

**PILE LAYOUT**

Pile	Offset*	Top of Wall El.	Top of Pile Elevation	Bott. of Facing Elevation	Section	Pile Tip Elevation	Pile Length
P-1	124.15	14.10	13.10	10.14	W14x61	-9.24	22.33
P-2	124.13	14.27	13.27	10.27	W14x61	-9.24	22.51
P-3	124.12	14.45	13.45	10.40	W14x61	-9.24	22.69
P-4	124.10	14.63	13.63	10.67	W14x61	-8.73	22.36
P-5	124.09	14.81	13.81	10.81	W14x61	-8.73	22.54
P-6	124.07	14.99	13.99	10.94	W14x61	-8.73	22.72
P-7	124.05	15.15	14.15	11.19	W14x61	-8.61	22.77
P-8	124.04	15.30	14.30	11.30	W14x61	-8.61	22.92
P-9	124.02	15.45	14.45	11.42	W14x61	-8.61	23.07
P-10	124.01	15.59	14.59	11.62	W14x61	-8.98	23.58
P-11	123.99	15.72	14.72	11.72	W14x61	-8.98	23.71
P-12	123.97	15.85	14.85	11.81	W14x61	-8.98	23.84
P-13	123.96	15.98	14.98	11.81	W14x61	-9.38	24.36
P-14	123.94	16.11	15.11	11.71	W14x61	-9.38	24.49
P-15	123.93	16.24	15.24	11.61	W14x61	-9.38	24.61
P-16	123.91	16.36	15.36	11.43	W14x61	-9.70	25.07
P-17	123.89	16.49	15.49	11.35	W14x61	-9.70	25.19
P-18	123.88	16.62	15.62	11.27	W14x61	-9.70	25.32
P-19	124.27	16.71	15.71	11.13	W24x68	-9.86	25.57
P-20	124.26	16.78	15.78	11.06	W24x68	-9.86	25.64
P-21	124.24	16.85	15.85	11.00	W24x68	-9.86	25.70
P-22	124.22	16.90	15.90	10.90	W24x68	-10.03	25.93
P-23	124.20	16.95	15.95	10.86	W24x68	-10.03	25.99
P-24	124.19	17.01	16.01	10.81	W24x68	-10.03	26.04
P-25	124.18	17.04	16.04	10.74	W24x68	-10.13	26.17
P-26	124.16	17.06	16.06	10.72	W24x68	-10.13	26.19
P-27	124.14	17.07	16.07	10.70	W24x68	-10.13	26.20
P-28	124.13	17.08	16.08	10.66	W24x68	-10.16	26.24
P-29	124.11	17.08	16.08	10.66	W24x68	-10.16	26.24
P-30	124.10	17.09	16.09	10.65	W24x68	-10.16	26.24
P-31	124.08	17.08	16.08	10.65	W24x68	-11.35	27.43
P-32	124.06	17.07	16.07	10.67	W24x68	-11.35	27.42
P-33	124.05	17.06	16.06	10.68	W24x68	-11.35	27.40
P-34	124.03	17.03	16.03	10.72	W24x68	-11.30	27.33
P-35	124.02	16.99	15.99	10.75	W24x68	-11.30	27.29
P-36	124.00	16.96	15.96	10.78	W24x68	-11.30	27.25
P-37	123.98	16.89	15.89	10.86	W24x68	-11.18	27.07
P-38	123.97	16.80	15.80	10.91	W24x68	-11.18	26.98
P-39	123.95	16.71	15.71	10.96	W24x68	-11.18	26.89
P-40	123.53	16.62	15.62	11.08	W14x61	-9.58	25.20
P-41	123.81	16.54	15.54	11.15	W14x61	-9.58	25.11
P-42	123.49	16.45	15.45	11.21	W14x61	-9.58	25.02
P-43	123.48	16.34	15.34	11.36	W14x61	-9.31	24.65
P-44	123.46	16.22	15.22	11.45	W14x61	-9.31	24.53
P-45	123.45	16.10	15.10	11.54	W14x61	-9.31	24.41
P-46	123.43	15.99	14.99	11.65	W14x61	-8.97	23.95
P-47	123.41	15.88	14.88	11.67	W14x61	-8.97	23.85
P-48	123.40	15.77	14.77	11.70	W14x61	-8.97	23.74
P-49	123.21	15.64	14.64	11.60	W10x33	-4.70	19.34
P-50	123.19	15.48	14.48	11.48	W10x33	-4.70	19.18
P-51	123.18	15.32	14.32	11.36	W10x33	-4.70	19.02
P-52	123.16	15.16	14.16	11.12	W10x33	-4.25	18.42
P-53	123.14	15.00	14.00	11.00	W10x33	-4.25	18.26
P-54	123.13	14.84	13.84	10.88	W10x33	-4.25	18.10

\*From @ North Bound Local

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	401
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*I2021-922 PT2 ETC 2324.6-1PI R-10			

**NOTES**

- All W10 and W14 piles have drilled shaft dia = 2'-0".
- All W24 piles have drilled shaft dia = 3'-0".

**BILL OF MATERIAL**

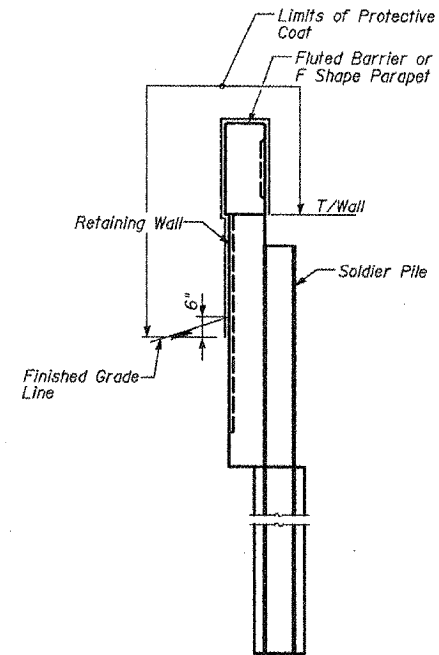
Item	Unit	Quantity
Furnishing Soldier Piles (W Sections)	Foot	1,315
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	6,545

SHEET 5 OF 9

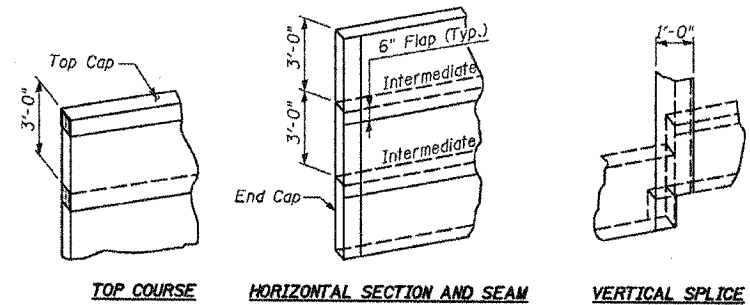
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  RETAINING WALL N-43N-F PILE LAYOUT  SCALE: NTS DATE: JUNE 9, 2006  DRAWN BY: MTR CHECKED BY: BLU
NAME	DATE	
REVISOR	06/15/06	

6/23/2006 2:28:39 PM

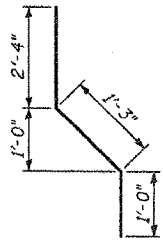
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	402
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*12021-922 PT2 ETC 2324.6-1P1 R-10			



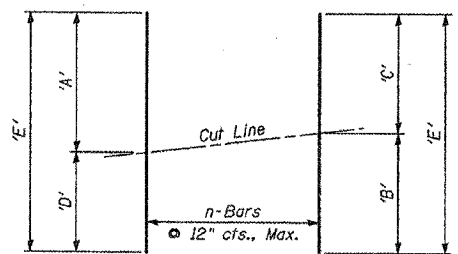
**DETAIL OF LIMITS OF PROTECTIVE COAT**



**GEOCOMPOSITE WALL DRAIN DETAILS**



**BAR d1(E)**



**\* BAR CUTTING DIAGRAM**

\* Order bars v3(E) thru v10(E) and v17(E) thru v24(E) full length, cut as shown and use remainder where indicated.

**TABLE OF DIMENSIONS**

Bar	'A'	'B'	'C'	'D'	'E'	n
v3(E)	6'-6"	6'-10"	6'-11"	7'-3"	13'-9"	12
v4(E)	3'-8"	4'-0"	4'-1"	4'-5"	8'-1"	12
v5(E)	7'-3"	7'-7"	7'-8"	8'-0"	15'-3"	12
v6(E)	4'-5"	4'-9"	4'-10"	5'-2"	9'-7"	12
v7(E)	8'-0"	8'-2"	8'-3"	8'-5"	16'-5"	12
v8(E)	5'-2"	5'-4"	5'-5"	5'-7"	10'-9"	12
v9(E)	8'-5"	8'-7"	8'-7"	8'-9"	17'-2"	12
v10(E)	5'-7"	5'-9"	5'-9"	5'-11"	11'-6"	12
v17(E)	8'-8"	8'-5"	8'-5"	8'-2"	16'-10"	12
v18(E)	5'-10"	5'-7"	5'-7"	5'-4"	11'-2"	12
v19(E)	8'-2"	7'-11"	7'-11"	7'-8"	15'-10"	12
v20(E)	5'-4"	5'-1"	5'-1"	4'-10"	10'-2"	12
v21(E)	7'-8"	7'-4"	7'-3"	6'-11"	14'-7"	12
v22(E)	4'-10"	4'-6"	4'-5"	4'-1"	8'-11"	12
v23(E)	6'-11"	6'-9"	6'-8"	6'-6"	13'-5"	12
v24(E)	4'-1"	3'-11"	3'-10"	3'-8"	7'-9"	12

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
d1(E)	450	#5	4'-7"		
e1(E)	48	#5	23'-8"		
e2(E)	96	#5	26'-2"		
h1(E)	72	#5	23'-8"		
h2(E)	142	#5	26'-2"		
v1(E)	150	#6	6'-6"		
v2(E)	150	#5	3'-8"		
v3(E)	12	#6	13'-9"		
v4(E)	12	#5	8'-1"		
v5(E)	12	#6	15'-3"		
v6(E)	12	#5	9'-7"		
v7(E)	12	#6	16'-5"		
v8(E)	12	#5	10'-9"		
v9(E)	12	#6	17'-2"		
v10(E)	12	#5	11'-6"		
v11(E)	25	#6	8'-10"		
v12(E)	25	#5	6'-0"		
v13(E)	50	#6	8'-11"		
v14(E)	50	#5	6'-1"		
v15(E)	25	#6	8'-9"		
v16(E)	25	#5	5'-11"		
v17(E)	12	#6	16'-10"		
v18(E)	12	#5	11'-2"		
v19(E)	12	#6	15'-10"		
v20(E)	12	#5	10'-2"		
v21(E)	12	#6	14'-7"		
v22(E)	12	#5	8'-11"		
v23(E)	12	#6	13'-5"		
v24(E)	12	#5	7'-9"		
Reinforcement Bars, Epoxy Coated				Pound	18,810
Concrete Structures				Cu. Yd.	87.4
Concrete Superstructures				Cu. Yd.	54.9
Chain Link Fence, 42" Attached to Structure (Special)				Foot	424
Rustication Finish				Sq. Ft.	2,374
Protective Coat				Sq. Yd.	311

SHEET 6 OF 9

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REVISIONS	
NAME	DATE
REVISOR	6/20/06

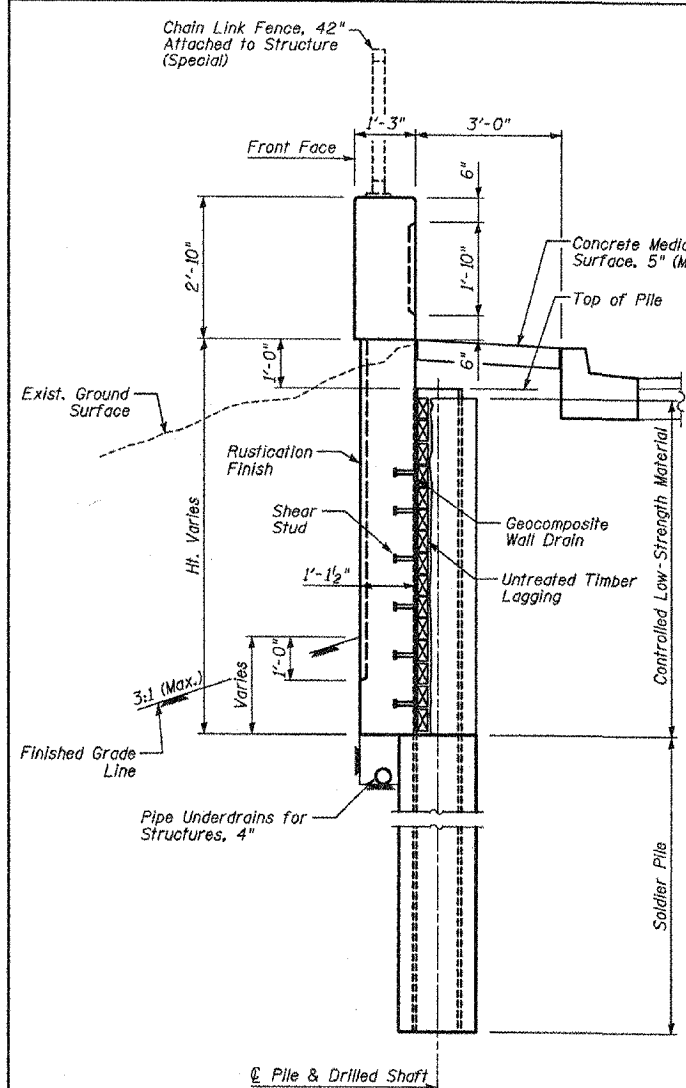
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)

**RETAINING WALL N-43N-F  
BILL OF MATERIAL**

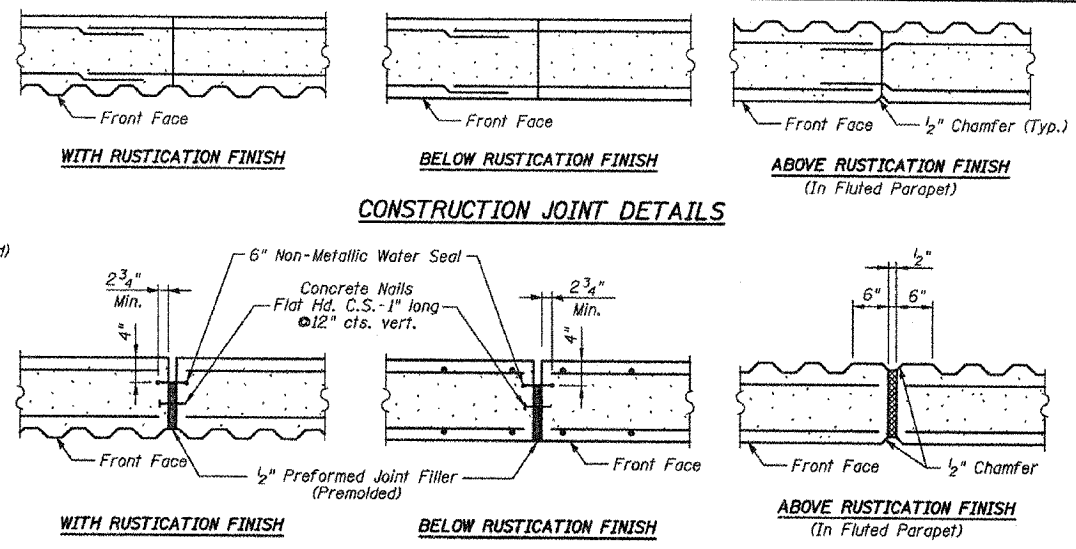
SCALE: NTS  
DATE: JUNE 9, 2006  
DRAWN BY: MTR  
CHECKED BY: BLU

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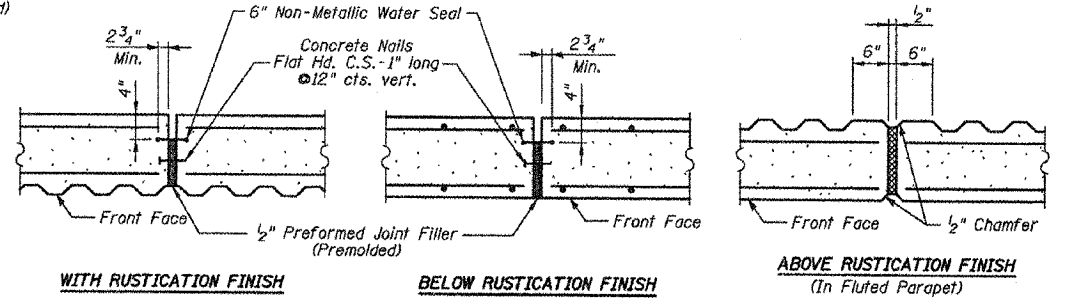
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	403
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62301 * (2021-922 PT2 ETC 2324.6-1P) R-10				



TYP. SECTION THRU PROPOSED WALL

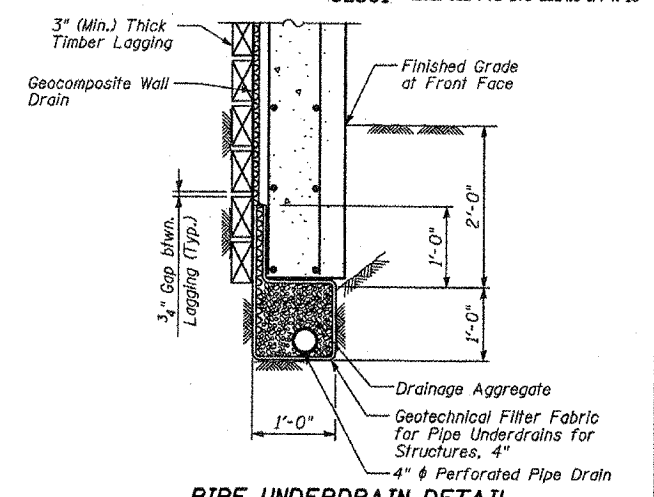


CONSTRUCTION JOINT DETAILS

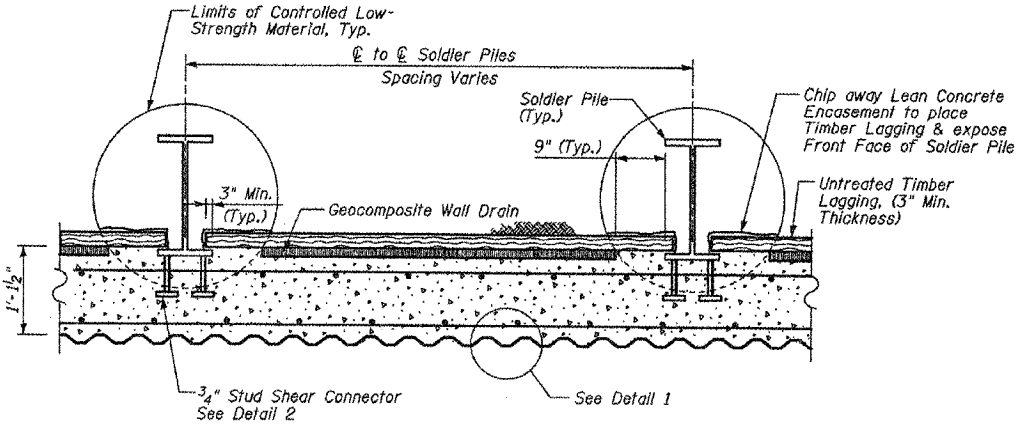


EXPANSION JOINT DETAILS

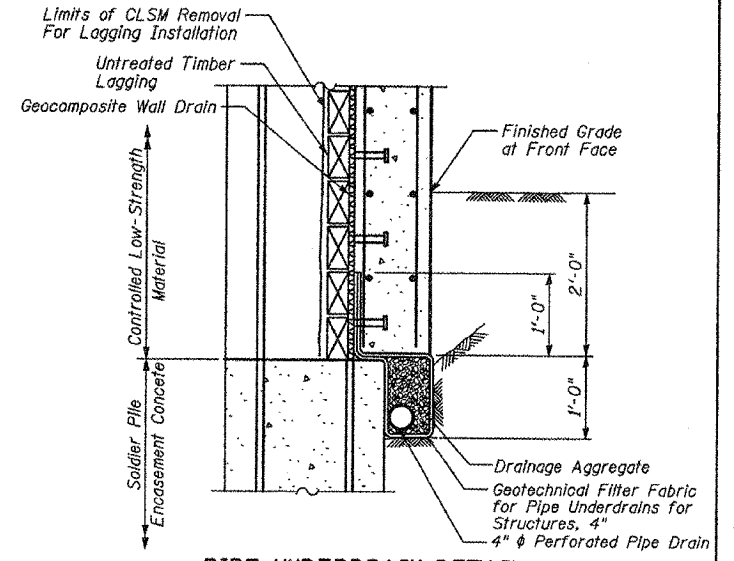
Cost of P.J.F., Water Seal and Concrete Nails included with Concrete Structures.



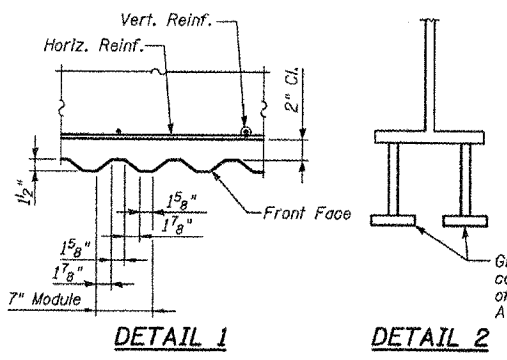
PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES



SECTION THRU SOLDIER PILE WALL



PIPE UNDERDRAIN DETAIL AT SOLDIER PILES



DETAIL 1 DETAIL 2

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REVISIONS	
NAME	DATE
REVISOR	06/21/06

SHEET 7 OF 9  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
RETAINING WALL N-43N-F  
MISCELLANEOUS DETAILS  
SCALE: NTS  
DATE: JUNE 9, 2006  
DRAWN BY: MTR  
CHECKED BY: BLU

Everest Engineering Company  
STRUCTURE BORING LOG

Page 1 of 1  
Date 4/25/03

ROUTE FAL 94/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY PATRICK ENGINEERING

COUNTY COOK LOCATION WALL 029 S. \_\_\_\_\_, TWP. 38 N, RNG. 14 E

Boring No. W-029-1 Surface Water Elev. \_\_\_\_\_  
 Station 4560+11(NB LOCAL) Groundwater Elev. 9.3  
 Offset 131 RT. OF NB LOCAL BL when drilling \_\_\_\_\_  
 at Completion \_\_\_\_\_  
 after \_\_\_\_\_ Hrs. \_\_\_\_\_

DEPTH	BLOWS	QU	W	DEPTH	BLOWS	QU	W
ft		tsf	%	ft		tsf	%
15.0							
TOPSOIL							
Loose, Brown SANDY LOAM							
	4		13		0	0.3	26
	2				0	B	
	4				1		
FILL							
Medium Dense, Brown SANDY LOAM							
	5		16		0	0.3	25
	6				0	B	
	6				1		
Very Loose to Loose, Gray SILT							
	1		34				
	2						
	2						
Very Hard, Gray SILTY CLAY LOAM							
	0		30		10	0.2	11
	0				12	B	
	1				19		
END OF BORING							
	0		25				
	0						
	1						
Soft to Very Stiff, Gray SILTY CLAY							
	0	2.5	20				
	1	B					
	1						
trace - sand and gravel							
	0	1.2	23				
	3	B					
	5						
Medium Stiff to Very Stiff, Gray SILTY CLAY							
	0	1.0	24				
	1	B					
	1						
trace - sand and gravel							
	0	0.7	24				
	1	B					
	1						
Medium Stiff to Very Stiff, Gray SILTY CLAY							
	0	0.6	24				
	1	B					
	1						
trace - sand and gravel							
	0	0.4	26				
	0	B					
	0						
	1						

SPT (IN) = 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-029-1**

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Page 1 of 1  
Date 4/25/03

ROUTE FAL 94/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY PATRICK ENGINEERING

COUNTY COOK LOCATION WALL 029 S. \_\_\_\_\_, TWP. 38 N, RNG. 14 E

Boring No. W-029-2 Surface Water Elev. \_\_\_\_\_  
 Station 4560+94 (NB LOCAL) Groundwater Elev. 7.7  
 Offset 132 RT. OF NB LOCAL BL when drilling \_\_\_\_\_  
 at Completion \_\_\_\_\_  
 after \_\_\_\_\_ Hrs. \_\_\_\_\_

DEPTH	BLOWS	QU	W	DEPTH	BLOWS	QU	W
ft		tsf	%	ft		tsf	%
16.0							
ASPHALT PAVEMENT							
CONCRETE PAVEMENT							
	12		12		1	0.8	13
	8				1	B	
	8				2		
Medium Dense, Brown SANDY LOAM							
	11		11		1	0.8	22
	7				1	B	
	14				2		
FILL							
Medium Dense, Brown SANDY LOAM							
	10		3				
	9						
	11						
trace - gravel							
	11		7		1	1.2	17
	8				1	B	
	13				2		
Very Loose to Loose, Gray SILT							
	5		28				
	3						
	4						
Hard to Very Hard, Gray SILTY CLAY LOAM							
	1		30		17	7.0	10
	1				22	S	
	3				30		
trace - gravel							
	1		25				
	0						
	1						
Medium Stiff to Very Stiff, Gray SILTY CLAY							
	0	2.3	21		30	10.3	15
	1	B			41	S	
	2				23		
trace - sand and gravel							
	0	0.6	24				
	1	B					
	1						
Medium Stiff to Very Stiff, Gray SILTY CLAY							
	2	0.6	22		20	9.5	14
	2	B			27	S	
	3				35		
END OF BORING							

SPT (IN) = 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-029-2**

REVISIONS	
NAME	DATE

SHEET 8 OF 9

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

RETAINING WALL N-43N-F  
 SOIL BORINGS 1

SCALE: NTS  
 DATE: JUNE 9, 2006

DRAWN BY: KMW  
 CHECKED BY: BLU

6/17/2006 3:50:59 PM

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STRUCTURE BORING LOG

Page 1 of 1  
Date 4/25/03

ROUTE FAL 90/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY PATRICK ENGINEERING

COUNTY COOK LOCATION WALL 029 S. \_\_\_\_\_, TWP. 38 N, RNC. 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-029-3	4561+72 (NB LOCAL)	131 RT. OF NB LOCAL BL	16.3 ft									
								7.3				
ASPHALT PAVEMENT				16.1						3		
CONCRETE PAVEMENT				14.8						0	0.8	24
Loose to Medium Dense, Brown SANDY LOAM trace - gravel					10		11			1	B	
					7					2		
					6							
FILL				10.8						0	0.8	23
Medium Dense, Brown SANDY LOAM trace - gravel					3		16			1	B	
					2					3		
					2							
Very Loose to Loose, Gray SILT trace - sand				5.8						0	0.3	24
					5		4			0	B	
					6					1		
					7							
Very Hard, Gray SILTY CLAY LOAM trace - sand and gravel				-21.2						8	8.9	12
					2		26			14	S	
					3					21		
					3							
Soft to Very Stiff, Gray SILTY CLAY trace - sand and gravel				-3.2						0	2.1	21
					0		25			1	B	
					1					2		
					2							
					0		25			1	0.6	26
					1					1	B	
					2							
					0		25			0	0.7	21
					1					1	B	
					2							
					0		23			0	0.7	23
					1					1	B	
					1							

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

**BORING W-029-3**

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Page 1 of 1  
Date 4/25/03

ROUTE FAL 90/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY PATRICK ENGINEERING

COUNTY COOK LOCATION WALL 029 S. \_\_\_\_\_, TWP. 38 N, RNC. 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-029-4	4562+64 (NB LOCAL)	131 RT. OF NB LOCAL BL	15.4 ft									
								3.9				
ASPHALT PAVEMENT				15.2								
CONCRETE PAVEMENT				13.9								
Medium Dense, Brown SANDY LOAM trace - gravel					10		7			0	0.9	23
					11					1	B	
					7					2		
FILL				9.4						0	1.0	23
Medium Dense, Brown SANDY LOAM trace - gravel					8		7			1	B	
					8					3		
					13							
Very Loose, Gray SILTY CLAY LOAM trace - gravel				-19.1						5	7.2	14
					6		17			7	S	
					7					15		
					4							
Very Loose, Gray SILT trace - sand				4.4						0		
					0		28					
					0					1		
					1							
Medium Stiff to Stiff, Gray SILTY CLAY trace - sand and gravel				-0.6						0	0.6	26
					0		25			29	0.9	10
					1					25	S	
					3					35		
					3							
					1		25			17	7.0	11
					3					25	S	
					3					32		
END OF BORING (AUGER REFUSAL)				-30.1								
					0		21			0	0.7	23
					1					1	B	
					1							
					0		23			0	0.7	23
					1					1	B	
					1							

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

**BORING W-029-4**

REVISIONS	
NAME	DATE

SHEET 9 OF 9

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

RETAINING WALL N-43N-F  
SOIL BORINGS 2

SCALE: NTS  
DATE: JUNE 9, 2006

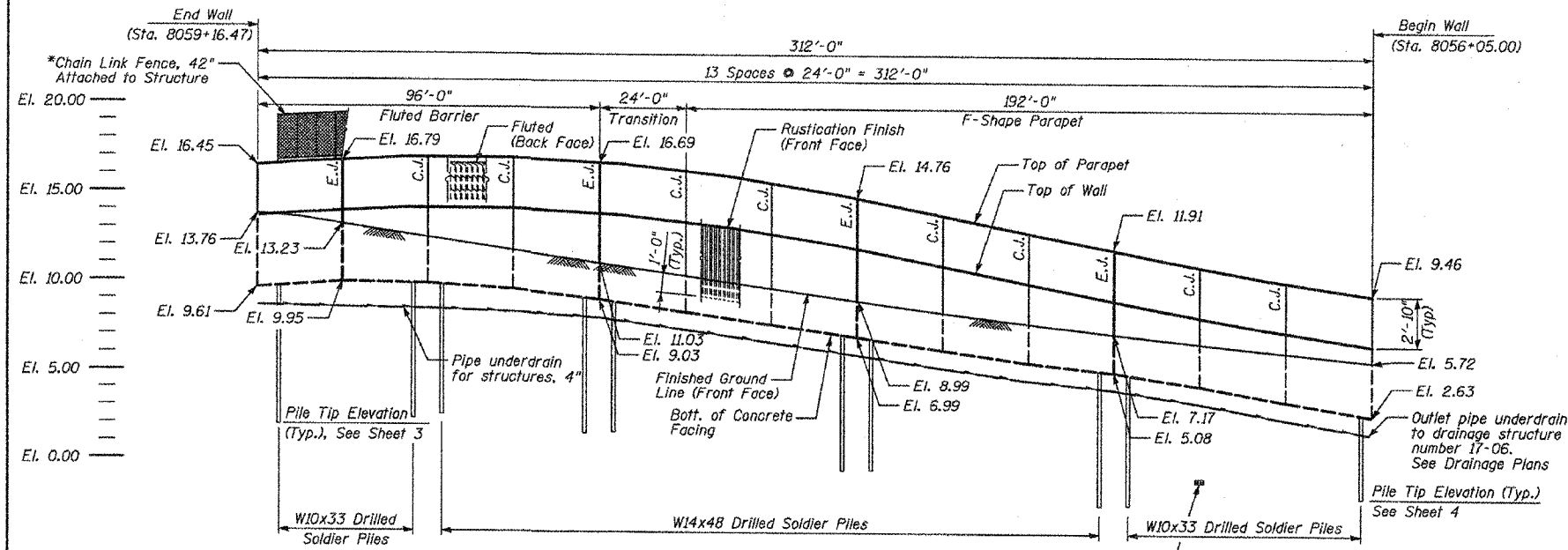
DRAWN BY: KMW  
CHECKED BY: BLU

6/7/2006 3:52:39 PM I:\660\cadd\civ\RETAINING WALLS\60\_1635\29\_02.dwg

Benchmark: BM No. 3539  
 "X" Cut on Easterly bolt of light pole  
 base at the SE corner of 43rd St.  
 and La Salle St.  
 El. 13.10

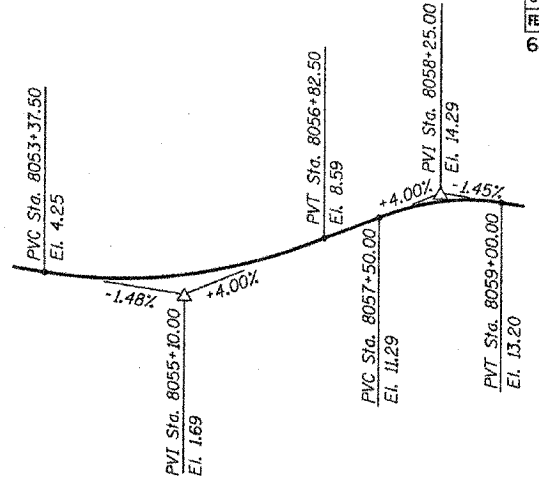
All elevations are based on the Chicago City Datum (C.C.D.)

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	406
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*42021-922 PT2 ETC 2324.6-1P1	R-10		



**FRONT FACE ELEVATION**  
 (LOOKING FROM NB LOCAL LANES)

E.J. - Denotes Expansion Joint  
 C.J. - Denotes Construction Joint  
 \* - On Fluted Barrier only



**PROFILE GRADE LINE**  
 Along @ Ramp 43D

**TOTAL BILL OF MATERIAL**

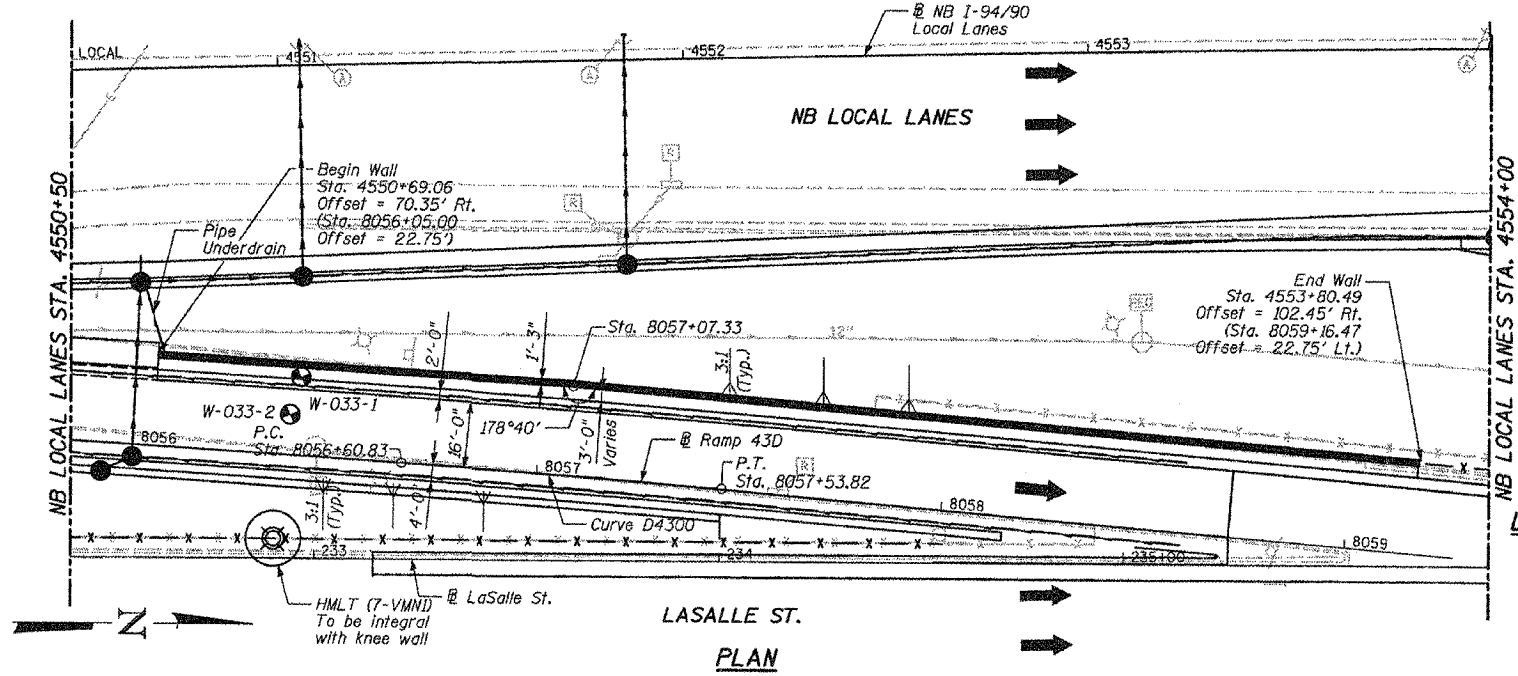
ITEM	UNIT	QTY.
Structure Excavation	Cu. Yd.	70
Reinforcement Bars, Epoxy Coated	Pound	13,220
Concrete Structures	Cu. Yd.	55.2
Concrete Superstructures	Cu. Yd.	31.7
Protective Coat	Sq. Yd.	168
Rustication Finish	Sq. Ft.	1129
Stud Shear Connector	Each	270
Untreated Timber Lagging	Sq. Ft.	1064
Furnishing Soldier Piles (HP Section)	Foot	874
Drilling & Setting Soldier Piles (In Soil)	Cu. Ft.	2,834
Geocomposite Wall Drain	Sq. Yd.	89
Pipe Underdrains for Structures, 4"	Foot	335
Chainlink Fence, 42", Attached to Structure (Special)	Foot	95
Porous Granular Embankment (Special)	Cu. Yd.	1

**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

**PROP. CURVE D4300**

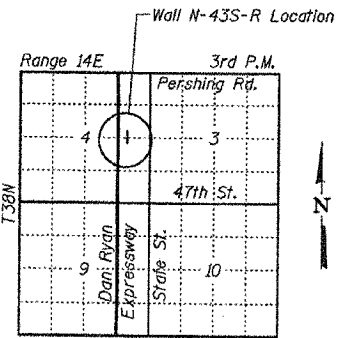
P.I. Sta. = 8057+07.33  
 $\Delta = 1^\circ 19' 55''$  (RT)  
 $D = 1^\circ 25' 57''$   
 $R = 4,000.00'$   
 $T = 46.49'$   
 $L = 92.99'$



**LASALLE ST. PLAN**

**LEGEND**

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



**LOCATION SKETCH**

SHEET 1 OF 9

REVISIONS	
NAME	DATE
REVISED	06/16/06

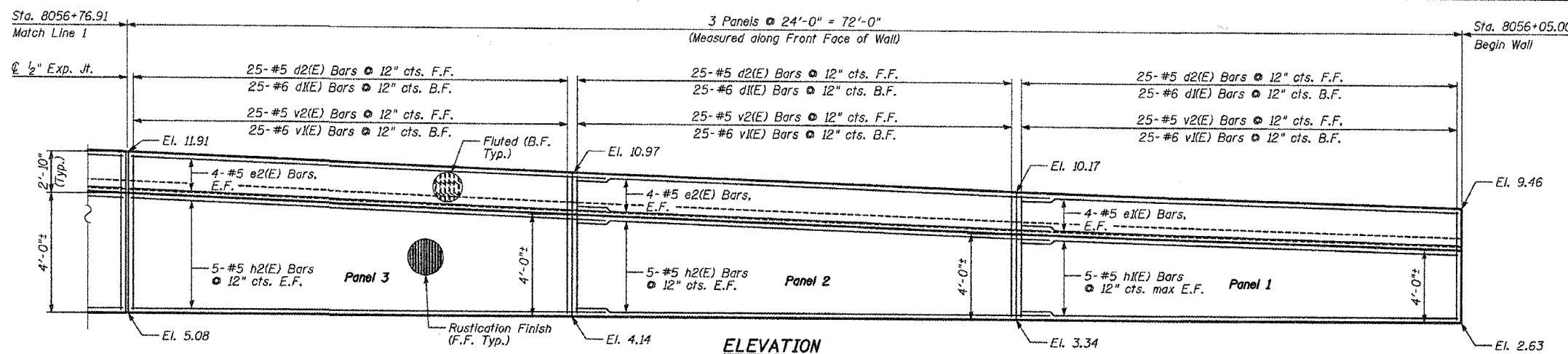
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)

**RETAINING WALL N-43S-R**  
 GENERAL PLAN AND ELEVATION

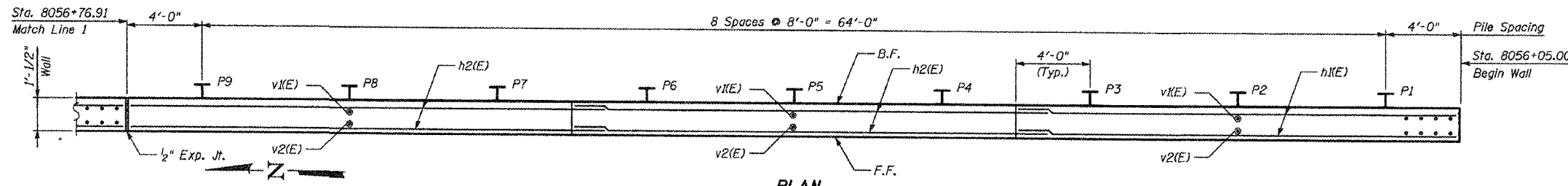
SCALE: NTS  
 DATE: JUNE 9, 2006  
 DRAWN BY: MTR  
 CHECKED BY: BLU

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 312.228.0100  
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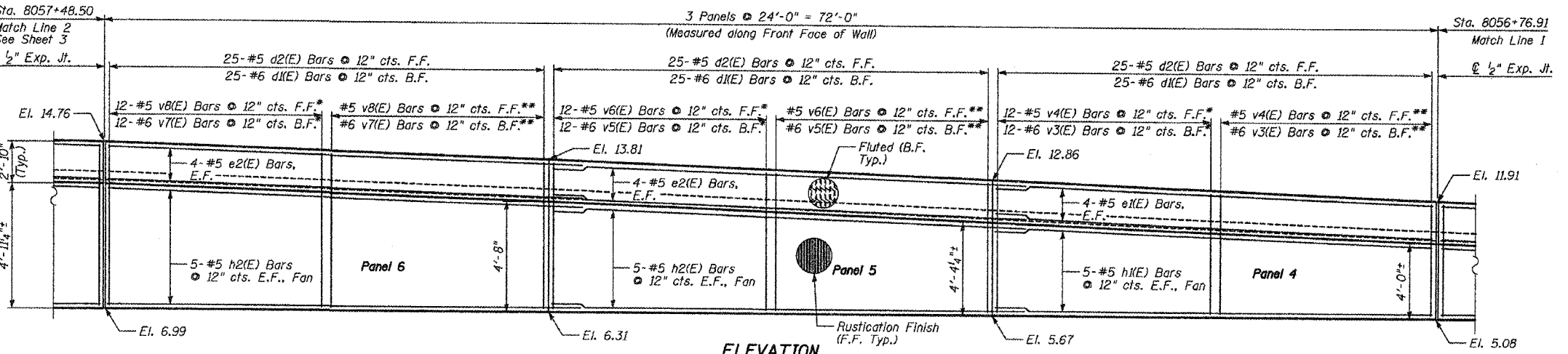
- Notes:
- Offsets given to Front Face of Wall. Station and offsets in parentheses are along Frontage Road or ramp.
  - HMLT, foundations and work pads by others. See Special Provisions for Contractor Cooperation.
  - Min. Facing in contact with soldier pile shall be 3'-0".
  - Coordinate pipe underdrain outlet with Drainage Contractor.



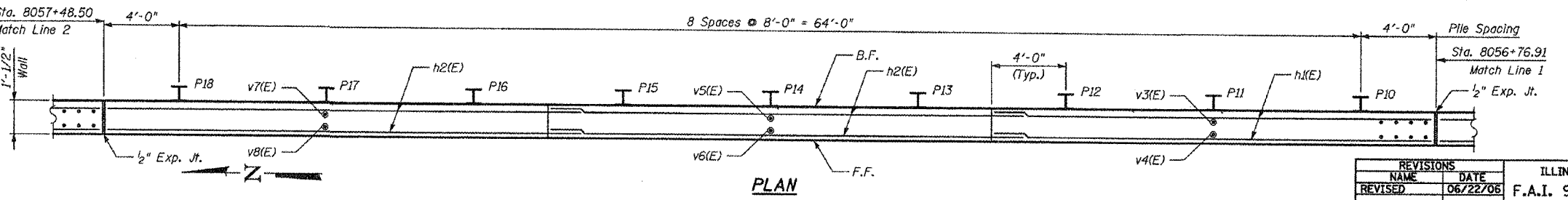
**ELEVATION**



**PLAN**



**ELEVATION**



**PLAN**

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90			565	407
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62301	*I2021-922 PT2 ETC 2324.6-1P1-R-10			

- Notes:
1. Stationing given is @ Ramp 43D.
  2. Facing in Plan Views is scaled 1:2 on an X:Y scale to show reinforcement.
  3. See details for reinforcing bar clearances.

\* 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

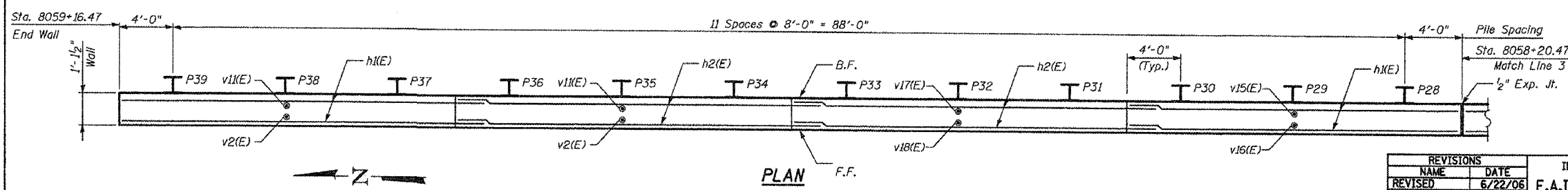
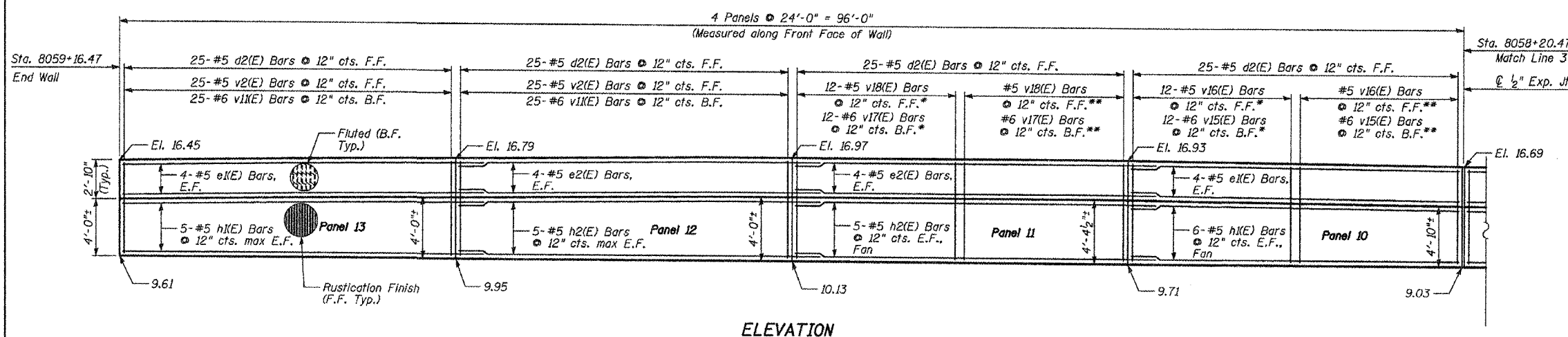
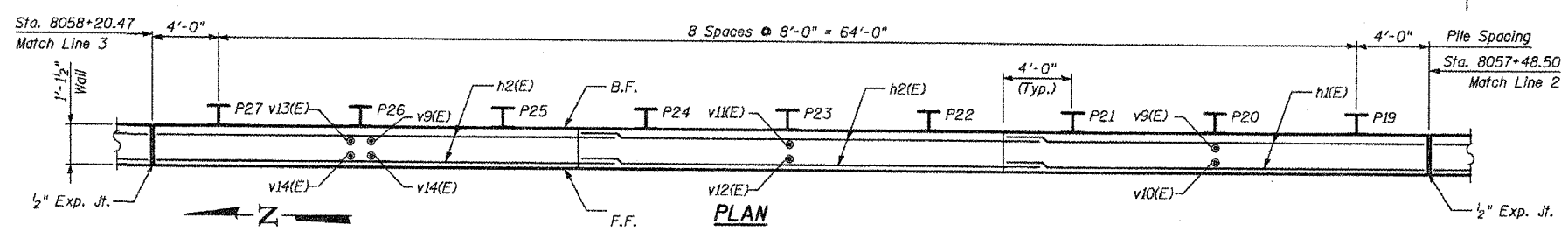
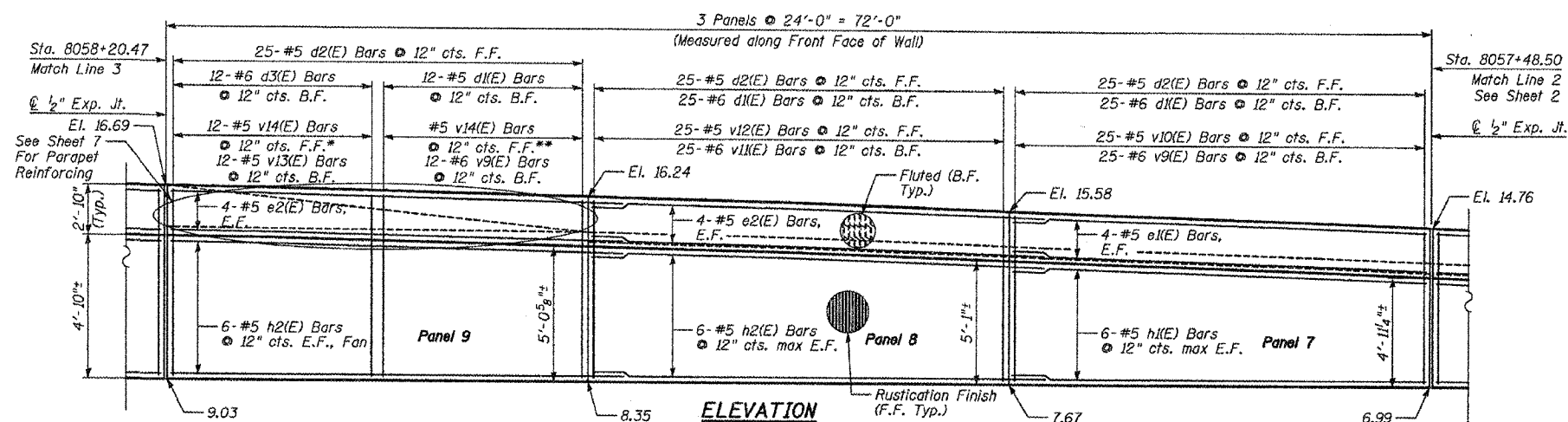
**MIN. BAR LAP**  
#5 - 2'-2"  
#6 - 2'-7"

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REVISIONS	
NAME	DATE
REVISED	06/22/06

SHEET 2 OF 9  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
RETAINING WALL N-43S-R  
WALL DETAILS 1  
SCALE: NTS  
DATE: JUNE 9, 2006  
DRAWN BY: LAM  
CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	408
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62301		*2021-922 PT2 ETC 2324.6-1P1 R-10		



- Notes:
1. Stationing given is @ Ramp 43D.
  2. Facing in Plan Views is scaled 1:2 on an X,Y scale to show reinforcement.
  3. See details for reinforcing bar clearances.

\* 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"

REVISIONS	
NAME	DATE
REVISED	6/22/06

SHEET 3 OF 9  
 ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
 RETAINING WALL N-43S-R  
 WALL DETAILS 2  
 SCALE: NTS  
 DATE: JUNE 9, 2006  
 DRAWN BY: LAM  
 CHECKED BY: BLU

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**PILE LAYOUT**

Pile	Offset*	Top of Wall El.	Top of Pile Elevation	Bot. of Facing Elevation	Section	Pile Tip Elevation	Pile Length
P-1	-21.09	6.75	5.75	2.80	W10x33	-12.27	18.02
P-2	-21.09	6.98	5.98	2.98	W10x33	-12.27	18.26
P-3	-21.09	7.22	6.22	3.16	W10x33	-12.27	18.49
P-4	-21.09	7.47	6.47	3.54	W10x33	-11.81	18.28
P-5	-21.09	7.74	6.74	3.74	W10x33	-11.81	18.55
P-6	-21.09	8.01	7.01	3.94	W10x33	-11.81	18.82
P-7	-21.09	8.30	7.30	4.37	W10x33	-11.32	18.61
P-8	-21.10	8.61	7.61	4.61	W10x33	-11.32	18.93
P-9	-21.11	8.92	7.92	4.84	W10x33	-11.32	19.24
P-10	-20.98	9.23	8.23	5.22	W14x48	-15.54	23.78
P-11	-21.02	9.55	8.55	5.37	W14x48	-15.54	24.09
P-12	-21.09	9.86	8.86	5.52	W14x48	-15.54	24.41
P-13	-21.17	10.18	9.18	5.83	W14x48	-15.04	24.22
P-14	-21.14	10.50	9.50	5.99	W14x48	-15.04	24.54
P-15	-21.06	10.82	9.82	6.15	W14x48	-15.04	24.86
P-16	-21.00	11.14	10.14	6.48	W14x48	-14.40	24.53
P-17	-20.96	11.45	10.45	6.65	W14x48	-14.40	24.85
P-18	-20.94	11.77	10.77	6.82	W14x48	-14.40	25.17
P-19	-20.92	12.07	11.07	7.16	W14x48	-13.72	24.78
P-20	-20.92	12.34	11.34	7.33	W14x48	-13.72	25.06
P-21	-20.92	12.61	11.61	7.50	W14x48	-13.72	25.33
P-22	-20.92	12.86	11.86	7.84	W14x48	-13.04	24.90
P-23	-20.92	13.08	12.08	8.01	W14x48	-13.04	25.12
P-24	-20.92	13.30	12.30	8.18	W14x48	-13.04	25.34
P-25	-20.92	13.48	12.48	8.52	W14x48	-11.86	24.35
P-26	-20.92	13.63	12.63	8.69	W14x48	-11.86	24.50
P-27	-20.92	13.78	12.78	8.86	W14x48	-11.86	24.65
P-28	-20.92	13.90	12.90	9.20	W14x48	-11.18	24.08
P-29	-20.92	13.98	12.98	9.37	W14x48	-11.18	24.16
P-30	-20.92	14.06	13.06	9.54	W14x48	-11.18	24.24
P-31	-20.92	14.14	13.14	9.82	W14x48	-10.50	23.64
P-32	-20.92	14.22	13.22	9.92	W14x48	-10.50	23.72
P-33	-20.92	14.30	13.30	10.03	W14x48	-10.50	23.80
P-34	-21.09	14.38	13.38	10.09	W10x33	-6.62	20.00
P-35	-21.09	14.46	13.46	10.04	W10x33	-6.62	20.08
P-36	-21.09	14.54	13.54	10.00	W10x33	-6.62	20.16
P-37	-21.09	13.90	12.90	9.87	W10x33	-6.62	19.52
P-38	-21.09	13.78	12.78	9.78	W10x33	-6.62	19.40
P-39	-21.09	13.67	12.67	9.70	W10x33	-6.62	19.29

\*Offset from @ Ramp 43D

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90 *		COOK	565	409
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301		(2021-922 PT2 ETC 2324.6-1P) R-10		

**NOTES**

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

**BILL OF MATERIAL**

Item	Unit	Quantity
Furnishing Soldier Piles (W Sections)	Foot	874
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	2,834

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REVISIONS	
NAME	DATE
REVISED	06/15/06

SHEET 4 OF 9

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

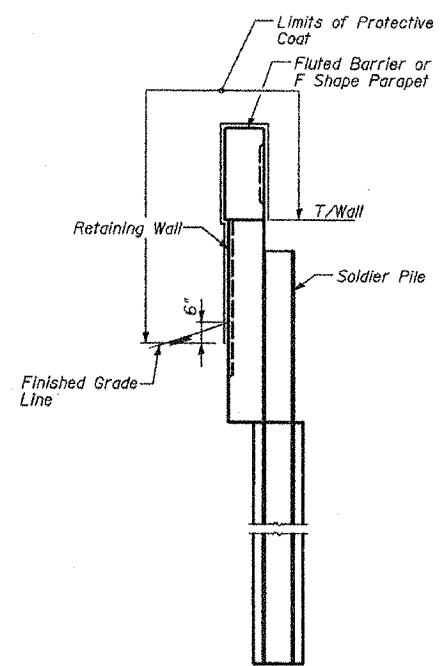
**RETAINING WALL N-43S-R  
PILE LAYOUT**

SCALE: NTS  
DATE: JUNE 9, 2006

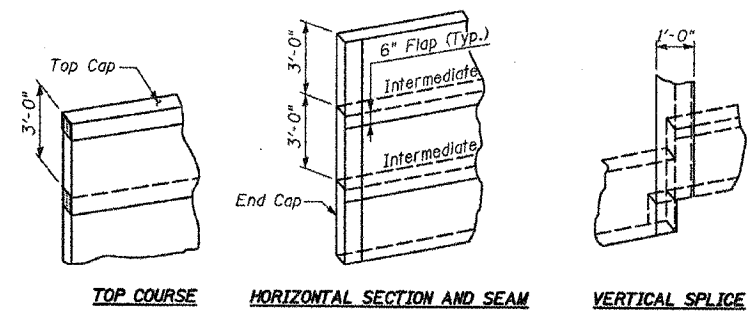
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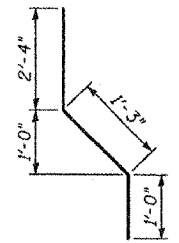
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	410
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*2021-922 PT2 ETC 2324.6-1P1 R-10			



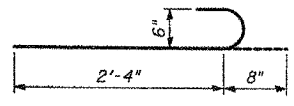
**DETAIL OF LIMITS OF PROTECTIVE COAT**



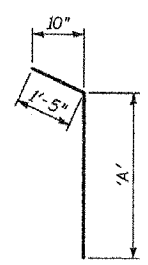
**GEOCOMPOSITE WALL DRAIN DETAILS**



**BAR d2(E)**

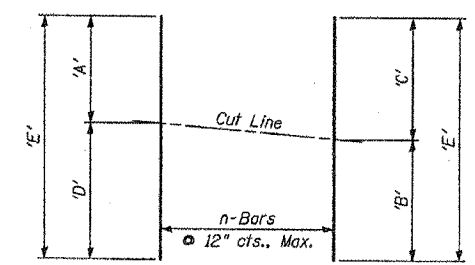


**BAR d1(E)**



**BARS v1, v9(E) & v11(E)**

Bar	'A'
v1(E)	4'-0"
v9(E)	5'-0"
v11(E)	5'-1"



**\* BAR CUTTING DIAGRAM**  
\* Order bars v3(E) thru v8(E) and v14(E) thru v18(E) full length, cut as shown and use remainder where indicated.

**TABLE OF DIMENSIONS**

Bar	'A'	'B'	'C'	'D'	'E'	n
v3(E)	5'-5"	5'-7"	5'-7"	5'-9"	11'-2"	12
v4(E)	3'-8"	3'-10"	3'-10"	4'-0"	7'-8"	12
v5(E)	5'-9"	5'-11"	5'-11"	6'-1"	11'-10"	12
v6(E)	4'-0"	4'-2"	4'-2"	4'-4"	8'-4"	12
v7(E)	6'-1"	6'-2"	6'-3"	6'-4"	12'-5"	12
v8(E)	4'-4"	4'-5"	4'-6"	4'-7"	8'-11"	12
v14(E)	4'-9"	4'-8"	4'-7"	4'-6"	9'-3"	12
v15(E)	7'-4"	7'-2"	7'-1"	6'-11"	14'-3"	12
v16(E)	4'-6"	4'-4"	4'-3"	4'-1"	8'-7"	12
v17(E)	6'-11"	6'-9"	6'-8"	6'-6"	13'-5"	12
v18(E)	4'-1"	3'-11"	3'-10"	3'-8"	7'-9"	12

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d1(E)	212	#6	3'-0"	—
d2(E)	325	#5	4'-7"	—
d3(E)	12	#6	5'-5"	—
e1(E)	40	#5	23'-8"	—
e2(E)	64	#5	26'-2"	—
h1(E)	54	#5	23'-8"	—
h2(E)	84	#5	26'-2"	—
v1(E)	75	#6	5'-5"	—
v2(E)	125	#5	3'-8"	—
v3(E)	12	#6	11'-2"	—
v4(E)	12	#5	7'-8"	—
v5(E)	12	#6	11'-10"	—
v6(E)	12	#5	8'-4"	—
v7(E)	12	#6	12'-5"	—
v8(E)	12	#5	8'-11"	—
v9(E)	37	#6	6'-5"	—
v10(E)	25	#5	4'-8"	—
v11(E)	25	#6	6'-6"	—
v12(E)	25	#5	4'-9"	—
v13(E)	12	#6	4'-6"	—
v14(E)	12	#5	9'-3"	—
v15(E)	12	#6	14'-3"	—
v16(E)	12	#5	8'-7"	—
v17(E)	12	#6	13'-5"	—
v18(E)	12	#5	7'-9"	—
v19(E)	50	#6	6'-6"	—
Reinforcement Bars, Epoxy Coated	Pound		13,220	
Concrete Structures	Cu. Yd.		55.2	
Concrete Superstructure	Cu. Yd.		31.7	
Chain Link Fence, 42" Attached to Structure (Special)	Foot		95	
Rustication Finish	Sq. Ft.		1129	
Protective Coat	Sq. Yd.		168	

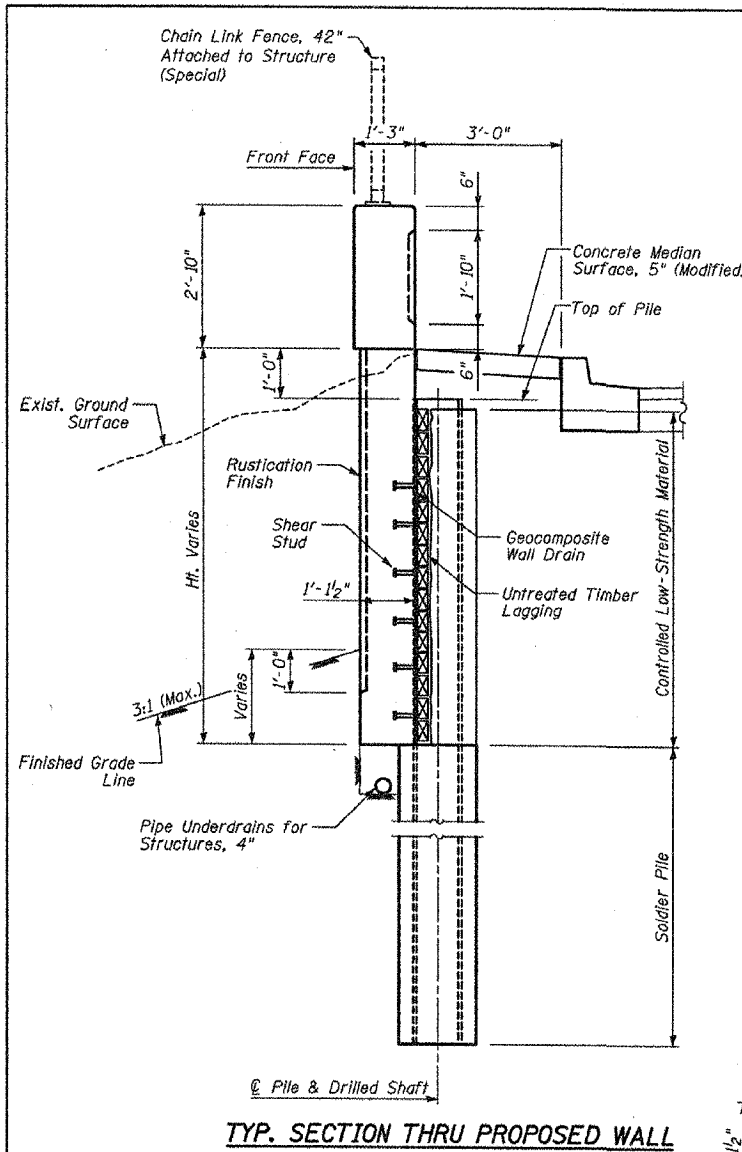
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**REVISIONS**

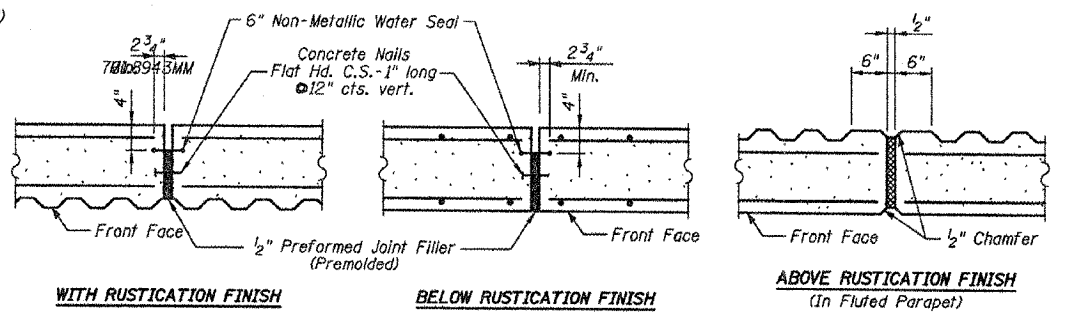
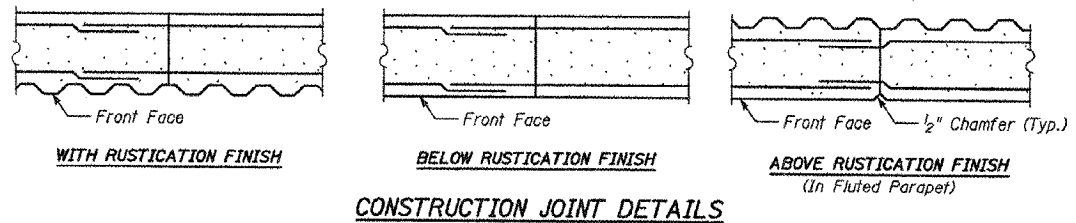
REVISION	NAME	DATE
1	REVISOR	6/21/06

SHEET 5 OF 9  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
**RETAINING WALL N-43S-R**  
BILL OF MATERIAL  
SCALE: NTS  
DATE: JUNE 9, 2006  
DRAWN BY: MTR  
CHECKED BY: BLU

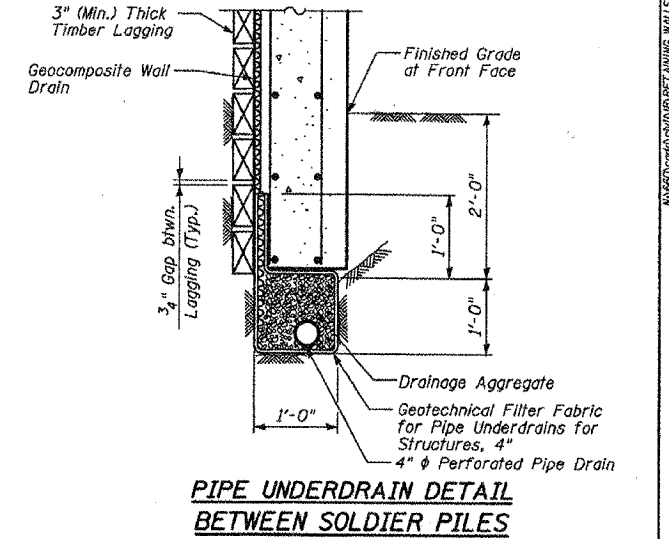
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	411
STA.	TO STA.			
FED. RDW DIST. NO.	ILLINOIS FED. AID PROJECT			
62301	*12021-922 PT2 ETC 2324.6-1P1 R-10			



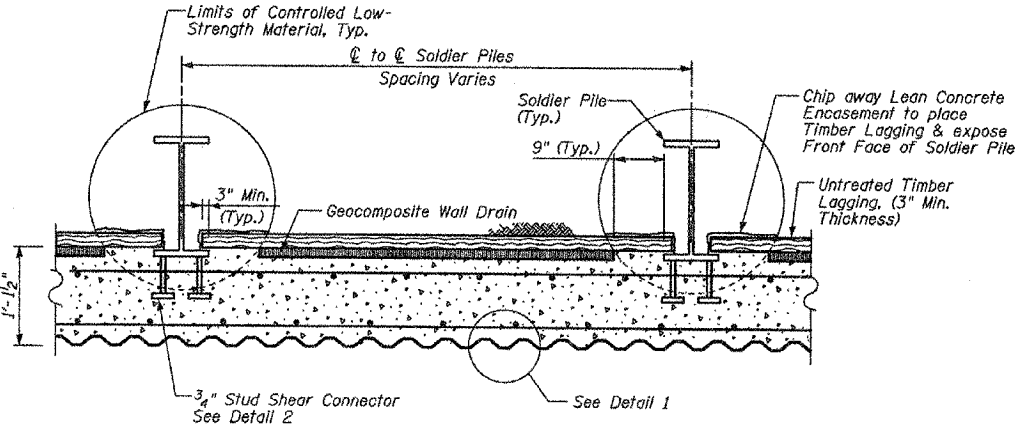
TYP. SECTION THRU PROPOSED WALL



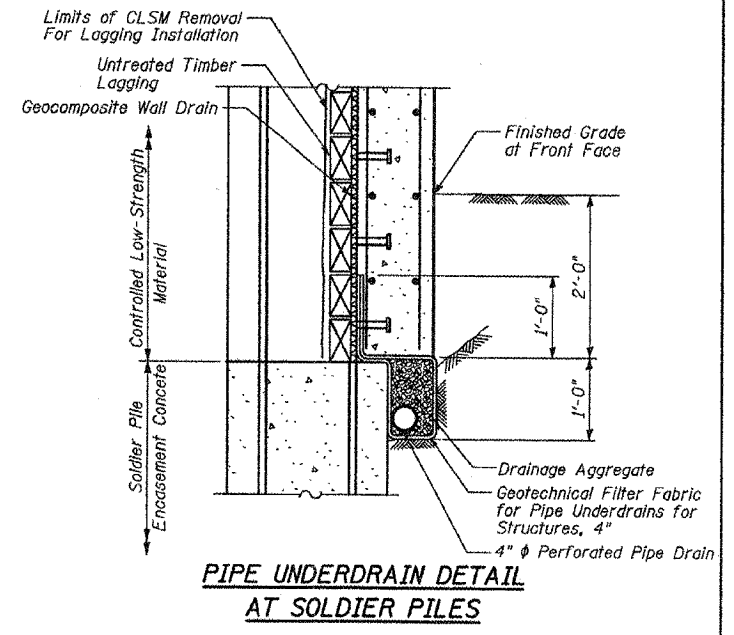
EXPANSION JOINT DETAILS  
Cost of P.J.F., Water Seal and Concrete Nails included with Concrete Structures.



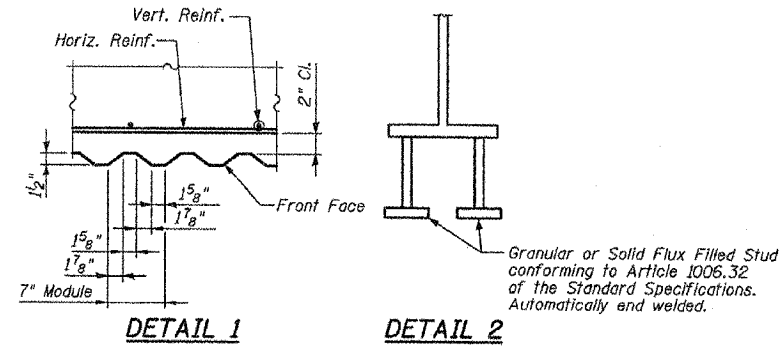
PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES



SECTION THRU SOLDIER PILE WALL



PIPE UNDERDRAIN DETAIL AT SOLDIER PILES



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REVISIONS		NAME	DATE

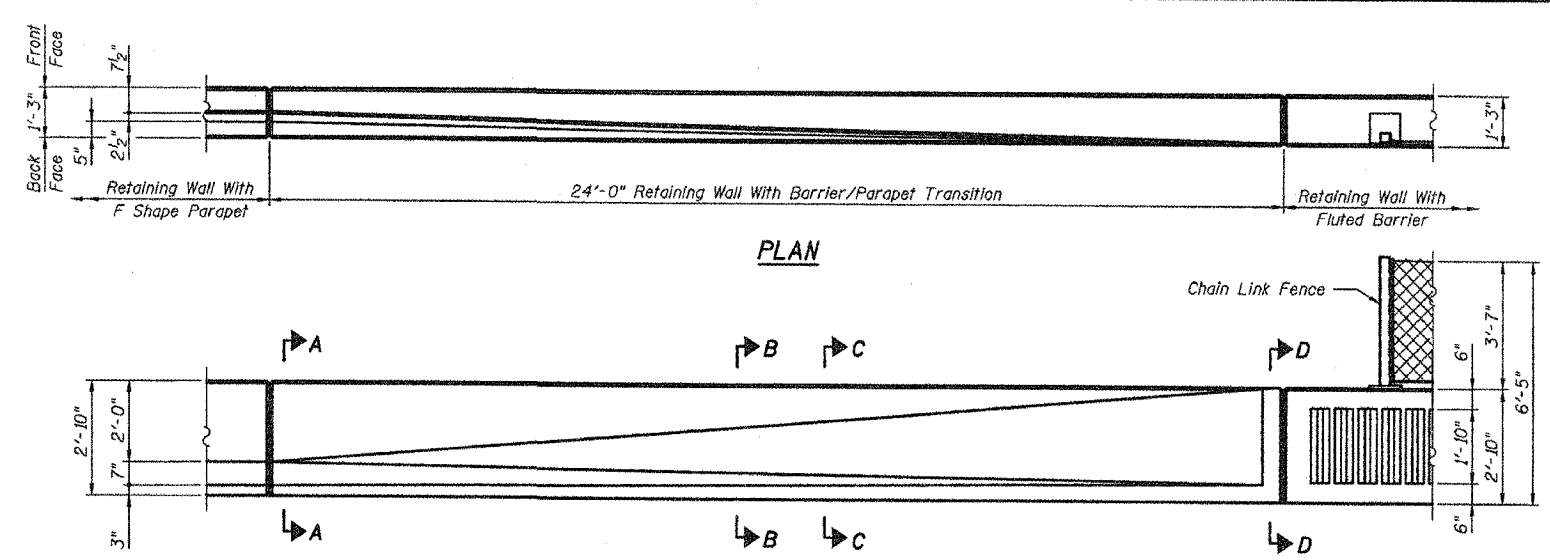
SHEET 6 OF 9

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

RETAINING WALL N-43S-R  
MISCELLANEOUS DETAILS

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

F.A.I. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90 #	COOK	565	412
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62301 *2021-922 FT2 ETC 2324.6-1P) R-10			



**BACK FACE ELEVATION - TRANSITIONS**

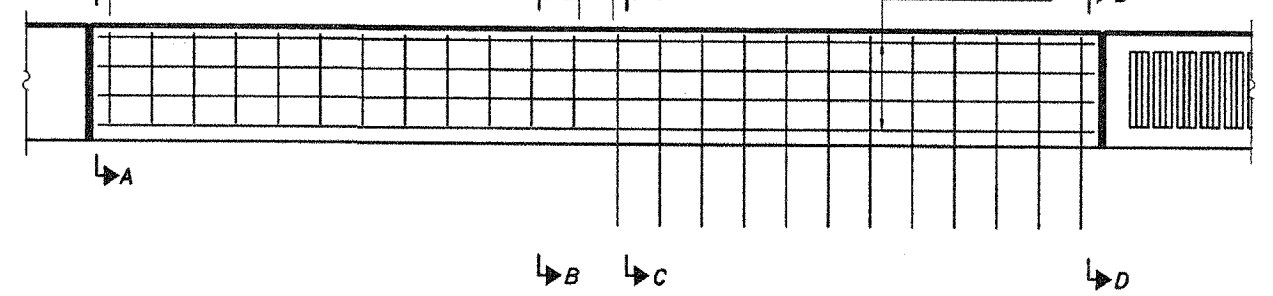
For Configuration and Reinf. of F Shape Parapet See Section A-A

12-#6 d1(E) Bars at 12" cts. B.F., Match #6 v9(E) Bars

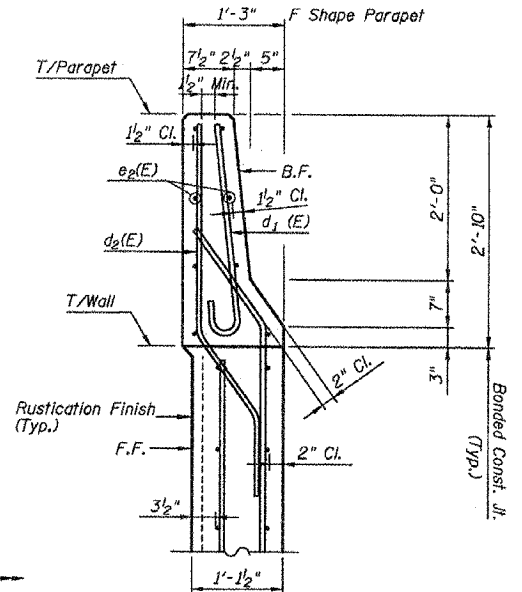
12-#6 d3(E) Bars at 12" cts. B.F., Match #5 v13(E) Bars

For Configuration and Reinf. of Fluted Barrier See Section D-D

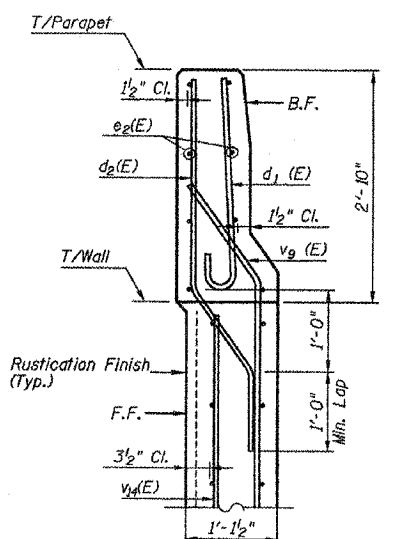
#5 e2(E) Each Face



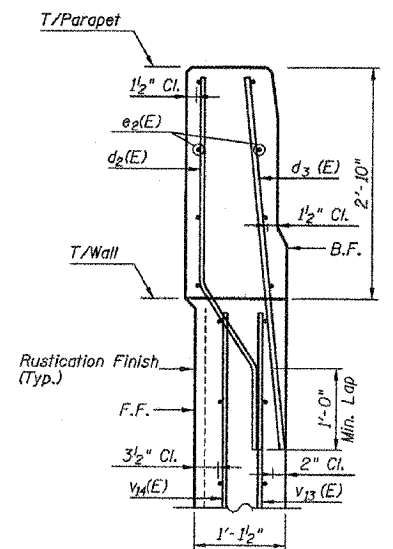
**BACK FACE ELEVATION - REINFORCEMENT**  
(d2(E) and v(E) bars not shown for clarity)



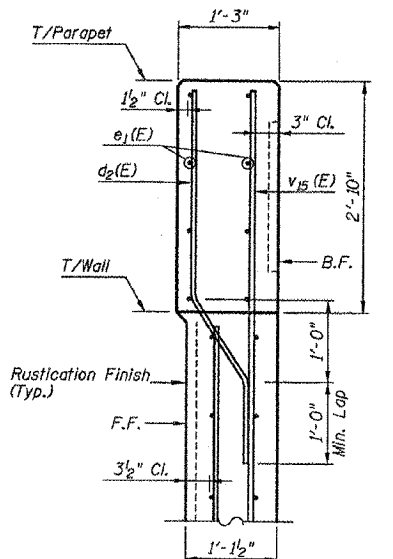
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**SECTION D-D**

**NOTES:**  
1. For Bill of Bars & Bar Bend Details, See Sheet 5.

REVISIONS	
NAME	DATE
REVISED	06/20/06

SHEET 7 OF 9

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

RETAINING WALL N-43S-R  
PARAPET TRANSITION

SCALE: NTS  
DATE: JUNE 9, 2006

DRAWN BY: MTR  
CHECKED BY: BLU

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STRUCTURE BORING LOG

Page 1 of 1  
Date 4/15/05

ROUTE FAI 90/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY \_\_\_\_\_ GROUND BREAKING EXPLORATION \_\_\_\_\_

COUNTY COOK LOCATION WALL 033 S. \_\_\_\_\_, TWP. \_\_\_\_\_ 38 N., RNC. \_\_\_\_\_ 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-033-1	4551+04	77 RT. OF NB LOCAL BL	7.3 ft									
TOPSOIL												
Brown SANDY CLAY LOAM				7.1								
FILL				6.3	4		14					
Loose, Brown SAND					4							
					3							
Very Soft, Gray SILTY CLAY LOAM				3.3	4		19					
					3							
					2		26					
					1	0.2	29					
					0	B						
					0							
Medium Stiff to Stiff, Gray SILTY CLAY				-0.7	1	1.0	23					
					2	B						
					1							
					1	0.9	21					
					3	B						
					2							
					2	0.7	22					
					2	B						
					4							
					1	1.1	22					
					3	B						
					4							
					2	1.0	22					
					3	B						
					4							
					2	1.1	20					
					4	B						
					5							
					3	1.5	20					
					5	B						
					5							
END OF BORING												

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

BORING W-033-1

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Page 1 of 1  
Date 4/15/05

ROUTE FAI 90/94 DESCRIPTION DAN RYAN EXPRESSWAY

SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY \_\_\_\_\_ GROUND BREAKING EXPLORATION \_\_\_\_\_

COUNTY COOK LOCATION WALL 033 S. \_\_\_\_\_, TWP. \_\_\_\_\_ 38 N., RNC. \_\_\_\_\_ 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-033-2	4552+01	86 RT. OF NB LOCAL BL	11.0 ft									
TOPSOIL												
Brown SANDY CLAY LOAM				10.8								
Loose, Brown SAND				10.2	3		5					
					3						2	1.1
					5						3	B
					5						5	
					4		5				4	1.2
					5						4	B
					5						5	
					3		31					
					2							
					2							
Very Soft, Gray SILTY CLAY LOAM				3.0	0	0.25	26					
					0	B					13	5.6
					0						17	B
					1						18	
Very Loose, Gray SILTY LOAM				1.0	1		26					
					1							
					1							
Very Soft to Stiff, Gray SILTY CLAY • Shelby Tube				-2.0		0.6	23					
						B					15	6.4
											19	B
											21	
					1	0.4	24					
					2	B						
					2							
					1	0.4	23				46	9.3
					2	B					41	B
					2						48	
END OF BORING												

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

BORING W-033-2

REVISIONS	
NAME	DATE

SHEET 8 OF 9

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

RETAINING WALL N-43S-R  
SOIL BORINGS 1

SCALE: NTS  
DATE: JUNE 9, 2006

DRAWN BY: MTR  
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STRUCTURE BORING LOG

Page 1 of 1  
Date 4/15/06

ROUTE FAL 94/94 DESCRIPTION DAN RYAN EXPRESSWAY  
SECT. 31ST STREET TO 47TH STREET STRUCT. NO. \_\_\_\_\_ DRILLED BY GROUND BREAKING EXPLORATION  
COUNTY COOK LOCATION WALL 033 S. \_\_\_\_\_, TWP. 38 N, RING. 14 E

Boring No.	Station	Offset	Surface Elev.	DEPTH	BL	Qu	W	Surface Meter Elev.	DEPTH	BL	Qu	W
W-033-3	4552+99	97 RT. OF NB LOCAL BL	13.6 ft	T	S	tsf	%	when drilling	H	S	tsf	%
			ASPHALT PAVEMENT									
			CONCRETE PAVEMENT									
			Loose to Dense, Brown SAND	15			4			1	0.3	25
				19						2	B	
				13						3		
				7			4			3	1.2	19
				9						3	B	
				8						6		
				4			5					
				4								
				5								
			Hard to Very Hard, Gray SILTY CLAY LOAM	4			28		-19.4	6	4.7	13
				5						9	B	
			Very Soft, Gray SILTY CLAY LOAM	10						11		
				0	0.25		29					
				0								
				0								
				1	0.2		28			18	10.1	13
			Soft to Stiff, Gray SILTY CLAY	15						24	B	
				1						27		
				3	0.8		23					
				3								
				3								
			* Shelby Tube		0.4		24			9	8.2	16
					B					14	B	
				20						20		
			END OF BORING						-31.4			
				2	0.6		21					
				2								
				4								
					0.5							
					B							
				25								

SPT (IN) = 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-033-3

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SHEET 9 OF 9

REVISIONS	
NAME	DATE

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

SCALE: NTS  
DATE: JUNE 9, 2006

DRAWN BY: MTR  
CHECKED BY: BLU

P:\6600\94\90\RETAINING WALLS\6601\656W033\_02.dwg 3:57:07 PM 6/7/2006

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	415
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*12021-922 PT2 ETC	2324.6-1P1	R-10	

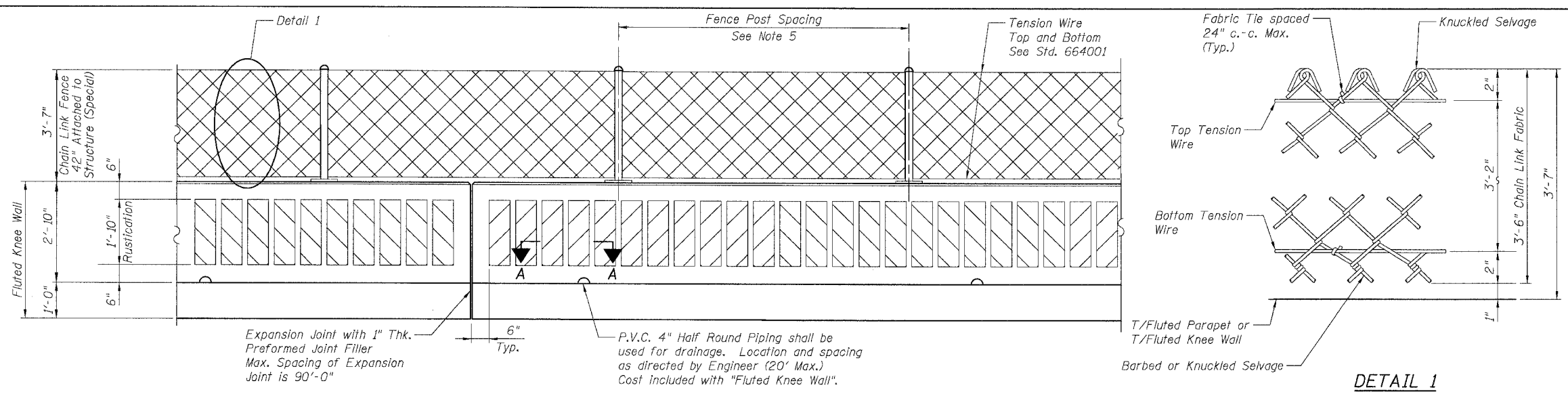
**BILL OF MATERIAL**

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

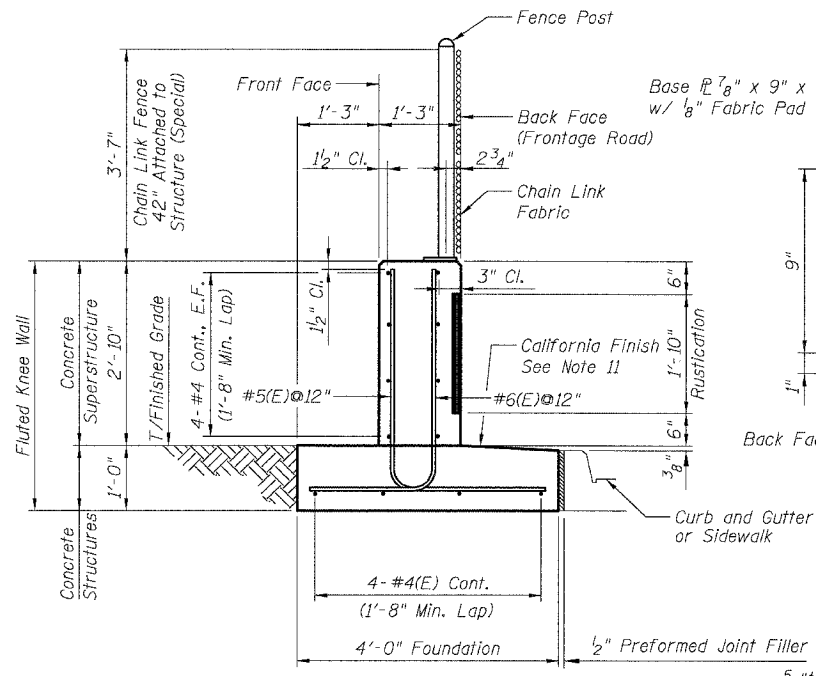
\* Quantities are per foot of Fluted Knee Wall and are provided for estimating purposes only. See Note 8.

**NOTES:**

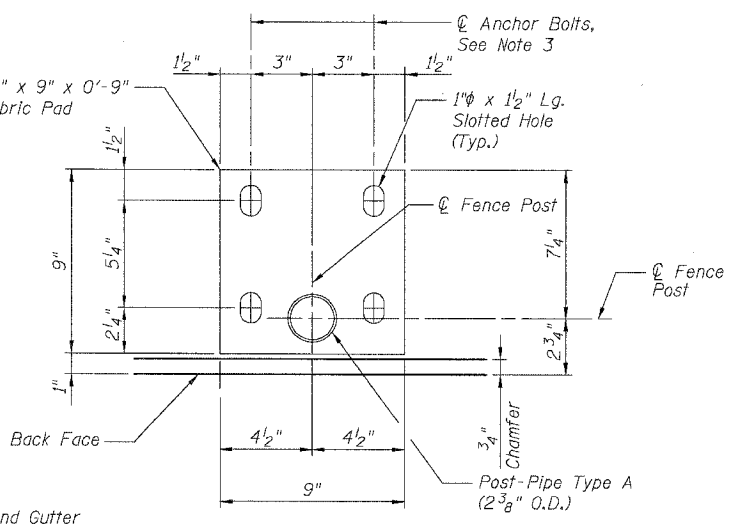
- Back Face is face adjacent to Frontage Rd. and Front Face is face adjacent to Expressway.
- Concrete:  $f'c = 3500$  psi
- In lieu of the Cast-in-Place Anchor Bolt Assembly shown, the Contractor has the option of Drilling and Grouting  $\frac{1}{2}$ " diameter Anchor Rods with Hex Nuts and  $\frac{1}{4}$ " 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 Roadway Details. Eliminate 2" wide trim margin along stem and broom 18" perpendicular to stem. Cost included with "Fluted Knee Wall".



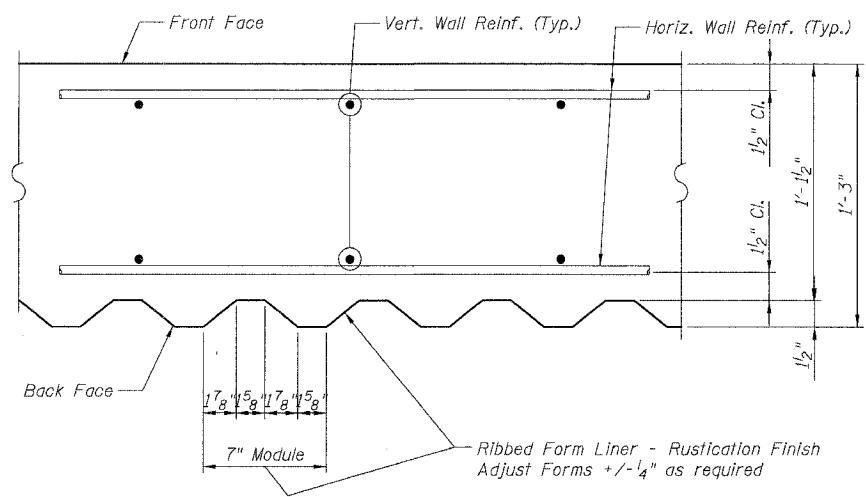
**BACK FACE ELEVATION - FLUTED KNEE WALL AND CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)**



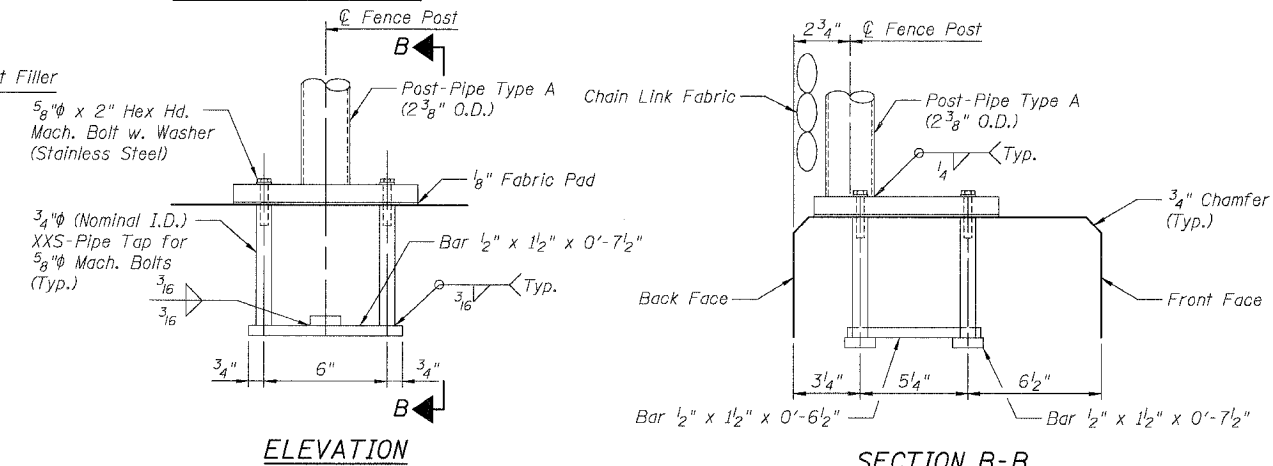
**TYPICAL SECTION FLUTED KNEE WALL**



**BASE PLATE PLAN**



**SECTION A-A**



**ANCHOR BOLT ASSEMBLY DETAILS**

**LEGEND:**

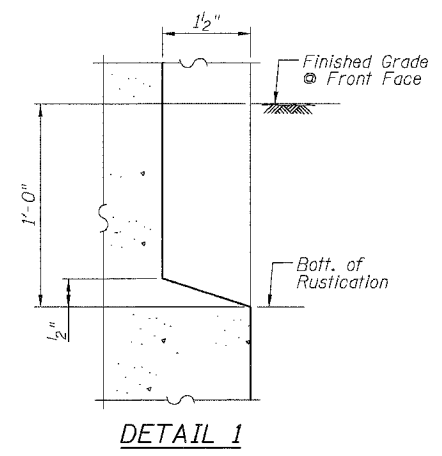
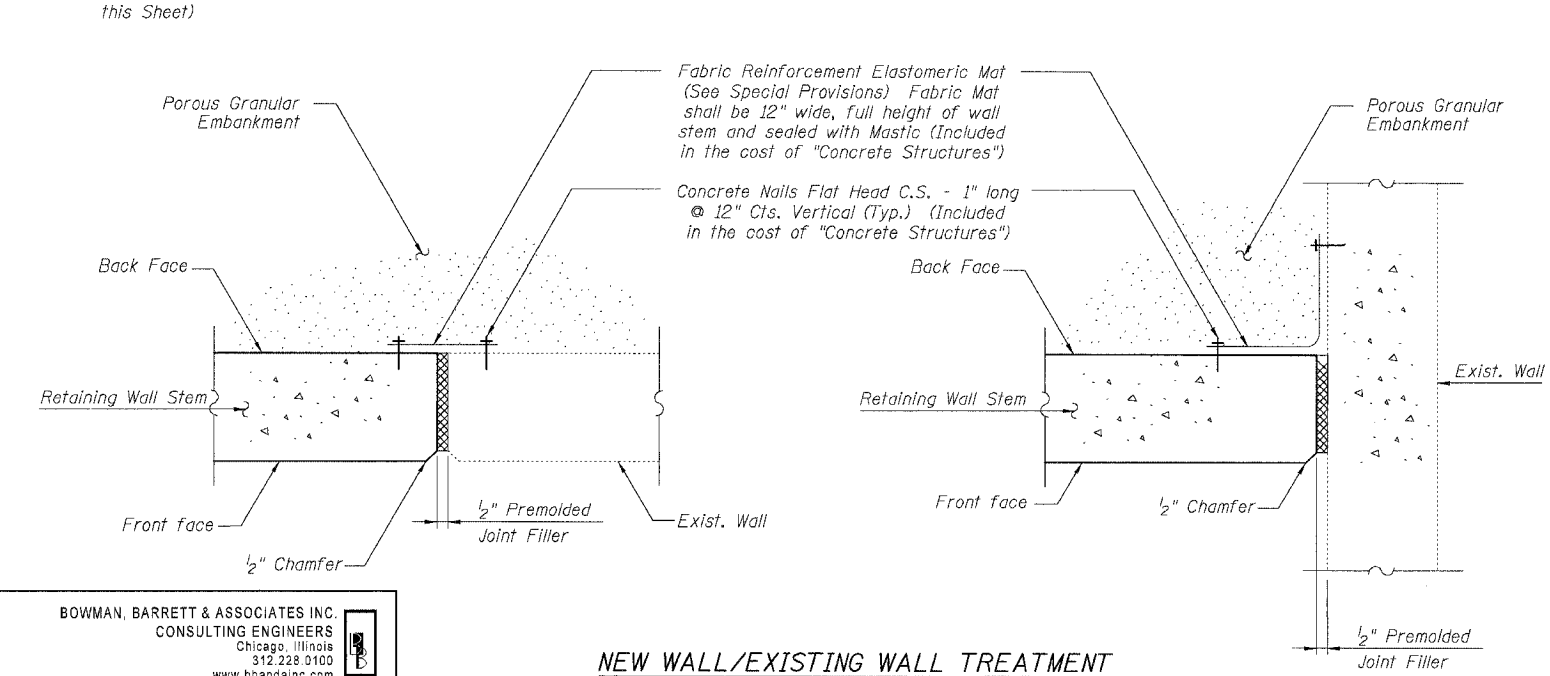
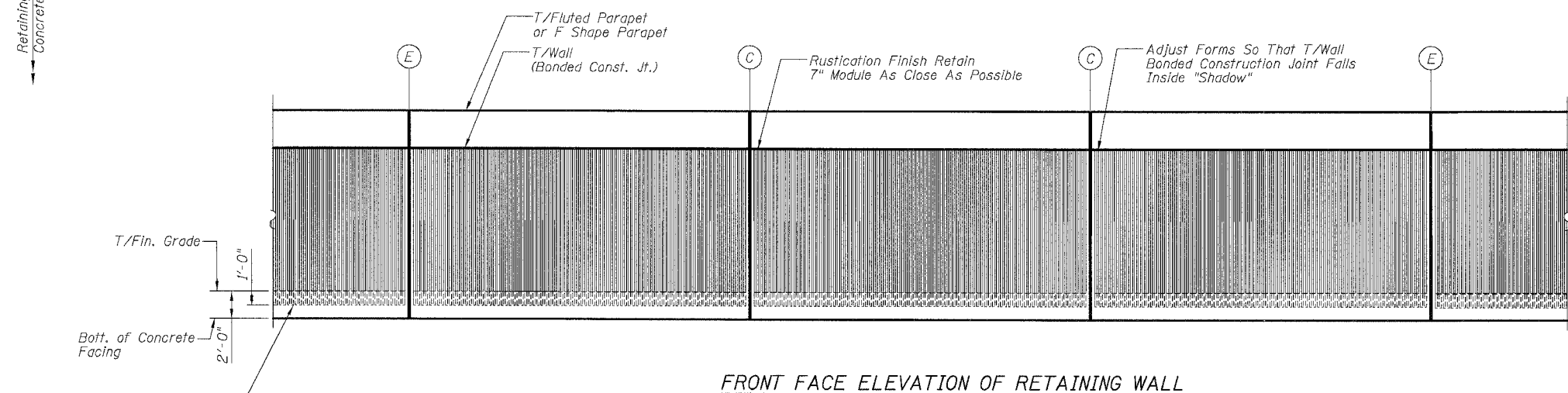
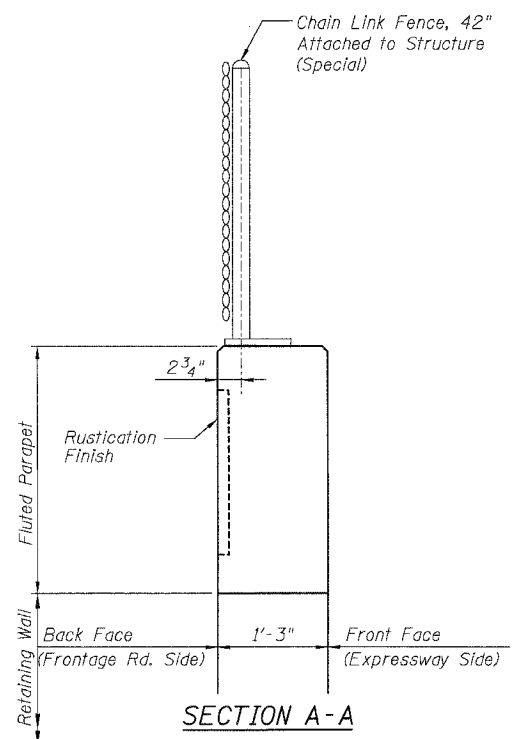
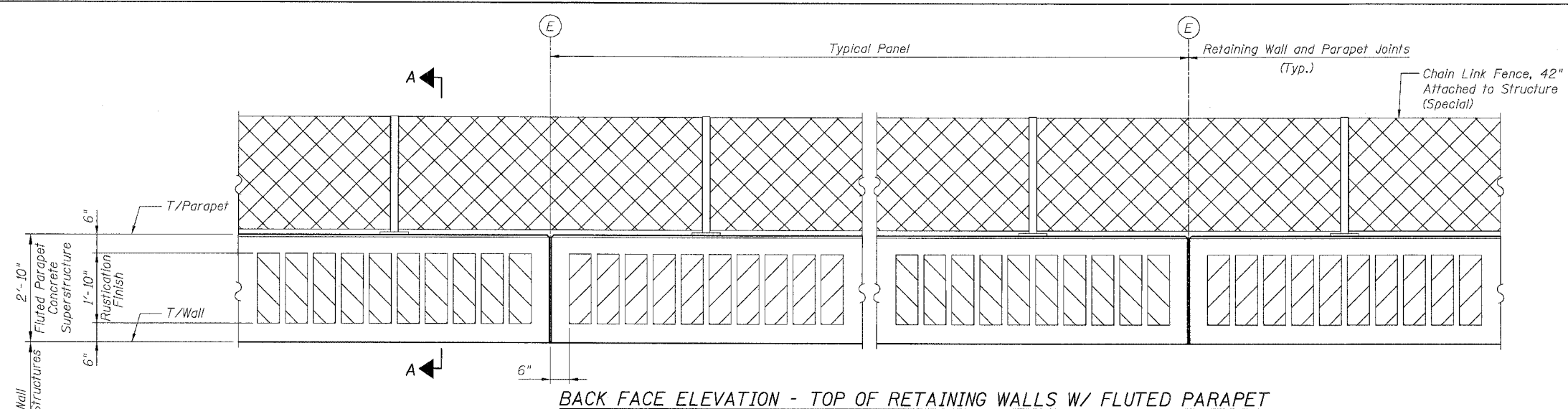
- Chain Link Fabric
- Rustication Finish
- E.F. = Each Face

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REVISIONS	NAME	DATE

SHEET SD1 OF SD11  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB 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

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	416
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				



- 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

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**NEW WALL/EXISTING WALL TREATMENT**

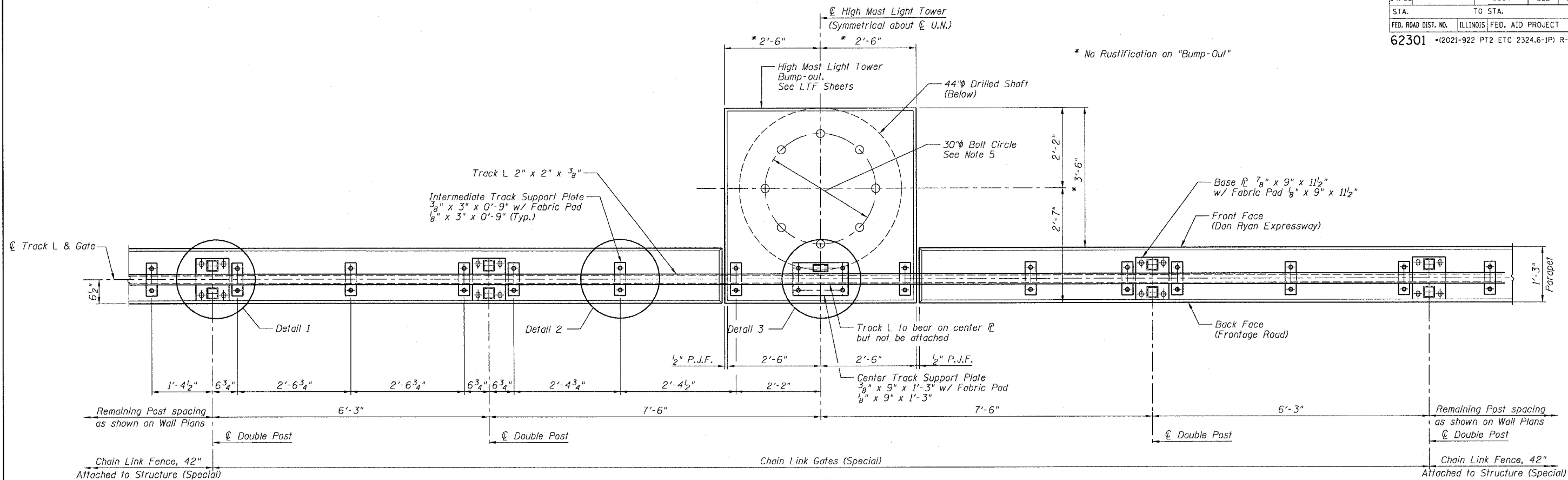
REVISIONS	
NAME	DATE

SHEET SD2 OF SD11  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
**TYPICAL FLUTED PARAPET & RUSTICATION FINISH DETAILS**  
SCALE: NTS  
DATE: JUNE 9, 2006  
DRAWN BY: MTR  
CHECKED BY: BLU

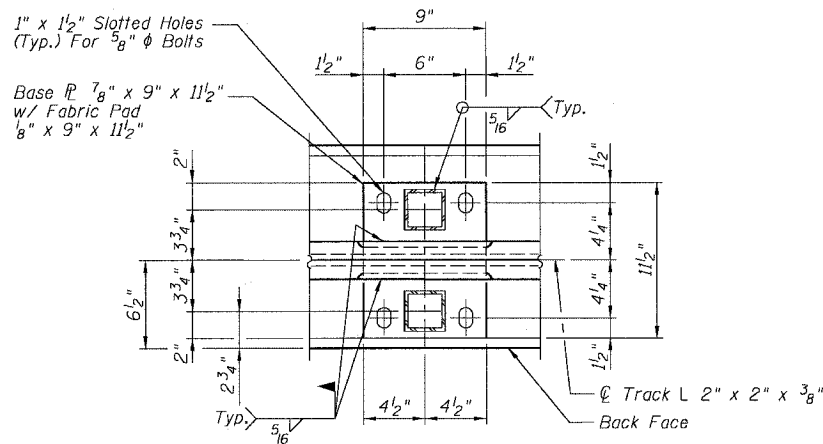
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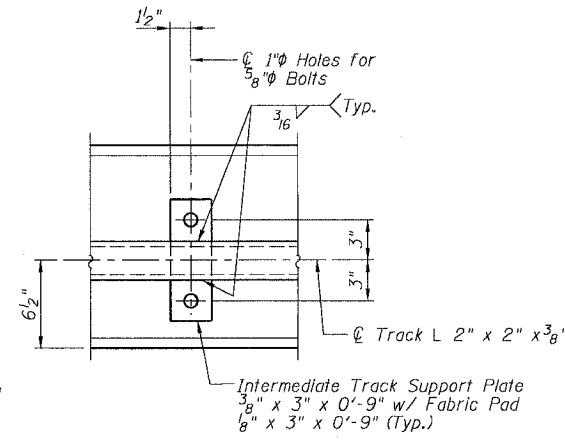
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	416A
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	(2021-922 PT2 ETC 2324.6-1P) R-10			



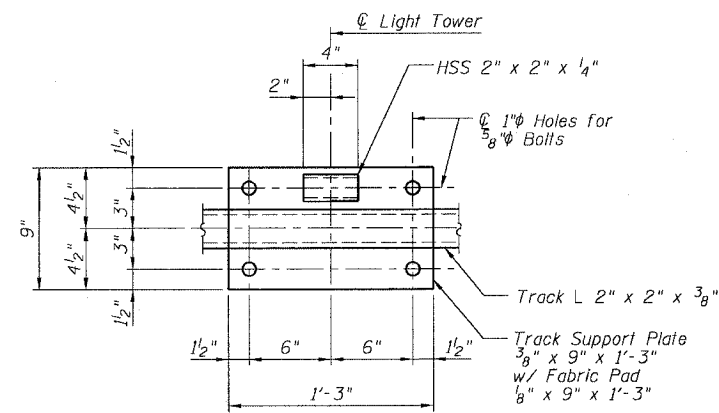
PLAN - GATE IN OPEN POSITION



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 SD11

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

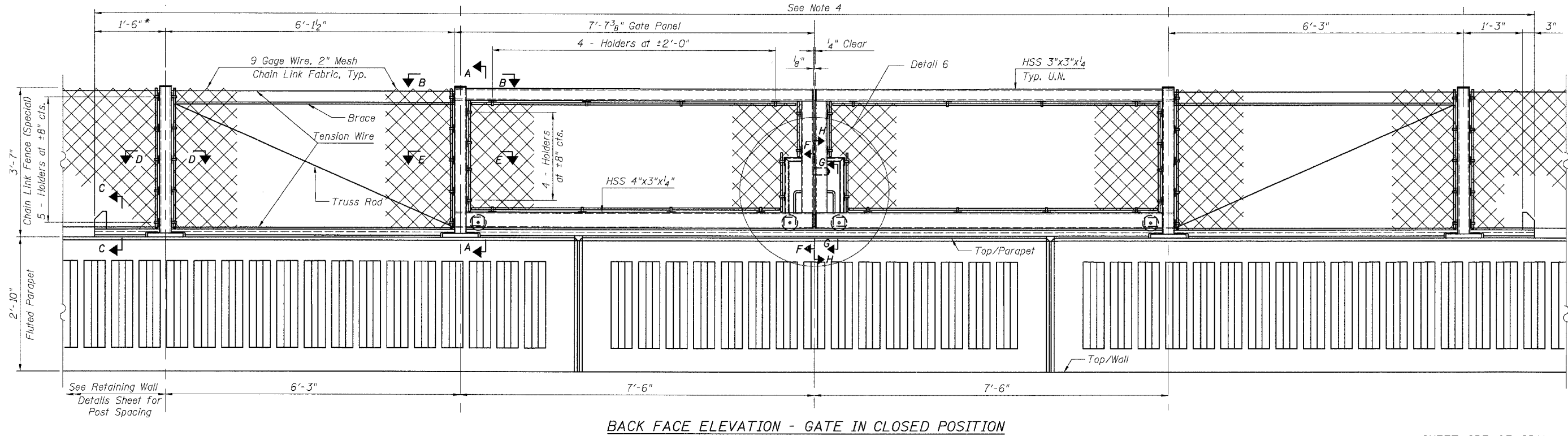
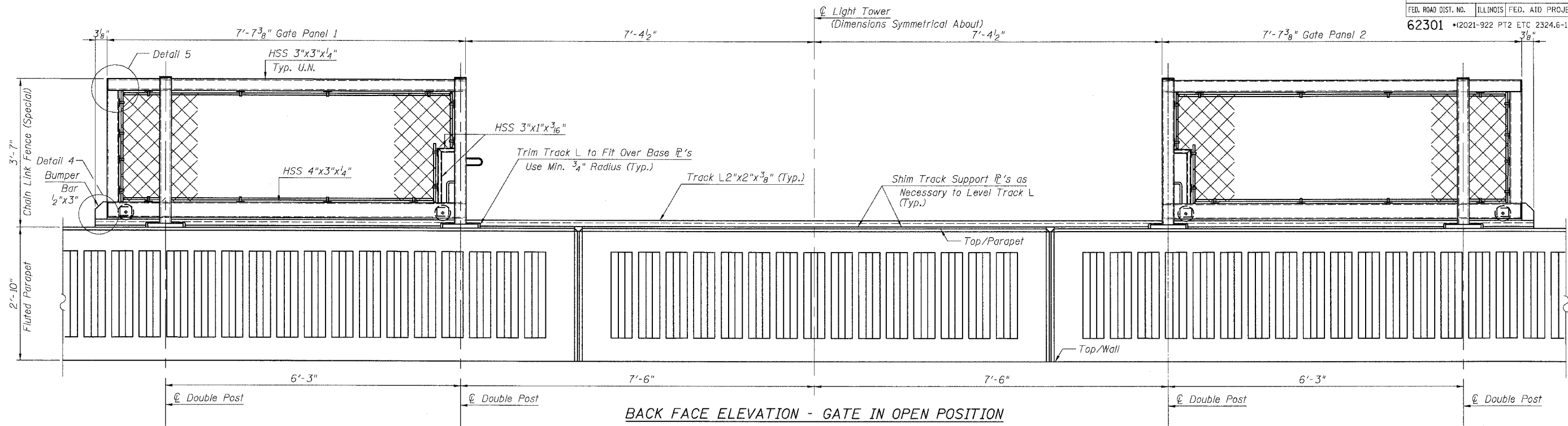
REVISIONS	
NAME	DATE

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	417
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	(2021-922 PT2 ETC	2324.6-1P)	R-10	



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

- NOTES (cont'd.):**
- 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)".

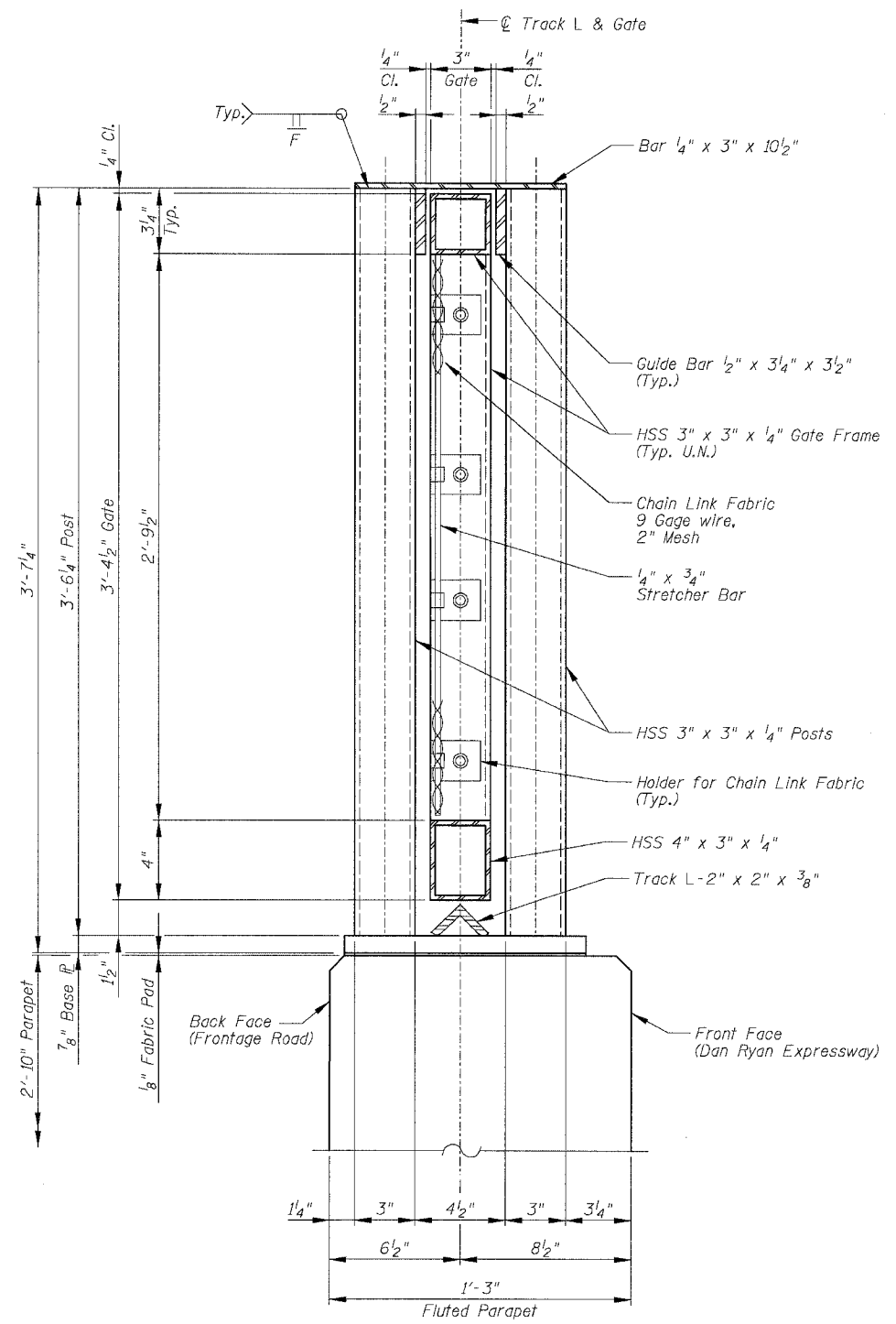
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REVISIONS	
NAME	DATE

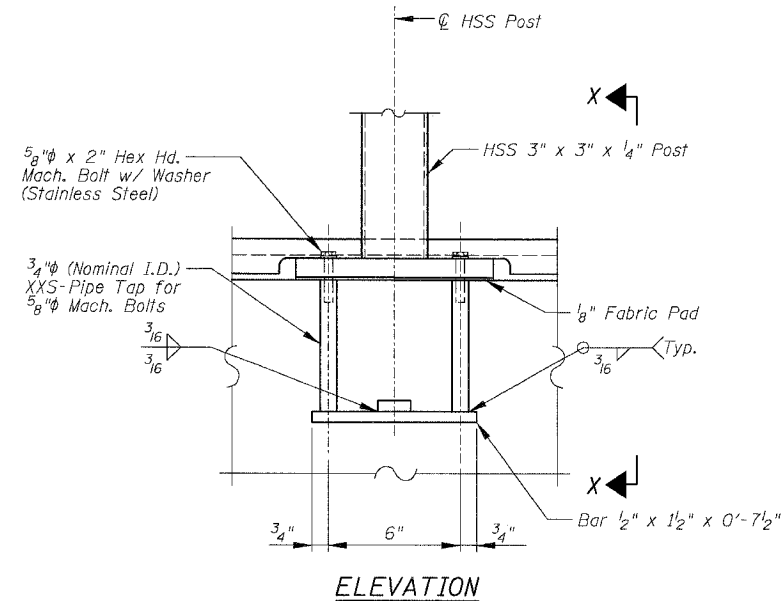
SHEET SD3 OF SD11  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
CHAIN LINK FENCE, 42"  
ATTACHED TO STRUCTURE (SPECIAL)  
TYPICAL GATE ELEVATIONS  
SCALE: NTS  
DATE: JUNE 9, 2006  
DRAWN BY: MTR  
CHECKED BY: BLU

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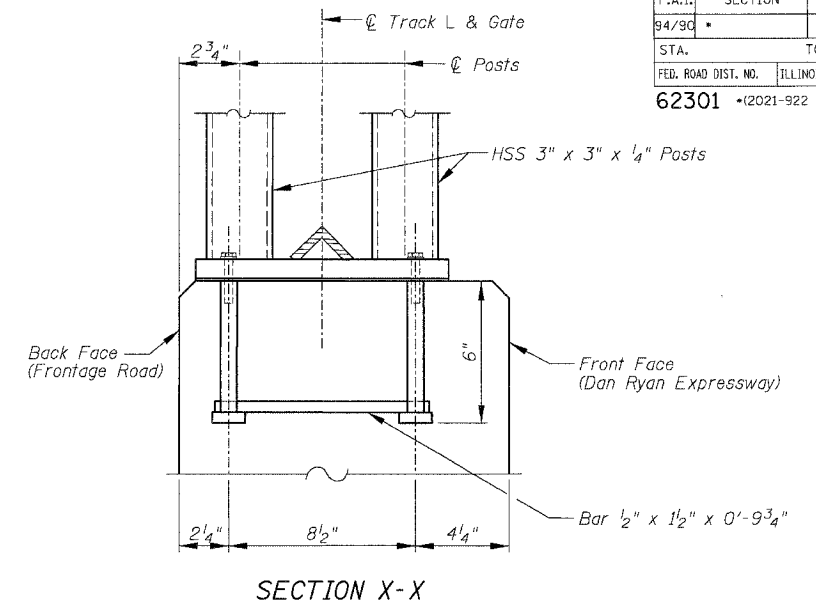
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	418
STA.	TO STA.		ILLINOIS FED. AID PROJECT	
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		62301	
*(2021-922 PT2 ETC 2324.6-1P) R-10				



**SECTION A-A**



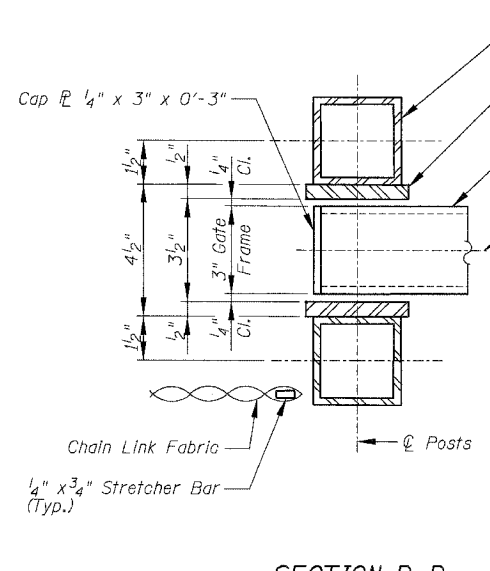
**ELEVATION**



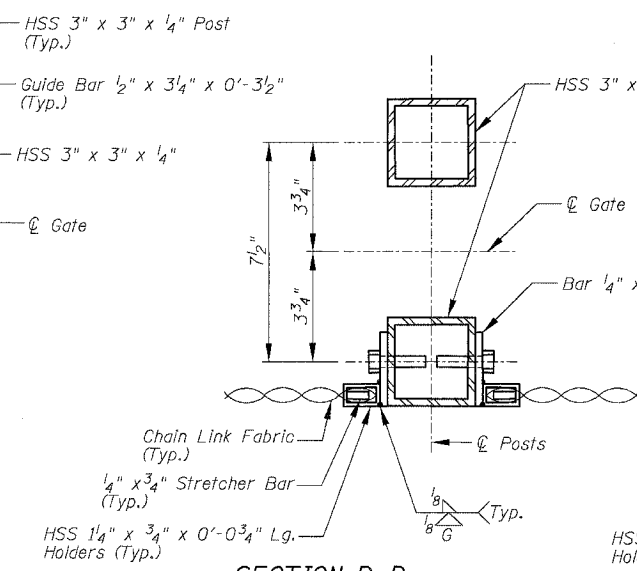
**SECTION X-X**

**ANCHOR BOLT DETAILS**

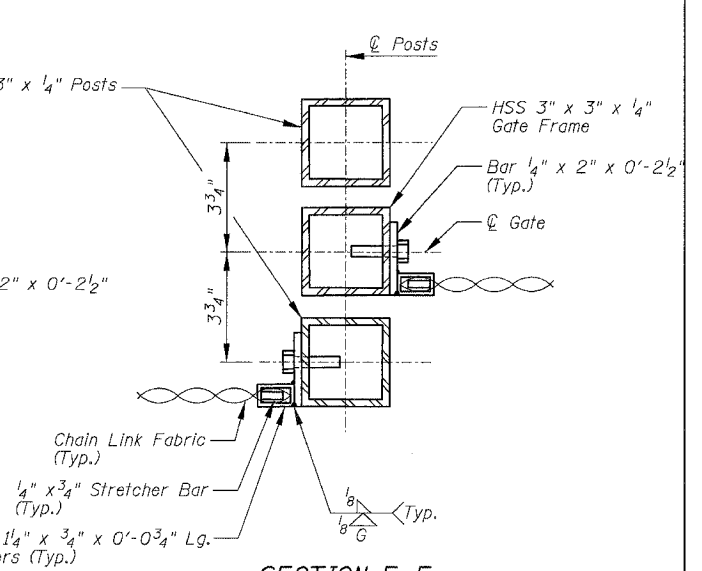
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting 3/8" anchor rods with hex nuts and washers. Embedment shall be according to the manufacturer's specifications using HVA Adhesive anchor as manufactured by Hilti, Inc. or approved equal. Cost 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 SD11**

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
 CHAIN LINK FENCE, 42"  
 ATTACHED TO STRUCTURE (SPECIAL)  
 TYPICAL GATE SECTIONS & DETAILS 1

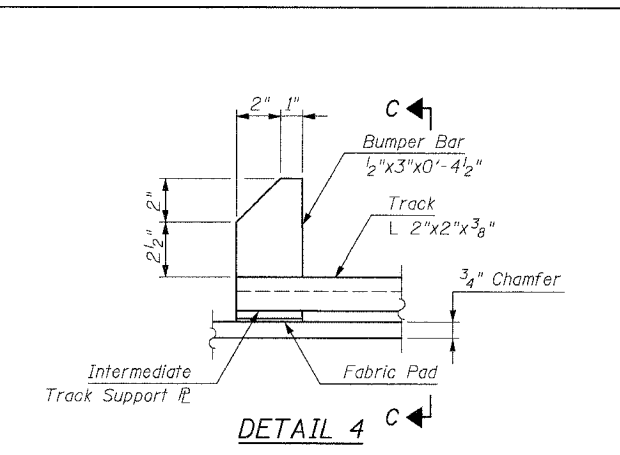
REVISIONS	
NAME	DATE

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

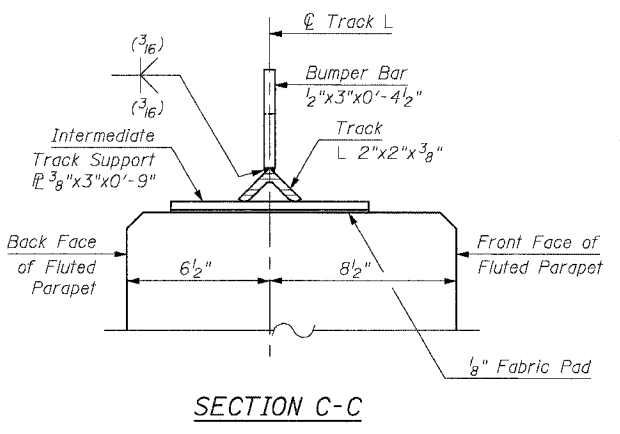
BOWMAN, BARRETT & ASSOCIATES INC.  
 CONSULTING ENGINEERS  
 Chicago, Illinois  
 312.228.0100  
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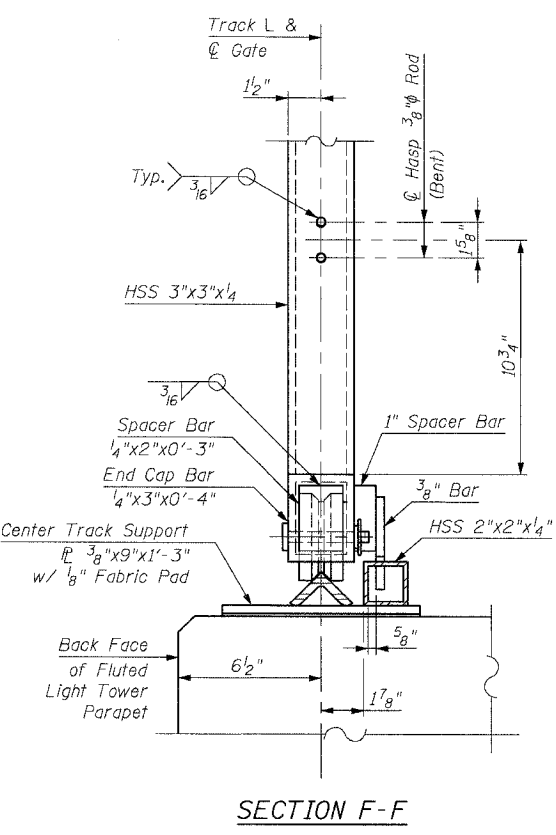
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	•	COOK	565	419
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			



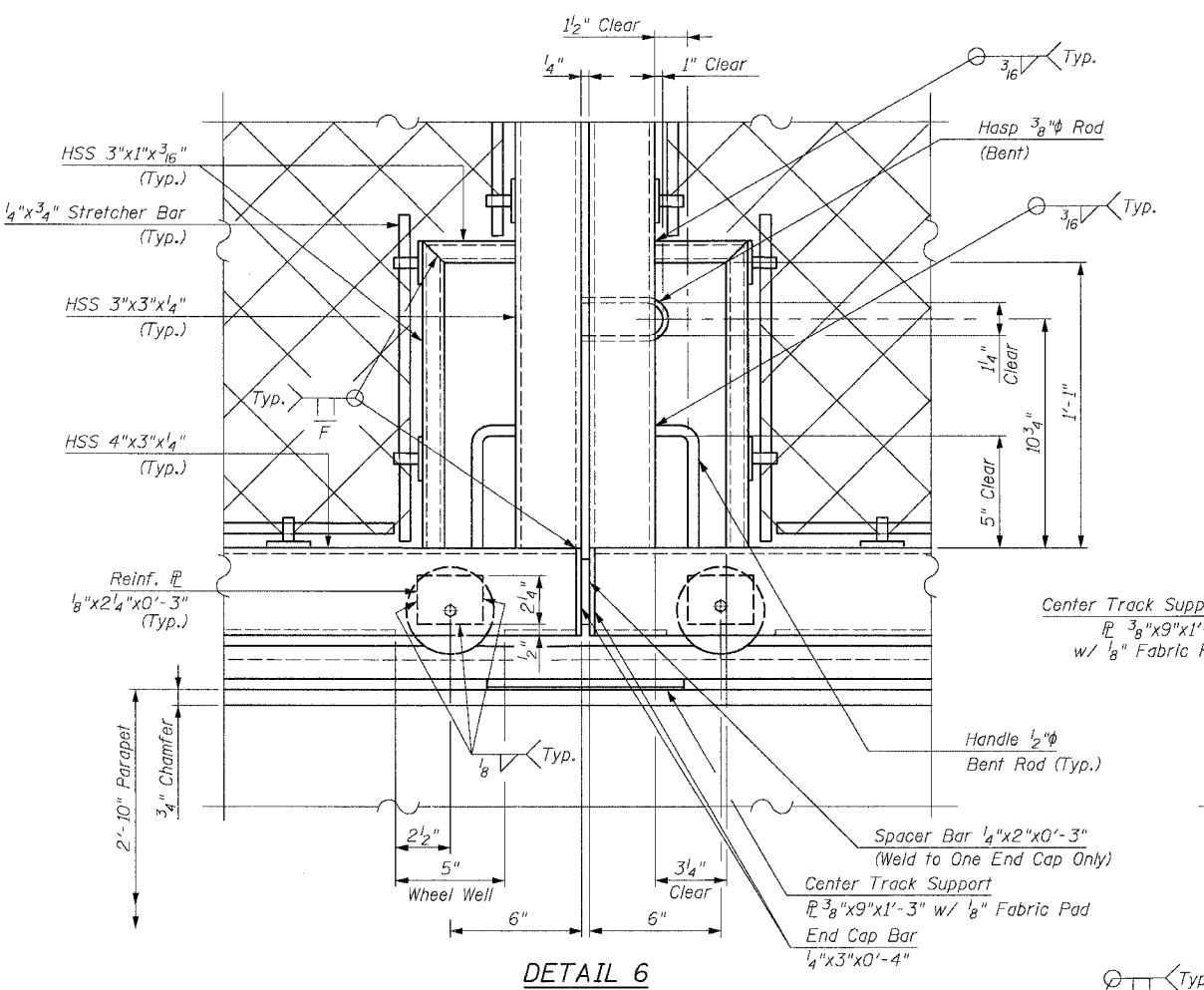
DETAIL 4 C



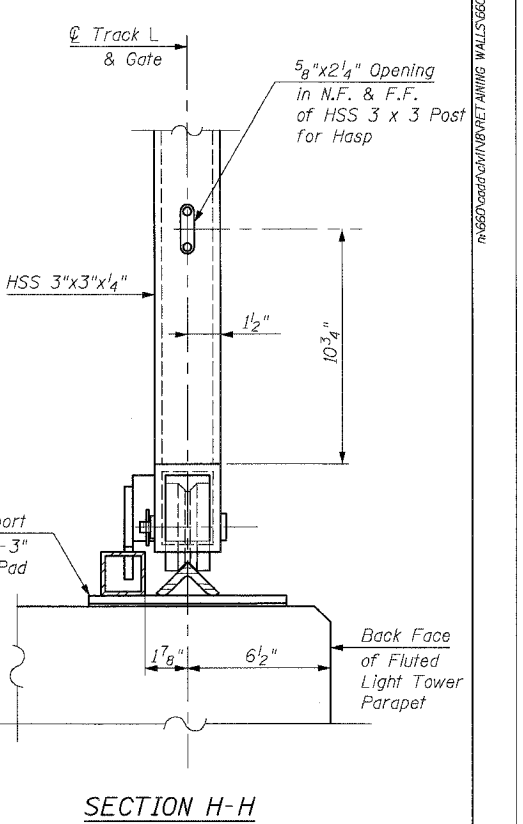
SECTION C-C



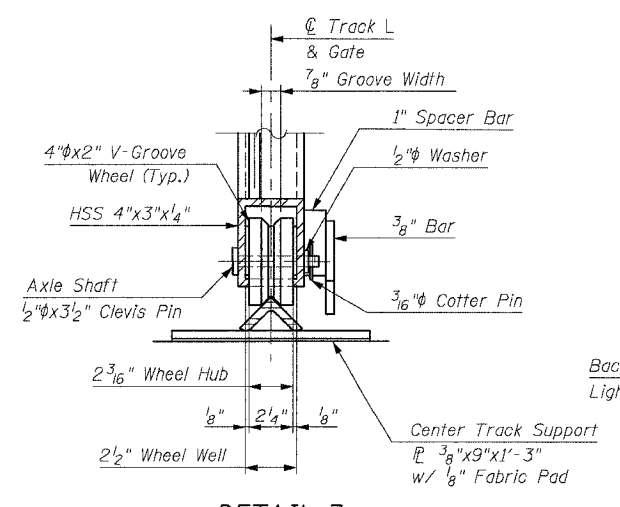
SECTION F-F



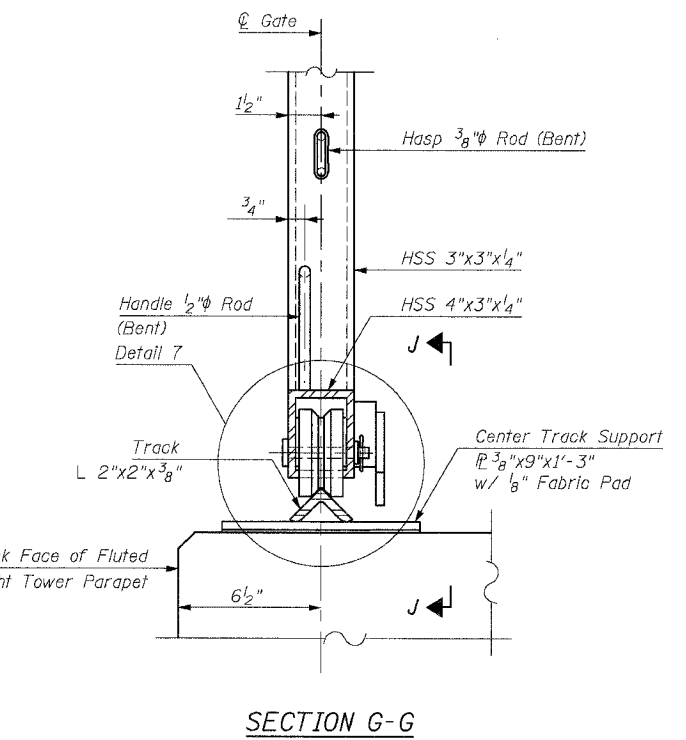
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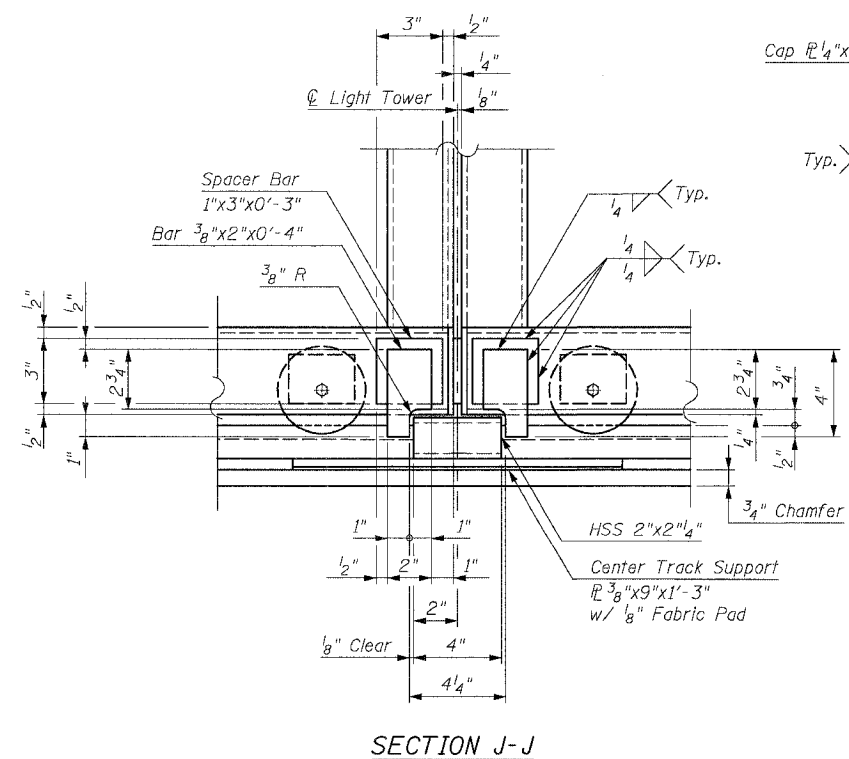
SECTION H-H



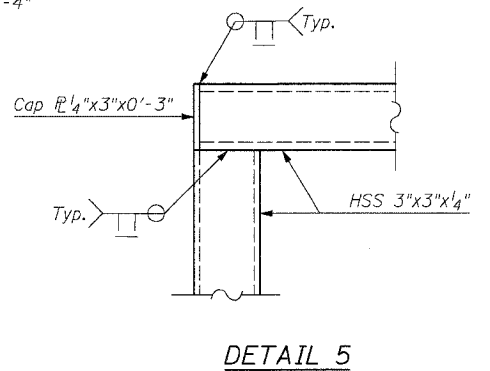
DETAIL 7



SECTION G-G



SECTION J-J



DETAIL 5

- Notes:
- For Notes see Sheet SD2A.
  - See Sheet SD3 for location of Sections C-C, F-F, G-G & H-H and Details 4, 5 & 6.

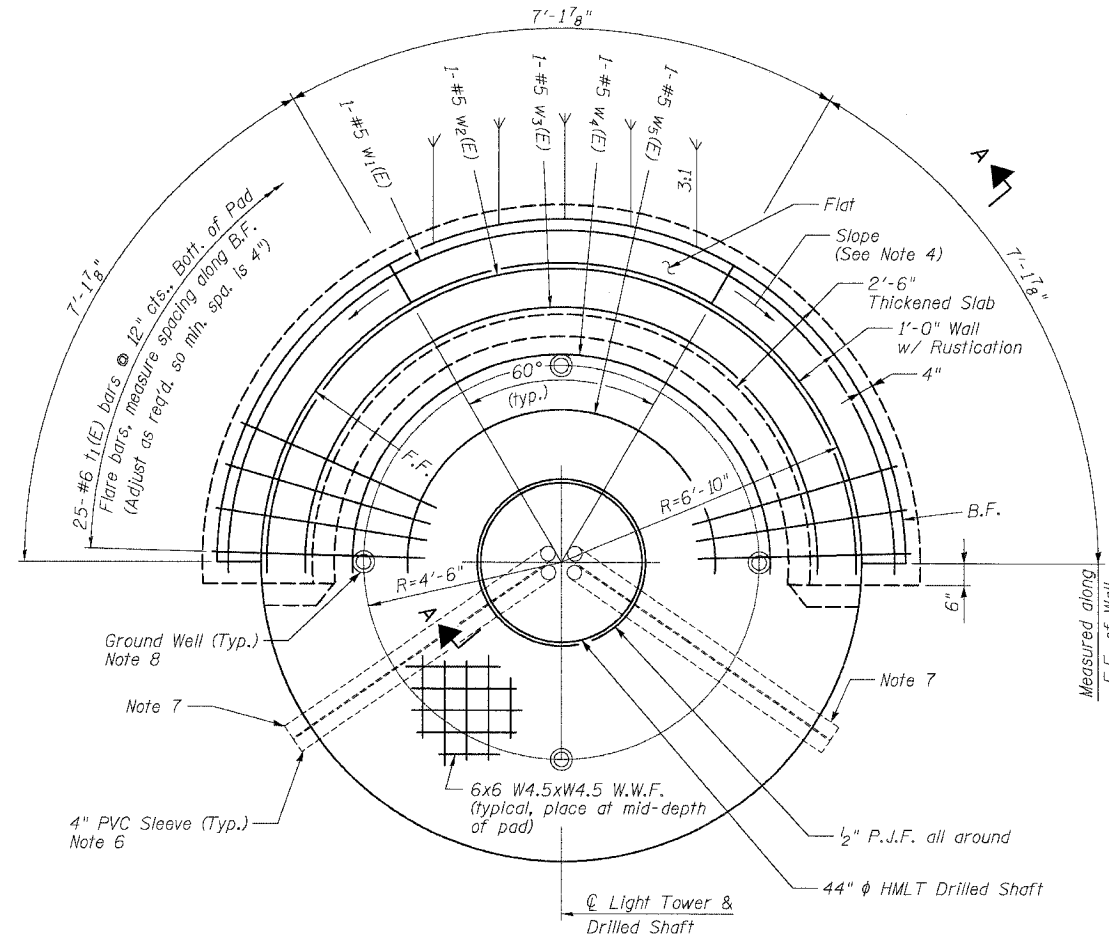
SHEET SD5 OF SD11

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
CHAIN LINK FENCE, 42"  
ATTACHED TO STRUCTURE (SPECIAL)  
TYPICAL GATE SECTIONS & DETAILS 2  
SCALE: NTS DRAWN BY: MTR  
DATE: JUNE 9, 2006 CHECKED BY: BLU

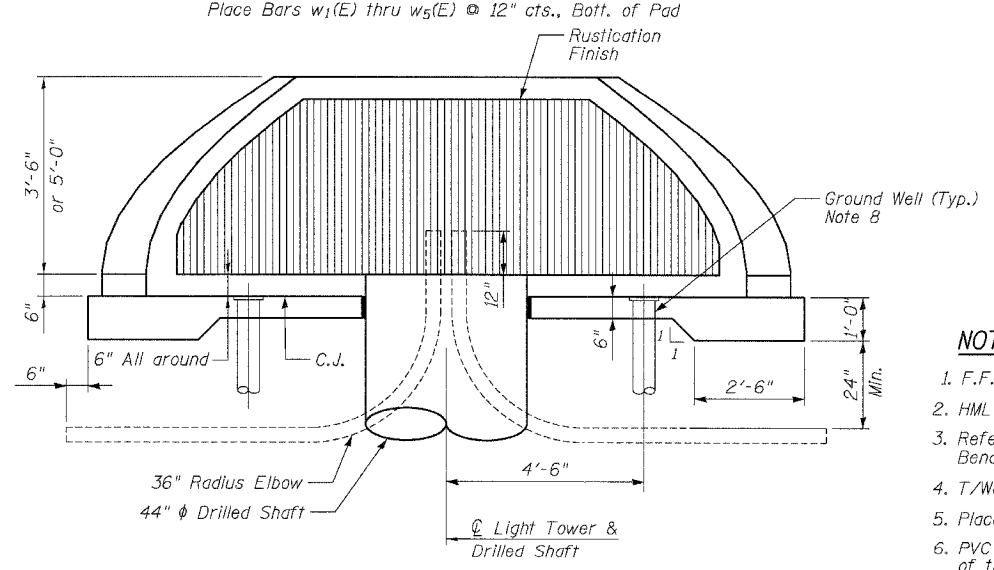
REVISIONS	
NAME	DATE

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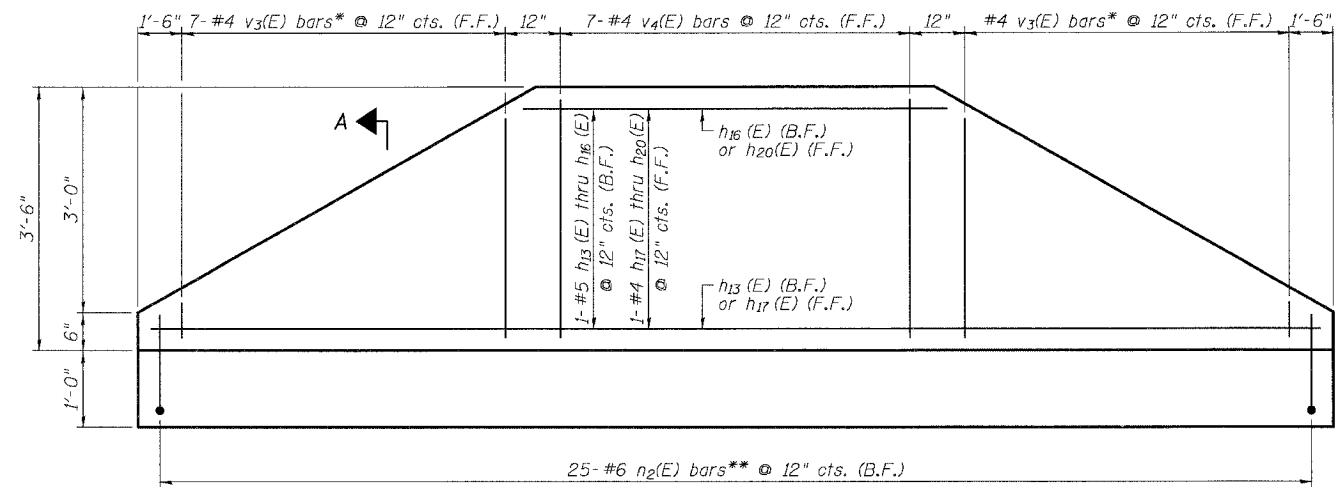
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94/90	*	COOK	565	420
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*2021-922 PT2 ETC	2324.6-1P	R-10	



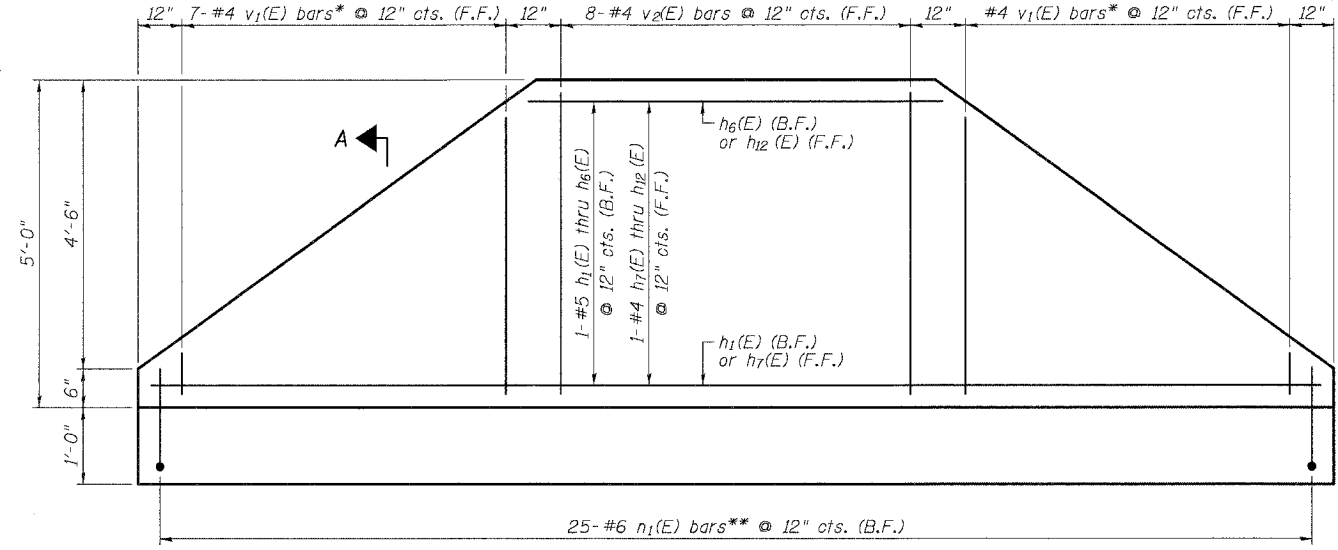
**PLAN VIEW**



**ELEVATION VIEW**  
(HMLT not shown for clarity)



**3'-6" RETAINING WALL ELEVATION (PROJECTED)**  
(Looking at F.F.)



**5'-0" RETAINING WALL ELEVATION (PROJECTED)**  
(Looking at F.F.)

**NOTES**

1. F.F. and B.F. denote Front Face and Back Face, respectively.
2. HMLT denotes High Mast Light Tower.
3. Refer to HMLT Service Pad & Retaining Wall Details 2 for Bar Bending Diagrams, Bill of Material, Bar Sections and Details.
4. T/Wall slope is constant along the arc of any given radius.
5. Place horizontal tails of n1 (E) & n2 (E) bars radially.
6. PVC sleeves must be extended 6 inches beyond the edge of the concrete pad.
7. PVC sleeve for CCTV camera power feed (future). Sleeve must be capped unless noted otherwise on the plans.
8. Install ground wells 4'-6" as measured from centerline of the HMLT to centerline of the well. Adjust service pad reinforcement to miss wells. If existing ground wells present, adjust and incorporate into service pad as directed by the Engineer. Cost included with Light Tower Service Pad, 6" or Light Tower Service Pad, Special as appropriate.

\* Cut to fit, use remainder of bars at opposite end of wall. See Cutting Diagram, Sheet SD7.  
\*\* Cut to fit where necessary, discard excess.

\* Cut to fit, use remainder of bars at opposite end of wall. See Cutting Diagram, Sheet SD7.  
\*\* Cut to fit where necessary, discard excess.

SHEET SD6 OF SD11

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
HIGH MAST LIGHT TOWER SERVICE PAD  
& RETAINING WALL DETAILS 1

REVISIONS	
NAME	DATE

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

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**BILL OF MATERIAL**

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

Bar	No.	Size	Length	Shape
h <sub>13</sub> (E)	1	#5	23'-6"	
h <sub>14</sub> (E)	1	#5	18'-11"	
h <sub>15</sub> (E)	1	#5	13'-7"	
h <sub>16</sub> (E)	1	#5	8'-4"	
h <sub>17</sub> (E)	1	#4	22'-1"	
h <sub>18</sub> (E)	1	#4	17'-9"	
h <sub>19</sub> (E)	1	#4	12'-9"	
h <sub>20</sub> (E)	1	#4	7'-10"	
n <sub>2</sub> (E)	25	#6	5'-10"	
t <sub>1</sub> (E)	25	#6	5'-1"	
v <sub>3</sub> (E)	7	#4	3'-10"	
v <sub>4</sub> (E)	7	#4	3'-2"	
w <sub>1</sub> (E)	1	#5	24'-4"	
w <sub>2</sub> (E)	1	#5	21'-7"	
w <sub>3</sub> (E)	1	#5	18'-10"	
w <sub>4</sub> (E)	1	#5	15'-5"	
w <sub>5</sub> (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 <sub>1</sub> (E)	1	#5	23'-6"	
h <sub>2</sub> (E)	1	#5	20'-10"	
h <sub>3</sub> (E)	1	#5	17'-8"	
h <sub>4</sub> (E)	1	#5	14'-6"	
h <sub>5</sub> (E)	1	#5	11'-4"	
h <sub>6</sub> (E)	1	#5	8'-2"	
h <sub>7</sub> (E)	1	#4	22'-1"	
h <sub>8</sub> (E)	1	#4	19'-7"	
h <sub>9</sub> (E)	1	#4	16'-7"	
h <sub>10</sub> (E)	1	#4	13'-7"	
h <sub>11</sub> (E)	1	#4	10'-8"	
h <sub>12</sub> (E)	1	#4	7'-8"	
n <sub>1</sub> (E)	25	#6	7'-4"	
t <sub>1</sub> (E)	25	#6	5'-1"	
v <sub>1</sub> (E)	7	#4	5'-0"	
v <sub>2</sub> (E)	8	#4	4'-8"	
w <sub>1</sub> (E)	1	#5	24'-4"	
w <sub>2</sub> (E)	1	#5	21'-7"	
w <sub>3</sub> (E)	1	#5	18'-10"	
w <sub>4</sub> (E)	1	#5	15'-5"	
w <sub>5</sub> (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	

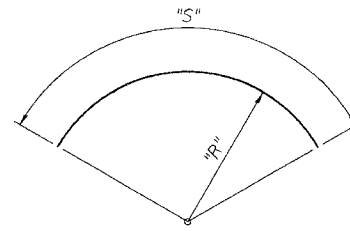
**TOTAL BILL OF MATERIAL**

Item	Unit	Total
Light Tower Service Pad, 6"	Sq. Ft.	816
Light Tower Service Pad, Special	Sq. Ft.	1,496
Structure Excavation	Cu. Yd.	
Concrete Structures	Cu. Yd.	28.2
Reinforcement Bars, Epoxy Coated	Pound	1,950
Rustication Finish	Sq. Ft.	457
Protective Coat	Sq. Yd.	274

**HMLT SERVICE PAD/RETAINING WALL SCHEDULE**

HMLT I.D.	Service Pad/Retaining Wall Requirements
7 UGH1	Light Tower Service Pad w/ 5'-0" Wall
7 UGH3	Light Tower Service Pad, No Wall
7 VMN3	Light Tower Service Pad, No Wall
7 VMN2	Light Tower Service Pad w/ 3'-6" Wall
7 VEF3	Light Tower Service Pad w/ 5'-0" Wall
7 VEF2	Light Tower Service Pad w/ 5'-0" Wall
7 VEF1	Light Tower Service Pad w/ 5'-0" Wall
7 VGH1	Light Tower Service Pad w/ 5'-0" Wall
7 VGH2	Light Tower Service Pad, No Wall
7 VGH3	Light Tower Service Pad, No Wall
7 VHG4	Light Tower Service Pad w/ 3'-6" Wall
7 WEF6	Light Tower Service Pad, No Wall
7 WEF4	Light Tower Service Pad, No Wall
7 WEF2	Light Tower Service Pad w/ 3'-6" Wall
7 WGH3	Light Tower Service Pad w/ 3'-6" Wall
7 WGH4	Light Tower Service Pad w/ 3'-6" Wall
7 WGH5	Light Tower Service Pad w/ 3'-6" Wall

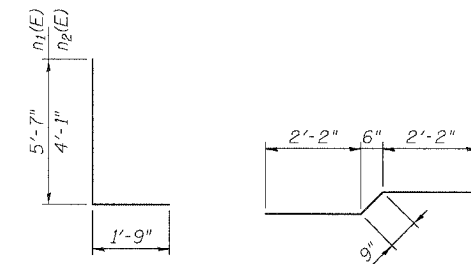
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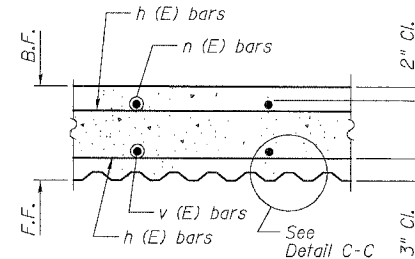
Bar	"R"	"S"
h <sub>1</sub> (E)	7'-7"	23'-6"
h <sub>2</sub> (E)	7'-7"	20'-10"
h <sub>3</sub> (E)	7'-7"	17'-8"
h <sub>4</sub> (E)	7'-7"	14'-6"
h <sub>5</sub> (E)	7'-7"	11'-4"
h <sub>6</sub> (E)	7'-7"	8'-2"
h <sub>7</sub> (E)	7'-1 1/2"	22'-1"
h <sub>8</sub> (E)	7'-1 1/2"	19'-7"
h <sub>9</sub> (E)	7'-1 1/2"	16'-7"
h <sub>10</sub> (E)	7'-1 1/2"	13'-7"
h <sub>11</sub> (E)	7'-1 1/2"	10'-8"
h <sub>12</sub> (E)	7'-1 1/2"	7'-8"
h <sub>13</sub> (E)	7'-7"	23'-6"

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

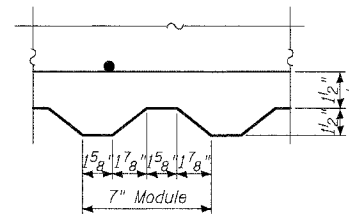
**BARS w<sub>1</sub>(E) thru w<sub>5</sub>(E) & h<sub>1</sub>(E) thru h<sub>20</sub>(E)**



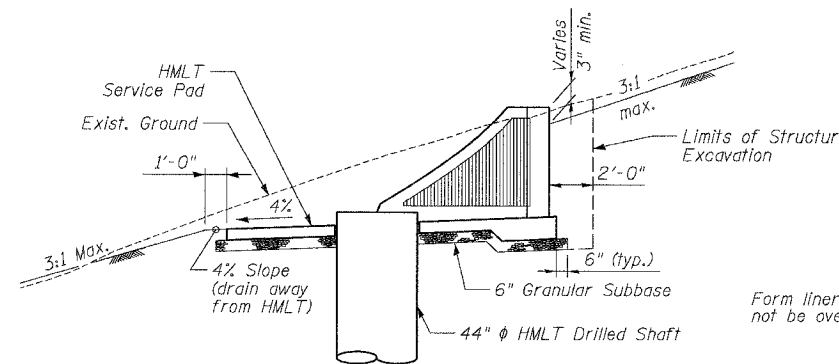
**BARS n<sub>1</sub>(E) & n<sub>2</sub>(E) BAR t<sub>1</sub>(E)**



**SECTION B-B**

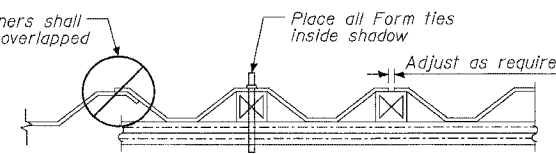


**DETAIL C-C**

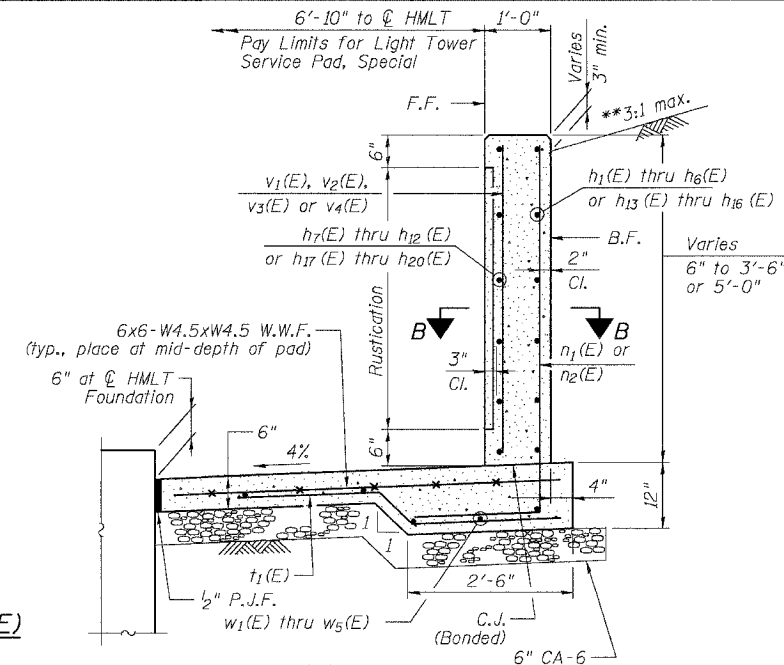


**SECTION THRU EMBANKMENT**

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

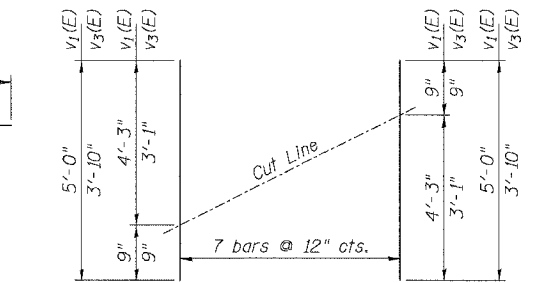


**SUGGESTED FORMWORK DETAIL**



**SECTION A-A**

\*\*See Roadway Cross Section Shts.



**\* CUTTING DIAGRAM**

Bars v<sub>1</sub>(E) & v<sub>3</sub>(E)

Order v<sub>1</sub>(E) & v<sub>3</sub>(E) bars full length and cut to fit as shown. Use remainder of bars as indicated on plans.

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	421
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*12021-922 PT2 ETC	2324.6-1P	R-10	

**NOTES**

1. F.F. and B.F. denote Front Face and Back Face, respectively.
2. HMLT denotes High Mast Light Tower.
3. For location of High Mast Light Tower Foundations, see Roadway Lighting Plan sheets.
4. Bars n<sub>1</sub>(E), n<sub>2</sub>(E), t<sub>1</sub>(E) and w<sub>1</sub>(E) thru w<sub>5</sub>(E) will not be measured and paid separately but will be included in the cost of Light Tower Service Pad, Special. See Special Provisions.
5. See IDOT Standard Drawing BE501 for additional High Mast Light Tower foundation and ground well details.
6. Reinforcement Bars designated (E) shall be epoxy coated.
7. Refer to High Mast Light Tower Service Pad & Retaining Wall Details 1 for location and orientation of conduit sleeves and grounding wells.
8. Contractor shall maintain integrity of Frontage Roads as may be required in excavating for HMLT service pad walls.
9. Provide Protective Coat to top, front face and ends of walls and to the top of the concrete service pad.

SHEET SD7 OF SD11

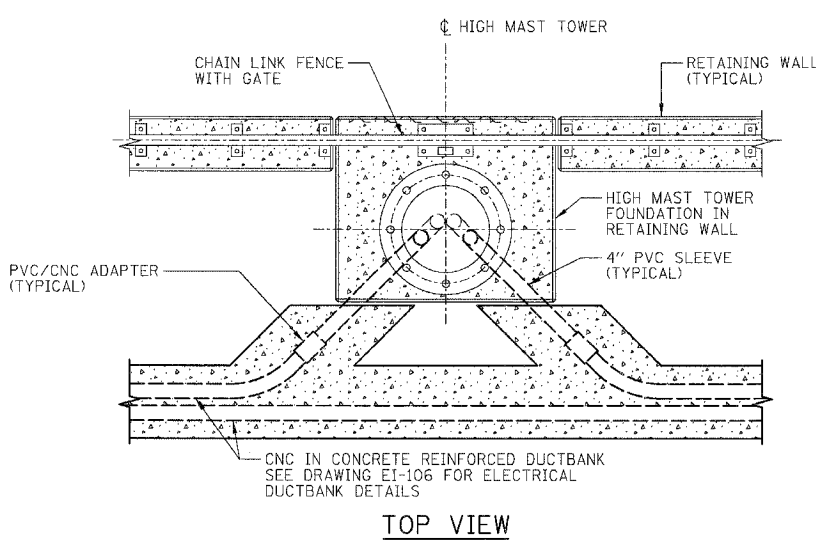
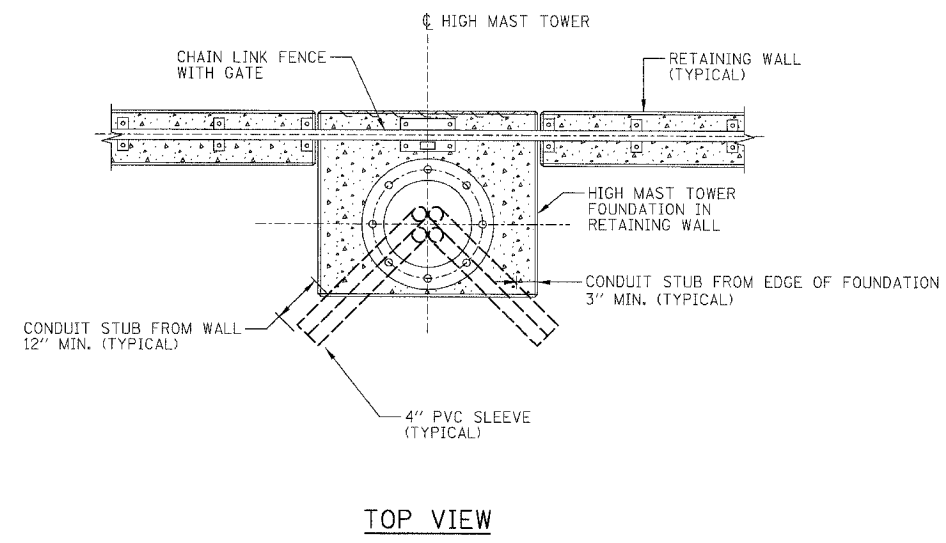
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
**HIGH MAST LIGHT TOWER SERVICE PAD & RETAINING WALL DETAILS 2**

SCALE: NTS  
DATE: JUNE 9, 2006

DRAWN BY: MTR  
CHECKED BY: BLU

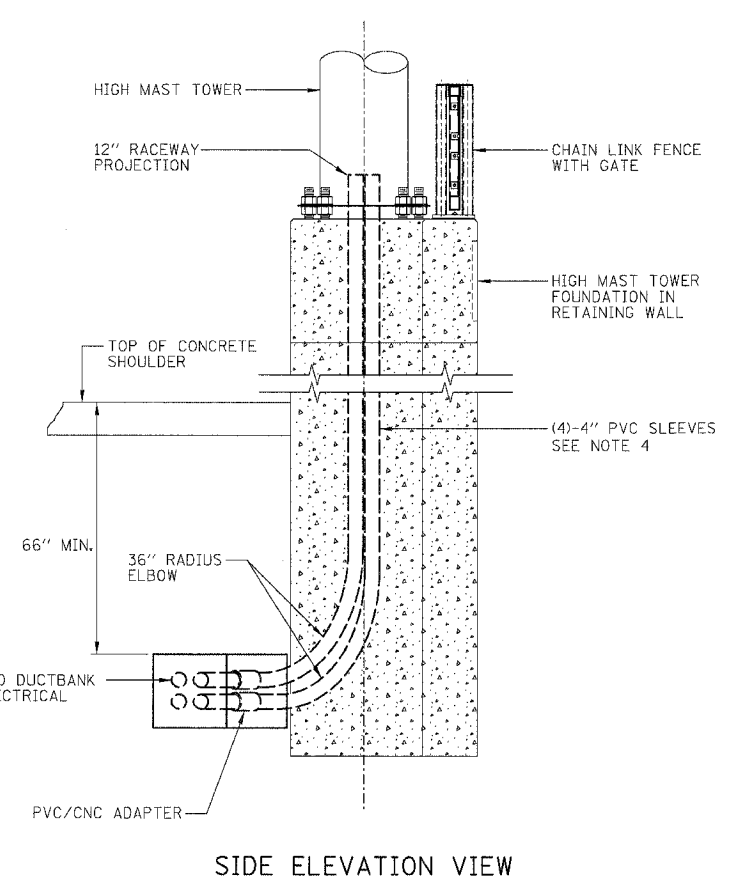
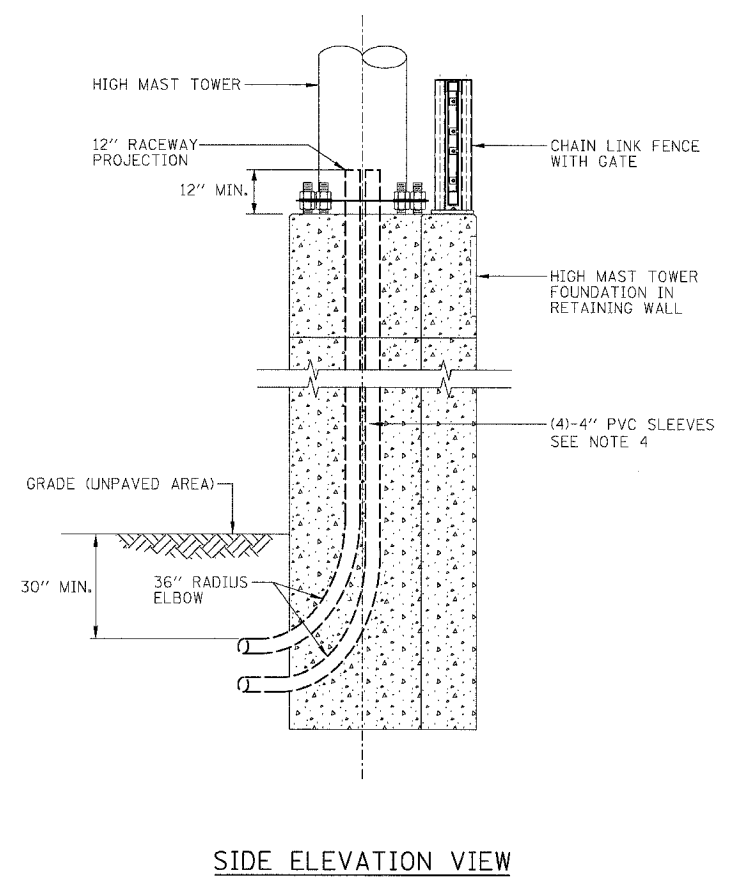
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	422
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			



**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.



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

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

SHEET SD8 OF SD11

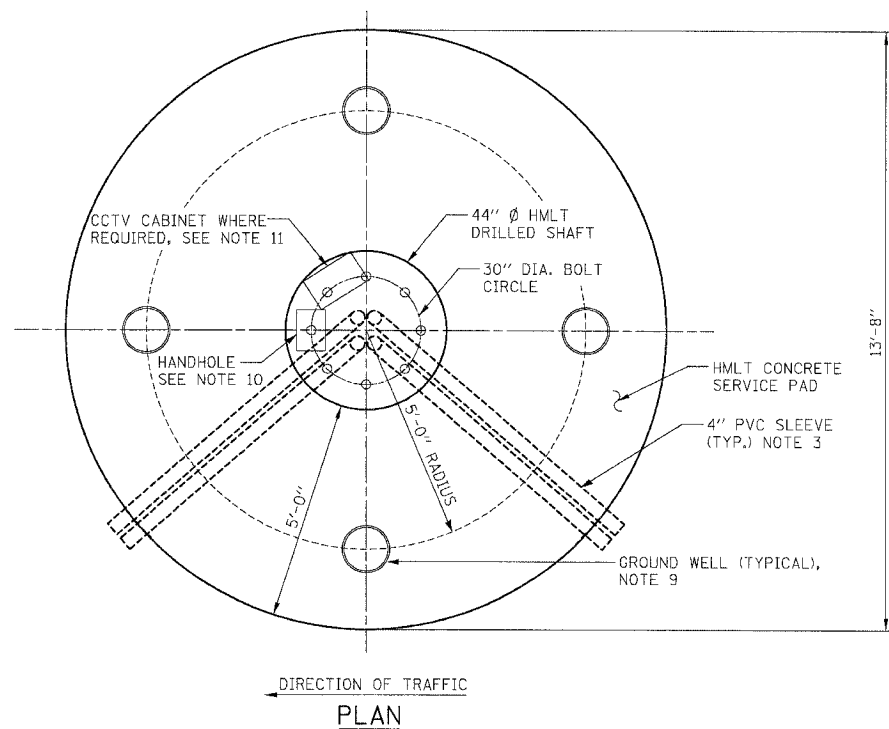
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**F.A.I. 94/90 (DAN RYAN EXPRESSWAY)**  
 GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
**LIGHT TOWER FOUNDATIONS MOUNTED ON RETAINING WALLS**  
 SCALE: NTS  
 DATE: JUNE 9, 2006  
 DRAWN BY: MTR  
 CHECKED BY: BLU

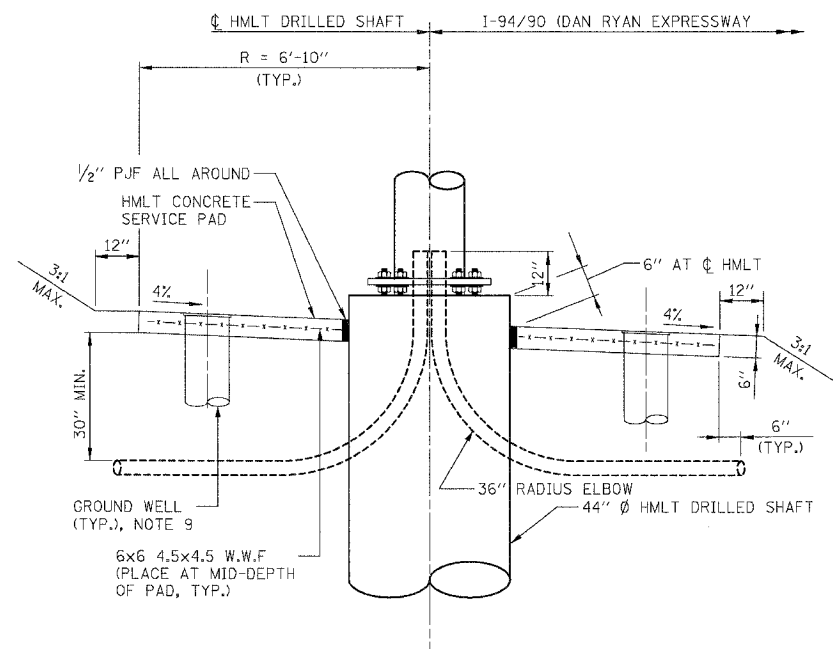
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	423
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			



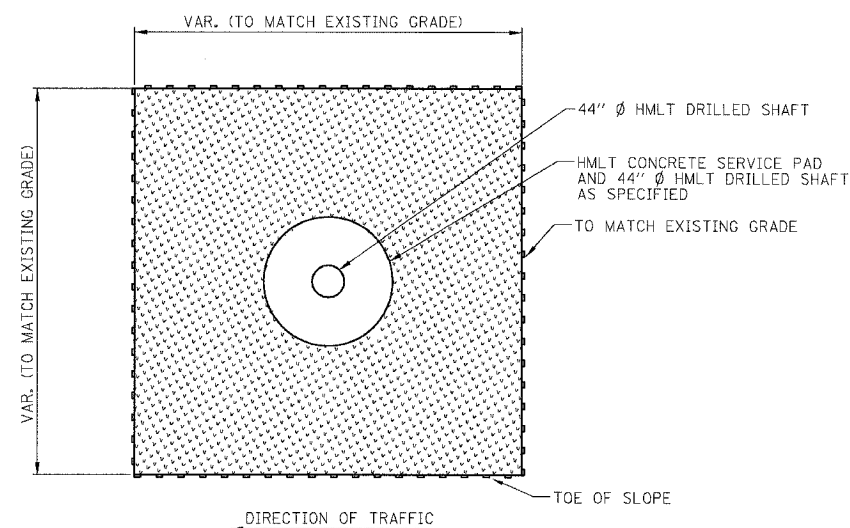
**GROUND MOUNTED HIGH MAST LIGHT TOWER FOUNDATION  
WITH SERVICE PAD DETAIL**



**ELEVATION**

**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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SHEET SD9 OF SD11

REVISIONS	
NAME	DATE

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

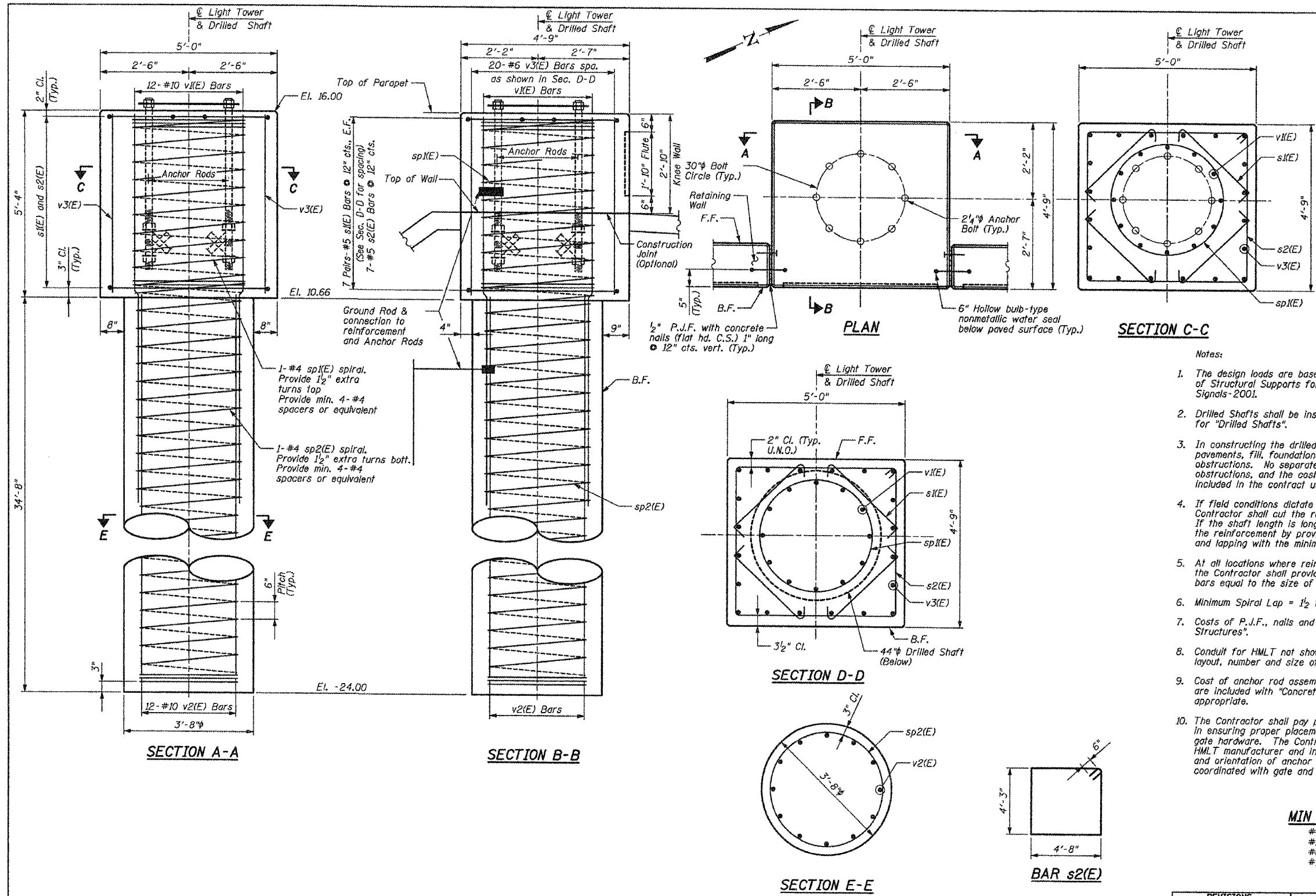
**GROUND MOUNTED HIGH MAST  
LIGHT TOWER FOUNDATIONS**

SCALE: NTS  
DATE: JUNE 9, 2006

DRAWN BY: MTR  
CHECKED BY: BLU

50844.PIN 6/7/2006





F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	424
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*2021-922	PT2 ETC 2324.6-1P) R-10		

BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
s1(E)	28	#5	3'-11"	□
s2(E)	7	#5	18'-10"	□
sp1(E)	1	#4	5'-0"	W
sp2(E)	1	#4	36'-2"	W
v1(E)	12	#10	11'-1"	—
v2(E)	12	#10	34'-5"	—
v3(E)	20	#6	5'-0"	—
Reinforcement Bars, Epoxy Coated *			Pound	2,890
Concrete Structures			Cu. Yd.	2.2
Concrete Superstructure			Cu. Yd.	2.5
Drilled Shaft in Soil, 44"			Foot	35

Reinforced Bars designated (E) shall be epoxy coated.  
 \* Weight Includes 4-#4 spacer bars  
 \*\* Length includes 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. 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.

**MIN BAR LAP**

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

SHEET SD10 OF SD11

REVISIONS	
NAME	DATE
REVISED	6/21/06

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

**KNEE WALL AT RAMP 43D  
 LIGHT TOWER FOUNDATION DETAILS**

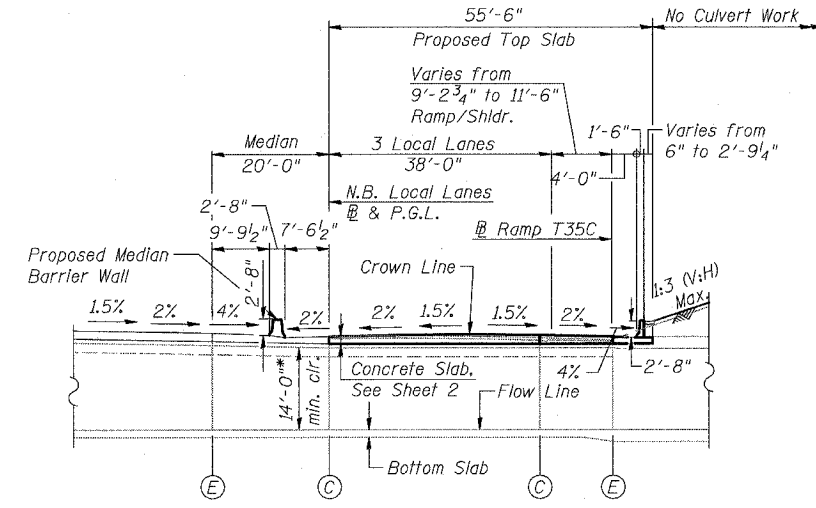
SCALE: NTS  
 DATE: JUNE 9, 2006  
 DRAWN BY: MTR  
 CHECKED BY: BLU

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	426
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	(2021-922 PT2 ETC	2324.6-1P)	R-10	



**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.

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.)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QTY.
Bridge Approach Pavement	Sq. Yd.	430
Bituminous Surface Removal (Variable Depth)	Sq. Yd.	38
Approach Slab Removal	Sq. Yd.	164
Concrete Superstructure	Cu. Yd.	97.1
Structure Excavation	Cu. Yd.	16
Bridge Deck Grooving	Sq. Yd.	153
Protective Coat	Sq. Yd.	263
Reinforcement Bars, Epoxy Coated	Pound	17,690
Bar Splicers	Each	110
Concrete Slab Hydro-Demolition	Sq. Yd.	165
Video Taping of MWRD Culvert	Foot	245

**DESIGN SPECIFICATIONS**

2002 AASHTO

**LOADING HS20-44 & ALT.**

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

**DESIGN STRESSES**

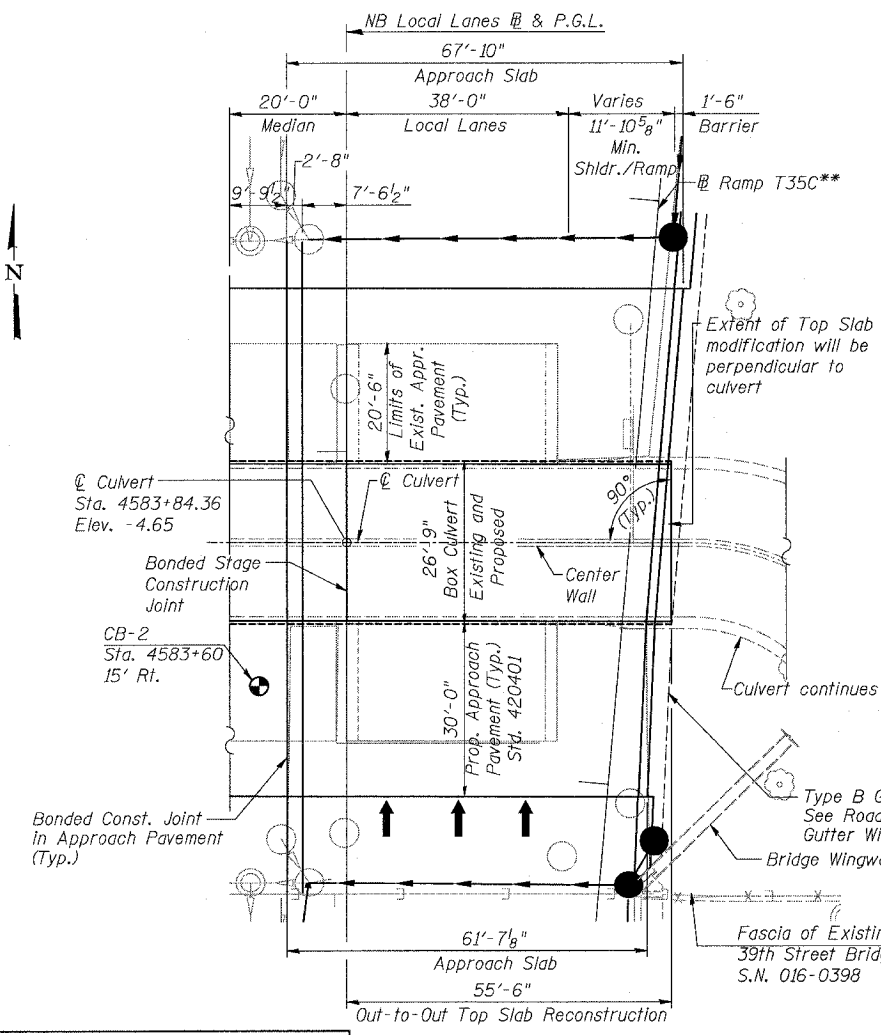
**FIELD UNITS**

New:  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)

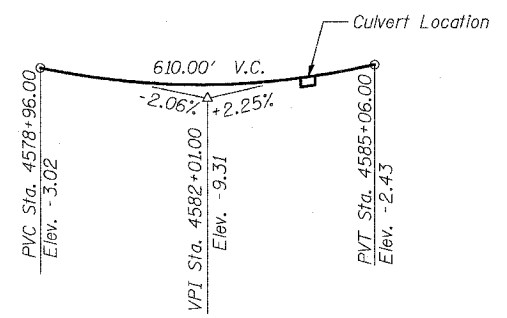
Existing:  
 f'c = 3,500 psi  
 fy = 40,000 psi (Reinforcement)

**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

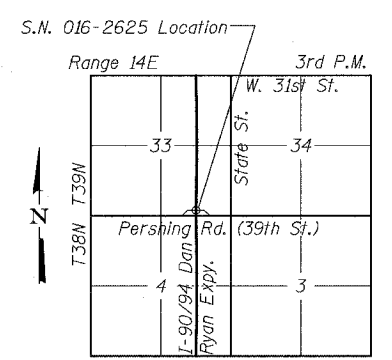


**PROFILE GRADE LINE ALONG N.B. LOCAL LANES**



**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



**LOCATION SKETCH**

**SHEET CUL-1 OF CUL-16**

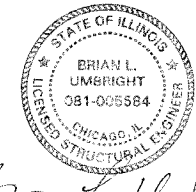
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
 MWRD CULVERT, N. OF 39TH ST.,  
 COOK COUNTY, S.N. 016-2625  
 GENERAL PLAN

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

REVISIONS	
NAME	DATE
REVISED	06/23/06
REVISED	07/13/06

**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY

*Brian L. Umbright*  
 ENGINEER OF BRIDGES AND STRUCTURES

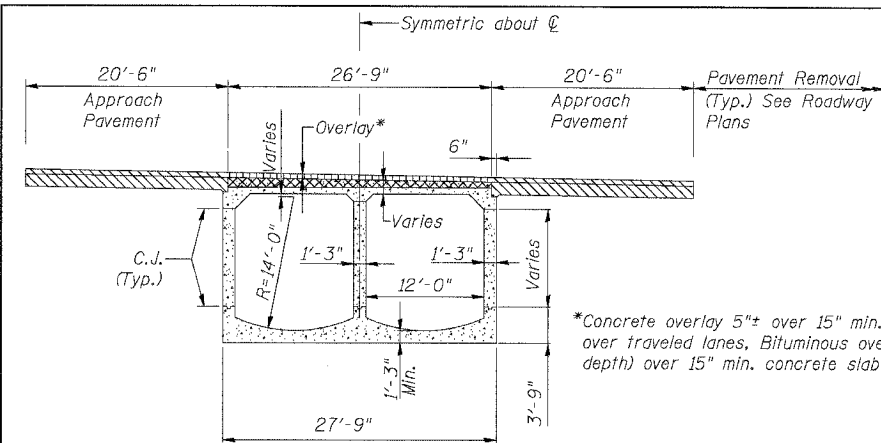


Date: July 13, 2006  
 License  
 Expires: November 30, 2006

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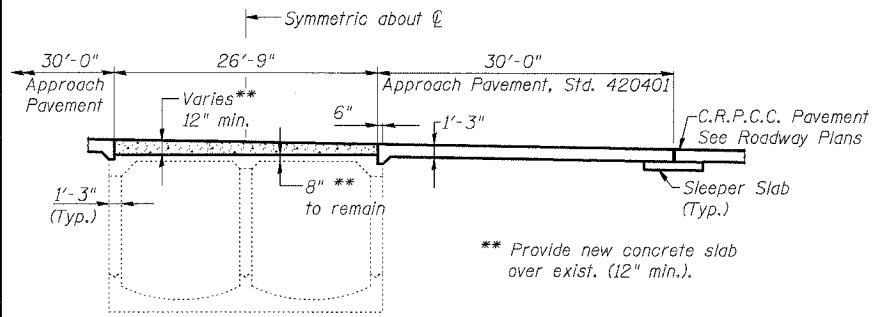
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	427
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			



**EXISTING SECTION THRU CULVERT**

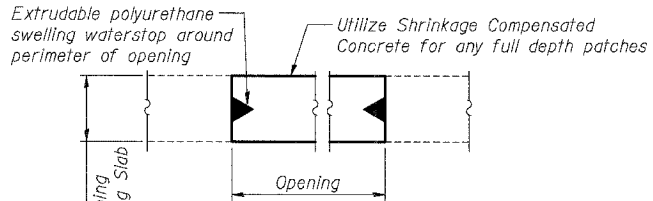
Exist. vertical, diagonal, and partially embedded horizontal reinforcement bars to be cleaned, straightened and incorporated into new concrete slab. Horizontal reinforcement bars that are not partially embedded in exist. slab shall be removed.



**PROPOSED SECTION THRU CULVERT**

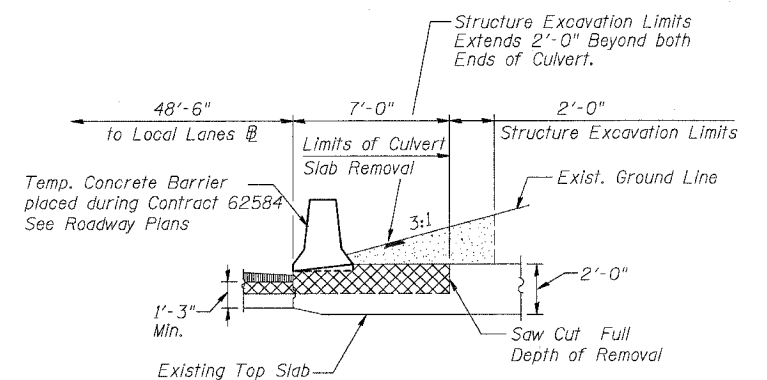
**SUGGESTED SEQUENCE OF CONSTRUCTION:**

1. Televis 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, outside shoulder barrier and double face barrier between express and local lanes.
8. Re-televis 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 DETAIL**

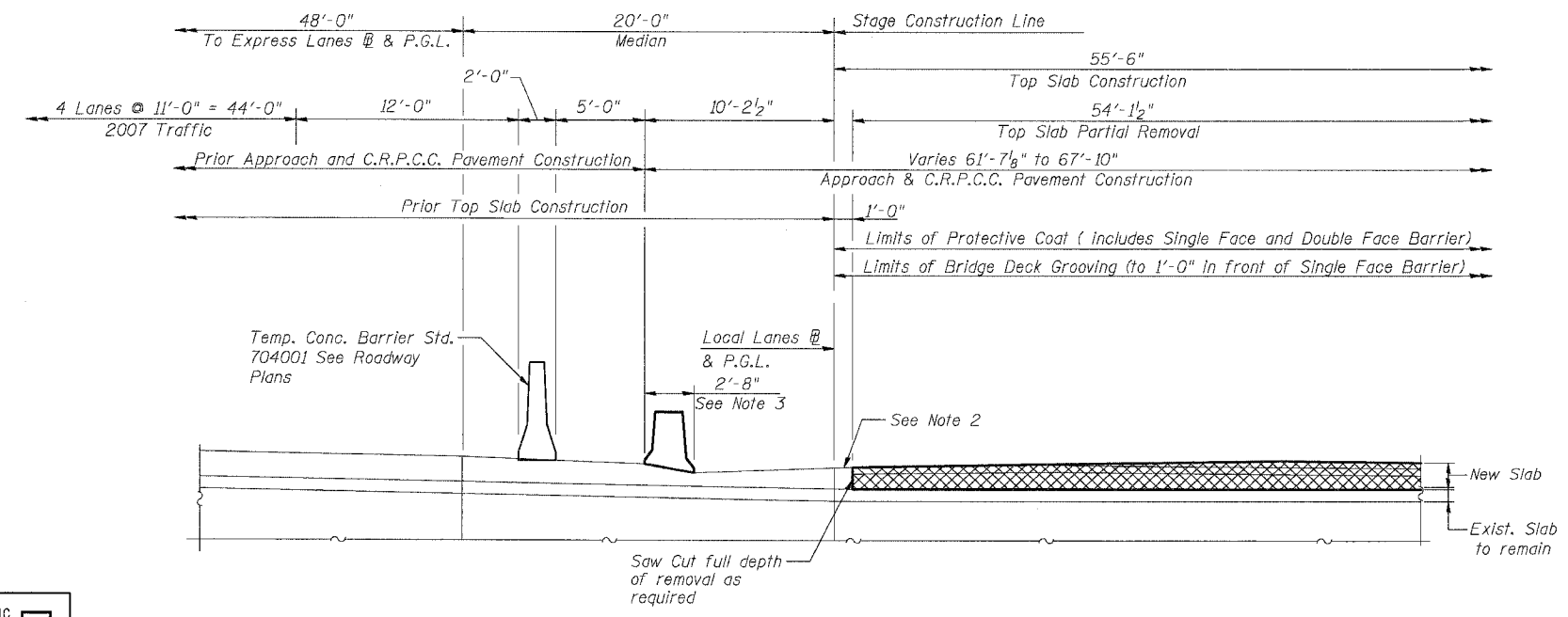
(See As Built Plans for Further Details)

**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 Overlay Removal, (Variable Depth) for shoulders
- ▧ = Approach Slab Removal
- ▩ = Structure Excavation



**STAGING DETAILS @ EXPRESS/LOCAL LANES MEDIAN**

See Longitudinal Section for Dimensions not shown

**SHEET CUL-2 OF CUL-16**

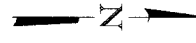
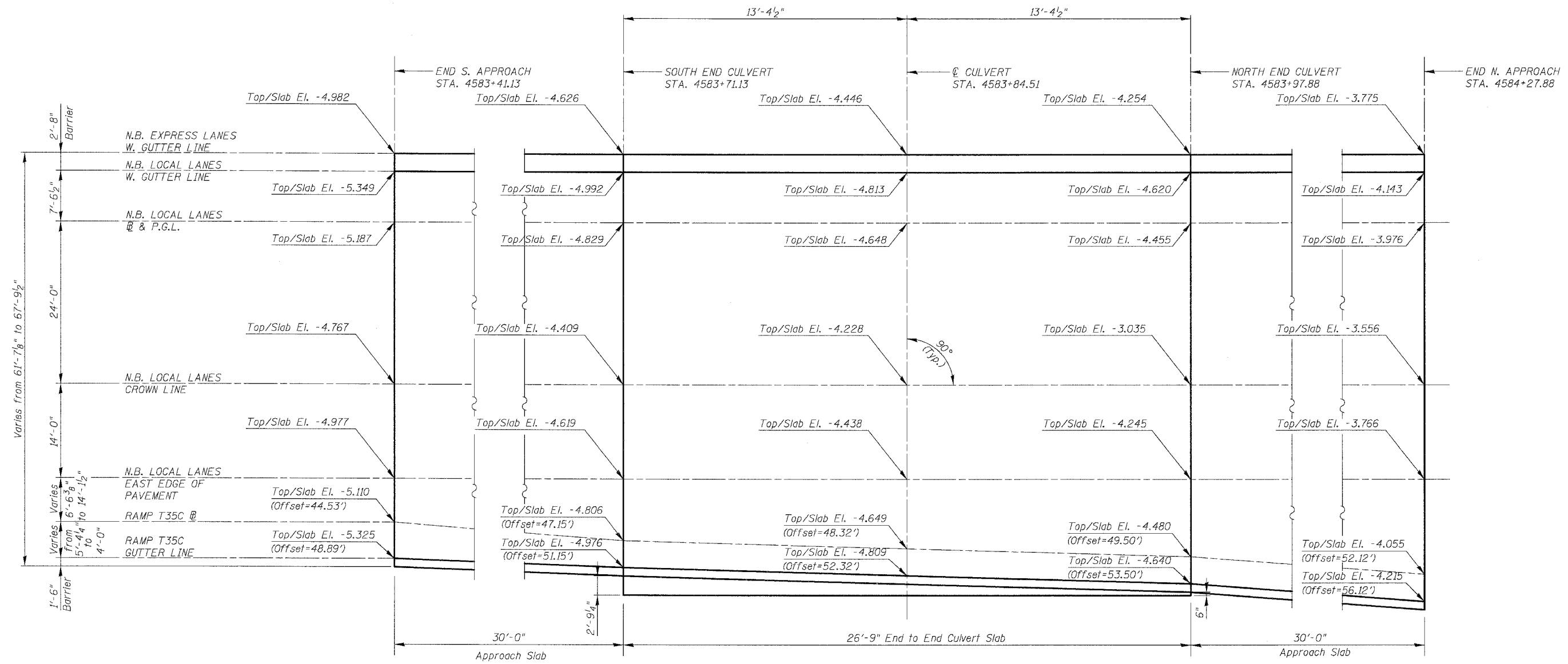
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
 GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
 MWRD CULVERT, N. OF 39TH ST.,  
 COOK COUNTY, S.N. 016-2625  
 MISCELLANEOUS DETAILS

REVISIONS	DATE
NAME	

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	565	428
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62301		*(2021-922 PT2 ETC 2324.6-1P) R-10		



PLAN

Notes:  
 1. Offset measured from N.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 (NB 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	565	430
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*I2021-922 PT2 ETC 2324.6-1P) R-10			

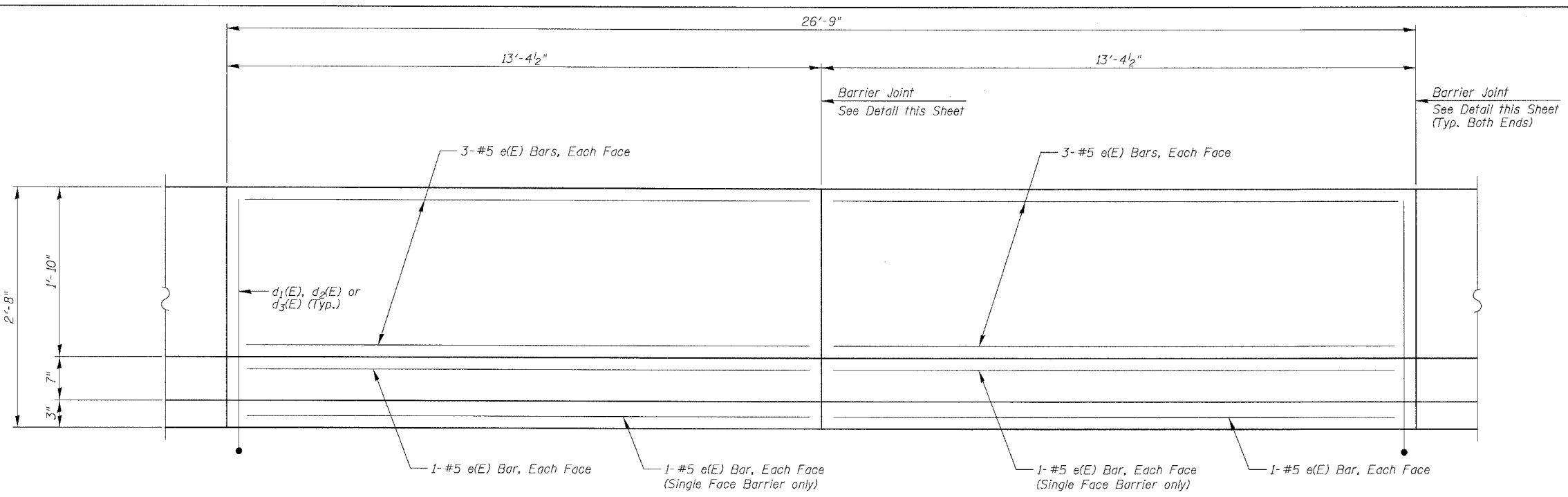
**TOP SLAB  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	56	#5	35'-8"	—
a <sub>1</sub> (E)	56	#5	12'-2"	—
a <sub>2</sub> (E)	56	#5	6'-8"	—
a <sub>3</sub> (E)	27	#6	7'-0"	—
b(E)	56	#7	26'-5"	—
b <sub>1</sub> (E)	56	#7	8'-0"	—
b <sub>2</sub> (E)	112	#7	28'-1"	U
b <sub>3</sub> (E)	7	#5	26'-5"	—
d(E)	26	#6	1'-0"	—
d <sub>1</sub> (E)	27	#5	4'-5"	L
d <sub>2</sub> (E)	27	#5	4'-11"	L
d <sub>3</sub> (E)	54	#5	3'-3"	L
e(E)	32	#5	13'-0"	—

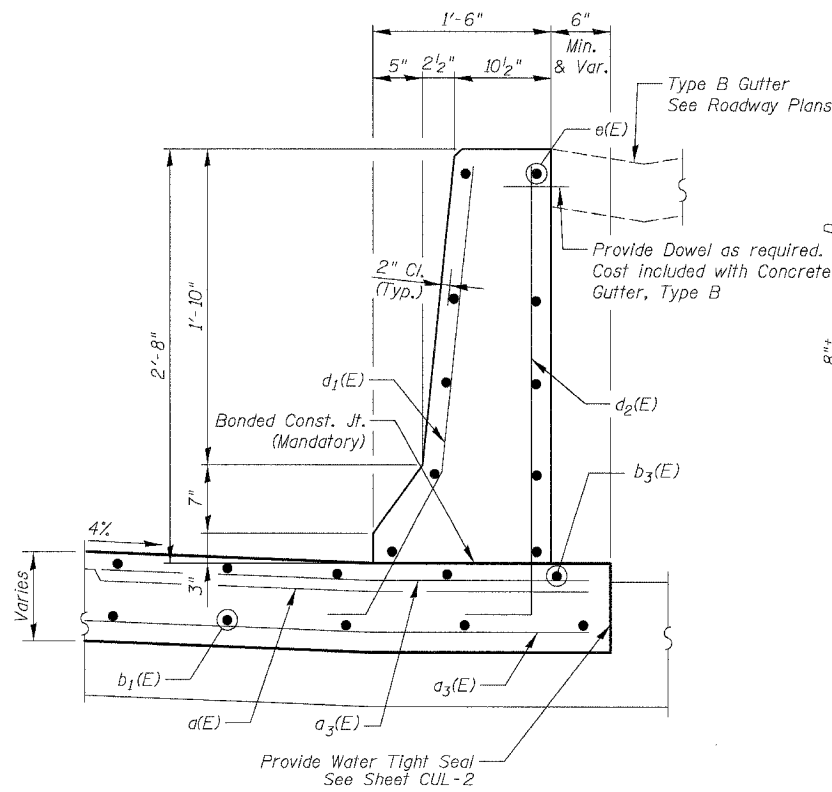
  

Concrete Superstructure	Cu. Yd.	79.0
Bridge Deck Grooving	Sq. Yd.	153
Protective Coat	Sq. Yd.	189
Reinforcement Bars, Epoxy Coated	Pound	14,950
Bar Splacers	Each	110

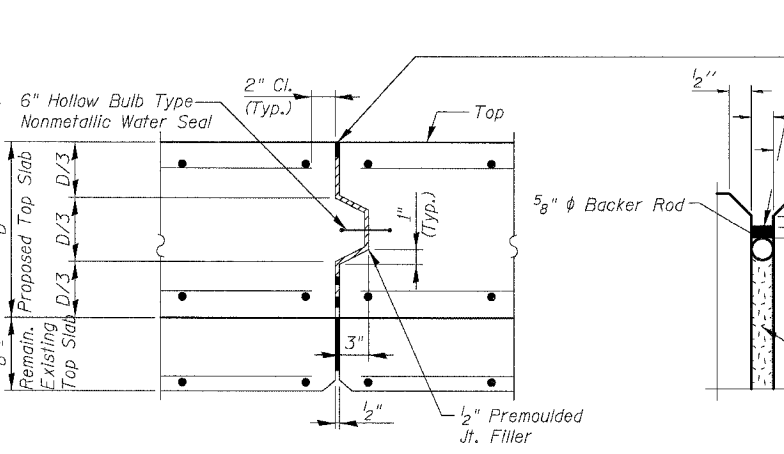
Reinforcement bars designated (E) shall be epoxy coated.  
 Cost of water seal, P.J.F. and Sealant included in the cost of Concrete Superstructure.  
 See Sheet CUL-7 for Section thru Double Face Barrier.  
 Epoxy Grout #6d (E) Bars in Drilled Holes with a Depth of 6" in Accordance with Art. 584 of the Std. Specs.



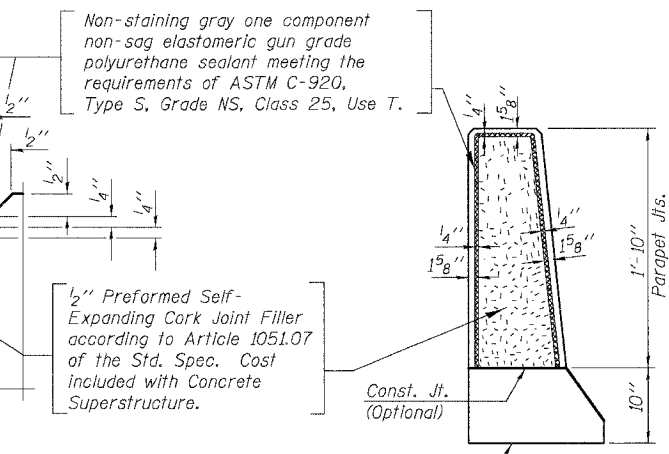
**INSIDE ELEVATION OF BARRIER**  
Single Face shown, Double Face similar as noted



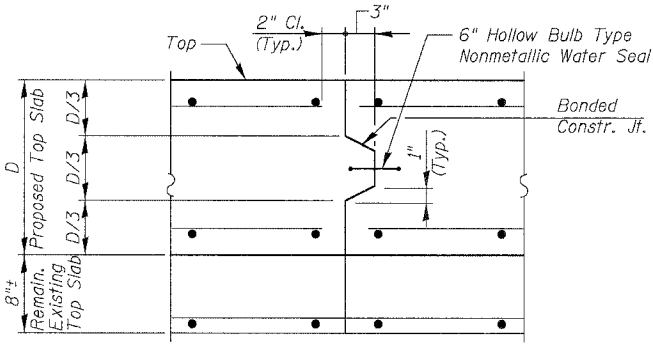
**SECTION THRU SINGLE FACE BARRIER**



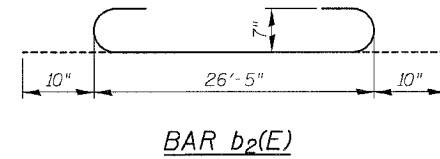
**CULVERT EXPANSION JOINT**  
Do not seal until after grooving operations



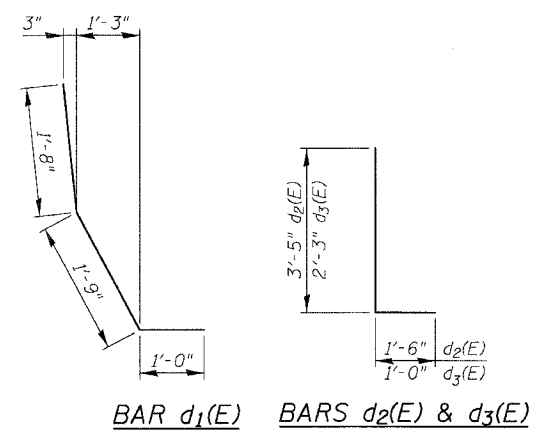
**BARRIER JOINT DETAILS**  
Shown for Single Face Barrier, Double Face similar as required



**CULVERT CONSTRUCTION JOINT**



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



**BAR d<sub>1</sub>(E) BARS d<sub>2</sub>(E) & d<sub>3</sub>(E)**

**SHEET CUL-5 OF CUL-16**

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

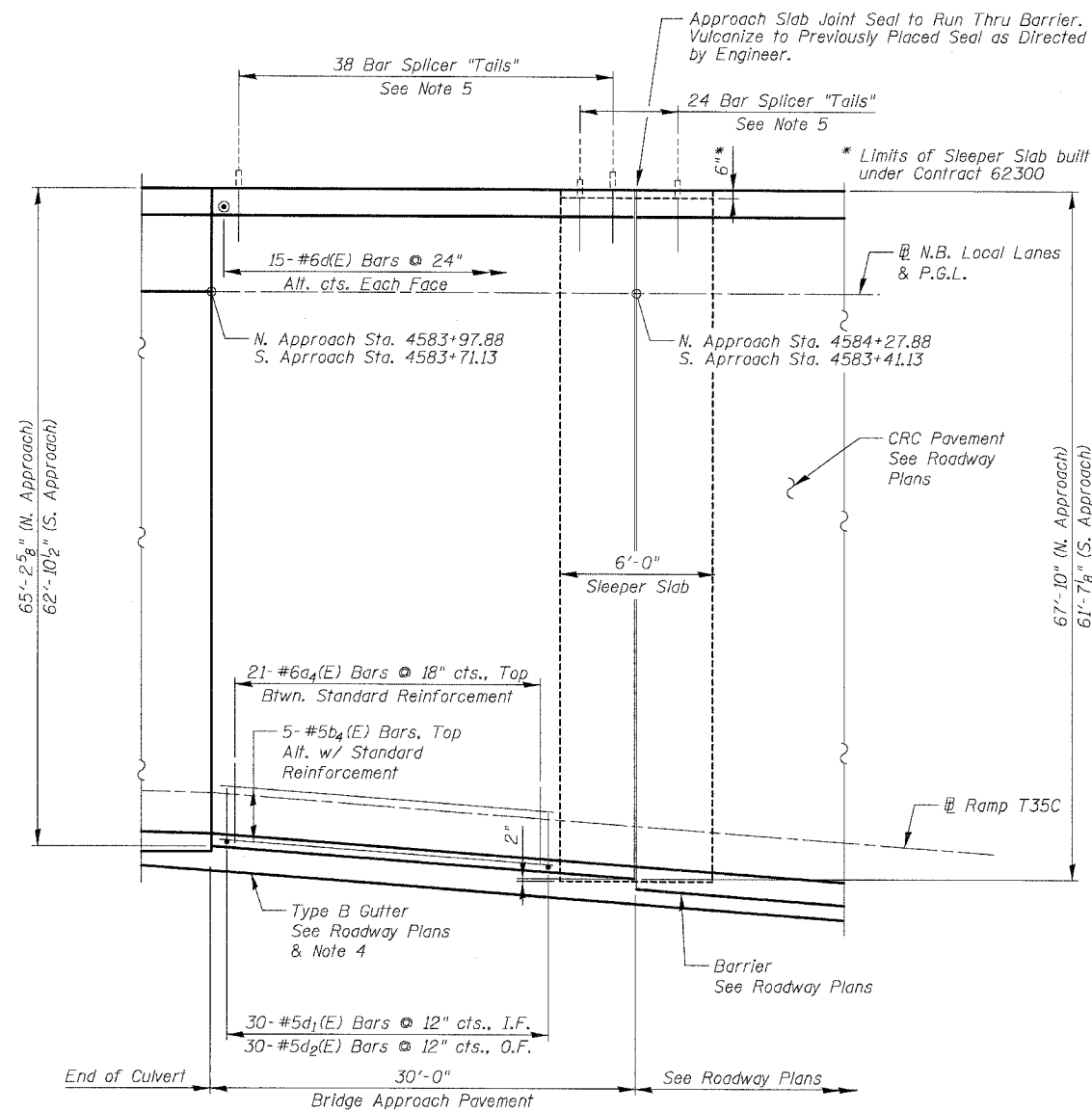
SCALE: N.T.S. DRAWN BY: MTR  
 DATE: JUNE 9, 2006 CHECKED BY: BLU

REVISIONS	
NAME	DATE

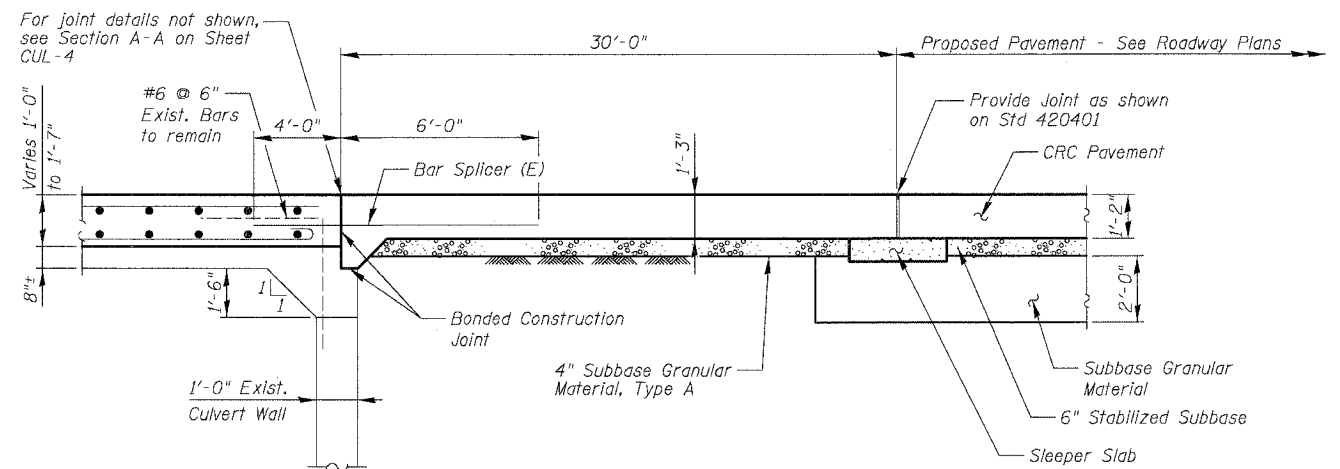
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	431
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*2021-922 PT2 ETC 2324.6-1P) R-10			



**PARTIAL PLAN**  
North Approach Shown  
South Approach Similar



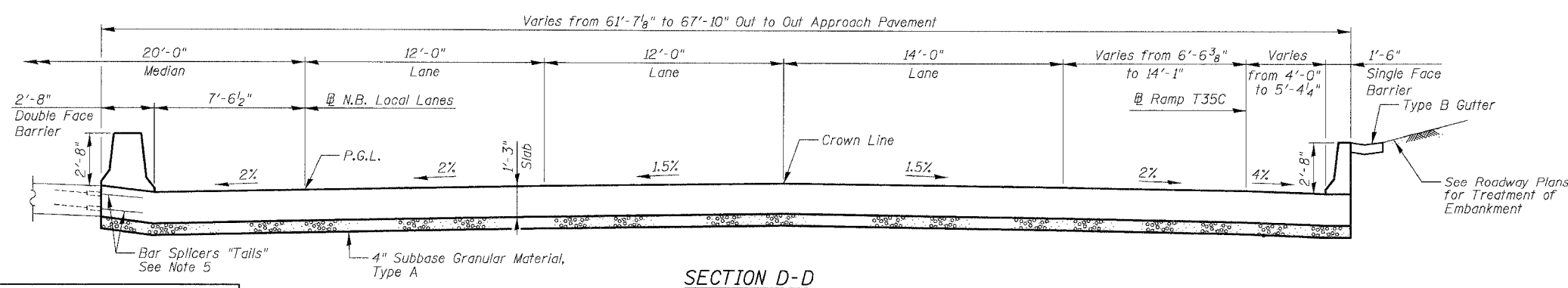
**SECTION C-C**

**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. Adjust gutter as required when transitioning from approach slab to roadway barrier.
5. 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.

**ABBREVIATIONS:**

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



**SECTION D-D**

**SHEET CUL-6 OF CUL-16**

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
MWRD CULVERT, N. OF 39TH ST.,  
COOK COUNTY, S.N. 016-2625  
APPROACH SLAB DETAILS 1

REVISIONS	
NAME	DATE

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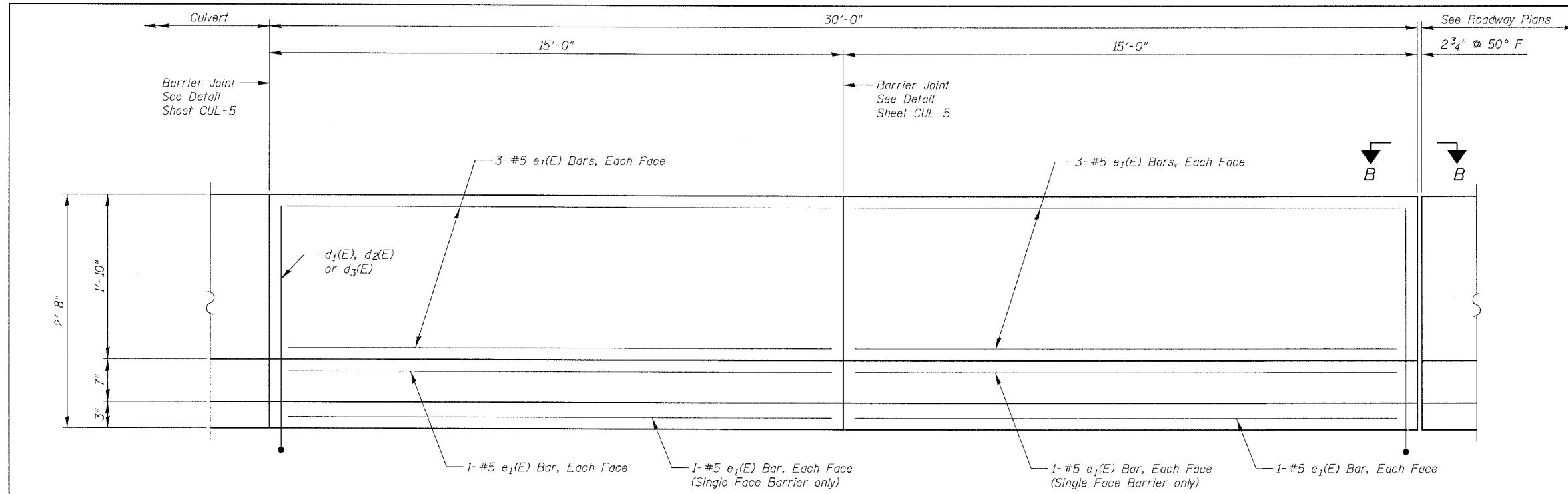


F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	432
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301		*(2021-922 PT2 ETC 2324.6-1P) R-10		

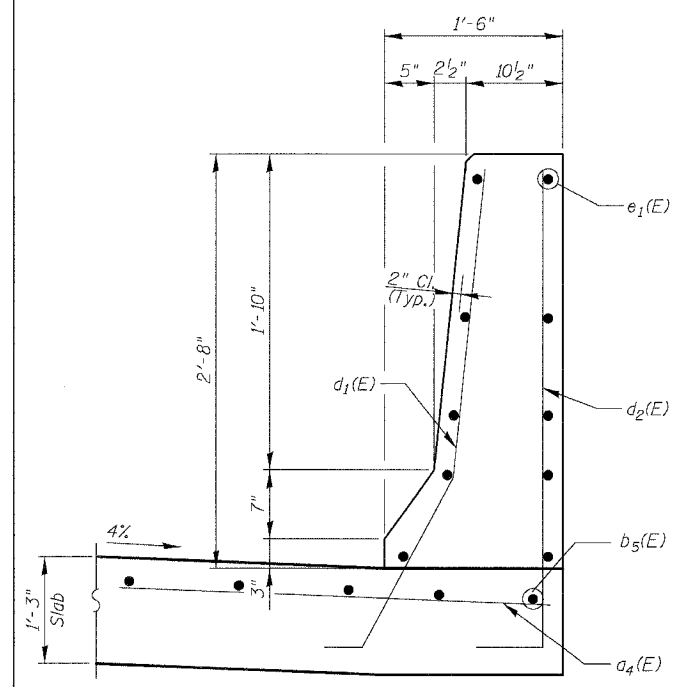
**APPROACH PAVEMENT  
BILL OF MATERIAL  
TOTAL FOR 2 APPROACH SLABS**

Bar	No.	Size	Length	Shape
$a_4(E)$	42	#6	4'-6"	—
$b_5(E)$	10	#5	25'-6"	—
$d(E)$	60	#6	1'-0"	—
$d_1(E)$	60	#5	4'-5"	L
$d_2(E)$	60	#5	4'-11"	L
$d_3(E)$	120	#5	3'-3"	L
$e_1(E)$	72	#5	14'-8"	—
Bridge Approach Pavement			Sq. Yd.	430
Concrete Superstructure			Cu. Yd.	18.1
Protective Coat			Sq. Yd.	74
Reinforcement Bars, Epoxy Coated			Pound	2,740

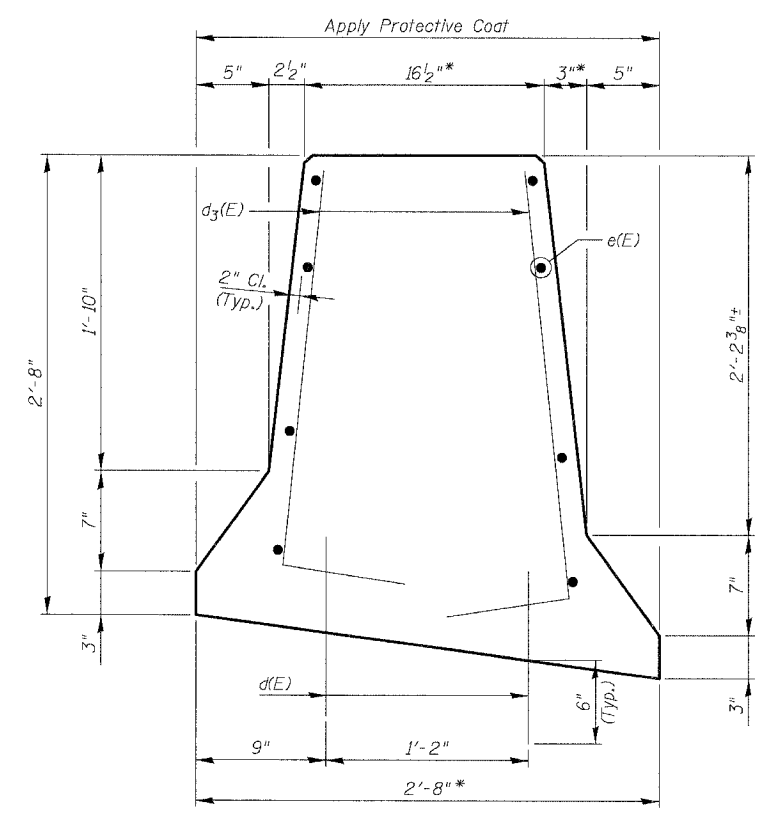
See IDOT Standard 420401 for typical approach pavement reinforcing and details. Additional reinforcement bars, and concrete for single & double face barrier not shown on Std. 420401 shall be paid for as Reinforcement Bars, Epoxy Coated, Bar Splicers, and Concrete Superstructure. Reinforcement bars designated (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. Epoxy grout #6d (E) bars in drilled holes with a depth of 6" in accordance with Art. 584 of the std. specs.



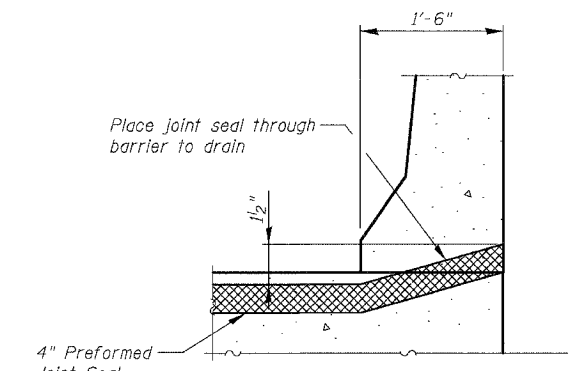
**INSIDE ELEVATION OF BARRIER ON APPROACH PAVEMENT**  
Single Face Shown, Double Face Similar as Noted



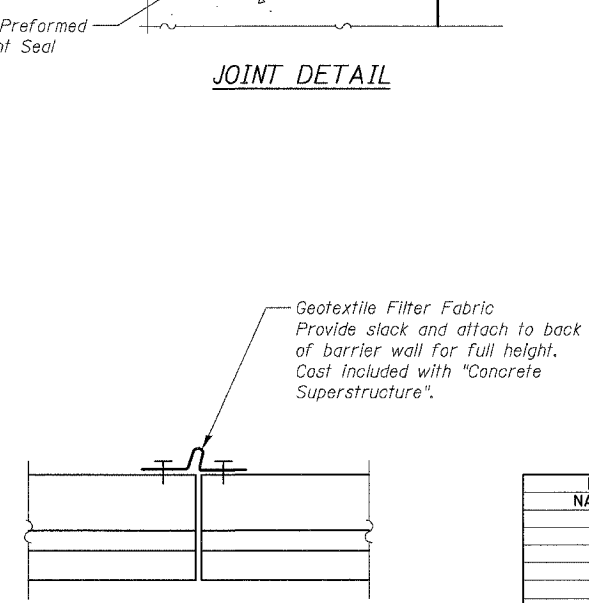
**SECTION THRU SINGLE FACE BARRIER**  
Note: Standard Approach Pavement reinforcement not shown for clarity



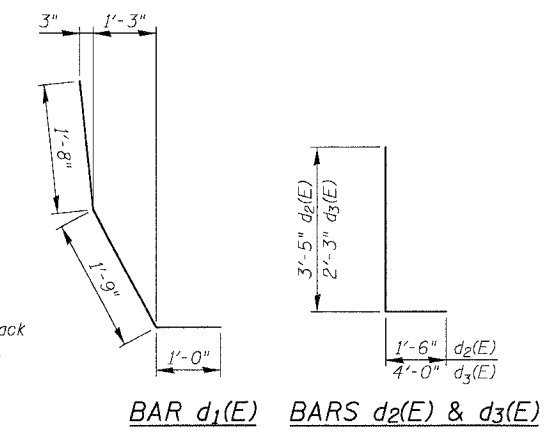
**SECTION THRU DOUBLE FACE BARRIER**  
\* Contractor can vary these dimensions to match adjacent roadway barrier if required.



**JOINT DETAIL**



**VIEW B-B**



**BAR  $d_1(E)$  BARS  $d_2(E)$  &  $d_3(E)$**

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REVISONS		SHEET CUL-7 OF CUL-16 ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES) MWRD CULVERT, N. OF 39TH ST., COOK COUNTY, S.N. 016-2625 APPROACH SLAB DETAILS 2
NAME	DATE	
		SCALE: N.T.S. DATE: JUNE 9, 2006
DRAWN BY: MTR CHECKED BY: BLU		4/02/06

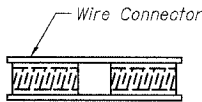
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	433
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			

The diameter of this part is equal or larger than the diameter of bar spliced.

**ROLLED THREAD DOWEL BAR**



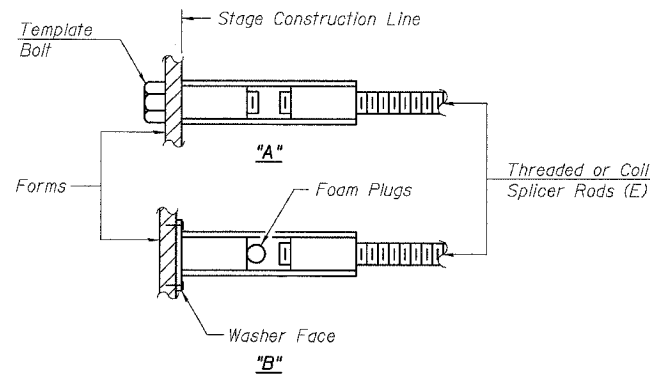
**\*\* ONE PIECE**



**WELDED SECTIONS**

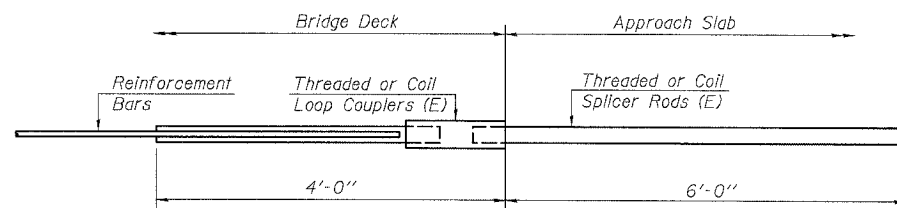
**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* 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.



**FOR CULVERT SLAB**

Bar Splicer for #7 bar
Min. Capacity = 45.1 kips - tension
Min. Pull-out Strength = 18.0 kips-tension
No. Required = 110

**NOTES**

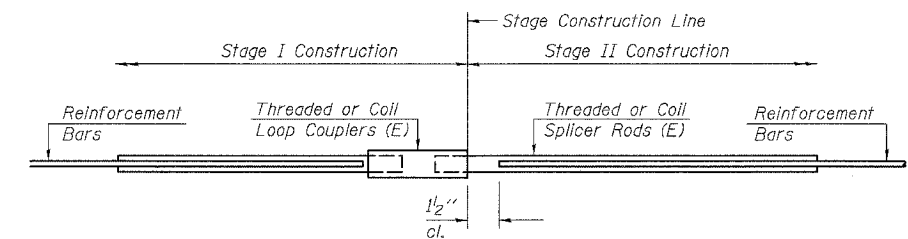
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
 All reinforcement bars shall be lapped and tied to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

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{s_{allow}} \times A_t$   
(Tension in kips)

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s_{allow}}$  = 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."



**STANDARD**

Note:

Obtain Bar Splicer "Tails" from Engineer for 162-#5 Bars and 16-#4 Bars as shown on Contract 62300.

Bar Size	No. Assemblies Required	Location

**SHEET CUL-8 OF CUL-16**

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

REVISIONS	
NAME	DATE

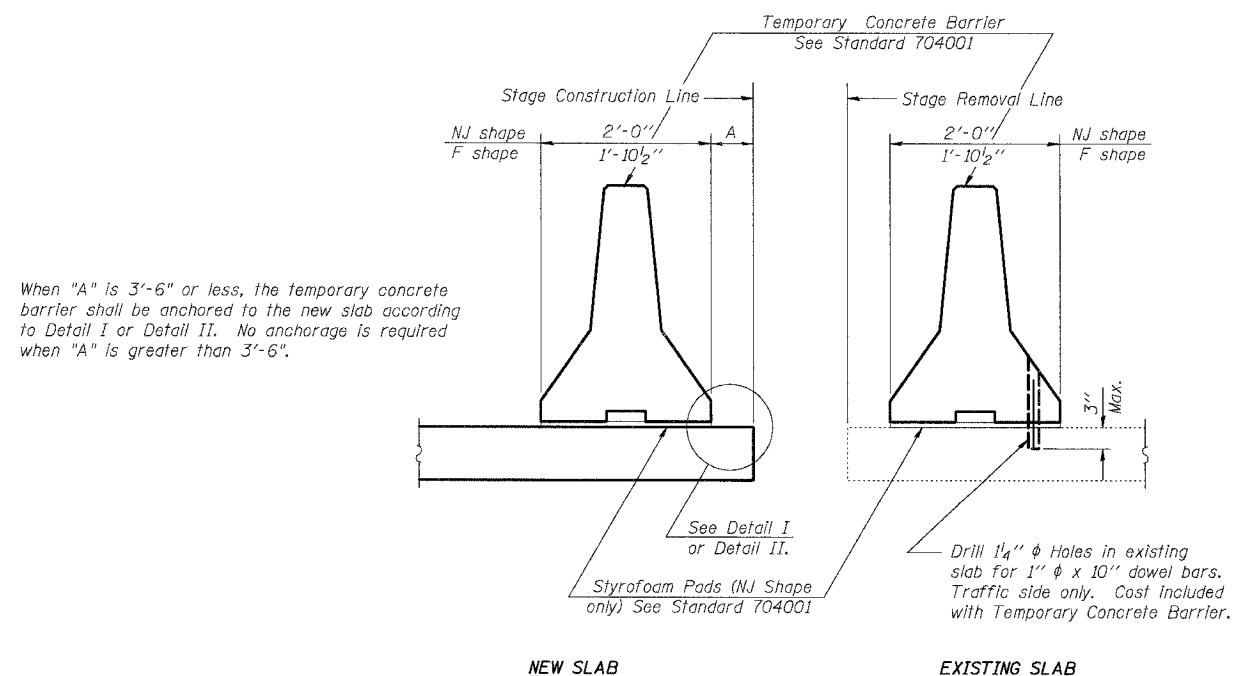
SCALE: N.T.S. DRAWN BY: DJM  
 DATE: JUNE 9, 2006 CHECKED BY: BLU

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BSD-1 9-01-03

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	434
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			

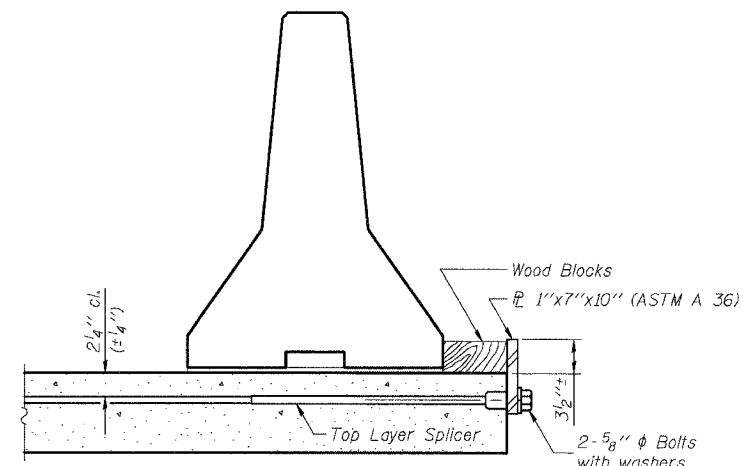


**NOTES**

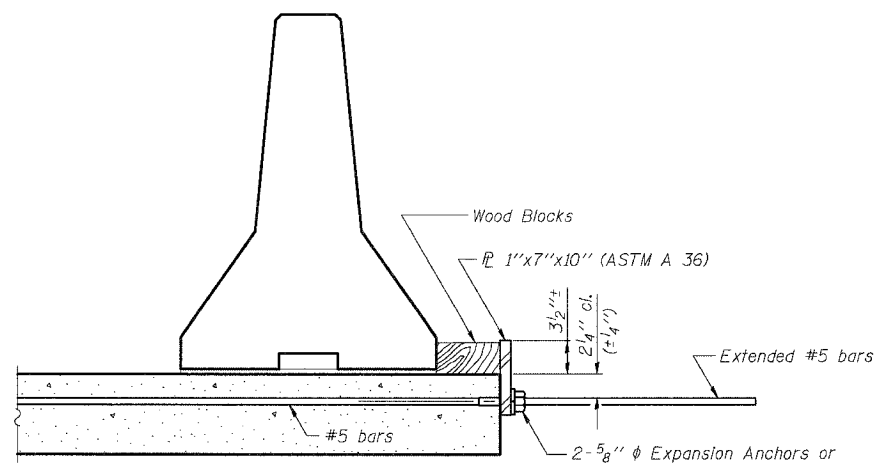
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate CL of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel PL 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 CL of each barrier panel.  
Cost of anchorage is included with Temporary Concrete Barrier.

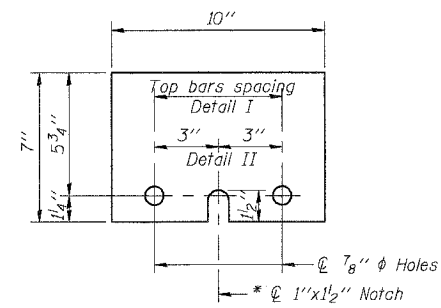
Repair any holes drilled in concrete over culvert or approach pavement with non-shrink epoxy grout as directed by the Engineer. Cost included with Temporary Concrete Barrier.



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



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.



\* Required only with Detail II

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R-27 9-01-03

REVISIONS		DATE
NAME		

SHEET CUL- 9 OF CUL-16

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

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	565	435
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301		*I2021-922 PT2 ETC 2324.6-IP) R-10		

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	Qu	W	Surface Water Elev.	D	B	Qu	W
Station	E	L	tsf	%	when drilling	P	L		
Offset	T	O			at Completion	T	W		
Surface Elev.	H	S			after	H	S	tsf	%
CB-2									
45833+60 (NB LOCAL)									
15.0ft RT. OF NB LOCAL									
-2.80 ft									
ASPHALT PAVEMENT									
CONCRETE									
-3.05									
-4.30									
Very Dense to Loose, Brown SANDY LOAM trace- gravel		50/5"		3					
FILL									
-7.30			16	3.7	17				
Medium Stiff to Hard, Gray SILTY CLAY trace- sand and gravel			4	B					
			5						
			1	0.9	22				
			2	B					
			3						
			1	1.0	21				
			2	B					
			2						
			1	0.7	23				
			2	B					
			2						
			1	0.8	22				
			2	B					
			2						
			1	0.8	22				
			2	B					
			3						
			3	5.0	13				
			4	B					
			8						
			5	13.2	11				
			8	S					
			13						
			5	4.5+	10				
			19	S					
			14						

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-2

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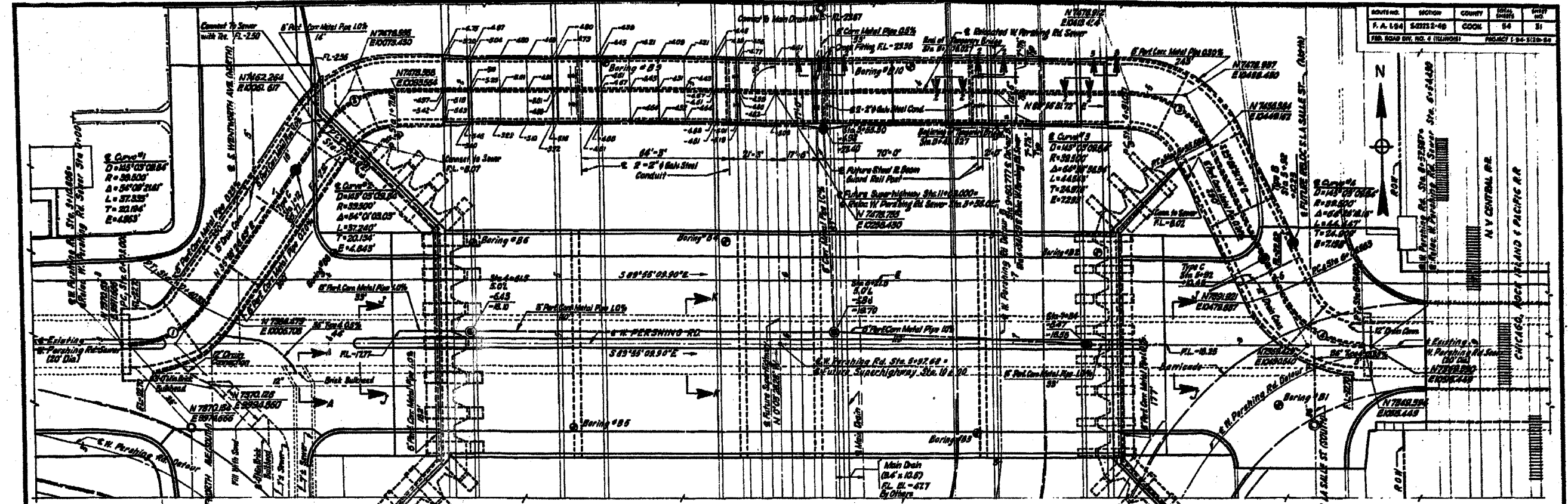


REVISIONS	
NAME	DATE

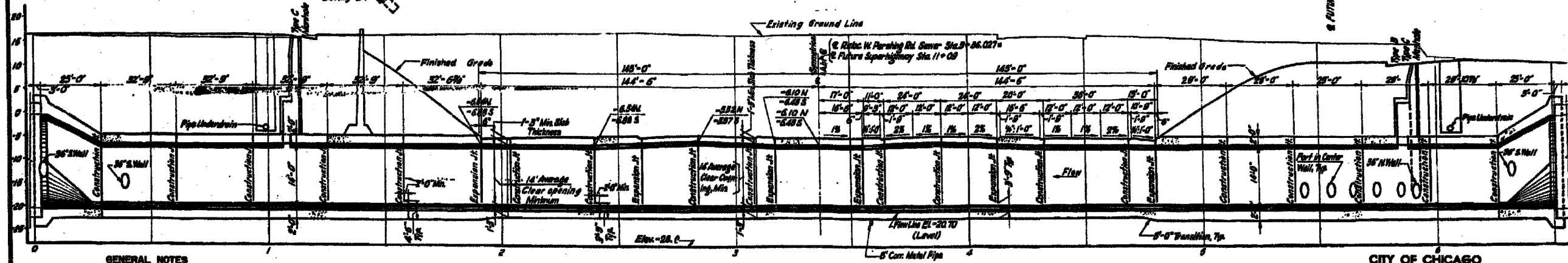
SHEET CUL-10 OF CUL-16  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
MWRD CULVERT, N. OF 39TH ST.,  
COOK COUNTY, S.N. 016-2625  
SOIL BORINGS

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

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**PLAN**  
SCALE: 1"=20'



**PROFILE**  
SCALE: HORIZONTAL 1"=20'  
VERTICAL 1"=10'

**GENERAL NOTES**  
 Design Specifications: AASHO 1957 Modified; ARBA 1952 Modified; State of Illinois, Division of Highways 1955.  
 Design Lane Loading: AASHO H20-S16-44 or Alternate designated in PPM 30-4, Sec 4c; and Chicago Transit Authority, April 23, 1952.

**NOTES**  
 1. Sewer for slab site, 1'-0" to 2'-0" shall be finished to future.  
 2. For Slab Trench Bedrock see sub R-1.

12. For Soil Boring Data, see sub S-1 & S-4.

CITY OF CHICAGO  
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 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 (NB LOCAL LANES)  
 MWRD CULVERT, N. OF 39TH ST.,  
 COOK COUNTY, S.N. 016-2625  
 EXISTING PLAN AND ELEVATION

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

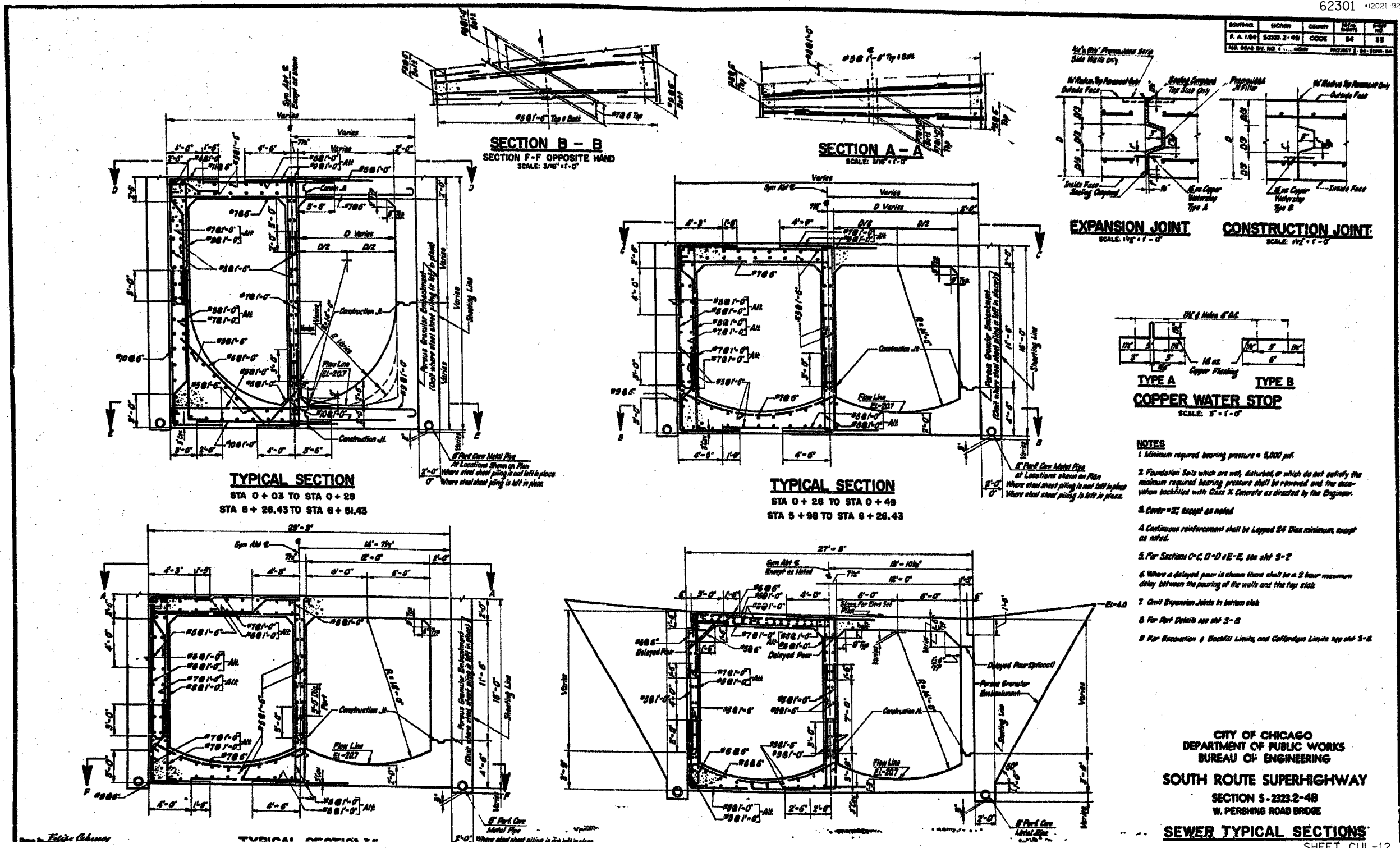
FOR INFORMATION ONLY

REVISIONS	
NAME	DATE

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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	437
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*2021-922 PT2 ETC 2324.6-1P) R-10			



- NOTES**
1. Minimum required bearing pressure = 5,000 psf.
  2. Foundation Soils which are wet, 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 Dia minimum, except as noted.
  5. For Sections C-C, D-D & E-E, see sheet S-2.
  6. Where a delayed pair is shown there shall be a 2 hour maximum delay between the pouring of the walls and the top slab.
  7. Only Expansion Joints in bottom slab.
  8. For Part Details see sheet S-2.
  9. For Excavation & Backfill Limits, and Cofferdam Limits see sheet S-4.

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**DEPARTMENT OF PUBLIC WORKS**  
**BUREAU OF ENGINEERING**  
**SOUTH ROUTE SUPERHIGHWAY**  
**SECTION 5-2323.2-4B**  
**W. PERSHING ROAD BRIDGE**  
**SEWER TYPICAL SECTIONS**

SHEET CUL-12 OF CUL-16

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

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

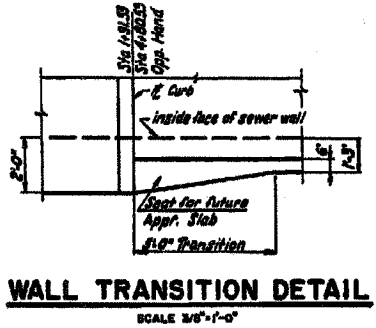
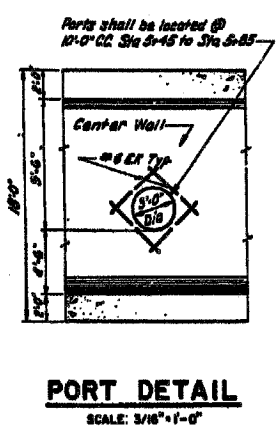
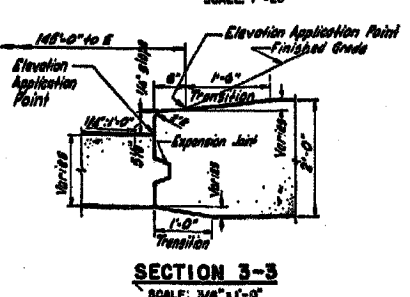
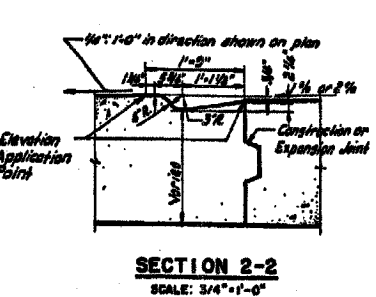
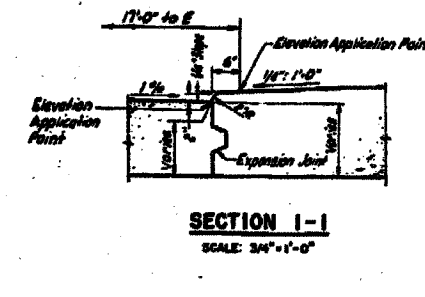
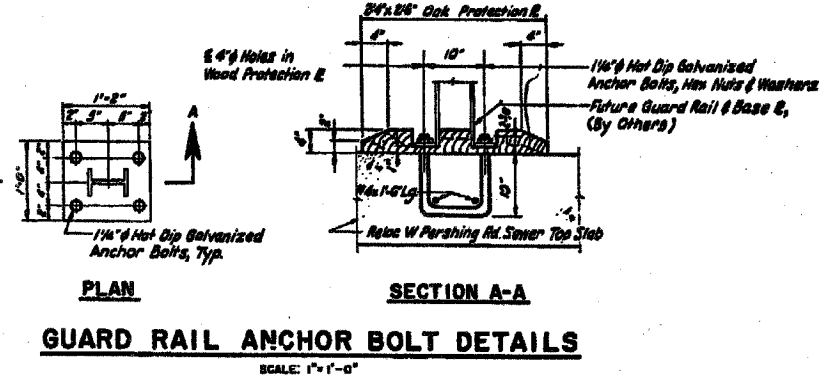
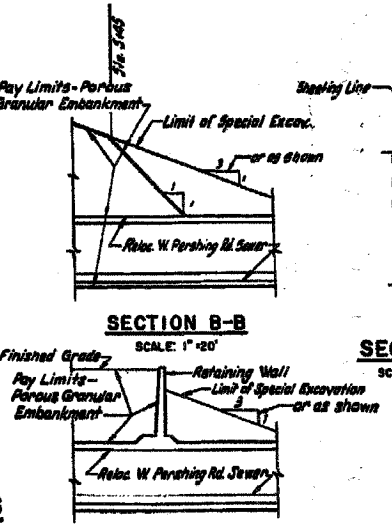
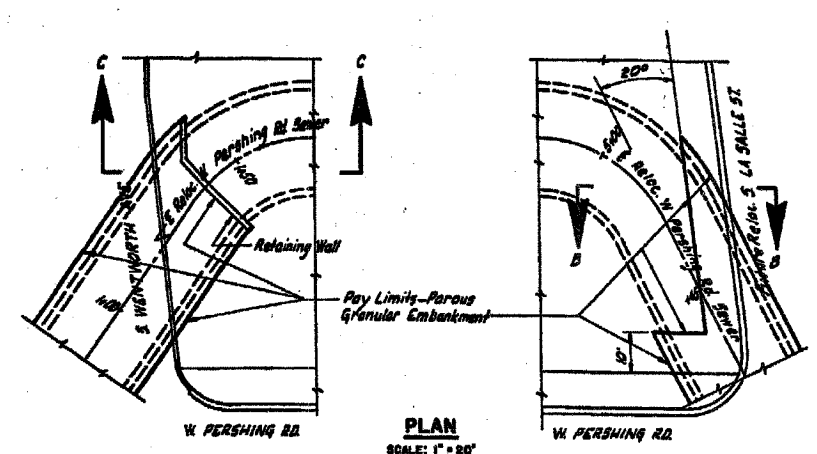
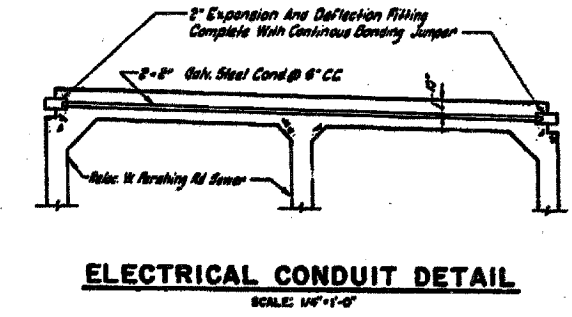
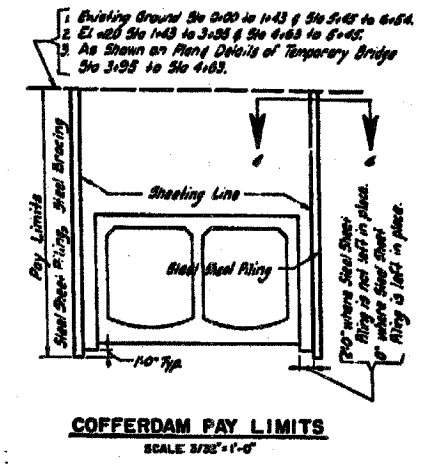
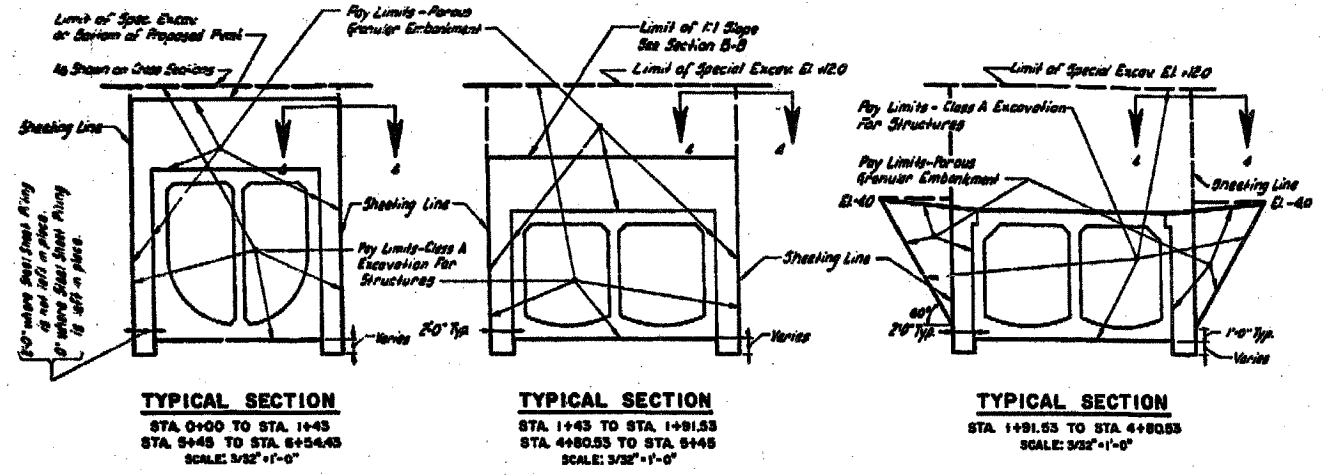
REVISIONS	
NAME	DATE

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ADVIS NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. 1.94	5.212 2-48	COOK	54	54
FOR ROAD DIST. NO. 6 ILLINOIS PROJECT 1-10-3070-54				



- NOTES:**
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.

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BUREAU OF ENGINEERING  
SOUTH ROUTE SUPERHIGHWAY  
SECTION 5-2322-48  
W PERSHING ROAD BRIDGE  
SEWER MISCELLANEOUS  
DETAILS

SHEET CUL-13 OF CUL-16

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

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

REVISIONS	
NAME	DATE

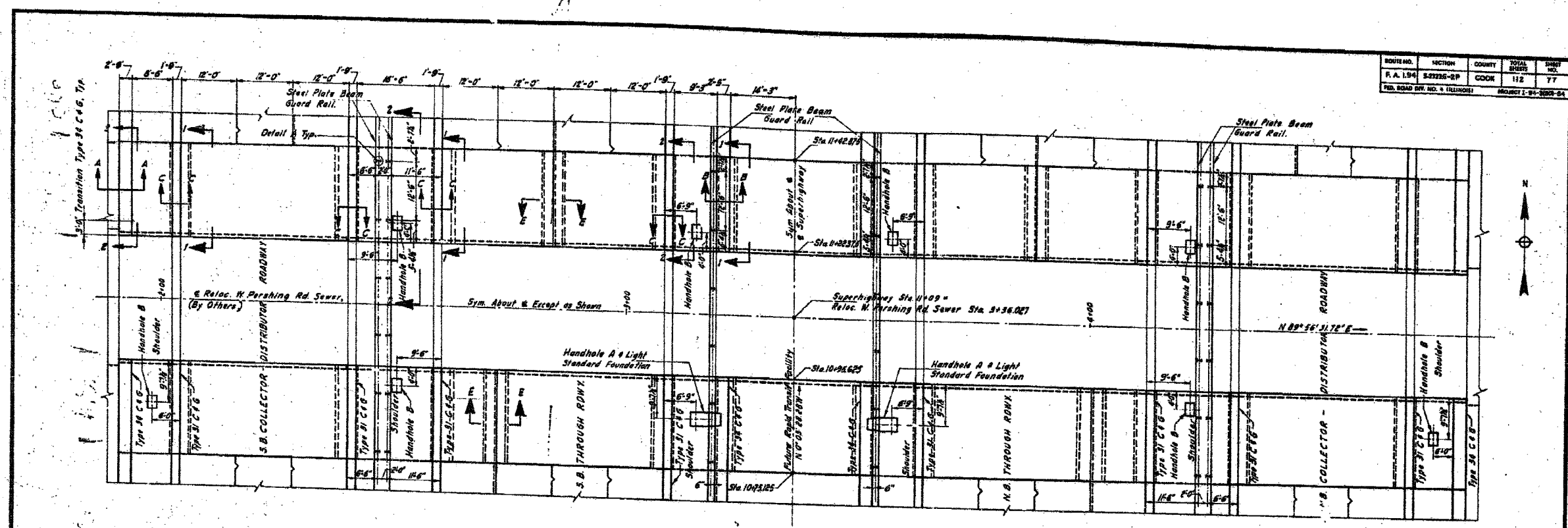
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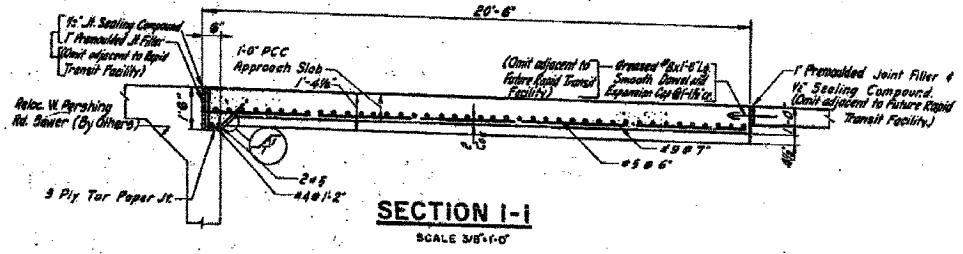
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F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	*	COOK	565	439
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*I2021-922 PT2 ETC 2324.6-1P1	R-10		

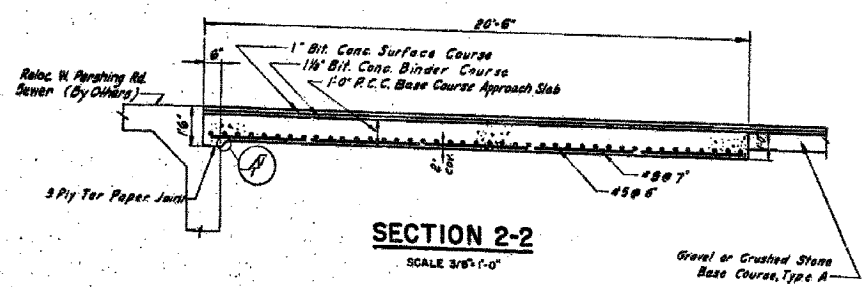
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.	ILLINOIS PROJECT 1-94-2029-24			



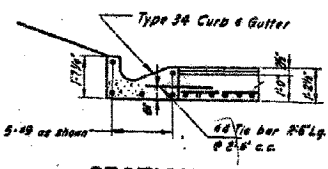
**APPROACH SLAB PLAN**  
SCALE: 1"=10'



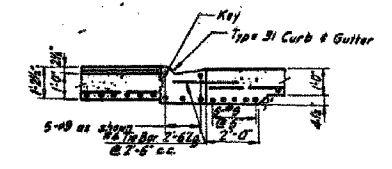
**SECTION I-I**  
SCALE: 3/8"=1'-0"



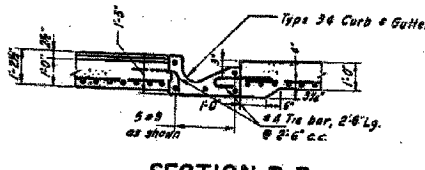
**SECTION 2-2**  
SCALE: 3/8"=1'-0"



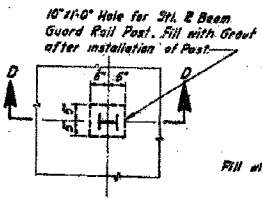
**SECTION A-A**  
SCALE: 3/8"=1'-0"



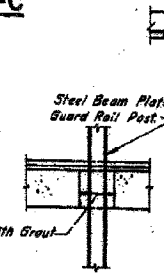
**SECTION C-C**  
SCALE: 3/8"=1'-0"



**SECTION B-B**  
SCALE: 3/8"=1'-0"



**DETAIL A**  
SCALE: 1/2"=1'-0"



**SECTION D-D**  
SCALE: 1/2"=1'-0"

- NOTES**
1. Reinforcement bar cover = 2" except as noted.
  2. For Details of Type 31 & Type 34 Curb & Gutter, see Sheet 6-76.
  3. For Details of Construction Joint, see Sheet 6-81.
  4. For Details of Handhole A & B, and Light Standard Foundation, see Sheet E-3.

CITY OF CHICAGO  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
**SOUTH ROUTE SUPERHIGHWAY**  
SECTION 5-2323B-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  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
MWRD CULVERT, N. OF 39TH ST.,  
COOK COUNTY, S.N. 016-2625  
EXISTING APPROACH SLAB DETAILS

REVISIONS	
NAME	DATE

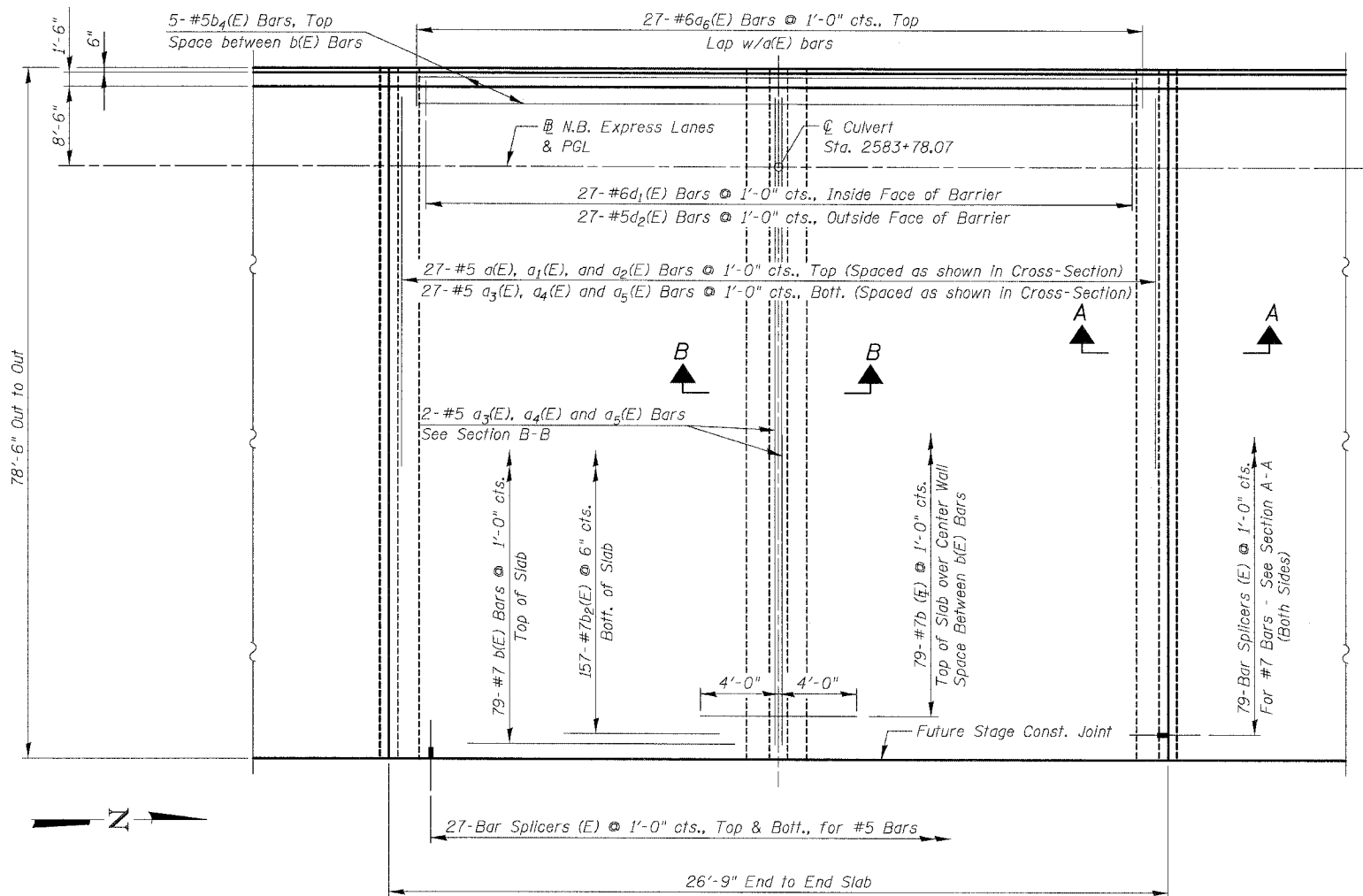
FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbainc.com

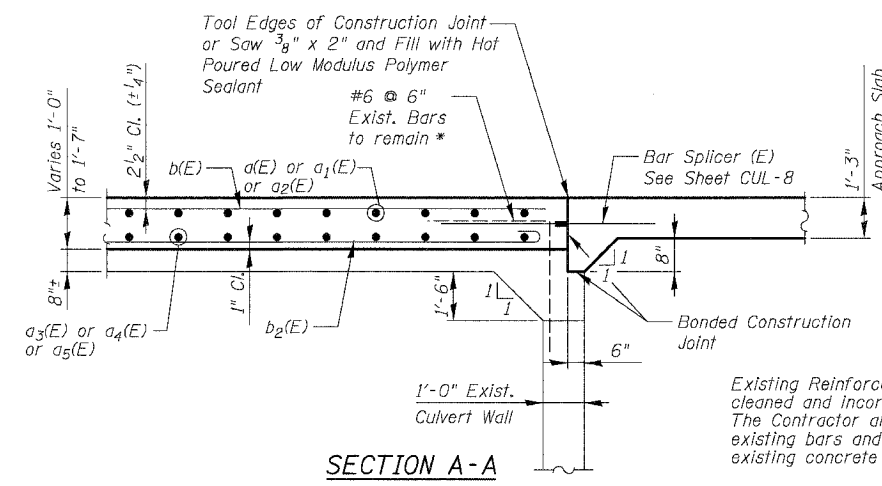
SCALE: N.T.S. DRAWN BY: BDC  
DATE: JUNE 9, 2006 CHECKED BY: BLU



F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	440
STA.	TO STA.			
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
62301 *I2021-922 PT2 ETC 2324.6-1P1 R-10				



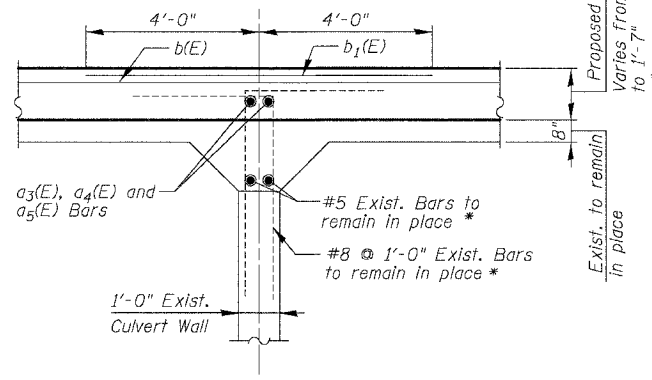
PLAN



SECTION A-A

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".



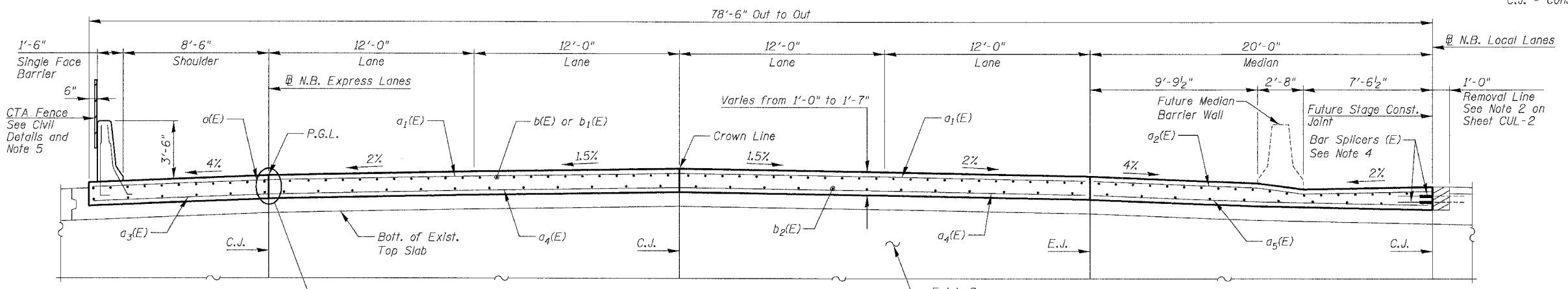
SECTION B-B

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 threaded coupler 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



CROSS-SECTION  
(Looking Upstation)

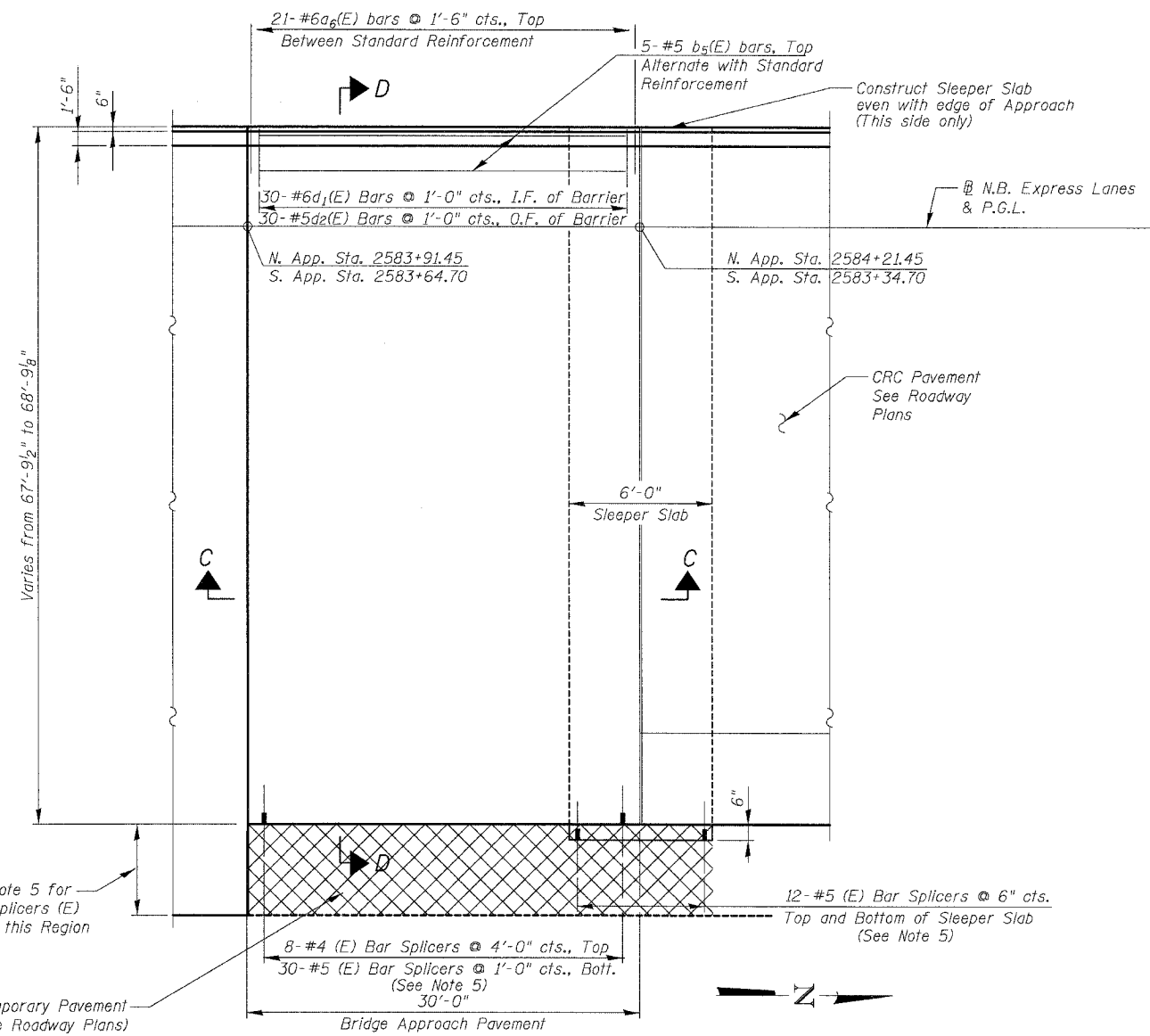
FOR INFORMATION ONLY

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbandinc.com

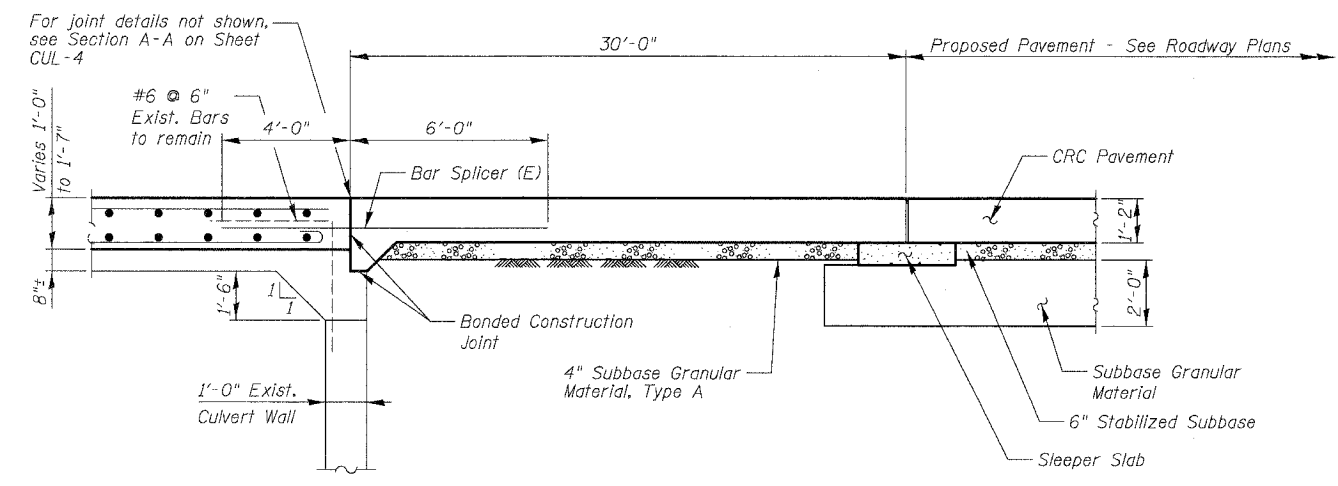
REVISIONS	
NAME	DATE

SHEET CUL-15 OF CUL-16  
ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
MWRD CULVERT, N. OF 39TH ST.,  
COOK COUNTY, S.N. 016-2625  
TOP SLAB FROM CONTRACT 62300  
SCALE: N.T.S. DRAWN BY:  
DATE: JUNE 9, 2006 CHECKED BY: BLU

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90		COOK	565	441
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			



**PARTIAL PLAN**  
North Approach Shown  
South Approach Similar

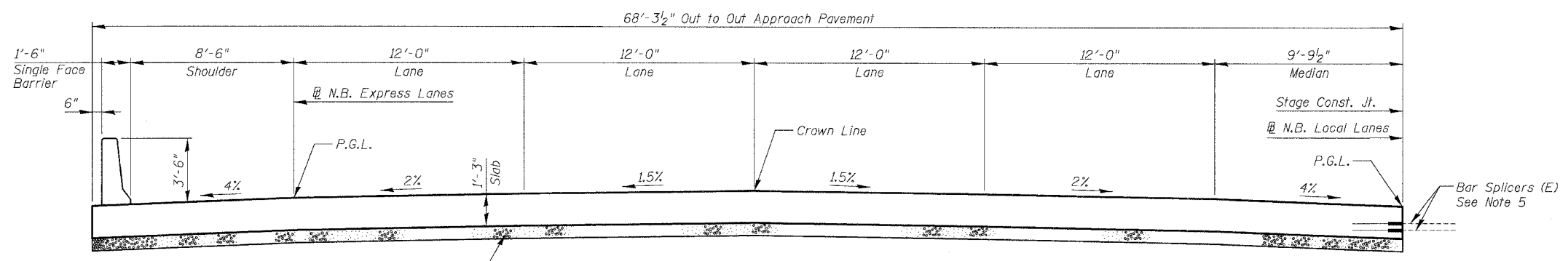


**SECTION C-C**

**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



**SECTION D-D**

FOR INFORMATION ONLY

**SHEET CUL-16 OF CUL-16**

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)  
GARFIELD BLVD TO 31ST STREET (NB LOCAL LANES)  
MWRD CULVERT, N. OF 39TH ST.,  
COOK COUNTY, S.N. 016-2625  
APPROACH SLAB FROM CONTRACT 62300

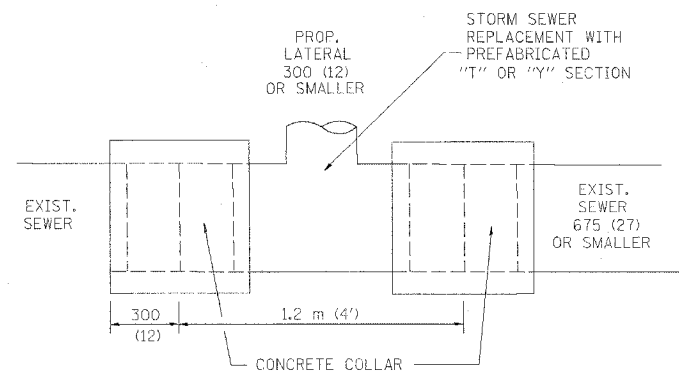
SCALE: N.T.S. DRAWN BY:  
DATE: JUNE 9, 2006 CHECKED BY: BLU

REVISIONS	
NAME	DATE

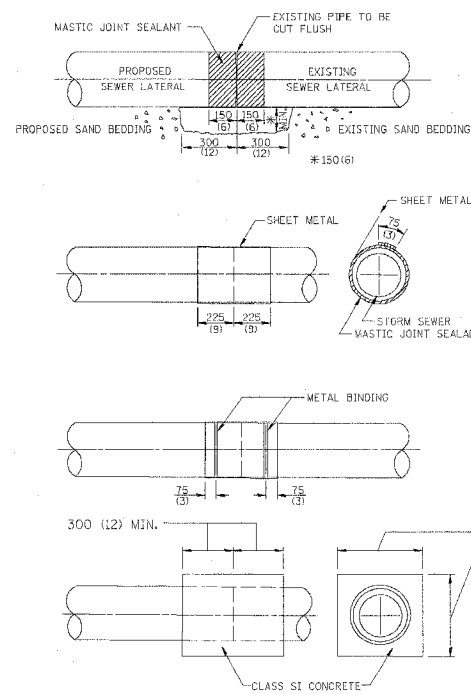
BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbainc.com

404336 PM 6/7/2006

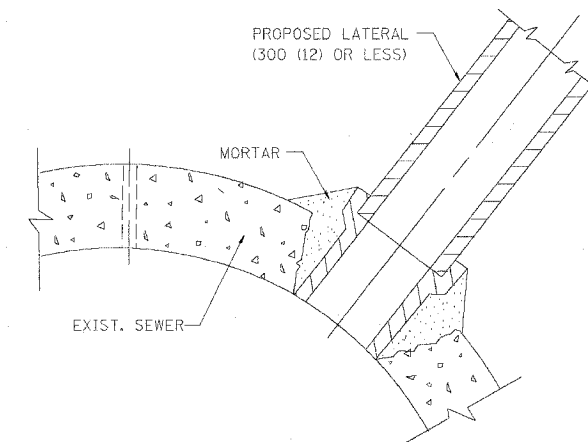
F.A. RITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	665	442
STA.	TO STA.		FED. AID PROJECT	
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 P12 ETC 2324 6-1P) R-10			



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



DETAIL "B"  
CLASS SI CONCRETE COLLAR



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

**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.

**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

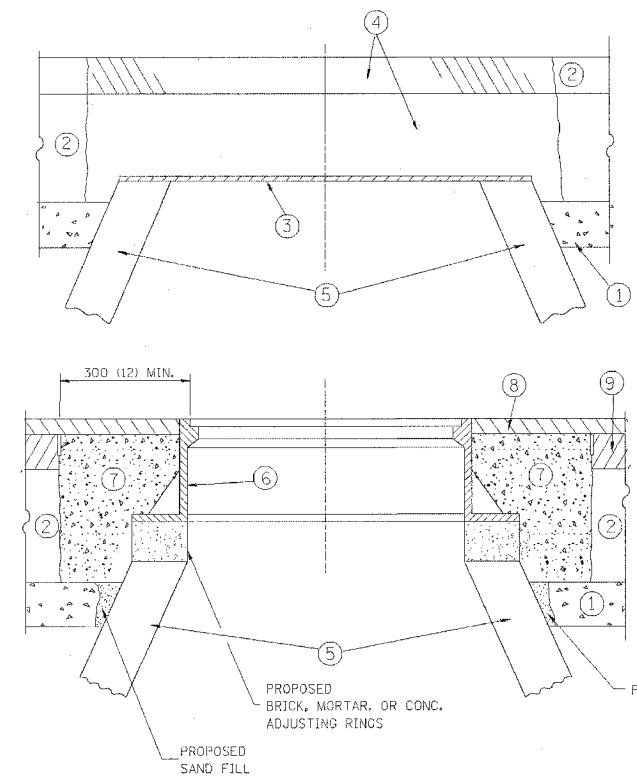
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CHECKED BY

BD500-01 (80-7)

REVISION DATE: 06/12/96

P.A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	666	443
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(2021-622 PT2 ETC 2324 6-1P) R-10			



**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

**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.

**NOTES:**

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

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

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

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

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

**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

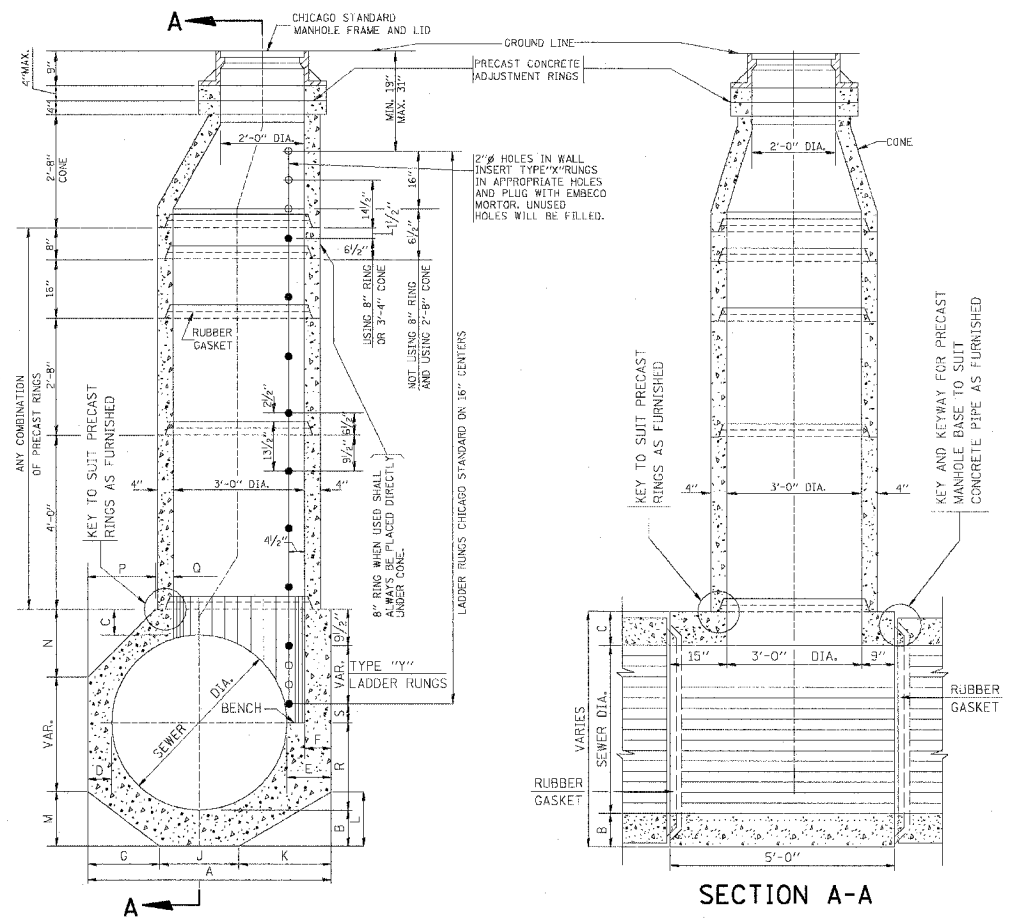
ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

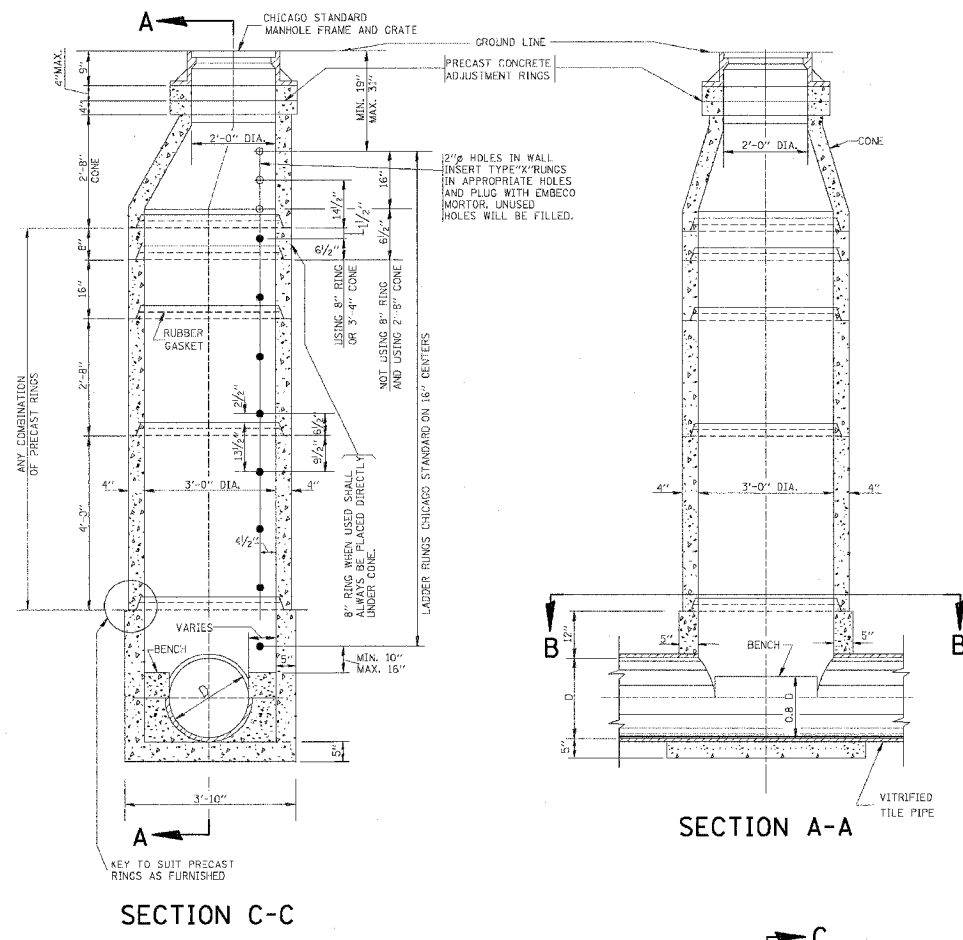
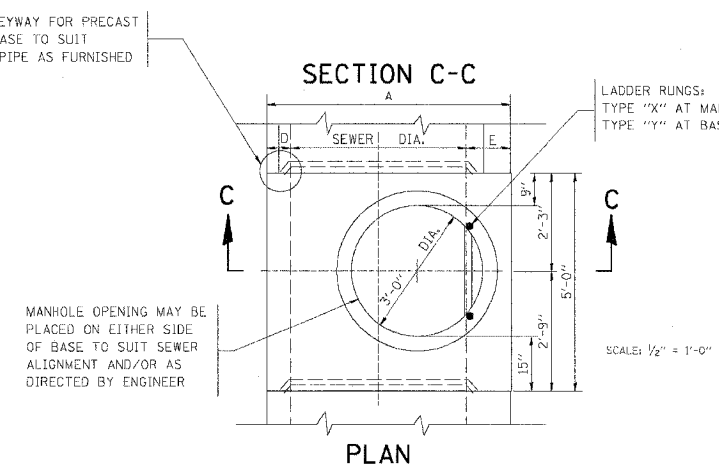
REVISIONS	
NAME	DATE
R. SHAH	10/25/94
R. SHAH	01/30/95
R. SHAH	03/10/95
A. ABBAS	03/21/97
R. WIEDEMAN	05/14/04

SCALE: NONE  
DATE: 05/17/2004

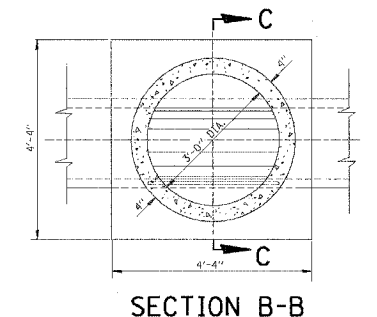
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CHECKED BY  
BD600-03 (BD-8)  
REVISION DATE: 05/17/04



**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 OF 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"	12"	16 1/2"	12"	4'-0"	4'-0"	4'-4 1/2"	2'-7 1/2"	2'-5"	3'-7"	4'-8 1/2"	2'-0"	2 1/2"	7
108"		11"-4 1/2"	12"	12"	12"	16 1/2"	12"	3'-8"	3'-8"	4'-0 1/2"	2'-5"	2'-2"	3'-4"	3'-4"	4'-0 1/2"	2'-0"	6
102"		10"-10 1/2"	12"	12"	12"	16 1/2"	12"	3'-6"	3'-6"	3'-10 1/2"	2'-4"	2'-1"	3'-2"	3'-2"	3'-8 1/2"	2'-0"	5
96"	10-A	10"-2 1/2"	11"	11"	11"	15 1/2"	11"	3'-3"	3'-3"	3'-8 1/2"	2'-3"	2'-3"	2'-11"	2'-11"	3'-4 1/2"	2'-0"	9 1/2"
90"	10-B	9"-8 1/2"	11"	11"	11"	15 1/2"	11"	3'-1"	3'-1"	3'-6 1/2"	2'-1 1/2"	2'-2"	2'-10"	2'-10"	2'-11 1/2"	2'-0"	3 1/2"
84"	10-C	9"-0 1/2"	10"	10"	10"	14 1/2"	10"	2'-11"	2'-11"	3'-2 1/2"	2'-3"	2'-1"	2'-7"	2'-7"	2'-7 1/2"	2'-0"	4
78"	10-D	8"-6 1/2"	10"	10"	10"	14 1/2"	10"	2'-9"	2'-9"	3'-0 1/2"	2'-2"	2'-0"	2'-6"	2'-6"	2'-2 1/2"	2'-0"	6 1/2"
72"	10	7"-10 1/2"	9"	9"	9"	13 1/2"	9"	2'-6"	2'-6"	2'-10 1/2"	2'-1"	1'-8"	2'-3"	2'-3"	2 1/2"	2'-0"	4
66"	11	7"-4 1/2"	9"	9"	9"	13 1/2"	9"	2'-4"	2'-4"	2'-8 1/2"	1'-9 1/2"	1'-7"	2'-1"	2'-1"	1 1/2"	2'-0"	3
60"	12	6"-8 1/2"	8"	8"	8"	12 1/2"	8"	2'-1 1/2"	2'-1 1/2"	2'-6"	1'-8"	1'-5"	2'-3"	2'-3"	1 3/4"	2'-0"	2 1/2"
54"	13	6"-2 1/2"	8"	8"	8"	12 1/2"	8"	2'-4"	2'-4"	2 3/4"	2'-4"	1'-7"	1'-4"	2'-1"	2'-1"	2'-0"	3
48"	14	5"-6 1/2"	7"	7"	7"	11 1/2"	7"	2'-0 1/2"	2'-0 1/2"	2'-1"	1'-5"	1'-2 1/2"	1'-8 1/2"	1'-8 1/2"	5"	2'-0"	2
42"	15	5"-0 1/2"	7"	7"	7"	11 1/2"	7"	1'-8 1/2"	1'-8 1/2"	1'-9"	1'-4"	1'-1"	---	---	1 1/2"	2'-0"	2
36"	16	4"-4 1/2"	6"	6"	6"	10 1/2"	6"	1'-6"	1'-6"	20 1/2"	12 1/2"	9 1/2"	---	---	10 1/2"	1'-0"	1
30"	17	4"-0"	6"	6"	6"	12"	6"	1'-4"	1'-4"	20"	12"	8 1/2"	---	---	6"	1'-0"	1
24"	18	4"-0"	6"	6"	6"	12"	6"	1'-6"	1'-6"	16"	16"	9 1/2"	9 1/2"	---	---	6"	12"

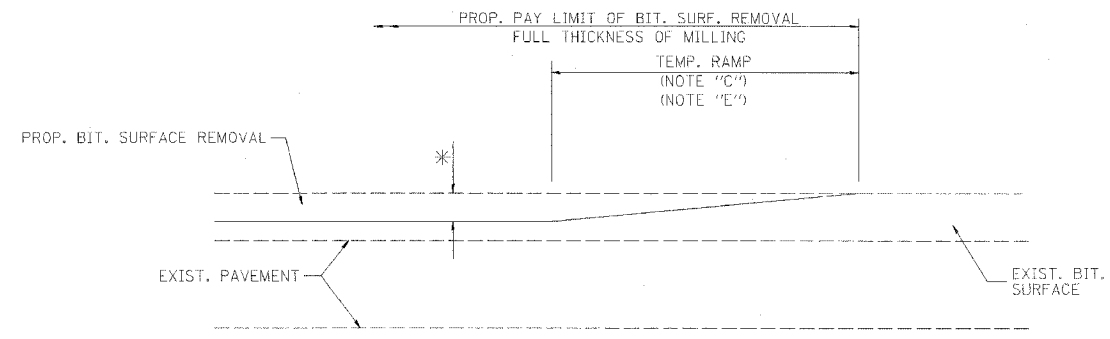
FOR STATE CONTRACT ALL DIMENSIONS SHOULD BE PREPARED IN METRIC UNITS. SOFT CONVERSION METHOD SHOULD BE USED.

REVISIONS			
DATE	DESCRIPTION	MD?	
6-18-82	CHICAGO STANDARD MH		
9-22-90	TYPE "A" MANHOLE		

**CITY OF CHICAGO DRAINAGE DETAILS**

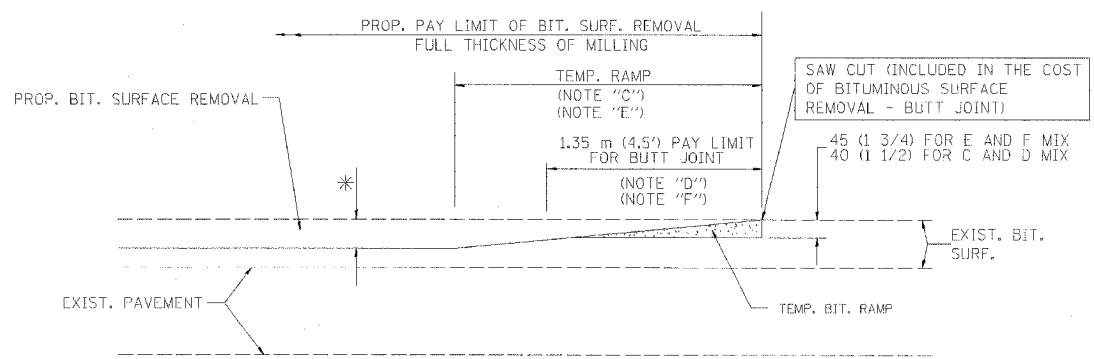
10/18/2002

F. A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	665	445
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			



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

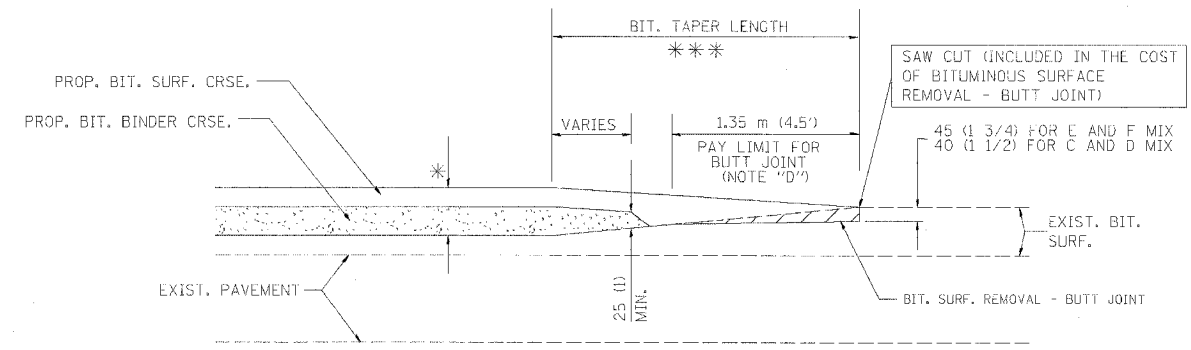
OPTION 1



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

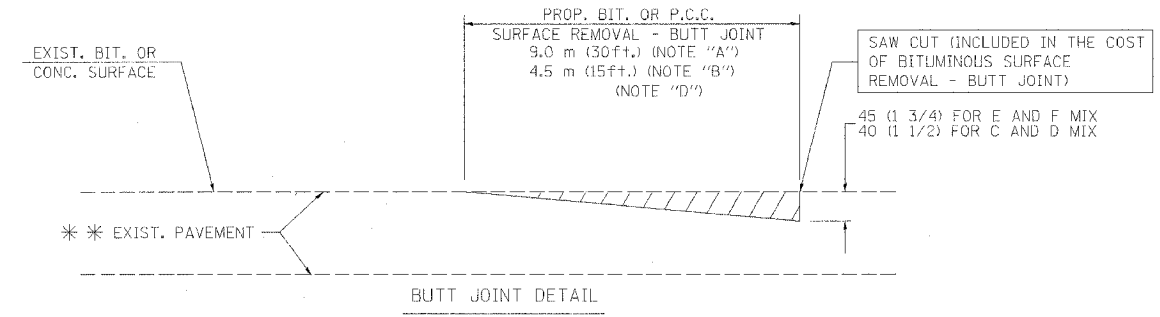
OPTION 2

TYPICAL TEMPORARY RAMP

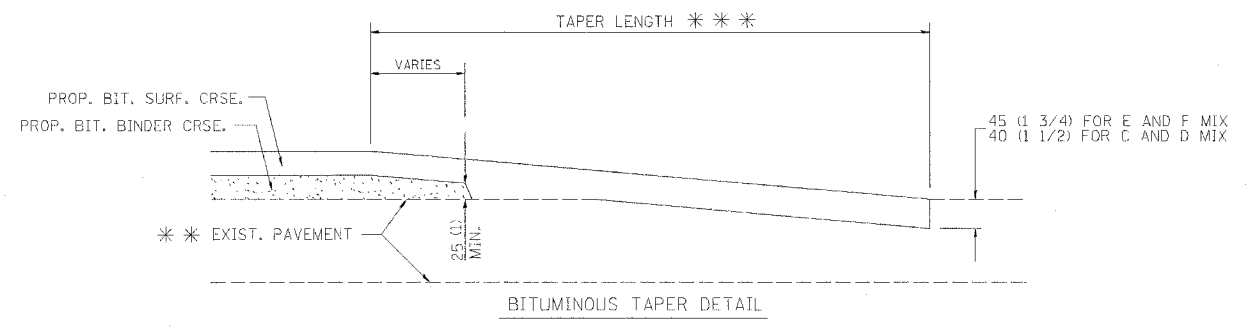


BUTT JOINT AND BITUMINOUS TAPER

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.

ILLINOIS DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND BITUMINOUS TAPER DETAILS

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".

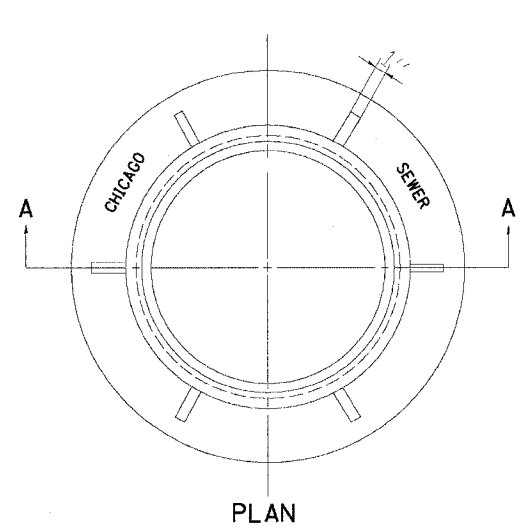
REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97
M. GOMEZ	04/06/01

SCALE: NONE  
DATE PLOTTED: 10/18/2002

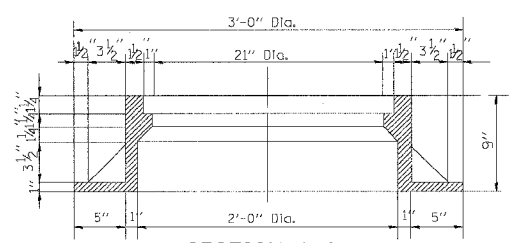
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CHECKED BY  
BD400-05 (VI-BD32)

REVISION DATE: 04/06/01

62301	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094			COOK	565	446
STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			
*(201-822 FT2 ETC 2324.6-1P) R-10					



PLAN



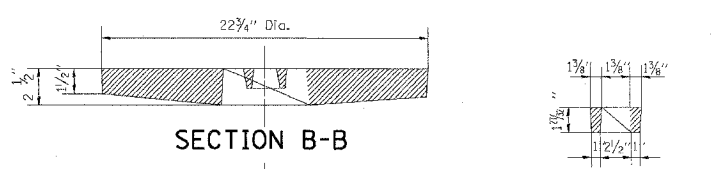
SECTION A-A

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

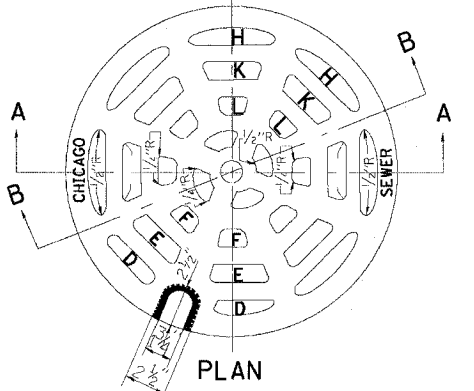
**CHICAGO STANDARD MANHOLE FRAME**

Scale: 1/2"=1'-0"

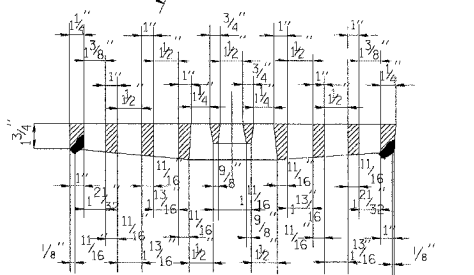
Material: Cast Iron



SECTION B-B



PLAN



SECTION A-A

**PERFORATED LID FOR CATCH BASINS & MANHOLES**

Scale: 2"=1'-0"

Material: Cast Iron

SECTION D-D

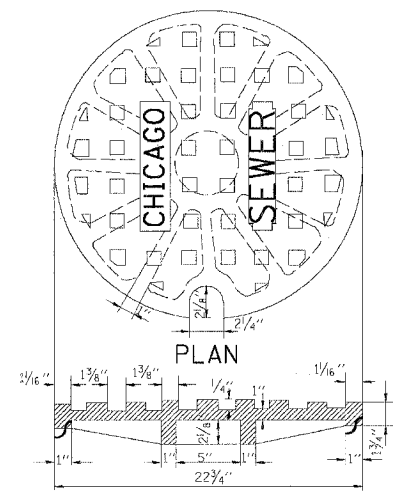
SECTION E-E

SECTION F-F

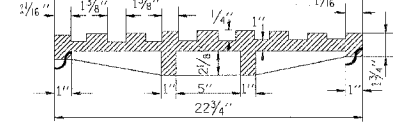
SECTION H-H

SECTION K-K

SECTION L-L



PLAN

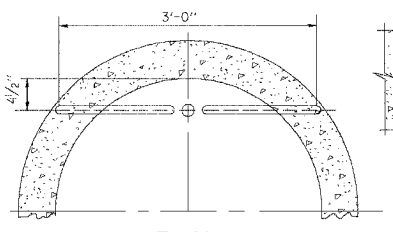


SECTION

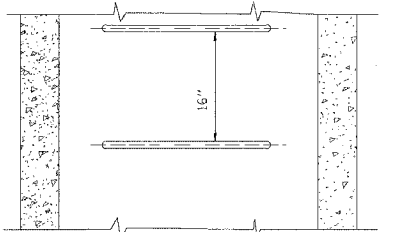
**SOLID LID FOR MANHOLES**

Scale: NONE

Material: Cast Iron

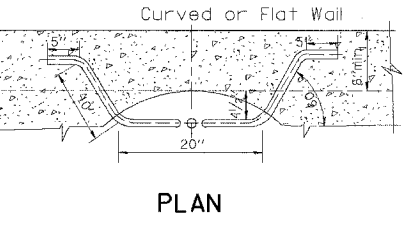


PLAN

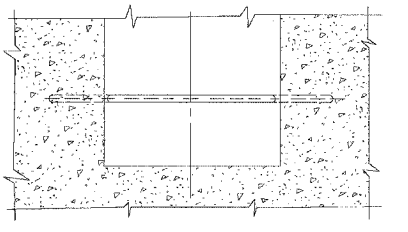


ELEVATION TYPE X

Scale: 1"=1'-0"

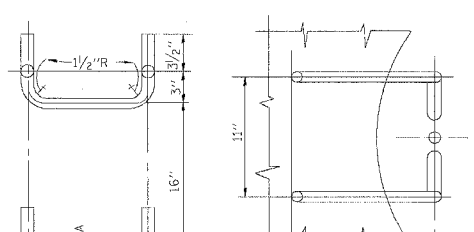


PLAN

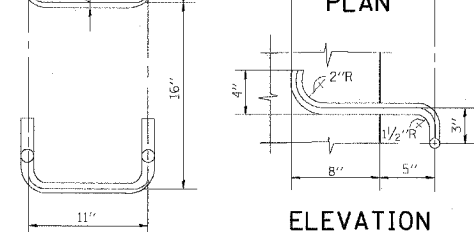


ELEVATION TYPE Y

Scale: 1"=1'-0"



PLAN



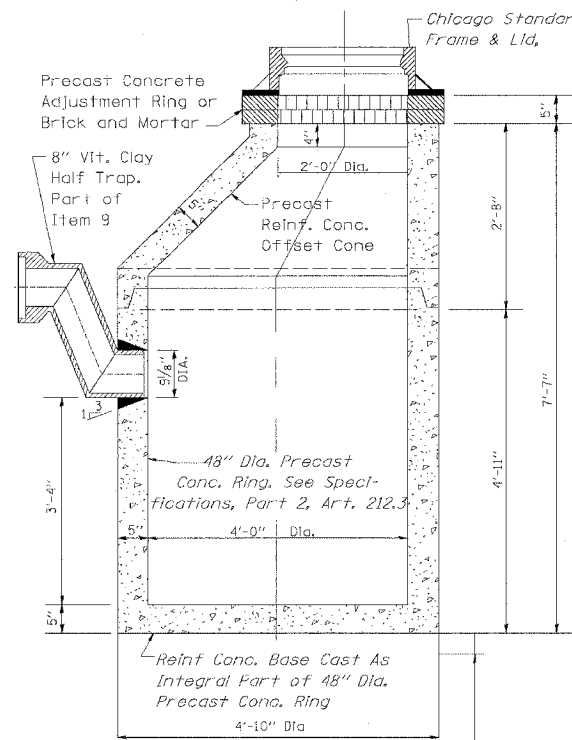
ELEVATION

SPACING HANDHOLD-TYPE Z RUNG

Scale: 1/2"=1'-0"

**STANDARD LADDER RUNGS**

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



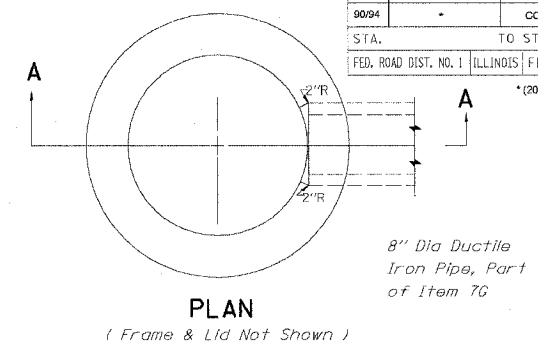
PRECAST

Note: 6" Minimum Granular Embedment Under All Catch Basins

**STANDARD CATCH BASINS**

Scale: 3/4"=1'-0"

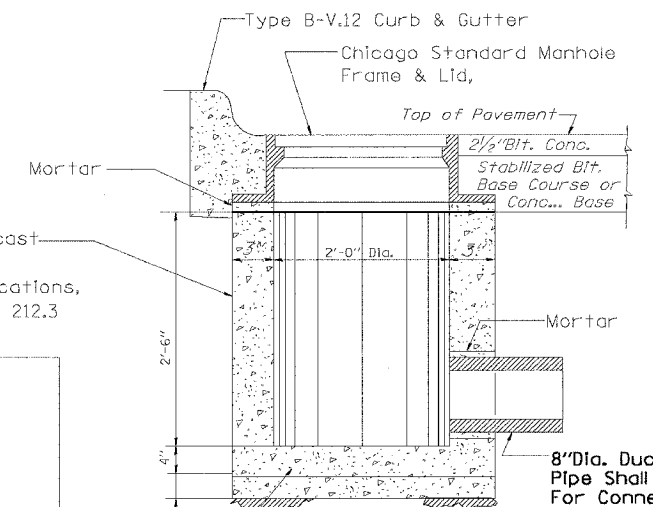
Item 9



PLAN

(Frame & Lid Not Shown)

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



SECTION A-A

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

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

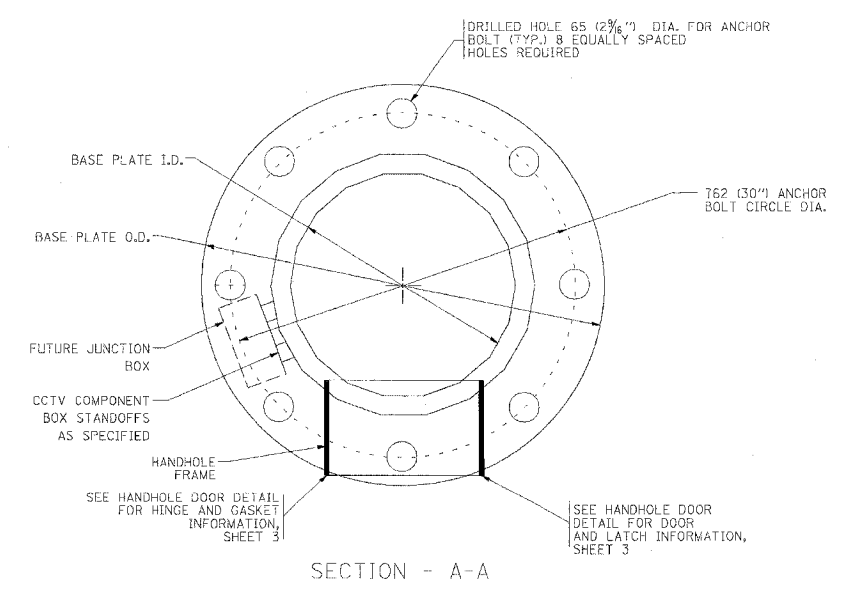
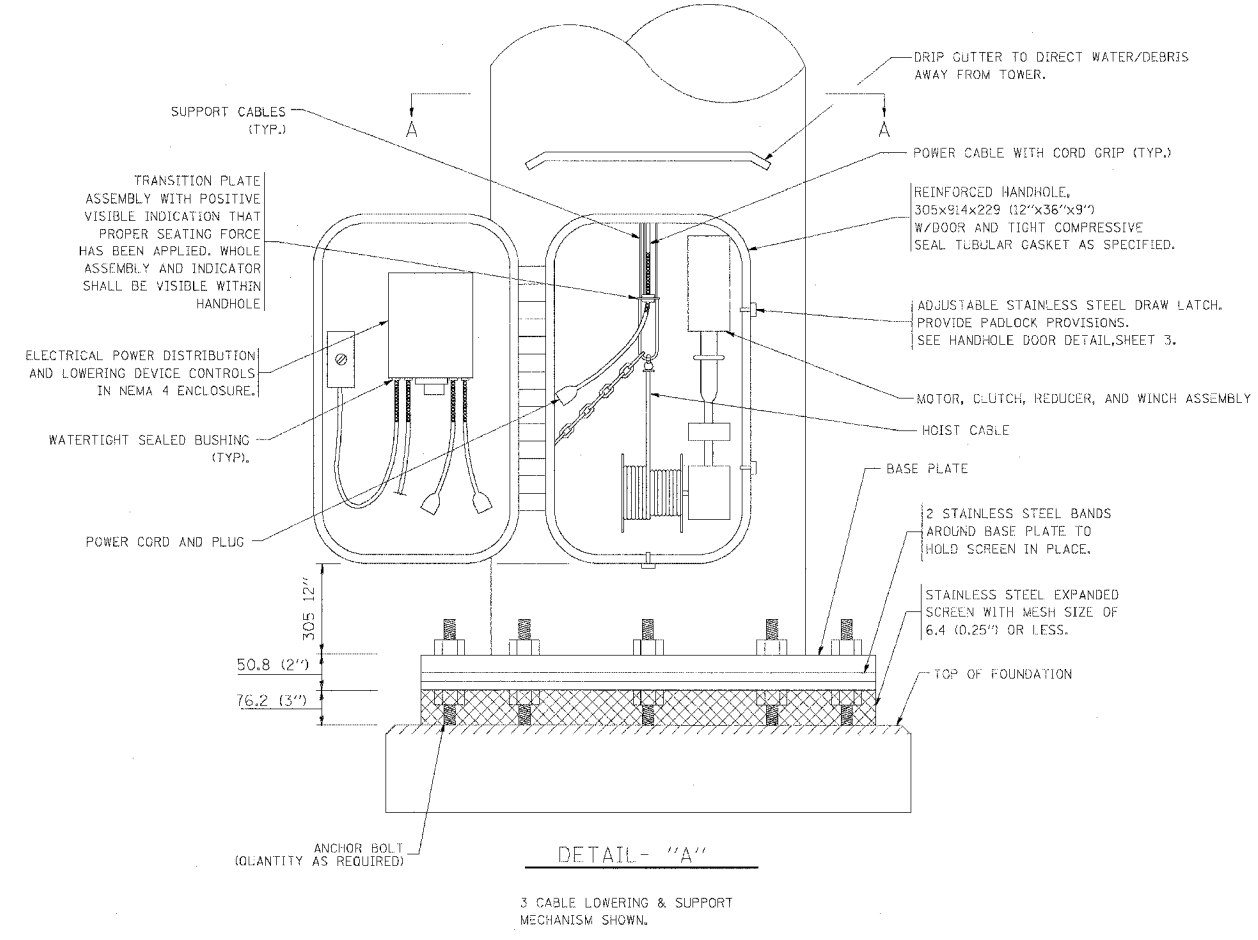
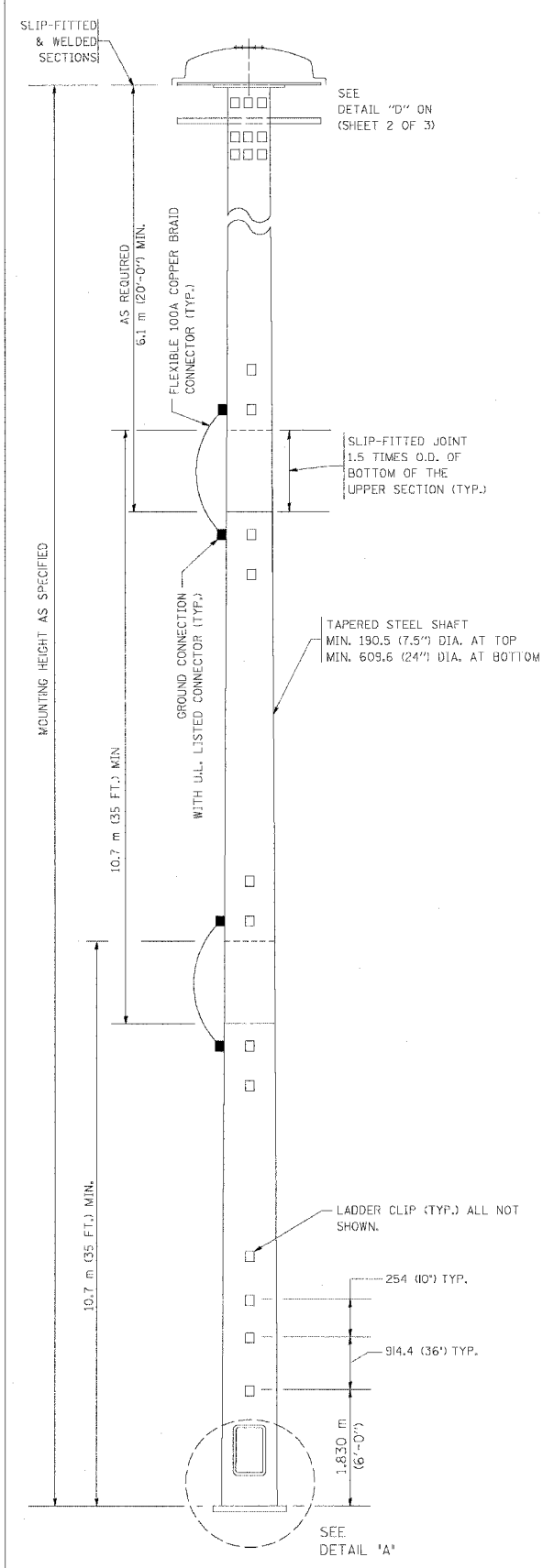
DRAWN BY CHECKED BY

\*DATE-TIME\* \*DGN-SPEC\* \*V-BD\*

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094		COOK	666	447
STA.	TO STA.			
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
62301		*(2021-922 FT2 ETC 2324.6-1P) R-10		

**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 FROM 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



REVISIONS	
NAME	DATE

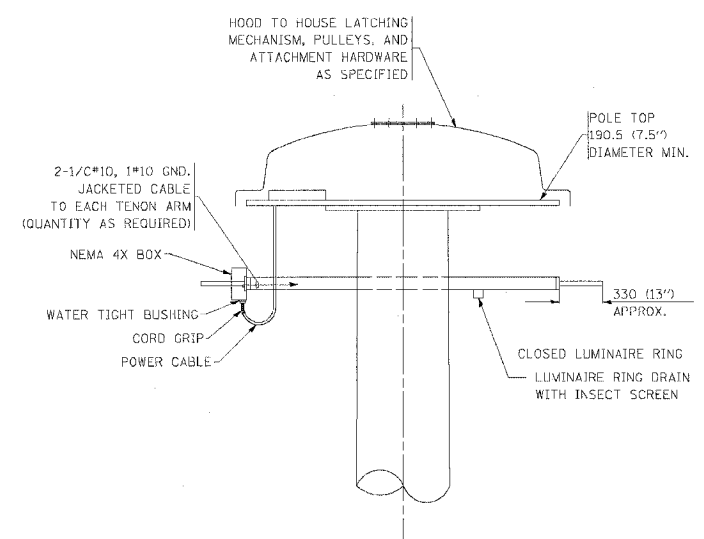
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**HIGH MAST LIGHT TOWER**  
**27m TO 36m (90FT TO 120FT)**  
**SHEET 1 OF 3**

SCALE: VERT. NONE  
HORIZ. DATE

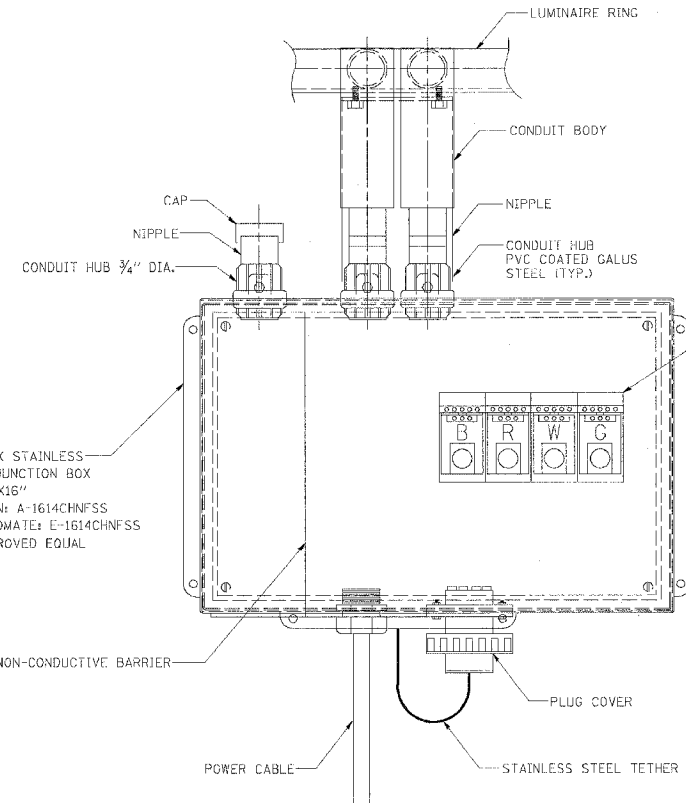
DRAWN BY  
CHECKED BY



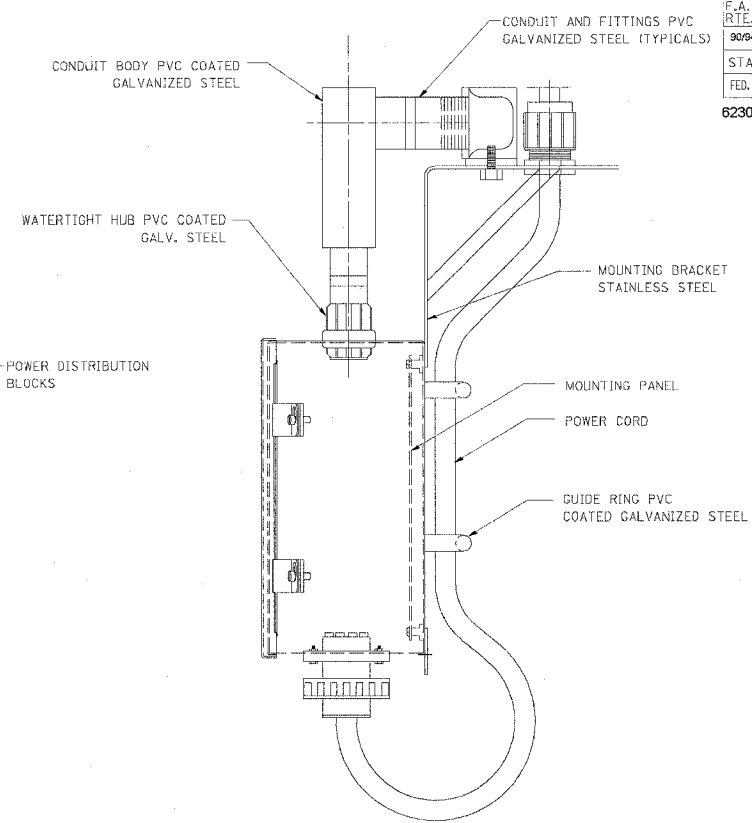
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	600	448
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
62301		*(201-922 PT2 ETC 2324.6-1P) R-10		



DETAIL - "D"

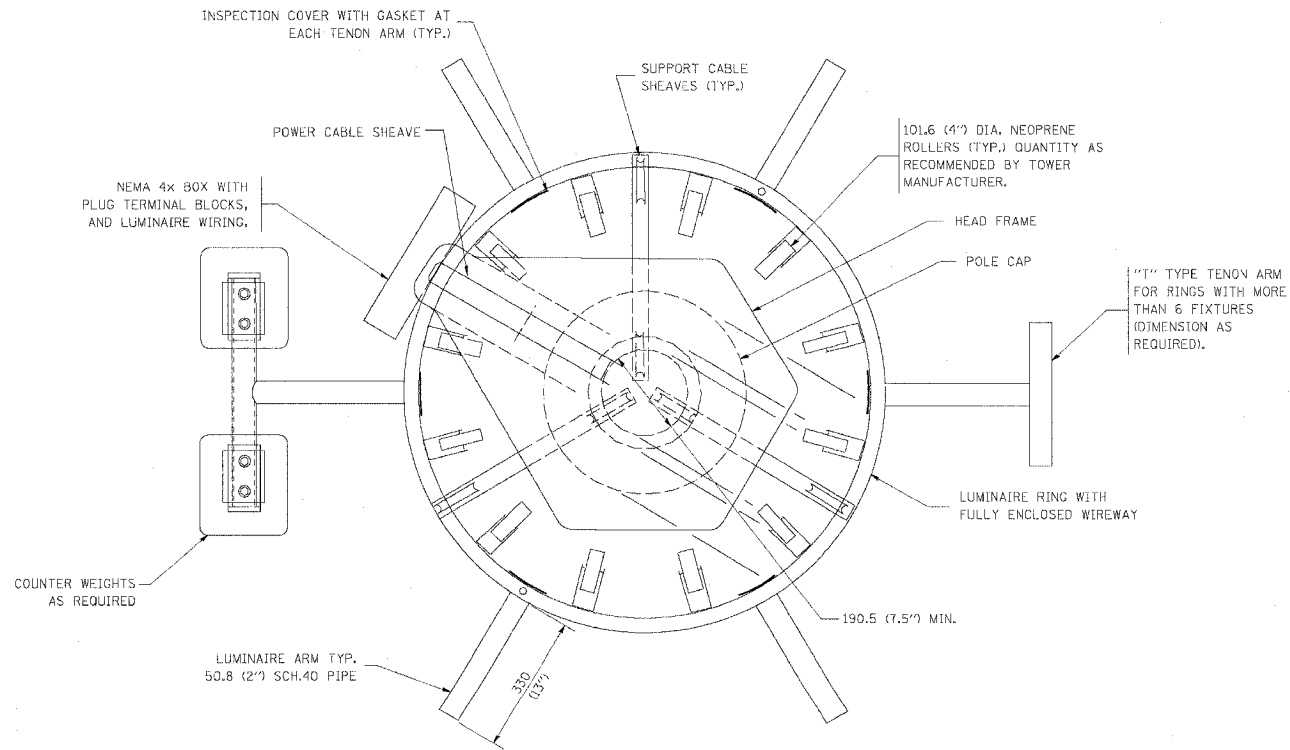


FRONT VIEW



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-I-81765/1.

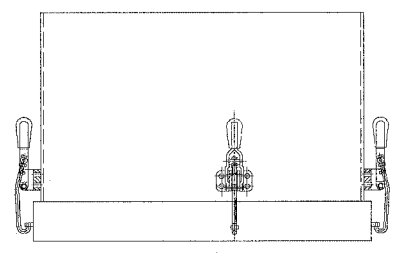
E-500

REVISIONS	
NAME	DATE

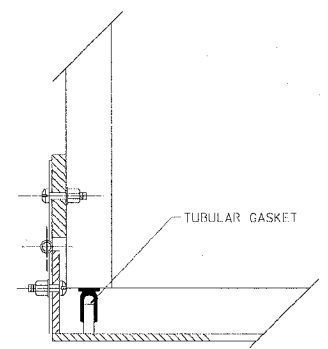
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**HIGH MAST LIGHT TOWER**  
**27m TO 36m (90FT TO 120FT)**  
**SHEET 2 OF 3**

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

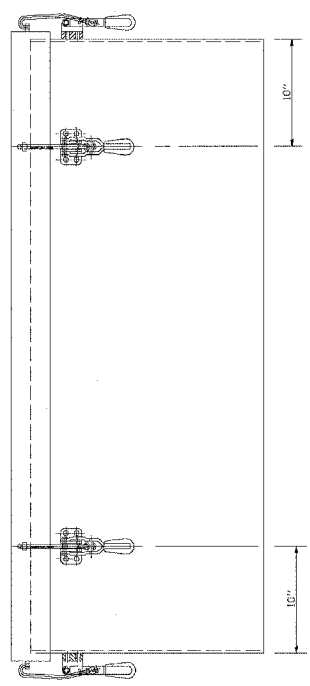
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	665	449
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
62301		*(2021-922 PT2 ETC 2324.6-1P) R-10		



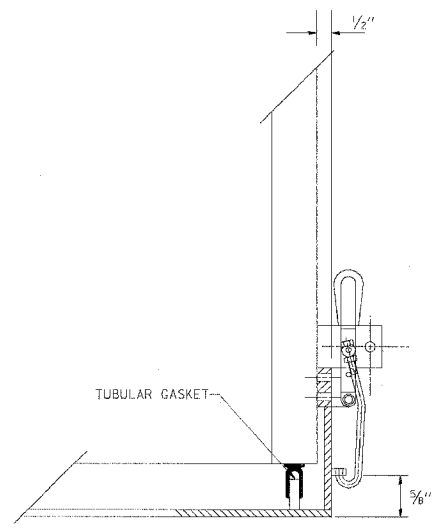
TOP VIEW



HINGE DETAIL

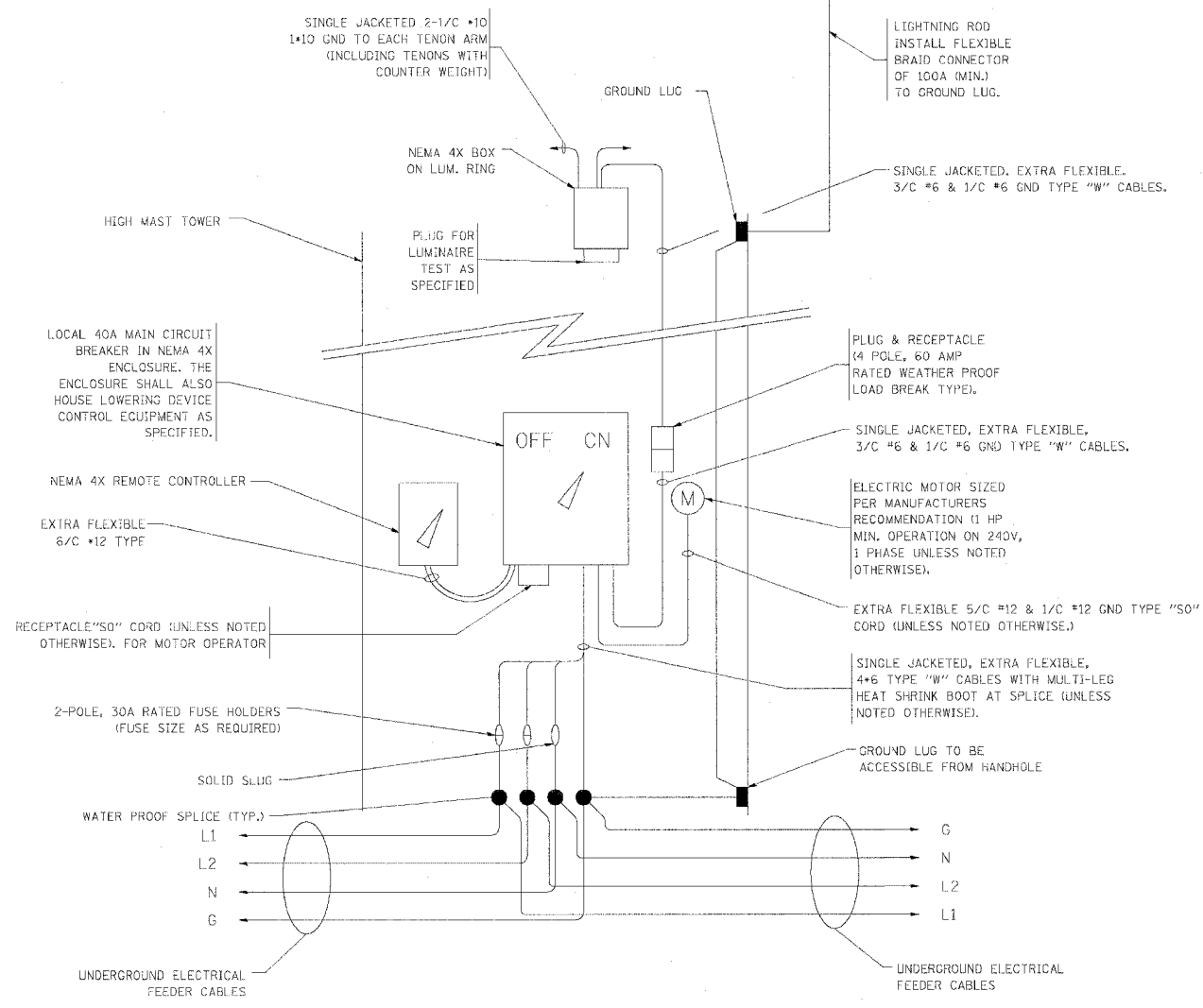


SIDE VIEW

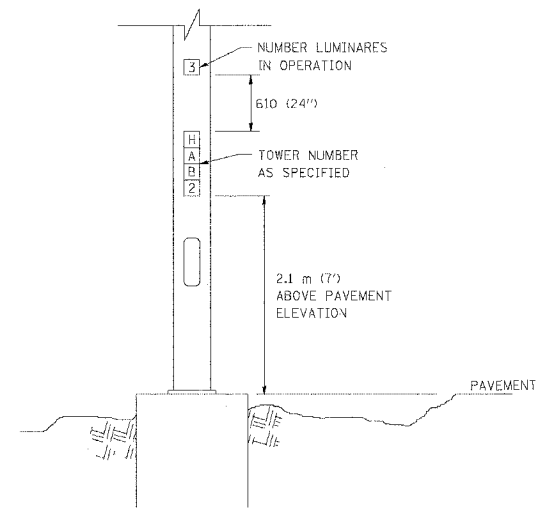


LATCH DETAIL

HANDHOLE DOOR DETAILS



HIGH MAST POLE WIRING DIAGRAM



LIGHT TOWER NUMBERING DETAIL

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

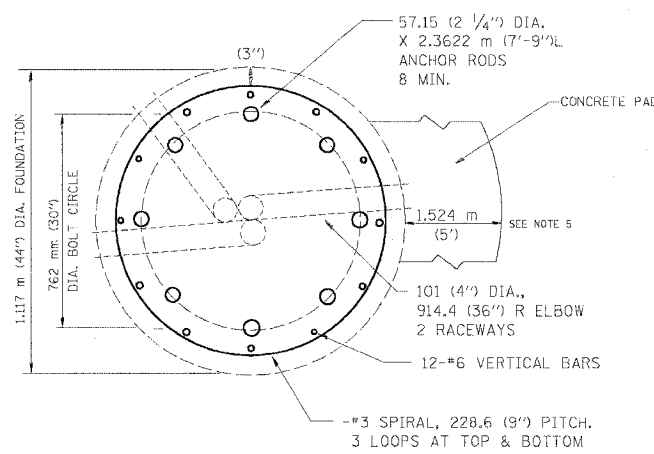
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9094	*	COOK	565	450
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(201-922-PT2 ETC 2324.6-1P) R-10			

**LIGHT TOWER FOUNDATION DEPTH "D"**

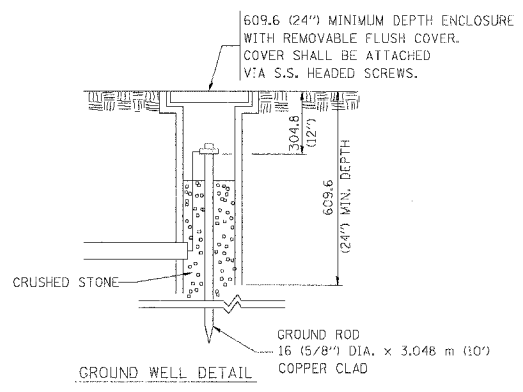
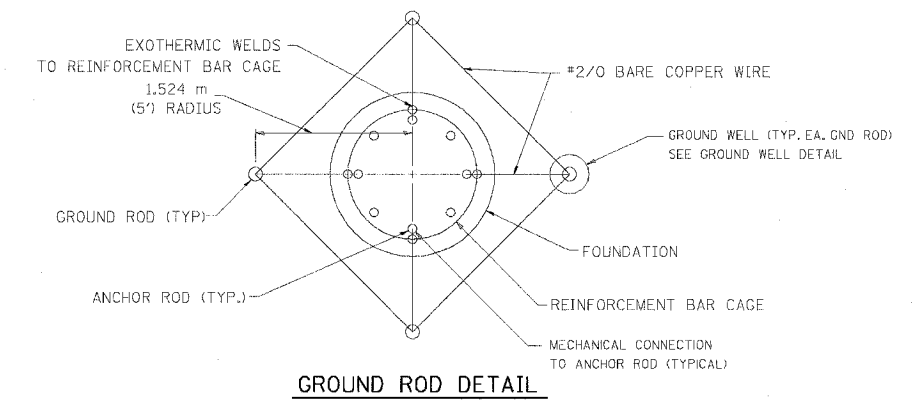
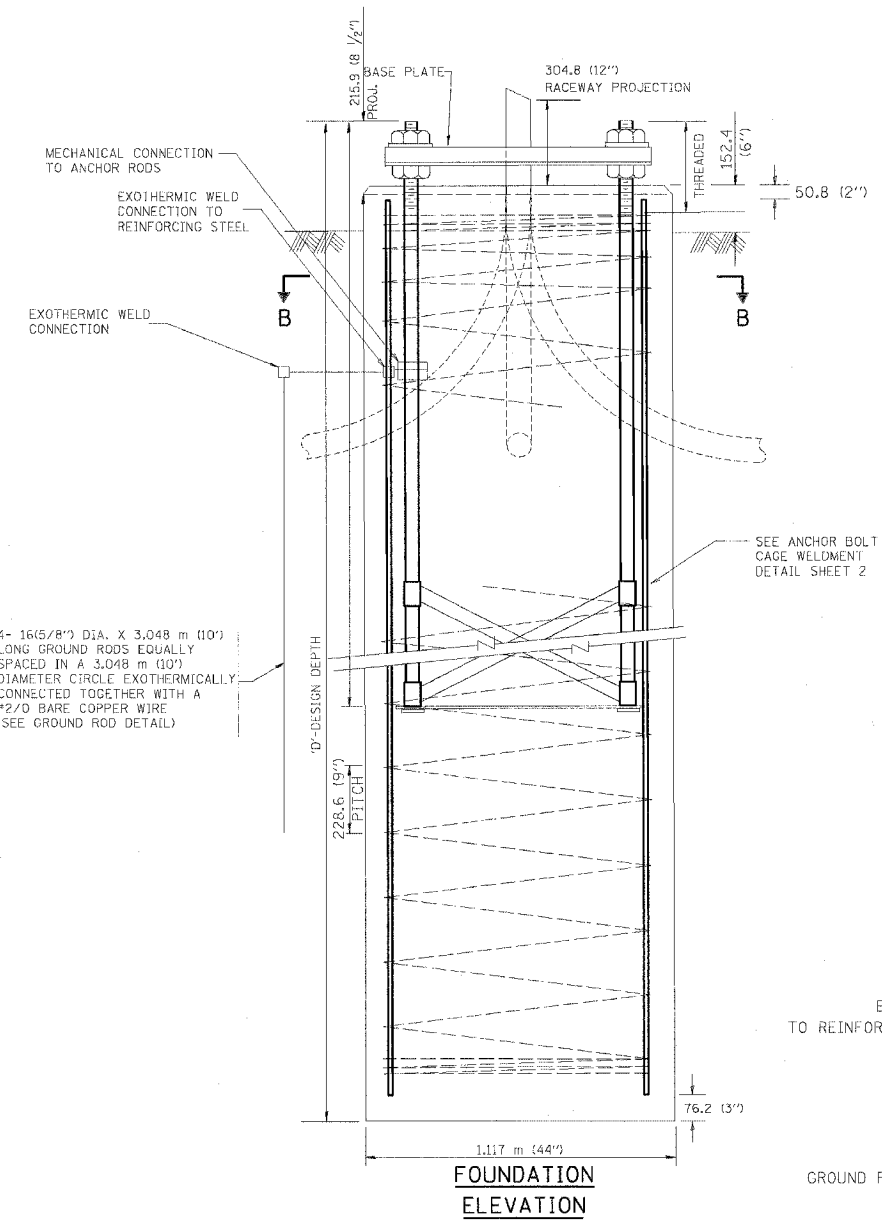
MOUNTING HEIGHT	SOIL CONDITIONS					
	SOFT CLAY Qu = 0.375 TON/SQ. FT	MEDIUM CLAY Qu = 0.75 TON/SQ. FT	STIFF CLAY Qu = 1.50 TON/SQ. FT	LOOSE SAND φ = 34°	MEDIUM SAND φ = 37.5°	DENSE SAND φ = 40°
27m (90 ft)	8.779m (29 ft)	6.035m (20 ft)	4.389m (15 ft)	4.389m (15 ft)	3.840m (13 ft)	3.429m (12 ft)
30m (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.



4- 16(5/8") DIA. X 3.048 m (10') LONG GROUND RODS EQUALLY SPACED IN A 3.048 m (10') DIAMETER CIRCLE EXOTHERMICALLY CONNECTED TOGETHER WITH A #2/0 BARE COPPER WIRE (SEE GROUND ROD DETAIL)



REVISIONS	
NAME	DATE

BE501

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

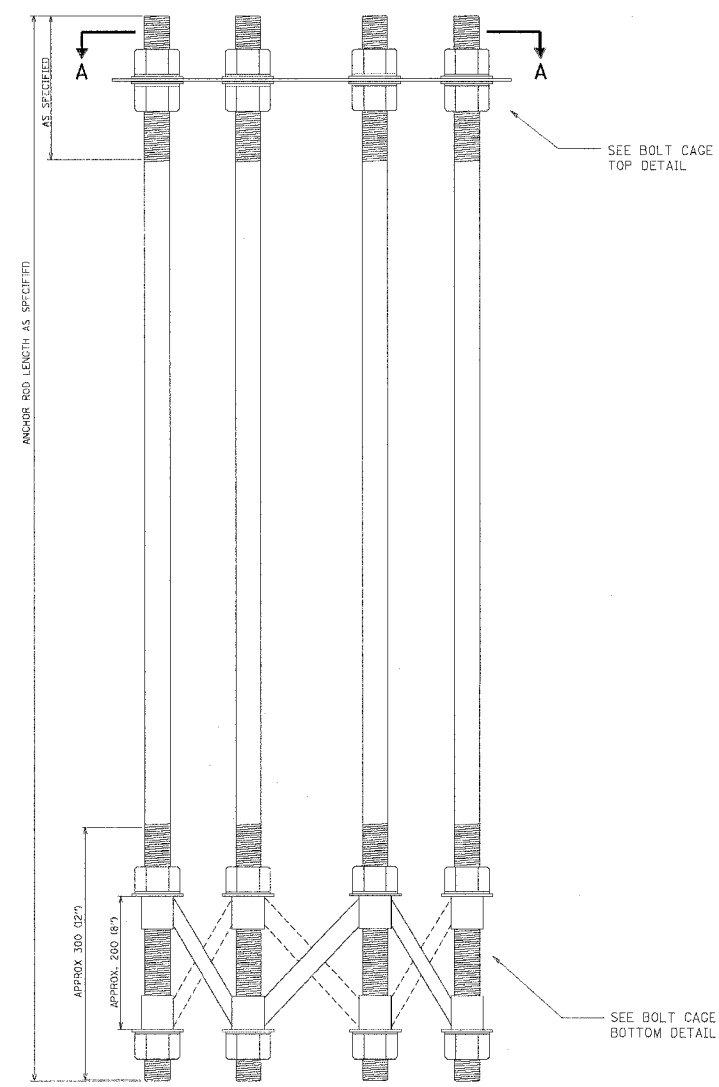
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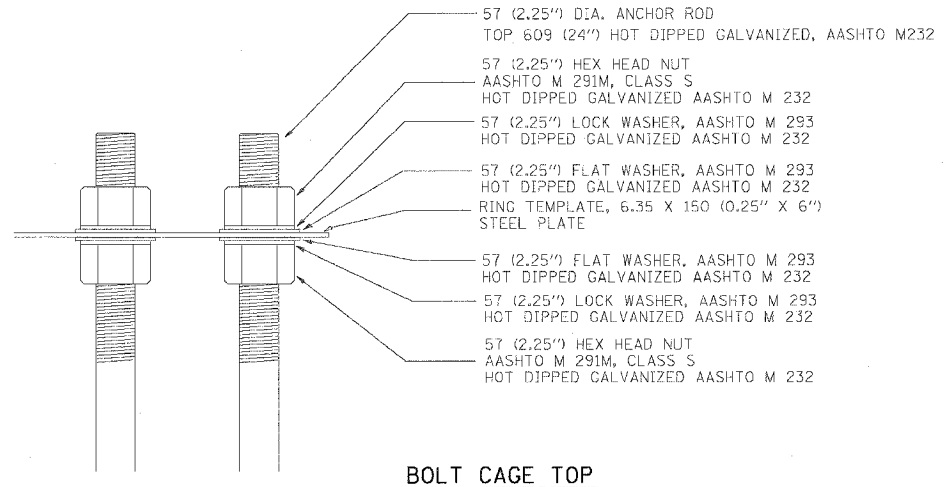
BE08 (BE501)

\*DATE-TIME\*  
\*DGN-SPEC\*  
\*V-H-B-E\*

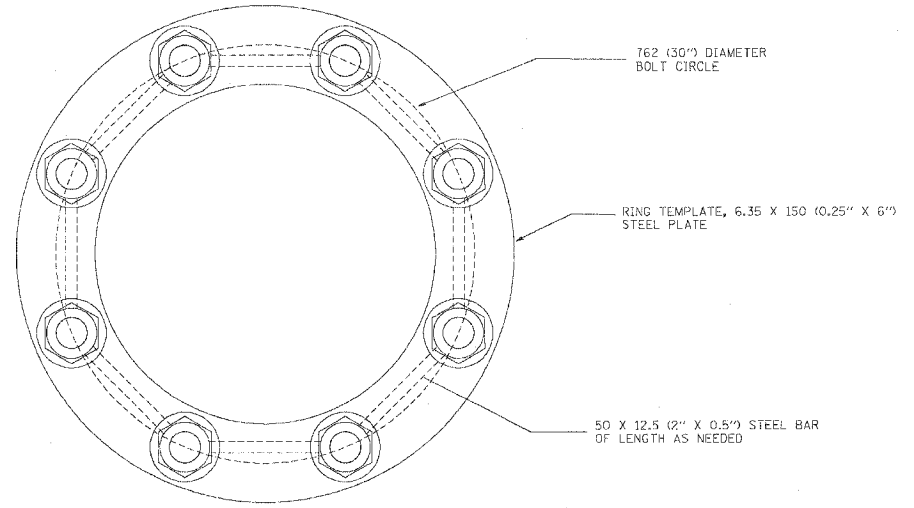
F. & S. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94	*	COOK	565	451
STA.	TO STA.			
FED. ROAD DIST. NO. 1	BID NO.	FED. AID PROJECT		
62301		*(2021-922 P12 ETC 2324-6-1P) R-10		



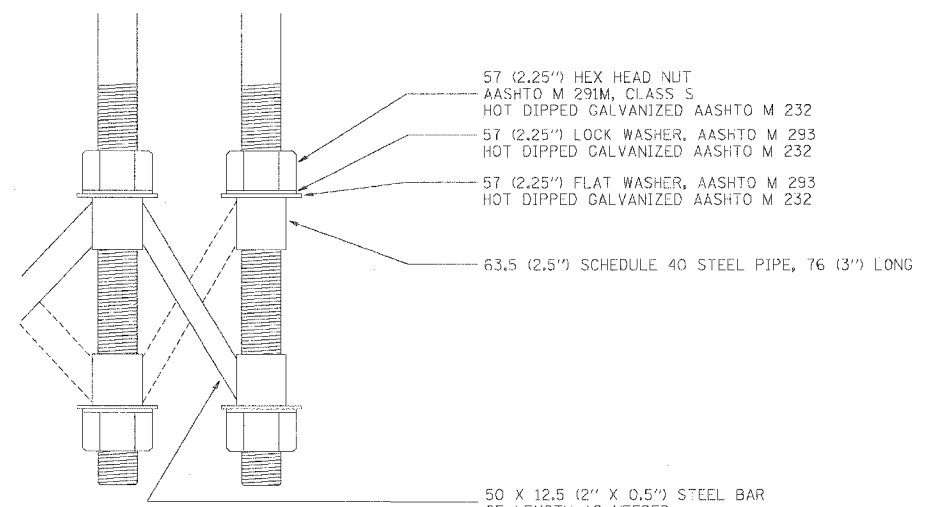
**ANCHOR BOLT CAGE**



**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 725 (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.

REVISIONS	
NAME	DATE

BE501

ILLINOIS DEPARTMENT OF TRANSPORTATION

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

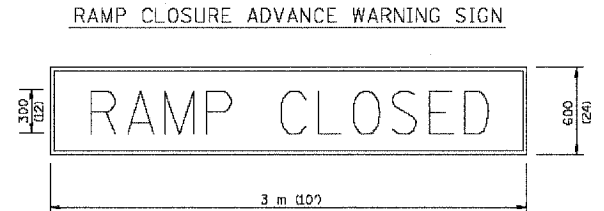
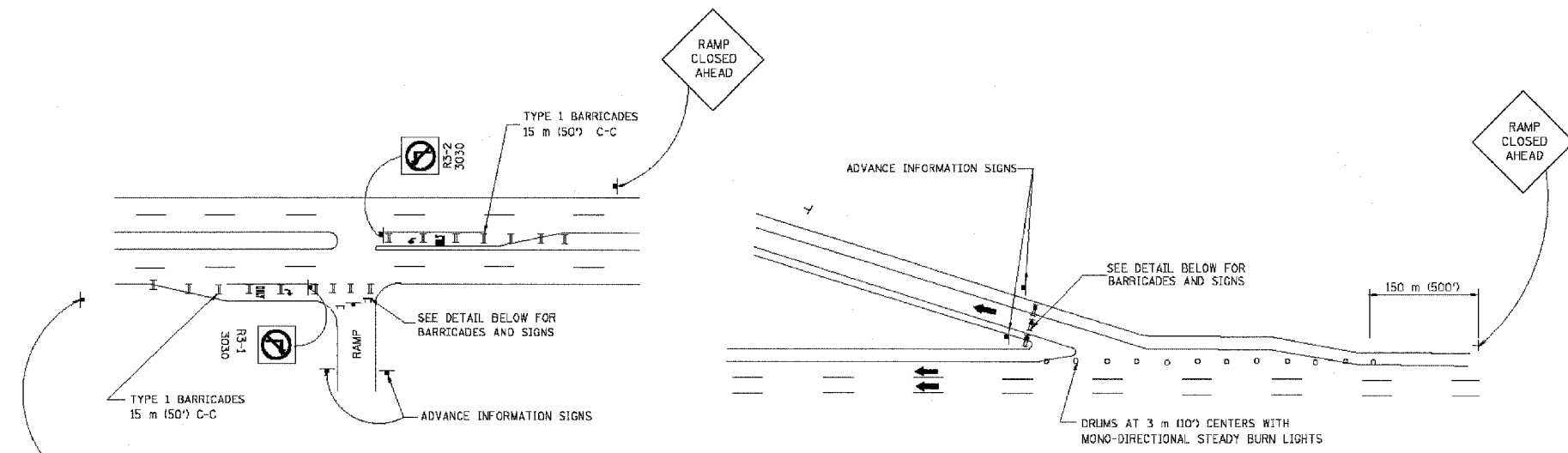
SHEET 2 OF 2

SCALE: NONE  
DATE 10/18/2002

DRAWN BY  
CHECKED BY  
BE08 (BE501)

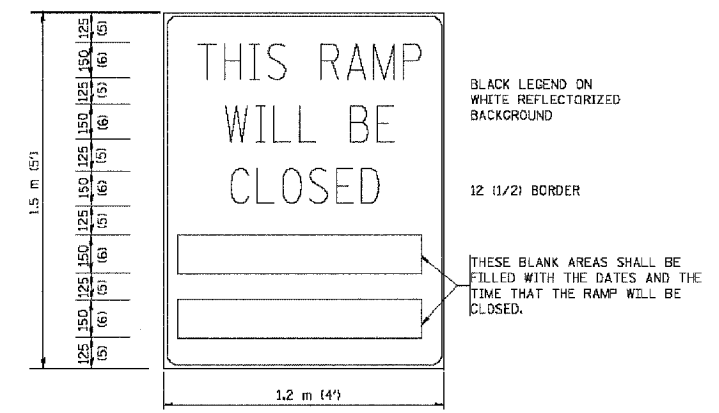
\*DATE-TIME\*  
\*DGN-SPEC\*  
VH-BER

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	585	452
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			

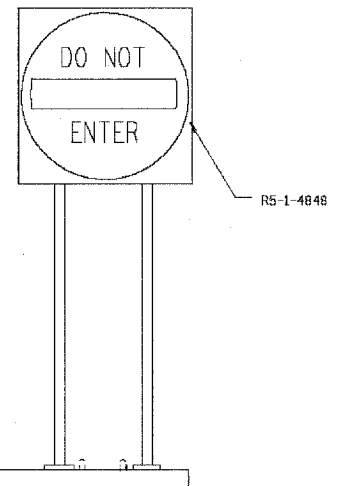
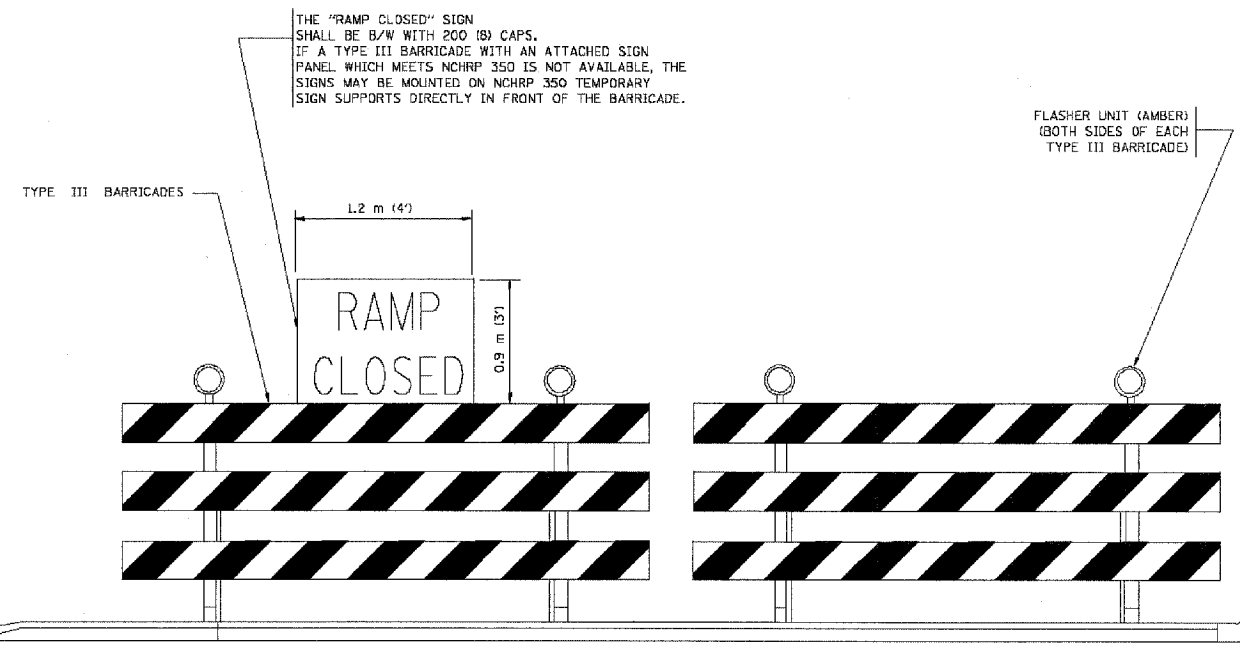


BLACK LEGEND ON ORANGE REFLECTORIZED BACKGROUND  
25 (1) BORDER  
THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR THE CLOSED EXIT RAMP.

RAMP CLOSURE ADVANCE INFORMATION SIGN



THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, 4 MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.



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

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

DETAIL FOR REQUIRED BARRICADES & SIGNS

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.  
ILLINOIS DEPARTMENT OF TRANSPORTATION

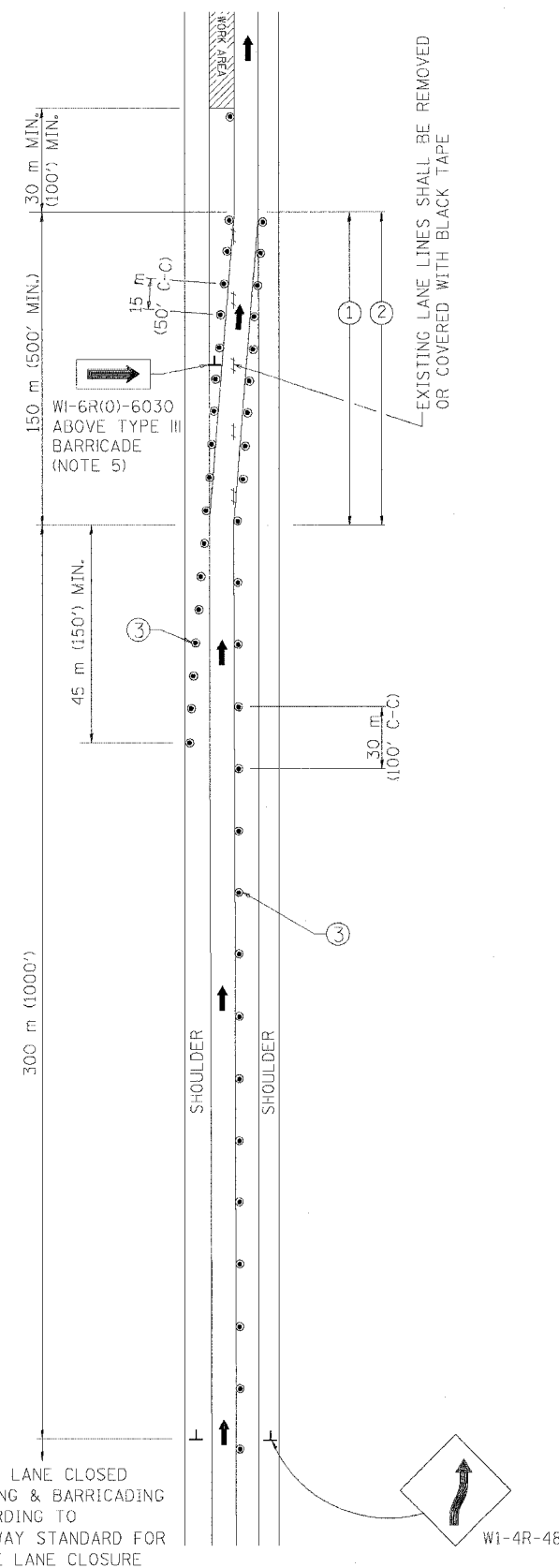
**FREWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS**

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

SCALE: NONE  
DATE: 05/06/2003

DRAWN BY  
CHECKED BY  
TC-B

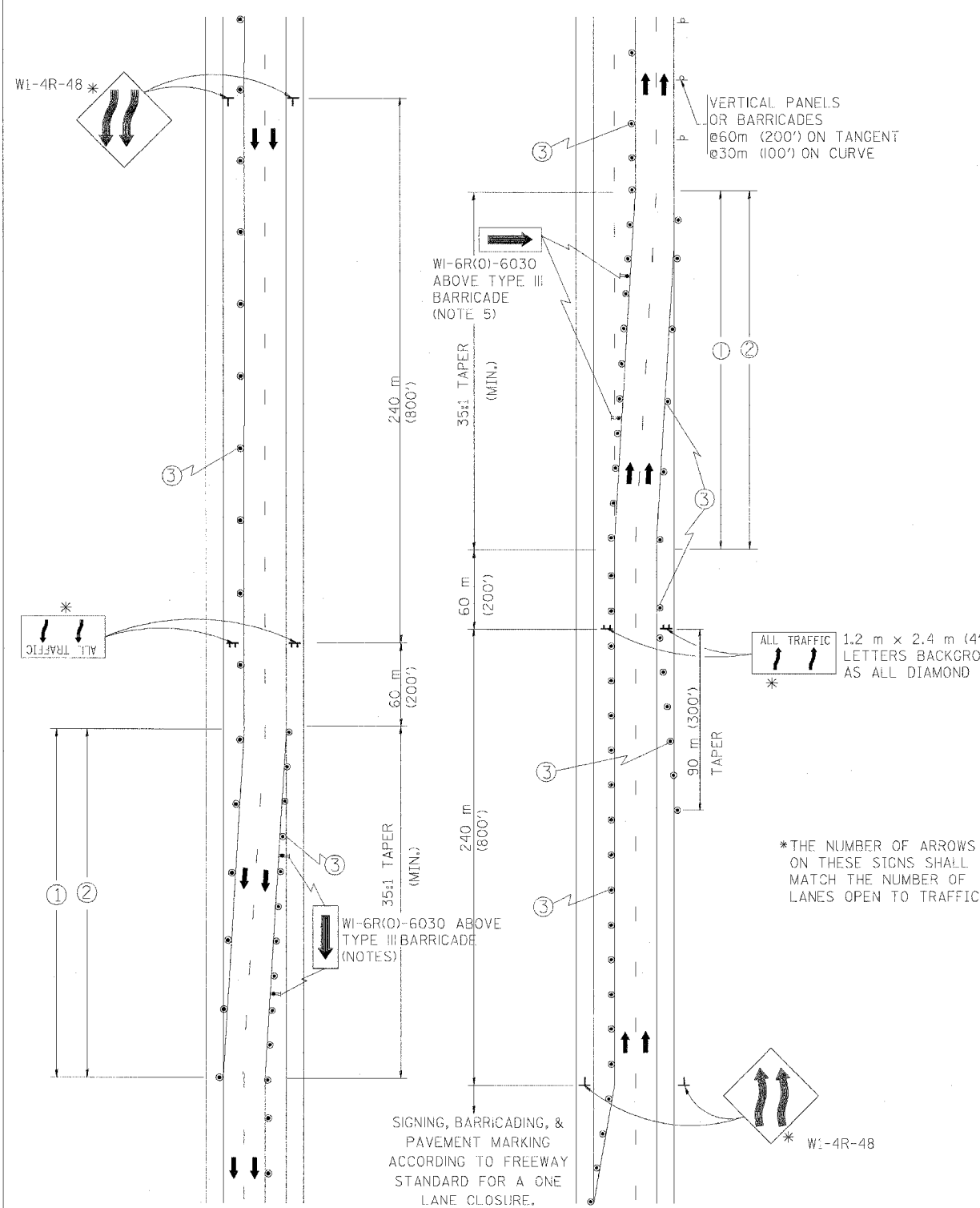
# SINGLE LANE WEAVE



RIGHT LANE CLOSED  
SIGNING & BARRICADING  
ACCORDING TO  
FREEWAY STANDARD FOR  
A ONE LANE CLOSURE

WI-4R-48

# MULTI-LANE WEAVE



SIGNING, BARRICADING, &  
PAVEMENT MARKING  
ACCORDING TO FREEWAY  
STANDARD FOR A ONE  
LANE CLOSURE.

WI-4R-48

### 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

ALL TRAFFIC 1.2 m x 2.4 m (4'x8') ;25 (1) BORDER; 250 (10) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

\*THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	666	453
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			

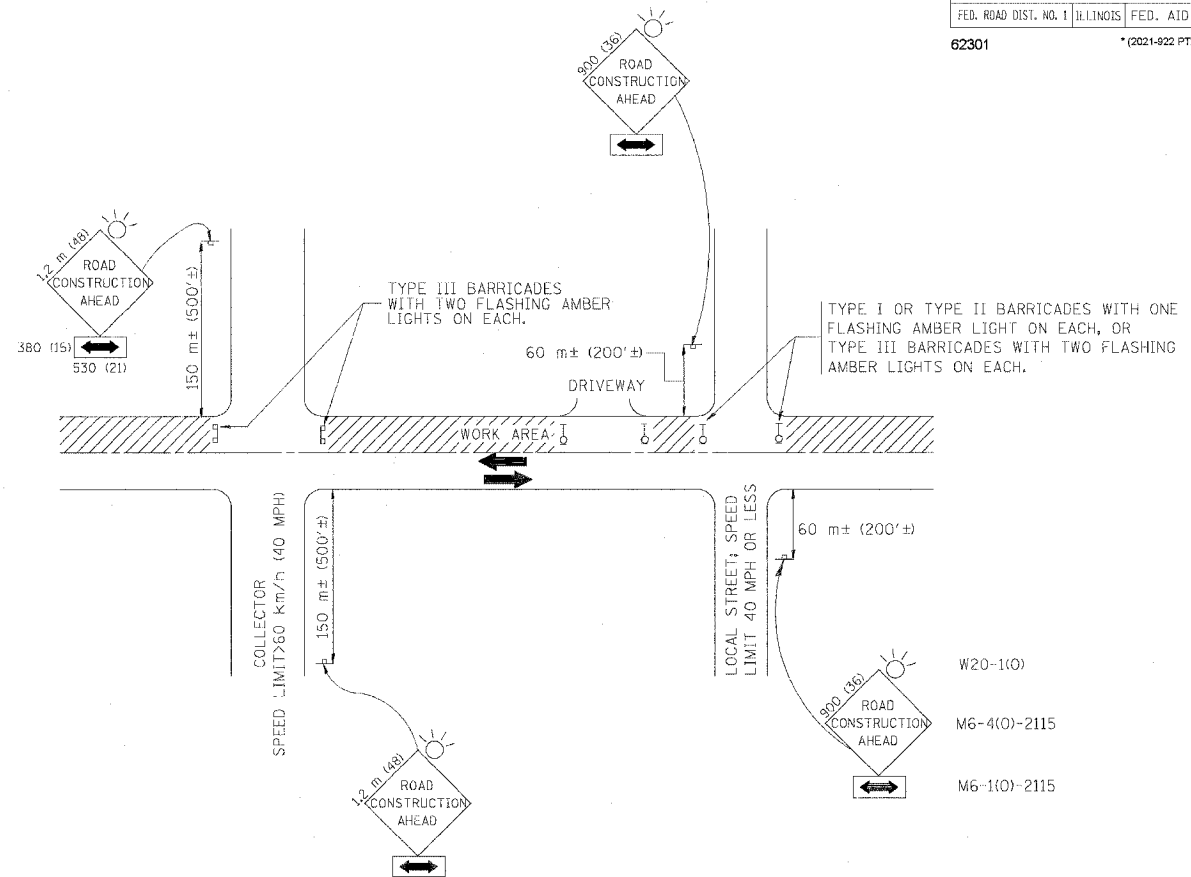
REVISIONS	
NAME	DATE
DWS	2/87
DWS	1/90
DWS	12/27/94
DWS	11/96
JAF	4/03

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.J.H.  
CHECKED BY TC-9

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	565	464
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
62301		*(2021-922 PT2 ETC 2324.8-1P) R-10		



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

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS**
- 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:
    - 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.
    - 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.
  - SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - 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.
    - 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.
  - 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.**

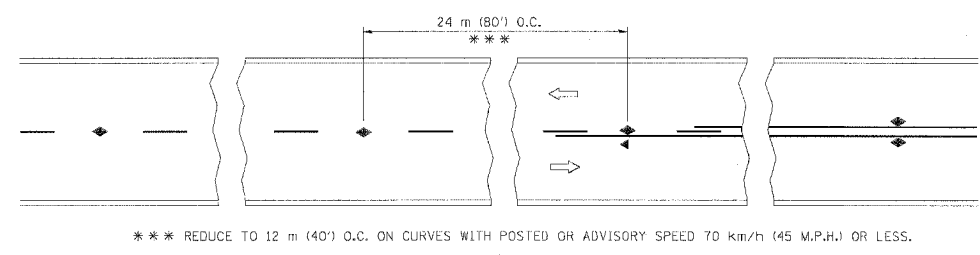
REVISIONS	
NAME	DATE
LHA	6/789
T. RAMMACHER	09/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

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

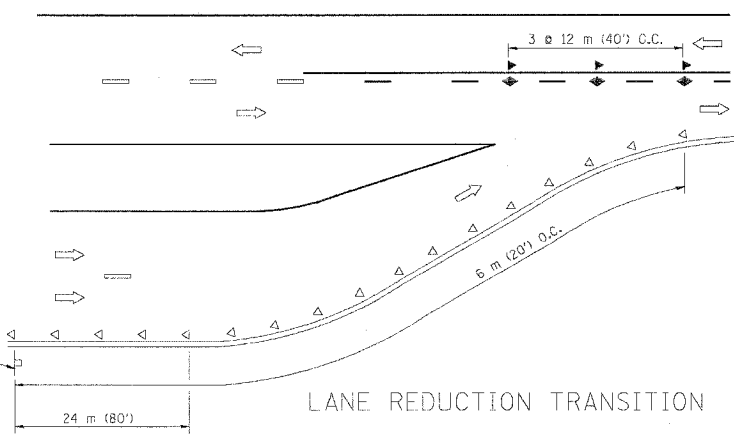
SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE 10/18/2002

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

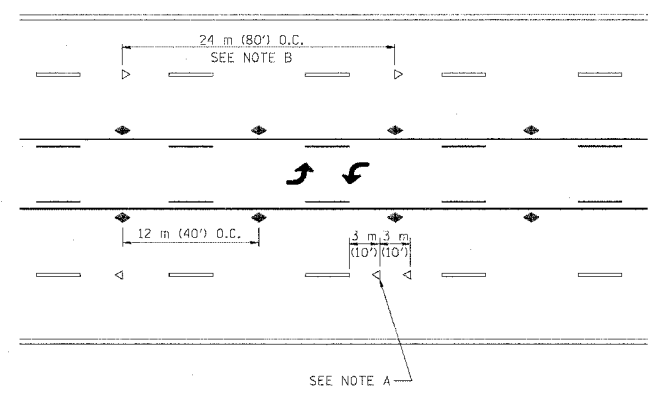
F. A. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90064	*	COOK	666	455
STA.	TO STA.			
FED. ROAD DIST. NO. 1	BILLINGS	FED. AID PROJECT		
62301	*(2021-022 PT2 ETC 2324 6-1P) R-10			



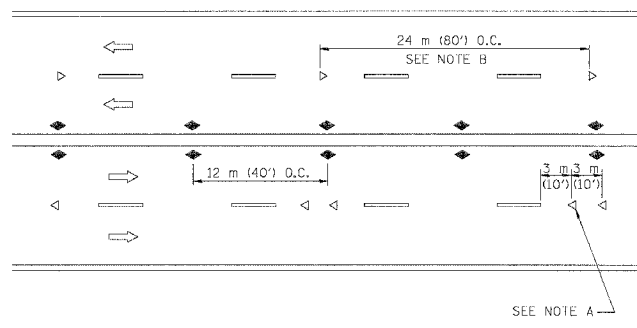
TWO-LANE/TWO-WAY



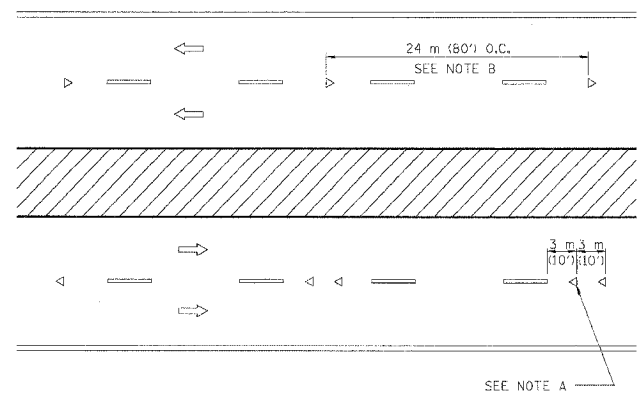
LANE REDUCTION TRANSITION



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

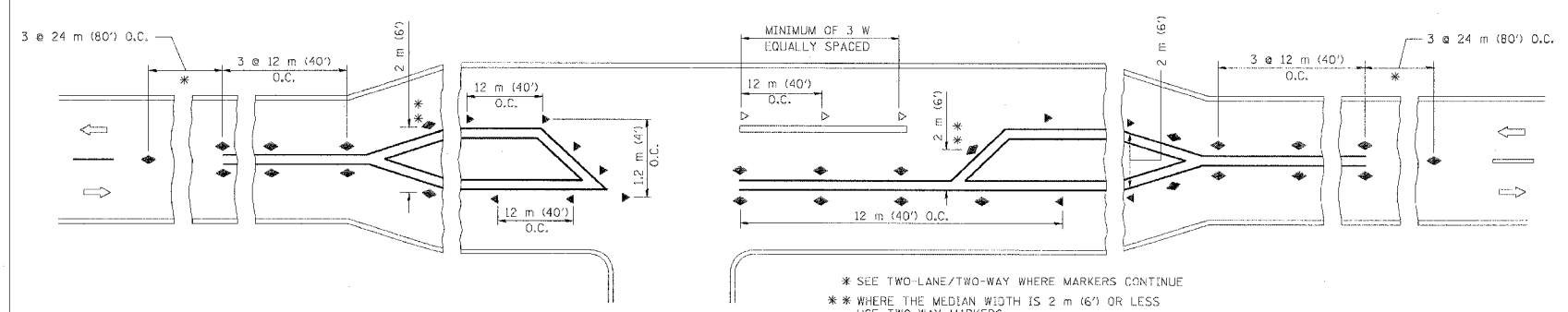
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

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

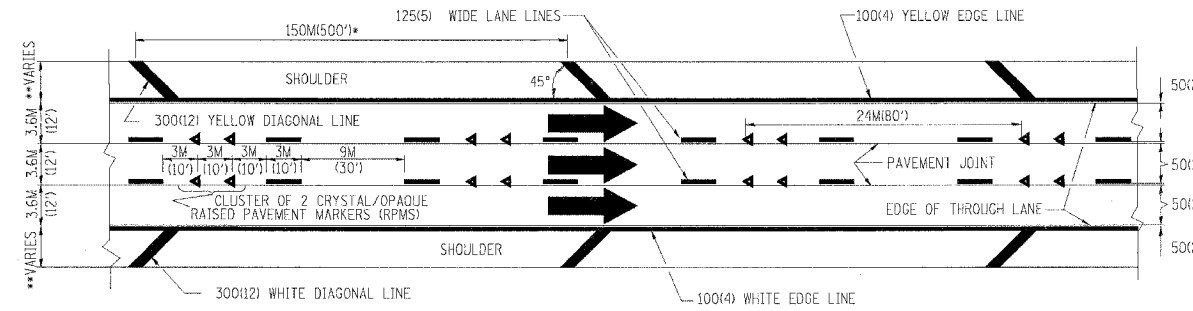
REVISIONS		
NAME	DATE	
T. RAMMACHER	09-19-94	
T. RAMMACHER	03-12-99	
T. RAMMACHER	01-06-00	

SCALE: NONE  
DATE: 10/18/2002  
DRAWN BY CADD  
CHECKED BY TC-11  
REVISION DATE: 01/06/00



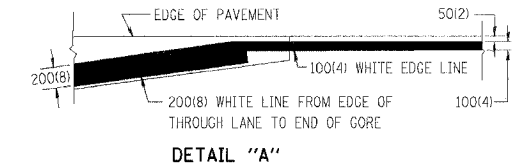
F. & E. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	565	456
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			

- 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

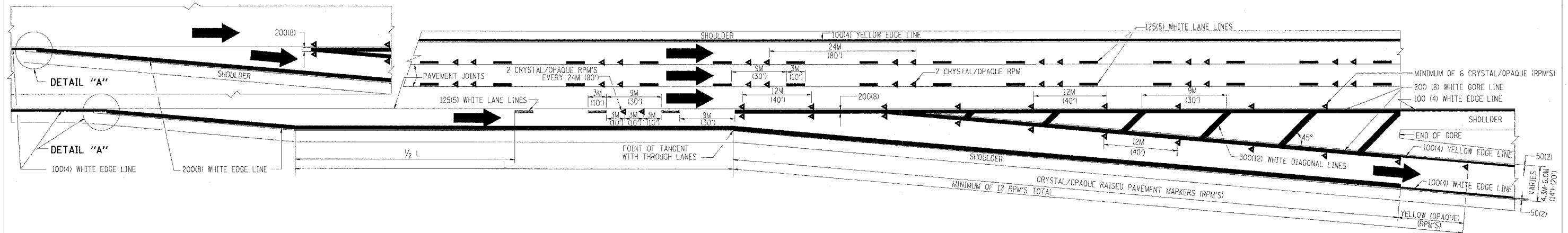


**NOTES:**

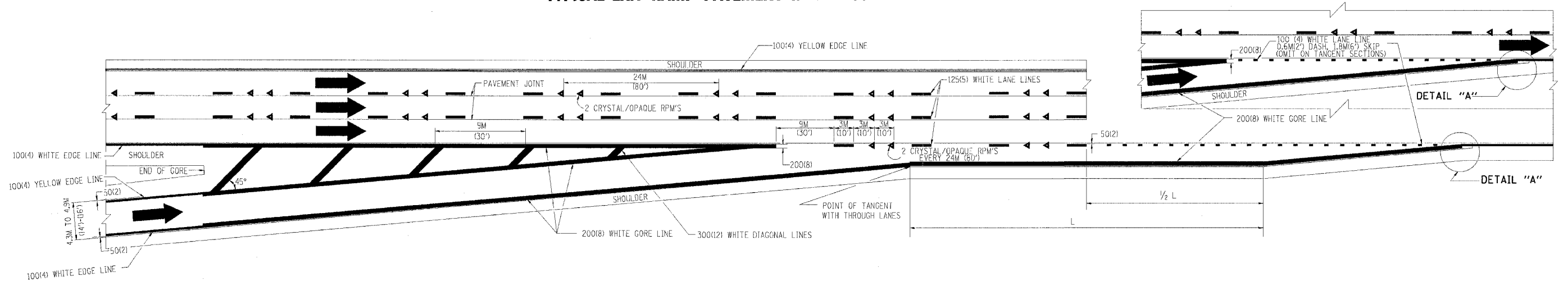
1. THERMO PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR THE EDGE LINES, GORE LINES, AND DIAGONAL LINES ON BITUMINOUS PAVEMENT ONLY.
2. PREFORMED PLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL LANE LINES
3. PREFORMED PLASTIC PAVEMENT MARKING LINE SHALL BE USED ON PCC PAVEMENT.



**TYPICAL EDGE LINES & LANE LINES**



**TYPICAL EXIT RAMP PAVEMENT MARKINGS**



**TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS**

ILLINOIS DEPARTMENT OF TRANSPORTATION

**MULTI-LANE FREEWAY  
PAVEMENT MARKING  
DETAILS**

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

SCALE: NONE  
DATE: 10/18/2002

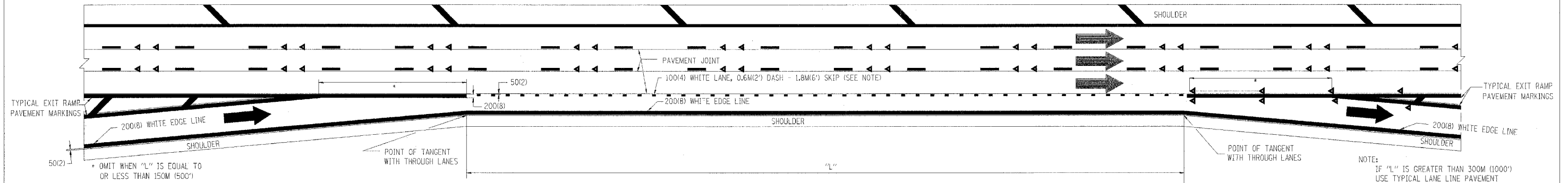
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CHECKED BY

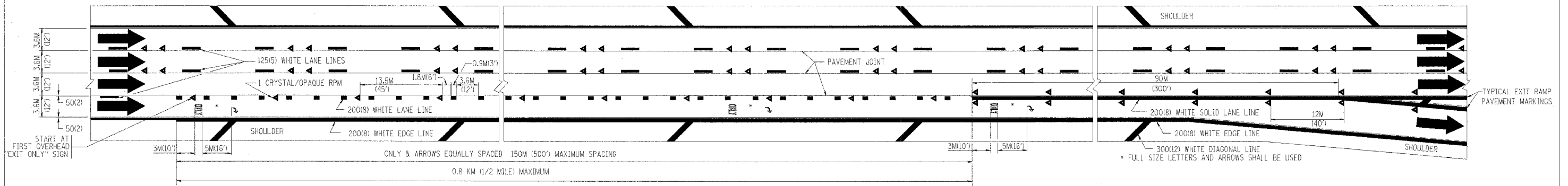
TC12 SHEET 1 OF 2

REVISION DATE: 01/01/96

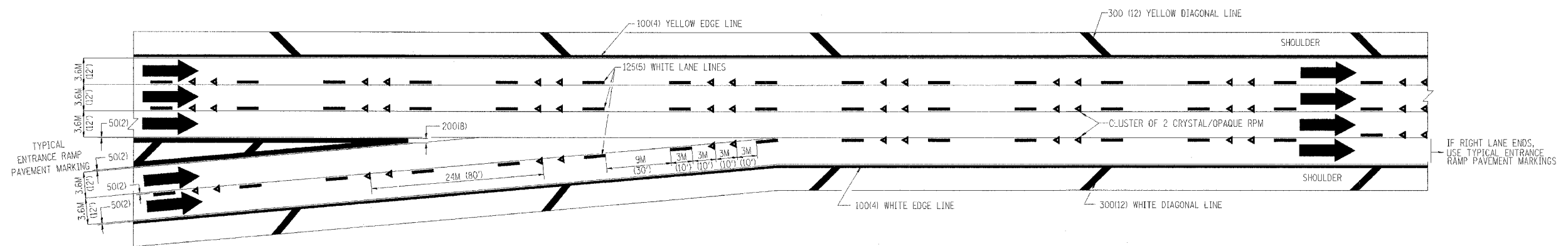
F. A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	665	457
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.8-1P) R-10			



**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**

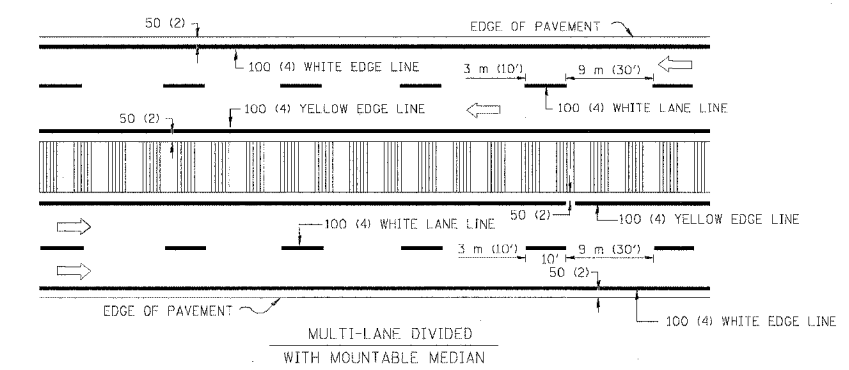
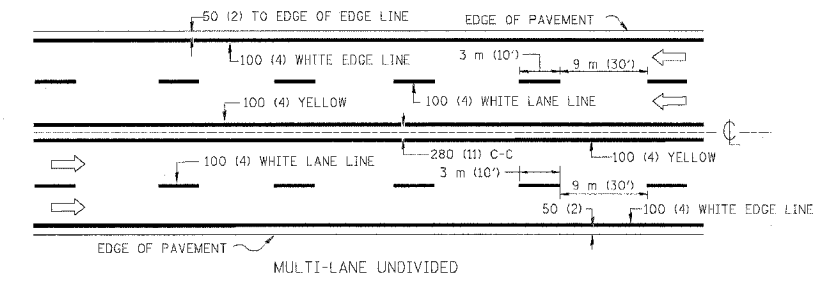
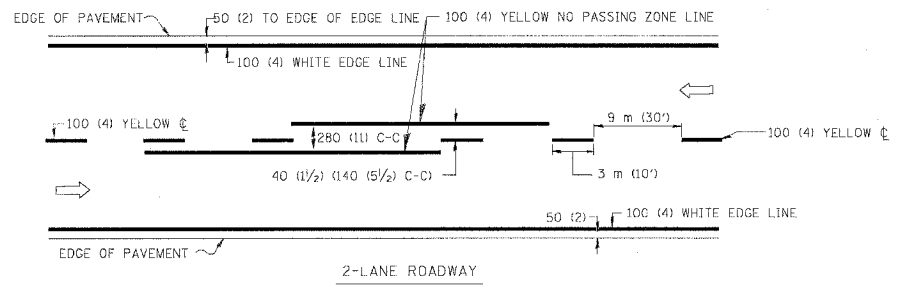
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DATE: 10/18/2002

DRAWN BY C.A.D.D.

CHECKED BY

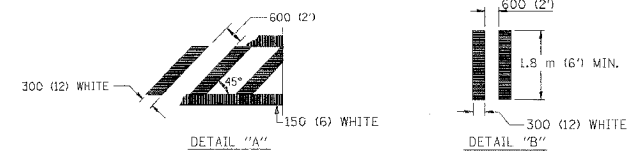
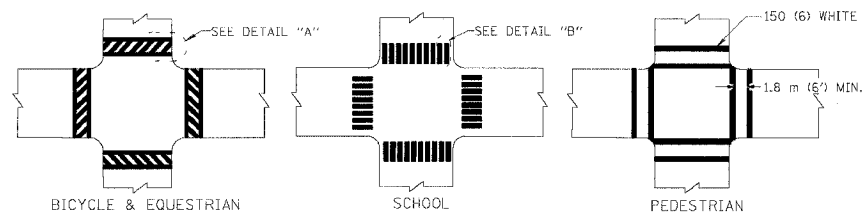
TC12 SHEET 2 OF 2

REVISION DATE: 0/0/96

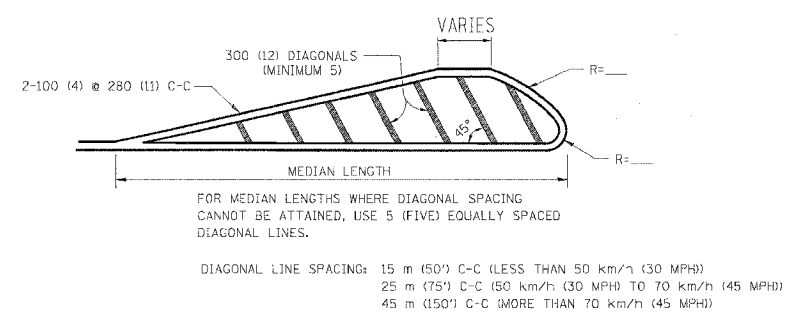
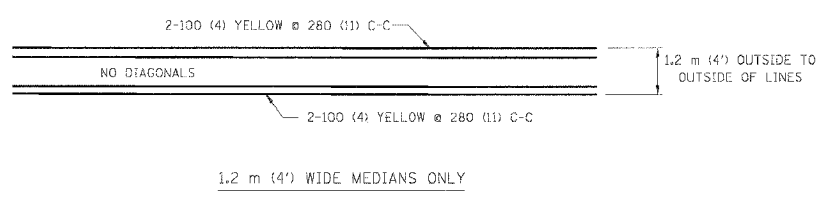


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

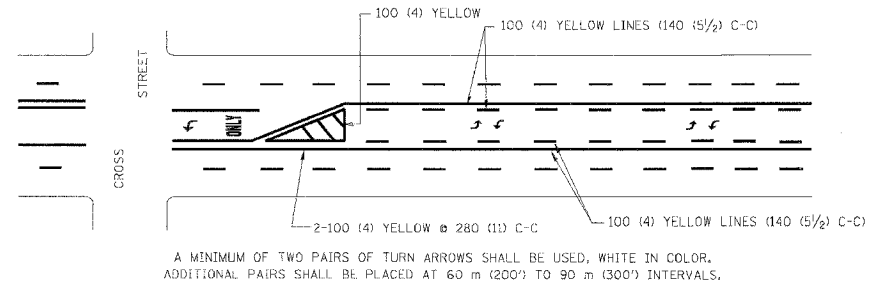
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING

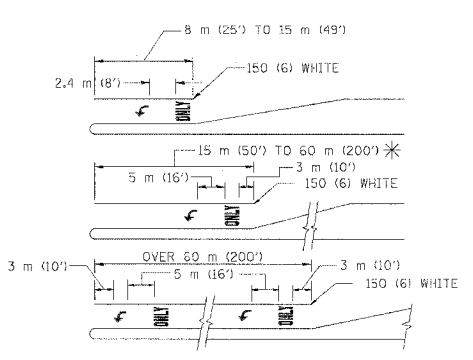


MEDIANS OVER 1.2 m (4') WIDE



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

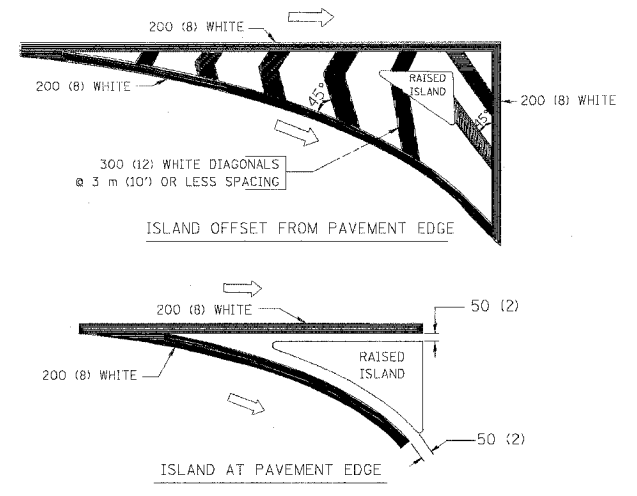


FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.  
AREA = 1.5 m<sup>2</sup> (15.6 SQ. FT.) ONLY AREA = 1.9 m<sup>2</sup> (20.8 SQ. FT.)

\* 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



TYPICAL ISLAND 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" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.33m <sup>2</sup> (3.6 SQ. FT.) EACH "X"=5.0 m <sup>2</sup> (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.

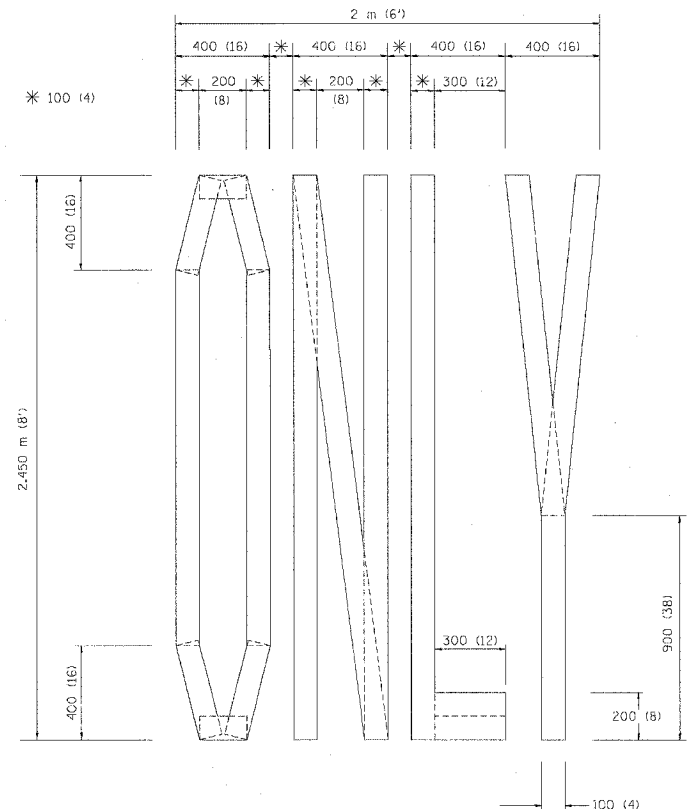
All dimensions are in millimeters (inches) unless otherwise shown.

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

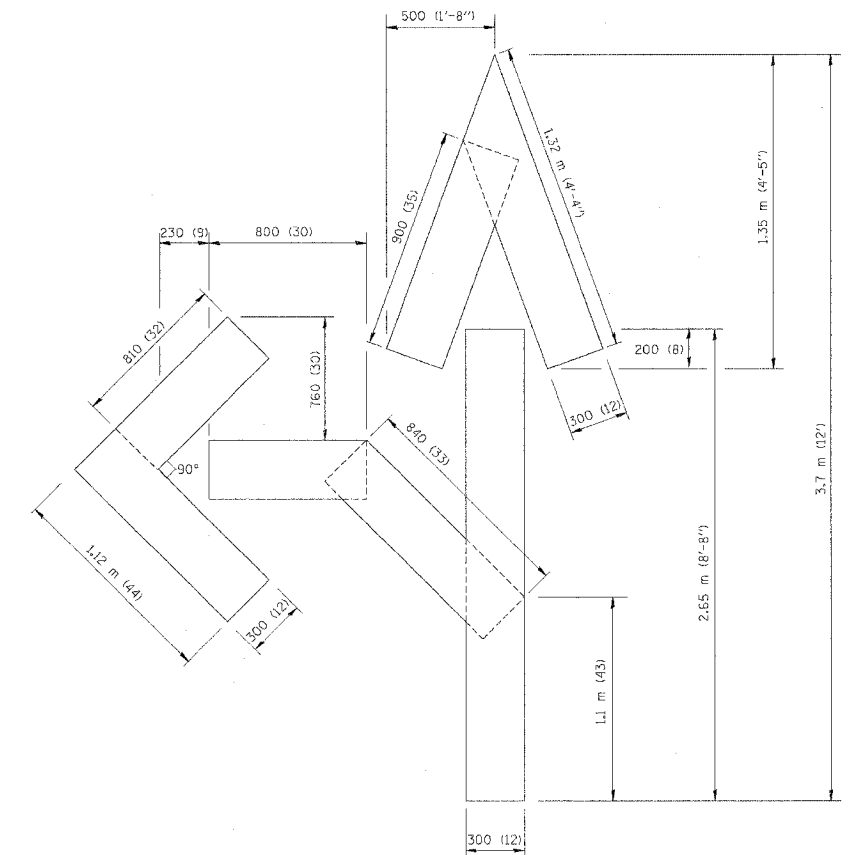
ILLINOIS DEPARTMENT OF TRANSPORTATION  
DISTRICT ONE  
TYPICAL PAVEMENT MARKINGS

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

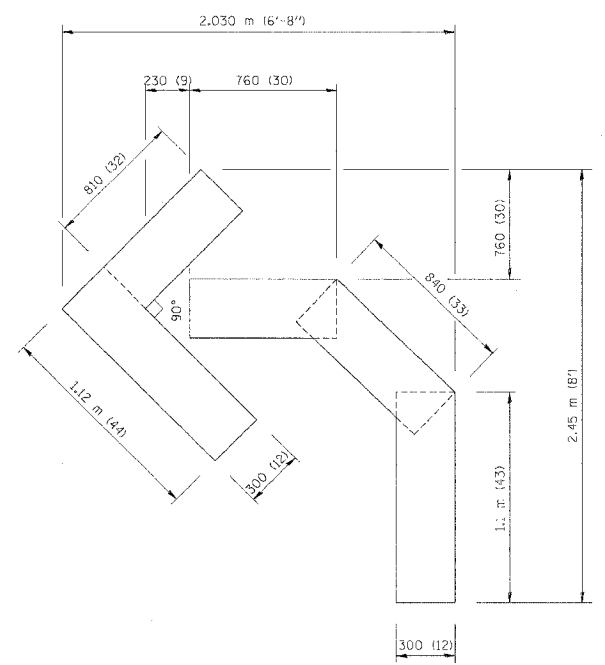
F. A. REC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	*	COOK	565	459
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
62301		*(2021-422 PT2 ETC 2324 6-1P) R-10		



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

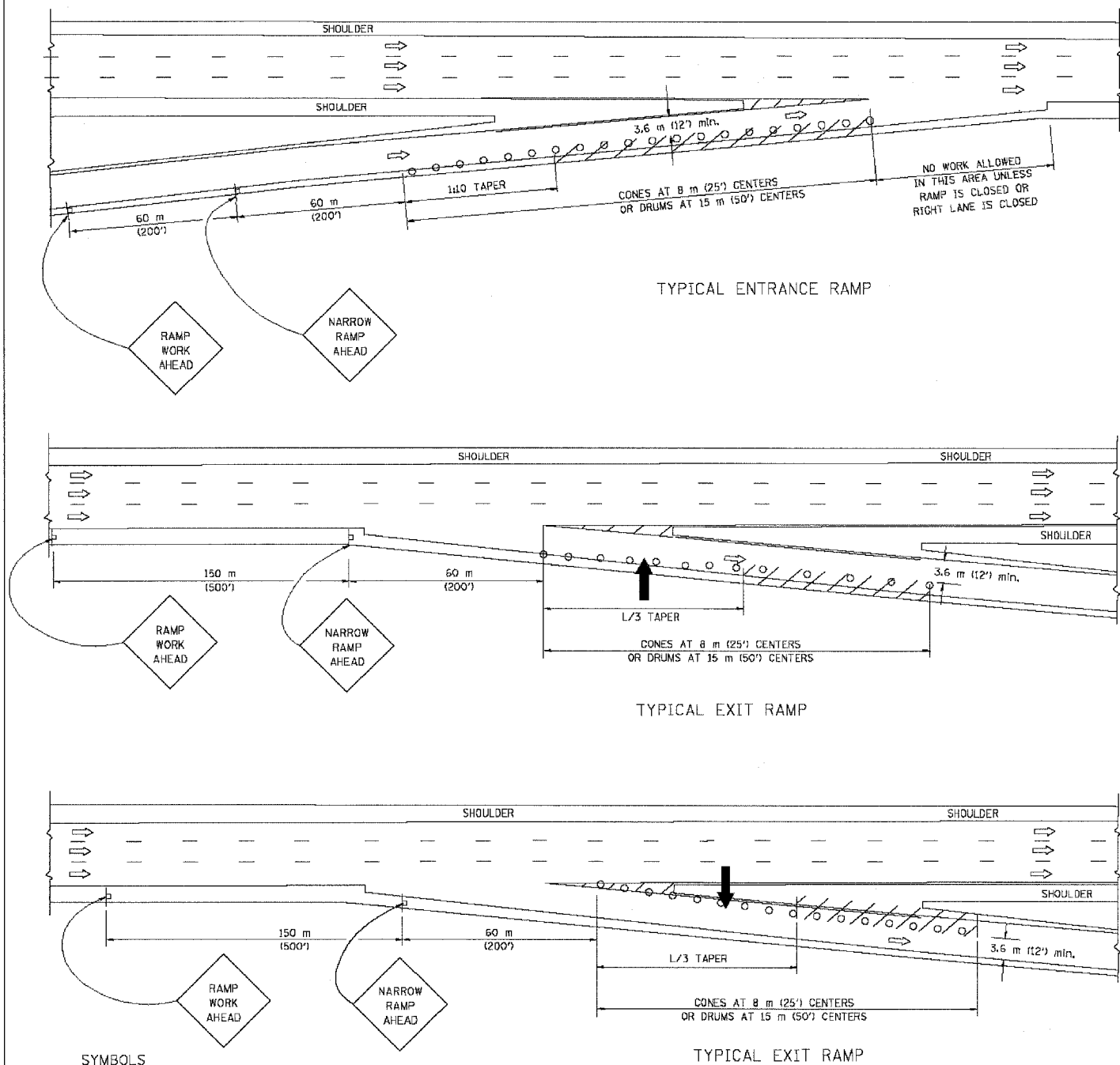
PAVEMENT MARKING  
 LETTERS AND SYMBOLS  
 FOR TRAFFIC STAGING

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	06/28/00

SCALE: NONE  
 DATE: 10/18/2002

DRAWN BY CADD  
 CHECKED BY TC-16

PARTIAL RAMP CLOSURE DETAILS



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

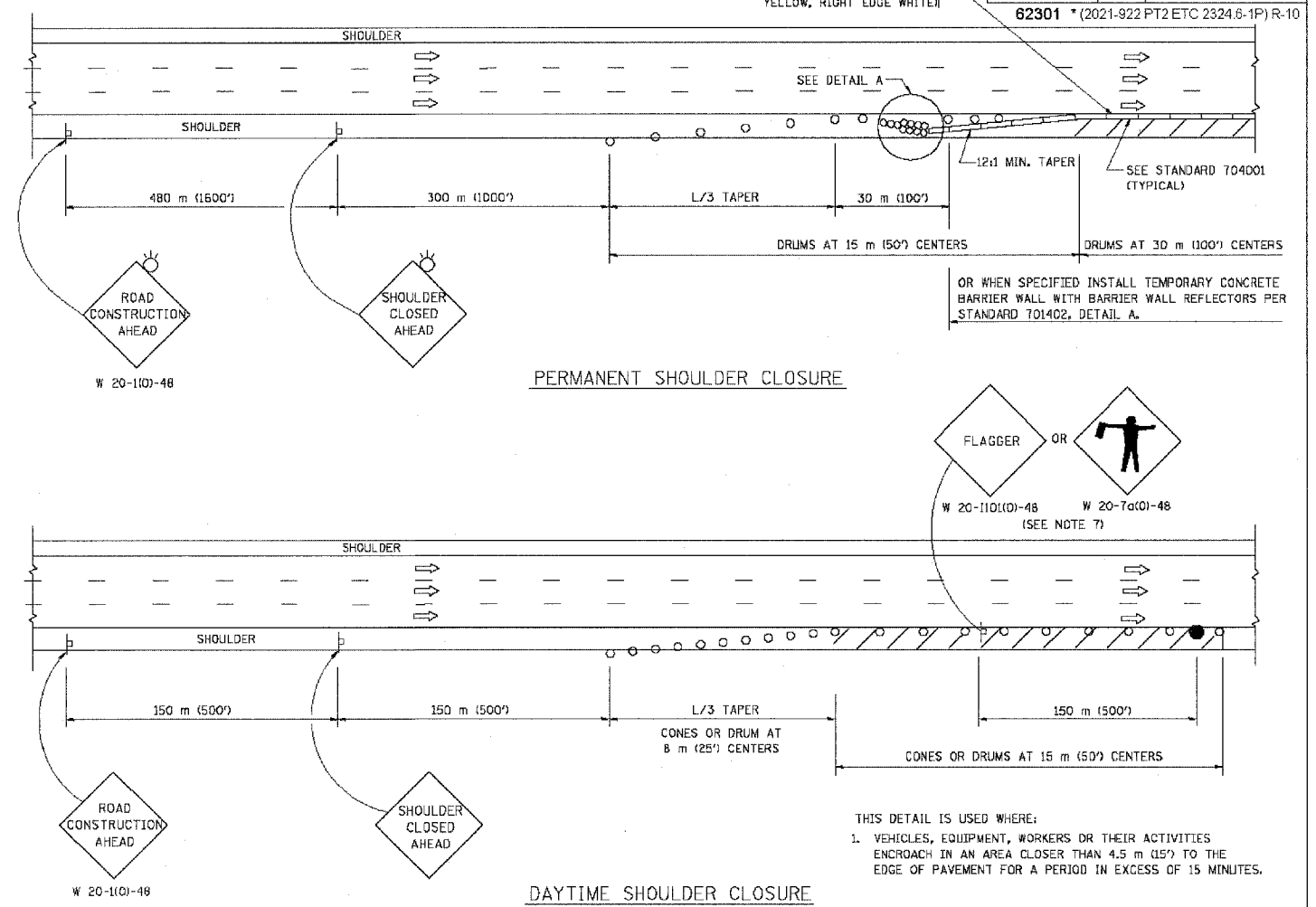
GENERAL NOTES

1. THE "L" DISTANCE EQUALS:
 

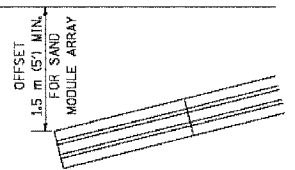
SPEED LIMIT	FORMULAS
80 km/h (45 mph) OR GREATER:	METRIC ENGLISH
	$L=0.65(W)(S)$ $L=(W)(S)$

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



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 ACTIVITY REQUIRES FREQUENT ENCR OACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 30 m (100') TO 60 m (200') IN ADVANCE OF THE WORKERS.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.  
ILLINOIS DEPARTMENT OF TRANSPORTATION

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

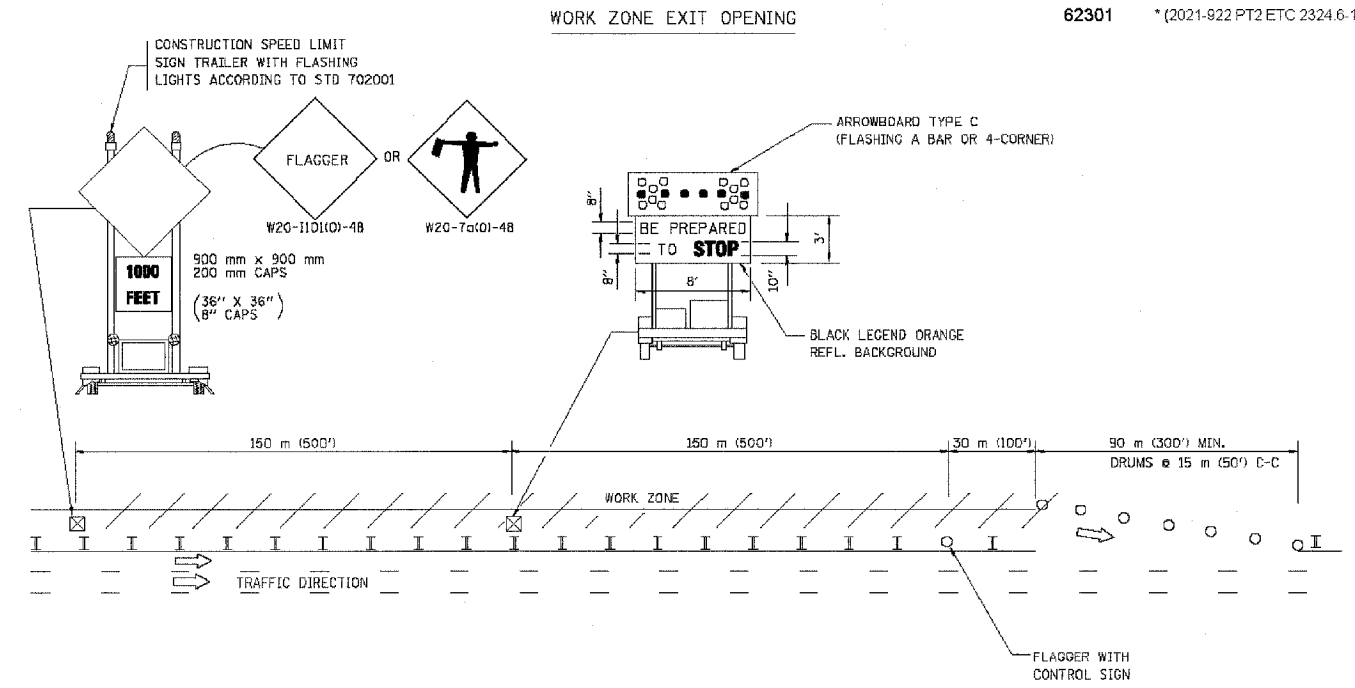
REVISIONS	
NAME	DATE
DWS	11/96
JAF	12/02
NCHRP 350	04/03

SCALE: NONE  
DATE: 05/06/2003

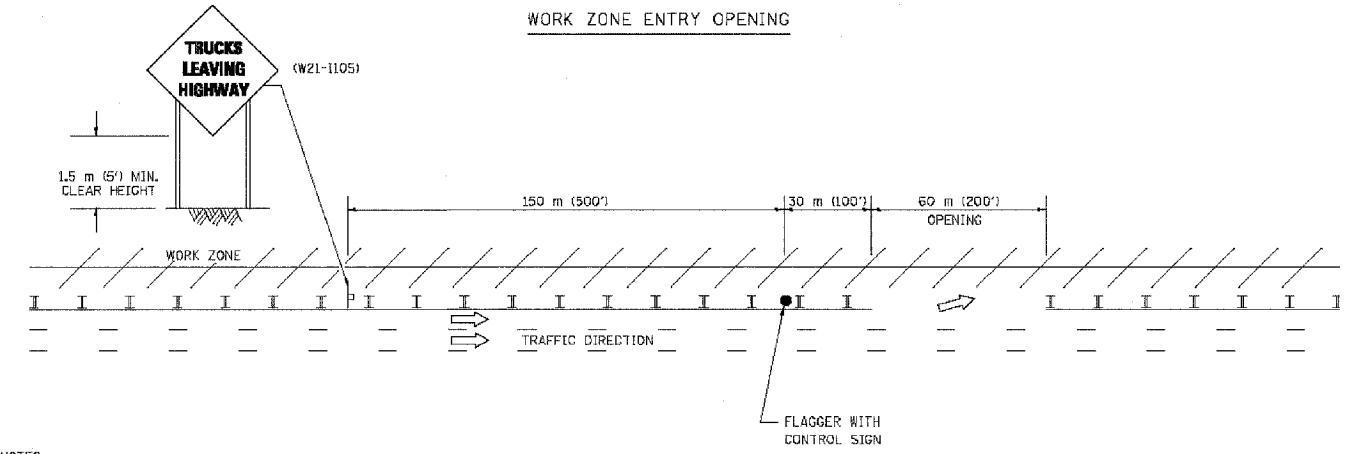
DRAWN BY: DWS  
DESIGNED BY: DWS  
CHECKED BY: TC-1T

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	565	461
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62301	*(2021-922 PT2 ETC 2324.6-1P) R-10			

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS



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

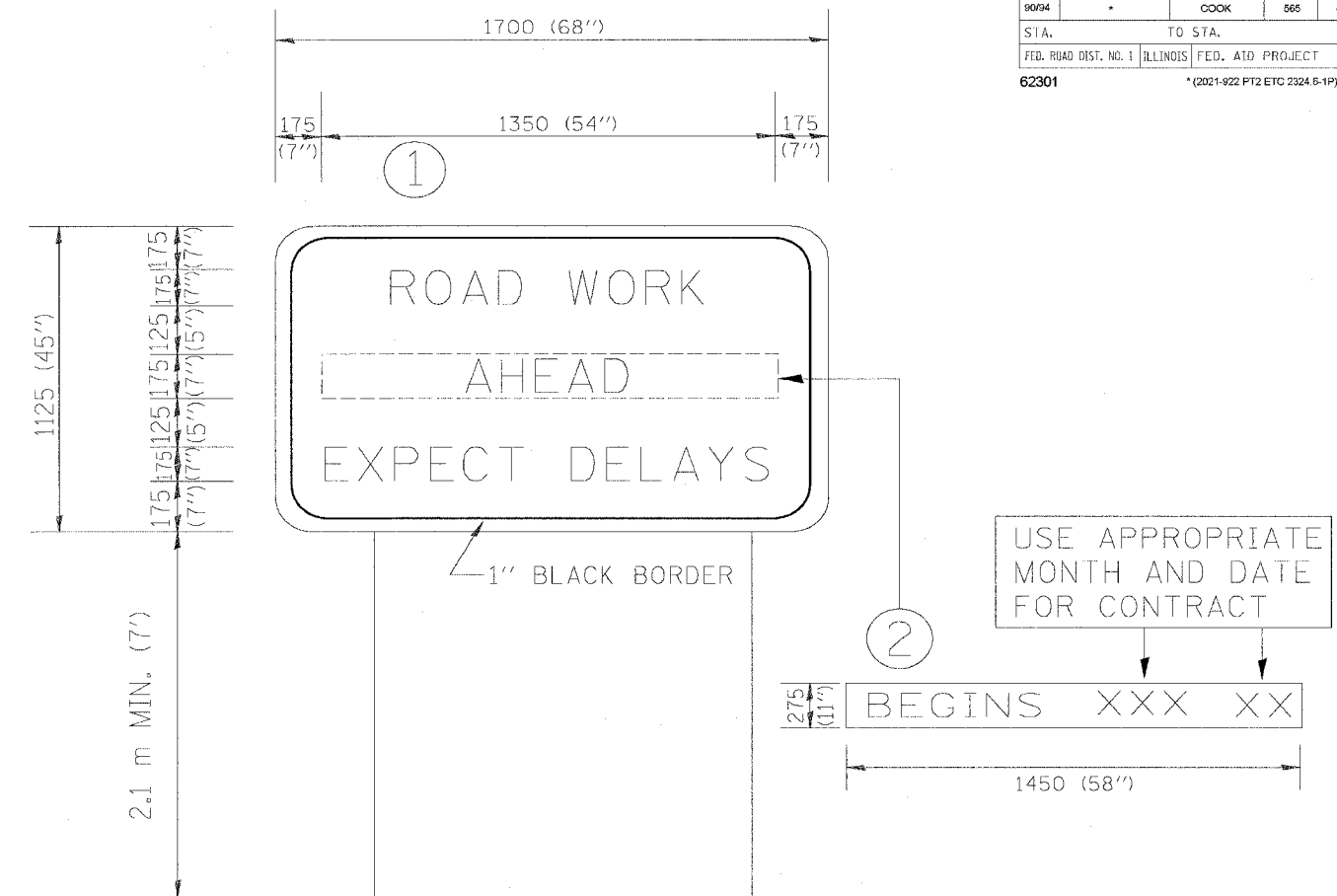
ILLINOIS DEPARTMENT OF TRANSPORTATION

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.
9094	*	COOK	565	462
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		
62301	*(2011-922 FT2 ETC 2324 6-1P) R-10			



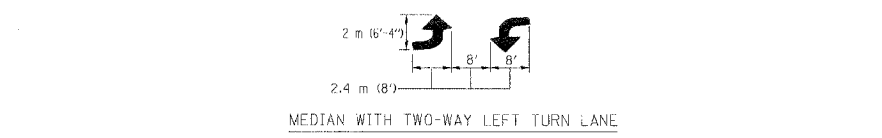
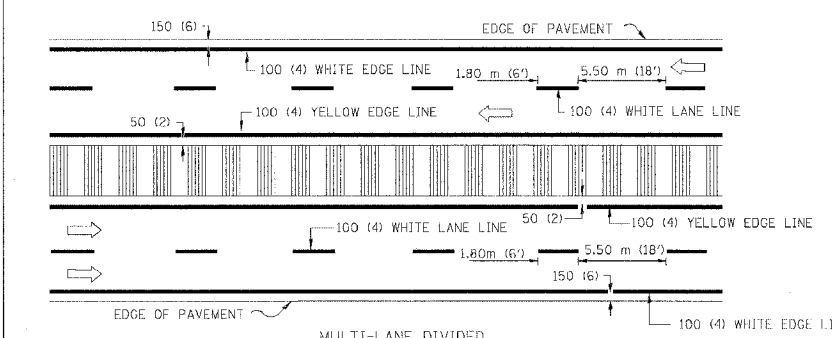
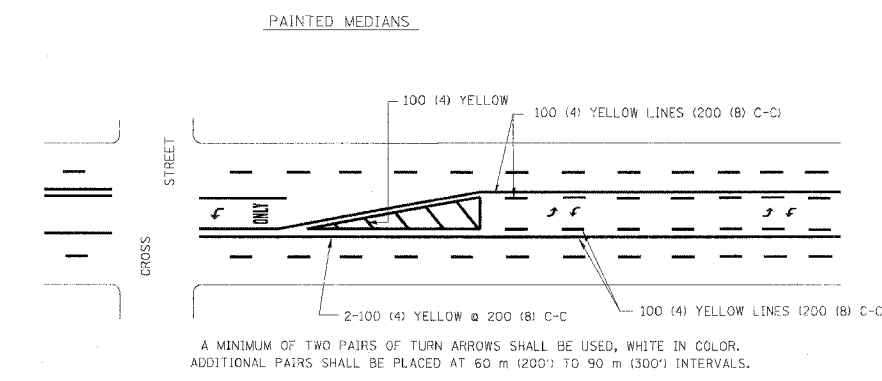
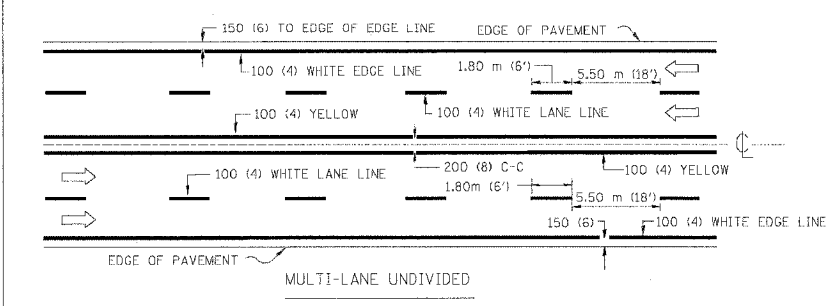
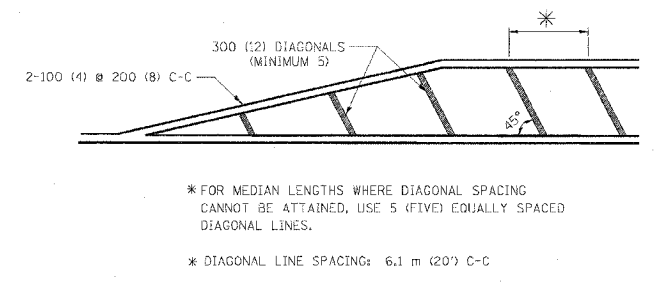
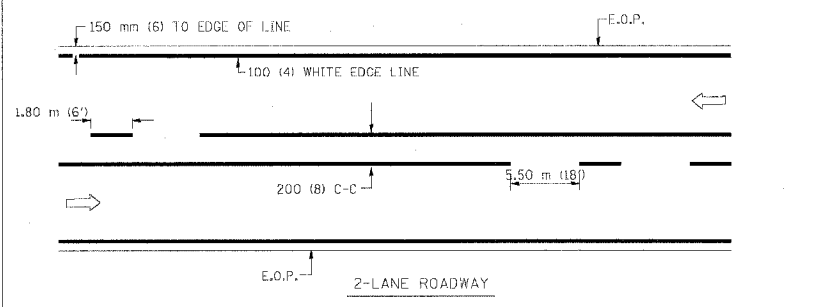
**NOTES:**

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.

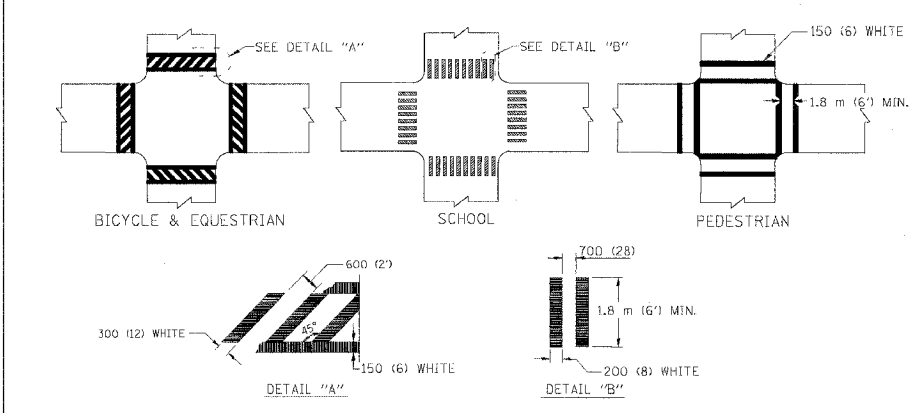
REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
T. RAMMACHER	2-2-99

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

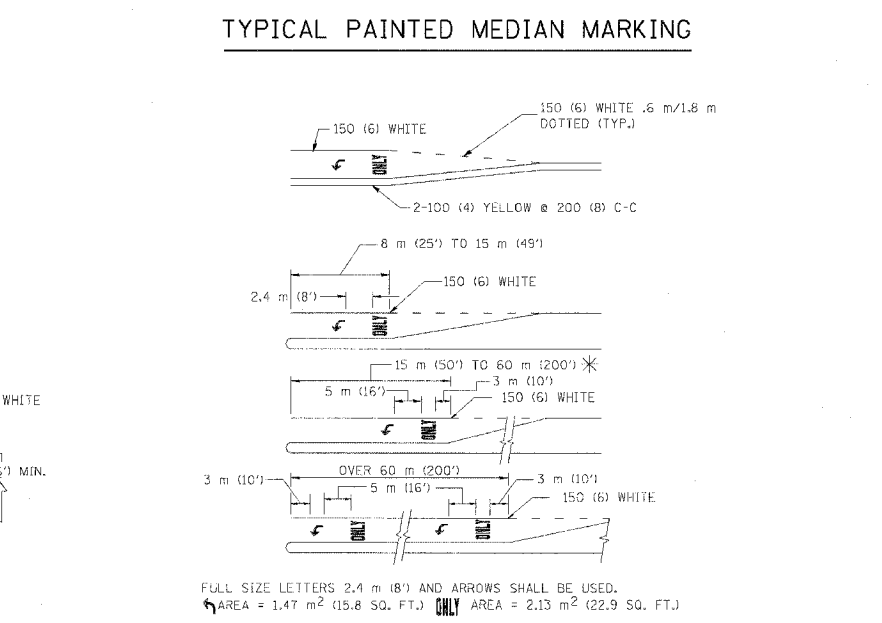


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

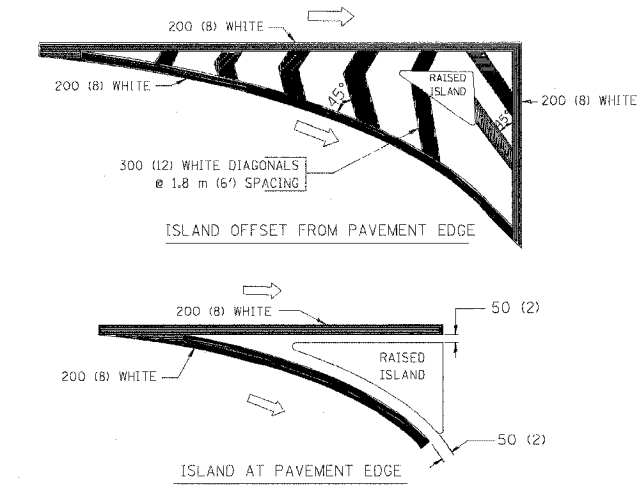
**TYPICAL LANE AND EDGE LINE MARKING**



**TYPICAL CROSSWALK MARKING**



**TYPICAL TURN LANE MARKING**



**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) 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 <sup>2</sup> (3.6 SQ. FT.) EACH "X"=5.0 m <sup>2</sup> (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.

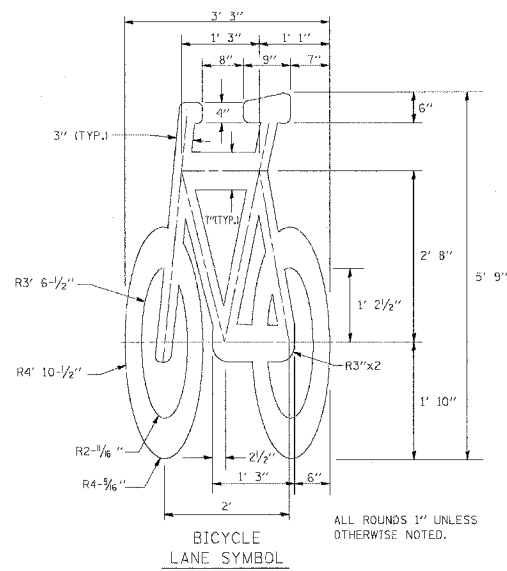
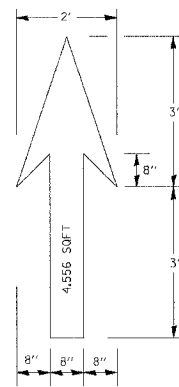
All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
T. RAMMACHER	12/07/00

ILLINOIS DEPARTMENT OF TRANSPORTATION  
CITY OF CHICAGO  
TYPICAL PAVEMENT MARKINGS

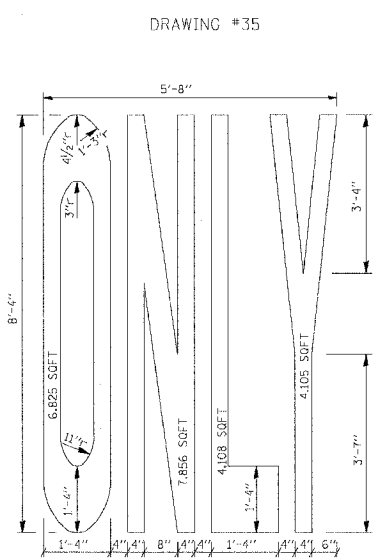
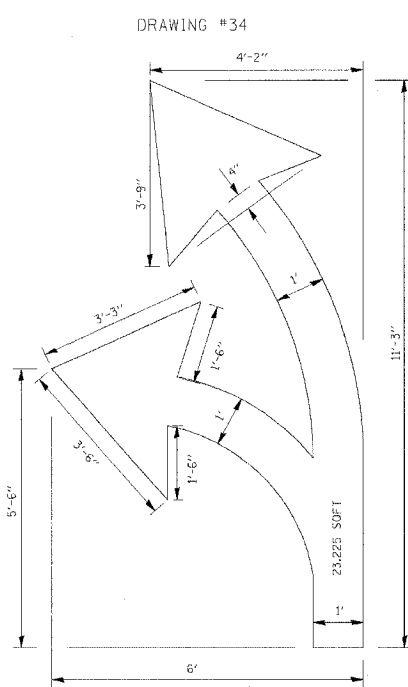
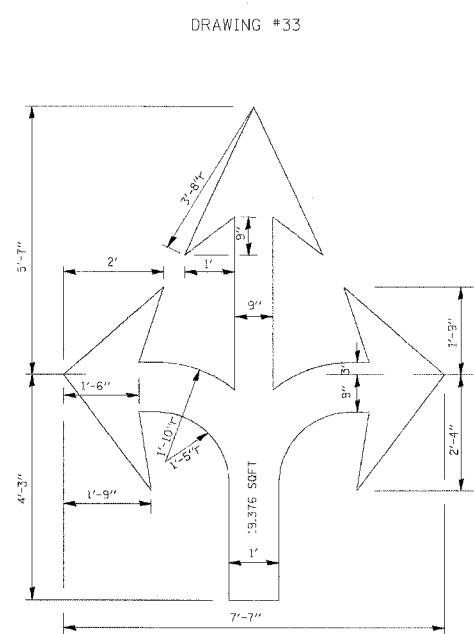
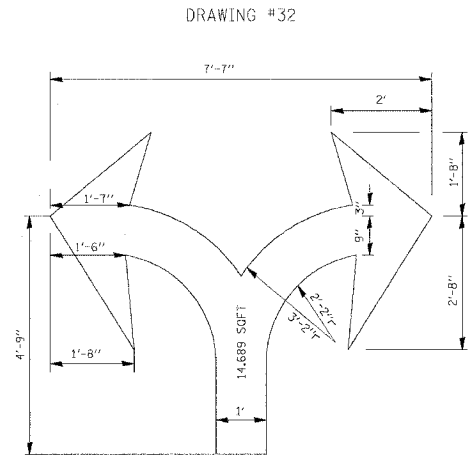
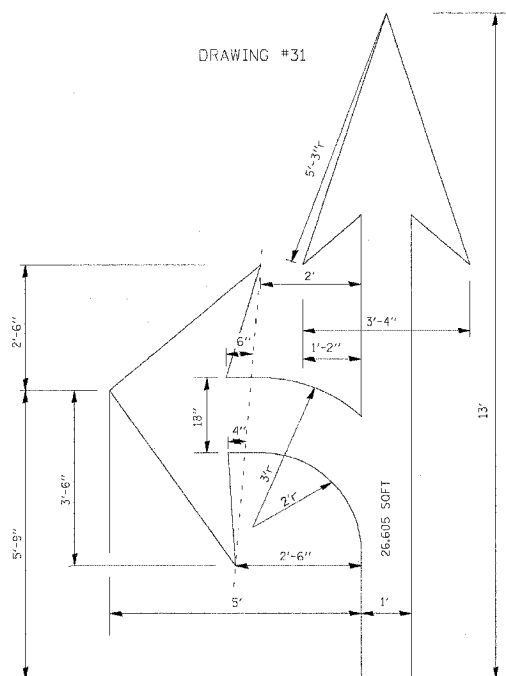
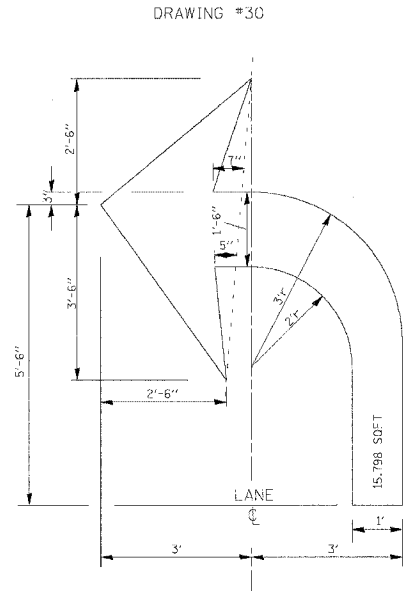
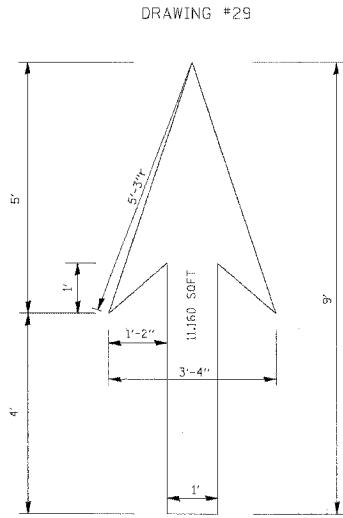
SCALE: NONE  
DATE 10/18/2002  
DRAWN BY CADD  
CHECKED BY TC-24





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

**TYPICAL BIKE LANE SYMBOLS**  
DRAWING #28



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

REVISIONS	
NAME	DATE
T. RAMMACHER	12/07/00

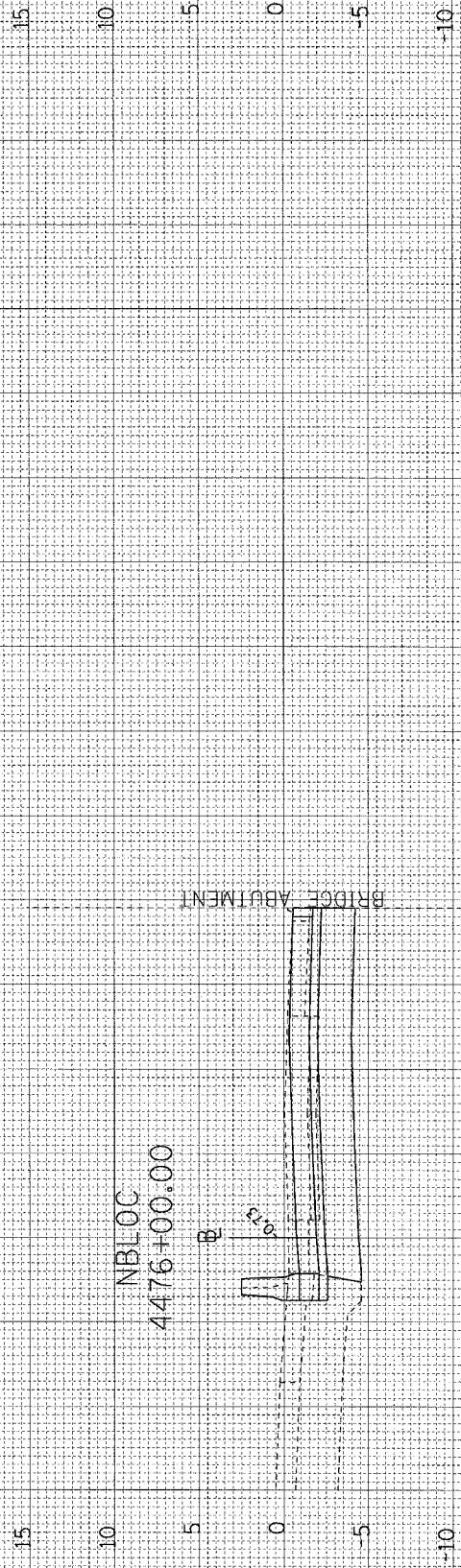
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CITY OF CHICAGO**  
 TYPICAL PAVEMENT MARKINGS.

SCALE: NONE  
 DATE 03/03/2004  
 DRAWN BY  
 CHECKED BY  
 TC-24

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

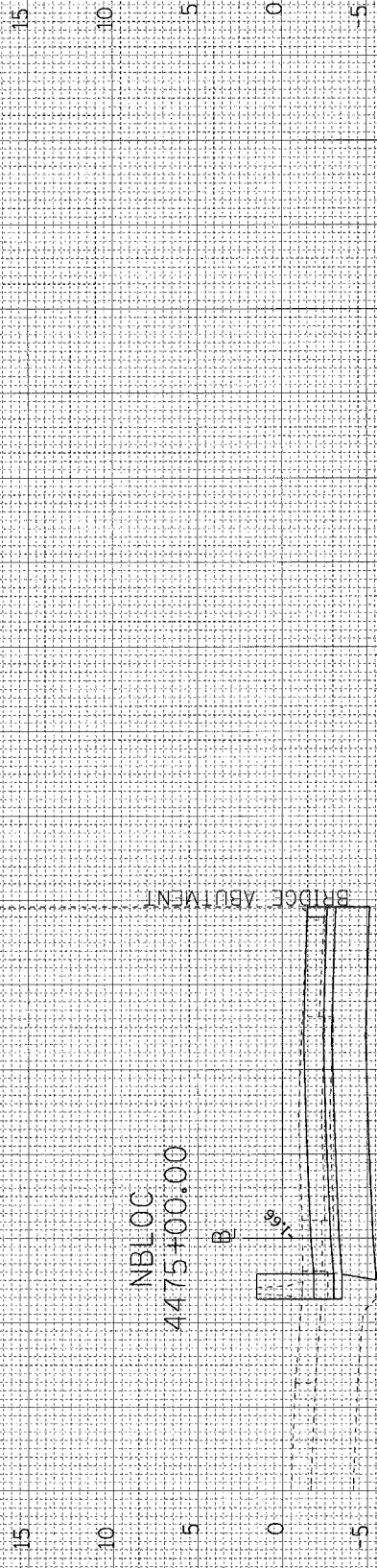
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NOTE BOOK	TEMPLATE		
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CTE | AECOM



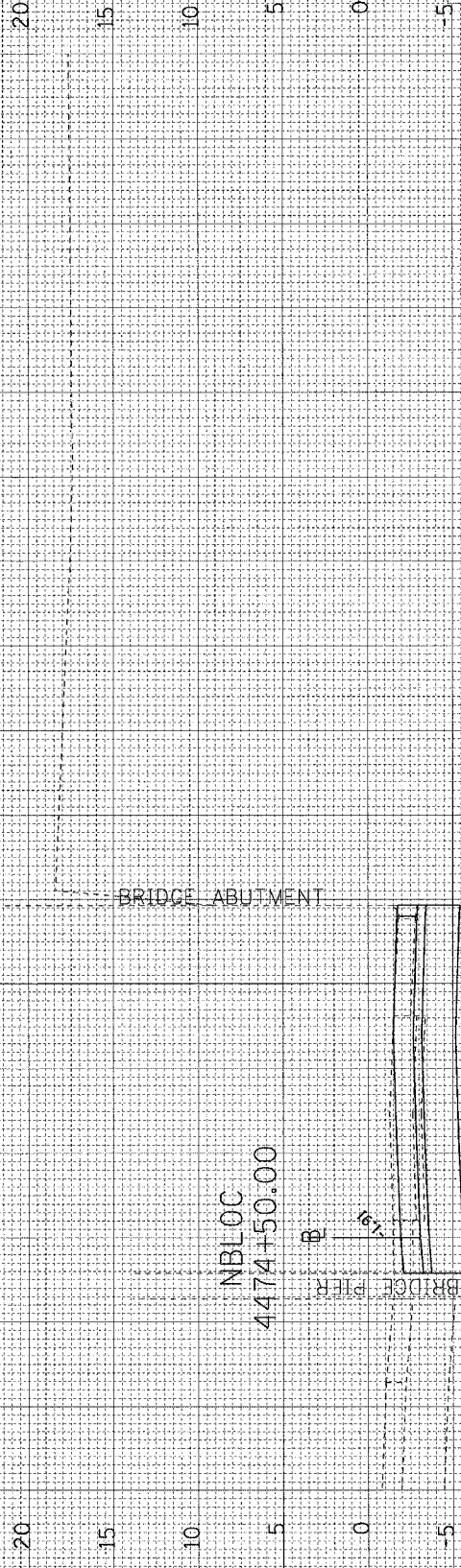
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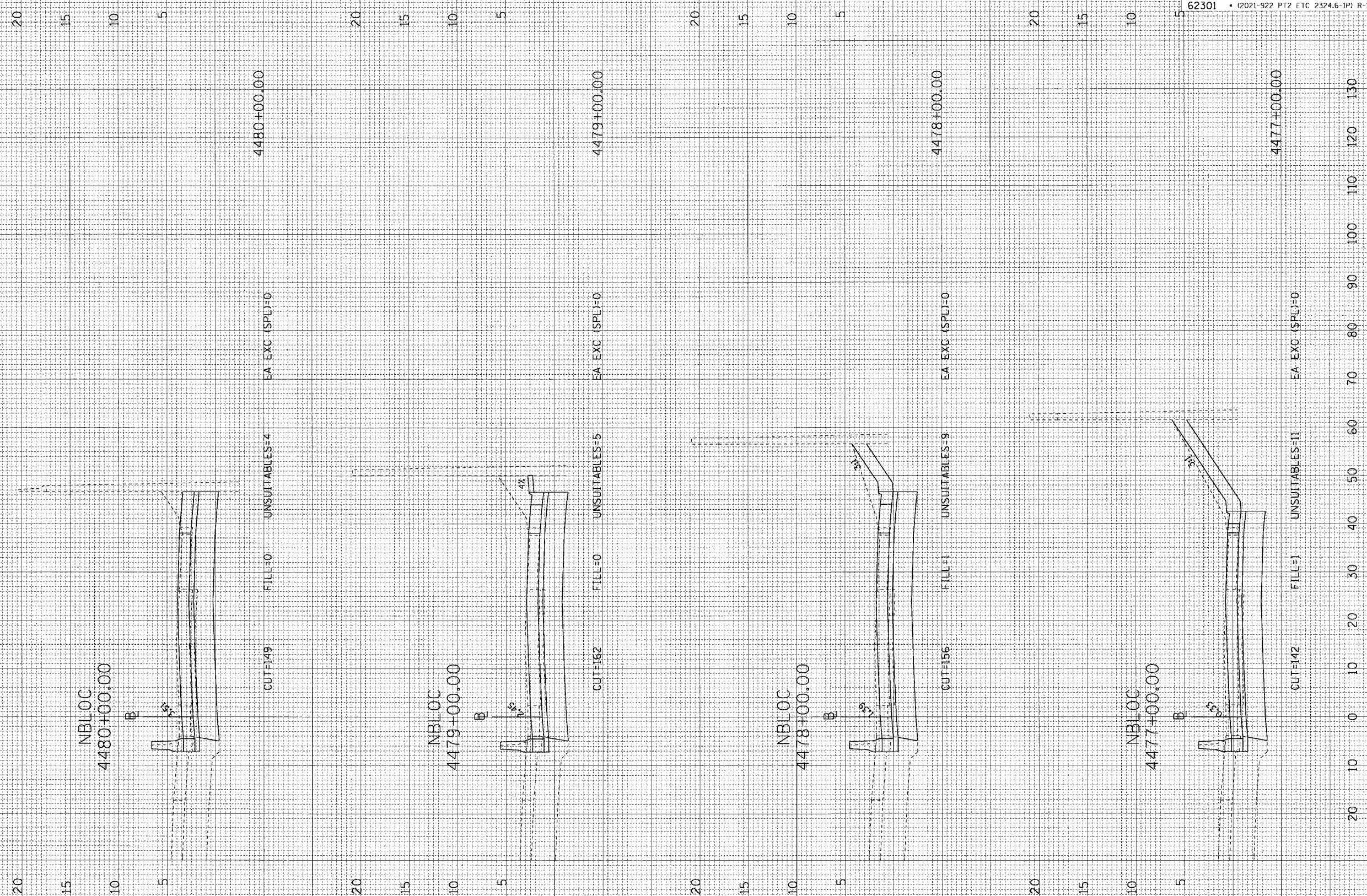
F.A.I. R.I.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	565	465
FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		
62301		• (2021-922 PT2 ETC 2324.6-1P) R-10		

P:\V-40465\CHMIN\B-Cntrs 1B & 19\CH-Cntr 1B\Cross Sections\318\_1000\_2017

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ORIGINAL SURVEY	DATE
SURVEYED	BY
NOTE BOOK	NO.
AREAS CHECKED	

FINAL SURVEY	DATE
SURVEYED	BY
NOTE BOOK	NO.
AREAS CHECKED	



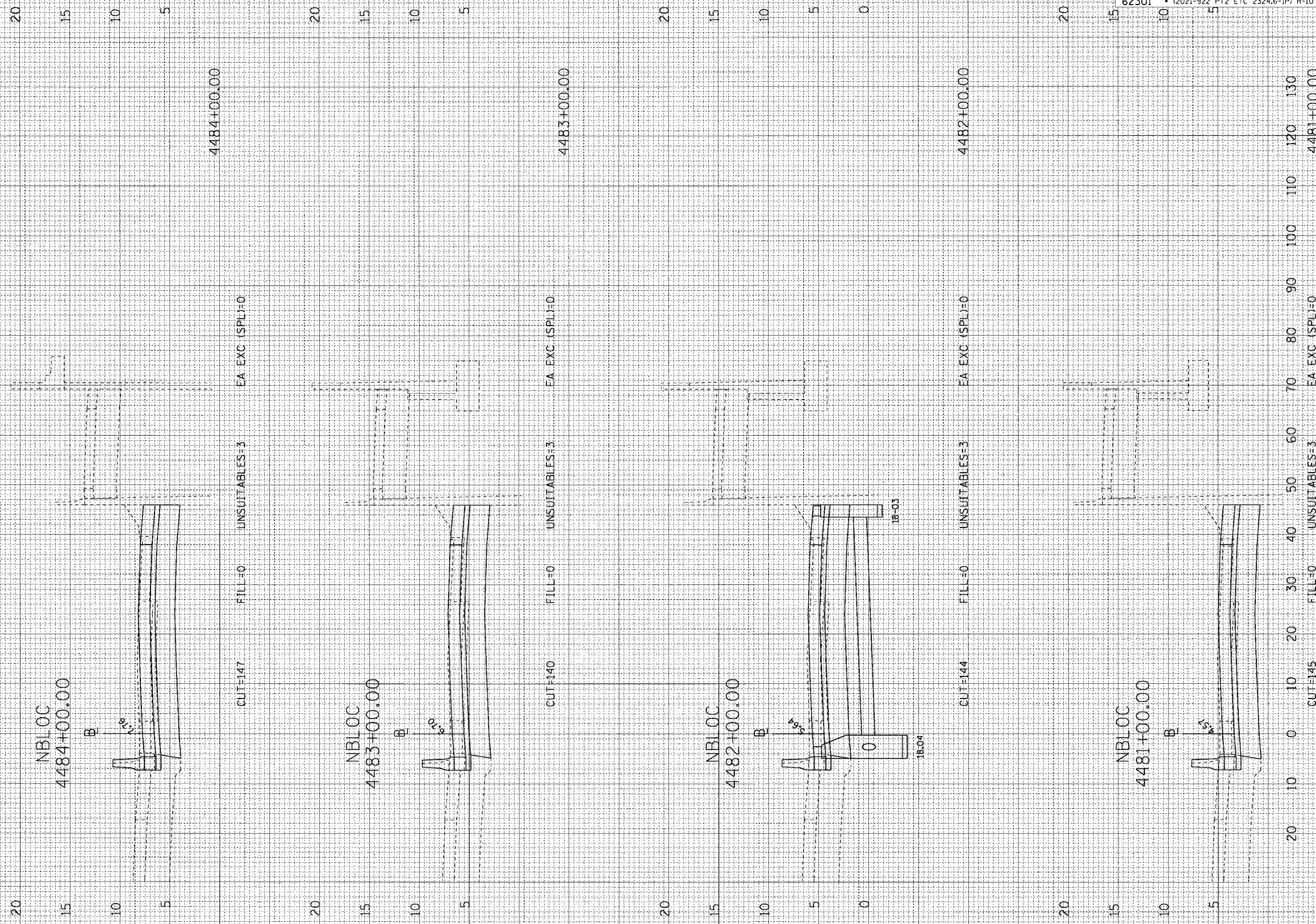
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90/94	•	COOK	565	466
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

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

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	565	467
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

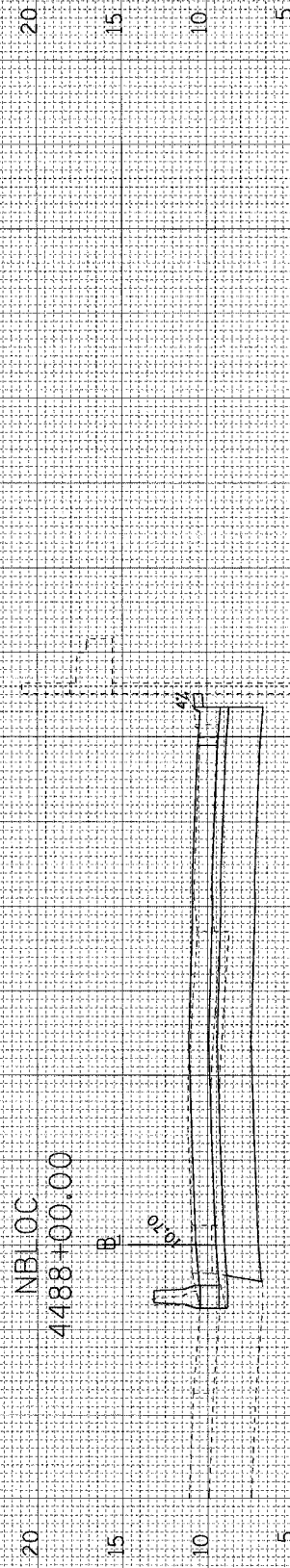


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FINAL SURVEY NO.	SURVEY PLOTTED	DATE
NOTE BOOK NO.	TEMPLATE AREAS CHECKED	

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

CTE | AECOM



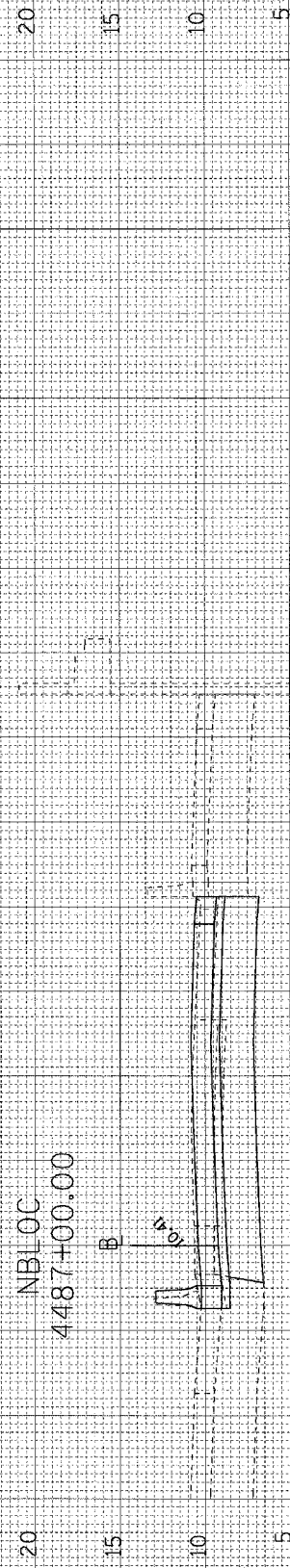
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FILL=0

CUT=176



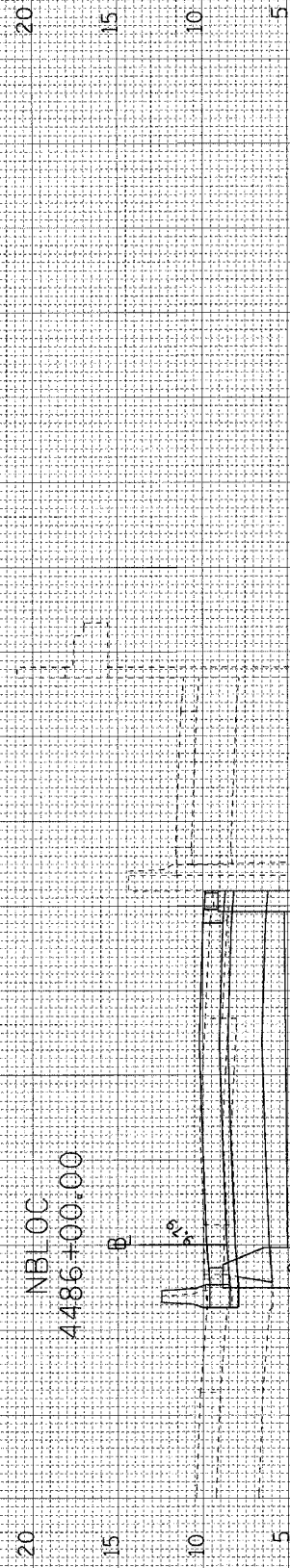
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UNSUITABLES=0

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CUT=119



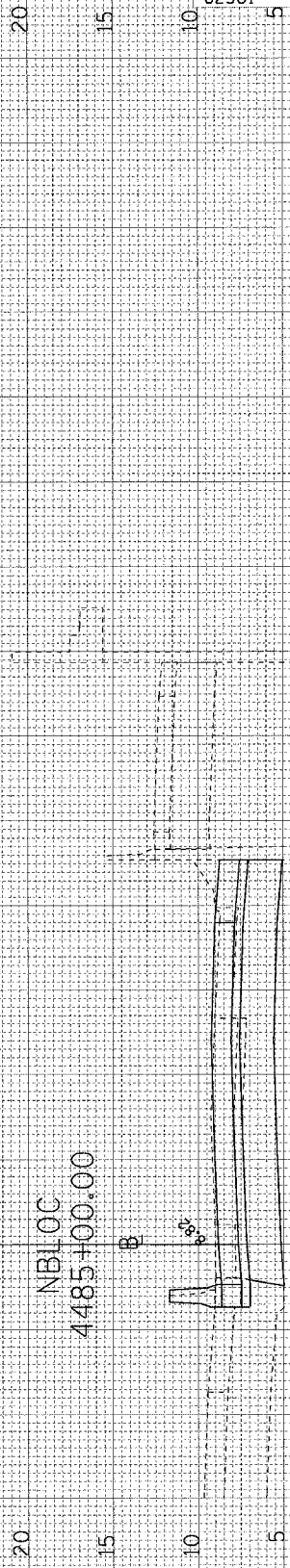
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UNSUITABLES=0

FILL=0

CUT=119



4485+00.00

EA EXC (SPL)=0

UNSUITABLES=3

FILL=0

CUT=138

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	•	COOK	565	468
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
62301		(2021-922 PT2 ETC 2324.6-1P) R-10		

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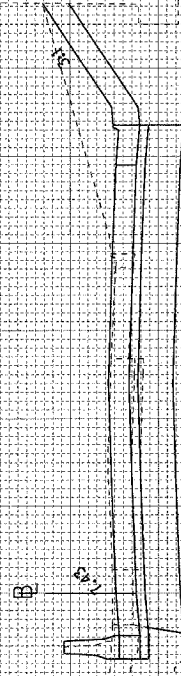
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SURVEYED BY	BY
NOTE BOOK NO.	
AREAS CHECKED	

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

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10  
5

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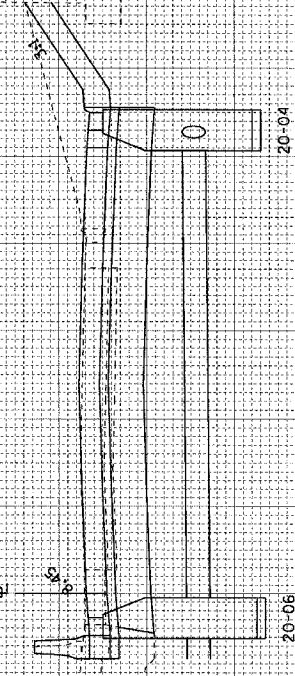


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15  
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5  
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20  
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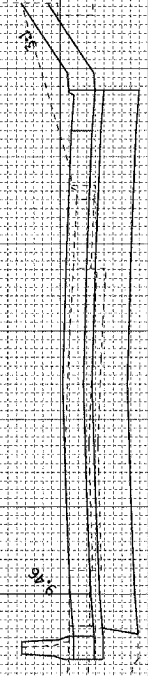


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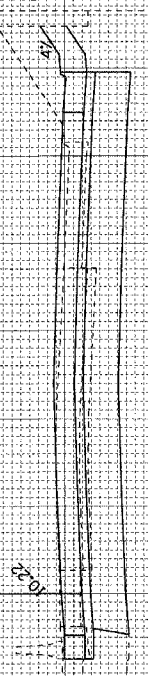


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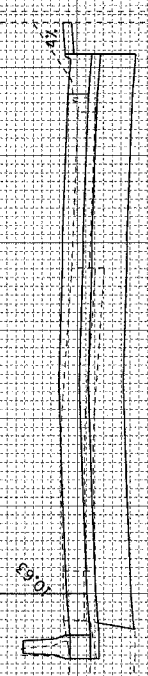


CUT=183 FILL=0 UNSUITABLES=7 EA EXC (\$/PL)=0 4490+00.00

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15  
10  
5

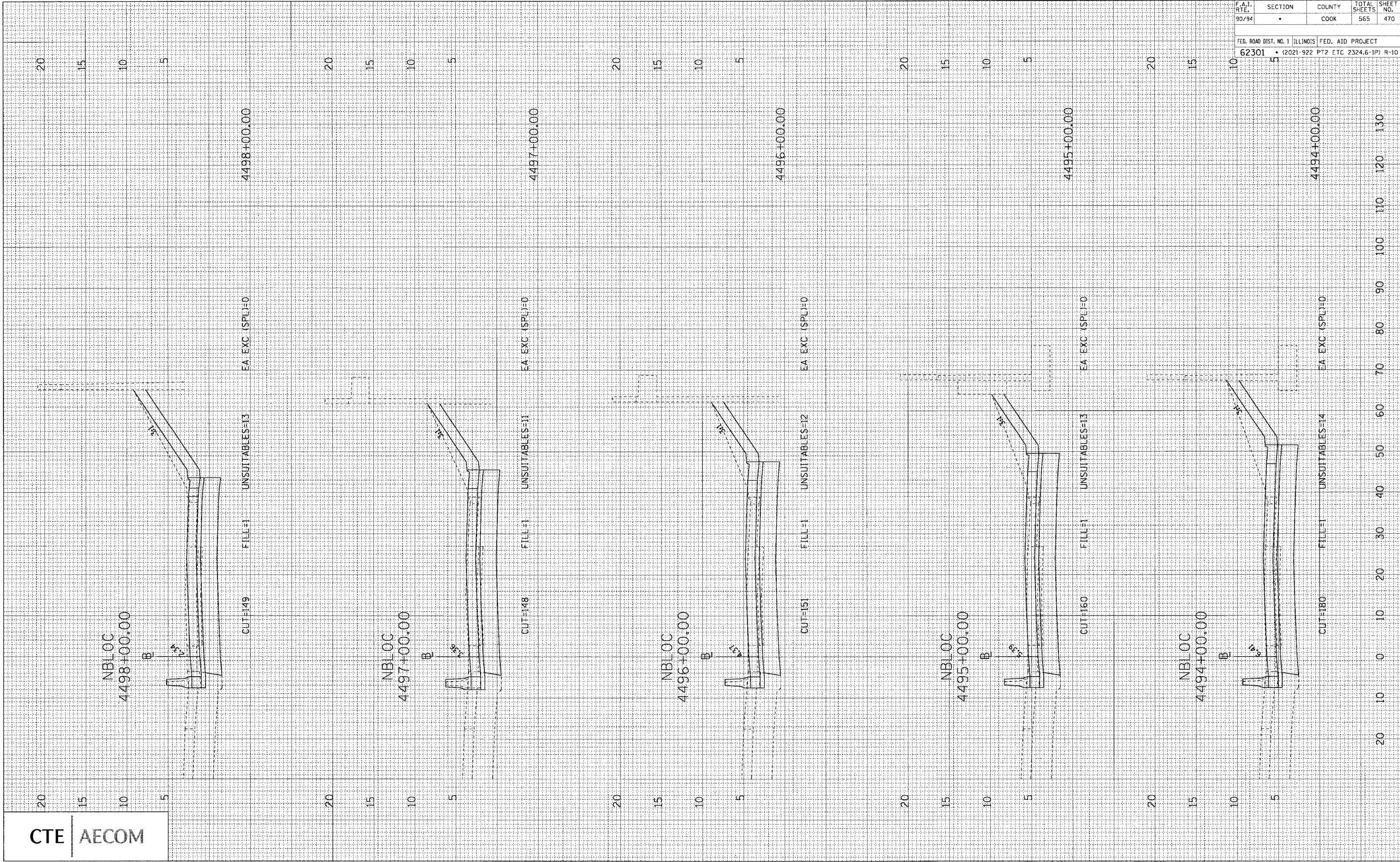


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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	565	469
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 (2021-922 PT2 ETC 2324.6-1P) R-10				

ORIGINAL SURVEY  
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 DRAWN BY \_\_\_\_\_  
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 NO. \_\_\_\_\_

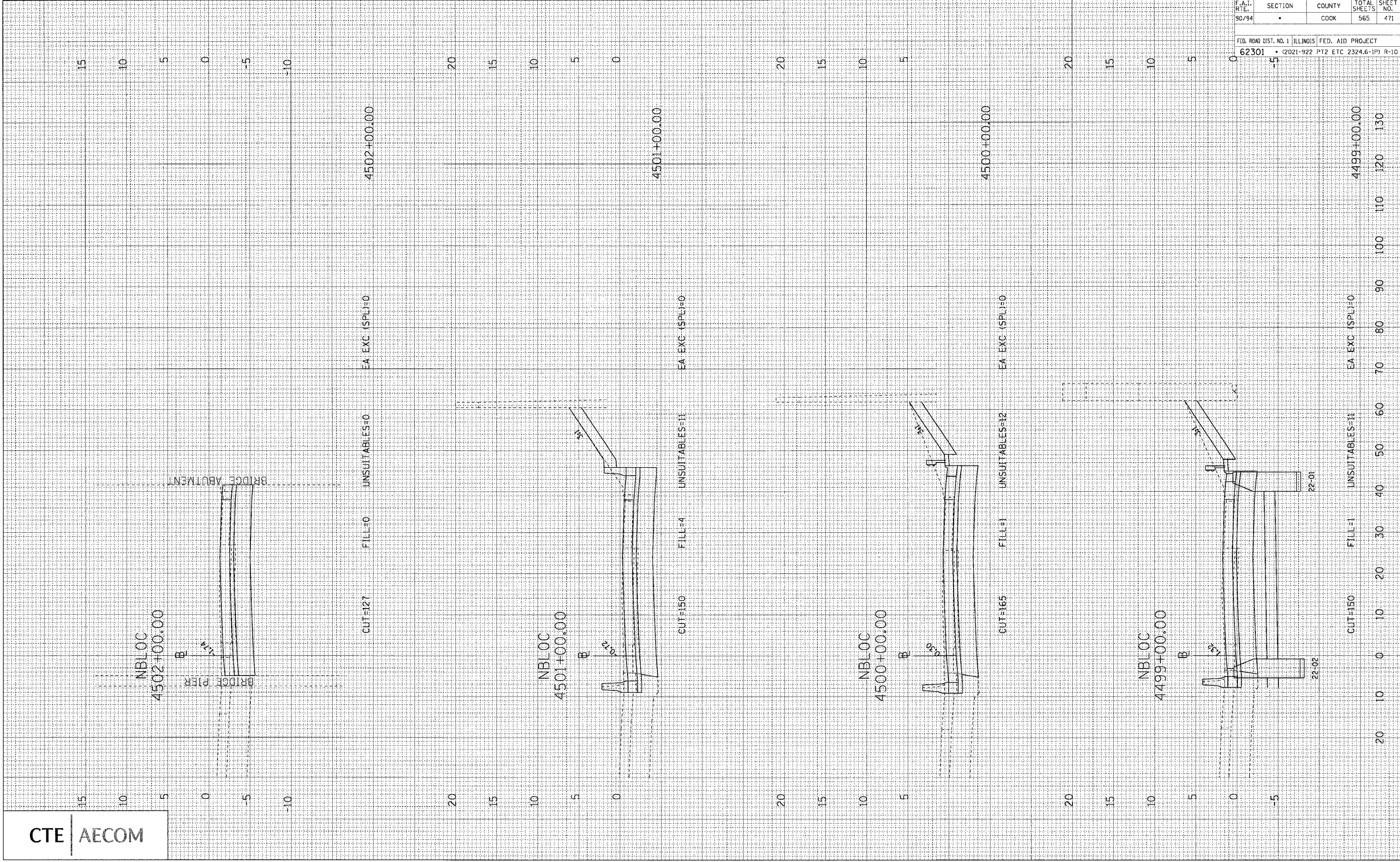
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 DRAWN BY \_\_\_\_\_  
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F.A.I. RTE. 90/94	SECTION •	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 470
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

ORIGINAL SURVEY	BY	DATE
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FINAL SURVEY	BY	DATE
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NOTE BOOK		
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AREAS CHECKED		
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F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	•	COOK	565	471
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

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FINAL SURVEY	DATE
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ORIGINAL SURVEY	DATE
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NOTE BOOK NO.	DATE
TEMPLATE AREAS CHECKED	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	•	COOK	565	472
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

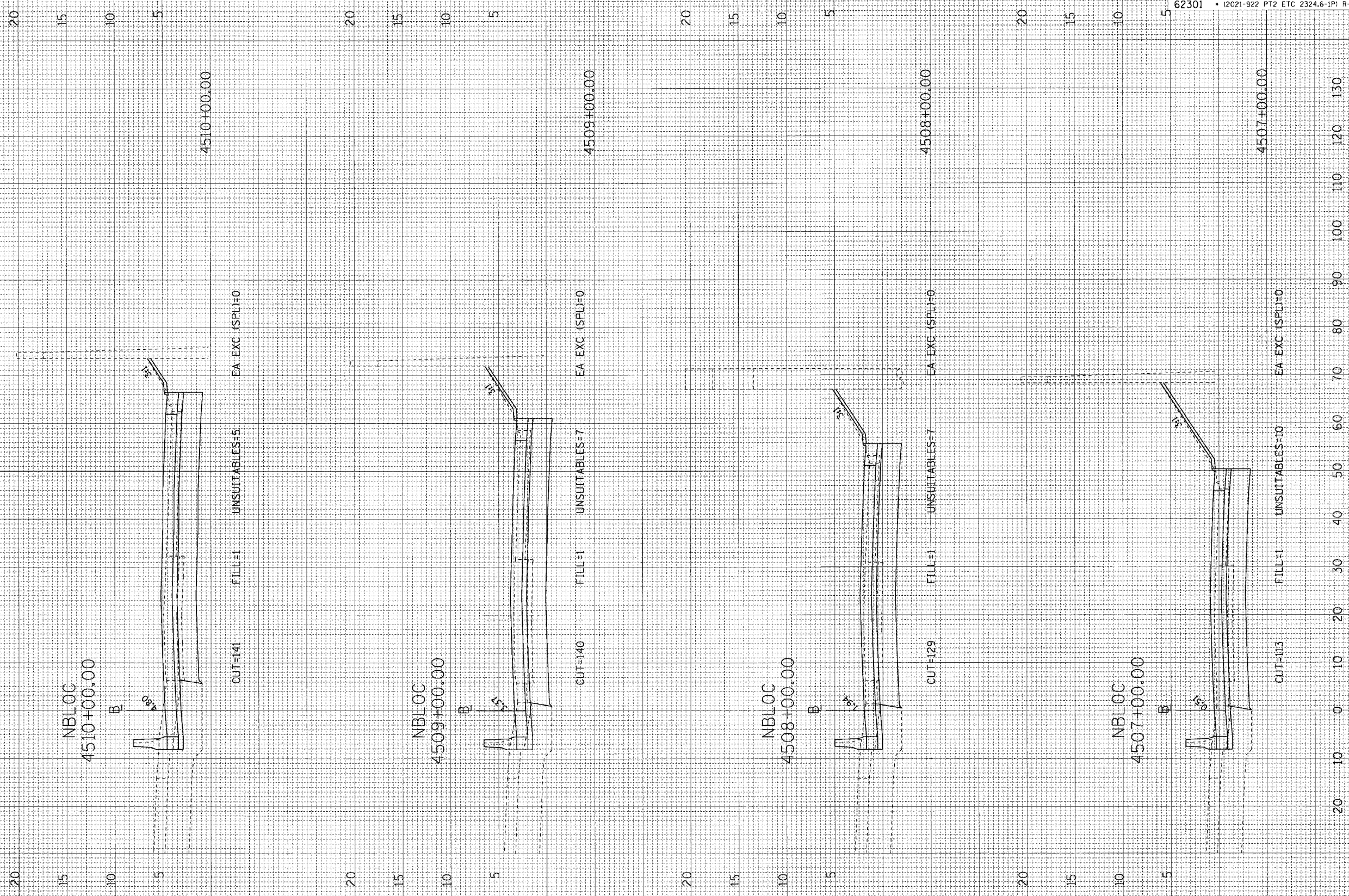


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ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		

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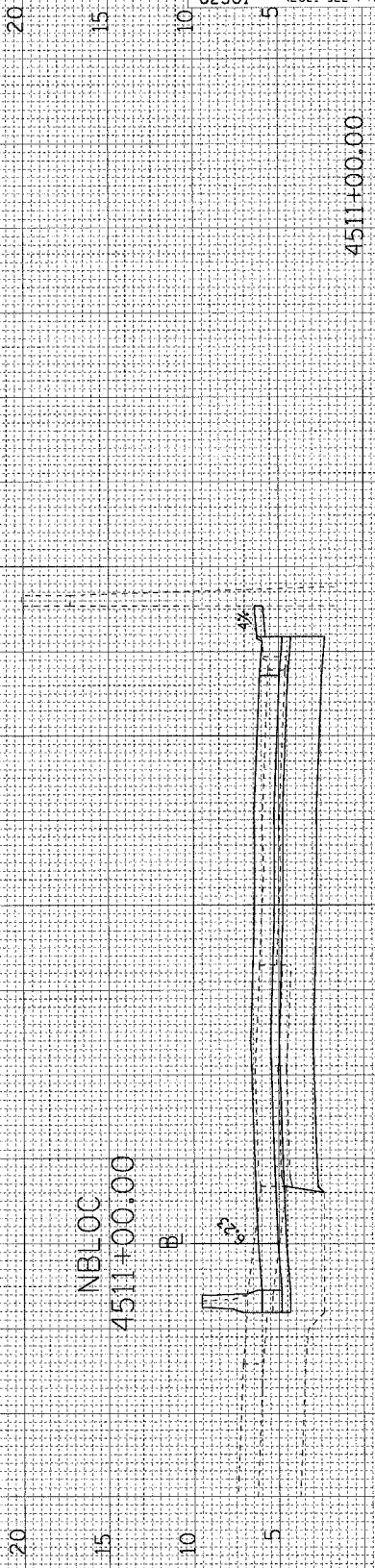
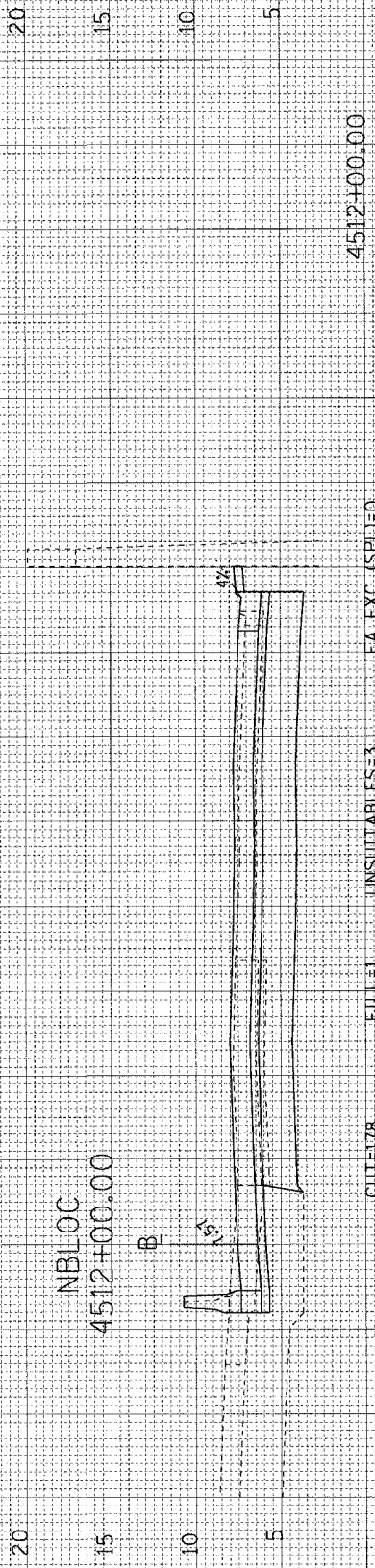
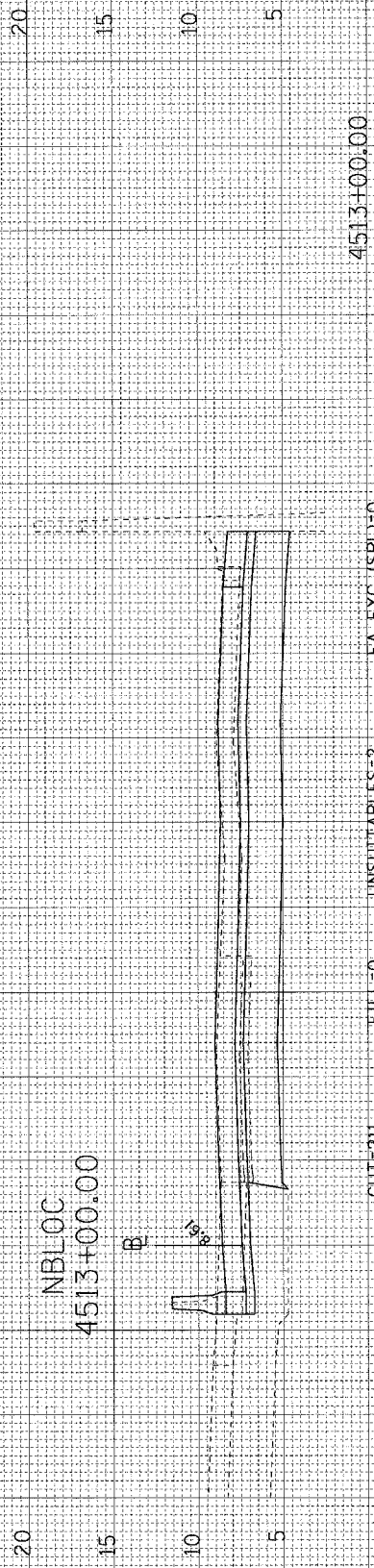
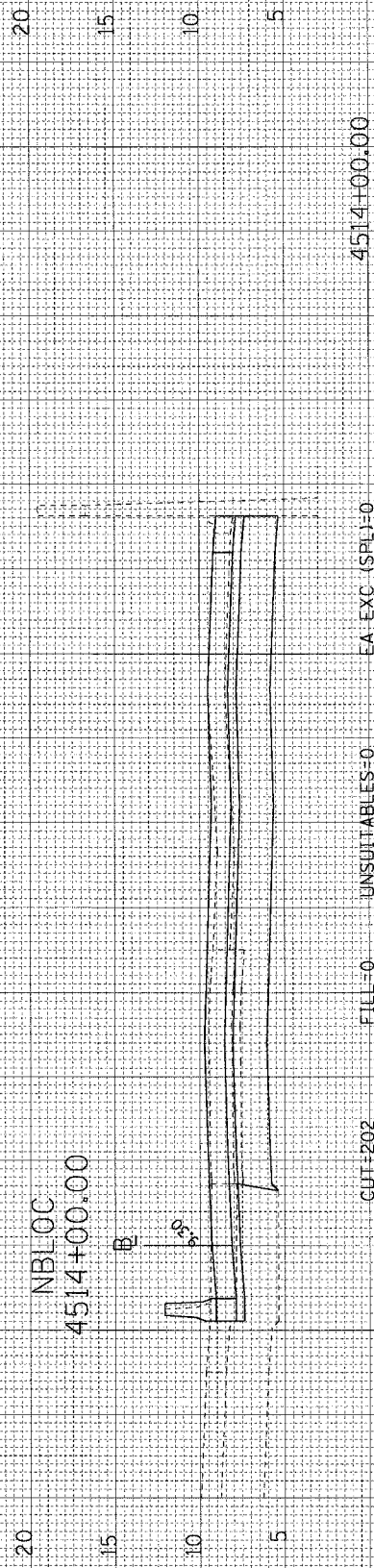
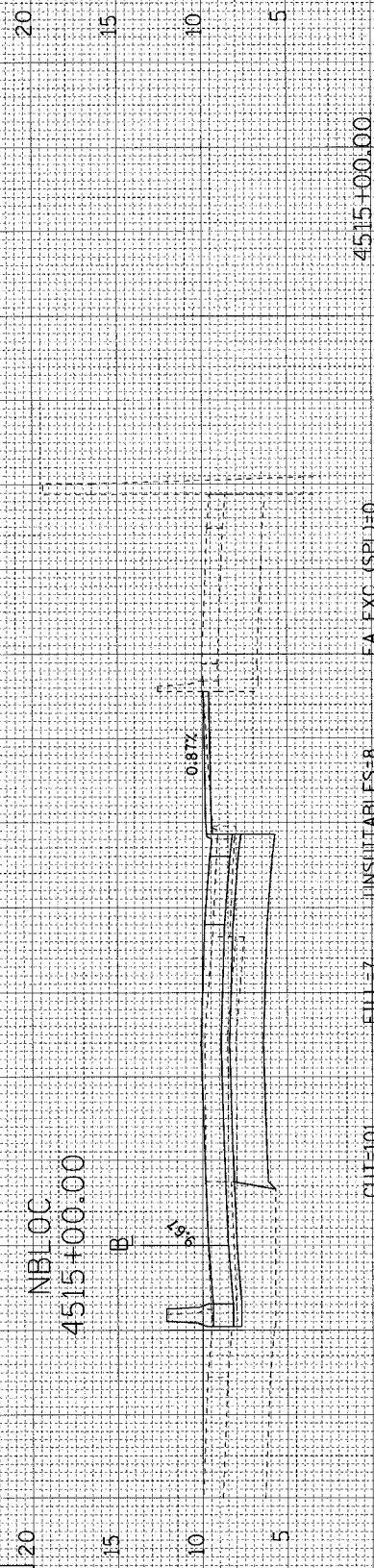
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90/94	•	COOK	565	473
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

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

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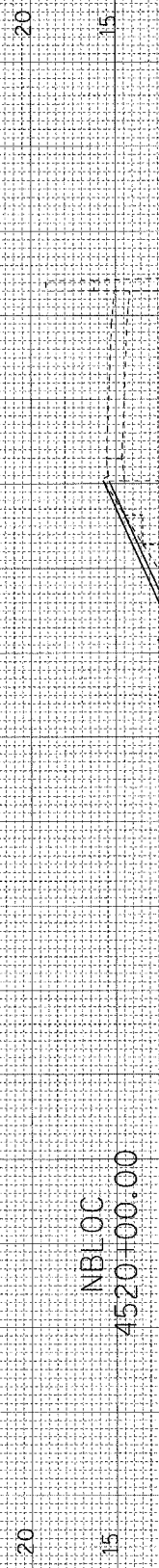
F.A.I. RTE. 90/94	SECTION •	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 474
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-IP) R-10				

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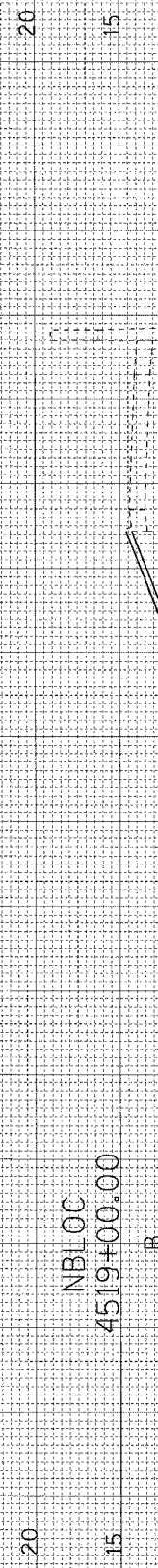
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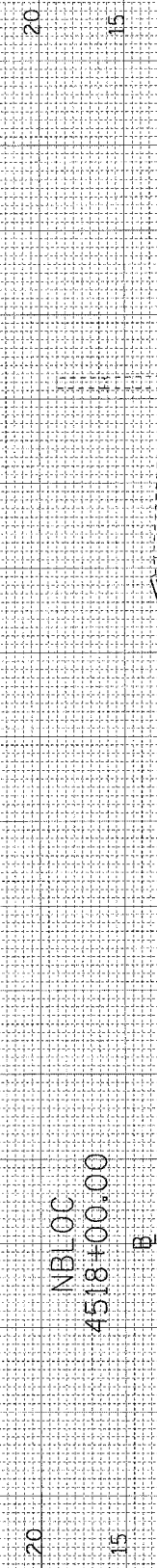
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NO. _____	BY _____
NO. _____	DATE _____
NO. _____	DATE _____



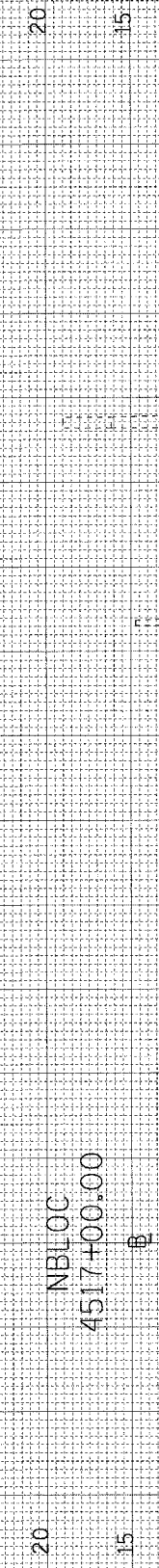
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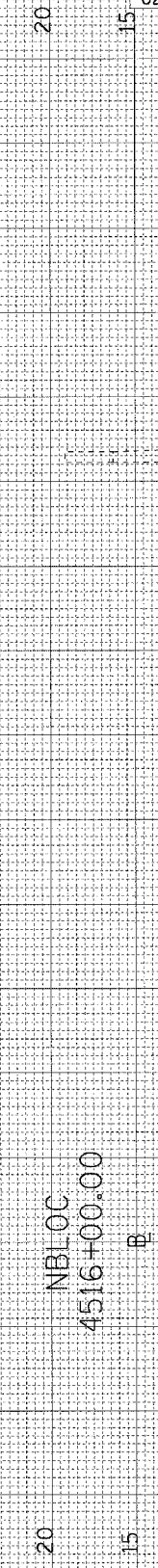
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4518+00.00  
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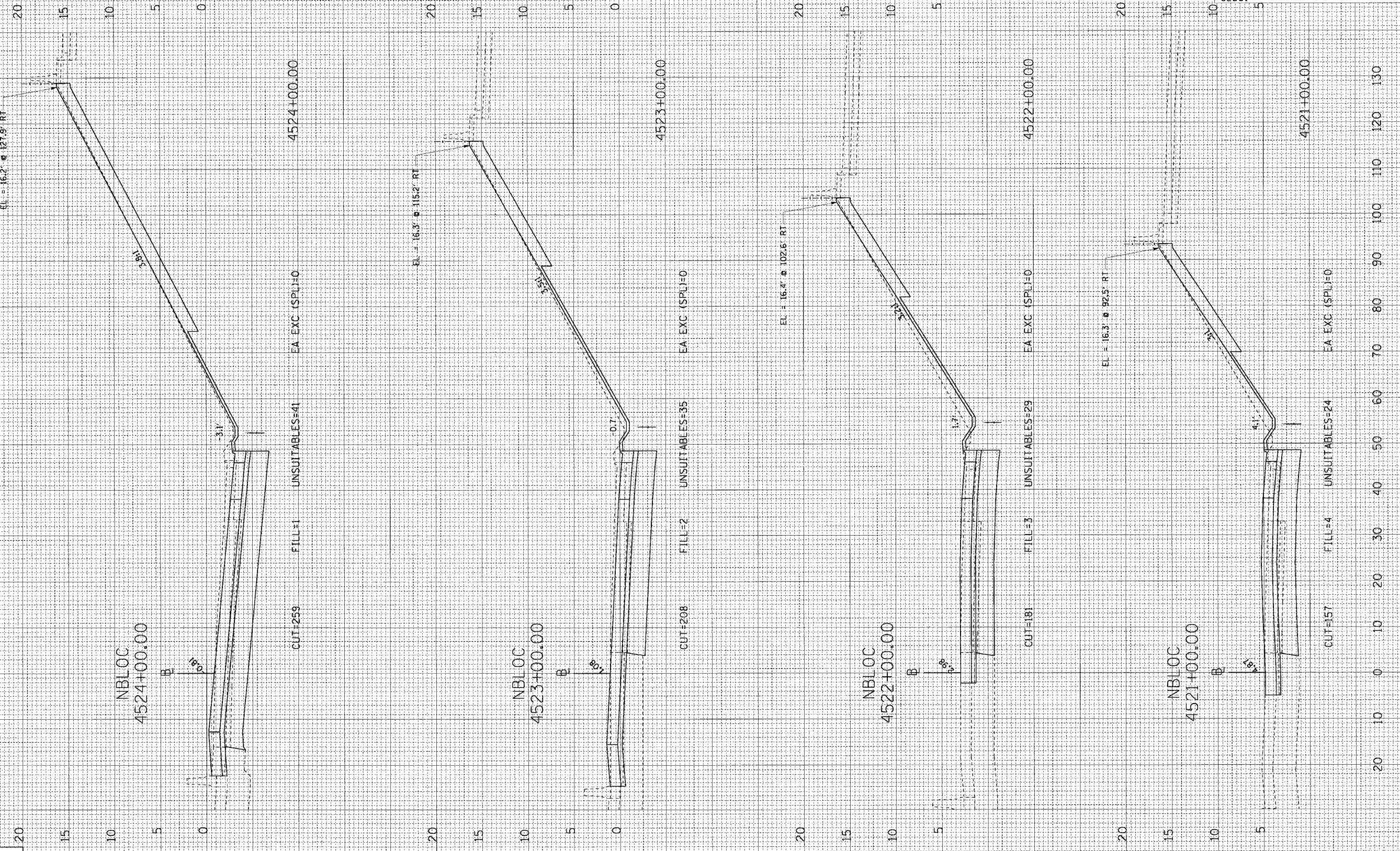


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90/94	•	COOK	565	475
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

FINAL SURVEY	DATE
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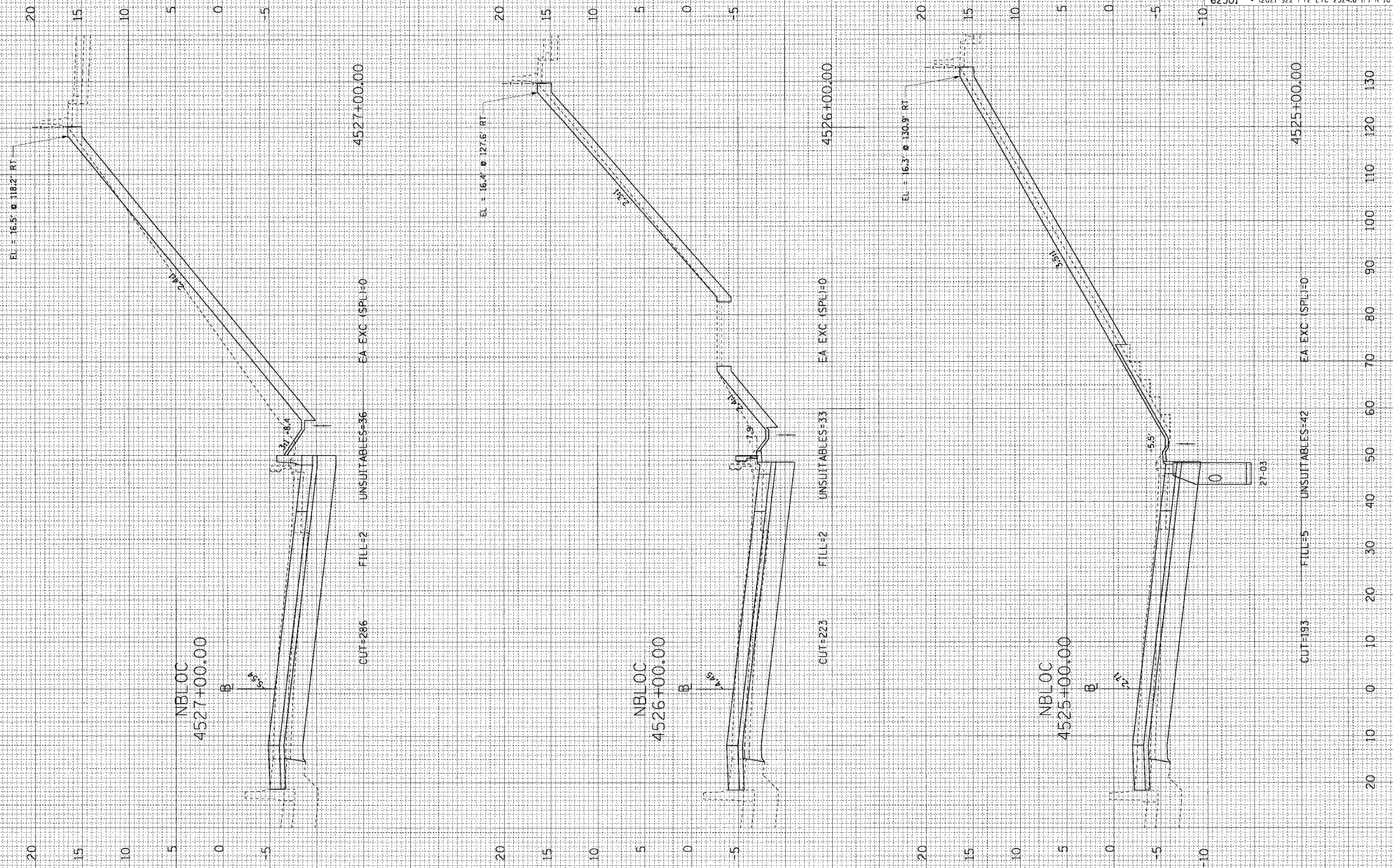


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94		COOK	565	476
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62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				

FINAL SURVEY	BY	DATE
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ORIGINAL SURVEY	BY	DATE
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F.A.I. R.I.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	*	COOK	565	477
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				



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ORIGINAL	REVISIONS	BY	DATE
SURVEY	PLOTTED		
NOTE BOOK	TEMPLATE		
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F.A.I. RTE. 90/94	SECTION •	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 478
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 • (2021-922 PT2 ETC 2324.6-1P) R-10				



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EA EXC (SPL)=0

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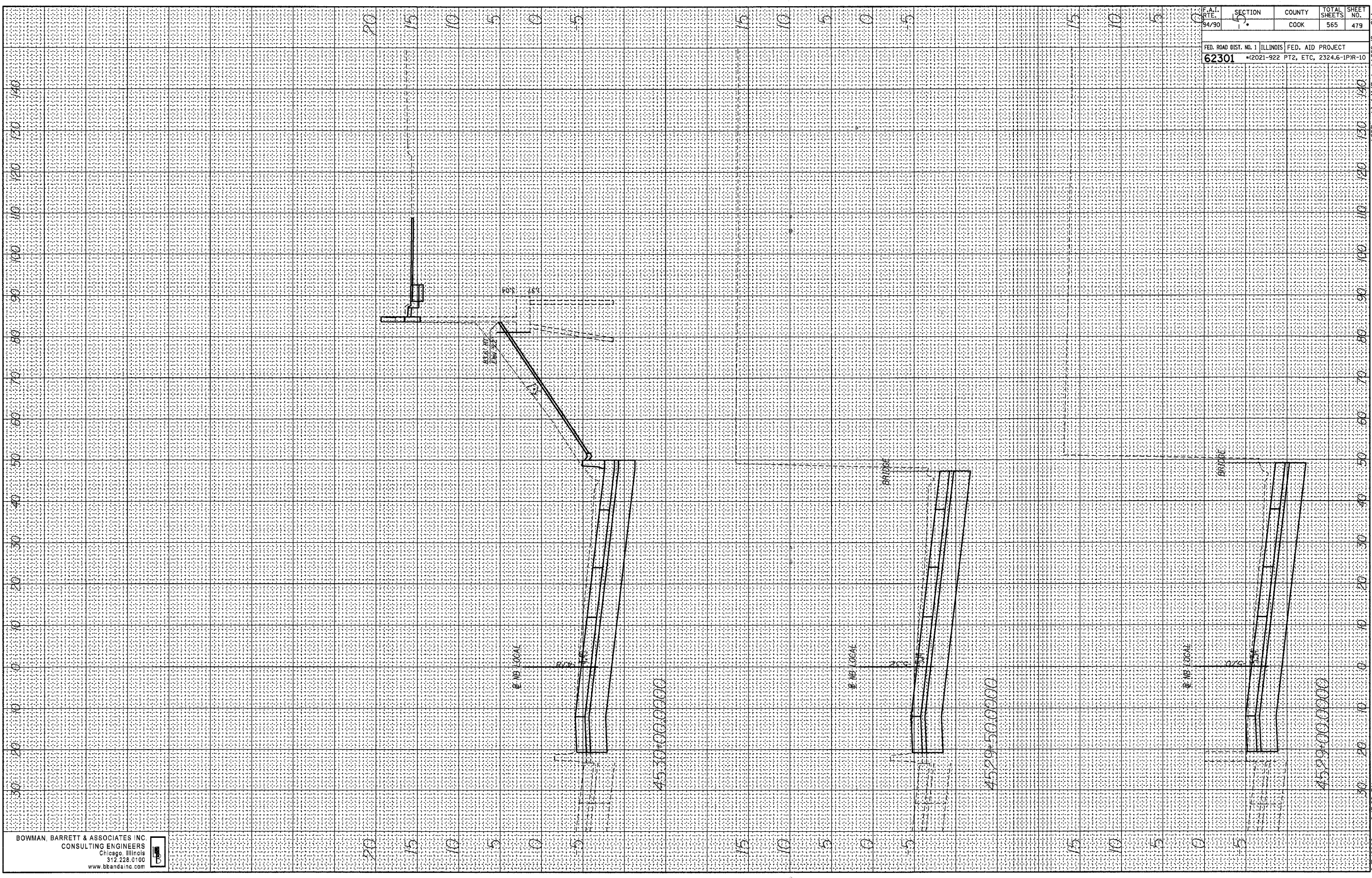
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ORIGINAL SURVEY	BY	DATE
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NOTE BOOK		
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AREAS CHECKED		



F.A.I. RT. 94/90	SECTION 1	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 479
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 •(2021-922 PT2, ETC, 2324.6-IPR-10				

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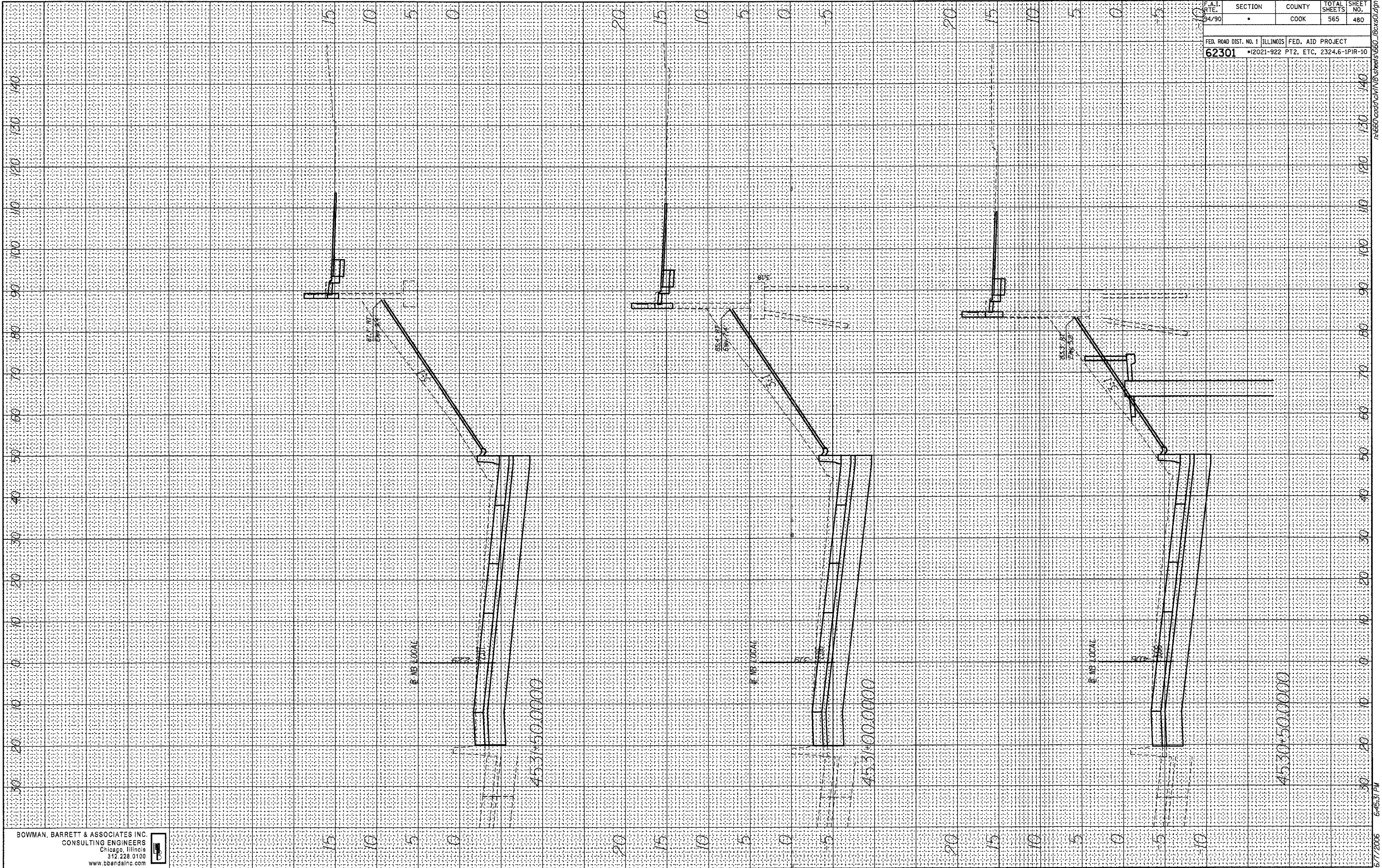
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NOTE BOOK		
AREAS CHECKED		
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F.A.I. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04/90	*	COOK	565	480
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 * (2021-922 PT2, ETC, 2324.6-IPR-10)				



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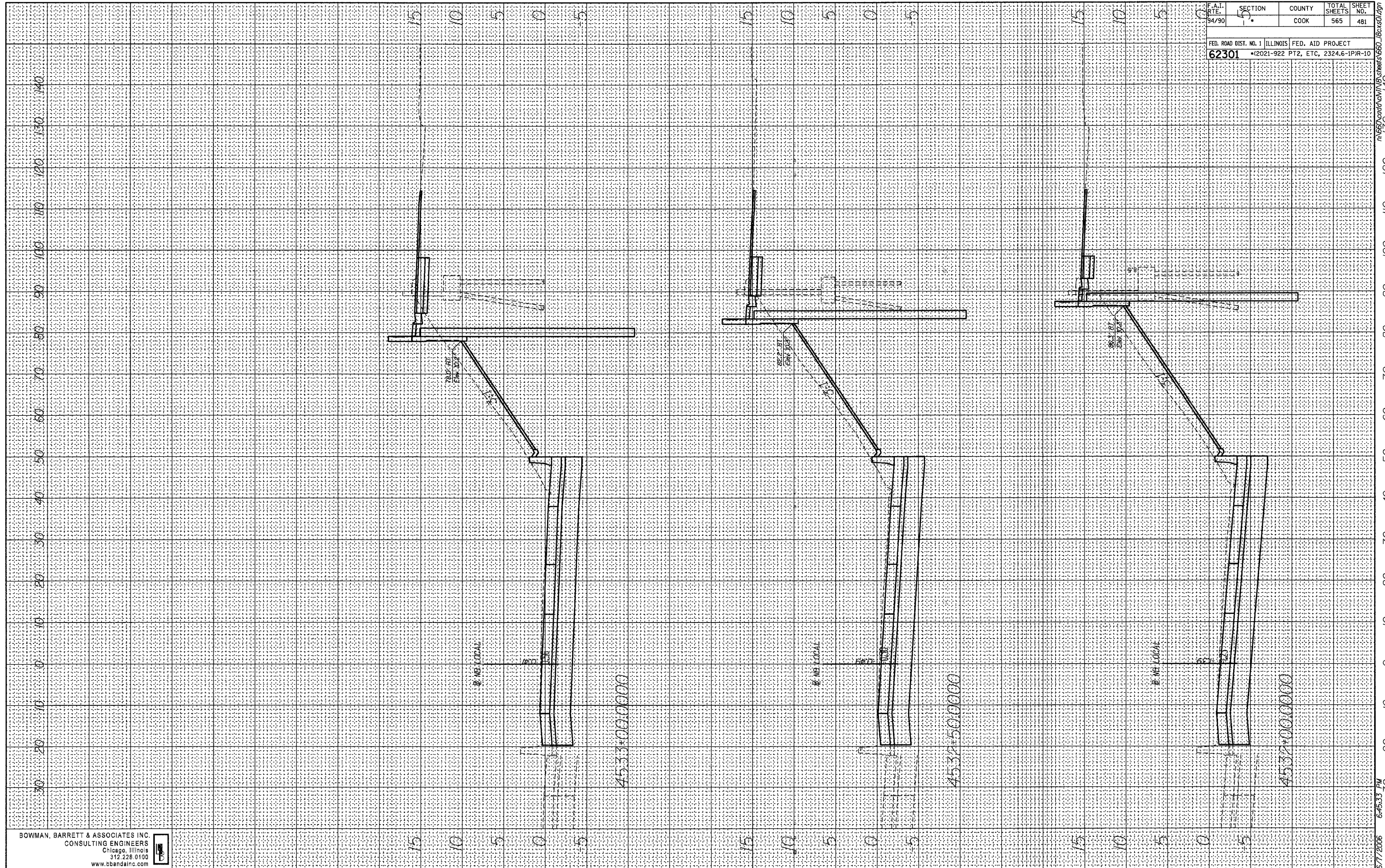


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 PLOTTED DATE \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

F.A.T. RTE. 94/90	SECTION 4	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 481
FED. ROAD DIST. NO. 1		ILLINOIS		FED. AID PROJECT
62301		•(2021-922 PT2, ETC,		2324.6-1P/R-10



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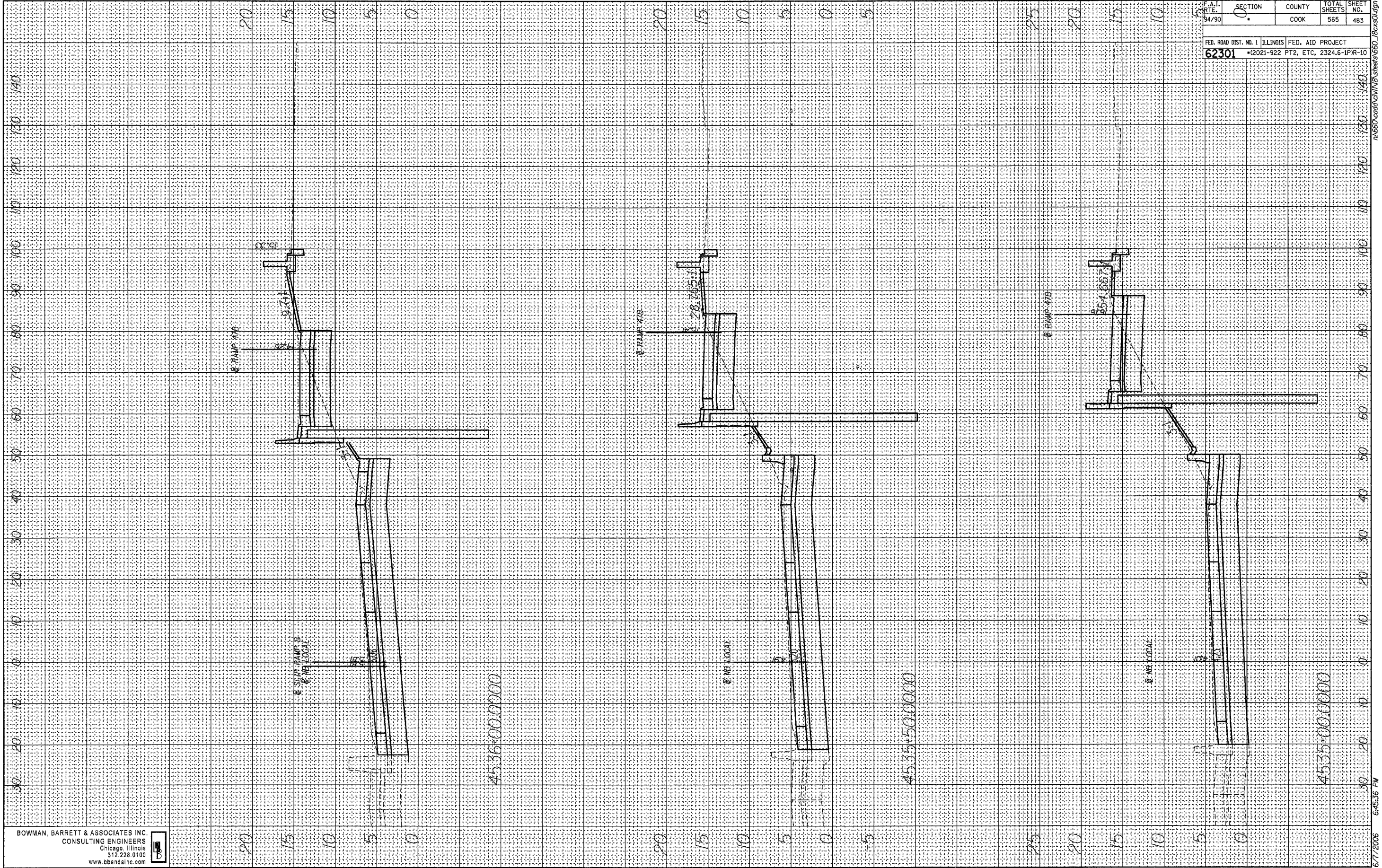


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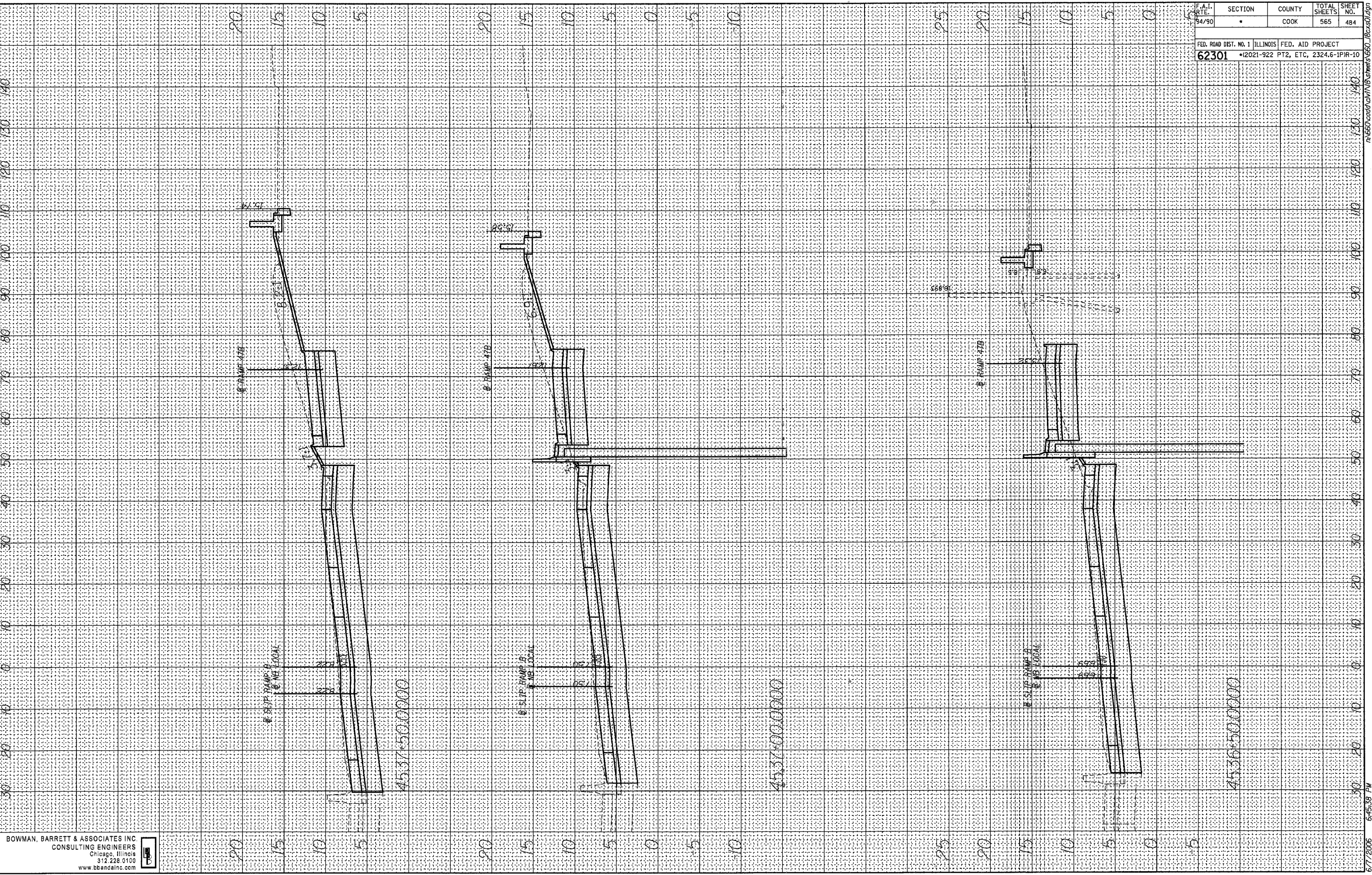


F.A.I. R.T.E. 94/90	SECTION 0	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 483
FED. ROAD DIST. NO. 1 62301		ILLINOIS FED. AID PROJECT 12021-922 PT2, ETC, 2324.6-1P1R-10		

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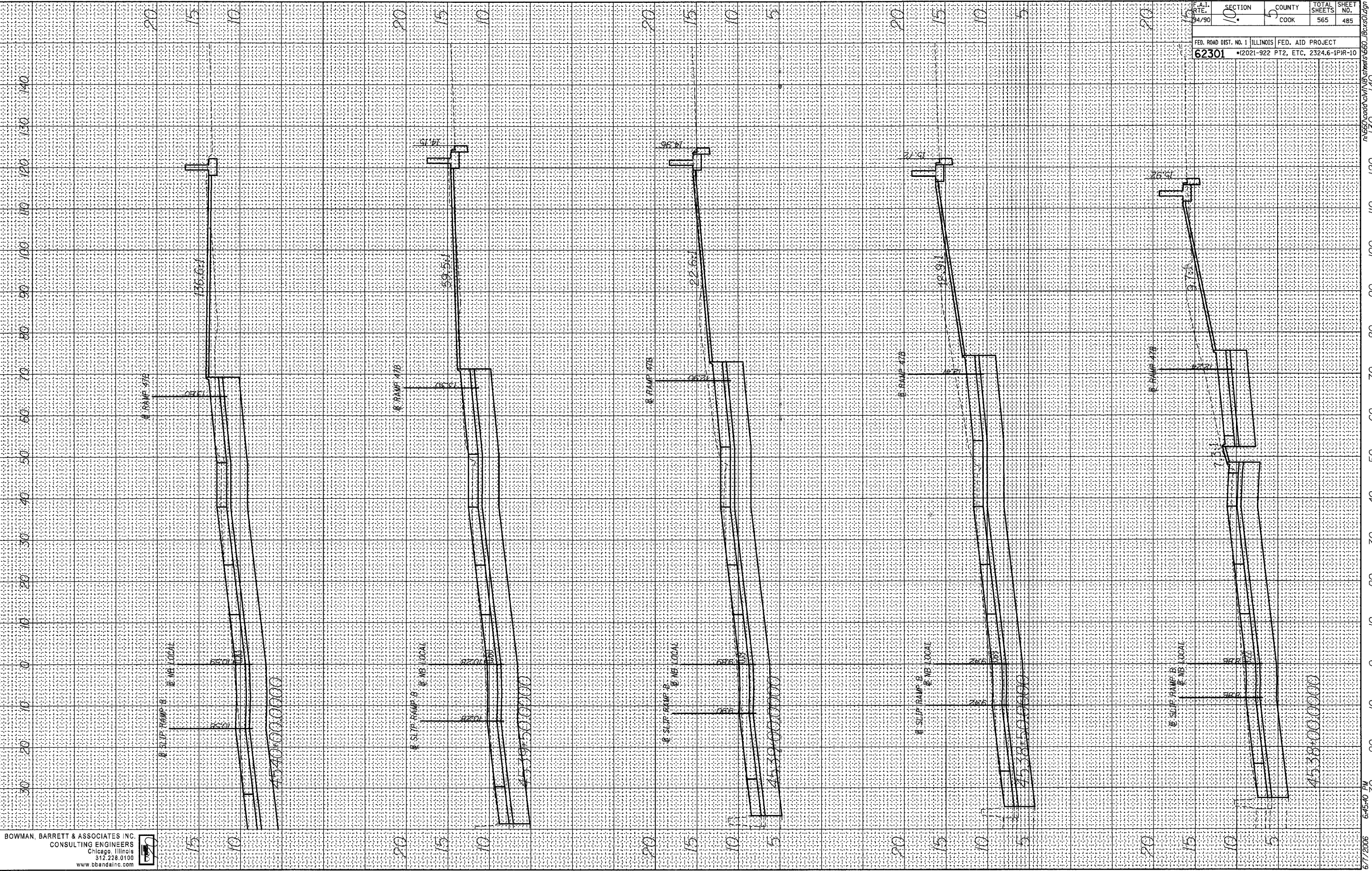
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FED. ROAD DIST. NO. 1 <b>62301</b>		ILLINOIS FED. AID PROJECT •(2021-922 PT2, ETC, 2324.6-1PR-10		

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F.A.I. RTE. 94/90	SECTION 10	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 485
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 •(2021-922 PT2, ETC, 2324.6-IPR-10				

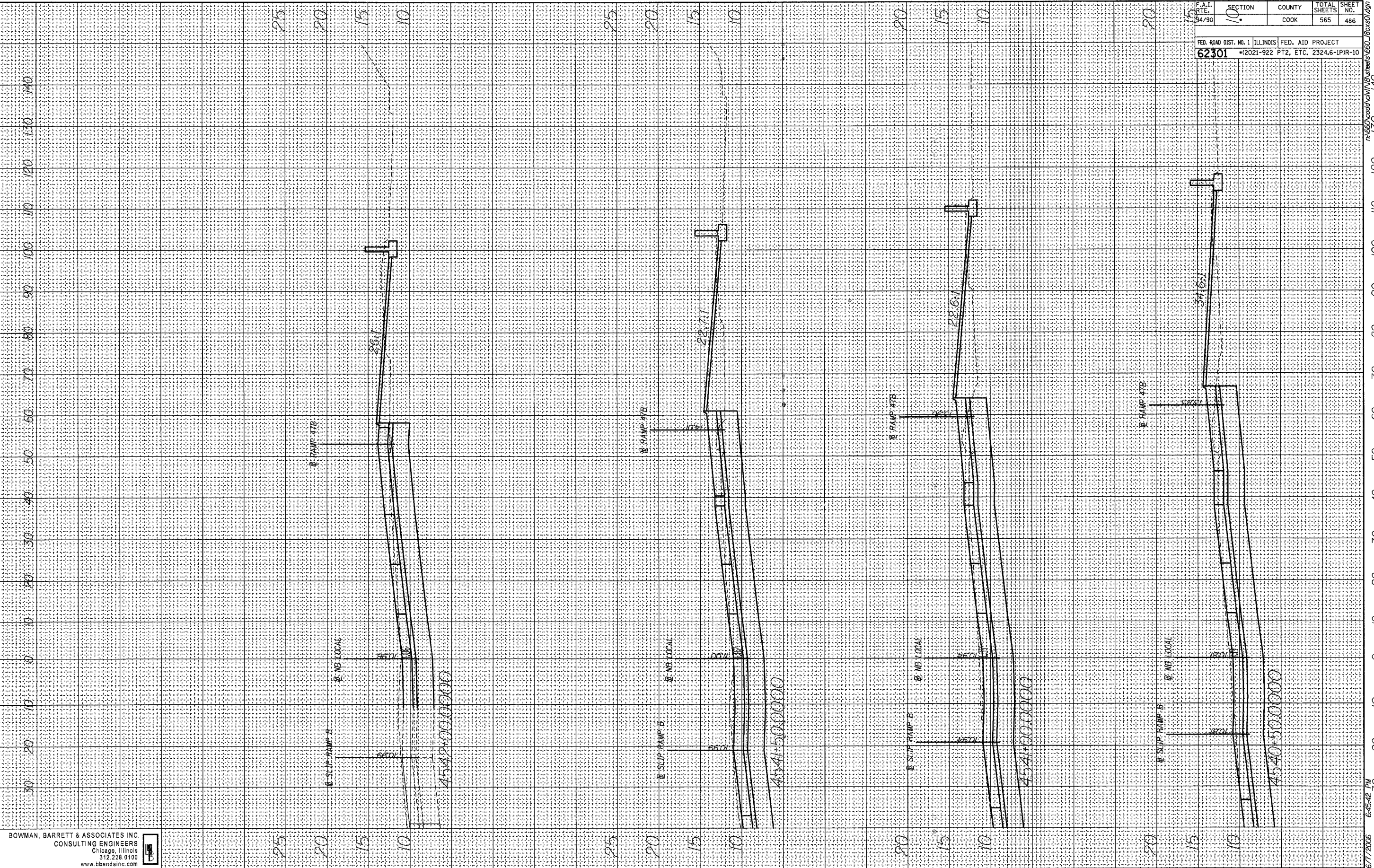
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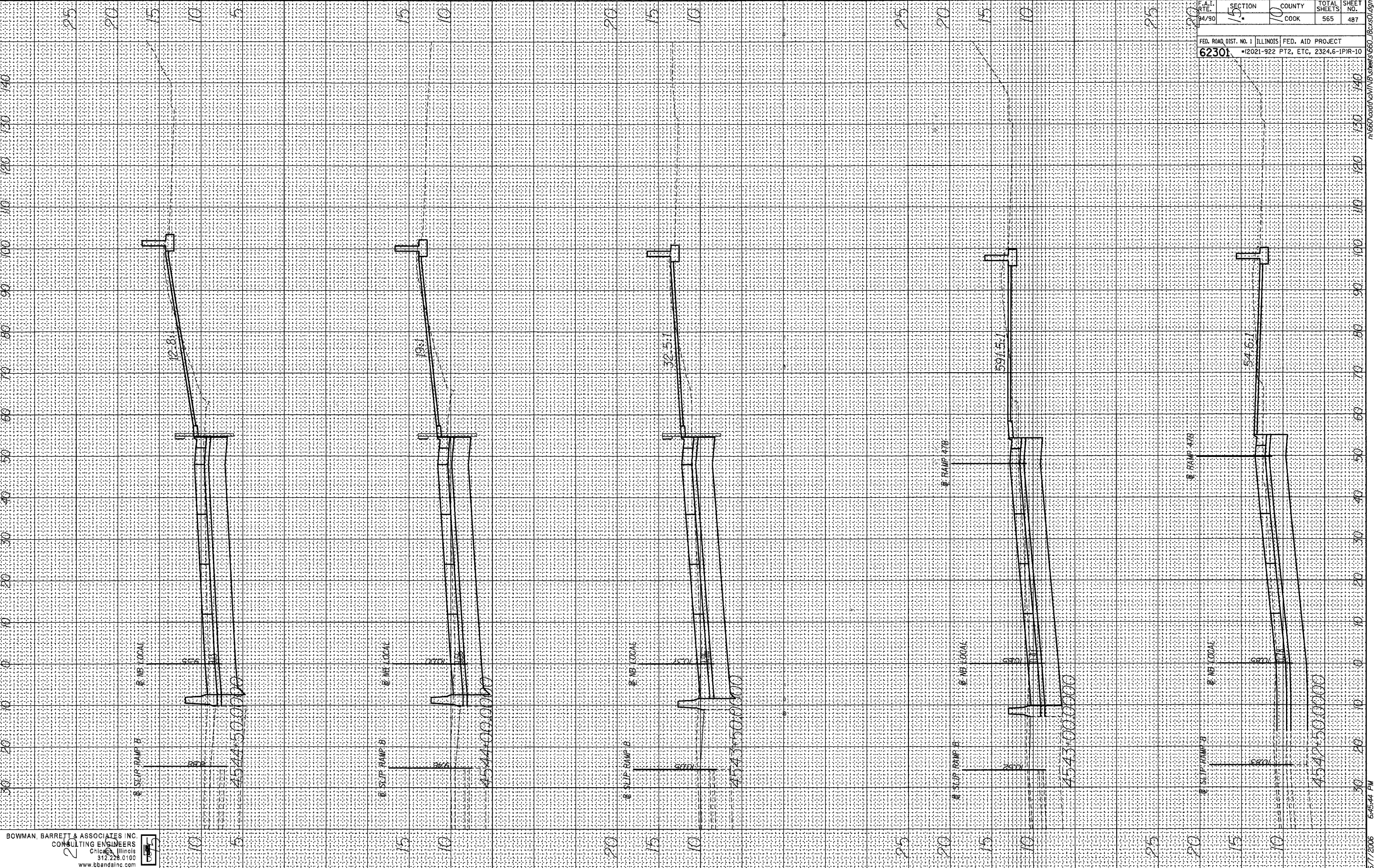
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	10	COOK	565	486
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		
62301		*12021-922 PT2, ETC. 2324.6-IPR-10		

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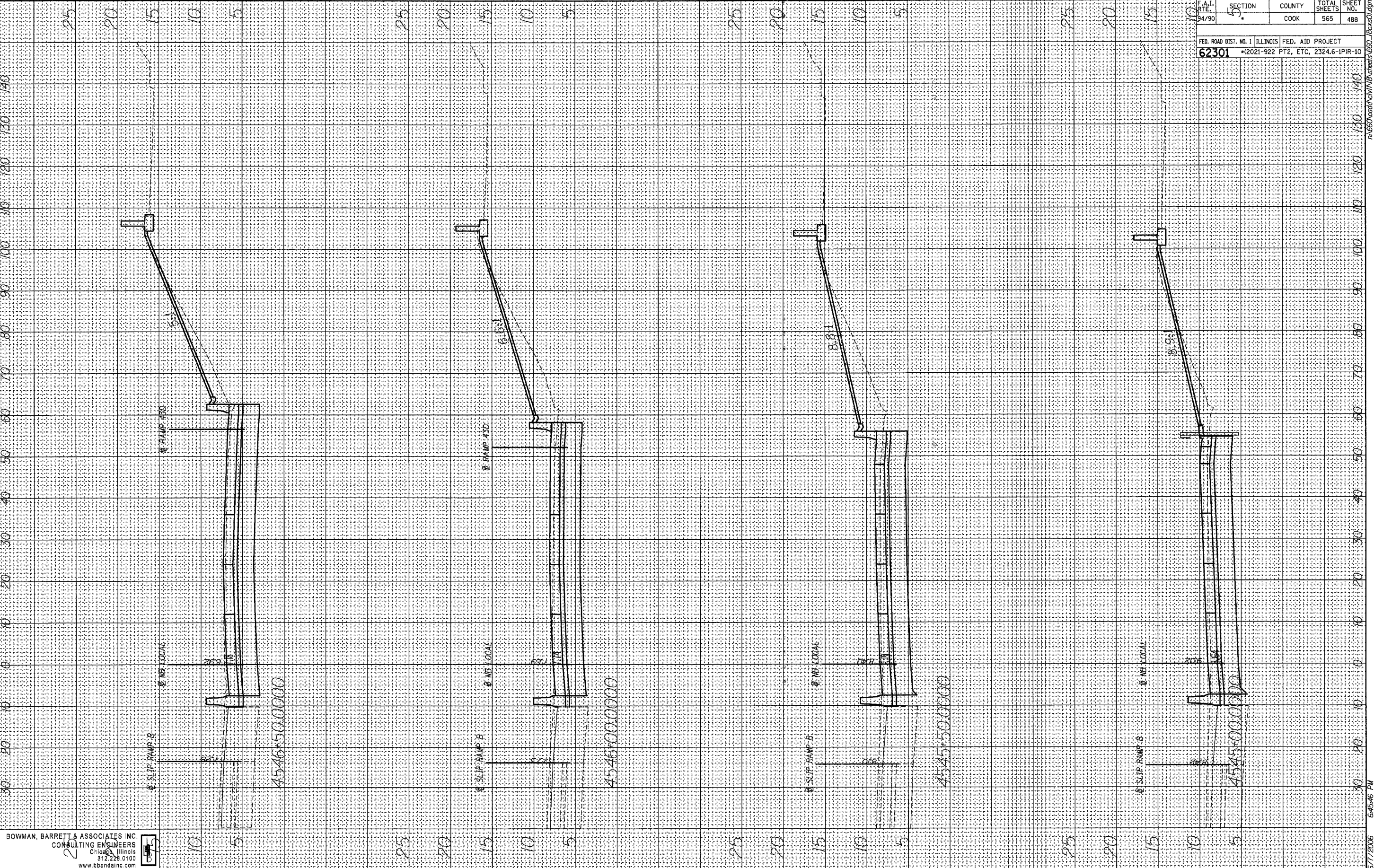
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62301		*2021-922 PT2, ETC, 2324.6-1PIR-10		

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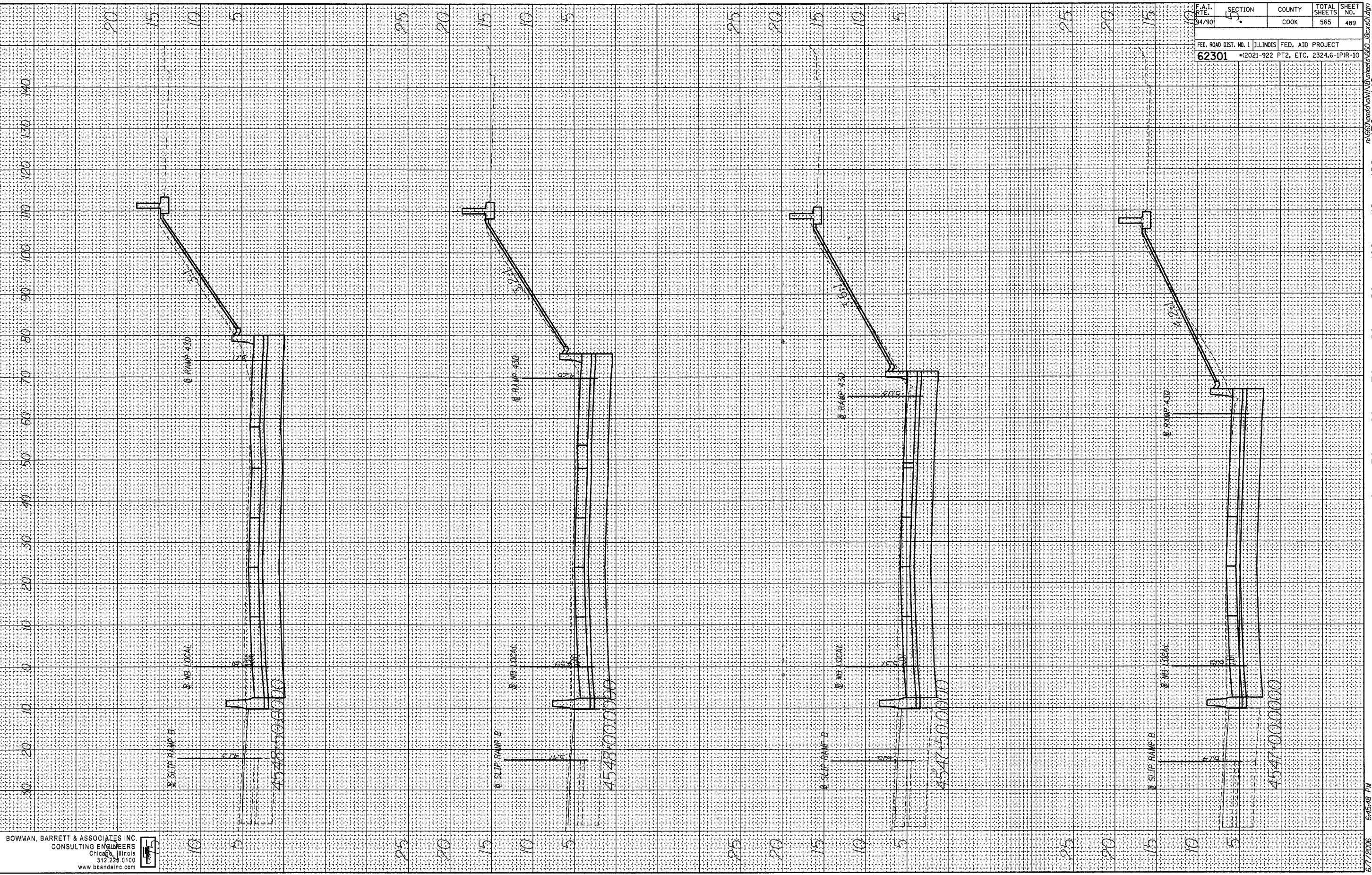
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FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		
62301		*12021-922 PT2, ETC, 2324.6-1PR-10		

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NOTE BOOK	
TEMPLATE	
AREAS CHECKED	
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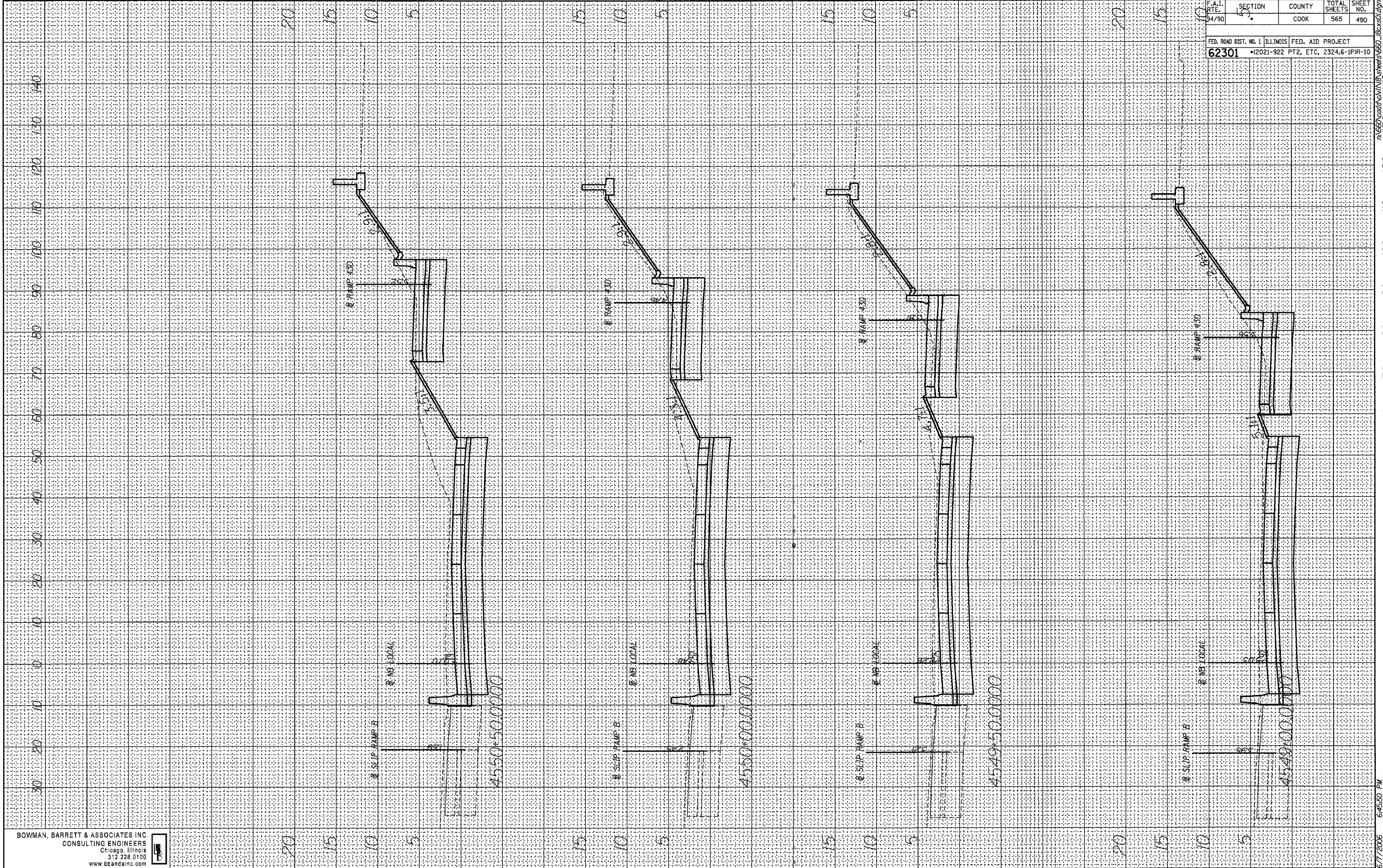
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FED. ROAD DIST. NO. 1		ILLINOIS		FED. AID PROJECT
62301		*(2021-922 PT2, ETC, 2324.6-1PR-10		

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F.A.I. RTE. 94/90	SECTION 5	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 490
FED. ROAD DIST. NO. 1		ILLINOIS		FED. AID PROJECT
62301		*(2021-922 PT2, ETC, 2324.6-1PR-10		

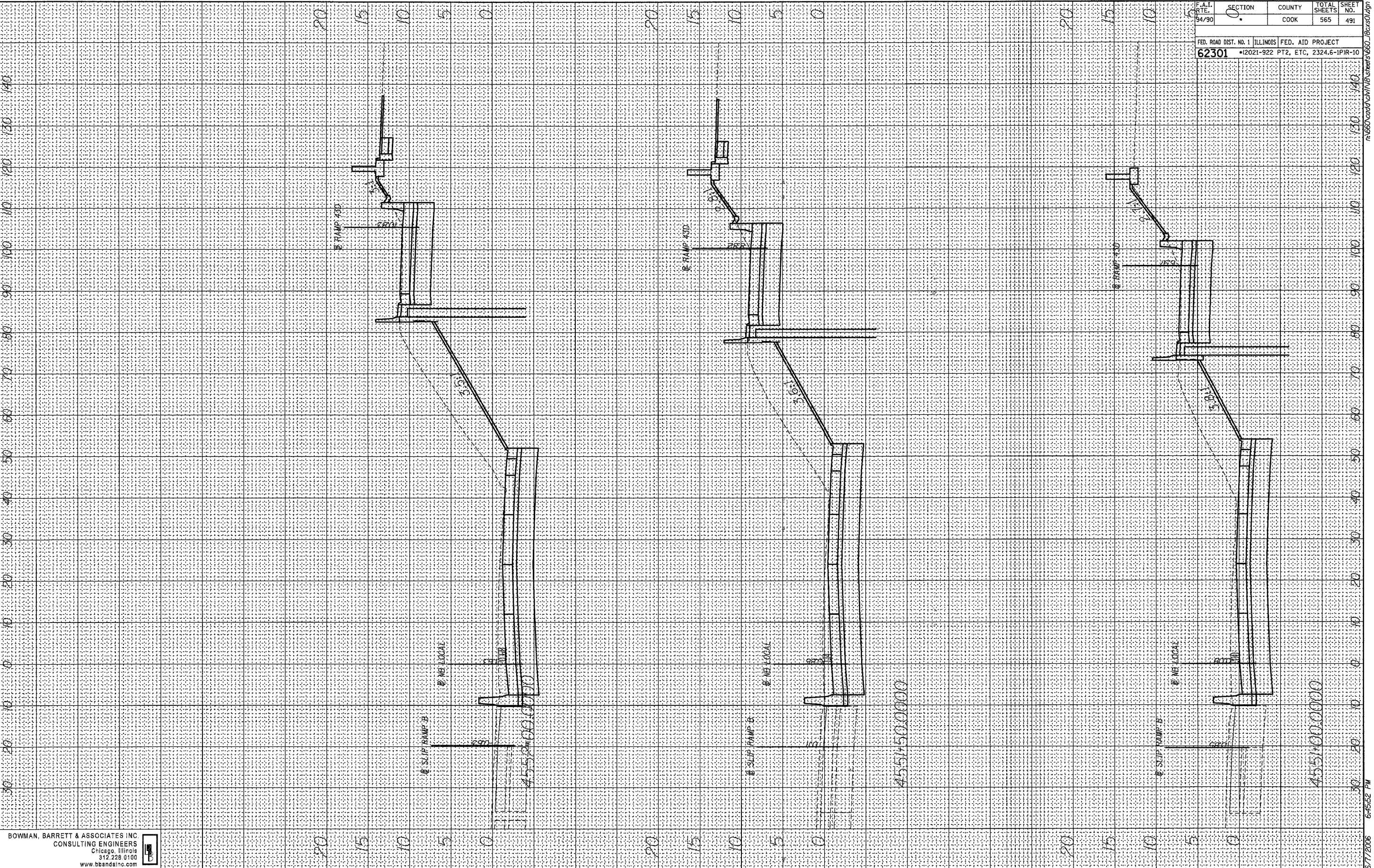


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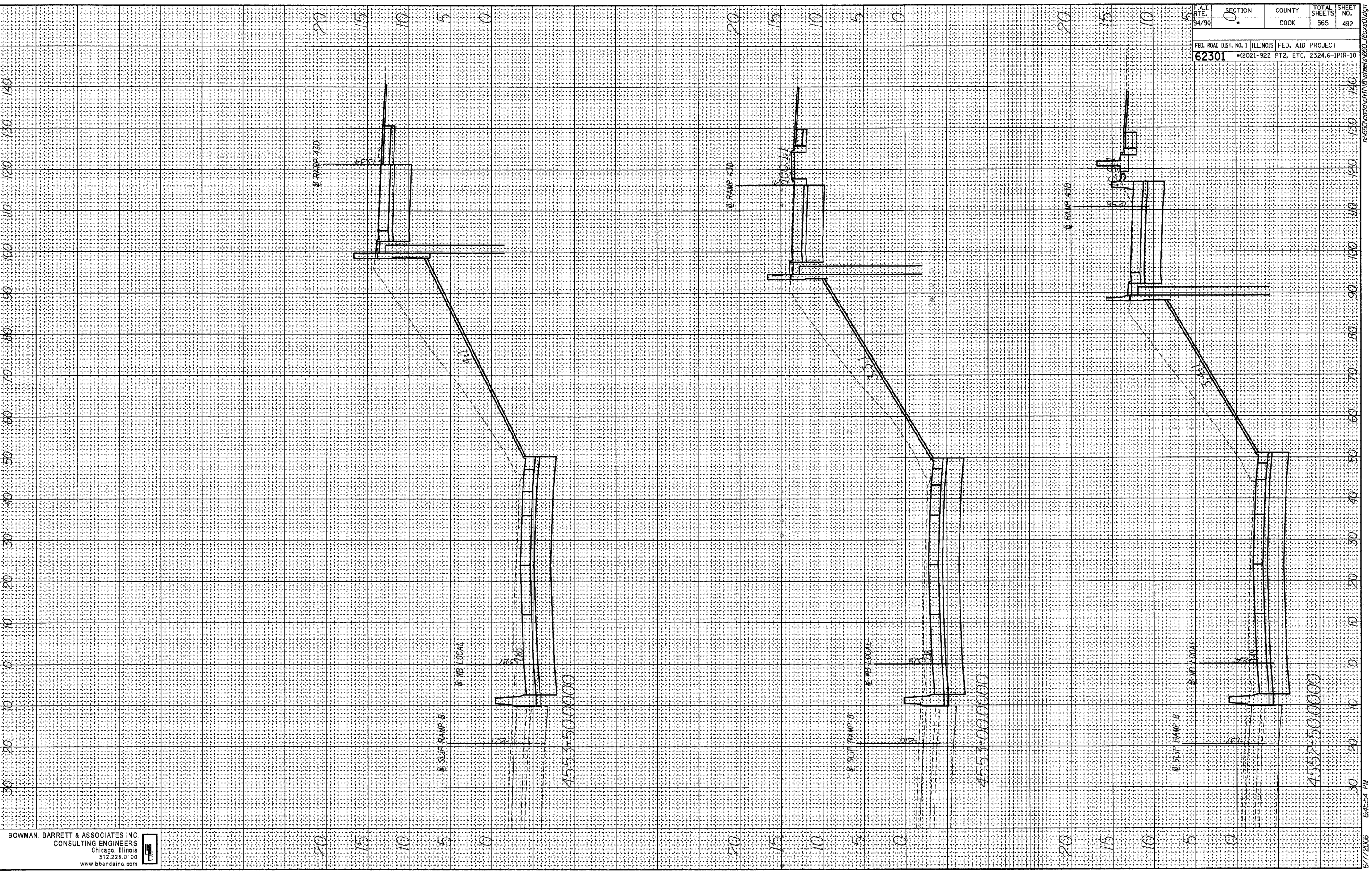
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
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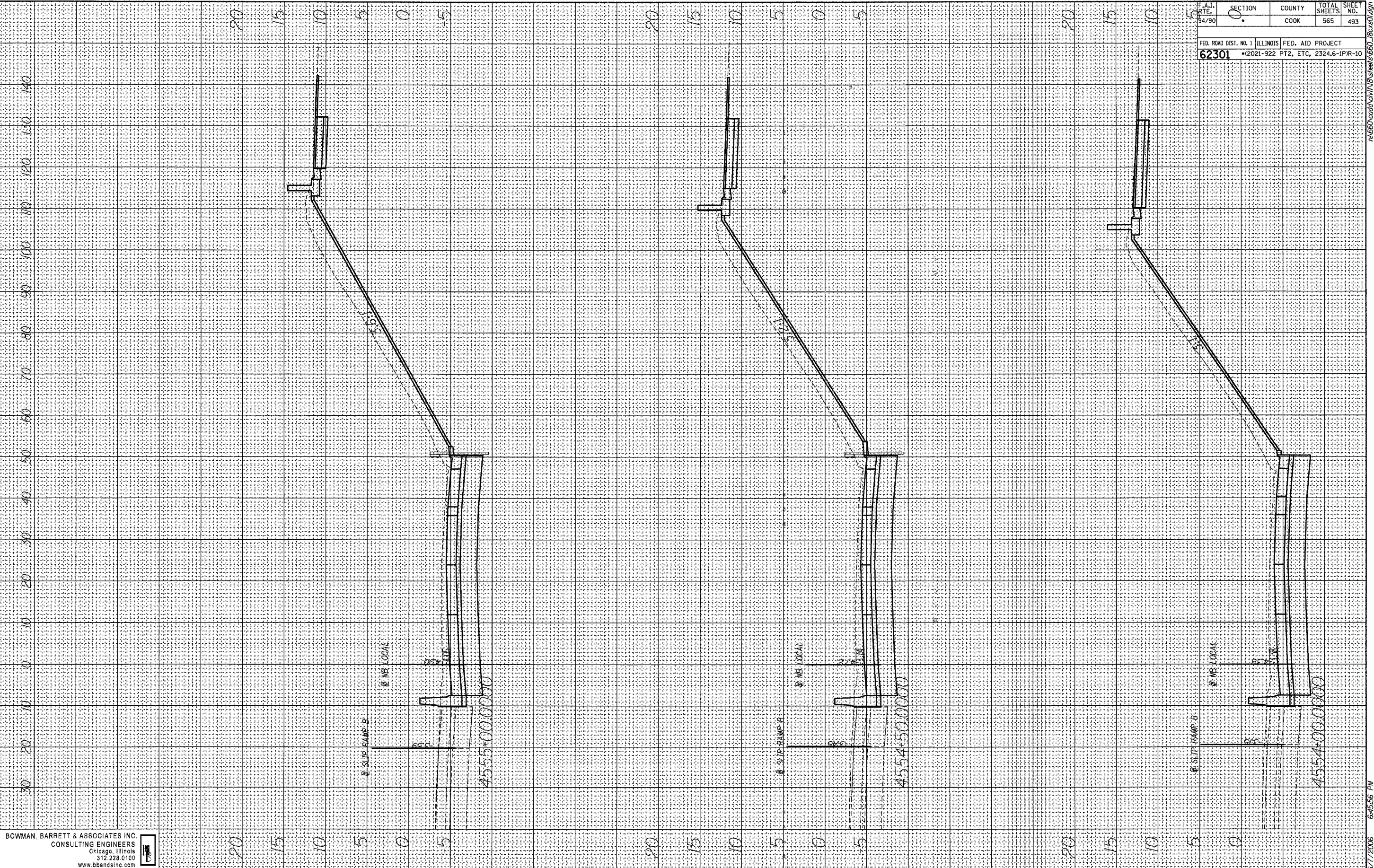
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT  
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F.A.T. RT. 94/90	SECTION 0	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 493
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	
62301		*2021-922 PT2, ETC, 2324.6-1PIR-10		

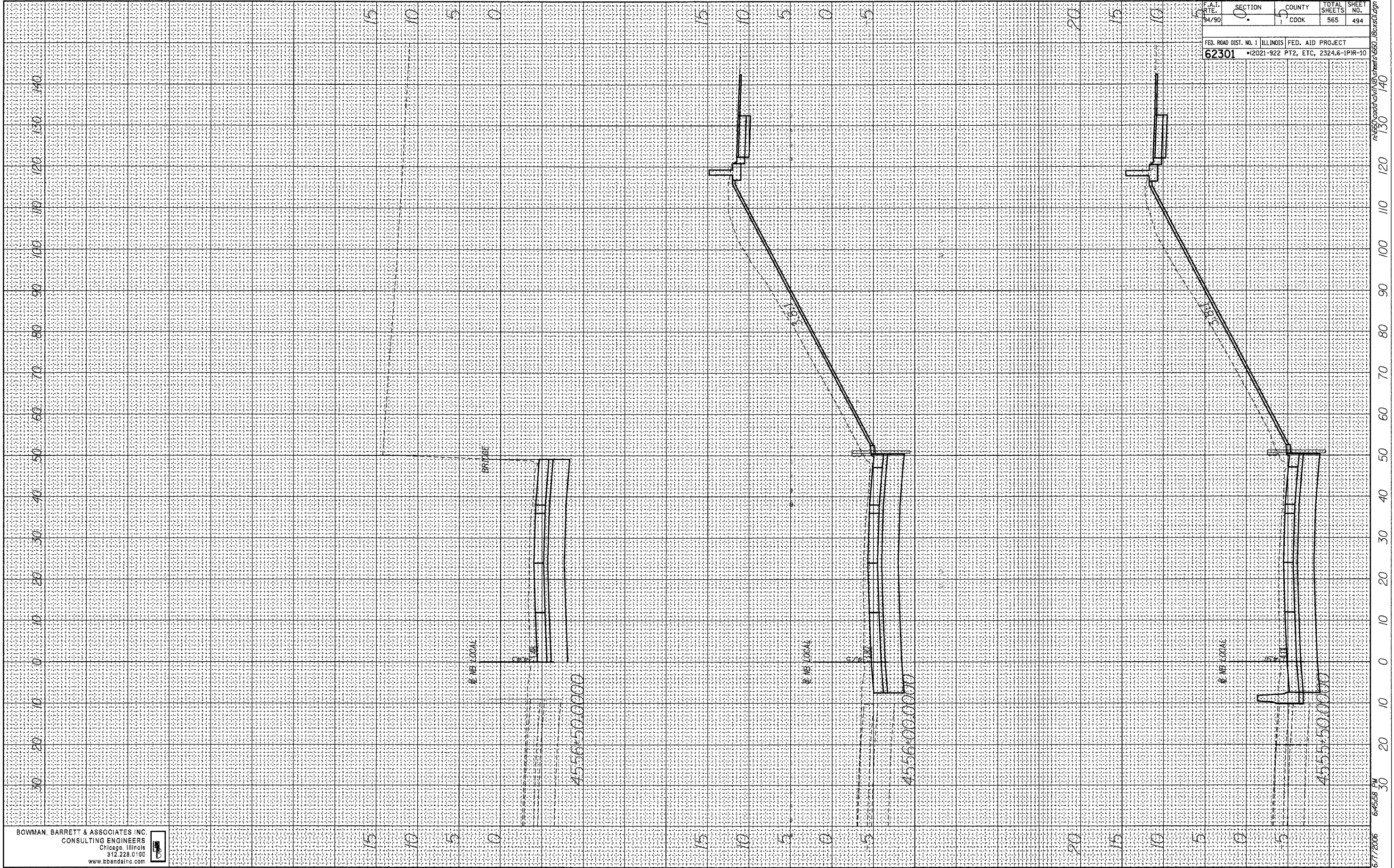
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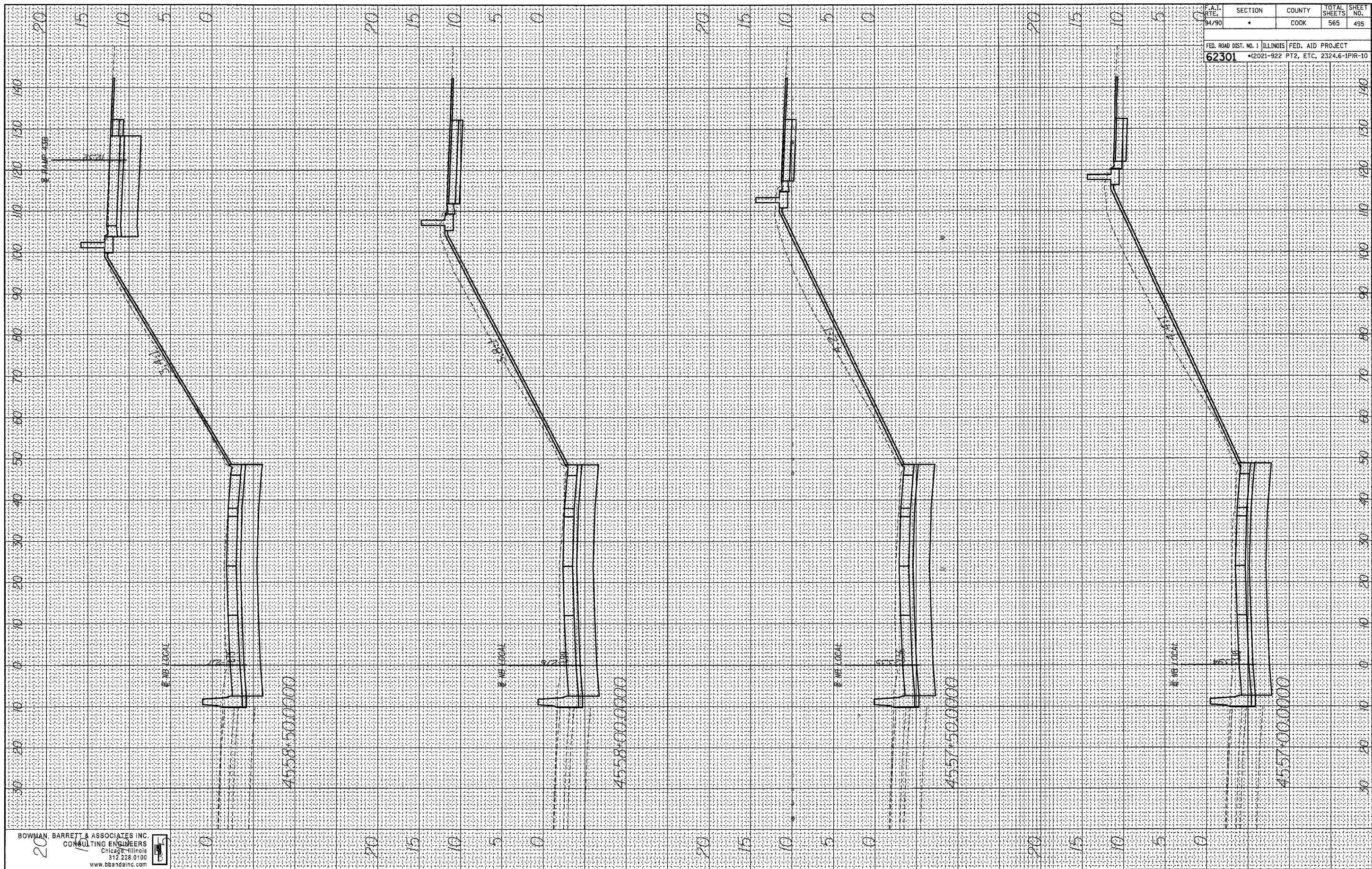
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT <b>62301</b> *12021-922 PT2, ETC, 2324.6-1PR-10				



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F.A.I. RTE. 94/90	SECTION •	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 495
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
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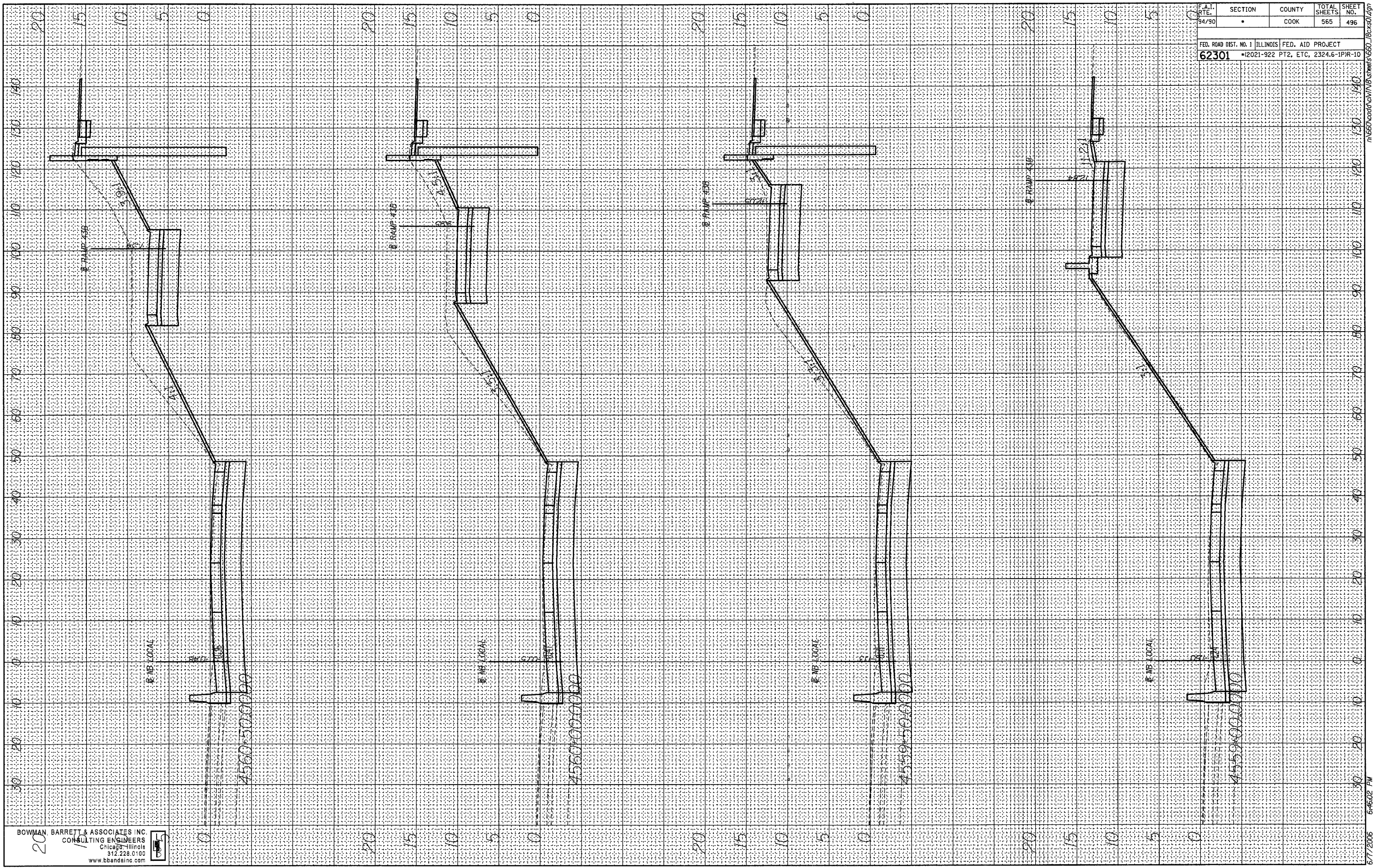
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	•	COOK	565	496

FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT
62301	•	12021-922 PT2, ETC, 2324.6-1PIR-10

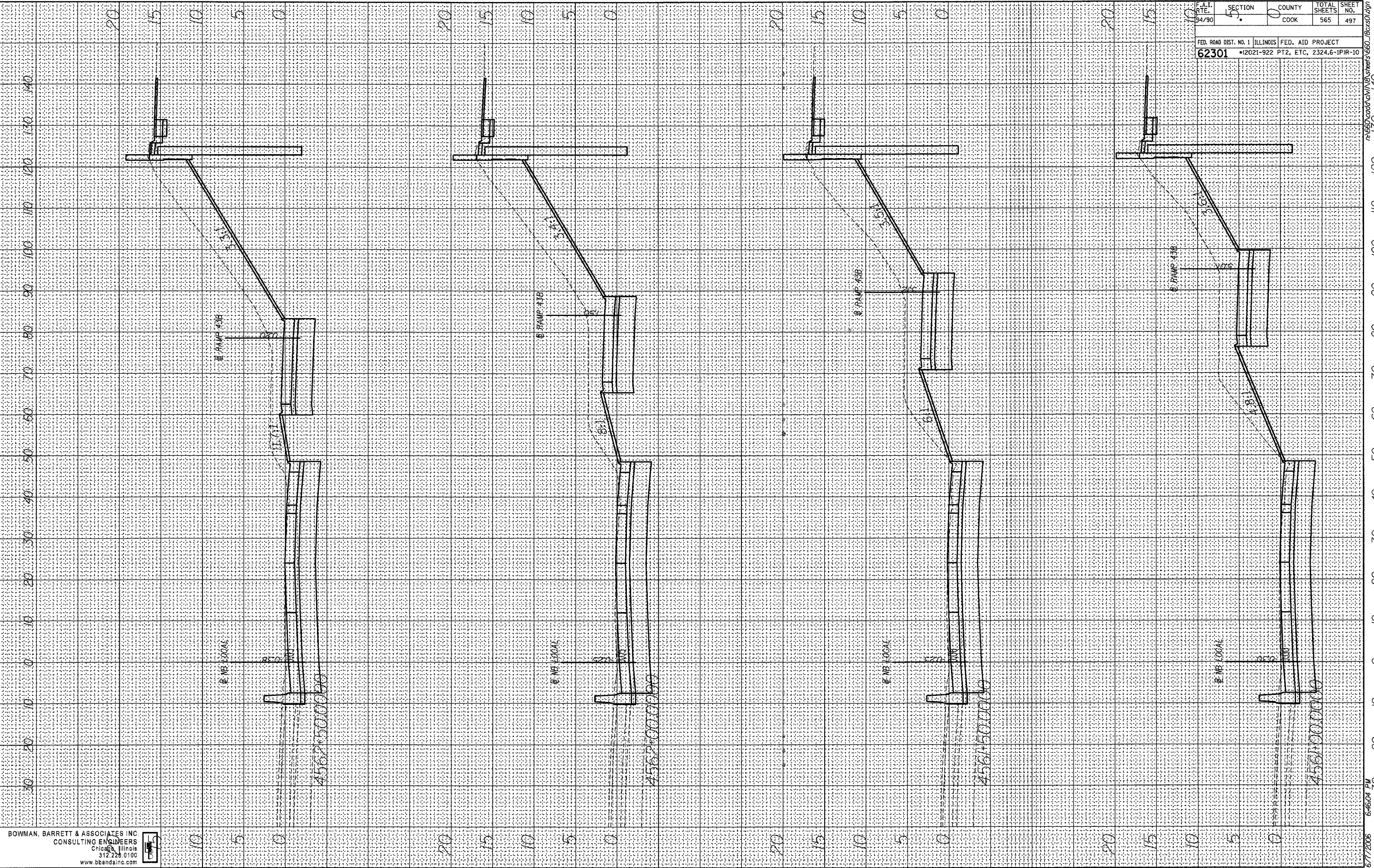


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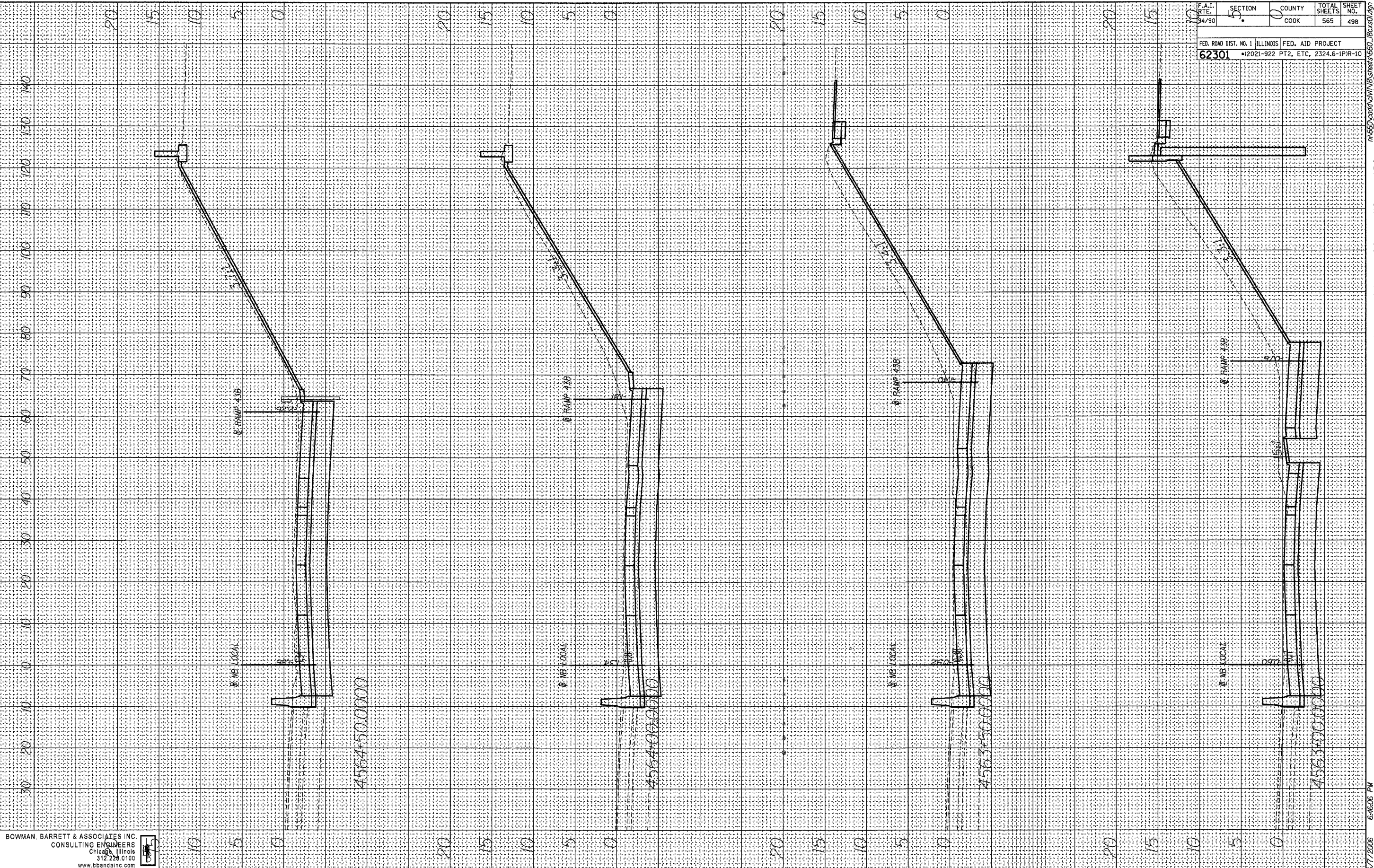
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FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
62301 •(2021-922 PT2, ETC, 2324.6-IP1R-10				

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 NOTE BOOK NO. \_\_\_\_\_  
 TEMPLATE AREA'S CHECKED \_\_\_\_\_



F.A.T. RTE. 94/90	SECTION 4	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 498
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62301 •(2021-922 PT2, ETC, 2324.6-1PIR-10				

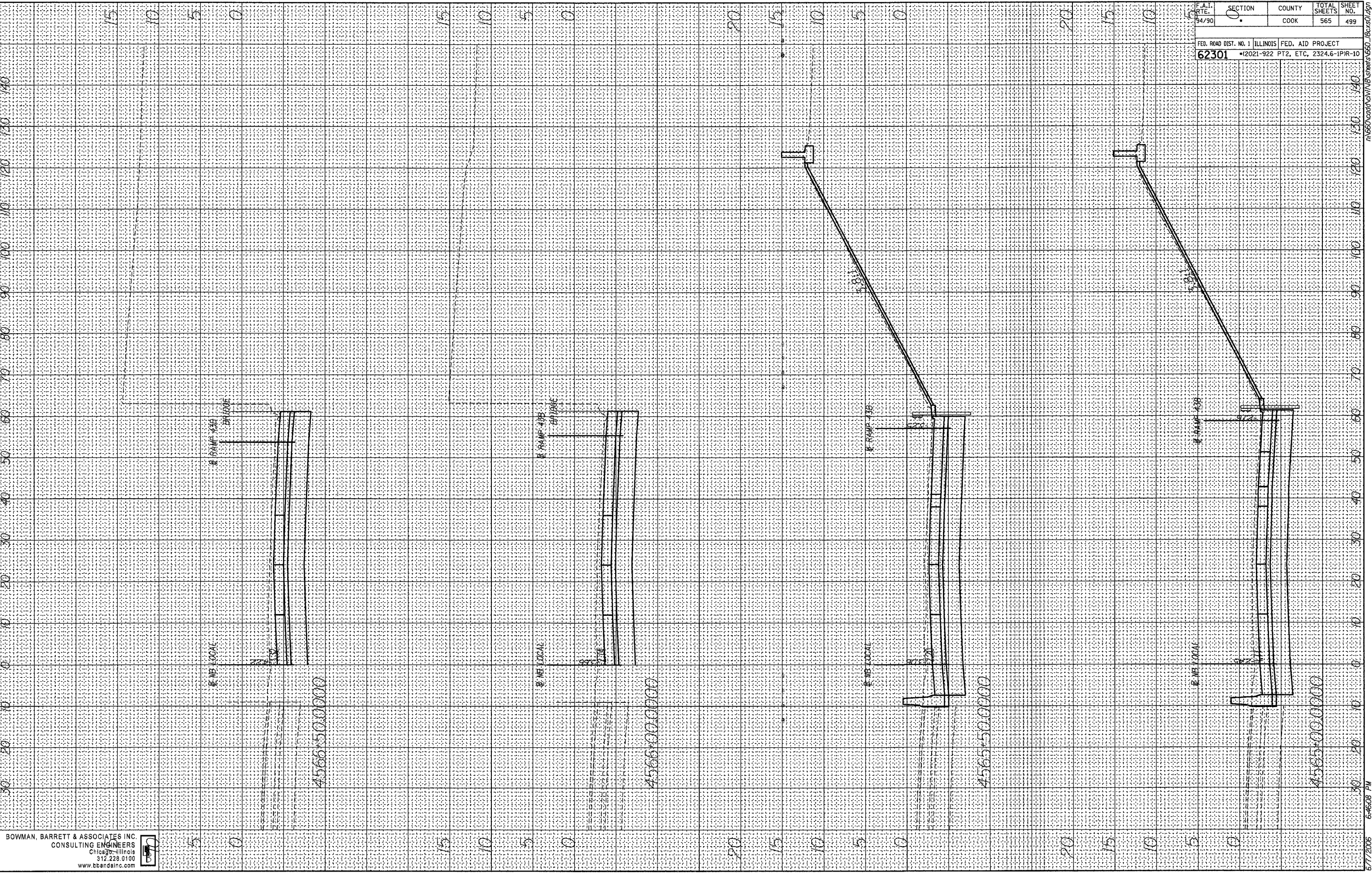
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 TEMPLATE NO.  
 AREA(S) CHECKED



F.A.T. RT. 94/90	SECTION 0	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 499
FED. ROAD DIST. NO. 1		ILLINOIS		FED. AID PROJECT
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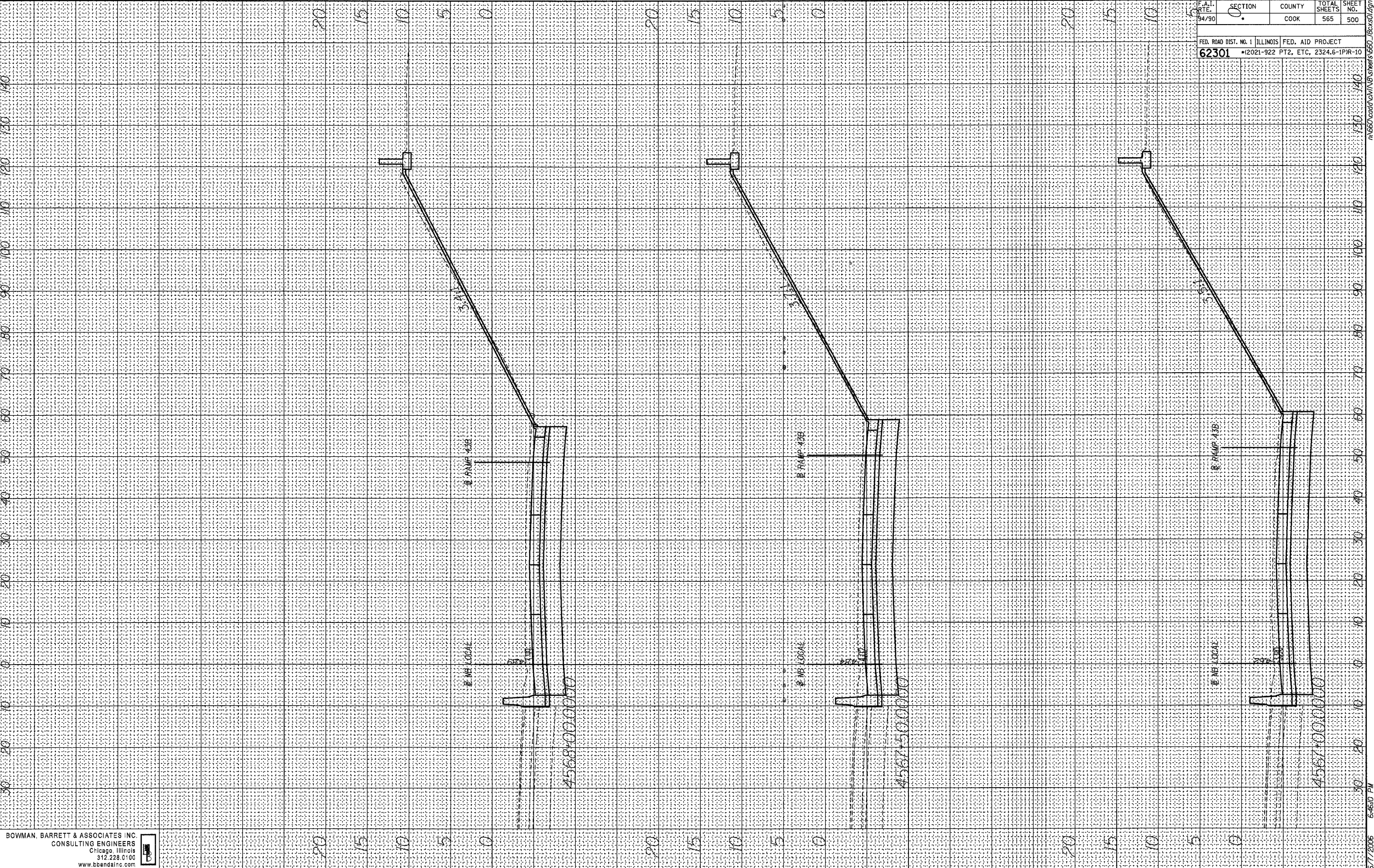
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 TEMPLATE AREAS CHECKED



F.A.I. RT. 94/90	SECTION 0	COUNTY COOK	TOTAL SHEETS 565	SHEET NO. 500
FED. ROAD DIST. NO. 1 ILLINOIS		FED. AID PROJECT		
62301		*2021-922 PT2, ETC, 2324.6-1PIR-10		

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