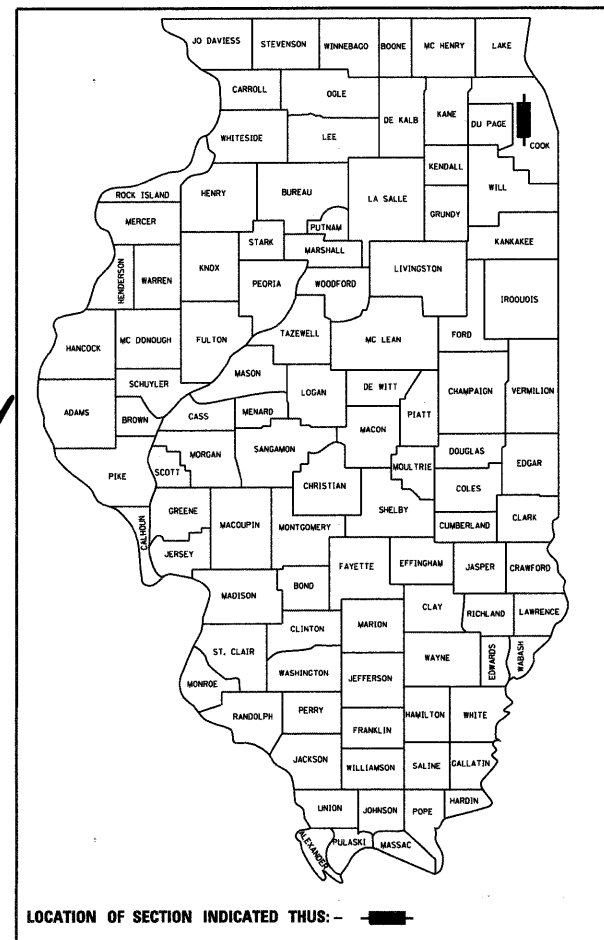


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	1

CONTRACT NO. 60121 *31+1=32

D-91-322-97



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 330 US 12/45 (MANNHEIM ROAD)
AT FRANKLIN AVENUE & SOO RR-NOW CANADIAN PACIFIC RAILWAY
SECTION: 465 (HB & VB) F
BEAM FABRICATION
PROJECT: *BRF-0330(057)*
COOK COUNTY
C-91-868-09

FOR INDEX OF SHEETS & GENERAL NOTES, SEE SHEET NO. 3

TRAFFIC DATA
FAP 330 US12/45 (MANNHEIM ROAD)
1996 ADT = 48,000
2020 ADT = 60,000

POSTED SPEED LIMIT
40 MPH

DESIGN DESIGNATION
PRINCIPAL ARTERIAL

THE PROJECT IS LOCATED IN THE VILLAGE OF FRANKLIN PARK

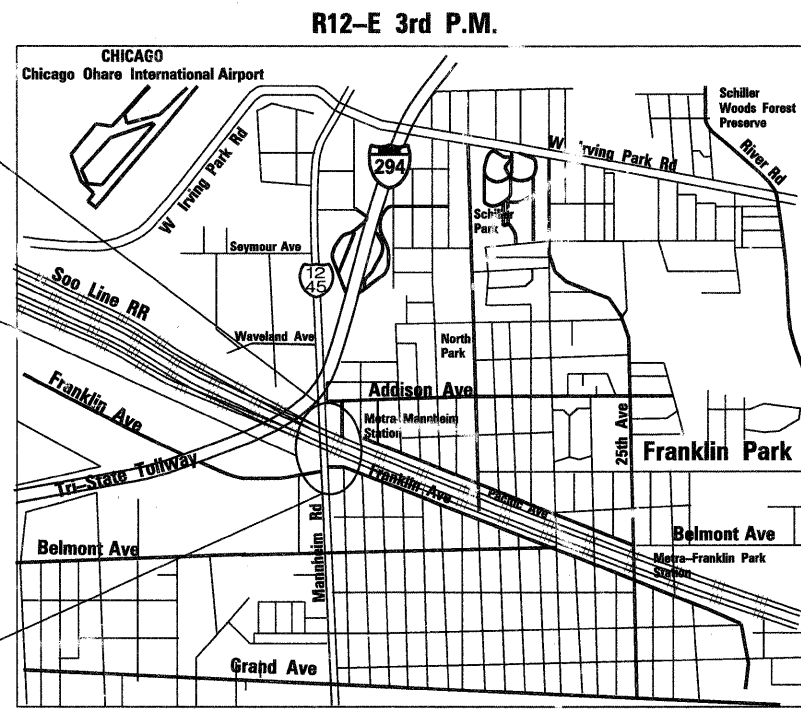
FAP 330 US 12/45 (MANNHEIM ROAD) OVER SOO LINE RR- & FRANKLIN AVENUE (NOW CANADIAN PACIFIC RAILWAY ?)

BEAM FABRICATION CONTRACT
FABRICATION OF STRUCTURAL STEEL
FOR PROPOSED STRUCTURE NO. 016-2815

IMPROVEMENT ENDS
STA. 194 + 30

SN 016-0335 EXISTING
SN 016-2815 PROPOSED
STA. 183 + 33.30 1,250'-3"
US 12/45 OVER SOO LINE

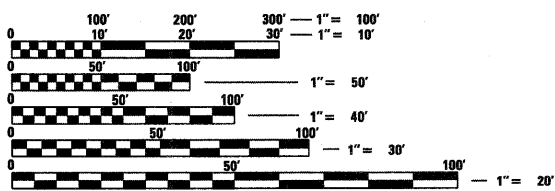
IMPROVEMENT BEGINS
STA. 173 + 50



T-40-N
LEYDEN TOWNSHIP

LEYDEN TOWNSHIP LOCATION MAP

GROSS AND NET LENGTH OF PROJECT = 1250.3 FT. (.24 MILES)



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

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

CONTRACT NO. 60121



Christopher L. Stine
CHRISTOPHER L. STINE P.E., S.E.
081-006667
EXP. 11/20/2010

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *June 24, 2009*

Dina O'Keefe
DISTRICT ENGINEER

August 14, 2009
Charles G. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT

August 14, 2009
Christine M. Reed
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

o:\work\53346\cedd\drawings\2007\bridge\steel\contract.6.2009\00Ccover_s.dwg
 6/23/2009
 DISTRICT 1 - DESIGNCONSULTANT SERVICES/RAJENDRA SHAH (847) 705-4555

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	2
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121			2A	S30

SUMMARY OF QUANTITIES

*URBAN
80% FED.
20% STATE*

ITEM NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE
				BRIDGE X071-2A
50500205	FURNISHING STRUCTURAL STEEL	L SUM	1	1
50500455	STORAGE OF STRUCTURAL STEEL	CAL DA	60	60

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		SUMMARY OF QUANTITIES FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815 SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR DATE 6/2009 CHECKED BY DSB

EARTHTECH | AECOM

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	2A
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S1 of 530		

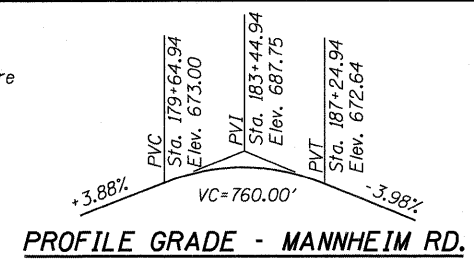
Bench Mark: "X" Cut on Top Row of N.W. bolt of Fire Hydrant W. Side of Mannheim Road and first Fire Hydrant S. of Bridge over RR Tracks and Franklin Ave.
 Existing Structures: No. 016-0335. Built as US 12/20/45 (Mannheim Rd.) Sec. 465 VB-R-1 in 1940. Structure widened and rehabilitated in 1978. The superstructure consists of a R.C. deck 1250' long by 100.1' wide supported on 19 spans of Rolled Girder and riveted Plate Girder. Traffic shall be maintained during Structure rehabilitation by staged construction.
 Salvage Materials: None.

DESIGN SPECIFICATIONS
 2002 AASHTO Std. Spec. for Highway Bridges

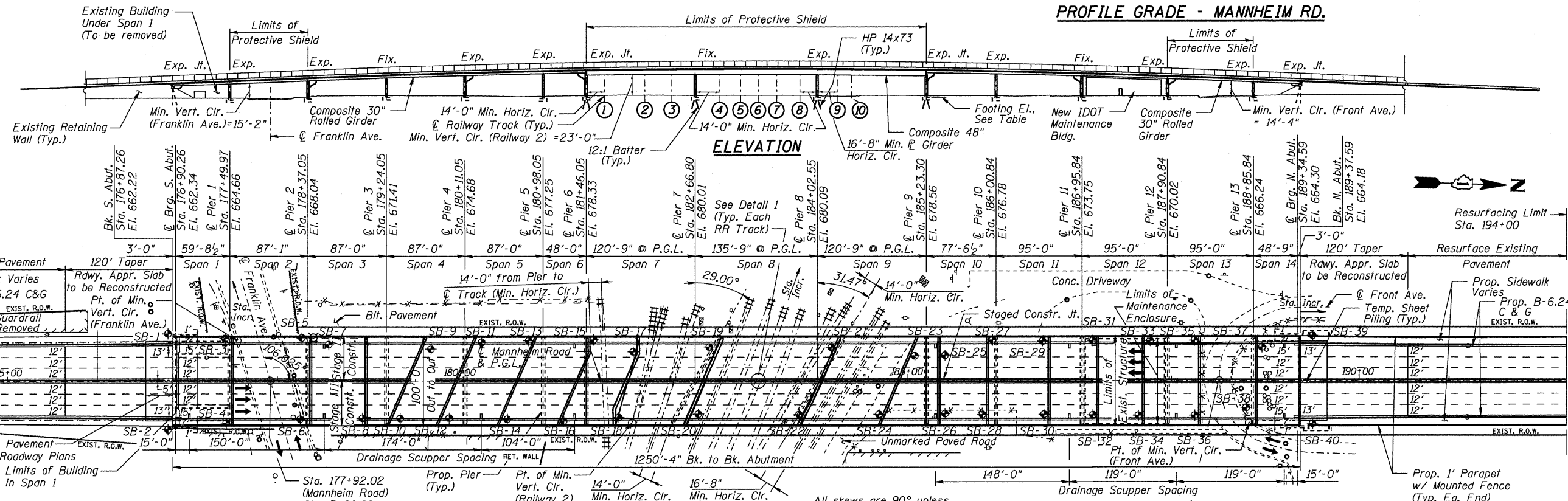
DESIGN STRESSES
 $f'_c = 3.5$ ksi (Concrete)
 $f_y = 50$ ksi (M270 Gr. 50 Struct. Steel)
 $f_y = 60$ ksi (Reinforcement)

SEISMIC DATA
 Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.04g
 Site Coefficient (S) = 1.0

LOADING HS20-44
 Allow 50 Lbs/FI² for future wearing surface.

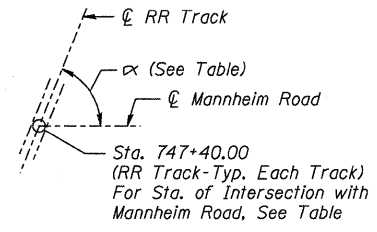


Pier	Approx. Bot. Ftg. El.
1	640.5
2	640.5
3	642
4	640.5
5	641
10	643
11	643
12	643
13	640.5



Rail No.	Sta. (Mannheim Road)	α (Degree)	Sta. "A"	Elev. "B"	Sta. "C"	Elev. "D"
1	181+62.21	90.8	746+90.00	649.51	747+90.00	649.14
2	182+08.60	74.8	746+88.19	650.20	747+91.81	650.08
3	182+37.99	71.3	746+87.22	650.34	747+92.78	650.17
4	182+90.63	67.8	746+86.01	649.85	747+93.99	649.92
5	183+13.70	67.7	746+85.96	650.08	747+94.04	649.97
6	183+33.30	68.0	746+86.09	649.90	747+93.91	649.92
7	183+53.83	68.9	746+86.42	649.84	747+93.58	650.03
8	183+81.86	58.5	746+81.33	649.82	747+98.67	650.01
9	184+22.26	58.6	746+81.43	649.09	747+98.57	649.11
10	184+37.67	58.6	746+81.42	648.99	747+98.58	648.99

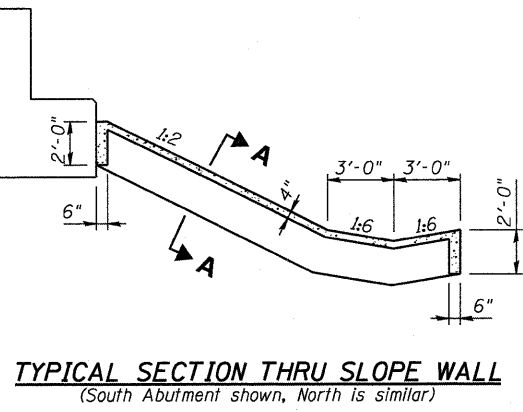
TOP OF RAIL ELEVATIONS



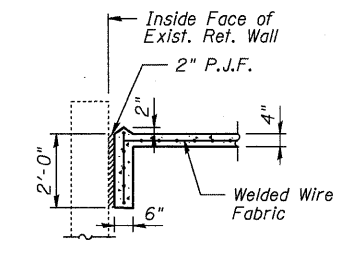
DETAIL 1

NAME PLATE
 (See Std. 515001)

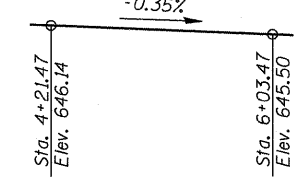
STATION 183+33.30
 BUILT 200_ BY
 STATE OF ILLINOIS
 FAP RT. 330 SEC. 465 VB-R-1
 LOADING HS20
 STR. NO. 016-2815



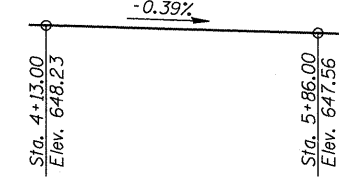
TYPICAL SECTION THRU SLOPE WALL
 (South Abutment shown, North is similar)



SECTION A-A
 Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.



PROFILE GRADE - FRANKLIN AVE.
 (Along N. Edge of Pavement)



PROFILE GRADE - FRONT STREET

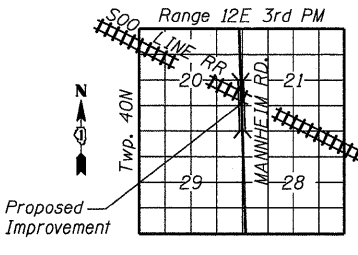
APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson (PE)
 ENGINEER OF BRIDGES AND STRUCTURES



LEGEND

- Boring Location
- Drainage Scupper
- Manhole
- Street Sign
- Fence
- Power Pole
- Switch Control Box
- Fire Hydrant
- Gas Valve



LOCATION SKETCH

NOTES

1. Elevations "B" and "D" represent top of rail elevations at approximately the fascia line of each side of the proposed new structure.
2. No deck drains will be permitted in the spans over tracks or within 10' of cross arms of a railroad pole line.
3. Conduits to be provided in sidewalk for future bridge lighting.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	GENERAL PLAN & ELEVATION	
		FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815	
		SECTION 465 (HB & VB) F STA. 183+33.30	
		DATE 6/2009	
		COOK COUNTY DRAWN BY JHR CHECKED BY DSB	

EARTH TECH | AECOM

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{3}{4}$ in. ϕ , holes $\frac{5}{16}$ in. ϕ , unless otherwise noted.
2. Calculated weight of Structural Steel:
 Grade 50 = 3,704,060 lb
 Grade 36 = 345,480 lb
3. All structural steel shall be AASHTO M270 Grade 50, except diaphragms which may be AASHTO M270 Grade 36.
4. The Organic Zinc Rich Primer/Epoxy/Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Reddish Brown, Munsell No. 2.5 YR 3/4. See Special Provision for "Cleaning and Painting New Metal Structures".

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	3
STA. 173+50 TO STA. 195+00				
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
Contract # 60121			SHEET NO. S2 of S30	

BRIDGE BILL OF MATERIAL

ITEM	UNIT	TOTAL QUANTITY
FURNISHING STRUCTURAL STEEL	L SUM	1
STORAGE OF STRUCTURAL STEEL	CAL DA	30

INDEX OF BRIDGE DRAWINGS

SHEET	TITLE
S1	General Plan & Elevation
S2*	General Notes & Total Bill of Material
S3	Construction Staging I (F.I.O.)
S4	Construction Staging II (F.I.O.)
S5	Construction Staging III (F.I.O.)
S6	Top of Slab Elevations I (F.I.O.)
S7	Top of Slab Elevations Ia (F.I.O.)
S8	Top of Slab Elevations II (F.I.O.)
S9	Top of Slab Elevations IIa (F.I.O.)
S10	Top of Slab Elevations IIb (F.I.O.)
S11	Top of Slab Elevations IIc (F.I.O.)
S12	Top of Slab Elevations III (F.I.O.)
S13	Top of Slab Elevations IIIa (F.I.O.)
S14	Top of Slab Elevations N. & S. Approach (F.I.O.)
S15	Superstructure Plan I (F.I.O.)
S16	Superstructure Plan II (F.I.O.)
S17	Superstructure Plan III (F.I.O.)
S18	Superstructure Cross-Section (F.I.O.)
S19	Superstructure Details (F.I.O.)
S20	Bar Splicer Assembly (F.I.O.)
S21	Preformed Joint Strip Seal (F.I.O.)
S22	Modular Expansion Joint (F.I.O.)
S23	Bridge Fence Railing Parapet Mounted (F.I.O.)
S24	Framing Plan & Elevation I
S25	Framing Plan & Elevation II
S26	Framing Plan & Elevation III
S27	Steel Details I
S28	Steel Details II
S29	Bearing Details I
S30	Bearing Details II (F.I.O.)

F.I.O. = FOR INFORMATION ONLY
 *2A GENERAL PLAN + ELEVATION

INDEX OF PLANS

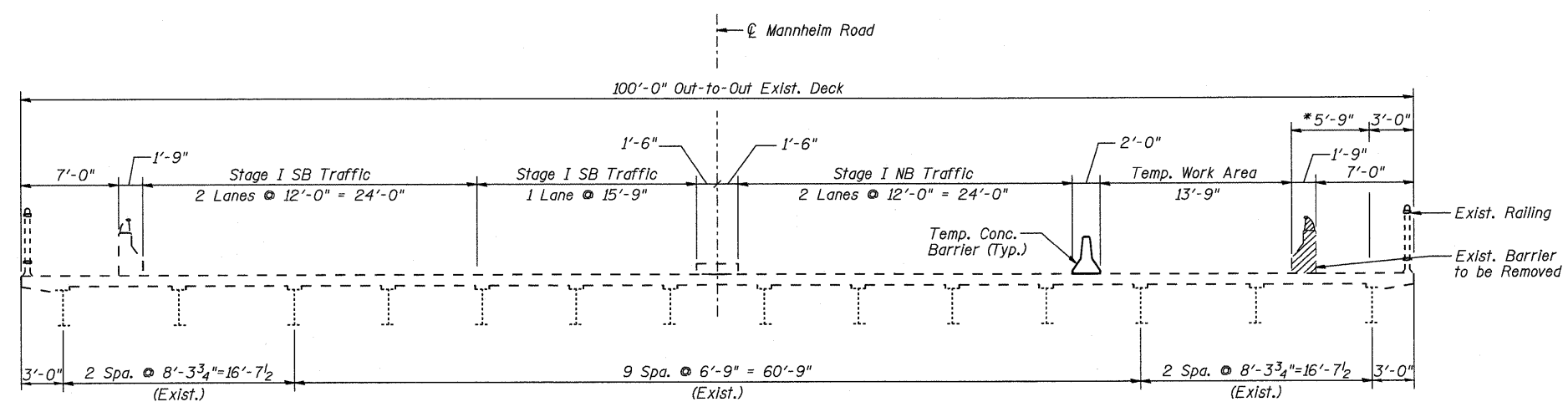
- 1 - COVER SHEET
- 2 - SUMMARY OF QUANTITIES
- 2A.-31 - BRIDGE DRAWINGS

EARTH TECH | AECOM

REVISIONS	
NAME	DATE

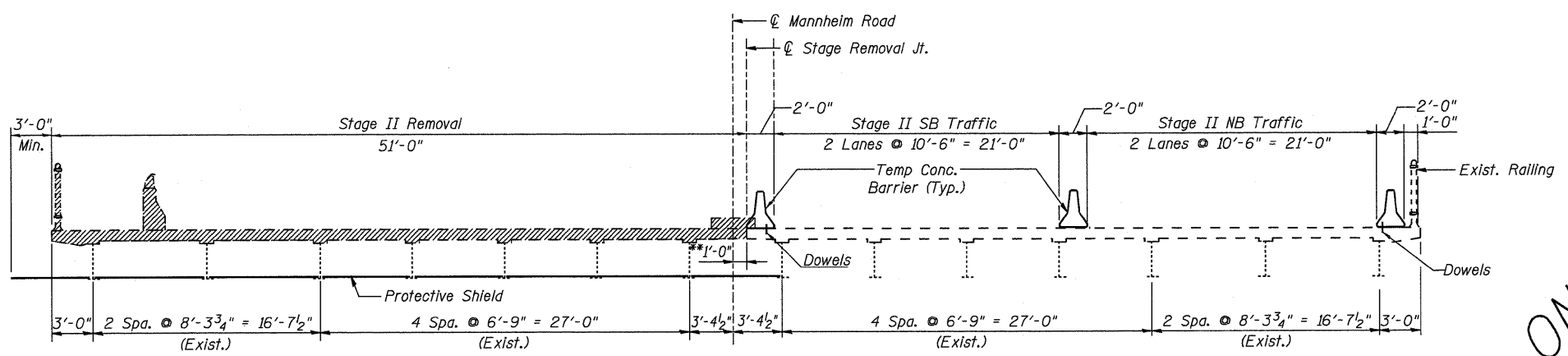
ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL NOTES & TOTAL BILL OF MATERIAL
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY DSB

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	4
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121			SHEET NO. S3 of S30	



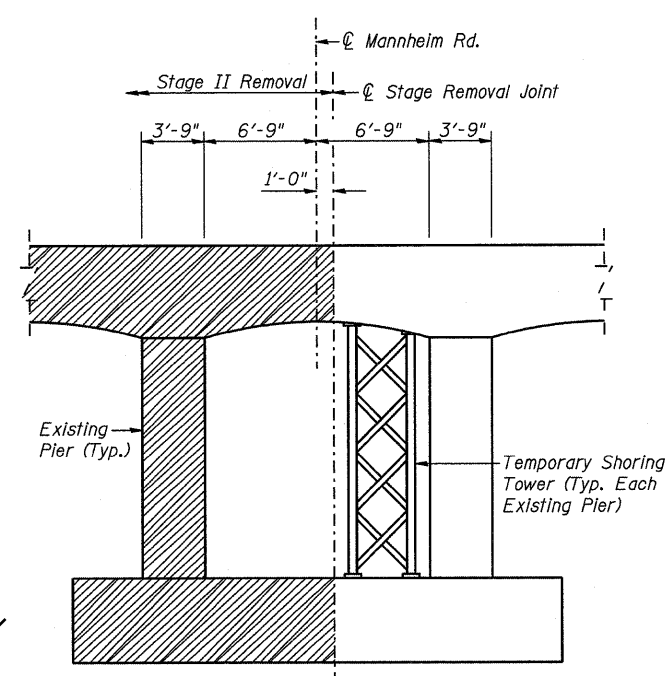
STAGE I BARRIER REMOVAL
(Looking Upstation)

*Pour 2" wearing surface over this width to match existing roadway elevation. See Roadway Plans.



STAGE II REMOVAL
(Looking Upstation)

**Remove additional 6" of existing median right of stage removal joint



STAGE II TEMPORARY SHORING DETAIL
(Looking Upstation)

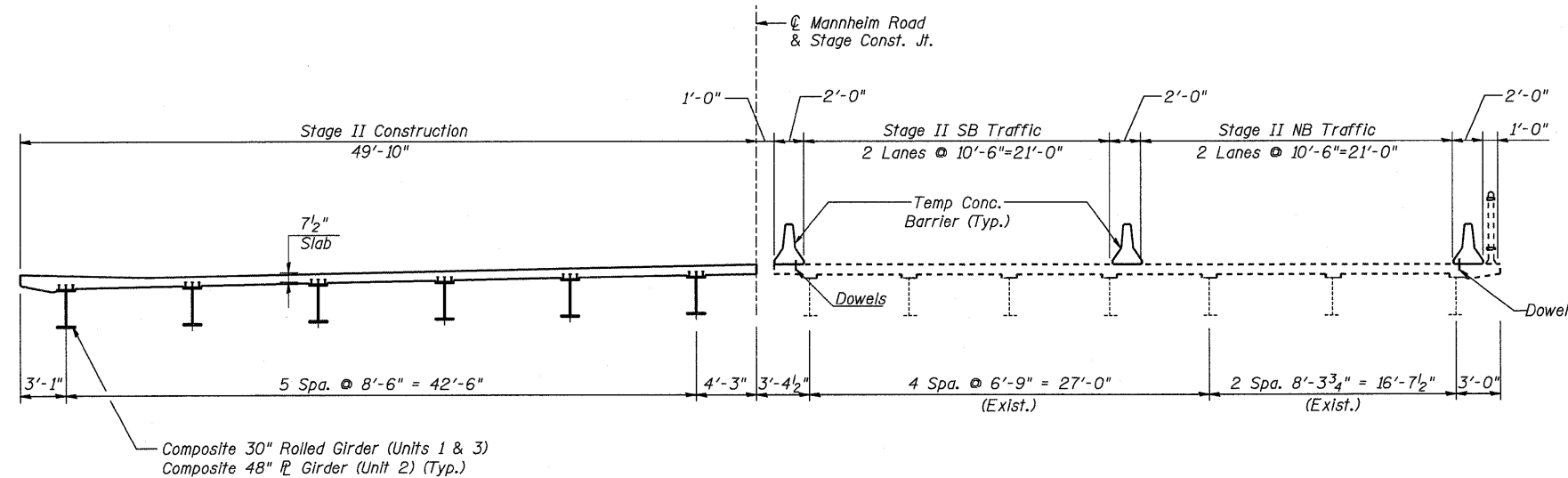
- Notes:**
1. Work this sheet with Sheets S3-S5.
 2. See Sheet S1 for limits of Protective Shield.
 3. See Sheet S46 for Temp. Concrete Barrier.
 4. See Roadway plans for Temporary Concrete Barrier quantities.

FOR INFORMATION ONLY

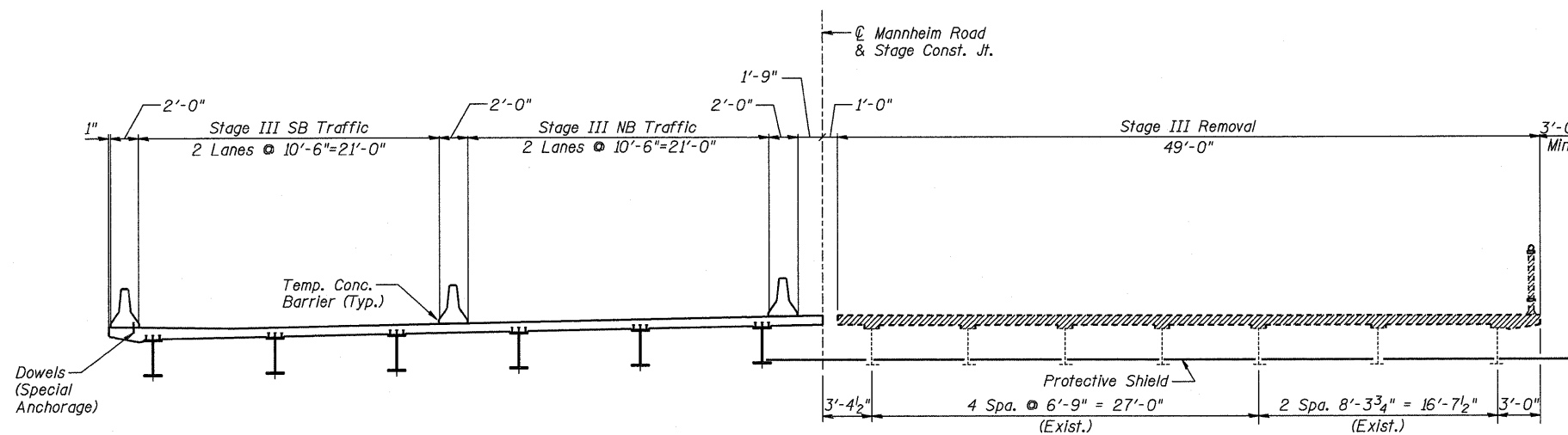
EARTH TECH | AECOM

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STAGING I
NAME	DATE	
		FAP 330 US 12/45 (MANNHEIM RD.) OVER SOO LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815 SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR DATE 6/2009 CHECKED BY CLS

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	5
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121			SHEET NO. S4 of S30	



STAGE II CONSTRUCTION
(Looking Upstation)



STAGE III REMOVAL
(Looking Upstation)

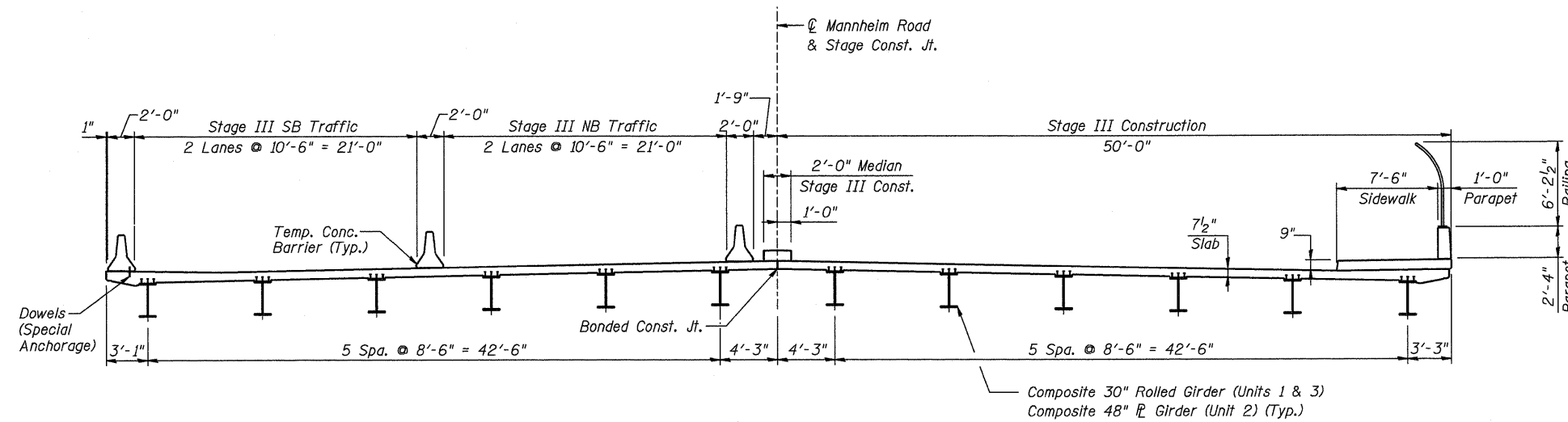
FOR INFORMATION ONLY

Notes:

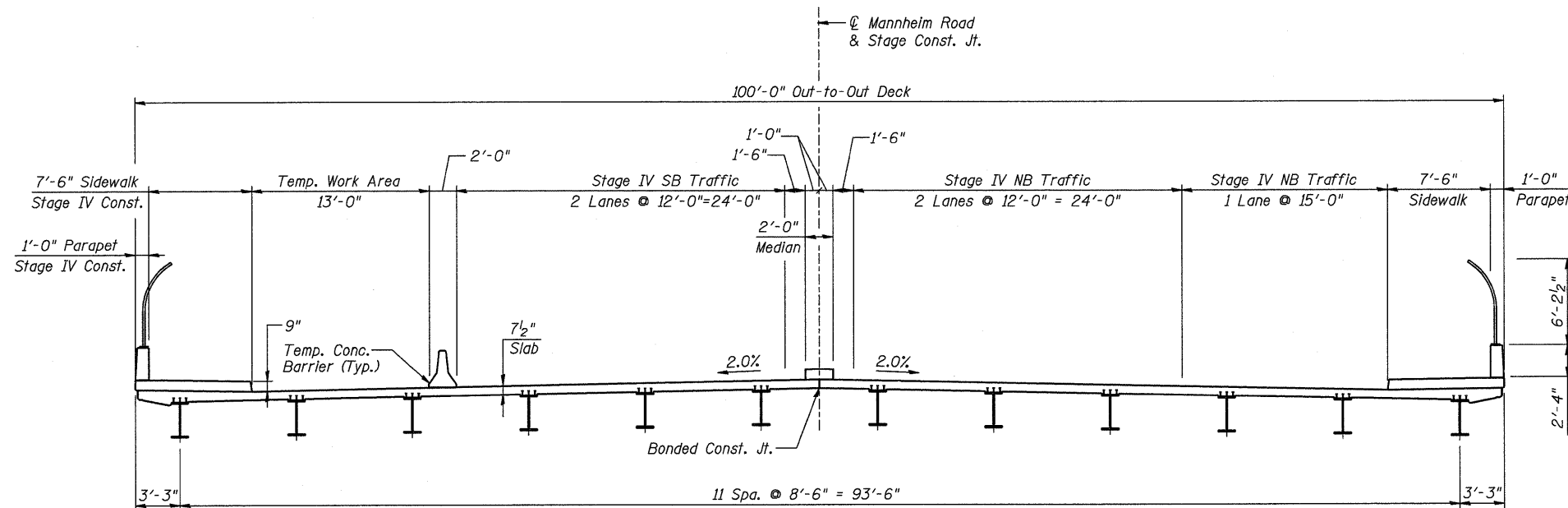
1. Work this sheet with Sheets S3-S5.
2. See Sheet S1 for limits of Protective Shield.
3. See Sheet S46 for Temp. Concrete Barrier.
4. See Roadway plans for Temporary Concrete Barrier quantities.

EARTH TECH AECOM	<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>NAME</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS		NAME	DATE							<p>ILLINOIS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STAGING II FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815 SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR DATE 6/2009 CHECKED BY CLS</p>
	REVISIONS											
	NAME	DATE										

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	6
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S5 of S30		



STAGE III CONSTRUCTION
(Looking Upstation)



STAGE IV CONSTRUCTION
(Looking Upstation)

FOR INFORMATION ONLY

Notes:

1. Work this sheet with Sheets S3-S5.
2. See Sheet S1 for limits of Protective Shield.
3. See Sheet S46 for Temp. Concrete Barrier.
4. See Roadway plans for Temporary Concrete Barrier quantities.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STAGING III
NAME	DATE	
		FAP 330 US 12/45 (MANNHEIM RD.) OVER SOO LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815 SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR DATE 6/2009 CHECKED BY CLS

EARTH TECH | AECOM

P.G.L. & CL STAGE CONSTRUCTION JOINT

BEAMS 1 & 12

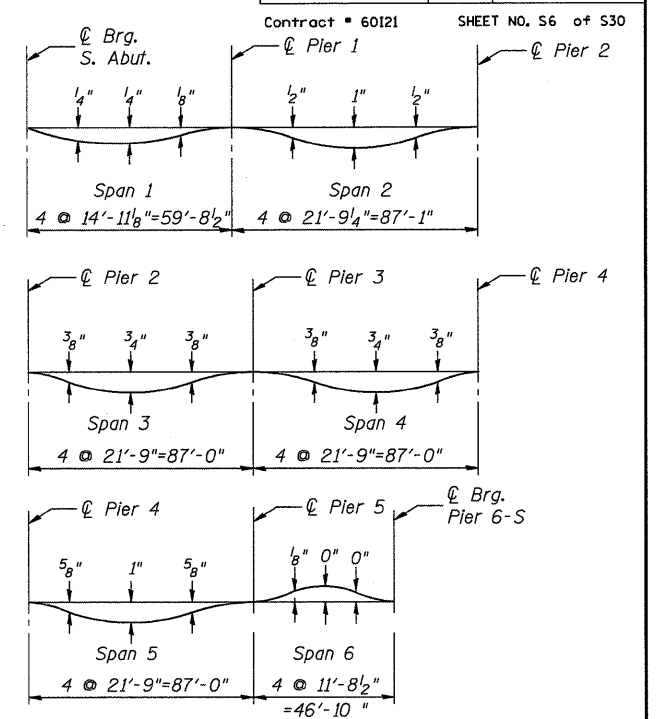
BEAMS 2 & 11

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	7
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	0.00	662.22	662.22
☉ Brg. S. Abut.	176+90.26	0.00	662.34	662.34
A	177+00.26	0.00	662.73	662.74
B	177+10.26	0.00	663.11	663.14
C	177+20.26	0.00	663.50	663.52
D	177+30.26	0.00	663.89	663.90
E	177+40.26	0.00	664.28	664.28
☉ Pier 1	177+49.97	0.00	664.66	664.66
F	177+59.97	0.00	665.04	665.06
G	177+69.97	0.00	665.43	665.47
H	177+79.97	0.00	665.82	665.88
J	177+89.97	0.00	666.21	666.28
K	177+99.97	0.00	666.60	666.66
L	178+09.97	0.00	666.98	667.04
M	178+19.97	0.00	667.37	667.40
N	178+29.97	0.00	667.76	667.77
☉ Pier 2	178+37.05	0.00	668.04	668.04
P	178+47.05	0.00	668.42	668.43
R	178+57.05	0.00	668.81	668.84
S	178+67.05	0.00	669.20	669.25
T	178+77.05	0.00	669.59	669.65
U	178+87.05	0.00	669.98	670.03
V	178+97.05	0.00	670.36	670.41
W	179+07.05	0.00	670.75	670.78
X	179+17.05	0.00	671.14	671.15
☉ Pier 3	179+24.05	0.00	671.41	671.41
Y	179+34.05	0.00	671.80	671.81
Z	179+44.05	0.00	672.19	672.22
A1	179+54.05	0.00	672.58	672.62
B1	179+64.05	0.00	672.97	673.02
C1	179+74.05	0.00	673.35	673.40
D1	179+84.05	0.00	673.72	673.76
E1	179+94.05	0.00	674.09	674.10
F1	180+04.05	0.00	674.44	674.44
☉ Pier 4	180+11.05	0.00	674.68	674.68
G1	180+21.05	0.00	675.02	675.03
H1	180+31.05	0.00	675.34	675.38
J1	180+41.05	0.00	675.65	675.72
K1	180+51.05	0.00	675.96	676.04
L1	180+61.05	0.00	676.25	676.33
M1	180+71.05	0.00	676.54	676.60
N1	180+81.05	0.00	676.81	676.85
P1	180+91.05	0.00	677.07	677.09
☉ Pier 5	180+98.05	0.00	677.25	677.25
R1	181+08.05	0.00	677.50	677.49
S1	181+18.05	0.00	677.73	677.73
T1	181+28.05	0.00	677.96	677.96
U1	181+38.05	0.00	678.17	678.17
☉ Brg. Pier 6-S	181+44.88	0.00	678.31	678.31
☉ Pier 6	181+46.05	0.00	678.33	678.33

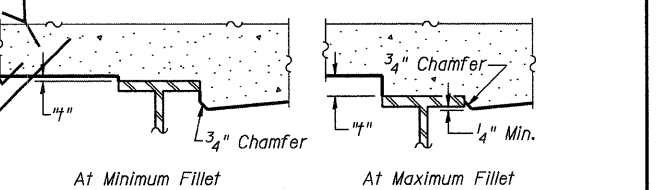
Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	46.75	661.29	661.29
☉ Brg. S. Abut.	176+90.26	46.75	661.40	661.40
A	177+00.26	46.75	661.79	661.81
B	177+10.26	46.75	662.18	662.20
C	177+20.26	46.75	662.57	662.59
D	177+30.26	46.75	662.96	662.97
E	177+40.26	46.75	663.34	663.34
☉ Pier 1	177+49.97	46.75	663.72	663.72
F	177+59.97	46.75	664.11	664.13
G	177+69.97	46.75	664.50	664.54
H	177+79.97	46.75	664.89	664.96
J	177+89.97	46.75	665.27	665.36
K	177+99.97	46.75	665.66	665.74
L	178+09.97	46.75	666.05	666.11
M	178+19.97	46.75	666.44	666.47
N	178+29.97	46.75	666.83	666.83
☉ Pier 2	178+37.05	46.75	667.10	667.10
P	178+47.05	46.75	667.49	667.50
R	178+57.05	46.75	667.88	667.91
S	178+67.05	46.75	668.27	668.32
T	178+77.05	46.75	668.65	668.72
U	178+87.05	46.75	669.04	669.11
V	178+97.05	46.75	669.43	669.48
W	179+07.05	46.75	669.82	669.85
X	179+17.05	46.75	670.21	670.21
☉ Pier 3	179+24.05	46.75	670.48	670.48
Y	179+34.05	46.75	670.87	670.88
Z	179+44.05	46.75	671.25	671.29
A1	179+54.05	46.75	671.64	671.70
B1	179+64.05	46.75	672.03	672.10
C1	179+74.05	46.75	672.41	672.48
D1	179+84.05	46.75	672.79	672.83
E1	179+94.05	46.75	673.15	673.17
F1	180+04.05	46.75	673.50	673.51
☉ Pier 4	180+11.05	46.75	673.74	673.74
G1	180+21.05	46.75	674.08	674.10
H1	180+31.05	46.75	674.41	674.45
J1	180+41.05	46.75	674.72	674.80
K1	180+51.05	46.75	675.02	675.12
L1	180+61.05	46.75	675.32	675.41
M1	180+71.05	46.75	675.60	675.68
N1	180+81.05	46.75	675.87	675.92
P1	180+91.05	46.75	676.14	676.15
☉ Pier 5	180+98.05	46.75	676.32	676.32
R1	181+08.05	46.75	676.56	676.55
S1	181+18.05	46.75	676.80	676.79
T1	181+28.05	46.75	677.02	677.02
U1	181+38.05	46.75	677.24	677.24
☉ Brg. Pier 6-S	181+44.88	46.75	677.38	677.38
☉ Pier 6	181+46.05	46.75	677.40	677.40

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	38.25	661.46	661.46
☉ Brg. S. Abut.	176+90.26	38.25	661.57	661.57
A	177+00.26	38.25	661.96	661.98
B	177+10.26	38.25	662.35	662.37
C	177+20.26	38.25	662.74	662.76
D	177+30.26	38.25	663.13	663.14
E	177+40.26	38.25	663.51	663.51
☉ Pier 1	177+49.97	38.25	663.89	663.89
F	177+59.97	38.25	664.28	664.29
G	177+69.97	38.25	664.67	664.71
H	177+79.97	38.25	665.06	665.12
J	177+89.97	38.25	665.44	665.52
K	177+99.97	38.25	665.83	665.90
L	178+09.97	38.25	666.22	666.27
M	178+19.97	38.25	666.61	666.64
N	178+29.97	38.25	667.00	667.00
☉ Pier 2	178+37.05	38.25	667.27	667.27
P	178+47.05	38.25	667.66	667.67
R	178+57.05	38.25	668.05	668.07
S	178+67.05	38.25	668.44	668.48
T	178+77.05	38.25	668.82	668.88
U	178+87.05	38.25	669.21	669.27
V	178+97.05	38.25	669.60	669.64
W	179+07.05	38.25	669.99	670.01
X	179+17.05	38.25	670.38	670.38
☉ Pier 3	179+24.05	38.25	670.65	670.65
Y	179+34.05	38.25	671.04	671.04
Z	179+44.05	38.25	671.42	671.45
A1	179+54.05	38.25	671.81	671.86
B1	179+64.05	38.25	672.20	672.25
C1	179+74.05	38.25	672.58	672.64
D1	179+84.05	38.25	672.96	673.00
E1	179+94.05	38.25	673.32	673.34
F1	180+04.05	38.25	673.67	673.68
☉ Pier 4	180+11.05	38.25	673.91	673.91
G1	180+21.05	38.25	674.25	674.26
H1	180+31.05	38.25	674.58	674.61
J1	180+41.05	38.25	674.89	674.95
K1	180+51.05	38.25	675.19	675.27
L1	180+61.05	38.25	675.49	675.57
M1	180+71.05	38.25	675.77	675.84
N1	180+81.05	38.25	676.04	676.08
P1	180+91.05	38.25	676.31	676.32
☉ Pier 5	180+98.05	38.25	676.49	676.49
R1	181+08.05	38.25	676.73	676.72
S1	181+18.05	38.25	676.97	676.96
T1	181+28.05	38.25	677.19	677.19
U1	181+38.05	38.25	677.41	677.41
☉ Brg. Pier 6-S	181+44.88	38.25	677.55	677.55
☉ Pier 6	181+46.05	38.25	677.57	677.57



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)

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. All elevations and offsets are in feet.

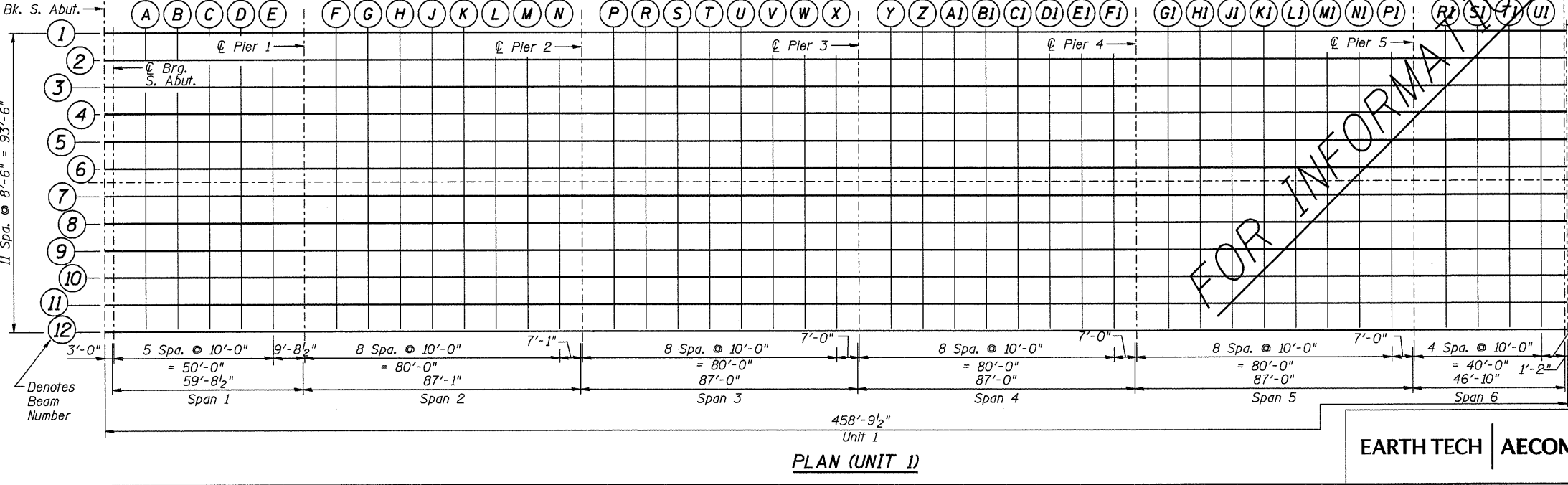


FILLET HEIGHTS

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown left. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown here and on Sheet S7, minus slab thickness, equals the fillet heights "t" above top flange of beams.

Notes:

1. Work this sheet with Sheet S7.
2. See Sheet S14 for top of slab elevations at south approach.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS I
FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR
DATE 6/2009 CHECKED BY DEV

EARTH TECH | AECOM

BEAMS 3 & 10

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	29.75	661.63	661.63
☉ Brq. S. Abut.	176+90.26	29.75	661.74	661.74
A	177+00.26	29.75	662.13	662.15
B	177+10.26	29.75	662.52	662.54
C	177+20.26	29.75	662.91	662.93
D	177+30.26	29.75	663.30	663.31
E	177+40.26	29.75	663.68	663.68
☉ Pier 1	177+49.97	29.75	664.06	664.06
F	177+59.97	29.75	664.45	664.46
G	177+69.97	29.75	664.84	664.88
H	177+79.97	29.75	665.23	665.29
J	177+89.97	29.75	665.61	665.69
K	177+99.97	29.75	666.00	666.07
L	178+09.97	29.75	666.39	666.44
M	178+19.97	29.75	666.78	666.81
N	178+29.97	29.75	667.17	667.17
☉ Pier 2	178+37.05	29.75	667.44	667.44
P	178+47.05	29.75	667.83	667.84
R	178+57.05	29.75	668.22	668.24
S	178+67.05	29.75	668.61	668.65
T	178+77.05	29.75	668.99	669.05
U	178+87.05	29.75	669.38	669.44
V	178+97.05	29.75	669.77	669.81
W	179+07.05	29.75	670.16	670.18
X	179+17.05	29.75	670.55	670.55
☉ Pier 3	179+24.05	29.75	670.82	670.82
Y	179+34.05	29.75	671.21	671.21
Z	179+44.05	29.75	671.59	671.62
A1	179+54.05	29.75	671.98	672.03
B1	179+64.05	29.75	672.37	672.42
C1	179+74.05	29.75	672.75	672.81
D1	179+84.05	29.75	673.13	673.17
E1	179+94.05	29.75	673.49	673.51
F1	180+04.05	29.75	673.84	673.85
☉ Pier 4	180+11.05	29.75	674.08	674.08
G1	180+21.05	29.75	674.42	674.43
H1	180+31.05	29.75	674.75	674.78
J1	180+41.05	29.75	675.06	675.12
K1	180+51.05	29.75	675.36	675.44
L1	180+61.05	29.75	675.66	675.74
M1	180+71.05	29.75	675.94	676.01
N1	180+81.05	29.75	676.21	676.25
P1	180+91.05	29.75	676.48	676.49
☉ Pier 5	180+98.05	29.75	676.66	676.66
R1	181+08.05	29.75	676.90	676.89
S1	181+18.05	29.75	677.14	677.13
T1	181+28.05	29.75	677.36	677.36
U1	181+38.05	29.75	677.58	677.58
☉ Brq. Pier 6-S	181+44.88	29.75	677.72	677.72
☉ Pier 6	181+46.05	29.75	677.74	677.74

BEAMS 4 & 9

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	21.25	661.80	661.80
☉ Brq. S. Abut.	176+90.26	21.25	661.91	661.91
A	177+00.26	21.25	662.30	662.32
B	177+10.26	21.25	662.69	662.71
C	177+20.26	21.25	663.08	663.10
D	177+30.26	21.25	663.47	663.48
E	177+40.26	21.25	663.85	663.85
☉ Pier 1	177+49.97	21.25	664.23	664.23
F	177+59.97	21.25	664.62	664.63
G	177+69.97	21.25	665.01	665.05
H	177+79.97	21.25	665.40	665.46
J	177+89.97	21.25	665.78	665.86
K	177+99.97	21.25	666.17	666.24
L	178+09.97	21.25	666.56	666.61
M	178+19.97	21.25	666.95	666.98
N	178+29.97	21.25	667.34	667.34
☉ Pier 2	178+37.05	21.25	667.61	667.61
P	178+47.05	21.25	668.00	668.01
R	178+57.05	21.25	668.39	668.41
S	178+67.05	21.25	668.78	668.82
T	178+77.05	21.25	669.16	669.22
U	178+87.05	21.25	669.55	669.61
V	178+97.05	21.25	669.94	669.98
W	179+07.05	21.25	670.33	670.35
X	179+17.05	21.25	670.72	670.72
☉ Pier 3	179+24.05	21.25	670.99	670.99
Y	179+34.05	21.25	671.38	671.38
Z	179+44.05	21.25	671.76	671.79
A1	179+54.05	21.25	672.15	672.20
B1	179+64.05	21.25	672.54	672.59
C1	179+74.05	21.25	672.92	672.98
D1	179+84.05	21.25	673.30	673.34
E1	179+94.05	21.25	673.66	673.68
F1	180+04.05	21.25	674.01	674.02
☉ Pier 4	180+11.05	21.25	674.25	674.25
G1	180+21.05	21.25	674.59	674.60
H1	180+31.05	21.25	674.92	674.95
J1	180+41.05	21.25	675.23	675.29
K1	180+51.05	21.25	675.53	675.61
L1	180+61.05	21.25	675.83	675.91
M1	180+71.05	21.25	676.11	676.18
N1	180+81.05	21.25	676.38	676.42
P1	180+91.05	21.25	676.65	676.66
☉ Pier 5	180+98.05	21.25	676.83	676.83
R1	181+08.05	21.25	677.07	677.06
S1	181+18.05	21.25	677.31	677.30
T1	181+28.05	21.25	677.53	677.53
U1	181+38.05	21.25	677.75	677.75
☉ Brq. Pier 6-S	181+44.88	21.25	677.89	677.89
☉ Pier 6	181+46.05	21.25	677.91	677.91

BEAMS 5 & 8

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	12.75	661.97	661.97
☉ Brq. S. Abut.	176+90.26	12.75	662.08	662.08
A	177+00.26	12.75	662.47	662.49
B	177+10.26	12.75	662.86	662.88
C	177+20.26	12.75	663.25	663.27
D	177+30.26	12.75	663.64	663.65
E	177+40.26	12.75	664.02	664.02
☉ Pier 1	177+49.97	12.75	664.40	664.40
F	177+59.97	12.75	664.79	664.80
G	177+69.97	12.75	665.18	665.22
H	177+79.97	12.75	665.57	665.63
J	177+89.97	12.75	665.95	666.03
K	177+99.97	12.75	666.34	666.41
L	178+09.97	12.75	666.73	666.78
M	178+19.97	12.75	667.12	667.15
N	178+29.97	12.75	667.51	667.51
☉ Pier 2	178+37.05	12.75	667.78	667.78
P	178+47.05	12.75	668.17	668.18
R	178+57.05	12.75	668.56	668.58
S	178+67.05	12.75	668.95	668.99
T	178+77.05	12.75	669.33	669.39
U	178+87.05	12.75	669.72	669.78
V	178+97.05	12.75	670.11	670.15
W	179+07.05	12.75	670.50	670.52
X	179+17.05	12.75	670.89	670.89
☉ Pier 3	179+24.05	12.75	671.16	671.16
Y	179+34.05	12.75	671.55	671.55
Z	179+44.05	12.75	671.93	671.96
A1	179+54.05	12.75	672.32	672.37
B1	179+64.05	12.75	672.71	672.76
C1	179+74.05	12.75	673.09	673.15
D1	179+84.05	12.75	673.47	673.51
E1	179+94.05	12.75	673.83	673.85
F1	180+04.05	12.75	674.18	674.19
☉ Pier 4	180+11.05	12.75	674.42	674.42
G1	180+21.05	12.75	674.76	674.77
H1	180+31.05	12.75	675.09	675.12
J1	180+41.05	12.75	675.40	675.46
K1	180+51.05	12.75	675.70	675.78
L1	180+61.05	12.75	676.00	676.08
M1	180+71.05	12.75	676.28	676.35
N1	180+81.05	12.75	676.55	676.59
P1	180+91.05	12.75	676.82	676.83
☉ Pier 5	180+98.05	12.75	677.00	677.00
R1	181+08.05	12.75	677.24	677.23
S1	181+18.05	12.75	677.48	677.47
T1	181+28.05	12.75	677.70	677.70
U1	181+38.05	12.75	677.92	677.92
☉ Brq. Pier 6-S	181+44.88	12.75	678.06	678.06
☉ Pier 6	181+46.05	12.75	678.08	678.08

BEAMS 6 & 7

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
Bk. S. Abut.	176+87.26	4.25	662.14	662.14
☉ Brq. S. Abut.	176+90.26	4.25	662.25	662.25
A	177+00.26	4.25	662.64	662.66
B	177+10.26	4.25	663.03	663.05
C	177+20.26	4.25	663.42	663.44
D	177+30.26	4.25	663.81	663.82
E	177+40.26	4.25	664.19	664.19
☉ Pier 1	177+49.97	4.25	664.57	664.57
F	177+59.97	4.25	664.96	664.97
G	177+69.97	4.25	665.35	665.39
H	177+79.97	4.25	665.74	665.80
J	177+89.97	4.25	666.12	666.20
K	177+99.97	4.25	666.51	666.58
L	178+09.97	4.25	666.90	666.95
M	178+19.97	4.25	667.29	667.32
N	178+29.97	4.25	667.68	667.68
☉ Pier 2	178+37.05	4.25	667.95	667.95
P	178+47.05	4.25	668.34	668.35
R	178+57.05	4.25	668.73	668.75
S	178+67.05	4.25	669.12	669.16
T	178+77.05	4.25	669.50	669.56
U	178+87.05	4.25	669.89	669.95
V	178+97.05	4.25	670.28	670.32
W	179+07.05	4.25	670.67	670.69
X	179+17.05	4.25	671.06	671.06
☉ Pier 3	179+24.05	4.25	671.33	671.33
Y	179+34.05	4.25	671.72	671.72
Z	179+44.05	4.25	672.10	672.13
A1	179+54.05	4.25	672.49	672.54
B1	179+64.05	4.25	672.88	672.93
C1	179+74.05	4.25	673.26	673.32
D1	179+84.05	4.25	673.64	673.68
E1	179+94.05	4.25	674.00	674.02
F1	180+04.05	4.25	674.35	674.36
☉ Pier 4	180+11.05	4.25	674.59	674.59
G1	180+21.05	4.25	674.93	674.94
H1	180+31.05	4.25	675.26	675.29
J1	180+41.05	4.25	675.57	675.63
K1	180+51.05	4.25	675.87	675.95
L1	180+61.05	4.25	676.17	676.25
M1	180+71.05	4.25	676.45	676.52
N1	180+81.05	4.25	676.72	676.76
P1	180+91.05	4.25	676.99	677.00
☉ Pier 5	180+98.05	4.25	677.17	677.17
R1	181+08.05	4.25	677.41	677.40
S1	181+18.05	4.25	677.65	677.64
T1	181+28.05	4.25	677.87	677.87
U1	181+38.05	4.25	678.09	678.09
☉ Brq. Pier 6-S	181+44.88	4.25	678.23	678.23
☉ Pier 6	181+46.05	4.25	678.25	678.25

P.G.L. & CL STAGE CONSTRUCTION JOINT

GIRDER 1

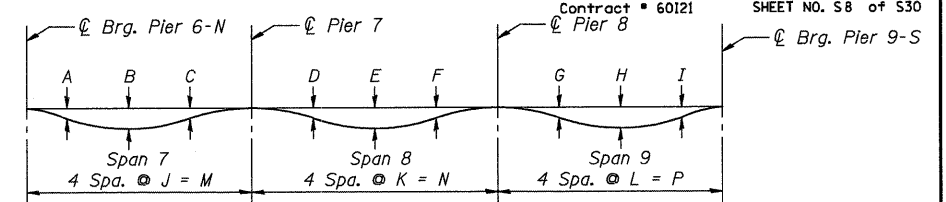
GIRDER 2

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	9
STA. 173+50 TO STA. 195+00		ILLINOIS FED. ROAD DIST. NO. 7		

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	0.00	678.33	678.33
☉ Brg. Pier 6-N	181+47.30	0.00	678.36	678.36
V1	181+57.30	0.00	678.55	678.59
W1	181+67.30	0.00	678.74	678.81
X1	181+77.30	0.00	678.91	679.01
Y1	181+87.30	0.00	679.07	679.20
Z1	181+97.30	0.00	679.23	679.36
A2	182+07.30	0.00	679.37	679.49
B2	182+17.30	0.00	679.50	679.61
C2	182+27.30	0.00	679.63	679.71
D2	182+37.30	0.00	679.74	679.80
E2	182+47.30	0.00	679.84	679.88
F2	182+57.30	0.00	679.93	679.94
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+66.80	0.00	680.01	680.01
K2	182+76.80	0.00	680.08	680.07
L2	182+86.80	0.00	680.14	680.14
M2	182+96.80	0.00	680.19	680.20
N2	183+06.80	0.00	680.23	680.25
P2	183+16.80	0.00	680.26	680.28
R2	183+26.80	0.00	680.28	680.31
S2	183+36.80	0.00	680.29	680.32
T2	183+46.80	0.00	680.28	680.32
U2	183+56.80	0.00	680.27	680.30
V2	183+66.80	0.00	680.25	680.26
W2	183+76.80	0.00	680.22	680.22
X2	183+86.80	0.00	680.17	680.17
Y2	183+96.80	0.00	680.12	680.12
☉ Pier 8	184+02.55	0.00	680.09	680.09
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	184+13.94	0.00	680.01	680.02
D3	184+23.94	0.00	679.92	679.97
E3	184+33.94	0.00	679.83	679.90
F3	184+43.94	0.00	679.73	679.82
G3	184+53.94	0.00	679.62	679.73
H3	184+63.94	0.00	679.50	679.62
J3	184+73.94	0.00	679.36	679.49
K3	184+83.94	0.00	679.22	679.34
L3	184+93.94	0.00	679.07	679.17
M3	185+03.94	0.00	678.90	678.97
N3	185+13.94	0.00	678.73	678.76
☉ Brg. Pier 9-S	185+22.05	0.00	678.58	678.58
☉ Pier 9	185+23.30	0.00	678.56	678.56

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	-46.75	677.40	677.40
☉ Brg. Pier 6-N	181+47.30	-46.75	677.42	677.42
V1	181+57.30	-46.75	677.62	677.67
W1	181+67.30	-46.75	677.80	677.91
X1	181+77.30	-46.75	677.98	678.13
Y1	181+87.30	-46.75	678.14	678.32
Z1	181+97.30	-46.75	678.29	678.49
A2	182+07.30	-46.75	678.44	678.65
B2	182+17.30	-46.75	678.57	678.78
C2	182+27.30	-46.75	678.69	678.89
D2	182+37.30	-46.75	678.80	678.98
E2	182+47.30	-46.75	678.90	679.05
F2	182+57.30	-46.75	678.99	679.10
G2	182+67.30	-46.75	679.08	679.14
H2	182+77.30	-46.75	679.15	679.18
J2	182+87.30	-46.75	679.21	679.21
☉ Pier 7	182+92.71	-46.75	679.23	679.23
K2	183+02.71	-46.75	679.28	679.27
L2	183+12.71	-46.75	679.31	679.31
M2	183+22.71	-46.75	679.33	679.34
N2	183+32.71	-46.75	679.35	679.37
P2	183+42.71	-46.75	679.35	679.39
R2	183+52.71	-46.75	679.34	679.39
S2	183+62.71	-46.75	679.33	679.38
T2	183+72.71	-46.75	679.30	679.35
U2	183+82.71	-46.75	679.26	679.30
V2	183+92.71	-46.75	679.21	679.24
W2	184+02.71	-46.75	679.15	679.17
X2	184+12.71	-46.75	679.08	679.09
Y2	184+22.71	-46.75	679.00	679.00
☉ Pier 8	184+31.16	-46.75	678.92	678.92
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	---	---	---	---
D3	---	---	---	---
E3	184+43.94	-46.75	678.80	678.81
F3	184+53.94	-46.75	678.68	678.71
G3	184+63.94	-46.75	678.56	678.60
J3	184+73.94	-46.75	678.43	678.48
K3	184+83.94	-46.75	678.29	678.34
L3	184+93.94	-46.75	678.13	678.18
M3	185+03.94	-46.75	677.97	678.01
N3	185+13.94	-46.75	677.79	677.81
☉ Brg. Pier 9-S	185+22.05	-46.75	677.64	677.64
☉ Pier 9	185+23.30	-46.75	677.62	677.62

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	-38.25	677.57	677.57
☉ Brg. Pier 6-N	181+47.30	-38.25	677.59	677.59
V1	181+57.30	-38.25	677.79	677.84
W1	181+67.30	-38.25	677.97	678.08
X1	181+77.30	-38.25	678.15	678.29
Y1	181+87.30	-38.25	678.31	678.48
Z1	181+97.30	-38.25	678.46	678.66
A2	182+07.30	-38.25	678.61	678.81
B2	182+17.30	-38.25	678.74	678.93
C2	182+27.30	-38.25	678.86	679.04
D2	182+37.30	-38.25	678.97	679.13
E2	182+47.30	-38.25	679.07	679.19
F2	182+57.30	-38.25	679.16	679.25
G2	182+67.30	-38.25	679.25	679.30
H2	182+77.30	-38.25	679.32	679.34
J2	---	---	---	---
☉ Pier 7	182+88.00	-38.25	679.38	679.38
K2	182+98.00	-38.25	679.43	679.42
L2	183+08.00	-38.25	679.47	679.46
M2	183+18.00	-38.25	679.50	679.50
N2	183+28.00	-38.25	679.51	679.53
P2	183+38.00	-38.25	679.52	679.55
R2	183+48.00	-38.25	679.52	679.56
S2	183+58.00	-38.25	679.50	679.55
T2	183+68.00	-38.25	679.48	679.53
U2	183+78.00	-38.25	679.45	679.49
V2	183+88.00	-38.25	679.40	679.43
W2	183+98.00	-38.25	679.35	679.37
X2	184+08.00	-38.25	679.28	679.29
Y2	184+18.00	-38.25	679.21	679.21
☉ Pier 8	184+25.96	-38.25	679.14	679.14
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	---	---	---	---
D3	---	---	---	---
E3	184+33.94	-38.25	679.07	679.07
F3	184+43.94	-38.25	678.97	678.98
G3	184+53.94	-38.25	678.85	678.89
H3	184+63.94	-38.25	678.73	678.78
J3	184+73.94	-38.25	678.60	678.66
K3	184+83.94	-38.25	678.46	678.52
L3	184+93.94	-38.25	678.30	678.36
M3	185+03.94	-38.25	678.14	678.18
N3	185+13.94	-38.25	677.96	677.98
☉ Brg. Pier 9-S	185+22.05	-38.25	677.81	677.81
☉ Pier 9	185+23.30	-38.25	677.79	677.79



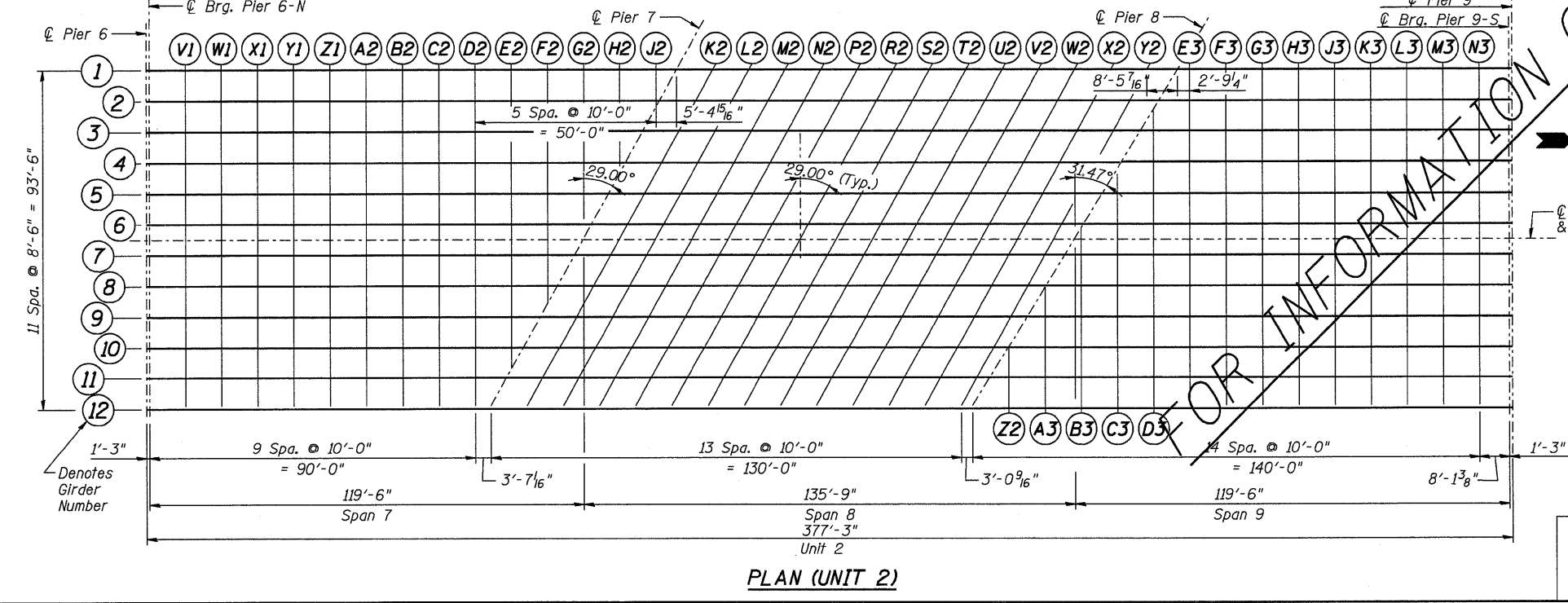
DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)

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. All elevations and offsets are in feet.

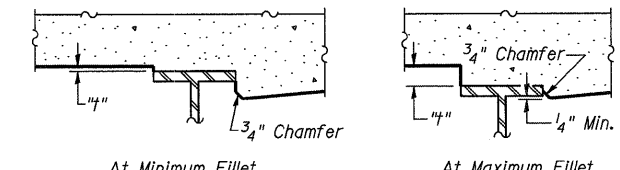
DEAD LOAD DEFLECTION VARIABLES

Girder #	A	B	C	D	E	F	G	H	I
1	-2"	-2 1/2"	-1 3/8"	-0 1/8"	-0 5/8"	-0 3/8"	-0 3/8"	-0 5/8"	-0 1/2"
2	-1 7/8"	-2 3/8"	-1 1/4"	-0 1/8"	-0 1/2"	-0 1/8"	-0 3/8"	-0 3/8"	-0 5/8"
3	-1 3/4"	-2 1/8"	-1 1/8"	-0 1/8"	-0 1/2"	-0 1/8"	-0 3/8"	-0 3/8"	-0 5/8"
4	-1 5/8"	-2"	-1"	-0 1/8"	-0 1/2"	-0 1/8"	-0 1/2"	-1"	-0 3/4"
5	-1 1/2"	-1 3/4"	-0 7/8"	-0 1/8"	-0 1/2"	-0 1/8"	-0 5/8"	-1 1/8"	-1"
6	-1 1/4"	-1 5/8"	-0 3/4"	-0 1/8"	-0 1/2"	-0 1/8"	-0 3/8"	-1 1/8"	-1 1/8"
7	-1 1/8"	-1 3/8"	-0 3/8"	-0 1/8"	-0 1/2"	-0 1/8"	-0 1/2"	-1 1/8"	-1 3/8"
8	-1"	-1 1/4"	-0 3/8"	-0 1/8"	-0 1/2"	-0 1/8"	-0 1/2"	-1 1/8"	-1 3/8"
9	-0 7/8"	-1"	-0 1/2"	-0 1/8"	-0 1/2"	-0 1/8"	-1 1/8"	-2 1/8"	-1 3/8"
10	-0 3/4"	-0 7/8"	-0 1/2"	-0 1/8"	-0 1/2"	-0"	-1 1/8"	-2 3/8"	-1 7/8"
11	-0 5/8"	-0 3/4"	-0 3/8"	-0 1/4"	-0 3/8"	-0"	-1 3/8"	-2 5/8"	-2 1/8"
12	-0 5/8"	-0 3/4"	-0 3/8"	-0 1/4"	-0 3/8"	-0 1/8"	-1 1/2"	-2 1/8"	-2 1/4"

Girder #	J	K	L	M	N	P
1	36'-4 1/4"	34'-7 3/8"	22'-8 5/8"	145'-4 5/8"	138'-5 7/8"	90'-10 5/8"
2	35'-2 1/8"	34'-5 7/8"	24'-0 1/4"	140'-8 1/8"	137'-1 1/8"	96'-1 1/8"
3	32'-9 9/16"	34'-4 3/8"	25'-3 1/8"	135'-1 1/8"	137'-5 5/8"	101'-3 1/8"
4	31'-7 1/16"	34'-2 1/8"	26'-7 1/2"	131'-3 3/8"	136'-1 3/4"	106'-5 5/8"
5	30'-5 9/16"	34'-1 1/8"	27'-1 1/8"	126'-6 3/8"	136'-5 1/8"	111'-8 3/8"
6	29'-10 1/2"	33'-1 1/4"	29'-2 1/8"	121'-10 1/4"	135'-1 1/8"	116'-10 1/8"
7	29'-3 1/8"	33'-10 1/2"	30'-6 5/8"	117'-1 1/4"	135'-6 1/8"	122'-1 1/8"
8	28'-1 1/8"	33'-9 1/8"	31'-9 1/8"	112'-5 1/8"	135'-0 3/8"	127'-3 3/8"
9	26'-11 3/16"	33'-7 9/16"	33'-1 1/2"	107'-8 3/8"	134'-6 1/8"	132'-6 1/8"
10	25'-9"	33'-6 1/8"	34'-5 1/8"	103'-0 1/8"	134'-0 3/8"	137'-8 1/8"
11	24'-6 1/8"	33'-4 5/8"	35'-8 1/4"	98'-3 3/8"	133'-6 1/2"	142'-10 1/8"
12	23'-4 3/4"	33'-3 1/8"	37'-0 3/8"	93'-7 1/8"	133'-0 9/16"	148'-1 3/8"



PLAN (UNIT 2)



To determine "f": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown left. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown here and on Sheets S9-S11, minus slab thickness, equals the fillet heights "f" above top flange of girders.

Note:
1. Work this sheet with Sheets S8-S11.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS II
FAP 330 US 12/45 (MANNHEIM RD.) OVER
SOO LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F
STA. 183+33.30
DATE 6/2009

EARTH TECH | AECOM

COOK COUNTY
DRAWN BY JHR
CHECKED BY DEV

GIRDER 3

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
¢ Pier 6	181+46.05	-29.75	677.74	677.74
¢ Brg. Pier 6-N	181+47.30	-29.75	677.76	677.76
V1	181+57.30	-29.75	677.96	678.01
W1	181+67.30	-29.75	678.14	678.24
X1	181+77.30	-29.75	678.32	678.45
Y1	181+87.30	-29.75	678.48	678.65
Z1	181+97.30	-29.75	678.63	678.82
A2	182+07.30	-29.75	678.78	678.96
B2	182+17.30	-29.75	678.91	679.09
C2	182+27.30	-29.75	679.03	679.19
D2	182+37.30	-29.75	679.14	679.27
E2	182+47.30	-29.75	679.24	679.34
F2	182+57.30	-29.75	679.33	679.40
G2	182+67.30	-29.75	679.42	679.45
H2	182+77.30	-29.75	679.49	679.50
J2	---	---	---	---
¢ Pier 7	182+83.29	-29.75	679.52	679.52
K2	182+93.29	-29.75	679.58	679.57
L2	183+03.29	-29.75	679.62	679.62
M2	183+13.29	-29.75	679.65	679.66
N2	183+23.29	-29.75	679.68	679.69
P2	183+33.29	-29.75	679.69	679.72
R2	183+43.29	-29.75	679.69	679.73
S2	183+53.29	-29.75	679.68	679.73
T2	183+63.29	-29.75	679.66	679.71
U2	183+73.29	-29.75	679.64	679.67
V2	183+83.29	-29.75	679.60	679.62
W2	183+93.29	-29.75	679.55	679.56
X2	184+03.29	-29.75	679.49	679.49
Y2	184+13.29	-29.75	679.42	679.42
¢ Pier 8	184+20.76	-29.75	679.36	679.36
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	---	---	---	---
D3	---	---	---	---
E3	184+33.94	-29.75	679.24	679.25
F3	184+43.94	-29.75	679.14	679.17
G3	184+53.94	-29.75	679.02	679.07
H3	184+63.94	-29.75	678.90	678.96
J3	184+73.94	-29.75	678.77	678.84
K3	184+83.94	-29.75	678.63	678.70
L3	184+93.94	-29.75	678.47	678.53
M3	185+03.94	-29.75	678.31	678.35
N3	185+13.94	-29.75	678.13	678.15
¢ Brg. Pier 9-S	185+22.05	-29.75	677.98	677.98
¢ Pier 9	185+23.30	-29.75	677.96	677.96

GIRDER 4

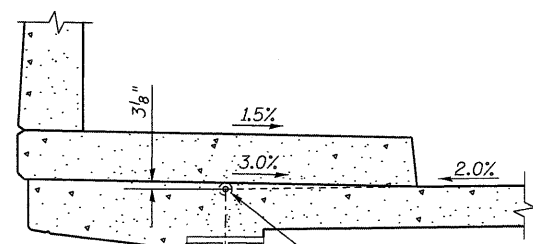
Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
¢ Pier 6	181+46.05	-21.25	677.91	677.91
¢ Brg. Pier 6-N	181+47.30	-21.25	677.93	677.93
V1	181+57.30	-21.25	678.13	678.18
W1	181+67.30	-21.25	678.31	678.41
X1	181+77.30	-21.25	678.49	678.62
Y1	181+87.30	-21.25	678.65	678.80
Z1	181+97.30	-21.25	678.80	678.97
A2	182+07.30	-21.25	678.95	679.12
B2	182+17.30	-21.25	679.08	679.24
C2	182+27.30	-21.25	679.20	679.34
D2	182+37.30	-21.25	679.31	679.42
E2	182+47.30	-21.25	679.41	679.49
F2	182+57.30	-21.25	679.50	679.55
G2	182+67.30	-21.25	679.59	679.61
H2	---	---	---	---
J2	---	---	---	---
¢ Pier 7	182+78.58	-21.25	679.66	679.66
K2	182+88.58	-21.25	679.72	679.72
L2	182+98.58	-21.25	679.77	679.77
M2	183+08.58	-21.25	679.81	679.81
N2	183+18.58	-21.25	679.84	679.85
P2	183+28.58	-21.25	679.85	679.88
R2	183+38.58	-21.25	679.86	679.90
S2	183+48.58	-21.25	679.86	679.90
T2	183+58.58	-21.25	679.84	679.88
U2	183+68.58	-21.25	679.82	679.85
V2	183+78.58	-21.25	679.79	679.81
W2	183+88.58	-21.25	679.74	679.75
X2	183+98.58	-21.25	679.69	679.69
Y2	184+08.58	-21.25	679.62	679.62
¢ Pier 8	184+15.56	-21.25	679.57	679.57
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	---	---	---	---
D3	184+23.94	-21.25	679.50	679.51
E3	184+33.94	-21.25	679.41	679.43
F3	184+43.94	-21.25	679.31	679.35
G3	184+53.94	-21.25	679.19	679.26
H3	184+63.94	-21.25	679.07	679.15
J3	184+73.94	-21.25	678.94	679.02
K3	184+83.94	-21.25	678.80	678.88
L3	184+93.94	-21.25	678.64	678.71
M3	185+03.94	-21.25	678.48	678.53
N3	185+13.94	-21.25	678.30	678.33
¢ Brg. Pier 9-S	185+22.05	-21.25	678.15	678.15
¢ Pier 9	185+23.30	-21.25	678.13	678.13

GIRDER 5

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
¢ Pier 6	181+46.05	-12.75	678.08	678.08
¢ Brg. Pier 6-N	181+47.30	-12.75	678.10	678.10
V1	181+57.30	-12.75	678.30	678.34
W1	181+67.30	-12.75	678.48	678.57
X1	181+77.30	-12.75	678.66	678.78
Y1	181+87.30	-12.75	678.82	678.96
Z1	181+97.30	-12.75	678.97	679.13
A2	182+07.30	-12.75	679.12	679.27
B2	182+17.30	-12.75	679.25	679.39
C2	182+27.30	-12.75	679.37	679.49
D2	182+37.30	-12.75	679.48	679.57
E2	182+47.30	-12.75	679.58	679.64
F2	182+57.30	-12.75	679.67	679.71
G2	182+67.30	-12.75	679.76	679.77
H2	---	---	---	---
J2	---	---	---	---
¢ Pier 7	182+73.87	-12.75	679.80	679.80
K2	182+83.87	-12.75	679.87	679.86
L2	182+93.87	-12.75	679.92	679.92
M2	183+03.87	-12.75	679.96	679.97
N2	183+13.87	-12.75	679.99	680.01
P2	183+23.87	-12.75	680.02	680.04
R2	183+33.87	-12.75	680.03	680.06
S2	183+43.87	-12.75	680.03	680.07
T2	183+53.87	-12.75	680.02	680.06
U2	183+63.87	-12.75	680.00	680.03
V2	183+73.87	-12.75	679.97	679.99
W2	183+83.87	-12.75	679.93	679.94
X2	183+93.87	-12.75	679.88	679.88
Y2	184+03.87	-12.75	679.82	679.82
¢ Pier 8	184+10.35	-12.75	679.78	679.78
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	---	---	---	---
D3	184+23.94	-12.75	679.67	679.69
E3	184+33.94	-12.75	679.58	679.62
F3	184+43.94	-12.75	679.48	679.54
G3	184+53.94	-12.75	679.36	679.44
H3	184+63.94	-12.75	679.24	679.34
J3	184+73.94	-12.75	679.11	679.21
K3	184+83.94	-12.75	678.97	679.06
L3	184+93.94	-12.75	678.81	678.89
M3	185+03.94	-12.75	678.65	678.71
N3	185+13.94	-12.75	678.47	678.50
¢ Brg. Pier 9-S	185+22.05	-12.75	678.32	678.32
¢ Pier 9	185+23.30	-12.75	678.30	678.30

GIRDER 6

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
¢ Pier 6	181+46.05	-4.25	678.25	678.25
¢ Brg. Pier 6-N	181+47.30	-4.25	678.27	678.27
V1	181+57.30	-4.25	678.47	678.51
W1	181+67.30	-4.25	678.65	678.73
X1	181+77.30	-4.25	678.83	678.93
Y1	181+87.30	-4.25	678.99	679.12
Z1	181+97.30	-4.25	679.14	679.28
A2	182+07.30	-4.25	679.29	679.42
B2	182+17.30	-4.25	679.42	679.54
C2	182+27.30	-4.25	679.54	679.64
D2	182+37.30	-4.25	679.65	679.72
E2	182+47.30	-4.25	679.75	679.80
F2	182+57.30	-4.25	679.84	679.86
G2	182+67.30	-4.25	679.93	679.93
H2	---	---	---	---
J2	---	---	---	---
¢ Pier 7	182+69.16	-4.25	679.94	679.94
K2	182+79.16	-4.25	680.01	680.00
L2	182+89.16	-4.25	680.07	680.06
M2	182+99.16	-4.25	680.11	680.12
N2	183+09.16	-4.25	680.15	680.17
P2	183+19.16	-4.25	680.18	680.21
R2	183+29.16	-4.25	680.19	680.23
S2	183+39.16	-4.25	680.20	680.24
T2	183+49.16	-4.25	680.20	680.23
U2	183+59.16	-4.25	680.18	680.21
V2	183+69.16	-4.25	680.16	680.17
W2	183+79.16	-4.25	680.12	680.13
X2	183+89.16	-4.25	680.08	680.08
Y2	183+99.16	-4.25	680.02	680.02
¢ Pier 8	184+05.15	-4.25	679.98	679.98
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	184+13.94	-4.25	679.92	679.93
D3	184+23.94	-4.25	679.84	679.87
E3	184+33.94	-4.25	679.75	679.80
F3	184+43.94	-4.25	679.65	679.73
G3	184+53.94	-4.25	679.53	679.64
H3	184+63.94	-4.25	679.41	679.53
J3	184+73.94	-4.25	679.28	679.40
K3	184+83.94	-4.25	679.14	679.25
L3	184+93.94	-4.25	678.98	679.07
M3	185+03.94	-4.25	678.82	678.88
N3	185+13.94	-4.25	678.64	678.67
¢ Brg. Pier 9-S	185+22.05	-4.25	678.49	678.49
¢ Pier 9	185+23.30	-4.25	678.47	678.47



EI. at Beams 1 & 12 are given at the theoretical top of slab which is the projection of the roadway slope to the ¢ beam.

PROJECTION UNDER SIDEWALK DETAIL

FOR INFORMATION ONLY

Note:

1. Work this sheet with Sheets S8-S11.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION TOP OF SLAB ELEVATIONS IIa
NAME	DATE	
		FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815 SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR DATE 6/2009 CHECKED BY DEV

EARTH TECH | AECOM

GIRDER 7

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	4.25	678.25	678.25
☉ Brg. Pier 6-N	181+47.30	4.25	678.27	678.27
V1	181+57.30	4.25	678.47	678.51
W1	181+67.30	4.25	678.65	678.72
X1	181+77.30	4.25	678.83	678.92
Y1	181+87.30	4.25	678.99	679.10
Z1	181+97.30	4.25	679.14	679.26
A2	182+07.30	4.25	679.29	679.40
B2	182+17.30	4.25	679.42	679.52
C2	182+27.30	4.25	679.54	679.62
D2	182+37.30	4.25	679.65	679.71
E2	182+47.30	4.25	679.75	679.78
F2	182+57.30	4.25	679.84	679.85
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+64.44	4.25	679.90	679.90
K2	182+74.44	4.25	679.98	679.97
L2	182+84.44	4.25	680.04	680.04
M2	182+94.44	4.25	680.09	680.10
N2	183+04.44	4.25	680.13	680.15
P2	183+14.44	4.25	680.17	680.19
R2	183+24.44	4.25	680.19	680.22
S2	183+34.44	4.25	680.20	680.23
T2	183+44.44	4.25	680.20	680.23
U2	183+54.44	4.25	680.19	680.21
V2	183+64.44	4.25	680.17	680.18
W2	183+74.44	4.25	680.14	680.14
X2	183+84.44	4.25	680.10	680.10
Y2	183+94.44	4.25	680.05	680.05
☉ Pier 8	183+99.95	4.25	680.02	680.02
Z2	---	---	---	---
A3	---	---	---	---
B3	---	---	---	---
C3	184+13.94	4.25	679.92	679.95
D3	184+23.94	4.25	679.84	679.89
E3	184+33.94	4.25	679.75	679.83
F3	184+43.94	4.25	679.65	679.75
G3	184+53.94	4.25	679.53	679.66
H3	184+63.94	4.25	679.41	679.55
J3	184+73.94	4.25	679.28	679.42
K3	184+83.94	4.25	679.14	679.26
L3	184+93.94	4.25	678.98	679.09
M3	185+03.94	4.25	678.82	678.89
N3	185+13.94	4.25	678.64	678.68
☉ Brg. Pier 9-S	185+22.05	4.25	678.49	678.49
☉ Pier 9	185+23.30	4.25	678.47	678.47

GIRDER 8

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	12.75	678.08	678.08
☉ Brg. Pier 6-N	181+47.30	12.75	678.10	678.10
V1	181+57.30	12.75	678.30	678.33
W1	181+67.30	12.75	678.48	678.55
X1	181+77.30	12.75	678.66	678.74
Y1	181+87.30	12.75	678.82	678.92
Z1	181+97.30	12.75	678.97	679.08
A2	182+07.30	12.75	679.12	679.21
B2	182+17.30	12.75	679.25	679.33
C2	182+27.30	12.75	679.37	679.43
D2	182+37.30	12.75	679.48	679.52
E2	182+47.30	12.75	679.58	679.60
F2	---	---	---	---
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+59.73	12.75	679.70	679.70
K2	182+69.73	12.75	679.77	679.77
L2	182+79.73	12.75	679.84	679.84
M2	182+89.73	12.75	679.90	679.91
N2	182+99.73	12.75	679.95	679.97
P2	183+09.73	12.75	679.98	680.01
R2	183+19.73	12.75	680.01	680.04
S2	183+29.73	12.75	680.03	680.06
T2	183+39.73	12.75	680.03	680.06
U2	183+49.73	12.75	680.03	680.05
V2	183+59.73	12.75	680.01	680.02
W2	183+69.73	12.75	679.99	679.99
X2	183+79.73	12.75	679.95	679.95
Y2	183+89.73	12.75	679.91	679.90
☉ Pier 8	183+94.75	12.75	679.88	679.88
Z2	---	---	---	---
A3	---	---	---	---
B3	184+03.94	12.75	679.82	679.84
C3	184+13.94	12.75	679.75	679.79
D3	184+23.94	12.75	679.67	679.74
E3	184+33.94	12.75	679.58	679.68
F3	184+43.94	12.75	679.48	679.61
G3	184+53.94	12.75	679.36	679.51
H3	184+63.94	12.75	679.24	679.40
J3	184+73.94	12.75	679.11	679.26
K3	184+83.94	12.75	678.97	679.11
L3	184+93.94	12.75	678.81	678.93
M3	185+03.94	12.75	678.65	678.73
N3	185+13.94	12.75	678.47	678.51
☉ Brg. Pier 9-S	185+22.05	12.75	678.32	678.32
☉ Pier 9	185+23.30	12.75	678.30	678.30

GIRDER 9

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	21.25	677.91	677.91
☉ Brg. Pier 6-N	181+47.30	21.25	677.93	677.93
V1	181+57.30	21.25	678.13	678.16
W1	181+67.30	21.25	678.31	678.37
X1	181+77.30	21.25	678.49	678.56
Y1	181+87.30	21.25	678.65	678.74
Z1	181+97.30	21.25	678.80	678.89
A2	182+07.30	21.25	678.95	679.03
B2	182+17.30	21.25	679.08	679.14
C2	182+27.30	21.25	679.20	679.25
D2	182+37.30	21.25	679.31	679.34
E2	182+47.30	21.25	679.41	679.42
F2	---	---	---	---
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+55.02	21.25	679.48	679.48
K2	182+65.02	21.25	679.57	679.57
L2	182+75.02	21.25	679.64	679.64
M2	182+85.02	21.25	679.70	679.71
N2	182+95.02	21.25	679.75	679.78
P2	183+05.02	21.25	679.80	679.83
R2	183+15.02	21.25	679.83	679.86
S2	183+25.02	21.25	679.85	679.88
T2	183+35.02	21.25	679.86	679.89
U2	183+45.02	21.25	679.86	679.88
V2	183+55.02	21.25	679.85	679.86
W2	183+65.02	21.25	679.83	679.83
X2	183+75.02	21.25	679.80	679.79
Y2	---	---	---	---
☉ Pier 8	183+89.54	21.25	679.74	679.74
Z2	---	---	---	---
A3	---	---	---	---
B3	184+03.94	21.25	679.65	679.68
C3	184+13.94	21.25	679.58	679.64
D3	184+23.94	21.25	679.50	679.60
E3	184+33.94	21.25	679.41	679.54
F3	184+43.94	21.25	679.31	679.46
G3	184+53.94	21.25	679.19	679.37
H3	184+63.94	21.25	679.07	679.25
J3	184+73.94	21.25	678.94	679.11
K3	184+83.94	21.25	678.80	678.95
L3	184+93.94	21.25	678.64	678.77
M3	185+03.94	21.25	678.48	678.57
N3	185+13.94	21.25	678.30	678.35
☉ Brg. Pier 9-S	185+22.05	21.25	678.15	678.15
☉ Pier 9	185+23.30	21.25	678.13	678.13

GIRDER 10

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	29.75	677.74	677.74
☉ Brg. Pier 6-N	181+47.30	29.75	677.76	677.76
V1	181+57.30	29.75	677.96	677.99
W1	181+67.30	29.75	678.14	678.19
X1	181+77.30	29.75	678.32	678.38
Y1	181+87.30	29.75	678.48	678.56
Z1	181+97.30	29.75	678.63	678.71
A2	182+07.30	29.75	678.78	678.84
B2	182+17.30	29.75	678.91	678.96
C2	182+27.30	29.75	679.03	679.06
D2	182+37.30	29.75	679.14	679.16
E2	---	---	---	---
F2	---	---	---	---
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+50.31	29.75	679.27	679.27
K2	182+60.31	29.75	679.36	679.36
L2	182+70.31	29.75	679.44	679.44
M2	182+80.31	29.75	679.50	679.52
N2	182+90.31	29.75	679.56	679.58
P2	183+00.31	29.75	679.61	679.64
R2	183+10.31	29.75	679.64	679.68
S2	183+20.31	29.75	679.67	679.70
T2	183+30.31	29.75	679.69	679.71
U2	183+40.31	29.75	679.69	679.71
V2	183+50.31	29.75	679.69	679.69
W2	183+60.31	29.75	679.67	679.67
X2	183+70.31	29.75	679.64	679.64
Y2	---	---	---	---
☉ Pier 8	183+84.34	29.75	679.59	679.59
Z2	---	---	---	---
A3	183+93.94	29.75	679.54	679.56
B3	184+03.94	29.75	679.48	679.53
C3	184+13.94	29.75	679.41	679.50
D3	184+23.94	29.75	679.33	679.45
E3	184+33.94	29.75	679.24	679.39
F3	184+43.94	29.75	679.14	679.32
G3	184+53.94	29.75	679.02	679.22
H3	184+63.94	29.75	678.90	679.10
J3	184+73.94	29.75	678.77	678.96
K3	184+83.94	29.75	678.63	678.80
L3	184+93.94	29.75	678.47	678.61
M3	185+03.94	29.75	678.31	678.40
N3	185+13.94	29.75	678.13	678.18
☉ Brg. Pier 9-S	185+22.05	29.75	677.98	677.98
☉ Pier 9	185+23.30	29.75	677.96	677.96

FOR INFORMATION ONLY

Note:
1. Work this sheet with Sheets S8-S11.

EARTH TECH | AECOM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS Iib
FAP 330 US 12/45 (MANNHEIM RD.) OVER
S00 LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR
DATE 6/2009 CHECKED BY DEV

GIRDER 11

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	38.25	677.57	677.57
☉ Brg. Pier 6-N	181+47.30	38.25	677.59	677.59
V1	181+57.30	38.25	677.79	677.81
W1	181+67.30	38.25	677.97	678.02
X1	181+77.30	38.25	678.15	678.21
Y1	181+87.30	38.25	678.31	678.38
Z1	181+97.30	38.25	678.46	678.53
A2	182+07.30	38.25	678.61	678.66
B2	182+17.30	38.25	678.74	678.78
C2	182+27.30	38.25	678.86	678.88
D2	182+37.30	38.25	678.97	678.98
E2	---	---	---	---
F2	---	---	---	---
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+45.60	38.25	679.06	679.06
K2	182+55.60	38.25	679.15	679.15
L2	182+65.60	38.25	679.23	679.24
M2	182+75.60	38.25	679.30	679.32
N2	182+85.60	38.25	679.37	679.39
P2	182+95.60	38.25	679.42	679.45
R2	183+05.60	38.25	679.46	679.49
S2	183+15.60	38.25	679.49	679.52
T2	183+25.60	38.25	679.51	679.54
U2	183+35.60	38.25	679.52	679.54
V2	183+45.60	38.25	679.52	679.52
W2	183+55.60	38.25	679.51	679.50
X2	183+65.60	38.25	679.49	679.48
Y2	---	---	---	---
☉ Pier 8	183+79.14	38.25	679.44	679.44
Z2	183+83.94	38.25	679.42	679.43
A3	183+93.94	38.25	679.37	679.41
B3	184+03.94	38.25	679.31	679.38
C3	184+13.94	38.25	679.24	679.35
D3	184+23.94	38.25	679.16	679.31
E3	184+33.94	38.25	679.07	679.25
F3	184+43.94	38.25	678.97	679.17
G3	184+53.94	38.25	678.85	679.07
H3	184+63.94	38.25	678.73	678.95
J3	184+73.94	38.25	678.60	678.81
K3	184+83.94	38.25	678.46	678.64
L3	184+93.94	38.25	678.30	678.45
M3	185+03.94	38.25	678.14	678.24
N3	185+13.94	38.25	677.96	678.01
☉ Brg. Pier 9-S	185+22.05	38.25	677.81	677.81
☉ Pier 9	185+23.30	38.25	677.79	677.79

GIRDER 12

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 6	181+46.05	46.75	677.40	677.40
☉ Brg. Pier 6-N	181+47.30	46.75	677.42	677.42
V1	181+57.30	46.75	677.62	677.64
W1	181+67.30	46.75	677.80	677.85
X1	181+77.30	46.75	677.98	678.04
Y1	181+87.30	46.75	678.14	678.20
Z1	181+97.30	46.75	678.29	678.35
A2	182+07.30	46.75	678.44	678.49
B2	182+17.30	46.75	678.57	678.60
C2	182+27.30	46.75	678.69	678.71
D2	---	---	---	---
E2	---	---	---	---
F2	---	---	---	---
G2	---	---	---	---
H2	---	---	---	---
J2	---	---	---	---
☉ Pier 7	182+40.89	46.75	678.84	678.84
K2	182+50.89	46.75	678.94	678.94
L2	182+60.89	46.75	679.02	679.03
M2	182+70.89	46.75	679.10	679.12
N2	182+80.89	46.75	679.17	679.20
P2	182+90.89	46.75	679.22	679.26
R2	183+00.89	46.75	679.27	679.31
S2	183+10.89	46.75	679.31	679.35
T2	183+20.89	46.75	679.33	679.36
U2	183+30.89	46.75	679.35	679.37
V2	183+40.89	46.75	679.35	679.36
W2	183+50.89	46.75	679.35	679.34
X2	183+60.89	46.75	679.33	679.32
Y2	---	---	---	---
☉ Pier 8	183+73.94	46.75	679.27	679.27
Z2	183+83.94	46.75	679.25	679.28
A3	183+93.94	46.75	679.20	679.26
B3	184+03.94	46.75	679.14	679.24
C3	184+13.94	46.75	679.07	679.21
D3	184+23.94	46.75	678.99	679.17
E3	184+33.94	46.75	678.90	679.11
F3	184+43.94	46.75	678.80	679.03
G3	184+53.94	46.75	678.68	678.92
H3	184+63.94	46.75	678.56	678.80
J3	184+73.94	46.75	678.43	678.65
K3	184+83.94	46.75	678.29	678.47
L3	184+93.94	46.75	678.13	678.28
M3	185+03.94	46.75	677.97	678.07
N3	185+13.94	46.75	677.79	677.84
☉ Brg. Pier 9-S	185+22.05	46.75	677.64	677.64
☉ Pier 9	185+23.30	46.75	677.62	677.62

FOR INFORMATION ONLY

Note:

1. Work this sheet with Sheets S8-S11.

REVISIONS	
NAME	DATE

EARTH TECH | AECOM

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS I1c
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY DEV

P.G.L. & CL STAGE CONSTRUCTION JOINT

BEAMS 1 & 12

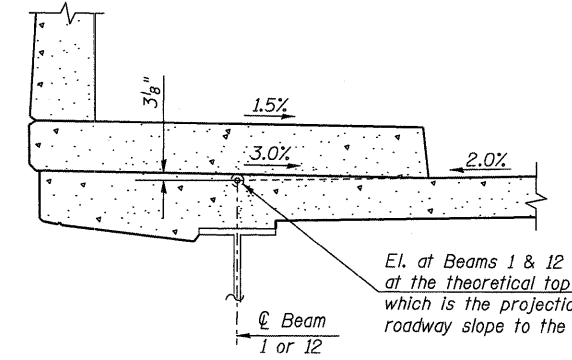
BEAMS 2 & 11

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	13
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S12 of S30		

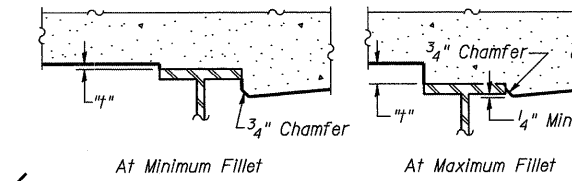
Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	0.00	678.56	678.56
☉ Brg. Pier 9-N	185+24.47	0.00	678.53	678.53
P3	185+34.47	0.00	678.34	678.37
R3	185+44.47	0.00	678.13	678.20
S3	185+54.47	0.00	677.92	677.99
T3	185+64.47	0.00	677.69	677.76
U3	185+74.47	0.00	677.45	677.50
V3	185+84.47	0.00	677.21	677.23
W3	185+94.47	0.00	676.95	676.95
☉ Pier 10	186+00.84	0.00	676.78	676.78
X3	186+10.84	0.00	676.50	676.52
Y3	186+20.84	0.00	676.22	676.26
Z3	186+30.84	0.00	675.92	675.99
A4	186+40.84	0.00	675.62	675.70
B4	186+50.84	0.00	675.30	675.39
C4	186+60.84	0.00	674.98	675.05
D4	186+70.84	0.00	674.64	674.69
E4	186+80.84	0.00	674.29	674.32
F4	186+90.84	0.00	673.94	673.94
☉ Pier 11	186+95.84	0.00	673.75	673.75
G4	187+05.84	0.00	673.38	673.39
H4	187+15.84	0.00	673.00	673.03
J4	187+25.84	0.00	672.60	672.66
K4	187+35.84	0.00	672.21	672.28
L4	187+45.84	0.00	671.81	671.88
M4	187+55.84	0.00	671.41	671.47
N4	187+65.84	0.00	671.01	671.05
P4	187+75.84	0.00	670.62	670.63
R4	187+85.84	0.00	670.22	670.22
☉ Pier 12	187+90.84	0.00	670.02	670.02
S4	188+00.84	0.00	669.62	669.64
T4	188+10.84	0.00	669.22	669.27
U4	188+20.84	0.00	668.83	668.91
V4	188+30.84	0.00	668.43	668.53
W4	188+40.84	0.00	668.03	668.14
X4	188+50.84	0.00	667.63	667.74
Y4	188+60.84	0.00	667.24	667.31
Z4	188+70.84	0.00	666.84	666.88
A5	188+80.84	0.00	666.44	666.45
☉ Pier 13	188+85.84	0.00	666.24	666.24
B5	188+95.84	0.00	665.84	665.84
C5	189+05.84	0.00	665.45	665.44
D5	189+15.84	0.00	665.05	665.05
E5	189+25.84	0.00	664.65	664.65
☉ Brg. N. Abut.	189+34.59	0.00	664.30	664.30
Bk. N. Abut.	189+37.59	0.00	664.18	664.18

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	46.75	677.62	677.62
☉ Brg. Pier 9-N	185+24.47	46.75	677.60	677.60
P3	185+34.47	46.75	677.40	677.45
R3	185+44.47	46.75	677.20	677.28
S3	185+54.47	46.75	676.98	677.07
T3	185+64.47	46.75	676.75	676.84
U3	185+74.47	46.75	676.52	676.58
V3	185+84.47	46.75	676.27	676.30
W3	185+94.47	46.75	676.01	676.02
☉ Pier 10	186+00.84	46.75	675.84	675.84
X3	186+10.84	46.75	675.57	675.58
Y3	186+20.84	46.75	675.28	675.33
Z3	186+30.84	46.75	674.99	675.07
A4	186+40.84	46.75	674.68	674.79
B4	186+50.84	46.75	674.37	674.47
C4	186+60.84	46.75	674.04	674.13
D4	186+70.84	46.75	673.70	673.77
E4	186+80.84	46.75	673.36	673.39
F4	186+90.84	46.75	673.00	673.01
☉ Pier 11	186+95.84	46.75	672.82	672.82
G4	187+05.84	46.75	672.45	672.46
H4	187+15.84	46.75	672.06	672.10
J4	187+25.84	46.75	671.67	671.74
K4	187+35.84	46.75	671.27	671.36
L4	187+45.84	46.75	670.87	670.97
M4	187+55.84	46.75	670.48	670.55
N4	187+65.84	46.75	670.08	670.13
P4	187+75.84	46.75	669.68	669.70
R4	187+85.84	46.75	669.28	669.28
☉ Pier 12	187+90.84	46.75	669.08	669.08
S4	188+00.84	46.75	668.69	668.71
T4	188+10.84	46.75	668.29	668.35
U4	188+20.84	46.75	667.89	667.99
V4	188+30.84	46.75	667.49	667.63
W4	188+40.84	46.75	667.07	667.24
X4	188+50.84	46.75	666.67	666.83
Y4	188+60.84	46.75	666.30	666.40
Z4	188+70.84	46.75	665.90	665.96
A5	188+80.84	46.75	665.51	665.52
☉ Pier 13	188+85.84	46.75	665.31	665.31
B5	188+95.84	46.75	664.91	664.90
C5	189+05.84	46.75	664.51	664.50
D5	189+15.84	46.75	664.11	664.11
E5	189+25.84	46.75	663.72	663.72
☉ Brg. N. Abut.	189+34.59	46.75	663.37	663.37
Bk. N. Abut.	189+37.59	46.75	663.25	663.25

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	38.25	677.79	677.79
☉ Brg. Pier 9-N	185+24.47	38.25	677.77	677.77
P3	185+34.47	38.25	677.57	677.61
R3	185+44.47	38.25	677.37	677.43
S3	185+54.47	38.25	677.15	677.23
T3	185+64.47	38.25	676.92	676.99
U3	185+74.47	38.25	676.69	676.74
V3	185+84.47	38.25	676.44	676.46
W3	185+94.47	38.25	676.18	676.19
☉ Pier 10	186+00.84	38.25	676.01	676.01
X3	186+10.84	38.25	675.74	675.75
Y3	186+20.84	38.25	675.45	675.49
Z3	186+30.84	38.25	675.16	675.22
A4	186+40.84	38.25	674.85	674.93
B4	186+50.84	38.25	674.54	674.62
C4	186+60.84	38.25	674.21	674.28
D4	186+70.84	38.25	673.87	673.93
E4	186+80.84	38.25	673.53	673.55
F4	186+90.84	38.25	673.17	673.17
☉ Pier 11	186+95.84	38.25	672.99	672.99
G4	187+05.84	38.25	672.62	672.62
H4	187+15.84	38.25	672.23	672.26
J4	187+25.84	38.25	671.84	671.89
K4	187+35.84	38.25	671.44	671.51
L4	187+45.84	38.25	671.04	671.12
M4	187+55.84	38.25	670.65	670.71
N4	187+65.84	38.25	670.25	670.29
P4	187+75.84	38.25	669.85	669.87
R4	187+85.84	38.25	669.45	669.45
☉ Pier 12	187+90.84	38.25	669.25	669.25
S4	188+00.84	38.25	668.86	668.87
T4	188+10.84	38.25	668.46	668.51
U4	188+20.84	38.25	668.06	668.14
V4	188+30.84	38.25	667.66	667.77
W4	188+40.84	38.25	667.27	667.38
X4	188+50.84	38.25	666.87	666.97
Y4	188+60.84	38.25	666.47	666.55
Z4	188+70.84	38.25	666.07	666.12
A5	188+80.84	38.25	665.68	665.69
☉ Pier 13	188+85.84	38.25	665.48	665.48
B5	188+95.84	38.25	665.08	665.07
C5	189+05.84	38.25	664.68	664.67
D5	189+15.84	38.25	664.28	664.28
E5	189+25.84	38.25	663.89	663.89
☉ Brg. N. Abut.	189+34.59	38.25	663.54	663.54
Bk. N. Abut.	189+37.59	38.25	663.42	663.42



PROJECTION UNDER SIDEWALK DETAIL



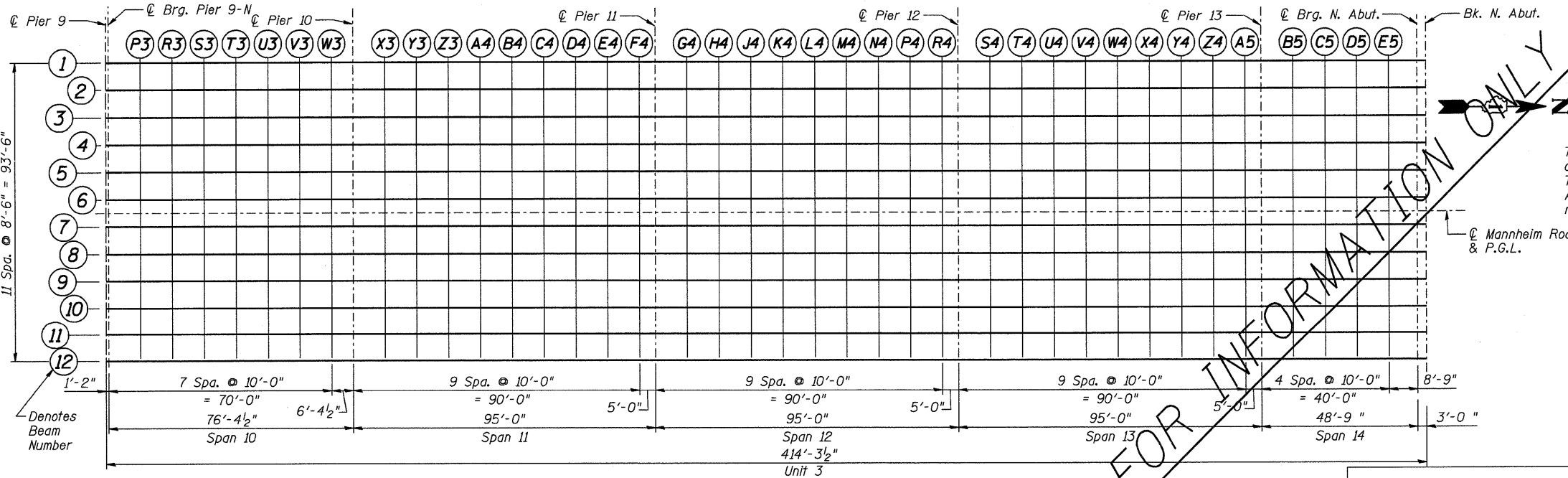
FILLET HEIGHTS

To determine "h": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown left. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown here and on Sheet S13, minus slab thickness, equals the fillet heights "h" above top flange of beams.

- Notes:
1. Work this sheet with Sheet S13.
 2. See Sheet S14 for top of slab elevations at north approach.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS III
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 SOO LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY DEV



PLAN (UNIT 3)

EARTH TECH | AECOM

BEAMS 3 & 10

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	29.75	677.96	677.96
☉ Brg. Pier 9-N	185+24.47	29.75	677.94	677.94
P3	185+34.47	29.75	677.74	677.78
R3	185+44.47	29.75	677.54	677.60
S3	185+54.47	29.75	677.32	677.40
T3	185+64.47	29.75	677.09	677.16
U3	185+74.47	29.75	676.86	676.91
V3	185+84.47	29.75	676.61	676.63
W3	185+94.47	29.75	676.35	676.36
☉ Pier 10	186+00.84	29.75	676.18	676.18
X3	186+10.84	29.75	675.91	675.92
Y3	186+20.84	29.75	675.62	675.66
Z3	186+30.84	29.75	675.33	675.39
A4	186+40.84	29.75	675.02	675.10
B4	186+50.84	29.75	674.71	674.79
C4	186+60.84	29.75	674.38	674.45
D4	186+70.84	29.75	674.04	674.10
E4	186+80.84	29.75	673.70	673.72
F4	186+90.84	29.75	673.34	673.34
☉ Pier 11	186+95.84	29.75	673.16	673.16
G4	187+05.84	29.75	672.79	672.79
H4	187+15.84	29.75	672.40	672.43
J4	187+25.84	29.75	672.01	672.06
K4	187+35.84	29.75	671.61	671.68
L4	187+45.84	29.75	671.21	671.29
M4	187+55.84	29.75	670.82	670.88
N4	187+65.84	29.75	670.42	670.46
P4	187+75.84	29.75	670.02	670.04
R4	187+85.84	29.75	669.62	669.62
☉ Pier 12	187+90.84	29.75	669.42	669.42
S4	188+00.84	29.75	669.03	669.04
T4	188+10.84	29.75	668.63	668.68
U4	188+20.84	29.75	668.23	668.31
V4	188+30.84	29.75	667.83	667.94
W4	188+40.84	29.75	667.44	667.55
X4	188+50.84	29.75	667.04	667.14
Y4	188+60.84	29.75	666.64	666.72
Z4	188+70.84	29.75	666.24	666.29
A5	188+80.84	29.75	665.85	665.86
☉ Pier 13	188+85.84	29.75	665.65	665.65
B5	188+95.84	29.75	665.25	665.24
C5	189+05.84	29.75	664.85	664.84
D5	189+15.84	29.75	664.45	664.45
E5	189+25.84	29.75	664.06	664.06
☉ Brg. N. Abut.	189+34.59	29.75	663.71	663.71
Bk. N. Abut.	189+37.59	29.75	663.59	663.59

BEAMS 4 & 9

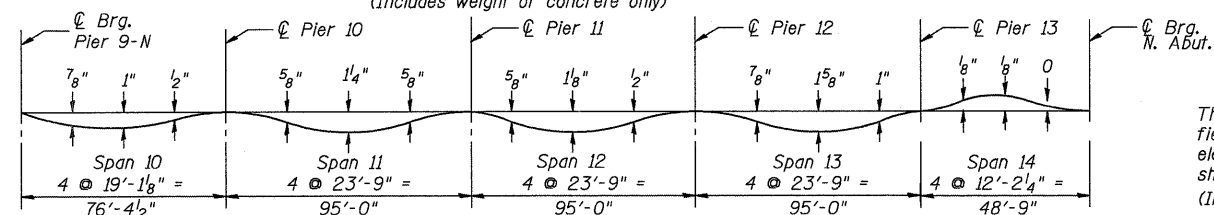
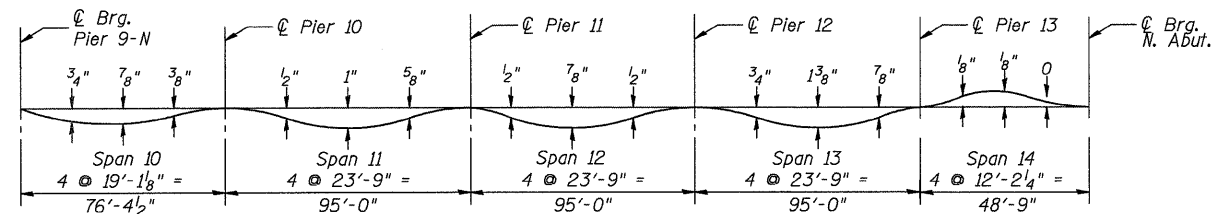
Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	21.25	678.13	678.13
☉ Brg. Pier 9-N	185+24.47	21.25	678.11	678.11
P3	185+34.47	21.25	677.91	677.95
R3	185+44.47	21.25	677.71	677.77
S3	185+54.47	21.25	677.49	677.57
T3	185+64.47	21.25	677.26	677.33
U3	185+74.47	21.25	677.03	677.08
V3	185+84.47	21.25	676.78	676.80
W3	185+94.47	21.25	676.52	676.53
☉ Pier 10	186+00.84	21.25	676.35	676.35
X3	186+10.84	21.25	676.08	676.09
Y3	186+20.84	21.25	675.79	675.83
Z3	186+30.84	21.25	675.50	675.56
A4	186+40.84	21.25	675.19	675.27
B4	186+50.84	21.25	674.88	674.96
C4	186+60.84	21.25	674.55	674.62
D4	186+70.84	21.25	674.21	674.27
E4	186+80.84	21.25	673.87	673.89
F4	186+90.84	21.25	673.51	673.51
☉ Pier 11	186+95.84	21.25	673.33	673.33
G4	187+05.84	21.25	672.96	672.96
H4	187+15.84	21.25	672.57	672.60
J4	187+25.84	21.25	672.18	672.23
K4	187+35.84	21.25	671.78	671.85
L4	187+45.84	21.25	671.38	671.46
M4	187+55.84	21.25	670.99	671.05
N4	187+65.84	21.25	670.59	670.63
P4	187+75.84	21.25	670.19	670.21
R4	187+85.84	21.25	669.79	669.79
☉ Pier 12	187+90.84	21.25	669.59	669.59
S4	188+00.84	21.25	669.20	669.21
T4	188+10.84	21.25	668.80	668.85
U4	188+20.84	21.25	668.40	668.48
V4	188+30.84	21.25	668.00	668.11
W4	188+40.84	21.25	667.61	667.72
X4	188+50.84	21.25	667.21	667.31
Y4	188+60.84	21.25	666.81	666.89
Z4	188+70.84	21.25	666.41	666.46
A5	188+80.84	21.25	666.02	666.03
☉ Pier 13	188+85.84	21.25	665.82	665.82
B5	188+95.84	21.25	665.42	665.41
C5	189+05.84	21.25	665.02	665.01
D5	189+15.84	21.25	664.62	664.62
E5	189+25.84	21.25	664.23	664.23
☉ Brg. N. Abut.	189+34.59	21.25	663.88	663.88
Bk. N. Abut.	189+37.59	21.25	663.76	663.76

BEAMS 5 & 8

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	12.75	678.30	678.30
☉ Brg. Pier 9-N	185+24.47	12.75	678.28	678.28
P3	185+34.47	12.75	678.08	678.12
R3	185+44.47	12.75	677.88	677.94
S3	185+54.47	12.75	677.66	677.74
T3	185+64.47	12.75	677.43	677.50
U3	185+74.47	12.75	677.20	677.25
V3	185+84.47	12.75	676.95	676.97
W3	185+94.47	12.75	676.69	676.70
☉ Pier 10	186+00.84	12.75	676.52	676.52
X3	186+10.84	12.75	676.25	676.26
Y3	186+20.84	12.75	675.96	676.00
Z3	186+30.84	12.75	675.67	675.73
A4	186+40.84	12.75	675.36	675.44
B4	186+50.84	12.75	675.05	675.13
C4	186+60.84	12.75	674.72	674.79
D4	186+70.84	12.75	674.38	674.44
E4	186+80.84	12.75	674.04	674.06
F4	186+90.84	12.75	673.68	673.68
☉ Pier 11	186+95.84	12.75	673.50	673.50
G4	187+05.84	12.75	673.13	673.13
H4	187+15.84	12.75	672.74	672.77
J4	187+25.84	12.75	672.35	672.40
K4	187+35.84	12.75	671.95	672.02
L4	187+45.84	12.75	671.55	671.63
M4	187+55.84	12.75	671.16	671.22
N4	187+65.84	12.75	670.76	670.80
P4	187+75.84	12.75	670.36	670.38
R4	187+85.84	12.75	669.96	669.96
☉ Pier 12	187+90.84	12.75	669.76	669.76
S4	188+00.84	12.75	669.37	669.38
T4	188+10.84	12.75	668.97	669.02
U4	188+20.84	12.75	668.57	668.65
V4	188+30.84	12.75	668.17	668.28
W4	188+40.84	12.75	667.78	667.89
X4	188+50.84	12.75	667.38	667.48
Y4	188+60.84	12.75	666.98	667.06
Z4	188+70.84	12.75	666.58	666.63
A5	188+80.84	12.75	666.19	666.20
☉ Pier 13	188+85.84	12.75	665.99	665.99
B5	188+95.84	12.75	665.59	665.58
C5	189+05.84	12.75	665.19	665.18
D5	189+15.84	12.75	664.79	664.79
E5	189+25.84	12.75	664.40	664.40
☉ Brg. N. Abut.	189+34.59	12.75	664.05	664.05
Bk. N. Abut.	189+37.59	12.75	663.93	663.93

BEAMS 6 & 7

Location	Station	Offset	Theor. Grade Elevations	Theor. Grade Elev. Adj. For Dead Load Deflection
☉ Pier 9	185+23.30	4.25	678.47	678.47
☉ Brg. Pier 9-N	185+24.47	4.25	678.45	678.45
P3	185+34.47	4.25	678.25	678.29
R3	185+44.47	4.25	678.05	678.11
S3	185+54.47	4.25	677.83	677.91
T3	185+64.47	4.25	677.60	677.67
U3	185+74.47	4.25	677.37	677.42
V3	185+84.47	4.25	677.12	677.14
W3	185+94.47	4.25	676.86	676.87
☉ Pier 10	186+00.84	4.25	676.69	676.69
X3	186+10.84	4.25	676.42	676.43
Y3	186+20.84	4.25	676.13	676.17
Z3	186+30.84	4.25	675.84	675.90
A4	186+40.84	4.25	675.53	675.61
B4	186+50.84	4.25	675.22	675.30
C4	186+60.84	4.25	674.89	674.96
D4	186+70.84	4.25	674.55	674.61
E4	186+80.84	4.25	674.21	674.23
F4	186+90.84	4.25	673.85	673.85
☉ Pier 11	186+95.84	4.25	673.67	673.67
G4	187+05.84	4.25	673.30	673.30
H4	187+15.84	4.25	672.91	672.94
J4	187+25.84	4.25	672.52	672.57
K4	187+35.84	4.25	672.12	672.19
L4	187+45.84	4.25	671.72	671.80
M4	187+55.84	4.25	671.33	671.39
N4	187+65.84	4.25	670.93	670.97
P4	187+75.84	4.25	670.53	670.55
R4	187+85.84	4.25	670.13	670.13
☉ Pier 12	187+90.84	4.25	669.93	669.93
S4	188+00.84	4.25	669.54	669.55
T4	188+10.84	4.25	669.14	669.19
U4	188+20.84	4.25	668.74	668.82
V4	188+30.84	4.25	668.34	668.45
W4	188+40.84	4.25	667.95	668.06
X4	188+50.84	4.25	667.55	667.65
Y4	188+60.84	4.25	667.15	667.23
Z4	188+70.84	4.25	666.75	666.80
A5	188+80.84	4.25	666.36	666.37
☉ Pier 13	188+85.84	4.25	666.16	666.16
B5	188+95.84	4.25	665.76	665.75
C5	189+05.84	4.25	665.36	665.35
D5	189+15.84	4.25	664.96	664.96
E5	189+25.84	4.25	664.57	664.57
☉ Brg. N. Abut.	189+34.59	4.25	664.22	664.22
Bk. N. Abut.	189+37.59	4.25	664.10	664.10

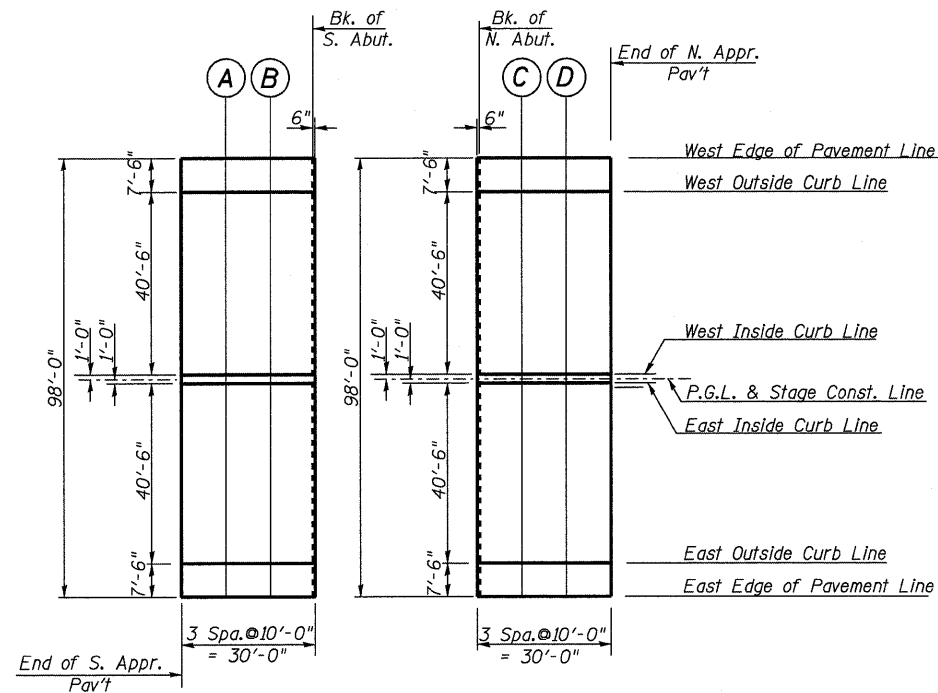


The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown. All elevations and offsets are in feet. (Includes weight of concrete only)

FOR INFORMATION ONLY

EARTH TECH | AECOM

REVISIONS	
NAME	DATE



SOUTH APPROACH PAV'T

West Edge of Pavement Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	-49.00	660.10
A	176+67.76	-49.00	660.48
B	176+77.76	-49.00	660.87
Start S. Appr. Slab	176+87.76	-49.00	661.26

West Outside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	-41.50	660.25
A	176+67.76	-41.50	660.63
B	176+77.76	-41.50	661.02
Start S. Appr. Slab	176+87.76	-41.50	661.41

West Inside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	-1.00	661.06
A	176+67.76	-1.00	661.44
B	176+77.76	-1.00	661.83
Start S. Appr. Slab	176+87.76	-1.00	662.22

P.G.L. & Stage Const. Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	0.00	661.08
A	176+67.76	0.00	661.46
B	176+77.76	0.00	661.85
Start S. Appr. Slab	176+87.76	0.00	662.24

East Inside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	1.00	661.06
A	176+67.76	1.00	661.44
B	176+77.76	1.00	661.83
Start S. Appr. Slab	176+87.76	1.00	662.22

East Outside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	41.50	660.25
A	176+67.76	41.50	660.63
B	176+77.76	41.50	661.02
Start S. Appr. Slab	176+87.76	41.50	661.41

East Edge of Pavement Line

Location	Station	Offset	Theoretical Grade Elev.
End S. Appr. Slab	176+57.76	49.00	660.10
A	176+67.76	49.00	660.48
B	176+77.76	49.00	660.87
Start S. Appr. Slab	176+87.76	49.00	661.26

NORTH APPROACH PAV'T

West Edge of Pavement Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	-49.00	663.22
C	189+47.09	-49.00	662.83
D	189+57.09	-49.00	662.43
End N. Appr. Slab	189+67.09	-49.00	662.03

West Outside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	-41.50	663.37
C	189+47.09	-41.50	662.98
D	189+57.09	-41.50	662.58
End N. Appr. Slab	189+67.09	-41.50	662.18

West Inside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	-1.00	664.18
C	189+47.09	-1.00	663.79
D	189+57.09	-1.00	663.39
End N. Appr. Slab	189+67.09	-1.00	662.99

P.G.L. & Stage Const. Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	0.00	664.20
C	189+47.09	0.00	663.81
D	189+57.09	0.00	663.41
End N. Appr. Slab	189+67.09	0.00	663.01

East Inside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	1.00	664.18
C	189+47.09	1.00	663.79
D	189+57.09	1.00	663.39
End N. Appr. Slab	189+67.09	1.00	662.99

East Outside Curb Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	41.50	663.37
C	189+47.09	41.50	662.98
D	189+57.09	41.50	662.58
End N. Appr. Slab	189+67.09	41.50	662.18

East Edge of Pavement Line

Location	Station	Offset	Theoretical Grade Elev.
Start N. Appr. Slab	189+37.09	49.00	663.22
C	189+47.09	49.00	662.83
D	189+57.09	49.00	662.43
End N. Appr. Slab	189+67.09	49.00	662.03

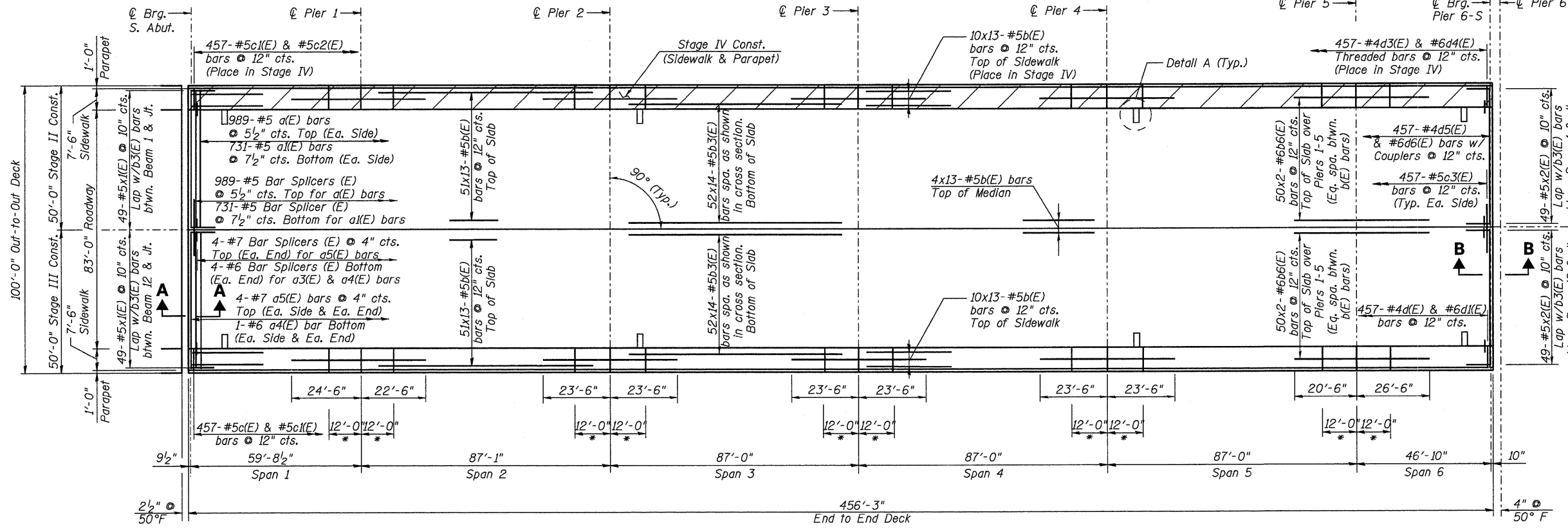
FOR INFORMATION ONLY

EARTH TECH | AECOM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS
NORTH & SOUTH APPROACH
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY DEV

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	71	10
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S15 of S30		

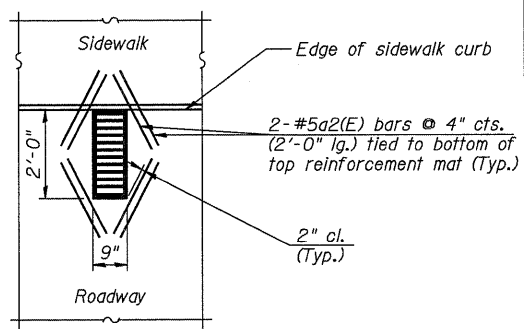


*1/4"x3/4" Formed sidewalk joint with concrete sealer (full width along joint-backer rod not required) (See Sheet S18 for cross section)

DECK PLAN (UNIT 1)
Median omitted for clarity

Notes:

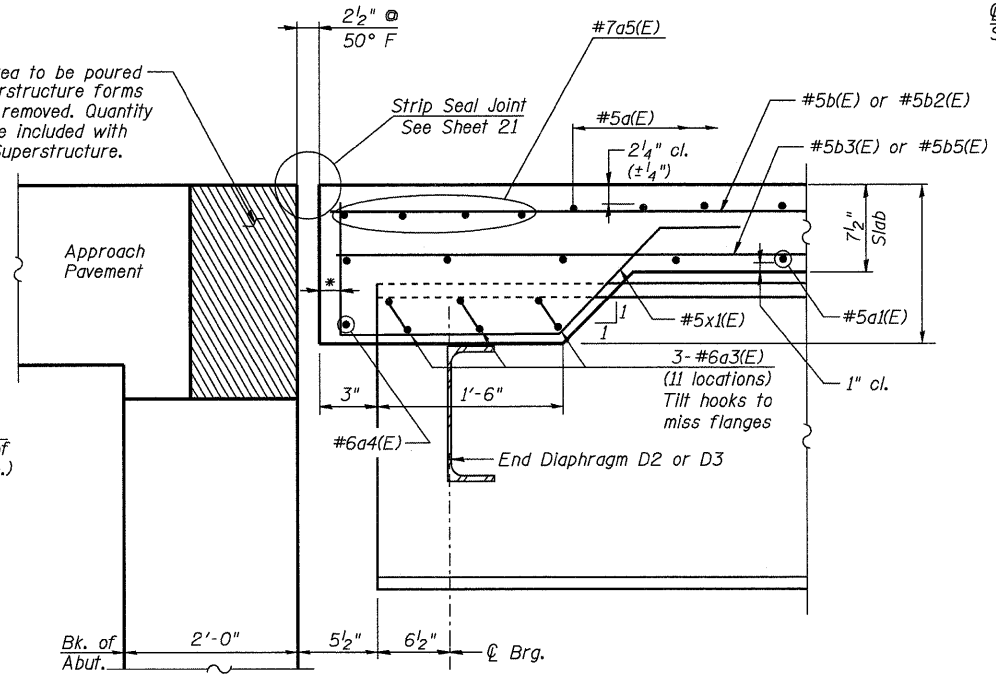
1. Work this sheet with Sheets S15-S19.
2. See Sheets S15 & S16 for Sections A-A & B-B, respectively.
3. See Sheet S20 for bar splicer details.
4. See Sheet S21-S22 for expansion joint details.
5. See Sheet S23 for bridge fence railing details.
6. See Sheets S44-S45 for drainage scupper details.
7. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
8. Cut longitudinal reinforcement to clear scuppers.
9. 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:
 - a) At least 72 hours shall have elapsed from the end of the previous pour.
 - b) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.



DETAIL A

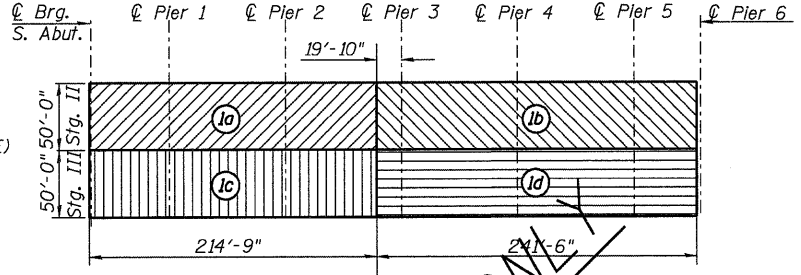
Unit 1 (8 locations)
Unit 3 (8 locations)

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



SECTION A-A

Preformed Joint Strip Seal (Typ. Each Abut.)



DECK POURING SEQUENCE (UNIT 1)

The deck shall be poured in the sequence as shown (see Note 9).

Min. Bar Lap

- #5 = 2'-2"
- #6 = 2'-7"
- #7 = 3'-5"

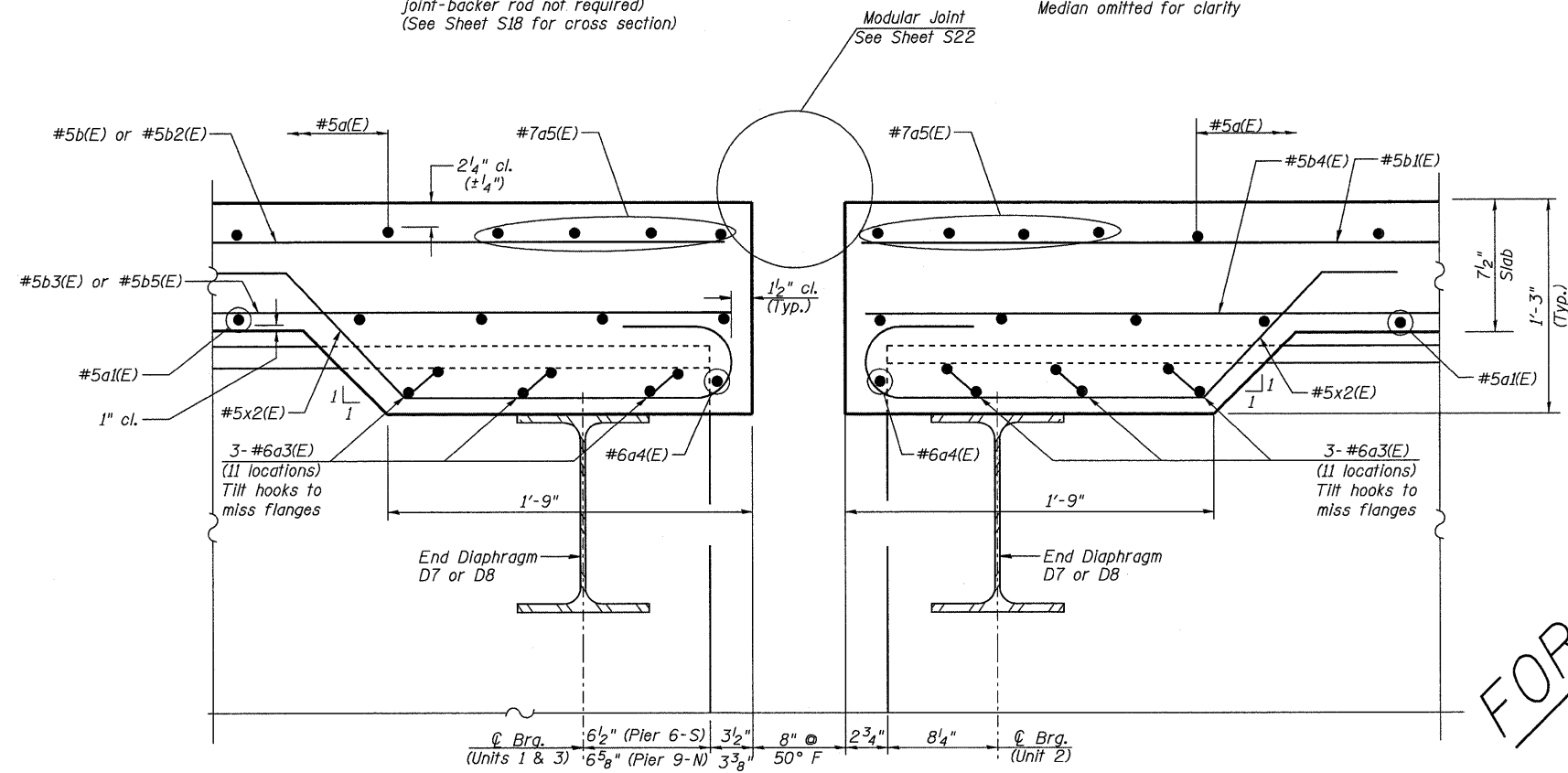
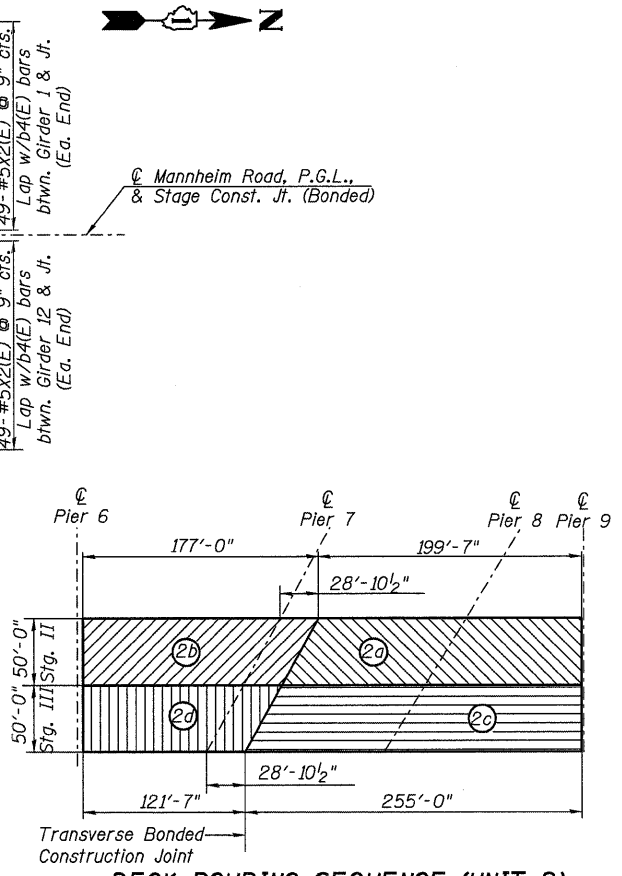
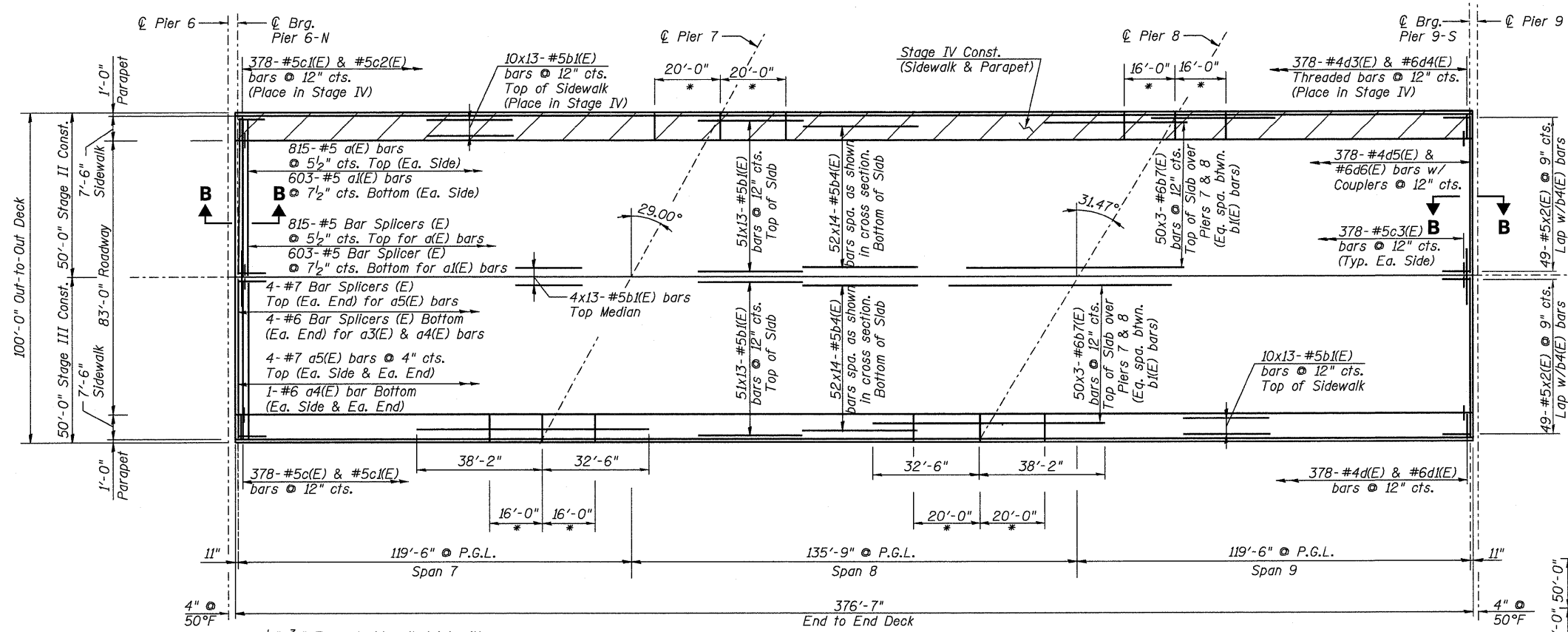
EARTH TECH | AECOM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE PLAN I
FAP 330 US 12/45 (MANNHEIM RD.) OVER
500 LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR
DATE 6/2009 CHECKED BY CLS

FOR INFORMATION ONLY

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	17	17
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S16 of S30		



FOR INFORMATION ONLY

Min. Bar Lap

#5	= 2'-2"
#6	= 2'-7"
#7	= 3'-5"

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE PLAN II

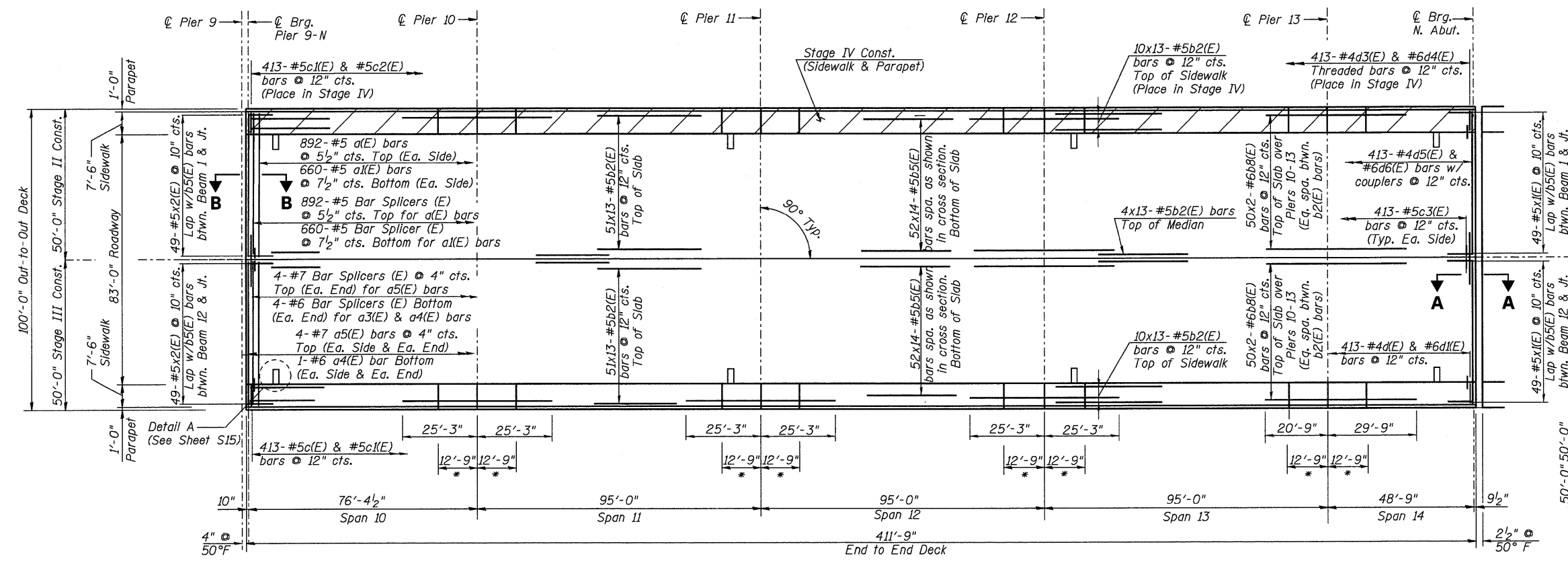
FAP 330 US 12/45 (MANNHEIM RD.) OVER
500 LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815

SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR

DATE 6/2009 CHECKED BY CLS

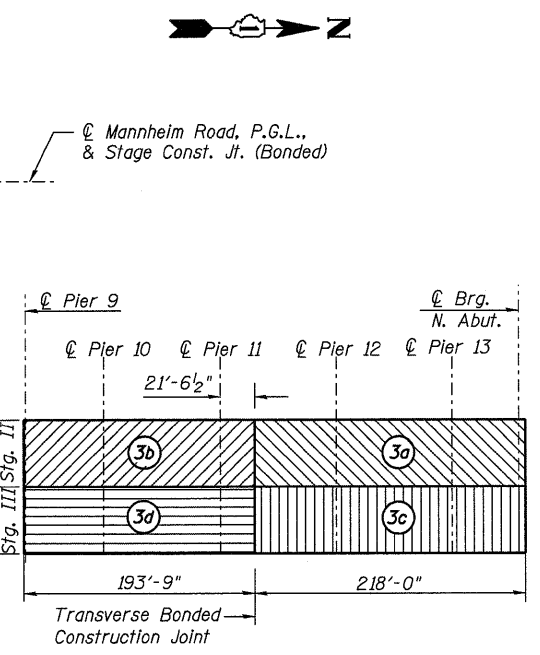
EARTH TECH | AECOM

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	18
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S17 of S30		

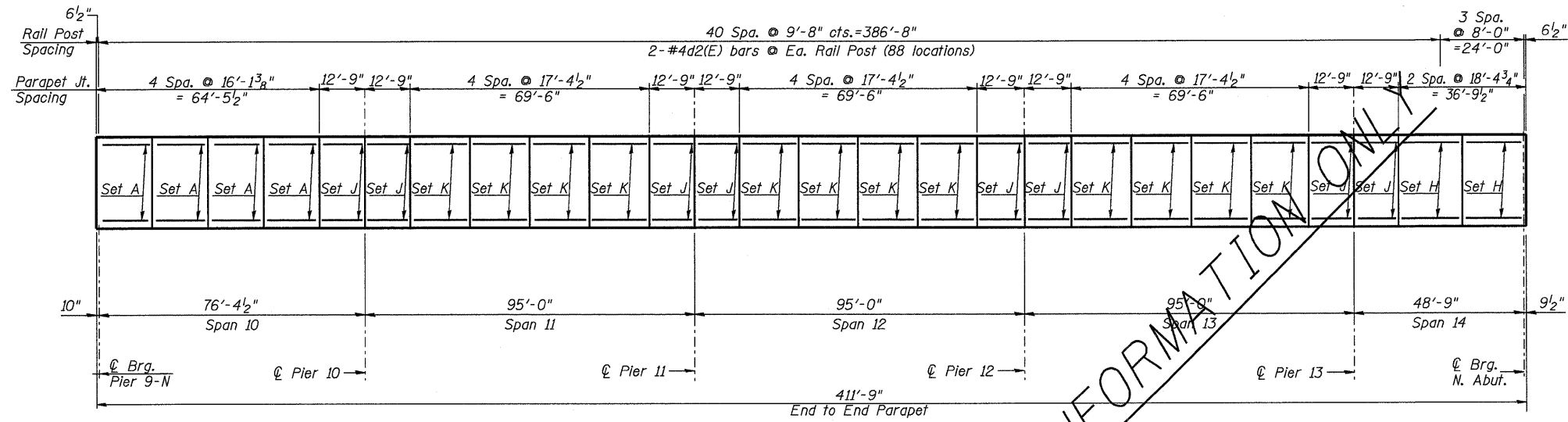


* 1/4"x3/4" Formed sidewalk joint with concrete sealer (full width along joint-backer rod not required) (See Sheet S18 for cross section)

DECK PLAN (UNIT 3)
Median omitted for clarity



DECK POURING SEQUENCE (UNIT 3)
The deck shall be poured in the sequence as shown (see Note 9).



- Set A (8 locations)
3-#4e3(E) @ E.F.
- Set H (4 locations)
3-#4e8(E) @ E.F.
- Set J (16 locations)
3-#4e1(E) @ E.F.
- Set K (24 locations)
3-#4e5(E) @ E.F.

INSIDE ELEVATION OF WEST PARAPET (UNIT 3)
(East Parapet Opposite Hand)

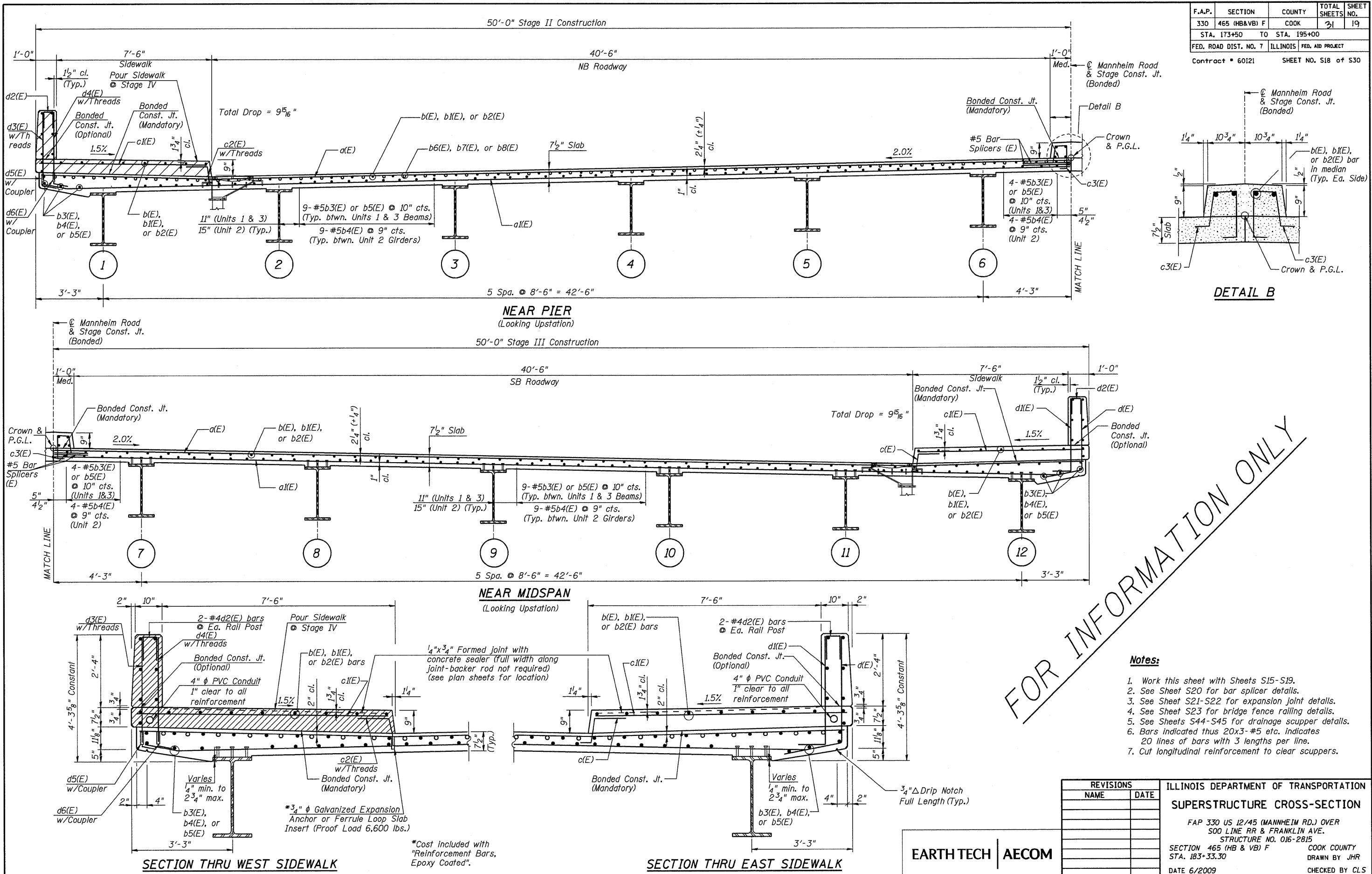
Min. Bar Lap
#5 = 2'-2"
#6 = 2'-7"
#7 = 3'-5"

EARTH TECH | AECOM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE PLAN III
FAP 330 US 12/45 (MANNHEIM RD.) OVER
S00 LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR
DATE 6/2009 CHECKED BY CLS

F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	19
STA. 173+50 TO STA. 195+00		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO. 7		CONTRACT # 60121 SHEET NO. S18 OF S30		



F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	20
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		

Contract # 60121 SHEET NO. S19 of 530

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	5,392	#5	49'-6"	—
a1(E)	3,988	#5	49'-2"	—
a2(E)	128	#5	2'-0"	—
a3(E)	198	#6	9'-7"	—
a4(E)	12	#6	46'-5"	—
a5(E)	48	#7	49'-6"	—
b(E)	1,638	#5	37'-2"	—
b1(E)	1,638	#5	31'-0"	—
b2(E)	1,638	#5	33'-9"	—
b3(E)	1,456	#5	34'-8"	—
b4(E)	1,456	#5	29'-0"	—
b5(E)	1,456	#5	29'-6"	—
b6(E)	1,000	#6	24'-10"	—
b7(E)	600	#6	25'-4"	—
b8(E)	800	#6	26'-7"	—
c(E)	1,248	#5	2'-5"	—
c1(E)	2,496	#5	8'-2"	—
c2(E)	1,248	#5	1'-6"	—
c3(E)	2,496	#5	3'-5"	—
d(E)	1,248	#4	5'-5"	—
d1(E)	1,248	#6	4'-4"	—
d2(E)	528	#4	2'-0"	—
d3(E)	1,248	#4	3'-0"	—
d4(E)	1,248	#6	3'-0"	—
d5(E)	1,248	#4	1'-6"	—
d6(E)	1,248	#6	1'-6"	—
e(E)	120	#4	11'-8"	—
e1(E)	96	#4	12'-5"	—
e2(E)	192	#4	15'-5"	—
e3(E)	108	#4	15'-9"	—
e4(E)	36	#4	16'-9"	—
e5(E)	144	#4	17'-1"	—
e6(E)	24	#4	17'-6"	—
e7(E)	42	#4	17'-11"	—
e8(E)	90	#4	18'-3"	—
e9(E)	54	#4	19'-0"	—
e10(E)	24	#4	19'-8"	—
x1(E)	196	#5	5'-11"	—
x2(E)	392	#5	5'-11"	—

Concrete Superstructure	Cu. Yd.	3,996.2
Reinforcement Bars, Epoxy Coated	Pound	976,680
Bridge Deck Grooving	Sq. Yd.	10,640
Protective Coat	Sq. Yd.	14,843

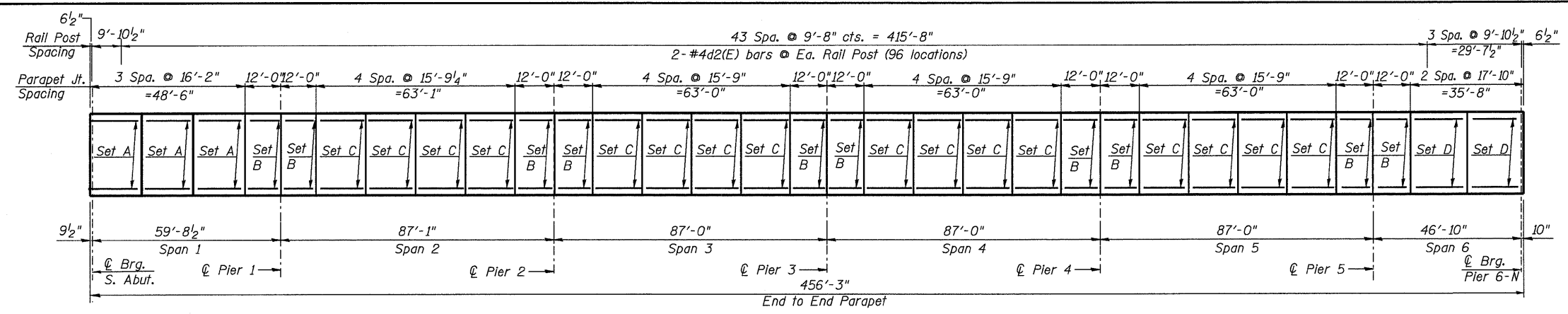
* Bar has a threaded end.
** Bar has a coupler.

Notes:

1. Work this sheet with Sheets S15-S19.
2. See Sheet S20 for bar splicer details.
3. See Sheet S21-S22 for expansion joint details.
4. See Sheet S23 for bridge fence railing details.
5. See Sheets S44-S45 for drainage scupper details.
6. Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
7. Cut longitudinal reinforcement to clear scuppers.

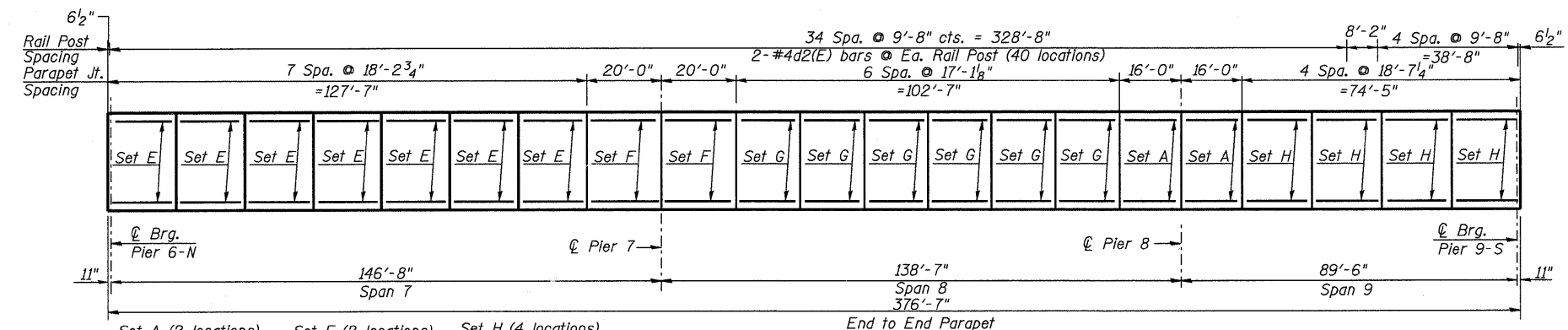
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
FAP 330 US 12/45 (MANNHEIM RD.) OVER
S00 LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR
DATE 6/2009 CHECKED BY CLS



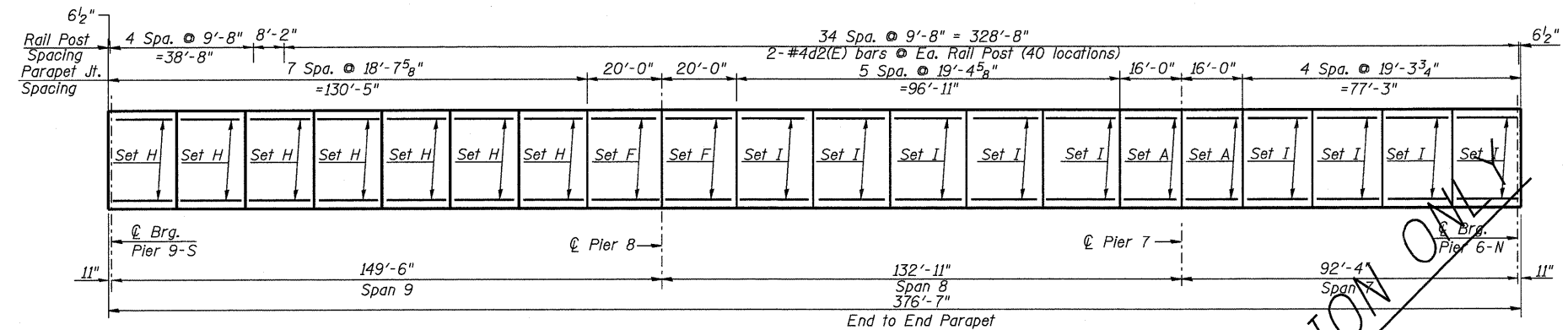
INSIDE ELEVATION OF WEST PARAPET (UNIT 1)
(East Parapet Opposite Hand)

Set A (6 locations) 3-#4 e3(E) @ E.F.
Set B (20 locations) 3-#4 e(E) @ E.F.
Set C (32 locations) 3-#4 e2(E) @ E.F.
Set D (4 locations) 3-#4 e6(E) @ E.F.



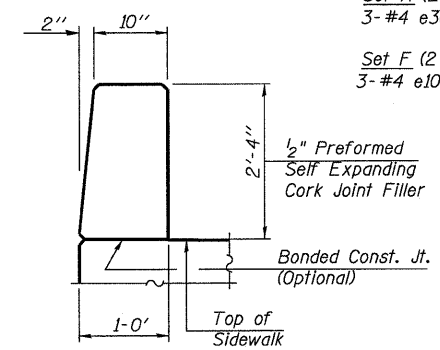
INSIDE ELEVATION WEST PARAPET (UNIT 2)

Set E (7 locations) 3-#4 e7(E) @ E.F.
Set F (2 locations) 3-#4 e10(E) @ E.F.
Set G (6 locations) 3-#4 e4(E) @ E.F.
Set H (4 locations) 3-#4 e8(E) @ E.F.

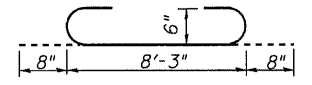


INSIDE ELEVATION EAST PARAPET (UNIT 2)

Set H (7 locations) 3-#4 e8(E) @ E.F.
Set I (9 locations) 3-#4 e9(E) @ E.F.
Set F (2 locations) 3-#4 e10(E) @ E.F.

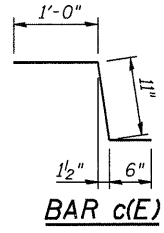


PARAPET JOINT DETAILS

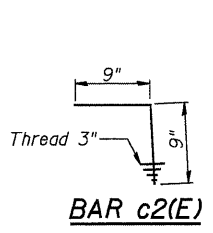


BAR a3(E)

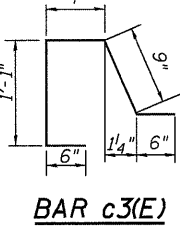
For the 18-a3(E) bars crossing the longitudinal stage construction joint, cut bars in half & use each side.



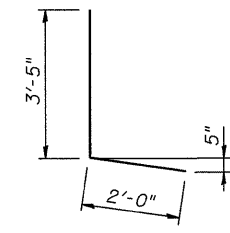
BAR c(E)



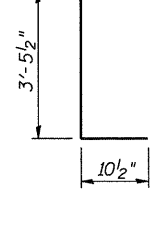
BAR c2(E)



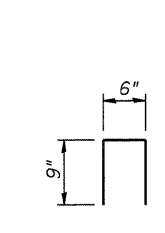
BAR c3(E)



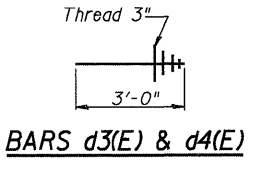
BAR d(E)



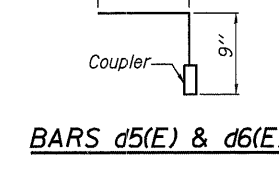
BAR d1(E)



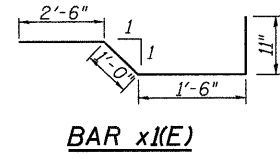
BAR d2(E)



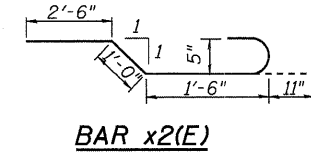
BARS d3(E) & d4(E)



BARS d5(E) & d6(E)



BAR x1(E)



BAR x2(E)

FOR INFORMATION ONLY

EARTH TECH | AECOM

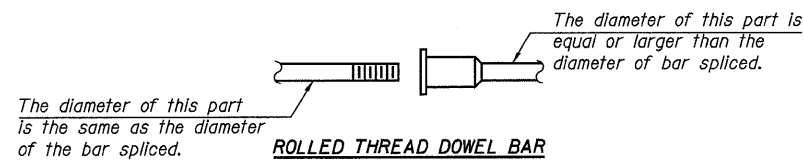
NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

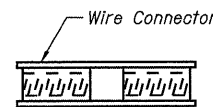
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



ROLLED THREAD DOWEL BAR



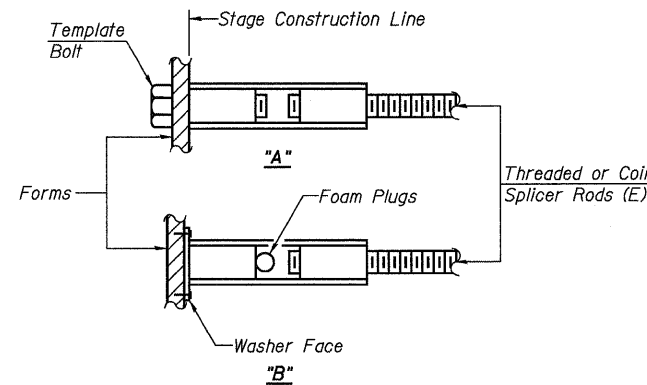
** ONE PIECE



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

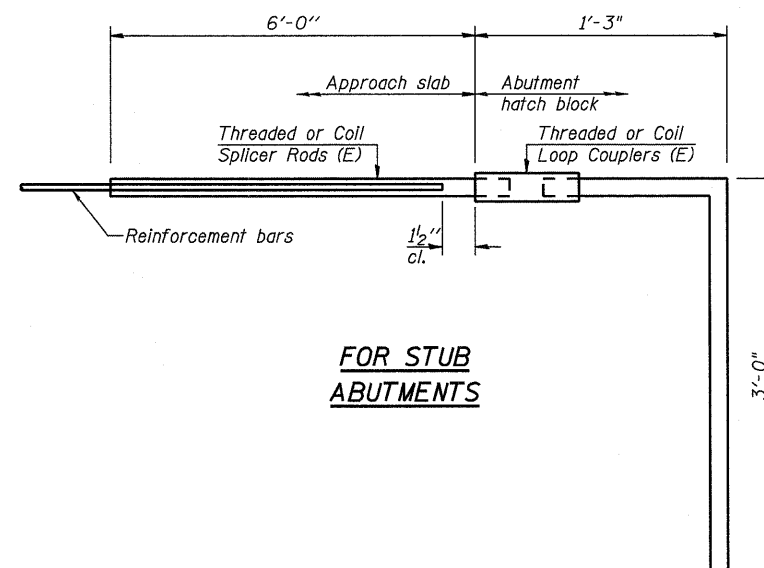
**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

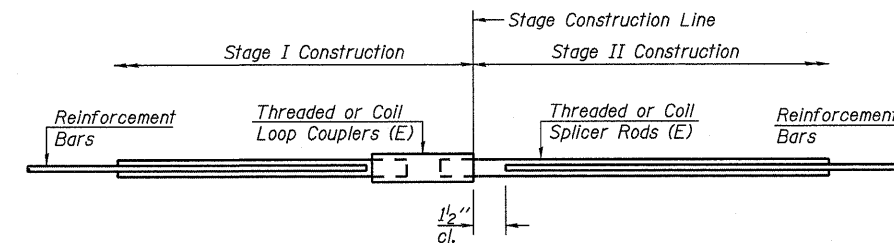
"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

FOR INFORMATION ONLY



FOR STUB ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required = 168	Abutments



STANDARD

Bar Size	No. Assemblies Required	Location
#5	4,690	Superstructure
#6	24	Superstructure
#7	24	Superstructure
#5	598	Piers
#5	20	Abutments
#7	16	Abutments

EARTH TECH | AECOM

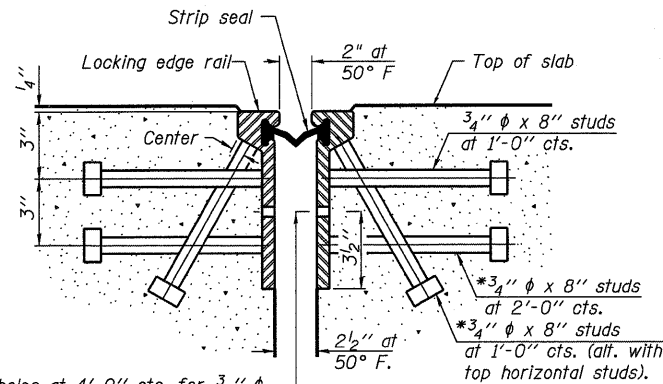
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY CLS

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	22
STA. 173+50 TO STA. 195+00				
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

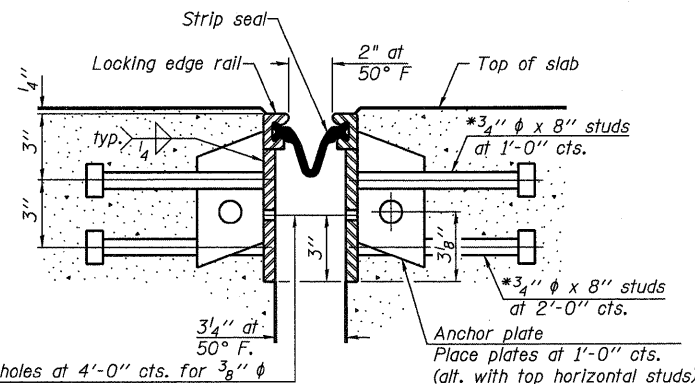
Contract # 60121 SHEET NO. S21 of S30

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



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

SECTION THRU ROLLED RAIL JOINT



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

SECTION THRU WELDED RAIL JOINT

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.

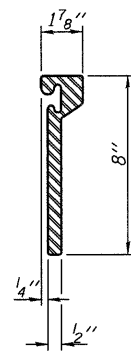
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

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.

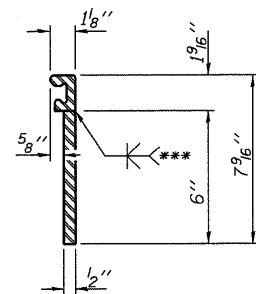
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Cost of all sliding plates, stud shear connectors, & connections shall be included with "Preformed Joint Strip Seal".

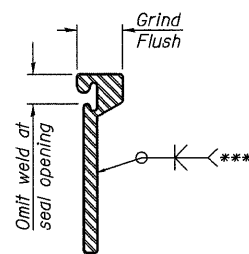
Exposed surfaces of top sliding plates shall be textured to meet all ADA requirements.



ROLLED (EXTRUDED) RAIL



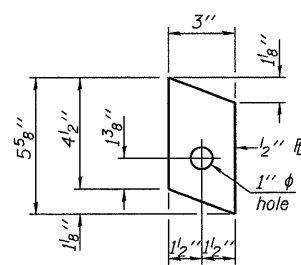
WELDED RAIL



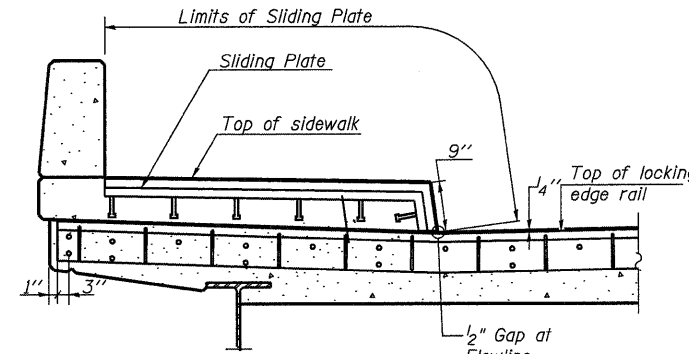
LOCKING EDGE RAIL SPLICE

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

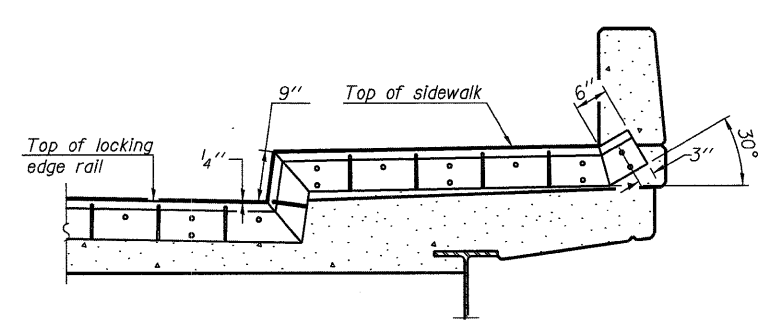
***Back gouge not required if complete joint penetration is verified by mock-up.



ANCHOR PLATE (for welded rail)



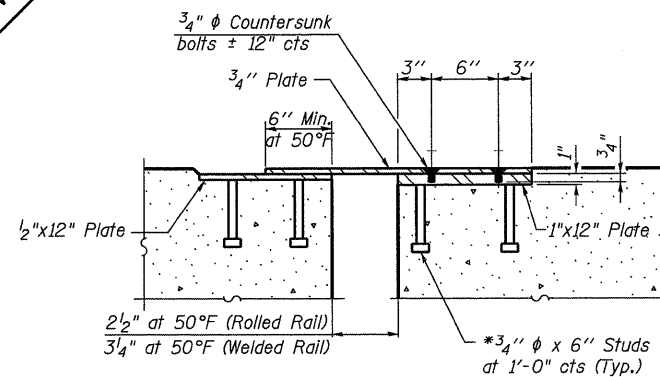
TYPICAL END TREATMENT AT WEST SIDEWALK (Looking North)



TYPICAL END TREATMENT AT EAST SIDEWALK (Looking North)

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	200



SECTION THRU SLIDING PLATE

FOR INFORMATION ONLY

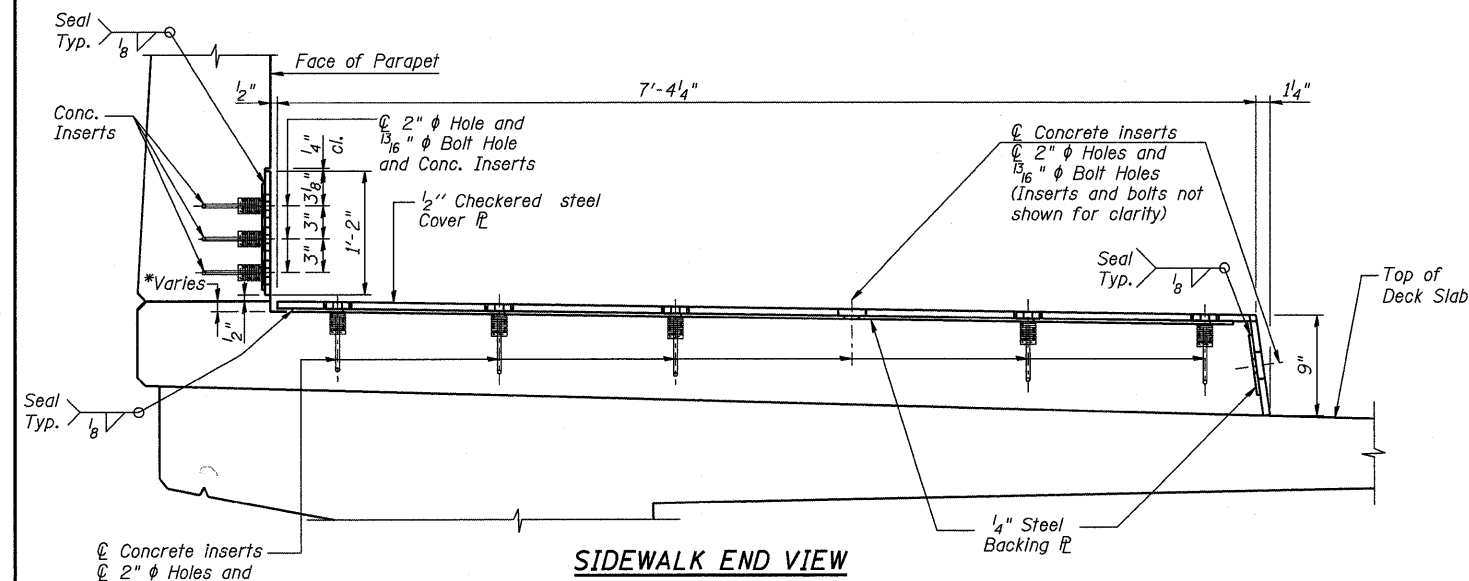
EARTH TECH | AECOM

REVISIONS	
NAME	DATE

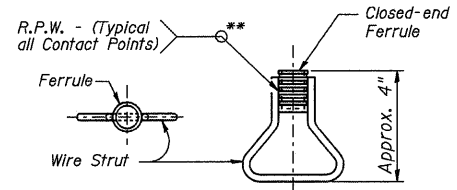
ILLINOIS DEPARTMENT OF TRANSPORTATION
PREFORMED JOINT STRIP SEAL
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY CLS

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	23
STA. 173+50		TO STA. 195+00		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT

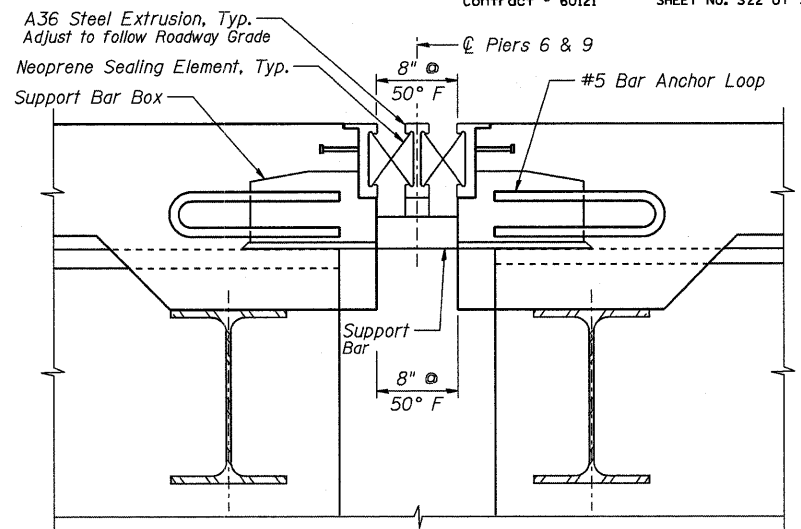
Contract # 60121 SHEET NO. S22 of 530



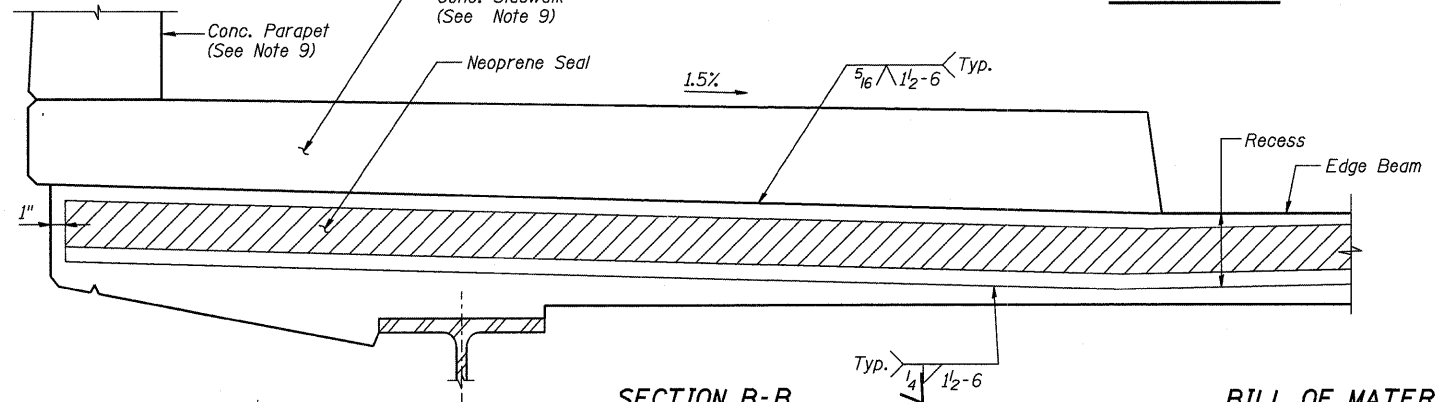
*** Concrete recess dimensions:**
 $\frac{13}{16}$ " for the side of the joint having the $\frac{1}{2}$ " cover plate with a $\frac{1}{4}$ " backing plate.
 $\frac{9}{16}$ " for the side of the joint having only the $\frac{1}{2}$ " cover plate.



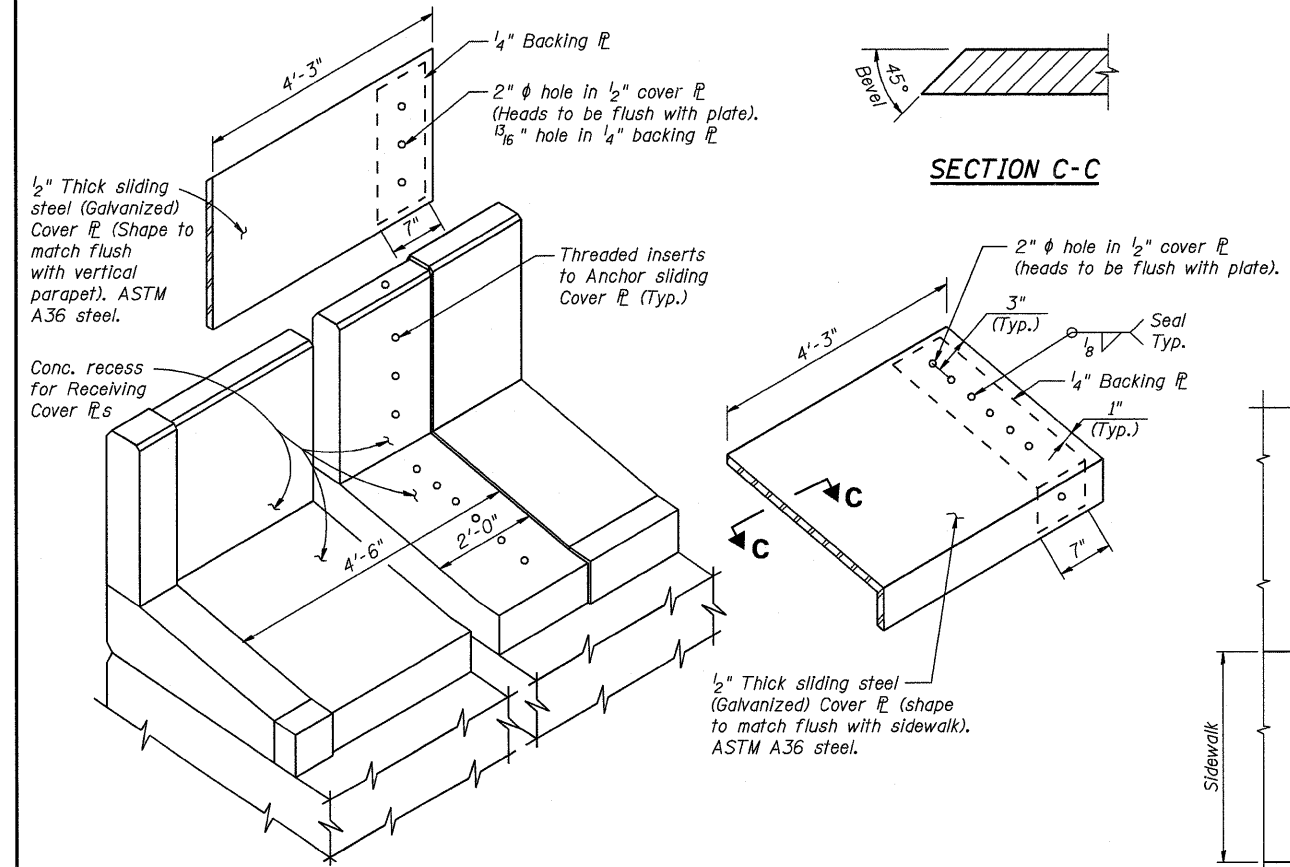
PLAN ELEVATION CONCRETE INSERT
 ** Each welded attachment of wire to ferrule shall develop the tensile strength of the wire.



SECTION A-A

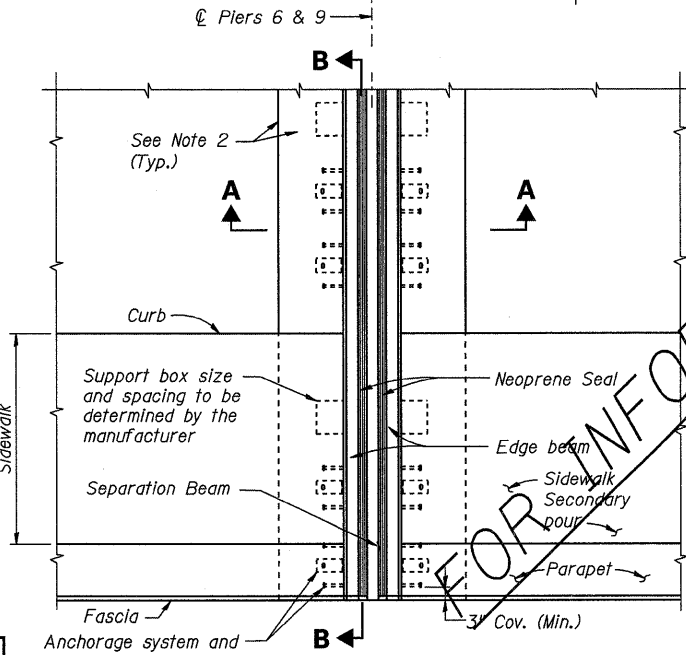


SECTION B-B



COVER PLATE DETAIL FOR VERTICAL PARAPET WITH SIDEWALK

	Total Movement along ϕ Mannheim
Pier 6	$4\frac{5}{16}$ "
Pier 9	$5\frac{3}{8}$ "



PARTIAL PLAN
 (Sidewalk cover plate not shown for clarity)

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint 6"	Foot	199

Notes:

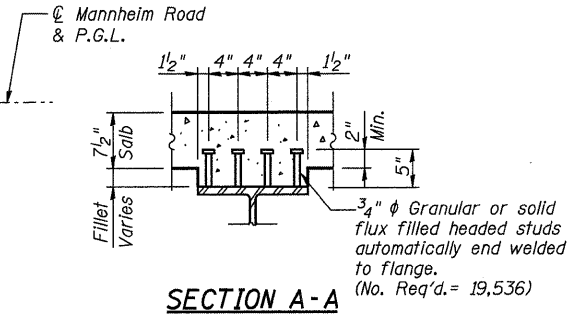
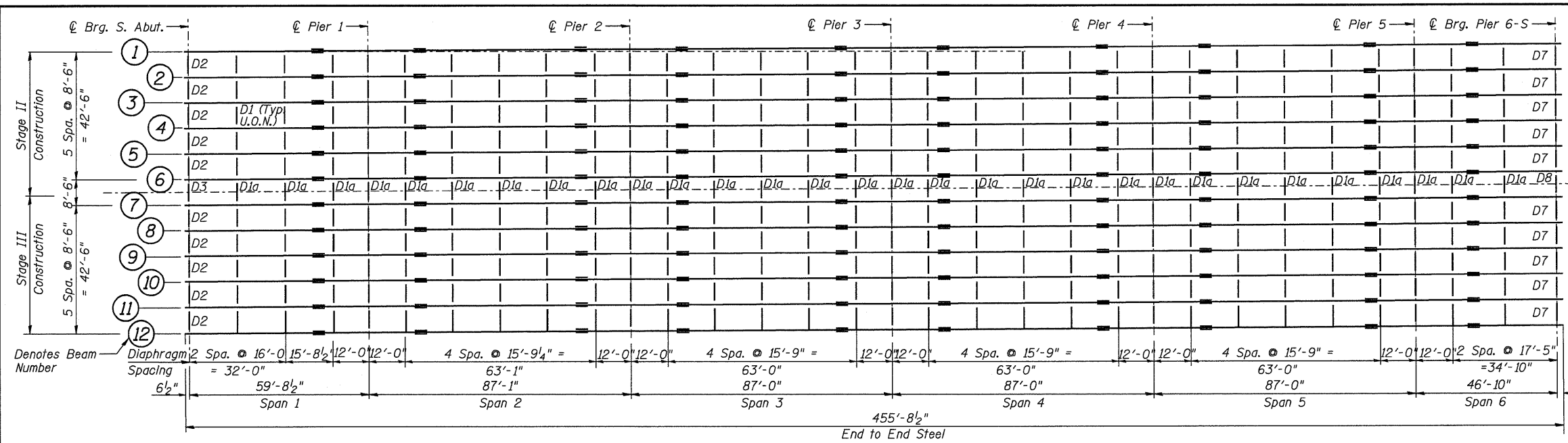
1. Thoroughly coat the bottom and vertical surfaces of the recess with epoxy polysulfide grout or portland cement bonding grout. The cost of furnishing and placing the material shall be included in the unit price bid for Concrete Superstructure.
2. Actual modular joint supplied may vary from the one shown here. It is the contractor's responsibility to adjust the blockout dimensions to accommodate the actual modular joint supplied in the field.
3. End of seal to be capped with neoprene sponge.
4. The $\frac{3}{4}$ " ϕ Hex Head bolts shall conform to ASTM F593 Alloy 304 stainless steel.
5. The $\frac{3}{4}$ " concrete inserts shall be closed-end ferrules with looped wire struts attached to them. The inserts shall conform to AASHTO M169, Grade 12L14 and shall have a proof load of 6,600 lbs. tension.
6. Cost of cover plate, concrete inserts, and all associated work shall be included in the cost of Modular Expansion Joint.
7. See Modular Joint Special Provision for more information.
8. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
9. The area above the modular expansion joints must be blocked out prior to pouring concrete for the sidewalks or parapets.

FOR INFORMATION ONLY

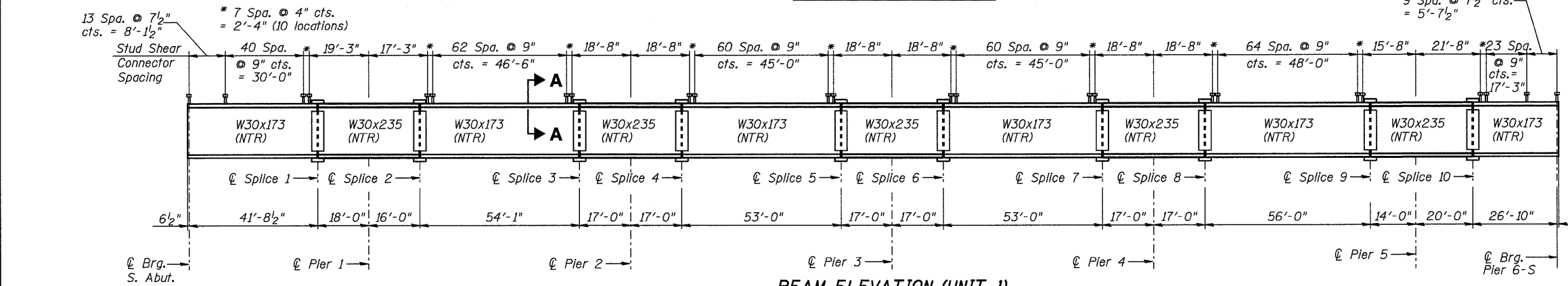
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
MODULAR EXPANSION JOINT
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY CLS



- Notes:**
- See Sheets S27 & S28 for diaphragm & splice details, respectively.
 - AASHTO M270 Grade 50 steel shall be used for all wide flange beams & splice plates. AASHTO M270 Grade 36 steel may be used for all diaphragms.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2) including the wide flange beams & all splice plate material (except fill plates).



INTERIOR BEAM REACTION TABLE (UNIT 1)

Reaction	Unit	S. Abut.	Pier 1	Piers 2-4	Pier 5	Pier 6-S
R _p	(K)	35.1	141.0	152.3	131.0	21.8
R _l	(K)	50.0	63.2	68.4	60.6	47.3
R (Imp)	(K)	13.6	16.0	16.1	16.0	13.8
R (Total)	(K)	98.7	220.2	236.8	207.6	82.9

INTERIOR BEAM MOMENT TABLE (UNIT 1)

Property	Unit	0.4 Span 1	Pier 1	0.5 Span 2	Pier 2	0.5 Span 3	Pier 3	0.5 Span 4	Pier 4	0.5 Span 5	Pier 5	0.6 Span 6
I _s	(in ⁴)	8,200	11,700	8,200	11,700	8,200	11,700	8,200	11,700	8,200	11,700	8,200
I _c	(in ⁴)	19,935	---	19,935	---	19,935	---	19,935	---	19,935	---	19,935
I _{c(3n)}	(in ⁴)	14,585	---	14,585	---	14,585	---	14,585	---	14,585	---	14,585
S _s	(in ³)	539	748	539	748	539	748	539	748	539	748	539
S _{c(in)}	(in ³)	745	---	745	---	745	---	745	---	745	---	745
S _{c(3n)}	(in ³)	677	---	677	---	677	---	677	---	677	---	677
Z	(in ³)	---	847	---	847	---	847	---	847	---	847	---
Q	(K')	1.019	1.773	1.019	1.773	1.019	1.773	1.019	1.773	1.019	1.773	1.019
M _Q	(K)	197	977	315	1,161	283	1,087	275	1,184	335	879	52
s _Q	(K')	0.683	---	0.683	---	0.683	---	0.683	---	0.683	---	0.683
M _{sQ}	(K)	150	---	255	---	230	---	226	---	268	---	52
M _L	(K)	520	443	679	525	686	526	685	522	671	415	370
M (Imp)	(K)	141	112	160	124	162	124	161	123	158	109	108
S ₃ [M _L + M _{Imp}]	(K)	1,102	925	1,398	1,082	1,413	1,083	1,410	1,075	1,382	873	797
M _a	(K)	1,883	2,473	2,559	2,915	2,504	2,821	2,484	2,937	2,580	2,278	1,171
M _u	(K)	3,481	3,529	3,481	3,529	3,481	3,529	3,481	3,529	3,481	3,529	3,481
f _{s p non-comp}	(Ksi)	4.39	15.67	7.01	18.63	6.30	17.44	6.12	18.99	7.46	14.10	1.16
f _{s p comp}	(Ksi)	2.66	---	4.52	---	4.08	---	4.01	---	4.75	---	0.92
f _{s 3} [M _L + M _{Imp}]	(Ksi)	17.74	14.84	22.52	17.35	22.77	17.38	22.71	17.25	22.26	14.01	12.83
f _{s (Overload)}	(Ksi)	24.79	30.51	34.06	35.98	33.14	34.82	32.84	36.24	34.46	28.11	14.91
f _{s (Total)}	(Ksi)	---	---	---	---	---	---	---	---	---	---	---
VR	(K)	70.8	---	55.0	---	54.9	---	54.9	---	57.1	---	71.1

- I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (In.⁴ and In.³).
- I_c(n), S_c(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (In.⁴ and In.³).
- I_c(3n), S_c(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (In.⁴ and In.³).
- Z: Plastic Section Modulus of the steel section in non-composite areas (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_{sQ}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- M_L: Un-factored live load moment (kip-ft.).
- M_{Imp}: Un-factored moment due to impact (kip-ft.).
- M_a: Factored design moment (kip-ft.).
- 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.).
- 1.3 [M_Q + M_{sQ} + 5/3 (M_L + M_{Imp})]
- f_s (Overload): Sum of stresses as computed from the moments below (ksi).
- f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
- 1.3 [M_Q + M_{sQ} + 5/3 (M_L + M_{Imp})]
- VR: Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

TOP OF BEAM ELEVATIONS (UNIT 1)
For Fabrication Only

Beam No.	S. Abut.	Splice 1	Pier 1	Splice 2	Splice 3	Pier 2	Splice 4	Splice 5	Pier 3
1 & 12	660.74	662.31	663.05	663.67	665.76	666.43	667.07	669.13	669.81
2 & 11	660.91	662.48	663.22	663.83	665.93	666.60	667.24	669.30	669.98
3 & 10	661.08	662.65	663.39	664.00	666.10	666.77	667.41	669.47	670.15
4 & 9	661.25	662.82	663.56	664.17	666.27	666.94	667.58	669.64	670.32
5 & 8	661.42	662.99	663.73	664.34	666.44	667.11	667.75	669.81	670.49
6 & 7	661.59	663.16	663.90	664.51	666.61	667.28	667.92	669.98	670.66
Beam No.	Splice 6	Splice 7	Pier 4	Splice 8	Splice 9	Pier 5	Splice 10	Pier 6-S	
1 & 12	670.45	672.46	673.08	673.63	675.28	675.65	676.07	676.71	
2 & 11	670.62	672.62	673.25	673.80	675.44	675.82	676.24	676.88	
3 & 10	670.79	672.79	673.42	673.97	675.61	675.99	676.41	677.05	
4 & 9	670.96	672.96	673.59	674.14	675.78	676.16	676.58	677.22	
5 & 8	671.13	673.13	673.76	674.31	675.95	676.33	676.75	677.39	
6 & 7	671.30	673.30	673.93	674.48	676.12	676.50	676.92	677.56	

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

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REVISIONS		NAME	DATE
NO.	DESCRIPTION		

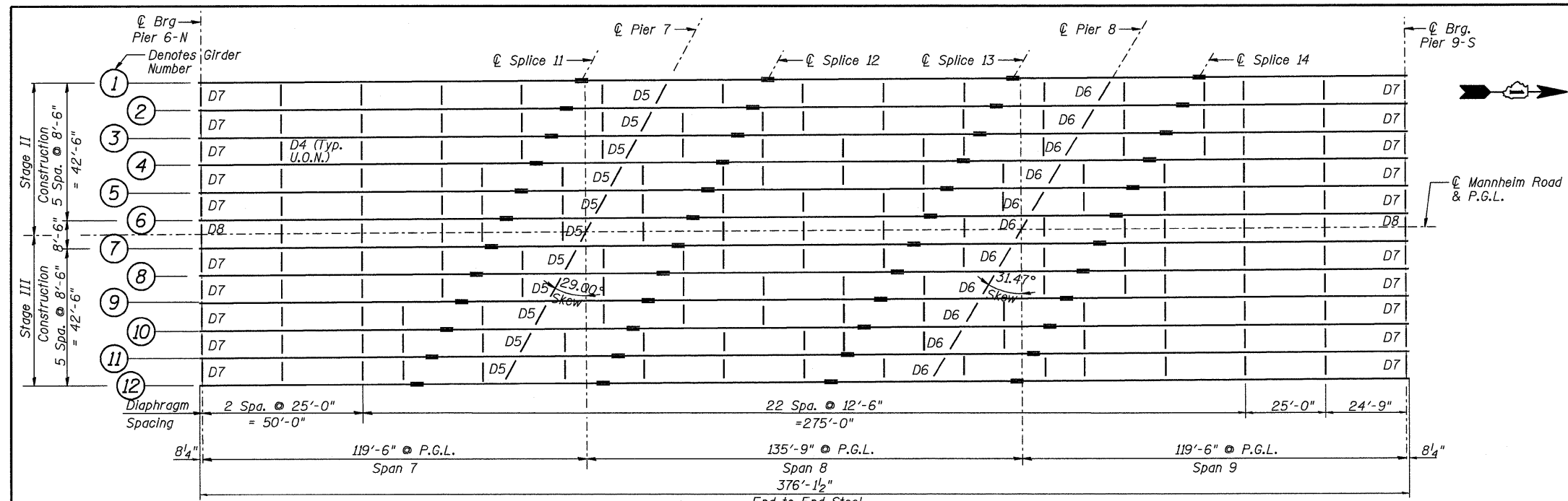
ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN & ELEVATION I
FAP 330 US 12/45 (MANNHEIM RD.) OVER
500 LINE RR & FRANKLIN AVE.
STRUCTURE NO. 016-2815
SECTION 465 (HB & VB) F COOK COUNTY
STA. 183+33.30 DRAWN BY JHR
DATE 6/2009 CHECKED BY CLS

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	26
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S25 of S30		

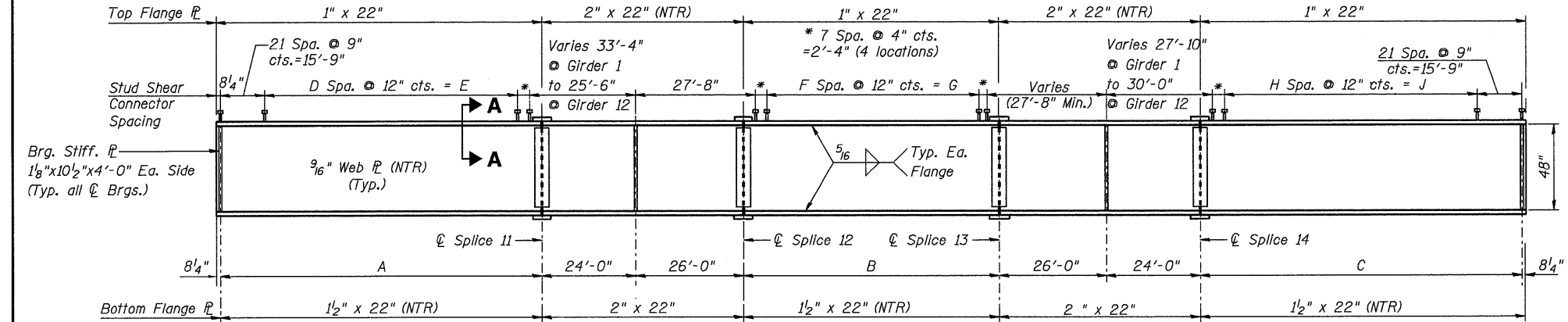
CAMBER SUMMARY (UNIT 2)

Location	Girder Number					
	1	2	3	4	5	6
K	3 7/8"	3 1/2"	3 1/2"	3"	2 5/8"	2 3/8"
L	5 1/4"	4 7/8"	4 1/2"	4 1/8"	3 3/4"	3 3/8"
M	3 7/8"	3 1/2"	3 1/2"	3"	2 5/8"	2 3/8"
N	2 1/8"	2 1/8"	2"	2"	2"	2"
P	3 1/2"	3 3/8"	3 3/8"	3 3/8"	3 1/4"	3 1/4"
Q	2 1/8"	2 1/8"	2"	2"	2"	2"
R	1"	1 1/8"	1 3/8"	1 1/2"	1 7/8"	2 1/8"
S	1 3/8"	1 5/8"	1 7/8"	2 1/8"	2 1/2"	2 7/8"
T	1"	1 1/8"	1 3/8"	1 1/2"	1 7/8"	2 1/8"

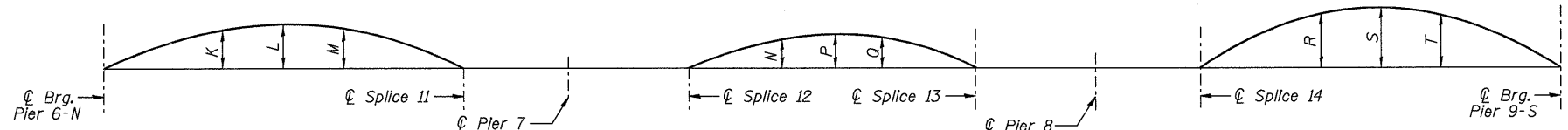
Location	Girder Number					
	7	8	9	10	11	12
K	2 1/8"	1 7/8"	1 5/8"	1 3/8"	1 1/4"	1 1/2"
L	3"	2 5/8"	2 1/4"	1 7/8"	1 5/8"	1 1/2"
M	2 1/8"	1 7/8"	1 5/8"	1 3/8"	1 1/4"	1 1/2"
N	2"	2"	2"	2"	2"	2"
P	3 1/4"	3 1/4"	3 1/4"	3 1/8"	3 1/8"	3 1/4"
Q	2"	2"	2"	2"	2"	2"
R	2 1/2"	2 3/4"	3 1/8"	3 1/2"	3 3/4"	4 1/8"
S	3 3/8"	3 7/8"	4 1/4"	4 3/4"	5 1/4"	5 5/8"
T	2 1/2"	2 3/4"	3 1/8"	3 1/2"	3 3/4"	4 1/8"



FRAMING PLAN (UNIT 2)



GIRDER ELEVATION (UNIT 2)



CAMBER DIAGRAM (UNIT 2)

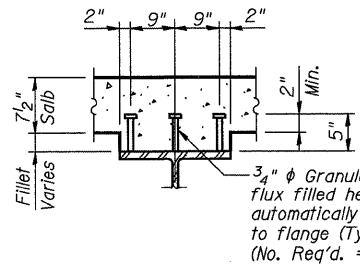
TOP OF WEB ELEVATIONS (UNIT 2)

For Fabrication Only

Girder No.	Pier 6-N	Splice 11	Pier 7	Splice 12	Splice 13	Pier 8	Splice 14	Pier 9-S
1	676.65	678.27	678.38	678.43	678.25	678.07	677.80	676.87
2	676.82	678.40	678.53	678.58	678.45	678.29	678.03	677.04
3	676.99	678.53	678.67	678.74	678.65	678.50	678.26	677.21
4	677.16	678.65	678.81	678.89	678.85	678.71	678.49	677.38
5	677.33	678.78	678.95	679.04	679.04	678.92	678.72	677.55
6	677.50	678.89	679.08	679.19	679.23	679.13	678.95	677.72
7	677.50	678.84	679.05	679.17	679.24	679.16	679.00	677.72
8	677.33	678.62	678.84	678.98	679.09	679.02	678.88	677.55
9	677.16	678.39	678.63	678.78	678.93	678.88	678.76	677.38
10	676.99	678.16	678.42	678.59	678.77	678.74	678.64	677.21
11	676.82	677.93	678.20	678.39	678.60	678.59	678.50	677.04
12	676.65	677.70	677.99	678.19	678.44	678.42	678.37	676.87

GIRDER INFORMATION (UNIT 2)

Girder No.	A	B	C	D	E	F	G	H	J
1	121'-4 15/16"	86'-5 7/16"	66'-10 5/8"	94	94.00	78	78.00	45	45.00
2	116'-8 7/16"	85'-11 1/2"	72'-1 1/16"	90	90.00	78	78.00	50	50.00
3	111'-11 7/8"	85'-5 5/8"	77'-3 1/2"	86	86.00	77	77.00	55	55.00
4	107'-6 3/8"	84'-11 3/4"	82'-5 15/16"	82	82.00	77	77.00	60	60.00
5	102'-6 13/16"	84'-5 13/16"	87'-8 3/8"	78	78.00	76	76.00	65	65.00
6	97'-10 1/4"	83'-11 15/16"	92'-10 13/16"	74	74.00	76	76.00	70	70.00
7	93'-1 3/4"	83'-6 1/16"	98'-1 3/16"	70	70.00	75	75.00	75	75.00
8	88'-5 3/16"	83'-0 3/16"	103'-3 5/8"	66	66.00	75	75.00	80	80.00
9	83'-8 5/8"	82'-6 1/4"	108'-6 1/16"	62	62.00	74	74.00	85	85.00
10	79'-0 1/8"	82'-0 3/8"	113'-8 1/2"	58	58.00	74	74.00	90	90.00
11	74'-3 9/16"	81'-6 1/2"	118'-10 15/16"	54	54.00	73	73.00	95	95.00
12	69'-7 1/16"	81'-0 9/16"	124'-1 3/8"	50	50.00	73	73.00	100	100.00



SECTION A-A

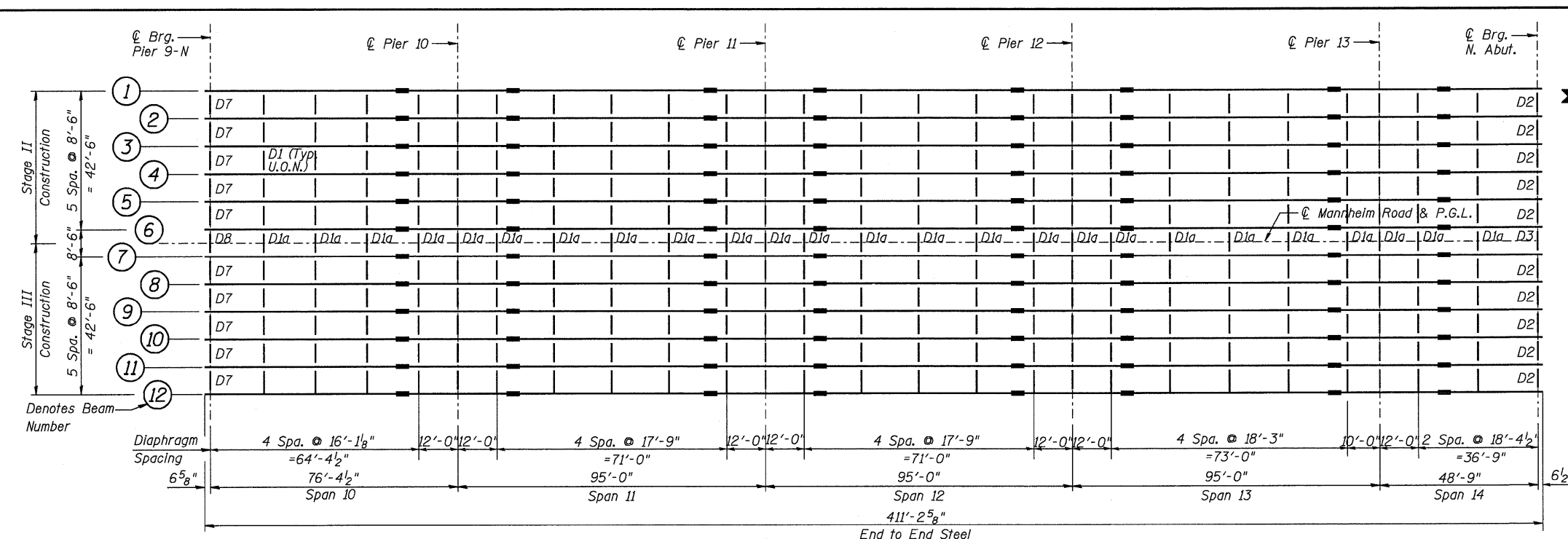
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Notes:

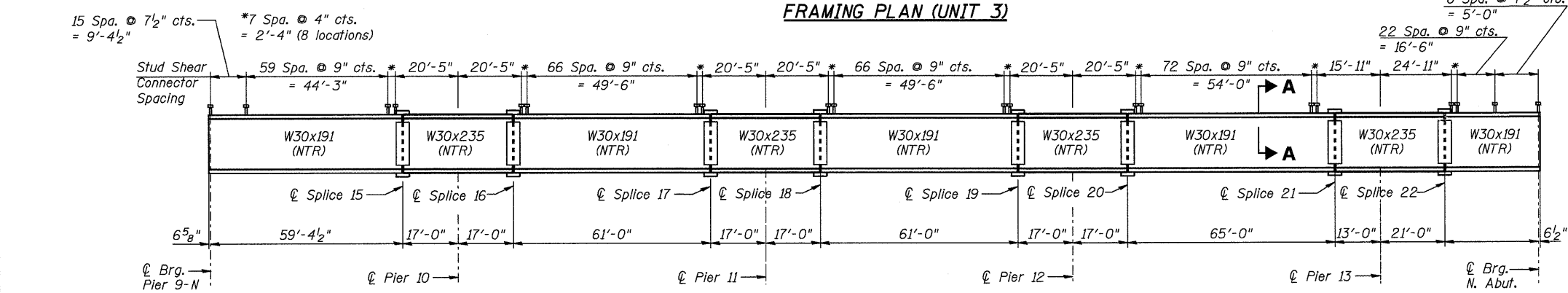
- See Sheets S27 & S28 for diaphragm & splice details, respectively. Also, see Sheet S28 for interior girder moment & reaction tables.
- AASHTO M270 Grade 50 steel shall be used for all flanges, webs, & splice plate material. AASHTO M270 Grade 36 steel may be used for all diaphragms.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2) including tension flanges, webs, & all splice plate material (except fill plates).

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN & ELEVATION II
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 SOO LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY CLS



FRAMING PLAN (UNIT 3)



BEAM ELEVATION (UNIT 3)

INTERIOR BEAM MOMENT TABLE (UNIT 3)

Property	Unit	0.4 Span 10	Pier 10	0.5 Span 11	Pier 11	0.5 Span 12	Pier 12	0.5 Span 13	Pier 13	0.6 Span 14
I_s	(in^4)	9,170	11,700	9,170	11,700	9,170	11,700	9,170	11,700	9,170
I_c	(in^4)	21,580	---	21,580	---	21,580	---	21,580	---	21,580
$I_{c(3n)}$	(in^4)	15,750	---	15,750	---	15,750	---	15,750	---	15,750
S_s	(in^3)	598	748	598	748	598	748	598	748	598
$S_{c(n)}$	(in^3)	818	---	818	---	818	---	818	---	818
$S_{c(3n)}$	(in^3)	741	---	741	---	741	---	741	---	741
Z	(in^3)	---	847	---	847	---	847	---	847	---
Q	($K/'$)	1,040	1,773	1,040	1,773	1,040	1,773	1,040	1,773	1,040
M_D	($'K$)	403	1,304	369	1,298	344	1,392	425	1,022	42
s_D	($K/'$)	0.683	---	0.683	---	0.683	---	0.683	---	0.683
M_{sp}	($'K$)	289	---	294	---	274	---	330	---	47
M_L	($'K$)	718	539	773	587	774	586	759	461	393
$M_{(Imp)}$	($'K$)	179	128	176	133	176	133	172	119	113
$1/2 [M_L + M_{(Imp)}]$	($'K$)	1,495	1,112	1,582	1,200	1,583	1,198	1,552	967	843
M_o	($'K$)	2,843	3,140	2,918	3,247	2,862	3,367	2,999	2,585	1,212
M_u	($'K$)	3,786	3,529	3,786	3,529	3,786	3,529	3,786	3,529	3,786
f_s non-comp	(Ksi)	8.09	20.92	7.40	20.82	6.90	22.33	8.53	16.40	0.84
f_s comp	(Ksi)	4.68	---	4.76	---	4.44	---	5.34	---	0.76
$f_s 1/2 [M_L + M_{(Imp)}]$	(Ksi)	21.93	17.83	23.20	19.25	23.23	19.22	22.76	15.51	12.37
f_s (Overload)	(Ksi)	34.70	38.75	35.37	---	34.57	---	36.64	31.90	13.98
f_s (Total)	(Ksi)	---	---	---	---	---	---	---	---	---
VR	($'K$)	71.0	---	55.9	---	55.8	---	57.3	---	72.0

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

TOP OF BEAM ELEVATIONS (UNIT 3)

Beam No.	Pier 9-N	Splice 15	Pier 10	Splice 16	Splice 17	Pier 11	Splice 18	Splice 19	Pier 12	Splice 20	Splice 21	Pier 13	Splice 22	N. Abut.
1 & 12	676.93	675.61	675.18	674.69	672.75	672.15	671.49	669.07	668.42	667.75	665.16	664.64	663.74	662.70
2 & 11	677.10	675.77	675.35	674.86	672.92	672.32	671.66	669.24	668.59	667.91	665.32	664.81	663.91	662.87
3 & 10	677.27	675.94	675.52	675.03	673.09	672.49	671.83	669.41	668.76	668.08	665.49	664.98	664.08	663.04
4 & 9	677.44	676.11	675.69	675.20	673.26	672.66	672.00	669.58	668.93	668.25	665.66	665.15	664.25	663.21
5 & 8	677.61	676.28	675.86	675.37	673.43	672.83	672.17	669.75	669.10	668.42	665.83	665.32	664.42	663.38
6 & 7	677.78	676.45	676.03	675.54	673.60	673.00	672.34	669.92	669.27	668.59	666.00	665.49	664.59	663.55

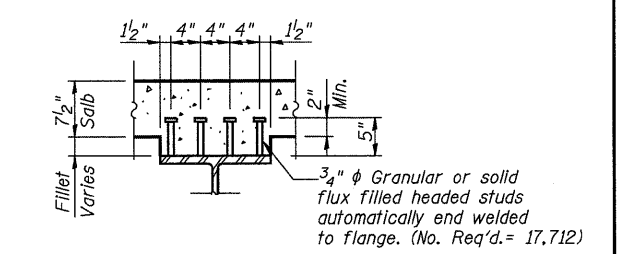
INTERIOR BEAM REACTION TABLE (UNIT 3)

Reaction	Unit	Pier 9-N	Pier 10	Piers 11-12	Pier 13	N. Abut.
R_D	($'K$)	49.1	166.0	167.2	142.1	21.6
R_L	($'K$)	52.1	69.7	72.3	63.6	47.8
R (Imp)	($'K$)	13.0	16.6	16.4	16.4	13.8
R (Total)	($'K$)	114.2	252.3	255.9	222.1	83.2

******MOMENT REDISTRIBUTION**

Property	Unit	Pier 11	Pier 12
f_s (Overload) prior to moment redistribution	(Ksi)	40.07	41.56
f_s (Overload) after moment redistribution	(Ksi)	36.07	37.40

- 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).
- Z : Plastic Section Modulus of the steel section in non-composite areas (in^3).
- Q : Un-factored non-composite dead load (kips/ft.).
- M_D : Un-factored moment due to non-composite dead load (kip-ft.).
- s_D : Un-factored long-term composite (superimposed) dead load (kips/ft.).
- M_{sp} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- M_L : Un-factored live load moment (kip-ft.).
- $M_{(Imp)}$: Un-factored moment due to impact (kip-ft.).
- M_o : Factored design moment (kip-ft.).
 $1.3 [M_D + M_{sp} + \frac{5}{8} (M_L + M_{(Imp)})]$
- 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).
 $M_D + M_{sp} + \frac{5}{8} (M_L + M_{(Imp)})$
- f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M_D + M_{sp} + \frac{5}{8} (M_L + M_{(Imp)})]$
- VR: Maximum \pm impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

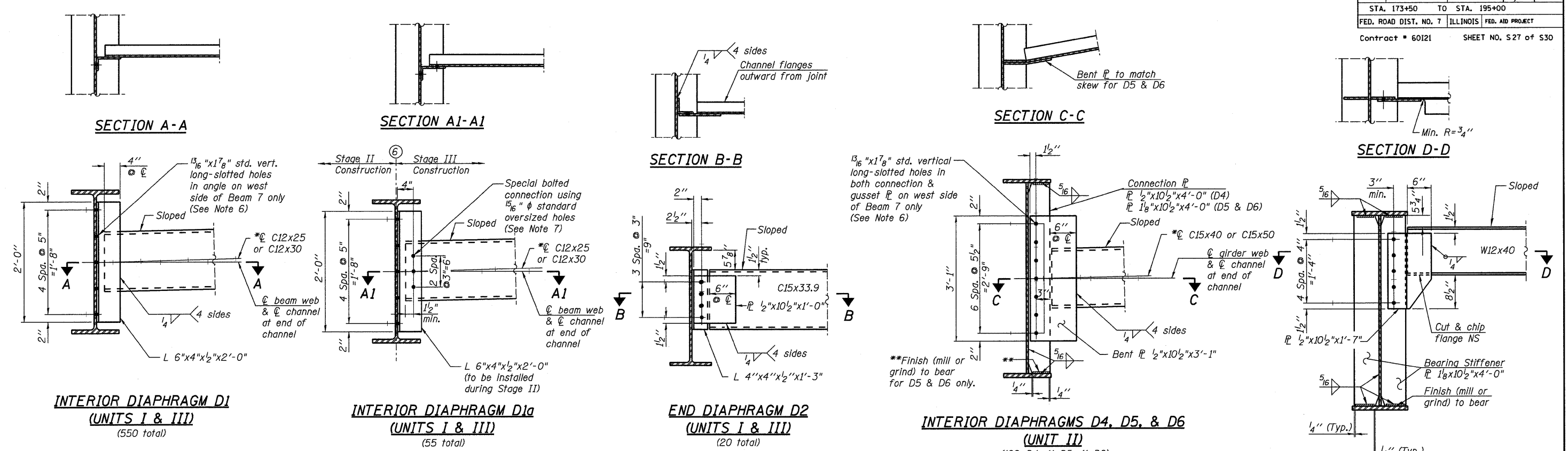


SECTION A-A

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	FRAMING PLAN & ELEVATION III	
		FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2B15	
		SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR	
		DATE 6/2009 CHECKED BY CLS	

EARTH TECH | AECOM

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	28
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121			SHEET NO. S27 of S30	



Diaph. Girder Spa. along Skew
D4 8'-6"
D5 9'-8 1/2"
D6 9'-11 1/2"

- Notes:**
- See Sheets S24-S26 for diaphragm locations.
 - AASHTO M270 Grade 36 or 50 steel shall be used for all diaphragms.
 - H.S. bolts for diaphragms shall be 3/4" φ AASHTO M164/ASTM A325 H.S. bolts (Type 1) in 1 1/2" φ standard oversized holes unless otherwise noted.
 - Two hardened washers required for each set of oversized holes.
 - All diaphragms between beams shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
 - Bolts in slots shall be finger tight until the second stage pour is complete, and position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load, allowing maximum displacement without laterally stressing main members.
 - Special bolted connection required on the west side of Interior Diaphragms D1a to allow the installation of the connection angles on both sides of Beam 6 during Stage II Construction. Note that the east side of Interior Diaphragms D1a use the standard welded connections for Interior Diaphragms D1.

- END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE**
- Order Diaphragm in two sections.
 - Attach section ① of Diaphragm to Beam/Girder.
 - Place Timber Block Posts between section ① of Diaphragm and abutment bearing section.
 - Attach section ② of Diaphragm to both Beam/Girder and section ① of Diaphragm during Stage III Construction with splice plates.
 - Remove Timber Block Posts.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		STEEL DETAILS I
EARTHTECH AECOM		FAP 330 US 12/45 (MANNHEIM RD.) OVER 500 LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2B15
		SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR
		DATE 6/2009 CHECKED BY DEV

INTERIOR GIRDER MOMENT TABLE (UNIT 2-GIRDER 7)

Property	Unit	0.4 Span 7	Pier 7	0.5 Span 8	Pier 8	0.6 Span 9
I_s	(in ⁴)	37,670	60,215	37,670	60,215	37,670
$I_{c(n)}$	(in ⁴)	80,675	---	80,675	---	80,675
$I_{c(3n)}$	(in ⁴)	58,495	---	58,495	---	58,495
S_s	(in ³)	1,704	2,316	1,704	2,316	1,704
$S_{c(n)}$	(in ³)	2,137	---	2,137	---	2,137
$S_{c(3n)}$	(in ³)	1,969	---	1,969	---	1,969
Z	(in ³)	---	2,524	---	2,524	---
\bar{Q}	(K/')	1.141	1.716	1.141	1.716	1.141
M_p	(' K)	1,101	2,761	612	2,940	1,211
s_p	(K/')	0.446	---	0.446	---	0.446
M_{s_p}	(' K)	451	---	294	---	497
M_t	(' K)	1,179	1,129	1,127	1,165	1,235
M (Imp)	(' K)	244	224	216	230	249
$S_3[M_t + M_{imp}]$	(' K)	2,372	2,255	2,238	2,325	2,473
M_a	(' K)	5,101	6,521	4,088	6,845	5,436
M_u	(' K)	9,902	10,517	9,902	10,517	9,902
f_s non-comp	(Ksi)	7.75	14.31	4.31	15.23	8.53
f_s p (comp)	(Ksi)	2.75	---	1.79	---	3.03
f_s $S_3[M_t + M_{imp}]$	(Ksi)	13.32	11.68	12.57	12.05	13.89
f_s (Overload)	(Ksi)	23.82	25.99	18.67	27.28	25.45
f_s (Total)	(Ksi)	---	---	---	---	---
VR	(K)	72.4	---	58.9	---	72.0

* Compact section
 ** Braced noncompact and partially braced section

INTERIOR GIRDER REACTION TABLE (UNIT 2-GIRDER 7)

Reaction	Unit	Pier 6-N	Pier 7	Pier 8	Pier 9-S
R_p	(K)	71.0	227.6	234.7	74.4
R_t	(K)	54.7	93.3	94.7	54.9
R (Imp)	(K)	11.3	18.6	18.7	11.1
R (Total)	(K)	137.0	339.5	348.1	140.4

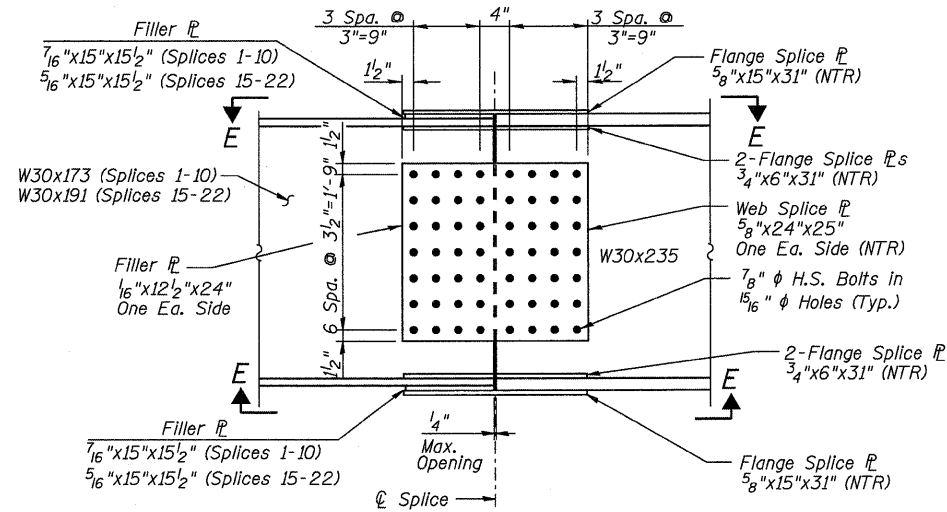
INTERIOR GIRDER MOMENT TABLE (UNIT 2-GIRDER 11)

Property	Unit	0.4 Span 7	Pier 7	0.5 Span 8	Pier 8	0.6 Span 9
I_s	(in ⁴)	37,670	60,215	37,670	60,215	37,670
$I_{c(n)}$	(in ⁴)	80,675	---	80,675	---	80,675
$I_{c(3n)}$	(in ⁴)	58,495	---	58,495	---	58,495
S_s	(in ³)	1,704	2,316	1,704	2,316	1,704
$S_{c(n)}$	(in ³)	2,137	---	2,137	---	2,137
$S_{c(3n)}$	(in ³)	1,969	---	1,969	---	1,969
Z	(in ³)	---	2,524	---	2,524	---
\bar{Q}	(K/')	1.141	1.953	1.141	1.953	1.141
M_p	(' K)	754	2,331	509	4,219	1,738
s_p	(K/')	0.683	---	0.683	---	0.683
M_{s_p}	(' K)	465	---	394	---	1,098
M_t	(' K)	969	1,008	1,097	1,338	1,465
M (Imp)	(' K)	217	211	212	254	274
$S_3[M_t + M_{imp}]$	(' K)	1,977	2,032	2,182	2,653	2,898
M_a	(' K)	4,154	5,671	4,010	8,934	7,455
M_u	(' K)	9,902	10,517	9,902	10,517	9,902
f_s non-comp	(Ksi)	5.31	12.08	3.58	21.86	12.24
f_s p (comp)	(Ksi)	2.83	---	2.40	---	6.69
f_s $S_3[M_t + M_{imp}]$	(Ksi)	11.10	10.53	12.25	13.75	16.28
f_s (Overload)	(Ksi)	19.24	22.60	18.24	35.61	35.21
f_s (Total)	(Ksi)	---	---	---	---	---
VR	(K)	74.0	---	58.9	---	70.8

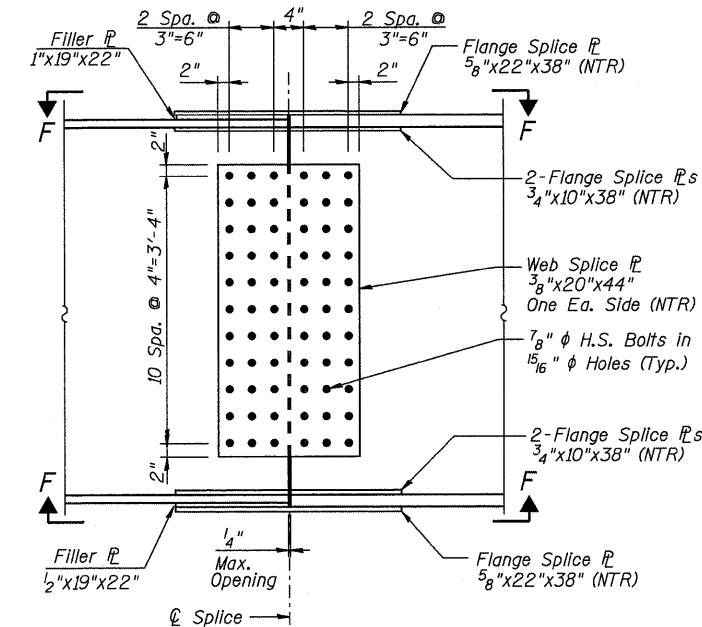
* Compact section
 ** Braced noncompact and partially braced section

INTERIOR GIRDER REACTION TABLE (UNIT 2-GIRDER 11)

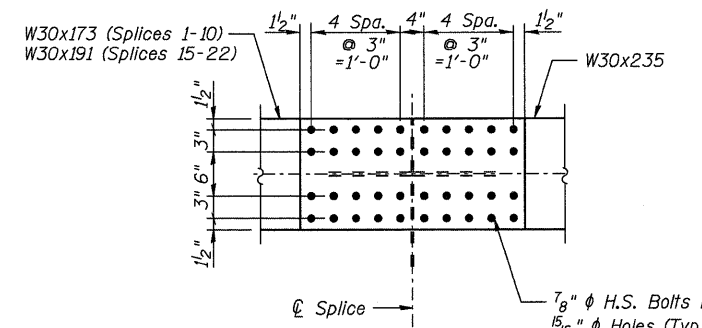
Reaction	Unit	Pier 6-N	Pier 7	Pier 8	Pier 9-S
R_p	(K)	67.5	225.9	300.7	102.4
R_t	(K)	53.8	87.8	100.8	55.7
R (Imp)	(K)	12.1	18.3	19.2	10.4
R (Total)	(K)	133.4	332.0	420.7	168.5



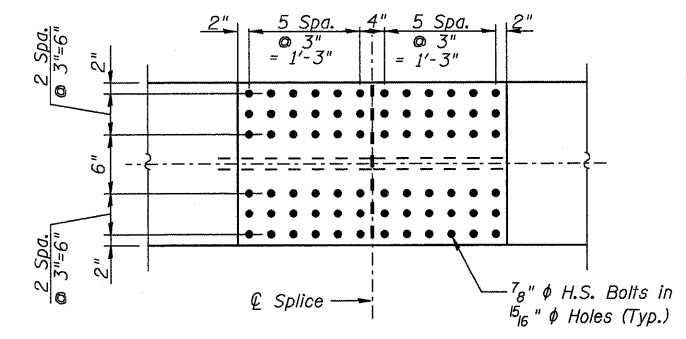
TYPICAL SPLICE ELEVATION
(Splices 1-10, 15-22)



TYPICAL SPLICE ELEVATION
(Splices 11-14)



VIEW E-E



VIEW F-F

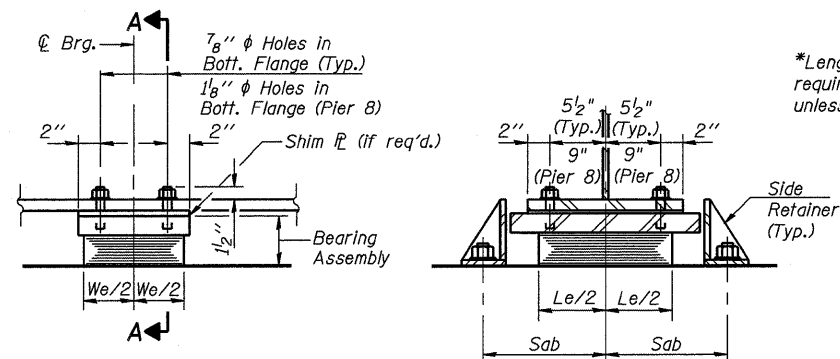
I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
 $I_{c(n)}, S_{c(n)}$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).
 $I_{c(3n)}, S_{c(3n)}$: 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 (in⁴ and in³).
 Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
 \bar{Q} : Un-factored non-composite dead load (kips/ft.).
 M_p : Un-factored moment due to non-composite dead load (kip-ft.).
 s_p : Un-factored long-term composite (superimposed) dead load (kips/ft.).

M_{s_p} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_t : Un-factored live load moment (kip-ft.).
 M_{imp} : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 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).
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 VR: Maximum $t + impact$ horizontal shear range within the composite portion of the span for stud shear connector design (kips).

- Notes:**
- See Sheets S24-S26 for splice locations.
 - AASHTO M270 Grade 50 steel shall be used for all splice plates.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2) including all splice plate material (except fill plates).
 - H.S. bolts for splices shall be 7/8" ϕ AASHTO M164/ASTM A325 H.S. bolts (Type 1) in 15/16" ϕ standard size holes.
 - Design of the H.S. bolts assumes threads in the shear plane and a Class A surface for slip resistance.

EARTH TECH AECOM	REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION STEEL DETAILS II FAP 330 US 12/45 (MANNHEIM RD.) OVER SOO LINE RR & FRANKLIN AVE. STRUCTURE NO. 016-2815 SECTION 465 (HB & VB) F COOK COUNTY STA. 183+33.30 DRAWN BY JHR DATE 6/2009 CHECKED BY CLS
	NAME	DATE	

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	30
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. 5 29 of 530		

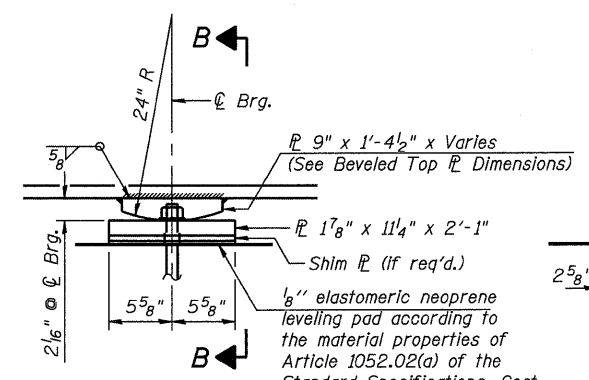


*Lengths shown are minimum required embedment lengths, unless specified by supplier.

Piers 1, 2, 4, 5, 10, 12, & 13
 1" ϕ x 12" * Anchor Bolts (ASTM F1554 Grade 105) with 2 1/4" x 2 1/4" x 5/16" \mathbb{P} washer under nut.
 Pier 8
 1 1/2" ϕ x 18" * Anchor Bolts (ASTM F1554 Grade 105) with 3" x 3" x 5/16" \mathbb{P} washer under nut.

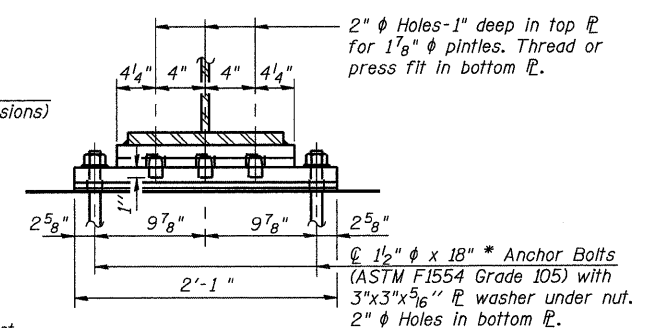
ELEVATION SECTION A-A

TYPE I ELASTOMERIC EXP. BRGS. AT PIERS 1, 2, 4, 5, 8, 10, 12 & 13



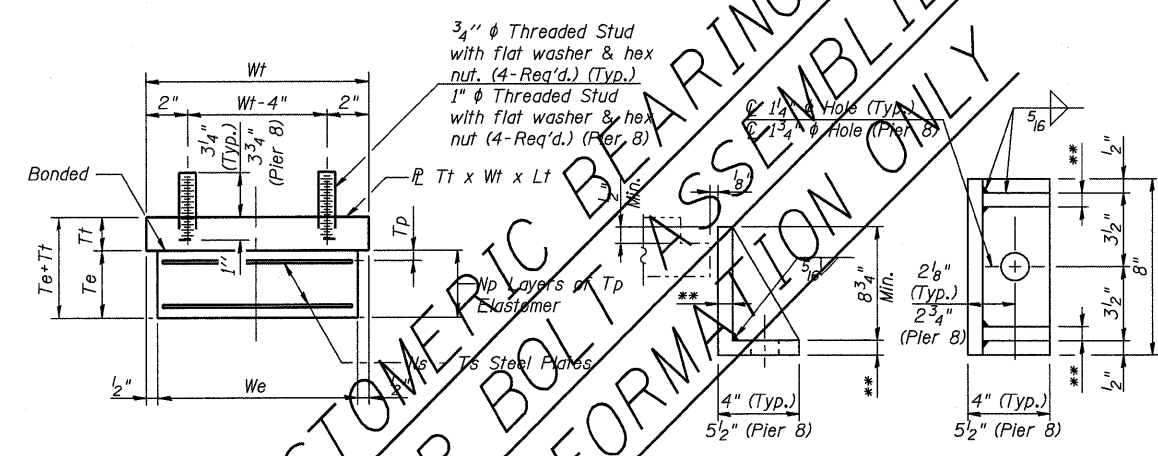
ELEVATION

FIXED BEARING AT PIERS 3 & 11
(24 Req'd.)



SECTION B-B

*Lengths shown are minimum required embedment lengths, unless specified by supplier.



BEARING ASSEMBLY

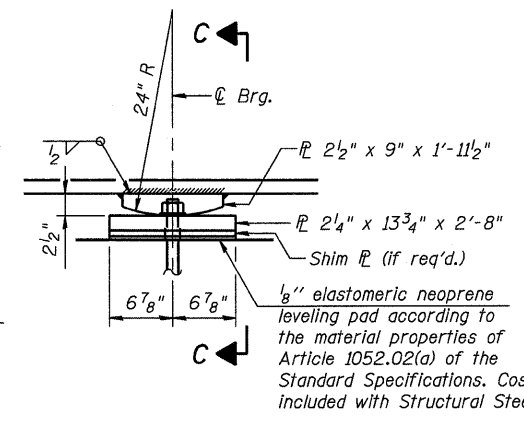
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
 **Thickness = 1/2" (Typ.) & 5/8" (Pier 8)

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

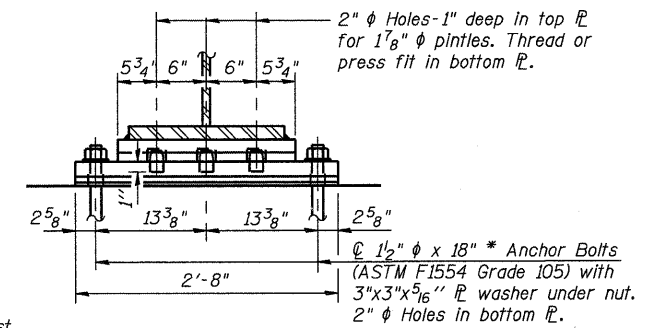
TYPE I BEARING DIMENSIONS

Location	We	Le	TP	Np	Ts	Ns	Te	Tt	Wt	Lt	Sab
Piers 1, 5, & 13	14"	22"	1/2"	7	3/16"	6	5 5/8"	2 1/8"	15"	24"	14 1/4"
Piers 2, 4, 10, & 12	15"	24"	3/4"	4	3/16"	3	3 3/16"	Varies	16"	26"	15 1/4"
Pier 8 (Girders 1-6)	17"	28"	1"	4	1/4"	3	4 1/4"	2 1/8"	18"	30"	17 1/8"
Pier 8 (Girders 7-12)	19"	32"	1"	4	1/4"	3	4 3/4"	3 1/4"	20"	34"	19 1/8"

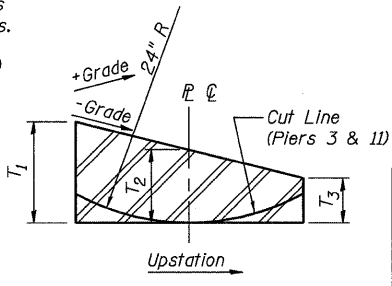


ELEVATION

FIXED BEARING AT PIER 7
(12 Req'd.)



SECTION C-C

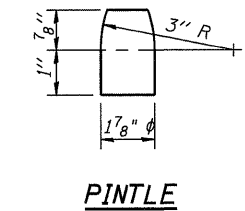


BEVELED TOP \mathbb{P} DETAIL

Cut Line only applicable to the fixed bearings at Piers 3 & 11.

BEVELED TOP \mathbb{P} DIMENSIONS

Location	Grade	T1	T2	T3
Pier 2	3.88%	3"	3 3/8"	3 5/8"
Pier 3	3.88%	1 1/8"	2 1/8"	2 1/4"
Pier 4	3.40%	3"	3 1/4"	3 1/2"
Pier 10	-2.69%	3 1/2"	3 1/4"	3"
Pier 11	-3.68%	2 1/4"	2 1/8"	1 1/8"
Pier 12	-3.98%	3 5/8"	3 3/8"	3"



PINTLE

BEARING SEAT ELEVATIONS

Girder No.	S. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6-S	Pier 6-N	Pier 7	Pier 8	Pier 9-S	Pier 9-N	Pier 10	Pier 11	Pier 12	Pier 13	N. Abut.
1	657.56	659.70	663.24	666.85	669.89	672.30	673.55	671.73	673.80	673.30	672.04	673.80	671.99	669.19	665.23	661.29	659.50
2	657.73	659.87	663.41	667.02	670.06	672.47	673.72	671.90	673.94	673.52	672.21	673.97	672.16	669.36	665.40	661.46	659.67
3	657.90	660.04	663.58	667.19	670.23	672.64	673.89	672.07	674.09	673.73	672.38	674.14	672.33	669.53	665.57	661.63	659.84
4	658.07	660.21	663.75	667.36	670.40	672.81	674.06	672.24	674.23	673.94	672.55	674.31	672.50	669.70	665.74	661.80	660.01
5	658.24	660.38	663.92	667.53	670.57	672.98	674.23	672.41	674.37	674.15	672.72	674.48	672.67	669.87	665.91	661.97	660.18
6	658.41	660.55	664.09	667.70	670.74	673.15	674.40	672.58	674.50	674.36	672.89	674.65	672.84	670.04	666.08	662.14	660.35
7	658.41	660.55	664.09	667.70	670.74	673.15	674.40	672.66	674.47	674.32	672.80	674.65	672.84	670.04	666.08	662.14	660.35
8	658.24	660.38	663.92	667.53	670.57	672.98	674.23	672.49	674.26	674.18	672.63	674.48	672.67	669.87	665.91	661.97	660.18
9	658.07	660.21	663.75	667.36	670.40	672.81	674.06	672.32	674.05	674.04	672.46	674.31	672.50	669.70	665.74	661.80	660.01
10	657.90	660.04	663.58	667.19	670.23	672.64	673.89	672.15	673.83	673.89	672.29	674.14	672.33	669.53	665.57	661.63	659.84
11	657.73	659.87	663.41	667.02	670.06	672.47	673.72	671.98	673.62	673.75	672.12	673.97	672.16	669.36	665.40	661.46	659.67
12	657.56	659.70	663.24	666.85	669.89	672.30	673.55	671.81	673.40	673.58	671.95	673.80	671.99	669.19	665.23	661.29	659.50

BILL OF MATERIAL

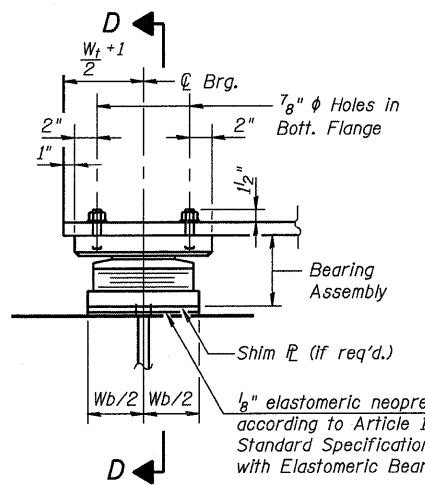
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	96
Anchor Bolts 1"	Each	168
Anchor Bolts 1 1/2"	Each	96

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING DETAILS I
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 500 LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY CLS

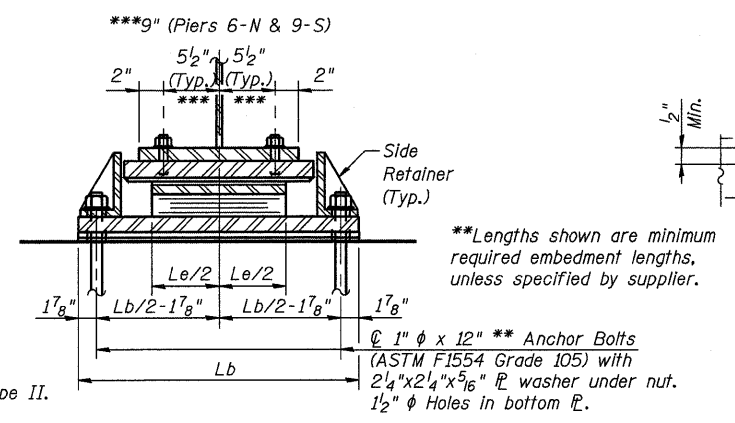
EARTH TECH | AECOM

F.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	465 (HB&VB) F	COOK	31	31
STA. 173+50 TO STA. 195+00		FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT		
Contract # 60121		SHEET NO. S 30 of S30		

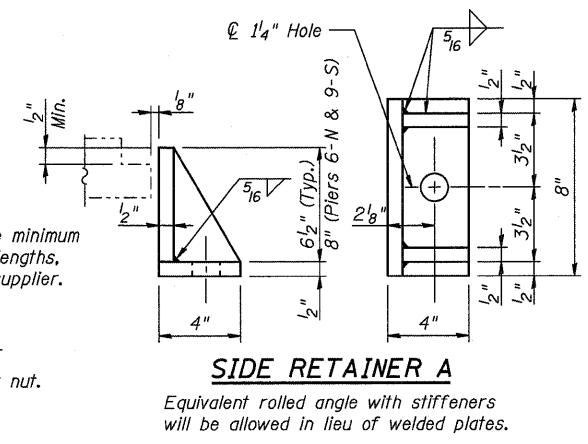
Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts for Type II bearings shall be placed in holes drilled through 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 bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
 The 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 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
 The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
 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 bearing details.
 All bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 (as applicable).
 H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.



ELEVATION

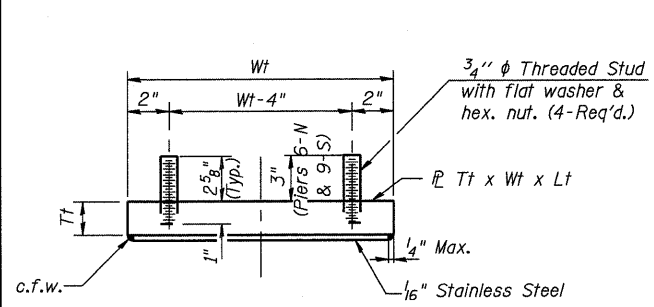


SECTION D-D

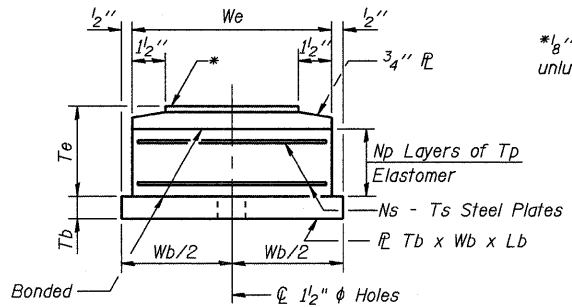


SIDE RETAINER A

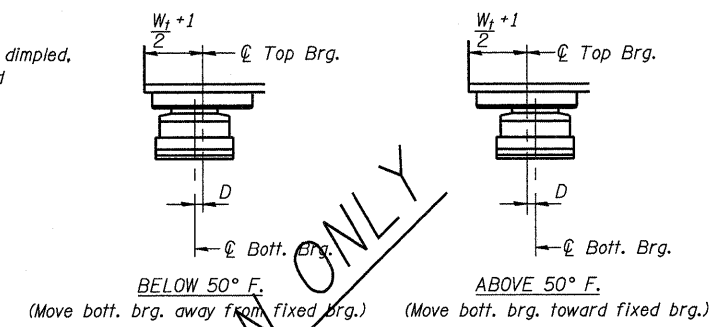
TYPE II ELASTOMERIC EXP. BRGS. AT N. & S. ABUTS. AND PIERS 6-S, 6-N, 9-S, & 9-N



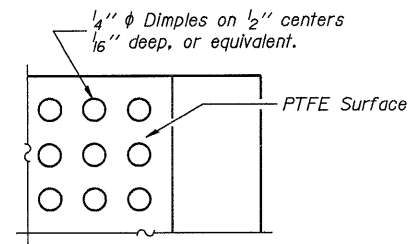
TOP BEARING ASSEMBLY



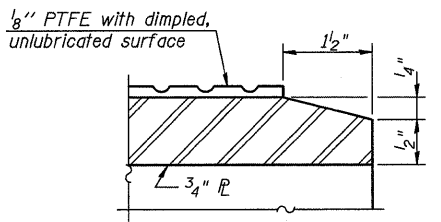
BOTTOM BEARING ASSEMBLY



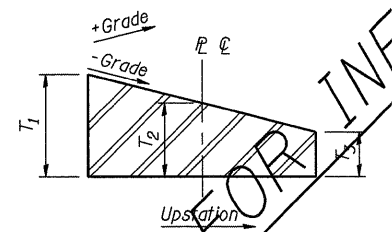
SETTING ANCHOR BOLTS AT EXP. BRG.



PLAN-PTFE SURFACE



SECTION THRU PTFE



BEVELED TOP P DETAIL

BEVELED TOP P DIMENSIONS

Location	Grade	T1	T2	T3
S. Abut.	3.88%	1 5/8"	1 15/16"	2"
Pier 6-S	2.01%	1 1/2"	1 5/8"	1 3/4"
Pier 6-N (Girder 1-6)	2.01%	1 7/8"	2"	2 1/8"
Pier 6-N (Girder 7-12)	2.01%	1 5/8"	1 3/4"	1 7/8"
Pier 9-S (Girder 1-6)	-1.89%	1 7/8"	1 3/4"	1 5/8"
Pier 9-S (Girder 7-12)	-1.89%	2 1/8"	2"	1 7/8"
Pier 9-N	-1.89%	2 1/8"	2"	1 7/8"
N. Abut.	-3.98%	2"	1 15/16"	1 5/8"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	72
Anchor Bolts 1"	Each	144

TYPE II BEARING DIMENSIONS

Location	We	Le	Tp	Np	Ts	Ns	Te	Tt	Wt	Lt	Tb	Wb	Lb
N. & S. Abuts. & Pier 6-S	9"	12"	3/8"	8	3 3/16"	7	4 9/16"	Varies	11"	15"	1"	10"	23 1/4"
Pier 9-N	10"	14"	1/2"	5	3 9/16"	4	3 3/8"	Varies	11 1/4"	16"	1"	11"	24 1/2"
Pier 6-N (Girders 7-12), Pier 9-S (Girders 1-6)	11"	16"	5/8"	7	3 1/2"	6	5 1/8"	Varies	13 1/4"	22"	1 3/8"	13"	30 1/4"
Pier 6-N (Girders 1-6), Pier 9-S (Girders 7-12)	12"	18"	3/4"	7	3 1/2"	6	5 1/8"	Varies	14 1/2"	22"	1 3/8"	13"	30 1/4"

EARTH TECH | AECOM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING DETAILS II
 FAP 330 US 12/45 (MANNHEIM RD.) OVER
 SOO LINE RR & FRANKLIN AVE.
 STRUCTURE NO. 016-2815
 SECTION 465 (HB & VB) F COOK COUNTY
 STA. 183+33.30 DRAWN BY JHR
 DATE 6/2009 CHECKED BY CLS