

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90 *		COOK	588	402
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303		*I2021-922 PT2 ETC 2324.6-1P) R-11		

PILE LAYOUT

Pile	Offset*	Top of Wall El.	Top of Pile Elevation	Bott. of Facing Elevation	Section	Pile Tip Elevation	Pile Length
P-1	-82.88	15.88	14.88	11.88	W12x40	-3.08	17.96
P-2	-82.88	15.86	14.86	11.86	W12x40	-3.08	17.94
P-3	-82.88	15.84	14.84	11.84	W12x40	-3.08	17.91
P-4	-82.88	15.81	14.81	11.81	W12x40	-3.84	18.65
P-5	-82.88	15.79	14.79	11.79	W12x40	-3.84	18.63
P-6	-82.88	15.76	14.76	11.77	W12x40	-3.84	18.60
P-7	-82.88	15.73	14.73	11.72	W12x40	-4.61	19.34
P-8	-82.88	15.70	14.70	11.70	W12x40	-4.61	19.31
P-9	-82.88	15.66	14.66	11.67	W12x40	-4.61	19.27
P-10	-82.88	15.64	14.64	11.49	W12x40	-5.39	20.02
P-11	-82.81	15.64	14.64	11.35	W14x43	-7.13	21.76
P-12	-82.81	15.64	14.64	11.20	W14x43	-7.13	21.76
P-13	-82.88	15.22	14.22	10.86	W12x40	-6.16	20.38
P-14	-82.88	15.03	14.03	10.67	W12x40	-6.16	20.19
P-15	-82.88	14.84	13.84	10.47	W12x40	-6.16	20.00
P-16	-82.88	14.61	13.61	10.08	W12x40	-6.95	20.56
P-17	-82.88	14.35	13.35	9.88	W12x40	-6.95	20.30
P-18	-82.88	14.08	13.08	9.69	W12x40	-6.95	20.03
P-19	-82.88	13.78	12.78	9.29	W12x40	-8.86	21.64
P-20	-82.88	13.45	12.45	9.10	W12x40	-8.86	21.30
P-21	-82.88	13.11	12.11	8.90	W12x40	-8.86	20.96
P-22	-82.88	12.77	11.77	8.50	W12x40	-9.65	21.42
P-23	-82.88	12.42	11.42	8.30	W12x40	-9.65	21.07
P-24	-82.88	12.07	11.07	8.10	W12x40	-9.65	20.72
P-25	-82.88	11.72	10.72	7.63	W12x40	-10.45	21.17
P-26	-82.88	11.37	10.37	7.37	W12x40	-10.45	20.82
P-27	-82.88	11.03	10.03	7.11	W12x40	-10.45	20.47
P-28	-82.81	10.42	9.42	6.33	W14x43	-11.79	21.21
P-29	-82.81	10.03	9.03	6.07	W14x43	-11.79	20.82
P-30	-82.81	9.63	8.63	5.55	W14x43	-12.60	21.24
P-31	-82.88	9.29	8.29	5.29	W12x40	-12.06	20.35
P-32	-82.88	8.94	7.94	5.02	W12x40	-12.06	20.00
P-33	-82.88	8.59	7.59	4.50	W12x40	-12.87	20.46
P-34	-82.88	8.24	7.24	4.24	W12x40	-12.87	20.11
P-35	-82.88	7.89	6.89	3.98	W14x48	-13.41	20.31
P-36	-82.80	7.47	6.47	3.49	W14x48	-14.98	21.45
P-37	-82.88	7.22	6.22	3.26	W12x40	-13.69	19.91
P-38	-82.88	6.95	5.95	3.03	W12x40	-13.69	19.65
P-39	-82.97	6.66	5.66	2.59	W10x33	-8.96	14.61
P-40	-82.97	6.37	5.37	2.37	W10x33	-8.96	14.33
P-41	-82.97	6.08	5.08	2.16	W10x33	-8.96	14.04
P-42	-82.97	5.82	4.82	1.75	W10x33	-9.62	14.43
P-43	-82.97	5.56	4.56	1.56	W10x33	-9.62	14.18
P-44	-82.97	5.31	4.31	1.38	W10x33	-9.62	13.93
P-45	-82.97	5.06	4.06	0.99	W10x33	-10.15	14.21
P-46	-82.97	4.80	3.80	0.80	W10x33	-10.15	13.95
P-47	-82.97	4.54	3.54	0.60	W10x33	-10.15	13.69
P-48	-82.97	4.30	3.30	0.24	W10x33	-10.59	13.89
P-49	-82.97	4.07	3.07	0.07	W10x33	-10.59	13.67
P-50	-82.97	3.85	2.85	-0.10	W10x33	-10.59	13.44
P-51	-82.97	3.64	2.64	-0.41	W10x33	-11.03	13.67
P-52	-82.97	3.45	2.45	-0.55	W10x33	-11.03	13.48
P-53	-82.97	3.25	2.25	-0.70	W10x33	-11.03	13.29
P-54	-82.97	3.08	2.08	-0.96	W10x33	-11.57	13.65
P-55	-82.97	2.94	1.94	-1.07	W10x33	-11.57	13.51
P-56	-82.97	2.81	1.81	-1.18	W10x33	-11.57	13.37
P-57	-82.97	2.67	1.67	-1.29	W10x33	-11.57	13.24

*Offset from @ Ramp 47A

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing Soldier Piles (W Sections)	Foot	1,031
Drill/Set Soldier Piles (In Soil)	Cu. Ft.	4,081

NOTES

1. All piles have drilled shaft dia = 2'-0".

REVISIONS	
NAME	DATE
REVISED	06/15/06

SHEET 6 OF 15

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

**RETAINING WALL S-47N-R
 PILE LAYOUT**

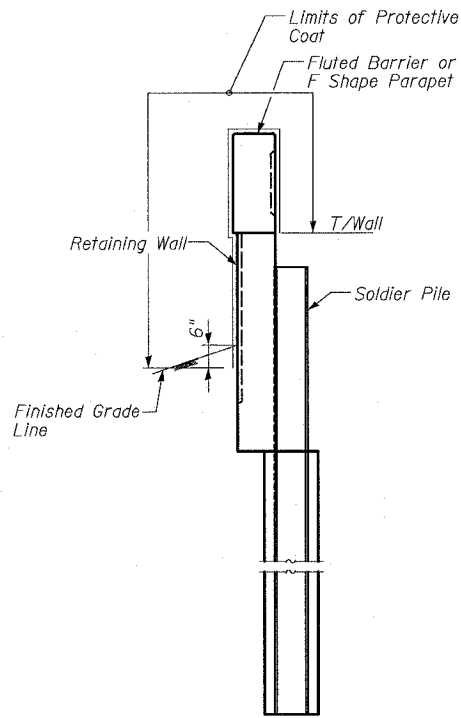
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 DATE: JUNE 9, 2006

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 CHECKED BY: BLU

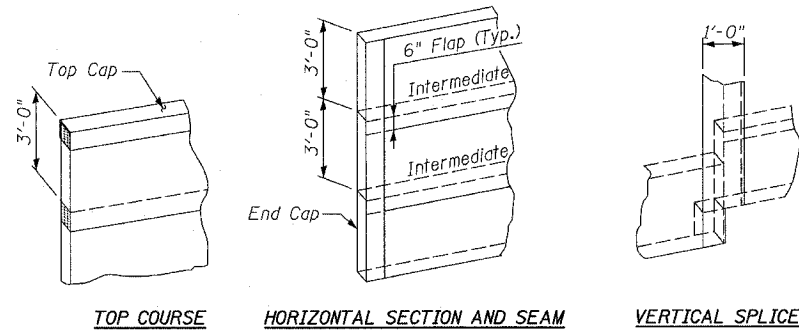
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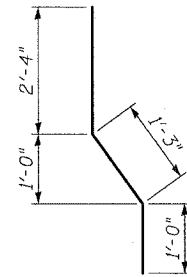
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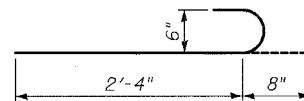
DETAIL OF LIMITS OF PROTECTIVE COAT



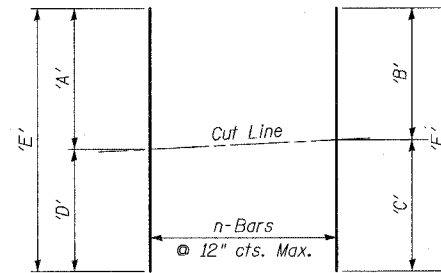
GEOCOMPOSITE WALL DRAIN DETAILS



BAR d1(E)



BAR d3(E)



*** BAR CUTTING DIAGRAM**

* Order bars v9(E) thru v14(E) full length, cut as shown and use remainder where indicated.

TABLE OF DIMENSIONS

Bar	'A'	'B'	'C'	'D'	'E'	n
v9(E)	5'-7"	5'-8"	5'-9"	5'-10"	11'-5"	12
v10(E)	3'-10"	3'-11"	4'-0"	4'-1"	7'-11"	12
v11(E)	5'-10"	5'-9"	5'-8"	5'-7"	11'-5"	10
v12(E)	4'-1"	4'-0"	3'-11"	3'-10"	7'-11"	10
v13(E)	5'-7"	5'-5"	5'-5"	5'-3"	10'-10"	12
v14(E)	3'-10"	3'-8"	3'-8"	3'-6"	7'-4"	12

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1(E)	475	#5	4'-7"	—
d2(E)	12	#6	5'-5"	—
d3(E)	362	#6	3'-0"	—
e1(E)	48	#5	23'-8"	—
e2(E)	96	#5	26'-2"	—
e3(E)	8	#5	18'-8"	—
e4(E)	8	#5	31'-2"	—
h1(E)	60	#5	23'-8"	—
h2(E)	120	#5	26'-2"	—
h3(E)	10	#5	18'-8"	—
h4(E)	10	#5	31'-2"	—
v1(E)	100	#6	6'-6"	—
v2(E)	130	#5	3'-8"	—
v3(E)	61	#5	4'-1"	—
v4(E)	37	#6	5'-10"	—
v5(E)	25	#6	5'-9"	—
v6(E)	25	#5	4'-0"	—
v7(E)	75	#6	5'-7"	—
v8(E)	75	#5	3'-10"	—
* v9(E)	12	#6	11'-5"	—
* v10(E)	12	#5	7'-11"	—
* v11(E)	10	#6	11'-5"	—
* v12(E)	10	#5	7'-11"	—
* v13(E)	24	#6	10'-10"	—
* v14(E)	24	#5	7'-4"	—
v15(E)	48	#6	5'-6"	—
v16(E)	48	#5	3'-9"	—
v17(E)	30	#6	5'-5"	—
Reinforcement Bars, Epoxy Coated	Pound	18,770		
Concrete Structures	Cu. Yd.	75.1		
Concrete Superstructures	Cu. Yd.	44.8		
Chain Link Fence, 42" Attached to Structure (Special)	Foot	95		
Rustication Finish	Sq. Ft.	1,202		
Protective Coat	Sq. Yd.	301		



12/26/12 PM 6/23/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	403A
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*12021-922 PT2 ETC 2324.6-1P1 R-11			

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s1(E)	30	#5	3'-11"	U
s2(E)	6	#5	3'-10"	U
s3(E)	6	#5	19'-0"	U
s4(E)	1	#5	18'-2"	U
s5(E)	1	#5	18'-0"	U
s6(E)	1	#5	17'-8"	U
**sp1(E)	1	#4	7'-4"	W
**sp2(E)	1	#4	30'-10"	W
v18(E)	12	#10	7'-4"	—
v19(E)	12	#10	35'-2"	—
v20(E)	14	#6	7'-4"	—
v21(E)	6	#6	7'-10"	—
v22(E)	6	#6	5'-2"	—
Reinforcement Bars, Epoxy Coated *		Pound	3,440	
Concrete Structures		Cu. Yd.	4.3	
Concrete Superstructure		Cu. Yd.	1.9	
Drilled Shaft in Soil, 44"		Foot	30	

Reinforced Bars designated (E) shall be epoxy coated.
 * Weight includes 4-#4 spacer bars
 ** Length indicates height of spiral

MIN BAR LAP

- #4 - 1'-8"
- #5 - 2'-2"
- #6 - 2'-7"
- #10 - 5'-10"

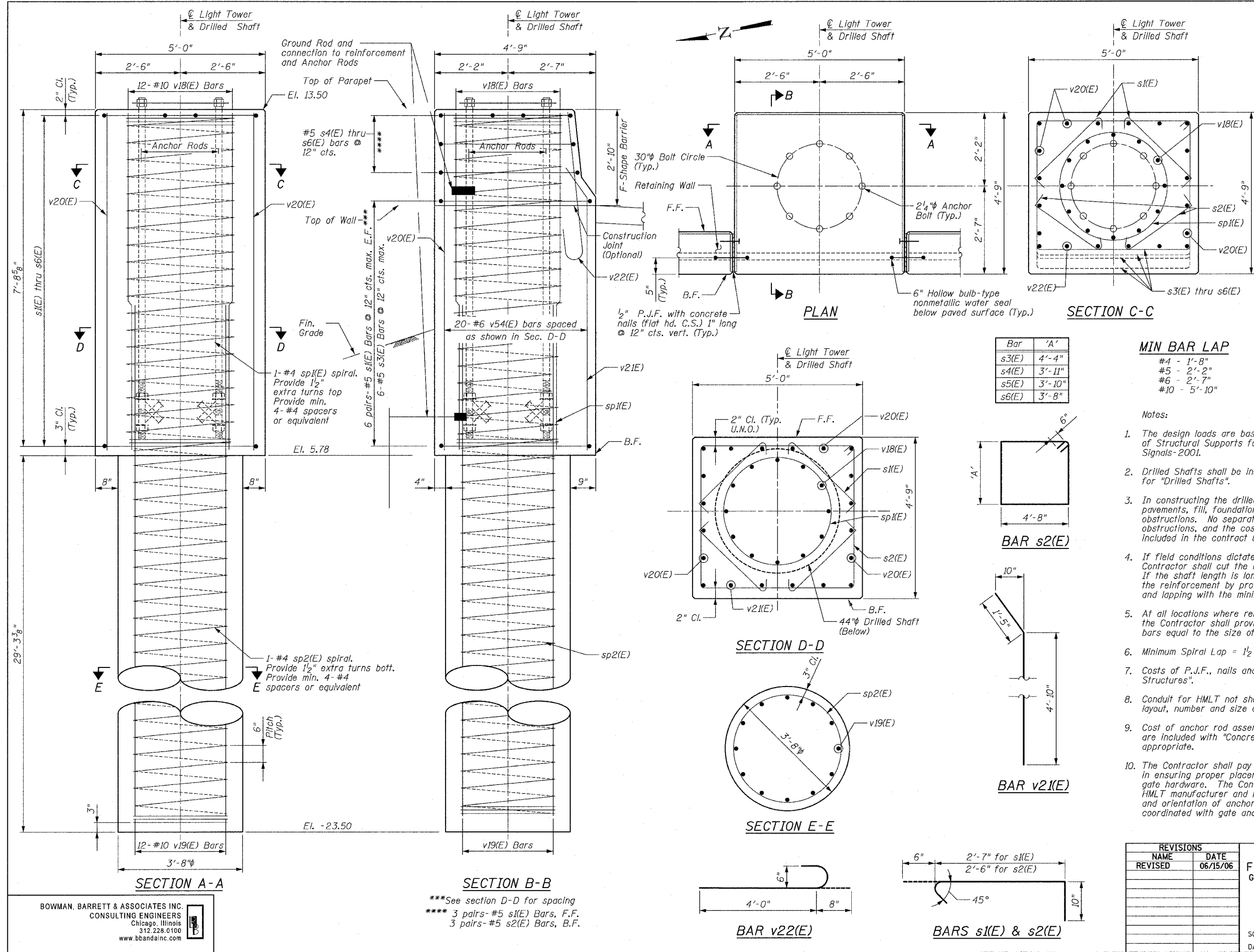
Notes:

- The design loads are based on AASHTO Standard Specifications of Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
- Drilled Shafts shall be installed according to IDOT Special Provisions for "Drilled Shafts".
- In constructing the drilled shafts, the Contractor may encounter pavements, fill, foundations, abandoned utilities, boulders and other obstructions. No separate payment will be made for removal of any obstructions, and the cost for removing such obstructions shall be included in the contract unit price for "Drilled Shaft in Soil, 44".
- If field conditions dictate a shorter shaft length than shown, the Contractor shall cut the reinforcement bars to their required length. If the shaft length is longer than indicated, the Contractor shall extend the reinforcement by providing additional reinforcement of equal size and lapping with the minimum lap length shown.
- At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars equal to the size of the largest concrete aggregate plus 1/2 inch.
- Minimum Spiral Lap = 1 1/2 turns
- Costs of P.J.F., nails and waterseal shall be included with "Concrete Structures".
- Conduit for HMLT not shown for clarity. See Sheet 11 for location, layout, number and size of conduit.
- Cost of anchor rod assembly, conduit, wires and grounding requirements are included with "Concrete Structures" or "Drilled Shaft in Soil, 44" as appropriate.
- The Contractor shall pay particular attention to construction tolerances in ensuring proper placement of reinforcement bars, anchor rods and gate hardware. The Contractor shall coordinate with Contract 62733, the HMLT manufacturer and installer, as required, to ensure proper placement and orientation of anchor rods and HMLT. Orientation of HMLT must be coordinated with gate and handhole clearances.

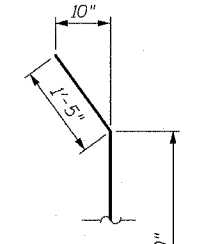
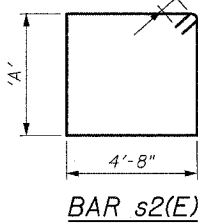
SHEET 7A OF 15

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-47N-R
 LIGHT TOWER FOUNDATION DETAILS
 S.N. 016-W978
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: LAM
 CHECKED BY: BLU

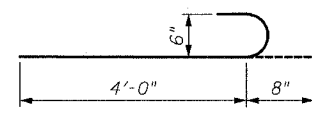
REVISIONS		
NAME	DATE	
REVISED	06/15/06	



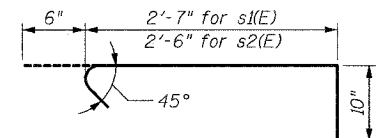
Bar	'A'
s3(E)	4'-4"
s4(E)	3'-11"
s5(E)	3'-10"
s6(E)	3'-8"



BAR v21(E)



BAR v22(E)

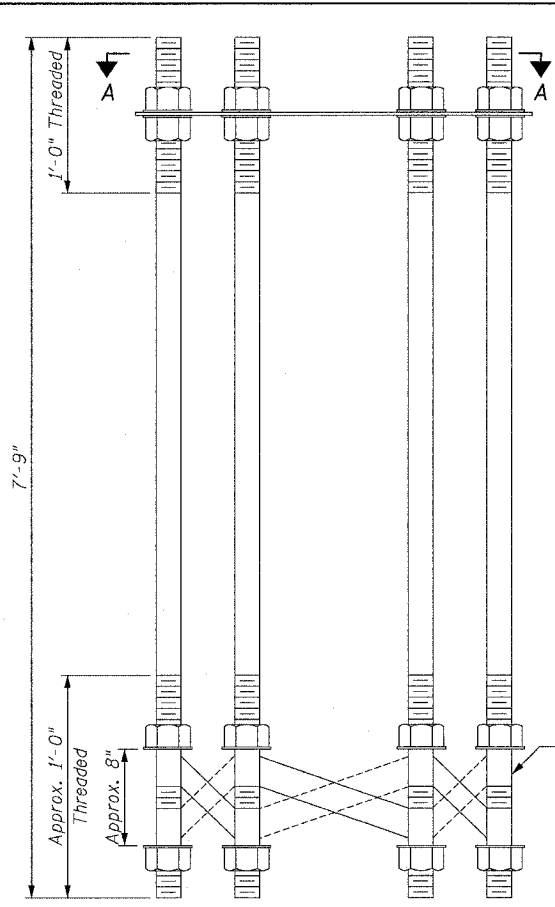


BARS s1(E) & s2(E)

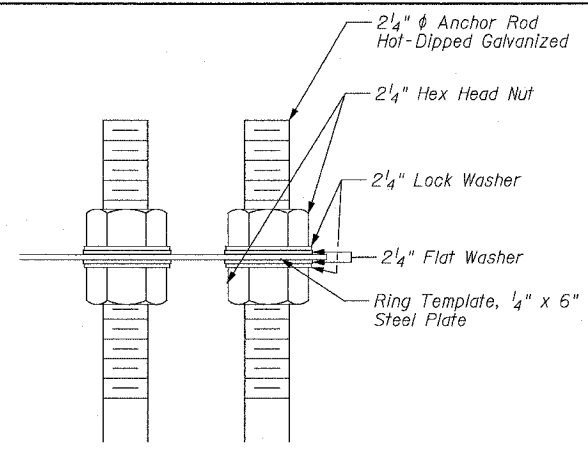
***See section D-D for spacing
 **** 3 pairs- #5 s1(E) Bars, F.F.
 3 pairs- #5 s2(E) Bars, B.F.

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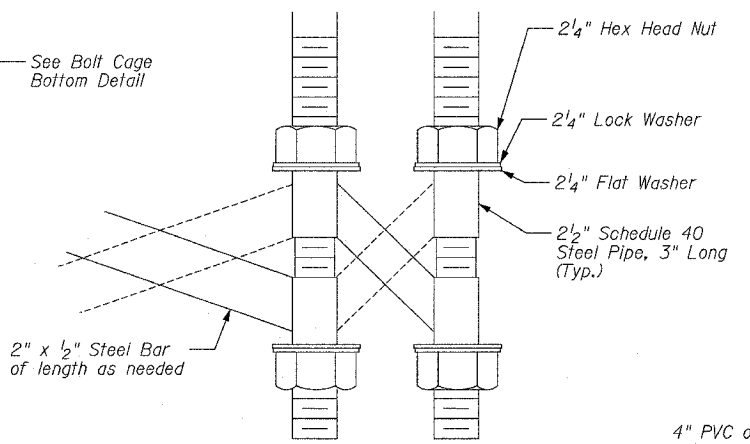
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	403B
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	(2021-922 PT2 ETC 2324.6-1P)	R-11		



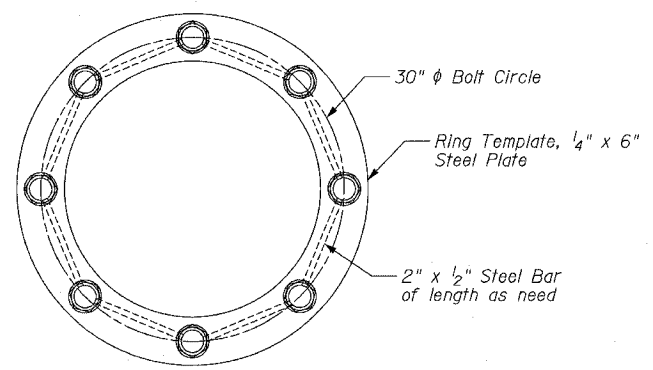
ANCHOR BOLT CAGE



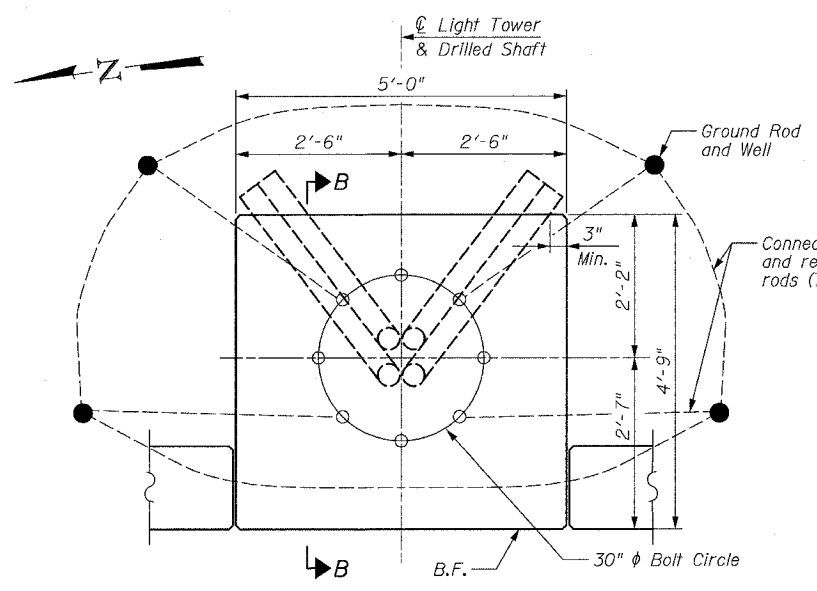
BOLT CAGE TOP



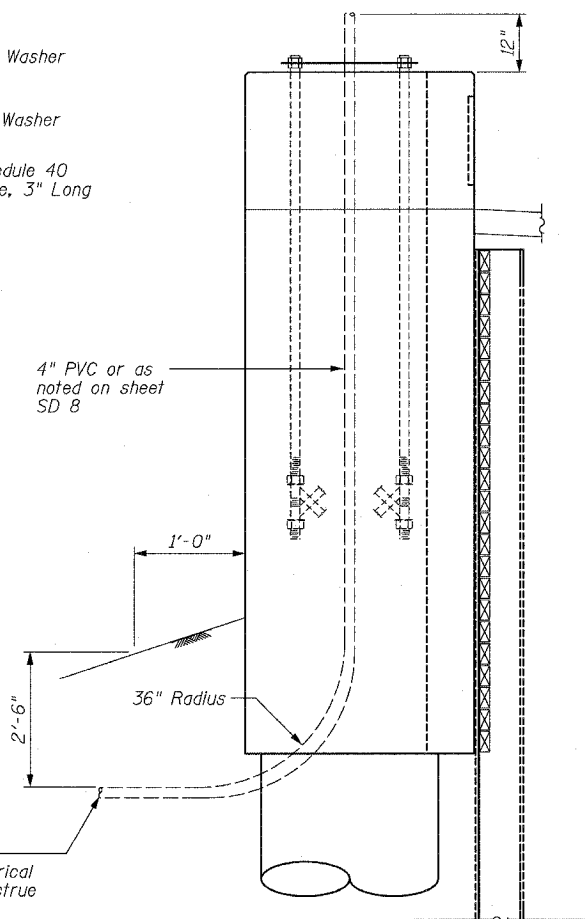
BOLT CAGE BOTTOM



SECTION A-A



PLAN - CONDUIT PLACEMENT



SECTION B-B

- Notes:
- Anchor Rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 105 and galvanized according to Article 1006.09.
 - Nuts shall be AASHTO M 291, Class S and washers shall be AASHTO M 293. All nuts and washers shall be hot-dipped galvanized in accordance with AASHTO M 232.
 - Steel Bar and Pipe shall be galvanized in accordance with AASHTO M 111.
 - Anchor Rod information shall be submitted for approval and shall be fully coordinated with tower manufacturer's requirements.
 - The Anchor Rods shall be vertical. No adjustment shall be allowed after the foundation is placed.
 - The gap between the foundation and the base plate shall be enclosed with a stainless steel screen fastened with a stainless steel band. Cost included with "Light Tower" in Contract 62583.
 - The Light Tower shall not be erected until after the concrete has been cured according to Article 1020.13.
 - Two Anchor Rods opposite each other shall have the Anchor Rod threads peened after nuts are installed.
 - See BE500 & BE501 for additional details not shown here. Light Towers and Base R by others.
 - Grounding requirements shall be as shown on IDOT standard BE501. Location of ground rods and grounding attachments to reinforcement bars and anchor rods shall be as directed by Engineer. Epoxy coating must be removed from bars prior to exothermic welding. Repair coating after welding in accordance with Article 508.05 of the Standard Specs.

SHEET 7B OF 15

REVISIONS	
NAME	DATE
REVISED	06/15/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

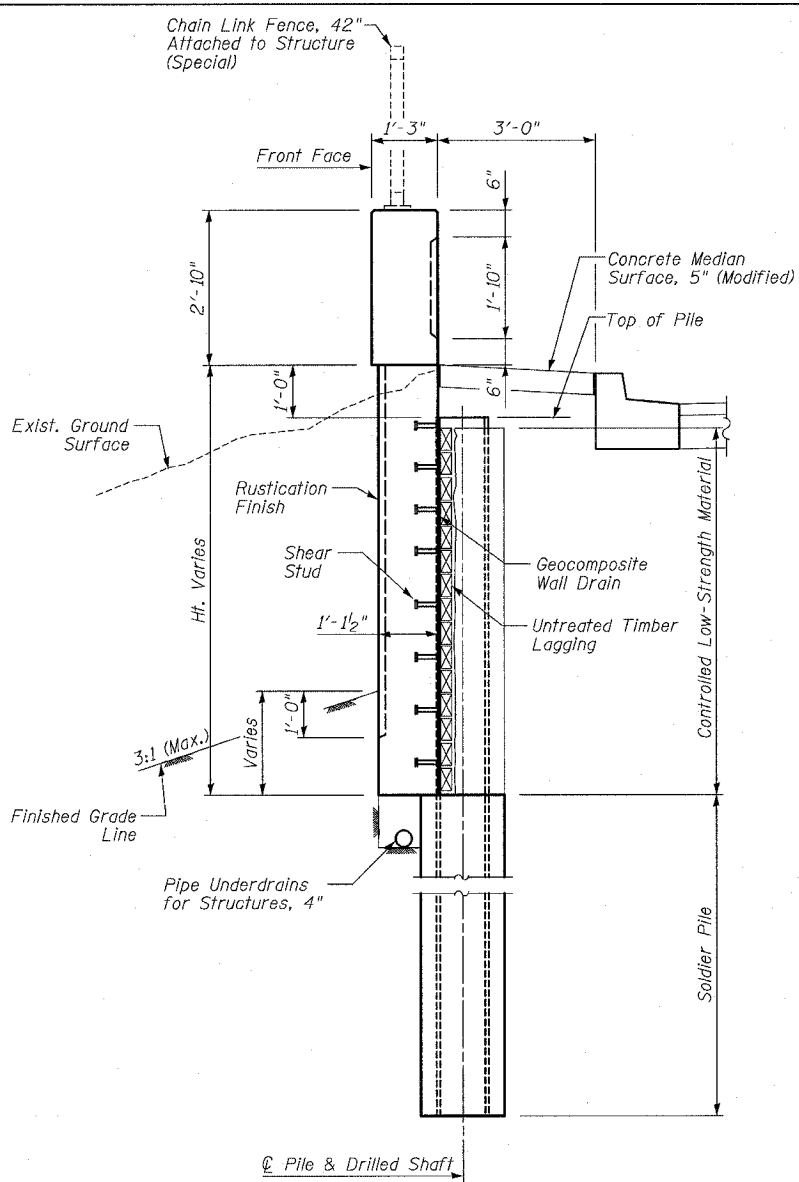
RETAINING WALL S-47N-R
 LIGHT TOWER DETAILS

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

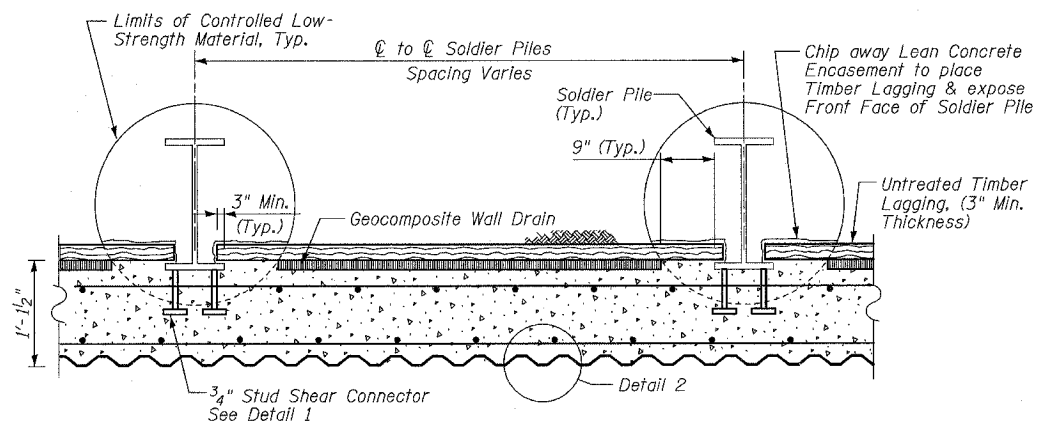
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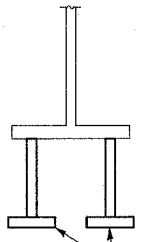
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	404
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*12021-922 PT2 ETC 2324.6-1P) R-11			



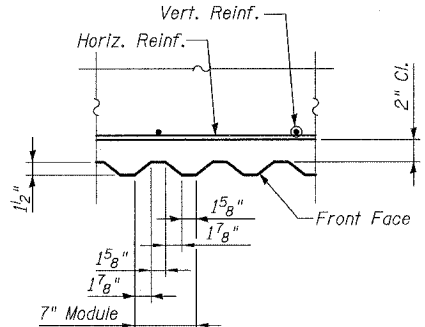
TYP. SECTION THRU PROPOSED WALL



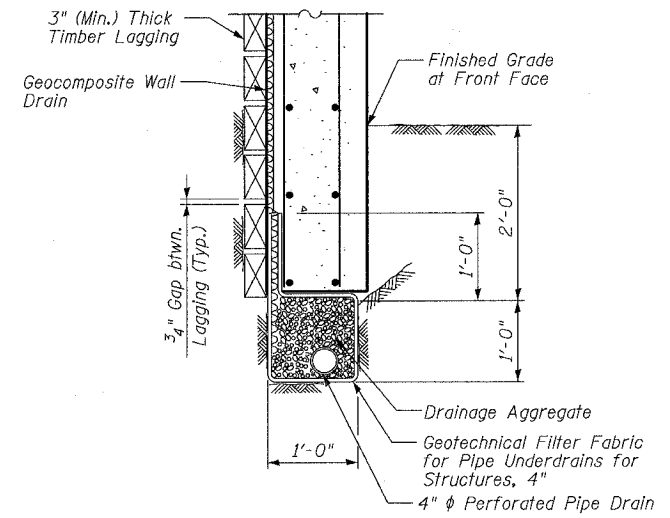
SECTION THRU SOLDIER PILE WALL



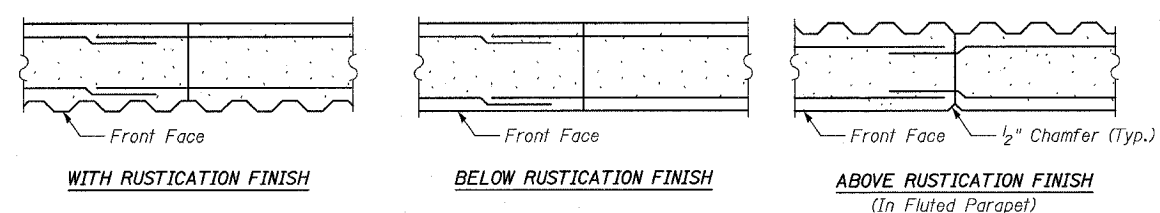
DETAIL 1



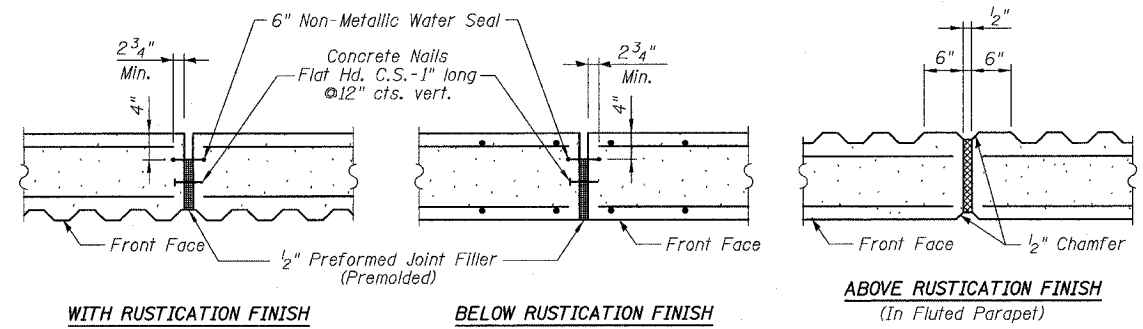
DETAIL 2



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

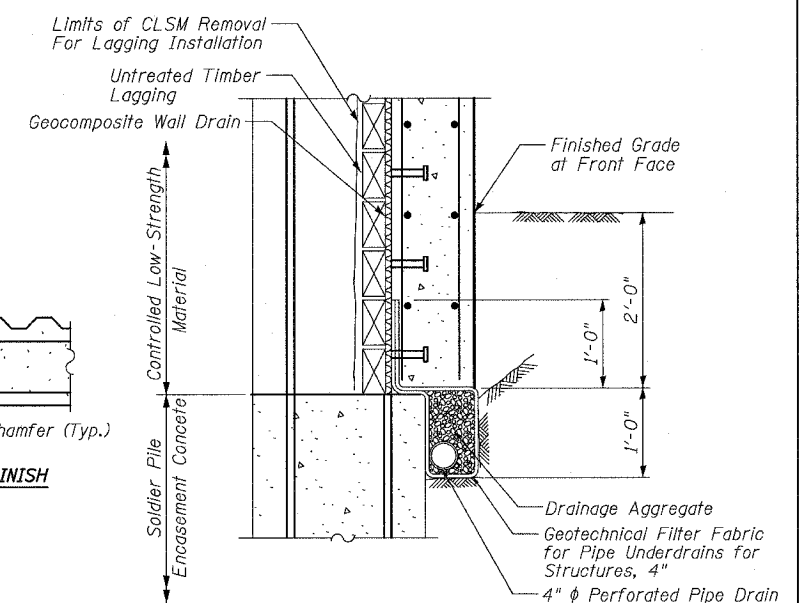


CONSTRUCTION JOINT DETAILS



EXPANSION JOINT DETAILS

Cost of P.J.F., Water Seal and Concrete Nails included with Concrete Structures.



PIPE UNDERDRAIN DETAIL AT SOLDIER PILES

SHEET 8 OF 15

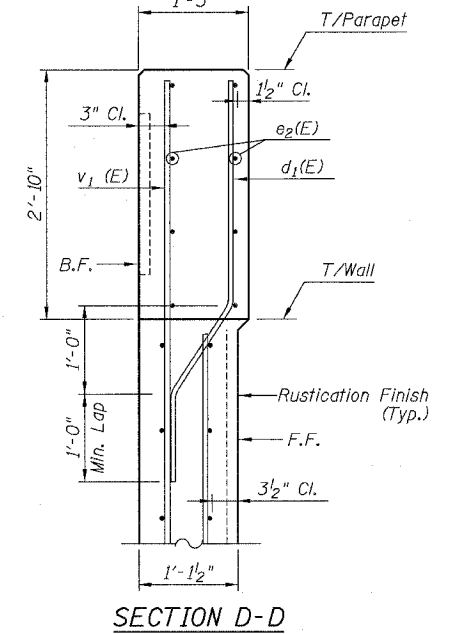
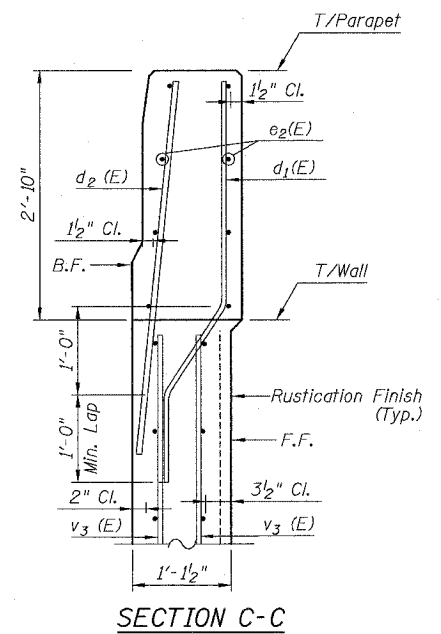
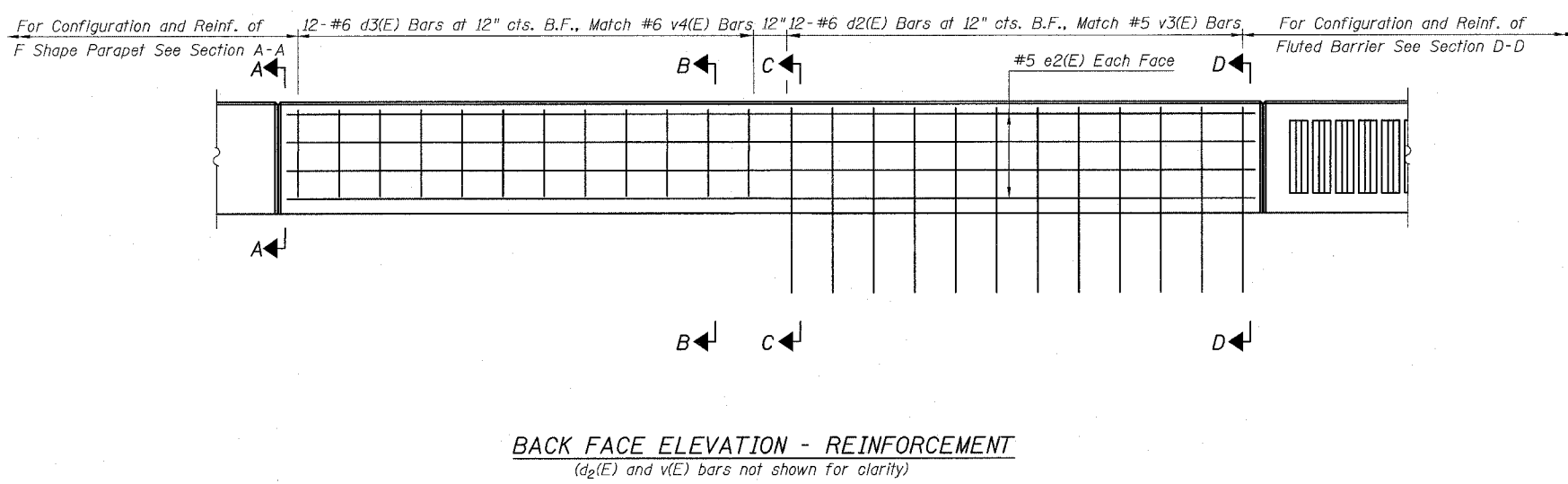
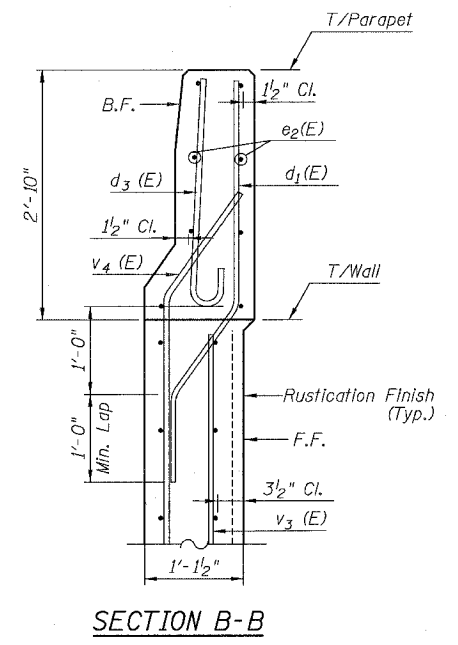
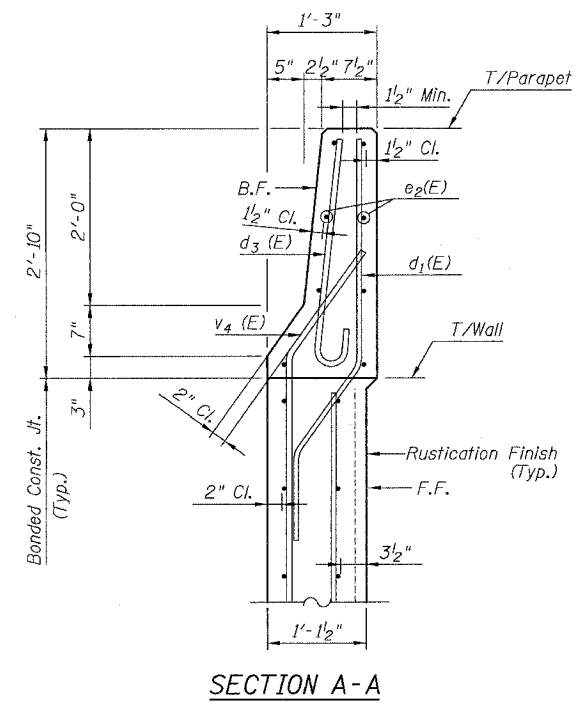
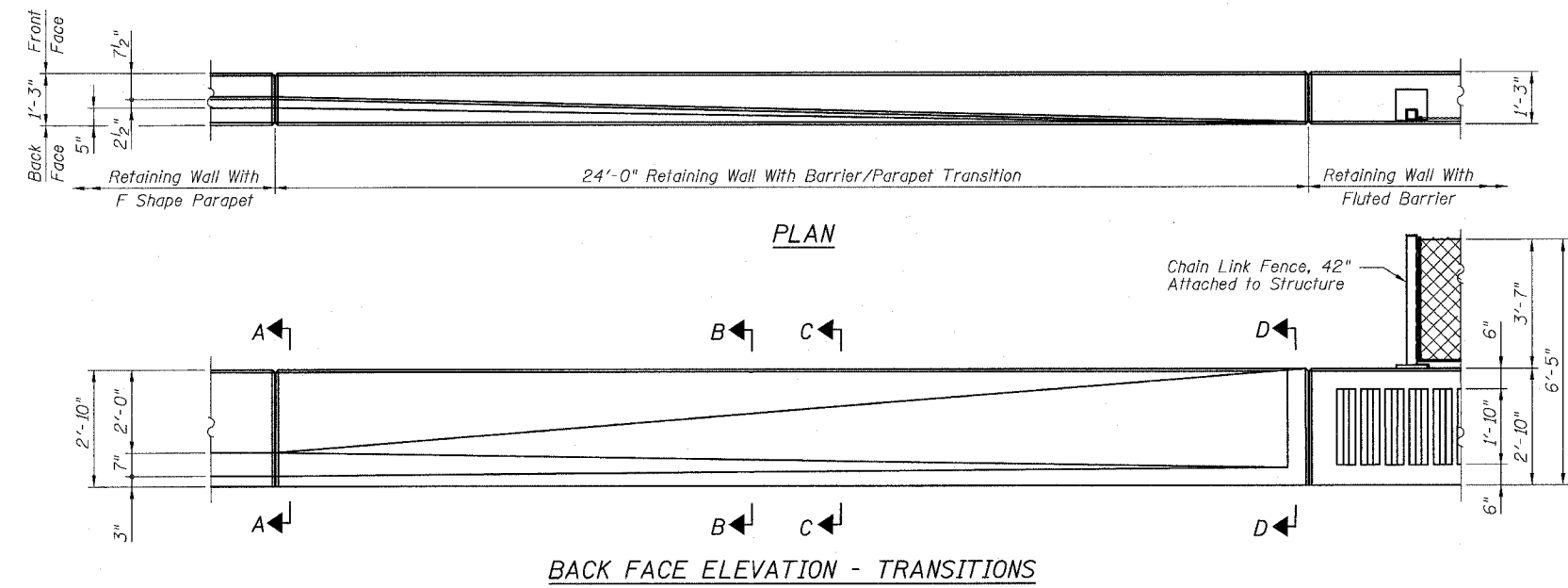
REVISIONS	
NAME	DATE
REVISED	06/21/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 RETAINING WALL S-47N-R
 MISCELLANEOUS DETAILS
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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WALL60-055MIS-R11.RVT

ANSI/ASCE 11-05 WALL RET. WALLS



NOTES:

1. For Bill of Bars & Bar Bend Details, See Sheet 7.

REVISIONS	
NAME	DATE
REVISED	6/22/06

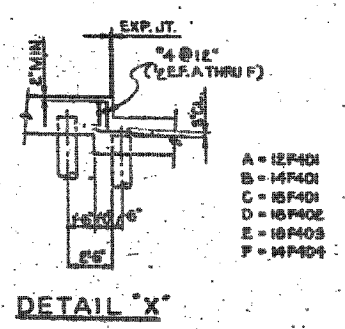
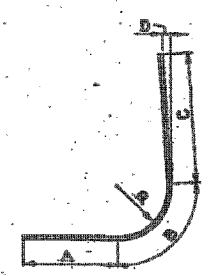
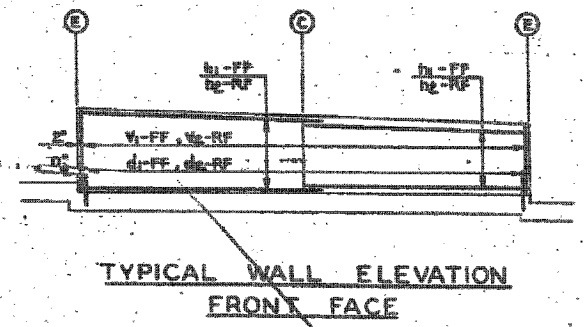
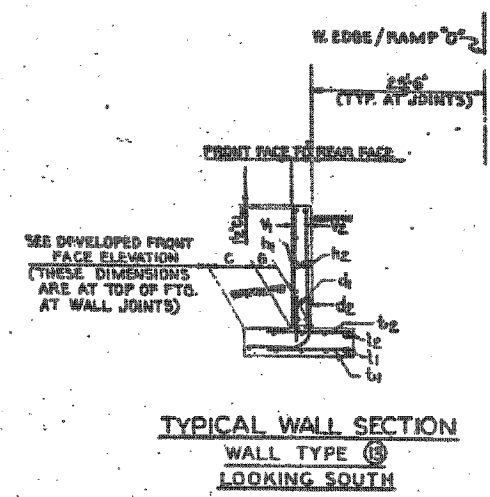
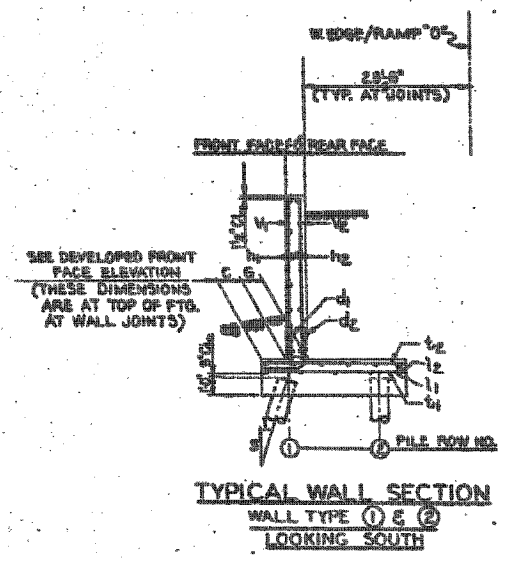
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

**RETAINING WALL S-47N-R
 PARAPET TRANSITION**

SCALE: NTS
 DATE: JUNE 9, 2006
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6/23/2006 12:32:08 PM



- A = 12F401
- B = 14F401
- C = 15F401
- D = 15F402
- E = 15F403
- F = 14F401

BAR DETAILS d ₂					
BAR	A	B	C	D	F
F904	2'-9"	1'-7"	2'-9"	0	1'-0"
F910	F92	F92	2'-9"	0	0'
F602	F62	F62	1'-9"	0	0'
F603	F62	1'-02	2'-9"	0	0'
F604	F62	F62	2'-9"	0	0'
F609	F62	F62	2'-9"	0	0'

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
POROUS GRANULAR BACKFILL	CU. YD.	250
CLASS A EXCAVATION FOR STRUCTURES	CU. YD.	570
CLASS X CONCRETE	CU. YD.	2382
REINFORCEMENT BARS	POUND	20381
DRIVING CONCRETE PILES	LIN. FT.	1606
FURNISHING CONCRETE PILES	LIN. FT.	1606
TEST PILE CONCRETE	EACH	1
THREE STRAND CABLE ROAD GUARD	LIN. FT.	171
PERF. CORR. MET. PIPE - 6"	LIN. FT.	957
PEDESTRIAN BARRIER-TYPE III	LIN. FT.	210

BAR LIST					
BAR	NO.	SIZE	LENGTH	SHAPE	WEIGHT
F401	44	4	1'-4"		33
F402	18	4	1'-7"		19
F403	18	4	1'-10"		22
F404	14	4	2'-7"		24
F501	185	5	4'-7"		575
F502	15	5	23'-8"		542
F503	104	5	5'-0"		529
F504	92	5	8'-0"	J	575
F505	120	5	25'-0"		3254
F506	209	5	7'-5"		1559
F507	86	5	2'-6"		94
F508	204	5	9'-5"		1205
F509	16	5	25'-5"		488
F510	102	5	9'-1"	J	941
F601	204	5	7'-5"		2099
F602	91	5	4'-4"	J	382
F603	91	5	4'-10"	J	390
F604	91	5	5'-2"	J	395
F605	91	5	5'-4"	J	400
V501	99	5	5'-2"		235
V502	69	5	6'-5"		480
V503	69	5	7'-9"		534
V504	70	5	8'-4"		608
V505	94	5	7'-11"		251
V506	94	5	7'-8"		266
V507	59	5	7'-2"		255
V508	94	5	6'-7"		225
V509	95	5	9'-7"		198
V510	24	5	4'-5"		197
V511	59	5	4'-5"		199
V512	54	5	5'-5"		174
H501	7	5	21'-2"		199
H502	7	5	15'-9"		144
H503	51	5	25'-2"		1559
H504	51	5	24'-5"		1579

NOTES:
 FOR GENERAL NOTES & STANDARD DETAILS, SEE SHEET No. 81
 FOR DETAILS, DIMENSIONS, ETC. OF WALL TYPES 1, 2, 3 SEE SHEETS 02, 96 & 98
 (E) = EXPANSION JOINT FOR DETAILS SEE SHEET NO. 81
 (C) = CONSTRUCTION JOINT FOR DETAILS SEE SHEET NO. 81

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
RETAINING WALL
W-2

SHEET 11 OF 24

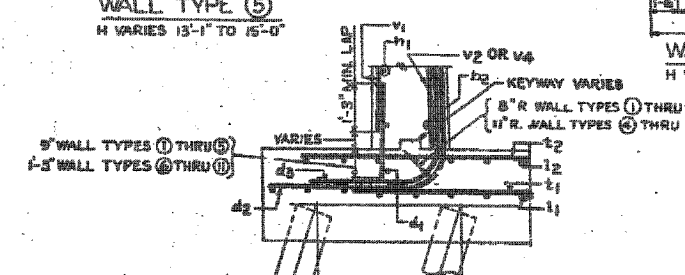
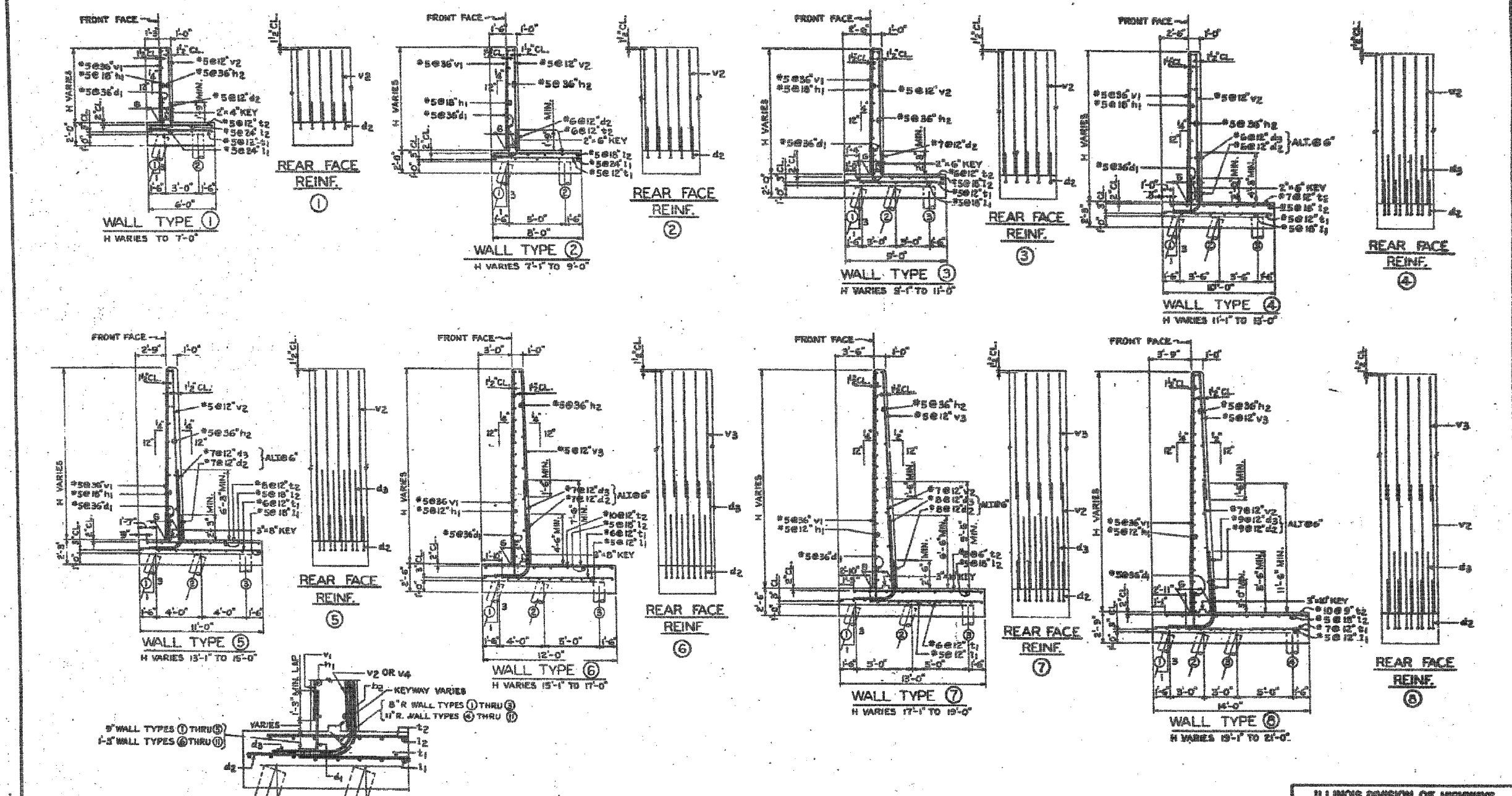
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 RETAINING WALL S-47N-R
 EXISTING RET. WALL PLAN 2
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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VALUES OF "G" MAXIMUM											
WALL TYPE	1	2	3	4	5	6	7	8	9	10	11
"G" MAX.	1'-1 1/2"	1'-2"	1'-2 1/2"	1'-3"	1'-3 1/2"	1'-4"	1'-4 1/2"	1'-5"	1'-5 1/2"	1'-6"	1'-6 1/2"

NOTE: "G" VARIES DUE TO CHANGE IN WALL HEIGHT "H". FOR VALUES OF "G" MAXIMUM SEE TABLE. FOR STANDARD PILE DETAILS SEE SHEET NO. 100

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
STANDARD RETAINING WALL DETAILS
PILE FOOTINGS
WALL TYPES ① THRU ⑧

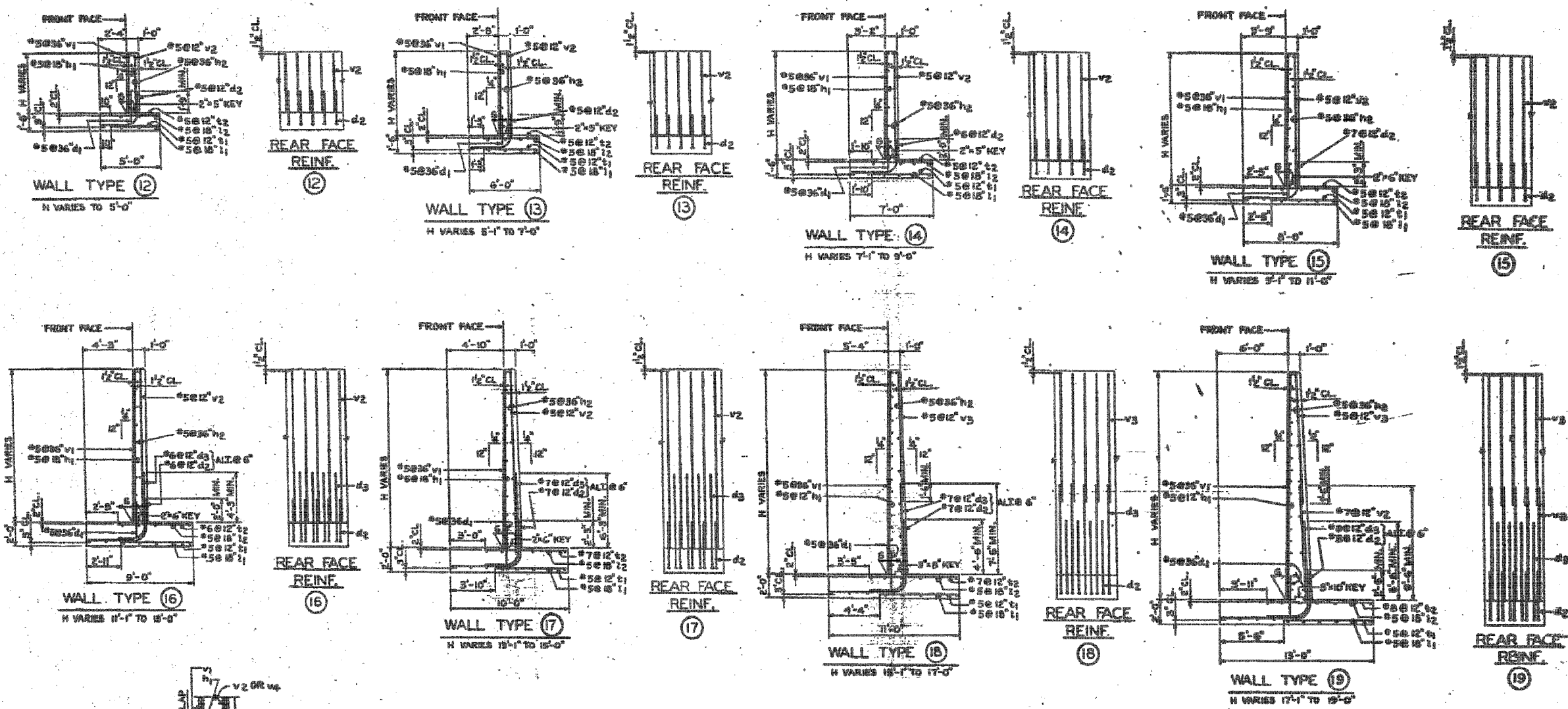
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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
RETAINING WALL S-47N-R
EXISTING RET. WALL PLAN 3
SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: KMW
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TYPICAL DETAIL JUNCTION OF STEM & FOOTING
SCALE: 1/2" = 1'-0"

VALUES OF "G" MAXIMUM										
WALL TYPE	12	13	14	15	16	17	18	19	20	22
"G" MAX.	7'-10"	7'-10"	7'-8"	7'-2 1/2"	7'-2 1/2"	7'-7 1/2"	7'-8"	7'-2 1/2"	7'-3 1/2"	8'-1"

NOTE: "G" VARIES DUE TO CHANGE IN WALL HEIGHT "H". FOR VALUES OF "G" MAXIMUM SEE TABLE.

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
STANDARD RETAINING WALL DETAILS
SPREAD FOOTINGS - 3000 PSF
WALL TYPES 12 THRU 19

SHEET 13 OF 15

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-47N-R
EXISTING RET. WALL PLAN 4

SCALE: NTS
DATE: JUNE 9, 2006
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CHECKED BY: BLU

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Everest Engineering Company
STRUCTURE BORING LOG

Page 1 of 1
Date 4/14/03

ROUTE FAI 94/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. _____ DRILLED BY PATRICK DRILLING INC.

COUNTY COOK LOCATION WALL 060 S. _____, TWP. 38 N, RANG. 14 E

Boring No.	Station	Offset	Surface Elev.	D E P T H	B L O W S	Qu tsf	W %	Surface Water Elev.	D E P T H	B L O W S	Qu tsf	W %
W-060-3	3537+39 (SB LOCAL)	69.7 LT. OF SB LOCAL BL	15.3 ft									
								6.8				
ASPHALT PAVEMENT			14.9									
CONCRETE PAVEMENT			14.1									
Loose to Medium Dense, Brown SANDY LOAM trace - gravel					8		3			4	2.1	18
					10					7	B	
					11							
					14		5			3	2.5	18
					13					5	B	
					12					7		
FILL					2		8					
Loose, Brown SANDY LOAM			8.3		3							
					6							
					2		24					
					3							
					3							
Very Loose to Medium Dense, Gray SILTY LOAM trace - sand			4.8		4		26					
					5							
					5							
					2		28					
					1							
					0							
Medium Stiff to Very Stiff, Gray SILTY CLAY trace - sand and gravel			-0.2		1	1.7	23					
					1	B						
					3							
					1	1.0	22					
					3	B						
					3							
					2	1.3	22					
					4	B						
					5							
					1	0.9	23					
					1	B						
					3							

SPT, BQ = Sum of last two blow values in sample. (Qu) B-Bulge S-Shear P-Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING W-060-3

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Everest Engineering Company
STRUCTURE BORING LOG

Page 1 of 1
Date 4/29/03

ROUTE FAI 94/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. _____ DRILLED BY PATRICK DRILLING INC.

COUNTY COOK LOCATION WALL 060 S. _____, TWP. 38 N, RANG. 14 E

Boring No.	Station	Offset	Surface Elev.	D E P T H	B L O W S	Qu tsf	W %	Surface Water Elev.	D E P T H	B L O W S	Qu tsf	W %
W-060-4	3535+95 (SB LOCAL)	81.9 LT. OF SB LOCAL BL	15.5 ft									
								7.0				
ASPHALT PAVEMENT			15.3									
CONCRETE PAVEMENT			14.5									
Medium Dense, Brown SANDY LOAM trace - gravel, topsoil, cinders, crushed stone and brick					13		13			3	2.4	19
					8					4	B	
					11					5		
FILL					10		4					
Loose to Medium Dense, Brown SANDY LOAM trace - gravel					9					6	6.4	15
					12					9	S	
					5					11		
					8		5					
					8							
					9							
Hard, Gray SILTY CLAY trace to little - gravel					7		23					
					3							
					4							
Extremely Dense, Gray SILTY LOAM trace - gravel					39		7					
					38							
					50/5'							
END OF BORING												
Gray below 10.5 feet					2		26					
					2							
					3							
Very Loose, Gray SILT trace - sand					2		27					
					1							
					1							
Medium Stiff to Hard, Gray SILTY CLAY trace - sand and gravel					0	1.2	23					
					1	B						
					2							
					5	1.2	22					
					5	B						
					6							
					1	0.9	24					
					2	B						
					3							
					1	0.5	27					
					1	B						
					1							

SPT, BQ = Sum of last two blow values in sample. (Qu) B-Bulge S-Shear P-Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING W-060-4

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-47N-R
SOIL BORINGS 1

SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: KMW
CHECKED BY: BLU

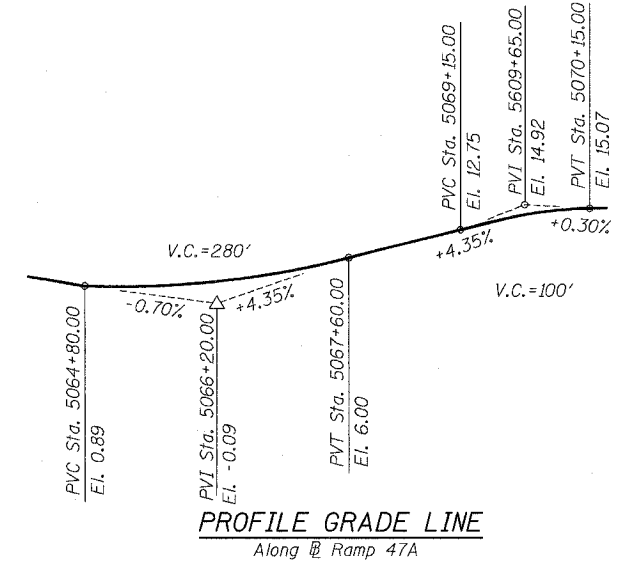
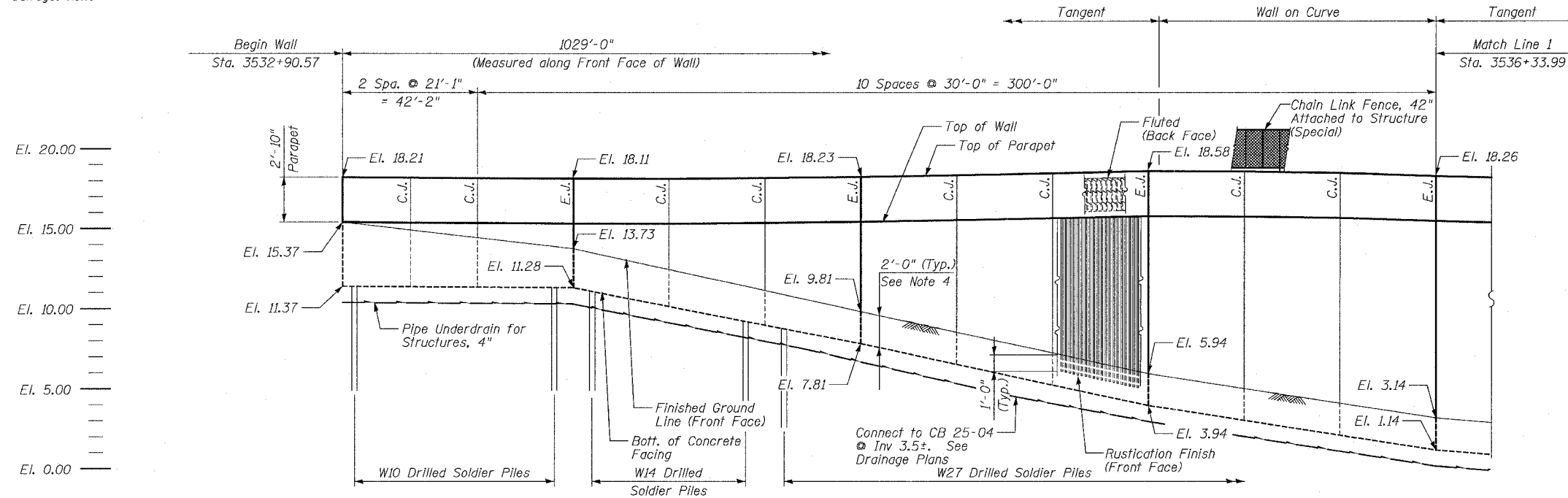
11/06/06 AM 6/8/2006

Benchmark: BM No. 3528
 "+" Cut on Northwesterly bolt of Fire Hydrant at the Northwest corner of 45th St. and Wentworth Ave.
 El. 16.20
 All elevations are based on the Chicago City Datum (C.C.D.)
 Salvage: None

Existing Structure Description:

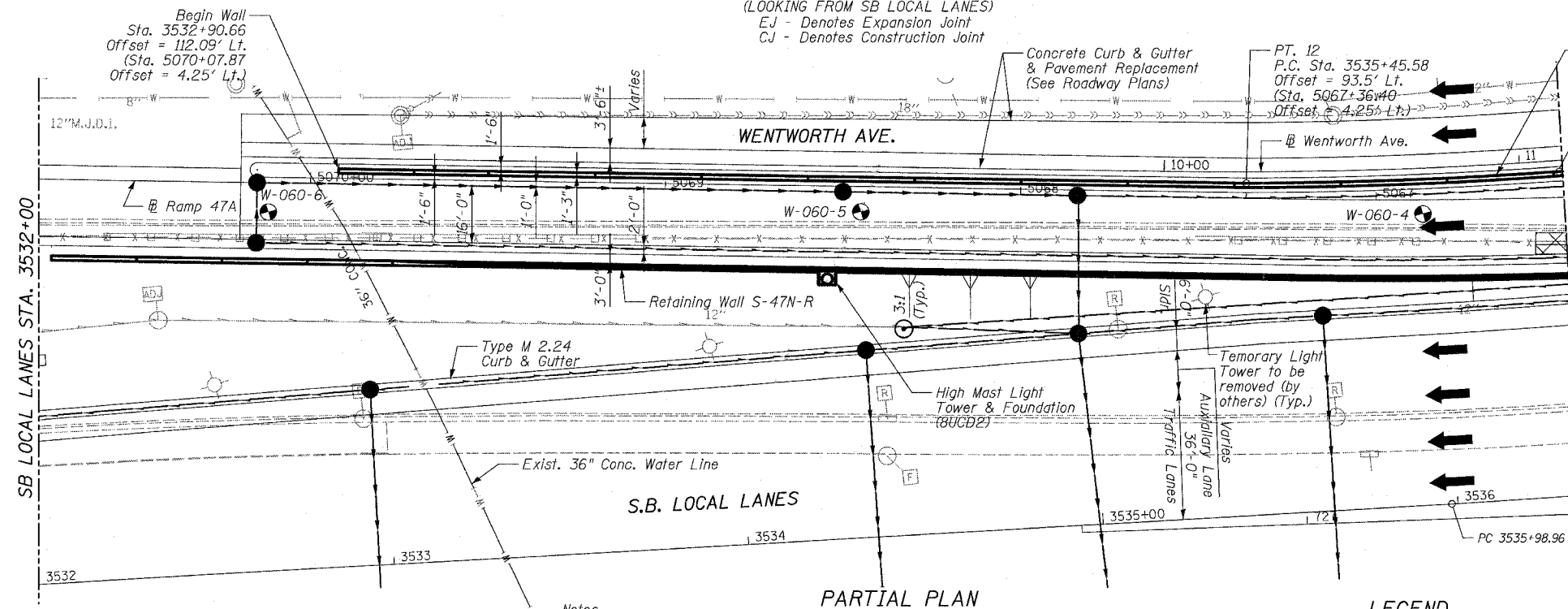
The existing wall was built in 1962 as part of Section 2122-921 PT.1 and designated Wall "W4". The existing wall is a cast-in-place concrete cantilever type on pile supported footings with a total length of 524'-9". The height from top of wall to bottom of footing varies from approximately 11'-6" to 6'-3". The stem is 1'-0" in width at the top and increases toward the base as the front face slopes 1/4" per foot. There is an existing chain link fence mounted on top of wall. A portion of the wall will be completely removed for the construction of the new wall and the top portion of the remaining will be reconstructed.

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	412
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303 * (2021-922 PT2 ETC 2324.6-IP) R-11				



PARTIAL FRONT FACE ELEVATION

(LOOKING FROM SB LOCAL LANES)
 E.J. - Denotes Expansion Joint
 C.J. - Denotes Construction Joint



Notes:

- Offsets given to Back Face of Wall. Station and offsets in parentheses are along ramp or Frontage Road.
- H.M.L.T. foundations and work pads by others. See Special Provisions for Contractor Cooperation.
- Wall to be built along straight chords between construction joints.
- Min. Facing in contact with soldier pile shall be 3'-0".
- Coordinate pipe underdrain outlet with Drainage Contractor.
- See Sheet 2 for Bill of Material and Sheet 12 for Offset Sketch. Point numbers reference offset sketch.

LEGEND

- Soil Boring Location
- Proposed Drainage Structure
- Proposed Underdrain
- Proposed Storm Sewer

DESIGN SPECIFICATIONS

2002 AASHTO

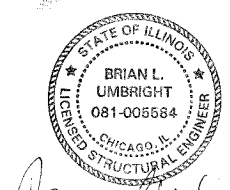
DESIGN STRESSES

FIELD UNITS

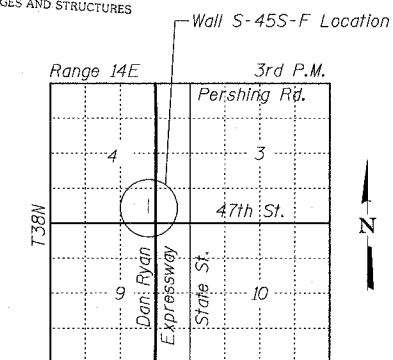
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (M270 Gr 36) Soldier Piles

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY

Robert E. Adams
 ENGINEER OF BRIDGES AND STRUCTURES



Date: June 9, 2006
 License Expires: November 30, 2006



LOCATION SKETCH

SHEET 1 OF 24

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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES) COOK COUNTY STA. 3532+90.57 TO STA. 3543+57.42 RETAINING WALL S-455-F GENERAL PLAN & ELEVATION 1 S.N. 016-W978
NAME	DATE	
REVISIONS	6/14/06	SCALE: NTS DATE: JUNE 9, 2006
		DRAWN BY: MTR CHECKED BY: BLU

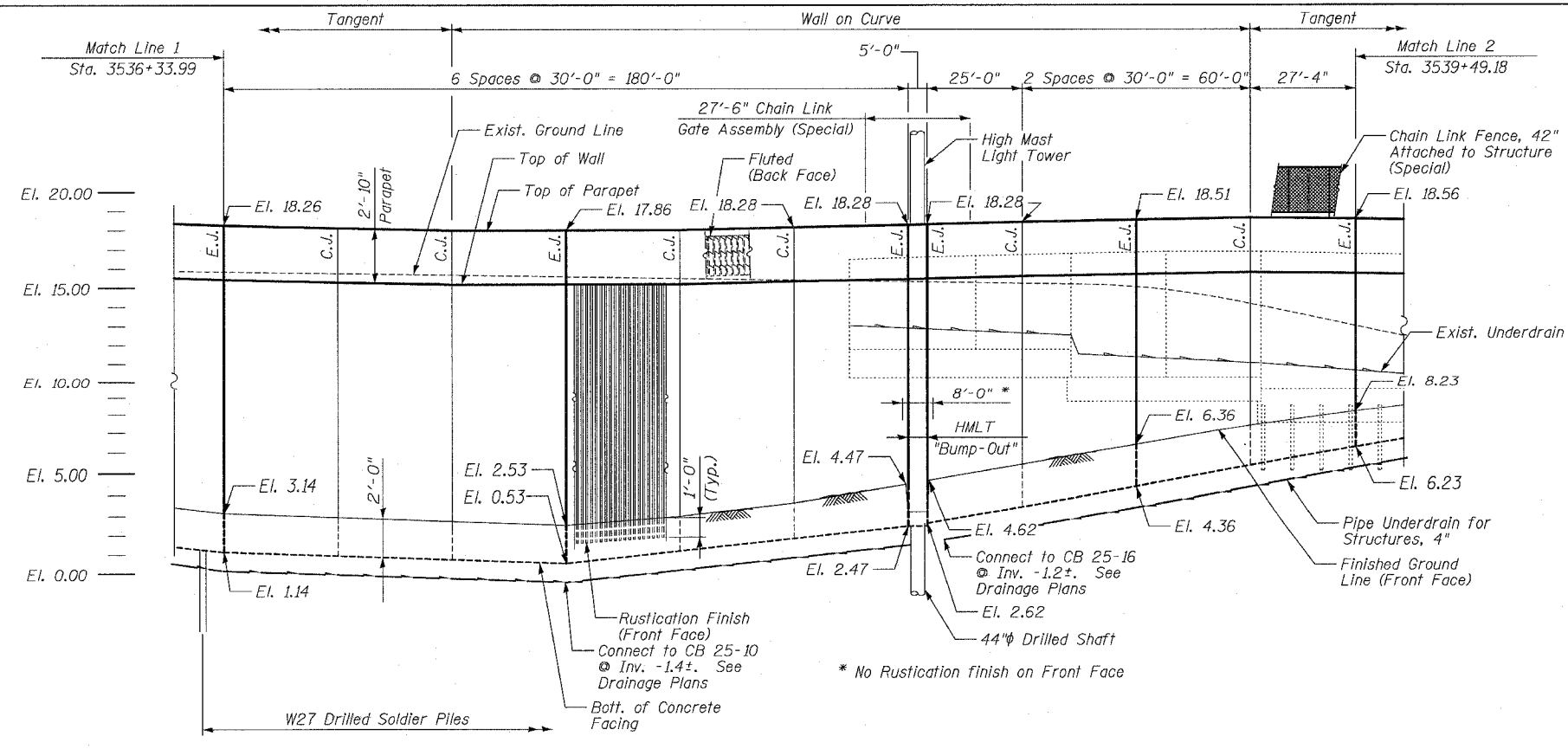
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	413
STA.		TO STA.		
62303		*I2021-922 PT2 ETC 2324.6-1P) R-11		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

E.O.P. ELEVATIONS
Along Wentworth Ave. at Retaining Wall

Station	Elevation
5070+00	14.85
5069+50	14.76
5069+00	14.71
5068+50	14.79
5068+00	14.95
10+00	15.10
10+50	15.17
11+00	14.98
11+50	14.67
12+00	14.42
12+50	14.67
13+00	14.83
13+50	15.07
14+00	15.13
14+50	14.87
15+00	14.72
15+50	14.69
16+00	14.76
16+50	14.86
17+00	14.94
17+50	15.03
18+00	15.03

TOTAL BILL OF MATERIAL

Item	Unit	Quantity
Porous Granular Embankment (Special)	Cu. Yd.	14
Removal of Existing Structures No. 1	Each	1
Concrete Removal	Cu. Yd.	42
Structure Excavation	Cu. Yd.	233
Concrete Structures	Cu. Yd.	335.1
Concrete Superstructure	Cu. Yd.	133.2
Protective Coat	Sq. Ft.	1,329
Rustication Finish	Sq. Ft.	9,160
Stud Shear Connectors	Each	2,074
Untreated Timber Lagging	Sq. Ft.	6,576
Furnishing Soldier Piles (W Section)	Foot	3,536
Reinforcement Bars, Epoxy Coated	Pound	64,550
Geocomposite Wall Drain	Sq. Yd.	512
Pipe Underdrains for Structures 4"	Foot	720
Temporary Soil Retention System	Sq. Ft.	545
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	26,076
Chain Link Fence, 42" Attached to Structure (Special)	Foot	1,000
Chain Link Gate Assembly (Special)	Each	1
Drilled Shaft in Soil, 44"	Foot	26
Pile Extraction	Each	2



GENERAL NOTES:

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

All Construction joints shall be bonded.

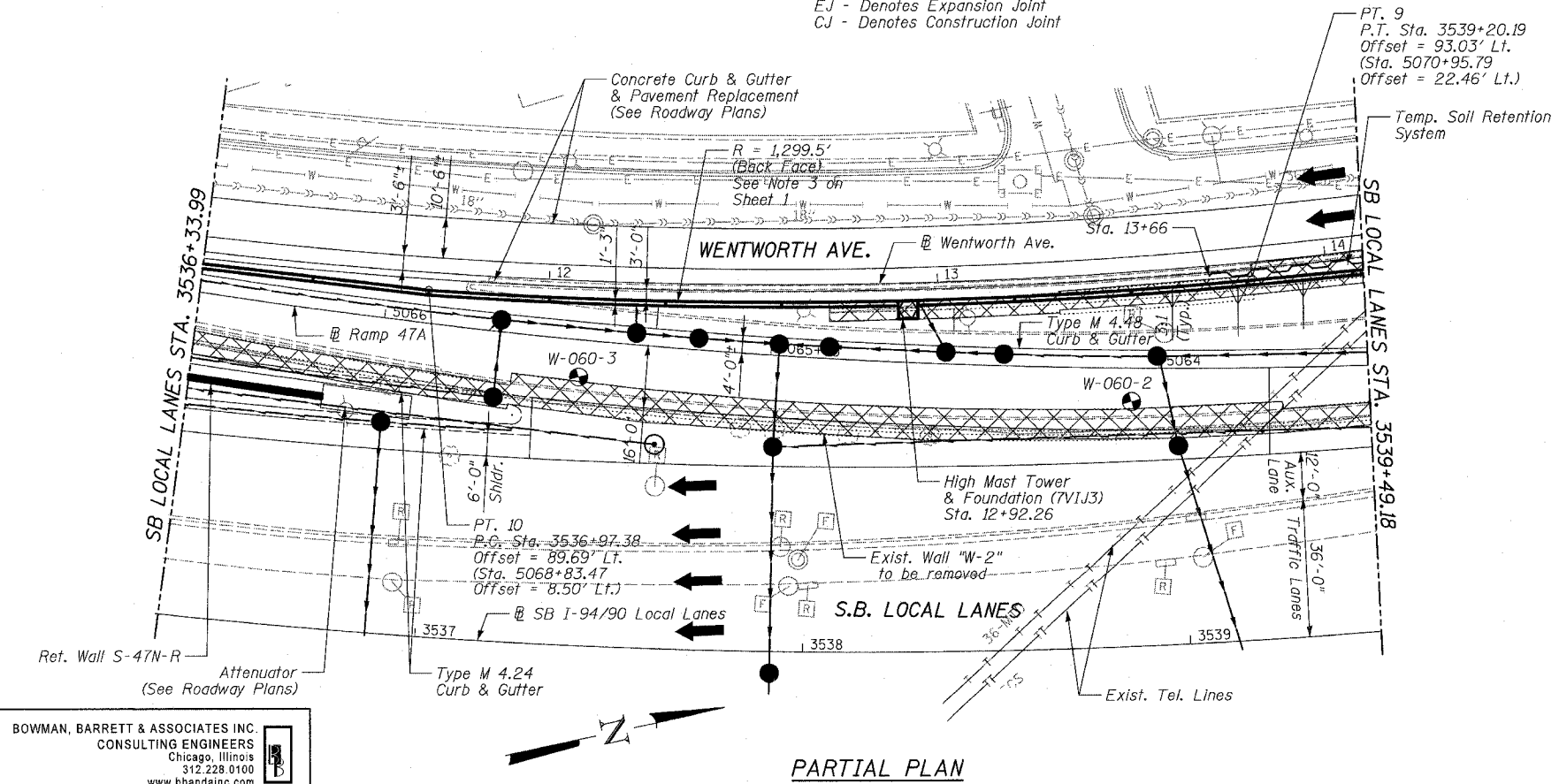
The Contractor is responsible for the design and performance of the lagging using no less than a 3" nominal rough-sawn thickness and timber with a minimum allowable bending stress f_b of 1000 psi.

All exposed concrete edges shall be chamfered $\frac{3}{4}$ " except as noted.

Protective Coat shall be applied to the top and back face of parapet and to the exposed front face in areas where the wall is within 25 feet of edge of pavement.

LEGEND

- Soil Boring Location
- Proposed Drainage Structure
- Proposed Underdrain
- Proposed Storm Sewer
- Removal of Exist. Structures



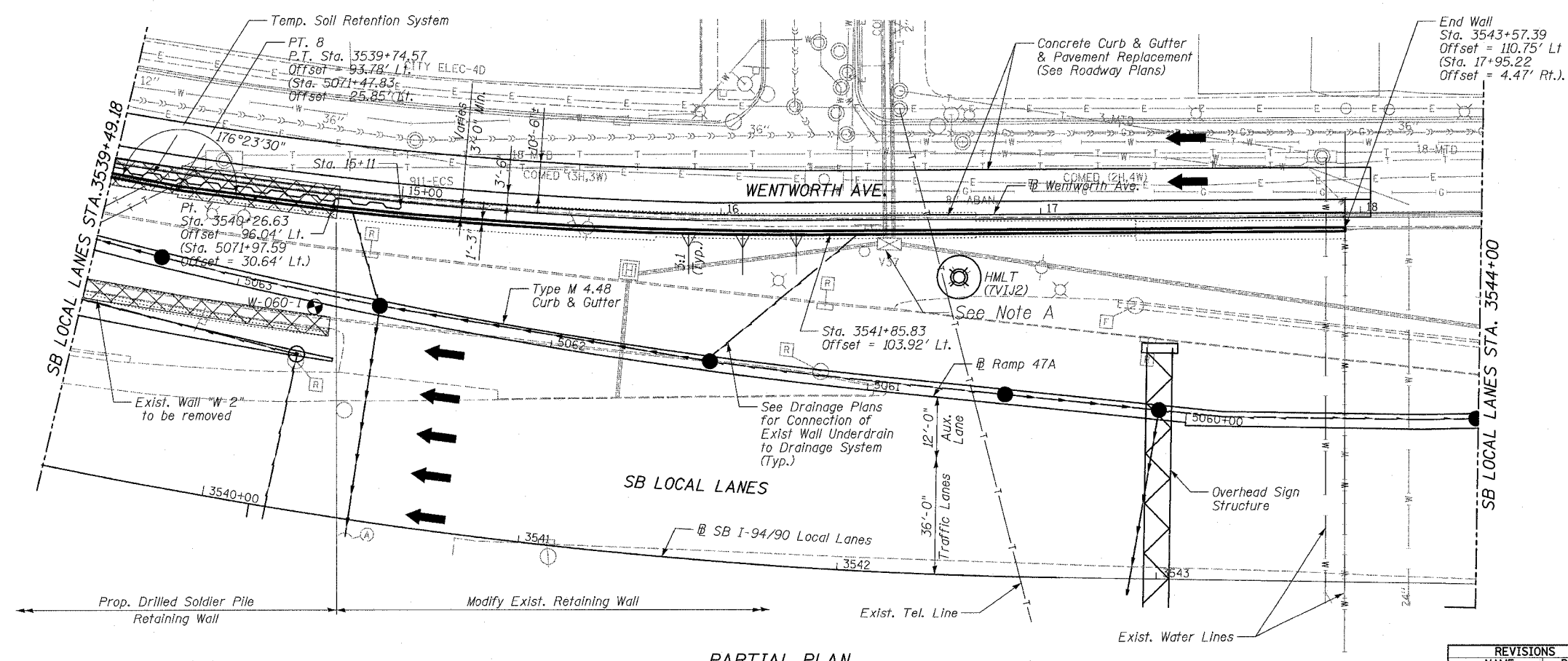
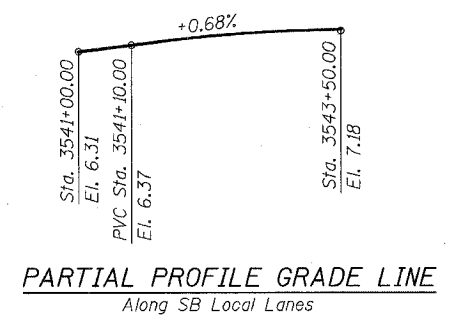
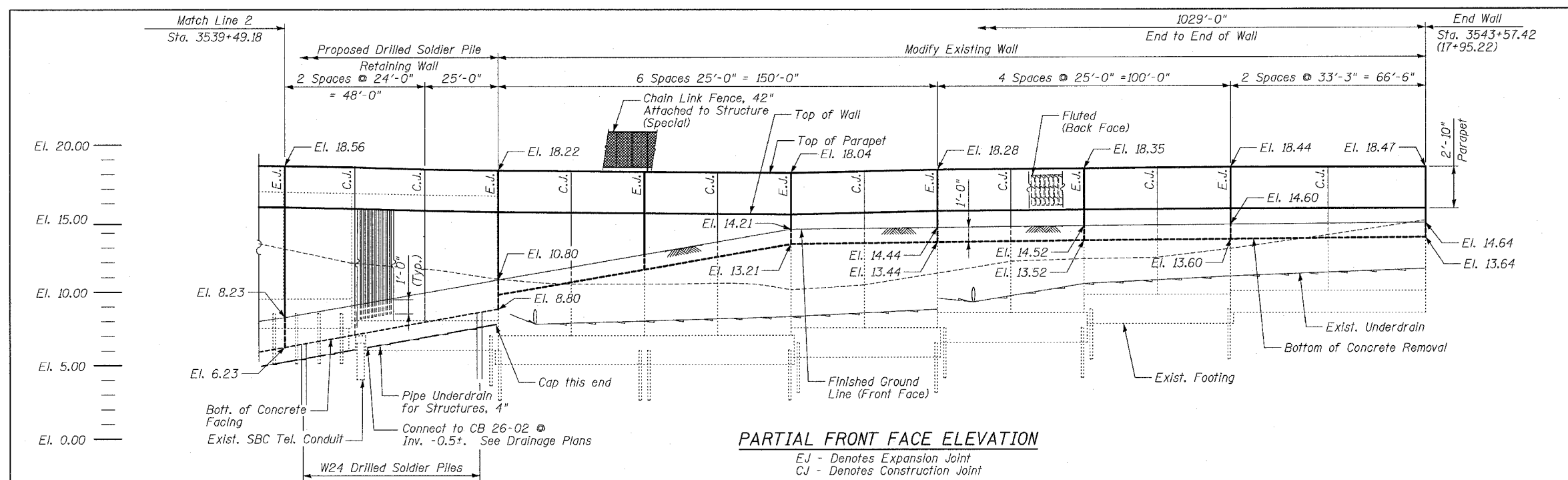
REVISIONS	
NAME	DATE
REVISED	6/14/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
COOK COUNTY
STA. 3532+90.57 TO STA. 3543+57.42
RETAINING WALL S-45S-F
GENERAL PLAN & ELEVATION 2
S.N. 016-W978

SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	414
STA.		TO STA.		
62303		*12021-922 PT2 ETC 2324.6-1P1 R-11		



LEGEND

- Soil Boring Location
- Proposed Drainage Structure
- Proposed Underdrain
- Proposed Storm Sewer
- High Mast Lighting Foundation and Tower (See Notes on Sheet 1)
- Removal of Exist. Structures

REVISIONS

NAME	DATE
REVISOR	6/14/06

SHEET 3 OF 24

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 GENERAL PLAN & ELEVATION 3
 S.N. 016-W978

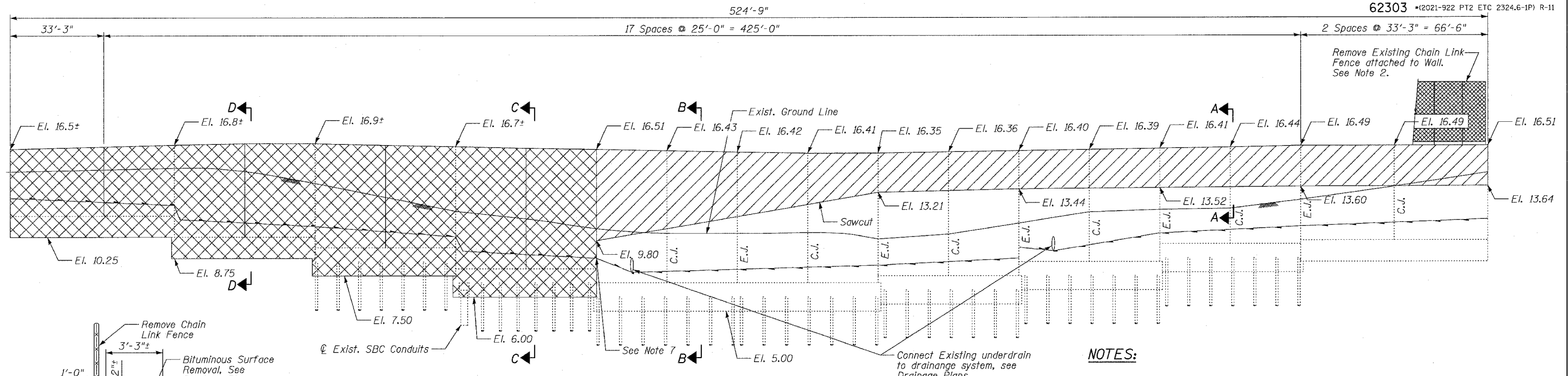
SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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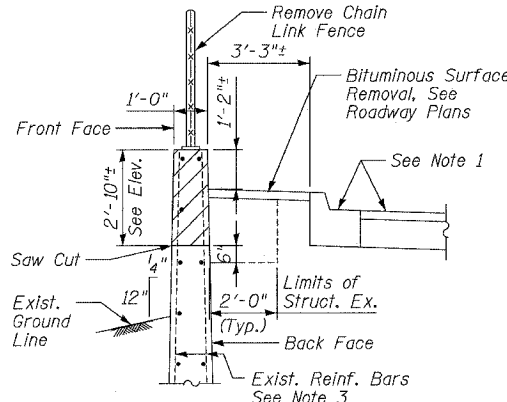
Note A: Existing Lighting controller to be relocated. Coordinate with Contractor 62583 and electrical contractor as required.

12/3/2006 12:33:44 PM

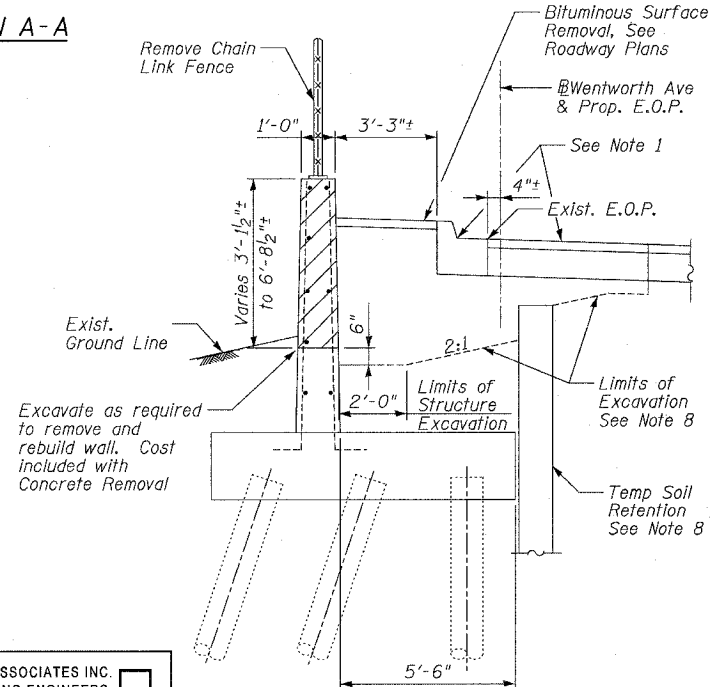
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94/90	*	COOK	588	415
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*12021-922 PT2 ETC 2324.6-1P) R-11			



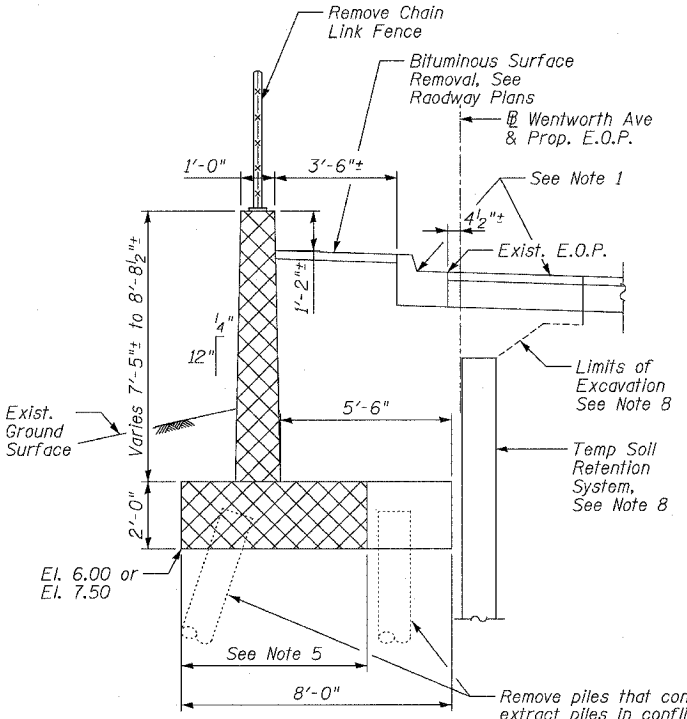
FRONT FACE ELEVATION - EXISTING RETAINING WALL (W-3)



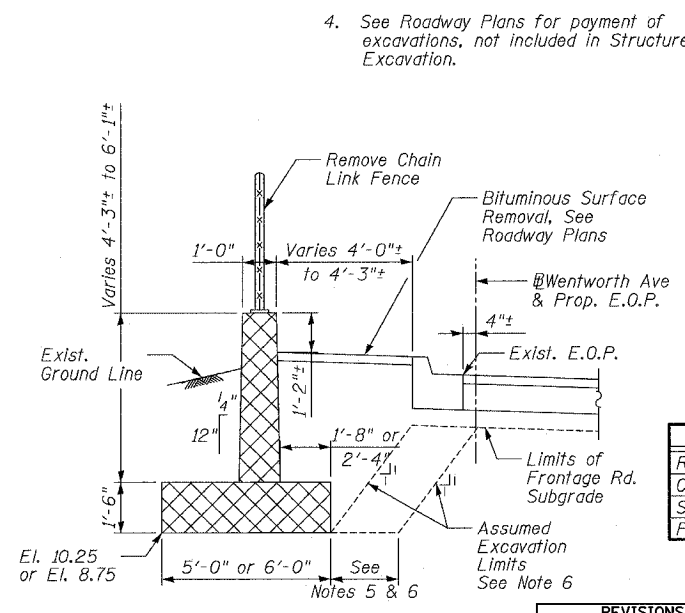
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

- See Roadway Plans for Curb and Gutter and Pavement Removal and Replacement limits.
- Cost of Chain Link Fence Removal included with Removal of Existing Structures No. 2 or Concrete Removal as appropriate.
- Existing vertical reinforcement bars shall be cleaned, straightened, and incorporated into new construction. Horizontal reinforcement bars shall be removed. Cost included with "Concrete Removal."
- See Roadway Plans for payment of excavations, not included in Structure Excavation.
- Contractor only has to remove portion of existing stem and footing in conflict with proposed wall construction.
- No Structure Excavation paid over limits of Removal of Existing Structures No. 2. Additional excavation assessment at soldier piles. Cost included with Drilling and Place Setting Soldier Piles (in soil).
- Contractor shall maintain existing wall underdrain to remain and cap end as necessary.
- See Sheet 12 for details of Temp Soil Retention System.
- Saw Cut wall at front face along removal line. Cost of Saw Cuts included with Concrete Removal.

LEGEND

- Concrete Removal
- Removal of Existing Structures No. 2

BILL OF MATERIAL

ITEM	UNIT	QTY.
Removal of Existing Structures No. 2	Each	1
Concrete Removal	Cu. Yd.	42
Structure Excavation	Cu. Yd.	233
Pile Extraction	Each	2

SHEET 4 OF 24

REVISIONS	
NAME	DATE
REVISED	6/14/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-455-F
 REMOVAL PLAN & DETAILS
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006

DRAWN BY: MTR
 CHECKED BY: BLU

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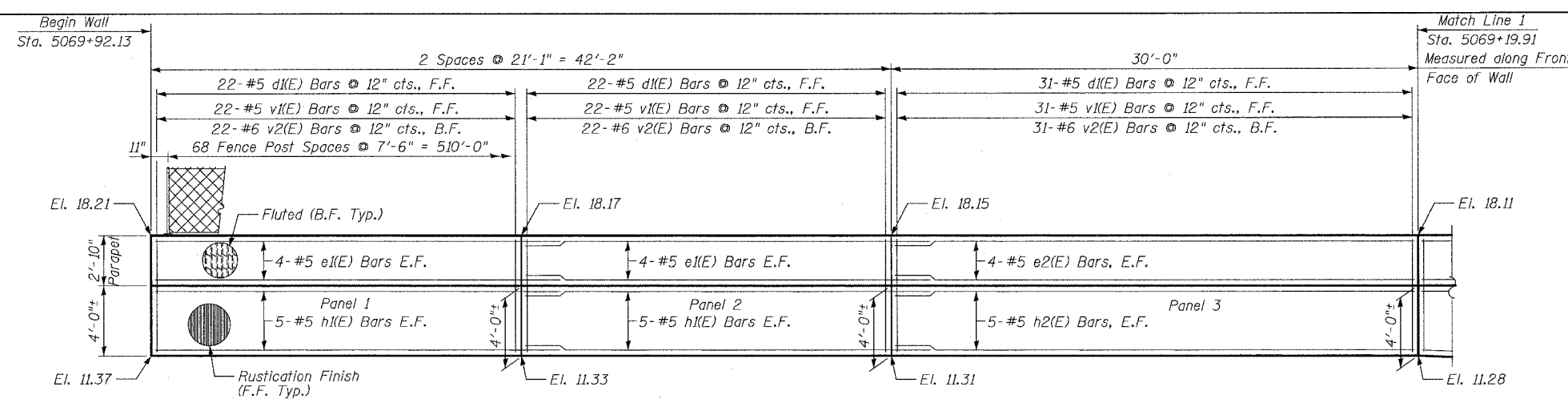
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94/90	*	COOK	588	416
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			

- NOTES:**
- Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
 - See details for reinforcing bar clearances.
 - Stationing is @ Ramp 47A.

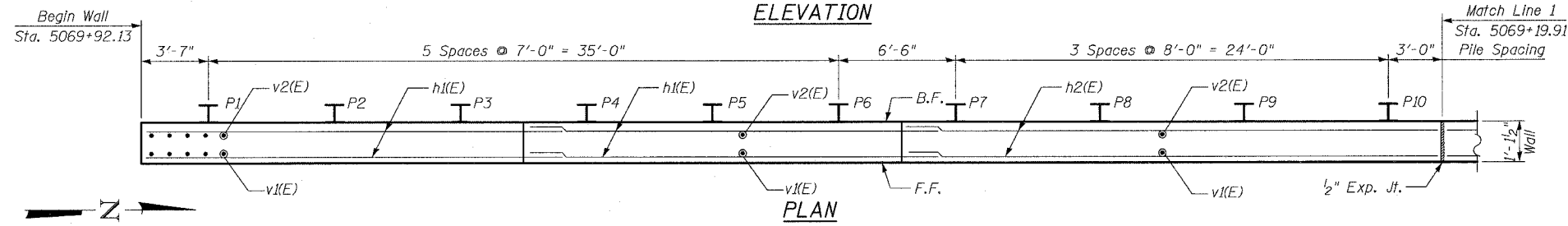
- * Order bars full length and cut as indicated in cutting diagram.
 ** Remaining Bars from Cutting Diagram

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

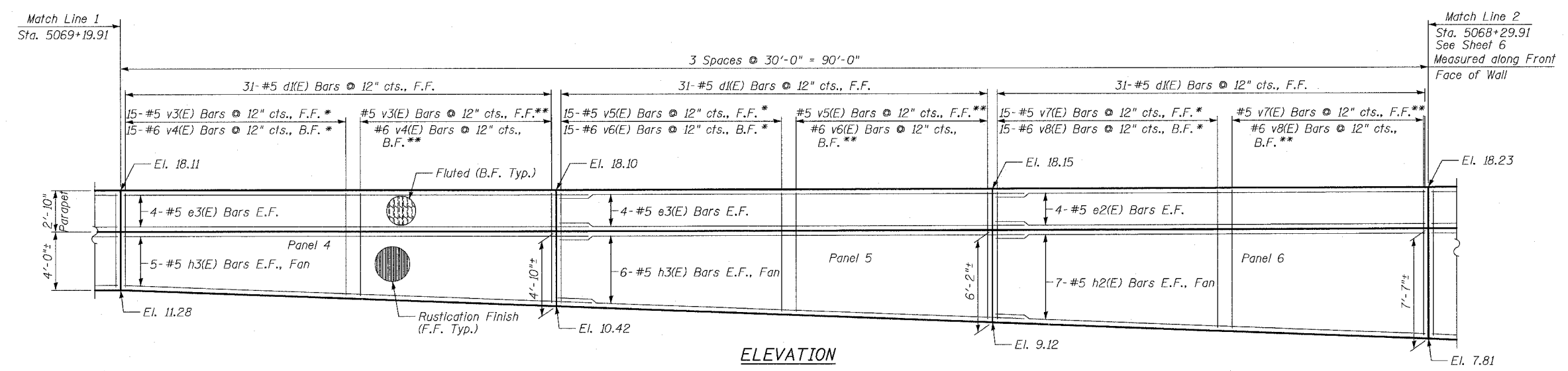
MIN BAR LAP
 #5 - 2'-2"
 #6 - 2'-7"



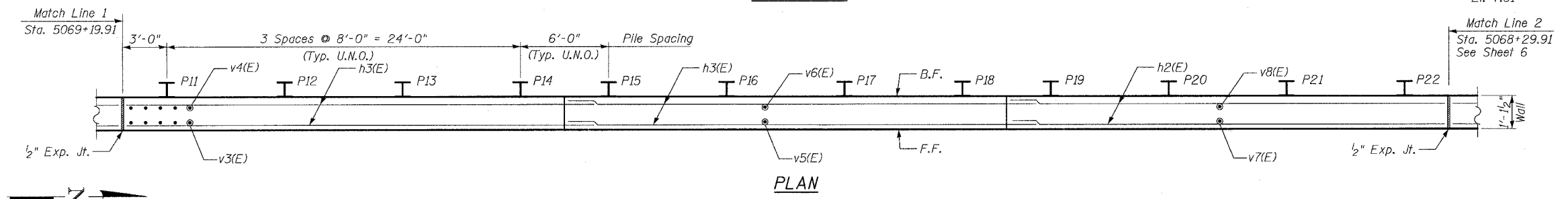
ELEVATION



PLAN



ELEVATION



PLAN

SHEET 5 OF 24

REVISIONS	
NAME	DATE
REVISOR	7/13/06

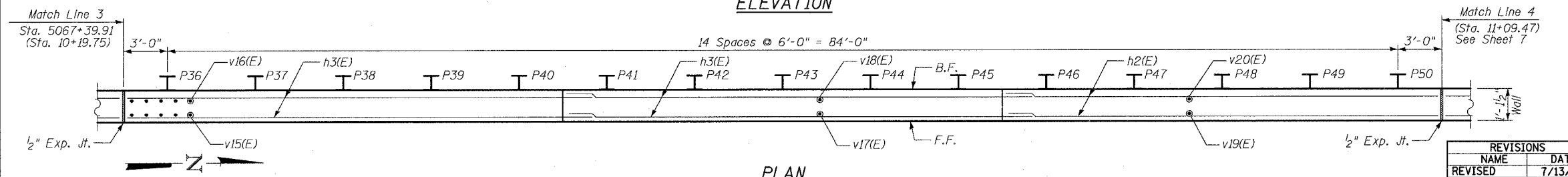
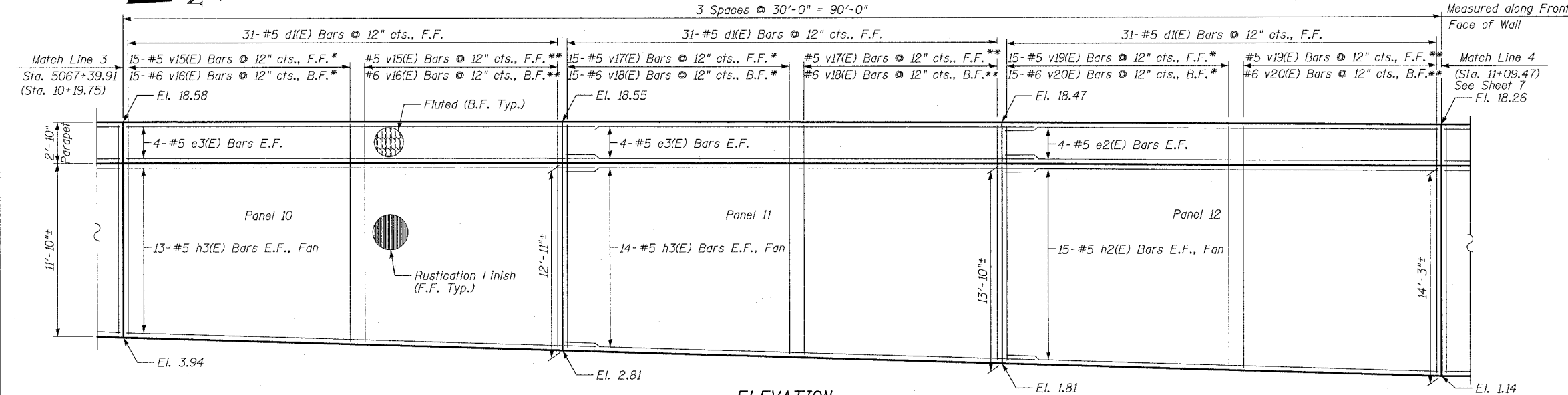
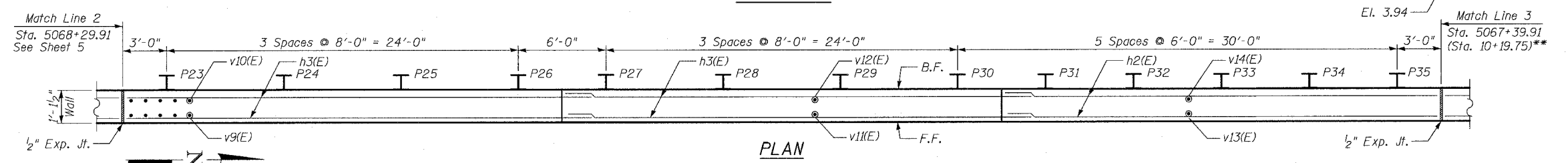
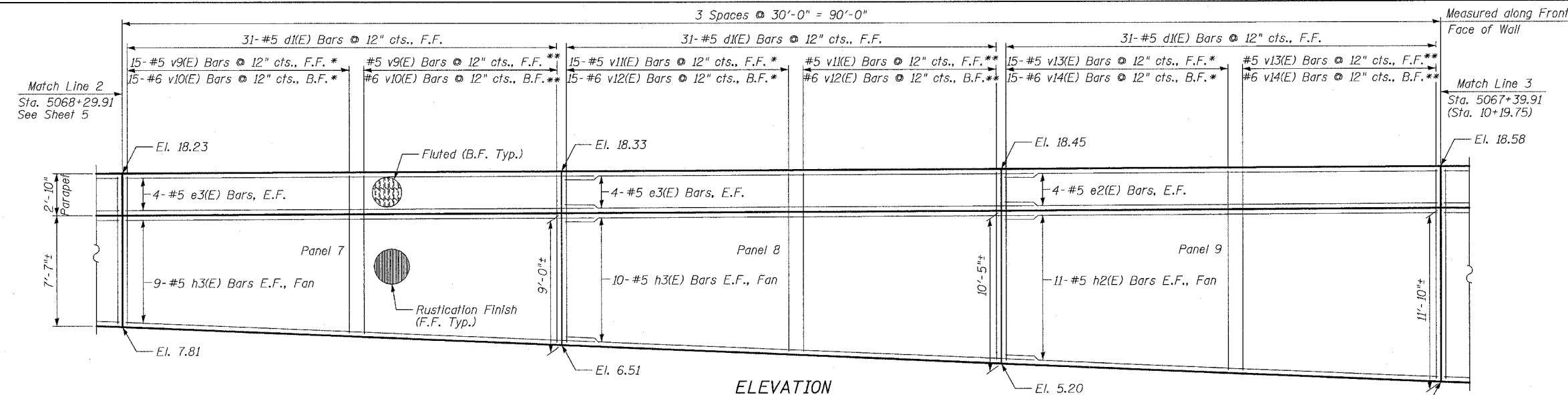
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 WALL DETAILS 1
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	417
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*2021-922	PT2 ETC 2324.6-1P	R-11	



- NOTES:**
1. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
 2. See details for reinforcing bar clearances.
 3. Stationing is @ Ramp 47A. Stations in parentheses are @ Wentworth Ave.

* Order bars full length and cut as indicated in cutting diagram.
 ** Remaining Bars from Cutting Diagram

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP
 #5 - 2'-2"
 #6 - 2'-7"

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SHEET 6 OF 24

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-455-F
 WALL DETAILS 2
 S.N. 016-W978

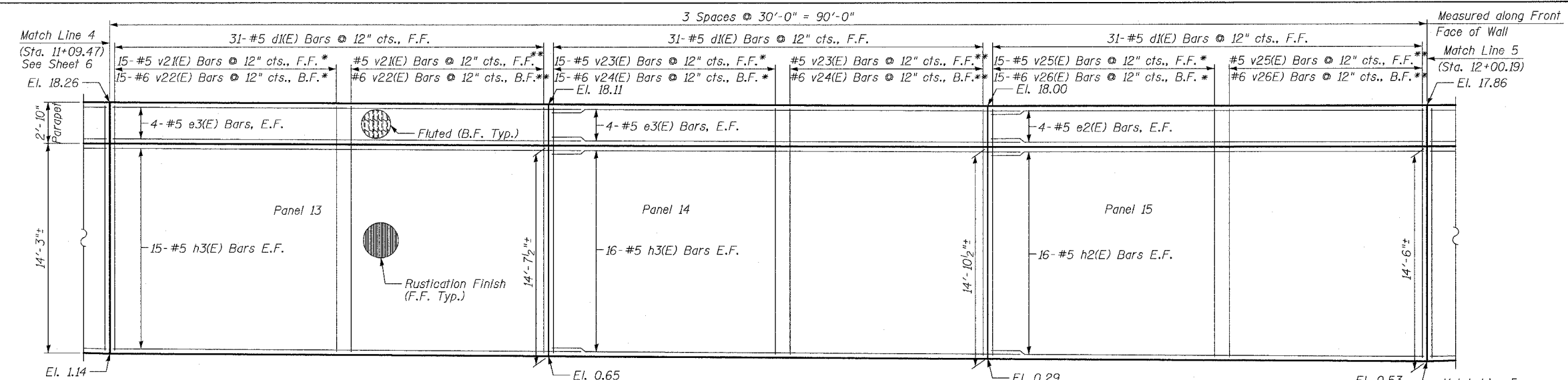
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DRAWN BY: MTR
 CHECKED BY: BLU

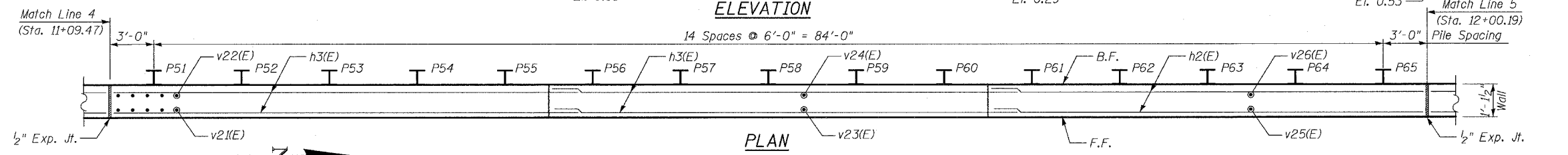
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	418
STA.		TO STA.		
62303		*I2021-922 PT2 ETC 2324.6-1P) R-11		

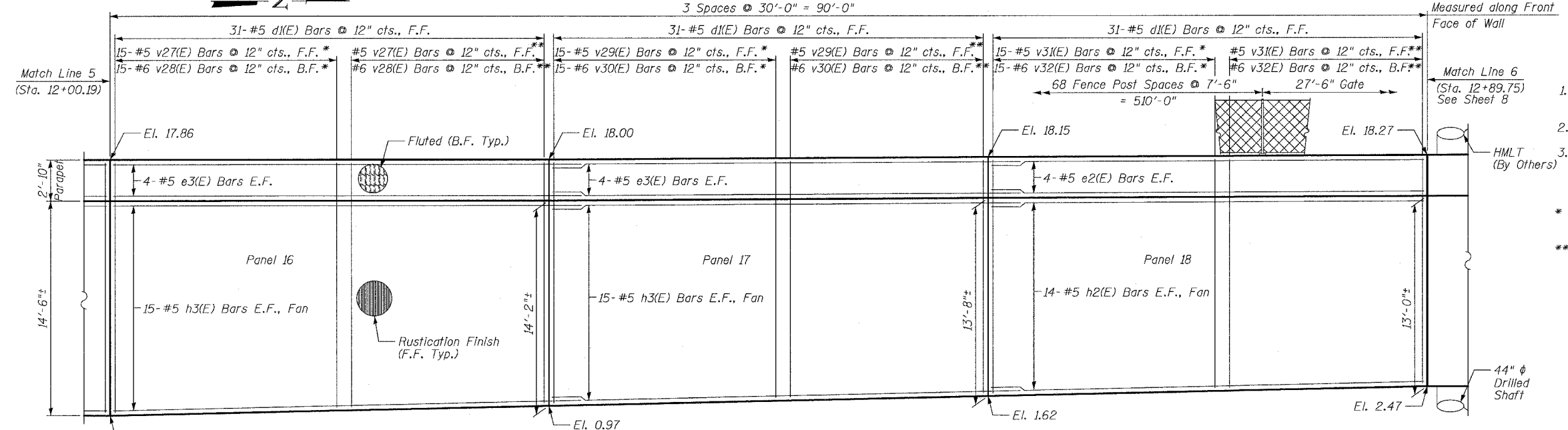
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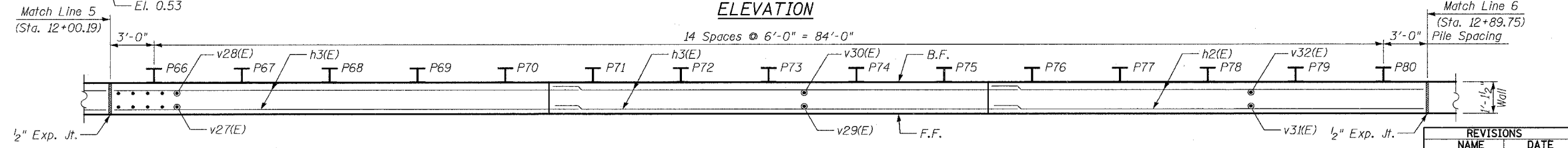
ELEVATION



PLAN



ELEVATION



PLAN

NOTES:

1. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
2. See details for reinforcing bar clearances.
3. Stationing in parentheses is @ Wentworth Ave.

* Order bars full length and cut as indicated in cutting diagram.
 ** Remaining Bars from cutting diagram

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP

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

SHEET 7 OF 24

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 WALL DETAILS 3
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
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5/22/06 7/13/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	419
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303		*2021-922 PT2 ETC 2324.6-1P) R-11		

NOTES:

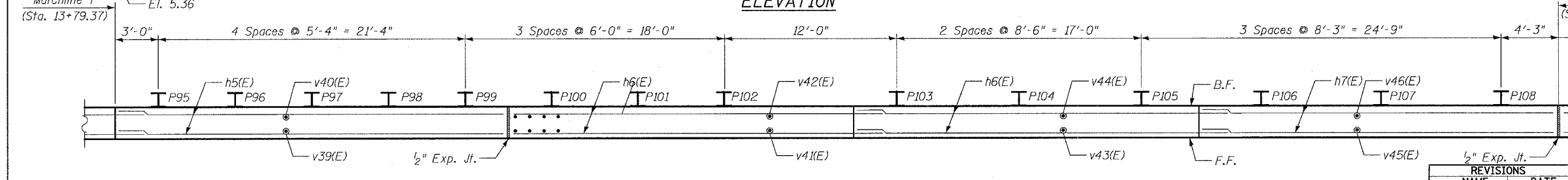
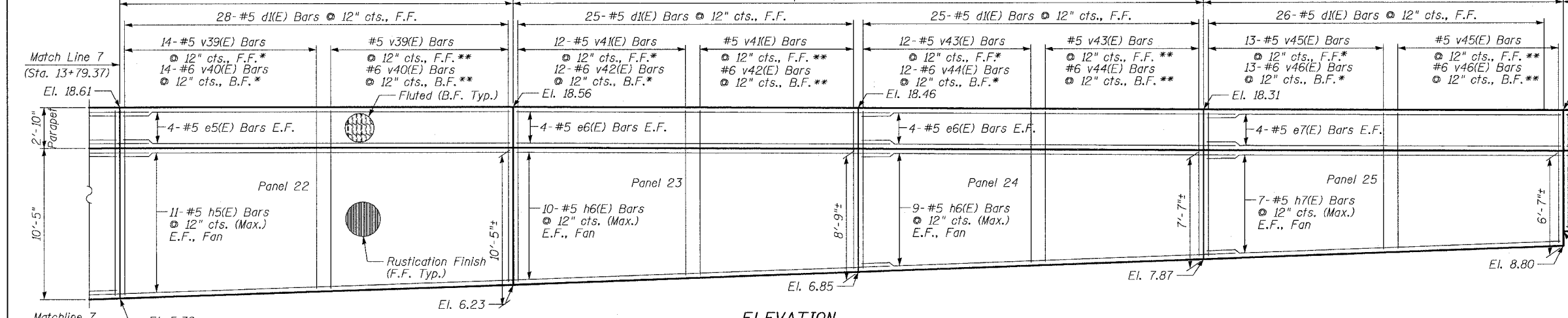
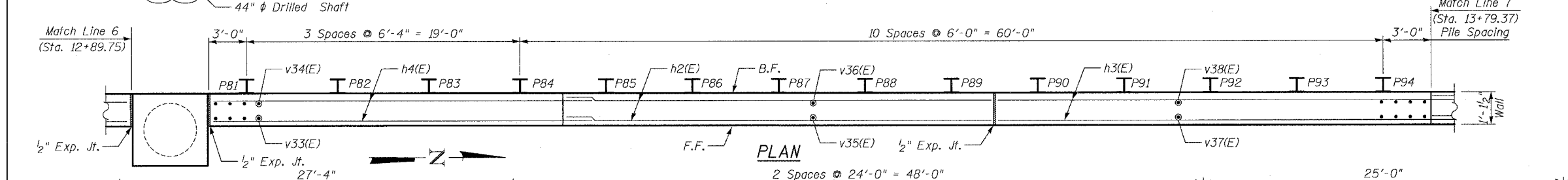
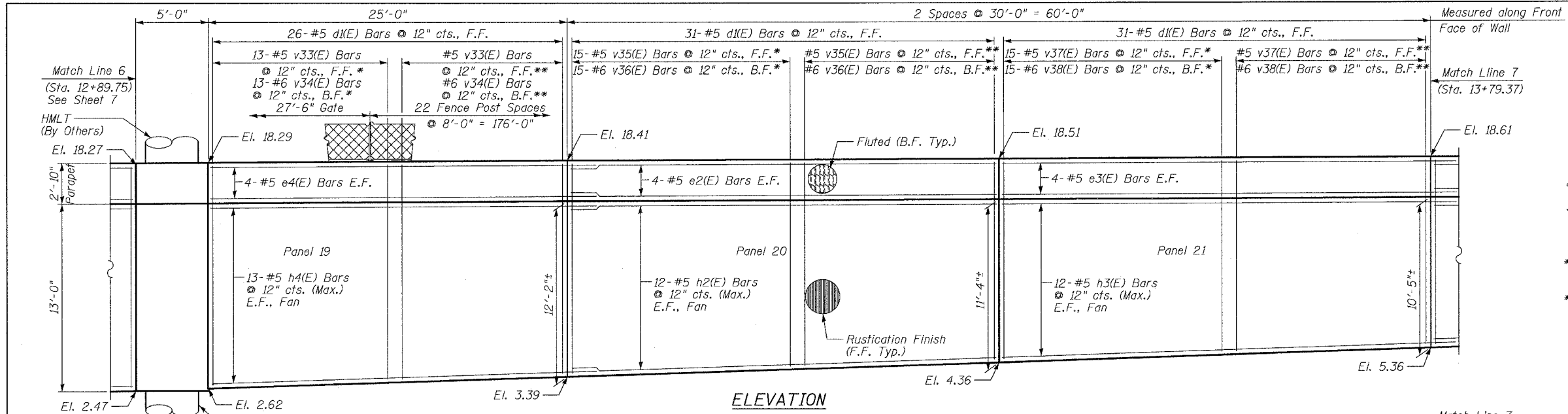
1. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
2. See details for reinforcing bar clearances.
3. Stationing in parentheses is @ Wentworth Ave.

* Order bars full length and cut as indicated in cutting diagram.
 ** Remaining Bars from cutting diagram

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP

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



SHEET 8 OF 24

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REVISD	7/13/06

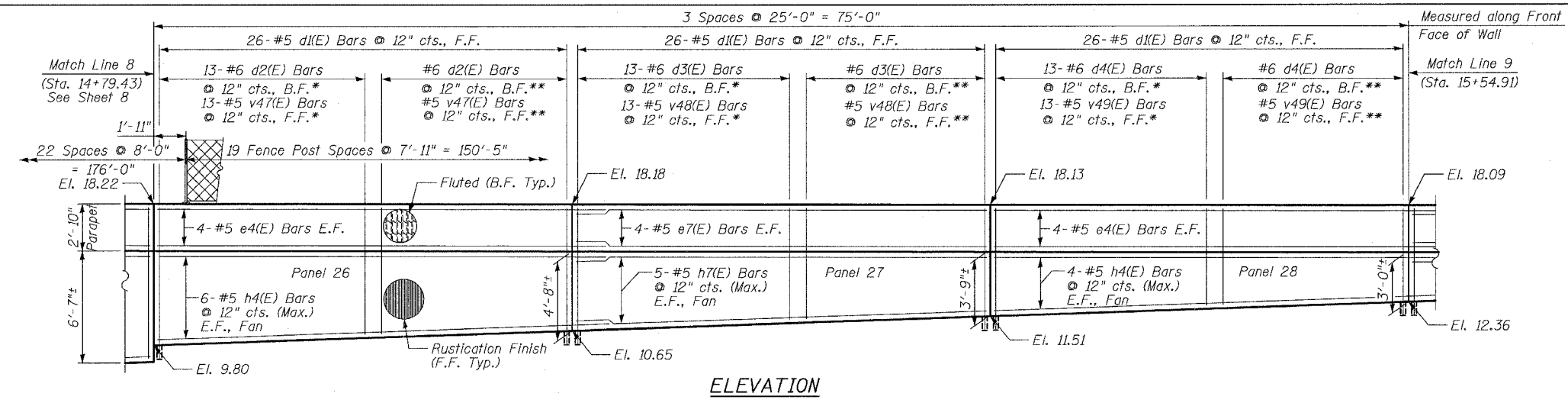
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 WALL DETAILS 4
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006

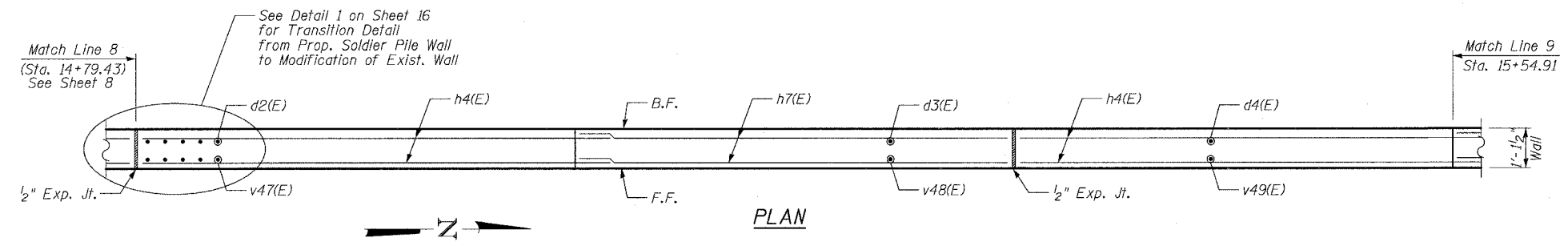
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 CHECKED BY: BLU

50360.PW
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 WALL 94/90 (DAN RYAN EXPRESSWAY)

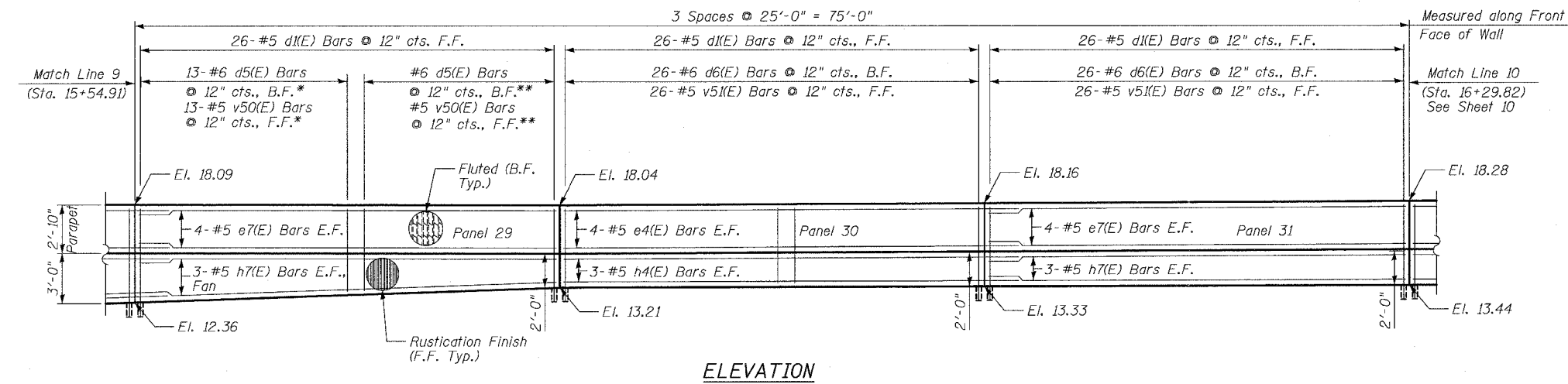
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	420
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*2021-922 PT2 ETC 2324.6-1P) R-11			



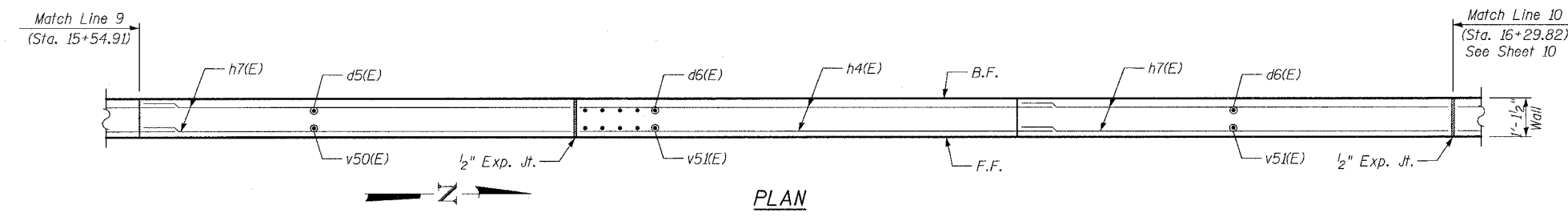
ELEVATION



PLAN



ELEVATION



PLAN

NOTES:

1. Epoxy grout #6 d2(E) thru d6(E) bars in drilled holes with a min. depth of 9" in accordance with Art. 584 of the Std. Specs.
2. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
3. See details for reinforcing bar clearances.
4. Stations in parantheses are @ Wentworth Ave.

* Order bars full length and cut as indicated in cutting diagram.
 ** Remaining Bars from cutting diagram

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP

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

SHEET 9 OF 24

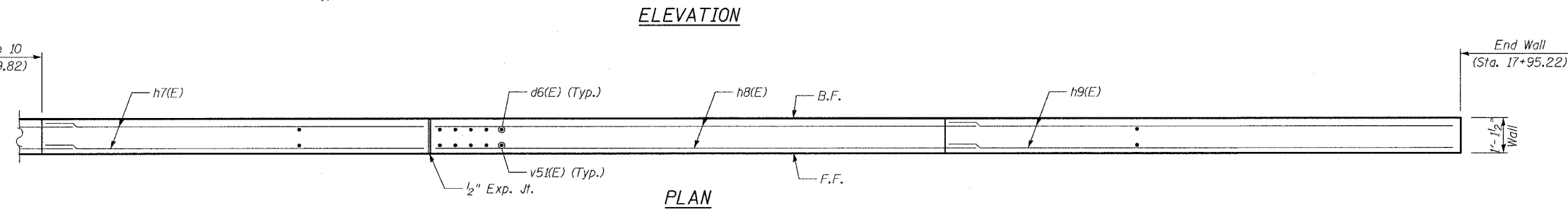
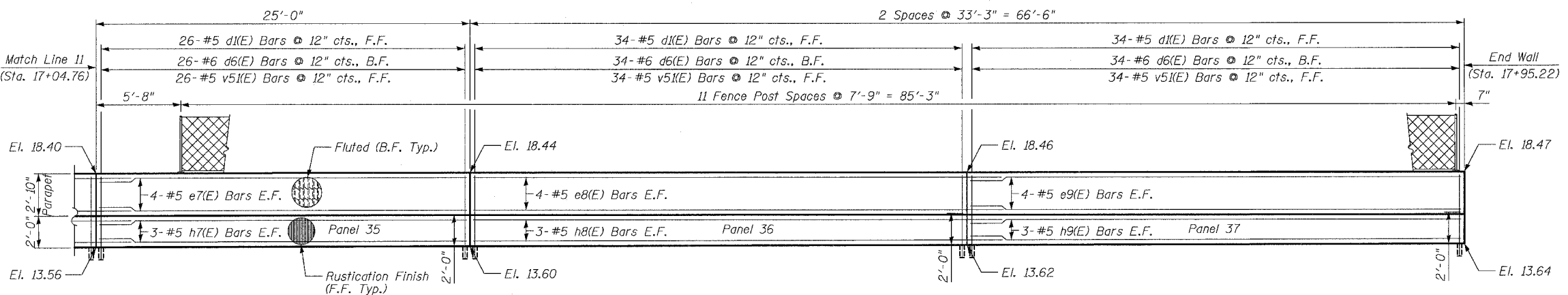
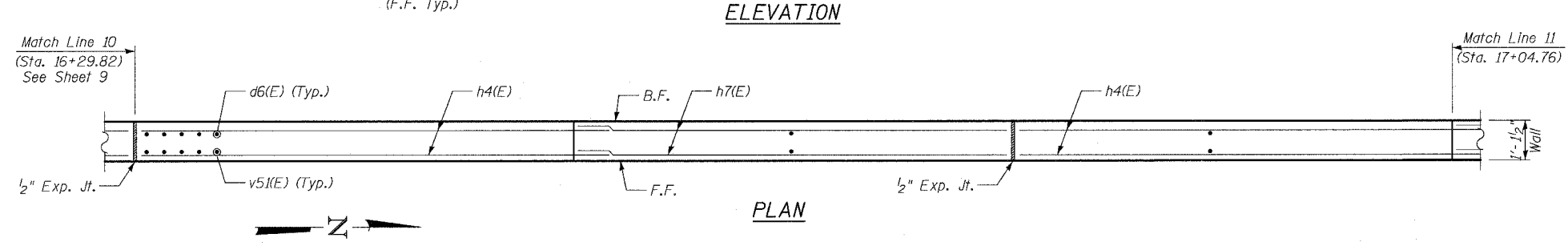
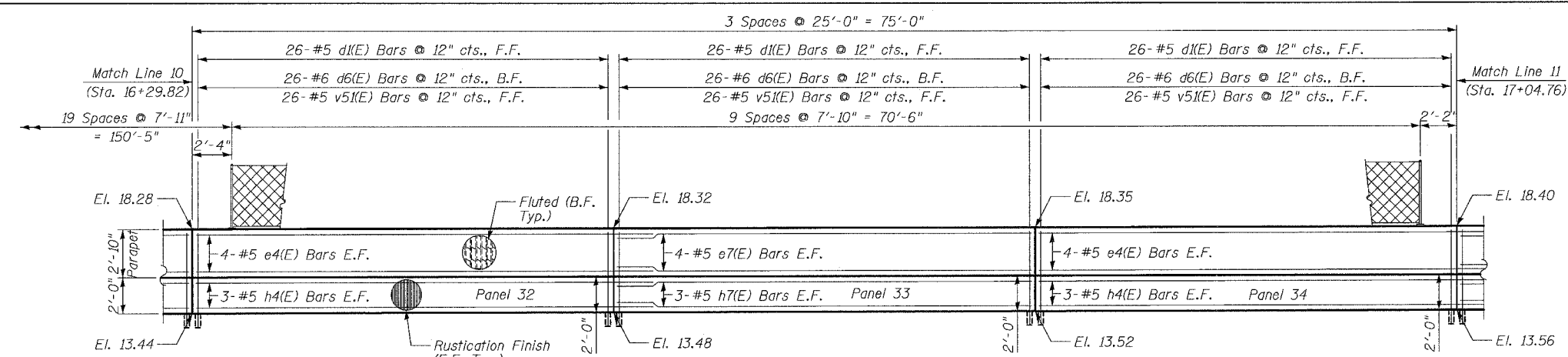
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REVISIONS	
NAME	DATE
REVISD	7/13/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 WALL DETAILS 5
 S.N. 016-W978
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

5/23/06

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	421
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



- NOTES:**
- Epoxy grout #6d2(E) thru d6(E) bars in drilled holes with a min. depth of 9" in accordance with Art. 584 of the Std. Specs.
 - Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
 - See details for reinforcing bar clearances.
 - Stations in parentheses are @ Wentworth Ave.

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP
 #5 - 2'-2"
 #6 - 2'-7"

SHEET 10 OF 24

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NAME	DATE
REVISED	7/13/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 WALL DETAILS 6
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

7/13/2006 5:04:30 PM

PILE LAYOUT

Pile	Offset (Ft.)	Top of Wall El.	Top of Pile Elevation	Bott. of Facing Elevation	Section	Pile Tip Elevation	Pile Length (Ft.)
P-1	4.66	15.37	14.37	11.36	W10x33	-3.81	18.18
P-2	4.66	15.35	14.35	11.35	W10x33	-3.81	18.17
P-3	4.66	15.34	14.34	11.34	W10x33	-3.81	18.15
P-4	4.66	15.33	14.33	11.33	W10x33	-4.34	18.67
P-5	4.66	15.32	14.32	11.32	W10x33	-4.34	18.66
P-6	4.66	15.32	14.32	11.32	W10x33	-4.34	18.66
P-7	4.66	15.31	14.31	11.30	W10x33	-5.40	19.71
P-8	4.66	15.30	14.30	11.30	W10x33	-5.40	19.70
P-9	4.66	15.29	14.29	11.29	W10x33	-5.40	19.69
P-10	4.66	15.28	14.28	11.29	W10x33	-5.40	19.69
P-11	4.83	15.28	14.28	11.14	W14x61	-10.65	24.93
P-12	4.83	15.28	14.28	10.99	W14x61	-10.65	24.92
P-13	4.83	15.27	14.27	10.85	W14x61	-10.65	24.92
P-14	4.83	15.27	14.27	10.71	W14x61	-10.65	24.92
P-15	4.83	15.28	14.28	10.16	W14x61	-11.95	26.23
P-16	4.83	15.29	14.29	9.94	W14x61	-11.95	26.24
P-17	4.83	15.30	14.30	9.73	W14x61	-11.95	26.25
P-18	4.83	15.31	14.31	9.51	W14x61	-11.95	26.26
P-19	5.36	15.32	14.32	8.86	W27x84	-16.64	30.96
P-20	5.36	15.34	14.34	8.64	W27x84	-16.64	30.98
P-21	5.36	15.36	14.36	8.42	W27x84	-16.64	31.00
P-22	5.36	15.39	14.39	8.20	W27x84	-16.64	31.02
P-23	5.36	15.40	14.40	7.55	W27x84	-17.94	32.35
P-24	5.36	15.43	14.43	7.33	W27x84	-17.94	32.37
P-25	5.36	15.46	14.46	7.12	W27x84	-17.94	32.40
P-26	5.36	15.49	14.49	6.90	W27x84	-17.94	32.43
P-27	5.36	15.51	14.51	6.25	W27x84	-19.25	33.76
P-28	5.36	15.54	14.54	6.03	W27x84	-19.25	33.79
P-29	5.36	15.57	14.57	5.81	W27x84	-19.25	33.82
P-30	5.36	15.60	14.60	5.59	W27x84	-19.25	33.85
P-31	5.37	15.63	14.63	4.95	W27x94	-18.91	33.54
P-32	5.37	15.65	14.65	4.74	W27x94	-18.91	33.57
P-33	5.37	15.68	14.68	4.53	W27x94	-18.91	33.59
P-34	5.37	15.71	14.71	4.32	W27x94	-18.91	33.62
P-35	5.37	15.74	14.74	4.11	W27x94	-18.91	33.65
P-36	2.03	15.75	14.75	3.71	W27x94	-20.04	34.79
P-37	2.04	15.74	14.74	3.52	W27x94	-20.04	34.78
P-38	2.05	15.73	14.73	3.34	W27x94	-20.04	34.77
P-39	2.05	15.73	14.73	3.15	W27x94	-20.04	34.77
P-40	2.06	15.72	14.72	2.96	W27x94	-20.04	34.76
P-41	2.04	15.71	14.71	2.61	W27x146	-21.25	35.96
P-42	2.03	15.69	14.69	2.44	W27x146	-21.25	35.94
P-43	2.03	15.68	14.68	2.28	W27x146	-21.25	35.93
P-44	2.02	15.66	14.66	2.11	W27x146	-21.25	35.91
P-45	2.02	15.65	14.65	1.95	W27x146	-21.25	35.90
P-46	2.01	15.62	14.62	1.68	W27x146	-21.92	36.54
P-47	2.01	15.58	14.58	1.57	W27x146	-21.92	36.50
P-48	2.01	15.53	14.53	1.45	W27x146	-21.92	36.45
P-49	2.00	15.49	14.49	1.34	W27x146	-21.92	36.41
P-50	2.00	15.45	14.45	1.23	W27x146	-21.92	36.37
P-51	2.03	15.41	14.41	1.04	W27x146	-22.41	36.82
P-52	2.11	15.38	14.38	0.96	W27x146	-22.41	36.79
P-53	2.19	15.35	14.35	0.88	W27x146	-22.41	36.76
P-54	2.27	15.32	14.32	0.79	W27x146	-22.41	36.74
P-55	2.34	15.29	14.29	0.71	W27x146	-22.41	36.71
P-56	2.49	15.27	14.27	0.58	W27x146	-22.29	36.55
P-57	2.71	15.24	14.24	0.52	W27x146	-22.29	36.53

From Ramp 47A

From Wentworth Ave.

PILE LAYOUT

Pile	Offset (Ft.)	Top of Wall El.	Top of Pile Elevation	Bott. of Facing Elevation	Section	Pile Tip Elevation	Pile Length (Ft.)
P-58	2.92	15.22	14.22	0.46	W27x146	-22.29	36.51
P-59	3.14	15.20	14.20	0.40	W27x146	-22.29	36.48
P-60	3.36	15.17	14.17	0.34	W27x146	-22.29	36.46
P-61	3.46	15.15	14.15	0.33	W27x146	-22.29	36.43
P-62	3.46	15.12	14.12	0.37	W27x146	-22.29	36.41
P-63	3.46	15.09	14.09	0.41	W27x146	-22.29	36.38
P-64	3.46	15.07	14.07	0.45	W27x146	-22.29	36.35
P-65	3.46	15.04	14.04	0.49	W27x146	-22.29	36.32
P-66	3.44	15.04	14.04	0.60	W27x129	-22.65	36.69
P-67	3.44	15.07	14.07	0.68	W27x129	-22.65	36.72
P-68	3.44	15.10	14.10	0.75	W27x129	-22.65	36.75
P-69	3.44	15.13	14.13	0.83	W27x129	-22.65	36.78
P-70	3.44	15.16	14.16	0.90	W27x129	-22.65	36.81
P-71	3.44	15.19	14.19	1.08	W27x129	-22.21	36.39
P-72	3.44	15.22	14.22	1.19	W27x129	-22.21	36.42
P-73	3.44	15.25	14.25	1.30	W27x129	-22.21	36.45
P-74	3.44	15.28	14.28	1.41	W27x129	-22.21	36.48
P-75	3.44	15.31	14.31	1.51	W27x129	-22.21	36.51
P-76	3.44	15.33	14.33	1.76	W27x129	-21.56	35.89
P-77	3.44	15.36	14.36	1.91	W27x129	-21.56	35.91
P-78	3.44	15.38	14.38	2.05	W27x129	-21.56	35.94
P-79	3.44	15.40	14.40	2.19	W27x129	-21.56	35.96
P-80	3.44	15.43	14.43	2.33	W27x129	-21.56	35.98
P-81	3.46	15.48	14.48	2.77	W27x114	-22.12	36.59
P-82	3.46	15.50	14.50	2.97	W27x114	-22.12	36.62
P-83	3.46	15.53	14.53	3.16	W27x114	-22.12	36.65
P-84	3.46	15.56	14.56	3.35	W27x114	-22.12	36.68
P-85	3.46	15.59	14.59	3.58	W27x114	-21.35	35.94
P-86	3.46	15.61	14.61	3.78	W27x114	-21.35	35.96
P-87	3.47	15.63	14.63	3.97	W27x114	-21.35	35.98
P-88	3.47	15.65	14.65	4.16	W27x114	-21.35	36.00
P-89	3.47	15.67	14.67	4.32	W27x114	-21.35	36.02
P-90	3.47	15.69	14.69	4.52	W27x114	-20.38	35.08
P-91	3.47	15.71	14.71	4.69	W27x114	-20.38	35.10
P-92	3.48	15.73	14.73	4.86	W27x114	-20.38	35.12
P-93	3.48	15.75	14.75	5.03	W27x114	-20.38	35.14
P-94	3.48	15.77	14.77	5.20	W27x114	-20.38	35.16
P-95	3.52	15.77	14.77	5.51	W27x114	-19.38	34.15
P-96	3.58	15.76	14.76	5.65	W27x114	-19.38	34.14
P-97	3.64	15.75	14.75	5.80	W27x114	-19.38	34.13
P-98	3.70	15.74	14.74	5.94	W27x114	-19.38	34.12
P-99	3.76	15.73	14.73	6.08	W27x114	-19.38	34.11
P-100	4.02	15.71	14.71	6.38	W24x76	-16.32	31.04
P-101	4.21	15.69	14.69	6.54	W24x76	-16.32	31.01
P-102	4.26	15.66	14.66	6.70	W27x102	-18.36	33.03
P-103	4.50	15.61	14.61	7.11	W27x102	-18.36	32.97
P-104	4.51	15.55	14.55	7.36	W24x76	-16.32	30.88
P-105	4.41	15.50	14.50	7.62	W24x76	-16.32	30.83
P-106	4.38	15.46	14.46	8.11	W24x76	-16.32	30.79
P-107	4.42	15.43	14.43	8.34	W24x76	-16.32	30.76
P-108	4.47	15.40	14.40	8.57	W24x76	-16.32	30.73

From Wentworth Ave.

OFFSET TABLE

PT.	Station	Offset	'A'
1	17+95.22	4.47'	-0.36'
2	17+28.72	4.64'	-0.26'
3	16+78.72	4.77'	-0.20'
4	16+28.83	4.87'	0.0'
5	15+79.06	5.09'	0.29'
6	15+29.26	5.29'	0.32'
7	14+79.47	5.49'	0.41'
8	14+30.54	5.67'	0.34'
8A	14+29.68	5.63'	0.33'
9	13+79.38	4.62'	0.38'
9A	13+79.90	4.63'	0.36'
9B	13+30.13	4.60'	0.44'
9C	12+72.08	4.57'	0.21'
10	11+69.25	4.65'	NA
11	11+09.44	3.14'	NA
12	10+23.13	3.21'	NA

'A' Distance between Exist. E.O.P. and W Wentworth Ave and Prop. E.O.P. (Negative value equates to left offset)

NOTES

1. All W12 and W14 piles have drilled shaft dia = 2'-0". All W24 and W27 piles have drilled shaft dia = 3'-0", except for W27x146, which has drilled shaft dia = 3'-6".

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing Soldier Piles (W Sections)	Foot	3,536
Drill/Set Soldier Piles (In Soil)	Cu. Ft.	26,076

REVISIONS	
NAME	DATE
REVISED	6/13/06
REVISED	7/13/06

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	424
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	12021-922	P72 ETC 2324.6-1P	R-11	

BILL OF MATERIAL

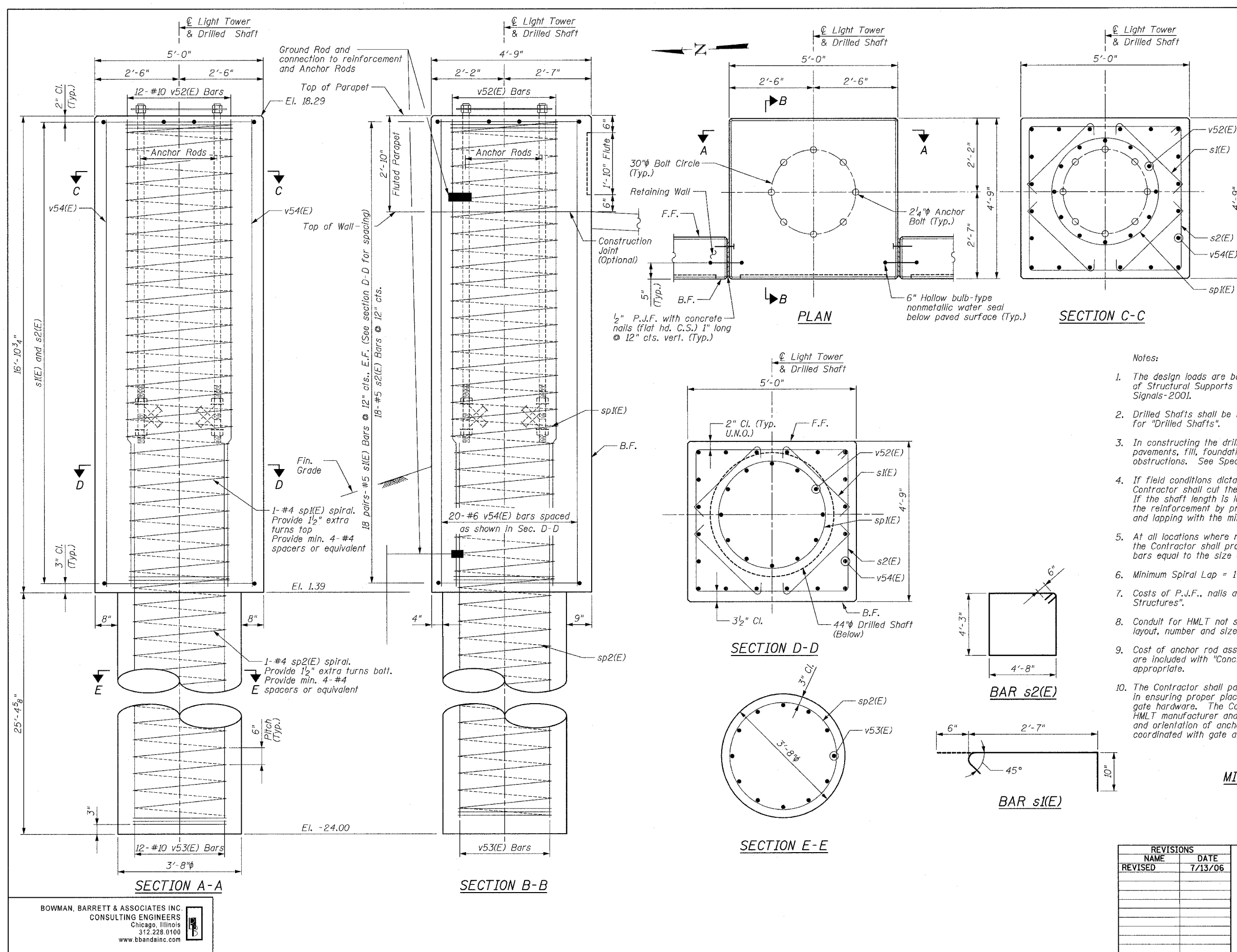
Bar	No.	Size	Length	Shape
s1(E)	72	#5	3'-11"	□
s2(E)	18	#5	18'-10"	□
**sp1(E)	1	#4	16'-6"	W
**sp2(E)	1	#4	26'-11"	W
v52(E)	12	#10	16'-6"	—
v53(E)	12	#10	31'-3"	—
v54(E)	20	#6	16'-6"	—
Reinforcement Bars, Epoxy Coated *			Pound	4,330
Concrete Structures			Cu. Yd.	12.4
Concrete Superstructure			Cu. Yd.	2.5
Drilled Shaft in Soil, 44"			Foot	26

Reinforced Bars designated (E) shall be epoxy coated.
 * Weight includes 4-#4 spacer bars
 ** Length indicates height of spiral

- Notes:
- The design loads are based on AASHTO Standard Specifications of Structural Supports for Highway Signs, Luminaires and Traffic Signals-2001.
 - Drilled Shafts shall be installed according to IDOT Special Provisions for "Drilled Shafts".
 - In constructing the drilled shafts, the Contractor may encounter pavements, fill, foundations, abandoned utilities, boulders and other obstructions. See Special Provisions for "Drilled Shaft in Soil, 44".
 - If field conditions dictate a shorter shaft length than shown, the Contractor shall cut the reinforcement bars to their required length. If the shaft length is longer than indicated, the Contractor shall extend the reinforcement by providing additional reinforcement of equal size and lapping with the minimum lap length shown.
 - At all locations where reinforcement bar laps are not in direct contact, the Contractor shall provide sufficient spacing between the vertical bars equal to the size of the largest concrete aggregate plus 1/2 inch.
 - Minimum Spiral Lap = 1 1/2 turns
 - Costs of P.J.F., nails and waterseal shall be included with "Concrete Structures".
 - Conduit for HMLT not shown for clarity. See Sheet 11 for location, layout, number and size of conduit.
 - Cost of anchor rod assembly, conduit, wires and grounding requirements are included with "Concrete Structures" or "Drilled Shaft in Soil, 44" as appropriate.
 - The Contractor shall pay particular attention to construction tolerances in ensuring proper placement of reinforcement bars, anchor rods and gate hardware. The Contractor shall coordinate with Contract 62733, the HMLT manufacturer and installer, as required, to ensure proper placement and orientation of anchor rods and HMLT. Orientation of HMLT must be coordinated with gate and handhole clearances.

MIN BAR LAP

#4	- 1'-8"
#5	- 2'-2"
#6	- 2'-7"
#10	- 5'-10"



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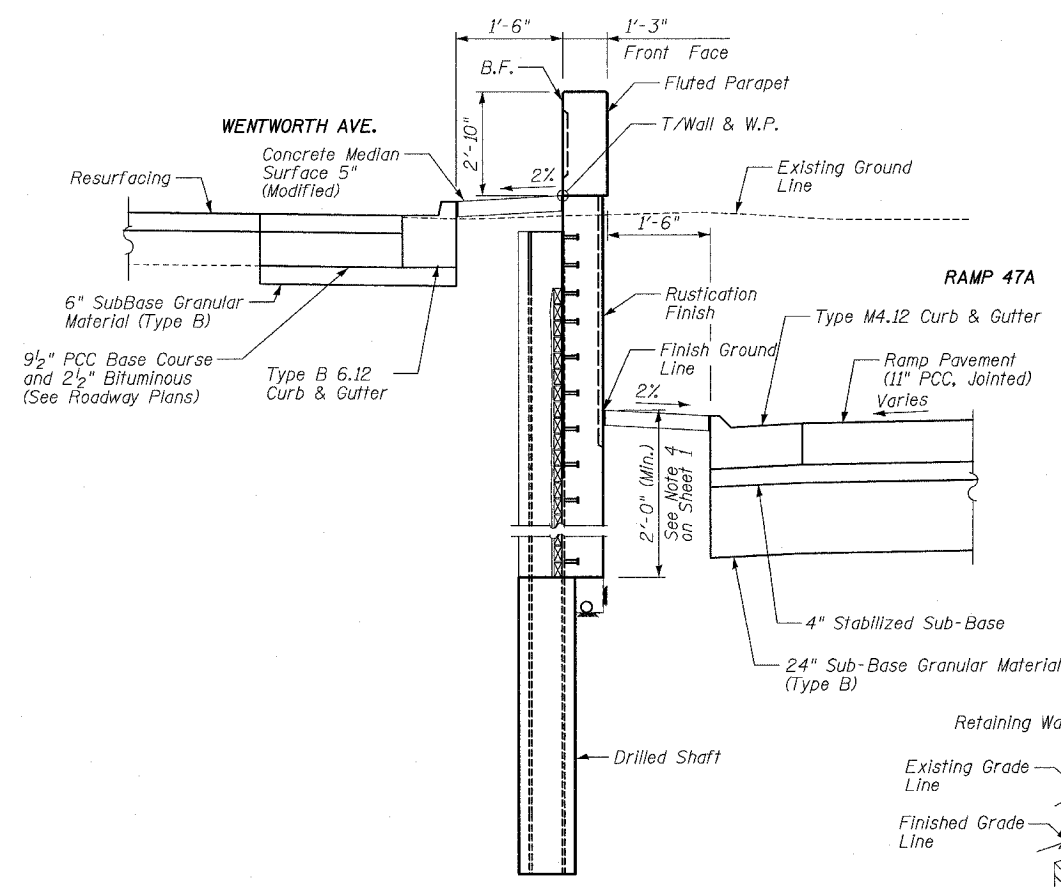
REVISIONS

NO.	NAME	DATE
1	REVISION	7/13/06

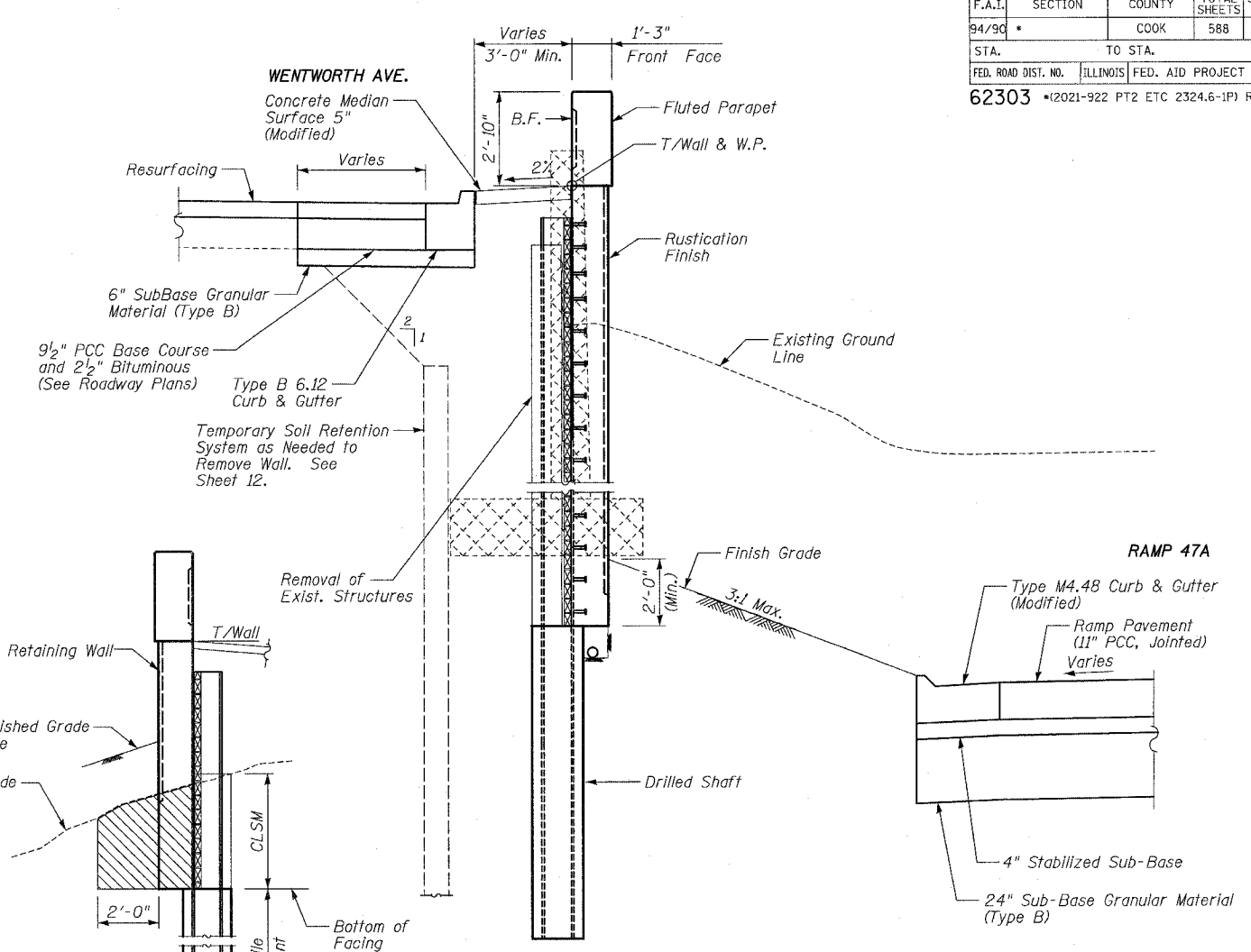
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-455-F
 LIGHT TOWER FOUNDATION DETAILS
 S.N. 016-W978
 SCALE: NTS DRAWN BY: MTR
 DATE: JUNE 9, 2006 CHECKED BY: BLU

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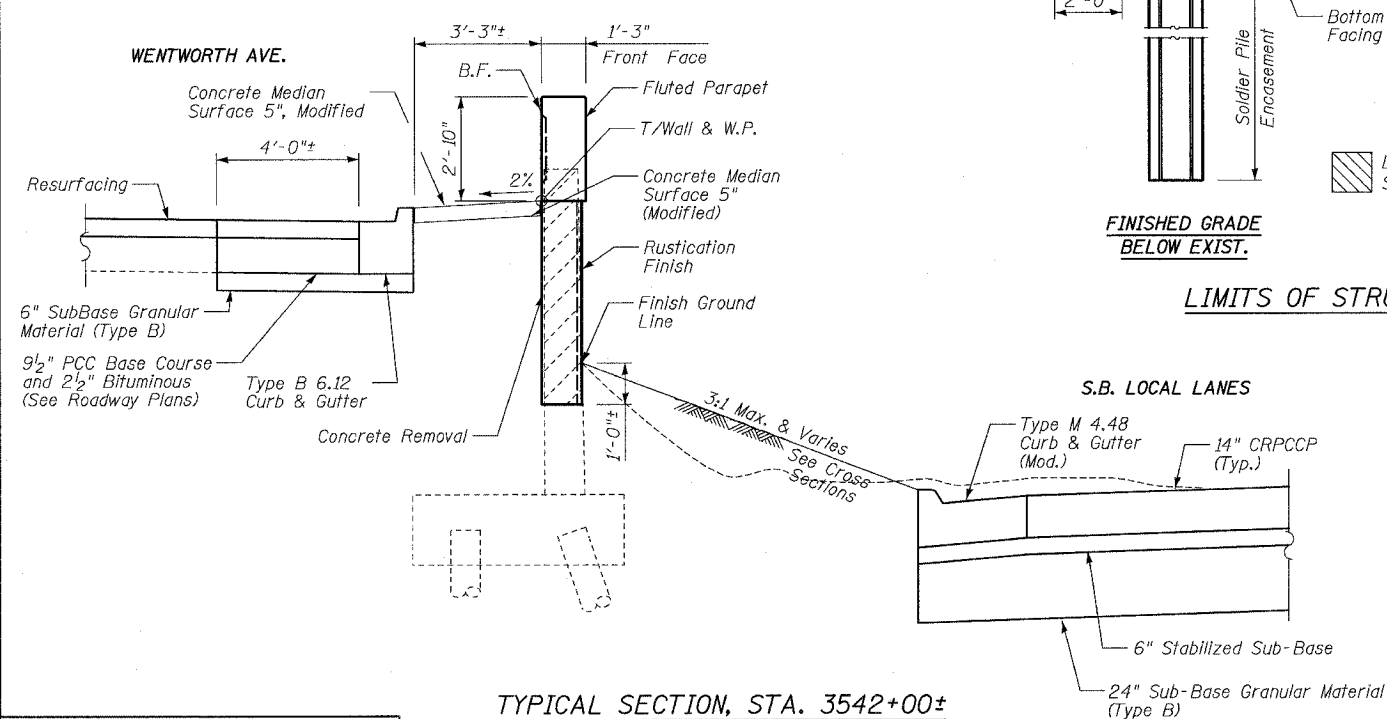
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	426
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*I2021-922 PT2 ETC 2324.6-1P) R-11			



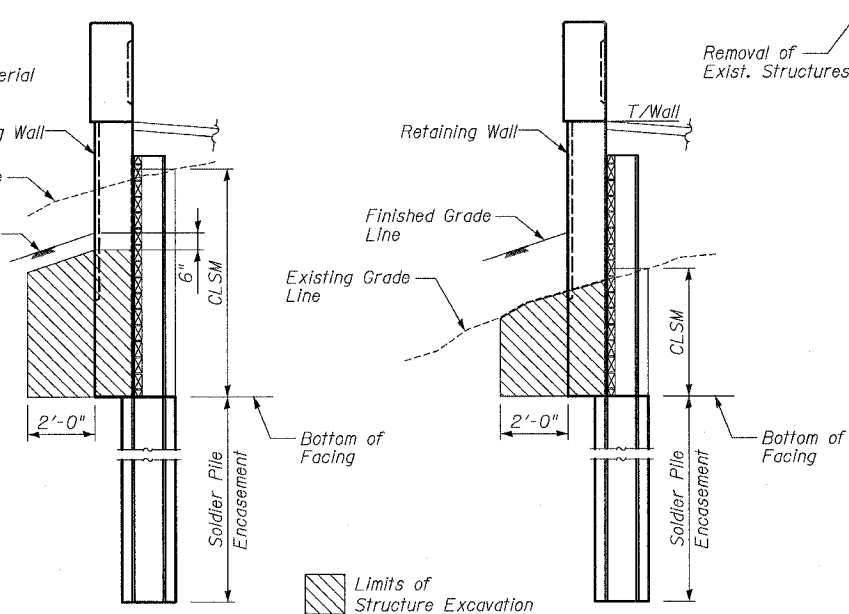
TYPICAL SECTION, STA. 3534+50±
(Looking Upstation)



TYPICAL SECTION, STA. 3539+00±
(Looking Upstation)



TYPICAL SECTION, STA. 3542+00±
(Looking Upstation)



LIMITS OF STRUCTURE EXCAVATION

- Notes:
1. Dimensions not indicated are typical to all sections.
 2. See Roadway Plans as required.
 3. Adjust Type B Gutter and slope of finished grade as required to drain and meet elevations shown on Sheets 1 and 2.
 4. For excavations and/or embankments outside limits indicated see Roadway Plans and schedules.
 5. Structure Excavation limits in areas of removal of existing wall will be measured from bottom of removal limits to bottom of facing.
 6. Provide Poursous Granular Embankment (Special) behind lagging (2'-0" min.) from existing or excavated ground line to bottom of Concrete Median Surface 5" (Modified).

LEGEND

	- Concrete Removal
	- Removal of Exist. Structures

REVISIONS

NAME	DATE
REVISD	6/14/06
REVISD	7/13/06

SHEET 15 OF 24

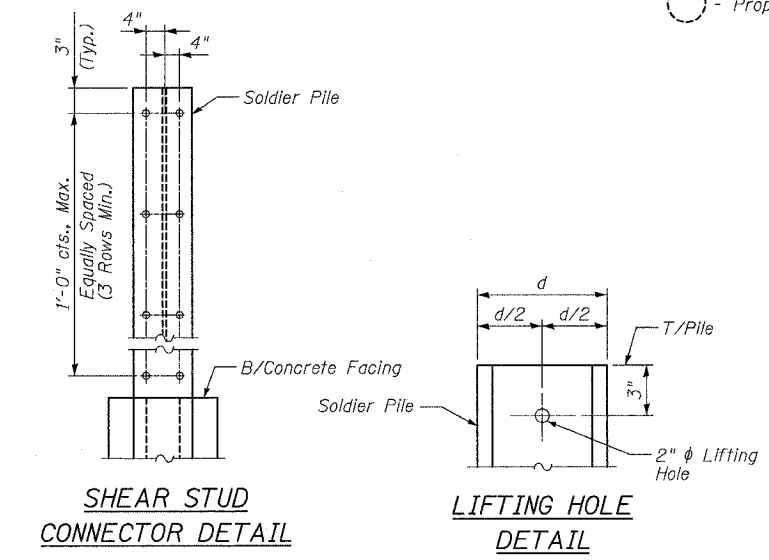
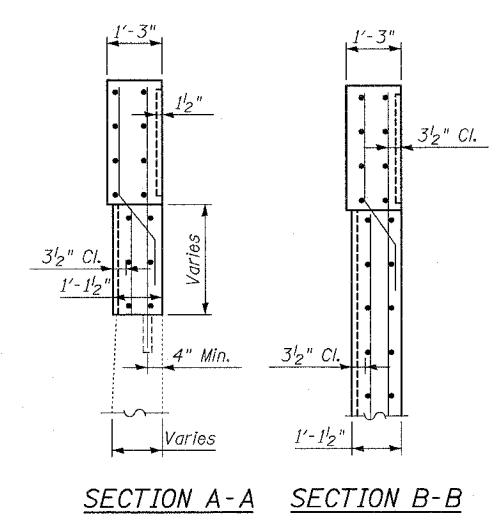
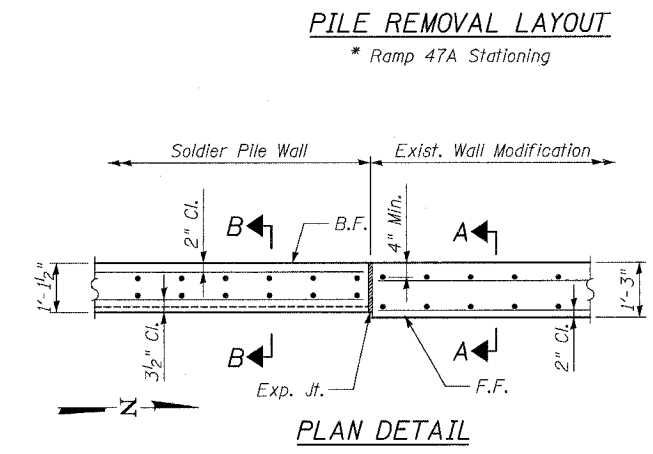
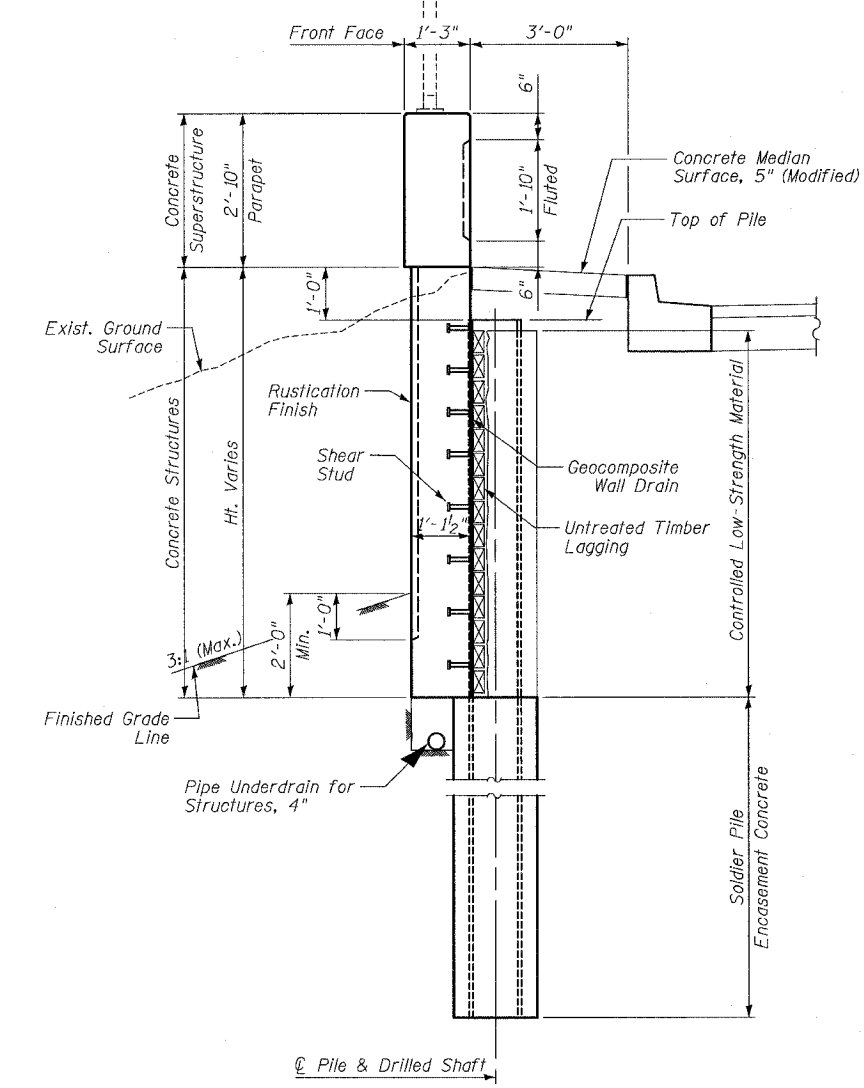
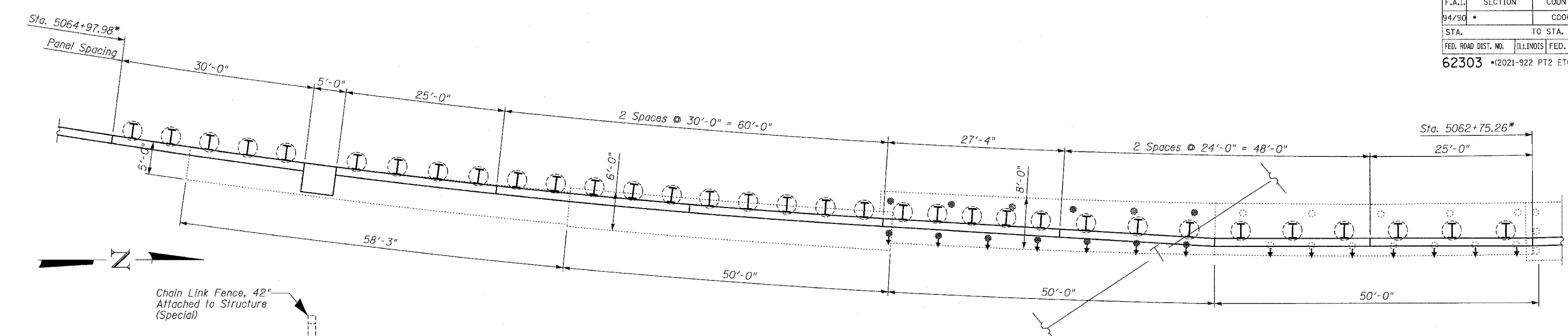
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-455-F
 TYPICAL SECTIONS
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: KMW
 CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	427
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303 *I2021-922 PT2 ETC 2324.6-IP1 R-11				



- LEGEND:**
- - Existing Pile to be removed as part of "Removal of Existing Structures, No.2"
 - ⊙ - Existing Pile to be Extracted
 - - Existing Pile to Remain
 - ⚡ - Indicates 1 (Horiz) : 3 (Vert) Batter Pile
 - - Proposed Soldier Pile Encasement

SHEET 16 OF 24

REVISIONS	
NAME	DATE
REVISED	6/14/06
REVISED	7/13/06

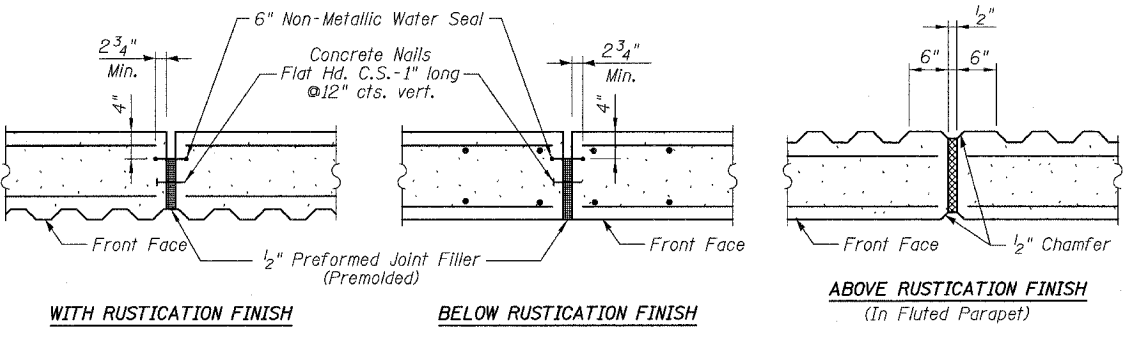
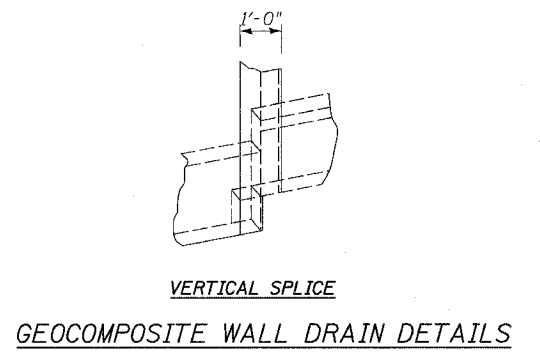
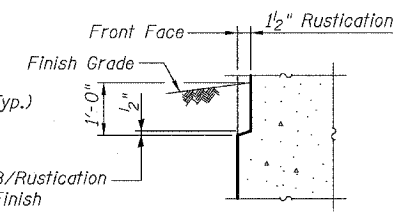
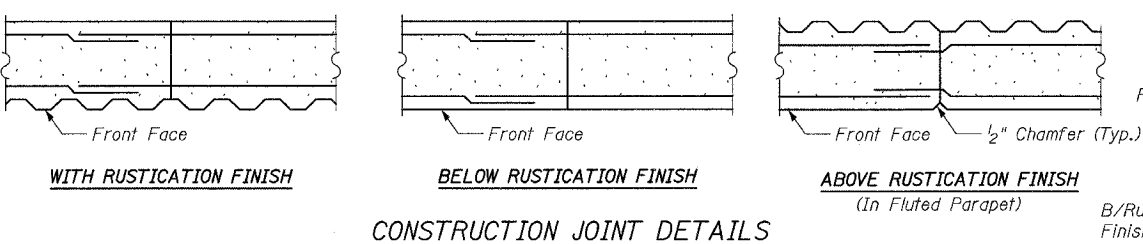
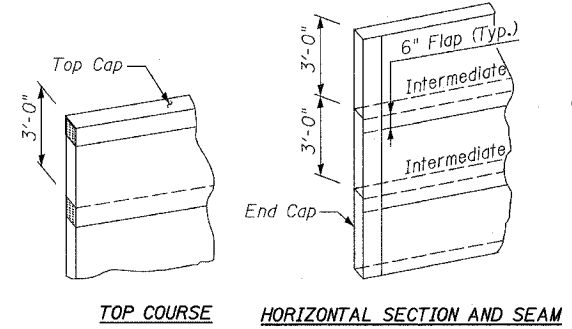
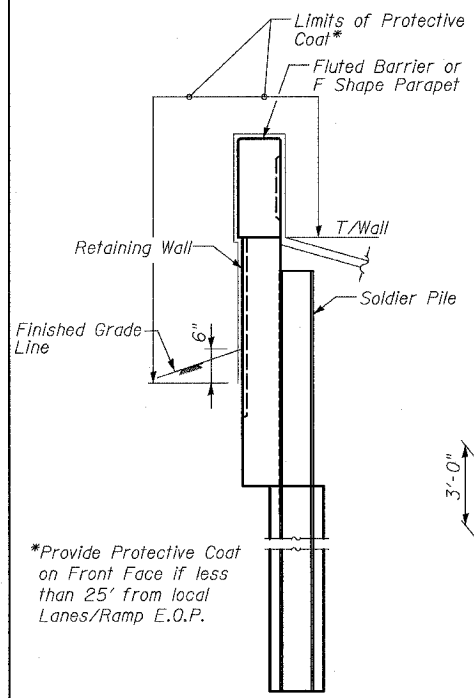
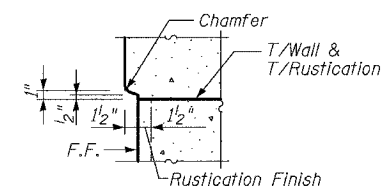
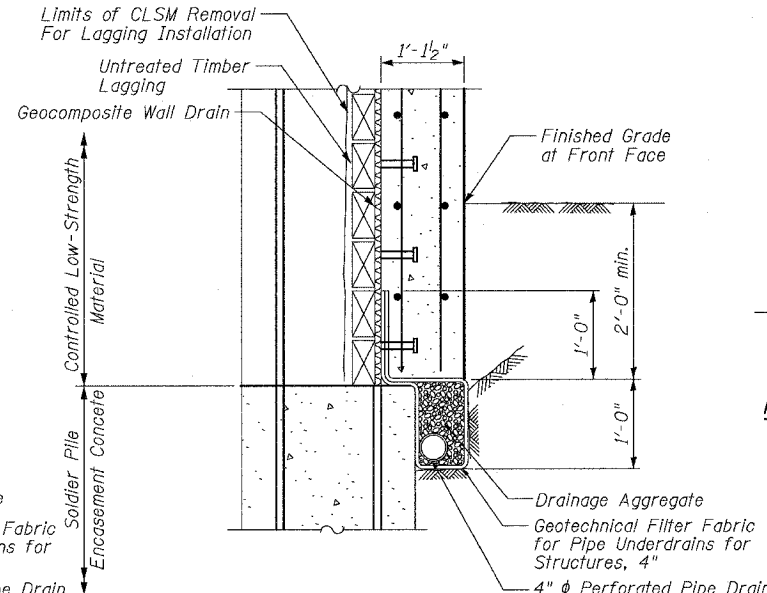
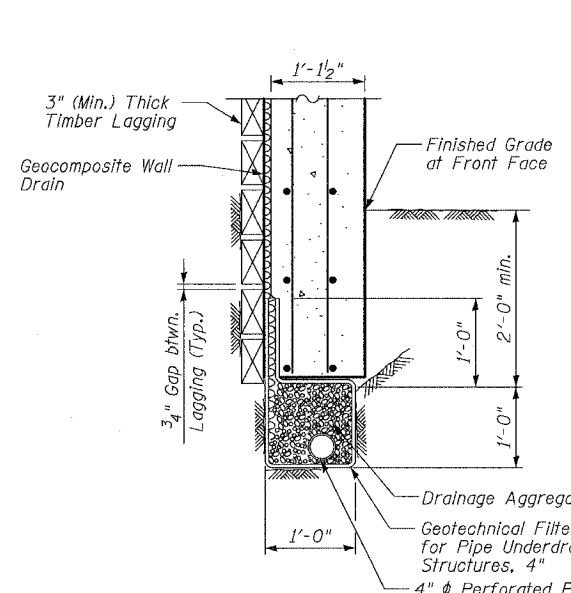
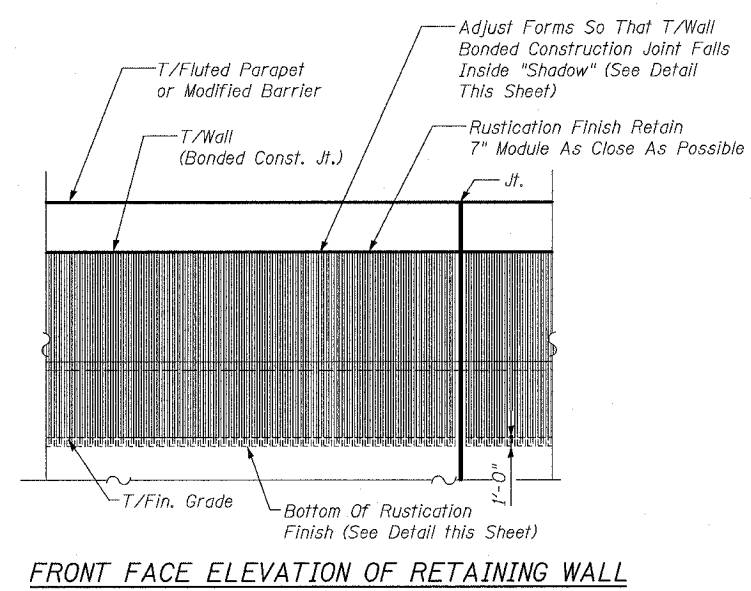
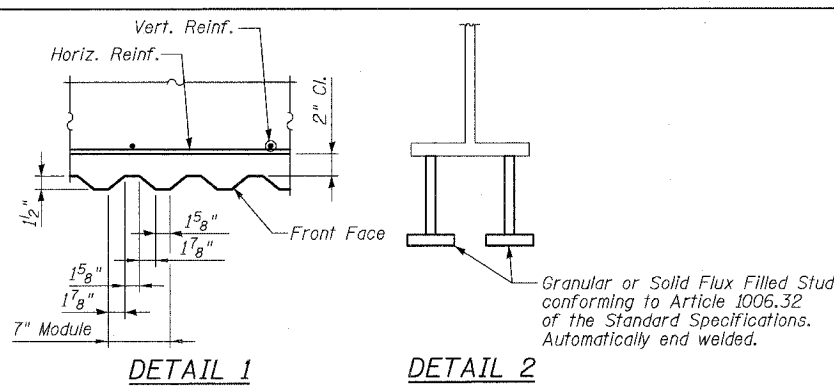
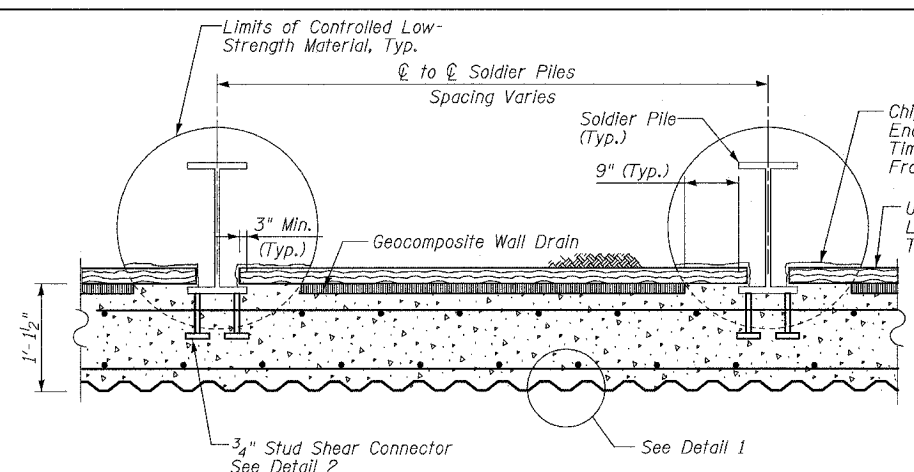
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 PILE REMOVAL LAYOUT & TYP. DETAILS
 S.N. 016-W978
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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TYP. SECTION THRU PROPOSED WALL
 See Specific Station Sections for Modifications to this Section

7/15/2006 5:08:51 PM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	428
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



REVISIONS	
NAME	DATE
REVISOR	06/21/06
REVISOR	07/13/06

SHEET 17 OF 24

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)

GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

COOK COUNTY

STA. 3532+90.57 TO STA. 3543+57.42

RETAINING WALL S-45S-F

MISCELLANEOUS DETAILS

S.N. 016-W978

SCALE: NTS

DATE: JUNE 9, 2006

DRAWN BY: MTR

CHECKED BY: BLU

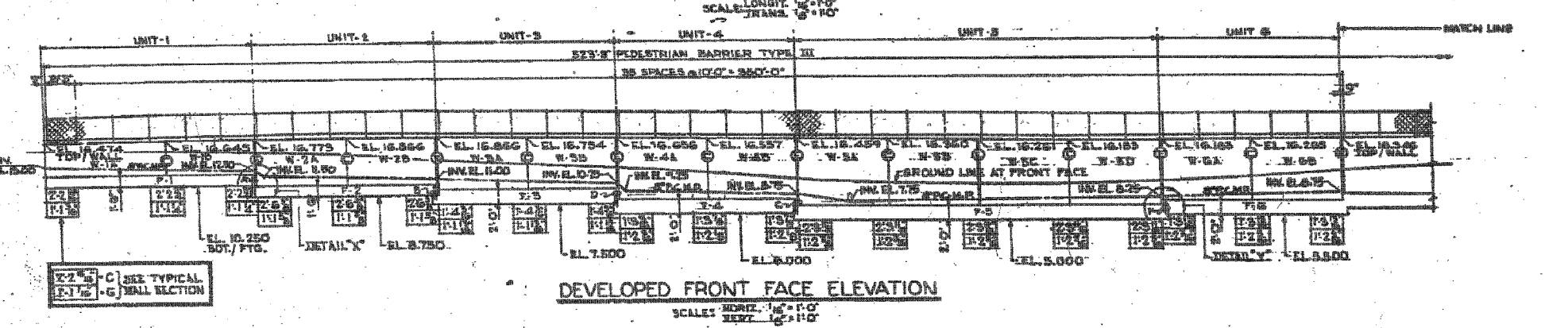
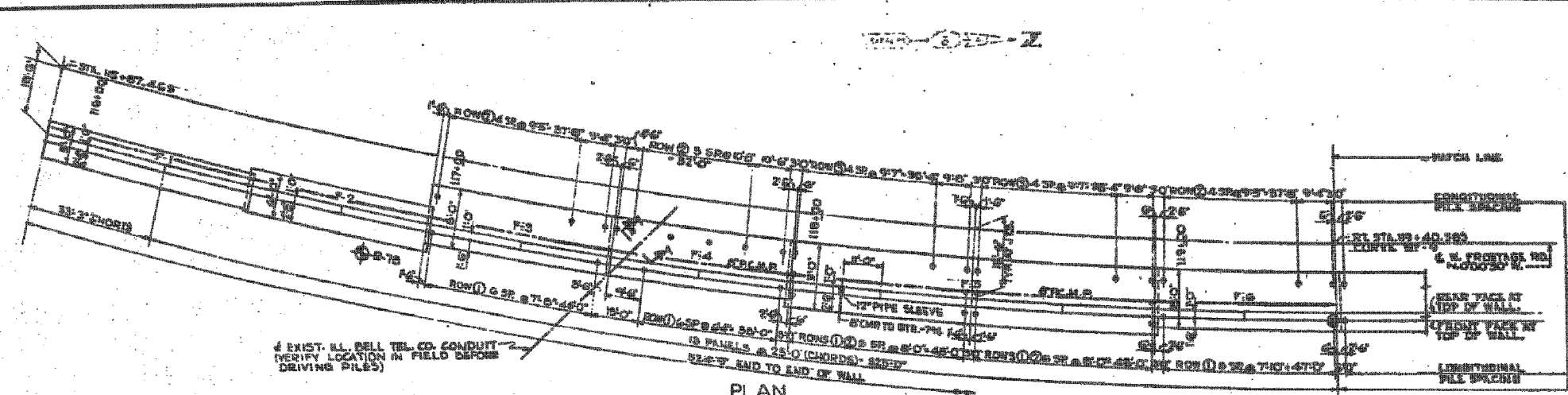
BOWMAN, BARRETT & ASSOCIATES INC.

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UNIT NO.	WALL TYPE	FOOTING				STEM							
		NO.	SIZE	MARK	LOC.	NO.	SIZE	MARK	LOC.				
1	F-1	1	58	5	12	F501	I-BOT.	V1	13	5	36	V501	I-R.F.
		2	59	5	12	F501	I-TOP	V2	14	5	12	V501	I-R.F.
		3	4	5	18	F502	I-R.F.	H1	4	5	18	H501	I-R.F.
		4	3	5	18	F502	I-R.F.	H2	3	5	36	H501	I-R.F.
		5	21	5	36	F503	I-R.F.	V1	9	5	36	V501	I-R.F.
		6	21	5	36	F503	I-R.F.	V2	25	5	12	V501	I-R.F.
2	F-2	1	51	5	12	F505	I-BOT.	V1	9	5	36	V502	I-R.F.
		2	51	5	12	F505	I-TOP	V2	26	5	12	V502	I-R.F.
		3	3	5	18	F506	I-R.F.	H1	3	5	18	H503	I-R.F.
		4	3	5	18	F506	I-R.F.	H2	3	5	36	H503	I-R.F.
		5	18	5	36	F508	I-R.F.	V1	9	5	36	V502	I-R.F.
		6	18	5	36	F508	I-R.F.	V2	25	5	12	V502	I-R.F.
3	F-3	1	51	5	12	F508	I-BOT.	V1	9	5	36	V503	I-R.F.
		2	51	5	12	F508	I-TOP	V2	26	5	12	V503	I-R.F.
		3	3	5	18	F509	I-R.F.	H1	3	5	18	H504	I-R.F.
		4	3	5	18	F509	I-R.F.	H2	3	5	36	H504	I-R.F.
		5	18	5	36	F509	I-R.F.	V1	9	5	36	V503	I-R.F.
		6	18	5	36	F509	I-R.F.	V2	25	5	12	V503	I-R.F.

NOTES:
 1. SEE GENERAL NOTES AND STANDARD DETAILS SEE SHT. NO. 51 FOR DETAILS, DIMENSIONS ETC. OF WALL TYPES ①, ②, ③, ④, ⑤, ⑥, ⑦, ⑧, ⑨, ⑩, ⑪, ⑫, ⑬, ⑭, ⑮, ⑯, ⑰, ⑱, ⑲, ⑳, ㉑, ㉒, ㉓, ㉔, ㉕, ㉖, ㉗, ㉘, ㉙, ㉚, ㉛, ㉜, ㉝, ㉞, ㉟, ㊱, ㊲, ㊳, ㊴, ㊵, ㊶, ㊷, ㊸, ㊹, ㊺.
 2. SEE SHEETS NO. 94-90 FOR BAR LIST, DETAIL 'T' TYPICAL WALL SECTIONS AND ELEVATIONS SEE SHEET NO. 93.
 3. (E) = EXPANSION JOINT FOR DETAILS SEE SHT. NO. 81.
 4. (C) = CONSTRUCTION JOINT.
 5. (T) INDICATES TEST BORING.
 6. (P) INDICATES TEST PILE.
 7. FOR ADDITIONAL PLAN GEOMETRICS SEE ALIGNMENT & TIES STA. 1500 TO STA. 174+00 SHEET NO. 27.
 8. FOR DETAILS OF R.C.M.P. SEE SHEET NO. 75.

SOILS DATA	
FOOTING MARK	DESIGN CONDITION
F-1, F-2 AND F-3	ALLOWABLE SOIL PRESSURE = 3000 PSF
F-1, F-2, F-3, F-4, F-5, F-6, F-7 AND F-8	CONCRETE PILE 18" DIA. EST. LENGTH = 25 FT.

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
RETAINING WALL
W-3

SHEET 18 OF 24

FOR INFORMATION ONLY

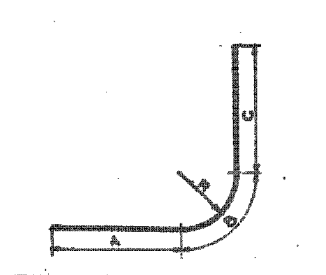
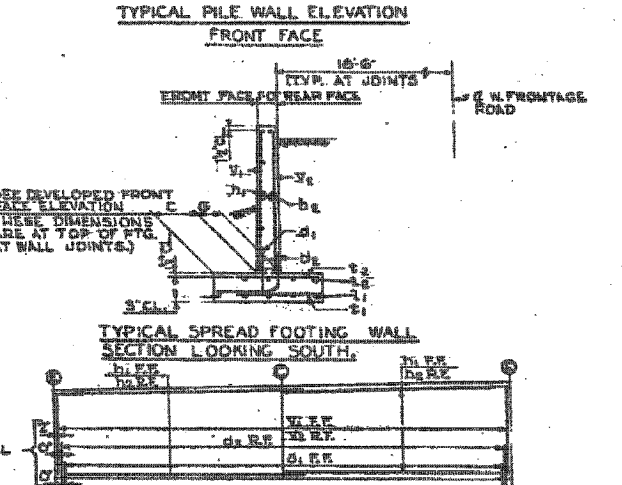
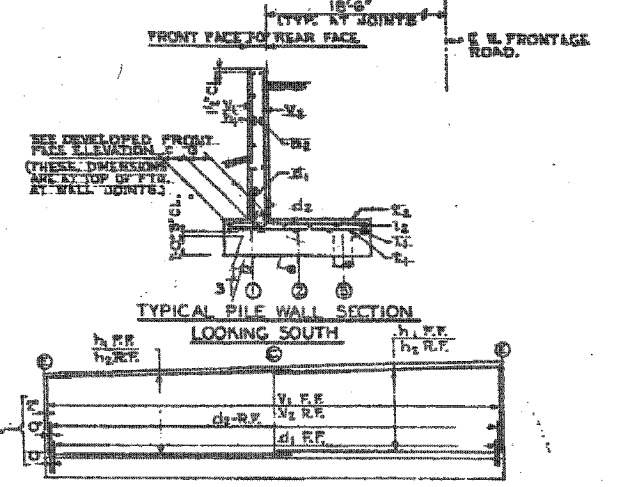
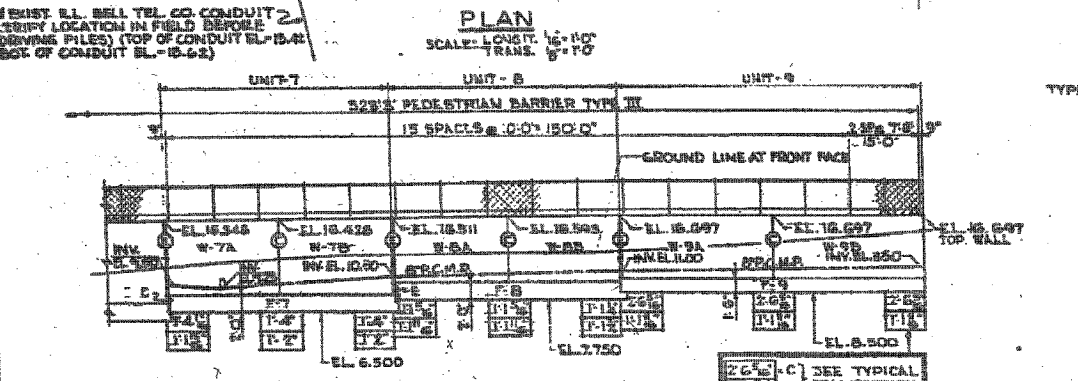
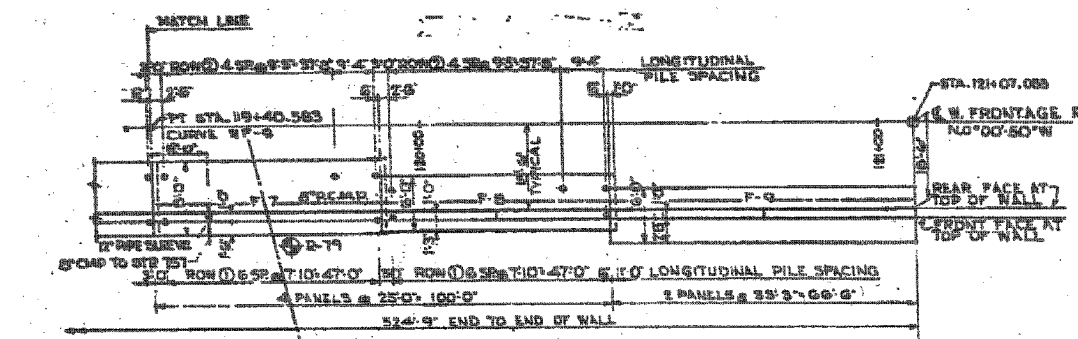
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 EXISTING RET. WALL PLAN 1
 S.N. 016-W978

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY:
 CHECKED BY: BLU

6/9/2006



BAR	A	B	C	H	d ₁	d ₂	d ₃
F504	2'-1"	1'-7"	2'-4"	1'-0"			
F507	2'-5"	1'-7"	2'-1"	1'-0"			
F509	1'-3 1/2"	1'-0 1/2"	1'-1 1/2"	5"			
F502	1'-8"	1'-0"	2'-0"	5"			
F701	2'-0 1/2"	1'-0 1/2"	2'-0"	5"			

BAR NO.	SIZE	LENGTH	SHAPE	WEIGHT
F401	12	4	2'-7"	21
F402	30	4	1'-7"	32
F403	32	4	2'-1"	45
F404	18	4	1'-1"	15
F501	117	5	4'-0"	469
F502	14	5	2'-9"	434
F503	189	5	5'-0"	591
F504	59	5	6'-0"	309
F505	235	5	4'-7"	1123
F506	100	5	2'-0"	2712
F507	118	5	6'-1"	749
F508	204	5	7'-5"	1631
F509	51	5	4'-3"	225
F510	104	5	7'-2"	813
F511	39	5	2'-3"	1414
F512	102	5	5'-8"	803
F513	18	5	3'-5"	834
F601	204	6	7'-5"	2349
F602	304	6	4'-7"	1404
F603	102	6	7'-10"	1200
F701	102	7	8'-1"	1269
F501	80	5	4'-7"	362
F502	69	5	6'-2"	496
F503	69	5	7'-0"	604
F504	69	5	8'-4"	600
F505	188	5	9'-0"	1295
F506	69	5	6'-0"	272
F507	69	5	7'-5"	352
F508	160	5	6'-7"	1099
F501	18	5	5'-2"	557
F502	81	5	2'-6"	2143
F503	78	5	2'-0"	3074
F504	8	5	3'-0"	873
F601	22	6	2'-6"	1997

ITEM	UNIT	QUANTITY
POROUS GRANULAR BACKFILL	CU. YD.	450
CLASS A EXCAVATION FOR STRUCTURE	CU. YD.	7250
CLASS X CONCRETE	CU. YD.	475
REINFORCEMENT BARS	POUND	50209
DRIVING CONCRETE PILES	LINEAL FT.	2600
FURNISHING CONCRETE PILES	LINEAL FT.	2600
TEST PILE CONCRETE	BATCH	1
PERF. CORR. MET. PIPE - 6"	LINEAL FT.	924
PEDESTRIAN BARRIER TYPE III	LINEAL FT.	924

UNIT NO.	UNIT TYPE	REIN. IN EA. BAND	NO. OF BANDS	ITEM MARK	REAR. IN EA. BAND	NO. OF BANDS	ITEM MARK
7	P1	1	5	12	F508	1-BOT.	V1
		2	5	12	F601	1-TOP	W-7A
		3	5	24	F506	2-BOT.	V1
		4	5	18	F506	2-TOP	V1
		5	5	12	F503	1-R.F.	W-7B
		6	5	12	F502	1-R.F.	W-7B
		7	5	12	F512	1-BOT.	V1
		8	5	12	F512	1-TOP	W-8A
		9	5	24	F508	2-BOT.	V1
		10	5	24	F506	2-TOP	V1
8	P2	1	5	12	F503	1-R.F.	W-8B
		2	5	12	F503	1-R.F.	W-8B
		3	5	12	F503	1-R.F.	W-8B
		4	5	12	F503	1-R.F.	W-8B
		5	5	12	F503	1-R.F.	W-8B
		6	5	12	F503	1-R.F.	W-8B
		7	5	12	F503	1-R.F.	W-8B
		8	5	12	F503	1-R.F.	W-8B
		9	5	12	F503	1-R.F.	W-8B
		10	5	12	F503	1-R.F.	W-8B
9	P3	1	5	12	F505	1-BOT.	W-9A
		2	5	12	F505	1-TOP	W-9A
		3	5	12	F505	1-TOP	W-9A
		4	5	12	F505	1-TOP	W-9A
		5	5	12	F505	1-TOP	W-9A
		6	5	12	F505	1-TOP	W-9A
		7	5	12	F505	1-TOP	W-9A
		8	5	12	F505	1-TOP	W-9A
		9	5	12	F505	1-TOP	W-9A
		10	5	12	F505	1-TOP	W-9A

NOTES:
 FOR GENERAL NOTES AND STANDARD DETAILS SEE SHEET NO. 87
 FOR DETAILS, DIMENSIONS, ETC. OF WALL TYPES (1) (2) (3) SEE SHEETS NO. 96 AND 98
 (1) EXPANSION JOINT FOR DETAILS SEE SHEET NO. 81
 (2) CONSTRUCTION JOINT
 (3) R-75 INDICATES TEST BORING
 FOR ADDITIONAL PLAN GEOMETRICS SEE ALIGNMENT & TIES STA. 115+00 TO STA. 190+00 SHEET No. 77
 FOR DETAILS OF RC.M.R. SEE SHEET No. 78

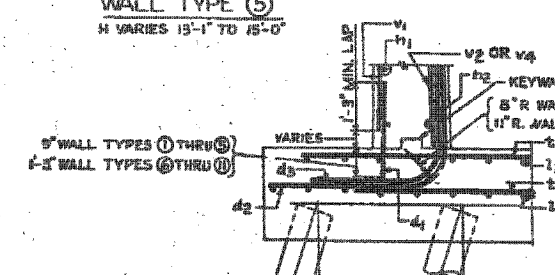
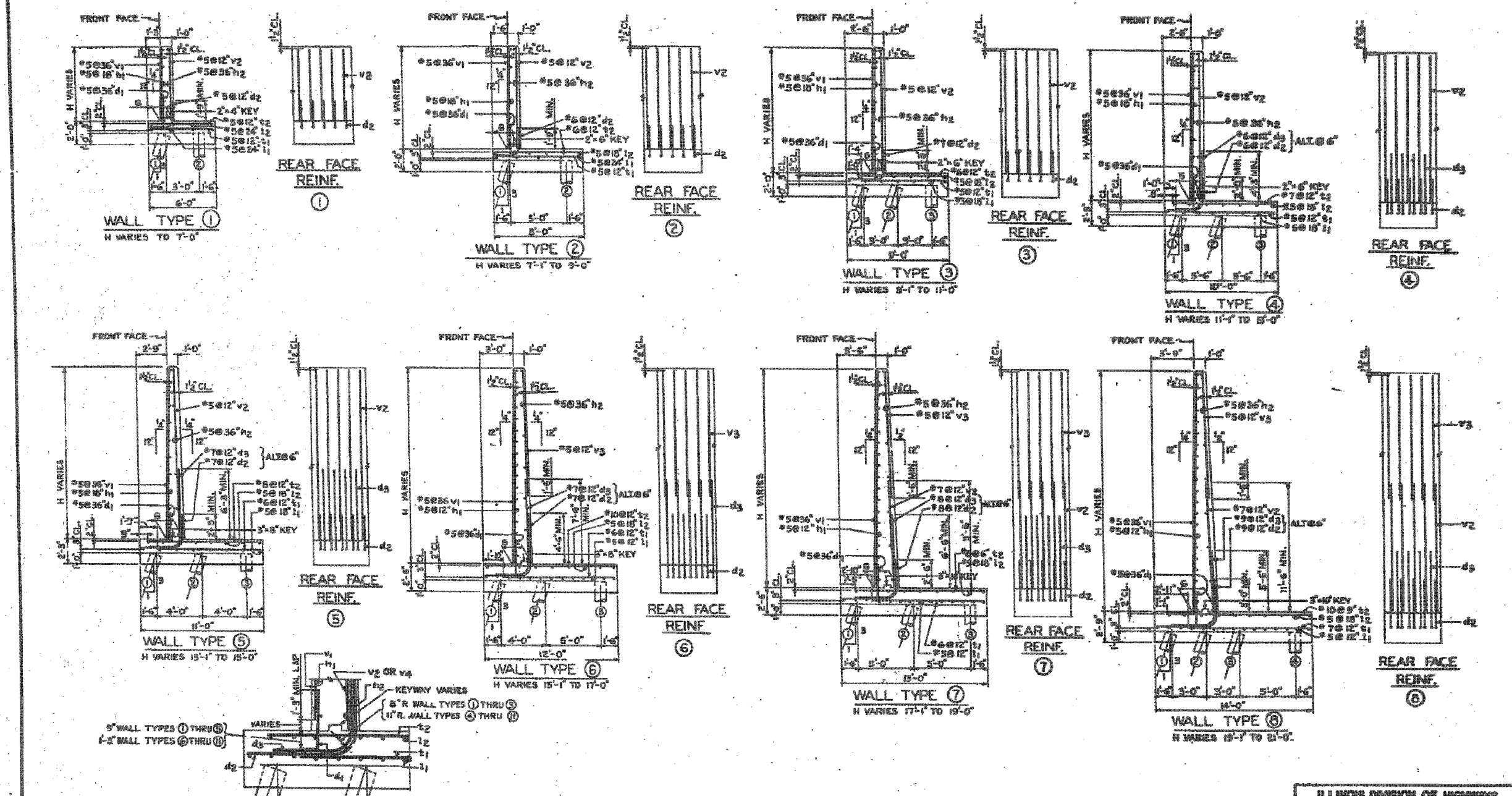
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SOUTH EXPRESSWAY
 RETAINING WALL
 W-3

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SHEET 19 OF 24
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 COOK COUNTY
 STA. 3532+90.57 TO STA. 3543+57.42
 RETAINING WALL S-45S-F
 EXISTING RET. WALL PLAN 2
 S.N. 016-W978
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: KMW
 CHECKED BY: BLU



WALL TYPE	VALUES OF "G" MAXIMUM											
	1	2	3	4	5	6	7	8	9	10	11	
"G" MAX.	1'-1 1/2"	1'-2 1/4"	1'-3 1/8"	1'-4 1/4"	1'-5 1/4"	1'-7 1/4"	1'-8 1/2"	1'-10 1/4"	2'-3 1/4"	2'-11"	3'-1"	3'-8"

NOTE: "G" VARIES DUE TO CHANGE IN WALL HEIGHT "H". FOR VALUES OF "G" MAXIMUM SEE TABLE. FOR STANDARD PILE DETAILS SEE SHEET NO. 100

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
STANDARD RETAINING WALL DETAILS
PILE FOOTINGS
WALL TYPES ① THRU ⑧

SHEET 20 OF 24

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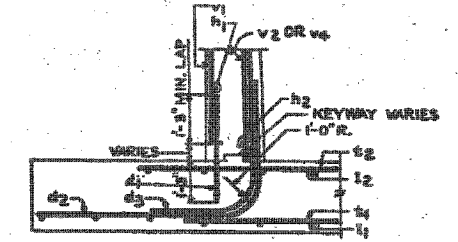
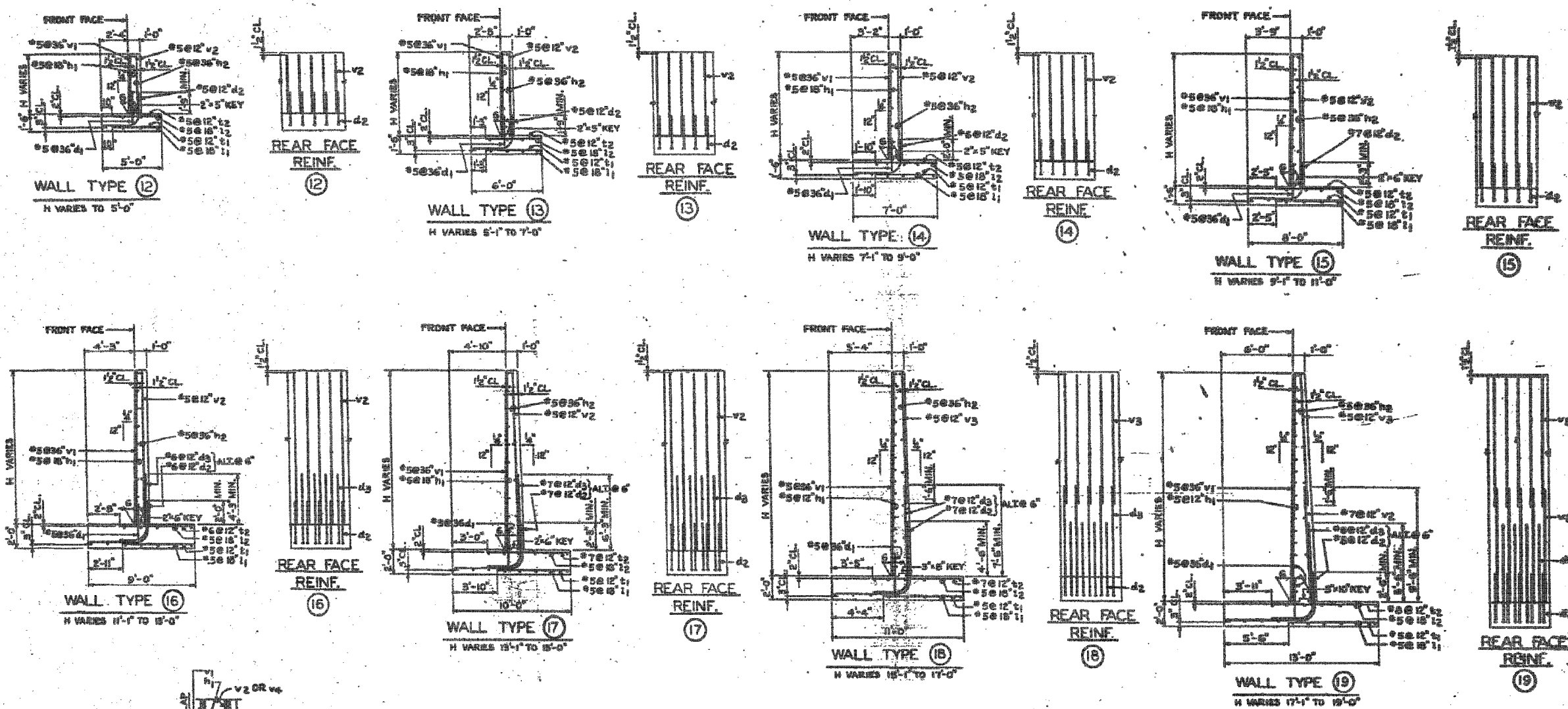
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
COOK COUNTY
STA. 3532+90.57 TO STA. 3543+57.42
RETAINING WALL S-45S-F
EXIST. RETAINING WALL PLAN 3
S.N. 016-W978

SCALE: NTS
DATE: JUNE 9, 2006

DRAWN BY: MTR
CHECKED BY: BLU

6/17/2006 10:57:49 AM



TYPICAL DETAIL JUNCTION OF STEM & FOOTING
SCALE: 1/2" = 1'-0"

VALUES OF "G" MAXIMUM											
WALL TYPES	12	13	14	15	16	17	18	19	20	21	22
"G" MAX.	7'-11"	7'-11"	7'-11"	7'-2 1/2"	7'-2 1/2"	7'-7 1/2"	7'-8 1/2"	8'-2 1/2"	8'-3 1/2"	8'-8"	8'-1"

NOTE: "G" VARIES DUE TO CHANGE IN WALL HEIGHT "H". FOR VALUES OF "G" MAXIMUM SEE TABLE.

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
STANDARD RETAINING WALL DETAILS
SPREAD FOOTINGS - 3000 P.S.F.
WALL TYPES (12) THRU (19)

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
COOK COUNTY
STA. 3532+90.57 TO STA. 3543+57.42
RETAINING WALL S-45S-F
EXISTING RET. WALL PLAN 4
S.N. 016-W978
SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

6/8/2006 11:00:41 AM

Everest Engineering Company
STRUCTURE BORING LOG

Page 1 of 1
Date 4/14/03

ROUTE FAI 94/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. _____ DRILLED BY PATRICK DRILLING INC.

COUNTY COOK LOCATION WALL 060 S. _____, TWP. 38 N, RNG. 14 E

Boring No.	Station	Offset	Surface Elev.	D E P T H	B L O W S	Qu tsf	W %	Surface Water Elev.	Groundwater Elev. when drilling	Groundwater Elev. after Completion	Hrs.
W-060-1	3540+25 (SB LOCAL)	64.1 LT. OF SB LOCAL BL	7.9 ft						1.9		
ASPHALT PAVEMENT 7.6											
CONCRETE PAVEMENT 6.7											
Medium Dense to Dense, Brown SANDY LOAM trace - gravel											
FILL 2.4											
Loose Gray SILTY LOAM											
Soft to Very Soft, Gray SILTY CLAY trace - sand and gravel											
END OF BORING -15.9											

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING W-060-1

Everest Engineering Company
STRUCTURE BORING LOG

Page 1 of 1
Date 4/14/03

ROUTE FAI 94/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. _____ DRILLED BY PATRICK DRILLING INC.

COUNTY COOK LOCATION WALL 060 S. _____, TWP. 38 N, RNG. 14 E

Boring No.	Station	Offset	Surface Elev.	D E P T H	B L O W S	Qu tsf	W %	Surface Water Elev.	Groundwater Elev. when drilling	Groundwater Elev. after Completion	Hrs.
W-060-2	3538+87 (SB LOCAL)	63.4 LT. OF SB LOCAL BL	12.7 ft						4.2		
ASPHALT PAVEMENT 12.4											
CONCRETE PAVEMENT 11.5											
Medium Dense, Brown SANDY LOAM trace - gravel											
FILL 4.7											
Very Loose to Medium Dense, Brown SANDY LOAM											
Gray below 9.5 feet											
Medium Stiff to Very Stiff, Gray SILTY CLAY trace - sand											
END OF BORING -22.2											

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING W-060-2

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REVISIONS	
NAME	DATE

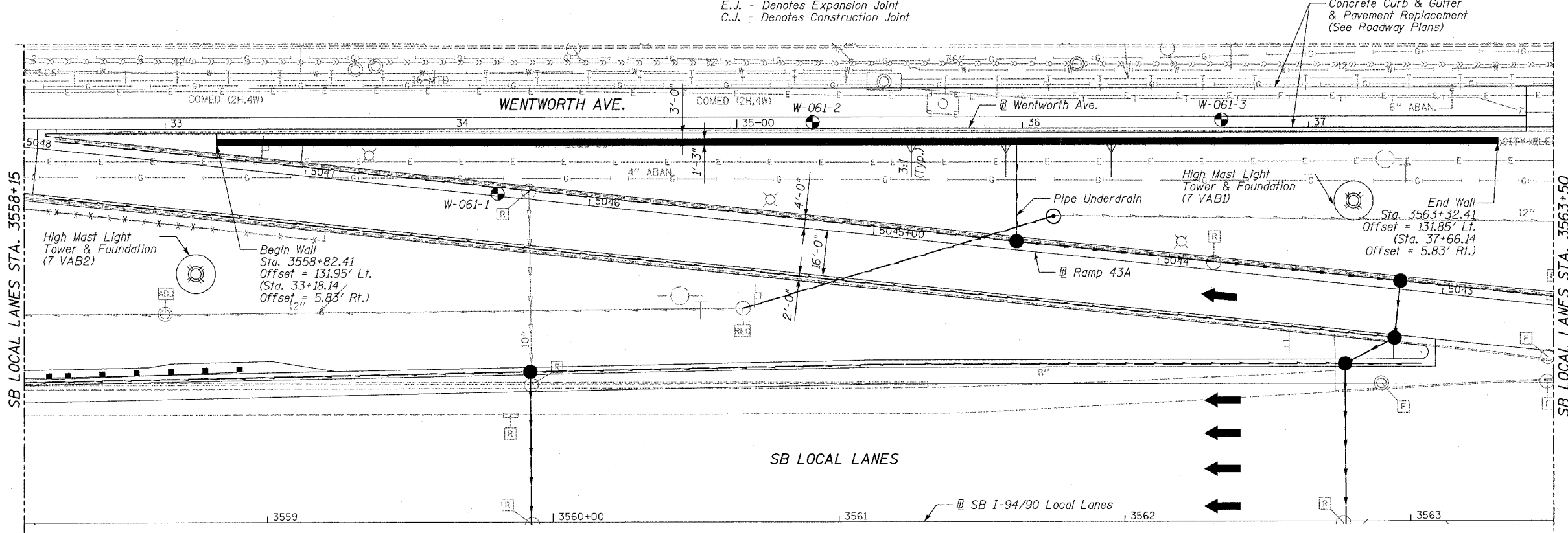
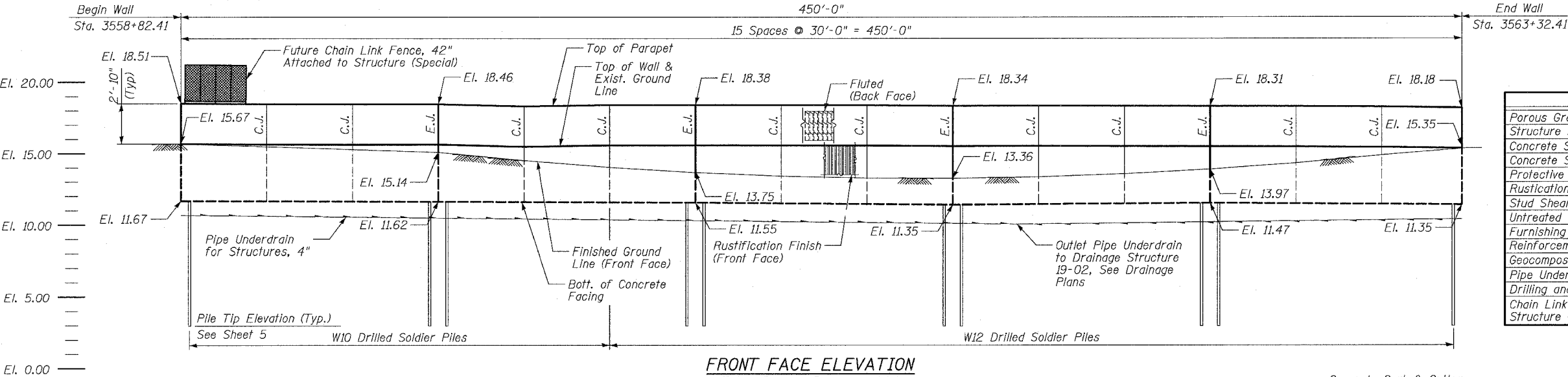
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
COOK COUNTY
STA. 3532+90.57 TO STA. 3543+57.42
RETAINING WALL S-45S-F
SOIL BORINGS 1
S.N. 016-W978

SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: KMW
CHECKED BY: BLU

6/8/2006 9:32:25 AM

Benchmark: BM No. 3527
 "X" Cut on Northerly flange bolt of
 fire hydrant at the NW corner of
 Root St. and Wentworth Ave.
 El. 15.63

All elevations are based on the Chicago City Datum (C.C.D.)



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- Notes:**
- Offsets given to Front Face of Wall. Station and offsets in parentheses are along Frontage Road or ramp.
 - H.M.L.T., foundations and work pads by others. See Special Provisions for Contractor Cooperation.
 - Min. Facing in contact with soldier pile shall be 3'-0".
 - Coordinate pipe underdrain outlet with Drainage Contractor.

- LEGEND**
- Soil Boring Location
 - Proposed Drainage Structure
 - High Mast Lighting Foundation and Tower (See Notes)
 - Proposed Underdrain
 - Proposed Storm Sewer

DESIGN SPECIFICATIONS
 2002 AASHTO

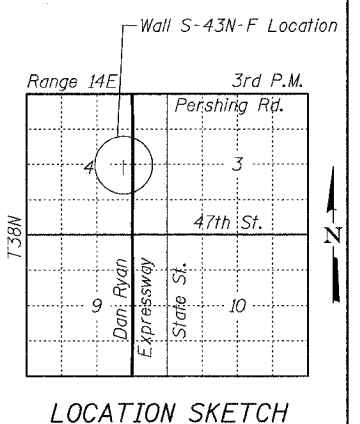
DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (M270 Gr 36) Soldier Piles

REVISIONS	
NAME	DATE
REVISED	6/21/06

TOTAL BILL OF MATERIAL

Item	Unit	Quantity
Porous Granular Embankment (Special)	Cu. Yd.	1
Structure Excavation	Cu. Yd.	129
Concrete Structures	Cu. Yd.	73.3
Concrete Superstructure	Cu. Yd.	57.2
Protective Coat	Sq. Yd.	281
Rustication Finish	Sq. Ft.	1,803
Stud Shear Connectors	Each	360
Untreated Timber Lagging	Sq. Ft.	1,363
Furnishing Soldier Piles (W Section)	Foot	1,254
Reinforcement Bars, Epoxy Coated	Pound	17,400
Geocomposite Wall Drain	Sq. Yd.	112
Pipe Underdrains for Structures 4"	Foot	455
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	4,139
Chain Link Fence, 42" Attached to Structure (Special)	Foot	449



SHEET 1 OF 9

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-43N-F
 GENERAL PLAN AND ELEVATION

SCALE: NTS
 DATE: JUNE 9, 2006

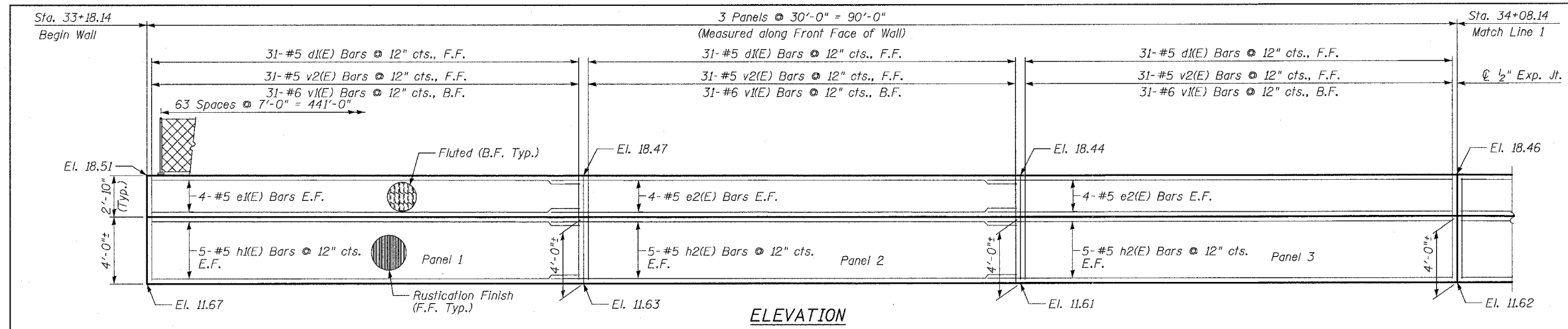
DRAWN BY: LAM
 CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEET NO.
94/90	*	COOK	588 437
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62303	*2021-922 PT2 ETC 2324.6-1P1 R-11		

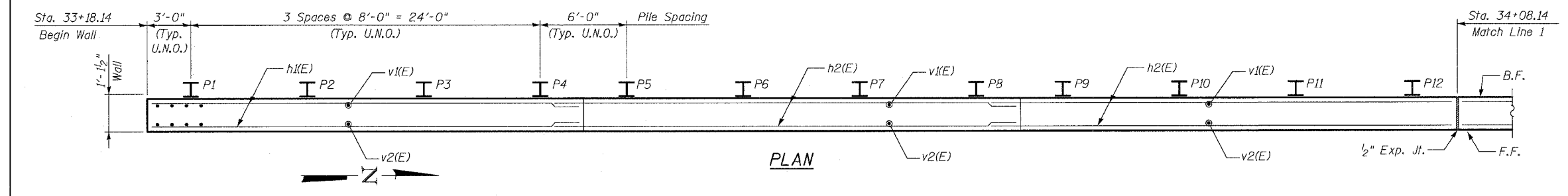
- NOTES:**
1. Stationing given is @ S. Wentworth Ave. stationing.
 2. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
 3. See details for reinforcing bar clearances.

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

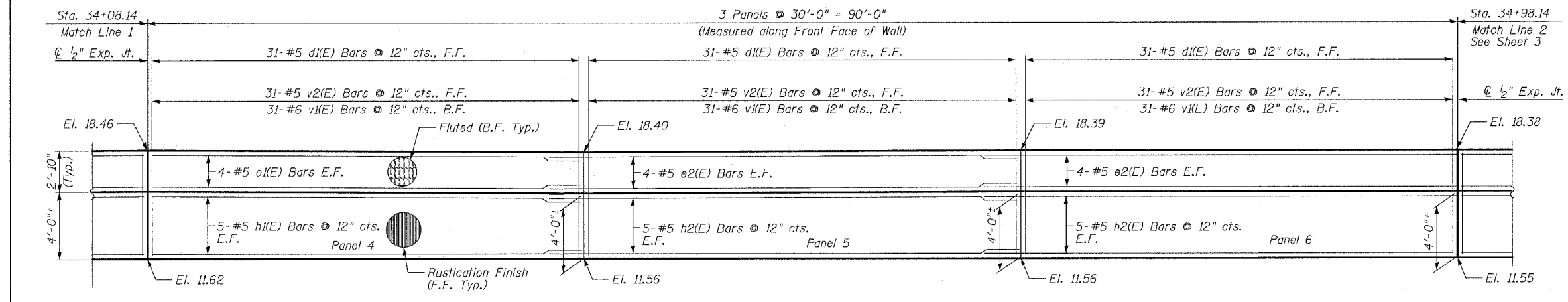
MIN BAR LAP
 #5 - 2'-2"
 #6 - 2'-7"



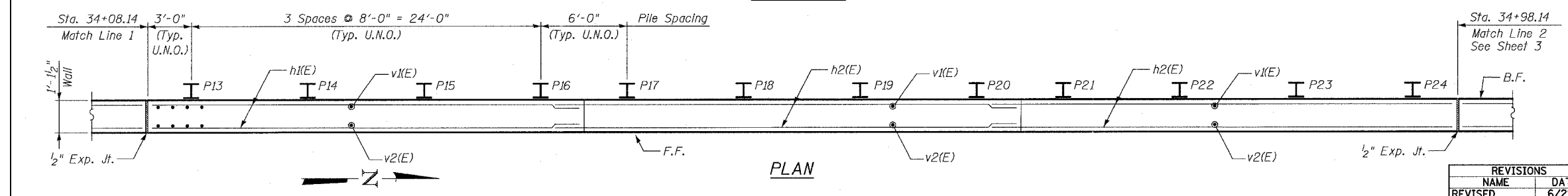
ELEVATION



PLAN



ELEVATION



PLAN

SHEET 2 OF 9

REVISIONS	
NAME	DATE
REVISED	6/21/06

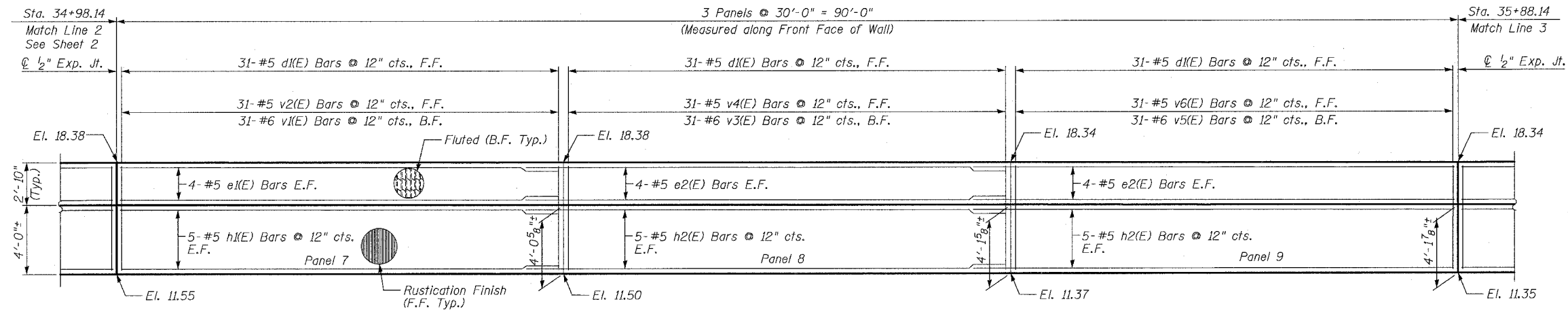
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
**RETAINING WALL S-43N-F
 WALL DETAILS 1**

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: KMW
 CHECKED BY: BLU

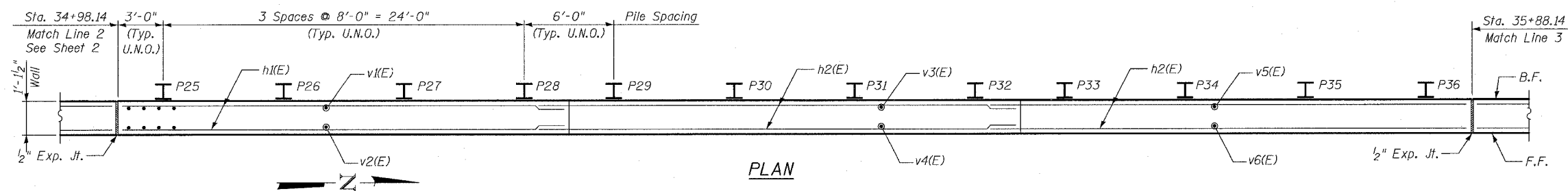
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12-40-38 PM 6/23/2006

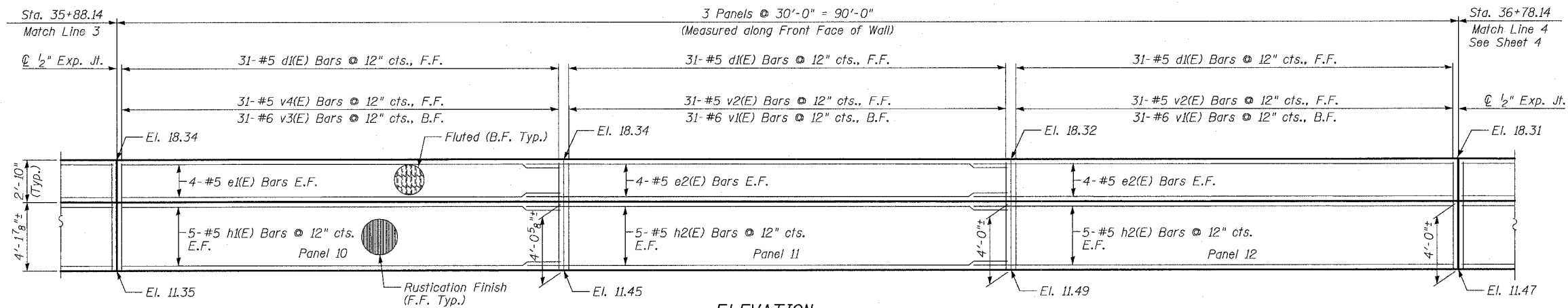
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	438
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303		*12021-922 PT2 ETC 2324.6-1P) R-11		



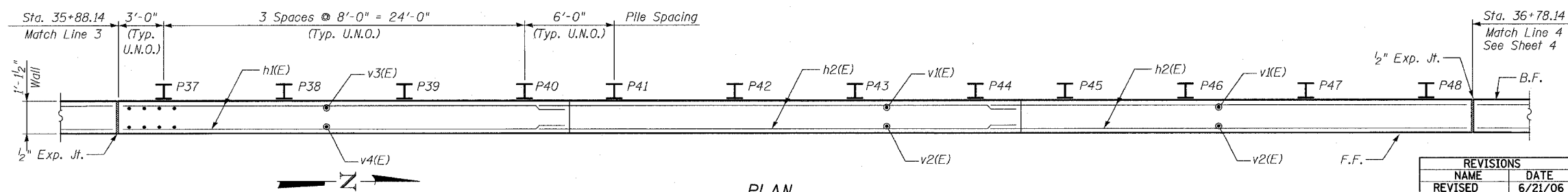
ELEVATION



PLAN



ELEVATION



PLAN

NOTES:

1. Stationing given is @ S. Wentworth Ave. stationing.
2. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
3. See details for reinforcing bar clearances.

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP

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

SHEET 3 OF 9

REVISIONS	
NAME	DATE
REVISD	6/21/06

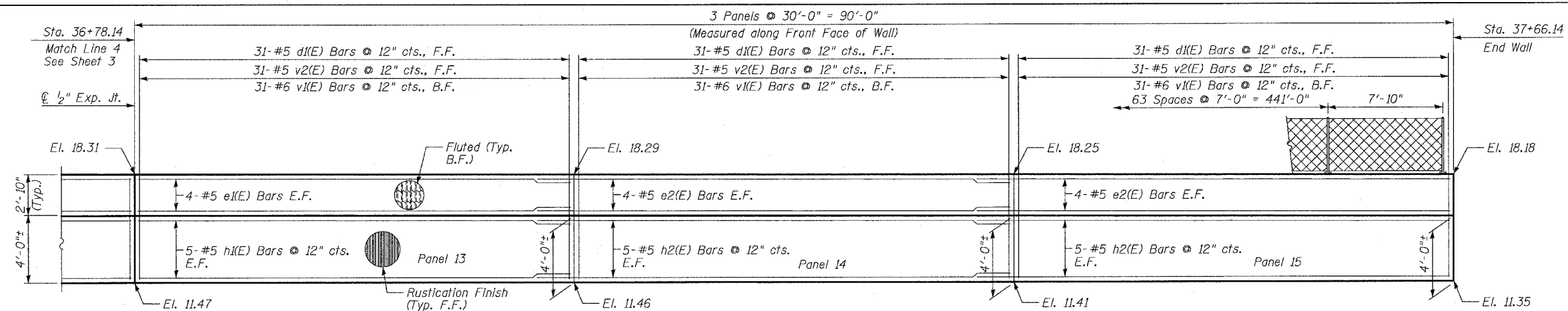
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 RETAINING WALL S-43N-F
 WALL DETAILS 2

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

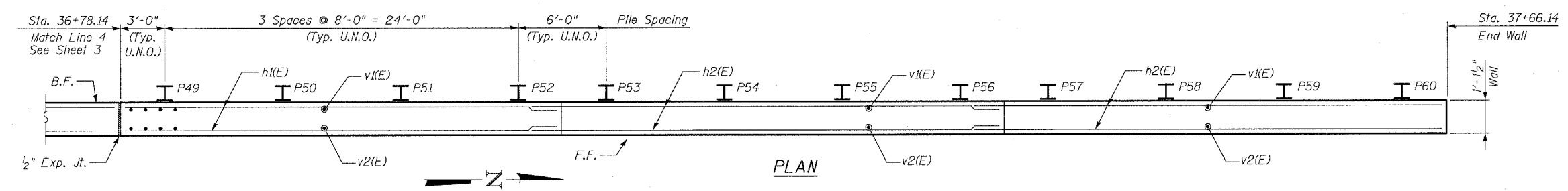
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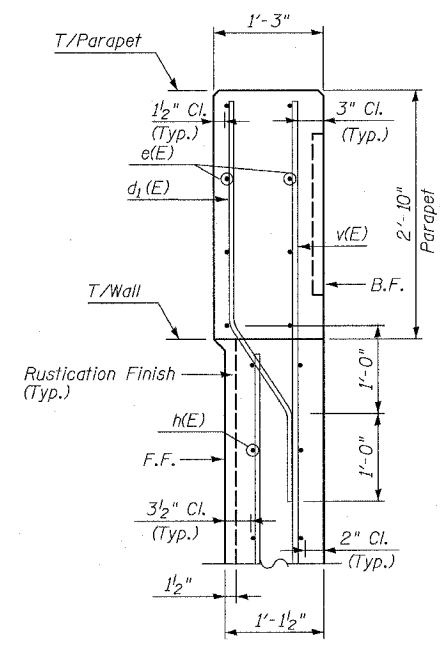
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	439
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303		*(2021-922 PT2 ETC 2324.6-1P) R-11		



ELEVATION



PLAN



PARAPET DETAIL

NOTES:

1. Stationing given is @ S. Wentworth Ave. stationing.
2. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
3. See details for reinforcing bar clearances.

F.F. - denotes Front Face
 B.F. - denotes Back Face
 E.F. - denotes Each Face

MIN BAR LAP
 #5 - 2'-2"
 #6 - 2'-7"

SHEET 4 OF 9

REVISIONS	
NAME	DATE
REVISOR	6/21/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
RETAINING WALL S-43N-F
WALL DETAILS 3
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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12-A452 6/23/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	440
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303		*I2021-922 PT2 ETC 2324.6-1P1 R-11		

PILE LAYOUT

Pile	Offset*	Top of Wall El.	Top of Pile Elevation	Bott. of Facing Elevation	Section	Pile Tip Elevation	Pile Length
P-1	-133.59	15.67	14.67	11.66	W10x33	-4.53	19.13
P-2	-133.59	15.66	14.66	11.66	W10x33	-4.53	19.12
P-3	-133.59	15.65	14.65	11.65	W10x33	-4.53	19.11
P-4	-133.59	15.64	14.64	11.64	W10x33	-4.53	19.09
P-5	-133.59	15.63	14.63	11.63	W10x33	-4.55	19.12
P-6	-133.59	15.63	14.63	11.62	W10x33	-4.55	19.11
P-7	-133.59	15.62	14.62	11.62	W10x33	-4.55	19.10
P-8	-133.59	15.61	14.61	11.62	W10x33	-4.55	19.10
P-9	-133.59	15.61	14.61	11.61	W10x33	-5.02	19.63
P-10	-133.59	15.62	14.62	11.61	W10x33	-5.02	19.63
P-11	-133.59	15.62	14.62	11.62	W10x33	-5.02	19.63
P-12	-133.59	15.62	14.62	11.62	W10x33	-5.02	19.64
P-13	-133.59	15.62	14.62	11.61	W10x33	-5.59	20.20
P-14	-133.59	15.60	14.60	11.60	W10x33	-5.59	20.19
P-15	-133.59	15.59	14.59	11.59	W10x33	-5.59	20.17
P-16	-133.59	15.57	14.57	11.58	W10x33	-5.59	20.16
P-17	-133.59	15.56	14.56	11.56	W10x33	-6.05	20.62
P-18	-133.59	15.56	14.56	11.56	W10x33	-6.05	20.62
P-19	-133.59	15.56	14.56	11.56	W10x33	-6.05	20.61
P-20	-133.59	15.56	14.56	11.56	W10x33	-6.05	20.61
P-21	-133.65	15.56	14.56	11.55	W12x40	-7.36	21.92
P-22	-133.65	15.55	14.55	11.55	W12x40	-7.36	21.91
P-23	-133.65	15.55	14.55	11.55	W12x40	-7.36	21.91
P-24	-133.65	15.55	14.55	11.55	W12x40	-7.36	21.91
P-25	-133.65	15.55	14.55	11.54	W12x40	-7.61	22.16
P-26	-133.65	15.55	14.55	11.53	W12x40	-7.61	22.15
P-27	-133.65	15.55	14.55	11.52	W12x40	-7.61	22.15
P-28	-133.65	15.54	14.54	11.52	W12x40	-7.61	22.15
P-29	-133.65	15.54	14.54	11.48	W12x40	-7.74	22.28
P-30	-133.65	15.53	14.53	11.46	W12x40	-7.74	22.27
P-31	-133.65	15.52	14.52	11.43	W12x40	-7.74	22.26
P-32	-133.65	15.51	14.51	11.41	W12x40	-7.74	22.25
P-33	-133.65	15.51	14.51	11.37	W12x40	-7.76	22.27
P-34	-133.65	15.51	14.51	11.37	W12x40	-7.76	22.27
P-35	-133.65	15.51	14.51	11.36	W12x40	-7.76	22.27
P-36	-133.65	15.51	14.51	11.36	W12x40	-7.76	22.26
P-37	-133.61	15.51	14.51	11.37	W12x40	-7.15	21.65
P-38	-133.61	15.51	14.51	11.39	W12x40	-7.15	21.65
P-39	-133.61	15.51	14.51	11.40	W12x40	-7.15	21.65
P-40	-133.61	15.51	14.51	11.42	W12x40	-7.15	21.65
P-41	-133.61	15.50	14.50	11.45	W12x40	-7.05	21.56
P-42	-133.61	15.50	14.50	11.46	W12x40	-7.05	21.55
P-43	-133.61	15.50	14.50	11.47	W12x40	-7.05	21.55
P-44	-133.61	15.49	14.49	11.48	W12x40	-7.05	21.55
P-45	-133.61	15.49	14.49	11.49	W12x40	-6.85	21.34
P-46	-133.61	15.49	14.49	11.48	W12x40	-6.85	21.33
P-47	-133.61	15.48	14.48	11.48	W12x40	-6.85	21.33
P-48	-133.61	15.48	14.48	11.48	W12x40	-6.85	21.33
P-49	-133.61	15.47	14.47	11.47	W12x40	-6.53	21.00
P-50	-133.61	15.47	14.47	11.47	W12x40	-6.53	21.00
P-51	-133.61	15.47	14.47	11.46	W12x40	-6.53	20.99
P-52	-133.61	15.46	14.46	11.46	W12x40	-6.53	20.99
P-53	-133.61	15.46	14.46	11.45	W12x40	-6.10	20.56
P-54	-133.61	15.45	14.45	11.44	W12x40	-6.10	20.55
P-55	-133.61	15.43	14.43	11.43	W12x40	-6.10	20.53
P-56	-133.61	15.42	14.42	11.42	W12x40	-6.10	20.52
P-57	-133.61	15.41	14.41	11.40	W12x40	-5.56	19.97
P-58	-133.61	15.39	14.39	11.39	W12x40	-5.56	19.95
P-59	-133.61	15.37	14.37	11.38	W12x40	-5.56	19.93
P-60	-133.61	15.35	14.35	11.37	W12x40	-5.56	19.91

*Offset from @ South Bound Local Lanes

NOTES

1. All piles have drilled shaft dia = 2'-0".

BILL OF MATERIAL

Item	Unit	Quantity
Furnishing Soldier Piles (W Sections)	Foot	1,254
Drill/Set Soldier Piles (In Soil)	Cu. Ft.	4,139

SHEET 5 OF 9

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-43N-F
 PILE LAYOUT

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

REVISIONS	
NAME	DATE
REVISED	06/15/06


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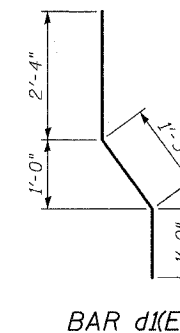


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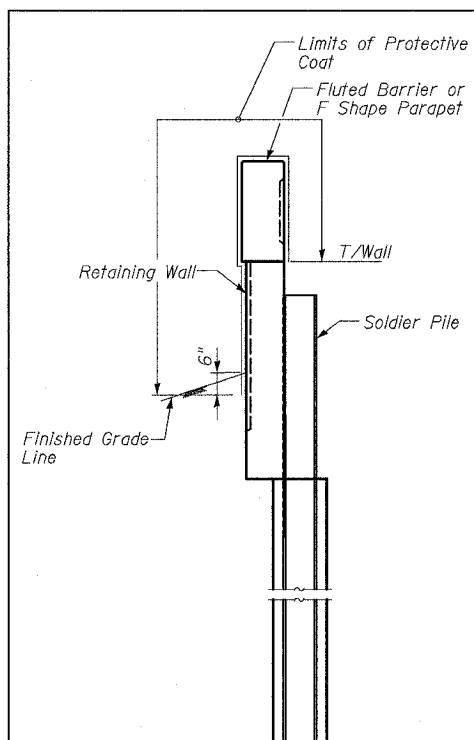
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94/90		COOK	588	441
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			

BILL OF MATERIAL

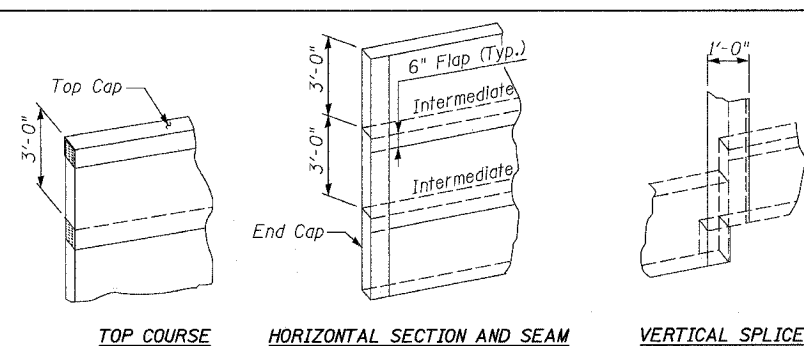
Bar	No.	Size	Length	Shape
d1(E)	465	#5	4'-7"	
e1(E)	40	#5	29'-8"	---
e2(E)	80	#5	32'-2"	---
h1(E)	50	#5	29'-8"	---
h2(E)	100	#5	32'-2"	---
v1(E)	372	#6	6'-6"	---
v2(E)	372	#5	3'-8"	---
v3(E)	62	#6	6'-7"	---
v4(E)	62	#5	3'-9"	---
v5(E)	31	#6	6'-8"	---
v6(E)	31	#5	3'-10"	---
Reinforcement Bars, Epoxy Coated			Pound	17,400
Concrete Structures			Cu. Yd.	73.3
Concrete Superstructures			Cu. Yd.	57.2
Chain Link Fence, 42" Attached to Structure (Special)			Foot	449
Rustication Finish			Sq. Ft.	1,803
Protective Coat			Sq. Yd.	281



BAR d1(E)



DETAIL OF LIMITS OF PROTECTIVE COAT



GEOCOMPOSITE WALL DRAIN DETAILS

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REVISIONS	
NAME	DATE
REVISED	6/21/06

SHEET 6 OF 9

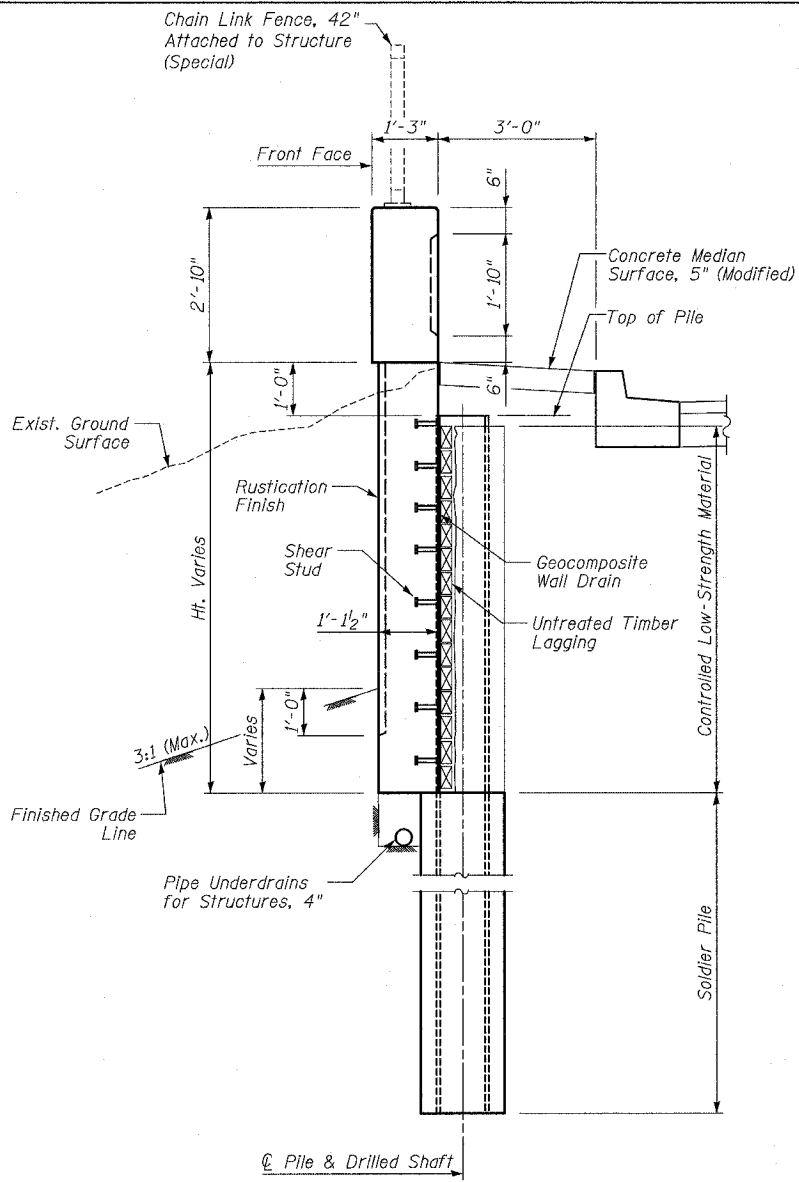
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-43N-F
BILL OF MATERIAL & DETAILS

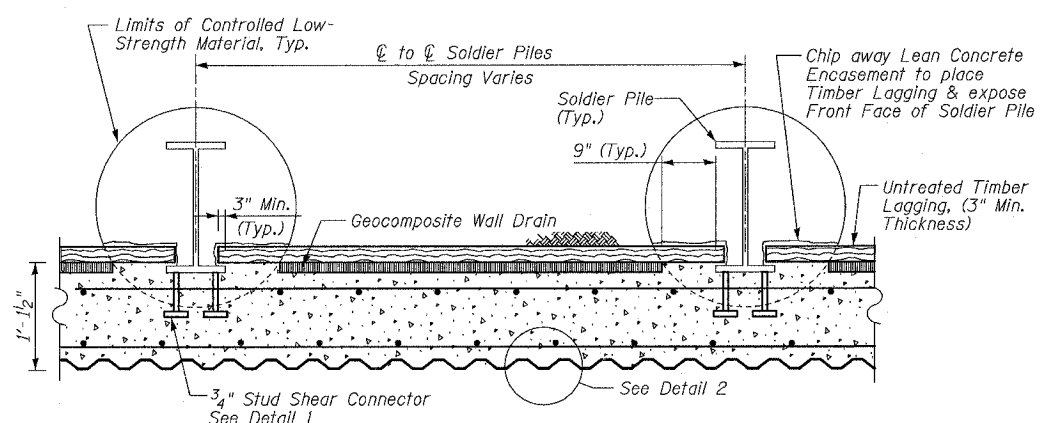
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DATE: JUNE 9, 2006

DRAWN BY: MTR
CHECKED BY: BLU

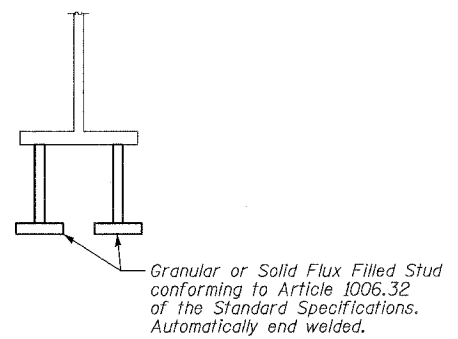
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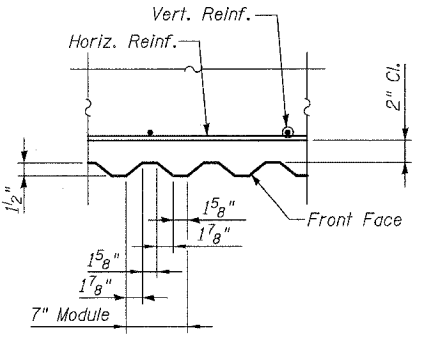
TYP. SECTION THRU PROPOSED WALL



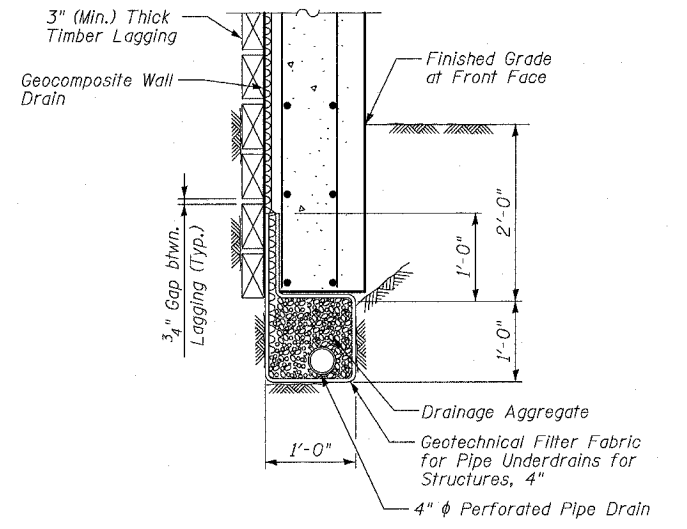
SECTION THRU SOLDIER PILE WALL



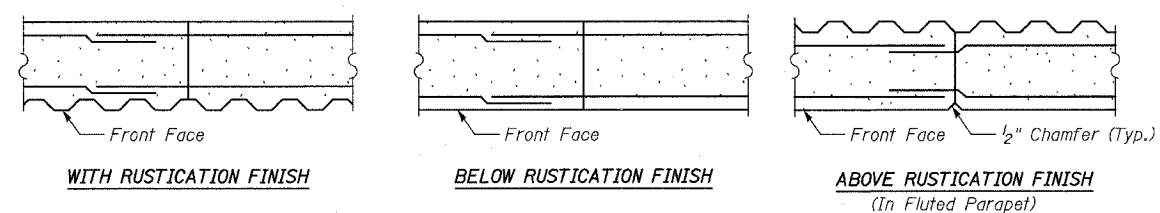
DETAIL 1



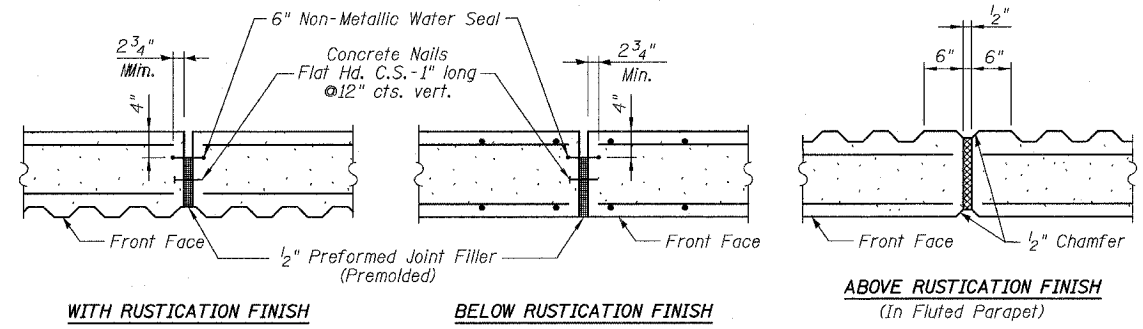
DETAIL 2



PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

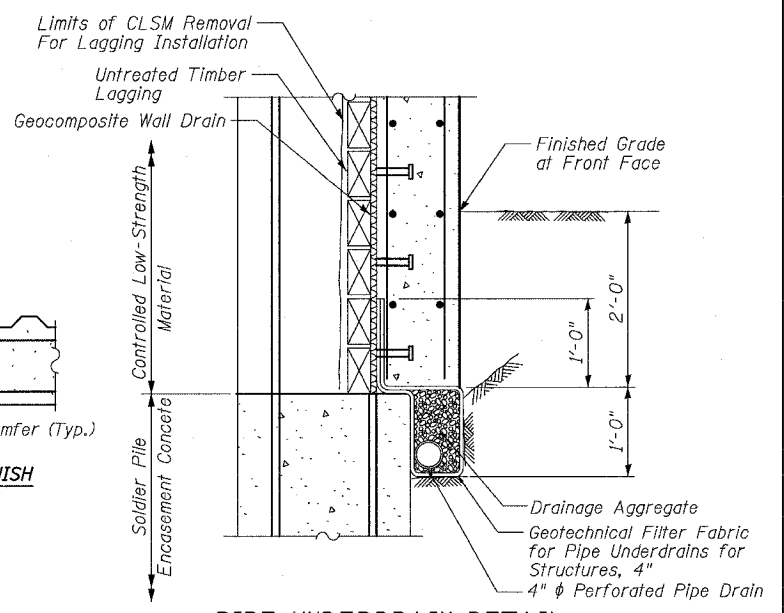


CONSTRUCTION JOINT DETAILS



EXPANSION JOINT DETAILS

Cost of P.J.F., Water Seal and Concrete Nails included with Concrete Structures.



PIPE UNDERDRAIN DETAIL AT SOLDIER PILES

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 RETAINING WALL S-43N-F
 MISCELLANEOUS DETAILS

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

REVISIONS	
NAME	DATE
REVISED	06/21/06

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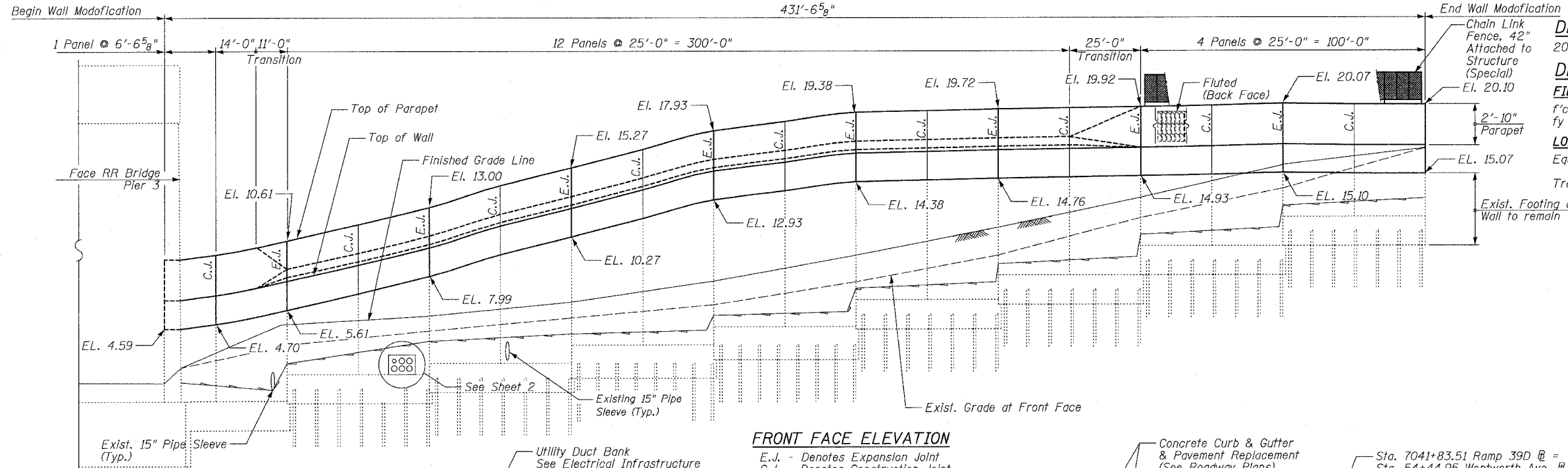
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94/90	*	COOK	588	445
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-IP) R-11			

Benchmark: BM No. 3540

"□" Cut on Southwest corner of the traffic control box at the Northeast corner of 39th St. and La Salle St. El. 12.33

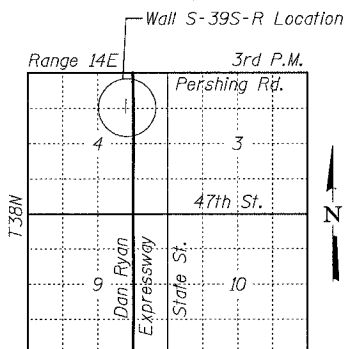
Existing Structure: The existing wall was built in 1961 as part of Section 2122-92 Part II and designated wall "W-4". It consists of a cast-in-place "T" type cantilever wall on a concrete pile supported footing. The existing wall is 432'-0"± long, has a 1/4" front face batter and has a chain link fence and three cable guard rail on top.

All elevations are based on the Chicago City Datum (C.C.D.)



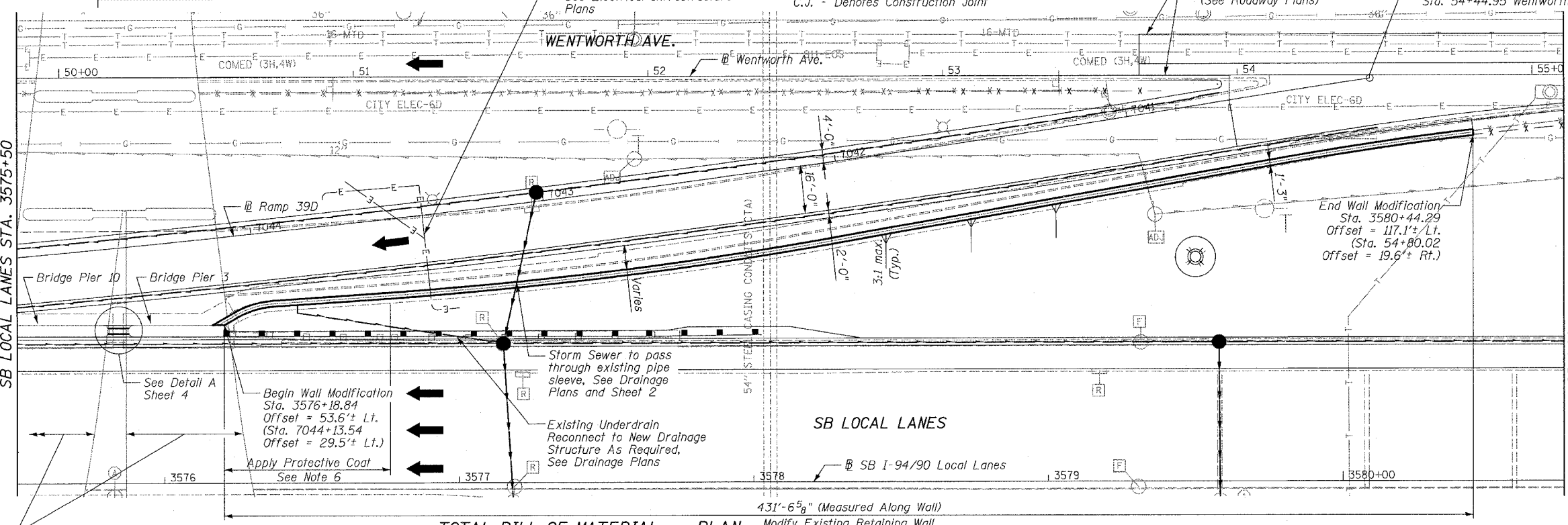
DESIGN SPECIFICATIONS

2002 AASHTO
DESIGN STRESSES
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
LOADING
 Equivalent Fluid Pressure = 40 pcf (Drained Condition)
 Traffic Surcharge = 250 psf



FRONT FACE ELEVATION

E.J. - Denotes Expansion Joint
 C.J. - Denotes Construction Joint



LOCATION SKETCH

- LEGEND**
- Soil Boring Location
 - Proposed Drainage Structure
 - High Mast Lighting Foundation and Tower (See Notes)
 - Proposed Underdrain
 - Proposed Storm Sewer

- NOTES:**
- Offsets given to Front Face of Wall. Station and offsets in parentheses are along Frontage Road or ramp.
 - For HMLT foundations, See Electrical Infrastructure Plans. Towers by others. See Structural Details for HMLT service pads and walls as required.
 - For As-Built Plans of Exist. Wall, See Sheet S7 thru 8A.
 - Take notice of exist. utilities. See Drainage & Utility Plans & Special Provisions for Status of Utilities to be adjusted.
 - See Roadway Plans for all required removals and civil works.
 - Apply Protective Coat to front face of wall within 25' of edge of pavement.

SHEET 1 OF 8

ITEM	UNIT	TOTAL	ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	70	Reinforcement Bars, Epoxy Coated	Pounds	16,350
Concrete Removal	Cu. Yd.	46	Chain Link Fence, 42" Attached to Structure (Special)	Foot	101
Concrete Structures	Cu. Yd.	46.2	Concrete Coring	Foot	8
Concrete Superstructures	Cu. Yd.	43.7			
Rustication Finish	Sq. Ft.	184			
Protective Coat	Sq. Yd.	224			
Porous Granular Embank (Special)	Cu. Yd.	75			

REVISIONS	
NAME	DATE
REVISOR	6/20/06
REVISOR	7/11/06

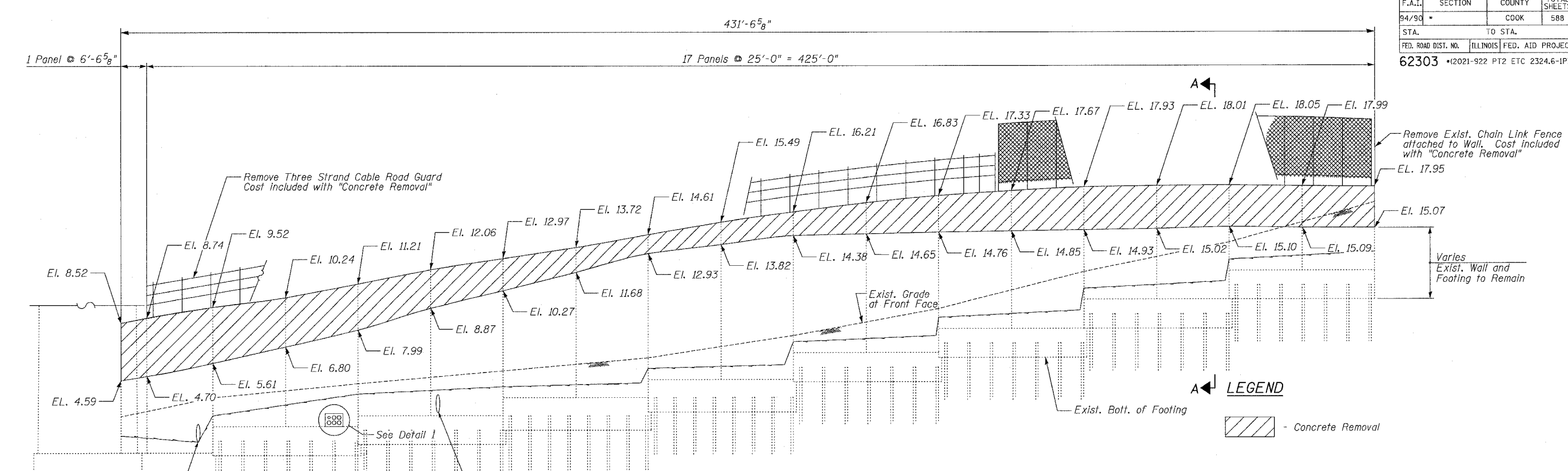
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

**RETAINING WALL S-39S-R
 GENERAL PLAN AND ELEVATION**

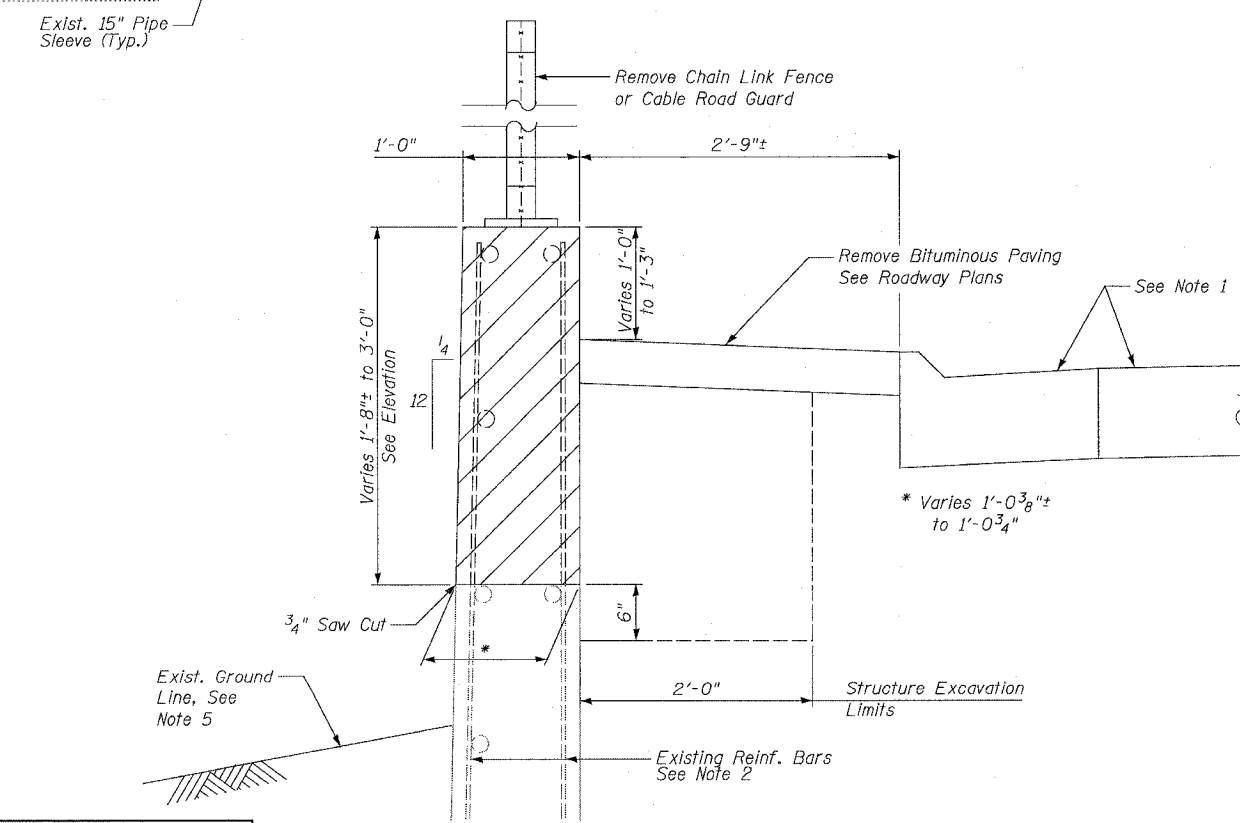
SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: PAH
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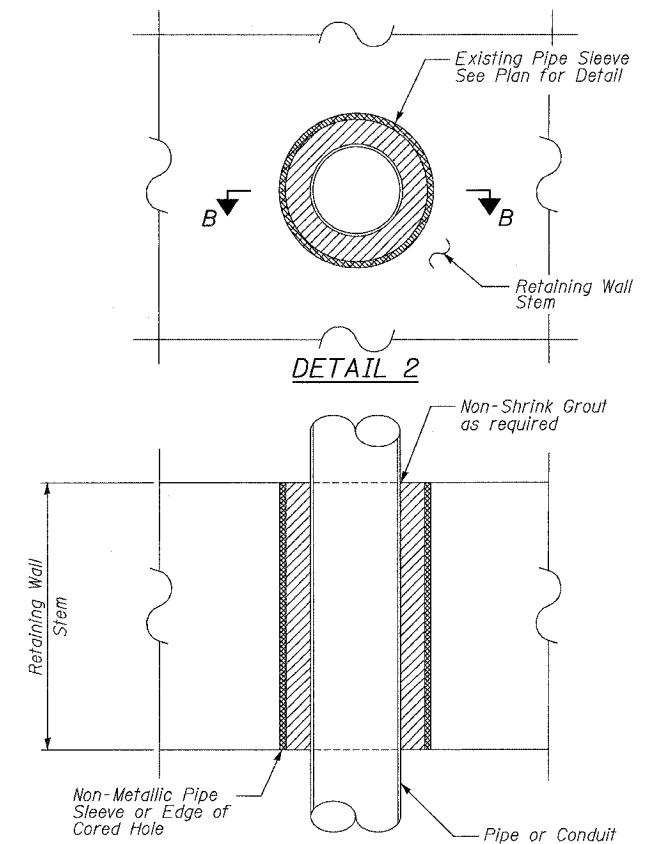
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90 *		COOK	588	446
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



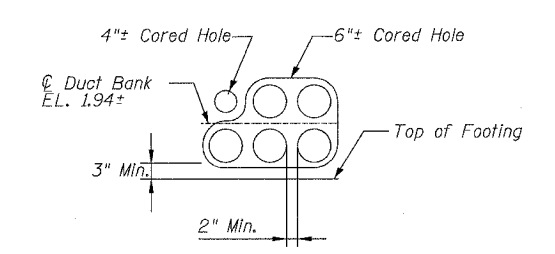
FRONT FACE ELEVATION - EXISTING WALL



SECTION A-A
(Looking South)



SECTION B-B



DETAIL 1
See Note 4

NOTES:

1. See Roadway Plans for limits of roadway removals.
2. Exist. vertical reinforcement bars to be cleaned, straightened and incorporated into new construction. Horizontal reinforcement bars shall be removed. Cost included with "Concrete Removal".
3. Saw cut wall at front face along removal line. Cost of saw cuts included with "Concrete Removal".
4. Provide 4" & 6" cored holes through existing wall for conduit, see Electrical Infrastructure Plans. Coordinate depth and layout of holes with Electrical Contractor. Space holes to miss vertical reinforcement. Fill annular space between cored hole and conduit with grout as shown in Detail 2 and as directed by Engineer. Cost of coring and filling of annular space shall be included with "Concrete Coring". See Special Provisions.
5. Excavation along front face required for wall removal shall be included with Concrete Removal.
6. Contractor shall use care when removing existing pipe through wall. Damage shall be repaired at his own expense. Clean opening of existing grout. Coordinate with Drainage Contractor for installation of proposed storm sewer. Grout annular space with non-shrink grout. Cost included with Ductile Iron Pipe Storm Sewer 12".

SHEET 2 OF 8

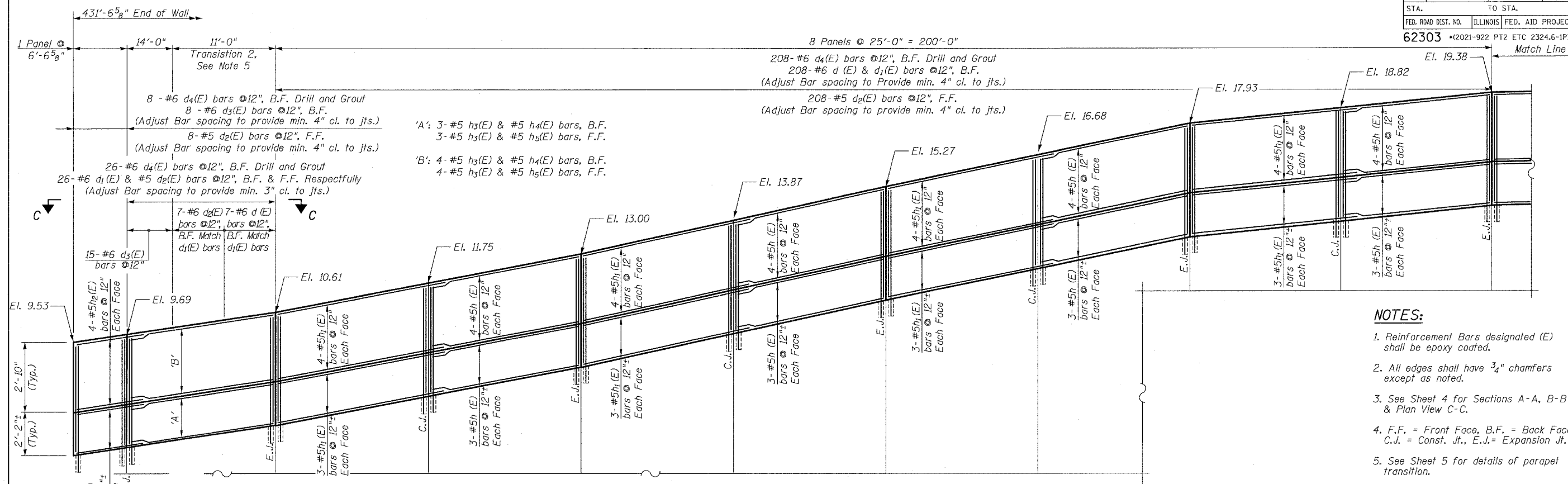
REVISIONS	
NAME	DATE
REVISED	6/21/06
REVISED	7/11/16

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
RETAINING WALL S-39S-R
EXISTING RETAINING WALL
REMOVAL DETAILS
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: PAH
 CHECKED BY: BLU

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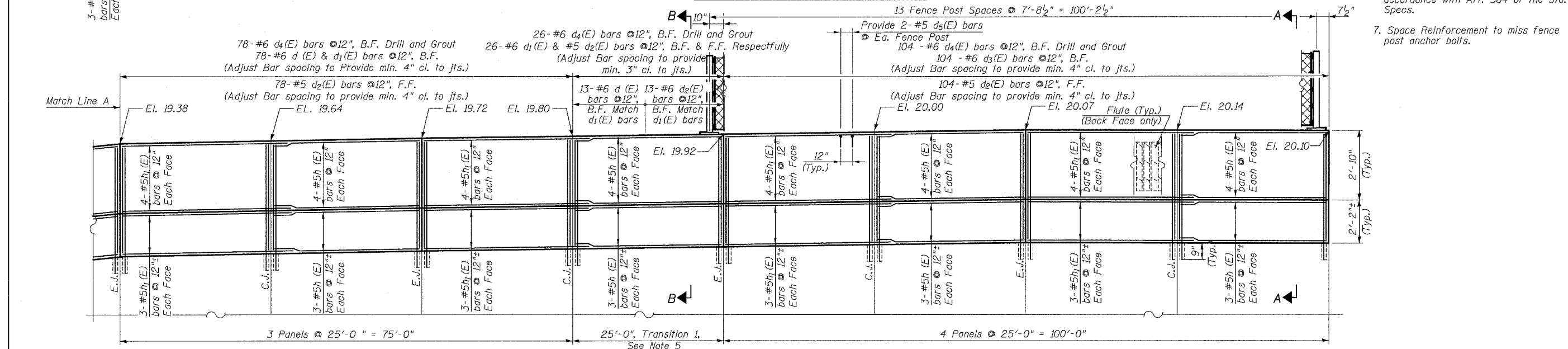
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	447
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303		(2021-922 PT2 ETC 2324.6-1P) R-11		



- NOTES:**
1. Reinforcement Bars designated (E) shall be epoxy coated.
 2. All edges shall have $\frac{3}{4}$ " chamfers except as noted.
 3. See Sheet 4 for Sections A-A, B-B & Plan View C-C.
 4. F.F. = Front Face, B.F. = Back Face
C.J. = Const. Jt., E.J. = Expansion Jt.
 5. See Sheet 5 for details of parapet transition.
 6. Drill and grout $d_4(E)$ bar in drilled holes with a min. depth of 9" in accordance with Art. 584 of the Std. Specs.
 7. Space Reinforcement to miss fence post anchor bolts.

WALL REINFORCEMENT DETAILS



WALL REINFORCEMENT DETAILS (CONT.)

MIN. BAR LAP
#5 - 2'-2"

REVISIONS	
NAME	DATE
REVISED	6/21/06
REVISED	7/11/06

SHEET 3 OF 8

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-39S-R
WALL DETAILS 1

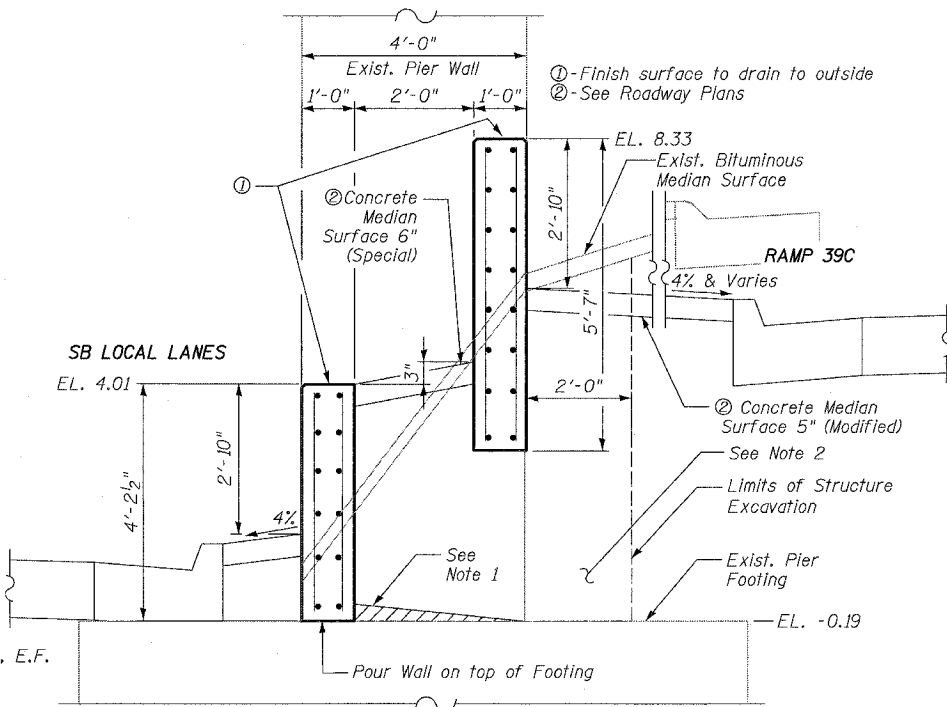
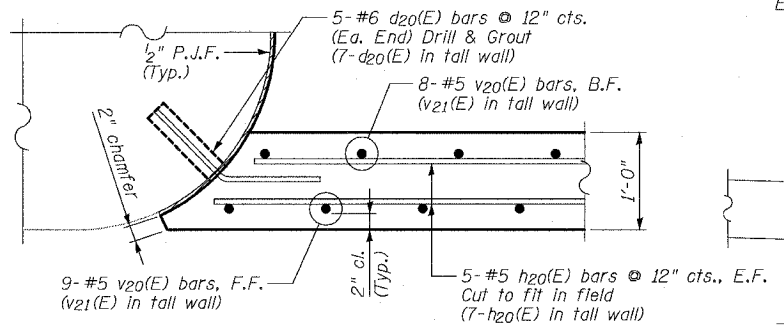
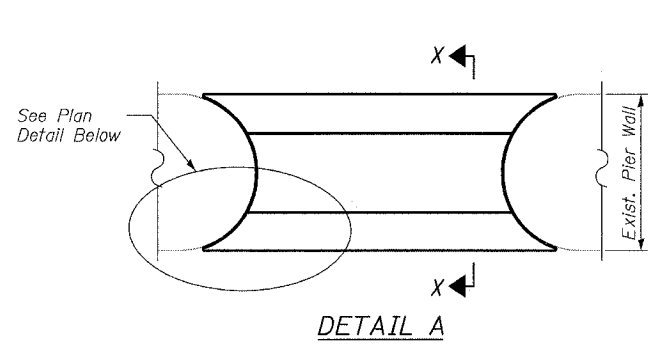
SCALE: NTS
DATE: JUNE 9, 2006

DRAWN BY: PAH
CHECKED BY: BLU

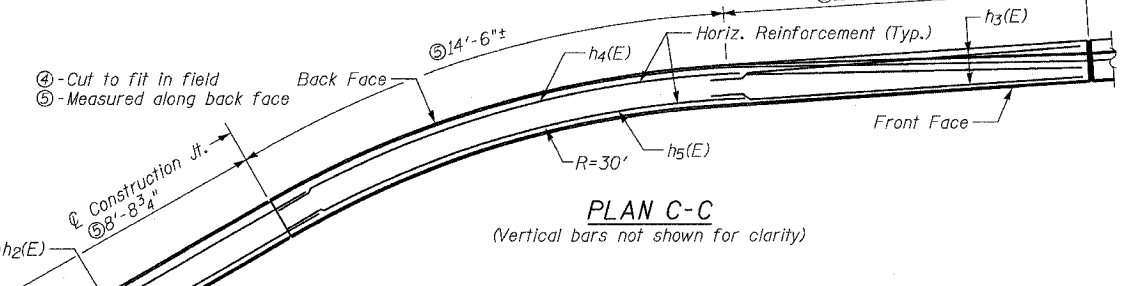
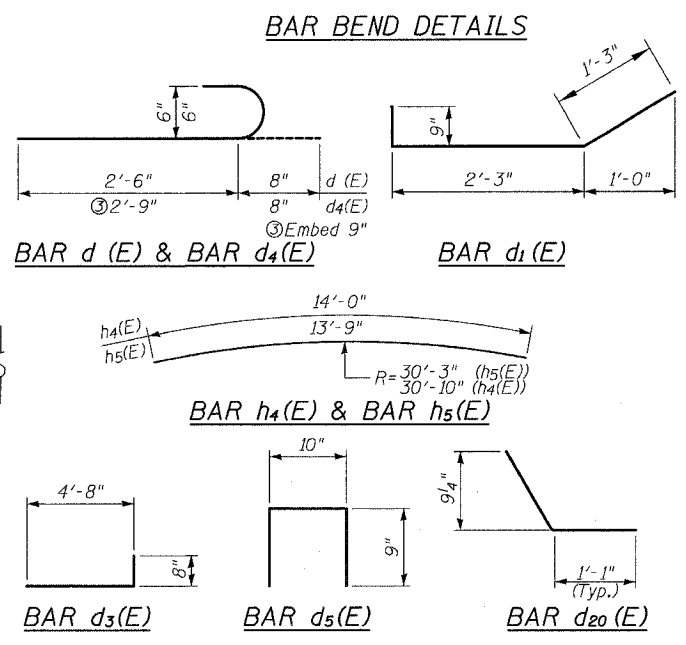
BOWMAN, BARRETT & ASSOCIATES INC.
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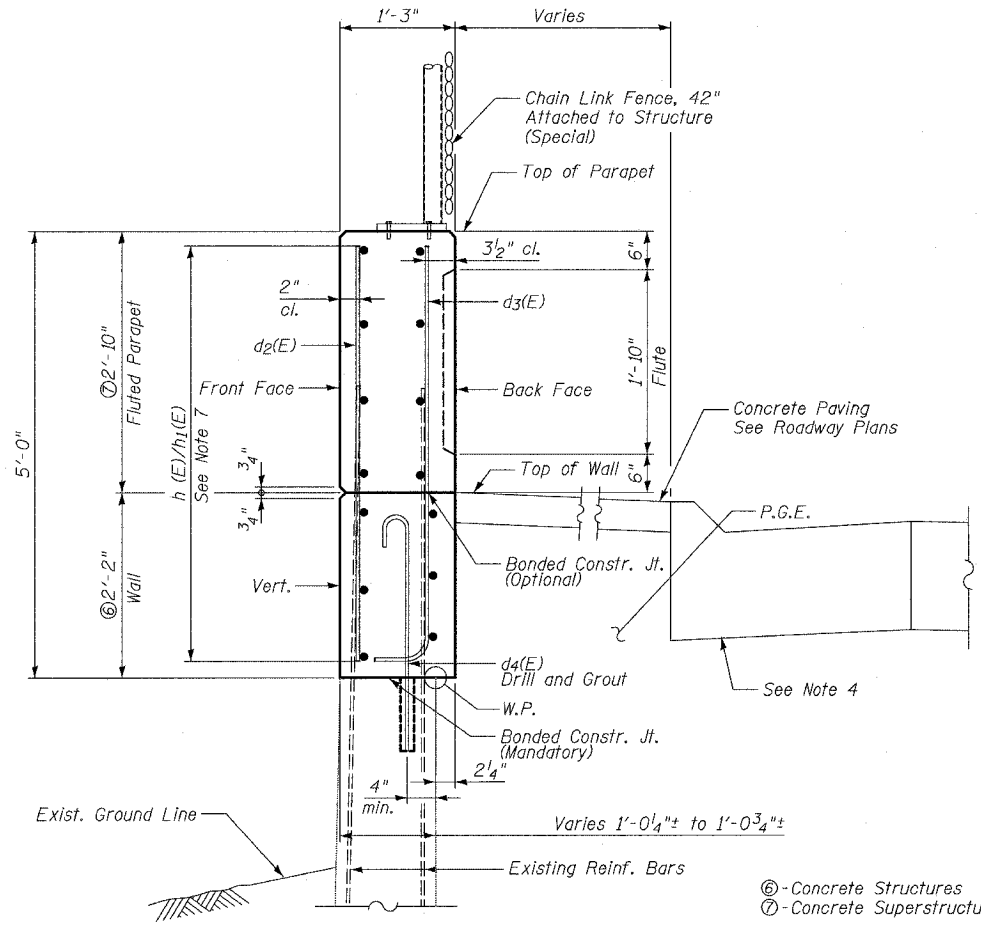
BILL OF BARS				
Bar	No.	Size	Length	Shape
d (E)	307	#6	3'-2"	[U]
d ₁ (E)	338	#6	4'-3"	[U]
d ₂ (E)	470	#5	4'-8"	[U]
d ₃ (E)	127	#6	5'-4"	[U]
d ₄ (E)	450	#6	3'-5"	[U]
d ₅ (E)	28	#5	2'-4"	[U]
h (E)	112	#5	24'-8"	[—]
h ₁ (E)	112	#5	27'-2"	[—]
h ₂ (E)	14	#5	10'-10"	[—]
h ₃ (E)	14	#5	13'-0"	[—]
h ₄ (E)	7	#5	14'-0"	[—]
h ₅ (E)	7	#5	13'-9"	[—]
d ₂₀ (E)	24	#6	2'-2"	[U]
h ₂₀ (E)	24	#5	8'-0"	[—]
v ₂₀ (E)	17	#5	3'-8"	[—]
v ₂₁ (E)	17	#5	5'-3"	[—]



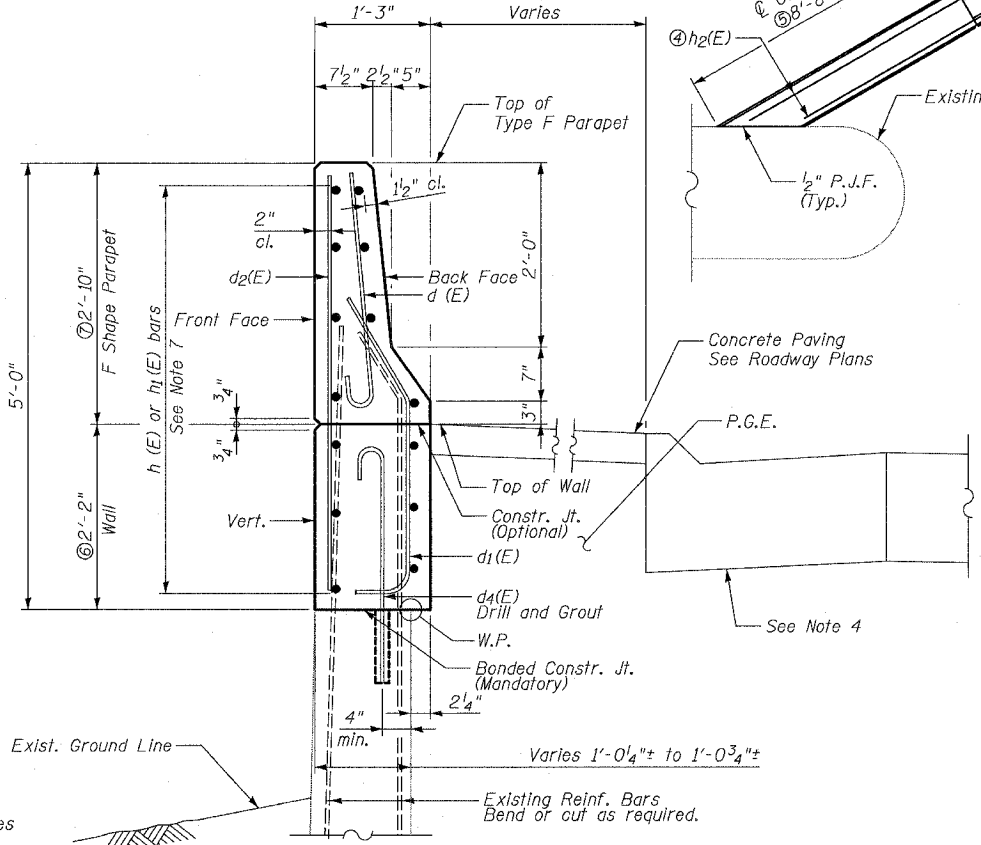
SECTION X-X



- NOTES:
1. Provide Concrete Sloping Surface on top of footing to drain. Cost included with Concrete Structures.
 2. Remove and replace existing concrete curb & gutter as indicated on Roadway Plans.
 3. See Sheet 3 for location of Sections A-A & B-B.
 4. Exist. vertical reinforcement incorporated into new construction, exist. horizontal bars removed. Bend vertical bars as required to maintain specified clear cover.
 5. Tie horizontal bars to existing or proposed vertical bars as required to maintain clear cover shown.
 6. Reinforcement bars designated (E) shall be epoxy coated.
 7. Backfill for Structure Excavation limits shall be measured and paid for as Porous Granular Embankment.
 8. See sheet SD2 & SD2A for fluted parapet and chain link fence details.
 9. Cost of P.J.F. included with Concrete Structures.
 10. Epoxy grout #6 d (E), d₁(E) & d₂₀(E) bars in 9" min. drilled holes in accordance with Art. 584 of the Std. Specs.



SECTION A-A



SECTION B-B

REVISIONS	
NAME	DATE
REVISED	6/23/06
REVISED	7/11/06

ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-39S-R
WALL DETAILS 2

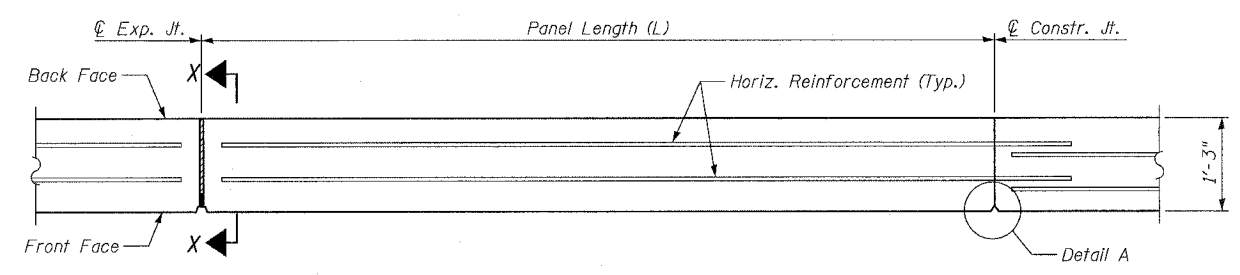
SCALE: NTS
DATE: JUNE 9, 2006

DRAWN BY: PAH
CHECKED BY: BLU

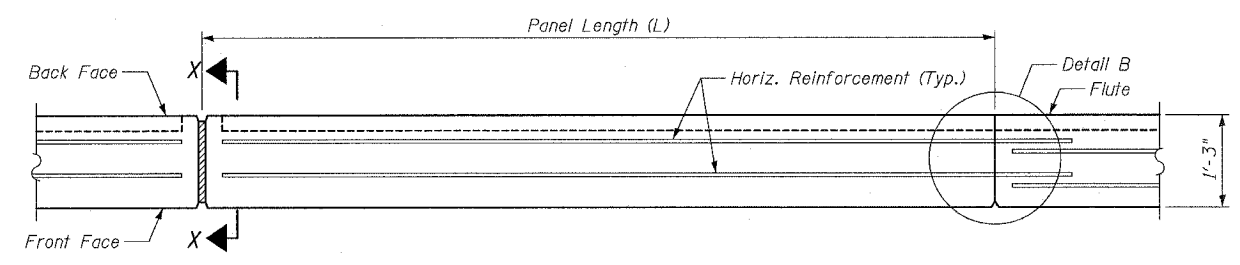
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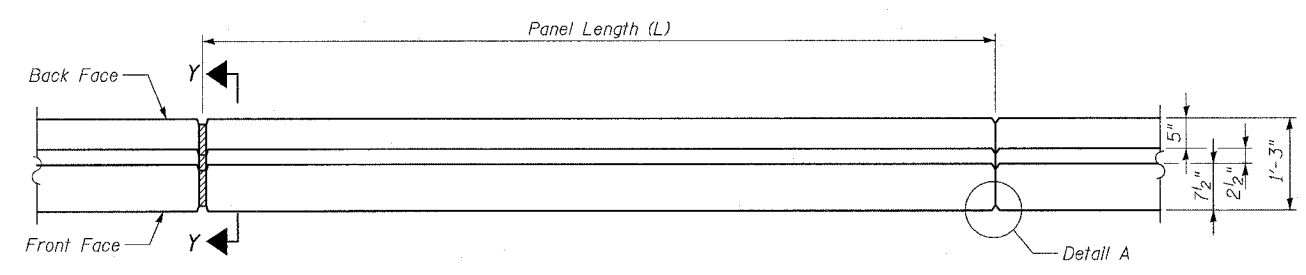
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	449
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62303 • (2021-922 PT2 ETC 2324.6-1P) R-11				



TYPICAL WALL PANEL



TYPICAL FLUTED PARAPET PANEL

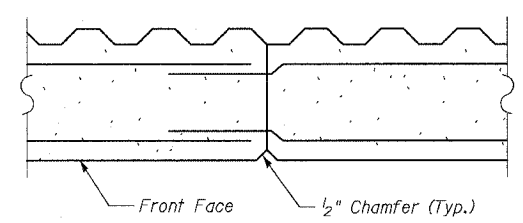


TYPICAL F SHAPED BARRIER PANEL

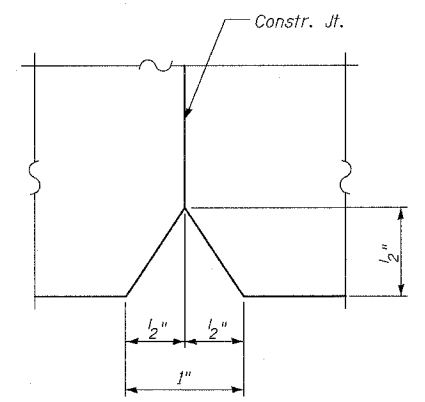
See above details for treatment of horizontal reinforcement bars

NOTES:

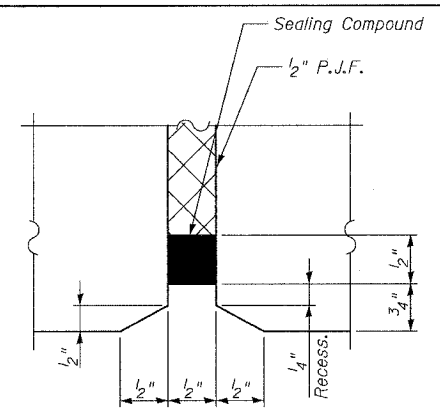
1. Sealing compound shall consist of a two-component non-staining gray sealing compound with polysulfide liquid polymer gun-grade with primer. Cost included with "Concrete Superstructure" or "Concrete Structures".
2. For existing expansion joints left in place after concrete removal & exposed to view, the Contractor shall remove the existing sealing compound and re-seal per the requirements of Note 2 as directed by the Engineer. Cost included with "Concrete Superstructure".
3. Reinforcement to pass through Constr. Jts. (Both Faces). No reinforcement to pass through Expansion Jts.
4. On portions of existing wall to remain, horizontal grooving at top shall be filled with an approved epoxy mortar as directed by Engineer. Cost included with "Concrete Removal".



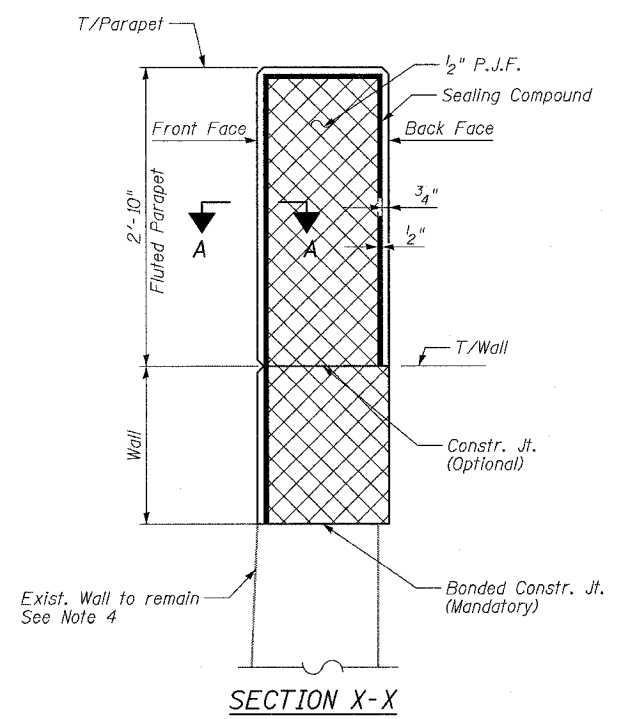
DETAIL B
(In Fluted Parapet)



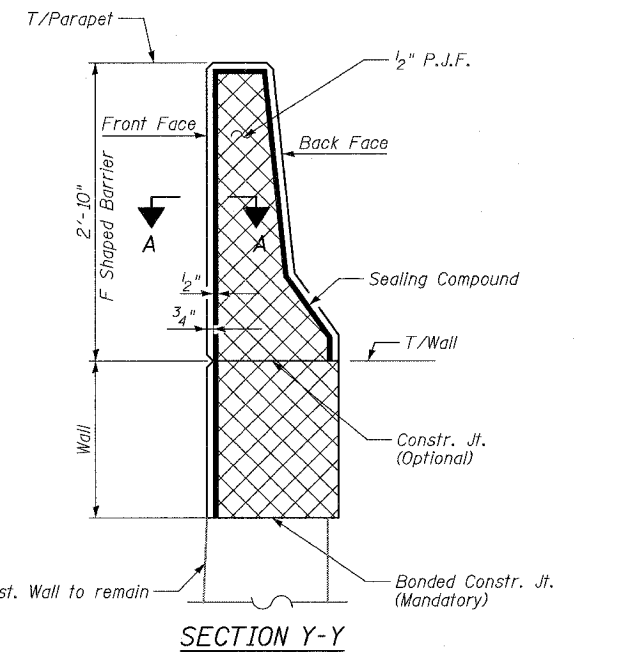
DETAIL A



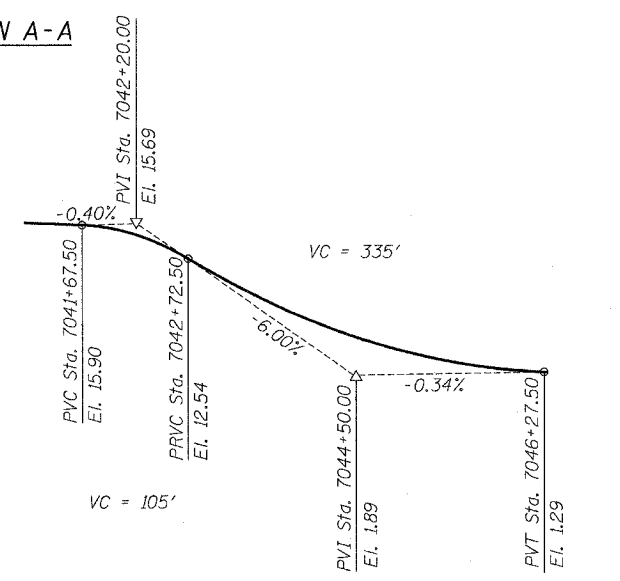
SECTION A-A



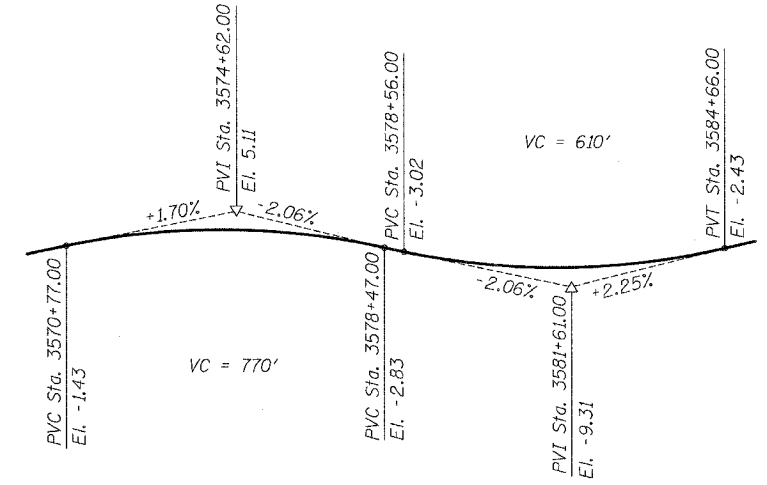
SECTION X-X



SECTION Y-Y



PROFILE GRADE LINE
Along @ Ramp 39D



PROFILE GRADE LINE
Along @ SB Local Lanes

SHEET 5 OF 8

REVISIONS	
NAME	DATE
REVISED	06/23/06
REVISED	7/11/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

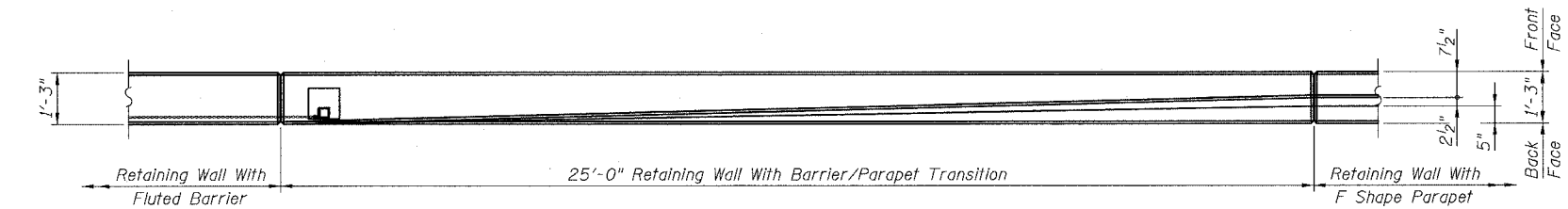
RETAINING WALL S-39S-R
MISCELLANEOUS DETAILS

SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

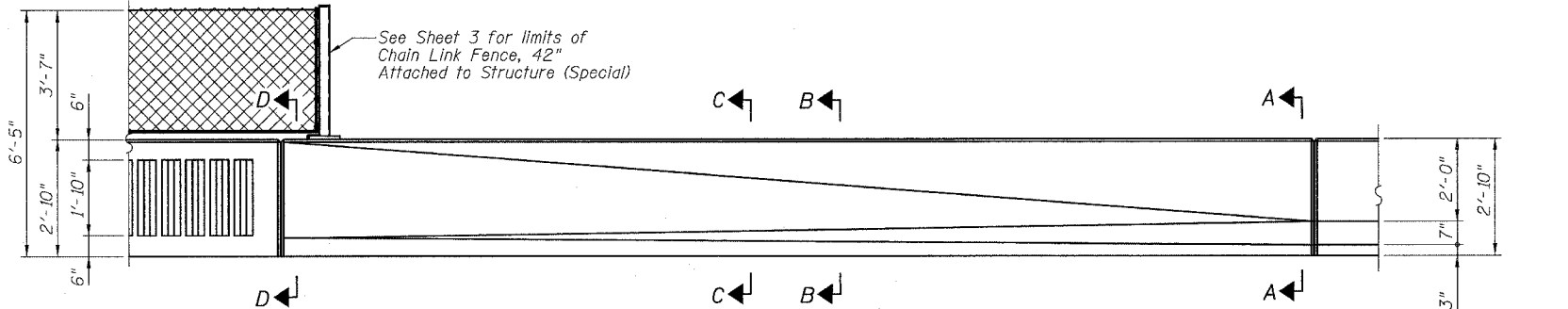
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	450
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62303 • (2021-922 PT2 ETC 2324.6-1P) R-II				

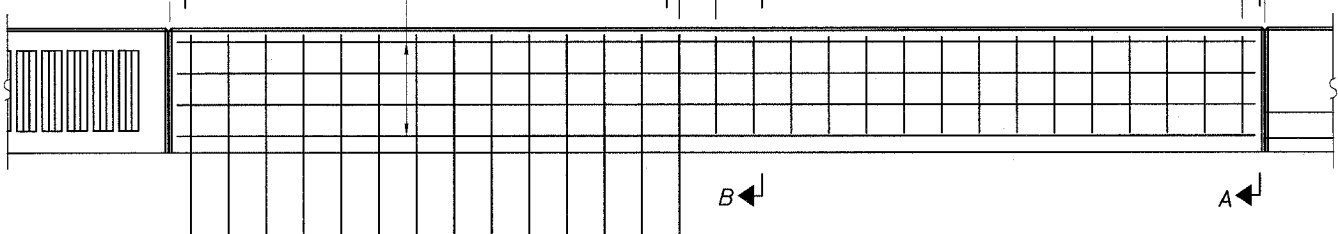


PLAN - TRANSITION 1



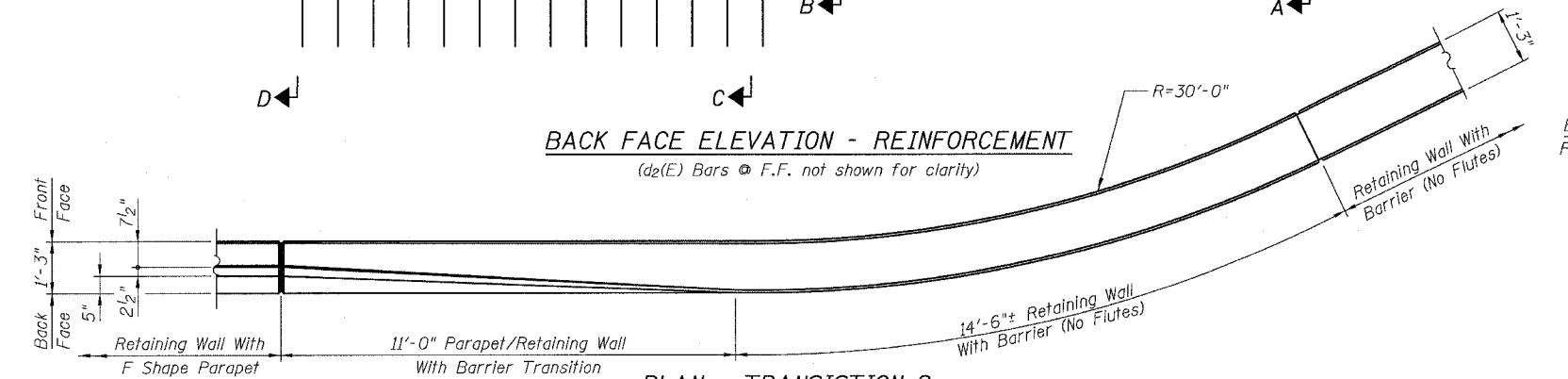
BACK FACE ELEVATION - TRANSITION 1

For Configuration and Reinf. of Fluted Barrier See Sheet 4
 3" #6 d₂(E) Bars @ 12" Back Face, Match d₁(E) Bars @ 12" Back Face, Match d₁(E) Bars
 h(E) Each Face
 3" For Configuration and Reinf. of F Shape Parapet See Sheet 4

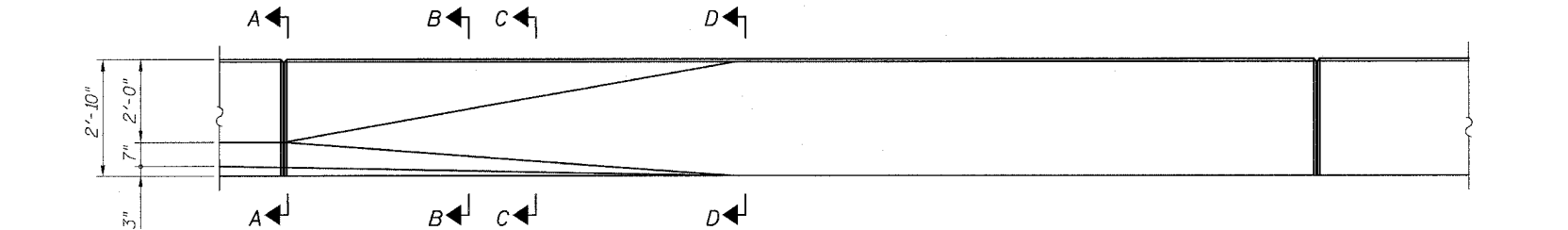


BACK FACE ELEVATION - REINFORCEMENT

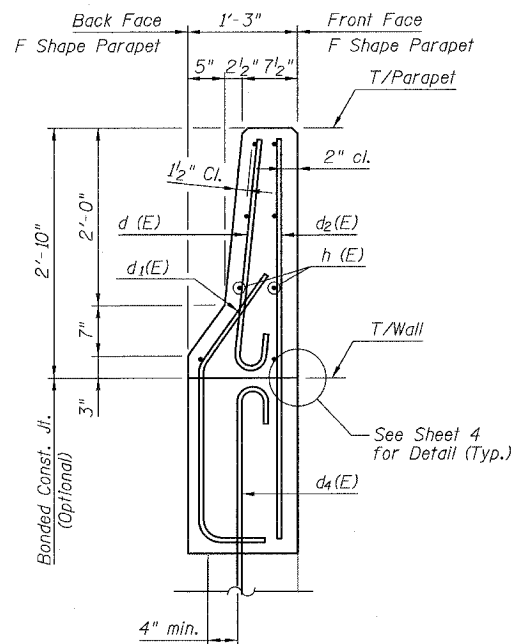
(d₂(E) Bars @ F.F. not shown for clarity)



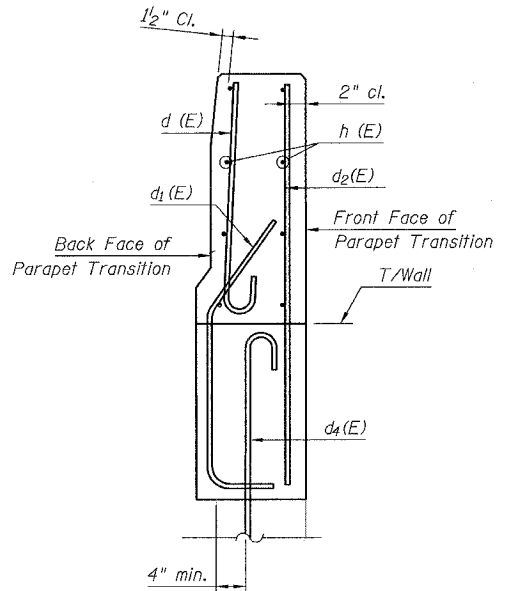
PLAN - TRANSITION 2



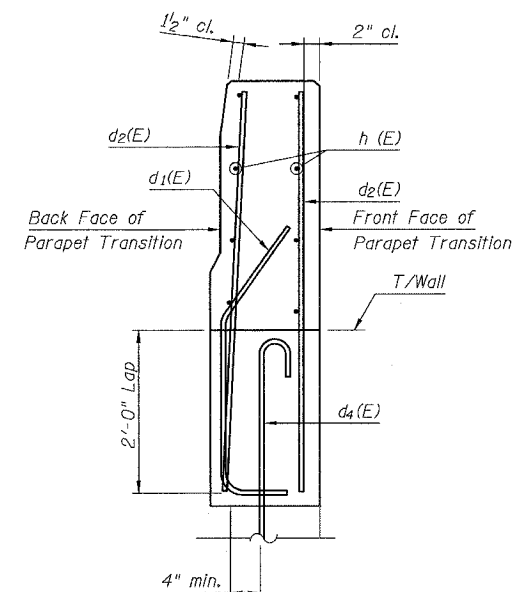
BACK FACE ELEVATION - TRANSITION 2



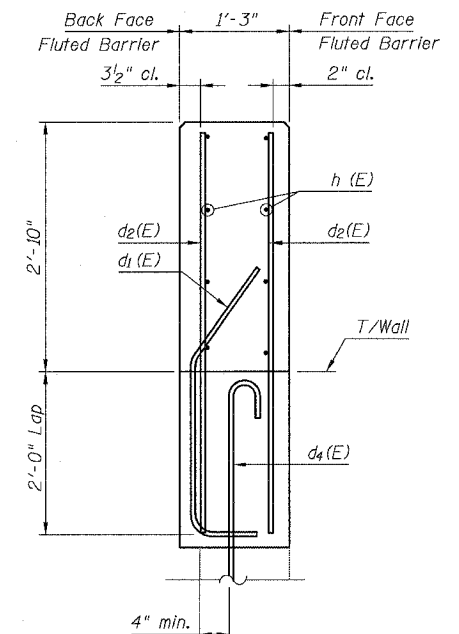
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

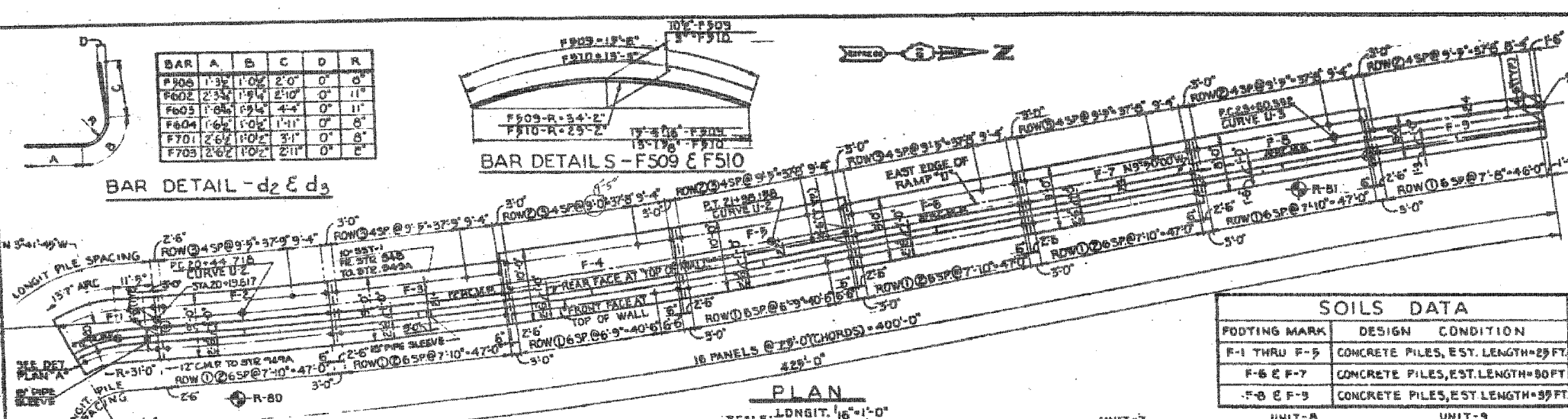
NOTES:
 1. For Bill of Bars & Bar Bend Details, See Sheet 4.

REVISIONS	
NAME	DATE
REVISED	7/11/06

SHEET 6 OF 8
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 RETAINING WALL S-39S-R
 PARAPET TRANSITION
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: PAH
 CHECKED BY: BLU

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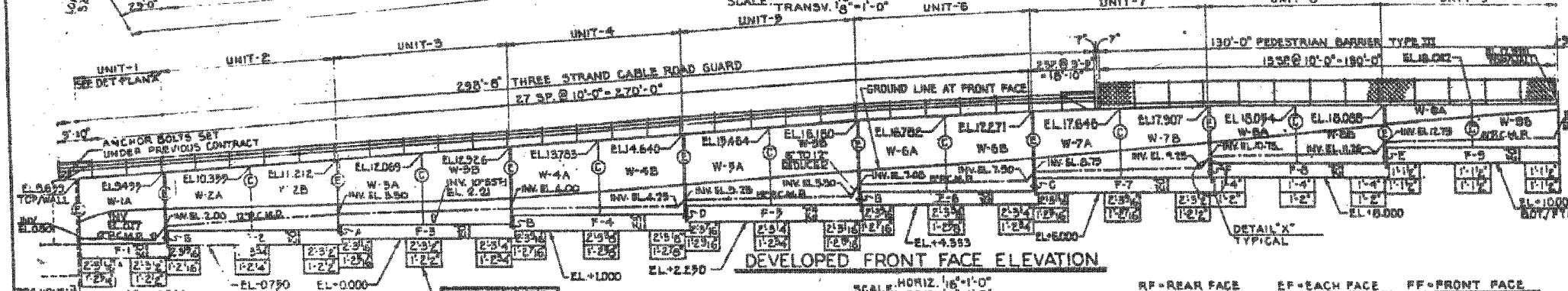
ANSI Z39-18 11/95 VARIET WALL 1660_L951025395R_L02.dwg 07/12/2006 12:36:11 PM



BAR NO.	SIZE	LENGTH	SHAPE	WEIGHT
F901	251	9	7'-6"	1807
F902	118	9	9'-0"	969
F903	202	9	28'-0"	4478
F904	102	9	8'-10"	940
F905	102	9	7'-8"	816
F906	36	9	2'-6"	94
F907	102	9	9'-8"	808
F908	31	9	4'-4"	231
F909	8	9	19'-6"	129
F910	9	9	19'-6"	69
F911	15	9	12'-0"	163

FOOTING MARK		DESIGN CONDITION
F-1 THRU F-5	CONCRETE PILES, EST. LENGTH=29 FT.	
F-6 & F-7	CONCRETE PILES, EST. LENGTH=50 FT.	
F-8 & F-9	CONCRETE PILES, EST. LENGTH=39 FT.	

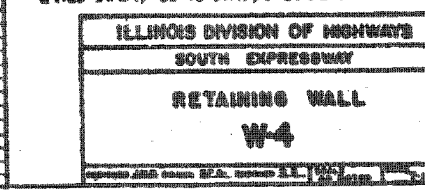
BAR NO.	SIZE	LENGTH	SHAPE	WEIGHT
F601	250	6	7'-10"	2706
F602	102	6	6'-7"	1009
F603	100	6	7'-8"	1127
F604	31	6	4'-6"	345



UNIT NO.	WALL TYPE	FTG. MARK	REIN. IN BAND NO. OF BANDS	STEM MARK	REIN. IN EA. BAND NO. OF BANDS
1	F-1	11	12	10	36
2	F-2	12	12	12	36
3	F-3	13	12	12	36
4	F-4	14	12	12	36

UNIT NO.	WALL TYPE	FTG. MARK	REIN. IN BAND NO. OF BANDS	STEM MARK	REIN. IN EA. BAND NO. OF BANDS
5	F-5	15	12	12	36
6	F-6	16	12	12	36
7	F-7	17	12	12	36
8	F-8	18	12	12	36
9	F-9	19	12	12	36

ITEM	UNIT QUANTITY
FORDUS GRANULAR BACKFILL	CU. YD. 630
CLASS A EXCAVATION FOR STRUCTURES	CU. YD. 1550
CLASS X CONCRETE	CU. YD. 447
REINFORCEMENT BARS	POUNDS 455
DRIVING CONCRETE PILES	LIN. FT. 29
FURNISHING CONCRETE PILES	LIN. FT. 2920
TEST PILE CONCRETE	CU. YD. 2
PERF CORR. MET. PIPE - 6"	LIN. FT. 202
PERF CORR. MET. PIPE - 12"	LIN. FT. 225
THREE STRAND CABLE ROAD GUARD	LIN. FT. 239
PEDESTRIAN BARRIER TYPE III	LIN. FT. 150



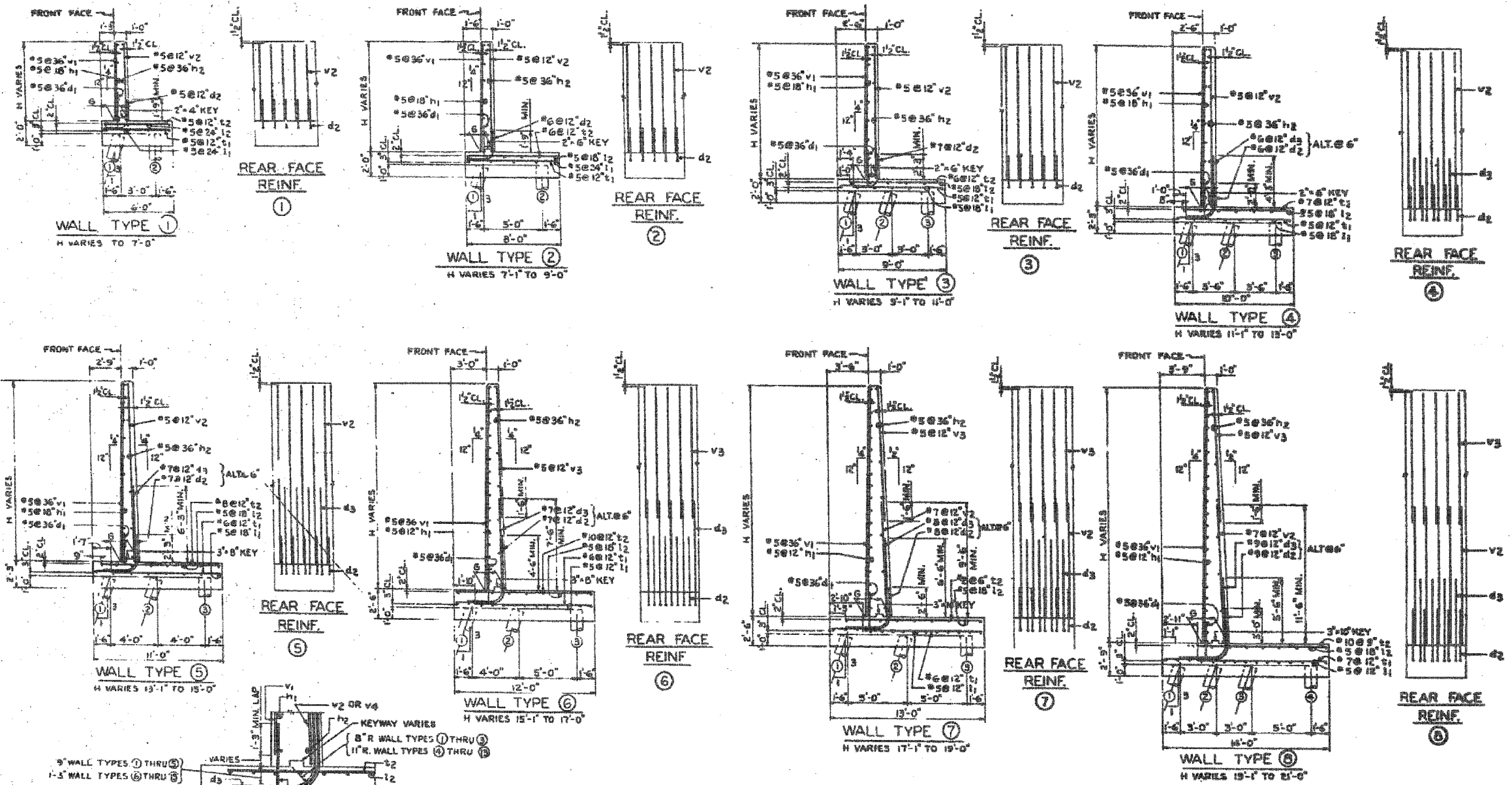
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FOR INFORMATION ONLY

REVISIONS	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 RETAINING WALL S-39S-R
 EXISTING RET. WALL PLAN 1
 SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: KMW
 CHECKED BY: BLU

ILLINOIS DIVISION OF HIGHWAYS WALL 94/90-10-11-01-01
 6/8/2006



TYPICAL DETAIL JUNCTION OF STEM & FOOTING
SCALE: 1/2"=1'-0"

WALL TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13
"G" MAX.	1'-1 3/4"	1'-2 1/4"	1'-2 3/4"	1'-3 1/4"	1'-7 1/2"	1'-8 1/2"	2'-2 1/4"	2'-3 1/4"	1'-8 1/2"	1'-9 1/2"	2'-0 1/4"	2'-5 1/4"	2'-7"

NOTE:
"G" VARIES DUE TO CHANGE IN WALL HEIGHT "H". FOR VALUES OF "G" MAXIMUM SEE TABLE.
FOR STANDARD PILE DETAILS SEE SHEET NO. 89

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
STANDARD RETAINING WALL DETAILS
PILE FOOTINGS
WALL TYPES ① THRU ⑧

SHEET 8 OF 8

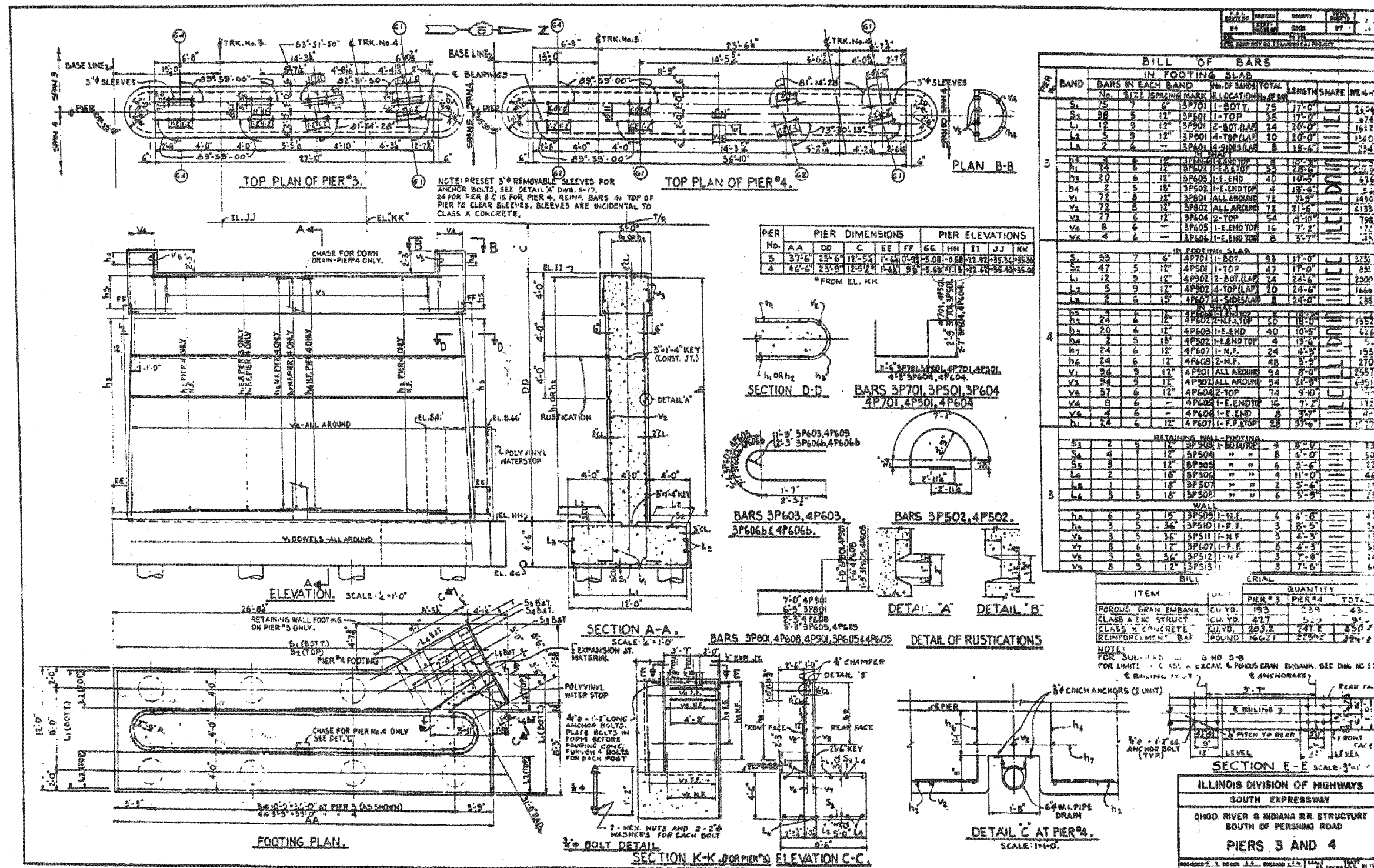
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REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
RETAINING WALL S-39S-R
EXISTING RET. WALL PLAN 2
SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: KMW
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Chicago, Illinois
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REVISIONS	
NAME	DATE
REVISOR	06/19/06

ILLINOIS DIVISION OF HIGHWAYS
SOUTH EXPRESSWAY
CHGO. RIVER & INDIANA RR. STRUCTURE
SOUTH OF PERSHING ROAD
PIERS 3 AND 4

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

RETAINING WALL S-39S-R
EXISTING RETAINING WALL PLAN 3

SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	453
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			

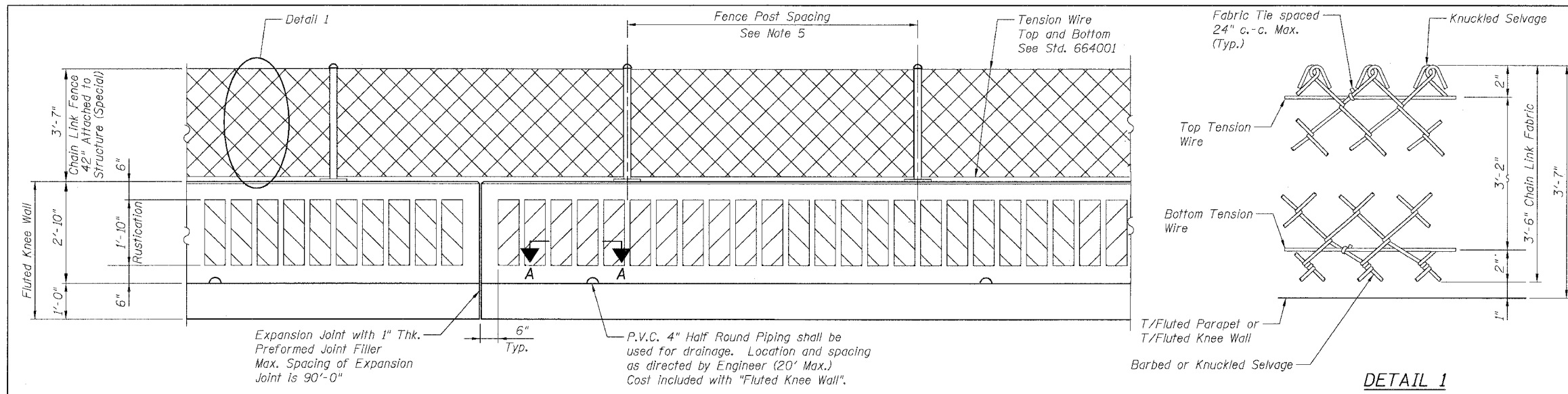
BILL OF MATERIAL

Item	Unit	Qty.*
Structure Excavation	Cu. Yd.	0.15
Concrete Structures	Cu. Yd.	0.15
Concrete Superstructure	Cu. Yd.	0.13
Reinforcement Bars, Epoxy Coated	Pound	0.15
Rustication Finish	Sq. Ft.	23
Protective Coat	Sq. Yd.	0.62

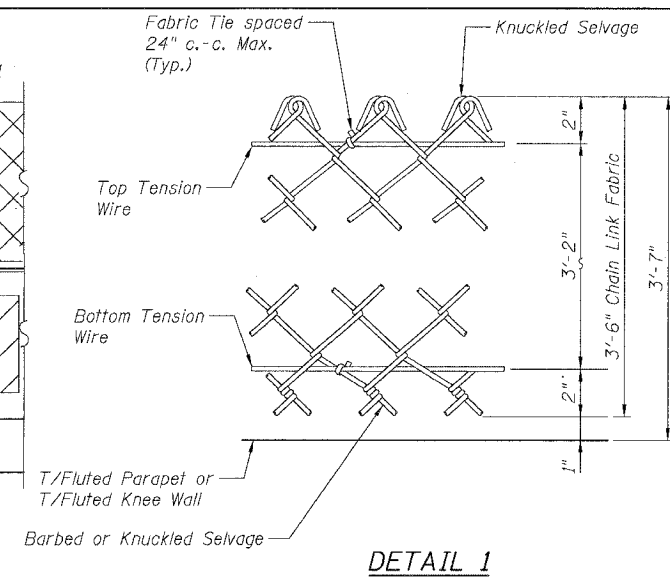
* Quantities are per foot of Fluted Knee Wall and are provided for estimating purposes only. See Note 8.

NOTES:

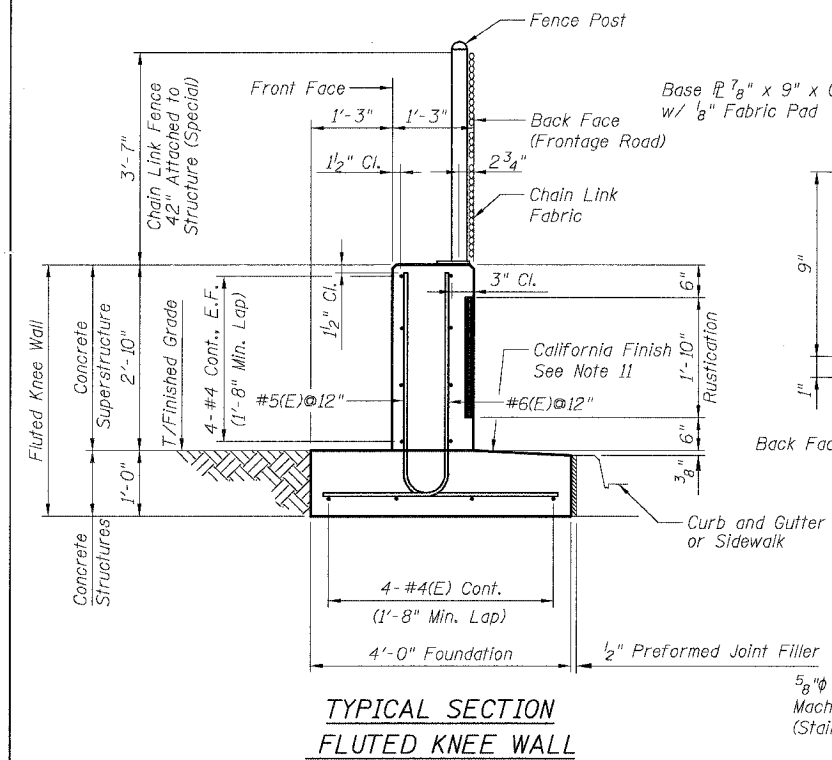
- Back Face is face adjacent to Frontage Rd. and Front Face is face adjacent to Expressway.
- Concrete: f'c = 3500 psi
- In lieu of the Cast-in-Place Anchor Bolt Assembly shown, the Contractor has the option of Drilling and Grouting 1/2" diameter Anchor Rods with Hex Nuts and 1/4" diameter washers. Embedment shall be according to Manufacturer's specifications using HVA Adhesive Anchor as manufactured by Hilti, Inc. or approved equal. Weld Nuts to Anchor Bolt after installation. Cost included with "Chain Link Fence, 42" Attached to Structure (Special)".
- For additional Chain Link Fence Details see Std. 664001.
- See Retaining Wall Details for Fence Post Spacing.
- Fluted Knee Wall with Top Mounted Fence shall be paid for per Foot under the two pay items "Fluted Knee Wall" and "Chain Link Fence, 42" Attached to Structure (Special)".
- At locations where Fluted Knee Wall abuts a rigid Structure, a 1" thick Preformed Expansion Joint Filler conforming to the shape of the Structure shall be installed between the Wall and the Structure.
- "Fluted Knee Wall" shall include Concrete Superstructure stem, Concrete Structures foundation, Reinforcement Bars, Epoxy Coated, all form liners for Rustication Finish, Protective Coat, Structure Excavation and Preformed Joint Filler (P.J.F.).
- Apply Protective Coat to top and front face of stem and top of Frontage Road side of foundation.
- Provide California Finish on top of foundation between stem and Frontage Road. See Retaining Wall Details. Eliminate 2" wide trim margin along stem and broom 18" perpendicular to stem. Cost included with "Fluted Knee Wall".



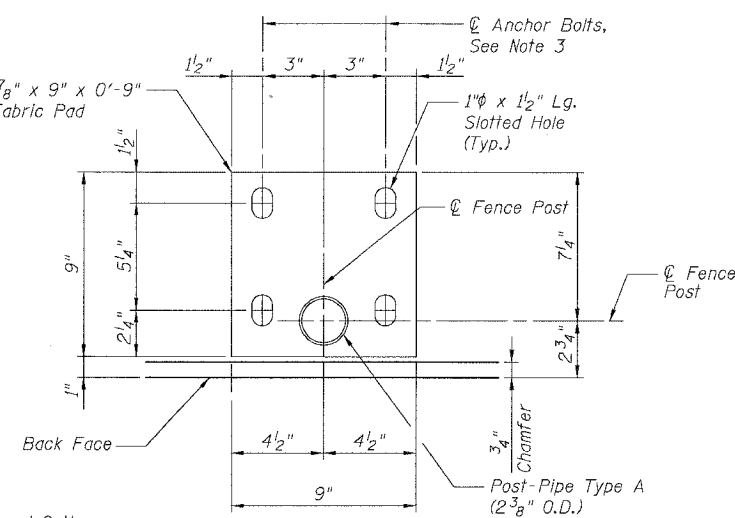
BACK FACE ELEVATION - FLUTED KNEE WALL AND CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)



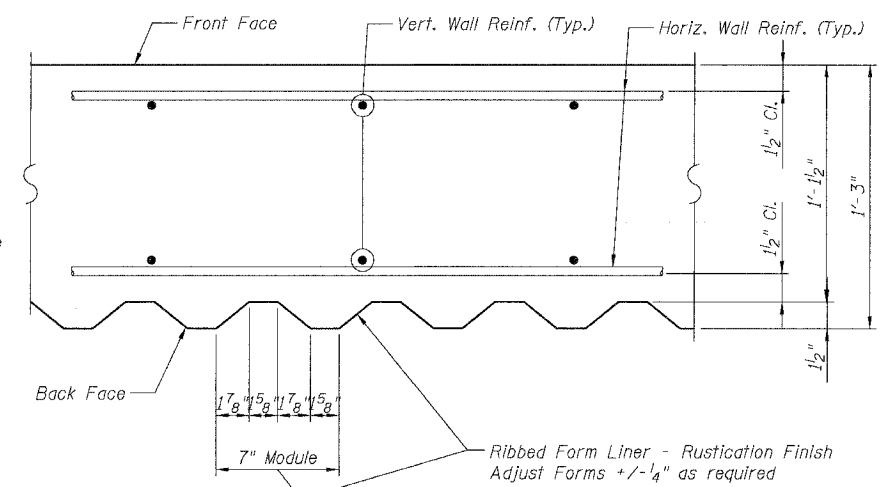
DETAIL 1



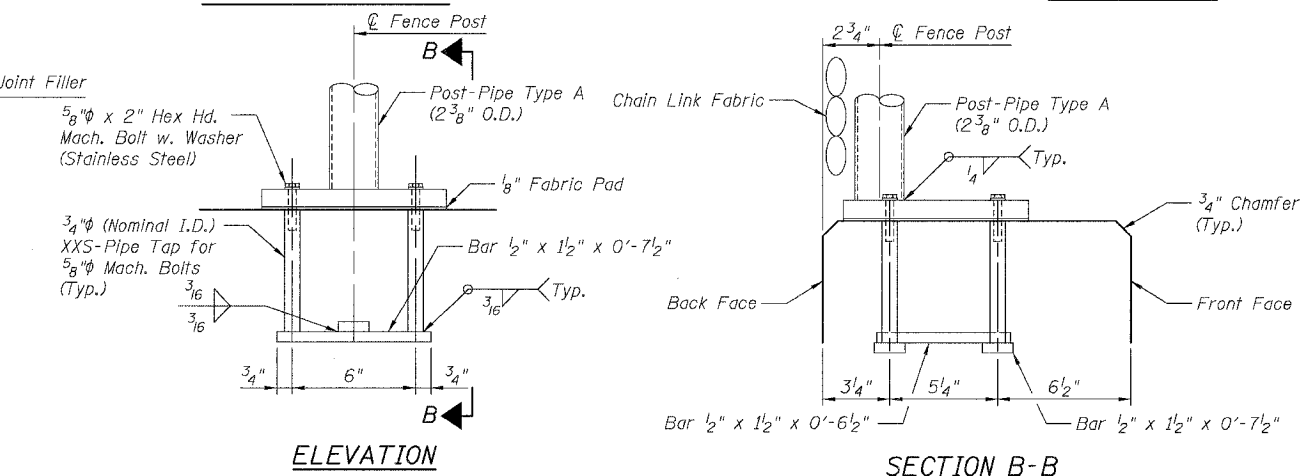
TYPICAL SECTION FLUTED KNEE WALL



BASE PLATE PLAN



SECTION A-A



ELEVATION

SECTION B-B

ANCHOR BOLT ASSEMBLY DETAILS

LEGEND:

- Chain Link Fabric
- Rustication Finish
- E.F. = Each Face

REVISIONS	
NAME	DATE

SHEET SD1 OF SD9

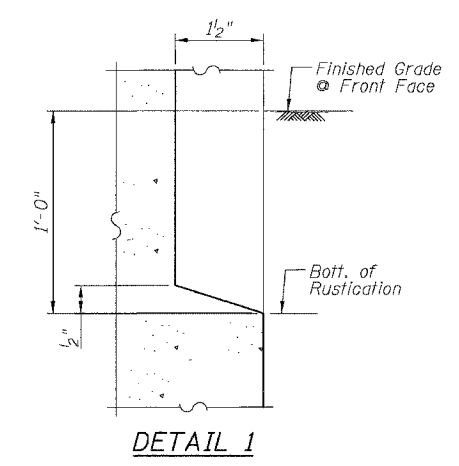
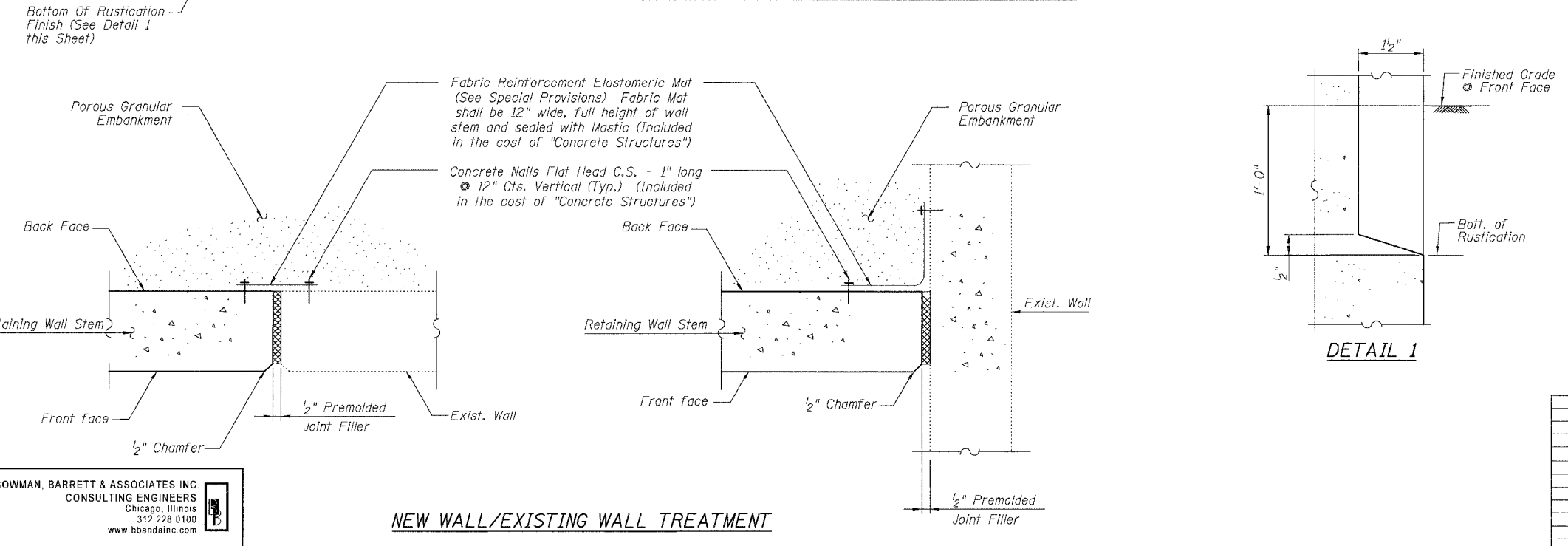
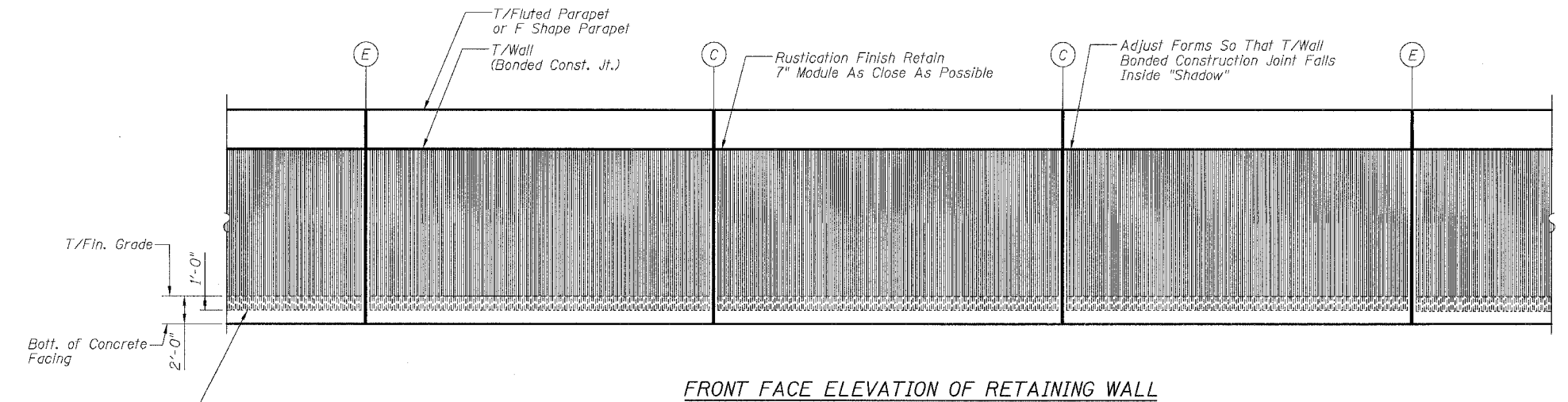
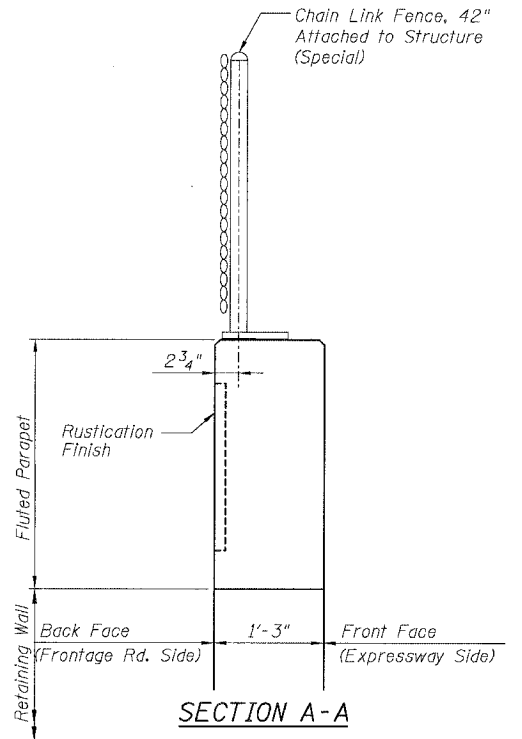
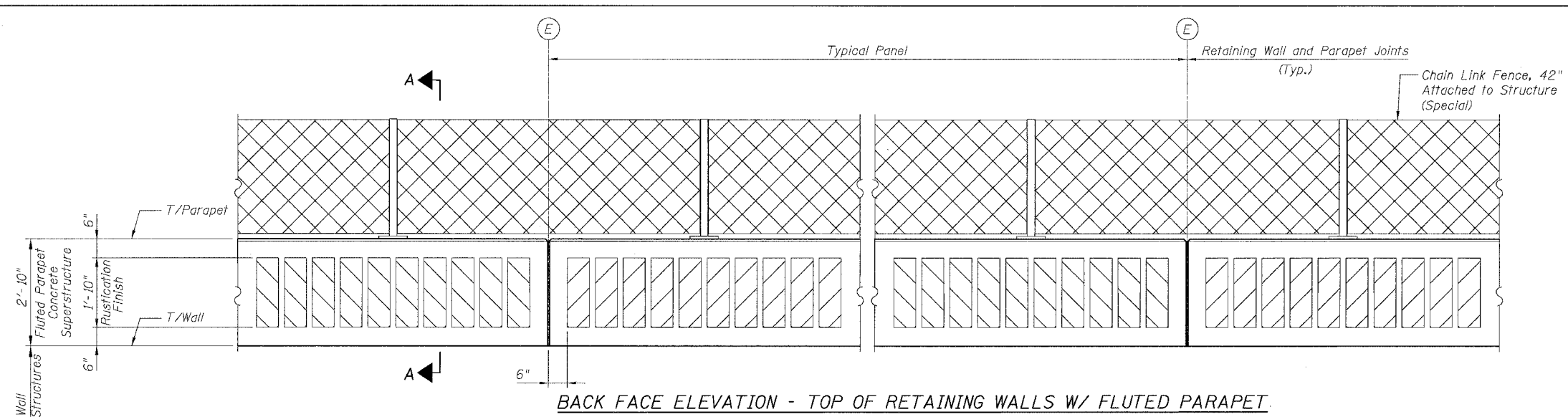
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 FLUTED KNEE WALL AND CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: MTR
 CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	454
STA.	TO STA.			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303		*I2021-922 PT2 ETC 2324.6-1P) R-11		



- NOTES:**
1. Back Face is face adjacent to Frontage Rd. and Front Face is face adjacent to Expressway.
 2. See Wall Elevations for panel dimensions.
 3. See Sheet SD1 for Chain Link Fence, 42" Attached to Structure (Special) Details.

- LEGEND:**
- (E) Expansion Joint
 - Chain Link Fabric
 - Rustication Finish

REVISIONS	NAME	DATE

SHEET SD2 OF SD9

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

TYPICAL FLUTED PARAPET & RUSTICATION FINISH DETAILS

SCALE: NTS
 DATE: JUNE 9, 2006

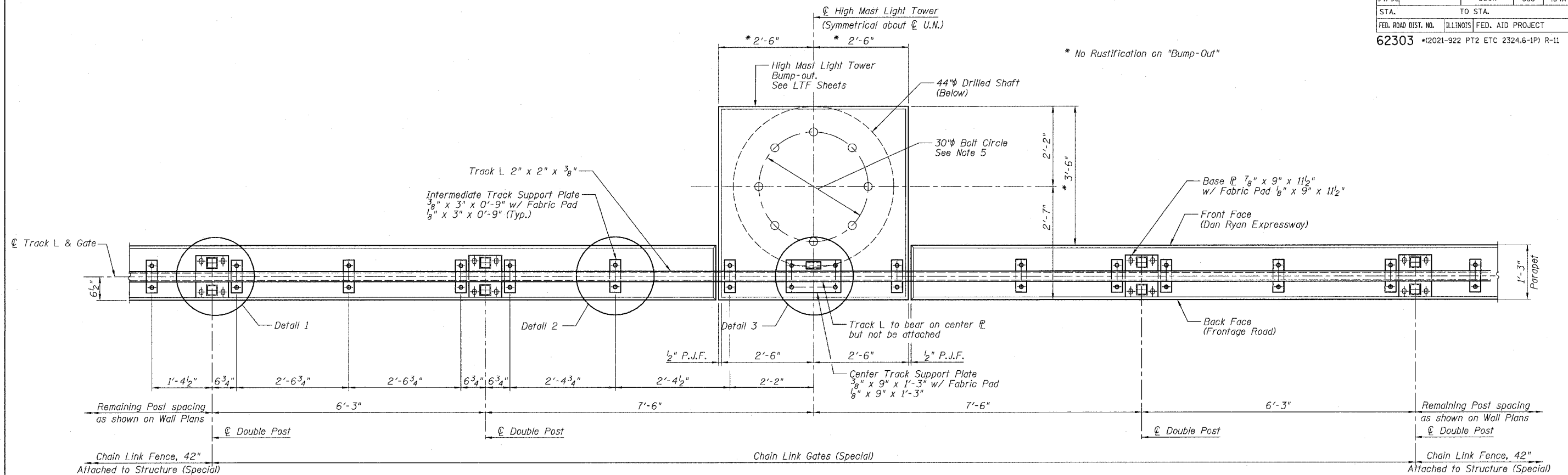
DRAWN BY: MTR
 CHECKED BY: BLU

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 312.228.0100
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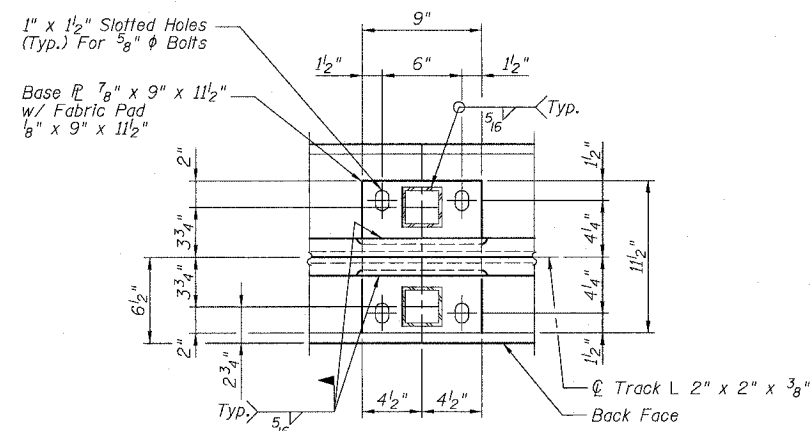
NEW WALL/EXISTING WALL TREATMENT

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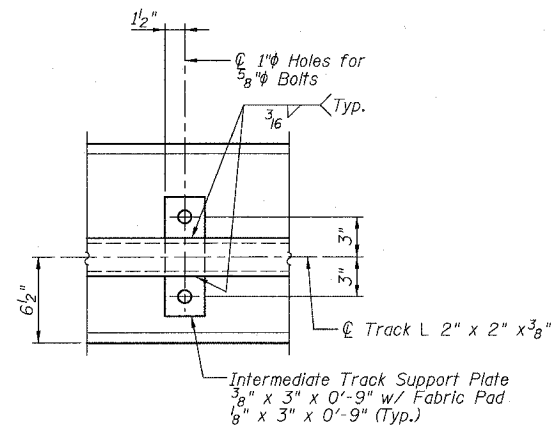
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	454A
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



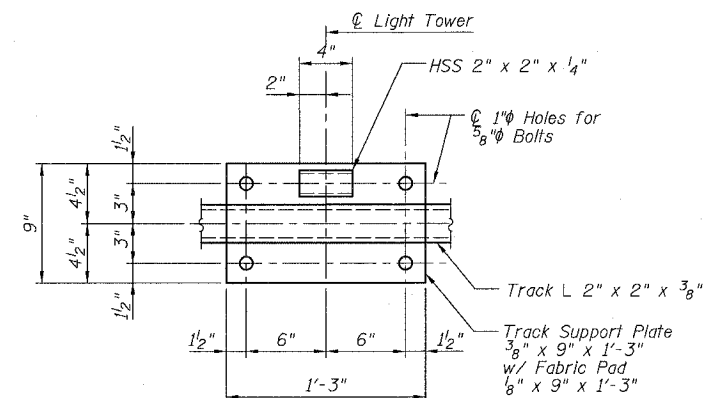
PLAN - GATE IN OPEN POSITION



DETAIL 1



DETAIL 2



DETAIL 3

NOTES:

1. All Bolts shall be Stainless Steel conforming to ASTM F593-98 and F594-98.
2. All Pipes and Bars shall be Hot-Dipped Galvanized after fabrication.
3. For Back Face Elevations, See Sheet SD3.
4. Attachment of Intermediate Track Support PL and Center Track Support PL shall follow alternate detail as described on Sheet SD3.
5. For HMLT Anchor Rod details see District 1 Std. BE501.

SHEET SD2A OF SD9

REVISIONS	
NAME	DATE
REVISED	06/19/06

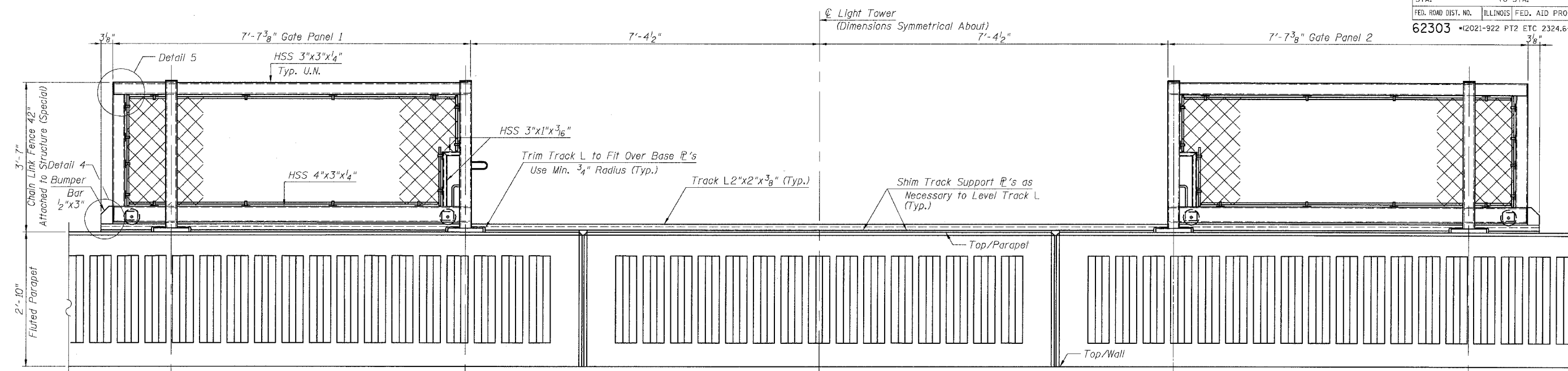
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 CHAIN LINK FENCE, 42" ATTACHED TO
 STRUCTURE (SPECIAL) AND GATE
 TYPICAL GATE PLAN AND NOTES

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: LAM
 CHECKED BY: BLU

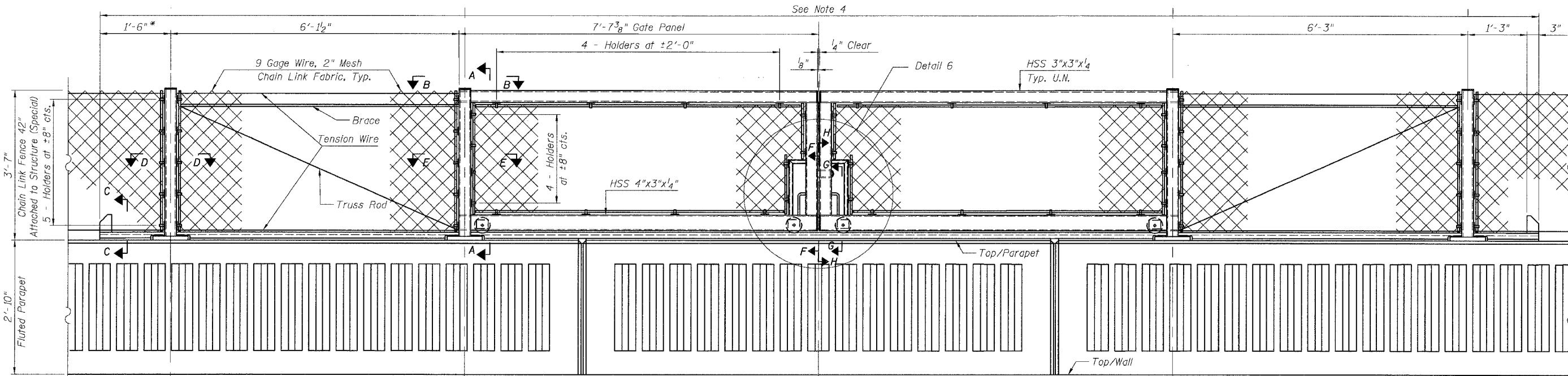
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11/23/2006 11:02:47 AM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	455
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	(2021-922 PT2 ETC	2324.6-1P)	R-11	



BACK FACE ELEVATION - GATE IN OPEN POSITION



BACK FACE ELEVATION - GATE IN CLOSED POSITION

NOTES:

1. For Notes see Sheet SD2A.
2. For Sections A-A, B-B, D-D and E-E see Sheet SD4.
3. For Sections C-C, F-F, G-G & H-H and Details 4, 5 & 6 see Sheet SD5.

NOTES (cont'd.):

4. Pay Limits for "Chain Link Gates (Special)", Fence fabric over length denoted by (*) shall be included with "Chain Link Fence, 42" Attached to Structure (Special)".

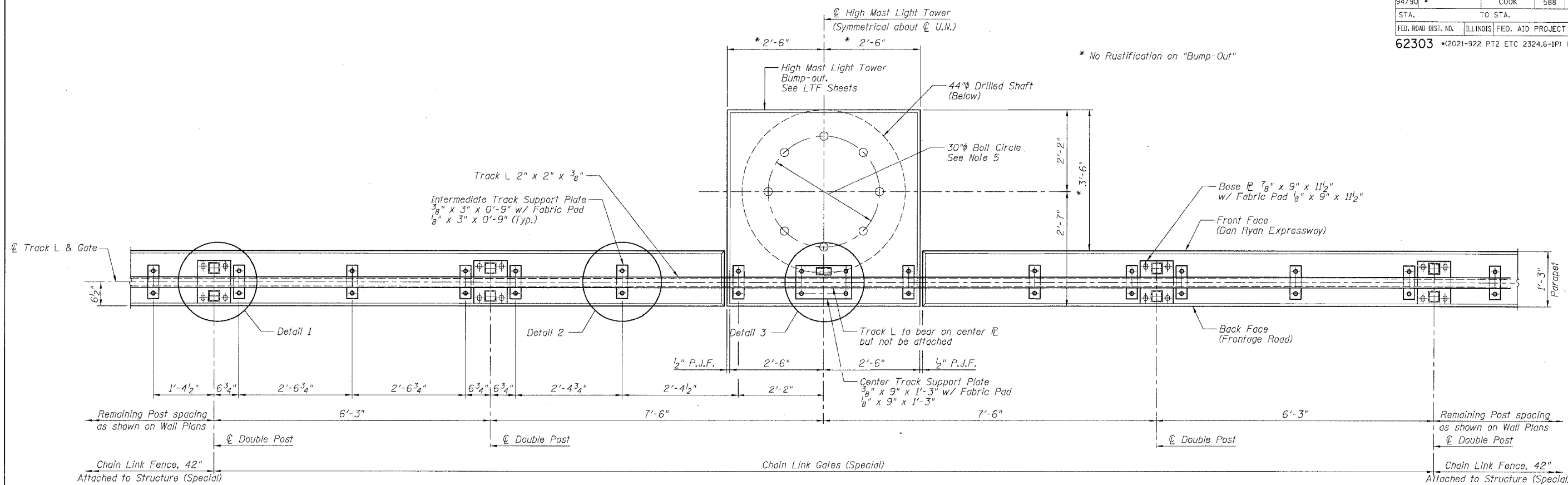
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REVISIONS	
NAME	DATE

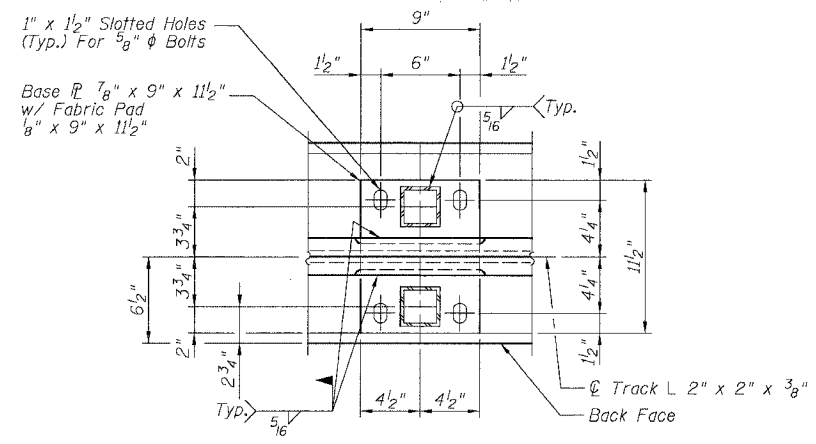
SHEET SD3 OF SD9
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
CHAIN LINK FENCE, 42"
ATTACHED TO STRUCTURE (SPECIAL)
TYPICAL GATE ELEVATIONS
SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

6/9/2006 9:55:07 AM

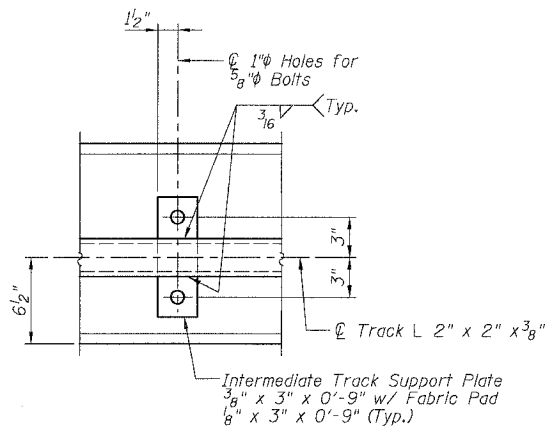
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*2021-922	PT2 ETC 2324.6-1P	R-11	



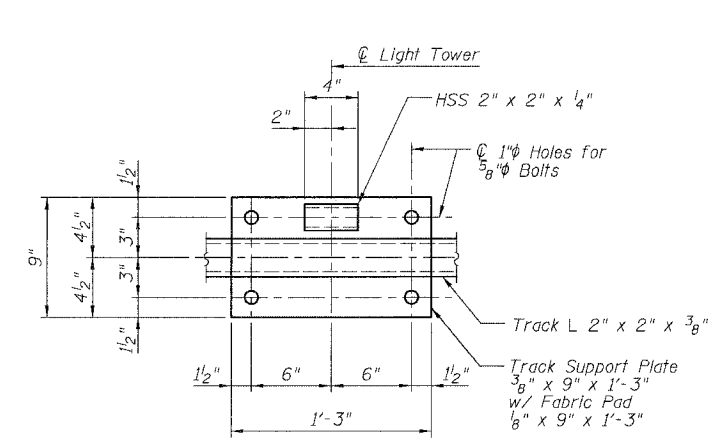
PLAN - GATE IN OPEN POSITION



DETAIL 1



DETAIL 2



DETAIL 3

NOTES:

1. All Bolts shall be Stainless Steel conforming to ASTM F593-98 and F594-98.
2. All Pipes and Bars shall be Hot-Dipped Galvanized after fabrication.
3. For Back Face Elevations, See Sheet SD3.
4. Attachment of Intermediate Track Support PL and Center Track Support PL shall follow alternate detail as described on Sheet SD3.
5. For HMLT Anchor Rod details see District 1 Std. BE501.

SHEET SD2A OF SD9

REVISIONS	
NAME	DATE

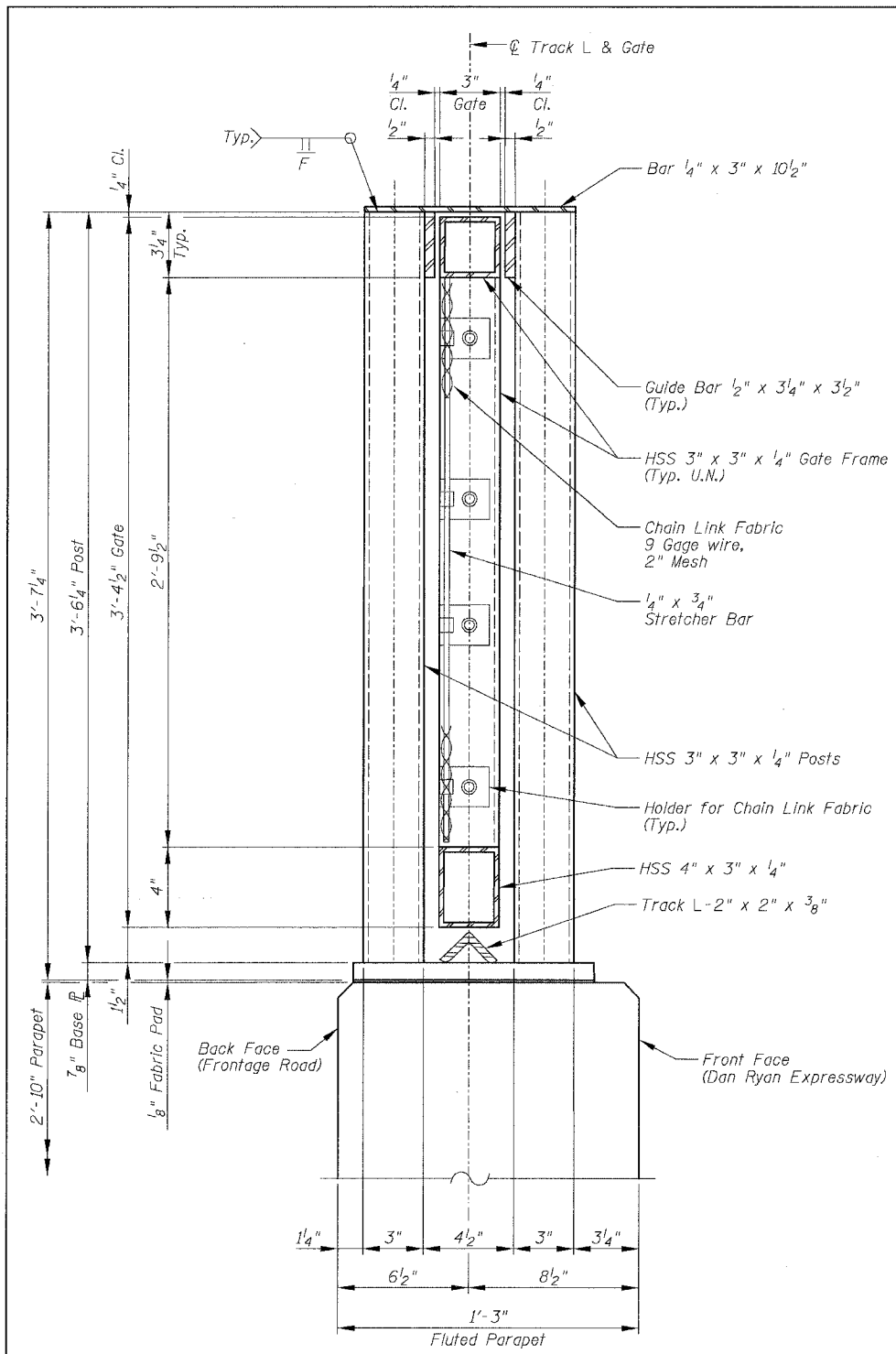
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 CHAIN LINK FENCE, 42\"/>

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: LAM
 CHECKED BY: BLU

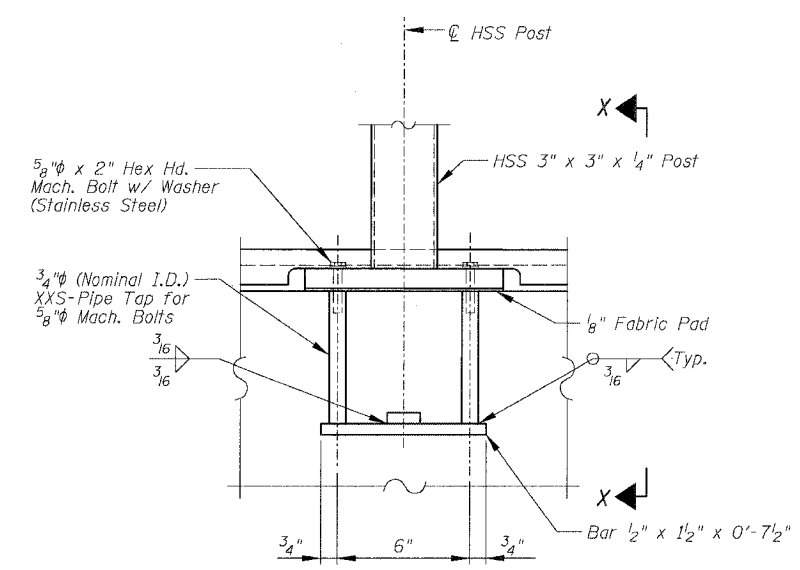
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9-49507 AM 6/9/2006

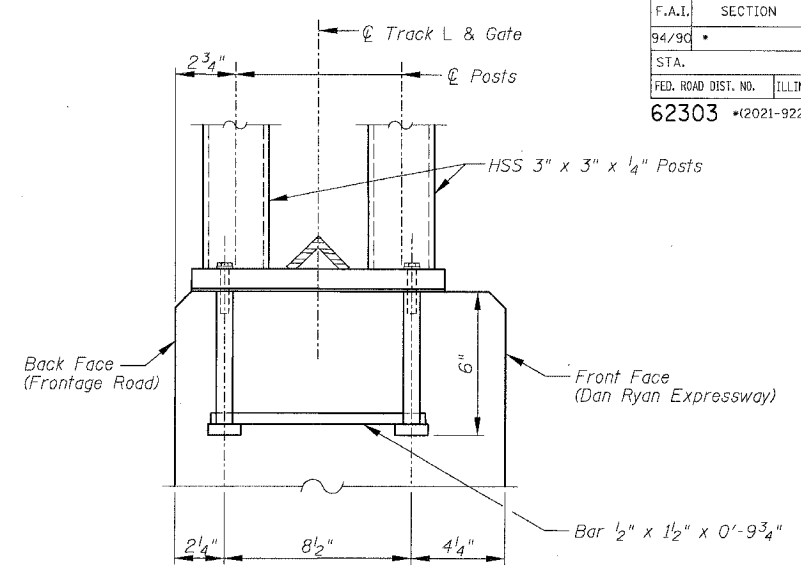
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



SECTION A-A



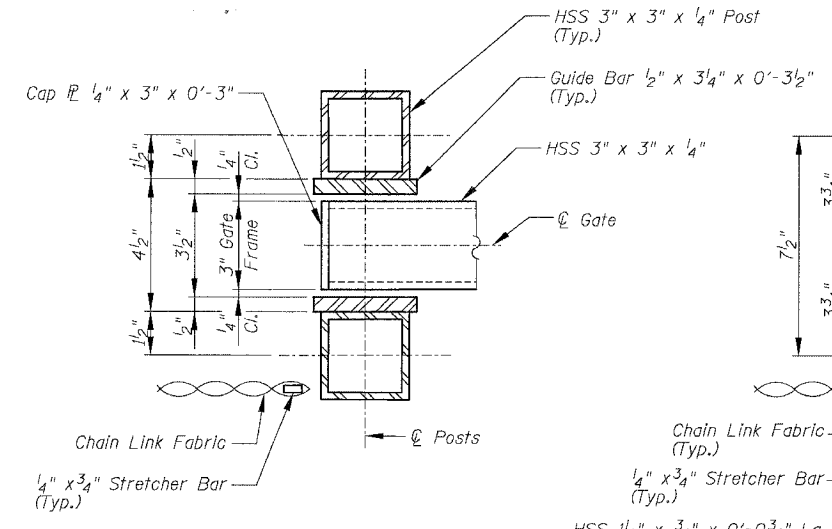
ELEVATION



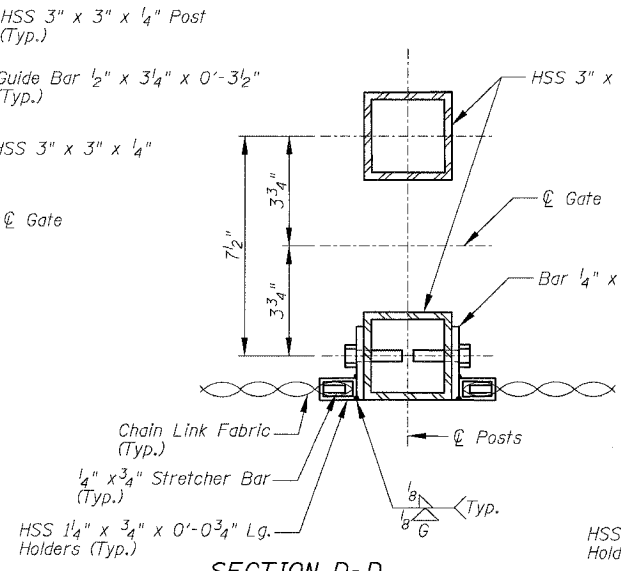
SECTION X-X

ANCHOR BOLT DETAILS

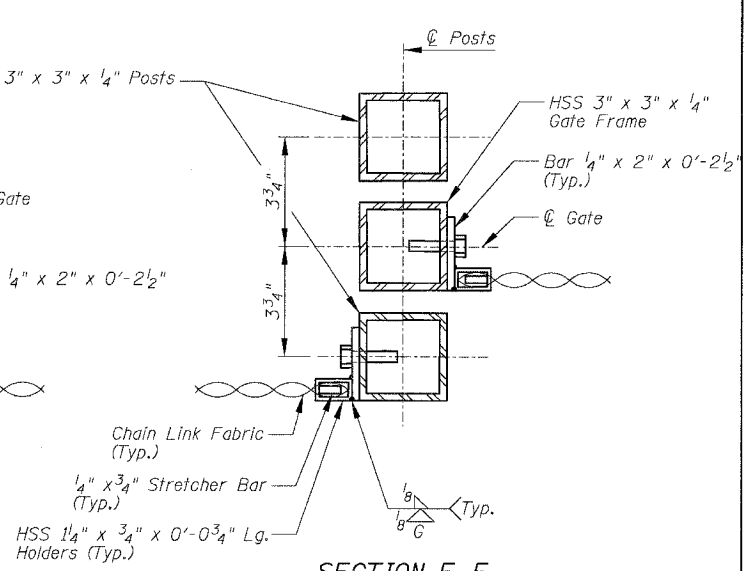
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting 5/8" anchor rods with hex nuts and washers. Embedment shall be according to the manufacturer's specifications using HVA Adhesive anchor as manufactured by Hilti, Inc. or approved equal. Cost included with "Chain Link Gates (Special)".



SECTION B-B



SECTION D-D



SECTION E-E

NOTES:

1. See Sheet SD2A for Notes.
2. See Sheet SD3 for location of Sections A-A, B-B, D-D and E-E.

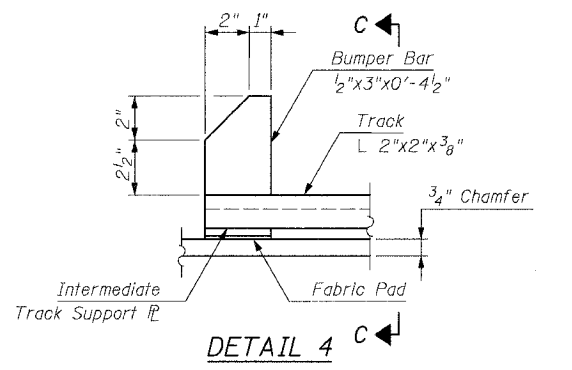
SHEET SD4 OF SD9

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES) CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL) TYPICAL GATE SECTIONS & DETAILS 1
NAME	DATE	
		SCALE: NTS
		DATE: JUNE 9, 2006
		DRAWN BY: MTR
		CHECKED BY: BLU

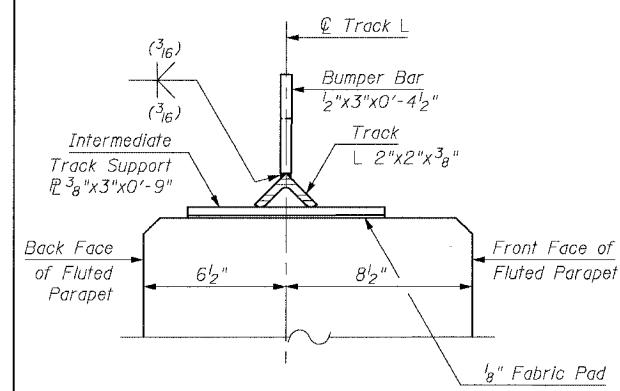
BOWMAN, BARRETT & ASSOCIATES INC.
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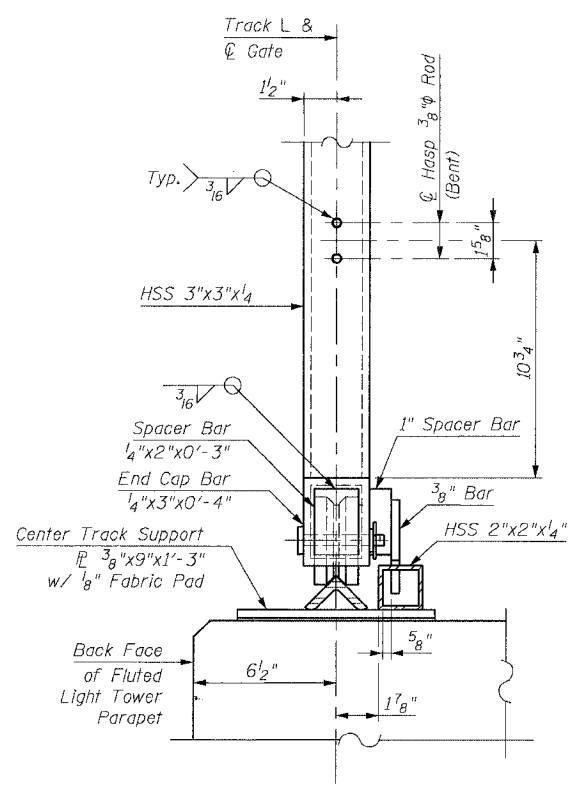
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94/90		COOK	588	457
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62303	*(I2021-922 PT2 ETC 2324.6-1P) R-11			



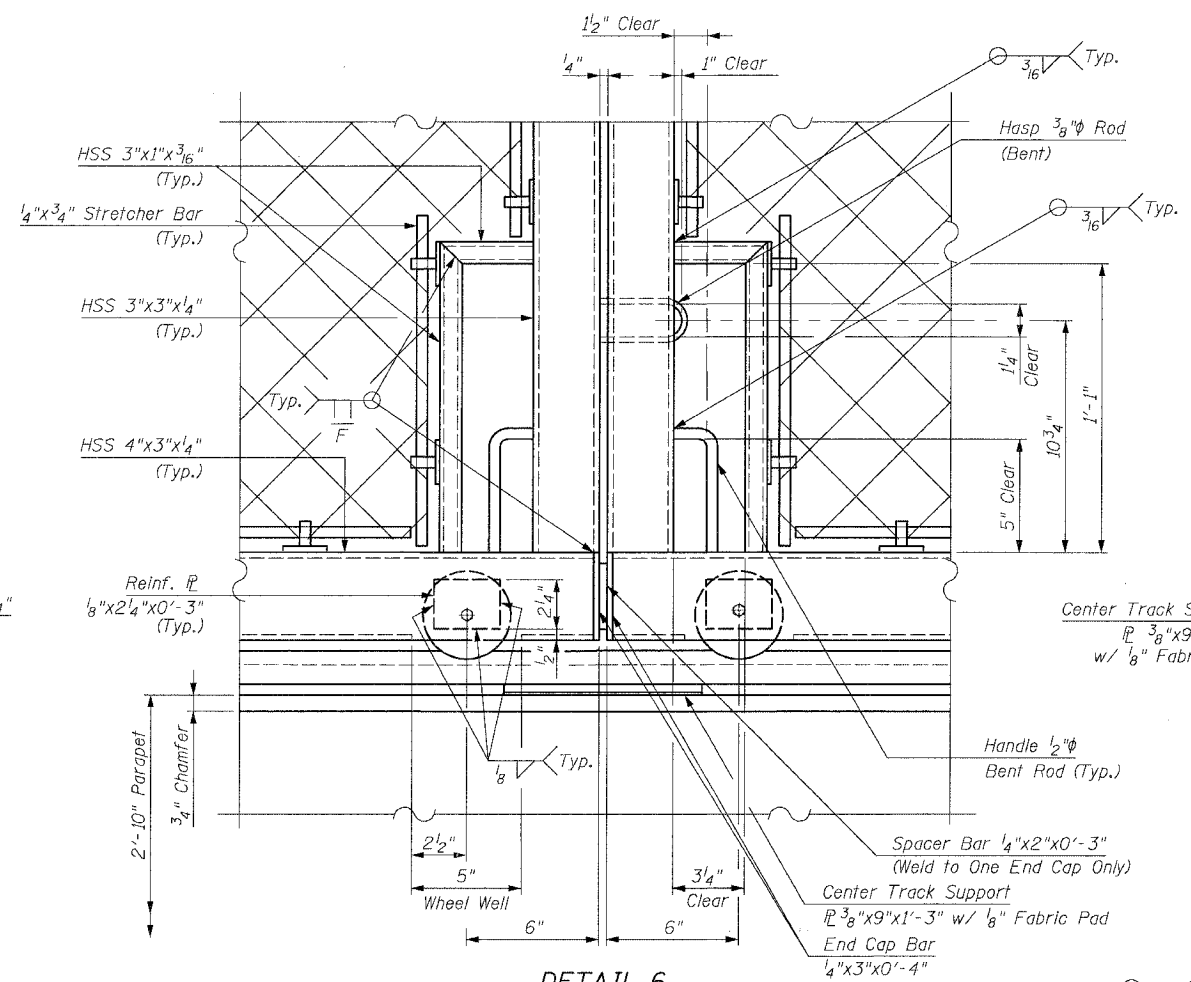
DETAIL 4 C



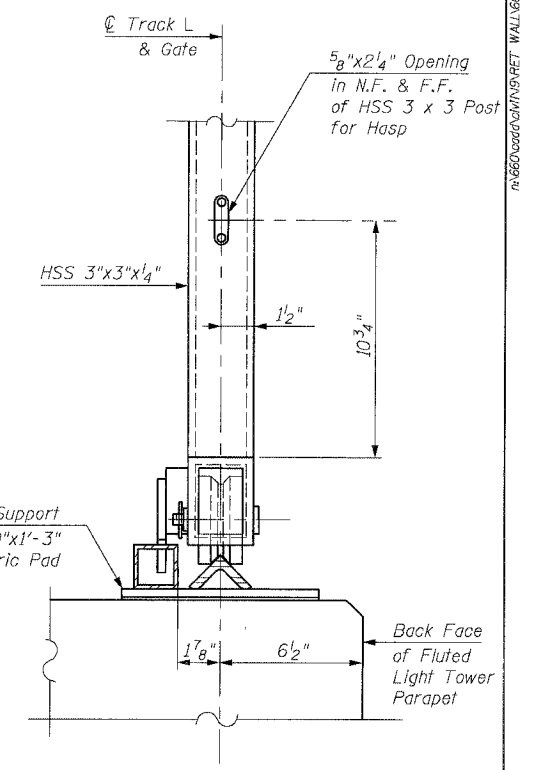
SECTION C-C



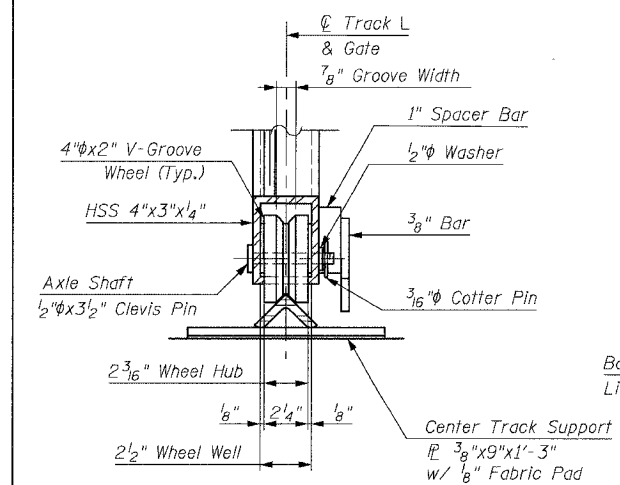
SECTION F-F



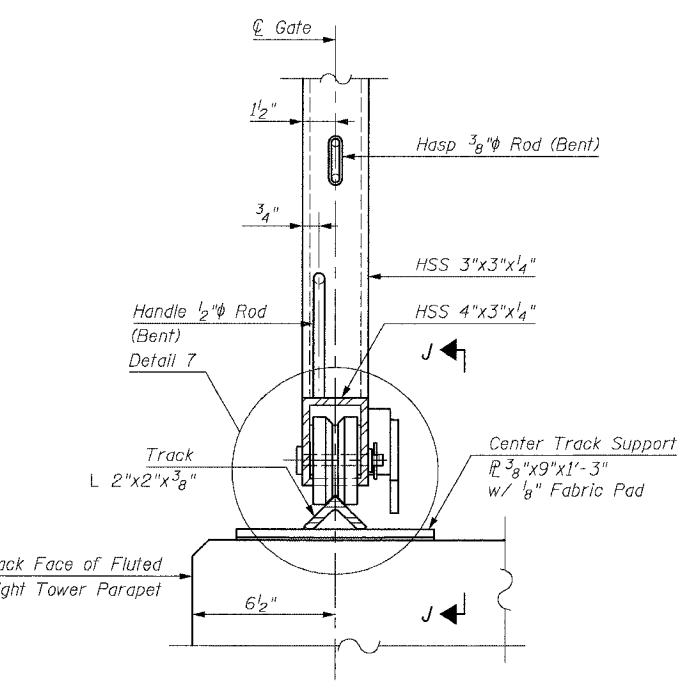
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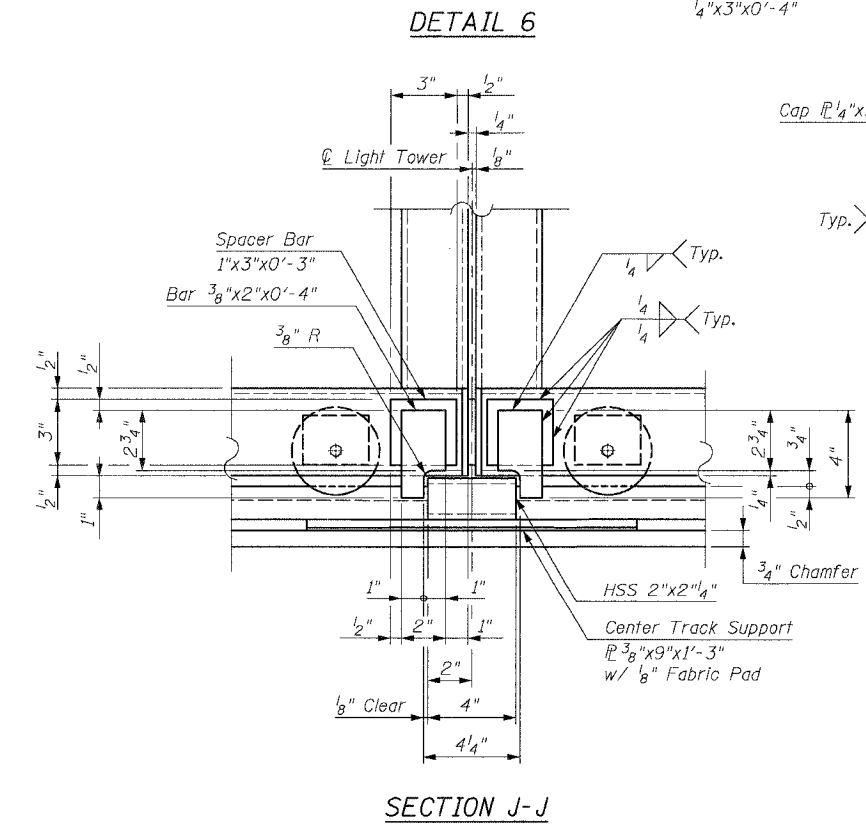
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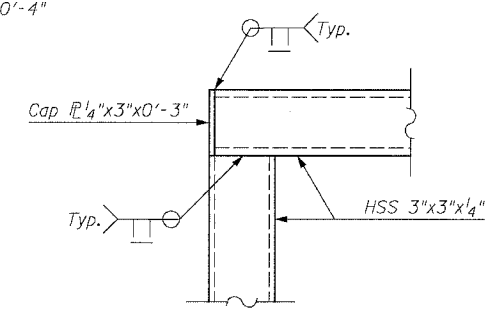
DETAIL 7



SECTION G-G



SECTION J-J



DETAIL 5

- Notes:
1. For Notes see Sheet SD.
 2. See Sheet SD for location of Sections C-C, F-F, G-G & H-H and Details 4, 5 & 6.

REVISIONS	DATE
NAME	

SHEET SD5 OF SD9

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 CHAIN LINK FENCE, 42"
 ATTACHED TO STRUCTURE (SPECIAL)
 TYPICAL GATE SECTIONS & DETAILS 2

SCALE: NTS
 DATE: JUNE 9, 2006

DRAWN BY: MTR
 CHECKED BY: BLU

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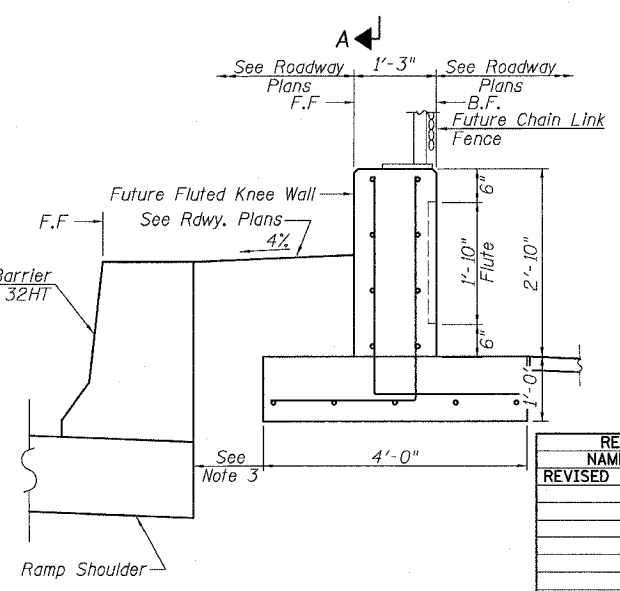
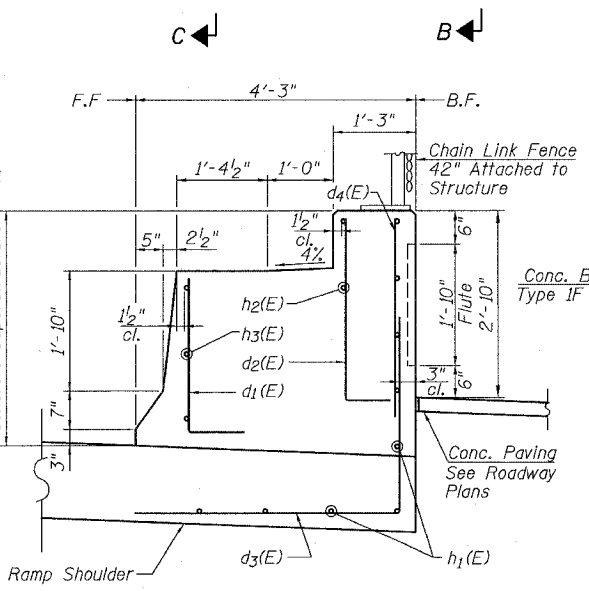
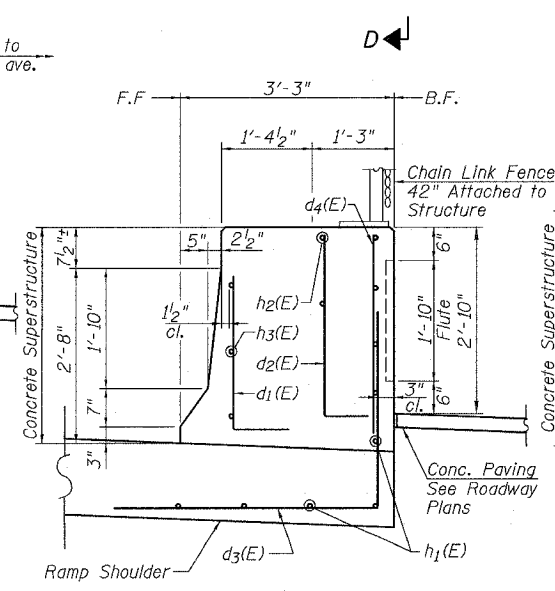
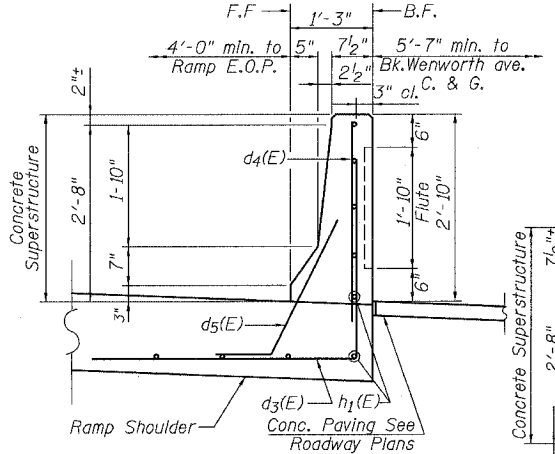
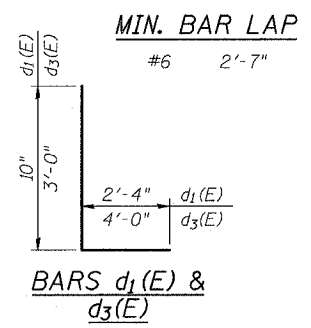
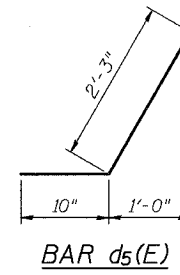
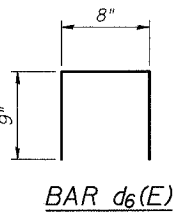
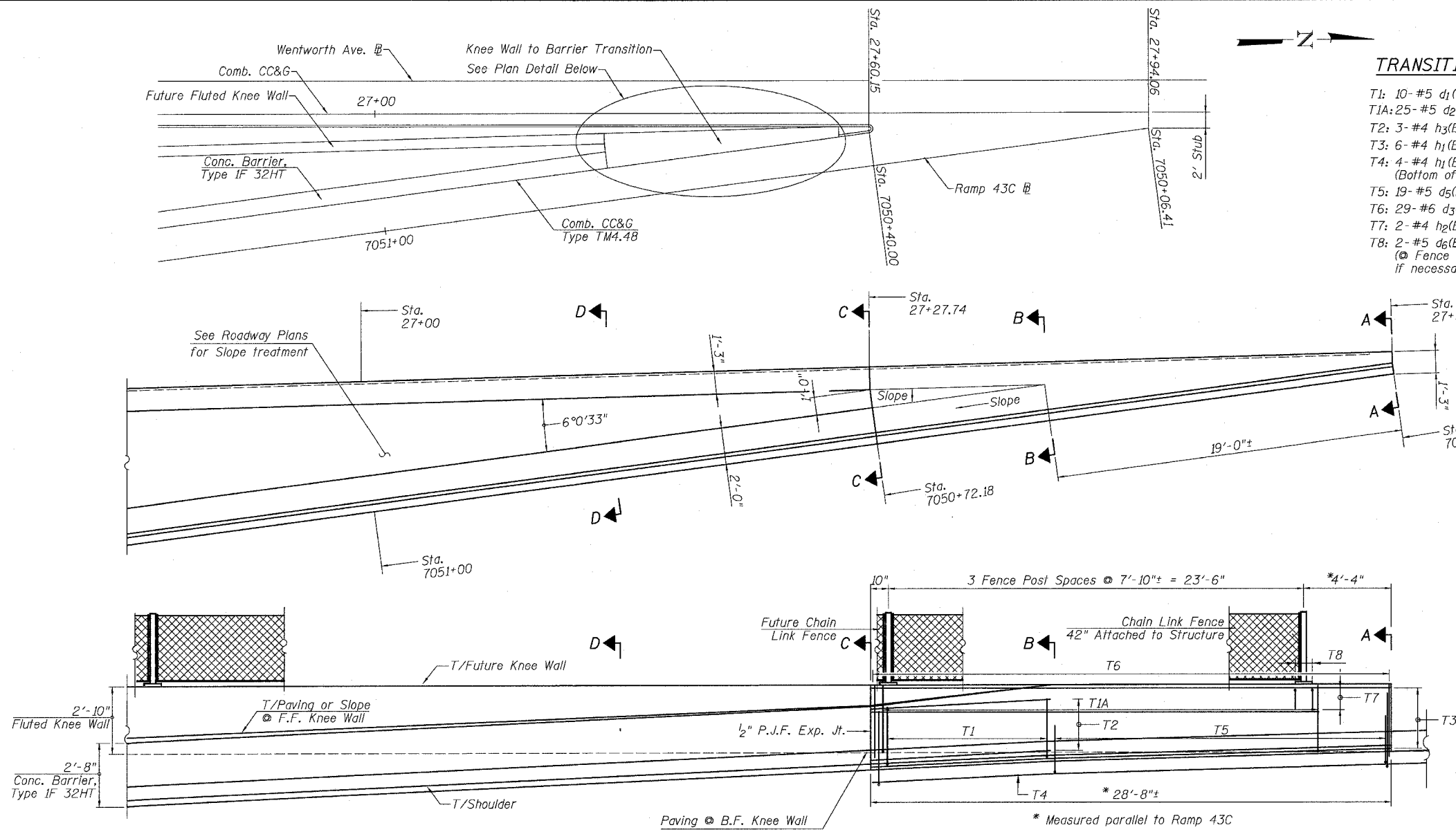
6/8/2006

TRANSITION REINF. SCHEDULE

- T1: 10- #5 d₁(E) @ 12" cts. F.F.
- T1A: 25- #5 d₂(E) @ 12" cts. F.F.
- T2: 3- #4 h₃(E) bars @ 12" cts. F.F.
- T3: 6- #4 h₁(E) bars @ 12" cts. B.F.
- T4: 4- #4 h₁(E) bars @ 12" cts. (Bottom of Ramp Shoulder)
- T5: 19- #5 d₅(E) bars @ 12" cts. F.F.
- T6: 29- #6 d₃(E) & d₄(E) bars @ 12" cts. B.F.
- T7: 2- #4 h₂(E) bars @ 12" cts. F.F.
- T8: 2- #5 d₆(E) bars @ 12" (Fence Post Anchor Bolts, rotate to fit if necessary)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d ₁ (E)	10	#5	3'-2"	
d ₂ (E)	25	#5	3'-5"	
d ₃ (E)	30	#6	7'-0"	
d ₄ (E)	30	#6	3'-0"	
d ₅ (E)	19	#5	3'-1"	
d ₆ (E)	8	#5	2'-2"	
h ₁ (E)	9	#4	28'-2"	
h ₂ (E)	2	#4	24'-6"	
h ₃ (E)	3	#4	10'-0"	
Concrete Superstructure		Cu. Yd.	8.0	
Reinforcement Bars, Epoxy Coated		Pound	874	
Chain Link Fence (Special)		Foot	23'-6"	
Protective Coat		Sq. Yd.	29	
Rustication Finish		Sq. Ft.	52	



NOTES

- F.F. and B.F. denote Front Face and Back Face of transition, respectively.
- See Roadway Plans for details regarding Ramp Shoulder construction.
- Where Barrier interferes with Knee Wall, taper edge of footing and shift/adjust footing reinforcement as necessary.
- Contractor is responsible for maintaining stability of Frontage Road during construction of Transition.
- See Roadway Plans for details of PCC Shoulder, 11" (Special) & Concrete Barrier, Single Face (Special).
- See Sheet SD1 for Fluted Knee Wall and Chain Link Fence details.
- Knee Wall/Barrier Transition shall be paid as "Concrete Superstructure", "Reinforcement Bars, Epoxy Coated", "Rustication Finish" and "Protective Coat".

SHEET SD5A OF SD9

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 SB EXPRESS LANES & RAMPS
 KNEE WALL/ BARRIER TRANSITION
 AT RAMP 43C

SCALE: NTS
 DATE: JUNE 9, 2006
 DRAWN BY: PAH
 CHECKED BY: BLU

REVISIONS		
NO.	NAME	DATE
1	REVISED	6/21/06

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	459
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303		*(2021-922 PT2 ETC 2324.6-1P) R-11		

BILL OF MATERIAL

Light Tower Service Pad, Special with 3'-6" Wall (Note 4)

Bar	No.	Size	Length	Shape
h ₁₃ (E)	1	#5	23'-6"	
h ₁₄ (E)	1	#5	18'-11"	
h ₁₅ (E)	1	#5	13'-7"	
h ₁₆ (E)	1	#5	8'-4"	
h ₁₇ (E)	1	#4	22'-1"	
h ₁₈ (E)	1	#4	17'-9"	
h ₁₉ (E)	1	#4	12'-9"	
h ₂₀ (E)	1	#4	7'-10"	
n ₂ (E)	25	#6	5'-10"	
t ₁ (E)	25	#6	5'-1"	
v ₃ (E)	7	#4	3'-10"	
v ₄ (E)	7	#4	3'-2"	
w ₁ (E)	1	#5	24'-4"	
w ₂ (E)	1	#5	21'-7"	
w ₃ (E)	1	#5	18'-10"	
w ₄ (E)	1	#5	15'-5"	
w ₅ (E)	1	#5	11'-6"	
Concrete Structures		Cu. Yd.	2.2	
Reinforcement Bars, Epoxy Coated		Pound	150	
Protective Coat		Sq. Yd.	24	
Rustication Finish		Sq. Ft.	32	

BILL OF MATERIAL

Light Tower Service Pad, Special with 5'-0" Wall (Note 4)

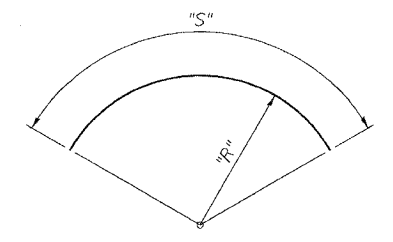
Bar	No.	Size	Length	Shape
h ₁ (E)	1	#5	23'-6"	
h ₂ (E)	1	#5	20'-10"	
h ₃ (E)	1	#5	17'-8"	
h ₄ (E)	1	#5	14'-6"	
h ₅ (E)	1	#5	11'-4"	
h ₆ (E)	1	#5	8'-2"	
h ₇ (E)	1	#4	22'-1"	
h ₈ (E)	1	#4	19'-7"	
h ₉ (E)	1	#4	16'-7"	
h ₁₀ (E)	1	#4	13'-7"	
h ₁₁ (E)	1	#4	10'-8"	
h ₁₂ (E)	1	#4	7'-8"	
n ₁ (E)	25	#6	7'-4"	
t ₁ (E)	25	#6	5'-1"	
v ₂ (E)	8	#4	4'-8"	
w ₁ (E)	1	#5	24'-4"	
w ₂ (E)	1	#5	21'-7"	
w ₃ (E)	1	#5	18'-10"	
w ₄ (E)	1	#5	15'-5"	
w ₅ (E)	1	#5	11'-6"	
Concrete Structures		Cu. Yd.	3.0	
Reinforcement Bars, Epoxy Coated		Pound	210	
Protective Coat		Sq. Yd.	26	
Rustication Finish		Sq. Ft.	53	

TOTAL BILL OF MATERIAL

Item	Unit	Total
Light Tower Service Pad, 6"	Sq. Ft.	136
Light Tower Service Pad, Special	Sq. Ft.	1,768
Structure Excavation	Cu. Yd.	
Concrete Structures	Cu. Yd.	32.6
Reinforcement Bars, Epoxy Coated	Pound	2,250
Rustication Finish	Sq. Ft.	521
Protective Coat	Sq. Yd.	322

HMLT SERVICE PAD/RETAINING WALL SCHEDULE

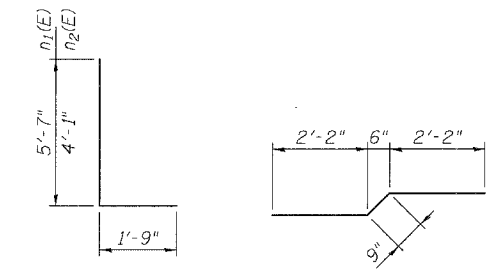
HMLT I.D.	Service Pad/Retaining Wall Requirements
7 UCD1	Light Tower Service Pad w/ 3'-6" Wall,
7 VIJ2	Light Tower Service Pad w/ 3'-6" Wall
7 VIJ1	Light Tower Service Pad, No Wall
7 VAB4	Light Tower Service Pad w/ 5'-0" Wall
7 VAB3	Light Tower Service Pad w/ 3'-6" Wall
7 VAB2	Light Tower Service Pad w/ 5'-0" Wall
7 VAB1	Light Tower Service Pad w/ 5'-0" Wall
7 VCD1	Light Tower Service Pad w/ 3'-6" Wall
7 VCD2	Light Tower Service Pad w/ 3'-6" Wall
7 VCD3	Light Tower Service Pad w/ 3'-6" Wall
7 VCD4	Light Tower Service Pad w/ 5'-0" Wall
7 WCD1	Light Tower Service Pad w/ 3'-6" Wall
7 WCD4	Light Tower Service Pad w/ 5'-0" Wall
7 WCD5	Light Tower Service Pad w/ 3'-6" Wall



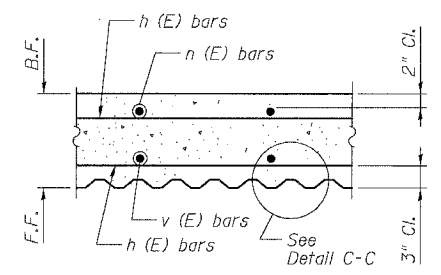
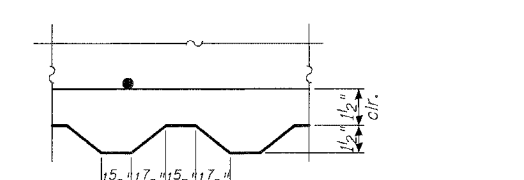
Bar	"R"	"S"
h ₁ (E)	7'-7"	23'-6"
h ₂ (E)	7'-7"	20'-10"
h ₃ (E)	7'-7"	17'-8"
h ₄ (E)	7'-7"	14'-6"
h ₅ (E)	7'-7"	11'-4"
h ₆ (E)	7'-7"	8'-2"
h ₇ (E)	7'-1 1/2"	22'-1"
h ₈ (E)	7'-1 1/2"	19'-7"
h ₉ (E)	7'-1 1/2"	16'-7"
h ₁₀ (E)	7'-1 1/2"	13'-7"
h ₁₁ (E)	7'-1 1/2"	10'-8"
h ₁₂ (E)	7'-1 1/2"	7'-8"
h ₁₃ (E)	7'-7"	23'-6"
h ₁₄ (E)	7'-7"	18'-11"
h ₁₅ (E)	7'-7"	13'-7"
h ₁₆ (E)	7'-7"	8'-4"
h ₁₇ (E)	7'-1 1/2"	22'-1"
h ₁₈ (E)	7'-1 1/2"	17'-9"
h ₁₉ (E)	7'-1 1/2"	12'-9"
h ₂₀ (E)	7'-1 1/2"	7'-10"
w ₁ (E)	7'-7"	24'-4"
w ₂ (E)	6'-8"	21'-7"
w ₃ (E)	5'-10"	18'-10"
w ₄ (E)	4'-9"	15'-5"
w ₅ (E)	3'-6"	11'-6"

Note: "R" and "S" measured along bar @

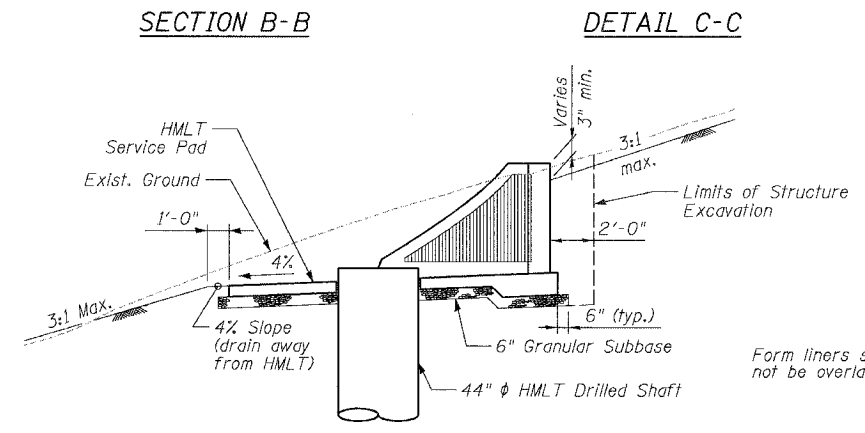
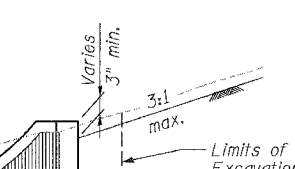
BARS w₁(E) thru w₅(E) & h₁(E) thru h₂₀(E)



BARS n₁(E) & n₂(E) BAR t₁(E)

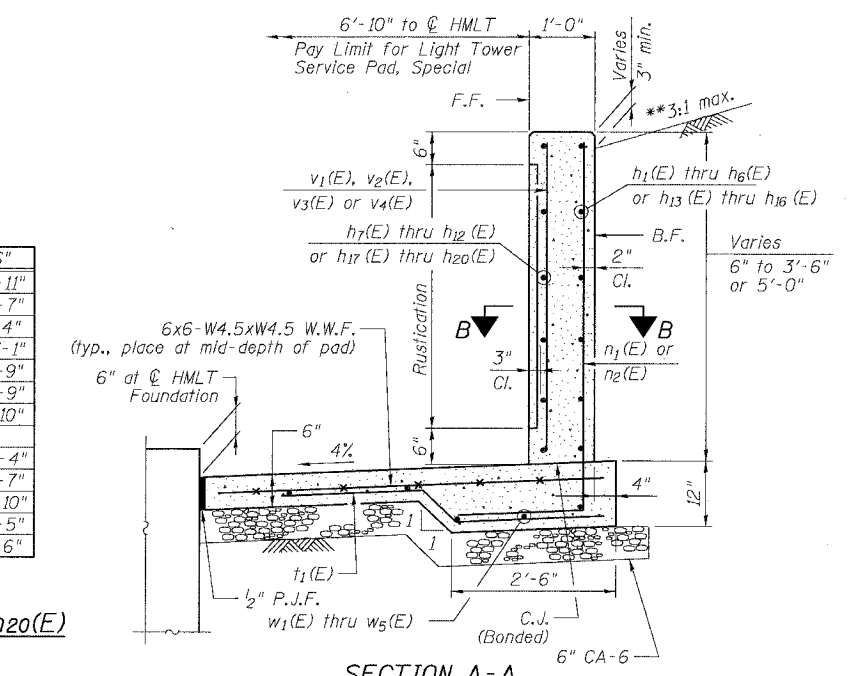


DETAIL C-C



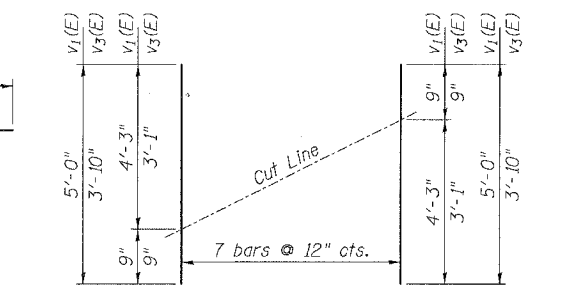
SECTION THRU EMBANKMENT

(At Typ. Tower Location)
HMLT not shown for clarity



SECTION A-A

**See Roadway Cross Section Shts.



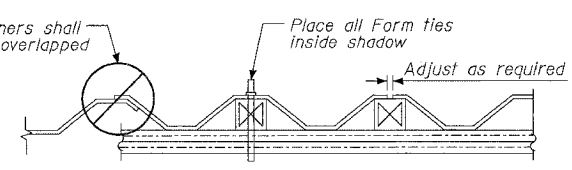
***CUTTING DIAGRAM**

Bars v₁(E) & v₃(E)

Order v₁(E) & v₃(E) bars full length and cut to fit as shown. Use remainder of bars as indicated on plans.

NOTES

- F.F. and B.F. denote Front Face and Back Face, respectively.
- HMLT denotes High Mast Light Tower.
- For location of High Mast Light Tower Foundations, see Roadway Lighting Plan sheets.
- Bars n₁(E), n₂(E), t₁(E) and w₁(E) thru w₅(E) will not be measured and paid separately but will be included in the cost of Light Tower Service Pad, Special. See Special Provisions.
- See IDOT Standard Drawing BE501 for additional High Mast Light Tower Foundation and ground well details.
- Reinforcement Bars designated (E) shall be epoxy coated.
- Refer to High Mast Light Tower Service Pad & Retaining Wall Details 1 for location and orientation of conduit sleeves and grounding wells.
- Contractor shall maintain integrity of Frontage Roads as may be required in excavating for HMLT service pad walls.
- Provide Protective Coat to top, front face and ends of walls and to the top of the concrete service pad.



SUGGESTED FORMWORK DETAIL

SHEET SD7 OF SD9

REVISIONS	DATE
NAME	

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

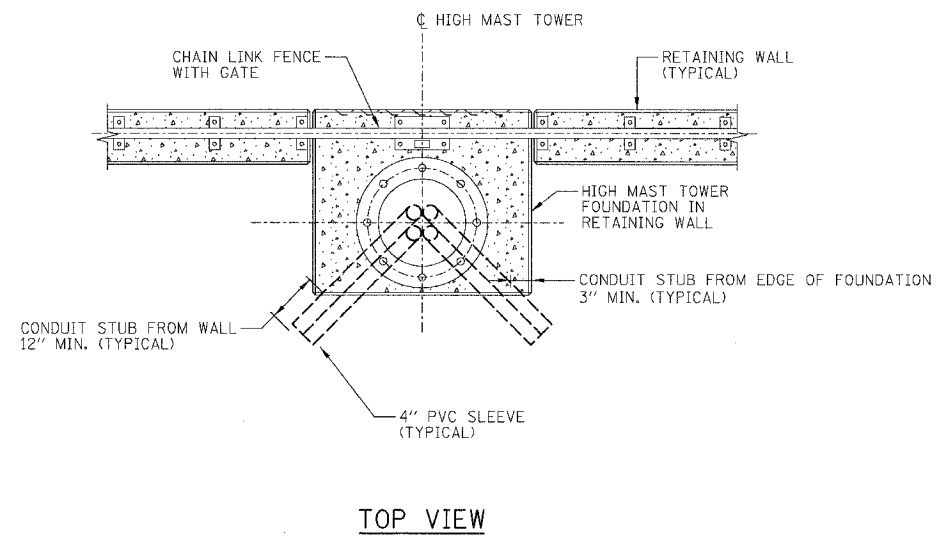
HIGH MAST LIGHT TOWER SERVICE PAD & RETAINING WALL DETAILS 2

SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

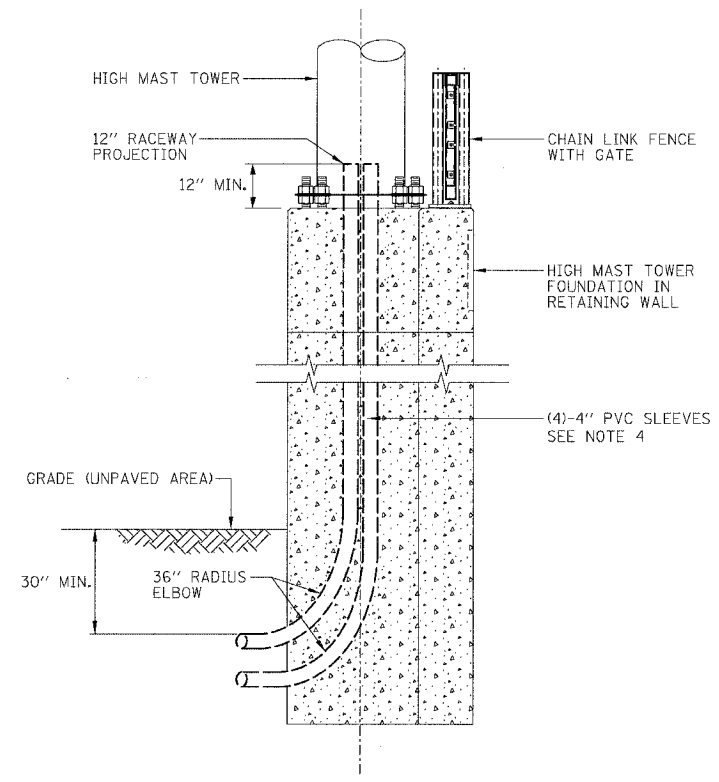
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CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
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6/27/2006 10:59 AM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	460
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303 *I2021-922 PT2 ETC 2324.6-1P) R-11				

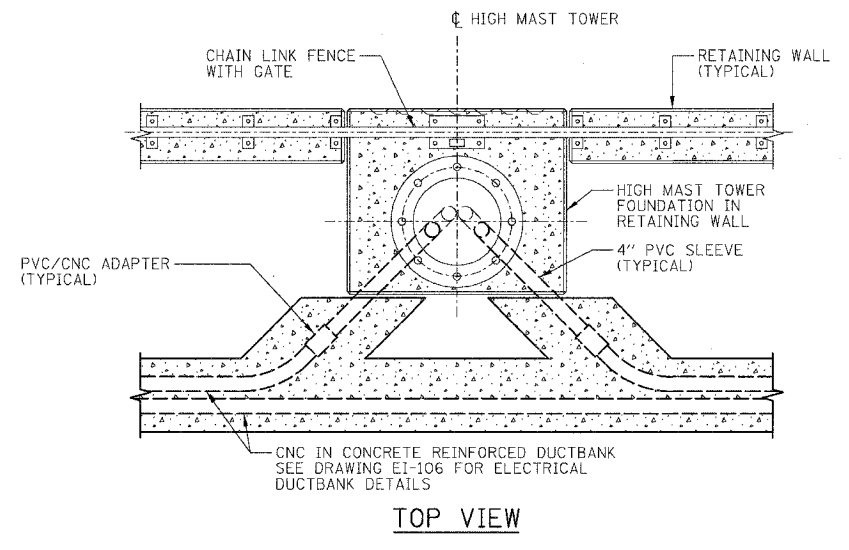


TOP VIEW

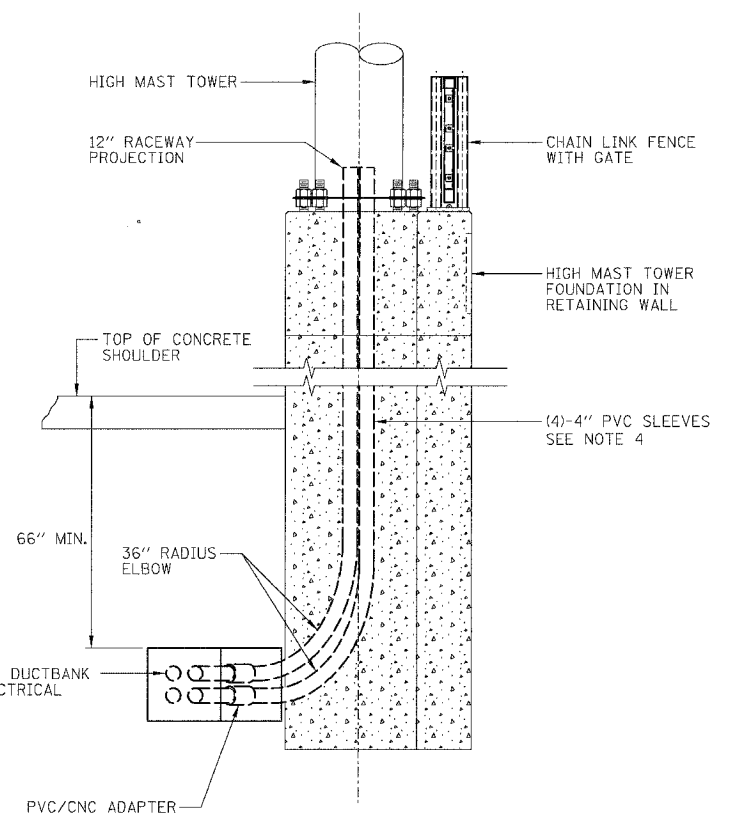


SIDE ELEVATION VIEW

TYPICAL CONDUIT INSTALLATION DETAIL FOR INSTALLING CONDUIT SLEEVES IN FOUNDATION IN RETAINING WALL
NOT TO SCALE



TOP VIEW



SIDE ELEVATION VIEW

TYPICAL CONDUIT INSTALLATION DETAIL FOR INSTALLING CONCRETE DUCTBANK TO FOUNDATION IN RETAINING WALL
NOT TO SCALE

NOTES:

1. SEE DRAWINGS EI-100 AND EI-101 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. SEE PLAN DRAWINGS FOR HIGH MAST LIGHT TOWER FOUNDATION LOCATIONS.
3. SEE DRAWING EI-106 FOR ELECTRICAL DUCTBANK DETAILS.
4. SEE SHEET SD9 FOR NOTES REGARDING PVC CONDUIT SLEEVES.
5. SEE WALL PLANS AND IDOT STANDARD DRAWING BE-501 FOR ADDITIONAL FOUNDATION DETAILS.

SHEET SD8 OF SD9

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

LIGHT TOWER FOUNDATIONS MOUNTED ON RETAINING WALLS

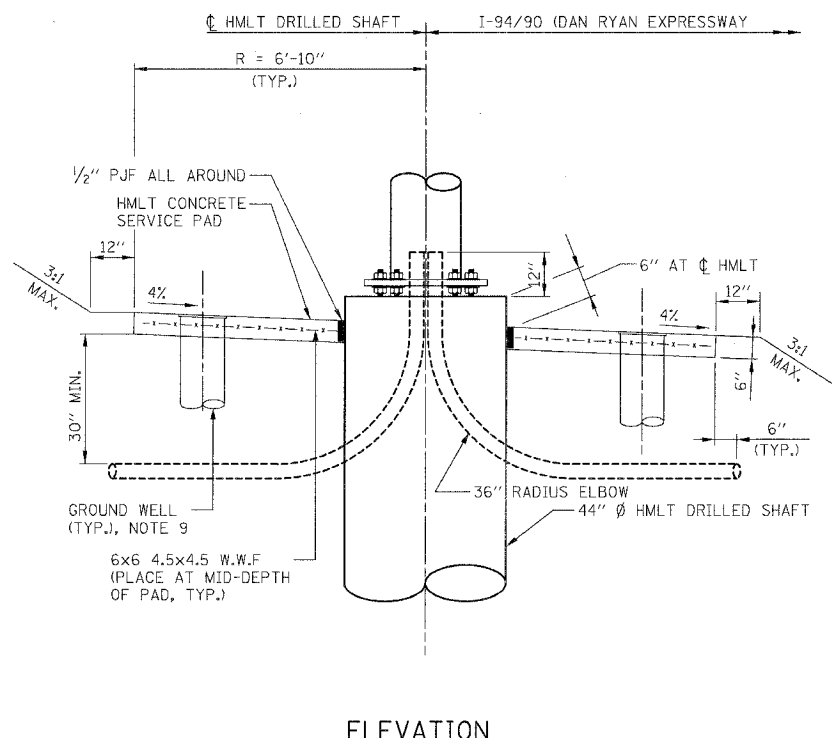
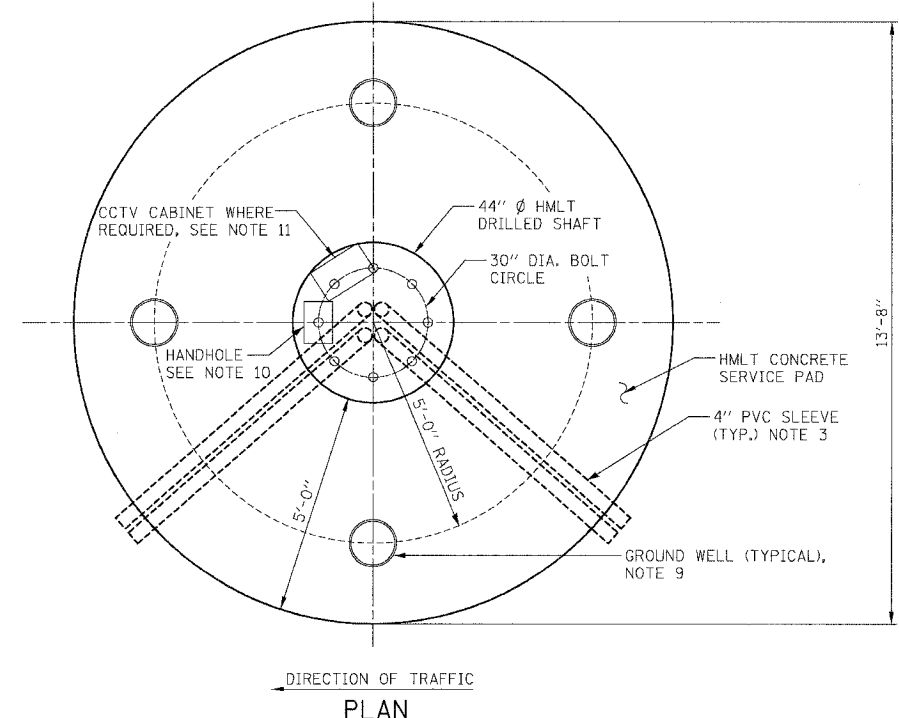
SCALE: NTS
DATE: JUNE 9, 2006
DRAWN BY: MTR
CHECKED BY: BLU

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312 228 0100
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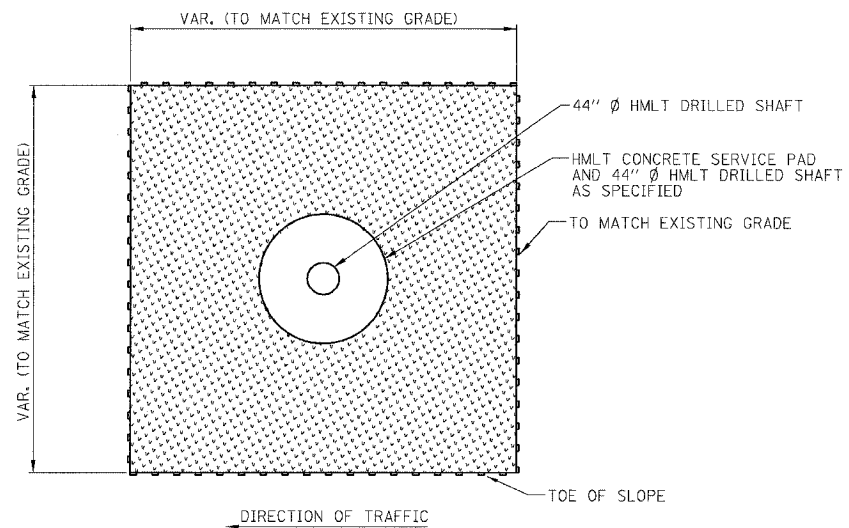
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*2021-922 PT2 ETC 2324.6-1P		R-11	



**GROUND MOUNTED HIGH MAST LIGHT TOWER FOUNDATION
WITH SERVICE PAD DETAIL**

NOTES:

- SEE DRAWINGS EI-100 AND EI-101 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
- SEE IDOT STANDARD DRAWING BE501 FOR ADDITIONAL HIGH MAST LIGHT TOWER FOUNDATION DETAILS.
- PVC SLEEVES MUST BE EXTENDED 6 INCHES BEYOND THE EDGE OF THE CONCRETE PAD (BOTH CURRENT AND FUTURE).
- PVC SLEEVE FOR CCTV CAMERA POWER FEED (FUTURE). SLEEVE MUST BE CAPPED UNLESS NOTED OTHERWISE ON THE PLANS.
- SEE CROSS SECTIONS FOR LIMITS OF GRADING AND SEEDING.
- THE PERIMETER EROSION BARRIER IS TO BE PLACED AROUND THE WORK ZONE AREA OR AS DIRECTED BY THE ENGINEER.
- COST OF ALL EROSION CONTROL ITEMS FOR HIGH MAST LIGHT TOWER RESTORATION WILL BE INCLUDED IN THE UNIT COST OF LIGHT TOWER FOUNDATION, 44" DIAMETER.
- ALL LIGHT TOWER FOUNDATIONS INCLUDING RETAINING WALL MOUNTED TOWERS WILL HAVE 4 PVC SLEEVES. COST OF PVC SLEEVES INCLUDED IN COST OF LIGHT TOWER FOUNDATION, 44" DIAMETER OR DRILLED SHAFT IN SOIL, 44" AS APPROPRIATE.
- INSTALL GROUND WELLS 5'-0" AS MEASURED FROM THE CENTER LINE OF THE HIGH MAST TOWER TO THE CENTER LINE OF THE WELL.
- THE HANDHOLE FOR THE HIGH MAST LIGHTING UNIT MUST BE ORIENTED SUCH THAT IT IS MOUNTED ON THE SIDE OF THE POLE THAT IS OPPOSITE THE DIRECTION OF TRAFFIC.
- THE DETAIL REPRESENTS A HIGH MAST LIGHT TOWER WITH A CCTV CAMERA MOUNTED ON IT. THE DETAIL FOR HIGH MAST LIGHT TOWERS WITH NO CAMERAS IS SIMILAR.
- GROUND RODS AND GROUND WELLS MAY ALREADY BE INSTALLED AT CERTAIN HMLT FOUNDATIONS. CONTRACTOR SHALL MAKE ANY NECESSARY ADJUSTMENTS AS REQUIRED TO CONSTRUCT SERVICE PADS. COST OF ADJUSTMENTS SHALL BE INCLUDED WITH LIGHT TOWER SERVICE PAD, 6 OR LIGHT TOWER SERVICE PAD SPECIAL AS APPROPRIATE.



**LANDSCAPING ADJACENT TO GROUND MOUNTED
HIGH MAST TOWER FOUNDATION**

LEGEND:

- TEMPORARY EROSION CONTROL SEEDING
- PERIMETER EROSION BARRIER

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REVISIONS	
NAME	DATE

SHEET SD9 OF SD9

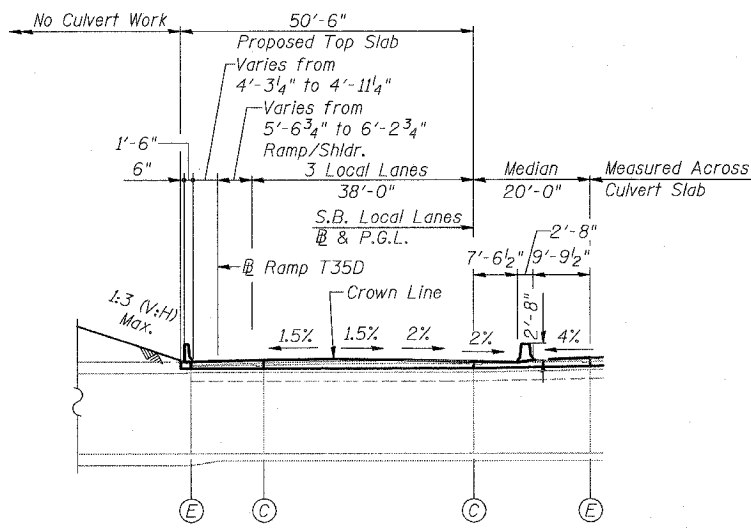
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)

**GROUND MOUNTED HIGH MAST
LIGHT TOWER FOUNDATIONS**

SCALE: NTS
DATE: JUNE 9, 2006

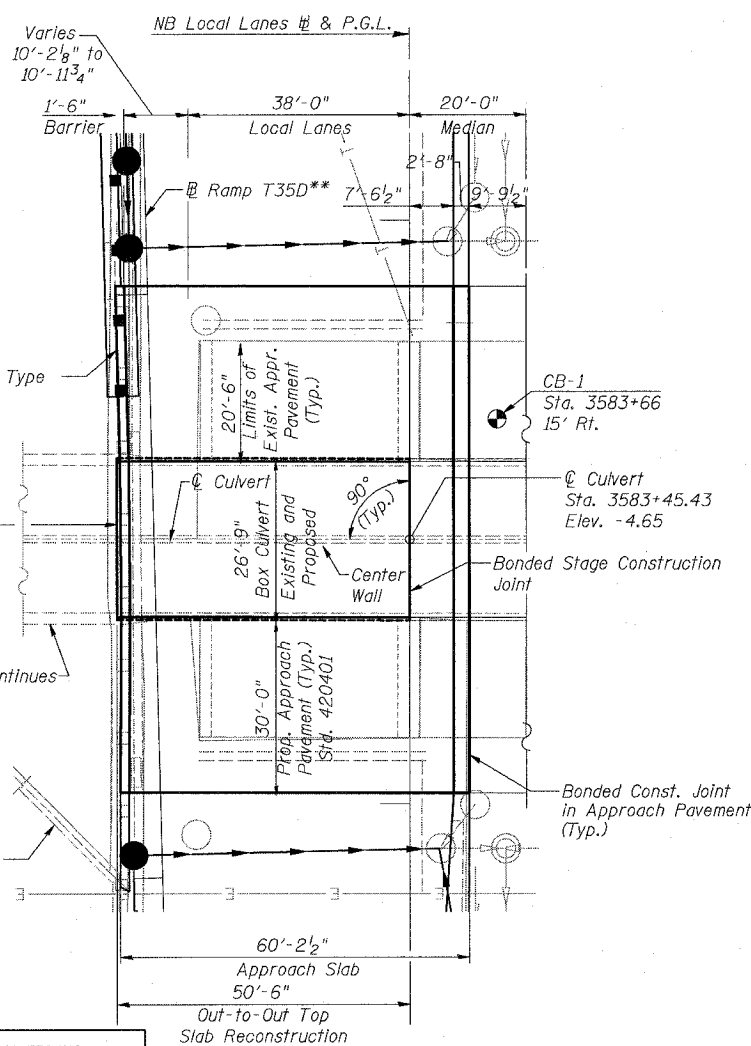
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LONGITUDINAL SECTION THRU CULVERT

* No work will encroach inside the culvert or change existing opening
 ** Ramp profile follows Local Lane profile over the culvert and approach pavement



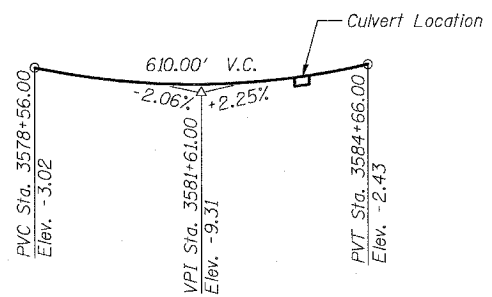
GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

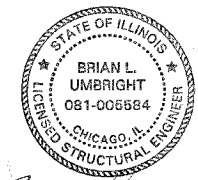
All construction joints shall be bonded.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QTY.
Bridge Approach Pavement	Sq. Yd.	400
Bituminous Surface Removal (Variable Depth)	Sq. Yd.	38
Approach Slab Removal	Sq. Yd.	164
Concrete Superstructure	Cu. Yd.	88.9
Structure Excavation	Cu. Yd.	4
Bridge Deck Grooving	Sq. Yd.	142
Protective Coat	Sq. Yd.	253
Reinforcement Bars, Epoxy Coated	Pound	15,780
Bar Splicers	Each	102
Concrete Slab Hydro-Demolition	Sq. Yd.	151
Video Taping of MWRD Culvert	Foot	245



PROFILE GRADE LINE ALONG S.B. LOCAL LANES



Date: June 9, 2006
 License
 Expires: November 30, 2006

Benchmark: BM No. 3540

"□" Cut on the Southwest corner of traffic control box at the Northeast corner of 39th and LaSalle Streets. El. 12.33

Existing Structure: The existing structure was built in 1962 under Section S-2323.2-4B and is identified as S.N. 016-2625. The structure is a 12'-0" clear span by 14'-0" clear height double barrel reinforced concrete box culvert. It conveys sanitary and storm water under the Dan Ryan Expressway for the MWRDGC. The length of culvert under the expressway is 325'-0" and the culvert transitions horizontally, vertically and in cross section to connect to an existing circular brick sewer under the centerline of 39th Street. The top slab of the culvert is the expressway pavement and consists of a minimum of 1'-3" of reinforced concrete with an approximately 5" thick overlay (either concrete or bituminous). The centerline of the culvert has no skew relative to the Dan Ryan baselines. There are 20'-6" long approach slabs on each side of the culvert over the width of the traffic lanes. Barrier wall is attached to the top slab and separates the express and local lanes of the expressway and the expressway from the CTA tracks. The barrier is supported by PCC shoulders outside the limits of the culvert. The culvert will be rehabilitated utilizing stage construction. Portions of the top slab and all components of the culvert below grade shall be re-used.

All elevations are based on the Chicago City Datum (C.C.D.)

DESIGN SPECIFICATIONS

2002 AASHTO

LOADING HS20-44 & ALT.

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

DESIGN STRESSES

FIELD UNITS

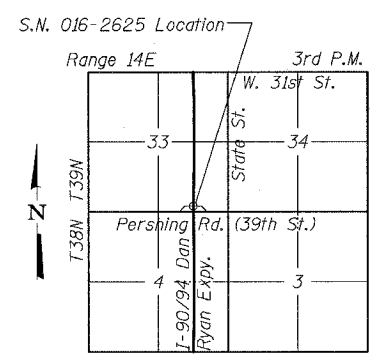
New:
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 Existing:
 $f'_c = 3,500$ psi
 $f_y = 40,000$ psi (Reinforcement)

ABBREVIATIONS

- MWRDGC = Metropolitan Water Reclamation or MWRD District of Greater Chicago
- CTA = Chicago Transit Authority
- EJ = Expansion Joint
- CJ = Construction Joint
- P.G.L. = Profile Grade Line
- NB = Northbound
- SB = Southbound
- C.R.P.C.C = Continually Reinforced Portland Cement Concrete

LEGEND

- CB-2 = Soil Boring Location
- = Exist. Catch basin
- ⊙ = Exist. Manhole
- = Exist. Inlet
- = Exist. Storm sewer
- = Exist. Underdrain
- = Prop. Catch basin
- ⊙ = Prop. Manhole
- = Prop. Storm sewer
- = Prop. Underdrain



LOCATION SKETCH

SHEET CUL-1 OF CUL-16

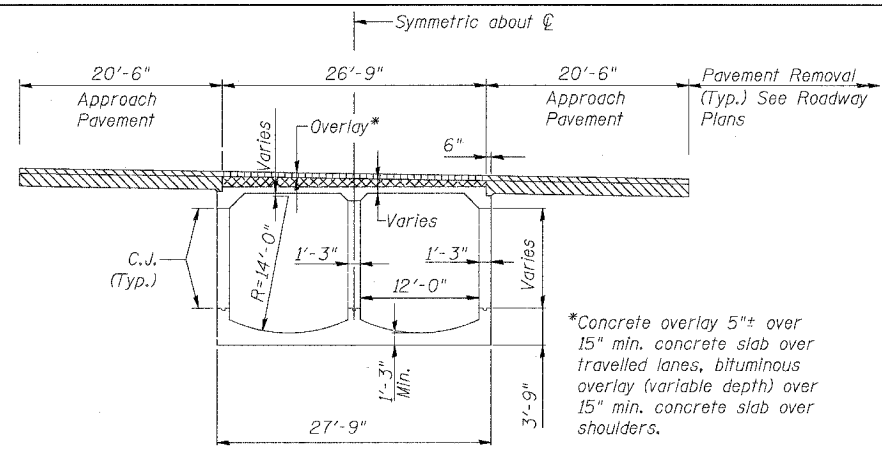
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 GENERAL PLAN

SCALE: N.T.S. DRAWN BY: DJM
 DATE: JUNE 9, 2006 CHECKED BY: BLU

REVISIONS	
NAME	DATE
REVISED	6/23/06

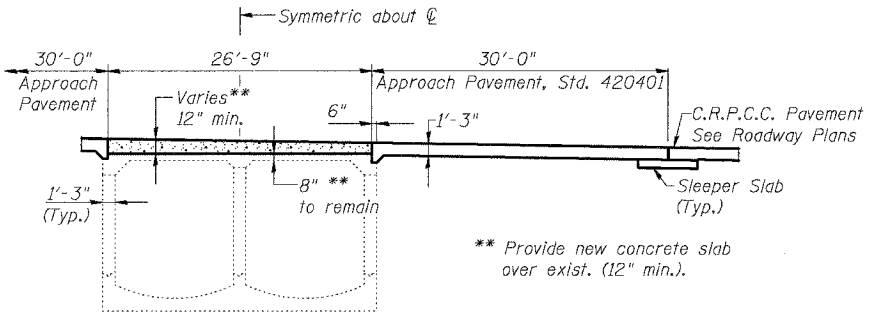
APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
 [Signature]
 ENGINEER OF BRIDGES AND STRUCTURES

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	463
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
62303		*(2021-922 PT2 ETC 2324.6-1P) R-11		



EXISTING SECTION THRU CULVERT

Exist. vertical, diagonal, and partially embedded horizontal reinforcement bars to be cleaned, straightened and incorporated into new concrete slab. Horizontal reinforcement bars that are not partially embedded in exist. slab shall be removed.

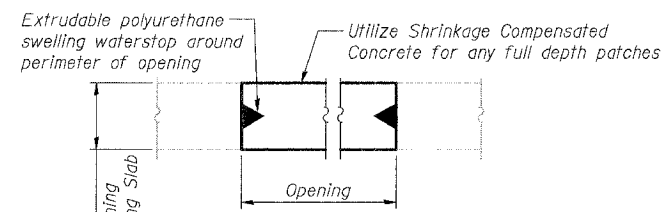


PROPOSED SECTION THRU CULVERT

** Provide new concrete slab over exist. (12" min.).

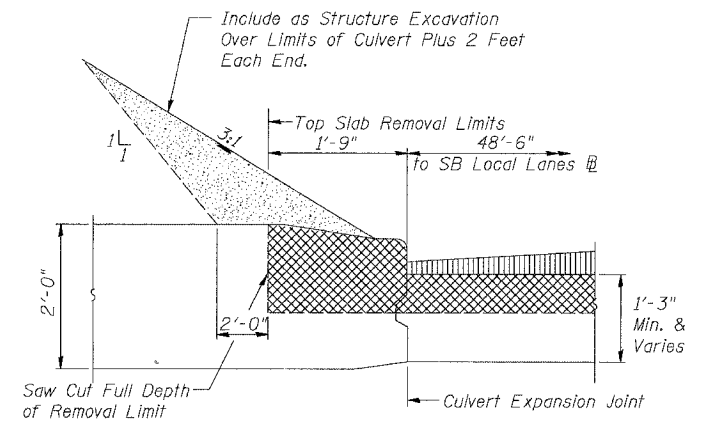
SUGGESTED SEQUENCE OF CONSTRUCTION:

1. Televise existing culvert per Special Provisions.
2. Core drill full-depth through existing top slab to determine exact location of bottom of top slab before full-depth saw cutting.
3. Remove temporary pavement between new express lanes top slab and existing local lanes top slab.
4. Remove existing variable depth bituminous overlay and concrete overlay to level of top reinforcement by scarification methods.
5. Remove remaining portion of top slab and reinforcement by hydro-demolition methods. The Contractor shall exercise care during the partial removal of the top slab of the culvert to ensure the remaining slab's integrity will not be detrimentally impacted. The Contractor shall repair any damage to the remaining slab caused by his operations as directed by the Engineer at no additional cost to the Department. The depth of removal varies from 7" to 11" and shall be determined in the field by the Engineer to ensure that a minimum of 8" of existing slab remains and a minimum of 12" of new concrete can be poured.
6. Repair unsound areas of remaining slab with partial or full depth repair methods and plug full-depth cores.
7. Construct new top slab, and outside shoulder barrier and double face barrier between express and local lanes.
8. Re-televise culvert and repair any damage per Special Provisions.
9. Approach slabs can be removed and replaced as necessary to coincide with top slab and adjacent pavement reconstruction.
10. Any full-depth holes or patches shall be provided with water seals to prevent sewage from accumulating between the existing and proposed slab during future storm events. Cost included with Concrete Superstructure.



WATER SEAL DETAIL

Utilize Sika Swell S-2 by Sika Corporation or approved equal. Cost included with Concrete Superstructure.



RIGHT SHLDR. REMOVAL DETAILS

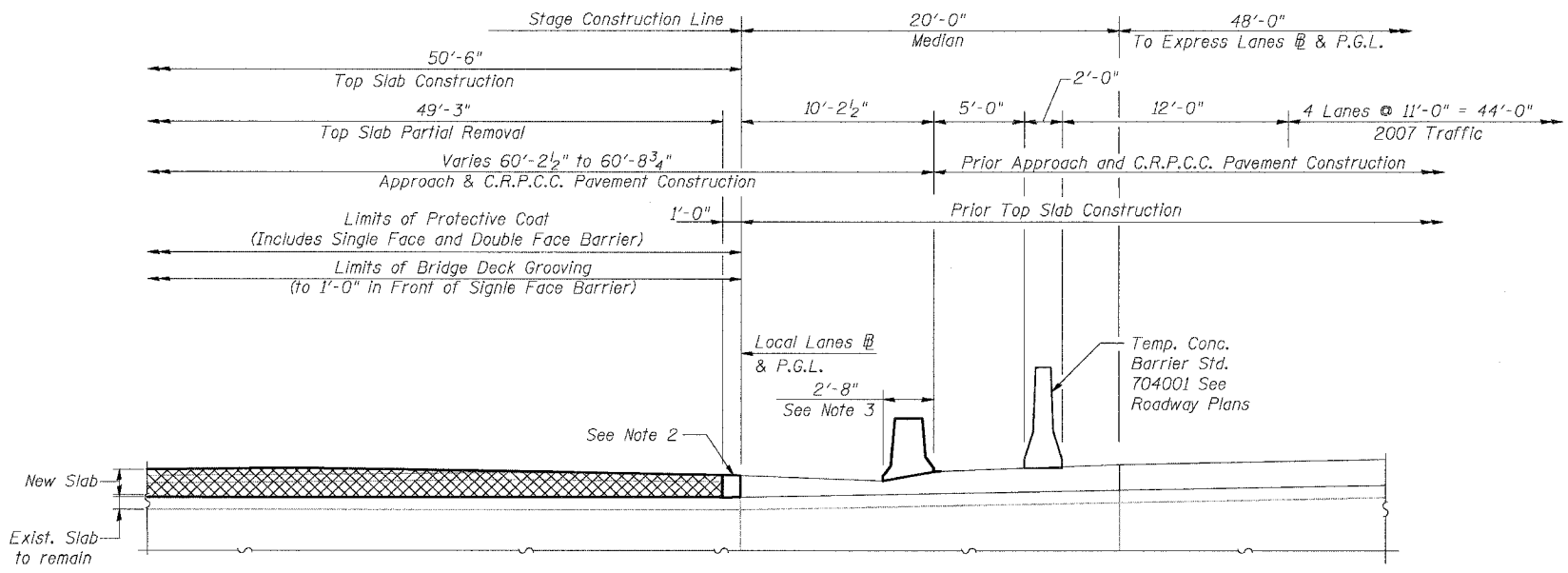
(See As-Built Plans for Further Details)

NOTES

1. Contractor shall remove any abandoned lighting conduit exposed by removal operations as required. Cost included in the various removal items. Coordinate with IDOT Contract 62583 as required for timing of removals.
2. Remove any temporary pavement placed by previous Contracts and prepare edge for Bonded Const. Joint. Cost included with Concrete Slab Hydro-Demolition.
3. Double Face Barrier. See Plan Details.
4. Approach Slab Removal includes any overlays, regardless of composition.

LEGEND

- ☒ = Concrete Slab Hydro-Demolition
- ▨ = Bituminous Surface Removal, (Variable Depth) for Shoulders
- ▤ = Approach Slab Removal
- ▩ = Structure Excavation



STAGING DETAILS @ EXPRESS/LOCAL LANES MEDIAN

See Longitudinal Section for Dimensions not shown

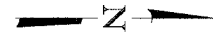
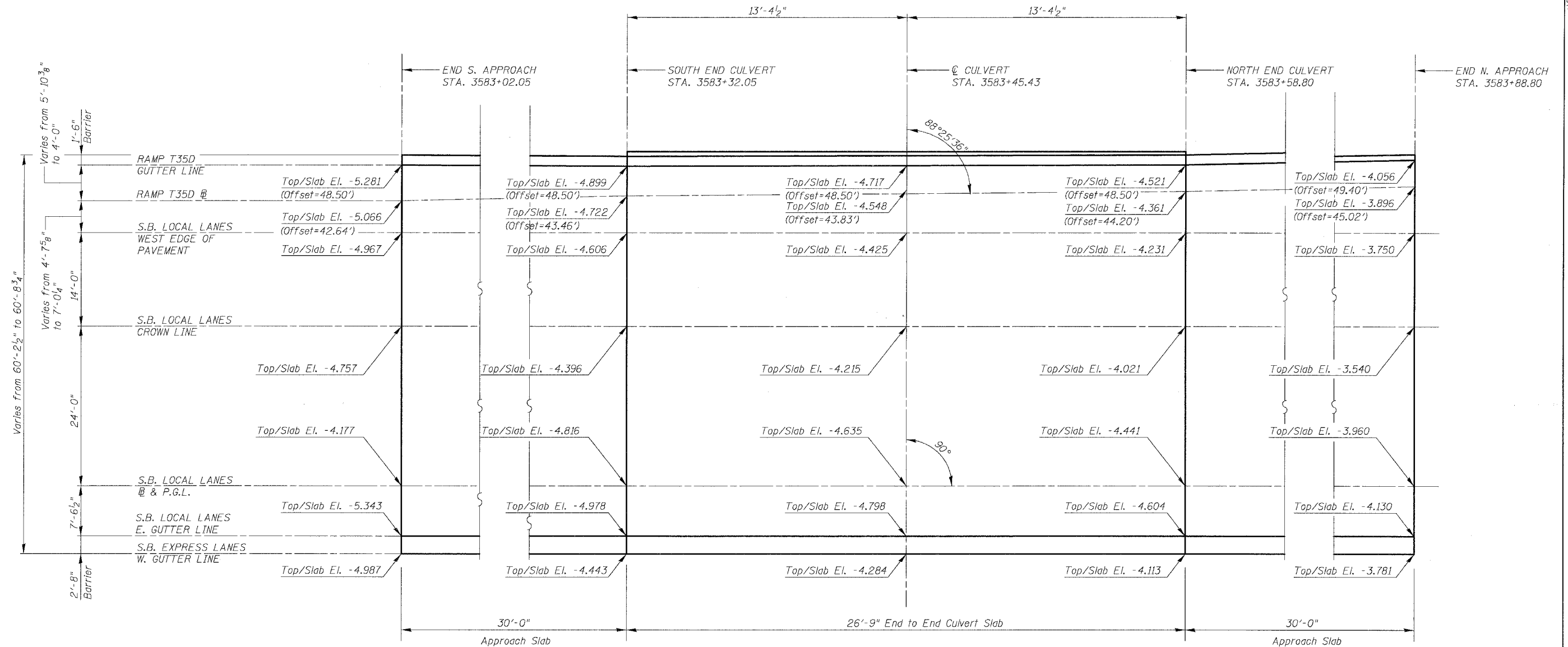
REVISIONS	
NAME	DATE

SHEET CUL-2 OF CUL-16
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 MISCELLANEOUS DETAILS
 SCALE: N.T.S. DRAWN BY: DJM
 DATE: JUNE 9, 2006 CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	464
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



PLAN

Notes:

1. Offset measured from S.B. Local Lanes #.

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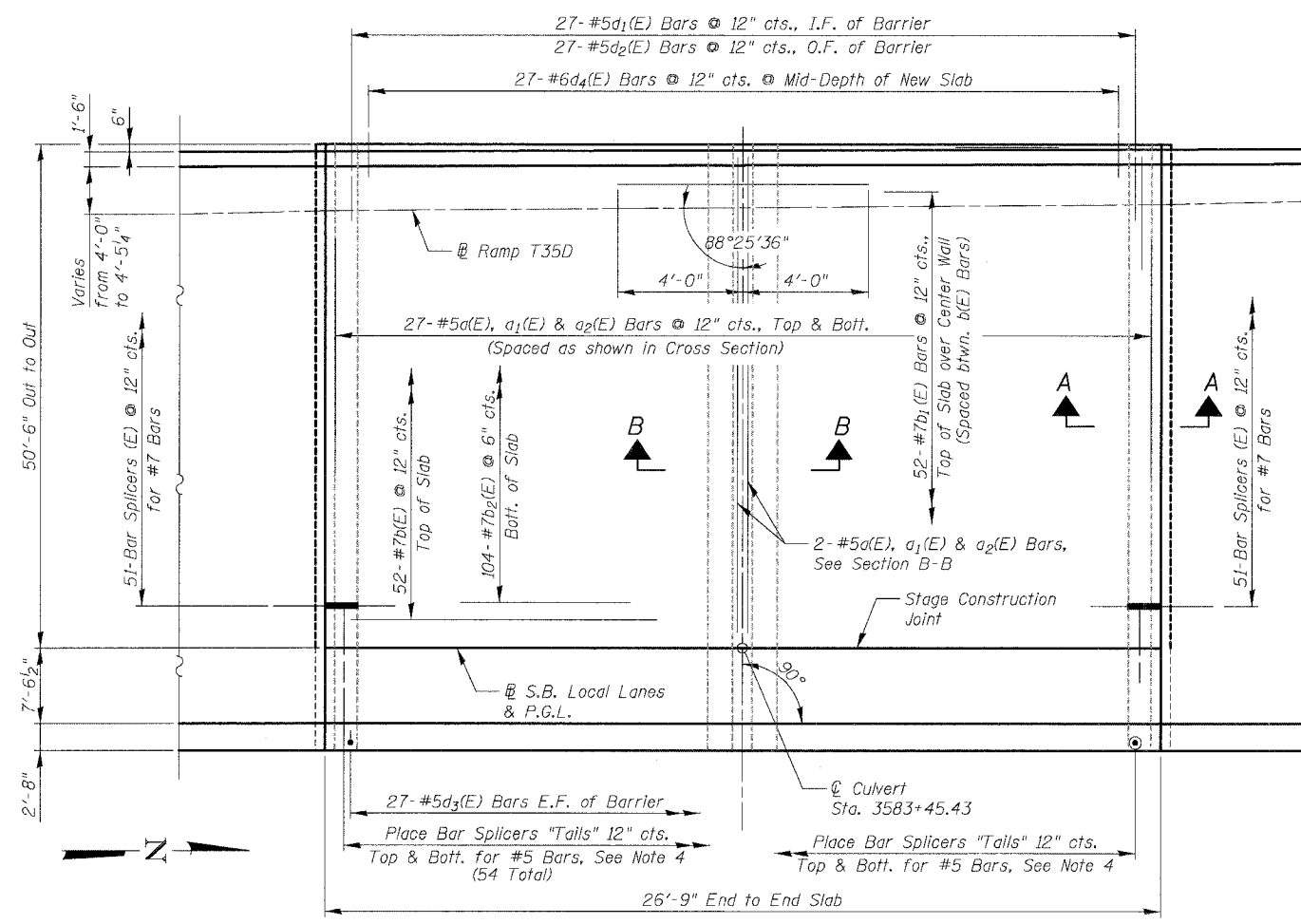


REVISIONS	
NAME	DATE

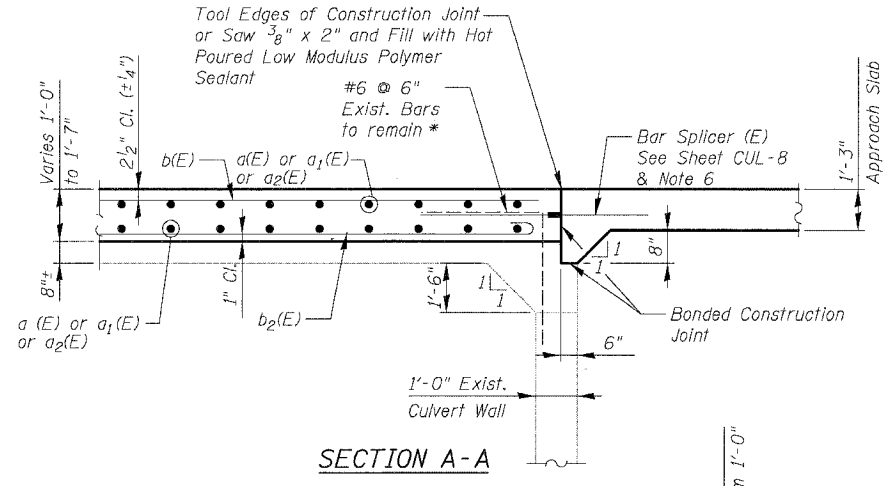
SHEET CUL-3 OF CUL-16
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
TOP SLAB ELEVATIONS
SCALE: N.T.S. DRAWN BY: DJM
DATE: JUNE 9, 2006 CHECKED BY: BLU

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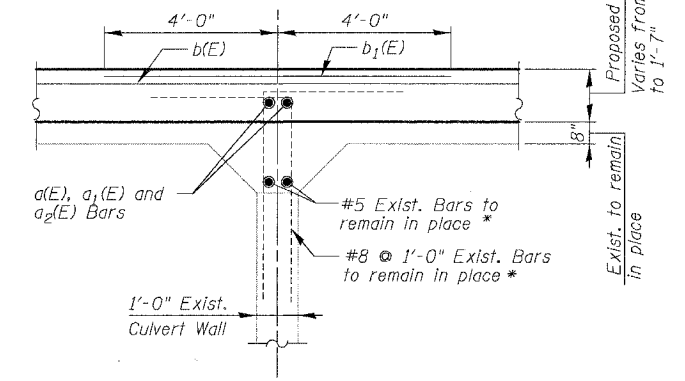
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	465
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303 * (2021-922 PT2 ETC 2324.6-1P) R-11				



PLAN



SECTION A-A



SECTION B-B

* Existing Reinforcement Bars shown are to be cleaned and incorporated into new construction. The Contractor also has the option to cut the existing bars and use new bars anchored to the existing concrete pier per approval of the Engineer.

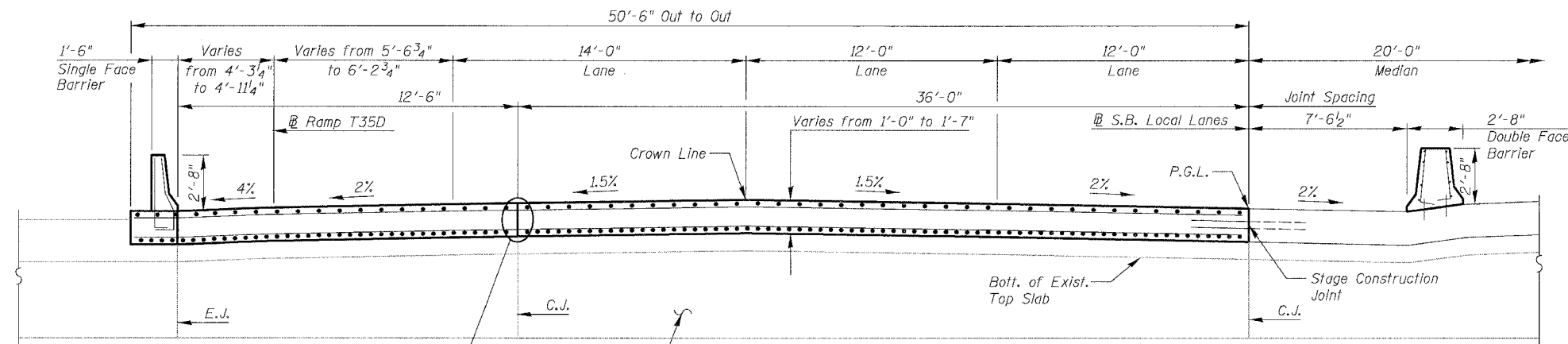
Additional reinforcement shall not be measured for payment but shall be included in the cost of "Reinforcement Bars, Epoxy Coated".

NOTES

1. Reinforcement Bars designated (E) shall be epoxy coated.
2. See Sheet CUL-5 for Top Slab Details and Bill of Material.
3. See Sheet CUL-8 for Bar Splicer Details.
4. Contractor shall be provided Bar Splicer "Tails" by Engineer for use in previously placed inserts. Contractor shall exercise care in removing ramp pavement not to damage inserts. Cost of installing "Tails" included with Bar Splicers.
5. Approach Pavement Seat shall follow existing wall limits.
6. Place Bar Splicers in slab to lap with bottom bars of Approach Pavement.

ABBREVIATIONS

- E.J. = Expansion Joint
- C.J. = Construction Joint
- O.F. = Outside Face
- I.F. = Inside Face
- E.F. = Each Face



CROSS-SECTION
(Looking Upstation)

SHEET CUL- 4 OF CUL-16

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 TOP SLAB PLAN

REVISIONS	NAME	DATE

SCALE: N.T.S. DRAWN BY: MTR
 DATE: JUNE 9, 2006 CHECKED BY: BLU

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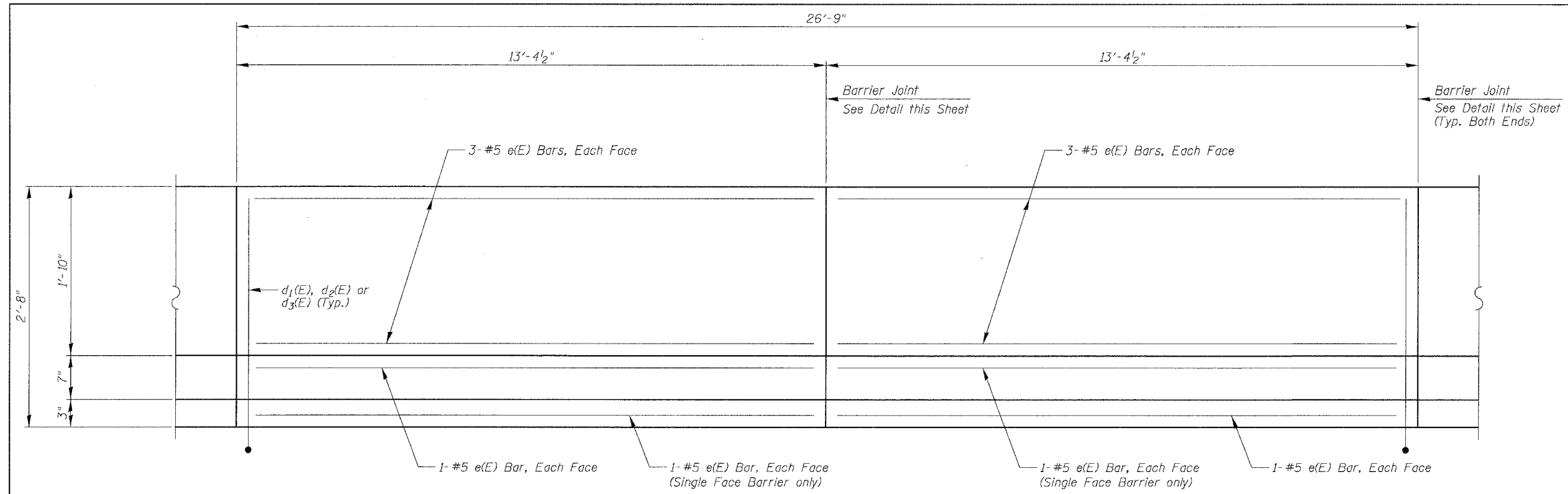
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	466
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(I2021-922 PT2 ETC 2324.6-1P) R-11			

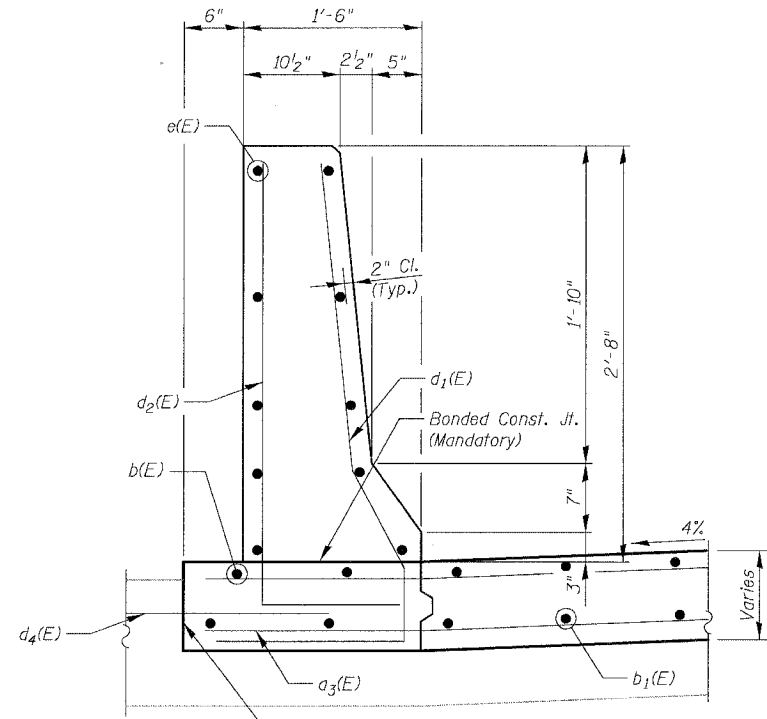
**TOP SLAB
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	56	#5	35'-8"	—
a ₁ (E)	56	#5	12'-2"	—
a ₂ (E)	56	#5	1'-9"	—
b(E)	52	#7	26'-5"	—
b ₁ (E)	52	#7	8'-0"	—
b ₂ (E)	104	#7	28'-1"	—
d(E)	26	#6	1'-0"	—
d ₁ (E)	27	#5	5'-2"	⌋
d ₂ (E)	27	#5	4'-11"	⌋
d ₃ (E)	54	#5	3'-3"	⌋
d ₄ (E)	27	#6	1'-9"	—
e(E)	32	#5	13'-0"	—
Concrete Superstructure		Cu. Yd.	72.8	
Bridge Deck Grooving		Sq. Yd.	142	
Protective Coat		Sq. Yd.	178	
Reinforcement Bars, Epoxy Coated		Pound	13,540	
Bar Splacers		Each	102	

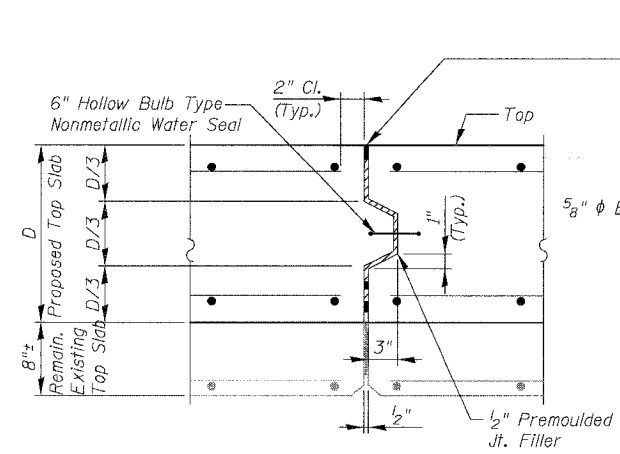
Reinforcement bars designated (E) shall be epoxy coated.
 Cost of water seal, P.J.F. and Sealant included in the cost of Concrete Superstructure.
 See sheet CUL-7 for section thru Double Face Barrier.
 Epoxy grout #6d(E) & d₄(E) bars in accordance with Art. 584 of the std. specs.



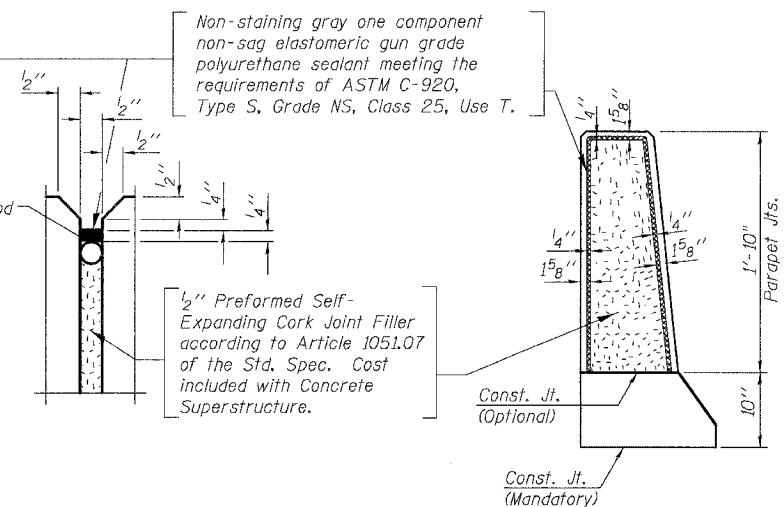
INSIDE ELEVATION OF SINGLE FACE BARRIER
 Single Face shown, Double Face similar as noted



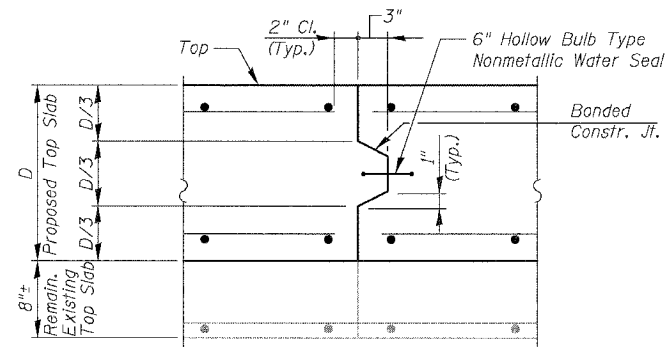
SECTION THRU SINGLE FACE BARRIER



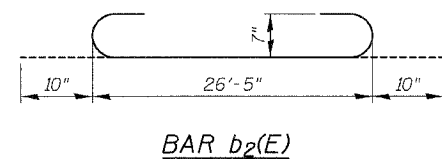
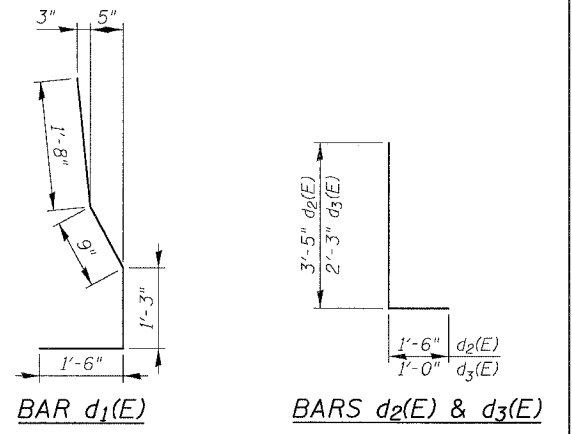
CULVERT EXPANSION JOINT
 Do not seal until after grooving operations



BARRIER JOINT DETAILS
 Shown for Single Face Barrier, Double Face similar as required



CULVERT CONSTRUCTION JOINT



REVISIONS	
NAME	DATE

SHEET CUL- 5 OF CUL-16

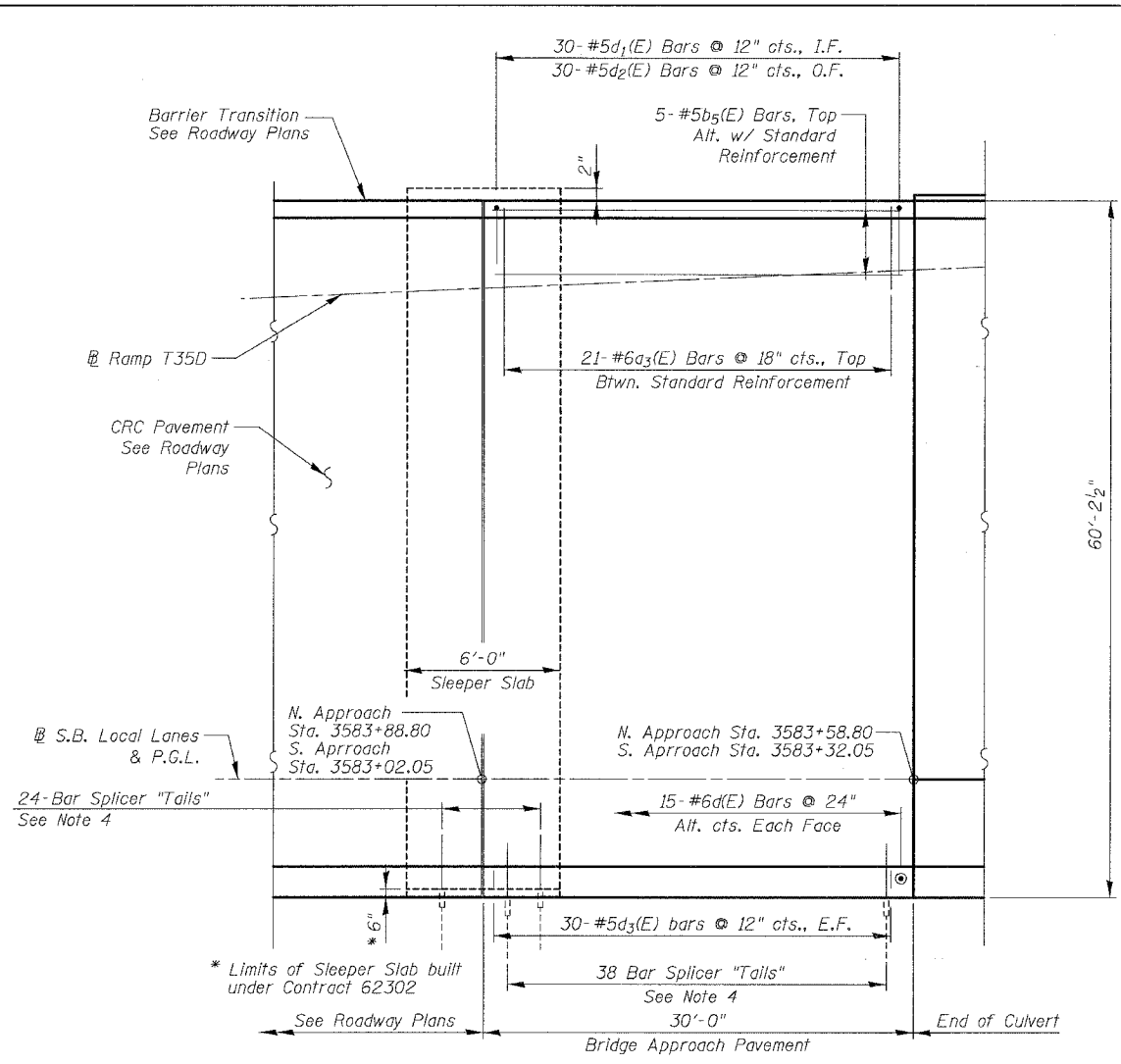
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 TOP SLAB DETAILS

SCALE: N.T.S. DRAWN BY: MTR
 DATE: JUNE 9, 2006 CHECKED BY: BLU

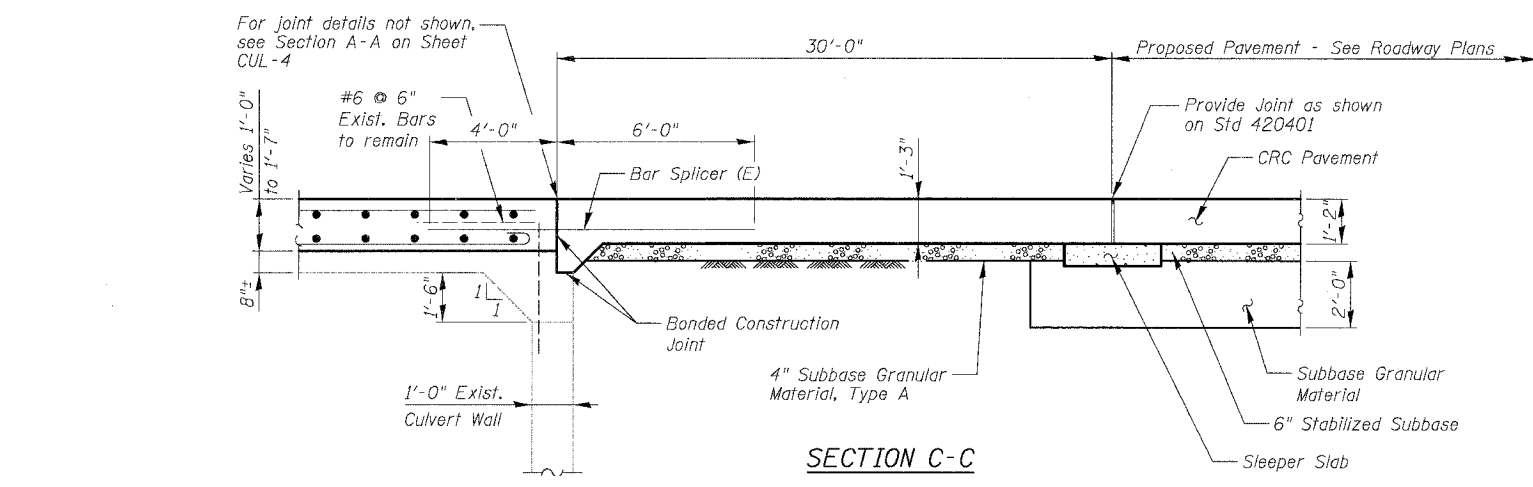
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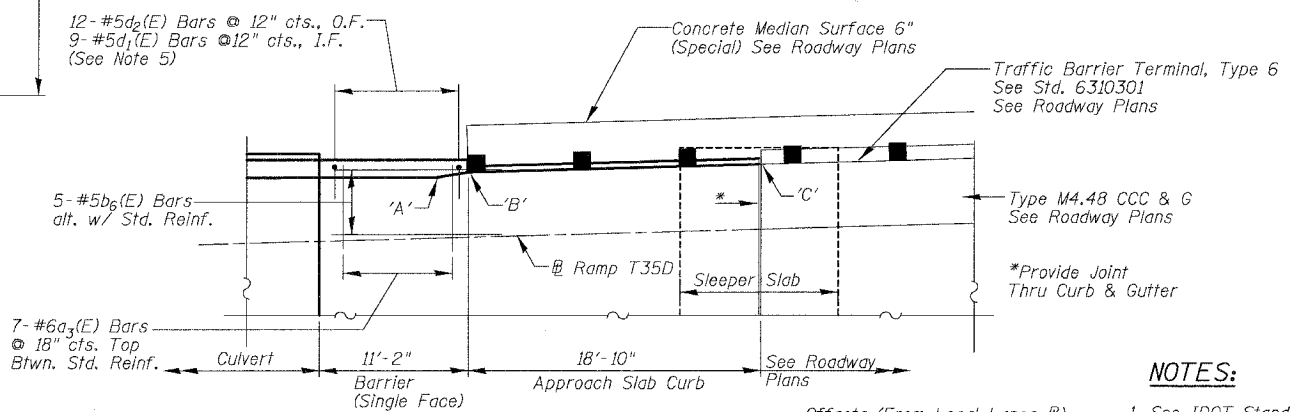
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	467
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62303	2021-922 PT2 ETC 2324.6-1P) R-11			



PARTIAL PLAN
South Approach Shown
North Approach Similar as Noted



SECTION C-C



PARTIAL PLAN DETAIL
North Approach

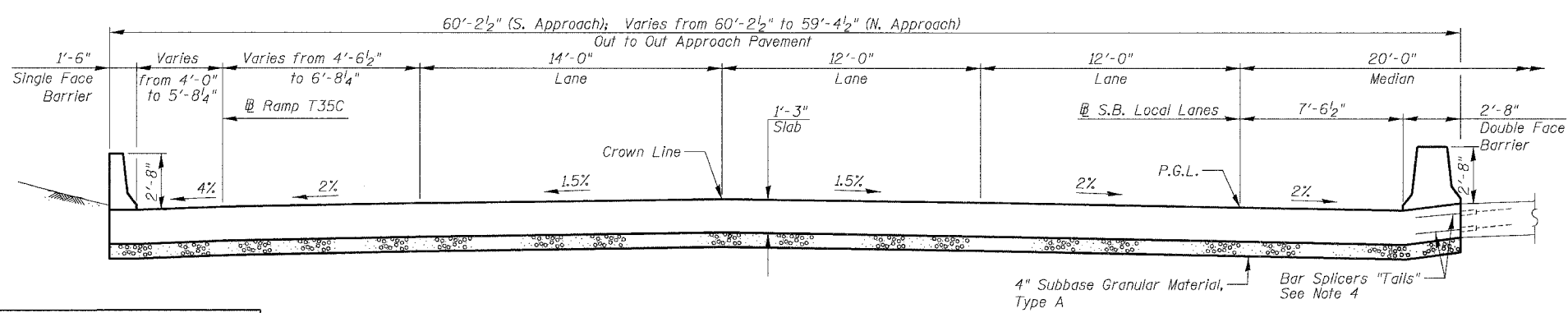
Offsets (From Local Lanes #)
'A' = 48.50'
'B' = 48.92'
'C' = 49.40'

NOTES:

1. See IDOT Standard 420401 for typical approach pavement reinforcing and details
2. Reinforcement Bars designated (E) shall be epoxy coated.
3. See Sheet CUL-7 for Bill of Materials.
4. Contractor shall be provided Bar Splicer "Tails" by Engineer for use in previously placed inserts. Contractor shall exercise care in removing ramp pavement not to damage inserts. Cost of installing "Tails" included with Bar Splicers.
5. Provide 3-#5d5(E) bars @ 12" cts., I.F. @ tapered end.

ABBREVIATIONS:

I.F. = Inside Face
O.F. = Outside Face



SECTION D-D

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REVISIONS	
NAME	DATE

SHEET CUL-6 OF CUL-16
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
APPROACH SLAB DETAILS 1
SCALE: N.T.S. DRAWN BY: MTR
DATE: JUNE 9, 2006 CHECKED BY: BLU

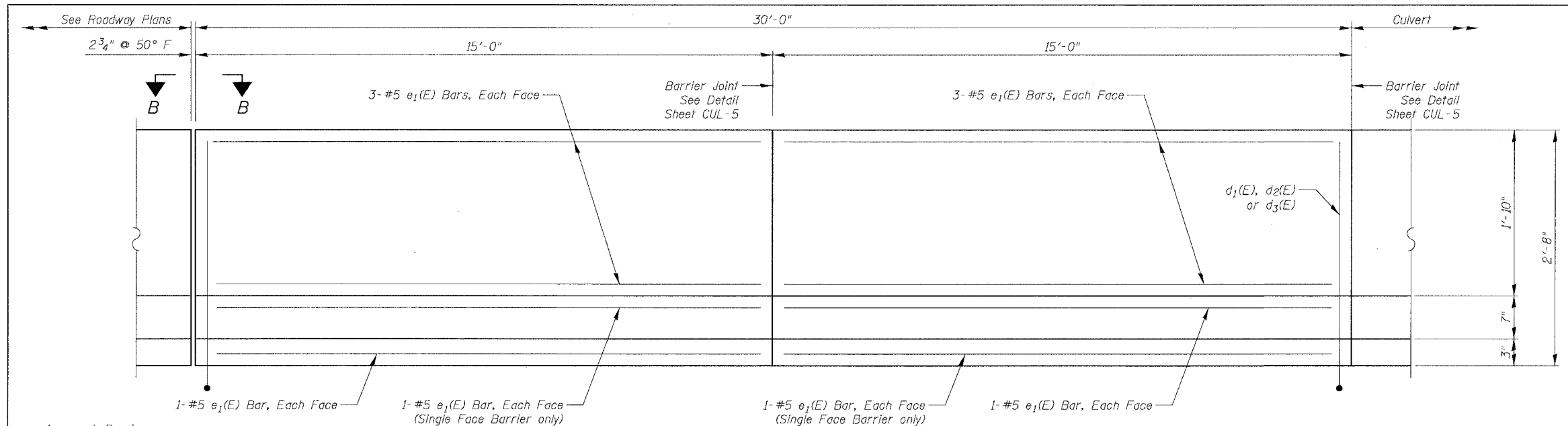
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	468
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	•12021-922 PT2 ETC	2324.6-1P1 R-11		

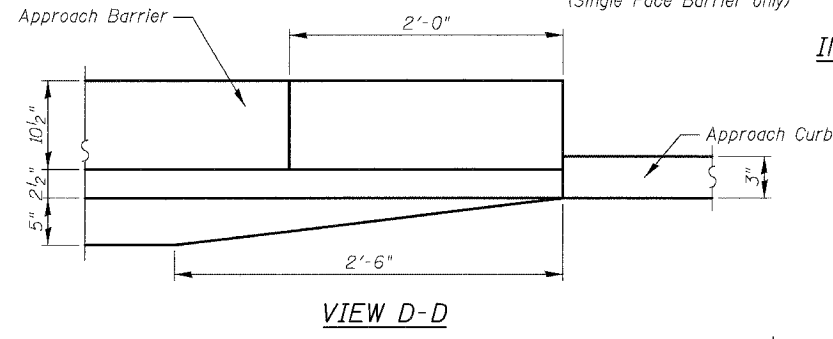
**APPROACH PAVEMENT
BILL OF MATERIAL
TOTAL FOR 2 APPROACH SLABS**

Bar	No.	Size	Length	Shape
a ₃ (E)	28	#6	4'-6"	—
b ₅ (E)	5	#5	29'-8"	—
b ₆ (E)	5	#5	14'-0"	—
d(E)	39	#6	1'-0"	—
d ₁ (E)	42	#5	4'-5"	L
d ₂ (E)	60	#5	4'-11"	L
d ₃ (E)	120	#5	3'-3"	L
d ₅ (E)	3	#5	4'-5"	L
e ₁ (E)	52	#5	14'-8"	—
e ₂ (E)	10	#5	10'-10"	—
Bridge Approach Pavement		Sq. Yd.	400	
Concrete Superstructure		Cu. Yd.	16.1	
Protective Coat		Sq. Yd.	75	
Reinforcement Bars, Epoxy Coated		Pound	2,240	

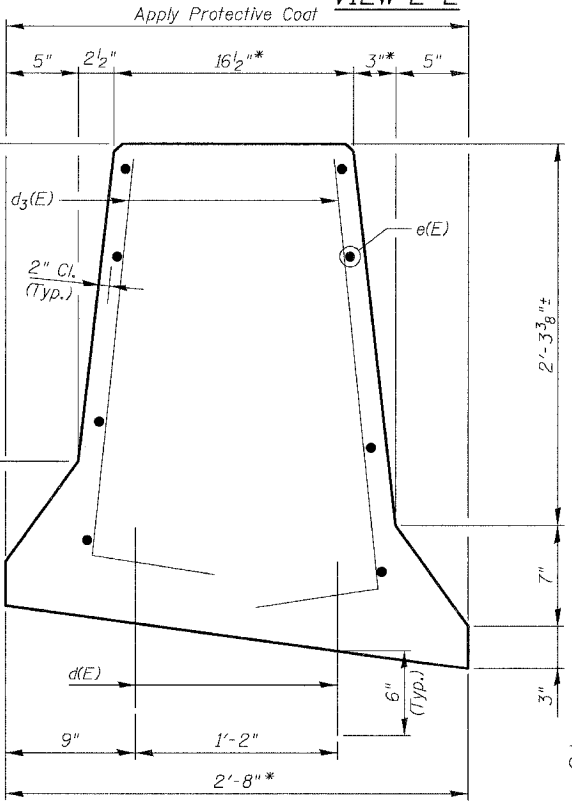
See IDOT Standard 420401 for typical approach pavement reinforcing and details. Additional reinforcement bars, and concrete for single & double face barrier not shown on Std. 420401 shall be paid for as Reinforcement Bars, Epoxy Coated, Bar Splicers, and Concrete Superstructure. Reinforcement bars designated (E) shall be epoxy coated. See Sheet CUL-4 for treatment of Approach Slab/Culvert Slab joint. Apply Protective Coat to top and inside face of single face barrier and to top and both faces of double face barrier.



INSIDE ELEVATION OF BARRIER ON APPROACH PAVEMENT
Single Face Shown, Double Face Similar as Noted



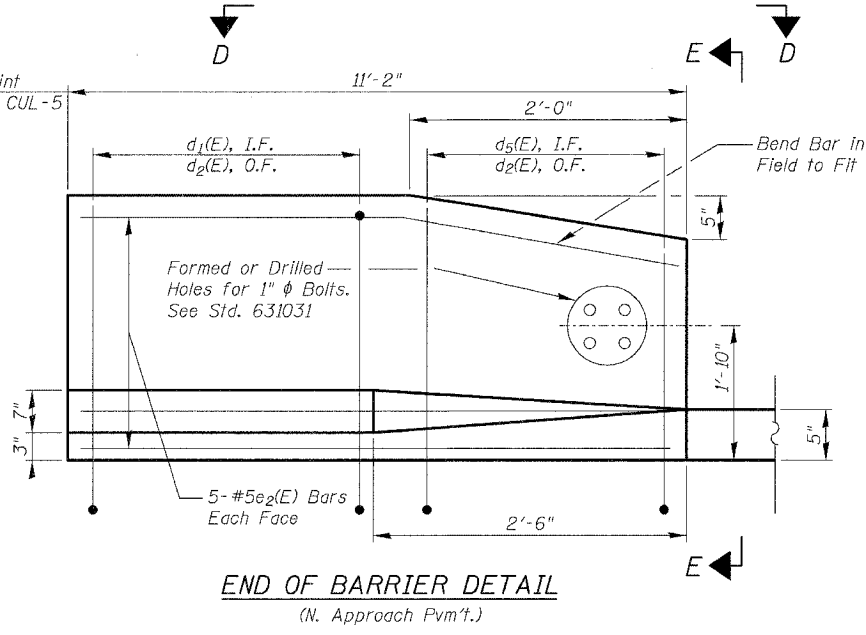
VIEW E-E



SECTION THRU SINGLE FACE BARRIER

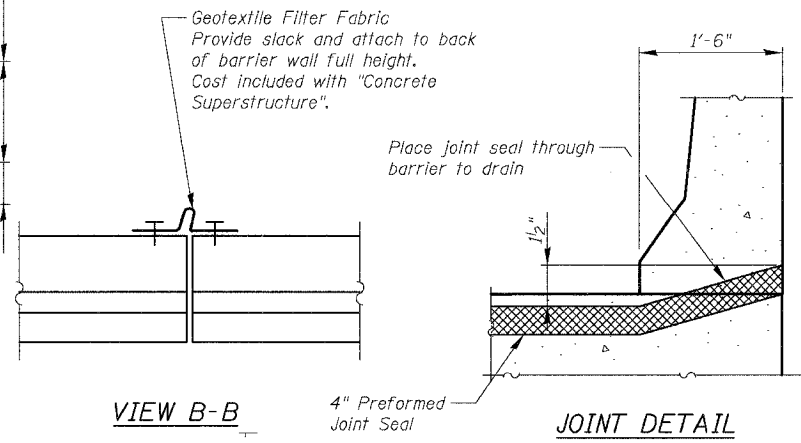
Note: Standard Approach Pavement reinforcement not shown for clarity

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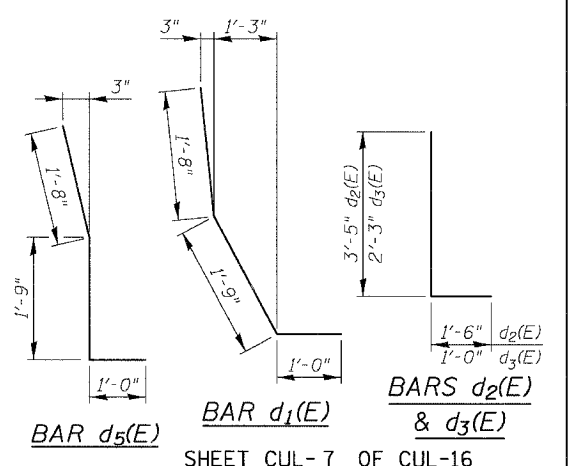


END OF BARRIER DETAIL
(N. Approach Pvm't.)

VIEW B-B



JOINT DETAIL



SHEET CUL-7 OF CUL-16

REVISIONS	DATE
NAME	

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
APPROACH SLAB DETAILS 2

SCALE: N.T.S. DRAWN BY: MTR
DATE: JUNE 9, 2006 CHECKED BY: BLU

SECTION THRU DOUBLE FACE BARRIER

* Contractor can vary these dimensions to match adjacent roadway barrier if required.

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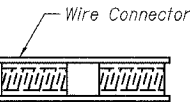
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	469
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			

The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



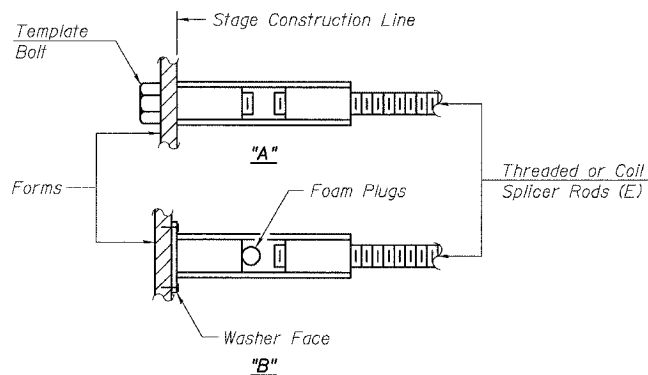
**** ONE PIECE**



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

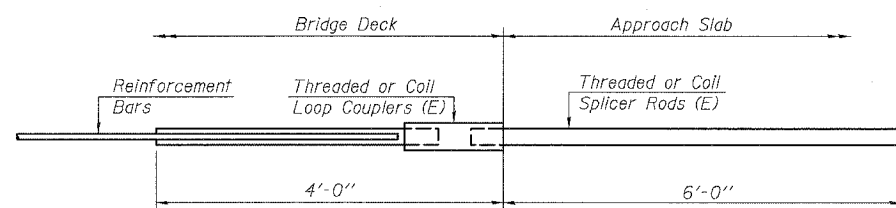
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the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

- Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- Minimum *Pull-out Strength = $1.25 \times f_{sallow} \times A_t$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 f_{sallow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

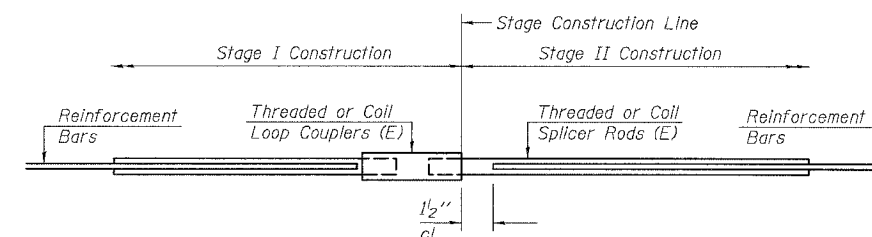
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



FOR CULVERT SLAB

Bar Splicer for #7 bar
Min. Capacity = 45.1 kips - tension
Min. Pull-out Strength = 18.0 kips-tension
No. Required = 102



STANDARD

Note:

Obtain Bar Splicer "Tails" from Engineer for 162-#5 Bars and 16-#4 Bars as shown on Contract 62302.

Bar Size	No. Assemblies Required	Location

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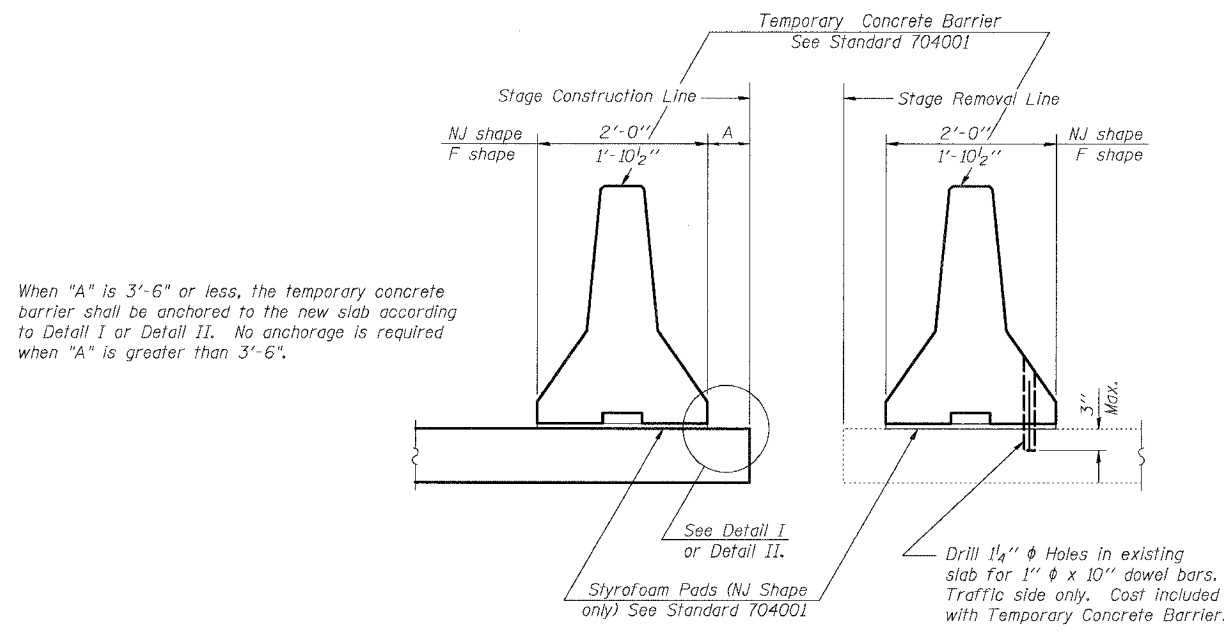


REVISIONS	
NAME	DATE

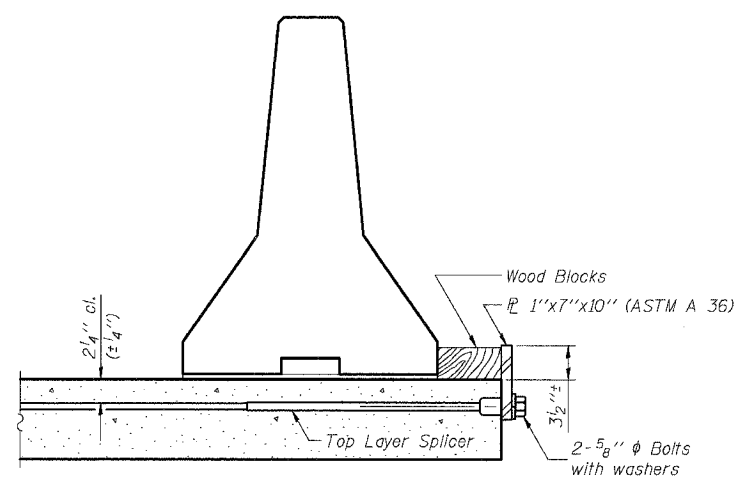
SHEET CUL-8 OF CUL-16
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 BAR SPLICER DETAILS
 SCALE: N.T.S. DRAWN BY: DJM
 DATE: JUNE 9, 2006 CHECKED BY: BLU

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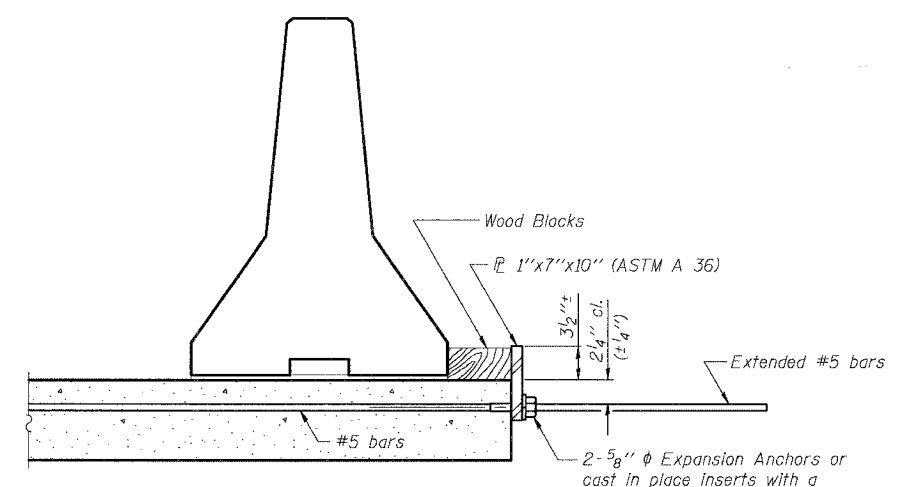
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90 *		COOK	588	470
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*I2021-922 PT2 ETC 2324.6-1P) R-11			



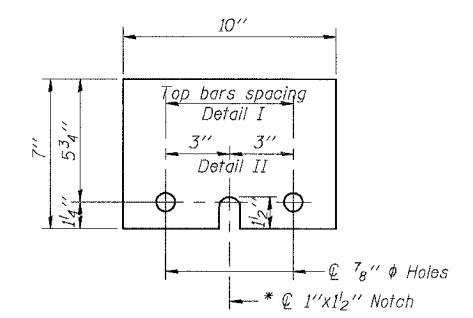
SECTIONS THRU SLAB



DETAIL I
The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II
The 1"x7"x10" 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.



1" x 7" x 10"
* Required only with Detail II

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

Repair any holes drilled in concrete over culvert or approach pavement with non-shrink epoxy grout as directed by the Engineer. Cost included with Temporary Concrete Barrier.

SHEET CUL-9 OF CUL-16

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 TEMP. CONC. BARRIER FOR STAGE CONSTR.

SCALE: N.T.S. DRAWN BY: MTR
 DATE: JUNE 9, 2006 CHECKED BY: BLU

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R-27 9-01-03

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Everest Engineering Company
STRUCTURE BORING LOG

Page 1 of 1
Date 6/3/03

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	471
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303 (2021-922 PT2 ETC 2324.6-1P) R-11				

ROUTE FAI 90/94 DESCRIPTION DAN RYAN EXPRESSWAY
SECT. 31ST STREET TO 47TH STREET STRUCT. NO. _____ DRILLED BY PATRICK DRILLING INC.
COUNTY COOK LOCATION CULVERT S. , TWP. 39 N, RNG. 14 E

Boring No.	D	B			Surface Water Elev.	D	B		
Station	E	L			Groundwater Elev.:	E	L		
Offset	P	O	Qu	W	when drilling	P	O	Qu	W
Surface Elev.	T	W	tsf	%	at Completion	T	W	tsf	%
	H	S			after _____ Hrs.	H	S		
ASPHALT PAVEMENT					END OF BORING				
CONCRETE									
CRUSHED STONE			15	4					
some- sand			10						
			9						
			10	5					
			4						
FILL			5						
Medium Stiff to Stiff, Gray									
SILTY CLAY									
trace- sand and gravel			2	0.5	23				
			2	P					
			3						
			1	0.9	21				
			2	B					
			2						
			1	0.7	23				
			1	B					
			2						
			1	0.4	24				
			1	B					
			1						
			2	1.24	19				
			3	B					
			4						
Very Stiff to Hard, Gray									
SILTY CLAY LOAM									
trace- sand and gravel			2	2.8	15				
			3	B					
			3						
			24	4.5+	10				
			26	P					
			26						
			50/5"	4.5+	10				
				P					

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING CB-1

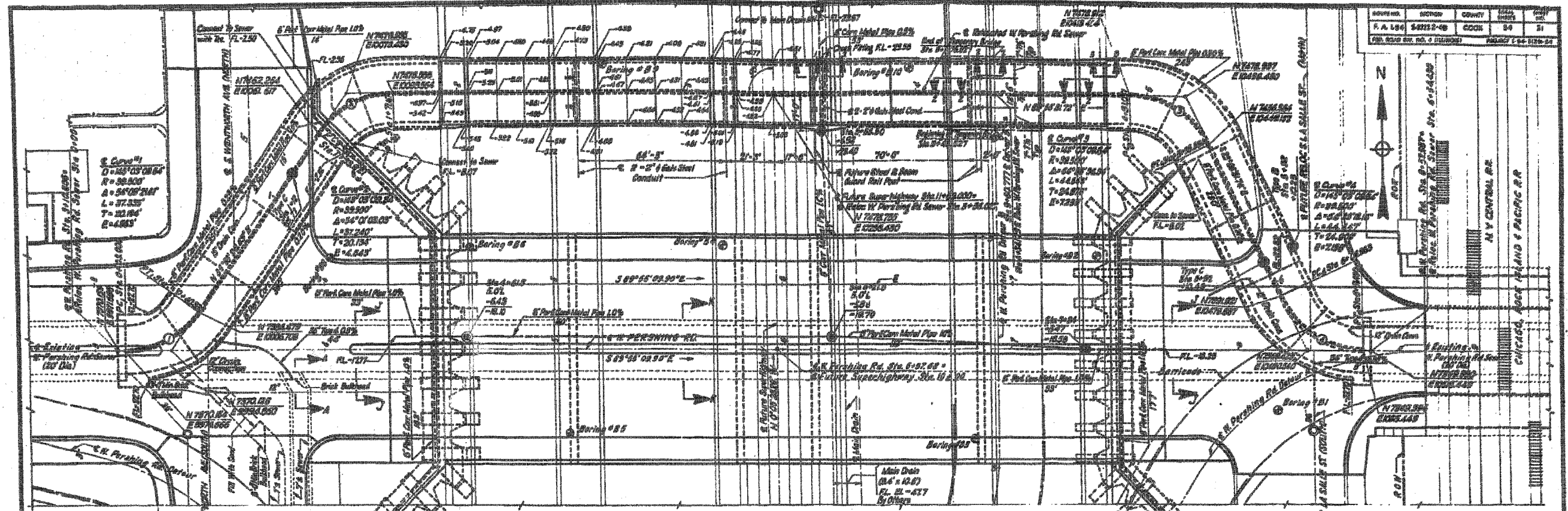
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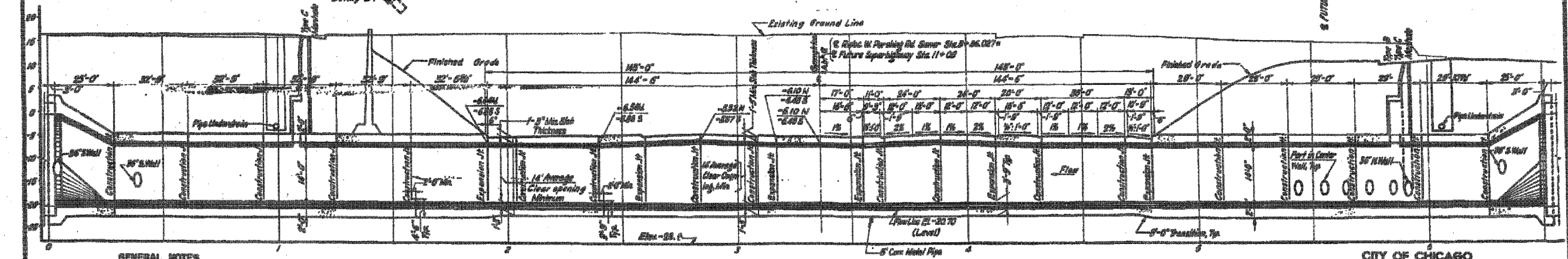
REVISIONS	DATE
NAME	

SHEET CUL-10 OF CUL-16
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
SOIL BORINGS
SCALE: N.T.S. DRAWN BY: DJM
DATE: JUNE 9, 2006 CHECKED BY: BLU

4-3465 PM 6/6/2006



PLAN
SCALE: 1"=50'



PROFILE
SCALE: HORIZONTAL 1"=50' VERTICAL 1"=10'

GENERAL NOTES
 Design Specifications: AASHTO 1987 Modified; ARBA 1998 Modified; State of Illinois, Division of Highways 1988.
 Design Lane Loading: AASHTO HS20-44 or Alternate designated in PPM 33-4, Sec 4c; and Chicago Transit Authority, April 23, 1983.

NOTE
 1. Sewer Pipe shall be 1000 to 1000.00 with no reduction of future.
 2. See Section Titled "Condition and old R-11"

3. For Soil Boring Data, see sheet 618 S-4

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
SOUTH ROUTE SUPERHIGHWAY

SHEET CUL-11 OF CUL-16

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 EXISTING PLAN AND ELEVATION

SCALE: N.T.S. DRAWN BY: BDC
 DATE: JUNE 9, 2006 CHECKED BY: BLU

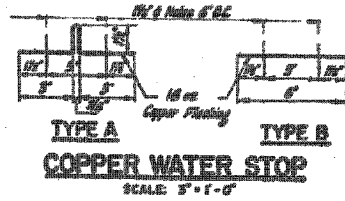
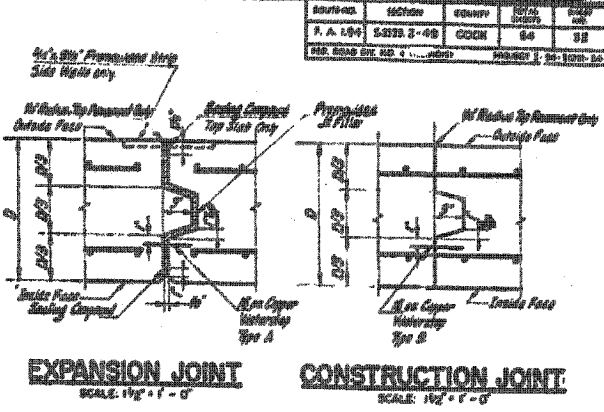
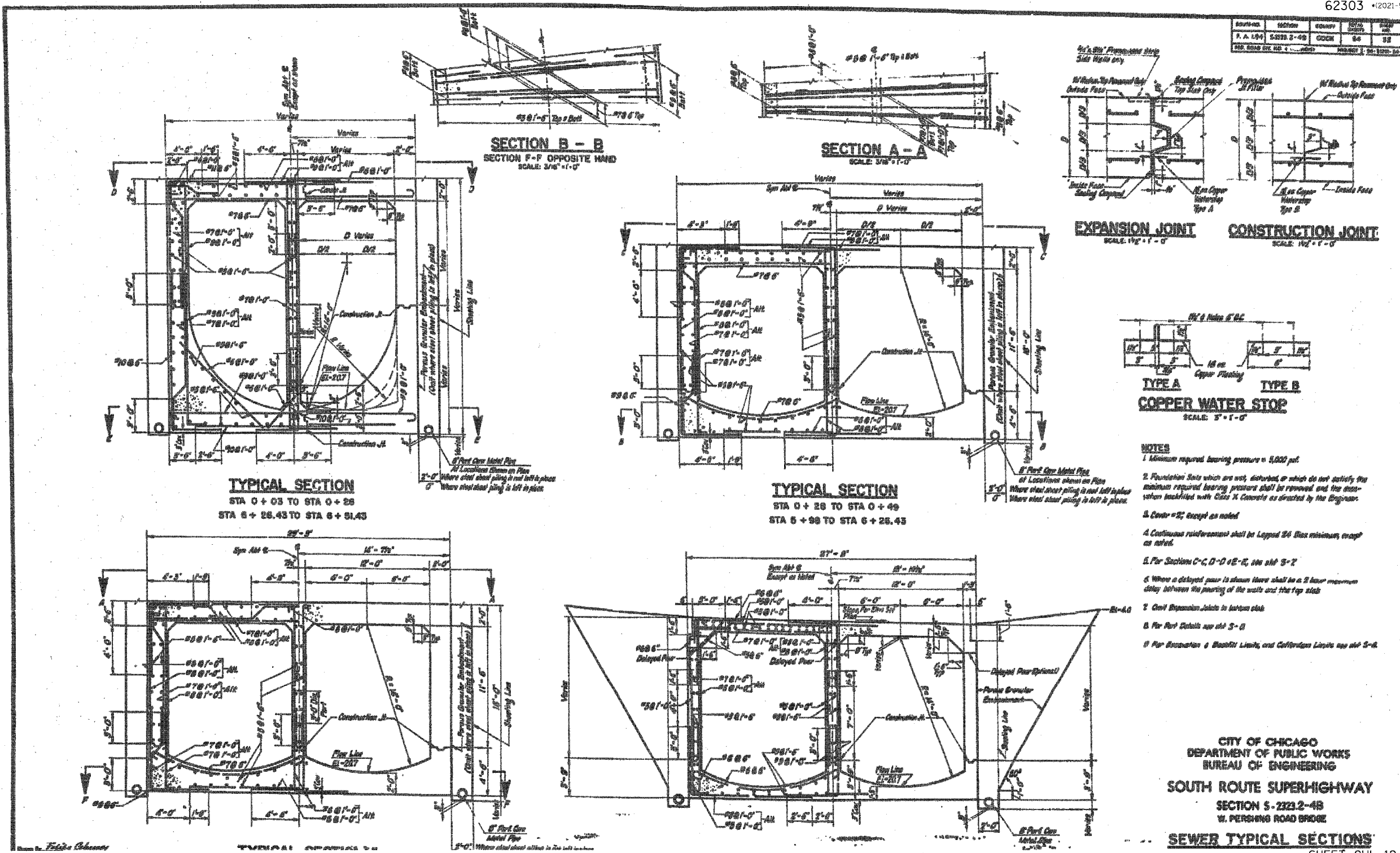
FOR INFORMATION ONLY

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REVISIONS	NAME	DATE

6/8/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	473
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*(2021-922 PT2 ETC 2324.6-1P) R-11			



- NOTES**
1. Minimum required bearing pressure = 5,000 psi.
 2. Foundation soils which are not disturbed or which do not satisfy the minimum required bearing pressure shall be removed and the excavation backfilled with Class X Concrete as directed by the Engineer.
 3. Cover = 2'; except as noted.
 4. Continuous reinforcement shall be Lapped 24 Bar minimum, except as noted.
 5. For Section C-C, D-D & E-E, see sheet S-7.
 6. Where a delayed pour is shown there shall be a 2 hour maximum delay between the pouring of the walls and the top slab.
 7. Civil Expansion Joints to bottom slab.
 8. For Part Details see sheet S-8.
 9. For Construction & Material Limits, and Cofferdam Limits see sheet S-6.

CITY OF CHICAGO
 DEPARTMENT OF PUBLIC WORKS
 BUREAU OF ENGINEERING
 SOUTH ROUTE SUPERHIGHWAY
 SECTION S-232.2-48
 W. PERSHING ROAD BRIDGE
SEWER TYPICAL SECTIONS

SHEET CUL-12 OF CUL-16

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
 MWRD CULVERT, N. OF 39TH ST.,
 COOK COUNTY, S.N. 016-2625
 EXISTING TYPICAL SECTIONS

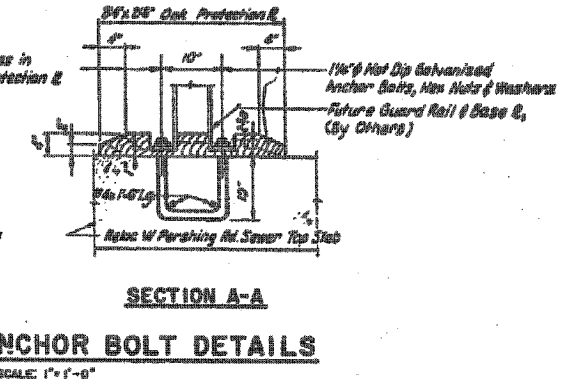
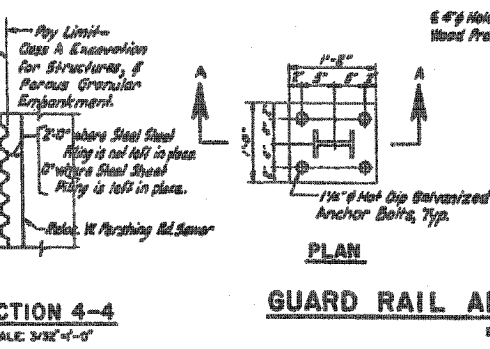
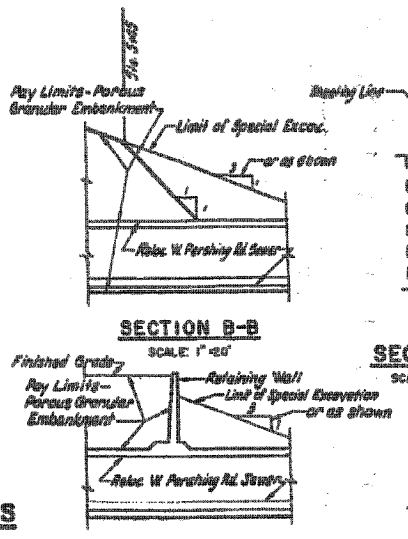
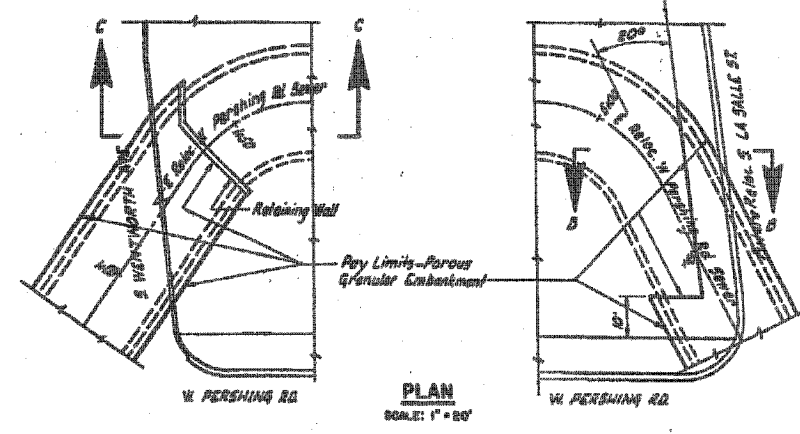
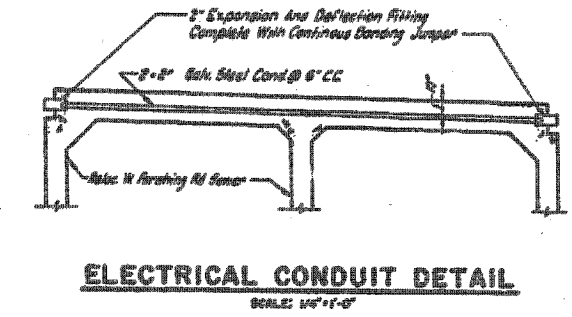
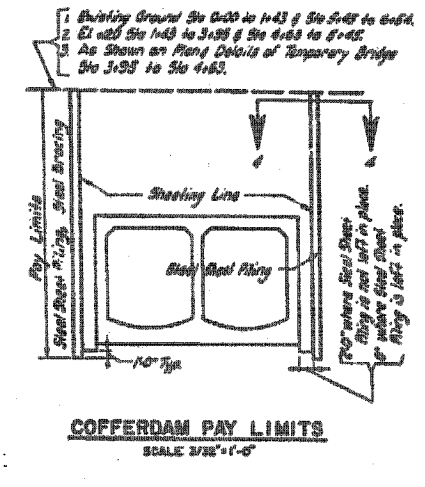
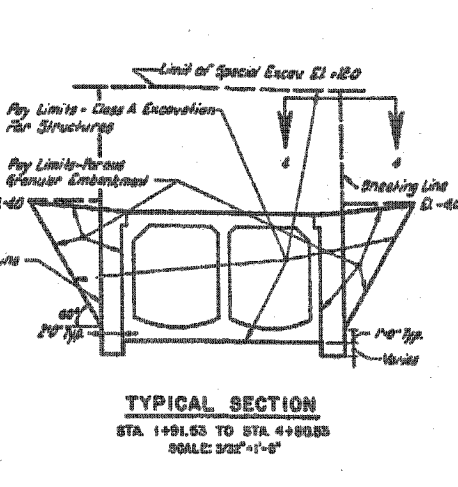
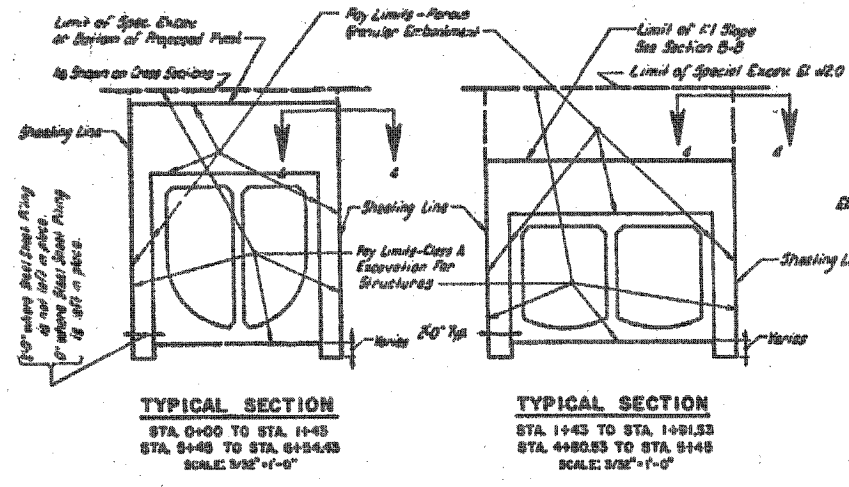
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 DATE: JUNE 9, 2006 CHECKED BY: BLU

FOR INFORMATION ONLY

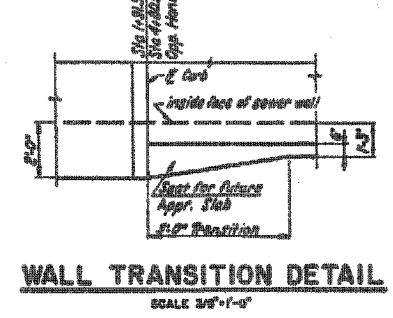
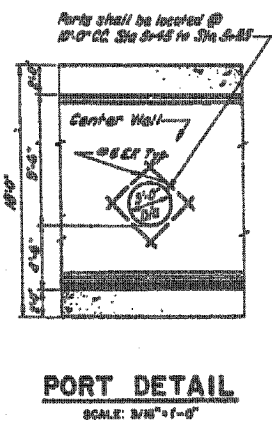
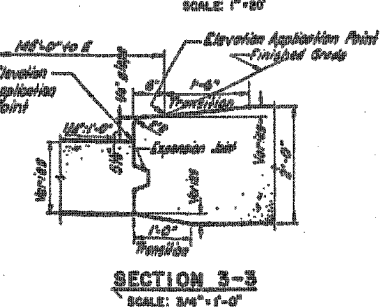
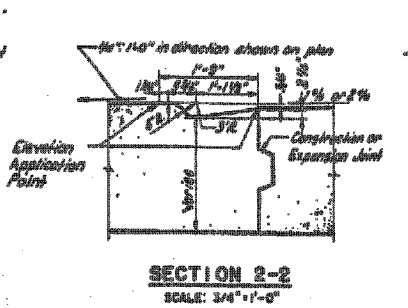
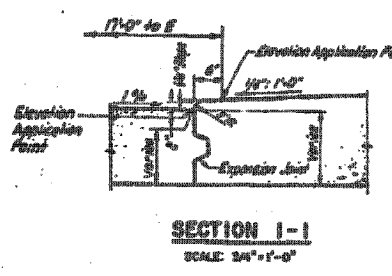
BOWMAN, BARRETT & ASSOCIATES INC.
 CONSULTING ENGINEERS
 Chicago, Illinois
 312.228.0100
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6/9/2006 8:59:00 AM

NO. TO SHEET	SECTION	COUNTY	DATE
F. A. I. 94	2324.2-48	COOK	04 04
FED. ROAD DIST. NO.	ILLINOIS PROJECT NO.		
62303	12021-922-PT2		



- NOTE:**
1. For Location of Sections 1-1, 2-2, 3-3, see sheet S-6.
 2. For Details of Construction & Expansion Joints, see sheet S-6.
 3. For Location of Electrical Conduit & Guard Rail Anchor Bolts, see sheet S-6.



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
SOUTH ROUTE SUPERHIGHWAY
SECTION S-2324-48
W PERSHING ROAD BRIDGE
SEWER MISCELLANEOUS
DETAILS

SHEET CUL-13 OF CUL-16

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESS LANE)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
EXISTING GENERAL DETAILS

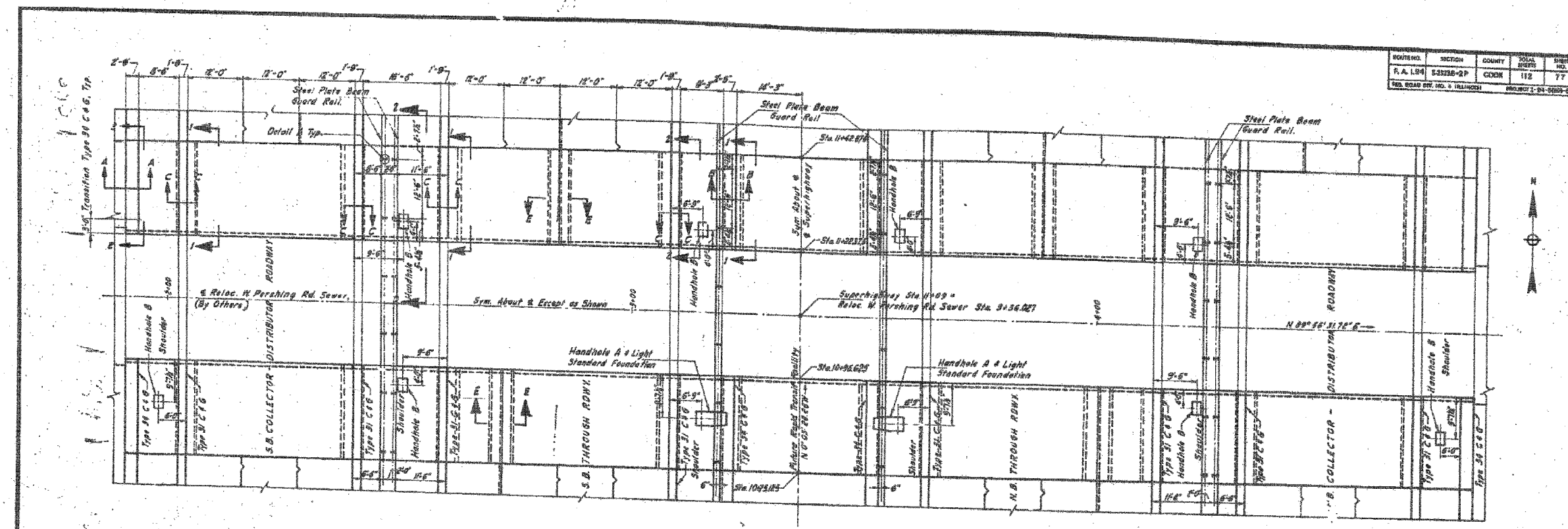
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DATE: JUNE 9, 2006 CHECKED BY: BLU

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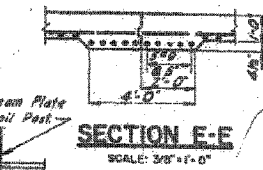
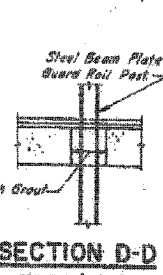
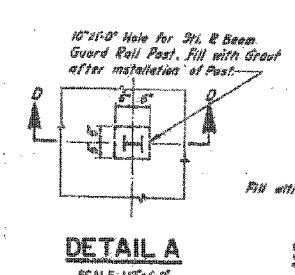
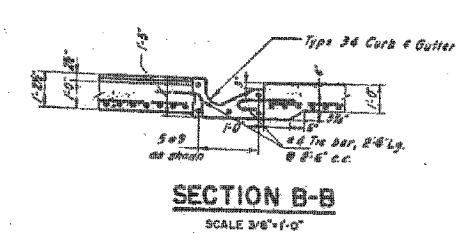
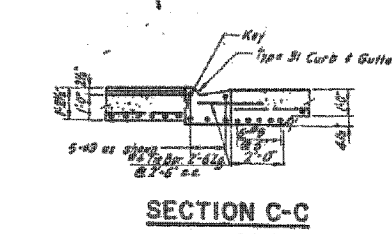
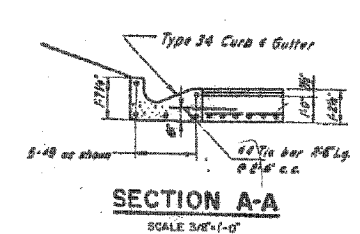
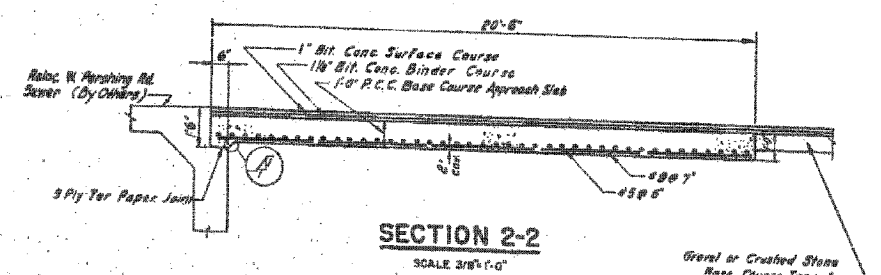
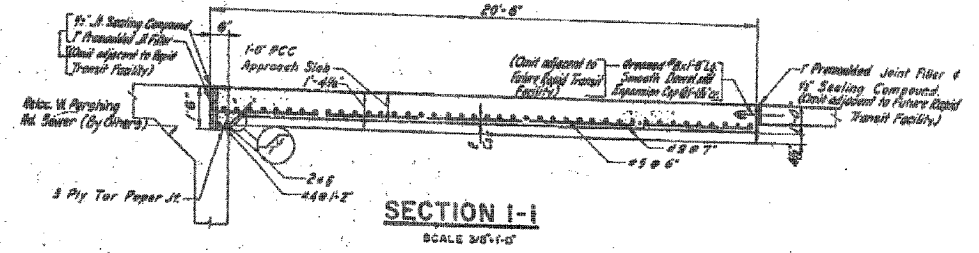
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CONSULTING ENGINEERS
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6/12/2006 6:35:46 AM

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	588	475
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303 + (2021-922 PT2 ETC 2324.6-1P) R-11				



APPROACH SLAB PLAN
SCALE 1"=10'



- NOTES**
1. Reinforcement bar cover - 2" except as noted.
 2. For Details of Type 31 & Type 34 Curb & Gutter, see Sheet 8-70.
 3. For Details of Construction Joint, see Sheet 8-81.
 4. For Details of Handhole A & B, and Light Standard Foundation, see Sheet 8-8.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
SOUTH ROUTE SUPERHIGHWAY
SECTION 5-2326-2P
GRADING, PAVING & DRAINAGE, W. PERSHING RD. TO W. 35TH ST.
APPROACH SLAB
GOODKIND & O'DEA, INC.
CONSULTING ENGINEERS, CHICAGO, ILL.
SCALE AS NOTED
SEPTEMBER 1961
SHEET NO. 6-77 OF 112 SHEETS

SHEET CUL-14 OF CUL-16

REVISIONS	
NAME	DATE

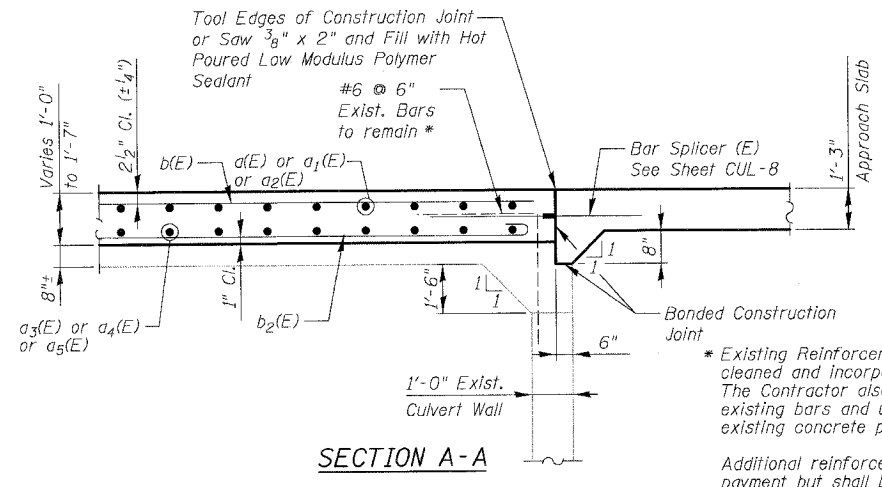
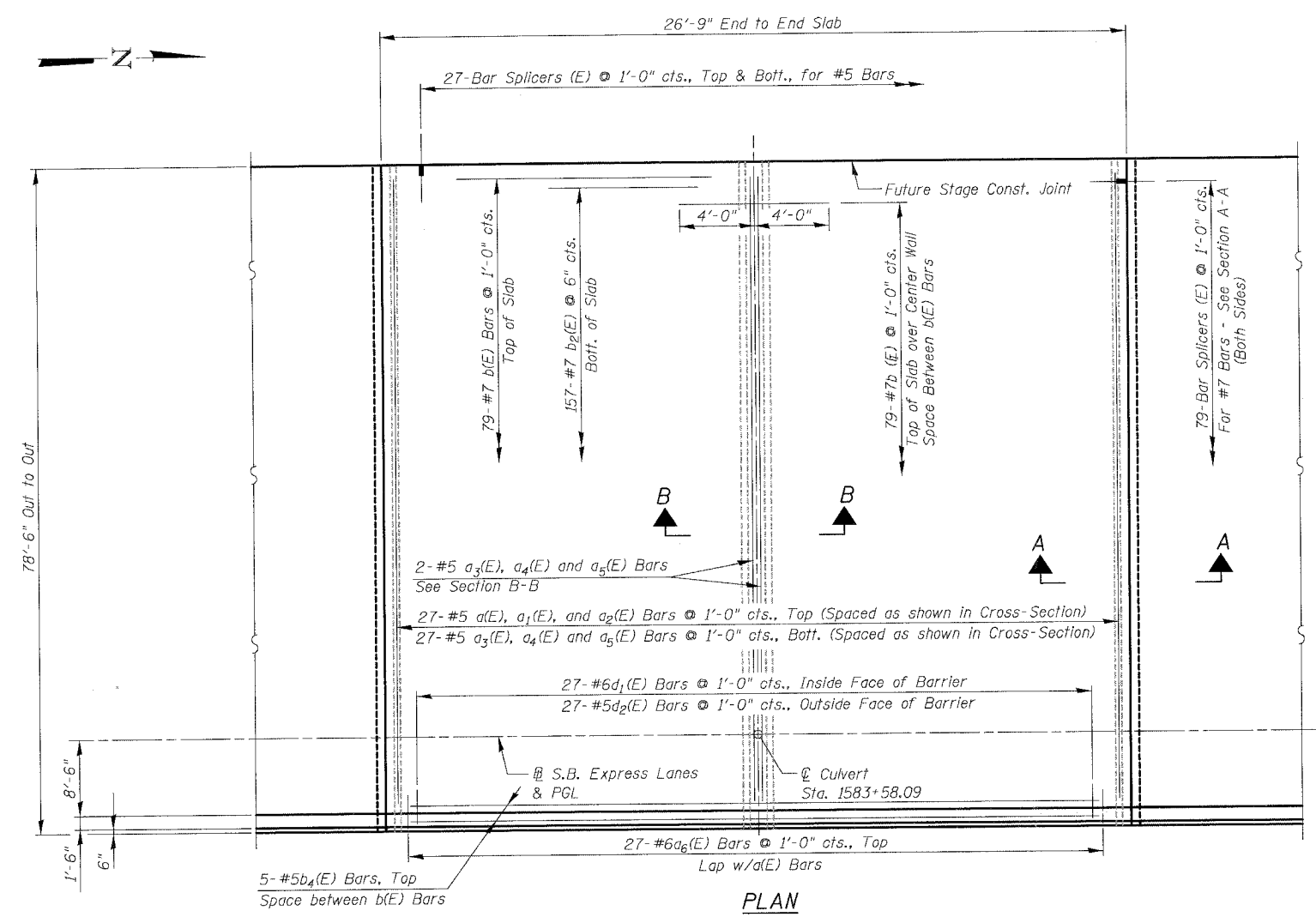
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
EXISTING APPROACH SLAB DETAILS
SCALE: N.T.S. DRAWN BY: BDC
DATE: JUNE 9, 2006 CHECKED BY: BLU

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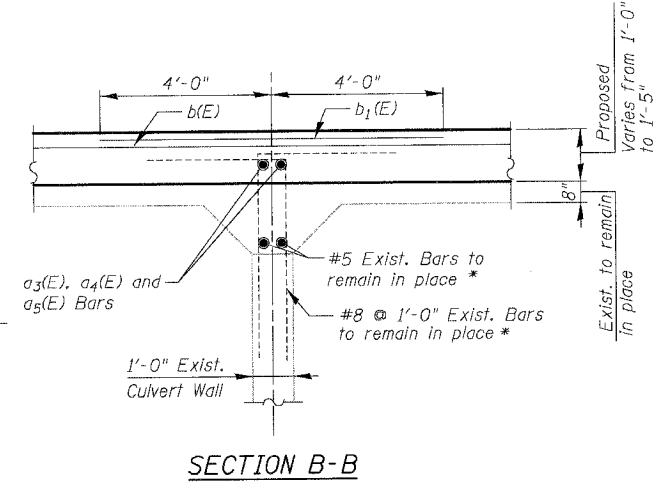
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303	*2021-922 PT2 ETC 2324.6-1P1 R-11			



* Existing Reinforcement Bars shown are to be cleaned and incorporated into new construction. The Contractor also has the option to cut the existing bars and use new bars anchored to the existing concrete pier per approval of the Engineer.

Additional reinforcement shall not be measured for payment but shall be included in the cost of "Reinforcement Bars, Epoxy Coated".

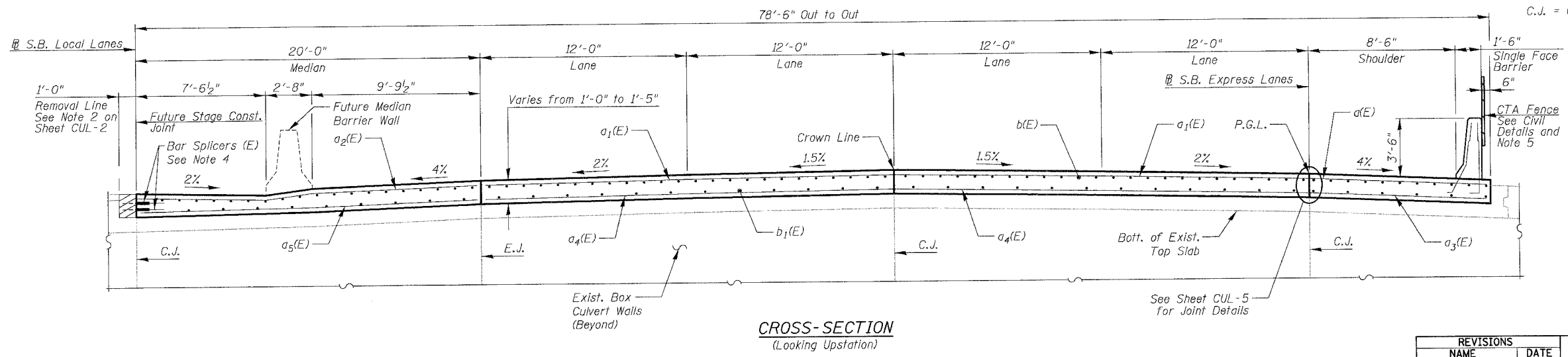


NOTES

1. Reinforcement Bars designated (E) shall be epoxy coated.
2. See Sheet CUL-5 for Top Slab Details and Bill of Material.
3. See Sheet CUL-8 for Bar Splicer Details.
4. Contractor shall provide bar splicers as shown here and on Sheet CUL-6. Install Stage I portion and provide Stage II portion to the Engineer. Plug threadedcoupler with plastic nipple or H.S. Bolt for protection. Cost included with "Bar Splicers".
5. Provide terminal posts and fence "expansion" joint at end of Approach Pavement. Space fence posts to miss barrier joints.

ABBREVIATIONS

- E.J. = Expansion Joint
- C.J. = Construction Joint



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REVISIONS	
NAME	DATE

SHEET CUL-15 OF CUL-16

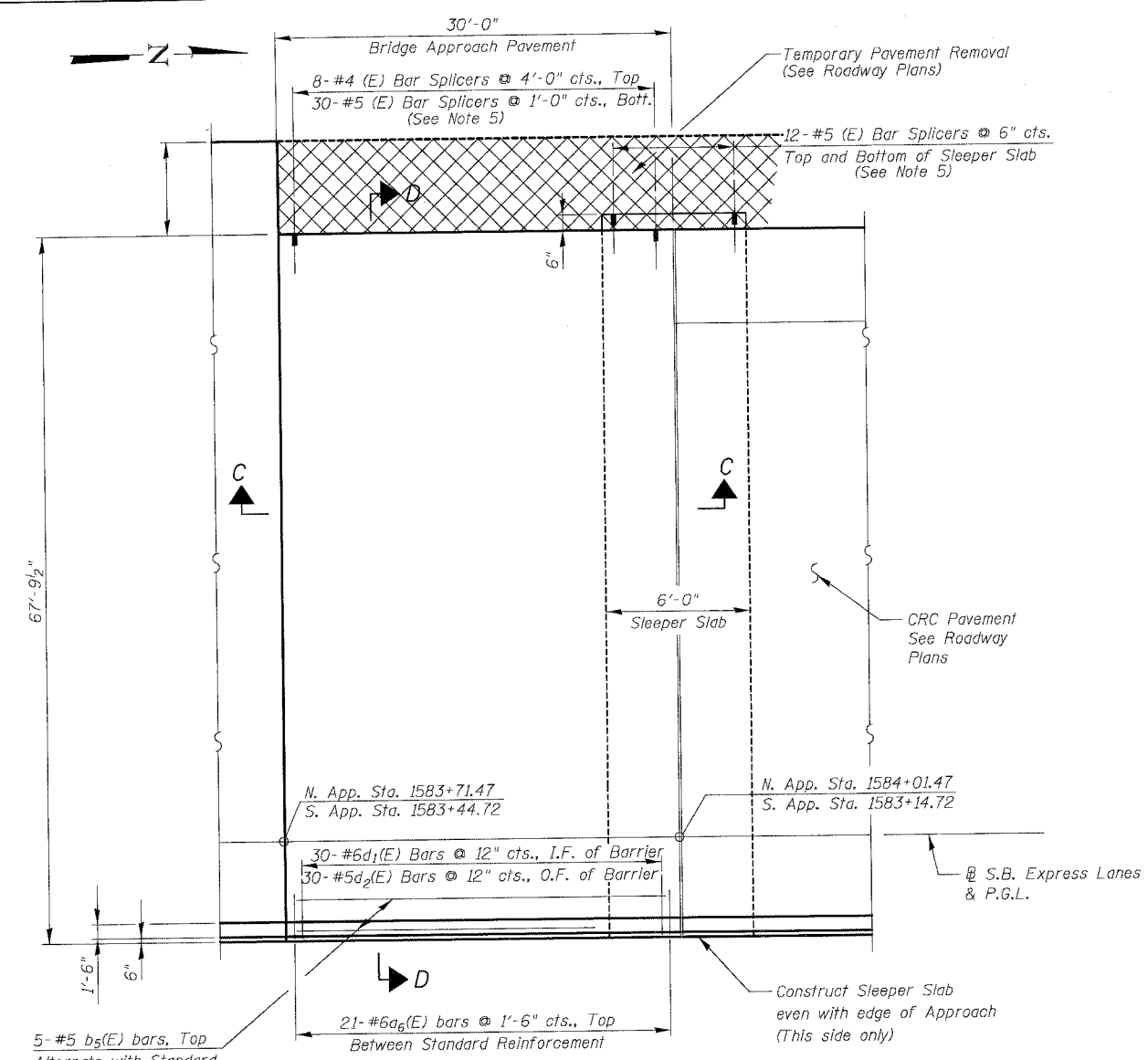
ILLINOIS DEPARTMENT OF TRANSPORTATION

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
TOP SLAB FROM CONTRACT 62302

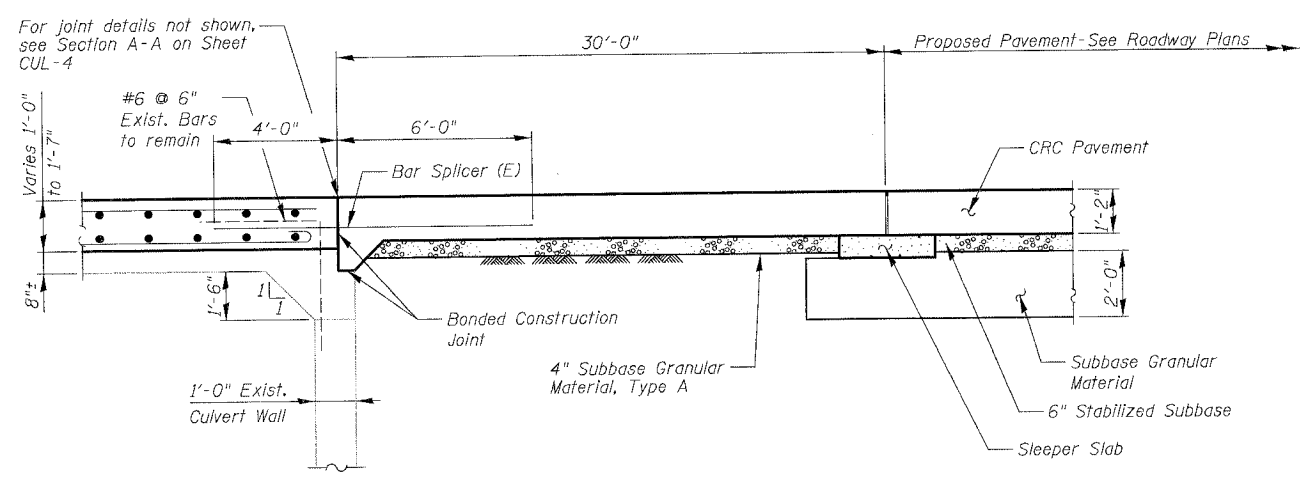
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8/18/2006

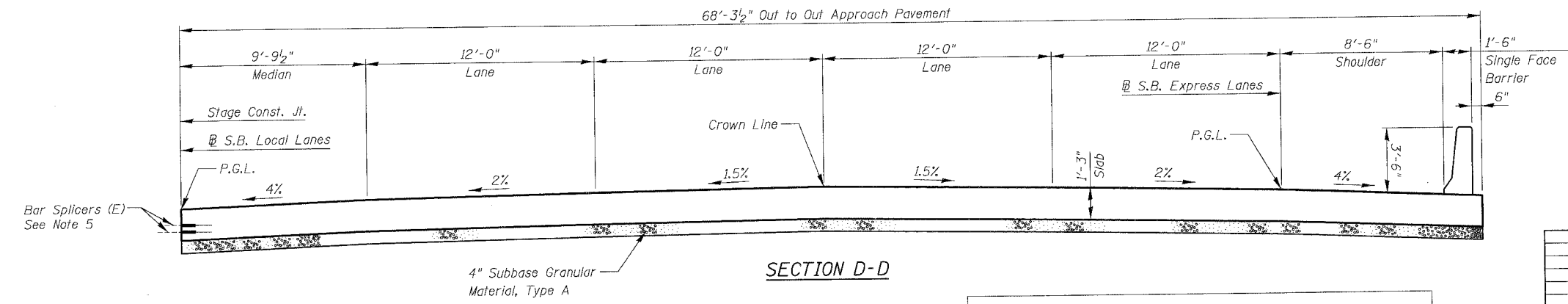
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	588	477
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62303 • (2021-922 PT2 ETC 2324.6-1P) R-11				



PARTIAL PLAN
North Approach Shown
South Approach Similar



SECTION C-C



SECTION D-D

NOTES:

1. See IDOT Standard 420401 for typical approach pavement reinforcing and details
2. Reinforcement Bars designated (E) shall be epoxy coated.
3. See Sheet CUL-7 for CTA Barrier Details.
4. See Sheet CUL-7 for Bill of Materials.
5. Contractor shall provide bar splicers as shown here and on Sheet CUL-4. Install Stage I portion and provide Stage II to the Engineer. Plug threaded coupler with plastic nipple or H.S. Bolt for protection. Cost included with "Bar Splicers".

I.F. = Inside Face
O.F. = Outside Face

SHEET CUL-16 OF CUL-16

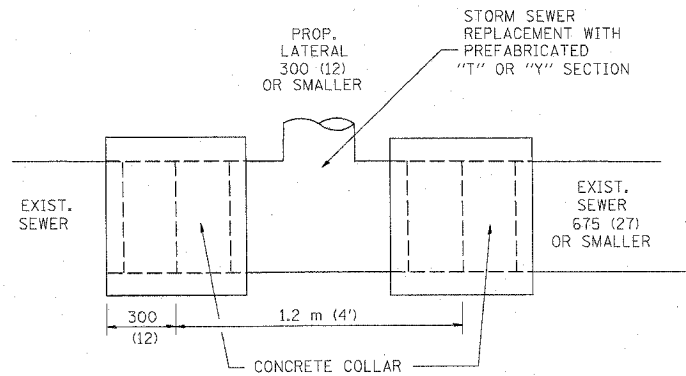
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
GARFIELD BLVD TO 31ST STREET (SB LOCAL LANES)
MWRD CULVERT, N. OF 39TH ST.,
COOK COUNTY, S.N. 016-2625
APPROACH SLAB FROM CONTRACT 62302
SCALE: N.T.S. DRAWN BY:
DATE: JUNE 9, 2006 CHECKED BY: BLU

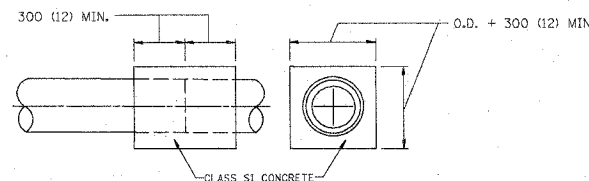
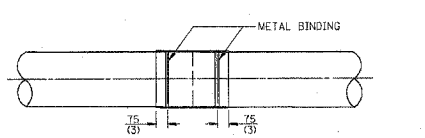
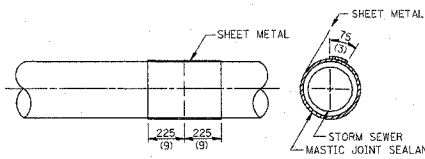
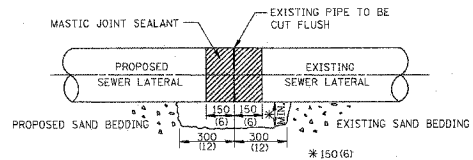
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6/8/2006



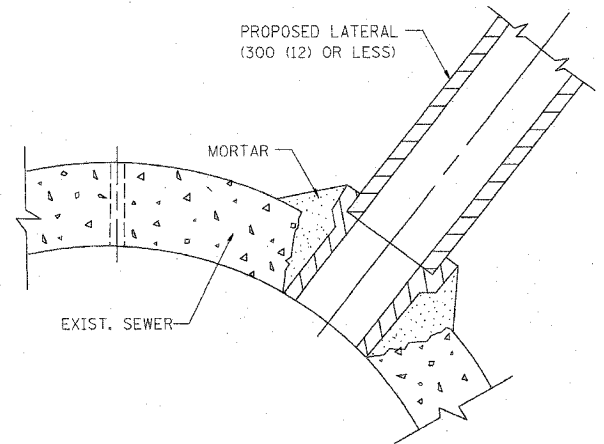
DETAIL "A"
LATERAL CONNECTION TO EXISTING SEWER OF 675 (27) OR SMALLER



DETAIL "B"
CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

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



DETAIL "C"
PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 750 (30) 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

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

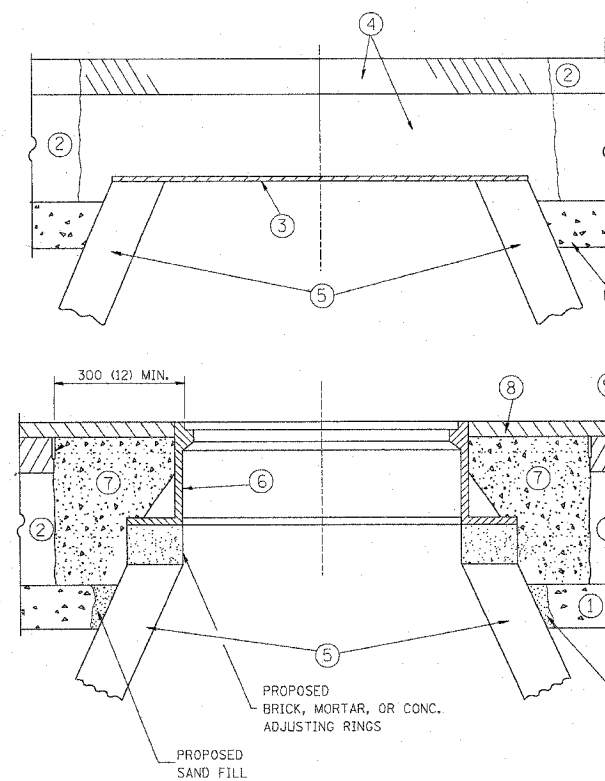
ILLINOIS DEPARTMENT OF TRANSPORTATION
DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER

REVISIONS	
NAME	DATE
M. DE YONG	07/25/90
M. DE YONG	02/05/92
M. DE YONG	05/08/92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	06/12/96

SCALE: NONE
DATE 10/18/2002

DRAWN BY CADD
CHECKED BY

F. & S. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	479
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

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

STAGE 2 (AFTER PAVEMENT MILLING)

- A) REMOVE THE BITUMINOUS MATERIAL 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 SI CONCRETE, OR BITUMINOUS CONCRETE SURFACE OR BINDER COURSE MATERIAL TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS.

LEGEND

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

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.

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: FRAMES AND LIDS TO BE ADJUSTED, SPECIAL EACH

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

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION

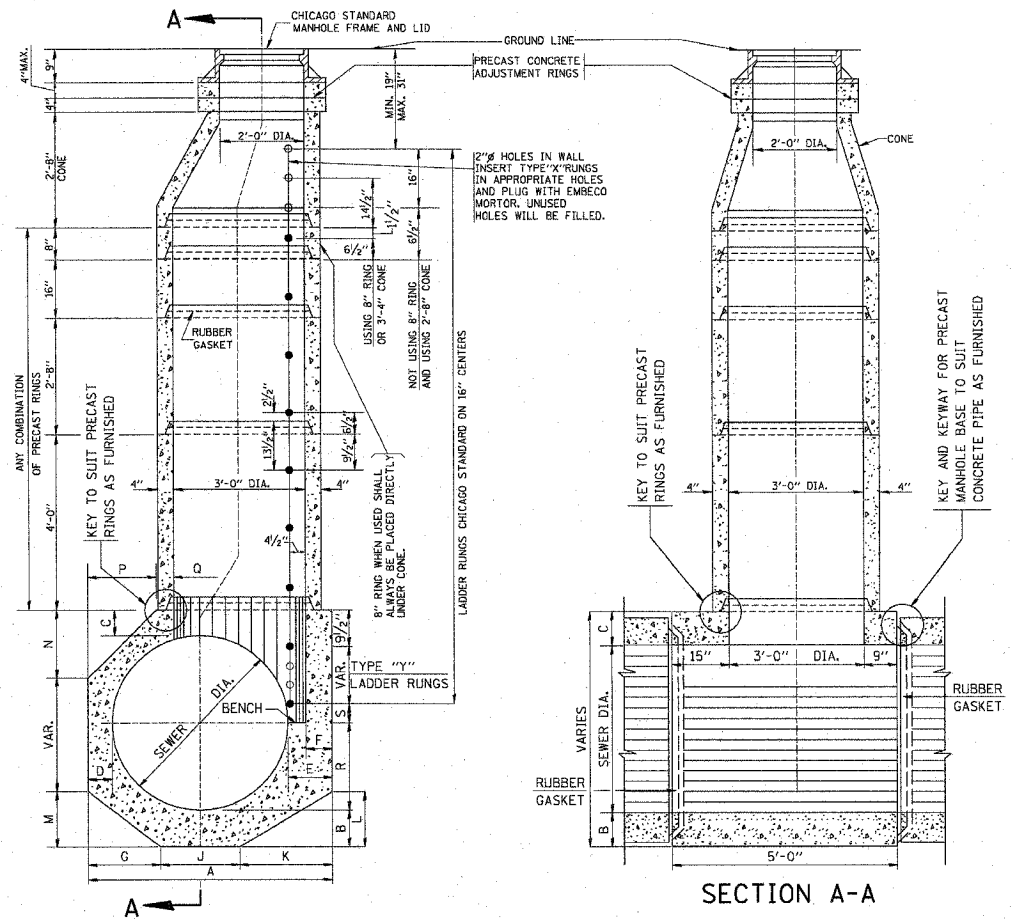
DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

REVISIONS	
NAME	DATE
R. SHAH	10/25/94
R. SHAH	01/30/95
R. SHAH	03/10/95
A. ABBAS	03/21/97
R. WIEDEMAN	05/14/04

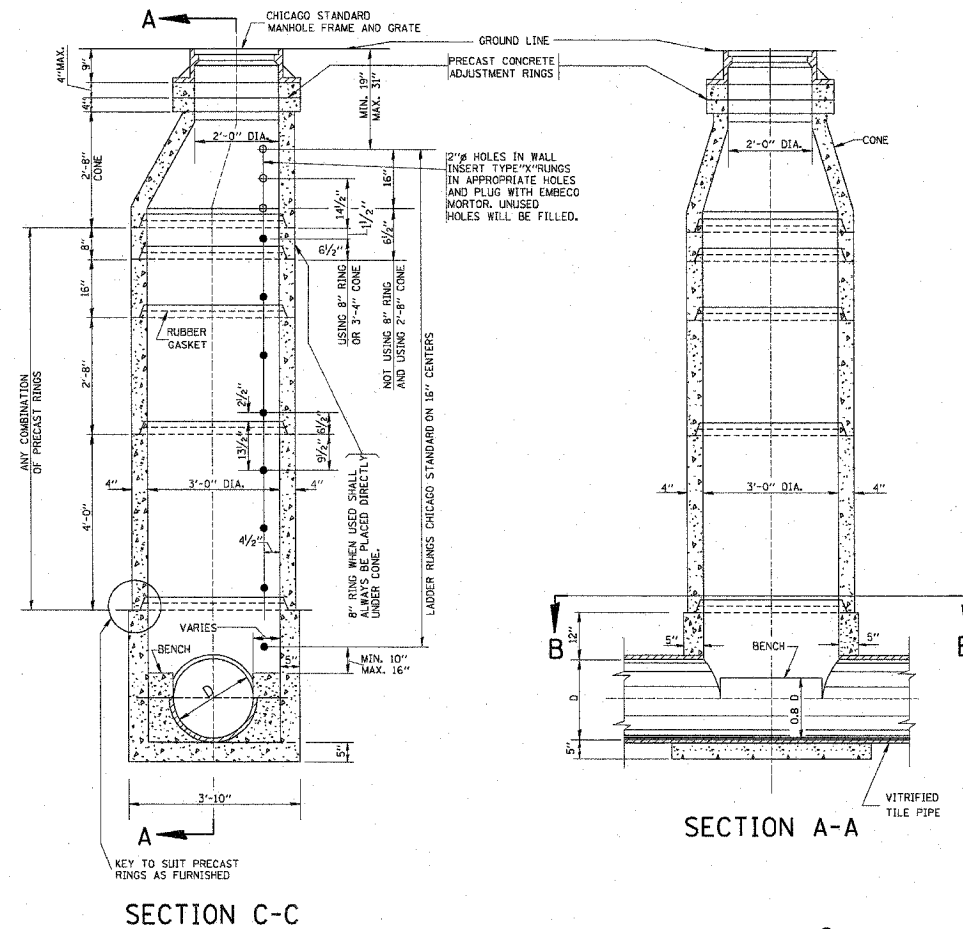
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DATE: 05/17/2004

DRAWN BY
CHECKED BY

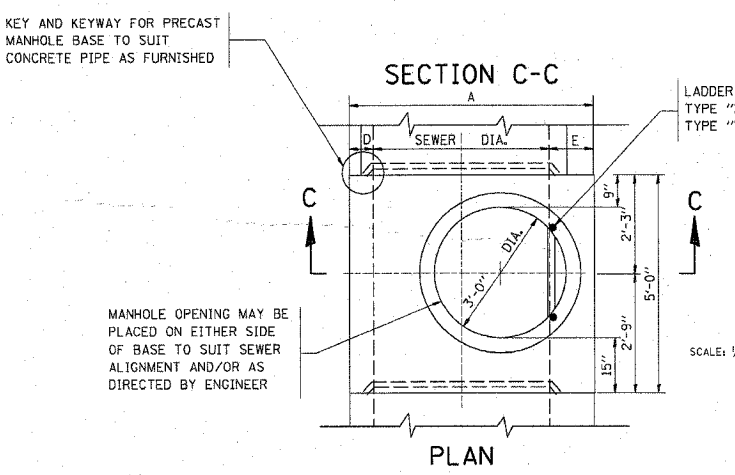
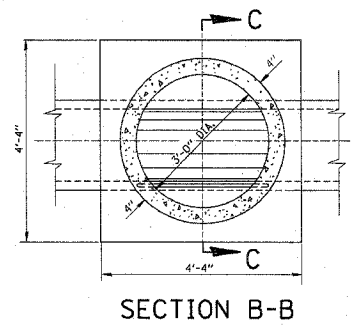
BD600-03 (BD-8)
REVISION DATE: 05/17/04



TYPE "A" MANHOLE
FOR SEWERS
24" TO 120" DIAMETER
PRECAST BASES AND RINGS



TYPE "A" MANHOLE
FOR SEWERS
21" DIAMETER AND SMALLER
PRECAST BASES AND RINGS

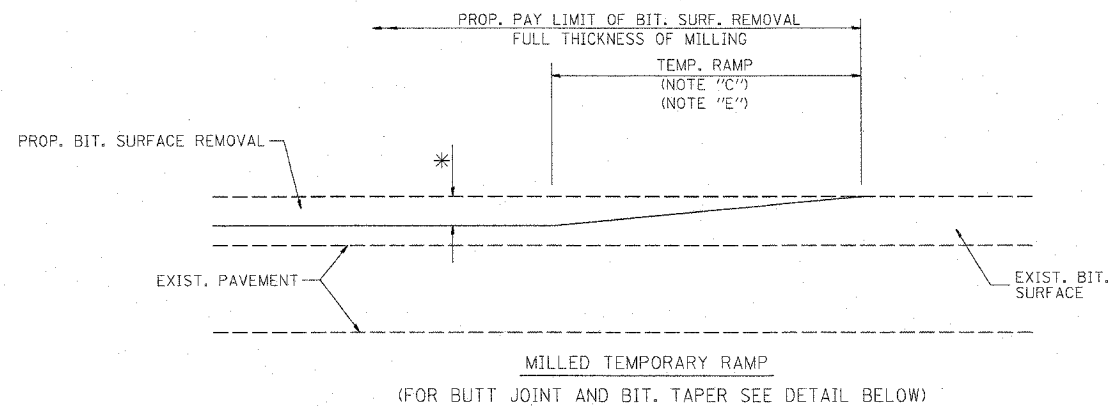


SEWER DIA.	PART ITEM	DIMENSIONS OF PRECAST MANHOLE BASE																	NO. RINGS
		A	B	C	D	E	F	G	J	K	L	M	N	P	Q	R			
120"		12"-4 1/2"	12"	12"	16 1/2"	12"	4'-0"	4'-0"	4'-4 1/2"	2'-5 1/2"	3'-7"	3'-7"	4'-8 1/2"	2'-0"	2 1/2"	7			
108"		11"-4 1/2"	12"	12"	16 1/2"	12"	3'-8"	3'-8"	4'-0 1/2"	2'-5"	3'-4"	3'-4"	4'-0 1/2"	2'-0"	6 1/2"	6			
102"		10"-10 1/2"	12"	12"	16 1/2"	12"	3'-6"	3'-6"	3'-10 1/2"	2'-4"	2'-11"	3'-2"	3'-8 1/2"	2'-0"	16 1/2"	5			
96"	10-A	10"-2 1/2"	11"	11"	15 1/2"	11"	3'-3"	3'-3"	3'-8 1/2"	2'-3"	23"	2'-11"	2'-11"	3'-4 1/2"	2'-0"	9 1/2"	5		
90"	10-B	9"-8 1/2"	11"	11"	15 1/2"	11"	3'-1"	3'-1"	3'-6 1/2"	2'-1 1/2"	22"	2'-10"	2'-10"	2'-11 1/2"	2'-0"	3 1/2"	5		
84"	10-C	9'-0 1/2"	10"	10"	14 1/2"	10"	2'-11"	2'-11"	3'-2 1/2"	23"	21"	2'-7"	2'-7"	2'-0"	12 1/2"	4			
78"	10-D	8'-6 1/2"	10"	10"	14 1/2"	10"	2'-9"	2'-9"	3'-0 1/2"	22"	20"	2'-6"	2'-6"	2'-2 1/2"	2'-0"	6 1/2"	4		
72"	10	7"-10 1/2"	9"	9"	13 1/2"	9"	2'-6"	2'-6"	2'-10 1/2"	21"	18"	2'-3"	2'-3"	22 1/2"	2'-0"	15 1/2"	3		
66"	11	7'-4 1/2"	9"	9"	13 1/2"	9"	2'-4"	2'-4"	2'-8 1/2"	19 1/2"	17"	2'-1"	2'-1"	18 1/2"	2'-0"	9 1/2"	3		
60"	12	6'-8 1/2"	8"	8"	12 1/2"	8"	2'-1 1/2"	2'-1 1/2"	2'-6"	18"	15"	23"	23"	13 1/2"	2'-0"	2 1/2"	3		
54"	13	6'-2 1/2"	8"	8"	12 1/2"	8"	23 1/2"	23"	2'-4"	17"	14"	21"	21"	9 1/2"	2'-0"	12 1/2"	2		
48"	14	5'-6 1/2"	7"	7"	11 1/2"	7"	20 1/2"	21"	2'-1"	15"	12 1/2"	18 1/2"	18 1/2"	5"	2'-0"	5 1/2"	2		
42"	15	5'-0 1/2"	7"	7"	11 1/2"	7"	18 1/2"	19"	23"	14"	11"	---	---	17 1/2"	21"	2 1/2"	2		
36"	16	4'-4 1/2"	6"	6"	10 1/2"	6"	16"	16"	20 1/2"	12 1/2"	9 1/2"	---	---	10 1/2"	18"	14 1/2"	1		
30"	17	4'-0"	6"	6"	12"	6"	14"	14"	20"	12"	8 1/2"	---	---	6"	15"	11 1/2"	1		
24"	18	4'-0"	6"	6"	12"	6"	16"	16"	16"	9 1/2"	9 1/2"	---	---	6"	12"	8 1/2"	1		

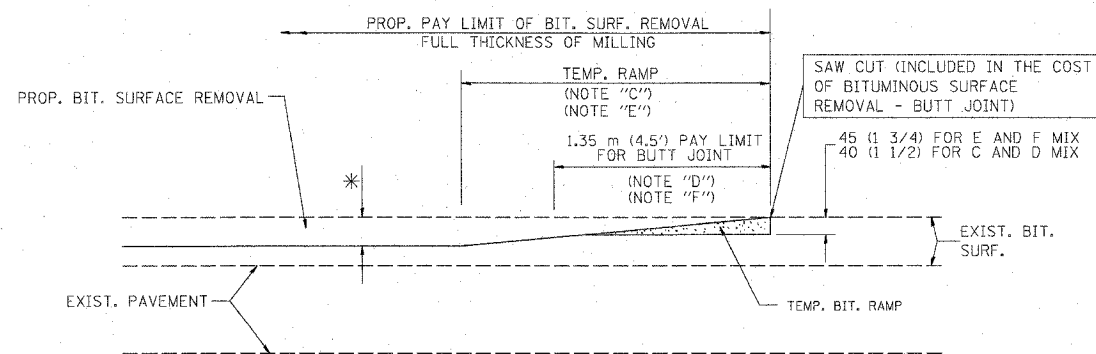
FOR STATE CONTRACT
ALL DIMENSIONS SHOULD
BE PREPARED IN METRIC
UNITS. SOFT CONVERSION
METHOD SHOULD BE USED.

REVISIONS		CITY OF CHICAGO DRAINAGE DETAILS
DATE	DESCRIPTION	
6-18-82	CHICAGO STANDARD MH	
9-22-90	TYPE "A" MANHOLE	

F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	481
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

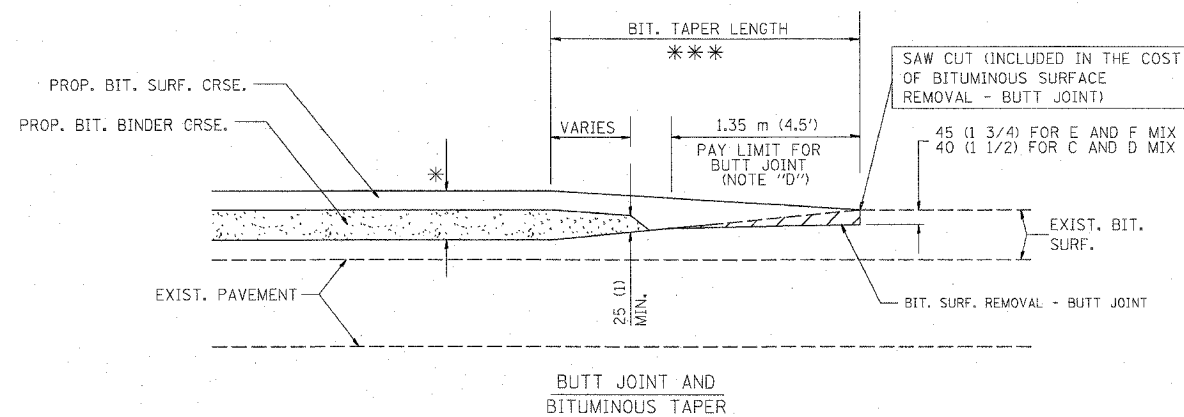


OPTION 1

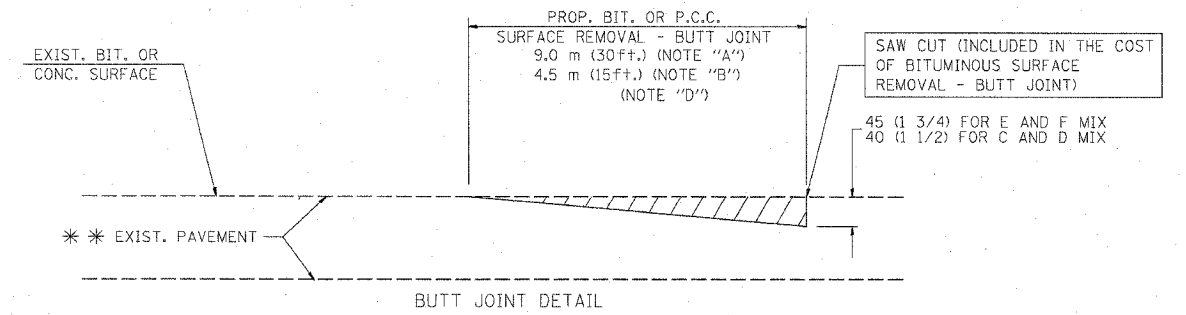


BITUMINOUS CONSTRUCTED TEMPORARY RAMP
(FOR BUTT JOINT AND BIT. TAPER SEE DETAIL BELOW)

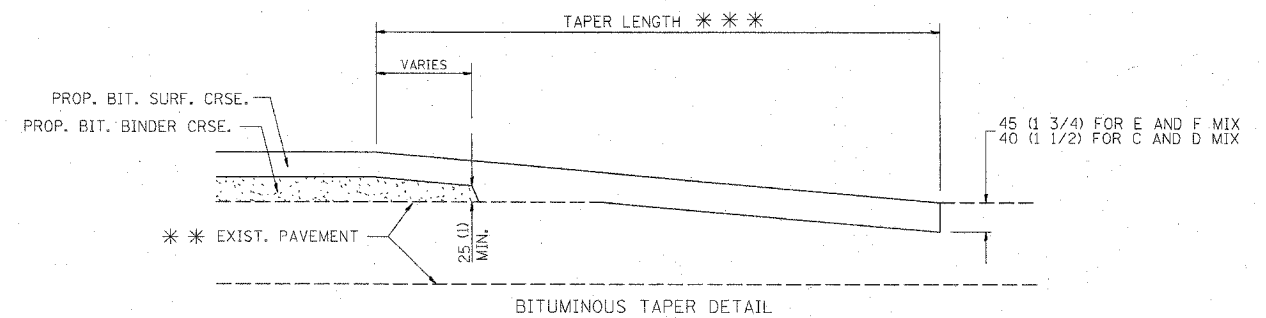
OPTION 2
TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND BITUMINOUS TAPER
FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



BITUMINOUS TAPER DETAIL

TYPICAL BUTT JOINT AND BITUMINOUS TAPER
FOR RESURFACING ONLY

*** PC CONCRETE, BITUMINOUS OR BITUMINOUS 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 BITUMINOUS SURFACE.
- D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED BITUMINOUS COURSES.
- E: TAPER THE TEMP. RAMP AT A RATE OF 900 (3 ft.) PER INCH OF MILLING THICKNESS.
- F: INSTALLATION AND REMOVAL OF THE 1.35 m (4.5') TEMP. BIT. RAMP WILL BE PAID AS "BITUMINOUS SURFACE REMOVAL - BUTT JOINT".
- G: SEE ARTICLE 406.18 AND 406.24 OF THE STANDARD SPECIFICATIONS FOR "BITUMINOUS AND PCC SURFACE REMOVAL, BUTT JOINT".
- * SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- *** 6.1 m (20') PER 25 (1) RESURFACING (NOTE "A")
3.0 m (10') PER 25 (1) RESURFACING (NOTE "B")

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

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR PER SQUARE METER (SQUARE YARD.) AS "BITUMINOUS SURFACE REMOVAL - BUTT JOINT" OR AS "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97
M. GOMEZ	04/06/01

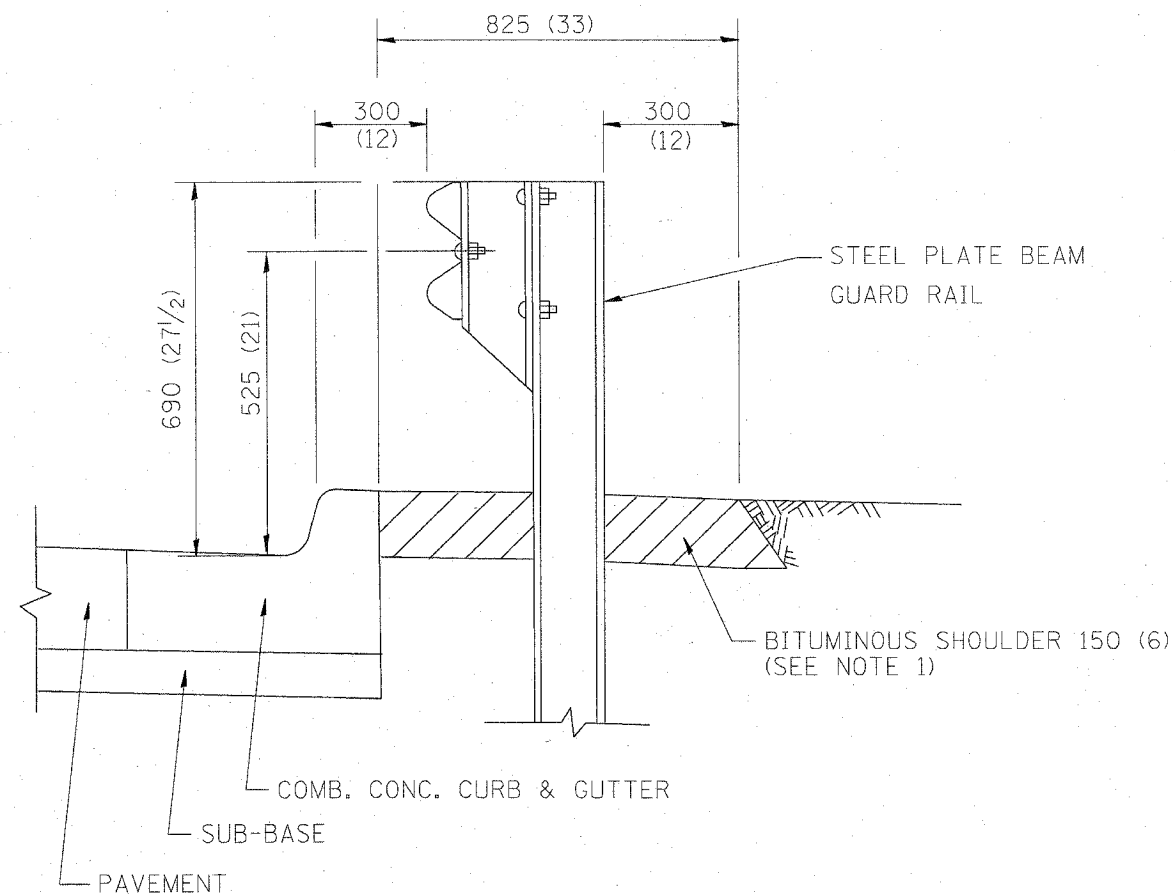
ILLINOIS DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND
BITUMINOUS TAPER
DETAILS

SCALE: NONE
DATE PLOTTED: 10/18/2002

DRAWN BY
CHECKED BY
BD400-05 (V1-BD32)

F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	482
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

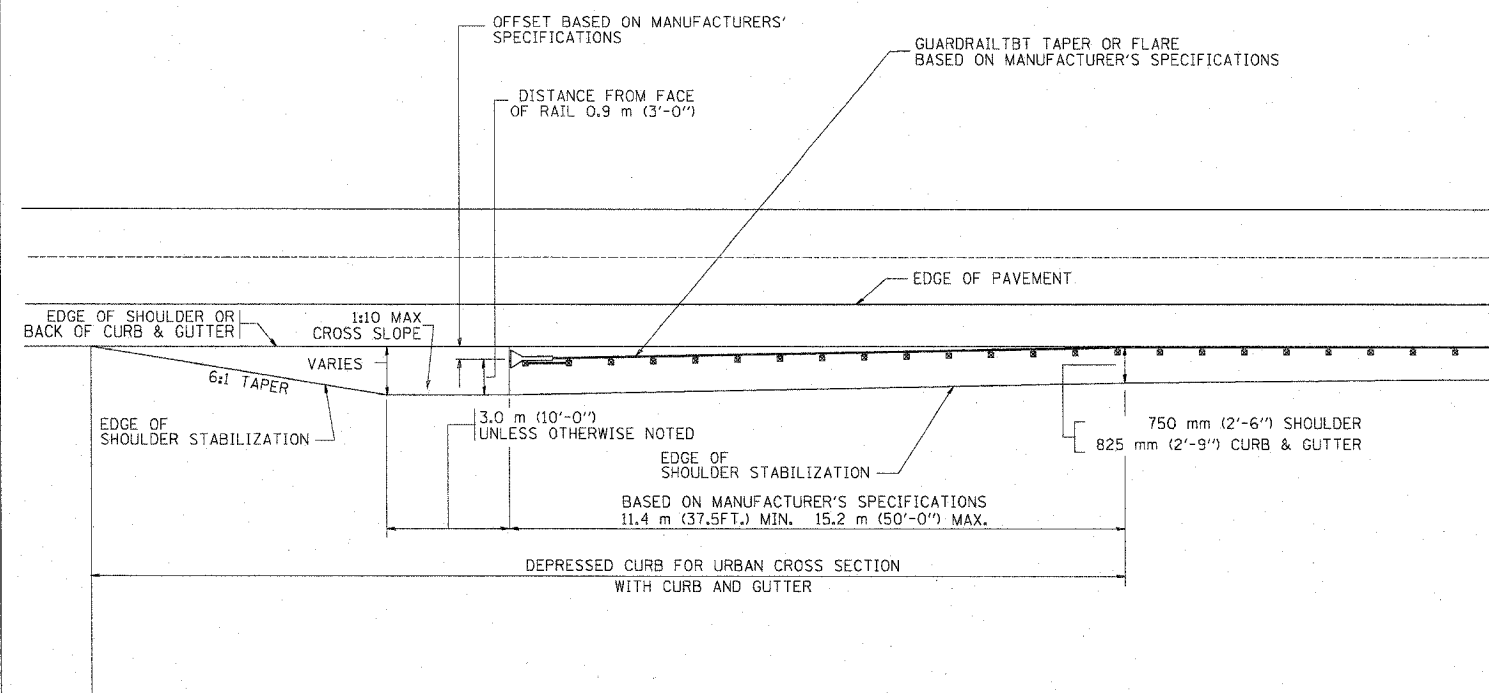


- NOTES: 1. THE BITUMINOUS SHOULDER SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
2. GUARD RAIL MAY BE PLACED AT THE BACK OF CURB WHEN DIRECTED BY THE ENGINEER.

BASIS OF PAYMENT: BITUMINOUS SHOULDER 150 (6) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER m² (sq. yd.) AS "BITUMINOUS SHOULDER 150 (6)."

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

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



STABILIZATION AT TBT TY. 1 SPL.

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

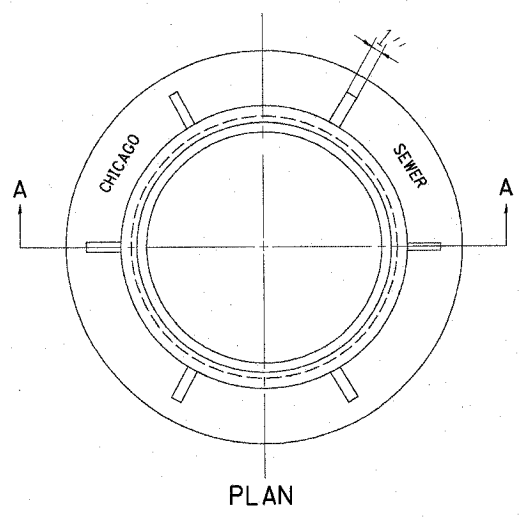
ILLINOIS DEPARTMENT OF TRANSPORTATION
 DETAILS FOR
 STEEL PLATE BEAM GUARD RAIL
 ADJACENT TO CURB AND GUTTER
 STABILIZATION AT TBT TY 1 SPL.

REVISIONS	
NAME	DATE
M. DE YONG	09-22-90
M. DE YONG	07-14-92
R. SHAH	09/09/94
R. SHAH	10/25/94
R. SHAH	02/23/95
A. ABBAS	03/21/97
E. GOMEZ	08/28/00

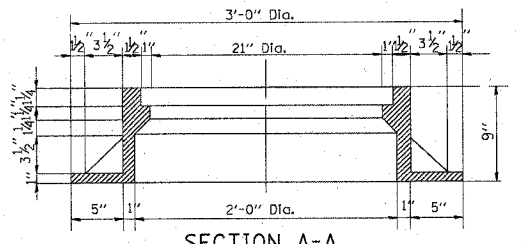
SCALE: NONE
 DATE 10/18/2002

DRAWN BY Jls
 CHECKED BY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	483
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS FED. AID PROJECT			



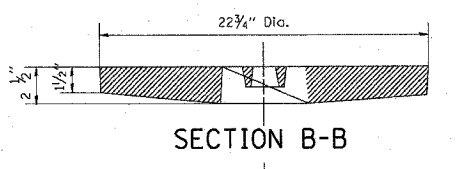
PLAN



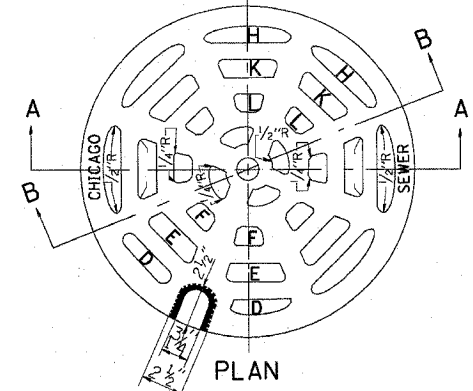
SECTION A-A

NOTE: Metal Plates Must Be Furnished For Perforated Lids On Manholes

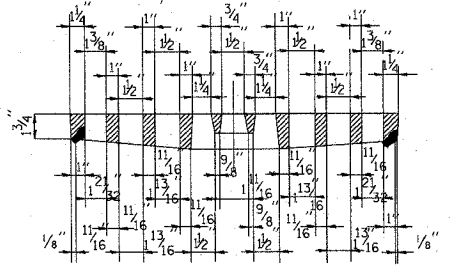
CHICAGO STANDARD MANHOLE FRAME
Scale: 1/2"=1'-0"
Material: Cast Iron



SECTION B-B



PLAN



SECTION A-A

PERFORATED LID FOR CATCH BASINS & MANHOLES
Scale: 2"=1'-0"
Material: Cast Iron

SECTION D-D

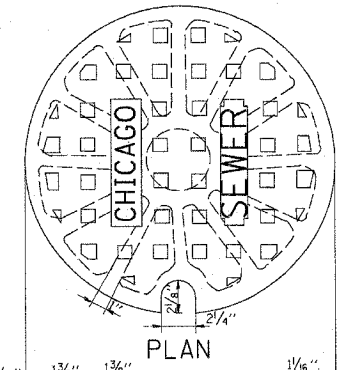
SECTION E-E

SECTION F-F

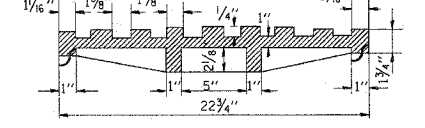
SECTION H-H

SECTION K-K

SECTION L-L

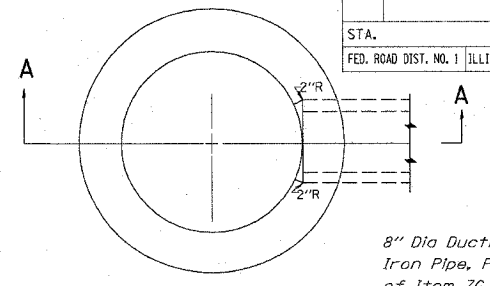


PLAN



SECTION

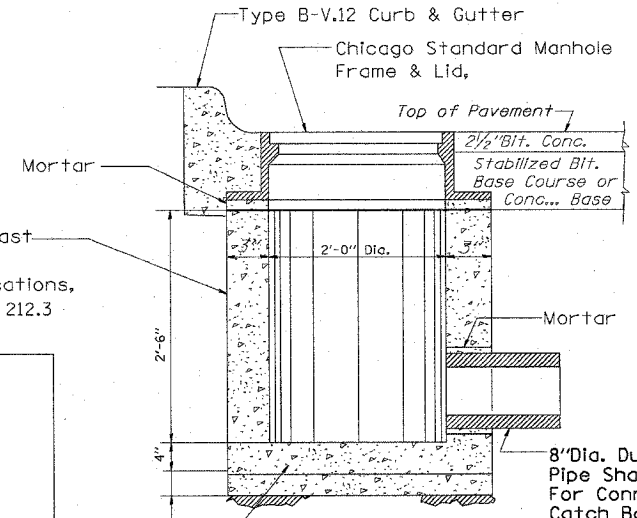
SOLID LID FOR MANHOLES
Scale: NONE
Material: Cast Iron



PLAN

(Frame & Lid Not Shown)

8" Dia Ductile Iron Pipe, Part of Item 7C



SECTION A-A

24" Dia. Precast Conc... Ring See Specifications, Part 2, Art 212.3

Reinf. Conc. Base Cast as Integral Part of 24" Dia. Precast Conc. Ring

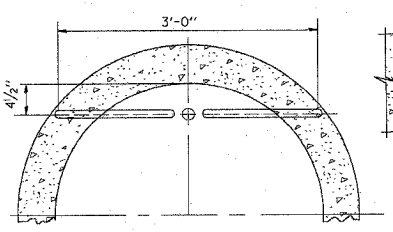
6" Minimum Granular Embedment Under All Inlets. Furnishing and Installing Granular Embedment Shall Be Included In The Unit Price Bid For Item 12

STANDARD INLETS

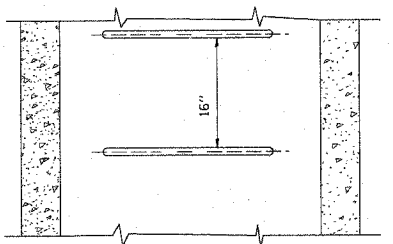
Scale: 1"=1'-0"
Item 12

This Inlet Detail Is Sometimes Referred To As "Chicago Standard Inlet, Type A"

NOTE:
INLETS SHALL NOT BE CONSTRUCTED UNLESS IT IS IMPOSSIBLE TO CONSTRUCT A CATCH BASIN. THE CONTRACTOR SHALL HAVE THE DEPARTMENT OF SEWERS APPROVAL BEFORE CONSTRUCTING INLETS

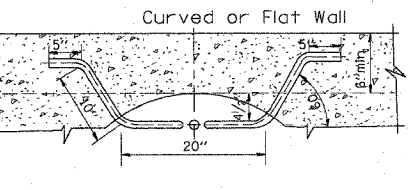


PLAN

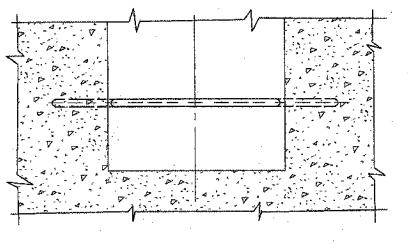


ELEVATION TYPE X

Scale: 1"=1'-0"

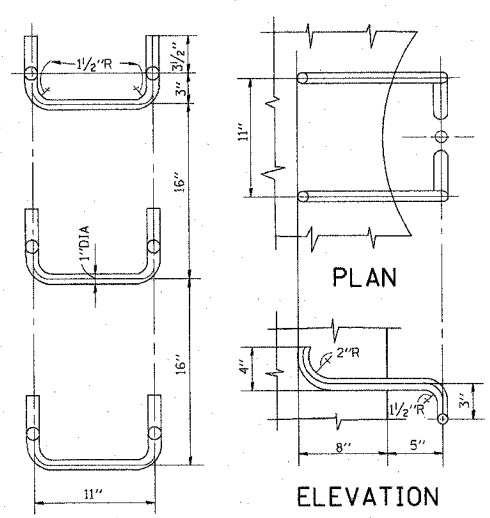


PLAN



ELEVATION TYPE Y

Scale: 1"=1'-0"

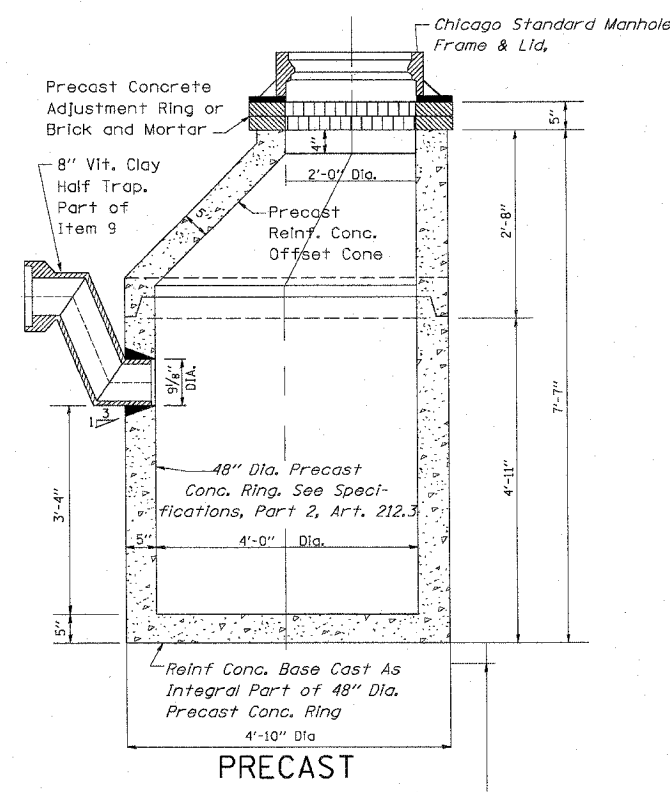


ELEVATION

PLAN

SPACING HANDHOLD-TYPE Z RUNG
Scale: 1/2"=1'-0"

All Ladder Rungs Shall Be Aluminum or Galvanized Wrought Iron As Specified in Specifications, Part 2, Article 214.2. Rungs Shall Be 1" Diameter or of A Shape Having An Equivalent Cross-Sectional Area



PRECAST

Note:
6" Minimum Granular Embedment Under All Catch Basins

STANDARD CATCH BASINS
Scale: 3/4"=1'-0"
Item 9

DATE-TIME
IGN-SPEC
V-BD

REVISIONS	
NAME	DATE
M. GOMEZ	01/25/01

CITY OF CHICAGO
DEPARTMENT OF SEWERS
ENGINEERING DIVISION

ILLINOIS DEPARTMENT OF TRANSPORTATION
CITY OF CHICAGO
CATCH BASIN, INLET AND
MANHOLE DETAILS

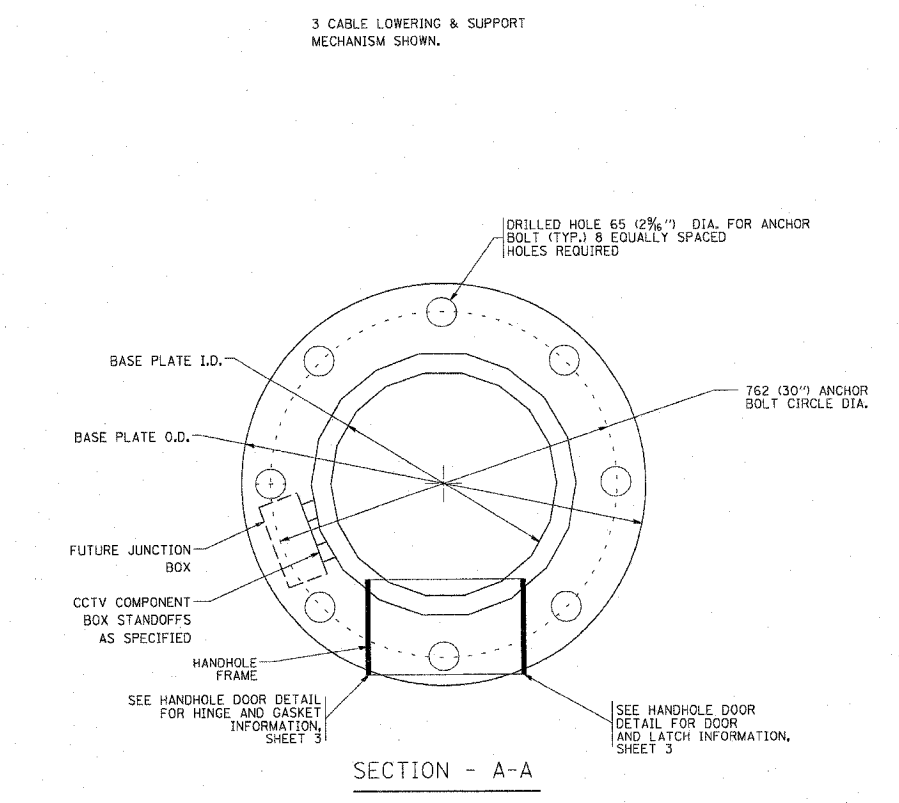
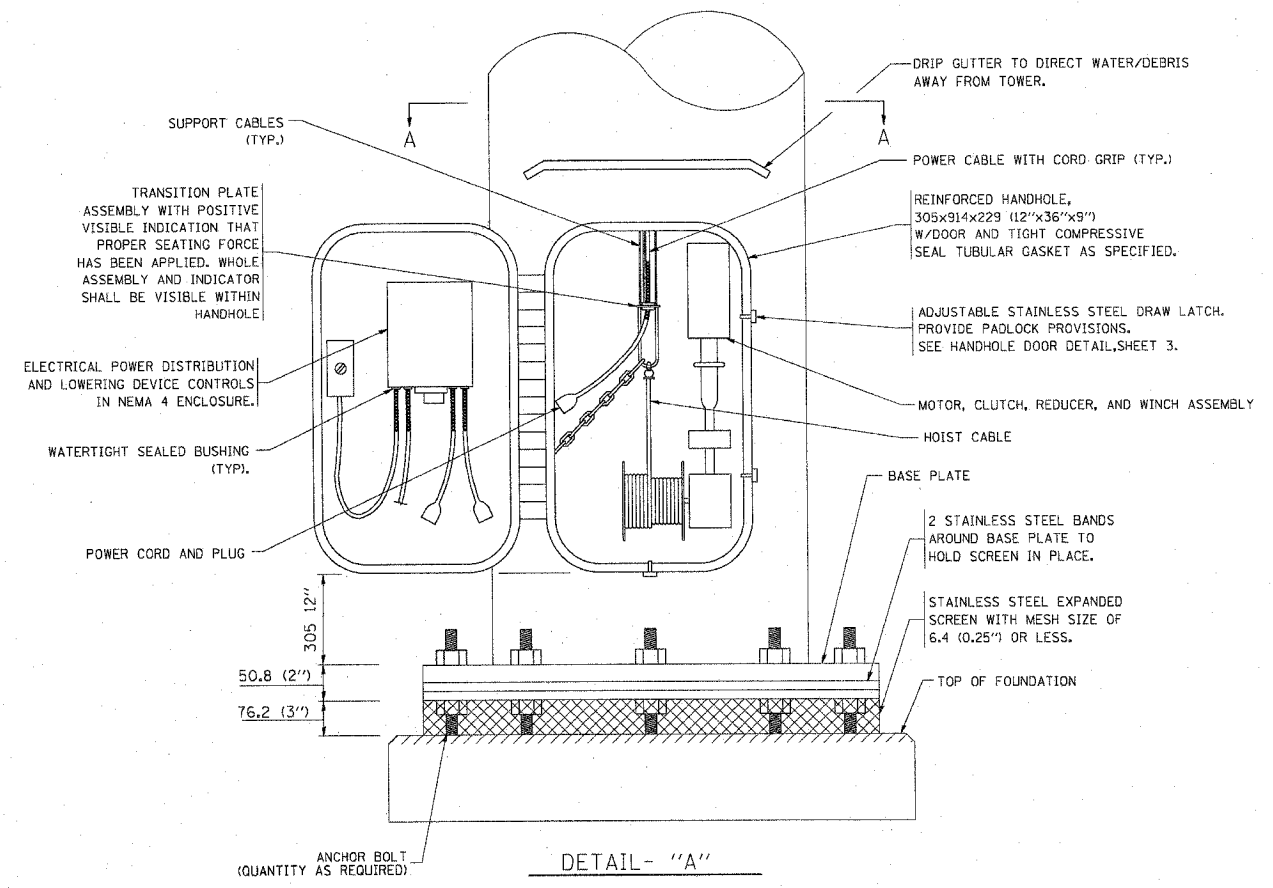
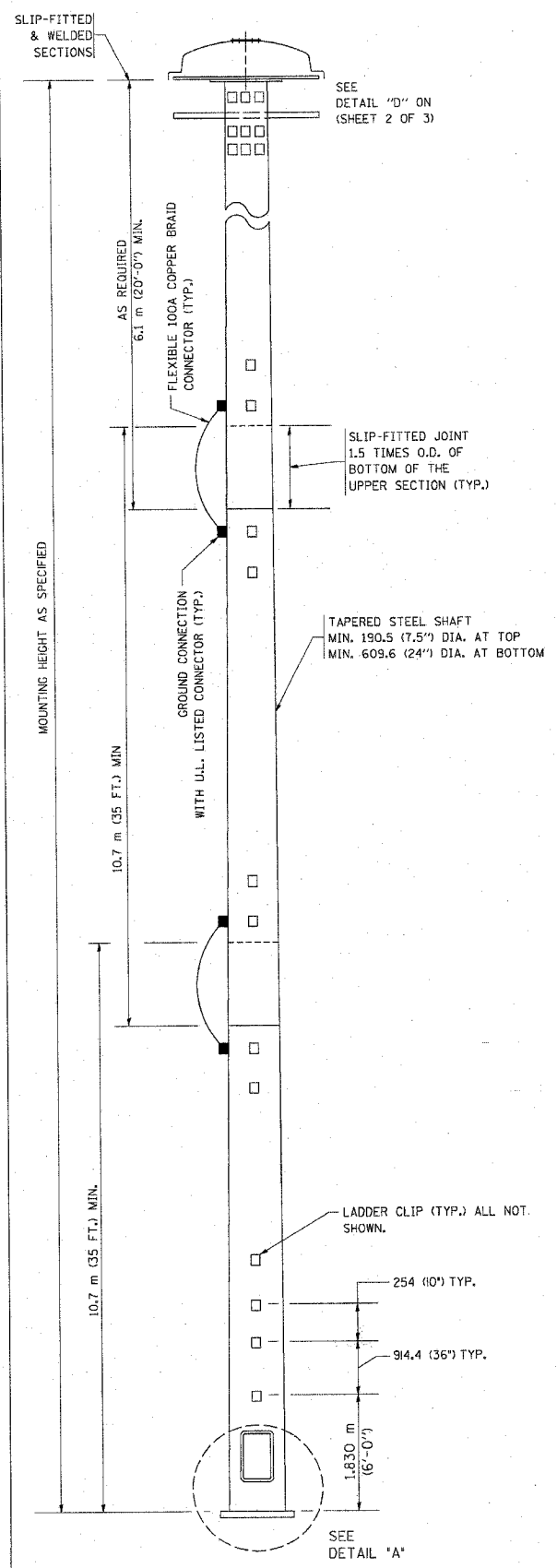
SCALE: VERT. HORIZ.
DATE 10/18/2002

DRAWN BY
CHECKED BY
BD600-13 (BD47)
REVISION DATE: 01/25/01

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	484
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
- THE DESIGN SHALL BE BASED UPON AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" CURRENT AT THE TIME THE PROJECT IS ADVERTISED AND A TOTAL COMBINED LUMINAIRE WEIGHT OF 326 KG (720 LBS.) AND HAVING A TOTAL PROJECTED AREA OF 7.3 SQ M (24 SQ. FT.).
- ALL TOWER SHAFT COMPONENTS, INCLUDING, BUT NOT LIMITED TO THE SHAFT SECTIONS, BASE PLATE, LADDER CLIPS, HANDHOLE DOOR, HANDHOLE REINFORCING, RAIN GUTTER, AND BASE PLATE, SHALL BE FABRICATED FROM HIGH-STRENGTH, LOW ALLOY, STEEL WITH A MINIMUM YIELD STRENGTH OF 345 K PA (50,000 PSI) ACCORDING TO AASHTO M 223 (ASTM A 572 GR50)
- THE ELECTRIC MOTOR, MOTOR GEAR REDUCER, WINCH DRUM ASSEMBLY AND AUTOMATIC SHUTOFF SWITCH OF THE LOWERING DEVICE SHALL BE ACCESSIBLE FROM THE FRONT OF THE TOWER FOR EASY REMOVAL AND MAINTENANCE. ALL COMPONENTS SHALL BE REMOVABLE THROUGH THE HANDHOLE.
- THE LIGHT TOWER SHAFT SHALL HAVE LADDER CLIPS. CLIPS SHALL BEGIN 1.8 M (6 FT.) ABOVE THE BASE PLATE WITH ALTERNATE 900 (36 INCH) AND 250 (10 INCH) SPACING THEREAFTER, FOR THE ENTIRE LENGTH. THE TOP 3 M (10 FT.) OF THE POLE SHAFT SHALL HAVE 3 SETS OF CLIPS. EACH SET OF CLIPS SHALL BE 120 DEGREES APART. CLIPS SHALL BE 6 X 50 (0.25 X 2 INCHES) WELDED TO THE SHAFT TO PRODUCE A SLOT 15.9 (0.625 INCHES) DEEP AND 41.3 (1.625 INCHES) LONG. THE TOP INSIDE EDGE SHALL BE CHAMFERED.
- A COPPER BONDING JUMPER SHALL BOND SLIP-FIT POLE SECTIONS TOGETHER WITH A FLAT COPPER MESH AND STAINLESS STEEL GROUND LUGS.
- ALL TOWER SHAFT HARDWARE, SUCH AS GROUND LUGS, JUNCTION BOXES, HARDWARE FOR THE HANDHOLE DOOR, INCLUDING THE HANDLE/LATCH MECHANISM, HINGE AND DOOR STOP, SHALL BE STAINLESS STEEL. ALL CONDUIT AND CONDUIT FITTINGS SHALL BE PVC COATED GALVANIZED STEEL.
- THE ENTIRE TOWER INCLUDING THE SHAFT, HANDHOLE, HANDHOLE DOOR, BASE PLATE AND ALL OTHER ELEMENTS WELDED TO THE SHAFT SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) AND THEN PAINTED AS SPECIFIED. THE LUMINAIRE RING SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- THE FINISH COAT SHALL BE FEDERAL STANDARD COLOR NUMBER 16307 (HANFORD GREY). COLOR SAMPLE TO BE SUBMITTED FOR APPROVAL
- ALL MULTI-CONDUCTOR CABLES SHALL BE FITTED WITH A HEAT-SHRINK MULTI-LEG BOOT. THE BOOT SHALL MEET MILITARY SPECIFICATION MIL-I-81765/1.
- PRIOR TO DELIVERY, THE TOWER AND ALL ITS COMPONENTS SHALL BE INSPECTED BY THE MANUFACTURER'S REPRESENTATIVE IN THE PRESENCE OF THE ENGINEER. ANY PARTS FOUND TO BE DEFECTIVE SHALL BE REPAIRED OR REPLACED.
- THE LIGHT TOWER SHALL BE STRAIGHT AND CENTERED ON ITS LONGITUDINAL AXIS, UNDER NO-WIND CONDITIONS, SO WHEN EXAMINED WITH A TRANSIT FROM ANY DIRECTION, THE DEVIATION FROM THE NORMAL SHALL NOT EXCEED 2 MM IN 1 M (1/8 IN. IN 3 FT) WITHIN ANY 1.5 M (5 FT) OF HEIGHT, WITH TOTAL DEVIATION NOT TO EXCEED 75 (3 IN.) FROM THE VERTICAL AXIS THROUGH THE CENTER OF THE POLE BASE.
- PVC CONDUIT WILL NOT BE ALLOWED.
- THE NUMBER OF COUNTER WEIGHTS TO BE SUPPLIED AS A PART OF THE LIGHT TOWER PAY ITEM IS



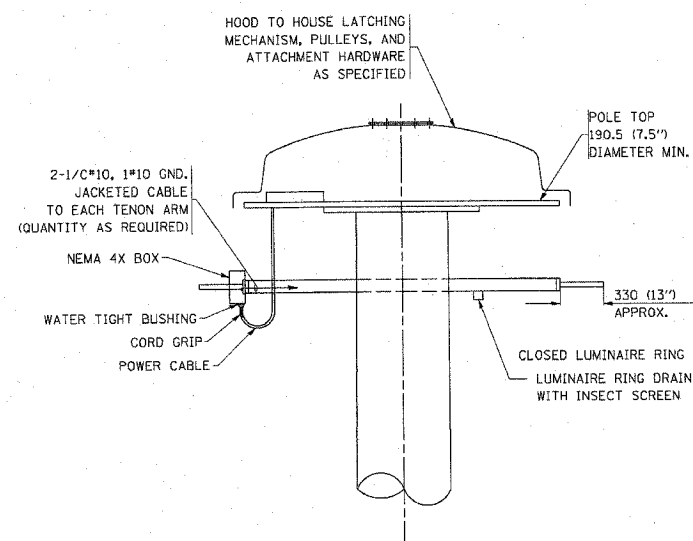
05/12/2004
K:\d\st\d\be500.dgn
V1-BE500
LEYS

REVISIONS	
NAME	DATE

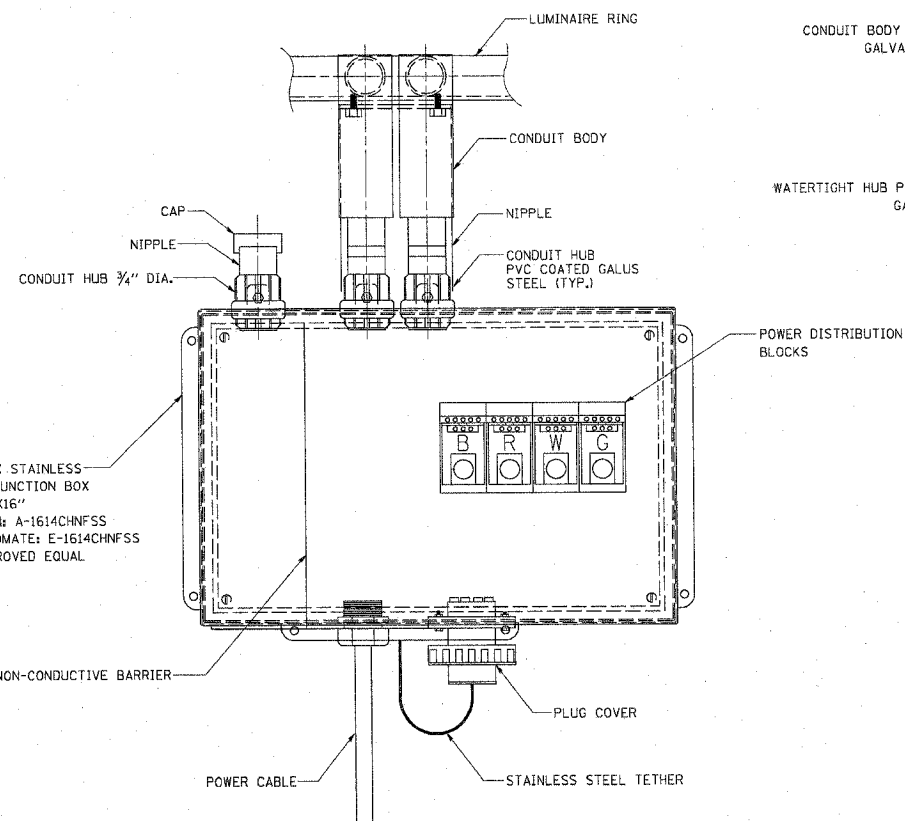
ILLINOIS DEPARTMENT OF TRANSPORTATION
HIGH MAST LIGHT TOWER
 27m TO 36m (90FT TO 120FT)
 SHEET 1 OF 3

SCALE: VERT. NONE
 HORIZ. NONE
 DATE: _____ DRAWN BY: _____
 CHECKED BY: _____

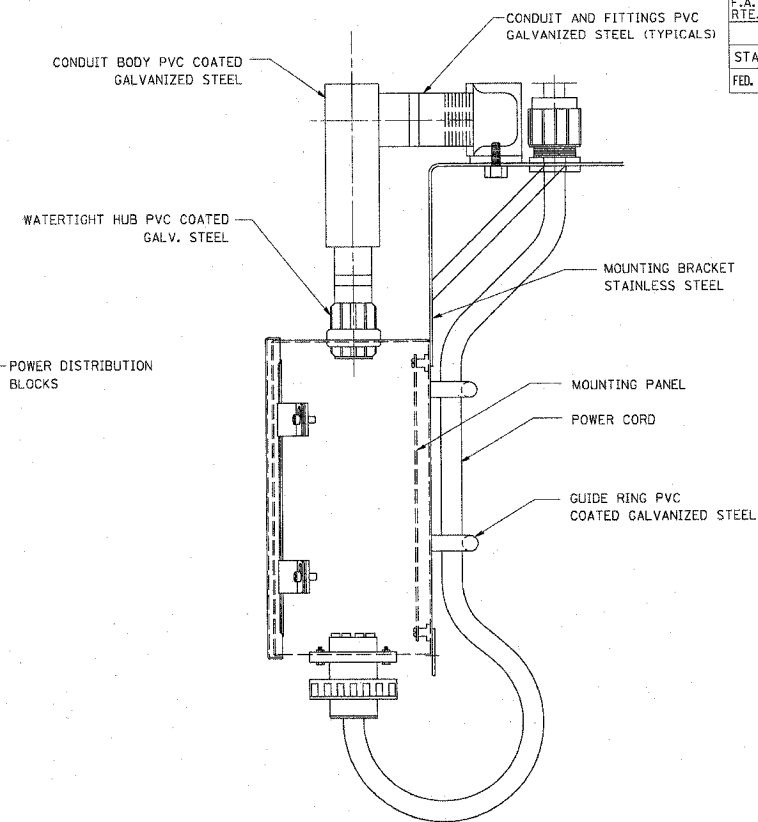
F.A. RTEL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			988	485
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DETAIL - "D"

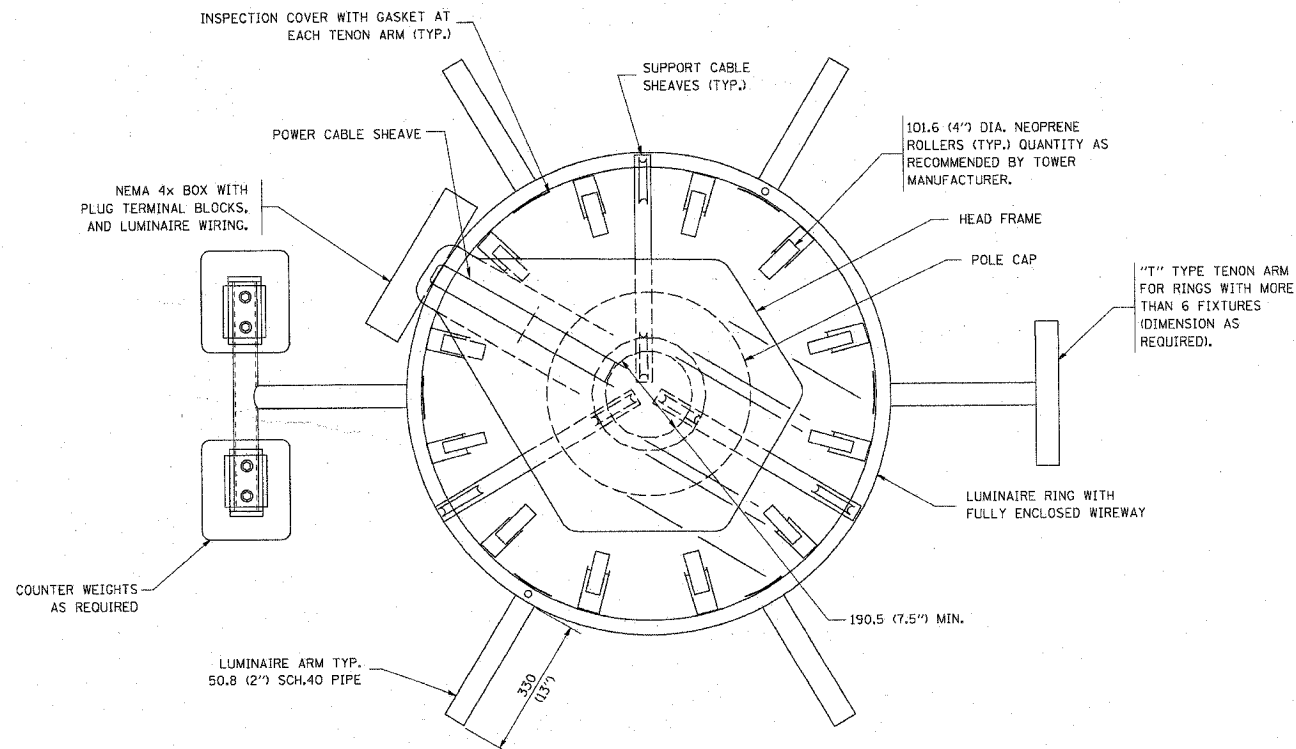


FRONT VIEW



SIDE VIEW

LUMINAIRE RING TERMINAL BOX



SECTION A-A

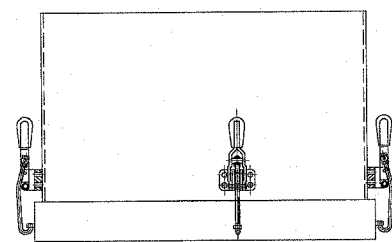
NOTES:

- LUMINAIRE WIRES SHALL EXTEND 609 MM (24 INCHES) LONGER THAN THEIR RESPECTIVE TENON ARM AND SHALL BE TRAINED BACK INTO THE ARM WHICH SHALL THEN BE CLOSED WITH A CAP AS SPECIFIED. ALL WIRES SHALL BE CAPPED WITH HEAT SHRINK INSULATING BOOTS, CRIMP CAPS ARE UNACCEPTABLE. ALL RING WIRES SHALL BE TAGGED WITH WIRE MARKERS AT BOTH ENDS. THE TENON ARMS SHALL ALSO BE TAGGED CORRESPONDING TO THE WIRING CONTAINED WITHIN.
- SPLICING WILL NOT BE ALLOWED WITHIN THE LUMINAIRE RING.
- ALL TOWER SHAFT HARDWARE, SUCH AS GROUND LUGS, JUNCTION BOXES, HARDWARE FOR THE HANDHOLE DOOR, INCLUDING THE HANDLE/LATCH MECHANISM, HINGE AND DOOR STOP, SHALL BE STAINLESS STEEL. ALL CONDUIT AND CONDUIT FITTINGS SHALL BE PVC COATED GALVANIZED STEEL.
- ALL MULTI-CONDUCTOR CABLES SHALL BE FITTED WITH A HEAT-SHRINK MULTI-LEG BOOT. THE BOOT SHALL MEET MILITARY SPECIFICATION MIL-1-61765/1.

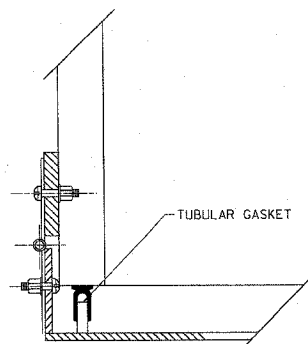
E-500

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		HIGH MAST LIGHT TOWER 27m TO 36m (90FT TO 120FT) SHEET 2 OF 3
SCALE:	VERT. NONE HORIZ. NONE	DRAWN BY
DATE		CHECKED BY

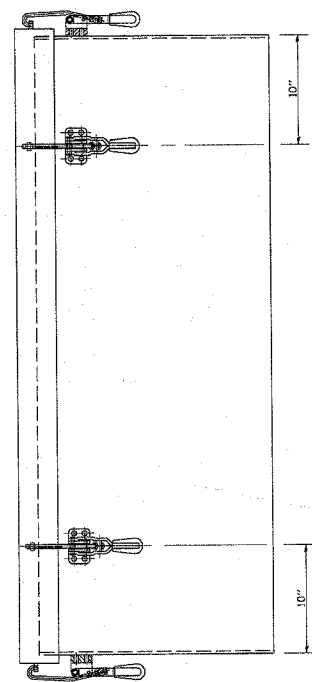
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	486
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



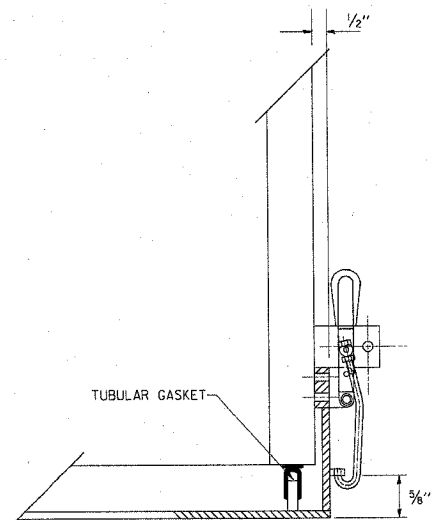
TOP VIEW



HINGE DETAIL

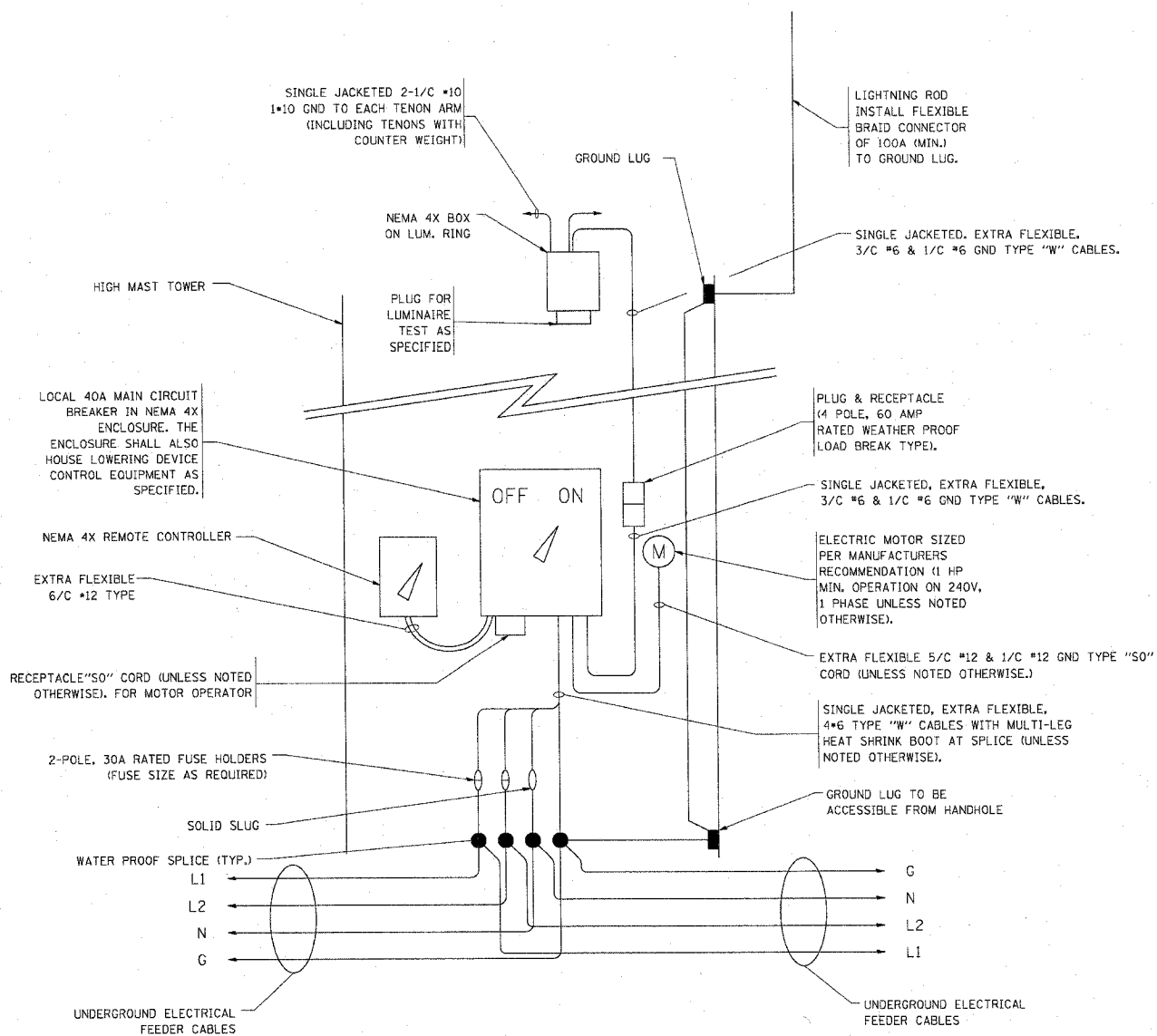


SIDE VIEW

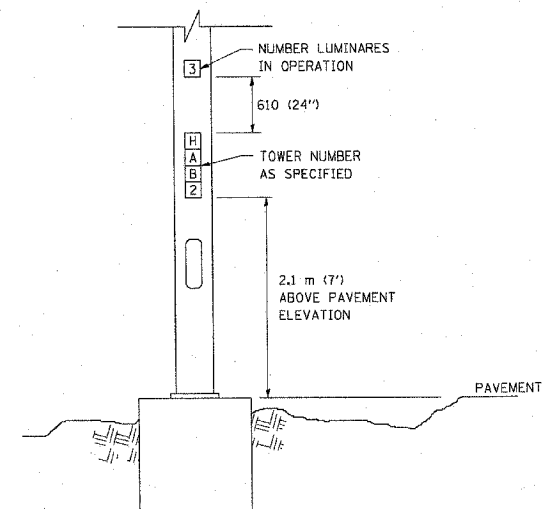


LATCH DETAIL

HANDHOLE DOOR DETAILS



HIGH MAST POLE WIRING DIAGRAM



LIGHT TOWER NUMBERING DETAIL

E-500

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
HIGH MAST LIGHT TOWER
 27m TO 36m (90FT TO 120FT)
 SHEET 3 OF 3

SCALE: VERT. NONE
 HORIZ. DATE

DRAWN BY
 CHECKED BY

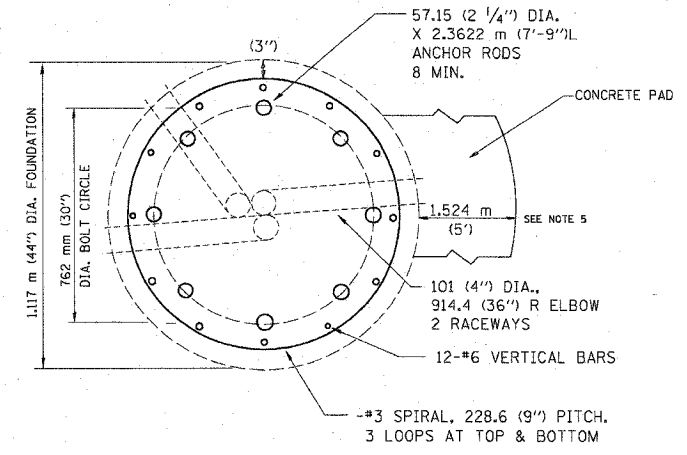
F. A. MILE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
			588	487
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

LIGHT TOWER FOUNDATION DEPTH "D"

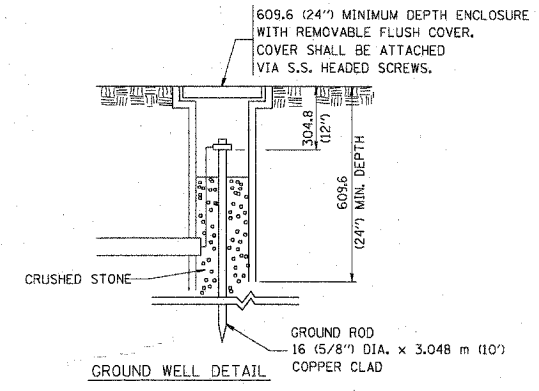
MOUNTING HEIGHT	SOIL CONDITIONS					
	SOFT CLAY Qu = 0.375 TON/SQ. FT	MEDIUM CLAY Qu = 0.75 TON/SQ. FT	STIFF CLAY Qu = 1.50 TON/SQ. FT	LOOSE SAND φ = 34°	MEDIUM SAND φ = 37.5°	DENSE SAND φ = 40°
27m (90 ft)	8.779m (29 ft)	6.035m (20 ft)	4.389m (15 ft)	4.389m (15 ft)	3.840m (13 ft)	3.429m (12 ft)
30m (100 ft)	9.754m (32 ft)	6.706m (22 ft)	4.877m (16 ft)	4.877m (16 ft)	4.267m (14 ft)	3.81m (13 ft)
33m (110 ft)	10.719m (35 ft)	7.377m (24 ft)	5.365m (18 ft)	5.365m (18 ft)	4.694m (15 ft)	4.191m (14 ft)
36m (120 ft)	11.705m (38 ft)	8.046m (26 ft)	5.652m (19 ft)	5.652m (19 ft)	5.120m (17 ft)	4.572m (16 ft)

DESIGN NOTES

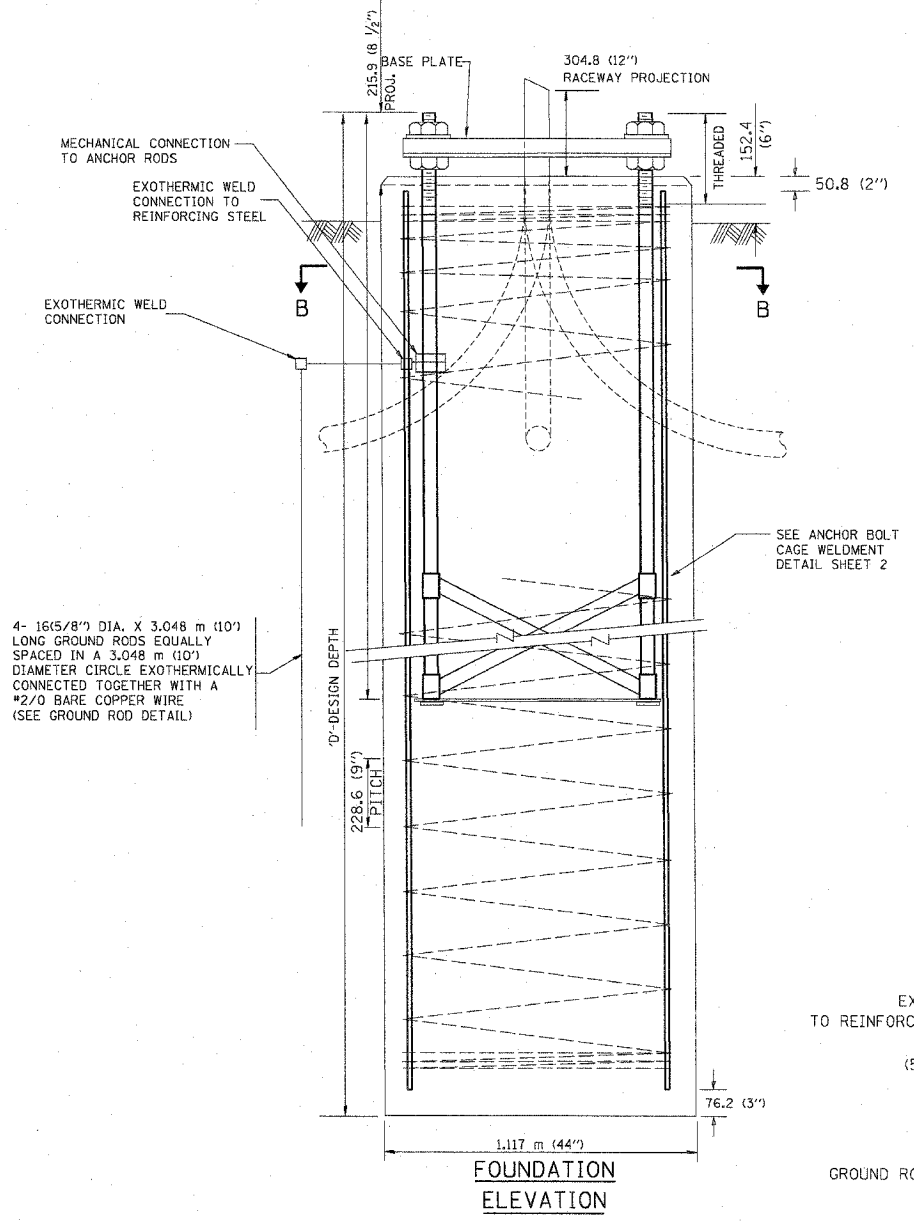
- (1) ALL DIMENSIONS IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN
- (2) THE HOLE FOR THE FOUNDATION SHALL BE ACCORDING
- (3) THE ANCHOR RODS SHALL BE VERTICAL NO ADJUSTMENT SHALL BE ALLOWED AFTER THE FOUNDATION IS PLACED.
- (4) THE GAP BETWEEN THE FOUNDATION AND THE BASE PLATE SHALL BE ENCLOSED WITH A STAINLESS STEEL SCREEN FASTENED WITH A STAINLESS STEEL BAND.
- (5) THE TOP OF THE FOUNDATION TO 450 (18") BELOW GRADE SHALL BE FORMED.
- (6) A CONCRETE WORK PAD SHALL BE PROVIDED AS INDICATED IN THE PLANS AS A PART OF THIS ITEM.
- (7) SURFACE WATER WILL NOT BE PERMITTED TO ENTER THE HOLE AND ALL WATER WHICH MAY HAVE INFILTRATED INTO THE HOLE SHALL BE REMOVED BEFORE PLACING CONCRETE.
- (8) THE LIGHT TOWER SHALL NOT BE ERECTED UNTIL AFTER THE CONCRETE HAS BEEN CURED ACCORDING TO ARTICLE 1020.13.
- (9) ANCHOR RODS SHALL BE STRAIGHT AND SHALL BE ACCORDING TO AASHTO M 314 OR ASTM F1554, GRADE 725(GRADE 105) AND GALVANIZED ACCORDING TO ARTICLE 1006.9.
- (10) ANCHOR ROD INFORMATION SHALL BE SUBMITTED FOR APPROVAL AND SHALL BE FULLY COORDINATED FOR APPROVAL WITH TOWER MANUFACTURER REQUIREMENTS.
- (11) REINFORCEMENT BARS SHALL BE ACCORDING TO ARTICLE 1006.10
- (12) TWO ANCHOR RODS OPPOSITE EACH OTHER SHALL HAVE THE ANCHOR ROD THREADS PEENED AFTER NUTS ARE INSTALLED.



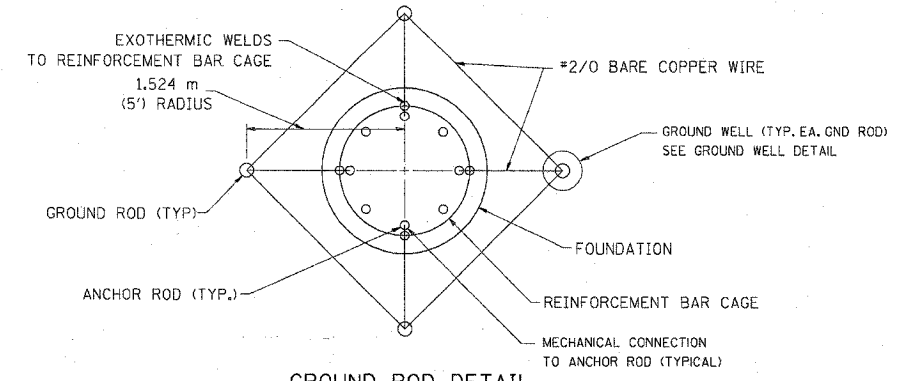
SECTION-B-B



GROUND WELL DETAIL



FOUNDATION ELEVATION



GROUND ROD DETAIL

REVISIONS	
NAME	DATE

BES01

ILLINOIS DEPARTMENT OF TRANSPORTATION

**HIGH MAST LIGHT TOWER
27m TO 36m (90FT TO 120FT)
FOUNDATION DETAIL**

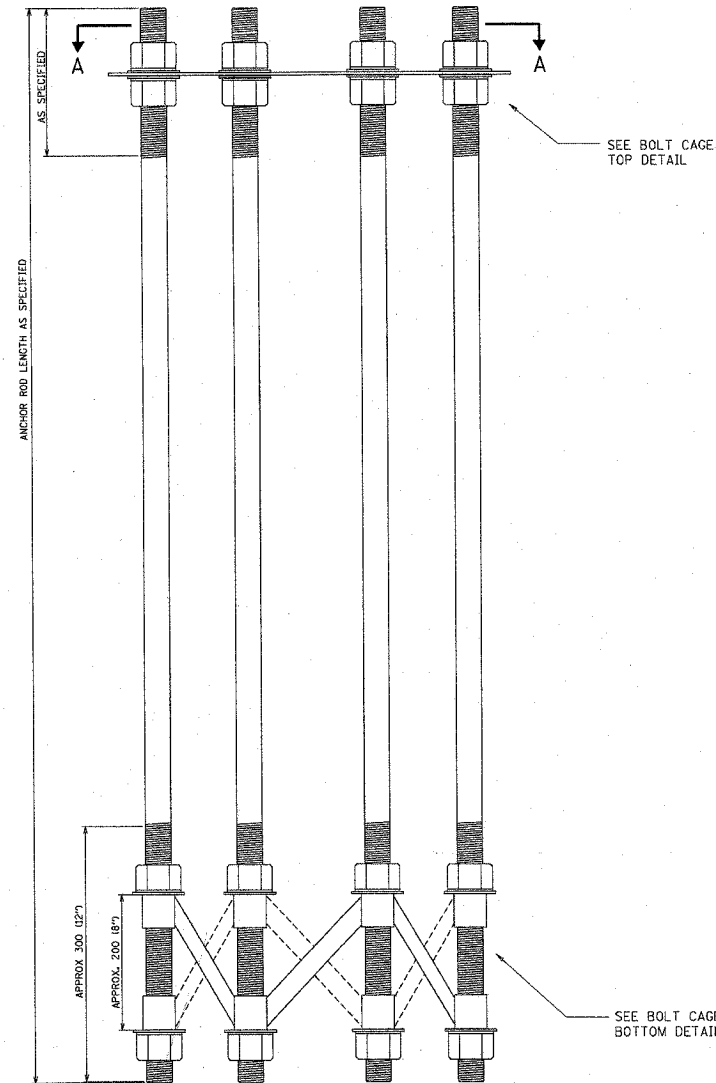
SHEET 1 OF 2

SCALE: NONE
DATE: 10/18/2002

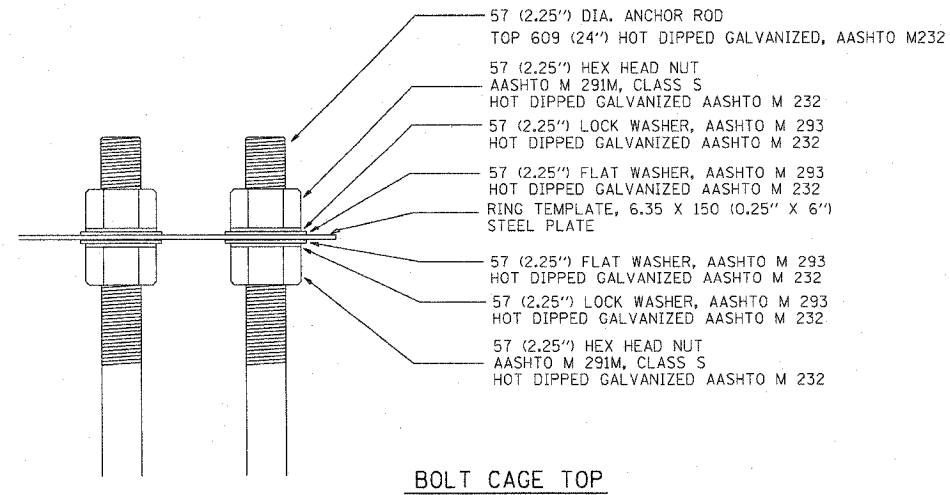
DRAWN BY
CHECKED BY
BEOB (BES01)

DATE-TIME
DGN-SPEC
V-BEB

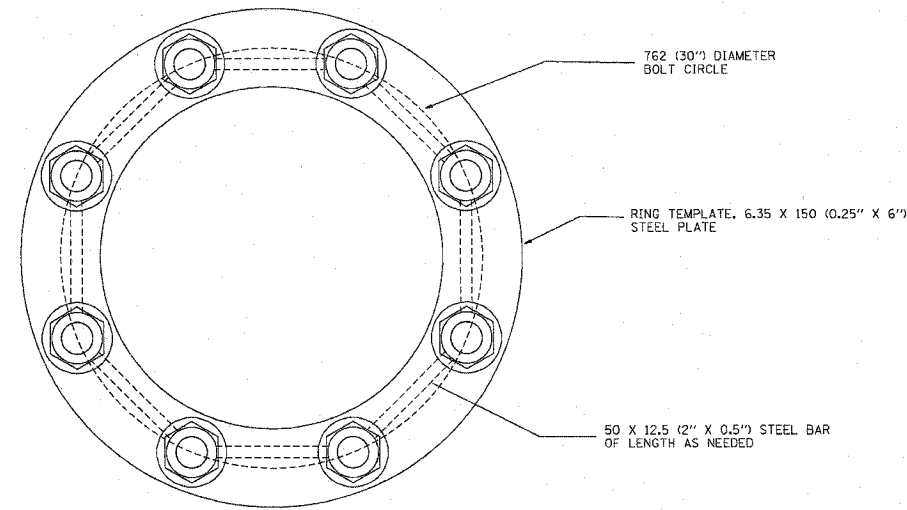
F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	488
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



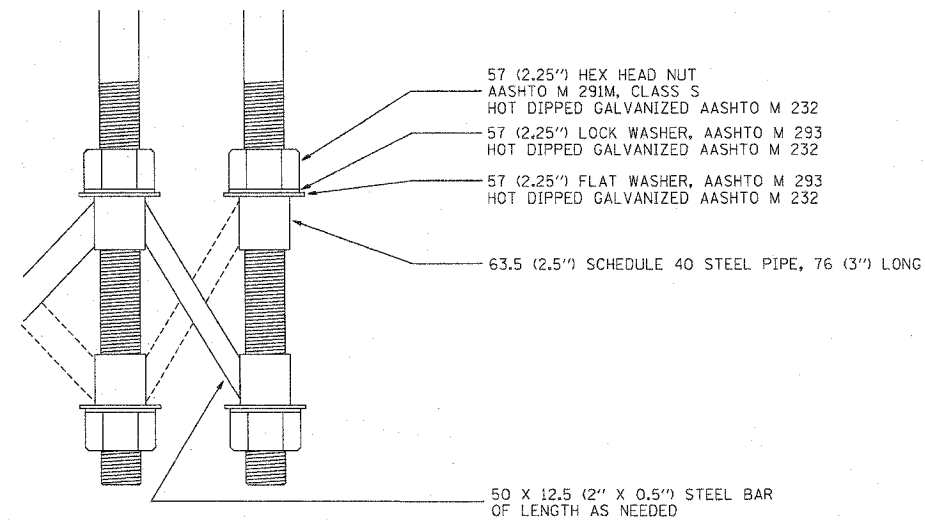
ANCHOR BOLT CAGE



BOLT CAGE TOP



SECTION A-A



BOLT CAGE BOTTOM

NOTES

1. ALL DIMENSIONS IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN
2. ANCHOR RODS SHALL BE STRAIGHT AND SHALL BE ACCORDING TO AASHTO M 314 OR ASTM F1554, GRADE 75 (GRADE 105) AND GALVANIZED ACCORDING TO ARTICLE 1006.09.
3. ANCHOR ROD INFORMATION SHALL BE SUBMITTED FOR APPROVAL AND SHALL BE FULLY COORDINATED WITH TOWER MANUFACTURERS REQUIREMENTS.

DATE-TIME
DGN-SPEC
VH-BE6

REVISIONS	
NAME	DATE

BE501

ILLINOIS DEPARTMENT OF TRANSPORTATION

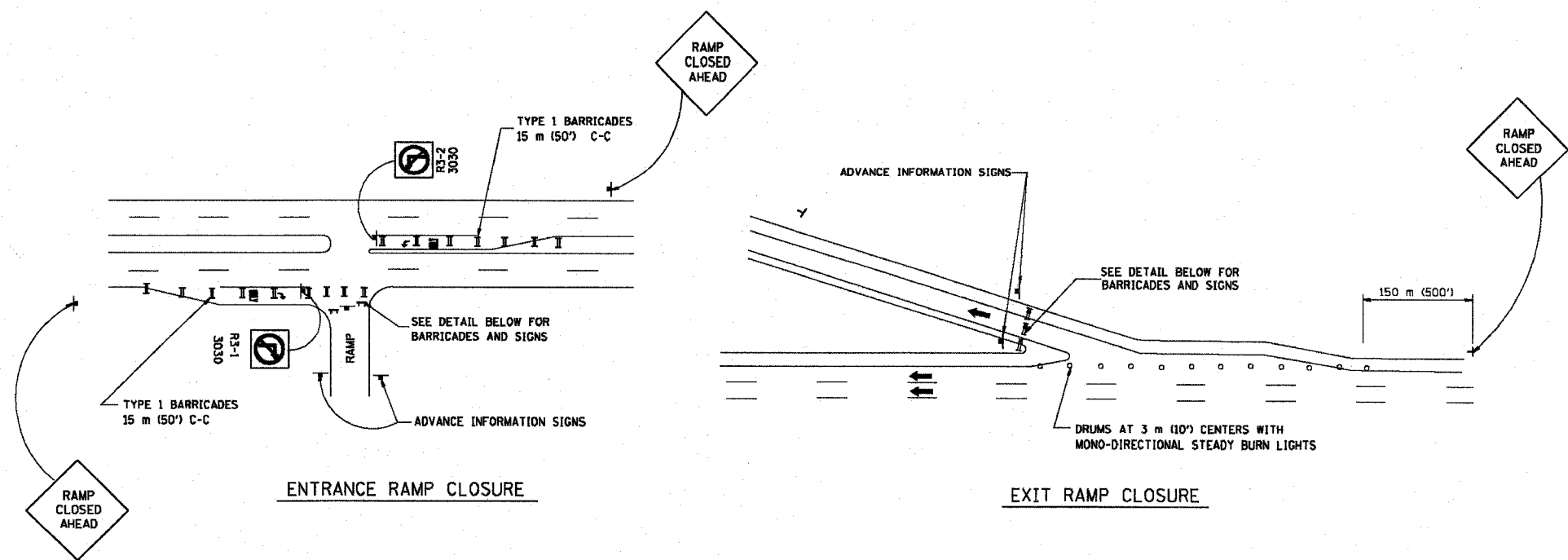
HIGH MAST LIGHT TOWER
27m TO 36m (90FT TO 120FT)
FOUNDATION DETAIL

SHEET 2 OF 2

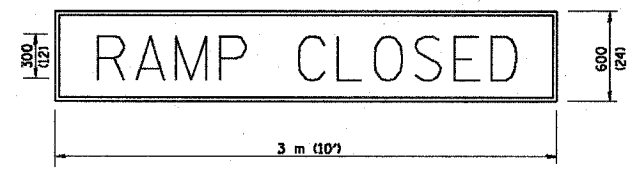
SCALE: NONE
DATE 10/18/2002

DRAWN BY
CHECKED BY
BE06 (BE501)

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			508	409
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

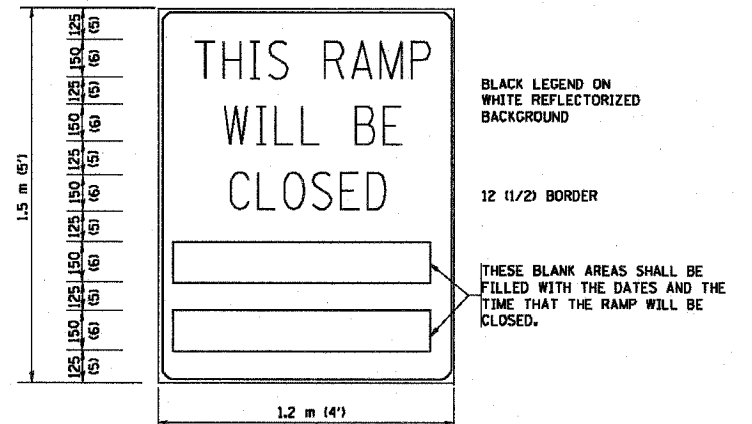


RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND
25 (1) BORDER
THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMPS.

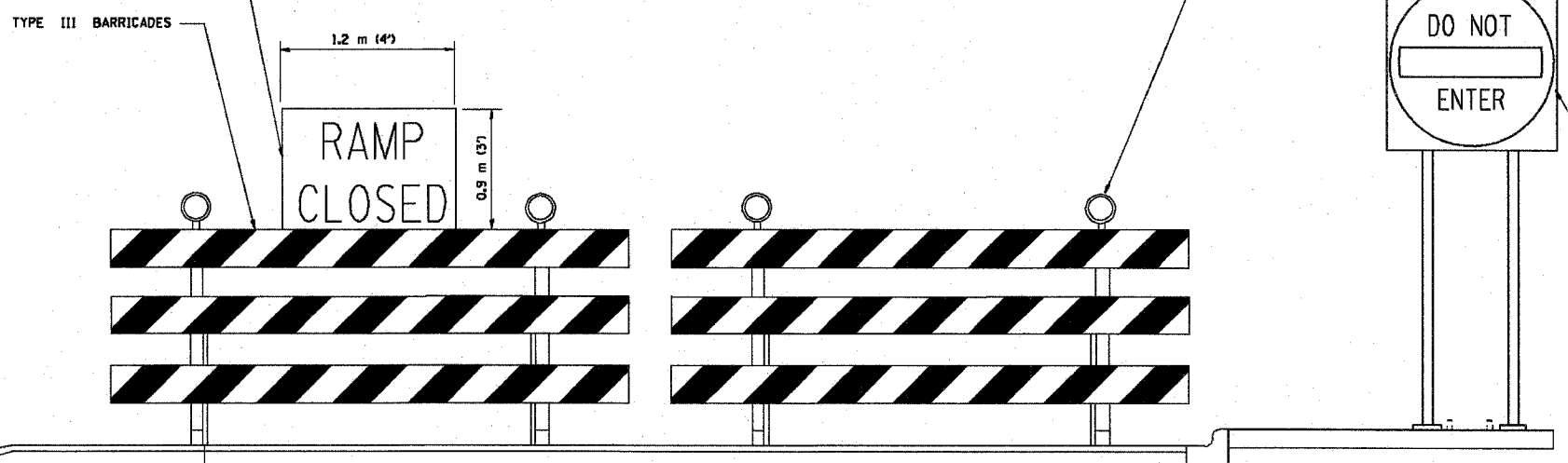
RAMP CLOSURE ADVANCE INFORMATION SIGN



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

THE "RAMP CLOSED" SIGN SHALL BE B/W WITH 200 (8) CAPS. IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS DIRECTLY IN FRONT OF THE BARRICADE.

FLASHER UNIT (AMBER) (BOTH SIDES OF EACH TYPE III BARRICADE)



DETAIL FOR REQUIRED BARRICADES & SIGNS

- GENERAL NOTES:
- CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 700 (28) HIGH.
 - STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
 - A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
 - FOR DAYTIME RAMP CLOSURES, LASTING 6 HOURS OR LESS, THE CONTRACTOR MAY ELIMINATE THE ADVANCE WARNING SIGNS ON THE EXIT GUIDE SIGNS.
 - ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
 - THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND PROTECTION.
 - AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.

- NOTES:
- CONES MAY BE SUBSTITUTED FOR TYPE I AND TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28" IN HEIGHT.
 - STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
 - THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS.
 - ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY FOUR (24) HOURS IN LENGTH.

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

FREWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS

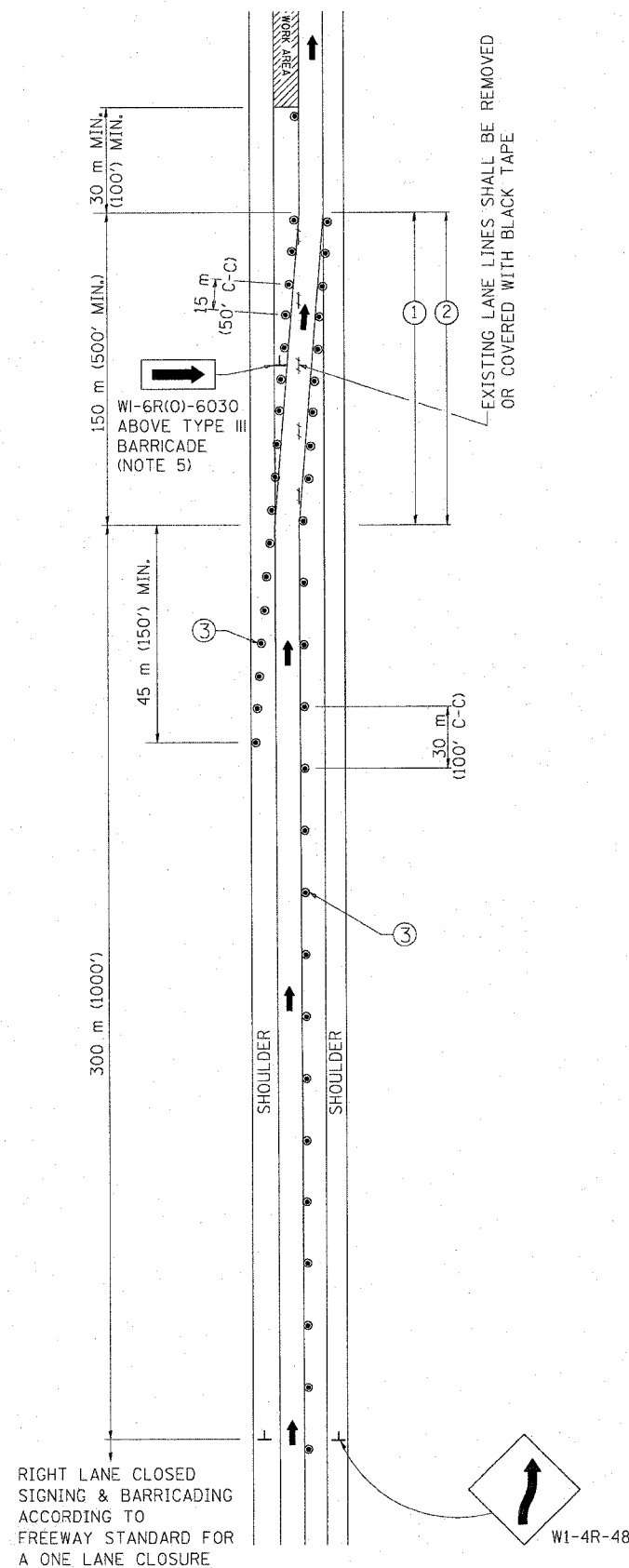
REVISIONS	
NAME	DATE
DWS	2-83
DWS	1/90
DWS	9/94
DWS	12/94
DWS/JAF	12/02
Revise devices to meet NCHRP 350	4/03

SCALE: NONE
DATE 05/06/2003

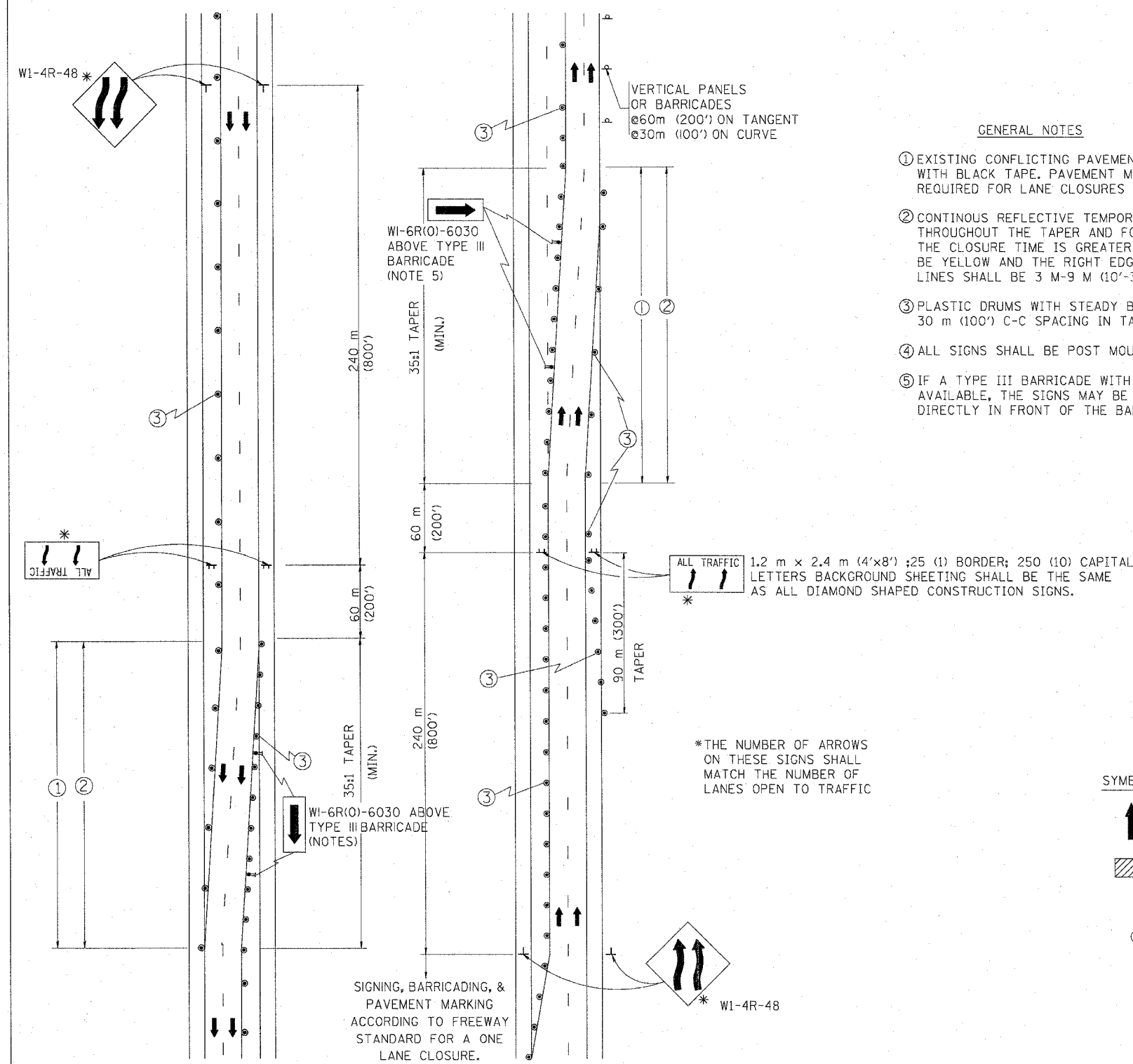
DRAWN BY
CHECKED BY
TC-8

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	490
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT		

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

- ① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED OR COVERED WITH BLACK TAPE. PAVEMENT MARKING REMOVAL OR BLACK TAPE SHALL NOT BE REQUIRED FOR LANE CLOSURES UNDER 24 HOURS IN DURATION.
- ② CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 90 m (300') 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 WEAVE LANE LINES SHALL BE 3 M-9 M (10'-30') SKIP DASH, WHITE.
- ③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 15 m (50') C-C SPACING IN TAPERS AND 30 m (100') C-C SPACING IN TANGENTS.
- ④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ⑤ IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS DIRECTLY IN FRONT OF THE BARRICADE.

SYMBOLS

- ↑ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ┆ SIGN ON PORTABLE OR PERMANENT SUPPORT
- ⊙ DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

REVISIONS	
NAME	DATE
DWS	2/87
DWS	1/90
DWS	12/27/94
DWS	11/96
JAF	4/03

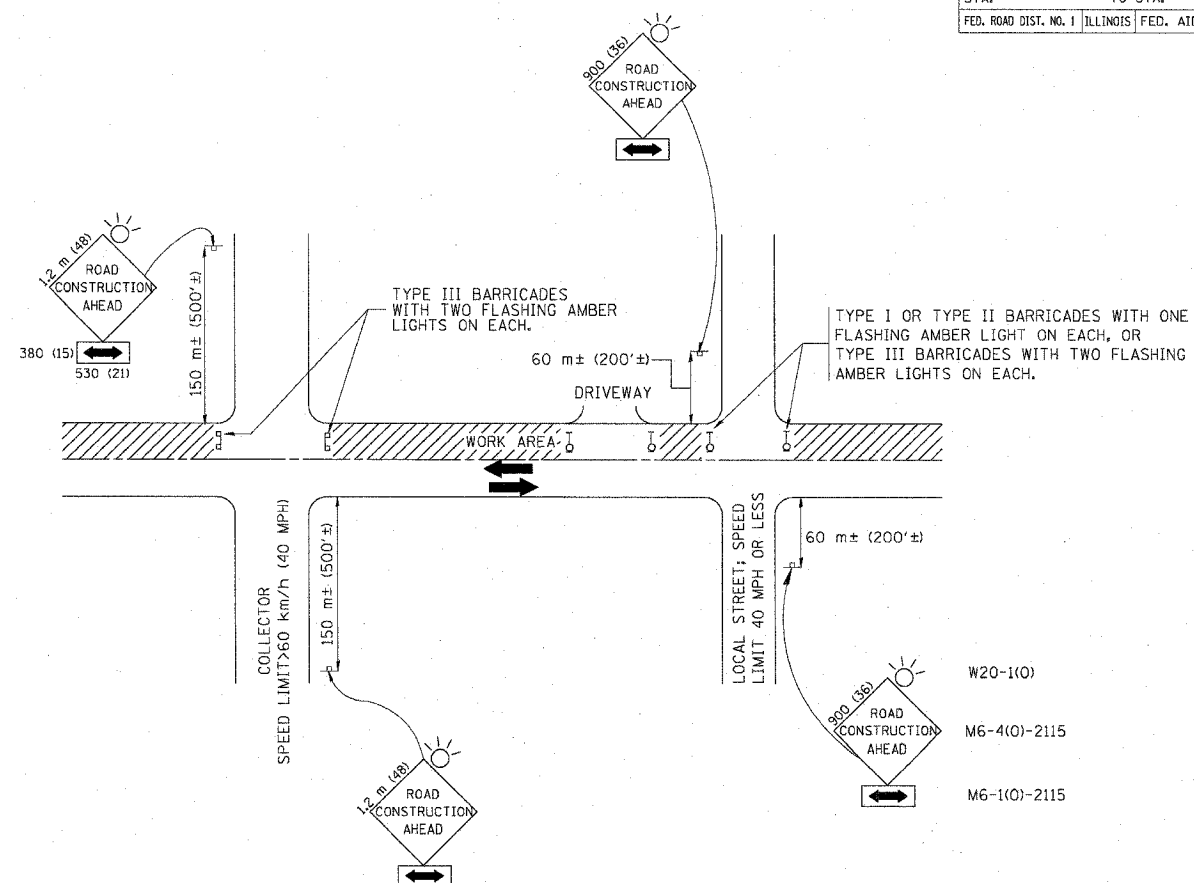
ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL DETAILS
 FOR FREEWAY
 SINGLE & MULTI-LANE WEAVE

SCALE: NONE
 DATE: 05/12/2003

DRAWN BY R.H.
 CHECKED BY TC-9

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	491
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	



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

NOTES:

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

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

- a) ONE ROAD CONSTRUCTION AHEAD SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') 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 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

- a) ONE ROAD CONSTRUCTION AHEAD SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') 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.

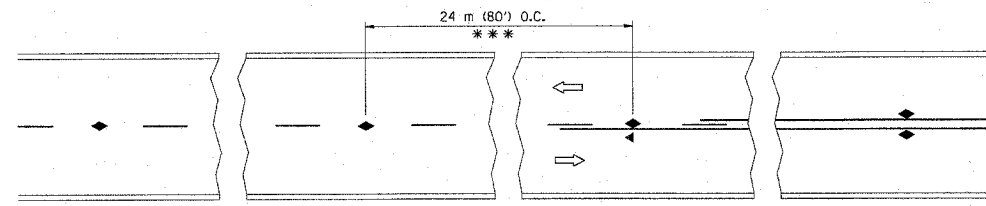
D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONTROL AND PROTECTION
 FOR
 SIDE ROADS, INTERSECTIONS, AND
 DRIVEWAYS

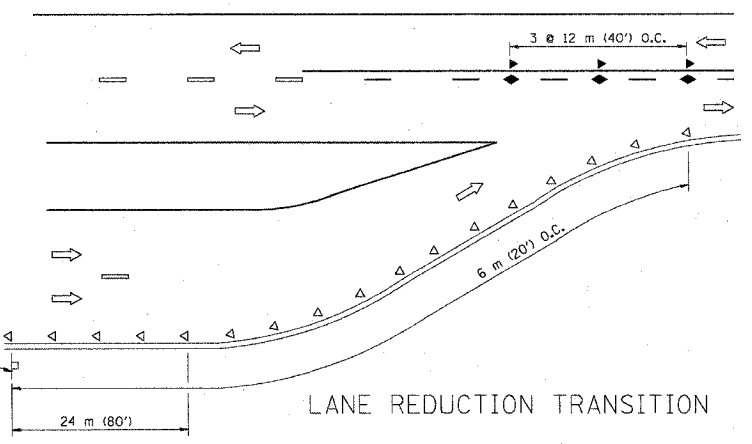
SCALE: VERT.
 HORIZ.
 DATE 10/18/2002

DRAWN BY
 CHECKED BY
 TC-10

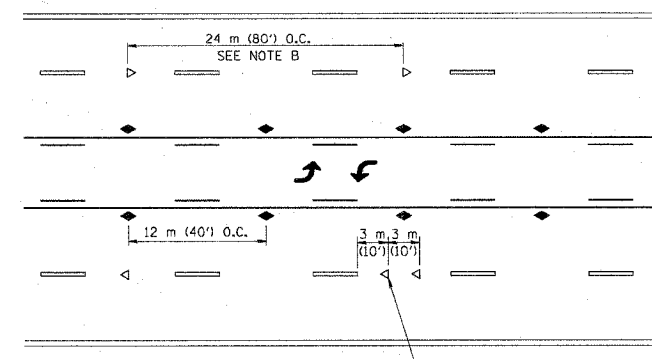


*** REDUCE TO 12 m (40') O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 70 km/h (45 M.P.H.) OR LESS.

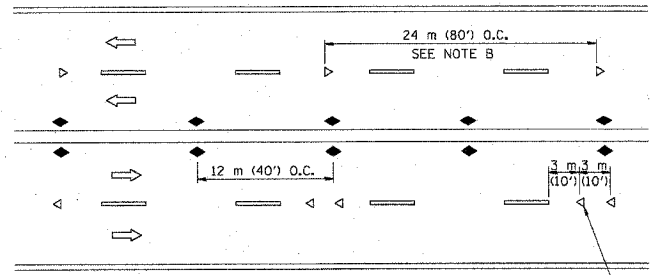
TWO-LANE/TWO-WAY



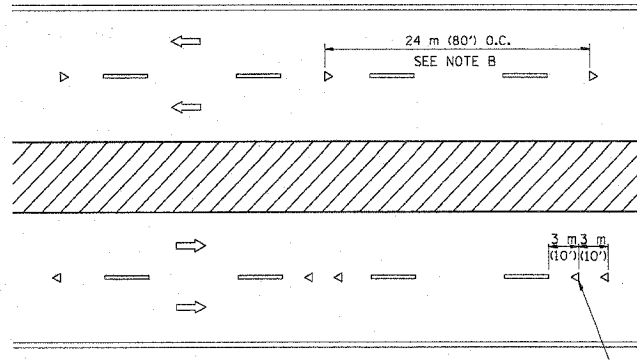
LANE REDUCTION TRANSITION



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 50 TO 75 (2 TO 3) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 150 m (500') IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

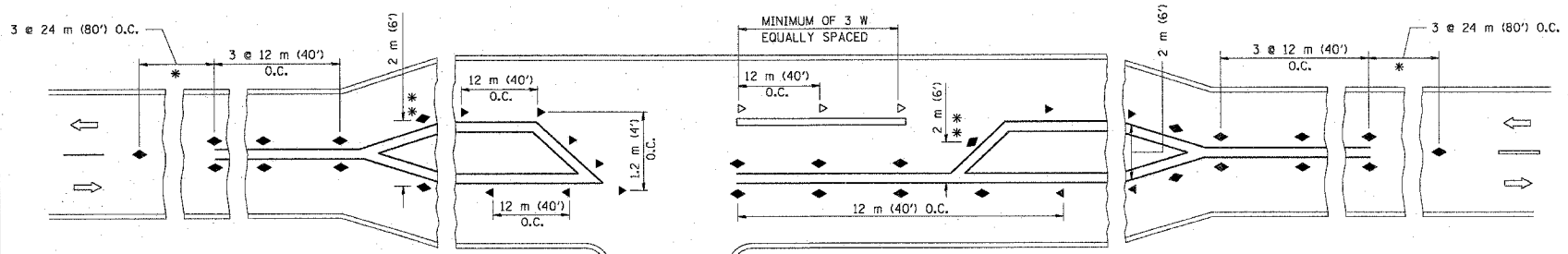
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- B. REDUCE TO 12 m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 20 km/h (10 M.P.H.) LOWER THAN POSTED SPEEDS.
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

DESIGN NOTES

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



LEFT TURN

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

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

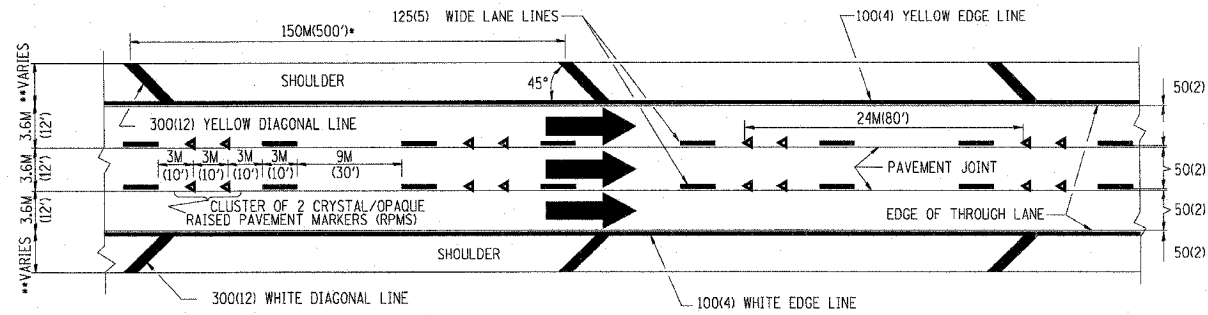
ILLINOIS DEPARTMENT OF TRANSPORTATION
 TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS
 (SNOW-PLOW RESISTANT)

REVISIONS	
NAME	DATE
T. RAMMACHER	09-19-94
T. RAMMACHER	03-12-99
T. RAMMACHER	01-06-00

SCALE: NONE
 DATE: 10/18/2002
 DRAWN BY CADD
 CHECKED BY
 TC-11

F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	493
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

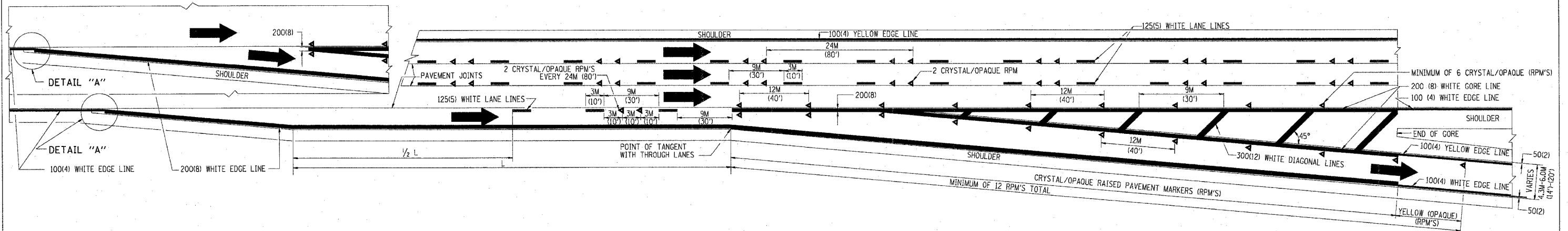
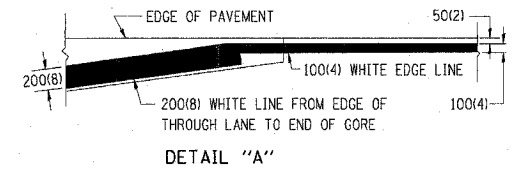
- THE DIAGONAL LINES SHALL BE SPACED AT 12M (40') C-C ACROSS ALL STRUCTURES WHICH ARE 150M (500') OR LESS IN LENGTH
- THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 1.8M (6') OR LESS IN WIDTH



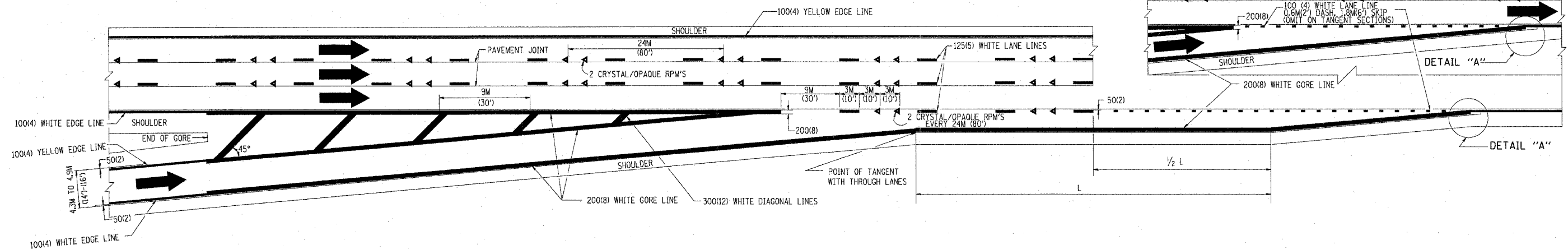
TYPICAL EDGE LINES & LANE LINES

NOTES:

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 PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES
3. PREFORMED PLASTIC PAVEMENT MARKING LINE SHALL BE USED ON PCC PAVEMENT.



TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS

REVISIONS	
NAME	DATE
DWS	1/90
DWS	5/91
AH	3/96
DWS	7/96

ILLINOIS DEPARTMENT OF TRANSPORTATION

**MULTI-LANE FREEWAY
PAVEMENT MARKING
DETAILS**

SCALE: NONE
DATE: 10/18/2002

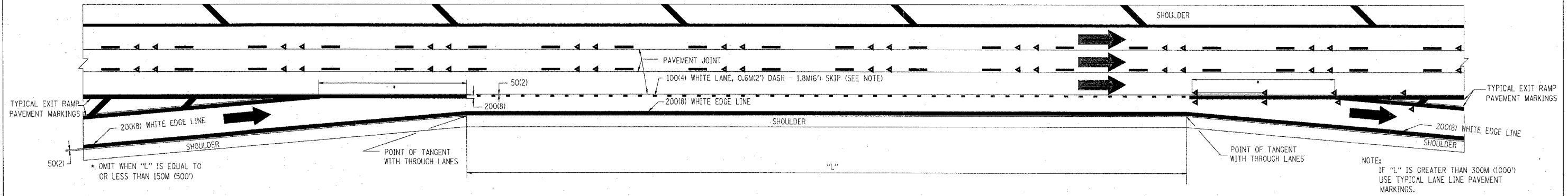
DRAWN BY C.A.D.D.

CHECKED BY

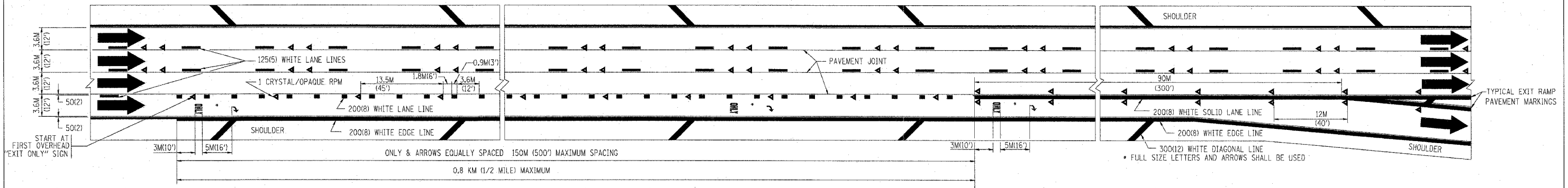
TC12 SHEET 1 OF 2

REVISION DATE: 01/01/96

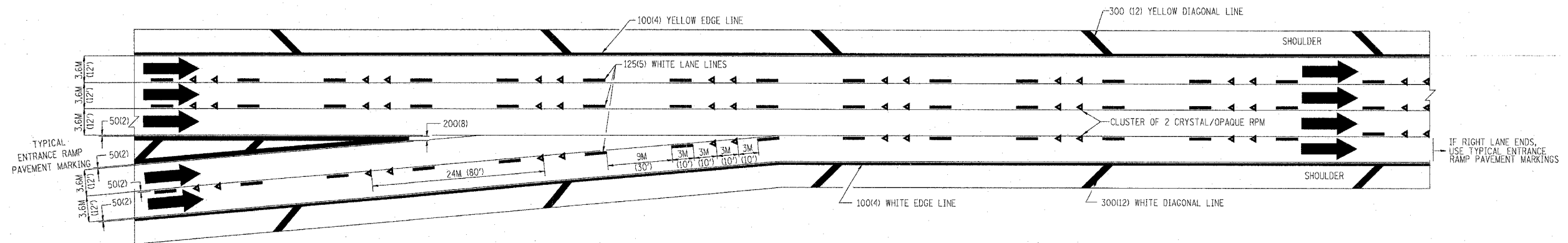
C.A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	494
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



TYPICAL ENTRANCE/EXIT RAMP COMBINATION PAVEMENT MARKINGS



TYPICAL EXIT ONLY LANE PAVEMENT MARKINGS



TYPICAL TWO LANE ENTRANCE RAMP PAVEMENT MARKINGS

REVISIONS	
NAME	DATE
DWS	1/90
DWS	5/91

ILLINOIS DEPARTMENT OF TRANSPORTATION

**MULTI-LANE FREEWAY
PAVEMENT MARKING
DETAILS**

SCALE: NONE
DATE: 10/18/2002

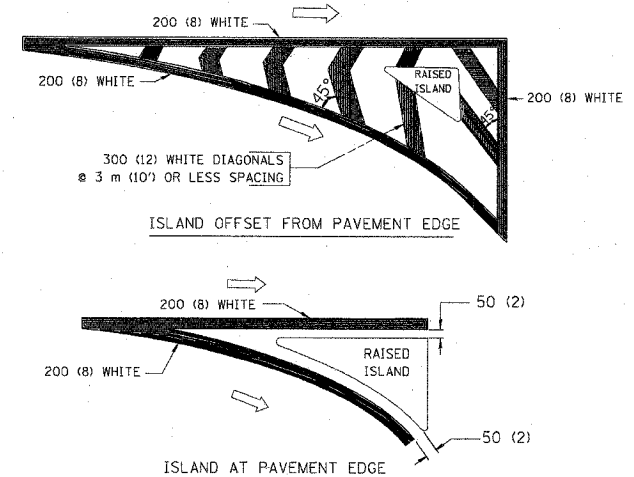
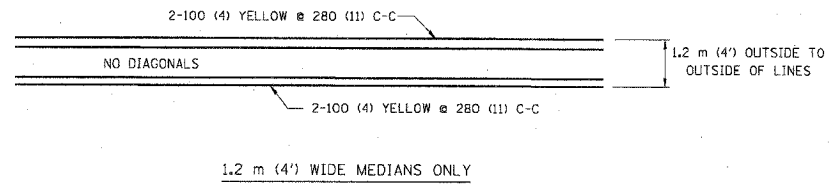
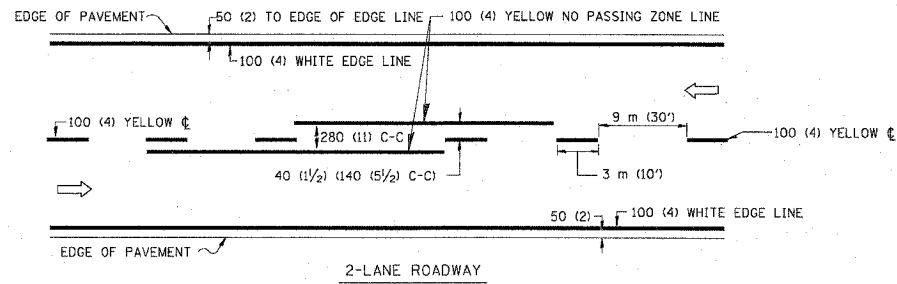
DRAWN BY C.A.D.D.

CHECKED BY

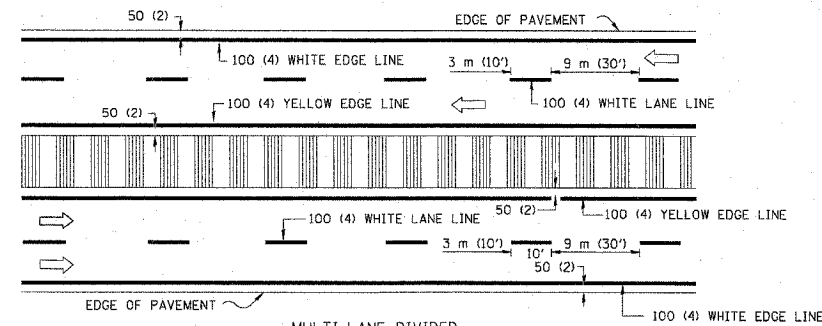
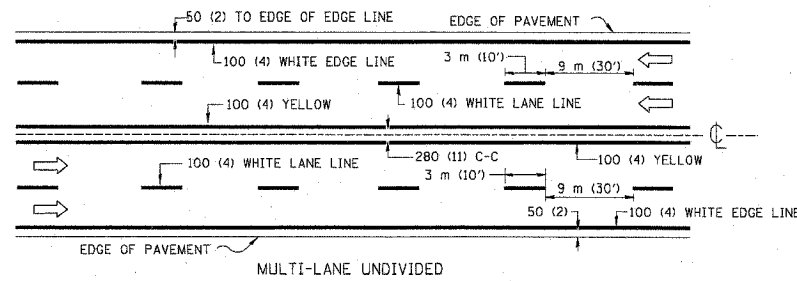
TC12 SHEET 2 OF 2

REVISION DATE: 01/01/96

DATE-TIME
DWM-SPEC
VI-T012

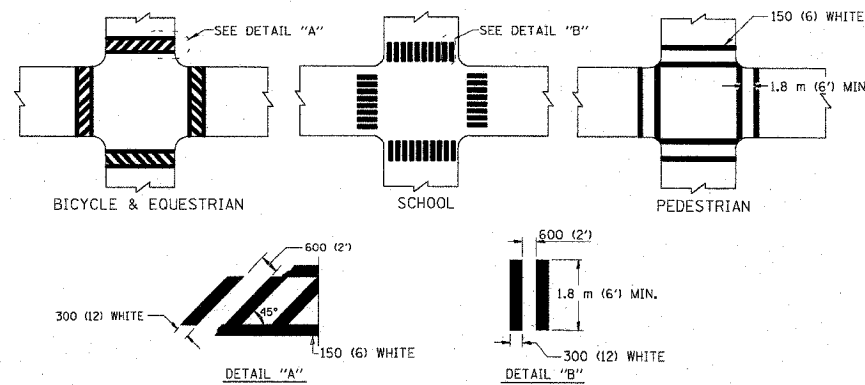


TYPICAL ISLAND MARKING

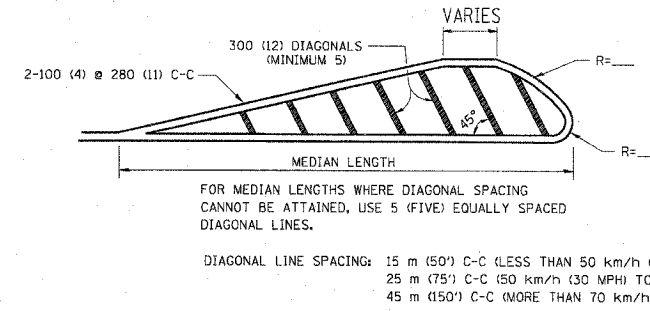


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

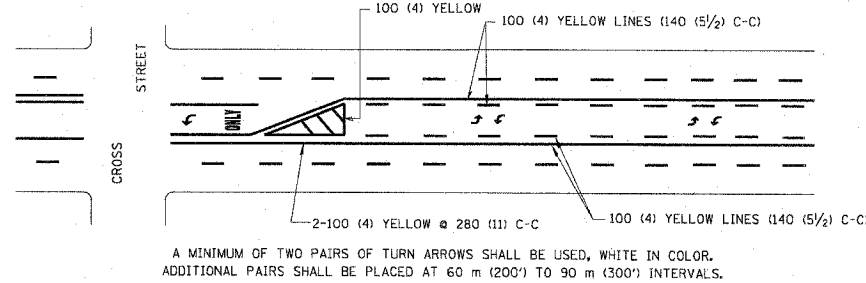
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING

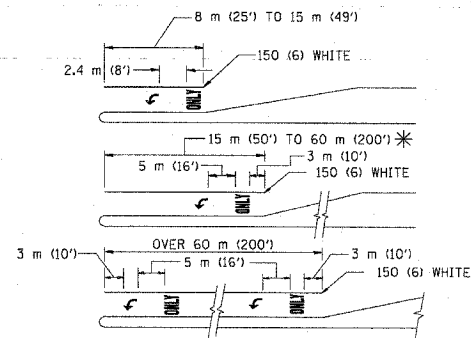


MEDIANS OVER 1.2 m (4') WIDE



TYPICAL PAINTED MEDIAN MARKING

MEDIAN WITH TWO-WAY LEFT TURN LANE



FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.
AREA = 1.5 m² (15.6 SQ. FT.) ONLY AREA = 1.9 m² (20.8 SQ. FT.)

* TURN LANES IN EXCESS OF 120 m (400') 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	100 (4)	SKIP-DASH	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	280 (11) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	140 (5 1/2) C-C FROM SKIP-DASH CENTERLINE 280 (11) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	3 m (10') LINE WITH 9 m (30') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (2') LINE WITH 1.8 m (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION 2.4 m (8') LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	3 m (10') LINE WITH 9 m (30') SPACE FOR SKIP-DASH; 140 (5 1/2) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 150 (6) 300 (12) @ 45° 300 (12) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (2') APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45° NO DIAGONALS USED FOR 1.2 m (4') WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	280 (11) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 4.5 m (15') C-C (LESS THAN 50 km/h (30 MPH)) 6 m (20') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 9 m (30') C-C (OVER 70 km/h (45 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES: "RR" 15 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.33m ² (3.6 SQ. FT.) EACH "X"=5.0 m ² (54.0 SQ. FT.)
SHOULDER DIAGONALS	300 (12) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	15 m (50') C-C (LESS THAN 50 km/h (30 MPH)) 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 45 m (150') C-C (OVER 70 km/h (45 MPH))

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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT
MARKINGS

REVISIONS	
NAME	DATE
EVERS	03-19-90
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96
T. RAMMACHER	01-06-00

SCALE: NONE
DATE 10/18/2002

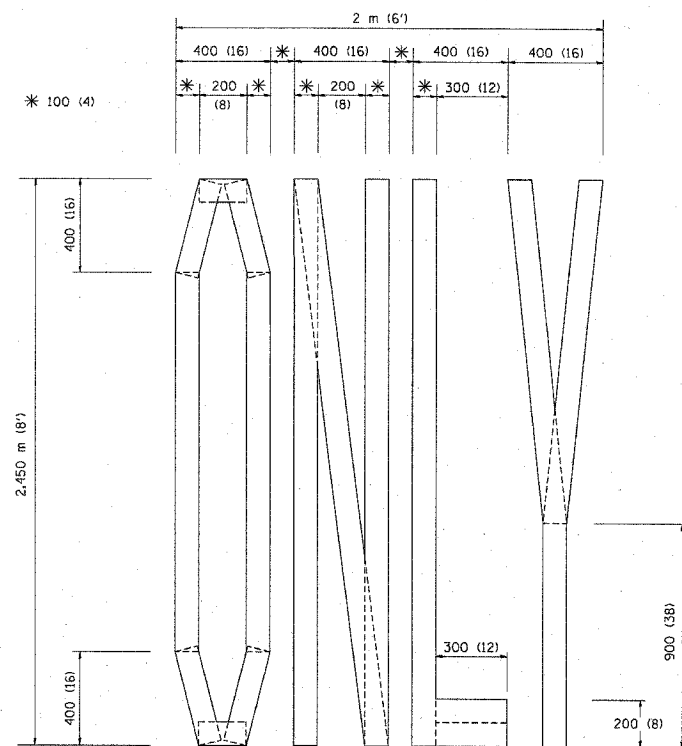
DRAWN BY CADD

CHECKED BY

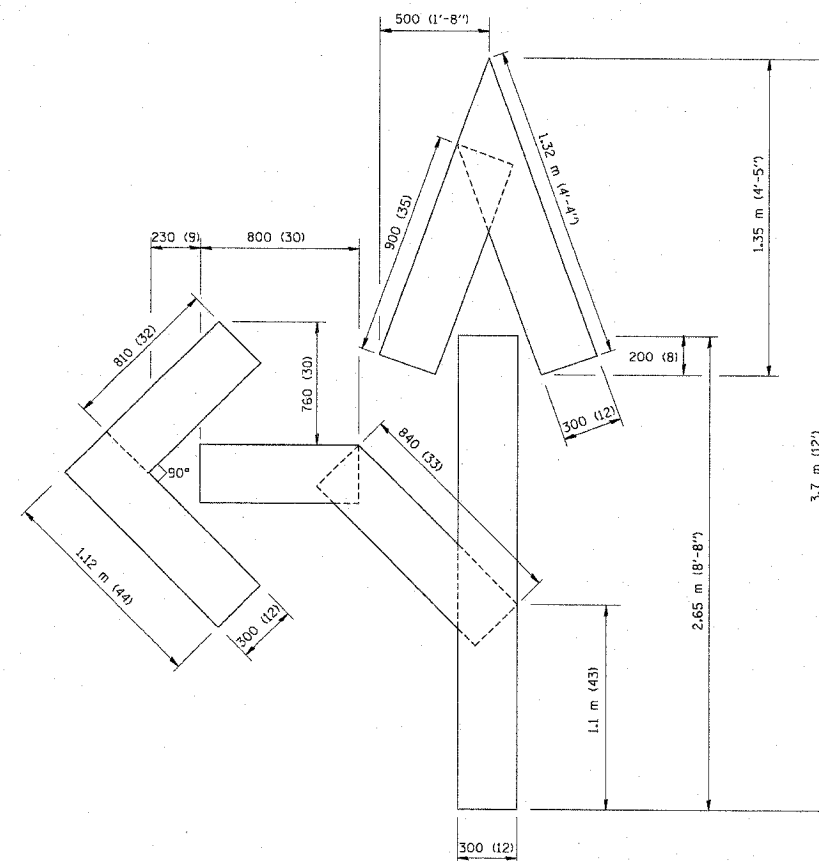
TC-13

REVISION DATE: 01/06/00

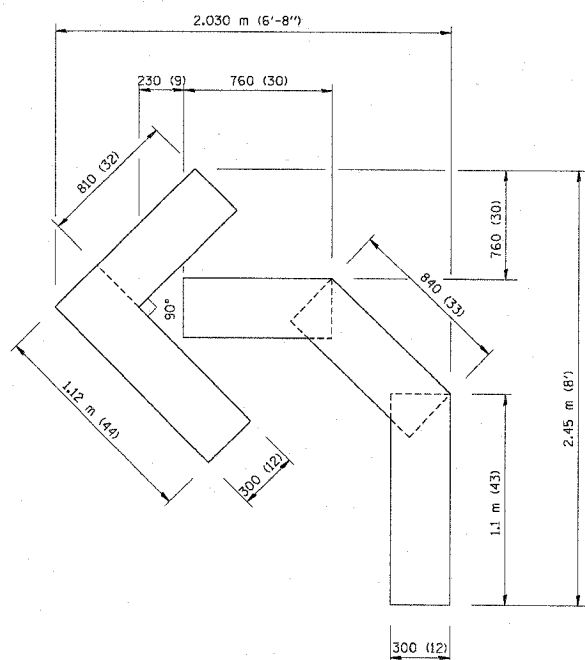
F. A. RITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	496
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



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



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



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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING
 LETTERS AND SYMBOLS
 FOR TRAFFIC STAGING

REVISIONS	
NAME	DATE
T. RAMMACHER	09/18/94
J. OBERLE	06/01/96
T. RAMMACHER	06/05/96
T. RAMMACHER	11/04/97
T. RAMMACHER	03/02/98
E. GOMEZ	08/28/00

SCALE: NONE
 DATE 10/18/2002

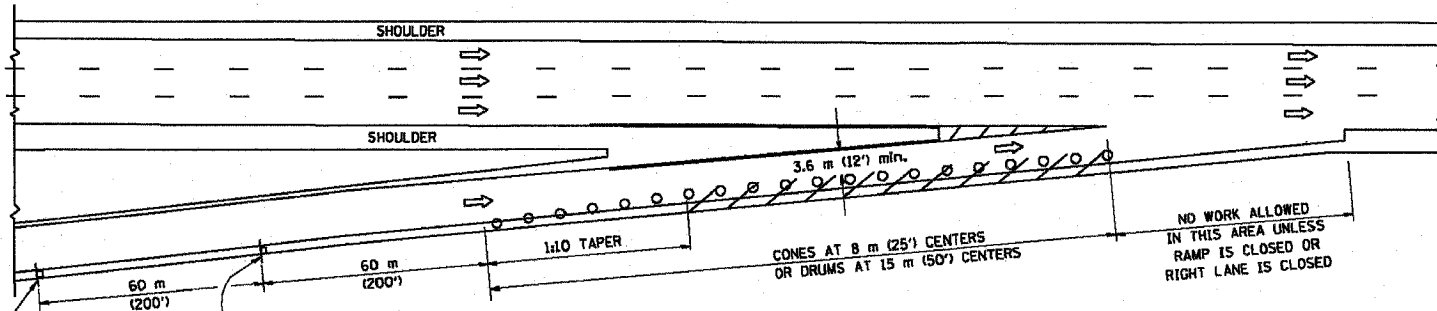
DRAWN BY CADD

CHECKED BY

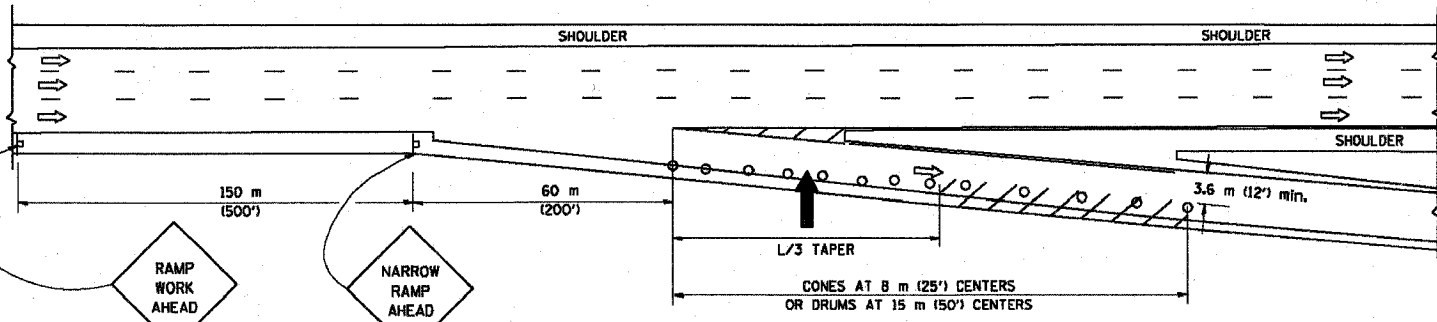
TC-16

REVISION DATE: 08/28/00

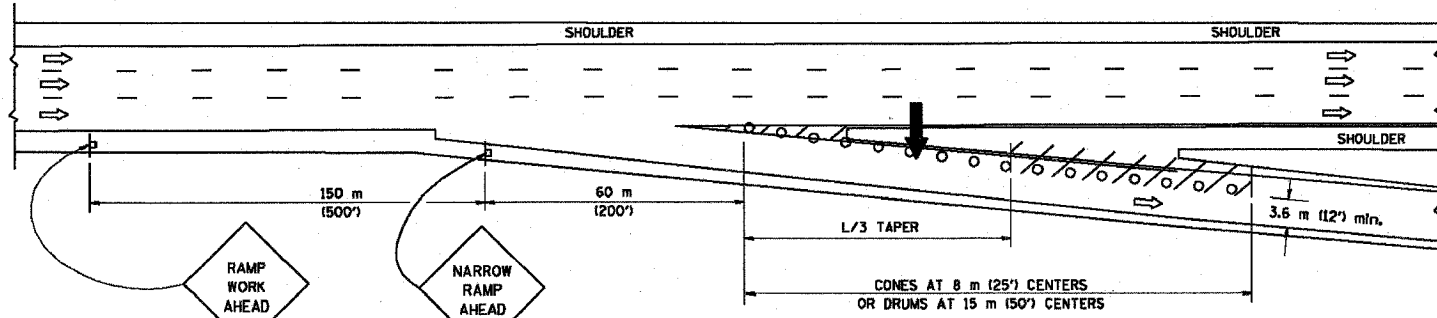
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

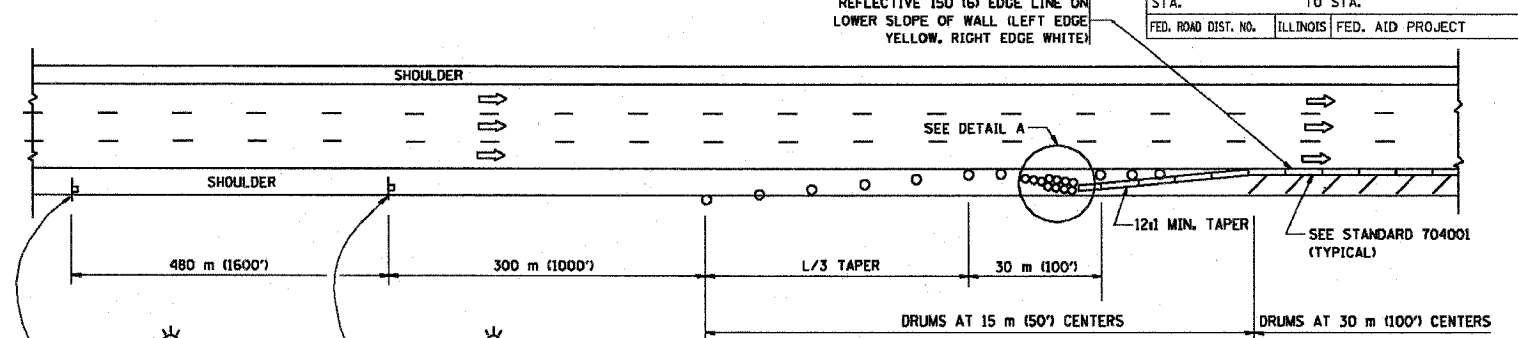
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- CONES - 700 (28) IN HEIGHT

GENERAL NOTES

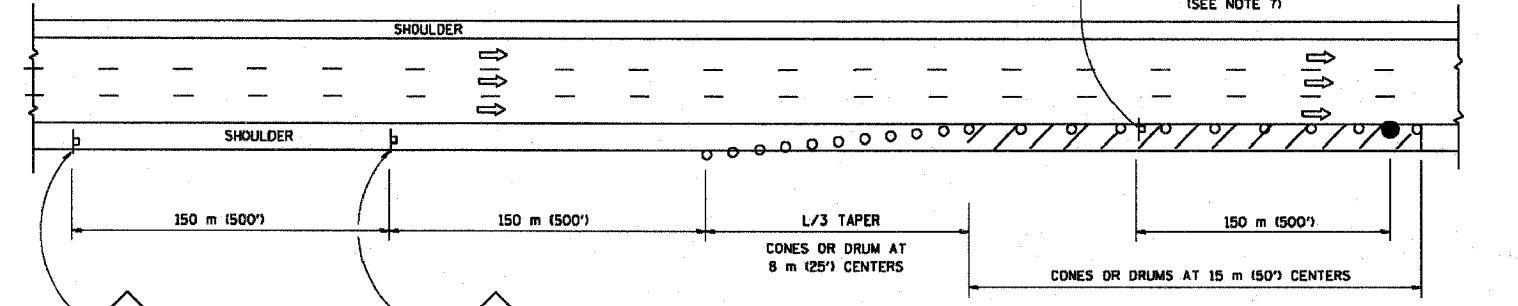
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
80 km/h (45 mph) OR GREATER:	METRIC ENGLISH
	$L = 0.65(W/S)$ $L = (W/S)$
	$W =$ WIDTH OF OFFSET IN METERS (FEET)
	$S =$ NORMAL POSTED SPEED KM/H (MPH)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME 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



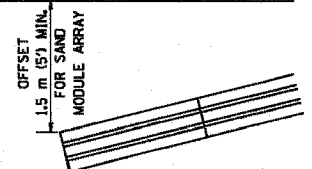
PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

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

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT FOR POSTED SPEED.



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

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS OUTSIDE THE CLEAR ZONE OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE "TRAFFIC BARRIER TERMINAL, TYPE III, TEMPORARY" DEVICE TO MEET NCHRP350 FOR POSTED SPEED.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK AVTIVITY REQUIRES FREQUENT ENCRDACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 30 m (100') TO 60 m (200') IN ADVANCE OF THE WORKERS.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	497
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

REVISIONS	
NAME	DATE
DWS	11/96
JAF	12/02
NCHRP 350	04/03

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL DETAILS
 FOR FREEWAY
 SHOULDER CLOSURES
 PARTIAL RAMP CLOSURES**

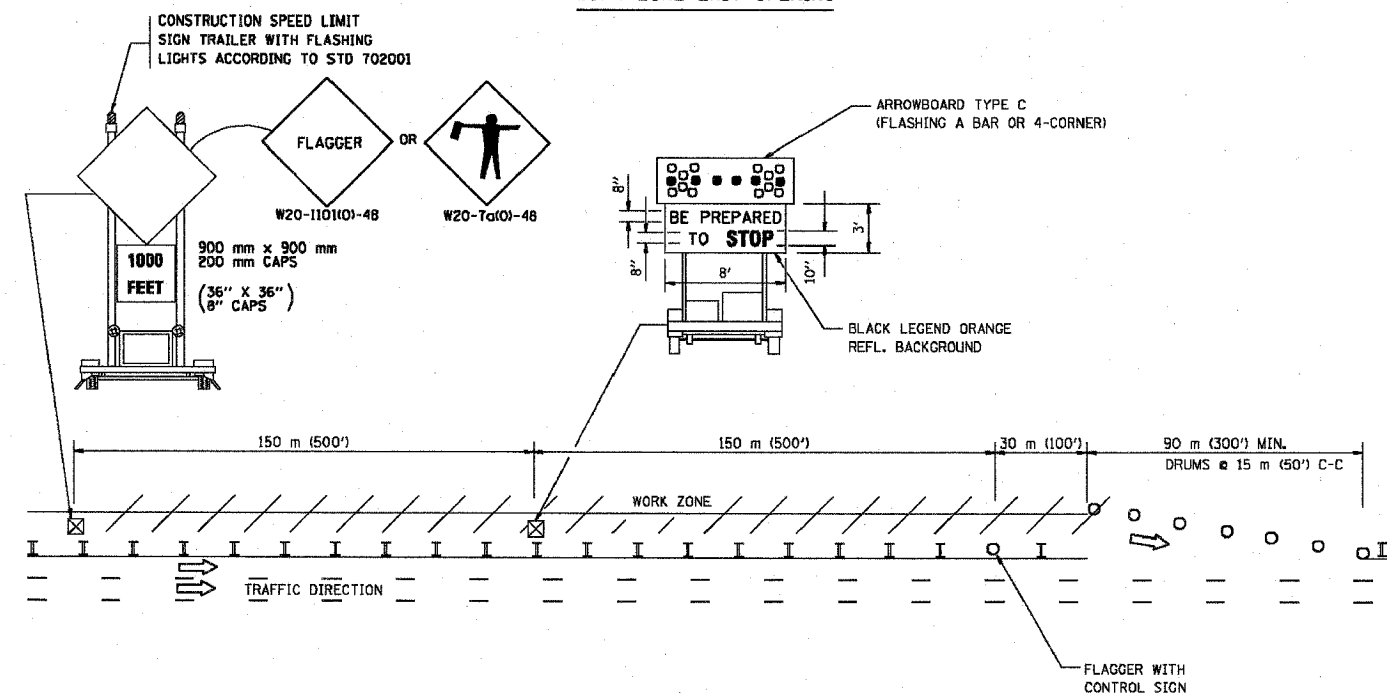
SCALE: NONE
 DATE: 05/06/2003

DRAWN BY: DWS
 CHECKED BY: TC-17

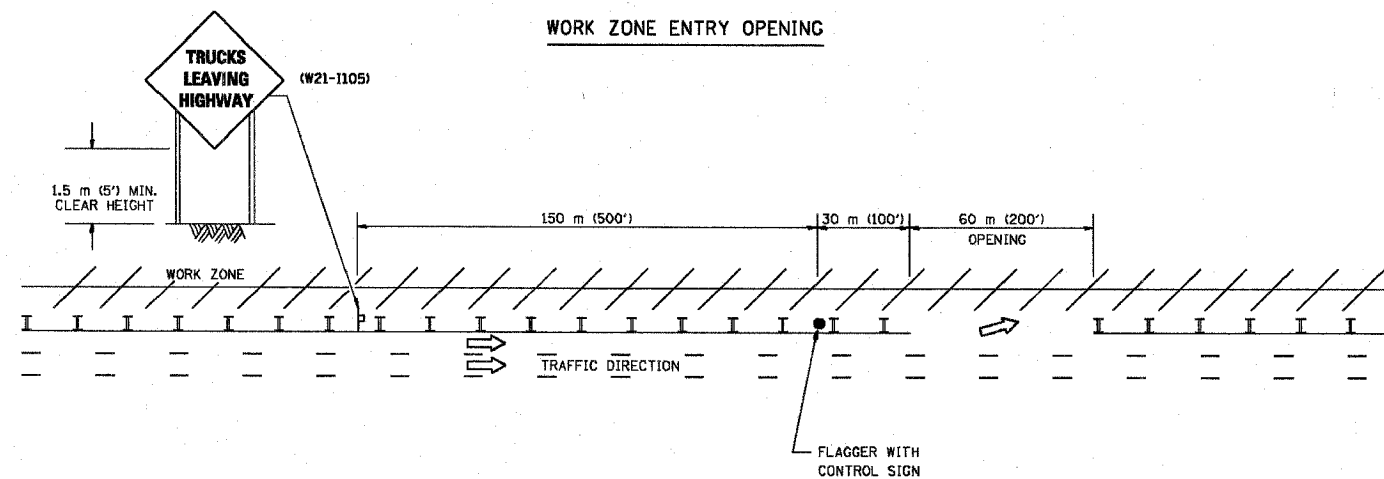
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	448
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. The Arrowboard, the Flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
2. Work Zone Exit Openings should be a minimum of one half mile apart.
3. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
4. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION

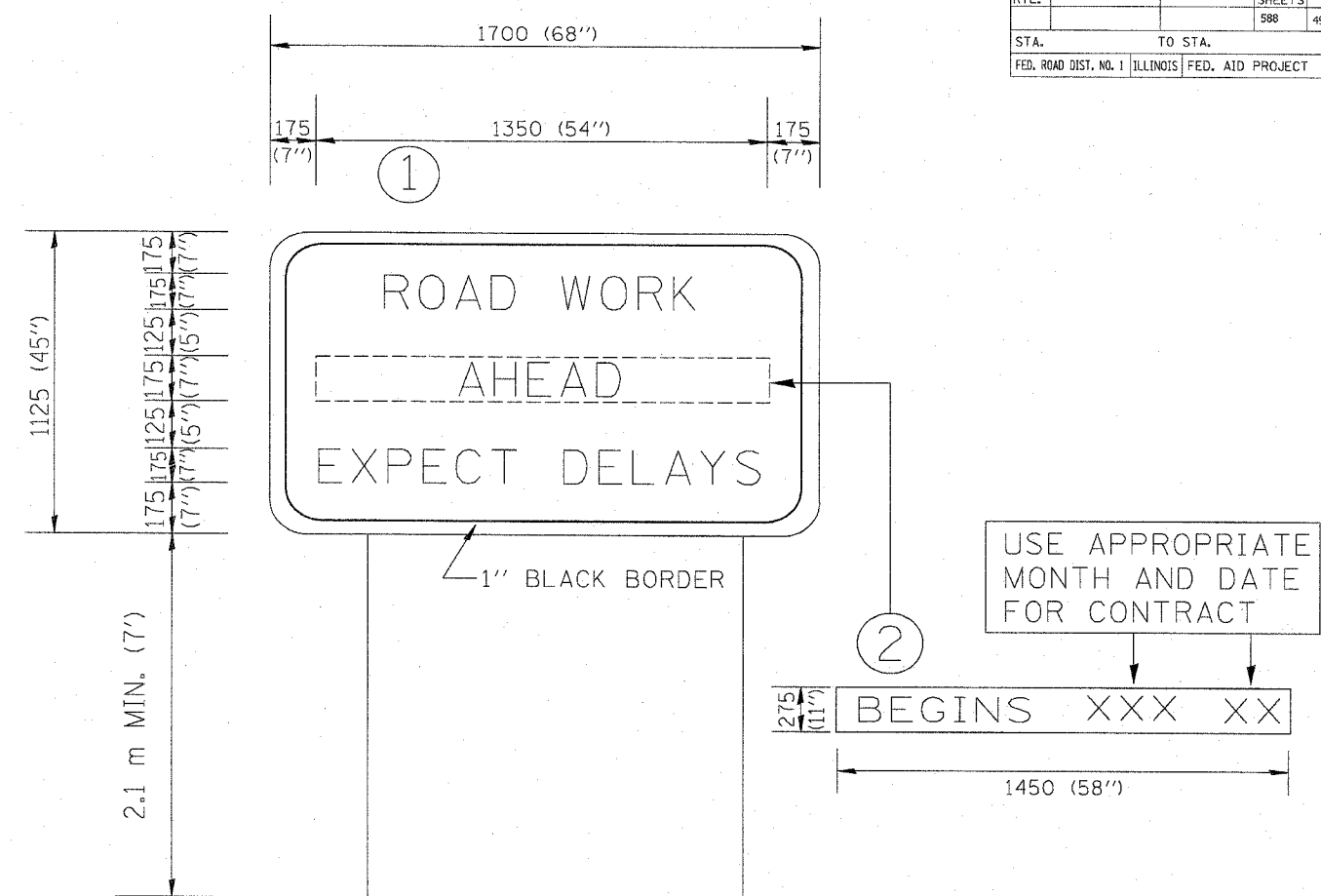
REVISIONS	
NAME	DATE
DWS	8/98
JAF	4/03

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

SCALE: NONE
DATE 05/06/2003

DRAWN BY CADD
CHECKED BY TC-18

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			588	499
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		



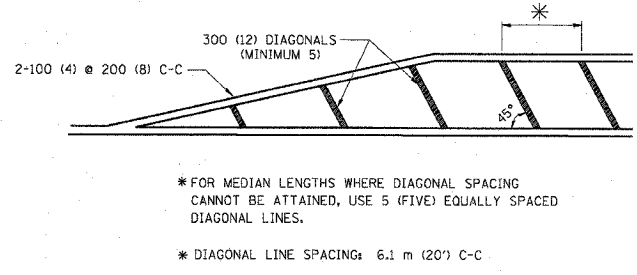
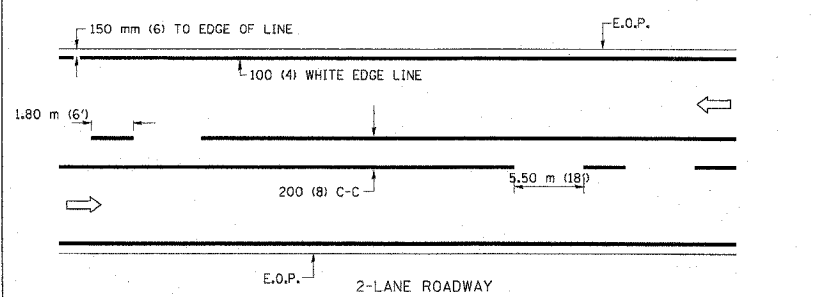
NOTES:

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 2.3 SQ. M. (25.70 SQ. FT.)

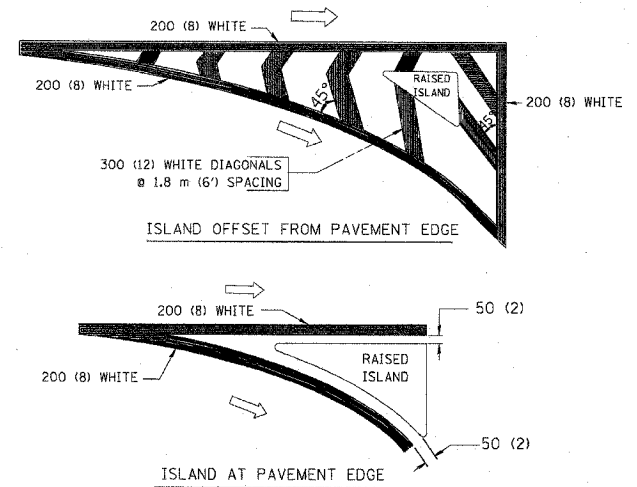
ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
T. RAMMACHER	2-2-99

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TEMPORARY INFORMATION SIGNING
 SCALE: DATE 10/18/2002
 DRAWN BY: BUR. OF DESIGN
 CHECKED BY:



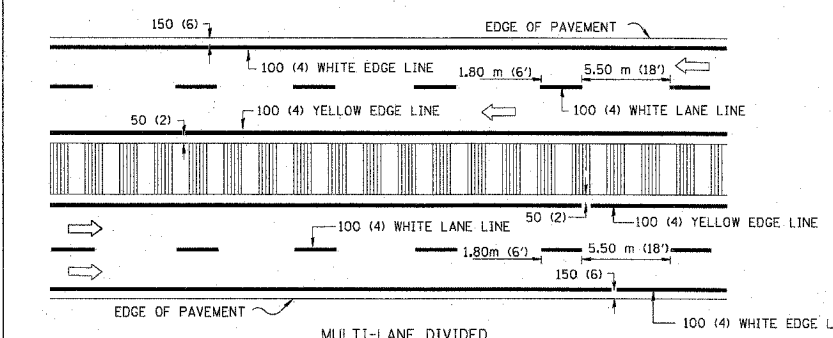
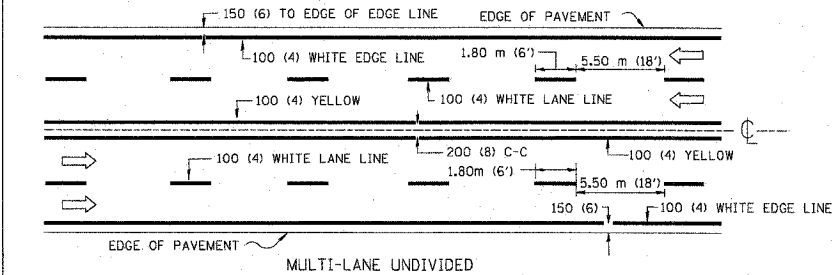
* FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.
 * DIAGONAL LINE SPACING: 6.1 m (20') C-C



TYPICAL ISLAND MARKING

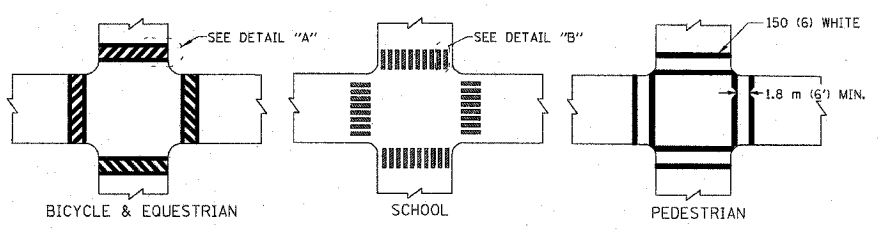
TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	100 (4)	SKIP-DASH	YELLOW	1.80 m (6') LINE WITH 5.50 m (18') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	200 (8) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	200 (8) C-C
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	1.80 m (6') LINE WITH 5.50 m (18') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (2') LINE WITH 1.8 (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION 2.4 m (8') LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	1.8 m (6') LINE WITH 5.50 m (18') SPACE FOR SKIP-DASH; 200 (8) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 150 (6) 300 (12) @ 45° 200 (8) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (2') APART 700 (2'-4") APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45°	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	200 (8) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 6.1 m (20') (LESS THAN 50 km/h (30 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES; "RR" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.33m ² (3.6 SQ. FT.) EACH "X"=5.0 m ² (54.0 SQ. FT.)

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

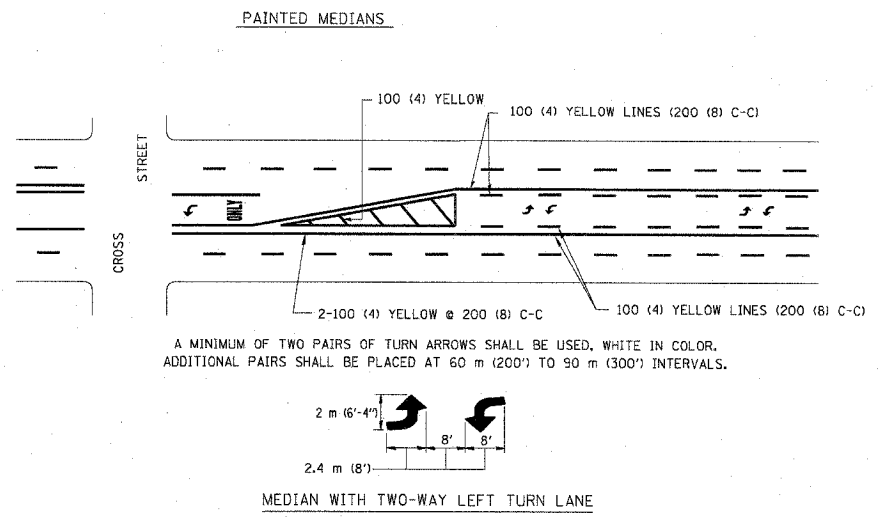


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

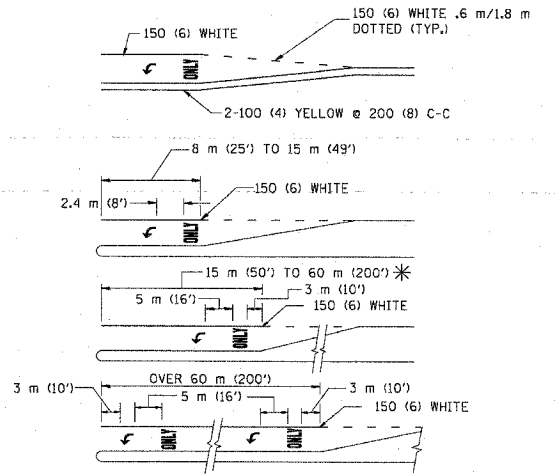
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



TYPICAL PAINTED MEDIAN MARKING



FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.
 AREA = 1.47 m² (15.8 SQ. FT.) ONLY AREA = 2.13 m² (22.9 SQ. FT.)
 * TURN LANES IN EXCESS OF 120 m (400') 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

ILLINOIS DEPARTMENT OF TRANSPORTATION
 CITY OF CHICAGO
 TYPICAL PAVEMENT MARKINGS

REVISIONS	
NAME	DATE
T. RAMMACHER	12/07/00

SCALE: NONE
 DATE 10/18/2002
 DRAWN BY CADD
 CHECKED BY TC-24

DATE-TIME
 DGN-SPEC
 V1-TC24