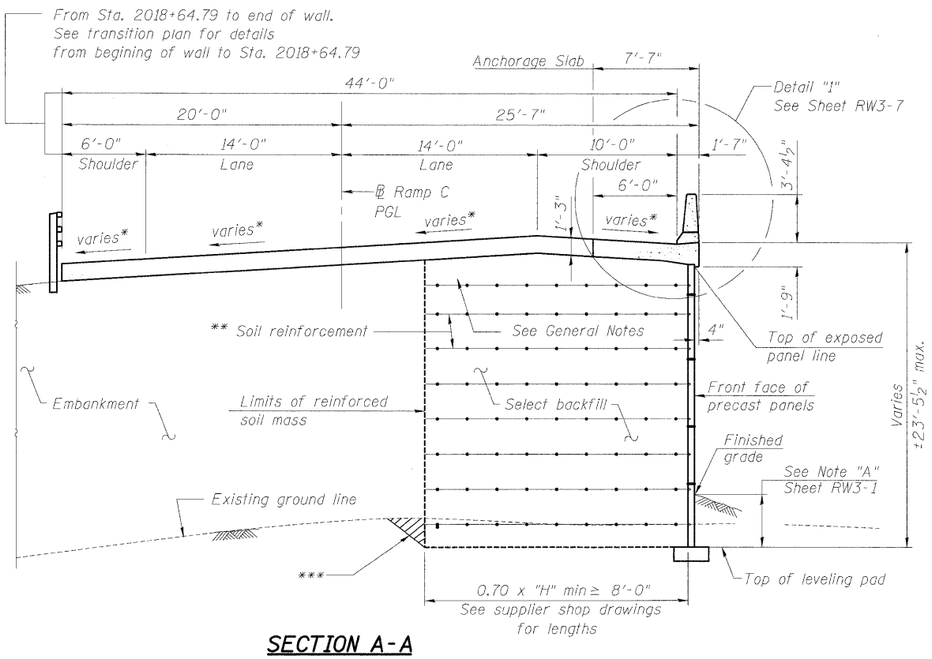
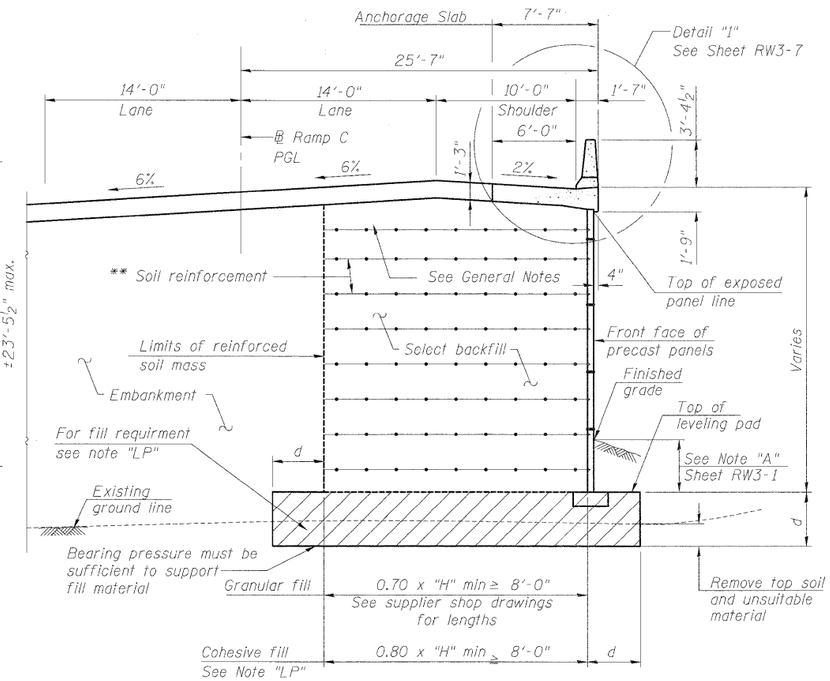
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A
TYPICAL WALL SECTION

From Sta. 2018+00.00 to Sta. 2025+75.00
Looking (upstation) South



SECTION B-B
TYPICAL WALL SECTION

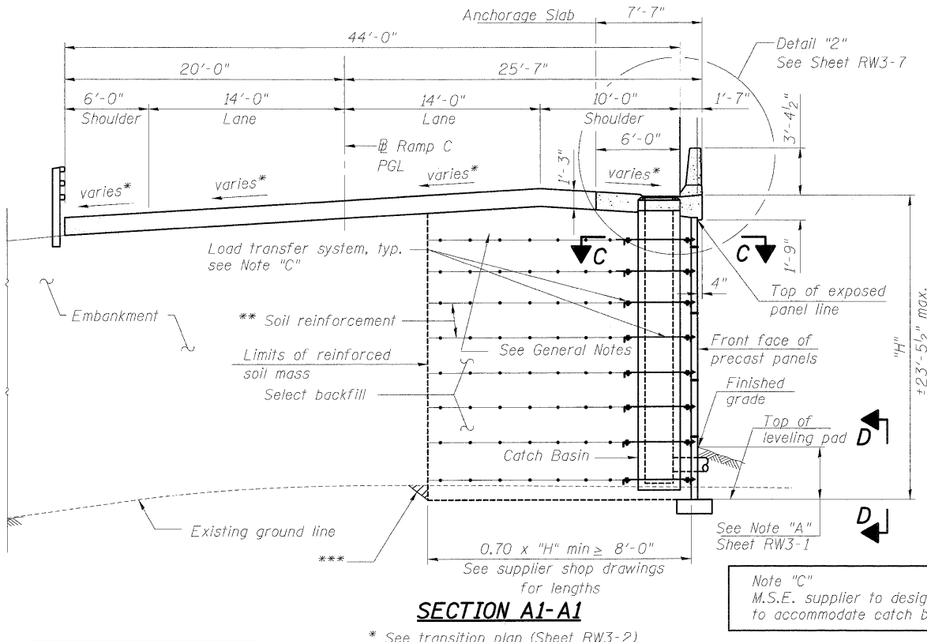
From Sta. Sta. 2025+75.00 to Sta. 2027+25.00
Looking (upstation) South

Notes:
Place the top most layer of soil reinforcement 3 feet below the gutter line elevation.

Quantity of the embankment fill is included with Roadway Quantities.

Removal of top soil & unsuitable material will be paid for under item "Removal and Disposal of unsuitable material for Structures".

Note "LP":
If the leveling pad is placed on top of cohesive fill material, the embankment fill below the leveling pad shall achieve an unconfined compressive strength of 1.5 tons per square foot, which may require that the degree of compaction is higher than 95% of the maximum dry density according to AASHTO T99. The embankment material should be placed in layers no more than 8 inches in loose thickness. The dynamic cone penetrometer reading must be equal to or less than 1.3 inches per blow, when testing the penetration rate in accordance with the IDOT Geotechnical Manual.



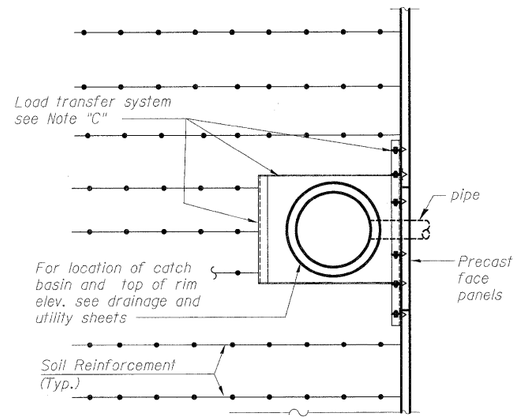
SECTION A1-A1

** See transition plan (Sheet RW3-2)*

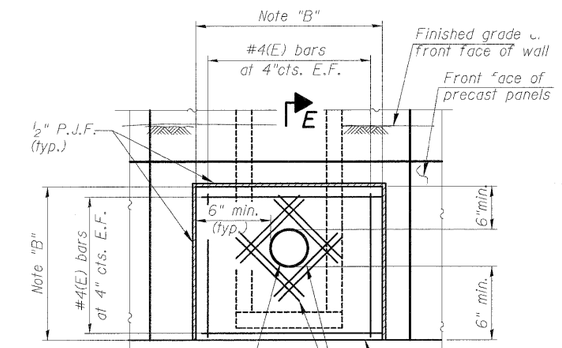
*** The MSE wall suppliers internal stability design shall account for the anchorage slabs bearing pressure of 1.0KSF and horizontal sliding force of 0.5 Kips/ft. of wall.*

**** Overexcavation beyond limits of structure excavation. This area not measured for payment. Backfill Overexcavation with same material as used for select fill.*

Note "C"
M.S.E. supplier to design load transfer system to accommodate catch basins.



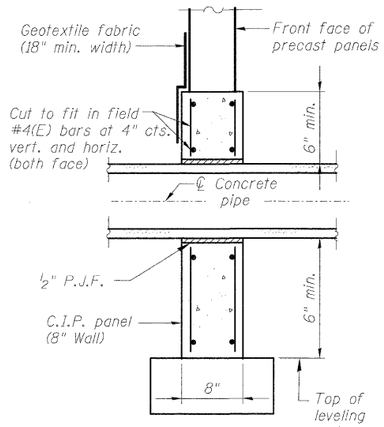
SECTION C-C



VIEW D-D
CAST IN PLACE (C.I.P.) PANEL ELEVATION

Note "B"
Cast-in-place panel (C.I.P.) Dimensions to be determined by Precast panel supplier.

Cost of C.I.P. panels including Reinforcment in the C.I.P. panel is included in the pay item "Mechanically Stabilized Earth Retaining Wall".



SECTION E-E
TYPICAL SECTION THROUGH C.I.P. PANEL

Only Parapet and Anchorage Slab are part of this Contract

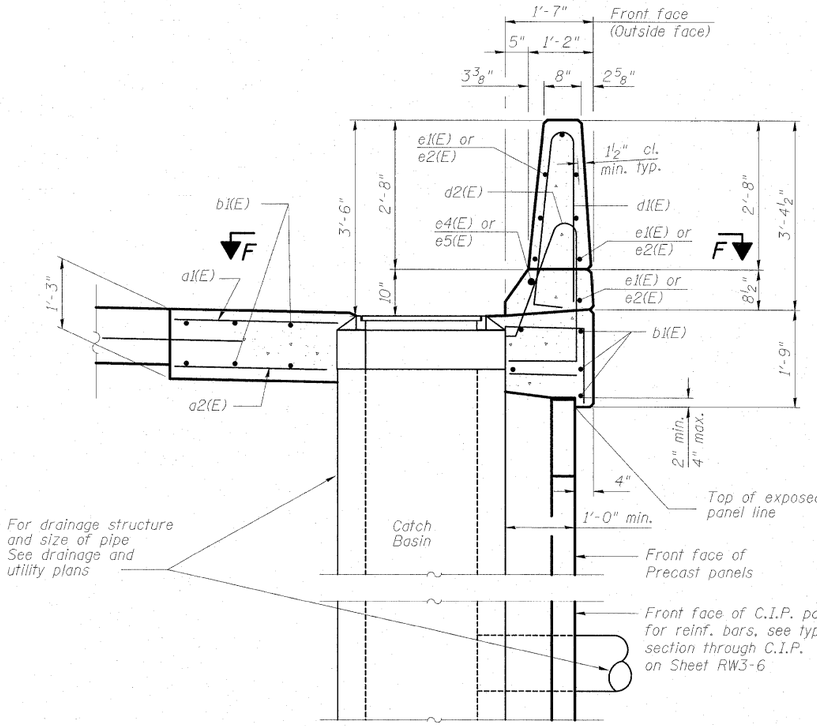
SECTIONS AND DETAILS
STRUCTURE NO. 099-W028

DESIGNED	PMH
CHECKED	MJL
DRAWN	RJ
CHECKED	BKB

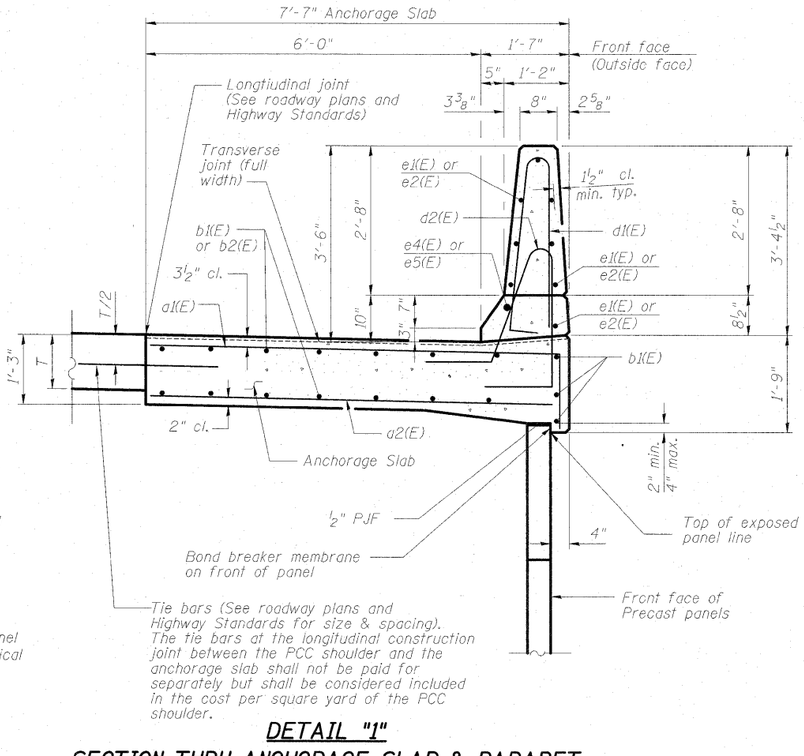
McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RW3-6	55	(99-1&2) R-6	WILL	756	501
SHEETS RW3-7			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

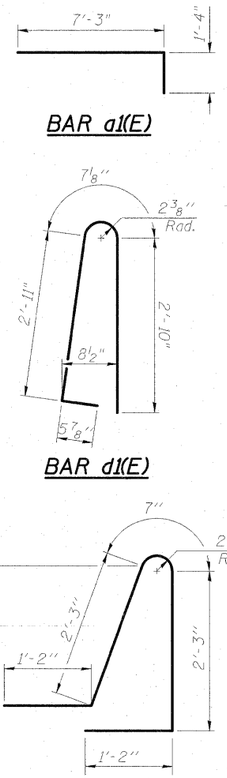
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DETAIL "2"
SECTION THRU ANCHORAGE SLAB & PARAPET AT CATCH BASINS



DETAIL "1"
SECTION THRU ANCHORAGE SLAB & PARAPET



MSE WALL - BILL OF MATERIAL

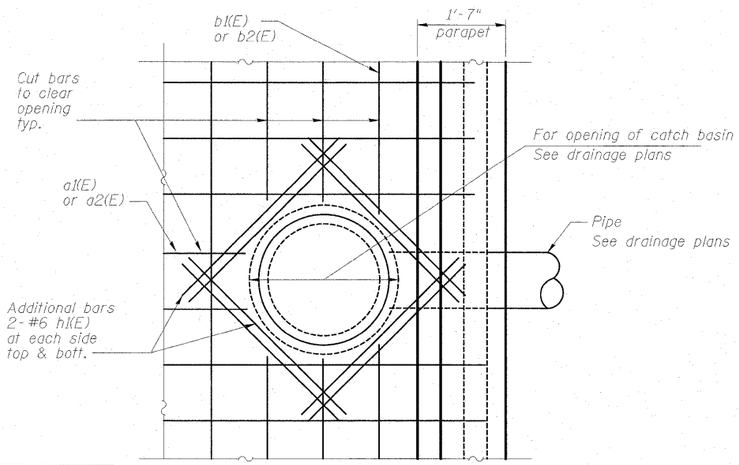
Bar	No.	Size	Length	Shape
a1(E)	962	#6	8'-7"	
d2(E)	962	#6	7'-3"	
b1(E)	510	#5	31'-3"	
b2(E)	34	#5	26'-6"	
d1(E)	1080	#5	6'-10"	
d2(E)	1080	#5	7'-5"	
e1(E)	480	#4	14'-8"	
e2(E)	32	#4	12'-6"	
e4(E)	60	#8	14'-8"	
e5(E)	4	#8	12'-6"	
h1(E)	64	#6	5'-0"	
Concrete Structures			Cu. Yd.	473.9
Reinforcement Bars, Epoxy Coated			Pound	64,430

Notes:
Bars indicated thus 8x3-#5 indicates 8 lines of bars with 3 lengths per line.

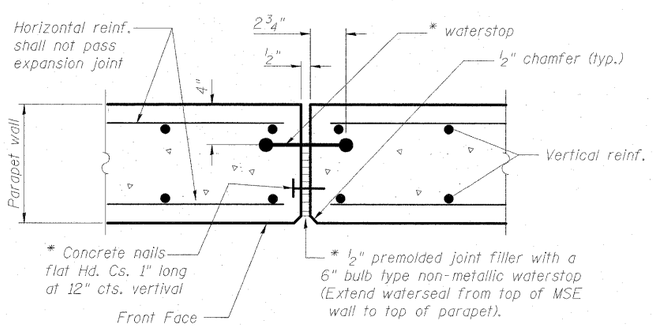
Anchorage slab & parapet will be paid under item "Concrete Structures".

Only Parapet and Anchorage Slab are part of this Contract

Note:
Slip forming of the parapet is not allowed.

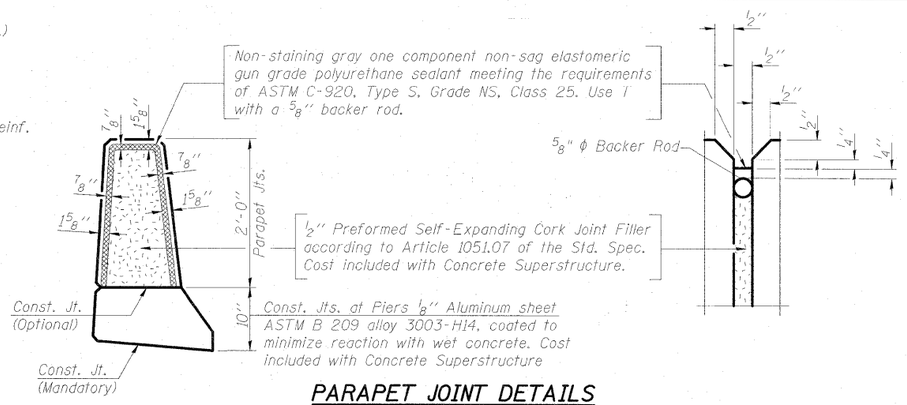


SECTION F-F
DETAIL "3" PLAN AT DRAINAGE



EXPANSION JOINT DETAILS IN PARAPET

For expansion joints in anchorage slab, see Roadway Plans and Highway Standards. (STD 420001-07)
* Cost included with "Concrete Structures".



PARAPET JOINT DETAILS

SECTIONS AND DETAILS
STRUCTURE NO. 099-W028

DESIGNED	PMH
CHECKED	MJL
DRAWN	RJ
CHECKED	BKB

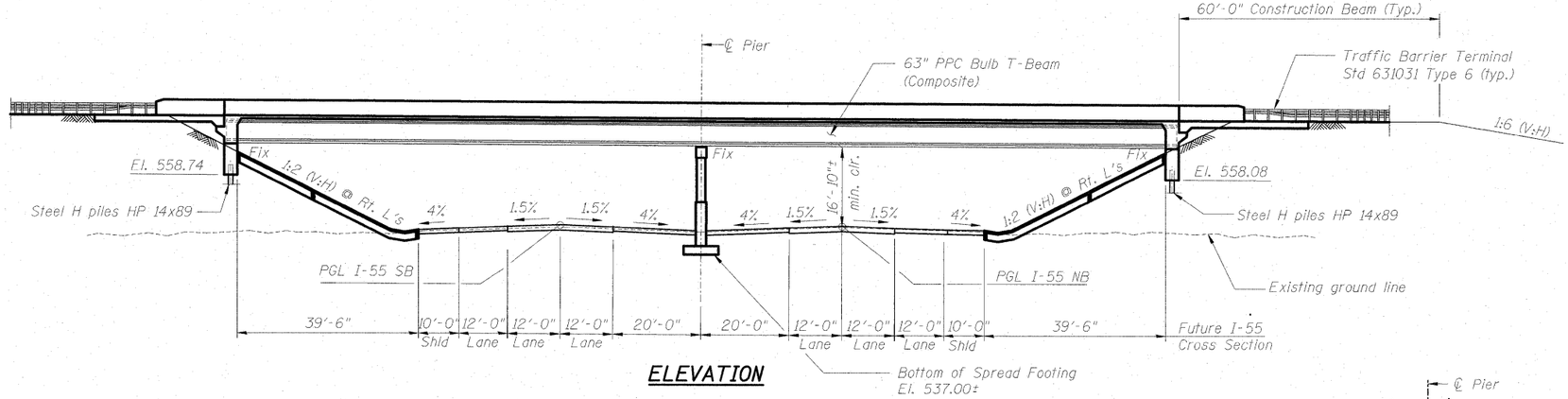
McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
RW3-7 SHEETS RW3-7	55	(99-1&2) R-6	WILL	756	502
			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

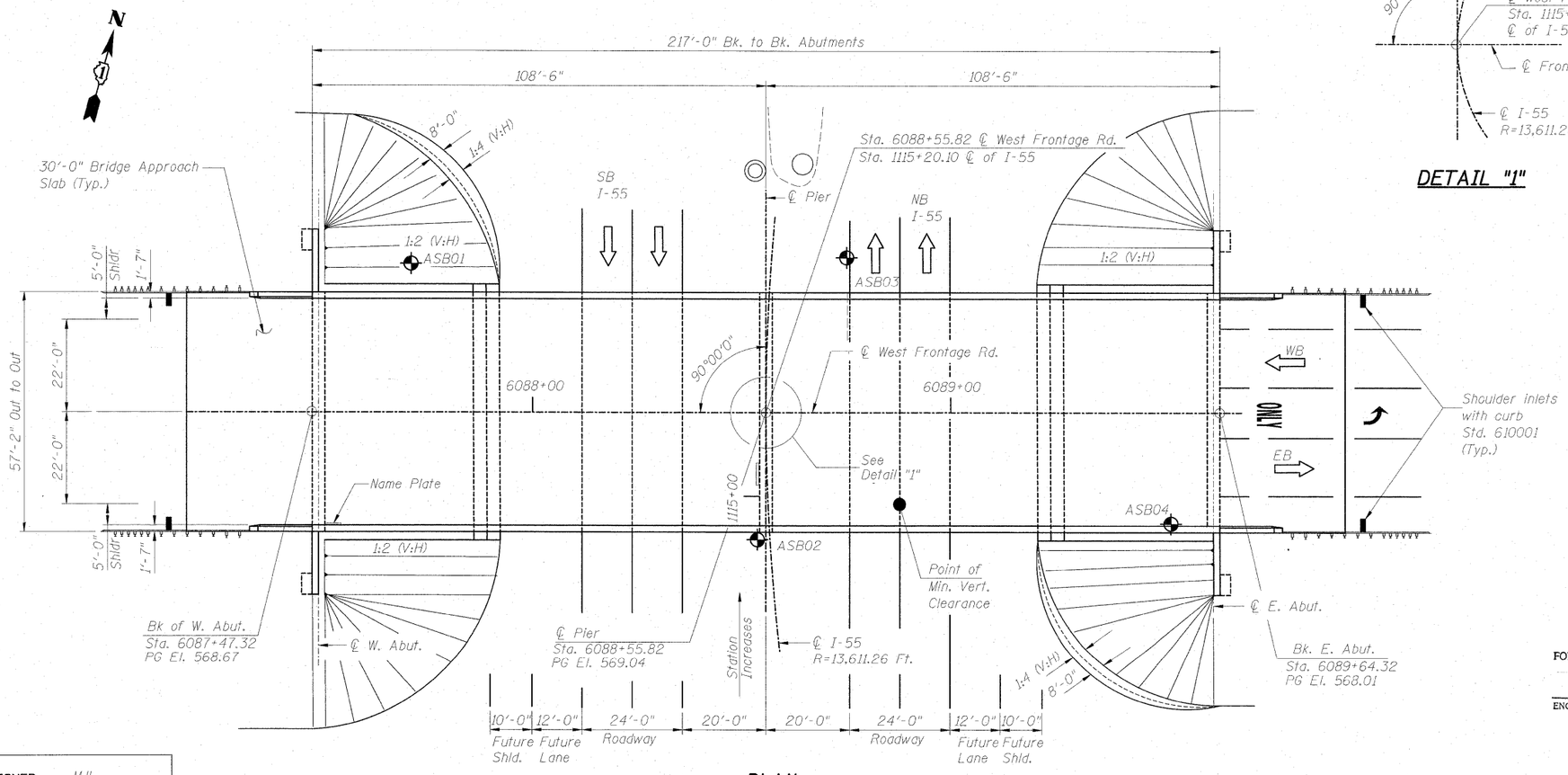
Bench Mark (BM9): Box cut on S. corner of traffic handhole foundation SE corner of Arsenal Road and east Frontage Road. El. 545.485

Existing Structure: None.

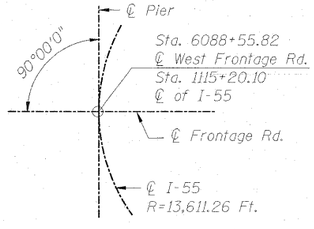
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN



DETAIL "1"

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 2007 (4th Edition) with 2008 Interim Revisions.

LOADING HL-93

Allow 50 lbs/sq. ft. for Future Wearing Surface

DESIGN STRESSES

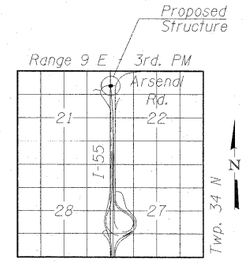
Field Units

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

Precast Prestressed Units
f'c = 7,000 psi
f'ci = 6,000 psi
f's = 270,000 psi (1/2"ϕ low relaxation strands)
f'si = 201,900 psi (low relaxation strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1})=0.069g
Design Spectral Acceleration at 0.2 sec. (S_{DS})=0.127g
Soil Site Class = C



LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

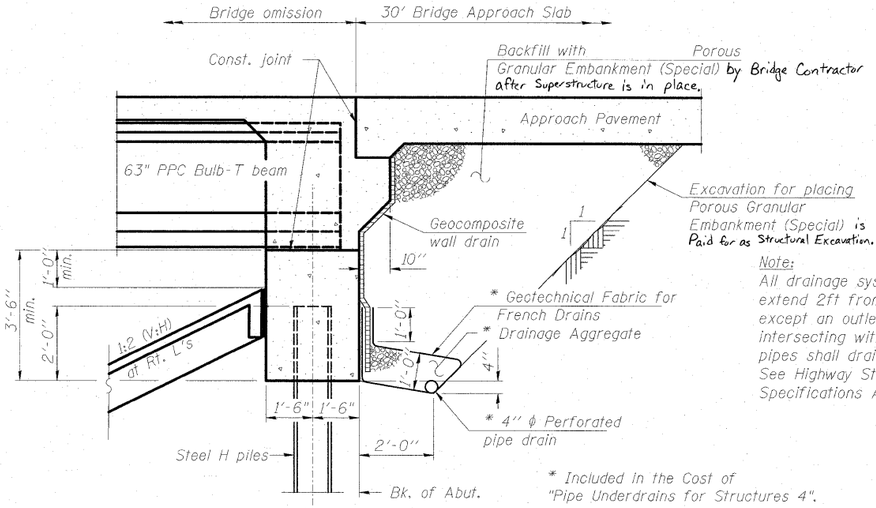
GENERAL PLAN AND ELEVATION
WEST FRONTAGE RD. OVER I-55
SEC. 92-2HB-2B-1
WILL COUNTY
STATION 6088+55.821
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	MJL/RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF1 / SF24 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	92-2HB-2B-1	WILL	756	503
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

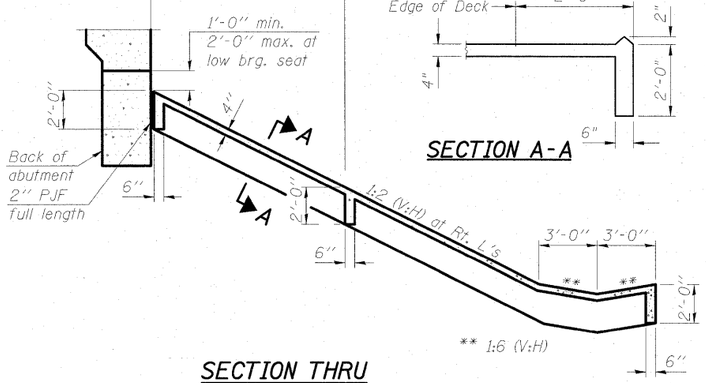
* Included in the Cost of "Pipe Underdrains for Structures 4".

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

INDEX OF SHEETS

GENERAL NOTES

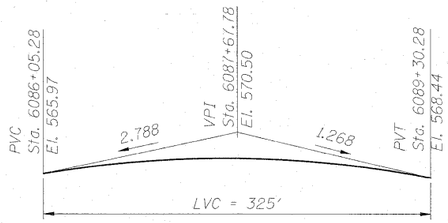
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
4. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.



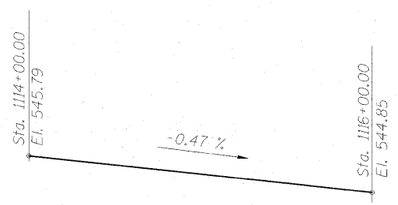
SECTION A-A

SECTION THRU CONCRETE SLOPEWALL

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



PROFILE GRADE - WEST FRONTAGE RD.



PROFILE GRADE - NB & SB I-55

STATION 1115+20.10
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 92-2HB-2B-1
LOADING HL-93
STRUCTURE NO. 099-0347

NAME PLATE
See Std. 515001-03

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Braced Excavation	Cu. Yd.	-	224	224
Concrete Structures	Cu. Yd.	-	247.5	247.5
Concrete Superstructure	Cu. Yd.	667.6	-	667.6
Bridge Deck Grooving	Sq. Yd.	1,302	-	1,302
Protective Coat	Sq. Yd.	1,409	-	1,409
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams 63"	Ft.	1,501	-	1,501
Reinforcement Bars, Epoxy Coated	Pound	157,100	31,480	188,580
Bar Splicers	Each	108	-	108
Furnishing Steel Piles HP14X89	Ft.	-	300	300
Driving Piles	Ft.	-	300	300
Pile Shoes	Each	-	14	14
Test Pile Steel HP14X89	Each	-	2	2
Name Plates	Each	-	1	1
Slope Wall 4 Inch	Sq. Yd.	-	288	288
Pipe Underdrains for Structures 4"	Ft.	-	184	184
Concrete Encasement	Cu. Yd.	-	7.6	7.6
Geocomposite Wall Drain	Sq. Yd.	-	150	150
Porous Granular Embankment, Special	Cu. Yd.	-	294	294
Rock Excavation for Structures	Cu. Yd.	-	38	38
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	-	24	24
Structure Excavation	Cu. Yd.		146	146

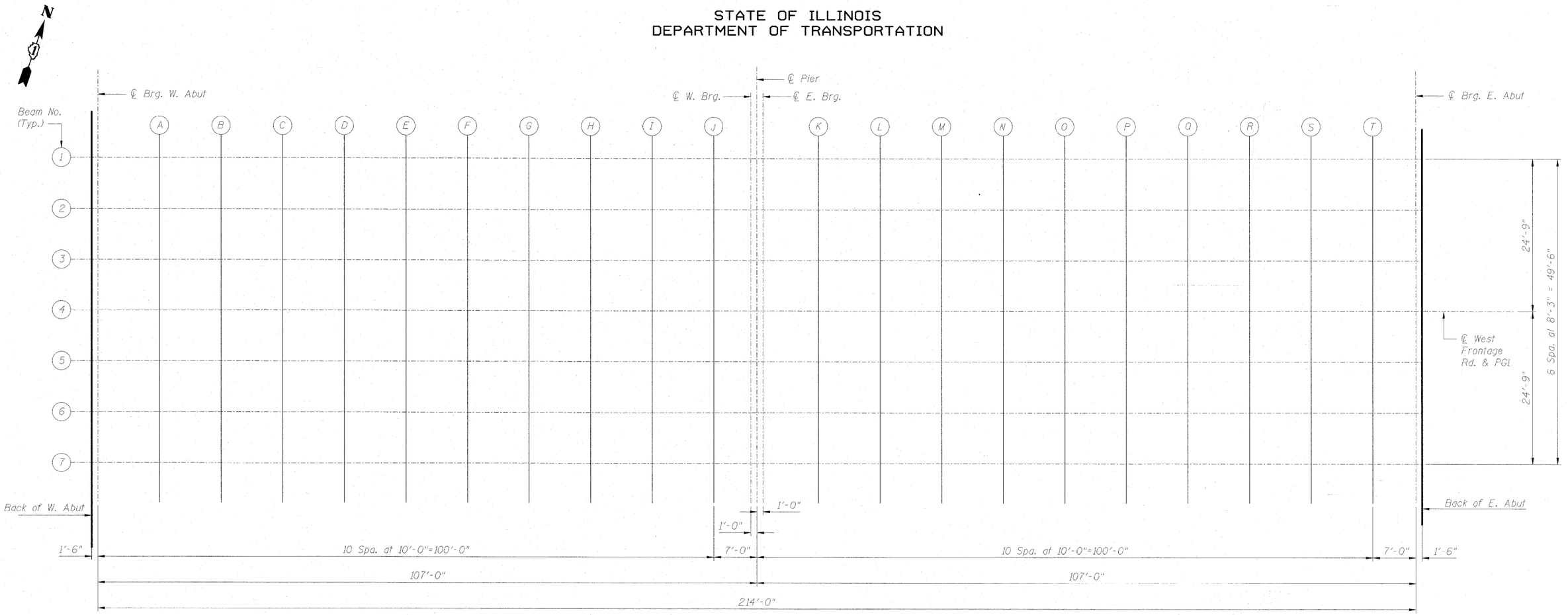
DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

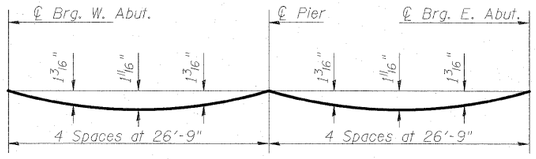
GENERAL NOTES & TOTAL BILL OF MATERIAL
STRUCTURE NO. 099-0347

SHEET NO. SF2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	504
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



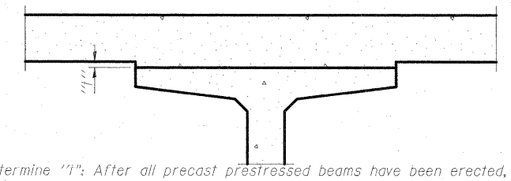
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets SF-4, SF-5 & SF-6.



To determine "i": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown on Sheets SF-4, SF-5 & SF-6. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on Sheets SF-4, SF-5 & SF-6, minus slab thickness, equals the fillet heights "i" above top flanges of beams.

FILLET HEIGHTS

TOP OF SLAB ELEVATIONS STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	505
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	-24.75	568.27	568.27
CL Brg. W. Abut	608748.82	-24.75	568.28	568.28
A	608758.82	-24.75	568.38	568.42
B	608768.82	-24.75	568.46	568.54
C	608778.82	-24.75	568.53	568.64
D	608788.82	-24.75	568.58	568.71
E	608798.82	-24.75	568.63	568.77
F	608808.82	-24.75	568.66	568.79
G	608818.82	-24.75	568.68	568.80
H	608828.82	-24.75	568.68	568.78
I	608838.82	-24.75	568.68	568.74
J	608848.82	-24.75	568.66	568.68
CL W. Brg.	608854.82	-24.75	568.64	568.64
CL Pier	608855.82	-24.75	568.64	568.64
CL E. Brg.	608856.82	-24.75	568.63	568.63
K	608866.82	-24.75	568.59	568.63
L	608876.82	-24.75	568.54	568.61
M	608886.82	-24.75	568.47	568.58
N	608896.82	-24.75	568.39	568.52
O	608906.82	-24.75	568.30	568.44
P	608916.82	-24.75	568.20	568.33
Q	608926.82	-24.75	568.08	568.20
R	608936.82	-24.75	567.96	568.05
S	608946.82	-24.75	567.83	567.89
T	608956.82	-24.75	567.70	567.73
CL Brg. E. Abut.	608962.82	-24.75	567.63	567.63
Back of E. Abut.	608964.32	-24.75	567.61	567.61

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	-16.50	568.41	568.41
CL Brg. W. Abut	608748.82	-16.50	568.43	568.43
A	608758.82	-16.50	568.52	568.56
B	608768.82	-16.50	568.60	568.68
C	608778.82	-16.50	568.67	568.78
D	608788.82	-16.50	568.73	568.86
E	608798.82	-16.50	568.77	568.91
F	608808.82	-16.50	568.80	568.94
G	608818.82	-16.50	568.82	568.94
H	608828.82	-16.50	568.83	568.92
I	608838.82	-16.50	568.82	568.88
J	608848.82	-16.50	568.80	568.82
CL W. Brg.	608854.82	-16.50	568.78	568.78
CL Pier	608855.82	-16.50	568.78	568.78
CL E. Brg.	608856.82	-16.50	568.78	568.78
K	608866.82	-16.50	568.74	568.77
L	608876.82	-16.50	568.68	568.76
M	608886.82	-16.50	568.62	568.72
N	608896.82	-16.50	568.54	568.66
O	608906.82	-16.50	568.45	568.58
P	608916.82	-16.50	568.34	568.48
Q	608926.82	-16.50	568.23	568.35
R	608936.82	-16.50	568.10	568.20
S	608946.82	-16.50	567.97	568.04
T	608956.82	-16.50	567.85	567.87
CL Brg. E. Abut.	608962.82	-16.50	567.77	567.77
Back of E. Abut.	608964.32	-16.50	567.75	567.75

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	-8.25	568.54	568.54
CL Brg. W. Abut	608748.82	-8.25	568.56	568.56
A	608758.82	-8.25	568.65	568.69
B	608768.82	-8.25	568.73	568.81
C	608778.82	-8.25	568.80	568.91
D	608788.82	-8.25	568.86	568.99
E	608798.82	-8.25	568.90	569.04
F	608808.82	-8.25	568.93	569.07
G	608818.82	-8.25	568.95	569.07
H	608828.82	-8.25	568.95	569.05
I	608838.82	-8.25	568.95	569.01
J	608848.82	-8.25	568.93	568.95
CL W. Brg.	608854.82	-8.25	568.91	568.91
CL Pier	608855.82	-8.25	568.91	568.91
CL E. Brg.	608856.82	-8.25	568.91	568.91
K	608866.82	-8.25	568.86	568.90
L	608876.82	-8.25	568.81	568.89
M	608886.82	-8.25	568.74	568.85
N	608896.82	-8.25	568.67	568.79
O	608906.82	-8.25	568.57	568.71
P	608916.82	-8.25	568.47	568.61
Q	608926.82	-8.25	568.35	568.48
R	608936.82	-8.25	568.23	568.33
S	608946.82	-8.25	568.10	568.16
T	608956.82	-8.25	567.97	568.00
CL Brg. E. Abut.	608962.82	-8.25	567.90	567.90
Back of E. Abut.	608964.32	-8.25	567.88	567.88

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0347

SHEET NO. SF4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	506
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 4 & PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	0.00	568.67	568.67
CL Brg. W. Abut	608748.82	0.00	568.69	568.69
A	608758.82	0.00	568.78	568.82
B	608768.82	0.00	568.86	568.94
C	608778.82	0.00	568.93	569.04
D	608788.82	0.00	568.98	569.11
E	608798.82	0.00	569.03	569.17
F	608808.82	0.00	569.06	569.20
G	608818.82	0.00	569.08	569.20
H	608828.82	0.00	569.08	569.18
I	608838.82	0.00	569.08	569.14
J	608848.82	0.00	569.06	569.08
CL W. Brg.	608854.82	0.00	569.04	569.04
CL Pier	608855.82	0.00	569.04	569.04
CL E. Brg.	608856.82	0.00	569.03	569.03
K	608866.82	0.00	568.99	569.03
L	608876.82	0.00	568.94	569.02
M	608886.82	0.00	568.87	568.98
N	608896.82	0.00	568.79	568.92
O	608906.82	0.00	568.70	568.84
P	608916.82	0.00	568.60	568.74
Q	608926.82	0.00	568.48	568.61
R	608936.82	0.00	568.36	568.45
S	608946.82	0.00	568.23	568.29
T	608956.82	0.00	568.10	568.13
CL Brg. E. Abut.	608962.82	0.00	568.03	568.03
Back of E. Abut.	608964.32	0.00	568.01	568.01

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	8.25	568.54	568.54
CL Brg. W. Abut	608748.82	8.25	568.56	568.56
A	608758.82	8.25	568.65	568.69
B	608768.82	8.25	568.73	568.81
C	608778.82	8.25	568.80	568.91
D	608788.82	8.25	568.86	568.99
E	608798.82	8.25	568.90	569.04
F	608808.82	8.25	568.93	569.07
G	608818.82	8.25	568.95	569.07
H	608828.82	8.25	568.95	569.05
I	608838.82	8.25	568.95	569.01
J	608848.82	8.25	568.93	568.95
CL W. Brg.	608854.82	8.25	568.91	568.91
CL Pier	608855.82	8.25	568.91	568.91
CL E. Brg.	608856.82	8.25	568.91	568.91
K	608866.82	8.25	568.86	568.90
L	608876.82	8.25	568.81	568.89
M	608886.82	8.25	568.74	568.85
N	608896.82	8.25	568.67	568.79
O	608906.82	8.25	568.57	568.71
P	608916.82	8.25	568.47	568.61
Q	608926.82	8.25	568.35	568.48
R	608936.82	8.25	568.23	568.33
S	608946.82	8.25	568.10	568.16
T	608956.82	8.25	567.97	568.00
CL Brg. E. Abut.	608962.82	8.25	567.90	567.90
Back of E. Abut.	608964.32	8.25	567.88	567.88

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	16.50	568.41	568.41
CL Brg. W. Abut	608748.82	16.50	568.43	568.43
A	608758.82	16.50	568.52	568.56
B	608768.82	16.50	568.60	568.68
C	608778.82	16.50	568.67	568.78
D	608788.82	16.50	568.73	568.86
E	608798.82	16.50	568.77	568.91
F	608808.82	16.50	568.80	568.94
G	608818.82	16.50	568.82	568.94
H	608828.82	16.50	568.83	568.92
I	608838.82	16.50	568.82	568.88
J	608848.82	16.50	568.80	568.82
CL W. Brg.	608854.82	16.50	568.78	568.78
CL Pier	608855.82	16.50	568.78	568.78
CL E. Brg.	608856.82	16.50	568.78	568.78
K	608866.82	16.50	568.74	568.77
L	608876.82	16.50	568.68	568.76
M	608886.82	16.50	568.62	568.72
N	608896.82	16.50	568.54	568.66
O	608906.82	16.50	568.45	568.58
P	608916.82	16.50	568.34	568.48
Q	608926.82	16.50	568.23	568.35
R	608936.82	16.50	568.10	568.20
S	608946.82	16.50	567.97	568.04
T	608956.82	16.50	567.85	567.87
CL Brg. E. Abut.	608962.82	16.50	567.77	567.77
Back of E. Abut.	608964.32	16.50	567.75	567.75

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0347

McDonough Associates Inc.
Engineers / Architects

130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF5 / SF24 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	92-2HB-2B-1	WILL	756	507
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back of W. Abut.	608747.32	24.75	568.27	568.27
CL Brg. W. Abut	608748.82	24.75	568.28	568.28
A	608758.82	24.75	568.38	568.42
B	608768.82	24.75	568.46	568.54
C	608778.82	24.75	568.53	568.64
D	608788.82	24.75	568.58	568.71
E	608798.82	24.75	568.63	568.77
F	608808.82	24.75	568.66	568.79
G	608818.82	24.75	568.68	568.80
H	608828.82	24.75	568.68	568.78
I	608838.82	24.75	568.68	568.74
J	608848.82	24.75	568.66	568.68
CL W. Brg.	608854.82	24.75	568.64	568.64
CL Pier	608855.82	24.75	568.64	568.64
CL E. Brg.	608856.82	24.75	568.63	568.63
K	608866.82	24.75	568.59	568.63
L	608876.82	24.75	568.54	568.61
M	608886.82	24.75	568.47	568.58
N	608896.82	24.75	568.39	568.52
O	608906.82	24.75	568.30	568.44
P	608916.82	24.75	568.20	568.33
Q	608926.82	24.75	568.08	568.20
R	608936.82	24.75	567.96	568.05
S	608946.82	24.75	567.83	567.89
T	608956.82	24.75	567.70	567.73
CL Brg. E. Abut.	608962.82	24.75	567.63	567.63
Back of E. Abut.	608964.32	24.75	567.61	567.61

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

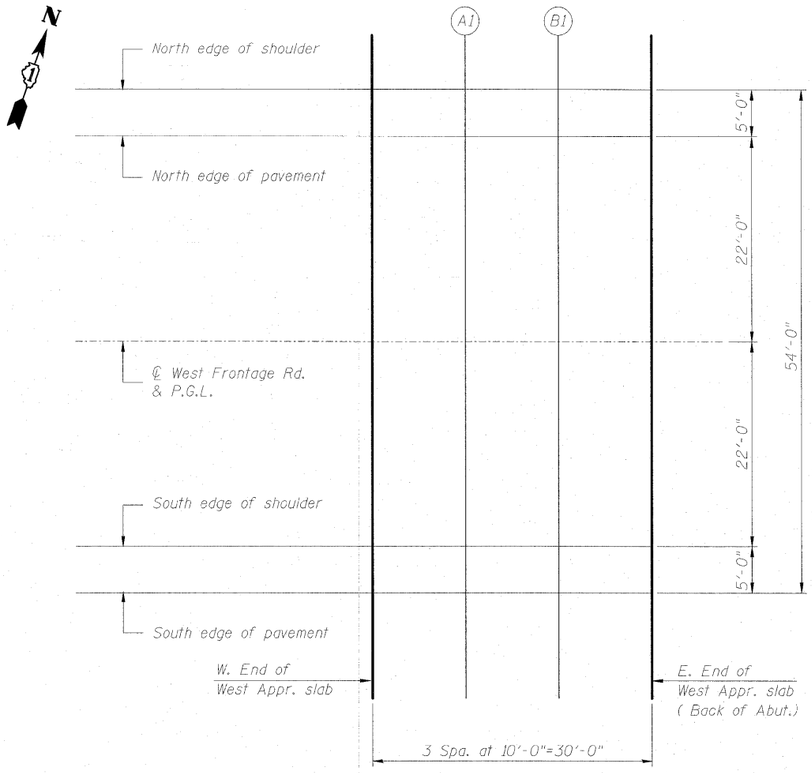
McDonough Associates Inc.
Engineers / Architects

130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0347

SHEET NO. SF6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	508
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN
(West Approach)

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	608717.32	-27.00	567.86
A1	608727.32	-27.00	567.99
B1	608737.32	-27.00	568.11
E. End of W. Appr. Slab	608747.32	-27.00	568.22

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	608717.32	22.00	567.96
A1	608727.32	22.00	568.10
B1	608737.32	22.00	568.22
E. End of W. Appr. Slab	608747.32	22.00	568.32

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	608717.32	-22.00	567.96
A1	608727.32	-22.00	568.10
B1	608737.32	-22.00	568.22
E. End of W. Appr. Slab	608747.32	-22.00	568.32

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	608717.32	27.00	567.86
A1	608727.32	27.00	567.99
B1	608737.32	27.00	568.11
E. End of W. Appr. Slab	608747.32	27.00	568.22

℄ WEST FRONTAGE RD. & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr. Slab	608717.32	0.00	568.31
A1	608727.32	0.00	568.44
B1	608737.32	0.00	568.56
E. End of W. Appr. Slab	608747.32	0.00	568.67

TOP OF W. APPROACH SLAB ELEVATIONS
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

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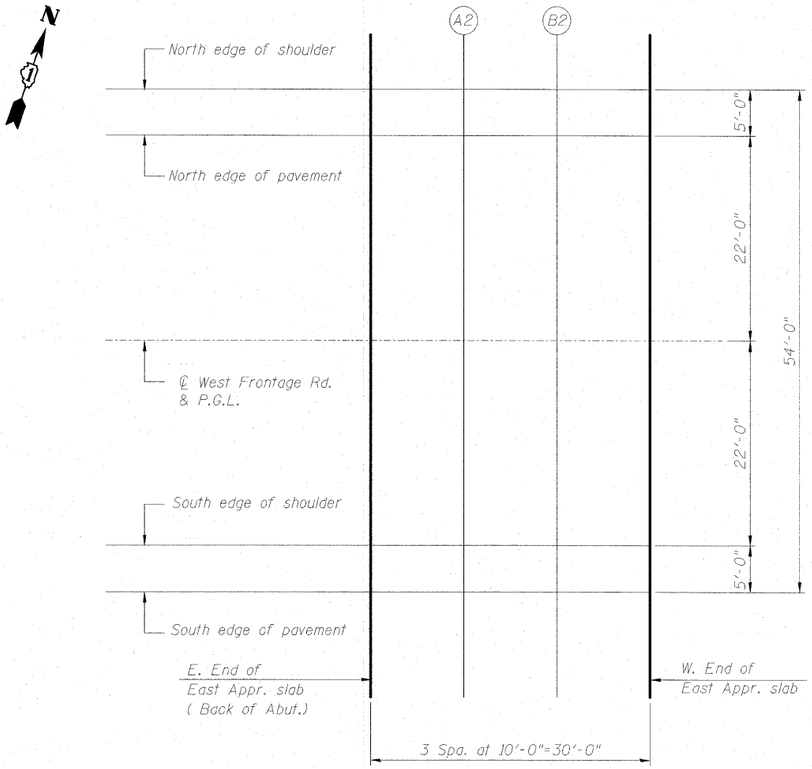
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	509
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN
(East Approach)

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Appr. slab	608964.32	-27.00	567.56
A2	608974.32	-27.00	567.43
B2	608984.32	-27.00	567.30
W. End of E. Appr. Slab	608994.32	-27.00	567.18

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Appr. slab	608964.32	22.00	567.66
A2	608974.32	22.00	567.53
B2	608984.32	22.00	567.41
W. End of E. Appr. Slab	608994.32	22.00	567.28

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Appr. slab	608964.32	-22.00	567.66
A2	608974.32	-22.00	567.53
B2	608984.32	-22.00	567.41
W. End of E. Appr. Slab	608994.32	-22.00	567.28

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Appr. slab	608964.32	27.00	567.56
A2	608974.32	27.00	567.43
B2	608984.32	27.00	567.30
W. End of E. Appr. Slab	608994.32	27.00	567.18

℄ WEST FRONTAGE RD. & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
E. End of E. Appr. slab	608964.32	0.00	568.00
A2	608974.32	0.00	567.88
B2	608984.32	0.00	567.75
W. End of E. Appr. Slab	608994.32	0.00	567.62

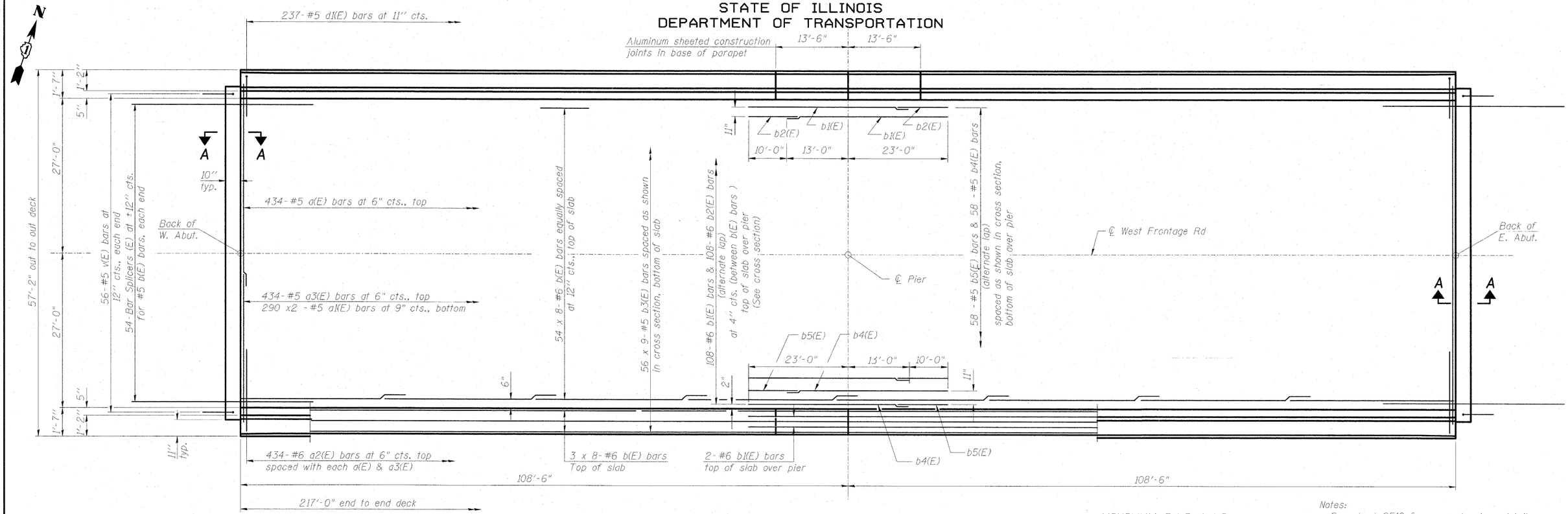
DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

TOP OF E. APPROACH SLAB ELEVATIONS
STRUCTURE NO. 099-0347

SHEET NO. SF8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	510
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

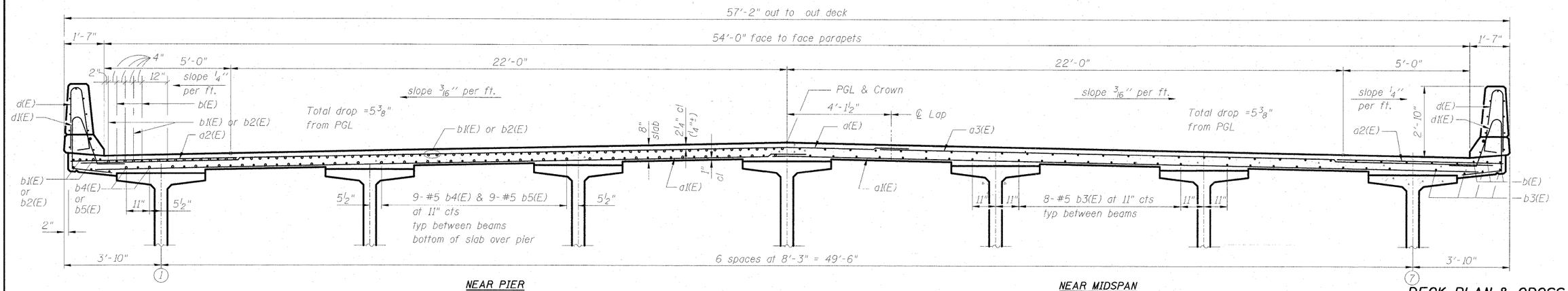
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DECK PLAN

MINIMUM BAR LAP
(Slab)
#5 bar = 2'-2"
#6 bar = 2'-7"

Notes:
See sheet SF10 for superstructure details and Bill of Material.
For Section A-A and diaphragm details see sheets SF11 and SF12.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See sheet SF10 for parapet reinforcement.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking East)

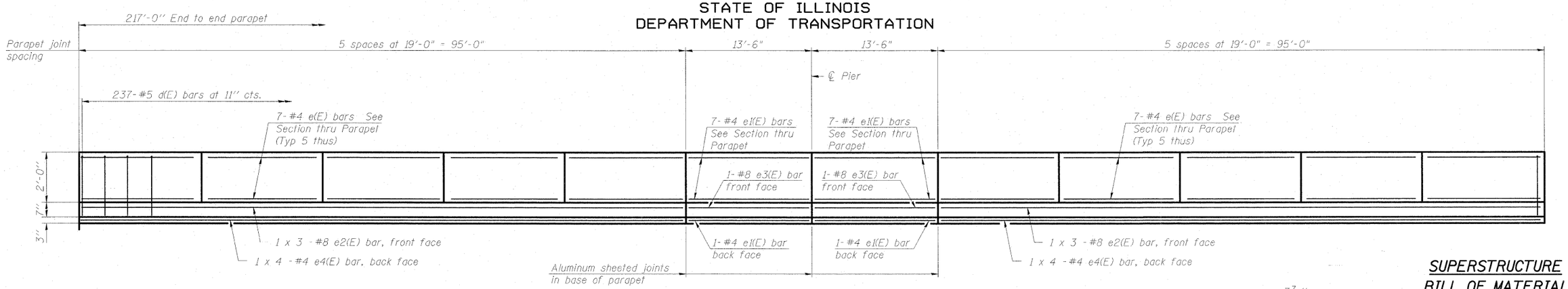
DECK PLAN & CROSS SECTION
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	511
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

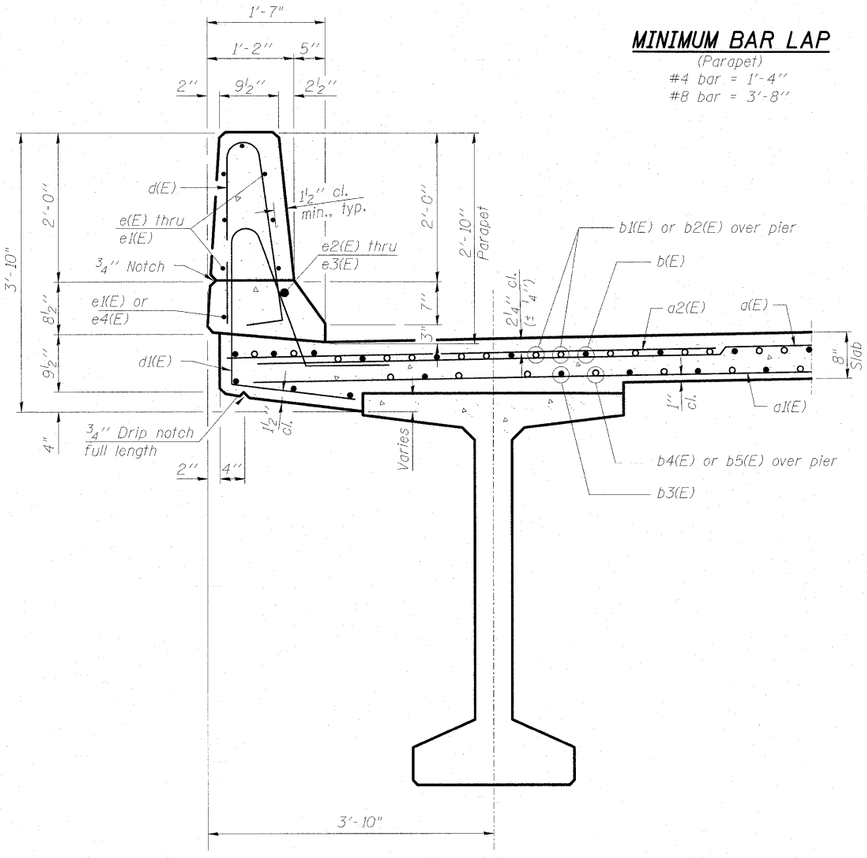
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



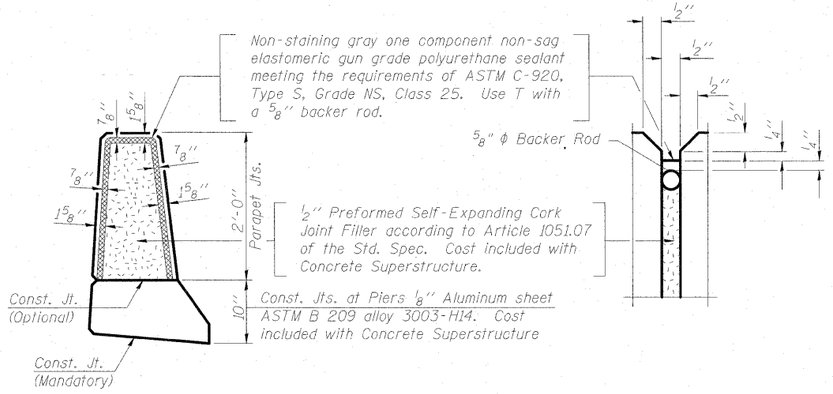
INSIDE ELEVATION OF PARAPET

MINIMUM BAR LAP

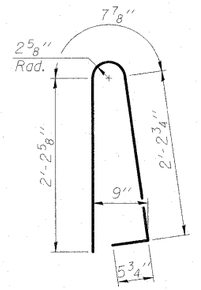
(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-8"



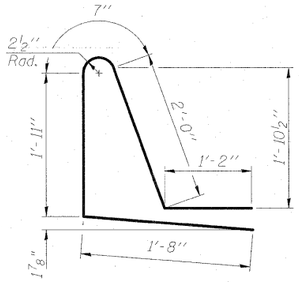
SECTION THRU PARAPET



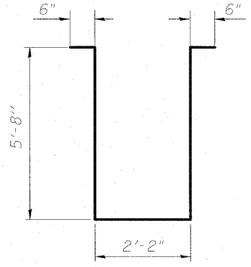
PARAPET JOINT DETAILS



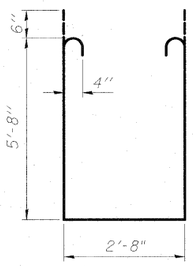
BAR d(E)



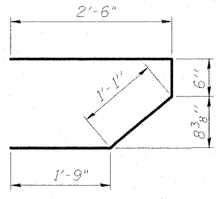
BAR d1(E)



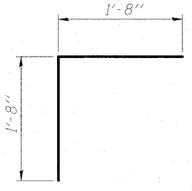
BAR s2(E)



BAR s1(E)



BAR s(E)



BAR v(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	434	#5	33'-6"	
a1(E)	580	#5	29'-4"	
a2(E)	868	#6	6'-6"	
a3(E)	434	#5	25'-3"	
b(E)	480	#6	29'-6"	
b1(E)	108	#6	36'-0"	
b2(E)	108	#6	12'-7"	
b3(E)	504	#5	26'-1"	
b4(E)	58	#5	36'-0"	
b5(E)	58	#5	12'-2"	
d(E)	474	#5	5'-7"	
d1(E)	474	#5	7'-4"	
e(E)	140	#4	18'-8"	
e1(E)	32	#4	13'-2"	
e2(E)	12	#8	34'-0"	
e3(E)	4	#8	13'-2"	
e4(E)	16	#4	24'-9"	
m1(E)	24	#6	29'-11"	
m2(E)	42	#6	11'-0"	
m3(E)	24	#6	5'-9"	
m4(E)	4	#6	2'-5"	
m5(E)	36	#4	7'-5"	
m6(E)	7	#8	6'-2"	
s(E)	108	#5	5'-10"	
s1(E)	72	#4	15'-0"	
s2(E)	30	#4	14'-6"	
v(E)	112	#5	3'-4"	
Reinforcement Bars, Epoxy Coated			Pound	112,840
Concrete Superstructure			Cu. Yd.	488.7

Bars indicated thus 1 x3 -#5 etc. indicates 1 line of bars with 3 lengths per line.

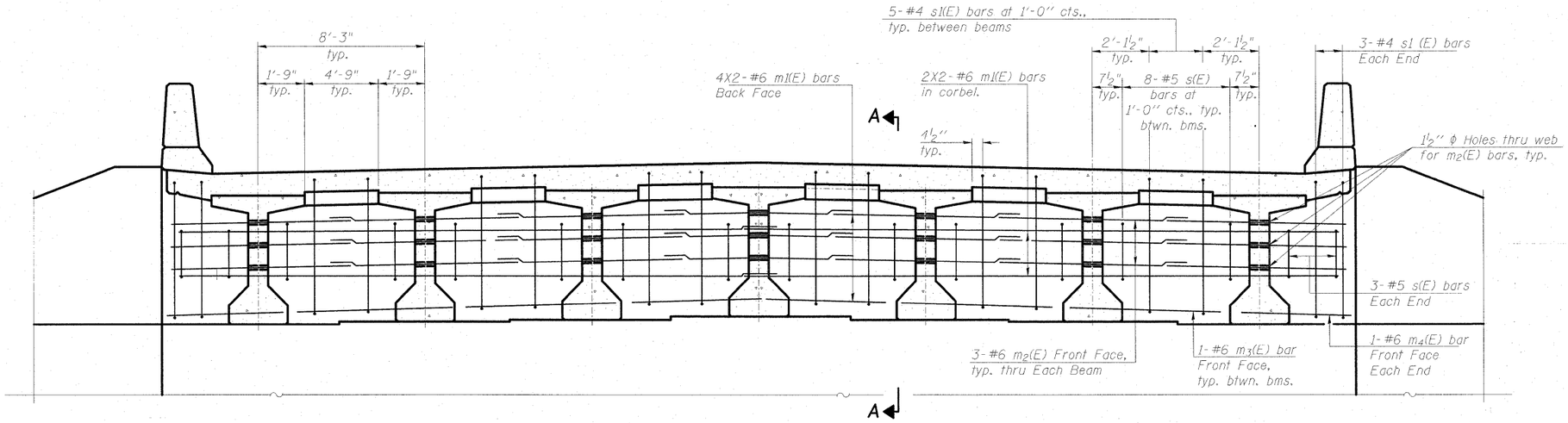
DECK DETAILS
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF10	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	512
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

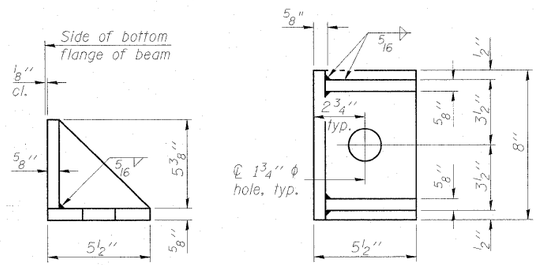


DIAPHRAGM ELEVATION AT ABUTMENTS

W. abutment looking west, E. abutment looking east

MIN. BAR LAP

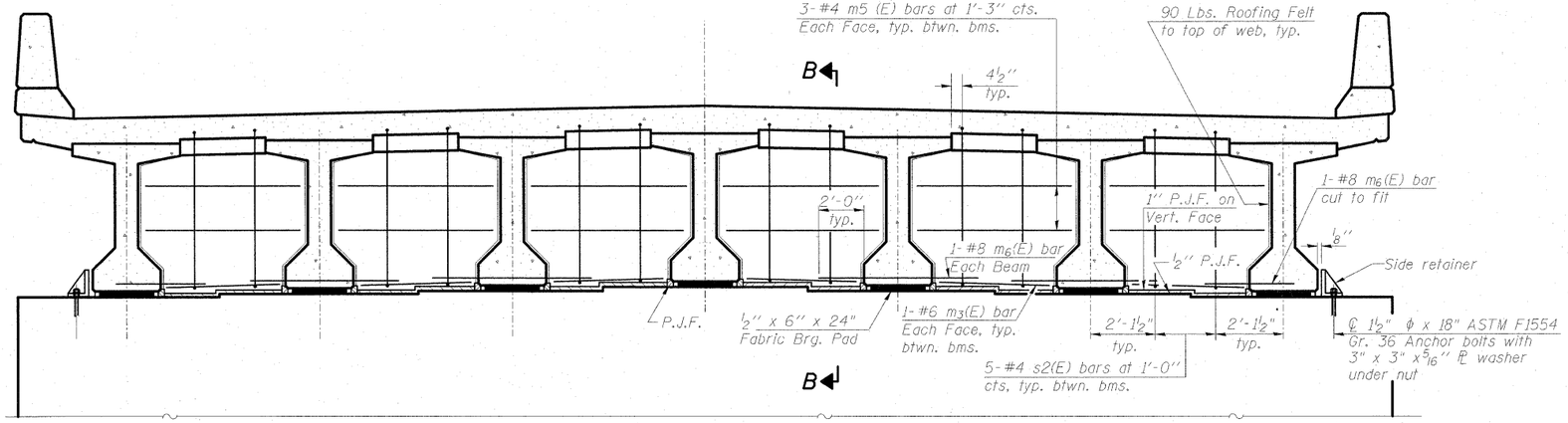
#6 bar = 2'-7"



SIDE RETAINER

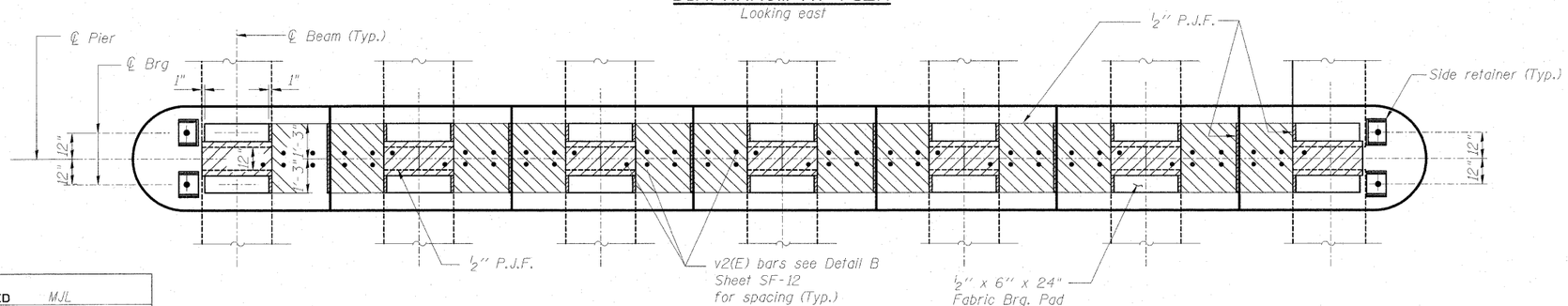
(2 required each side of pier). Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

The side retained shall be galvanized after shop fabrication according to AASHTO M111 and ASTM 385.



DIAPHRAGM AT PIER

Looking east



PLAN AT PIER

(Showing bearing pad and PJF details)

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet SF10.
Concrete in diaphragm is included with Concrete Superstructure on sheet SF10.
For details of bars s(E), s1(E) and s2(E) see sheet SF-10.
The s(E), s1(E) and s2(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
See sheet SF12 for Sections A-A and B-B.
Cost of 90 Lb. roofing felt is included with Concrete Superstructure.
The side retainer shall be galvanized after shop fabrication according to AASHTO M 111. Cost of side retainer and anchor bolts shall be included with Concrete Structures.
Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

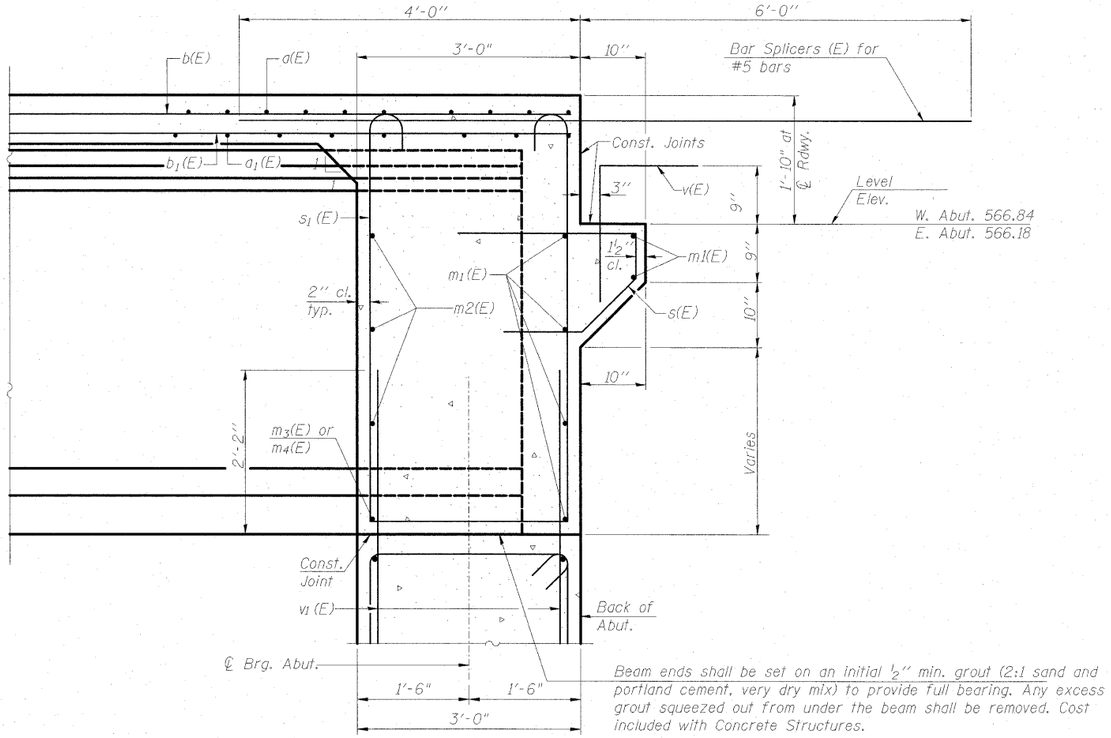
DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

DIAPHRAGM ELEVATIONS & DETAILS
STRUCTURE NO. 099-0347

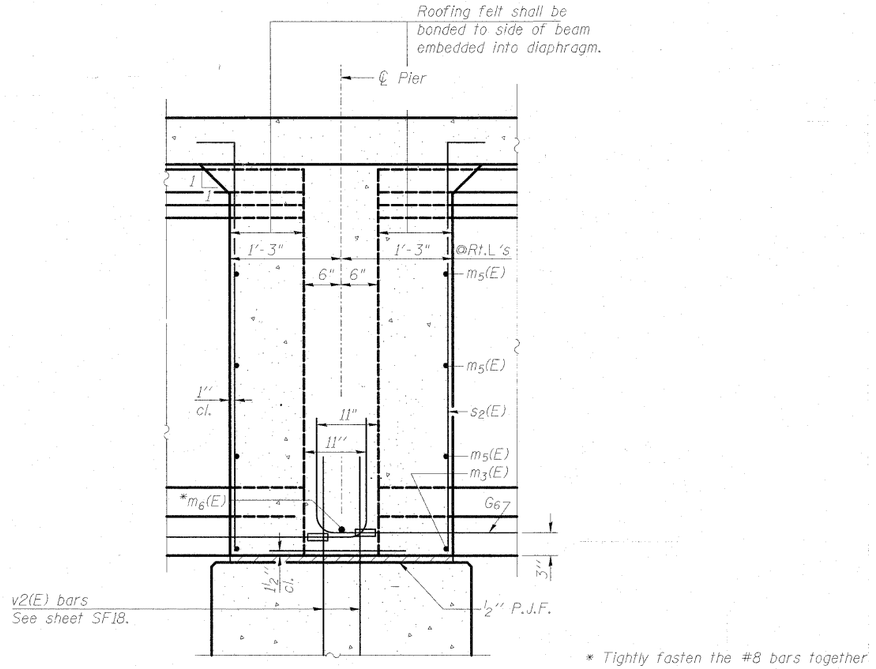
SHEET NO. SF11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	513
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



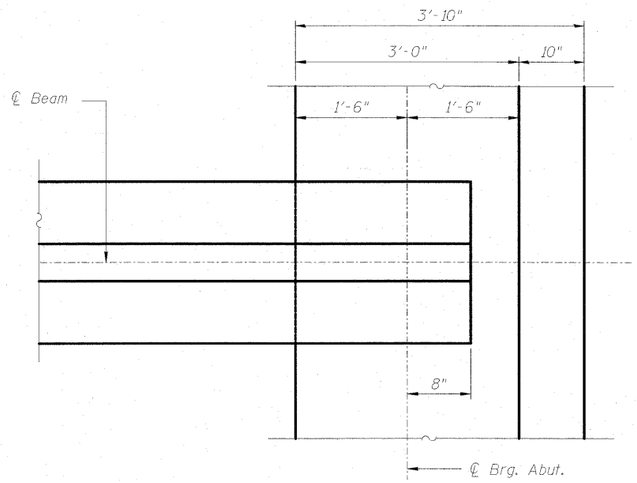
Beam ends shall be set on an initial ½" min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

SECTION A-A

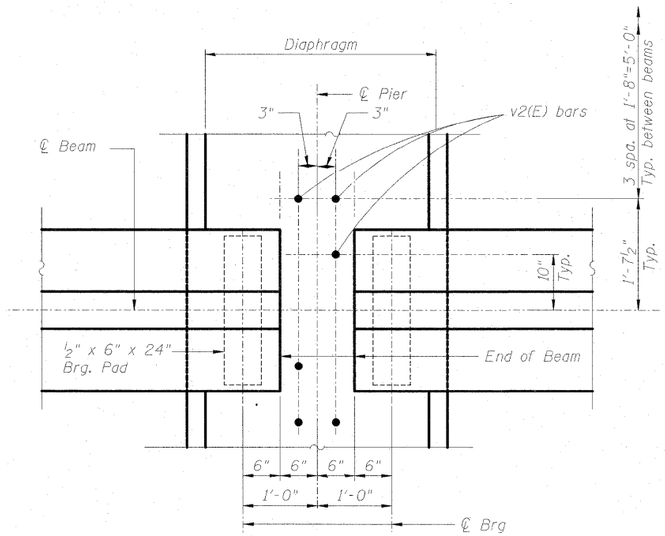


SECTION B-B

* Tightly fasten the #8 bars together with No. 9 wire ties.



PLAN VIEW
DETAIL A



PLAN VIEW
DETAIL B

Note:
See sheet SF11 for location of Sections A-A and B-B.
See sheet SF13 for location of Details A and B.

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	KBK

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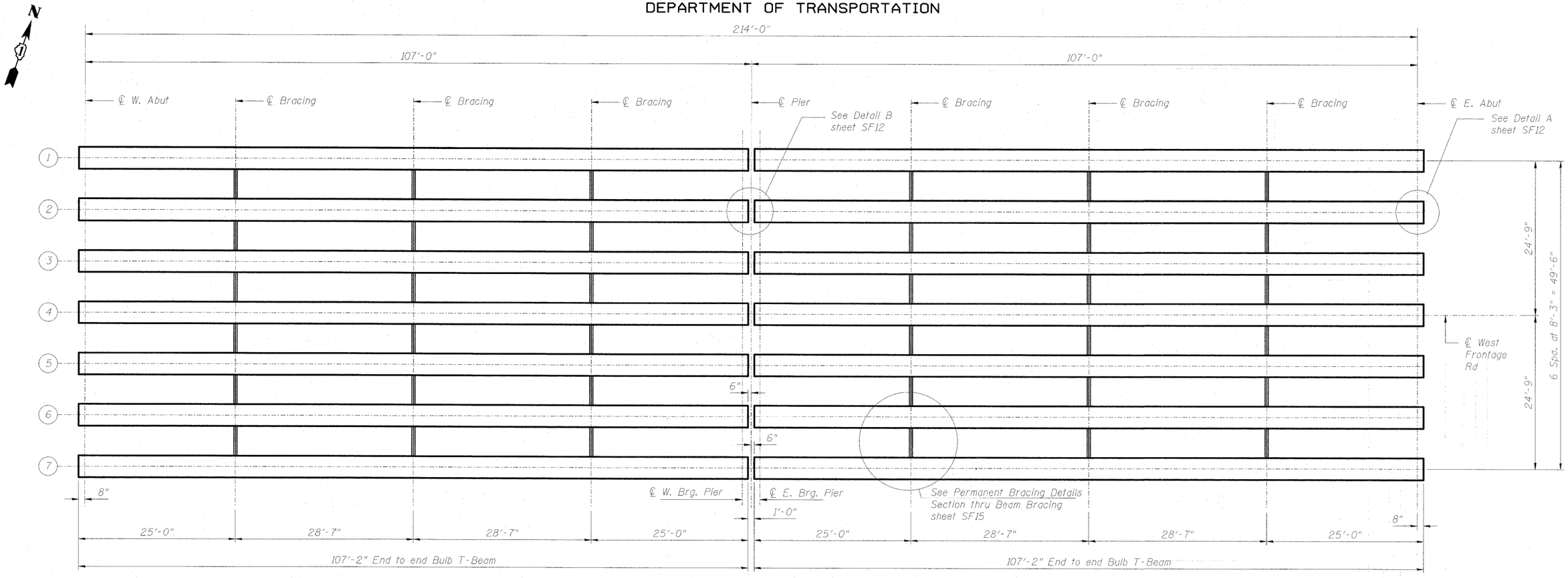
DIAPHRAGM SECTIONS & DETAILS
STRUCTURE NO. 099-0347

SHEET NO. SF12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	514
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING PLAN

INTERIOR BEAM MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp 2	Pier 1
I	(in^4)	392638	392638
I'	(in^4)	794649	
S_b	(in^3)	12224	12224
S_b'	(in^3)	16651	16651
S_t	(in^3)	12715	12715
S_t'	(in^3)	52011	52011
DC1	(k/')	1.611	1.611
M_{DC1}	('k)	2214	-
DC2	(k/')	0.148	0.148
M_{DC2}	('k)	119.8	210.2
DW	('k)	0.385	0.385
M_{dw}	('k)	311.4	546.8
$M_{℄}$ +Im	('k)	1755.8	1784.8

INTERIOR BEAM REACTION TABLE			
		w. Abut. or E. Abut.	Pier 1
	R_{DC1} (k)	86.2	172.4
*	R_{DC2} (k)	6.0	19.8
*	R_{DW} (k)	15.5	51.5
*	$R_{℄ + IM}$ (k)	77.3	162.6
	R_{Total} (k)	185.0	406.3

* The total R_{DC2}, R_{DW} and $R_{℄ + IM}$ are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
$M_{℄ + IM}$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

FRAMING PLAN
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

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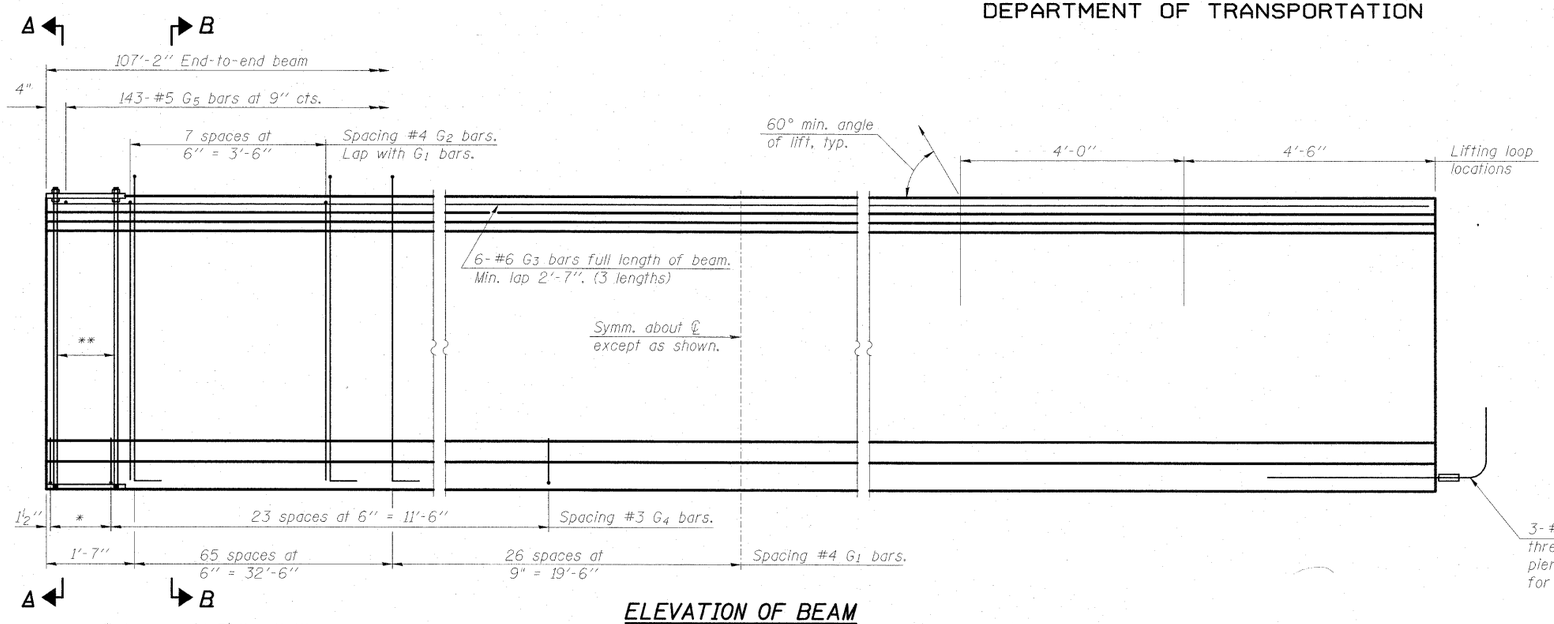
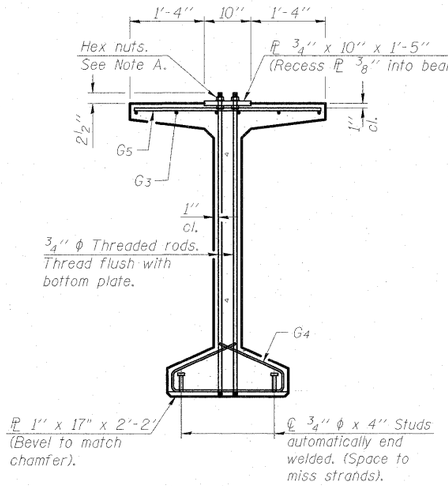
SHEET NO. SF13	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	515
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

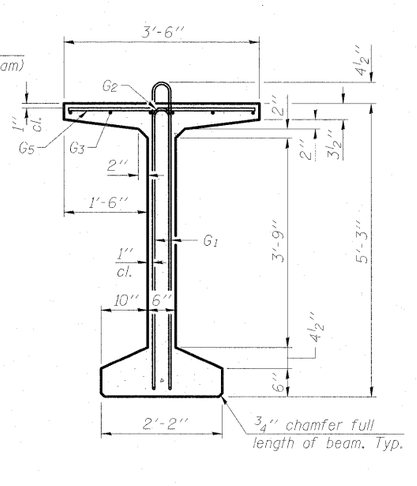


ELEVATION OF BEAM
(Showing reinforcement & dimensions)

* 4 spaces at 3¼" = 1'-1".
** 5- ¾" ϕ threaded dowel rods at 3¼" cts., each face.



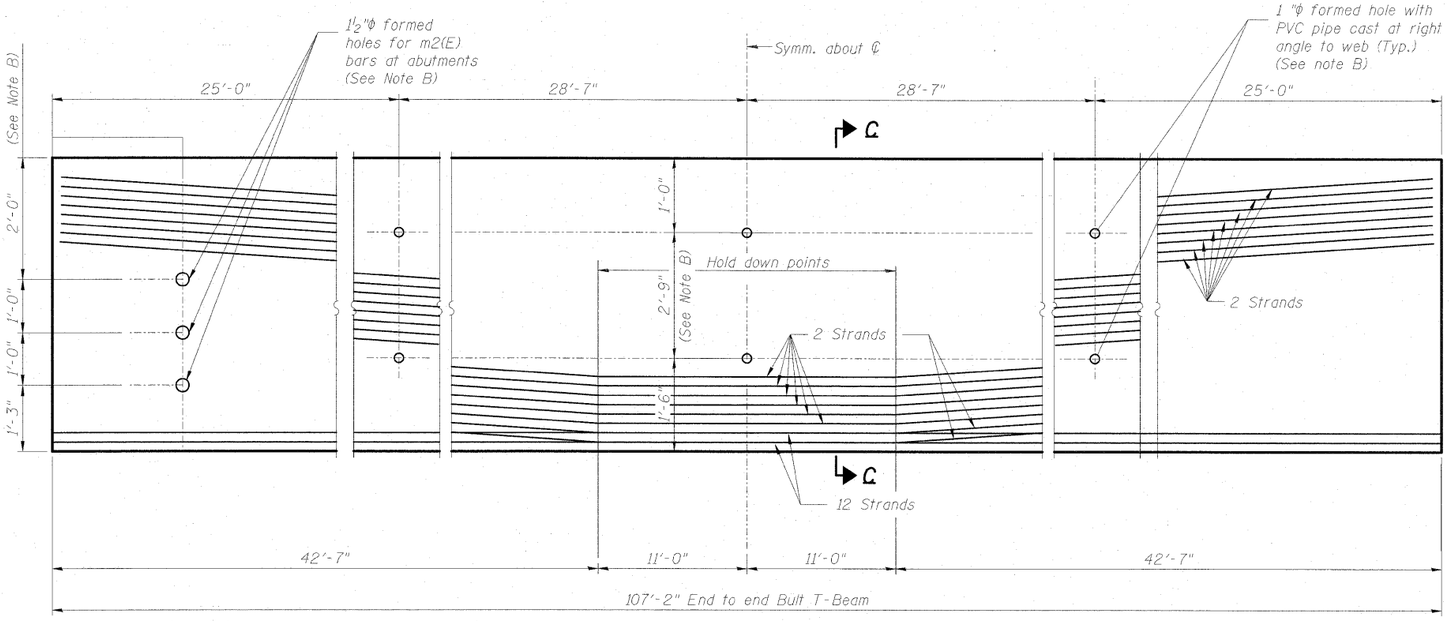
SECTION A-A



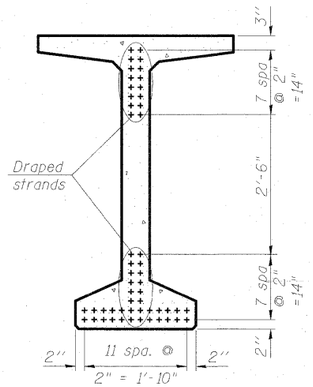
SECTION B-B

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

Note B:
Fabricator of the T-beam shall locate holes to miss strands within permissible tolerances.



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C

*** BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	132	#4	11'-11"	⊓⊔
G_2	16	#4	10'-2"	⊓
G_3	18	#6	37'-4"	—
G_4	56	#3	4'-11"	⌓
G_5	143	#5	3'-4"	—
G_6	3	#8	6'-7"	⌒

*** For information only

Notes:
See sheet SF15 for additional details and Bill of Material.
Required release strength, f'ci, shall be 6,000 psi.

63" PPC BULB T-BEAM
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

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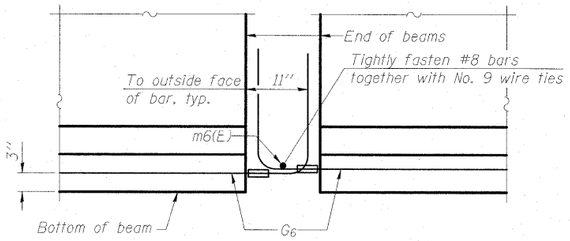
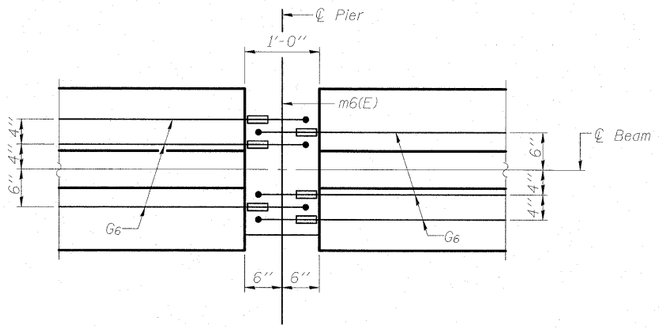
SHEET NO. SF14	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	516
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

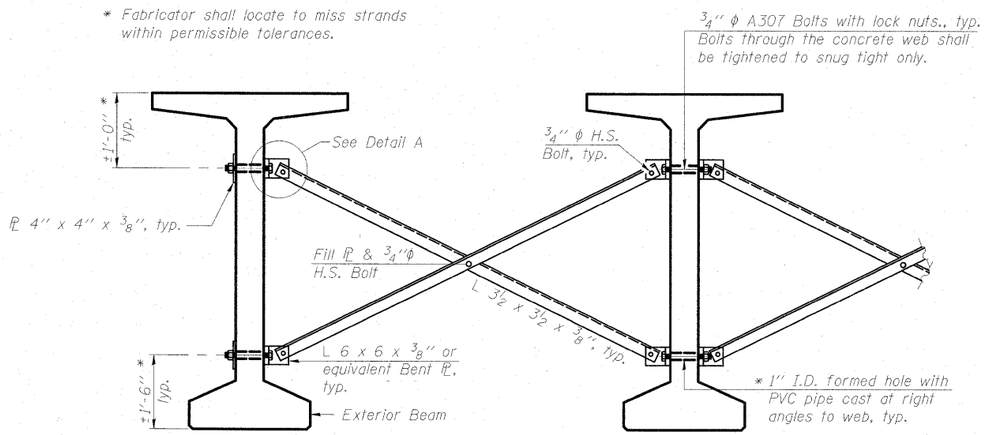
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



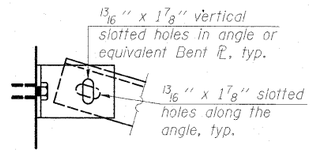
ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



Notes:
All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
Two hardened washers are required for each set of oversized holes.
All holes shall be 15/16"ϕ unless otherwise noted.
5/16" x 3" x 3" plate washers are required over all slotted holes.
All bolts shall be galvanized according to AASHTO M232.
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.



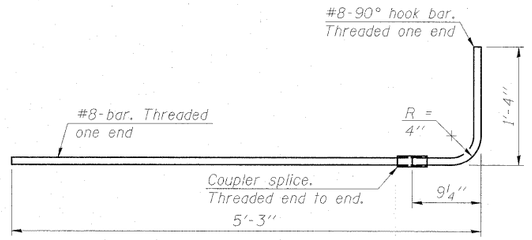
DETAIL A

Note:
Permanent bracing shall not be paid for separately but shall be included in the Cost of Furnishing and Erecting the Precast Prestressed Concrete Bulb-T Beams, 63".

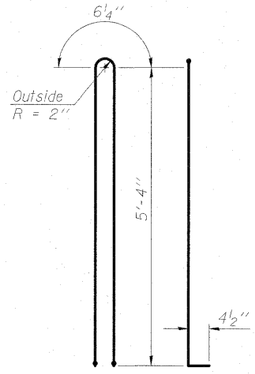
PERMANENT BRACING DETAILS
SECTION THRU BEAM BRACING

NOTES

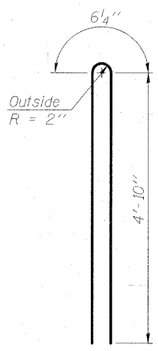
Inserts for 3/4" ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.
Tilt G_6 bars when necessary to maintain 1 1/2" clearance.
The top and bottom plates shall be AASHTO M270 Grade 50.
The bottom plates and studs shall be galvanized according to AASHTO M111.
Threaded rods shall be ASTM F 1554 Grade 55.
The G_6 bar assembly shall be capable of developing 125 percent of the yield strength of the grade 60 reinforcement bar components. The assembly shall allow completion of the splice without turning of the hook bar. The hook bar shall be threaded such that the entire coupler can be threaded onto the hook bar.
Beams requiring G_6 bar assemblies shall not be released from the fabricator until they have attained 45 days of age or older.



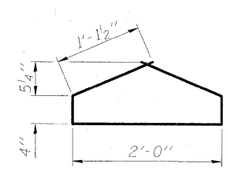
G6 BAR ASSEMBLY



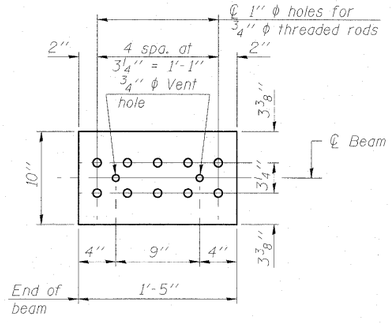
BAR G1



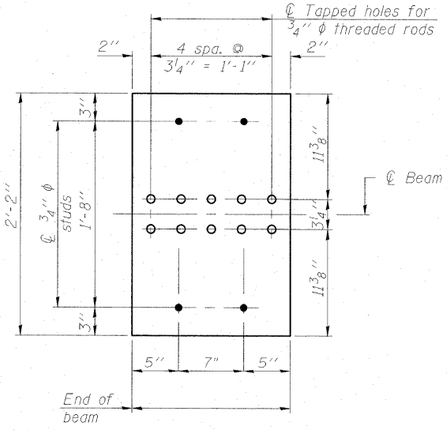
BAR G2



BAR G4

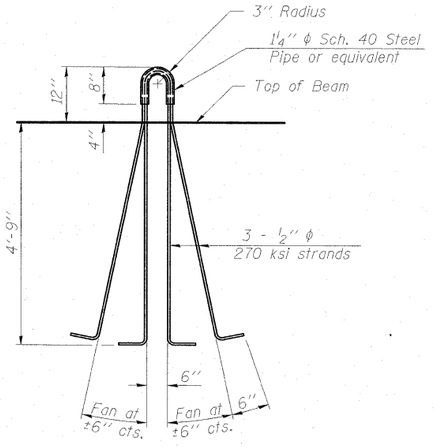


TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams 63"	Ft.	1,501

63" PPC BULB T-BEAM DETAILS
STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
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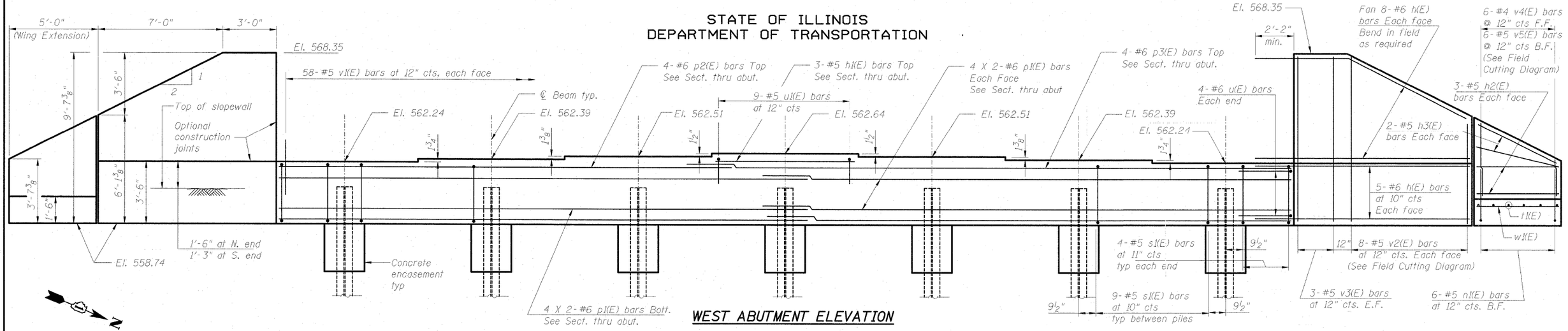
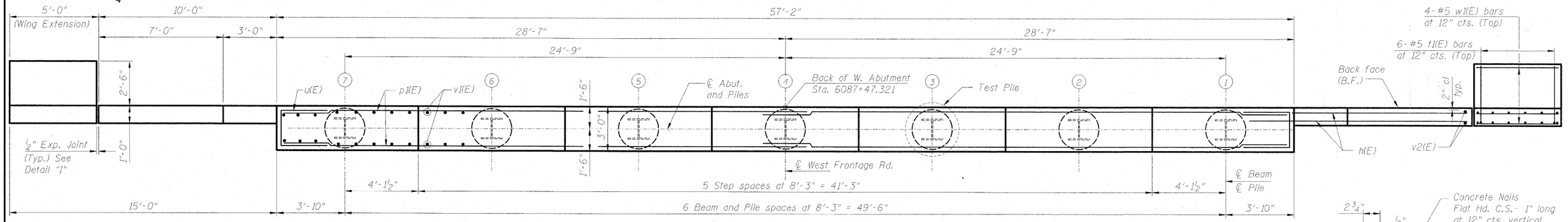
SHEET NO. SF15	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	517
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



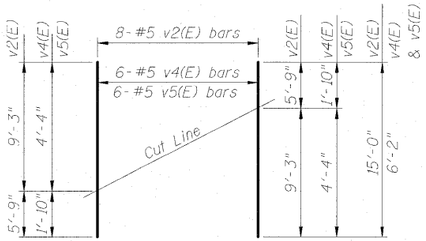
WEST ABUTMENT ELEVATION



PLAN

PILE DATA (WEST ABUTMENT)

Type:	HP 14 x 89 w/ Pile Shoes
Nominal Required Bearing:	705 kips
Allowable Resistance Available:	231 kips
Est. Length:	26 ft.
No. Production Piles:	7 (Includes test pile)
No. Test Piles:	1

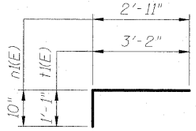


FIELD CUTTING DIAGRAM

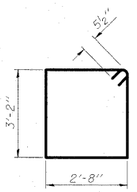
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

Order v4 (E) or v5 (E) full length. Cut as shown and use remainder of bars in other end.

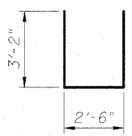
DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB



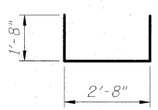
BARS n1(E) & t1(E)



BAR s1(E)



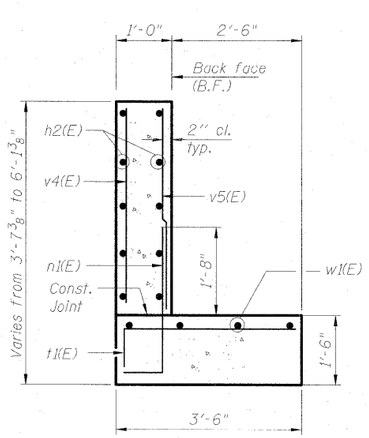
BAR u(E)



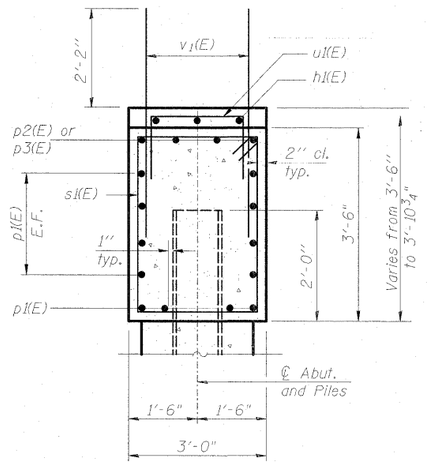
BAR u1(E)

BILL OF MATERIAL

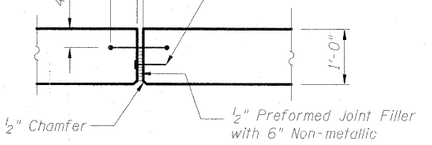
Bar	No.	Size	Length	Shape
h(E)	52	#6	12'-10"	
h1(E)	3	#5	8'-0"	
h2(E)	12	#5	4'-8"	
h3(E)	8	#5	5'-3"	
n1(E)	6	#5	3'-9"	
p1(E)	24	#6	29'-6"	
p2(E)	4	#6	26'-0"	
p3(E)	4	#6	34'-0"	
s1(E)	62	#5	12'-7"	
t1(E)	6	#5	4'-3"	
u(E)	8	#6	8'-10"	
u1(E)	9	#5	6'-0"	
v1(E)	116	#5	4'-4"	
v2(E)	16	#5	15'-0"	
v3(E)	12	#5	9'-3"	
v4(E)	6	#4	6'-2"	
v5(E)	6	#5	6'-2"	
w1(E)	8	#5	4'-8"	
Reinforcement Bars, Epoxy Coated		Pound	4,570	
Concrete Structures		Cu. Yd.	31.1	
Concrete Encasement		Cu. Yd.	3.8	
Furnishing Steel Piles HP14X89		Foot	156	
Driving Piles		Foot	156	
Pile Shoes		Each	7	
Test Pile Steel HP14X89		Each	1	



SECTION THRU WING EXTENSION



SECTION THRU ABUTMENT



DETAIL "1"

(Expansion Joint Details)

MINIMUM BAR LAP

(Abutment)

Top bars	Other bars
#6 bar = 2'-10"	#6 bar = 2'-0"

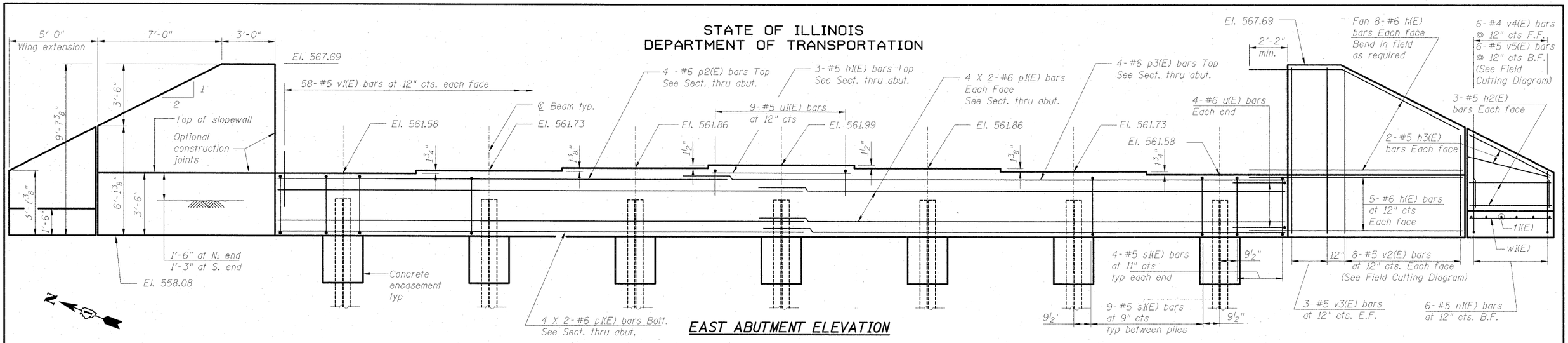
Notes:
- Pour steps monolithically with cap.
- For details of Bar Splicers, see Sht. SF22.
- For details of piles and Concrete Encasement, see Sht. SF21.
- Bars indicated thus 2 x 2- #6 etc. indicates 2 lines of bars with 2 lengths per line.

WEST ABUTMENT
STRUCTURE NO. 099-0347

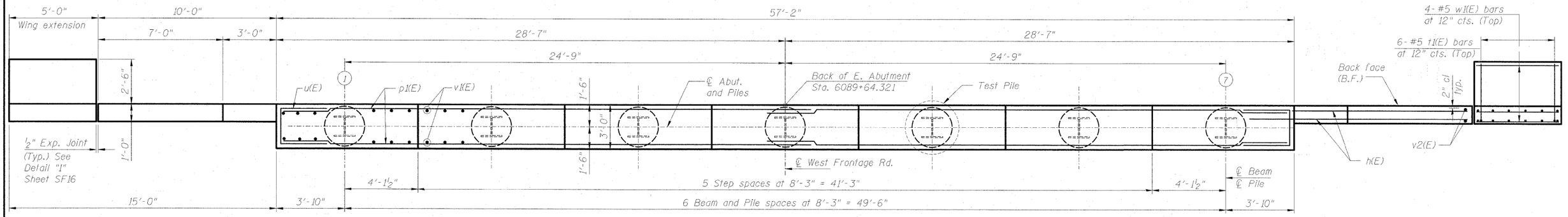
McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	518
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

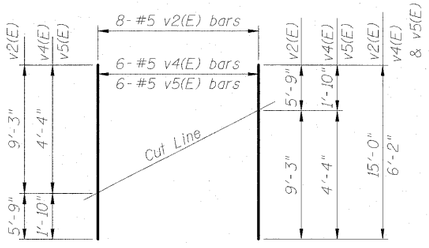


EAST ABUTMENT ELEVATION



PILE DATA (EAST ABUTMENT)

Type:	HP 14 x 89 w/ Pile Shoes
Nominal Required Bearing:	705 kips
Allowable Resistance Available:	244 kips
Est. Length:	24 ft.
No. Production Piles:	7 (Includes test pile)
No. Test Piles:	1

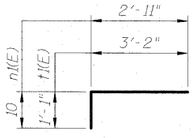


FIELD CUTTING DIAGRAM

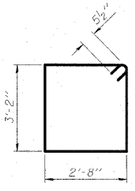
Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

Order v4 (E) or v5 (E) full length. Cut as shown and use remainder of bars in other end.

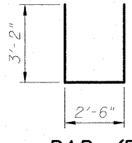
DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB



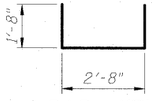
BARS n1(E) & t1(E)



BAR s2(E)



BAR u(E)

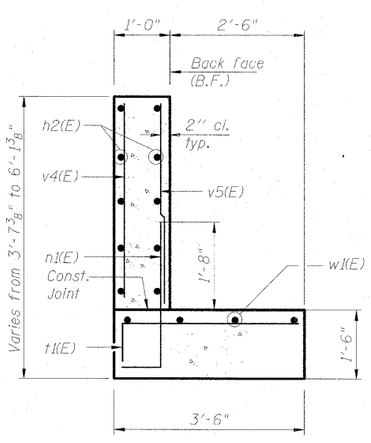


BAR u1(E)

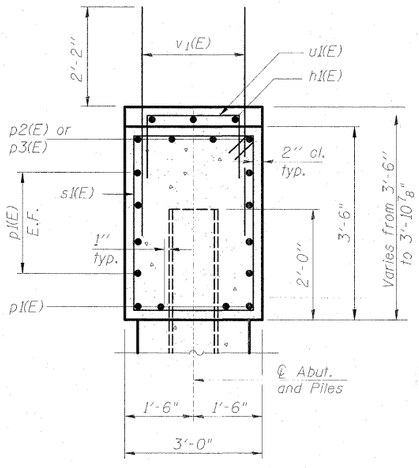
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	52	#6	12'-10"	
h1(E)	3	#5	8'-0"	
h2(E)	12	#5	4'-8"	
h3(E)	8	#5	5'-3"	
n1(E)	6	#5	3'-9"	
p1(E)	24	#6	29'-6"	
p2(E)	4	#6	26'-0"	
p3(E)	4	#6	34'-0"	
s1(E)	62	#5	12'-7"	
t1(E)	6	#5	4'-3"	
u(E)	8	#6	8'-10"	
u1(E)	9	#5	6' 0"	
v1(E)	116	#5	4'-4"	
v2(E)	16	#5	15'-0"	
v3(E)	12	#5	9'-3"	
v4(E)	6	#4	6' 2"	
v5(E)	6	#5	6'-2"	
w1(E)	8	#5	4'-8"	
Reinforcement Bars, Epoxy Coated		Pound	4,570	
Concrete Structures		Cu. Yd.	31.1	
Concrete Encasement		Cu. Yd.	3.8	
Furnishing Steel Piles HP14X89		Foot	144	
Driving Piles		Foot	144	
Pile Shoes		Each	7	
Test Pile Steel HP14X89		Each	1	

PLAN



SECTION THRU WING EXTENSION



SECTION THRU ABUTMENT

MINIMUM BAR LAP

(Abutment)

Top bars	Other bars
#6 bar = 2'-10"	#6 bar = 2'-0"

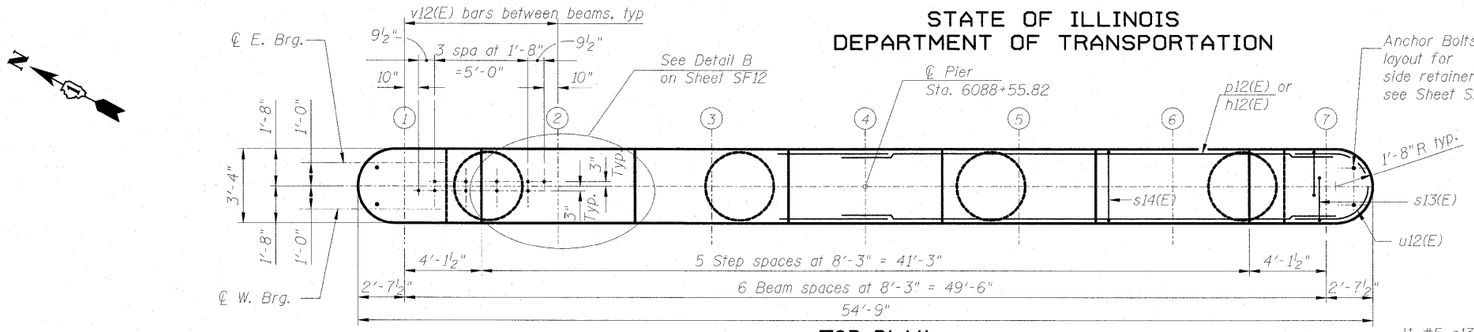
Notes:
- Pour steps monolithically with cap.
- For details of Bar Splicers, see Sht. SF22.
- For details of piles and Concrete Encasement, see Sht. SF21.
- Bars indicated thus 2 x 2-#6 etc. indicates 2 lines of bars with 2 lengths per line.

EAST ABUTMENT
STRUCTURE NO. 099-0347

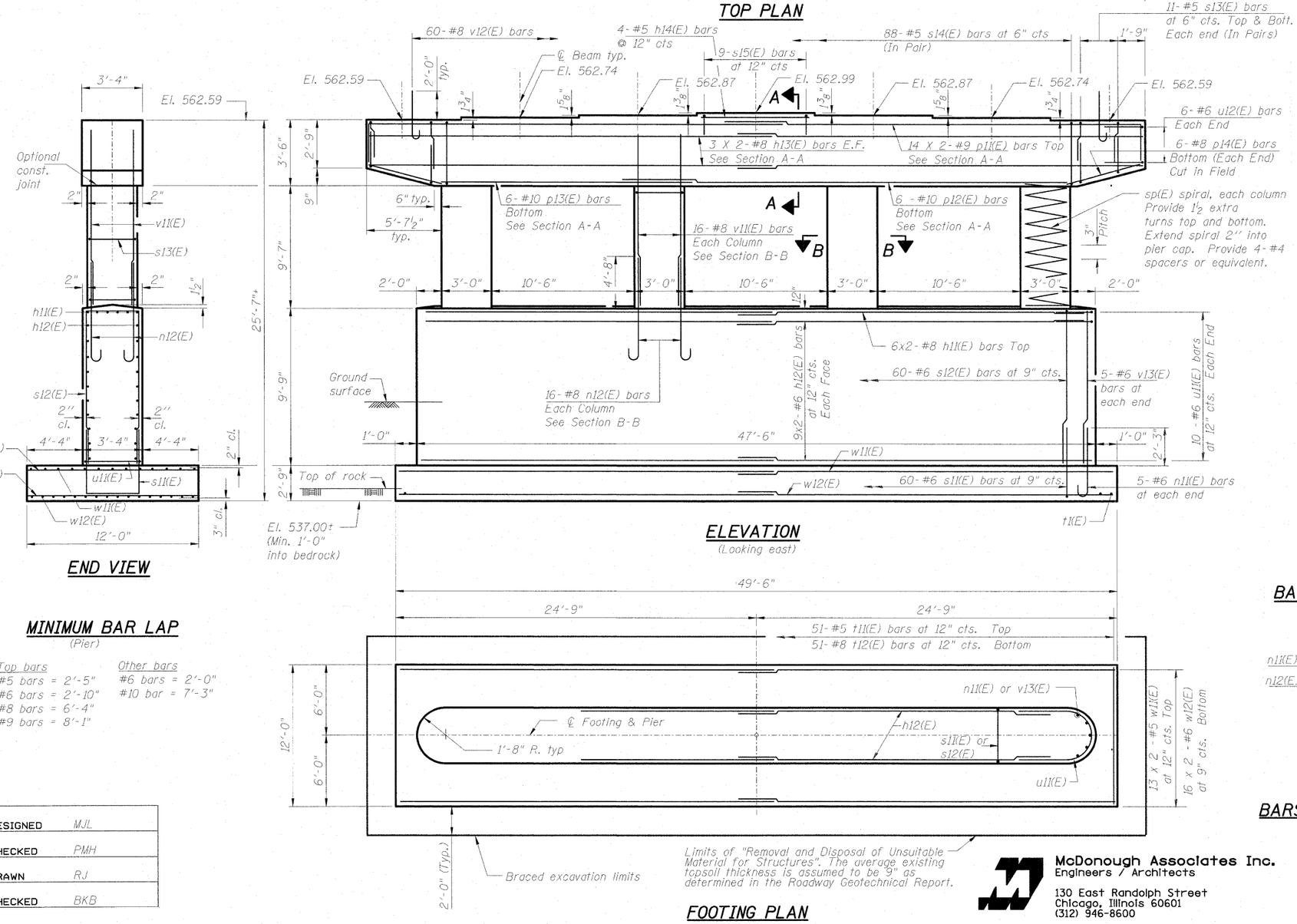
McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF17	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	519
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

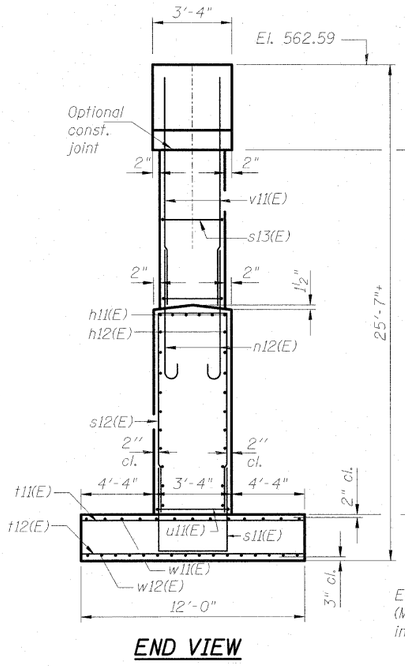
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP PLAN



ELEVATION
(Looking east)



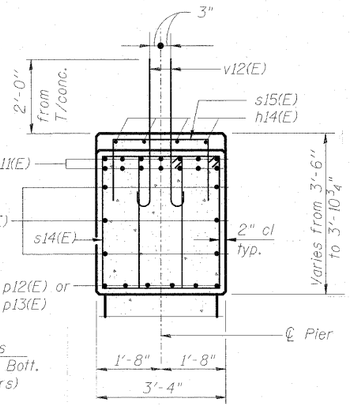
END VIEW

Limits of "Removal and Disposal of Unsuitable Material for Structures". The average existing topsoil thickness is assumed to be 9" as determined in the Roadway Geotechnical Report.

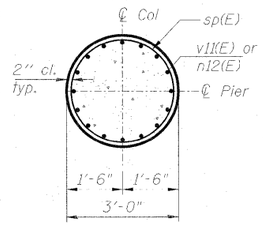
FOOTING PLAN

MINIMUM BAR LAP
(Pier)

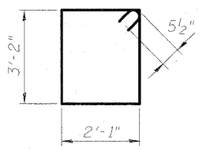
Top bars	Other bars
#5 bars = 2'-5"	#6 bars = 2'-0"
#6 bars = 2'-10"	#10 bar = 7'-3"
#8 bars = 6'-4"	
#9 bars = 8'-1"	



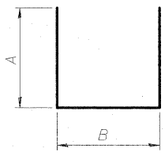
SECTION A-A



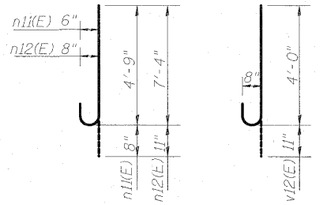
SECTION B-B



BARS s14(E)



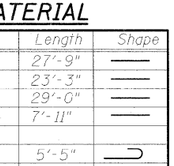
BARSs1 s11(E), s12(E), s13(E) & s15(E)



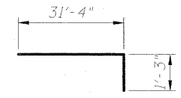
BARS n11(E), n12(E) BARS v12(E)

A & B DIMENSIONS

Bar	A	B
s11(E)	4'-9"	3'-0"
s12(E)	9'-5"	3'-0"
s13(E)	2'-5"	2'-1"
s15(E)	1'-8"	2'-8"
u11(E)	2'-10"	4'-9"
u12(E)	3'-7"	4'-9"



BAR u11(E) & u12(E)



BAR p11(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h11(E)	12	#8	27'-9"	—
h12(E)	36	#6	23'-3"	—
h13(E)	12	#8	29'-0"	—
h14(E)	4	#5	7'-11"	—
n11(E)	10	#6	5'-5"	U
n12(E)	64	#8	8'-3"	U
p11(E)	28	#9	32'-7"	⌐
p12(E)	6	#10	33'-6"	—
p13(E)	6	#10	20'-0"	—
p14(E)	12	#8	5'-2"	—
s11(E)	60	#6	12'-6"	⊔
s12(E)	60	#6	21'-10"	⊔
s13(E)	88	#5	6'-11"	⊔
s14(E)	176	#5	11'-5"	⊔
s15(E)	9	#5	6'-4"	⊔
** sp(E)	4	#4	9'-9"	∿∿
t11(E)	51	#5	11'-8"	—
t12(E)	51	#8	11'-8"	—
u11(E)	20	#6	10'-5"	U
u12(E)	12	#6	11'-11"	U
v11(E)	64	#8	12'-8"	—
v12(E)	60	#8	4'-11"	U
v13(E)	10	#6	9'-6"	—
w11(E)	26	#5	25'-10"	—
w12(E)	32	#6	25'-7"	—
Braced Excavation		Cu. Yd.	224	
Concrete Structures		Cu. Yd.	150.9	
Reinforcement Bars, Epoxy Coated		Pound	22,340	
Rock Excavation for Structures		Cu. Yd.	38	
Removal and Disposal of Unsuitable Material for Structures		Cu. Yd.	24	

** Length is height of spiral.

Notes:
Place reinforcement bars in cap to miss anchor bolts and v12(F) bars.
Pour steps monolithically with cap.
Bars indicated thus 2 x 2-#6 etc. indicates 2 lines of bars with 2 lengths per line.

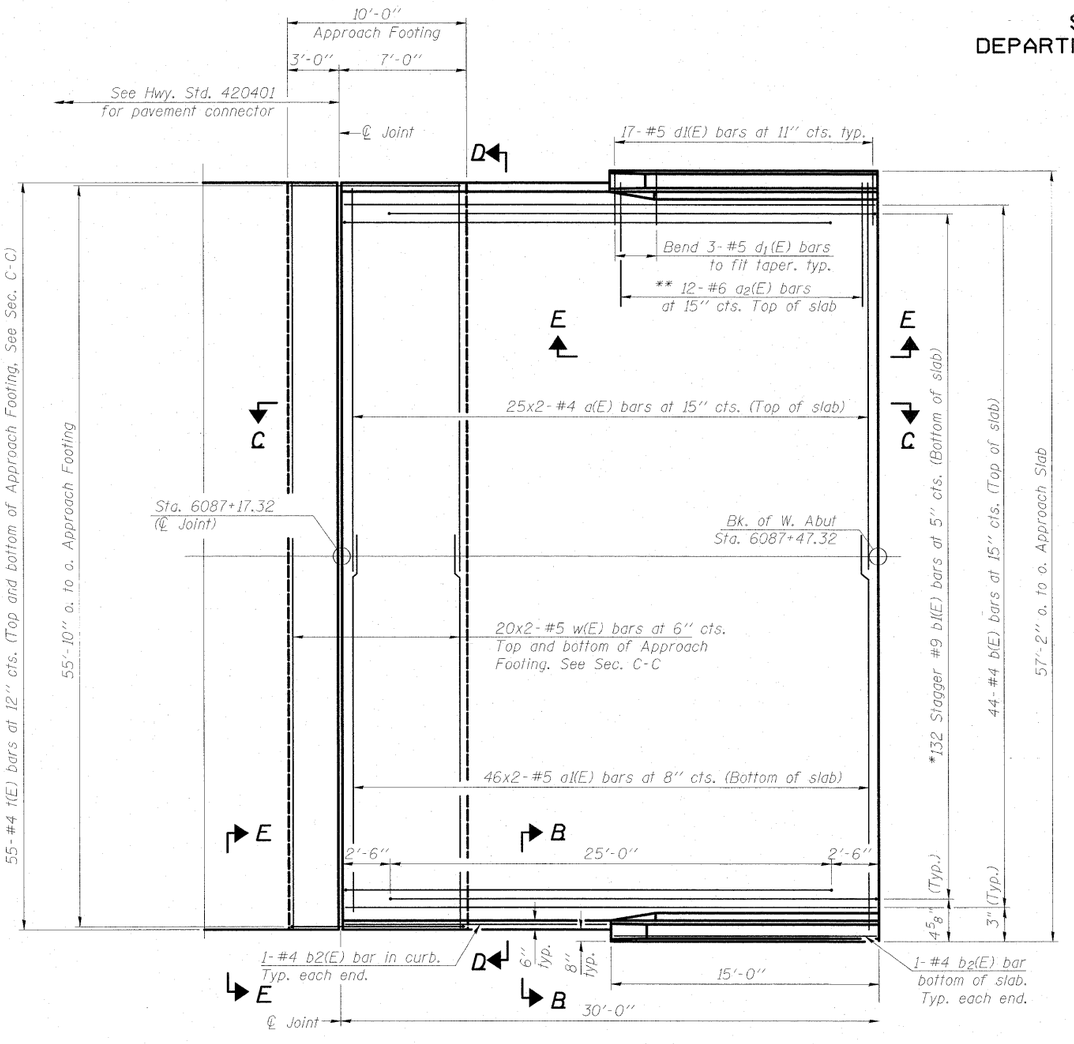
PIER STRUCTURE NO. 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

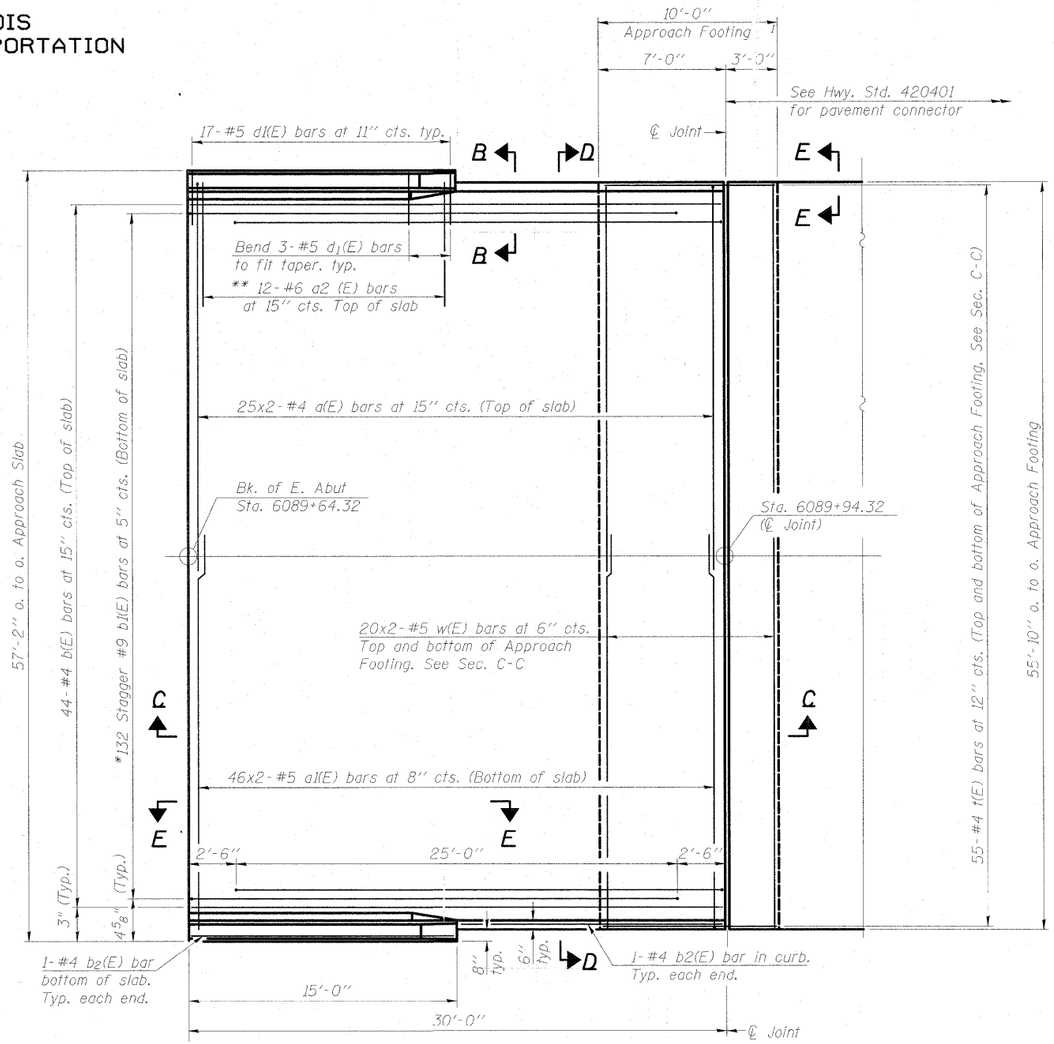
SHEET NO. SF18	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	520
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN - WEST APPROCH SLAB

* Tilt #9 b1(E) bars as required to maintain clearance.
** Alternate with a(E) bars. typ. ea. parapet.

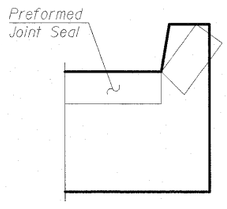


PLAN - EAST APPROCH SLAB

* Tilt #9 b1(E) bars as required to maintain clearance.
** Alternate with a(E) bars, typ. ea. parapet.

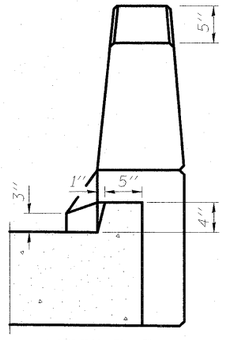
MINIMUM BAR LAP

(Slab)
#4 bar = 1'-8"
#5 bar = 2'-2"

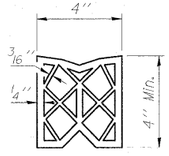


VIEW F-F

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



VIEW B-B



PREFORMED JOINT SEAL

Notes:
See sheet SF20 for Sections C-C & D-D and View E-E.
a(E), a (E), and w(E) bar spacings measured perpendicular to ℄ Rdwy.

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

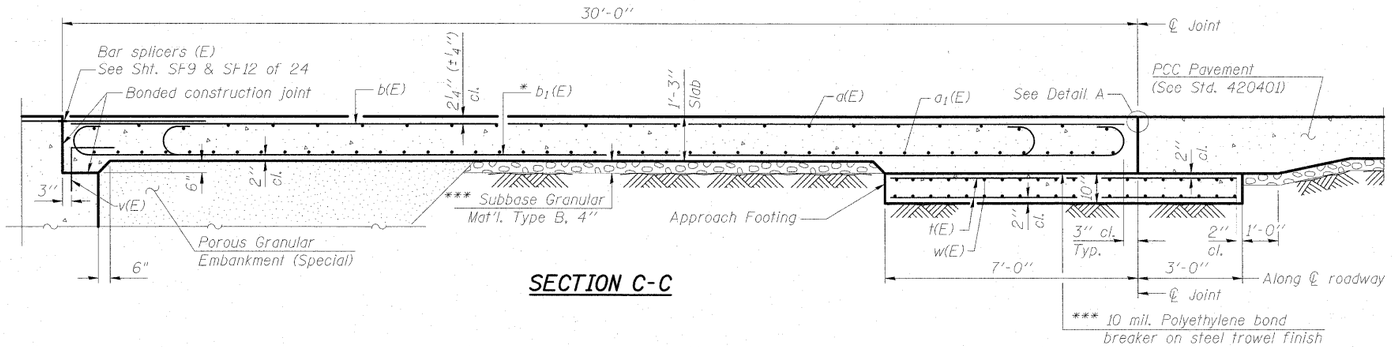
WEST & EAST APPROACH SLAB PLANS
STRUCTURE NO. 099-0347

SHEET NO. SF19	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	521
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

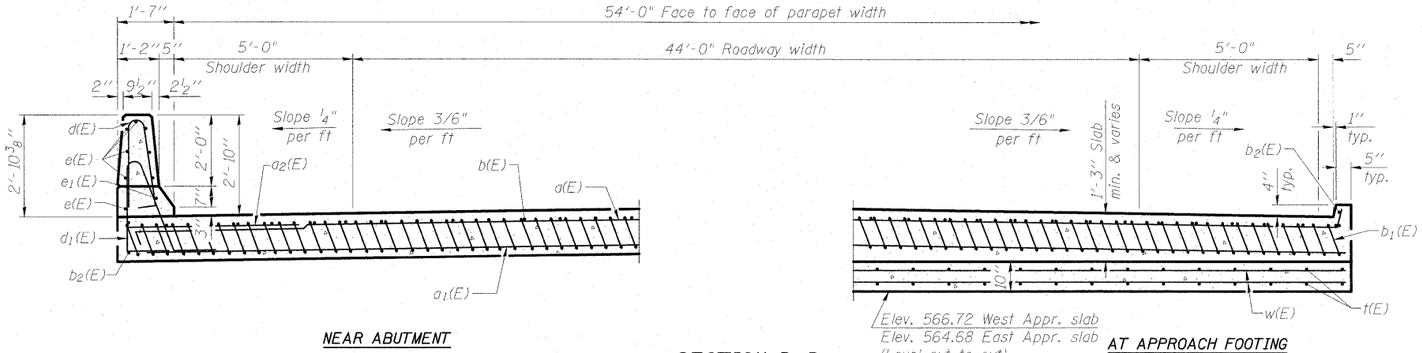
* Tilt #9 $b_1(E)$ bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION C-C

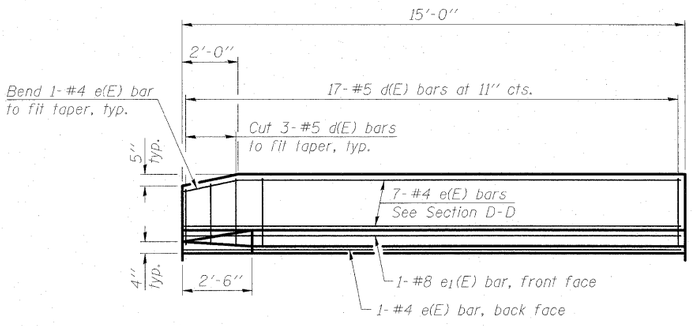


NEAR ABUTMENT

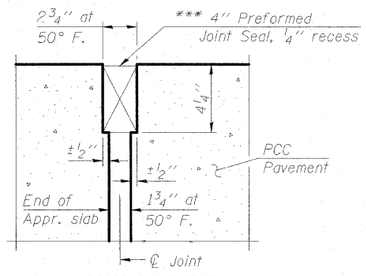
AT APPROACH FOOTING

SECTION D-D

(See Plan for dimensions not shown)



VIEW E-E

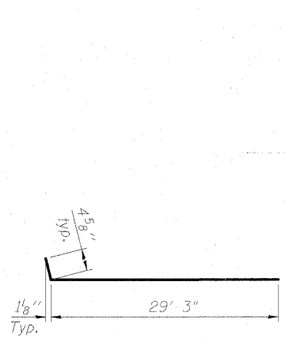


RIGID PAVEMENT

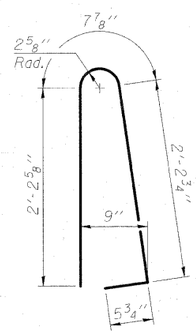
*** Cost included with Concrete Superstructure.

DETAIL A

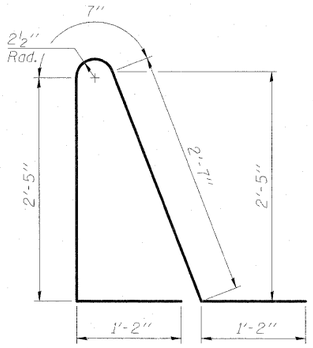
Notes:
See sheet SF19 for View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet SF10.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet SF22.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet SF2.



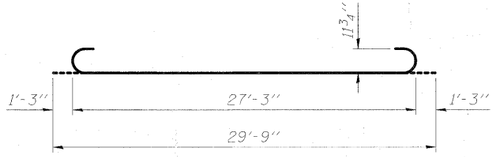
BAR d(E)



BAR d(E)



BAR $d_1(E)$



BAR $b_1(E)$

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	100	#4	29'-8"	
$a_1(E)$	184	#5	29'-6"	
$a_2(E)$	48	#6	6'-0"	
b(E)	88	#4	29'-8"	
$b_1(E)$	264	#9	29'-9"	
$b_2(E)$	8	#4	14'-8"	
d(E)	68	#5	5'-7"	
$d_1(E)$	68	#5	7'-11"	
e(E)	32	#4	14'-8"	
$e_1(E)$	4	#8	14'-8"	
f(E)	220	#4	9'-8"	
w(E)	160	#5	28'-10"	
Concrete Superstructure			Cu. Yd.	178.9
Concrete Structures			Cu. Yd.	34.4
Reinforcement Bars, Epoxy Coated			Pound	44,260

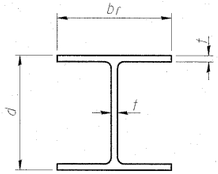
DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

APPROACH SLAB DETAILS
STRUCTURE NO. 099-0347

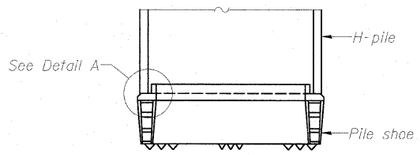
SHEET NO. SF20	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	522
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

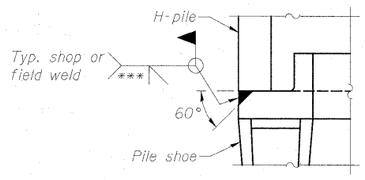


STEEL PILE TABLE

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

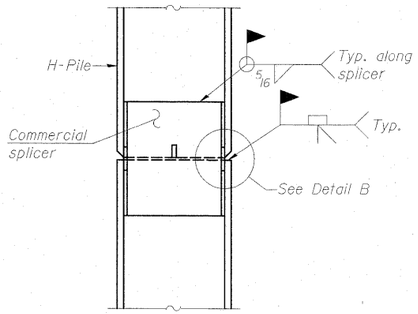


ELEVATION

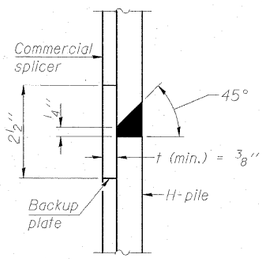


DETAIL A

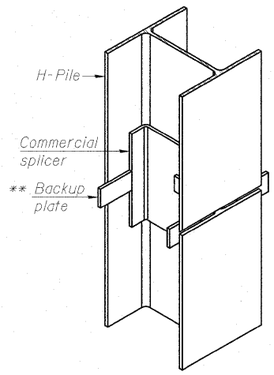
H-PILE SHOE ATTACHMENT



ELEVATION

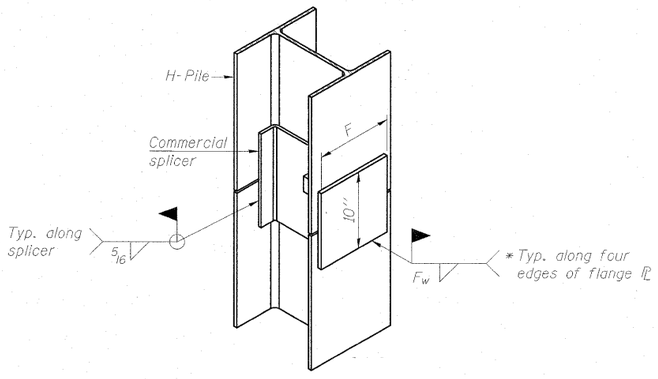


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



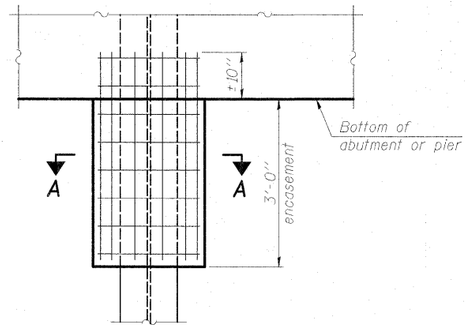
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

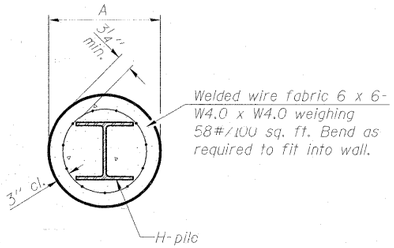
* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



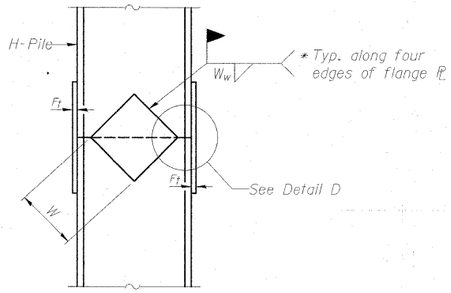
ELEVATION



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

SECTION A-A

PILE ENCASEMENT



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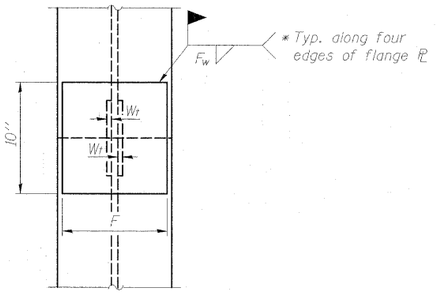
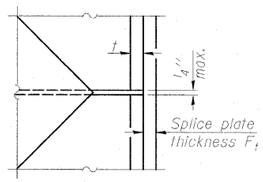


END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

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

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

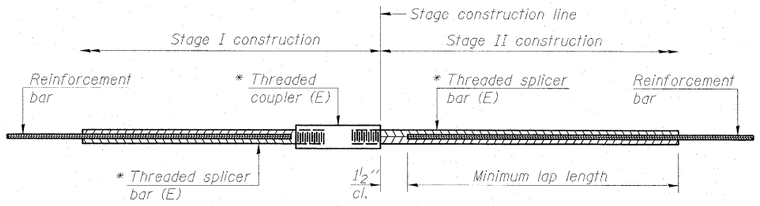
F-HP 11-1-09

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

STEEL H PILE DETAILS
STRUCTURE NO. 099-0347

SHEET NO. SF21	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	523
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

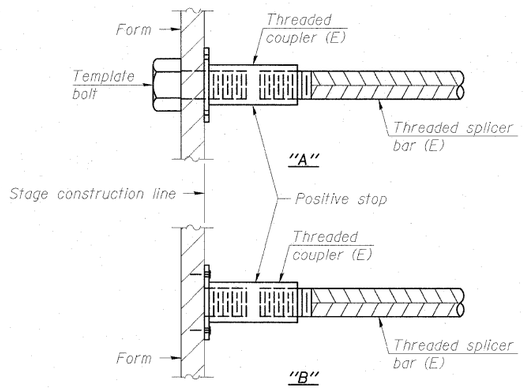
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$" + thread length

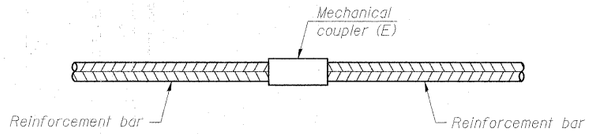
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



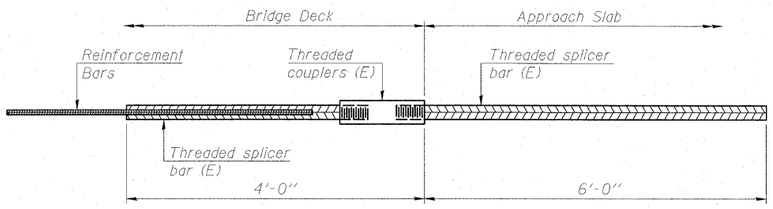
INSTALLATION AND SETTING METHODS

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



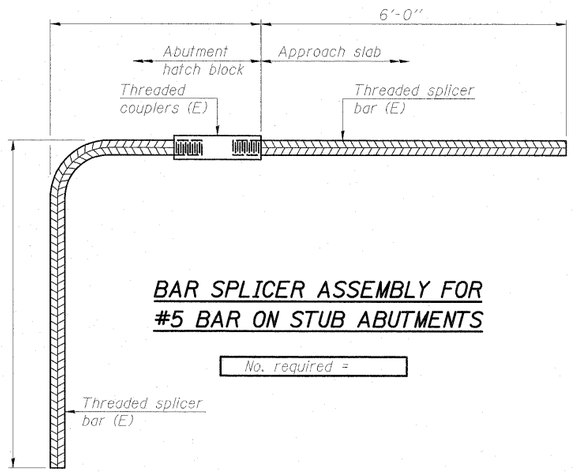
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. Required =108



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER DETAILS
STRUCTURE NO 099-0347

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

BSD-1 11-1-09

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO. SF22	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	524
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG ASB-01

WEI Job No.: 201-34-01

Client ..... McDonough Associates, Inc.
Project ..... I-55 at Arsenal Road
Location T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois

Datum: NGVD
Elevation: 539.36 ft
North: 1730537.04 ft
East: 1022287.34 ft
Station: 6087+53.15
Offset: 35.60 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		12-inch thick, SILTY CLAY LOAM --TOPSOIL--						
	539.4 / 538.2	Very dense, gray DOLOSTONE rock fragments --WEATHERED BEDROCK-- --AUGER REFUSAL @ 1' 2"--	1	O	1	50/2"	NP	
		Very poor, gray DOLOSTONE --BEDROCK-- --RUN #1 (1.17' to 6.17')-- --REC=98%-- --RQD=9%-- --Qu=709.2 tsf--	2					
			5					
	533.2	Good, gray DOLOSTONE --RUN #2 (6.17' to 11.17')-- --REC=97%-- --RQD=83%--			3			
			10					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	526.2	Boring terminated at 11.17 ft	15					
			20					

GENERAL NOTES

Begin Drilling 08-19-2008 Complete Drilling 08-19-2008
Drilling Contractor Wang Testing Service Drill Rig Mobile B-57 TMR
Driller K & J Logger E. Datz Checked by S. Sugiarto
Drilling Method 3.25" IDA HSA; Boring backfilled with bentonite upon completion

WATER LEVEL DATA

While Drilling ▽ DRY
At Completion of Drilling ▼ DRY
Time After Drilling NA
Depth to Water ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 201349.GPJ WANGENG.GDT 12/8/09

BORING LOG ASB-02

WEI Job No.: 201-34-01

Client ..... McDonough Associates, Inc.
Project ..... I-55 at Arsenal Road
Location T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois

Datum: NGVD
Elevation: 545.05 ft
North: 1730478.66 ft
East: 1022375.63 ft
Station: 6088+36.00
Offset: 30.37 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	543.9	14-inch thick, ASPHALT --PAVEMENT--						
		Stiff to very stiff, black CLAY LOAM --FILL--	1			6 6 6	1.50 P	9
	533.1	Fair, gray DOLOSTONE --RUN #2 (12' to 17')-- --REC=97%-- --RQD=71%--	2			4 2 4	2.00 P	20
			5					
	538.6 / 538.1	Dense, gray DOLOSTONE rock fragments* --WEATHERED BEDROCK-- --AUGER REFUSAL @ 7'--	3		2	50/3"	1.00 P	12
		Poor, gray and white DOLOSTONE --BEDROCK-- --RUN #1 (7' to 12')-- --REC=99%-- --RQD=47%-- --Qu=1031.76 tsf--	4					
			10					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	528.1	Boring terminated at 17.00 ft	15		5			
			20					

GENERAL NOTES

Begin Drilling 08-20-2008 Complete Drilling 08-20-2008
Drilling Contractor Wang Testing Service Drill Rig Mobile B-57 TMR
Driller K & J Logger E. Datz Checked by S. Sugiarto
Drilling Method 3.25" IDA HSA; Boring backfilled with bentonite upon completion

WATER LEVEL DATA

While Drilling ▽ DRY
At Completion of Drilling ▼ DRY
Time After Drilling NA
Depth to Water ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 201349.GPJ WANGENG.GDT 12/8/09

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SOIL BORING LOGS
STRUCTURE NO. 099-0347

SHEET NO. SF23 / SF24 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	92-2HB-2B-1	WILL	756	525
		SN 099-0347	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG ASB-03

WEI Job No.: 201-34-01
Client: McDonough Associates, Inc.
Project: I-55 at Arsenal Road
Location: T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois

Datum: NGVD
Elevation: 544.76 ft
North: 1730547.61 ft
East: 1022390.98 ft
Station: 6088+57.32
Offset: 36.97 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		13-inch thick ASPHALT --PAVEMENT--						
	543.7	Very stiff, brown CLAY to CLAY LOAM --FILL--	1			3 4 6	2.50 P	23
	540.8	Dense, DOLOSTONE rock fragments* --WEATHERED BEDROCK-- --AUGER REFUSAL @ 5' 6"--	2			4 13 26	2.00 P	14
	539.3	Very poor to poor, gray and white DOLOSTONE --BEDROCK-- --RUN #1 (5' 6" to 10' 6")-- --REC=100%-- --RQD=17%--	3					
	534.2	Very good, brown and gray, DOLOSTONE --RUN #2 (10' 6" to 15' 6")-- --REC=100%-- --RQD=98%-- --Qu=845.28 tsf--	4					
	526.3	Boring terminated at 15.50 ft						

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	08-20-2008	Complete Drilling	08-20-2008	While Drilling	DRY
Drilling Contractor	Wang Testing Service	Drill Rig	Mobile B-57 TMR	At Completion of Drilling	DRY
Driller	K & J	Logger	E. Datz	Time After Drilling	NA
Checked by	S. Sugiarto			Depth to Water	NA
Drilling Method	3.25" IDA HSA; Boring backfilled with bentonite upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

WANGENGINC 2013451.GPJ WANGENG.GDT 1/29/09

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG ASB-04

WEI Job No.: 201-34-01
Client: McDonough Associates, Inc.
Project: I-55 at Arsenal Road
Location: T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois

Datum: NGVD
Elevation: 540.99 ft
North: 1730491.03 ft
East: 1022472.78 ft
Station: 6089+33.86
Offset: 26.54 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		7-inch thick, black SILTY LOAM --TOPSOIL--						
	540.4	DOLOSTONE rock fragments --WEATHERED BEDROCK-- --AUGER REFUSAL @1' 6"--	1			50/4"	NP	13
	538.5	Very poor, gray and white DOLOSTONE --BEDROCK-- --RUN #1 (1' 6" to 6' 6")-- --REC=100%-- --RQD=7%--	2					
	534.5	Fair, gray and brown DOLOSTONE --RUN #2 (6' 6" to 11' 6")-- --REC=100%-- --RQD=72%-- --Qu=507.6 tsf--	3					
	528.9	Boring terminated at 11.50 ft						

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	08-19-2008	Complete Drilling	08-19-2008	While Drilling	DRY
Drilling Contractor	Wang Testing Service	Drill Rig	Mobile B-57 TMR	At Completion of Drilling	DRY
Driller	K & J	Logger	E. Datz	Time After Drilling	NA
Checked by	S. Sugiarto			Depth to Water	NA
Drilling Method	3.25" IDA HSA; Boring backfilled with bentonite upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

WANGENGINC 2013451.GPJ WANGENG.GDT 1/29/09

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

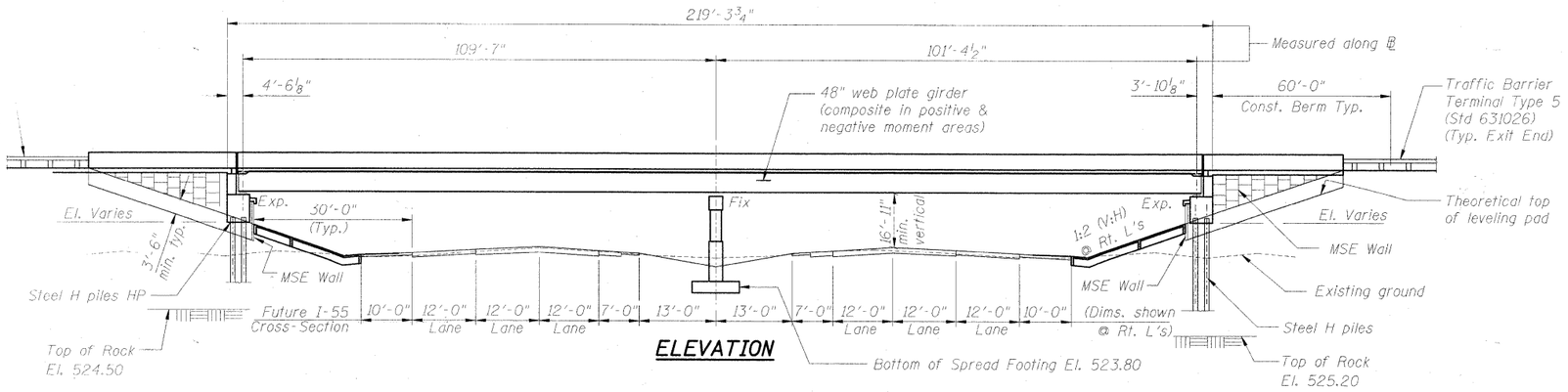
McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SOIL BORING LOGS
STRUCTURE NO. 099-0347

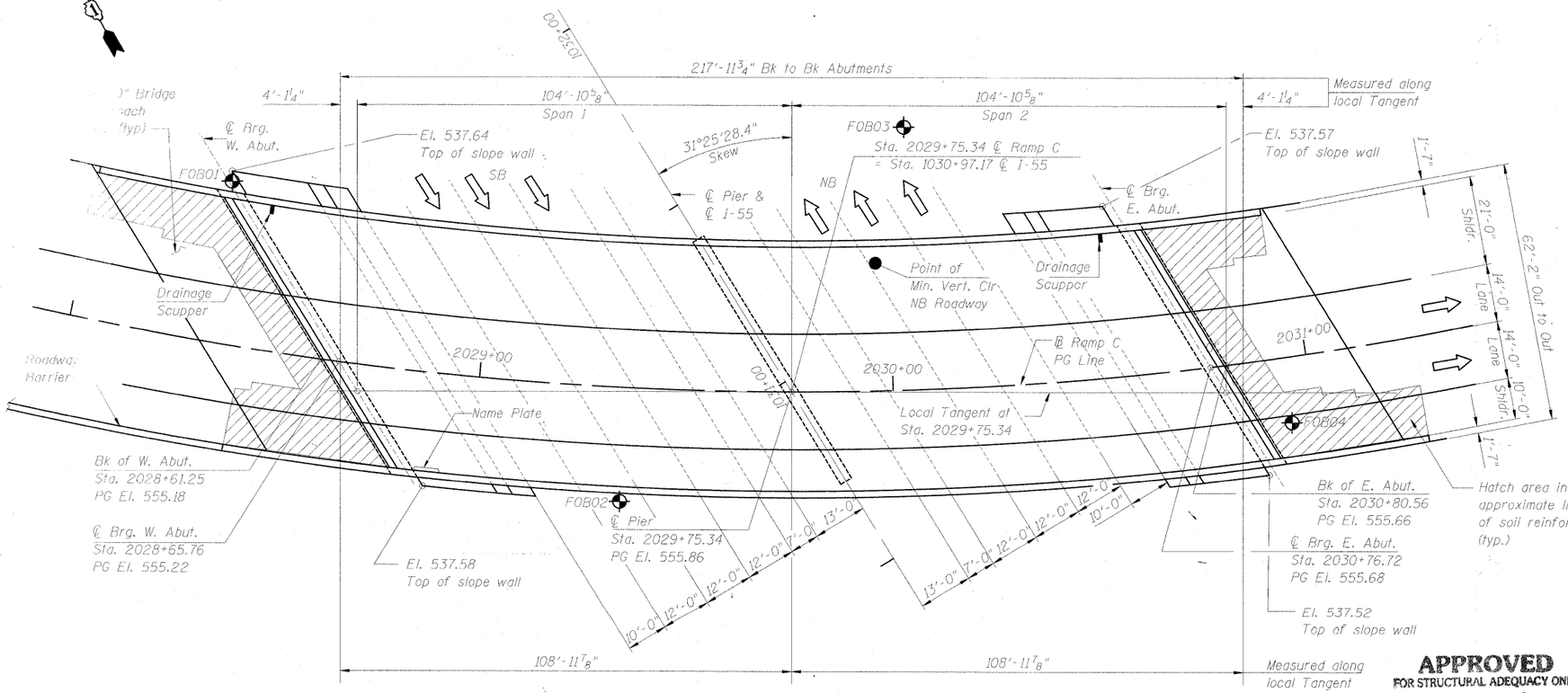
SHEET NO. SF24	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SF24 SHEETS	55	92-2HB-2B-1	WILL	756	526
	SN 099-0347		CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bench Mark (BM#) - Box cut at top of SE Wingwall of Grant Creek bridge on East Frontage road of I-55 El. 520.80.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 2007 (4th Edition) with 2008 interim Revisions.
AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges.

LOADING HL-93

Allow 50 lbs/sq. ft. for Future Wearing Surface

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (M270 Gr50)

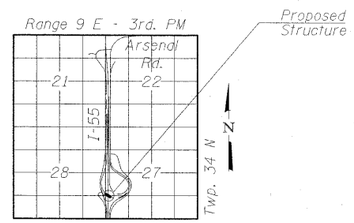
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1})=0.07g
Design Spectral Acceleration at 0.2 sec. (S_{DS})=0.127g
Soil Site class = C

CURVE DATA

Ramp C

PI STA. = 2037+82.40
Δ = 132° 56' 23.34" (LT)
D = 6° 51' 42"
R = 835.00'
T = 1917.6137'
L = 1937.3983'
E = 1256.5227'
S.E. RUN = 0.06 Ft./Ft.
P.C. STA. = 2018+64.79
P.T. STA. = 2038+02.19



LOCATION SKETCH

DESIGNED	BKB
CHECKED	AMV
DRAWN	RJ
CHECKED	BKB

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

LICENSED STRUCTURAL ENGINEER
GERALD E. KOYLASS
081-005264
STATE OF ILLINOIS

Gep : 11/30/2012

GENERAL PLAN AND ELEVATION
RAMP C OVER I-55
SEC. (99-1&2) R-6
WILL COUNTY
STATION 2029+75.34
STRUCTURE NO. 099-0348

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-1	55	(99-1&2) R-6	WILL	756	527
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ in. dia., holes $\frac{15}{16}$ in. dia., unless otherwise noted.

2. Calculated weight of Structural Steel:
   AASHTO M270 Gr50 = 599,850 lbs

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

4. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

5. Reinforcement bars designated "E" shall be epoxy coated.

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

7. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ in. "0.01 ft.". Adjustment shall be made either by grinding the surface or by shimming the bearings.

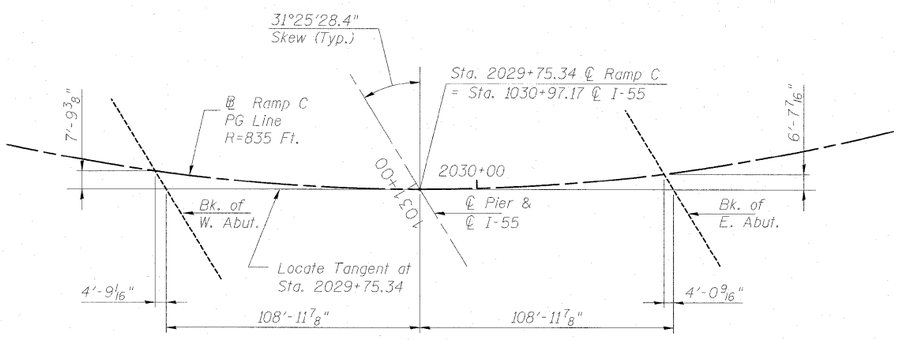
8. Concrete sealer shall be applied to the designated areas of the West and East Abutments.

9. 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 of the exterior surfaces and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up and finish coated 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 the bottom of the bottom flange of fascia beams shall be Blue, Munsell No. 10B 3/6. See Special Provision for "Cleaning and Painting New Metal Structures."

10. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

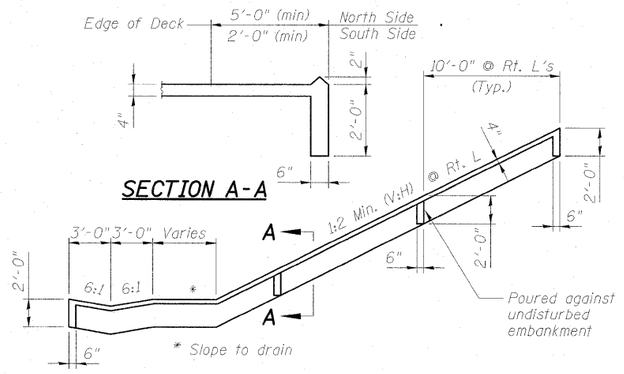
11. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

12. Slip forming of the concrete parapets IS not allowed.



OFFSET SKETCH

INDEX OF SHEETS



SECTION A-A

TYPICAL SECTION THRU SLOPEWALL

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Preformed Joint Strip Seal	Foot	155	-	155
Concrete Structures	Cu. Yd.	-	377.2	377.2
Concrete Superstructure	Cu. Yd.	677.5	-	677.5
Bridge Deck Grooving	Sq. Yd.	1,480	-	1,480
Protective Coat	Sq. Yd.	1,750	-	1,750
Stud Shear Connectors	Each	2,046	-	2,046
Reinforcement Bars, Epoxy Coated	Pound	183,170	56,620	239,790
Name Plates	Each	1	-	1
Concrete Sealer	Sq. Ft.	-	507	507
Drainage Scuppers, DS-11	Each	2	-	2
Furnishing and Erecting Structural Steel	L. Sum	1	-	1
Furnishing Steel Piles HP12X53	Foot	-	1,010	1,010
Driving Piles	Foot	-	1,010	1,010
Test Pile Steel HP12X53	Each	-	2	2
Pile Shoes	Each	-	46	46
Bar Splicers	Each	-	124	124
Slope Wall 4 Inch	Sq. Yd.	-	748	748
Braced Excavation	Cu. Yd.	-	123	123
Rock Excavation for Structures	Cu. Yd.	-	65	65
High Load Multi-Rotational Bearings, Guided Expansion, 200K	Each	14	-	14
High Load Multi-Rotational Bearings, Fixed - 450K	Each	7	-	7
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	-	3,764	3,764
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	-	294	294
Anchor Bolts, 1"	Each	56	-	56
Anchor Bolts, 1 1/4"	Each	28	-	28

STATION 2029+75.34
BUILT 20__ BY
STATE OF ILLINOIS
RAMP C
SEC. (99-1 & 22) R-6
LOADING HL-93
STRUCTURE NO. 099-0348

NAME PLATE
See Std. 515001-01

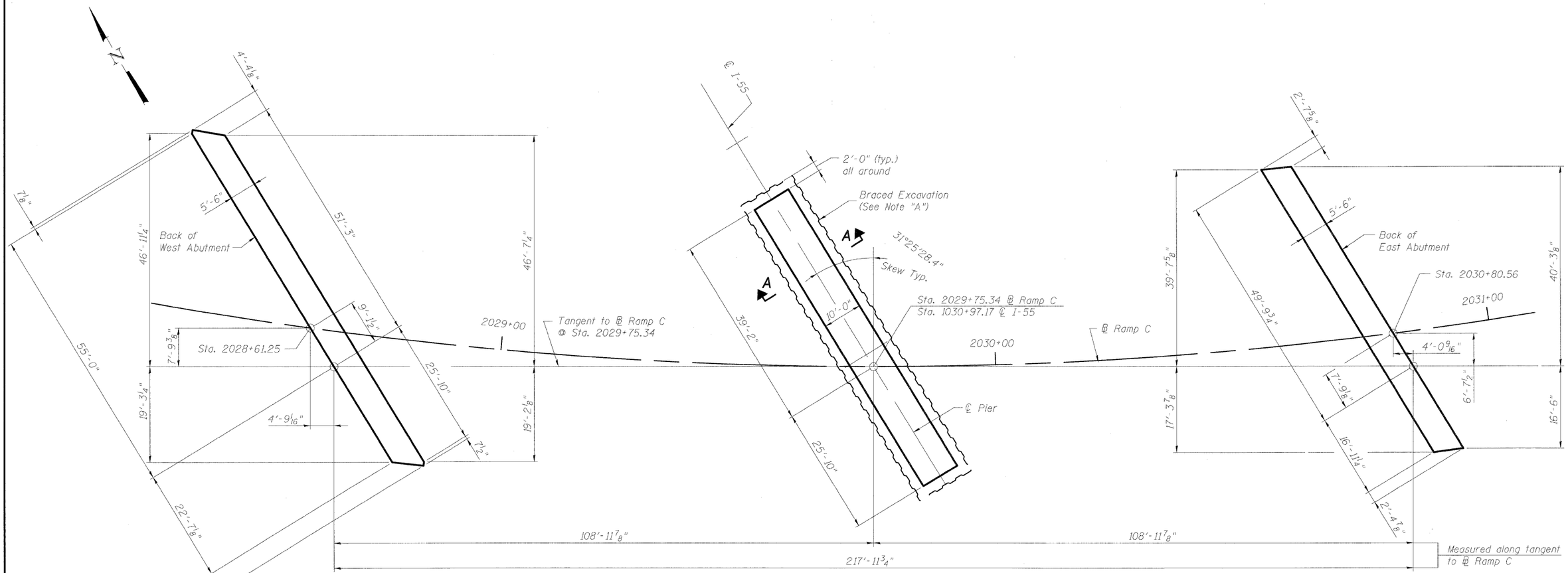
DESIGNED	BKB
CHECKED	PMH
DRAWN	AMV/RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

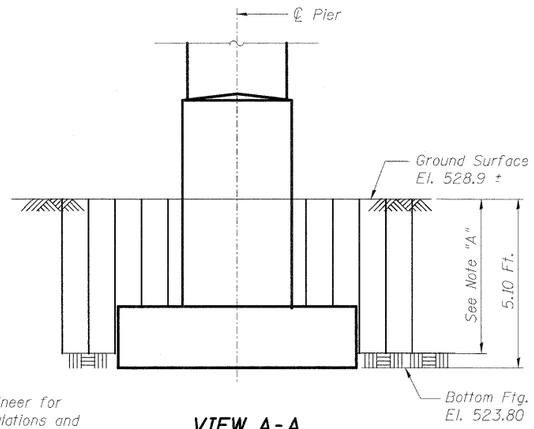
GENERAL NOTES
AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-2	55	(99-1&2) R-6	WILL	756	528
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FOOTING LAYOUT



VIEW A-A

Note:
Work this Sheet with Sheets SC-24, SC-27 & SC-30.

DESIGNED	BKB
CHECKED	AMV
DRAWN	AMV
CHECKED	BKB

Note "A"
Contractor is required to submit to the Engineer for approval the Braced Excavation design calculations and shop drawings prepared and sealed by an Illinois licensed Structural Engineer.

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
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SUBSTRUCTURE LAYOUT
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-3	55	(99-1&2) R-6	WILL	756	529
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH EDGE OF SHOULDER

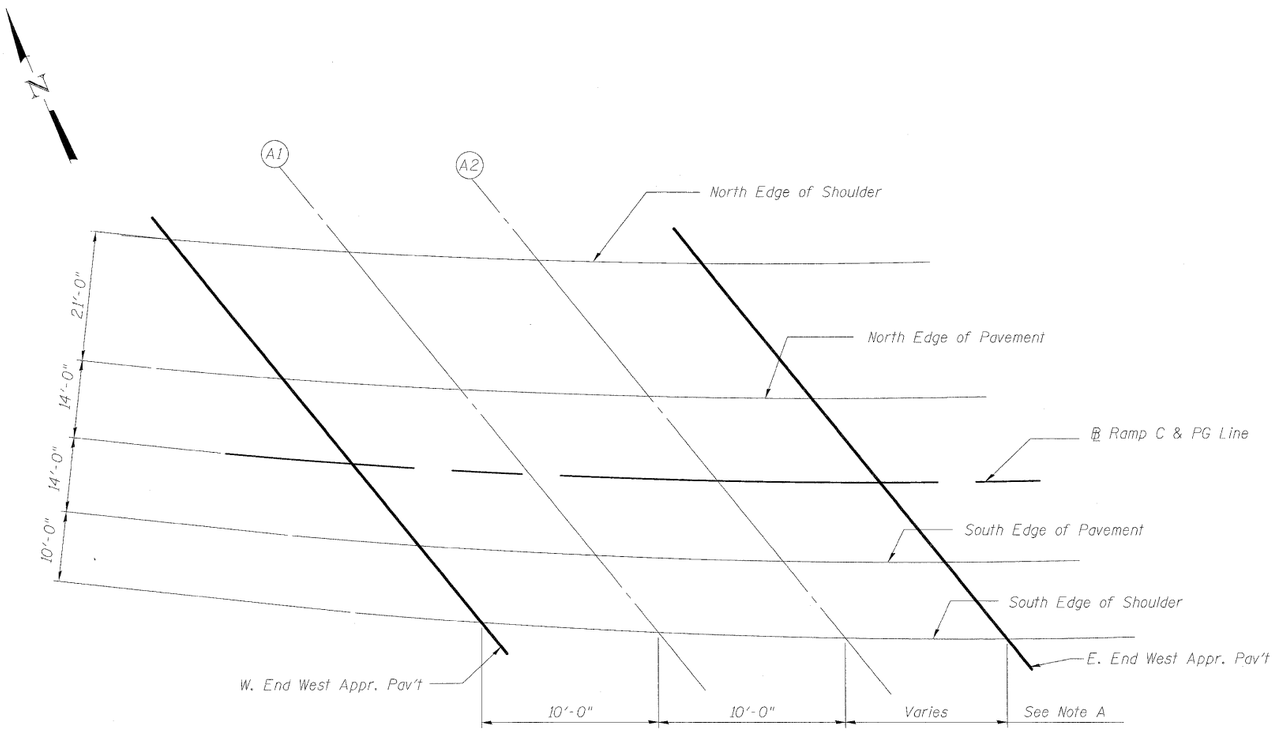
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	202798.69	-35.00	552.30
A1	202809.13	-35.00	552.45
A2	202819.56	-35.00	552.59
E. End West Appr. Pav't	202831.20	-35.00	552.74

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	202819.09	-14.00	553.85
A1	202829.26	-14.00	553.98
A2	202839.43	-14.00	554.10
E. End West Appr. Pav't	202850.04	-14.00	554.22

℄ RAMP C AND PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	202831.89	0	554.85
A1	202841.89	0	554.97
A2	202851.89	0	555.08
E. End West Appr. Pav't	202861.89	0	555.18



SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	202844.10	14.00	555.83
A1	202853.93	14.00	555.94
A2	202863.76	14.00	556.04
E. End West Appr. Pav't	202873.21	14.00	556.13

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't	202852.48	24.00	556.52
A1	202862.20	24.00	556.63
A2	202871.92	24.00	556.72
E. End West Appr. Pav't	202881.00	24.00	556.80

Note A:
The spacing is along the edges of the shoulders, edges of pavement and ℄ Ramp C.

PLAN
(West Approach Slab)

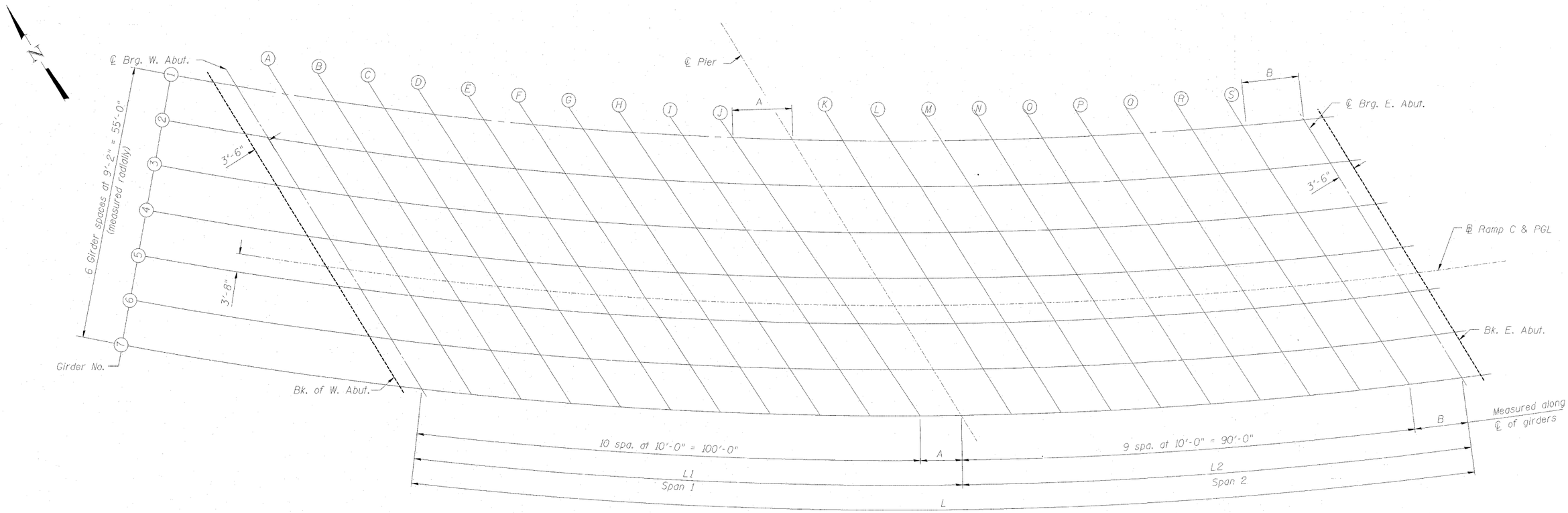
TOP OF WEST APPROACH SLAB ELEVATIONS STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	PMH
DRAWN	MJL
CHECKED	PMH

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-4	55	(99-1&2) R-6	WILL	756	530
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

SCREED DIMENSION LAYOUT

Girder	A	B	L1	L2	L1/4	L2/4
1	11'-11 3/4"	12'-7 1/4"	111'-11 3/4"	102'-7 1/4"	27'-11 15/16"	25'-7 13/16"
2	11'-3 1/8"	12'-3"	111'-3 1/8"	102'-3"	27'-9 3/4"+	25'-6 3/4"
3	10'-7 1/8"	11'-10 3/4"	110'-7 1/8"	101'-10 3/4"	27'-7 3/4"+	25'-5 11/16"
4	9'-11 1/2"	11'-6 3/4"	109'-11 1/2"	101'-6 3/4"	27'-5 7/8"	25'-4 11/16"
5	9'-4 1/8"	11'-3"	109'-4 1/8"	101'-3"	27'-4"+	25'-3 3/4"
6	8'-9 1/4"	10'-11 3/8"	108'-9 1/4"	100'-11 3/8"	27'-2 5/16"+	25'-2 5/8"-
7	8'-2 5/8"	10'-7 7/8"	108'-2 5/8"	100'-7 7/8"	27'-0 5/8"+	25'-2"-

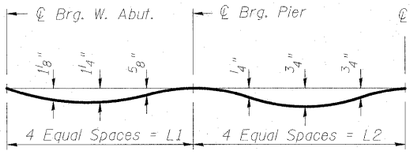
Note:
See sheets SC-6 to SC-8 for Top of Slab Elevations

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	PMH
DRAWN	AMV
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-5	55	(99-1&2) R-6	WILL	756	531
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

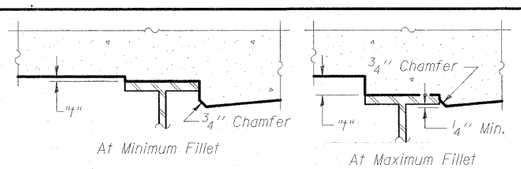


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.
See SC-5 for Screed Dimension Layout.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

FILLET HEIGHTS

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202832.77	-33.00	552.88	552.88
CL. BRG. W. ABUT.	202837.60	-33.00	552.94	552.94
A	202848.01	-33.00	553.06	553.09
B	202858.42	-33.00	553.17	553.24
C	202868.83	-33.00	553.27	553.37
D	202879.24	-33.00	553.36	553.48
E	202889.65	-33.00	553.45	553.57
F	202900.06	-33.00	553.53	553.64
G	202910.46	-33.00	553.60	553.69
H	202920.87	-33.00	553.67	553.73
I	202931.28	-33.00	553.72	553.76
J	202941.69	-33.00	553.77	553.79
CL BRG. PIER	202954.18	-33.00	553.82	553.82
K	202964.59	-33.00	553.85	553.85
L	202975.00	-33.00	553.88	553.89
M	202985.41	-33.00	553.89	553.92
N	202995.81	-33.00	553.90	553.95
O	203006.22	-33.00	553.90	553.96
P	203016.63	-33.00	553.89	553.96
Q	203027.04	-33.00	553.88	553.94
R	203037.44	-33.00	553.85	553.91
S	203047.85	-33.00	553.82	553.86
CL. BRG. E. ABUT.	203061.01	-33.00	553.77	553.77
BK. E. ABUT.	203065.04	-33.00	553.76	553.76

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202840.99	-23.83	553.53	553.53
CL. BRG. W. ABUT.	202845.73	-23.83	553.58	553.58
A	202856.02	-23.83	553.69	553.73
B	202866.31	-23.83	553.80	553.87
C	202876.61	-23.83	553.89	553.99
D	202886.90	-23.83	553.98	554.09
E	202897.19	-23.83	554.06	554.17
F	202907.48	-23.83	554.13	554.24
G	202917.78	-23.83	554.20	554.29
H	202928.07	-23.83	554.26	554.32
I	202938.36	-23.83	554.31	554.34
J	202948.65	-23.83	554.35	554.36
CL BRG. PIER	202960.27	-23.83	554.39	554.39
K	202970.56	-23.83	554.42	554.42
L	202980.85	-23.83	554.44	554.45
M	202991.14	-23.83	554.45	554.48
N	203001.43	-23.83	554.45	554.50
O	203011.72	-23.83	554.45	554.51
P	203022.01	-23.83	554.44	554.51
Q	203032.30	-23.83	554.42	554.48
R	203042.58	-23.83	554.39	554.44
S	203052.87	-23.83	554.36	554.39
CL. BRG. E. ABUT.	203065.51	-23.83	554.30	554.30
BK. E. ABUT.	203069.49	-23.83	554.28	554.28

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202848.97	-14.67	554.17	554.17
CL. BRG. W. ABUT.	202853.62	-14.67	554.22	554.22
A	202863.79	-14.67	554.32	554.36
B	202873.97	-14.67	554.42	554.49
C	202884.15	-14.67	554.51	554.60
D	202894.33	-14.67	554.59	554.70
E	202904.50	-14.67	554.66	554.78
F	202914.68	-14.67	554.73	554.83
G	202924.86	-14.67	554.79	554.88
H	202935.03	-14.67	554.84	554.90
I	202945.21	-14.67	554.89	554.92
J	202955.39	-14.67	554.93	554.93
CL BRG. PIER	202966.19	-14.67	554.96	554.96
K	202976.36	-14.67	554.98	554.98
L	202986.54	-14.67	554.99	555.01
M	202996.71	-14.67	555.00	555.03
N	203006.88	-14.67	555.00	555.05
O	203017.06	-14.67	554.99	555.06
P	203027.23	-14.67	554.98	555.05
Q	203037.41	-14.67	554.95	555.02
R	203047.58	-14.67	554.92	554.98
S	203057.76	-14.67	554.89	554.92
CL. BRG. E. ABUT.	203069.91	-14.67	554.83	554.83
BK. E. ABUT.	203073.83	-14.67	554.81	554.81

DESIGNED	MJL
CHECKED	PMH
DRAWN	MJL
CHECKED	PMH

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0348

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-6	55	(99-1&2) R-6	WILL	756	532
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202856.71	-5.50	554.80	554.80
CL. BRG. W. ABUT.	202861.27	-5.50	554.85	554.85
A	202871.33	-5.50	554.94	554.98
B	202881.40	-5.50	555.03	555.11
C	202891.46	-5.50	555.12	555.22
D	202901.53	-5.50	555.19	555.30
E	202911.59	-5.50	555.26	555.37
F	202921.66	-5.50	555.32	555.43
G	202931.72	-5.50	555.38	555.46
H	202941.78	-5.50	555.42	555.48
I	202951.85	-5.50	555.46	555.49
J	202961.91	-5.50	555.50	555.50
CL BRG. PIER	202971.95	-5.50	555.52	555.52
K	202982.01	-5.50	555.54	555.54
L	202992.08	-5.50	555.55	555.56
M	203002.14	-5.50	555.55	555.58
N	203012.20	-5.50	555.55	555.60
O	203022.26	-5.50	555.54	555.60
P	203032.32	-5.50	555.52	555.59
Q	203042.39	-5.50	555.49	555.56
R	203052.45	-5.50	555.46	555.51
S	203062.51	-5.50	555.42	555.45
CL. BRG. E. ABUT.	203074.19	-5.50	555.36	555.36
BK. E. ABUT.	203078.06	-5.50	555.34	555.34

PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202861.24	0.00	555.18	555.18
CL. BRG. W. ABUT.	202865.75	0.00	555.22	555.22
A	202875.75	0.00	555.31	555.35
B	202885.75	0.00	555.40	555.47
C	202895.75	0.00	555.48	555.58
D	202905.75	0.00	555.55	555.66
E	202915.74	0.00	555.62	555.73
F	202925.74	0.00	555.68	555.78
G	202935.74	0.00	555.73	555.81
H	202945.74	0.00	555.77	555.83
I	202955.74	0.00	555.81	555.84
J	202965.74	0.00	555.84	555.84
CL BRG. PIER	202975.34	0.00	555.86	555.86
K	202985.33	0.00	555.87	555.87
L	202995.33	0.00	555.88	555.89
M	203005.32	0.00	555.88	555.91
N	203015.32	0.00	555.87	555.93
O	203025.32	0.00	555.86	555.92
P	203035.31	0.00	555.84	555.91
Q	203045.31	0.00	555.81	555.88
R	203055.30	0.00	555.78	555.83
S	203065.30	0.00	555.73	555.76
CL. BRG. E. ABUT.	203076.71	0.00	555.68	555.68
BK. E. ABUT.	203080.55	0.00	555.66	555.66

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202864.22	3.67	555.43	555.43
CL. BRG. W. ABUT.	202868.70	3.67	555.47	555.47
A	202878.65	3.67	555.56	555.60
B	202888.61	3.67	555.64	555.72
C	202898.56	3.67	555.72	555.82
D	202908.52	3.67	555.79	555.90
E	202918.47	3.67	555.85	555.97
F	202928.43	3.67	555.91	556.01
G	202938.38	3.67	555.96	556.04
H	202948.33	3.67	556.00	556.06
I	202958.29	3.67	556.03	556.06
J	202968.24	3.67	556.06	556.07
CL BRG. PIER	202977.57	3.67	556.08	556.08
K	202987.52	3.67	556.09	556.10
L	202997.47	3.67	556.10	556.11
M	203007.42	3.67	556.10	556.13
N	203017.37	3.67	556.09	556.14
O	203027.33	3.67	556.08	556.14
P	203037.28	3.67	556.05	556.12
Q	203047.23	3.67	556.03	556.09
R	203057.18	3.67	555.99	556.04
S	203067.13	3.67	555.95	555.98
CL. BRG. E. ABUT.	203078.37	3.67	555.89	555.89
BK. E. ABUT.	203082.19	3.67	555.87	555.87

DESIGNED	MJL
CHECKED	PMH
DRAWN	MJL
CHECKED	PMH

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-7	55	(99-1&2) R-6	WILL	756	533
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202871.52	12.83	556.05	556.05
CL. BRG. W. ABUT.	202875.92	12.83	556.09	556.09
A	202885.77	12.83	556.17	556.21
B	202895.61	12.83	556.25	556.32
C	202905.46	12.83	556.32	556.42
D	202915.30	12.83	556.38	556.50
F	202925.15	12.83	556.44	556.56
F	202935.00	12.83	556.49	556.60
G	202944.84	12.83	556.54	556.62
H	202954.69	12.83	556.57	556.63
I	202964.54	12.83	556.60	556.63
J	202974.38	12.83	556.62	556.63
CL BRG. PIER	202983.04	12.83	556.64	556.64
K	202992.88	12.83	556.65	556.65
L	203002.73	12.83	556.65	556.67
M	203012.57	12.83	556.65	556.68
N	203022.41	12.83	556.64	556.69
O	203032.26	12.83	556.62	556.68
P	203042.10	12.83	556.59	556.66
Q	203051.95	12.83	556.56	556.62
R	203061.79	12.83	556.52	556.57
S	203071.63	12.83	556.47	556.50
CL. BRG. E. ABUT.	203082.46	12.83	556.42	556.42
BK. E. ABUT.	203086.23	12.83	556.39	556.39

GIRDER 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	202878.61	22.00	556.66	556.66
CL. BRG. W. ABUT.	202882.94	22.00	556.70	556.70
A	202892.68	22.00	556.78	556.82
B	202902.42	22.00	556.85	556.92
C	202912.16	22.00	556.92	557.01
D	202921.90	22.00	556.97	557.09
E	202931.64	22.00	557.03	557.14
F	202941.38	22.00	557.07	557.17
G	202951.12	22.00	557.11	557.19
H	202960.87	22.00	557.14	557.20
I	202970.61	22.00	557.17	557.19
J	202980.35	22.00	557.19	557.19
CL BRG. PIER	202988.37	22.00	557.20	557.20
K	202998.11	22.00	557.20	557.20
L	203007.85	22.00	557.20	557.21
M	203017.59	22.00	557.19	557.23
N	203027.33	22.00	557.18	557.23
O	203037.07	22.00	557.16	557.22
P	203046.81	22.00	557.13	557.20
Q	203056.54	22.00	557.09	557.16
R	203066.28	22.00	557.05	557.10
S	203076.02	22.00	557.00	557.03
CL. BRG. E. ABUT.	203086.44	22.00	556.94	556.94
BK. E. ABUT.	203090.17	22.00	556.92	556.92

DESIGNED	MJL
CHECKED	PMH
DRAWN	MJL
CHECKED	PMH

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 099-0348

McDonough Associates Inc.
Engineers / Architects

130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-8	55	(99-1&2) R-6	WILL	756	534
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH EDGE OF SHOULDER

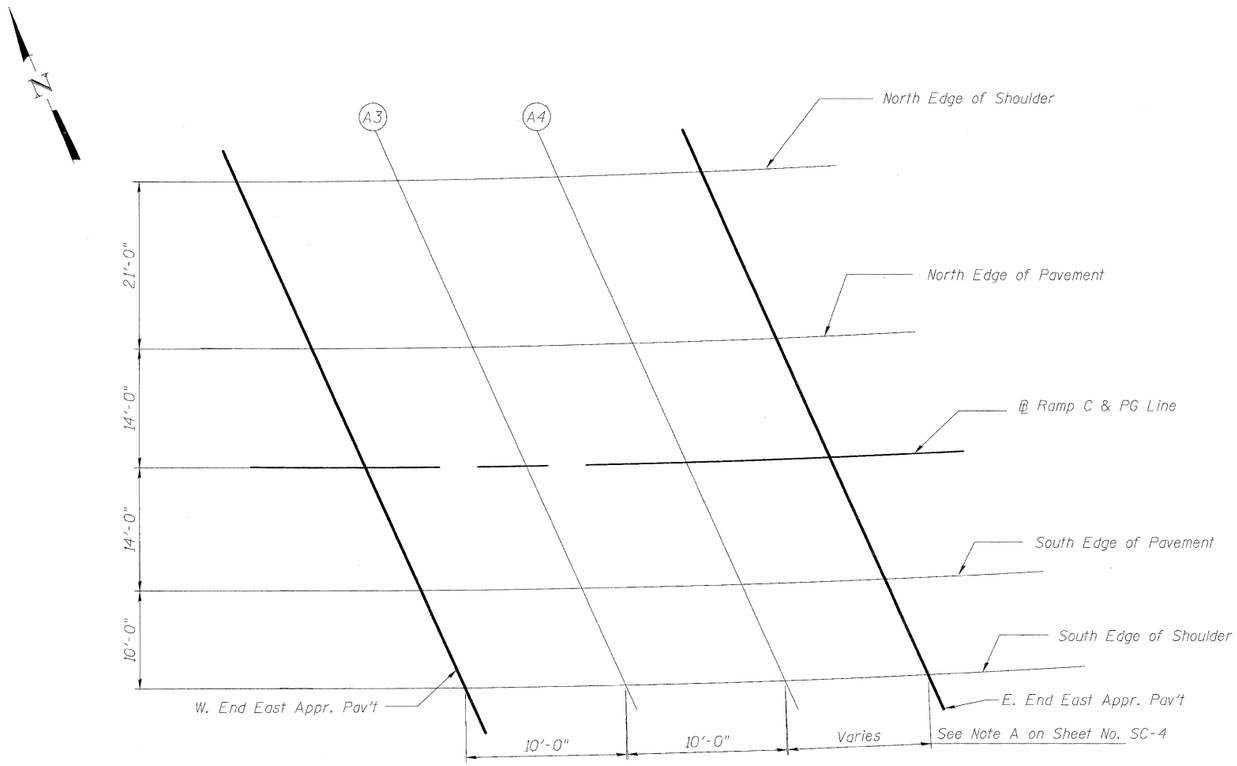
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	203063.28	-35.00	553.64
A3	203073.71	-35.00	553.59
A4	203084.14	-35.00	553.54
E. End East Appr. Pav't	203094.87	-35.00	553.47

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	203073.51	-14.00	554.85
A3	203083.67	-14.00	554.80
A4	203093.84	-14.00	554.73
E. End East Appr. Pav't	203104.13	-14.00	554.66

℄ RAMP C & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	203080.01	0	555.66
A3	203090.01	0	555.60
A4	203100.01	0	555.53
E. End East Appr. Pav't	203110.01	0	555.46



PLAN
(East Approach Slab)

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	203086.28	14.00	556.46
A3	203096.11	14.00	556.40
A4	203105.94	14.00	556.33
E. End East Appr. Pav't	203115.69	14.00	556.25

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't	203090.62	24.00	557.04
A3	203100.33	24.00	556.97
A4	203110.05	24.00	556.90
E. End East Appr. Pav't	203119.62	24.00	556.82

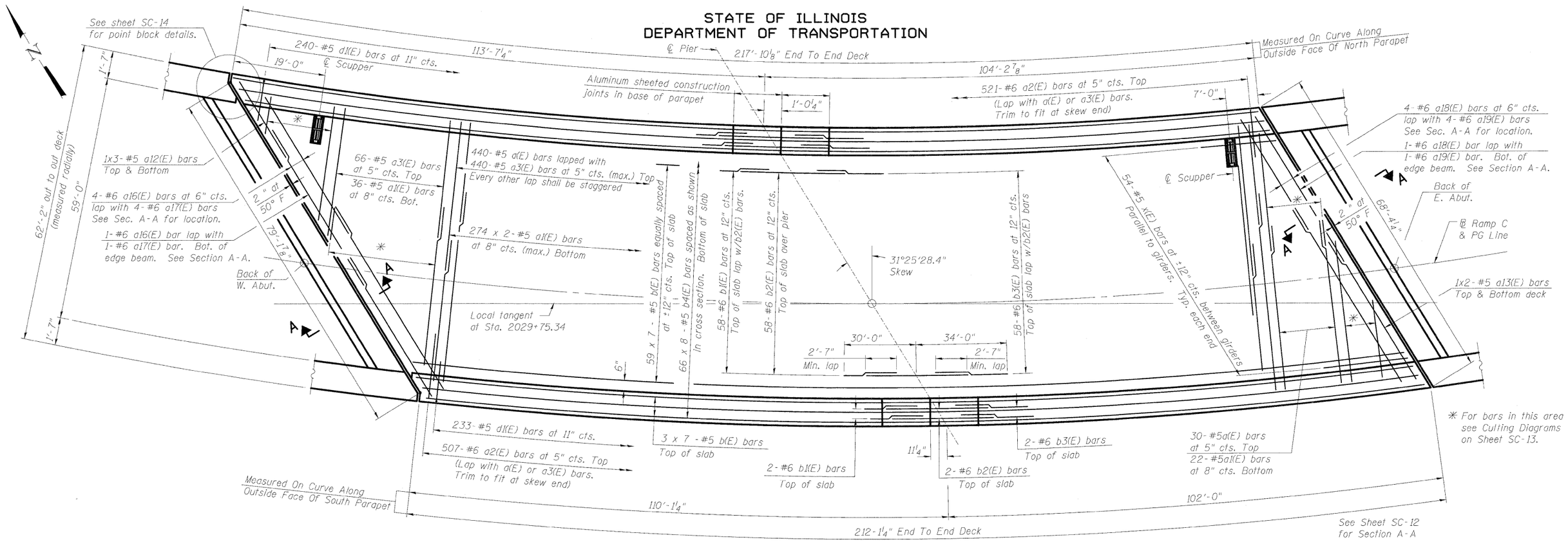
DESIGNED	MJL
CHECKED	PMH
DRAWN	MJL
CHECKED	PMH

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

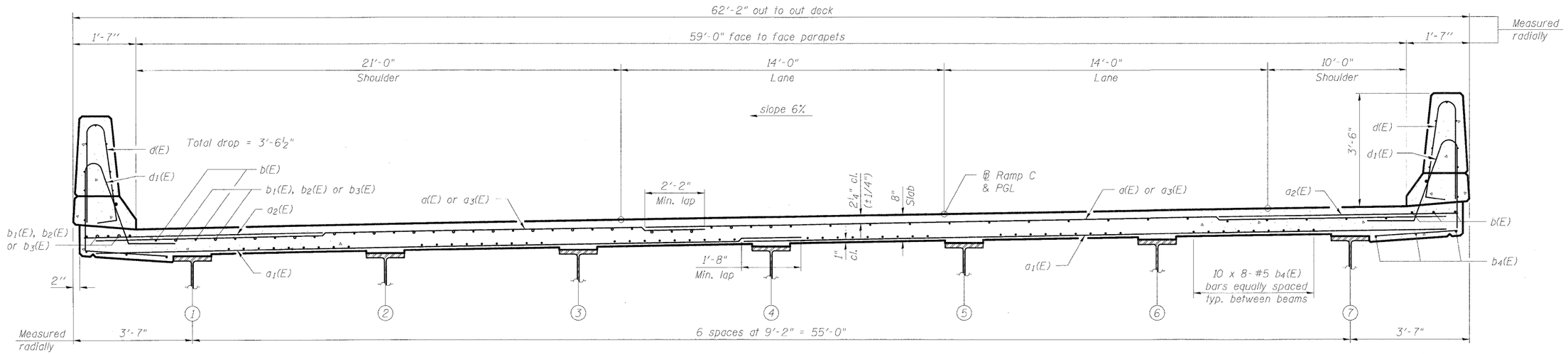
TOP OF EAST APPROACH SLAB ELEVATIONS STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-9	55	(99-1&2) R-6	WILL	756	535
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking East)

DECK PLAN AND CROSS SECTION
STRUCTURE NO. 099-0348

DESIGNED	MGB
CHECKED	PMH
DRAWN	AMV
CHECKED	PMH

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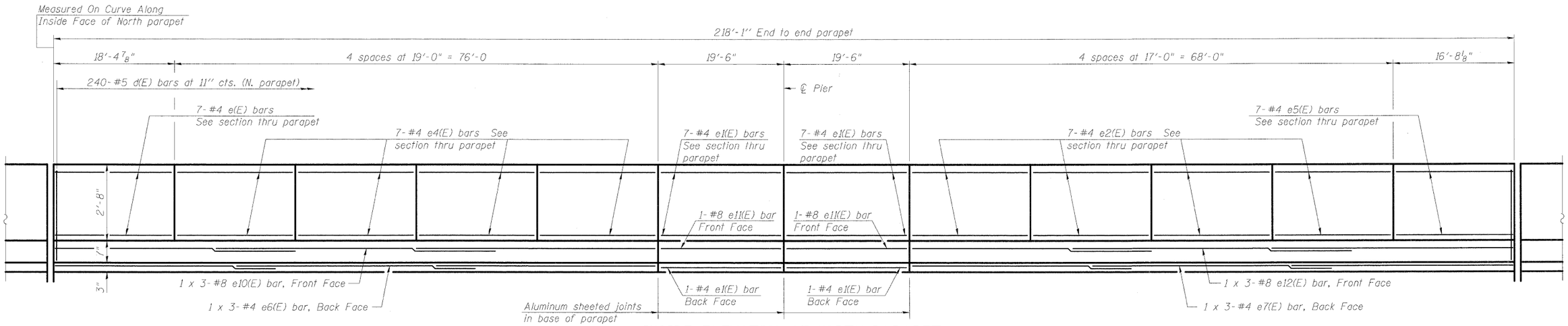
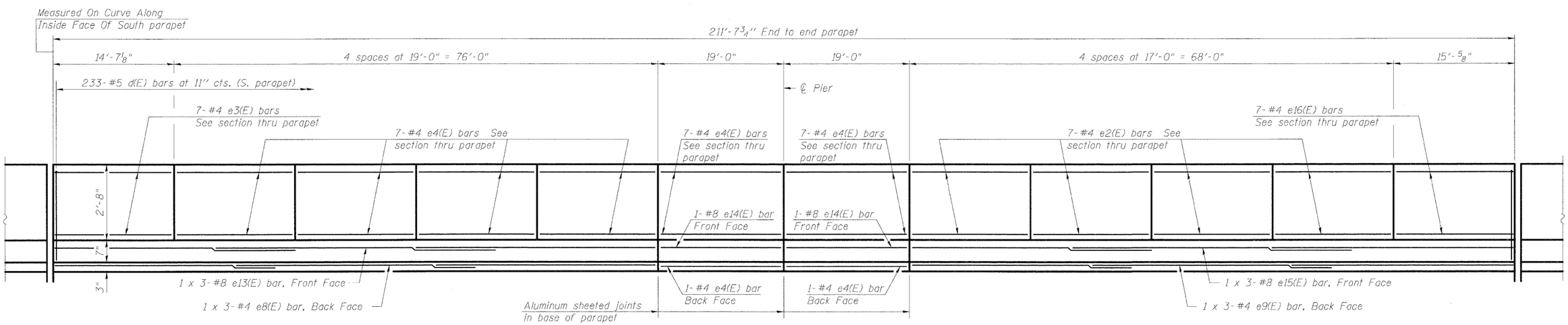
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-10	55	(99-1&2) R-6	WILL	756	536
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INSIDE ELEVATION OF NORTH PARAPET

(Looking North)
Dimensions given along inside face of parapet



OUTSIDE ELEVATION OF SOUTH PARAPET

(Looking North)
Dimensions given along inside face of parapet

MINIMUM BAR LAP

(parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"

Slip forming of the concrete parapets is not allowed.

DESIGNED	MB
CHECKED	PMH
DRAWN	AMV
CHECKED	PMH

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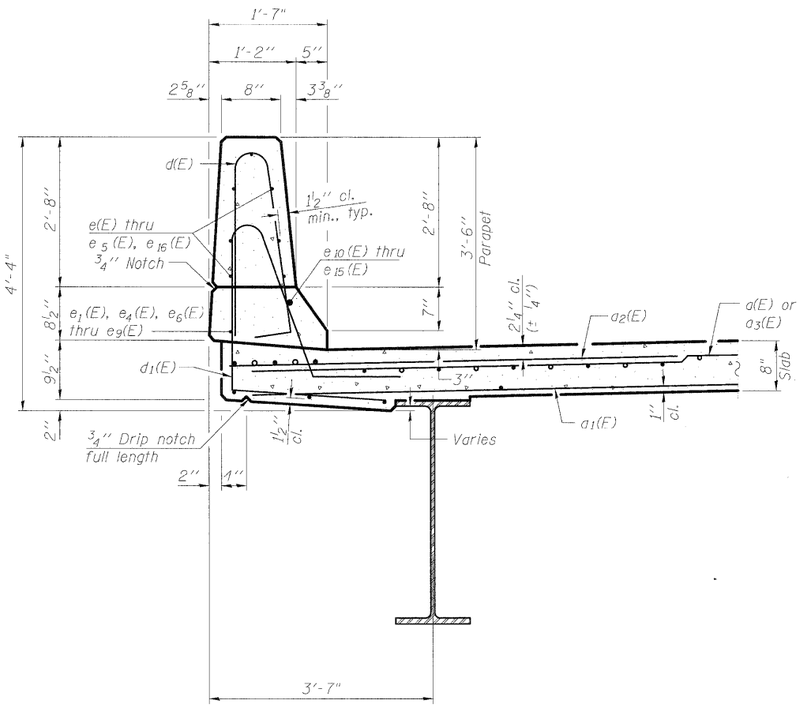
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

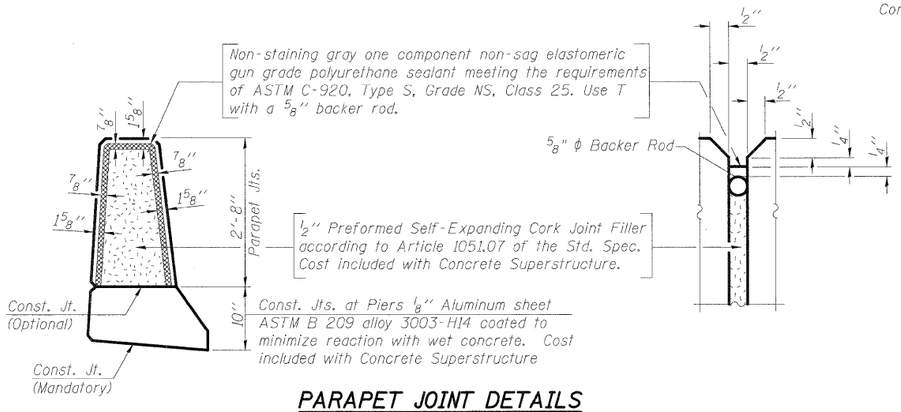
INSIDE ELEVATION OF PARAPETS STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-11	55	(99-1&2) R-6	WILL	756	537
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

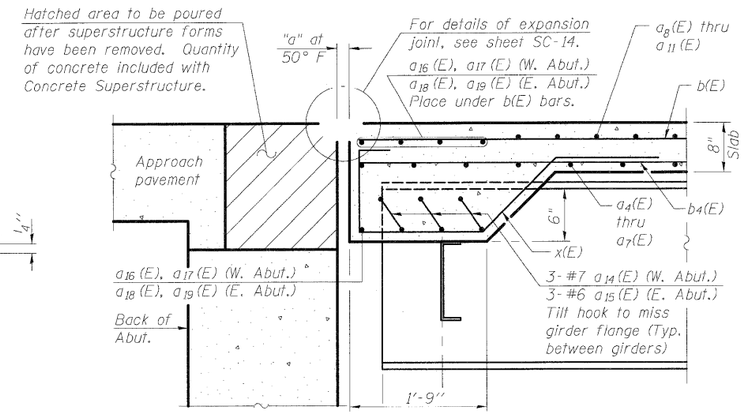
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU PARAPET

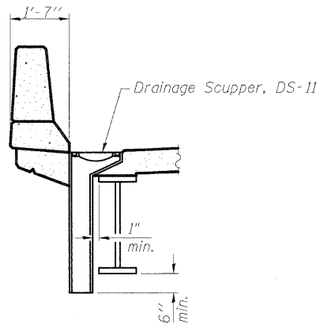


PARAPET JOINT DETAILS

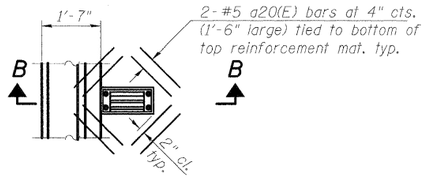


For dimension "a" see Sheet SC-14.

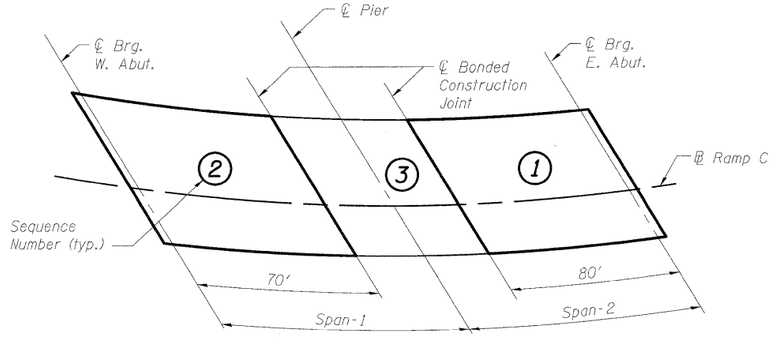
SECTION A-A



SECTION B-B



PLAN



DECK POURING SEQUENCE

NTS

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

Note:
1. For location of Section A-A see Sheet SC-10.

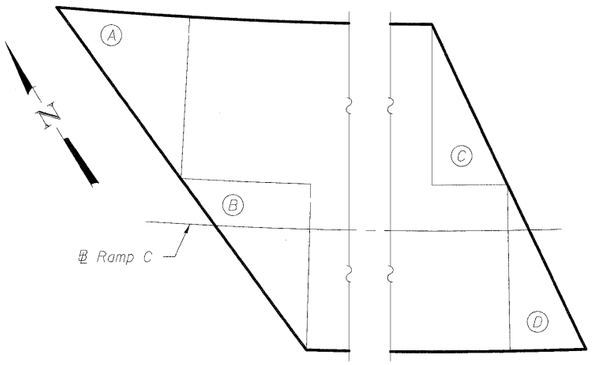
DESIGNED	MB
CHECKED	PMH
DRAWN	AMV
CHECKED	PMH

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 099-0348

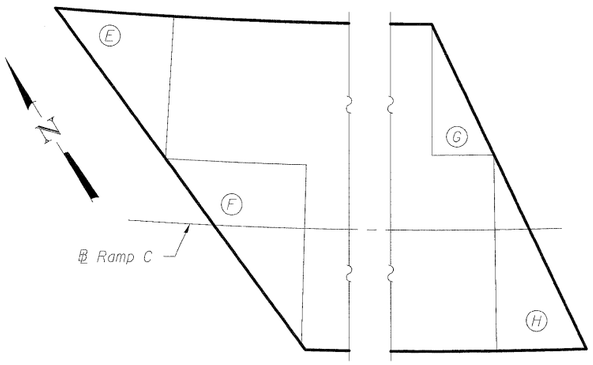
McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-12	55	(99-1&2) R-6	WILL	756	538
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

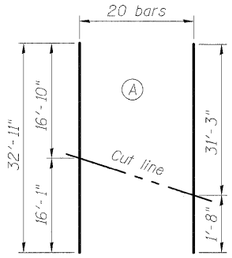


BOTTOM BAR PLAN

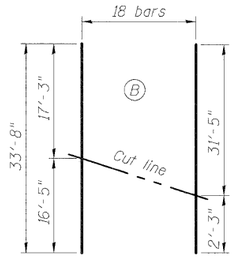


TOP BAR PLAN

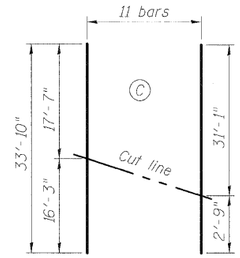
BRIDGE CUT BAR LOCATION PLAN



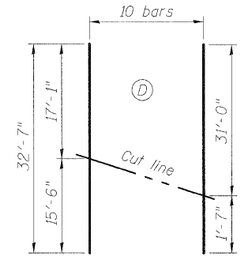
BAR a4(E)



BAR a5(E)



BAR a6(E)



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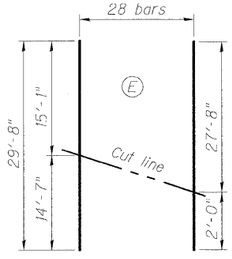

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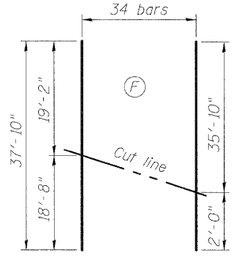

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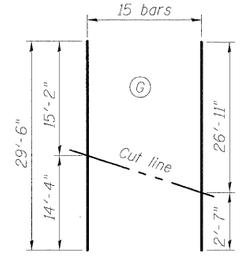
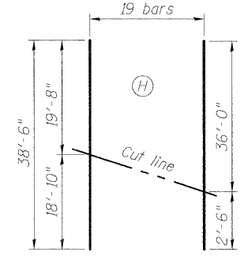
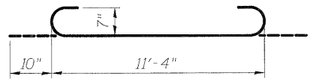


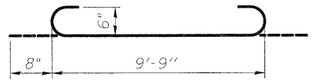
BAR a10(E)



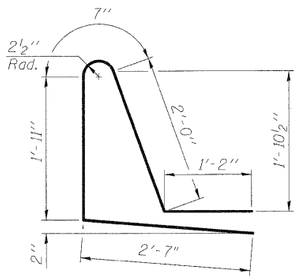
BAR a11(E)



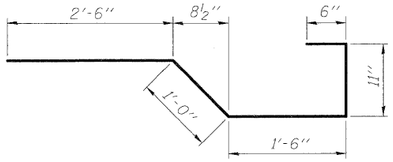
a 14(E) BAR



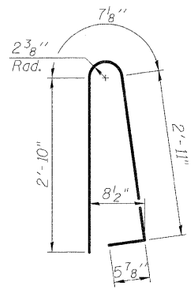
a 15(E) BAR



BAR d1(E)



BAR x(E)



BAR d(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	471	#5	36'-6"	
a1(E)	608	#5	32'-0"	
a2(E)	1028	#6	10'-0"	
a3(E)	507	#5	27'-4"	
a4(E)	20	#5	32'-11"	
a5(E)	18	#5	33'-8"	
a6(E)	11	#5	33'-10"	
a7(E)	10	#5	32'-7"	
a8(E)	28	#5	29'-8"	
a9(E)	34	#5	37'-10"	
a10 (E)	15	#5	29'-6"	
a11 (E)	19	#5	38'-6"	
a12 (E)	6	#5	28'-0"	
a13 (E)	4	#5	35'-0"	
a14 (E)	18	#7	13'-0"	
a15 (E)	18	#6	11'-1"	
a16 (E)	5	#6	38'-0"	
a17 (E)	5	#6	44'-8"	
a18 (E)	5	#6	30'-4"	
a19 (E)	5	#6	40'-0"	
a20(E)	16	#5	1'-6"	
b(E)	455	#5	33'-0"	
b1(E)	62	#6	15'-3"	
b2(E)	62	#6	35'-0"	
b3(E)	62	#6	19'-3"	
b4(E)	528	#5	29'-2"	
d(E)	473	#5	6'-10"	
d1(E)	473	#5	8'-3"	
e(E)	7	#4	18'-1"	
e1(E)	16	#4	19'-2"	
e2(E)	56	#4	16'-8"	
e3(E)	7	#4	14'-3"	
e4(E)	72	#4	18'-8"	
e5(E)	7	#4	16'-4"	
e6(E)	3	#4	32'-9"	
e7(E)	3	#4	29'-6"	
e8(E)	3	#4	31'-6"	
e9(E)	3	#4	29'-0"	
e10 (E)	3	#8	34'-1"	
e11 (E)	2	#8	19'-2"	
e12 (E)	3	#8	30'-11"	
e13 (E)	3	#8	33'-2"	
e14 (E)	2	#8	18'-8"	
e15 (E)	3	#8	30'-8"	
e16 (E)	7	#4	14'-9"	
x(E)	108	#5	6'-5"	
Reinforcement Bars, Epoxy Coated			Pound	125,710
Concrete Superstructure			Cu. Yd.	418.3

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

DESIGNED	MGB
CHECKED	PMH
DRAWN	AVM
CHECKED	PMH

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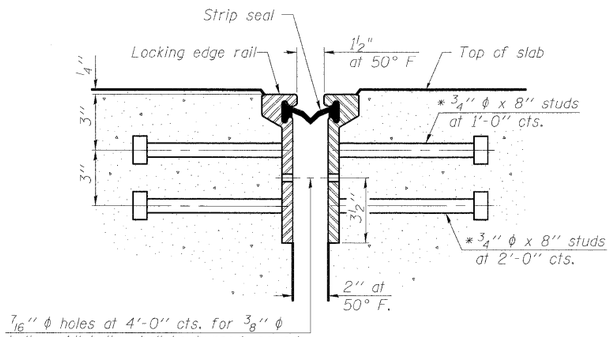
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SUPERSTRUCTURE BILL OF MATERIAL
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-13	55	(99-1&2) R-6	WILL	756	539
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

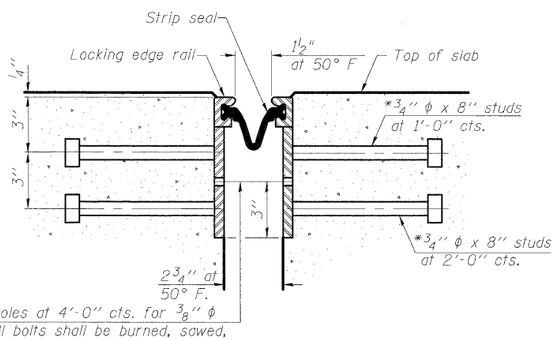
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



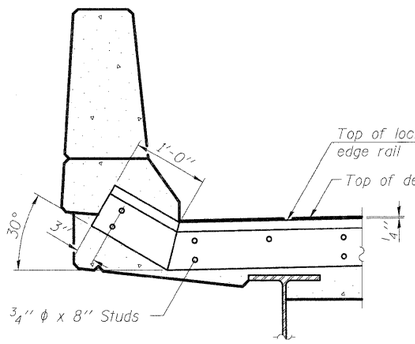
$\frac{7}{16}$" ϕ holes at 4'-0" cts. for $\frac{3}{8}$" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



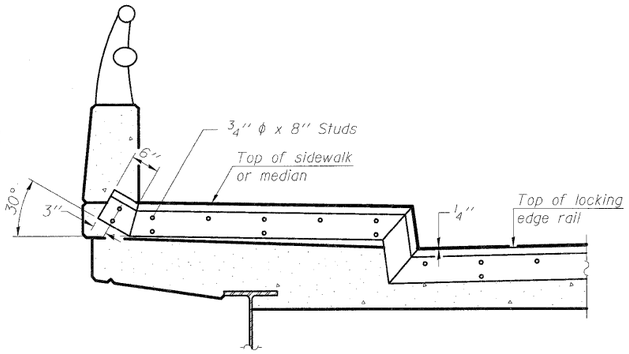
$\frac{7}{16}$" ϕ holes at 4'-0" cts. for $\frac{3}{8}$" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT



AT PARAPET

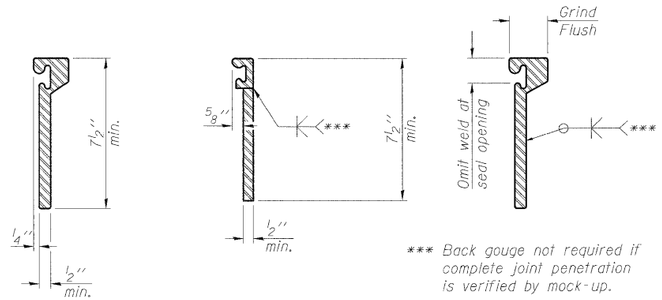
See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

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

TYPICAL END TREATMENTS



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

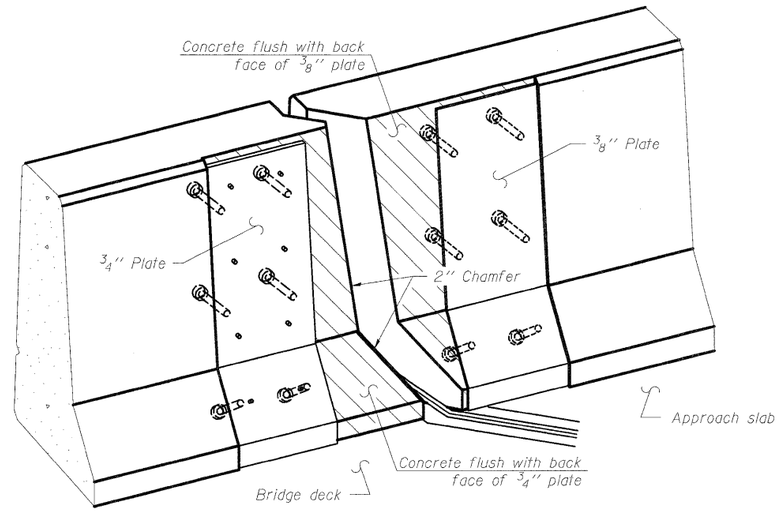
ROLLED EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE

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

Rolled rail shown, welded rail similar.



TRIMETRIC VIEW

(Showing back plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

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

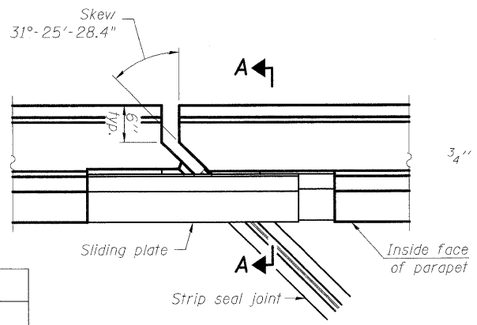
The manufacturer's recommended installation methods shall be followed.

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

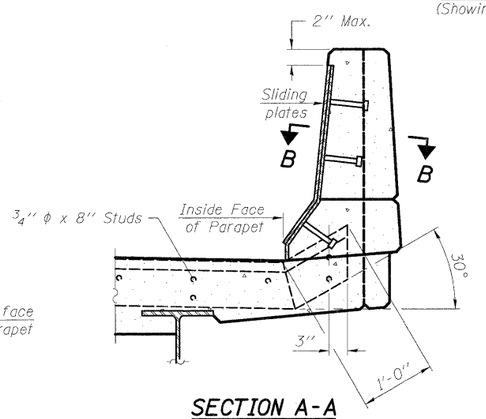
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be $\frac{3}{16}$", sealed with a suitable sealant.

LOCKING EDGE RAILS



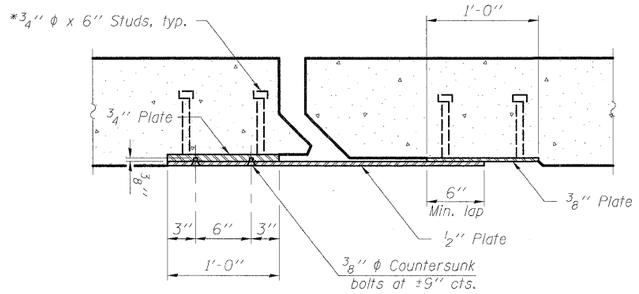
PLAN



SECTION A-A

POINT BLOCK DETAILS

(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	155

PREFORMED JOINT STRIP SEAL STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	PMH
DRAWN	RJ
CHECKED	BKB

EJ-SSJ 11-1-09

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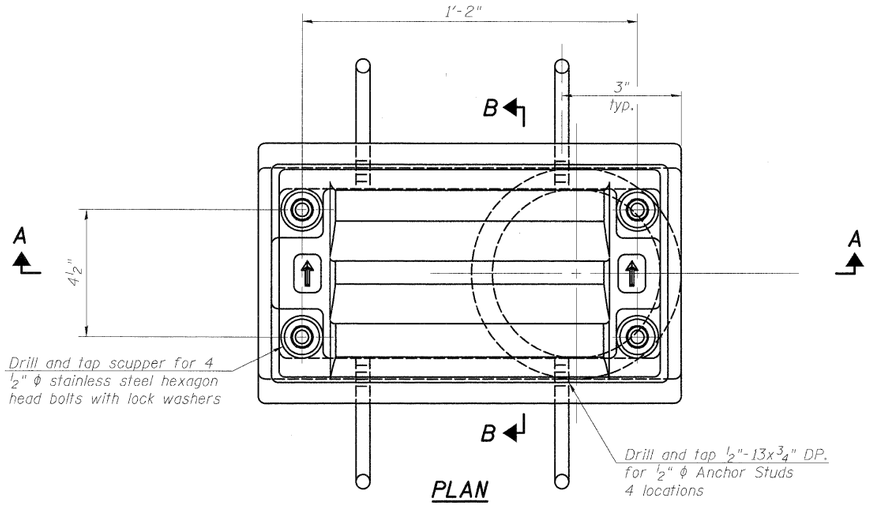
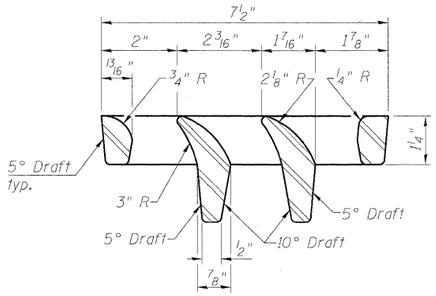
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-14	55	(99-1&2) R-6	WILL	756	540
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

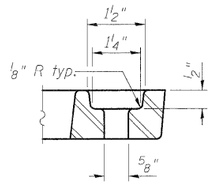
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



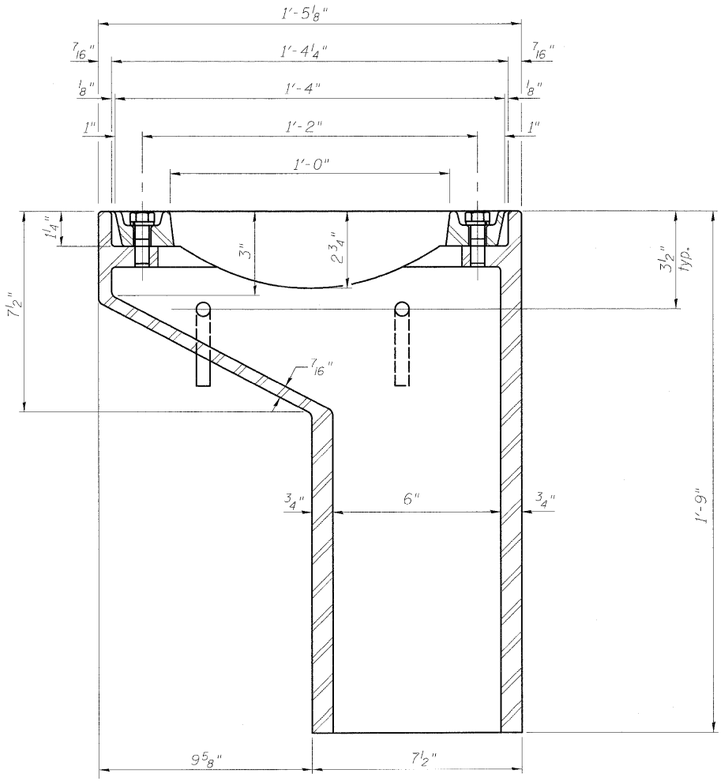
PLAN



VANE GRATE DETAIL

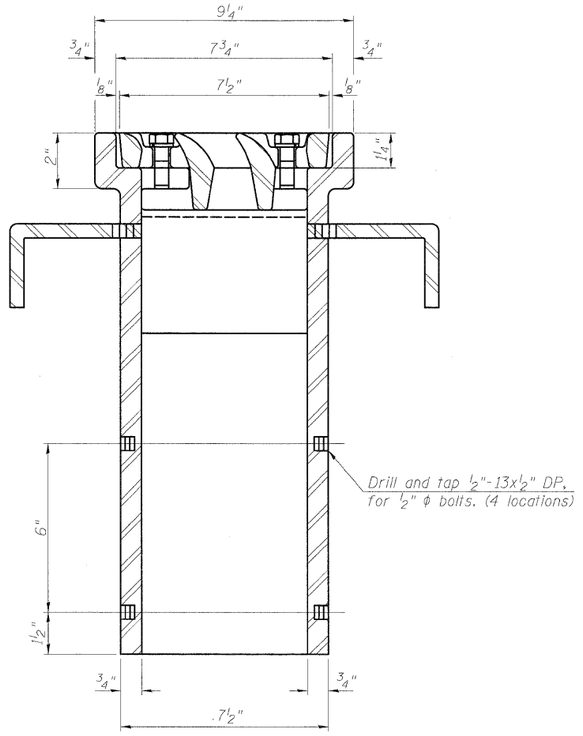


BOLT HOLE DETAIL

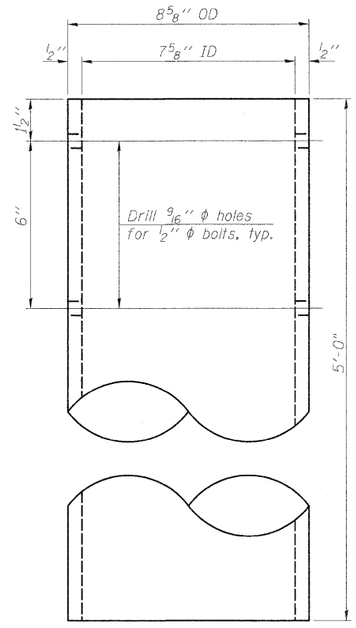


SECTION A-A

See sheet SC-12 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT

Notes:

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

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

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

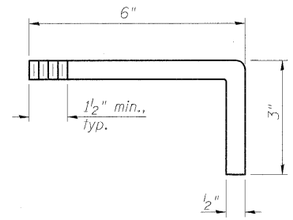
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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

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

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

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



ANCHOR STUD DETAIL

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scuppers, DS-11	Each	2

DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 099-0348

DESIGNED	AMV
CHECKED	BB
DRAWN	AMV
CHECKED	BB

DS-11 11-1-09

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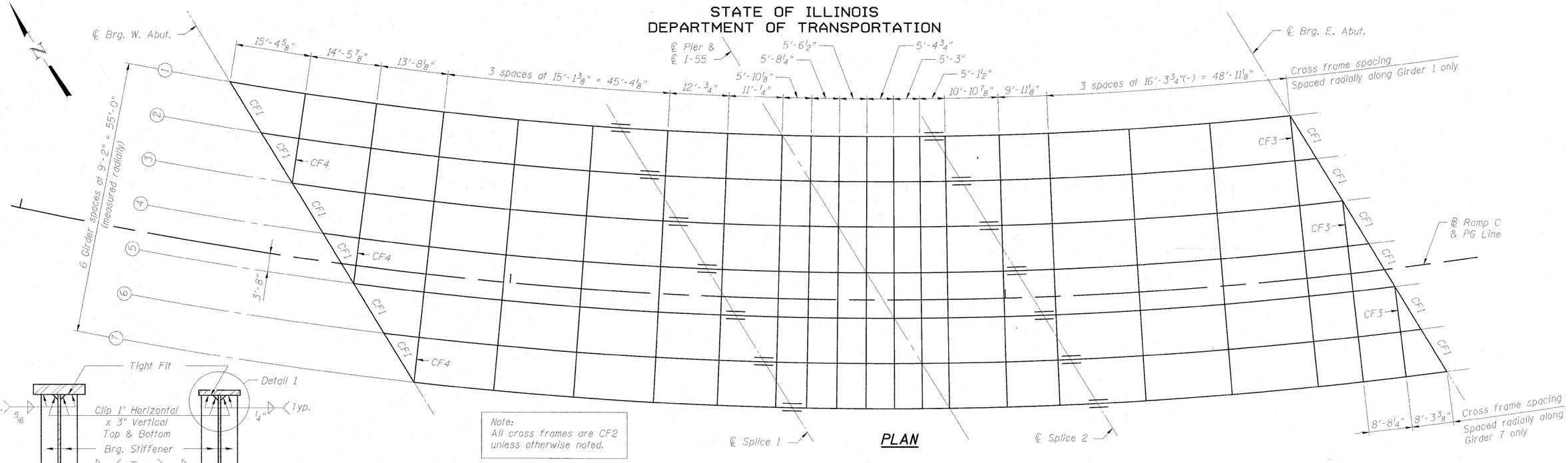
Chicago, Illinois 60601
(312) 946-8600

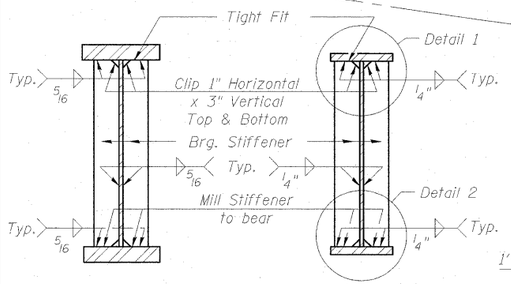
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-15	55	(99-1&2) R-6	WILL	756	541
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



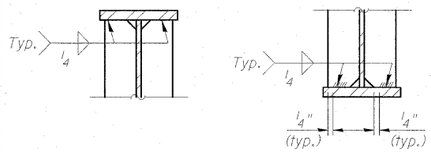
Note:
All cross frames are CF2 unless otherwise noted.

PLAN



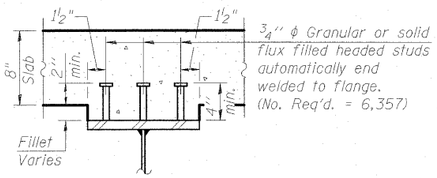
SECTION AT PIER

SECTION AT ABUTMENT



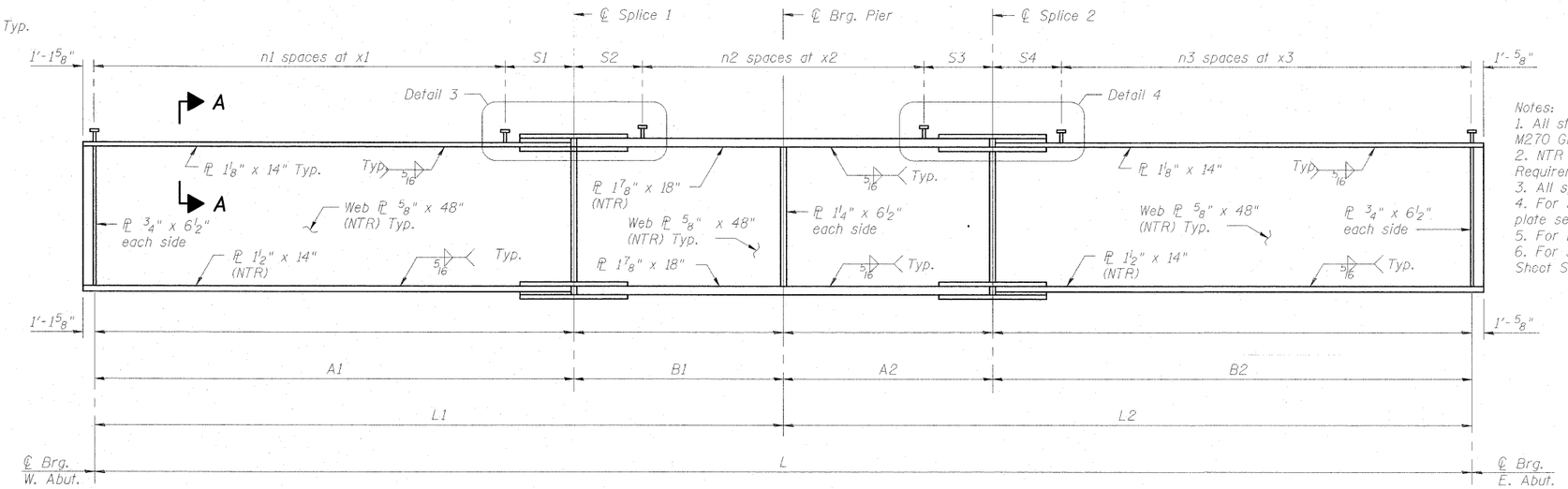
DETAIL 1

DETAIL 2



SECTION A-A

DESIGNED	MB
CHECKED	KJH
DRAWN	AMV
CHECKED	KJH



GIRDER ELEVATION N.T.S.

"NTR" denotes plates to which notch toughness requirements are applicable.

Notes:
1. All structural steel shall be AASHTO M270 Grade 50.
2. NTR indicates Notch Thoughness Requirements.
3. All splice plates shall comply with N.T.R.
4. For shear connectors on top of splice plate see Detail on Sheet SC-18.
5. For Details 3 and 4 see Sheet S-18.
6. For shear stud numbers and spacing see Sheet S-18.

GIRDER DIMENSIONS

GIRDER	RADIUS	L	L1	L2	A1	B1	A2	B2
1	802.000'	214'-7"	111'-11 3/4"	102'-7 1/4'	79'-4 3/4"	32'-7"	30'-7"	72'-0 1/4'
2	811.167'	213'-6 1/8"	111'-3 1/8"	102'-3	78'-10 1/8"	32'-5"	30'-5 1/2"	71'-9 1/2"
3	820.333'	212'-5 1/8"	110'-7 1/8"	101'-10 3/4"	78'-4"	32'-3 1/8"	30'-4"	71'-6 3/4"
4	829.500'	211'-6 1/4"	109'-11 1/2"	101'-6 3/4"	77'-10 1/8"	32'-1 3/8"	30'-2 1/2"	71'-4 1/4"
5	838.667'	210'-7 1/8"	109'-4 1/8"	101'-3"	77'-4 1/2"	31'-11 5/8"	30'-1 1/8"	71'-1 7/8"
6	847.833'	209'-8 5/8"	108'-9 1/4"	100'-11 3/8"	76'-11 1/4"	31'-10"	29'-11 7/8"	70'-11 1/2"
7	857.000'	208'-10 1/2"	108'-2 5/8"	100'-7 7/8"	76'-6 1/4"	31'-8 3/8"	29'-10 5/8"	70'-9 1/4"

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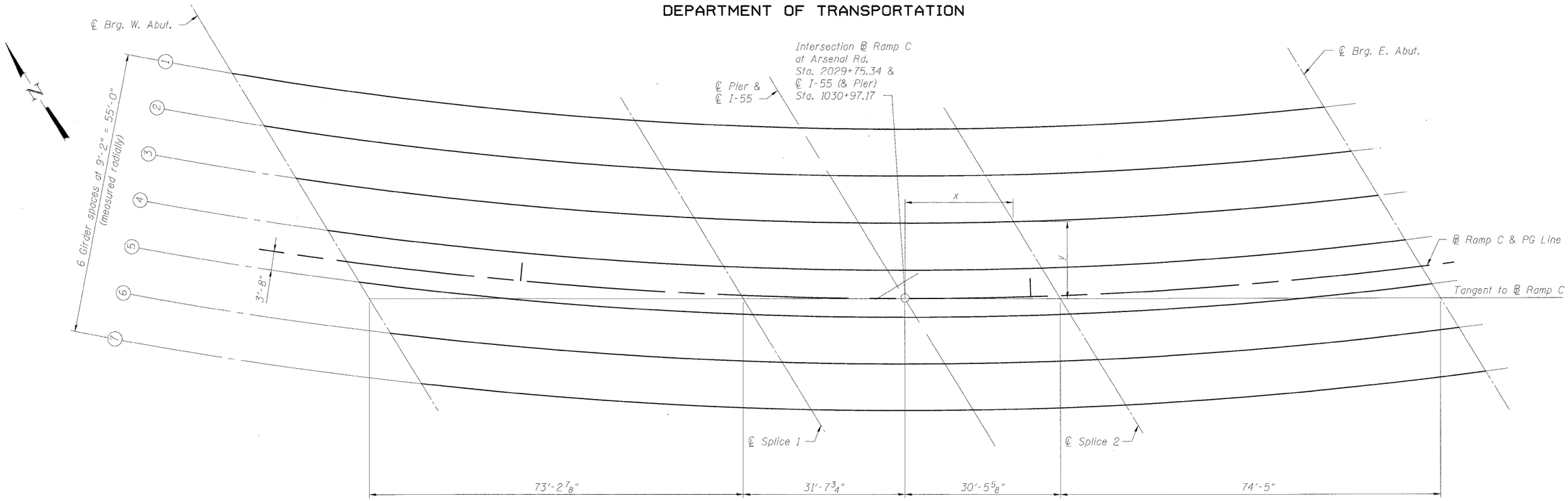
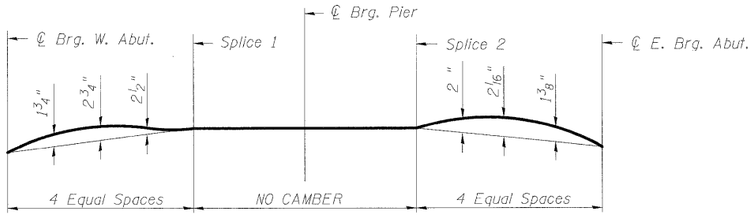
FRAMING PLAN
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-16	55	(99-1&2) R-6	WILL	756	542
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



LAYOUT PLAN



CAMBER DIAGRAM FOR GIRDERS 1-7

TOP OF WEB ELEVATIONS

GIRDER	℄ Brg. W. Abut.	℄ Splice 1	℄ Pier	℄ Splice 2	℄ Brg. E. Abut.
1	552.051	552.756	552.873	552.929	552.888
2	552.695	553.344	553.442	553.484	553.418
3	553.331	553.927	554.008	554.037	553.947
4	553.960	554.506	554.572	554.587	554.475
5	554.583	555.082	555.132	555.136	555.002
6	555.200	555.655	555.691	555.683	555.529
7	555.811	556.224	556.247	556.228	556.055

" Top of web elevations
for fabrication only "

LAYOUT DIMENSIONS (in feet-inches)

GIRDER	RADIUS	℄ Brg. W. Abut.		Splice 1		Pier		Splice 2		℄ Brg E. Abut.	
		x	y	x	y	x	y	x	y	x	y
1	802'-0"	-131'-8 3/8"	43'-10 5/8"	-52'-10 3/8"	34'-9"	-20'-3 7/8"	33'-3"	+10'-3 1/4"	33'-0 3/4"	+82'-1 3/4"	37'-2 5/8"
2	811'-2"	-125'-4 7/8"	33'-7"	-47'-0 1/2"	25'-2 3/8"	-14'-7 3/4"	23'-11 1/2"	+15'-9 3/4"	23'-11 3/4"	+87'-5 1/4"	28'-6 3/4"
3	820'-4"	-119'-1 7/8"	23'-4 3/8"	-41'-2 7/8"	15'-8 3/8"	-8'-11 7/8"	14'-8 5/8"	+21'-4"	14'-11 3/8"	+92'-8 1/2"	19'-11"
4	829'-6"	-112'-11 5/8"	13'-2 3/4"	-35'-5 1/2"	6'-3"	-3'-4 3/8"	5'-6"	+26'-10 1/8"	5'-11 1/4"	+97'-11 3/4"	11'-3 5/8"
5	838'-8"	-106'-9 3/4"	3'-2"	-29'-8 5/8"	-3'-1 5/8"	+2'-2 7/8"	-3'-8"	+32'-4"	-3'-0 1/2"	+103'-2 3/4"	2'-8 1/2"
6	847'-10"	-100'-8 1/2"	-6'-10"	-24'-0 1/8"	-12'-5 7/8"	+7'-9 7/8"	-12'-9 1/2"	+37'-9 1/2"	-11'-11 7/8"	+108'-5 5/8"	-5'-10 3/8"
7	857'-0"	-94'-7 3/4"	-16'-9 1/8"	-18'-3 7/8"	-21'-9 5/8"	+13'-4 1/2"	-21'-10 3/4"	+43'-2 7/8"	-20'-10 7/8"	+113'-8 3/8"	-14'-5 1/8"

Notes:
1. For Steel Framing Plan, see Sheet No. S-16.
2. For Girder Elevations, see Sheet No. S-16.
3. For Cross-Frame Details, see Sheet No. S-16.
4. For Splice Details, see Sheet No. S-18.
5. For Bearing Layout, see Sheet No. S-21.
6. For Bearing Details, see Sheet No. S-22 & SC-23.

DESIGNED	MB
CHECKED	KJH
DRAWN	AMV
CHECKED	KJH

GIRDER LAYOUT
STRUCTURE NO. 099-0348

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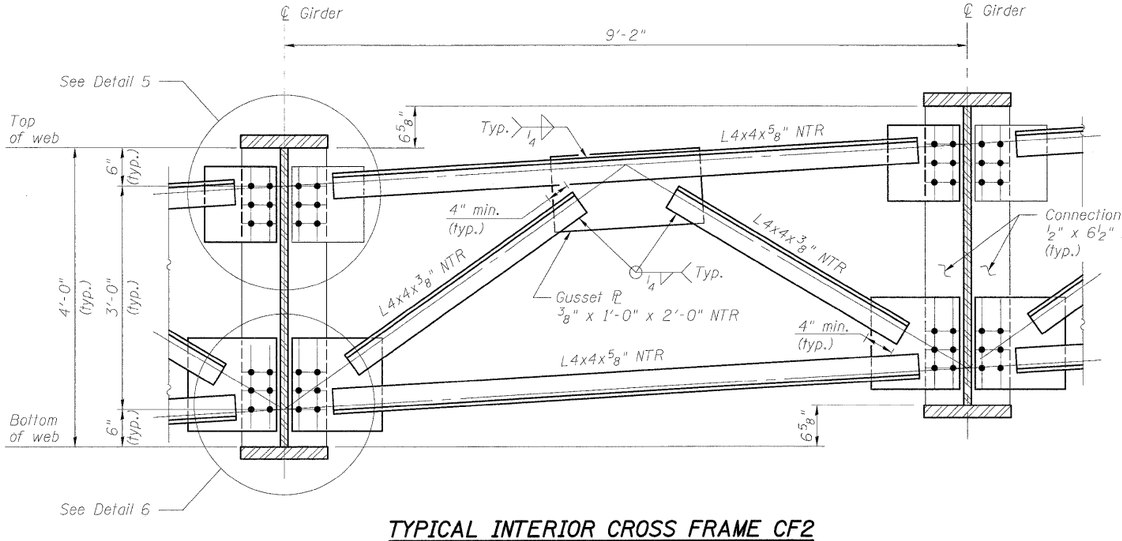
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-17	55	(99-1&2) R-6	WILL	756	543
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



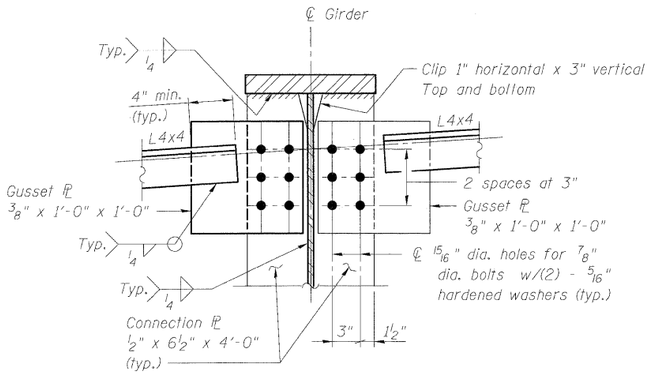
TYPICAL INTERIOR CROSS FRAME CF2

Notes:
All Cross Frames or diaphragms between beams or Girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing rods.

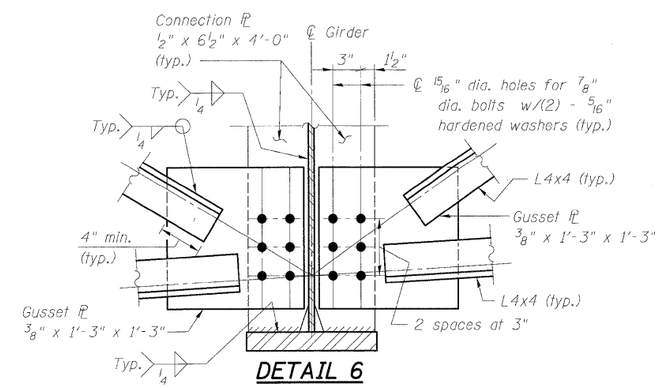
Notes:
The Contractor Shall Either:

1) Ream Diaphragm and/or Cross Frame connection holes During shop assembly, or

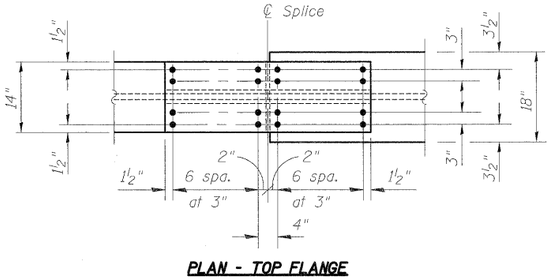
2) Provide detailing and fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(I) of the standard specifications.



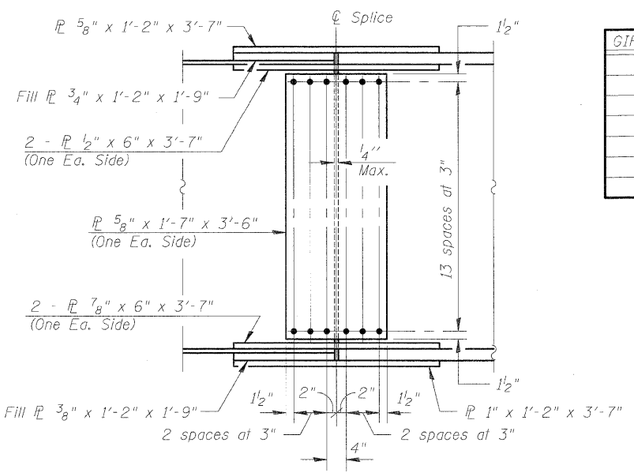
DETAIL 5



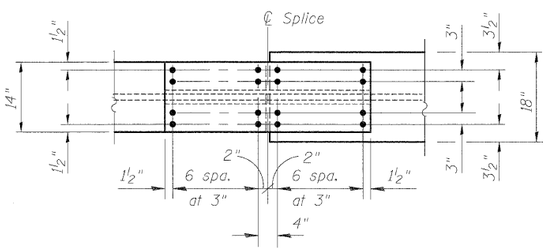
DETAIL 6



PLAN - TOP FLANGE



ELEVATION

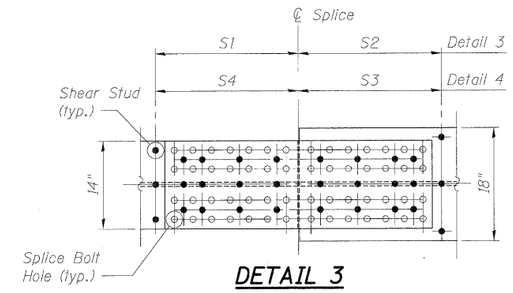


PLAN - BOTTOM FLANGE

FIELD SPLICE DETAIL

NOTE:

LOAD CARRYING COMPONENTS DESIGNATED "NTR" SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS, ZONE 2.



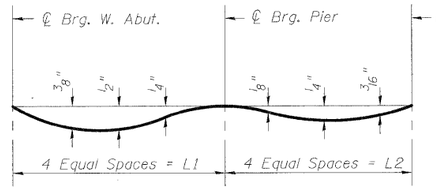
DETAIL 3

DETAIL 4 OPPOSITE HAND

N.T.S.

SHEAR CONNECTOR SPACING TABLE

GIRDER	n1	x1 (in.)	S1 (feet)	S2 (feet)	n2	x2 (in.)	S3 (feet)	S4 (feet)	n3	x3 (in.)
1	132	7	2.390	2.129	101	7	2.129	2.605	119	7
2	102	9	2.346	2.188	78	9	2.188	2.790	92	9
3	101	9	2.581	2.047	78	9	2.047	2.569	92	9
4	90	10	2.842	2.412	69	10	2.412	2.190	83	10
5	90	10	2.379	2.283	69	10	2.283	2.820	82	10
6	99	9	2.688	2.409	76	9	2.409	2.708	91	9
7	127	7	2.435	2.208	98	7	2.208	2.521	117	7



DEAD LOAD DEFLECTION DIAGRAM

(due to steel self weight only.)

(The deflection values provided above are for Girder-1 only the difference between the max value and minimum value for all Girders for each span is less than 1/16".)

The calculated deflections of the primary girders/beams under steel self-weight shall be used to detail the diaphragm, cross frame and lateral bracing connections, and to erect the structural steel such that the girders/beams will be plumb within a tolerance of +/- ⅛" in. per vertical ft. throughout when supporting their own weight.

Notes:
1. NTR indicates Notch Toughness Requirement.

2. All Splice Plates shall comply with NTR.

3. All Structural Steel, except fill plates, shall be AASHTO M270 Grade 50.

4. For location of Detail 3 and 4 see Sheet SC-16.

DESIGNED	MB
CHECKED	KJH
DRAWN	AMV
CHECKED	KJH

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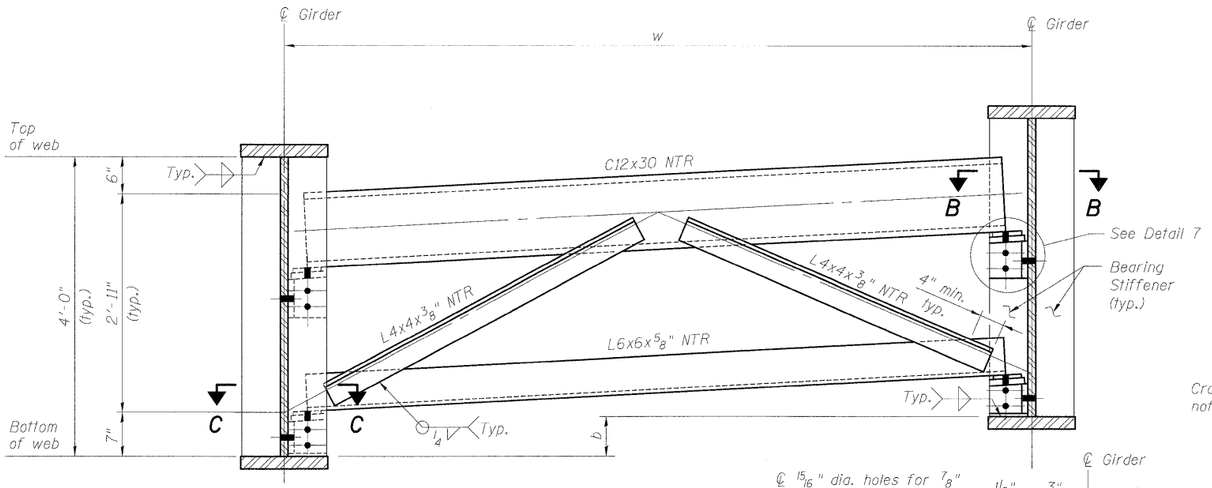
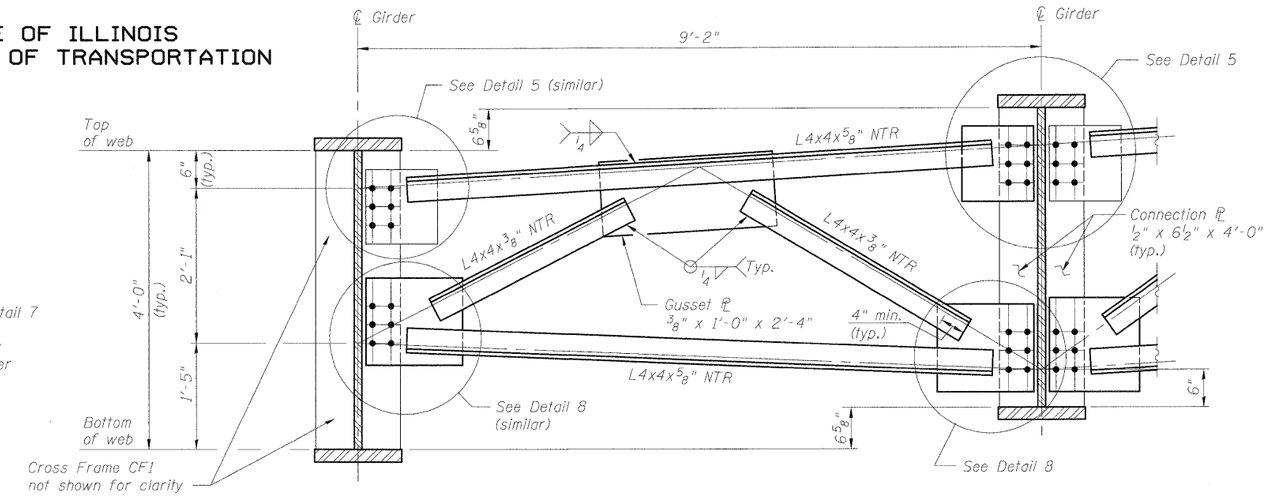
STEEL DETAILS
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-18	55	(99-1&2) R-6	WILL	756	544
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

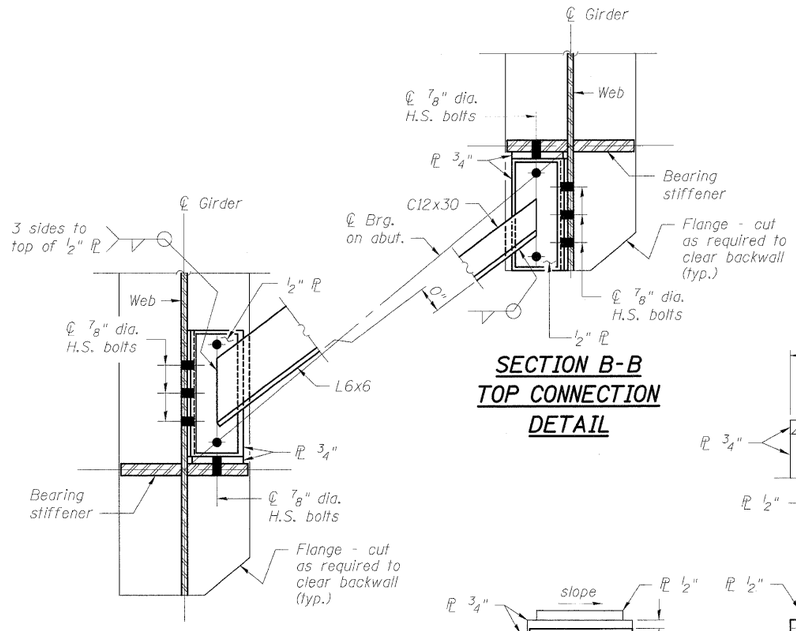




CROSS FRAME CF3 (LOOKING UPSTATION)

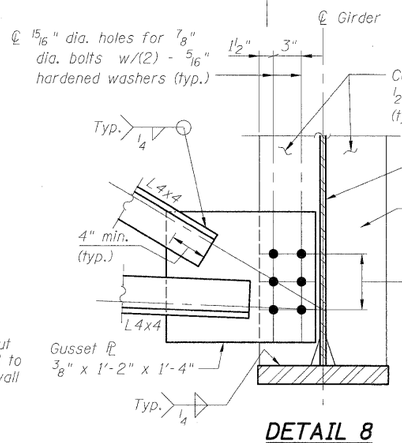
CROSS FRAME CF1

Adjacent Cross Frames not shown for clarity

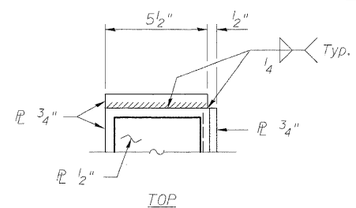


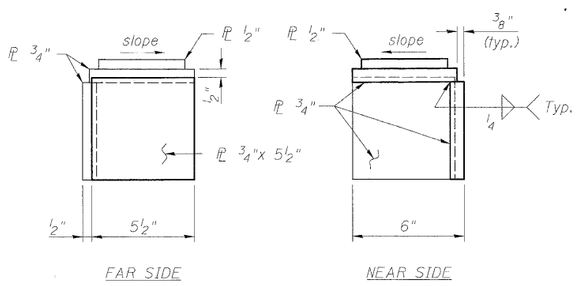
SECTION B-B TOP CONNECTION DETAIL

SECTION C-C BOTTOM CONNECTION DETAIL

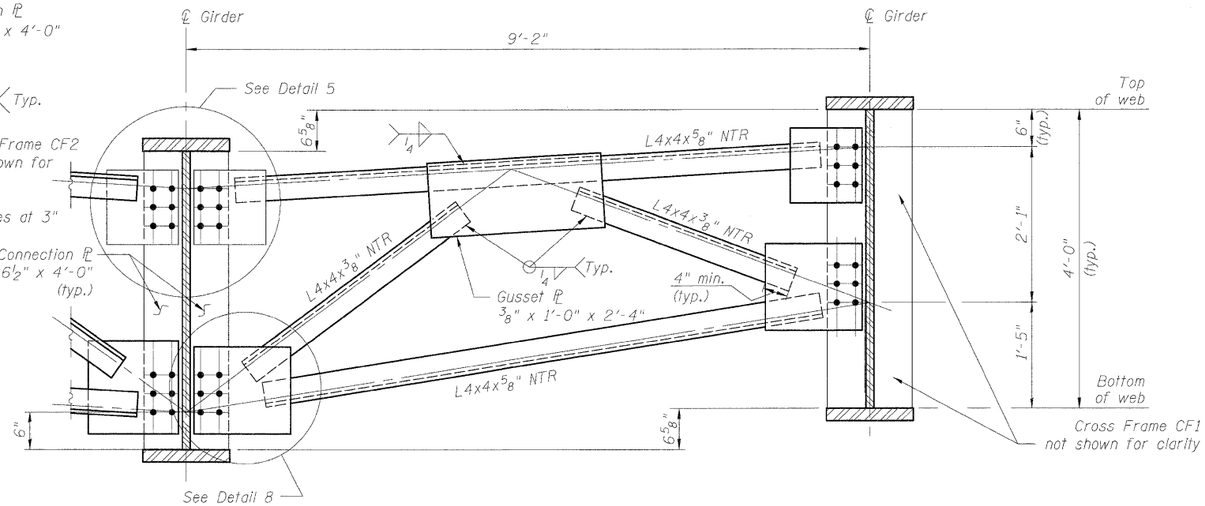


DETAIL 8





DETAIL 7



CROSS FRAME CF4 (LOOKING UPSTATION)

CROSS FRAME CF1 DIMENSIONS

Along ℄ of Bearing at West Abutment						
SPAN	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7
w	12'-0 7/8"	11'-11 3/4"	11'-10 5/8"	11'-9 1/2"	11'-8 1/2"	11'-7 5/8"
b	7 3/4"	7 5/8"	7 9/16"	7 1/2"	7 3/8"	7 5/16"
Along ℄ of Bearing at East Abutment						
SPAN	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7
w	10'-1 3/4"	10'-1 1/2"	10'-1 1/8"	10'-0 7/8"	10'-0 5/8"	10'-0 3/8"
b	6 3/8"	6 3/8"	6 5/16"	6 5/16"	6 5/16"	6 5/16"

Notes:
1. NTR indicates Notch Toughness Requirement.
2. All Structural Steel, except fill plates, shall be AASHTO M270 Grade 50.
3. For Detail 5 see Sheet SC-18.

DESIGNED	MB
CHECKED	KJH
DRAWN	AMV
CHECKED	KJH

STEEL DETAILS
STRUCTURE NO. 099-0348

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
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SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-19	55	(99-1&2) R-6	WILL	756	545
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE (GIRDER - 4)				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	27867	47757	27867
$I_c(n)$	(in^4)	72717	55129	72717
$I_c(3n)$	(in^4)	53307	55129	53307
S_s	(in^3)	1185	1845	1185
$S_c(n)$	(in^3)	1659	1951	1659
$S_c(3n)$	(in^3)	1519	1951	1519
S_{xt}	(in^3)	49	101	49
DC1	(k/')	1.23	1.34	1.23
M_{DC1}	('k)	949	2053	740
DC2	(k/')	0.15	0.15	0.15
M_{DC2}	('k)	120	229	94
DW	(k/')	0.43	0.43	0.43
M_{DW}	('k)	368	704	288
$M_L + IM$	('k)	1450	1744	1386
Mu (Strength I)	('k)	4426	6961	3900
M_{bf}	('k)	25	5	26
f_s DC1	(ksi)	10	13	7
f_s DC2	(ksi)	1	1	1
f_s DW	(ksi)	3	2	2
f_s 1.3(L+IM)	(ksi)	14	14	13
f_f	(ksi)	6	1	6
f_s (Service II)	(ksi)	28	32	23
f_s (Total)(Strength I)	(ksi)	37	42	31
F_{cr} (Service II)	(ksi)	47.5	47.5	47.5
Vf	(k)	16	28	25
F_{cr}	(ksi)	-	-	-

EXTERIOR GIRDER MOMENT TABLE (GIRDER - 7)				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	27867	47757	27867
$I_c(n)$	(in^4)	70701	55129	70701
$I_c(3n)$	(in^4)	51439	55129	51439
S_s	(in^3)	1185	1845	1185
$S_c(n)$	(in^3)	1647	1951	1647
$S_c(3n)$	(in^3)	1501	1951	1501
S_{xt}	(in^3)	49	101	49
DC1	(k/')	1.13	1.24	1.13
M_{DC1}	('k)	975	1940	744
DC2	(k/')	0.15	0.15	0.15
M_{DC2}	('k)	127	231	99
DW	(k/')	0.41	0.41	0.41
M_{DW}	('k)	360	649	279
$M_L + IM$	('k)	1907	2108	1789
Mu (Strength I)	('k)	5255	7377	4603
M_{bf}	('k)	32	24	33
f_s DC1	(ksi)	10	13	8
f_s DC2	(ksi)	1	1	1
f_s DW	(ksi)	3	4	2
f_s 1.3(L+IM)	(ksi)	18	17	17
f_f	(ksi)	8	3	8
f_s (Service II)	(ksi)	32	35	28
f_s (Total)(Strength I)	(ksi)	43	46	37
F_{cr} (Service II)	(ksi)	47.5	47.5	47.5
Vf	(k)	24	40	32
F_{cr}	(ksi)	-	-	-

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) 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-Strength I, and Service II) 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-Strength I, and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

S_{xt}: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).
$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

M_{bf}: Factored lateral bending moment for controlling flange plate (kip-ft.).

f_f: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_L + IM$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

F_{cr} (Service II): Critical flange stress at Service II computed according to Article 6.10.4.2 (ksi).

F_{cr}: Critical flange stress computed according to Article 6.10.7 or 6.10.8 (ksi).

Vr: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

Note:
M_L and R_L include the effects of centrifugal force and superelevation.

INTERIOR GIRDER REACTION TABLE (GIRDER-4) HL93 LOADING				
		N. Abut.	Pier	S. Abut.
R_{DC1}	(k)	52	175	45
R_{DC2}	(k)	7	20	6
R_{DW}	(k)	19	62	17
$R_L + IM$	(k)	101	186	97
R_{Total}	(k)	179	443	165

EXTERIOR GIRDER REACTION TABLE (GIRDER-7) HL93 LOADING				
		N. Abut.	Pier	S. Abut.
R_{DC1}	(k)	53	148	45
R_{DC2}	(k)	7	19	6
R_{DW}	(k)	19	52	16
$R_L + IM$	(k)	108	166	92
R_{Total}	(k)	187	385	159

DESIGNED	MGB
CHECKED	KJH
DRAWN	AMV
CHECKED	KJH

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Chicago, Illinois 60601
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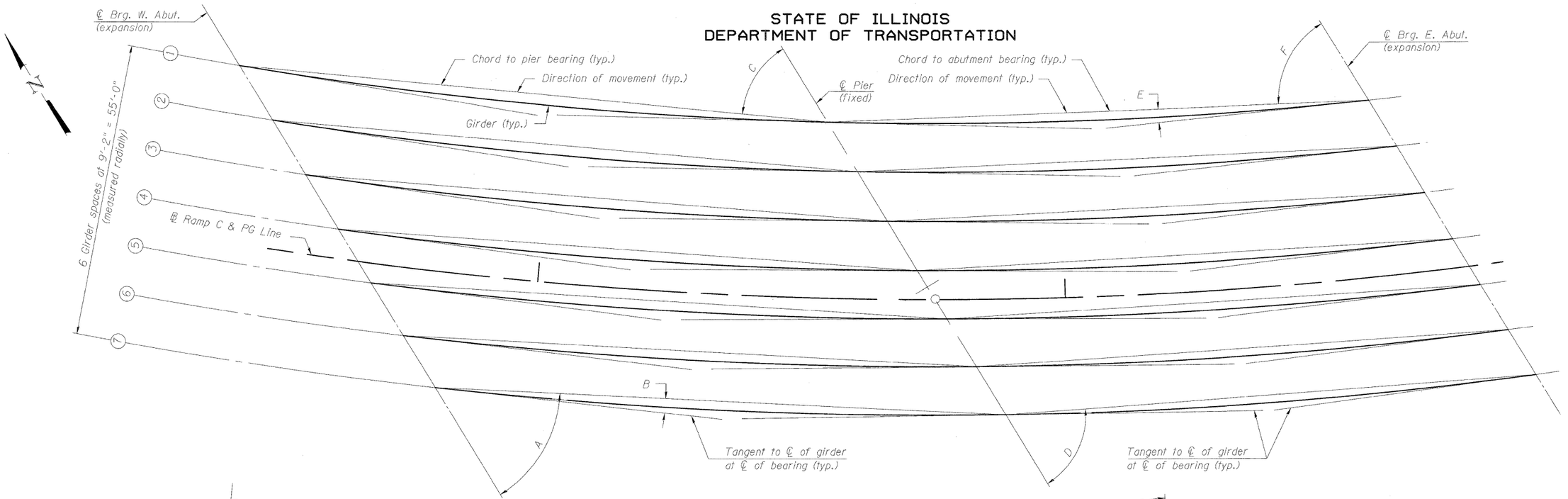
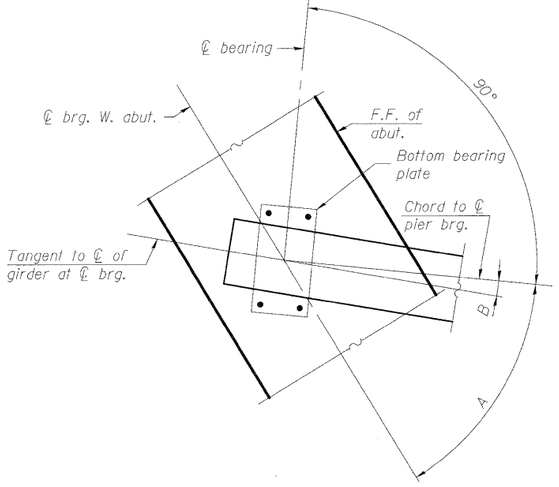
MOMENT AND REACTION TABLES
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-20	55	(99-1&2) R-6	WILL	756	546
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

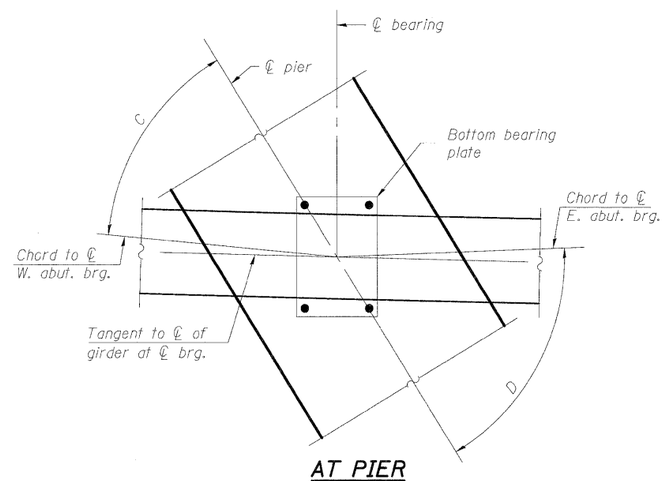
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



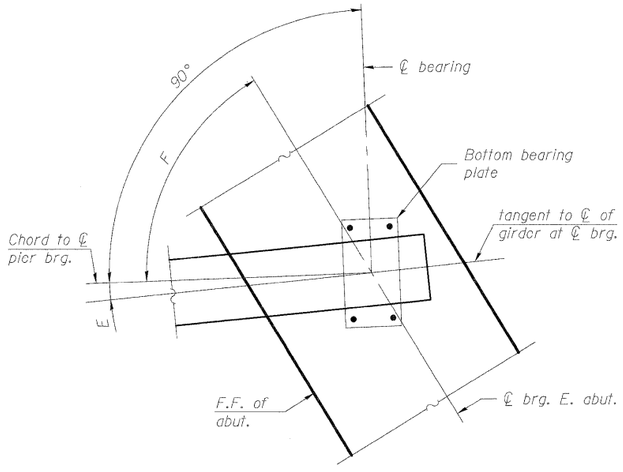
PLAN



AT WEST ABUTMENT



AT PIER



AT EAST ABUTMENT

ENLARGED PARTIAL PLAN

Notes:
1. For Steel Framing Plan, see Sheet No. SC-16.
2. For Girder Elevations, see Sheet No. SC-16.
3. For Cross-Frame Details, see Sheet No. SC-16 & SC-19.
4. For Camber Diagram and Top of Web Elevations, see Sheet SC-
5. For Splice Details, see Sheet No. SC-18.
6. For Bearing Layout, see Sheet No. SC-21.
7. For Bearing Details, see Sheet No. SC-22 & SC-23.

LAYOUT ANGLES

GIRDER	WEST ABUTMENT		PIER		EAST ABUTMENT	
	A	B	C	D	E	F
1	53°7'26"	3°59'59"	53°7'26"	60°47'20"	3°39'55"	60°47'20"
2	53°36'42"	3°55'46"	53°36'42"	61°9'8"	3°36'40"	61°9'8"
3	54°5'7"	3°51'44"	54°5'7"	61°30'22"	3°33'31"	61°30'22"
4	54°32'44"	3°47'51"	54°32'44"	61°51'3"	3°30'28"	61°51'3"
5	54°59'36"	3°44'6"	54°59'36"	62°11'13"	3°27'31"	62°11'13"
6	55°25'43"	3°40'31"	55°25'43"	62°30'53"	3°24'39"	62°30'53"
7	55°51'9"	3°37'3"	55°51'9"	62°50'5"	3°21'53"	62°50'5"

DESIGNED	MJL
CHECKED	MGB
DRAWN	AMV
CHECKED	MGB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
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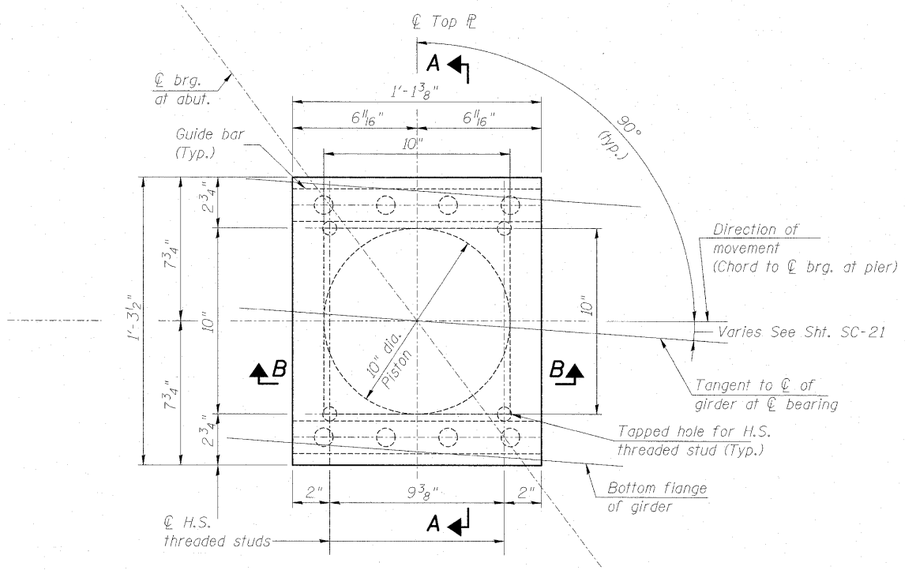
BEARING LAYOUT
STRUCTURE NO. 099-0348

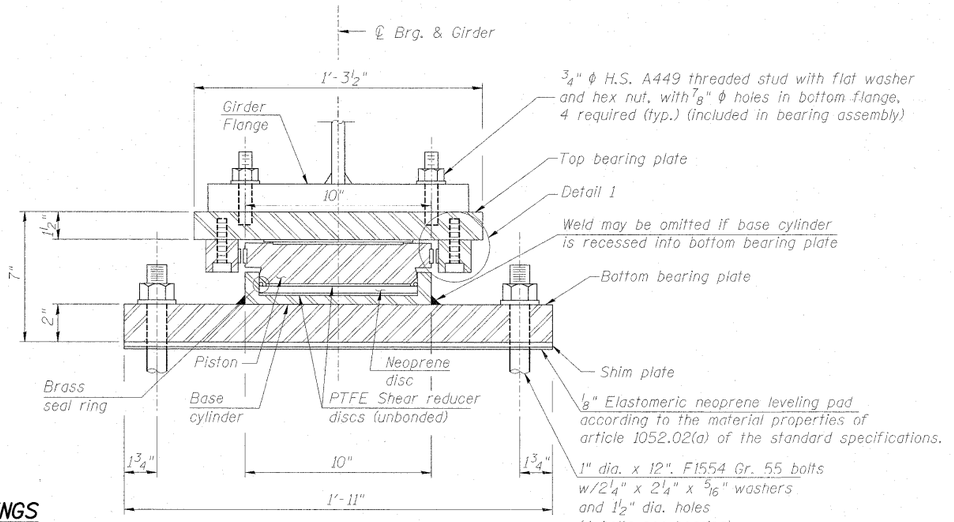
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-21	55	(99-1&2) R-6	WILL	756	547
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP BEARING PLATE AND PISTON PLAN

SCALE: NTS



SECTION A-A

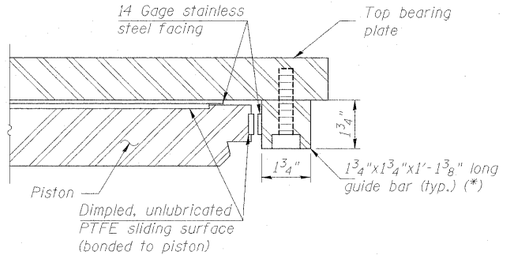
SCALE: NTS

SLOPE AT BEARINGS

GIRDER	West Brg. % Slope	East Brg. % Slope
1	0.89	0.06
2	0.82	0.09
3	0.76	0.13
4	0.70	0.16
5	0.65	0.19
6	0.59	0.22
7	0.54	0.25

BILL OF MATERIAL

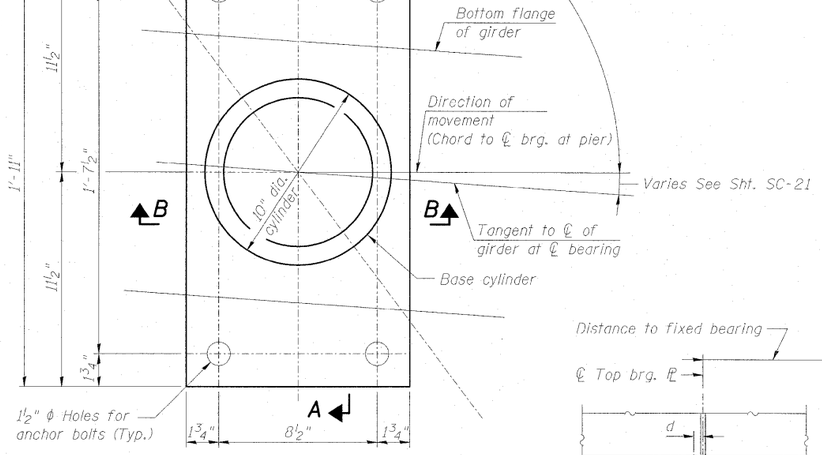
ITEM	Capacity k	UNIT	QUANTITY
High Load Multi-Rotational Bearings, Guided Expansion	200	Each	14
Anchor Bolts, 1"	-	Each	56



DETAIL 1

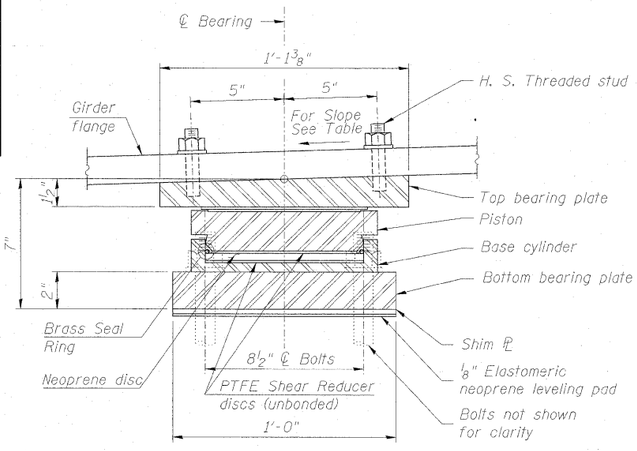
SCALE: NTS

(*)
As alternates to the bolted connection shown, The guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece.



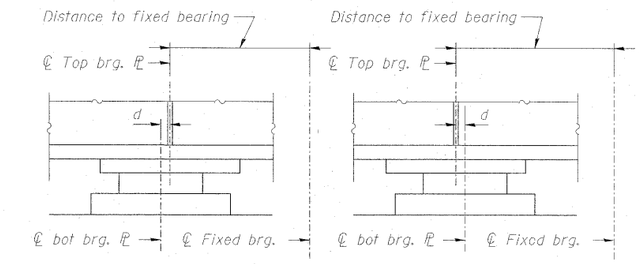
BOTTOM BEARING PLATE AND BASE CYLINDER PLAN

SCALE: NTS



SECTION B-B

SCALE: NTS



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

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

SETTING ANCHOR BOLTS AT EXPANSION BEARINGS

NOTE: d=1/8" per each 100' of expansion for every 15° temperature change from the normal temperature of 50°F.

HIGH LOAD MULTI-ROTATIONAL BEARING GUIDED EXPANSION INFORMATION:

1) Total vertical service design axial DL = 74.4 k

2) Total vertical service design LL without impact = 79.1 k

3) Total required Movement = 1.4 in
(Expansion = 0.7" & Contraction = 0.7")

NOTE:

THE HIGH LOAD MULTI-ROTATIONAL BEARING GUIDED EXPANSION TYPE SHOWN ARE AT WEST ABUTMENT, EAST ABUTMENT SIMILAR.

Notes:

The structural steel plates for the bearing assembly shall conform to the requirement of AASHTO M270 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.

The Anchor bolt sizes and grades shown constitute a calculated seismic fuse. Substitution of higher diameter or grade anchor bolts will not be permitted.

Anchor bolts shall be ASTM F1554 all threads (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 55 (FY=55ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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

The 1/8" PTFE sheet shall be bonded directly to the piston 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.

EXPANSION BEARING DETAILS
STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	MGB
DRAWN	AMV
CHECKED	MGB

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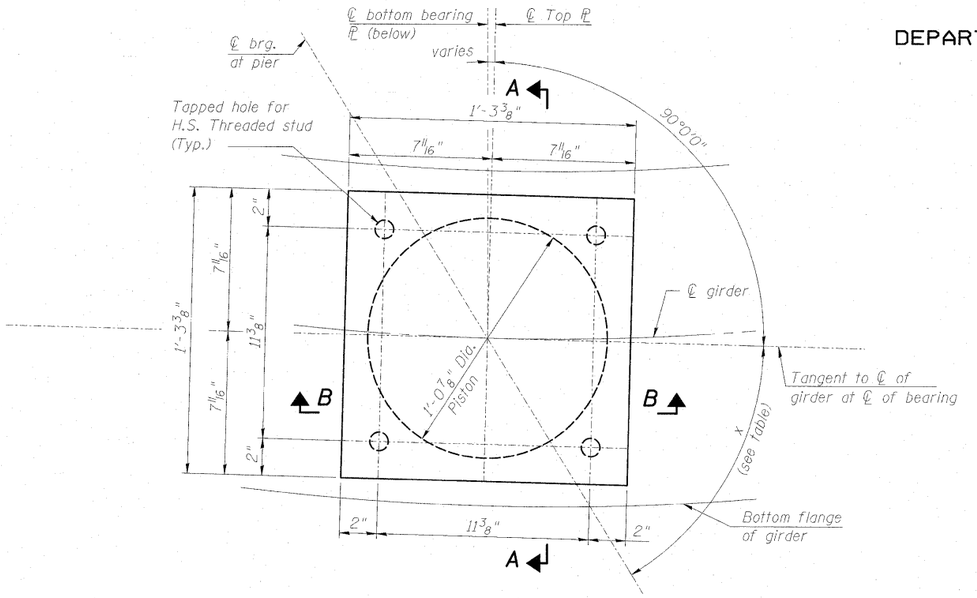
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

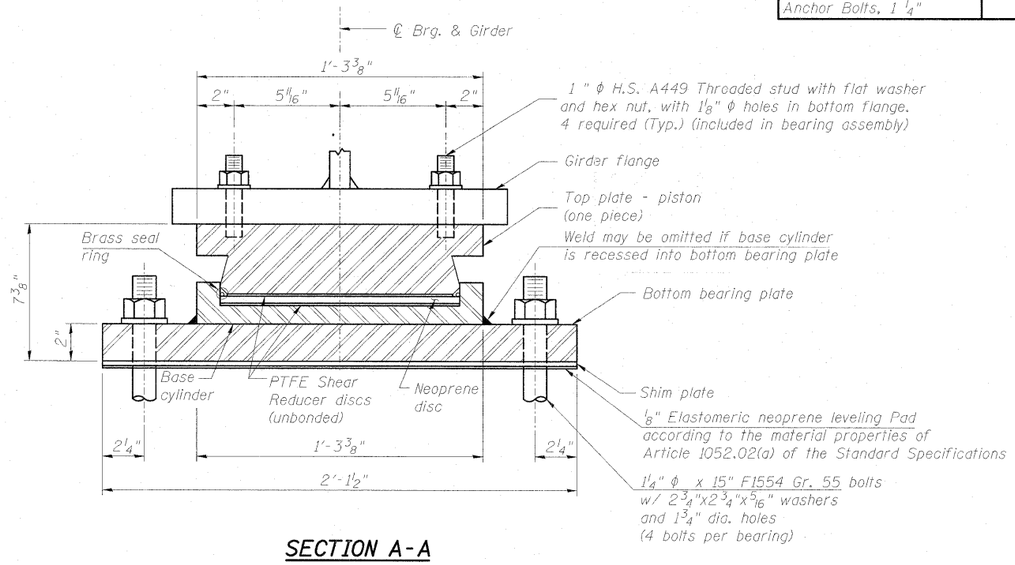
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-22	55	(99-1&2) R-6	WILL	756	548
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



TOP BEARING PLATE AND PISTON PLAN

SCALE : NTS



SECTION A-A

SCALE : NTS

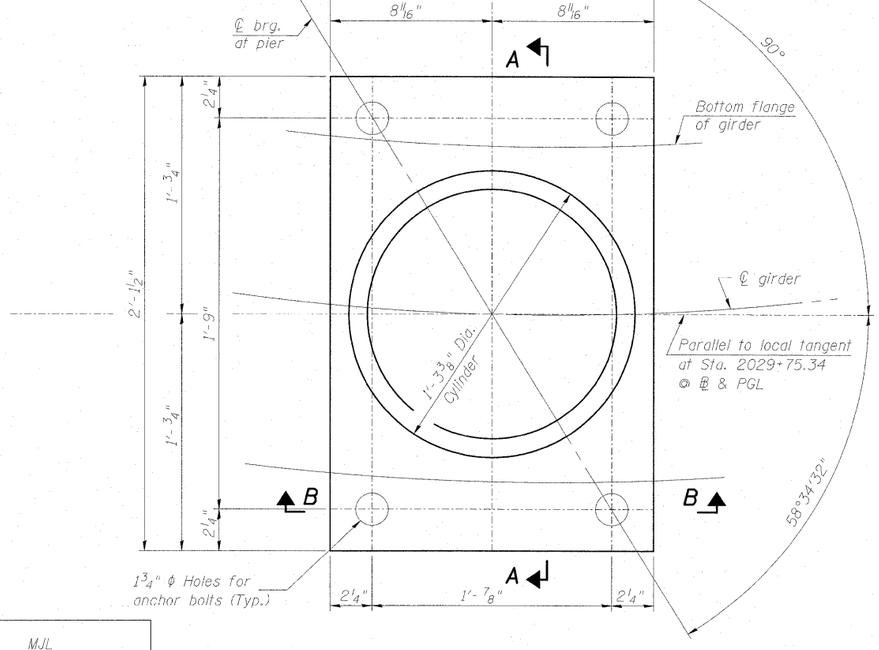
BILL OF MATERIAL

ITEM	CAPACITY k	UNIT	QUANTITY
High Load Multi-Rotational Bearings, Fixed	450	Each	7
Anchor Bolts, 1 1/4"	-	Each	28

GIRDER	x
1	57°7'25"
2	57°32'28"
3	57°56'51"
4	58°20'35"
5	58°43'42"
6	59°6'14"
7	59°28'12"

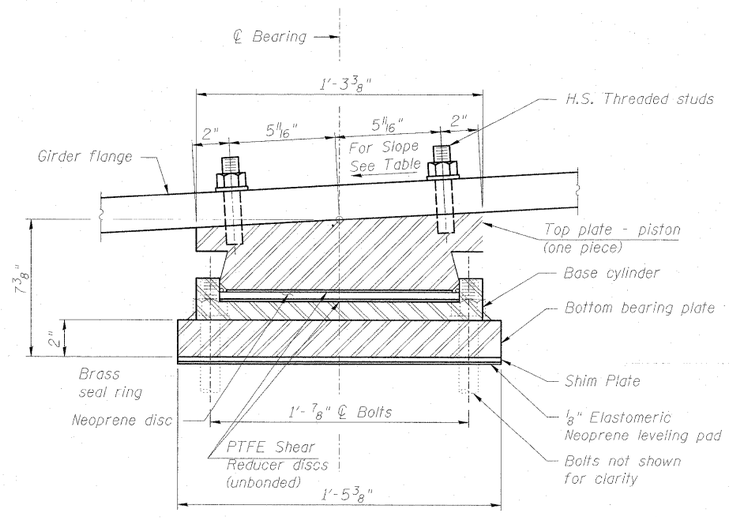
SLOPE AT BEARINGS

GIRDER	PIER % Slope
1	0.36
2	0.30
3	0.25
4	0.21
5	0.16
6	0.11
7	0.07



BOTTOM BEARING PLATE AND BASE CYLINDER PLAN

SCALE : NTS



SECTION B-B

SCALE : NTS

Note:
For Notes, See Sheet SC-22.

HIGH LOAD MULTI-ROTATIONAL FIXED BEARING INFORMATION:

1) Total vertical service design axial DL = 277.2 k

2) Total vertical service design LL without impact = 148.6 k

DESIGNED	MJL
CHECKED	MGB
DRAWN	AMV
CHECKED	MGB

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Engineers / Architects
130 East Randolph Street
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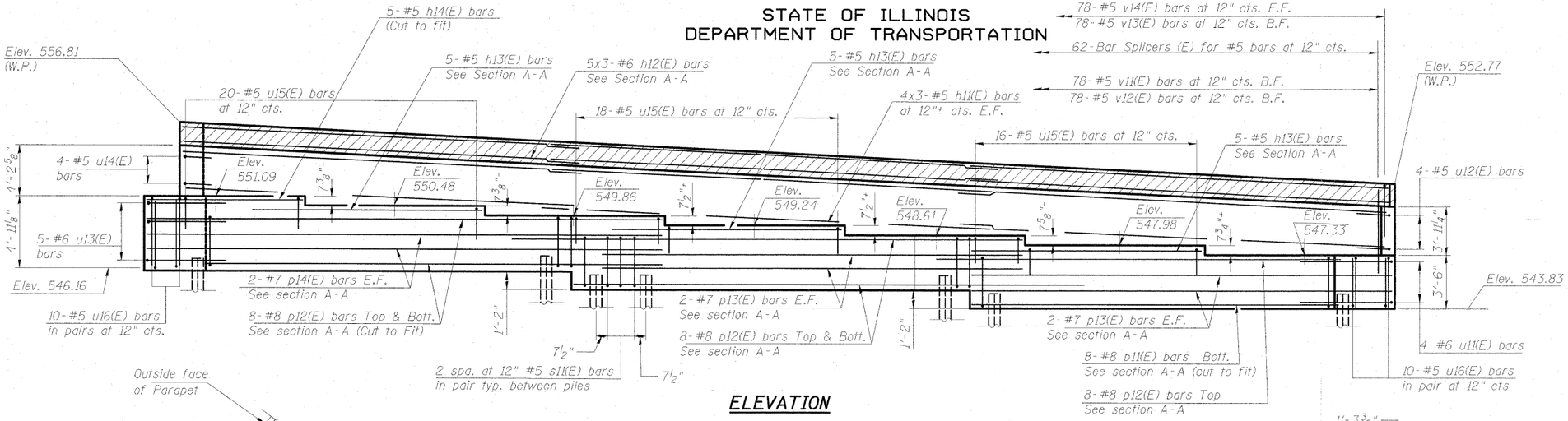
(312) 946-8600

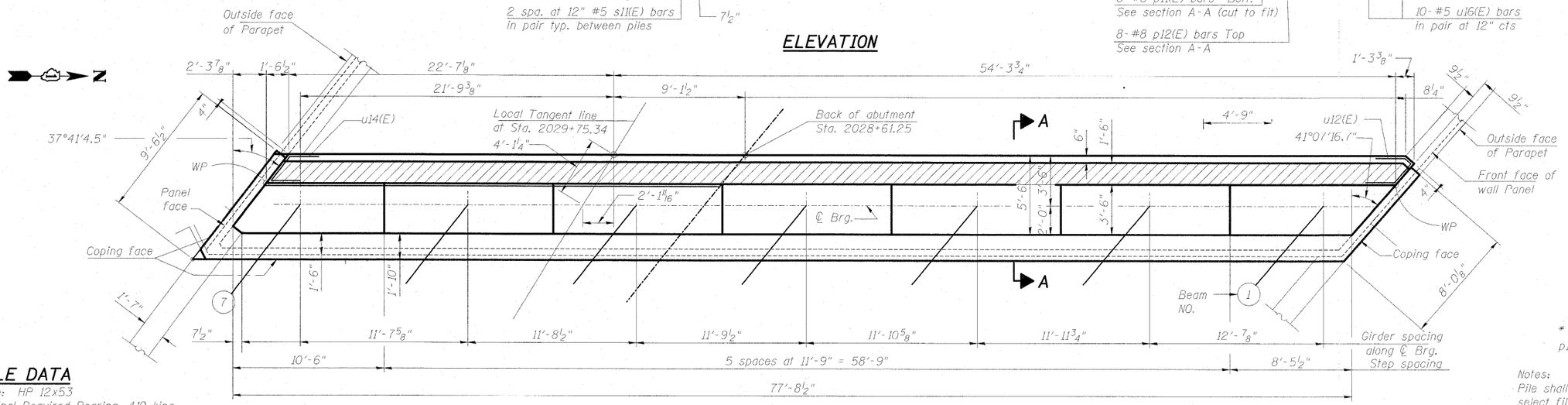
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-23	55	(99-1&2) R-6	WILL	756	549
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FIXED BEARING DETAILS
STRUCTURE NO. 099-0348

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



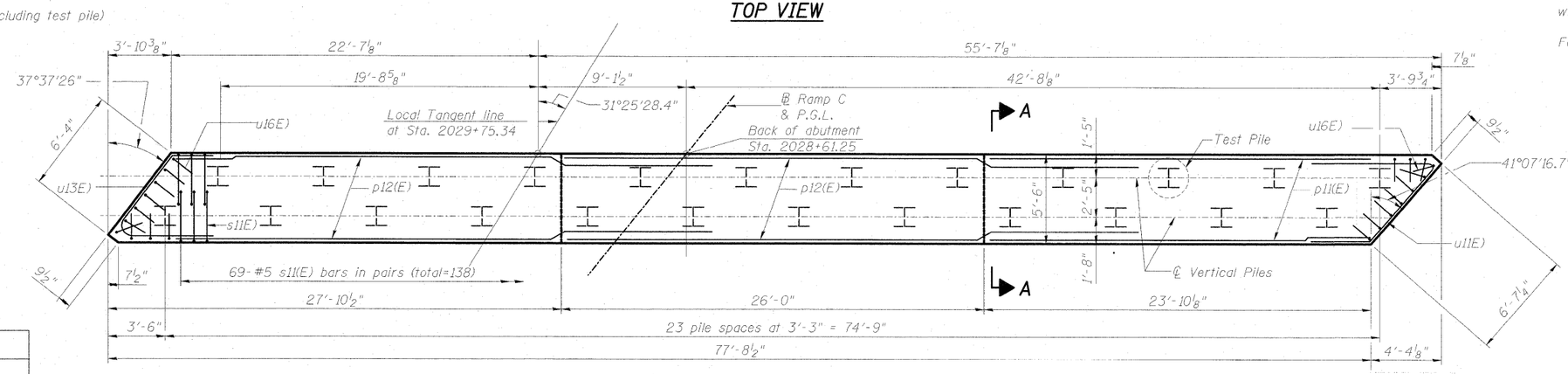
ELEVATION



PILE DATA

Type: HP 12x53
Nominal Required Bearing: 419 kips
Factored Resistance Available: 139 kips
Est. Length: 22 ft
No. Production Piles: 24 (Including test pile)
No. Test Piles: 1

TOP VIEW



PLAN-PILE CAP

MINIMUM BAR LAP

(Abutment)

Other bars	*Top bars
#5 bar = 2'-2"	#7 bar = 4'-10"
#6 bar = 2'-7"	#8 bar = 6'-4"
#7 bar = 3'-5"	
#8 bar = 4'-6"	
#9 bar = 5'-9"	
#10 bar = 7'-3"	

* Top bar minimum lap lengths are to include p12(E), p13(E) and p14(E) bars.

Notes:
Pile shall be driven prior to placement of the reinforced select fill and coated with coal tar epoxy from the bottom of the select fill to 1" above the base of the abutment. The cost of the coal tar epoxy coating shall be included with the cost of the Furnishing Piles.

For Section A-A see Sheet no. SC-26.

WEST ABUTMENT PLAN & ELEVATION
STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	MGB
DRAWN	RJ
CHECKED	BKB

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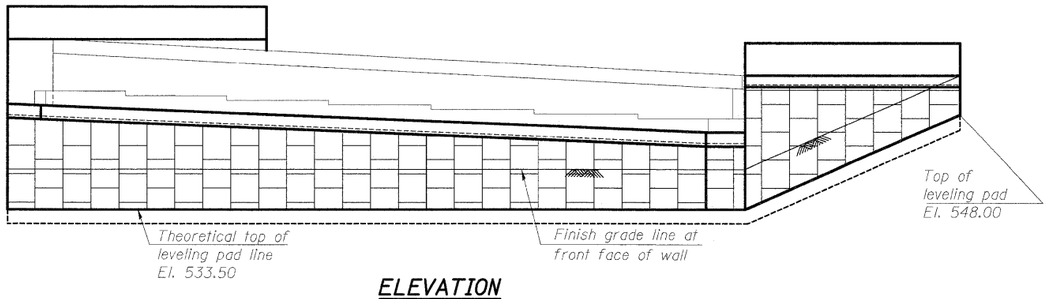
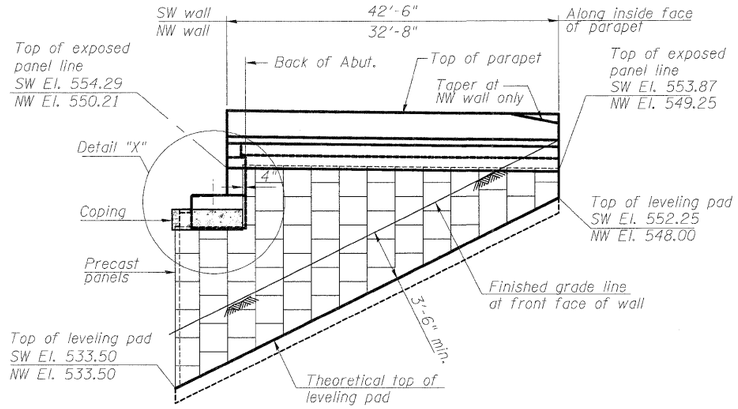
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-24	55	(99-1&2) R-6	WILL	756	550
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

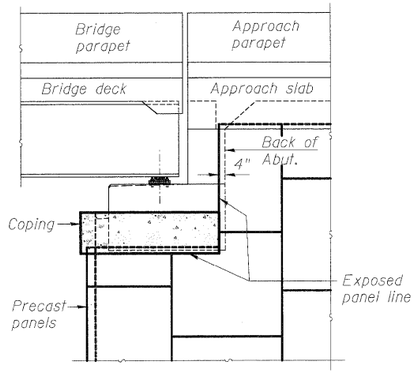


ELEVATION

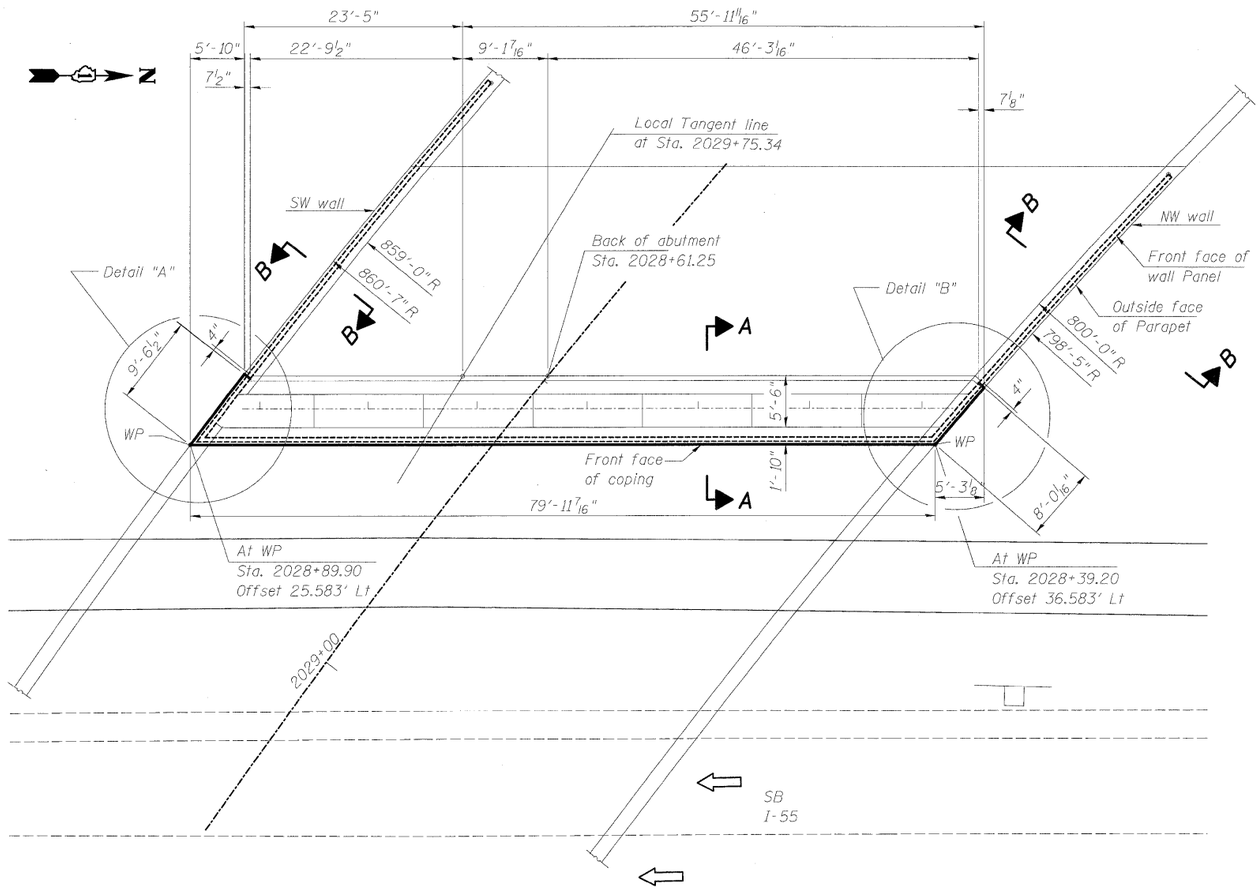


WEST ABUTMENT M.S.E. WINGWALL ELEVATION

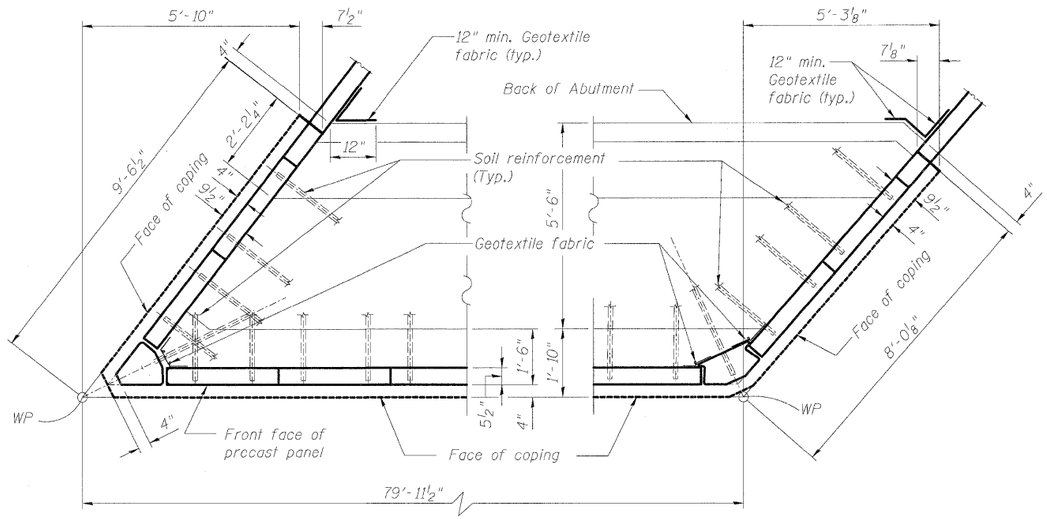
Northwest wingwall shown, Southwest wingwall similar



DETAIL "X" END VIEW



PLAN



DETAIL "A" **DETAIL "B"**

The MSE wall supplier shall design the abutment soil reinforcment to resist a horizontal force of 4 kips/ft of abutment.

Note:
For sections A-A & B-B see sheet SC-26.

WEST ABUTMENT WINGWALL DETAILS
STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	MGB
DRAWN	RJ
CHECKED	BKB

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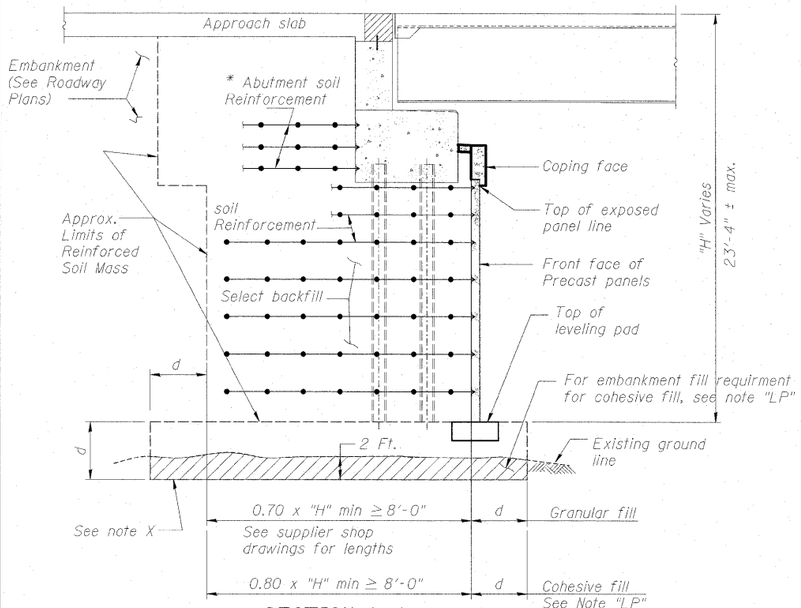
SHEET NO. SC-25 SHEETS SC-37

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(99-1&2) R-6	WILL	756	551
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

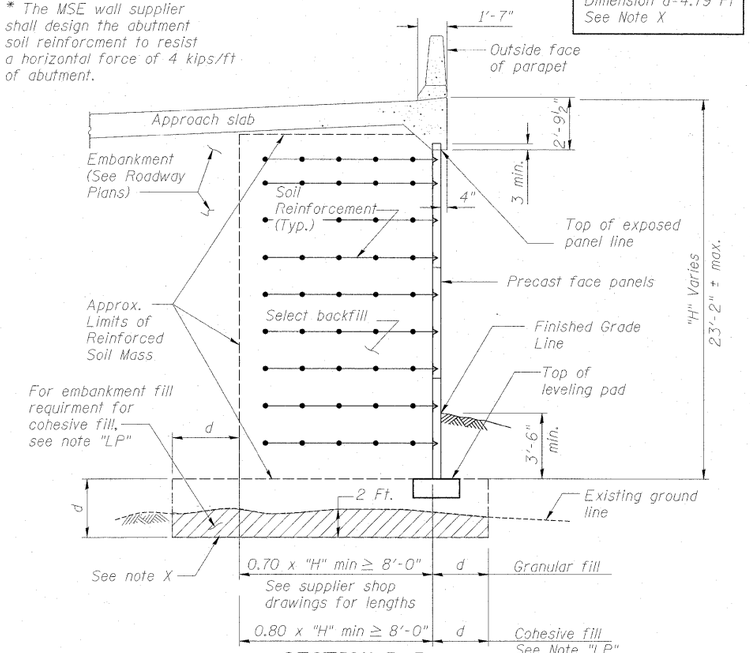
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A

* The MSE wall supplier shall design the abutment soil reinforcement to resist a horizontal force of 4 kips/ft of abutment.

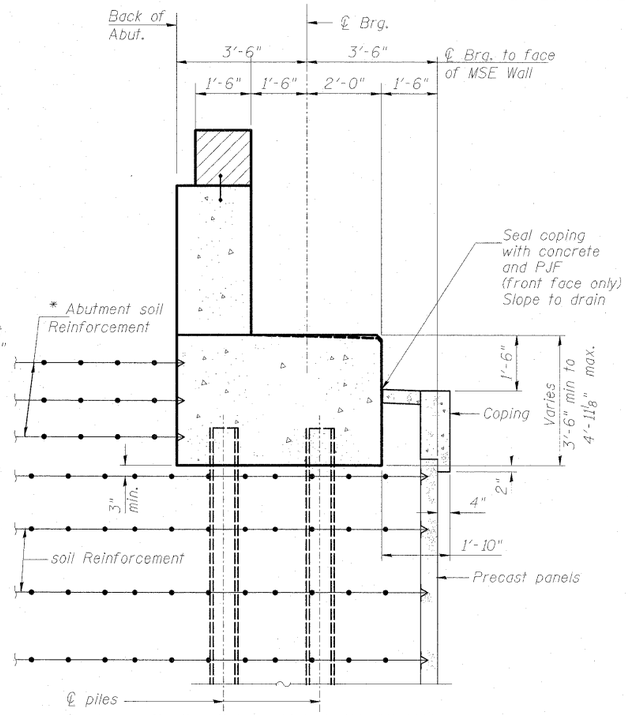
Dimension d=4.79 Ft See Note X



SECTION B-B

Note "LP":
If the leveling pad is placed on top of cohesive fill material, the embankment fill below the leveling pad shall achieve an unconfined compressive strength of 1.5 tons per square foot, which may require that the degree of compaction is higher than 95% of the maximum dry density according to AASHTO T99. The embankment material should be placed in layers no more than 8 inches in loose thickness. The dynamic cone penetrometer reading must be equal to or less than 1.3 inches per blow, when testing the penetration rate in accordance with the IDOT Geotechnical Manual.

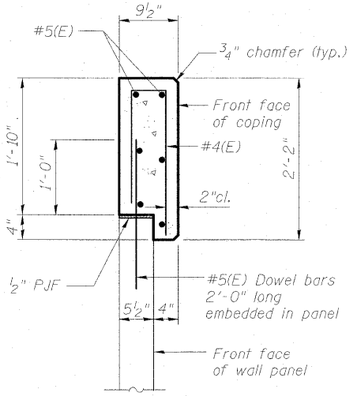
Note X: Dimension d is based on Qu=1.5 tons/sq. Ft. and moisture content less then 30%.



SECTION THRU ABUTMENT

Showing Soil Reinforcement and Coping with Precast panels

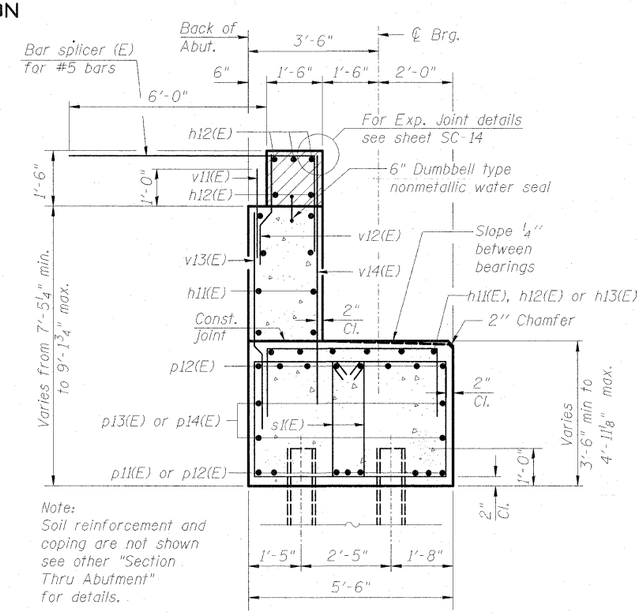
Note x: Dimension d is based on Qu=1.5 tons/sq. Ft. and moisture content less then 30%.



COPING DETAILS

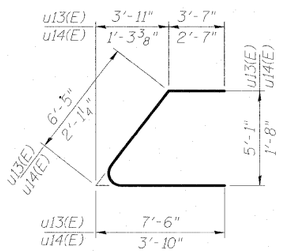
Cost of Coping including Reinforcement in the Coping is included in the pay item "Mechanically Stabilized Earth Retaining Wall".

Removal of unsuitable material.

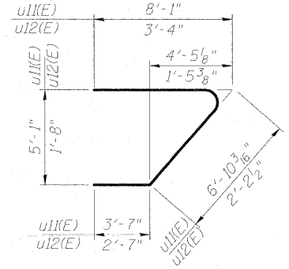


Note:
Soil reinforcement and coping are not shown see other "Section Thru Abutment" for details.

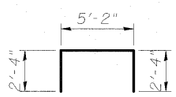
SECTION THRU ABUTMENT



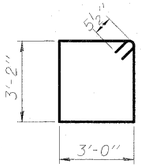
BARS u13(E) & u14(E)



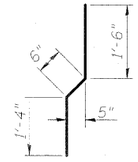
BARS u11(E) & u12(E)



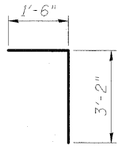
BAR u15(E)



BARS s11(E)



BAR v12(E)



BAR u16(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h11(E)	24	#5	27'-5"	
h12(E)	15	#6	27'-8"	
h13(E)	15	#5	15'-4"	
h14(E)	5	#5	9'-6"	
p11(E)	8	#8	23'-6"	
p12(E)	40	#8	32'-4"	
p13(E)	4	#7	23'-6"	
p14(E)	8	#7	37'-5"	
s1(E)	138	#5	13'-3"	
u11(E)	4	#6	18'-6"	
u12(E)	4	#5	8'-2"	
u13(E)	5	#6	17'-5"	
u14(E)	4	#5	8'-7"	
u15(E)	54	#5	9'-10"	
u16(E)	40	#5	4'-8"	
v11(E)	78	#5	2'-10"	
v12(E)	78	#5	3'-4"	
v13(E)	78	#5	6'-2"	
v14(E)	78	#5	7'-4"	
Concrete Structures		Cu. Yd.	88.2	
Reinforcement Bars, Epoxy Coated		Pound	10,950	
Furnishing Steel Piles HP12X53		Foot	506	
Driving Piles		Foot	506	
Test Pile Steel HP12X53		Each	1	
Bar Splicers		Each	62	
Concrete Sealer		Sq. Ft.	273	
Mechanically Stabilized Earth Retaining Wall		Sq. Ft.	1,942	
Removal and Disposal of Unsuitable Material for Structures		Cu. Yd.	155	

Notes:
At Section thru Abutment showing hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap. Quantity of concrete in end post included with Concrete Superstructure on sheet SC-13.
For details of Bar Splicers, see sheet SC-35.
For details of piles, see sheet SC-34.
Quantity of embankment fill is included with roadway quantities.

DESIGNED	MJL
CHECKED	MGB
DRAWN	RJ
CHECKED	BKB

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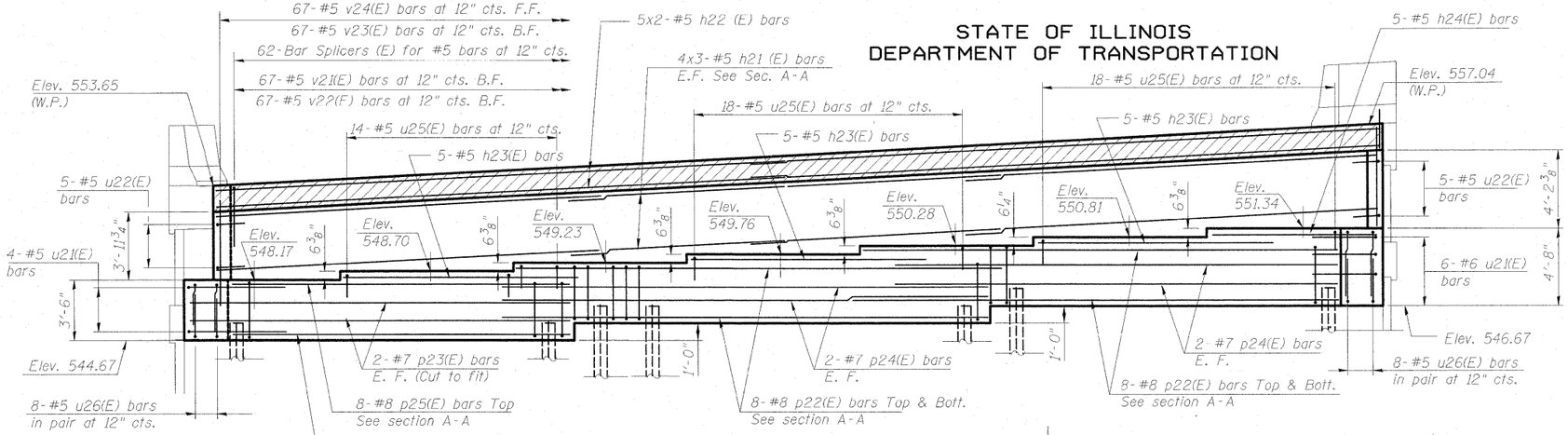
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

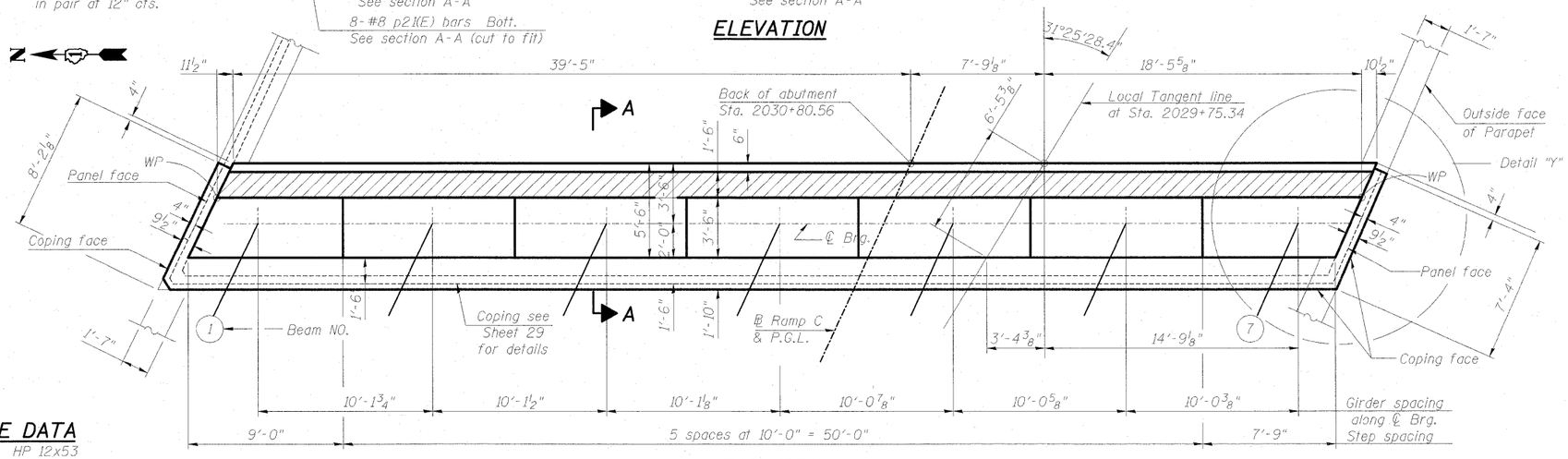
WEST ABUTMENT DETAILS
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-26	55	(99-1&2) R-6	WILL	756	552
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

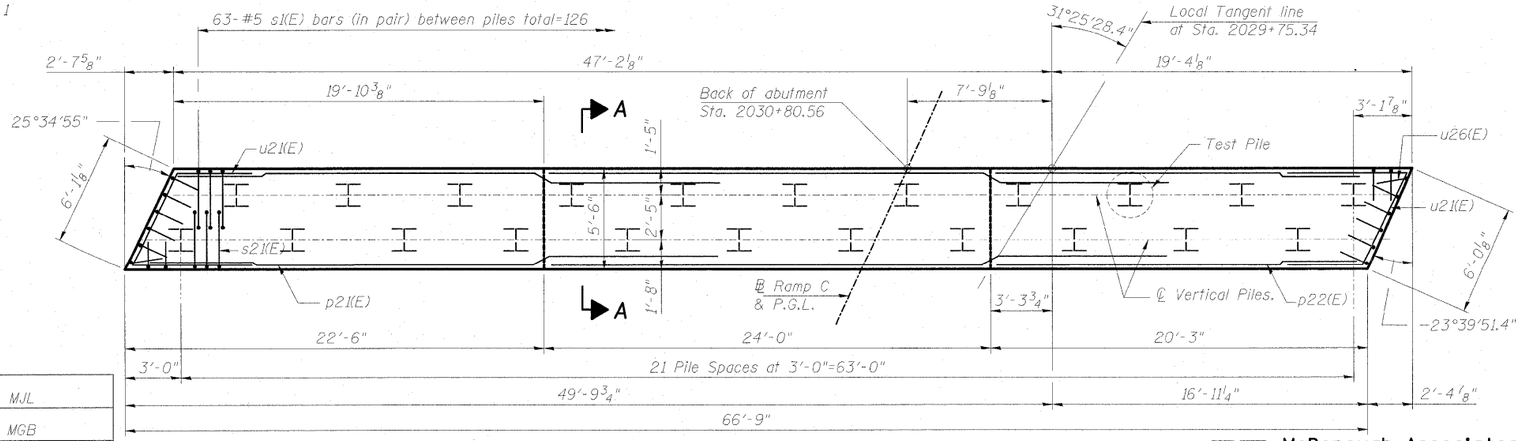
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



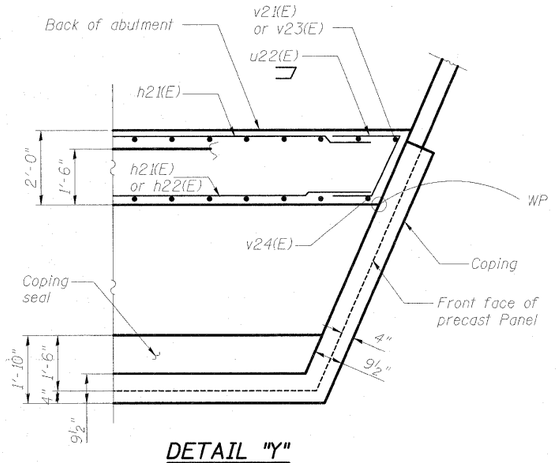
ELEVATION



TOP VIEW



PLAN-PILE CAP



DETAIL "Y"

MINIMUM BAR LAP
(Abutment)

Other bars	*Top bars
#5 bar = 2'-2"	#7 bar = 4' 10"
#6 bar = 2'-7"	#8 bar = 6'-4"
#7 bar = 3'-5"	
#8 bar = 4'-6"	
#9 bar = 5'-9"	
#10 bar = 7'-3"	

*Top bar minimum lap lengths to include p22(E), p23(E), and p24(E) bars.

PILE DATA
Type: HP 12x53
Nominal Required Bearing: 419 kips
Factored Resistance Available: 139 kips
Est. Length: 24 ft
No. Production Piles: 22 (Including test pile)
No. Test Piles: 1

Notes:
Pile shall be driven prior to placement of the reinforced select fill and coated with coal tar epoxy from the bottom of the select fill to 1" above the base of the abutment. The cost of the coal tar epoxy coating shall be included with the cost of Furnishing Steel Piles.

For Section A-A see Sheet no. SC-29.

DESIGNED	MJL
CHECKED	MGB
DRAWN	RJ
CHECKED	BKB

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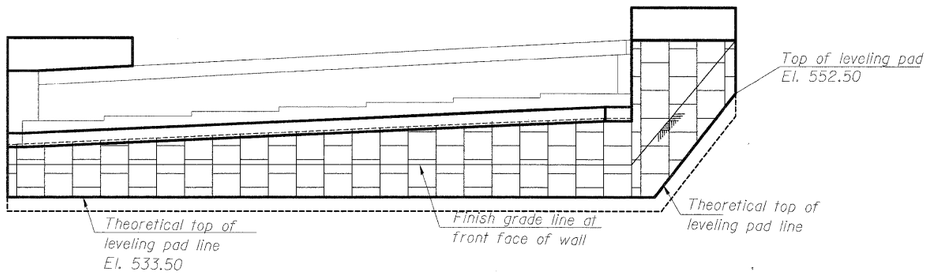
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

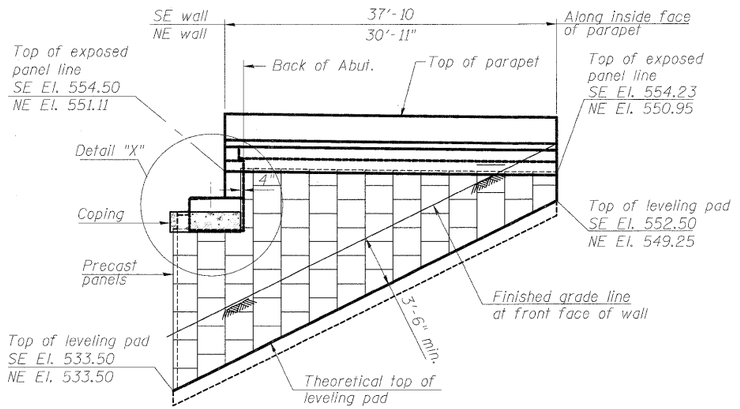
EAST ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-27	55	(99-1&2) R-6	WILL	756	553
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

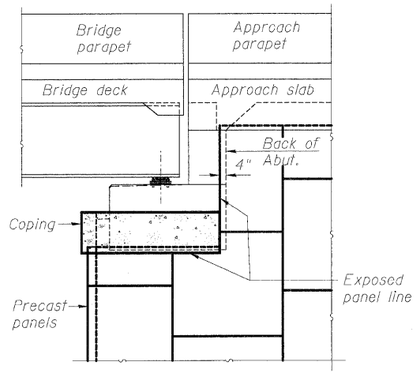


ELEVATION-MSE WALL

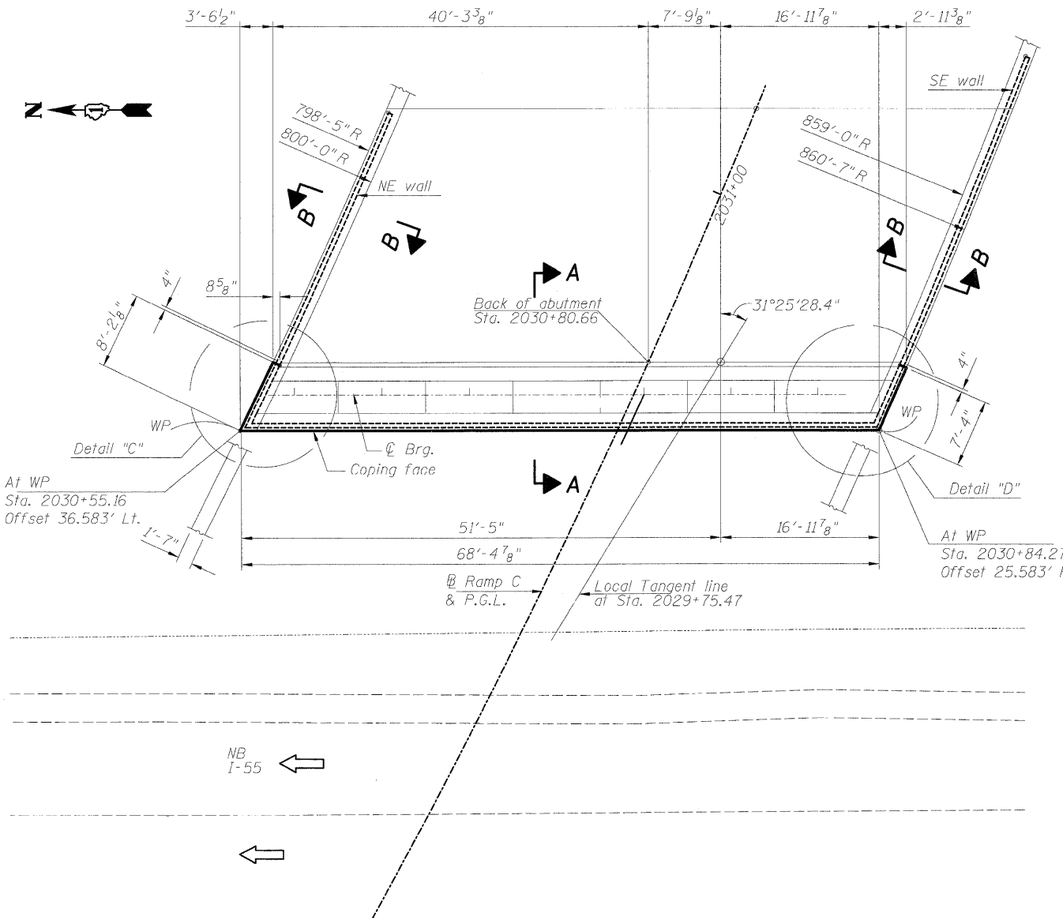


EAST ABUTMENT M.S.E. WINGWALL ELEVATION

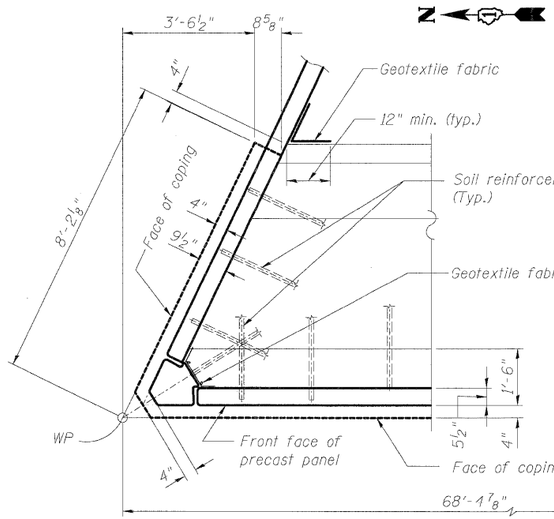
Southeast wingwall shown. Northeast wingwall similar



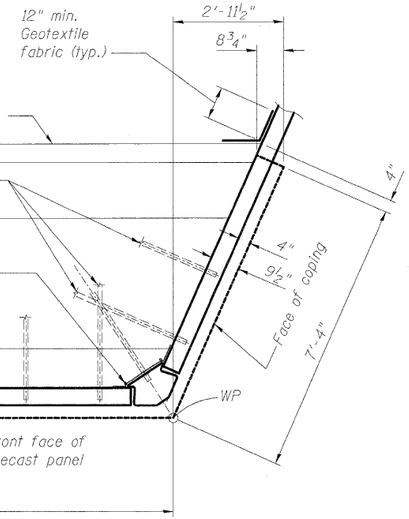
DETAIL "X" END VIEW



PLAN-MSE WALL



DETAIL "C"



DETAIL "D"

The MSE wall supplier shall design the abutment soil reinforcment to resist a horizontal force of 4 kips/ft of abutment.

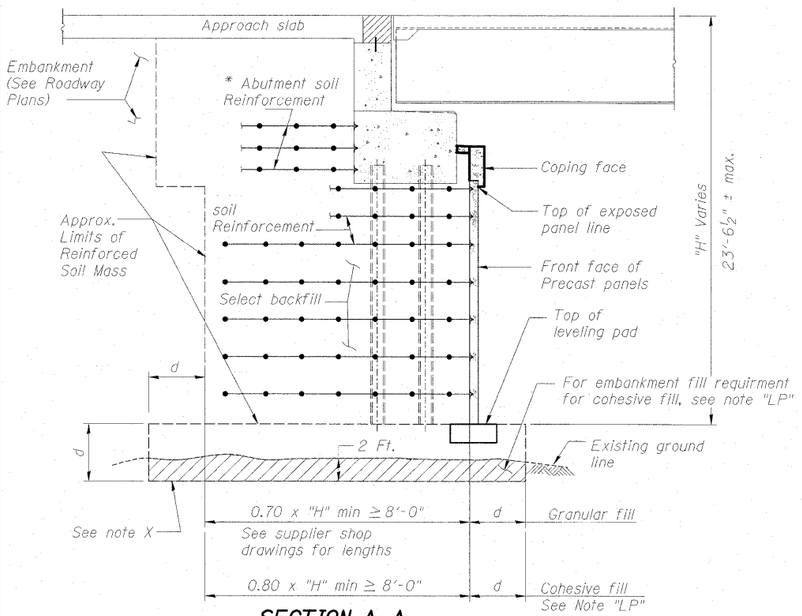
EAST ABUTMENT WINGWALL DETAILS
STRUCTURE NO. 099-0348

DESIGNED	MJL
CHECKED	MGB
DRAWN	RJ
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-28	55	(99-1&2) R-6	WILL	756	554
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

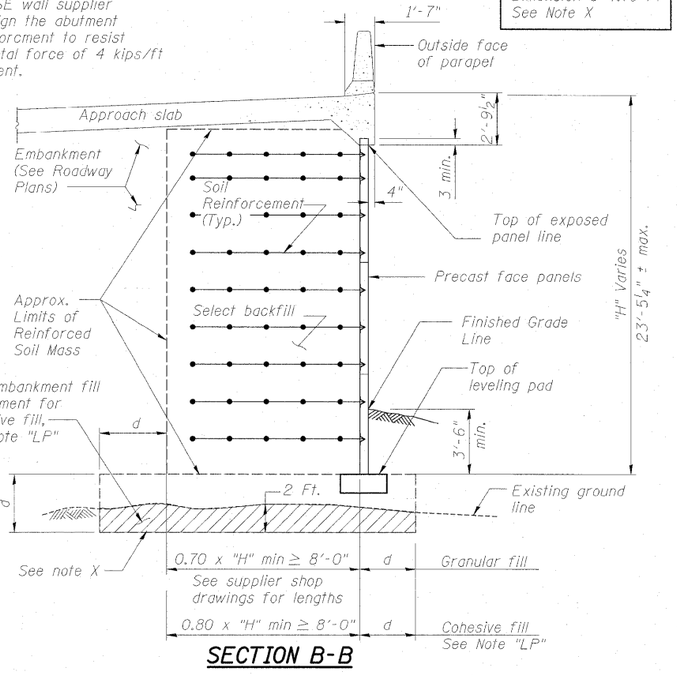
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A

Dimension d=4.79 Ft See Note X

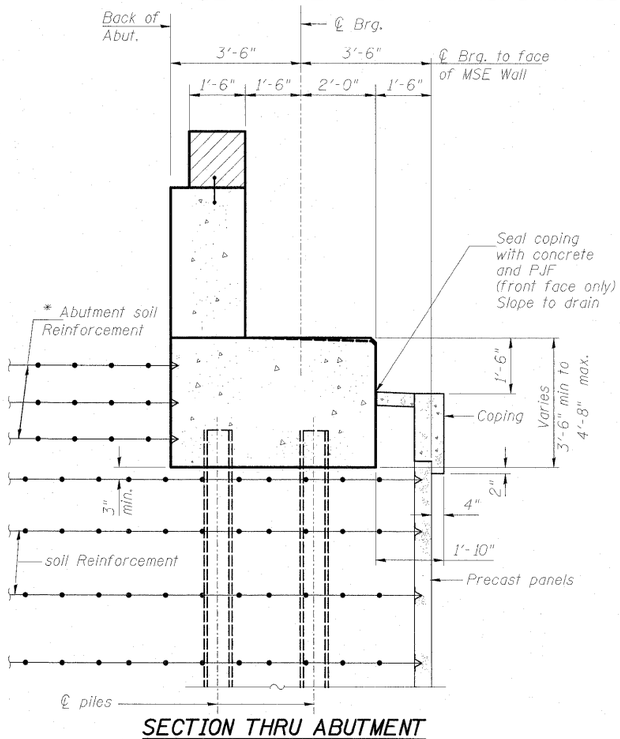
* The MSE wall supplier shall design the abutment soil reinforcment to resist a horizontal force of 4 kips/ft of abutment.



SECTION B-B

Note "LP":
If the leveling pad is placed on top of cohesive fill material, the embankment fill below the leveling pad shall achieve an unconfined compressive strength of 1.5 tons per square foot, which may require that the degree of compaction is higher than 95% of the maximum dry density according to AASHTO T99. The embankment material should be placed in layers no more than 8 inches in loose thickness. The dynamic cone penetrometer reading must be equal to or less than 1.3 inches per blow, when testing the penetration rate in accordance with the IDOT Geotechnical Manual.

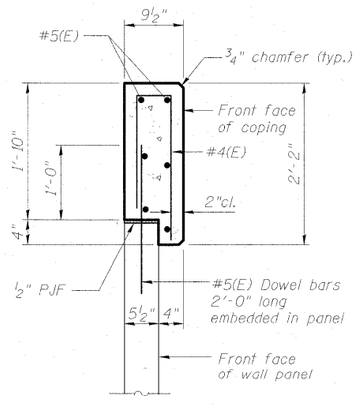
Note X: *Dimension d is based on Qu=1.5 tons/sq. Ft. and moisture content less then 30%.*



SECTION THRU ABUTMENT

Showing Soil Reinforcement and Coping with Precast panels

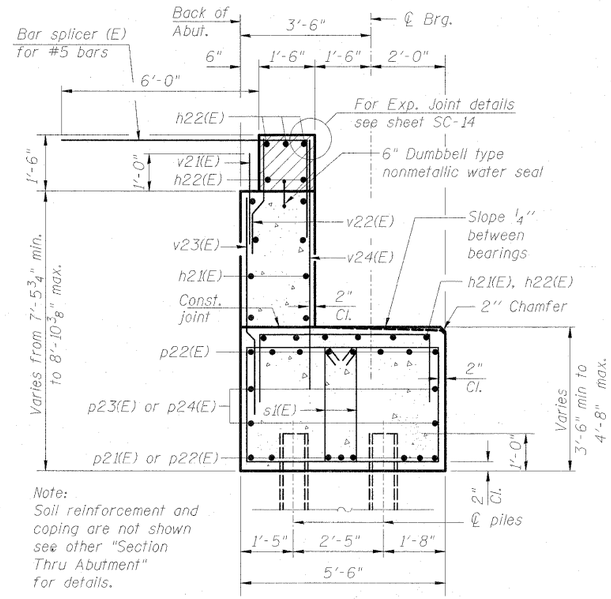
Note x: *Dimension d is based on Qu=1.5 tons/sq. Ft. and moisture content less then 30%.*



COPING DETAILS

Cost of Coping including Reinforcment in the Coping is included in the pay item "Mechanically Stabilized Earth Retaining Wall".

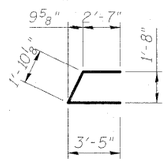
Removal of unsuitable material.



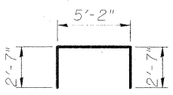
Note:
Soil reinforcement and coping are not shown see other "Section Thru Abutment" for details.

SECTION THRU ABUTMENT

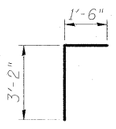
Showing Reinforcement



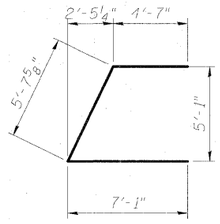
BAR u22(E)



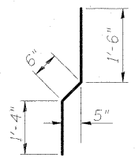
BAR u25(E)



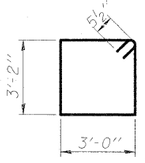
BAR u26(E)



BARS u21(E)



BAR v24(E)



BARS s21(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h21(E)	24	#5	23'-3"	
h22(E)	10	#6	34'-5"	
h23(E)	15	#5	14'-4"	
h24(E)	5	#5	7'-4"	
p21(E)	8	#8	22'-2"	
p22(E)	32	#8	28'-10"	
p23(E)	4	#7	22'-2"	
p24(E)	8	#7	28'-8"	
p25(E)	8	#8	24'-0"	
s21(E)	126	#5	13'-3"	
u21(E)	10	#6	17'-4"	
u22(E)	10	#5	7'-10"	
u25(E)	42	#5	8'-4"	
u26(E)	32	#5	4'-8"	
v21(E)	67	#5	2'-10"	
v22(E)	67	#4	3'-4"	
v23(E)	67	#5	6'-2"	
v24(E)	67	#5	7'-4"	

Concrete Structures	Cu. Yd.	76.1
Reinforcement Bars, Epoxy Coated	Pound	9,410
Furnishing Steel Piles HP12X53	Foot	504
Driving Piles	Foot	504
Test Pile Steel HP12X53	Each	1
Bar Splicers	Each	62
Concrete Sealer	Sq. Ft.	234
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	1,822
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	139

Notes:
At Section thru Abutment showing hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap. Quantity of concrete in end post included with Concrete Superstructure on sheet SC-13.
For details of Bar Splicers, see sheet SC-35.
For details of piles, see sheet SC-34.
Quantity of embankment fill is included with roadway quantities.

DESIGNED	MJL
CHECKED	MGB
DRAWN	RJ
CHECKED	BKB

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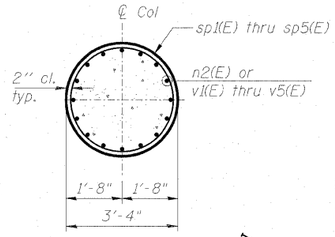
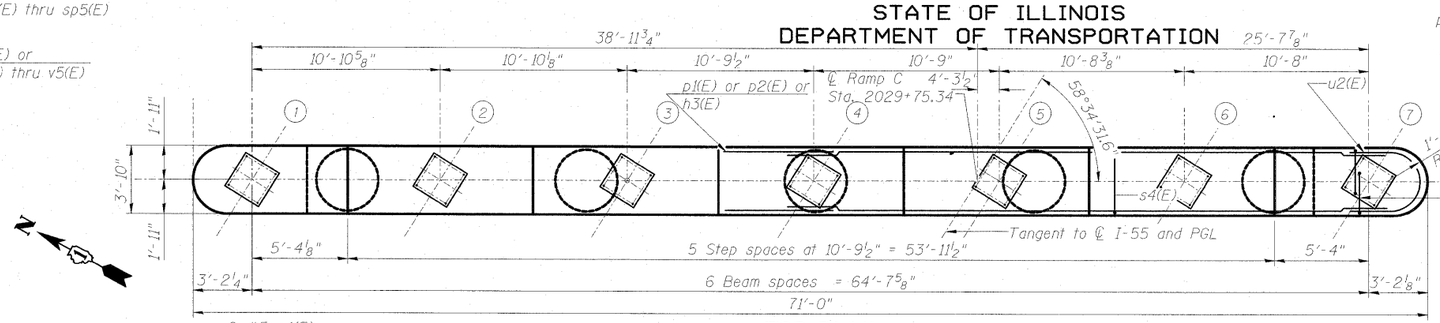
EAST ABUTMENT DETAILS
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-29	55	(99-1&2) R-6	WILL	756	555
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

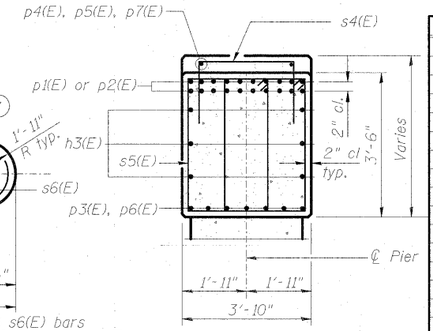
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



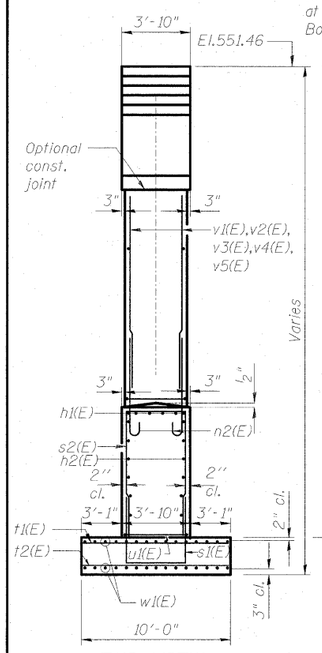
SECTION B-B



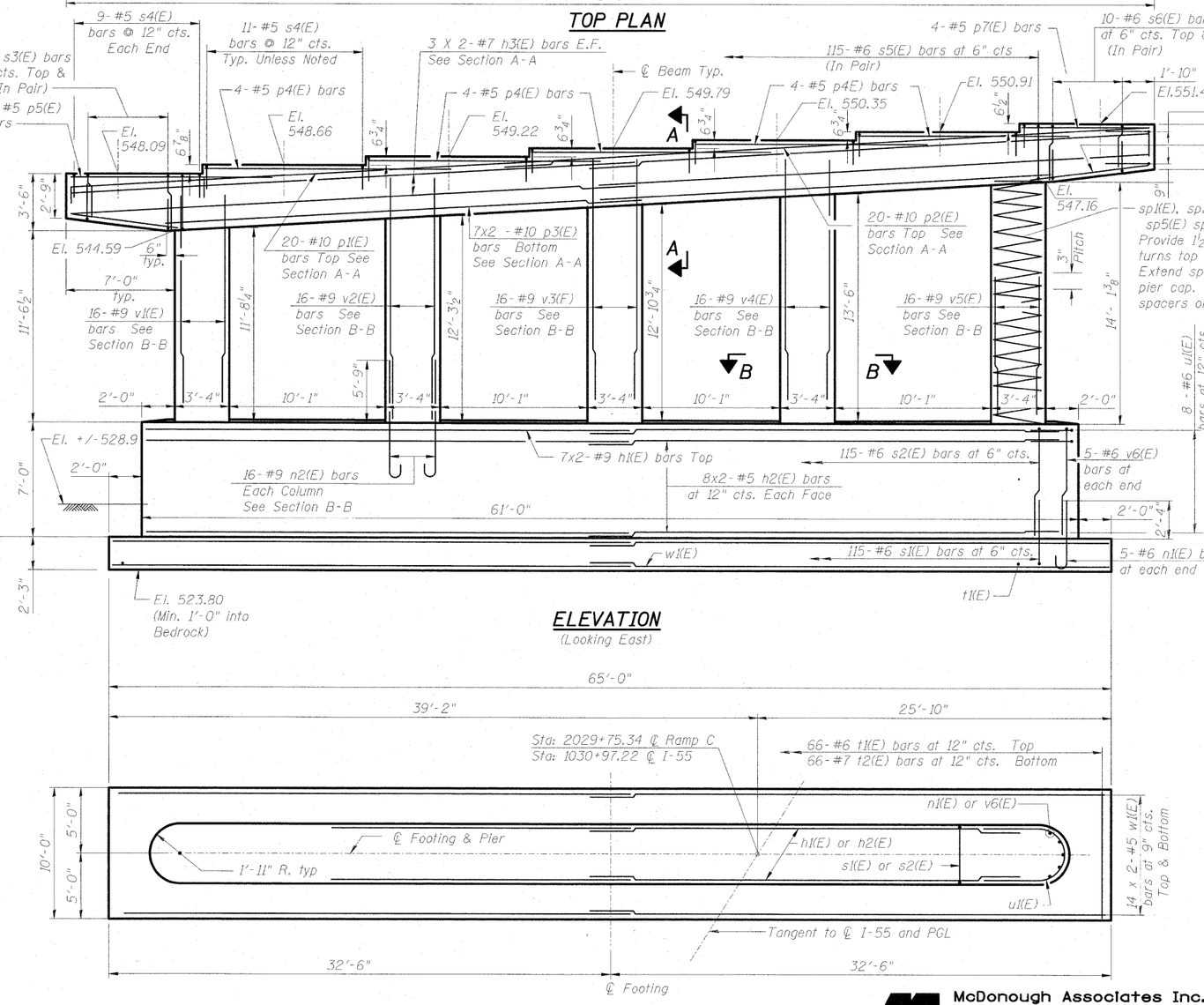
TOP PLAN



SECTION A-A



END VIEW



ELEVATION
(Looking East)

FOOTING PLAN

MINIMUM BAR LAP
(Pier)

*Top bars	Other bars
#5 bar = 3'-0"	#5 bar = 2'-2"
#7 bar = 4'-10"	#6 bar = 2'-7"
#9 bar = 8'-1"	#7 bar = 3'-5"
#10 bar = 10'-3"	#8 bar = 4'-6"
	#9 bar = 5'-9"
	#10 bar = 7'-3"

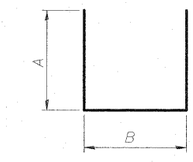
*Top bar minimum lap lengths are to include h1(E), h2(E), h3(E), w1(E), t1(E), t2(E), p1(E), p2(E), and p3(E) bars.

DESIGNED	MJL
CHECKED	MGB
DRAWN	MJL
CHECKED	BKB

BILL OF MATERIAL

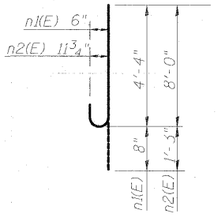
Bar	No.	Size	Length	Shape
h1(E)	14	#9	34'-6"	
h2(E)	32	#5	32'-0"	
h3(E)	12	#7	38'-3"	
n1(E)	10	#6	5'-0"	
n2(E)	80	#9	9'-3"	
p1(E)	20	#10	36'-0"	
p2(E)	20	#10	49'-3"	
p3(E)	14	#10	33'-9"	
p4(E)	20	#5	13'-0"	
p5(E)	4	#5	11'-6"	
p6(E)	8	#7	6'-2"	
p7(E)	4	#5	6'-6"	
s1(E)	115	#6	11'-8"	
s2(E)	115	#6	17'-2"	
s3(E)	40	#6	7'-11"	
s4(E)	73	#5	7'-6"	
s5(E)	230	#6	13'-2"	
s6(E)	40	#6	9'-1"	
**sp1(E)	1	#4	12'-0"	
**sp2(E)	1	#4	12'-6"	
**sp3(E)	1	#4	13'-1"	
**sp4(E)	1	#4	13'-8"	
**sp5(E)	1	#4	14'-4"	
t1(E)	66	#6	9'-8"	
t2(E)	66	#7	9'-8"	
u1(E)	24	#6	14'-2"	
v1(E)	16	#9	14'-3"	
v2(E)	16	#9	14'-10"	
v3(E)	16	#9	15'-5"	
v4(E)	16	#9	16'-0"	
v5(E)	16	#9	16'-8"	
v6(E)	10	#6	6'-8"	
w1(E)	56	#5	33'-8"	

Braced Excavation	Cu. Yd.	123
Concrete Structures	Cu. Yd.	165.4
Reinforcement Bars, Epoxy Coated	Pound	36,260
Rock Excavation for Structures	Cu. Yd.	65

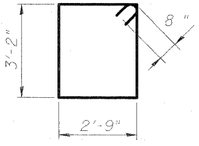


BARS p1(E) & p2(E)

BARS s1(E), s2(E), s3(E) s4(E) & s6(E)



BARS n1(E), n2(E)

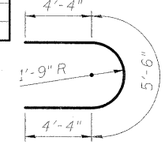


BARS s5(E)

** Length is height of spiral.

A & B DIMENSIONS

Bar	A	B
s1(E)	4'-1"	3'-6"
s2(E)	6'-10"	3'-6"
s3(F)	2'-7"	2'-9"
s4(E)	2'-0"	3'-6"
s6(E)	3'-2"	2'-9"



BAR u1(E)

Notes:
- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- Bars indicated thus 2 x 3-#6 etc. indicates 2 lines of bars with 3 lengths per line.

PIER
STRUCTURE NO. 099-0348

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Engineers / Architects
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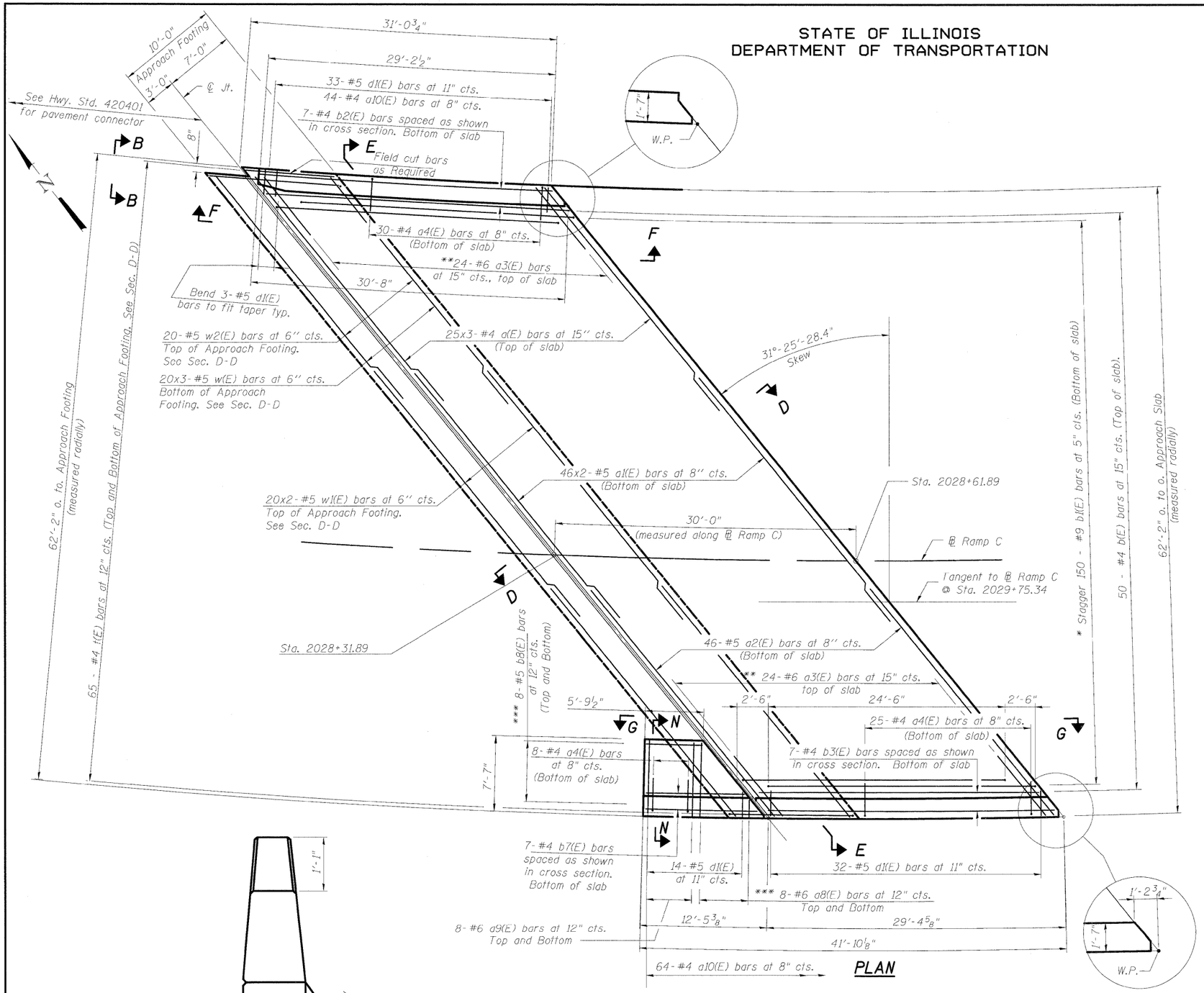
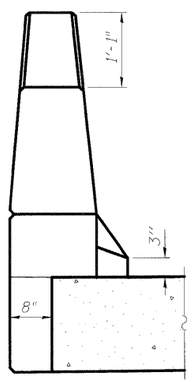
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-30	55	(99-1&2) R-6	WILL	756	556
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



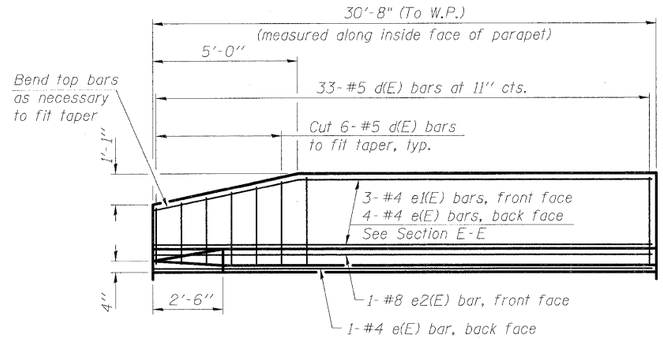
PLAN



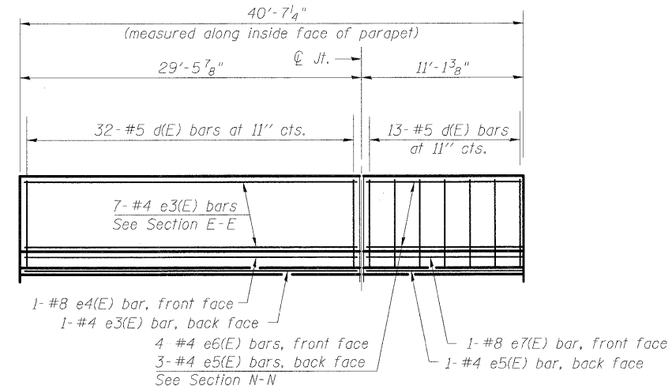
VIEW B-B

* Tilt #9 b5(E) bars as required to maintain clearance.
** Alternate with d(E) bars.
*** Order a8(E) & b8(E) bars full length. Cut to fit skew in bottom of slab and use remainder in top of slab.

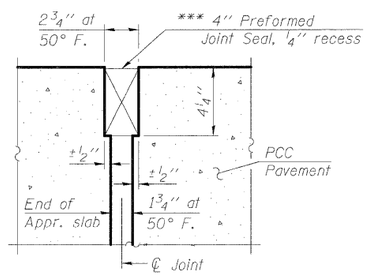
Notes:
See sheet SC-33 for Sections D-D, E-E and N-N.
d(E), a1(E), a2(E), w(E), w1(E) and w2(E) bar spacings measured perpendicular to ℄ Ramp C.



VIEW F-F



VIEW G-G



RIGID PAVEMENT

DETAIL A

Notes:
See Sheet SC-33 for Bill of Material.
For Section J-J see Sheet SC-32.

WEST APPROACH SLAB DETAILS
STRUCTURE NO. 099-0348

DESIGNED	MGB
CHECKED	BKB
DRAWN	AMV
CHECKED	BKB

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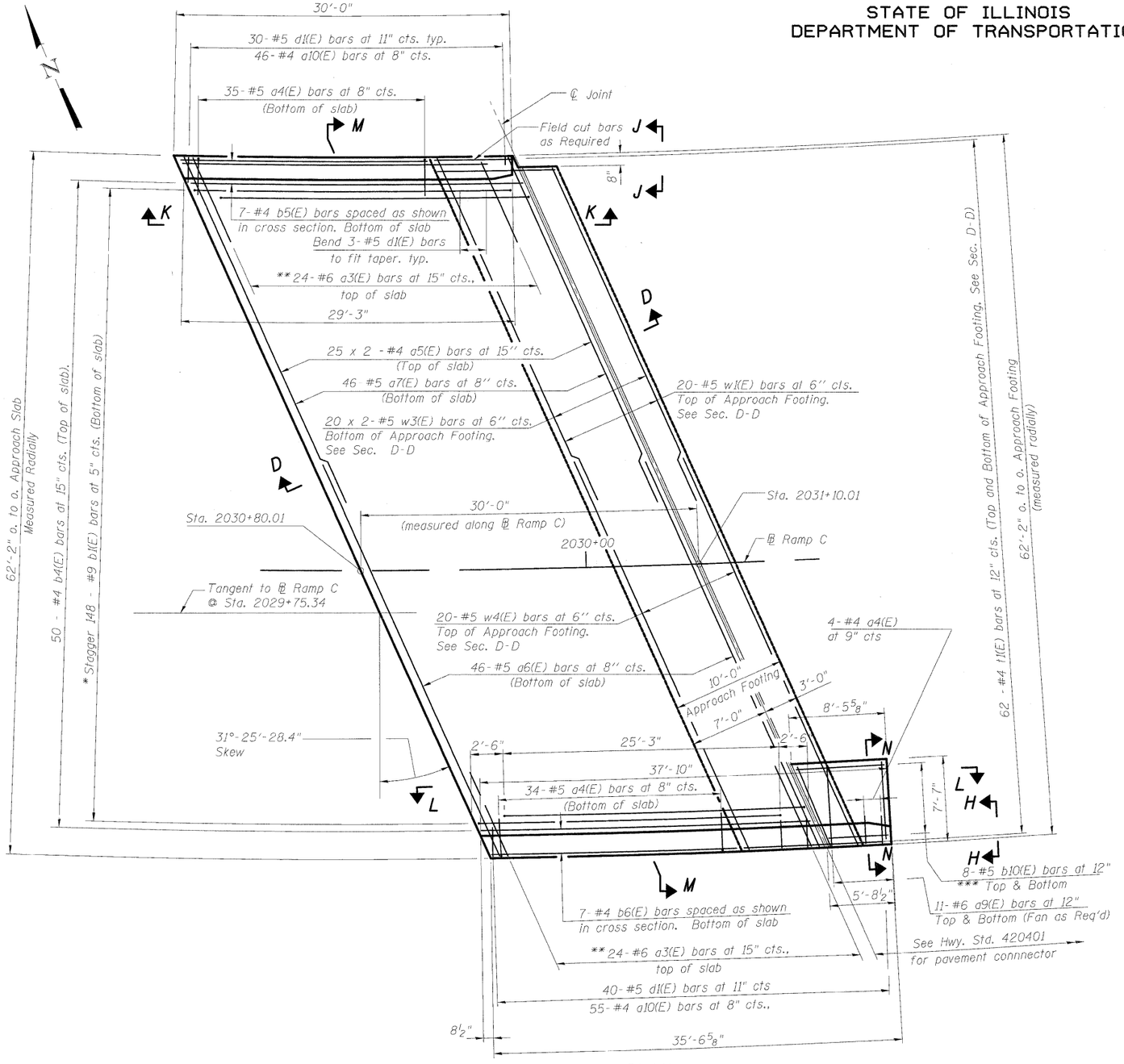
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-31	55	(99-1&2) R-6	WILL	756	557
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

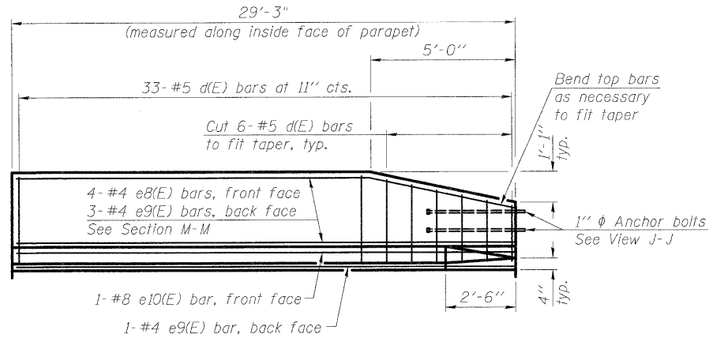


PLAN

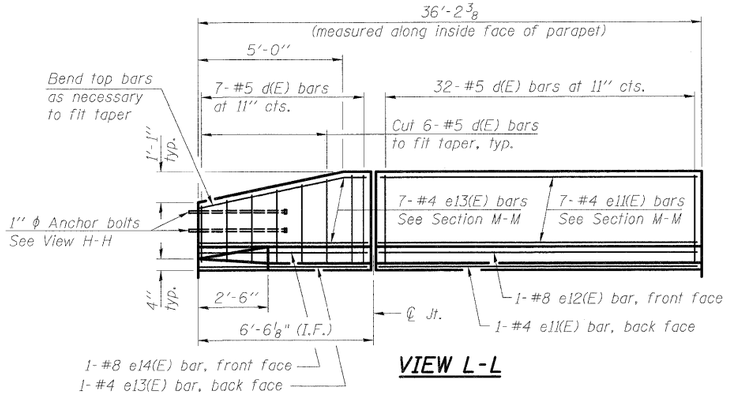
* Tilt #9 b5(E) bars as required to maintain clearance.
** Alternate with a5(E) bars.
*** Order b10(E) bars full length. Cut to fit skew in bottom of slab and use remainder in top of slab.

See Sheet SC-33 for Bill of Material

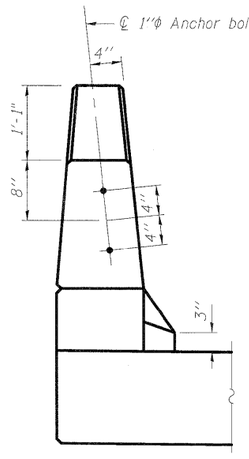
Notes:
See sheet SC-33 for Sections D-D, E-E and M-M.
a5(E), a6(E), a7(E), w1(E), w3(E) and w4(E) bar spacings measured perpendicular to ℄ Ramp C.



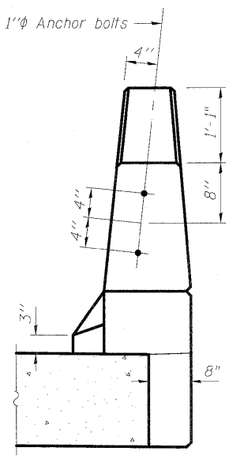
VIEW K-K



VIEW L-L



VIEW H-H



VIEW J-J

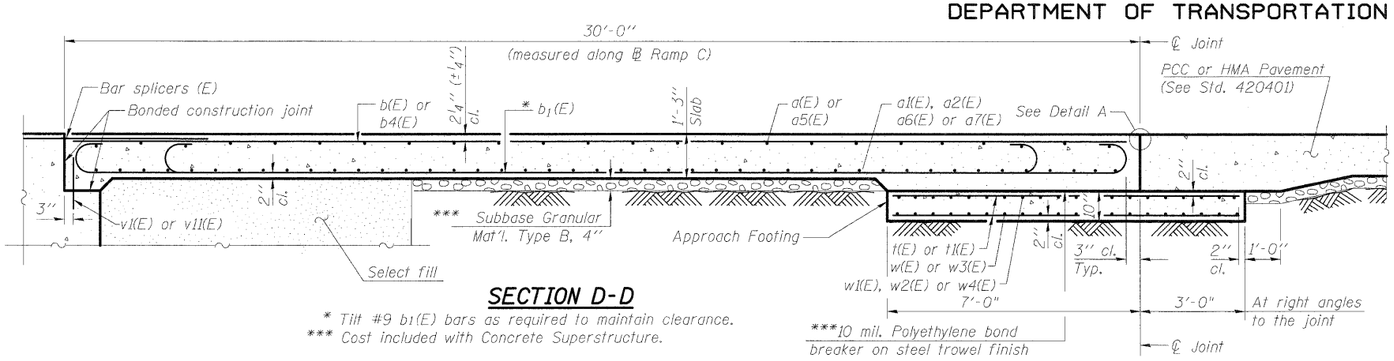
EAST APPROACH SLAB DETAILS
STRUCTURE NO. 099-0348

DESIGNED	MGB
CHECKED	BKB
DRAWN	AMV
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

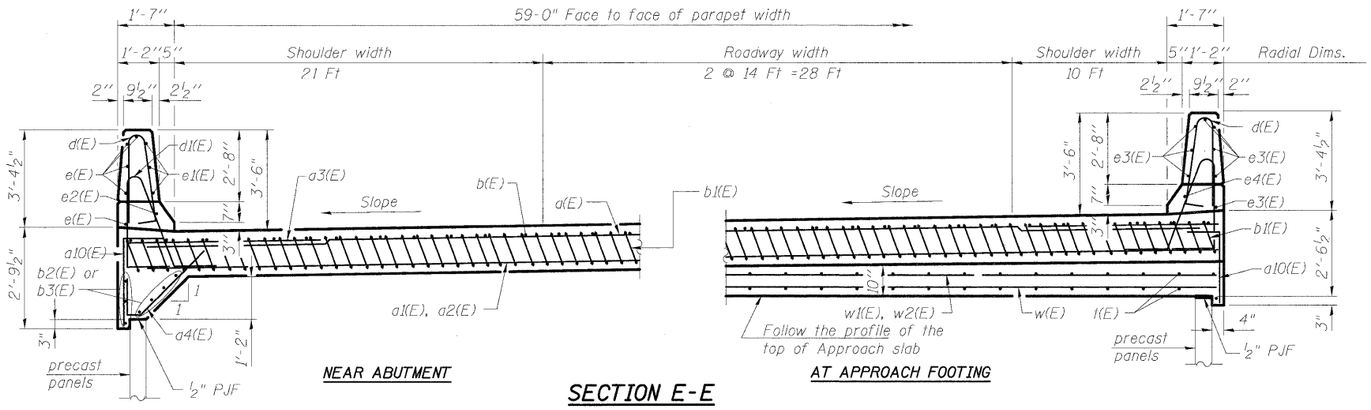
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-32	55	(99-1&2) R-6	WILL	756	558
SHEETS SC-37			CONTRACT NO. 60F12		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION D-D

* Tilt #9 b1(E) bars as required to maintain clearance.
*** Cost included with Concrete Superstructure.

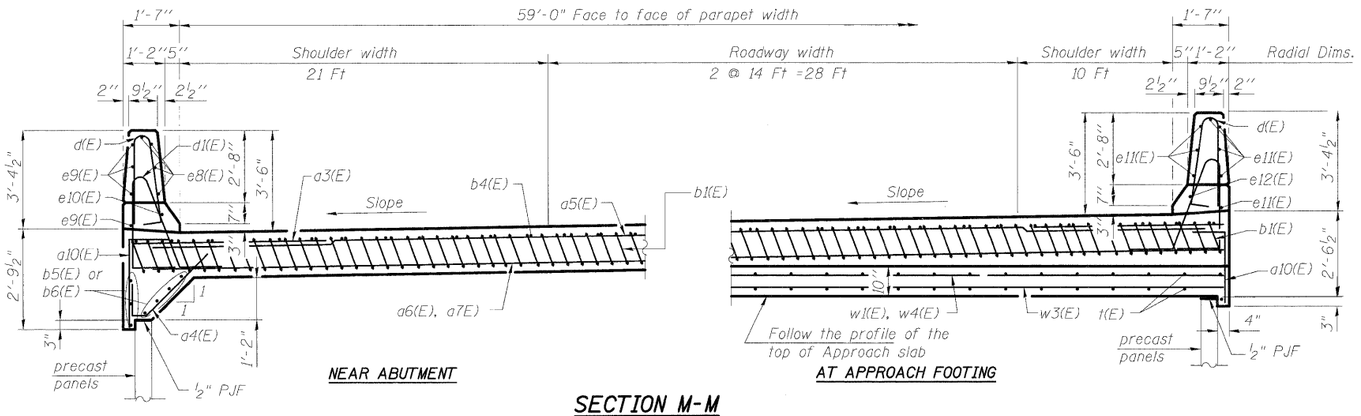


NEAR ABUTMENT

AT APPROACH FOOTING

SECTION E-E

(See Plan for dimensions not shown)

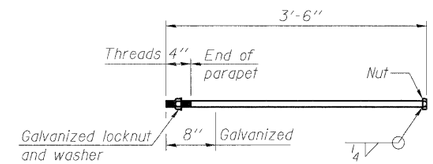


NEAR ABUTMENT

AT APPROACH FOOTING

SECTION M-M

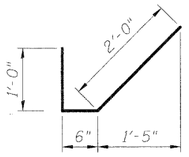
(See Plan for dimensions not shown)



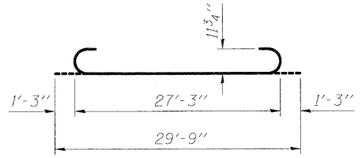
1"ϕ ANCHOR BOLT

(Cost included with
Concrete Superstructure)

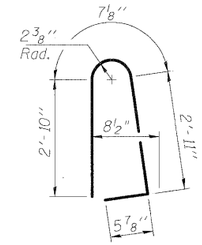
BAR a10 (E)



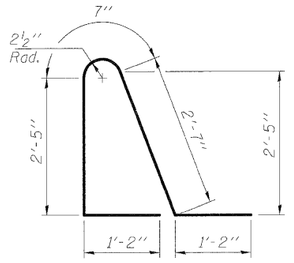
BAR a4(E)



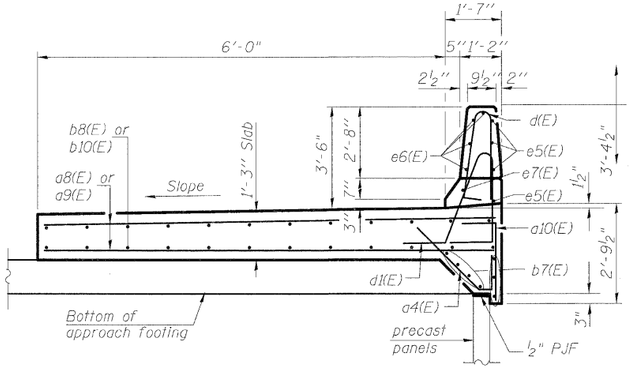
BAR b1(E)



BAR d(E)



BAR d1(E)



SECTION N-N

(See Plan for dimensions not shown)

Notes:
See sheet SC-31 for Detail A.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheets SC-24, SC-26, SC-27 & SC-29.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet SC-35.
Cost of excavation for approach footing included with Concrete Structures.
For select fill see Sheets SC-26 & SC-29.

BILL OF MATERIAL
EAST & WEST APPROACHES

Bar	No.	Size	Length	Shape
a(E)	75	#4	28'-11"	
a1(E)	92	#5	30'-4"	
a2(E)	46	#5	26'-6"	
a3(E)	96	#6	6'-6"	
a4(E)	137	#4	3'-6"	✓
a5(E)	50	#4	35'-0"	
a6(E)	46	#5	36'-6"	
a7(E)	46	#5	33'-0"	
a8(E)	8	#6	14'-0"	
a9(E)	38	#6	7'-3"	
a10(E)	209	#4	3'-5"	Γ
b(E)	50	#4	29'-2"	
b1(E)	298	#9	29'-9"	
b2(E)	7	#4	21'-0"	
b3(E)	7	#4	20'-0"	
b4(E)	50	#4	29'-10"	
b5(E)	7	#4	22'-4"	
b6(E)	7	#4	22'-0"	
b7(E)	7	#4	12'-3"	
b8(E)	8	#5	17'-8"	
b10(E)	8	#5	16-10"	
d(E)	154	#5	6'-10"	
d1(E)	154	#5	7'-11"	
e(E)	5	#4	28'-10"	
e1(E)	3	#4	30'-4"	
e2(E)	1	#8	30'-4"	
e3(E)	8	#4	29'-3"	
e4(E)	1	#8	29'-3"	
e5(E)	4	#4	10'-10"	
e6(E)	4	#4	10'-2"	
e7(E)	1	#8	10'-10"	
e8(E)	4	#4	29'-0"	
e9(E)	4	#4	29'-8"	
e10(E)	1	#8	29'-0"	
e11(E)	8	#4	29'-5"	
e12(E)	1	#8	29'-5"	
e13(E)	8	#4	6'-2"	
e14(E)	1	#8	6'-2"	
f(E)	130	#4	12'-9"	
f1(E)	124	#4	10'-6"	
w(E)	60	#5	28'-10"	
w1(E)	60	#5	30'-0"	
w2(E)	20	#5	26'-7"	
w3(E)	40	#5	34'-6"	
w4(E)	20	#5	38'-11"	
Concrete Superstructure			Cu. Yd.	259.2
Concrete Structures			Cu. Yd.	47.5
Reinforcement Bars, Epoxy Coated			Pound	57,460

DESIGNED	MGB
CHECKED	BKB
DRAWN	AMV
CHECKED	BKB

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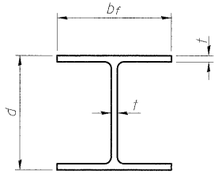
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

APPROACH SLAB DETAILS
STRUCTURE NO. 099-0348

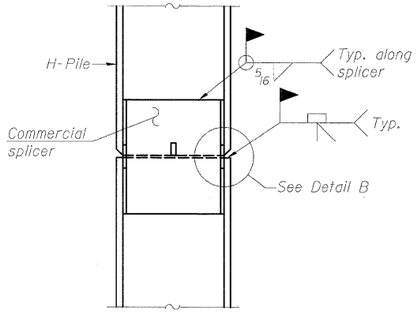
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-33	55	(99-1&2) R-6	WILL	756	559
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

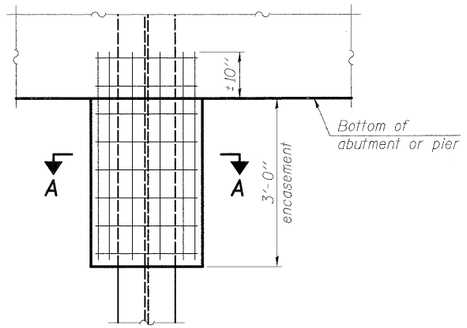


STEEL PILE TABLE

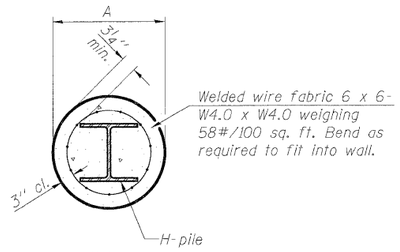
Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}''$	$14\frac{7}{8}''$	$\frac{13}{16}''$	30''
x102	14''	$14\frac{3}{4}''$	$\frac{11}{16}''$	30''
x89	$13\frac{7}{8}''$	$14\frac{3}{4}''$	$\frac{5}{8}''$	30''
x73	$13\frac{5}{8}''$	$14\frac{5}{8}''$	$\frac{1}{2}''$	30''
HP 12x84	$12\frac{1}{4}''$	$12\frac{1}{4}''$	$\frac{11}{16}''$	24''
x74	$12\frac{1}{8}''$	$12\frac{1}{4}''$	$\frac{5}{8}''$	24''
x63	12''	$12\frac{1}{8}''$	$\frac{1}{2}''$	24''
x53	$11\frac{3}{4}''$	12''	$\frac{7}{16}''$	24''
HP 10x57	10''	$10\frac{1}{4}''$	$\frac{9}{16}''$	24''
x42	$9\frac{3}{4}''$	$10\frac{1}{8}''$	$\frac{7}{16}''$	24''
HP 8x36	8''	$8\frac{1}{8}''$	$\frac{7}{16}''$	18''



ELEVATION



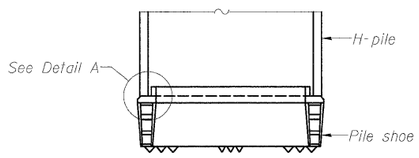
ELEVATION



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

SECTION A-A

PILE ENCASEMENT



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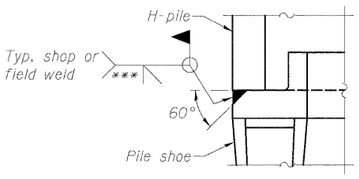
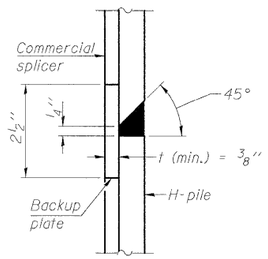
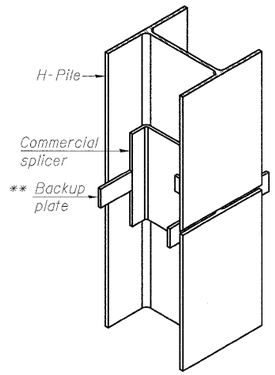


DETAIL A

H-PILE SHOE ATTACHMENT

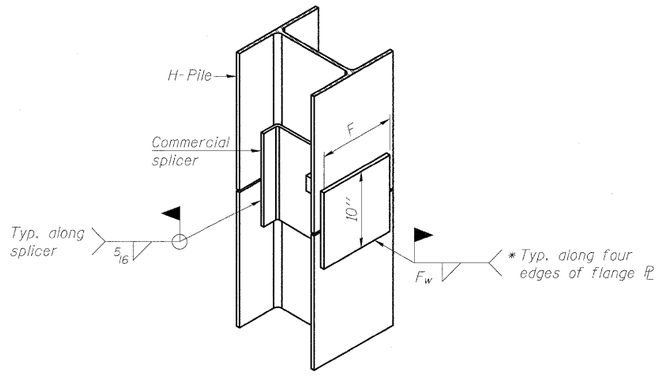


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



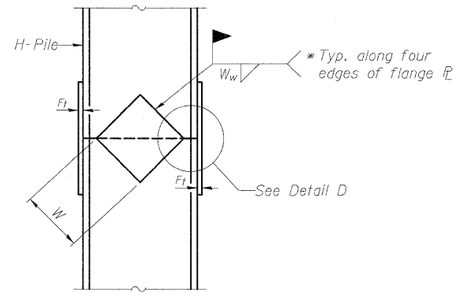
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

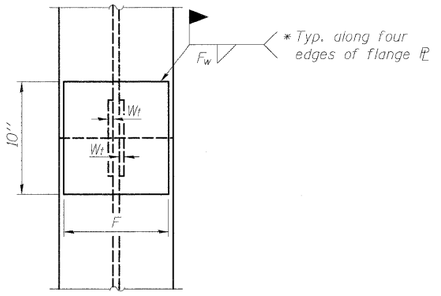
* Interrupt welds ¼'' from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

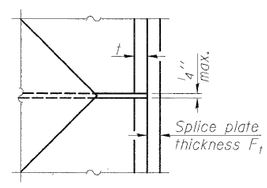
*** Weld size per pile shoe manufacturer ($\frac{5}{16}''$ min.).



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	$12\frac{1}{2}''$	1''	$\frac{7}{8}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x102	$12\frac{1}{2}''$	$\frac{7}{8}''$	$\frac{3}{4}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x89	$12\frac{1}{2}''$	$\frac{3}{4}''$	$\frac{11}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x73	$12\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{9}{16}''$	$7\frac{3}{4}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
HP 12x84	10''	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x74	10''	$\frac{7}{8}''$	$\frac{11}{16}''$	$6\frac{1}{2}''$	$\frac{5}{8}''$	$\frac{1}{2}''$
x63	10''	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x53	10''	$\frac{5}{8}''$	$\frac{1}{2}''$	$6\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 10x57	8''	$\frac{3}{4}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
x42	8''	$\frac{5}{8}''$	$\frac{9}{16}''$	$5\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$
HP 8x36	7''	$\frac{5}{8}''$	$\frac{7}{16}''$	$4\frac{1}{4}''$	$\frac{1}{2}''$	$\frac{3}{8}''$

WELDED PLATE FIELD SPLICE

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

DESIGNED	MGB
CHECKED	BKB
DRAWN	RJ
CHECKED	BKB

F-HP 11-1-09

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Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
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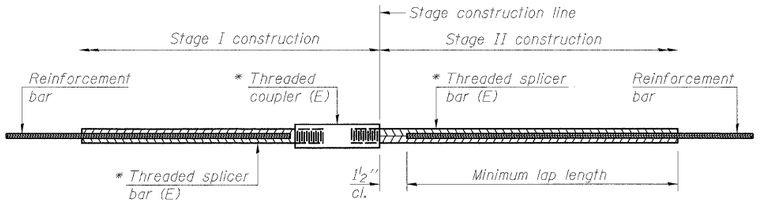
STEEL H PILE DETAILS
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-34	55	(99-1&2) R-6	WILL	756	560
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

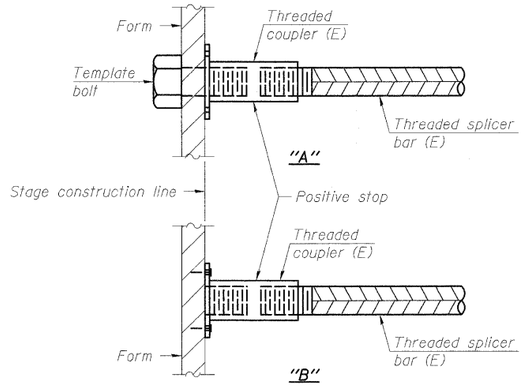
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

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

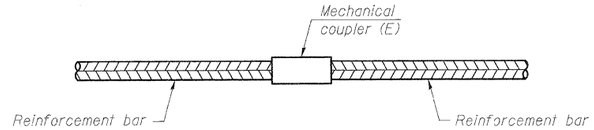
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



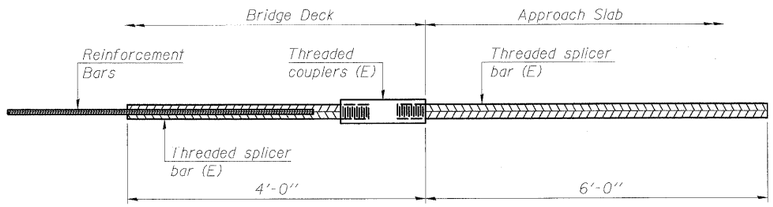
INSTALLATION AND SETTING METHODS

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



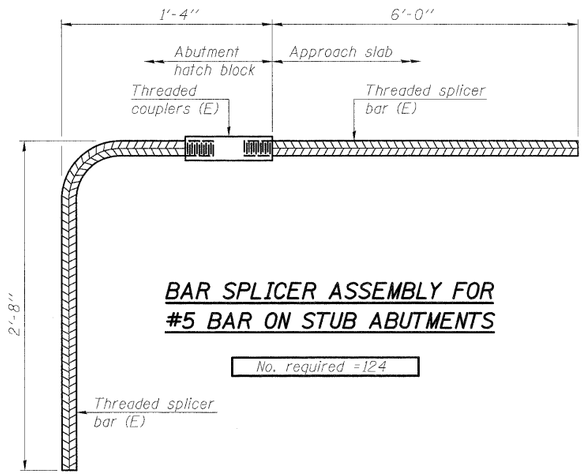
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =124

NOTES

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

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

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

See special provision for Mechanical Splicers.

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

BAR SPLICER DETAILS
STRUCTURE NO 099-0348

DESIGNED	MGB
CHECKED	BKB
DRAWN	RJ
CHECKED	BKB

BSD-1 11-1-09

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-35	55	(99-1&2) R-6	WILL	756	561
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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Consulting Geotechnical and Environmental Engineers
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1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG FOB-01

WEI Job No.: 201-34-01

Client **McDonough Associates, Inc.**
Project **I-55 at Arsenal Road**
Location **T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois**

Datum: NGVD
Elevation: 530.71 ft
North: 1722217.54 ft
East: 1022653.99 ft
Station: 2028+06.97
Offset: 26.50 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
530.1	7-inch thick, dark gray SILTY CLAY LOAM --TOPSOIL--						
	Stiff, brown and black CLAY LOAM to SILTY CLAY LOAM			1	2 3 5	1.75 P	30
527.7	Medium dense to dense, brown SILT with dolostone rock fragments --WEATHERED BEDROCK--	5		2	6 7 50/5"	NP	17
526.2	Very dense, brown GRAVELLY SAND with dolostone rock fragments --WEATHERED BEDROCK-- --AUGER REFUSAL @ 6' 3"--			3	50/3"	NP	
524.5	Poor, gray DOLOSTONE --BEDROCK-- --RUN #1 (6' 3" to 11' 3")-- --REC=100% --RQD=45% --Qu=220.32 tsf--	10		4			
519.5	Very good, gray DOLOSTONE --RUN #2 (11' 3" to 16' 3") --REC=97%-- --RQD=78%--	15		5			
514.5	Boring terminated at 16.25 ft	20					

GENERAL NOTES

Begin Drilling **08-19-2008** Complete Drilling **08-19-2008**
Drilling Contractor **Wang Testing Service** Drill Rig **Mobile B-57 TMR**
Driller **K & J** Logger **E. Datz** Checked by **S. Sugiarto**
Drilling Method **3.25" IDA HSA; Boring backfilled with bentonite upon completion**

WATER LEVEL DATA

While Drilling ▽ **DRY**
At Completion of Drilling ▼ **DRY**
Time After Drilling **NA**
Depth to Water ▼ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 2013401.GPJ WANGENG.GDT 1/29/09

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1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG FOB-02

WEI Job No.: 201-34-01

Client **McDonough Associates, Inc.**
Project **I-55 at Arsenal Road**
Location **T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois**

Datum: NGVD
Elevation: 530.34 ft
North: 1722104.01 ft
East: 1022696.56 ft
Station: 2029+09.63
Offset: 37.20 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
530.2	2-inch thick, ASPHALT --PAVEMENT-- Brown SANDY LOAM with gravel						
529.3	Very stiff, brown and black SANDY CLAY, trace gravel			1	2 3 5	2.75 P	29
527.3	Medium dense, brown SAND and weathered dolostone rock fragments --WEATHERED BEDROCK-- --AUGER REFUSAL @ 5' 6" --	5		2	1 15 14	NP	
524.8	Poor, highly weathered, light gray DOLOSTONE --BEDROCK-- --RUN #1 (5' 6" to 10' 6")-- --REC=98%-- --RQD=23%--	10		3			
519.6	Good, light gray DOLOSTONE --BEDROCK-- --RUN #2 (10' 6" to 15' 6")-- --REC=100%-- --RQD=94%-- --Qu=1244.16 tsf--	15		4			
514.8	Boring terminated at 15.50 ft	20					

GENERAL NOTES

Begin Drilling **08-22-2008** Complete Drilling **08-22-2008**
Drilling Contractor **Wang Testing Service** Drill Rig **Mobile B-57 TMR**
Driller **K & J** Logger **F. Bozga** Checked by **S. Sugiarto**
Drilling Method **3.25" IDA HSA; Boring backfilled with bentonite upon completion**

WATER LEVEL DATA

While Drilling ▽ **DRY**
At Completion of Drilling ▼ **DRY**
Time After Drilling **NA**
Depth to Water ▼ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 2013401.GPJ WANGENG.GDT 1/29/09

DESIGNED	MGB
CHECKED	PMH
DRAWN	MGB
CHECKED	BKB

SOIL BORING LOGS
STRUCTURE NO. 099-0348

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-36	55	(99-1&2) R-6	WILL	756	562
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG FOB-03

WEI Job No.: 201-34-01

Client: **McDonough Associates, Inc.**
Project: **I-55 at Arsenal Road**
Location: **T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois**

Datum: NGVD
Elevation: 530.49 ft
North: 1722148.45 ft
East: 1022801.22 ft
Station: 2029+75.73
Offset: 56.06 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
530.2	3-inch thick, ASPHALT --PAVEMENT-- Brown GRAVELLY SAND --BASE COURSE--						
529.5	Stiff to very stiff, brown and black SANDY CLAY --AUGER REFUSAL @ 4'--			1	1 2 2	1.50 P	23
526.6	Fair, weathered, light gray DOLOSTONE --BEDROCK-- --RUN #1 (4" to 9')-- --REC=100%-- --RQD=68%--	5		2	50/5"	2.00 P	15
521.5	Poor, highly weathered, light gray DOLOSTONE --BEDROCK-- --RUN #2 (9' to 14')--	10		3			
516.6	Fair, light gray DOLOSTONE --BEDROCK-- --RUN #3 (14' to 19')-- --REC=100%-- --RQD=78%-- --Qu=791.28 tsf--	15		4			
511.5	Boring terminated at 19.00 ft	20		5			

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	08-22-2008	Complete Drilling	08-22-2008	While Drilling	DRY
Drilling Contractor	Wang Testing Service	Drill Rig	Mobile B-57 TMR	At Completion of Drilling	DRY
Driller	K & J	Logger	F. Bozga	Time After Drilling	NA
Drilling Method	3.25" IDA HSA; Boring backfilled with bentonite upon completion	Checked by	S. Sugiarto	Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 2013401.GPJ WANGENG.GDT 1/29/09

Wang Engineering, Inc.
Consulting Geotechnical and Environmental Engineers
wangeng@wangeng.com
1145 Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG FOB-04

WEI Job No.: 201-34-01

Client: **McDonough Associates, Inc.**
Project: **I-55 at Arsenal Road**
Location: **T34, R9E, Sec. 21, 22, 28, 27, Will Co., Illinois**

Datum: NGVD
Elevation: 531.74 ft
North: 1722039.90 ft
East: 1022847.04 ft
Station: 2030+67.14
Offset: 20.55 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
531.5	3-inch thick, black SILTY LOAM --TOPSOIL-- Loose, brown SANDY LOAM			1	4 3 3	NP	14
528.7	Medium dense, brown GRAVELLY SAND with rock fragments	5		2	2 8 21	NP	7
526.2	Very dense, brown DOLOSTONE rock fragments --WEATHERED BEDROCK--			3	50/5"	NP	6
525.2	Poor to fair, gray DOLOSTONE --BEDROCK-- --RUN #1 (6' 6" to 11' 6")-- --REC=100% --RQD=53% --Qu=1852.56 tsf--	10		4			
620.2	Good, gray DOLOSTONE --RUN #2 (11' 6" to 16' 6")-- --REC=100% --RQD=83%--	15		5			
515.2	Boring terminated at 16.50 ft	20					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	08-21-2008	Complete Drilling	08-21-2008	While Drilling	DRY
Drilling Contractor	Wang Testing Service	Drill Rig	Mobile B-57 TMR	At Completion of Drilling	DRY
Driller	K & J	Logger	F. Bozga	Time After Drilling	NA
Drilling Method	3.25" IDA HSA; Boring backfilled with bentonite upon completion	Checked by	S. Sugiarto	Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 2013401.GPJ WANGENG.GDT 1/29/09

DESIGNED	MGB
CHECKED	PMH
DRAWN	MGB
CHECKED	BKB

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street
Chicago, Illinois 60601
(312) 946-8600

SOIL BORING LOGS
STRUCTURE NO. 099-0348

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SC-37	55	(99-1&2) R-6	WILL	756	563
SHEETS			CONTRACT NO. 60F12		
SC-37	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

F.A.I RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1		WILL	756	564
FED. ROAD DIST. NO. 1		ILLINOIS	CONTRACT NO. 60F12		

FOR INDEX OF SHEETS, SEE SHEET NO. 2 (VOLUME I)
FOR INDEX OF SHEETS, SEE SHEET NO. 333 (VOLUME II)
FOR INDEX OF SHEETS, SEE SHEET NO. 565 (VOLUME III)

STATION EQUATIONS:

STA 5025+24.74 BK ℄ WEST FRONTAGE ROAD =
STA 4000+00.00, 12.00' LT AH ℄ RAMP D =
STA 6000+00.00 AH ℄ WEST FRONTAGE CONNECTOR

STA 2038+02.19 BK ℄ RAMP C (PT) =
STA 100+00.00 AH ℄ RAMD E (PC) =
STA 7021+82.16, 36.00' RT BK ℄ RAMP A

STA 126+08.25, 21.00' LT BK END ℄ RAMP E =
STA 3000+00.00, 21.00' LT AH ℄ RAMP B =
STA 900+00.00 AH ℄ ARSENAL ROAD =
STA 1050+03.08, 146.78' RT ℄ I-55

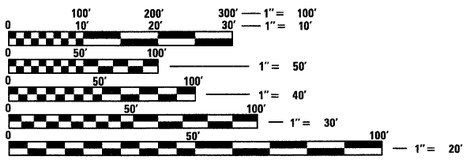
STA 3059+93.02 ℄ RAMP B =
STA 1063+08.95, OFF 44.65' RT ℄ I-55

STA 1999+91.99 ℄ RAMP C =
STA 1058+95.57, OFF 44.11' LT ℄ I-55

VOLUME III

DESIGN DESIGNATION	
I-55 RAMP A	5700(10) INTERSTATE - CLASS I TRUCK ROUTE 11.34 (JPCP-20)
I-55 RAMP B	18500(10) INTERSTATE - CLASS I TRUCK ROUTE 18.20 (JPCP-20)
I-55 RAMP C	18500(10) INTERSTATE - CLASS I TRUCK ROUTE 18.20 (JPCP-20)
I-55 RAMP D	5400(10) INTERSTATE - CLASS I TRUCK ROUTE 11.34 (JPCP-20)
I-55 RAMP E	24200(10) INTERSTATE - CLASS I TRUCK ROUTE 18.20 (JPCP-20)
ARSENAL ROAD	35900(10) SUBURBAN STRATEGIC REGIONAL ARTERIAL (SRA) - CLASS I TRUCK ROUTE 22.47 (JPCP-20)
EAST FRONTAGE ROAD	3400(10) COLLECTOR STREET 3.20 (BIT-20)
WEST FRONTAGE CONNECTOR	4900(10) COLLECTOR STREET 4.63 (JPCP-20)
WEST FRONTAGE ROAD	4900(10) COLLECTOR STREET 3.20 (BIT-20)

DESIGN SPEED: I-55 = 70 MPH
ARSENAL ROAD = 50 MPH
EAST FRONTAGE ROAD = 50 MPH
WEST FRONTAGE CONNECTOR = 50 MPH
WEST FRONTAGE ROAD = 50 MPH
RAMP'S A, C, D & E = 50 MPH
RAMP B = 40 MPH



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

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

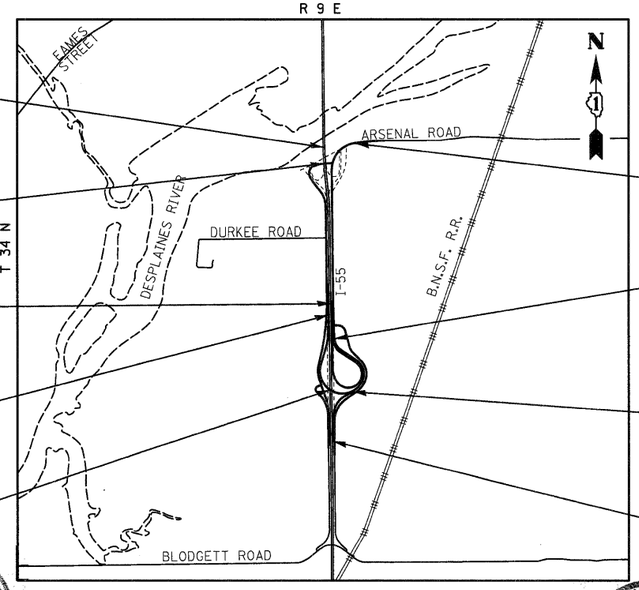
DISTRICT 1 NO. (847) 705-4523
PROJECT ENGINEER: HELEN PAZON

CONTRACT NO. 60F12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

ROUTE FAI 55 (I-55)
SECTION 99-2HB-2B-1
PROJECT
I-55 AT ARSENAL ROAD
INTERCHANGE RECONSTRUCTION
WILL COUNTY
C-91-033-09

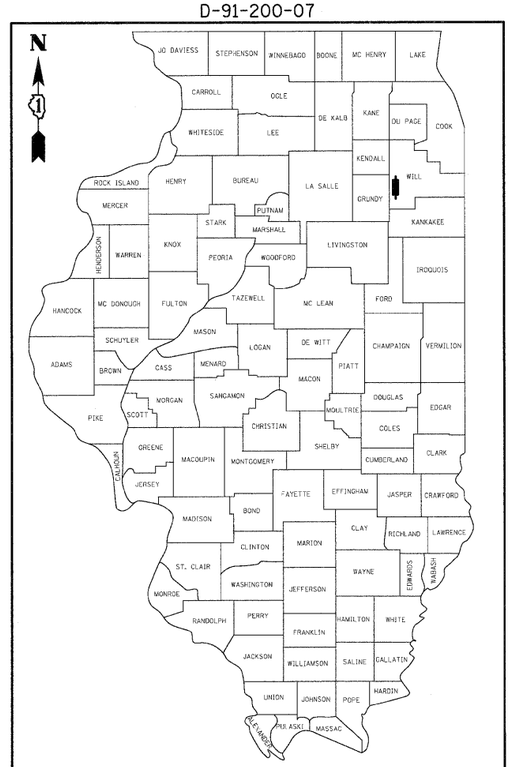


LOCATION MAP
SCALE= 1:2400

LENGTH OF PROJECT

I-55 SHOULDER RECONSTRUCTION	= 6,465.56 FT = 1.225 MI
RAMP A	= 2,156.77 FT = 0.408 MI
RAMP B/I-55	= 8,134.07 FT = 1.541 MI
RAMP C/I-55	= 7,314.63 FT = 1.385 MI
RAMP E	= 2,608.25 FT = 0.494 MI
ARSENAL ROAD	= 5,562.75 FT = 1.054 MI
WEST FRONTAGE CONNECTOR	= 1,402.58 FT = 0.266 MI
GROSS AND NET LENGTH	= 30,140.54 FT = 5.709 MI

D-91-200-07



LOCATION OF SECTION INDICATED THUS: -

Kamil Yenice
SIGNATURE:
DATE: 2/4/11
NAME: KAMIL YENICE
EXP. 11/30/2011
SHEETS: 347-436

KAMIL M. YENICE
062-054005
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED _____ **20** _____

_____
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

_____ **20** _____

_____
ENGINEER OF DESIGN AND ENVIRONMENT

_____ **20** _____

_____
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

ALAN R. SWANSON
062-035359
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

Alan R Swanson
SIGNATURE:
DATE: 01/27/2011
NAME: ALAN R. SWANSON
EXP. 11/30/2011
SHEETS: 1-86, 148-166, 204-219, 253-317, 332-333, 564-565, 585-756

LICENSED STRUCTURAL ENGINEER
GERALD E. KOYLASS
081-005264

SIGNATURE:
DATE: 1/27/2011
NAME: GERALD E. KOYLASS
EXP. 11/30/2011
SHEETS: 318-331, 437-441, 465-563

SADHU SINGH RIKHIRAJ
062-043771
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

S.S. Rikhiraj
SIGNATURE:
DATE: 1/27/2011
NAME: SADHU SINGH RIKHIRAJ
EXP. 11/30/2011
SHEETS: 167-203

RICHARD A. YOUNG
062-054605
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

SIGNATURE:
DATE: 1/27/2011
NAME: RICHARD YOUNG
EXP. 11/30/2011
SHEETS: 87-147

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VOLUME I

SHEET NO.	DRAWING NO.	DESCRIPTION
1	CV-1	COVER SHEET
2	IS-1	INDEX OF SHEETS
3	HS-1	HIGHWAY STANDARDS
4	GN-1	GENERAL NOTES AND COMMITMENTS
5-15	SQ-1 to SQ-11	SUMMARY OF QUANTITIES
16-25	TS-1 to TS-10	TYPICAL SECTIONS
26-33	SC-1 to SC-8	SCHEDULES OF QUANTITIES
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79	PF-6	RAMP A PROFILE
80-82	PF-7 to PF-9	RAMP B PROFILE
83-84	PF-10 to PF-11	RAMP C PROFILE
85	PF-12	RAMP E PROFILE
86	BD-1	CONCRETE BARRIER TRANSITION DETAIL
87	MOT-1	MOT GENERAL NOTES
88-91	MOT-2 to MOT-5	MOT TYPICAL SECTIONS
92	MOT-6	MOT DETAILS
93-96	MOT-7 to MOT-10	MOT PRE-STAGE
97-109	MOT-11 to MOT-23	MOT STAGE 1
110-121	MOT-24 to MOT-35	MOT STAGE 2
122-133	MOT-36 to MOT-47	MOT STAGE 3
134-139	MOT-48 to MOT-53	MOT STAGE 4
140-147	MOT-54 to MOT-61	MOT STAGE 4 - SUB STAGE
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149	EN-2	EROSION AND SEDIMENT CONTROL GENERAL NOTES AND STRATEGY
150-164	EC-1 to EC-15	EROSION AND SEDIMENT CONTROL PLAN
165-166	ED-1 to ED-2	EROSION AND SEDIMENT CONTROL DETAILS
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185	DU-19	RIPRAP AND PAVED DITCH SCHEDULE
186-187	DU-20 to DU-21	DRAINAGE DETAILS
188	DU-22	RESTRICTOR MANHOLE DETAIL
189	DU-23	TYPICAL SECTION - VEGETATED BUFFER
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205-219	GP-1 to GP-15	GRADING PLANS
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240-252		PLAT OF HIGHWAYS
253-266	PD-1 to PD-14	PAVEMENT DETAILS
267-281	PM-1 to PM-15	PAVEMENT MARKING PLAN
282-296	LS-1 to LS-15	LANDSCAPE PLAN
297-300	SI-1 to SI-4	EXISTING SIGNING PLAN
301-304	SI-5 to SI-8	PROPOSED SIGNING PLAN
305-331	SD-1 to SD-27	SIGNING DETAILS

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346	TR-9	TRAFFIC SIGNAL CABLE PLAN - WEST FRONTAGE CONNECTOR AND ARSENAL RD
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348	GE-2	ELECTRICAL GENERAL NOTES
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410	EW2-1	PROPOSED LIGHTING CONTROLLER "A" STAGE 3 SINGLE LINE DIAGRAM
411	EW3-1	PROPOSED LIGHTING CONTROLLER "T" STAGE 3 SINGLE LINE DIAGRAM
412	EW4-1	PROPOSED LIGHTING CONTROLLER "A" STAGE 4 SINGLE LINE DIAGRAM
413	EW4-2	PROPOSED LIGHTING CONTROLLER "T" STAGE 4 SINGLE LINE DIAGRAM
414	EW-1	PROPOSED LIGHTING CONTROLLER "A" FINAL CONDITIONS SINGLE LINE DIAGRAM
415	EW-2	PROPOSED LIGHTING CONTROLLER "T" FINAL CONDITIONS SINGLE LINE DIAGRAM
416	ED-1	CONDUIT INSTALLATION DETAILS FOR LIGHT TOWER FOUNDATIONS MOUNTED ON RETAINING WALLS
417	ED-2	CONDUIT INSTALLATION DETAILS FOR GROUND MOUNTED HIGH MAST LIGHT TOWERS
418	ED-3	RAMP C BRIDGE CONDUIT INSTALLATION DETAILS

VOLUME II

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422	ED-7	TEMPORARY LIGHTING DETAILS 2 OF 2
423	ED-8	ELECTRIC SERVICE INSTALLATION PAD MOUNTED TRANSFORMER
424	ED-9	HIGH MAST LIGHT TOWER FOUNDATION DETAILS
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429	BE-220	ELECTRIC SERVICE INSTALLATION AERIAL, REMOTE DISCONNECT
430-432	BE-505a - BE505c	HIGH MAST LIGHT TOWER 120FT TO 140FT (36m TO 43m)
433	BE-702	MISC. ELECTRICAL DETAILS SHEET A
434	BE-800	TEMPORARY LIGHT POLE DETAILS
435	BE-801	TEMPORARY AERIAL CABLE INSTALLATION
436	BE-900	SUSPENDED MOUNT UNDERPASS LUMINAIRE INSTALLATION DETAILS
437-441	S-1 to S-5	HIGH MAST TOWER FOUNDATION DETAILS
442-464		TRAFFIC SURVEILLANCE PLANS
465-495	RW2-1 to RW2-31	RETAINING WALL STRUCTURE NO. 099-WO27
496-502	RW3-1 to RW3-7	RETAINING WALL STRUCTURE NO. 099-WO28
503-526	SF1 to SF24	WEST FRONTAGE CONNECTOR OVER I-55, STRUCTURE NO. 099-0347
527-563	SC-1 to SC-37	RAMP C OVER I-55, STRUCTURE NO. 099-0348

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564	CV-3	COVER SHEET
565	IS-3	INDEX OF SHEETS
566	BD-01	DRIVEWAY DETAILS - DISTANCE BETWEEN R.O.W. AND CURB OR EDGE GREATER THAN OR EQUAL TO 15' (4.5M)
567	BD-32	BUTT JOINTS AND HMA TAPER
568	BD-34	STEEL PLATE BEAM GUARDRAIL ADJACENT TO CURB AND GUTTER AND STABILIZATION AT TB TTY. 1 SPL.
569	BD-49	DETAIL FOR CENTERLINE SAW CUT 16' (4.9m) AND VARIABLE JOINTED PAVEMENT FOR RAMPS
570	BD-51	BENCHING DETAIL FOR EMBANKMENT WIDENING
571	TC-08	FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS
572	TC-09	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE
573	TC-10	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS
574	TC-11	RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT)
575-576	TC-12A,B	MULTILANE FREEWAY PAVEMENT MARKING (2 SHEETS)
577	TC-13	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
578	TC-16	PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING
579	TC-17	TRAFFIC CONTROL FOR SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES
580	TC-18	SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS
581	TC-21	TYPICAL MARKING FOR CLOSING STATE HIGHWAYS
582	TC-25	TRAFFIC CONTROL DETAILS FOR FREEWAY CENTER LANE CLOSURE SHOULDER LANE
583	TC-26	DRIVEWAY ENTRANCE SIGNING
584	TC-27	MILE POST MARKERS - GORE SIGNS - MAJOR GUIDE SIGN LAYOUT - ARROWS
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586-601	XT(A)-1 to XT(A)-16	ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS
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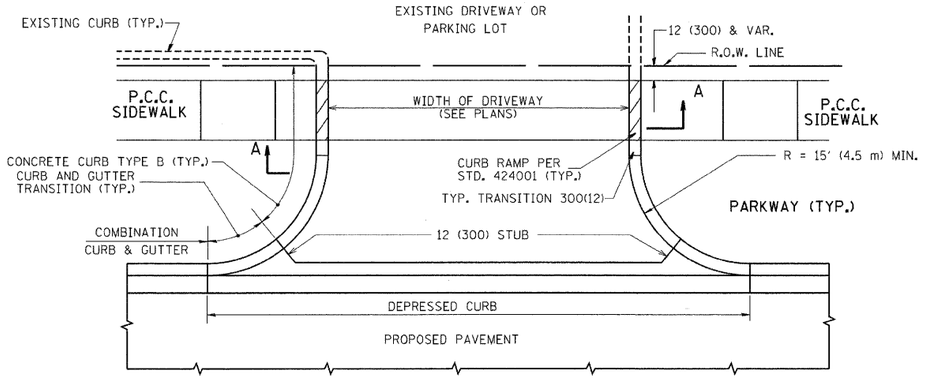
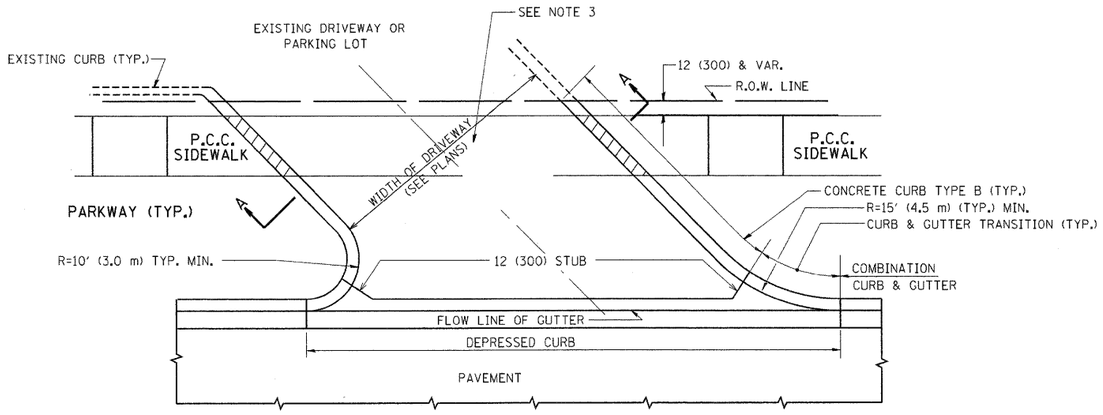
664-679	XS(W)-1 to XS(W)-16	WEST FRONTAGE CONNECTOR CROSS SECTIONS
680-687	XS(RA)-1 to XS(RA)-8	RAMP A CROSS SECTIONS
688-705	XS(RB)-1 to XS(RB)-18	RAMP B CROSS SECTIONS
706-725	XS(RC)-1 to XS(RC)-20	RAMP C CROSS SECTIONS
726-756	XS(I55)-1 to XS(I55)-31	I-55 CROSS SECTIONS

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street Chicago, Illinois 60601

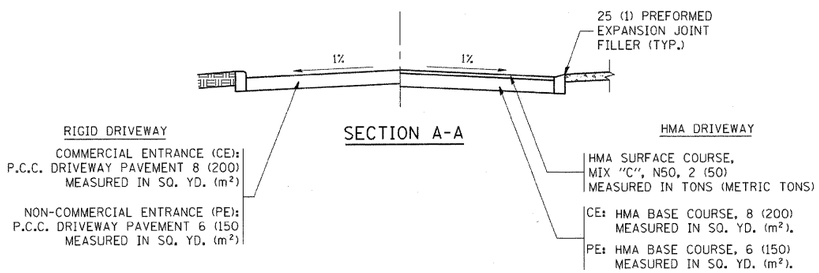
FILE NAME = D160F12-SHT-INDEX03.dgn	USER NAME = TKluegel	DESIGNED - MJT	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**INDEX OF SHEETS**	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - MJT	REVISED -			55	99-2HB-2B-1	WILL	756	565
	PLOT SCALE = 1:50	CHECKED - DLT	REVISED -					CONTRACT NO. 60F12		
	PLOT DATE = 3/8/2011	DATE - 2/4/11	REVISED -		SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

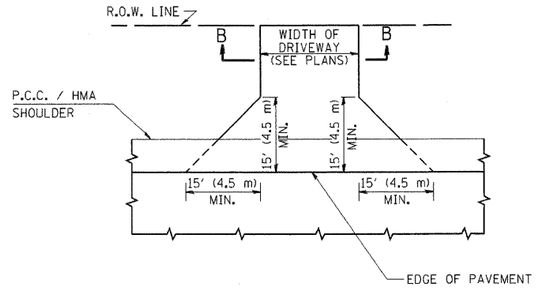


WITH CONCRETE CURB, TYPE B

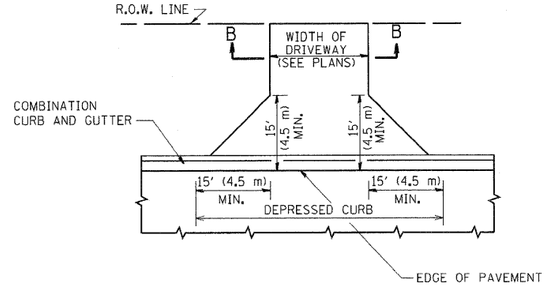


WITH CONCRETE CURB, TYPE B

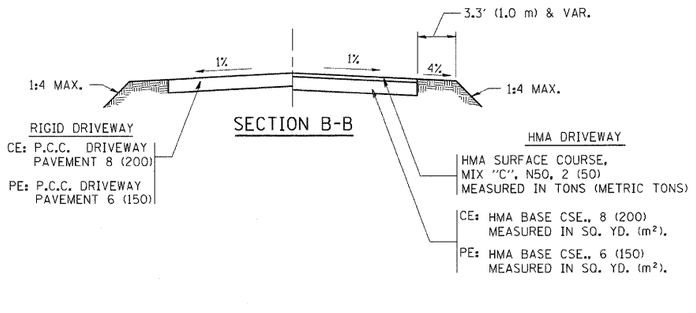




ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE,
MIX "C", N50, 2 (50)
MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200)
MEASURED IN SQ. YD. (m²).

GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

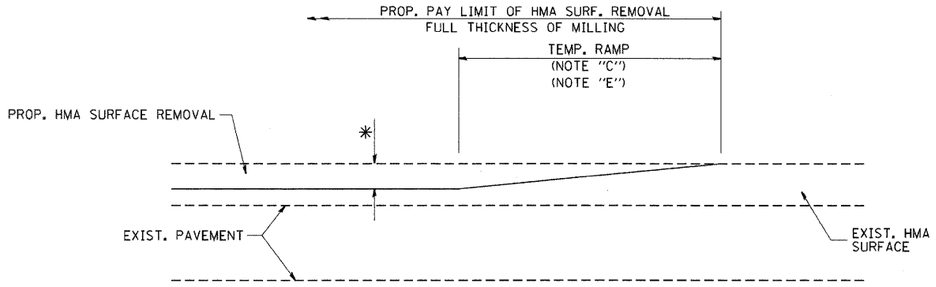
FILE NAME = c:\projects\dststd22x34\bd01.dgn	USER NAME = bauerd1	DESIGNED - R. SHAH	REVISED - M. GOMEZ 04-06-01
		DRAWN -	REVISED - P. LaFLUER 04-15-03
	PLOT SCALE = 49.9999 ' / IN.	CHECKED -	REVISED - R. BORO 01-01-07
	PLOT DATE = 6/12/2008	DATE - 11-04-95	REVISED - R. BORO 06-11-08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS – DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER >= 15' (4.5 m)

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

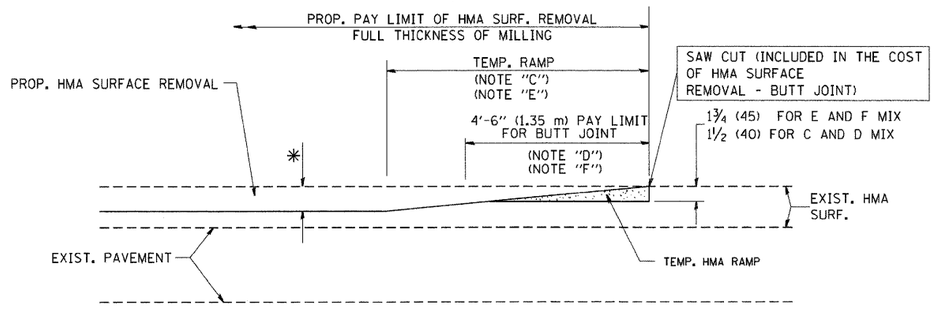
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	566
	BD0156-07 (BD-01)	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

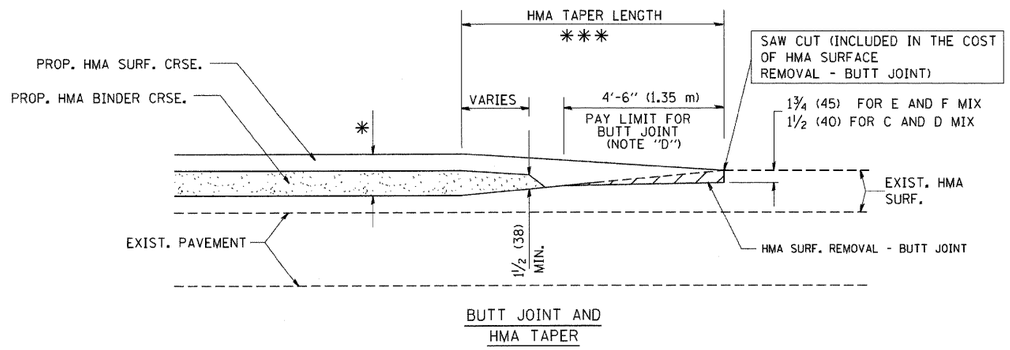


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

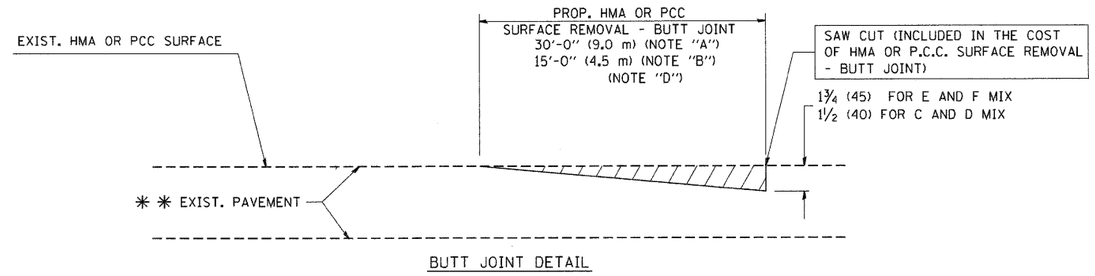
OPTION 2

TYPICAL TEMPORARY RAMP

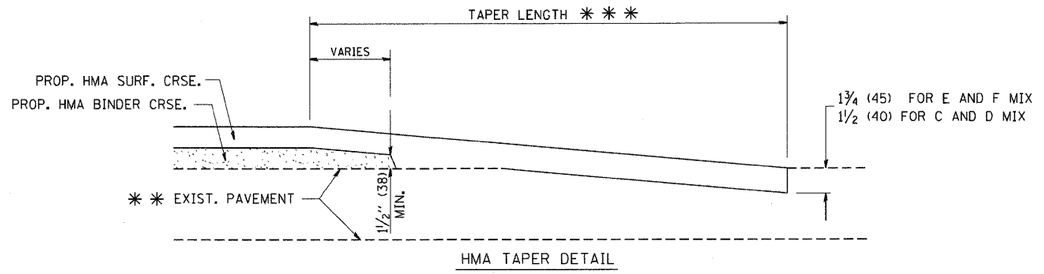


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.

B: MINOR SIDE ROADS.

C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.

D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.

E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.

F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT

G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

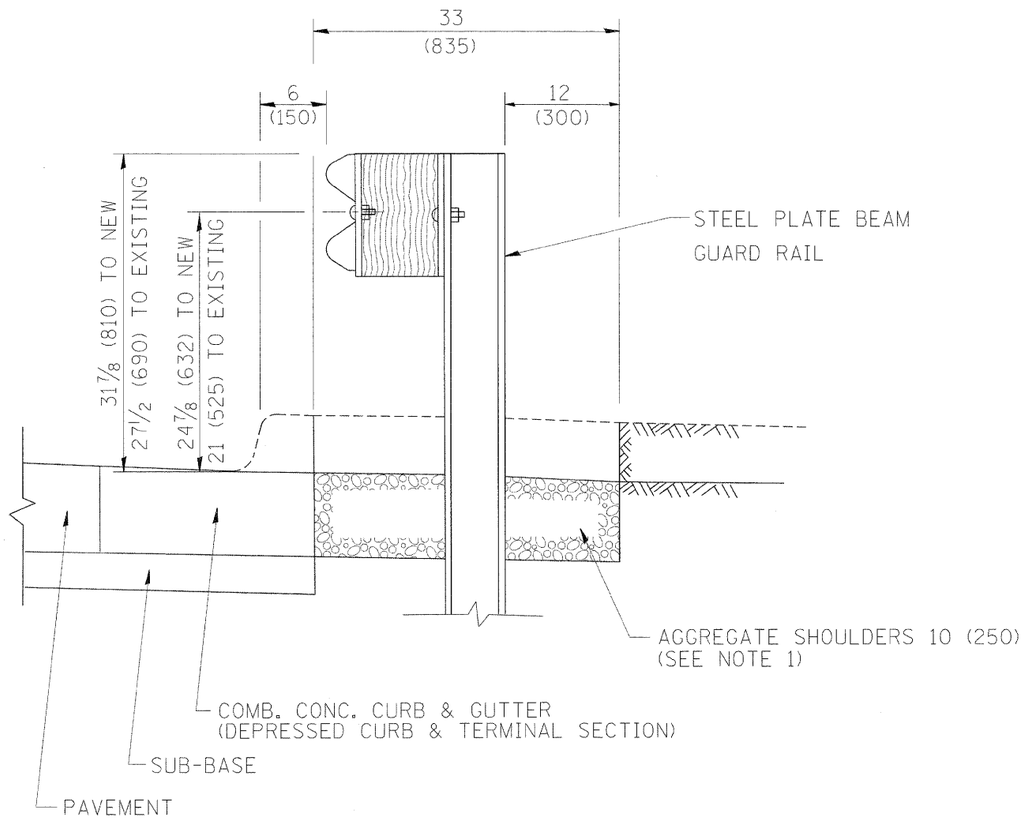
FILE NAME = W:\diststd\22x34\bd32.dgn	USER NAME = gaglianobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
		DRAWN -	REVISED - A. ABBAS 03-21-97
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 1/4/2008	DATE - 06-13-90	REVISED - R. BORO 01-01-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND HMA TAPER DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

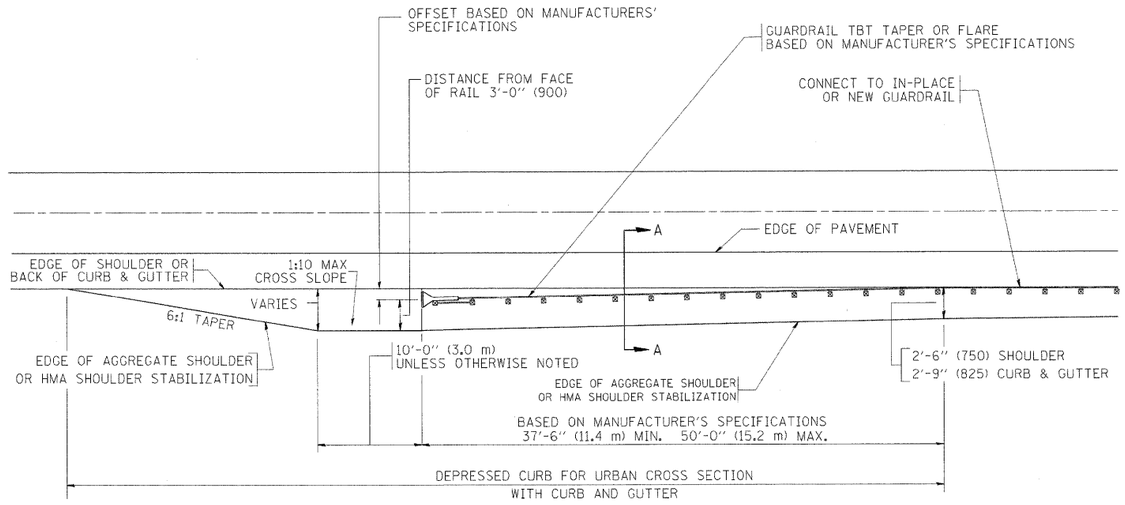
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	567
	BD400-05 BD32	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



SECTION A-A

NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER [FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



DEPRESSED CURB AND GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

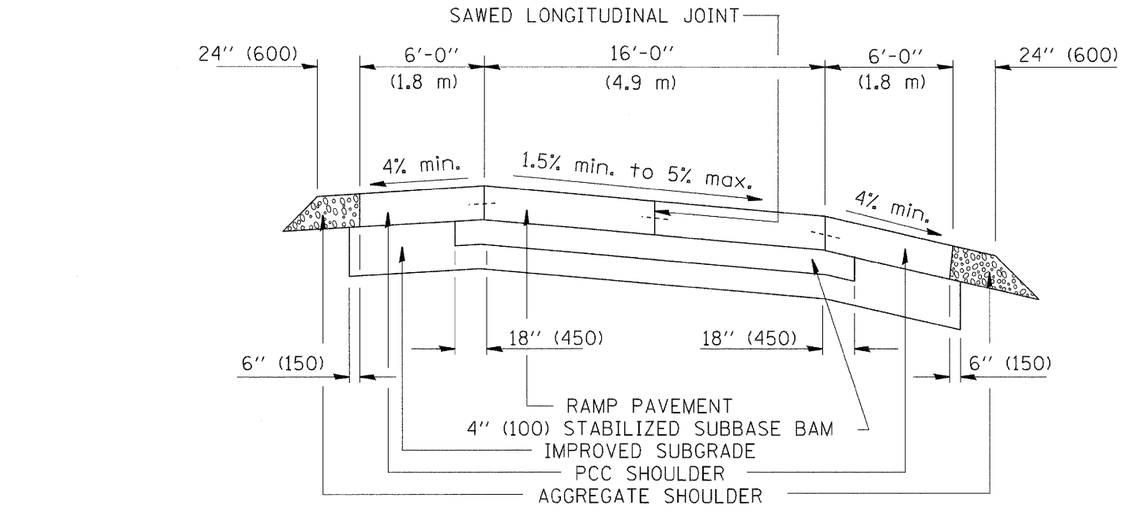
STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL

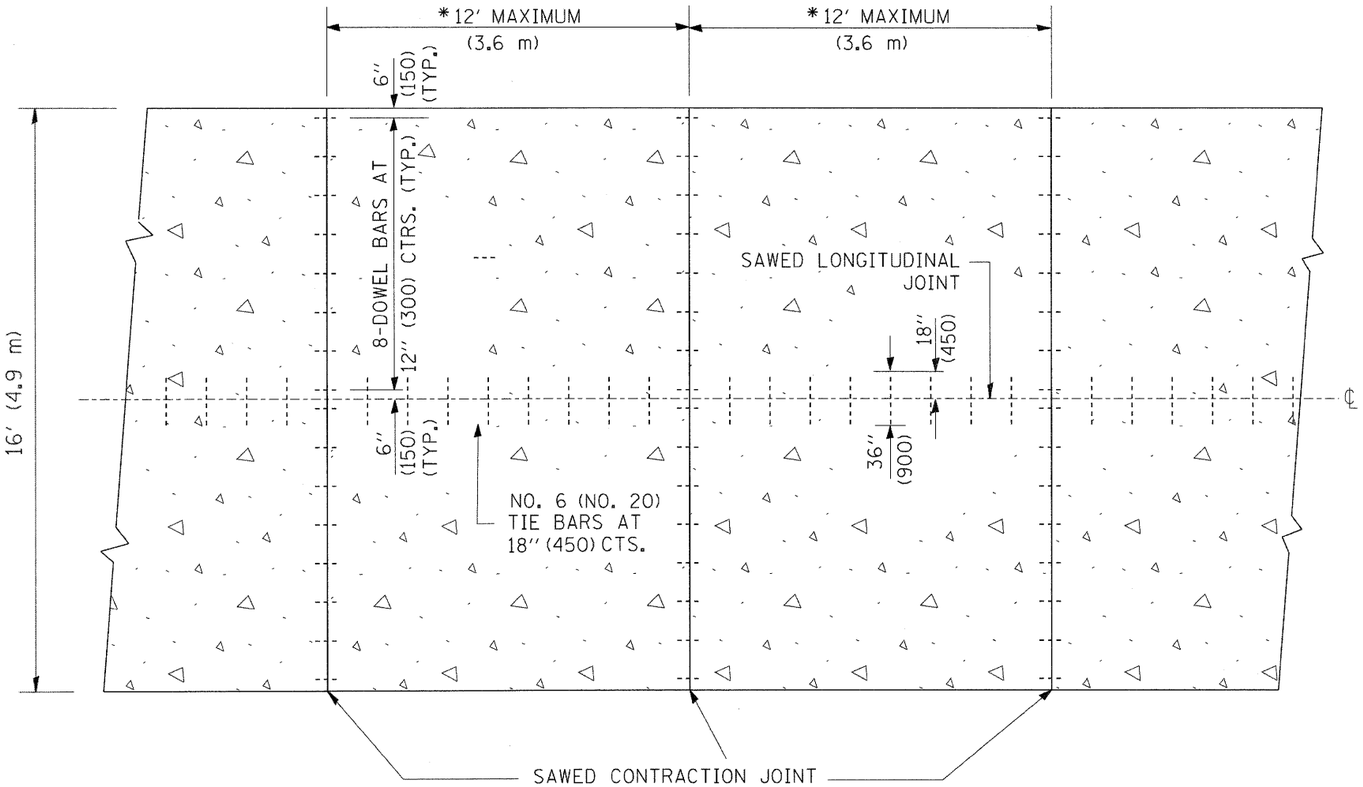
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = c:\pw_work\PWIDOT\DRIVAKOSGN\d0108315\bd34.dgn	USER NAME = drivakosgn	DESIGNED - M. DE YONG	REVISED - E. GOMEZ 08-28-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY 1 SPL.
		DRAWN -	REVISED - R. BORO 01-01-07		
	PLOT SCALE = 49.9999 '/ IN.	CHECKED -	REVISED - R. BORO 12-08-2008		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.
	PLOT DATE = 9/21/2009	DATE - 09-22-90	REVISED - R. BORO 09-14-2009		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	568
	BD600-10 (BD 34)	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



SECTION

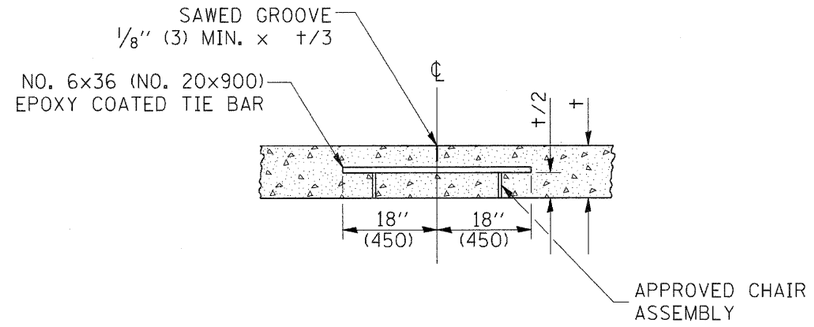


PLAN

NOTES:

1. CENTERLINE JOINT REMAINS IN THE CENTER WHEN RAMP TRANSITIONS TO TWO (2) RAMPS AT 12' (3.6 m).

2. ALL BARS TO BE EPOXY COATED.



SAWED LONGITUDINAL JOINT

ALL DIMENSIONS ARE IN INCHES
(MILLIMETERS) UNLESS OTHERWISE NOTED

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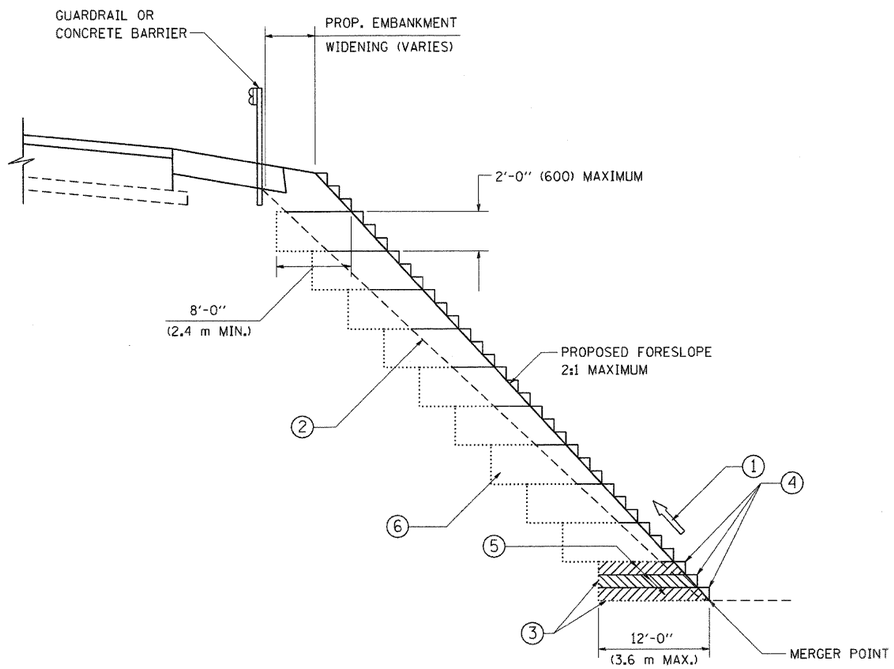
		DRAWN - TOM MATOUSEK	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - A. ABBAS	REVISED -
	PLOT DATE = 1/4/2008	DATE - 10-18-02	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL FOR CENTERLINE SAW CUT 16' (4.9 m) AND VARIABLE JOINTED PCC PAVEMENT FOR RAMPS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	569
	BD49	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT			



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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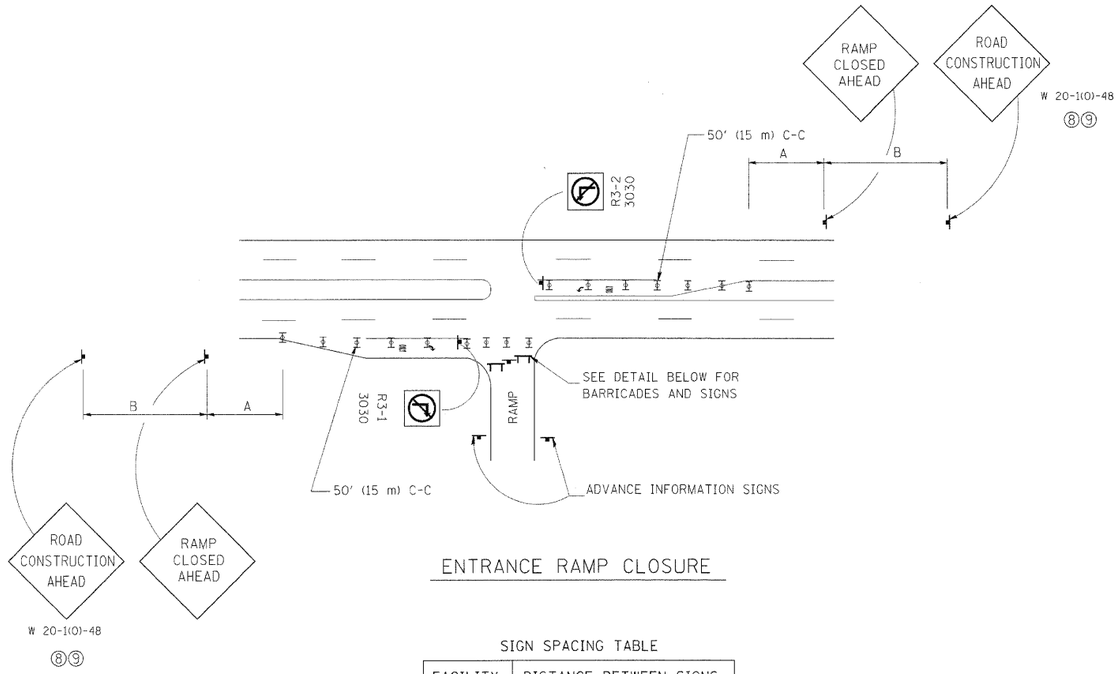
		DRAWN - CADD	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED - S.E.B.	REVISED -
	PLOT DATE = 1/4/2008	DATE - 06-16-04	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT WIDENING

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	570
	BD-51	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

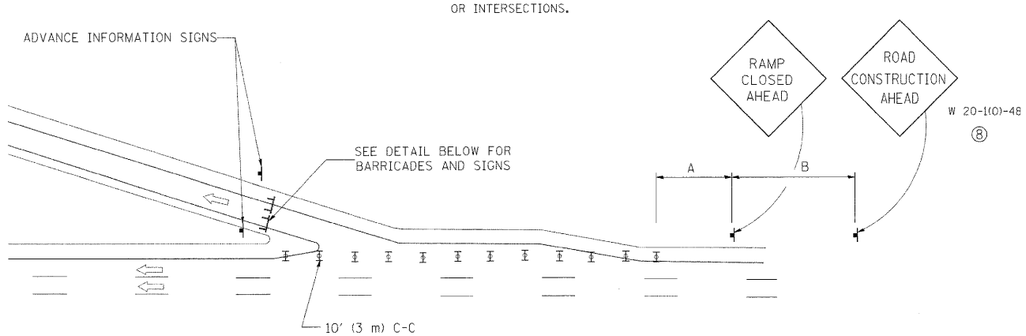


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL ≥45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	150' (45 m)	150' (45 m)

DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.

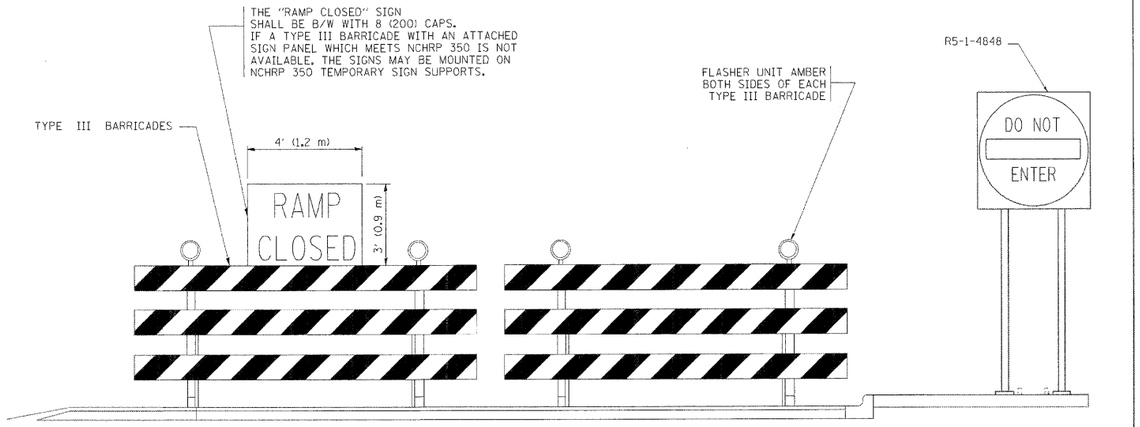


EXIT RAMP CLOSURE

SYMBOLS

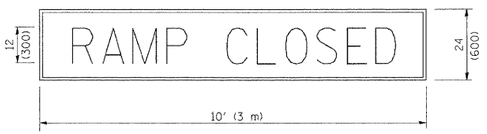
TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT

TYPE III BARRICADE WITH FLASHING LIGHT



DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE WARNING SIGN

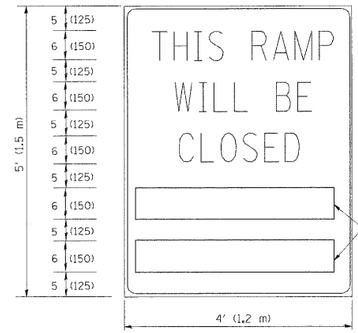


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND

1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMPS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND

½ (12) BORDER

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

GENERAL NOTES:

1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
4. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
5. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
7. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY- FOUR 24 HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY FOUR 24 HOURS IN LENGTH.
8. ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
9. ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED ON CLOSURES LESS THAN 24 HOURS IN DURATION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc08.dgn	USER NAME = leyao	DESIGNED - DWS	REVISED - DWS/JAF 12-02
		DRAWN -	REVISED - JAF 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07
	PLOT DATE = 11/3/2010	DATE - 02-83	REVISED - SPB 12-09

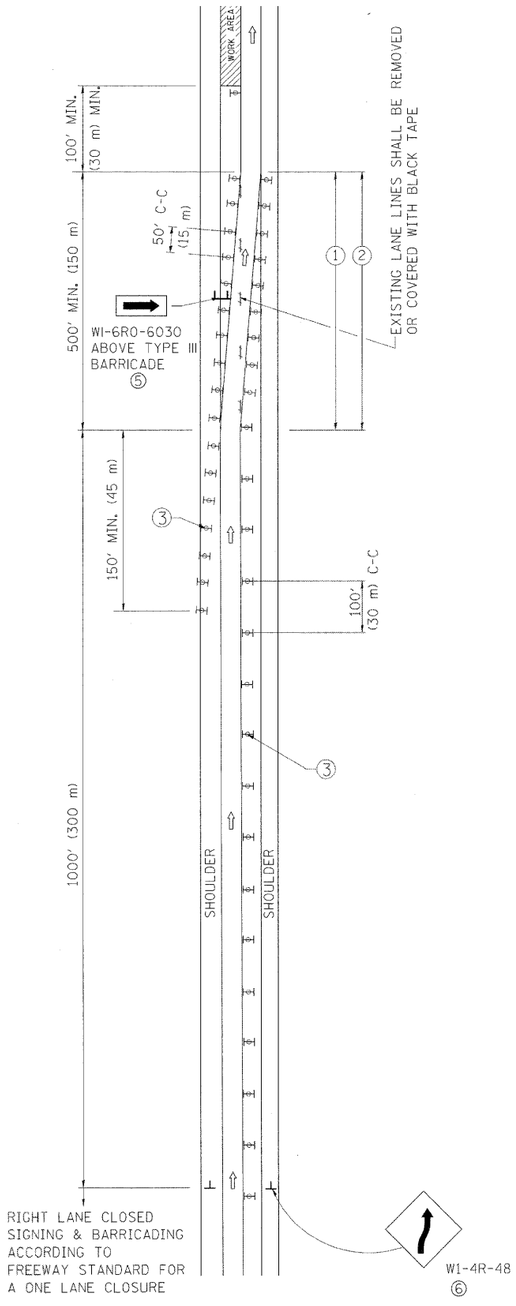
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FREEWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS

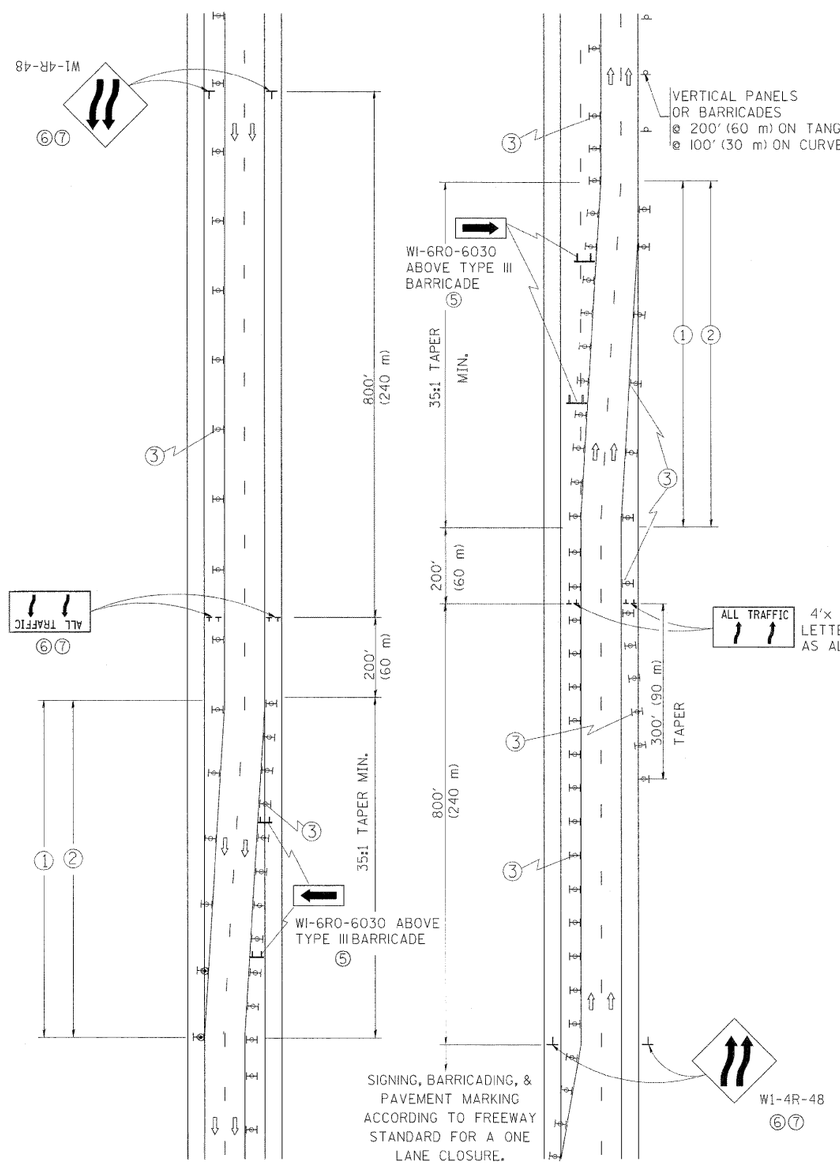
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	571
	TC-08	CONTRACT NO. **60F12**		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 24 HOURS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS. TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

ALL TRAFFIC 4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

SYMBOLS

DIRECTION OF TRAFFIC

WORK AREA

SIGN ON PORTABLE OR PERMANENT SUPPORT

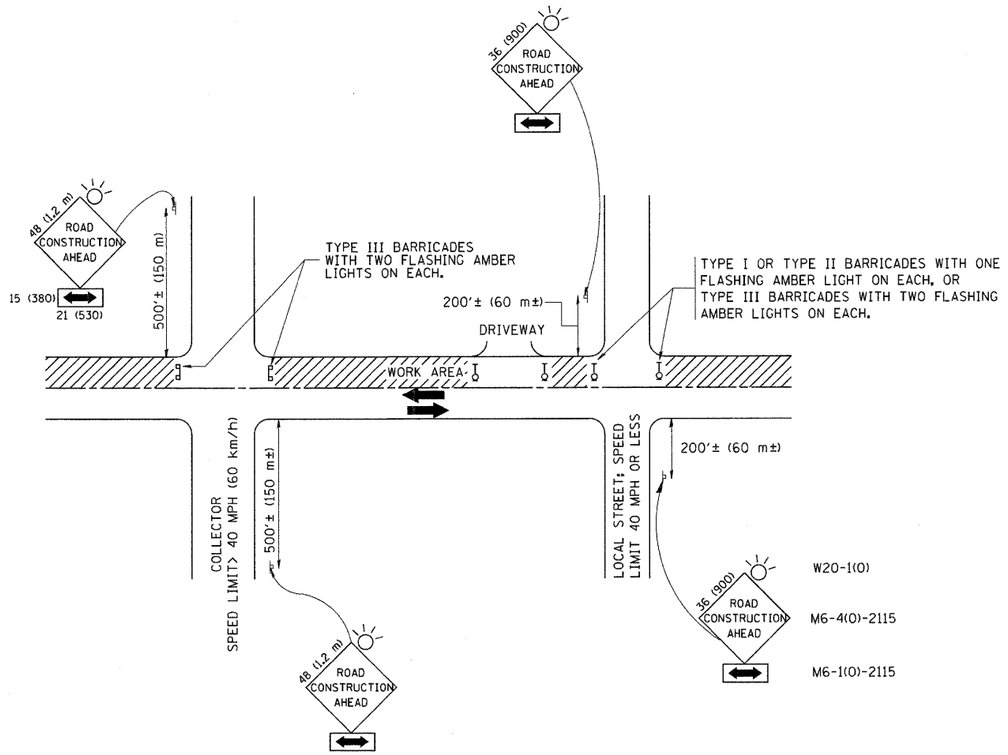
TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME = W:\cistatd\22x34\tc09.dgn	USER NAME = leysa	DESIGNED - DWS	REVISED - JAF 01-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE**
		DRAWN -	REVISED - JAF 02-06		
	PLOT SCALE = 50.002 ' / IN.	CHECKED -	REVISED - SPB 01-07		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.
	PLOT DATE = 1/26/2010	DATE - 02-87	REVISED - SPB 12-09		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	572
	TC-09	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

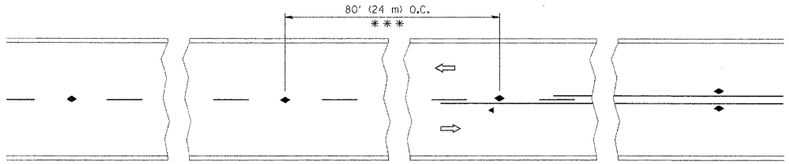
FILE NAME = W:\diststd\22x34\tc10.dgn	USER NAME = gaglianobt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED -T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

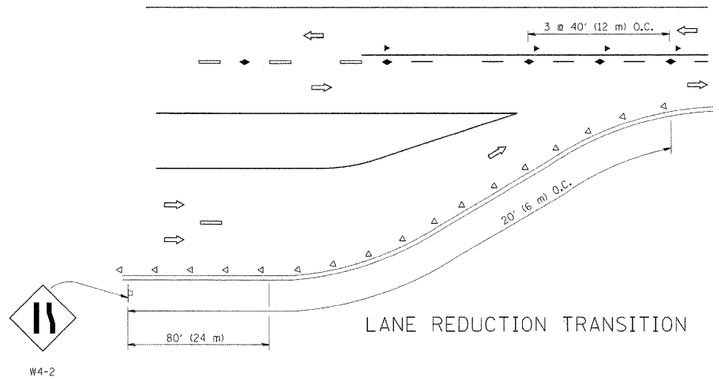
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	573
	TC-10	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

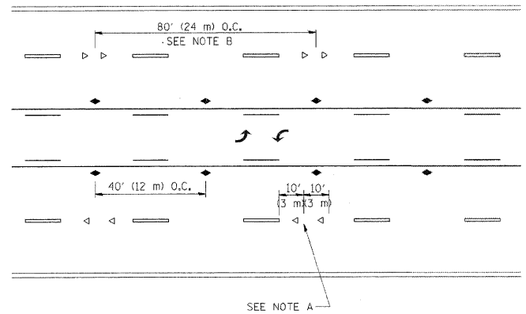


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

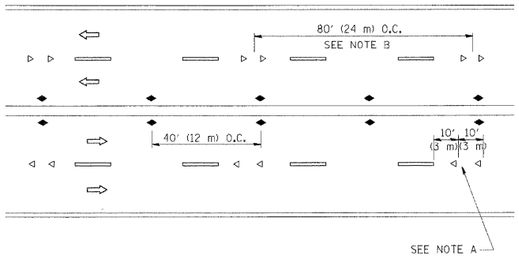
TWO-LANE/TWO-WAY



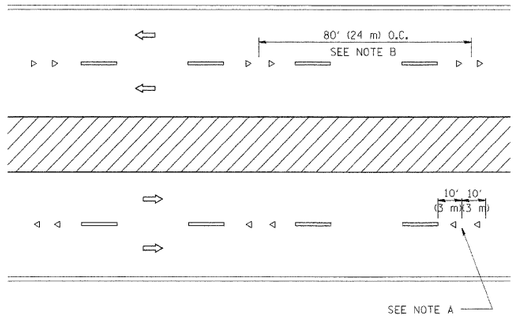
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

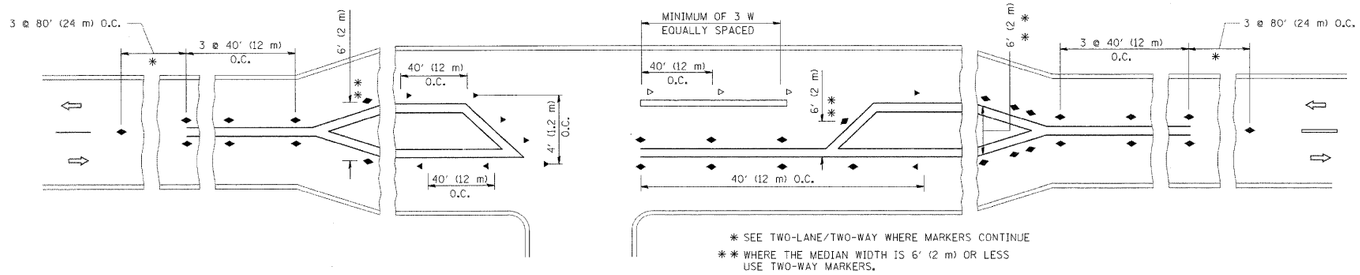
SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.



LEFT TURN

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

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

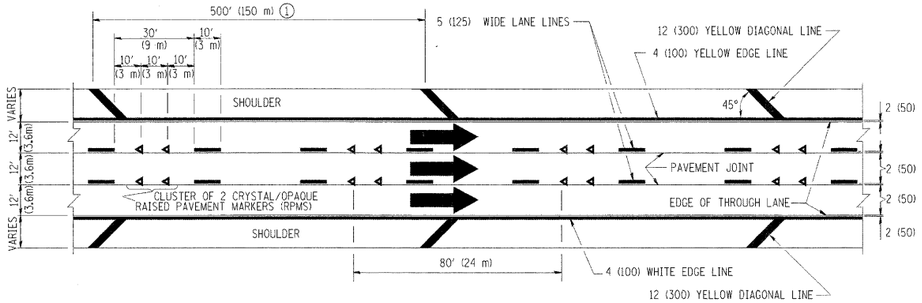
FILE NAME = c:\pw_work\pwidot\drivakosgn\d0128315\tc11.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - T. RAMMACHER 09-19-94
		DRAWN -	REVISED - T. RAMMACHER 03-12-99
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
	PLOT DATE = 9/9/2009	DATE -	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

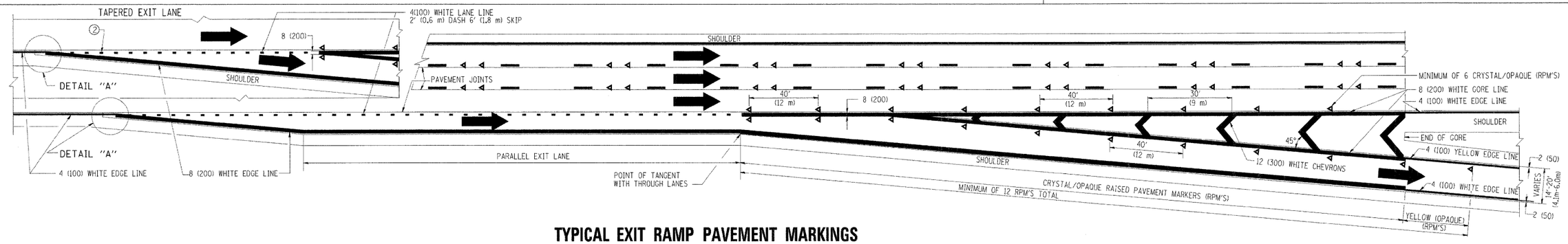
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	574
	TC-11	CONTRACT NO. **60F12**		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



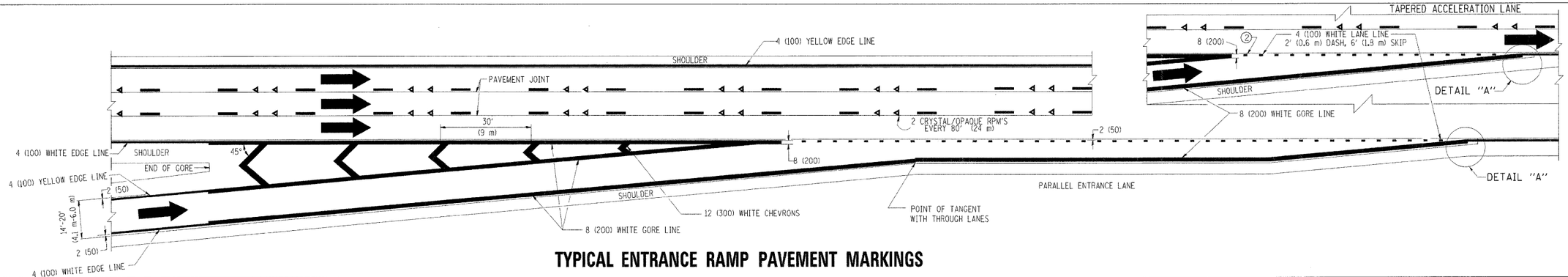
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

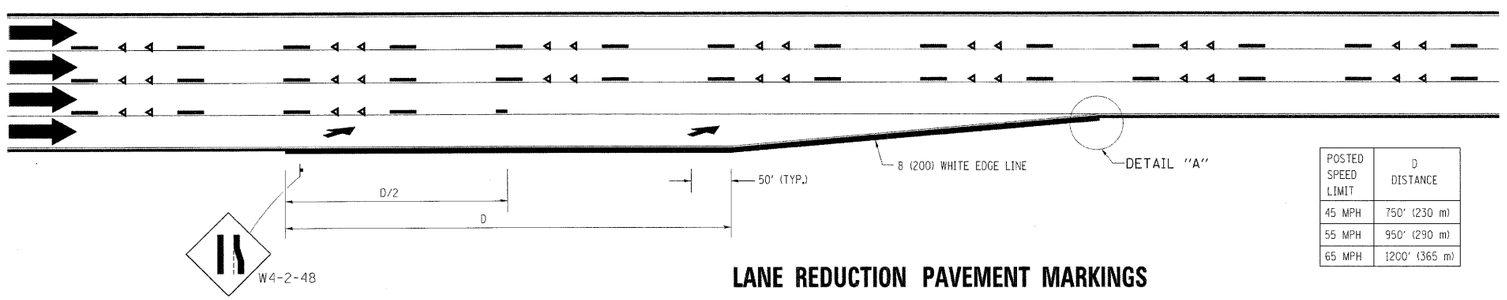
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES ON BITUMINOUS PAVEMENT.
3. POLYUREA PAVEMENT MARKING SHALL BE USED FOR ALL MARKINGS ON PCC.



TYPICAL EXIT RAMP PAVEMENT MARKINGS

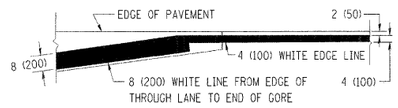


TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)

LANE REDUCTION PAVEMENT MARKINGS



DETAIL "A"

NOTES:

① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.

② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

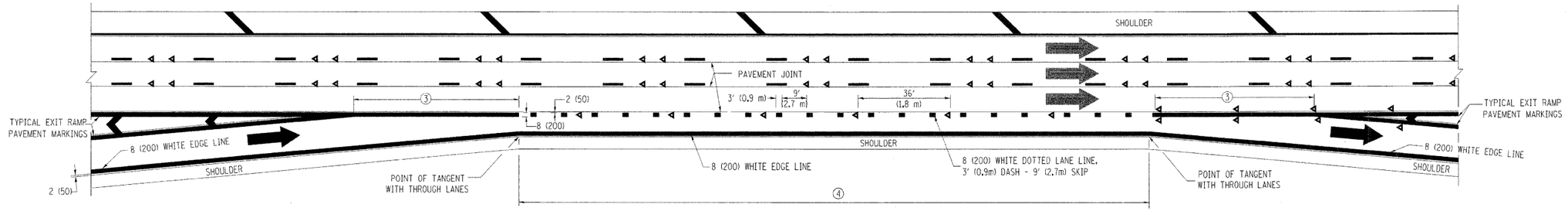
FILE NAME = c:\pw_work\PWIDOT\LEYSA\d0108315\sc12.dgn	USER NAME = leysa	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
		DRAWN -	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/22/2010	DATE - 01-90	REVISED - S.P.B. 01-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

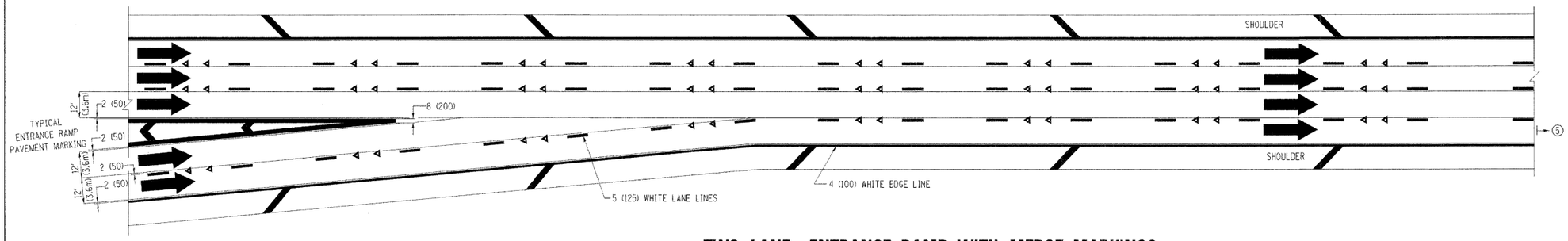
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

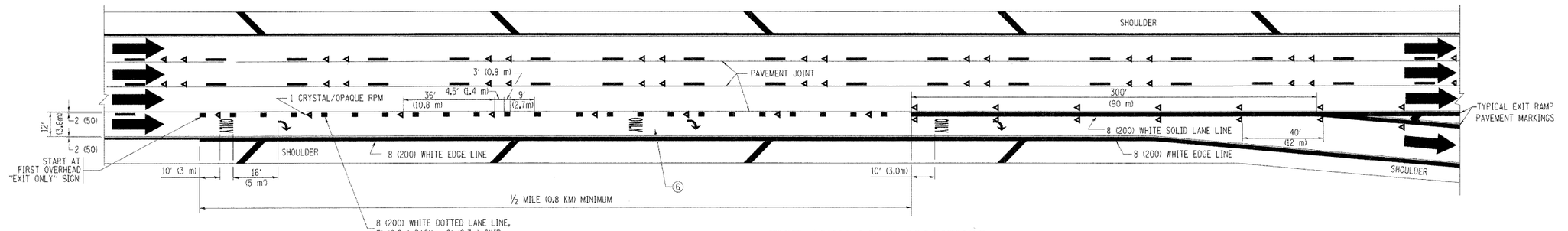
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	575
	TC-12	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



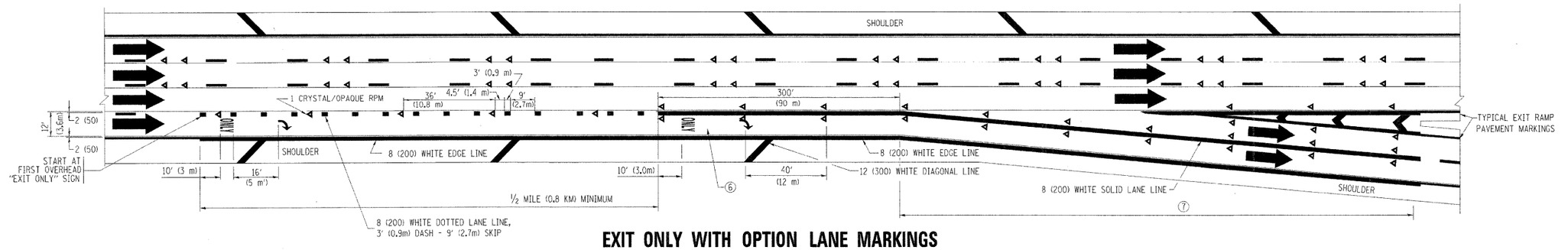
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

NOTES

③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).

④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.

⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.

⑥ ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.

⑦ CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

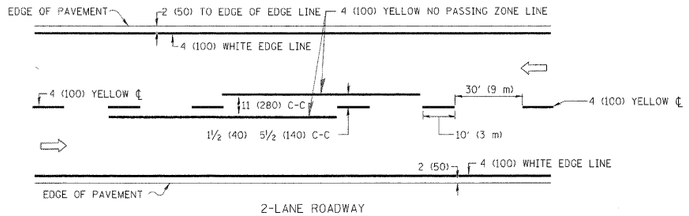
FILE NAME = c:\pw_work\PWIDOT\LEYSA\d0108315\tc12.dgn	USER NAME = leysa	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
		DRAWN -	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/22/2010	DATE - 01-90	REVISED - S.P.B. 01-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

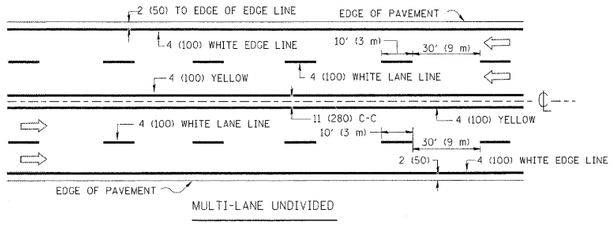
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

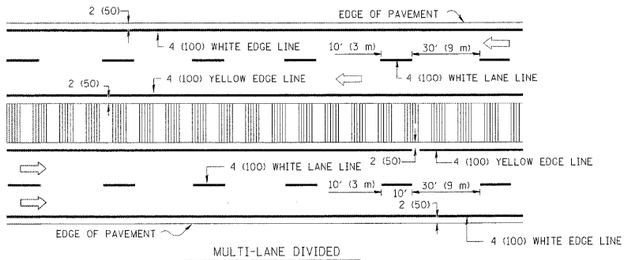
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	576
	TC-12	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY



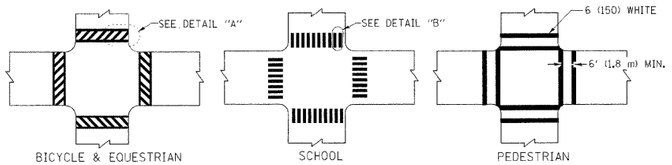
MULTI-LANE UNDIVIDED

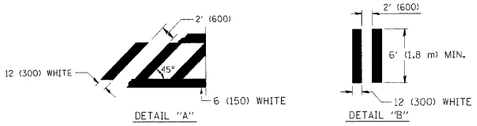


MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

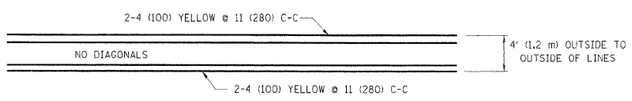
NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

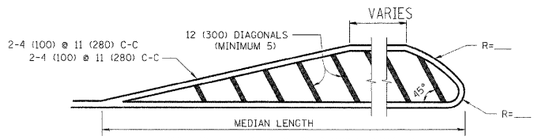




TYPICAL CROSSWALK MARKING



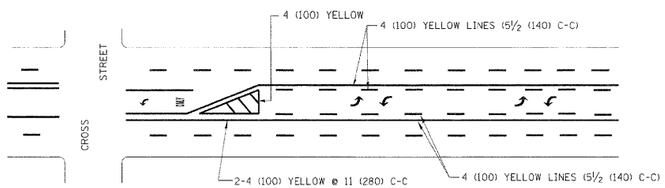
4' (1.2 m) WIDE MEDIANS ONLY



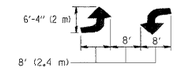
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

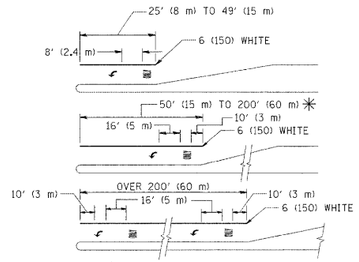


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

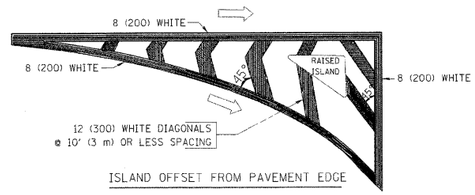


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

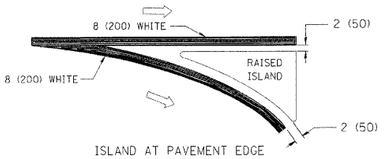
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

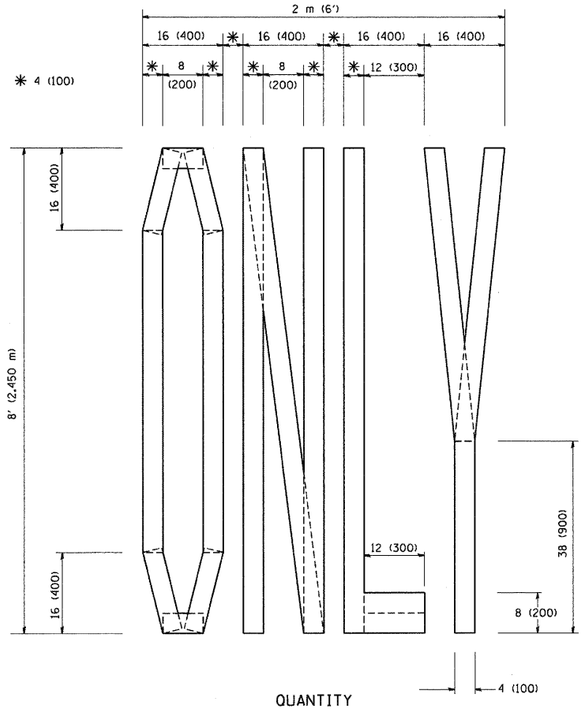
FILE NAME = c:\pw_work\pwidot\drivakosgn\d0128315\tc13.dgn	USER NAME = drivakosgn	DESIGNED - EVERS	REVISED -T. RAMMACHER 10-27-94
		DRAWN -	REVISED -C. JUCIUS 09-09-09
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 9/9/2009	DATE - 03-19-90	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

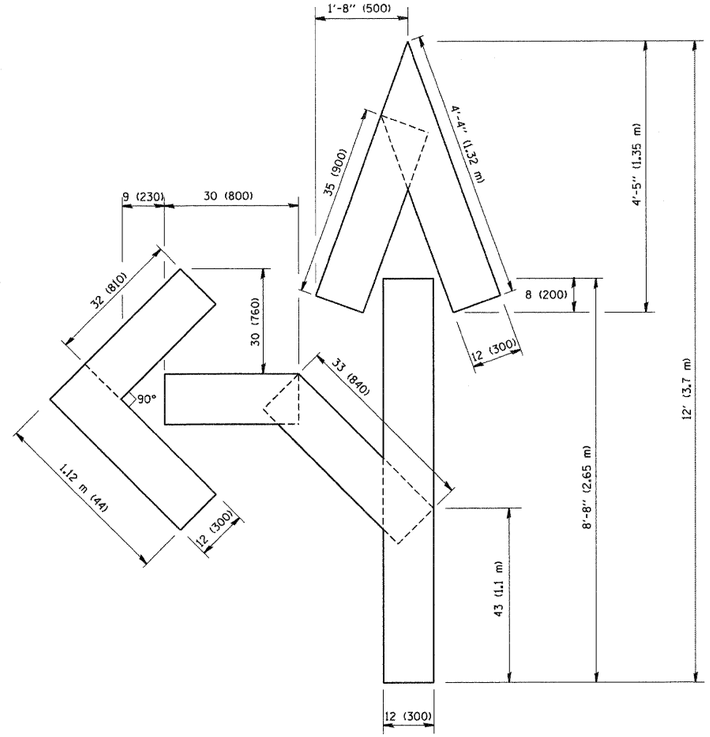
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	577
	TC-13	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



QUANTITY
4 (100) LINE = 64.1 ft. (19.7 m)
21.1 sq. ft. (1.97 sq. m)

QUANTITY
4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.39 sq. m)



QUANTITY
4 (100) LINE = 82.5 ft. (25.3 m)
27.5 sq. ft. (2.53 sq. m)

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

FILE NAME = W:\diststd\22x34\tc16.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96
		DRAWN -	REVISED -T. RAMMACHER 11-04-97
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98
	PLOT DATE = 1/4/2008	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00

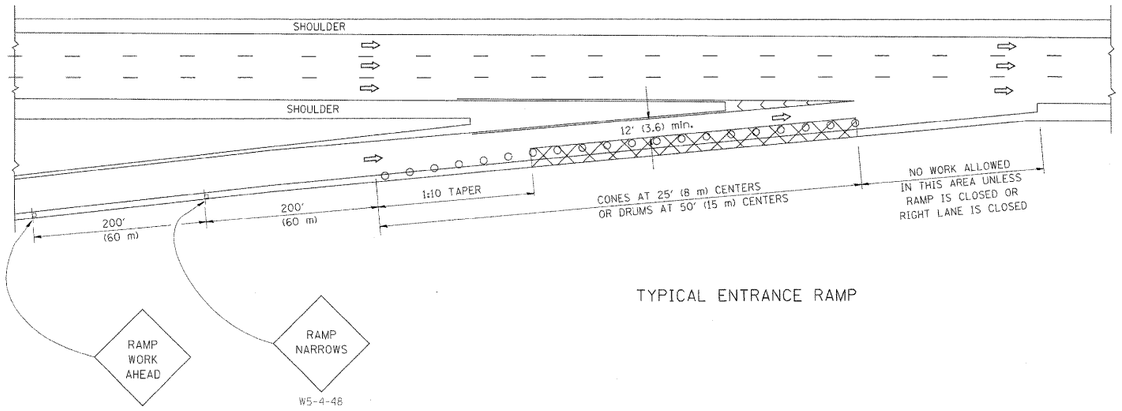
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING

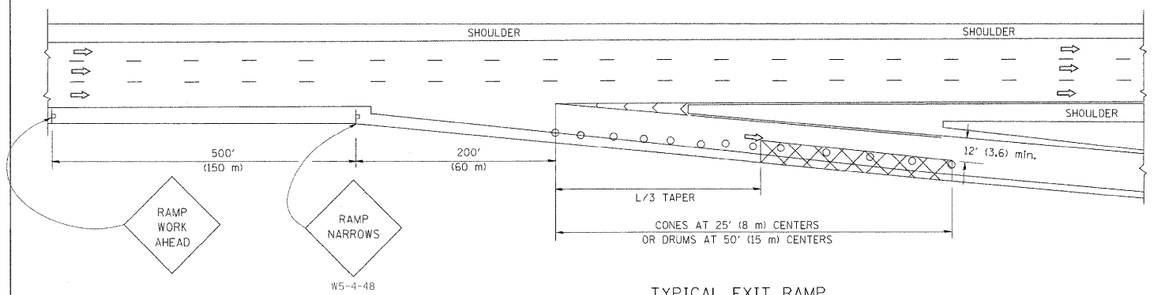
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	578
	TC-16	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

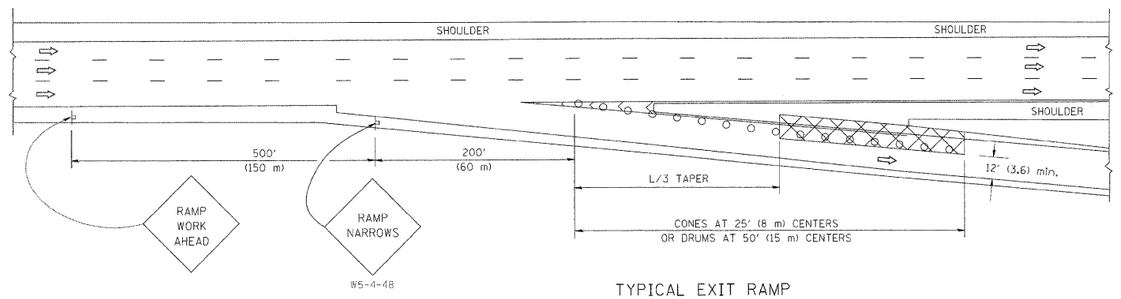
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

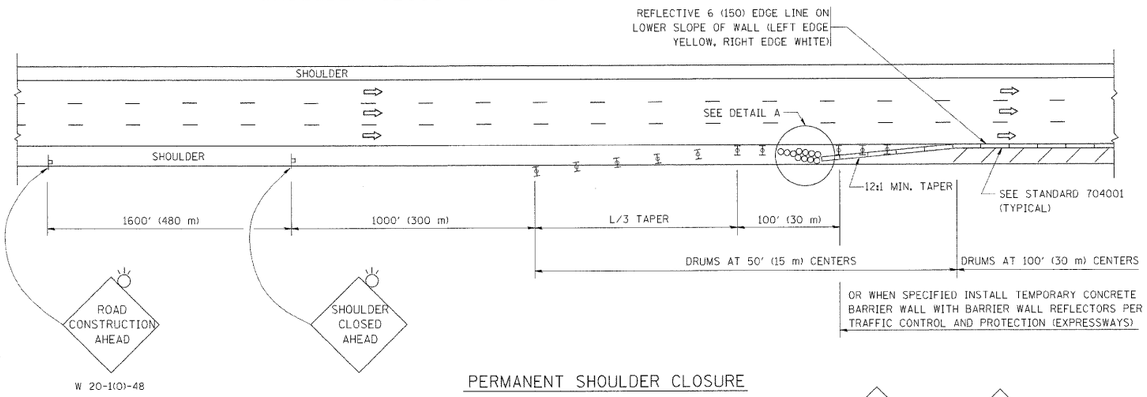
SPEED LIMIT	FORMULAS	
45 mph (80 km/h) OR GREATER:	METRIC	ENGLISH
	L=0.65(W)(S)	L=(W)(S)

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

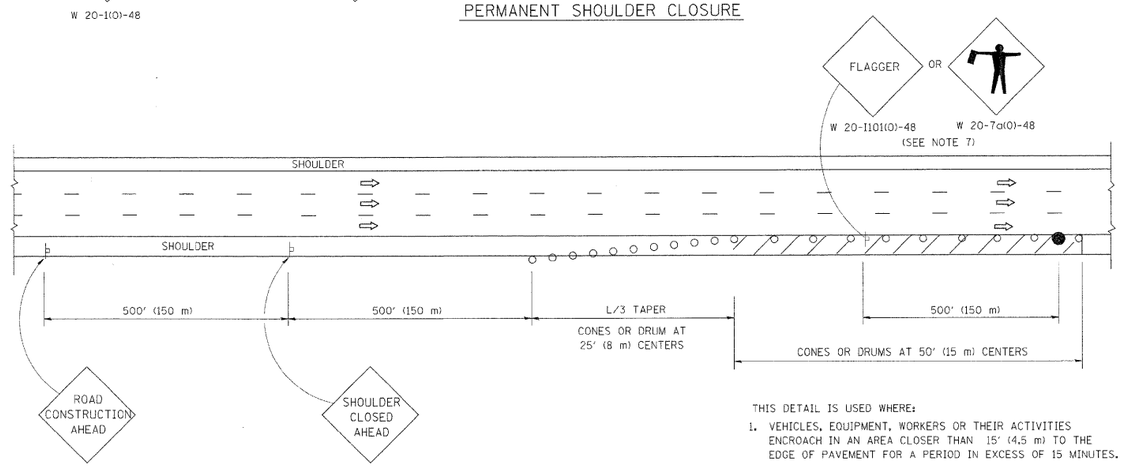
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

SHOULDER CLOSURE DETAILS



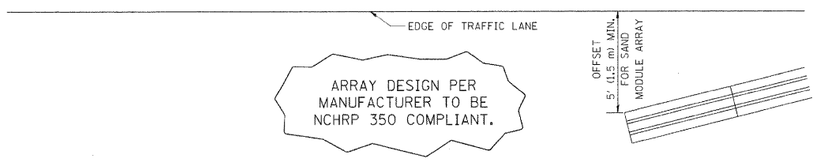
PERMANENT SHOULDER CLOSURE



THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

DAYTIME SHOULDER CLOSURE



DETAIL "A"
IMPACT ATTENTUATOR, TEMPORARY
(SEE NOTE 5)

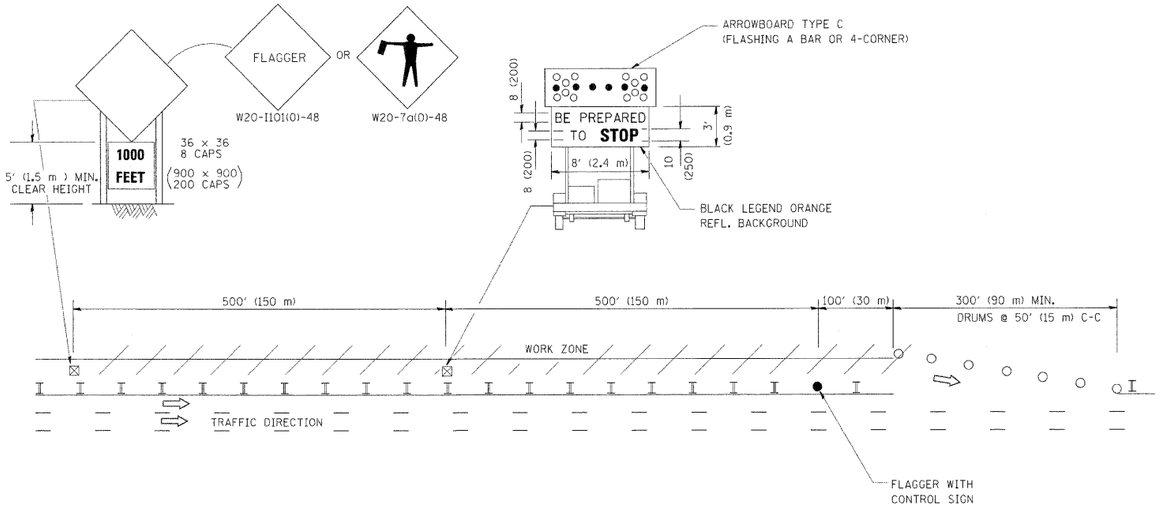
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\distatd\22x34\tc17.dgn	USER NAME = leyae	DESIGNED -	REVISED - 04-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES
		DRAWN - D.W.S.	REVISED - J.A.F. 12-06		
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07		
	PLOT DATE = 1/26/2010	DATE - 11-96	REVISED - S.P.B. 12-09		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

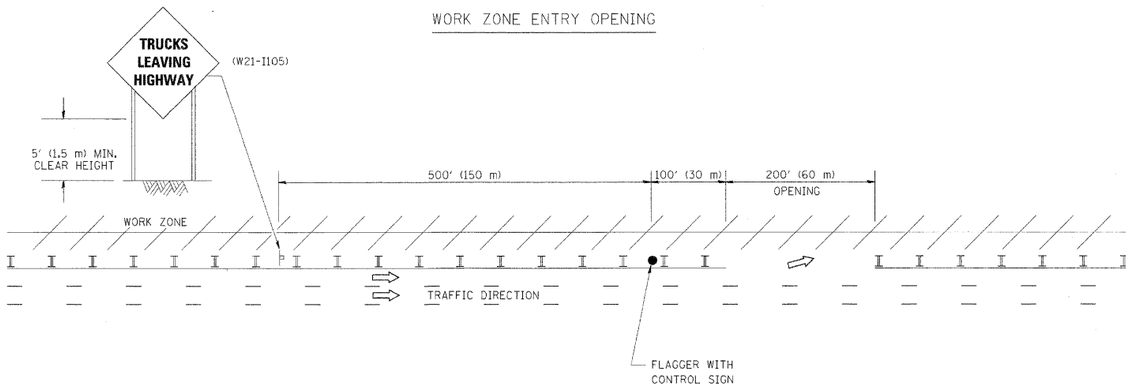
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	579
	TC-17	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT				

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. THE ARROWBOARD, THE FLAGGER AHEAD SIGN AND THE TRUCKS LEAVING HIGHWAY SIGN SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE EXIT OPENINGS SHOULD BE A MINIMUM OF ONE HALF MILE APART.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

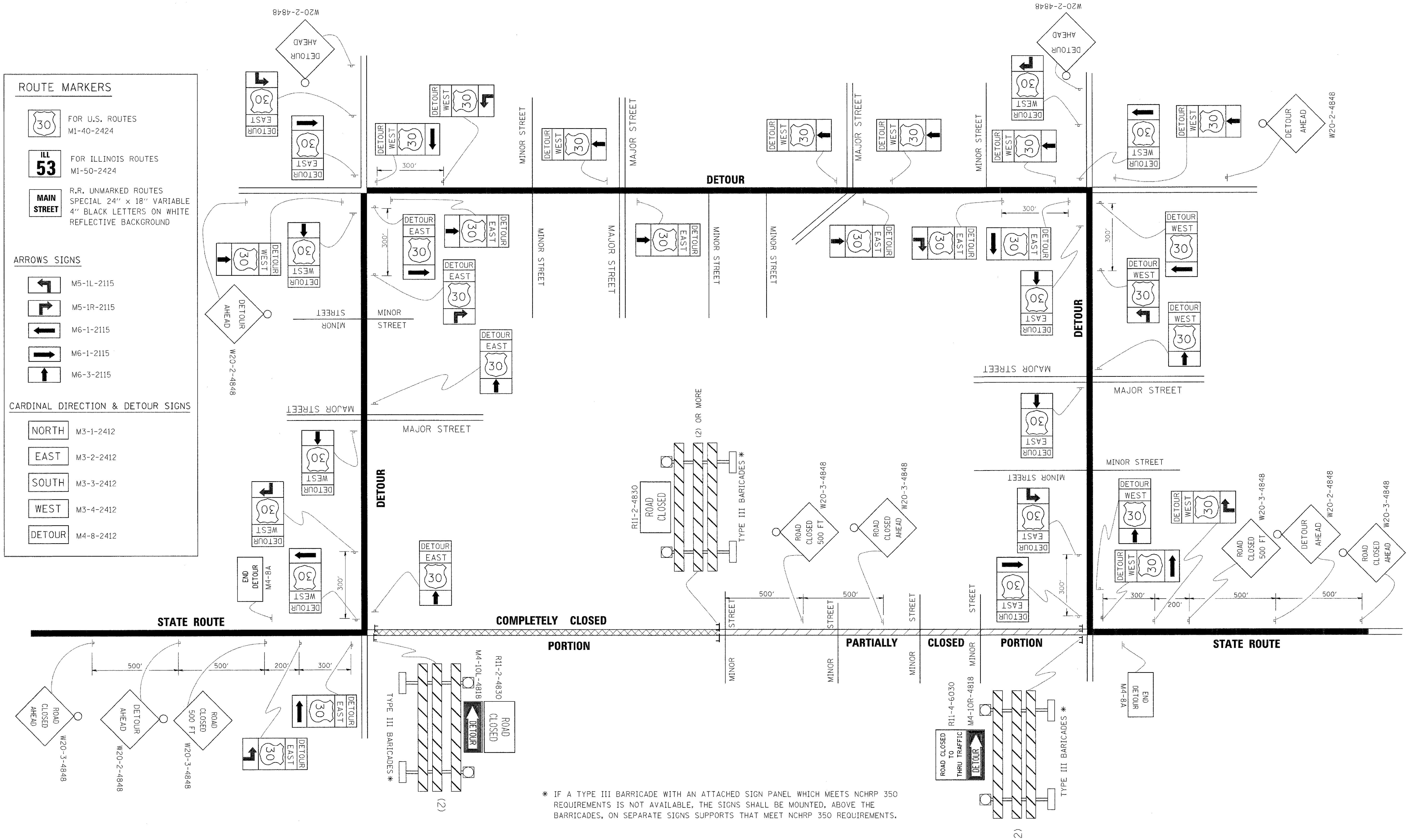
FILE NAME = W:\diststd\22x34\tc18.dgn	USER NAME = leyso	DESIGNED -	REVISED - J.A.F. 04-03
		DRAWN -	REVISED - J.A.F. 02-06
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07
	PLOT DATE = 1/26/2010	DATE -	REVISED - S.P.B. 12-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	580
	TC-18	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

FILE NAME = c:\pw_work\PWIDOT\DRIVAKOSGN\d0108315\tc21.dgn	USER NAME = drivakosgn	DESIGNED -	REVISED - 10-18-02
		DRAWN -	REVISED - R. BORO 09-14-09
	PLOT SCALE = 49.9999 '/ IN.	CHECKED -	REVISED -
	PLOT DATE = 9/14/2009	DATE -	REVISED -

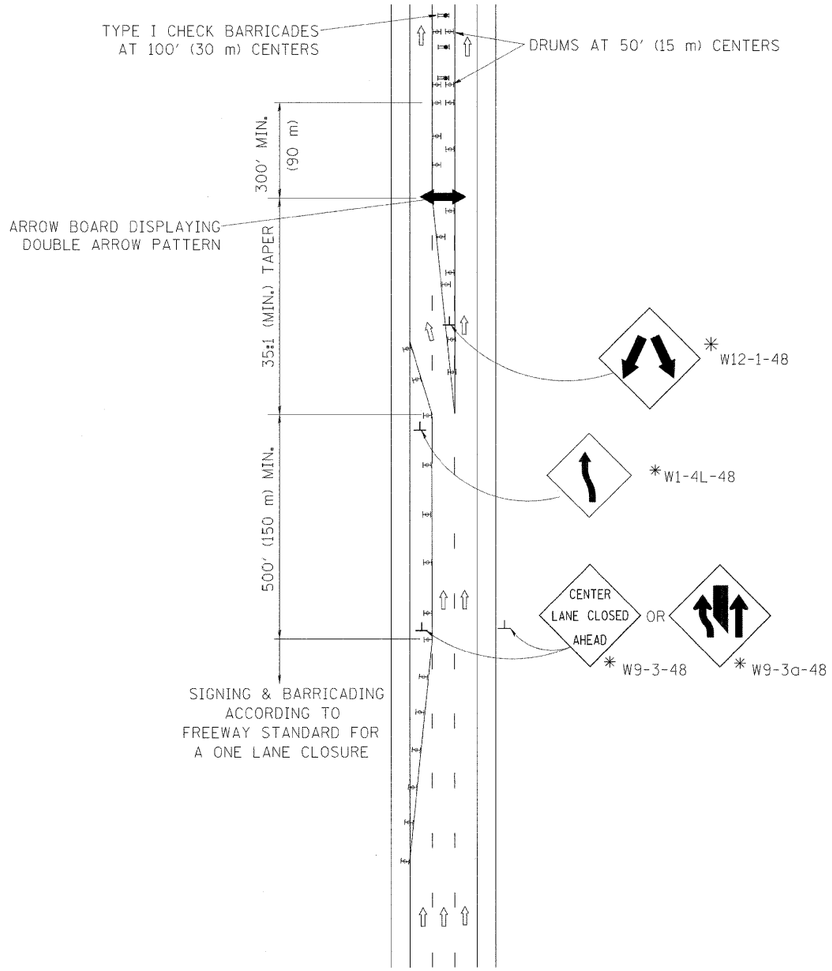
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING
FOR CLOSING STATE HIGHWAYS

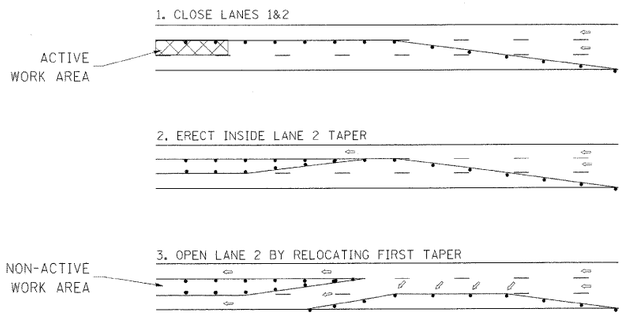
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	581
	TC-21	CONTRACT NO. **60F12**		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CENTER LANE CLOSURE



INSTALLATION SEQUENCE



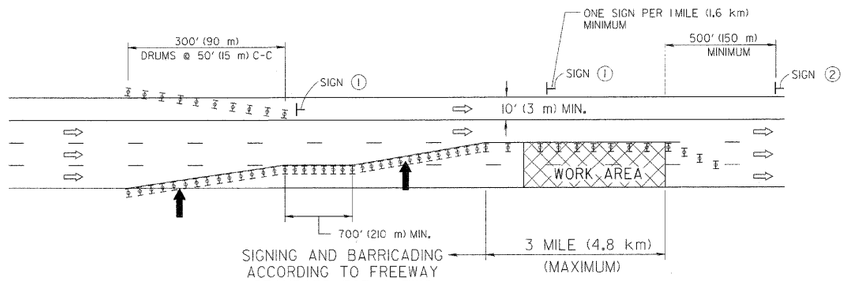
4. REMOVE CLOSURE IN REVERSE ORDER

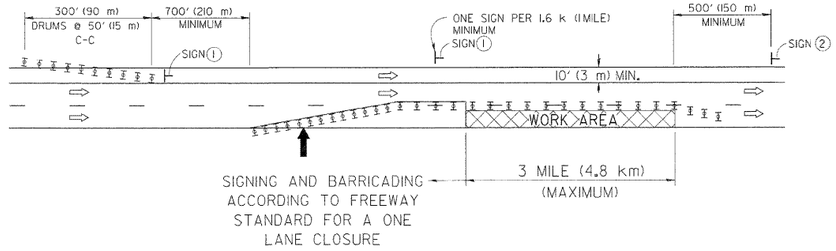
NOTES

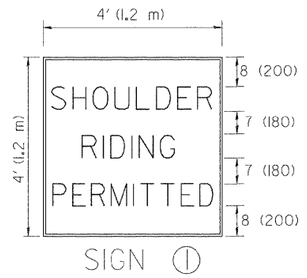
1. DRUMS WITH STEADY BURN LIGHTS SHALL BE USED AT 50' (15 m) CENTERS ON ALL TAPERS AND TANGENTS IN ADVANCE OF WORK AREA.
2. CLOSURE SHALL BE USED ONLY FOR OPERATIONS LASTING 72 HOURS OR LESS.
3. CENTER LANE CLOSURE CONFIGURATION IS NOT TO BE USED WITH WORKERS PRESENT.

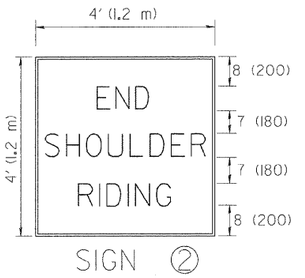
SHOULDER LANE

NOTE: CLOSURE SHALL BE USED ONLY FOR OPERATIONS LASTING 72 HOURS OR LESS.









6 (150) SERIES "C" LEGEND
BLACK LEGEND
WHITE REFLECT. BACKGROUND
1 (25) BORDER

SYMBOLS

- DIRECTION OF TRAFFIC
- ARROWBOARD
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT *
- TYPE II BARRICADE, OR DRUM WITH MONO-DIRECTIONAL STEADY BURN LIGHT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

* ALL SIGNS SHALL BE MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).

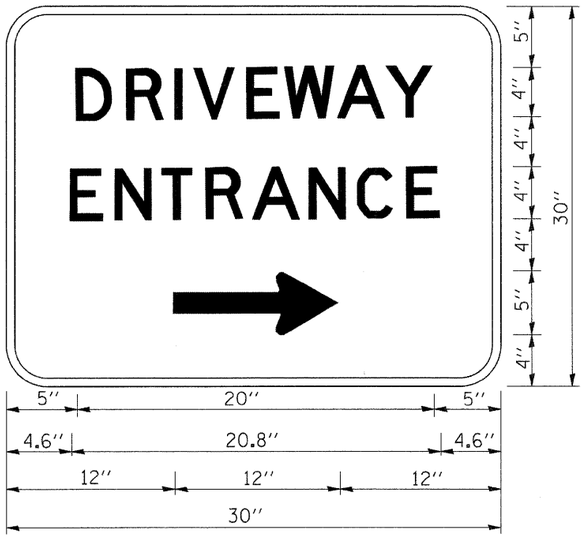
FILE NAME = W:\diststd\22x34\tc25.dgn	USER NAME = leyse	DESIGNED -	REVISED - J.A.F. 04-03
		DRAWN -	REVISED - S.P.B. 01-07
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 12-09
	PLOT DATE = 1/26/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY CENTER LANE CLOSURE SHOULDER LANE

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	582
	TC-25	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



3.0'' RADIUS, 0.5'' BORDER, WHITE ON GREEN; REFLECTORIZED
''DRIVEWAY'' D; ''ENTRANCE'' D; STANDARD ARROW CUSTOM 12.0'' x 5.0''

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK: ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM ''TEMPORARY INFORMATION SIGNING''.

FILE NAME = W:\diststd\22x34\tc26.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - C. JUCIUS 02-15-07
		DRAWN -	REVISED -
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/4/2008	DATE -	REVISED -

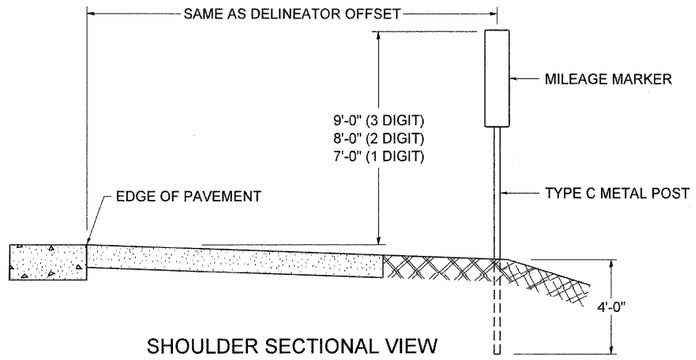
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRIVEWAY ENTRANCE SIGNING

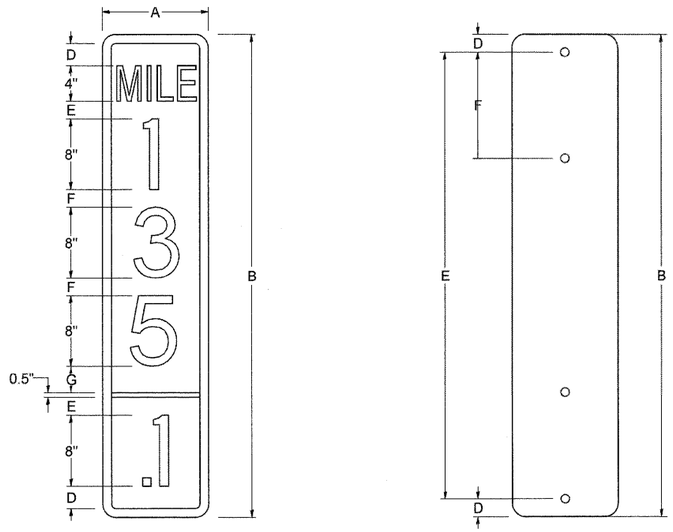
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	583
	TC-26	CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

STANDARD DESIGN FOR MILE POST



SHOULDER SECTIONAL VIEW

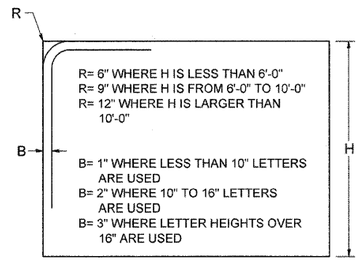


SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	DIGIT
12 x 24	12.0	24.0	1.5	1.5	1.5	N/A	1.5	1
12 x 36	12.0	36.0	1.5	2.0	2.0	2.0	1.5	2
12 x 48	12.0	48.0	1.5	2.5	2.0	2.0	2.5	3

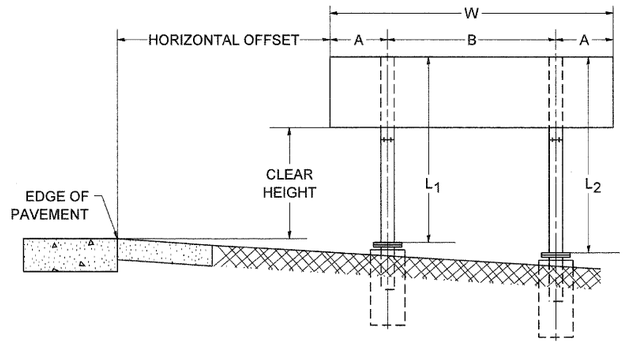
SIGN SIZE	SERIES LINES					BORDER	BLANK STD.
	1	2	3	4	5		
12 x 24	4C	8D	4C	N/A	N/A	0.5	B9-1224
12 x 36	4C	8D	8D	4C	N/A	0.5	B9-1236
12 x 48	4C	8D	8D	8D	4C	0.5	B9-1248

BLANK	A	B	C	D	E	F
B9-1224	12.0	24.0	1.5	2.0	20.0	N/A
B9-1236	12.0	36.0	1.5	2.0	32.0	12.0
B9-1248	12.0	48.0	1.5	2.0	44.0	12.0

BORDER AND RADIUS LAYOUT



MAJOR GUIDE SIGN LAYOUT

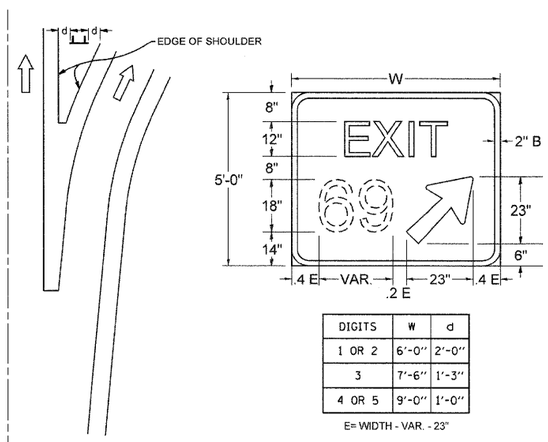


NUMBER OF STEEL SUPPORTS	A	B
2	.2 W	.6 W
3	.15 W	.35 W
4	.125 W	.25 W
5	.1 W	.2 W

"L_1 IS THE LENGTH OF SUPPORT, NOT INCLUDING THE STUB PROJECTION, CLOSEST TO THE EDGE OF THE PAVEMENT.

"A" IS THE DISTANCE FROM THE SIGN EDGE TO THE CENTERLINE OF THE NEAREST SUPPORT. "B" IS THE DISTANCE BETWEEN CENTERLINES OF SUPPORTS.

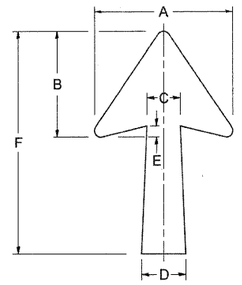
GORE SIGNS



DIGITS	W	d
1 OR 2	6'-0"	2'-0"
3	7'-6"	1'-3"
4 OR 5	9'-0"	1'-0"

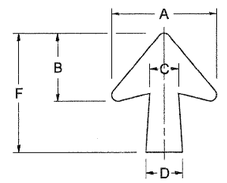
E= WIDTH - VAR. - 23"

STANDARD ARROWS FOR INTERSTATE GUIDE SIGNS



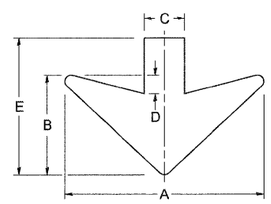
ARROW SYMBOL	A	B	C	D	E	F	R
24¼ x 15⅛	15⅛	11⁹⁄₁₆	3¾	5	1⅝	24¼	1⅛
29¼ x 18¼	18¼	14	4½	6	1½	29¼	¾
35⅝ x 22¼	22¼	17	5⅜	7⅛	1¾	35⅝	1
18¼ x 11¼	11¼	8¾	3⅛	3⅜		18¼	

NOTE: D & F ARE RECOMMENDED DIMENSIONS. TAPER SHOULD BE HELD CONSTANT FOR LONGER OR SHORTER SHAFT LENGTHS



ARROW SYMBOL	A	B	C	D	E	F	R
17¼ x 14¼	14¼	9⁹⁄₁₆	3⅜	4½	⅝	17¼	¾
20¼ x 17¼	17¼	11¾	4⅜	5⅝	1½	20¼	
25 x 21⅞	21⅞	14¼	5	6¾	1¾	25	1
9⁹⁄₁₆ x 8⅞	8⅞	5⅞	2⁹⁄₁₆	2⁹⁄₁₆		9⁹⁄₁₆	½

DOWN ARROWS



ARROW SYMBOL	A	B	C	D	E	R
16½ x 24	24	12	5	1½	16½	¾
22 x 32	32	16	6½	3	22	1

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		DRAWN -	REVISED -
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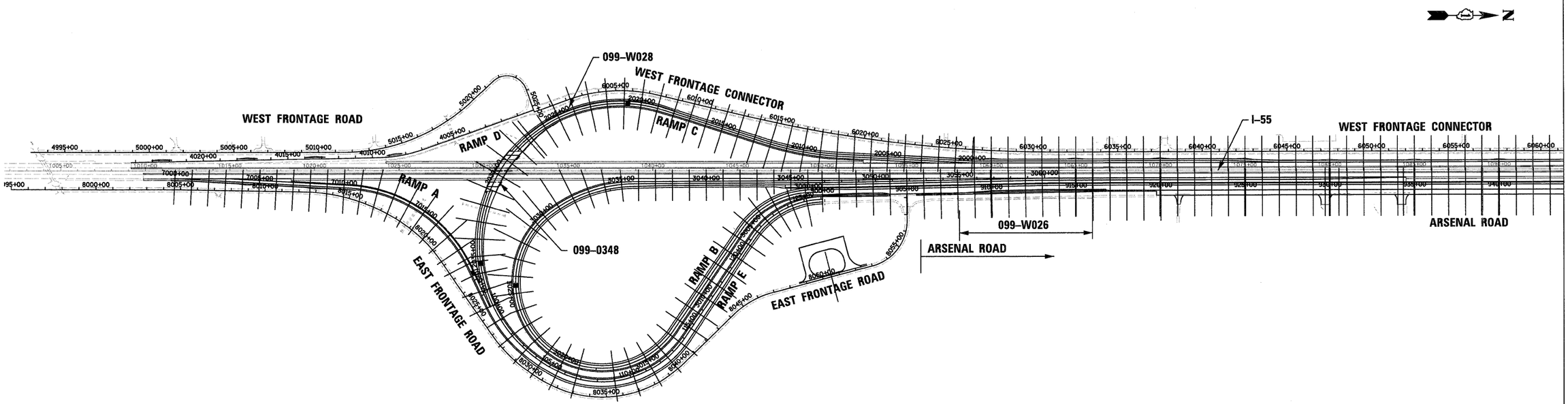
	PLOT DATE = 2/4/2009	DATE - 03-08-1984	REVISED -

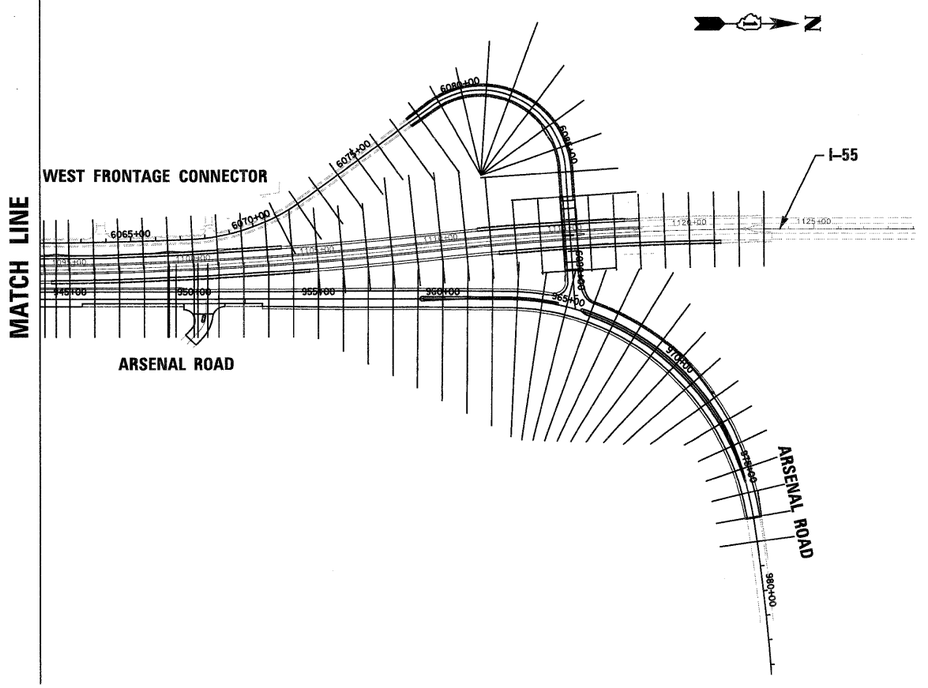
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MILE POST MARKERS – GORE SIGNS
MAJOR GUIDE SIGN LAYOUT – ARROWS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	584
	TC-27 (TS-2341-1)	CONTRACT NO. 60F12		
	FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT			





McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street Chicago, Illinois 60601

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		DRAWN -	REVISED -
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	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

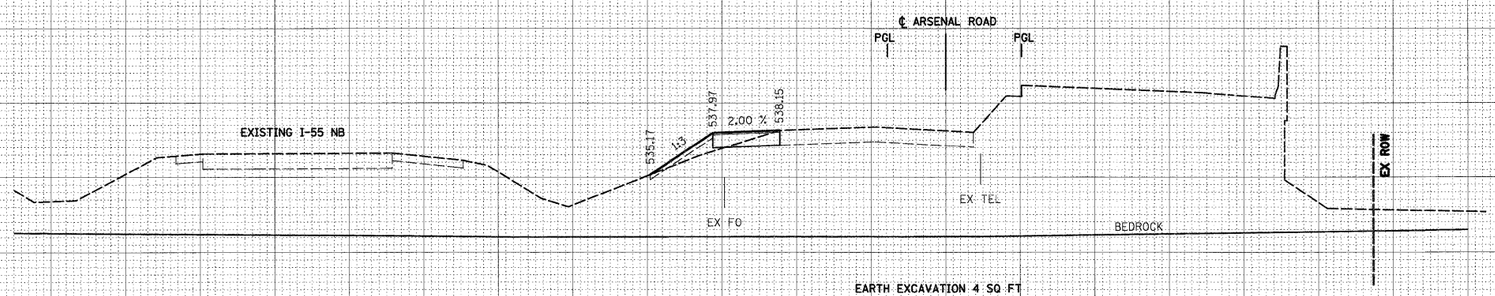
CROSS SECTION KEY MAP

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	585
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

545 540 535 530 525



914 + 00.00

EARTH EXCAVATION 4 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 3 SQ FT
PGE 0 SQ FT

913 + 00.00

EARTH EXCAVATION 0 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

McDonough Associates Inc.
Engineers / Architects
100 East Randolph Street Chicago, Illinois 60601

FILE NAME = 016AF12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
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	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

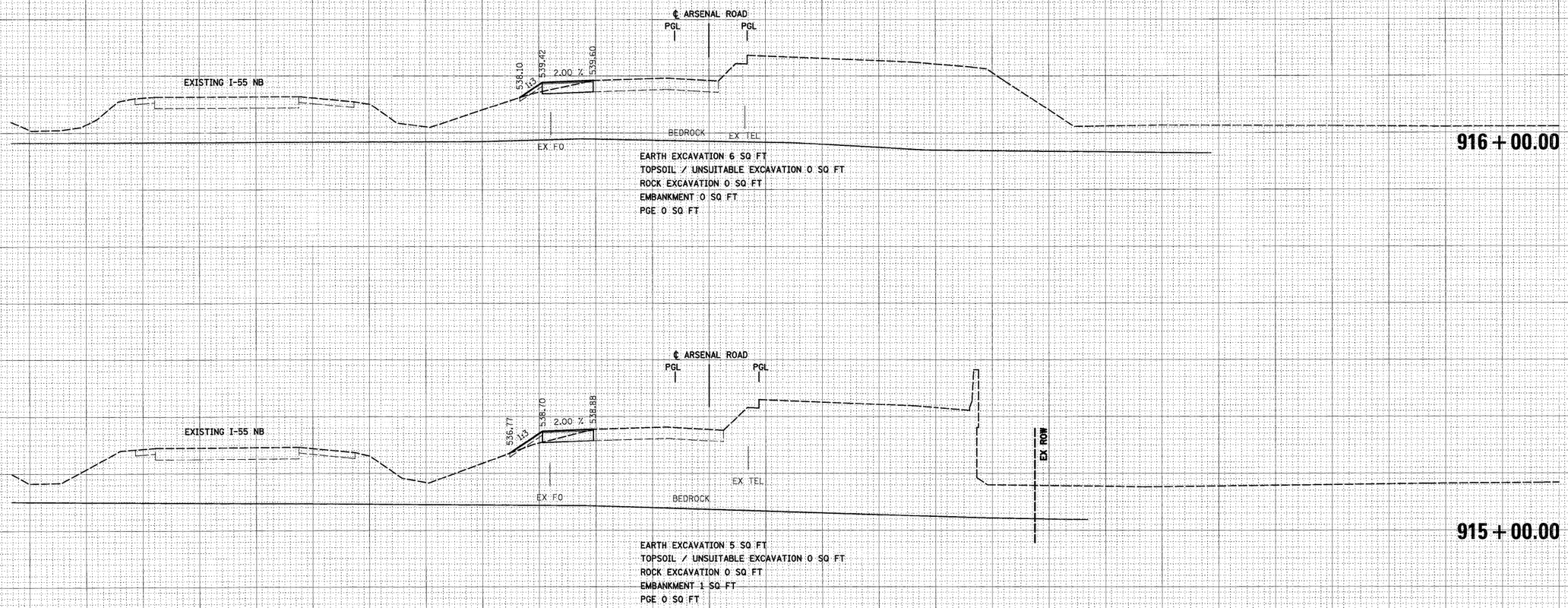
SCALE:1"=10'H;1"=5'V | SHEET NO. 1 OF 16 SHEETS | STA. 913+00.00 | TO STA. 914+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	586
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

XT(A)-1

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

545
540
535
530
525



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

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

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130 East Randolph Street Chicago, Illinois 60601

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FILE NAME = D162F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE:1"=10'H;1"=5'V | SHEET NO. 2 OF 16 SHEETS | STA. 915+00.00 | TO STA. 916+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	587
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

545
540
535
530

EXISTING I-55 NB

℄ ARSENAL ROAD
PGL PGL

539.10
541.28
2.00 %
541.46

BEDROCK
EX TEL
EX FO

919 + 00.00

EARTH EXCAVATION 6 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

EXISTING I-55 NB

℄ ARSENAL ROAD
PGL PGL

539.70
540.80
2.00 %
540.98

BEDROCK
EX TEL
EX FO

918 + 00.00

EARTH EXCAVATION 6 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

EXISTING I-55 NB

℄ ARSENAL ROAD
PGL PGL

538.81
540.14
2.00 %
540.32

BEDROCK
EX TEL
EX FO

917 + 00.00

EARTH EXCAVATION 6 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 1 SQ FT
PGE 0 SQ FT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

McDonough Associates Inc.
Engineers / Architects
180 East Randolph Street Chicago, Illinois 60601

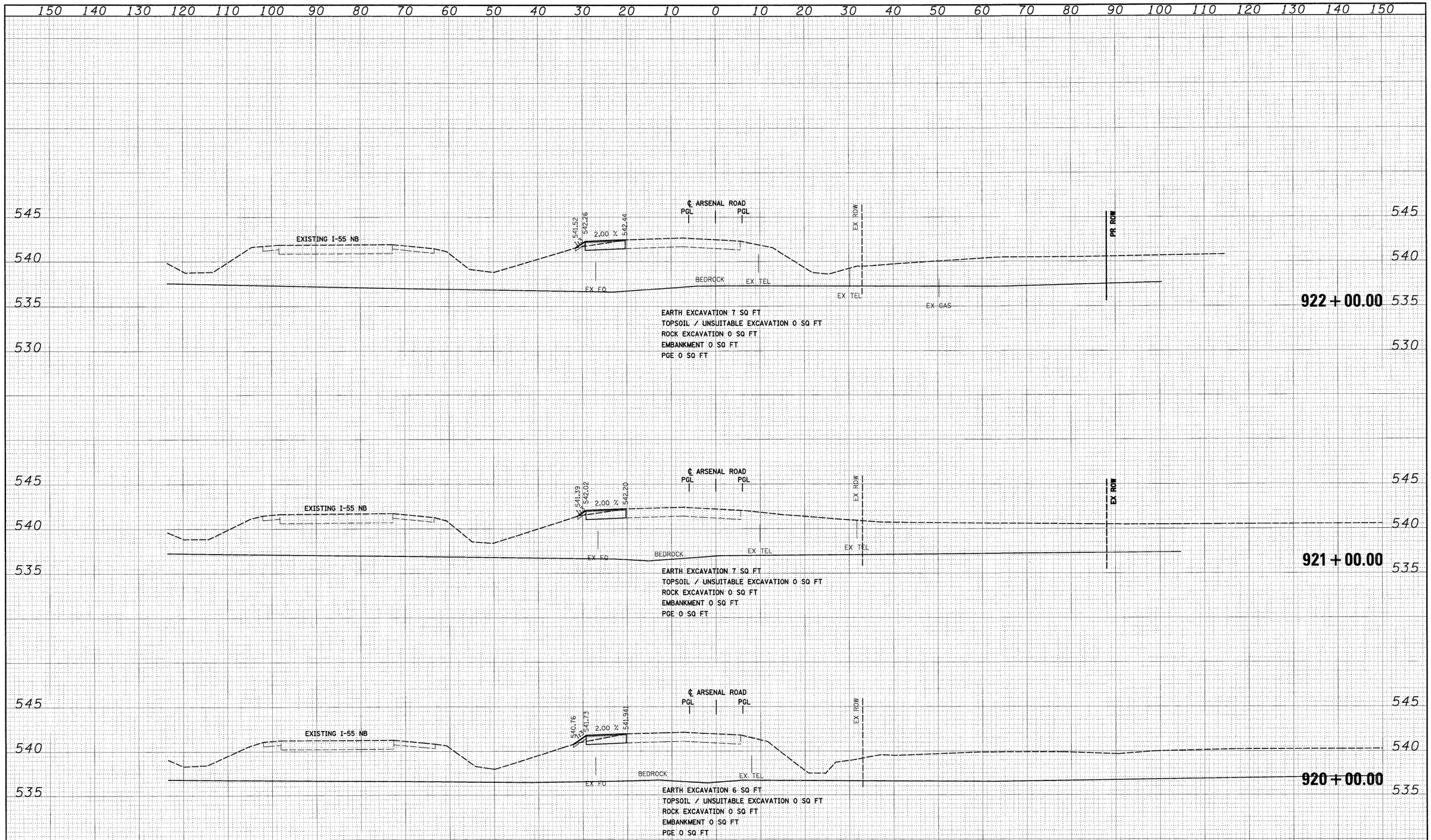
FILE NAME = D162F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 3 OF 16 SHEETS | STA. 917+00.00 TO STA. 919+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	588
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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

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

McDonough Associates Inc.
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130 East Randolph Street Chicago, Illinois 60601

FILE NAME = D162F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
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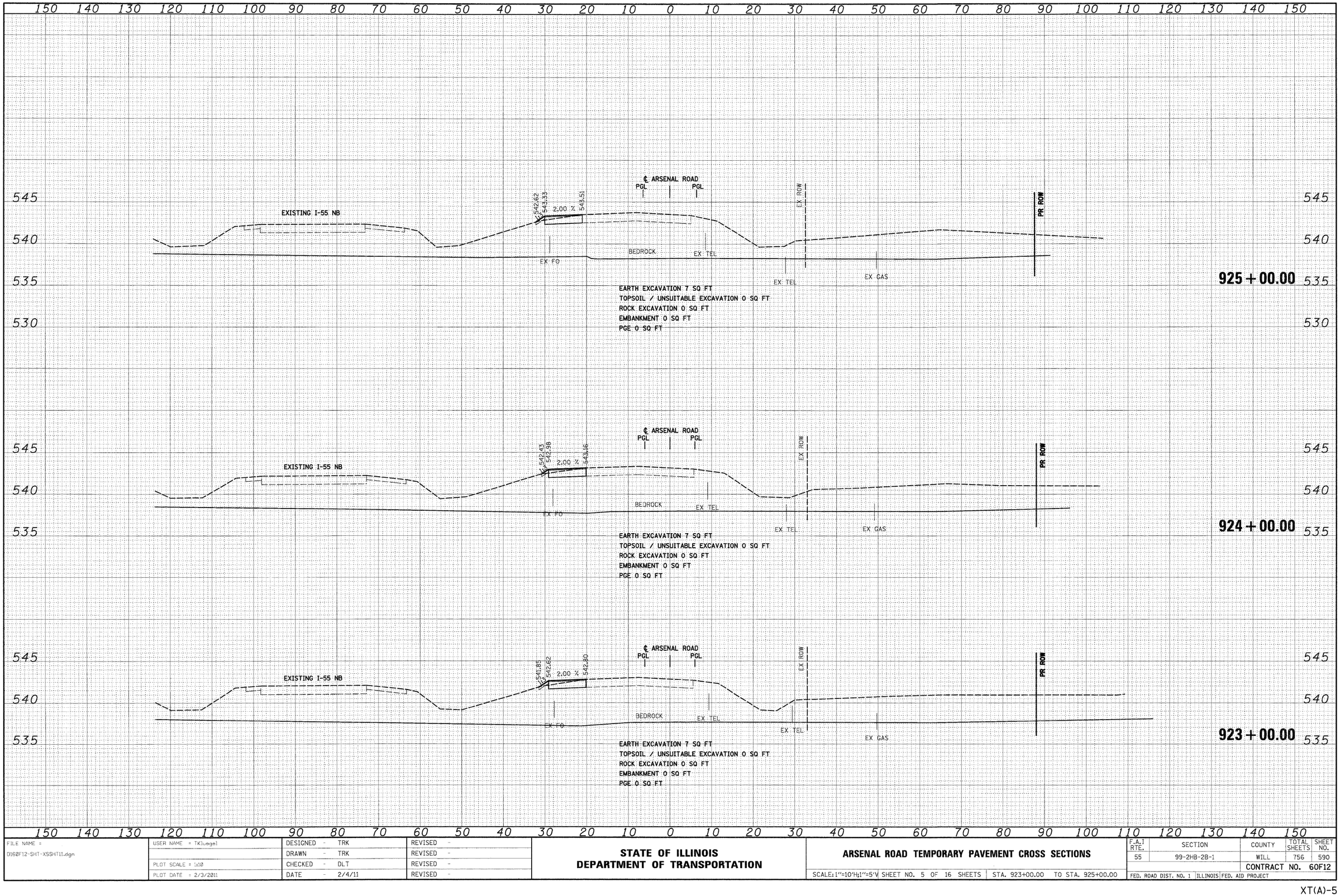
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H, 1"=5'V | SHEET NO. 4 OF 16 SHEETS | STA. 920+00.00 | TO STA. 922+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	589
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 5 OF 16 SHEETS | STA. 923+00.00 TO STA. 925+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	590
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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

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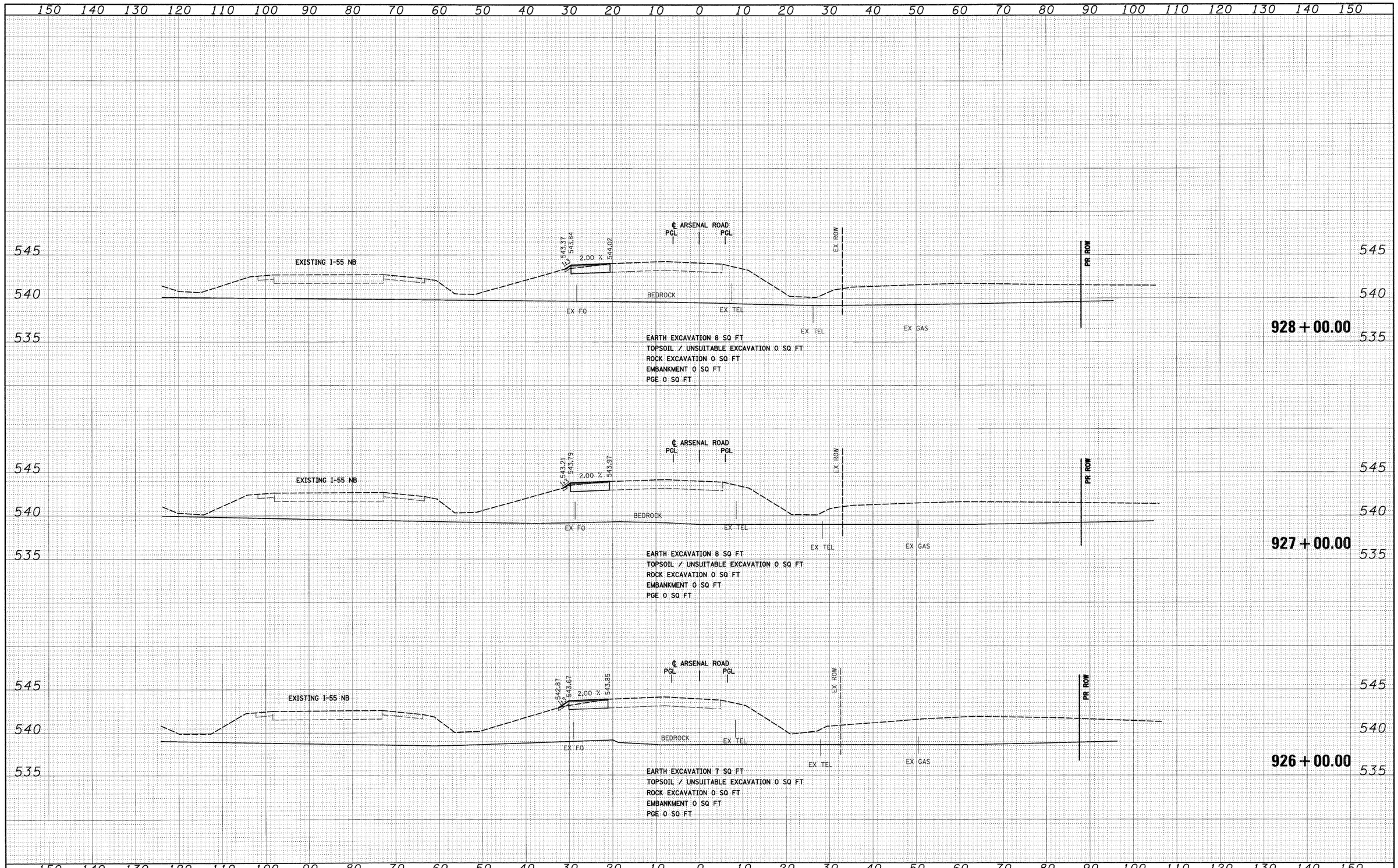
150 East Randolph Street Chicago, Illinois 60601



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

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

McDonough Associates Inc.
Engineers / Architects
180 East Randolph Street Chicago, Illinois 60601

FILE NAME = D162F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1|10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

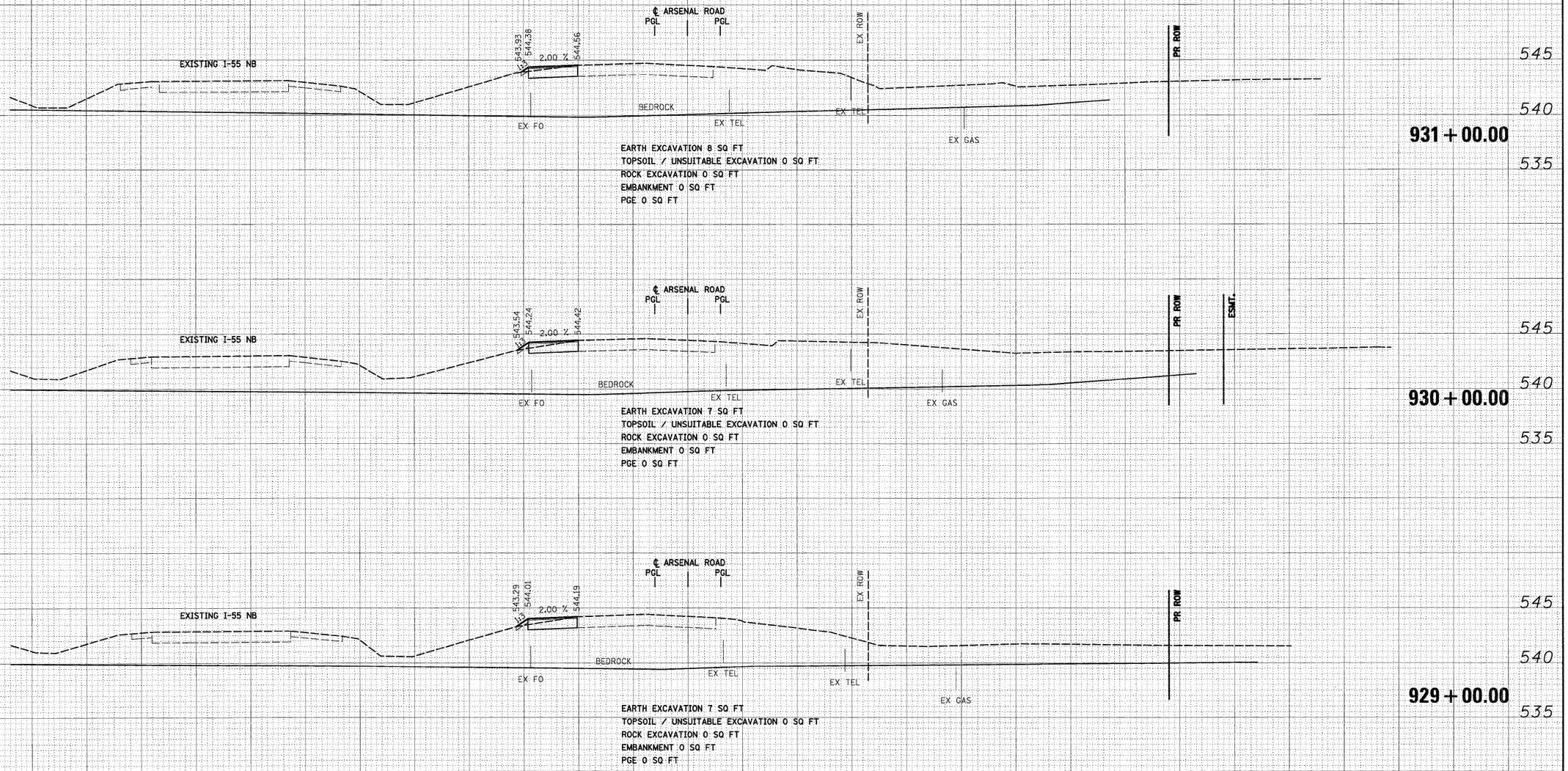
ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 6 OF 16 SHEETS | STA. 926+00.00 | TO STA. 928+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	591
		CONTRACT NO. 60F12		

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



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FILE NAME = D162F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
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	PLOT SCALE = 1i10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 7 OF 16 SHEETS | STA. 929+00.00 TO STA. 931+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	592
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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

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

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150 East Randolph Street Chicago, Illinois 60601

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

550
545
540
535

EXISTING I-55 NB

℄ ARSENAL ROAD
PGL PGL

544.55
545.26
2.00 %
545.44

EX FO
BEDROCK
EX TEL
EX TEL
EX GAS
EX ROW
PR ROW
ESMT.

934 + 00.00

EARTH EXCAVATION 7 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

EXISTING I-55 NB

℄ ARSENAL ROAD
PGL PGL

544.49
544.82
2.00 %
545.10

EX FO
BEDROCK
EX TEL
EX TEL
EX GAS
EX ROW
PR ROW
ESMT.

933 + 00.00

EARTH EXCAVATION 8 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

EXISTING I-55 NB

℄ ARSENAL ROAD
PGL PGL

544.32
544.53
2.00 %
544.71

EX FO
BEDROCK
EX TEL
EX TEL
EX GAS
EX ROW
PR ROW

932 + 00.00

EARTH EXCAVATION 9 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street Chicago, Illinois 60601

FILE NAME = D160F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
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	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

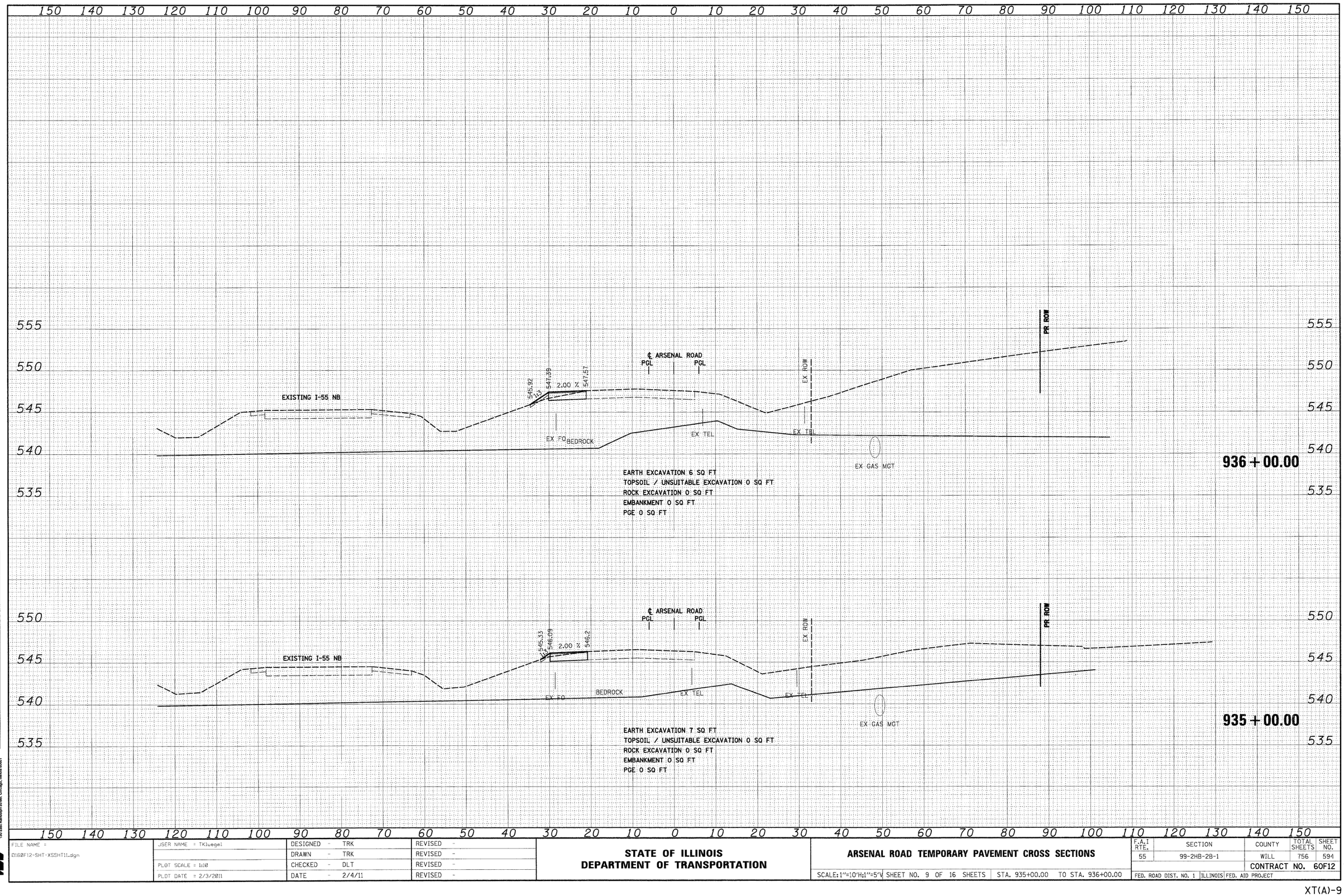
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE:1"=10'H;1"=5'V | SHEET NO. 8 OF 16 SHEETS | STA. 932+00.00 TO STA. 934+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	593
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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



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

McDonough Associates Inc.
Engineers / Architects
150 East Randolph Street Chicago, Illinois 60601

FILE NAME = 0160F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 9 OF 16 SHEETS | STA. 935+00.00 TO STA. 936+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	594
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

560 555 550 545 540

EXISTING I-55 NB

548.39 | 12" | 550.24 | 2.00 % | 550.42

℄ ARSENAL ROAD
PGL PGL

EX FO

BEDROCK

EX TEL

EX ROW

EX TEL

EX GAS MGT

PR ROW

938+00.00

EARTH EXCAVATION 6 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 1 SQ FT
PGE 0 SQ FT

560 555 550 545 540 535

EXISTING I-55 NB

547.35 | 12" | 548.75 | 2.00 % | 548.93

℄ ARSENAL ROAD
PGL PGL

EX FO

BEDROCK

EX TEL

EX ROW

EX TEL

EX GAS MGT

PR ROW

937+00.00

EARTH EXCAVATION 6 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street Chicago, Illinois 60601

FILE NAME = D160F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

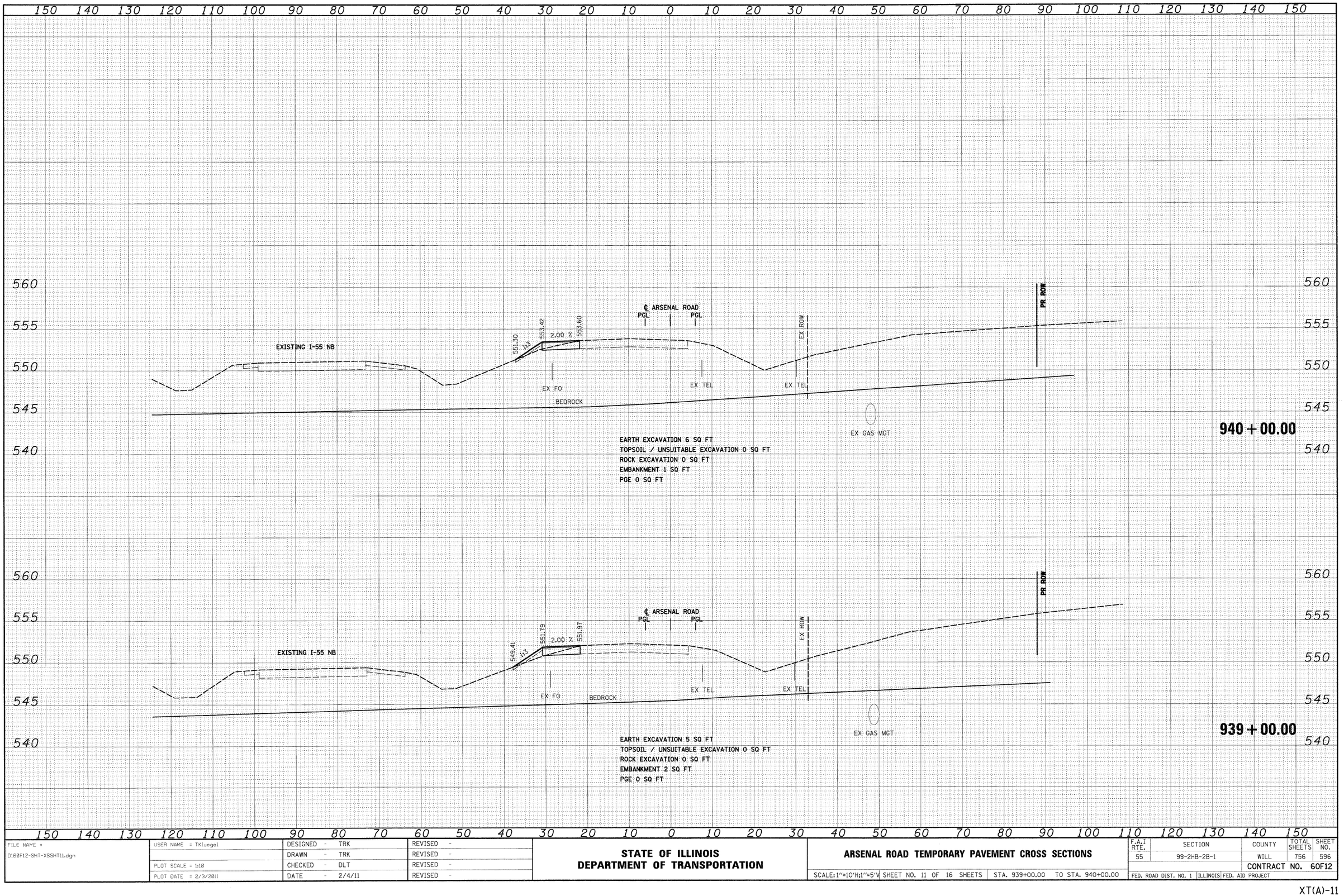
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 10 OF 16 SHEETS | STA. 937+00.00 TO STA. 938+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	595
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

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



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

McDonough Associates Inc.
Engineers / Architects
150 East Randolph Street Chicago, Illinois 60601

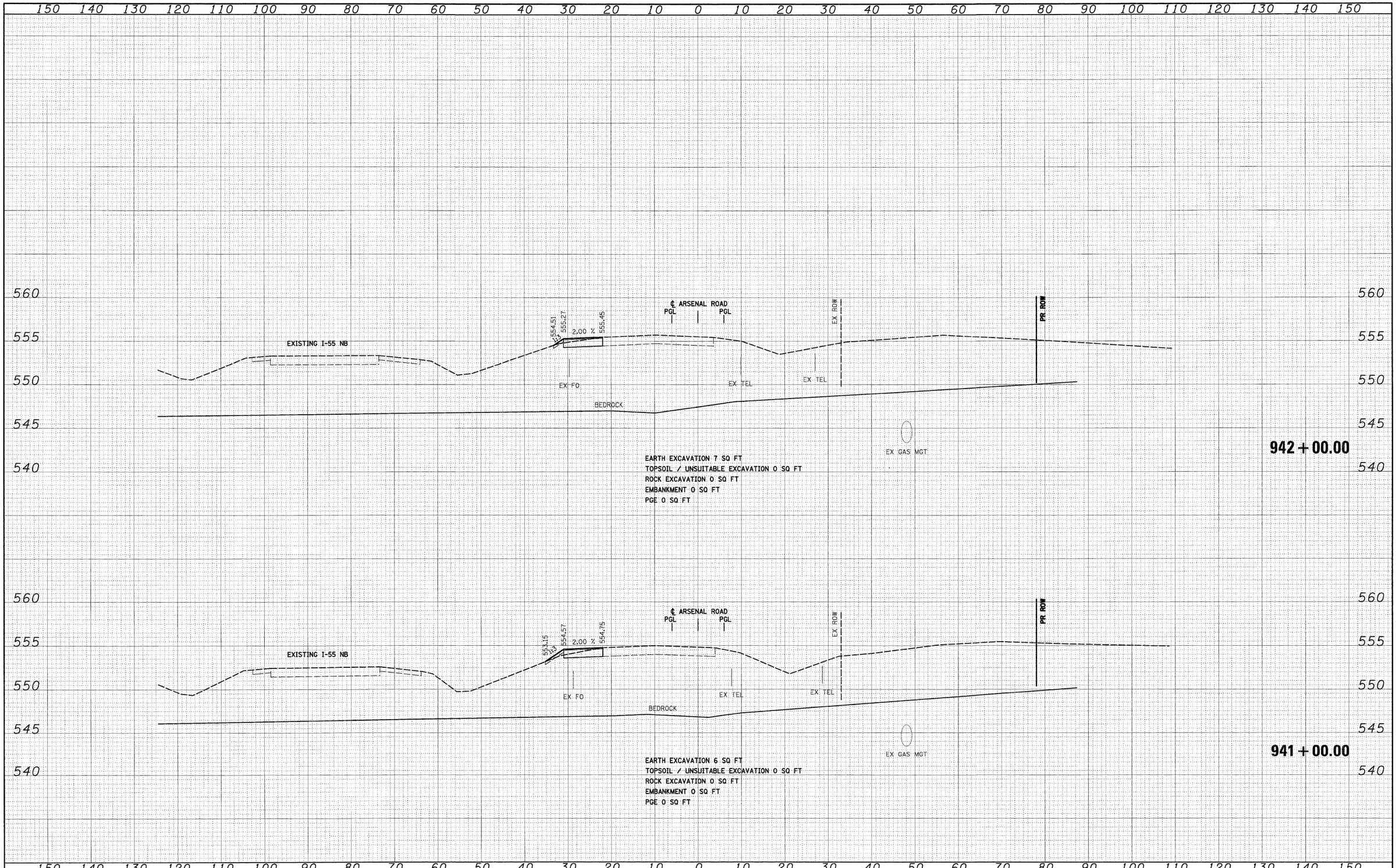
FILE NAME = D:\60F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1\10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H;1"=5'V | SHEET NO. 11 OF 16 SHEETS | STA. 939+00.00 TO STA. 940+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	596
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY NOTE BOOK — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — BY / DATE

ORIGINAL SURVEY NOTE BOOK — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — BY / DATE

McDonough Associates Inc.
Engineers / Architects
150 East Randolph Street Chicago, Illinois 60601

FILE NAME = D160F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1x10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 12 OF 16 SHEETS | STA. 941+00.00 TO STA. 942+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	597
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

560
555
550
545
540

EXISTING I-55 NB

553.76
554.68
2.00 %
554.86

℄ ARSENAL ROAD
PGL PGL

EX ROW

PR ROW

EX TEL

EX TEL

EX FO

BEDROCK

EX GAS MGT

944 + 00.00

EARTH EXCAVATION 6 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 0 SQ FT
PGE 0 SQ FT

EXISTING I-55 NB

553.94
555.23
2.00 %
555.41

℄ ARSENAL ROAD
PGL PGL

EX ROW

PR ROW

EX TEL

EX TEL

EX FO

BEDROCK

EX GAS MGT

943 + 00.00

EARTH EXCAVATION 5 SQ FT
TOPSOIL / UNSUITABLE EXCAVATION 0 SQ FT
ROCK EXCAVATION 0 SQ FT
EMBANKMENT 1 SQ FT
PGE 0 SQ FT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

McDonough Associates Inc.
Engineers / Architects
120 East Randolph Street Chicago, Illinois 60601

FILE NAME = D160F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

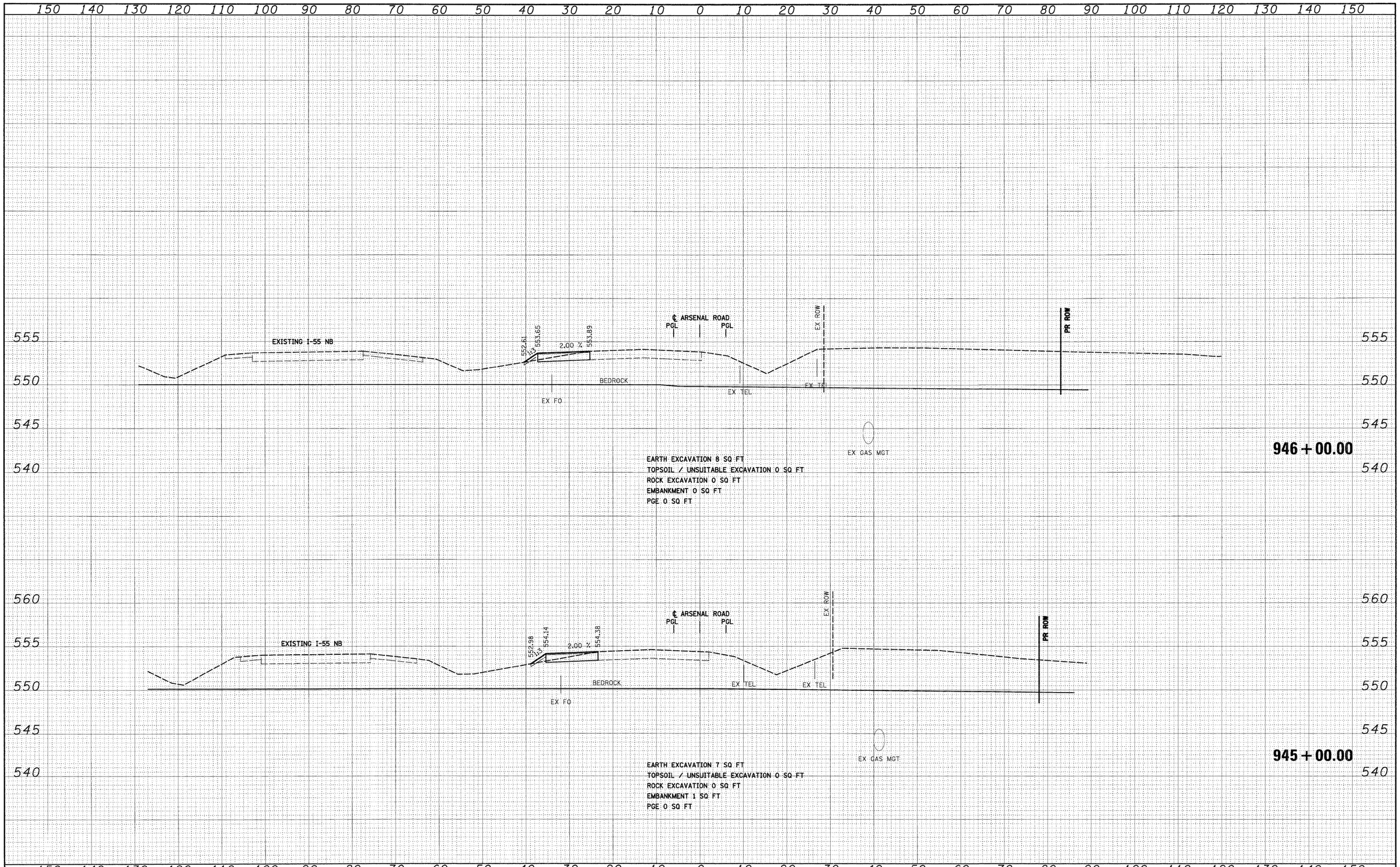
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 13 OF 16 SHEETS | STA. 943+00.00 TO STA. 944+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	598
		CONTRACT NO. 60F12		

FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT



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

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

McDonough Associates Inc.
Engineers / Architects
150 East Randolph Street Chicago, Illinois 60601

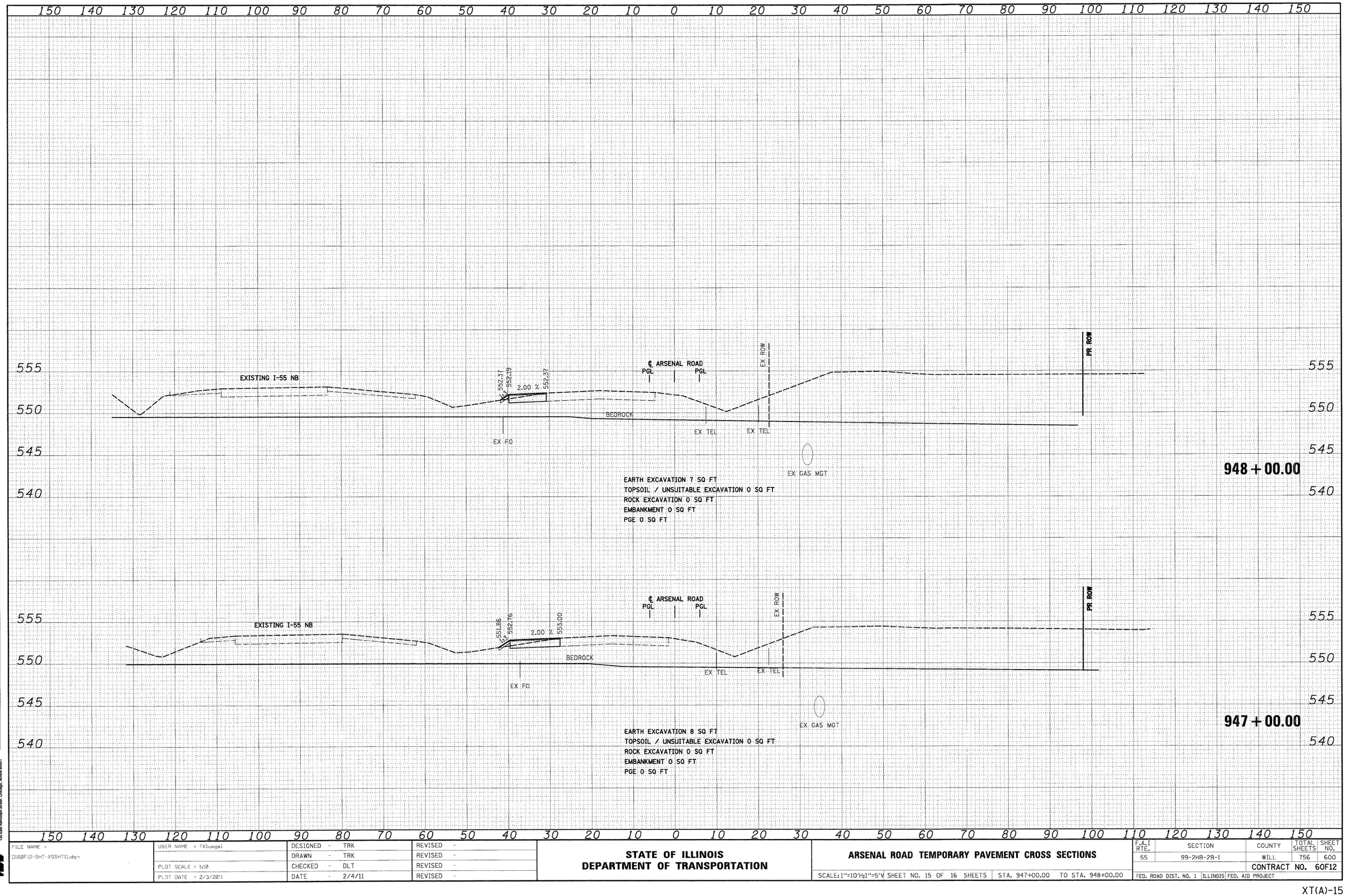
FILE NAME = D162F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1|10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H;1"=5'V | SHEET NO. 14 OF 16 SHEETS | STA. 945+00.00 TO STA. 946+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	599
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



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

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

McDonough Associates Inc.
Engineers / Architects
130 East Randolph Street Chicago, Illinois 60601

FILE NAME = D160F12-SHT-XSSHT11.dgn	USER NAME = TKluegel	DESIGNED - TRK	REVISED -
		DRAWN - TRK	REVISED -
	PLOT SCALE = 1:10	CHECKED - DLT	REVISED -
	PLOT DATE = 2/3/2011	DATE - 2/4/11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARSENAL ROAD TEMPORARY PAVEMENT CROSS SECTIONS

SCALE: 1"=10'H; 1"=5'V | SHEET NO. 15 OF 16 SHEETS | STA. 947+00.00 TO STA. 948+00.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	99-2HB-2B-1	WILL	756	600
		CONTRACT NO. 60F12		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		