



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 1
Date 10/8/13

ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ
SECTION -- LOCATION SW 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	BORING NO. Station Offset Ground Surface Elev.	D E P T H H S Qu T	B L O W S Qu T	U C S Qu T	M O I S T U R E Qu T	Surface Water Elev.		Stream Bed Elev.		D E P T H H S Qu T	B L O W S Qu T	U C S Qu T	M O I S T U R E Qu T
						n/a ft	n/a ft	n/a ft	n/a ft				
	RWB-76 3093+03 70.30ft Right 636.90												
	10.0" ASPHALT 636.07												
	SAND & GRAVEL-brown-medium dense (Fill) 635.40		9								4	1.6	21
	CLAY-gray-stiff		7								6		
			6										
			2								4		
			3	1.0	23						4	1.5	17
			5	B							5		
			3										
			4	1.0	24								
			5	P									
			3										
			4	1.0	22								
			5	B									
			3										
			5	1.5	22								
			5	B									
			4										
			5	1.5	21								
			6	B									
			4										
			5	1.5	19								
			6	B									
			4										
			5	1.6	20								
			7	B									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)



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COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	BORING NO. Station Offset Ground Surface Elev.	D E P T H H S Qu T	B L O W S Qu T	U C S Qu T	M O I S T U R E Qu T	Surface Water Elev.		Stream Bed Elev.		D E P T H H S Qu T	B L O W S Qu T	U C S Qu T	M O I S T U R E Qu T
						n/a ft	n/a ft	n/a ft	n/a ft				
	RWB-77 3093+60 68.50ft Right 636.90												
	10.0" ASPHALT 636.07												
	CRUSHED STONE & GRAVEL-brown & gray-medium dense (Fill) 633.90		9								3	1.3	21
	CLAY-gray-stiff		10								4		
			10										
			2								3		
			3	1.0	23						5	1.4	22
			3	B							6		
			2										
			3	1.2	22								
			4	B									
			3										
			5	1.4	21								
			5	B									
			3										
			4	1.5	22								
			6	B									
			3										
			4	1.3	21								
			5	B									
			3										
			4	1.2	20								
			5	B									
			3										
			4	1.2	22								
			6	B									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

Notes:
1. For location of soil boring, see Sheet 4 of 18.

Bench Mark: TBM #15 - Square cut SW corner at west end of barrier wall west of Oriole Bridge on south side of I-90 EB, Elev. 638.80

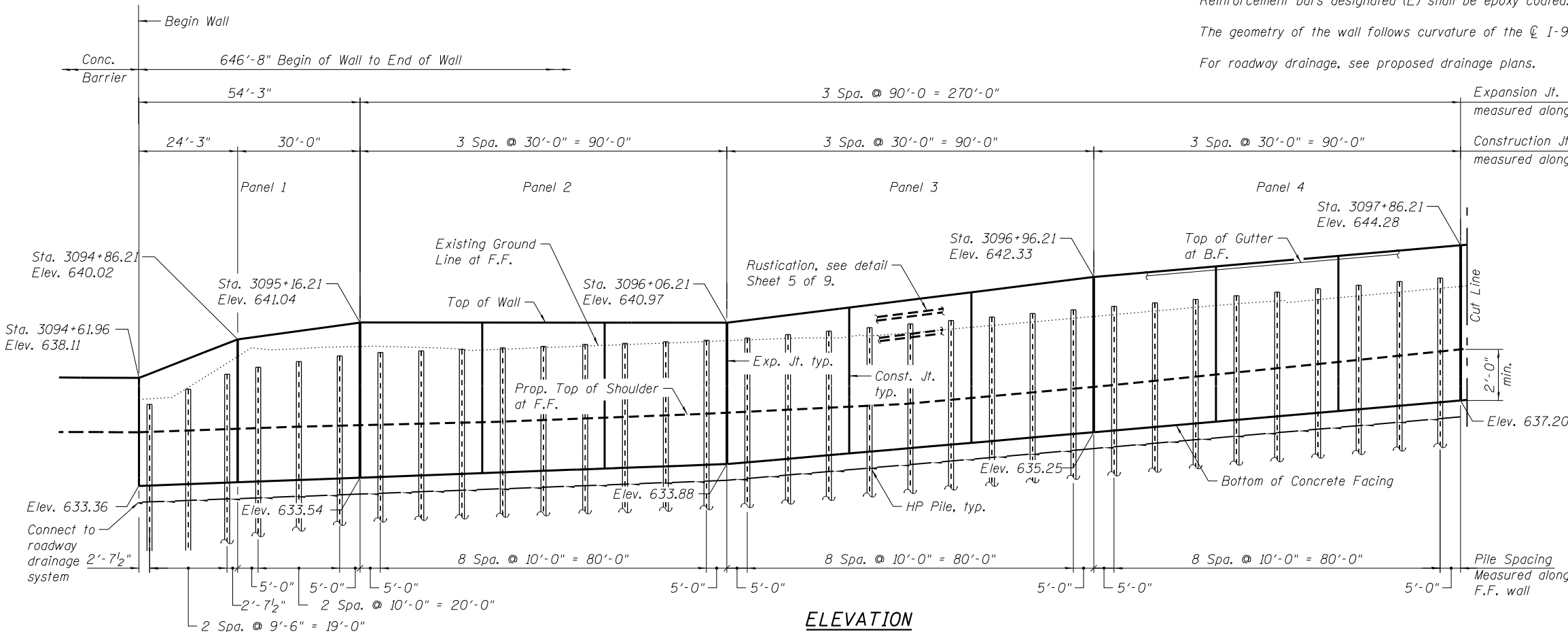
Existing Structure: None

GENERAL NOTES

Stations and Offsets are measured from C I-90 to Front Face of wall.
 Reinforcement bars designated (E) shall be epoxy coated.
 The geometry of the wall follows curvature of the C I-90 .
 For roadway drainage, see proposed drainage plans.

INDEX OF SHEETS

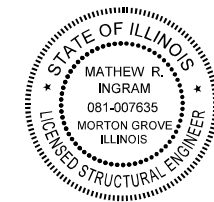
- S-1 Retaining Wall 3 Plan & Elevation - 1
- S-2 Retaining Wall 3 Plan & Elevation - 2
- S-3 Retaining Wall 3 Details - 1
- S-4 Retaining Wall 3 Details - 2
- S-5 Retaining Wall 3 Details - 3
- S-6 Soil Boring Logs - 1
- S-7 Soil Boring Logs - 2
- S-8 Soil Boring Logs - 3
- S-9 Soil Boring Logs - 4



Expansion Jt. Spa. measured along F.F. of Wall
 Construction Jt. Spa. measured along F.F. of Wall

TOTAL BILL OF MATERIAL

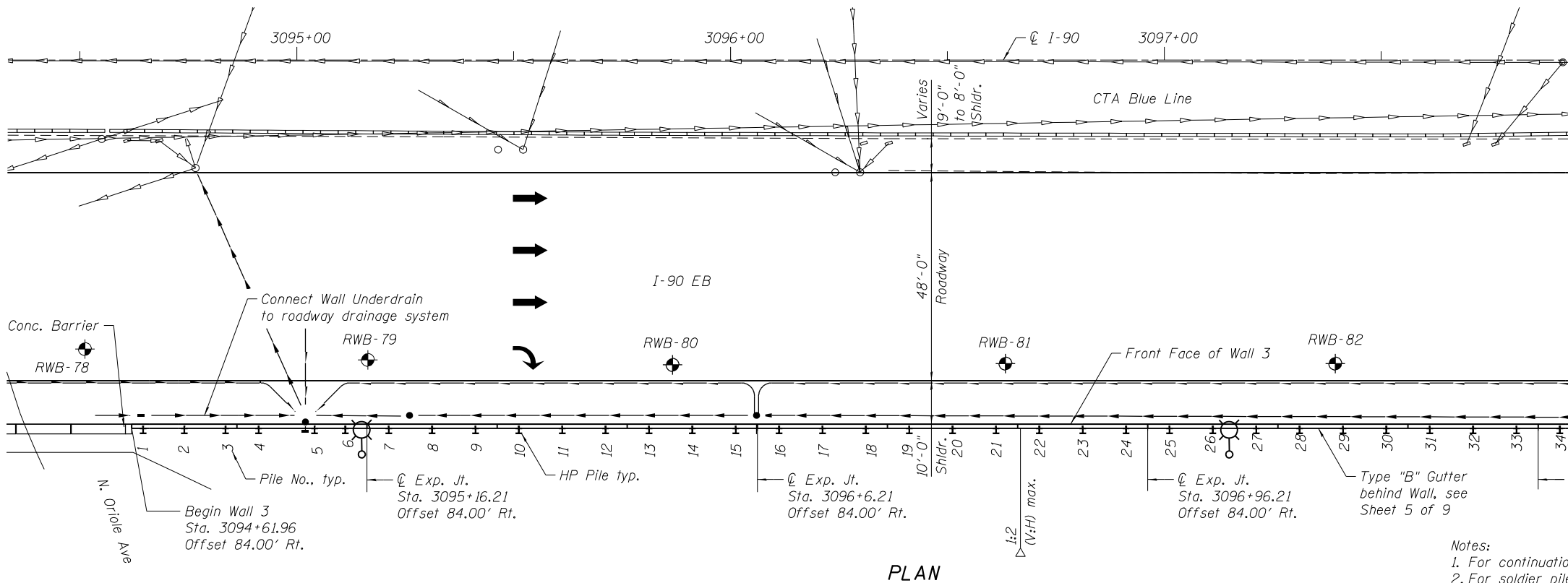
ITEM	UNIT	TOTAL
Structure Excavation	Cu Yd	529
Concrete Structures	Cu Yd	151.3
Protective Coat	Sq Yd	383
Stud Shear Connectors	Each	405
Reinforcement Bars, Epoxy Coated	Pound	22,110
Furnishing Soldier Piles (HP Section)	Foot	1,711
Driving Soldier Piles	Foot	1,711
Untreated Timber Lagging	Sq Ft	2,726
Geocomposite Wall Drain	Sq Yd	261
Pipe Underdrains for Structures 4"	Foot	647



LEGEND:

- Existing: \square Inlet, \circ Catch Basin, \bullet Manhole, \rightarrow Storm Sewer, \dashrightarrow Pipe Underdrain
- Proposed: \square Inlet, \bullet Catch Basin, \circ Manhole, \rightarrow Storm Sewer, \dashrightarrow Pipe Underdrain
- \odot Light Pole
- \oplus Boring
- --- Prop. Lighting cable
- F.F. - denotes Front Face
- B.F. - denotes Back Face
- E.F. - denotes Each Face

Signed: _____
 Date: _____
 Exp: 11/30/2016
 Sheets: S-1 thru S-9



DESIGN STRESSES

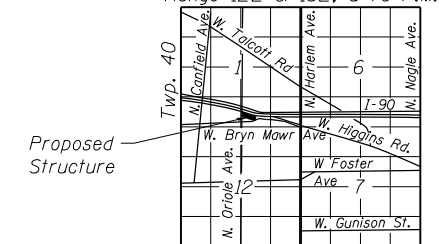
FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition, with 2015 Interims

Range 12E & 13E, 3 rd P.M.



LOCATION SKETCH

- Notes:
 1. For continuation, see Sheet 2 of 9.
 2. For soldier pile data, see Sheet 5 of 9.
 3. Piles to be placed with flanges parallel to wall.



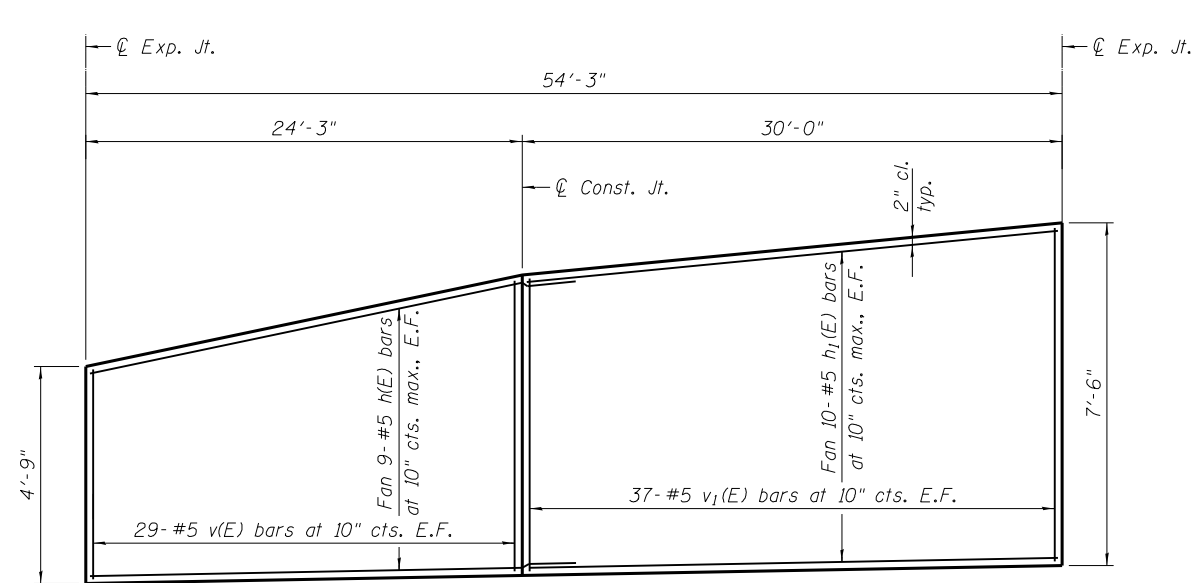
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	CHECKED MRI/MLK	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN LK/APR	REVISED
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

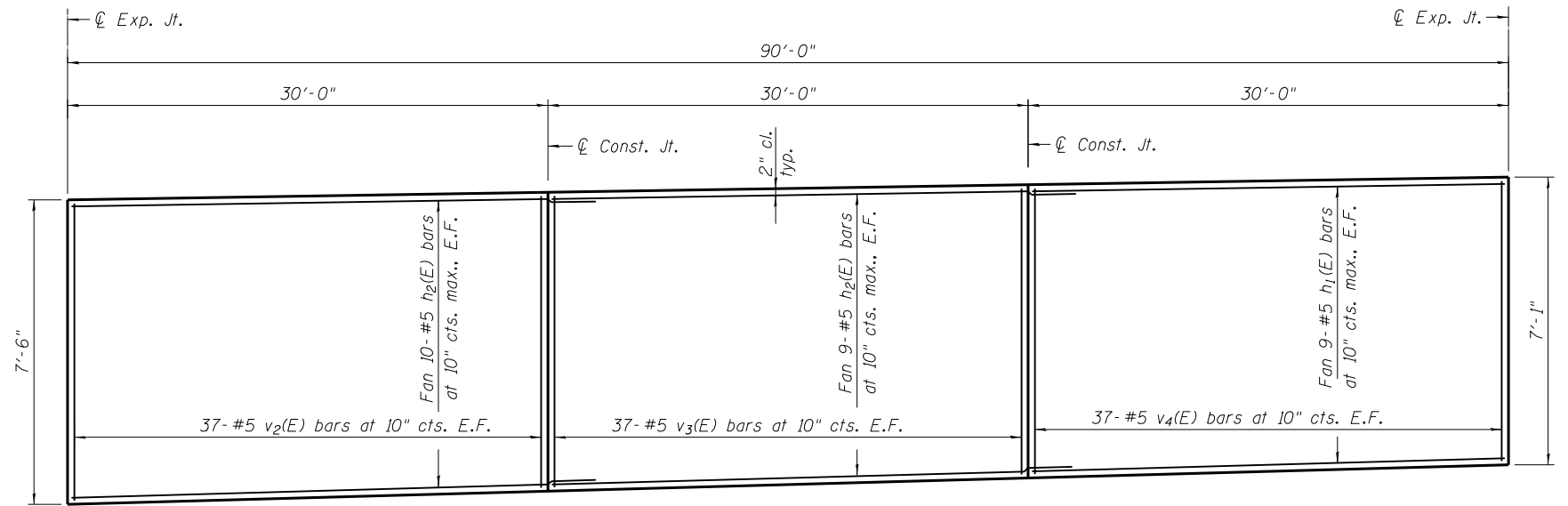
RETAINING WALL 3 PLAN & ELEVATION - 1
 STRUCTURE NO. 016-Z035

SHEET NO. 1 OF 9 SHEETS

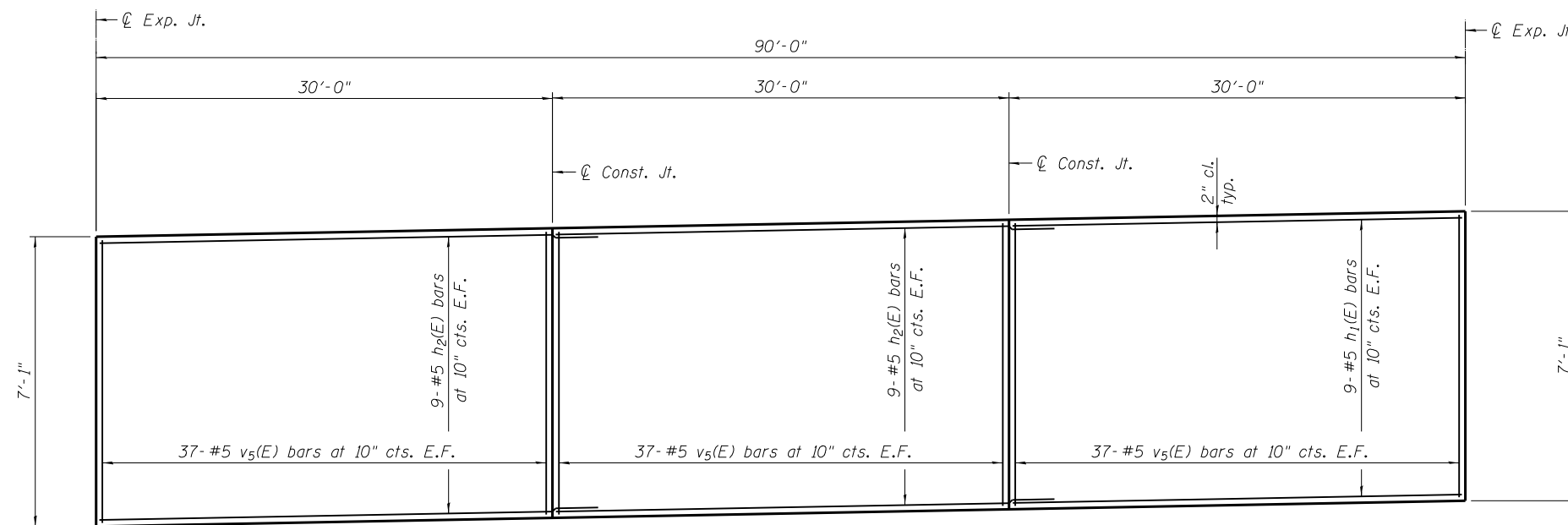
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	404
CONTRACT NO. 60Y38				
ILLINOIS FED. AID PROJECT				



PANEL 1 ELEVATION



PANEL 2 ELEVATION



PANEL 3, 4, AND 5 ELEVATION

WALL 3 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	18	#5	27'-6"	=====
h ₁ (E)	120	#5	29'-8"	=====
h ₂ (E)	210	#5	33'-3"	=====
h ₃ (E)	10	#5	29'-6"	=====
h ₄ (E)	8	#5	25'-10"	=====
v(E)	29	#5	11'-0"	=====
v ₁ (E)	37	#5	13'-9"	=====
v ₂ (E)	37	#5	14'-6"	=====
v ₃ (E)	37	#5	14'-2"	=====
v ₄ (E)	37	#5	13'-11"	=====
v ₅ (E)	666	#5	6'-9"	=====
v ₆ (E)	74	#5	6'-8"	=====
v ₇ (E)	37	#5	12'-11"	=====
v ₈ (E)	37	#5	11'-6"	=====
v ₉ (E)	37	#5	10'-2"	=====
v ₁₀ (E)	37	#5	8'-10"	=====
v ₁₁ (E)	37	#5	7'-7"	=====
v ₁₂ (E)	32	#5	6'-5"	=====
v ₁₃ (E)	32	#5	5'-3"	=====
Reinforcement Bars, Epoxy Coated			Pound	22,110
Concrete Structures			Cu Yd	151.3

MINIMUM BAR LAP

#5 bar = 3'-3"

Notes:

1. Panel types shown looking North at Back of the Wall.
2. Reinforcement spacing shown is to be used as maximum spacing.
3. For location of panels, see Sheets 1 thru 2 of 9.
4. For panel details, see sheet 5 of 9.



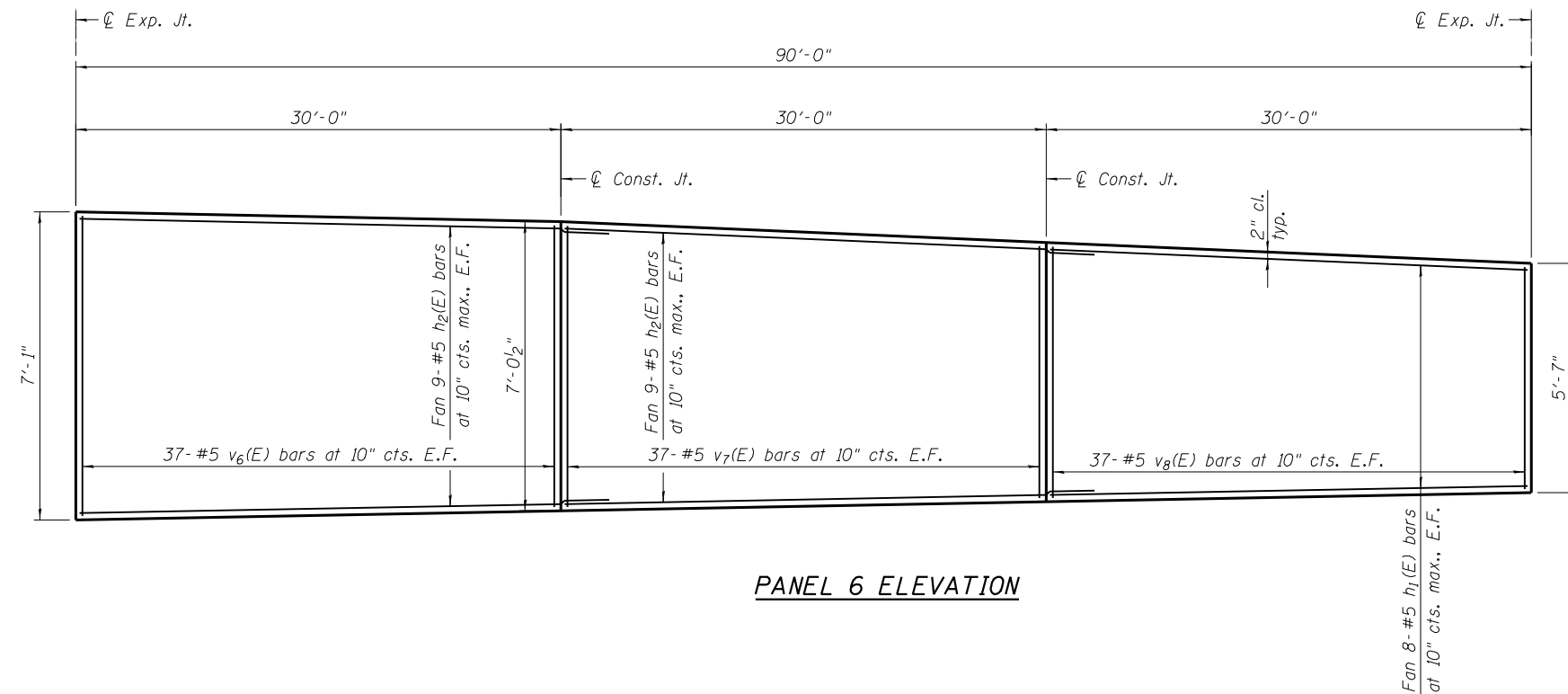
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	CHECKED MRI/MLK	REVISED
PLOT SCALE = 0.00333' / in.	DRAWN LK/APR	REVISED
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

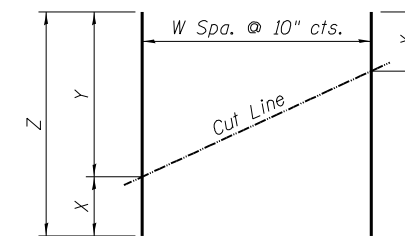
**RETAINING WALL 3 DETAILS - 1
STRUCTURE NO. 016-2035**

SHEET NO. 3 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	406
CONTRACT NO. 60Y38				
ILLINOIS FED. AID PROJECT				



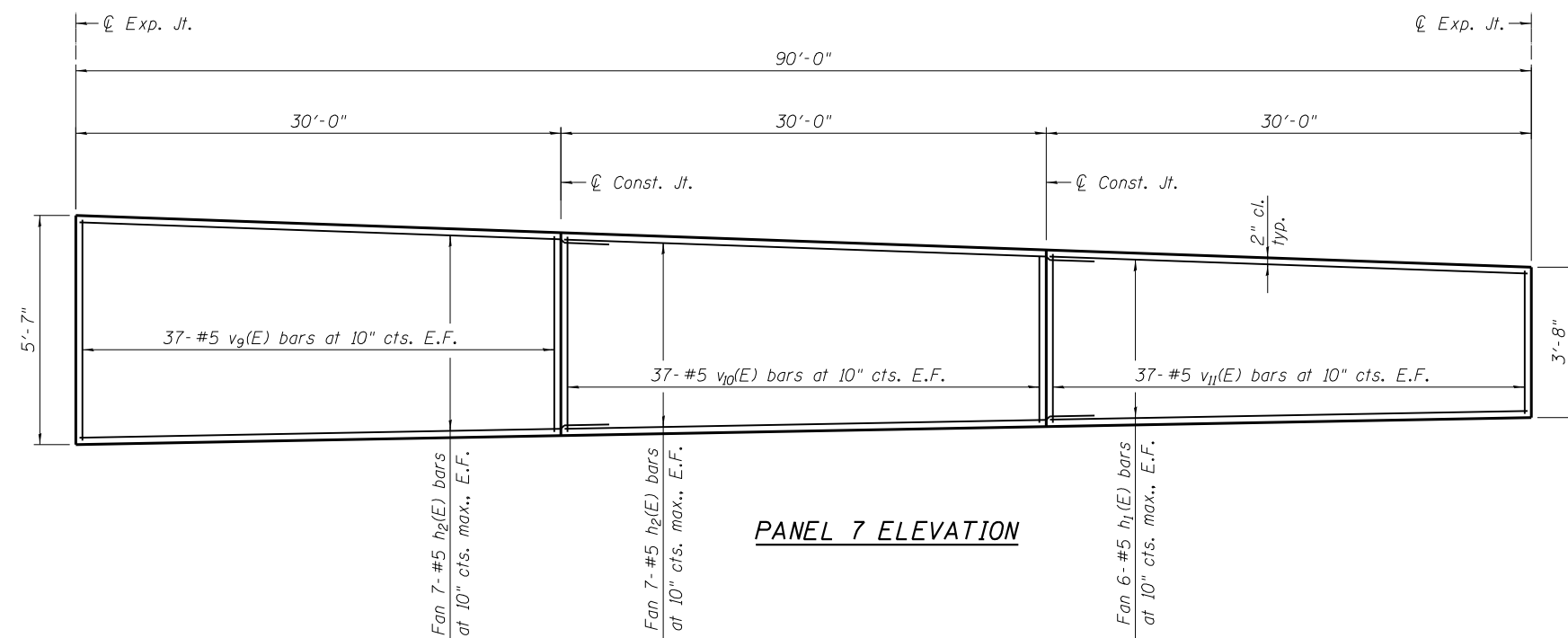
PANEL 6 ELEVATION



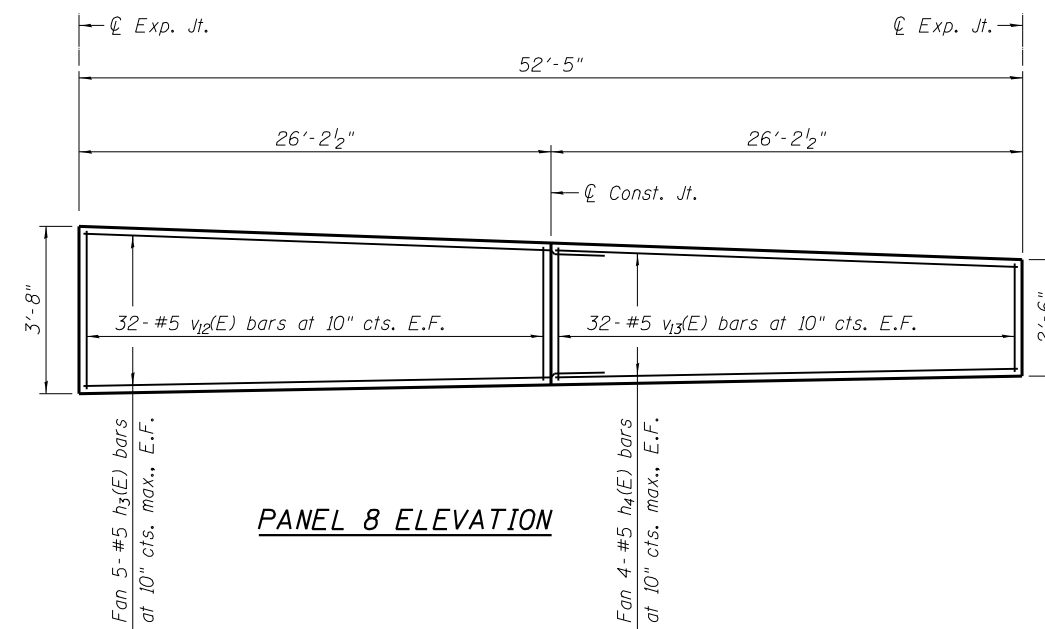
Order bars full length.
Cut as shown and use remainder of bars in opposite face.

WALL 3 CUTTING DIAGRAM DIMENSIONS

Bar	W	X	Y	Z
v(E)	28	4'-7"	6'-5"	11'-0"
v ₁ (E)	36	6'-5"	7'-4"	13'-9"
v ₂ (E)	36	7'-4"	7'-2"	14'-6"
v ₃ (E)	36	7'-2"	7'-0"	14'-2"
v ₄ (E)	36	7'-0"	6'-11"	13'-11"
v ₇ (E)	36	6'-10"	6'-1"	12'-11"
v ₈ (E)	36	6'-1"	5'-5"	11'-6"
v ₉ (E)	36	5'-5"	4'-9"	10'-2"
v ₁₀ (E)	36	4'-9"	4'-1"	8'-10"
v ₁₁ (E)	36	4'-1"	3'-6"	7'-7"
v ₁₂ (E)	31	3'-6"	2'-11"	6'-5"
v ₁₃ (E)	31	2'-11"	2'-4"	5'-3"



PANEL 7 ELEVATION



PANEL 8 ELEVATION

Notes:
1. For notes, see sheet 3 of 9.

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



USER NAME = ikelite	DESIGNED ITC/ACF	REVISED
	CHECKED MRI/MLK	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN LK/APR	REVISED
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISED

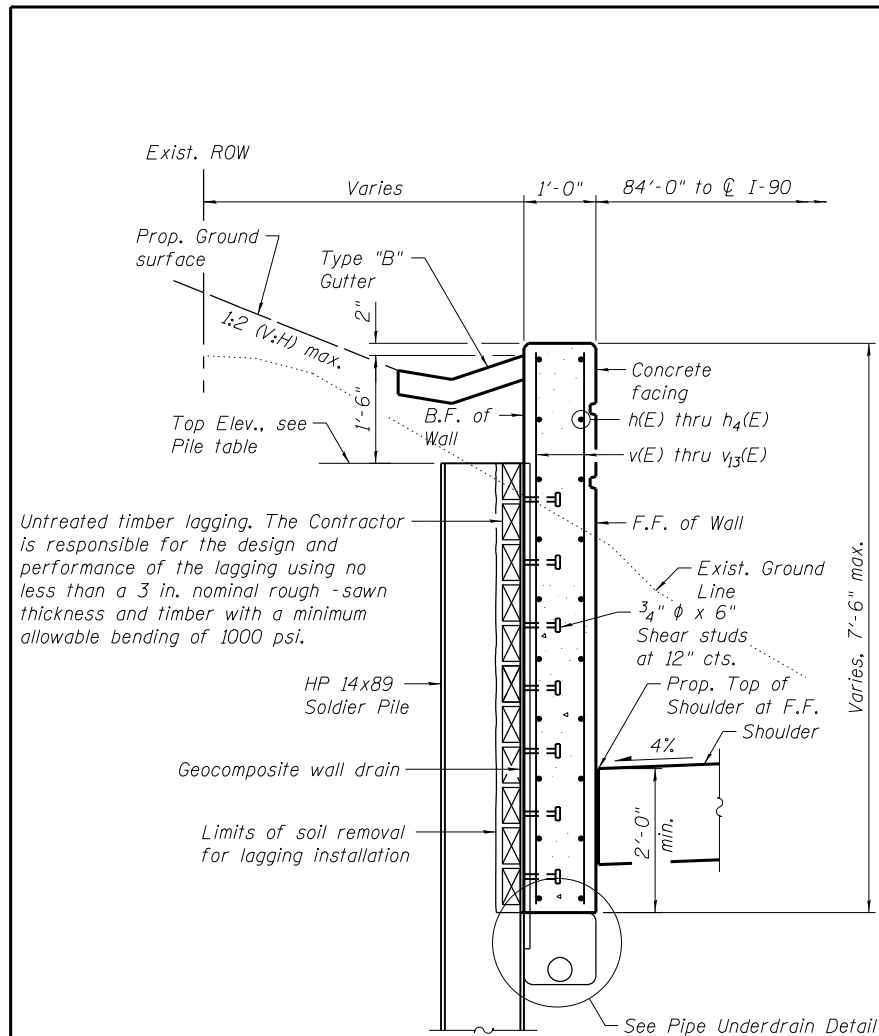
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**RETAINING WALL 3 DETAILS - 2
STRUCTURE NO. 016-2035**

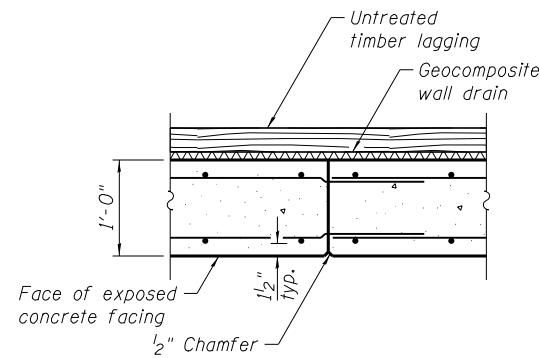
SHEET NO. 4 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	407
CONTRACT NO. 60Y38				

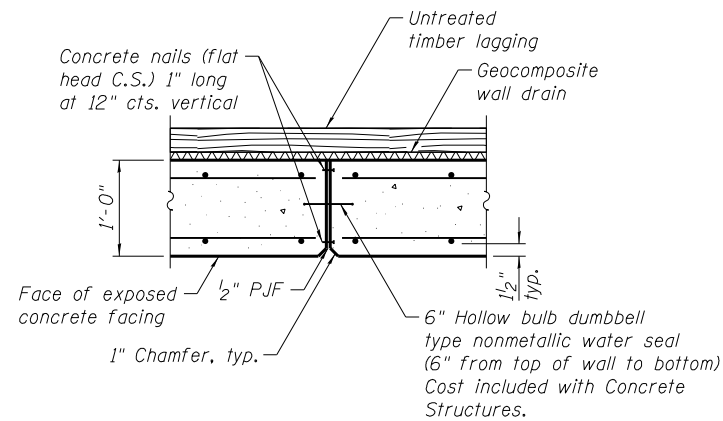
ILLINOIS FED. AID PROJECT



SECTION THRU DRIVEN SOLDIER PILE WALL



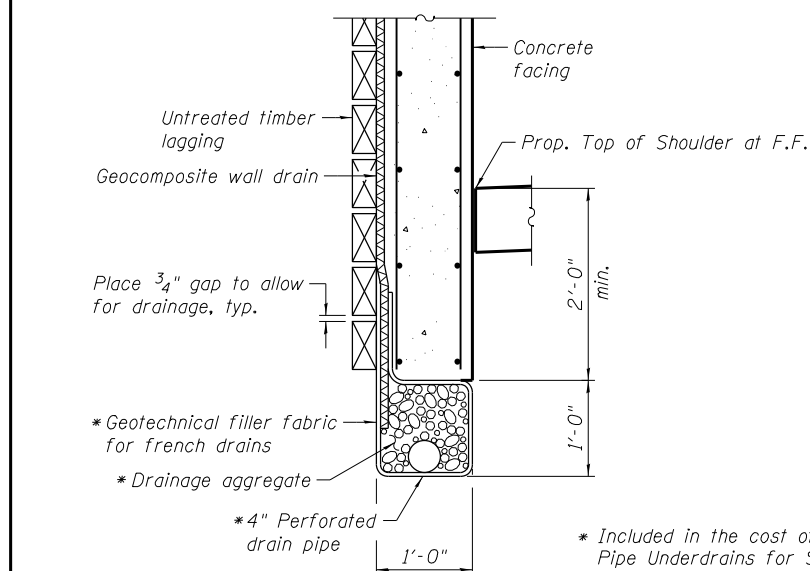
CONSTRUCTION JOINT



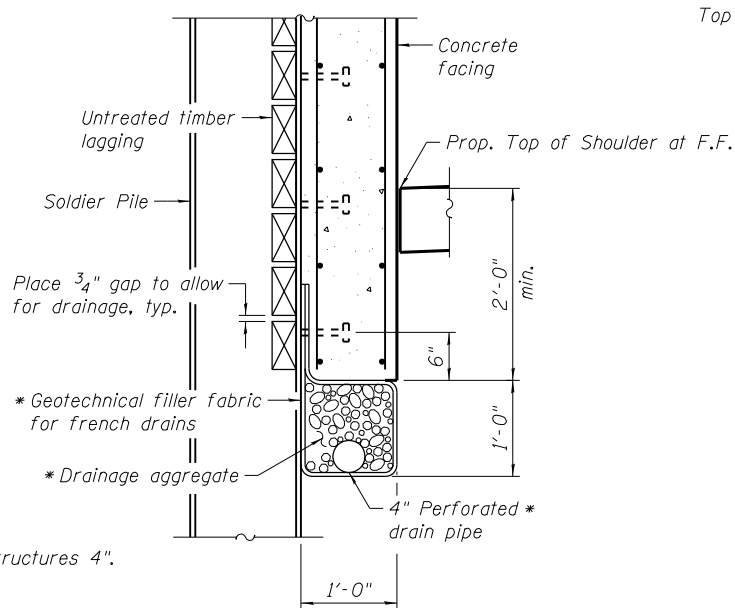
EXPANSION JOINT

PILE TABLE	PILE TABLE				
Pile No.	Size	Top Elev.	Bott. Elev.	Pile Length	Shear Stud
1	HP14x89	636.65	613.65	23.00	5
2	HP14x89	637.40	614.40	23.00	5
3	HP14x89	638.15	615.15	23.00	6
4	HP14x89	638.53	615.53	23.00	7
5	HP14x89	638.86	612.36	26.50	7
6	HP14x89	639.20	612.70	26.50	7
7	HP14x89	639.37	612.87	26.50	7
8	HP14x89	639.36	612.86	26.50	7
9	HP14x89	639.35	612.85	26.50	7
10	HP14x89	639.34	612.84	26.50	7
11	HP14x89	639.33	612.83	26.50	7
12	HP14x89	639.33	612.83	26.50	7
13	HP14x89	639.32	612.82	26.50	7
14	HP14x89	639.31	612.81	26.50	7
15	HP14x89	639.30	612.80	26.50	7
16	HP14x89	639.37	612.87	26.50	7
17	HP14x89	639.53	613.03	26.50	7
18	HP14x89	639.68	613.18	26.50	7
19	HP14x89	639.83	613.33	26.50	7
20	HP14x89	639.98	613.48	26.50	7
21	HP14x89	640.13	613.63	26.50	7
22	HP14x89	640.28	613.78	26.50	7
23	HP14x89	640.43	613.93	26.50	7
24	HP14x89	640.59	614.09	26.50	7
25	HP14x89	640.77	614.27	26.50	7
26	HP14x89	640.99	614.49	26.50	7
27	HP14x89	641.20	614.70	26.50	7
28	HP14x89	641.42	614.92	26.50	7
29	HP14x89	641.64	615.14	26.50	7
30	HP14x89	641.86	615.36	26.50	7
31	HP14x89	642.07	615.57	26.50	7
32	HP14x89	642.29	615.79	26.50	7
33	HP14x89	642.51	616.01	26.50	7

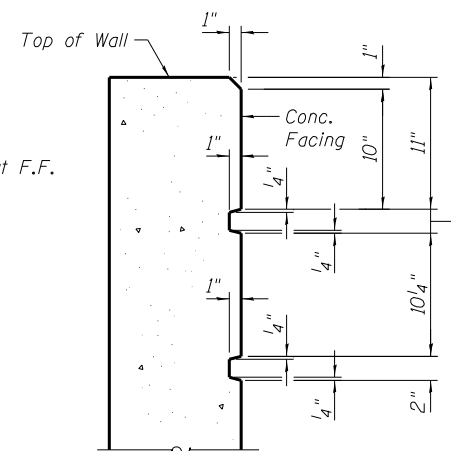
PILE TABLE	PILE TABLE				
Pile No.	Size	Top Elev.	Bott. Elev.	Pile Length	Shear Stud
34	HP14x89	642.71	616.21	26.50	7
35	HP14x89	642.90	616.40	26.50	7
36	HP14x89	643.09	616.59	26.50	7
37	HP14x89	643.28	616.78	26.50	7
38	HP14x89	643.47	616.97	26.50	7
39	HP14x89	643.66	617.16	26.50	7
40	HP14x89	643.84	617.34	26.50	7
41	HP14x89	644.03	617.53	26.50	7
42	HP14x89	644.22	617.72	26.50	7
43	HP14x89	644.37	617.87	26.50	7
44	HP14x89	644.48	617.98	26.50	7
45	HP14x89	644.59	618.09	26.50	7
46	HP14x89	644.58	618.08	26.50	7
47	HP14x89	644.46	617.96	26.50	7
48	HP14x89	644.34	617.84	26.50	6
49	HP14x89	644.22	617.72	26.50	6
50	HP14x89	644.10	617.60	26.50	6
51	HP14x89	643.98	617.48	26.50	6
52	HP14x89	643.87	617.37	26.50	5
53	HP14x89	643.75	617.25	26.50	5
54	HP14x89	643.64	617.14	26.50	5
55	HP14x89	643.52	617.02	26.50	5
56	HP14x89	643.41	616.91	26.50	4
57	HP14x89	643.29	616.79	26.50	4
58	HP14x89	643.18	616.68	26.50	4
59	HP14x89	643.06	616.56	26.50	4
60	HP14x89	642.95	619.95	23.00	4
61	HP14x89	642.85	619.85	23.00	3
62	HP14x89	642.74	619.74	23.00	3
63	HP14x89	642.63	619.63	23.00	3
64	HP14x89	642.55	619.55	23.00	3
65	HP14x89	642.44	619.44	23.00	3
66	HP14x89	642.33	619.33	23.00	2



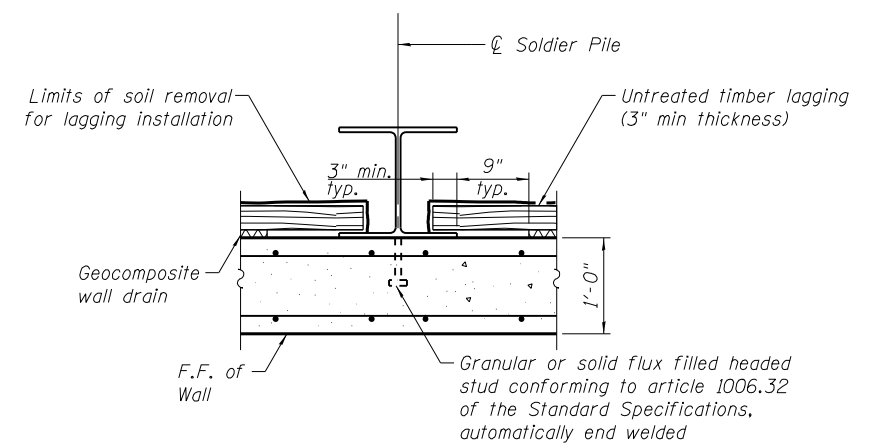
BETWEEN SOLDIER PILES



AT SOLDIER PILES



RUSTICATION DETAIL AT TOP OF WALL



SECTION THRU SOLDIER PILE

- Notes:
1. For panel reinforcement, see Sheet 3 and 4 of 9.
 2. Slope underdrain to outlet to designated drain locations.
 3. Protective coat to be applied to all exposed concrete.



USER NAME = lkelite	DESIGNED ITC/ACF	REVISOR
	CHECKED MRI/MLK	REVISOR
PLOT SCALE = 0:0.999998 '1' / in.	DRAWN LK/APR	REVISOR
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISOR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 3 DETAILS - 3
STRUCTURE NO. 016-2035

SHEET NO. 5 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	408
CONTRACT NO. 60Y38				

ILLINOIS FED. AID PROJECT



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ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ
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COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H	B L O W S	U C S	M O I S T	Surface Water Elev. Stream Bed Elev.	D E P T H	B L O W S	U C S	M O I S T	Groundwater Elev.: First Encounter Upon Completion After Hrs.	D E P T H	B L O W S	U C S	M O I S T
10.0' ASPHALT					n/a					615.50				
SAND & GRAVEL-gray-medium dense (Fill)		11												
		8					4	1.5	21					
		9		3			7	B						
CLAY-gray-stiff														
		2												
		3	1.8	23										
		4					4	2.1	21					
		5					6	B						
		3												
		3	1.3	23										
		5												
		3												
		4	1.3	21										
		5												
		2												
		3	1.2	21										
		4												
		3												
		4	1.9	22										
		5												
		3												
		4	1.9	21										
		6												
SANDY LOAM-gray-medium dense														
		4												
		8												
		9												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)



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COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H	B L O W S	U C S	M O I S T	Surface Water Elev. Stream Bed Elev.	D E P T H	B L O W S	U C S	M O I S T	Groundwater Elev.: First Encounter Upon Completion After Hrs.	D E P T H	B L O W S	U C S	M O I S T
10.0' ASPHALT					n/a									
8.0' CRUSHED STONE		10												
		5	4.2	17										
		7												
CLAY-gray-stiff to hard														
		2												
		3	1.3	23										
		4												
		3												
		3	1.3	15										
		5												
		3												
		4	1.3	19										
		6												
		3												
		4	1.4	13										
		6												
CLAY LOAM-gray-stiff														
		3												
		4	1.4	13										
		6												
CLAYEY SAND & GRAVEL-gray-medium dense														
		3												
		5												
		15												
		5												
SANDY CLAY LOAM-gray-medium dense														
		3												
		4												
		6												
CLAY-gray-stiff														
		3												
		5	1.4	19										
		6												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 1
Date 10/9/13

ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY CW
SECTION -- LOCATION SE 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	D E P T H	B L O W S	U C S	M O I S T	Surface Water Elev. Stream Bed Elev.	D E P T H	B L O W S	U C S	M O I S T	Groundwater Elev.: First Encounter Upon Completion After Hrs.	D E P T H	B L O W S	U C S	M O I S T
8.0' ASPHALT					n/a									
10.0' CRUSHED STONE		8												
		4												
		7												
CLAY-gray-medium stiff to stiff														
		3												
		4	1.5	23										
		5												
		3												
		4	1.1	25										
		5												
		3												
		3	0.7	25										
		3												
		5												
		4	0.9	22										
		6												
		3												
		4	1.2	19										
		8												
		15												
		8												
SILTY LOAM-gray-medium dense														
		6												
		7												
		9												
CLAY-gray-medium stiff to stiff														
		4												
		4	0.9	18										
		9												

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Notes:
1. For location of soil boring, see Sheet 1 of 9.



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 1
Date 10/11/13

ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ
SECTION -- LOCATION SE 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BULGE O S	UNIFORMITY C S	MOISTURE M O I S T	Surface Water Elev. n/a ft				DEPTH H S	BULGE O S	UNIFORMITY C S	MOISTURE M O I S T
					Stream Bed Elev. n/a ft	Groundwater Elev. n/a ft	First Encounter Upon Completion After Hrs.	First Encounter Upon Completion After Hrs.				
5.0' ASPHALT	642.26											
6.0' CRUSHED STONE	641.78											
CLAY LOAM-brown-very stiff		5							4	1.2	20	
		7	3.8	19					6			
		7	P						9	B		
CLAY-gray-medium stiff to stiff	639.70								6			
		2							5	1.5	21	
		2	1.1	25					7	B		
		3	B									
		2										
		3	0.9	23								
		3	B									
		2										
		3	0.9	25								
		3	B									
		2										
		3	1.2	23								
		5	B									
		3										
		4	1.5	22								
		5	B									
		3										
		3	1.0	23								
		4	B									
CLAY LOAM-gray-stiff	624.70											
		6										
		5	1.1	14								
		7	B									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

GSI Job No. 12245
Page 1 of 2
Date 10/10/13

ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ
SECTION -- LOCATION SE 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BULGE O S	UNIFORMITY C S	MOISTURE M O I S T	Surface Water Elev. n/a ft				DEPTH H S	BULGE O S	UNIFORMITY C S	MOISTURE M O I S T
					Stream Bed Elev. n/a ft	Groundwater Elev. n/a ft	First Encounter Upon Completion After Hrs.	First Encounter Upon Completion After Hrs.				
6.0' ASPHALT	643.20											
6.0' CRUSHED STONE	642.70											
CLAY LOAM-brown & gray-very stiff (Possible Fill)		4							3			
		5	3.0	13					4	1.0	15	
		6	P						4	P		
CLAY-gray-medium stiff to stiff	640.70								3			
		3							3			
		3	1.9	24					4	1.0	22	
		3	B						4	P		
		2							3			
		3	1.1	23					6			
		4	B						7			
		3							3			
		4	1.3	24					4	0.6	22	
		5	B						5	B		
		2							3			
		3	0.9	25					6			
		4	B						7	2.3	13	
		3	0.6	25					10	B		
		3							5			
		3	1.1	24					6			
		4	B						7			
CLAY-gray-stiff to very stiff	606.70								5			
		2							6	1.1	21	
		3	1.2	22					7	B		
		5	B									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

GSI Job No. 12245
Page 2 of 2
Date 10/10/13

ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ
SECTION -- LOCATION SE 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. Station	DEPTH H S	BULGE O S	UNIFORMITY C S	MOISTURE M O I S T	Surface Water Elev. n/a ft				DEPTH H S	BULGE O S	UNIFORMITY C S	MOISTURE M O I S T
					Stream Bed Elev. n/a ft	Groundwater Elev. n/a ft	First Encounter Upon Completion After Hrs.	First Encounter Upon Completion After Hrs.				
CLAY-gray-stiff to very stiff (continued)												
		6							8	2.3	19	
		13	B									
End Of Boring @ -45.0'. Boring backfilled with cuttings.	598.70	-45										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

Notes:
1. For location of soil boring, see Sheet 2 of 9.



USER NAME = kkalite	DESIGNED ITC	REVISED
	CHECKED MRI	REVISED
PLOT SCALE = 0.1" = 1'	DRAWN LK	REVISED
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS - 4
STRUCTURE NO. 016-2035
SHEET NO. 9 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	412
CONTRACT NO. 60Y38				
ILLINOIS FED. AID PROJECT				

EXISTING STRUCTURE NOTES

EX EB-A Retaining Wall consists of two separate walls, namely Old Wall (SN 016-2296) and N.W. Retaining Wall (SN 016-2519) adjacent to EB I-90.

Old Wall was originally constructed in 1958 and is a cast-in-place concrete cantilever wall on spread footing with Panels 4A thru 10 supported on drilled and cast-in-place concrete piles. Total length of wall recorded in field is approximately 566 feet 8 1/2 inches as compared to 642 feet as per existing record plans. Panel 11 from originally constructed wall appears to be removed during the construction of N.W. Retainig Wall.

N.W. Retaining Wall was originally constructed in 1981 and is a cast-in-place concrete cantilever wall supported on HP 10x42 piles. Total length of wall is approximately 213 feet 2 1/2 inch.

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Notes and Total Bill of Material
- 3 Structural Repairs (1 of 7)
- 4 Structural Repairs (2 of 7)
- 5 Structural Repairs (3 of 7)
- 6 Structural Repairs (4 of 7)
- 7 Structural Repairs (5 of 7)
- 8 Structural Repairs (6 of 7)
- 9 Structural Repairs (7 of 7)
- 10 Permanent Ground Anchor Details

SCOPE OF WORK

- 1. Remove existing chain link fence from top of Old Wall (SN 016-2296)
- 2. Remove existing railing from top of N.W. Retaining Wall (SN 016-2519), up to the limits of removal mentioned on plans.
- 3. Remove top portion of both existing walls to the elevations shown on repair plans.
- 4. Repair concrete and seal crack widths greater than 1/16" with Low Pressure Epoxy Injection on both walls.
- 5. Stabilize Panel 3 in Old Wall (SN 016-2296) using Permanent Ground Anchors. See special provision for Permanent Ground Anchors.
- 6. Clean and extend Weep Holes in the old retaining wall. See special provision for Weep Holes Cleaned and Extended.

GENERAL NOTES

- 1. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- 2. No concrete cutting will be permitted until the cutting limits have been outlined by the Contractor approved by the Engineer.
- 3. It shall be Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
- 4. Existing reinforcement which is to be incorporated into the new construction shall be blast cleaned to grey metal, straightened (without heating), and cut to fit. Cost included with "Concrete Removal."

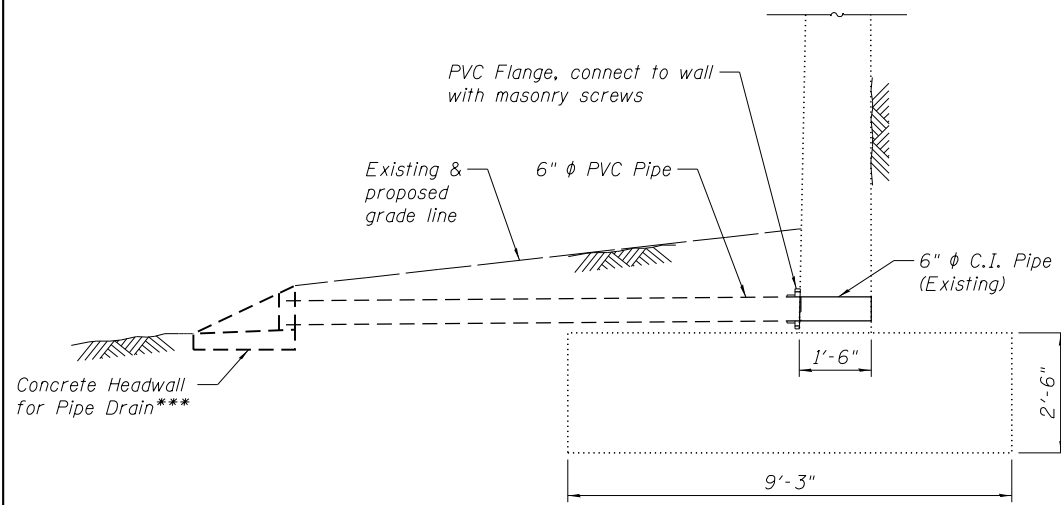
TOTAL BILL OF MATERIAL

Item	Unit	Total
CONCRETE REMOVAL*	CU YD	110
BRIDGE RAIL REMOVAL	FOOT	195
EPOXY CRACK INJECTION	FOOT	190
WEEP HOLES CLEANED AND EXTENDED	LSUM	1
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	5
FENCE REMOVAL	FOOT	565
PERMANENT GROUND ANCHORS	EACH	10

* Cost for structure excavation required for concrete removal is included in the cost of moment slab for noise wall. See Moment Slab (S.N. 016-2296 & S.N. 016-2519) plans (Shts. MS-1 thru MS-18)

GEOMETRIC CONTROL POINTS, STATIONS AND ELEVATIONS

Panel	Station	Control Point "A"	Existing Elevation @ Top of Wall (A)	Control Point "C"	New Elevation @ Finished Top of Wall (C)
NW-1	2002+95.07	A'14	659.44	C'14	655.24
NW-1	2002+72.61	A14	658.71	C14	654.59
See Additional Geometric Control Pts.					
NW-2	2002+11.24	A13	657.83	C13	653.36
NW-3	2001+49.88	A12	658.04	C12	653.52
NW-4	2001+07.38	A11	658.17	C11	653.64
10	2001+07.38	A11	657.51	C11	653.64
10	2000+70.70	A10	657.45	C10	653.74
9	2000+10.70	A9	657.35	C9	653.91
8	1004+89.10	A8	657.24	C8	654.04
7	1004+29.10	A7	657.54	C7	654.15
6	1003+69.10	A6	657.67	C6	654.25
5	1003+09.10	A5	657.56	C5	654.08
4	1002+49.10	A4	657.33	C4	653.87
3	1001+89.10	A3	657.09	C3	653.66
2	1001+29.10	A2	656.70	C2	653.45
1	1000+79.05	A1	656.59	C1	653.28

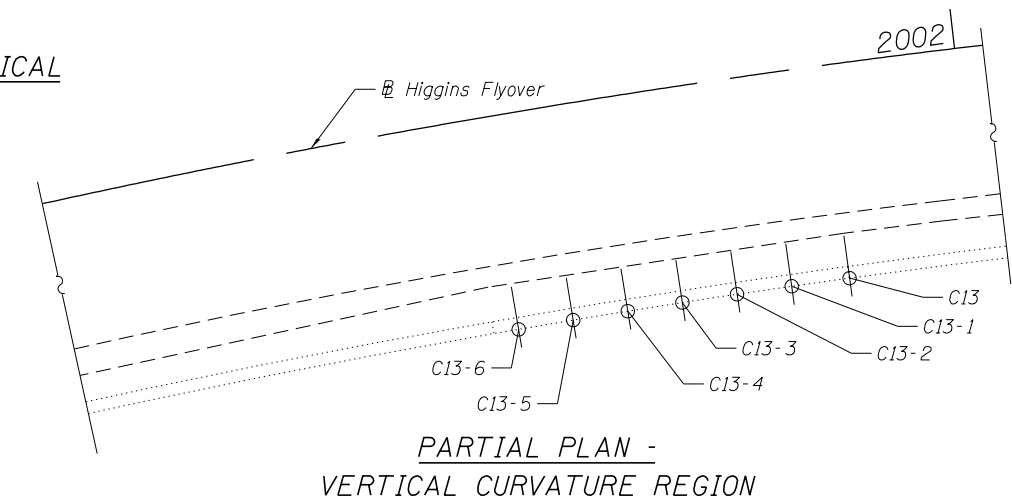


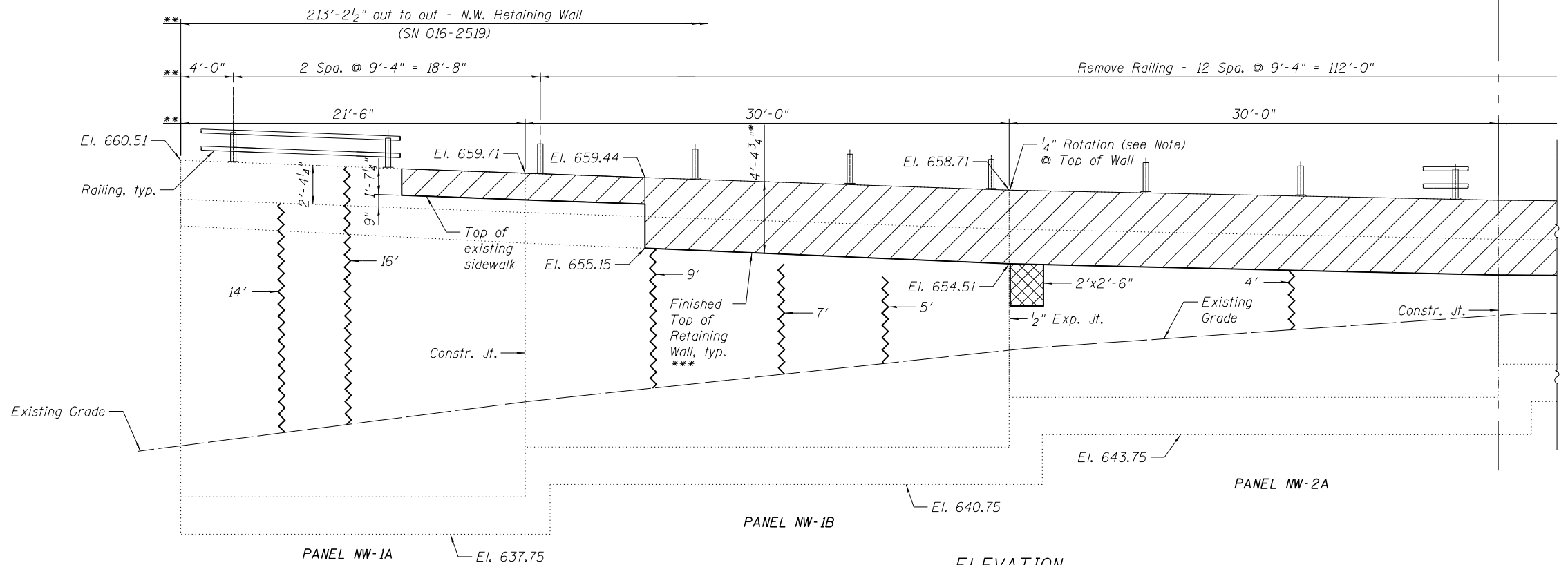
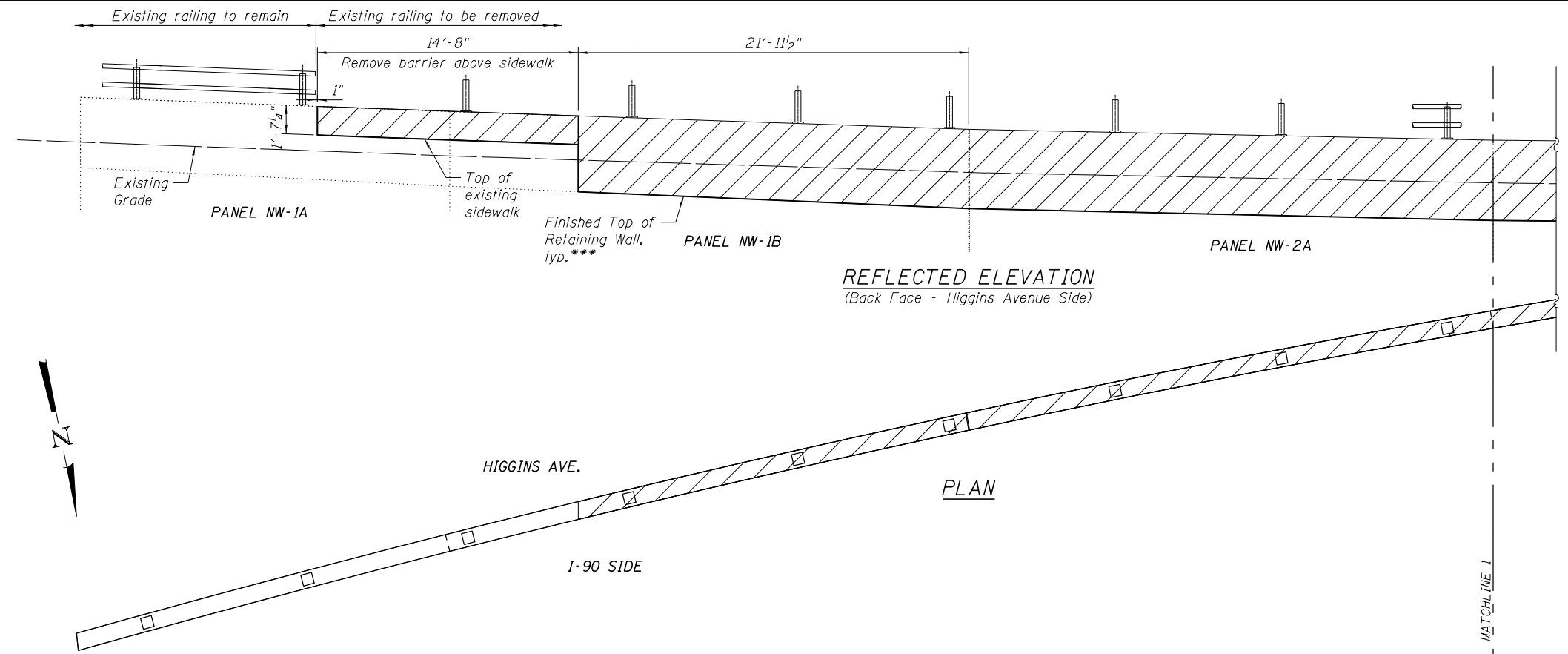
SECTION AT EXISTING WEEPHOLE LOCATION
(Panel 5 - See Sht. R-7 for location)

*** See HIGHWAY STANDARD 601101-02 for Headwall details. Cost to be included with "Weep Holes Cleaned and Extended."

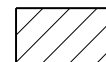

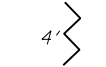
ADDITIONAL GEOMETRIC CONTROL POINTS WITHIN VERTICAL CURVATURE - STATIONS & ELEVATIONS

Location	Station	Elevation
C13	2002+11.24	653.36
C13-1	2202+16.22	653.34
C13-2	2002+20.93	653.34
C13-3	2002+25.64	653.37
C13-4	2002+30.36	653.43
C13-5	2002+35.07	653.52
C13-6	2002+39.78	653.65
C14	2002+72.61	654.59





LEGEND

-  Concrete Removal
-  Structural Repair of Concrete (Depth equal to or less than 5 inches)
-  Cracks to be repaired using Epoxy Crack Injection (Repair Length indicated)

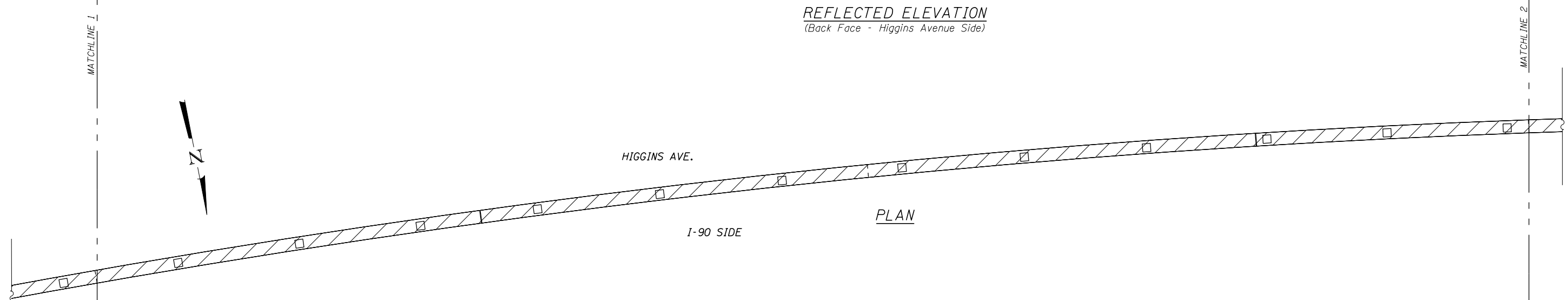
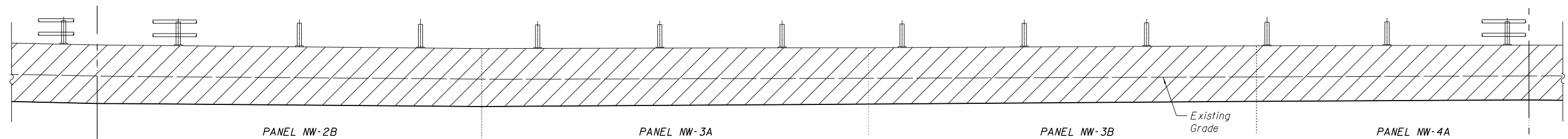
Note: Repair length indicated is the length of the crack requiring Epoxy Crack Injection. Total length of crack may be longer. Cracks, or portions of cracks within areas identified as Structural Repair of Concrete or Concrete Removal do not require Epoxy Crack Injection and are not shown on Repair Plans.

- * Average Removal Height (For Quantity purposes only)
- ** Distance measured along front face of Retaining wall
- *** Finish ground smooth, concrete & rebar

Note: Wall movements were taken from prior field survey and are for information only.

USER NAME = *USER*	DESIGNED STD	REVISED
CHECKED KK		REVISED
PLOT SCALE = *SCALE*	DRAWN STD	REVISED
PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	415
CONTRACT NO. 60Y38				



* Average Removal Height (For Quantity purposes only)
 ** Distance measured along front face of Retaining wall
 *** Finish ground smooth, concrete & rebar

ELEVATION
(Front Face - I-90 Side, Looking South)

exp U.S. Services Inc. Chicago, IL BUILDINGS-EARTH & ENVIRONMENT-ENERGY INDUSTRIAL-INFRASTRUCTURE-SUSTAINABILITY	USER NAME = *USER*	DESIGNED STD	REVISED
		CHECKED KK	REVISED
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	PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

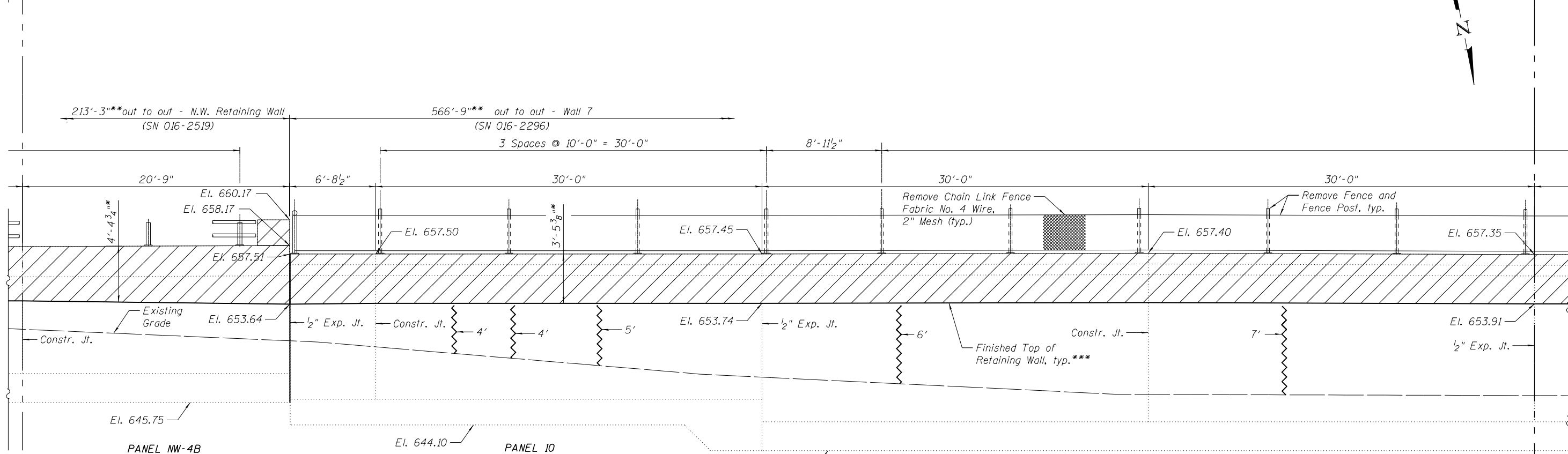
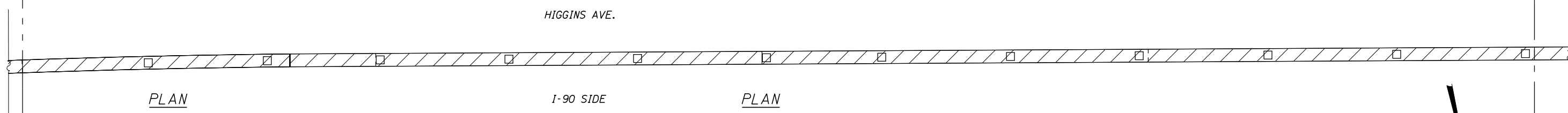
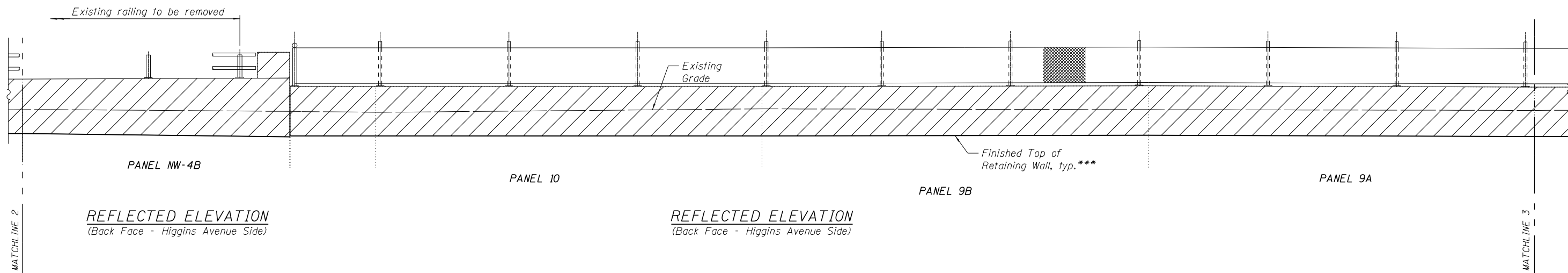
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING RETAINING WALL REPAIR PLANS
 S.N. 016-2296 & S.N. 016-2519
 STRUCTURAL REPAIRS (2 OF 7)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	416
CONTRACT NO. 60Y38				

SHEET NO.R-4 OF 10 SHEETS

ILLINOIS FED. AID PROJECT



* Average Removal Height (For Quantity purposes only)
 ** Distance measured along front face of Retaining wall
 *** Finish ground smooth, concrete & rebar

ELEVATION
 (Front Face -
 I-90 Side, Looking South)

ELEVATION
 (Front Face -
 I-90 Side, Looking South)

exp U.S. Services Inc.
 Chicago, IL
 BUILDINGS-EARTH & ENVIRONMENT-ENERGY
 INDUSTRIAL-INFRASTRUCTURE-SUSTAINABILITY

USER NAME = #USER#	DESIGNED STD	REVISED
CHECKED KK	CHECKED KK	REVISED
PLOT SCALE = #SCALE#	DRAWN STD	REVISED
PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

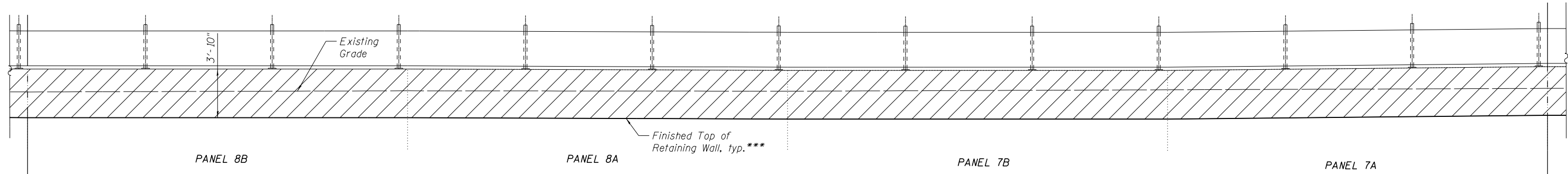
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING RETAINING WALL REPAIR PLANS
S.N. 016-2296 & S.N. 016-2519
STRUCTURAL REPAIRS (3 OF 7)

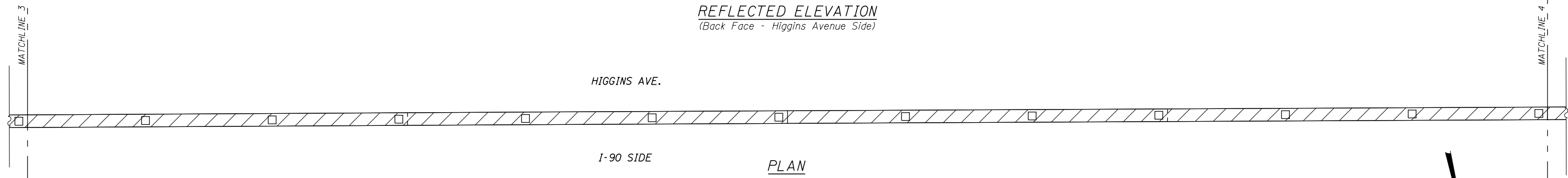
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-90	(1517 & 1415) R-3	COOK	557	417
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	

FILE NAME = #FILE#

SHEET NO. R-5 OF 10 SHEETS



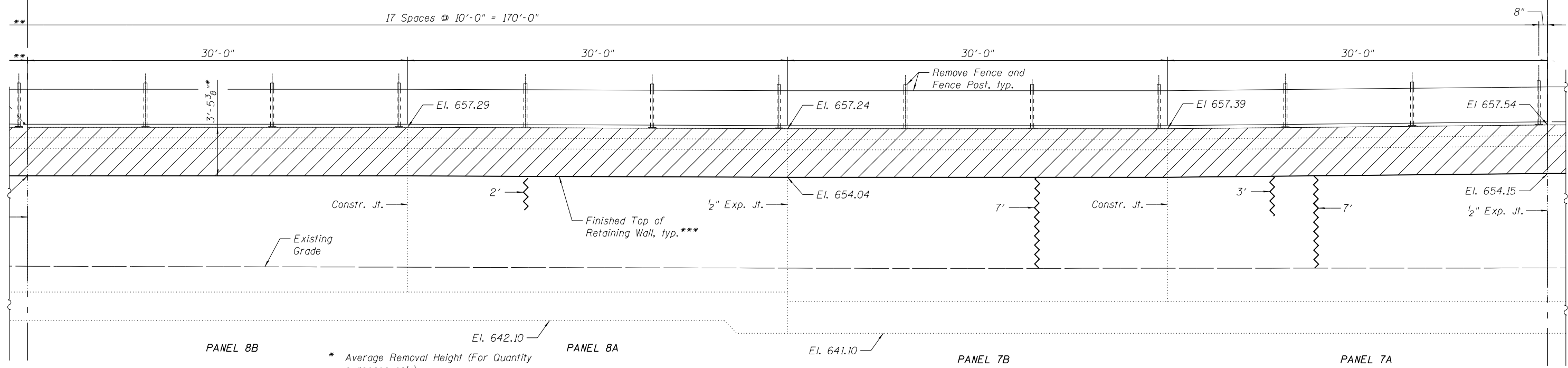
REFLECTED ELEVATION
(Back Face - Higgins Avenue Side)



HIGGINS AVE.

I-90 SIDE

PLAN



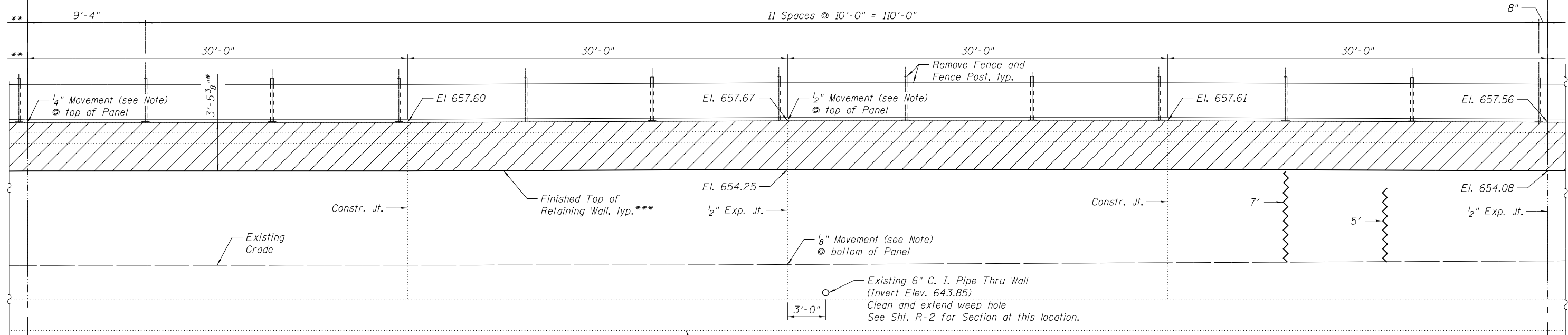
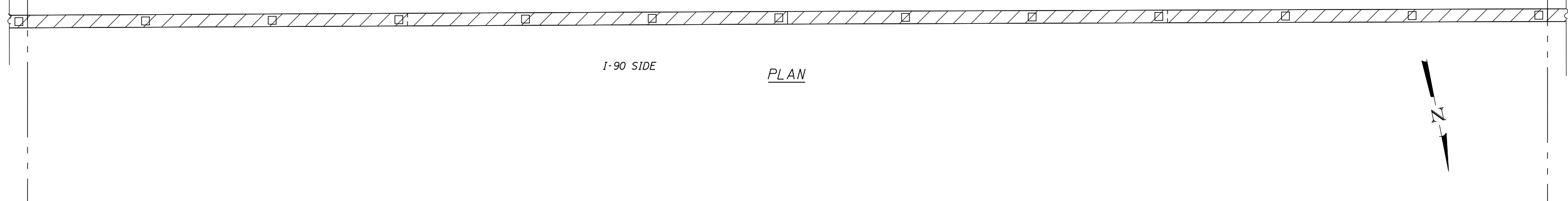
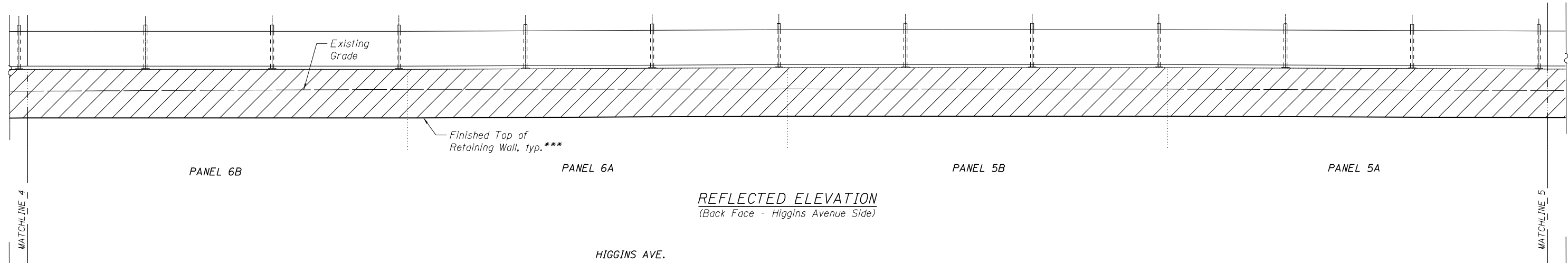
ELEVATION

(Front Face - I-90 Side, Looking South)

- * Average Removal Height (For Quantity purposes only)
- ** Distance measured along front face of Retaining wall
- *** Finish ground smooth, concrete & rebar

USER NAME = *USER*	DESIGNED STD	REVISED
CHECKED KK	REVISIONS	
PLOT SCALE = *SCALE*	DRAWN STD	REVISED
PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	418
CONTRACT NO. 60Y38				

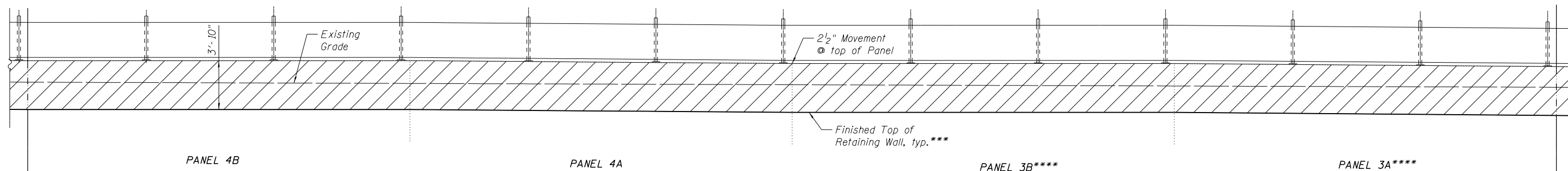


* Average Removal Height (For Quantity purposes only)
 ** Distance measured along front face of Retaining wall
 *** Finish ground smooth, concrete & rebar

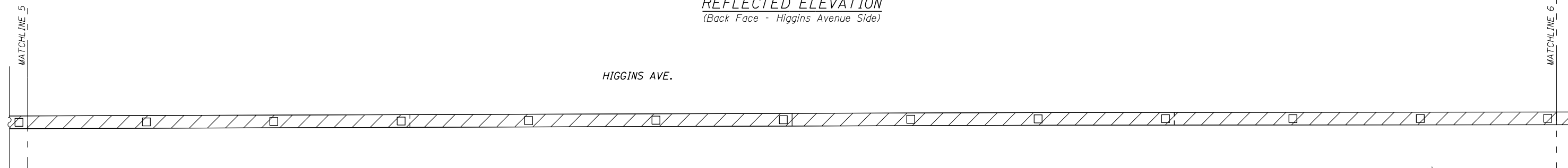
Note:
 Wall movements were taken from prior field survey and are for information only.

USER NAME = #USER#	DESIGNED STD	REVISED
CHECKED KK		REVISED
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PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

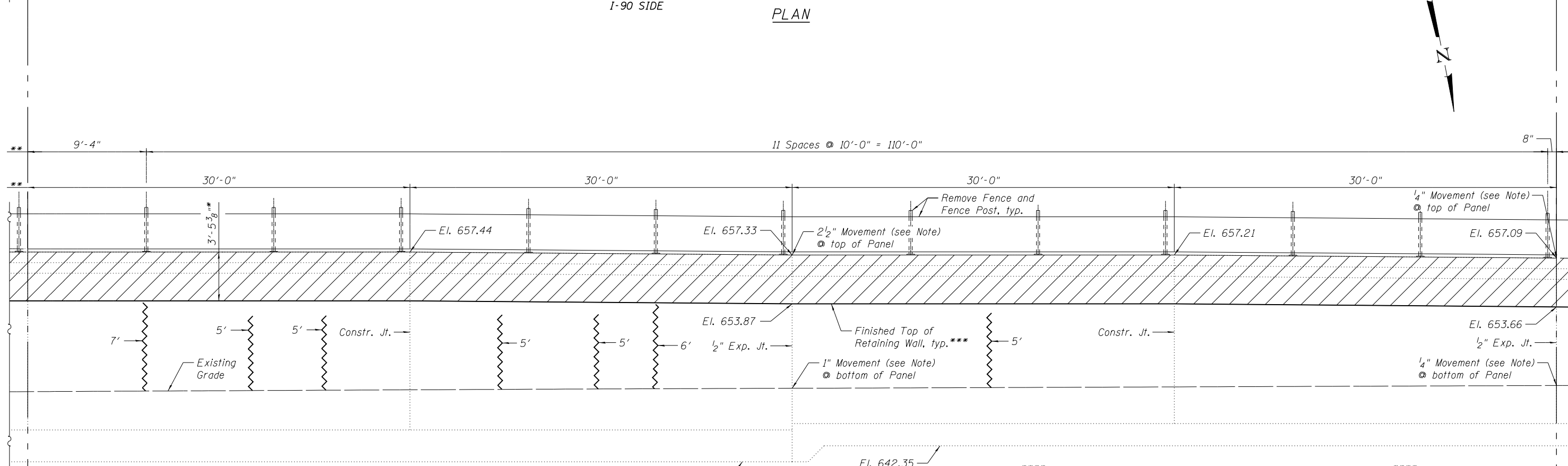
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	419
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	



REFLECTED ELEVATION
(Back Face - Higgins Avenue Side)



PLAN
I-90 SIDE



ELEVATION
(Front Face - I-90 Side, Looking South)

- * Average Removal Height (For Quantity purposes only)
- ** Distance measured along front face of Retaining wall
- *** Finish ground smooth, concrete & rebar
- **** See Sht. R-10 for details of Permanent Ground Anchors to stabilize Panel 3

Note:
Wall movements were taken from prior field survey and are for information only.

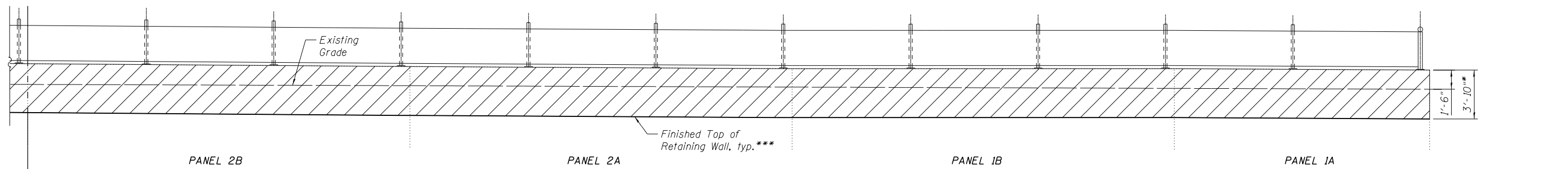
exp U.S. Services Inc.
Chicago, IL
BUILDINGS-EARTH & ENVIRONMENT-ENERGY
INDUSTRIAL-INFRASTRUCTURE-SUSTAINABILITY

USER NAME = *USER*	DESIGNED STD	REVISOR
PLLOT SCALE = *SCALE*	CHECKED KK	REVISIONS
PLLOT DATE = 6-27-2016	DRAWN STD	REVISIONS
	DATE 5/6/2016	REVISIONS

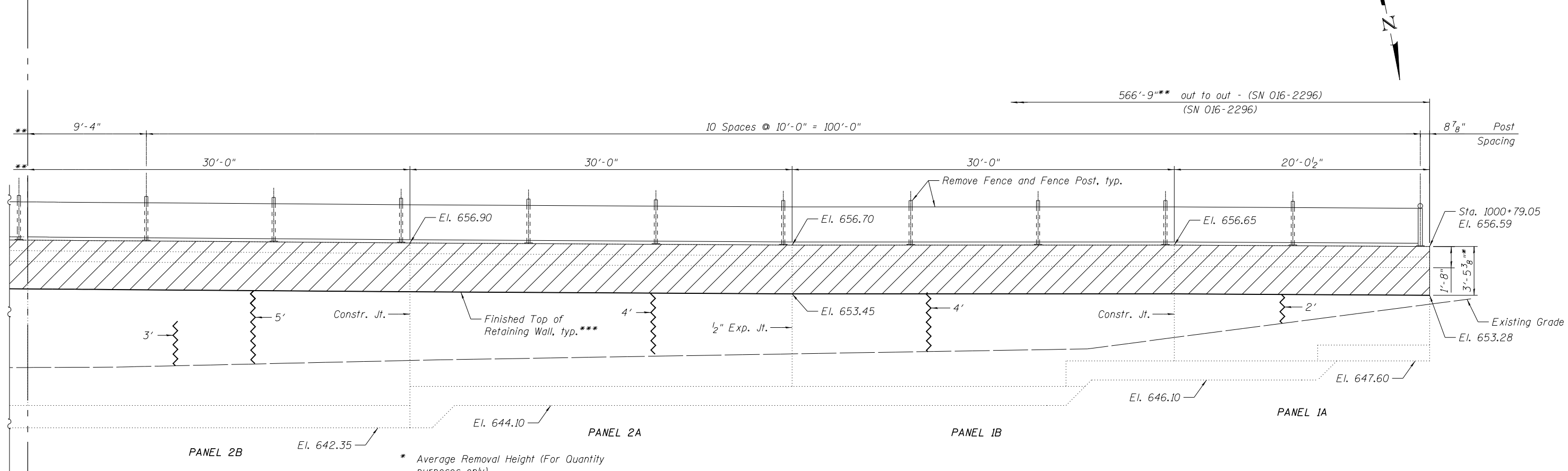
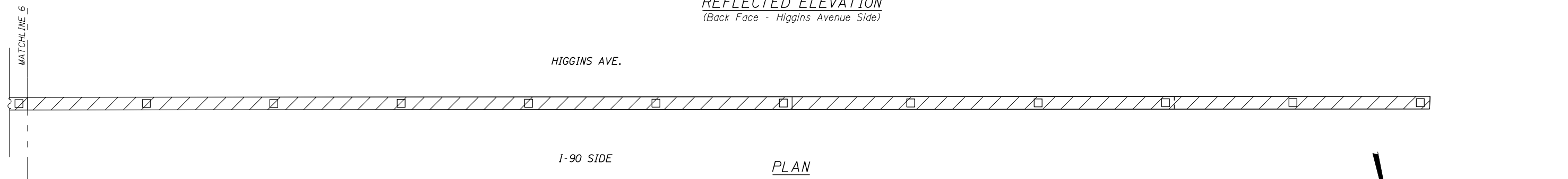
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING RETAINING WALL REPAIR PLANS
S.N. 016-2296 & S.N. 016-2519
STRUCTURAL REPAIRS (6 OF 7)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	420
CONTRACT NO. 60Y38				



REFLECTED ELEVATION
(Back Face - Higgins Avenue Side)



- * Average Removal Height (For Quantity purposes only)
- ** Distance measured along front face of Retaining wall
- *** Finish ground smooth, concrete & rebar

ELEVATION
(Front Face -
I-90 Side, Looking South)

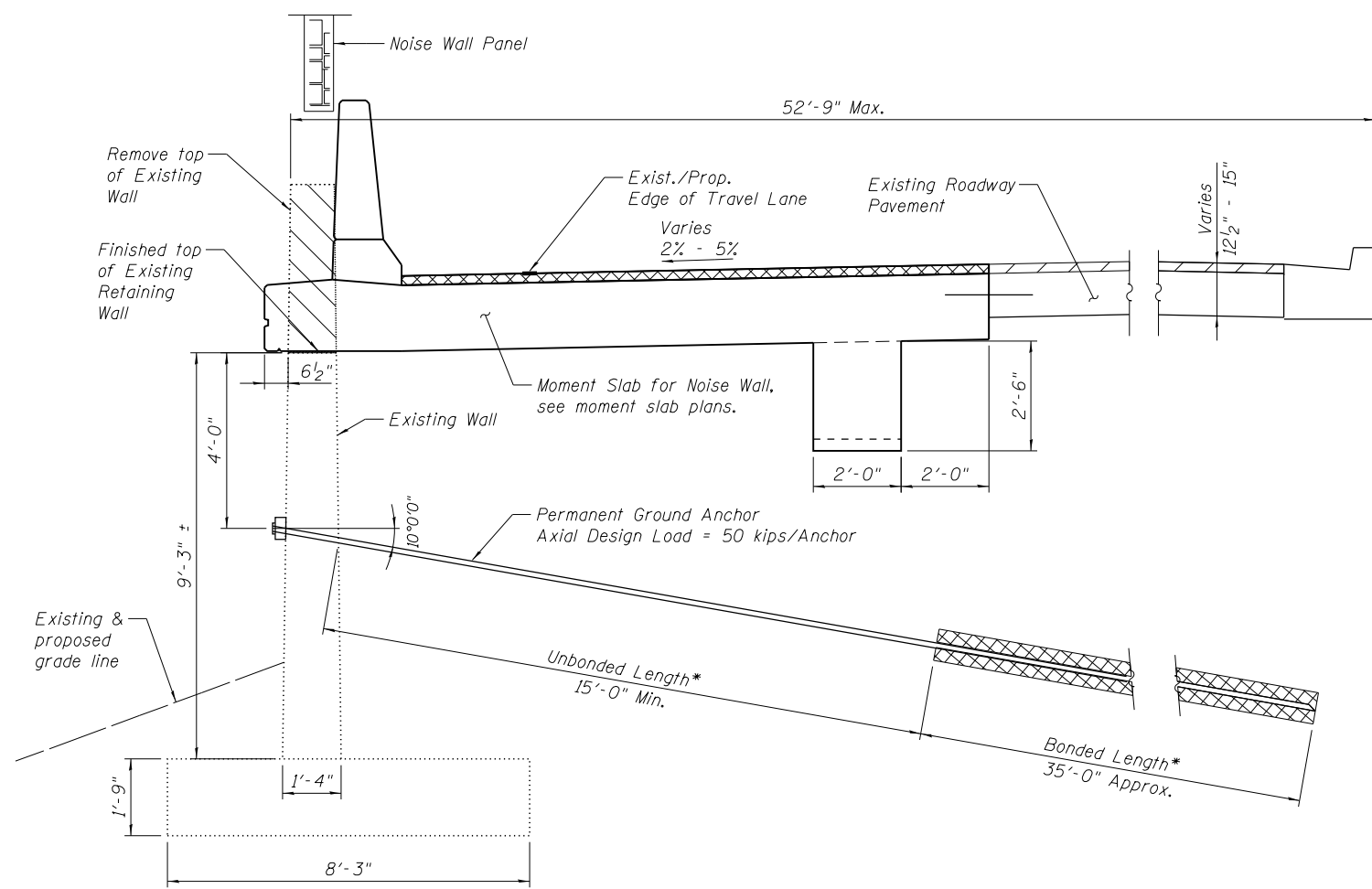
exp U.S. Services Inc.
Chicago, IL
BUILDINGS-EARTH & ENVIRONMENT-ENERGY
INDUSTRIAL-INFRASTRUCTURE-SUSTAINABILITY

USER NAME = *USER*	DESIGNED STD	REVISED
CHECKED KK		REVISED
PLOT SCALE = *SCALE*	DRAWN STD	REVISED
PLOT DATE = 6-27-2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING RETAINING WALL REPAIR PLANS
S.N. 016-2296 & S.N. 016-2519
STRUCTURAL REPAIRS (7 OF 7)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	421
			CONTRACT NO. 60Y38	
ILLINOIS FED. AID PROJECT				



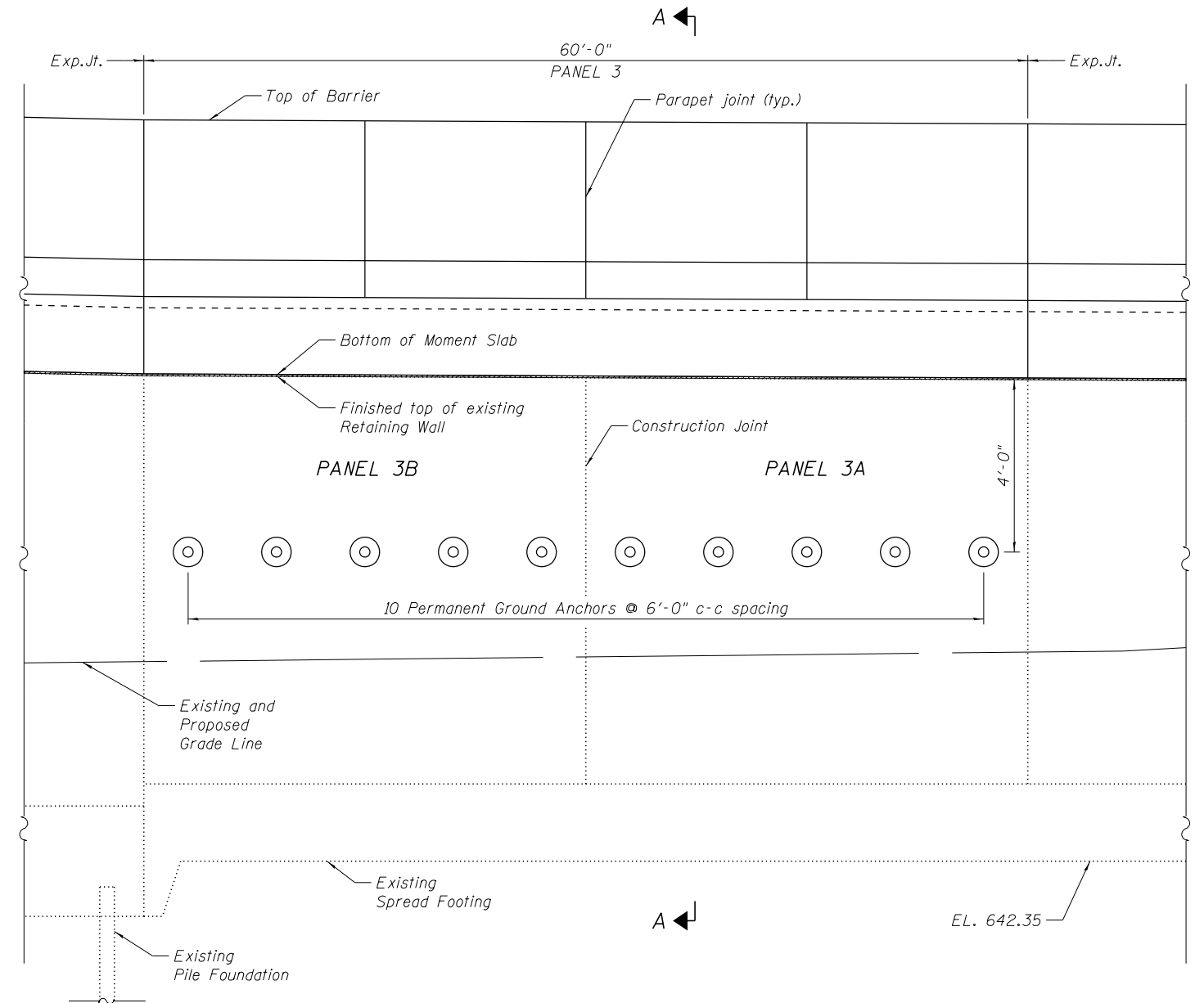
SECTION A-A
(PERMANENT GROUND ANCHOR DETAIL)

* Estimated based on soil data and were determined according to 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims.

See Sht. MS-16 in Moment Slab Plans, for Soil Boring Log NWB-26 (near Panel 3)

LEGEND

Existing Concrete Removal



PARTIAL ELEVATION - PERMANENT GROUND ANCHOR
(Dimensions measured along front face of wall, looking south)

exp U.S. Services Inc. Chicago, IL BUILDINGS-EARTH & ENVIRONMENT-ENERGY INDUSTRIAL-INFRASTRUCTURE-SUSTAINABILITY	USER NAME = #USER#	DESIGNED STD	REVISED
		CHECKED KK	REVISED
	PLOT SCALE = #SCALE#	DRAWN EG	REVISED
	PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING RETAINING WALL REPAIR PLANS
S.N. 016-2296 & S.N. 016-2519
PERMANENT GROUND ANCHOR DETAILS
SHEET NO. R-10 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	422
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	

Bench Mark: TBM #15 - Square cut SW corner at west end of barrier wall west of Oriole bridge on south side of I-90 EB, Elev. 638.80.

Existing Structure: None

DESIGN SPECIFICATIONS

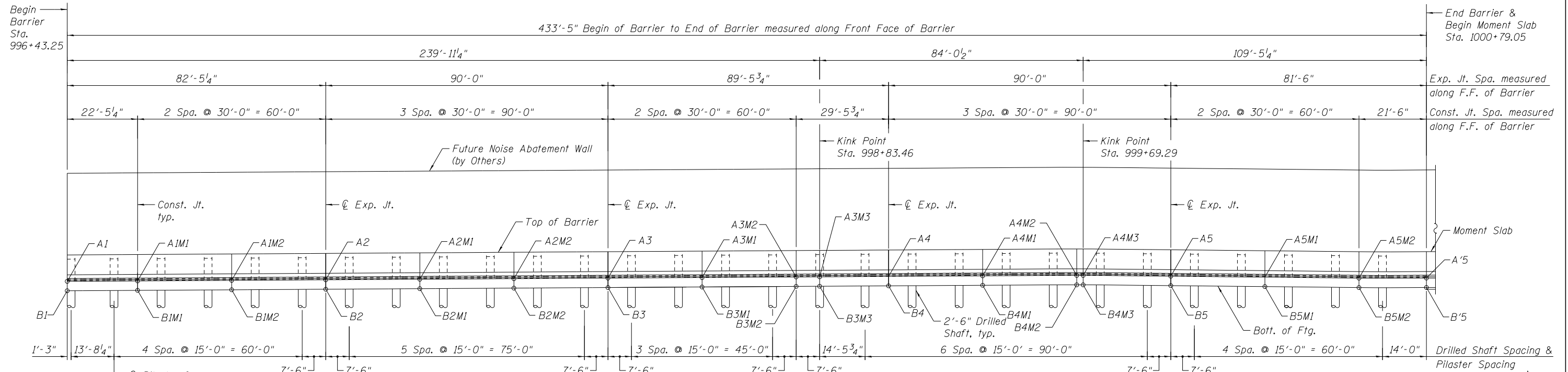
2014 AASHTO LRFD Bridge Design Specifications,
7th Edition, with 2015 Interim Revisions

DESIGN STRESSES

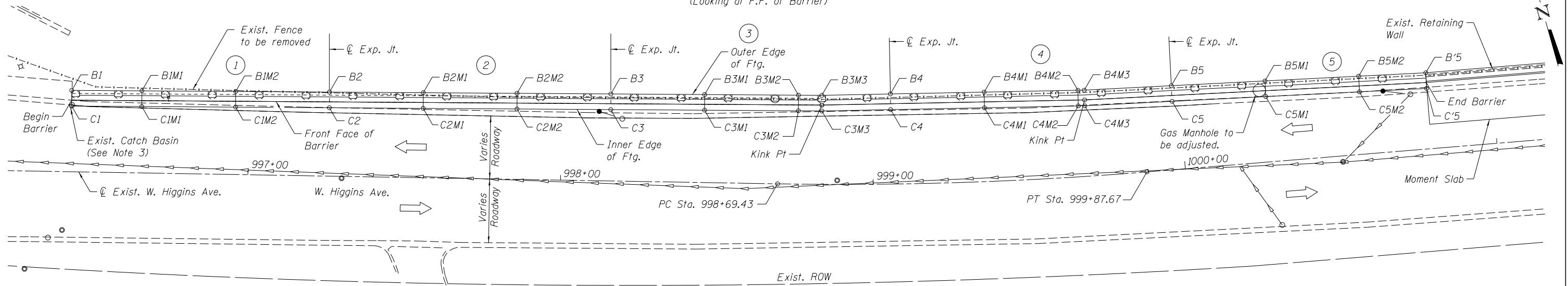
FIELD UNITS
f'c = 3,500 psi
f'c = 4,000 psi (Drilled Shafts)
fy = 60,000 psi (Reinforcement)

LOADING

Allow 35 psf wind load for
Structure Mounted Noise Wall.
Maximum Dead Load not to
exceed 55 psf of wall face area.
Traffic Impact per AASHTO
LRFD Bridge Specifications



ELEVATION
(Looking at F.F. of Barrier)



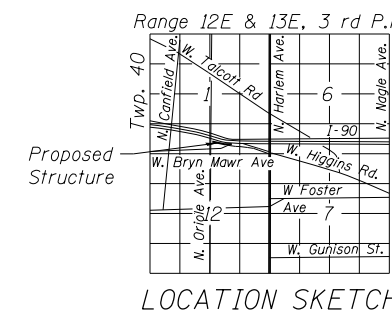
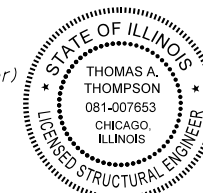
PLAN
(@ Bott. of Barrier)

- Notes:
1. Longitudinal dimensions are measured along F.F. of barrier.
 2. Stations, offsets and elevations for control points are provided on Sheet 2 of 9.
 3. The Contractor shall verify footprint of the existing catch basin prior to drilling. The Contractor can request permission from the Engineer to shift the location of the final drilled shaft by up to 3' in order to avoid potential conflict with the drainage structure.

LEGEND:

Existing	Proposed	Inlet	F.F. - denotes Front Face
○	●	Catch Basin	(1) Barrier Support Segment Number
○	○	Manhole	
→	→	Storm Sewer	

Signed: _____
Date: 11/30/2016
Exp: _____
Sheets: S-1 thru S-9



GENERAL PLAN & ELEVATION
W. HIGGINS AVENUE
F.A.P. RTE. I-90 - SEC. (1517 & 1415) R-3
COOK COUNTY
STATION 996+43.25 TO 1000+79.05
BARRIER SUPPORT STRUCTURE
FOR NOISE ABATEMENT WALL



USER NAME = mkostr	DESIGNED APC	REVISED
	CHECKED ACF	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN LK	REVISED
PLOT DATE = 6/28/2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 9 SHEETS

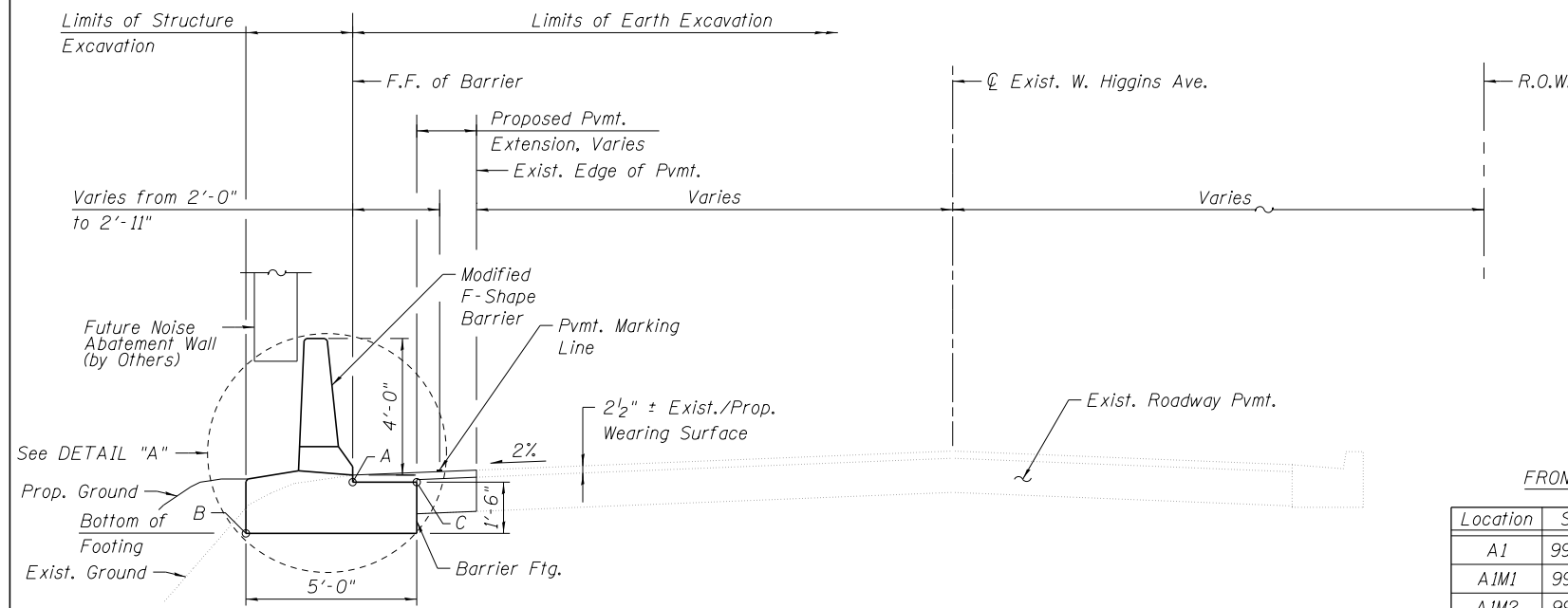
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	423
CONTRACT NO. 60Y38				

INDEX OF SHEETS

- S-1 General Plan & Elevation
- S-2 General Data & Sections
- S-3 Barrier Support Plan & Elevation - 1
- S-4 Barrier Support Plan & Elevation - 2
- S-5 Barrier Support Plan & Elevation - 3
- S-6 Barrier Support Plan & Elevation - 4
- S-7 Barrier Support Plan & Elevation - 5
- S-8 Barrier Support Details - 1
- S-9 Barrier Support Details - 2

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu Yd	88
Concrete Structures	Cu Yd	210.1
Protective Coat	Sq Yd	232
Reinforcement Bars, Epoxy Coated	Pound	92480
Drilled Shaft in Soil	Cu Yd	131.8
Noise Abatement Wall Anchor Rod Assembly	Each	29

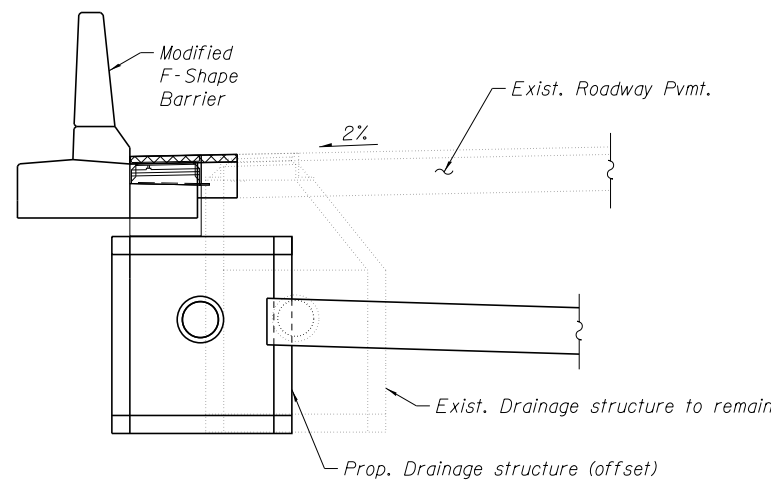


TYPICAL SECTION THRU BARRIER SUPPORT FOR NOISE ABATEMENT WALL
(Looking East)

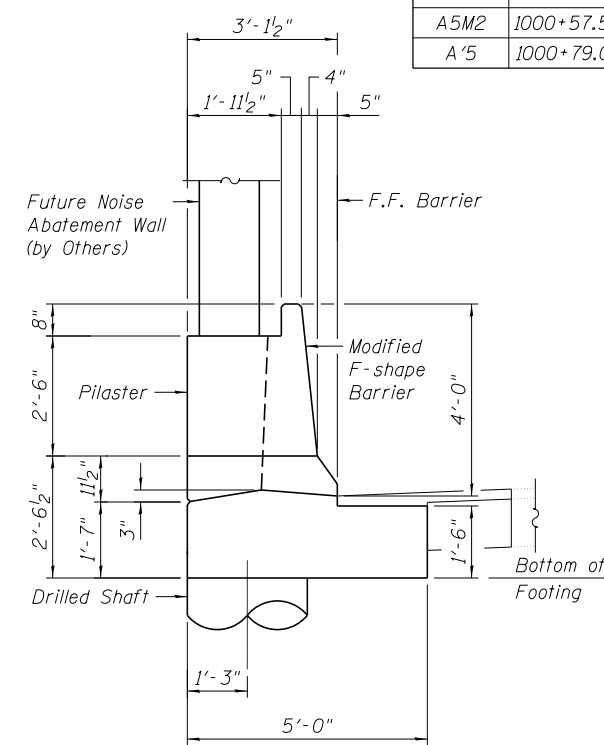
- A Stations, offsets and elevations for Front Face of Barrier at elevation 2 1/2" below top of wearing surface are provided w.r.t. this point.
- B Stations, offsets and elevations for Bottom Outer Edge of Footing are provided w.r.t. this point.
- C Stations, offsets and elevations for Top Inner Edge of Footing are provided w.r.t. this point.

GEOMETRIC CONTROL POINTS - STATIONS, OFFSETS & ELEVATIONS

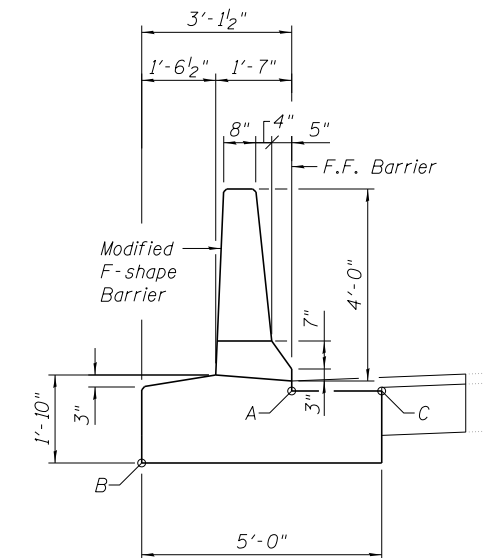
FRONT FACE OF BARRIER (A)				TOP OUTER EDGE OF FOOTING (B)				BOTTOM INNER EDGE OF FOOTING (C)			
Location	Station	Offset	Elevation	Location	Station	Offset	Elevation	Location	Station	Offset	Elevation
A1	996+43.25	22.85 Lt.	654.28	B1	996+43.21	25.98 Lt.	652.78	C1	996+43.26	20.98 Lt.	654.28
A1M1	996+65.68	23.09 Lt.	654.35	B1M1	996+65.65	26.21 Lt.	652.85	C1M1	996+65.70	21.21 Lt.	654.35
A1M2	996+95.68	23.40 Lt.	654.44	B1M2	996+95.65	26.53 Lt.	652.94	C1M2	996+95.70	21.53 Lt.	654.44
A2	997+25.68	23.72 Lt.	654.53	B2	997+25.64	26.85 Lt.	653.03	C2	997+25.70	21.85 Lt.	654.53
A2M1	997+55.68	24.04 Lt.	654.62	B2M1	997+55.64	27.16 Lt.	653.12	C2M1	997+55.70	22.16 Lt.	654.62
A2M2	997+85.67	24.35 Lt.	654.71	B2M2	997+85.64	27.48 Lt.	653.21	C2M2	997+85.69	22.48 Lt.	654.71
A3	998+15.67	24.67 Lt.	654.80	B3	998+15.64	27.79 Lt.	653.30	C3	998+15.69	22.79 Lt.	654.80
A3M1	998+45.67	24.99 Lt.	654.89	B3M1	998+45.64	28.11 Lt.	653.39	C3M1	998+45.69	23.11 Lt.	654.89
A3M2	998+75.80	25.28 Lt.	654.98	B3M2	998+75.79	28.41 Lt.	653.48	C3M2	998+75.81	23.41 Lt.	654.98
A3M3	998+83.46	25.30 Lt.	655.00	B3M3	998+83.43	28.43 Lt.	653.50	C3M3	998+83.49	23.43 Lt.	655.00
A4	999+05.92	25.64 Lt.	655.07	B4	999+05.90	28.77 Lt.	653.57	C4	999+05.93	23.77 Lt.	655.07
A4M1	999+36.57	25.45 Lt.	655.16	B4M1	999+36.63	28.58 Lt.	653.66	C4M1	999+36.53	23.58 Lt.	655.16
A4M2	999+67.19	24.49 Lt.	655.25	B4M2	999+67.33	27.61 Lt.	653.75	C4M2	999+67.11	22.62 Lt.	655.25
A4M3	999+69.29	24.40 Lt.	655.25	B4M3	999+69.39	27.52 Lt.	653.75	C4M3	999+69.23	22.52 Lt.	655.25
A5	999+97.59	23.68 Lt.	655.11	B5	999+97.69	26.80 Lt.	653.61	C5	999+97.54	21.80 Lt.	655.11
A5M1	1000+27.58	22.76 Lt.	654.96	B5M1	1000+27.68	25.88 Lt.	653.46	C5M1	1000+27.52	20.88 Lt.	654.96
A5M2	1000+57.57	21.83 Lt.	654.81	B5M2	1000+57.66	24.96 Lt.	653.31	C5M2	1000+57.51	19.96 Lt.	654.81
A'5	1000+79.05	21.17 Lt.	654.82	B'5	1000+79.05	24.30 Lt.	653.32	C'5	1000+79.05	19.30 Lt.	654.82



TYPICAL SECTION THRU BARRIER SUPPORT FOR NOISE ABATEMENT WALL
(@ Catch Basin Location)



SECTION THRU BARRIER SUPPORT FOR NOISE ABATEMENT WALL



DETAIL "A"

GENERAL NOTES

- Reinforcing bar bending dimensions are out to out.
- Reinforcing bars designated "E" shall be epoxy coated.
- All exposed concrete edges shall be a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground line.
- No construction joints except those shown on the plans will be allowed unless otherwise approved by the Engineer.
- It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction.
- Concrete for drilled shafts shall be class DS Concrete.



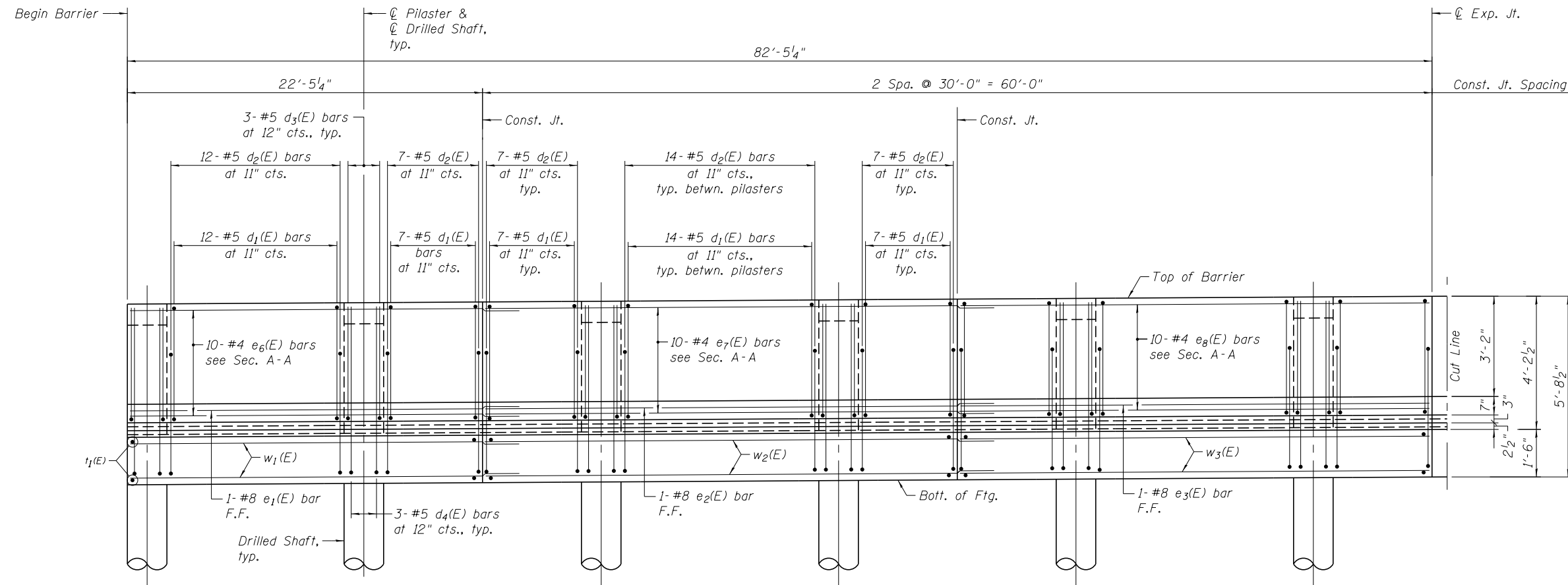
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	CHECKED MRI	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

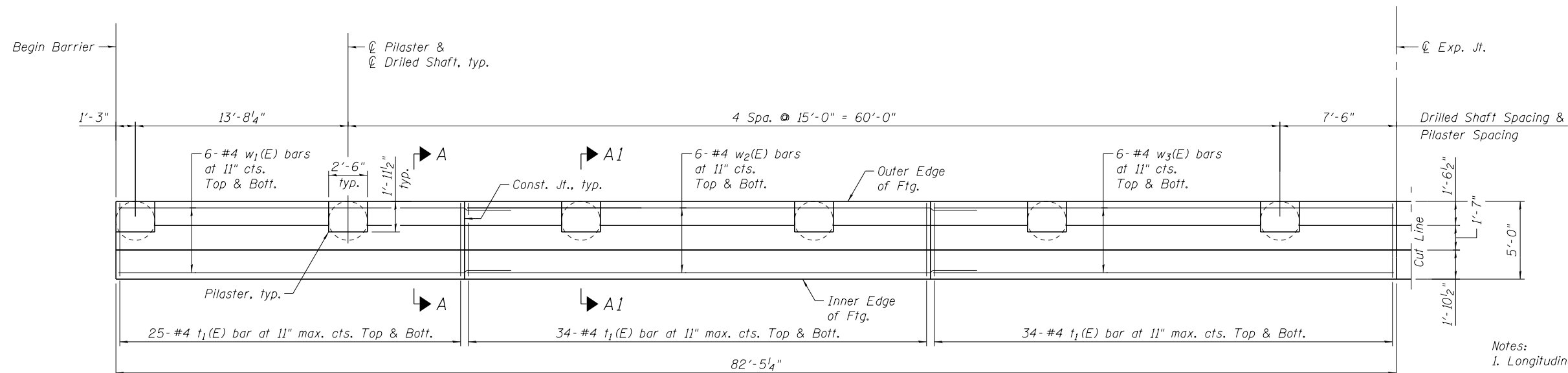
**GENERAL DATA & SECTIONS
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL**

SHEET NO. 2 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	424
CONTRACT NO. 60Y38				
ILLINOIS FED. AID PROJECT				



ELEVATION - SEGMENT 1
(Drilled shaft reinforcement not shown for clarity)



PLAN - SEGMENT 1
(At Bottom of Barrier)



MINIMUM BAR LAP
#4 bar = 2'-11"
#8 bar = 6'-4"

- Notes:
1. Longitudinal dimensions measured along Front Face of Barrier.
 2. For Expansion Joint details, see Sheet 8 of 9.
 3. Future Noise Abatement Panels not shown for clarity.
 4. For Bill of Material see Sheet 9 of 9.
 5. For Sections A-A, A1-A1, see Sheet 9 of 9.
 6. Protective Coat to be applied to Top and Front Face of Barrier.



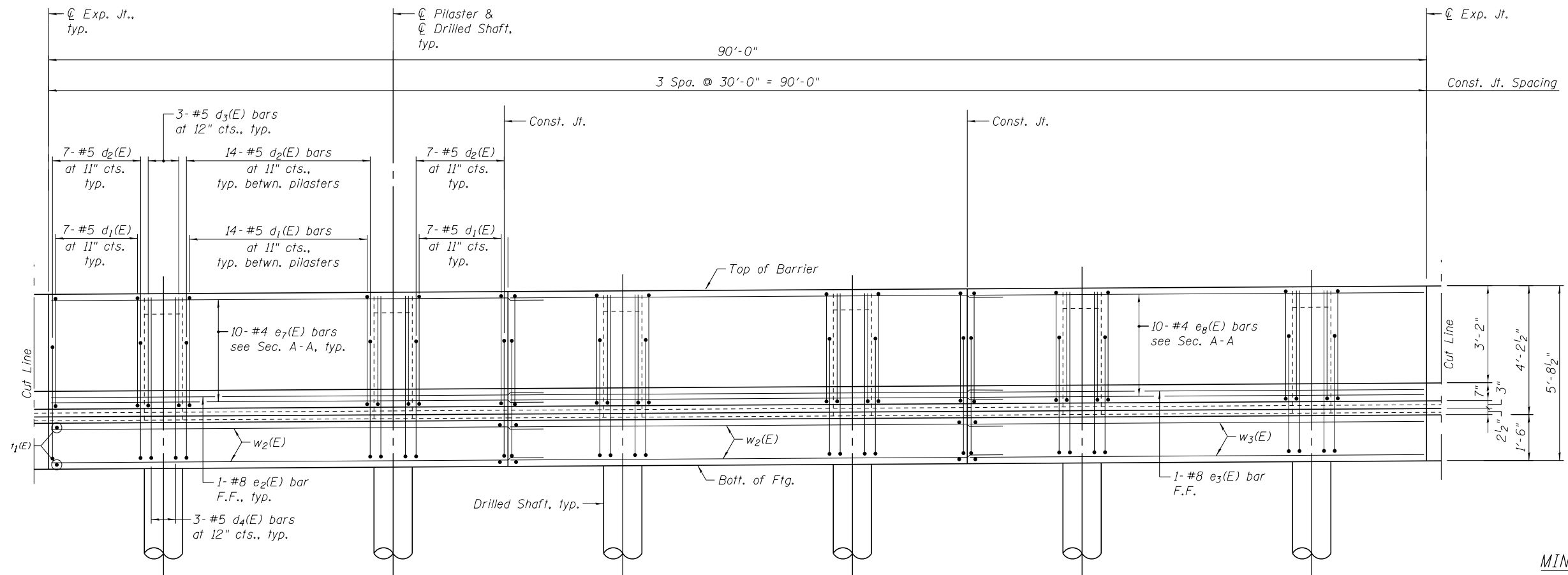
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PLOT SCALE = 0.08333 ' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT PLAN & ELEVATION - 1
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

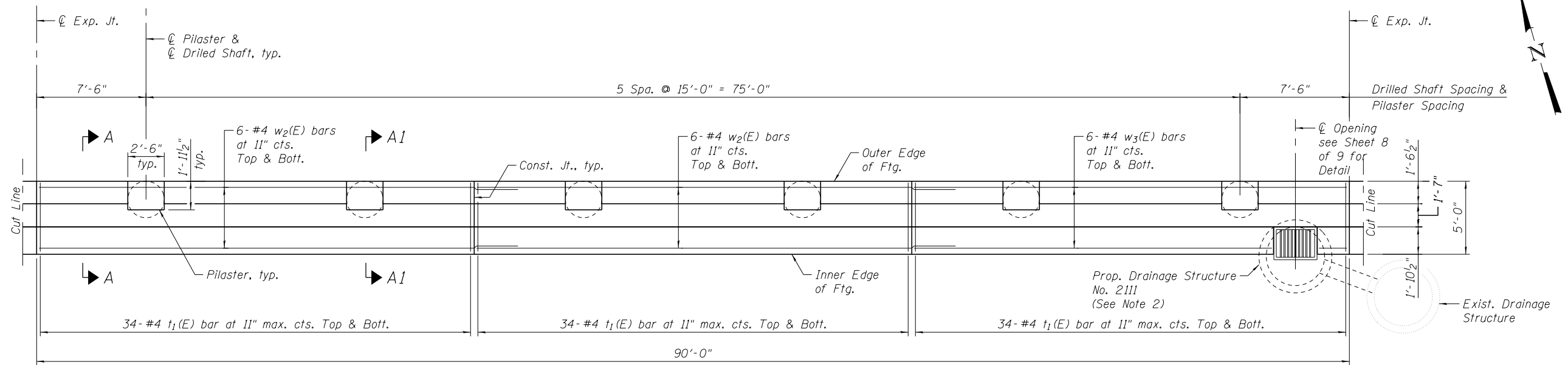
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	425
CONTRACT NO. 60Y38				
ILLINOIS FED. AID PROJECT				

SHEET NO. 3 OF 9 SHEETS



ELEVATION - SEGMENT 2
(Drilled shaft reinforcement not shown for clarity)

MINIMUM BAR LAP
#4 bar = 2'-11"
#8 bar = 6'-4"



PLAN - SEGMENT 2
(At Bottom of Barrier)

- Notes:
- For Notes, see Sheet 3 of 9.
 - For locations and invert elevations of existing and Catch Basin, see Civil Drawings.



USER NAME = mkostr	DESIGNED APC	REVISED
	CHECKED ACF	REVISED
PLOT SCALE = 0.08333 ' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

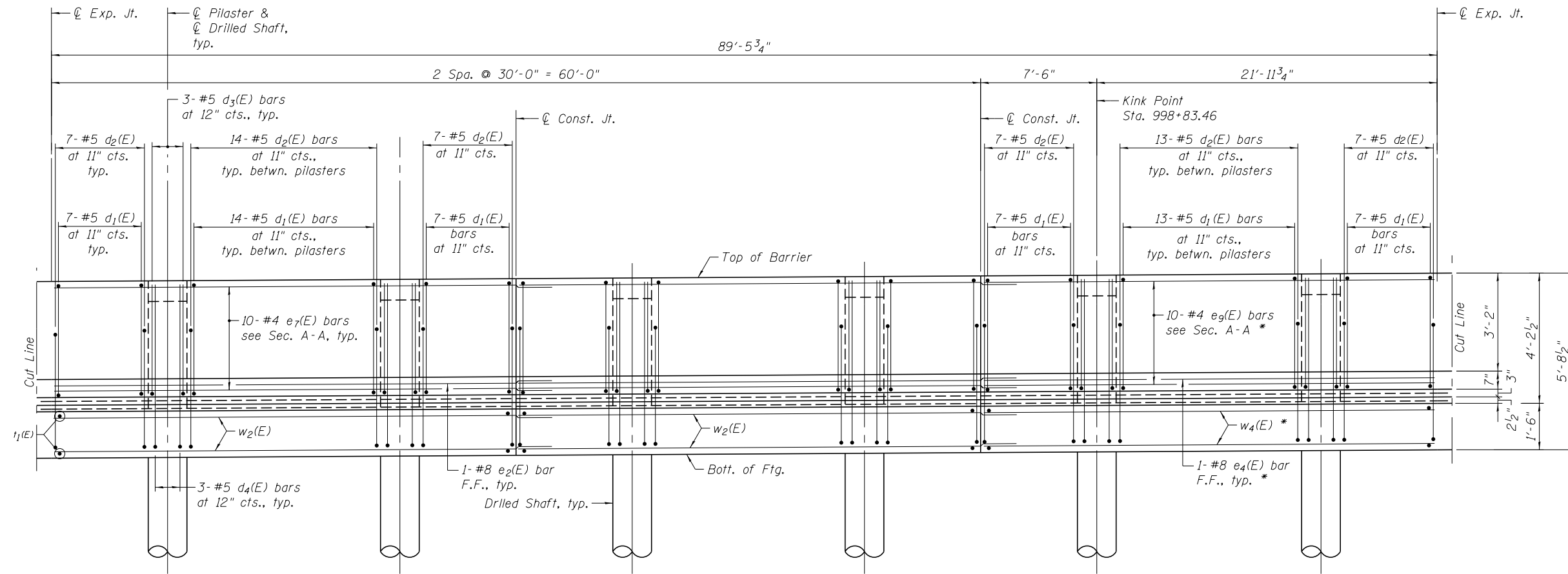
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT PLAN & ELEVATION - 2
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

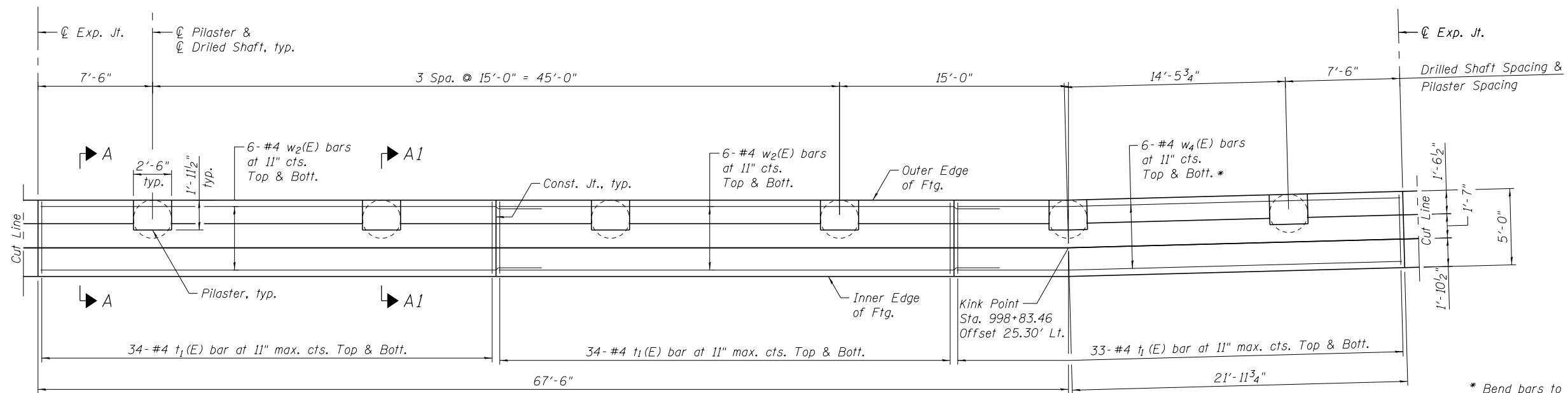
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	426
CONTRACT NO. 60Y38				

SHEET NO. 4 OF 9 SHEETS

ILLINOIS FED. AID PROJECT



ELEVATION - SEGMENT 3
(Drilled shaft reinforcement not shown for clarity)



PLAN - SEGMENT 3
(At Bottom of Barrier)

MINIMUM BAR LAP
#4 bar = 2'-11"
#8 bar = 6'-4"

* Bend bars to fit in field as required.

Notes:
1. For Notes, see Sheet 3 of 9.



USER NAME = mkostr	DESIGNED APC	REVISED
	CHECKED MRI	REVISED
PLOT SCALE = 0.08333 ' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

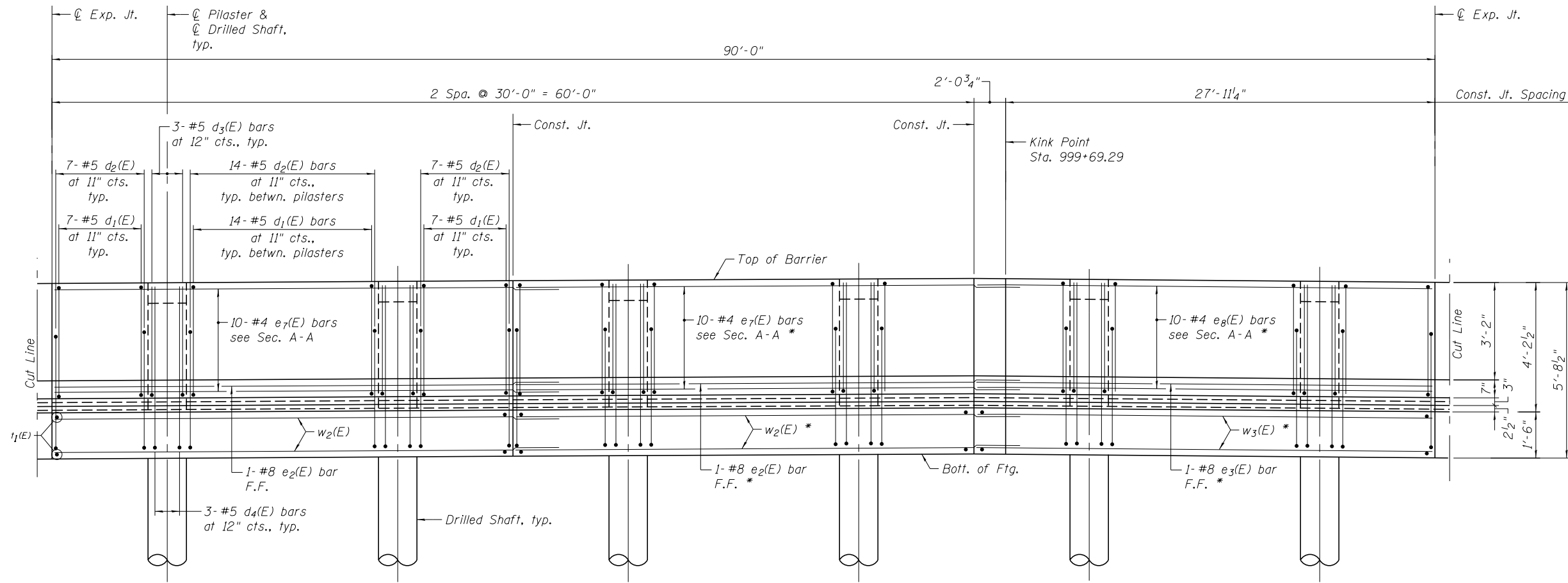
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT PLAN & ELEVATION - 3
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

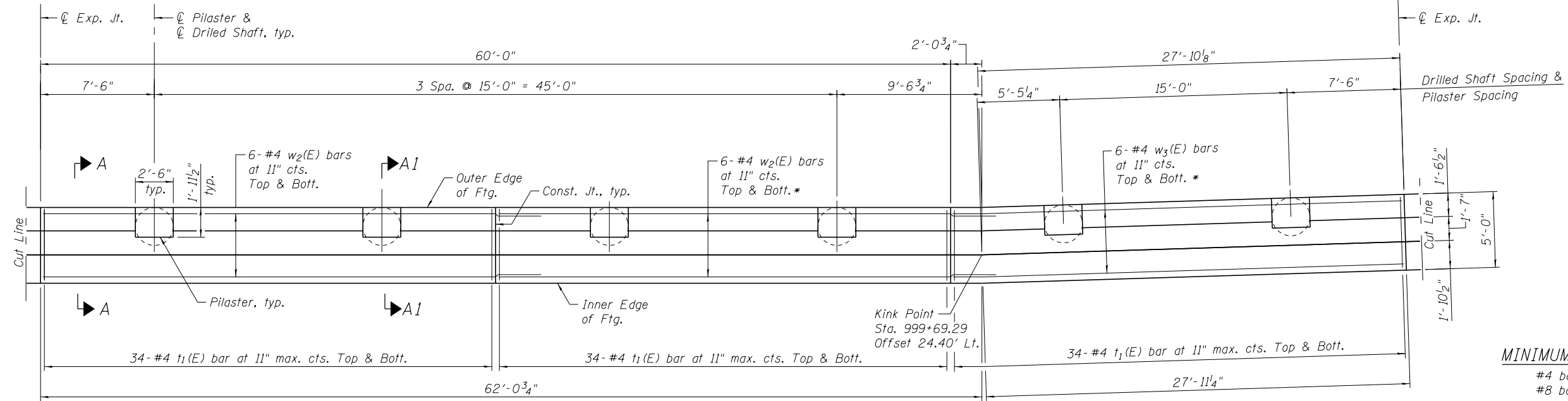
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	427
CONTRACT NO. 60Y38				

SHEET NO. 5 OF 9 SHEETS

ILLINOIS FED. AID PROJECT



ELEVATION - SEGMENT 4
(Drilled shaft reinforcement not shown for clarity)



PLAN - SEGMENT 4
(At Bottom of Barrier)

MINIMUM BAR LAP
#4 bar = 2'-11"
#8 bar = 6'-4"

* Bend bars to fit in field as required.

Notes:
1. For Notes, see Sheet 3 of 9.



USER NAME = mkostr	DESIGNED APC	REVISED
	CHECKED ACF	REVISED
PLOT SCALE = 0.08333 ' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

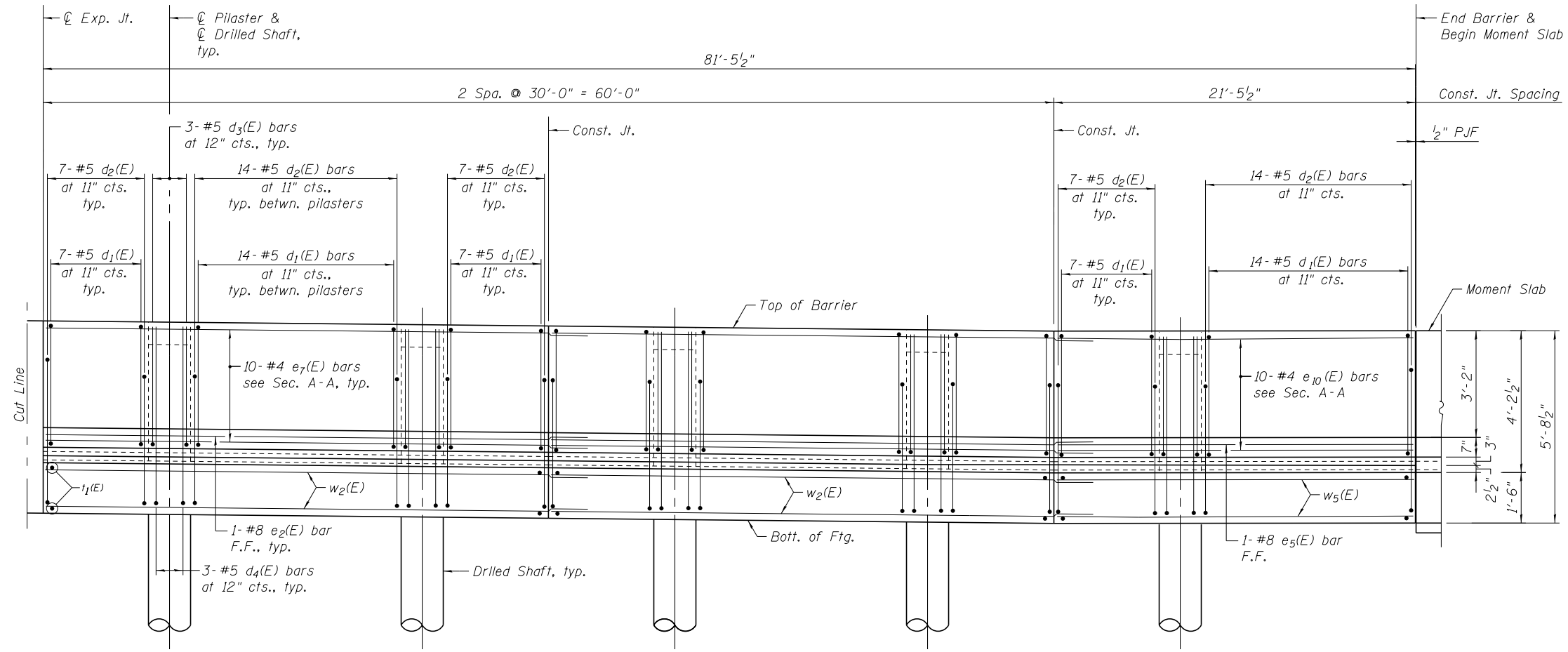
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT PLAN & ELEVATION - 4
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

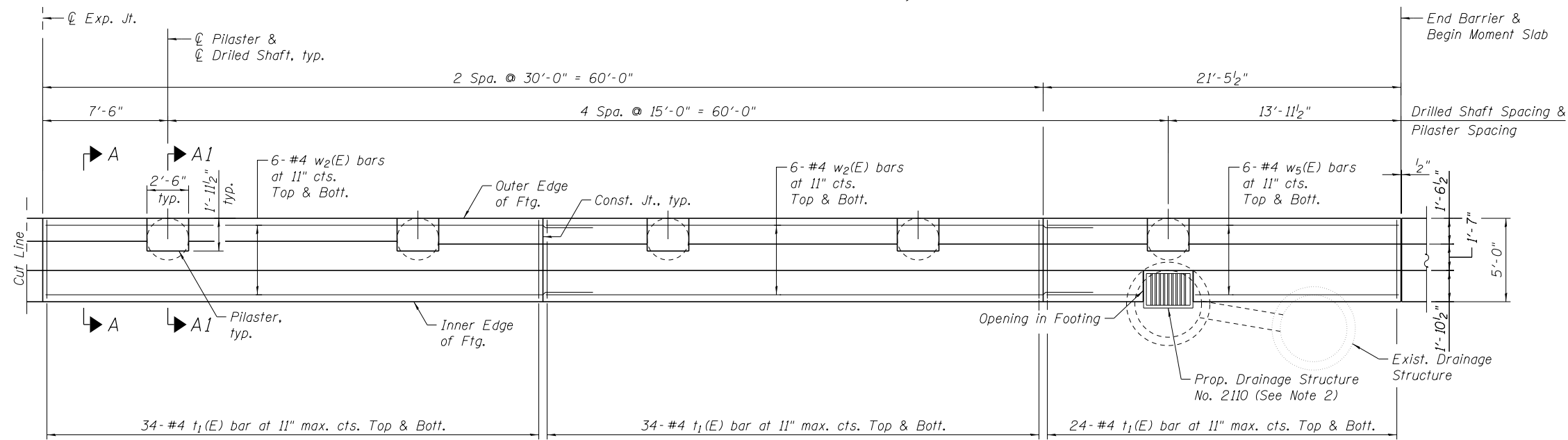
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	428
CONTRACT NO. 60Y38				

SHEET NO. 6 OF 9 SHEETS

ILLINOIS FED. AID PROJECT



ELEVATION - SEGMENT 5
(Drilled shaft reinforcement not shown for clarity)



PLAN - SEGMENT 5
(At Bottom of Barrier)

MINIMUM BAR LAP
#4 bar = 2'-11"
#8 bar = 6'-4"

- Notes:
1. For Notes, see Sheet 3 of 9.
2. For locations and invert elevations of existing and proposed catch basin, see Civil drawings.



USER NAME = mksosr	DESIGNED APC	REVISED
	CHECKED MRI	REVISED
PLOT SCALE = 0.08333' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

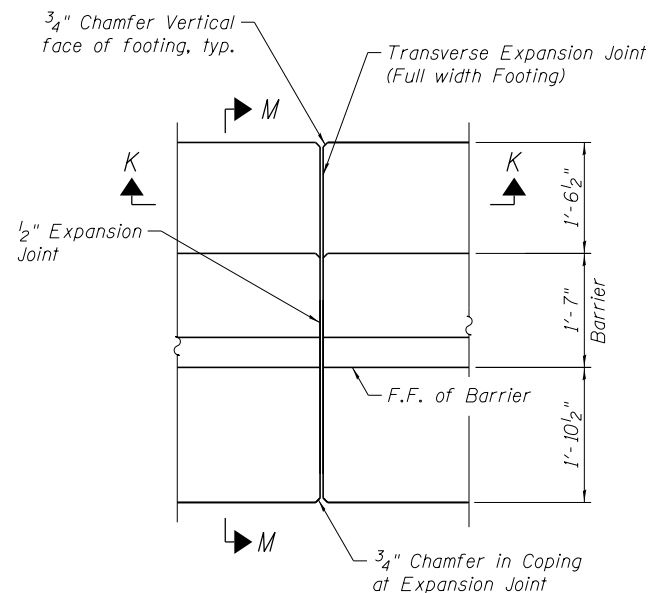
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT PLAN & ELEVATION - 5
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

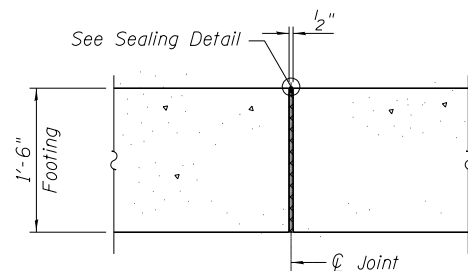
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	429
			CONTRACT NO. 60Y38	

SHEET NO. 7 OF 9 SHEETS

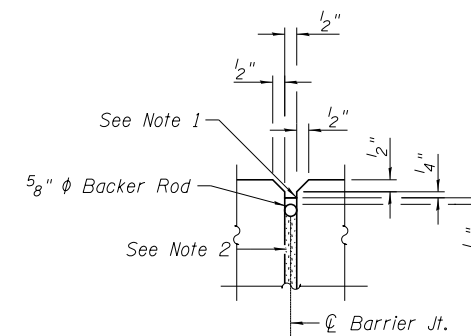
ILLINOIS FED. AID PROJECT



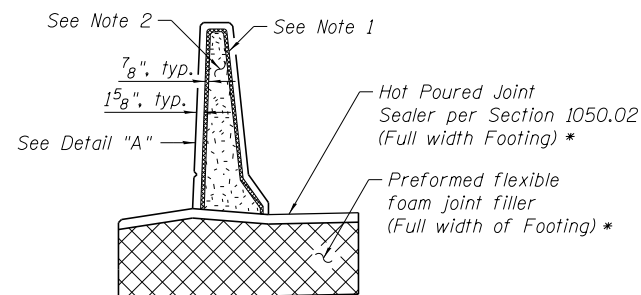
PLAN - EXPANSION JOINT



SECTION K-K

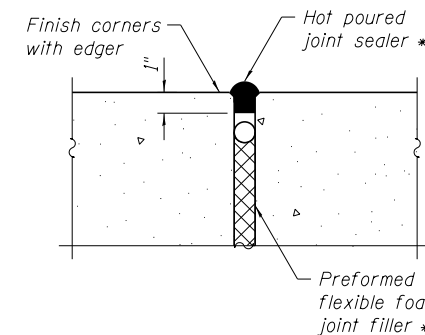


DETAIL A

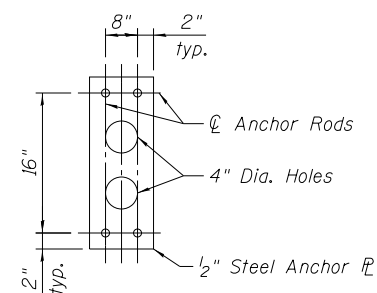


SECTION M-M

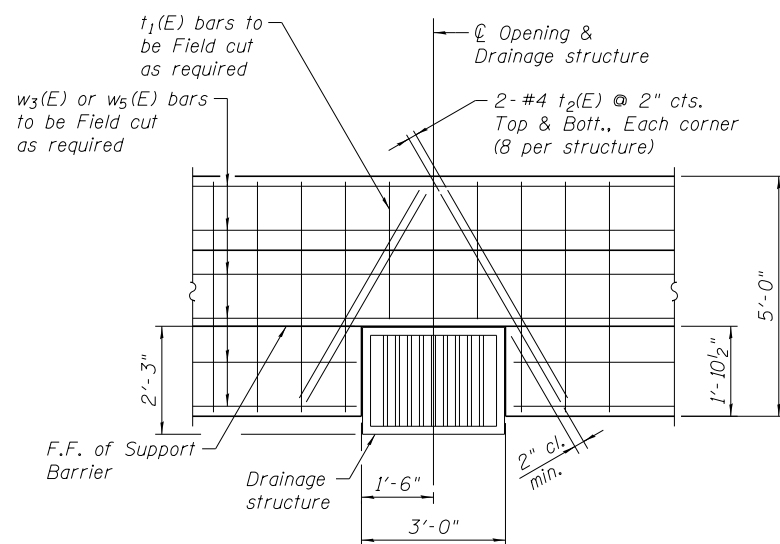
* Cost to be included with Concrete Structures.



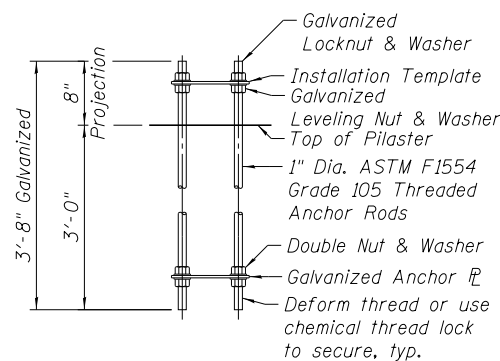
SEALING DETAIL



PLAN - ANCHOR PLATE



OPENING IN FOOTING
(At Prop. Drainage Structure)



ELEVATION

NOISE ABATEMENT WALL
ANCHOR ROD ASSEMBLY

- Notes:
1. Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920. Type S, Grade NS, Class 25, use T with a backer rod.
 2. Performend Self-Expanding Cork Joint Filler according to Article 1051.07 of Std. Spec.
 3. Fill in opening around drainage structures with concrete after placing the proposed drainage structures. Cost included with Concrete Structures.
 4. Size and shape of drainage structures are approximate, see Drainage plans for details.



USER NAME = mksosr	DESIGNED APC	REVISED
	CHECKED ACF	REVISED
PLOT SCALE = 0.08333 ' / in.	DRAWN LK	REVISED
PLOT DATE = 6/27/2016	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT DETAILS - 1
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

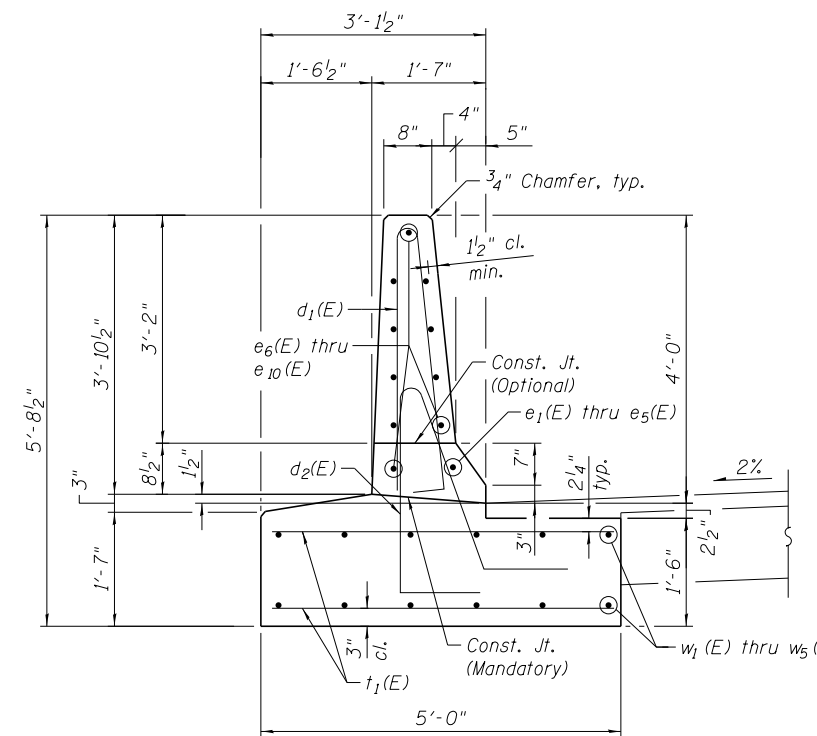
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	430
CONTRACT NO. 60Y38				

SHEET NO. 8 OF 9 SHEETS

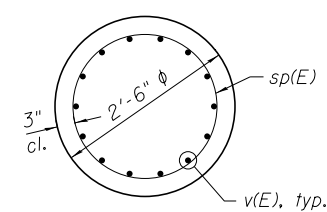
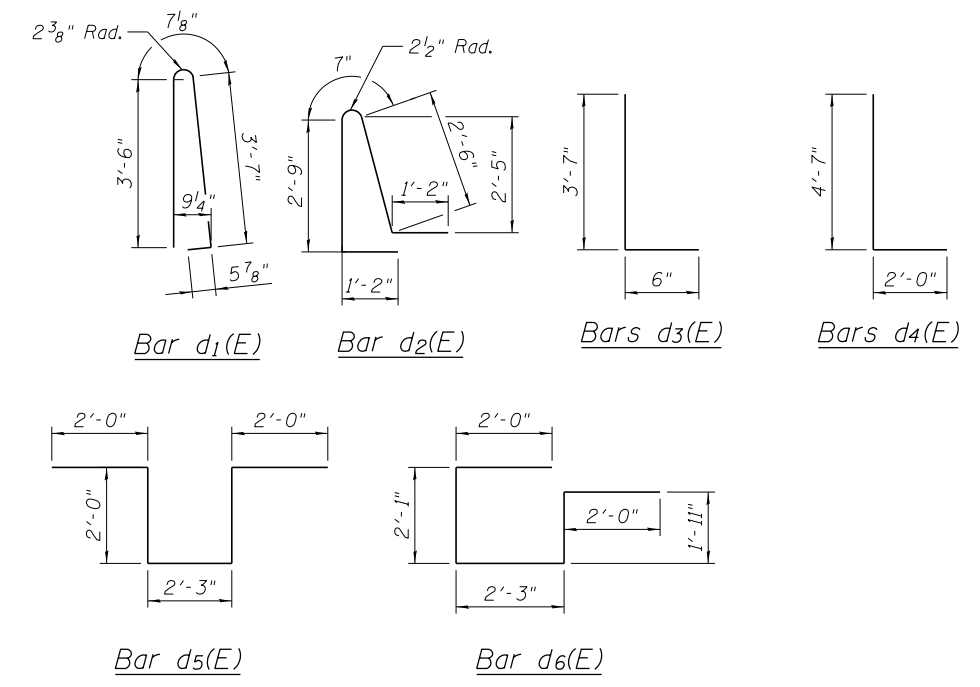
ILLINOIS FED. AID PROJECT

BILL OF MATERIAL

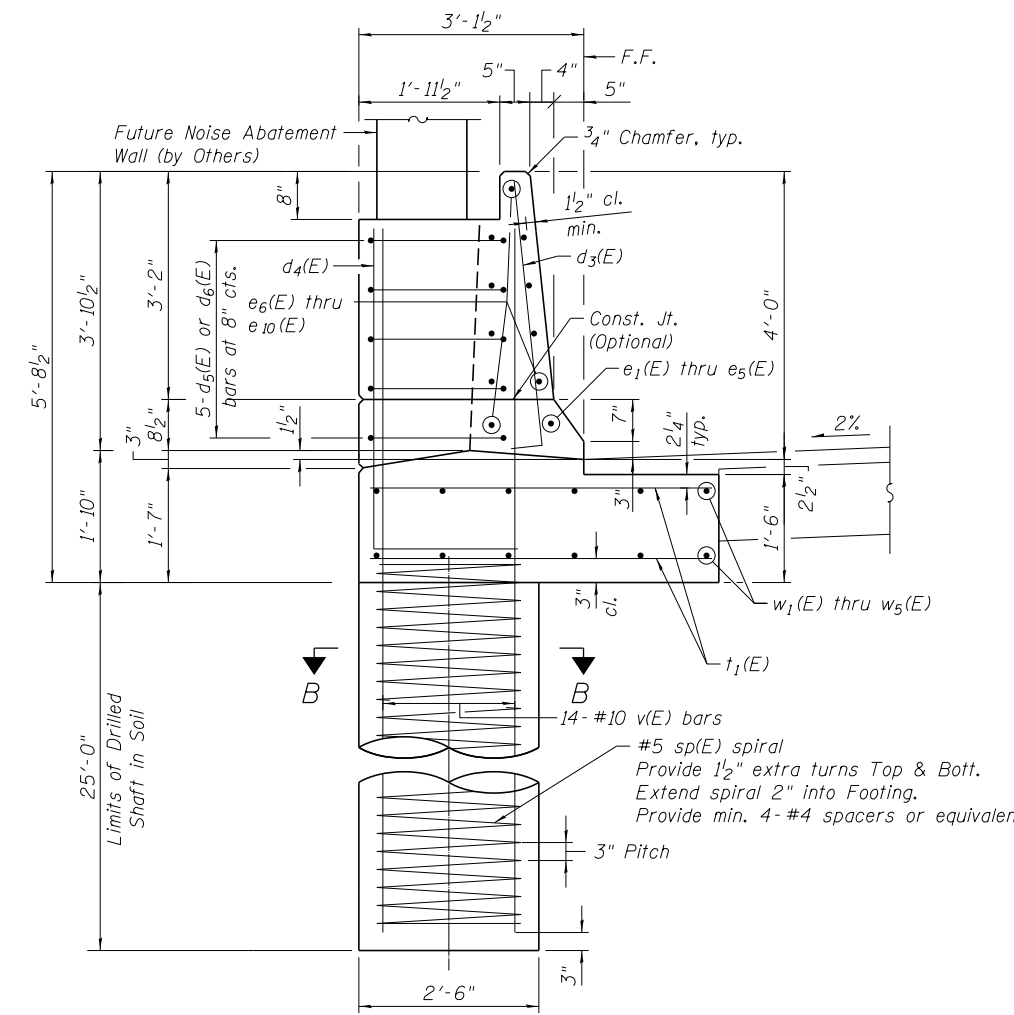
Bar	No.	Size	Length	Shape
d ₁ (E)	403	#5	7'-10"	
d ₂ (E)	403	#5	8'-2"	
d ₃ (E)	87	#5	4'-1"	
d ₄ (E)	87	#5	6'-7"	
d ₅ (E)	140	#6	10'-3"	
d ₆ (E)	5	#6	10'-3"	
e ₁ (E)	1	#8	28'-8"	
e ₂ (E)	9	#8	36'-4"	
e ₃ (E)	3	#8	29'-10"	
e ₄ (E)	1	#8	29'-3"	
e ₅ (E)	1	#8	21'-4"	
e ₆ (E)	10	#4	25'-3"	
e ₇ (E)	90	#4	32'-11"	
e ₈ (E)	30	#4	29'-10"	
e ₉ (E)	10	#4	29'-3"	
e ₁₀ (E)	10	#4	21'-4"	
sp(E)	29	#5	24'-11"	
t ₁ (E)	980	#4	4'-8"	
t ₂ (E)	16	#4	5'-0"	
v(E)	406	#10	29'-8"	
w ₁ (E)	12	#4	25'-3"	
w ₂ (E)	108	#4	32'-11"	
w ₃ (E)	36	#4	29'-10"	
w ₄ (E)	12	#4	29'-3"	
w ₅ (E)	12	#4	21'-4"	
Reinforcement Bars, Epoxy Coated	Pound	92480		
Concrete Structures	Cu Yd	210.1		
Drilled Shaft in Soil	Cu Yd	131.8		



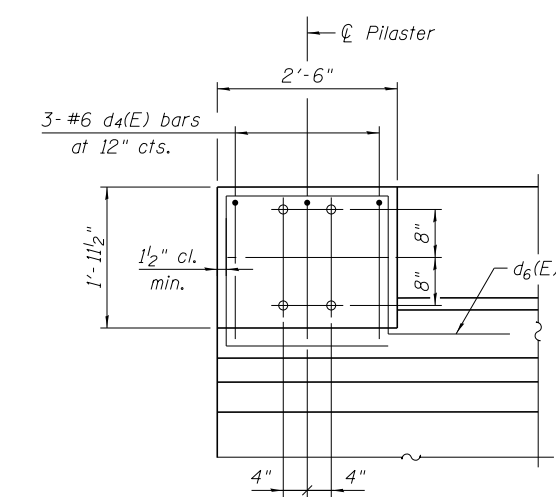
SECTION A-A



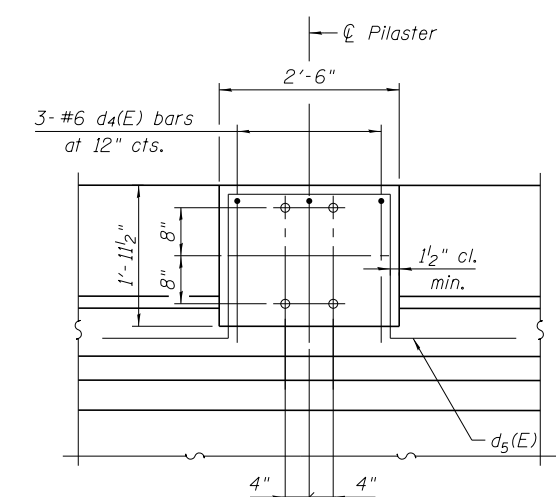
SECTION B-B



SECTION A1-A1



PLAN
(At West segment end)



PLAN
(At typical noise wall pilaster)

FOUNDATIONS:
The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.30 tsf.
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified.



USER NAME = mkosir	DESIGNED APC	REVISED
PLOT SCALE = 0.08333 ' / in.	CHECKED ACF	REVISED
PLOT DATE = 6/27/2016	DRAWN LK	REVISED
	DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BARRIER SUPPORT DETAILS - 2
BARRIER SUPPORT STRUCTURE FOR NOISE ABATEMENT WALL

SHEET NO. 9 OF 9 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	431
CONTRACT NO. 60Y38				

ILLINOIS FED. AID PROJECT

Bench Mark: "X" Cut on SW bolt of LP "FH8" on north side of WB I-90, 3rd pole west of CTA bridge west of Harlem Ave.

Existing Structure: Existing structure consists of two T-type cast-in-place retaining walls on combination of spread footing and cast-in-place concrete piles (constructed in 1958), and HP 10x42 piles (N.W. Retaining Wall of Higgins Flyover, Structure No. 016-2519; constructed in 1981). Older Wall is approximately 566 feet long with a max. exposed height of 11'-0" and a chain link fence mounted on top of the wall. Newer wall is approximately 213 feet long with a max. exposed height of 15'-0" and Type L Aluminum railing mounted on top of the wall. Top portion of both walls will be removed and a Moment Slab and associated noise wall will be constructed in separate contracts. Traffic will be maintained in EB direction during construction. WB Higgins Ave. traffic will be detoured according to Detour Plan. Salvage - None

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 7th Edition (2014) with 2015 Interim Revisions

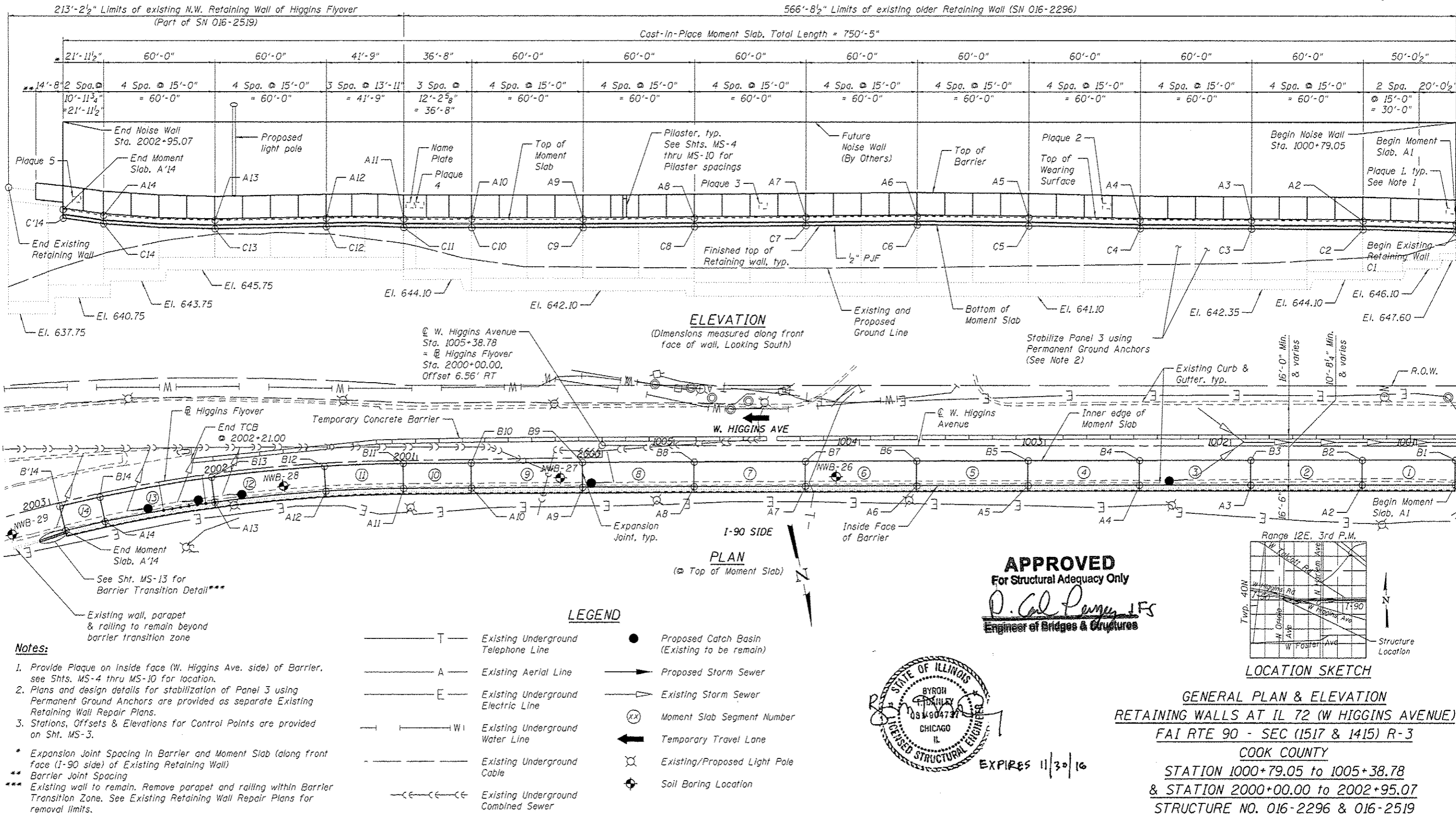
DESIGN STRESSES

New Construction
 f'c = 4,000 psi (Superstructure Concrete)
 f'c = 3,500 psi
 fy = 60,000 psi (Reinf.)

Existing Construction (SN 016-2296) (SN 016-2519)
 fc = 800 psi f'c = 3,500 psi
 fs = 20,000 psi fy = 60,000 psi (Reinf.)

LOADING

Allow 35 psf wind load for Structure Mounted Noise Wall (future contract)
 Maximum Dead Load not to exceed 55 psf of wall face area.
 Traffic Impact per AASHTO LRFD Bridge Specifications.
 Approx. Noise Wall Height = 17'-0"



APPROVED
 For Structural Adequacy Only
D. Cal Perry, JFS
 Engineer of Bridges & Structures



- Notes:**
1. Provide Plaque on inside face (W. Higgins Ave. side) of Barrier, see Shts. MS-4 thru MS-10 for location.
 2. Plans and design details for stabilization of Panel 3 using Permanent Ground Anchors are provided as separate Existing Retaining Wall Repair Plans.
 3. Stations, Offsets & Elevations for Control Points are provided on Sht. MS-3.
- * Expansion Joint Spacing in Barrier and Moment Slab (along front face (I-90 side) of Existing Retaining Wall)
 ** Barrier Joint Spacing
 *** Existing wall to remain. Remove parapet and railing within Barrier Transition Zone. See Existing Retaining Wall Repair Plans for removal limits.

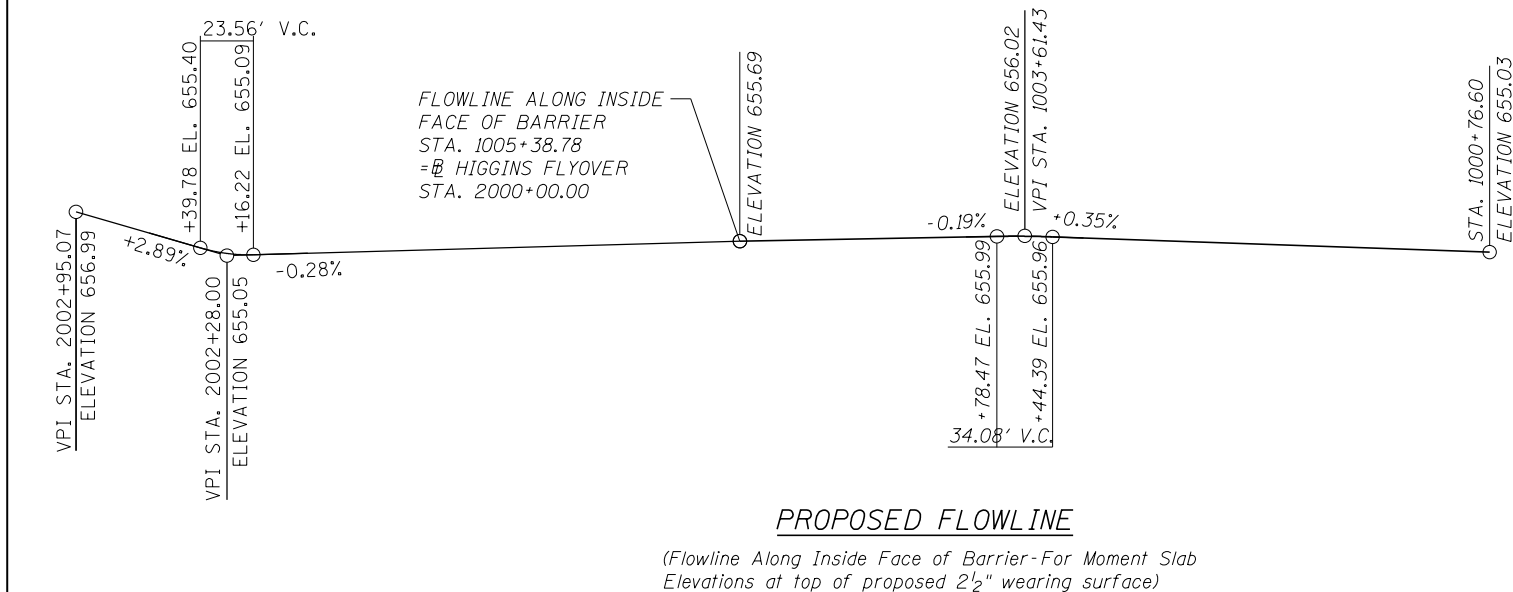
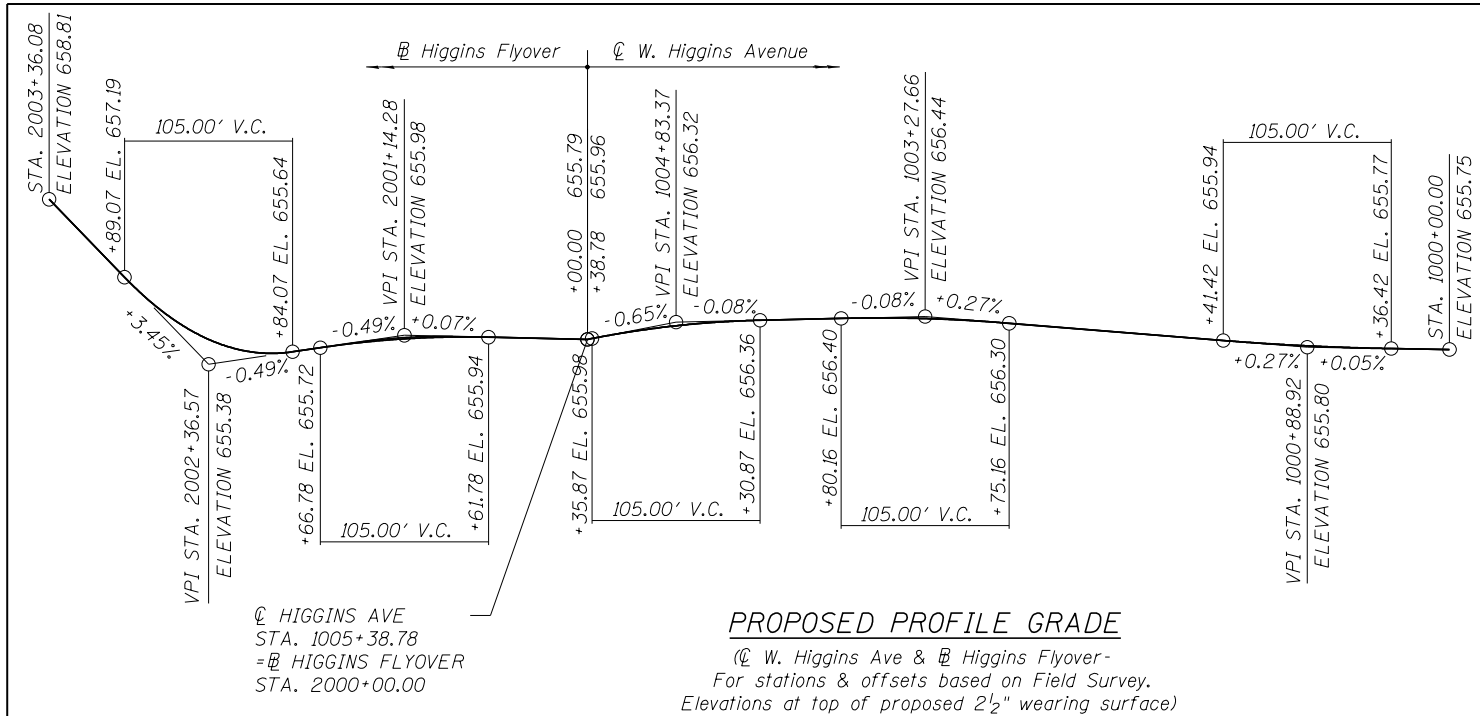
- LEGEND**
- T — Existing Underground Telephone Line
 - A — Existing Aerial Line
 - E — Existing Underground Electric Line
 - W1 — Existing Underground Water Line
 - — — Existing Underground Cable
 - — — Existing Underground Combined Sewer
 - Proposed Catch Basin (Existing to be remain)
 - ➔ Proposed Storm Sewer
 - Existing Storm Sewer
 - ⊗ Moment Slab Segment Number
 - ← Temporary Travel Lane
 - ⊙ Existing/Proposed Light Pole
 - ⊕ Soil Boring Location

GENERAL PLAN & ELEVATION
RETAINING WALLS AT IL 72 (W HIGGINS AVENUE)
 FAI RTE 90 - SEC (1517 & 1415) R-3
 COOK COUNTY
 STATION 1000+79.05 to 1005+38.78
 & STATION 2000+00.00 to 2002+95.07
 STRUCTURE NO. 016-2296 & 016-2519

exp. U.S. Services Inc. CHICAGO, IL BUILDING - EARTH & ENVIRONMENT - ENERGY INDUSTRIAL - INFRASTRUCTURE - SUSTAINABILITY	USER NAME * #USER*	DESIGNED STD	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION MOMENT SLAB (S.N. 016-2296 & S.N. 016-2519)	SECTION (1517 & 1415) R-3 COUNTY COOK CONTRACT NO. 60Y38
	PLOT SCALE * #SCALE*	CHECKED KK	REVISIONS			
	PLOT DATE = 6-24-2016	DRAWN STD	REVISIONS			
		DATE 5/6/2016	REVISIONS			

GENERAL NOTES

1. Reinforcing bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315, latest edition.
2. Reinforcement bar bending dimensions are out to out.
3. Reinforcing bars designated "(E)" shall be epoxy coated.
4. All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground line.
5. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
6. No construction joints except those shown on the plans will be allowed unless otherwise approved by the Engineer.
7. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
8. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.



STA. 1000+79.05
 TO 2001+07.38
 RE-BUILT 20... BY
 STATE OF ILLINOIS
 F.A.I. RT. 90
 SEC. (1517 & 1415) R-3
 STR. NO. 016-2296

NAME PLATE
 See Std. 515001

PLAQUE ...
 MOMENT SLAB AREA
 DO NOT OPEN-CUT
 ROADWAY FROM
 PLAQUE 1 TO PLAQUE 5

PLAQUE
 (Paid for as Name Plate)

LOCATIONS

Plaque No.	Station*
1	1000+79.80
2	1002+64.80
3	1004+49.80
4	2000+96.00
5	2002+93.00

* Stations provided at top left corner of Plaques

INDEX OF SHEETS

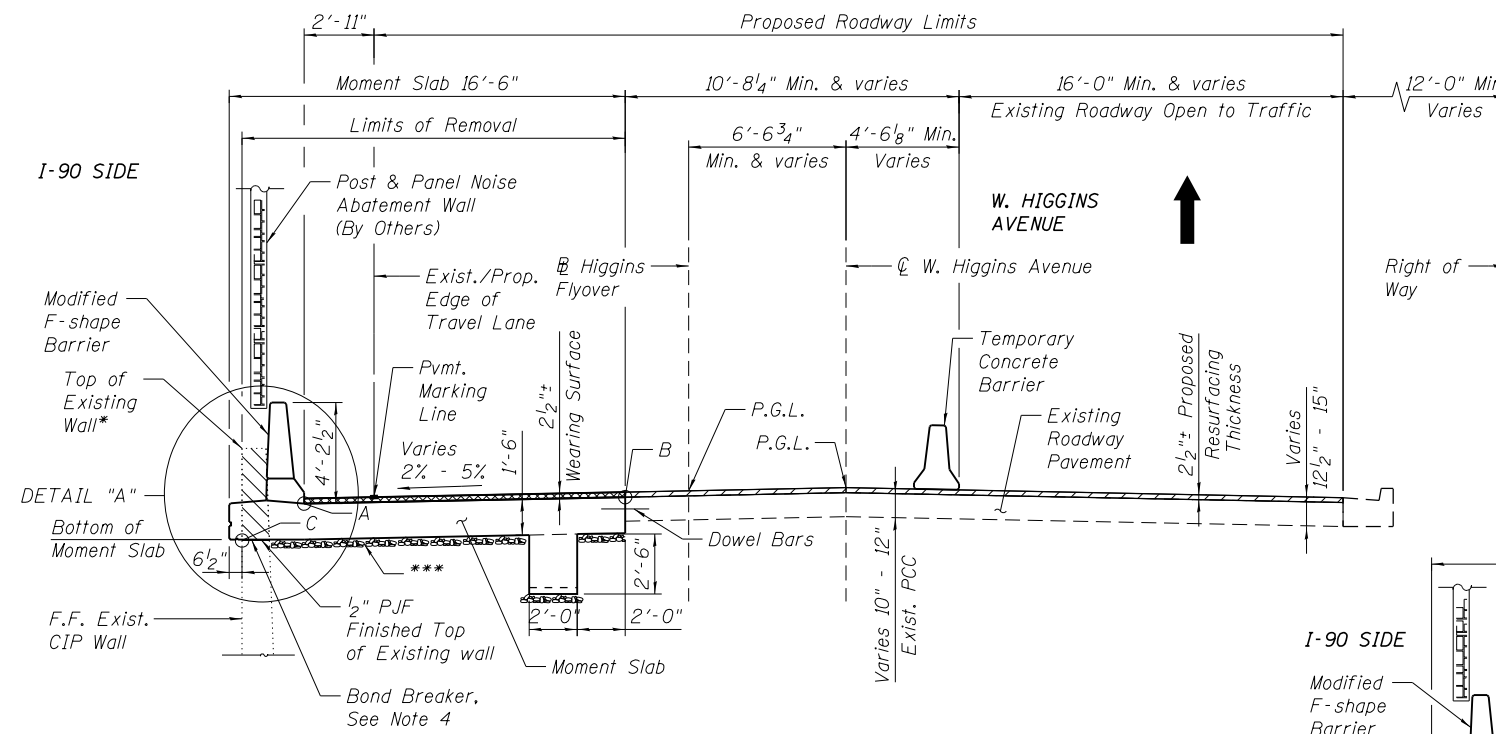
- MS-1 General Plan & Elevation
- MS-2 General Data
- MS-3 Sections & Details
- MS-4 Moment Slab Plan & Elevation - 1
- MS-5 Moment Slab Plan & Elevation - 2
- MS-6 Moment Slab Plan & Elevation - 3
- MS-7 Moment Slab Plan & Elevation - 4
- MS-8 Moment Slab Plan & Elevation - 5
- MS-9 Moment Slab Plan & Elevation - 6
- MS-10 Moment Slab Plan & Elevation - 7
- MS-11 Moment Slab & Barrier Details - 1
- MS-12 Moment Slab & Barrier Details - 2
- MS-13 Moment Slab & Barrier Details - 3
- MS-14 Moment Slab & Barrier Details - 4
- MS-15 Moment Slab & Barrier Details - 5
- MS-16 Temporary Concrete Barrier for Stage Construction
- MS-17 Boring Logs - 1
- MS-18 Boring Logs - 2

HORIZONTAL CURVE DATA

(Higgins Flyover)
 P.I. STA. = 2002+53.82
 Δ = 19° 33' 39" (LT)
 D = 7° 09' 43"
 R = 800.00'
 T = 137.90'
 L = 273.12'
 E = 11.80'
 P.C. STA. = 2001+15.92
 P.T. STA. = 2003+89.04

TOTAL BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
STRUCTURE EXCAVATION	CU YD	440
CONCRETE STRUCTURES	CU YD	831
CONCRETE SUPERSTRUCTURE	CU YD	141.5
PROTECTIVE COAT	SQ YD	424
REINFORCEMENT BARS, EPOXY COATED	POUND	153120
NAME PLATES	EACH	6
NOISE ABATEMENT WALL ANCHOR ROD ASSEMBLY	EACH	52

GEOMETRIC CONTROL POINTS - STATIONS, OFFSETS & ELEVATIONS



TYPICAL SECTION THRU MOMENT SLAB & NOISE WALL (Looking East)

INSIDE FACE OF BARRIER (A)

Location	Station	Offset ('LT)	Elevation
A1	1000+79.05	21.18	654.82
A2	1001+29.10	21.21	655.00
A3	1001+89.10	21.24	655.20
A4	1002+49.10	21.34	655.41
A5	1003+09.10	21.53	655.62
A6	1003+69.10	21.73	655.79
A7	1004+29.10	22.03	655.69
A8	1004+89.10	22.32	655.58
A9	2000+10.70	15.91	655.45
A10	2000+70.70	15.33	655.28
A11	2001+07.38	14.97	655.18
A12	2001+49.88	15.12	655.07
A13	2002+11.24	15.29	654.90
A14	2002+72.61	15.33	656.14
A'14	2002+95.07	15.30	656.78

See Additional Geometric Control Points

INNER EDGE OF MOMENT SLAB (B)

Location	Station	Offset ('LT)	Elevation
B1	1000+79.05	7.80	655.38
B2	1001+29.10	7.83	655.45
B3	1001+89.10	7.87	655.58
B4	1002+49.10	7.96	655.82
B5	1003+09.10	8.16	656.02
B6	1003+69.10	8.36	656.18
B7	1004+29.10	8.65	655.99
B8	1004+89.10	8.95	655.78
B9	2000+10.70	2.54	655.77
B10	2000+70.70	1.95	655.76
B11	2001+07.38	1.59	655.71
B12	2001+49.88	1.75	655.60
B13	2002+11.24	1.92	655.38
B14	2002+72.61	1.95	656.28
B'14	2002+95.07	1.93	656.98

FINISHED TOP OF EXISTING RETAINING WALL (C)

Location	Station	Elevation
C1	1000+79.05	653.28
C2	1001+29.10	653.45
C3	1001+89.10	653.66
C4	1002+49.10	653.87
C5	1003+09.10	654.08
C6	1003+69.10	654.25
C7	1004+29.10	654.15
C8	1004+89.10	654.04
C9	2000+10.70	653.91
C10	2000+70.70	653.74
C11	2001+07.38	653.64
C12	2001+49.88	653.52
C13	2002+11.24	653.36
C14	2002+72.61	654.59
C'14	2002+95.07	655.24

See Additional Geometric Control Points

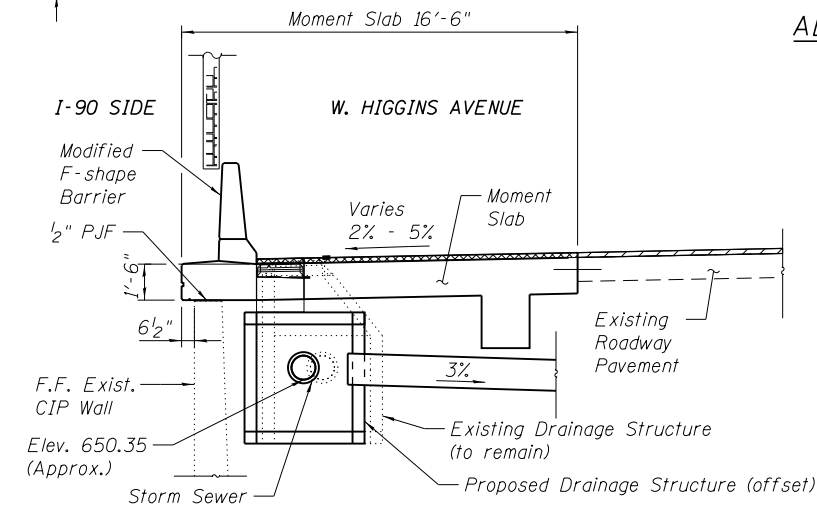
ADDITIONAL GEOMETRIC CONTROL POINTS WITHIN VERTICAL CURVATURE - STATIONS, OFFSETS & ELEVATIONS

INSIDE FACE OF BARRIER (A)

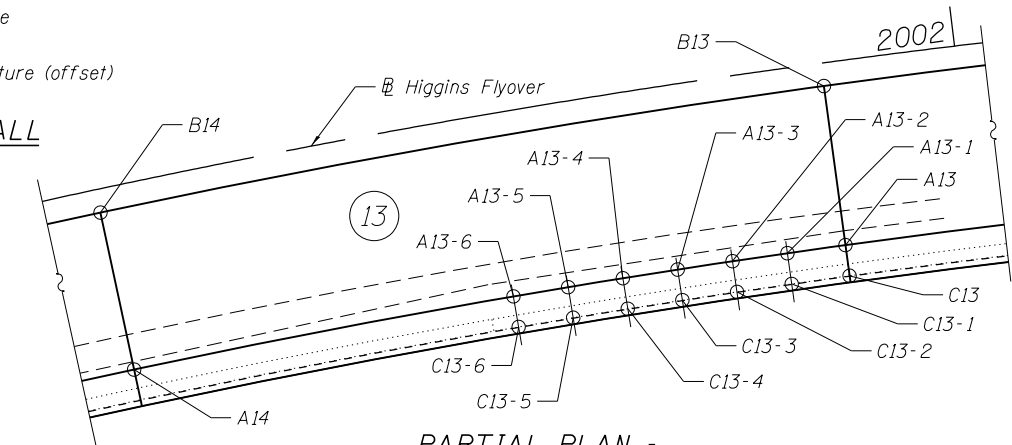
Location	Station	Offset ('LT)	Elevation
A13	2002+11.24	15.29	654.90
A13-1	2002+16.22	15.30	654.88
A13-2	2002+20.93	15.31	654.88
A13-3	2002+25.64	15.31	654.91
A13-4	2002+30.36	15.32	654.97
A13-5	2002+35.07	15.32	655.07
A13-6	2002+39.78	15.32	655.19
A14	2002+72.61	15.33	656.14

FINISHED TOP OF EXISTING RETAINING WALL (C)

Location	Station	Elevation
C13	2002+11.24	653.36
C13-1	2202+16.22	653.34
C13-2	2002+20.93	653.34
C13-3	2002+25.64	653.37
C13-4	2002+30.36	653.43
C13-5	2002+35.07	653.52
C13-6	2002+39.78	653.65
C14	2002+72.61	654.59

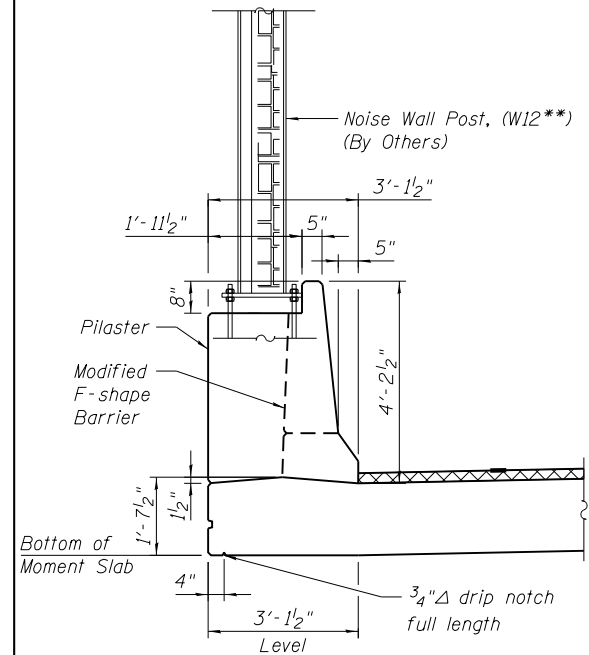


SECTION THRU MOMENT SLAB & NOISE WALL (Catch Basin Location)

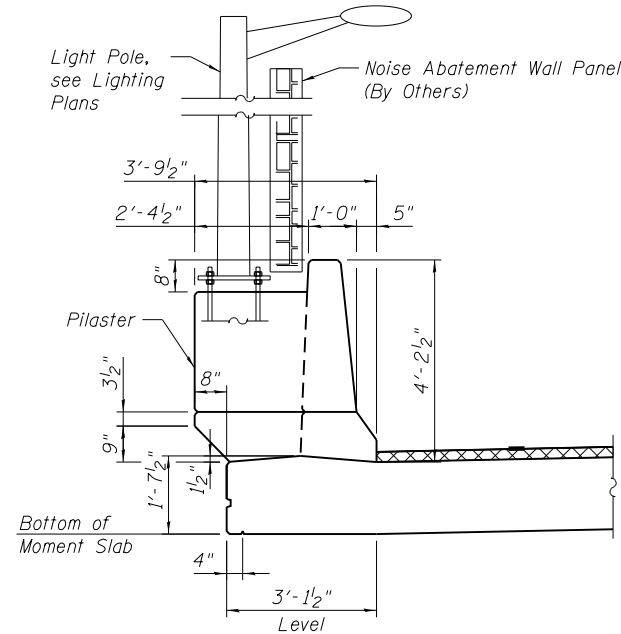


PARTIAL PLAN - VERTICAL CURVATURE REGION

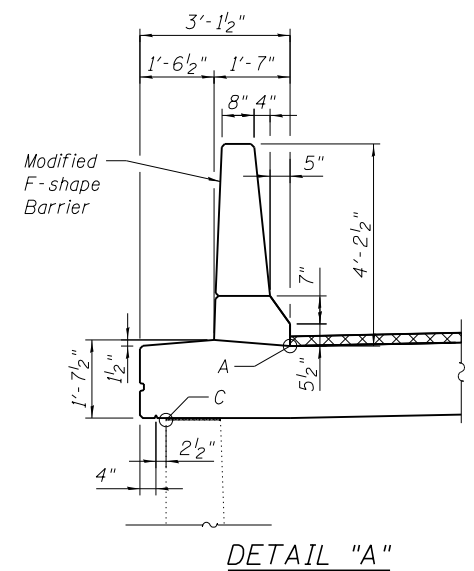
- A Stations, offsets and elevations for Inside Face of Barrier at elevation 2 1/2" below top of wearing surface are provided w.r.t. this point, see Plan & Elevation views.
- B Stations and offsets for inner edge of Moment Slab at elevation 2 1/2" below top of wearing surface are provided w.r.t. this point, see Plan view.
- C Stations and elevations for finished top of Retaining Wall are provided w.r.t. this point, see Elevation view. For information only.*



SECTION THRU MOMENT SLAB & NOISE WALL (Noise Wall Post)



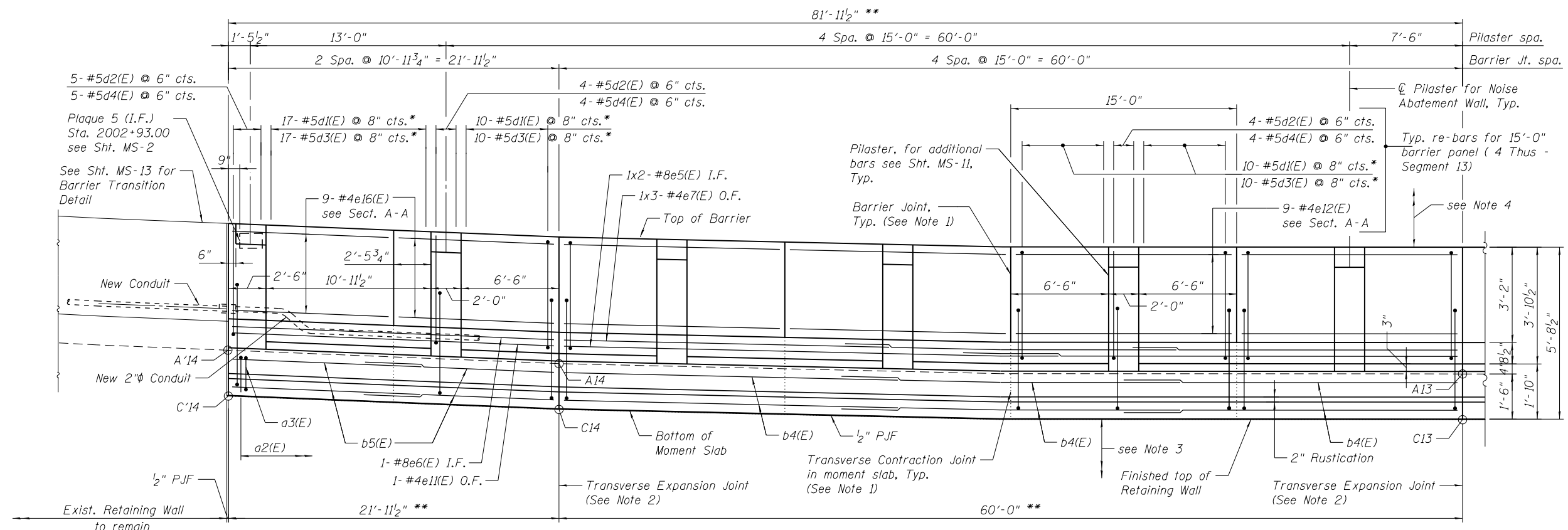
SECTION THRU MOMENT SLAB & NOISE WALL (Light Pole Location)



DETAIL "A"

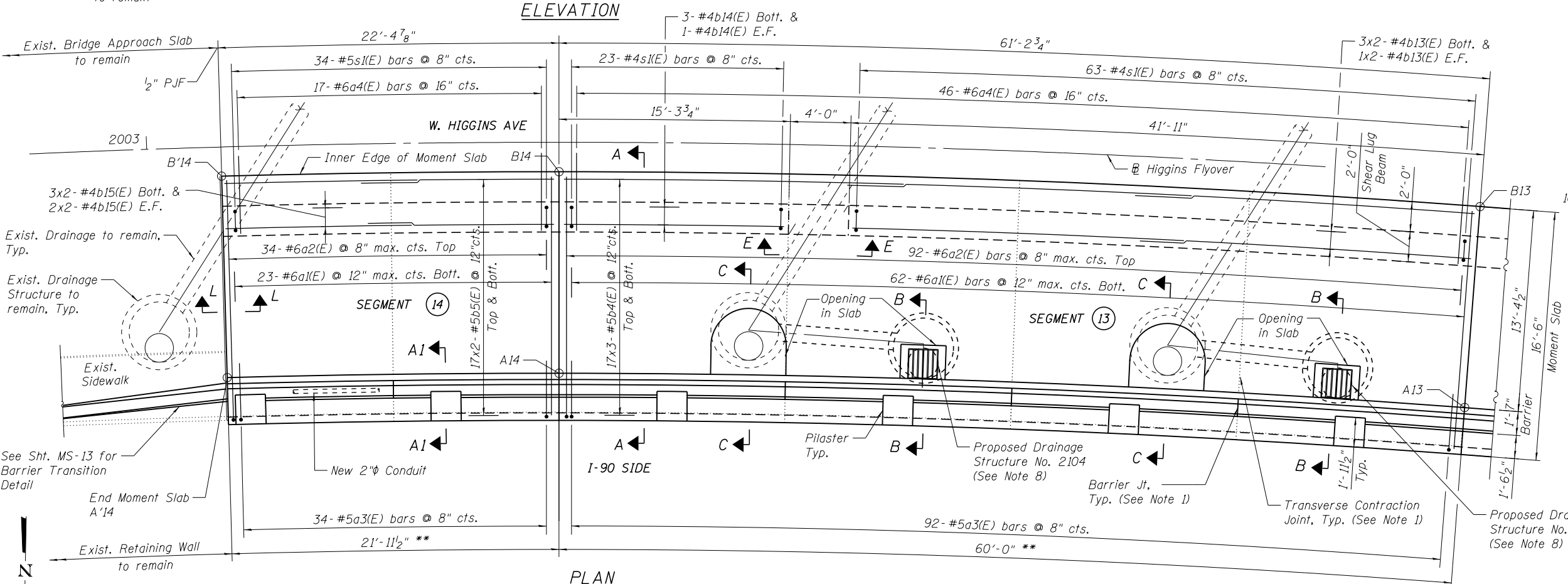
- LEGEND
- ➔ Temporary Travel Lanes
 - ▨ Existing Concrete Removal*

- Notes:
- * See Existing Retaining Wall Repair Plans.
 - ** To be determined by Noise Abatement wall supplier, in a future contract.
 - *** Subbase Granular Material, Type B 4" (See Roadway Plans).
 - 1. Stations and offsets related to 1000+XX.XX are provided w.r.t. W Higgins Ave.
 - 2. Stations and offsets related to 2000+XX.XX are provided w.r.t. Higgins Flyover.
 - 3. See TYPICAL SECTION THRU MOMENT SLAB & NOISE WALL for location of Geometric Control Points.
 - 4. Apply Bond Breaker followed by 1/2" P.J.F before casting Moment Slab concrete.
 - 5. See Roadway Plans for quantity of Temporary Concrete Barrier.



* Space to maintain 2" cl. min. from Barrier Expansion Joints

- Notes:**
- For Barrier Joint & Transverse Contraction Joint details, see Sheet MS-14.
 - For Transverse Expansion Joint details, see Sheet MS-14.
 - Existing Retaining wall not shown for clarity.
 - Future Noise Abatement Panels not shown for clarity.
 - A1, B1, C1 etc, denote control points. See Sht. MS-3 for stations, offsets & elevations.
 - Bar indicated thus 17x3-#5 etc. indicates 17 lines of bars with 3 lengths per line.
 - For Bar List, see Sht. MS-15.
 - For locations and invert elevations of proposed & existing Catch basins, see civil drawings.
 - For Sections A-A & A1-A1, see Sht. MS-11. For Sections B-B & C-C, see Sht. MS-12. For Sections D-D & E-E, see Sht. MS-13. For Section L-L, see Sht. MS-14.
 - E.F. denotes Each Face. I.F. denotes Inside Face. O.F. denotes Outside Face.



Minimum Bar Lap

- #4 = 2'-11"
- #5 = 3'-9"
- #6 = 3'-10"
- #8 = 6'-4"

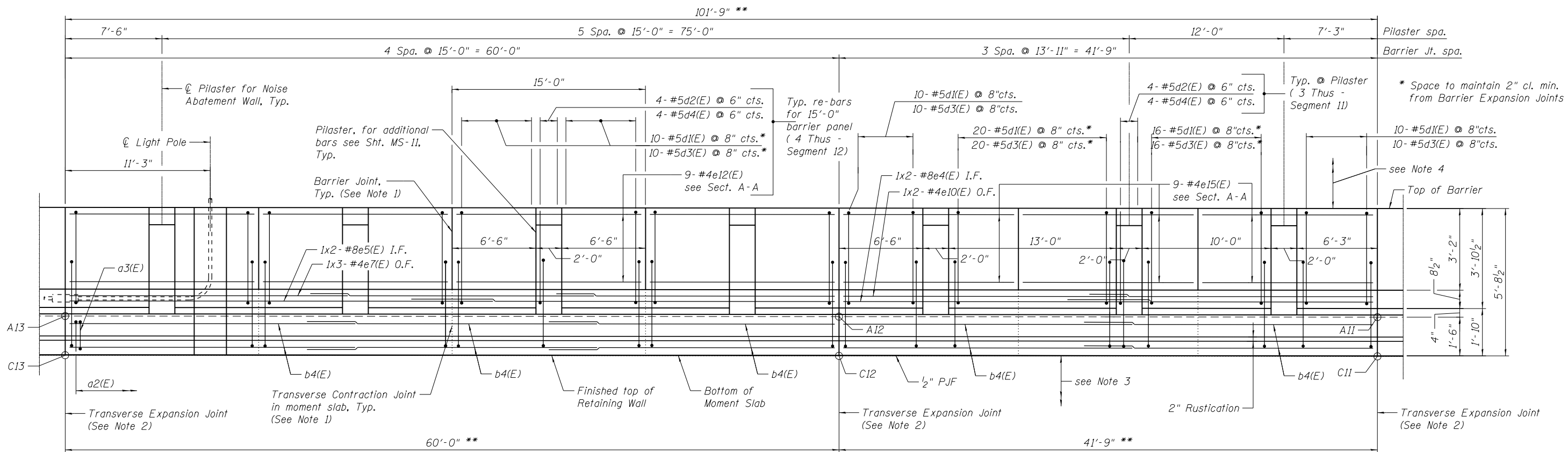
** Measured along front face of exist. wall

Re-bar Notes:

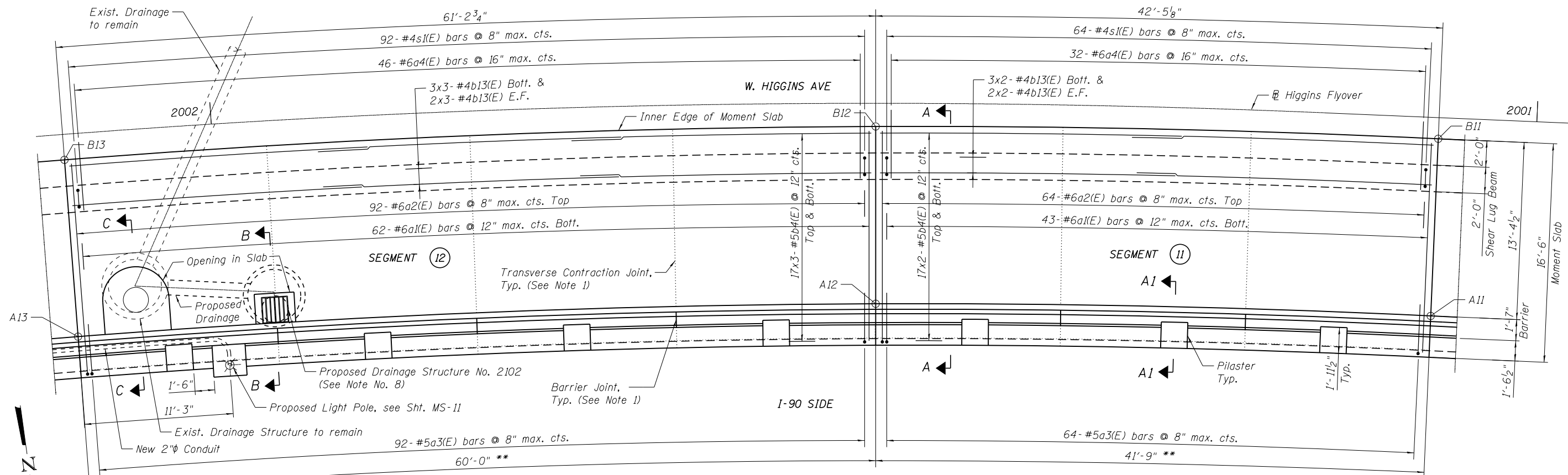
- Transverse a(E) bars shall be placed radially at spacing noted.
- Longitudinal b(E) & e(E) bars shall be sprung in place to be concentrically placed at the spacing noted.

USER NAME = *USER*	DESIGNED STD	REVISED
PLLOT SCALE = *SCALE*	CHECKED KK	REVISED
PLLOT DATE = 6-24-2016	DRAWN HBJ	REVISED
	DATE 5/6/2016	REVISED

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-90	(1517 & 1415) R-3	COOK	557	435
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	



ELEVATION



Minimum Bar Lap

- #4 = 2'-11"
- #5 = 3'-9"
- #6 = 3'-10"
- #8 = 6'-4"

PLAN
SEGMENTS 11 & 12

** Measured along front face of exist. wall

Re-bar Notes:

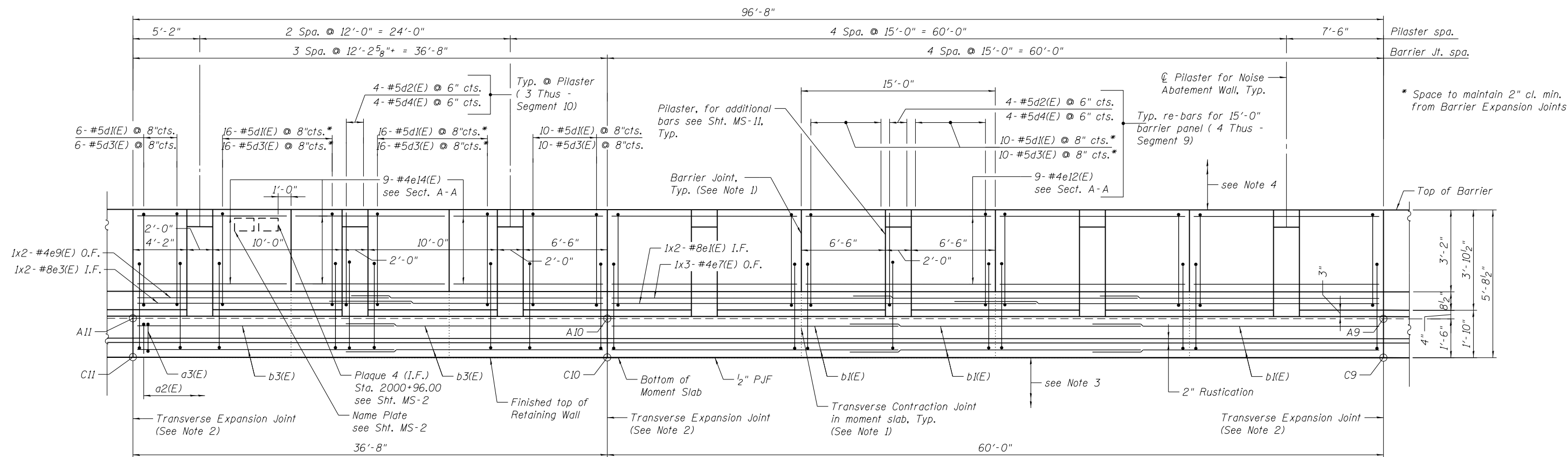
1. Transverse a(E) bars shall be placed radially at spacing noted.
2. Longitudinal b(E) & e(E) bars shall be sprung in place to be concentrically placed at the spacing noted.

Notes:

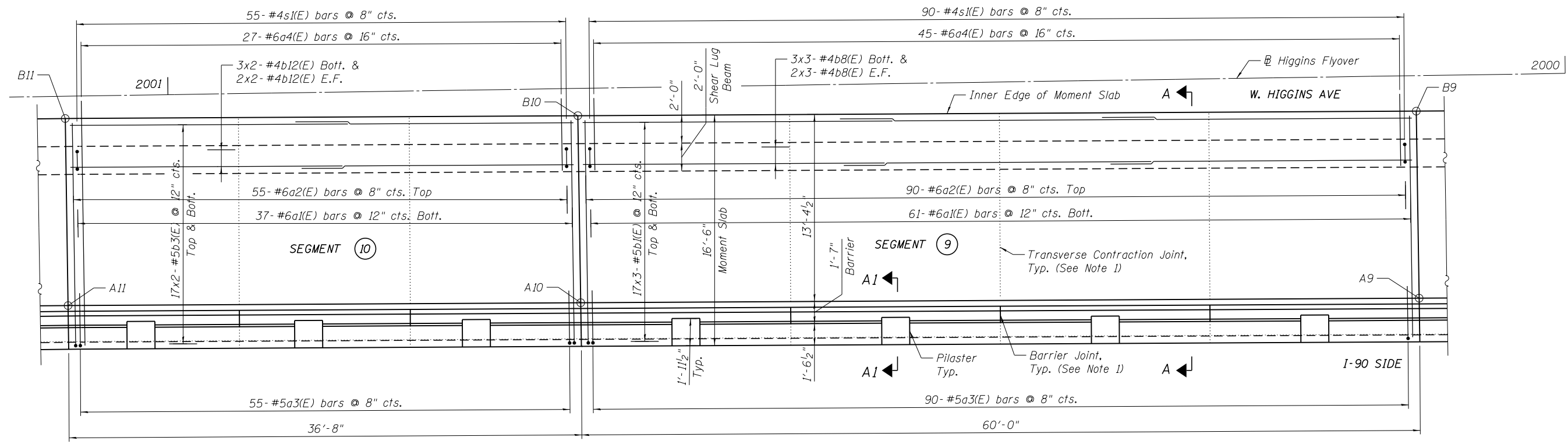
For Notes, see Sht. MS-4.

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CHECKED KK	REVISOR	REVISOR
PLOT SCALE = *SCALE*	DRAWN HBJ	REVISOR
PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISOR

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-90	(1517 & 1415) R-3	COOK	557	436
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	



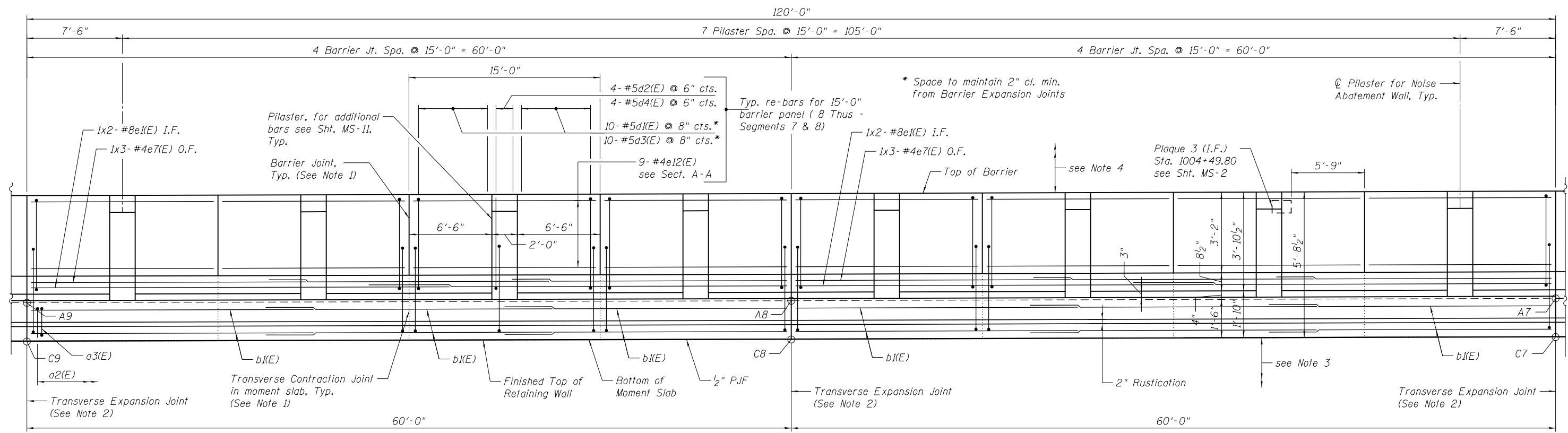
ELEVATION



PLAN SEGMENTS 9 & 10

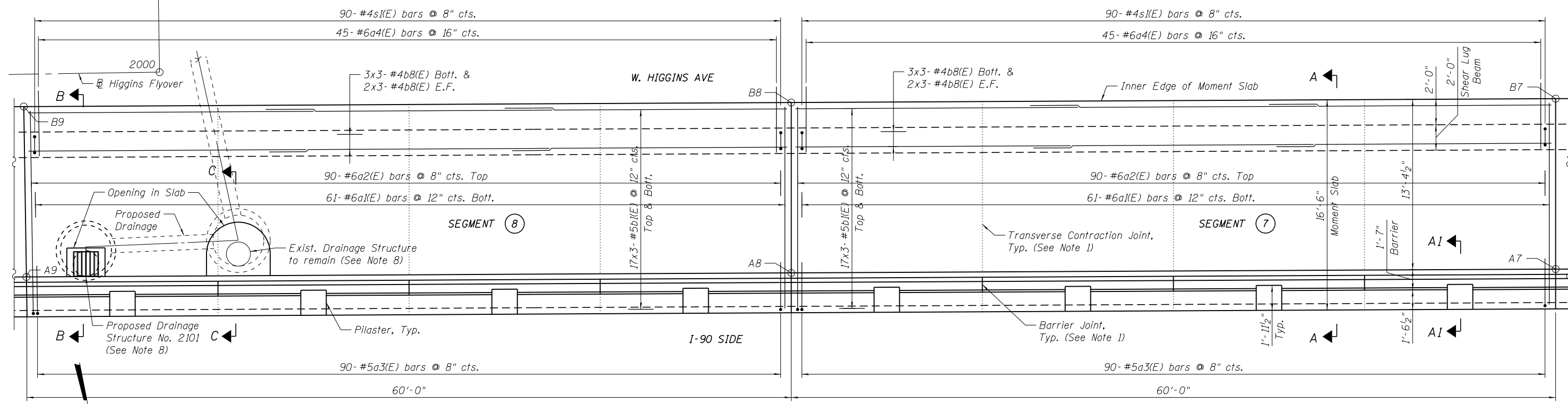
Minimum Bar Lap
 #4 = 2'-11"
 #5 = 3'-9"
 #6 = 3'-10"
 #8 = 6'-4"

Notes:
 For Notes, see Sht. MS-4.



ELEVATION

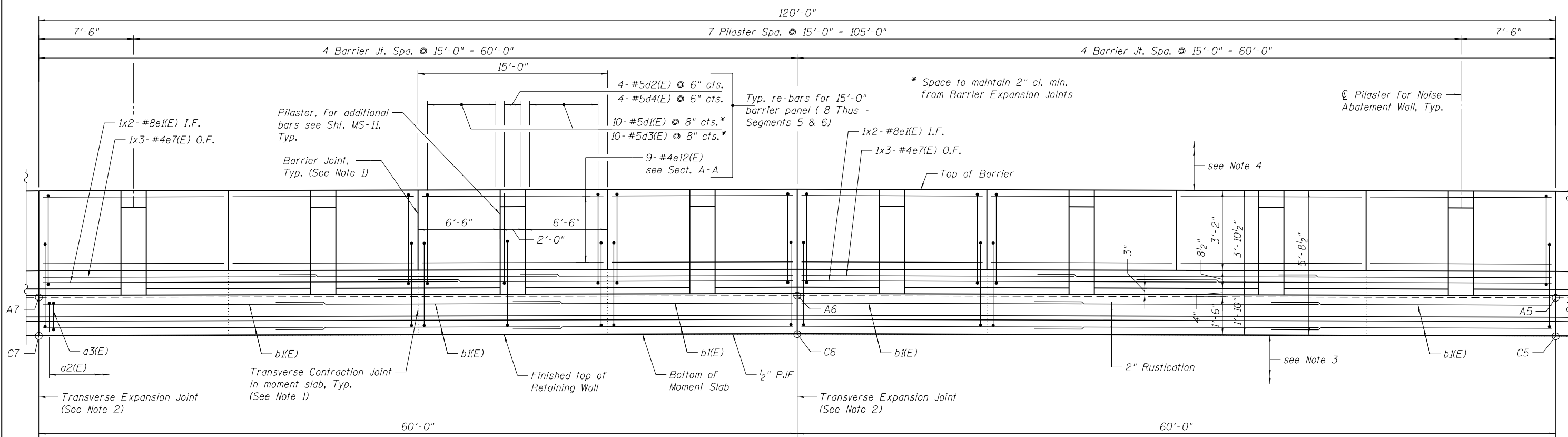
@ W. Higgins Avenue
 Sta. 1005+38.78
 = @ Higgins Flyover
 Sta. 2000+00.00,
 Offset 6.56' LT



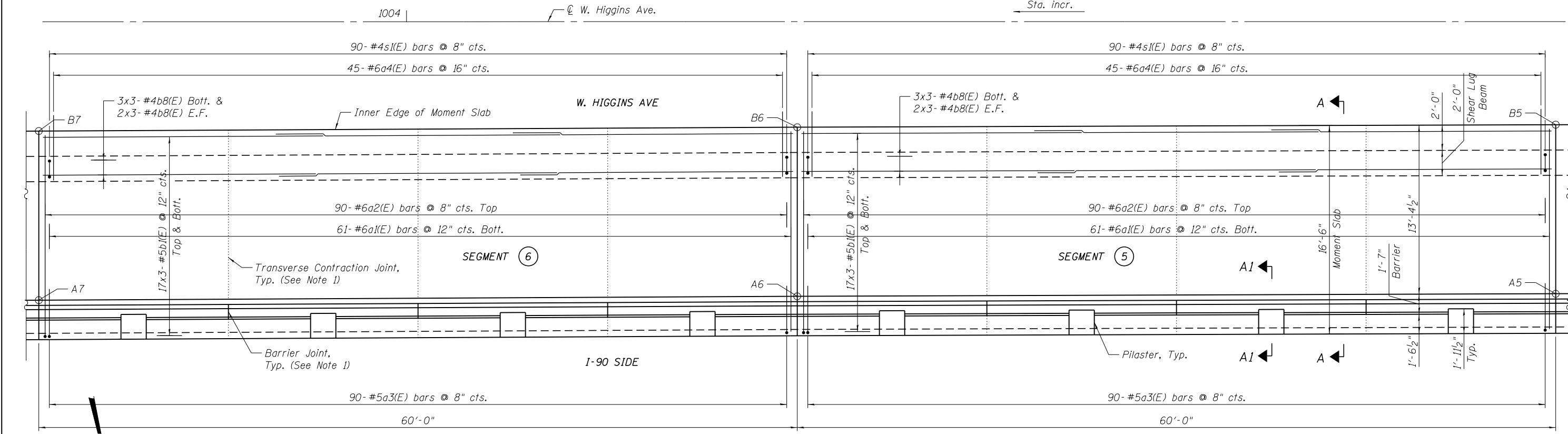
PLAN SEGMENTS 7 & 8

Minimum Bar Lap
 #4 = 2'-11"
 #5 = 3'-9"
 #6 = 3'-10"
 #8 = 6'-4"

Notes:
 For Notes, see Sht. MS-4.



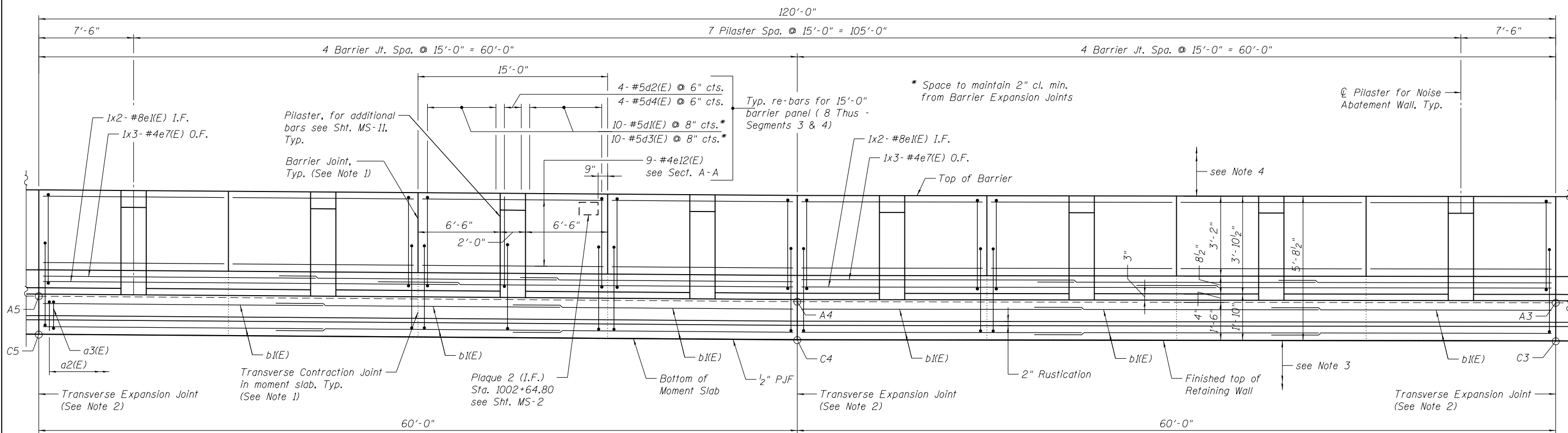
ELEVATION



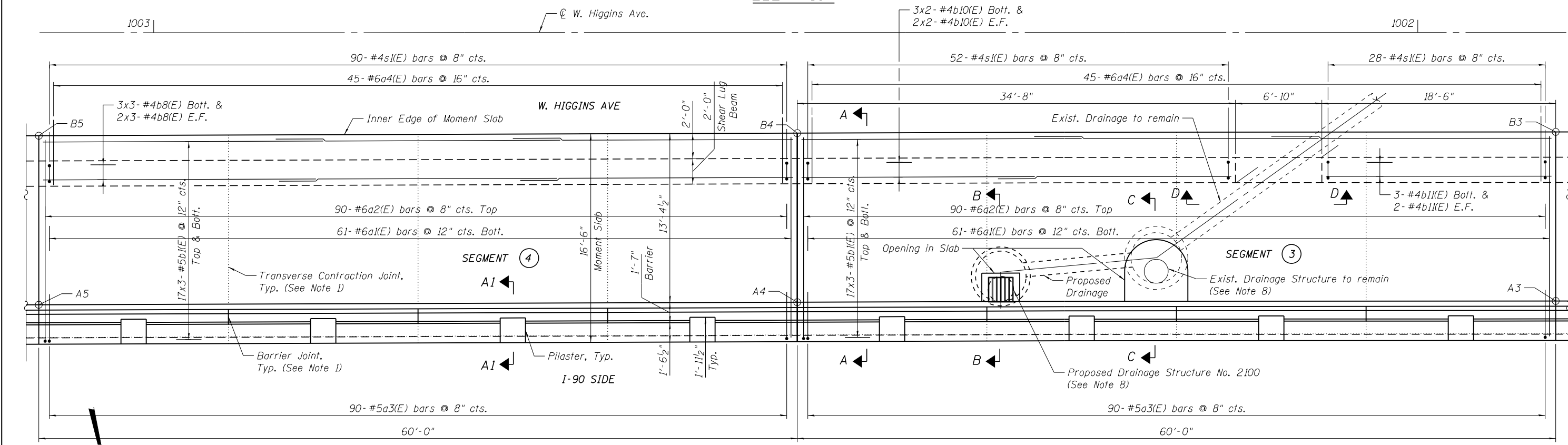
PLAN SEGMENTS 5 & 6

Minimum Bar Lap
 #4 = 2'-11"
 #5 = 3'-9"
 #6 = 3'-10"
 #8 = 6'-4"

Notes:
 For Notes, see Sht. MS-4.



ELEVATION



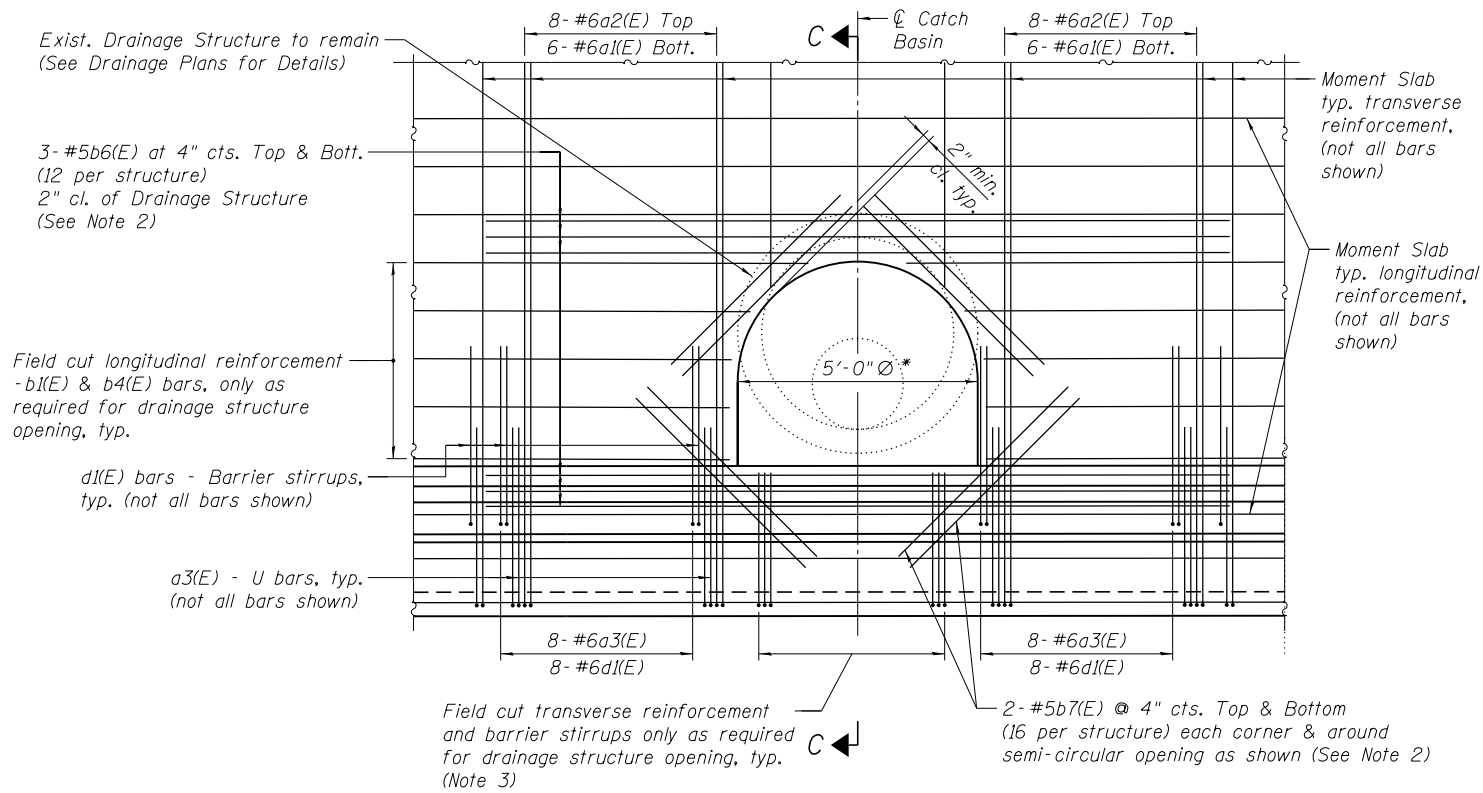
PLAN
SEGMENTS 3 & 4

Minimum Bar Lap
 #4 = 2'-11"
 #5 = 3'-9"
 #6 = 3'-10"
 #8 = 6'-4"

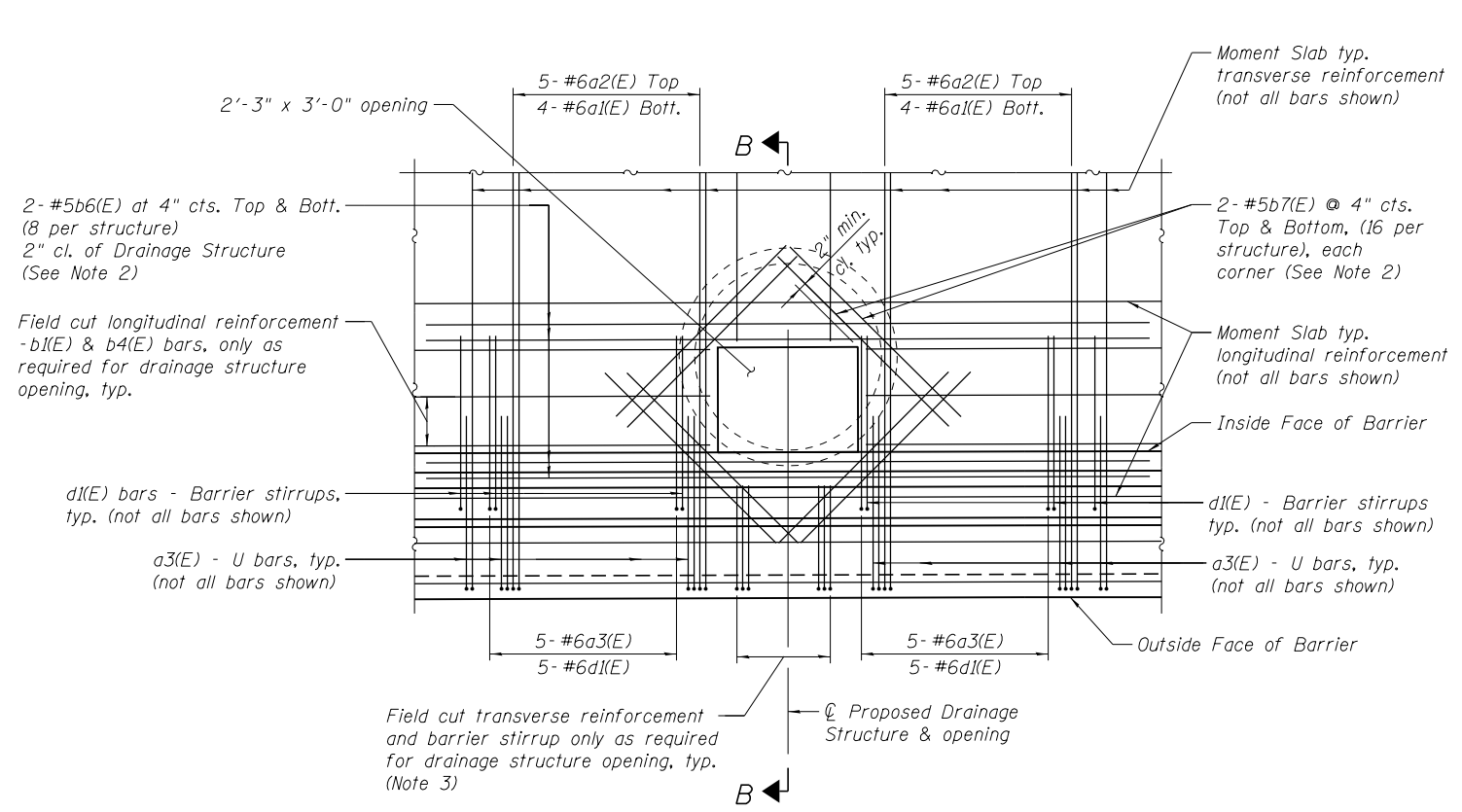
Notes:
 For Notes, see Sht. MS-4.

USER NAME = #USER#	DESIGNED STD	REVISED
CHANGED KK	CHECKED KK	REVISED
DRAWN HBJ	DATE 5/6/2016	REVISED
PLOT SCALE = #SCALE#		
PLOT DATE = 6-24-2016		

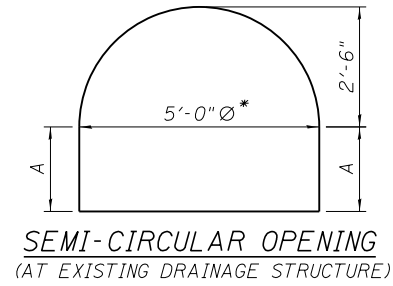
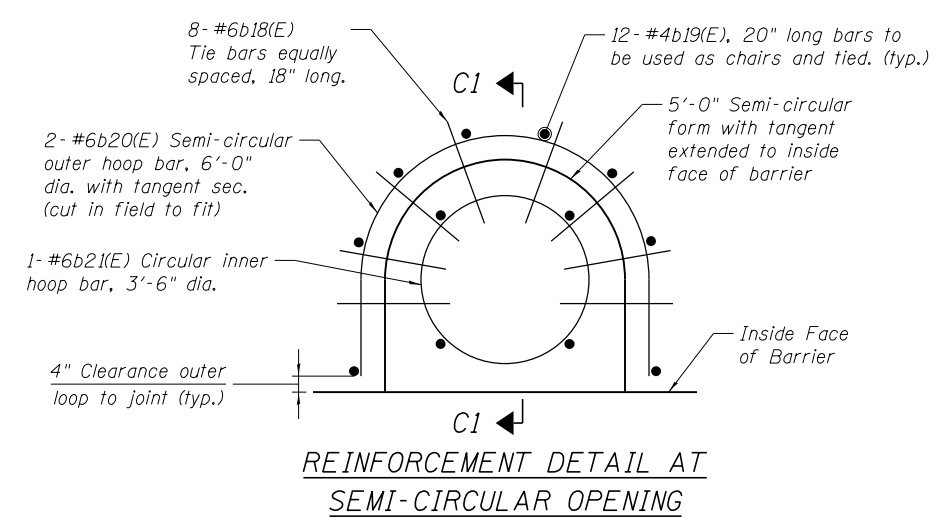
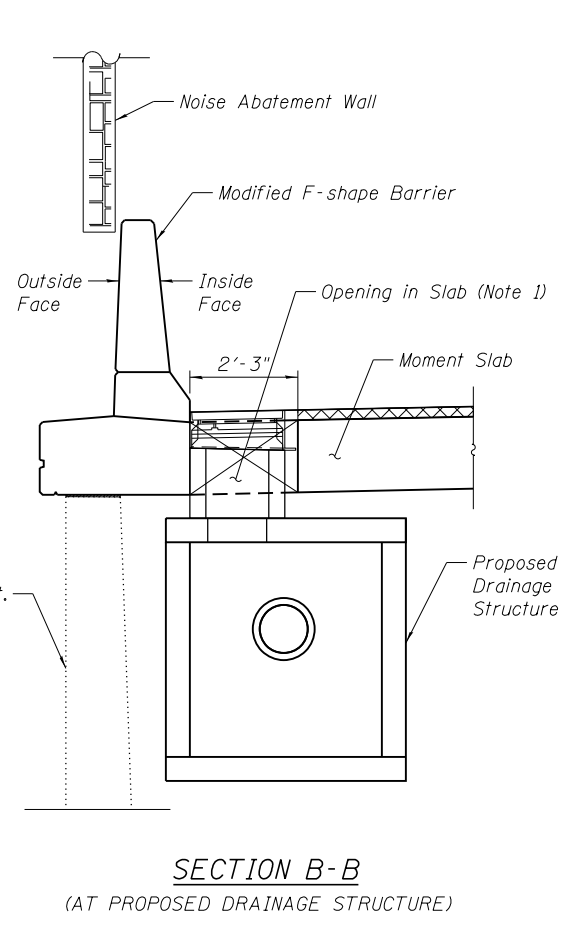
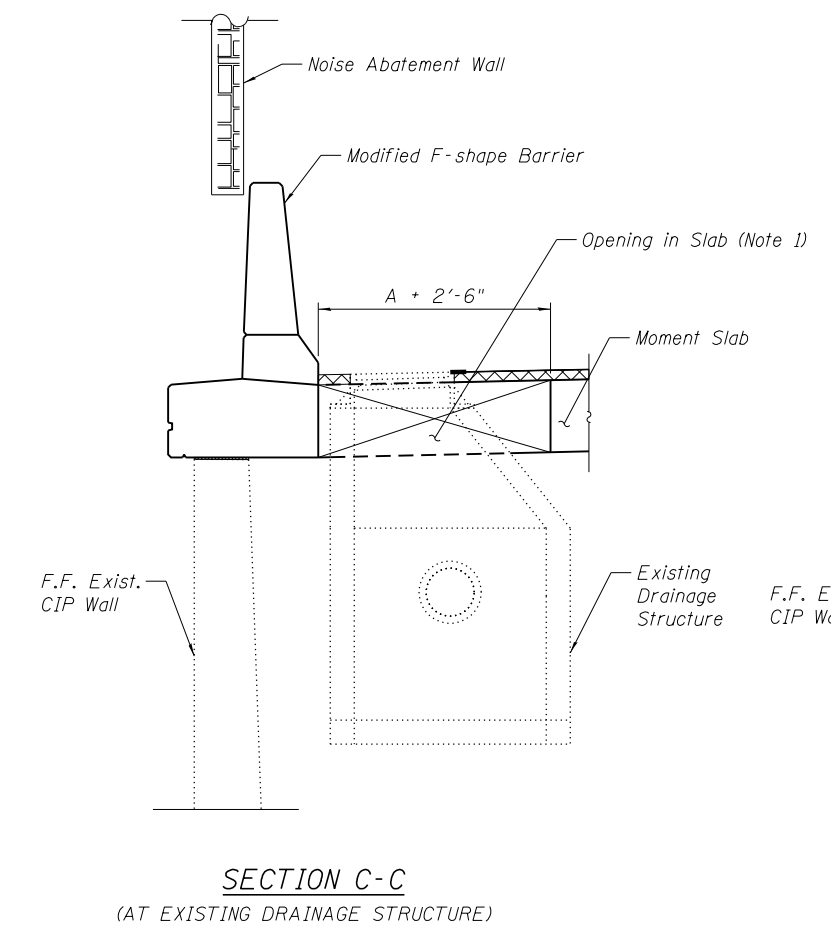
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-90	(1517 & 1415) R-3	COOK	557	440
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	



PLAN AT EXISTING DRAINAGE STRUCTURE
(5 THUS)

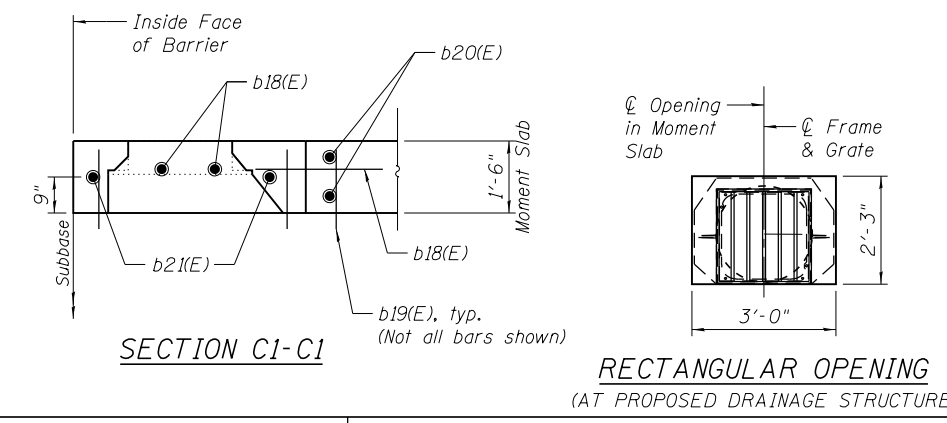


PLAN AT PROPOSED DRAINAGE STRUCTURE
(5 THUS)



* Provide extended semi-circular opening with 5'-0" diameter as shown. See table below for size of opening (5 locations).

Drainage Structure No.	A
2100	2'-4 1/2"
2101	1'-8 1/2"
2102	2'-5 1/4"
2103	1'-10"
2104	1'-11"

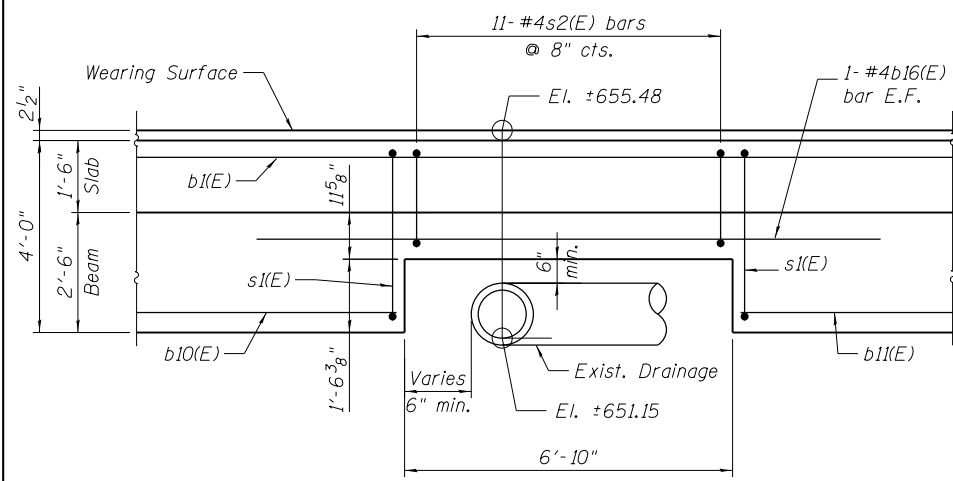


RECTANGULAR OPENING
(AT PROPOSED DRAINAGE STRUCTURE)

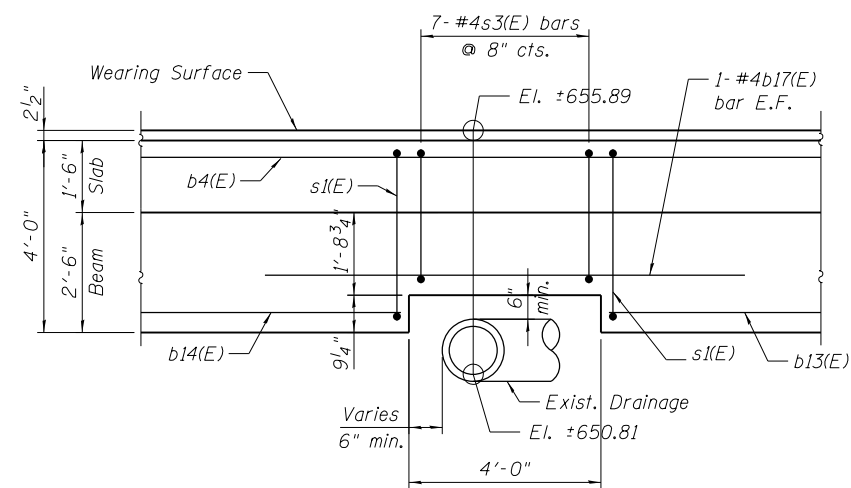
- Notes:**
1. Fill in the opening around drainage structures with concrete after placing the proposed drainage structures and replacing the lids on existing drainage structures. Cost included with Concrete Structures.
 2. Place bars symmetric about centerline of drainage structure as space permits.
 3. For each transverse bar & barrier stirrup field cut, place equal number of additional same bars on each side of opening.
 4. Size and shape of drainage structures are approximate, see Drainage Plans for details.
 5. For Bar List, see Sht. MS-15.

USER NAME = #USER*	DESIGNED STD	REVISED
PLOT SCALE = #SCALE*	CHECKED KK	REVISED
PLOT DATE = 6-24-2016	DRAWN STD	REVISED
	DATE 5/6/2016	REVISED

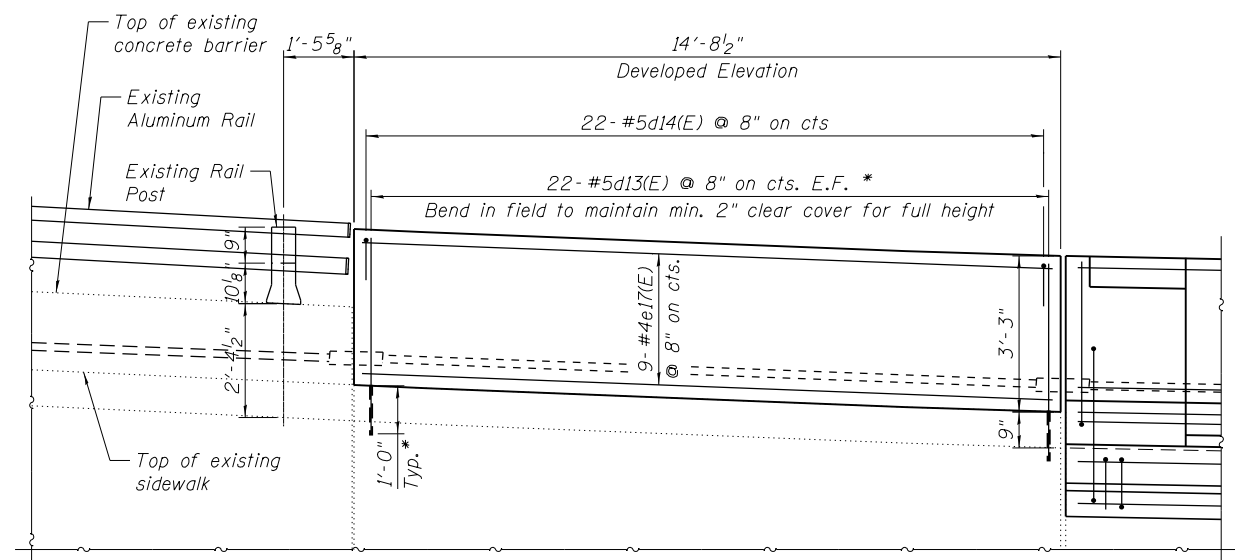
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	443
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	



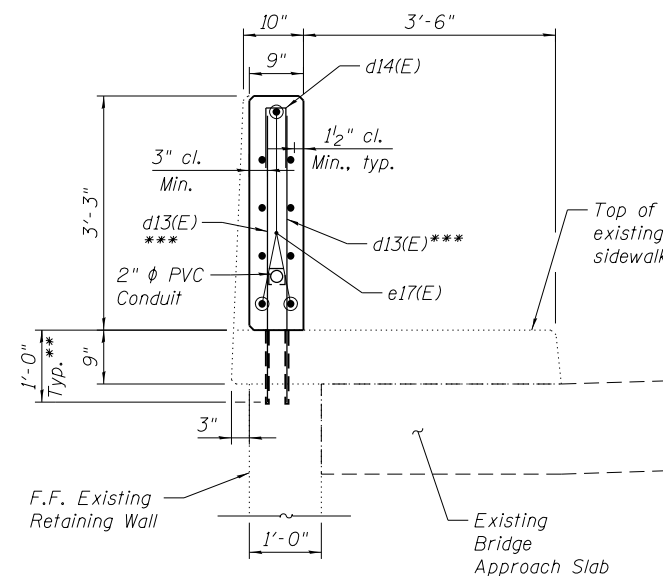
SECTION D-D



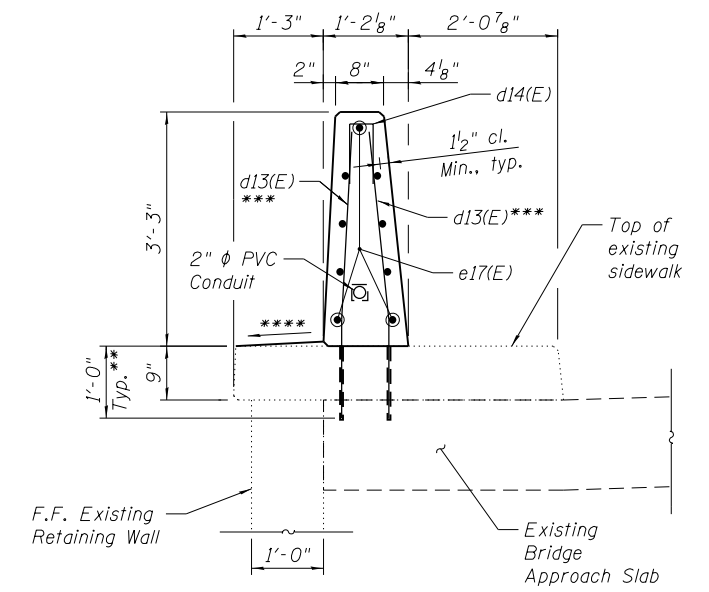
SECTION E-E



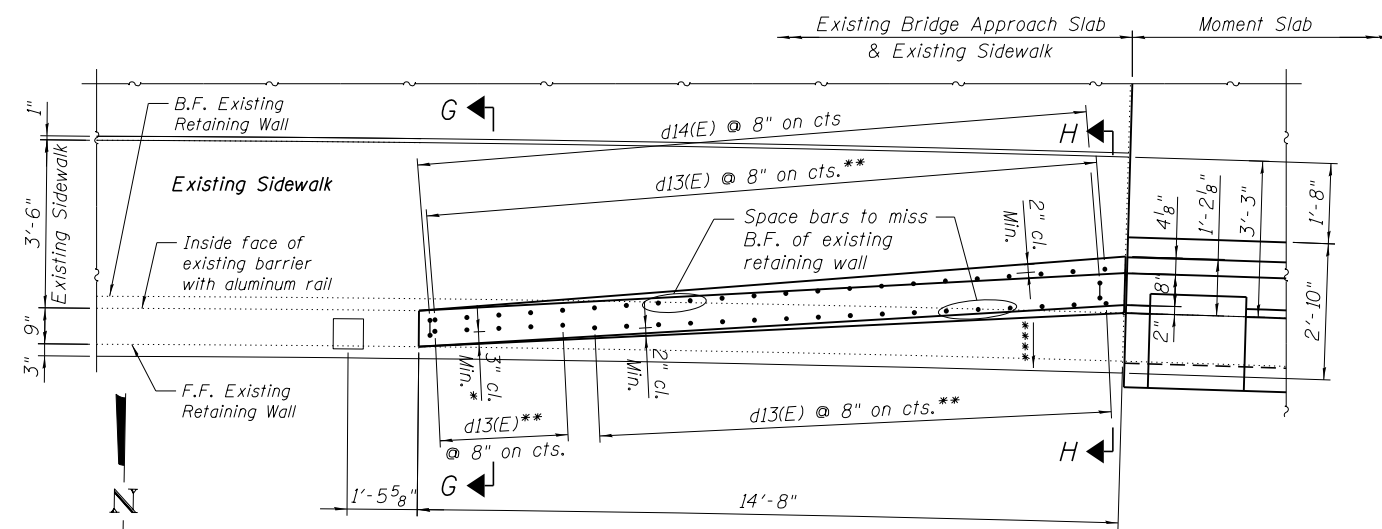
ELEVATION - BARRIER TRANSITION DETAIL
(Looking South)



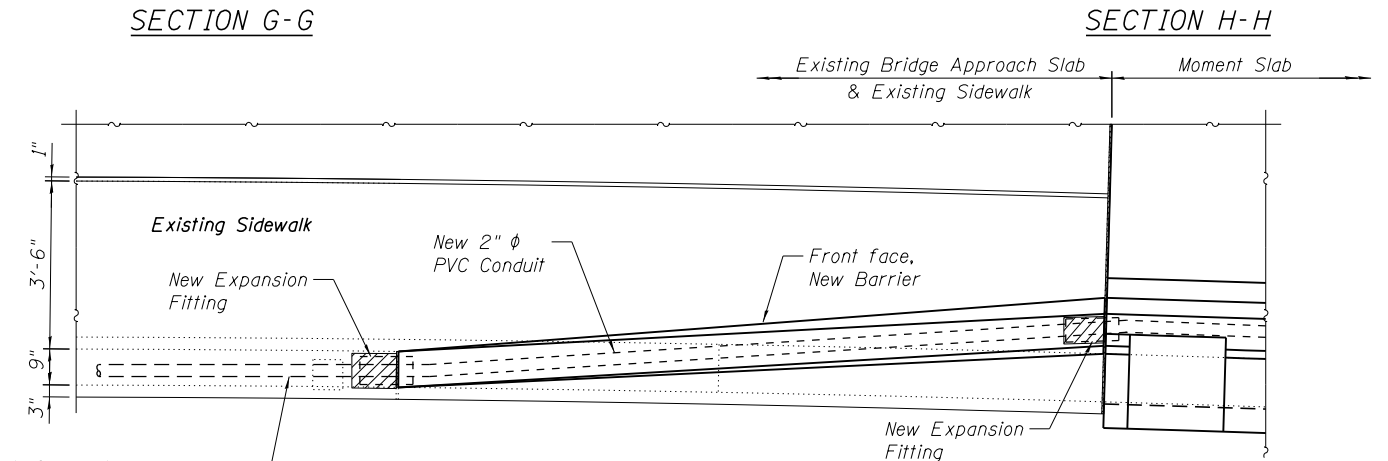
SECTION G-G



SECTION H-H



PLAN - BARRIER TRANSITION DETAIL



PLAN - EXPANSION FITTING DETAIL

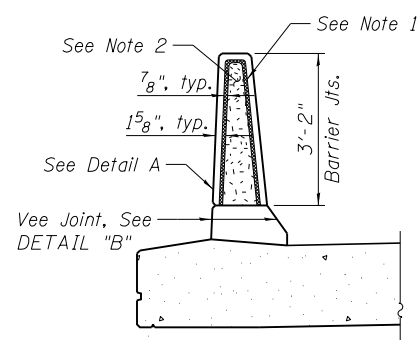
Notes:

- * Maintain 3" min. clear cover for first five rebars (d13(E)) on barrier backface
- ** Drill and grout #5d13(E) bars 12" min. into existing sidewalk, retaining wall & approach slab. Drilled holes and grouting shall be performed in accordance with Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy coated.
- *** Bend in field to maintain 2" min. clear cover
- **** Provide 1% slope towards outside edge, on exposed top surface of existing sidewalk behind barrier transition

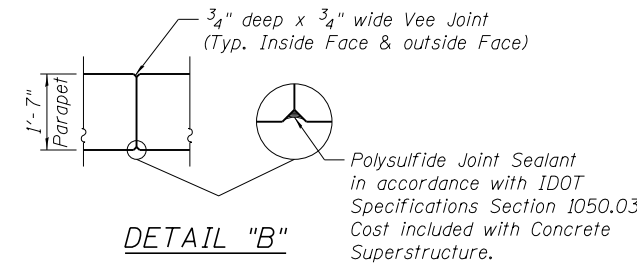
Cut existing conduit flush with the parapet removal line. Chip-out concrete around existing conduit for installation of the expansion fitting. Patch with non-shrink grout after fitting is installed and before new pilaster is poured. Cost included with Concrete Superstructure.

USER NAME = *USER*	DESIGNED STD	REVISED
CHECKED KK	REVISIONS	
PLOT SCALE = *SCALE*	DRAWN HBJ/STD	REVISED
PLOT DATE = 6-24-2016	DATE 5/6/2016	REVISED

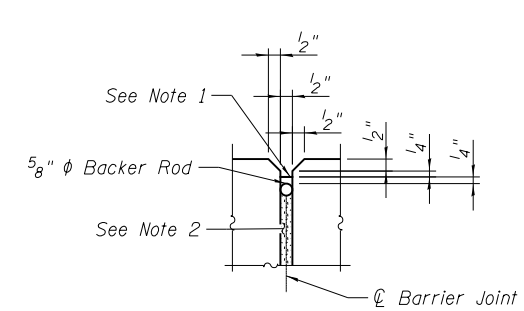
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	444
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	



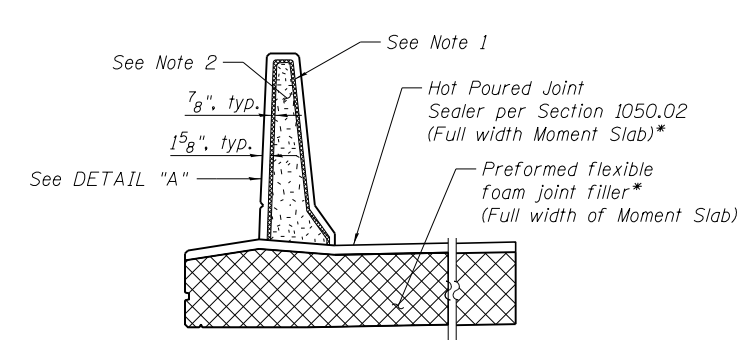
BARRIER JOINT
(in between expansion joints)



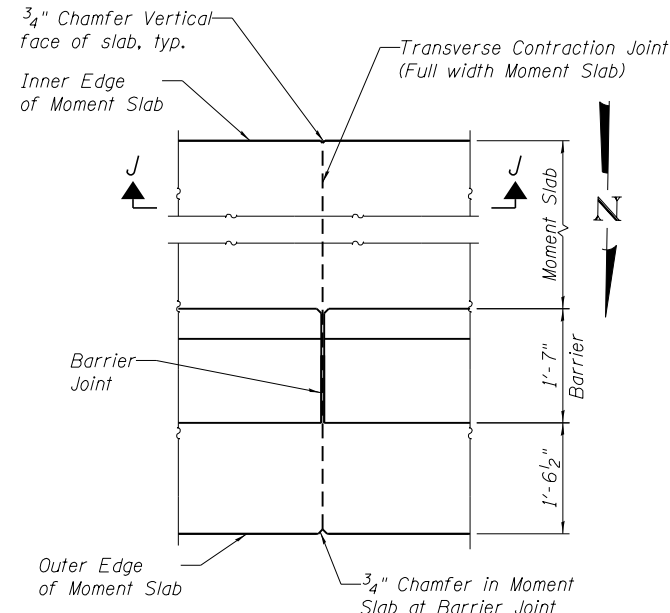
DETAIL "B"



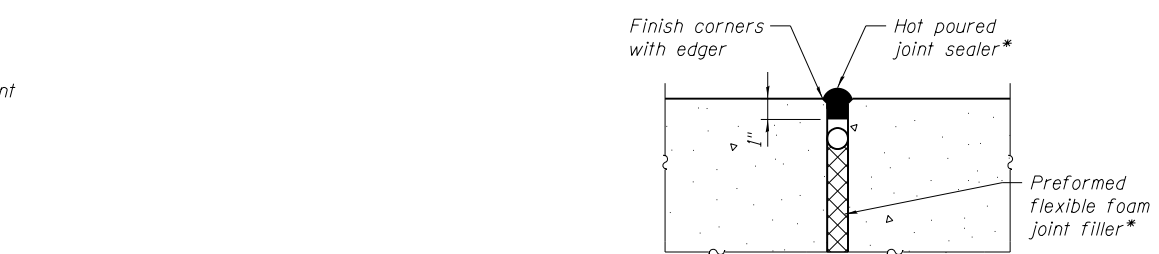
DETAIL A



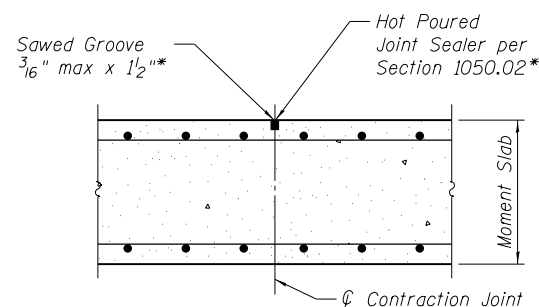
SECTION M - M



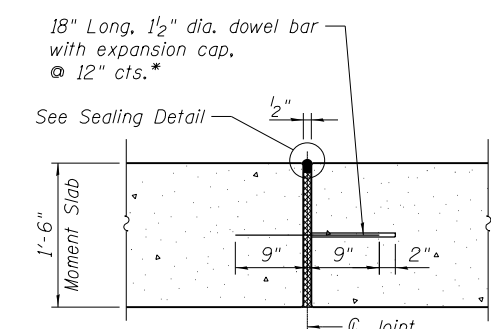
PLAN - CONTRACTION JOINT



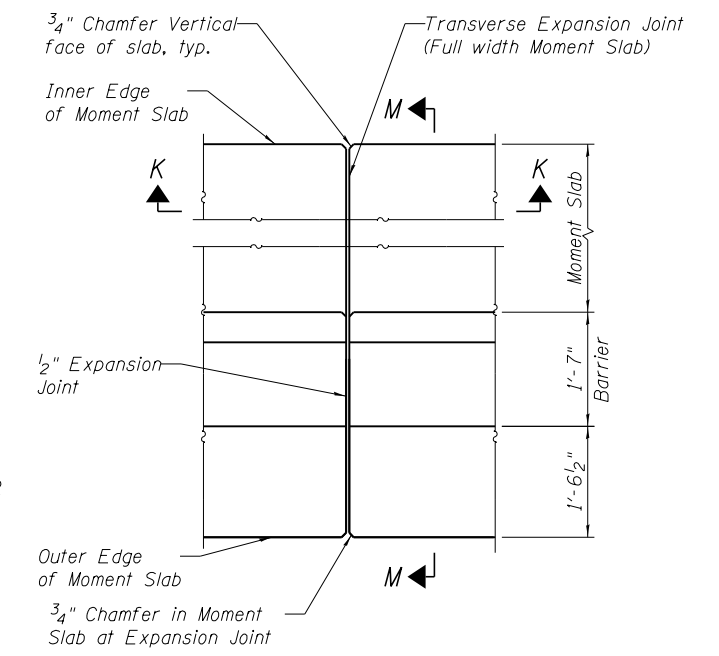
SEALING DETAIL



SECTION J - J



SECTION K - K



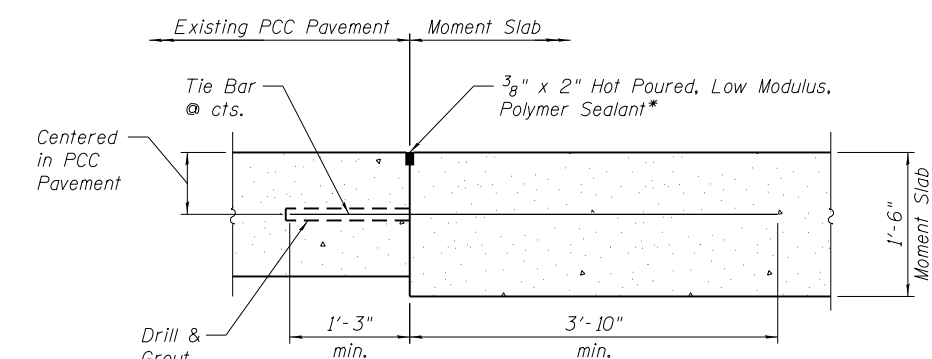
PLAN - EXPANSION JOINT

TRANSVERSE CONTRACTION JOINT

Notes:

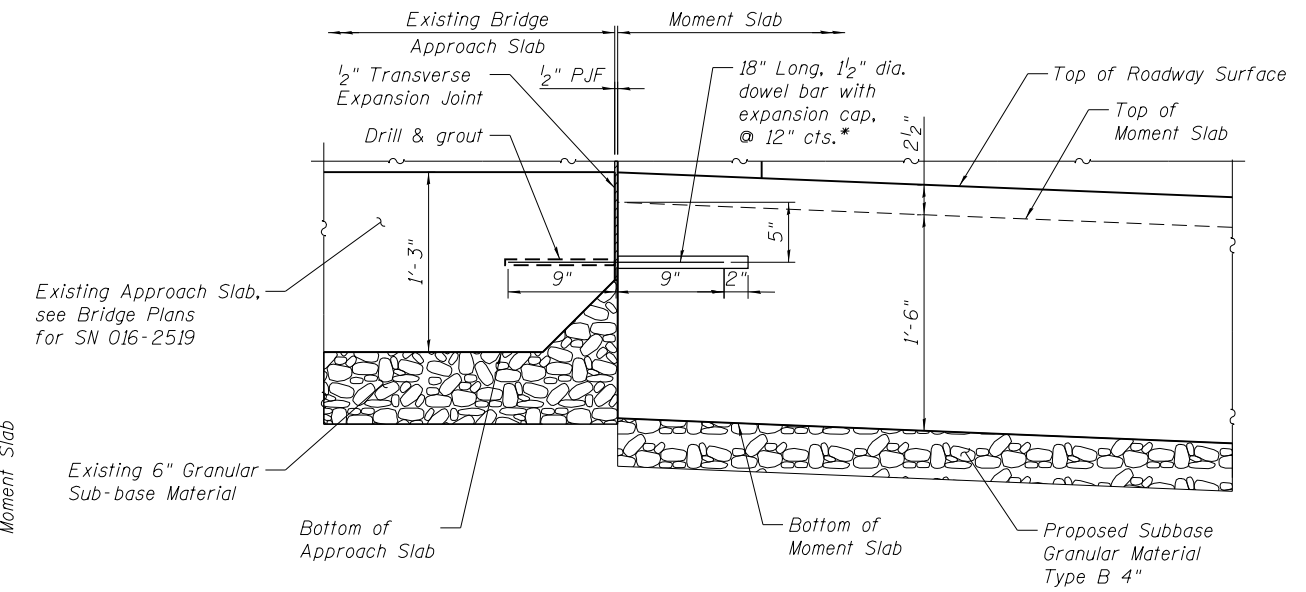
1. Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, use T with a backer rod.
2. Performed Self-Expanding Cork Joint Filler according to Article 1051.07 of Std. Spec.

* Cost to be included with Concrete Structures



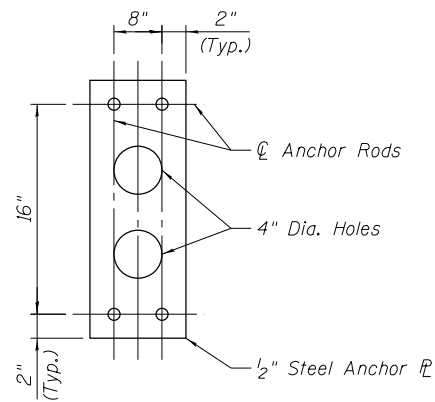
LONGITUDINAL CONSTRUCTION JOINT

(Sta. 1000+79.05 to 1005+38.78 & Sta. 2000+00.00 to 2002+95.07)

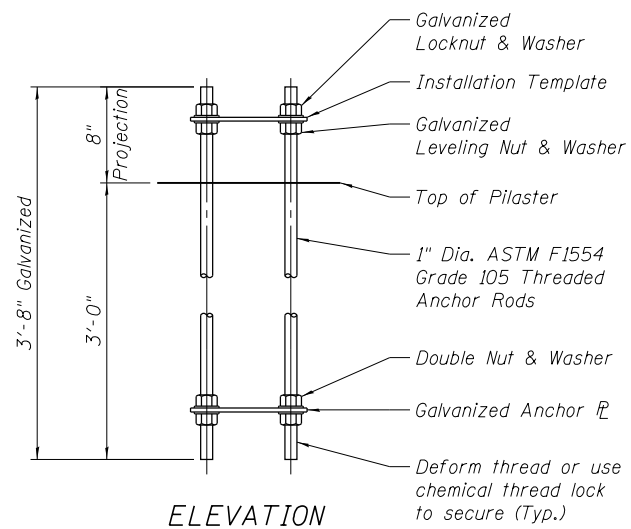


SECTION L-L MOMENT SLAB TO APPROACH SLAB JOINT

TRANSVERSE EXPANSION JOINT

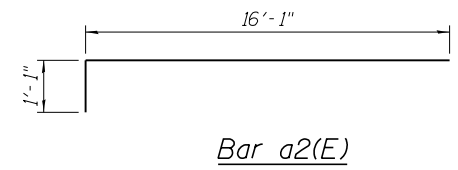


PLAN - ANCHOR PLATE

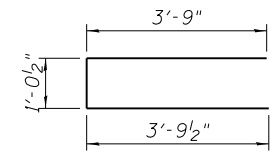


ELEVATION

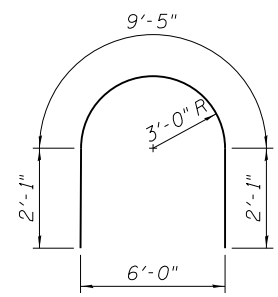
ANCHOR ROD ASSEMBLY FOR NOISE WALL



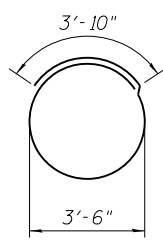
Bar a2(E)



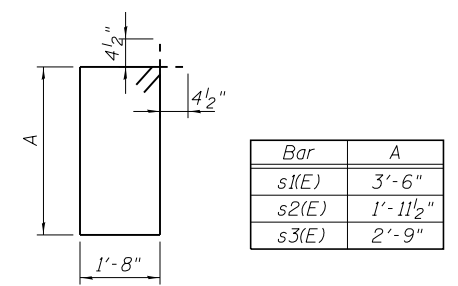
Bar a3(E)



Bar b20(E)

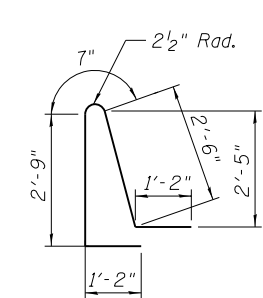


Bar b21(E)

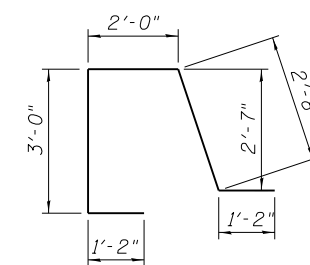


Bars s1(E), s2(E) & s3(E)

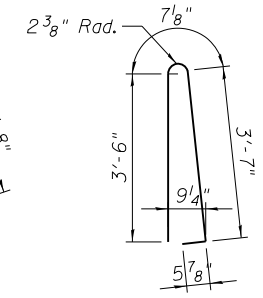
Bar	A
s1(E)	3'-6"
s2(E)	1'-11 1/2"
s3(E)	2'-9"



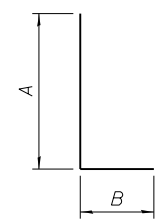
Bar d1(E)



Bar d2(E)

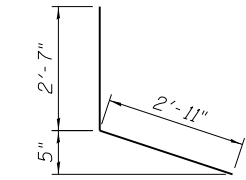


Bar d3(E)

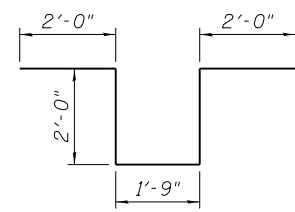


Bars d4(E), d5(E) & d12(E)

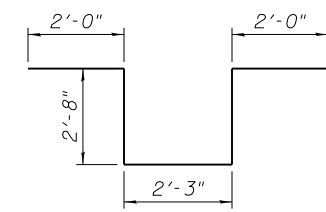
Bar	A	B
d4(E)	3'-9"	6"
d5(E)	4'-7"	2'-0"
d12(E)	5'-3"	2'-0"



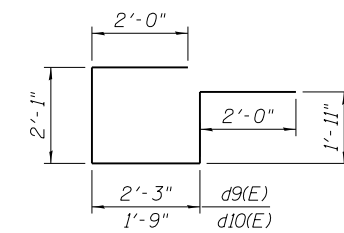
Bar d7(E)



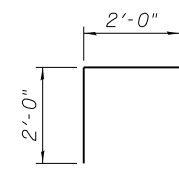
Bar d6(E)



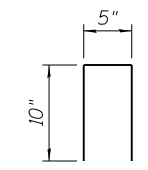
Bar d8(E)



Bars d9(E) & d10(E)



Bar d11(E)



Bar d14(E)

BAR LIST

Bar	No.	Size	Length	Shape
a1(E)	866	#6	16'-2"	—
a2(E)	1263	#6	17'-2"	—
a3(E)	1263	#6	8'-7"	—
a4(E)	696	#6	5'-2"	—
b1(E)	816	#5	22'-6"	—
b2(E)	68	#5	26'-9"	—
b3(E)	68	#5	20'-2"	—
b4(E)	272	#5	23'-0"	—
b5(E)	68	#5	13'-0"	—
b6(E)	100	#5	15'-6"	—
b7(E)	160	#5	5'-2"	—
b8(E)	147	#4	22'-0"	—
b9(E)	14	#4	26'-6"	—
b10(E)	14	#4	18'-9"	—
b11(E)	7	#4	18'-2"	—
b12(E)	14	#4	20'-0"	—
b13(E)	49	#4	22'-9"	—
b14(E)	7	#4	15'-0"	—
b15(E)	14	#4	12'-6"	—
b16(E)	2	#4	13'-0"	—
b17(E)	2	#4	10'-0"	—
b18(E)	40	#6	1'-6"	—
b19(E)	60	#4	1'-8"	—
b20(E)	10	#6	13'-7"	⊂
b21(E)	5	#6	14'-10"	○
d1(E)	995	#5	8'-2"	⌒
d2(E)	209	#5	10'-0"	⌒
d3(E)	995	#5	8'-2"	⌒
d4(E)	32	#5	4'-3"	⌒
d5(E)	208	#6	6'-7"	⌒
d6(E)	250	#6	9'-9"	⌒
d7(E)	5	#6	5'-6"	⌒
d8(E)	5	#6	11'-7"	⌒
d9(E)	5	#6	10'-3"	⌒
d10(E)	5	#6	9'-9"	⌒
d11(E)	1	#6	4'-0"	⌒
d12(E)	1	#6	7'-3"	⌒
d13(E)	44	#5	4'-1"	⌒
d14(E)	22	#5	2'-1"	⌒
e1(E)	16	#8	33'-0"	—
e2(E)	2	#8	28'-0"	—
e3(E)	2	#8	21'-6"	—
e4(E)	2	#8	24'-0"	—
e5(E)	4	#8	33'-3"	—
e6(E)	1	#8	21'-8"	—
e7(E)	30	#4	22'-0"	—
e8(E)	2	#4	26'-6"	—
e9(E)	2	#4	20'-0"	—
e10(E)	2	#4	22'-6"	—
e11(E)	1	#4	21'-8"	—
e12(E)	378	#4	14'-8"	—
e13(E)	9	#4	19'-9"	—
e14(E)	27	#4	11'-10"	—
e15(E)	27	#4	13'-7"	—
e16(E)	18	#4	10'-8"	—
e17(E)	9	#4	14'-4"	—
s1(E)	1117	#4	11'-1"	⊂
s2(E)	11	#4	8'-0"	⊂
s3(E)	7	#4	9'-7"	⊂

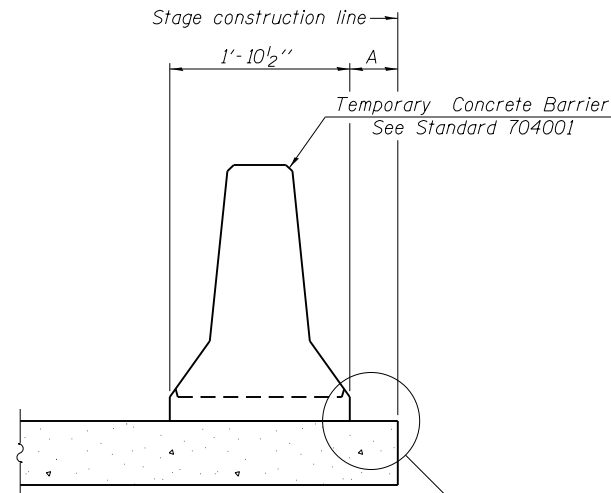
exp U.S. Services Inc. Chicago, IL BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY	USER NAME = *USER*	DESIGNED STD	REVISED
	PLOT SCALE = *SCALE*	CHECKED KK	REVISED
	PLOT DATE = 6-24-2016	DRAWN HBJ	REVISED
		DATE 5/6/2016	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB & BARRIER DETAILS - 5
MOMENT SLAB (S.N. 016-2296 & S.N. 016-2519)

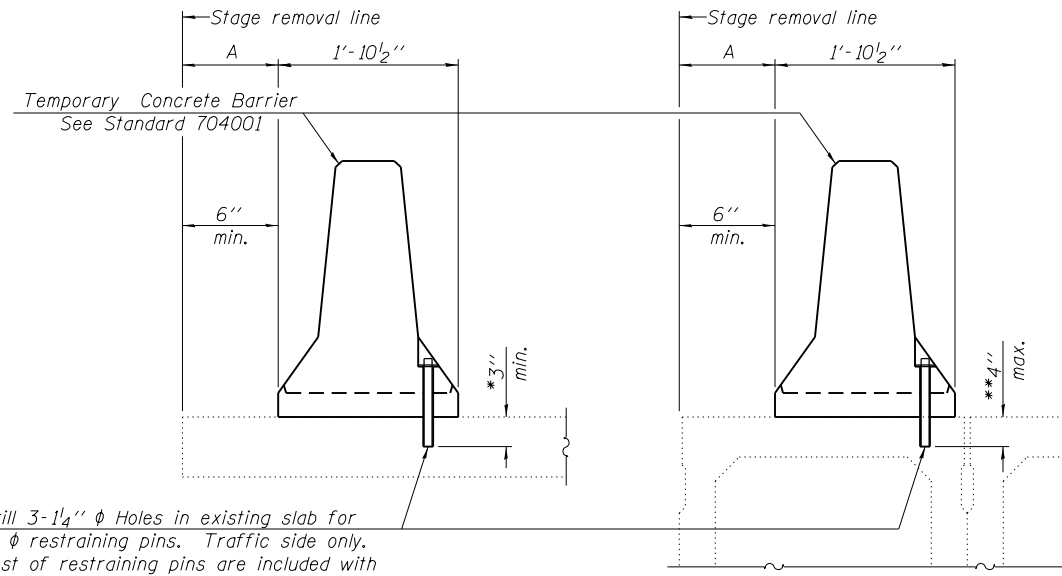
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	446
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	

SHEET NO. MS-150F 18 SHEETS



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

NEW SLAB



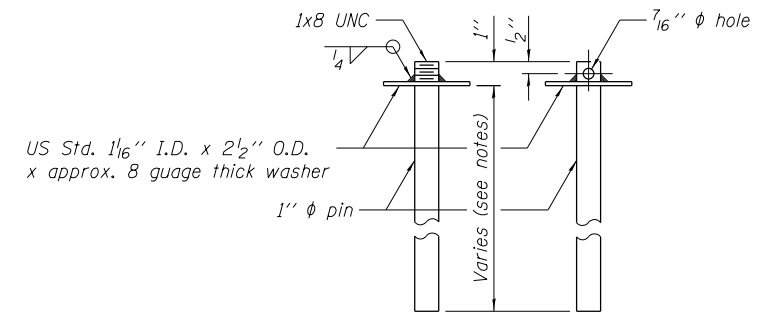
Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

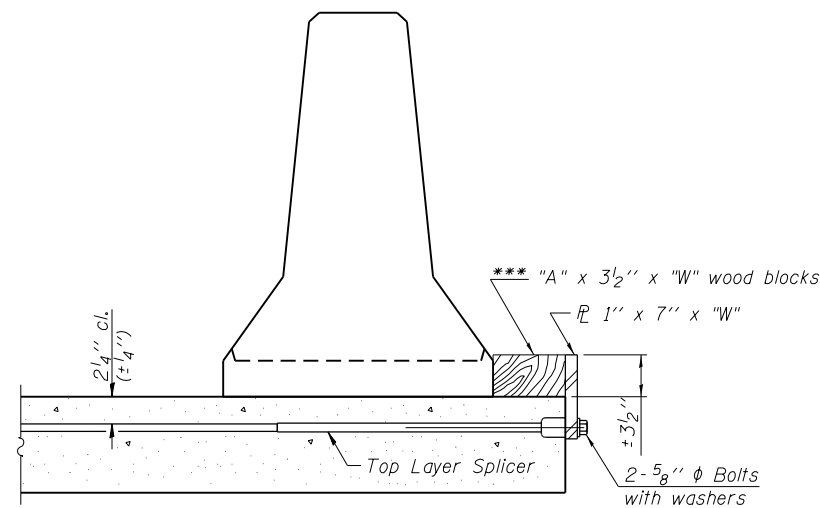
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

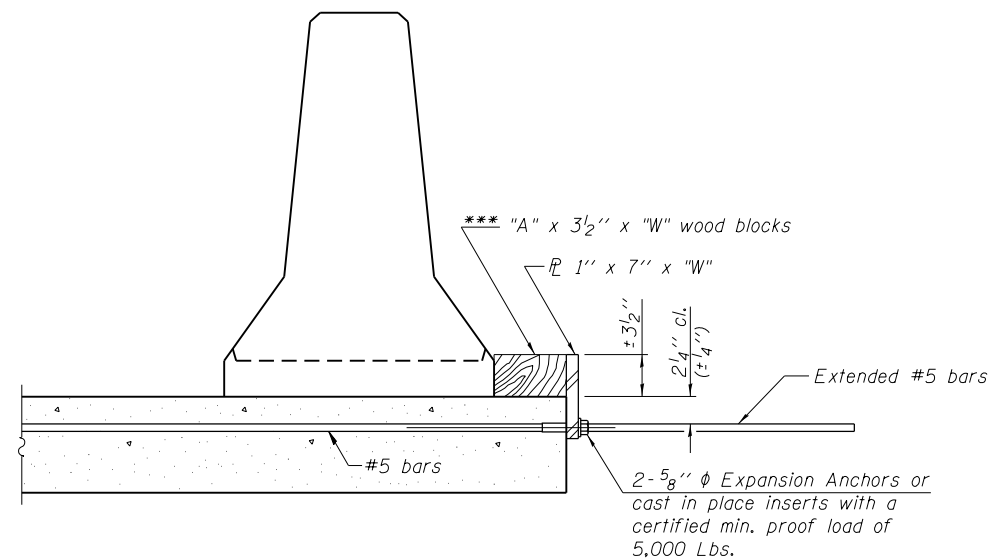
* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
 ** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



RESTRAINING PIN



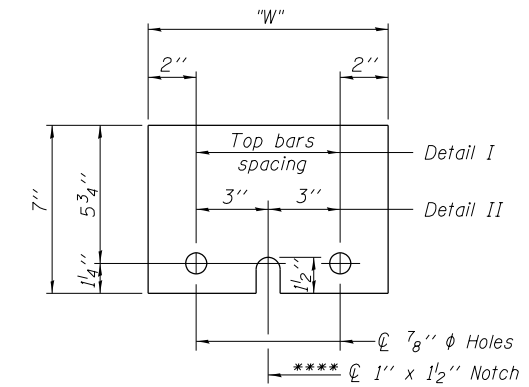
DETAIL I



DETAIL II

RETAINER ASSEMBLY

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



STEEL RETAINER \angle 1" x 7" x "W"

**** Required only with Detail II

NOTES

Detail I - With Bar Splicer or Couplers:
 Connect one (1) 1" x 7" x "W" steel \angle to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate ϕ of each barrier panel.
 Detail II - With Extended Reinforcement Bars:
 Connect one (1) 1" x 7" x "W" steel \angle to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ϕ of each barrier panel.
 Cost of retainer assembly is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

R-27

2-19-16

USER NAME = *USER*	DESIGNED	REVISED
PLOT SCALE = *SCALE*	CHECKED	REVISED
PLOT DATE = 6-24-2016	DRAWN STD	REVISED
	DATE 5/6/2016	REVISED

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-90	(1517 & 1415) R-3	COOK	557	447
				CONTRACT NO. 60Y38
ILLINOIS FED. AID PROJECT				



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 3/9/15

ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ

SECTION -- LOCATION SE 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	D	B	U	M	Surface Water Elev.	D	B	U	M
Station	E	L	C	O	Stream Bed Elev.	E	L	C	O
BORING NO.	P	O	S	I	Groundwater Elev.:	T	W	Q	S
Station	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset	(ft)	(/6")	(tsf)	(%)	Upon Completion	(ft)	(/6")	(tsf)	(%)
Ground Surface Elev.					After				
					Hrs.				
2.5" ASPHALT, 10.0" CONCRETE					CLAY-gray-stiff to hard (continued)				
654.96									
GRAVEL-loose to medium dense (Fill)		12				2			
		15	4			3	1.3	24	
		18				3	B		
		3				2			
		3	3			3	1.5	22	
		4				4	B		
		-5			631.00	-25			
					End Of Boring @ -25.0'. Boring backfilled with cuttings.				
		3							
		3	2						
		2							
647.00		2							
SILTY CLAY-brown & gray spotted black-stiff (Possible Fill)		2	1.3	28					
		2	P			-30			
645.50									
CLAY-gray-stiff to hard									
		3							
		4	2.4	22					
		5	B						
		4							
		6	4.2	19					
		7	B			-35			
		3							
		4	1.7	20					
		5	B						
		2							
		3	1.8	20					
		4	B			-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)



GSI Job No. 12245

SOIL BORING LOG

Page 1 of 1

Date 3/9/15

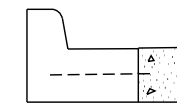
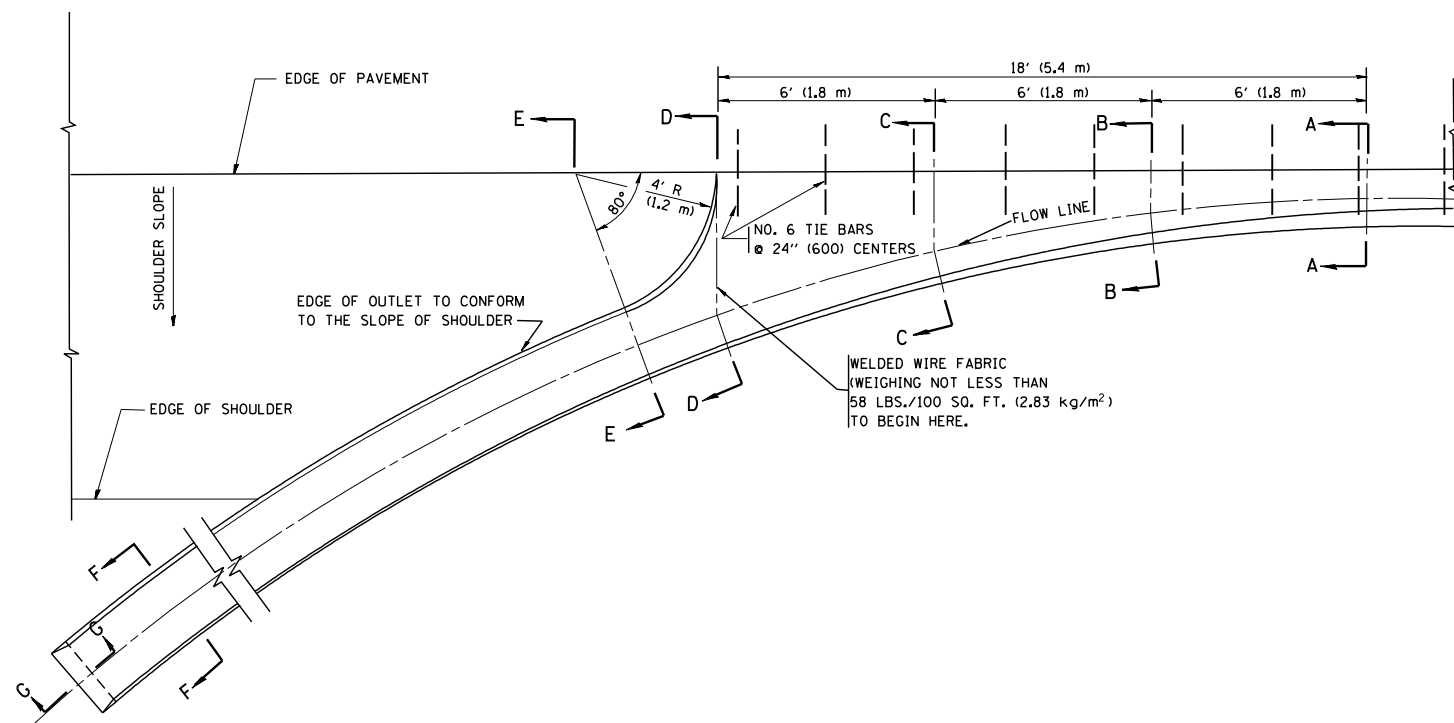
ROUTE -- DESCRIPTION I-90 Retaining Walls (Canfield Ave. to Harlem Ave.) LOGGED BY TZ

SECTION -- LOCATION SE 1/4, SEC. 1, TWP. T40N, RNG. R12E, 3rd PM

COUNTY Cook DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

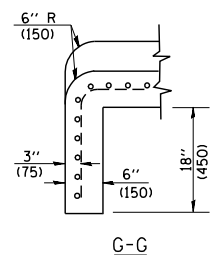
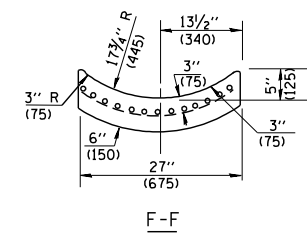
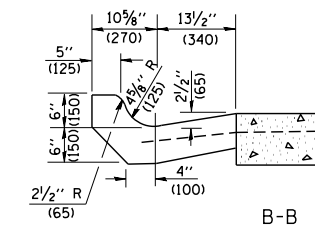
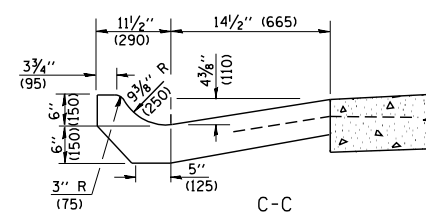
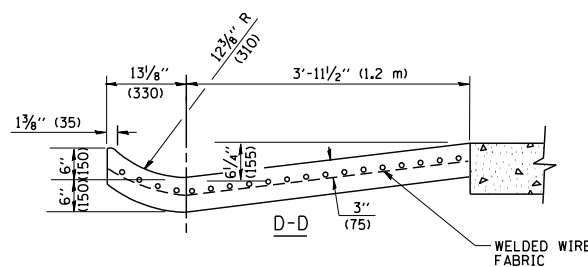
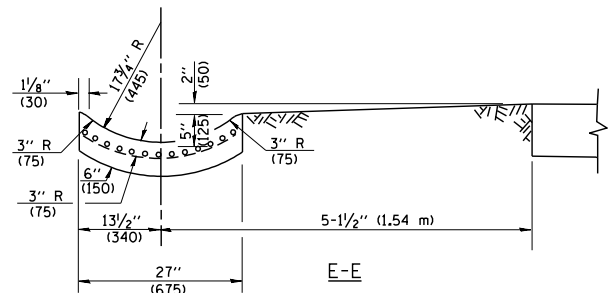
STRUCT. NO.	D	B	U	M	Surface Water Elev.	D	B	U	M
Station	E	L	C	O	Stream Bed Elev.	E	L	C	O
BORING NO.	P	O	S	I	Groundwater Elev.:	T	W	Q	S
Station	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset	(ft)	(/6")	(tsf)	(%)	Upon Completion	(ft)	(/6")	(tsf)	(%)
Ground Surface Elev.					After				
					Hrs.				
3.0" ASPHALT, 12.0" CONCRETE					634.70				
653.95					CLAY LOAM-gray-stiff to very stiff				
GRAVEL-medium dense (Fill)		9				3			
		10	3			4	1.7	12	
		12				5	B		
		4				4			
		5	2			6	3.7	12	
		5				10	B		
		-5			630.20	-25			
					End Of Boring @ -25.0'. Boring backfilled with cuttings.				
		4							
		4	2						
		6							
646.20		4							
CLAY to CLAY LOAM-brown & gray-stiff to very stiff		3	3.5	20					
		3	P			-30			
		3							
		3	1.3	19					
		4	B						
642.20									
SAND-brown-loose		2							
		3							
		4	10						
		-15				-35			
639.70									
SILTY SAND with Gravel-brown-very loose to loose		2							
		3							
		3	22						
		3							
		2							
		2	12						
		-20				-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
 BBS, from 137 (Rev. 8-99)



A-A *

* DIMENSIONS OF THE CURB & GUTTER AT SECTION A-A ARE SHOWN ON STATE STANDARD 606001. FOR DETAILS OF OUTLET FOR CONCRETE CURB & GUTTER, TYPE B-6.24 (B-15.60) SEE STATE STANDARD 606006.



GENERAL NOTES

GUTTER OUTLET SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.

TIE BARS SHALL BE NO. 20 (NO.6) AT 24\"/>

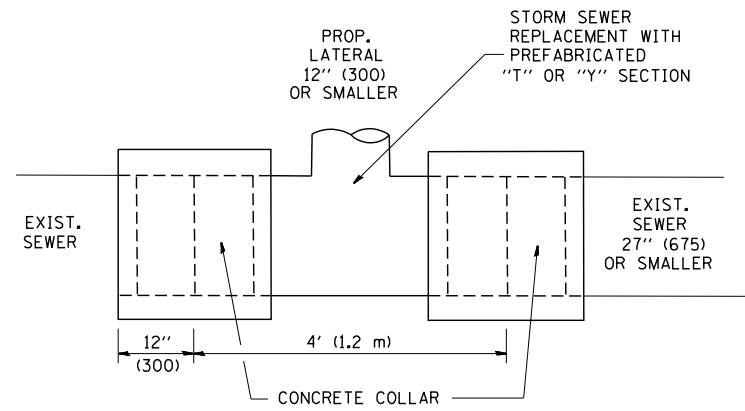
IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE FROM SECTION A-A TO D-D EXCEEDS 2%, THIS DISTANCE SHALL BE INCREASED 6' (1.8 m) FOR EACH 1% INCREASE IN GRADE.

QUANTITIES

FOR SECTION A-A TO E-E AND CURTAIN WALL =
 1.25 CU. YDS. (0.96 m³) CLASS SI CONCRETE (OUTLET) FOR 9\"/>

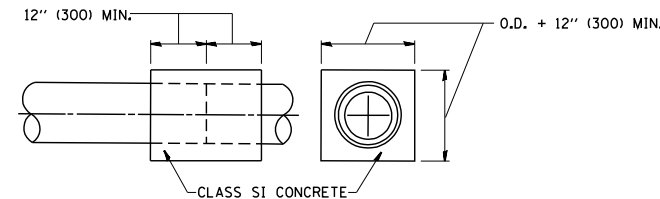
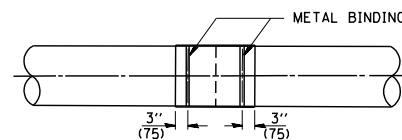
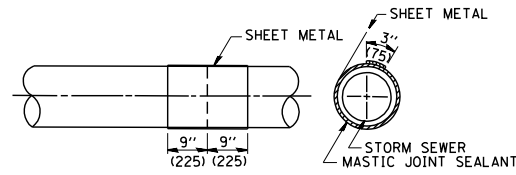
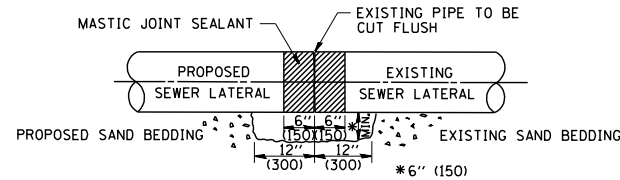
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\bd03.dgn	USER NAME = gaglanobt	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OUTLET FOR CONCRETE CURB AND GUTTER			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94		SCALE: NONE	SHEET NO. 1	OF 1 SHEETS	STA.	TO STA.	BD600-01 (BD-03)	CONTRACT NO.	60Y38
PLOT DATE = 1/4/2008	DATE - 08-04-86	REVISED - E. GOMEZ 12-21-00	REVISED -	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT								



DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER

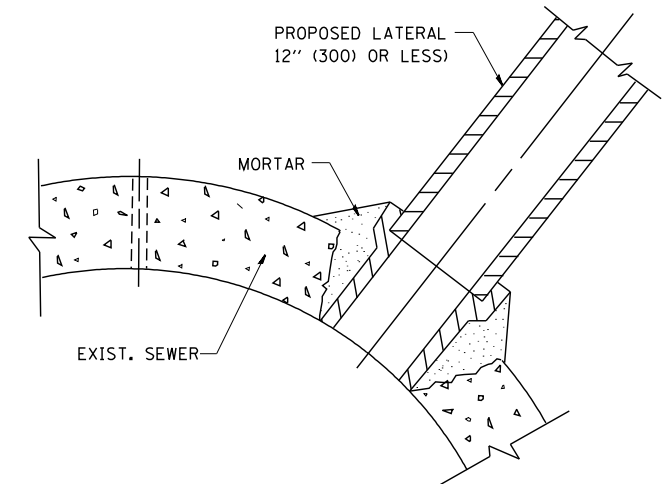


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12" x 6" (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
 - A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
 - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

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

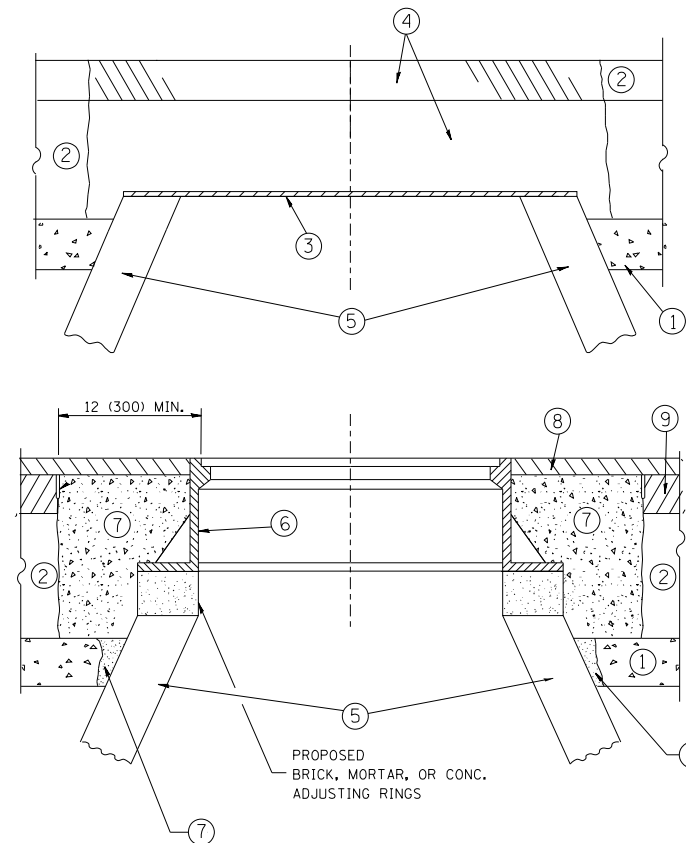
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	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 1/4/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF STORM SEWER
CONNECTION TO EXISTING SEWER

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	451
BD500-01 (BD-7)		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

STAGE 2 (AFTER PAVEMENT MILLING)

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

- ① SUB-BASE GRANULAR MATERIAL
- ② EXISTING PAVEMENT
- ③ 36 (900) DIAMETER METAL PLATE
- ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- ⑤ EXISTING STRUCTURE
- ⑥ FRAME AND LID (SEE NOTES)
- ⑦ CLASS PP-1* CONCRETE
- ⑧ PROPOSED HMA SURFACE COURSE
- ⑨ PROPOSED HMA BINDER COURSE

LOCATION OF STRUCTURES:

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT:

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

NOTES:

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

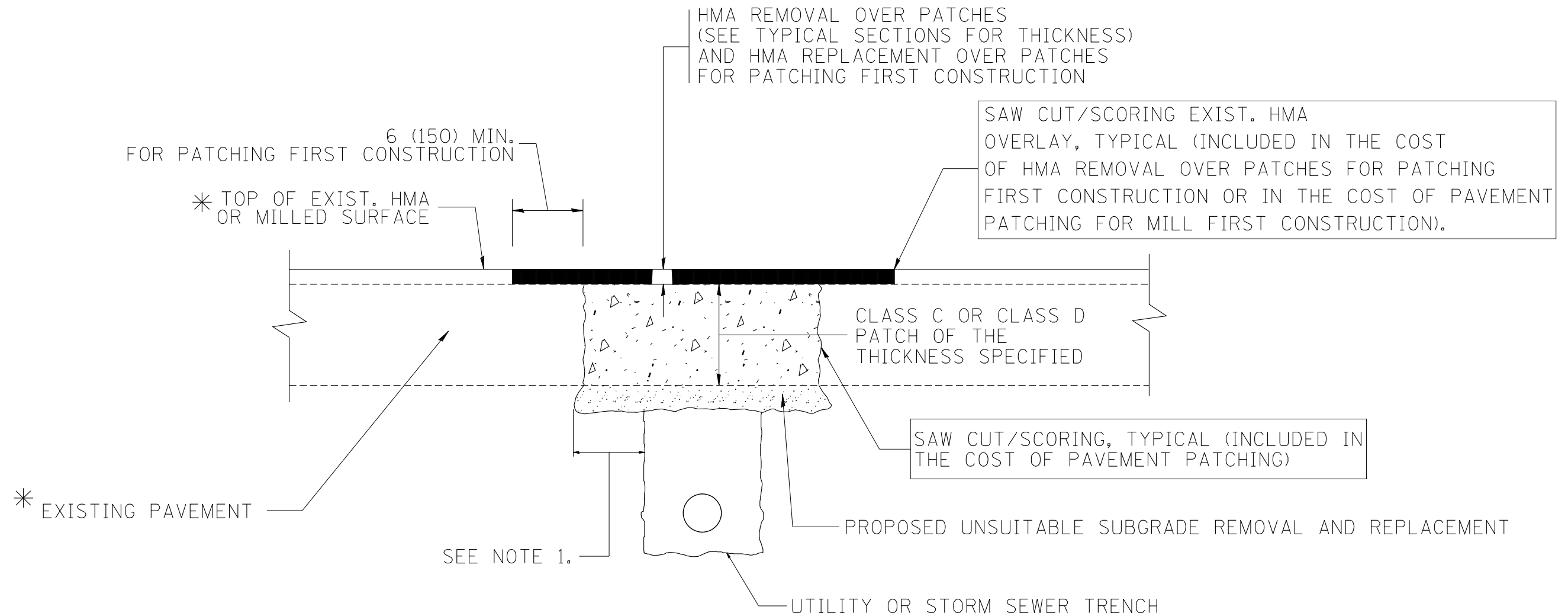
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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	PLOT SCALE = 1/8" = 1'-0"	CHECKED -	REVISED - R. BORO 03-09-11
	PLOT DATE = 12/6/2011	DATE - 10-25-94	REVISED - R. BORO 12-06-11

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	452
BD600-03 (BD-8)		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

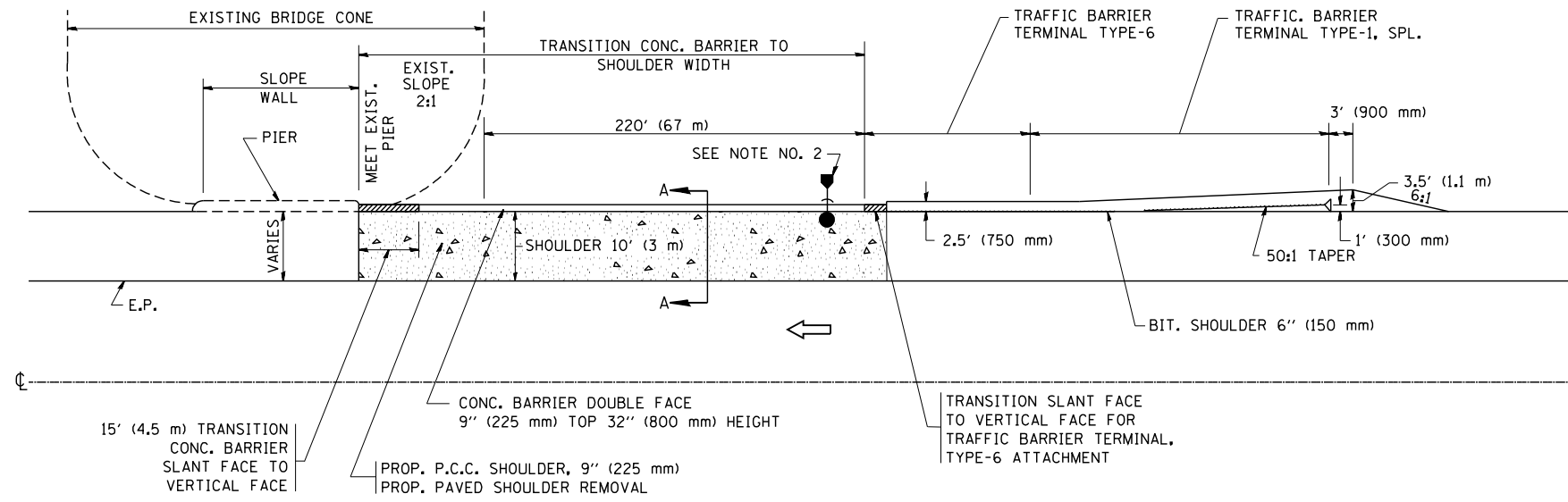
1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

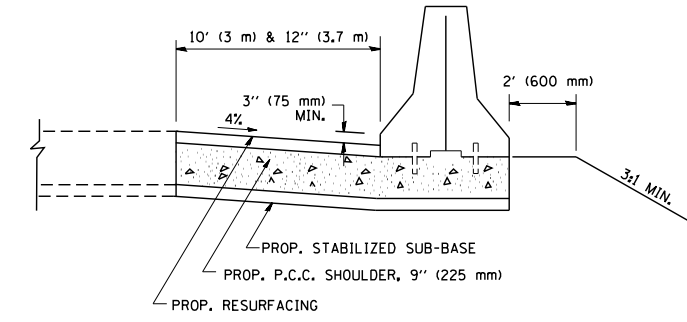
1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

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

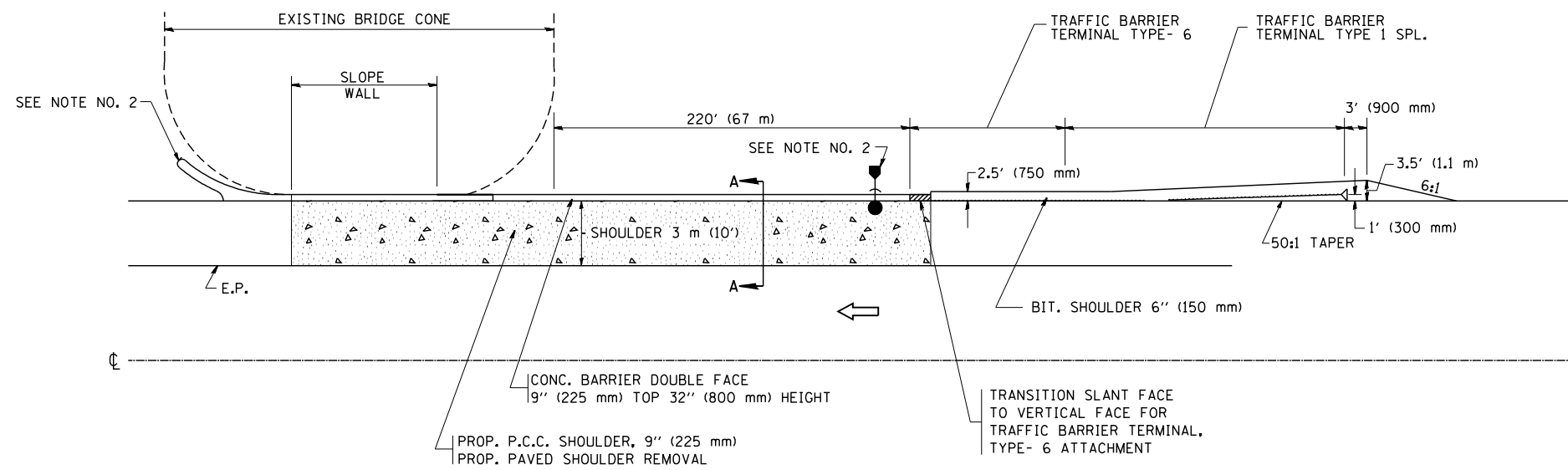
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		DRAWN -	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	557	454		
		PLOT SCALE = 50.000' / IN.	REVISED - R. BORO 09-04-07		BD400-04 (BD-22)		CONTRACT NO. 60Y38					
		PLOT DATE = 10/27/2008	REVISED - K. ENG 10-27-08		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							



CONC. BARRIER ADJACENT TO SLOPE WALL WITH PIER (DITCH SECTION)



SECTION A-A



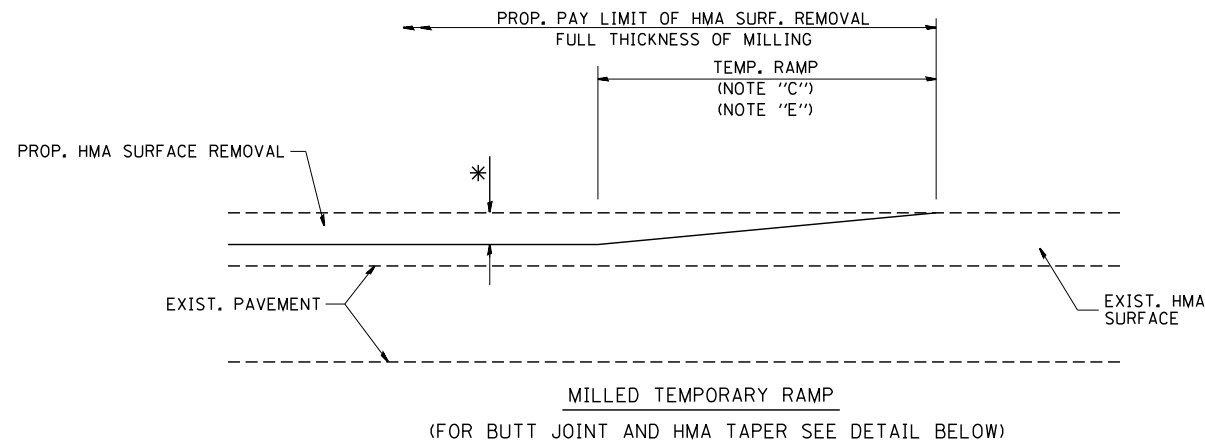
CONC. BARRIER ADJACENT TO SLOPE WALL WITHOUT PIER (DITCH SECTION)

NOTE:

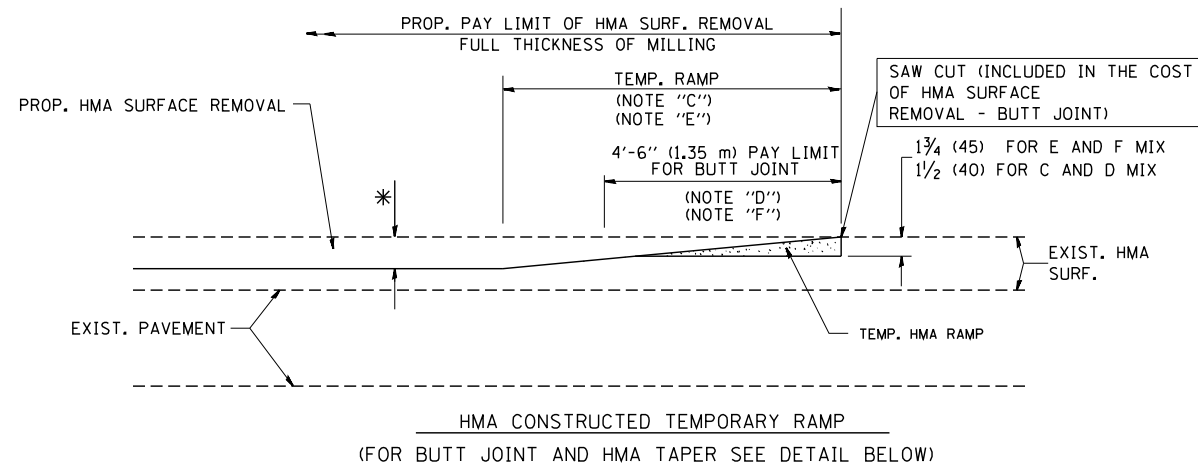
1. SEE STATE STANDARD 630201 FOR STABILIZATION FOR GUARDRAIL.
- *2. THE GUTTER OUTLET AND CATCH BASIN LOCATION IS DEPENDENT ON DIRECTION OF FLOW.
3. USE CONC. BARRIER SINGLE FACE IF CLEARANCE BETWEEN PIER AND SHOULDER IS LESS THAN 27" (685 mm).
4. SEE STATE STANDARD 637001 FOR CONCRETE BARRIER.

- * CATCH BASIN TYPE C, TYPE 24 FRAME AND GRATE
- * STORM SEWERS, 12" (300 mm)
- * END SECTIONS, 12" (300 mm)

FILE NAME = W:\diststd\22x34\bd29.dgn	USER NAME = geglanoht	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE BARRIER PIER AND SLOPE WALL PROTECTION DETAIL		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -				SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	BD600-08 (BD29)
PLOT DATE = 1/4/2008	CHECKED -	DATE - 10-18-02	REVISED -	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

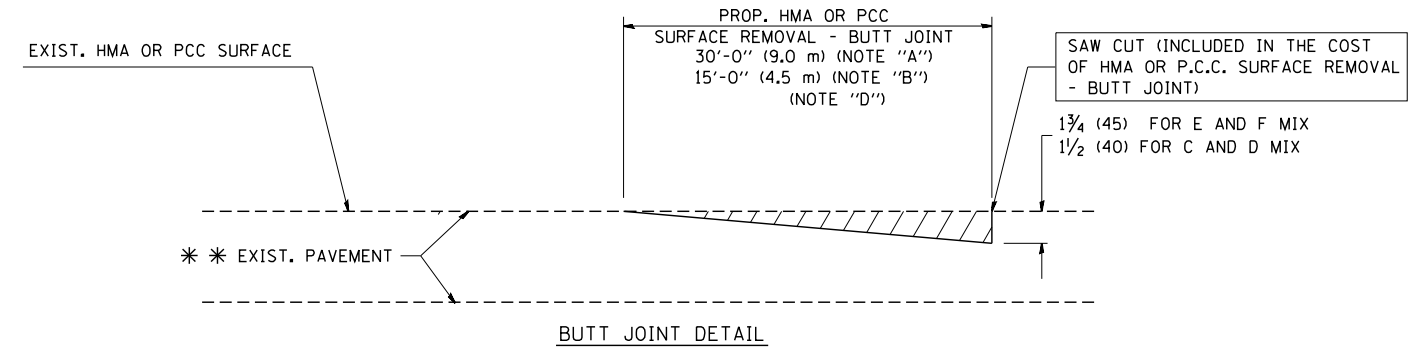


OPTION 1

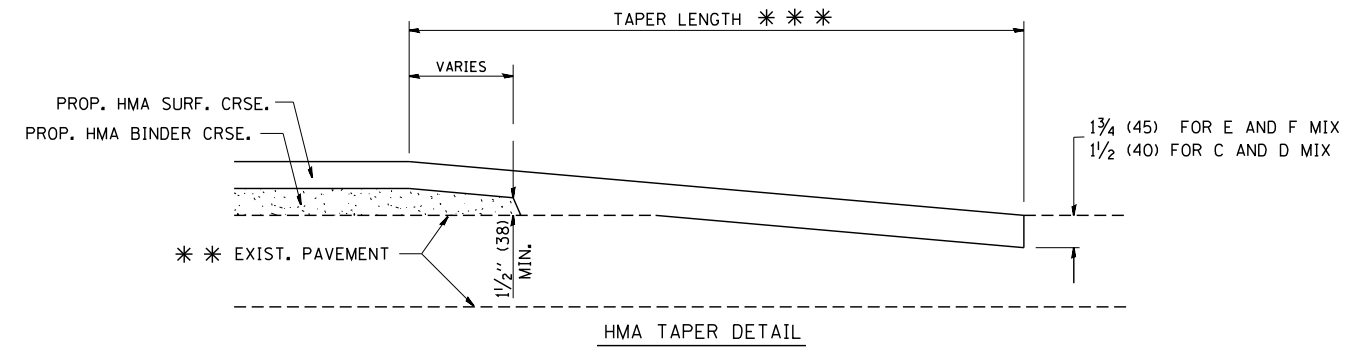


OPTION 2

TYPICAL TEMPORARY RAMP



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

*** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

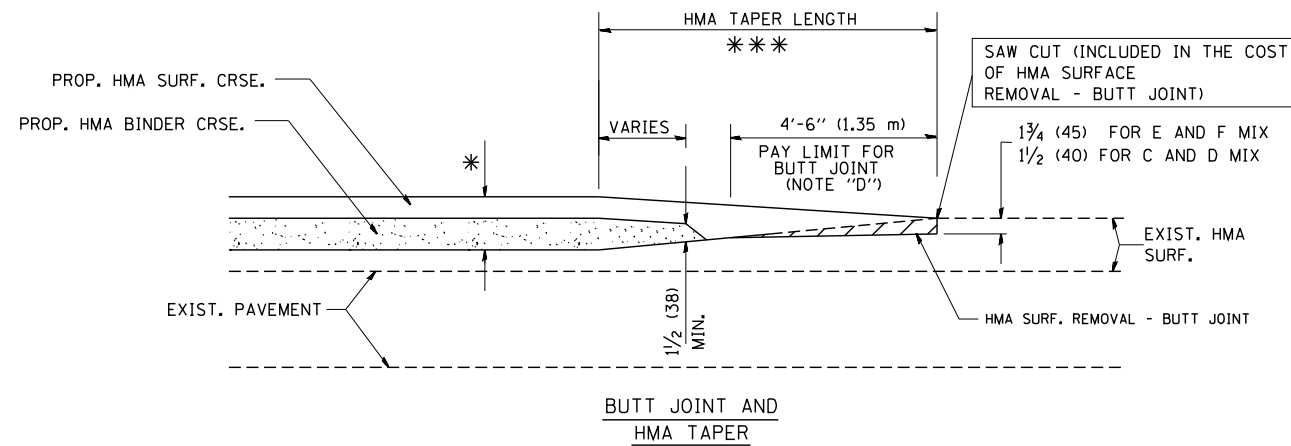
NOTES

- 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.



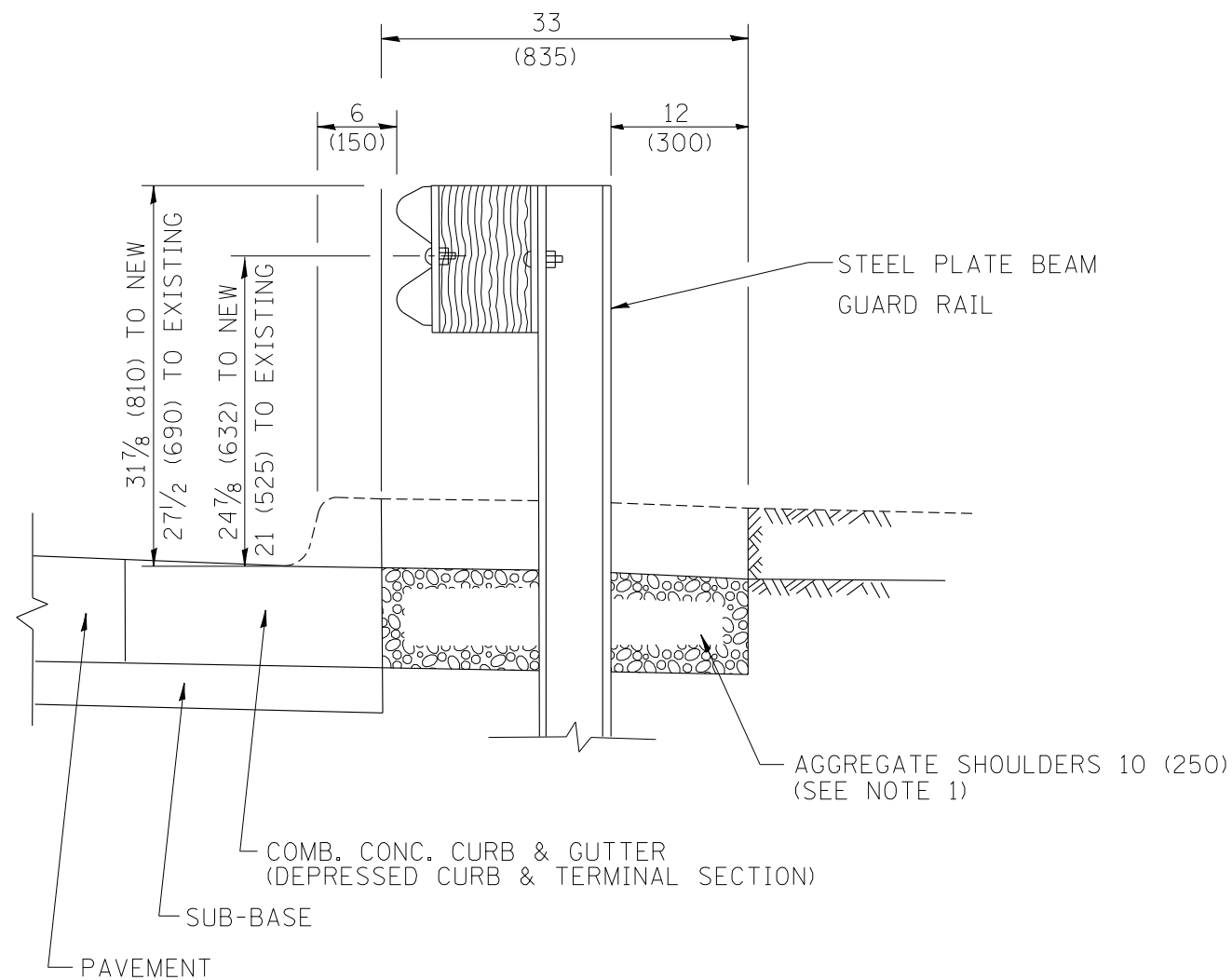
TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING

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		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.

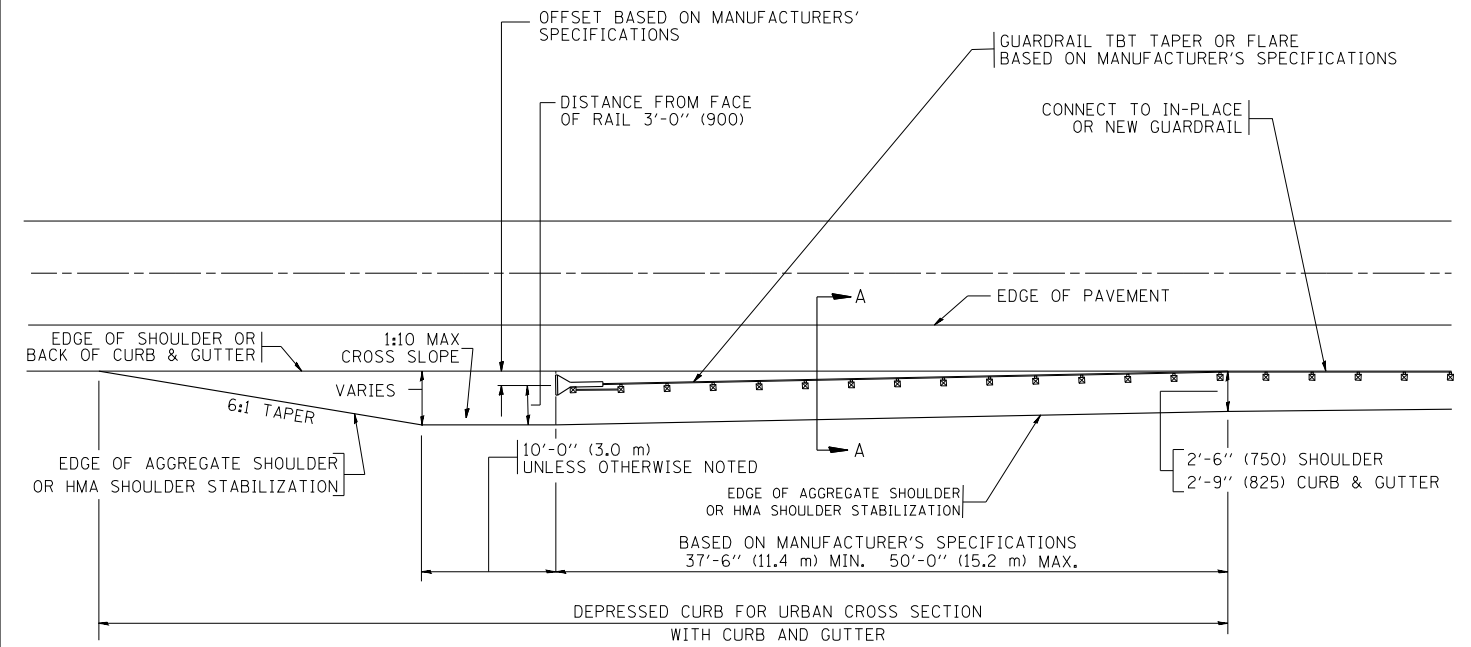
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	457
BD400-05 BD32		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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 =	USER NAME = drivakosgn	DESIGNED - M. DE YONG	REVISED - E. GOMEZ 08-28-00
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	PLOT DATE = 9/21/2009	DATE - 09-22-90	REVISED - R. BORO 09-14-2009

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	458
BD600-10 (BD 34)		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

GENERAL NOTES

ALTERNATE MATERIAL FOR THE WALLS MAY BE CONCRETE MASONRY UNITS, PRECAST REINFORCED CONCRETE SECTIONS OR CAST-IN-PLACE CONCRETE. THE CAST IRON STEPS AS DETAILED HEREON ARE TYPICAL. STEPS OF OTHER DESIGN AND MATERIAL THAT CONFORM TO THE MINIMUM REQUIREMENTS OF THE STEPS SHOWN MAY BE USED WHEN APPROVED BY THE ENGINEER.

CAST IRON STEPS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF ARTICLE 1006.14 OF THE STANDARD SPECIFICATIONS.

STEPS SHALL BE EMBEDDED INTO THE WALL A MINIMUM OF THREE (3) INCHES. STEPS SHALL NOT BE EXTENDED ON THE OUTSIDE.

STEPS SHALL BE OMITTED FOR WORK IN COOK COUNTY WHEN THE DEPTH OF THE MANHOLE IS TEN (10') OR LESS.

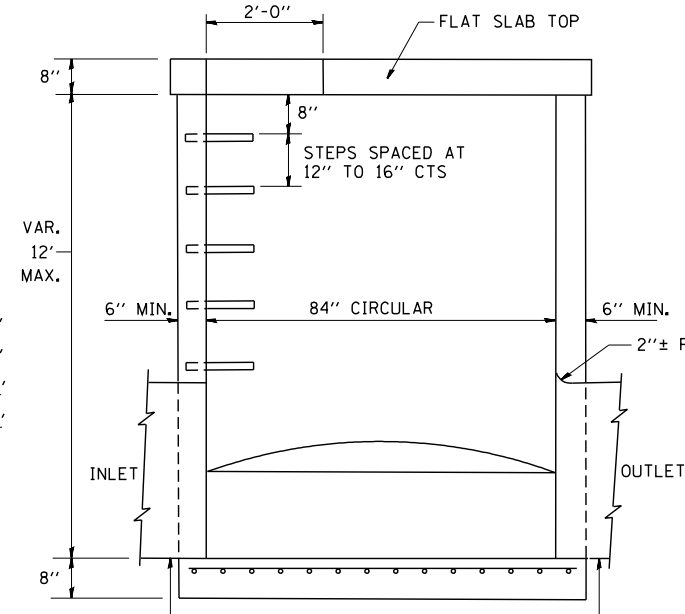
IN ADDITION TO THE REQUIREMENTS OF ARTICLE 612.13 OF THE STANDARD SPECIFICATIONS, THE CONTRACT UNIT PRICE FOR MANHOLES, TYPE A, 7'-DIAMETER SHALL INCLUDE THE SAND CUSHION WHEN REQUIRED, FURNISHING AND INSTALLING STEPS WHEN REQUIRED, FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL, AND FURNISHING AND INSTALLING FLAT SLAB TOP.

PRECAST FLAT SLAB TOP SHALL CONFORM TO ARTICLES 505.01 THRU 505.05 OF THE STANDARD SPECIFICATIONS EXCEPT THAT THE CONCRETE STRENGTH SHALL BE 4,000 PSI AFTER 28 DAYS. REINFORCEMENT BARS AND WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE 1006.10. ONLY GRADE 60 REINFORCEMENT BARS WILL BE PERMITTED.

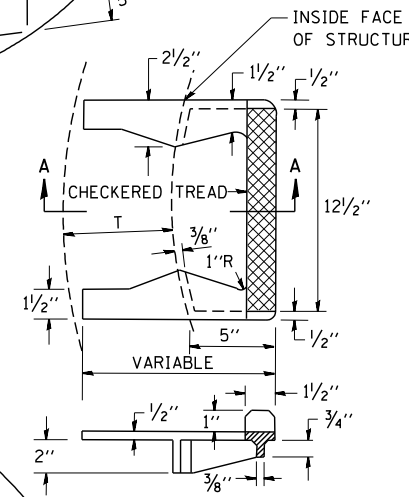
BOTTOM SLAB SHALL BE REINFORCED BY EITHER REINFORCEMENT BARS OR WELDED WIRE FABRIC. THE MINIMUM REINFORCEMENT SHALL BE 0.46 SQUARE INCH PER LINEAR FOOT IN BOTH DIRECTIONS.

JOINT CONFIGURATION AND DIMENSIONS OF FLAT SLAB TOP SHALL MATCH AND FIT THE RISER JOINT DETAIL.

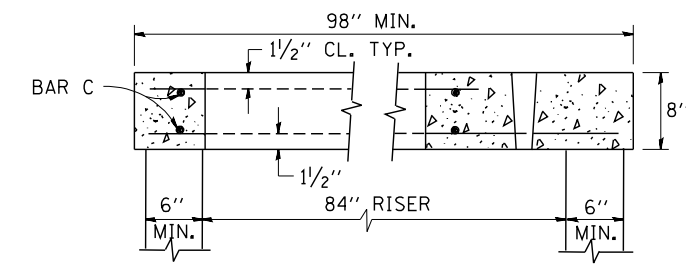
LIFTING DEVICES SHALL BE APPROVED BY THE ENGINEER.



ELEVATION

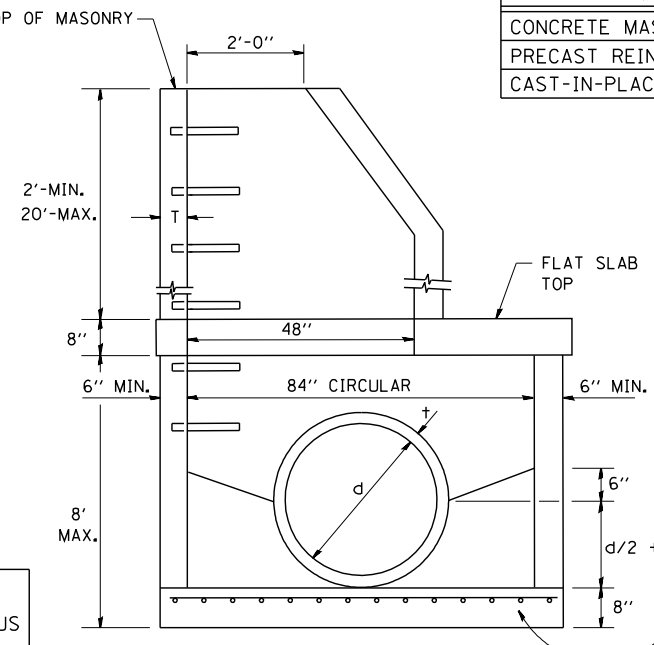


**SEC. A-A
CAST IRON STEPS**

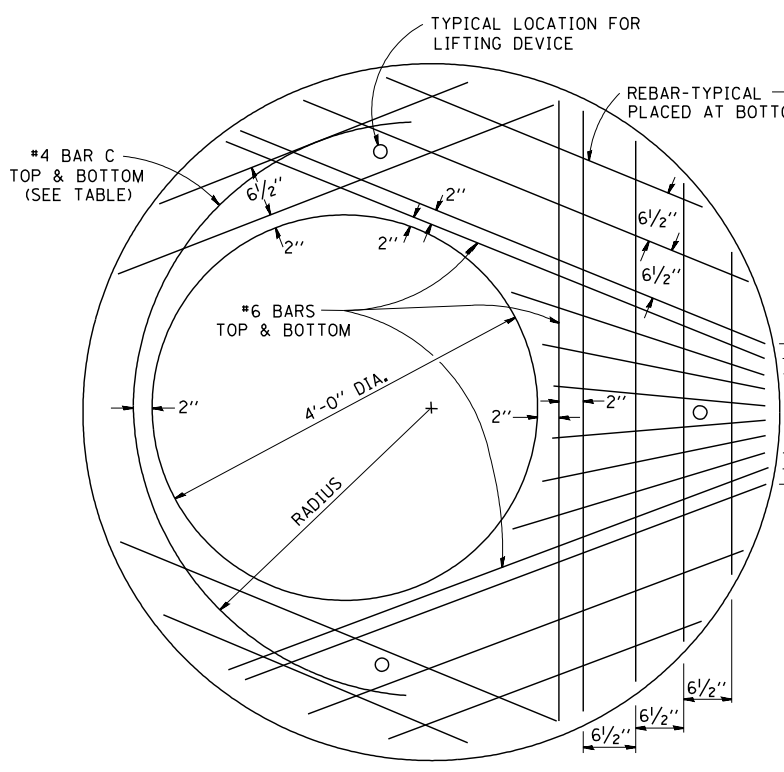
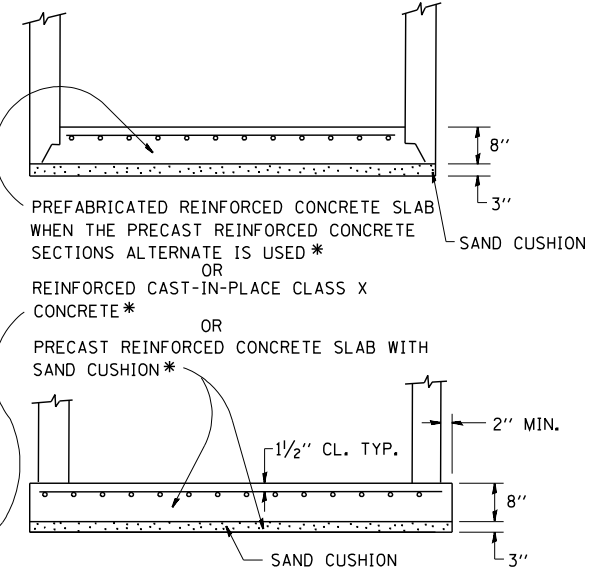


SECTION B-B

ALTERNATE MATERIALS FOR RISERS	T (MIN.)
CONCRETE MASONRY UNITS	5"
PRECAST REINFORCED CONCRETE SECTIONS	4"
CAST-IN-PLACE CONCRETE	6"

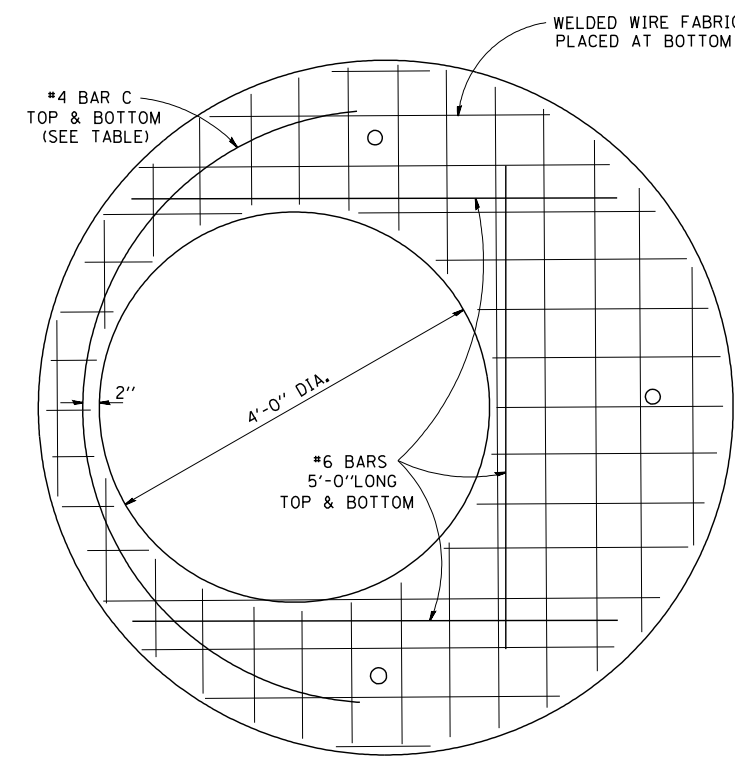
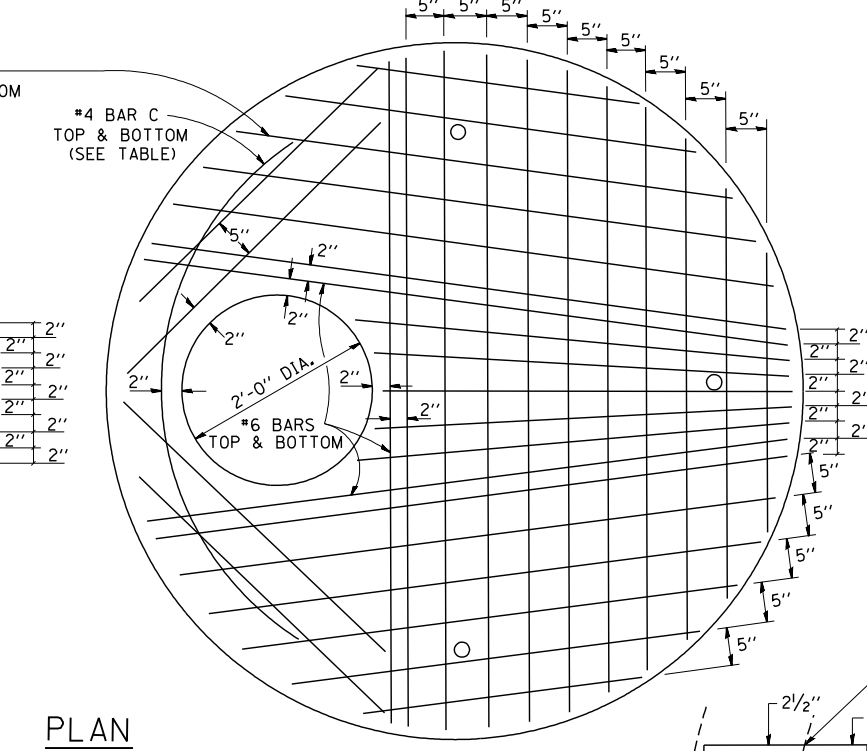


ELEVATION



PLAN

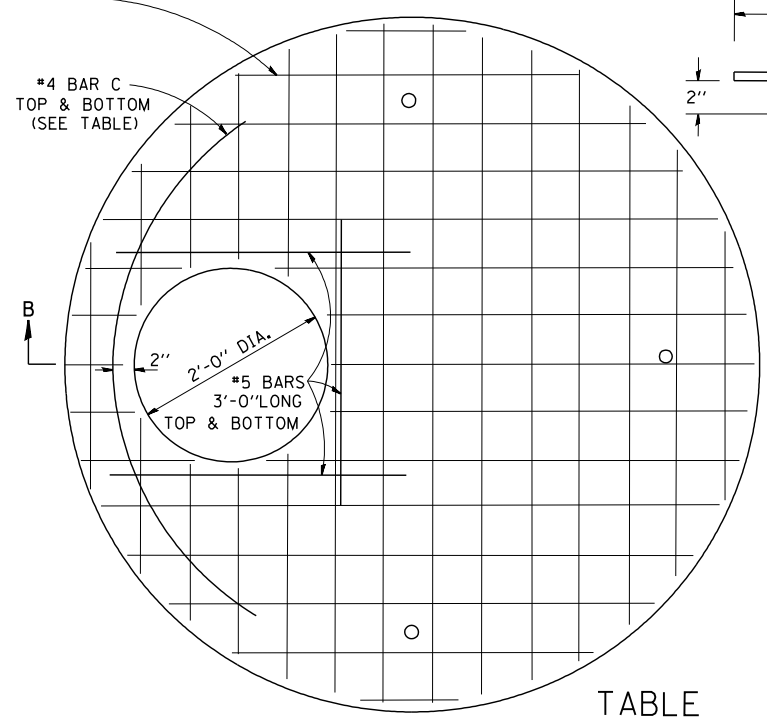
SHOWING REBAR REINFORCEMENT



PLAN

SHOWING WELDED WIRE FABRIC REINFORCEMENT

NOTE: THIS STRUCTURE SHOULD BE USED WITH PIPES SIZE 54" DIA. OR SMALLER.



TABLE

DIAMETER OF OPENING	REINFORCEMENT "A _c " WWF OR SIZE EACH DIRECTION	BAR SIZE	BAR C		
			SIZE	LENGTH	RADIUS
2'-0"	1.06 SQ.IN./LIN.FT.	#6	#4	6'-0"	38"
4'-0"	0.82 SQ.IN./LIN.FT.	#6	#4	9'-0"	38"

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PLOT DATE = 1/4/2008

DESIGNED -
DRAWN -
CHECKED -
DATE - 10-18-02

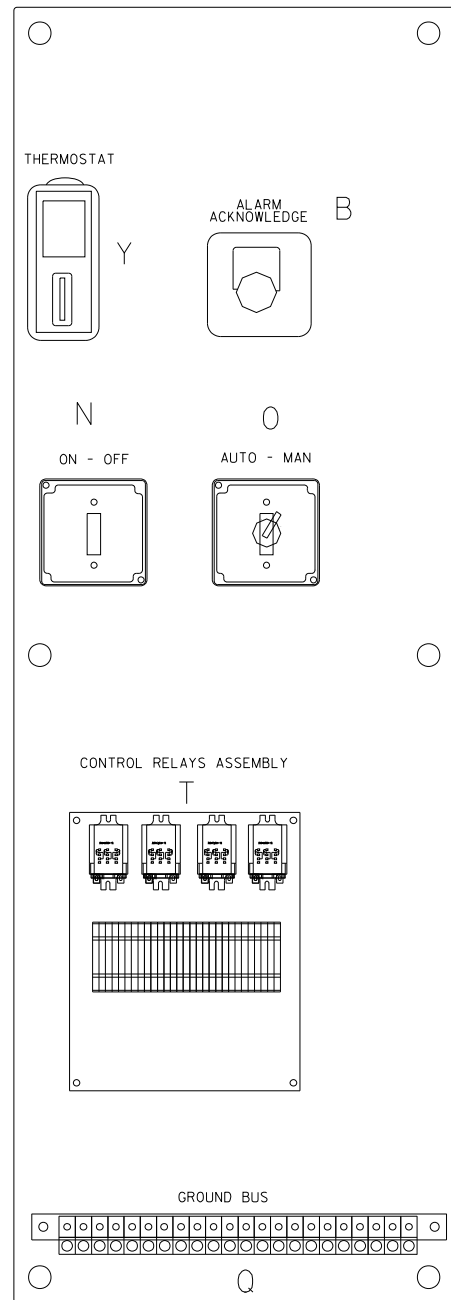
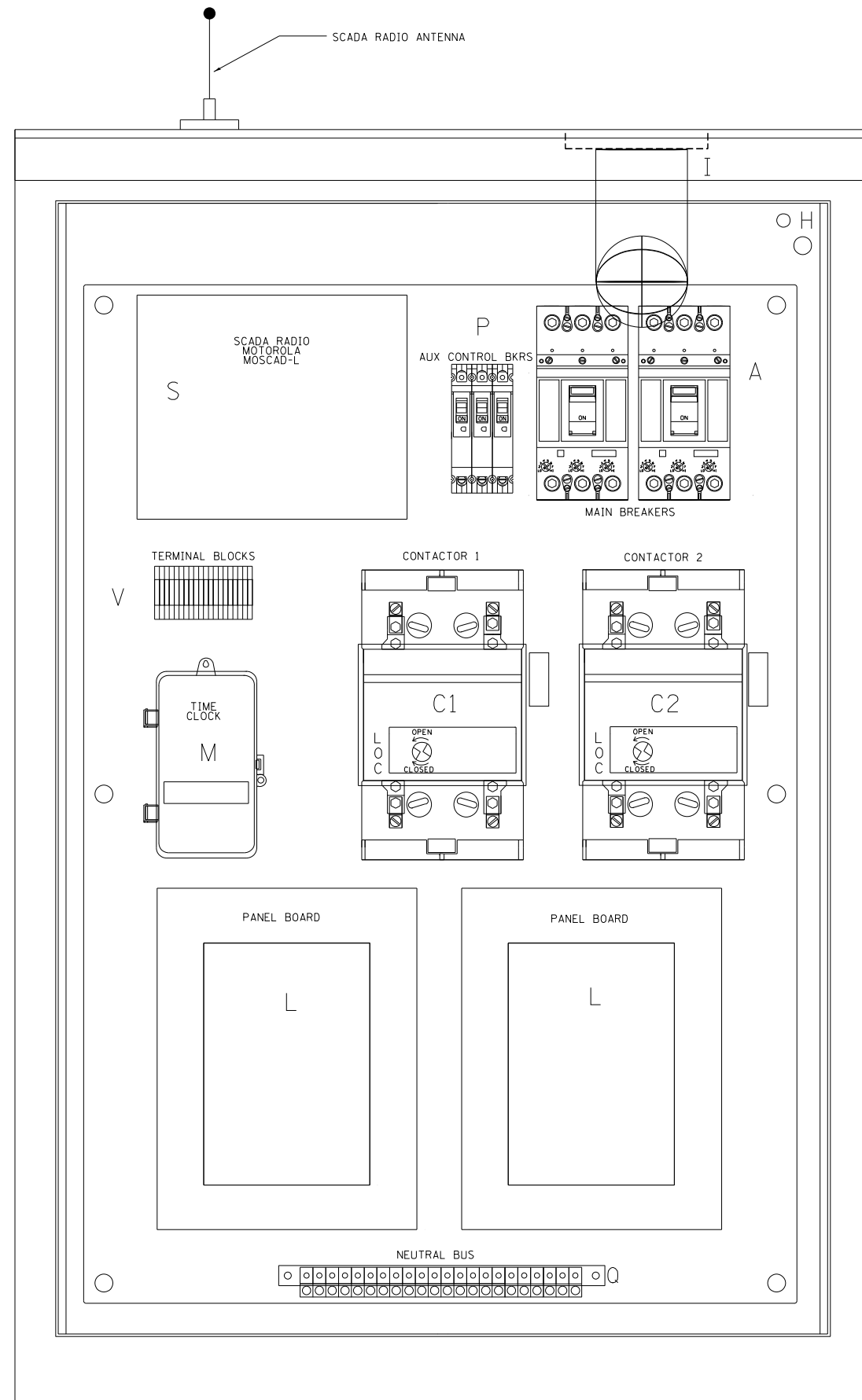
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

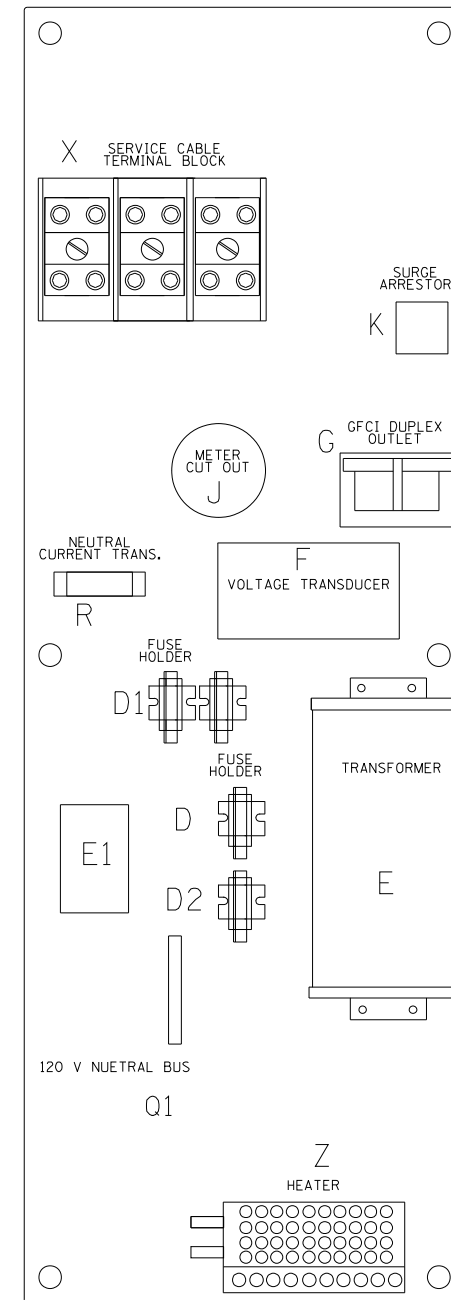
**MANHOLE TYPE A
7 FOOT DIAMETER**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BD600-11 (BD-37)		557	459
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



LEFT SIDE PANEL



RIGHT SIDE PANEL

BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2 *	2	CONTACTOR 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20 FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK-2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120 - 24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER WITH COVERED TERMINALS
G	1	20 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 9001KS11BH13, 2 POSITION SWITCH IN 9001KY1 ENCLOSURE OR APPROVED EQUAL
P	2	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 #6 AND 8 #12 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA MOSCAD-L RADIO, 240 V
T *	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) . QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X *	1	620 AMP SLPICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER

* TERMINALS SHALL BE COVERED WITH CLEAR PLEXIGLASS SHEET

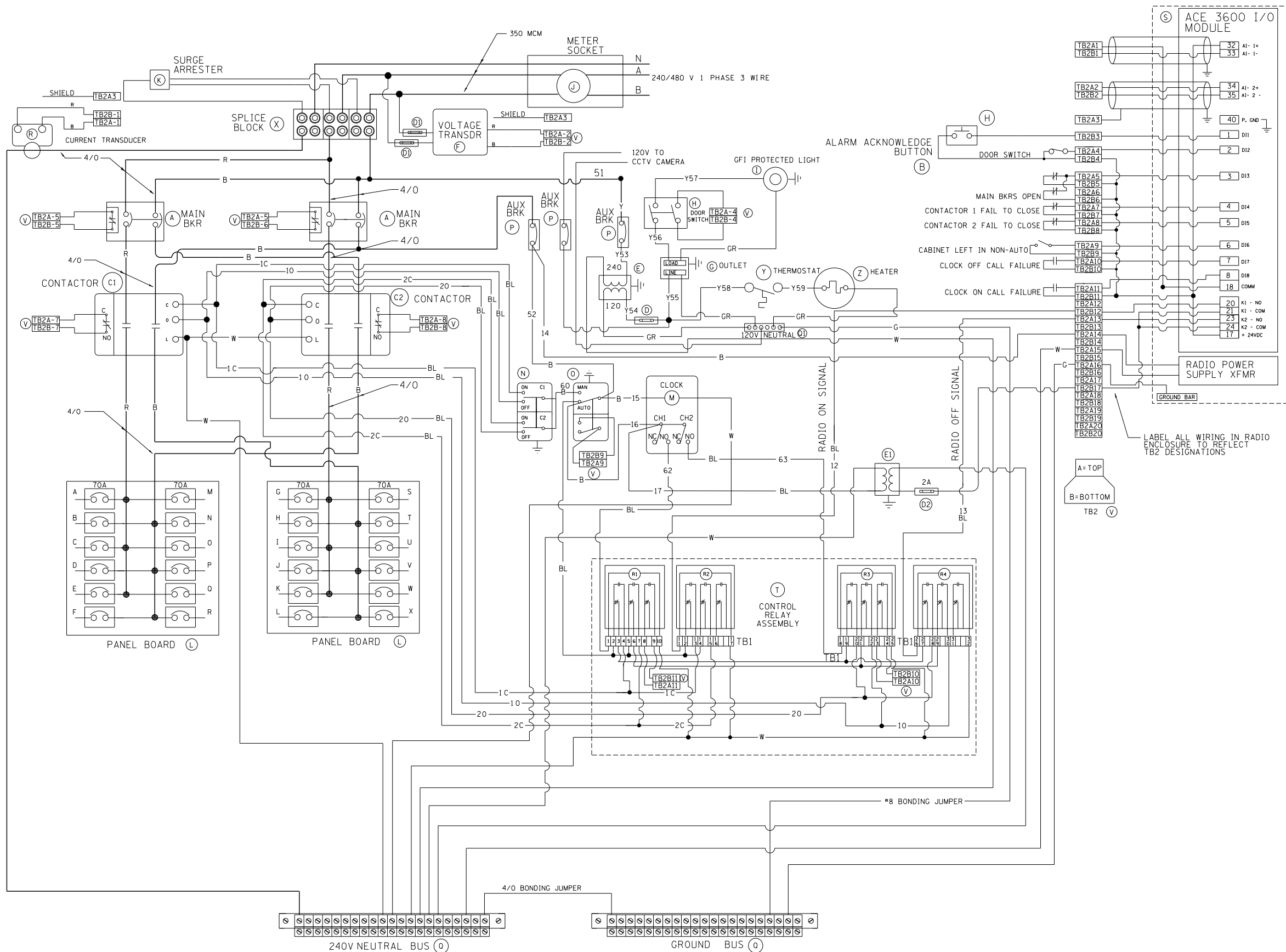
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		CHECKED -	REVISED - R. TOMSONS 03-10-10
		DATE -	REVISED - R. TOMSONS 03-29-12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

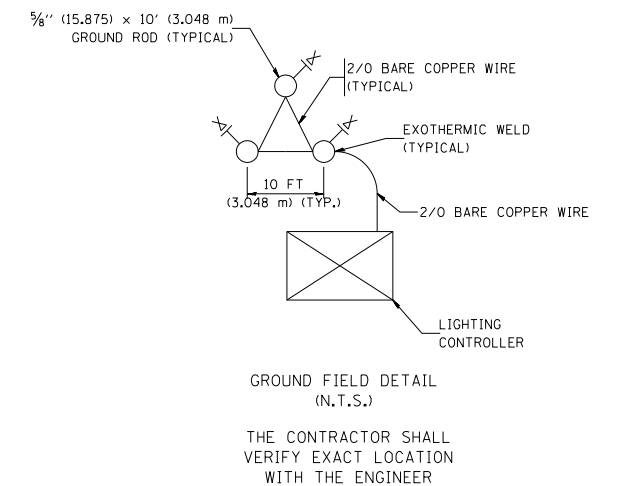
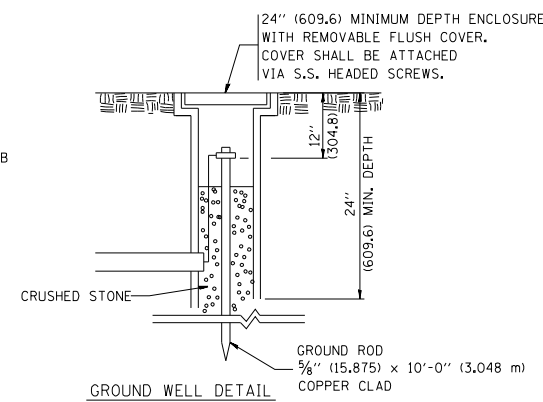
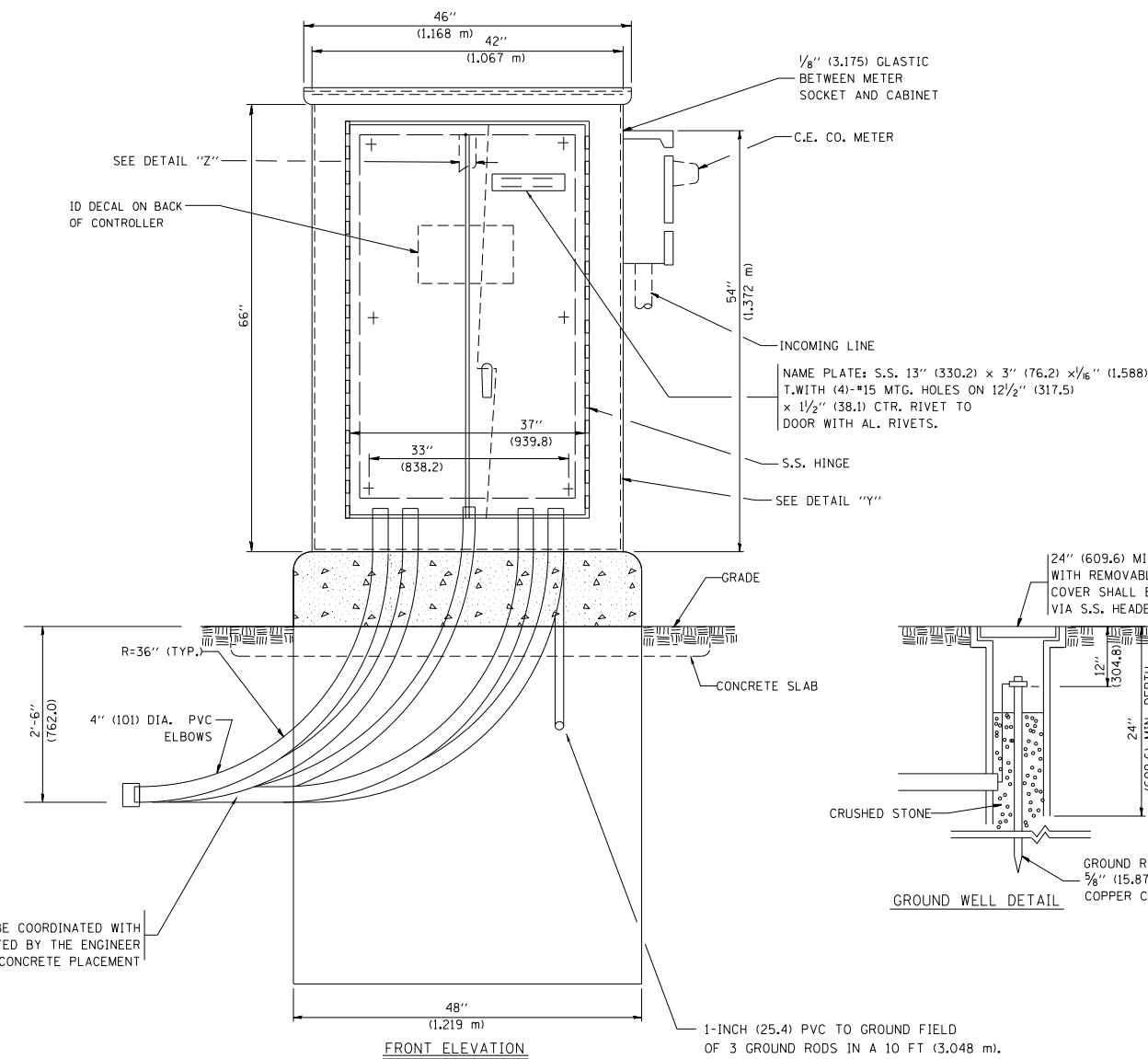
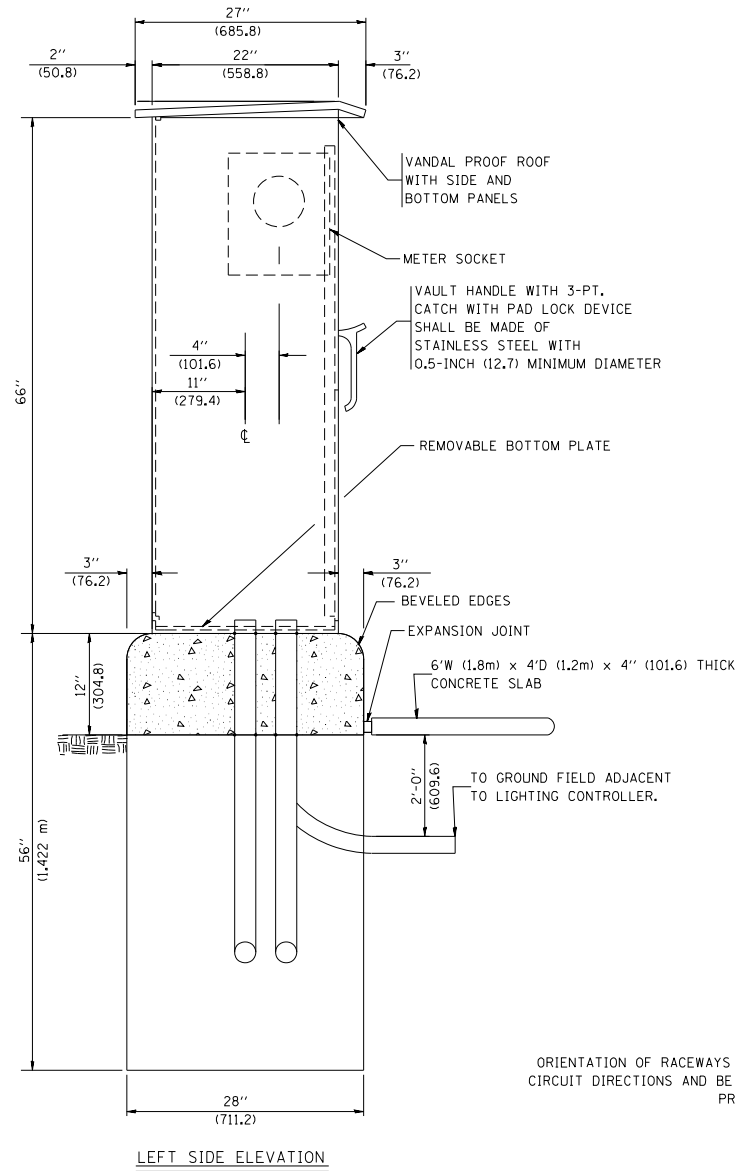
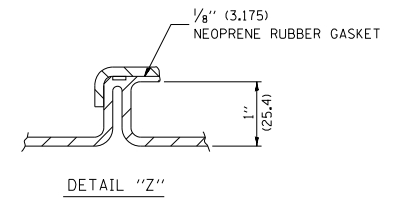
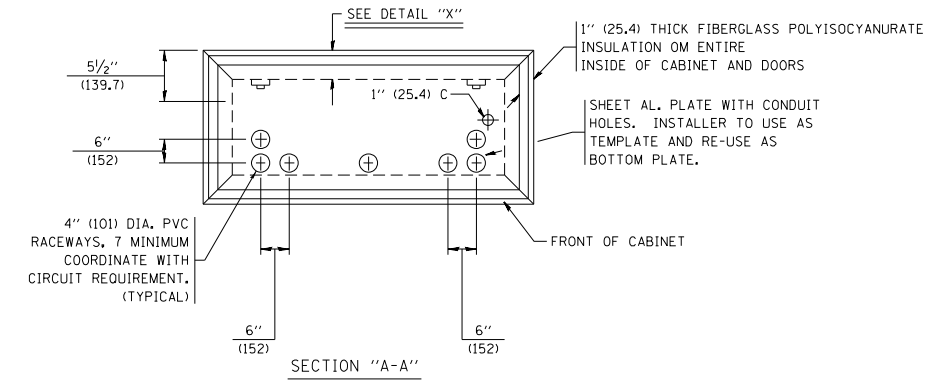
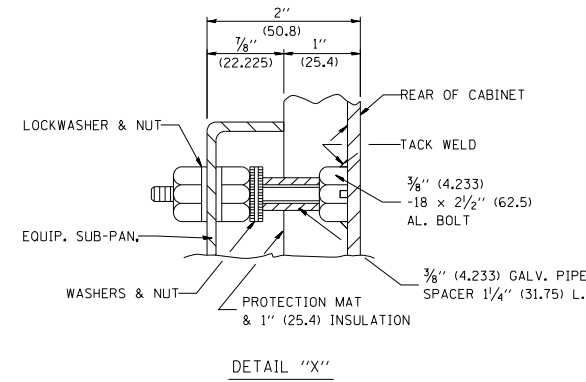
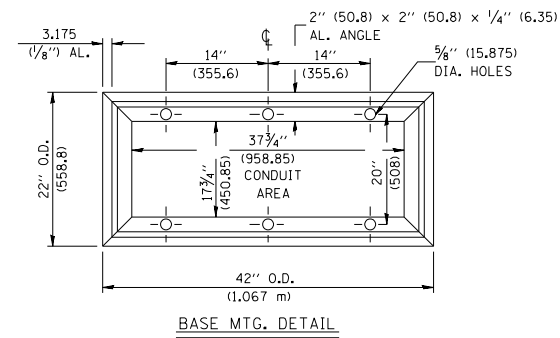
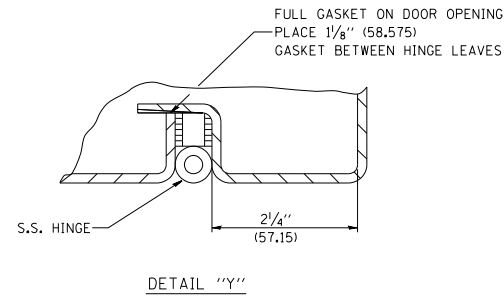
LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE SHEET NO. 1 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-205		557	460
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



BILL OF MATERIALS		
ITEM #	QTY	DESCRIPTION
A	2	MAIN CIRCUIT BREAKERS 2 POLE 200 AMP WITH AUX CONTACT
B	1	ACKNOWLEDGE SWITCH, PUSH BUTTON WITH YELLOW INSERT
C1, C2	2	CONTACTOR 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	FINGERSAFE FUSE HOLDER WITH KTK-20A FUSE
D1	2	FINGERSAFE FUSE HOLDER WITH KTK-1/2 FUSE
D2	1	FINGERSAFE FUSE HOLDER WITH KTK- 2A FUSE
E	1	2.0 KVA 277V-240/120 TRANSFORMER
E1	1	0.25 KVA 240/120-24 VAC TRANSFORMER
F	1	VOLTAGE TRANSDUCER
G	1	15 AMP GFCI DUPLEX OUTLET W/COVER
H	2	DOOR SWITCH A-20G0-B7-K
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OFF
O	1	SQUARE D, 900IKS1BH13, 2 POSITION SWITCH IN 900IKY1 ENCLOSURE
P	2	BREAKER IP 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 x 16 x 1/4
Q1	1	COPPER NEUTRAL BUS WITH 1 1/0 AND #6 CONDUCTOR POINTS
R	1	CURRENT TRANSDUCER
S	1	MOTOROLA ACE 3600
T	1	CONTROL RELAY ASSEMBLY 240V COILS WITH 4 3 PDT 25A RELAYS (W389ACX-15) (R1, R2, R3, R4) - QTY 32 TERMINAL BLOCKS
V	20	TERMINAL BLOCKS
X	1	620 AMP SPLICE BLOCK
Y	1	40-80 DEG THERMOSTAT
Z	1	375 WATT HEATER



ORIENTATION OF RACEWAYS SHALL BE COORDINATED WITH CIRCUIT DIRECTIONS AND BE INSPECTED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT

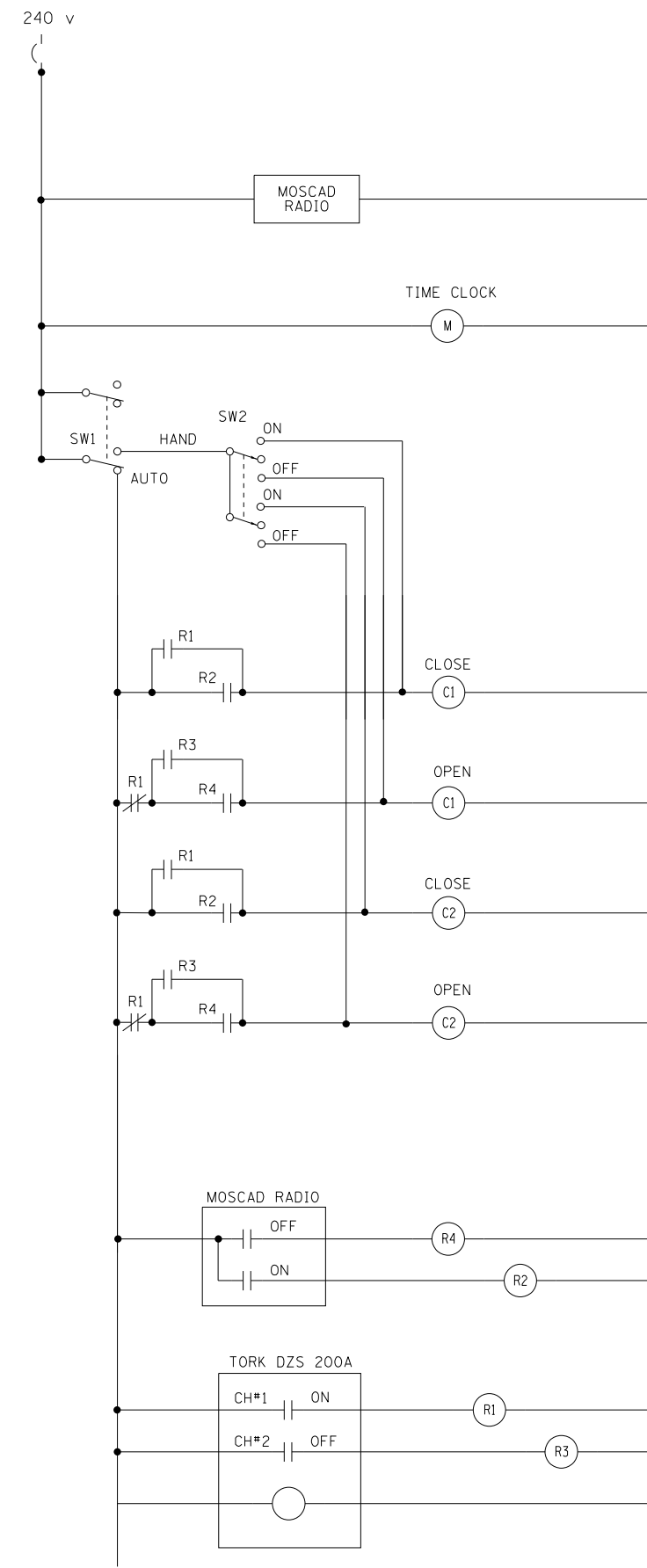
1-INCH (25.4) PVC TO GROUND FIELD OF 3 GROUND RODS IN A 10 FT (3,048 m). TRIANGLE CONNECTED VIA BARE COPPER WIRE. VERIFY EXACT LOCATION OF GROUND FIELD WITH THE ENGINEER. NO GROUND WELL SHALL BE PLACED IN CONCRETE PAD IN FRONT OF CONTROLLER.

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - R. TOMSONS 08-19-04	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwwork\pwwork\drivakosgn\d0108315\be205.dgn	PLOT SCALE = 50.000' / 1" =	DRAWN -	REVISED - R. TOMSONS 05-11-09					BE-205		CONTRACT NO. 60Y38			
	PLOT DATE = 3/29/2012	CHECKED -	REVISED - R. TOMSONS 03-10-10					SCALE: NONE	SHEET NO. 3 OF 4 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT
		DATE -	REVISED - R. TOMSONS 03-29-12										

NOTES

- CABINET SHALL BE FABRICATED FROM 0.125-INCH (3.175) SHEET ALUMINUM #3003H14, FORMED AND ARC WELDED.
- ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
- NAME PLATE SHALL HAVE ENGRAVED 0.75-INCH (19.05) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
- ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
- CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
- THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
- METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
- CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 0.125-INCH (3.175) THICK GLASTIC INSULATION BACK PANEL.
- ALL DEVICES SHALL BE FRONT REMOVABLE.
- TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
- SET LATITUDE TO 42 DEGREES, SET CH.1 TO 23 MINUTES AFTER ASTRONOMICAL SUNSET, 50 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND), +28 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS.)
- BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
- ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
- ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
- ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW, SCADA WIRING SHALL BE #18.
- ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:

R - RED	Y - YELLOW
B - BLACK	W - WHITE
BL- BLUE	G - GREEN
	GR - GREY
- MOSCAD I/O WIRING SHALL BE:
 - DIGITAL INPUT (DI) WIRING SHALL BE #18 MTW PURPLE.
 - ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.
 - AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
- SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
- A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



CONTROL CIRCUIT LADDER LOGIC DIAGRAM

MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	DIGITAL INPUT 1	ALARM KNOWLEDGE
2	DIGITAL INPUT 2	DOOR OPEN
3	DIGITAL INPUT 3	MAINS) BREAKER OPEN
4	DIGITAL INPUT 4	CONTACTOR 1 OPEN
5	DIGITAL INPUT 5	CONTACTOR 2 OPEN
6	DIGITAL INPUT 6	CABINET IN NON-AUTO
7	DIGITAL INPUT 7	BACK-UP CLOCK OFF CALL
8	DIGITAL INPUT 8	BACK-UP CLOCK ON CALL
17	24 V+	24+VDC
18	DI COMMON	COMMON
21	K1 C	K1 COMMON
22	K1 NO	LIGHTS ON CALL
24	K2 C	K2 COMMON
25	K2 NO	LIGHTS OFF CALL
32	ANALOG INPUT 1 (+)	CABINET NEUTRAL CURRENT
33	ANALOG INPUT 1 (-)	CABINET NEUTRAL CURRENT
34	ANALOG INPUT 2 (+)	CABINET SERVICE VOLTAGE
35	ANALOG INPUT 2 (-)	CABINET SERVICE VOLTAGE
40	P. GROUND	GROUND

ALL ANALOG INPUTS WILL BE 4-20 MA ONLY. DIGITAL OUTPUT RELAYS WILL BE ELECTRICALLY ENERGIZED AND MOMENTARILY HELD
MIXED I/O MODULE MODEL NUMBER V436

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - R. TOMSONS 08-19-04
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	PLOT DATE = 3/29/2012	DATE -	REVISED - R. TOMSONS 03-29-12

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

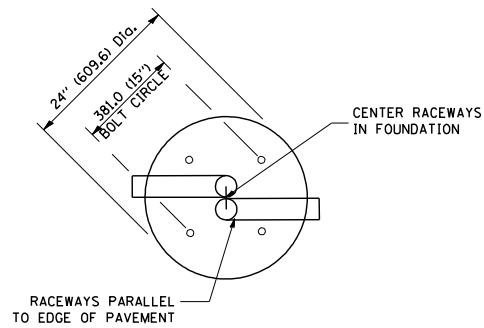
LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 200AMP (DUAL) RADIO SCADA

SCALE: NONE SHEET NO. 4 OF 4 SHEETS STA. TO STA.

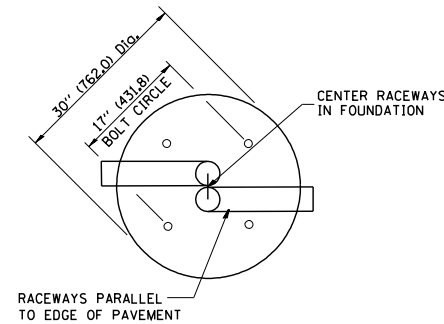
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-205		557	463
		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY O _u = 0.375 TON/SO. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY O _u = 0.75 TON/SO.FT	9'-6" (2.93 m)	10'-9" (3.23 m)
STIFF CLAY O _u = 1.50 TON/SO. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	9'-0" (2.74 m)



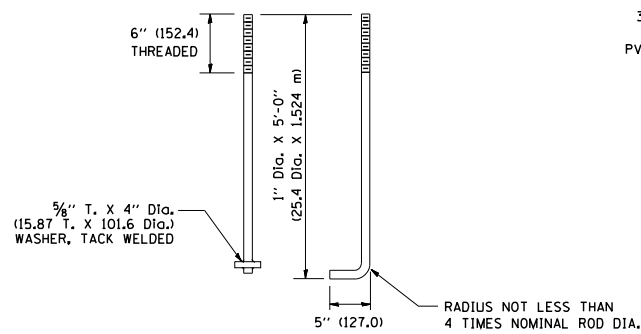
TOP VIEW



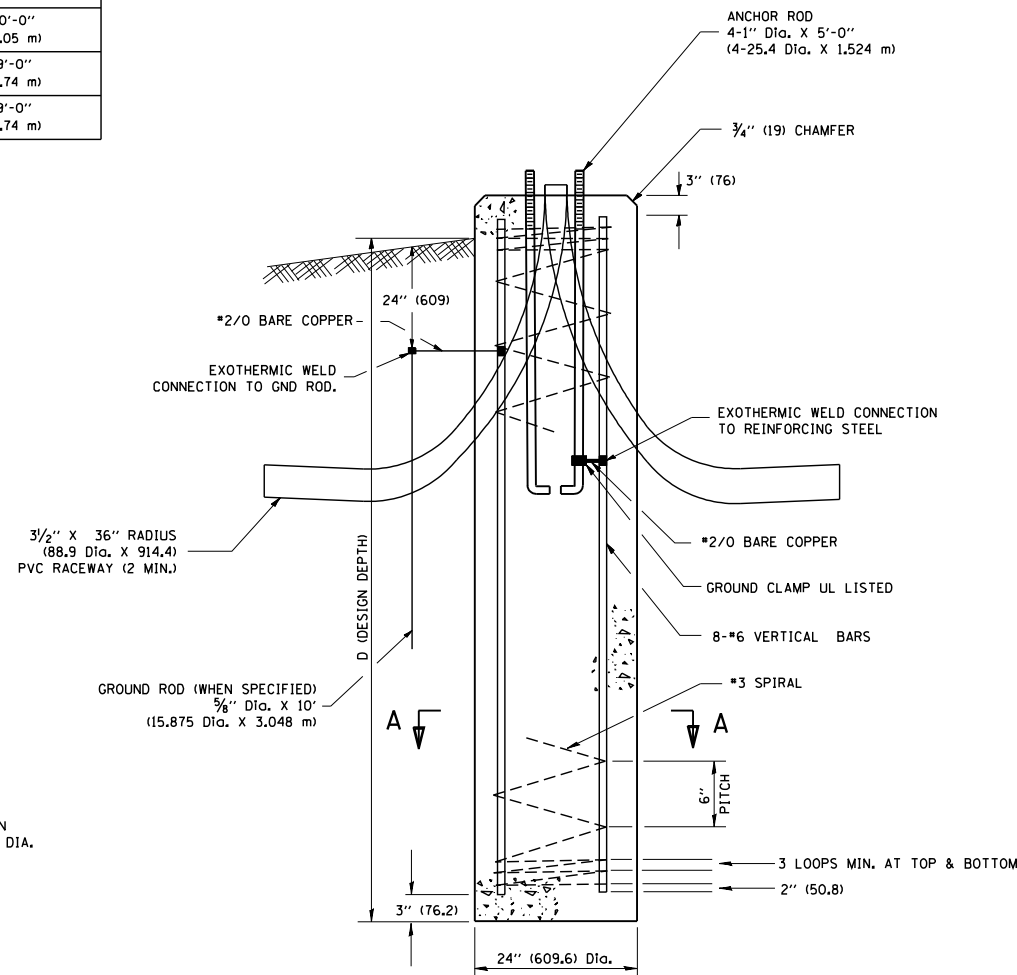
TOP VIEW

NOTES

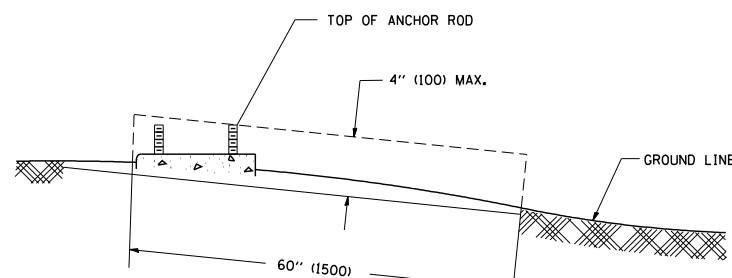
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UMG MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.



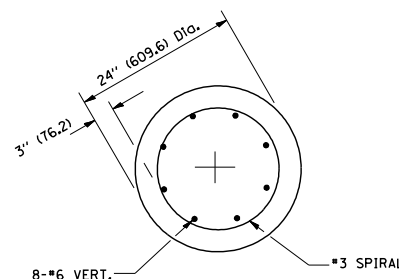
ANCHOR ROD DETAIL



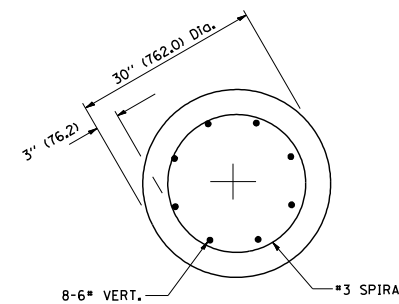
FOUNDATION DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



SECTION A-A

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W:\diststd\22x34\be301.dgn

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PLOT DATE = 1/4/2008

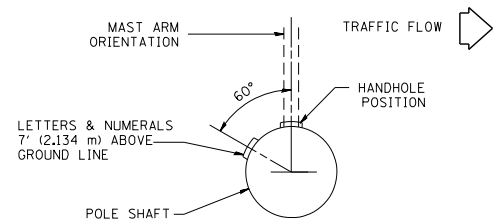
DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED - 04-22-02
REVISED -
REVISED -
REVISED -

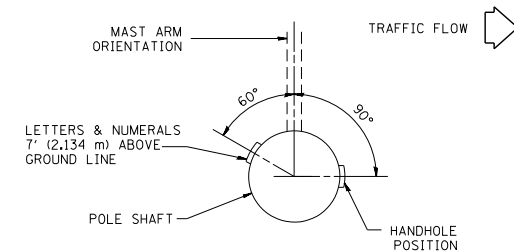
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION
40' (12.192 m) TO 47 1/2' (14.478 m) M.H. 15" (381 mm) BOLT CIRCLE
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

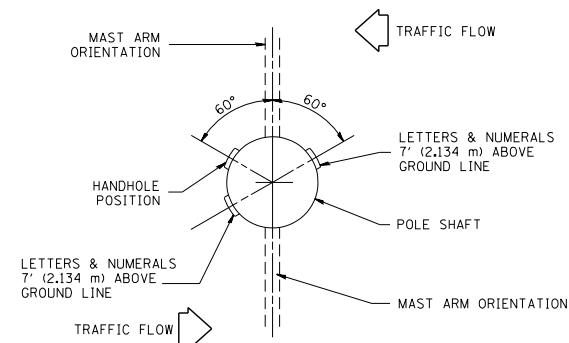
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-301		557	464
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



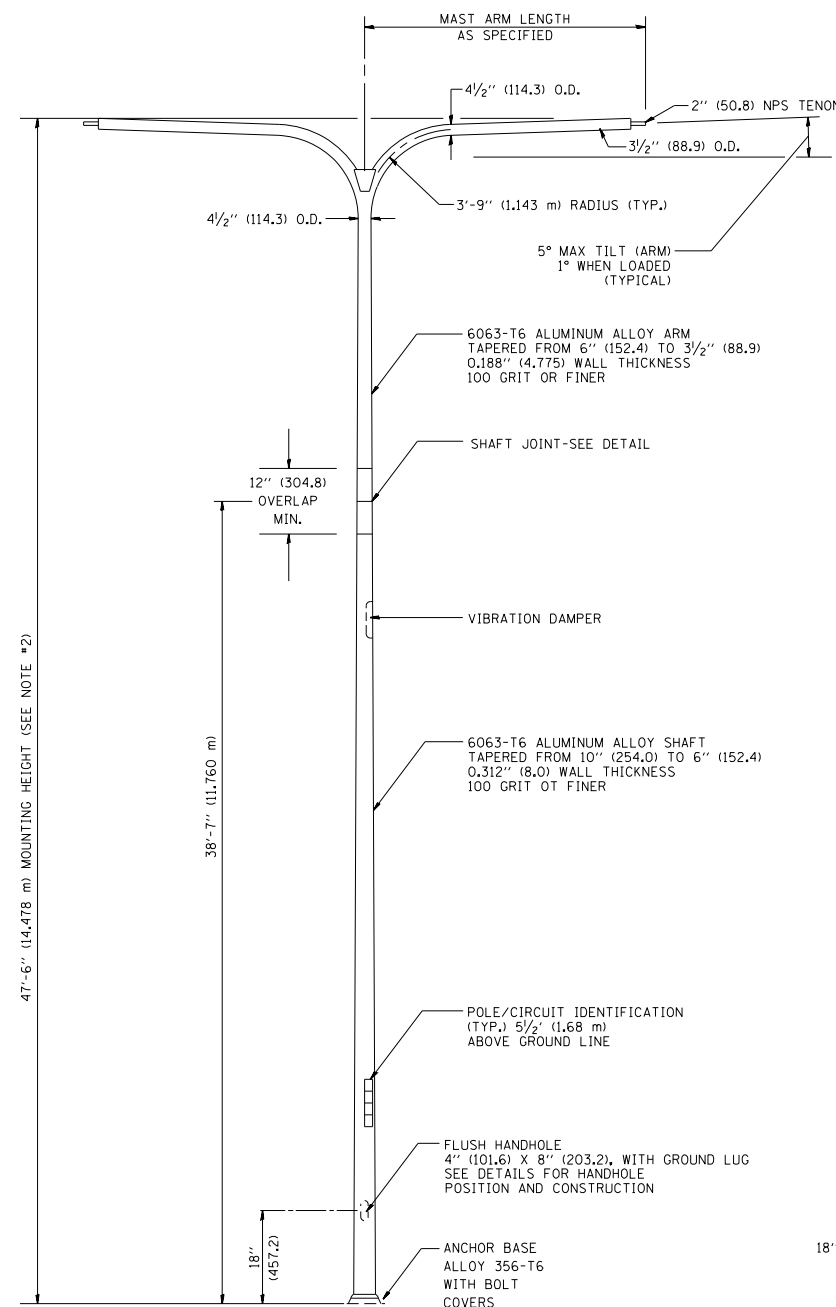
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



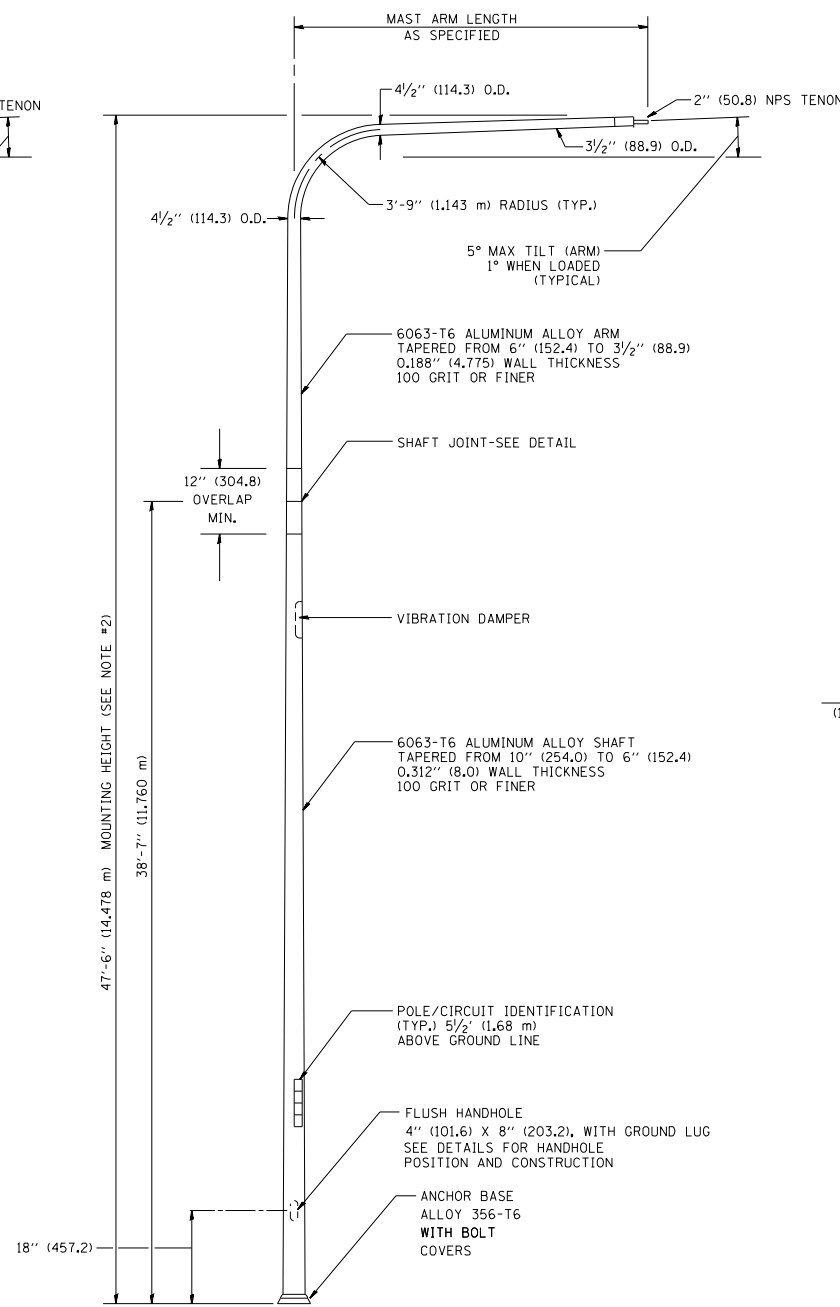
POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES

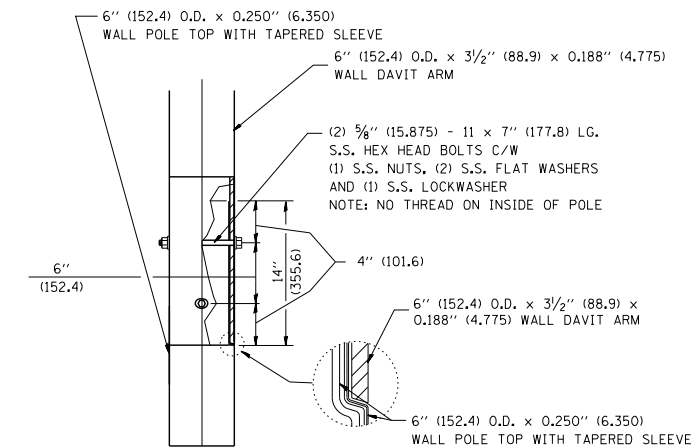


TWIN ARM POLE

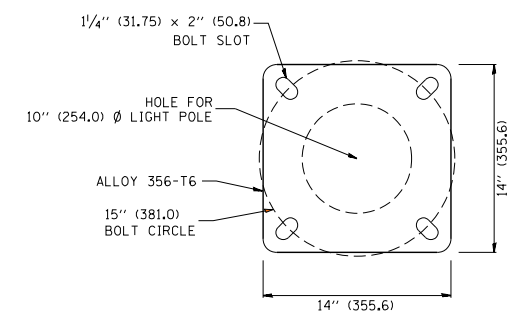


SINGLE ARM POLE

- NOTES:
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
 2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
 3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
 4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
 5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR, BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
 6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
 7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
 8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.

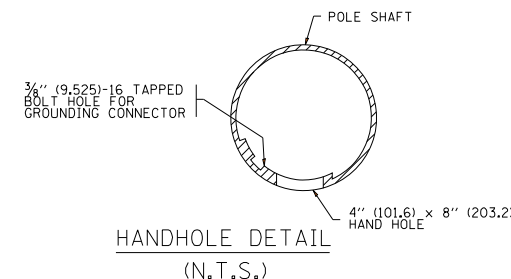


DAVIT ARM CONNECTION
[14" (355.6) OVERLAP SHOWN]



LIGHT POLE BASE PLATE DETAIL

(FOR POLE MOUNTED ON 15 INCH (381.0) BOLT CIRCLE FOUNDATION)



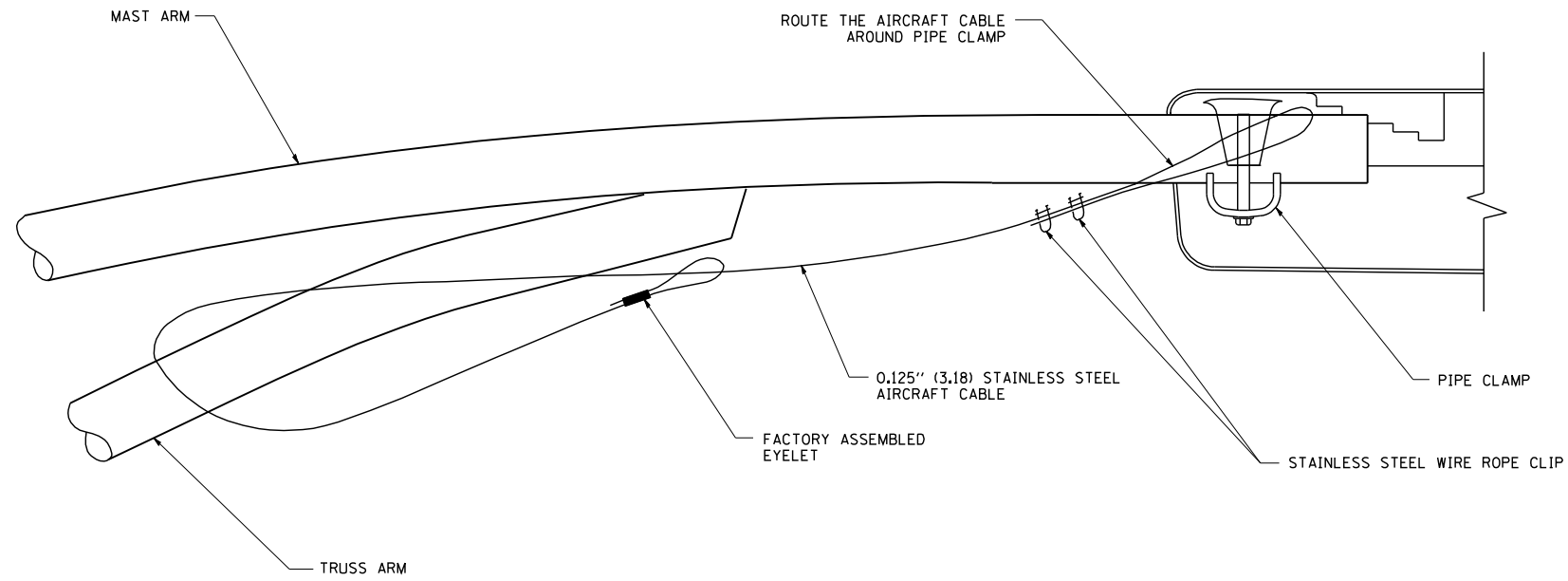
HANDHOLE DETAIL
(N.T.S.)

FILE NAME =	USER NAME = leyso	DESIGNED -	REVISED - D. DREW 05-07-92
ca:\pwwork\pwwid\leyso\d0108315\be410.dgn		DRAWN - LEY	REVISED - R. TOMSONS 09-06-00
	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED - R. TOMSONS 09-02-03
	PLOT DATE = 4/4/2013	DATE -	REVISED - R. TOMSONS 01-18-13

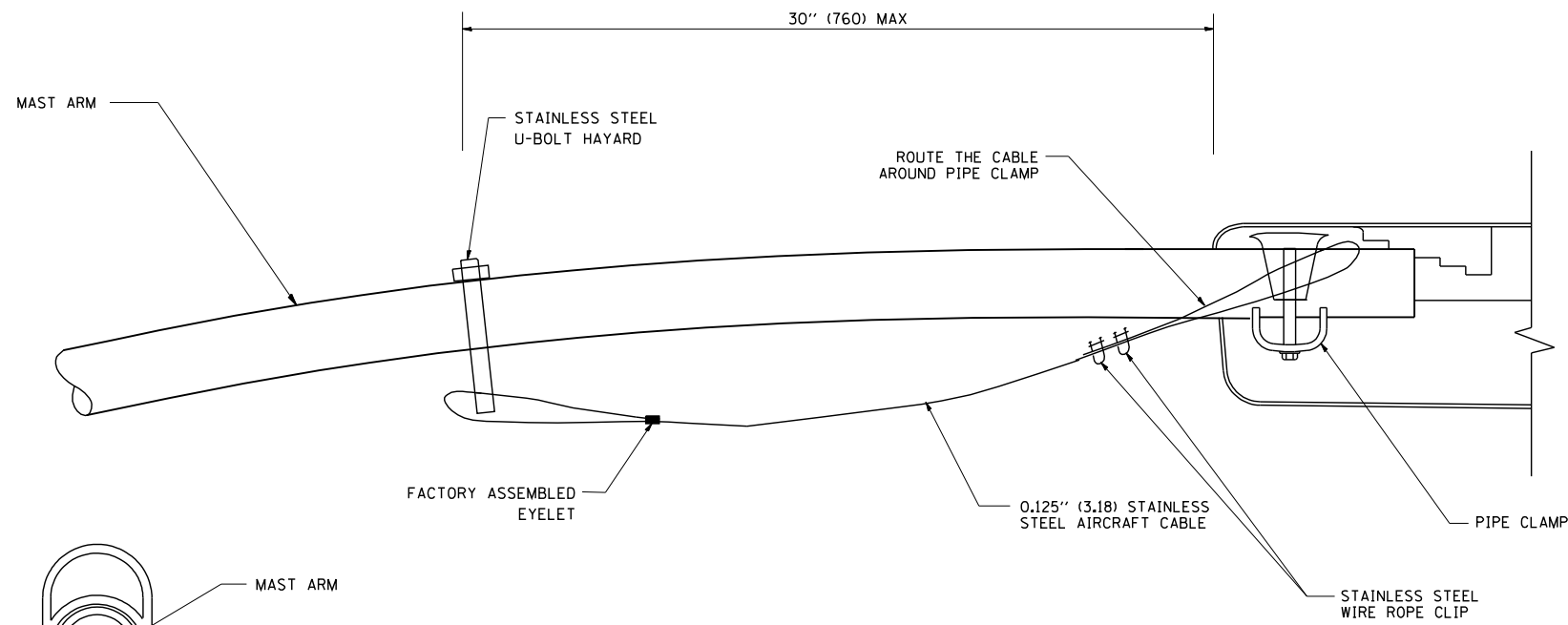
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DAVIT LIGHT POLE			
47'-6" (14.478 m) MOUNTING HEIGHT			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

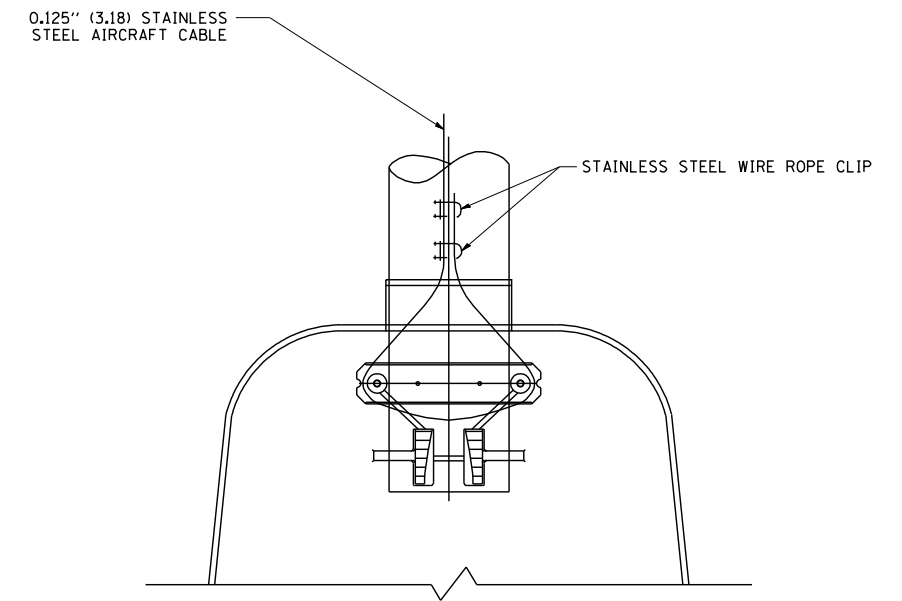
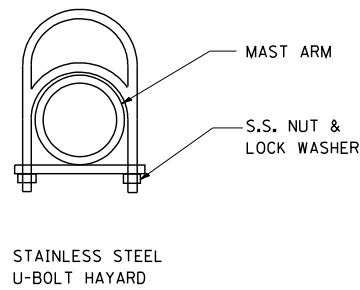
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	465
BE-410		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



SIDE VIEW (TRUSS ARM)
N.T.S.



SIDE VIEW (SINGLE MEMBER OR DAVIT ARM)
N.T.S.

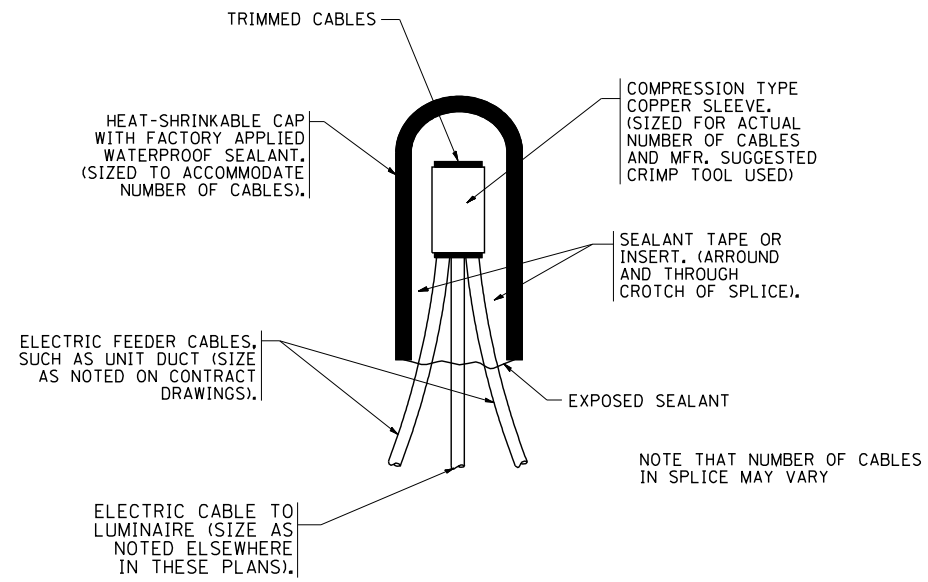


BOTTOM VIEW
N.T.S.

NOTES:

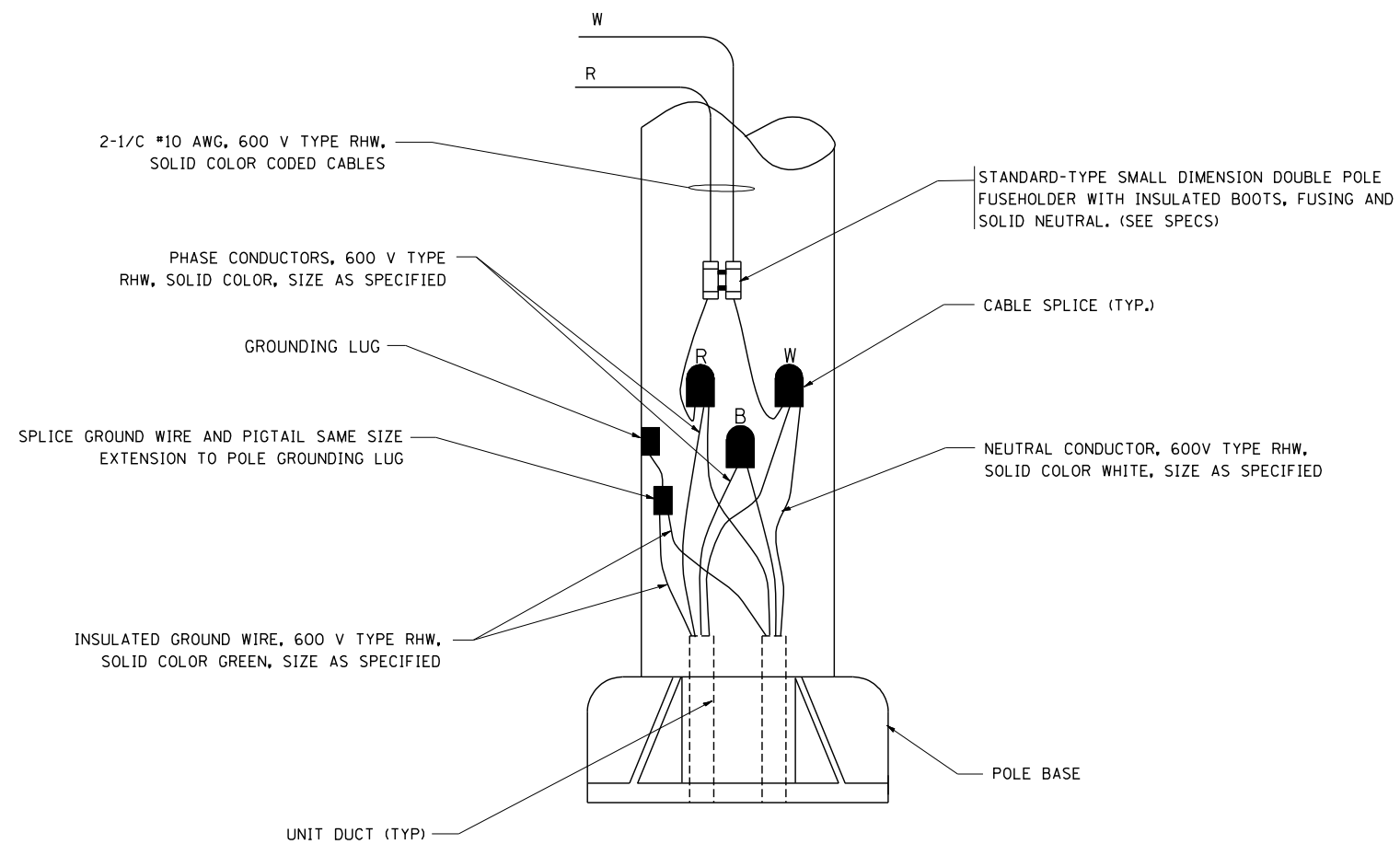
1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

FILE NAME = W:\diststd\22x34\be701.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LUMINAIRE SAFETY CABLE ASSEMBLY			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.000' / IN.	DRAWN -	REVISED -								557	466
PLOT DATE = 1/4/2008	DATE -	CHECKED -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	BE-701		CONTRACT NO. 60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT												



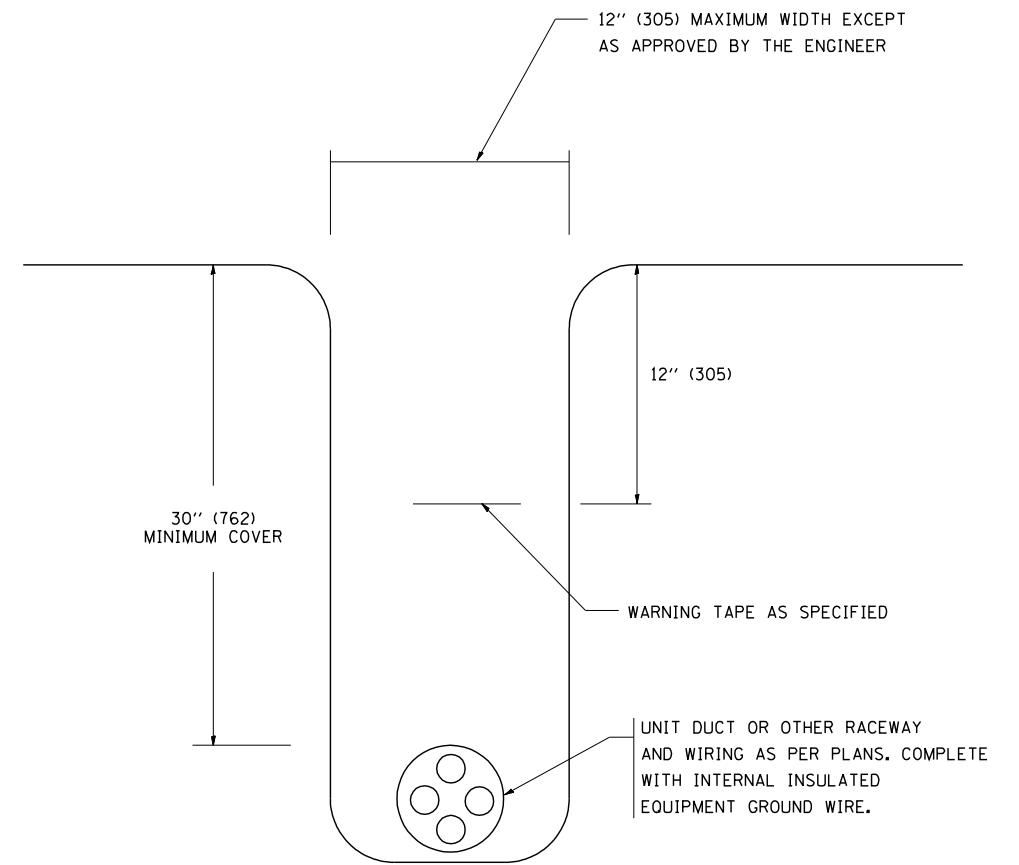
TYPICAL SPLICE DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

N.T.S.

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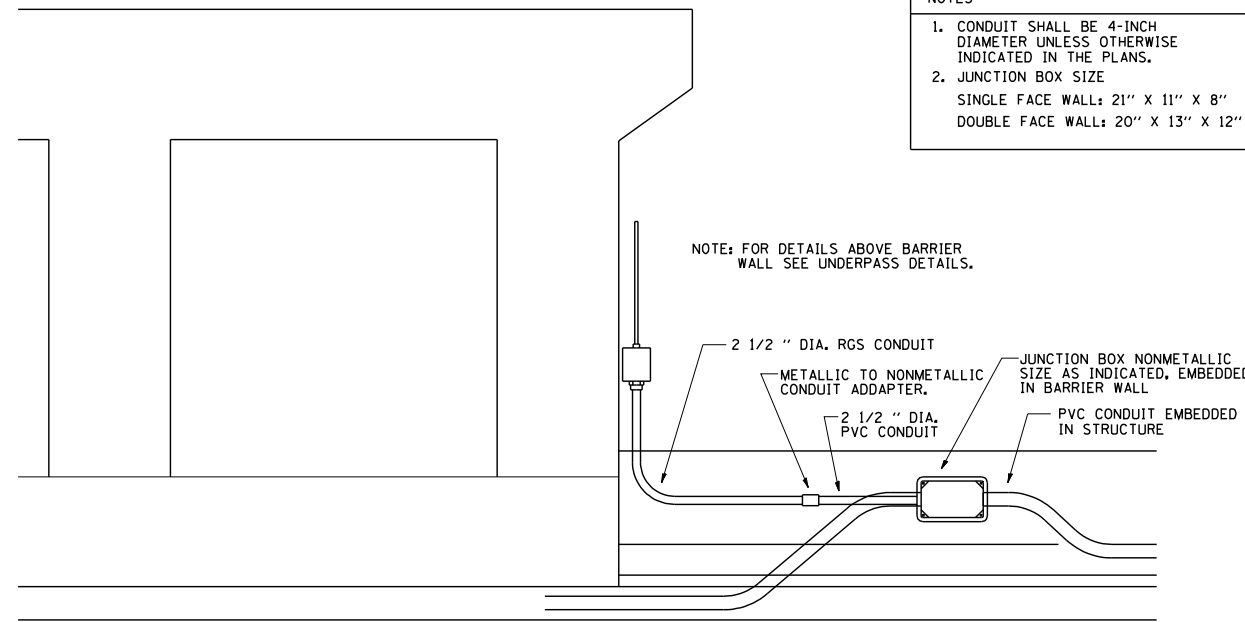
DESIGNED -	REVISED - 08-08-03
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**MISC. ELECTRICAL DETAILS
 SHEET A**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	467
BE-702		CONTRACT NO. 60Y38		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

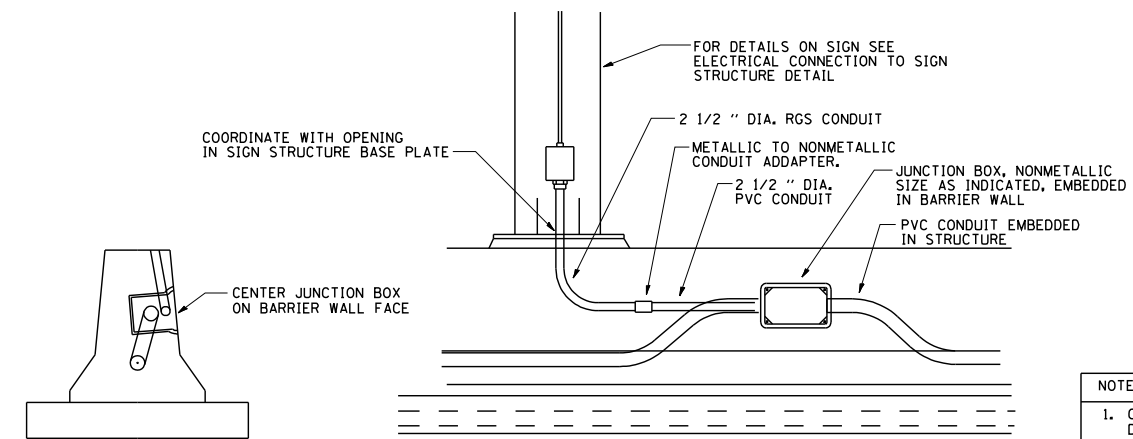


NOTES

1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
2. JUNCTION BOX SIZE
SINGLE FACE WALL: 21" X 11" X 8"
DOUBLE FACE WALL: 20" X 13" X 12"

NOTE: FOR DETAILS ABOVE BARRIER WALL SEE UNDERPASS DETAILS.

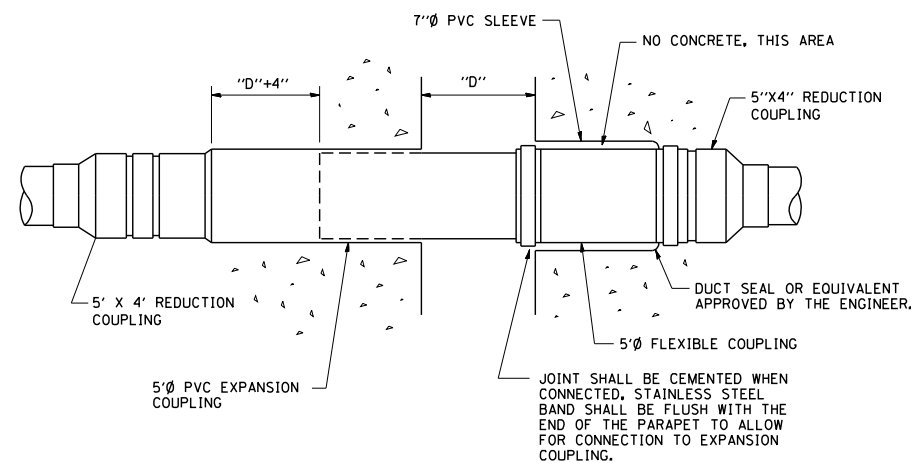
ED - BWD
ELECTRIC CONNECTION TO UNDERPASS LIGHTING



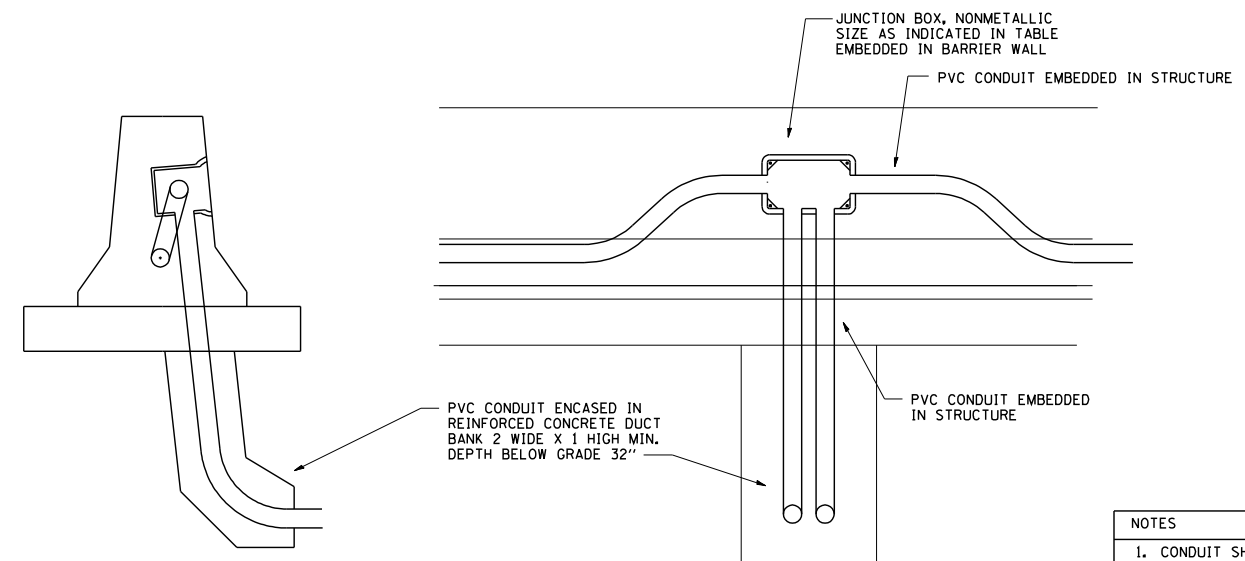
NOTES

1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
2. JUNCTION BOX SIZE
SINGLE FACE WALL: 21" X 11" X 8"
DOUBLE FACE WALL: 20" X 13" X 12"

ED - SGN
JUNCTION BOX EMBEDDED IN BARRIER WALL FOR SIGN LIGHTING



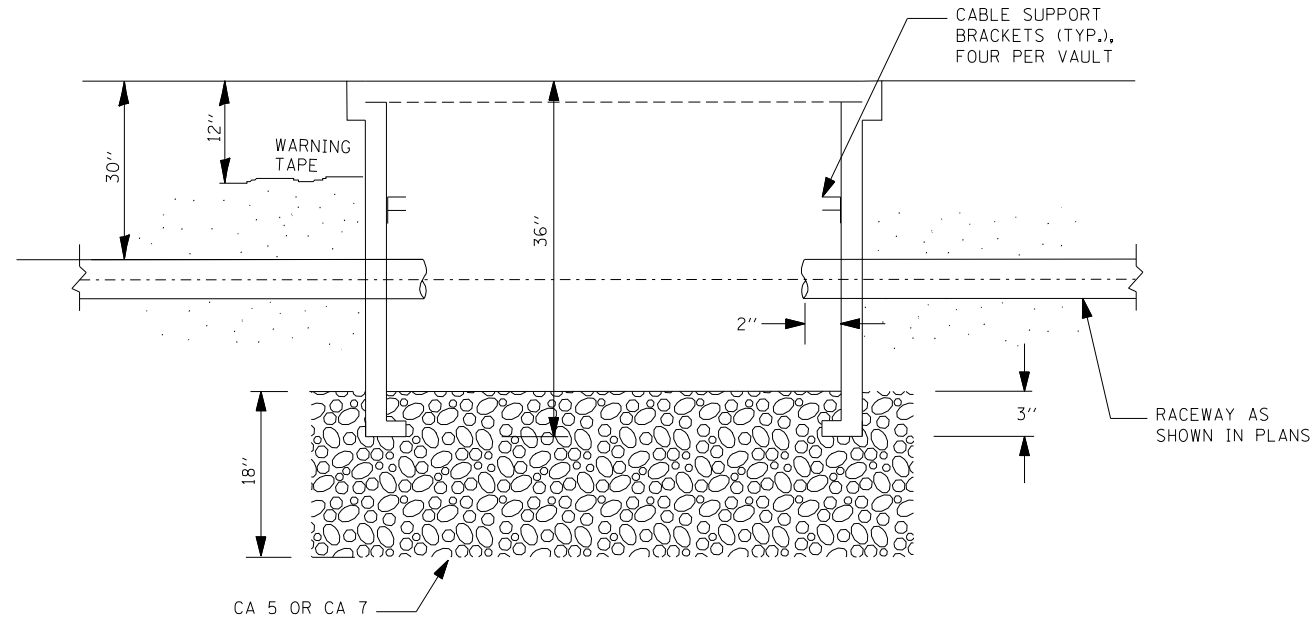
INSTALLATION OF CONDUIT
IN BRIDGE PARAPET EXPANSION JOINT
(N.T.S.)



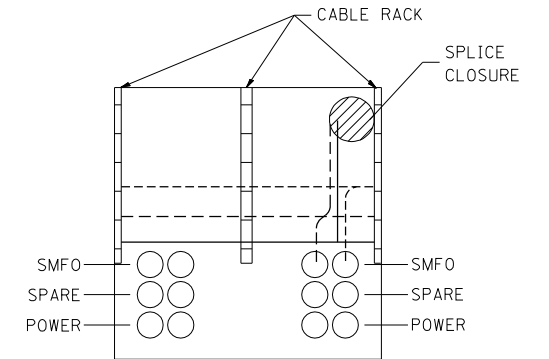
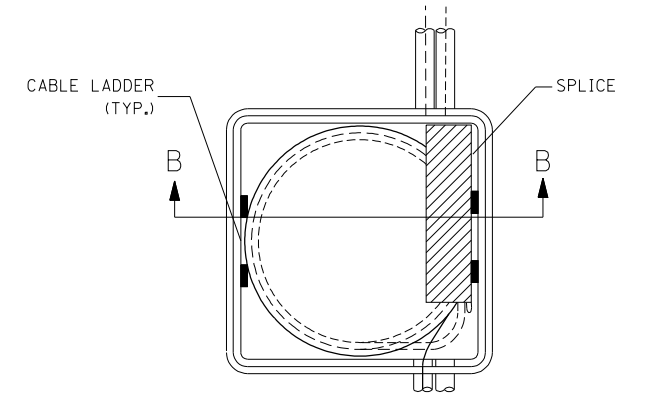
NOTES

1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
2. JUNCTION BOX SIZE
SINGLE FACE WALL: 21" X 11" X 8"
DOUBLE FACE WALL: 20" X 13" X 12"

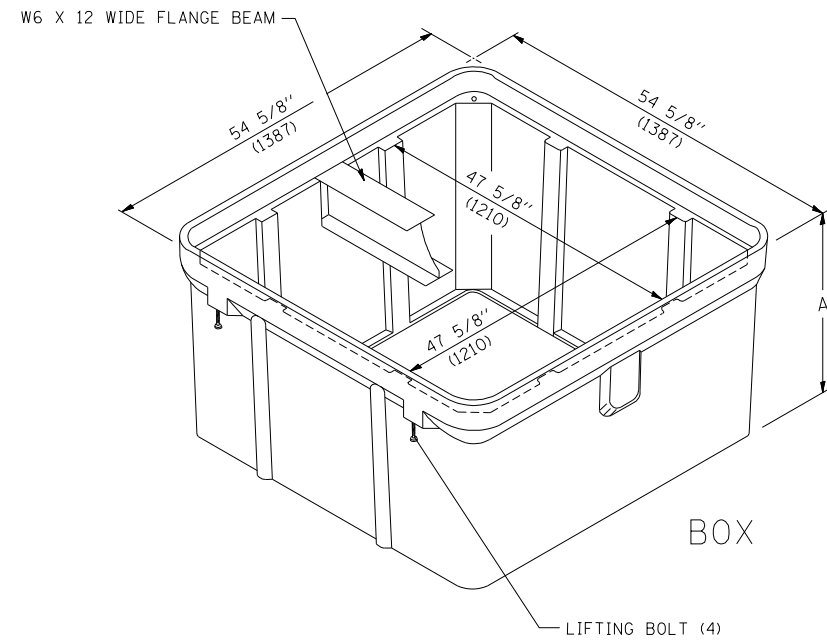
ED - BW
JUNCTION BOX EMBEDDED IN BARRIER WALL



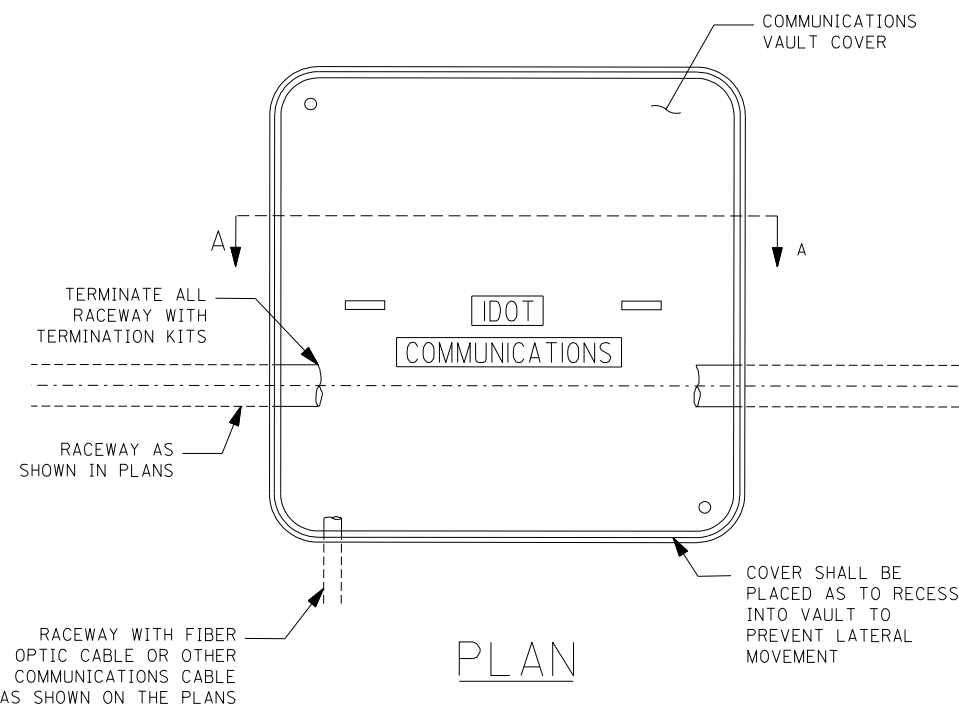
SECTION A-A



SECTION B-B



ISOMETRIC



PLAN

NOTES:

1. BOX SHALL HAVE AN OPEN BASE.
2. COVER SHALL WITHSTAND A 22,500/33,750 DESIGN/TEST LOADING AND SHALL LOCK.
3. ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION OR PUNCH DRIVEN AT TIME OF PLACEMENT. IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
4. FIELD PLACEMENT OF COMMUNICATIONS VAULT SHALL BE AS DIRECTED BY THE ENGINEER.
5. ALL DIMENSIONS ARE MINIMUM AND A LARGER SIZE HANDHOLE MAY BE USED, WITH THE APPROVAL OF THE ENGINEER, TO FACILITATE USING A MANUFACTURER'S STANDARD PRODUCT.

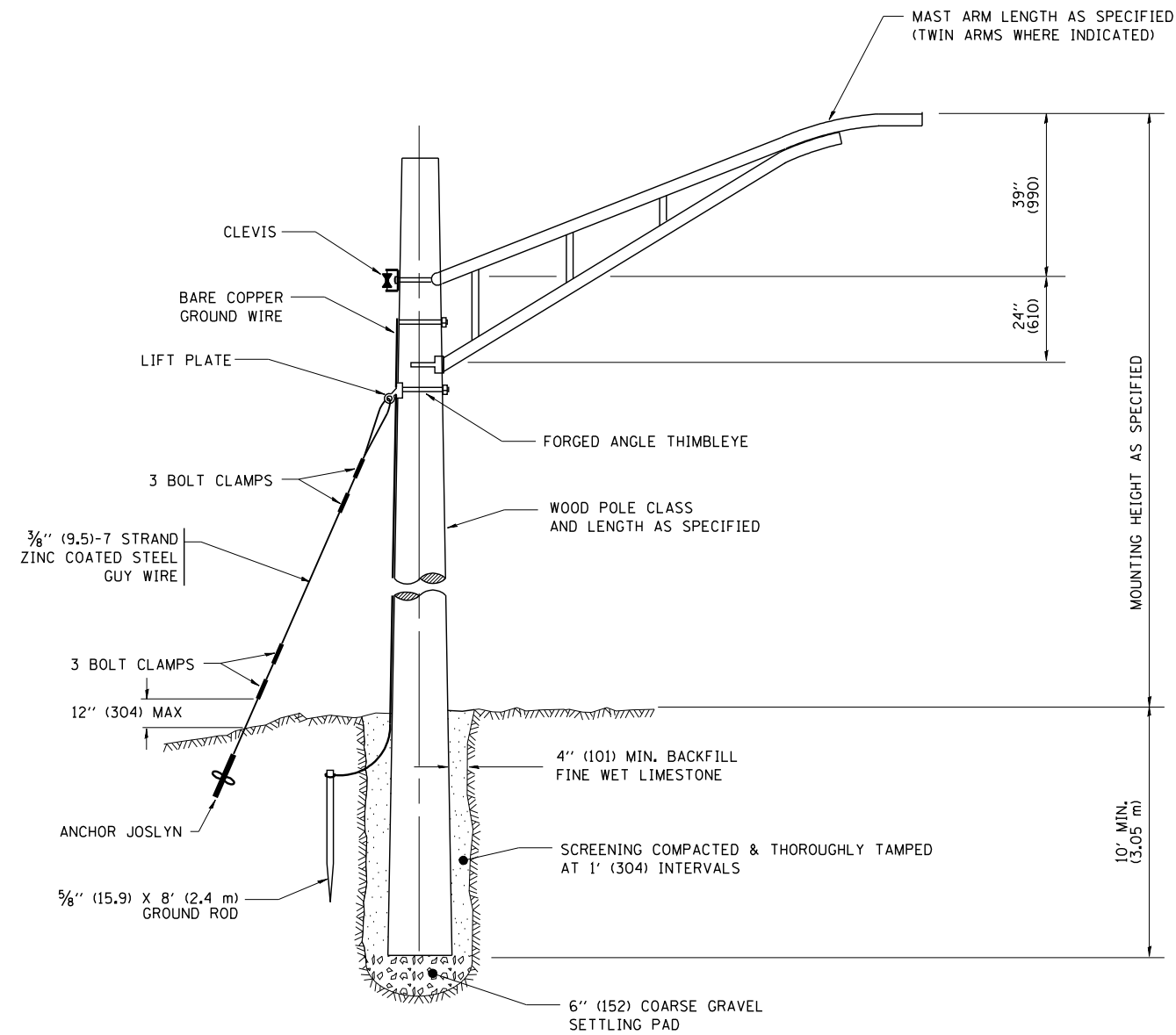
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ct:\pw\work\PWIDOT\LEYSAd0108315\be705.dgn		DRAWN -	REVISED -
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = 3/29/2010		DATE - 03-22-10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

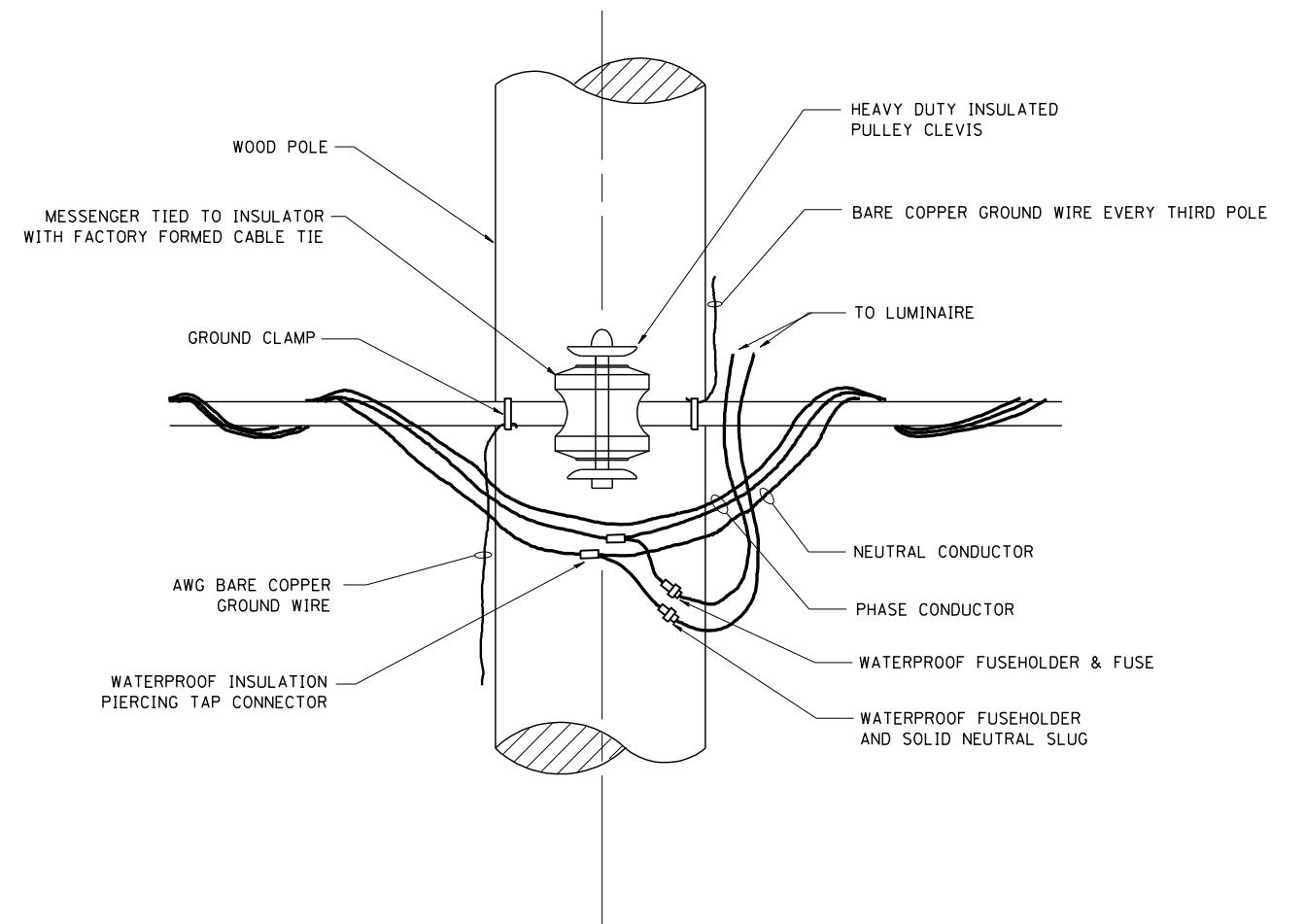
COMMUNICATIONS VAULT, COMPOSITE CONCRETE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	BE-705	*	557	460
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 681038	



TEMPORARY LIGHT POLE DETAIL

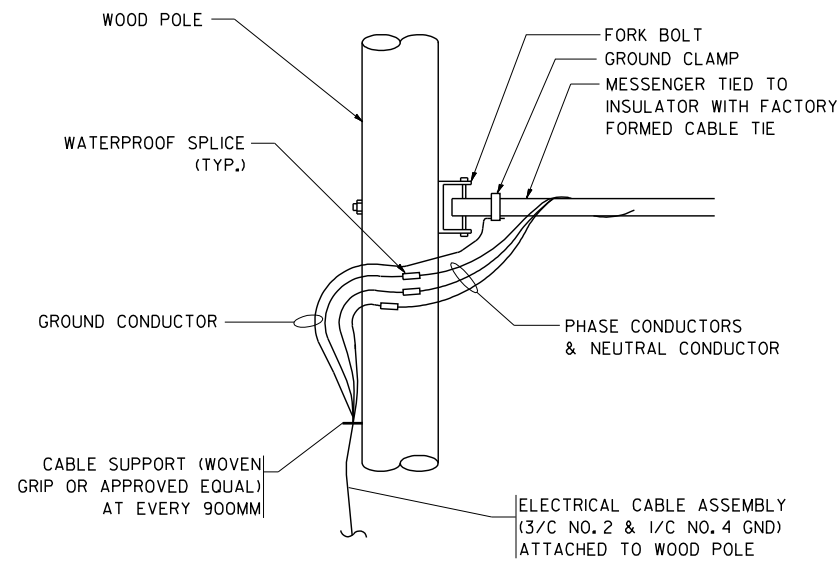


TEMPORARY LIGHT POLE ATTACHMENT DETAIL

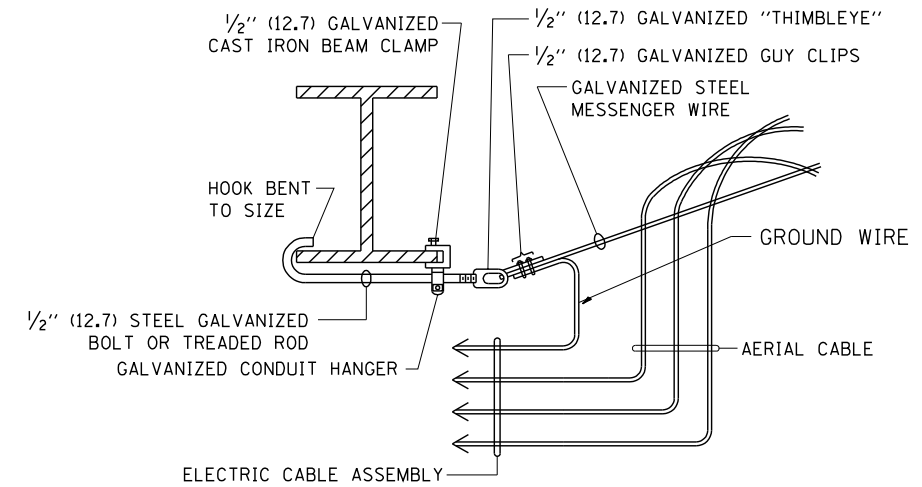
NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED

FILE NAME = W:\diststd\22x34\be800.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHT POLE DETAILS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.000' / IN.	DRAWN -	REVISED -								557	470
	PLOT DATE = 1/4/2008	CHECKED -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 60Y38		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	



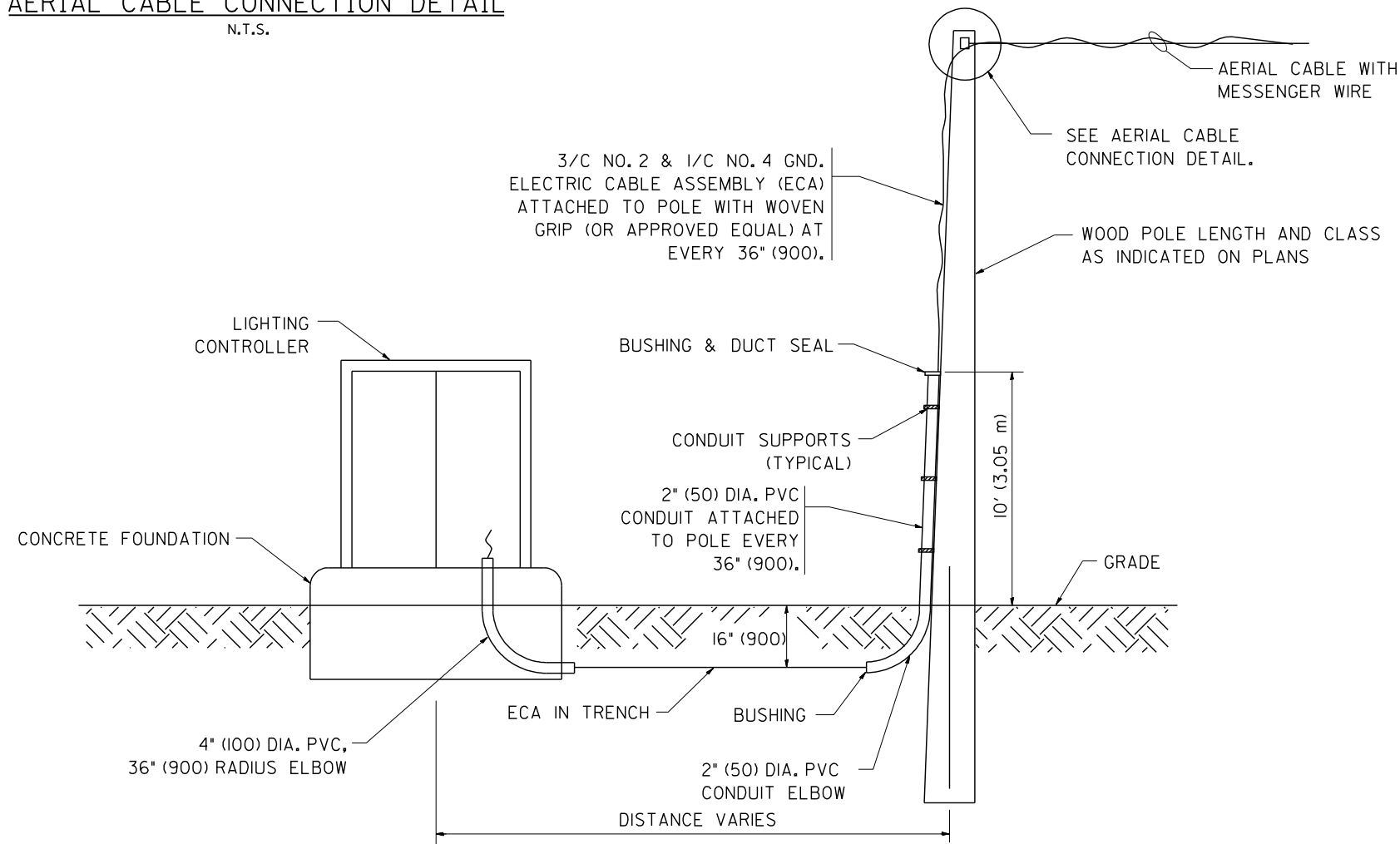
AERIAL CABLE CONNECTION DETAIL
N.T.S.



AERIAL CABLE ATTACHED TO STRUCTURE
NOT TO SCALE

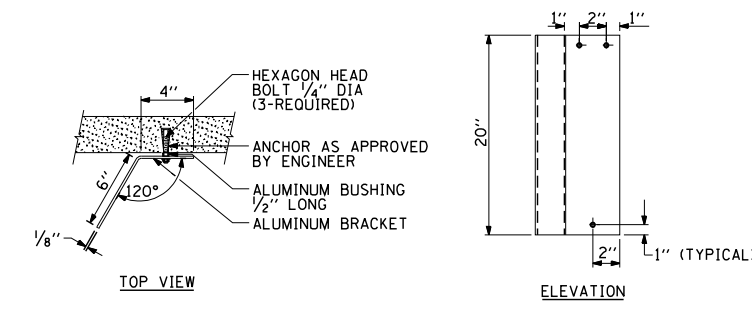
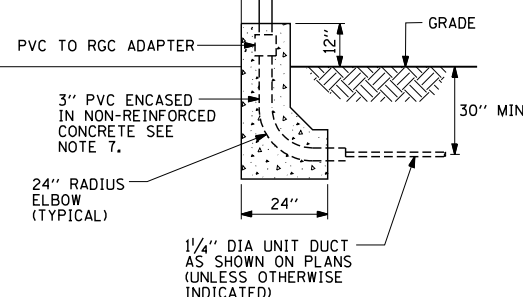
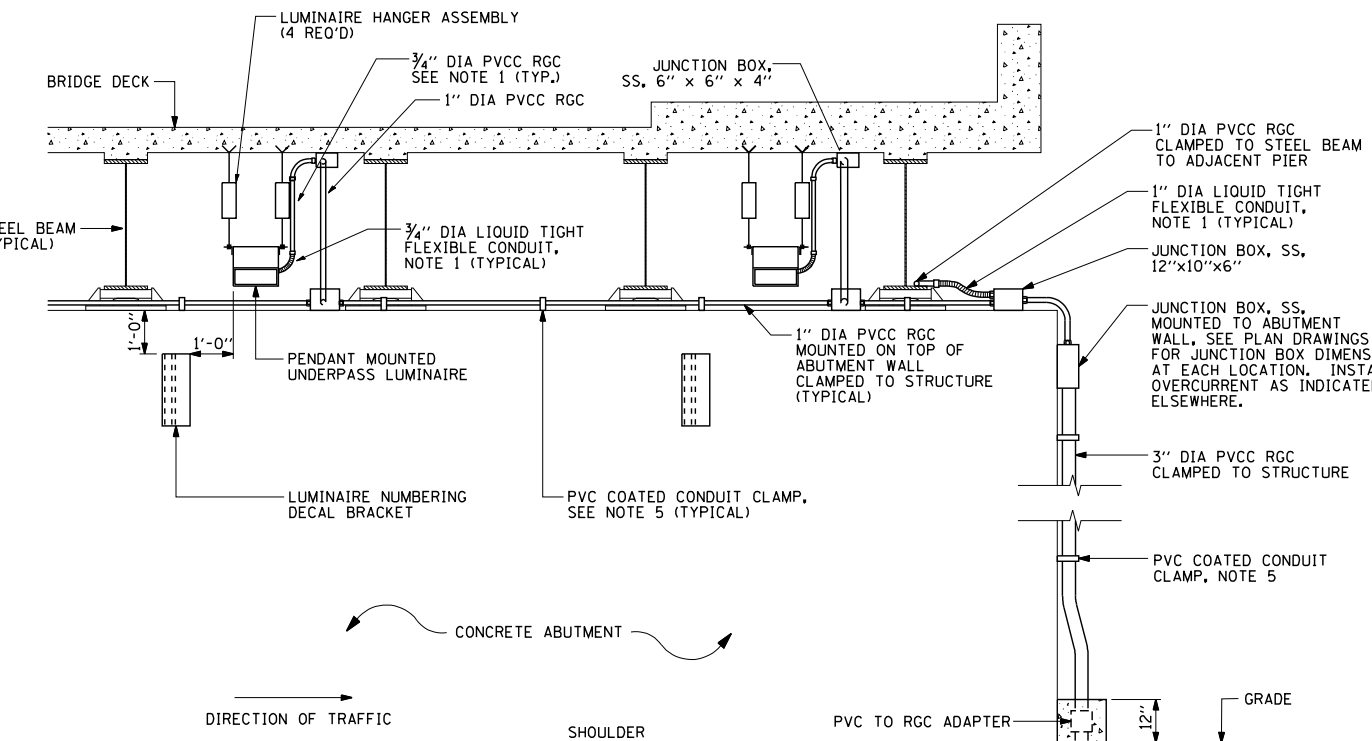
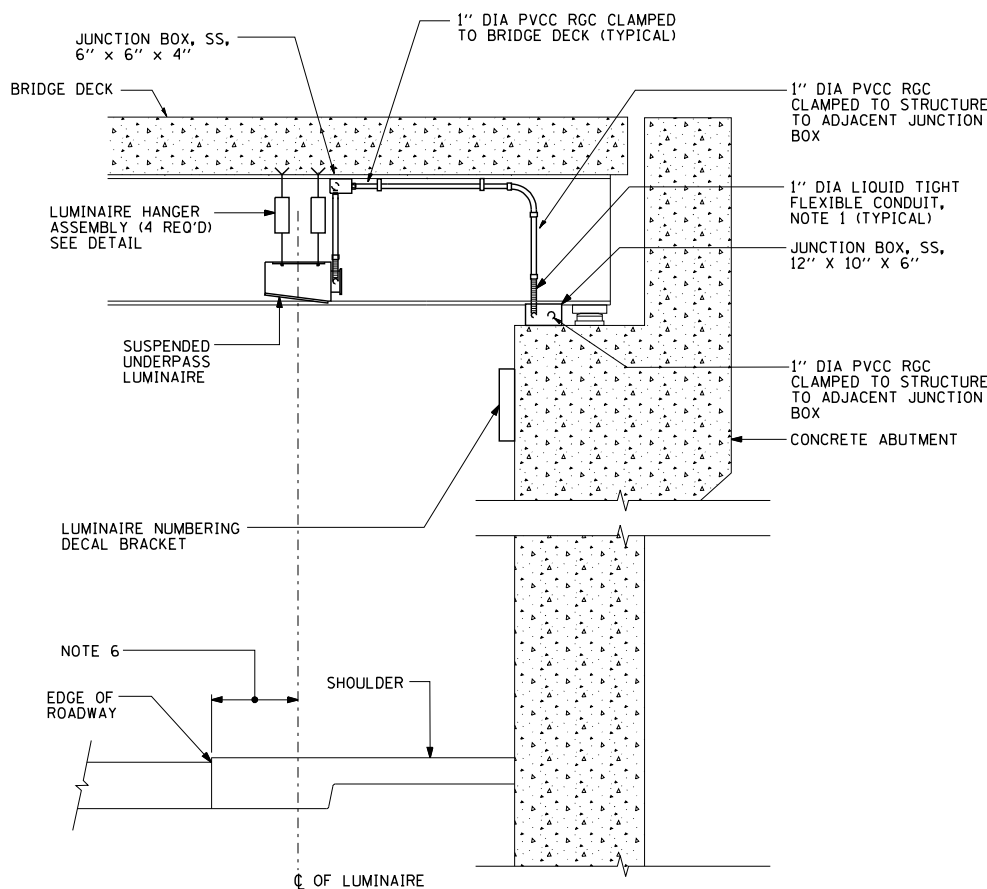
NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.

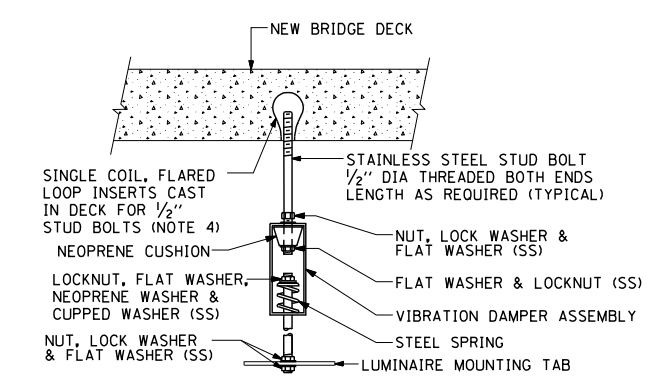
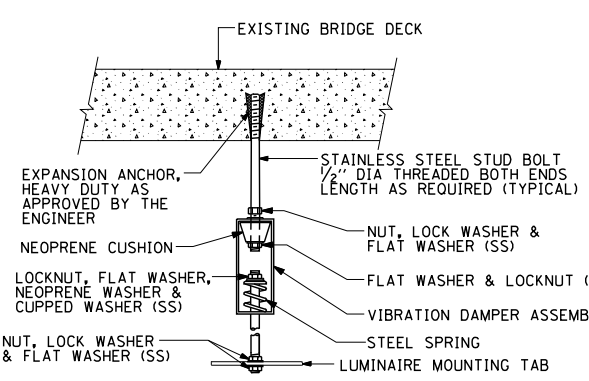


WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL
N.T.S.

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PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED -	REVISED -			BE-001						557	471
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										FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			



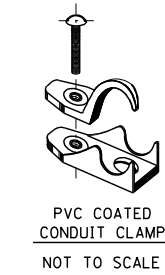
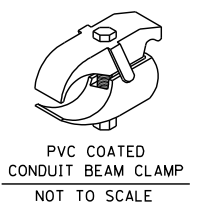
- NOTES:**
- LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE INCLUDED IN THE COST OF THE CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED PAY ITEM EXCEPT THAT 3/4" DIA. CONDUIT AND 3/4" DIA. FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF UNDERPASS LUMINAIRE INSTALLATION.
 - SEE UNDERPASS LIGHTING PLANS FOR INSTALLATION LOCATION OF UNDERPASS LIGHTING LUMINAIRES.
 - THE CONTRACTOR SHALL USE APPROVED SINGLE COIL FLARED LOOP INSERTS WHEN SUSPENDED MOUNTING AN UNDERPASS LUMINAIRE TO A NEW BRIDGE DECK. THE FLARED LOOP INSERTS MUST BE CAST INTO THE CONCRETE DECK. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING THE INSERT LOCATIONS FOR MOUNTING THE UNDERPASS LIGHTING SYSTEM AS SHOWN ON THE PLANS WITH THE BRIDGE DECK CONTRACTOR. SEE DETAIL.
 - THE UNDERPASS LUMINAIRE HANGER ASSEMBLY COMPLETE WITH HEAVY DUTY ANCHORS/INSERTS AND ALL APPLICABLE HARDWARE SHALL BE INCLUDED IN THE COST OF THE UNDERPASS LUMINAIRE PAY ITEM.
 - SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
 - ALL UNDERPASS LUMINAIRES MUST BE CENTERED IN THE BEAM SPACE AS INDICATED ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGR. LUMINAIRE SETBACK SHALL BE AS INDICATED IN PLANS FOR EACH SPECIFIC UNDERPASS.
 - THE CONCRETE ENCASED CONDUIT TRANSITION SHALL BE INCLUDED IN THE COST OF THE GALVANIZED RIGID STEEL CONDUIT PAY ITEMS.
 - ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC) TYPICAL.



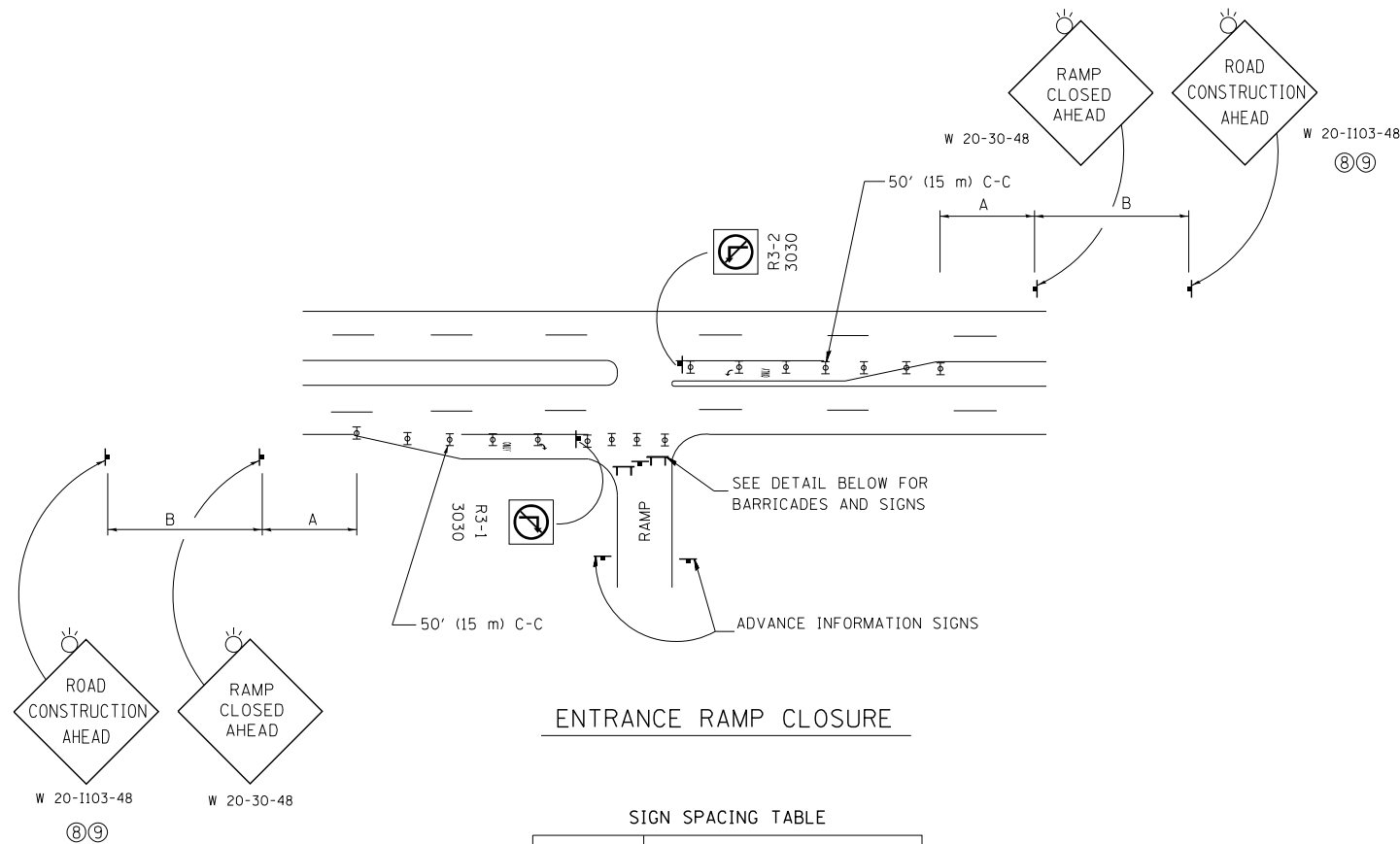
EXISTING BRIDGE DECK INSTALLATION

NEW BRIDGE DECK INSTALLATION

TYPICAL LUMINAIRE HANGER ASSEMBLY DETAILS



FILE NAME = W:\diststd\22x34\be900.dgn	USER NAME = gaglanobt	DESIGNED -	REVISED - 12-12-05	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUSPENDED MOUNT UNDERPASS LUMINAIRE INSTALLATION DETAILS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50.000' / IN.	DRAWN -	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	BE-900	CONTRACT NO. 60Y38	557	472
	PLOT DATE = 1/4/2008	CHECKED -	REVISED -						FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			
		DATE -	REVISED -									

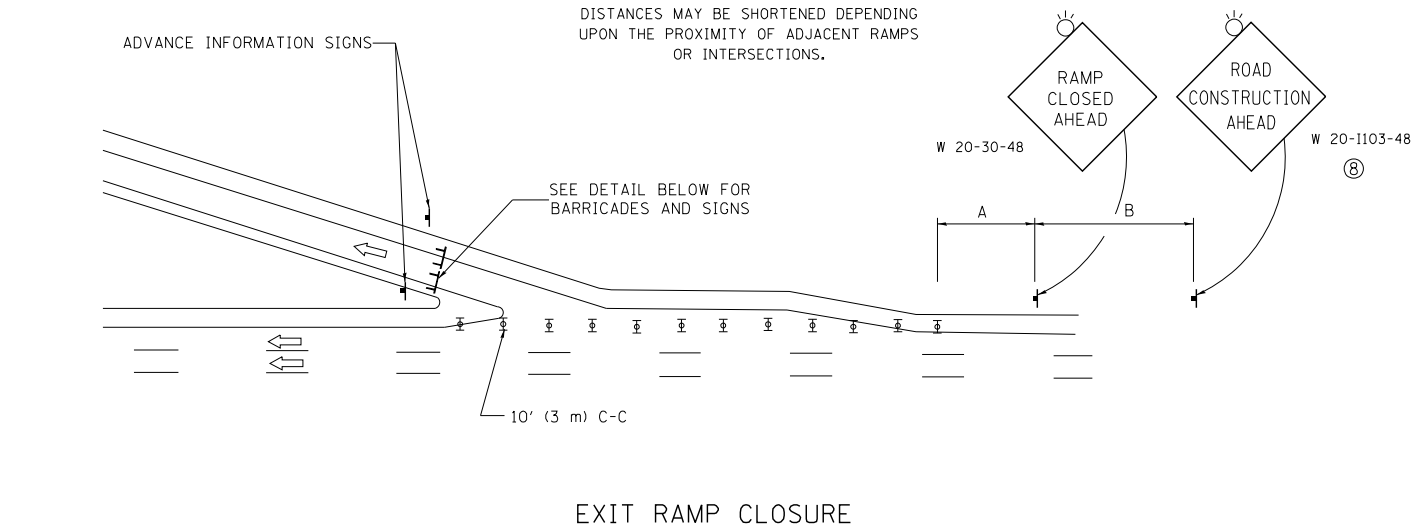


ENTRANCE RAMP CLOSURE

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 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

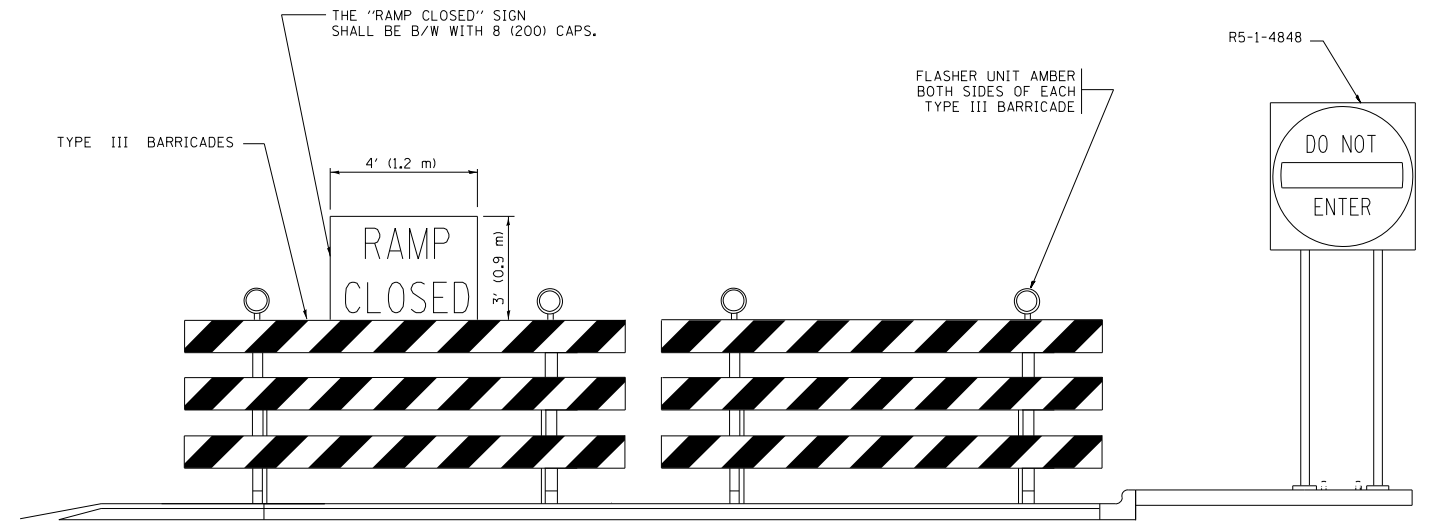
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



EXIT RAMP CLOSURE

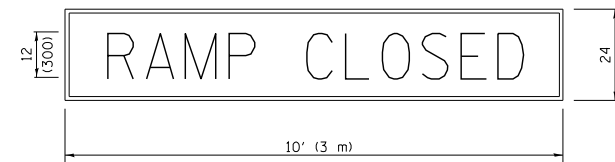
SYMBOLS

- ⊥ TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- ⊓ TYPE III BARRICADE WITH 2 FLASHING LIGHTS



DETAIL FOR REQUIRED BARRICADES & SIGNS

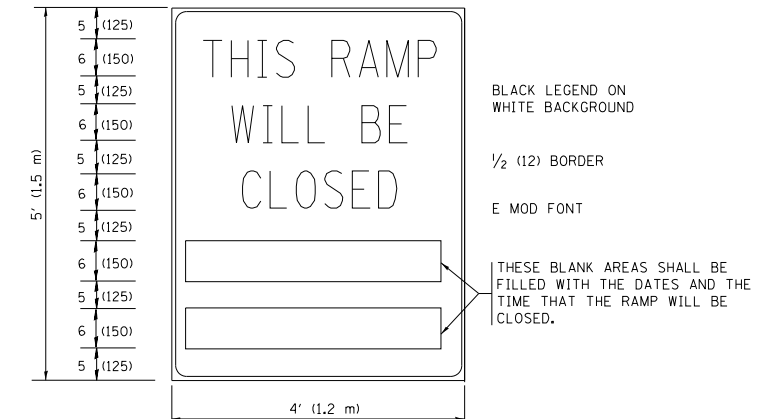
RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



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.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

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, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- ④ ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- 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 FOUR (4) DAYS 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 SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

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

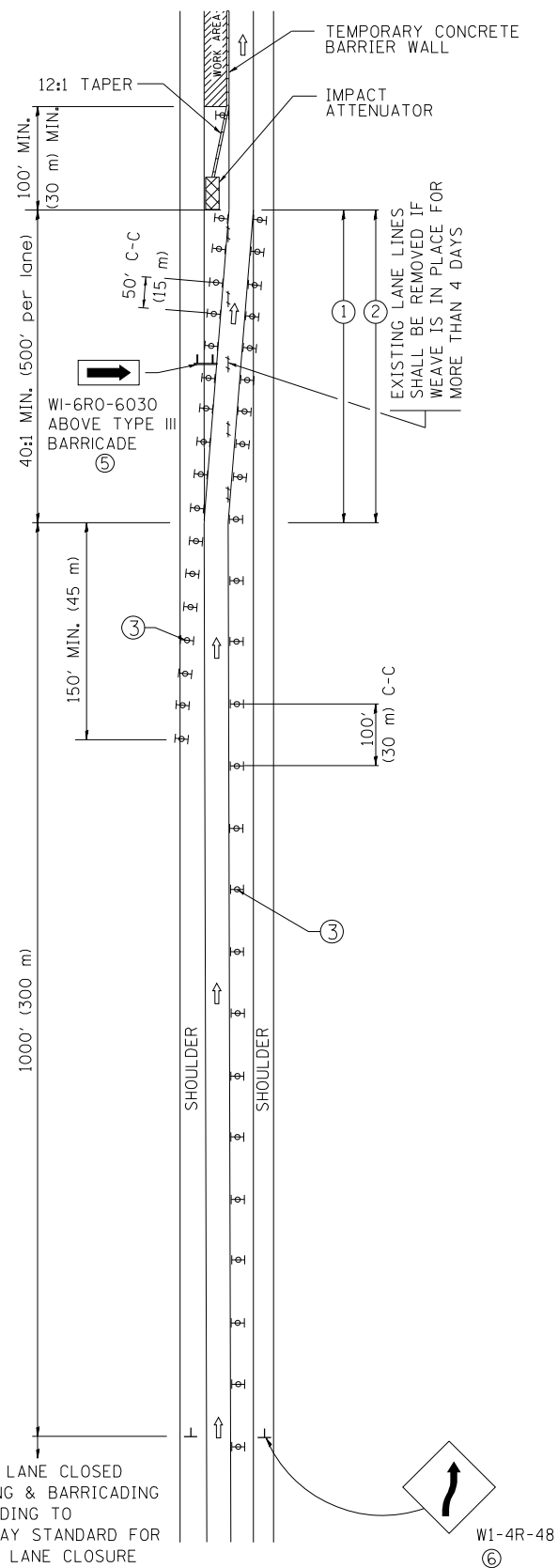
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	PLOT SCALE = 50.000' / in.	CHECKED -	REVISED - SPB 12-09
	PLOT DATE = 7/8/2013	DATE - 02-83	REVISED - MD 06-13

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

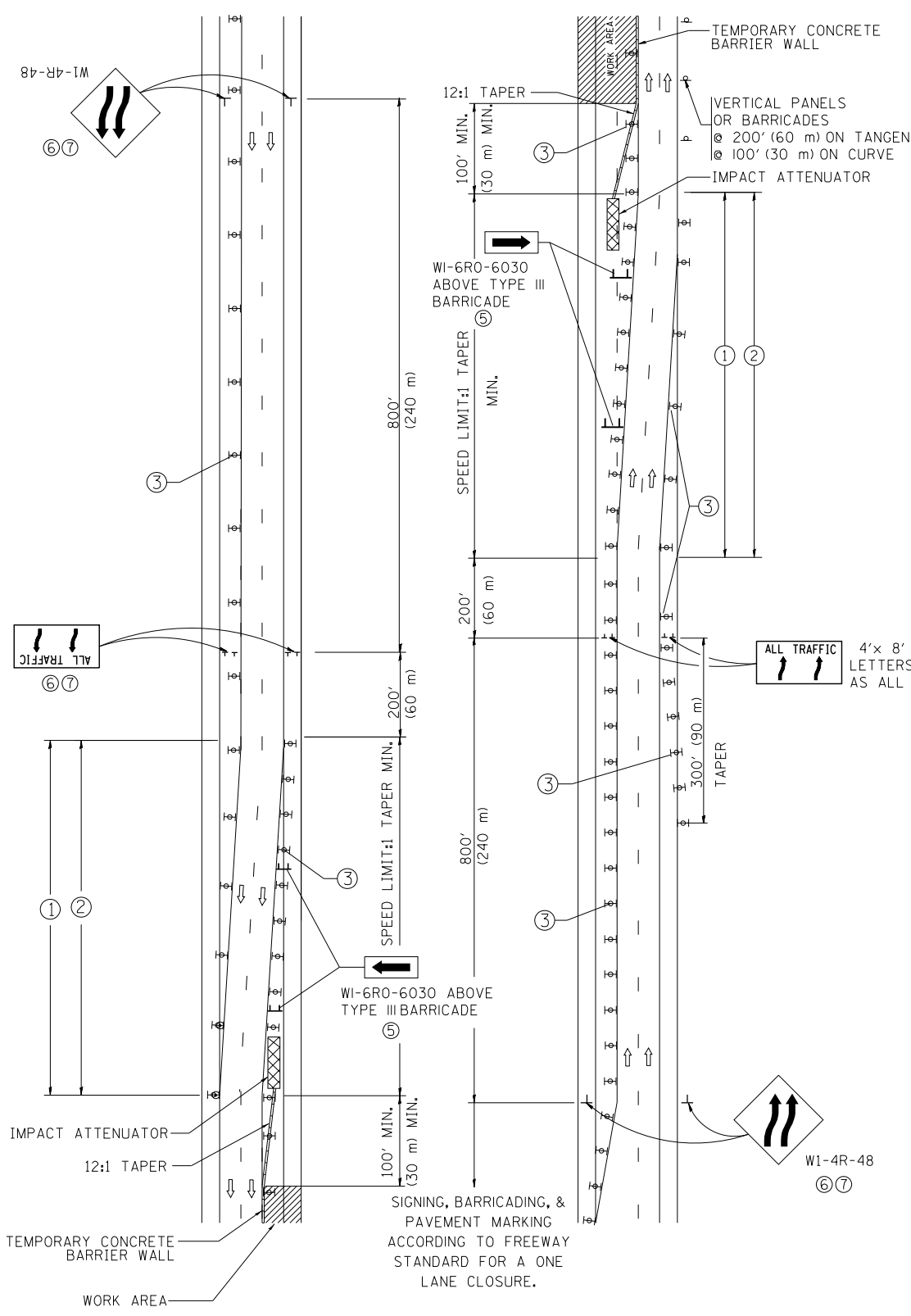
ENTRANCE AND EXIT RAMP CLOSURE DETAILS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-08		557	473
FED. ROAD DIST. NO. 1 ILLINOIS		CONTRACT NO. 60Y38		
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 4 DAYS IN DURATION.
- ② CONTINUOUS 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 TYPE III BARRICADES MAY BE OMITTED 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.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W1-4R-48
- W24-1-48

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

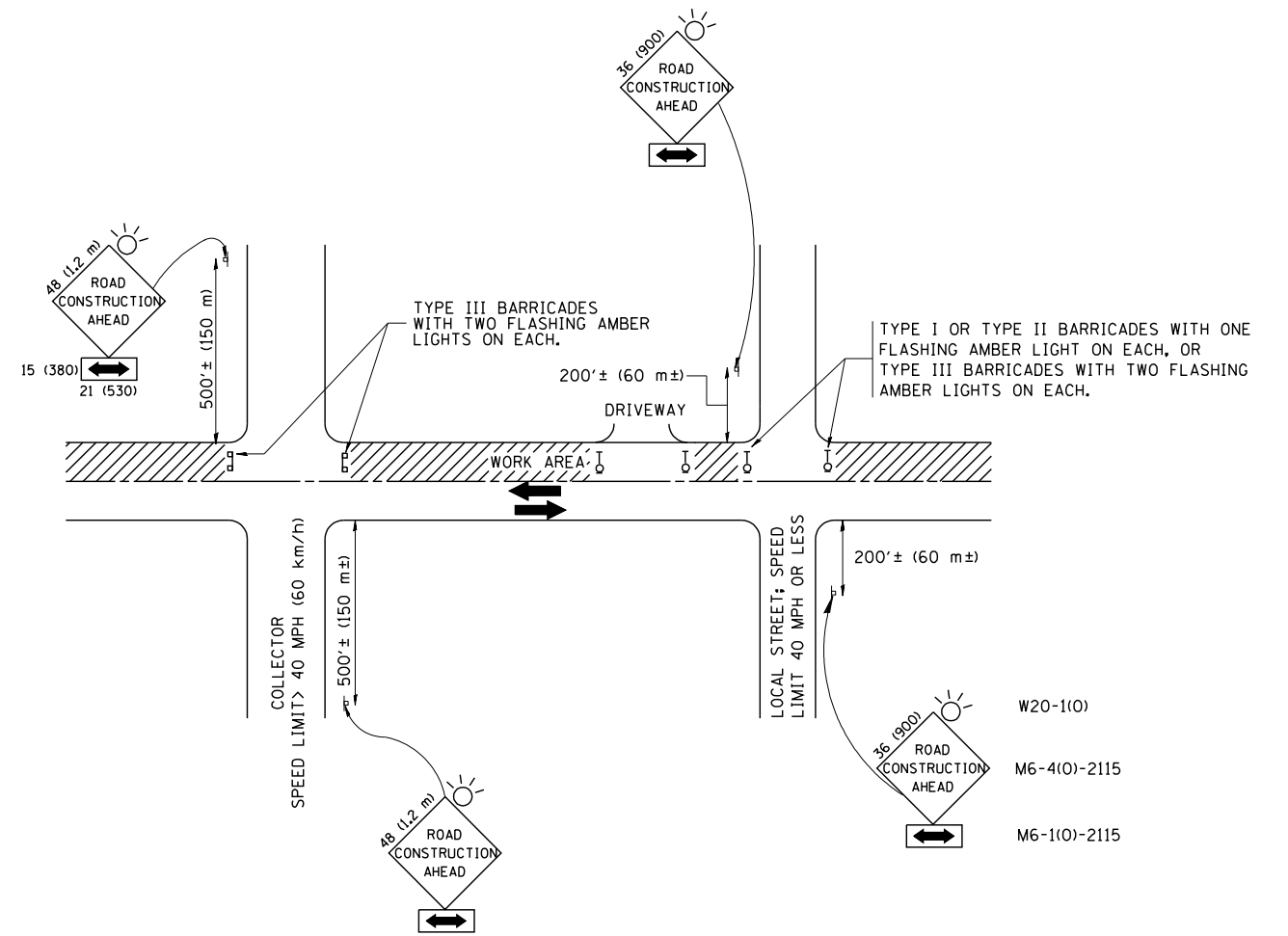
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	PLOT SCALE = 50.000' / in.	CHECKED -	REVISED - SPB 12-09
	PLOT DATE = 7/1/2013	DATE - 02-87	REVISED - MD 06-13

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-09		557	474
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



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.

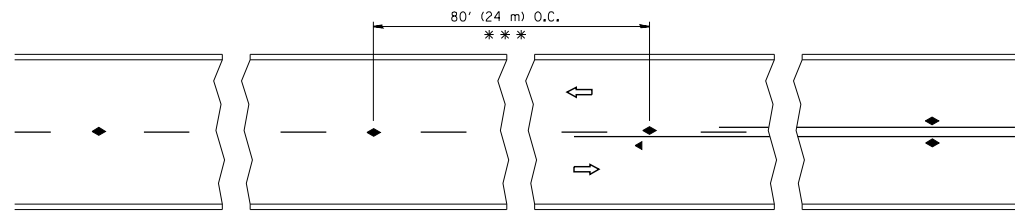
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		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

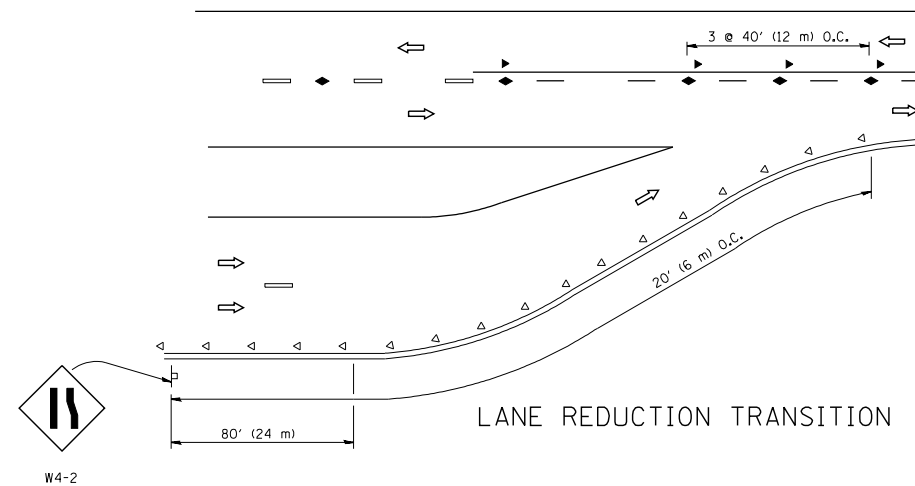
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TC-10		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

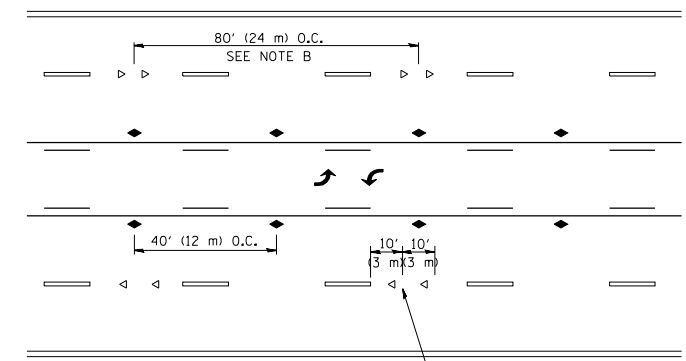


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

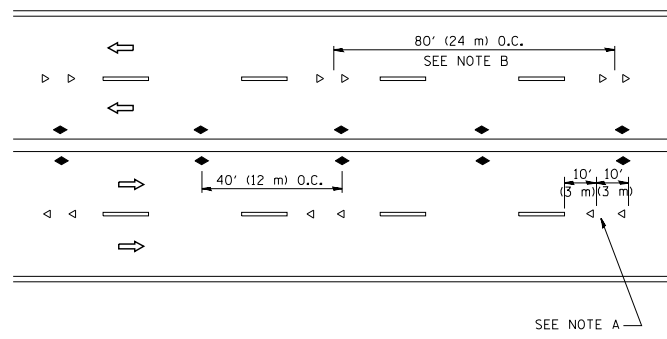
TWO-LANE/TWO-WAY



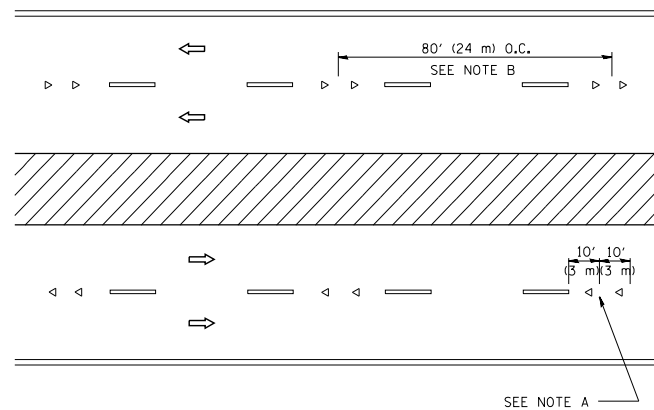
LANE REDUCTION TRANSITION



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

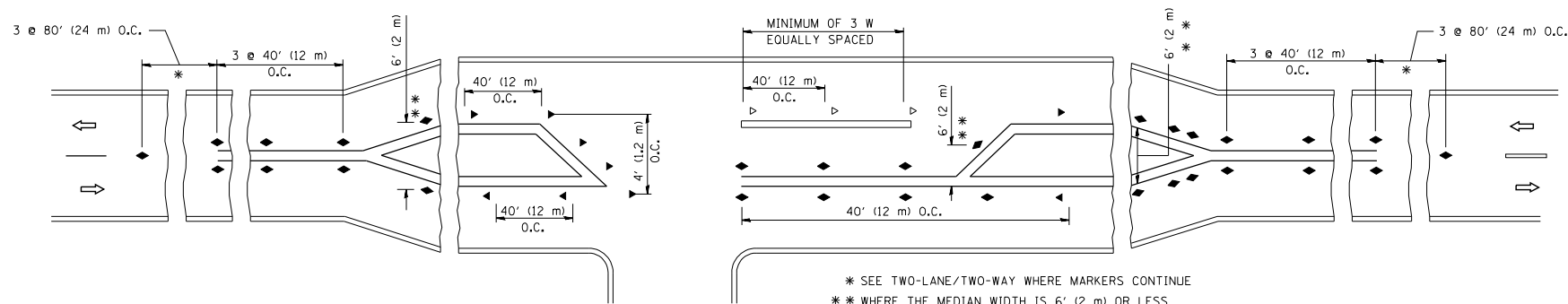
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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.

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 SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

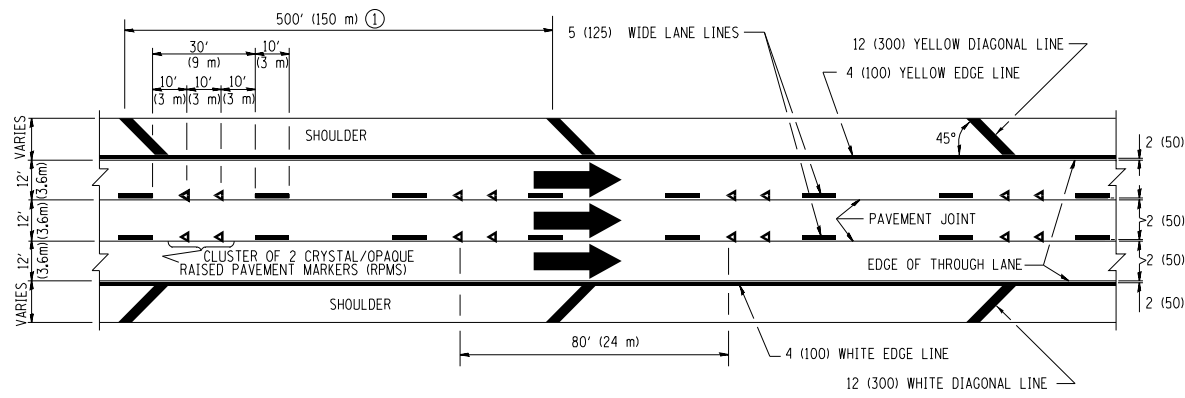
All dimensions are in inches (millimeters) unless otherwise shown.

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		PLOT SCALE = 50.000' / IN.	REVISED - T. RAMMACHER 01-06-00
		PLOT DATE = 3/2/2011	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
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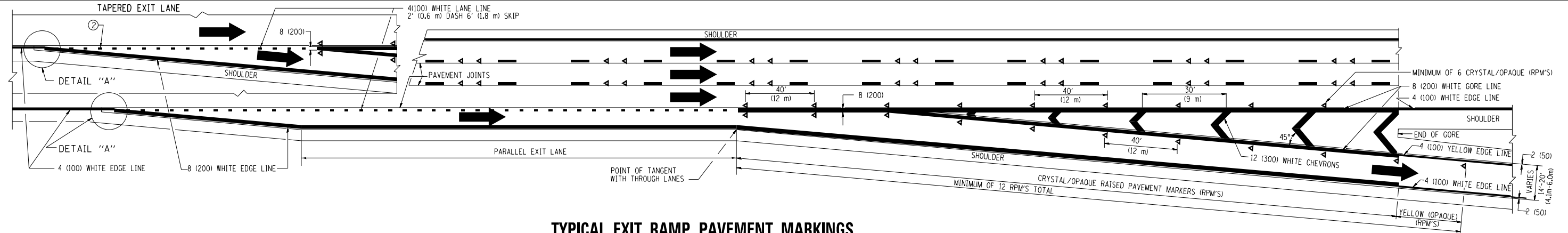
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	476
TC-11		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



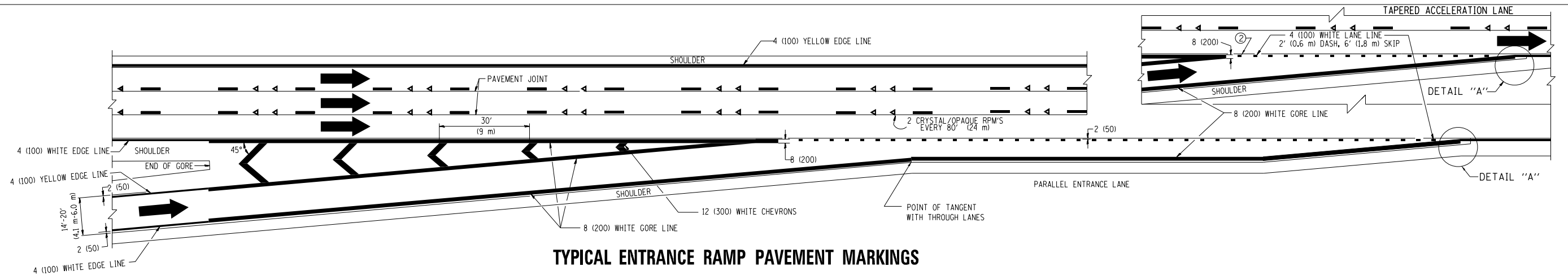
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

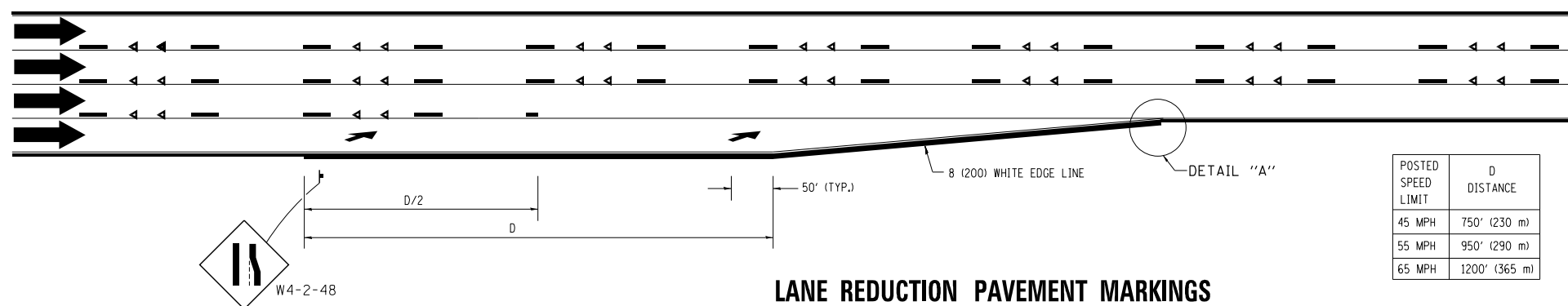
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC TYPE B PAVEMENT MARKING LINE; INLAID OR GROOVED IN SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENT PROJECTS.
3. POLYUREA PAVEMENT MARKING SHALL BE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



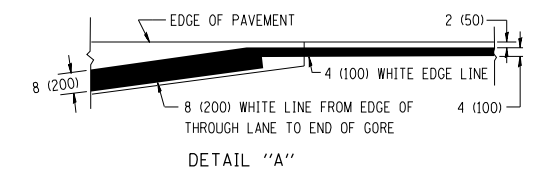
TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



LANE REDUCTION PAVEMENT MARKINGS



NOTES:

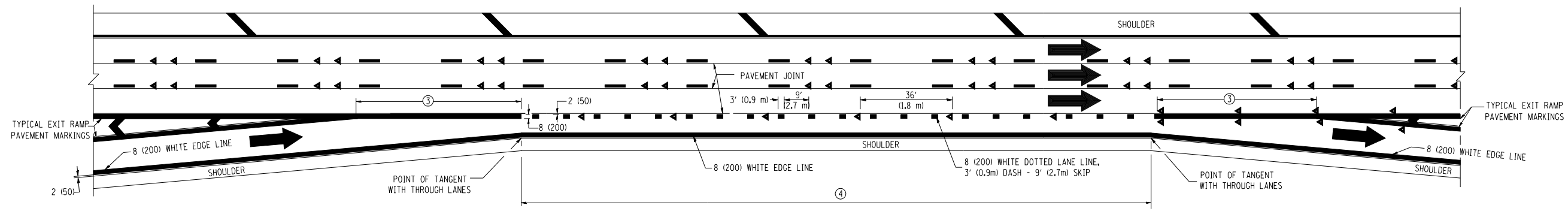
- ① THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
- ② 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

FILE NAME =	USER NAME = footemj	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06
cs:\pwork\pwork\footemj\0108315\tcl2.dgn		DRAWN -	REVISED - S.P.B. 01-07
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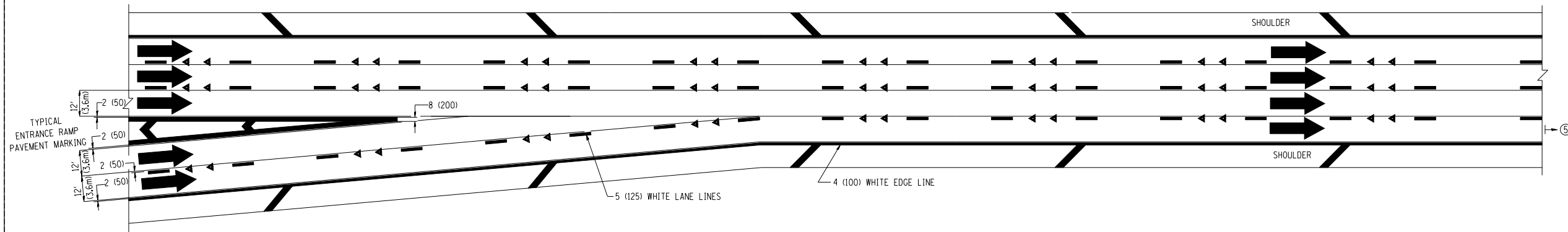
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS	
SCALE: NONE	SHEET NO. 1 OF 2 SHEETS
STA.	TO STA.

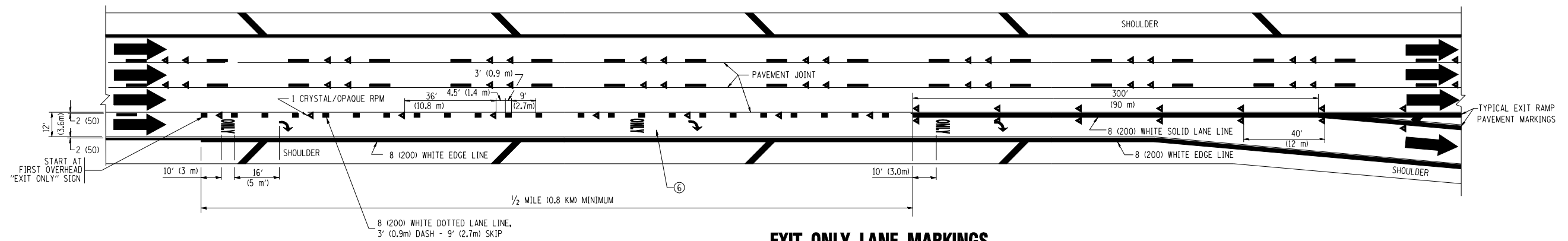
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-12		557	477
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



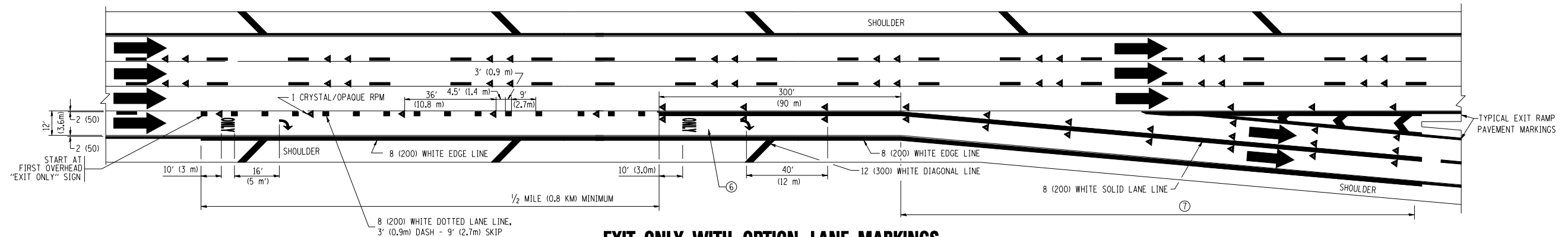
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

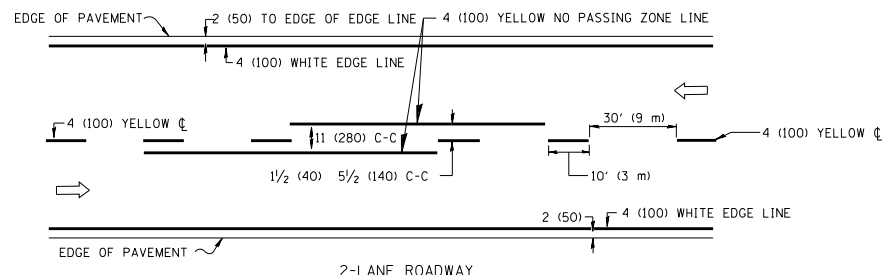
- NOTES**
- ③ OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
 - ④ 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
 - ⑤ FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
 - ⑥ ONLY AND 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 =	USER NAME = leysa	DESIGNED - D.W.S.	REVISED - D.W.S. 07-96
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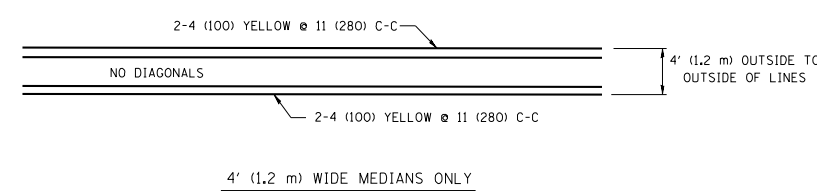
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS			
SCALE: NONE	SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.

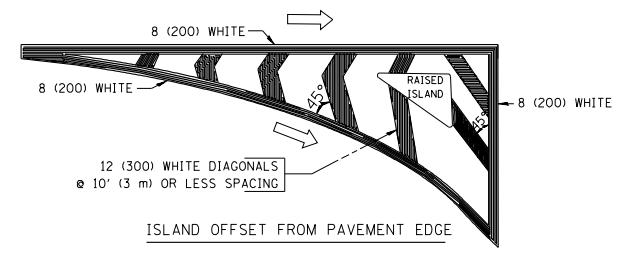
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	TC-12		557	478
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



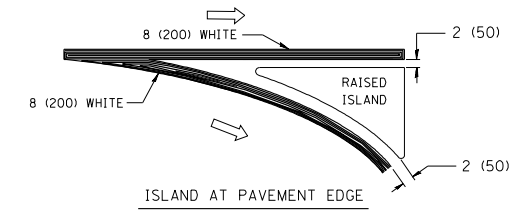
2-LANE ROADWAY



4' (1.2 m) WIDE MEDIANS ONLY

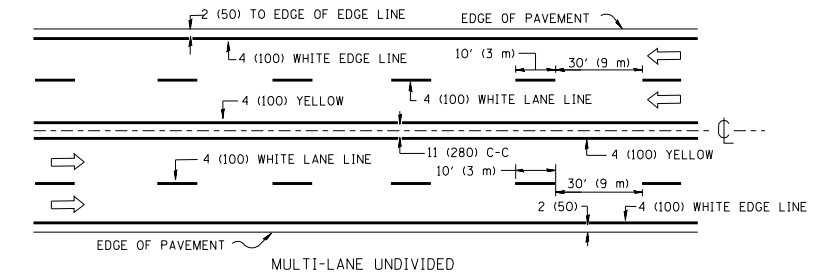


ISLAND OFFSET FROM PAVEMENT EDGE

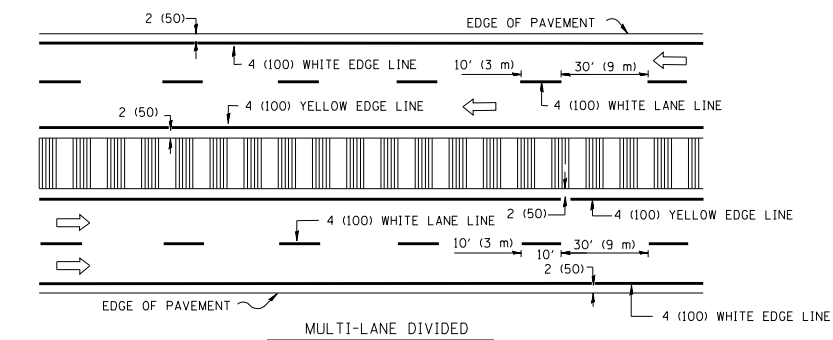


ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING



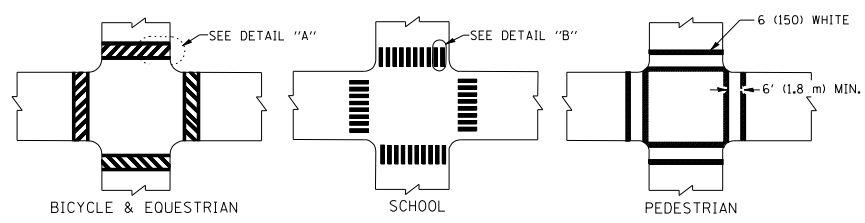
MULTI-LANE UNDIVIDED



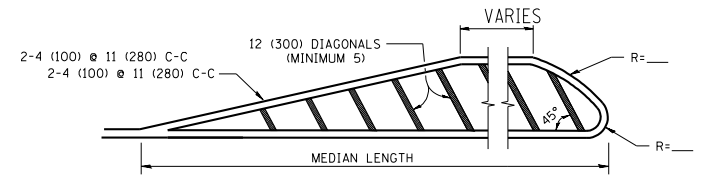
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

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

TYPICAL LANE AND EDGE LINE MARKING



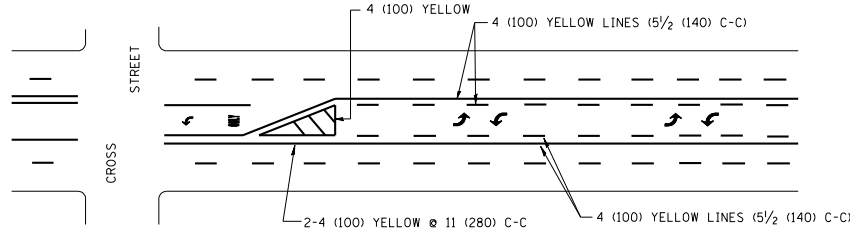
TYPICAL CROSSWALK MARKING



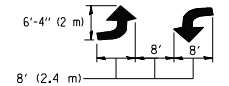
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

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

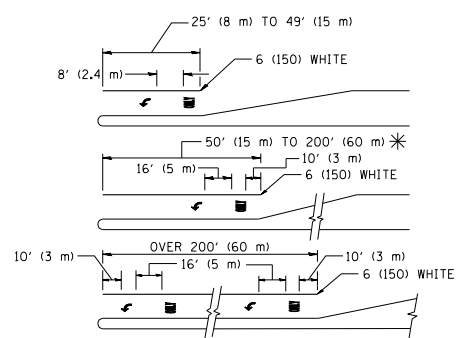


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



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 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

* 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

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	4 (100)	SOLID	YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	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	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	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°	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" 15' (4.5 m) MIN. 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.

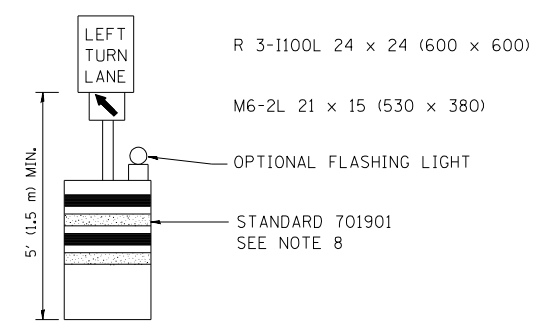
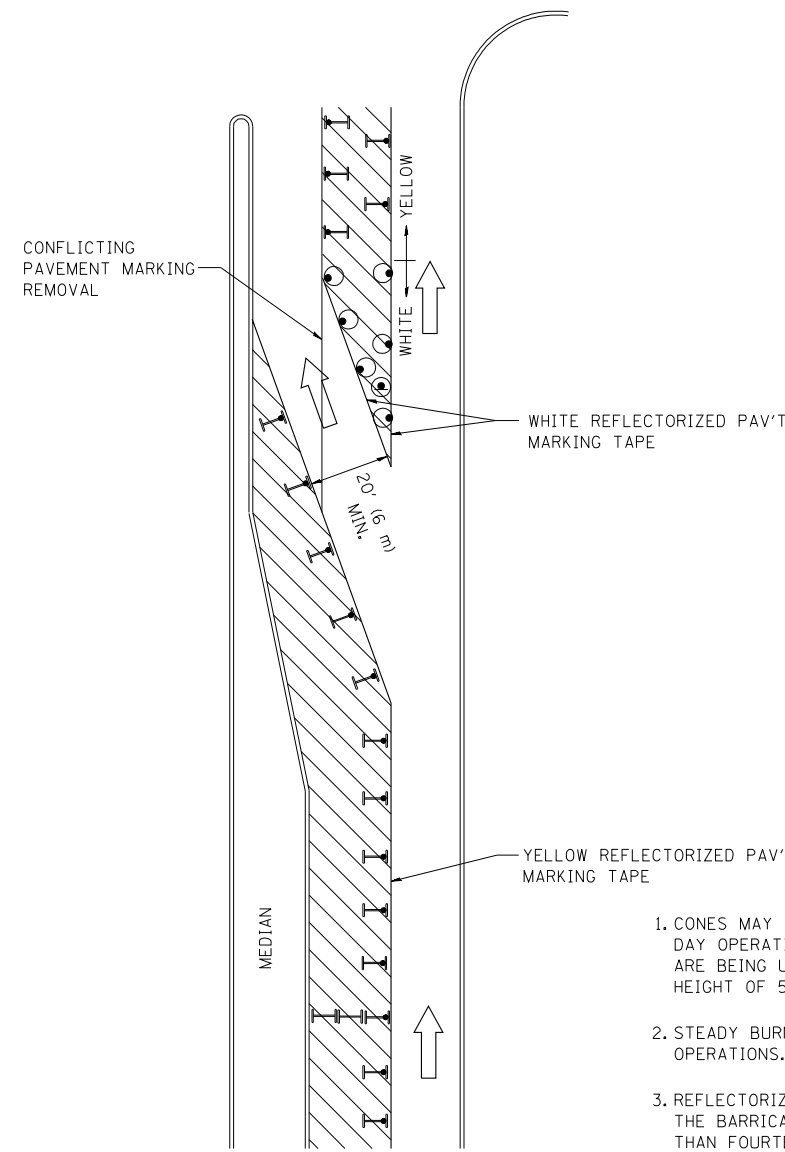
All dimensions are in inches (millimeters) unless otherwise shown.

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	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. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-13		557	479
FED. ROAD DIST. NO. 1 ILLINOIS		CONTRACT NO. 60Y38		
FED. AID PROJECT				









GENERAL NOTES

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II 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 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

LEGEND

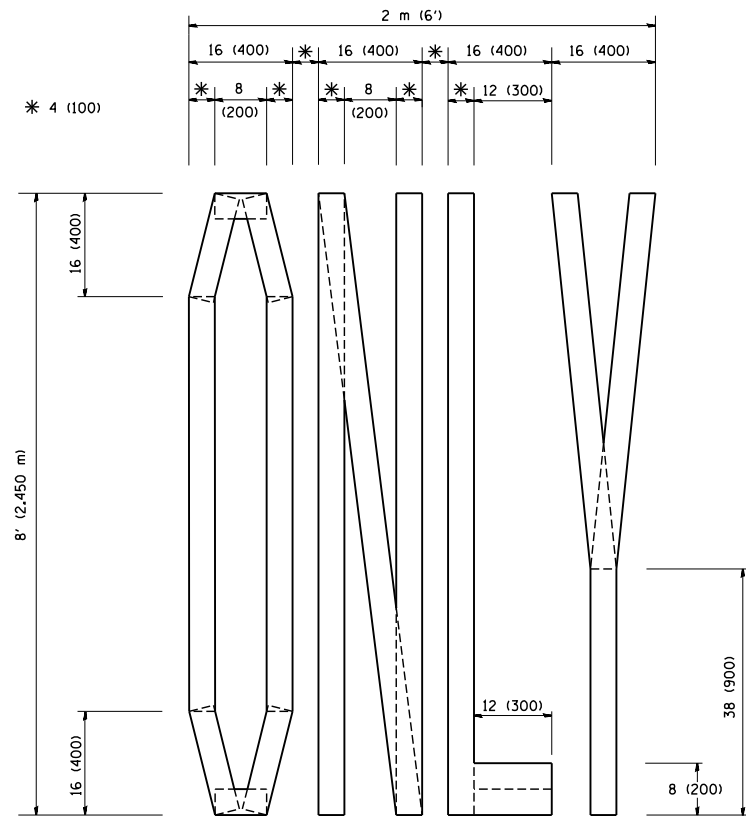
-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

FILE NAME =	USER NAME = drivakosgn	REVISED -T, RAMMACHER 09-08-94	REVISED - R, BORO 09-14-09
ct:\pw\work\PWIDOT\DRIVAKOSGN\d0108315\14.dgn		REVISED - A. HOUSEH 11-07-95	REVISED -
		REVISED - A. HOUSEH 10-12-96	REVISED -
		REVISED -T, RAMMACHER 01-06-00	REVISED -

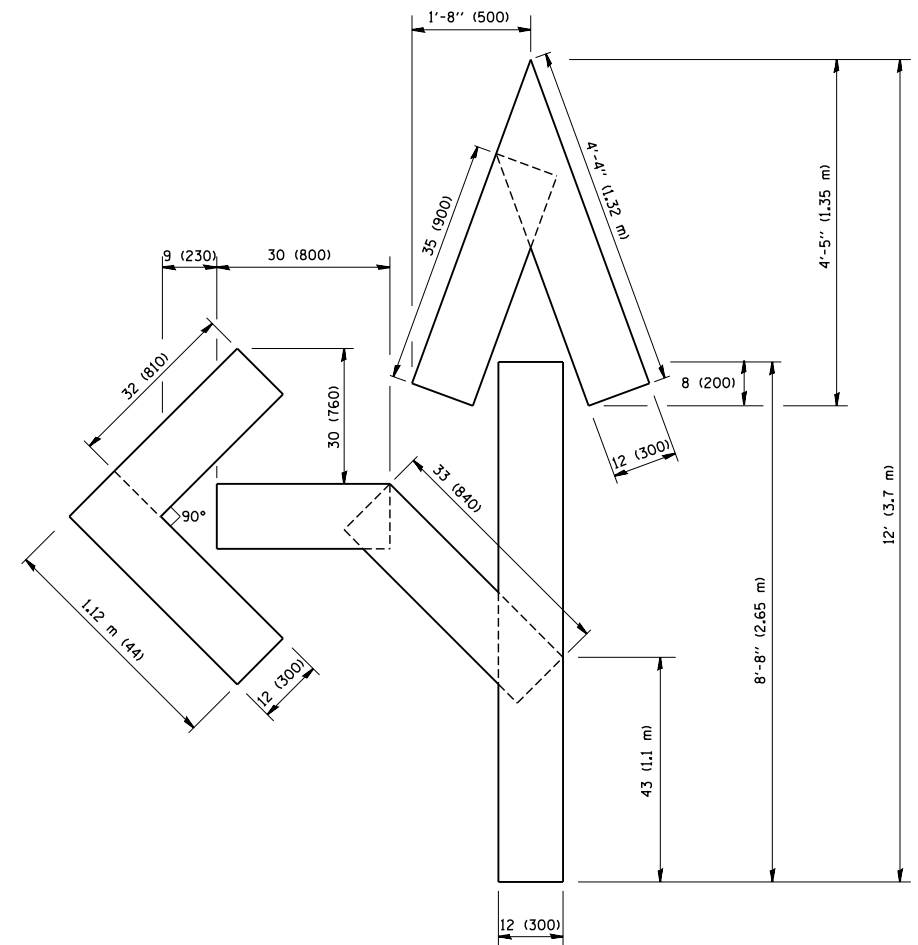
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

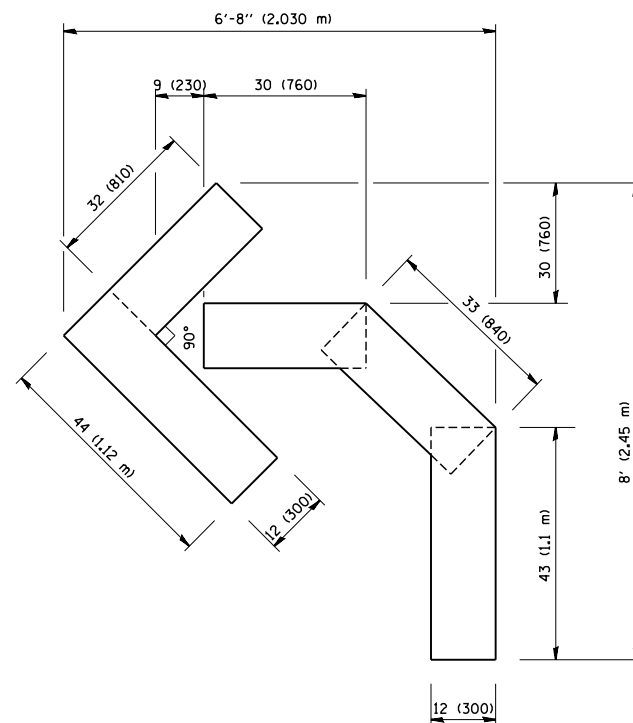
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	479A
TC-14		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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



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



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

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

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		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

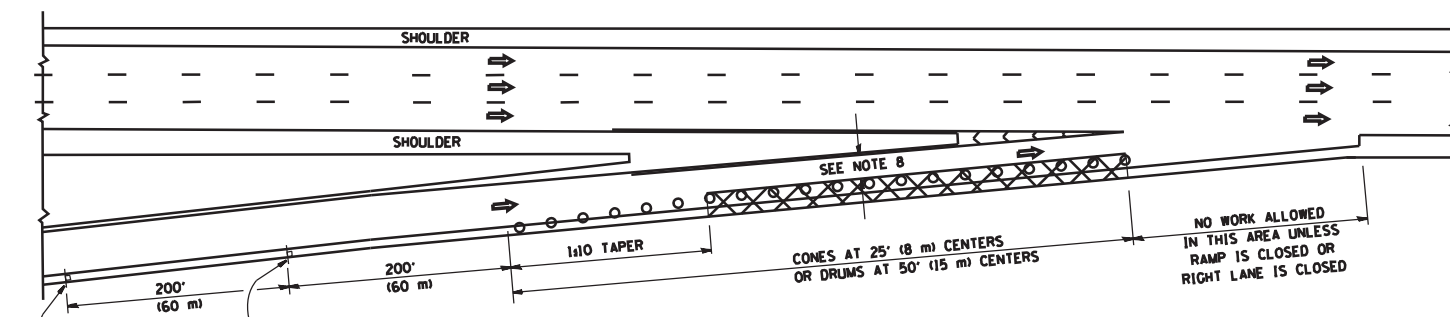
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING LETTERS AND SYMBOLS
 FOR TRAFFIC STAGING**

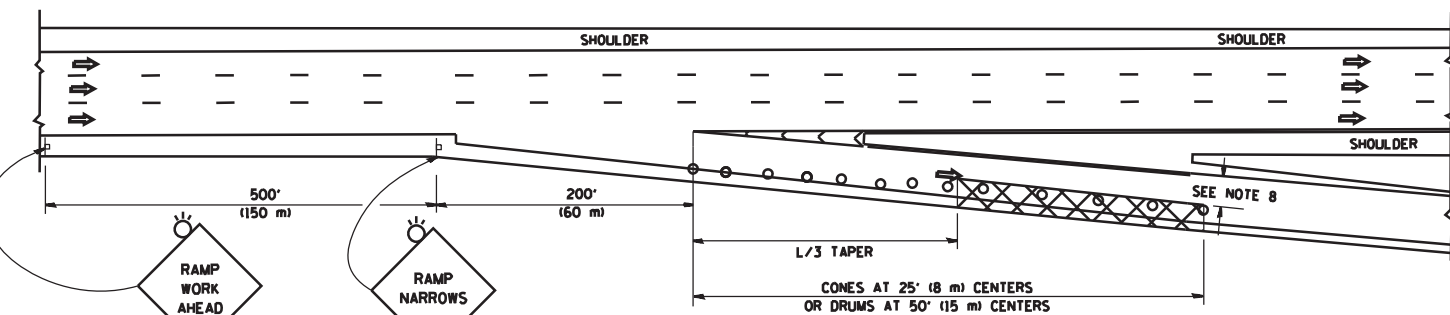
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-16		CONTRACT NO.	60Y38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

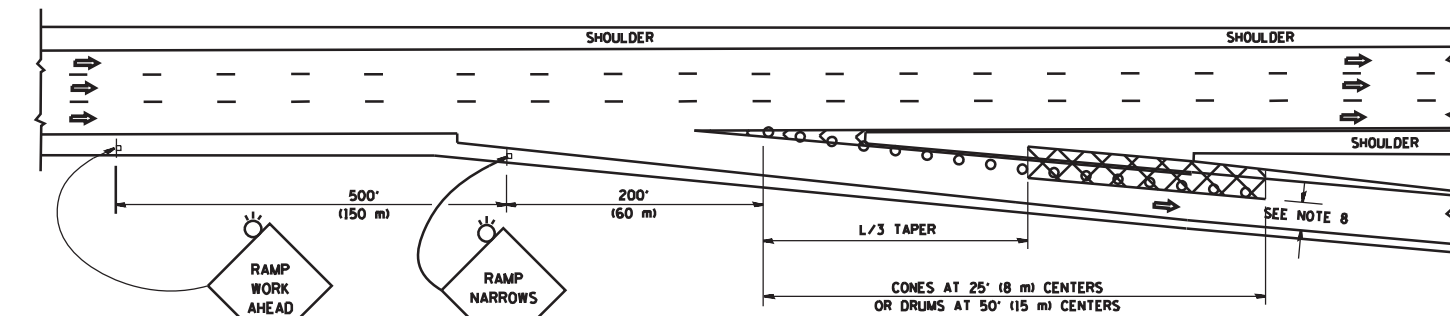
PARTIAL RAMP CLOSURE DETAILS



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 OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

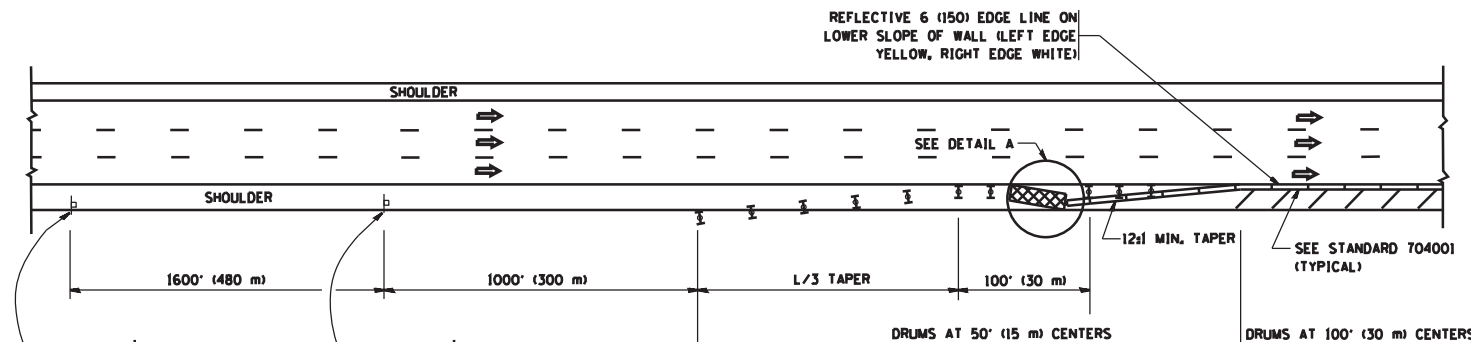
GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

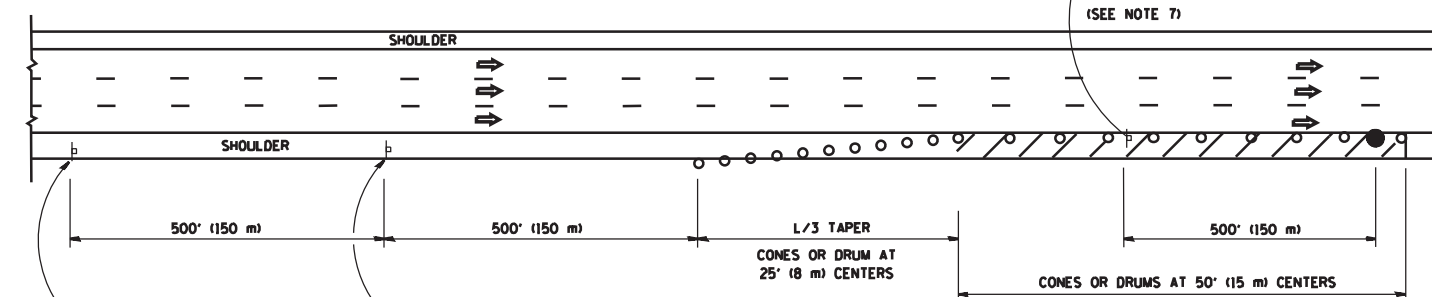
SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC ENGLISH
	$L=0.65(WHS)$ $L=(WHS)$

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.

SHOULDER CLOSURE DETAILS

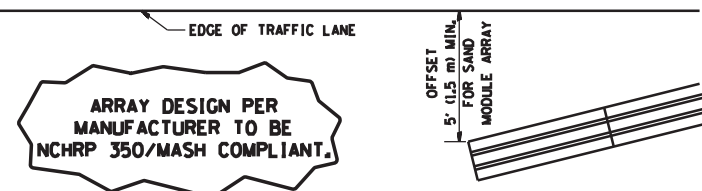


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRANCH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



**DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)**

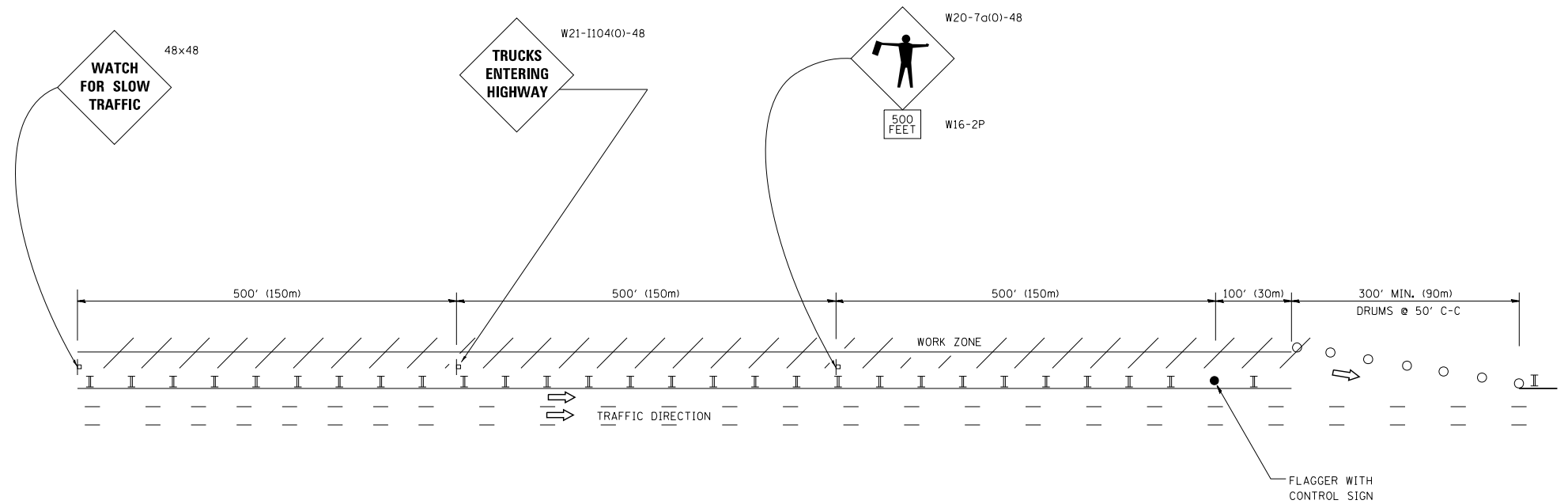
5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL 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 ACTIVITY REQUIRES FREQUENT ENCRANCHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
16' MIN. WIDTH CURVE SECTION.

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

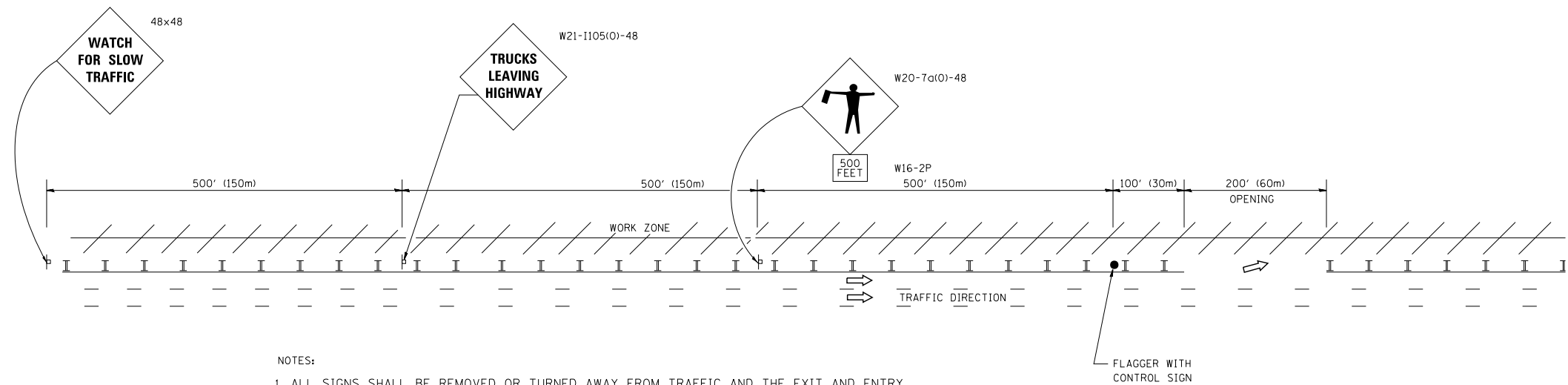
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ca:\pwwork\pwwork\lveysa\d0108315\c17.dgn		DRAWN - D.W.S.	REVISED - S.P.B. 01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	TC-17	CONTRACT NO.	60Y38	557	481
		CHECKED -	REVISED - S.P.B. 12-09										
		DATE - 11-96	REVISED - M.D. 06-13						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. ALL SIGNS 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 OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMP.
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
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

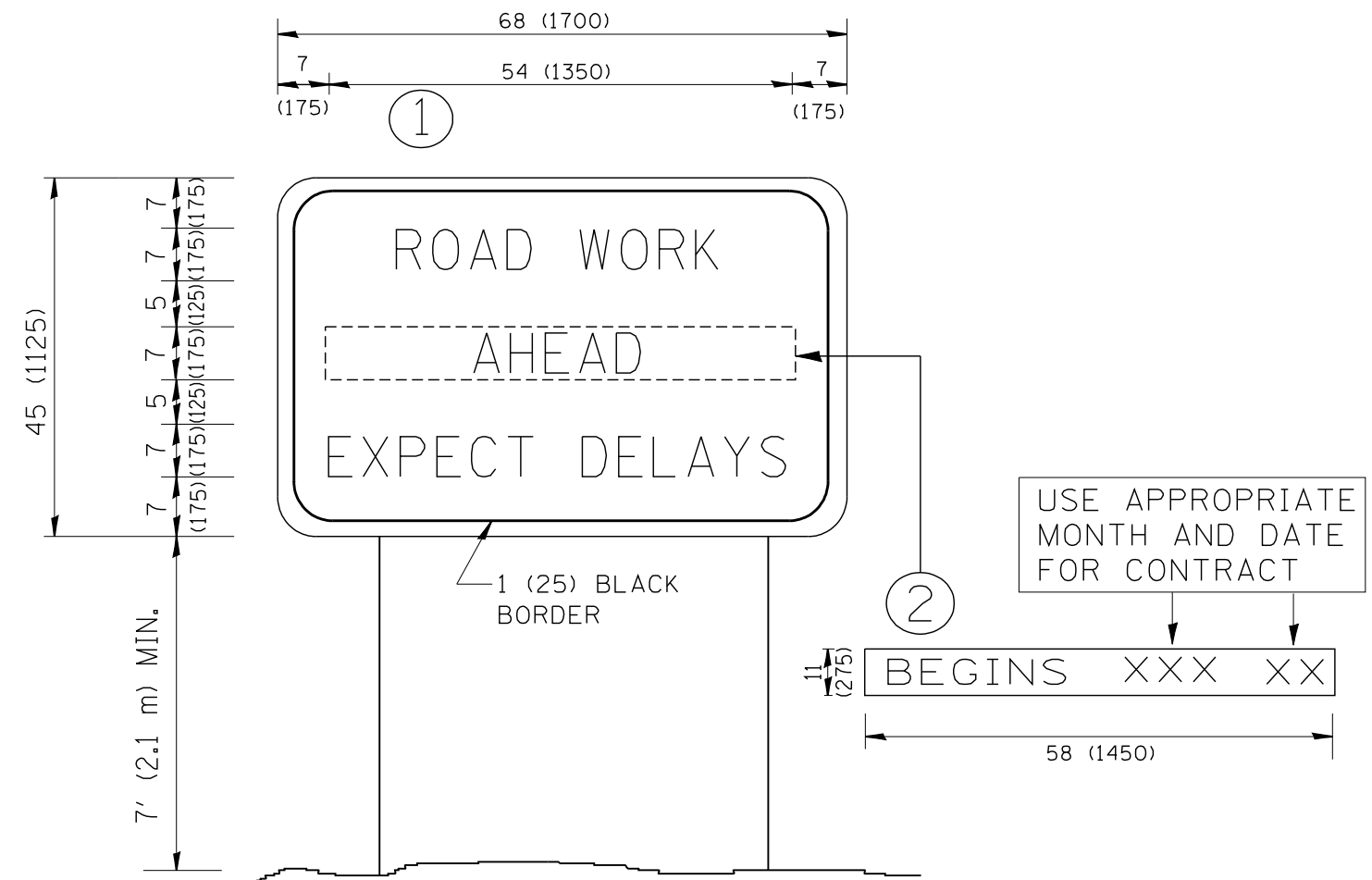
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	PLOT DATE = 7/8/2013	DATE -	REVISED - M.D. 06-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FREeway/EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS
AT WORK ZONE OPENINGS ON FREEWAYS/EXPRESSWAYS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-18		557	482
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		CONTRACT NO. 60Y38		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

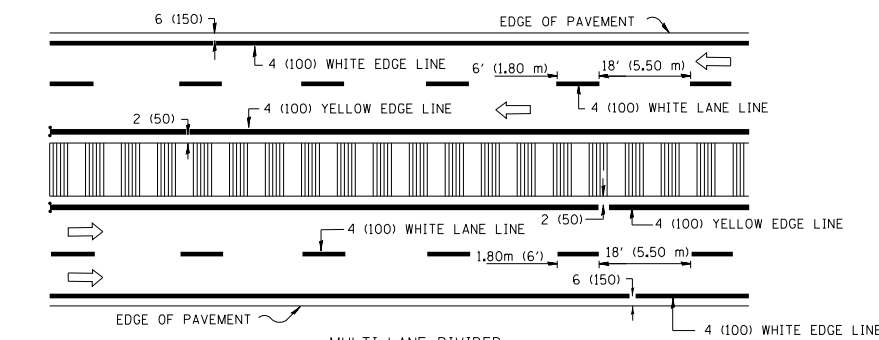
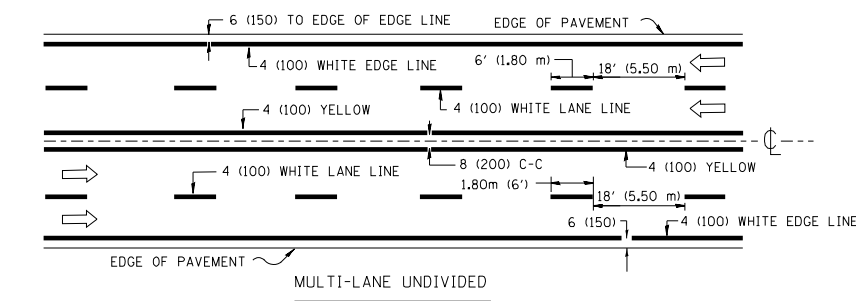
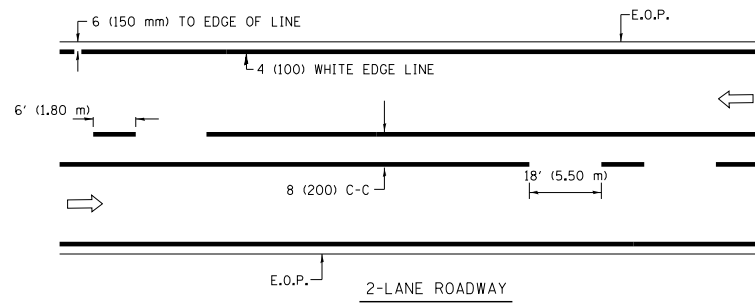
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	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

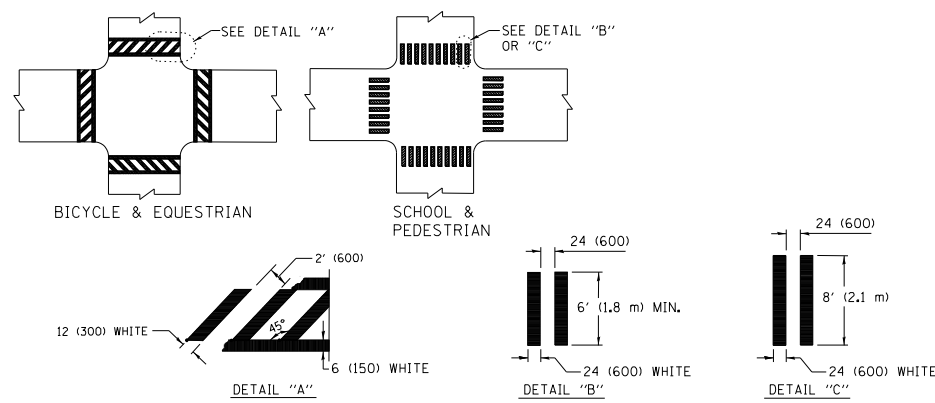
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	483
TC-22		CONTRACT NO. 60Y38		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

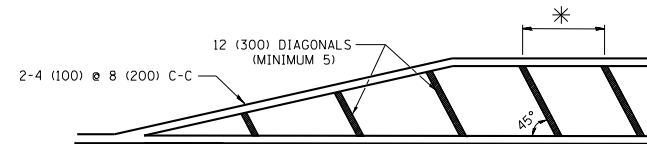


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING



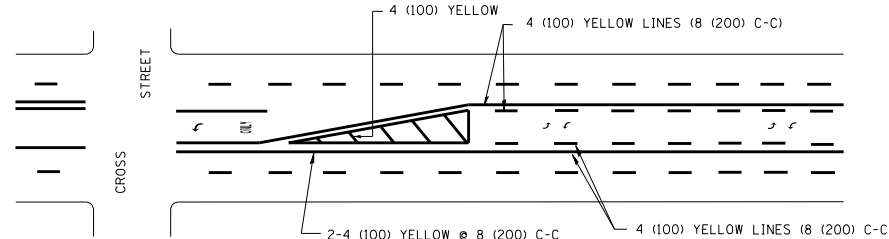
TYPICAL CROSSWALK MARKING



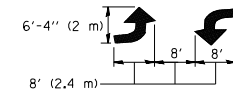
* FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

* DIAGONAL LINE SPACING: 20' (6.1 m) C-C

PAINTED MEDIANS

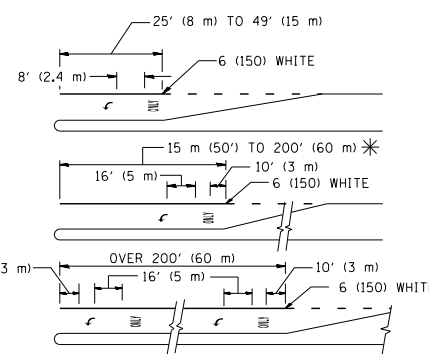
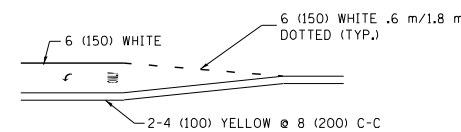


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

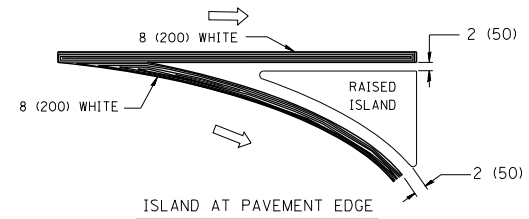
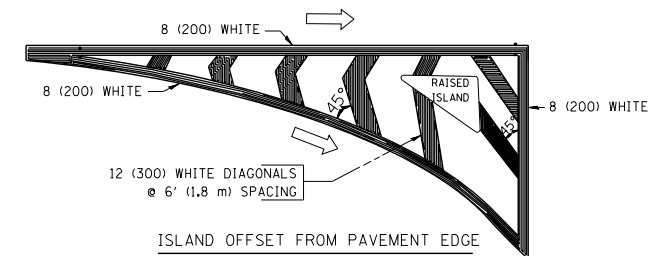


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.8 SQ. FT. (1.47 m²) ONLY AREA = 22.9 SQ. FT. (2.13 m²)

* 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



TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	6' (1.80 m) LINE WITH 18' (5.50 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	8 (200) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	8 (200) C-C
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	6' (1.80 m) LINE WITH 18' (5.50 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) 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' (2.4 m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4 m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	6' (1.8 m) LINE WITH 18' (5.50 m) SPACE FOR SKIP-DASH; 8 (200) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL & PEDESTRIAN)	12 (300) @ 45° 24 (600) @ 90°	SOLID SOLID	WHITE WHITE	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°	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	8 (200) 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: 20' (6.1 m) (LESS THAN 30 MPH (50 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. (0.33m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STREET MARKING STANDARDS, PRINTED BY CITY OF CHICAGO, DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC.

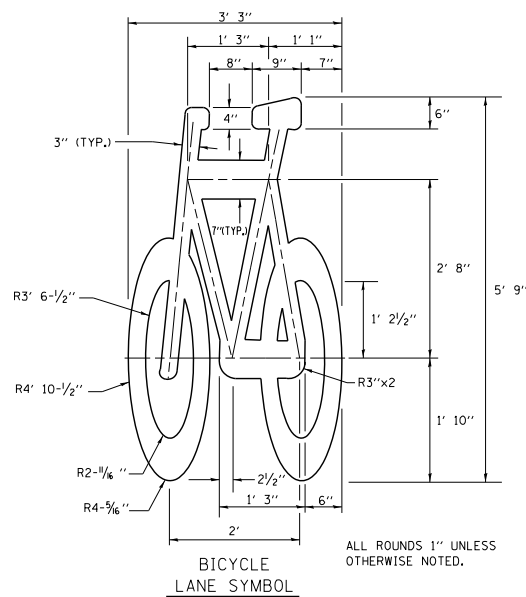
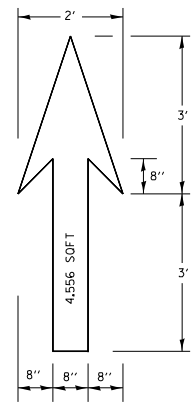
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED - T. RAMMACHER 12-07-00
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	PLOT SCALE = 50.000' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/1/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

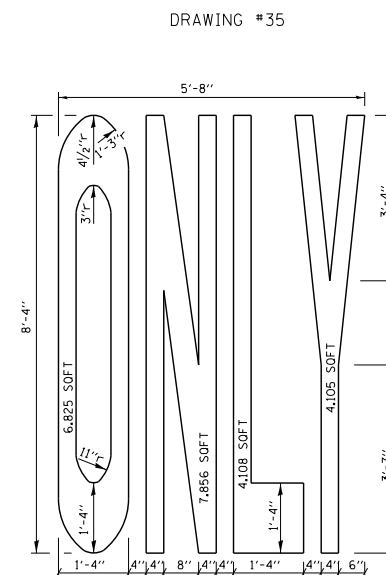
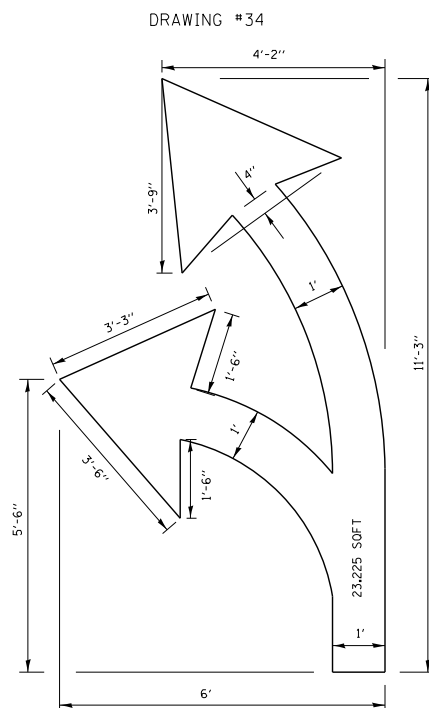
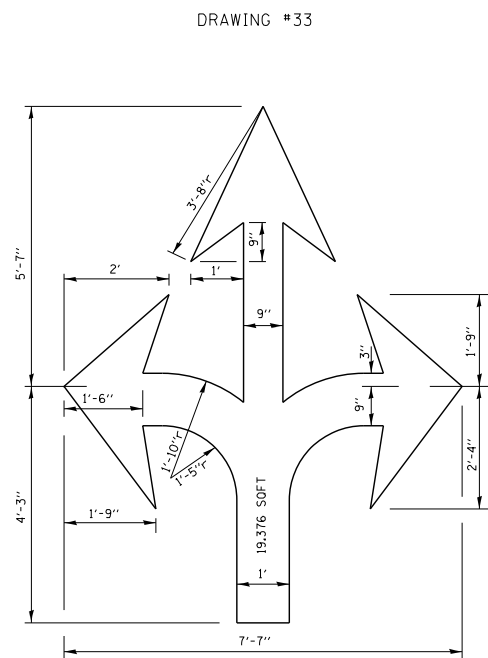
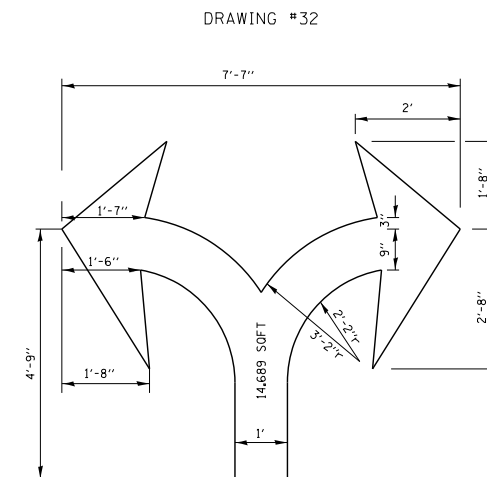
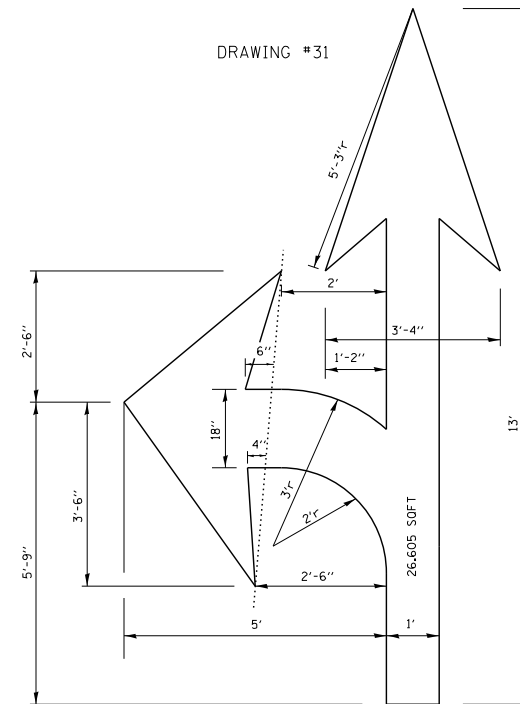
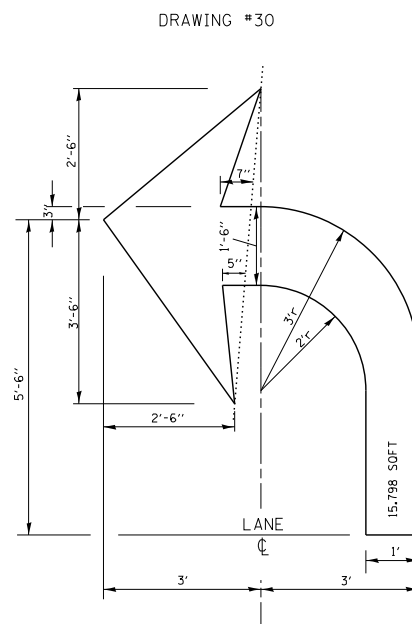
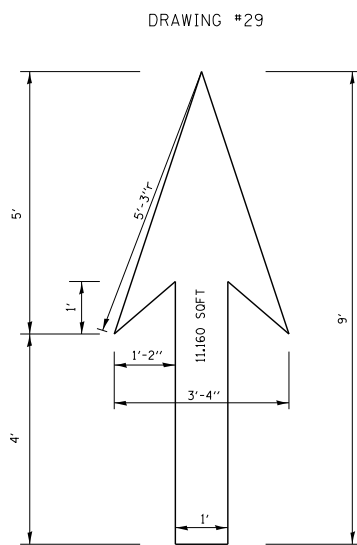
CITY OF CHICAGO			
TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-24		557	484
FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT	CONTRACT NO. 60Y38	



- NOTE:**
- FOR BIKE LANE SYMBOLS ONLY, USE PRE-FORMED THERMOPLASTIC WITH A MINIMUM THICKNESS OF 90 MILS, MINIMUM SKID RESISTANCE VALUE OF 60 BPN, & A MINIMUM INDEX OF REFRACTION OF 1.50.
 - THE RESIDENT ENGINEER SHALL CONTACT MR. BEN GOMBERG AT 312-744-8093 AT LEAST ONE CALENDAR WEEK PRIOR TO INSTALLING BIKE LANE SYMBOLS.

TYPICAL BIKE LANE SYMBOLS
DRAWING #28



NOTE:
ALL MARKINGS SHALL BE SOLID WHITE UNLESS OTHERWISE NOTED IN THE PLANS

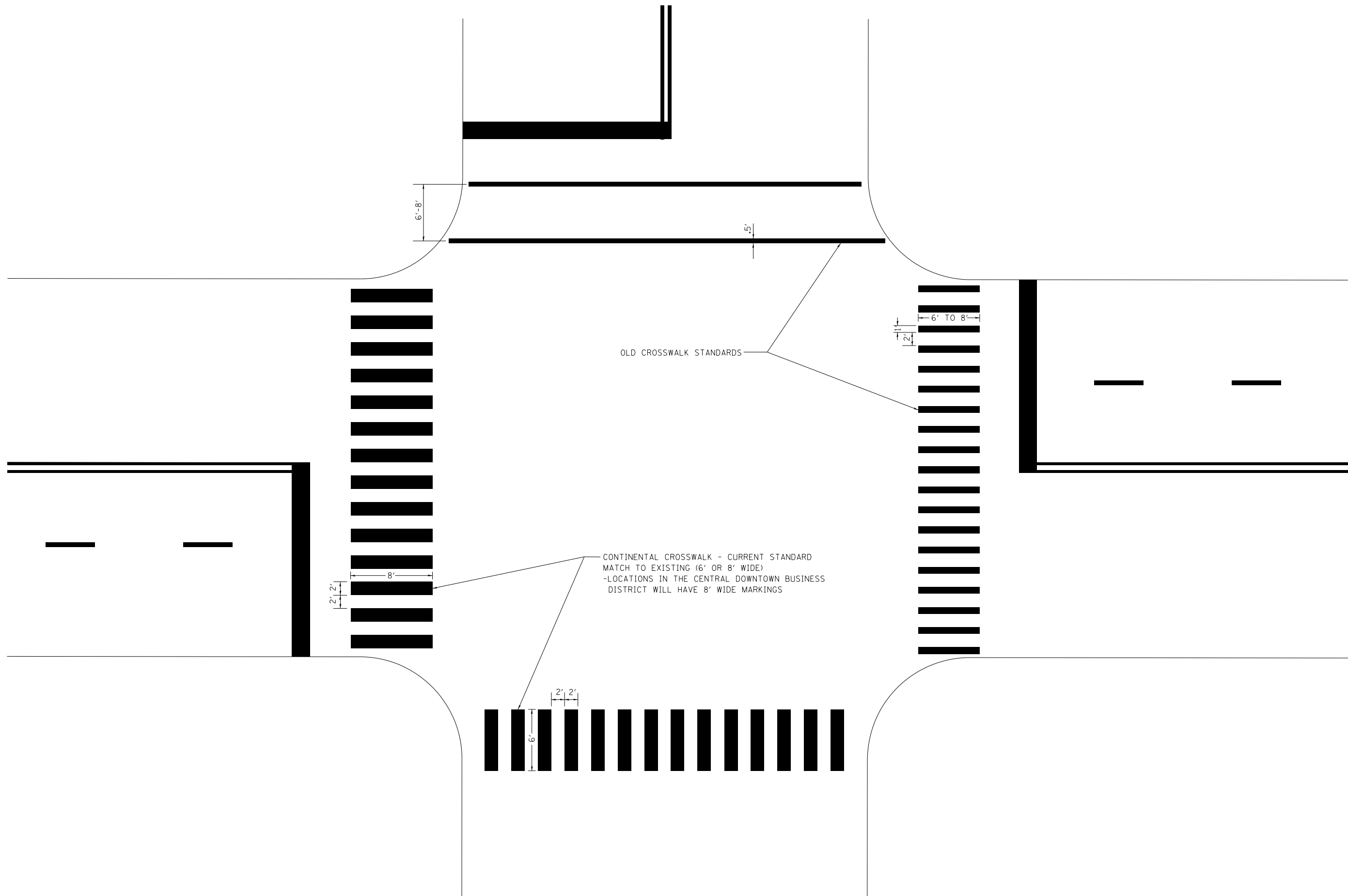
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	PLOT SCALE = 50.000' / 1" =	CHECKED -	REVISED -
	PLOT DATE = 3/29/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CITY OF CHICAGO
TYPICAL PAVEMENT MARKINGS

SCALE: NONE SHEET NO. 2 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-24		557	485
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		CONTRACT NO. 60Y38		



OLD CROSSWALK STANDARDS

CONTINENTAL CROSSWALK - CURRENT STANDARD
 MATCH TO EXISTING (6' OR 8' WIDE)
 -LOCATIONS IN THE CENTRAL DOWNTOWN BUSINESS
 DISTRICT WILL HAVE 8' WIDE MARKINGS

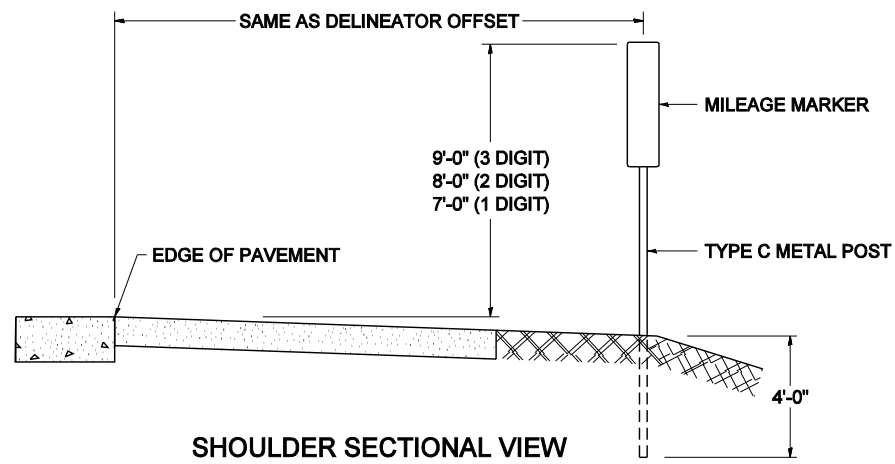
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	PLOT SCALE = 50.000' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/29/2012	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

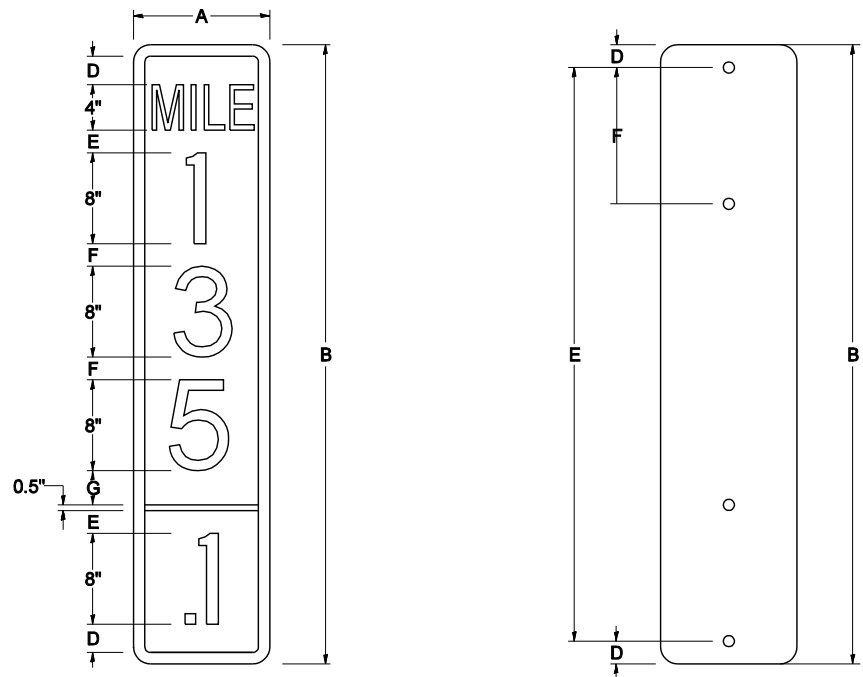
CITY OF CHICAGO			
TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET NO. 3 OF 3 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			557	486
TC-24		CONTRACT NO. 60Y38		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

STANDARD DESIGN FOR MILE POST



SHOULDER SECTIONAL VIEW

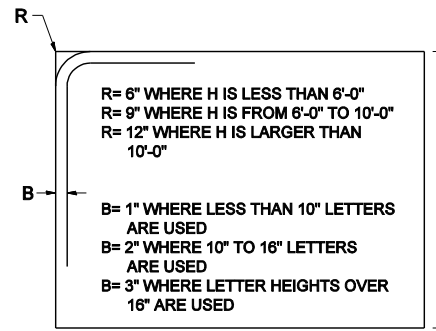


SIGN SIZE	DIMENSIONS							
	A	B	C	D	E	F	G	DIGIT
12 x 24	12.0	24.0	1.5	1.5	1.5	N/A	1.5	1
12 x 36	12.0	36.0	1.5	2.0	2.0	2.0	1.5	2
12 x 48	12.0	48.0	1.5	2.5	2.0	2.0	2.5	3

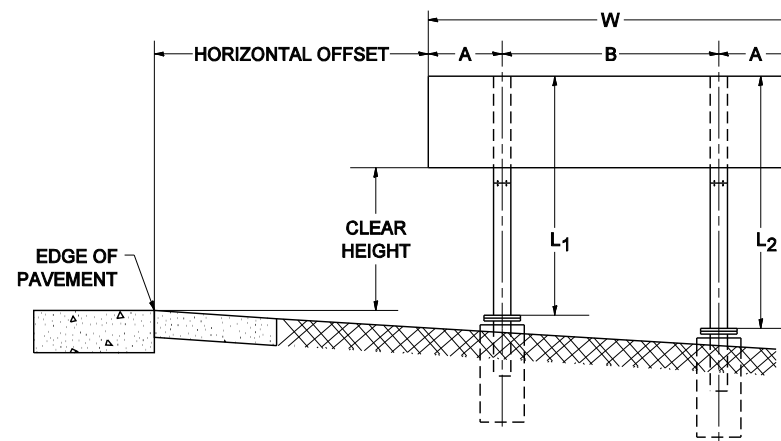
BLANK	A	B	C	D	E	F
B9-1224	12.0	24.0	1.5	2.0	20.0	N/A
B9-1236	12.0	36.0	1.5	2.0	32.0	12.0
B9-1248	12.0	48.0	1.5	2.0	44.0	12.0

SIGN SIZE	SERIES					BLANK STD.	
	LINES						
	1	2	3	4	5	BORDER	
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

BORDER AND RADIUS LAYOUT



MAJOR GUIDE SIGN LAYOUT

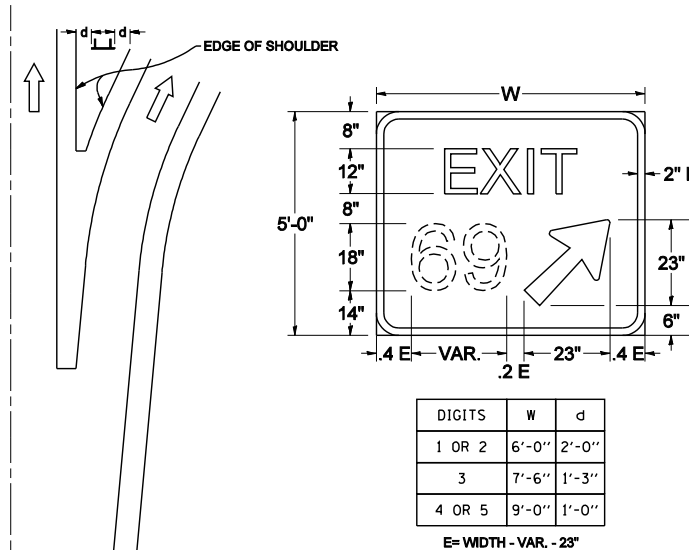


NUMBER OF STEEL SUPPORTS	A	B
2	.2 W	.6 W
3	.15 W	.35 W
4	.125 W	.25 W
5	.1 W	.2 W

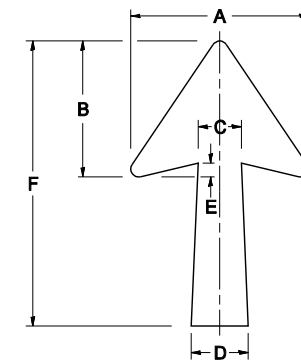
"L1 IS THE LENGTH OF SUPPORT, NOT INCLUDING THE STUB PROJECTION, CLOSEST TO THE EDGE OF THE PAVEMENT."

"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

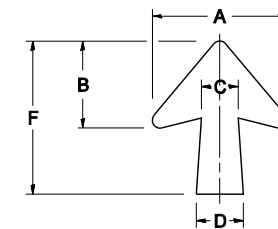


STANDARD ARROWS FOR INTERSTATE GUIDE SIGNS



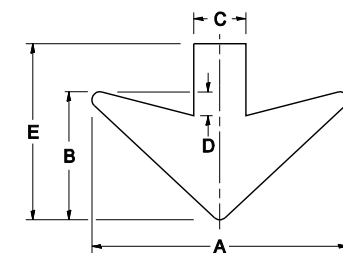
ARROW SYMBOL	A	B	C	D	E	F	R
24 1/4 x 15 1/8	15 1/8	11 1/8	3 3/4	5	1 5/8	2 1/4	1 1/8
29 1/4 x 18 1/4	18 1/4	14	4 1/2	6	1 1/2	2 9/4	3/4
35 5/8 x 22 1/4	22 1/4	17	5 3/8	7 1/8	1 3/4	35 5/8	1
18 1/4 x 11 1/4	11 1/4	8 3/4	3 1/8	3 3/8		18 1/4	

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



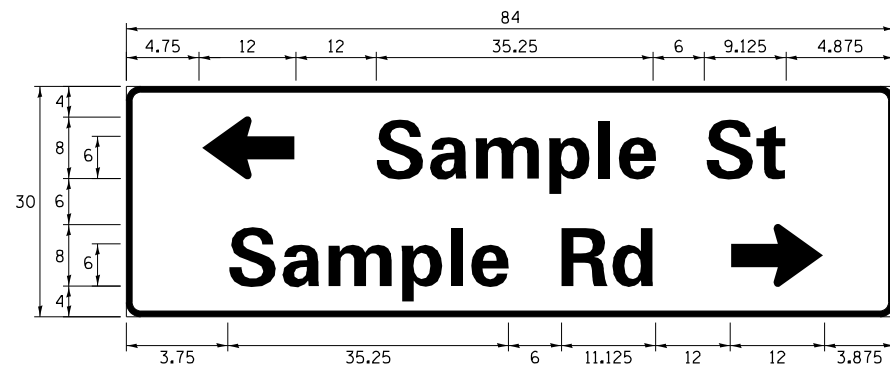
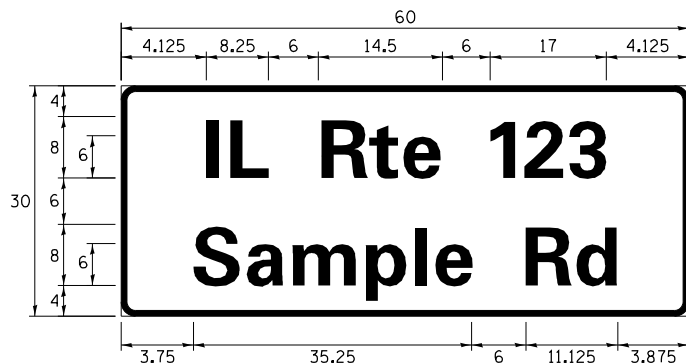
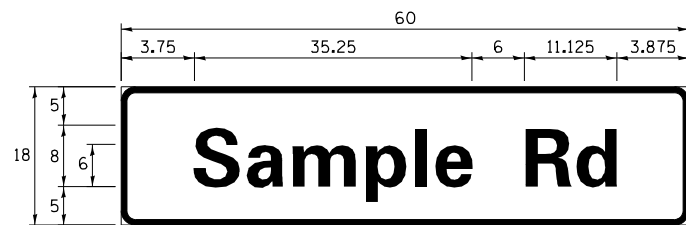
ARROW SYMBOL	A	B	C	D	E	F	R
17 1/4 x 14 1/4	14 1/4	9 3/8	3 3/8	4 1/2	1 5/8	17 1/4	3/4
20 1/4 x 17 1/4	17 1/4	11 3/4	4 3/8	5 5/8	1 1/2	20 1/4	
25 x 21 1/8	21 1/8	14 1/4	5	6 3/4	1 3/4	25	1
9 5/8 x 8 1/8	8 1/8	5 5/8	2 3/8	2 3/8		9 5/8	1/2

DOWN ARROWS



ARROW SYMBOL	A	B	C	D	E	R
16 1/2 x 24	24	12	5	1 1/2	16 1/2	3/4
22 x 32	32	16	6 1/2	3	22	1

SIGN PANEL – TYPE 1 OR TYPE 2



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D OR C	-	1 OR 2	ZZ	-

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE

COMMON STREET NAME ABBREVIATIONS AND WIDTHS

NAME	ABBREVIATION	WIDTH (INCH)	
		SERIES "C"	SERIES "D"
AVENUE	Ave	15.000	18.250
BOULEVARD	Blvd	17.125	20.000
CIRCLE	Cir	11.125	13.000
COURT	Ct	8.250	9.625
DRIVE	Dr	8.625	10.125
HIGHWAY	Hwy	18.375	22.000
ILLINOIS	IL	7.000	8.250
LANE	Ln	9.125	10.750
PARKWAY	Pkwy	23.375	27.375
PLACE	Pl	7.125	7.750
ROAD	Rd	9.625	11.125
ROUTE	Rte	12.625	14.500
STREET	St	8.000	9.125
TERRACE	Ter	12.625	14.625
TRAIL	Tr	7.750	9.125
UNITED STATES	US	10.375	12.250

GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", IF POSSIBLE, BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- A PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH. IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE TRIED. IF SERIES "C" DOES NOT FIT ON A 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC. SHOULD BE SPELLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLOGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

LOCAL SUPPLIERS:

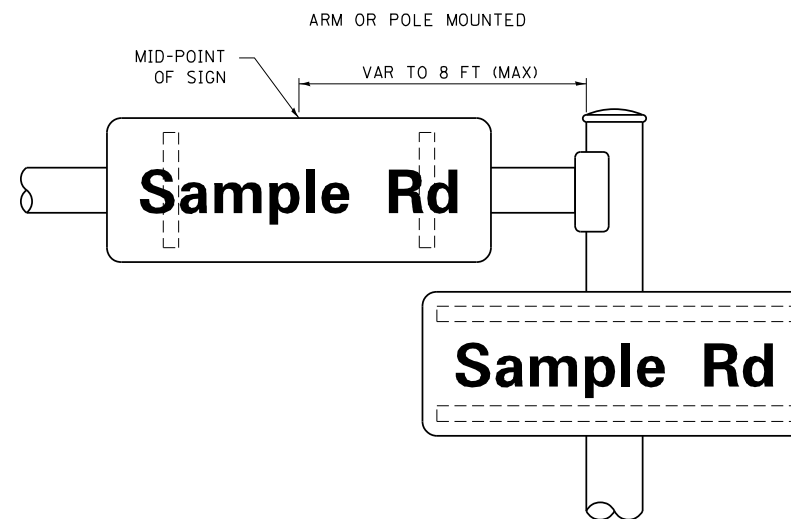
- J.O. HERBERT COMPANY, INC
MIDLOTHIAN, VA
- WESTERN REMAC, INC.
WOODRIDGE, IL

PARTS LISTING:

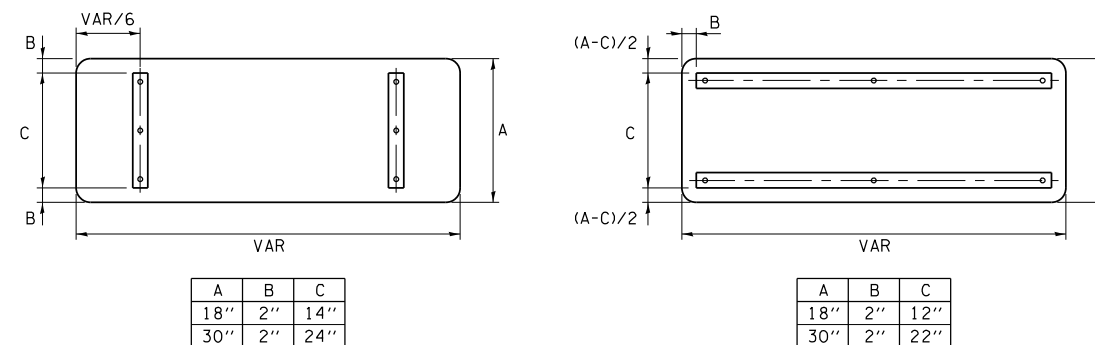
- SIGN CHANNEL PART *HPN053 (MED. CHANNEL)
1/4" x 14 x 1" H.W.H. #3
SELF TAPPING WITH NEOPRENE WASHER
- SIGN SCREWS PART *HPN034 (UNIVERSAL)
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- BRACKETS

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

MOUNTING LOCATION



SUPPORTING CHANNELS



STANDARD ALPHABETS SPACING CHART

(8") UPPER CASE AND (6") LOWER CASE

CHARACTER	FHWA SERIES "C"			CHARACTER	FHWA SERIES "D"		
	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)		LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)
A	0.240	5.122	0.240	A	0.240	6.804	0.240
B	0.880	4.482	0.480	B	0.960	5.446	0.400
C	0.720	4.482	0.720	C	0.800	5.446	0.800
D	0.880	4.482	0.720	D	0.960	5.446	0.800
E	0.880	4.082	0.480	E	0.960	4.962	0.400
F	0.880	4.082	0.240	F	0.960	4.962	0.240
G	0.720	4.482	0.720	G	0.800	5.446	0.800
H	0.880	4.482	0.880	H	0.960	5.446	0.960
I	0.880	1.120	0.880	I	0.960	1.280	0.960
J	0.240	4.082	0.880	J	0.240	5.122	0.960
K	0.880	4.482	0.480	K	0.960	5.604	0.400
L	0.880	4.082	0.240	L	0.960	4.962	0.240
M	0.880	5.284	0.880	M	0.960	6.244	0.960
N	0.880	4.482	0.880	N	0.960	5.446	0.960
O	0.720	4.722	0.720	O	0.800	5.684	0.800
P	0.880	4.482	0.720	P	0.960	5.446	0.240
Q	0.720	4.722	0.720	Q	0.800	5.684	0.800
R	0.880	4.482	0.480	R	0.960	5.446	0.400
S	0.480	4.482	0.480	S	0.400	5.446	0.400
T	0.240	4.082	0.240	T	0.240	4.962	0.240
U	0.880	4.482	0.880	U	0.960	5.446	0.960
V	0.240	4.962	0.240	V	0.240	6.084	0.240
W	0.240	6.084	0.240	W	0.240	7.124	0.240
X	0.240	4.722	0.240	X	0.400	5.446	0.400
Y	0.240	5.122	0.240	Y	0.240	6.884	0.240
Z	0.480	4.482	0.480	Z	0.400	5.446	0.400
a	0.320	3.842	0.640	a	0.400	4.562	0.720
b	0.720	4.082	0.480	b	0.800	4.802	0.480
c	0.480	4.002	0.240	c	0.480	4.722	0.240
d	0.480	4.082	0.720	d	0.480	4.802	0.800
e	0.480	4.082	0.320	e	0.480	4.722	0.320
f	0.320	2.480	0.160	f	0.320	2.882	0.160
g	0.480	4.082	0.720	g	0.480	4.802	0.800
h	0.720	4.082	0.640	h	0.800	4.722	0.720
i	0.720	1.120	0.720	i	0.800	1.280	0.800
j	0.000	2.320	0.720	j	0.000	2.642	0.800
k	0.720	4.322	0.160	k	0.800	5.122	0.160
l	0.720	1.120	0.720	l	0.800	1.280	0.800
m	0.720	6.724	0.640	m	0.800	7.926	0.720
n	0.720	4.082	0.640	n	0.800	4.722	0.720
o	0.480	4.082	0.480	o	0.480	4.882	0.480
p	0.720	4.082	0.480	p	0.800	4.802	0.480
q	0.480	4.082	0.720	q	0.480	4.802	0.800
r	0.720	2.642	0.160	r	0.800	3.042	0.160
s	0.320	3.362	0.240	s	0.320	3.762	0.240
t	0.080	2.882	0.080	t	0.080	3.202	0.080
u	0.640	4.082	0.720	u	0.720	4.722	0.800
v	0.160	4.722	0.160	v	0.160	5.684	0.160
w	0.160	7.524	0.160	w	0.160	9.046	0.160
x	0.000	5.202	0.000	x	0.000	6.244	0.000
y	0.160	4.962	0.160	y	0.160	6.004	0.160
z	0.240	3.362	0.240	z	0.240	4.002	0.240
1	0.720	1.680	0.880	1	0.800	2.000	0.960
2	0.480	4.482	0.480	2	0.800	5.446	0.800
3	0.480	4.482	0.480	3	1.440	5.446	0.800
4	0.240	4.962	0.720	4	0.160	6.004	0.960
5	0.480	4.482	0.480	5	0.800	5.446	0.800
6	0.720	4.482	0.720	6	0.800	5.446	0.800
7	0.240	4.482	0.720	7	0.560	5.446	0.560
8	0.480	4.482	0.480	8	0.800	5.446	0.800
9	0.480	4.482	0.480	9	0.800	5.446	0.800
0	0.720	4.722	0.720	0	0.800	5.684	0.800
-	0.240	2.802	0.240	-	0.240	2.802	0.240

TRAFFIC SIGNAL LEGEND

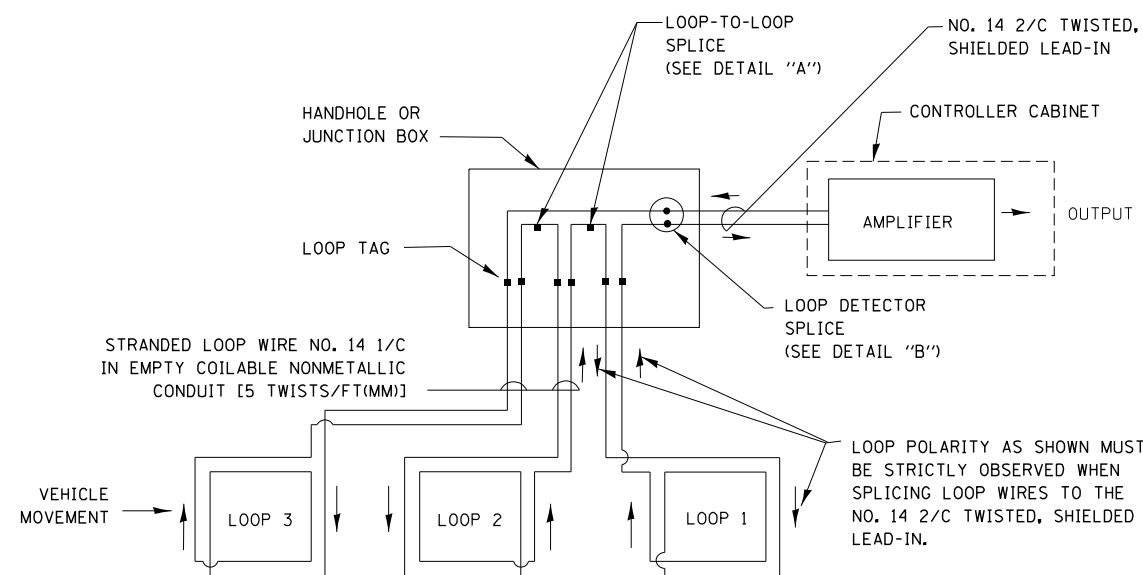
ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTABLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				UNDERGROUND CONDUIT, GALVANIZED STEEL (UC)				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM				INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				QUEUE DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				PREFORMED QUEUE DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				"RB" INDICATES REFLECTIVE BACKPLATE				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL							
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED							
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
ILLUMINATED SIGN "NO LEFT TURN"				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO INTERCONNECT							
DETECTOR LOOP, TYPE I				RADIO REPEATER							
PREFORMED DETECTOR LOOP				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED							
MICROWAVE VEHICLE SENSOR				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

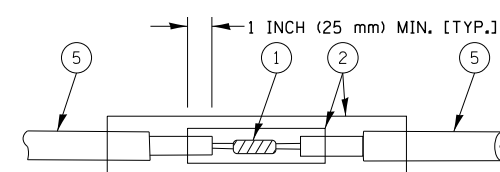
LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

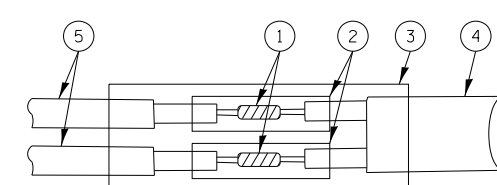


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



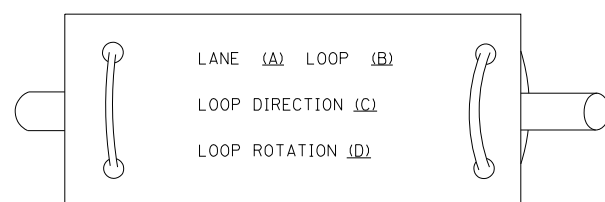
DETAIL "A"
LOOP-TO-LOOP SPLICE



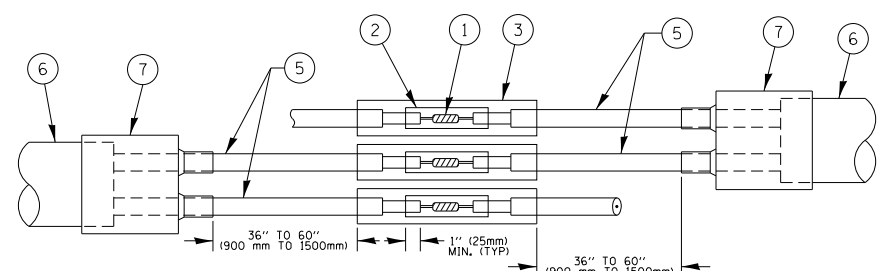
DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP

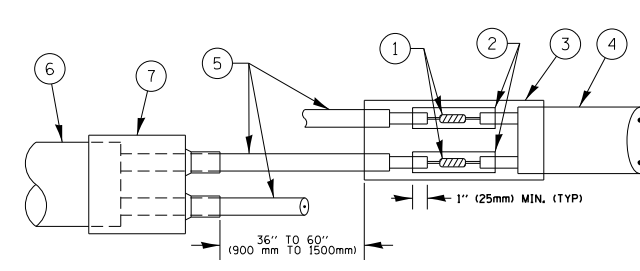
LOOP LEAD-IN CABLE TAG



- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.



DETAIL "A"
LOOP-TO-LOOP SPLICE



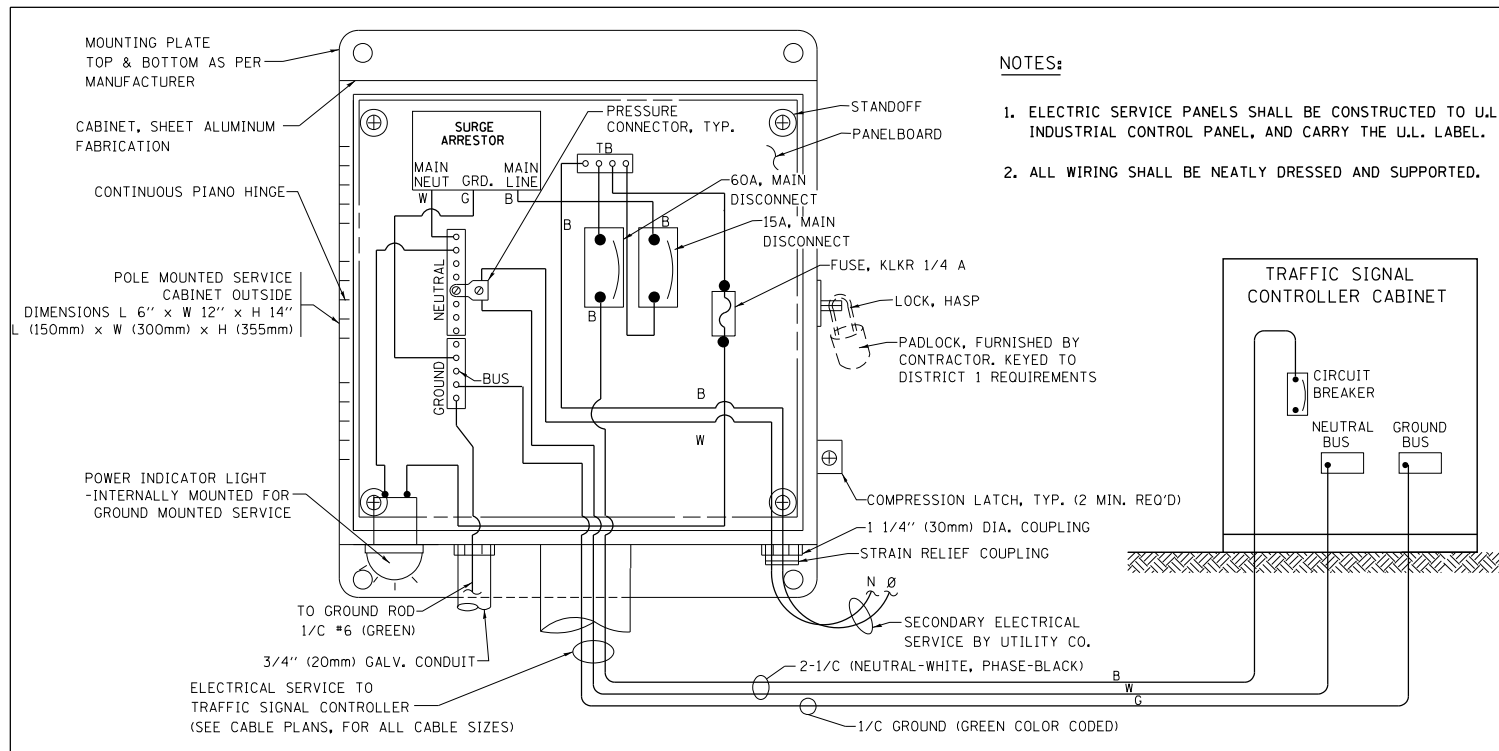
DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

PREFORMED LOOP

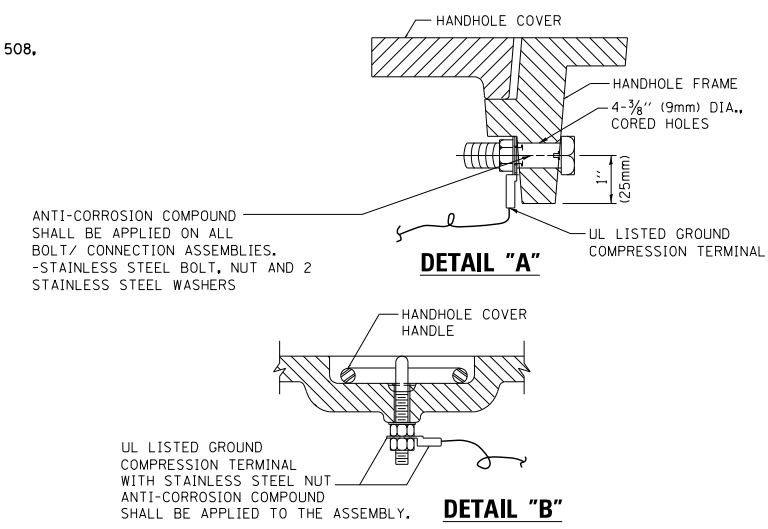
LOOP DETECTOR SPLICE

- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- ② WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- ③ WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- ④ NO. 14 2/C TWISTED, SHIELDED CABLE.
- ⑤ LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- ⑥ PREFORMED LOOP
- ⑦ XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

FILE NAME =	USER NAME = footemj	DESIGNED - DAD	REVISED - DAG 1-1-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwork\pwork\footemj\d0108315\ts05.pgn		DRAWN - BCK	REVISED -		SCALE: NONE	SHEET NO. 2 OF 7 SHEETS	STA.	TO STA.	TS-05			557	490
		CHECKED - DAD	REVISED -										
		DATE - 10-28-09	REVISED -						FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

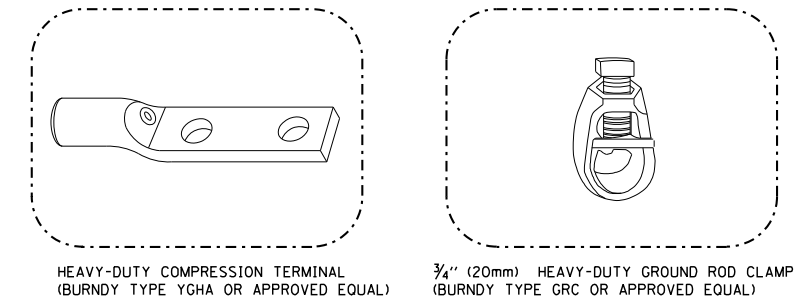
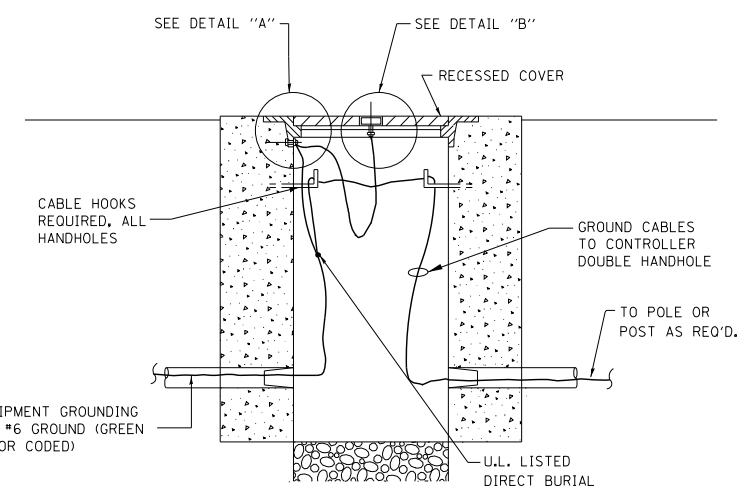


**ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
(NOT TO SCALE)**



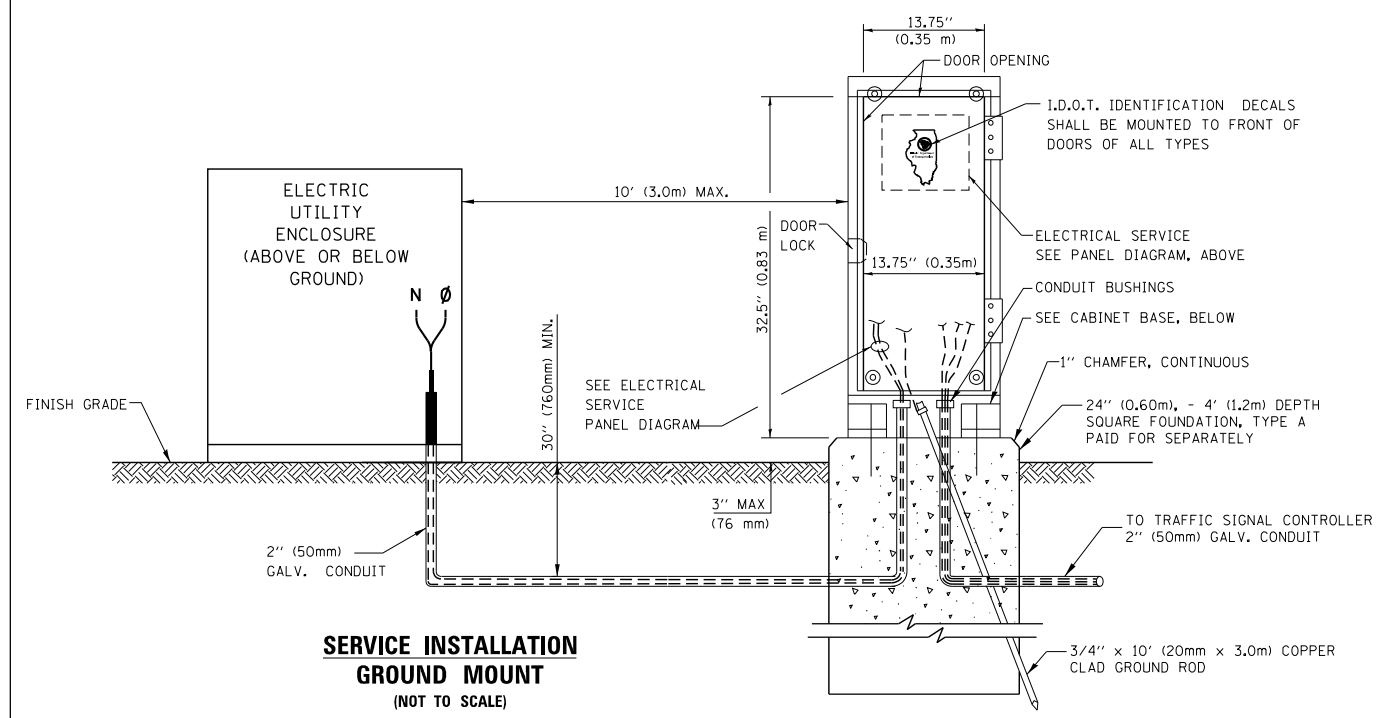
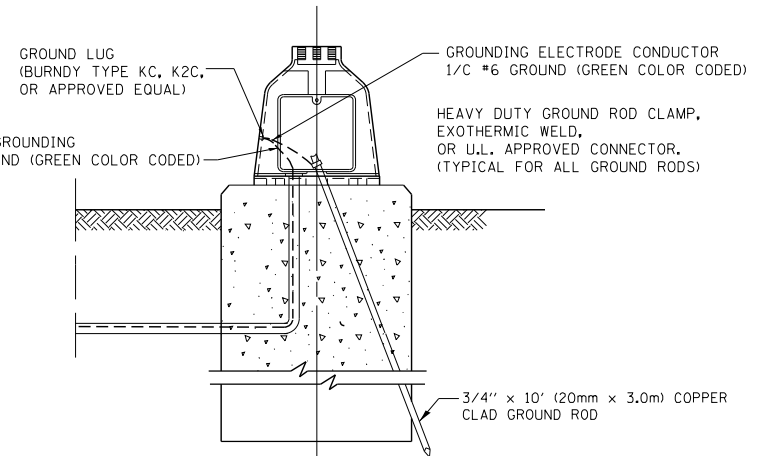
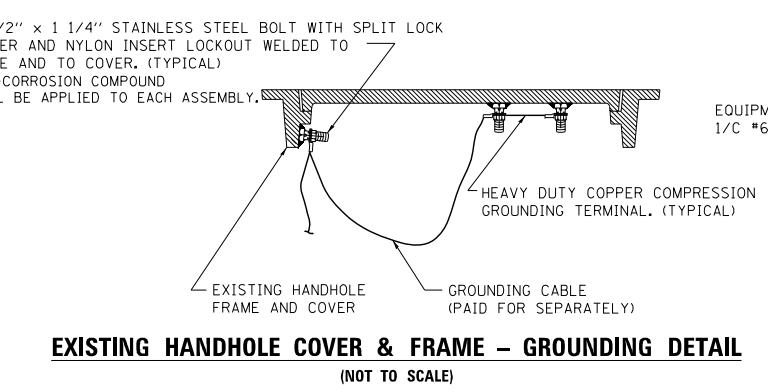
NOTES:
GROUNDING SYSTEM

- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
- THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

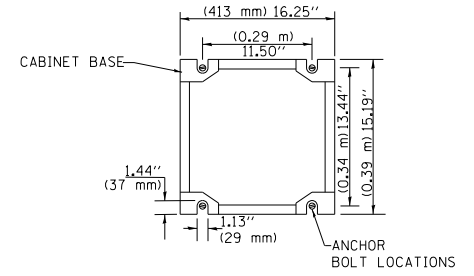


NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



**CABINET – BASE BOLT PATTERN
(NOT TO SCALE)**

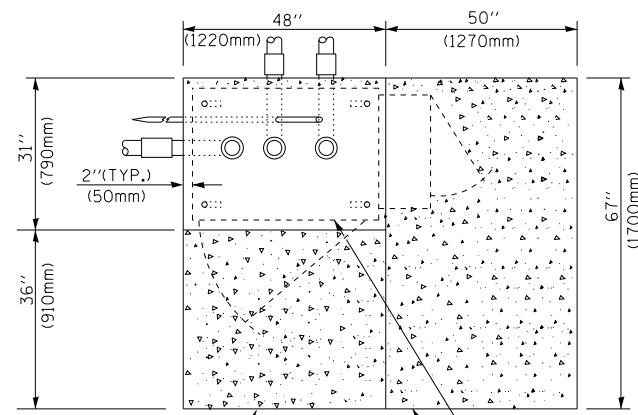


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		CHECKED - DAD	REVISED -
		DATE - 10-28-09	REVISED -

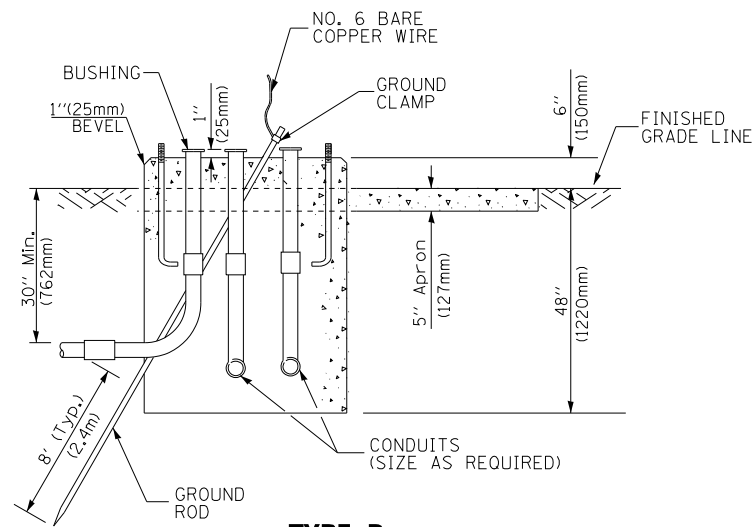
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DISTRICT ONE			
STANDARD TRAFFIC SIGNAL DESIGN DETAILS			
SCALE: NONE	SHEET NO. 4 OF 7 SHEETS	STA.	TO STA.

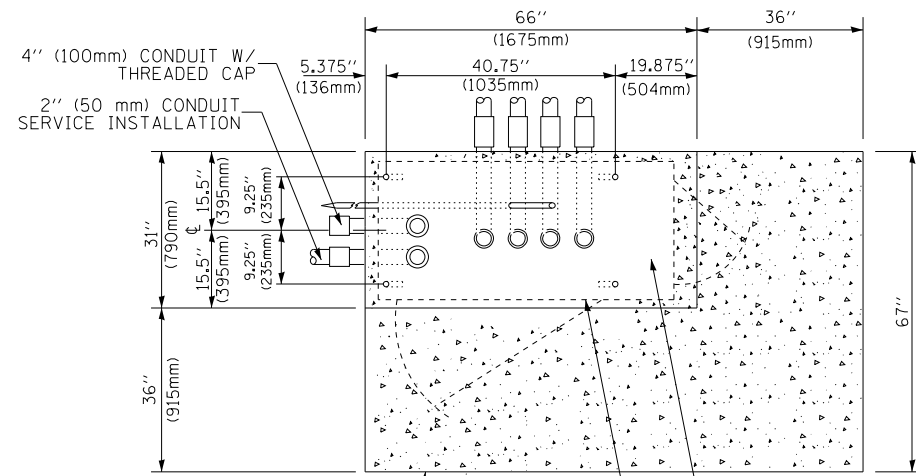
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-05		557	492
FED. ROAD DIST. NO. 1 ILLINOIS		CONTRACT NO. 60Y38		
FED. AID PROJECT				



TOP VIEW



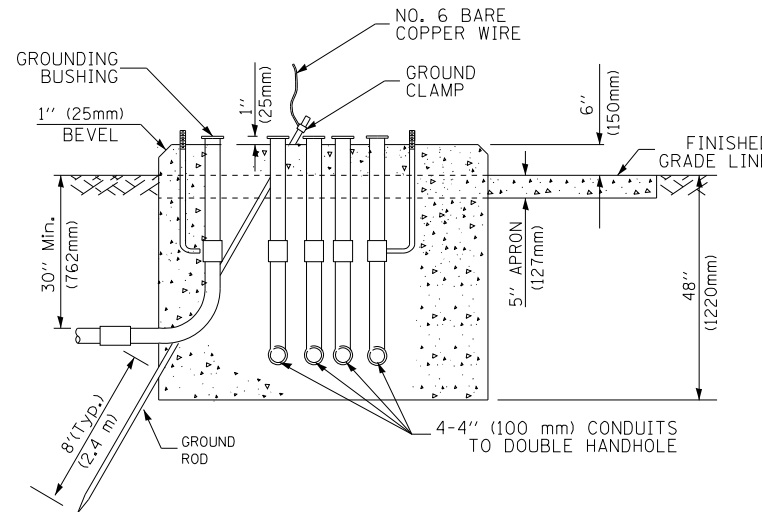
**TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET**



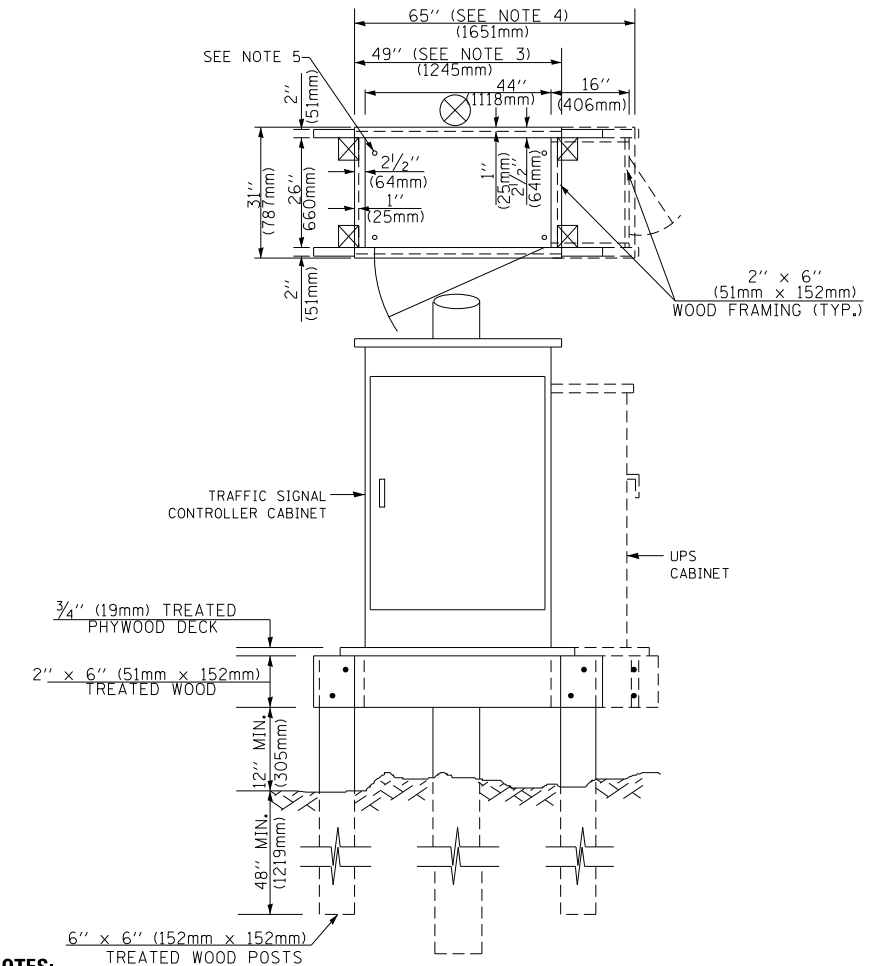
TOP VIEW

NOTE:

TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**TYPE C
FOR GROUND MOUNTED
SUPER P (TYPE IV) AND SUPER R (TYPE V)
CONTROLLER CABINETS**



NOTES:

- BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
- BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
- PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
- PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
- DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
- FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

VERTICAL CABLE LENGTH

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

DEPTH OF FOUNDATION

MAST ARM LENGTH	① FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and less than 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m) and up to 85' (25.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

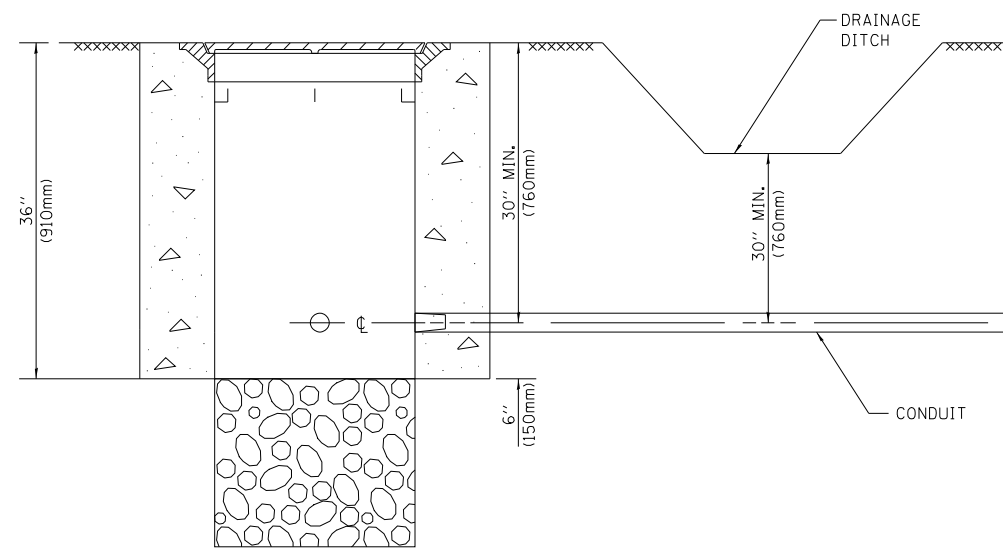
- These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average unconfined compressive strength (qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
- Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
- Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
- For mast arm assemblies with dual arms refer to state standard 878001..

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

FILE NAME =	USER NAME = footemj	DESIGNED - DAG	REVISED - DAG 1-1-14
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	PLOT SCALE = 50.0000' / in.	CHECKED - DAD	REVISED -
	PLOT DATE = 1/13/2014	DATE - 10-28-09	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

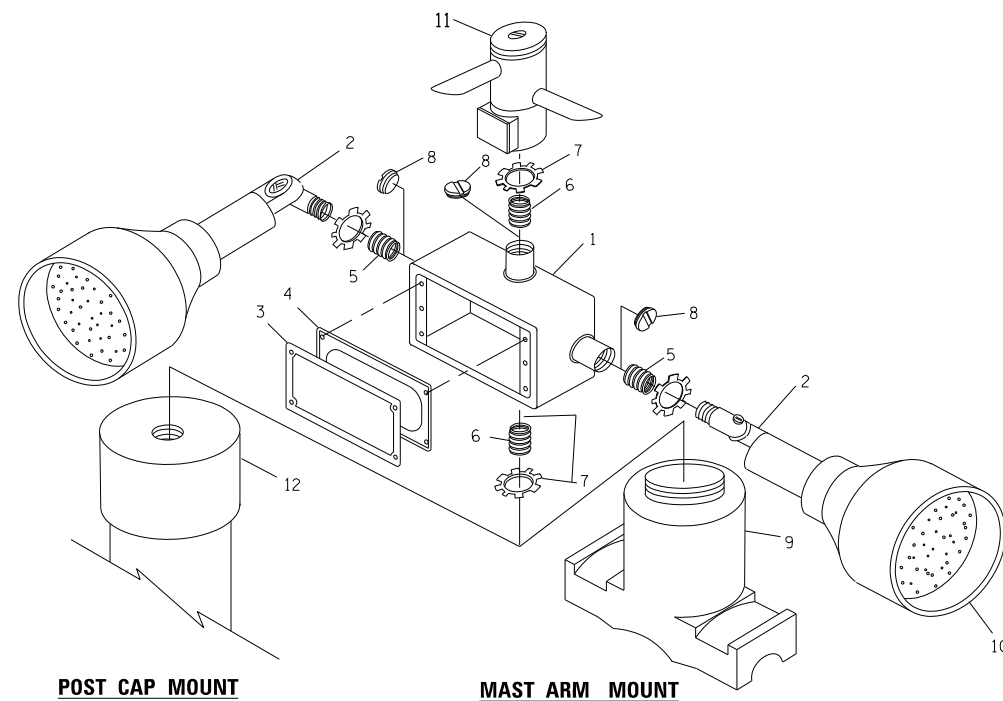
DISTRICT ONE		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STANDARD TRAFFIC SIGNAL DESIGN DETAILS					557	493
SCALE: NONE		SHEET NO. 5 OF 7 SHEETS		STA. TO STA.	CONTRACT NO. 60Y38	
		FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		



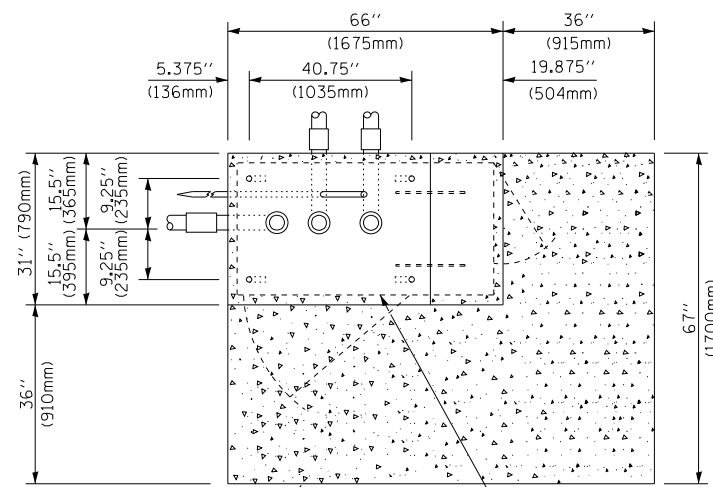
NOTES:

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

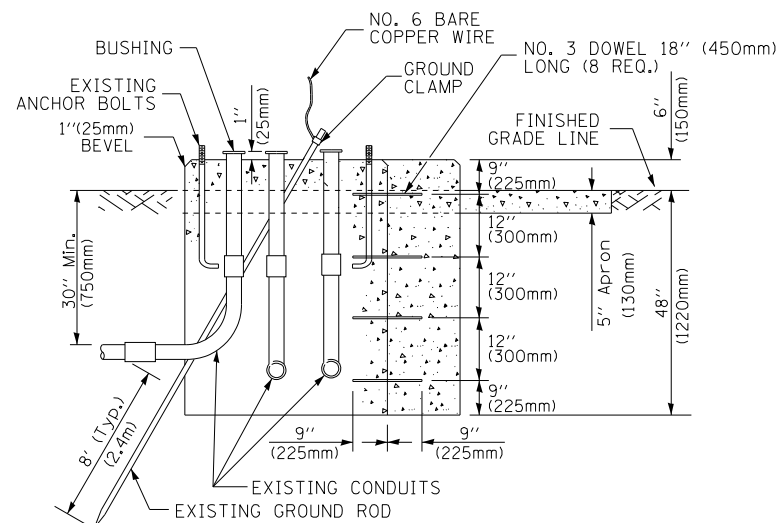
HANDHOLE WITH MINIMUM CONDUIT DEPTH
(NOT TO SCALE)



EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



TOP VIEW
(NOT TO SCALE)

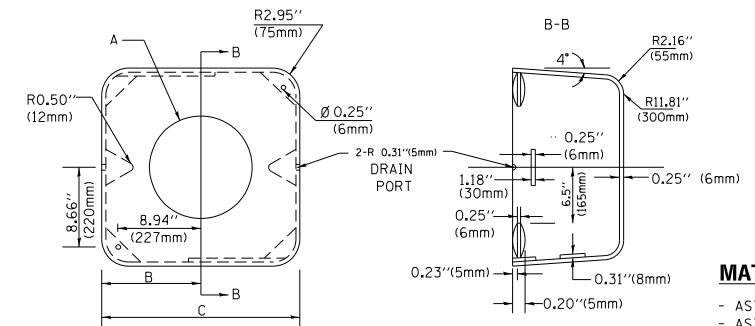


MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION
(NOT TO SCALE)

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0,000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4"(19 mm) CLOSE NIPPLE
7	3/4"(19 mm) LOCKNUT
8	3/4"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



MATERIAL:
- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5"(241mm)	19"(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIABLES	10.75"(273mm)	21.5"(546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIABLES	13.0"(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIABLES	18.5"(470mm)	37"(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

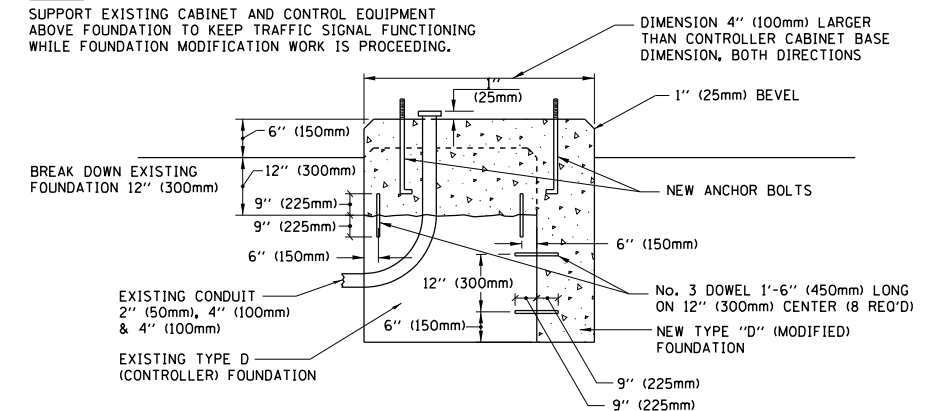
SHROUD

NOTES:

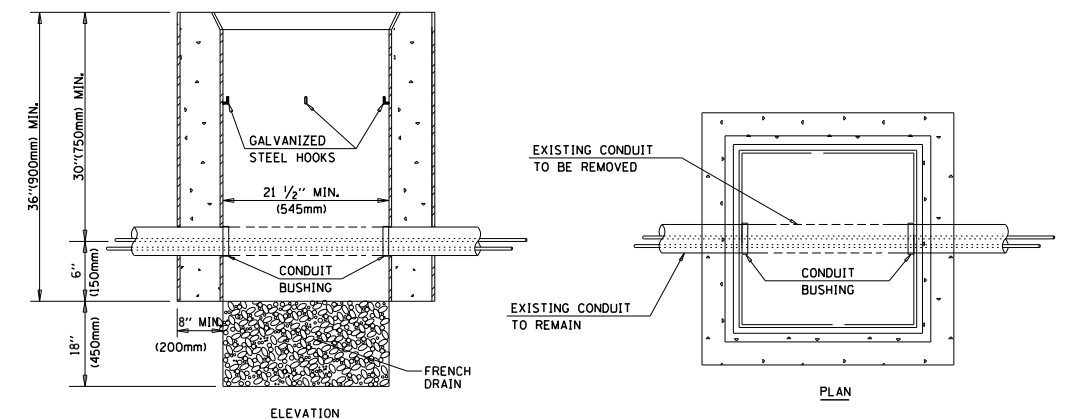
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

NOTE:

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

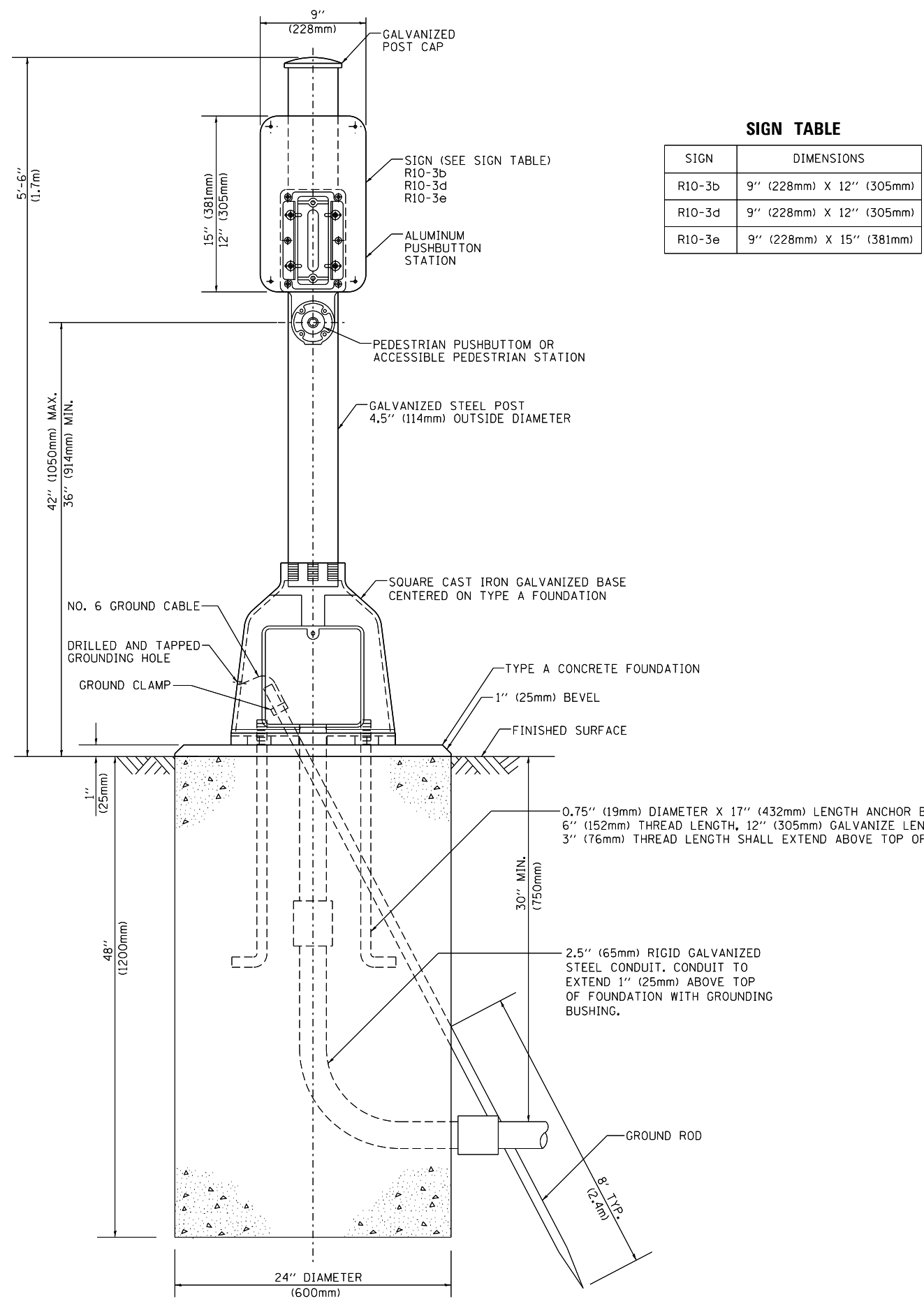
FILE NAME =	USER NAME = footemj	DESIGNED - DAD	REVISED - DAG 1-1-14
ca:\pwwork\pwwork\footemj\d0108315\ts05.dgn		DRAWN - BCK	REVISED -
	PLOT SCALE = 50.0000' / in.	CHECKED - DAD	REVISED -
	PLOT DATE = 1/13/2014	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

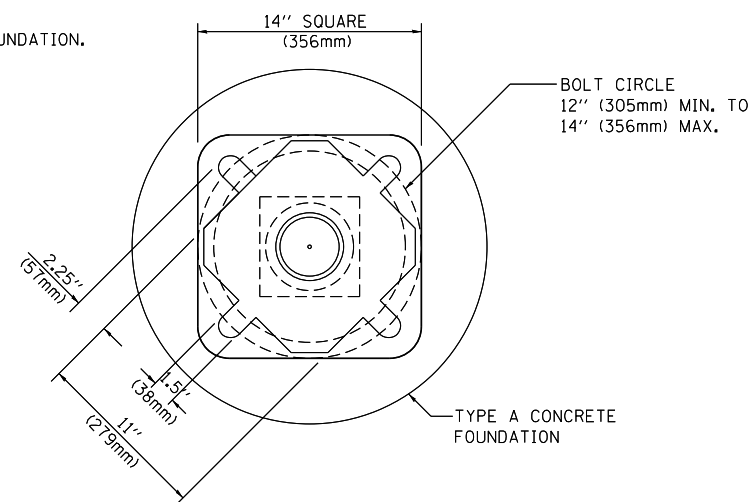
SCALE: NONE SHEET NO. 6 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TS-05		557	494
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60Y38	



SIGN TABLE

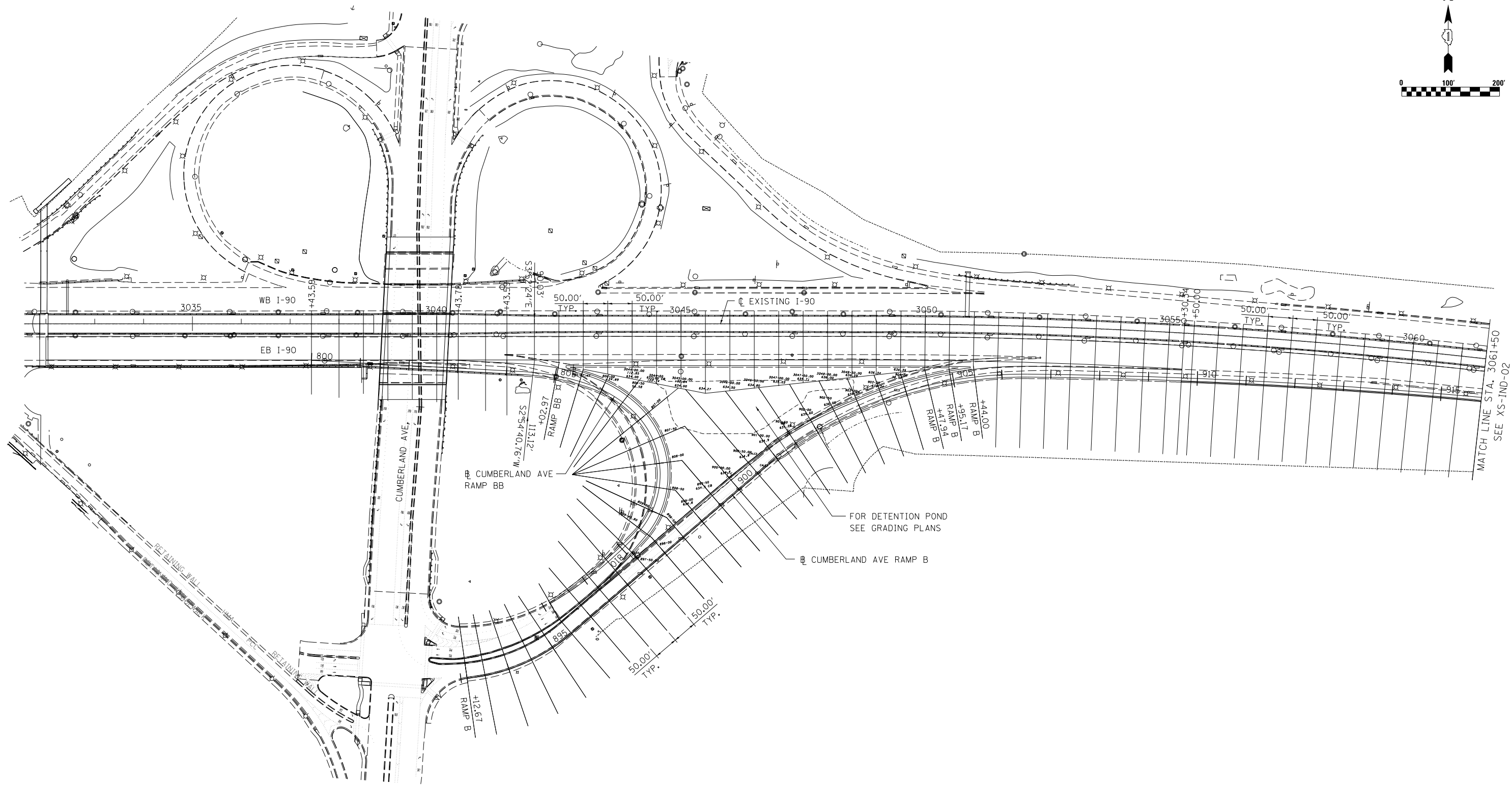
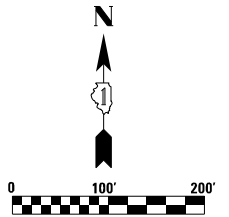
SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

FILE NAME =	USER NAME = footemj	DESIGNED - DAG	REVISED - DAG 1-1-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwork\pwork\footemj\d0108315\ts05.pgn		DRAWN - GND	REVISED -		SCALE: NONE	SHEET NO. 7	OF 7 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT	557	495
PLOT SCALE = 50.0000' / in.		CHECKED - DAD	REVISED -					TS-05		CONTRACT NO. 60Y38			
PLOT DATE = 1/13/2014		DATE - 10/1/2012	REVISED -										



NOTE:
ALL STATIONS SHOWN ARE MEASURED FROM
EXISTING I-90 UNLESS OTHERWISE NOTED

XS-IND-01



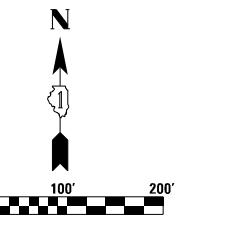
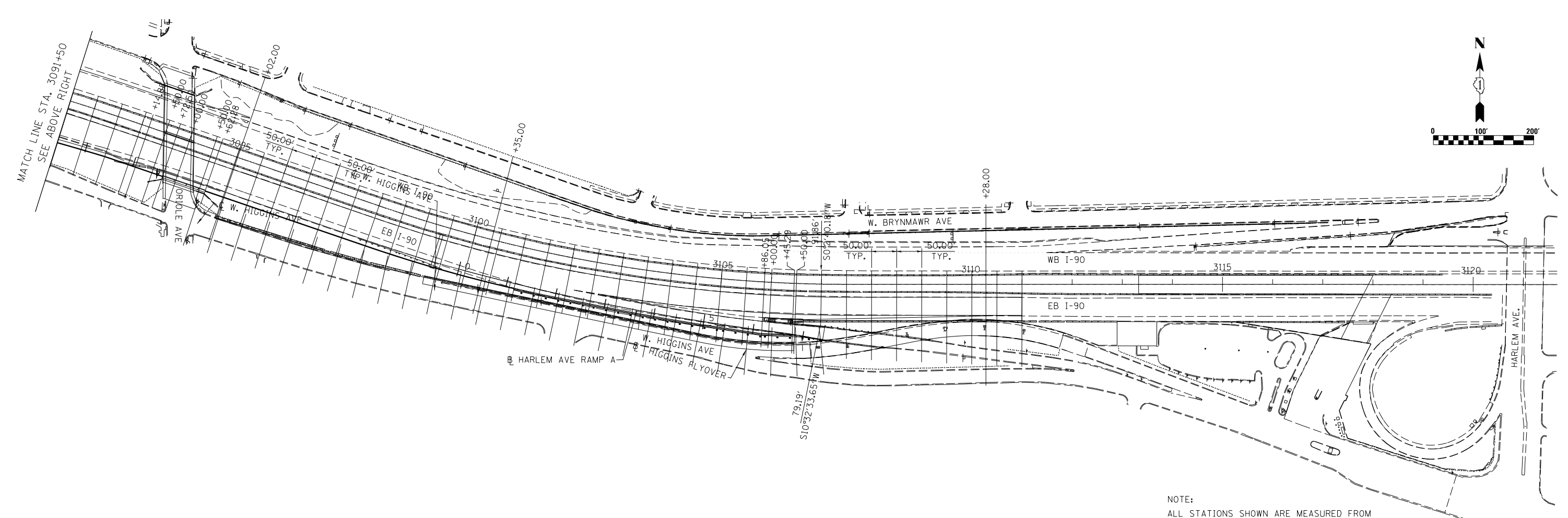
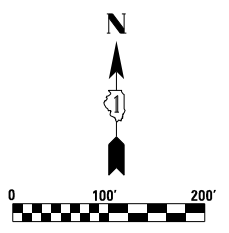
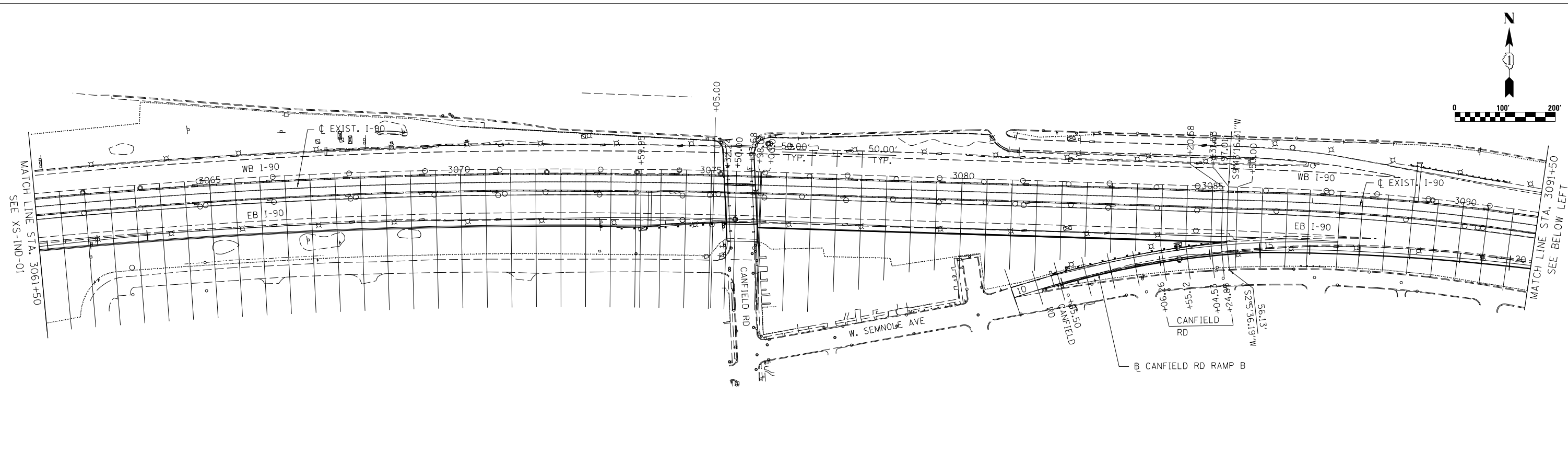
USER NAME = mamiller	DESIGNED BAJ	REVISED -
	DRAWN BAJ	REVISED -
PLOT SCALE = 1.0000' / 1in.	CHECKED MAM	REVISED -
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EASTBOUND I-90 FROM CUMBERLAND AVE TO HARLEM AVE
CROSS SECTION INDEX**

SCALE: 1"=100' SHEET NO. 1 OF 2 SHEETS STA. 3035+00 TO STA. 3061+50

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	496
				CONTRACT NO. 60Y38
ILLINOIS FED. AID PROJECT				



NOTE:
ALL STATIONS SHOWN ARE MEASURED FROM
EXISTING I-90 UNLESS OTHERWISE NOTED

XS-IND-02



USER NAME = mamiller	DESIGNED BAJ	REVISED -
	DRAWN BAJ	REVISED -
PLOT SCALE = 1/8" = 1' / in.	CHECKED MAM	REVISED -
PLOT DATE = 5/2/2016	DATE 5/6/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

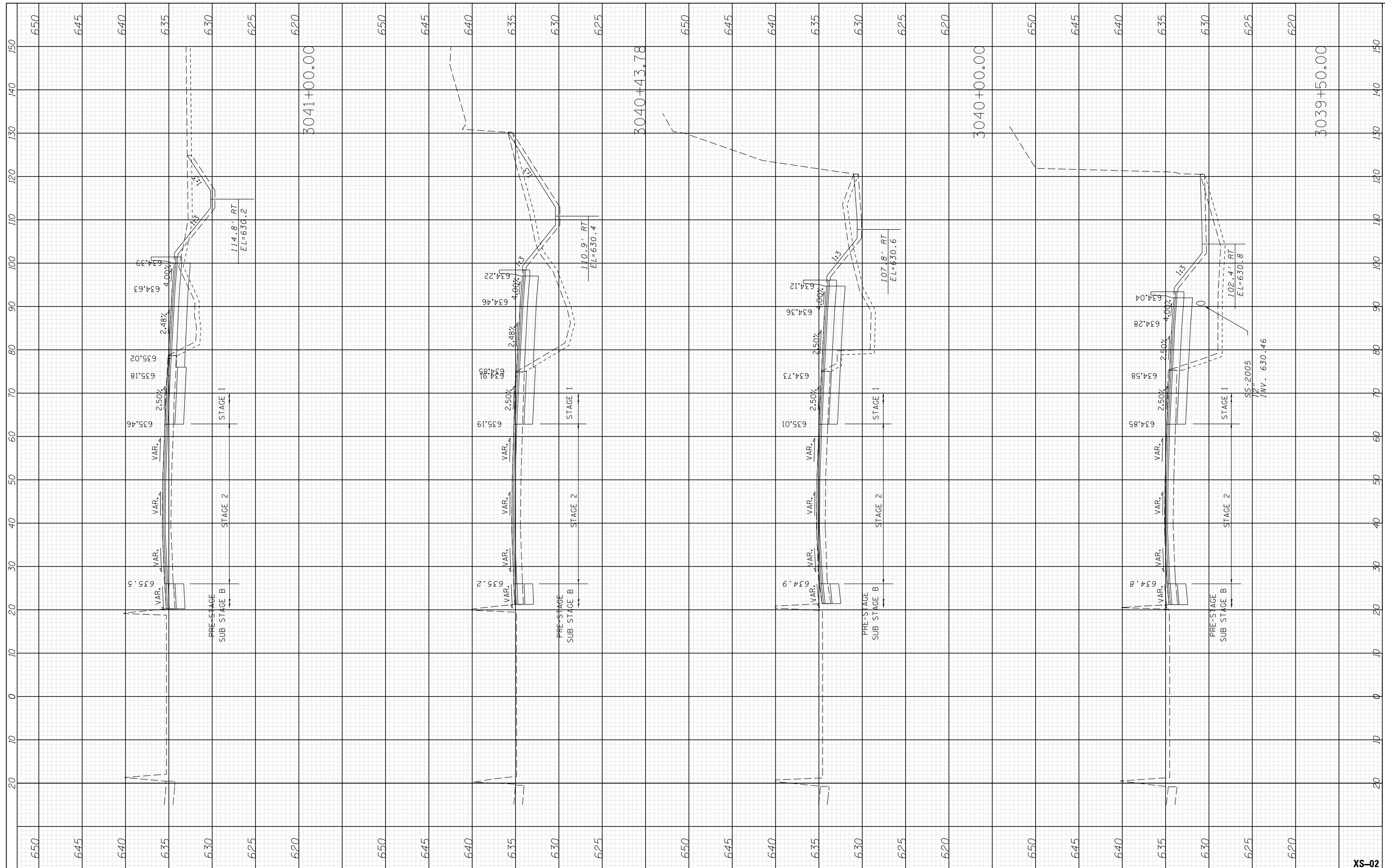
EASTBOUND I-90 FROM CUMBERLAND AVE TO HARLEM AVE
CROSS SECTION INDEX

SCALE: 1"=100' SHEET NO. 2 OF 2 SHEETS STA. 3061+50 TO STA. 3120+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	497
CONTRACT NO. 60Y38				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE



USER NAME = mmiller	DESIGNED - BAJ	REVISED -
	DRAWN - BAJ	REVISED -
PLOT SCALE = 1.0000' / 1"	CHECKED - MAM	REVISED -
PLOT DATE = 5/2/2016	DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED CROSS SECTIONS
I-90 EASTBOUND**

SCALE: 10' H : 5' V SHEET 2 OF 44 SHEETS STA. 3039+50.00 TO STA. 3041+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	(1517 & 1415) R-3	COOK	557	499
CONTRACT NO. 60Y38			ILLINOIS FED. AID PROJECT	

XS-02

