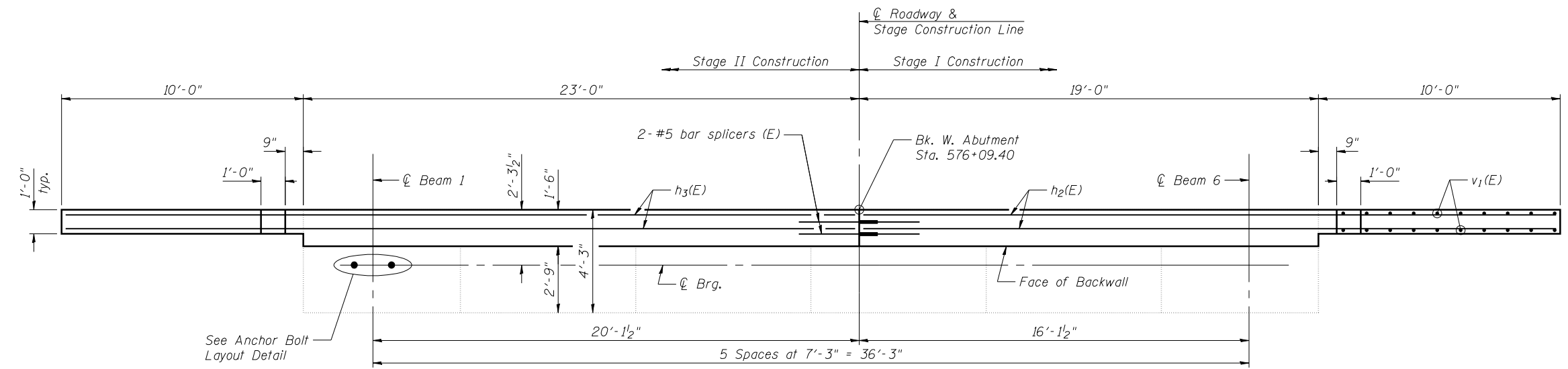
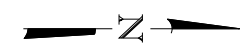
**MINIMUM BAR LAP**  
#5 bar = 3'-3"

**ELEVATION**  
(Looking West)



**SECTION A-A**

\* Denotes bar to be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Cost included with Concrete Structures.

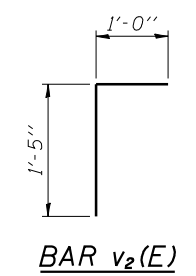


**PLAN - WEST ABUTMENT NB**

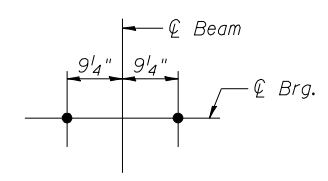
**WEST ABUTMENT NB  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	16	#5	4'-9"	—
h <sub>1</sub> (E)	36	#5	8'-9"	—
h <sub>2</sub> (E)	2	#5	28'-6"	—
h <sub>3</sub> (E)	2	#5	32'-6"	—
v <sub>1</sub> (E)	20	#5	12'-6"	—
v <sub>2</sub> (E)	84	#5	2'-5"	Γ
Structure Excavation			Cu. Yd.	87
Concrete Structures			Cu. Yd.	6.8
Bar Splicers			Each	2
Reinforcement Bars, Epoxy Coated			Pound	1010

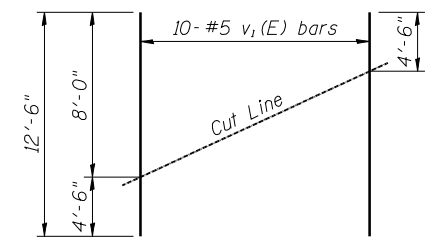
For details of Bar Splicers, see sheet 30 of 31.



**BAR v<sub>2</sub>(E)**



**ANCHOR BOLT LAYOUT DETAIL**



**FIELD CUTTING DIAGRAM**

Order v<sub>1</sub>(E) bars full length. Cut as shown and use remainder of bars in opposite face.

**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum.



JOB = 2276.3  
FILE = 0540057\_0058-SN0057Abuts.dgn  
DATE = 2/11/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

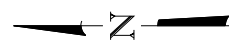
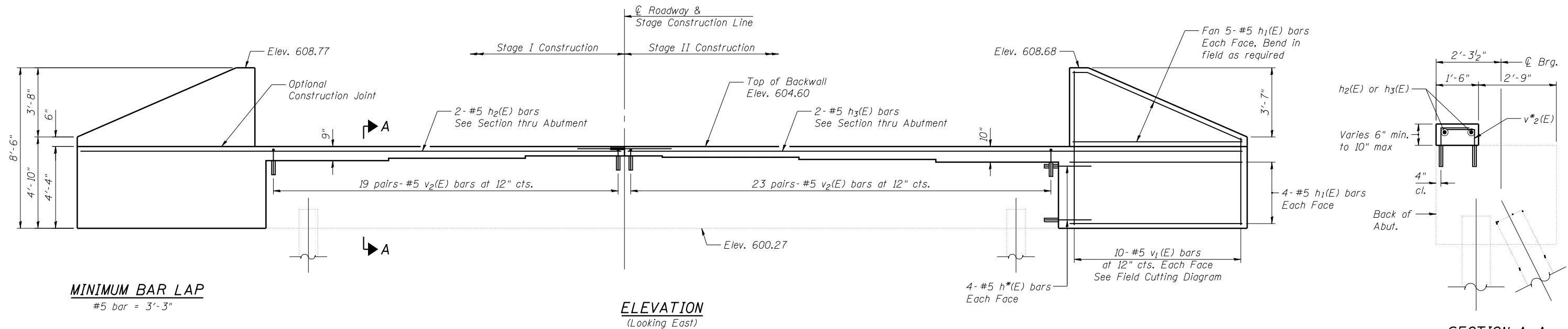
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT  
STRUCTURE NO. 054-0057 (NB)**

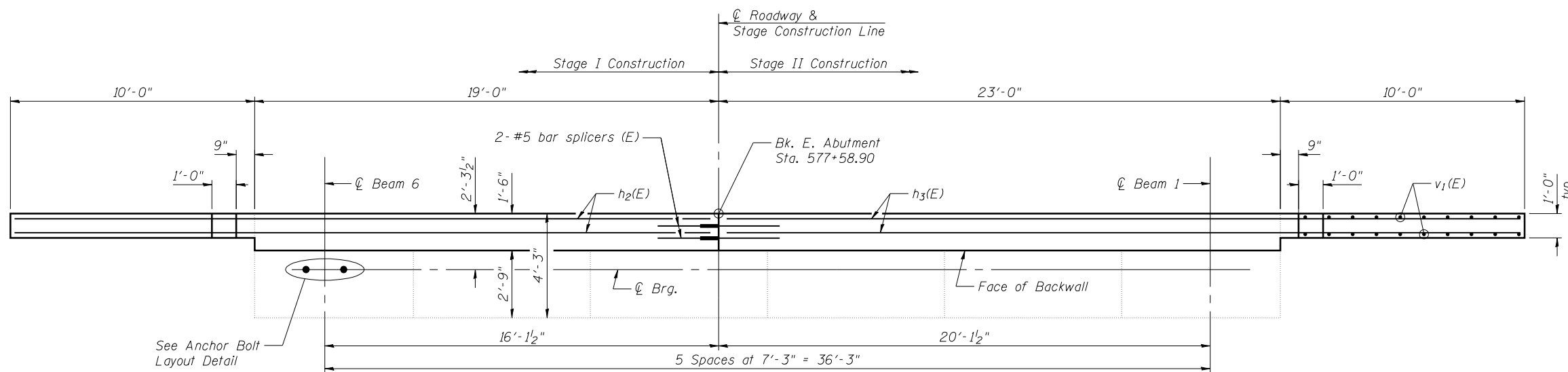
SHEET NO. 22 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	221
CONTRACT NO. 72E11				

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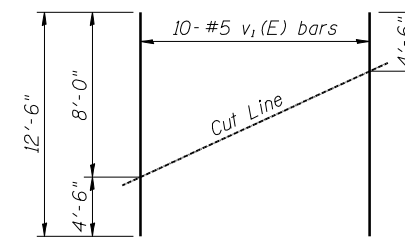
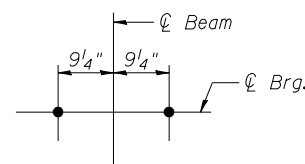
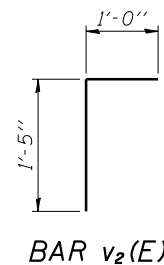
\* Denotes bar to be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Cost included with Concrete Structures.



See Anchor Bolt Layout Detail

**NOTE**

Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum.

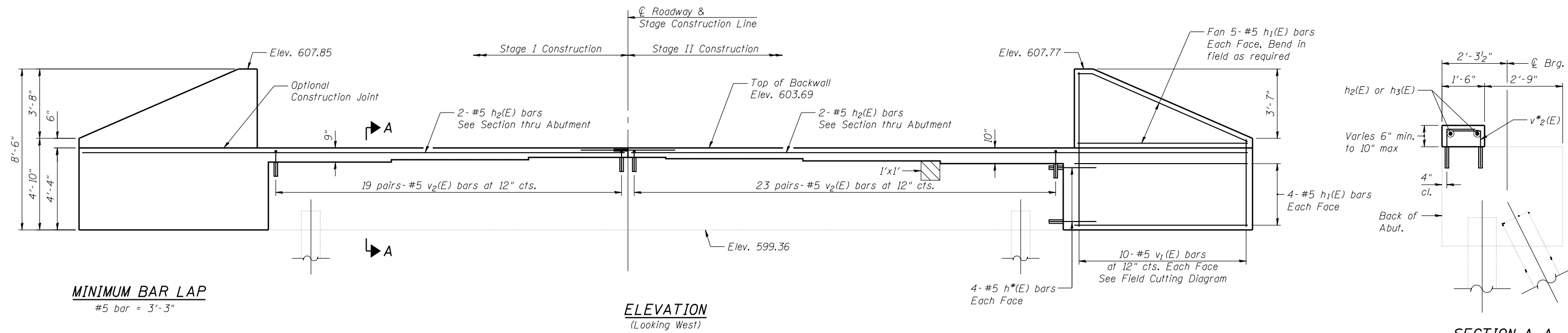


Order  $v_1(E)$  bars full length. Cut as shown and use remainder of bars in opposite face.

**EAST ABUTMENT NB  
BILL OF MATERIAL**

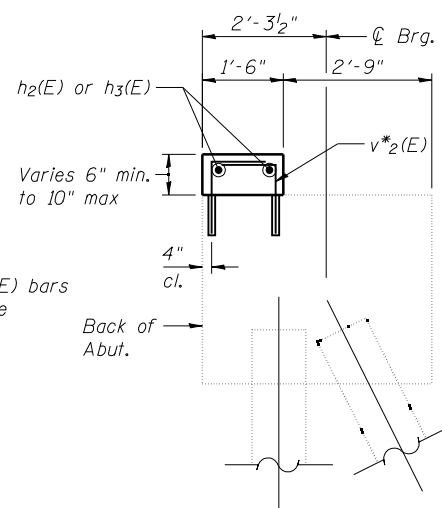
Bar	No.	Size	Length	Shape
$h(E)$	16	#5	4'-9"	—
$h_1(E)$	36	#5	8'-9"	—
$h_2(E)$	2	#5	28'-6"	—
$h_3(E)$	2	#5	32'-6"	—
$v_1(E)$	20	#5	12'-6"	—
$v_2(E)$	84	#5	2'-5"	└
Structure Excavation			Cu. Yd.	87
Concrete Structures			Cu. Yd.	6.8
Bar Splicers			Each	2
Reinforcement Bars, Epoxy Coated			Pound	1010

For details of Bar Splicers, see sheet 30 of 31.



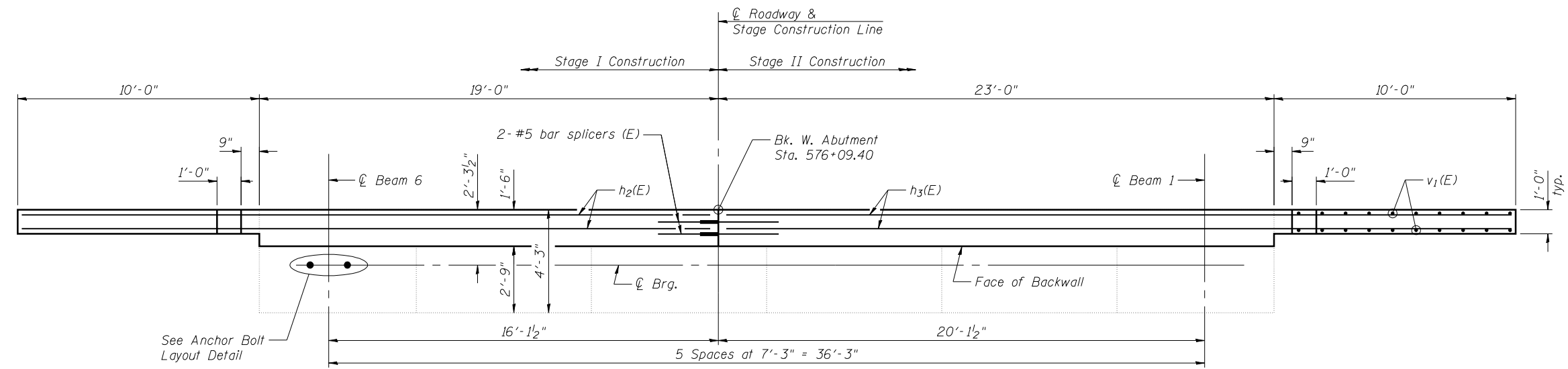
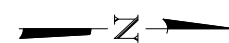
**MINIMUM BAR LAP**  
#5 bar = 3'-3"

**ELEVATION**  
(Looking West)



**SECTION A-A**

\* Denotes bar to be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Cost included with Concrete Structures.



**PLAN - WEST ABUTMENT SB**

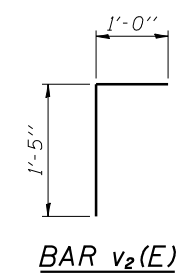
**LEGEND**  
[Symbol] Denotes Structural Repair of Concrete (Depth Equal to or Less Than 5")

**WEST ABUTMENT SB  
BILL OF MATERIAL**

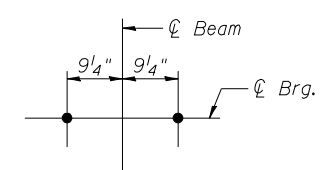
Bar	No.	Size	Length	Shape
h(E)	16	#5	4'-9"	—
h1(E)	36	#5	8'-9"	—
h2(E)	2	#5	28'-6"	—
h3(E)	2	#5	32'-6"	—
v1(E)	20	#5	12'-6"	—
v2(E)	84	#5	2'-5"	Γ
Structure Excavation			Cu. Yd.	87
Concrete Structures			Cu. Yd.	6.8
Bar Splicers			Each	2
Reinforcement Bars, Epoxy Coated			Pound	1010
Structural Repair of Concrete (Depth Equal to or Less Than 5")			Sq. Ft.	1

For details of Bar Splicers, see sheet 30 of 31.

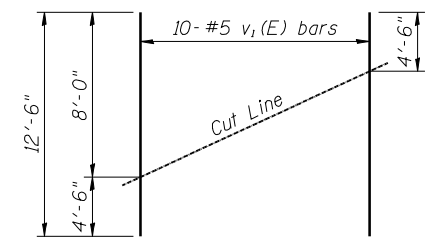
**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum.



**BAR v2(E)**



**ANCHOR BOLT LAYOUT DETAIL**



**FIELD CUTTING DIAGRAM**

Order v1(E) bars full length. Cut as shown and use remainder of bars in opposite face.



JOB = 2276.3  
FILE = 0540057\_0058-SN0058Abuts.dgn  
DATE = 2/11/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

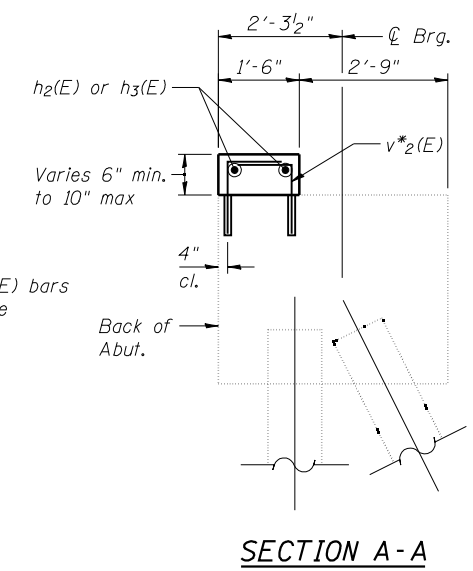
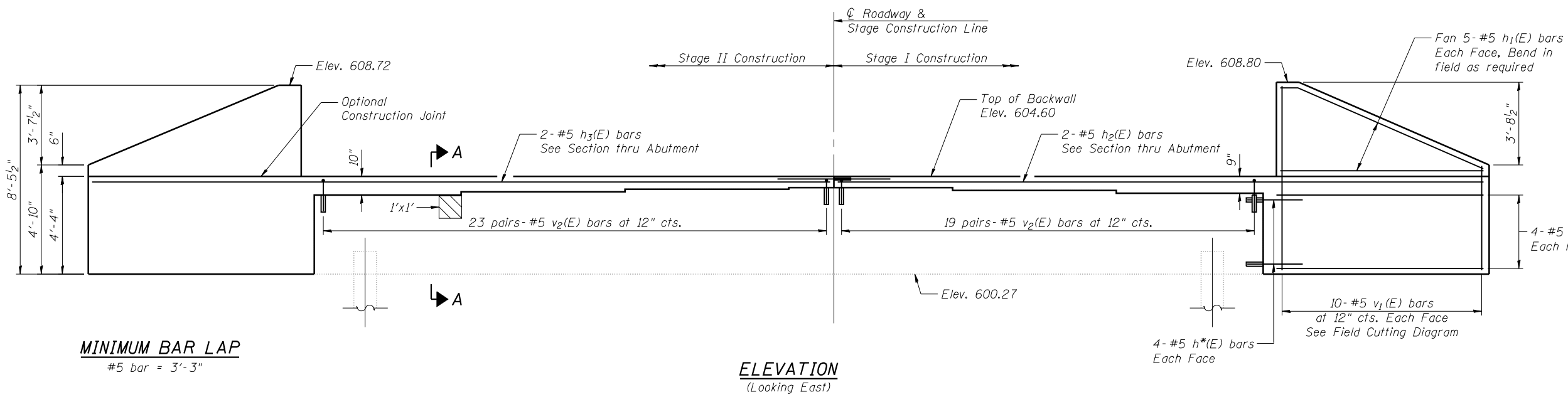
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT  
STRUCTURE NO. 054-0058 (SB)**

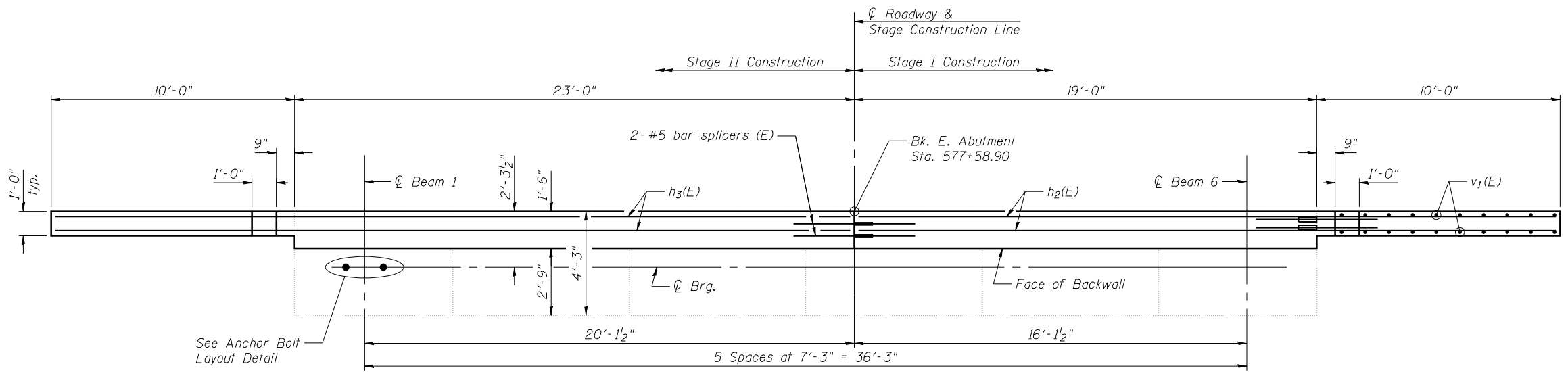
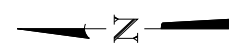
SHEET NO. 24 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	223
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT



\* Denotes bar to be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Cost included with Concrete Structures.



PLAN - EAST ABUTMENT SB

**LEGEND**

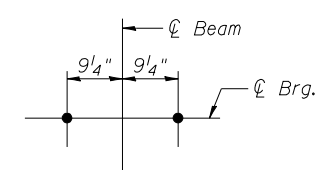
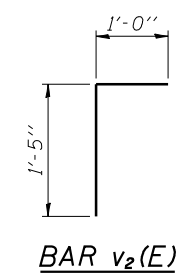
Denotes Structural Repair of Concrete (Depth Equal to or Less Than 5")

**EAST ABUTMENT SB  
BILL OF MATERIAL**

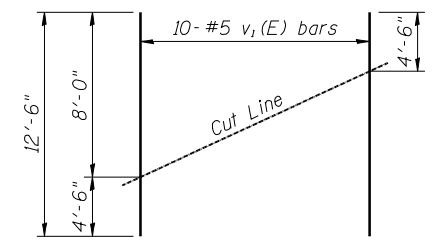
Bar	No.	Size	Length	Shape
h(E)	16	#5	4'-9"	—
h1(E)	36	#5	8'-9"	—
h2(E)	2	#5	28'-6"	—
h3(E)	2	#5	32'-6"	—
v1(E)	20	#5	12'-6"	—
v2(E)	84	#5	2'-5"	Γ
Structure Excavation			Cu. Yd.	87
Concrete Structures			Cu. Yd.	6.8
Bar Splicers			Each	2
Reinforcement Bars, Epoxy Coated			Pound	1010
Structural Repair of Concrete (Depth Equal to or Less Than 5")			Sq. Ft.	1

For details of Bar Splicers, see sheet 30 of 31.

**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.44 feet to match benchmark datum.



ANCHOR BOLT LAYOUT DETAIL



FIELD CUTTING DIAGRAM

Order v1(E) bars full length. Cut as shown and use remainder of bars in opposite face.



JOB = 2276.3  
FILE = 0540057\_0058-SN0058Abuts.dgn  
DATE = 2/11/2013

DESIGNED - AAN	REVISED -
CHECKED - MDC	REVISED -
DRAWN - SJS	REVISED -
CHECKED - MDC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

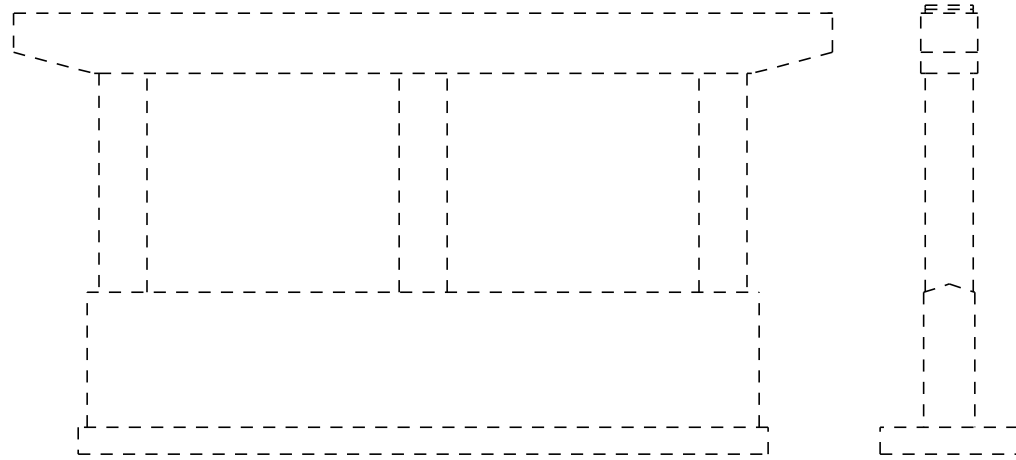
**EAST ABUTMENT  
STRUCTURE NO. 054-0058 (SB)**

SHEET NO. 25 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	224
CONTRACT NO. 72E11				

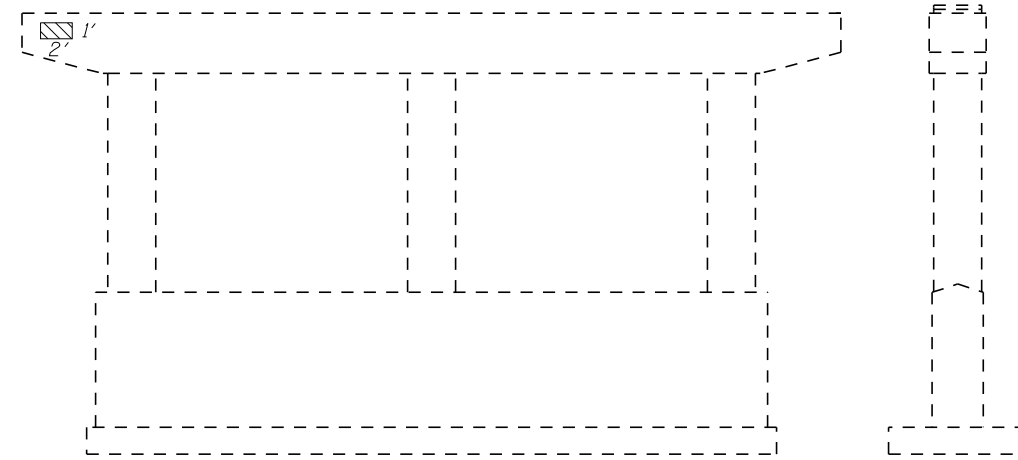
ILLINOIS FED. AID PROJECT





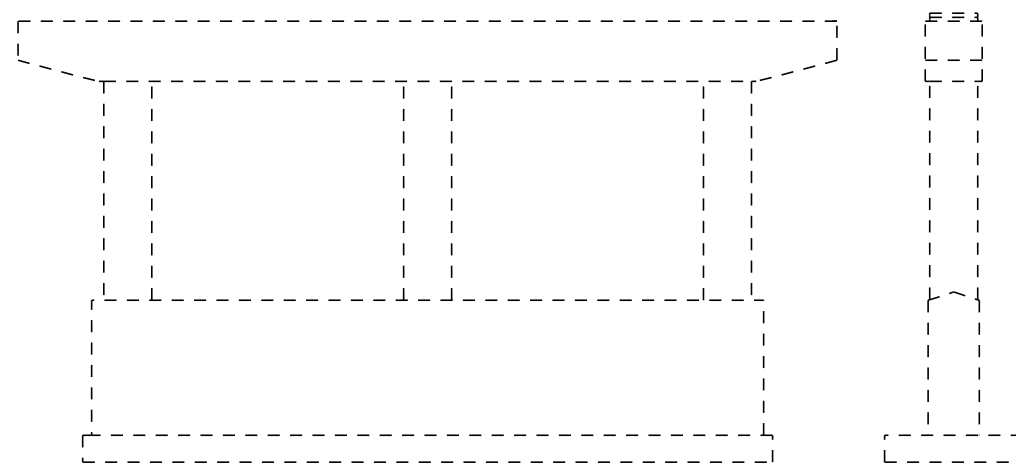
Pier 1 N.B. WEST FACE

Pier 1 N.B. SOUTH END



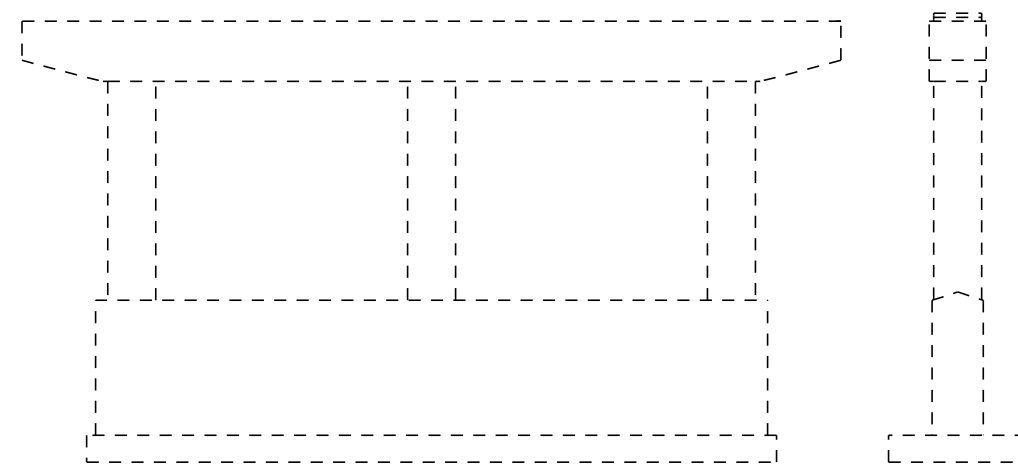
Pier 2 N.B. WEST FACE

Pier 2 N.B. SOUTH END



Pier 1 N.B. EAST FACE

Pier 1 N.B. NORTH END



Pier 2 N.B. EAST FACE

Pier 2 N.B. NORTH END

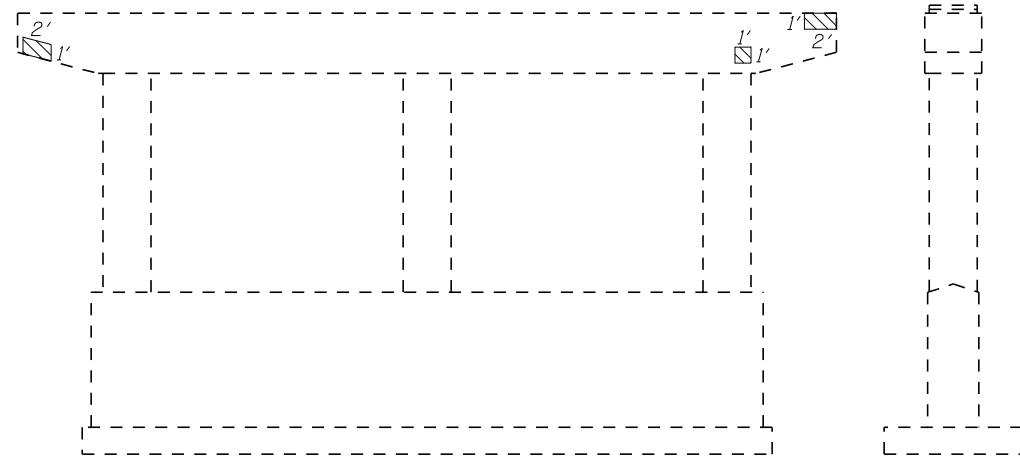
**LEGEND**



Denotes Structural Repair of Concrete  
(Depth Equal to or Less Than 5")

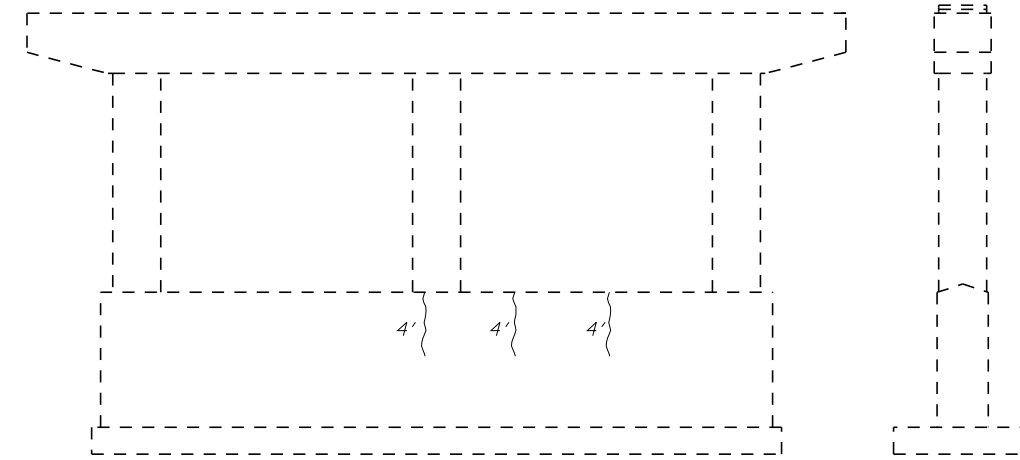
**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	2



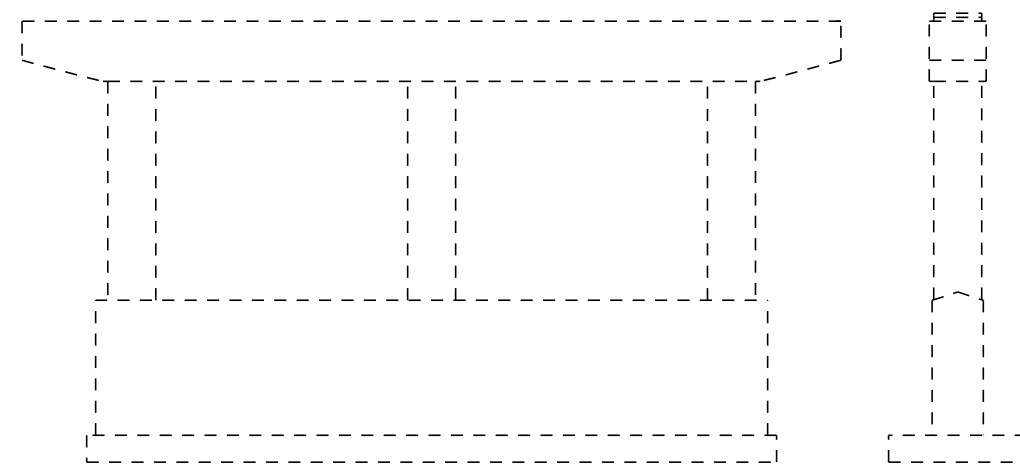
Pier 1 S.B. WEST FACE

Pier 1 S.B. SOUTH END



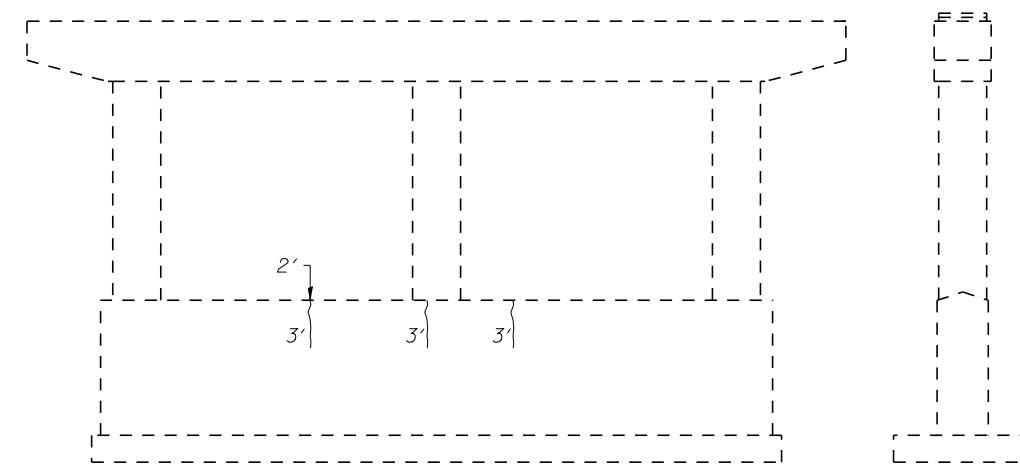
Pier 2 S.B. WEST FACE

Pier 2 N.B. SOUTH END



Pier 1 S.B. EAST FACE

Pier 1 S.B. NORTH END



Pier 2 S.B. EAST FACE

Pier 2 N.B. NORTH END

**LEGEND**



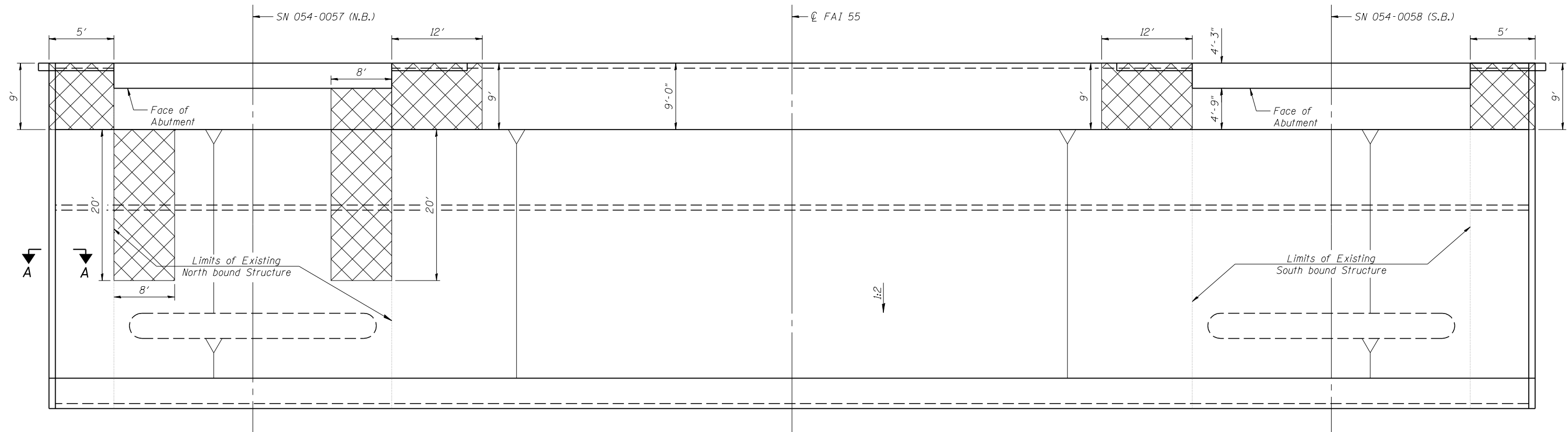
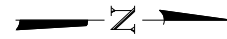
Denotes Structural Repair of Concrete  
(Depth Equal to or Less Than 5")



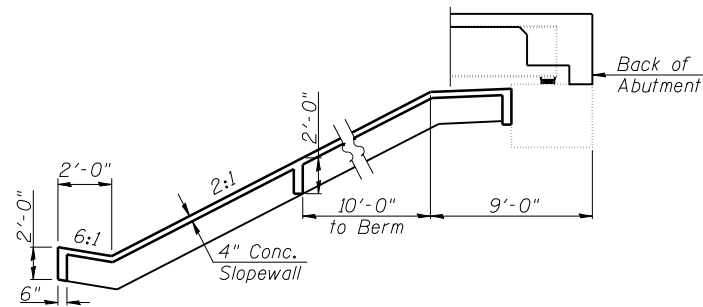
Epoxy Crack Injection

**BILL OF MATERIAL**

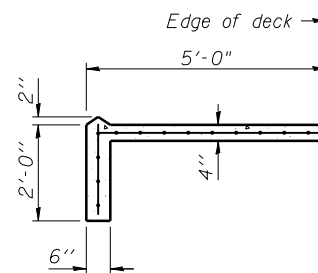
Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	5
Epoxy Crack Injection	Foot	23



PLAN  
WEST SLOPE WALL REPAIRS



SECTION THRU  
SLOPEWALL



SECTION A-A

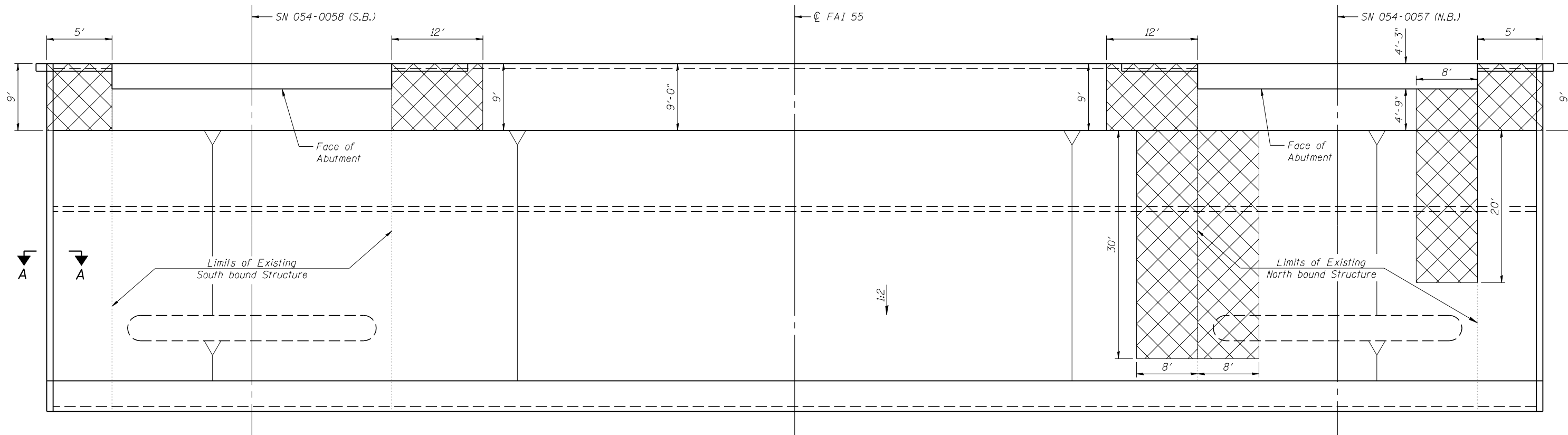
LEGEND



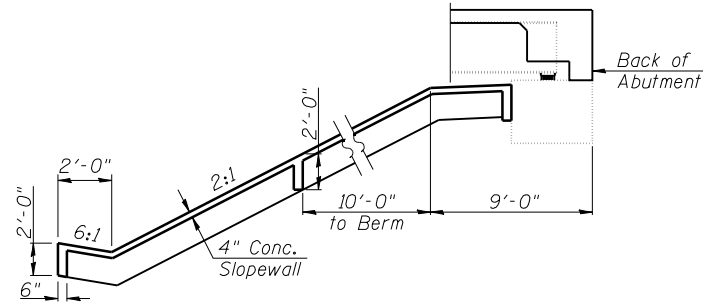
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Repair	50 YD	70

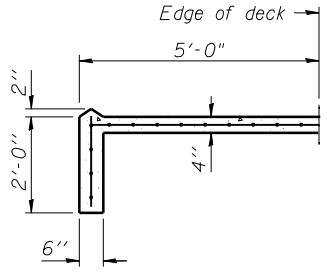
Notes:  
Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in., W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.  
Do not pour slopewall at abutments until new wingwalls are constructed.



PLAN  
EAST SLOPE WALL REPAIRS

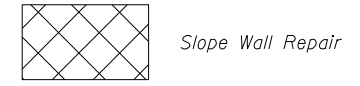


SECTION THRU  
SLOPEWALL



SECTION A-A

LEGEND



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Repair	50 YD	109

Notes:  
Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in., W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.  
Do not pour slopewall at abutments until new wingwalls are constructed.



JOB = 2276.3  
FILE = 0540057\_0058-SN0057SlopeWalls.dgn  
DATE = 2/11/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

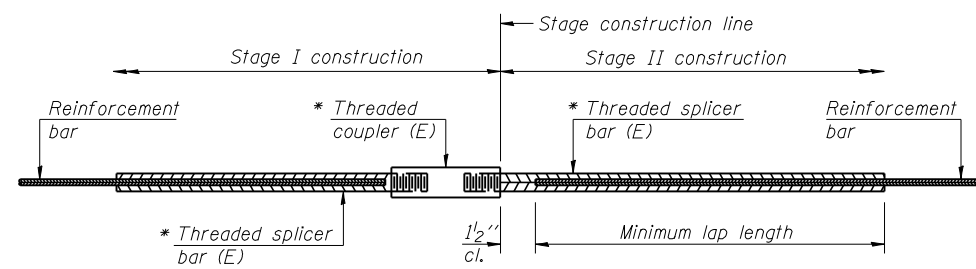
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EAST SLOPE WALL REPAIRS  
STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)

SHEET NO. 29 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	228
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT



**STANDARD BAR SPLICER ASSEMBLY**

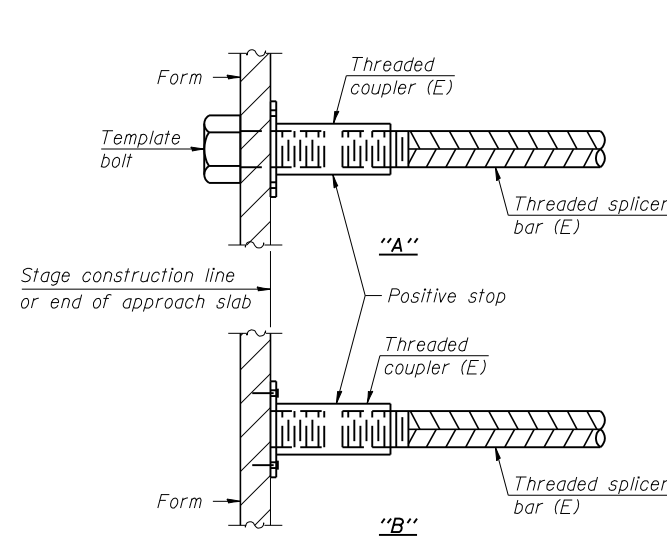
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

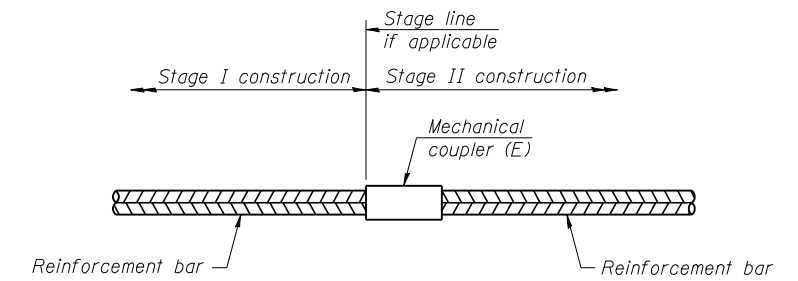
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck, Top	#5	644	3
Deck, Bottom	#5	394	3
Approach, Top	#4	100	3
Approach, Bottom	#5	184	3
Approach, Footing	#5	80	3
Abutment, Diaphragm	#6	32	3
Abutment, Backwall	#5	8	3



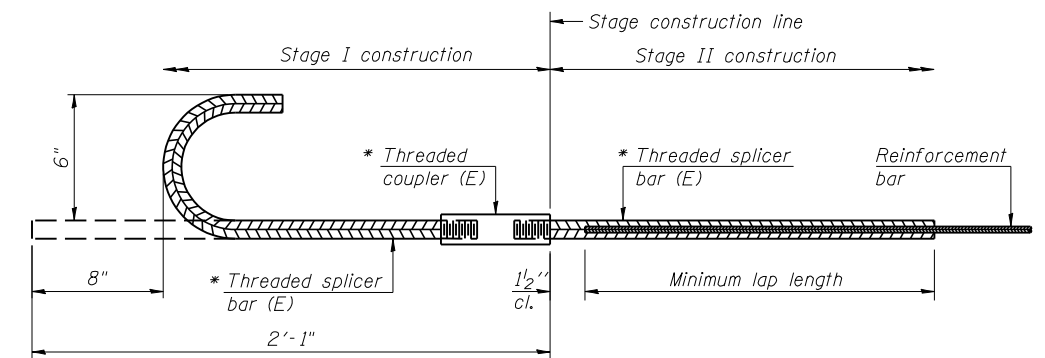
**INSTALLATION AND SETTING METHODS**

"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



**SPECIAL BAR SPLICER ASSEMBLY**

Location	Bar size	No. assemblies required	Table for minimum lap length
Diaphragm	#6	16	3

**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

8-31-12



JOB = 2276.3  
 FILE = 0540057\_0058-Splicer.dgn  
 DATE = 2/11/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

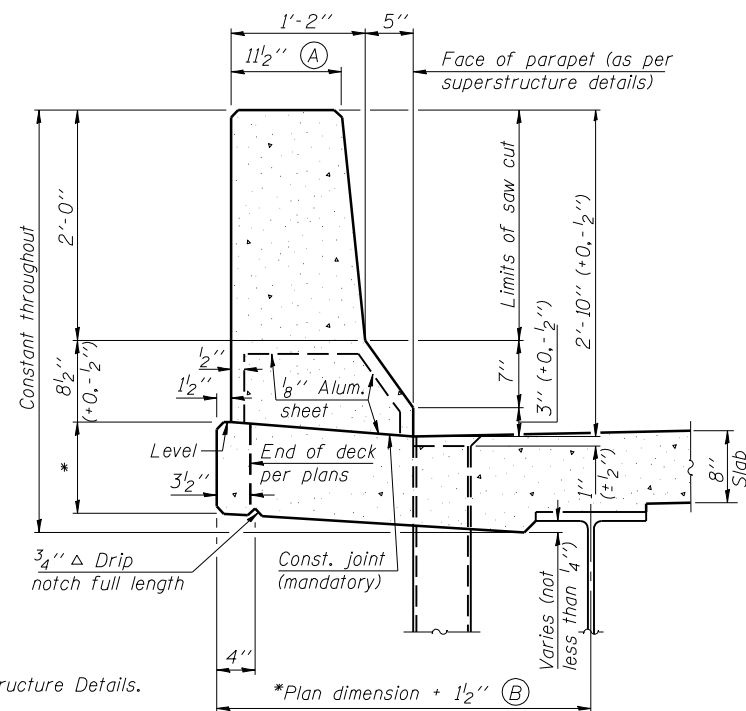
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

SHEET NO. 30 OF 31 SHEETS

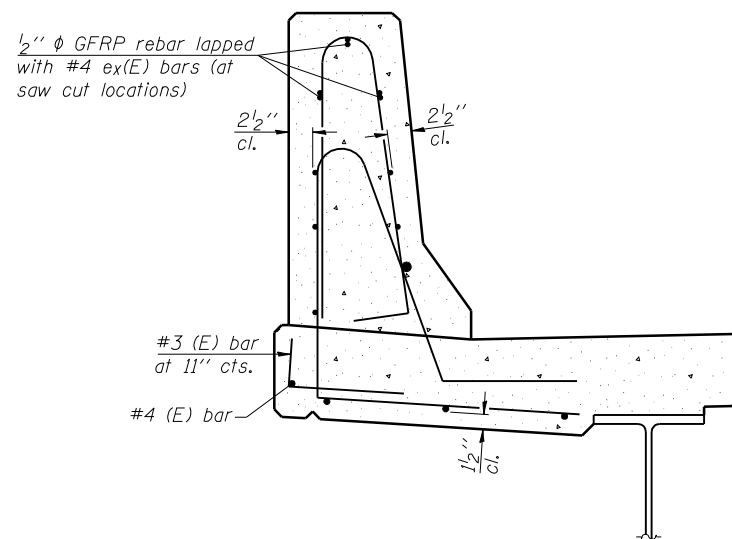
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	229
CONTRACT NO. 72E11			ILLINOIS FED. AID PROJECT	

**GENERAL NOTES**

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

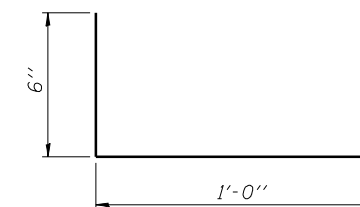


**34" F SHAPE PARAPET SECTION**  
(Showing dimensions)

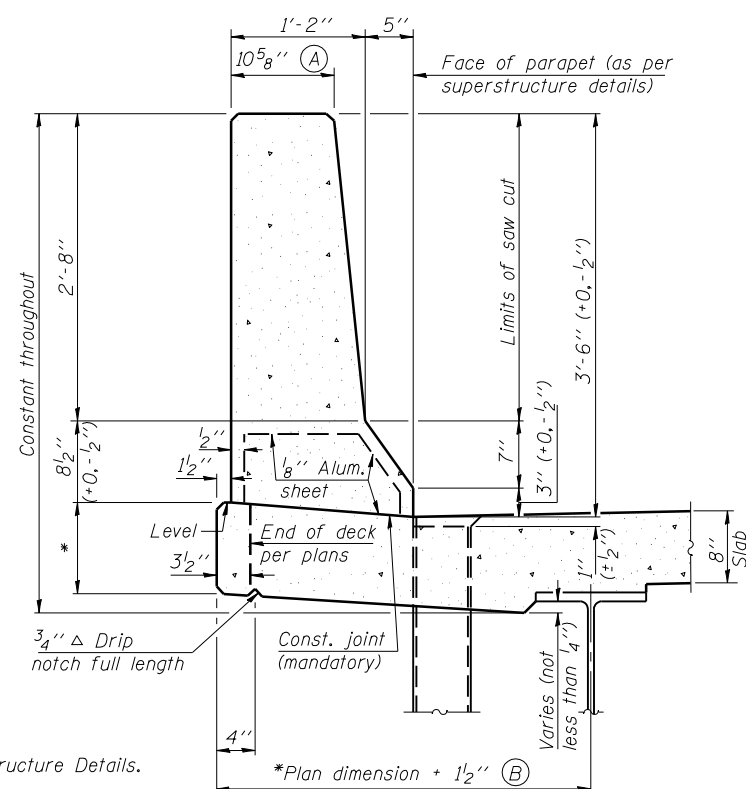


**SECTION**

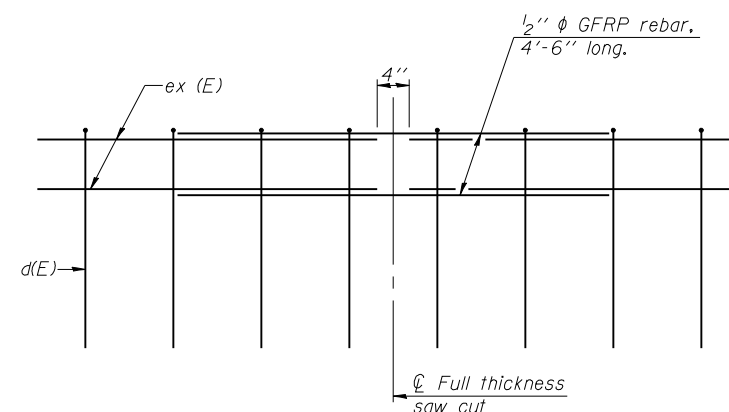
(34" parapet shown - 42" parapet similar)  
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



**#3 (E) BAR**

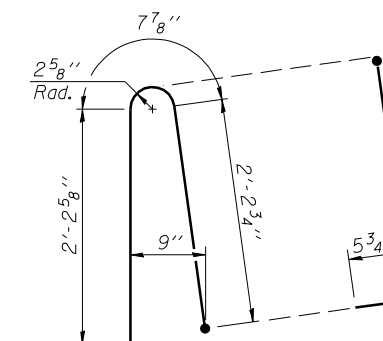


**42" F SHAPE PARAPET SECTION**  
(Showing dimensions)

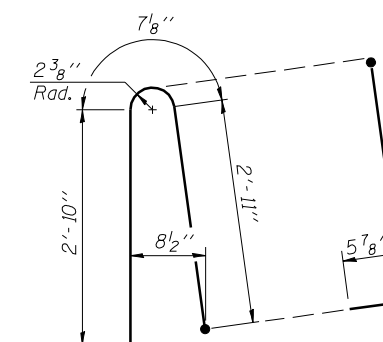


**GFRP REBAR STIFFENING DETAIL**

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



**ALTERNATE BAR d(E)**  
(For 34" parapet when conduit is present)



**ALTERNATE BAR d(E)**  
(For 42" parapet when conduit is present)

SFP 34-42

8-16-12

**CEC** Cummins  
Engineering  
Corporation  
Civil and Structural Engineering

JOB = 2276.3  
FILE = 0540057\_0058-ParapetSlipOption.dgn  
DATE = 2/11/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CONCRETE PARAPET SLIPFORMING OPTION**  
**STRUCTURE NO. 054-0057 (NB) & 054-0058 (SB)**

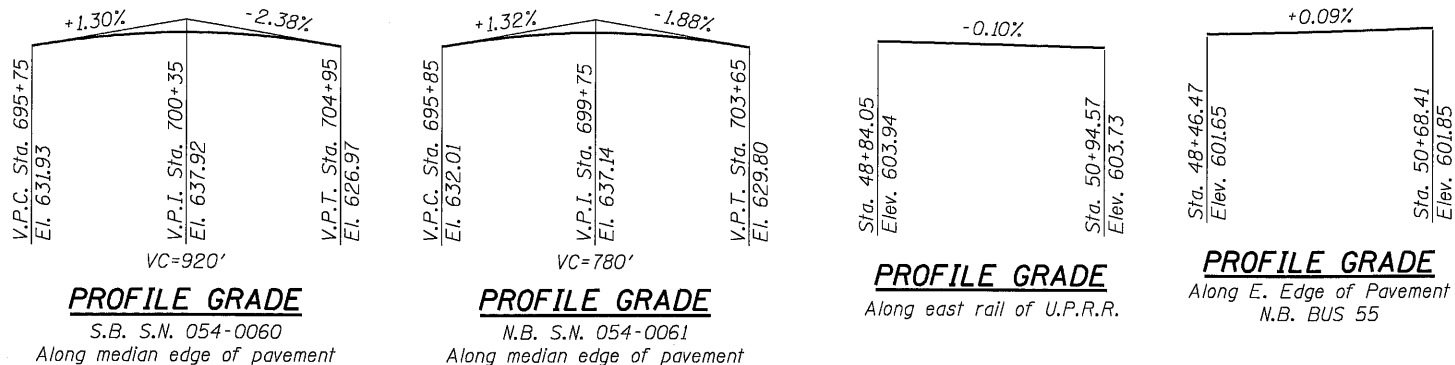
SHEET NO. 31 OF 31 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	230
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

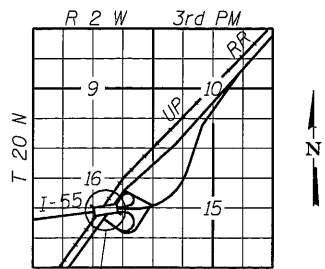
Benchmark: Chiseled Square on South Approach of S.N. 054-0060, over old US 66, Elev. 633.05

Existing Structure: S.N. 054-0060 (S.B.) and 054-0061 (N.B.) built in 1974 as F.A.I. Rte. 55, Section 54-4VHB, at Sta. 700+89.92. Existing dual structures each consist of a 3-span continuous reinforced concrete deck on 66" I girders supported by open stub abutments and multi-column trapezoidal piers on concrete piles. The structures are 491'-8<sup>3</sup>/<sub>4</sub>" Bk. to Bk. of abutments and the out to out of deck varies from 42'-7<sup>1</sup>/<sub>2</sub>" to 52'-6<sup>1</sup>/<sub>4</sub>" (S.B.) and 42'-3" to 48'-1<sup>3</sup>/<sub>8</sub>" (N.B.). The existing bridge deck, backwalls and wingwalls are to be removed and replaced under staged construction.

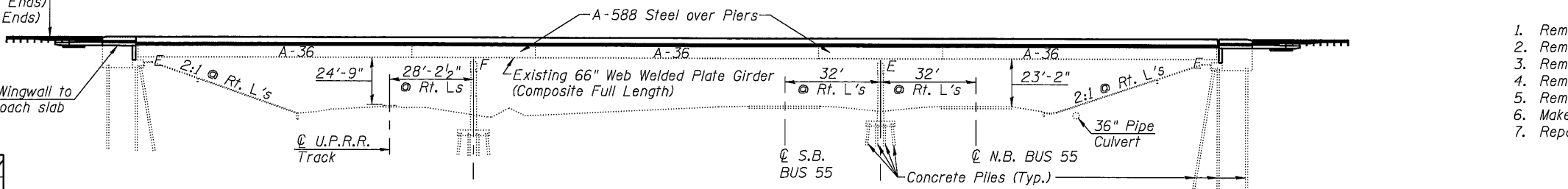


Traffic Barrier Terminal  
Type 6 Std. 631031 (Appr. Ends)  
Type 5 Std. 631026 (Exit Ends)

Remove Exst. Wingwall to bottom of Approach slab (Typ.)



Proposed Improvement



**SCOPE OF WORK**

1. Remove and replace bridge deck.
2. Remove and replace end diaphragms.
3. Remove and replace bearings at expansion joints.
4. Remove and replace approach pavements.
5. Remove and replace abutment backwalls.
6. Make wingwall modifications.
7. Repair slopewalls, abutment caps and piers as necessary.

**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.046g  
Site Coefficient (S) = 1.5

**DESIGN SPECIFICATIONS**

2002 AASHTO (New Construction)  
1985 FHWA Seismic Retrofit Manual  
1969 AASHTO (Existing Construction)

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)  
fy = 36,000 psi (M270 Grade 36)

**FIELD UNITS (Existing Construction)**

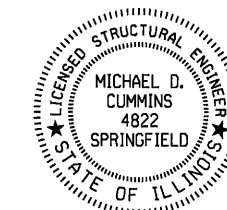
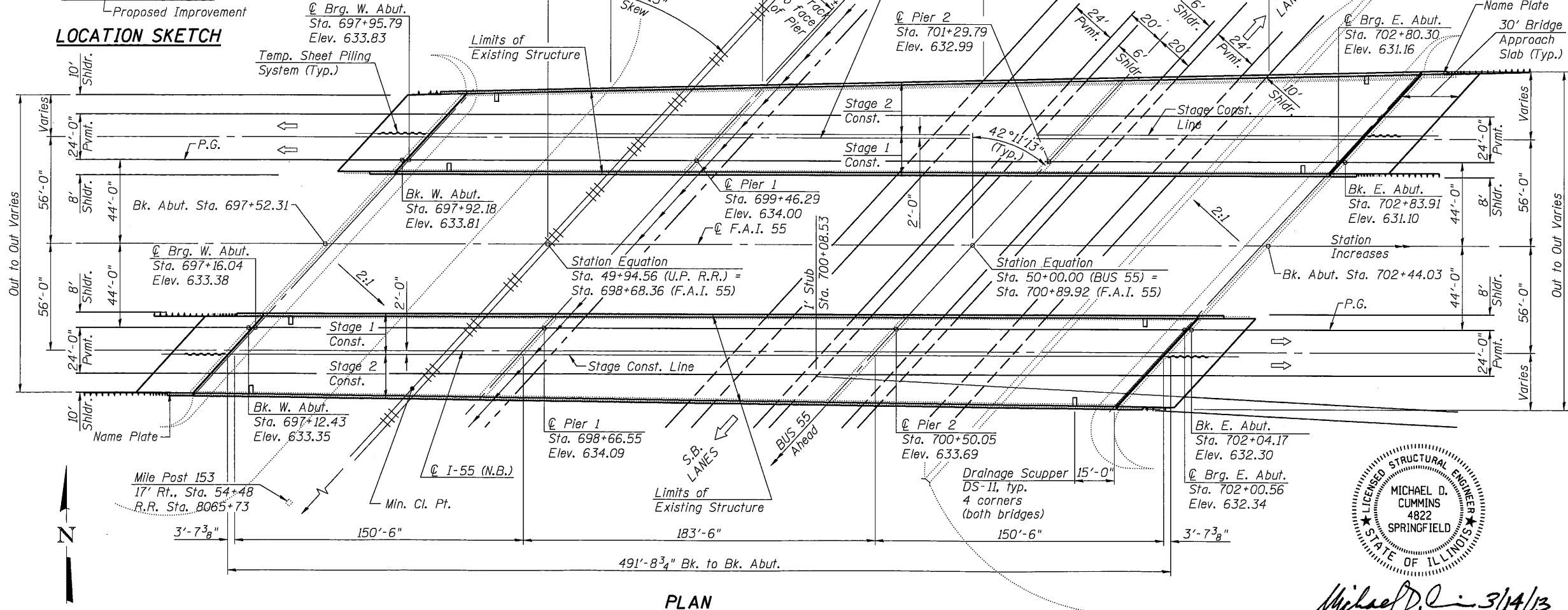
f'c = 1,200 psi (Deck Slab)  
f'c = 1,400 psi (Curb, Parapet, Substructure)  
fs = 20,000 psi (Reinforcement & Steel)  
fs = 27,000 psi (Neg. Moment Areas)

**LOADING HS20-44 & ALT.**

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

**GENERAL PLAN**

**I-55 OVER BUS 55 & U.P.R.R.**  
**F.A.I. RTE. 55**  
**SECTION D6 LOGAN CO BR 2011-1**  
**LOGAN COUNTY**  
**STATION 700+89.92**  
**STRUCTURE NO. 054-0060 (S.B.)**  
**STRUCTURE NO. 054-0061 (N.B.)**



Michael D. Cummins 3/14/13  
(Expires 11/30/2014)



JOB = 2265.2  
FILE = 0540060\_0061-72E11-01-CPE.dgn  
DATE = 1/18/2011

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN  
STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)

SHEET NO. 1 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	231
			CONTRACT NO. 72E11	
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 1 in.  $\phi$ , holes 1 1/16 in.  $\phi$ , unless otherwise noted. No field welding is permitted except as specified in the contract documents. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. 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.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

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.

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

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

Cleaning and painting of the structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel within 10 ft (measured along the beam) of the deck joints shall be cleaned per Near White Blast Cleaning - SSPC-SP10

The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all surfaces shall be Interstate Green, Munsell No. 7.5G 4/8.

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

All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300, Type 1.

Location No. 3 = S.N. 054-0060 SB  
Location No. 4 = S.N. 054-0061 NB

When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:

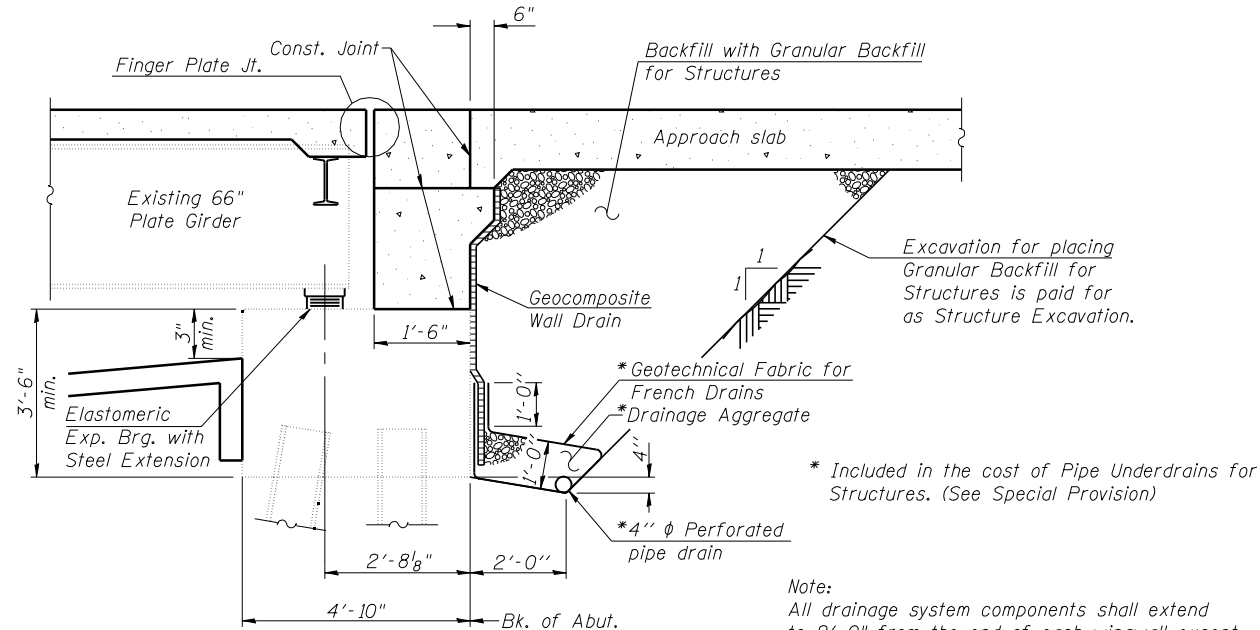
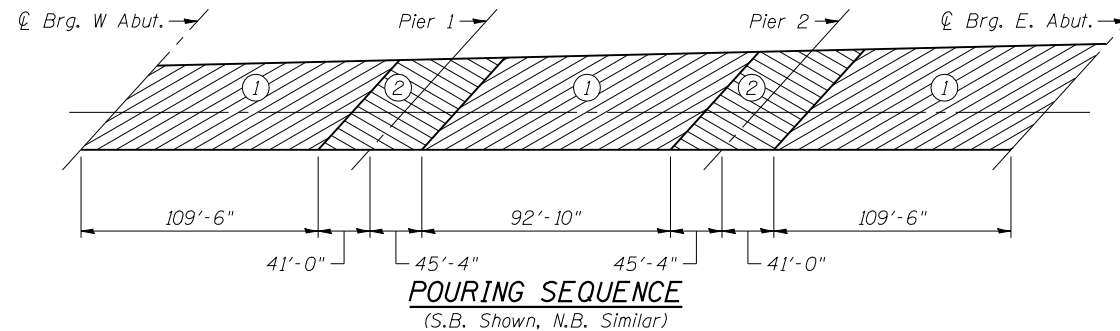
- At least 72 hours shall have elapsed from the end of the previous pour.
- The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

STATION 700+89.92  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.I. RT. 55  
SEC. D6 LOGAN CO BR 2011-1  
LOADING HS 20-44  
STRUCTURE NO. 054-0060  
(S.B. STRUCTURE)

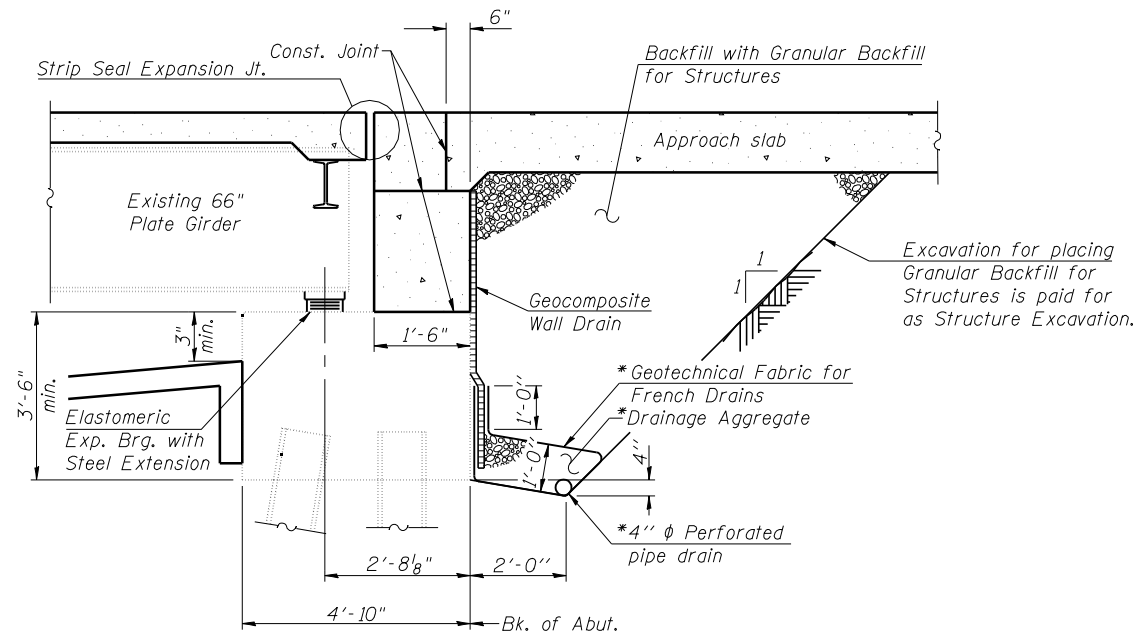
STATION 700+89.92  
BUILT 20\_\_ BY  
STATE OF ILLINOIS  
F.A.I. RT. 55  
SEC. D6 LOGAN CO BR 2011-1  
LOADING HS 20-44  
STRUCTURE NO. 054-0061  
(N.B. STRUCTURE)

**NAME PLATE**  
See Std. 515001

Existing name plate shall be cleaned and placed next to the new name plate. Cost included in "Name Plates".



**SECTION THRU EAST ABUTMENTS**  
(Horiz. dim. @ Rt. L's)



**SECTION THRU WEST ABUTMENTS**  
(Horiz. dim. @ Rt. L's)

**INDEX OF SHEETS**

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2	General Data
3	Stage Construction Details
4	Temporary Concrete Barrier
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9-10	Top of Approach Slab Elevations (SB)
11-14	Top of Slab Elevations (NB)
15-16	Top of Approach Slab Elevations (NB)
17-19	Superstructure
20-22	Superstructure Details
23-24	Bridge Approach Slab Details (SB)
25-26	Bridge Approach Slab Details (NB)
27	Bridge Approach Slab Details
28	Drainage Scupper, DS-II
29	Preformed Joint Strip Seal
30	Finger Plate Expansion Joint (SB)
31	Finger Plate Expansion Joint (NB)
32	Finger Plate Expansion Joint Details
33-35	Structural Steel
36	Type I Bearing Details at West Abutments
37	Type III Bearing Details at East Abutments
38	West Abutment Concrete Removal (SB)
39	East Abutment Concrete Removal (SB)
40	West Abutment Concrete Removal (NB)
41	East Abutment Concrete Removal (NB)
42	West Abutment Details (SB)
43	East Abutment Details (SB)
44	West Abutment Details (NB)
45	East Abutment Details (NB)
46	Abutment Details
47	Pier 2
48	Pier Repairs (SB)
49	Pier Repairs (NB)
50	West Slope Wall Repair
51	East Slope Wall Repair
52	Bar Splicer Assembly and Mechanical Splicer Details
53	Concrete Parapet Slipforming Option

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		141.1	141.1
Removal of Existing Concrete Deck, No. 2	Each	2		2
Protective Shield	Sq. Yd.	2389		2389
Structure Excavation	Cu. Yd.		658	658
Concrete Structures	Cu. Yd.		196.2	196.2
Concrete Superstructure	Cu. Yd.	1925.9		1925.9
Bridge Deck Grooving	Sq. Yd.	5635		5635
Protective Coat	Sq. Yd.	6997		6997
Furnishing and Erecting Structural Steel	Pound	21,130		21,130
Stud Shear Connectors	Each	18,726		18,726
Reinforcement Bars, Epoxy Coated	Pound	472,855	28,165	501,020
Bar Splicers	Each	3718	461	4179
Name Plates	Each	2		2
Preformed Joint Strip Seal	Foot	128		128
Finger Plate Expansion Joint, 4 1/4"	Foot	133		133
Elastomeric Bearing Assembly, Type I	Each	14		14
Elastomeric Bearing Assembly, Type III	Each	14		14
Anchor Bolt 1"	Each	56		56
Concrete Sealer	Sq. Ft.		1597	1597
Geocomposite Wall Drain	Sq. Yd.		432	432
Granular Backfill for Structures	Cu. Yd.		658	658
Jack & Remove Existing Bearings	Each	28		28
Containment and Disposal of Lead Paint Cleaning Residues No. 3	L. Sum	1		1
Containment and Disposal of Lead Paint Cleaning Residues No. 4	L. Sum	1		1
Cleaning and Painting Steel Bridge No. 3	L. Sum	1		1
Cleaning and Painting Steel Bridge No. 4	L. Sum	1		1
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq. Ft.		43	43
Drainage Scuppers, DS-II	Each	8		8
Temporary Sheet Piling	Sq. Ft.		1904	1904
Pipe Underdrains for Structures, 4"	Foot		287	287
Slope Wall Repair	Sq. Yd.		463	463
Controlled Low-Strength Material	Cu. Yd.		159	159



**Commings Engineering Corporation**  
JOB = 2265.2  
FILE = 0540060\_0061-72E11-02-GenData.dgn  
DATE = 3/1/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC  
REVISED -  
REVISED -  
REVISED -  
REVISED -

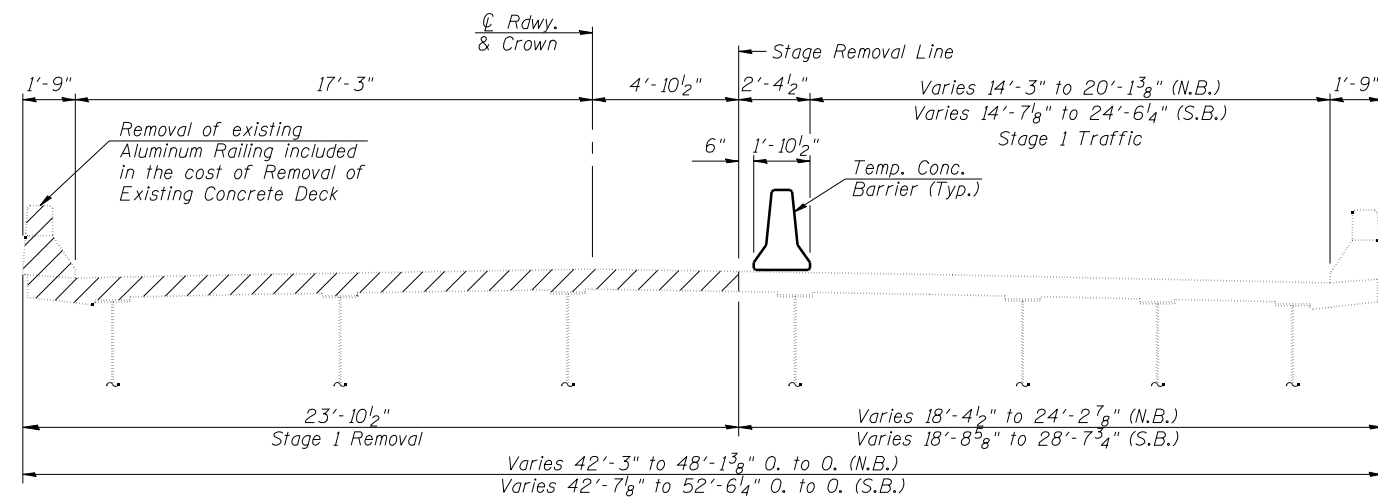
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

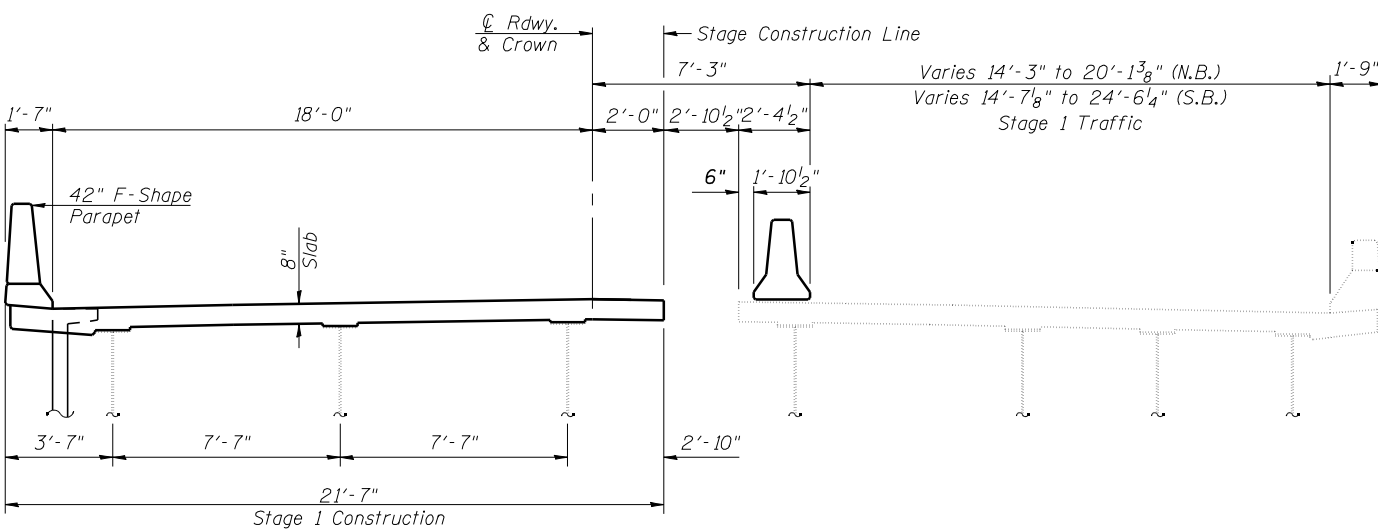
SHEET NO. 2 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	232
CONTRACT NO. 72E11			ILLINOIS FED. AID PROJECT	

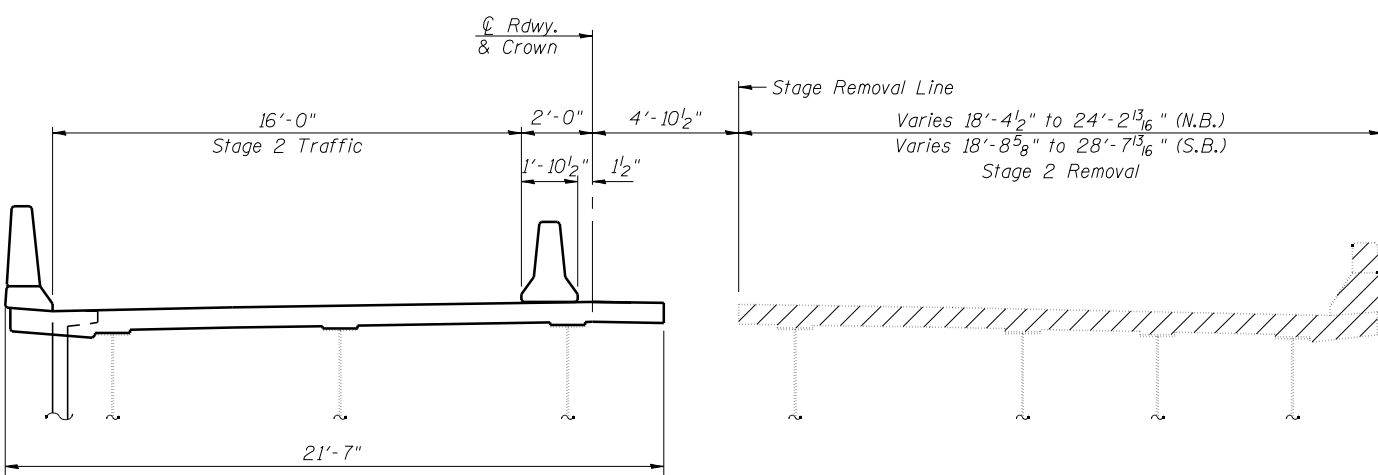




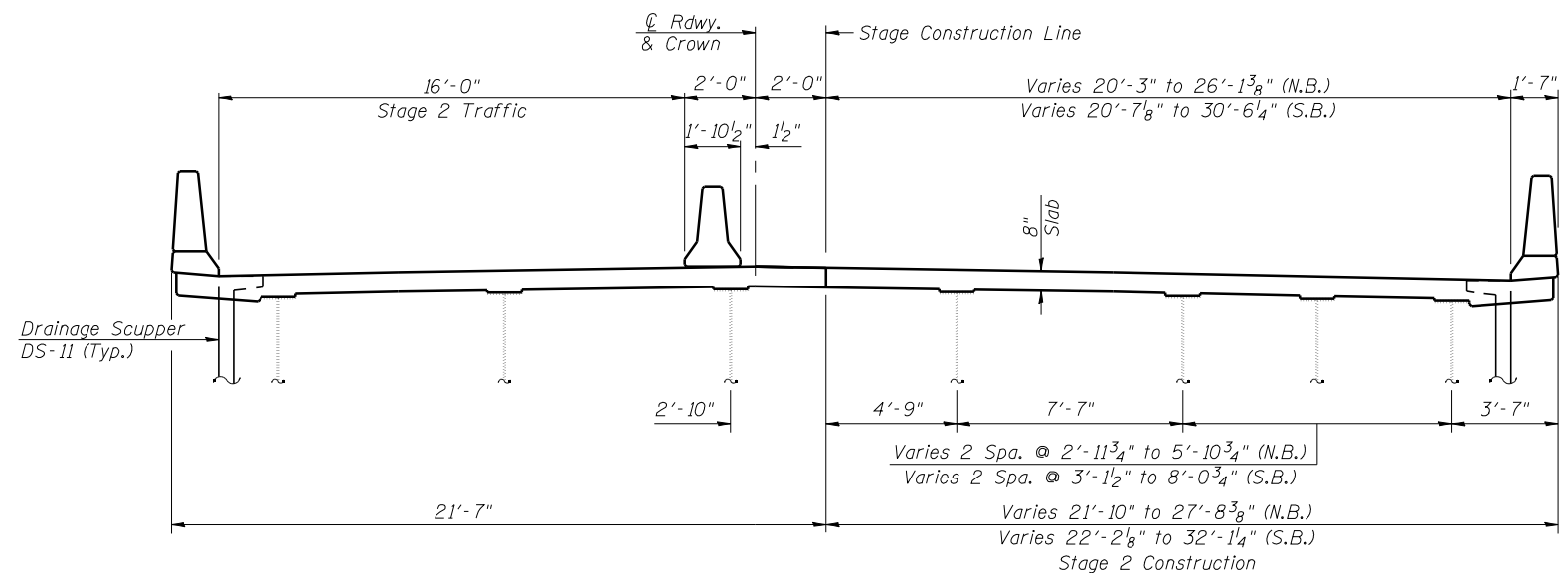
**STAGE 1 REMOVAL**



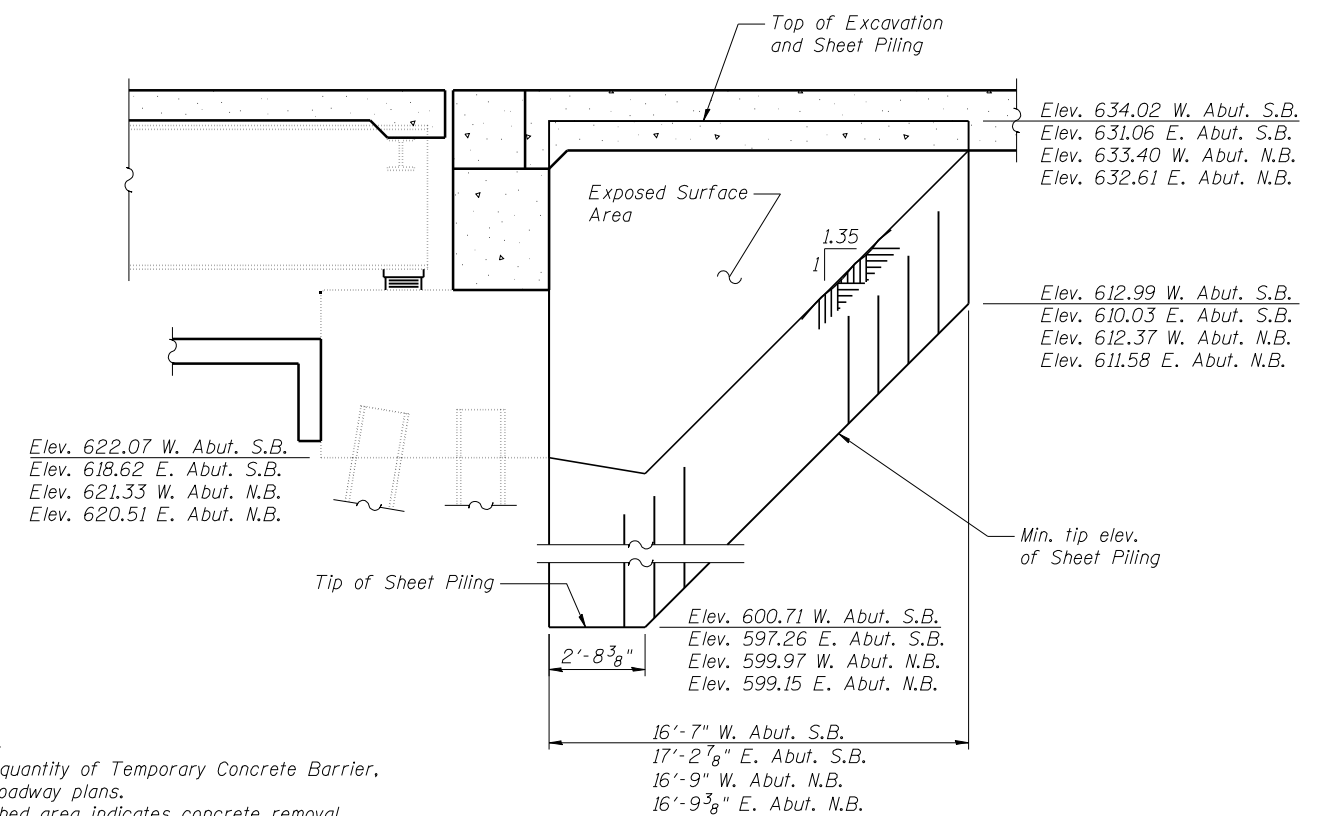
**STAGE 1 CONSTRUCTION**



**STAGE 2 REMOVAL**



**STAGE 2 CONSTRUCTION**



**TEMPORARY SHEET PILING**  
(West Abutments shown, East Abutments similar)  
Minimum Section Modulus = 31.9 in<sup>3</sup>/ft

**Notes:**  
For quantity of Temporary Concrete Barrier, see roadway plans.  
Hatched area indicates concrete removal.  
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.  
All cross sections are looking in the direction of traffic.  
Temporary Sheet Piling was designed with the following assumptions:  
 $q_u = 0.8 \text{ tsf}$   
 $N = 8$

**NOTE**

Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.



JOB	= 2265.2	DESIGNED	- AAN	REVISED	-
FILE	= 0540060_0061-72E11-03-Staging.dgn	CHECKED	- MDC	REVISED	-
DATE	= 3/18/2013	DRAWN	- SJS	REVISED	-
SCALE	= 64.0000' / IN.	CHECKED	- MDC	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

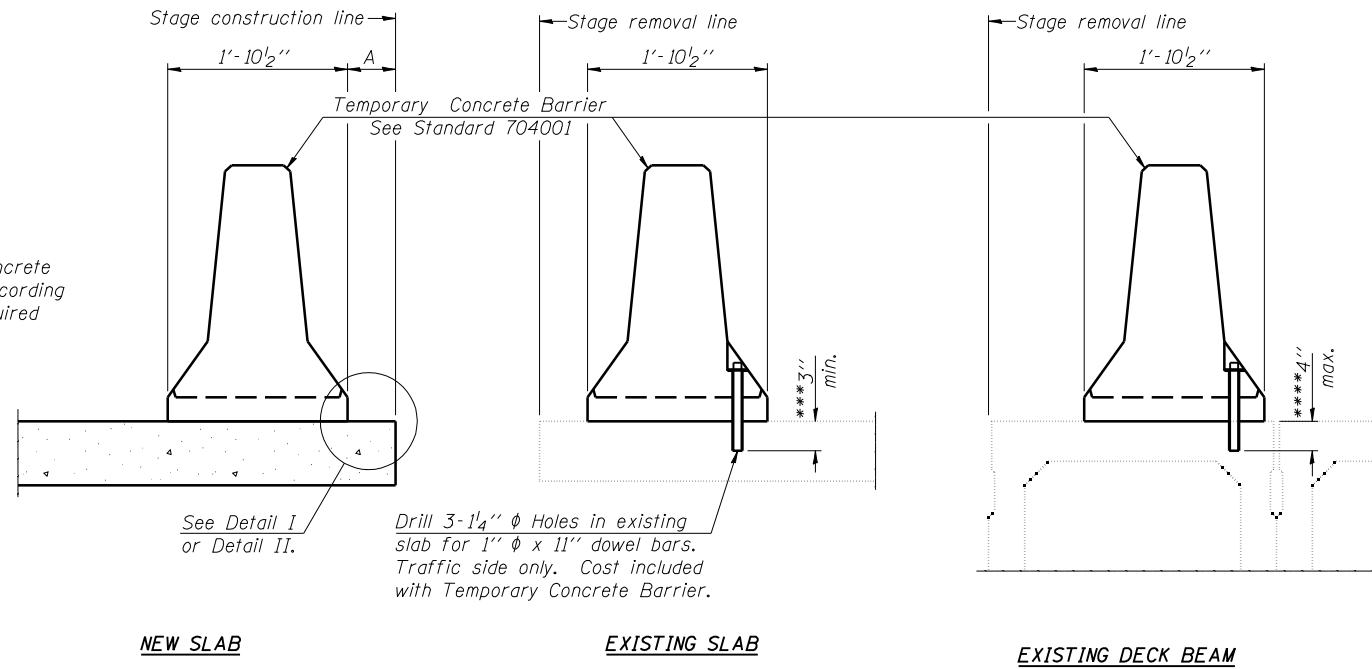
**STAGE CONSTRUCTION DETAILS  
STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

SHEET NO. 3 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	233
			CONTRACT NO. 72E11	

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".



**SECTIONS THRU SLAB OR DECK BEAM**

**NOTES**

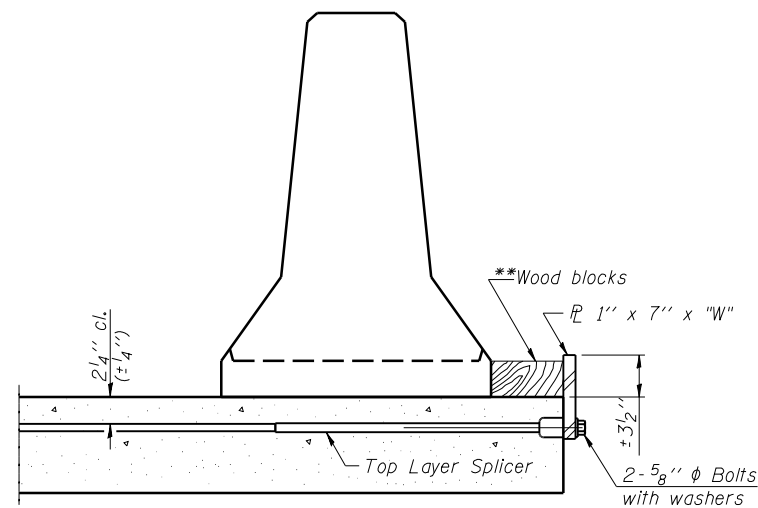
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

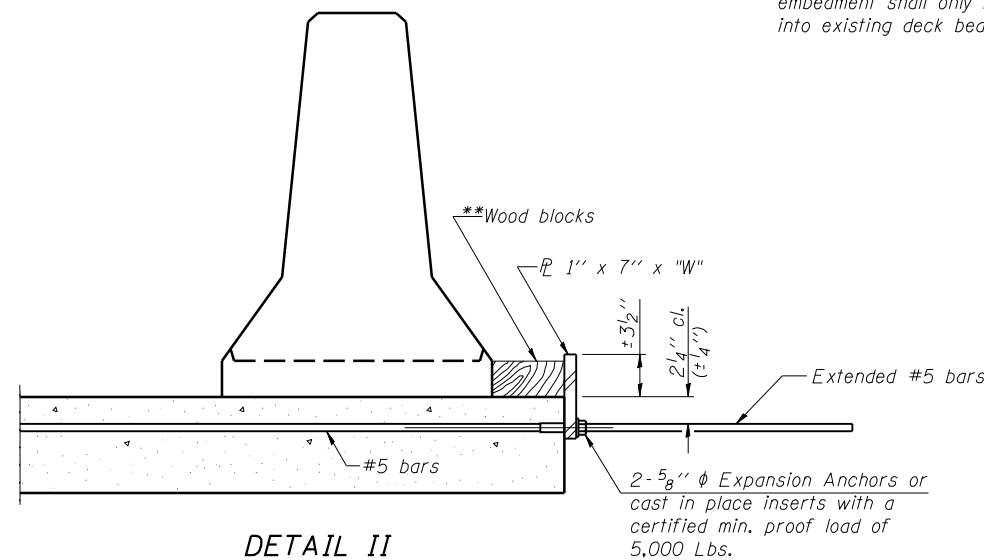
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

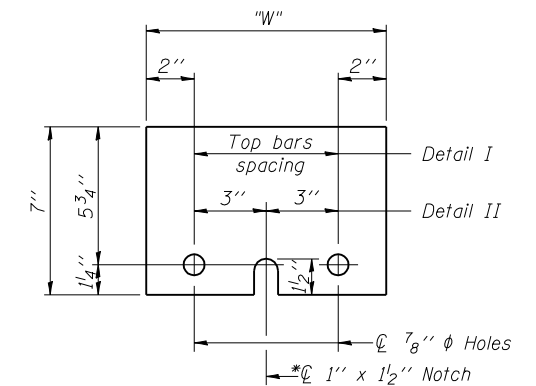
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**DETAIL I**



**DETAIL II**



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

\* Required only with Detail II

\*\* 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"

R-27 7-1-10

**CEC** Cummins Engineering Corporation  
Civil and Structural Engineering

JOB = 2265.2  
FILE = 0540060\_0061-72E11-04-Barrier.dgn  
DATE = 3/18/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

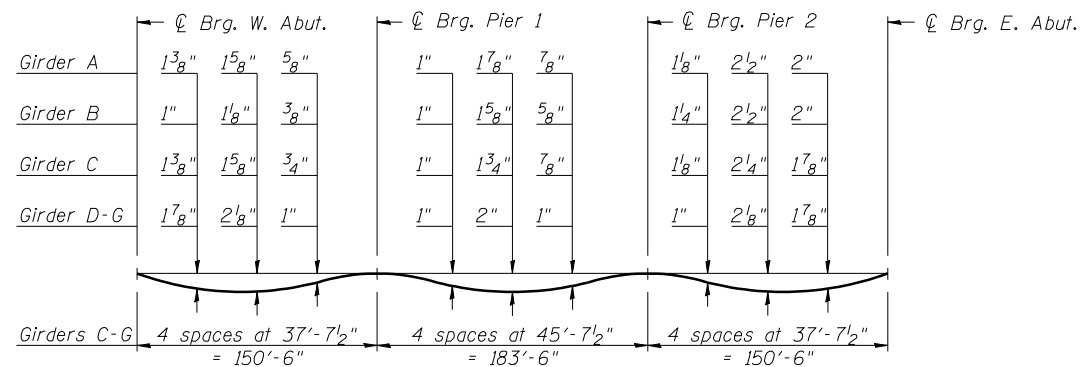
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

SHEET NO. 4 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	234
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT

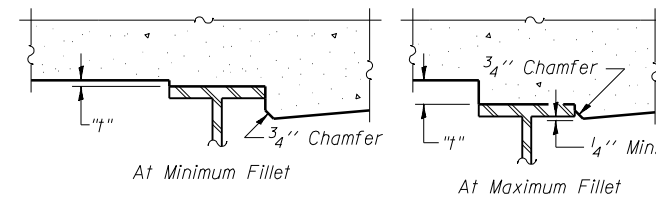


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

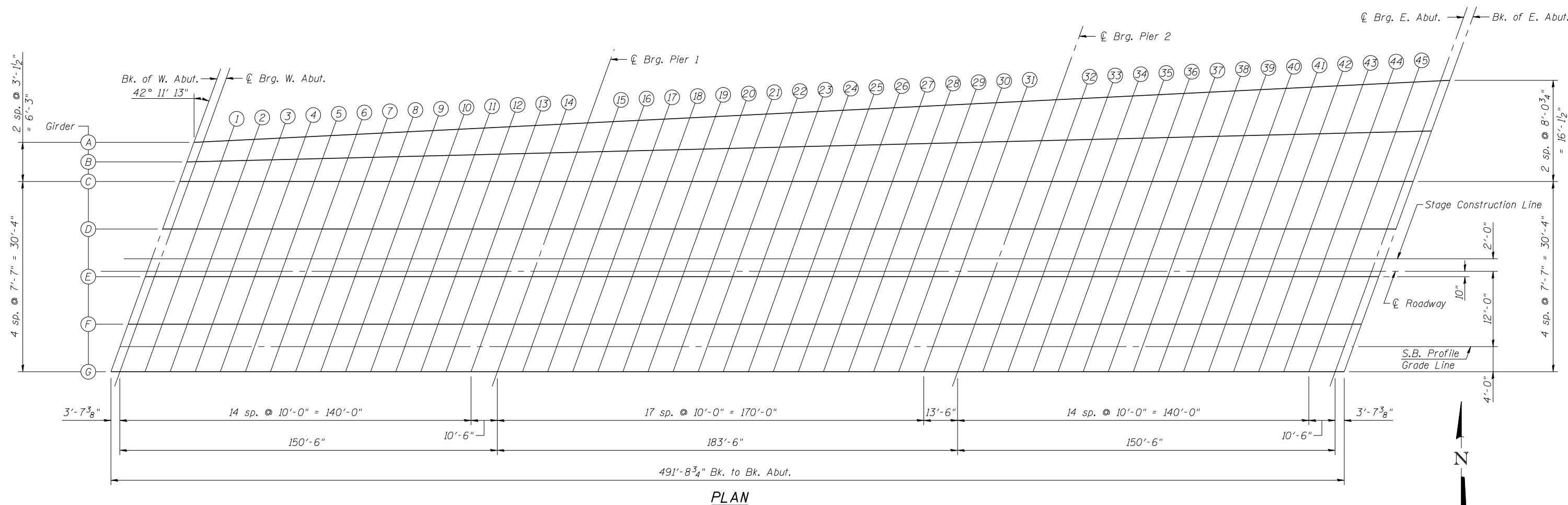
Note:

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 below.



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, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**PLAN**



JOB = 2265.2	DESIGNED - ANN	REVISED -
FILE = 0540060.0061-72E11-05-08-ToS-SB.dgn	CHECKED - MDC	REVISED -
DATE = 3/7/2013	DRAWN - SJS	REVISED -
	CHECKED - MDC	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 054-0060 (SB)**

SHEET NO. 5 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	235
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT





GIRDER F

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and CL Brg. Pier 1, 2.

PROFILE GRADE LINE F.A.I. 55

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and CL Brg. Pier 1, 2.

GIRDER G

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and CL Brg. Pier 1, 2.



Table with 2 columns: JOB (2265.2), FILE (0540060.0061-72E11-05-08-ToS-SB.dgn), DATE (3/7/2013), DESIGNED (ANN), CHECKED (MDC), DRAWN (SJS), CHECKED (MDC), REVISED (-).

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS STRUCTURE NO. 054-0060 (SB)

SHEET NO. 8 OF 53 SHEETS

Table with 5 columns: F.A.I. RTE. (55), SECTION (D6 LOGAN CO BR 2011-1), COUNTY (LOGAN), TOTAL SHEETS (429), SHEET NO. (238). Includes CONTRACT NO. 72E11 and ILLINOIS FED. AID PROJECT.

**NORTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	697+93.67	-34.00	633.61
A1	698+03.67	-34.00	633.65
A2	698+13.67	-34.00	633.69
E. End West Appr. Pav't	698+23.67	-34.00	633.72

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	697+84.60	-24.00	633.78
A1	697+94.60	-24.00	633.82
A2	698+04.60	-24.00	633.86
E. End West Appr. Pav't	698+14.60	-24.00	633.90

**STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	697+75.54	-14.00	633.89
A1	697+85.54	-14.00	633.94
A2	697+95.54	-14.00	633.98
E. End West Appr. Pav't	698+05.54	-14.00	634.02

**☉ ROADWAY**

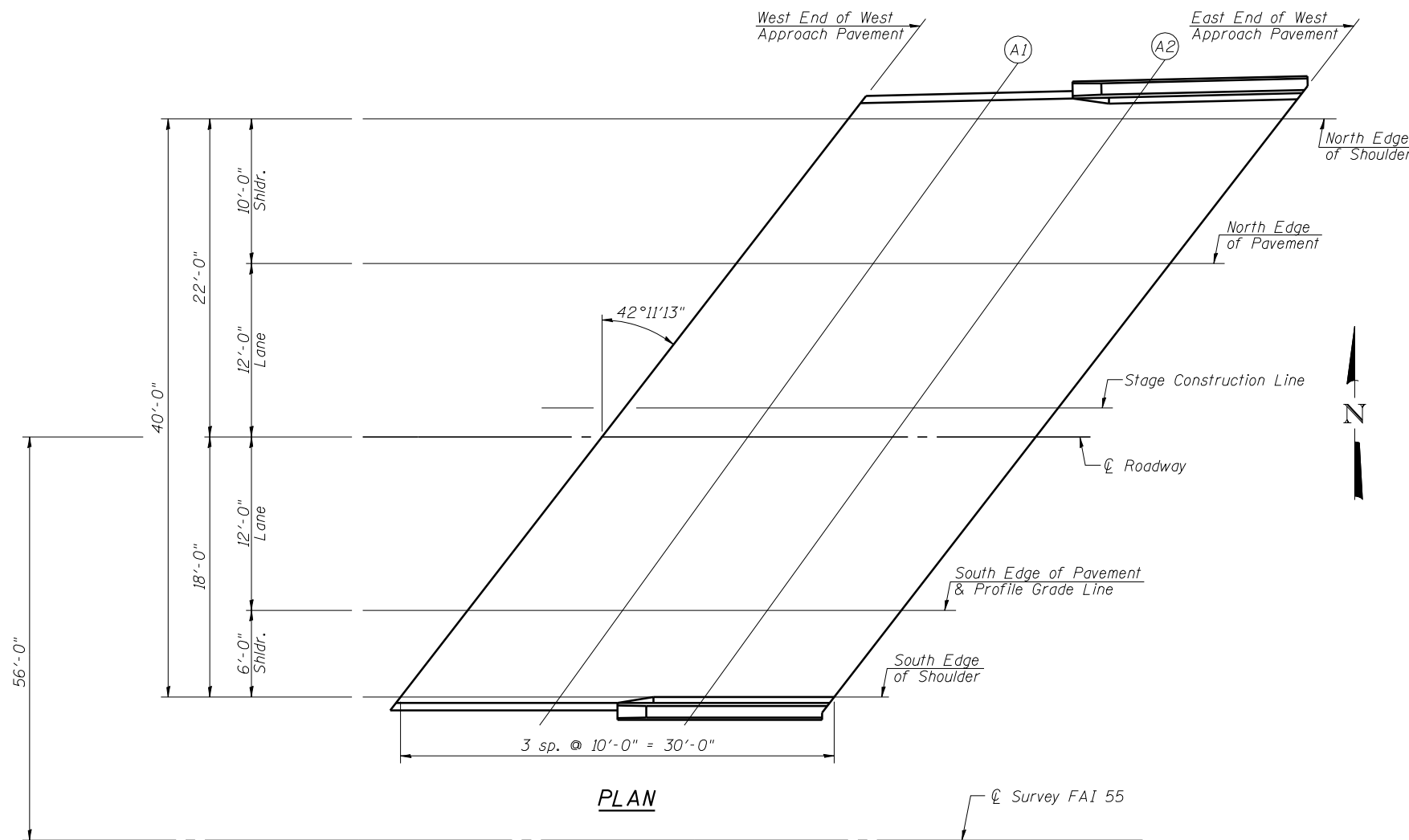
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	697+73.73	-12.00	633.91
A1	697+83.73	-12.00	633.96
A2	697+93.73	-12.00	634.01
E. End West Appr. Pav't	698+03.73	-12.00	634.05

**SOUTH EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	697+62.85	0.00	633.67
A1	697+72.85	0.00	633.72
A2	697+82.85	0.00	633.77
E. End West Appr. Pav't	697+92.85	0.00	633.82

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	697+57.42	6.00	633.51
A1	697+67.42	6.00	633.57
A2	697+77.42	6.00	633.62
E. End West Appr. Pav't	697+87.42	6.00	633.67



**PLAN**

☉ Survey FAI 55

**NORTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	703+14.72	-34.00	630.40
A1	703+24.72	-34.00	630.24
A2	703+34.72	-34.00	630.06
E. End East Appr. Pav't	703+44.72	-34.00	629.90

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	703+05.66	-24.00	630.76
A1	703+15.66	-24.00	630.60
A2	703+25.66	-24.00	630.43
E. End East Appr. Pav't	703+35.66	-24.00	630.26

**STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	702+96.60	-14.00	631.06
A1	703+06.60	-14.00	630.90
A2	703+16.60	-14.00	630.74
E. End East Appr. Pav't	703+26.60	-14.00	630.57

**CL ROADWAY**

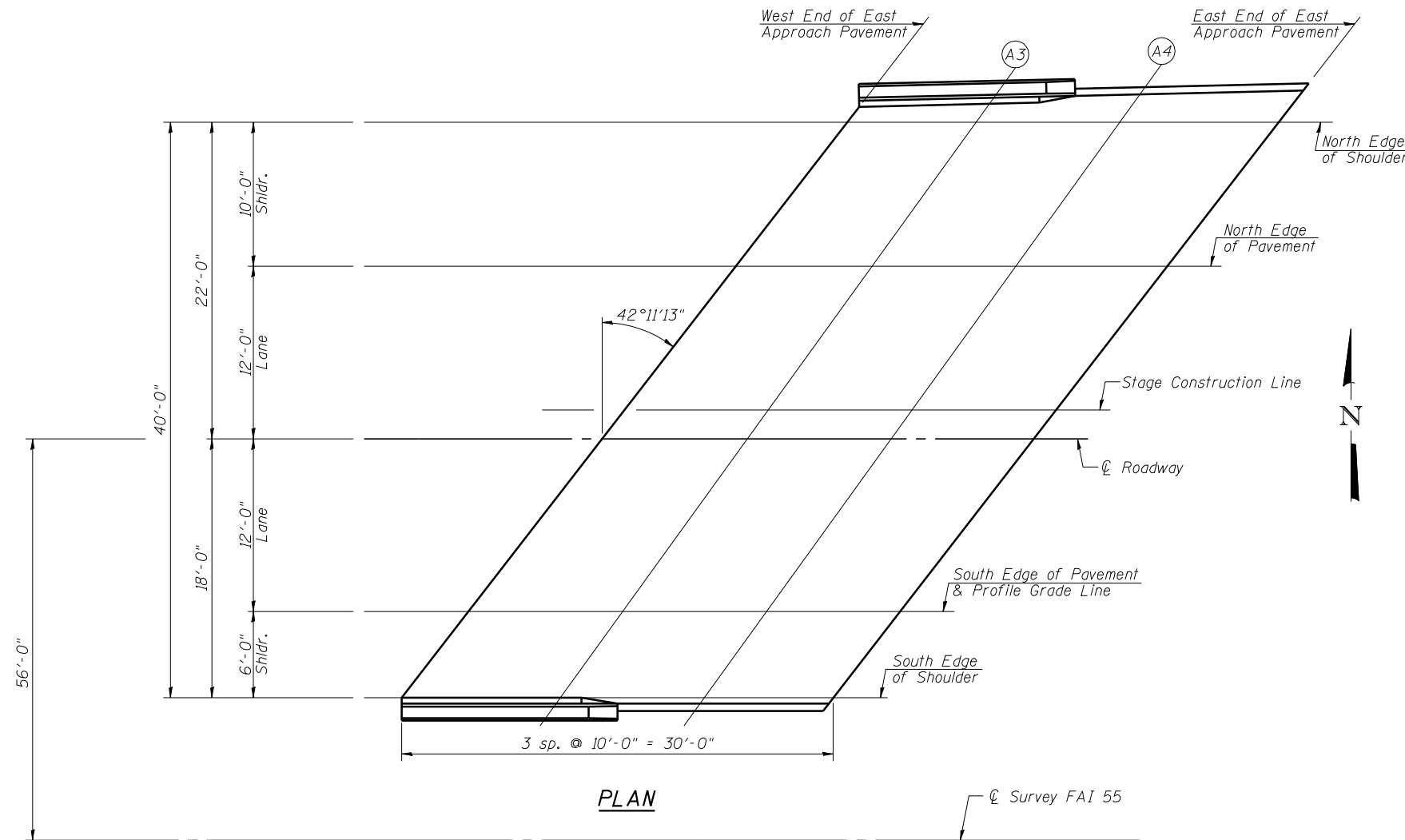
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	702+94.78	-12.00	631.12
A1	703+04.78	-12.00	630.96
A2	703+14.78	-12.00	630.80
E. End East Appr. Pav't	703+24.78	-12.00	630.64

**SOUTH EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	702+83.90	0.00	631.12
A1	702+93.90	0.00	630.96
A2	703+03.90	0.00	630.80
E. End East Appr. Pav't	703+13.40	0.00	630.63

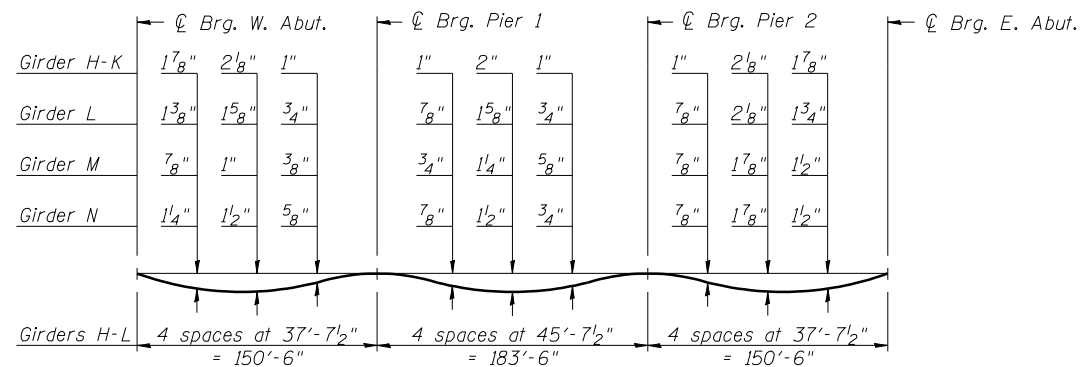
**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	702+78.47	6.00	631.06
A1	702+88.47	6.00	630.91
A2	702+98.47	6.00	630.75
E. End East Appr. Pav't	703+08.47	6.00	630.59



**PLAN**



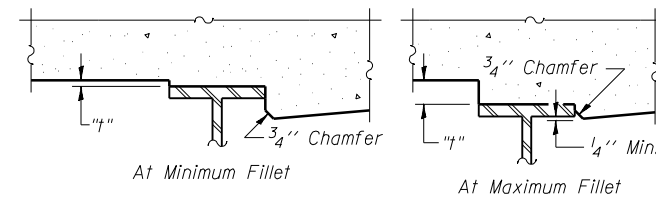


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

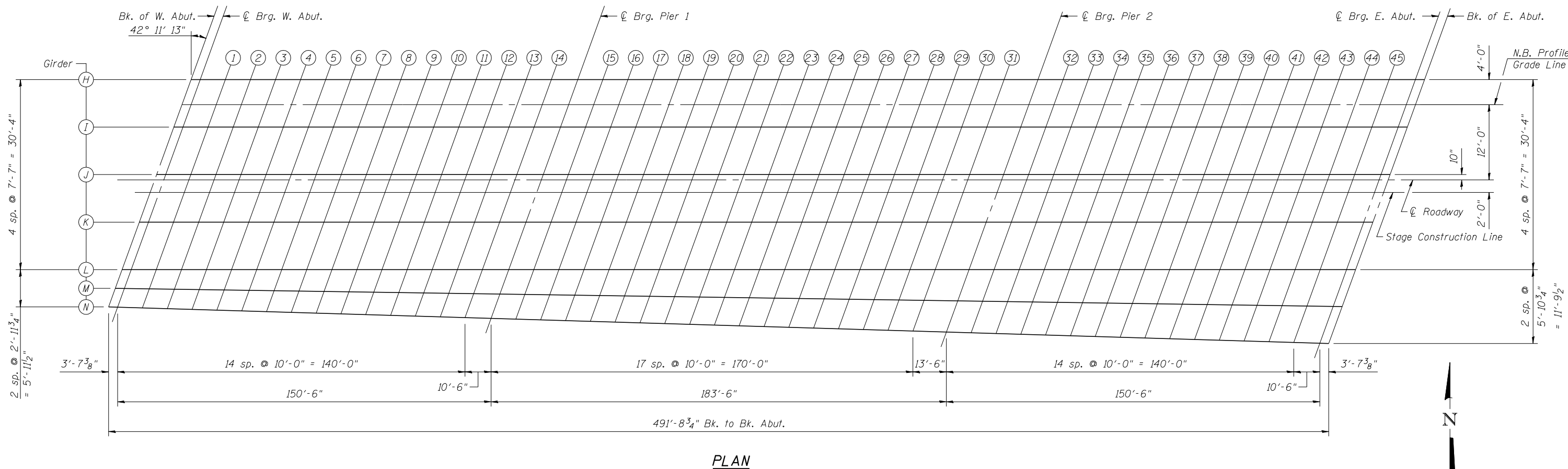
Note:

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 below.



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, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**





GIRDER J

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and various numbered locations (1-45) for CL Brg. Pier 1, CL Brg. Pier 2, CL Brg. E. Abut., and Bk. of E. Abut.

STAGE CONSTRUCTION LINE

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and various numbered locations (1-45) for CL Brg. Pier 1, CL Brg. Pier 2, CL Brg. E. Abut., and Bk. of E. Abut.

GIRDER K

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and various numbered locations (1-45) for CL Brg. Pier 1, CL Brg. Pier 2, CL Brg. E. Abut., and Bk. of E. Abut.



Table with 4 columns: JOB (2265.2), FILE (0540060\_0061-72E11-11-14-ToS-NB.dgn), DATE (3/7/2013), DESIGNED (ANN), CHECKED (MDC), DRAWN (SJS), and REVISIONS.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS STRUCTURE NO. 054-0061 (NB)

SHEET NO. 13 OF 53 SHEETS

Table with 6 columns: F.A.I. RTE. (55), SECTION (D6 LOGAN CO BR 2011-1), COUNTY (LOGAN), TOTAL SHEETS (429), SHEET NO. (243), and CONTRACT NO. (72E11).

ILLINOIS FED. AID PROJECT

GIRDER L

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and various pier and abutment locations with stationing from 696+88.57 to 701+80.30.

GIRDER M

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and various pier and abutment locations with stationing from 696+85.87 to 701+74.94.

GIRDER N

Table with 5 columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection. Rows include Bk. of W. Abut., CL Exp. Jt., CL Brg. W. Abut., and various pier and abutment locations with stationing from 696+83.17 to 701+69.54.



Project information table with columns: JOB (2265.2), FILE (0540060\_0061-72E11-11-14-ToS-NB.dgn), DATE (3/7/2013), DESIGNED (ANN), CHECKED (MDC), DRAWN (SJS), and a second CHECKED (MDC).

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS STRUCTURE NO. 054-0061 (NB)

SHEET NO. 14 OF 53 SHEETS

Summary table with columns: F.A.I. RTE. (55), SECTION (D6 LOGAN CO BR 2011-1), COUNTY (LOGAN), TOTAL SHEETS (429), SHEET NO. (244), CONTRACT NO. (72E11), ILLINOIS FED. AID PROJECT.

**NORTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	696+88.54	-6.00	633.03
A1	696+98.54	-6.00	633.11
A2	697+08.54	-6.00	633.20
E. End West Appr. Pav't	697+18.54	-6.00	633.28

**NORTH EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	696+83.10	0.00	633.10
A1	696+93.10	0.00	633.19
A2	697+03.10	0.00	633.28
E. End West Appr. Pav't	697+13.10	0.00	633.36

**CL ROADWAY**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	696+72.22	12.00	633.19
A1	696+82.22	12.00	633.28
A2	696+92.22	12.00	633.37
E. End West Appr. Pav't	697+02.22	12.00	633.46

**STAGE CONSTRUCTION LINE**

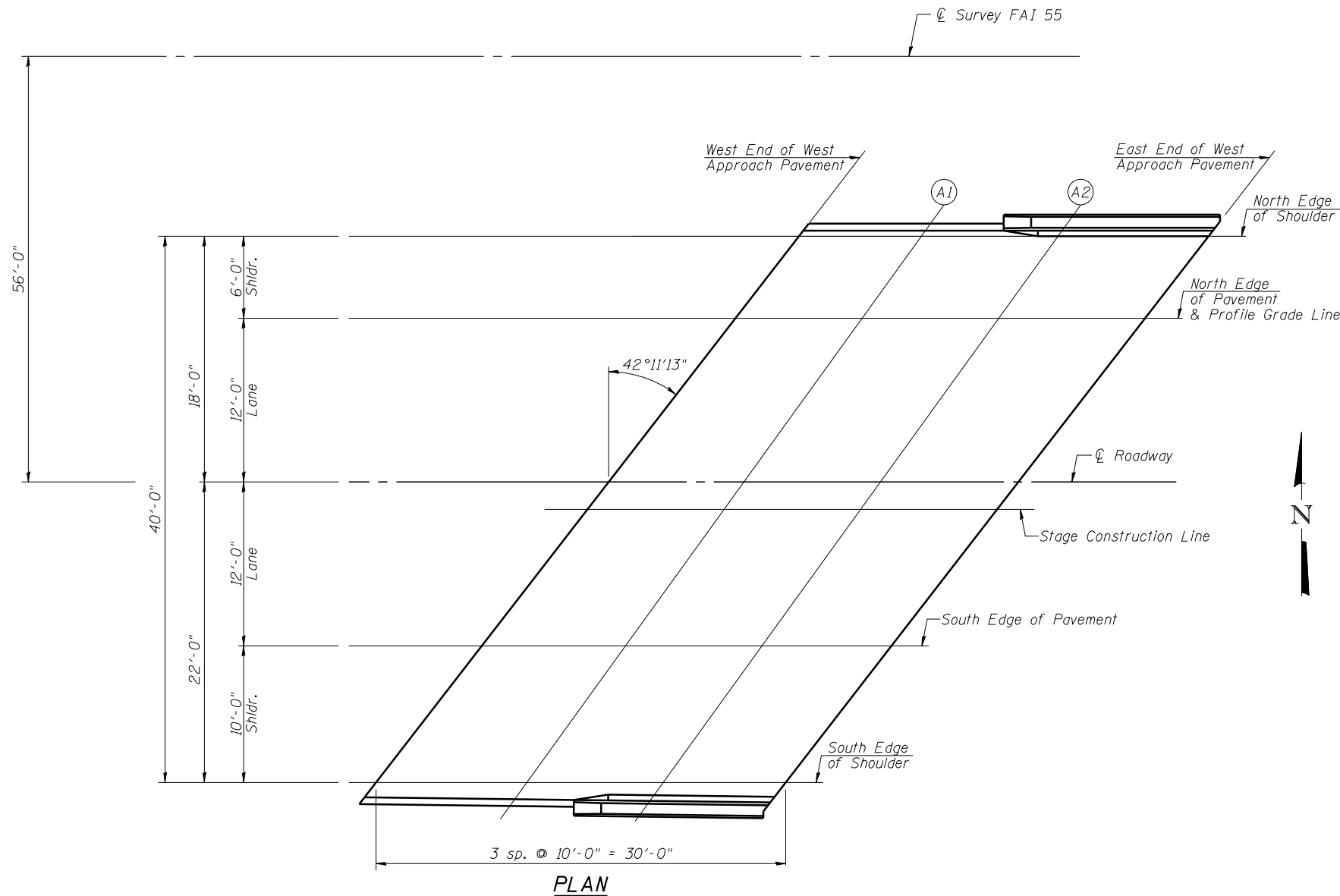
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	696+70.41	14.00	633.14
A1	696+80.41	14.00	633.23
A2	696+90.41	14.00	633.32
E. End West Appr. Pav't	697+00.41	14.00	633.41

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	696+61.35	24.00	632.89
A1	696+71.35	24.00	632.99
A2	696+81.35	24.00	633.09
E. End West Appr. Pav't	696+91.35	24.00	633.18

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	696+52.28	34.00	632.59
A1	696+62.28	34.00	632.70
A2	696+72.28	34.00	632.79
E. End West Appr. Pav't	696+82.28	34.00	632.89



NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	702+09.61	-6.00	632.11
A1	702+19.61	-6.00	631.98
A2	702+29.61	-6.00	631.85
E. End East Appr. Pav't	702+39.61	-6.00	631.71

NORTH EDGE OF PAVEMENT & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	702+04.17	0.00	632.30
A1	702+14.17	0.00	632.17
A2	702+24.17	0.00	632.04
E. End East Appr. Pav't	702+34.17	0.00	631.91

CL ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	701+93.29	12.00	632.61
A1	702+03.29	12.00	632.50
A2	702+13.29	12.00	632.37
E. End East Appr. Pav't	702+23.29	12.00	632.24

STAGE CONSTRUCTION LINE

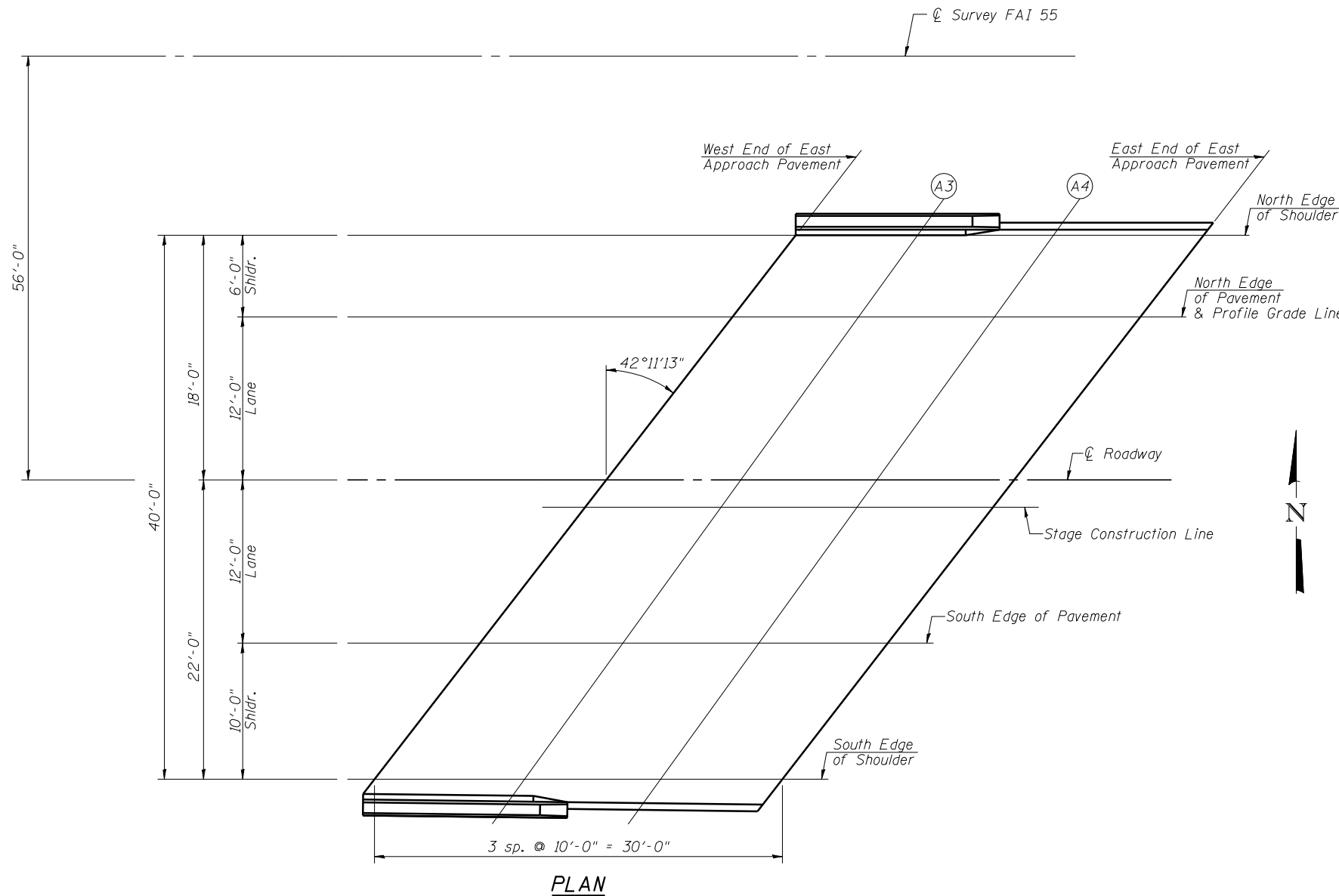
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	701+91.48	14.00	632.61
A1	702+01.48	14.00	632.49
A2	702+11.48	14.00	632.36
E. End East Appr. Pav't	702+21.48	14.00	632.24

SOUTH EDGE OF PAVEMENT

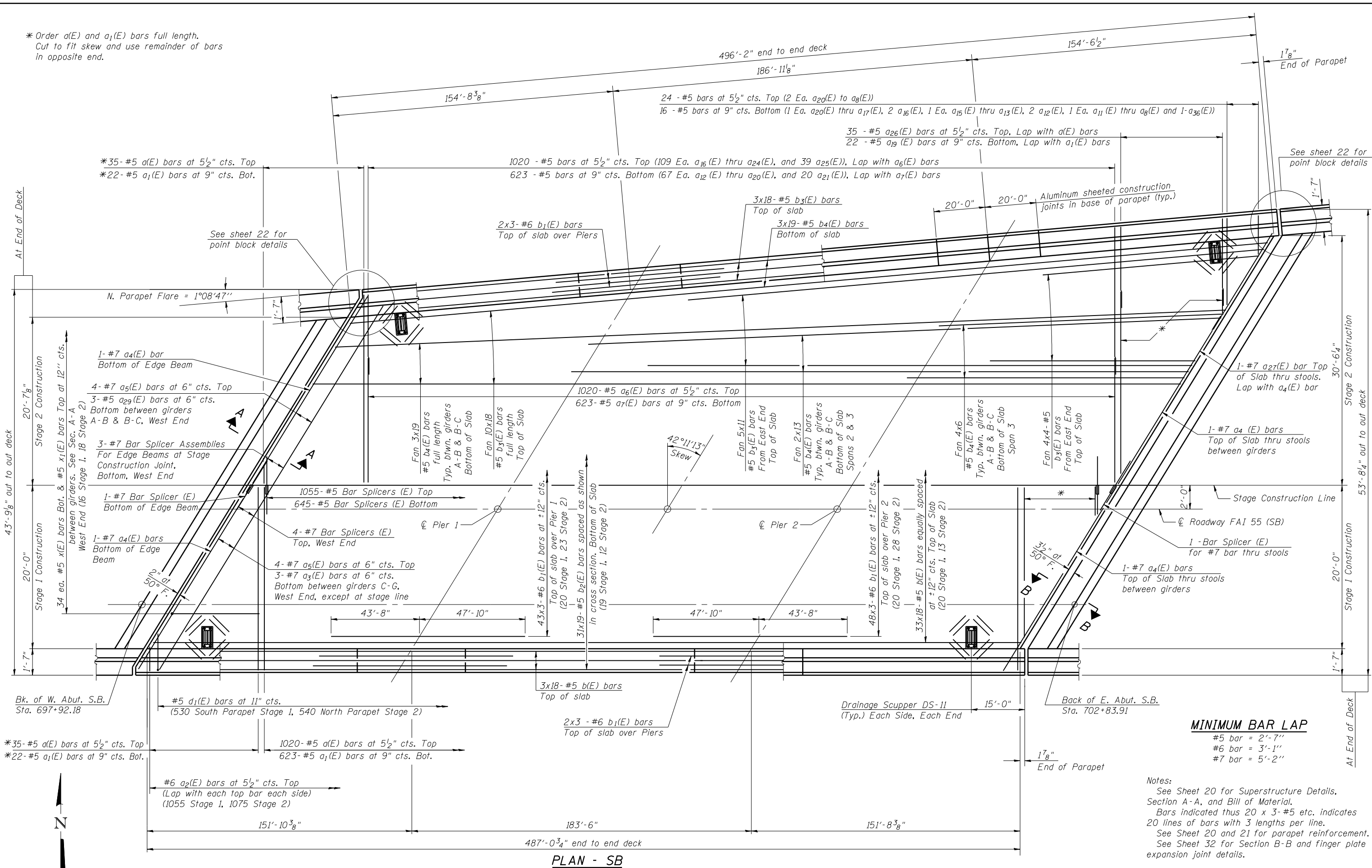
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	701+82.42	24.00	632.55
A1	701+92.42	24.00	632.44
A2	702+02.42	24.00	632.32
E. End East Appr. Pav't	702+12.42	24.00	632.19

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	701+73.35	34.00	632.45
A1	701+83.35	34.00	632.33
A2	701+93.35	34.00	632.22
E. End East Appr. Pav't	702+03.35	34.00	632.10



\* Order a(E) and a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder of bars  
in opposite end.



**MINIMUM BAR LAP**  
 #5 bar = 2'-7"  
 #6 bar = 3'-1"  
 #7 bar = 5'-2"

Notes:  
 See Sheet 20 for Superstructure Details,  
 Section A-A, and Bill of Material.  
 Bars indicated thus 20 x 3-#5 etc. indicates  
 20 lines of bars with 3 lengths per line.  
 See Sheet 20 and 21 for parapet reinforcement.  
 See Sheet 32 for Section B-B and finger plate  
 expansion joint details.

PLAN - SB



JOB = 2265.2  
 FILE = 0540060.0061-72E11-17-19-Super.dgn  
 DATE = 3/7/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - TSH  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

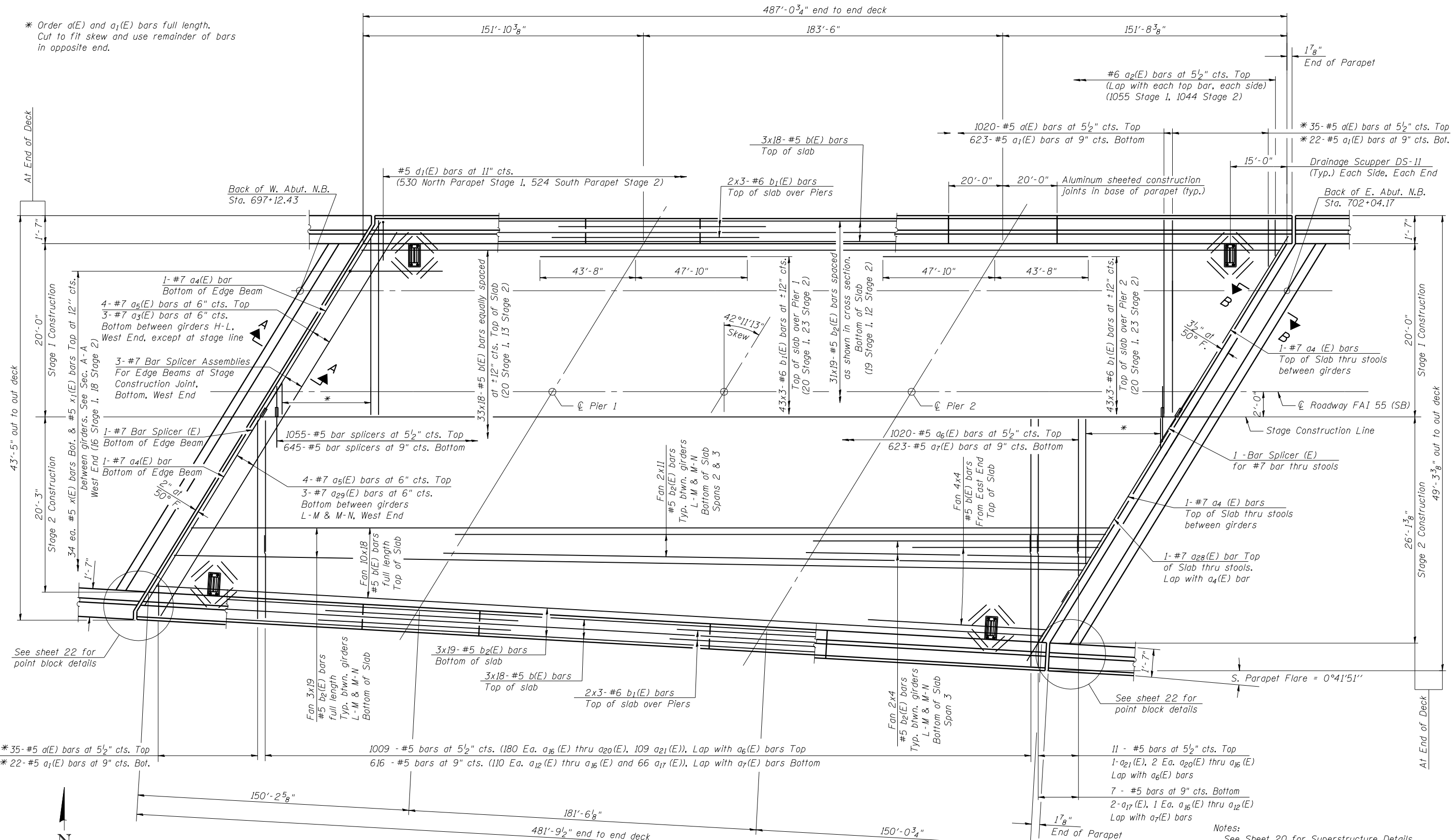
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE  
 STRUCTURE NO. 054-0060 (SB)

SHEET NO. 17 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	247
CONTRACT NO. 72E11				
ILLINOIS FED. AID PROJECT				

\* Order a(E) and a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder of bars  
in opposite end.



See sheet 22 for point block details

\* 35- #5 a(E) bars at 5 1/2\" cts. Top  
\* 22- #5 a<sub>1</sub>(E) bars at 9\" cts. Bot.



PLAN - NB

**MINIMUM BAR LAP**  
#5 bar = 2'-7"  
#6 bar = 3'-1"  
#7 bar = 5'-2"

Notes:  
See Sheet 20 for Superstructure Details, Section A-A, and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet 20 and 21 for parapet reinforcement.  
See Sheet 32 for Section B-B and finger plate expansion joint details.



JOB = 2265.2  
FILE = 0540060.0061-72E11-17-19-Super.dgn  
DATE = 3/7/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - TSH  
CHECKED - AAN

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

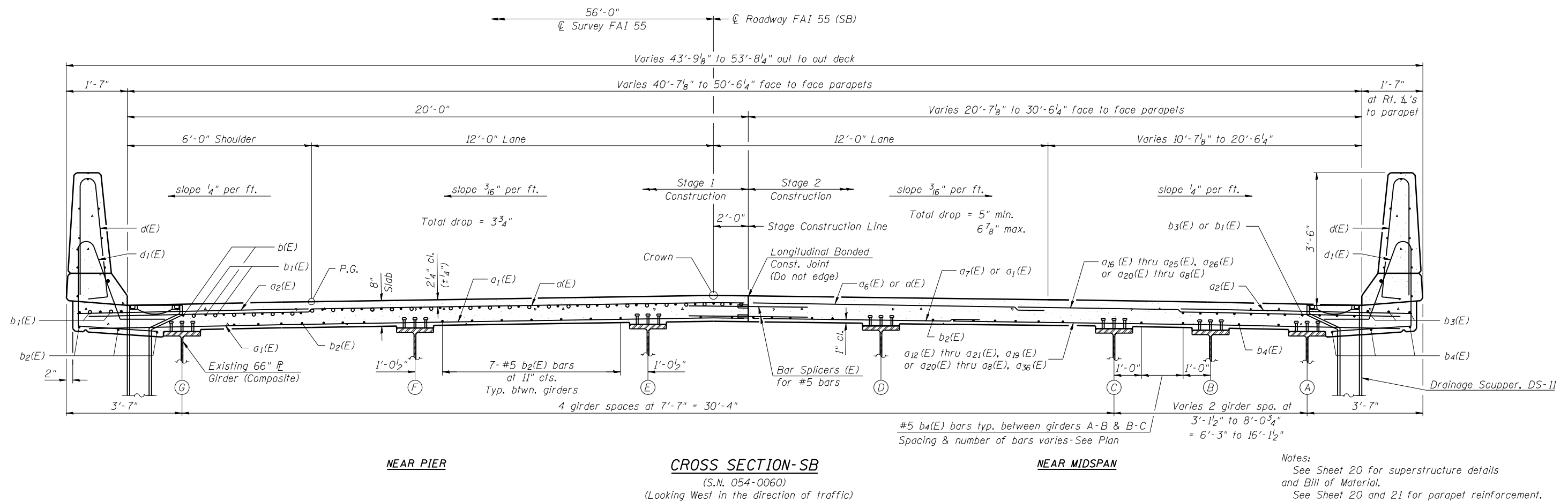
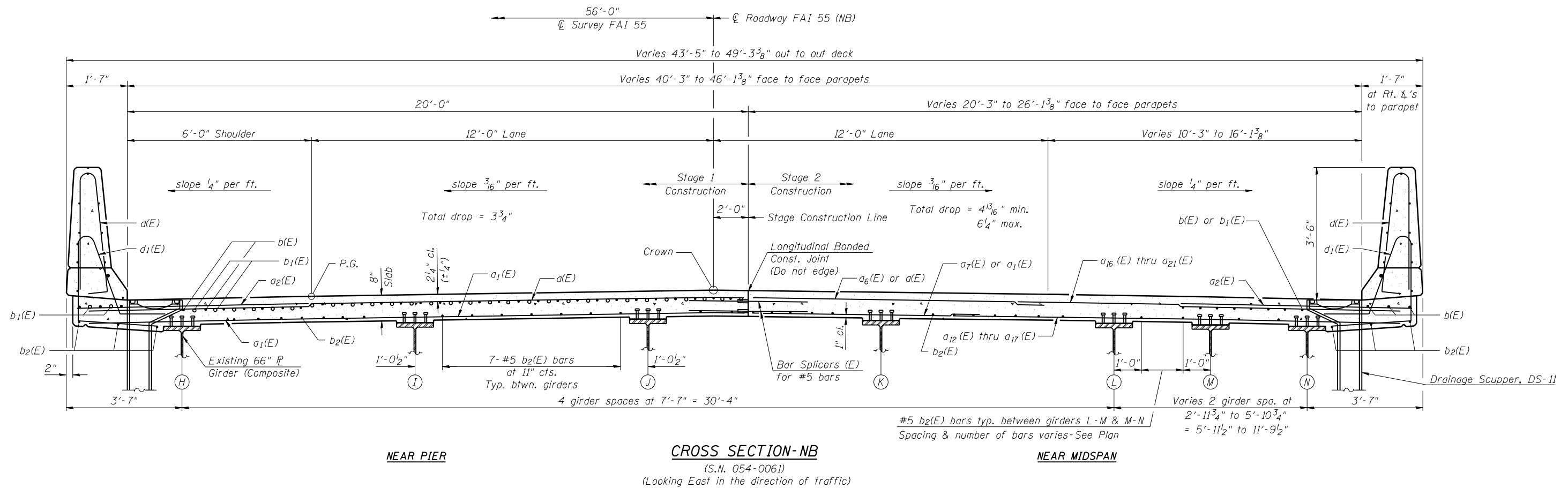
SUPERSTRUCTURE  
STRUCTURE NO. 054-0061 (NB)

SHEET NO. 18 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	248
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT



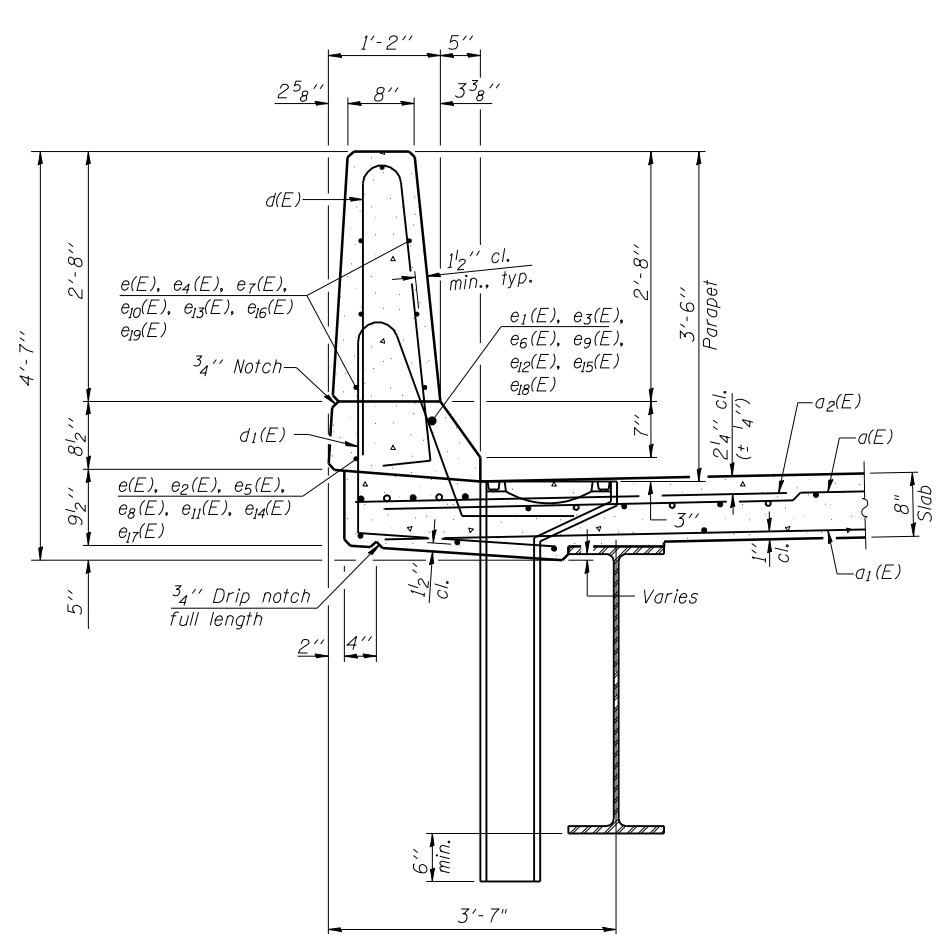


Notes:  
See Sheet 20 for superstructure details and Bill of Material.  
See Sheet 20 and 21 for parapet reinforcement.

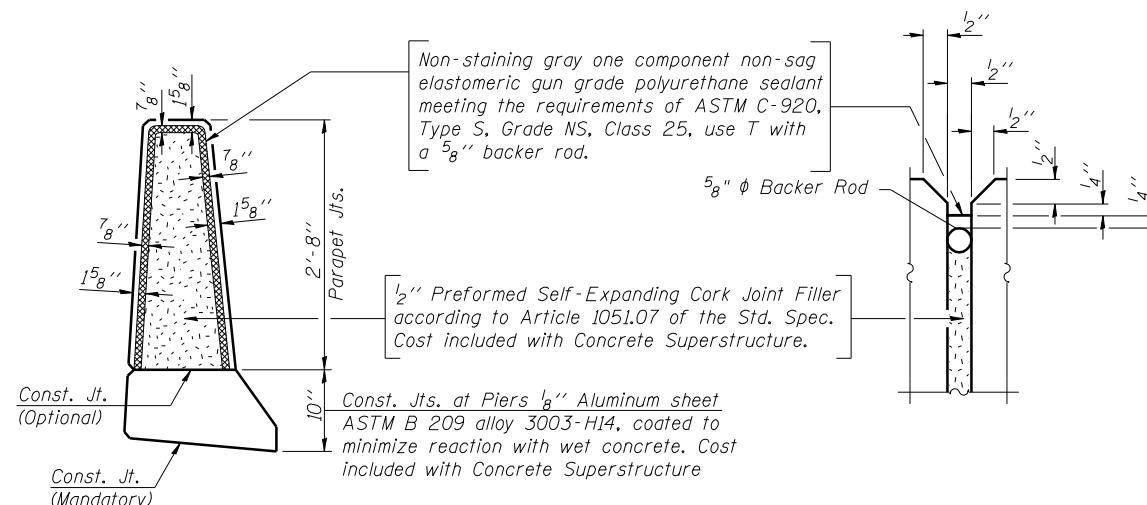
**TWO SUPERSTRUCTURES  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	2180	#5	21'-0"	—
a1(E)	1334	#5	20'-6"	—
a2(E)	4229	#6	6'-6"	—
a3(E)	18	#7	9'-11"	—
a4(E)	8	#7	24'-0"	—
a5(E)	16	#7	28'-6"	—
a6(E)	2040	#5	14'-9"	—
a7(E)	1246	#5	18'-9"	—
a8(E)	3	#5	2'-6"	—
a9(E)	3	#5	3'-6"	—
a10(E)	3	#5	4'-6"	—
a11(E)	3	#5	5'-6"	—
a12(E)	182	#5	6'-6"	—
a13(E)	181	#5	7'-6"	—
a14(E)	181	#5	8'-6"	—
a15(E)	181	#5	9'-6"	—
a16(E)	473	#5	10'-6"	—
a17(E)	429	#5	11'-6"	—
a18(E)	361	#5	12'-6"	—
a19(E)	383	#5	13'-6"	—
a20(E)	361	#5	14'-6"	—
a21(E)	239	#5	15'-6"	—
a22(E)	109	#5	16'-6"	—
a23(E)	109	#5	17'-6"	—
a24(E)	109	#5	18'-6"	—
a25(E)	39	#5	19'-6"	—
a26(E)	35	#5	13'-0"	—
a27(E)	1	#7	19'-3"	—
a28(E)	1	#7	13'-3"	—
a29(E)	12	#5	4'-11"	—
a36(E)	65	#5	1'-6"	—
b(E)	1546	#5	29'-6"	—
b1(E)	579	#6	32'-7"	—
b2(E)	1409	#5	28'-1"	—
b3(E)	305	#5	30'-0"	—
b4(E)	271	#5	28'-7"	—
d(E)	2124	#5	6'-10"	—
d1(E)	2124	#5	8'-1"	—
e(E)	128	#4	19'-8"	—
e1(E)	16	#8	19'-8"	—
e2(E)	20	#4	27'-11"	—
e3(E)	20	#8	30'-6"	—
e4(E)	196	#4	18'-6"	—
e5(E)	12	#4	25'-7"	—
e6(E)	10	#8	32'-10"	—
e7(E)	112	#4	17'-7"	—
e8(E)	10	#4	28'-6"	—
e9(E)	10	#8	31'-0"	—
e10(E)	98	#4	18'-10"	—
e11(E)	6	#4	26'-2"	—
e12(E)	5	#8	33'-6"	—
e13(E)	56	#4	18'-0"	—
e14(E)	10	#4	27'-8"	—
e15(E)	10	#8	30'-2"	—
e16(E)	98	#4	18'-3"	—
e17(E)	5	#4	29'-10"	—
e18(E)	5	#8	32'-5"	—
e19(E)	56	#4	17'-4"	—
x(E)	68	#5	9'-5"	—
x1(E)	68	#5	4'-1"	—
Reinforcement Bars, Epoxy Coated		Pound	403,300	
Concrete Superstructure		Cu. Yds.	1610.2	
Bar Splicers		Each	3418	

Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.

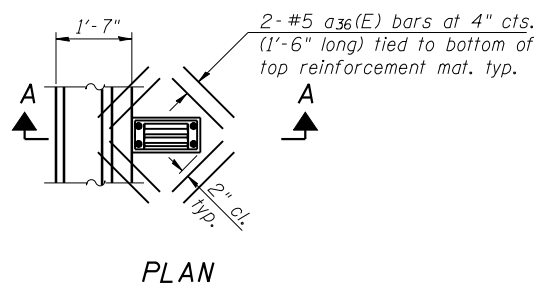


**SECTION THRU PARAPET**



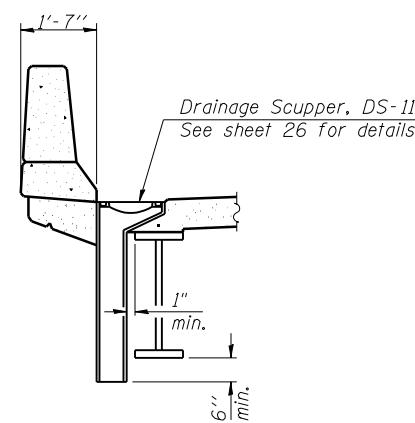
**PARAPET JOINT DETAILS**

**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 Coatings' 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 Floor Drains.

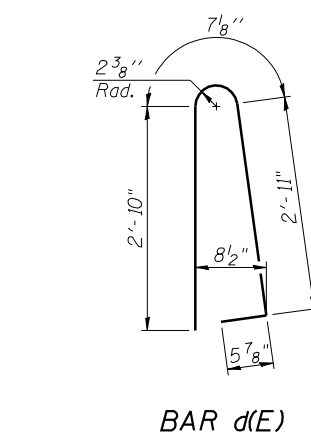


**PLAN**

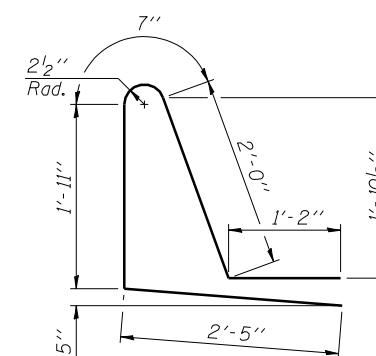
**Note:**  
 Cut longitudinal reinforcement to clear drainage scuppers.



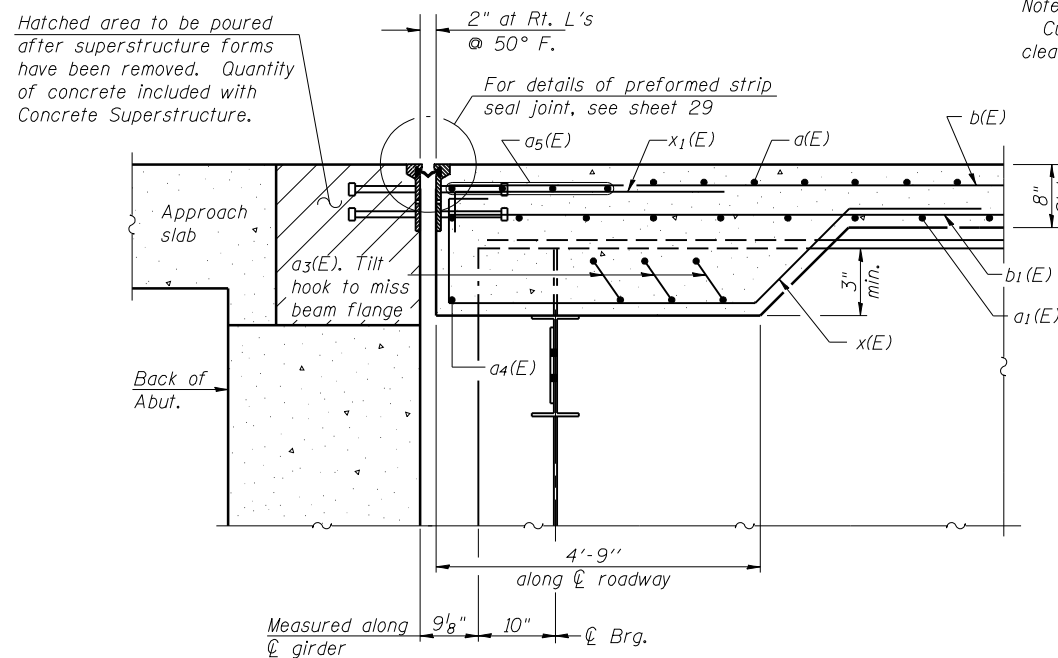
**SECTION A-A**



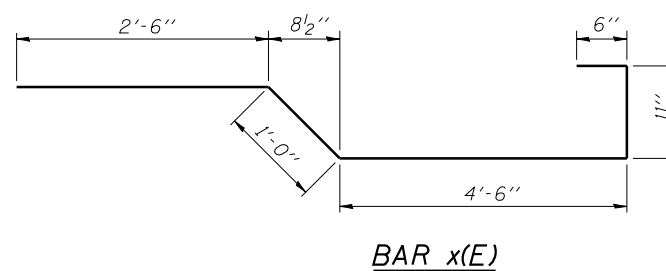
**BAR d(E)**



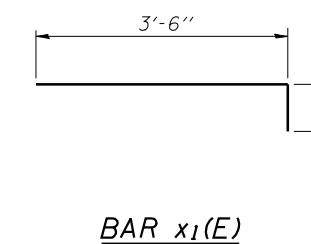
**BAR d1(E)**



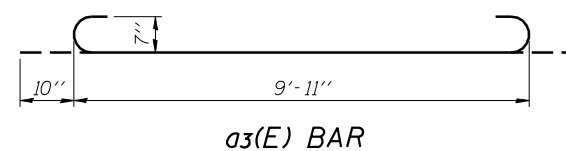
**SECTION A-A**



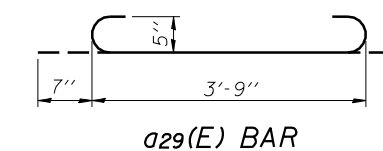
**BAR x(E)**



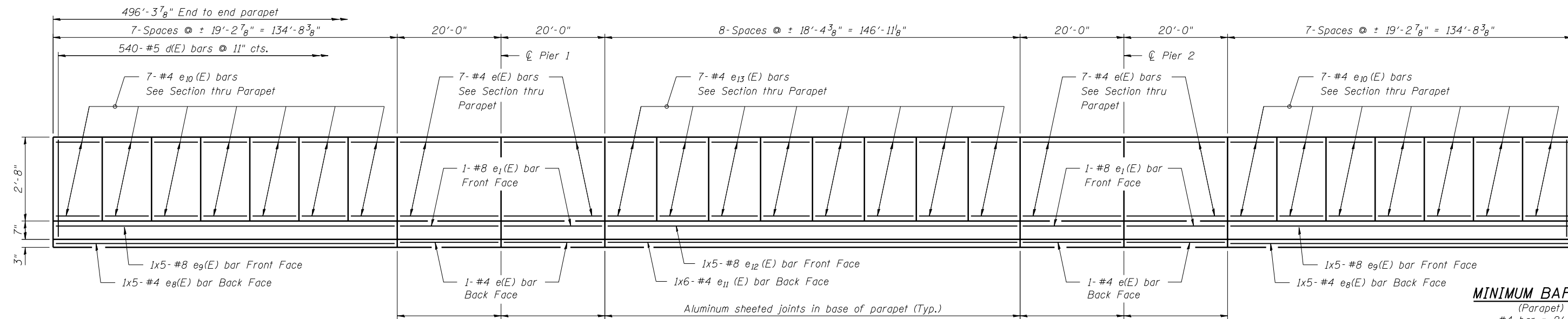
**BAR x1(E)**



**a3(E) BAR**

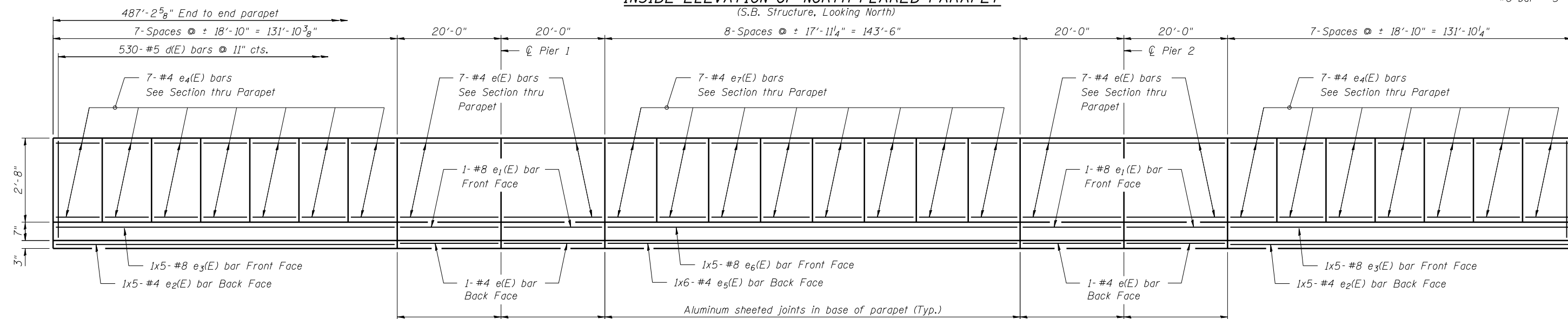


**a29(E) BAR**

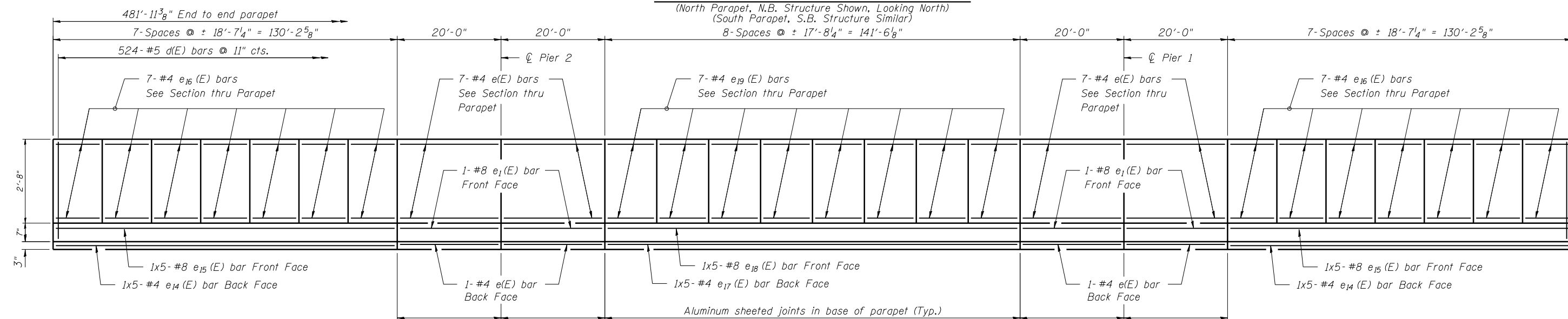


**INSIDE ELEVATION OF NORTH FLARED PARAPET**  
(S.B. Structure, Looking North)

**MINIMUM BAR LAP**  
(Parapet)  
#4 bar = 2'-0"  
#8 bar = 5'-2"



**INSIDE ELEVATION OF MEDIAN PARAPET**  
(North Parapet, N.B. Structure Shown, Looking North)  
(South Parapet, S.B. Structure Similar)



**INSIDE ELEVATION OF SOUTH FLARED PARAPET**  
(N.B. Structure, Looking South)



JOB = 2265.2  
FILE = 0540060.0061-72E11-20-21-SuperDetails.dwg  
DATE = 1/15/2013  
SCALE =

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC  
REVISED -  
REVISED -  
REVISED -  
REVISED -

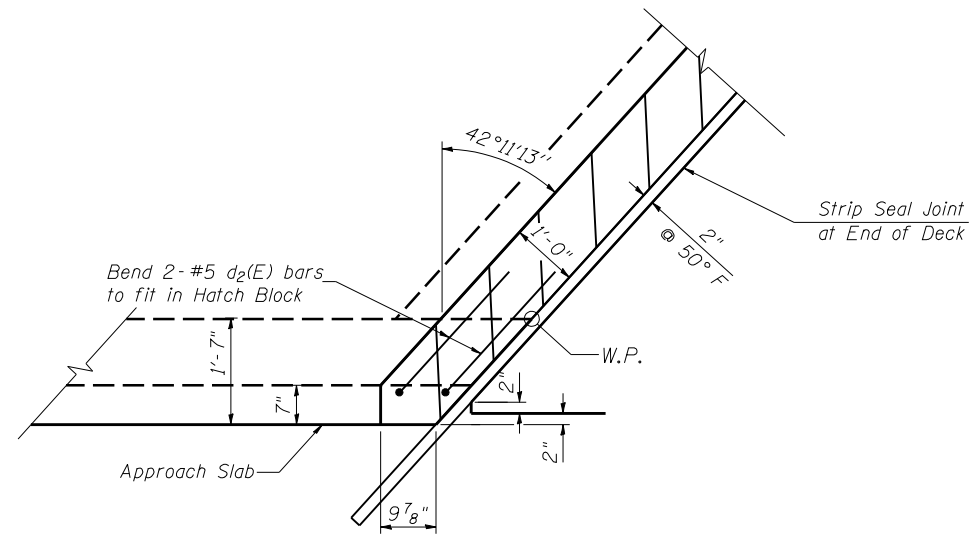
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS**  
**STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

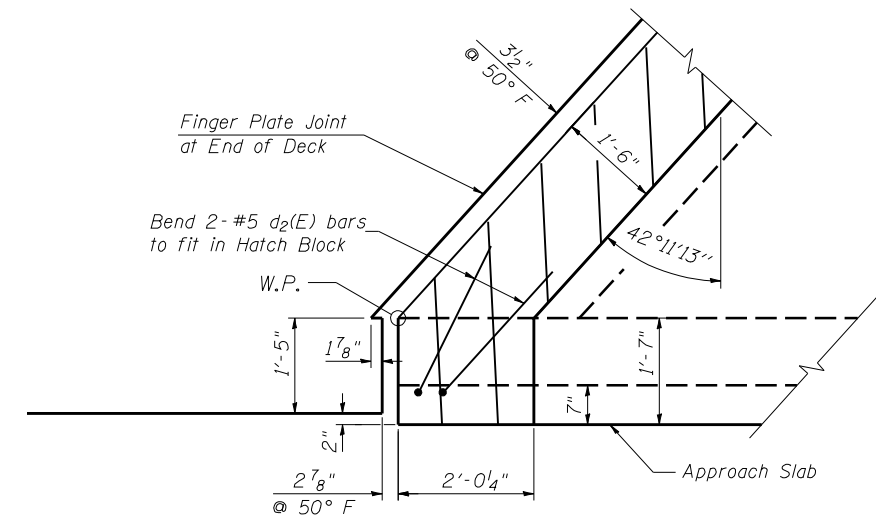
SHEET NO. 21 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	251
			CONTRACT NO. 72E11	

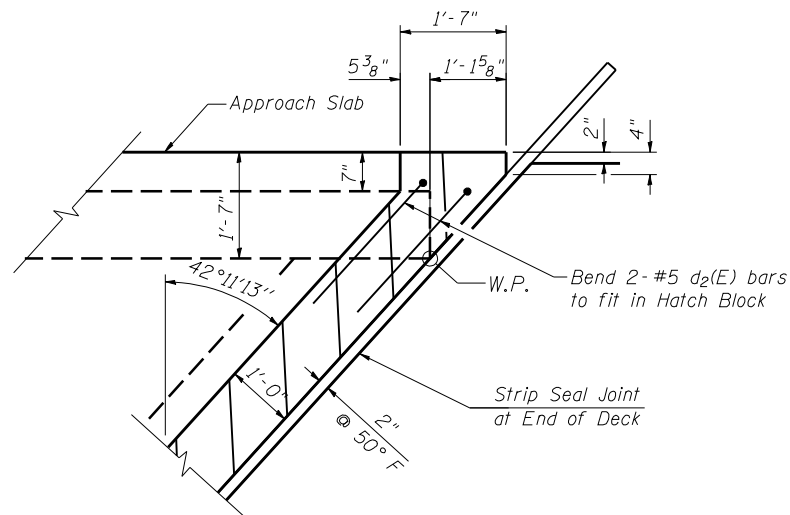
ILLINOIS FED. AID PROJECT



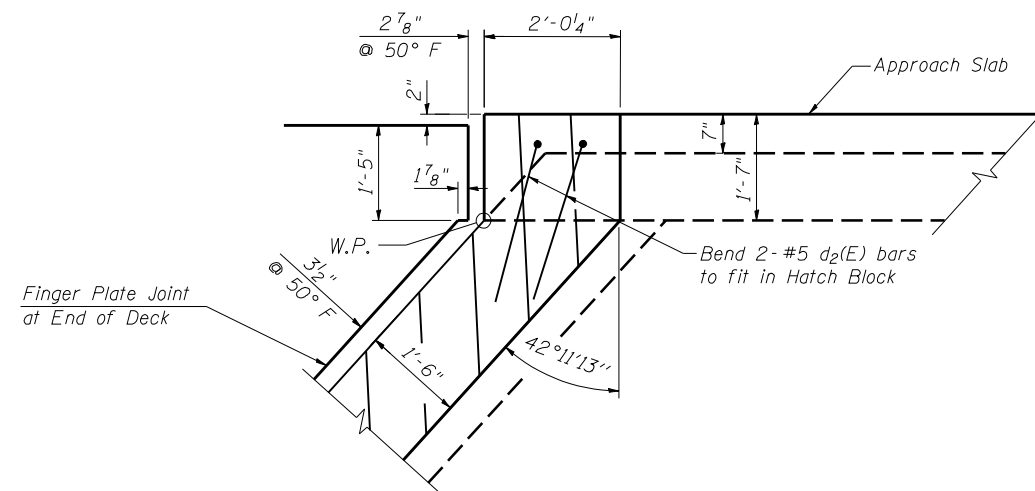
**SW CORNER OF BRIDGE DECK**  
(S.B. Shown, Flared N.B. Similar)



**SE CORNER OF BRIDGE DECK**  
(S.B. Shown, Flared N.B. Similar)



**NW CORNER OF BRIDGE DECK**  
(N.B. Shown, Flared S.B. Similar)



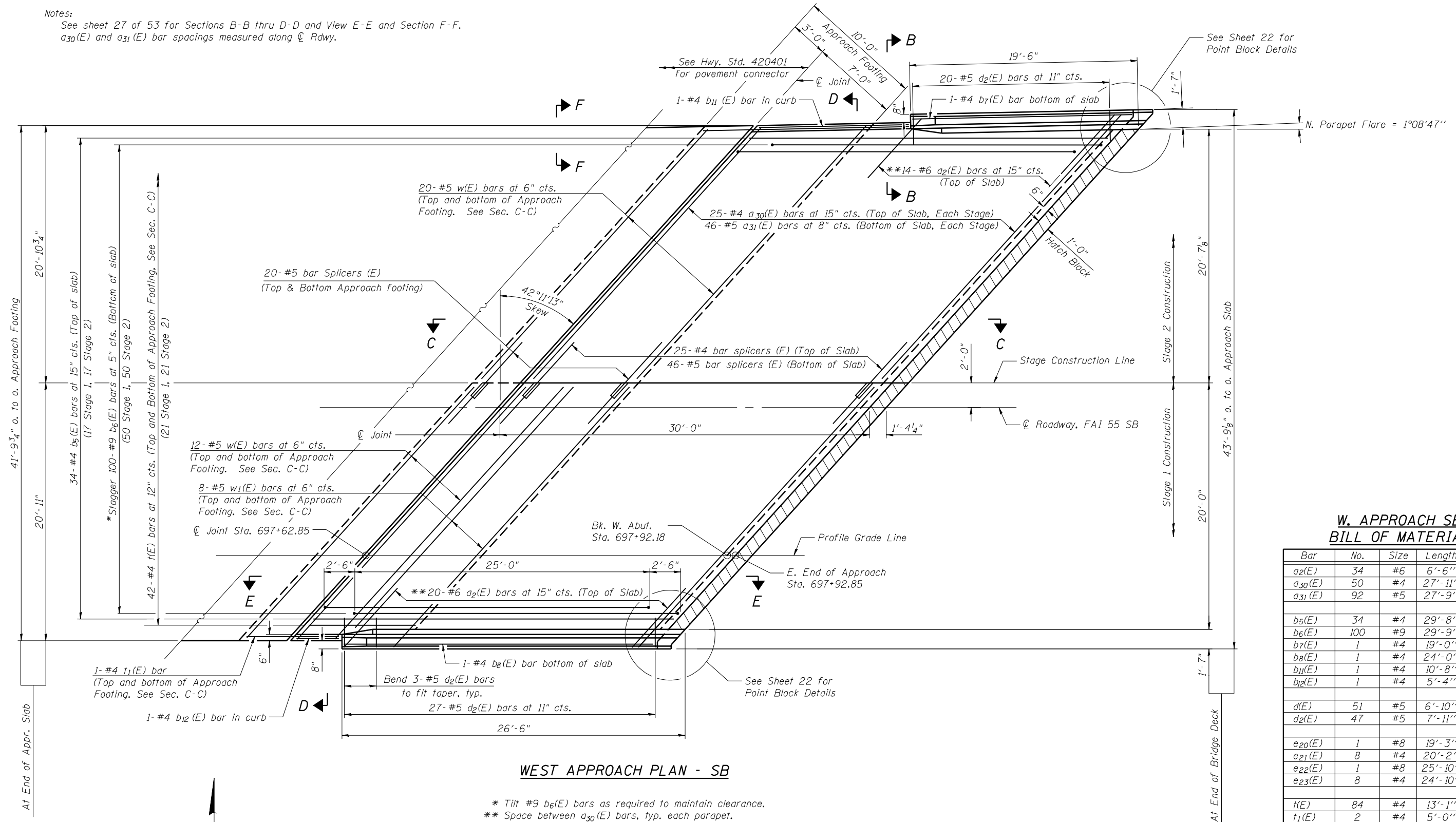
**NE CORNER OF BRIDGE DECK**  
(N.B. Shown, Flared S.B. Similar)



**POINT BLOCK DETAILS IN SLAB**

See Sheet 29 for detail at parapet.

Notes:  
See sheet 27 of 53 for Sections B-B thru D-D and View E-E and Section F-F.  
a<sub>30</sub>(E) and a<sub>31</sub>(E) bar spacings measured along  $\varnothing$  Rdwy.



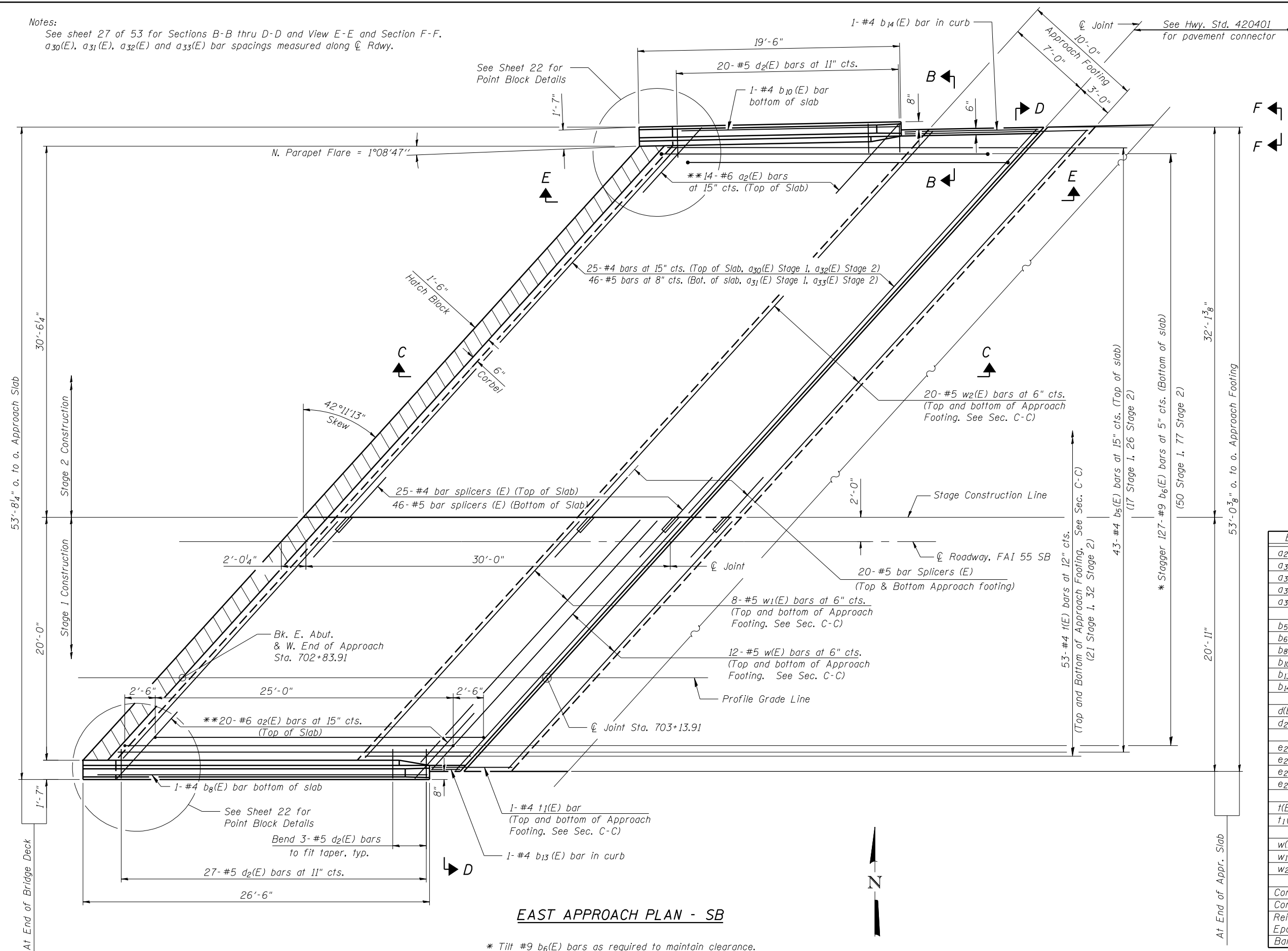
**WEST APPROACH PLAN - SB**

\* Tilt #9 b<sub>6</sub>(E) bars as required to maintain clearance.  
\*\* Space between a<sub>30</sub>(E) bars, typ. each parapet.

**W. APPROACH SB  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a <sub>2</sub> (E)	34	#6	6'-6"	—
a <sub>30</sub> (E)	50	#4	27'-11"	—
a <sub>31</sub> (E)	92	#5	27'-9"	—
b <sub>5</sub> (E)	34	#4	29'-8"	—
b <sub>6</sub> (E)	100	#9	29'-9"	—
b <sub>7</sub> (E)	1	#4	19'-0"	—
b <sub>8</sub> (E)	1	#4	24'-0"	—
b <sub>11</sub> (E)	1	#4	10'-8"	—
b <sub>12</sub> (E)	1	#4	5'-4"	—
d(E)	51	#5	6'-10"	—
d <sub>2</sub> (E)	47	#5	7'-11"	—
e <sub>20</sub> (E)	1	#8	19'-3"	—
e <sub>21</sub> (E)	8	#4	20'-2"	—
e <sub>22</sub> (E)	1	#8	25'-10"	—
e <sub>23</sub> (E)	8	#4	24'-10"	—
t(E)	84	#4	13'-1"	—
t <sub>1</sub> (E)	2	#4	5'-0"	—
w(E)	64	#5	27'-9"	—
w <sub>1</sub> (E)	16	#5	26'-6"	—
Concrete Superstructure		Cu. Yd.	68.3	
Concrete Structures		Cu. Yd.	17.2	
Reinforcement Bars, Epoxy Coated		Pound	18,910	
Bar Splicers		Each	111	

Notes:  
See sheet 27 of 53 for Sections B-B thru D-D and View E-E and Section F-F.  
a<sub>30</sub>(E), a<sub>31</sub>(E), a<sub>32</sub>(E) and a<sub>33</sub>(E) bar spacings measured along  $\varnothing$  Rdwy.



**EAST APPROACH PLAN - SB**

\* Tilt #9 b<sub>6</sub>(E) bars as required to maintain clearance.  
\*\* Space between a<sub>30</sub>(E) or a<sub>32</sub>(E) bars, typ. each parapet.

**E. APPROACH SB  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a <sub>2</sub> (E)	34	#6	6'-6"	—
a <sub>30</sub> (E)	25	#4	27'-11"	—
a <sub>31</sub> (E)	46	#5	27'-9"	—
a <sub>32</sub> (E)	25	#4	43'-1"	—
a <sub>33</sub> (E)	46	#5	42'-11"	—
b <sub>5</sub> (E)	43	#4	29'-8"	—
b <sub>6</sub> (E)	127	#9	29'-9"	—
b <sub>8</sub> (E)	1	#4	24'-0"	—
b <sub>10</sub> (E)	1	#4	17'-0"	—
b <sub>13</sub> (E)	1	#4	3'-8"	—
b <sub>14</sub> (E)	1	#4	12'-4"	—
d(E)	51	#5	6'-10"	—
d <sub>2</sub> (E)	47	#5	7'-11"	—
e <sub>24</sub> (E)	1	#8	19'-2"	—
e <sub>25</sub> (E)	8	#4	19'-2"	—
e <sub>26</sub> (E)	1	#8	26'-2"	—
e <sub>27</sub> (E)	8	#4	26'-2"	—
f(E)	106	#4	13'-1"	—
f <sub>1</sub> (E)	2	#4	5'-0"	—
w(E)	24	#5	27'-9"	—
w <sub>1</sub> (E)	16	#5	26'-6"	—
w <sub>2</sub> (E)	40	#5	42'-10"	—
Concrete Superstructure		Cu. Yd.	96.1	
Concrete Structures		Cu. Yd.	21.9	
Reinforcement Bars, Epoxy Coated		Pound	23,620	
Bar Splicers		Each	111	



JOB = 2265.2	DESIGNED - AAN	REVISD -
FILE = 0540060.0061-72E11-23-24-SN0060-App	CHECKED - MDC	REVISD -
DATE = 3/5/2013	DRAWN - SJS	REVISD -
	CHECKED - MDC	REVISD -

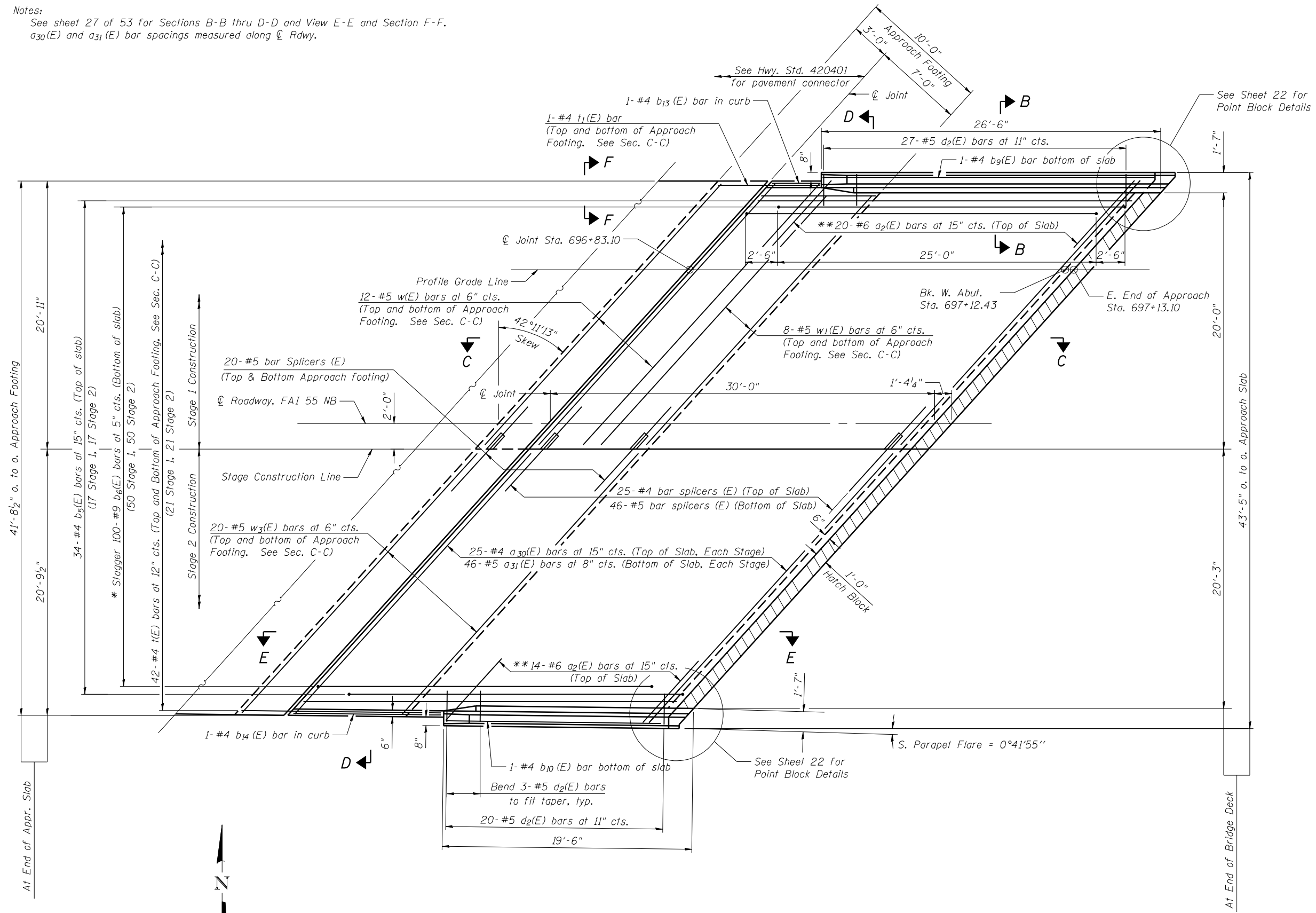
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EAST BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 054-0060 (SB)**

SHEET NO. 24 OF 53 SHEETS

F.A.I. RTE. 55	SECTION D6 LOGAN CO BR 2011-1	COUNTY LOGAN	TOTAL SHEETS 429	SHEET NO. 254
			CONTRACT NO. 72E11	
ILLINOIS FED. AID PROJECT				

Notes:  
See sheet 27 of 53 for Sections B-B thru D-D and View E-E and Section F-F.  
a<sub>30</sub>(E) and a<sub>31</sub>(E) bar spacings measured along  $\bar{C}$  Rdwy.



WEST APPROACH PLAN - NB

\* Tilt #9 b<sub>6</sub>(E) bars as required to maintain clearance.  
\*\* Space between a<sub>30</sub>(E) bars, typ. each parapet.

W. APPROACH - NB  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a <sub>2</sub> (E)	34	#6	6'-6"	—
a <sub>30</sub> (E)	50	#4	27'-11"	—
a <sub>31</sub> (E)	92	#5	27'-9"	—
b <sub>5</sub> (E)	34	#4	29'-8"	—
b <sub>6</sub> (E)	100	#9	29'-9"	—
b <sub>9</sub> (E)	1	#4	26'-0"	—
b <sub>10</sub> (E)	1	#4	17'-0"	—
b <sub>13</sub> (E)	1	#4	3'-8"	—
b <sub>14</sub> (E)	1	#4	12'-4"	—
d(E)	51	#5	6'-10"	—
d <sub>2</sub> (E)	47	#5	7'-11"	—
e <sub>28</sub> (E)	1	#8	26'-1"	—
e <sub>29</sub> (E)	8	#4	27'-1"	—
e <sub>30</sub> (E)	1	#8	18'-9"	—
e <sub>31</sub> (E)	8	#4	18'-2"	—
f(E)	84	#4	13'-1"	—
f <sub>1</sub> (E)	2	#4	5'-0"	—
w(E)	24	#5	27'-9"	—
w <sub>1</sub> (E)	16	#5	26'-6"	—
w <sub>3</sub> (E)	40	#5	27'-7"	—
Concrete Superstructure	Cu. Yd.		71.1	
Concrete Structures	Cu. Yd.		17.2	
Reinforcement Bars, Epoxy Coated	Pound		18,900	
Bar Splicers	Each		111	



JOB = 2265.2  
FILE = 0540060.0061-72E11-25-27-SN0061-Approach.dgn  
DATE = 3/6/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISIED -  
REVISIED -  
REVISIED -  
REVISIED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

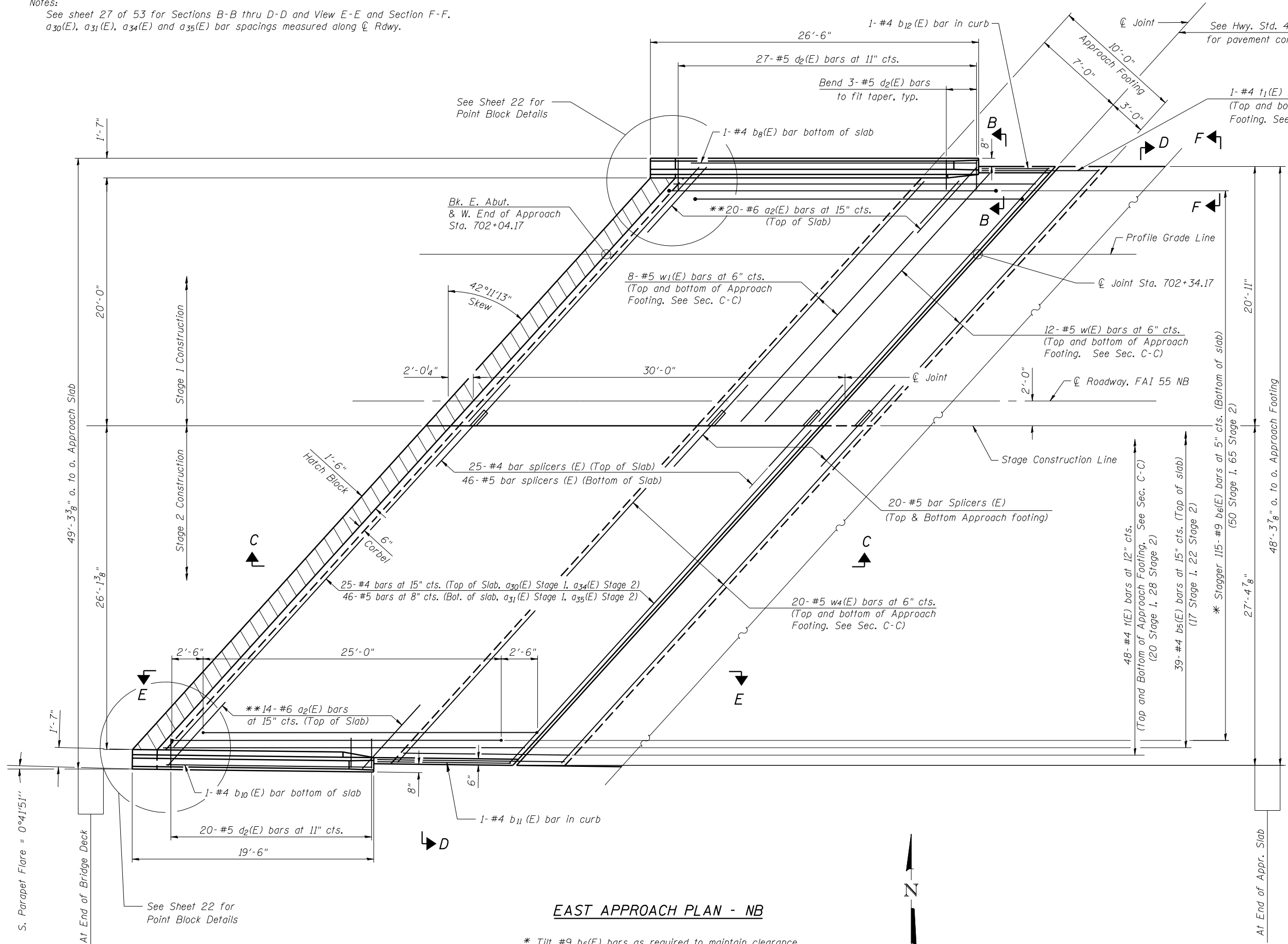
WEST BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 054-0061 (NB)

SHEET NO. 25 OF 53 SHEETS

F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.  
RTE. 55 D6 LOGAN CO BR 2011-1 LOGAN 429 255  
CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

Notes:  
See sheet 27 of 53 for Sections B-B thru D-D and View E-E and Section F-F.  
a<sub>30</sub>(E), a<sub>31</sub>(E), a<sub>34</sub>(E) and a<sub>35</sub>(E) bar spacings measured along  $\phi$  Rdwy.



**E. APPROACH - NB  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a <sub>2</sub> (E)	34	#6	6'-6"	—
a <sub>30</sub> (E)	25	#4	27'-11"	—
a <sub>31</sub> (E)	46	#5	27'-9"	—
a <sub>34</sub> (E)	25	#4	36'-8"	—
a <sub>35</sub> (E)	46	#5	36'-6"	—
b <sub>5</sub> (E)	39	#4	29'-8"	—
b <sub>6</sub> (E)	115	#9	29'-9"	—
b <sub>8</sub> (E)	1	#4	24'-0"	—
b <sub>10</sub> (E)	1	#4	17'-0"	—
b <sub>11</sub> (E)	1	#4	10'-8"	—
b <sub>12</sub> (E)	1	#4	5'-4"	—
d(E)	51	#5	6'-10"	—
d <sub>2</sub> (E)	47	#5	7'-11"	—
e <sub>24</sub> (E)	1	#8	19'-2"	—
e <sub>25</sub> (E)	8	#4	19'-2"	—
e <sub>26</sub> (E)	1	#8	26'-2"	—
e <sub>27</sub> (E)	8	#4	26'-2"	—
t(E)	96	#4	13'-1"	—
t <sub>1</sub> (E)	2	#4	5'-0"	—
w(E)	24	#5	27'-9"	—
w <sub>1</sub> (E)	16	#5	26'-6"	—
w <sub>4</sub> (E)	40	#5	36'-4"	—
Concrete Superstructure		Cu. Yd.	80.2	
Concrete Structures		Cu. Yd.	19.9	
Reinforcement Bars, Epoxy Coated		Pound	21,550	
Bar Splicers		Each	111	

\* Tilt #9 b<sub>6</sub>(E) bars as required to maintain clearance.  
\*\* Space between a<sub>30</sub>(E) or a<sub>34</sub>(E) bars, typ. each parapet.



JOB = 2265.2  
FILE = 0540060.0061-72E11-25-27-SN0061-Approach.dgn  
DATE = 3/7/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EAST BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 054-0061 (NB)**

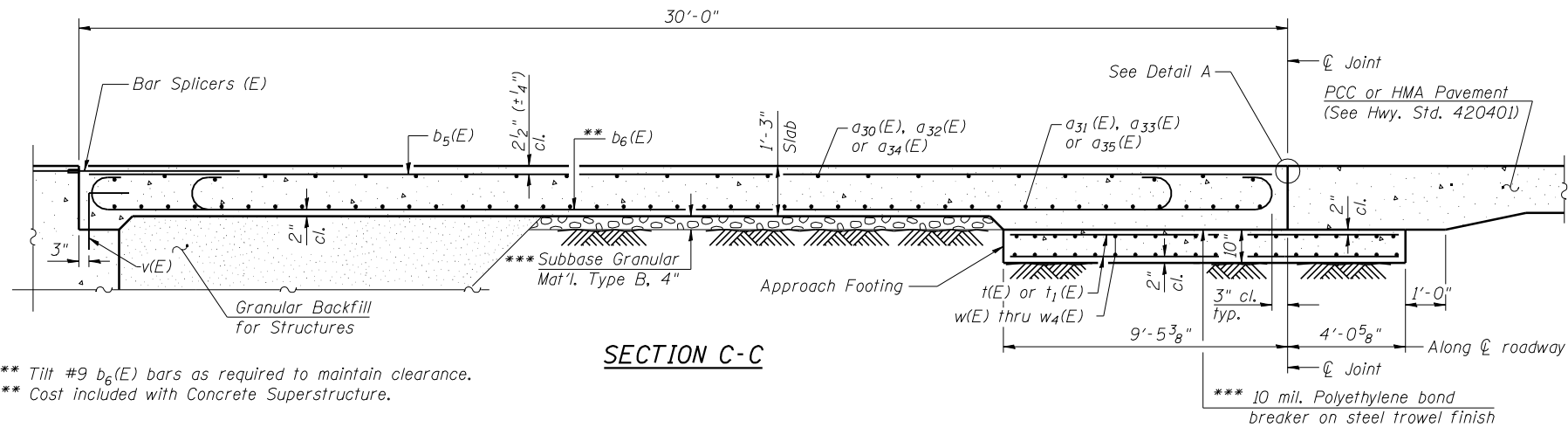
SHEET NO. 26 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	256
CONTRACT NO. 72E11				

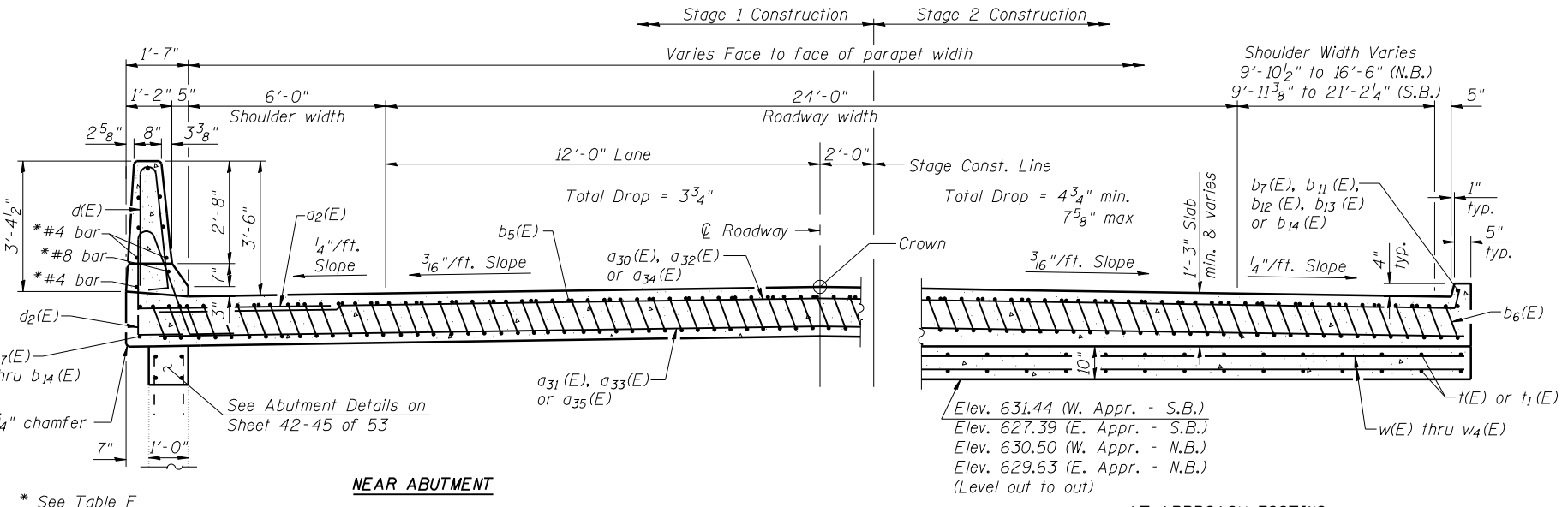
ILLINOIS FED. AID PROJECT



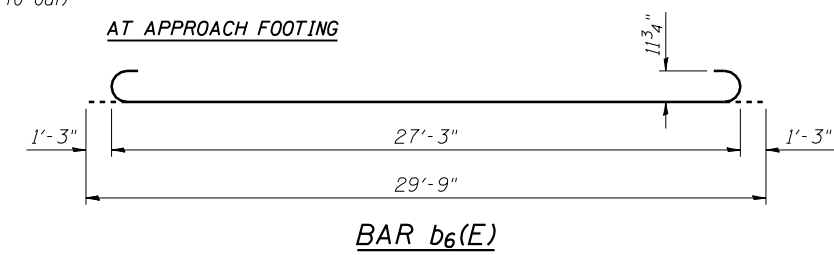
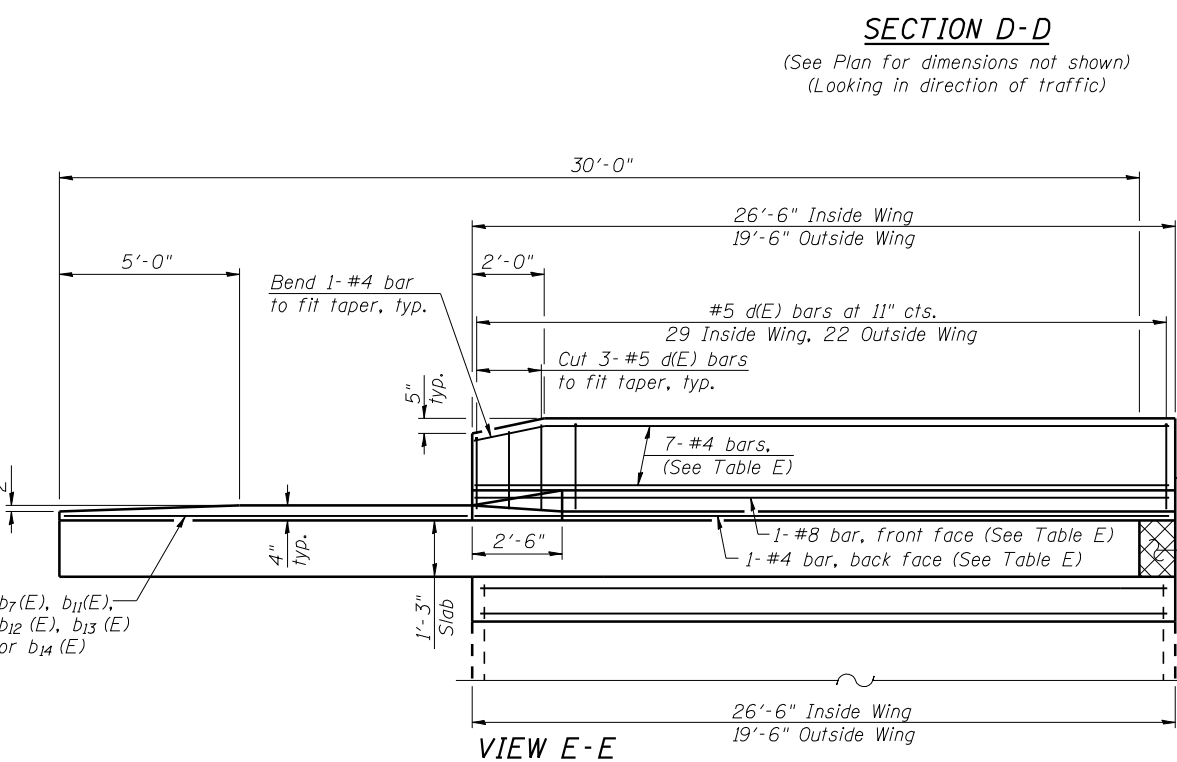
Notes: Approach slab and parapet concrete shall be paid for as Concrete Superstructure. Approach footing concrete shall be paid for as Concrete Structures. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated. For v(E) bar details, see sheet 46 of 53. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf. For bar splicer details, see sheet 52 of 53. Cost of excavation for approach footing included with Concrete Structures. For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 53. For additional parapet details, see sheet 20 of 53. The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1 1/2" for installation purposes.



\*\* Tilt #9 b<sub>6</sub>(E) bars as required to maintain clearance.  
 \*\*\* Cost included with Concrete Superstructure.



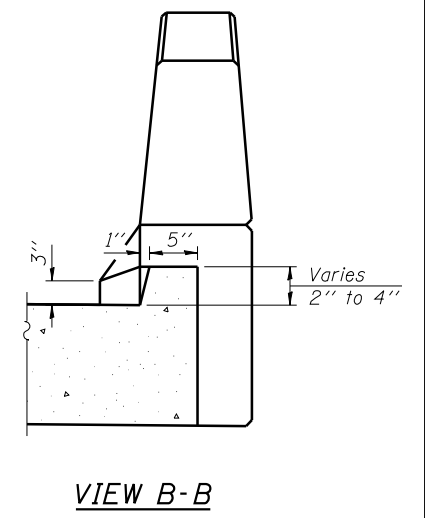
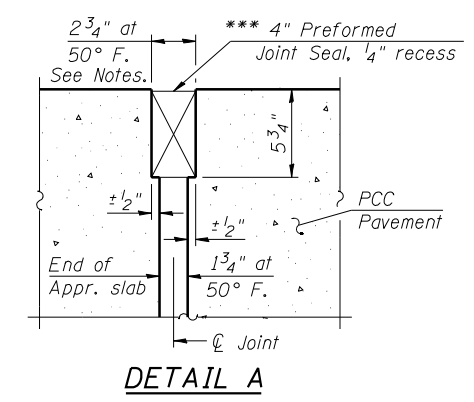
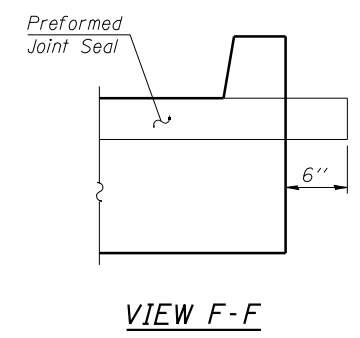
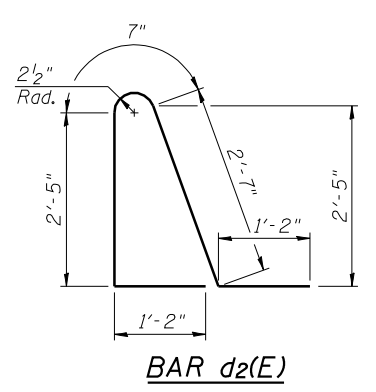
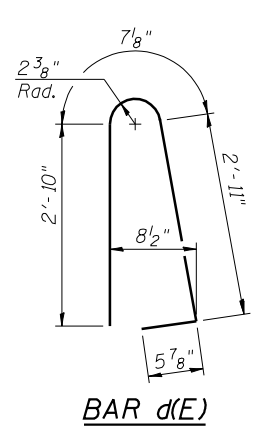
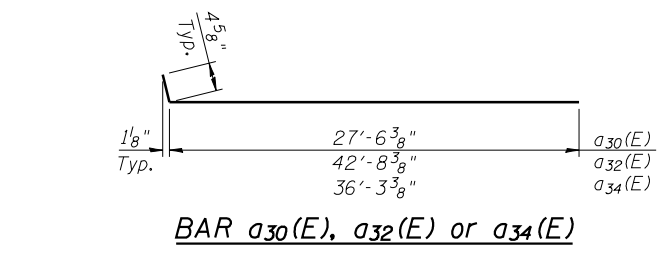
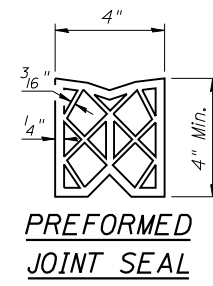
\* See Table E

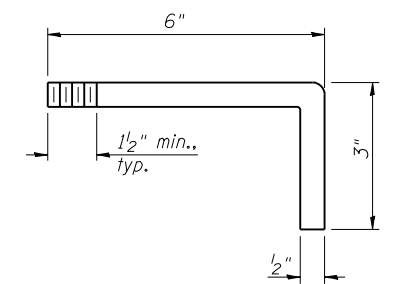
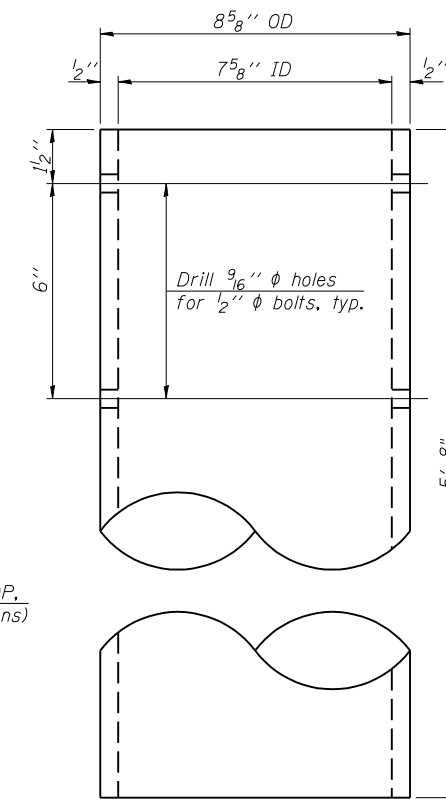
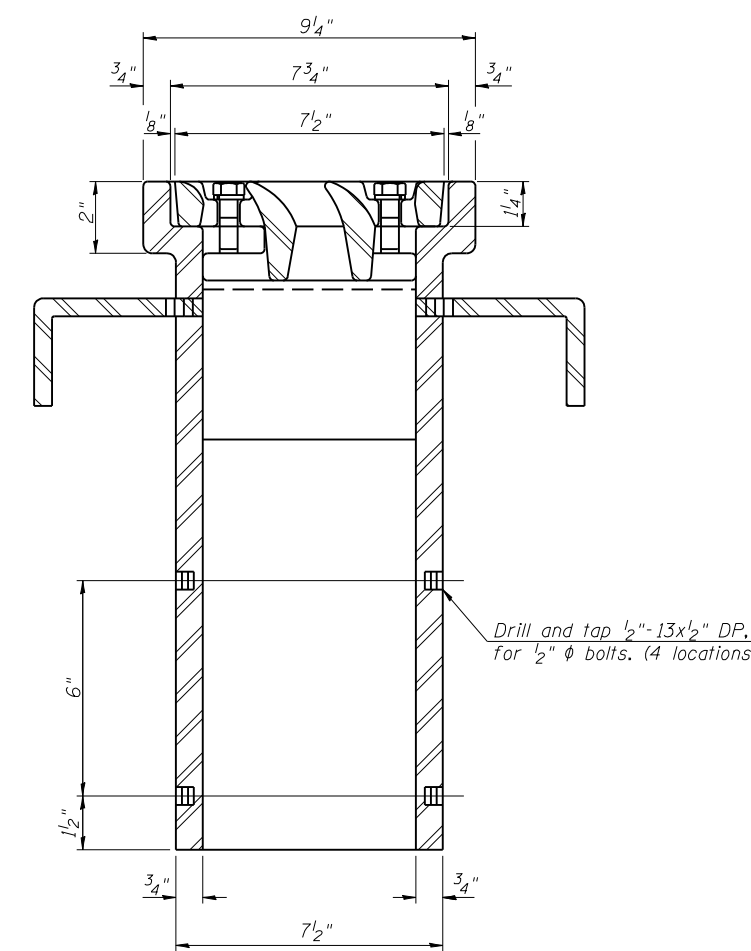
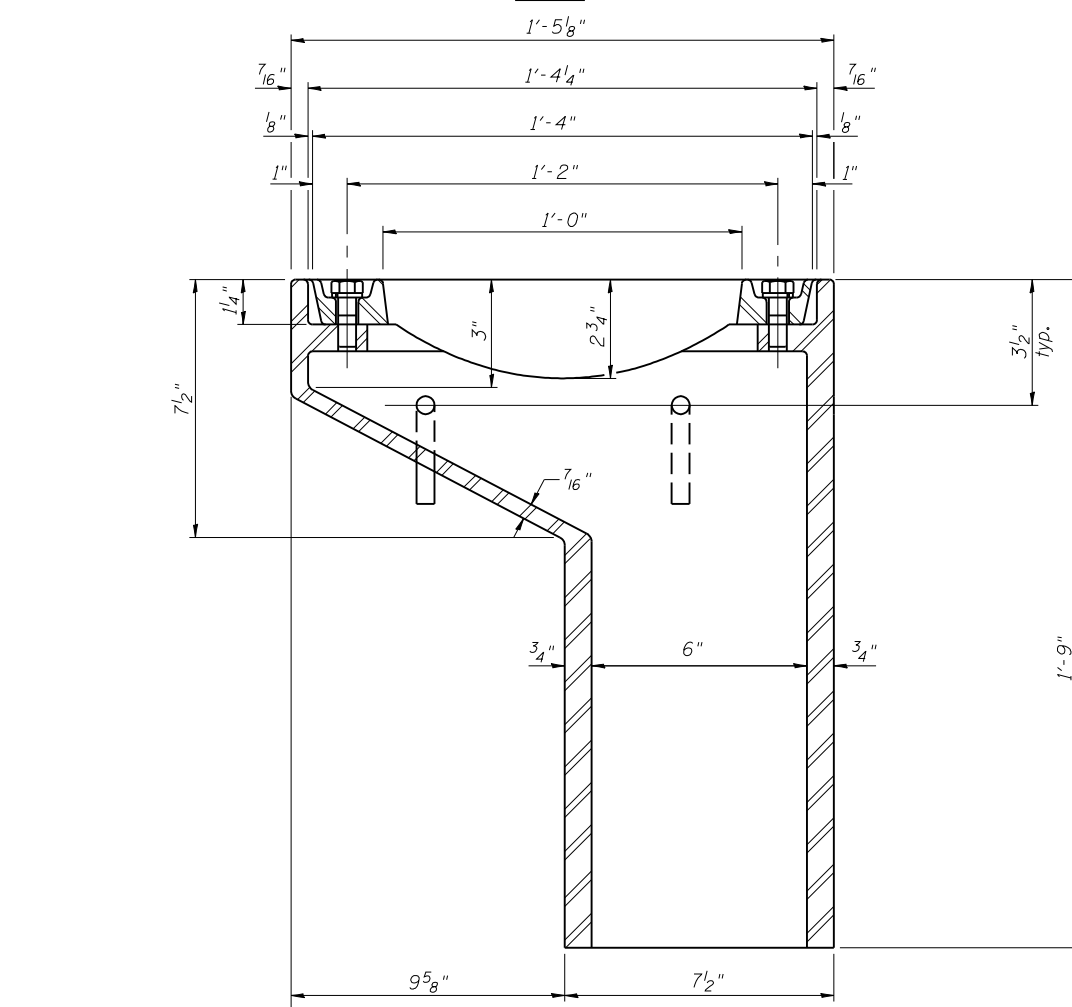
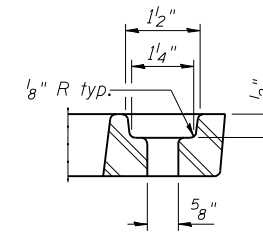
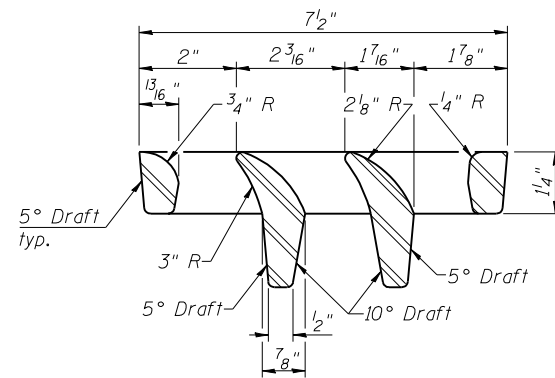
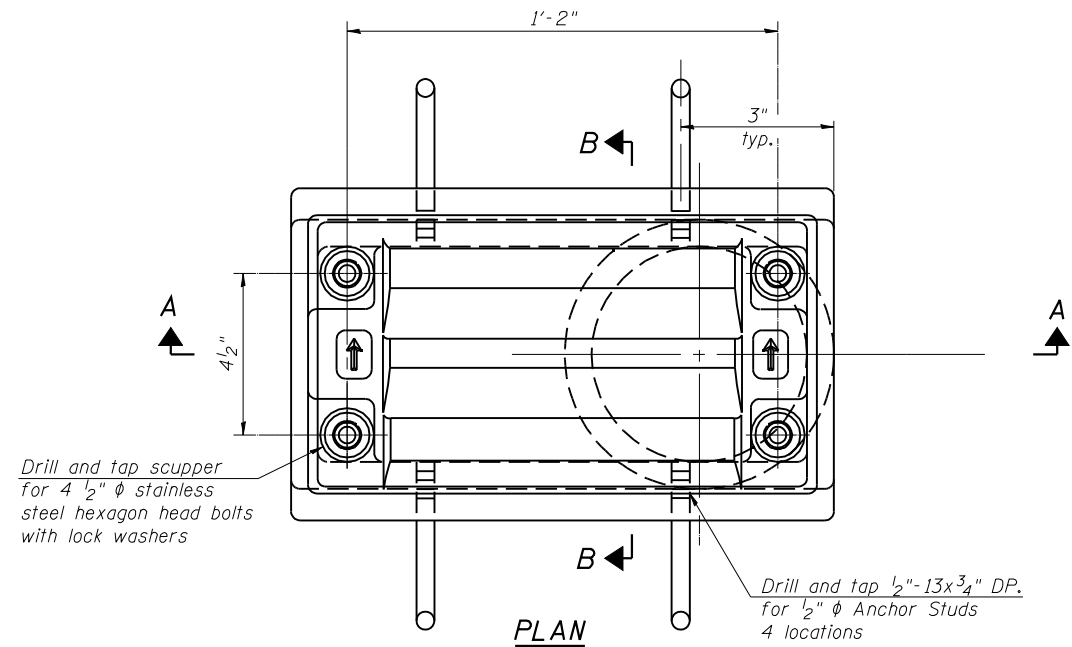


**TABLE E**

Location	Inside Parapet Bars	Outside Parapet Bars
West Appr. S.B.	e22, e23	e20, e21
East Appr. S.B.	e26, e27	e24, e25
West Appr. N.B.	e28, e29	e30, e31
East Appr. N.B.	e26, e27	e24, e25

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure on Sheet 20 of 53.





See sheet 20 of 53 for scupper location relative to parapet.

**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.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	8

DS-11 7-1-10



JOB	= 2265.2	DESIGNED	- AAN	REVISED	-
FILE	= 0540060_0061-72E11-28-Scupper.dgn	CHECKED	- MDC	REVISED	-
DATE	= 3/18/2013	DRAWN	- SJS	REVISED	-
SCALE	= 2.0000 / IN.	CHECKED	- MDC	REVISED	-

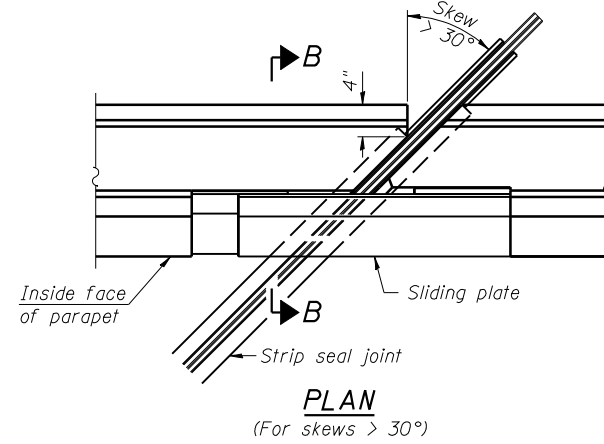
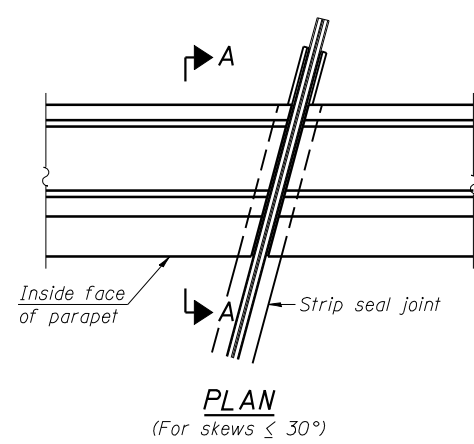
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11  
 STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)

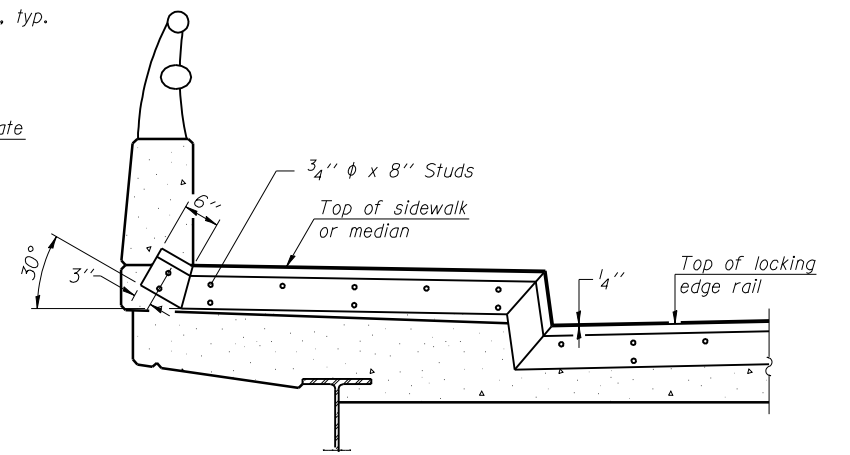
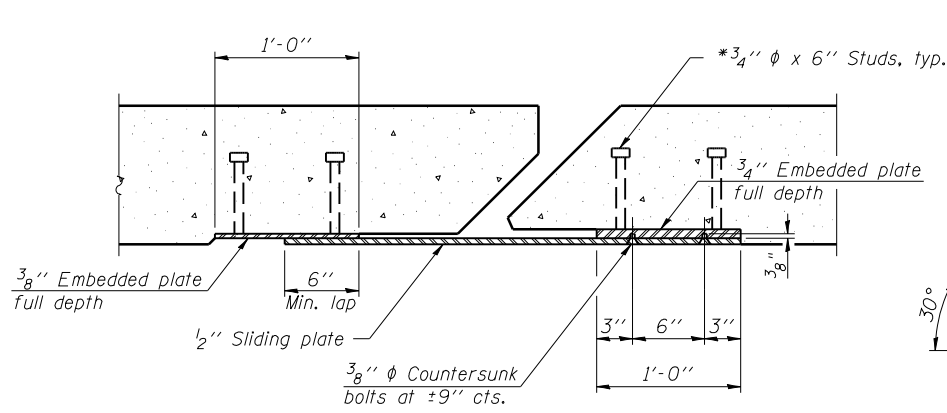
SHEET NO. 28 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	258
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

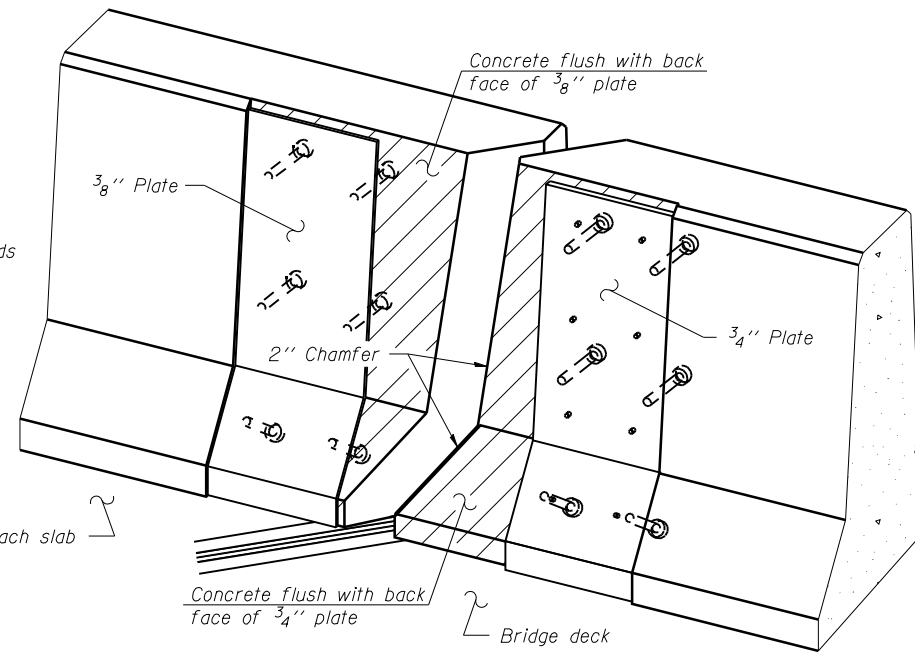
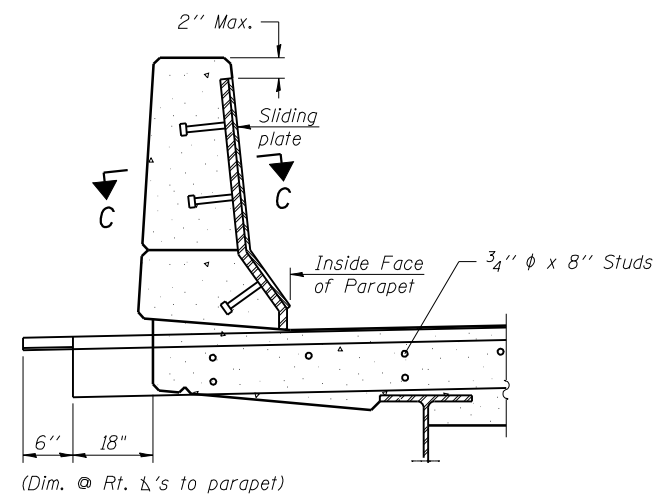
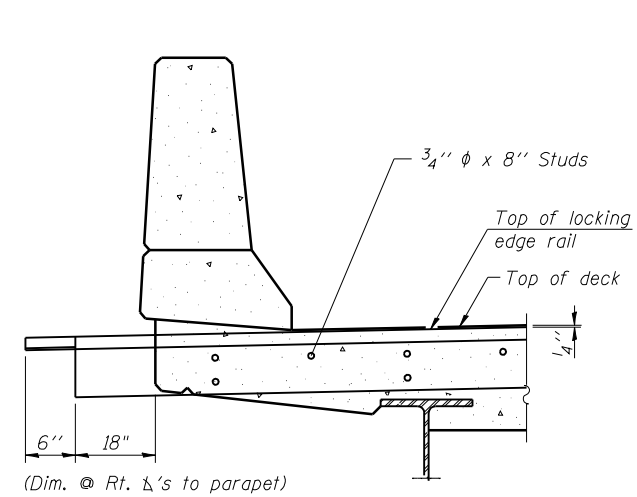


Point Block Detail at Parapet. See Sheet 22 for Detail at Slab.



**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.

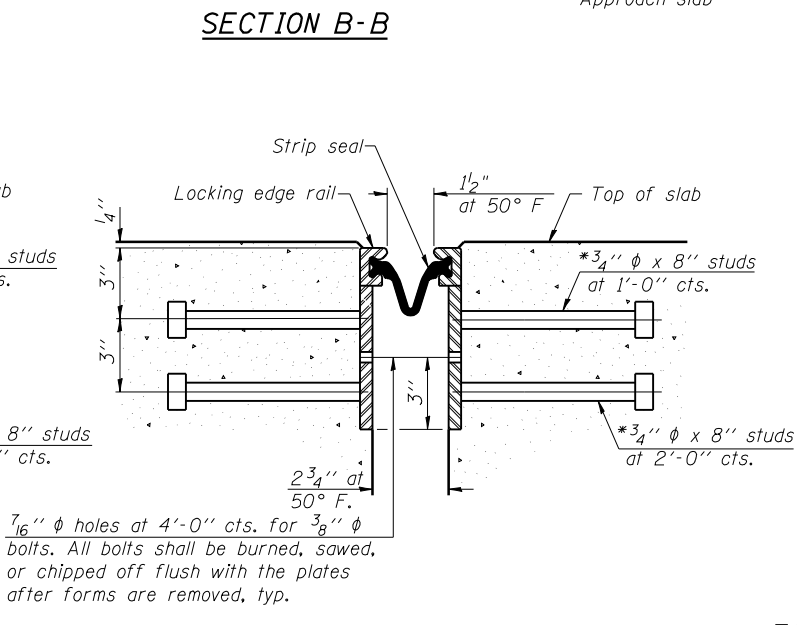
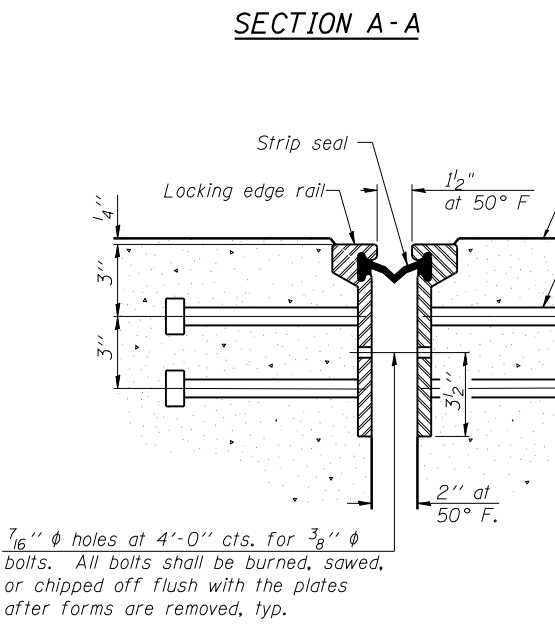
The manufacturer's recommended installation methods shall be followed.

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 at stage lines shall be 3/16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews  $> 30^\circ$  included in the cost of Preformed Joint Strip Seal.



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

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

**ROLLED EXTRUDED RAIL**

**WELDED RAIL**

**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

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

**LOCKING EDGE RAILS**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	128

EJ-SSJ

7-1-10



JOB = 2265.2  
FILE = PreformedJoint.dgn  
DATE = 3/5/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - MDC

REVISED -  
REVISED -  
REVISED -  
REVISED -

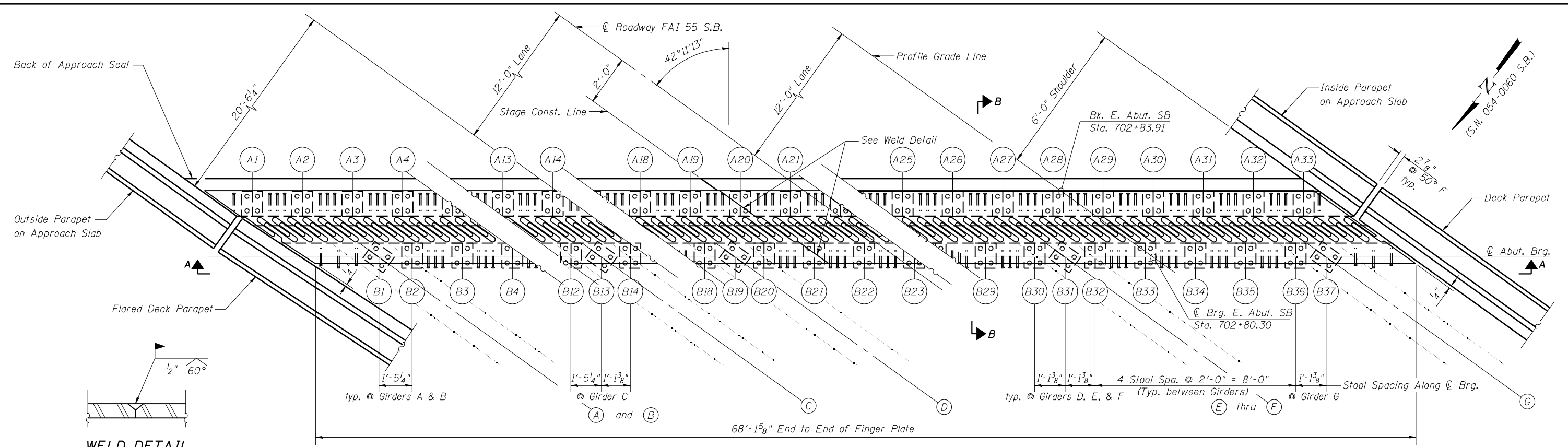
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 054-0060 (S.B.) & 054-0061 (N.B.)**

SHEET NO. 29 OF 53 SHEETS

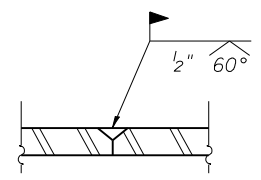
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	259
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

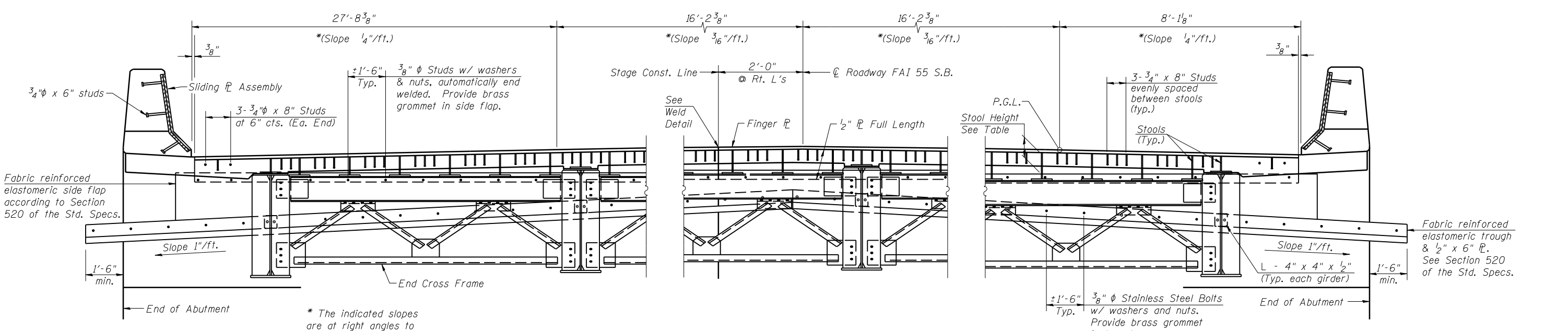


**WELD DETAIL**

(Required at Stage Construction Joint)



**PLAN**

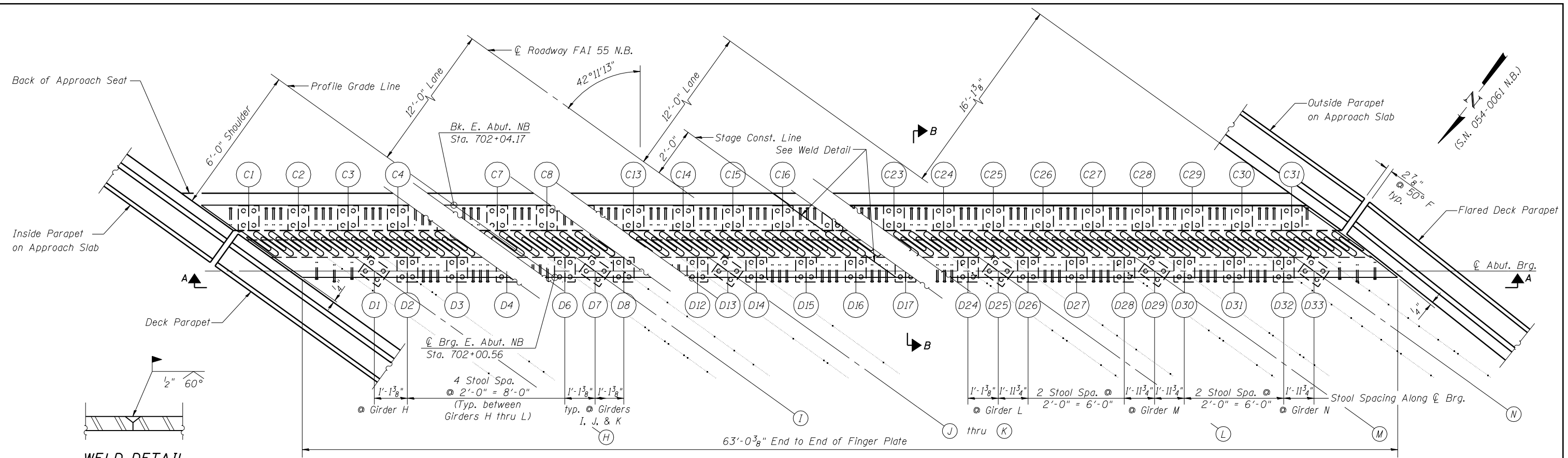


**SECTION A-A**

(Finger Plate Joint at E. Abut. S.B. - Looking East)

**TABLE OF STOOL HEIGHTS**

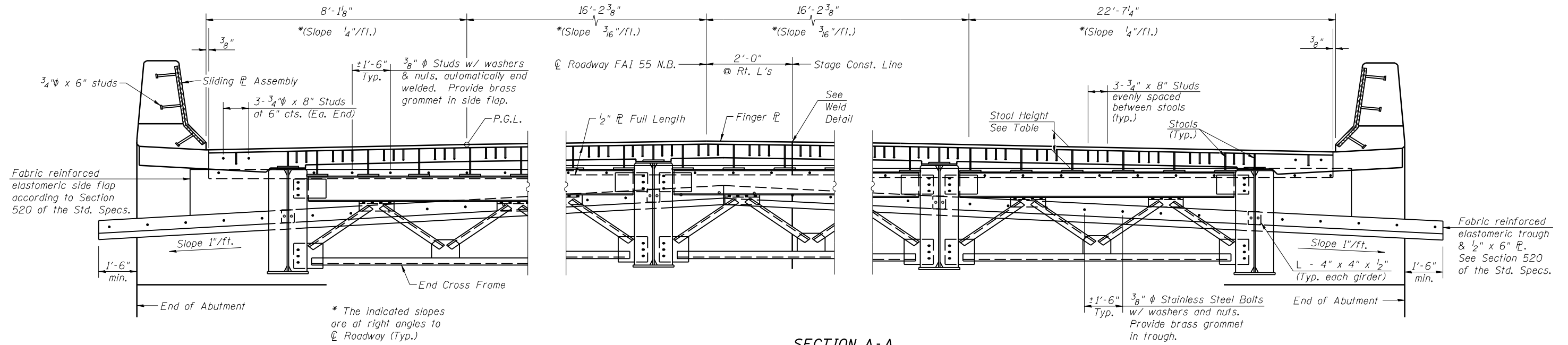
Approach E. Abut. SB	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30	A31	A32	A33				
Stool Height (in.)	10 1/2	11 1/8	11 7/8	15 5/8	13 1/4	14	14 3/8	15 3/4	15 1/4	15 5/8	16	16 7/8	17 3/4	18 5/8	19 1/2	20 3/8	20 3/4	21 1/4	21 3/4	22 1/4	22 3/4	22 3/4	22 5/8	22 5/8	22 5/8	22 5/8	22 1/2	22 1/2	22 3/8	22 1/4	22 1/4	22 1/8	22				
Deck E. Abut. SB	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36	B37
Stool Height (in.)	7 1/8	11 3/8	12	12 5/8	13 1/8	13 5/8	7 1/8	11 1/2	12 1/8	12 3/4	13 1/4	13 7/8	11 1/8	11 3/4	12 3/8	13	13 1/2	7 1/4	11 3/8	11 3/4	12 1/4	12 3/4	13 1/8	7 1/2	11 3/8	11 1/4	11 1/4	11 1/4	11 1/8	7 3/4	10 1/2	10 1/2	10 3/8	10 3/8	10 1/4	7 1/4	



**WELD DETAIL**

(Required at Stage Construction Joint)

**PLAN**

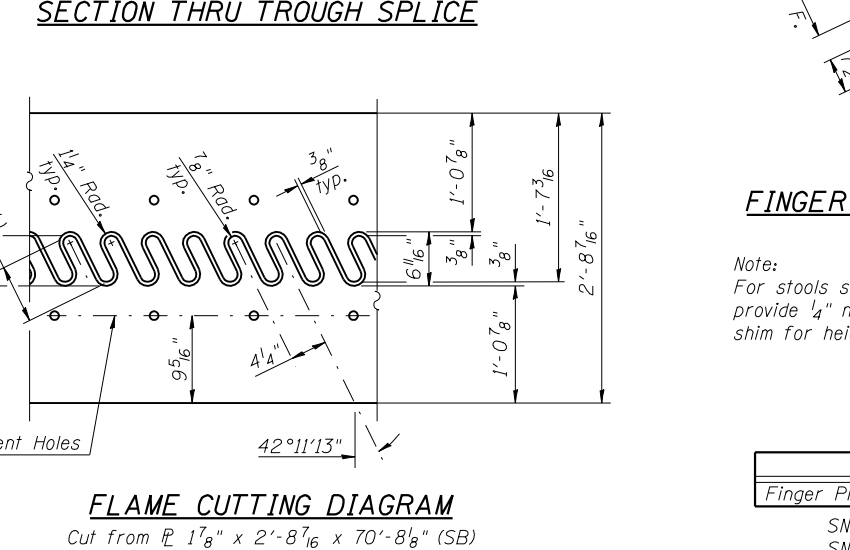
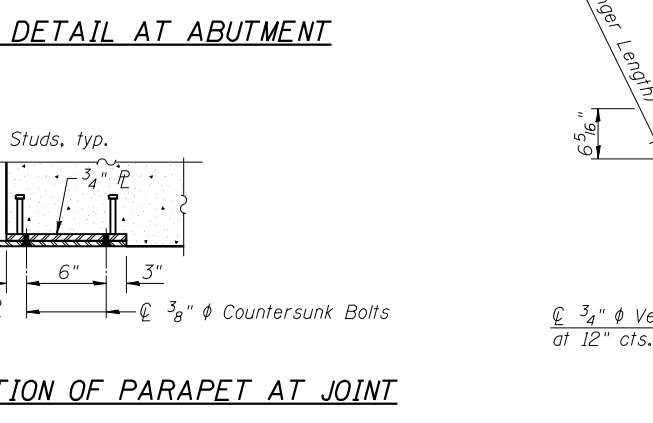
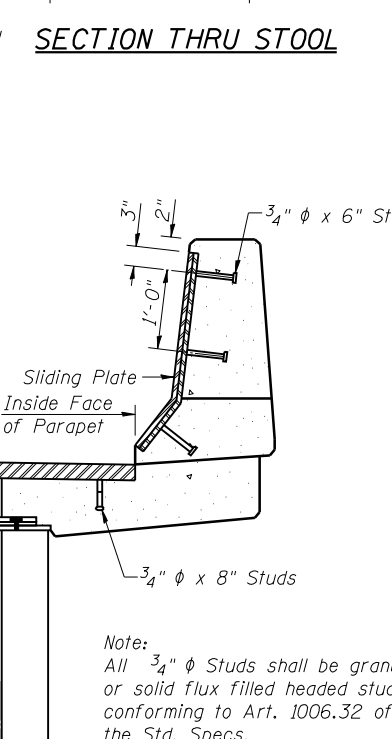
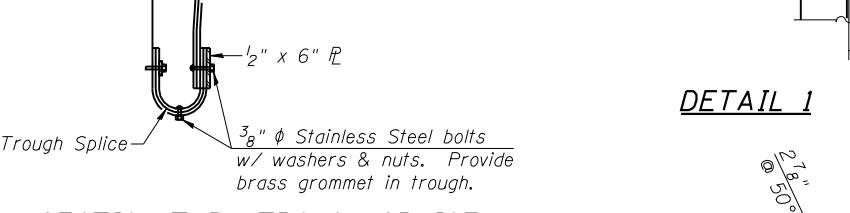
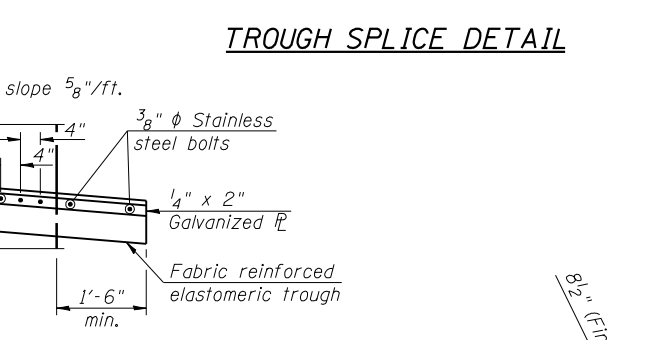
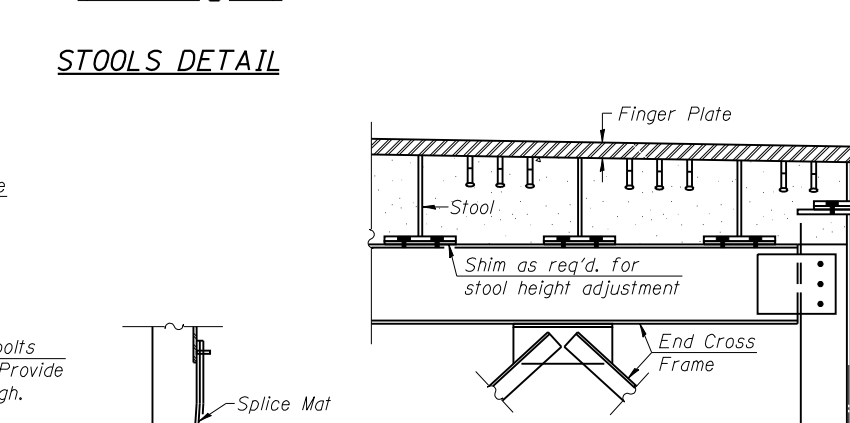
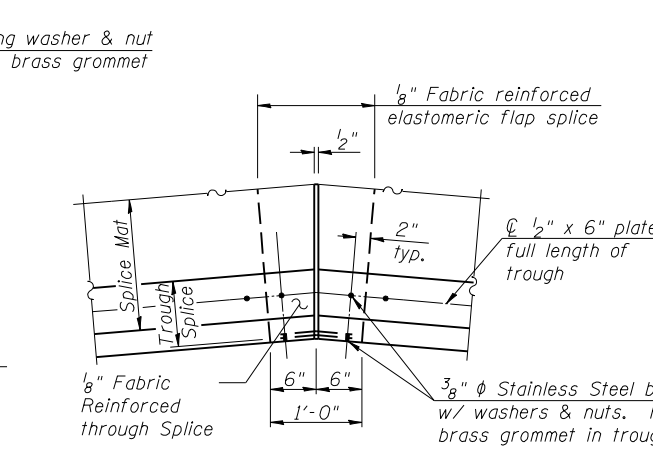
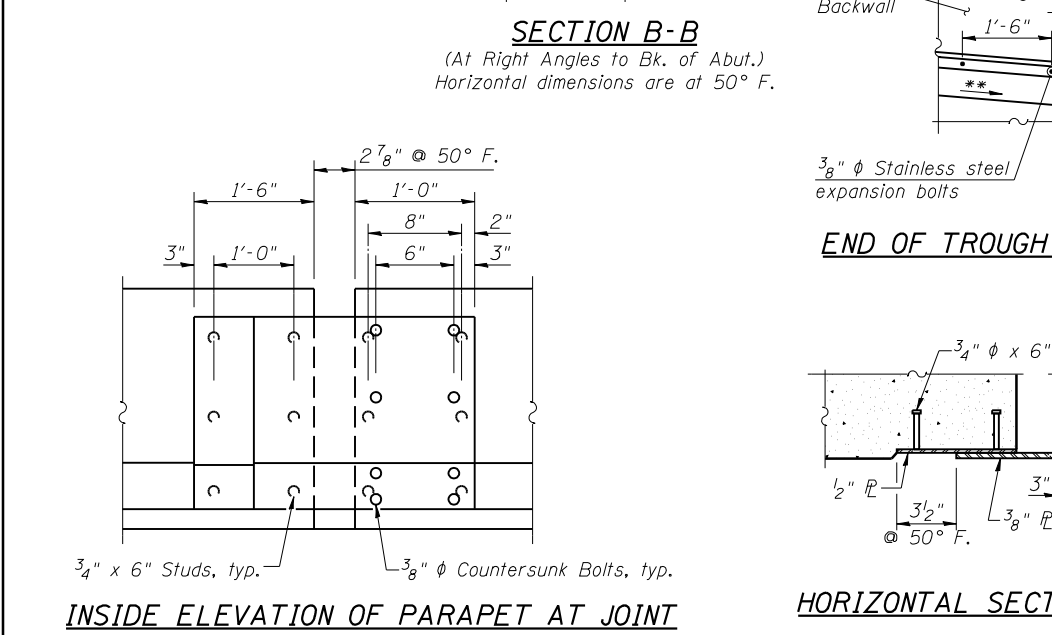
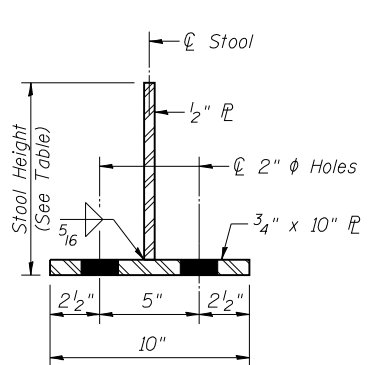
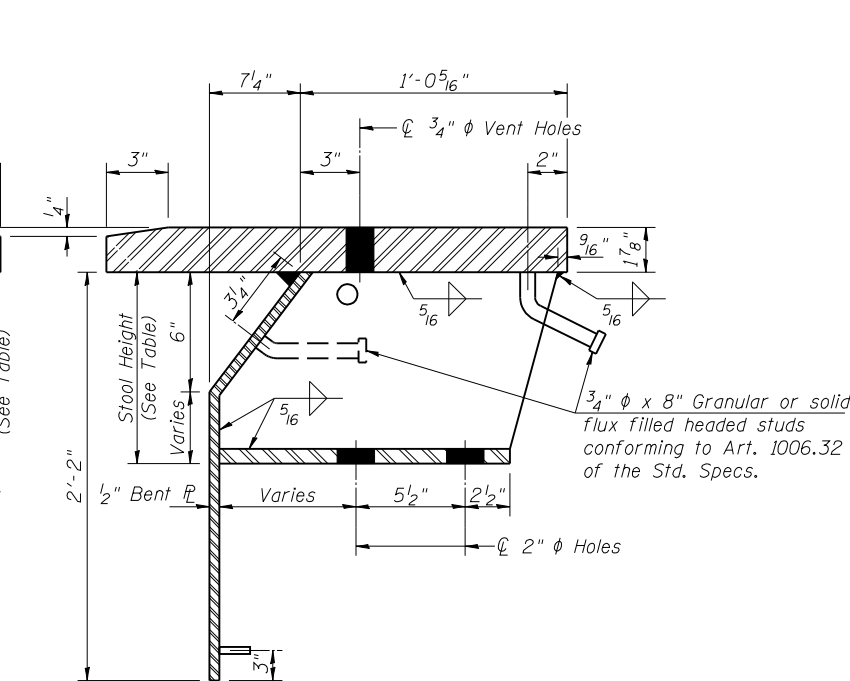
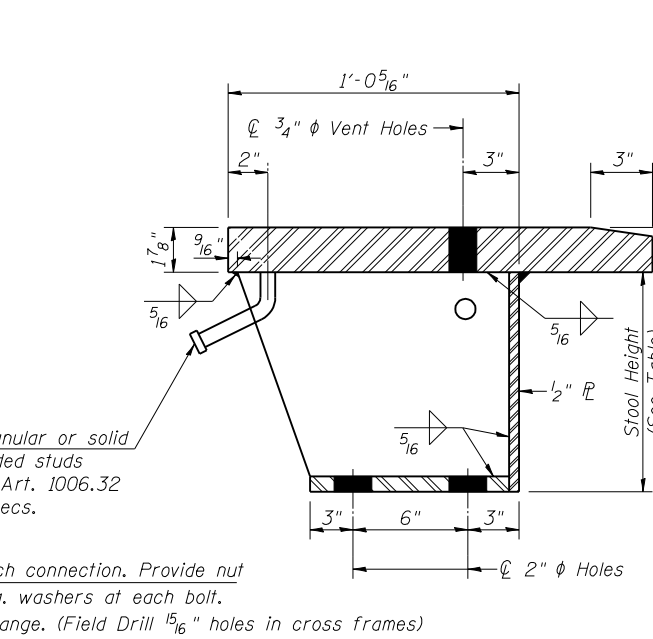
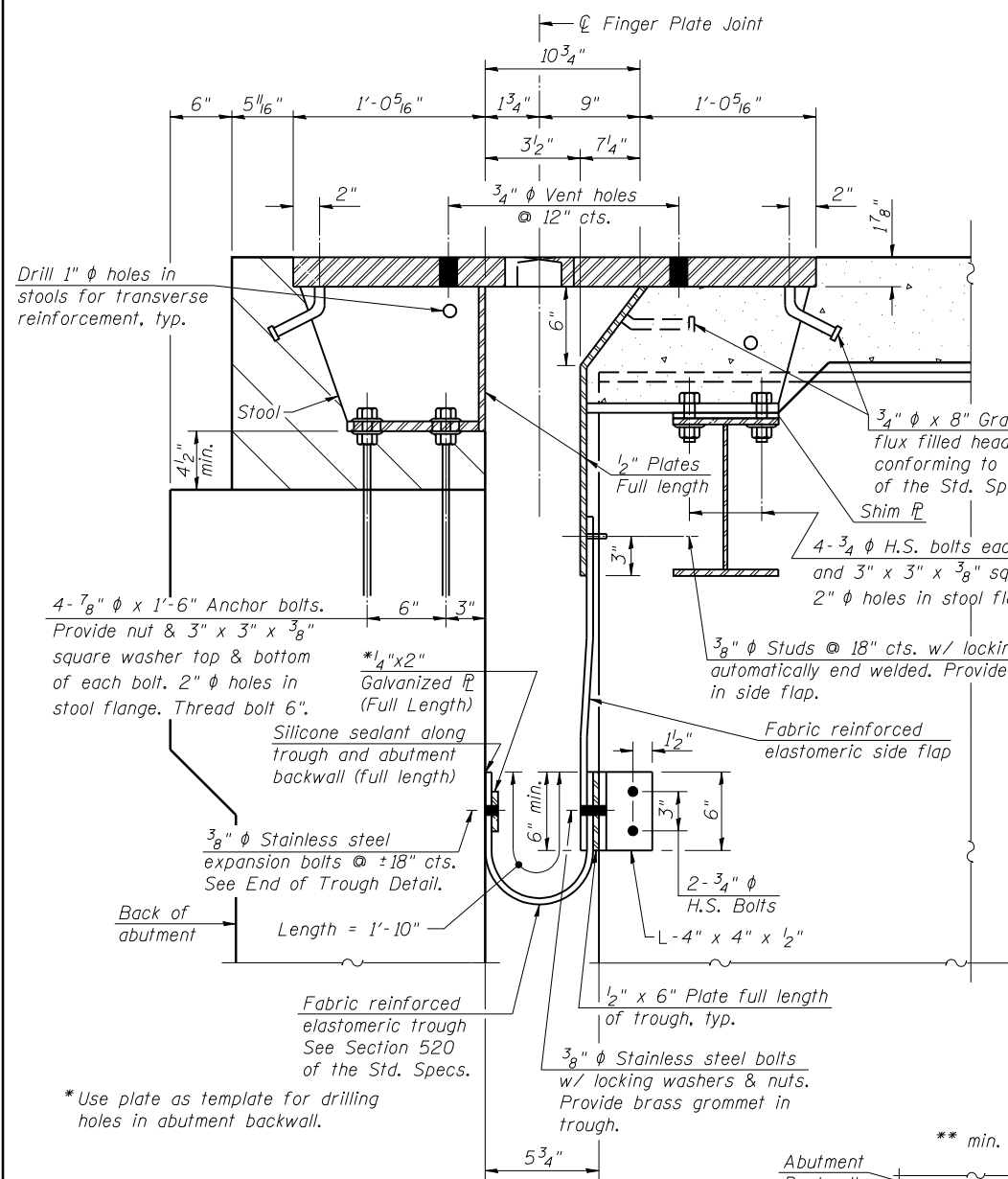


**SECTION A-A**

(Finger Plate Joint at E. Abut. N.B. - Looking East)

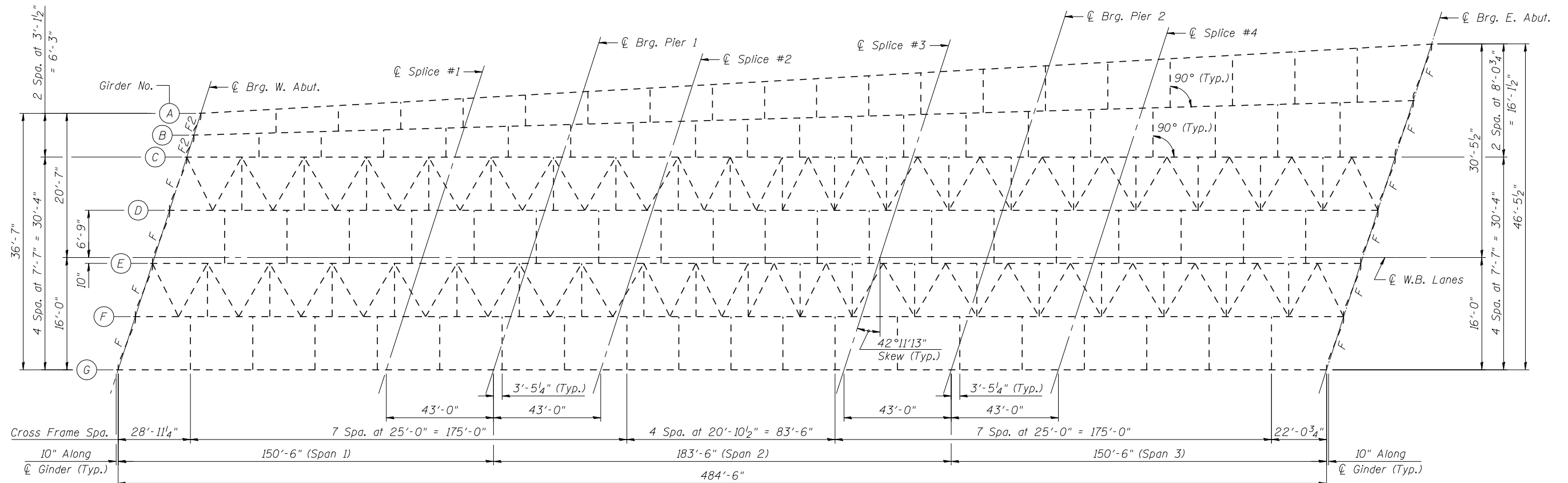
**TABLE OF STOOL HEIGHTS**

Approach E. Abut. NB	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31		
Stool Height (in.)	10 <sup>3</sup> / <sub>8</sub>	10 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>2</sub>	12	12 <sup>1</sup> / <sub>2</sub>	13	13 <sup>1</sup> / <sub>2</sub>	14	14 <sup>1</sup> / <sub>2</sub>	14 <sup>7</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>3</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>2</sub>	15 <sup>5</sup> / <sub>8</sub>	15 <sup>7</sup> / <sub>8</sub>	16	16 <sup>1</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>4</sub>	12 <sup>5</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	14	13 <sup>3</sup> / <sub>4</sub>	15 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>			
Deck E. Abut. NB	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30	D31	D32	D33
Stool Height (in.)	9 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	14	14 <sup>1</sup> / <sub>2</sub>	15	11 <sup>1</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	13 <sup>7</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	14 <sup>7</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>2</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>8</sub>	13	9 <sup>1</sup> / <sub>4</sub>	13 <sup>5</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>4</sub>	14	13 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>8</sub>

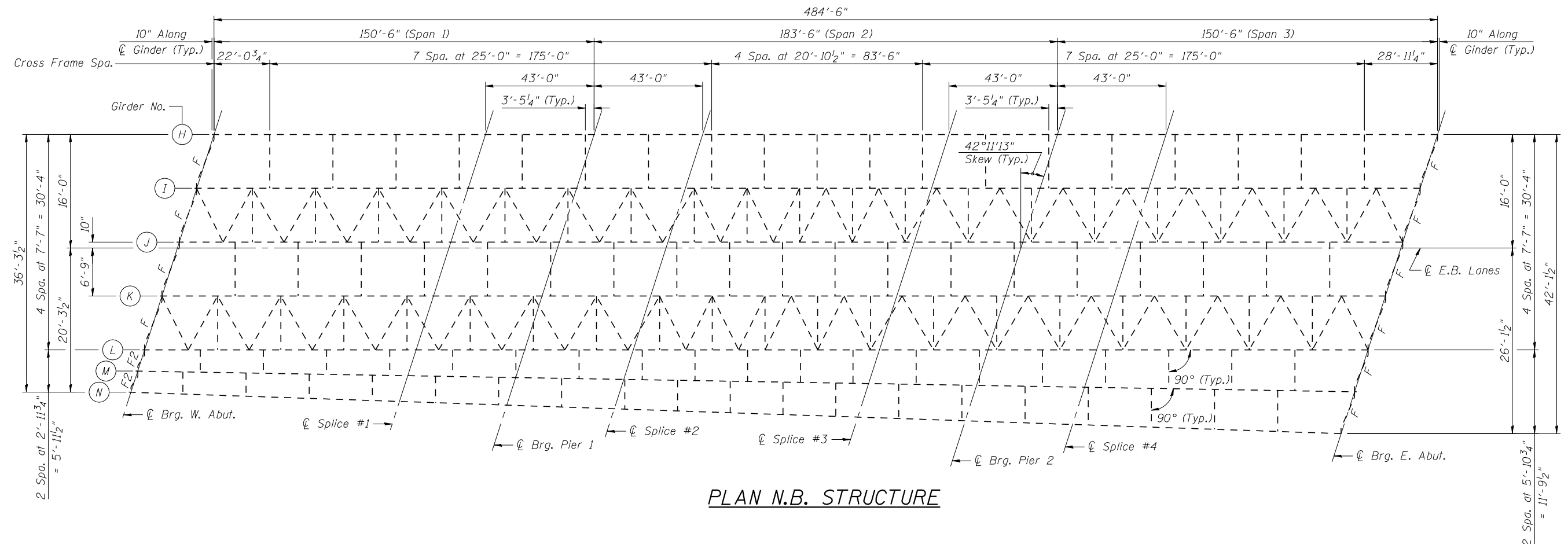


**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Finger Plate Expansion Joint 4 1/4"	Foot	133
SN 054-0061 (E Abut. NB) = 64 Foot		
SN 054-0060 (E Abut. SB) = 69 Foot		



**PLAN S.B. STRUCTURE**



**PLAN N.B. STRUCTURE**



JOB = 2265.2  
 FILE = 0540060\_0061-72E11-33-35-StructSteel.dwg  
 DATE = 3/18/2013

DESIGNED - AAN  
 CHECKED - MDC  
 DRAWN - SJS  
 CHECKED - MDC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

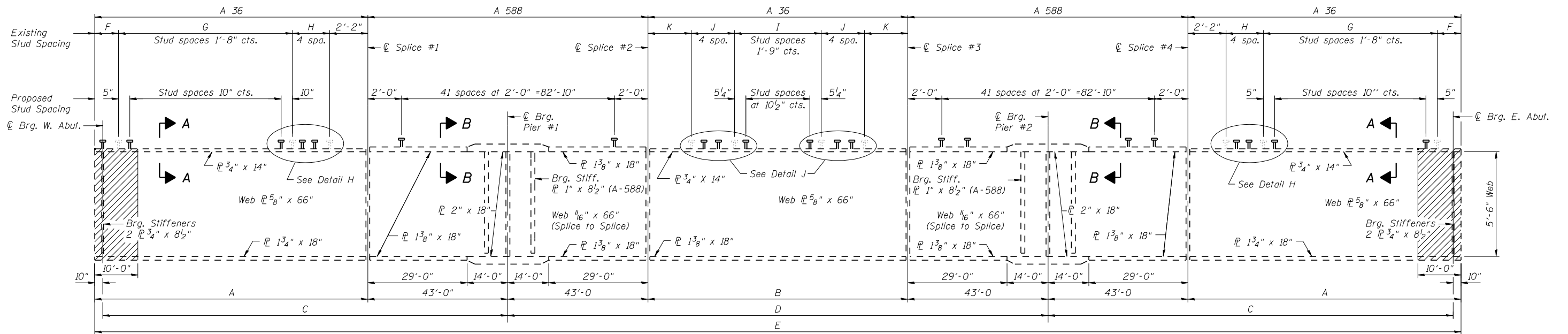
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL  
 STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

SHEET NO. 33 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	263
CONTRACT NO. 72E11				

ILLINOIS FED. AID PROJECT



**GIRDER ELEVATION**

Indicates Limits of Girder to be Cleaned and Painted. See Special Provision for Cleaning and Painting Existing Steel Structures.

**EXISTING GIRDER DIMENSIONS**

Location	A	B	C	D	E	F	G	H	I	J	K
Gdr. 1	111'-1 5/8"	100'-11 1/4"	153'-3 5/8"	186'-11 1/4"	495'-2 1/2"	11 5/8"	105'-0"	3'-0"	91'-0"	2'-8"	2'-7 5/8"
Gdr. 2	109'-8 3/4"	99'-2 1/2"	151'-10 3/4"	185'-2 1/2"	490'-8"	10 3/4"	105'-0"	1'-8"	91'-0"	2'-0"	2'-1 1/4"
Gdr. 3-12	108'-4"	97'-6"	150'-6"	183'-6"	486'-2"	10"	103'-4"	2'-0"	89'-3"	2'-0"	2'-1 1/2"
Gdr. 13	107'-6 1/8"	96'-6"	149'-8 1/8"	182'-6"	483'-6 1/4"	1'-0 1/8"	101'-8"	2'-8"	87'-6"	2'-4"	2'-2"
Gdr. 14	106'-8 3/8"	95'-6 1/8"	148'-10 3/8"	181'-6 1/8"	480'-10 7/8"	10 3/8"	101'-8"	2'-0"	85'-9"	2'-8"	2'-2 3/16"

**INTERIOR GIRDER MOMENT TABLE**

	0.4 Span 1 or 0.6 Span 3	Pier	0.5 Span 2
$I_s$	(in <sup>4</sup> ) 56,656	99,727	51,708
$I_c(n)$	(in <sup>4</sup> ) 148,132	105,054	131,113
$I_c(3n)$	(in <sup>4</sup> ) 101,997	105,054	91,897
$S_s$	(in <sup>3</sup> ) 2167	2849	1842
$S_c(n)$	(in <sup>3</sup> ) 3001	2908	2566
$S_c(3n)$	(in <sup>3</sup> ) 2707	2908	2312
$\phi$	(k/')	1.242	1.100
$M\phi$	(k)	3471	1234
$s\phi$	(k/')	0.528	0.528
$M_s\phi$	(k)	1567	659
$M_t$	(k)	1707	1279
$M_{iw}$	(k)	307	230
$^{5/3}[M_t + M_i]$	(k)	3357	2515
$M_a$	(k)	10,844	5731
$f_s \phi$ non-comp	(ksi)	14.6	8.1
$f_s \phi$ (comp)	(ksi)	6.5	3.4
$f_s \phi [M_t + M_i]$	(ksi)	13.8	11.8
$f_s$ (Overload)	(ksi)	34.9	23.3
$f_s$ (Total)	(ksi)	45.4	30.3
VR	(k)	58.8	51.4

$I_s, S_s$ : 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<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : 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<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : 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<sup>4</sup> and in<sup>3</sup>).

$\phi$ : Un-factored non-composite dead load (kips/ft.).

$M\phi$ : Un-factored moment due to non-composite dead load (kip-ft.).

$s\phi$ : Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s\phi$ : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M_t$ : Un-factored live load moment (kip-ft.).

$M_i$ : Un-factored moment due to impact (kip-ft.).

$M_a$ : Factored design moment (kip-ft.).

$1.3 [M\phi + M_s\phi + \frac{5}{3} (M_t + M_i)]$

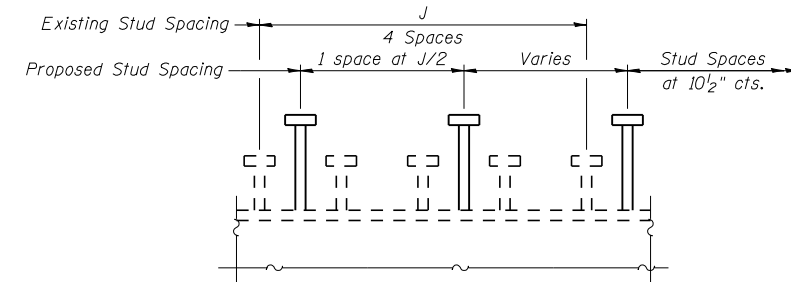
$f_s$  (Overload): Sum of stresses as computed from the moments below (ksi).

$M\phi + M_s\phi + \frac{5}{3} (M_t + M_i)$

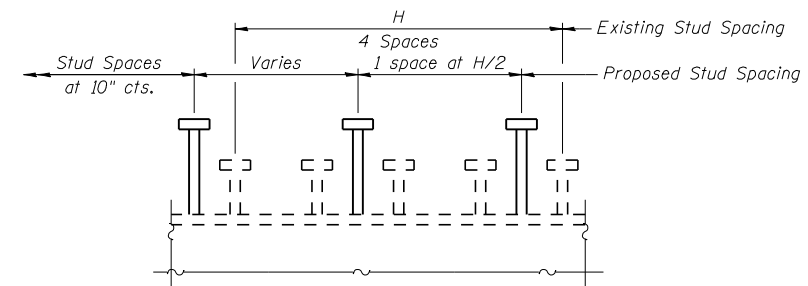
$f_s$  (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).

$1.3 [M\phi + M_s\phi + \frac{5}{3} (M_t + M_i)]$

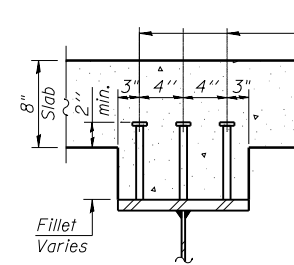
VR: Maximum  $\phi$  + impact shear range within the composite portion of the span for stud shear connector design (kips).



**DETAIL J**  
(Left of midspan shown, right of midspan similar)



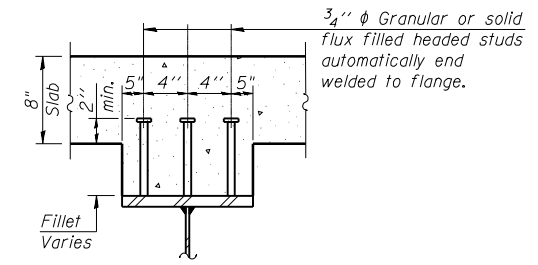
**DETAIL H**  
(Span 1 shown, Span 3 similar)



**SECTION A-A**

3/4"  $\phi$  Granular or solid flux filled headed studs automatically end welded to flange.

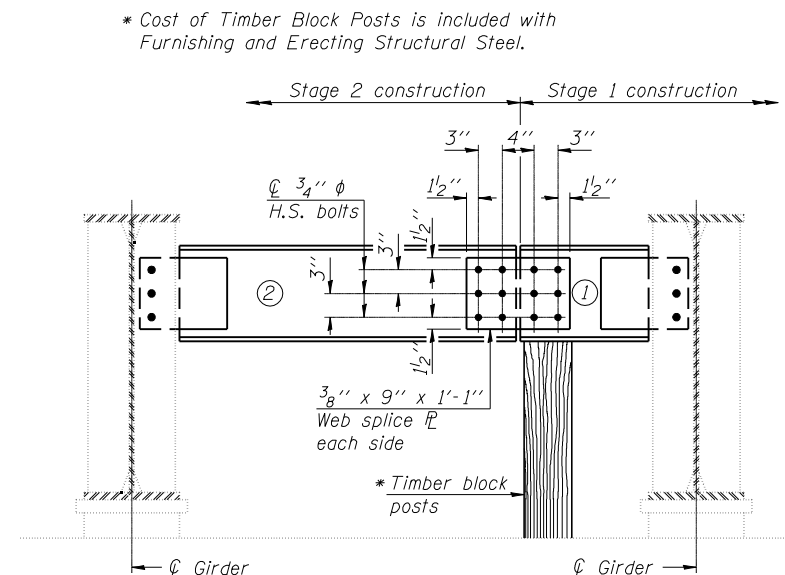
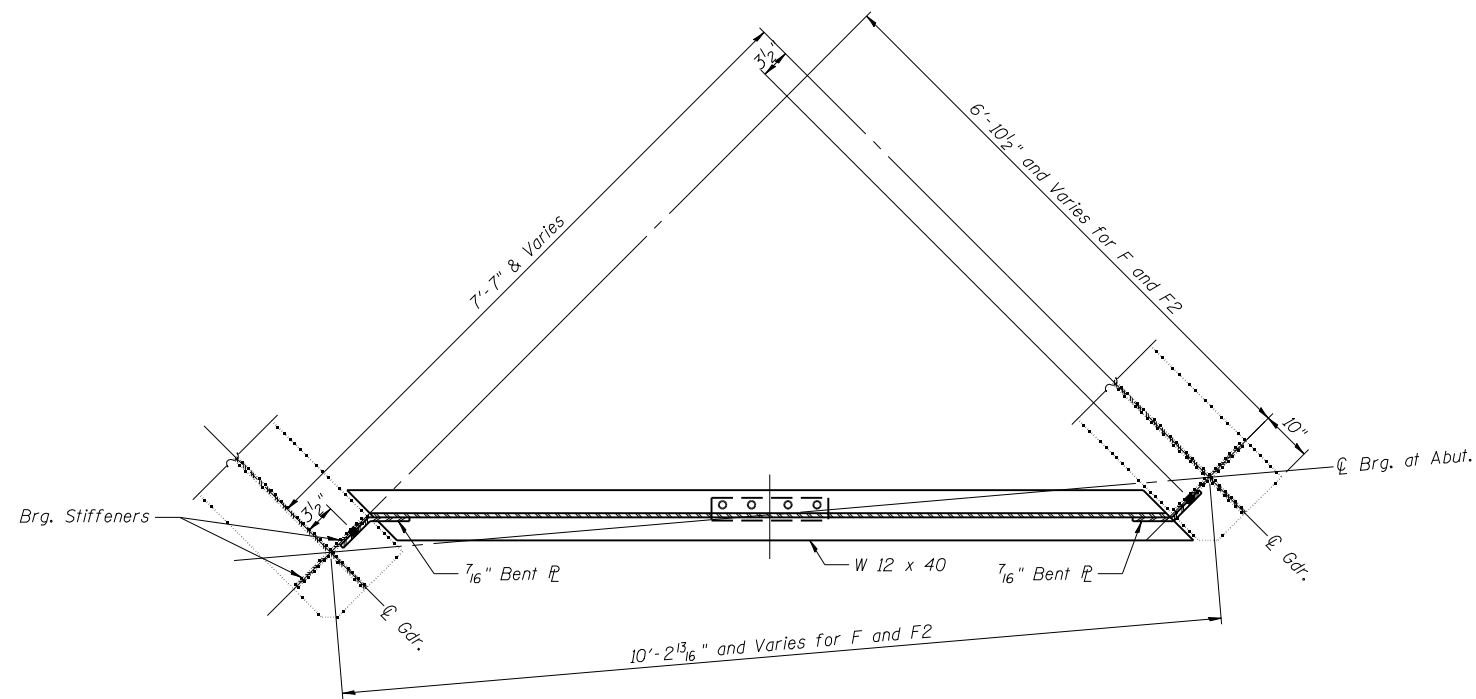
Girder No.	No. of Studs Req'd
1	1,356
2	1,356
3-12	1,338
13	1,320
14	1,314
Total	18,726



**SECTION B-B**

3/4"  $\phi$  Granular or solid flux filled headed studs automatically end welded to flange.



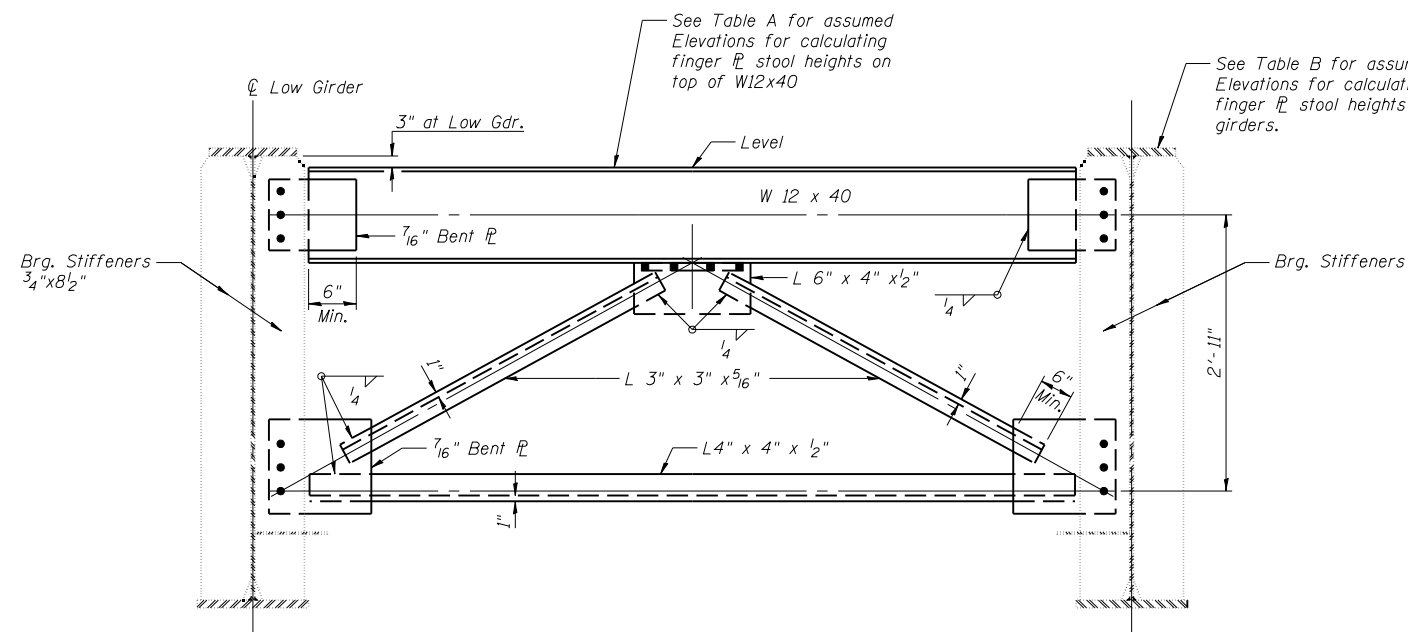


**END DIAPHRAGM**

Note: Use above detail with top W12x40 only.  
Install lower portion of cross frame after Stage 2.

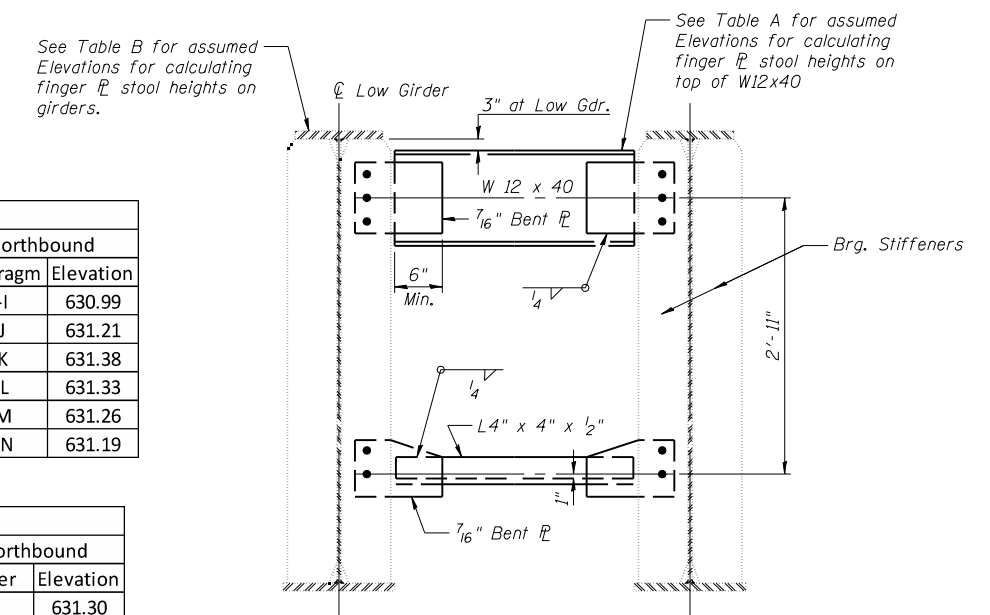
**END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE**

- 1.) Order diaphragm in two sections.
- 2.) Attach section ① of diaphragm to girder.
- 3.) Place timber block posts between section ① of diaphragm and abutment bearing section.
- 4.) Attach section ② of diaphragm to both girder and section ① of diaphragm during stage II construction with splice plates.
- 5.) Remove timber block posts.



**END CROSS FRAME F**

No. Required = 20 Ea.  
Bolts 3/4" φ  
Open Holes 1 3/16" φ  
1 5/16" φ holes in gusset PL for 3/4" φ bolts



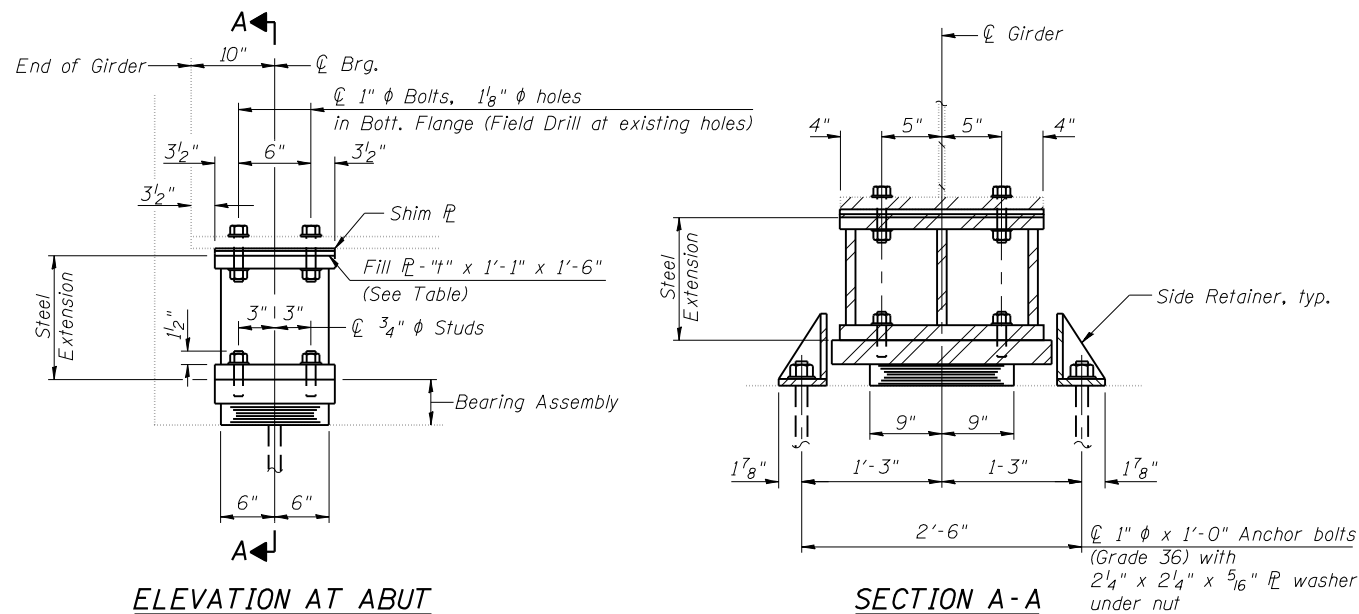
**END CROSS FRAME F<sub>2</sub>**

No. Required = 4 Ea.  
Bolts 3/4" φ  
Open Holes 1 3/16" φ

Table A			
Southbound		Northbound	
Diaphragm	Elevation	Diaphragm	Elevation
A-B	629.09	H-I	630.99
B-C	629.38	I-J	631.21
C-D	629.66	J-K	631.38
D-E	629.90	K-L	631.33
E-F	630.08	L-M	631.26
F-G	630.04	M-N	631.19

Table B			
Southbound		Northbound	
Girder	Elevation	Girder	Elevation
A	629.40	H	631.30
B	629.69	I	631.51
C	629.97	J	631.71
D	630.21	K	631.69
E	630.40	L	631.64
F	630.39	M	631.57
G	630.35	N	631.50

Note: Finger PL stool heights listed on sheets 30 and 31 shall be adjusted if above elevations do not match actual elevations measured in the field.



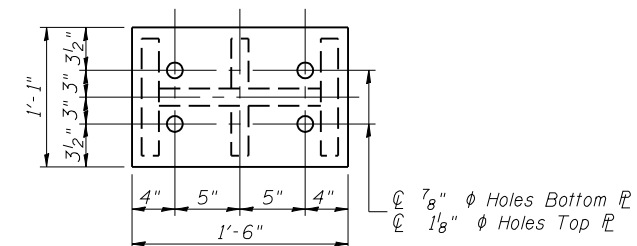
**ELEVATION AT ABUT**

**SECTION A-A**

**TYPE I ELASTOMERIC EXP. BRG.  
AT W. ABUT. S.B. & W. ABUT. N.B.**

**FILL "I" DIMENSIONS**

S.B. Lanes	A	B	C	D	E	F	G
Brig. W. Abut.	—	—	5/8"	—	—	—	—

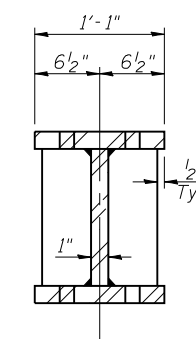


**PLAN - TOP & BOTTOM**

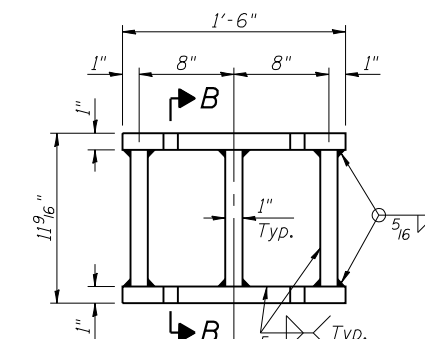
**INTERIOR GIRDER REACTION TABLE**

Location W. Abutment	
R <sub>P</sub> (K) (steel only)	18.1
R <sub>L</sub> (K)	45.2
R <sub>IMP</sub> (K)	8.2
R <sub>TOTAL</sub> (K)	145.5
Min. Jack Capacity (T)	23

Min. Jack Capacity =  $R_P + \frac{1}{2}(R_L + R_{IMP})$

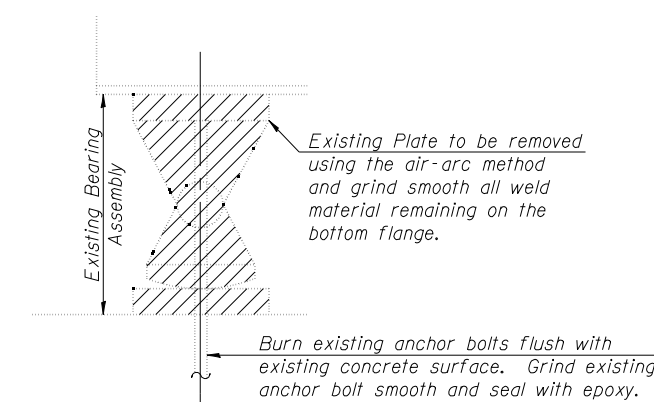


**SECTION B-B**



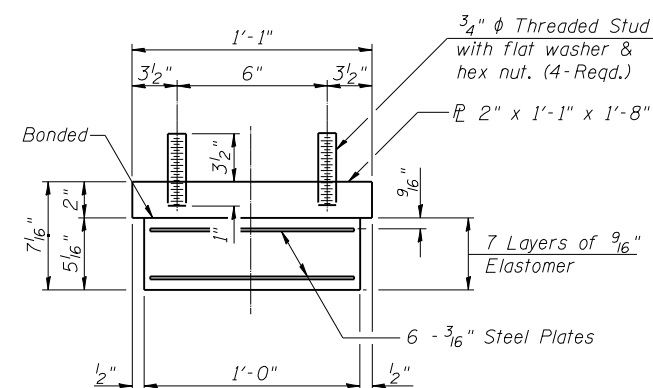
**ELEVATION**

**STEEL EXTENSION  
AT W. ABUT. S.B. & W. ABUT. N.B.**



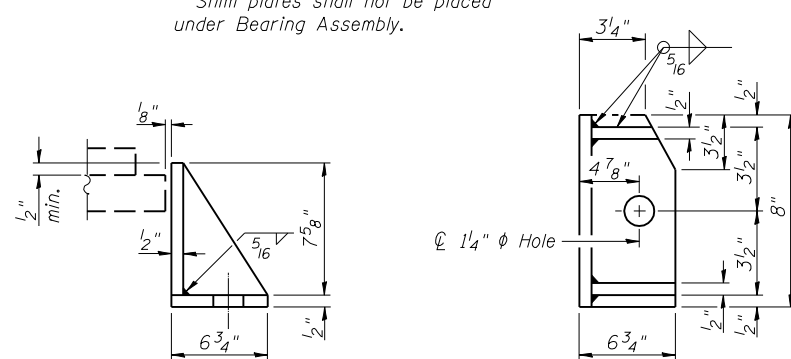
**EXISTING BEARING REMOVAL DETAIL**

Cost Included with "Jack and Remove Existing Bearings"



**BEARING ASSEMBLY**

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



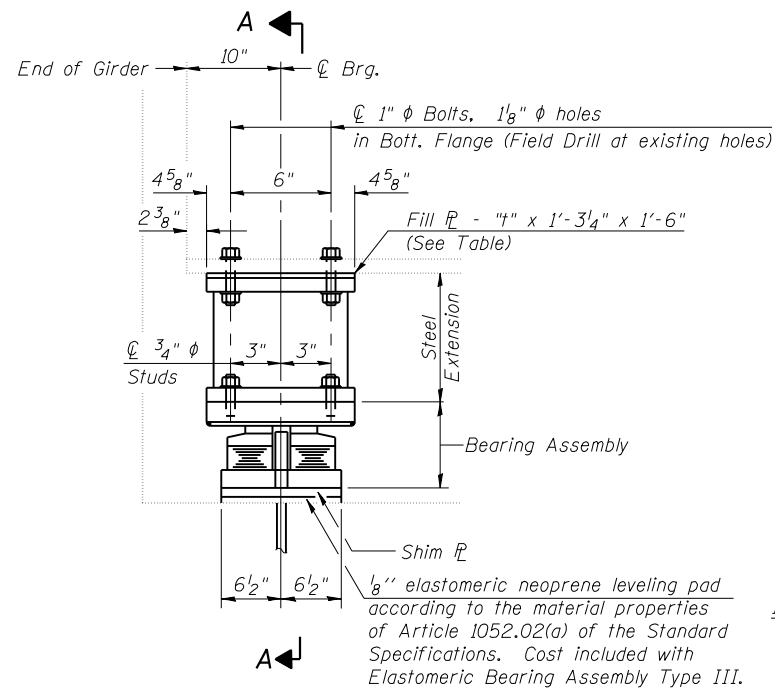
**ABUTMENT SIDE RETAINER - W. ABUT. S.B. & W. ABUT. N.B.**

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

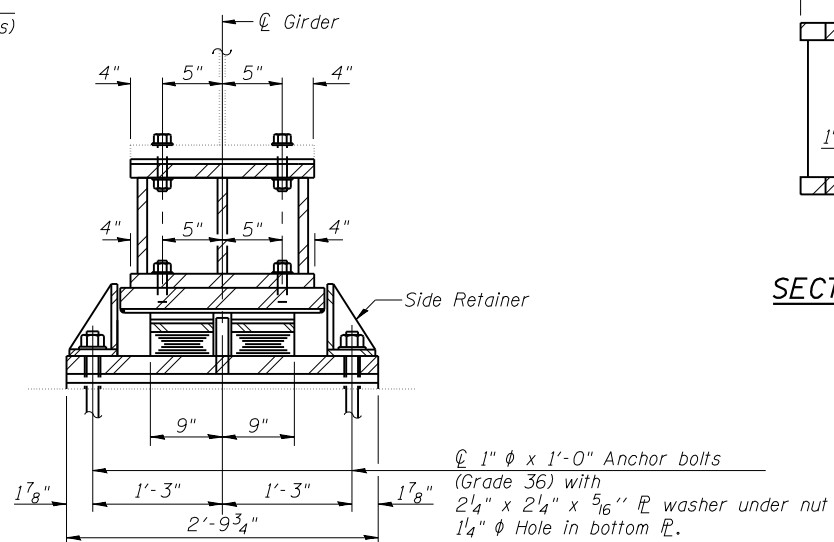
Notes:  
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified, ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used 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.  
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.  
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.  
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.  
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on the bearing details.

**BILL OF MATERIAL**

Item	Unit	Total
Jack and Remove Existing Bearings	Each	14
Anchor Bolts 1"	Each	28
Elastomeric Bearing Assembly Type I	Each	14
Furnishing and Erecting Structure Steel	Pound	3900

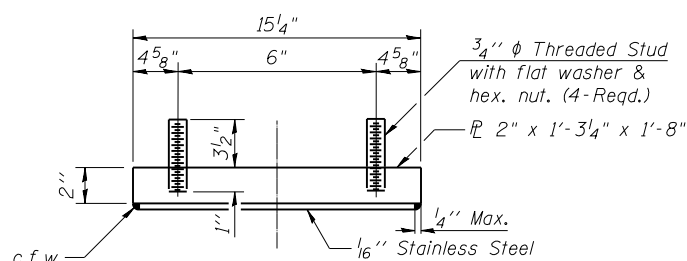


ELEVATION AT ABUT.

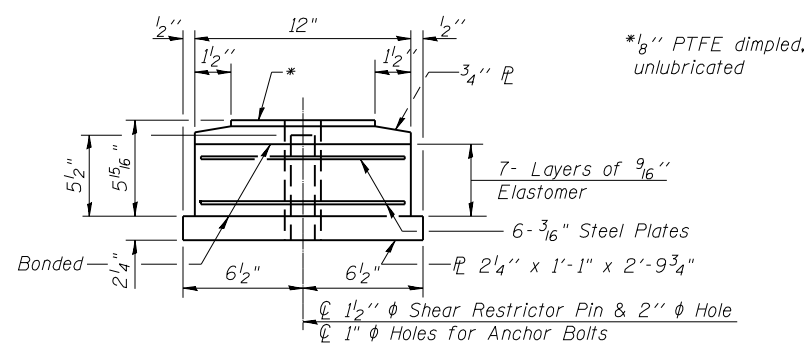


SECTION A-A

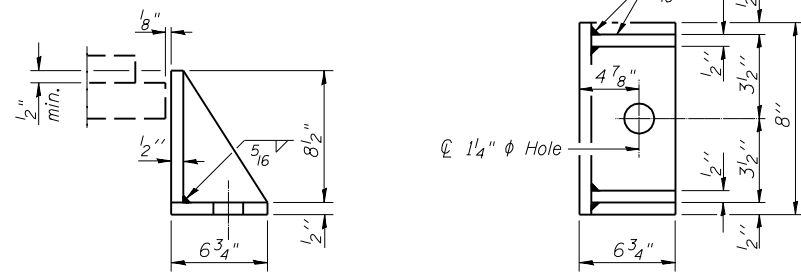
**TYPE III ELASTOMERIC EXP. BRG. AT E. ABUT. S.B. & E. ABUT. N.B.**



TOP BEARING ASSEMBLY

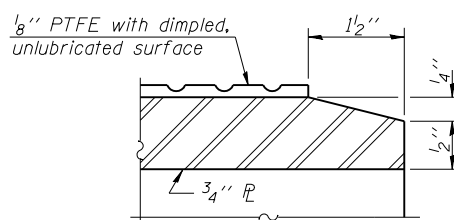


BOTTOM BEARING ASSEMBLY

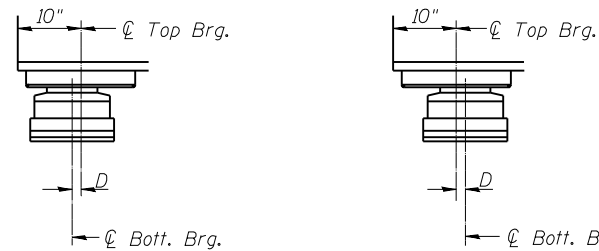


SIDE RETAINER

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



SECTION THRU PTFE

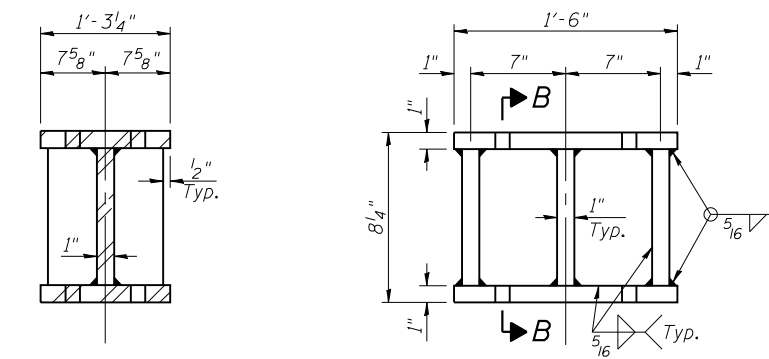


SETTING ANCHOR BOLTS AT EXP. BRG.

BELOW 50° F. (Move bottom brg. away from fixed brg.)

ABOVE 50° F. (Move bottom brg. toward fixed brg.)

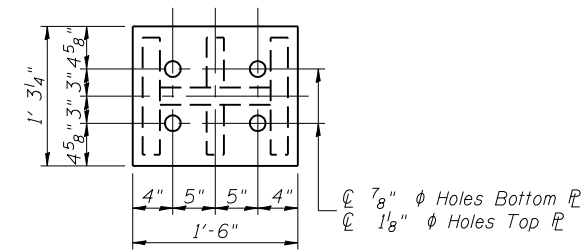
D =  $\frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.



SECTION B-B

ELEVATION

STEEL EXTENSION

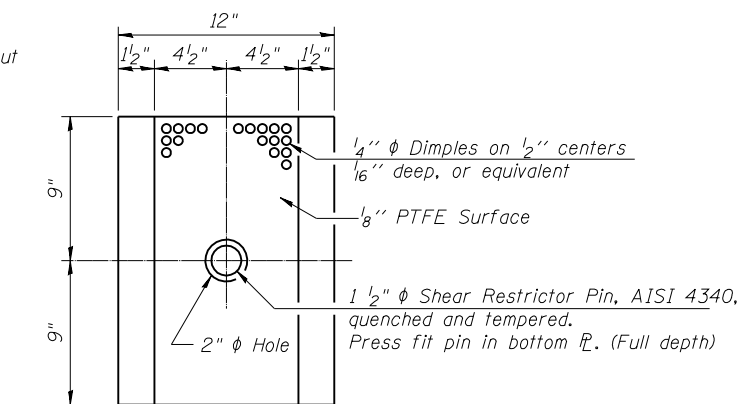


PLAN - TOP & BOTTOM

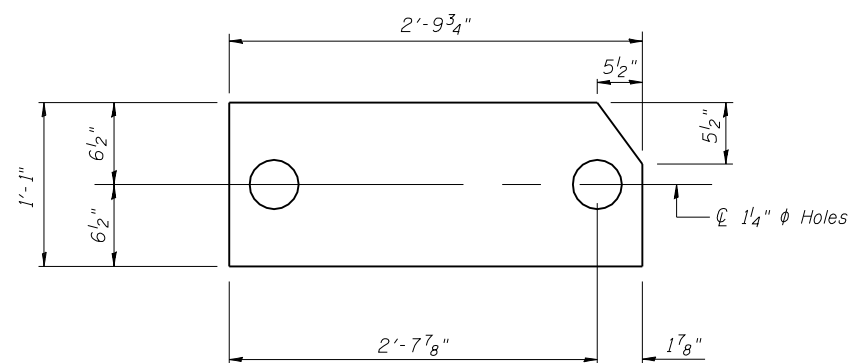
**INTERIOR GIRDER REACTION TABLE**

Location E. Abutment	
R $\varnothing$ (K) (steel only)	18.1
R $\frac{1}{4}$ (K)	45.2
R $\text{IMP}$ (K)	8.2
R $\text{TOTAL}$ (K)	145.5
Min. Jack Capacity (T)	23

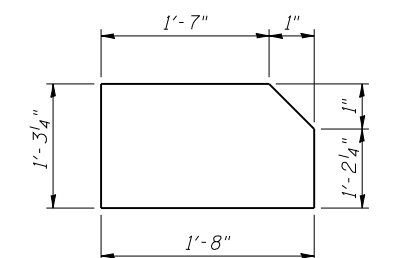
Min. Jack Capacity = R $\varnothing$  +  $\frac{1}{2}$  (R $\frac{1}{4}$  + R $\text{IMP}$ )



PLAN-PTFE ELASTOMERIC BRG.



BOTTOM BEARING PLATE PLAN



TOP BEARING PLATE PLAN

**FILL "4" DIMENSIONS**

S.B. Lanes	A	B	C	D	E	F	G
$\varnothing$ Brg. E. Abut.	—	—	—	—	—	1 $\frac{1}{2}$ "	—

N.B. Lanes	H	I	J	K	L	M	N
$\varnothing$ Brg. E. Abut.	—	—	$\frac{1}{4}$ "	—	—	—	—

**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 Type III bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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 III.

The  $\frac{1}{8}$ " PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of  $\frac{1}{8}$ " PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

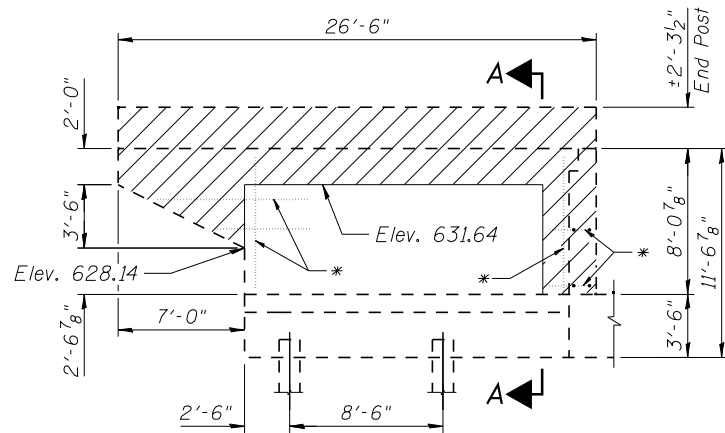
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Two  $\frac{1}{8}$ " adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown in the bearing details.

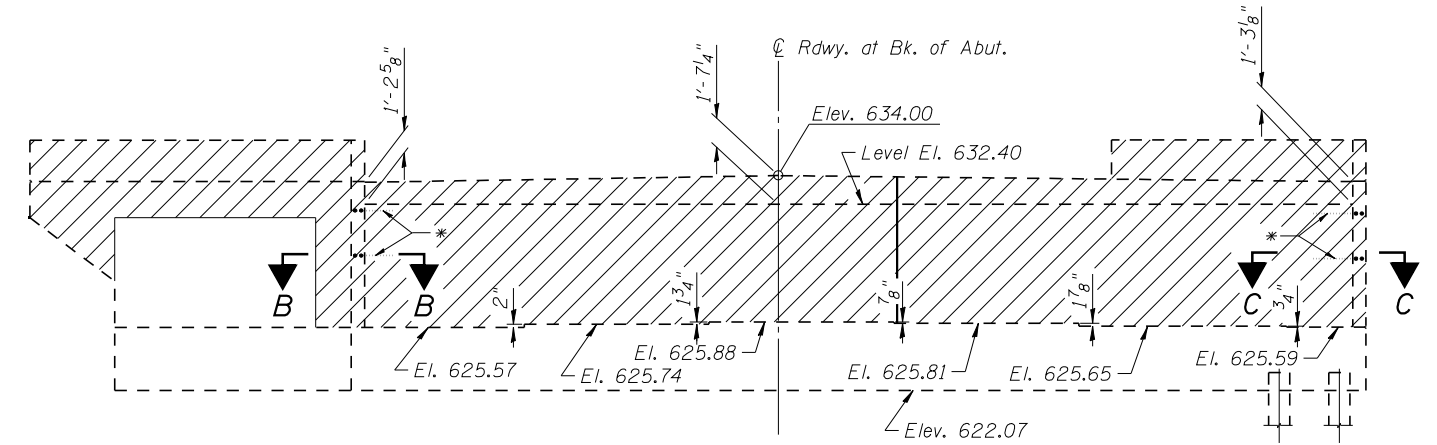
See Sheet 36 of 53 for existing Bearing Removal Detail.

**BILL OF MATERIAL**

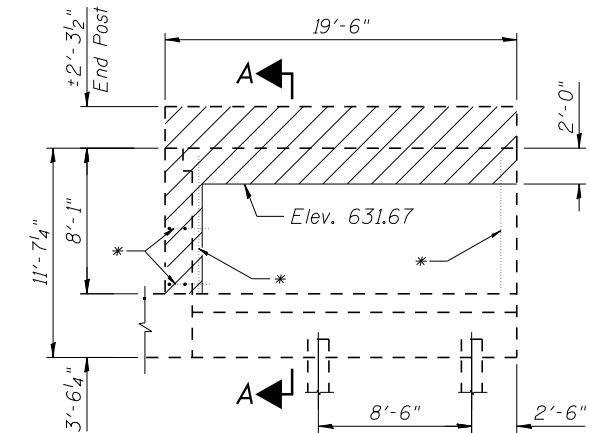
Item	Unit	Total
Jack and Remove Existing Bearings	Each	14
Anchor Bolts 1"	Each	28
Elastomeric Bearing Assembly Type I	Each	14
Furnishing and Erecting Structure Steel	Pound	3770



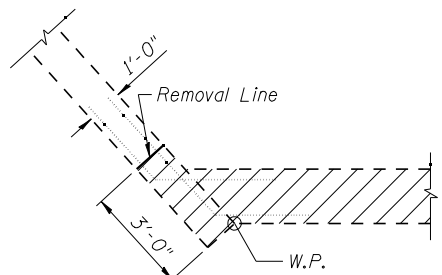
**WINGWALL ELEVATION  
INSIDE WING**



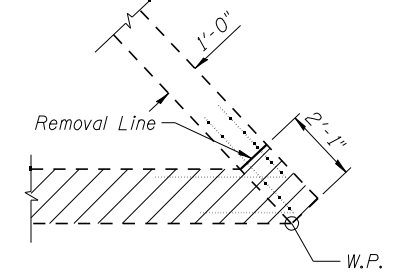
**ELEVATION**



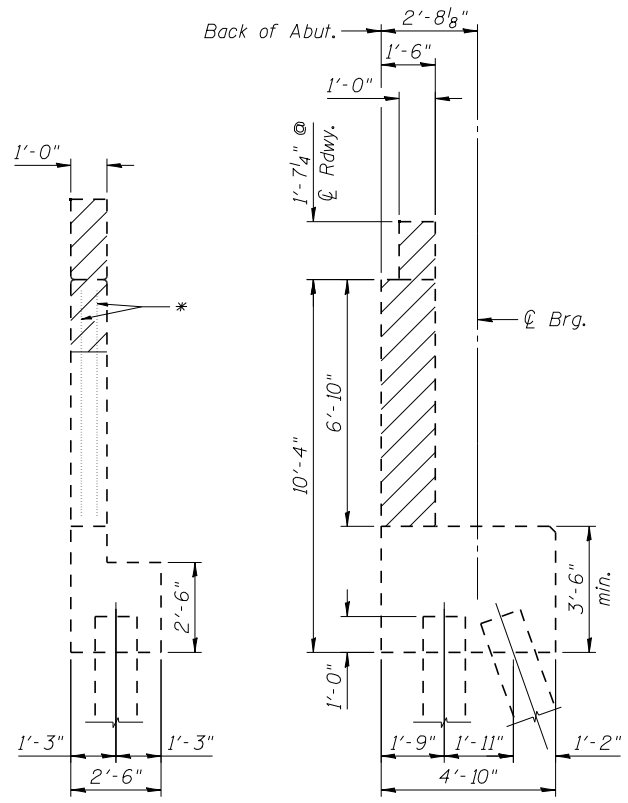
**WINGWALL ELEVATION  
OUTSIDE WING**



**SECTION B-B**

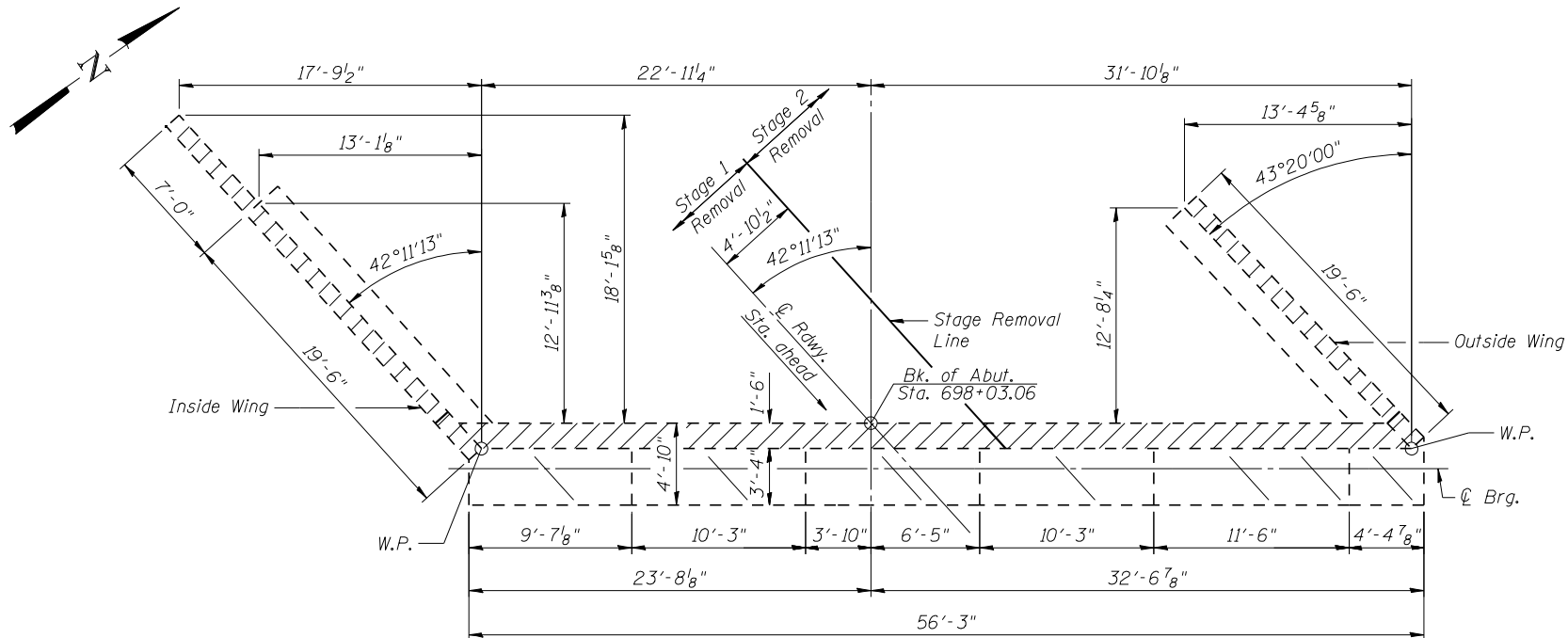


**SECTION C-C**



**SEC. A-A**

**SEC. THRU ABUT.**



**PLAN**

**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.

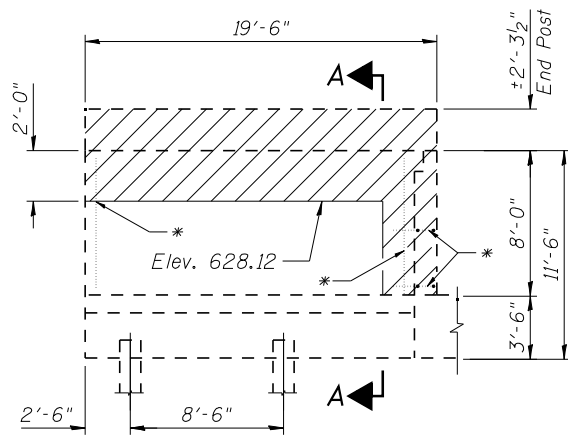
\*Existing Reinforcement To Remain (Ea. Wing)

**NOTES**

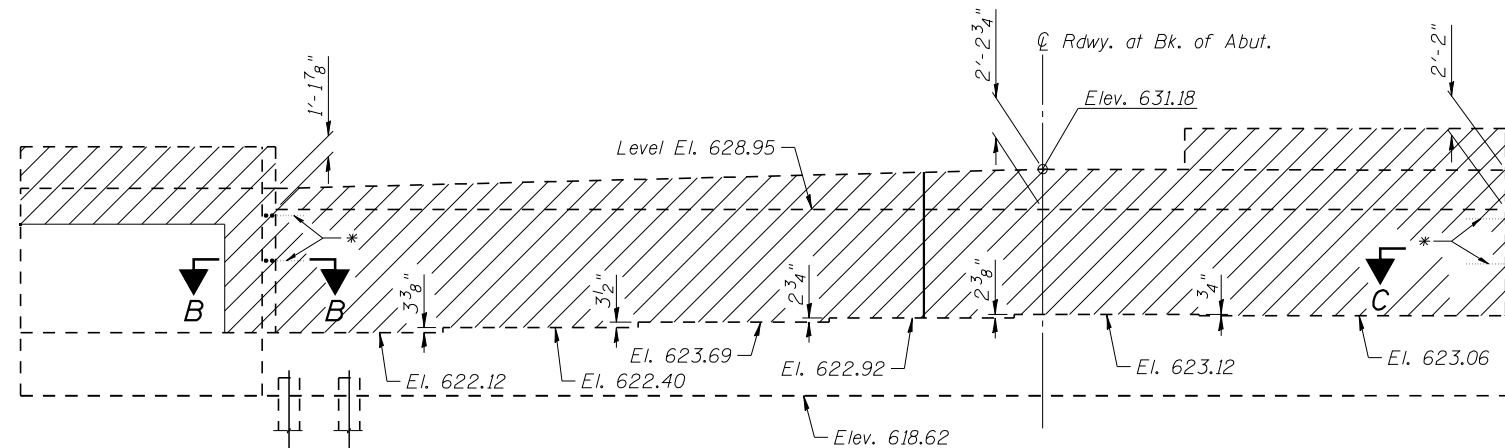
- Hatched area indicates Concrete Removal.
- Existing Reinforcement which extends into the removal areas is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
- See sheet 3 of 53 for Temporary Sheet Piling.

**BILL OF MATERIAL**

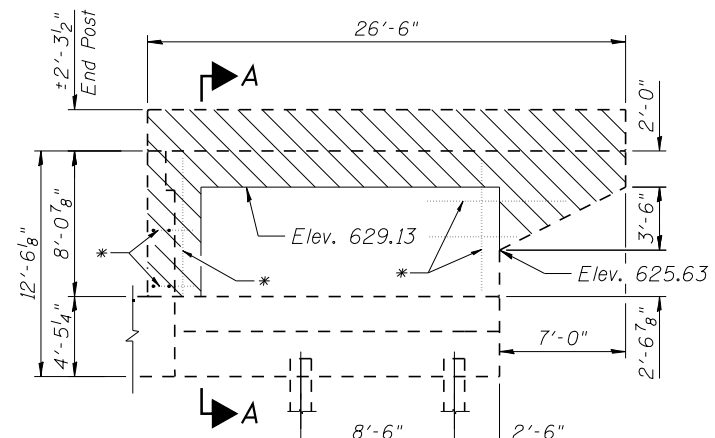
Item	Unit	Total
Concrete Removal	Cu. Yd.	32.5



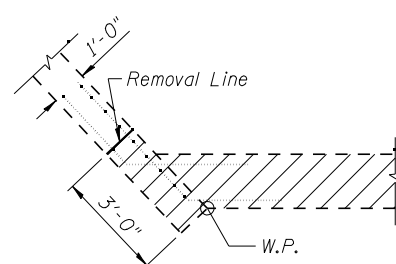
**WINGWALL ELEVATION  
OUTSIDE WING**



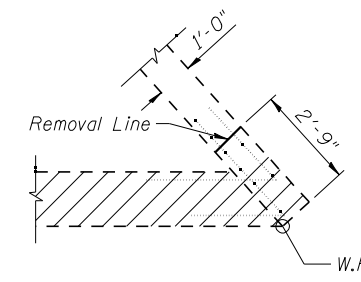
**ELEVATION**



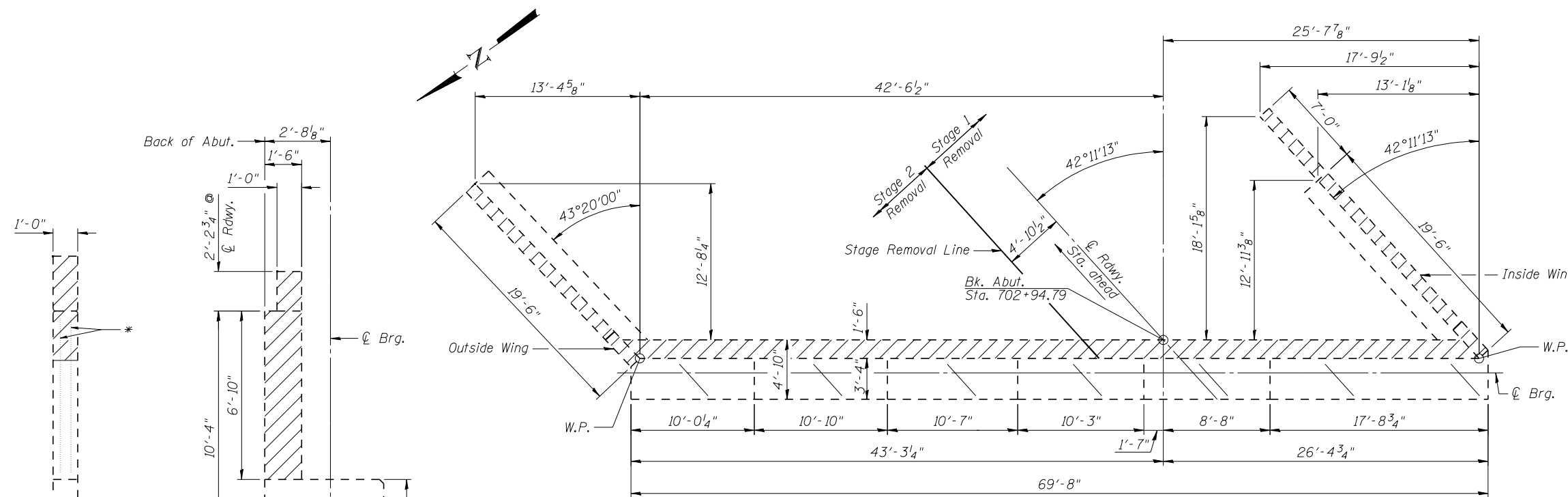
**WINGWALL ELEVATION  
INSIDE WING**



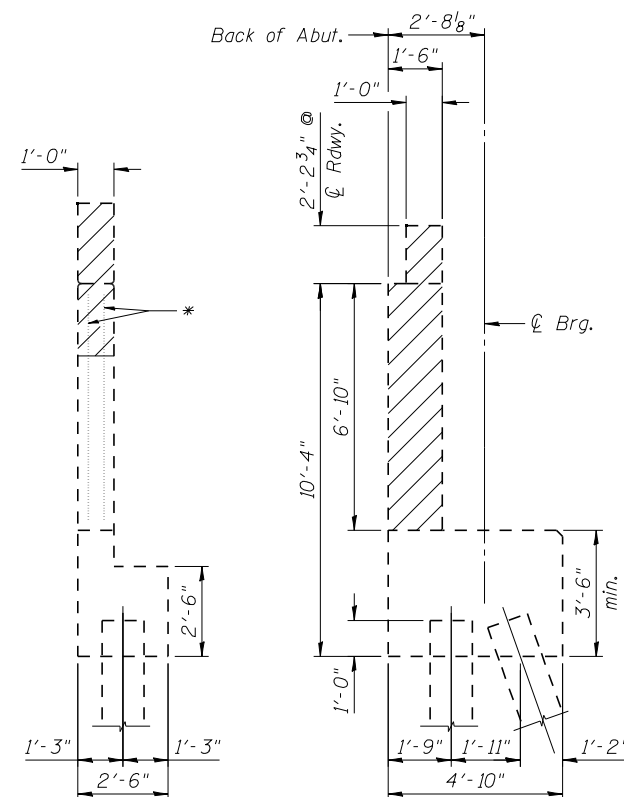
**SECTION B-B**



**SECTION C-C**



**PLAN**



**SEC. A-A**

**SEC. THRU ABUT.**

\*Existing Reinforcement  
To Remain (Ea. Wing)

**NOTES**

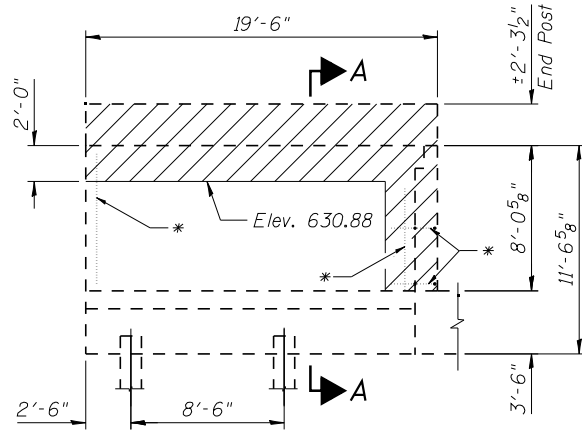
- Hatched area indicates Concrete Removal.
- Existing Reinforcement which extends into the removal areas is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
- See sheet 3 of 53 for Temporary Sheet Piling.

**BILL OF MATERIAL**

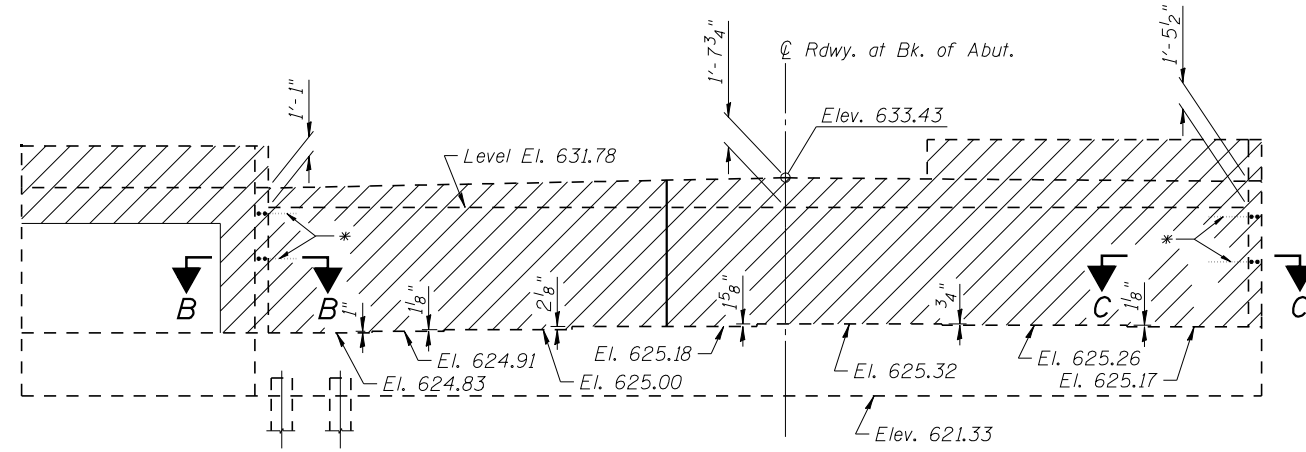
Item	Unit	Total
Concrete Removal	Cu. Yd.	40.3

**NOTE**

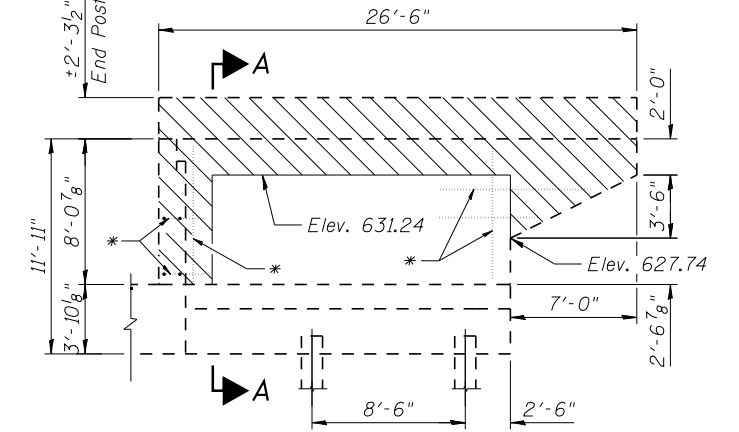
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.



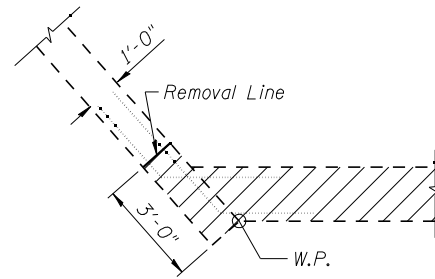
**WINGWALL ELEVATION  
OUTSIDE WING**



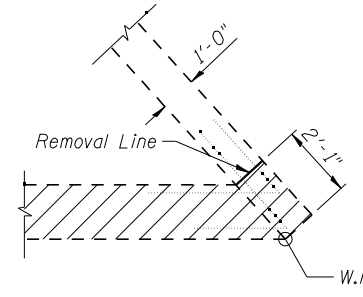
**ELEVATION**



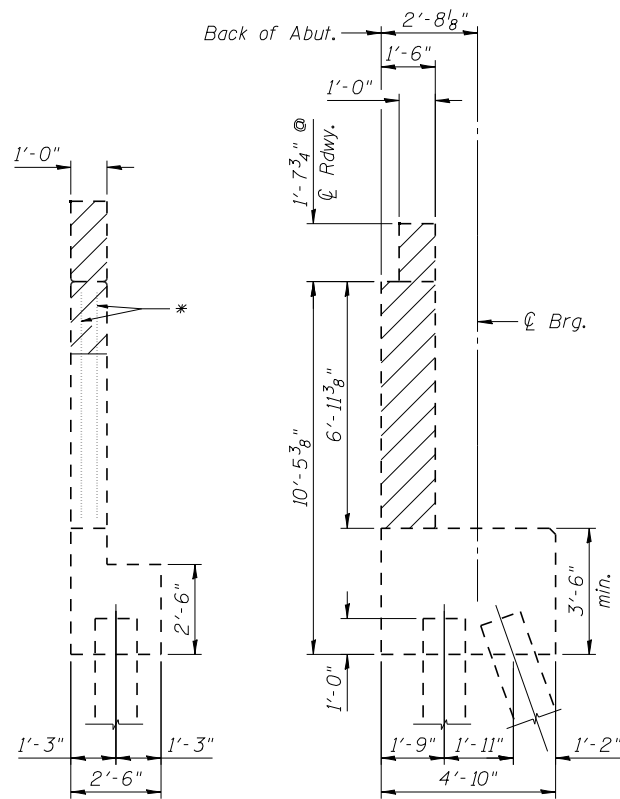
**WINGWALL ELEVATION  
INSIDE WING**



**SECTION B-B**

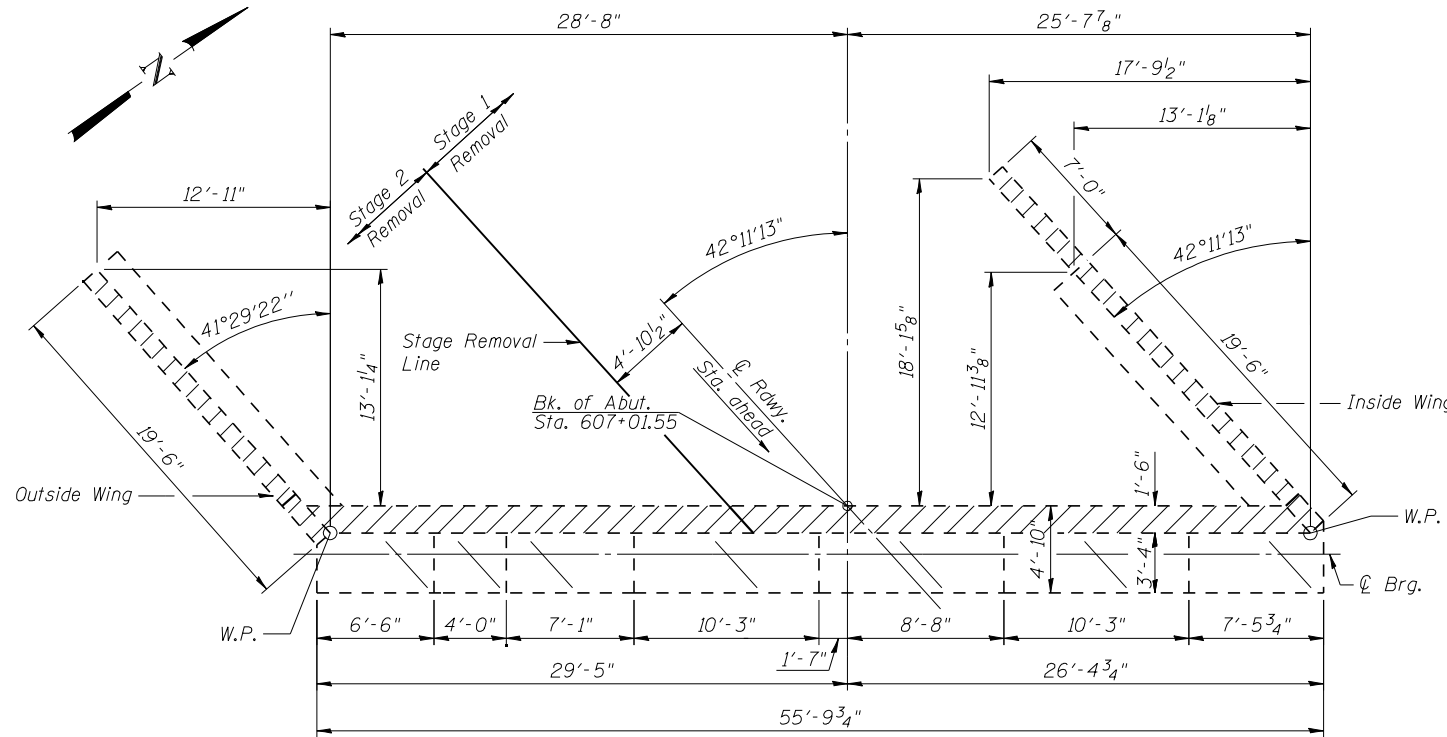


**SECTION C-C**



**SEC. A-A**

**SEC. THRU ABUT.**



**PLAN**

\*Existing Reinforcement  
To Remain (Ea. Wing)

**NOTES**

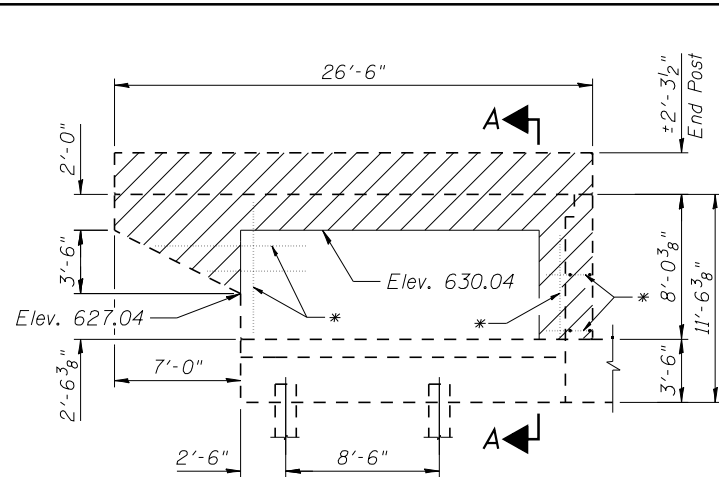
- Hatched area indicates Concrete Removal.
- Existing Reinforcement which extends into the removal areas is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
- See sheet 3 of 53 for Temporary Sheet Piling.

**BILL OF MATERIAL**

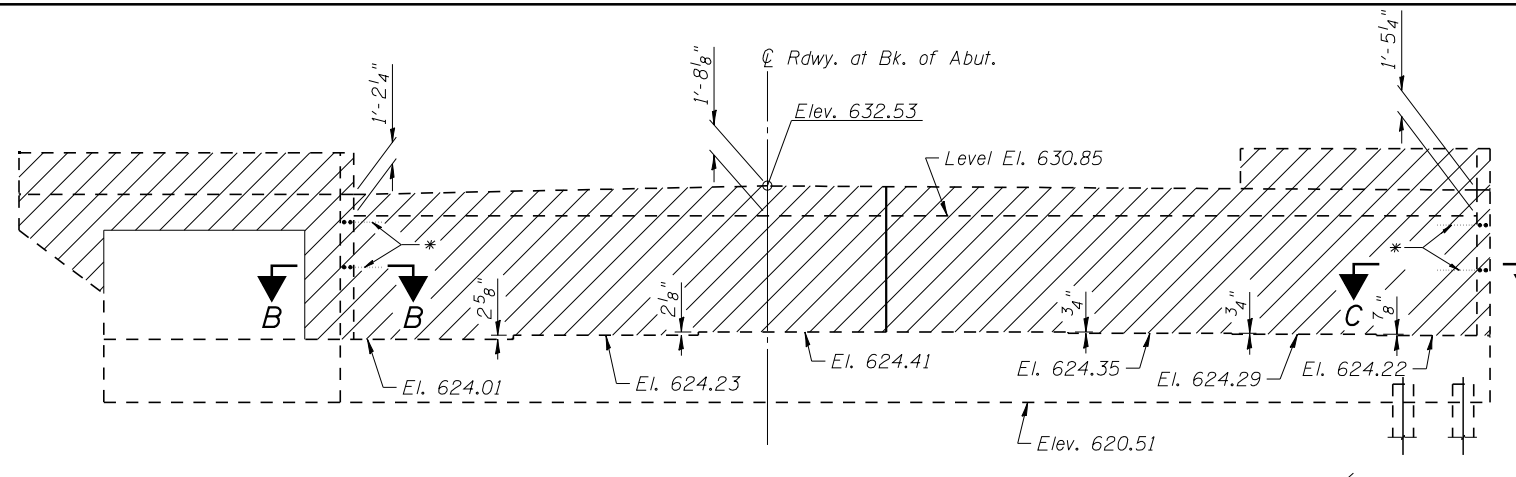
Item	Unit	Total
Concrete Removal	Cu. Yd.	32.8

**NOTE**

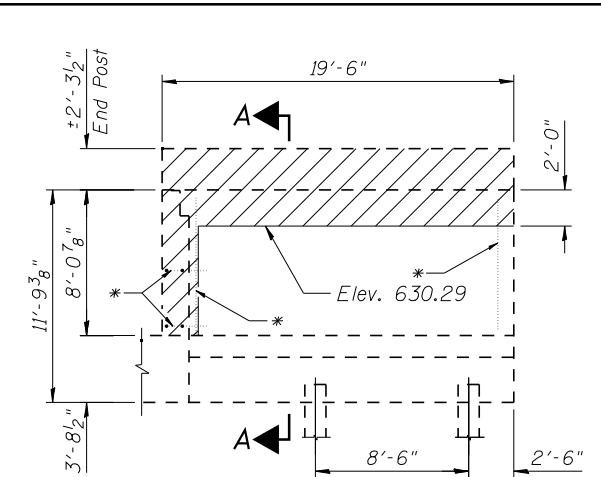
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.



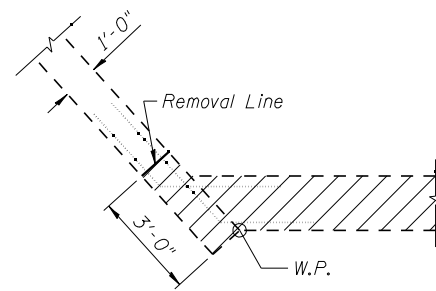
**WINGWALL ELEVATION  
INSIDE WING**



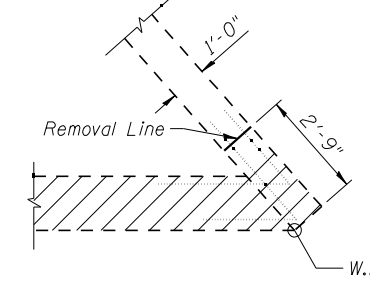
**ELEVATION**



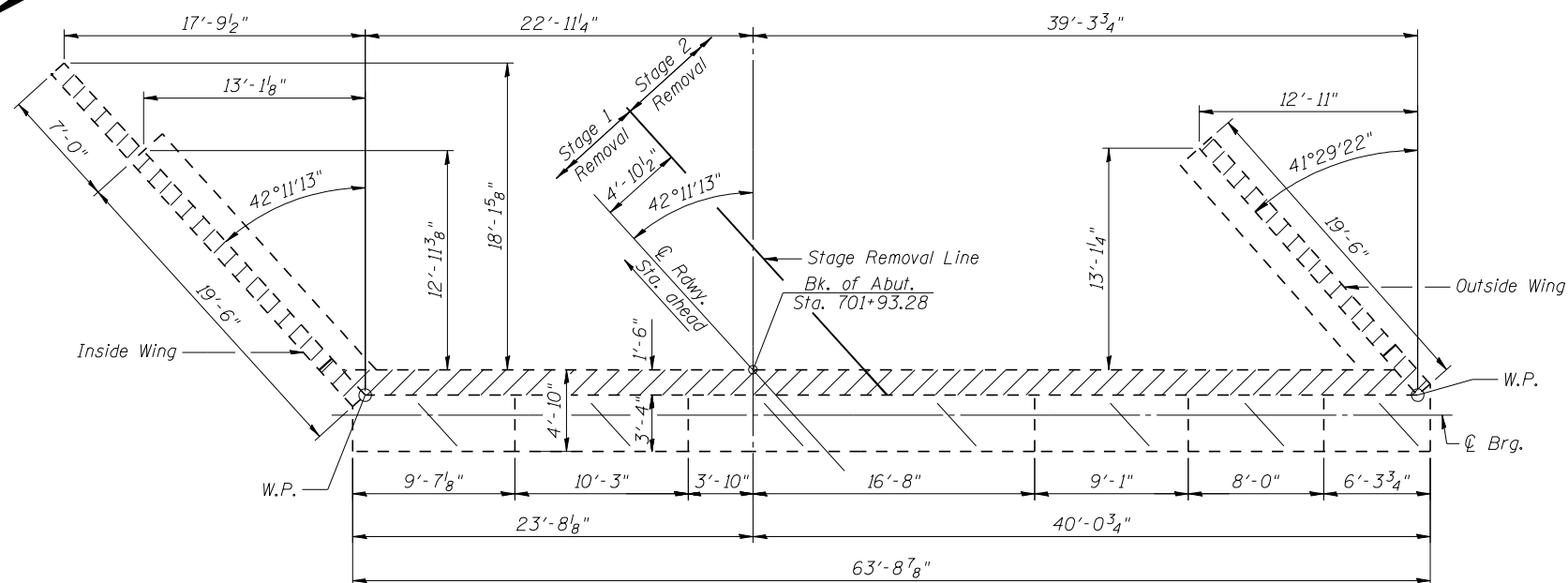
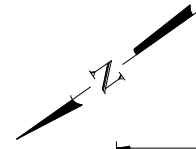
**WINGWALL ELEVATION  
OUTSIDE WING**



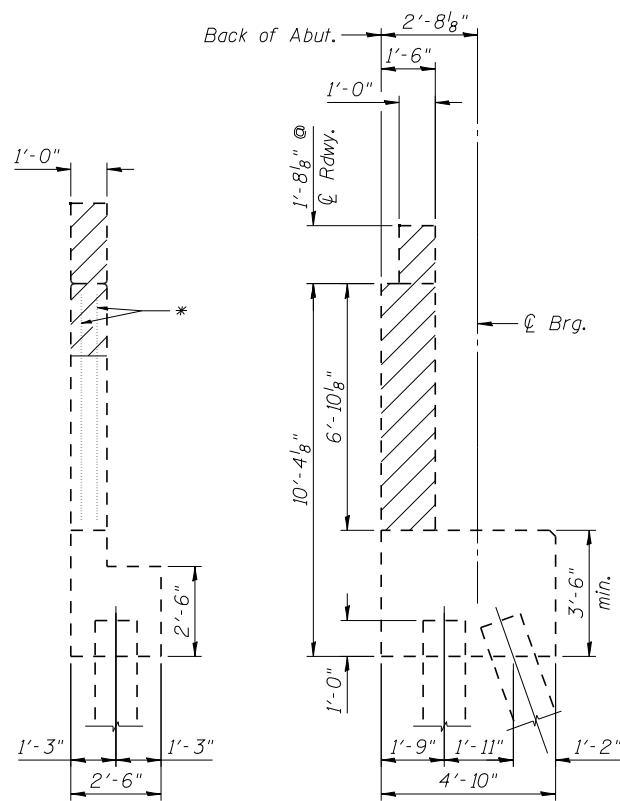
**SECTION B-B**



**SECTION C-C**



**PLAN**



**SEC. A-A**

**SEC. THRU ABUT.**

\*Existing Reinforcement  
To Remain (Ea. Wing)

**NOTES**

1. Hatched area indicates Concrete Removal.
2. Existing Reinforcement which extends into the removal areas is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. See sheet 3 of 53 for Temporary Sheet Piling.

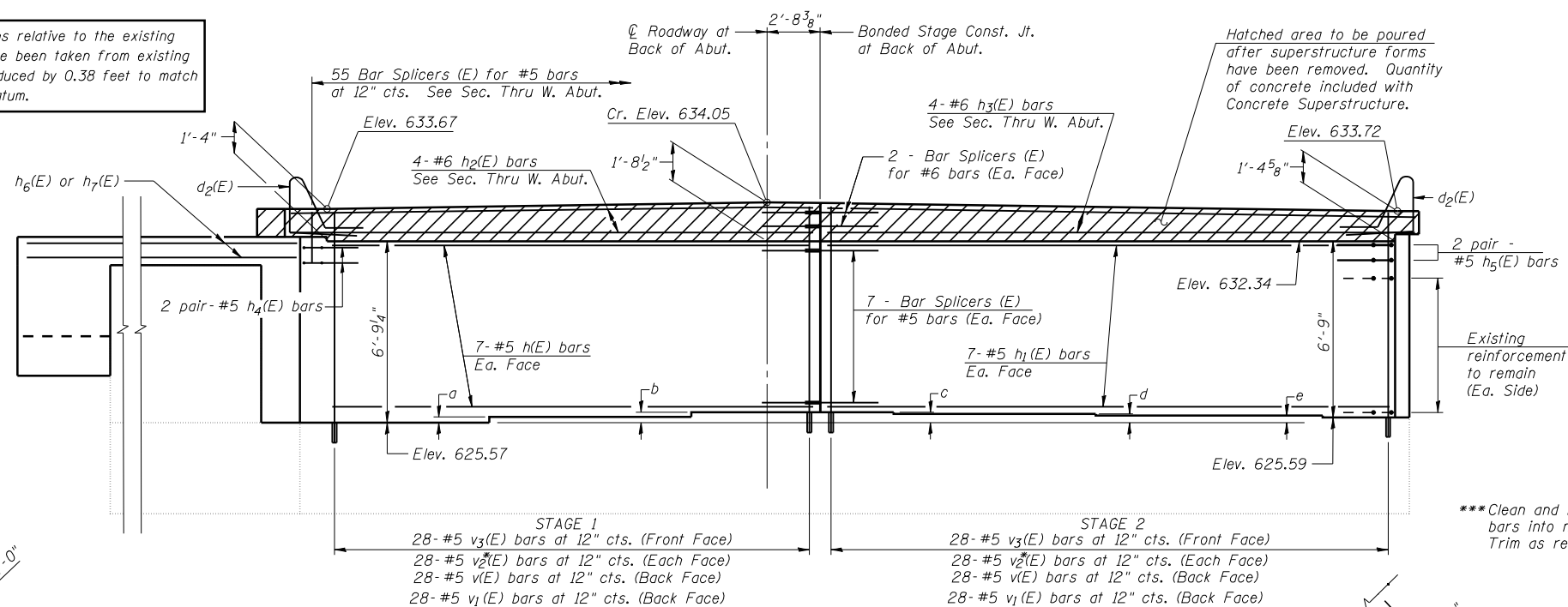
**NOTE**

Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.

**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	36.1

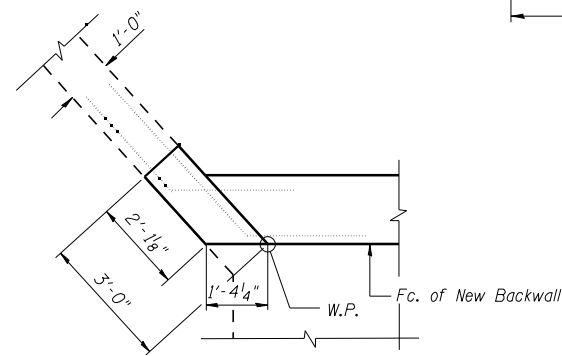
**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.



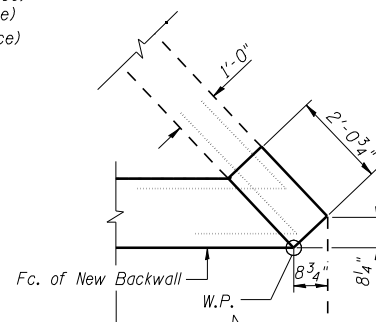
**ELEVATION**  
(Looking West - W. Abut. - S.B.)

**TABLE OF EXISTING STEP HEIGHTS**

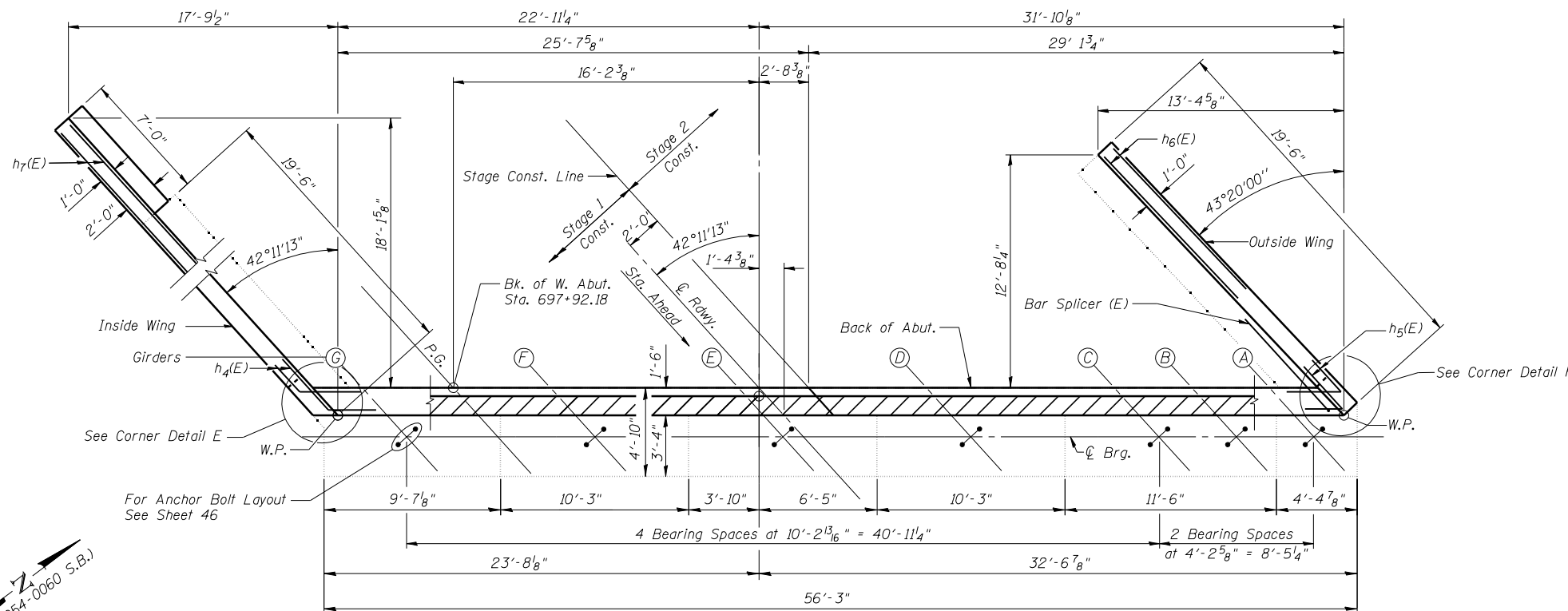
West Abutment (S.B.)	a	b	c	d	e
	2"	3 <sup>5</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>4</sub> "	7 <sup>7</sup> / <sub>8</sub> "	6 <sup>1</sup> / <sub>8</sub> "



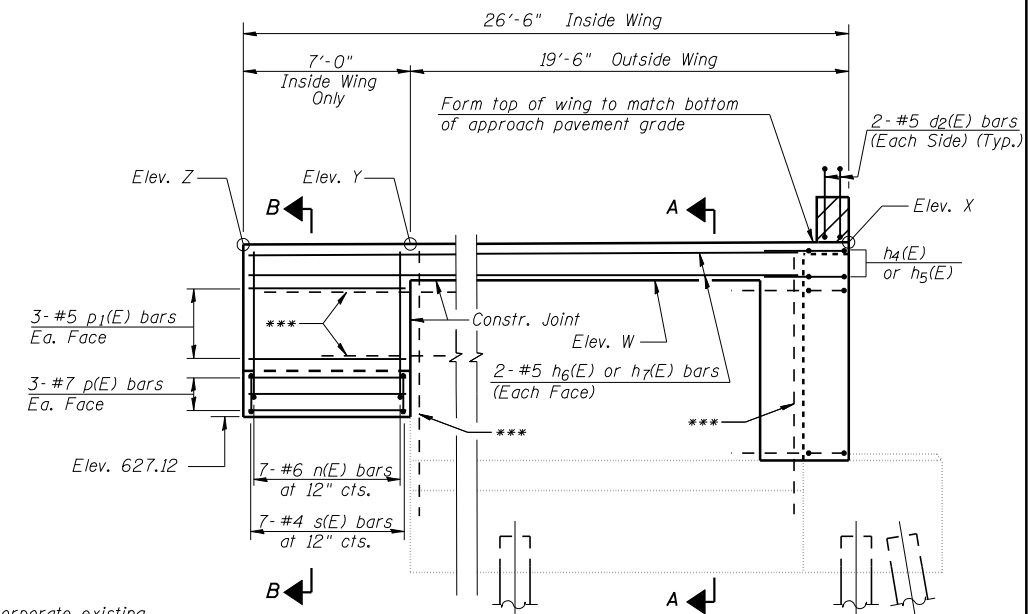
**CORNER DETAIL E**  
(hatch block above not shown)



**CORNER DETAIL F**  
(hatch block above not shown)



**PLAN**  
(West Abutment - S.B.)

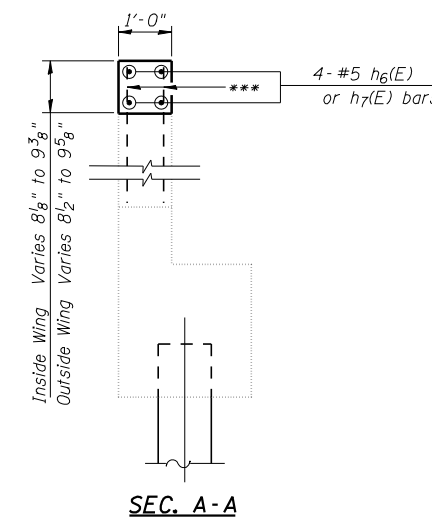


**WINGWALL ELEVATION**

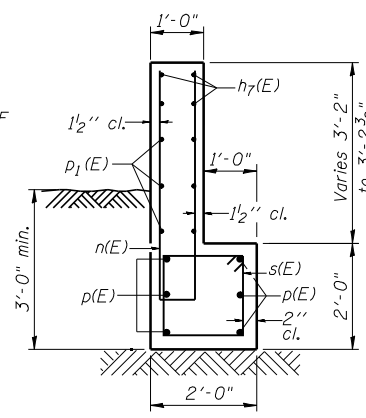
Elev.	West Abut. - S.B.	
	Inside Wing	Outside Wing
W	631.64	631.67
X	632.42	632.47
Y	632.32	632.38
Z	632.29	-

**ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d <sub>2</sub> (E)	4	#5	7'-11"	L
h(E)	14	#5	26'-9"	—
h <sub>1</sub> (E)	14	#5	27'-6"	—
h <sub>2</sub> (E)	4	#6	28'-0"	—
h <sub>3</sub> (E)	4	#6	29'-0"	—
h <sub>4</sub> (E)	4	#5	5'-0"	—
h <sub>5</sub> (E)	4	#5	5'-0"	—
h <sub>6</sub> (E)	4	#5	19'-2"	—
h <sub>7</sub> (E)	4	#5	25'-3"	—
n(E)	7	#6	9'-1"	□
p(E)	6	#7	6'-8"	—
p <sub>1</sub> (E)	6	#5	6'-8"	—
s(E)	7	#4	7'-5"	□
v(E)	56	#5	3'-9"	┌
v <sub>1</sub> (E)	56	#5	4'-6"	┌
v <sub>2</sub> (E)	112	#5	6'-3"	—
v <sub>3</sub> (E)	56	#5	3'-2"	—
Structure Excavation		Cu. Yd.	151	
Concrete Structures		Cu. Yd.	24.5	
Reinforcement Bars, Epoxy Coated		Pound	3050	
Bar Splicers		Each	73	
Concrete Sealer		Sq. Ft.	381	



**SEC. A-A**

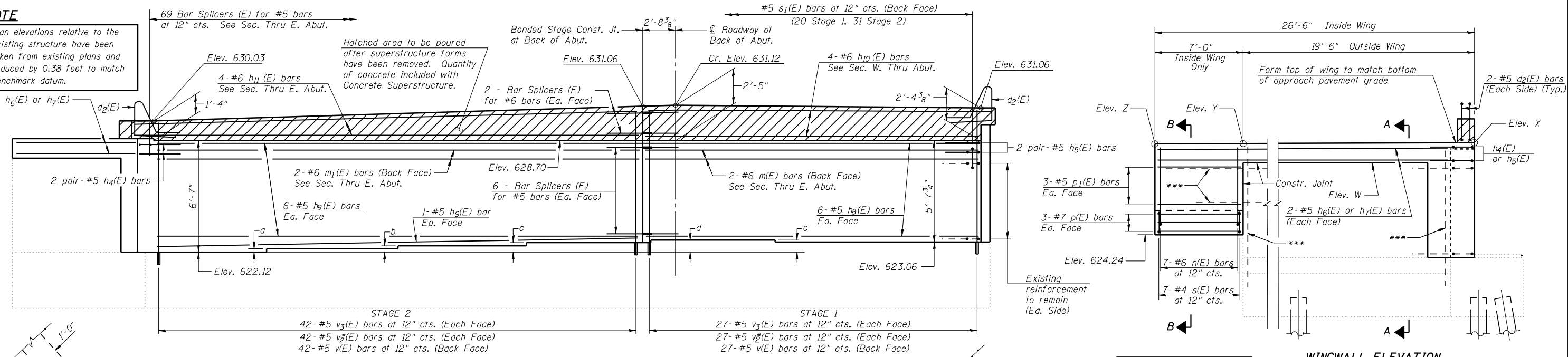


**SEC. B-B**

**Notes:**  
All bars designated with an asterisk (ex: v<sub>2</sub>\*(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement.  
Existing wingwall reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included with Concrete Removal.  
Concrete Sealer shall be applied to the front face of the backwall.  
See Sheet 22 for point block details at hatch block.

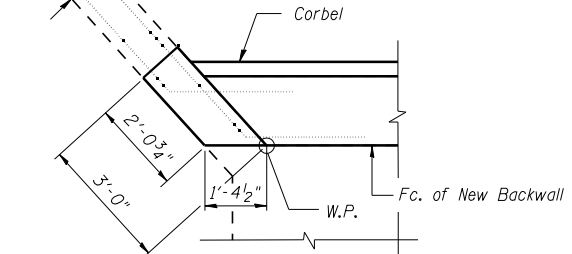


**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.

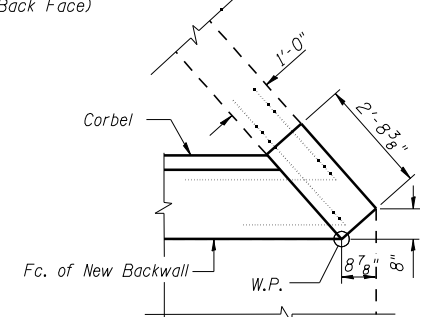


**STAGE 2**  
42-#5 v<sub>3</sub>(E) bars at 12" cts. (Each Face)  
42-#5 v<sub>2</sub>(E) bars at 12" cts. (Each Face)  
42-#5 v(E) bars at 12" cts. (Back Face)

**STAGE 1**  
27-#5 v<sub>3</sub>(E) bars at 12" cts. (Each Face)  
27-#5 v<sub>2</sub>(E) bars at 12" cts. (Each Face)  
27-#5 v(E) bars at 12" cts. (Back Face)



**CORNER DETAIL G**  
(hatch block above not shown)



**CORNER DETAIL H**  
(hatch block above not shown)

**ELEVATION**  
(Looking East - E. Abut. - S.B.)

**TABLE OF EXISTING STEP HEIGHTS**

	a	b	c	d	e
East Abutment (S.B.)	3 3/8"	6 7/8"	9 5/8"	12"	11 1/4"

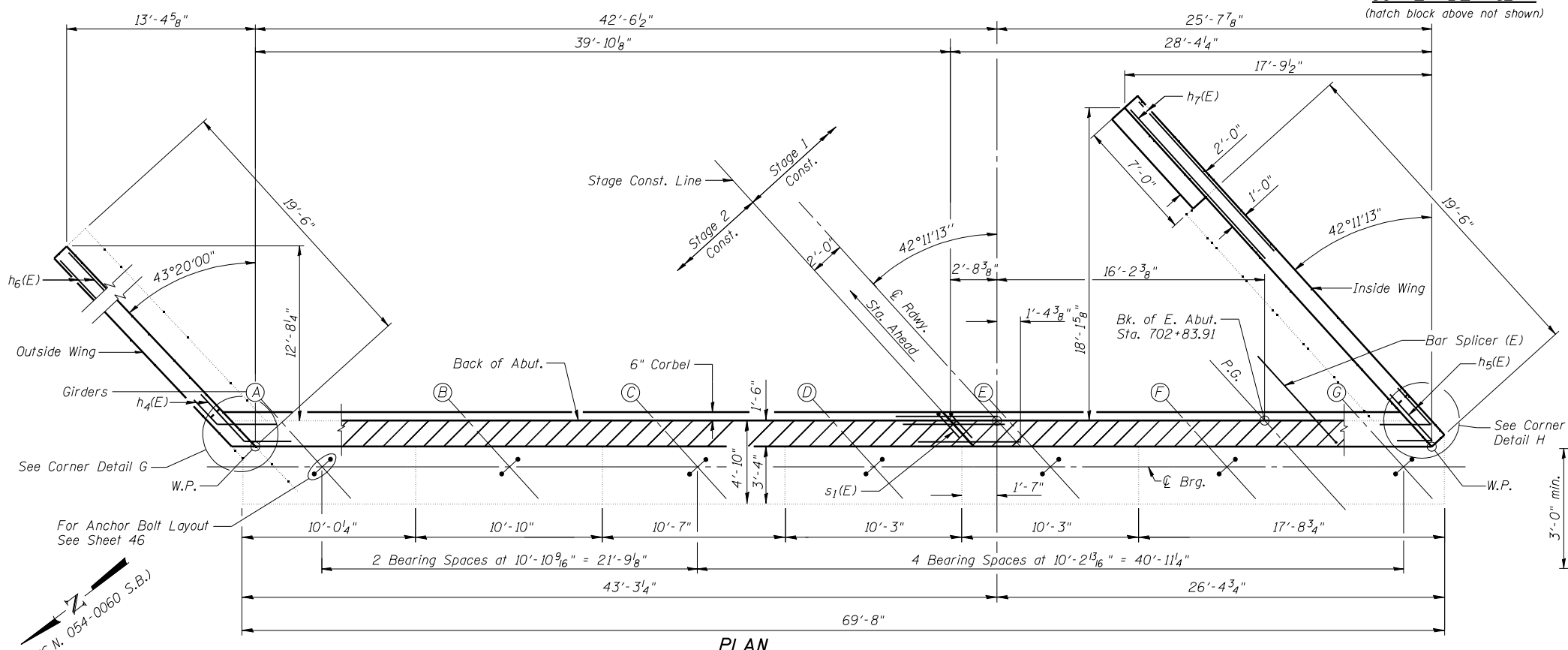
\*\*\*Clean and incorporate existing bars into new construction. Trim as required.

	East Abut. - S.B.	
Elev.	Inside Wing	Outside Wing
W	629.13	628.12
X	629.81	628.78
Y	629.55	628.65
Z	629.43	-

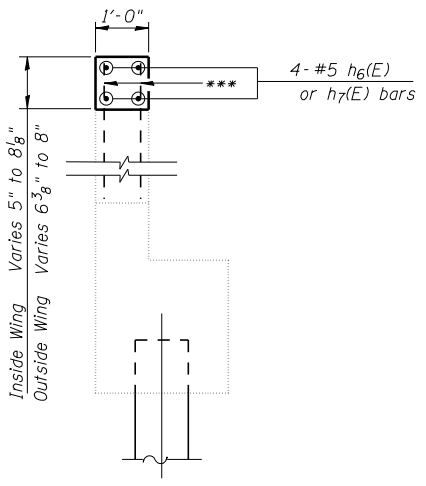
**WINGWALL ELEVATION**

**ABUTMENT BILL OF MATERIAL**

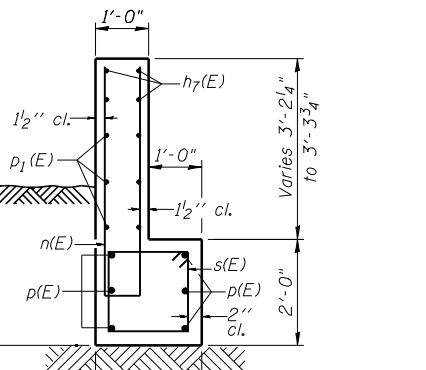
Bar	No.	Size	Length	Shape
d <sub>2</sub> (E)	4	#5	7'-11"	L
h <sub>4</sub> (E)	4	#5	5'-0"	—
h <sub>5</sub> (E)	4	#5	5'-0"	—
h <sub>6</sub> (E)	4	#5	19'-2"	—
h <sub>7</sub> (E)	4	#5	25'-3"	—
h <sub>8</sub> (E)	12	#5	26'-9"	—
h <sub>9</sub> (E)	14	#5	41'-0"	—
h <sub>10</sub> (E)	4	#6	26'-10"	—
h <sub>11</sub> (E)	4	#6	41'-0"	—
m(E)	2	#6	26'-10"	—
m <sub>1</sub> (E)	2	#6	41'-0"	—
n(E)	7	#6	9'-1"	—
p(E)	6	#7	6'-8"	—
p <sub>1</sub> (E)	6	#5	6'-8"	—
s(E)	7	#4	7'-5"	□
s <sub>1</sub> (E)	51	#5	4'-2"	C
v(E)	69	#5	3'-9"	Γ
v <sub>2</sub> (E)	138	#5	6'-3"	—
v <sub>3</sub> (E)	138	#5	3'-2"	—



**PLAN**  
(East Abutment - S.B.)



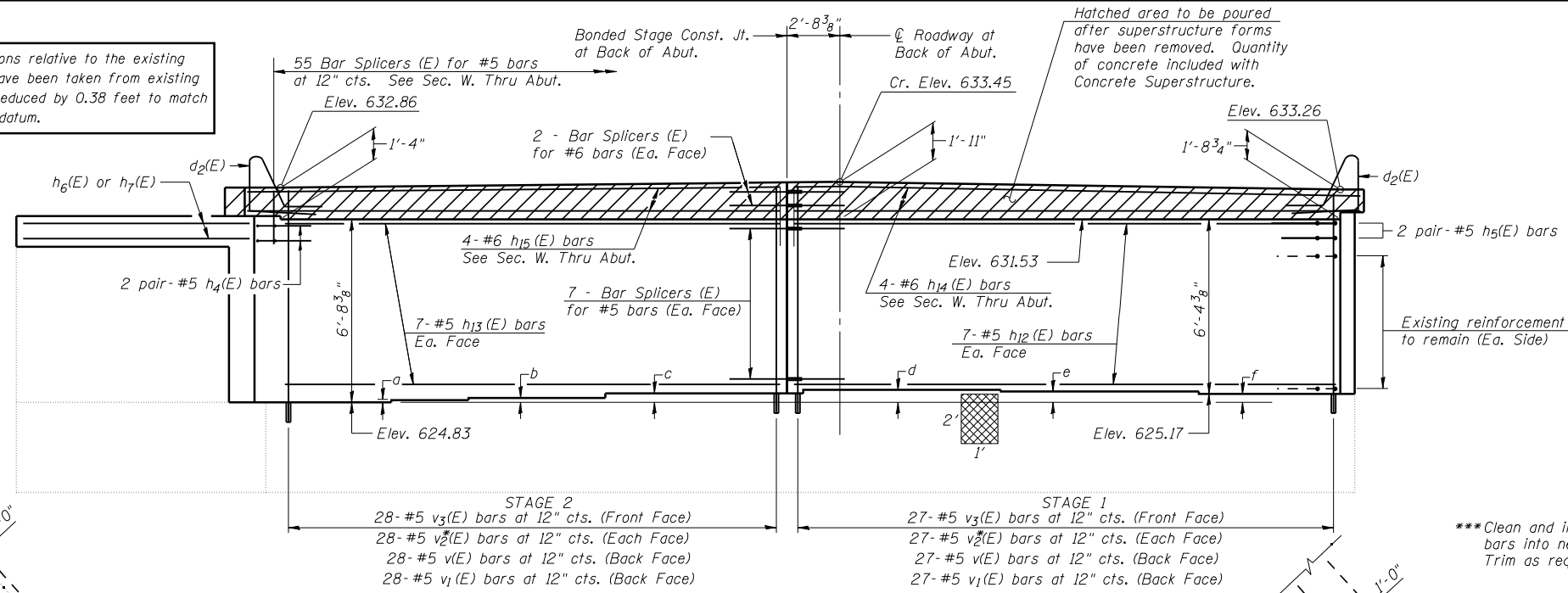
**SEC. A-A**



**SEC. B-B**

Notes:  
All bars designated with an asterisk (ex: v<sub>2</sub>(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement.  
Existing wingwall reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included with Concrete Removal.  
Concrete Sealer shall be applied to the front face of the backwall.  
The s<sub>1</sub>(E) bars shall be placed parallel to the roadway. Spacing for these bars shall be at right angles to roadway.  
See Sheet 22 for point block details at hatch block.

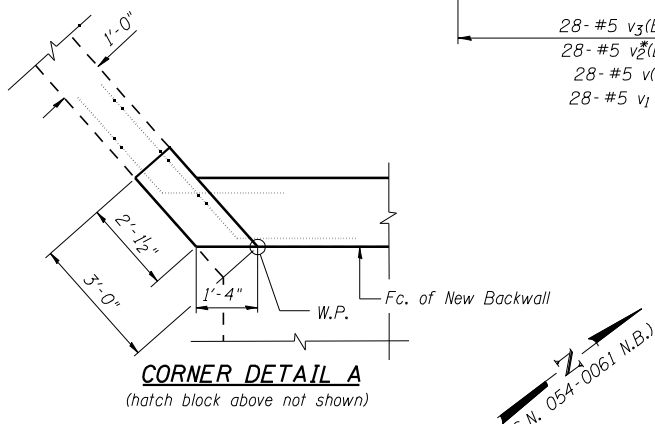
**NOTE**  
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.



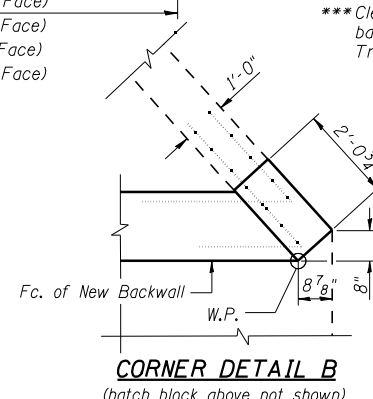
**ELEVATION**  
(Looking West - W. Abut. - N.B.)

**TABLE OF EXISTING STEP HEIGHTS**

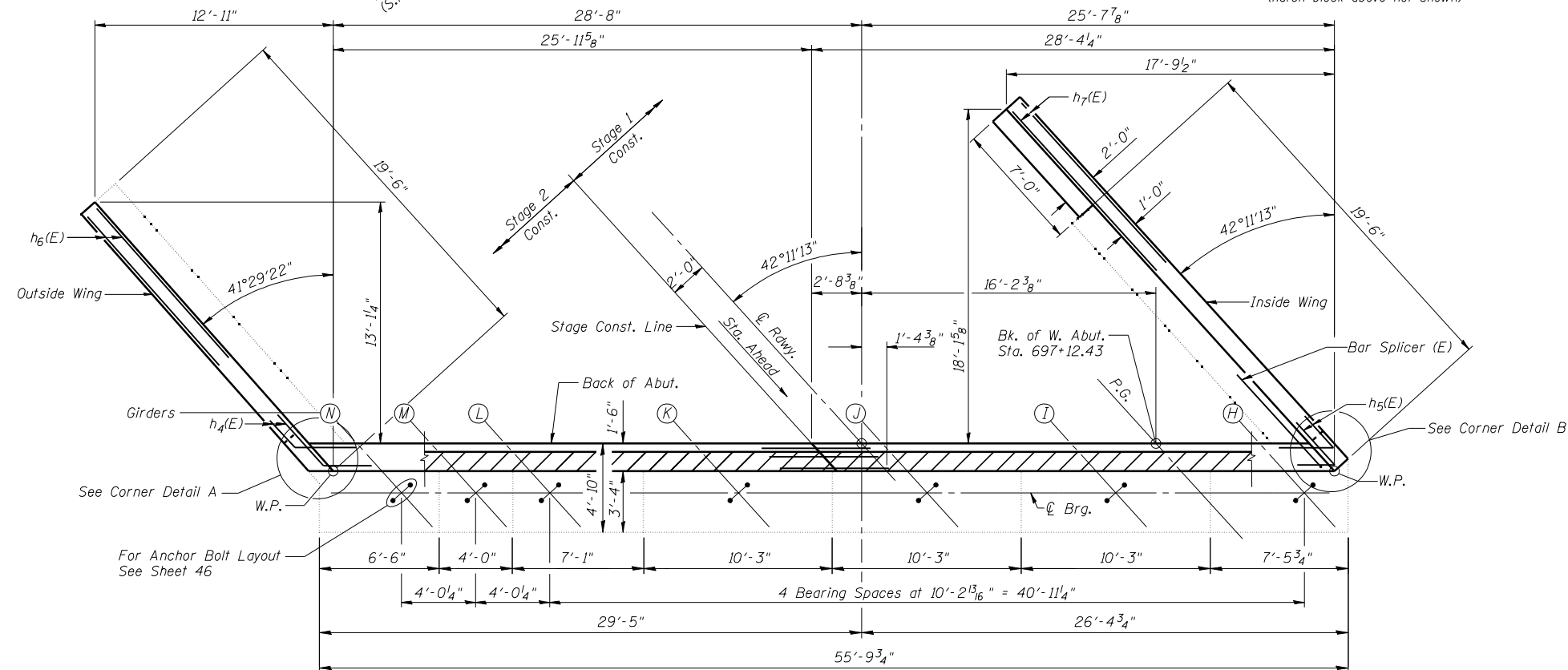
	a	b	c	d	e	f
West Abutment (N.B.)	1"	2 1/8"	4 1/4"	5 7/8"	5 1/8"	4"



**CORNER DETAIL A**  
(hatch block above not shown)

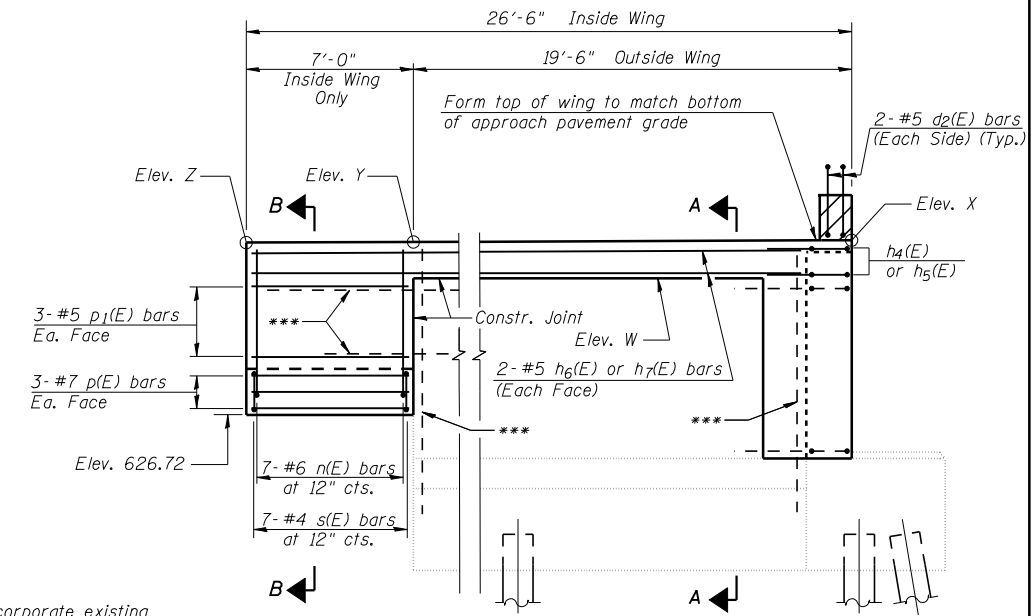


**CORNER DETAIL B**  
(hatch block above not shown)



**PLAN**

(West Abutment - N.B.)

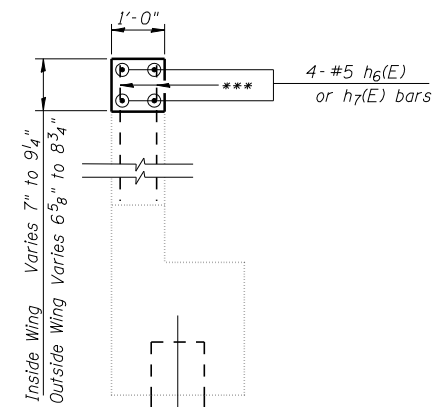


**WINGWALL ELEVATION**

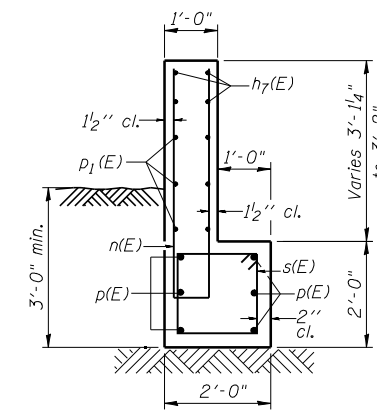
	West Abut. - N.B.	
Elev.	Inside Wing	Outside Wing
W	631.24	630.88
X	632.01	631.61
Y	631.88	631.43
Z	631.82	-

**ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d <sub>2</sub> (E)	4	#5	7'-11"	⌒
h <sub>4</sub> (E)	4	#5	5'-0"	⌒
h <sub>5</sub> (E)	4	#5	5'-0"	⌒
h <sub>6</sub> (E)	4	#5	19'-2"	—
h <sub>7</sub> (E)	4	#5	25'-3"	—
h <sub>12</sub> (E)	14	#5	26'-9"	—
h <sub>13</sub> (E)	14	#5	27'-0"	—
h <sub>14</sub> (E)	4	#6	27'-5"	—
h <sub>15</sub> (E)	4	#6	27'-2"	—
n(E)	7	#6	9'-1"	⊓
p(E)	6	#7	6'-8"	—
p <sub>1</sub> (E)	6	#5	6'-8"	—
s(E)	7	#4	7'-5"	⊓
v(E)	55	#5	3'-9"	⌒
v <sub>1</sub> (E)	55	#5	4'-6"	⌒
v <sub>2</sub> (E)	110	#5	6'-3"	⌒
v <sub>3</sub> (E)	55	#5	3'-2"	⌒
Structure Excavation	Cu. Yd.	149		
Concrete Structures	Cu. Yd.	23.6		
Reinforcement Bars, Epoxy Coated	Pound	3000		
Bar Splicers	Each	73		
Concrete Sealer	Sq. Ft.	365		
Structure Repair of Concrete (Depth Equal or Less than 5")	Sq. Ft.	2		



**SEC. A-A**



**SEC. B-B**

**Notes:**  
All bars designated with an asterisk (ex: v<sub>2</sub>(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement.  
Existing wingwall reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included with Concrete Removal.  
Concrete Sealer shall be applied to the front face of the backwall.  
See Sheet 22 for point block details at hatch block.

⊓ Denotes Structure Repair of Concrete (Depth Equal or Less than 5")

**CEC** Cummins Engineering Corporation  
Civil and Structural Engineering

JOB = 2265.2  
FILE = 0540060.0061-72E11-44-45-Abut-NB.dgn  
DATE = 3/8/2013

DESIGNED - AAN  
CHECKED - MDC  
DRAWN - SJS  
CHECKED - TSH

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT DETAILS**  
**STRUCTURE NO. 054-0061 (NB)**

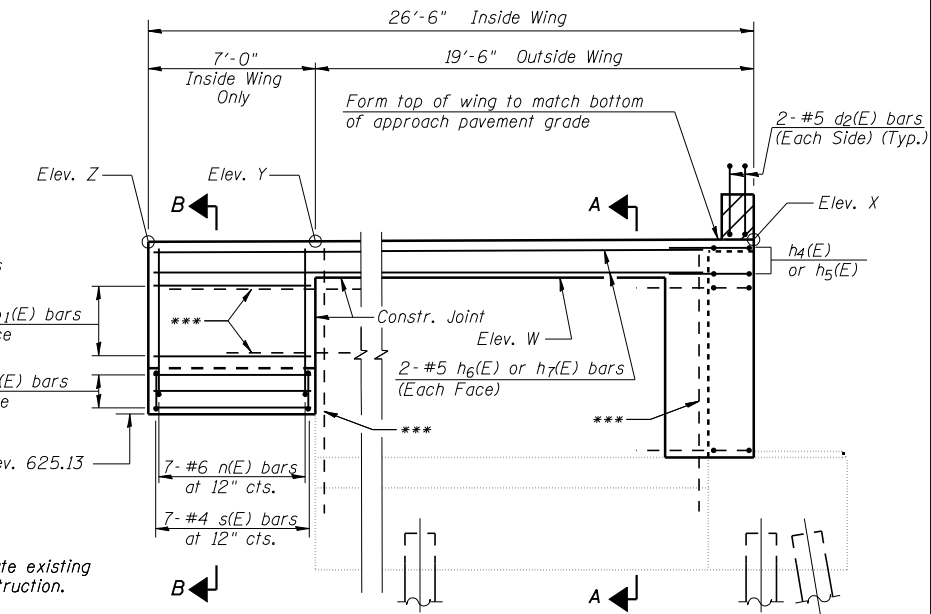
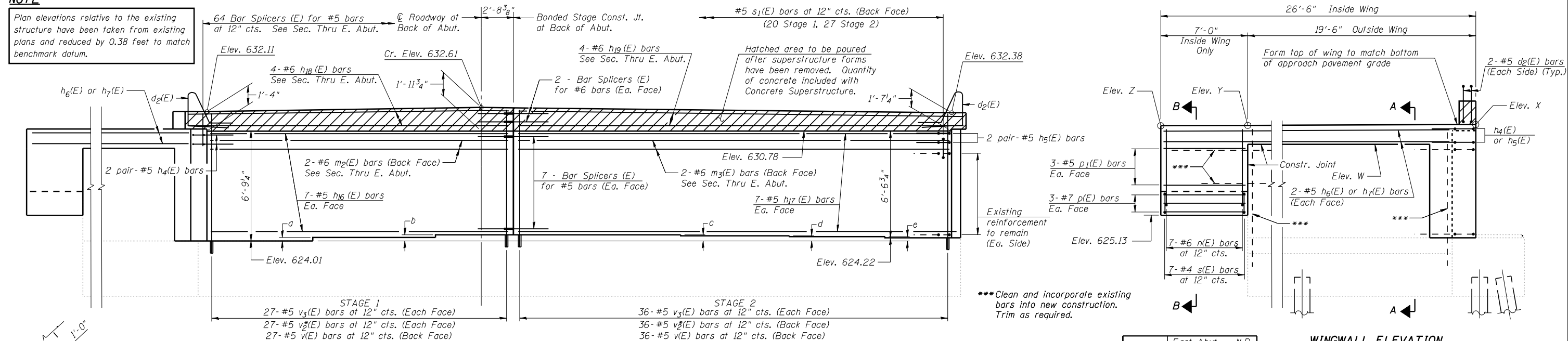
SHEET NO. 44 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	274
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

**NOTE**

Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.



	East Abut. - N.B.	
Elev.	Inside Wing	Outside Wing
W	630.04	630.29
X	630.86	631.13
Y	630.64	631.03
Z	630.54	-

**WINGWALL ELEVATION**

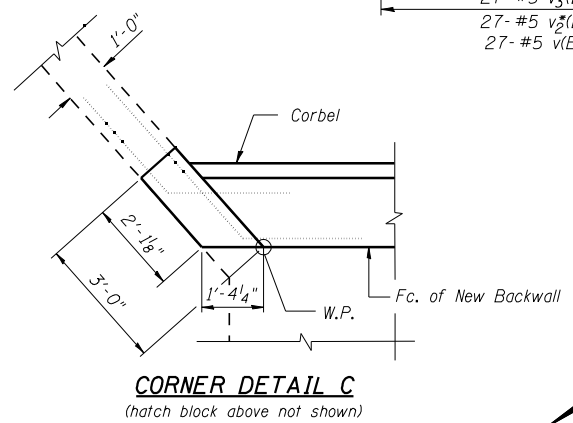
**ABUTMENT BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d <sub>2</sub> (E)	4	#5	7'-11"	└
h <sub>4</sub> (E)	4	#5	5'-0"	└
h <sub>5</sub> (E)	4	#5	5'-0"	└
h <sub>6</sub> (E)	4	#5	19'-2"	└
h <sub>7</sub> (E)	4	#5	25'-3"	└
h <sub>16</sub> (E)	14	#5	26'-9"	└
h <sub>17</sub> (E)	14	#5	35'-0"	└
h <sub>18</sub> (E)	4	#6	26'-9"	└
h <sub>19</sub> (E)	4	#6	35'-0"	└
m <sub>2</sub> (E)	2	#6	26'-9"	└
m <sub>3</sub> (E)	2	#6	35'-0"	└
n(E)	7	#6	9'-1"	└
p(E)	6	#7	6'-8"	└
p <sub>1</sub> (E)	6	#5	6'-8"	└
s(E)	7	#4	7'-5"	└
s <sub>1</sub> (E)	47	#5	4'-2"	└
v(E)	63	#5	3'-9"	└
v <sub>2</sub> (E)	126	#5	6'-3"	└
v <sub>3</sub> (E)	126	#5	3'-2"	└
Structure Excavation			Cu. Yd.	171
Concrete Structures			Cu. Yd.	28.4
Reinforcement Bars, Epoxy Coated			Pound	3670
Bar Splicers			Each	84
Concrete Sealer			Sq. Ft.	425

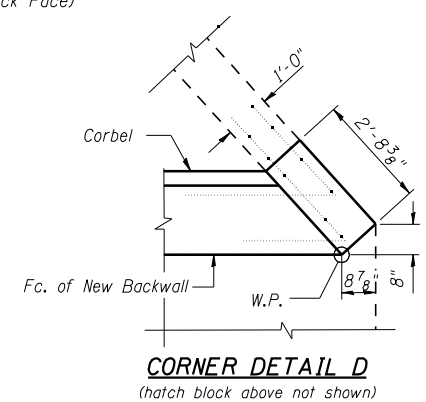
**ELEVATION**  
(Looking East - E. Abut. - N.B.)

**TABLE OF EXISTING STEP HEIGHTS**

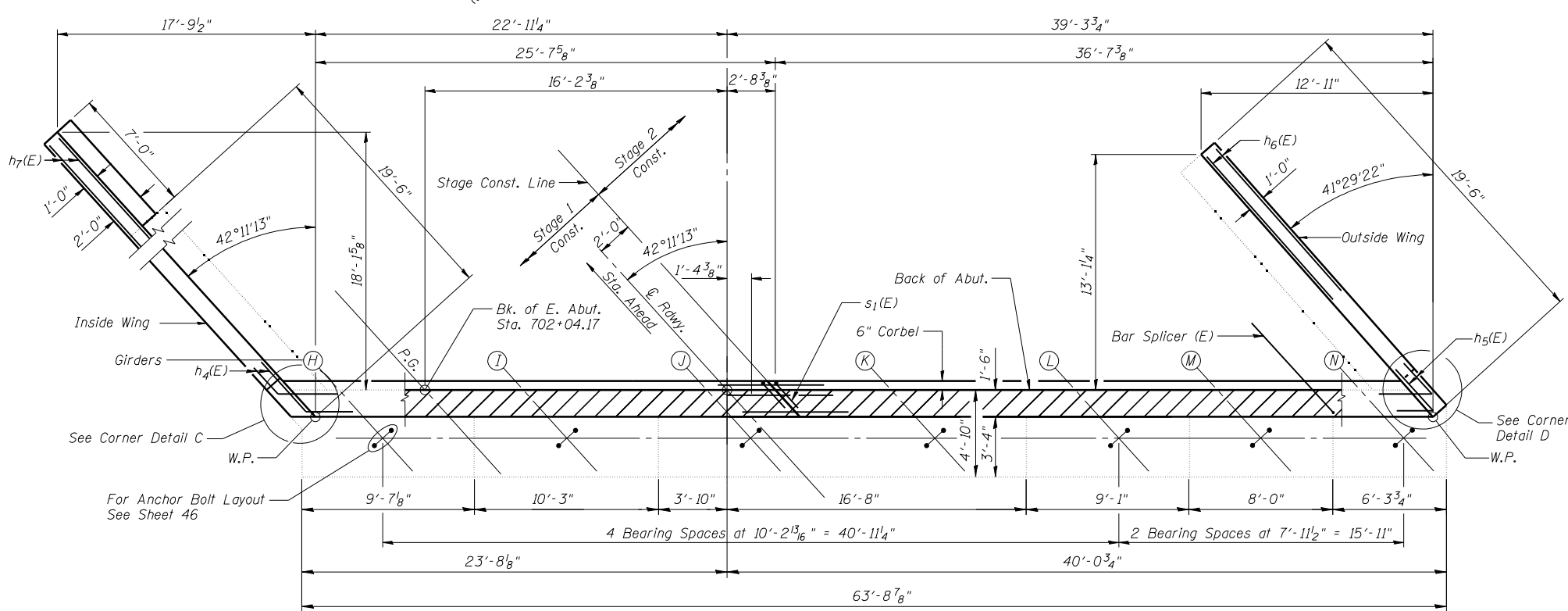
	a	b	c	d	e
East Abutment (N.B.)	2 <sup>5</sup> / <sub>8</sub> "	4 <sup>3</sup> / <sub>4</sub> "	4"	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>8</sub> "



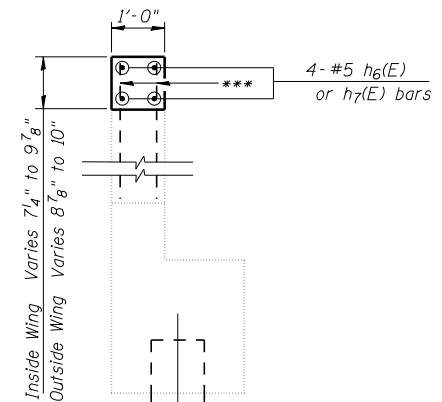
**CORNER DETAIL C**  
(hatch block above not shown)



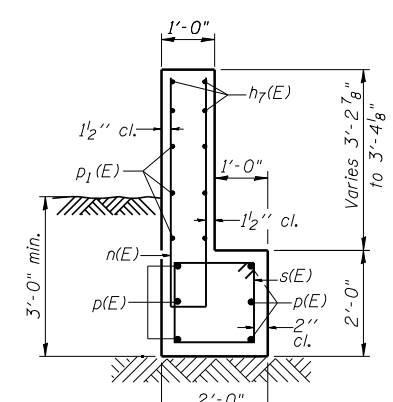
**CORNER DETAIL D**  
(hatch block above not shown)



**PLAN**  
(East Abutment - N.B.)



**SEC. A-A**



**SEC. B-B**

Notes:  
 All bars designated with an asterisk (ex: v<sub>2</sub>(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement.  
 Existing wingwall reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
 Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included with Concrete Removal.  
 Concrete Sealer shall be applied to the front face of the backwall.  
 The s<sub>1</sub>(E) bars shall be placed parallel to the roadway. Spacing for these bars shall be at right angles to roadway.  
 See Sheet 22 for point block details at hatch block.



JOB = 2265.2	DESIGNED - AAN	REVISED -
FILE = 0540060.0061-72E11-44-45-Abuts-NB.dgn	CHECKED - MDC	REVISED -
DATE = 3/8/2013	DRAWN - SJS	REVISED -
	CHECKED - TSH	REVISED -

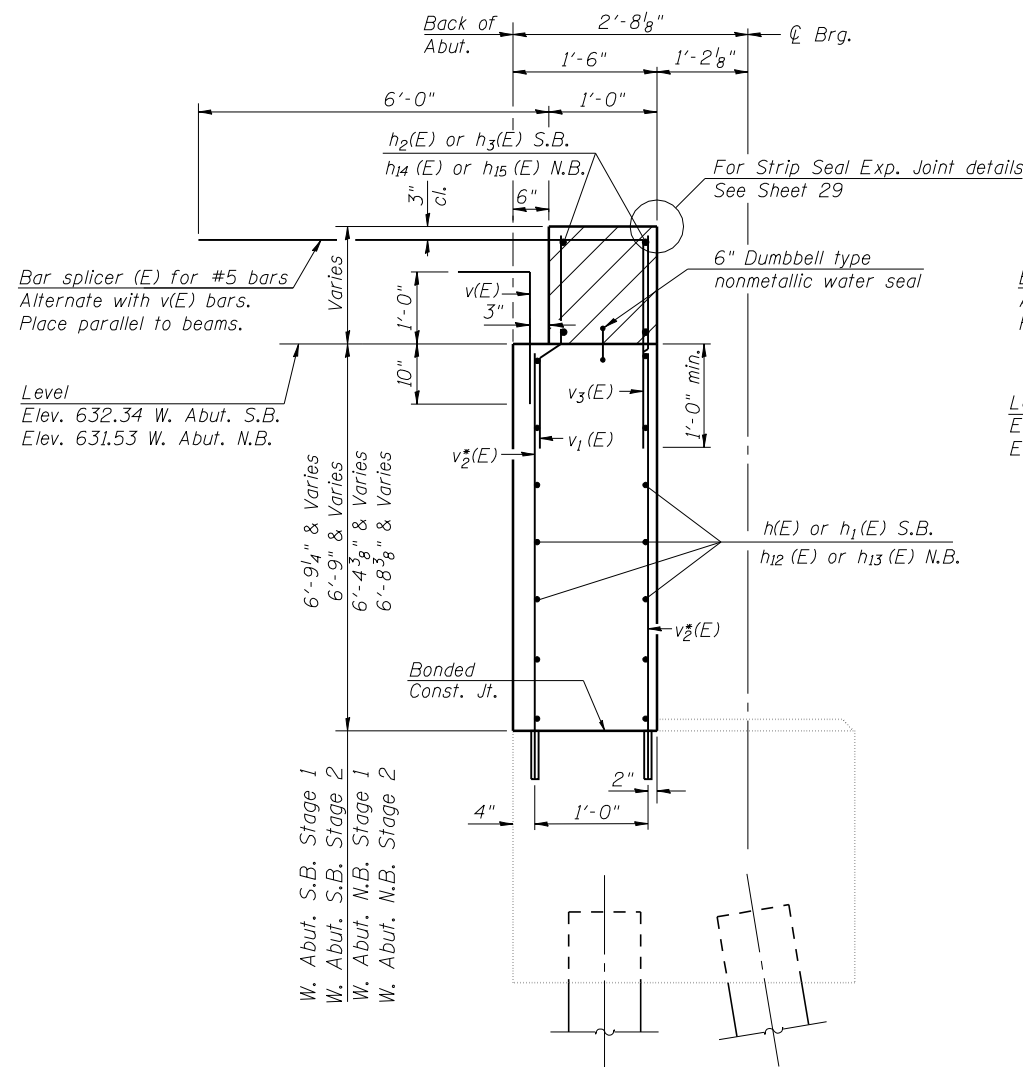
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT DETAILS  
STRUCTURE NO. 054-0061 (NB)**

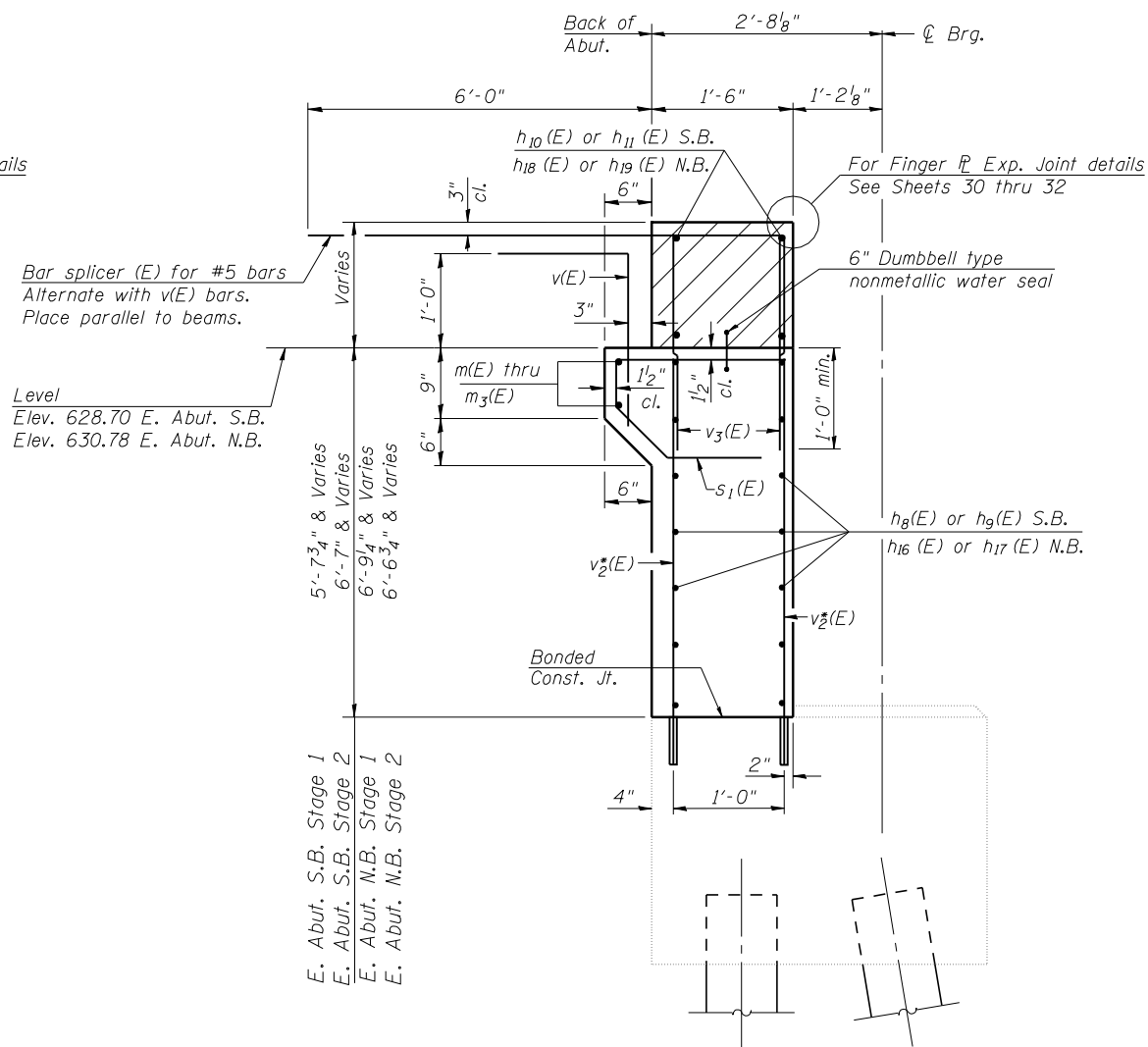
SHEET NO. 45 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	275
CONTRACT NO. 72E11				

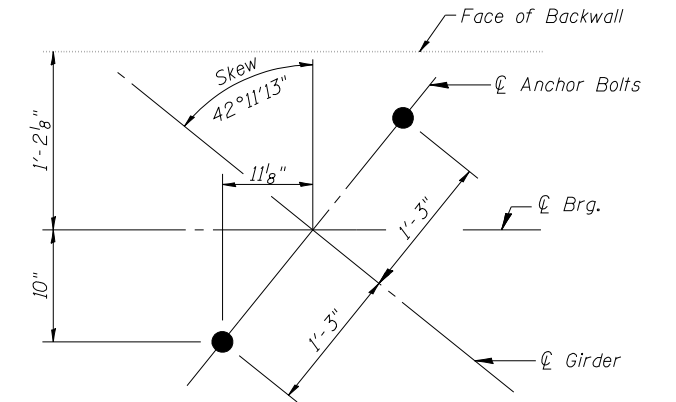
ILLINOIS FED. AID PROJECT



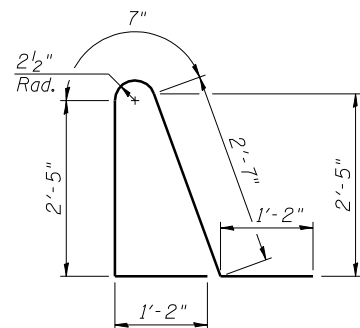
**SEC. THRU WEST ABUTMENTS**  
(Dimensions at Rt. L's)



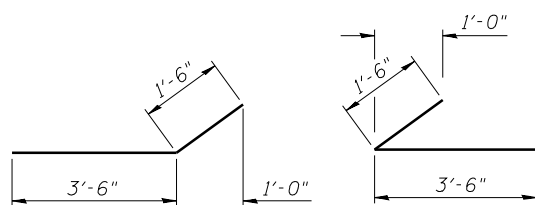
**SEC. THRU EAST ABUTMENTS**  
(Dimensions at Rt. L's)



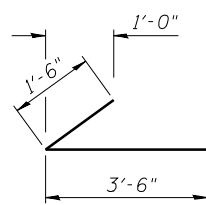
**ANCHOR BOLT LAYOUT**



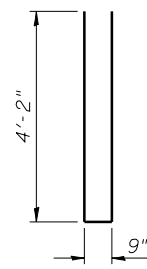
**BAR d2(E)**



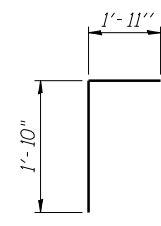
**BAR h4(E)**



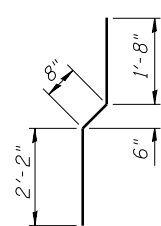
**BAR h5(E)**



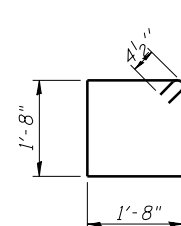
**BAR n(E)**



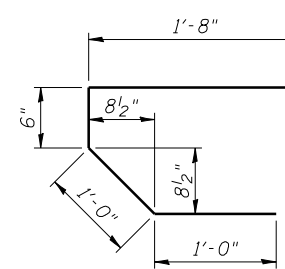
**BAR v(E)**



**BAR v1(E)**



**BARS s(E)**



**BAR s1(E)**

**NOTE**

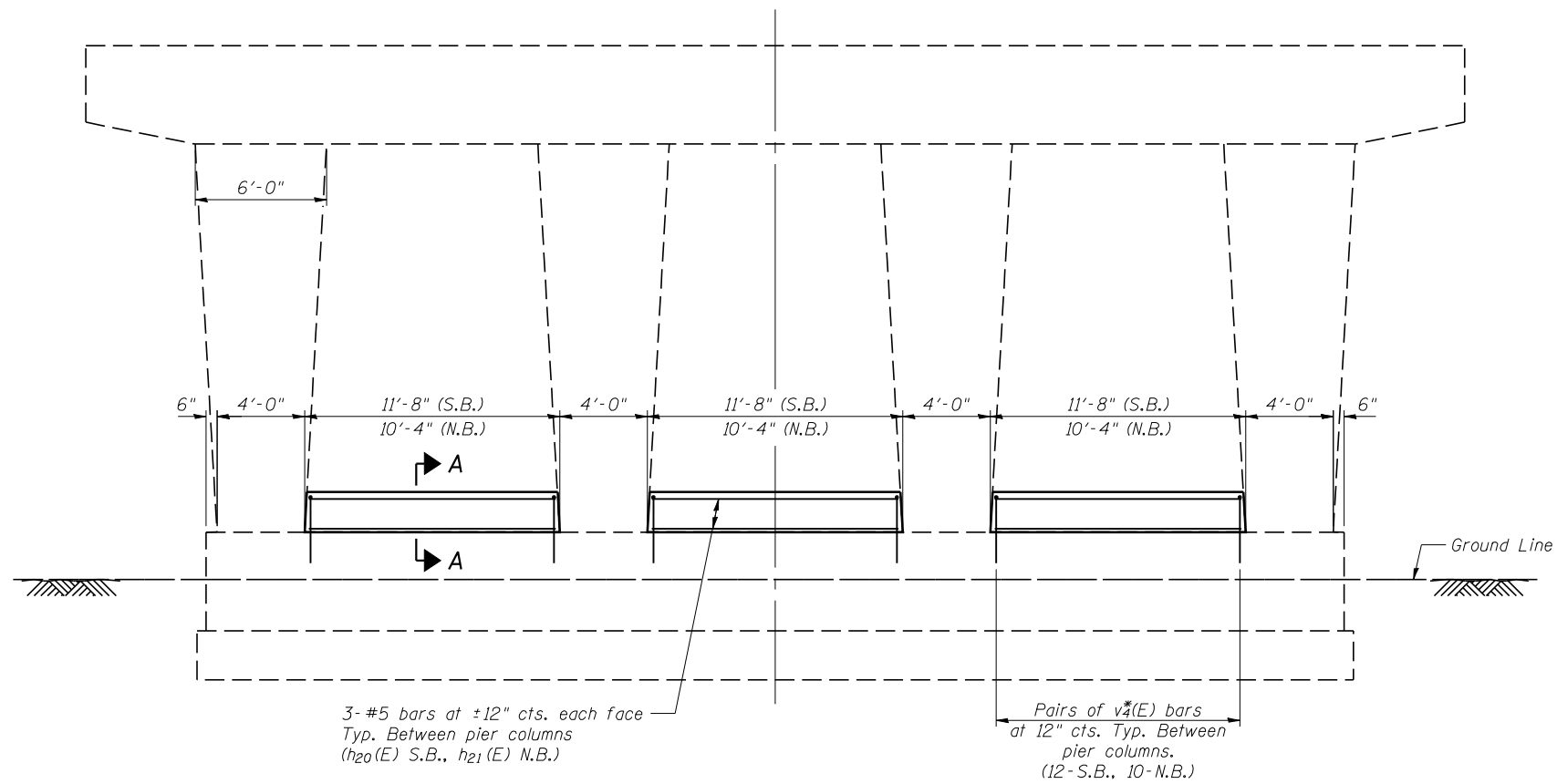
Plan elevations relative to the existing structure have been taken from existing plans and reduced by 0.38 feet to match benchmark datum.

**EXISTING BEARING SEAT ELEVATIONS  
S.N. 054-0060 (SB)**

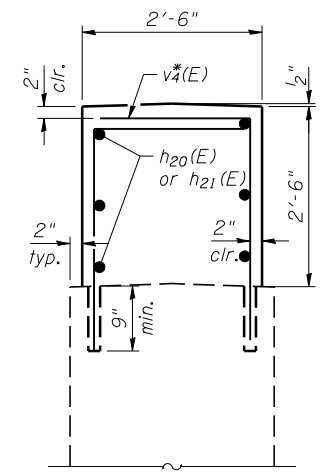
	A	B	C	D	E	F	G
West Abutment	625.59	625.65	625.65	625.81	625.88	625.74	625.57
East Abutment	622.12	622.40	622.69	622.92	623.12	623.06	623.06

**EXISTING BEARING SEAT ELEVATIONS  
S.N. 054-0061 (NB)**

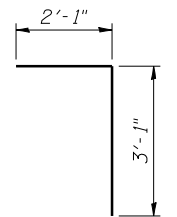
	H	I	J	K	L	M	N
West Abutment	625.17	625.26	625.32	625.18	625.00	624.91	624.83
East Abutment	624.01	624.23	624.41	624.41	624.35	624.29	624.22



PIER 2



SECTION A-A

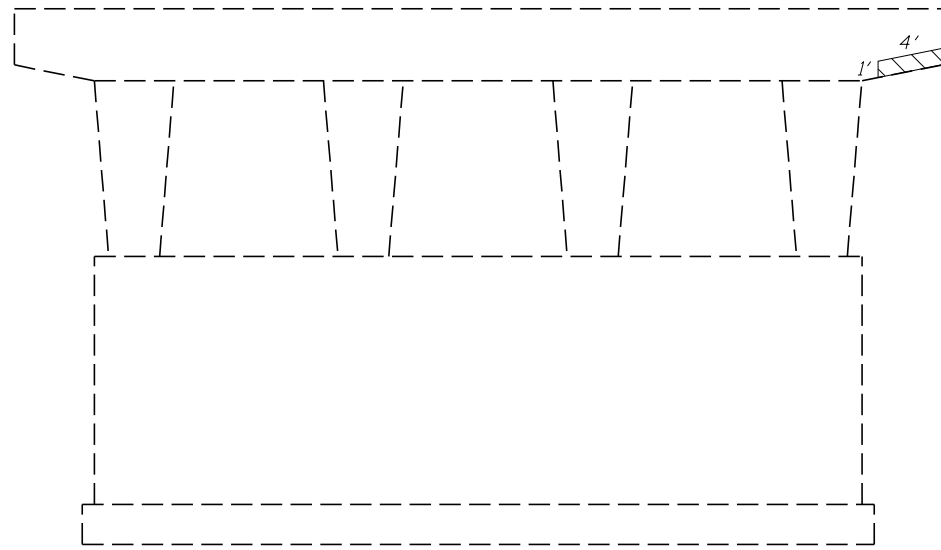


BAR v<sub>4</sub>(E)

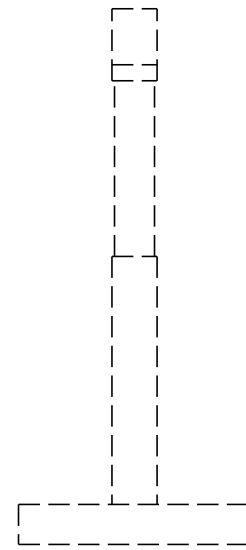
TWO (2) PIERS  
TOTAL BILL OF MATERIAL

Bar	No.	Size	Length	Shape
v <sub>4</sub> *(E)	132	#5	5'-2"	L
h <sub>20</sub> (E)	18	#5	11'-0"	—
h <sub>21</sub> (E)	18	#5	9'-9"	—
Reinforced Bars Epoxy Coated			Pound	1110
Concrete Structures			Cu. Yd.	15.1

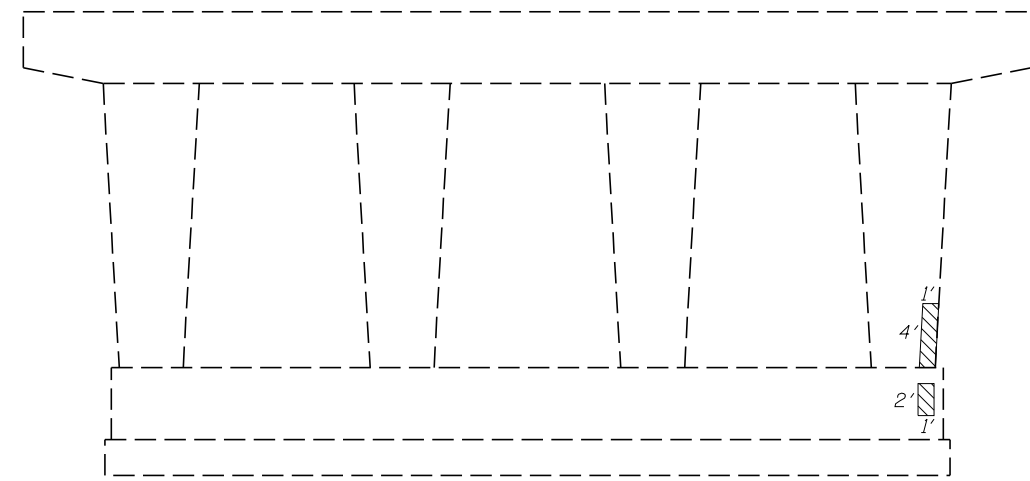
Notes:  
All bars designated with an asterisk (ex: v<sub>4</sub>\*(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Locate bars to miss existing reinforcement.



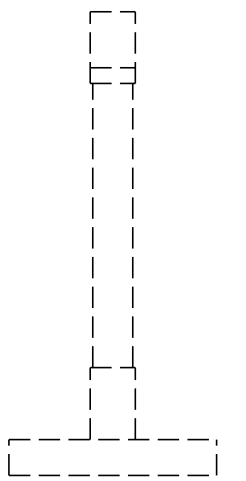
PIER 1 SB WEST FACE



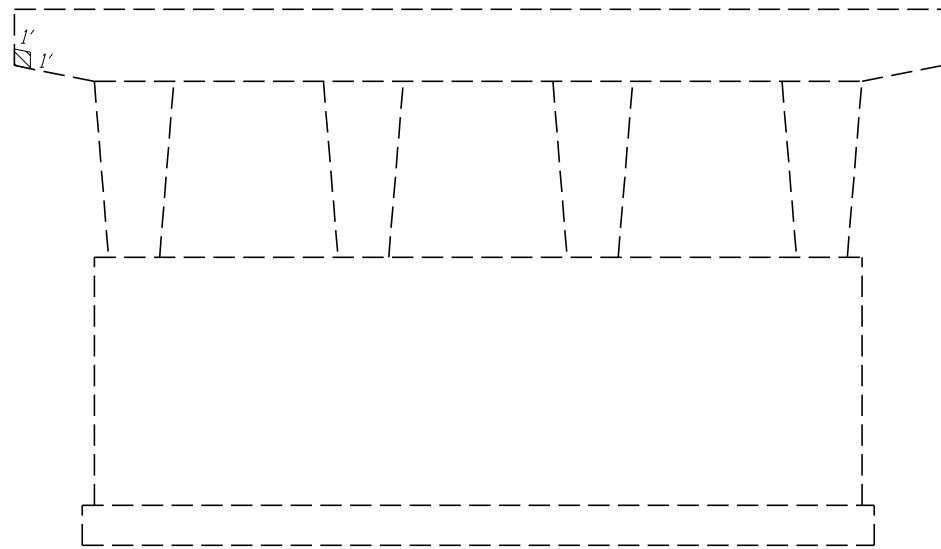
PIER 1 SB SOUTH END



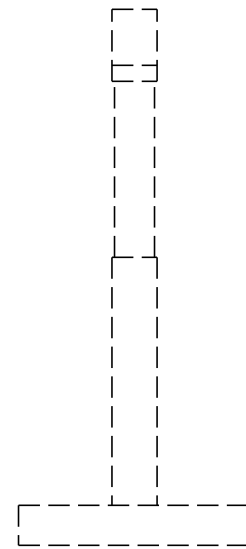
PIER 2 SB WEST FACE



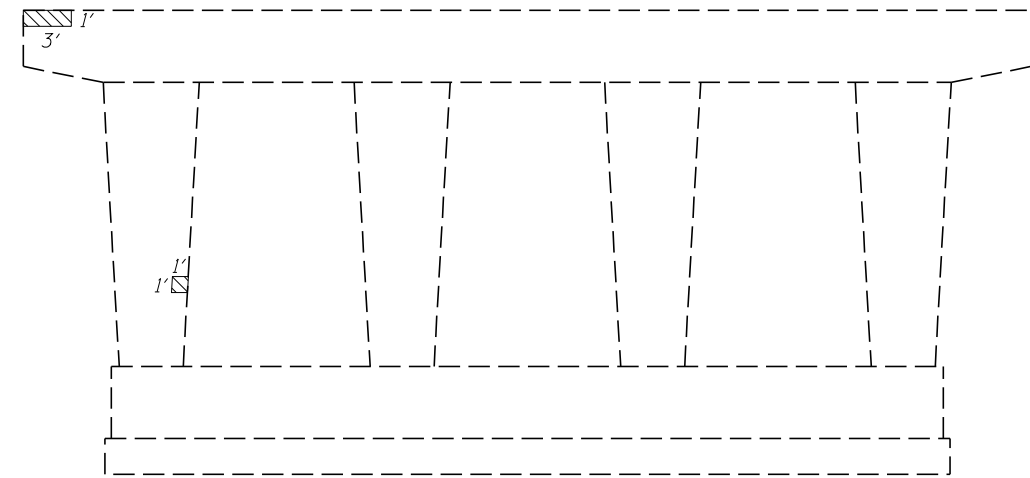
PIER 2 SB SOUTH END



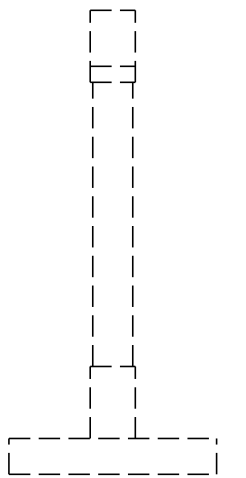
PIER 1 SB EAST FACE



PIER 1 SB NORTH END



PIER 2 SB EAST FACE



PIER 2 SB NORTH END

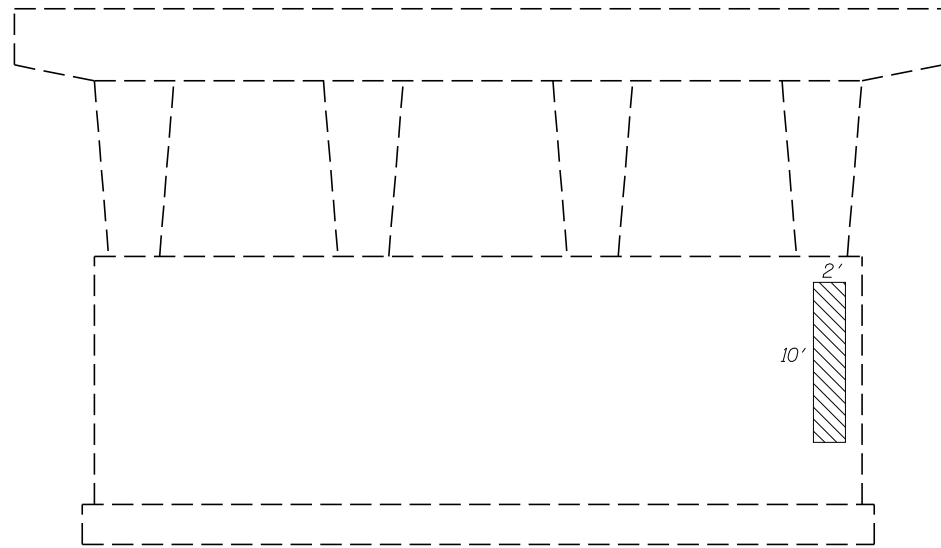
LEGEND



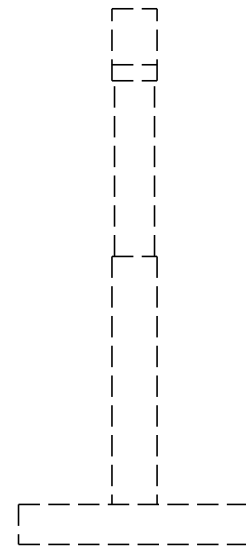
Denotes Structural Repair of Concrete  
(Depth Equal to or Less Than 5")

BILL OF MATERIAL

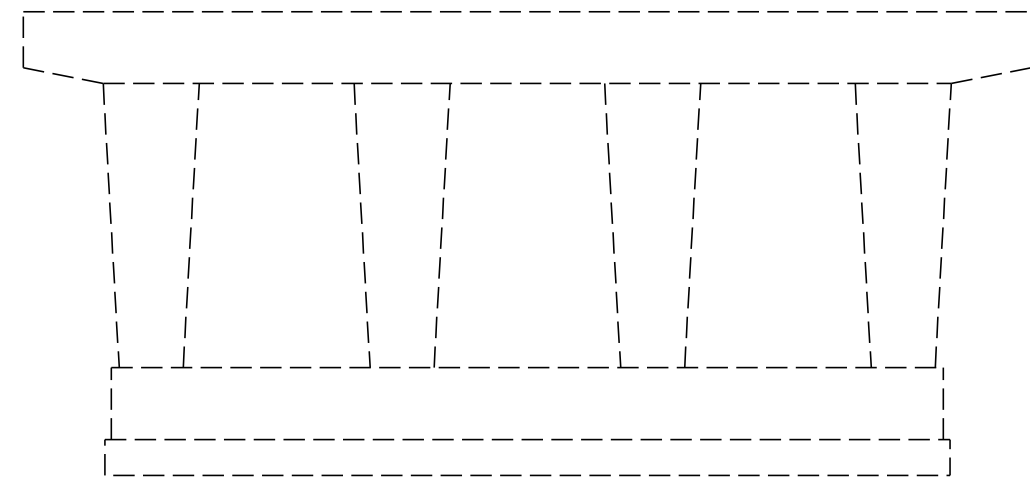
Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	15



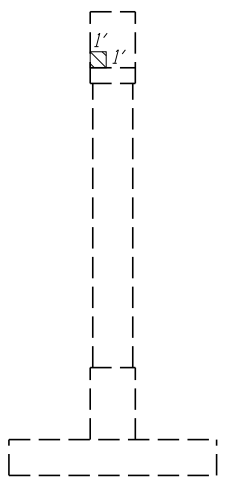
PIER 1 NB WEST FACE



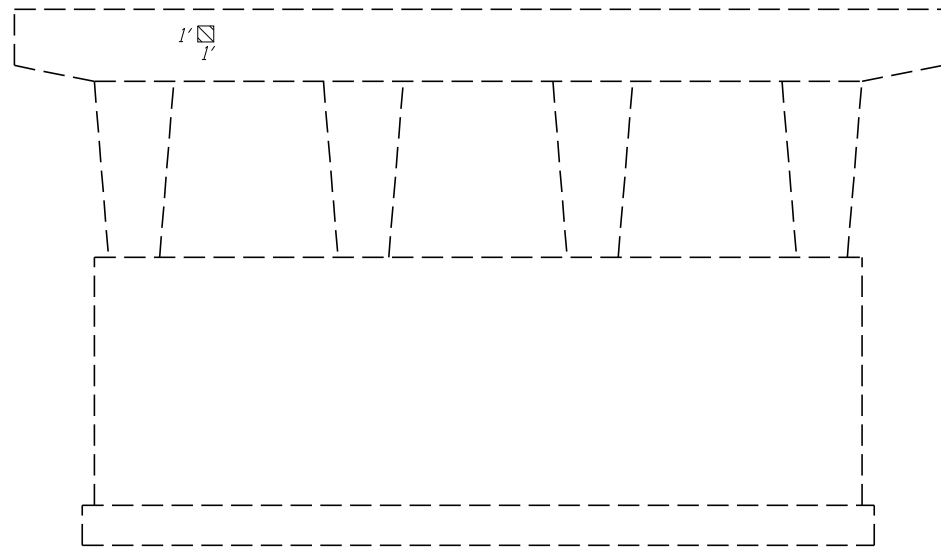
PIER 1 NB SOUTH END



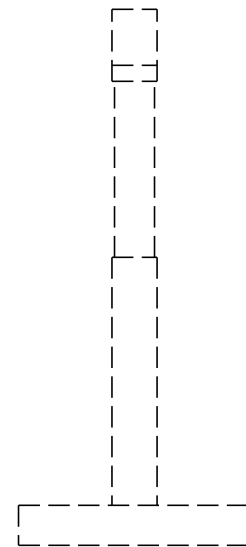
PIER 2 NB WEST FACE



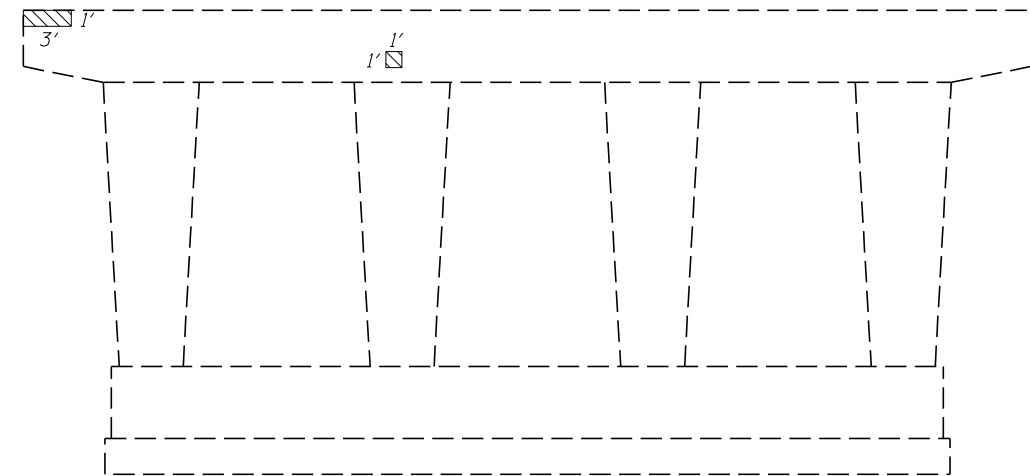
PIER 2 NB SOUTH END



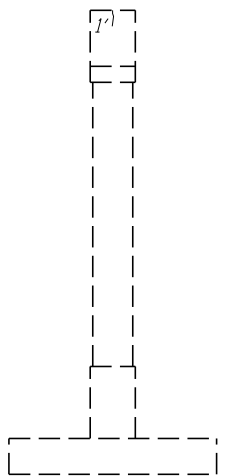
PIER 1 NB EAST FACE



PIER 1 NB NORTH END



PIER 2 NB EAST FACE



PIER 2 NB NORTH END

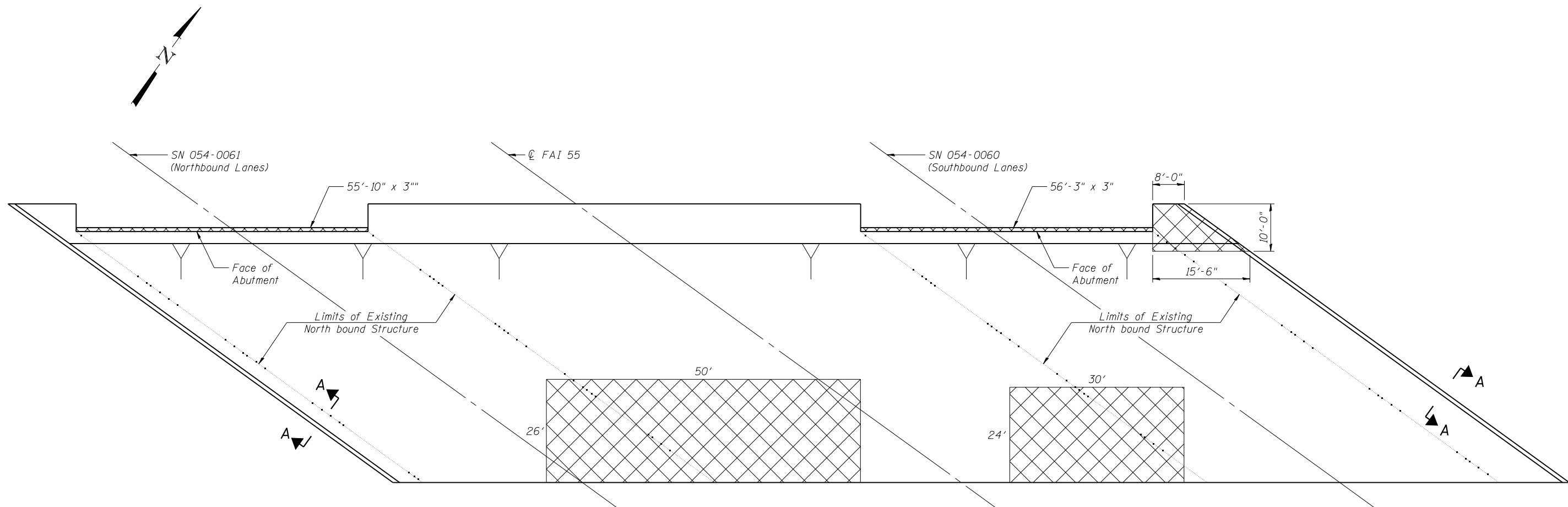
**LEGEND**



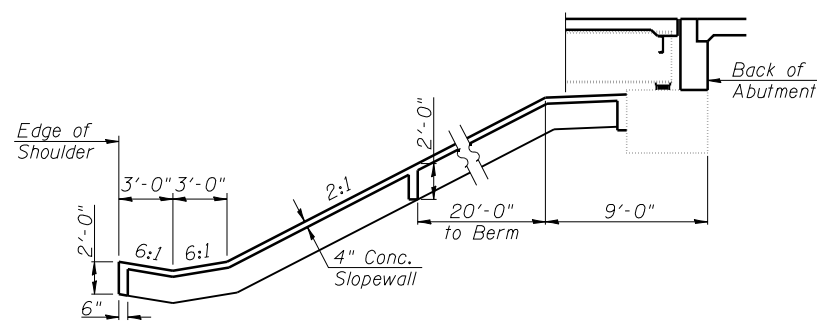
Denotes Structural Repair of Concrete  
(Depth Equal to or Less Than 5")

**BILL OF MATERIAL**

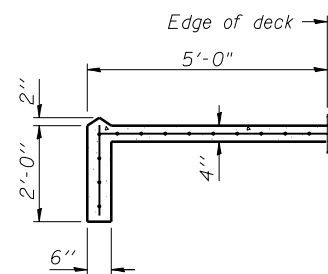
Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	26



PLAN



SECTION THRU SLOPEWALL @ BUS 55



SECTION A-A

LEGEND

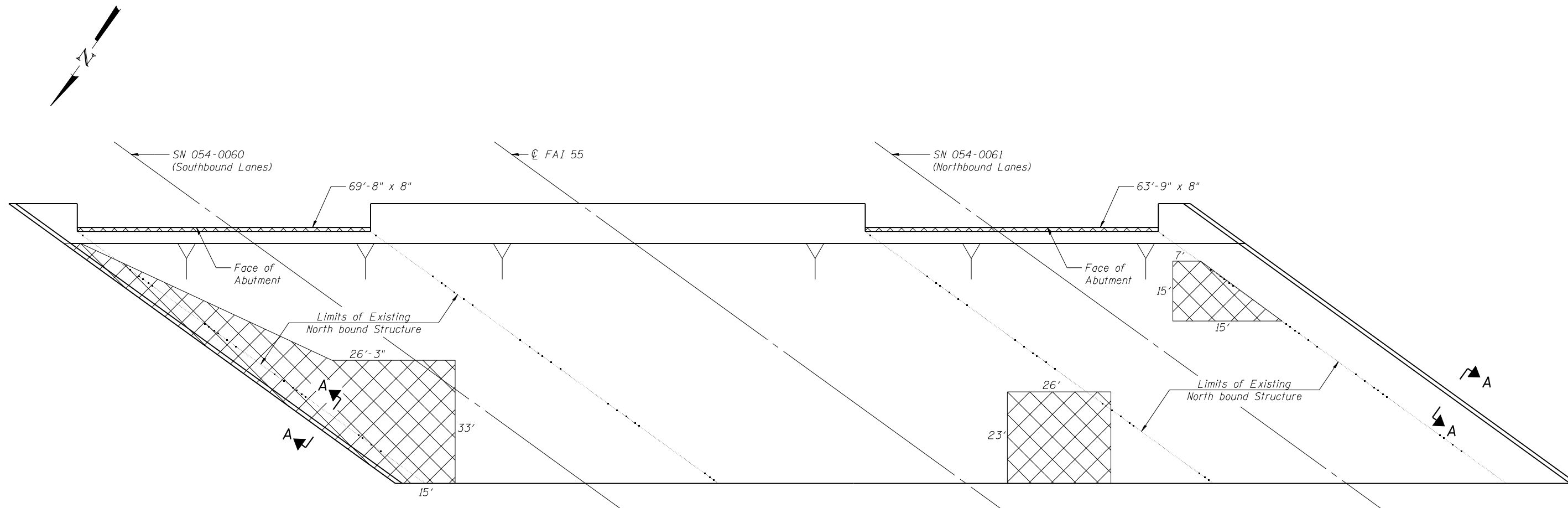


BILL OF MATERIAL

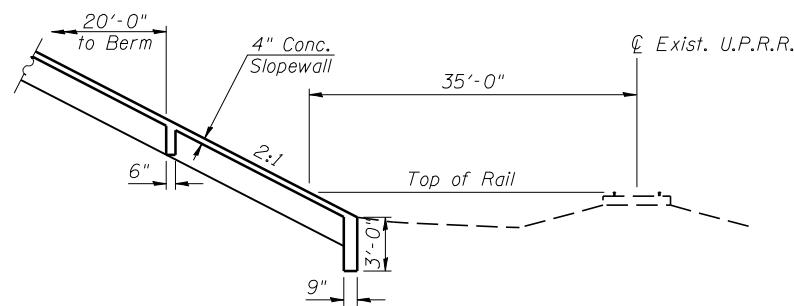
ITEM	UNIT	TOTAL
Slope Wall Repair	SQ YD	241
Controlled Low-Strength Material	CU YD	80

Notes:  
Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in., W4.0 x W4.0, weighting 58 lbs. per 100 sq. ft.

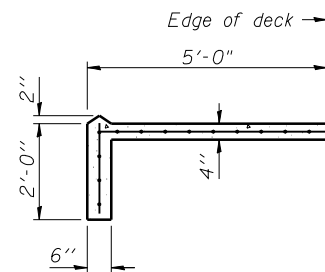




PLAN



SECTION THRU SLOPEWALL @ UPRR



SECTION A-A

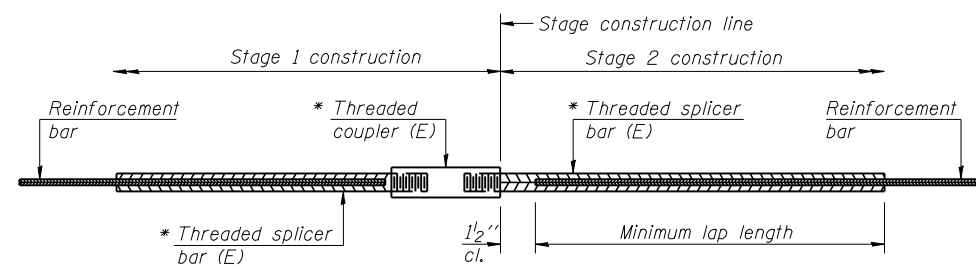
LEGEND



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Repair	SQ YD	222
Controlled Low-Strength Material	CU YD	79

Notes:  
Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in., W4.0 x W4.0, weighting 58 lbs. per 100 sq. ft.



**STANDARD BAR SPLICER ASSEMBLY**

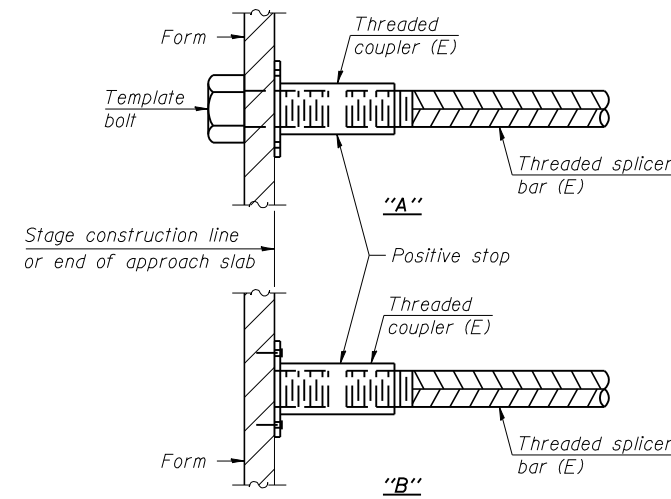
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

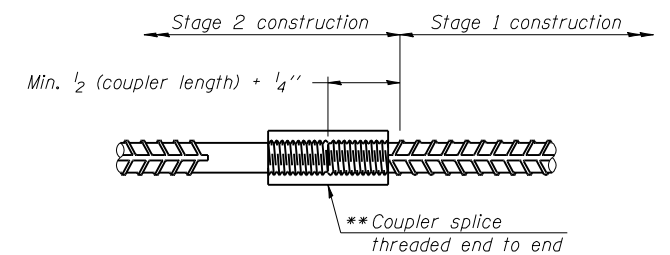
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck S.B.	#5	1700	3
Deck N.B.	#5	1700	3
West End of Deck S.B.	#7	5	5
East End of Deck S.B.	#7	1	5
West End of Deck N.B.	#7	5	5
East End of Deck N.B.	#7	1	5
West Abutment S.B. - Hatch Block	#6	4	3
East Abutment S.B. - Hatch Block	#6	4	3
West Abutment N.B. - Hatch Block	#6	4	3
East Abutment N.B. - Hatch Block	#6	4	3
West Abutment S.B. - Backwall	#5	14	3
East Abutment S.B. - Backwall	#5	12	3
West Abutment N.B. - Backwall	#5	14	3
East Abutment N.B. - Backwall	#5	14	3
East Abutment S.B. - Corbel	#6	2	3
East Abutment N.B. - Corbel	#6	2	3
Approach Slab Footing - Top/Bottom	#5	160	3
Approach Slab - Top	#4	100	3
Approach Slab - Bottom	#5	184	3

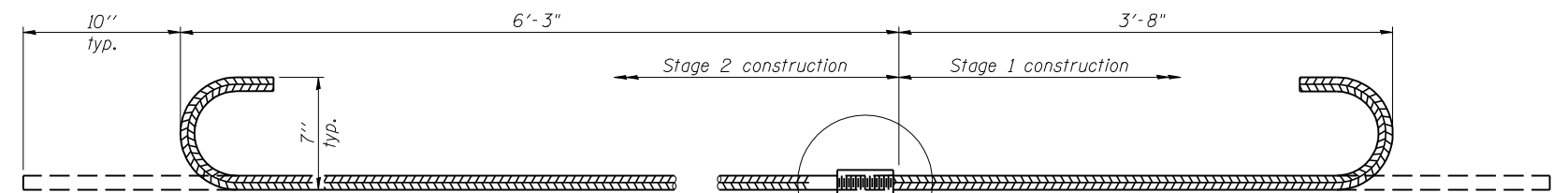


**INSTALLATION AND SETTING METHODS**

"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.

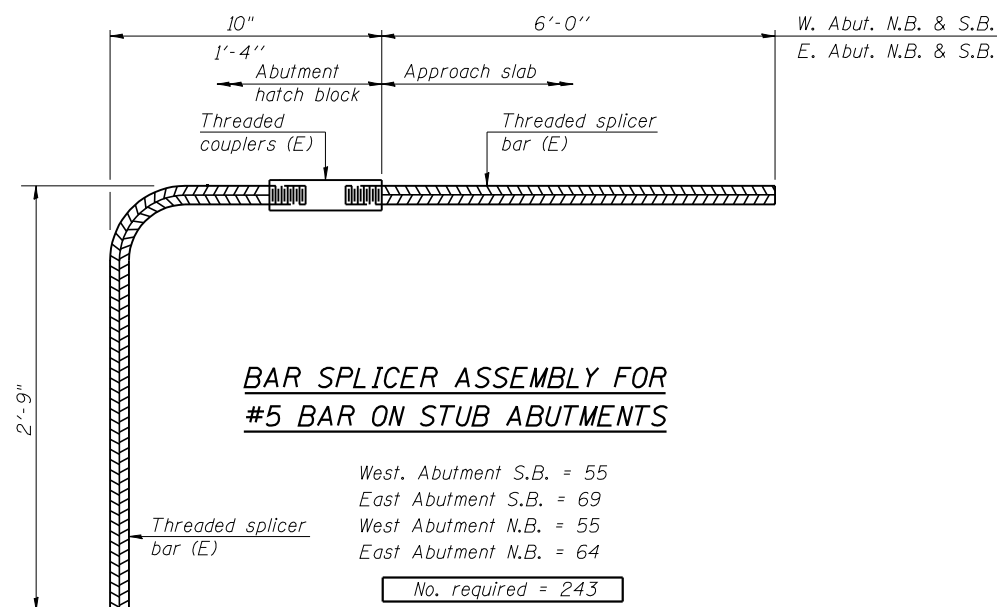


**DETAIL A**



**#7 BAR SPLICER ASSEMBLY FOR EDGE BEAMS AT STAGE CONSTRUCTION JOINT**

End of Deck S.B. = 3  
 End of Deck N.B. = 3  
**No. required = 6**



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

West. Abutment S.B. = 55  
 East Abutment S.B. = 69  
 West Abutment N.B. = 55  
 East Abutment N.B. = 64

**No. required = 243**

**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



JOB	= 2265.2	DESIGNED	- AAN	REVISED	-
FILE	= 0540060.0061-72E11-52-Splicer.dgn	CHECKED	- MDC	REVISED	-
DATE	= 1/9/2013	DRAWN	- TSH	REVISED	-
		CHECKED	- MDC	REVISED	-

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

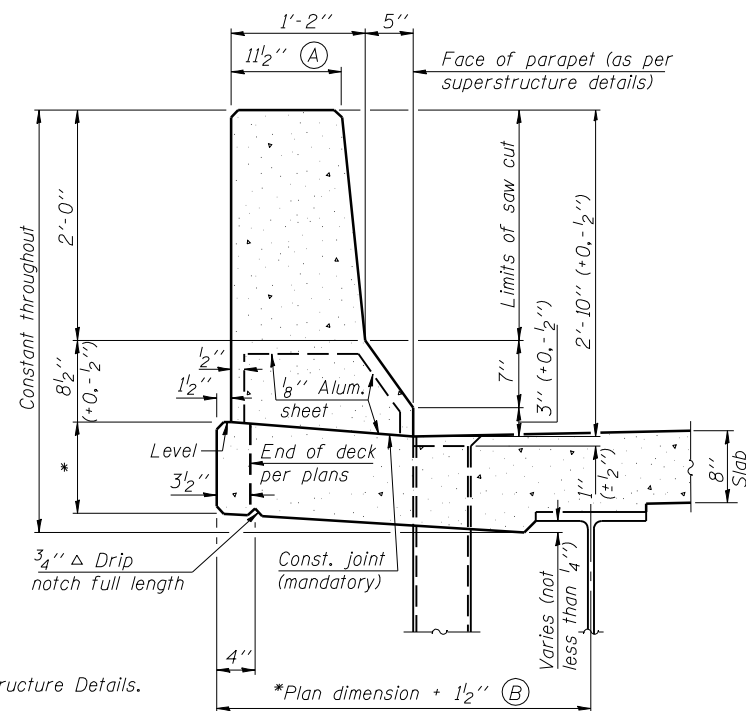
SHEET NO. 52 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	282
			CONTRACT NO. 72E11	

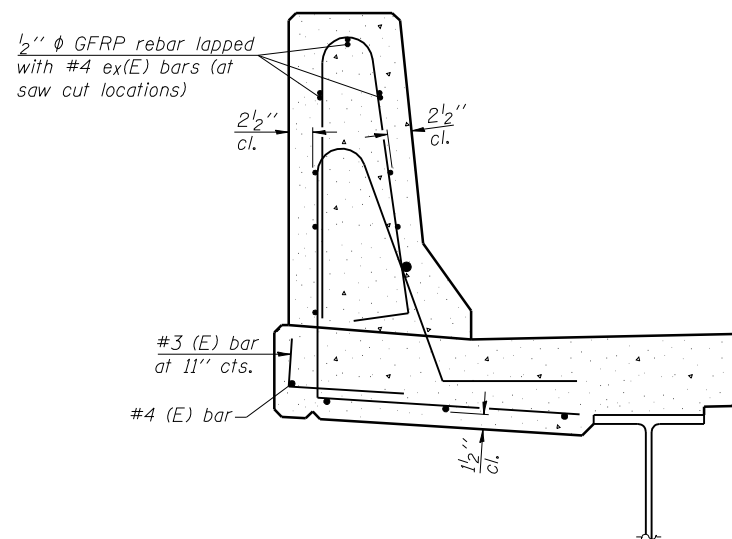
ILLINOIS FED. AID PROJECT

**GENERAL NOTES**

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

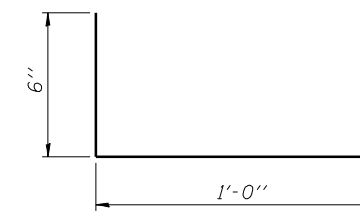


**34" F SHAPE PARAPET SECTION**  
(Showing dimensions)

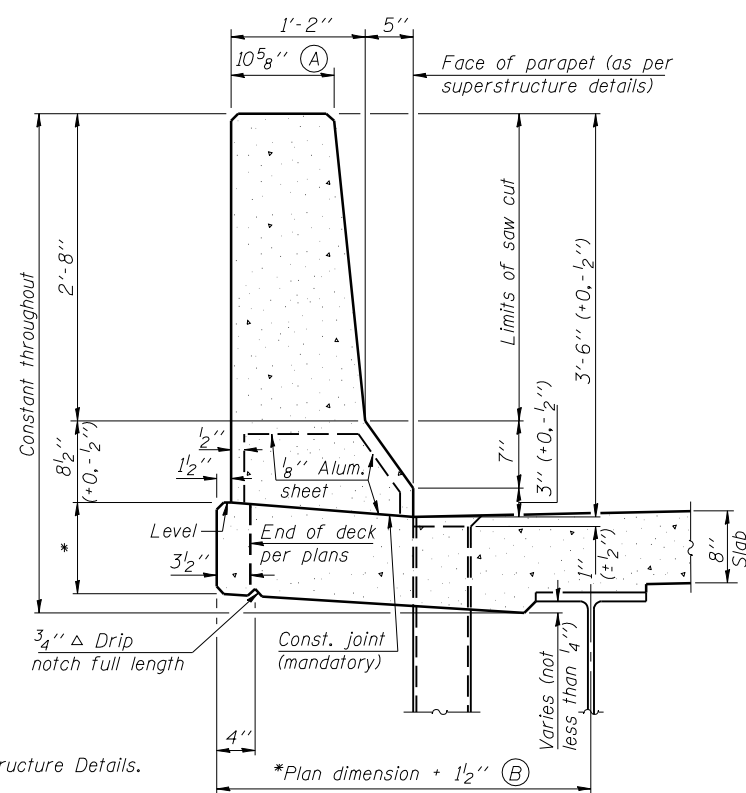


**SECTION**

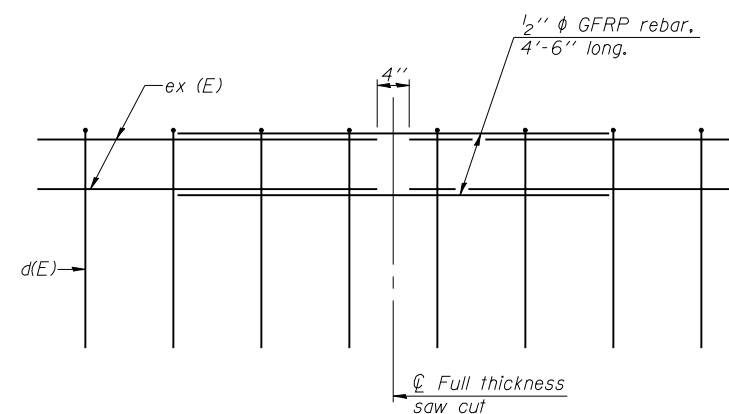
(34" parapet shown - 42" parapet similar)  
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



**#3 (E) BAR**

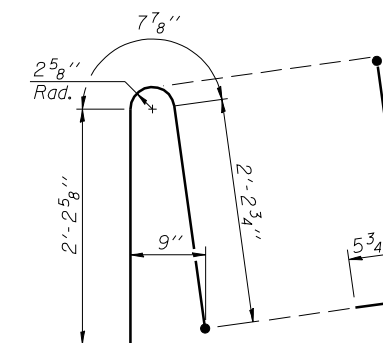


**42" F SHAPE PARAPET SECTION**  
(Showing dimensions)

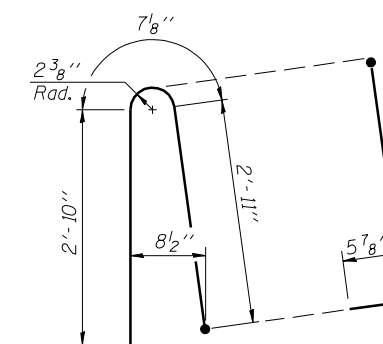


**GFRP REBAR STIFFENING DETAIL**

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



**ALTERNATE BAR d(E)**  
(For 34" parapet when conduit is present)



**ALTERNATE BAR d(E)**  
(For 42" parapet when conduit is present)

SFP 34-42

8-16-12



JOB	= 2265.2
FILE	= 0540060_0061-72E11-53-ParaSlipOption.dgn
DATE	= 3/18/2013

DESIGNED	- AAN	REVISED	-
CHECKED	- MDC	REVISED	-
DRAWN	- SJS	REVISED	-
CHECKED	- MDC	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CONCRETE PARAPET SLIPFORMING OPTION  
STRUCTURE NO. 054-0060 (SB) & STRUCTURE NO. 054-0061 (NB)**

SHEET NO. 53 OF 53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	283
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

Existing Structure: SN 054-0062. The existing structure is a curved, 6-span vaulted structure consisting of four continuous steel spans and two PPC I-beam approach spans with a 7/2" reinforced concrete deck. The original structure was built in 1974 as Section 54-5HVB. The original neoprene expansion joints were removed and replaced with a silicone joint sealer in 1999. The abutment joint seals will be replaced utilizing short-term lane closure on T.R. 65A.

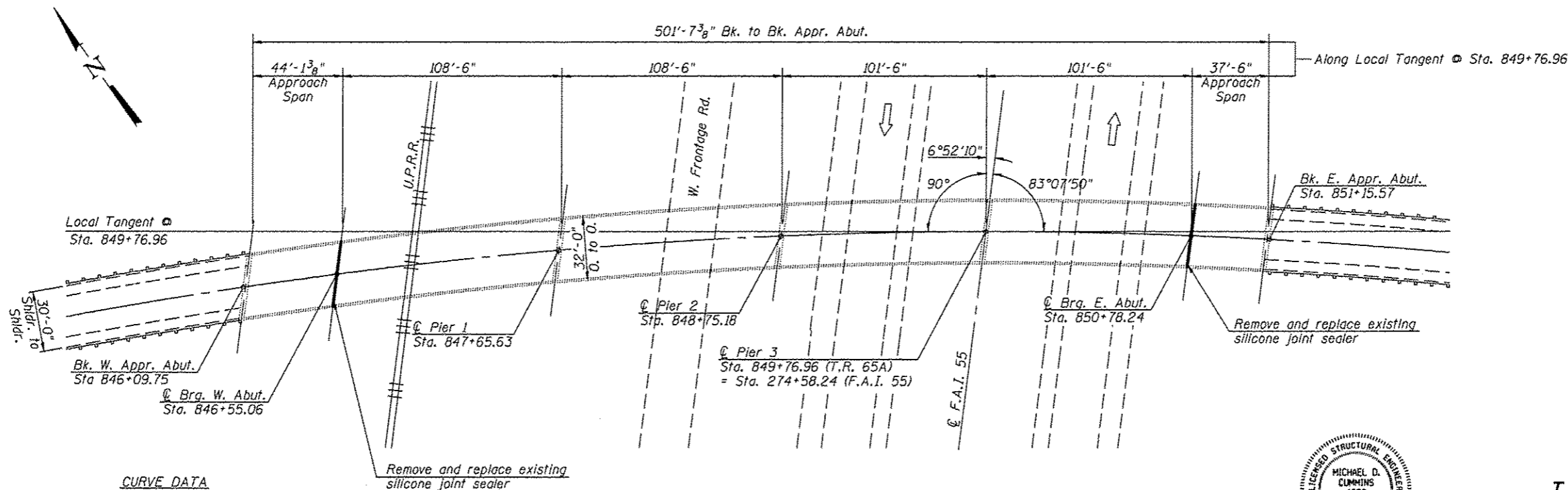
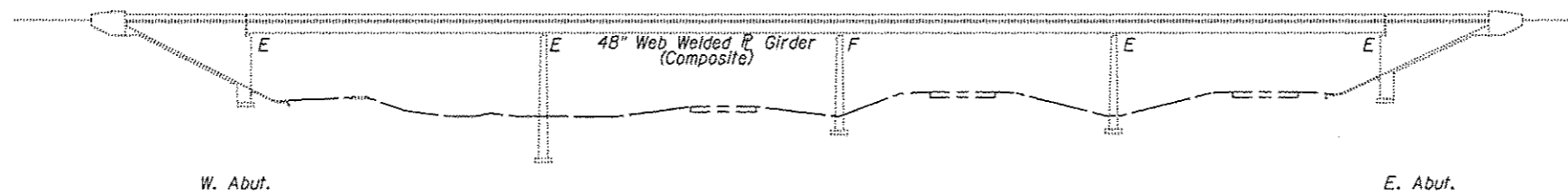
No Salvage

**GENERAL NOTES**

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.

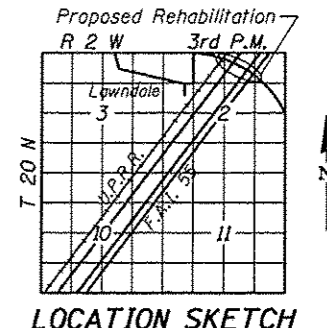
**SCOPE OF WORK**

1. Remove existing silicone joint sealer.
2. Install new silicone joint sealer at the east and west abutments.



**CURVE DATA**  
 P.I. Sta. 849+31.26  
 $\Delta = 25^\circ 00' 02''$   
 $D = 2^\circ 18' 10''$   
 $R = 2487.87'$   
 $T = 551.26'$   
 $L = 1085.56'$   
 $E = 60.41'$   
 $S.E. = 4.2\%$

**PLAN**



Michael D. Cummins 3/14/13  
 (Expires 11/30/14)

**GENERAL PLAN**  
**T.R. 65A OVER I-55, WEST**  
**FRONTAGE ROAD AND U.P.R.R.**  
**SECTION D6 LOGAN CO BR 2011-1**  
**LOGAN COUNTY**  
**STATION 274+58.24**  
**STRUCTURE NO. 054-0062**

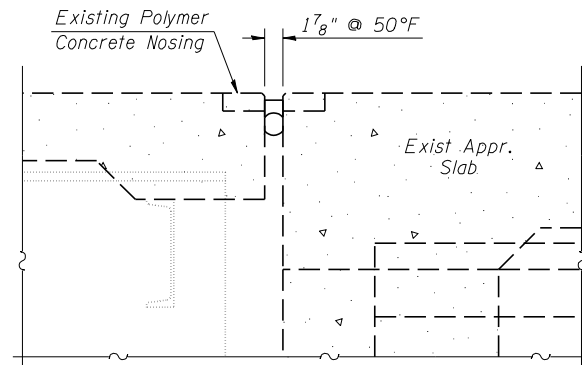


JOB	• 2236.10	DESIGNED	- AAM	REVISED	-
FILE	• 0548062-72E11-B01-GPE.dgn	CHECKED	- ENV	REVISED	-
DATE	• 2/12/2013	DRAWN	- SJS	REVISED	-
		CHECKED	- MDC	REVISED	-

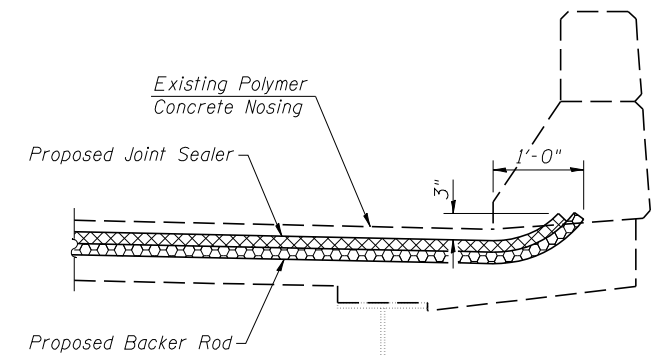
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN**  
**STRUCTURE NO. 054-0062**  
 SHEET NO. OF SHEETS

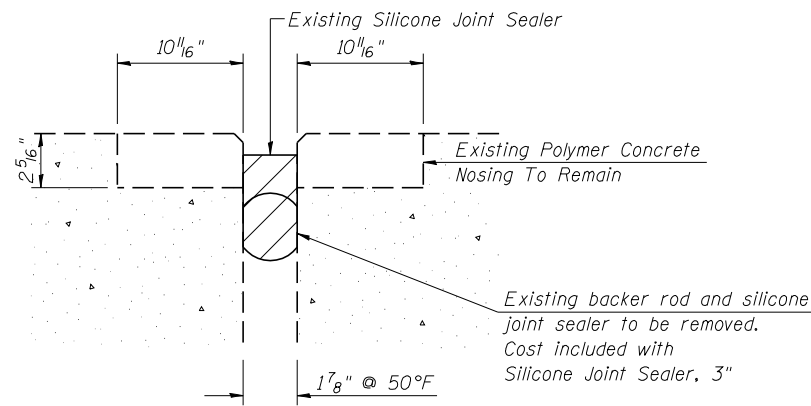
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	284
CONTRACT NO. 72E11				
[ILLINOIS] FED. AID PROJECT				



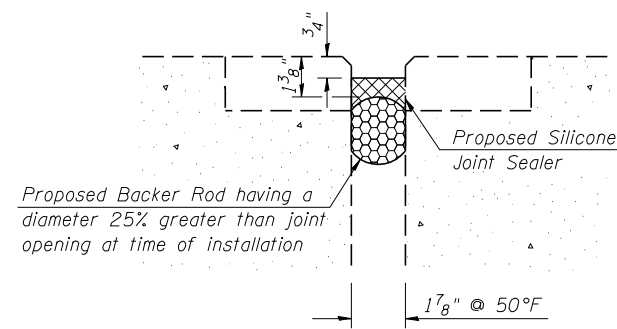
**PROPOSED EXPANSION JOINT DETAIL**  
(East and West Abutment)



**SECTION AT PARAPET**



**TYPICAL EXISTING JOINT CROSS SECTION**  
(East and West Abutment)



**TYPICAL PROPOSED JOINT CROSS SECTION**  
(East and West Abutment)

**BILL OF MATERIAL**

Item	Unit	Total
Silicone Joint Sealer, 3"	Foot	62

**SILICONE JOINT SEALER  
EAST AND WEST ABUTMENT  
S.N. 054-0062**

Benchmark: C.B. 2 - Set chiseled  $\square$  on concrete slopewall North end between S.N. 054-0063 and S.N. 054-0064 at Sta. 283+85, 10 ft. left, Elev. 595.82.

Existing Structure: S.N. 054-0063 (Northbound) and S.N. 054-0064 (Southbound) built in 1974 as F.A.I. Route 55, Section 54-5B Station 282+39.33. The superstructure consists of three spans continuous steel 48" Plate Girders with reinforced concrete deck. The substructure consists of open stub abutments supported on concrete piles and solid piers supported on concrete piles. The structure length is 316'-6" back to back of abutments and 42'-0" out to out of deck with a 22° R.F. skew. Existing deck to be removed and replaced.

Traffic to be maintained using Stage Construction.

No Salvage.

STATION 282+39.33  
RE-BUILT 20\_\_ BY  
STATE OF ILLINOIS  
LOADING HS20-44 & ALT.  
STRUCTURE NO. 054-0063

STATION 282+39.33  
RE-BUILT 20\_\_ BY  
STATE OF ILLINOIS  
LOADING HS20-44 & ALT.  
STRUCTURE NO. 054-0064

**NAME PLATE N.B. STRUCTURE**  
See Std. 515001

**NAME PLATE S.B. STRUCTURE**  
See Std. 515001

**SEISMIC DATA**

Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient(A) = 0.046 g  
Site Coefficient (S) = 1

**DESIGN STRESSES**

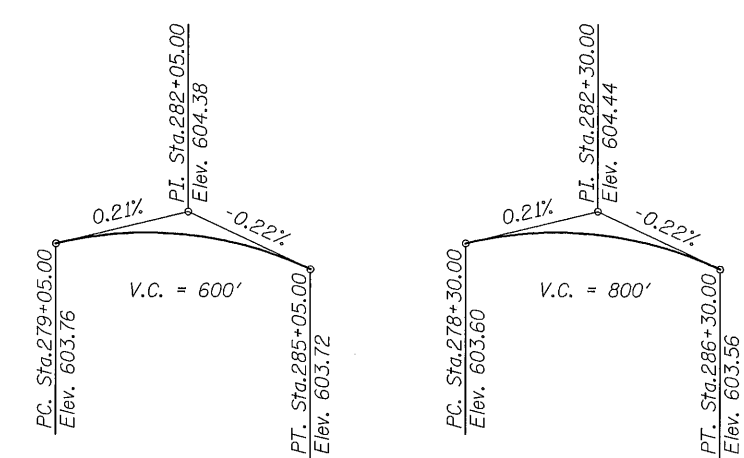
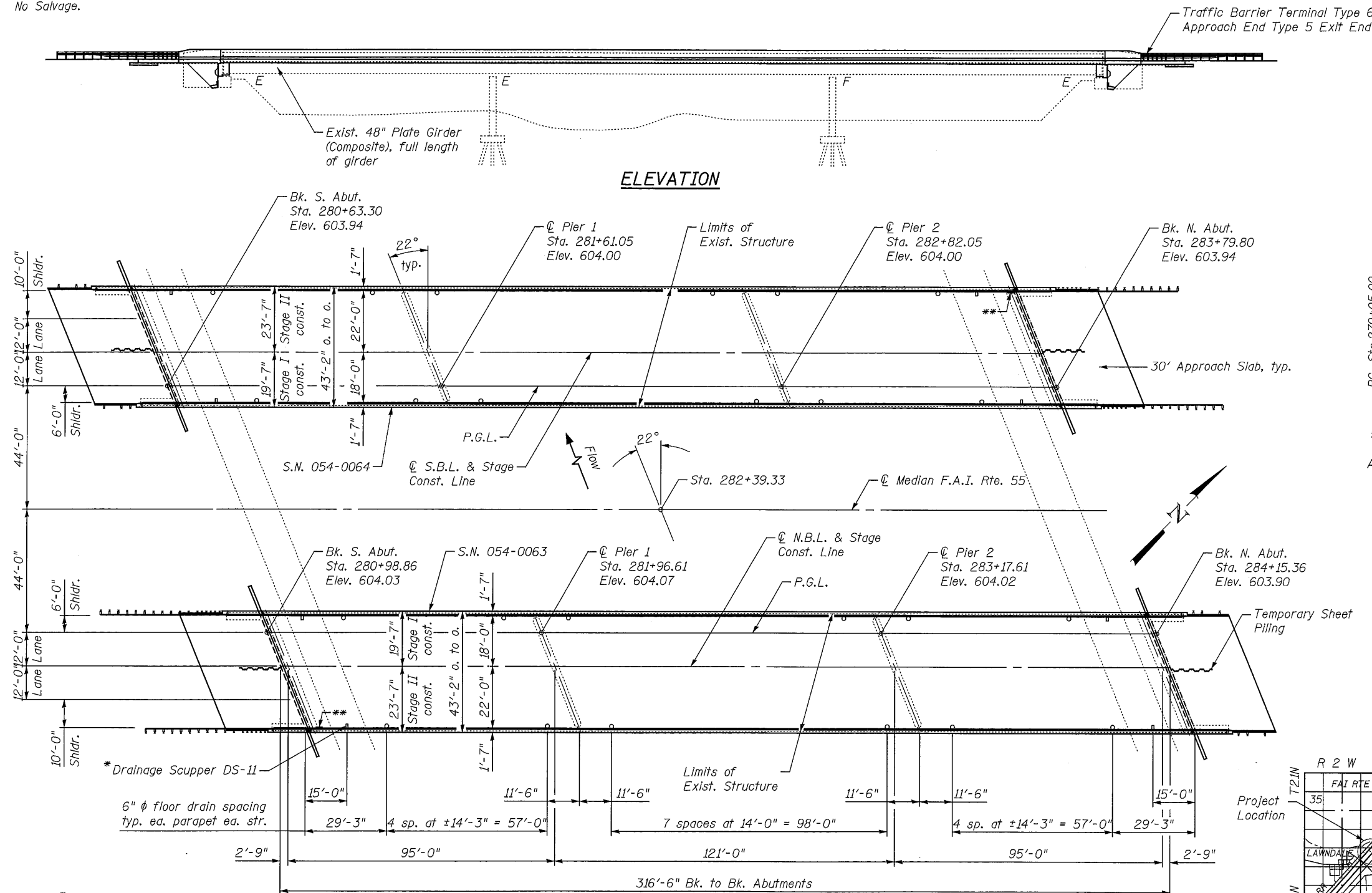
FIELD UNITS (NEW CONST.)	FIELD UNITS (EXIST. CONST.)
f'c = 3,500 psi	f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)	fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Steel)	fy = 36,000 psi (Steel)

**DESIGN SPECIFICATIONS (NEW CONST.)**

2002 AASHTO Standard Specifications for Highway Bridges 17th Edition  
1995 FHWA Retrofitting Manual

**LOADING HS 20-44 & ALT.**

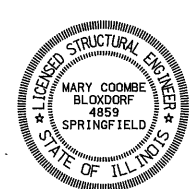
Allow 25#/sq. ft. for future wearing surface.



**PROPOSED PROFILE**  
N.B. S.N. 054-0063  
Along median edge of pavement

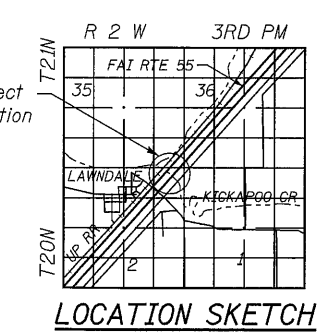
**PROPOSED PROFILE**  
S.B. S.N. 054-0064  
Along median edge of pavement

The profile grade depicts the final elevations after grinding. Up to 1/4" will be ground off the bridge deck and approach slab.



*Mary Coombe Bloxdorf*  
ILLINOIS STRUCTURAL NO. 4859  
EXPIRES 11/30/14  
DATE: 3/13/13

**GENERAL PLAN & ELEVATION**  
**F.A.I. RTE. 55 OVER KICKAPOO CREEK**  
**SECTION D6 LOGAN CO BR 2011-1**  
**LOGAN COUNTY**  
**STATION 282+39.33**  
**STRUCTURE NO. 054-0063 (N.B.)**  
**STRUCTURE NO. 054-0064 (S.B.)**



\*Typical each corner  
\*\* Name Plate & Relocated existing Name Plate. The existing nameplate shall be cleaned and relocated next to the new name plate. Cost included with Name Plates.

FILE NAME = ...0540063-0064-72e11-001-gpe.dgn	USER NAME = J.M.L.	DESIGNED - RKM	REVISIONS -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	SHEET NO. 1 OF 38 SHEETS
		CHECKED - MCB	REVISIONS -		
		DRAWN - CFC	REVISIONS -		
		CHECKED - RKM	REVISIONS -		
CB PROJECT NO 10007-3	PLOT SCALE = 42x8.000000 1/8" / IN. PLOT DATE = 3/12/2013				ILLINOIS FED. AID PROJECT

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	286

CONTRACT NO. 72E11

**INDEX OF SHEETS**

- 1 GENERAL PLAN AND ELEVATION
- 2 GENERAL NOTES
- 3 STAGE CONSTRUCTION DETAILS
- 4 TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
- 5-8 TOP OF SLAB ELEVATIONS (SOUTH BOUND STRUCTURE)
- 9 TOP OF APPROACH SLAB ELEVATIONS (S. APPROACH, S.B. STRUCTURE)
- 10 TOP OF APPROACH SLAB ELEVATIONS (N. APPROACH, S.B. STRUCTURE)
- 11-14 TOP OF SLAB ELEVATIONS (NORTH BOUND STRUCTURE)
- 15 TOP OF APPROACH SLAB ELEVATIONS (S. APPROACH, N.B. STRUCTURE)
- 16 TOP OF APPROACH SLAB ELEVATIONS (N. APPROACH, N.B. STRUCTURE)
- 17 SUPERSTRUCTURE
- 18 SUPERSTRUCTURE DETAILS
- 19 DIAPHRAGM DETAILS
- 20 BRIDGE APPROACH SLAB DETAILS (SOUTH BOUND STRUCTURE)
- 21 BRIDGE APPROACH SLAB DETAILS (NORTH BOUND STRUCTURE)
- 22 BRIDGE APPROACH SLAB DETAILS
- 23 BEARING DETAILS SOUTH ABUTMENT
- 24 BEARING DETAILS NORTH ABUTMENT
- 25 FRAMING PLAN
- 26 SOUTH ABUTMENT CONCRETE REMOVAL (SOUTH BOUND STRUCTURE)
- 27 NORTH ABUTMENT CONCRETE REMOVAL (SOUTH BOUND STRUCTURE)
- 28 SOUTH ABUTMENT CONCRETE REMOVAL (NORTH BOUND STRUCTURE)
- 29 NORTH ABUTMENT CONCRETE REMOVAL (NORTH BOUND STRUCTURE)
- 30 N. ABUTMENT (N.B.), S. ABUTMENT (S.B.)
- 31 N. ABUTMENT (S.B.), S. ABUTMENT (N.B.)
- 32 ABUTMENT REPAIRS
- 33 PIER REPAIR DETAILS
- 34 SOUTH SLOPEWALL REPAIR
- 35 NORTH SLOPEWALL REPAIR
- 36 BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
- 37 DRAINAGE SCUPPER DS-II
- 38 CONCRETE PARAPET SLIPFORMING OPTION

**GENERAL NOTES**

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts 3/4" diameter, holes 13/16" diameter, unless otherwise noted.

Reinforcement bars designated (E) shall be epoxy coated.

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

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" 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.

If the contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior girder at each of these additional bracket locations.

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.

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

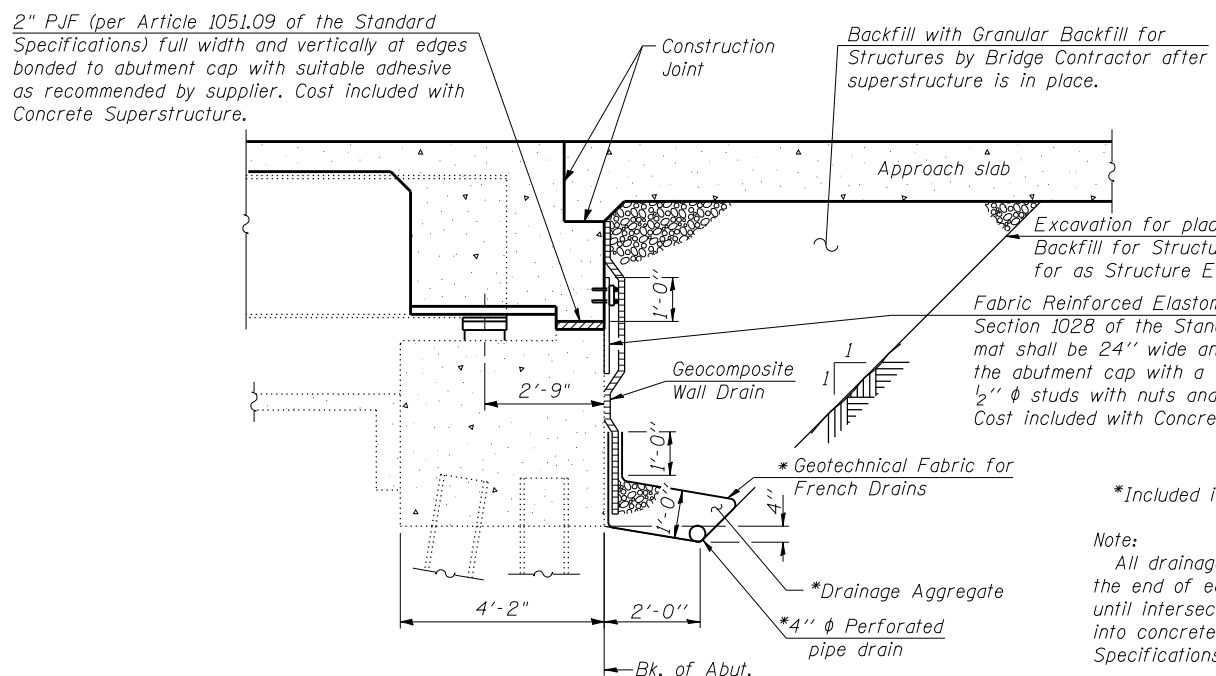
All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M300, Type I.

Field painting of structural steel shall be done under a separate painting contract.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		116	116
Structure Excavation	Cu. Yd.		484	484
Granular Backfill for Structures	Cu. Yd.		452	452
Removal of Existing Concrete Deck No. 3	Each	2		2
Concrete Structures	Cu. Yd.		86.5	86.5
Concrete Superstructure	Cu. Yd.	1279.2		1279.2
* Protective Coat	Sq. Yd.	4278		4278
* Bridge Deck Grooving	Sq. Yd.	3422		3422
Reinforcement Bars, Epoxy Coated	Lb.	265,490	15570	281,060
Bar Splicers	Each	2296	168	2464
Name Plates	Each	2		2
Furnishing and Erecting Structural Steel	Pound	5350		5350
Stud Shear Connectors	Each	9432		9432
Sloped Wall Removal	Sq. Yd.		20	20
Sloped Wall 4 inch	Sq. Yd.		16	16
Elastomeric Bearing Assembly, Type I	Each	12		12
Elastomeric Bearing Assembly, Type II	Each	12		12
Pipe Underdrains for Structures 4"	Ft.		346	346
Geocomposite Wall Drain	Sq. Yd.		238	238
Drainage Scupper, DS-II	Each	8		8
Floor Drains	Each	72		72
* Diamond Grinding (Bridge Section)	Sq. Yd.	3241		3241
Anchor Bolts, 1"	Each			96
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.		11	11
Jack and Remove Existing Bearings	Each	24		24
Temporary Sheet Piling	Sq. Ft.		753	753
Sloped Wall Repair	Sq. Yd.		52	52

\*Includes PCC Connector Pavement beyond the end of Approaches



**SECTION THRU SEMI-INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. L's)

\*Included in the cost of Pipe Underdrains for Structures.

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

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...\\0540063-0064-72e11-002-general-notes.dgn		CHECKED - MCB	REVISED -
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CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

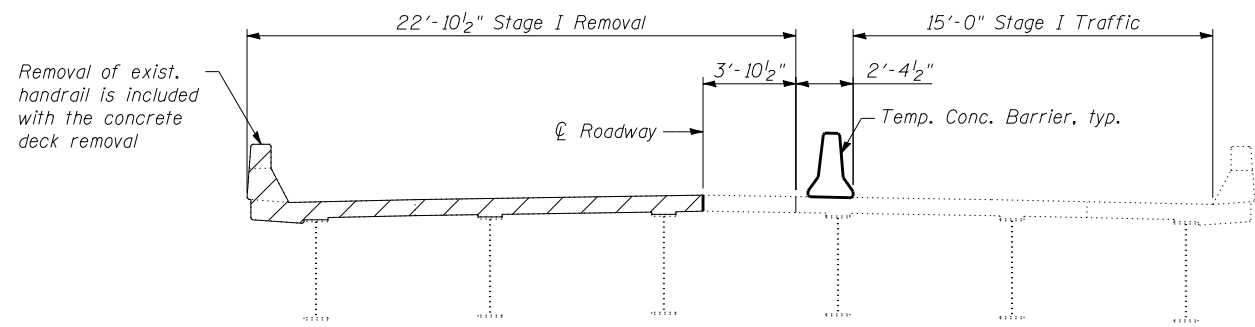
**GENERAL NOTES**  
**STRUCTURE NO. 054-0063 (N.B.) & 054-0064 (S.B.)**

SHEET NO. 2 OF 38 SHEETS

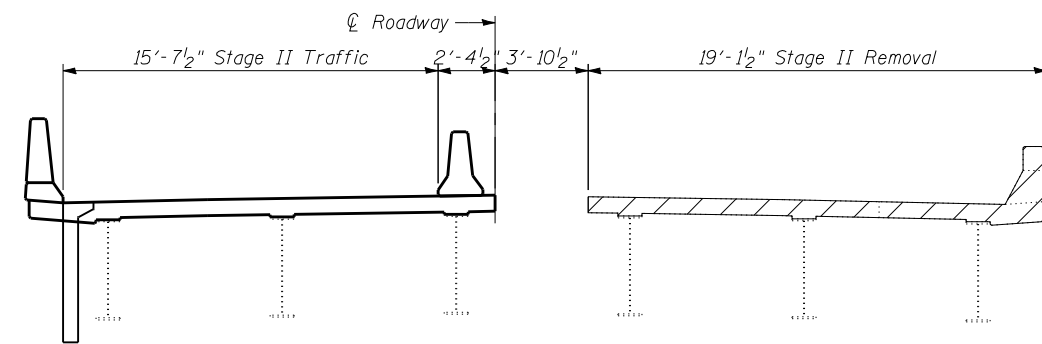
**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	287

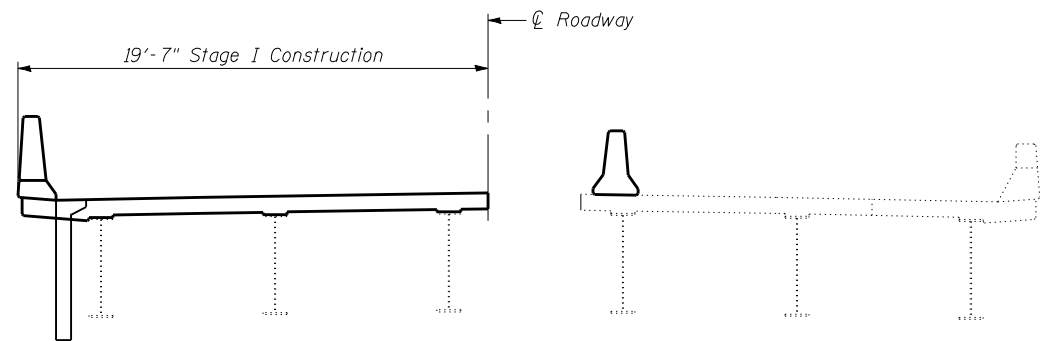
CONTRACT NO. 72E11  
ILLINOIS FED. AID PROJECT



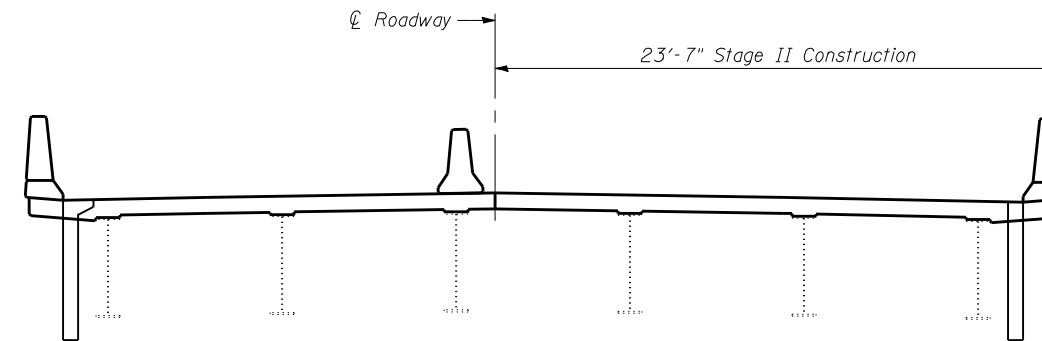
**STAGE I REMOVAL**  
(Looking North - North Bound)  
(Looking South - South Bound)



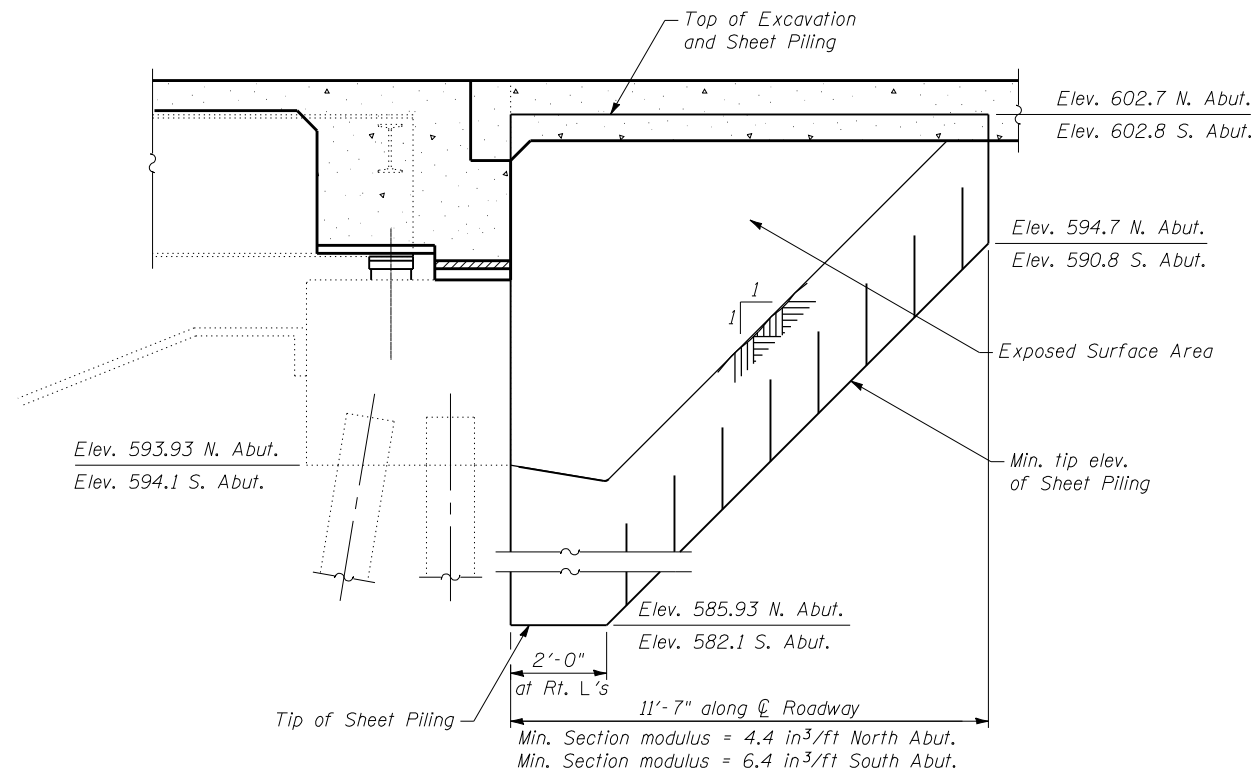
**STAGE II REMOVAL**  
(Looking North - North Bound)  
(Looking South - South Bound)



**STAGE I CONSTRUCTION**  
(Looking North - North Bound)  
(Looking South - South Bound)



**STAGE II CONSTRUCTION**  
(Looking North - North Bound)  
(Looking South - South Bound)



**TEMPORARY SHEET PILING**

Notes:  
For quantity of Temporary Concrete Barrier, see roadway plans.  
Hatched area indicates Removal of Existing Concrete Deck.  
If the Contractor chooses to alter the temporary sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.  
The dimensions to the stage removal line at the abutments varies from the superstructure. See Sheets 24 thru 27 of 38 for the removal lines at the abutments.

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

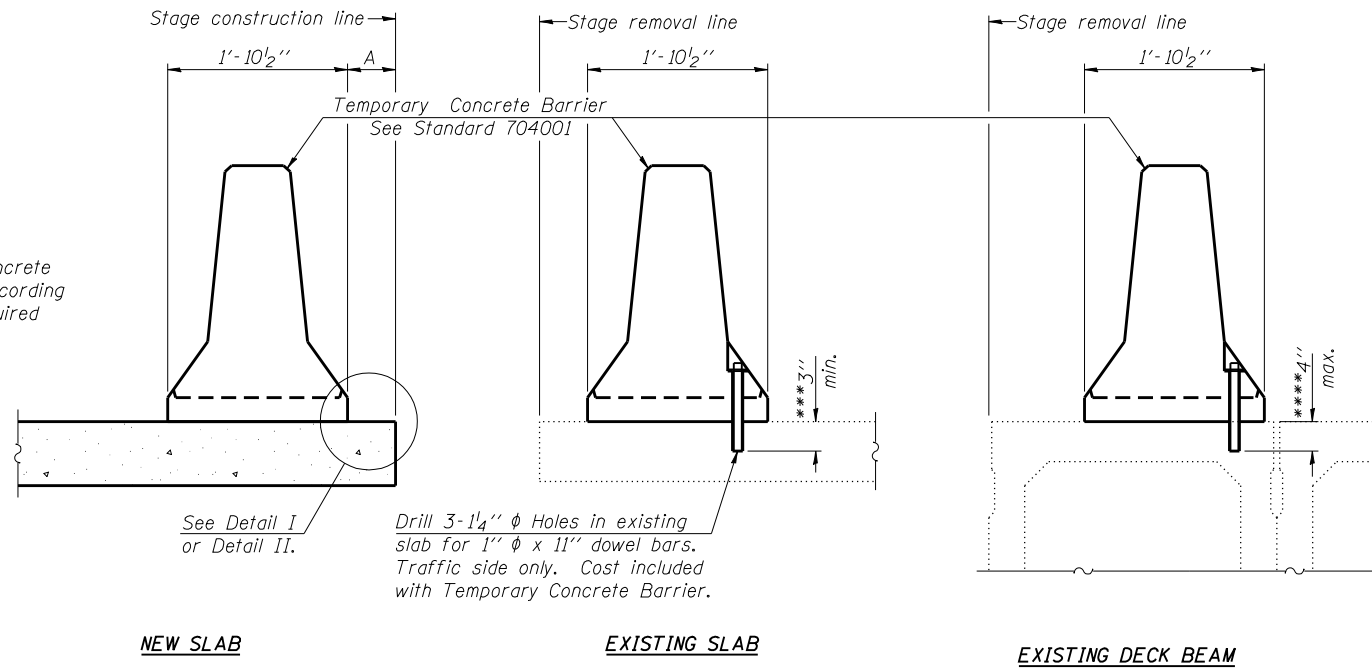
**STAGE CONSTRUCTION DETAILS  
STRUCTURE NO. 054-0063 (N.B.) & 054-0064 (S.B.)**

SHEET NO. 3 OF 38 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	288
			CONTRACT NO. 72E11	
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".



**SECTIONS THRU SLAB OR DECK BEAM**

**NOTES**

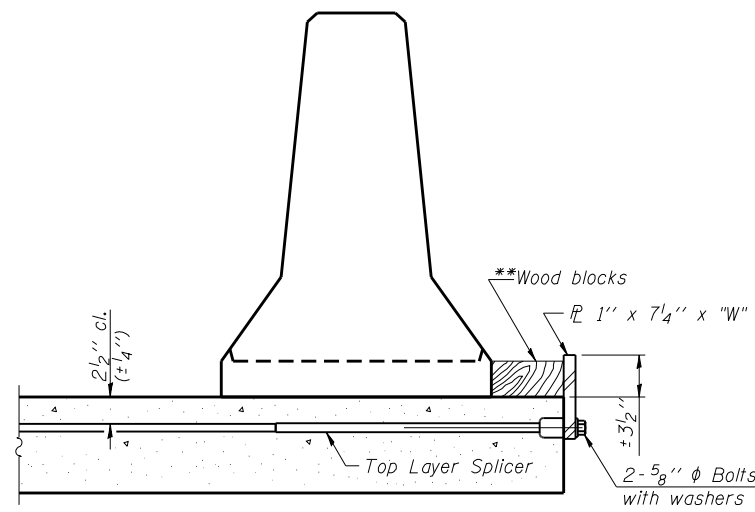
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7 1/4" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7 1/4" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

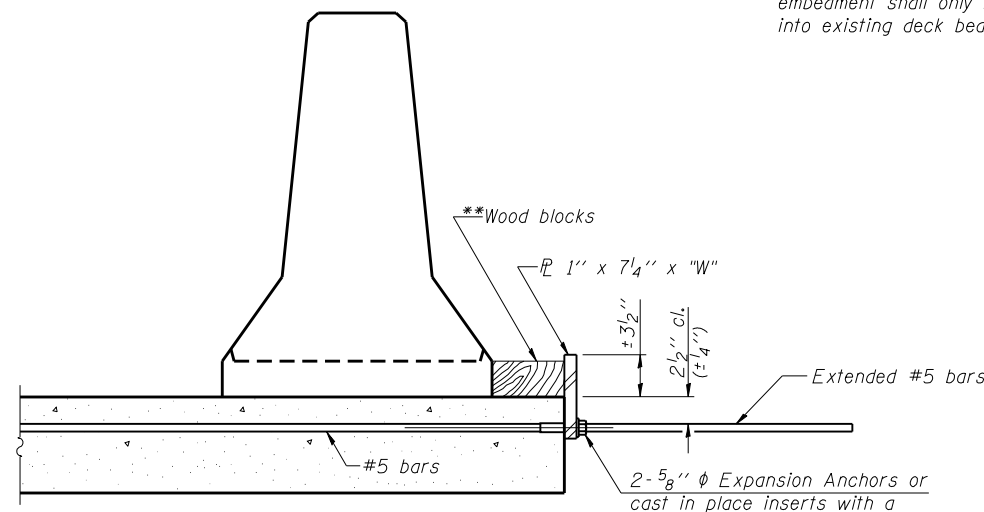
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7 1/4" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

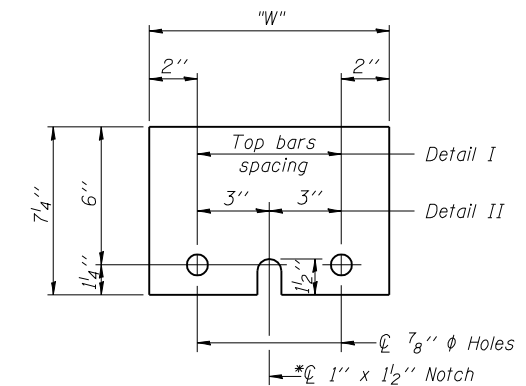
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



**DETAIL I**



**DETAIL II**



**STEEL RETAINER PL 1" x 7 1/4" x "W"**

\* Required only with 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"

R-27

7-1-10

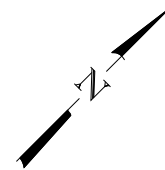
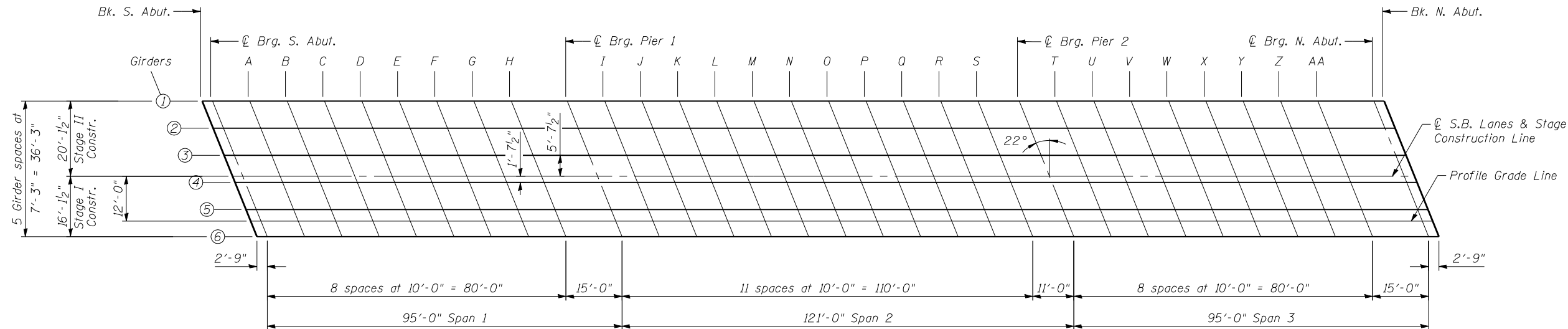
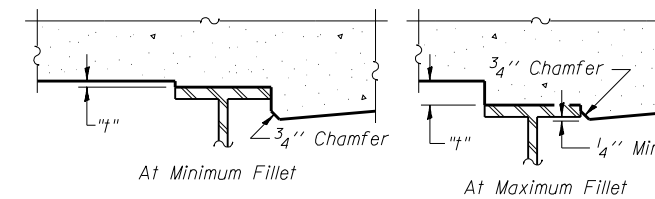
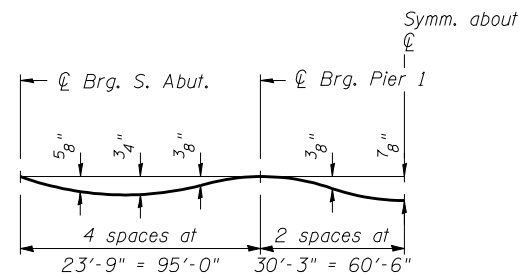
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CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 054-0063 (N.B.) & 054-0064 (S.B.)**

SHEET NO. 4 OF 38 SHEETS

		<b>Coome-Bloxdorf P.C.</b> - CIVIL ENGINEERS- - STRUCTURAL ENGINEERS- - LAND SURVEYORS- Design Firm License No. 184-002703		
		F.A.I. RE.	SECTION	COUNTY
55	D6 LOGAN CO BR 2011-1	LOGAN	429	289
				CONTRACT NO. 72E11
ILLINOIS FED. AID PROJECT				



FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (SOUTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0064 (S.B.)

SHEET NO. 5 OF 38 SHEETS

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	290
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

**GIRDER 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
<i>Bk. S. Abut.</i>	28050.32	-20.12	603.76	603.78
<i>CL Brg. S. Abut.</i>	28053.07	-20.12	603.77	603.79
A	28063.07	-20.12	603.77	603.82
B	28073.07	-20.12	603.78	603.85
C	28083.07	-20.12	603.79	603.87
D	28093.07	-20.12	603.80	603.89
E	28103.07	-20.12	603.80	603.89
F	28113.07	-20.12	603.81	603.88
G	28123.07	-20.12	603.82	603.87
H	28133.07	-20.12	603.82	603.85
<i>CL Brg. Pier 1</i>	28148.07	-20.12	603.83	603.85
I	28158.07	-20.12	603.83	603.85
J	28168.07	-20.12	603.83	603.87
K	28178.07	-20.12	603.84	603.89
L	28188.07	-20.12	603.84	603.91
M	28198.07	-20.12	603.84	603.93
N	28208.07	-20.12	603.84	603.93
O	28218.07	-20.12	603.84	603.93
P	28228.07	-20.12	603.84	603.92
Q	28238.07	-20.12	603.84	603.90
R	28248.07	-20.12	603.84	603.88
S	28258.07	-20.12	603.84	603.86
<i>CL Brg. Pier 2</i>	28269.07	-20.12	603.84	603.86
T	28279.07	-20.12	603.83	603.86
U	28289.07	-20.12	603.83	603.87
V	28299.07	-20.12	603.83	603.88
W	28309.07	-20.12	603.82	603.90
X	28319.07	-20.12	603.82	603.90
Y	28329.07	-20.12	603.81	603.90
Z	28339.07	-20.12	603.80	603.88
AA	28349.07	-20.12	603.80	603.86
<i>CL Brg. N. Abut.</i>	28364.07	-20.12	603.79	603.81
<i>Bk. N. Abut.</i>	28366.82	-20.12	603.78	603.80

**GIRDER 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
<i>Bk. S. Abut.</i>	28053.25	-12.88	603.92	603.94
<i>CL Brg. S. Abut.</i>	28056.00	-12.88	603.92	603.94
A	28066.00	-12.88	603.93	603.98
B	28076.00	-12.88	603.94	604.01
C	28086.00	-12.88	603.94	604.03
D	28096.00	-12.88	603.95	604.04
E	28106.00	-12.88	603.96	604.04
F	28116.00	-12.88	603.96	604.03
G	28126.00	-12.88	603.97	604.02
H	28136.00	-12.88	603.97	604.00
<i>CL Brg. Pier 1</i>	28151.00	-12.88	603.98	604.00
I	28161.00	-12.88	603.98	604.01
J	28171.00	-12.88	603.99	604.02
K	28181.00	-12.88	603.99	604.04
L	28191.00	-12.88	603.99	604.06
M	28201.00	-12.88	603.99	604.08
N	28211.00	-12.88	603.99	604.08
O	28221.00	-12.88	603.99	604.08
P	28231.00	-12.88	603.99	604.07
Q	28241.00	-12.88	603.99	604.05
R	28251.00	-12.88	603.99	604.03
S	28261.00	-12.88	603.99	604.01
<i>CL Brg. Pier 2</i>	28272.00	-12.88	603.99	604.01
T	28282.00	-12.88	603.98	604.01
U	28292.00	-12.88	603.98	604.02
V	28302.00	-12.88	603.97	604.03
W	28312.00	-12.88	603.97	604.05
X	28322.00	-12.88	603.96	604.05
Y	28332.00	-12.88	603.96	604.05
Z	28342.00	-12.88	603.95	604.03
AA	28352.00	-12.88	603.95	604.01
<i>CL Brg. N. Abut.</i>	28367.00	-12.88	603.93	603.95
<i>Bk. N. Abut.</i>	28369.75	-12.88	603.93	603.95

**GIRDER 3**


Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
<i>Bk. S. Abut.</i>	28056.18	-5.63	604.04	604.06
<i>CL Brg. S. Abut.</i>	28058.93	-5.63	604.04	604.06
A	28068.93	-5.63	604.05	604.10
B	28078.93	-5.63	604.06	604.13
C	28088.93	-5.63	604.06	604.15
D	28098.93	-5.63	604.07	604.16
E	28108.93	-5.63	604.08	604.16
F	28118.93	-5.63	604.08	604.15
G	28128.93	-5.63	604.09	604.14
H	28138.93	-5.63	604.09	604.12
<i>CL Brg. Pier 1</i>	28153.93	-5.63	604.10	604.12
I	28163.93	-5.63	604.10	604.12
J	28173.93	-5.63	604.10	604.14
K	28183.93	-5.63	604.11	604.16
L	28193.93	-5.63	604.11	604.18
M	28203.93	-5.63	604.11	604.19
N	28213.93	-5.63	604.11	604.20
O	28223.93	-5.63	604.11	604.20
P	28233.93	-5.63	604.11	604.18
Q	28243.93	-5.63	604.11	604.17
R	28253.93	-5.63	604.11	604.15
S	28263.93	-5.63	604.11	604.13
<i>CL Brg. Pier 2</i>	28274.93	-5.63	604.10	604.12
T	28284.93	-5.63	604.10	604.12
U	28294.93	-5.63	604.10	604.14
V	28304.93	-5.63	604.09	604.15
W	28314.93	-5.63	604.09	604.16
X	28324.93	-5.63	604.08	604.17
Y	28334.93	-5.63	604.08	604.16
Z	28344.93	-5.63	604.07	604.15
AA	28354.93	-5.63	604.06	604.12
<i>CL Brg. N. Abut.</i>	28369.93	-5.63	604.05	604.07
<i>Bk. N. Abut.</i>	28372.68	-5.63	604.05	604.07

E-SI 7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
...\\0540063-0064-72e11-006-slab-elevations-deck-sb.dgn		CHECKED - MCB	REVISED -
	PLOT SCALE = 0:2.000000 'ft' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (SOUTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0064 (S.B.)**

	Coombe-Bloxdorf P.C.		
	- CIVIL ENGINEERS - - STRUCTURAL ENGINEERS - - LAND SURVEYORS -		
Design Firm License No. 184-002703			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
55	D6 LOGAN CO BR 2011-1	LOGAN	429
			SHEET NO. 291
CONTRACT NO. 72E11			
ILLINOIS FED. AID PROJECT			

CL S.B. LANES & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28058.45	0.00	604.13	604.15
CL Brg. S. Abut.	28061.20	0.00	604.13	604.15
A	28071.20	0.00	604.14	604.19
B	28081.20	0.00	604.15	604.22
C	28091.20	0.00	604.15	604.24
D	28101.20	0.00	604.16	604.25
E	28111.20	0.00	604.17	604.25
F	28121.20	0.00	604.17	604.24
G	28131.20	0.00	604.18	604.23
H	28141.20	0.00	604.18	604.21
CL Brg. Pier 1	28156.20	0.00	604.19	604.21
I	28166.20	0.00	604.19	604.21
J	28176.20	0.00	604.19	604.23
K	28186.20	0.00	604.19	604.25
L	28196.20	0.00	604.20	604.27
M	28206.20	0.00	604.20	604.28
N	28216.20	0.00	604.20	604.29
O	28226.20	0.00	604.20	604.28
P	28236.20	0.00	604.20	604.27
Q	28246.20	0.00	604.20	604.25
R	28256.20	0.00	604.19	604.23
S	28266.20	0.00	604.19	604.22
CL Brg. Pier 2	28277.20	0.00	604.19	604.21
T	28287.20	0.00	604.19	604.21
U	28297.20	0.00	604.18	604.22
V	28307.20	0.00	604.18	604.24
W	28317.20	0.00	604.17	604.25
X	28327.20	0.00	604.17	604.25
Y	28337.20	0.00	604.16	604.25
Z	28347.20	0.00	604.16	604.23
AA	28357.20	0.00	604.15	604.21
CL Brg. N. Abut.	28372.20	0.00	604.14	604.16
Bk. N. Abut.	28374.95	0.00	604.13	604.15

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28059.11	1.63	604.10	604.12
CL Brg. S. Abut.	28061.86	1.63	604.10	604.12
A	28071.86	1.63	604.11	604.16
B	28081.86	1.63	604.12	604.19
C	28091.86	1.63	604.13	604.21
D	28101.86	1.63	604.13	604.22
E	28111.86	1.63	604.14	604.22
F	28121.86	1.63	604.15	604.21
G	28131.86	1.63	604.15	604.20
H	28141.86	1.63	604.16	604.19
CL Brg. Pier 1	28156.85	1.63	604.16	604.18
I	28166.85	1.63	604.16	604.19
J	28176.85	1.63	604.17	604.20
K	28186.85	1.63	604.17	604.22
L	28196.85	1.63	604.17	604.24
M	28206.85	1.63	604.17	604.26
N	28216.85	1.63	604.17	604.26
O	28226.85	1.63	604.17	604.26
P	28236.85	1.63	604.17	604.25
Q	28246.85	1.63	604.17	604.23
R	28256.85	1.63	604.17	604.21
S	28266.85	1.63	604.17	604.19
CL Brg. Pier 2	28277.85	1.63	604.16	604.18
T	28287.85	1.63	604.16	604.19
U	28297.85	1.63	604.16	604.20
V	28307.85	1.63	604.15	604.21
W	28317.85	1.63	604.15	604.22
X	28327.85	1.63	604.14	604.23
Y	28337.85	1.63	604.14	604.22
Z	28347.85	1.63	604.13	604.21
AA	28357.85	1.63	604.12	604.18
CL Brg. N. Abut.	28372.86	1.63	604.11	604.13
Bk. N. Abut.	28375.61	1.63	604.11	604.13

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28062.04	8.88	603.99	604.01
CL Brg. S. Abut.	28064.79	8.88	603.99	604.01
A	28074.79	8.88	604.00	604.05
B	28084.79	8.88	604.01	604.08
C	28094.79	8.88	604.02	604.10
D	28104.79	8.88	604.02	604.11
E	28114.79	8.88	604.03	604.11
F	28124.79	8.88	604.03	604.10
G	28134.79	8.88	604.04	604.09
H	28144.79	8.88	604.04	604.08
CL Brg. Pier 1	28159.78	8.88	604.05	604.07
I	28169.78	8.88	604.05	604.07
J	28179.78	8.88	604.05	604.09
K	28189.78	8.88	604.06	604.11
L	28199.78	8.88	604.06	604.13
M	28209.78	8.88	604.06	604.14
N	28219.78	8.88	604.06	604.15
O	28229.78	8.88	604.06	604.15
P	28239.78	8.88	604.06	604.13
Q	28249.78	8.88	604.06	604.11
R	28259.78	8.88	604.06	604.09
S	28269.78	8.88	604.05	604.08
CL Brg. Pier 2	28280.78	8.88	604.05	604.07
T	28290.78	8.88	604.05	604.07
U	28300.78	8.88	604.04	604.08
V	28310.78	8.88	604.04	604.10
W	28320.78	8.88	604.03	604.11
X	28330.78	8.88	604.03	604.11
Y	28340.78	8.88	604.02	604.11
Z	28350.78	8.88	604.01	604.09
AA	28360.78	8.88	604.01	604.07
CL Brg. N. Abut.	28375.79	8.88	603.99	604.01
Bk. N. Abut.	28378.54	8.88	603.99	604.01

E-SI 7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
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	PLOT SCALE = 0:2.000000 '1' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (SOUTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0064 (S.B.)**

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	292
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

**PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28063.30	12.00	603.94	603.96
CL Brg. S. Abut.	28066.05	12.00	603.95	603.97
A	28076.05	12.00	603.95	604.00
B	28086.05	12.00	603.96	604.03
C	28096.05	12.00	603.97	604.05
D	28106.05	12.00	603.98	604.06
E	28116.05	12.00	603.98	604.06
F	28126.05	12.00	603.99	604.05
G	28136.05	12.00	603.99	604.04
H	28146.05	12.00	604.00	604.03
CL Brg. Pier 1	28161.05	12.00	604.00	604.02
I	28171.05	12.00	604.00	604.03
J	28181.05	12.00	604.01	604.04
K	28191.05	12.00	604.01	604.06
L	28201.05	12.00	604.01	604.08
M	28211.05	12.00	604.01	604.10
N	28221.05	12.00	604.01	604.10
O	28231.05	12.00	604.01	604.10
P	28241.05	12.00	604.01	604.08
Q	28251.05	12.00	604.01	604.07
R	28261.05	12.00	604.01	604.04
S	28271.05	12.00	604.00	604.03
CL Brg. Pier 2	28282.05	12.00	604.00	604.02
T	28292.05	12.00	604.00	604.02
U	28302.05	12.00	603.99	604.03
V	28312.05	12.00	603.99	604.05
W	28322.05	12.00	603.98	604.06
X	28332.05	12.00	603.98	604.06
Y	28342.05	12.00	603.97	604.06
Z	28352.05	12.00	603.96	604.04
AA	28362.05	12.00	603.96	604.02
CL Brg. N. Abut.	28377.05	12.00	603.94	603.96
Bk. N. Abut.	28379.80	12.00	603.94	603.96

**GIRDER 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28064.96	16.13	603.86	603.88
CL Brg. S. Abut.	28067.71	16.13	603.86	603.88
A	28077.71	16.13	603.87	603.92
B	28087.71	16.13	603.88	603.95
C	28097.71	16.13	603.88	603.97
D	28107.71	16.13	603.89	603.98
E	28117.71	16.13	603.90	603.98
F	28127.71	16.13	603.90	603.97
G	28137.71	16.13	603.91	603.96
H	28147.71	16.13	603.91	603.94
CL Brg. Pier 1	28162.71	16.13	603.92	603.94
I	28172.71	16.13	603.92	603.94
J	28182.71	16.13	603.92	603.96
K	28192.71	16.13	603.92	603.98
L	28202.71	16.13	603.92	604.00
M	28212.71	16.13	603.92	604.01
N	28222.71	16.13	603.92	604.01
O	28232.71	16.13	603.92	604.01
P	28242.71	16.13	603.92	604.00
Q	28252.71	16.13	603.92	603.98
R	28262.71	16.13	603.92	603.96
S	28272.71	16.13	603.92	603.94
CL Brg. Pier 2	28283.71	16.13	603.91	603.93
T	28293.71	16.13	603.91	603.94
U	28303.71	16.13	603.91	603.95
V	28313.71	16.13	603.90	603.96
W	28323.71	16.13	603.90	603.97
X	28333.71	16.13	603.89	603.98
Y	28343.71	16.13	603.88	603.97
Z	28353.71	16.13	603.88	603.96
AA	28363.71	16.13	603.87	603.93
CL Brg. N. Abut.	28378.71	16.13	603.86	603.88
Bk. N. Abut.	28381.46	16.13	603.86	603.88

E-SI 7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED -	REVISED -
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	PLOT SCALE = 0:2.000000 'f' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (SOUTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0064 (S.B.)**

SHEET NO. 8 OF 38 SHEETS

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	293
				CONTRACT NO. 72E11
ILLINOIS FED. AID PROJECT				

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28020.46	-22.00	603.69	603.71
A	28030.46	-22.00	603.71	603.73
B	28040.46	-22.00	603.72	603.74
N. End S. Approach	28050.46	-22.00	603.72	603.74

**WEST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28024.50	-12.00	603.91	603.93
A	28034.50	-12.00	603.92	603.94
B	28044.50	-12.00	603.93	603.95
N. End S. Approach	28054.50	-12.00	603.94	603.96

**☉ ROADWAY & STAGE CONSTRUCTION LINE**

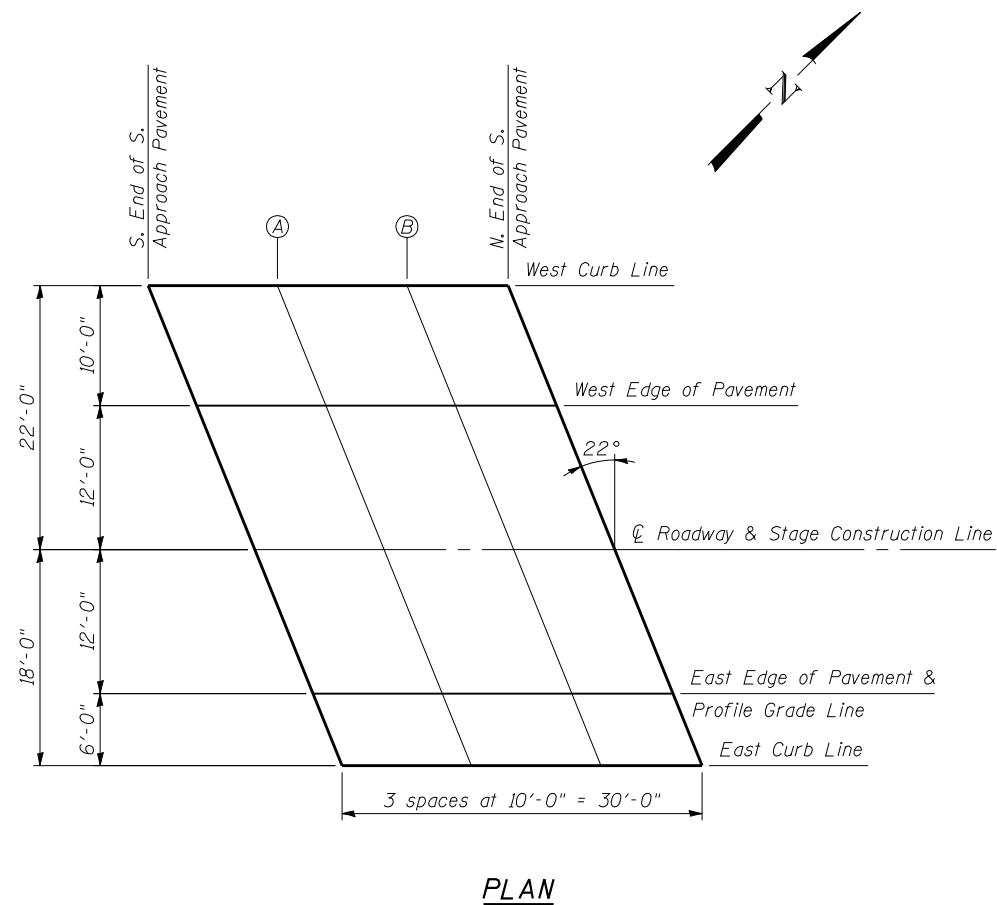
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28029.35	0.00	604.10	604.12
A	28039.35	0.00	604.11	604.13
B	28049.35	0.00	604.12	604.14
N. End S. Approach	28059.35	0.00	604.13	604.15

**EAST EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28034.20	12.00	603.92	603.94
A	28044.20	12.00	603.93	603.95
B	28054.20	12.00	603.94	603.96
N. End S. Approach	28064.20	12.00	603.94	603.96

**EAST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28036.62	18.00	603.79	603.81
A	28046.62	18.00	603.80	603.82
B	28056.62	18.00	603.81	603.83
N. End S. Approach	28066.62	18.00	603.82	603.84



**PLAN**

E-AS1

7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
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	PLOT SCALE = 16:0.000000 'ft' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF APPROACH SLAB ELEVATIONS (S. APPROACH, S.B. STRUCTURE)  
STRUCTURE NO. 054-0064 (S.B.)**

SHEET NO. 9 OF 38 SHEETS

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	294
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Approach	28365.16	-22.00	603.75	603.77
C	28375.16	-22.00	603.74	603.76
D	28385.16	-22.00	603.73	603.75
N. End N. Approach	28395.16	-22.00	603.72	603.74

**WEST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Approach	28369.20	-12.00	603.95	603.97
C	28379.20	-12.00	603.94	603.96
D	28389.20	-12.00	603.93	603.95
N. End N. Approach	28399.20	-12.00	603.93	603.95

**☉ ROADWAY & STAGE CONSTRUCTION LINE**

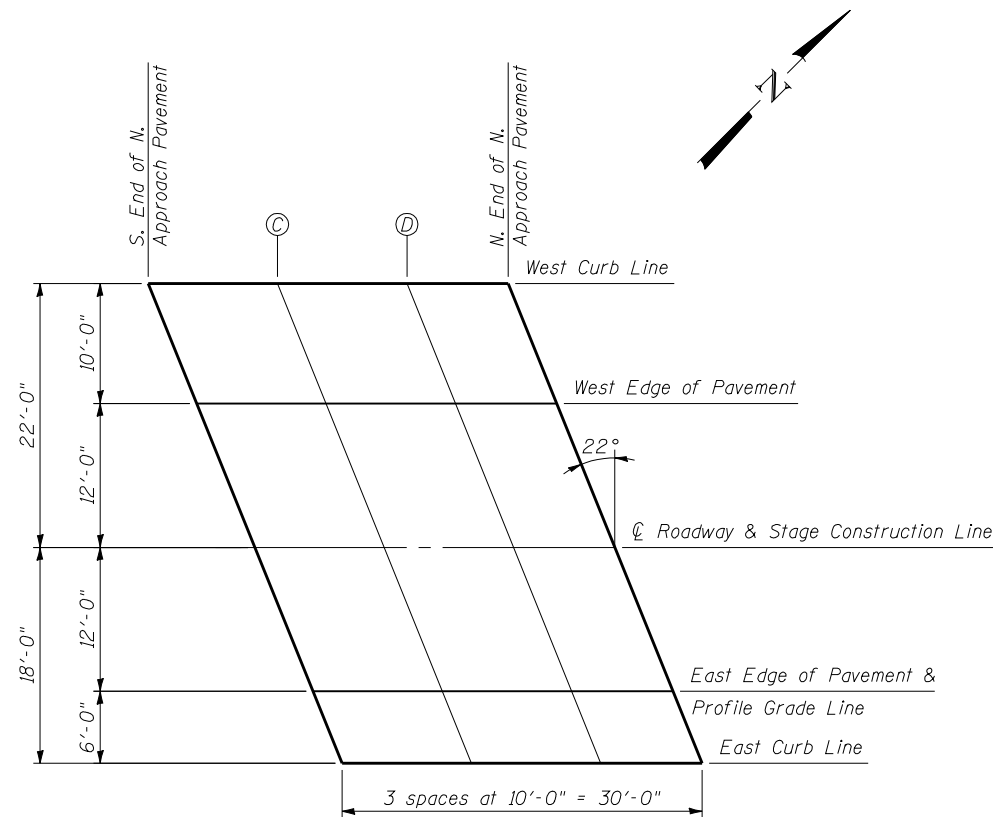
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Approach	28374.05	0.00	604.13	604.15
C	28384.05	0.00	604.13	604.15
D	28394.05	0.00	604.12	604.14
N. End N. Approach	28404.05	0.00	604.11	604.13

**EAST EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Approach	28378.90	12.00	603.94	603.96
C	28388.90	12.00	603.93	603.95
D	28398.90	12.00	603.93	603.95
N. End N. Approach	28408.90	12.00	603.92	603.94

**EAST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End N. Approach	28381.32	18.00	603.82	603.84
C	28391.32	18.00	603.81	603.83
D	28401.32	18.00	603.80	603.82
N. End N. Approach	28411.32	18.00	603.79	603.81



**PLAN**

E-AS1

7-1-10

FILE NAME =	USER NAME = .MML	DESIGNED - RKM	REVISED -
... \0540063-0064-72e11-010-slab-elevations-n-approach-sb.dgn		CHECKED - MCB	REVISED -
	PLOT SCALE = 16:0.000000 ' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

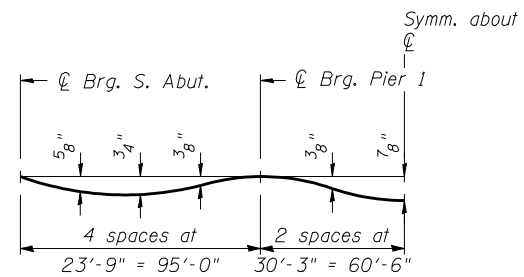
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF APPROACH SLAB ELEVATIONS (N. APPROACH, S.B. STRUCTURE)  
STRUCTURE NO. 054-0064 (S.B.)**

SHEET NO. 10 OF 38 SHEETS

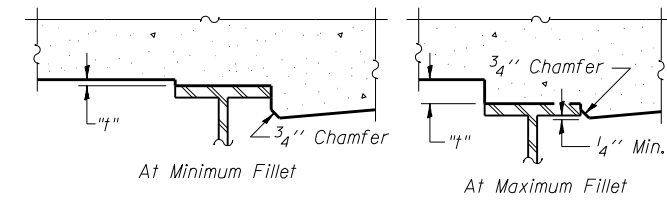
**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	295
			CONTRACT NO. 72E11	
ILLINOIS FED. AID PROJECT				



**Note:**

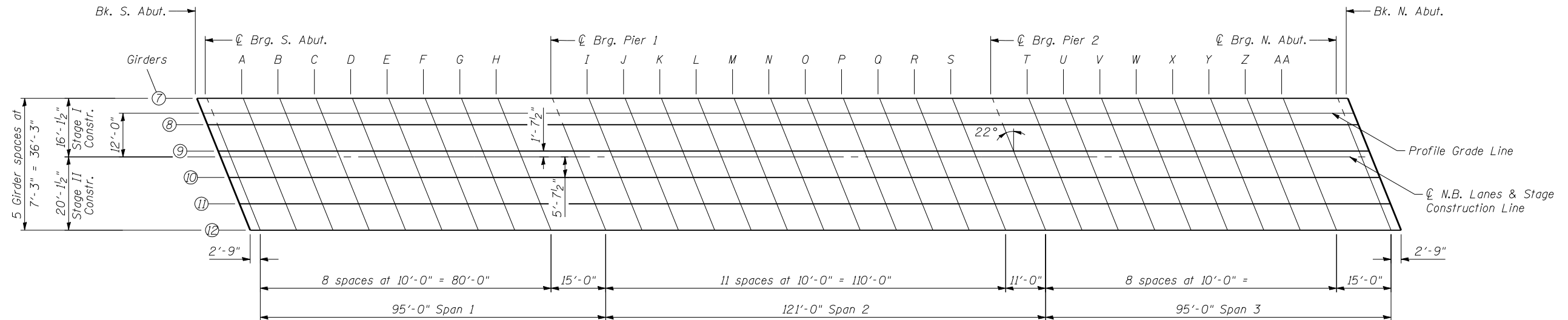
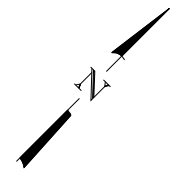
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown below.



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 and Grinding" shown on sheets 11 thru 13 of 38, minus slab thickness, equals the fillet heights "t" above top flange of beams.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For grinding the deck, see Special Provisions.

**FILLET HEIGHTS**



**PLAN**

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
... \0540063-0064-72e11-011-slab-elevations	deck-nb.dgn	CHECKED - MCB	REVISED -
CB PROJECT NO 10007-3	PLOT SCALE = 32:0.000000 '1' / IN.	DRAWN - CFC	REVISED -
	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (NORTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0063 (N.B.)**

SHEET NO. 11 OF 38 SHEETS

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	296
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT



**GIRDER 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28097.19	-16.12	603.94	603.96
CL Brg. S. Abut.	28099.94	-16.12	603.95	603.97
A	28109.94	-16.12	603.95	604.00
B	28119.94	-16.12	603.96	604.03
C	28129.94	-16.12	603.96	604.05
D	28139.94	-16.12	603.97	604.06
E	28149.94	-16.12	603.97	604.05
F	28159.94	-16.12	603.97	604.04
G	28169.94	-16.12	603.98	604.03
H	28179.94	-16.12	603.98	604.01
CL Brg. Pier 1	28194.94	-16.12	603.98	604.00
I	28204.94	-16.12	603.98	604.00
J	28214.94	-16.12	603.98	604.01
K	28224.94	-16.12	603.98	604.03
L	28234.94	-16.12	603.97	604.05
M	28244.94	-16.12	603.97	604.06
N	28254.94	-16.12	603.97	604.06
O	28264.94	-16.12	603.96	604.05
P	28274.94	-16.12	603.96	604.03
Q	28284.94	-16.12	603.95	604.01
R	28294.94	-16.12	603.95	603.98
S	28304.94	-16.12	603.94	603.96
CL Brg. Pier 2	28315.94	-16.12	603.93	603.95
T	28325.94	-16.12	603.92	603.95
U	28335.94	-16.12	603.91	603.95
V	28345.94	-16.12	603.90	603.96
W	28355.94	-16.12	603.89	603.97
X	28365.94	-16.12	603.88	603.97
Y	28375.94	-16.12	603.87	603.96
Z	28385.94	-16.12	603.86	603.93
AA	28395.94	-16.12	603.84	603.90
CL Brg. N. Abut.	28410.94	-16.12	603.82	603.84
Bk. N. Abut.	28413.69	-16.12	603.82	603.84

**PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28098.86	-12.00	604.03	604.05
CL Brg. S. Abut.	28101.61	-12.00	604.03	604.05
A	28111.61	-12.00	604.04	604.09
B	28121.61	-12.00	604.04	604.12
C	28131.61	-12.00	604.05	604.13
D	28141.61	-12.00	604.05	604.14
E	28151.61	-12.00	604.06	604.14
F	28161.61	-12.00	604.06	604.13
G	28171.61	-12.00	604.06	604.11
H	28181.61	-12.00	604.06	604.10
CL Brg. Pier 1	28196.61	-12.00	604.07	604.09
I	28206.61	-12.00	604.06	604.09
J	28216.61	-12.00	604.06	604.10
K	28226.61	-12.00	604.06	604.12
L	28236.61	-12.00	604.06	604.13
M	28246.61	-12.00	604.06	604.14
N	28256.61	-12.00	604.05	604.14
O	28266.61	-12.00	604.05	604.13
P	28276.61	-12.00	604.04	604.12
Q	28286.61	-12.00	604.04	604.09
R	28296.61	-12.00	604.03	604.07
S	28306.61	-12.00	604.02	604.05
CL Brg. Pier 2	28317.61	-12.00	604.02	604.04
T	28327.61	-12.00	604.01	604.03
U	28337.61	-12.00	604.00	604.04
V	28347.61	-12.00	603.99	604.05
W	28357.61	-12.00	603.98	604.05
X	28367.61	-12.00	603.96	604.05
Y	28377.61	-12.00	603.95	604.04
Z	28387.61	-12.00	603.94	604.02
AA	28397.61	-12.00	603.93	603.99
CL Brg. N. Abut.	28412.61	-12.00	603.90	603.92
Bk. N. Abut.	28415.36	-12.00	603.90	603.92

**GIRDER 8**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28100.12	-8.87	604.08	604.10
CL Brg. S. Abut.	28102.87	-8.87	604.08	604.10
A	28112.87	-8.87	604.09	604.14
B	28122.87	-8.87	604.09	604.16
C	28132.87	-8.87	604.10	604.18
D	28142.87	-8.87	604.10	604.19
E	28152.87	-8.87	604.11	604.19
F	28162.87	-8.87	604.11	604.18
G	28172.87	-8.87	604.11	604.16
H	28182.87	-8.87	604.11	604.14
CL Brg. Pier 1	28197.87	-8.87	604.11	604.13
I	28207.87	-8.87	604.11	604.14
J	28217.87	-8.87	604.11	604.15
K	28227.87	-8.87	604.11	604.17
L	28237.87	-8.87	604.11	604.18
M	28247.87	-8.87	604.11	604.19
N	28257.87	-8.87	604.10	604.19
O	28267.87	-8.87	604.10	604.18
P	28277.87	-8.87	604.09	604.17
Q	28287.87	-8.87	604.09	604.14
R	28297.87	-8.87	604.08	604.12
S	28307.87	-8.87	604.07	604.10
CL Brg. Pier 2	28318.87	-8.87	604.06	604.08
T	28328.87	-8.87	604.05	604.08
U	28338.87	-8.87	604.04	604.08
V	28348.87	-8.87	604.03	604.09
W	28358.87	-8.87	604.02	604.10
X	28368.87	-8.87	604.01	604.10
Y	28378.87	-8.87	604.00	604.09
Z	28388.87	-8.87	603.99	604.06
AA	28398.87	-8.87	603.97	604.03
CL Brg. N. Abut.	28413.87	-8.87	603.95	603.97
Bk. N. Abut.	28416.62	-8.87	603.95	603.97

E-SI 7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
...\\0540063-0064-72e11-012-slab-elevations-deck-nb.dgn		CHECKED - MCB	REVISED -
		PLOT SCALE = 0:2.000000 'x' / IN.	DRAWN - CFC
CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (NORTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0063 (N.B.)**

Coombes-Bloxdorf P.C.  
-CIVIL ENGINEERS-  
-STRUCTURAL ENGINEERS-  
-LAND SURVEYORS-  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	297
			CONTRACT NO. 72E11	
ILLINOIS FED. AID PROJECT				

**GIRDER 9**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28103.05	-1.63	604.20	604.22
CL Brg. S. Abut.	28105.80	-1.63	604.20	604.22
A	28115.80	-1.63	604.20	604.25
B	28125.80	-1.63	604.21	604.28
C	28135.80	-1.63	604.21	604.30
D	28145.80	-1.63	604.22	604.31
E	28155.80	-1.63	604.22	604.30
F	28165.80	-1.63	604.22	604.29
G	28175.80	-1.63	604.23	604.28
H	28185.80	-1.63	604.23	604.26
CL Brg. Pier 1	28200.80	-1.63	604.23	604.25
I	28210.80	-1.63	604.23	604.25
J	28220.80	-1.63	604.23	604.26
K	28230.80	-1.63	604.22	604.28
L	28240.80	-1.63	604.22	604.29
M	28250.80	-1.63	604.22	604.30
N	28260.80	-1.63	604.21	604.30
O	28270.80	-1.63	604.21	604.29
P	28280.80	-1.63	604.20	604.28
Q	28290.80	-1.63	604.20	604.25
R	28300.80	-1.63	604.19	604.23
S	28310.80	-1.63	604.18	604.21
CL Brg. Pier 2	28321.80	-1.63	604.17	604.19
T	28331.80	-1.63	604.16	604.19
U	28341.80	-1.63	604.15	604.20
V	28351.80	-1.63	604.14	604.20
W	28361.80	-1.63	604.13	604.21
X	28371.80	-1.63	604.12	604.21
Y	28381.80	-1.63	604.11	604.20
Z	28391.80	-1.63	604.10	604.17
AA	28401.80	-1.63	604.08	604.14
CL Brg. N. Abut.	28416.80	-1.63	604.06	604.08
Bk. N. Abut.	28419.55	-1.63	604.06	604.08

**☉ N.B. LANES & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28103.71	0.00	604.22	604.24
CL Brg. S. Abut.	28106.46	0.00	604.22	604.24
A	28116.46	0.00	604.23	604.28
B	28126.46	0.00	604.23	604.31
C	28136.46	0.00	604.24	604.32
D	28146.46	0.00	604.24	604.33
E	28156.46	0.00	604.25	604.33
F	28166.46	0.00	604.25	604.32
G	28176.46	0.00	604.25	604.30
H	28186.46	0.00	604.25	604.28
CL Brg. Pier 1	28201.46	0.00	604.25	604.27
I	28211.46	0.00	604.25	604.27
J	28221.46	0.00	604.25	604.29
K	28231.46	0.00	604.25	604.30
L	28241.46	0.00	604.25	604.32
M	28251.46	0.00	604.24	604.33
N	28261.46	0.00	604.24	604.33
O	28271.46	0.00	604.23	604.32
P	28281.46	0.00	604.23	604.30
Q	28291.46	0.00	604.22	604.28
R	28301.46	0.00	604.22	604.25
S	28311.46	0.00	604.21	604.23
CL Brg. Pier 2	28322.46	0.00	604.20	604.22
T	28332.46	0.00	604.19	604.21
U	28342.46	0.00	604.18	604.22
V	28352.46	0.00	604.17	604.23
W	28362.46	0.00	604.16	604.23
X	28372.46	0.00	604.15	604.23
Y	28382.46	0.00	604.13	604.22
Z	28392.46	0.00	604.12	604.20
AA	28402.46	0.00	604.11	604.17
CL Brg. N. Abut.	28417.46	0.00	604.08	604.10
Bk. N. Abut.	28420.21	0.00	604.08	604.10

**GIRDER 10**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28105.98	5.62	604.14	604.16
CL Brg. S. Abut.	28108.73	5.62	604.14	604.16
A	28118.73	5.62	604.14	604.19
B	28128.73	5.62	604.15	604.22
C	28138.73	5.62	604.15	604.24
D	28148.73	5.62	604.16	604.24
E	28158.73	5.62	604.16	604.24
F	28168.73	5.62	604.16	604.23
G	28178.73	5.62	604.16	604.21
H	28188.73	5.62	604.16	604.20
CL Brg. Pier 1	28203.73	5.62	604.16	604.18
I	28213.73	5.62	604.16	604.19
J	28223.73	5.62	604.16	604.20
K	28233.73	5.62	604.16	604.22
L	28243.73	5.62	604.16	604.23
M	28253.73	5.62	604.15	604.24
N	28263.73	5.62	604.15	604.24
O	28273.73	5.62	604.14	604.23
P	28283.73	5.62	604.14	604.21
Q	28293.73	5.62	604.13	604.19
R	28303.73	5.62	604.13	604.16
S	28313.73	5.62	604.12	604.14
CL Brg. Pier 2	28324.73	5.62	604.11	604.13
T	28334.73	5.62	604.10	604.12
U	28344.73	5.62	604.09	604.13
V	28354.73	5.62	604.08	604.14
W	28364.73	5.62	604.07	604.14
X	28374.73	5.62	604.06	604.14
Y	28384.73	5.62	604.04	604.13
Z	28394.73	5.62	604.03	604.11
AA	28404.73	5.62	604.02	604.07
CL Brg. N. Abut.	28419.73	5.62	603.99	604.01
Bk. N. Abut.	28422.48	5.62	603.99	604.01

E-SI 7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
...\\0540063-0064-72e11-013-slab-elevations-deck-nb.dgn		CHECKED - MCB	REVISED -
	PLOT SCALE = 0:2.000000 '1' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (NORTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0063 (N.B.) & 054-0064 (S.B.)**

SHEET NO. 13 OF 38 SHEETS

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	298
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT

**GIRDER 11**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28108.91	12.87	604.02	604.04
CL Brg. S. Abut.	28111.66	12.87	604.02	604.04
A	28121.66	12.87	604.03	604.07
B	28131.66	12.87	604.03	604.10
C	28141.66	12.87	604.04	604.12
D	28151.66	12.87	604.04	604.13
E	28161.66	12.87	604.04	604.12
F	28171.66	12.87	604.04	604.11
G	28181.66	12.87	604.05	604.10
H	28191.66	12.87	604.05	604.08
CL Brg. Pier 1	28206.66	12.87	604.05	604.07
I	28216.66	12.87	604.05	604.07
J	28226.66	12.87	604.04	604.08
K	28236.66	12.87	604.04	604.10
L	28246.66	12.87	604.04	604.11
M	28256.66	12.87	604.03	604.12
N	28266.66	12.87	604.03	604.12
O	28276.66	12.87	604.03	604.11
P	28286.66	12.87	604.02	604.09
Q	28296.66	12.87	604.01	604.07
R	28306.66	12.87	604.01	604.04
S	28316.66	12.87	604.00	604.02
CL Brg. Pier 2	28327.66	12.87	603.99	604.01
T	28337.66	12.87	603.98	604.00
U	28347.66	12.87	603.97	604.01
V	28357.66	12.87	603.96	604.02
W	28367.66	12.87	603.95	604.02
X	28377.66	12.87	603.93	604.02
Y	28387.66	12.87	603.92	604.01
Z	28397.66	12.87	603.91	603.99
AA	28407.66	12.87	603.89	603.95
CL Brg. N. Abut.	28422.66	12.87	603.87	603.89
Bk. N. Abut.	28425.41	12.87	603.87	603.89

**GIRDER 12**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	28111.84	20.12	603.87	603.89
CL Brg. S. Abut.	28114.59	20.12	603.87	603.89
A	28124.59	20.12	603.88	603.93
B	28134.59	20.12	603.88	603.95
C	28144.59	20.12	603.89	603.97
D	28154.59	20.12	603.89	603.98
E	28164.59	20.12	603.89	603.97
F	28174.59	20.12	603.89	603.96
G	28184.59	20.12	603.90	603.95
H	28194.59	20.12	603.90	603.93
CL Brg. Pier 1	28209.59	20.12	603.90	603.92
I	28219.59	20.12	603.89	603.92
J	28229.59	20.12	603.89	603.93
K	28239.59	20.12	603.89	603.95
L	28249.59	20.12	603.89	603.96
M	28259.59	20.12	603.88	603.97
N	28269.59	20.12	603.88	603.97
O	28279.59	20.12	603.87	603.96
P	28289.59	20.12	603.87	603.94
Q	28299.59	20.12	603.86	603.92
R	28309.59	20.12	603.85	603.89
S	28319.59	20.12	603.84	603.87
CL Brg. Pier 2	28330.59	20.12	603.83	603.85
T	28340.59	20.12	603.82	603.85
U	28350.59	20.12	603.81	603.85
V	28360.59	20.12	603.80	603.86
W	28370.59	20.12	603.79	603.87
X	28380.59	20.12	603.78	603.87
Y	28390.59	20.12	603.77	603.85
Z	28400.59	20.12	603.75	603.83
AA	28410.59	20.12	603.74	603.80
CL Brg. N. Abut.	28425.59	20.12	603.71	603.73
Bk. N. Abut.	28428.34	20.12	603.71	603.73


E-SI 7-1-10

FILE NAME =	USER NAME = .MML.	DESIGNED - RKM	REVISED -
...\\0540063-0064-72e11-014-slab-elevations-deck-nb.dgn		CHECKED - MCB	REVISED -
	PLOT SCALE = 0:2.000000 'x' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO. 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS (NORTH BOUND STRUCTURE)  
STRUCTURE NO. 054-0063 (N.B.)**

SHEET NO. 14 OF 38 SHEETS

 <b>Coombe-Bloxdorf P.C.</b> - CIVIL ENGINEERS - - STRUCTURAL ENGINEERS - - LAND SURVEYORS - Design Firm License No. 184-002703				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	299
			CONTRACT NO. 72D42	
ILLINOIS FED. AID PROJECT				

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28067.33	-18.00	603.88	603.90
A	28077.33	-18.00	603.89	603.91
B	28087.33	-18.00	603.90	603.92
N. End S. Approach	28097.33	-18.00	603.91	603.93

**WEST EDGE OF PAVEMENT & PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28069.76	-12.00	604.01	604.03
A	28079.76	-12.00	604.02	604.04
B	28089.76	-12.00	604.02	604.04
N. End S. Approach	28099.76	-12.00	604.03	604.05

**⊘ ROADWAY & STAGE CONSTRUCTION LINE**

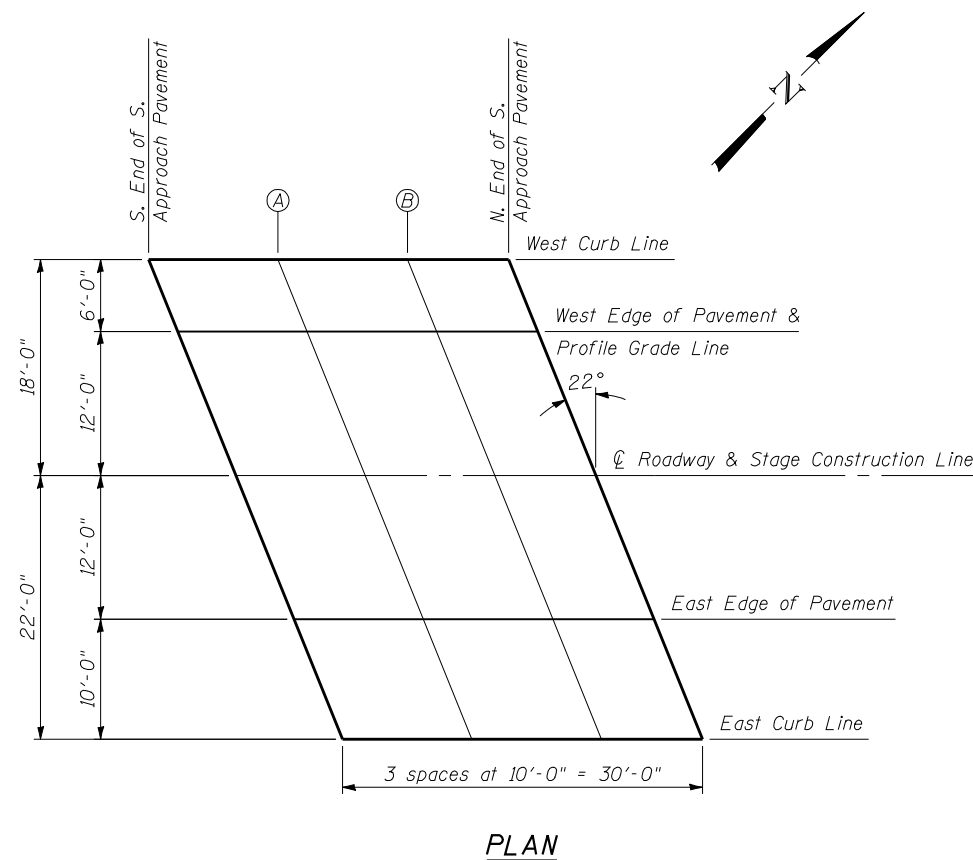
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28074.61	0.00	604.20	604.22
A	28084.61	0.00	604.21	604.23
B	28094.61	0.00	604.22	604.24
N. End S. Approach	28104.61	0.00	604.22	604.24

**EAST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28079.46	12.00	604.02	604.04
A	28089.46	12.00	604.02	604.04
B	28099.46	12.00	604.03	604.05
N. End S. Approach	28109.45	12.00	604.04	604.06

**EAST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Approach	28083.49	22.00	603.81	603.83
A	28093.49	22.00	603.82	603.84
B	28103.49	22.00	603.83	603.85
N. End S. Approach	28113.49	22.00	603.83	603.85



**PLAN**

E-AS1

7-1-10

FILE NAME =	USER NAME = .MML	DESIGNED - RKM	REVISED -
...\\0540063-0064-72e11-015-slab-elevations-s-approach-nb.dgn		CHECKED - MCB	REVISED -
	PLOT SCALE = 16:0.000000 '1' / IN.	DRAWN - CFC	REVISED -
CB PROJECT NO 10007-3	PLOT DATE = 3/18/2013	CHECKED - RKM	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF APPROACH SLAB ELEVATIONS (S. APPROACH, N.B. STRUCTURE)  
STRUCTURE NO. 054-0063 (N.B.)**

SHEET NO. 15 OF 38 SHEETS

**CB** Coombe-Bloxdorf P.C.  
- CIVIL ENGINEERS -  
- STRUCTURAL ENGINEERS -  
- LAND SURVEYORS -  
Design Firm License No. 184-002703

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	D6 LOGAN CO BR 2011-1	LOGAN	429	300
				CONTRACT NO. 72E11

ILLINOIS FED. AID PROJECT