

DESIGN DESIGNATION

A.D.T. - 1989 = 17,200

A.D.T. - 2009 = 25,800

D.H.V. = 8 %

T = 21 %

V = 45 M.P.H.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

FEDERAL AID PROJECT
CALLAWAY COUNTY

NOTE:

THIS PROJECT SHALL BE CONSTRUCTED AS JOB NO. 51 426- 70 AND ALL REFERENCE TO JOB NO. 5-1-70-426 FOUND ELSEWHERE IN THESE PLANS SHALL BE CONSIDERED VOID.

COUNTY CALLAWAYROUTE I-70PROJECT IR-IRG-70-3(143)JOB NO. 51 426- 70

FINAL PLANS

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (2 SHEETS)	2
SUMMARY (2 SHEETS)	2-A
SUMMARY (3 SHEETS)	2-B
PLAN-PROFILE	3-5
REFERENCE POINTS	—
SPECIAL SHEETS	6-16
LIGHTING	—
SIGNALS	17-21
SIGNING	22-32
CULVERT SECTIONS	33-35
BRIDGE DRAWINGS	36-37
STANDARD PLANS INDEX	66
CROSS SECTIONS	67
COMPUTER DATA	—

LENGTH OF PROJECT

END OF PROJECT STA. 177+37.5 (Rt. 54)
BEGINNING OF PROJECT STA. 163+40.8 (Rt. 54)

APPARENT LENGTH 1,396.7 FEET

EQUATIONS AND EXCEPTIONS

TOTAL CORRECTIONS 0 FEET
NET LENGTH OF PROJECT 1,396.7 FEET

STATE LENGTH 0.265 MILES

FEDERAL LENGTH 0.265 MILES

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUBMITTED

Wayne Muri 5-11-90
CHIEF ENGINEER DATE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR

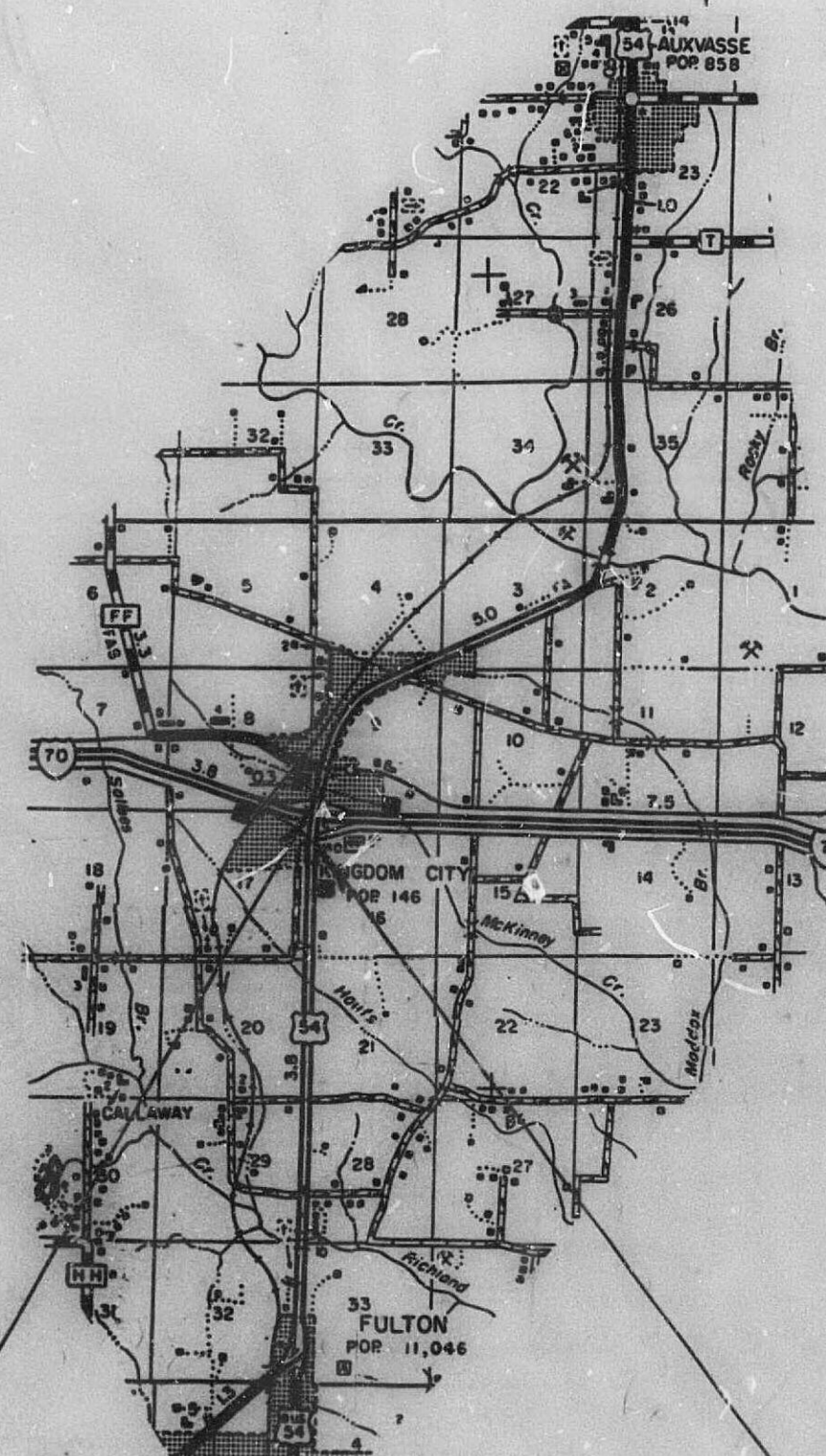
DATE

CONVENTIONAL SIGNS
(USED IN PLANS)

BUILDINGS AND STRUCTURES
GUARD RAIL
CONCRETE RIGHT-OF-WAY MARKER
STEEL RIGHT-OF-WAY MARKER
FENCE
CHAIN LINK
WOVEN WIRE
GATE
UTILITIES
TELEPHONE
POWER
GAS
WATER

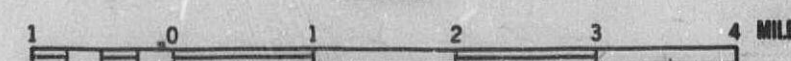
TITLE SHEET LEGEND

IDENTIFICATION SIGNS (4 REQUIRED)



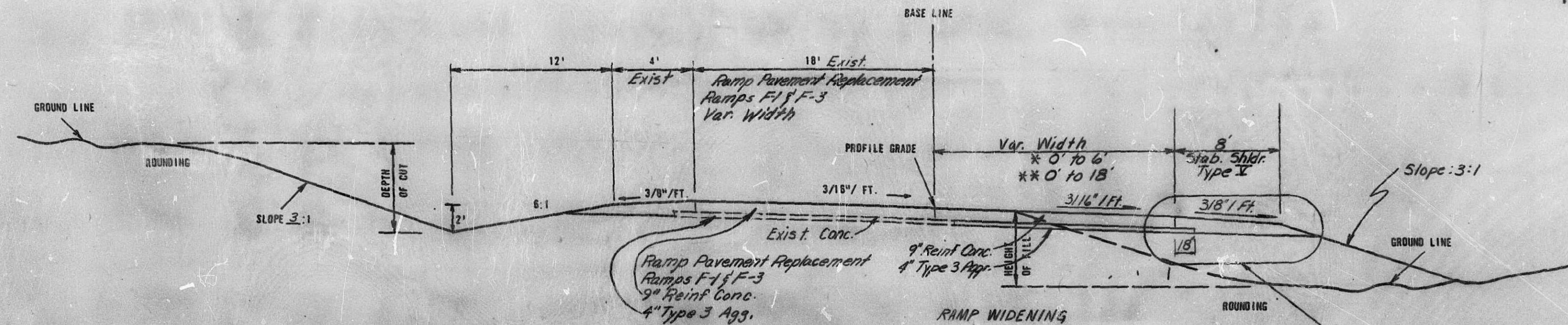
PROJECT LIMITS
Geometric Revisions, Signals at Ramps
& Bridge Widening

SCALE



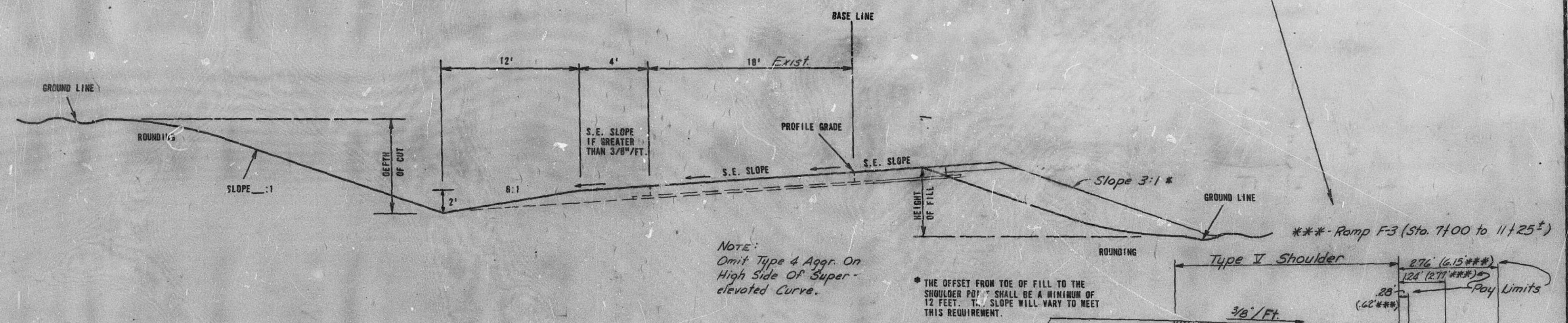
NOTE: DASHED OR OPEN SYMBOL INDICATES
EXISTING FEATURE

FINAL PLANS



SECTION ON TANGENT

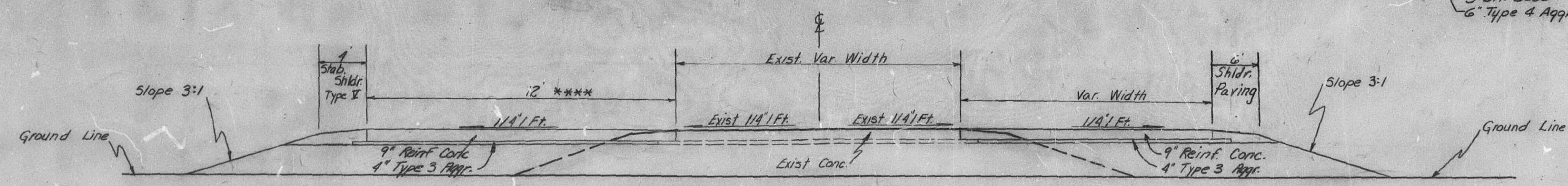
- * Ramp F-1 Sta. 163 + 92 (Rte 54) to Sta. 2127.9 (Use Shoulder Paving in place of Type II Stab Shldr.)
- * Ramp F-2 Sta. 8 + 12.00 to Sta. 170 + 18 (Rte 54)
- * Ramp F-3 Sta. 8 + 36.00 to Sta. 163 + 40.8 (Rte 54)
- * Ramp F-4 Sta. 170 + 18 (Rte 54) to Sta. 2136



SECTION ON SUPERELEVATED CURVE

NOTE:
Omit Type 4 Aggr. on High Side of Super-elevated Curve.

* THE OFFSET FROM TOE OF FILL TO THE SHOULDER P.O.T. SHALL BE A MINIMUM OF 12 FEET. T. SLOPE WILL VARY TO MEET THIS REQUIREMENT.



SECTION ON CROSS-OVER RTE. 5

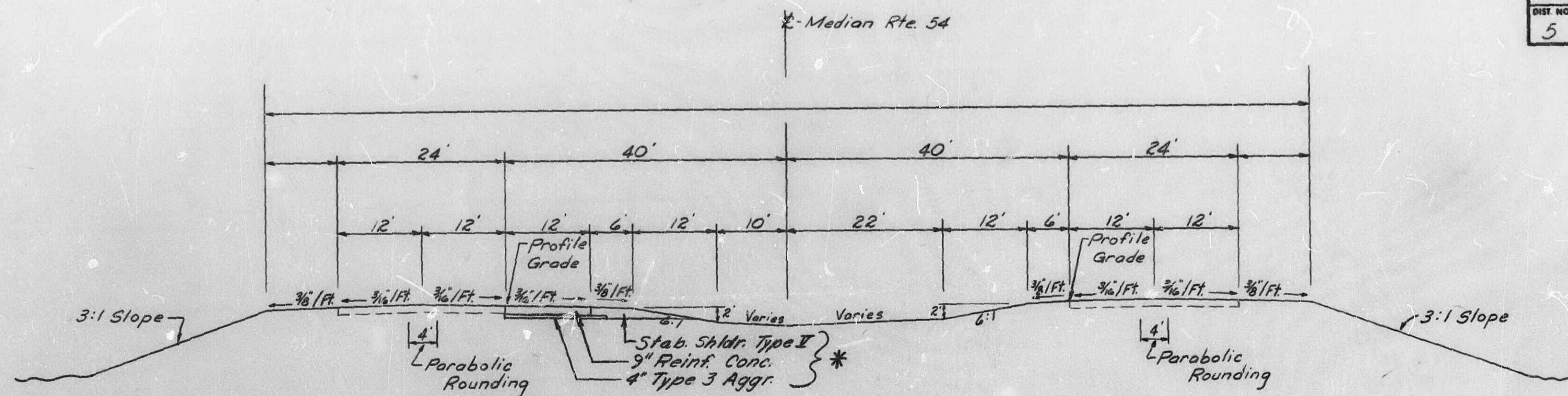
Sta. 164 + 46.00
Sta. 169 + 34.05*** (Widening North Side Only)

RAMPS & CROSSOVERS

367 321

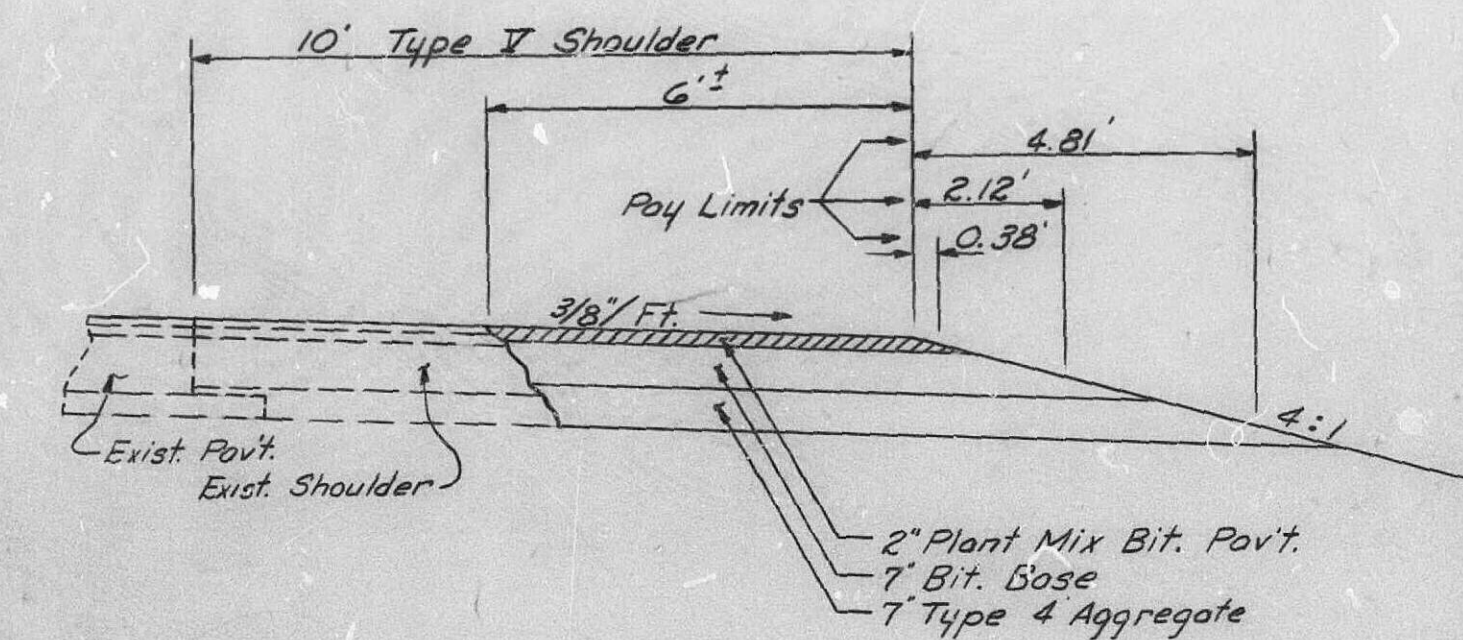
30 FOOT ROADBED - 18 FOOT RAVELE (RAMPS FOR DIAMOND INTERCHANGES) A-7-1-83

FINAL PLANS

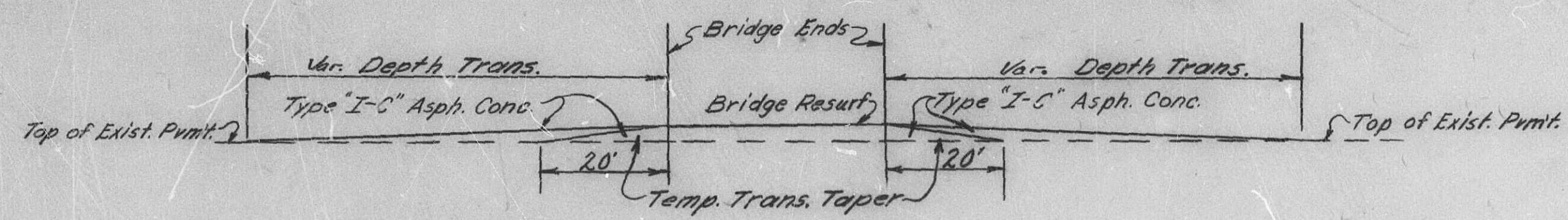


SECTION ON TANGENT Rte. 54

* Lt. Turn Lane from Ramp F-4 X-over to X-over at 178+00



SHOULDER REPLACEMENT AT BRIDGE PIERS (Rte. I-70)



DEPTH TRANSITION AT BRIDGE ENDS

ROUTE 54

DATE
BY
SURVEY
PLOTTER
NOTE BOOK
AREAS CHECKED
NO

DATE
BY
SURVEY
PLOTTER
NOTE BOOK
AREAS CHECKED
NO

7685372

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

SHEET 1 of 2

STATE MO	JOB NO. 51 426-70	SHEET NO. 2A
DIST NO. 5	PROJECT NO. IP-10-3(143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS

ITEM	DESCRIPTION	UNIT	QUANTITY
202-20.10	REMOVAL OF IMPROVEMENTS	LUMP SUM	1
203-55.00	EMBANKMENT IN PLACE	CU YD	7764
203-70.75	COMPACTING IN CUT	STATION	0
206-30.00	CLASS 3 EXCAVATION	CU YD	132
301-10.11	ASPHALT CEMENT (BITUMINOUS BASE) AC-20	TON	354
301-20.00	MINERAL AGGREGATE (BITUMINOUS BASE)	TON	733
304-03.43	TYPE 3 AGGREGATE FOR BASE (4 IN. THICK)	SQ YD	5333
304-04.63	TYPE 4 AGGREGATE FOR BASE (6 IN. THICK)	SQ YD	3836
304-04.73	TYPE 4 AGGREGATE FOR BASE (7 IN. THICK)	SQ YD	0
304-99.43	TYPE 4 AGGREGATE FOR BASE (4 IN. THICK)	SQ YD	63
401-10.11	ASPHALT CEMENT (BITUMINOUS PAVEMENT) OR AC-20	TON	140
401-20.10	MINERAL AGGREGATE (BITUMINOUS PAVEMENT) BP-1	TON	231
403-81.00	ASPHALT CEMENT (ASPHALTIC CONCRETE) AC-20 (TYPE I-C MIX)	TON	46
403-82.00	MINERAL AGGREGATE (ASPHALTIC CONCRETE) (TYPE I-C MIX)	TON	105
407-10.05	TACK COAT	GALLON	80
502-12.09	CONCRETE PAVEMENT (9 IN. REINFORCED)	SQ YD	4787
503-10.00	BRIDGE APPROACH SLAB	SQ YD	178.6
601-10.00	FIELD LABORATORIES	LUMP SUM	1
604-40.11	PIPE COLLAR, TYPE A	EACH	1
605-10.15	8 IN. CLASS A UNPERFORATED UNDERDRAIN PIPE	LIN FT	169
606-10.10	GUARD RAIL TYPE A	LIN FT	2591
606-10.30	GUARD RAIL TYPE C	LIN FT	185
606-22.00	BRIDGE ANCHOR SECTION (SAFETY BARRIER CURB)	EACH	6
606-30.00	TERMINAL SECTION	EACH	7
609-40.10	DRAIN BASIN	EACH	4
609-60.00	DITCH LINER	SQ YD	20
611-60.10	CONCRETE SLOPE PROTECTION	SQ YD	1703.7
612-20.11	IMPACT ATTENUATOR (11 SAND BARRELS)	EACH	2
612-20.14	IMPACT ATTENUATOR (14 SAND BARRELS)	EACH	5
612-20.20	REPLACEMENT SAND BARRELS	EACH	16
612-20.30	IMPACT ATTENUATOR (RELOCATION)	EACH	3
612-90.20	INSTALLING GIVE EM A BRAKE 4 FT. X 4 FT. SIGNS (SEE SPECIAL PROVISIONS)	EACH	8
616-10.05	CONSTRUCTION SIGNS	SQ FT	1053
616-10.20	CHANNELIZERS (DRUMS)	EACH	30
616-10.40	FLASHING ARROW PANEL	EACH	1
616-10.52	WARNING LIGHT, TYPE B	EACH	13
616-10.80	EDGE DROP-OFF TREATMENT	LIN FT	1572

ITEM	DESCRIPTION	UNIT	QUANTITY
617-50.10	RELOCATING TEMPORARY TRAFFIC BARRIER	LIN FT	2010
617-60.00	STATE FURNISHED CONCRETE TRAFFIC BARRIER	LIN FT	2,810
618-10.00	MOBILIZATION	LUMP SUM	1
620-53.01	PREFORMED REMOVABLE MARKING TAPE 4 IN., SOLID WHITE	100 FT	6
620-53.02	PREFORMED REMOVABLE MARKING TAPE 4 IN., INTERMITTENT WHITE	100 FT	4
620-53.03	PREFORMED REMOVABLE MARKING TAPE 4 IN., SOLID YELLOW	100 FT	6
620-60.00	4 IN. SOLID WHITE PAINT STRIPE	100 FT	49
620-60.01	4 IN. SOLID YELLOW PAINT STRIPE	100 FT	15
620-60.02	4 IN. INTERMITTENT WHITE PAINT STRIPE	100 FT	2
620-64.32	CONCRETE TRAFFIC BARRIER MARKING, 13 IN., SOLID YELLOW	100 FT	48
620-70.00	PAVEMENT STRIPE REMOVAL (PAINT)	100 FT	32
620-70.05	PAVEMENT STRIPE REMOVAL (TAPE)	100 FT	16
703-20.01	CLASS B CONCRETE (CULVERTS)	CU YD	1316
703-20.02	CLASS B CONCRETE (MISC)	CU YD	0
706-10.00	REINFORCING STEEL	POUND	0
706-10.30	REINFORCING STEEL (CULVERTS)	POUND	13,920
726-13.12	12 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	20
726-13.18	18 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	42
726-13.24	24 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	12
726-13.30	30 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	100
732-00.24	24 IN. FLARED END SECTION	EACH	1
732-00.30	30 IN. FLARED END SECTION	EACH	2
802-40.00	TYPE 4 MULCH	ACRE	0
805-10.00	SEEDING	ACRE	36
	HIGHWAY LIGHTING		
901-42.00	CONDUIT, 2 IN. RIGID STEEL, PUSHED	LIN FT	25
901-50.10	TRENCHING TYPE I	LIN FT	166
901-74.07	1 IN. CABLE-CONDUIT 2 CONDUCTORS AND 1 BARE NEUTRAL, 8 AWG	LIN FT	190
901-99.01	120-240 VOLT BASE MOUNTED CONTROL STATION	EACH	1
	TRAFFIC SIGNALS		
902-02.15	SIGNAL HEAD, TYPE 5S	EACH	2
902-05.13	SIGNAL HEAD, TYPE 3B	EACH	13
902-05.15	SIGNAL HEAD, TYPE 5B	EACH	2
902-26.50	150 WATT 120 VOLT HIGH PRESSURE SODIUM LUMINAIRE	EACH	4
902-31.28	POST, TYPE CL, 28A	EACH	1

ITEM	DESCRIPTION	UNIT	QUANTITY
902-31.29	POST, TYPE CL, 29A	EACH	1
902-31.31	POST, TYPE CL, 31A	EACH	1
902-31.44	POST, TYPE CL, 44A	EACH	1
902-32.15	POST, TYPE C, 15A	EACH	1
902-32.18	POST, TYPE C, 18A	EACH	1
902-42.80	CONTROLLER ASSEMBLY HOUSING, KEYBOARD ENTRY, MODULAR BY FUNCTION, 8 PHASE DP CONTROLLER	EACH	2
902-49.42	DETECTOR, INDUCTION LOOP VEHICLE (2 CHANNEL)	EACH	8
902-51.25	CONDUIT, 1 1/4 IN., TRENCH	LIN FT	151
902-51.50	CONDUIT, 1 1/2 IN., TRENCH	LIN FT	87
902-52.00	CONDUIT, 2 IN., TRENCH	LIN FT	725
902-53.00	CONDUIT, 3 IN., TRENCH	LIN FT	47
902-72.00	CONDUIT, 2 IN., PUSHED	LIN FT	347
902-82.02	CABLE, 2 AWG 1 CONDUCTOR, POWER	LIN FT	820
902-82.04	CABLE, 4 AWG 1 CONDUCTOR, POWER	LIN FT	670
902-83.02	CABLE, 12 AWG 2 CONDUCTOR	LIN FT	470
902-83.07	CABLE, 12 AWG 7 CONDUCTOR	LIN FT	1,060
902-85.00	CABLE, LOOP DETECTOR, IN DUCT	LIN FT	4,070
902-85.10	CABLE, LOOP DETECTOR, LEAD-IN	LIN FT	1,330
902-86.20	POWER SUPPLY ASSEMBLY, TYPE 2	EACH	1
902-88.01	PULL BOX, TYPE I	EACH	5
902-88.02	PULL BOX, TYPE II	EACH	0
902-91.00	BASE, CONCRETE	CU YD	17.7
	HIGHWAY SIGNING		
903-10.10	CONCRETE FOOTINGS, EMBEDDED	CU YD	12.1
903-10.20	CONCRETE FOOTINGS, BOLT DOWN	CU YD	27.7
903-12.10	STRUCTURAL STEEL POSTS	POUND	3,080
903-12.20	PIPE POSTS	POUND	5,730
903-12.40	BREAKAWAY ASSEMBLY	EACH	46
903-50.01	TYPE STB24 SIGN	SQ FT	468
903-50.02	TYPE STR24 SIGN	SQ FT	126
903-50.05	TYPE SHR123 SIGN	SQ FT	47
903-50.06	TYPE SHR1 SIGN	SQ FT	460
903-99.01	86 FT OVERHEAD SIGN (RUST SIGNS NO. 50, 51, 52, 50B AND 52B)	EACH	1
	See 2A Sheet 2 of 3		

SUMMARY OF QUANTITIES

STATE MO	JOB NO. 5I 426-70	SHEET NO. 21
DIST NO. 5	PROJECT NO. IR-IRG-70-3(143)	ROUTE I-70
	COUNTY CALLAWAY	

[illegible][illegible]

ITEM	DESCRIPTION	UNIT	QUANTITY
	BRIDGE DWG. NO. L-964R (TWINS) AT STA. 600 + 34.85		
202-10.51	REMOVAL AND STORAGE OF EXISTING BRIDGE RAIL	LIN FT	812 ✓
202-10.52	CURB REMOVAL (BRIDGES)	LIN FT	846 ✓
202-10.55	PARTIAL REMOVAL OF SUBSTRUCTURE CONCRETE	LUMP SUM	1 ✓
202-30.08	ASPHALT REMOVAL (BRIDGES)	SQ FT	5,979 ✓
206-10.00	CLASS 1 EXCAVATION	CU YD	3130 ✓
702-10.12	STRUCTURAL STEEL PILES (12 IN.)	LIN FT	1360 ✓
702-60.00	PRE-BORE FOR PILING	LIN FT	108 ✓
702-70.00	PILE POINT REINFORCEMENT	EACH	67 ✓
703-20.03	CLASS B CONCRETE (SUBSTR)	CU YD	55.5 ✓
703-20.22	SUPERSTRUCTURE REPAIR (UNFORMED), SEE SPECIAL PROVISIONS	SQ FT	882 ✓
703-40.01	CLASS B-1 CONCRETE	CU YD	67.5 ✓
703-42.05	CLASS B-2 CONCRETE (SUPSTR VOIDED SLABS)	CU YD	522.8 ✓
703-42.15	SAFETY BARRIER CURB	LIN FT	230 ✓
703-50.10	REPAIRING CONCRETE DECK (HALF-SOLING)	SQ FT	1342 ✓
703-98.79	MICROSILICA CONCRETE WEARING SURFACE	SQ YD	1,881 ✓
706-10.60	REINFORCING STEEL (BRIDGES)	POUND	15,480 ✓
710-10.00	REINFORCING STEEL (EPOXY COATED)	POUND	127,360 ✓
	FOOTNOTE		
	Commercial Asphalt Substituted as permitted by Special Provisions.		
	CONTINGENT ITEMS		
501.01	Precast 13" Type 3 Hdwall	Each	1 ✓
501.02	Precast 18" Type 3 Hdwall	Each	2 ✓
501.03	Grates & Bearing Plates	Lbs.	300 ✓
501.04	Remove & Replace Guardrail	Lin. Ft.	300 ✓
501.05	Reland Pipe	Lin. Ft.	130 ✓
501.06	Pavement Repair	Sq. Yd.	175.7 ✓
501.07	Type 3 Mulch	Acres	3.6 ✓
503.01	Relocation of Flashing Signal	Each	1 ✓
503.03	Conduit 2" Pushed	Lin. Ft.	30 ✓
505.01	Modified Safety Barrier Curb	Lin. Ft.	651 ✓

FINAL PLANS

01 CALLAWAY
324

IR-IRG-70-3(143)	I-70	01	CALLAWAY
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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

REV MAY 1, 89

STATE	MO	JOB NO.	5-I-70-426	SHEET NO.	2B
DIST. NO.	5	PROJECT NO.	IR-IP-70-5(43)	ROUTE	I-70
COUNTY	CALLAWAY				
SHEET 1 OF 3			FINAL PLANS		

DITCH LINER

SHEET	STA	LOCATION	INSLOPE	BKSLOPE	DEPTH	LENGTH	WIDTH	SO. YD.
3	12+75	RT. RAMP F-3	2:1	2:1	1	5	2	3.6
3	1+25	RT. RAMP F-1	2:1	2:1	1	7.2	2	5.7
3	2+25	RT. RAMP F-1	2:1	2:1	1	17	1	10.3
Sub TOTAL								19.6
Total								20' Field Meas

TYPE S HEADWALL (PRECAST)

SHEET	STA	LOC.	SIZE	GTBS	Remarks
3	164+10	E RTE 54	12" 12"	300	See CD #1
3	165+20	E RTE 54	12" 12"	300	" " "
3	168+70	E RTE 54	12" 12"	300	" " "
TOTAL			27 12"	900	

Sheet	Sta	to Sta	Location	Length	Remarks
3	592+40	604+30	E RTE 54	190	Contingent Item
Total				190	

REINFORCED CONCRETE BOX CULVERTS

SHEET	STA	LOCATION	SIZE	STD.	FILL	CL. B CONC	STEEL	CL. 3 EXC	REMARKS
3	2+02.25	RT RAMP F-1	5X4	703.21	VAR	34.6	3920	76	BUILD IN SECTIONS-STRUCTURE NO. 1
TOTAL						34.6	3920	76	

CLASS III REINFORCED CONCRETE PIPE

SHEET	STRUC	STA	LOCATION	12"	18"	24"	30"	CL. 3 EXC	FL. END SEC	FL. END SEC	PIPE COLLARS	REMARKS
4	2	12+39.57	RT RAMP F-3					62	7	1		INCLUDES REMOVAL OF EXISTING HEADWALL
4	5	164+46	E RTE 54 LT X-OVER	21				0				
4	6	164+46	E RTE 54 RT X-OVER	43				10				
4	7	169+34.05	E RTE 54 LT X-OVER	42				5				
4	4	1+12.5	B CULVERT SEC				12	0	1			
4	3	0+62	B CULVERT SEC					38	6			
TOTAL				70	42	12	100	28	1	2	1	

Note: No change in Class 3 Exc. Contr. elected to lay extra pipe in place of pipe collars. Also the increased length required for slopes will in fill areas.

Sheet	Sta	Sta	Location	Type	Type	Term.	Bridge	Remarks
3	592+40	599+74.14	LT. WBL E-70	12.5	X			ADD.
3	592+40	599+74.14	RT. EBL E-70	12.5	X			"
3	600+95.56	601+08.06	LT. WBL E-70	12.5	X			"
3	600+95.56	601+08.06	RT. EBL E-70	12.5	X			"
3	0+07	1+02	LT. RAMP F-1	75	X			"
3	592+40	599+74.14	LT. WBL E-70	12.5	X			"
3	601+08.06	601+08.06	LT. WBL E-70	200	X			"
3	597+06.64	599+74.14	RT. EBL E-70	225	X			"
3	171+95	172+90	LT. EBL RTE 54	100	X	25	1	
3	171+53	173+53	MED RTE 54	175	X			ADD. 50'
3	171+53	173+53	MED RTE 54	175	X			ADD. 50'
3	168+00	168+50	RT. EBL RTE 54	25	X			
3	165+32	165+82	LT. WBL RTE 54	25	X			
3	11+81	RAMP F-3 TO 163+40.3	RTE 54	250	X			TIE TO EXISTING G.R. ON RTE 54 (125' ON 90' RADIUS)
3	2+27.9	RAMP F-1 TO 162+97	RTE 54	281	X			TIE TO EXISTING G.R. ON BOTH ENDS (50' ON 90' RADIUS)
3	6+12	RAMP F-2 TO 170+18	RTE 54	588	X			(133' ON 90' RADIUS)
3	164+70	TO 165+92.2	RT. WBL RTE 54	100	X			TIE TO EXISTING G.R. AT RAMP
3	164+65	TO 165+90.1	LT. EBL RTE 54	105	X			TIE TO EXISTING G.R. AT RAMP
3	167+98.7	TO 169+15	RT. WBL RTE 54	96	X			TIE TO EXISTING G.R. AT RAMP
3	167+96.5	TO 169+15	LT. EBL RTE 54	96	X			TIE TO EXISTING G.R. AT RAMP
TOTAL				2531	X	125	7	6

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

REV MAY 1, 89

STATE	JOB NO. 5-I-70-426	SHEET NO.
MO		28
DIST NO.	PROJECT NO. IR-126-70-3(143)	ROUTE
5	COUNTY CALLAWAY	I-70

SHEET 2 OF 3

FINAL PLANS

1 IN CABLE CONDUIT

901-174.07				
2 CONDUCTORS & BARE NEUTRAL #8 AWG				
SHEET	STATION	LOCATION	LN FT	REMARKS
3	172+45	LT EBL RTE 54	190	
TOTAL			190	

CONDUIT, 2 IN RIDGED STEEL, PUSHED

901-42.00				
SHEET	STATION	LOCATION	LN FT	REMARKS
3	172+45	LT EBL RTE 54	25	UNDER OUTER ROADWAY
TOTAL			25	

TRENCHING TYPE I

901-50.10				
SHEET	STATION	LOCATION	LN FT	REMARKS
3	172+45	LT EBL RTE 54	166	
TOTAL			166	

9" REINFORCED CONCRETE PAVEMENT

SHEET	STA. TO STA.	LOCATION	PAVEMENT	4" TYPE 3 AGGR FOR BASE	REMARKS
			SQ. YD.	SQ. YD.	
3	164+19.3	164+23.3	Median RTE 54	35.6	36' Additional Shoulder Paving in place of
3	164+41	169+221	RT WBL RTE 54	27.0	27' Stabilized Type I Shoulders
3	Plan Quantity		4784.6	5269	Plan Quantity was checked and no appreciable error was found.
	TOTAL		4787.2	5332	

SHOULDERS & DEPTH TRANSITION

SHEET	STA TO STA	LOCATION	6" TYPE 4 AGGR BASE SQ YD	7" TYPE 4 AGGR BASE SQ YD	
3	164+21.3	164+27.3 Median Rte. 54	- 60.1	X	Changed Stabilized Shoulder to 9" Reinforced PCCP
5	164+38	169+24 Rt. WBL Rte. 54	- 37.4	X	" " " " " " " "
3	599+50	601+13 Rte. I-70	0	X	Asphalt was used to repair I-70 Shoulder
	Plan Quantity		3333	X	Plan Quantity was checked and no appreciable error was found.
	SUB-TOTAL		3235.5	X 0	7" Type 4 Item under-run entirely
	TOTAL		3236	X 0 X	

CONCRETE SLOPE PROTECTION

SHEET	STATION	LOCATION	SQ YD	Remarks
4	166+00±	NORTH END OF BRIDGES	752.4	Field Meas.
5	168+00±	SOUTH END OF BRIDGES	956.3	" "
TOTAL			1708.7	

DRAIN BASINS

SHEET	STATION	LOCATION	EACH	PIPE	CLASS	3 EXC	REMARKS
				8"		CU YD	
4	165+65.1	RT EBL RTE 54	1	10		1	
4	165+65.1	LT EBL RTE 54	1	61		10	INCLUDES 1-15 DEGREE ELBOW
4	165+67.2	RT WBL RTE 54	1	88		16	INCLUDES 1-15 DEGREE ELBOW
	165+67.2	LT WBL RTE 54	1	10		1	
TOTAL			4	169		28	

BRIDGE APPROACH SLABS

SHEET	STATION	LOCATION	SQ YD	Remarks
4	165+75	RT WBL RTE 54	21.5	Field Meas.
4	165+75	RT EBL RTE 54	33.2	" "
4	165+75	LT EBL RTE 54	30.7	" "
5	168+10	RT WBL RTE 54	16.7	" "
5	168+10	RT EBL RTE 54	34.2	" "
5	168+10	LT EBL RTE 54	16.8	" "
4	165+75	LT WBL RTE 54	17.4	" "
5	168+10	LT WBL RTE 54	13.1	" "
TOTAL			178.6	

372 326

SUMMARY OF QUANTITIES

0-286
REV JAN 19, 1990

STATE MO	JOB NO. 5-I-70-426	SHEET NO. 2B
DIST NO. 5	PROJECT NO. I.R.-70-3(143)	ROUTE I-70
COUNTY CALLAWAY		FINAL PLANS

SHEET 3 OF 3

FINAL PLANS

SIGN	SIZE (INCHES)	AREA (SQ FT)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
WARNING SIGNS							
W01-1Lb	48X48	16.0					TURN (SYMBOL LEFT ARROW)
W01-1Rb	48X48	16.0					TURN (SYMBOL RIGHT ARROW)
W01-2Lb	48X48	16.0					CURVE (SYMBOL LEFT ARROW)
W01-2Rb	48X48	16.0					CURVE (SYMBOL RIGHT ARROW)
W01-3Lb	48X48	16.0					REVERSE TURN (SYMBOL LEFT ARROW)
W01-3Rb	48X48	16.0					REVERSE TURN (SYMBOL RIGHT ARROW)
W01-4Lb	48X48	16.0					REVERSE CURVE (SYMBOL LEFT ARROW)
W01-4Lb2	48X48	16.0					DOUBLE ARROW REVERSE CURVE (SYM LT ARROWS)
W01-4Rb	48X48	16.0					REVERSE CURVE (SYMBOL RIGHT ARROW)
W01-4Rb2	48X48	16.0					DOUBLE ARROW REVERSE CURVE (SYM RT ARROWS)
W01-6	48X24	8.0					HORIZONTAL ARROW (SYMBOL)
W01-6a	72X36	18.0					HORIZONTAL ARROW (SYMBOL)
W01-7	48X24	8.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W01-7a	72X36	18.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W01-8	18X24	3.0					CHEVRON (SYMBOL)
W03-1b	48X48	16.0					STOP AHEAD
W03-2b	48X48	16.0					YIELD AHEAD
W03-3b	48X48	16.0					SIGNAL AHEAD (SYMBOL)
W03-4b	48X48	16.0					BE PREPARED TO STOP
W04-1Lb	48X48	16.0					MERGE (SYMBOL FROM LEFT)
W04-1Rb	48X48	16.0					MERGE (SYMBOL FROM RIGHT)
W05-1a	48X48	16.0					ROAD NARROWS
W05-3a	48X48	16.0					ONE LANE BRIDGE
W06-1b	48X48	16.0					DIVIDED HIGHWAY
W06-2b	48X48	16.0					DIVIDED HIGHWAY ENDS
W06-3b	48X48	16.0					TWO WAY TRAFFIC (SYMBOL)
W06-3x	24X18	3.0					TWO WAY TRAFFIC (PLAQUE)
W08-1b	48X48	16.0					BUMP
W08-2b	48X48	16.0					DIP
W08-3	48X48	16.0					PAVEMENT ENDS
W08-4b	48X48	16.0					SOFT SHOULDER
W08-5b	48X48	16.0					SLIPPERY WHEN WET (SYMBOL)
W08-6b	48X48	16.0					TRUCK CROSSING
W08-6c	48X48	16.0					TRUCK ENT (INCLUDES W025-1b PLATE)
W08-7a	36X36	9.0					LOOSE GRAVEL
W08-9	48X48	16.0					LOW SHOULDER
W08-9Lb	48X48	16.0					UNEVEN PAVEMENT (SYM FOR LT DROPOFF)
W08-9Rb	48X48	16.0					UNEVEN PAVEMENT (SYM FOR RT DROPOFF)
W09-1R	48X48	16.0					RIGHT LANE ENDS (INCLUDES W025-3c PLATE)
W09-2Rb	48X48	16.0					LANE ENDS MERGE RIGHT (INCLUDES W025-3b PLATE)
W10-1A	42D1a	9.6					RAILROAD CROSSING
W12-1	24X24	4.0					DOUBLE DOWN ARROW (SYMBOL)
W12-2a	48X48	16.0	12	192			LOW CLEARANCE (SYMBOL) 14'1"
W12-2x	24X18	3.0	12	36			LOW CLEARANCE (PLAQUE)
W12-3a,b	144X24	24.0	2	48			OVERHEAD LOW CLEARANCE (FEET AND INCHES) 14'1"
W13-1a	24X24	4.0					ADVISORY SPEED (PLAQUE)
W20-1	48X48	16.0	12	192			ROAD CONST AHEAD (INCLUDES W025-6 PLATE)
W20-2	48X48	16.0					DETOUR AHEAD (INCLUDES W025-1b PLATE)
W20-3	48X48	16.0					ROAD CLOSED AHEAD (INCLUDES W025-1c PLATE)
W20-4a	48X48	16.0					ONE LANE ROAD AHEAD (INCLUDES W025-1a PLATE)
W20-5	48X48	16.0					RIGHT LANE CLOSED AHEAD (INCL W025-3d PLATE)
W20-6a	48X48	16.0					RIGHT LANE CLOSED (INCLUDES W025-3c PLATE)
W20-7a	48X48	16.0					FLAGMAN AHEAD (INCLUDES W025-1b PLATE)
W20-8	36X18	4.5	4	18			WORKERS AHEAD
W20-9c	48X48	16.0	5	80			OPEN TRENCH
W21-2b	48X48	16.0					FRESH OIL
W21-5b	48X48	16.0	1	16			SHOULDER WORK AHEAD
W21-7	36X36	9.0					SAND BLASTING
W22-1	48X48	16.0					BLASTING ZONE 1000 FT
W22-2	42X36	10.5					TURN OFF 2-WAY RADIO
W22-3	42X36	10.5					END BLASTING ZONE
W22-5	30X30	6.3					NO PASSING ZONES UNMARKED
W25-1a	26X9						1000 FT/1500 FT Plate
W25-1b	38X9	2.4	4	9.6			500 FT/1000 FT Plate
W25-1c	34X9						500 FT/1000 FT Plate

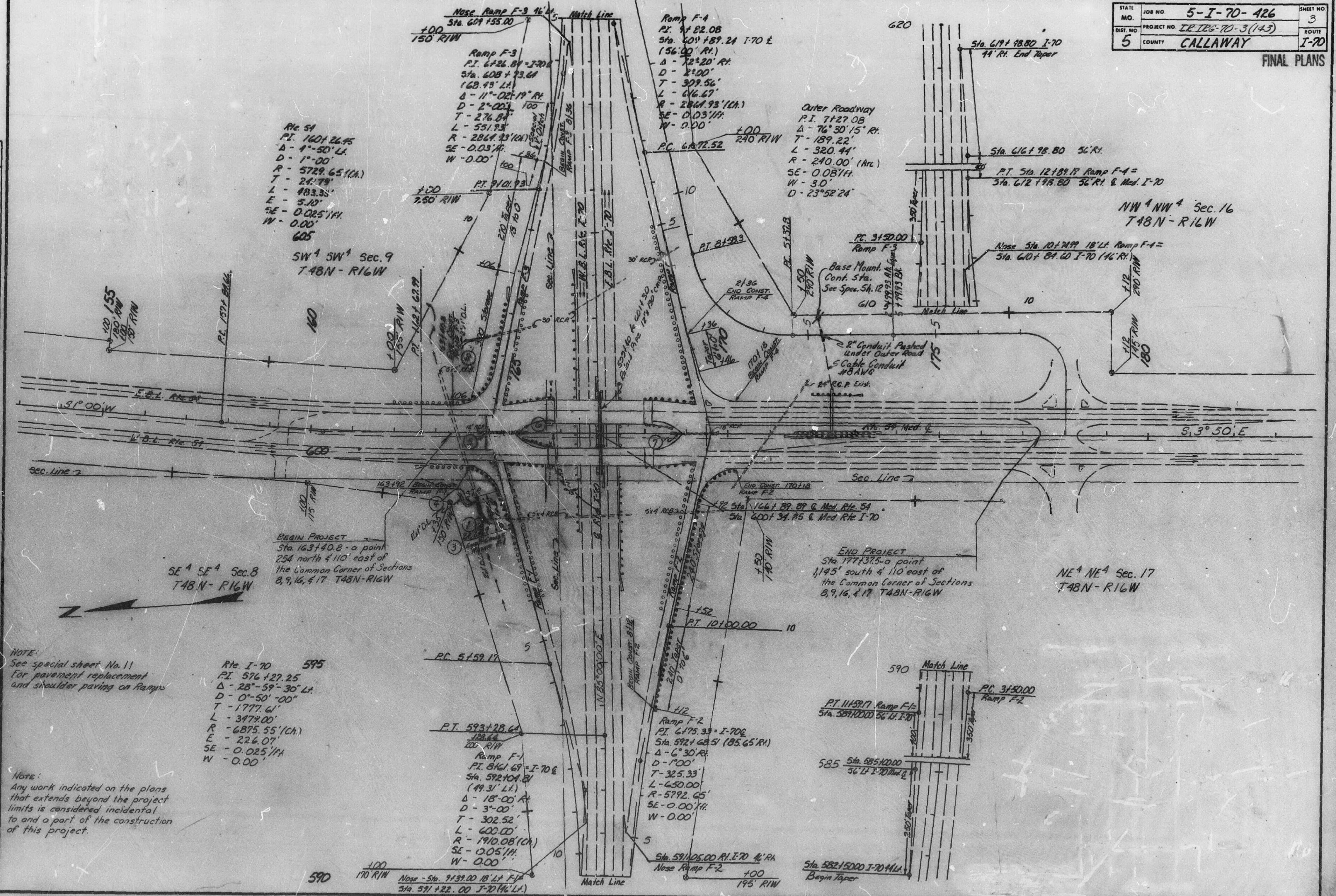
SIGN	SIZE (INCHES)	AREA (SQ FT)	QTY	TOTAL AREA	QTY RELOC	TOTAL RELOC AREA	DESCRIPTION
REGULATORY SIGNS							
W025-3b	30X9						LEFT Plate
W025-3c	33X5						LEFT/CENTER Plate
W025-3d	22X9						LEFT/CENTER Plate
W025-5	30X12	2.5	4	10			1/2 MILE/1 MILE (PLAQUE)
W025-6	28X9						RAMP/BIDGE Plate
R1-1b	48X48	13.25					STOP
R1-2a	48X48X48	6.93					YIELD
R1-3	20X9	1.25					4-WAY (PLAQUE)
R1-5	20X9	1.25					3-WAY (PLAQUE)
R2-1b	36X48	12.00	12	144			SPEED LIMIT XX 4 • 30, 4 • 45, 4 • 55 MPH
R2-5	36X48	12.00	4	48			REDUCED SPEED AHEAD
R3-1b	36X48	12.00					NO RIGHT TURN
R3-2b	36X48	12.00					NO LEFT TURN
R3-3a	36X36	9.00					NO TURNS
R3-4b	36X48	12.00					NO U-TURNS
R3-7L	30X30	6.25					LEFT LANE MUST TURN LEFT
R3-7R	30X30	6.25					RIGHT LANE MUST TURN RIGHT
R4-1b	36X48	12.00					DO NOT PASS
R4-2b	36X48	12.00					PASS WITH CARE
R4-7Lb	36X48	12.00					KEEP LEFT (HORIZONTAL ARROW)
R4-7Rb	36X48	12.00					KEEP RIGHT (HORIZONTAL ARROW)
R4-17L	36X36	9.00					KEEP LEFT
R4-17R	36X36	9.00					KEEP RIGHT
R5-1	30X30	6.25					DO NOT ENTER
R5-1A	36X24	6.00					WRONG WAY
R6-1La	48X18	6.00					ONE WAY ARROW (LEFT)
R6-1Ra	48X18	6.00					ONE WAY ARROW (RIGHT)
R6-2La	24X30	5.00					ONE WAY (LEFT)
R6-2Ra	24X30	5.00					ONE WAY (RIGHT)
R11-2	48X30	10.00					ROAD CLOSED
R11-3	60X30	12.50					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60X30	12.50					ROAD CLOSED TO THRU TRAFFIC
R12-3B	36X36	9.00					TO ONCOMING TRAFFIC (PLAQUE)
R20-1	36X18	4.50	4	18			WHEN FLASHING
GUIDE SIGNS							
G020-1	60X36	15.00					ROAD CONSTRUCTION NEXT XX MILES
G020-2	60X24	10.00	10	100			END CONSTRUCTION
M04-8a	30X15	3.13					DETOUR (PLAQUE)
M04-9L	48X36	12.00					DETOUR (LEFT ARROW)
M04-9R	48X36	12.00					DETOUR (RIGHT ARROW)
M04-10L	48X18	6.00					DETOUR (ARROW LEFT)
M04-10R	48X18	6.00					DETOUR (ARROW RIGHT)
M04-11	24X18	3.00					DETOUR ENDS
M4-1L	21X15	2.19					ADVANCE LEFT TURN ARROW
M5-1R	21X15	2.19					ADVANCE RIGHT TURN ARROW
MISCELLANEOUS SIGNS							
W013-3	48X60	20.00	2	40			RAMP XX M.P.H. 30 MPH
M3-4	24X12	2.00					WEST
M1-1B	24X24	4.00					70
M6-1	21X15	2.19					→
W01-4Lb2	48X48	16.00	2	32			DOUBLED ARROW LEFT
W01-4Rb2	48X48	16.00	2	32			DOUBLED ARROW RIGHT
W06-1c	48X48	16.00	2	32			ARROW LEFT & RIGHT
W06-1cx	24X15	2.5	2	5			LANES DIVIDE
616-10.05 Sub Total 1052.60							
CONSTRUCTION SIGNS TOTAL 1053.4							
616-10.10							
RELOCATED SIGNS TOTAL							

ITEM NUMBER	SIZE (INCHES)	TOTAL QTY	DESCRIPTION
616-10.20	36X18	30	CHANNELIZER (DRUM)
616-10.35	8X24		TYPE I BARRICADE (ONE RAIL)
616-10.36	8X24		TYPE II BARRICADE (TWO RAILS)
616-10.40	36X72	1	FLASHING ARROW PANEL
616-10.45	18X18		TYPE I OBJECT MARKER
616-10.46	6X12		TYPE II OBJECT MARKER
616-10.47	8X24		TYPE III OBJECT MARKER
616-10.50	8		FLASHING ELECTRIC LIGHT
616-10.51	---		WARNING LIGHT TYPE A
616-10.52	---		WARNING LIGHT TYPE B
616-10.53	---		WARNING LIGHT TYPE C
616-10.54	---		STROBE LIGHT
616-10.60	---		RAISED PAVEMENT MARKER
616-10.70	28		FLEXIBLE DELINEATOR
616-10.80	LIN FT	1572	EDGE DROPOFF TREATMENT
612-10.30	72X144		MOVEABLE BARRICADE (THREE RAILS)

374 327

FINAL PLANS

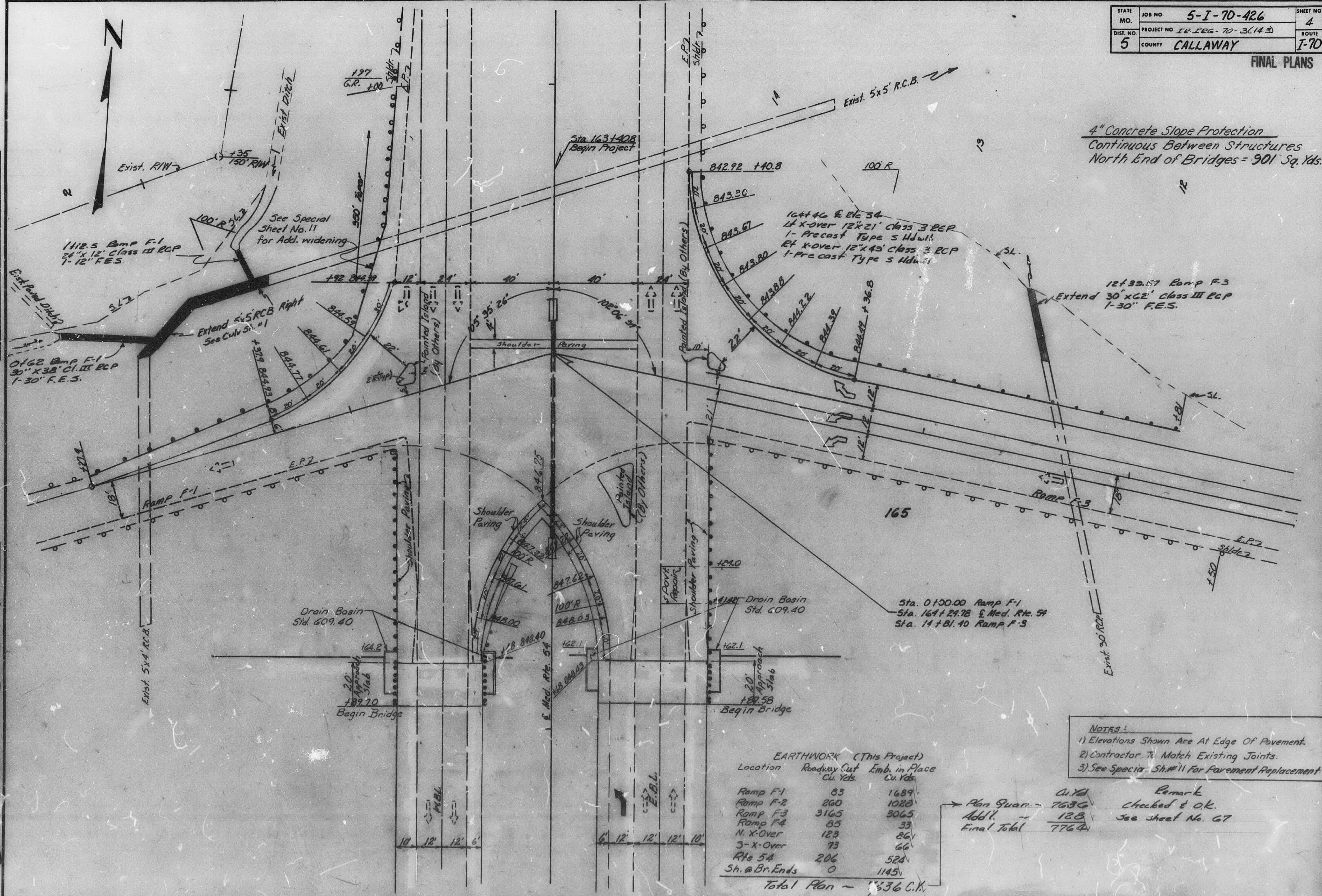
ORIGINAL SURVEY	SURVEYED BY	DATE
NOTE BOOK	PLOTTED TEMPLAT AREAS	
NO.	A & C CHART	



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NO.	

376



4" Concrete Slope Protection
Continuous Between Structures
North End of Bridges = 901 Sq. Yds.

12' 33.57 Ramp F-3
Extend 30' x 62' Class III RCP
1-30" F.E.S.

Sta. 0+100.00 Ramp F-1
Sta. 164+24.78 & Med. Rte. 54
Sta. 14+81.40 Ramp F-3

- NOTES:
- 1) Elevations Shown Are At Edge Of Pavement.
 - 2) Contractor To Match Existing Joints.
 - 3) See Specia. Sh.#11 For Pavement Replacement

EARTHWORK (This Project)		
Location	Roadway Cut Cu. Yds.	Emb. in Place Cu. Yds.
Ramp F-1	83	1689
Ramp F-2	260	1088
Ramp F-3	3165	3065
Ramp F-4	85	33
N. X-Over	123	86
S. X-Over	73	66
Rte 54	206	524
Sh. @ Br. Ends	0	1145
Total Plan ~		7764 C.Y.

Plan Quant. 7636
Add'l. 128
Final Total 7764

Remark
Checked & OK.
See sheet No. 67

STATE MO.	JOB NO. 5-I-70-426	SHEET NO. 6
DIST. NO. 5	PROJECT NO. IR-IRG-70-3(143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS

— GENERAL NOTES

1. Existing Warning & Regulatory Signs Which Conflict With The Traffic Control Plan Shall Be Removed or Completely Covered.
2. All Signs To Be Considered Portable Unless Noted As Permanent For This Project.
3. The Use Of Signs (6) & (9) Depends On The Drop-Off At The Edge Of Pavement. See Special Provisions For Details.
4. Contractor To Maintain 2 Lanes Of Traffic At All Times. (Both Lanes, Both Directions, Of Rte's. I-70 & 54)

Ramp F-3

Stage I Construction Of Pavement
Replacement To Be Completed During
Ramp Widening Construction. For Stage I
Const. See Special Sheet No. 5
For Stage II Const. See Special Sheet No. 5

See Special Sheet No. 7 For Signing
of Rte. I-70 For Bridge Widening
Const. & Slope Protection Work.

Ramp F-1

For Stage I, II, & III Construction
At Ramp F-1 See Special Sheet No. 6

See Special Sheet No. 3
For Traffic Control In
This Area.

NOTE: This Sign To Be Removed
During Stage II Construction
Of Pavement Replacement.

— Remove W025-6 Plate After Ramp Const. Is Completed.






Remove W025-6 Plate After
Ramp Const. Is Completed.

Ramp F-2

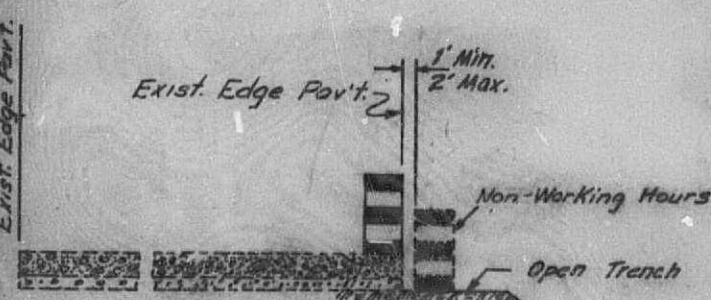
Pavement Replacement To Be
Completed After Ramp Widening.
See Special Sheet No. 5

NOTE: This Sign To Be Removed During Construction Of Pavement Replacement.

LEGEND

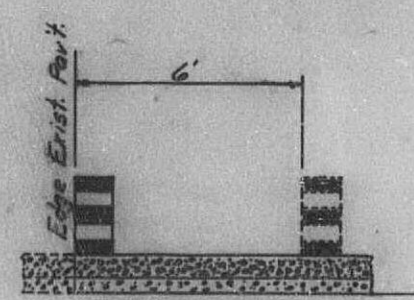
-  - CHANNELIZER (DRUM)
-  - CONCRETE BARRIER
-  - TRAFFIC CONTROL SIGN
-  - WORK AREA
-  - TYPE B WARNING LIGHT

CHANNELIZER PLACEMENT DETAILS ~



DURING PAVING & GRADING

Channelizers
Shall Be Used In Open Trench During
Non-Working Hours.



WHILE CURING

Place Channelizers On New Pavement Edge After Approximately 4 Hours Of Curing. After 96 Hours Of Curing Place Channelizers 6' Into New Pavement.

See Special Sheet No. 2
For Traffic Control On
Route 54

— See Special Sheet No. 4
For Traffic Control In
This Area.

RAMF
30
M.P.H.

SPEED
LIMIT
30

END
CONSTRUCTION



W025-6 Plot Included

RAMP

CONSTRUCTION AHEAD


⑩
WO13-3

①
R2-16


②
G020-2

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W020-


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W020-1



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WO21-3



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W020-



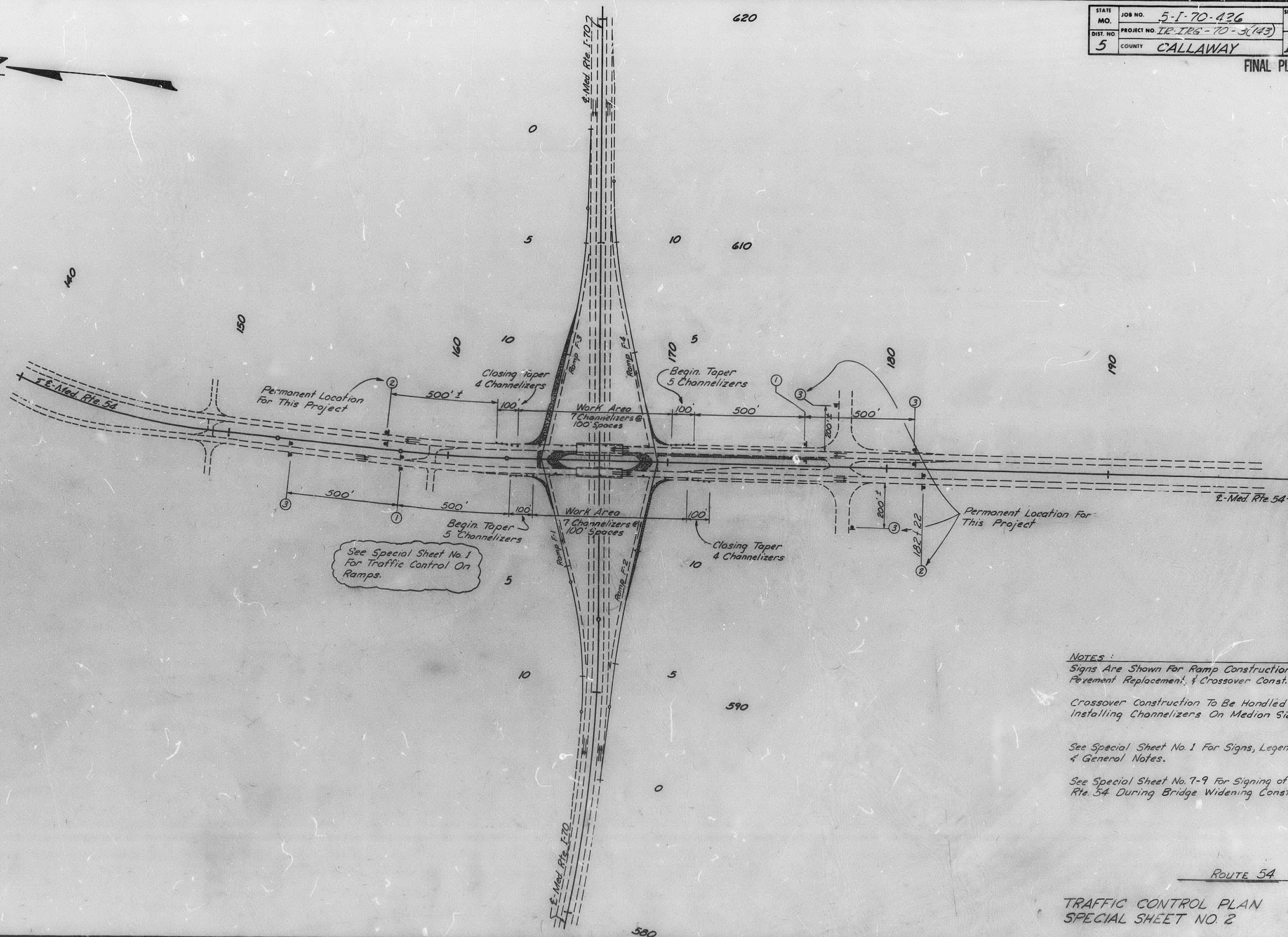
⑨
W08-9

TRAFFIC CONTROL PLAN
SPECIAL SHEET NO. 1

RAMPS

STATE	JOB NO.	SHEET NO.
MO.	5-I-70-426	7
DIST. NO.	PROJECT NO. IR-IRG-70-3(143)	ROUTE
5	COUNTY CALLAWAY	I-70

FINAL PLANS



NOTES:

Signs Are Shown For Ramp Construction, Pavement Replacement, & Crossover Const..

Crossover Construction To Be Handled By Installing Channelizers On Median Side.

See Special Sheet No. 1 For Signs, Legend, & General Notes.

See Special Sheet No. 7-9 For Signing of Rte. 54 During Bridge Widening Const.

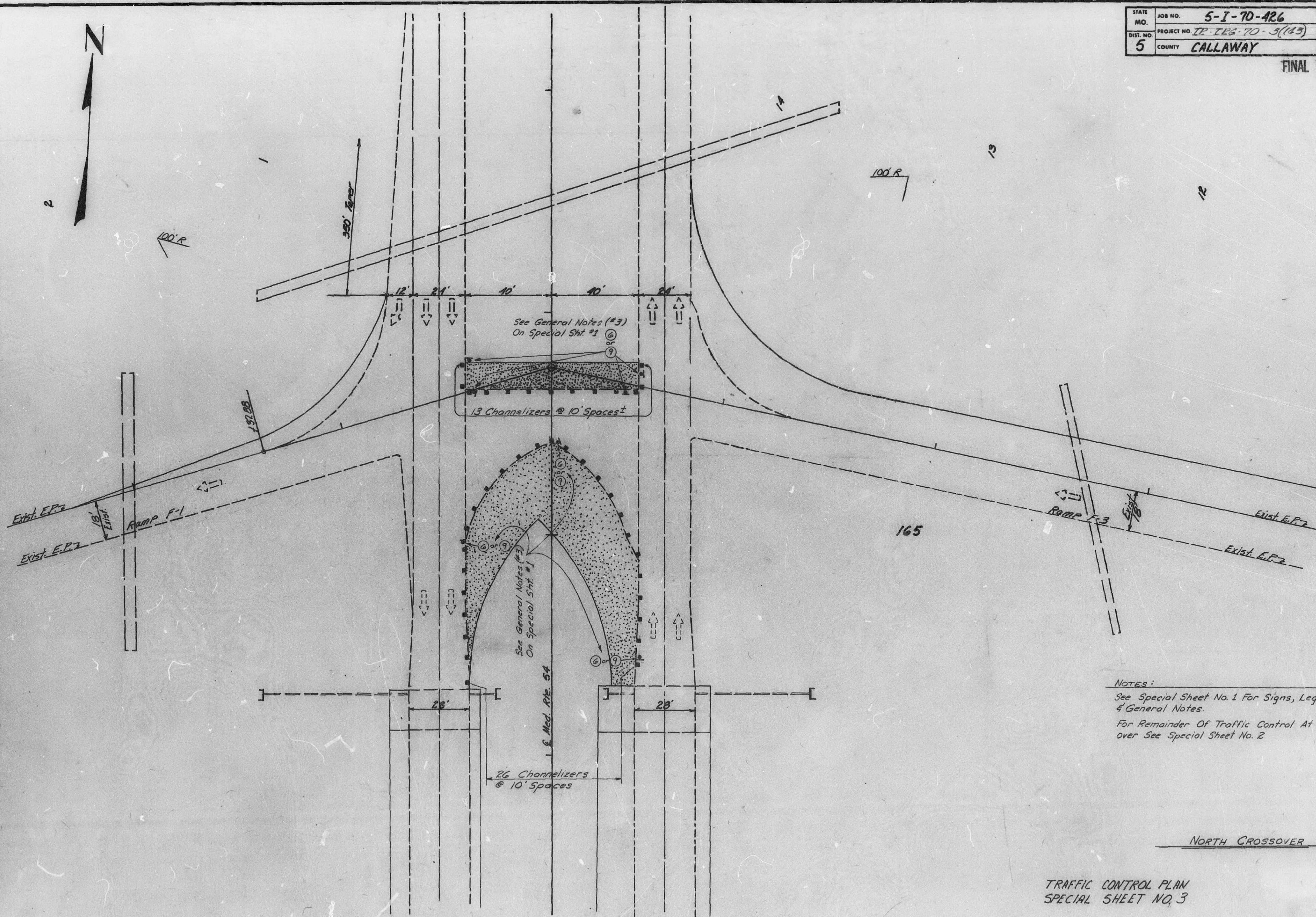
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NOTES:

See Special Sheet No. 1 For Signs, Legend, & General Notes.

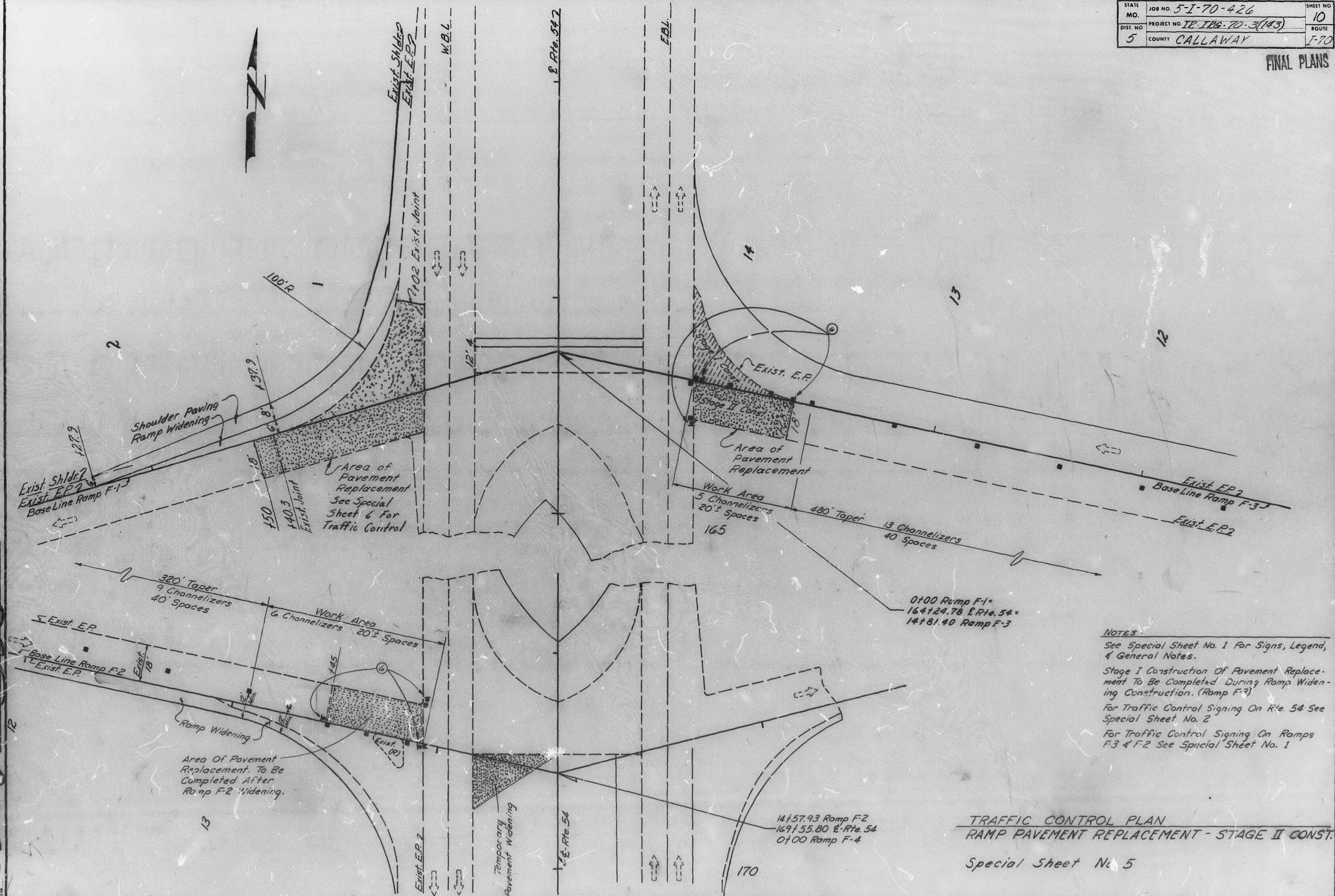
For Remainder Of Traffic Control At Cross-over See Special Sheet No. 2

NORTH CROSSOVER

TRAFFIC CONTROL PLAN
SPECIAL SHEET NO. 3

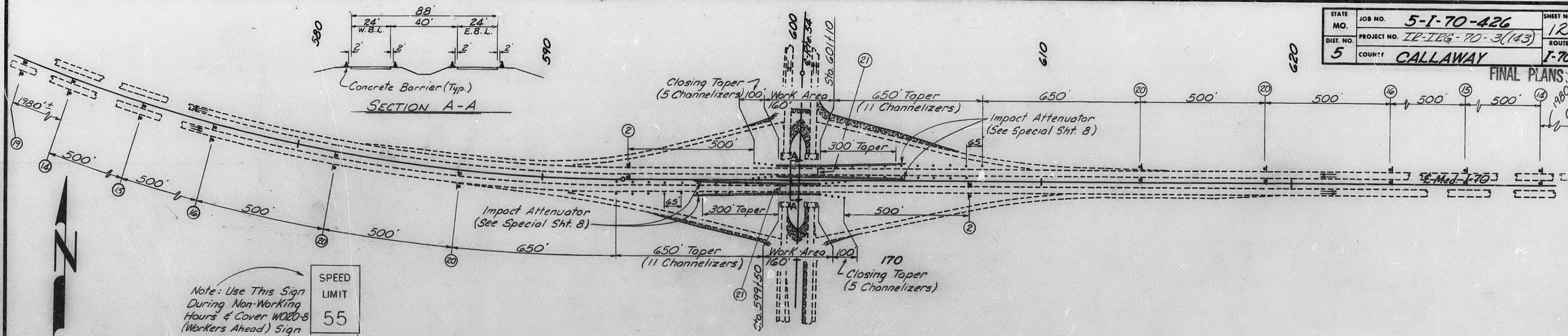
FINAL PLANS

ORIGINAL SURVEY	SURVEYED PLOTTER TEMPLATE AREAS AREA: CHECKED		BY	DATE



STATE MO.	JOB NO. 5-I-70-426	SHEET NO. 12
DIST. NO. 5	PROJECT NO. IR-IRG-70-3(143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS



Note: Use This Sign During Non-Working Hours & Cover W020- (Workers Ahead) Sign.

SPEED
LIMIT
55

WO25-6 Plate
Included

REDUCED
SPEED
AHEAD

WORKERS AHEAD
SPEED LIMIT 45
WHEN FLASHING

1 MILE

LOW
CLEAR.

LOW
CLEAR.

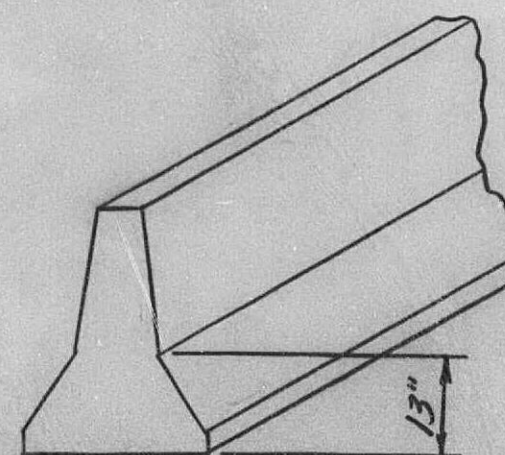
① 19
NO25-5

(20)

1012-2d
1012-2x

WO12-2A

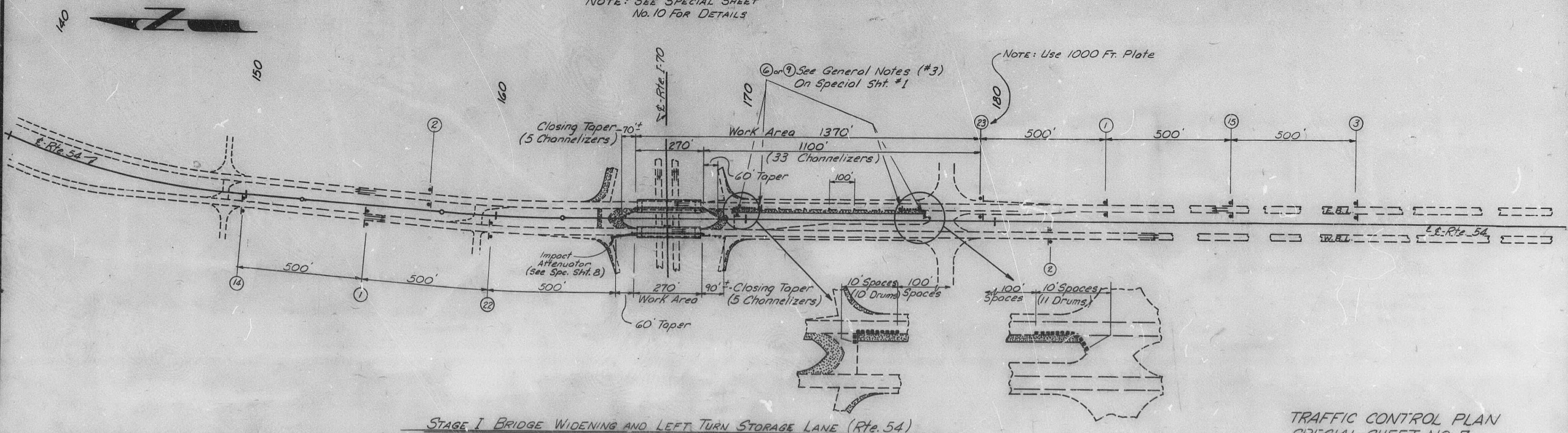
BRIDGE PIERS AND SLOPE PROTECTION (Rte. I-70)



Median barrier Shall be painted Yellow w/ Reflective Beads (Both Sides) A distance of 13" from the pavement.

NOTES:
See Special Sheet No. 1 For General Notes,
Legend, & Signs Not Shown On This
Sheet.

NOTE: SEE SPECIAL SHEET
No. 10 FOR DETAILS



NOTE: Use 1000 Ft. Plate

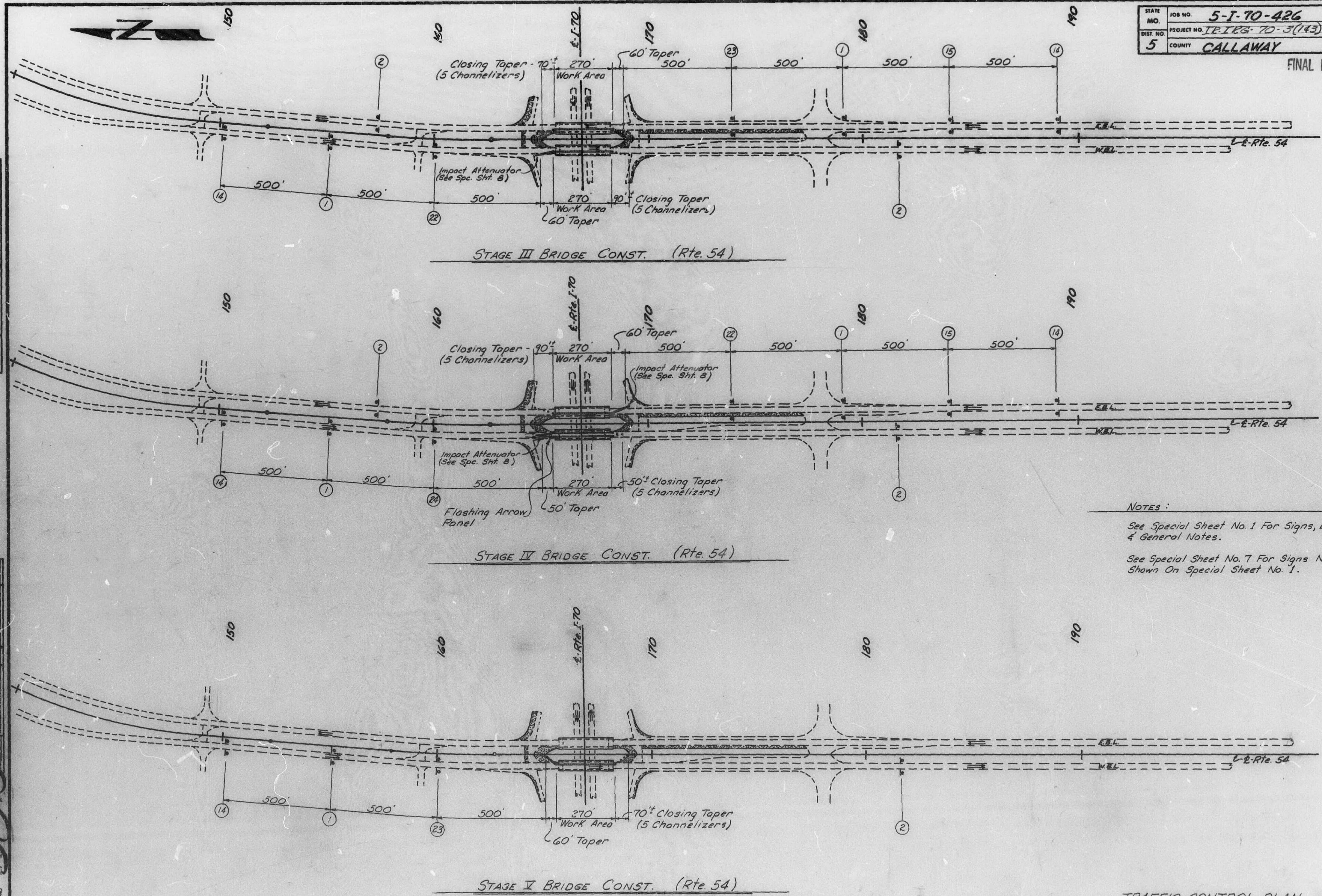
⑥ or ⑨ See General Notes (#3)
On Special Sht. #1

STAGE I BRIDGE WIDENING AND LEFT TURN STORAGE LANE (Rte. 54)

TRAFFIC CONTROL PLAN
SPECIAL SHEET NO. 7

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

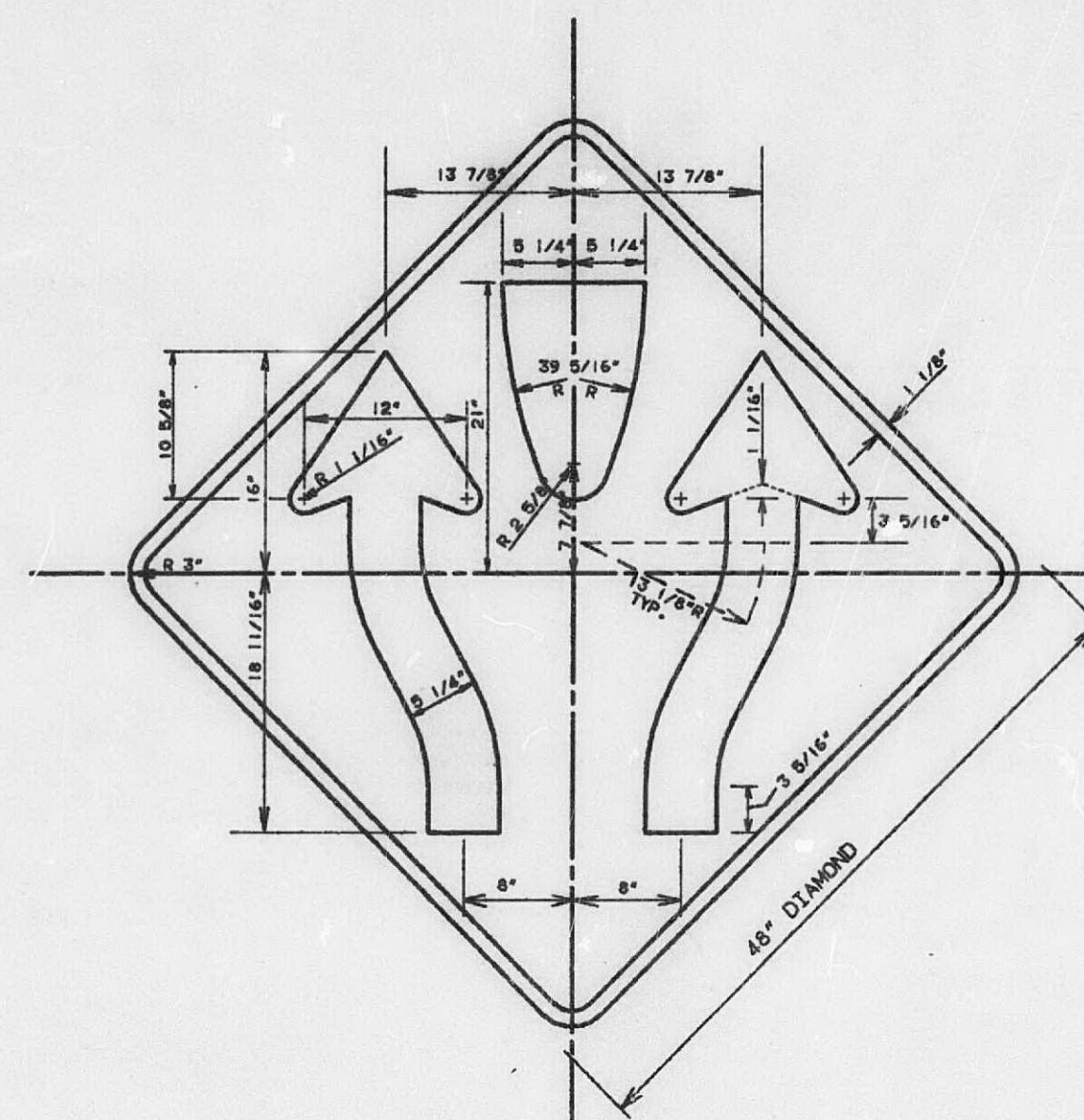


NOTES:

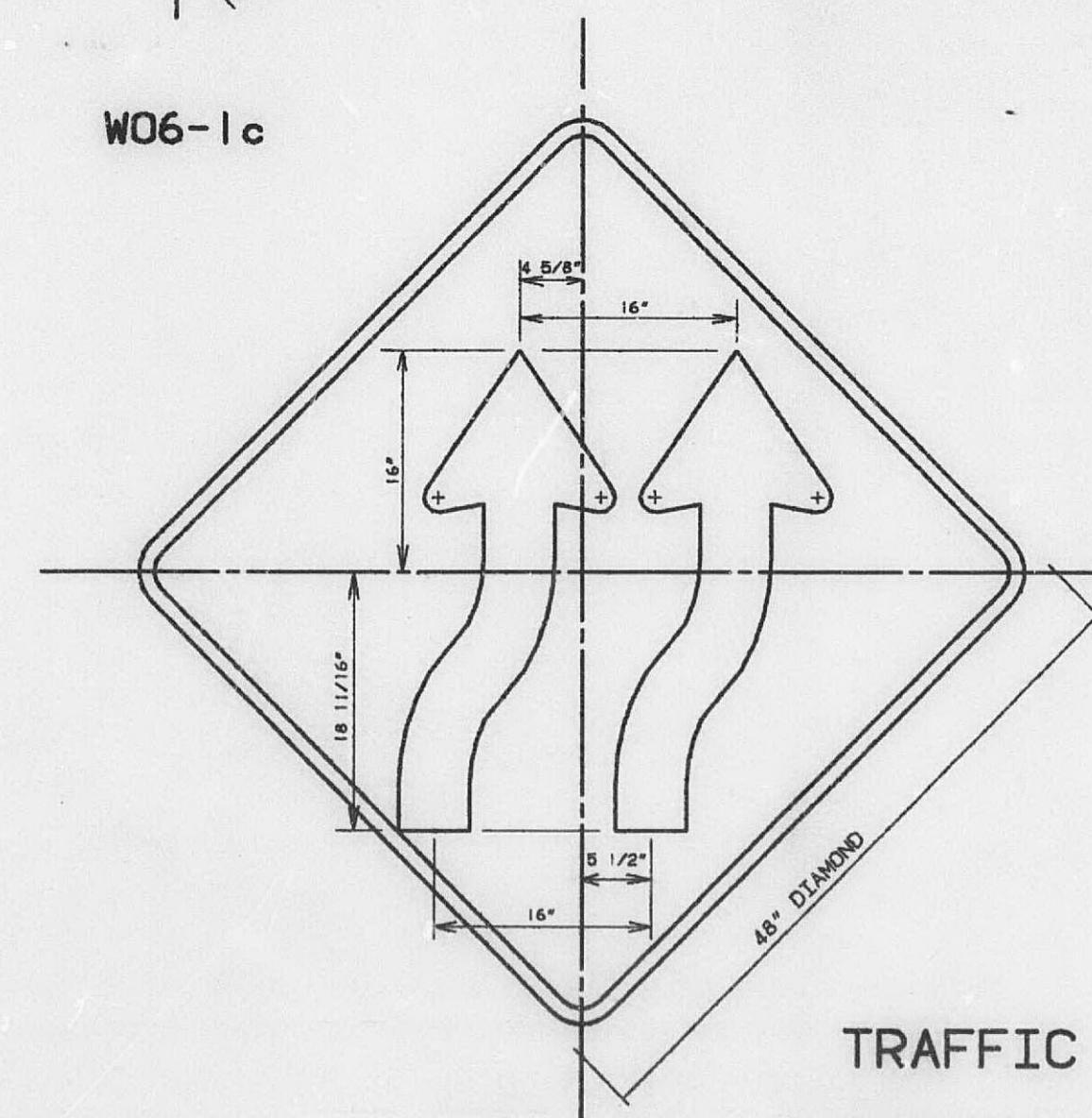
See Special Sheet No. 1 For Signs, Legend, & General Notes.

See Special Sheet No. 7 For Signs Not Shown On Special Sheet No. 1.

SIGN NO.: W06-1C & W01-4RB2
 & W01-4LB2
 STA. SEE T.C.P.
 OVERALL SIZE
 WIDTH-4 FT.
 HEIGHT-4 FT.
 BORDER:
 WIDTH-1 1/8"
 RADIUS-3"
 BACKGROUND:
 TYPE- REFLECT
 COLOR-ORANGE
 LEGEND:
 COPY TYPE-L1
 COLOR-BLACK
 BORDER TYPE-L1
 PANEL TYPE-SHR1



W06-1c



W01-4RB2
 W01-4LB2

TRAFFIC CONTROL PLANS
 SPECIAL SHEET NO. 10

SIGN NO.: W06-1CX
 EDUCATIONAL PLAQUE FOR
 W06-1C2R/2L AND W06-1C
 STA. SEE T.C.P.
 OVERALL SIZE:
 WIDTH-2 FT.
 HEIGHT-15 FT.
 BORDER:
 WIDTH-1 IN
 RADIUS-1 1/2 IN
 BACKGROUND:
 TYPE-REFLECT.
 COLOR-ORANGE
 LEGEND:
 COPY TYPE-L1
 COLOR- BLACK
 BORDER TYPE-L1
 PANEL TYPE-SHR1

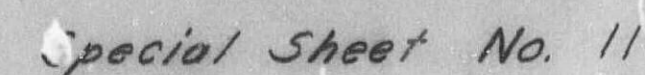


W06-1cx

4" SERIES "O" LETTERS

SPACE 3 3/4"			
LINE	COPY SIZE	COPY	
1	4" U.C.	SPACE	3.862.694.093.633.192.693.85
SPACE 2 1/2"			
LINE	COPY SIZE	COPY	
2	4" U.C.	SPACE	3.813.631.373.751.563.632.443.81
SPACE 3 3/4"			

FINAL PLANS



LIST OF MATERIAL FINAL PLANS

ITEM	DESCRIPTION
2	CABLE-CONDUIT TO LIGHTS (REF.)
3	UTILITY POLE OR TRANSFORMER (REF.)
4	METER SOCKET, DUAL TYPE (APPROVED BY UTILITY) (REF.)
5	ENTRANCE CABLE-CONDUIT, 3 #2 AWG MIN 600V.
6	CONNECTOR, PLASTIC CONDUIT, WATER TIGHT
7	METAL CONDUIT 2" MIN
8	METAL CONDUIT 4" MIN
9	CONCRETE, CLASS 'B' 0.4 C.Y.±
10	PAINT, EPOXY & PRIMER
11	CABINET, DUST TIGHT, WATER TIGHT, CAST BOX, N.E.M.A. 4#5
12	GROUND ROD 3/4" X 10' MIN
13	LIGHTING CONTACTOR, 2 POLE 100 AMP 240 V., COIL 240 V.
14	LIGHTNING ARRESTER, 2 POLE 650 V.
15	PHOTOELECTRIC SWITCH & SOCKET, 105/285 V., 1000 WATT
16	FILTER, TRANSLUCENT PLEXIGLAS 2.2"D. X 1/8" #W2067
17	WINDOW, CLEAR LEXAN PLUG 2.875"D. X 1/2" #9034
18	CONTROL BREAKER, E FRAME 15 AMP 240 V.
19	MANUAL-AUTO SWITCH, E FRAME BREAKER 15 AMP 240 V.
20	INSULATED GROUNDABLE NEUTRAL 100 AMP
21	MAIN BREAKER, E FRAME 2 POLE 100 AMP 240 V.
22	LIGHTING BREAKERS, E FRAME 2 POLE 20 AMP 240 V.
23	PAN, MOUNTING 31.5 X 12 X 1/4" ALUMINUM
24	DUCT SEALANT
25	SEALANT, DOW SILASTIC 732RTV OR G.E. SE-1202
26	CABLE, CONTROL #12 AWG MIN 600V.
27	CABLE, POWER #2 AWG MIN 600 V.
28	CABLE, GROUND #2 AWG MIN 600 V.
29	2-100 WATT STRIP HEATERS & THERMOSTAT, 240 V.
30	ANCHOR BOLTS 5/8-11 X 14", 4 REQ. HOT DIP GALVANIZED
31	SIGNAL BREAKER, E FRAME 120 V., 1 POLE, 40 AMP MIN. (REF.)

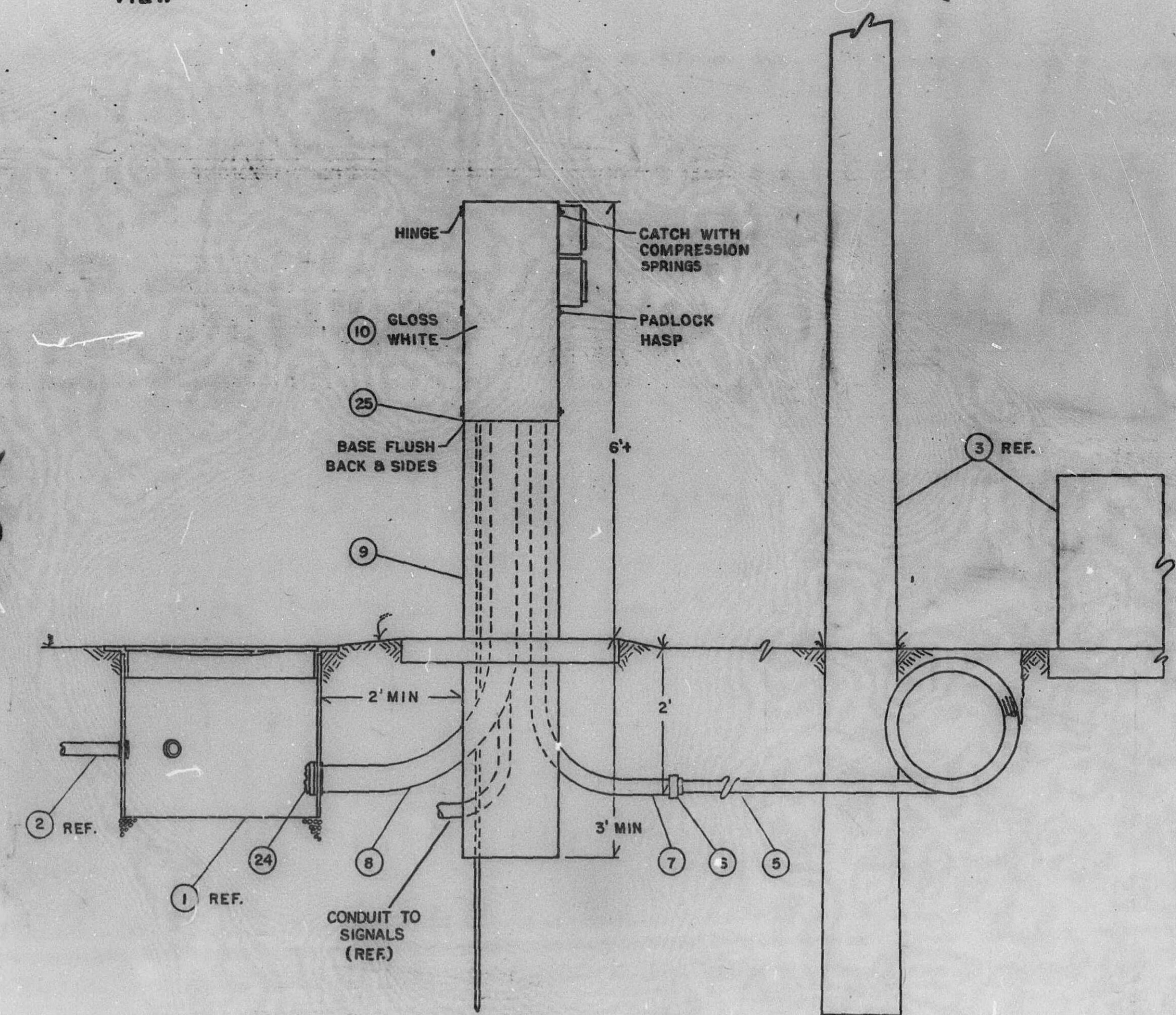
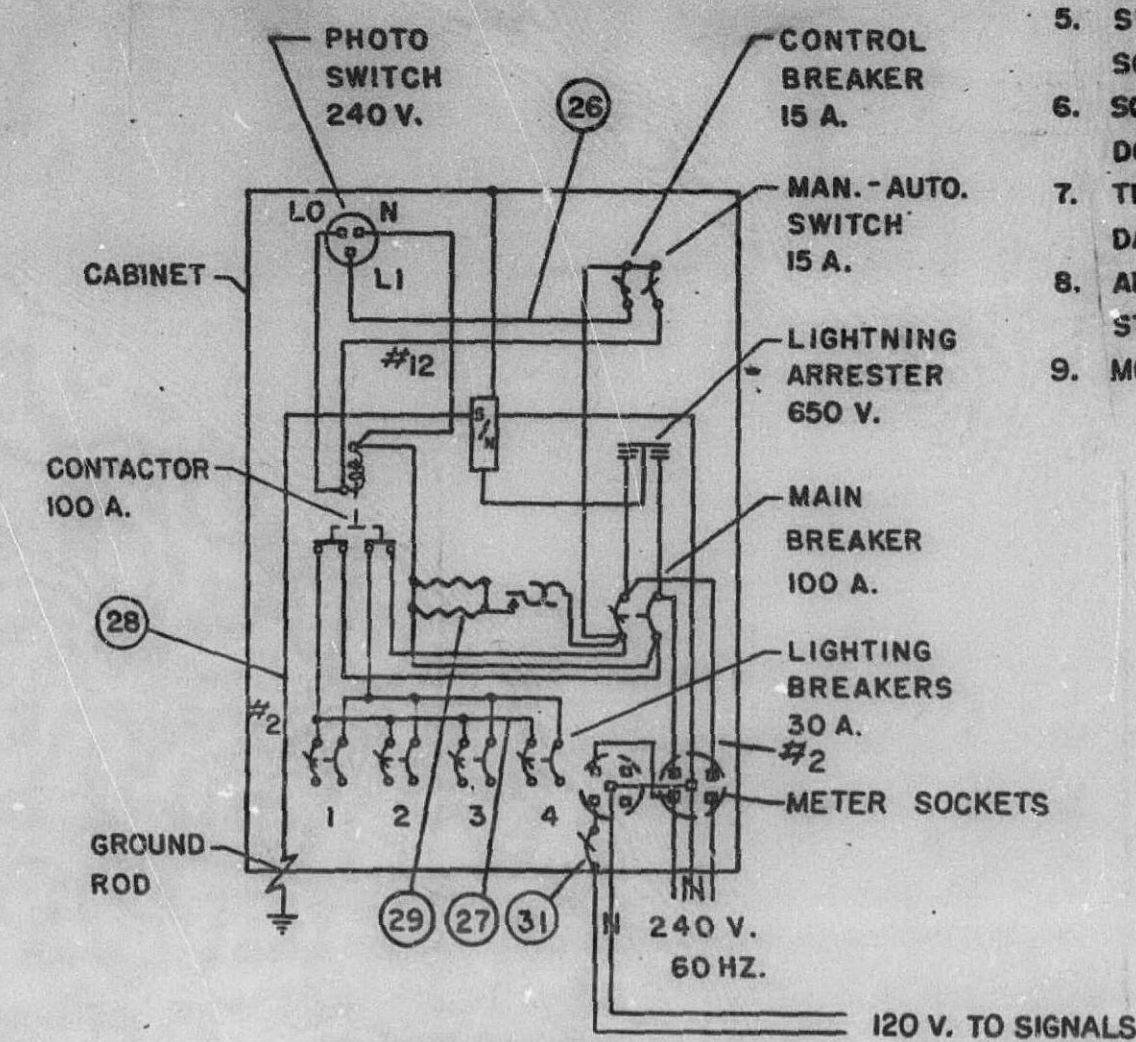
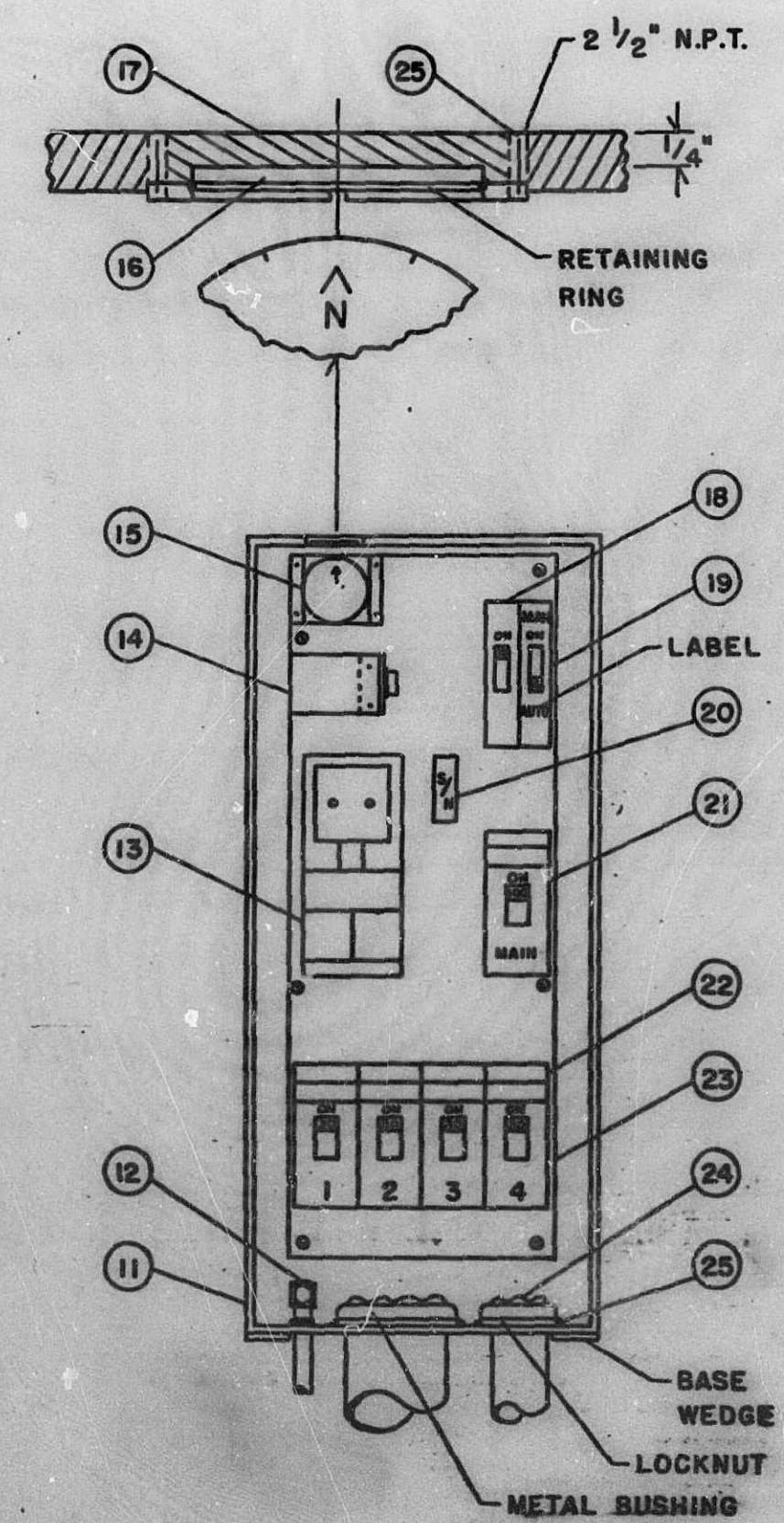
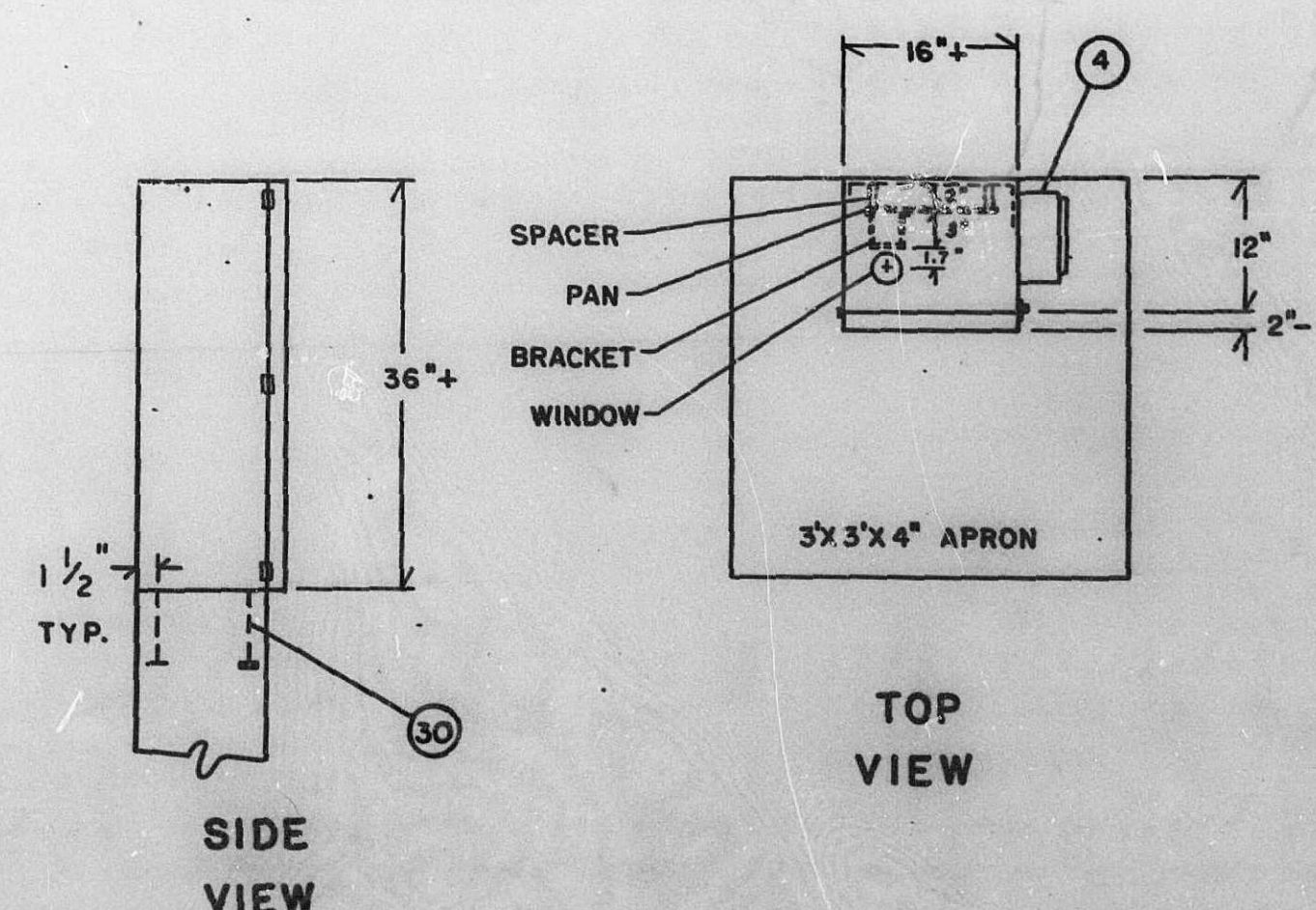
- ALL WORK & ITEMS SHALL MEET NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE AND NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION STANDARDS, WHERE APPLICABLE.
- PLACEMENT OF ALL ITEMS SHALL BE APPROVED BY THE ENGINEER.
- CABINET SHALL BE LOCATED AWAY FROM TRAFFIC AND SO THE PHOTO CONTROL WILL FACE AN OPEN SKY.
- SEE PLANS FOR CIRCUIT WIRING; MAX. LOADING PER CIRCUIT IS 5100 WATTS.
- SERVICE CABLE TO BE LEFT COILED AT UTILITY SECONDARY SOURCE WITH ENOUGH LENGTH FOR HOOKUP.
- SCHEMATIC DIAGRAM IS TO BE MOUNTED ON INSIDE OF CABINET DOOR.
- THE UTILITY SHALL BE NOTIFIED IN WRITING 30 DAYS PRIOR TO DATE SERVICE WILL BE REQUIRED.
- ALL HARDWARE, HINGES, CATCHES, ETC. SHALL BE STAINLESS STEEL OR NON-FERROUS METAL.
- MOUNT SIGNAL BREAKER ON INSIDE CABINET WALL, IF REQUIRED.

MISSOURI STATE HIGHWAY COMMISSION

**SECONDARY SERVICE
BASE MOUNTED CONTROL STATION
240V MULTIPLE CIRCUIT
(WITH 120V TO SIGNALS)**

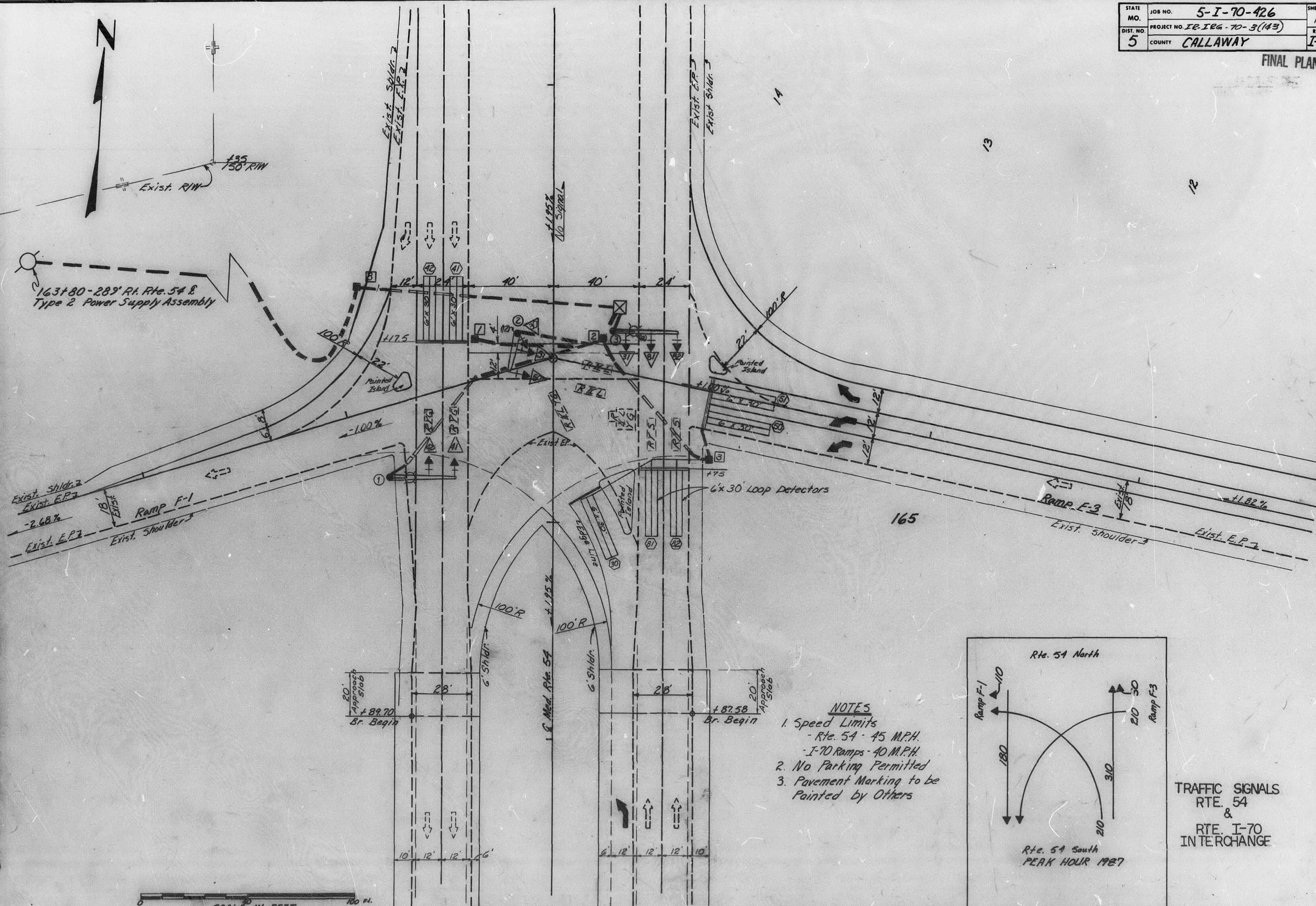
04-901-99.01

SPECIAL SHEET 12



389 342

FINAL PLANS



TRAFFIC SIGNALS
RTE. 54
&
RTE. I-70
INTERCHANGE

[illegible]

RTE. 54 WITH RAMPS F-1 AND F-3
INTERSECTION

D-37B

395-348

CONDUIT															CABLE															FINAL PLANS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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REV SEP 6, 89

STATE MO	JOB NO. 5-I-70-426	SHEET NO. 20-B
DIST NO. 5	PROJECT NO. 10-106-70-3(143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT												
LOCATION			ACTUATED	SOLID STATE ON-OFF	COORDINATION*	TONE UNIT*		TIME*				
			NEMA * KEYBOARD ENTRY	PRE-TIMED	UNIT							
APPROACH	STATION	OFFSET		TYPE	TYPE	MASTER	LOCAL	TIME BASE	TRANS-MITTER	RECEIVER	CLOCK	
RTE. 54	169+67	30' RT										

POWER SUPPLY												
LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING				SERVICE POLE			
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	SIDE OF CONTROLLER	CONTROLLER	CONT & SIGNAL LAMPS	SERVICE POLE MAIN BREAKER	CONTRACT FURNISH	UTILITY COMPANY		
RTE. 54	172+09	283' LT	Type	SPECIAL SHEET	15 Amps	15 Amps	20 Amps	100 Amps	CL.	Ft.	U.I.P.	

POST NUMBER	PULL BOX NUMBER	DETECTOR NUMBER	LOCATION			BASES			DETECTOR	POST																																COMMISSION FURNISHED SIGNS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			APPROACH	STATION	OFFSET	A	B	C		CUBIC YARDS OF CONCRETE	TYPE	PULL BOX	PUSH BUTTON	MAGNETIC INDUCTION LOOP	CALL UNIT	TIME DELAY UNIT	7' POST TOP	10' LENGTH MOUNT	TYPE C & CL												TYPE B & BL																SPAN WIRE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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POST NUMBER	FACE NUMBER	LUMINAIRE 150W SODIUM	INDICATIONS *																		VISORS*		LOUVERS*	BACKPLATE*					BRACKET*		ONE-FACE										TWO-FACE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			12" LENS CONVENTIONAL									12" LENS OPTICAL LIMITING									12" LENS STD TUN			LENSES					TYPE		SECTION										SECTIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			R	Y	G	S	L	Rt	YL	YRt	W	DW	R	Y	G	S	L	Rt	YL	YRt	9.5	12	A	B	C	D	E	F	I	2	3	4	5	I	II	III	IV	T	S	C	B	T	S	T	S	C	B	T	S	C	B	T	S	C	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B	T	S	B

REMARKS

* ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE

DETECTOR SIZES

- 71 A-6 B-25
 41 A-6 B-6
 42 A-6 B-6
 10 A-6 B-30
 81 A-6 B-30
 82 A-6 B-30
 32 A-6 B-30

LEGEND

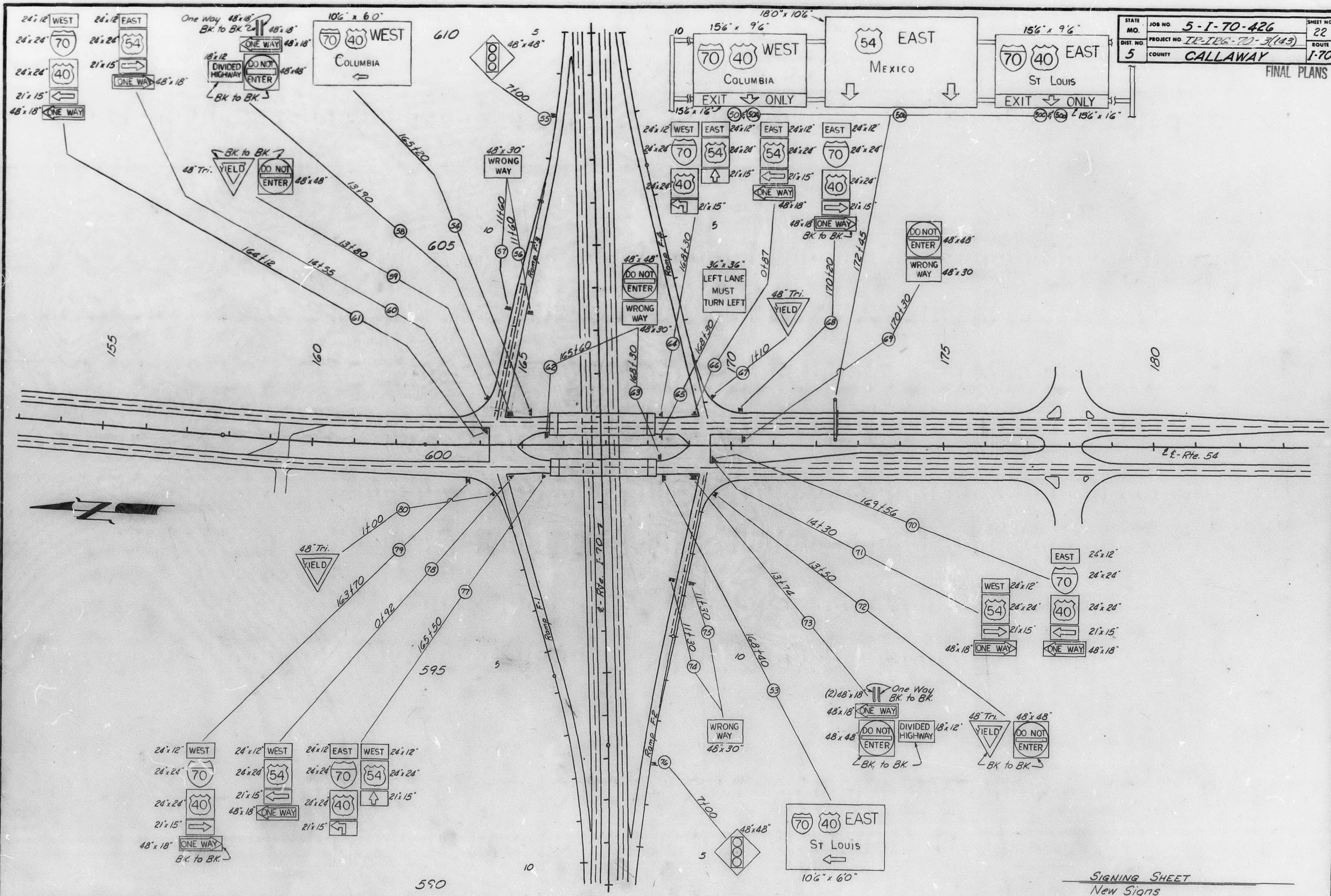
B-MAST ARM MOUNT
 C-SPANWIRE MOUNT
 T-TOP MOUNT
 S-SIDE MOUNT

RTE. 54 WITH RAMPS F-2 AND F-4
INTERSECTION

D-37A

DATE	
BY	
FINAL SURVEY	
NOTED	
NO	

DATE	
BY	
ORIGINAL SURVEY	
NOTED	
NO	



STATE	MO.	JOB NO.	5-I-70-426	SHEET NO.	22
DIST. NO.	5	PROJECT NO.	IR-16-70-3(43)	ROUTE	1-70
COUNTY	CALLAWAY				

FINAL PLANS

STATE	JOB NO.	SHEET NO.
MO.	5-I-70-426	23
DIST. NO.	PROJECT NO.	ROUTE
5	IP-126-70-3(143)	I-70
COUNTY	CALLAWAY	

FINAL PLANS

NOTES

Signs No. 1, 2, 28, and 30 To Be Relocated To New Posts. *

All Existing Signs Not Shown On This Sheet Are To Be Used In Place.

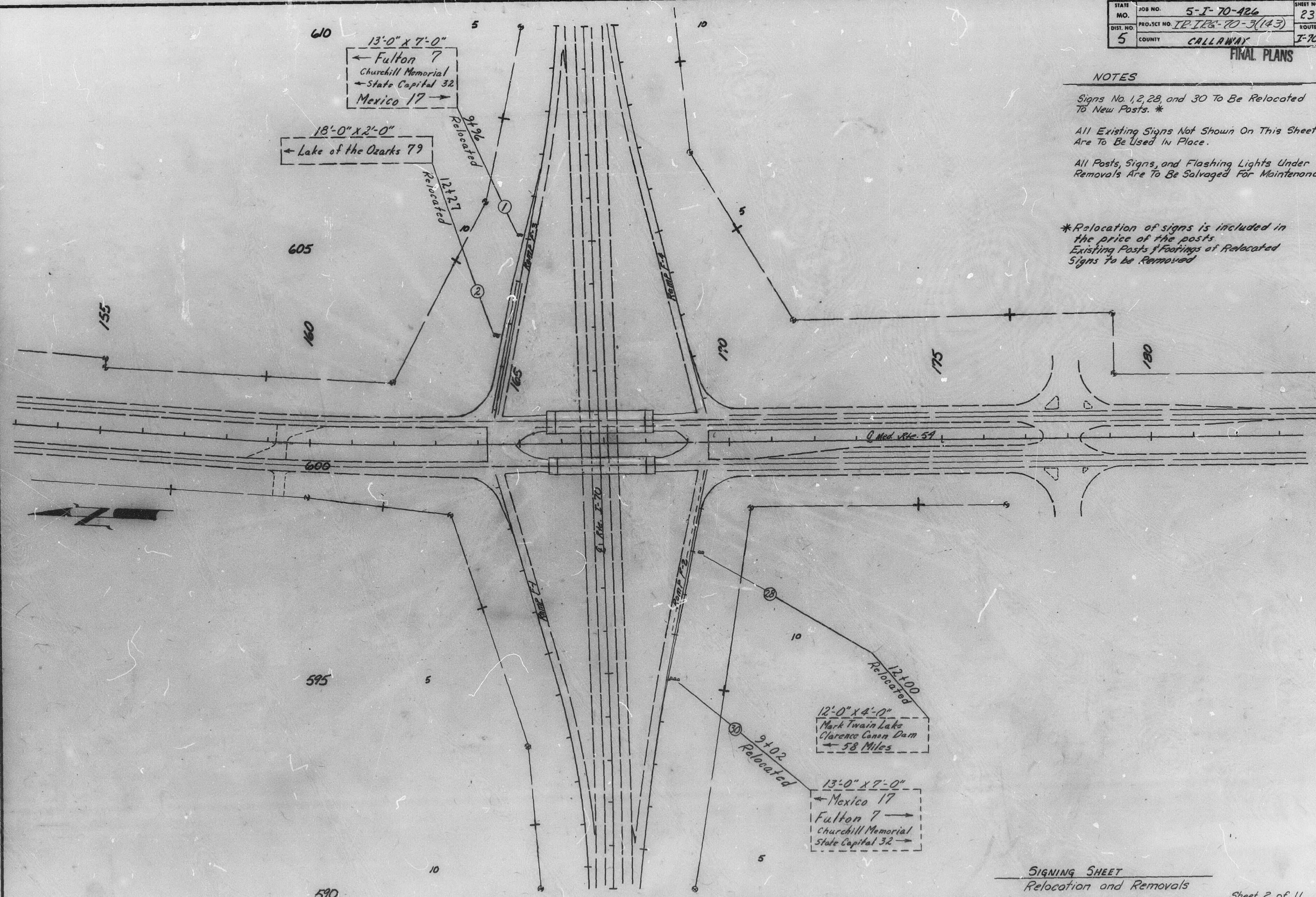
All Posts, Signs, and Flashing Lights Under Removals Are To Be Salvaged For Maintenance.

*Relocation of signs is included in the price of the posts. Existing Posts & Footings of Relocated Signs To Be Removed

DATE	
BY	
FINAL SURVEY	
NO. 1000	
NO.	

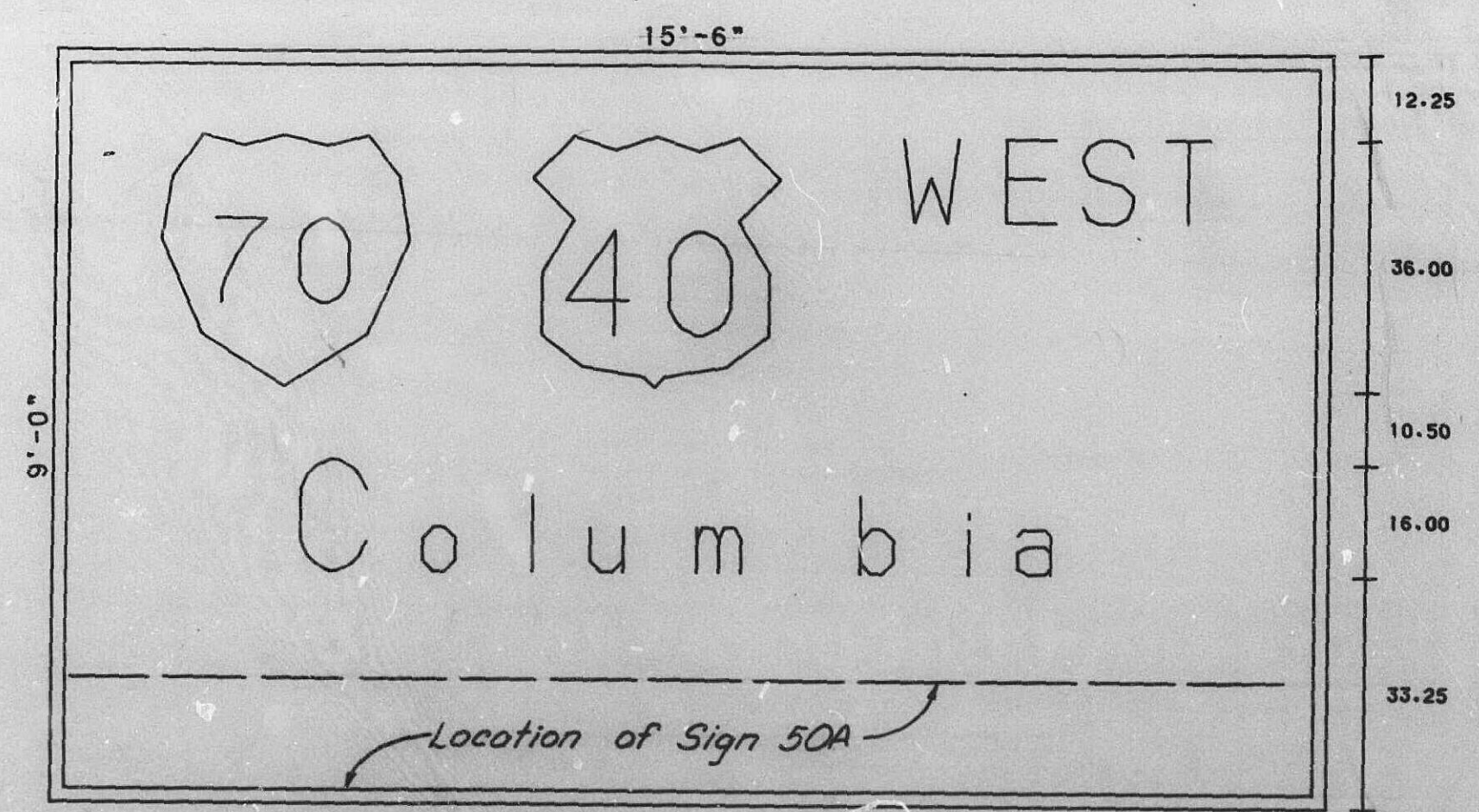
DATE	
BY	
ORIGINAL SURVEY	
NO. 1000	
NO.	

39915



SIGNING SHEET
Relocation and Removals

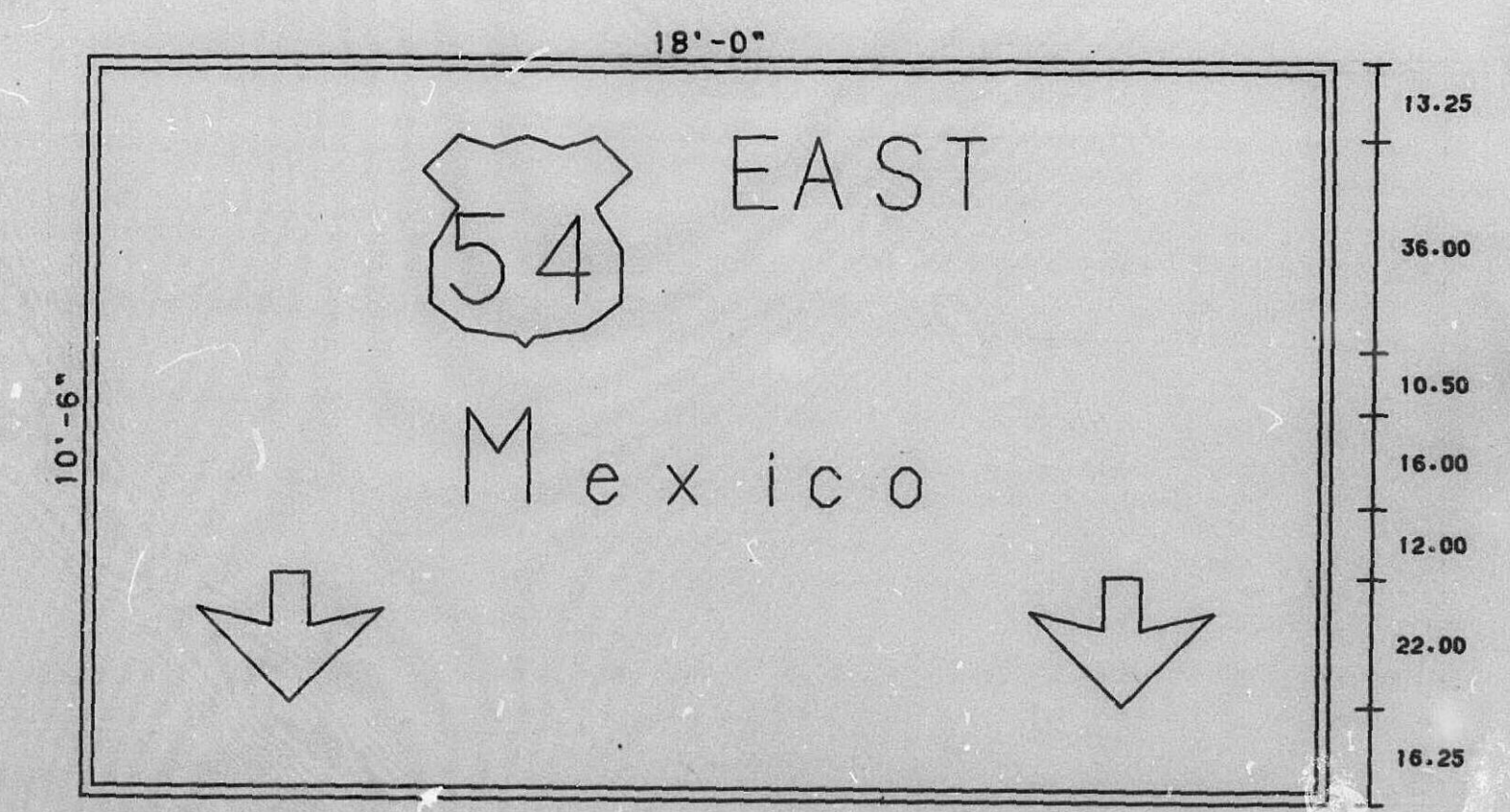
FINAL PLANS



CALLAWAY I-70 50
1"=18"

SIGN NUMBER	50	HEIGHT = 9 FT. 0 IN.	VERTICAL	DISTRICT 5
ROUTE	I-70	LENGTH = 15 FT. 6 IN.	SPACING	
STATION	172+45	AREA = 139.5 SQ. FT.		
COUNTY	CALLAWAY	RADIUS = 12 IN.	12.25	020000000000030000000000000000
PROJECT	5-1-70-426	BORDER = 2 IN.	36.00	LINE 1 12 070 240 WEST
DESCRIPTION	GREEN/WHITE OVERHEAD STB24		10.50	3 3
			16.00	LINE 2 16 C
			33.25	COLUMBIA

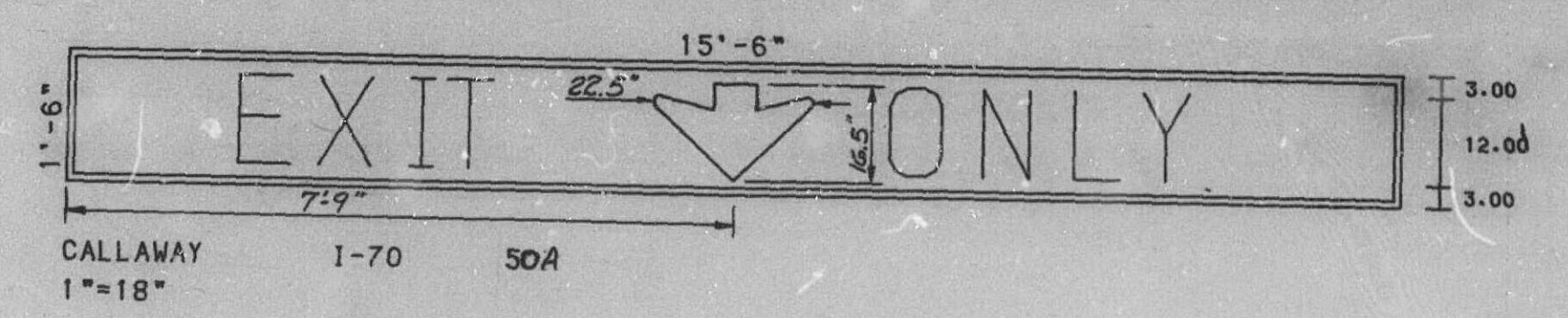
15.41	35.98		
36.00	SHIELD IN70	17.00 C	16 UC
18.00		15.38 O	12 LC
36.00	SHIELD US40	9.13 L	12 LC
18.00		16.38 U	12 LC
15.04	M	23.01 M	12 LC
11.29	E	15.13 B	12 LC
12.04	S	7.88 I	12 LC
8.82	T	10.13 A	12 LC
15.40		35.98	



CALLAWAY I-70 50b
1"=24"

SIGN NUMBER	51	HEIGHT = 10 FT. 6 IN.	VERTICAL	DISTRICT 5
ROUTE	I-70	LENGTH = 18 FT. 0 IN.	SPACING	
STATION	172+45	AREA = 189.0 SQ. FT.		
COUNTY	CALLAWAY	RADIUS = 12 IN.	13.25	0200000000000000000000000000000000 (PROGRAM SUPPLIED)
PROJECT	5-1-70-426	BORDER = 2 IN.	36.00	LINE 1 12 254 EAST
DESCRIPTION	GREEN/WHITE OVERHEAD STD24		10.50	3
			16.00	LINE 2 16 M
			12.00	EXICO
			22.00	LINE 3 16 5 9112 S
			16.25	1 3 1

58.10		66.30			
36.00	SHIELD US54	20.25 M	16 UC	32.00	ARROW D
18.00		13.88 E	12 LC	112.00	
10.47	E	17.01 X	12 LC	32.00	ARROW D
14.47	A	12 UC	7.88 I	12 LC	20.00
12.04	S	12 UC	13.88 C	12 LC	
8.82	T	12 UC	10.50 D	12 LC	
58.10		66.30			



CALLAWAY I-70 50A
1"=18"

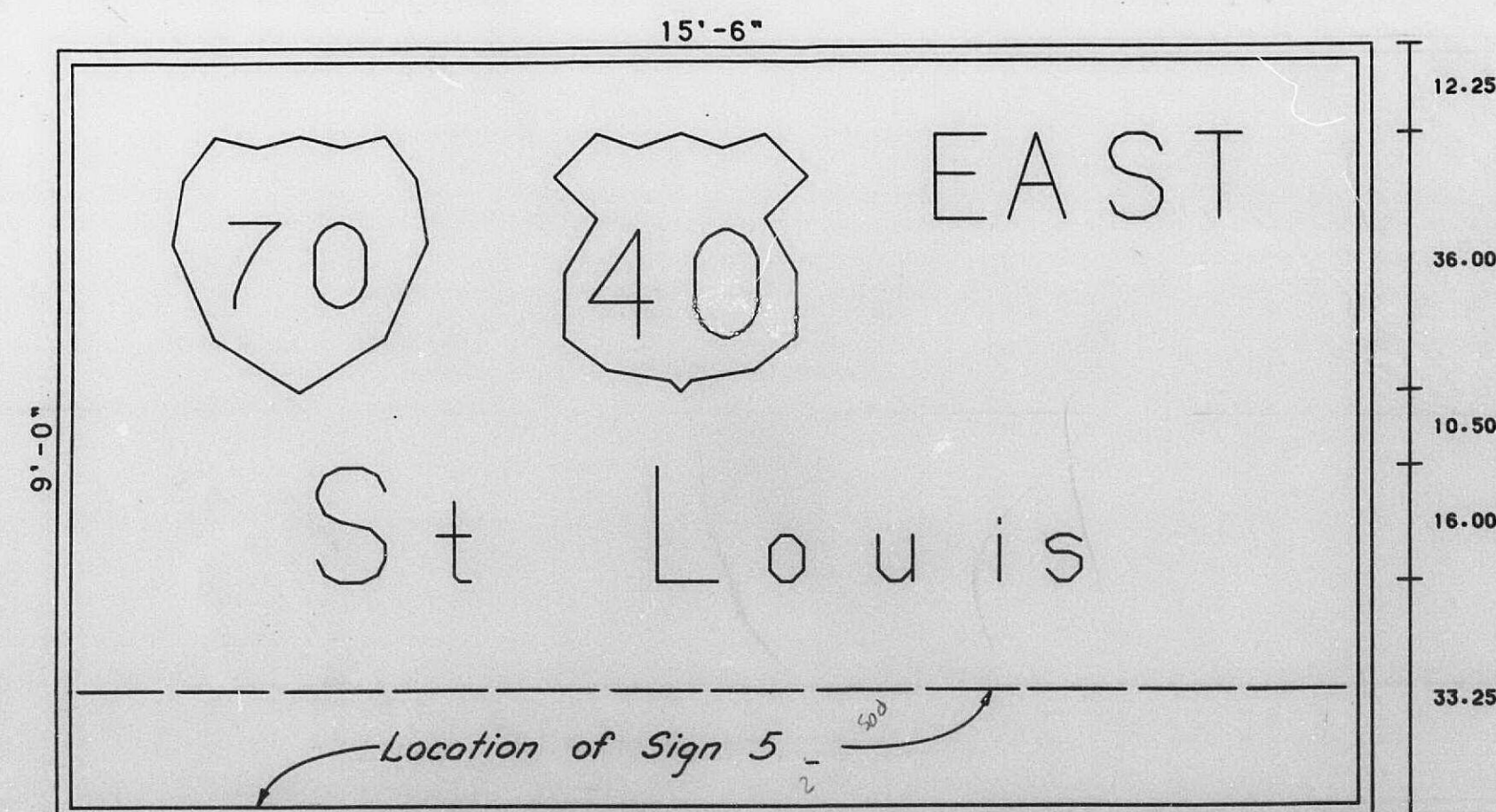
SIGN NUMBER	50b	HEIGHT = 1 FT.	6 IN.	VERTICAL	DISTRICT 5
ROUTE	I-70	LENGTH = 15 FT.	6 IN.	SPACING	
STATION	172+45	AREA = 23.3 SQ.	FT.		
COUNTY	CALLAWAY	RADIUS = 6 IN.		3.00	0200002000200000000000000000000000
PROJECT	5-1-70-426	BORDER = 1 IN.		12.00	LINE 1 12 923 EXIT 9 952 ONLY 923
DESCRIPTION	BLACK/YELLOW OVERHEAD			3.00	3 2 3 3
		SHR123			
• 24.00					
• 11.79	E	12 UC			
• 12.79	X	12 UC			
• 4.87	I	12 UC			
• 8.82	T	12 UC			
• 0.90					
• 52.00					
• 13.03	D	12 UC			
• 12.65	N	12 UC			
• 9.65	L	12 UC			
• 12.00	Y	12 UC			
• 24.00					

SIGNING

ORIGINAL SURVEY	SUBMITTED	BY	DATE
NOTE BOOK	NOTED		
	REPLATE		
	ALIAS		
	ADDRESS		
	FILED		

STATE NO.	JOB NO. 5-1-70-426	SHEET NO. 25
DIST. NO. 5	PROJECT NO. IR-IRG-70-3(143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS

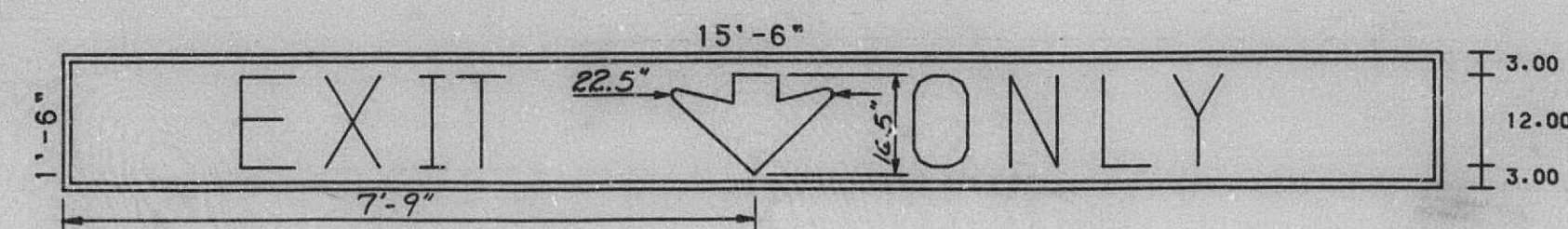


CALLAWAY I-70 50c
1"=18"

```

SIGN NUMBER      52      HEIGHT = 9 FT. 0 IN.      • VERTICAL.
ROUTE 1-70       LENGTH = 15 FT. 6 IN.      • SPACING.
STATION 172+45   AREA = 139+5 SQ. FT.      •
COUNTY CALLAWAY      RADIUS = 12 IN.      •
PROJECT 5-1-70+26  BORDER = 2 IN.      •
DESCRIPTION GREEN/WHITE OVERHEAD STB24      •
                                                    •
• • • • •
• 16+10      • 36+68      •
• 36+00      SHIELD IN70      • 16+13      S      16 UC      •
• 18+00      • 8+00      T      12 LC      •
• 36+00      SHIELD US40      • 24+00      •
• 18+00      • 15+13      L      16 UC      •
• 10+47      E      12 UC      • 15+38      O      12 LC      •
• 14+47      A      12 UC      • 16+38      U      12 LC      •
• 12+04      S      12 UC      • 7+50      I      12 LC      •
• 8+82      T      12 UC      • 10+13      S      12 LC      •
• 16+10      • 36+67      •

```

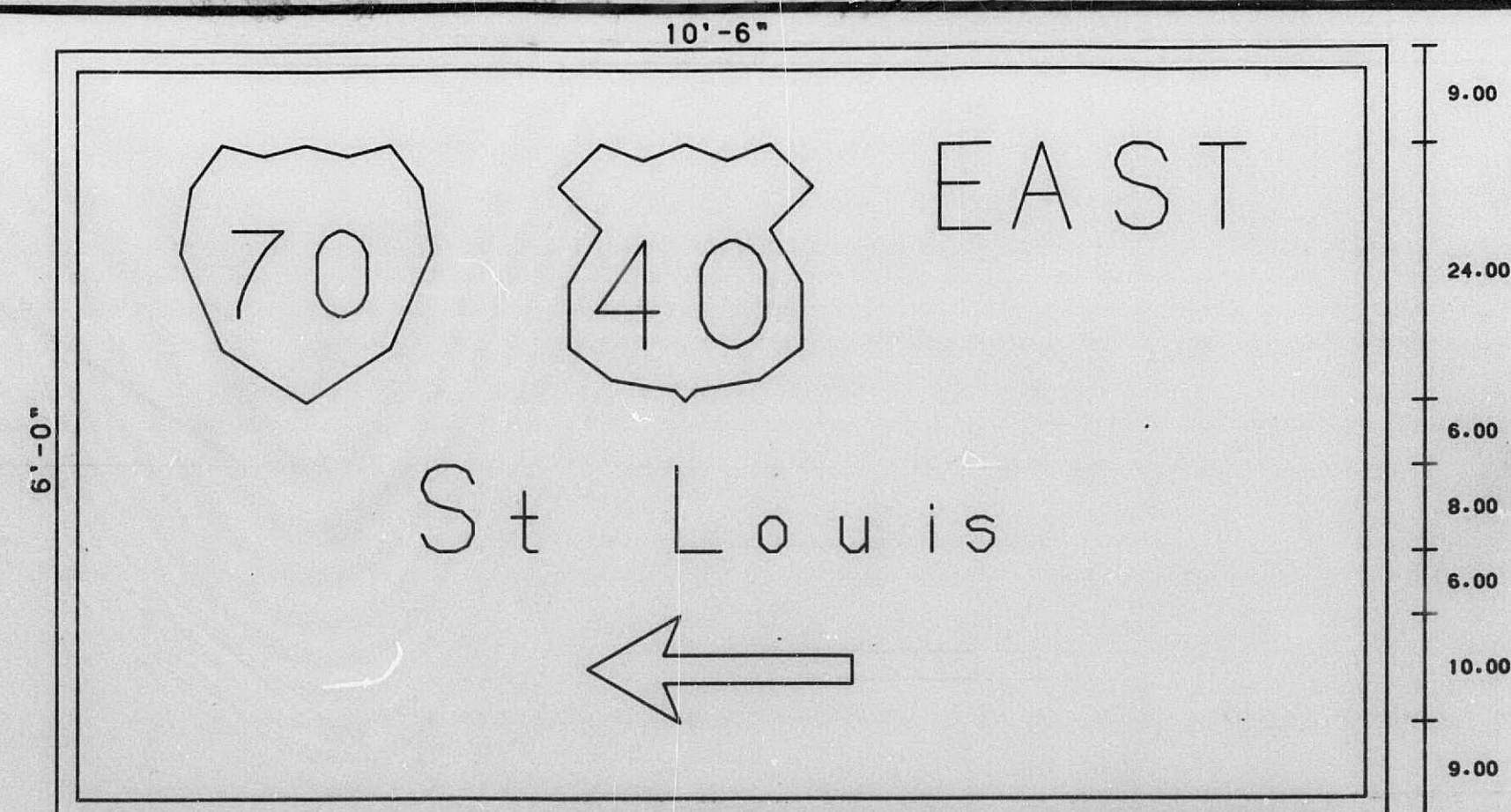


CALLAWAY I-70 50d
1"=18"

```

SIGN NUMBER      52B      HEIGHT = 1 FT. 6 IN.  .VERTICAL.
ROUTE 1-70       LENGTH = 15 FT. 6 IN.  .SPACING.
STATION 172+45    AREA = 23.3 SQ. FT.  .
COUNTY CALLAWAY    RADIUS = 6 IN.  . 3.00 .
PROJECT 5-1-70+426  BORDER = 1 IN.  . 12.00 .
DESCRIPTION BLACK/YELLOW OVERHEAD  . 3.00 .
. . . . . S'
. 24.00 .
. 11.29 E 12 UC .
. 12.79 X 12 UC .
. 4.87 I 12 UC .
. 8.82 T 12 UC .
. 0.90 .
. 52.00 .
. 13.03 D 12 UC .
. 12.65 N 12 UC .
. 9.65 L 12 UC .
. 12.00 Y 12 UC .
. 24.00 .

```



CALLAWAY I-70 53
1"=12"

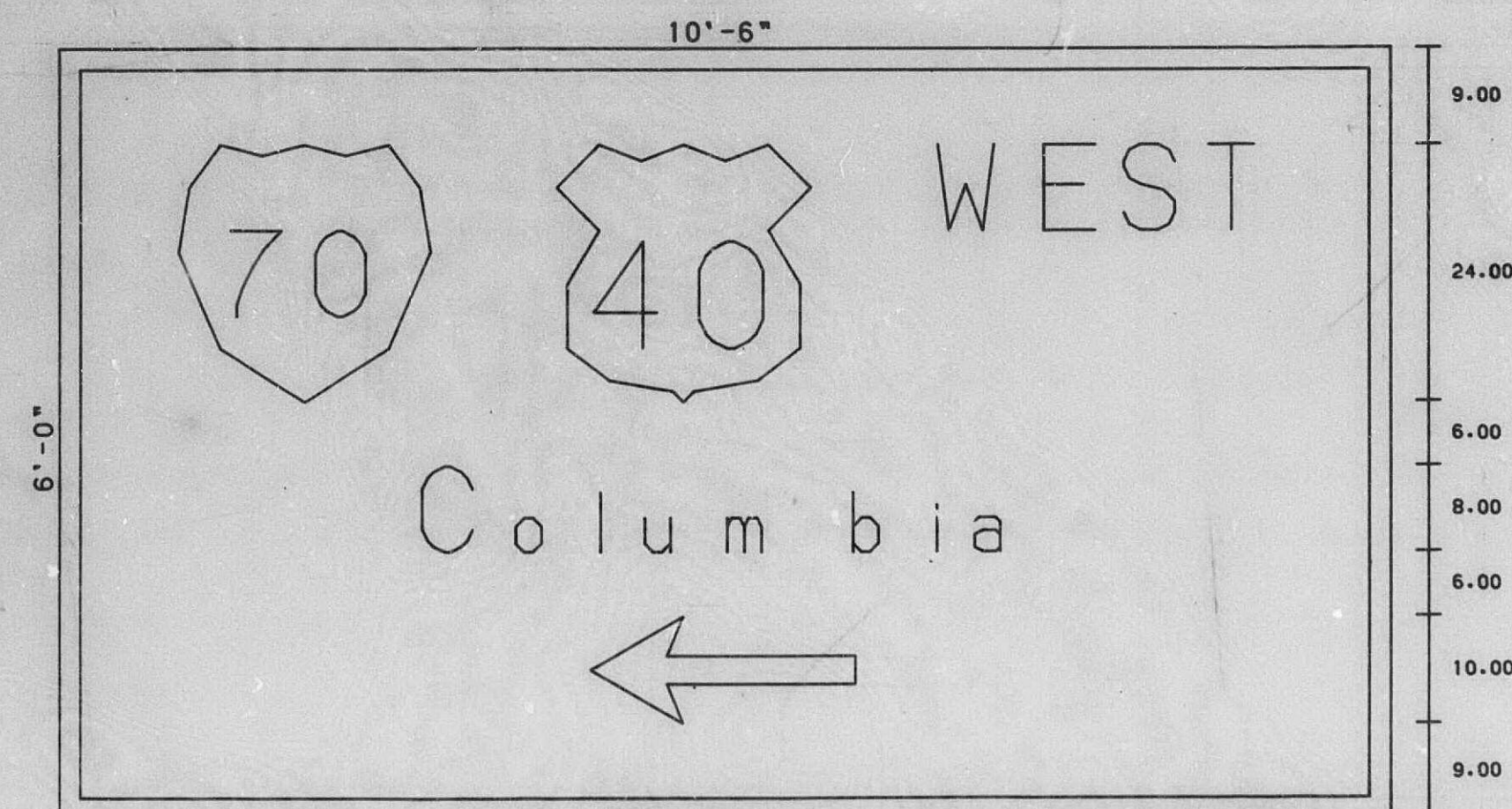
```

SIGN NUMBER      53      HEIGHT = 6 FT.  0 IN.  .VERTICAL.
ROUTE 1-70      LENGTH = 10 FT.  6 IN.  .SPACING.
STATION 168+50    AREA = 53.0 SQ. FT.  .
COUNTY CALLAWAY  RADIUS = 9 IN.  .
PROJECT 5-1-70-426  BORDER = 2 IN.  .
DESCRIPTION GREEN/WHITE GRND MOUNT STR24

                                02000000000000000000000000000000 (PROGRAM SUPPLIED)
                                1 1
                                LINE 1 . 08 070 240 EAST
                                6.00 .
                                8.00 . LINE 2 . 08 S L
                                6.00 . T OUIS
                                10.00 . LINE 3 . 08 7180
                                9.00 . 2

. 11.73 . 34.83 . 50.50 .
. 24.00 SHIELD IN70 . 8.07 S 8 UC .
. 12.00 . 4.00 T 6 LC .
. 24.00 SHIELD US40 . 12.00 . 50.50 .
. 12.00 . 7.50 L 8 UC .
. 6.98 E 8 UC . 7.59 D 6 LC .
. 9.65 A 8 UC . 8.20 U 6 LC .
. 8.03 S 8 UC . 3.75 I 6 LC .
. 5.88 T 8 UC . 5.13 S 6 LC .
. 11.73 . 34.83 .

```



CALLAWAY I-70 54
1"=12"

[illegible]

SIGNING

Sheet 4 of 11

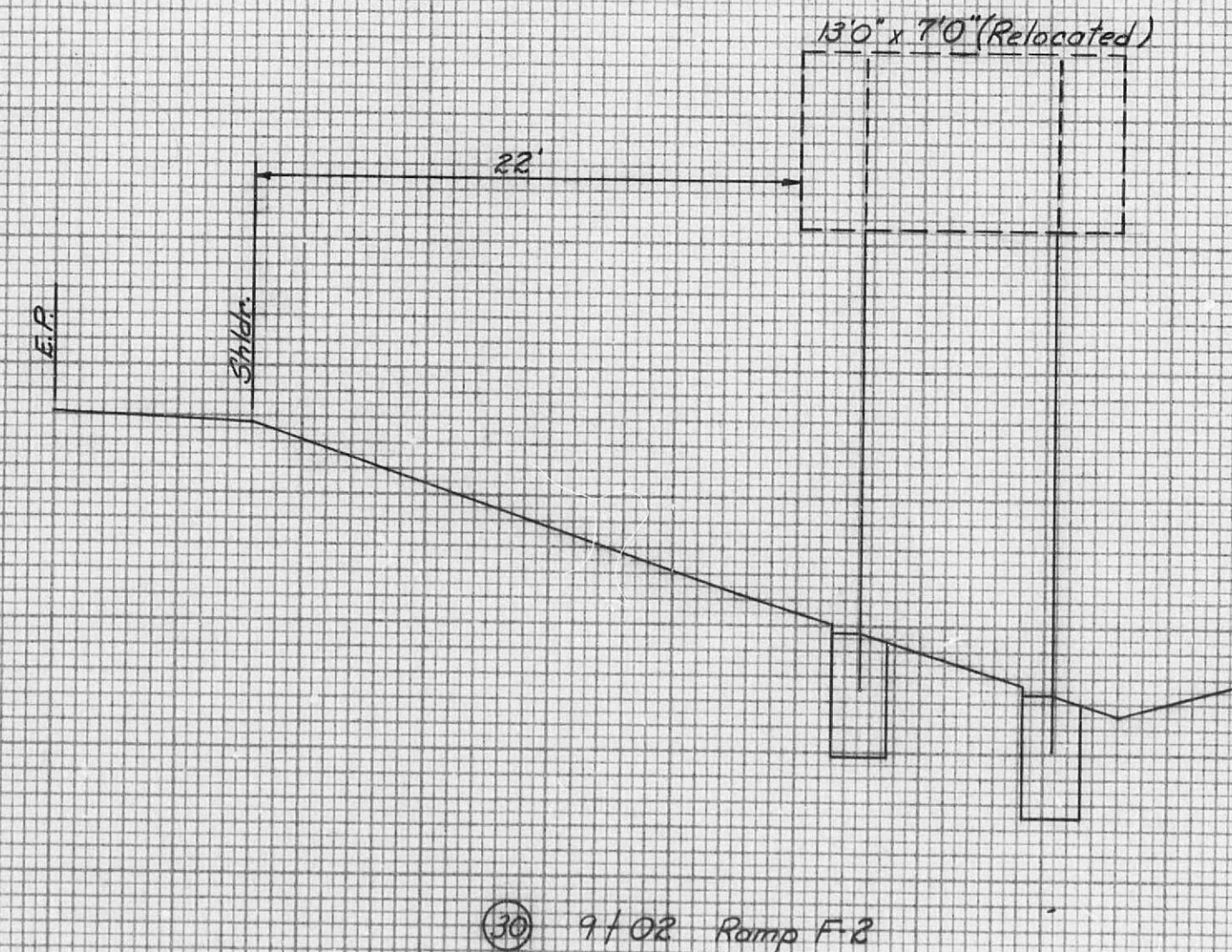
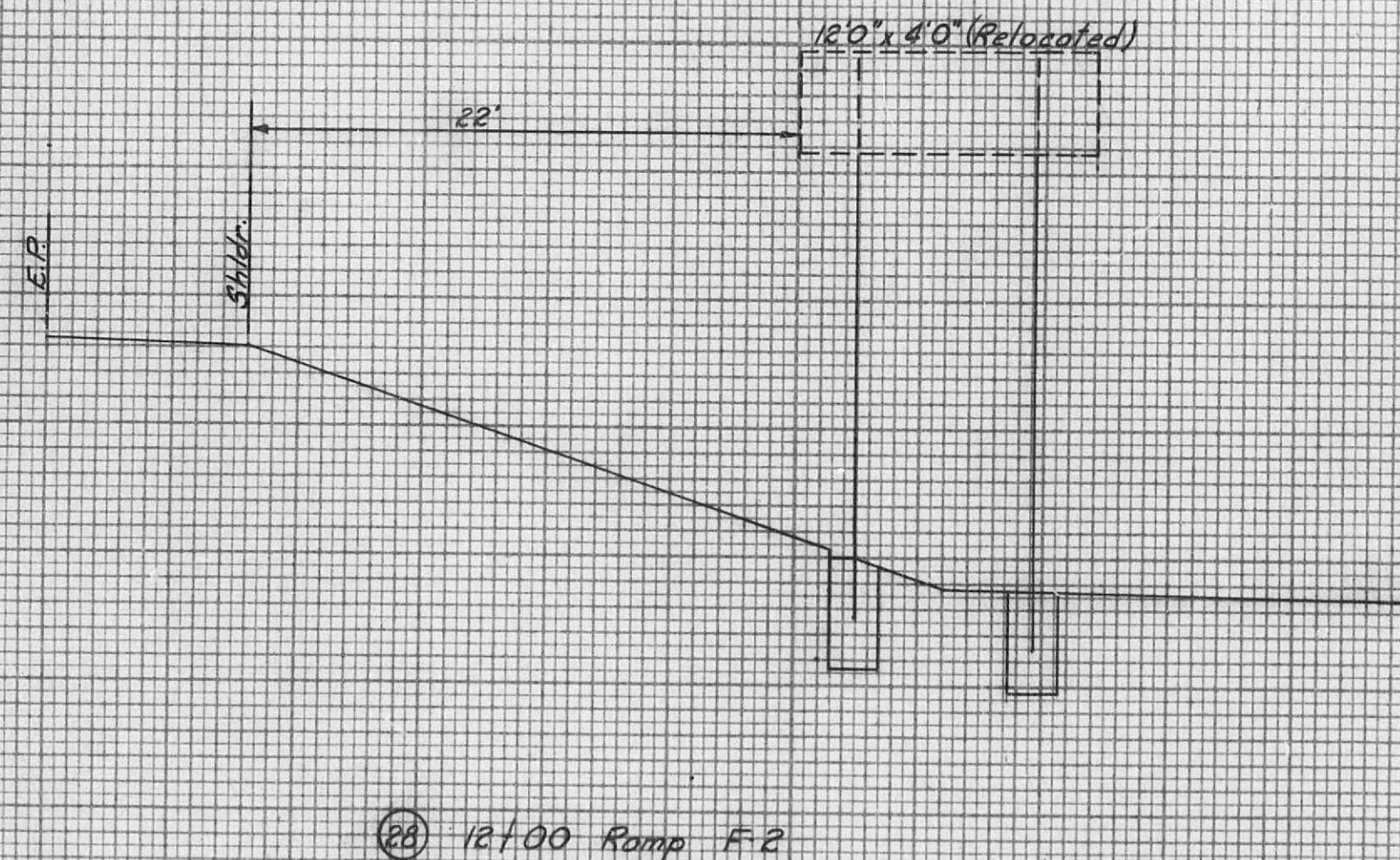
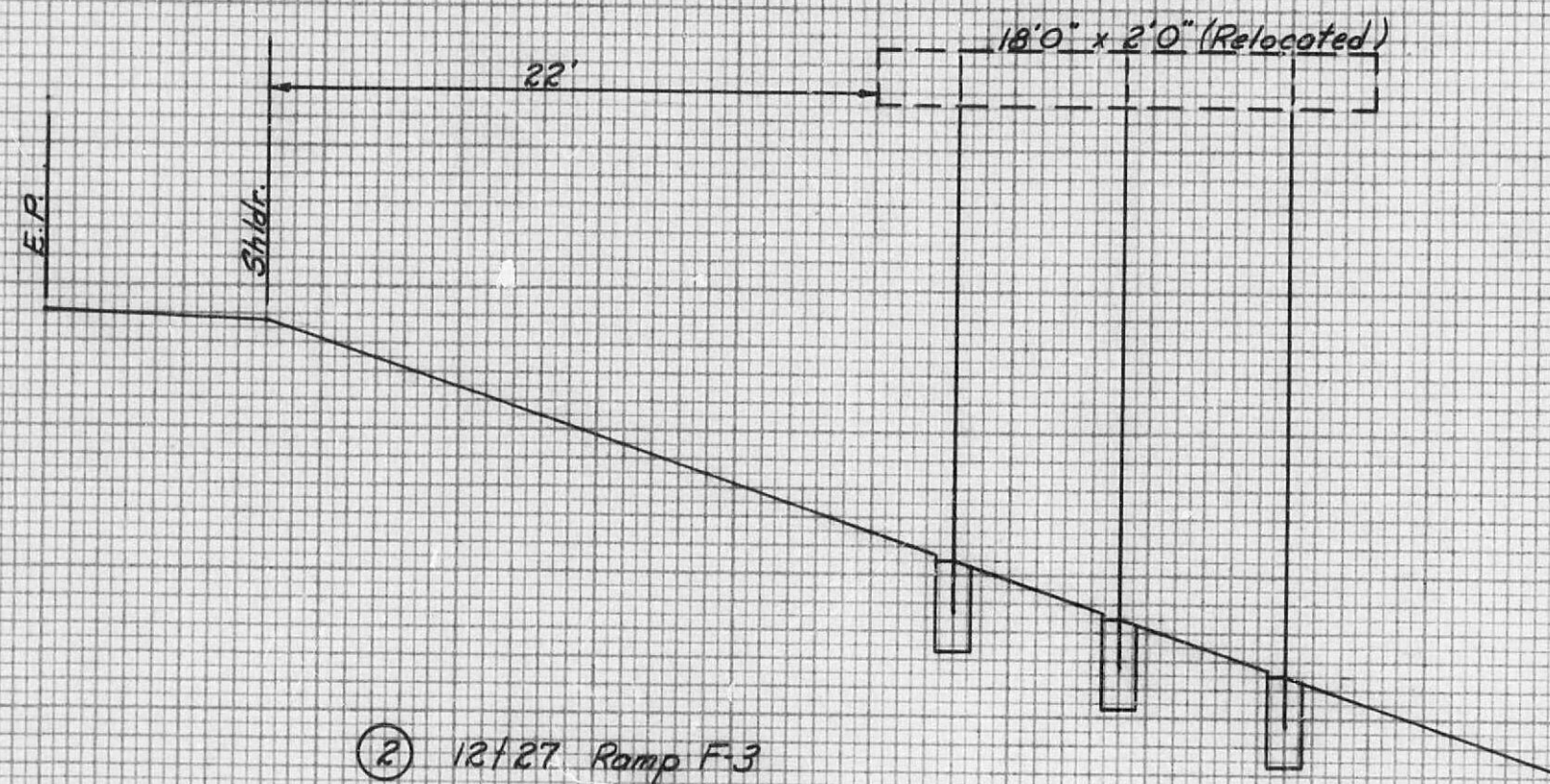
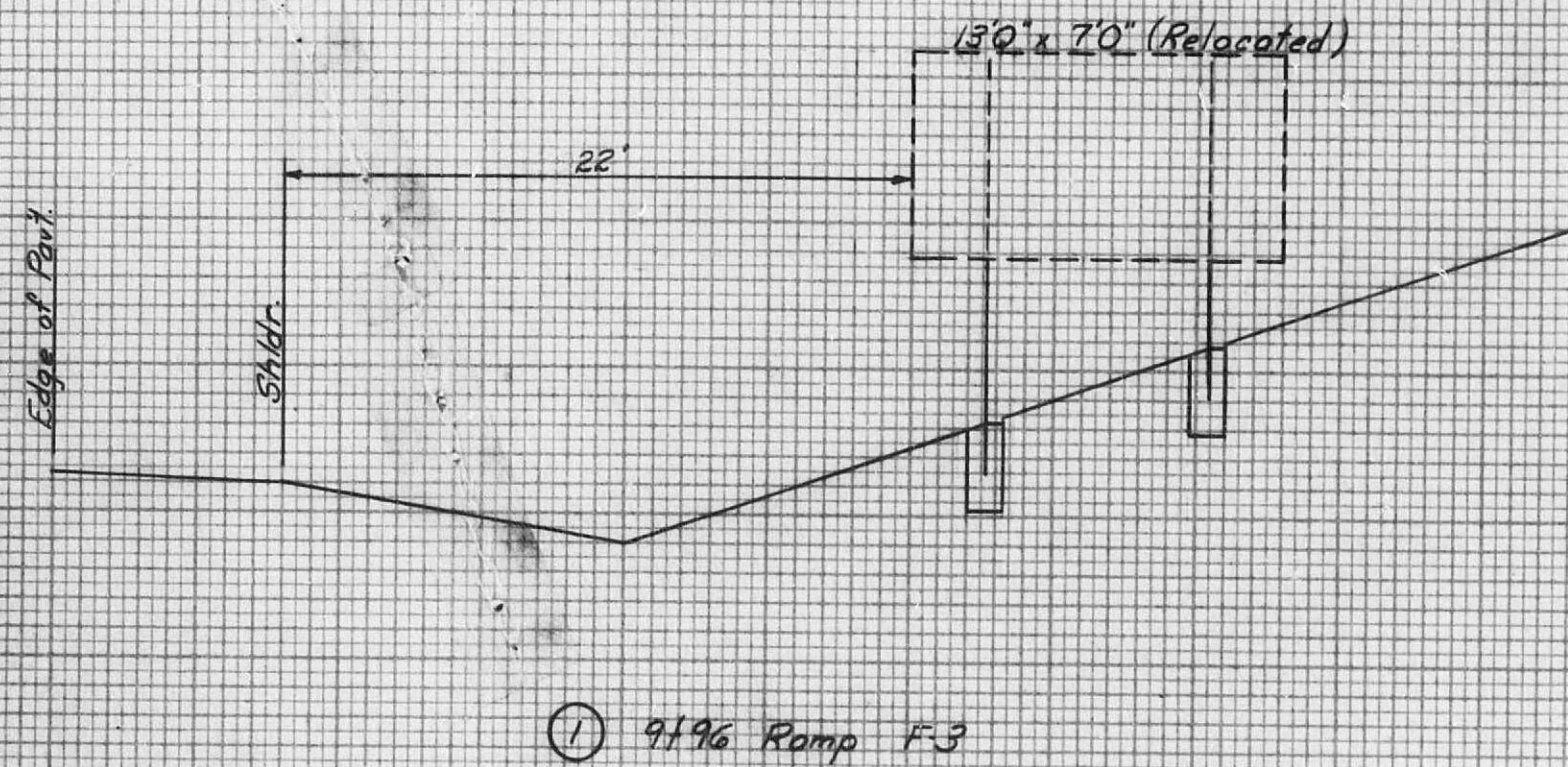
FINAL SURVEY	SURVEYED	DATE
	NOTED	BY
	NOTE BOOK	
	AREAS	
	CHECKED	

ORIGINAL	SURVEYED	DATE
	NOTED	BY
	NOTE BOOK	
	AREAS	
	CHECKED	

4887 355

STATE	JOB NO.	5-I-70-426	SHEET NO.
MO			26
DIST. NO.	PROJECT NO.	IR-IRG-70-3(143)	ROUTE
5	COUNTY	CALLAWAY	I-70

FINAL PLANS

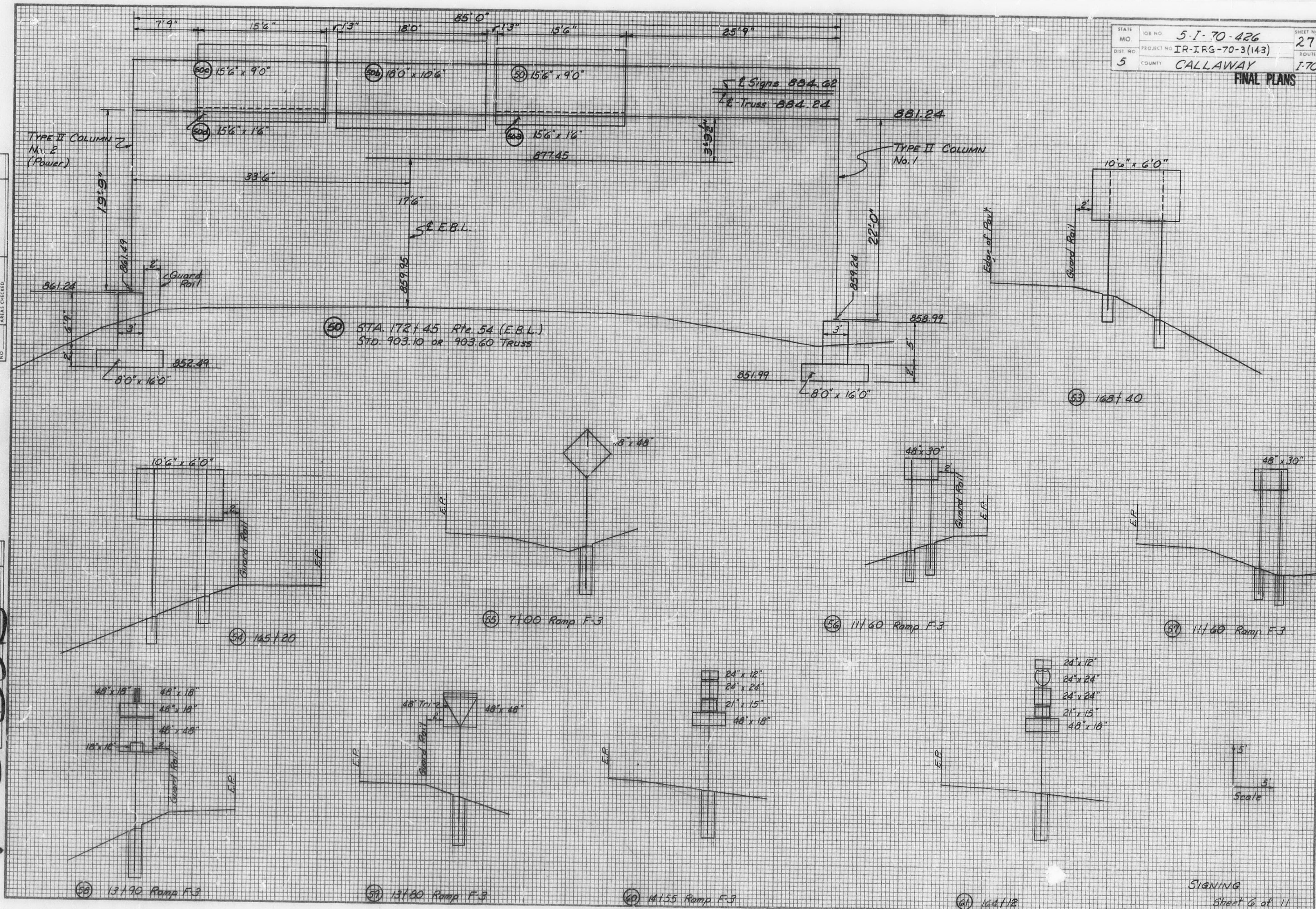


15'
5'
Scale

SIGNING
Sheet 5 of 11

ORIGINAL	INDEXED	BY	DATE
NOTE BOOK	PLOTTED		
NO. _____	TEMP.		
	AREAS		
	AREAS CHECKED		

FINAL PLANS

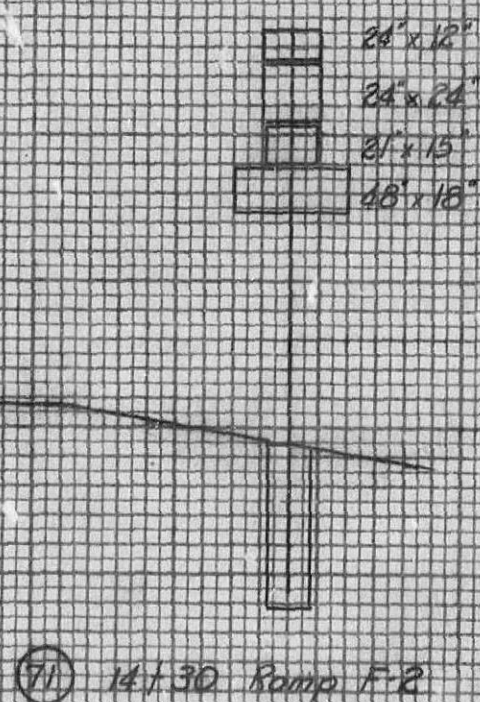
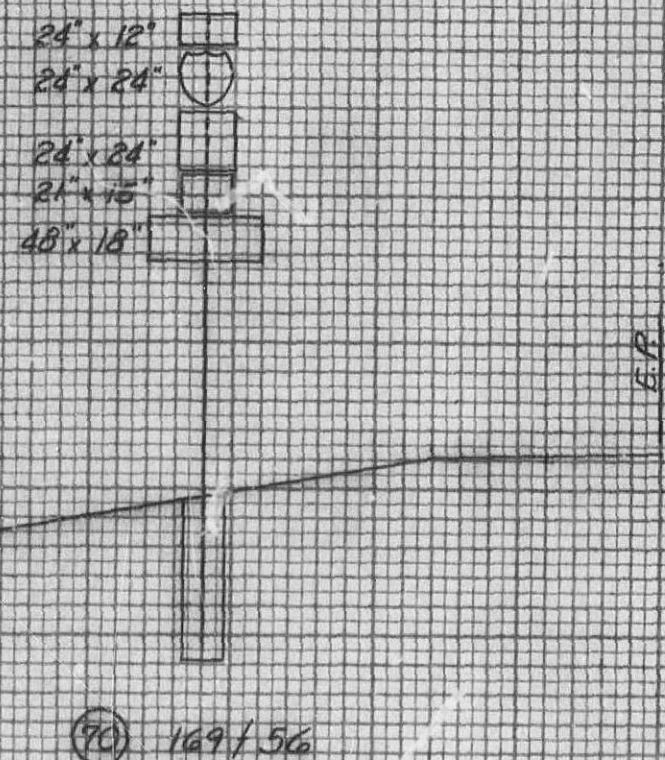
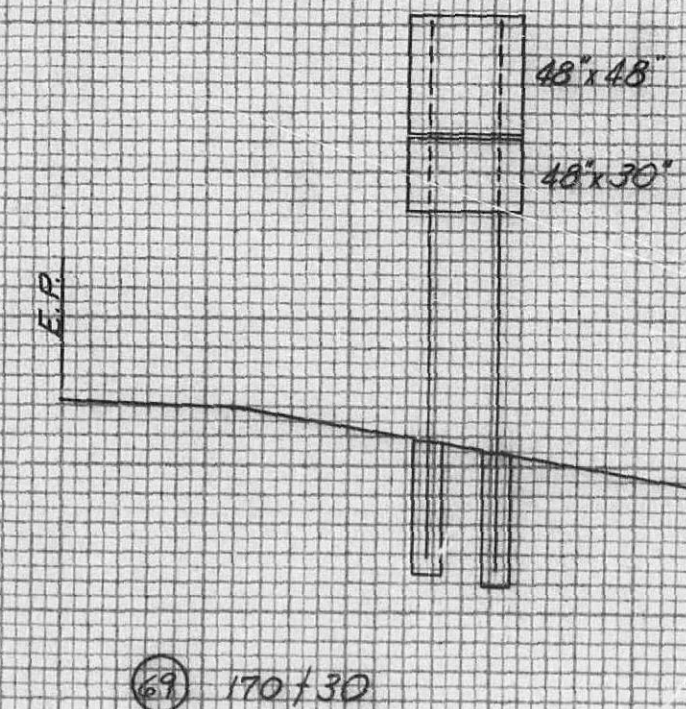
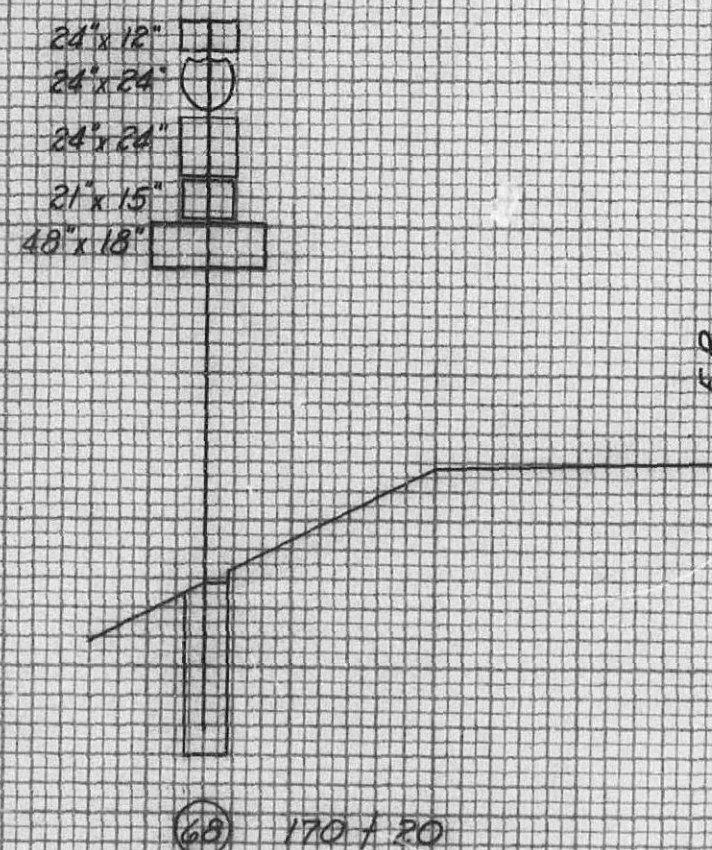
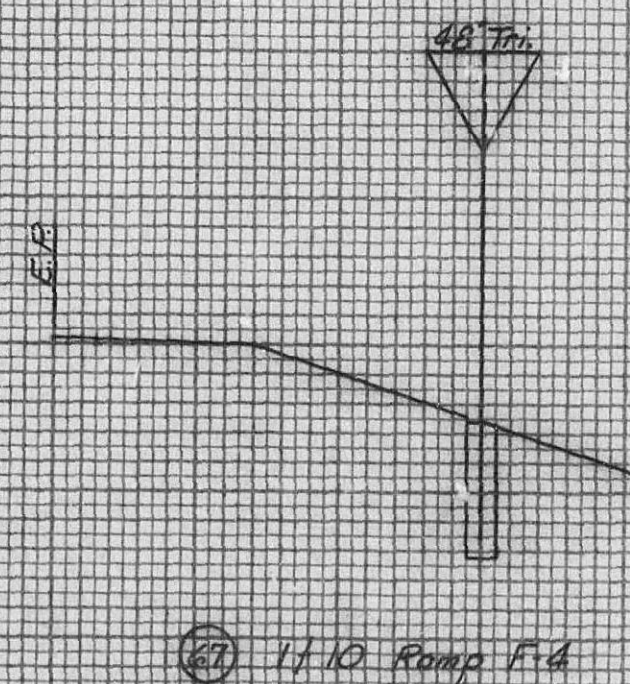
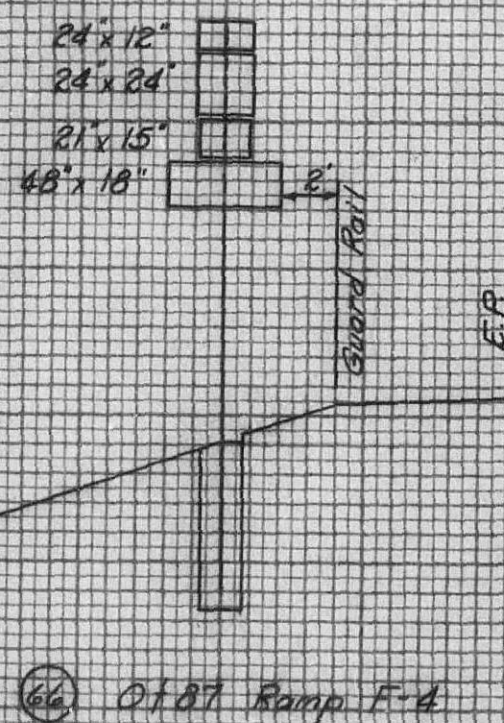
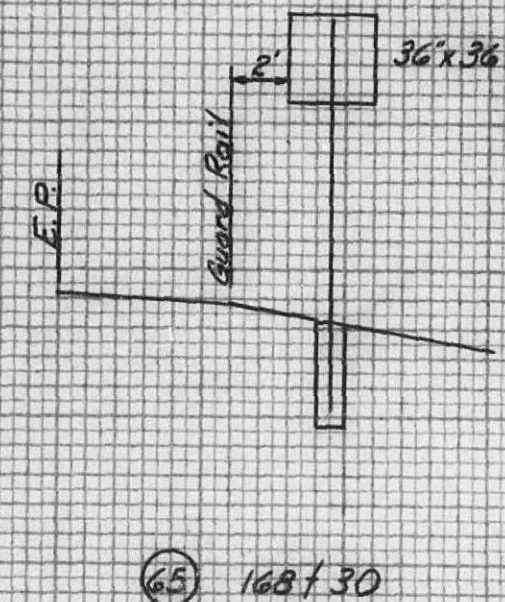
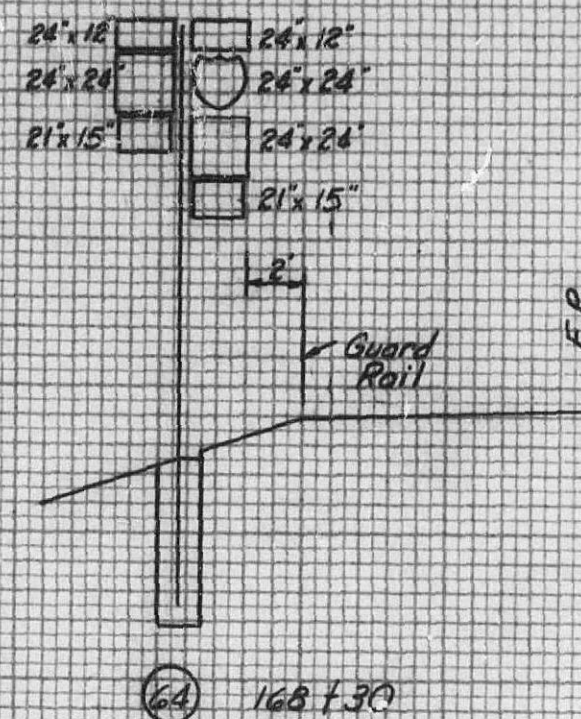
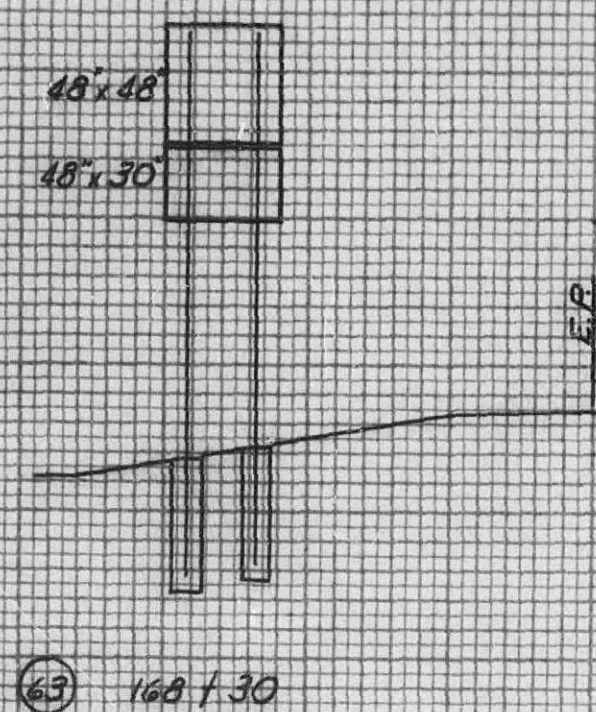
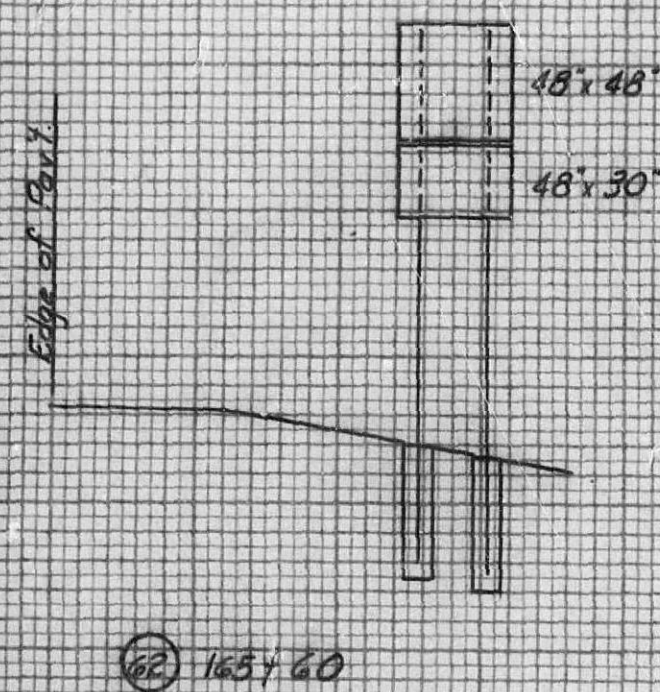


FINAL PLANS

FINAL SURVEY	BY	DATE
SURVEYED		
NOTED		
NO		

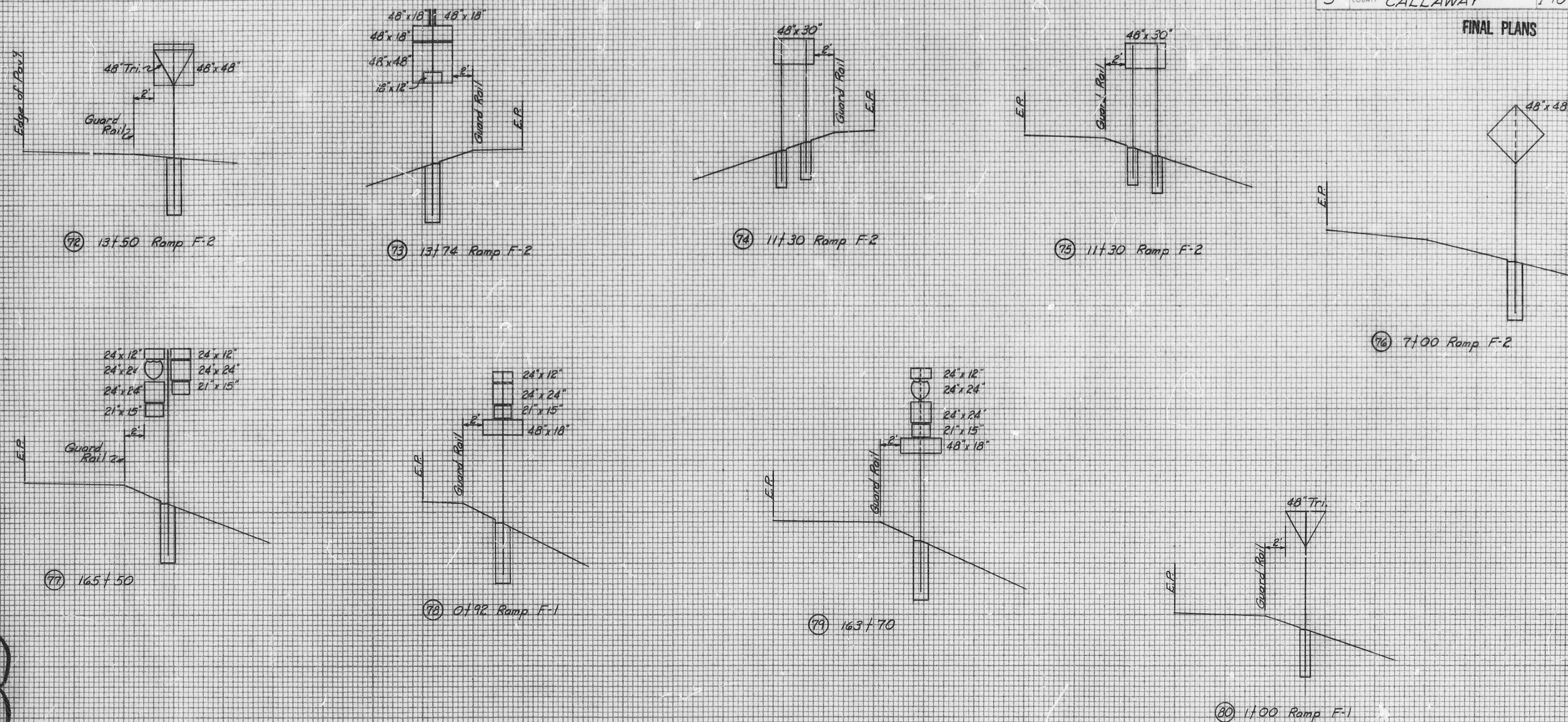
FINAL SURVEY	BY	DATE
SURVEYED		
NOTED		
NO		

404357



Scale

FINAL PLANS



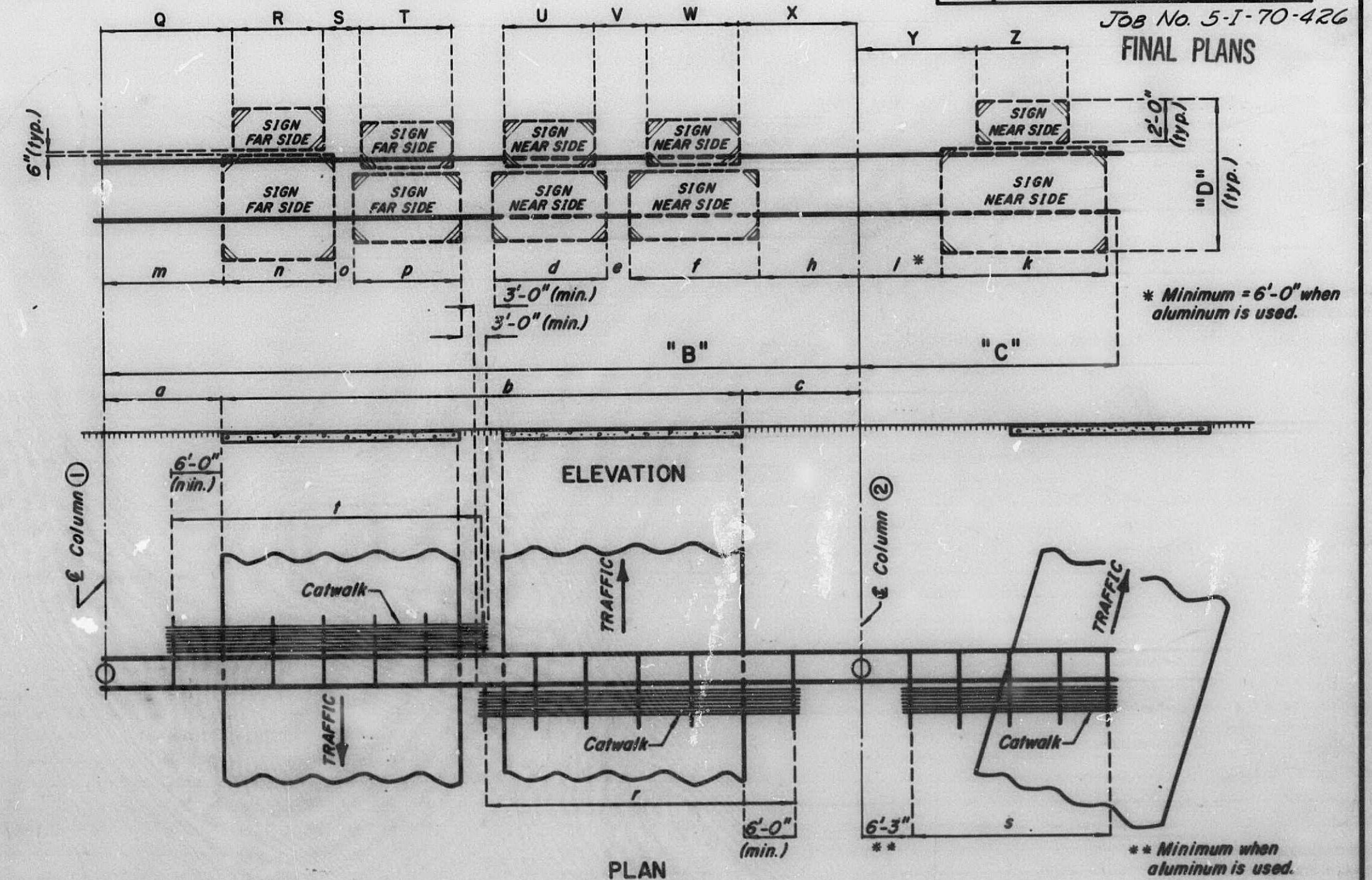
15'
5'
Scale

FINAL SURVEY	DATE
SURVEYED	BY
NOTED	DATE
PLOTTED	BY
AREA	DATE
CHECKED	BY
NO	

ORIGINAL SURVEY	DATE
SURVEYED	BY
NOTED	DATE
PLOTTED	BY
AREA	DATE
CHECKED	BY
NO	

405350

FINAL PLANS



DIMENSIONS

TYPE 'BC' SIGN BRIDGE

Note: Above minimums are recommended dimensions.

[illegible]

CHART FOR PLACING MERCURY LUMINAIRES			
COMINATION OR TOTAL SIGN HEIGHT		LUMINAIRE TO VERTICAL SIGN SUPPORT	
13'-0"	⊗	UNDER	4' - 6 3/4"
13'-11"		TO 14'-0"	6' - 0 1/2"
14'-11"		TO 15'-0"	6' - 9 1/2"
15'-11"		TO 16'-0"	7' - 6 1/2"
16'-11"	⊗	OVER	8' - 3 1/2"

*** Catwalk lengths given are the minimum lengths necessary to reach 3'-0" past all signs and 6'-0" past roadway slab. Lengths may need to be increased because end catwalk supports must be placed at a truss vertical or at a column.

(SEE STANDARD 903.10 OR 903.60)

DESIGN SPECIFICATIONS: A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS -1975.

BASIC ASSUMPTIONS: WIND VELOCITY = 70 MI./HR., WIND PRESSURE ON SIGN AREA = 27 LBS./SQ. FT., ICE LOAD = 3 LBS./SQ. FT.

STRUCTURAL ALUMINUM STRESS = 10,000 LBS./SQ. IN

STRUCTURAL STEEL STRESS = 20,000 LBS./SQ. IN. (A.S.T.M. - A36)

REINFORCING STEEL STRESS = 20,000 LBS./SQ. IN.

CONCRETE CLASS "B" STRESS = 1,200 LBS./SQ. IN.

FOOTING SOIL PRESSURE = 2,750 LBS./SQ. IN.

ALLOWABLE UNIT STRESSES DUE TO WIND LO.

MINIMUM CLEARANCE VERTICAL ROADWAY CLEARANCE = 17' 6"

MINIMUM CLEARANCE: VERTICAL ROADWAY CLEARANCE = 17'-6".

REINFORCEMENT: EMBEDMENT IS 2" CLEAR TO MAIN REINFORCEMENT, EXCEPT AS NOTED.

TRUSS SHALL BE ALL-WELDED CONSTRUCTION. ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN.

QUALIFICATION OF WELDING OPERATORS WILL BE REQUIRED.

STRUCTURAL STEEL WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH A.W.S. SPECIFICATIONS FOR BRIDGES AS AMENDED BY THE MISSOURI HIGH-WAY AND TRANSPORTATION COMMISSION STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS ON STRUCTURAL STEEL CONSTRUCTION. ALUMINUM WELDING AND WELDER QUALIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.2-83.

ALL ALUMINUM FILLET WELDS SHALL BE 3/16" UNLESS OTHERWISE SHOWN.

PAINT: ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED WITH SYSTEM A OR B IN ACCORDANCE WITH STANDARD SPECIFICATIONS 712.12 AND 903.3.4. CONTACT SURFACES OR BOLTED FIELD CONNECTIONS SHALL RECEIVE ONE COAT OF PRIMER AND SURFACES INACCESSIBLE AFTER ERECTION SHALL RECEIVE TWO COATS OF PRIMER. COLOR OF THE FINAL FIELD COAT FOR SYSTEM B SHALL BE ALUMINUM. PAYMENT FOR CLEANING AND PAINTING WILL BE INCLUDED IN CONTRACT UNIT PRICE FOR ITEMS PAINTED. ALL THE STRUCTURAL STEEL MAY BE GALVANIZED IN LIEU OF PAINTING. PORTIONS OF THE STEEL MAY BE GALVANIZED WITH THE APPROVAL OF THE ENGINEER.

PERMITS MUST BE OBTAINED FOR ALL TRUCK LOADS OVER LEGAL LENGTH.

ELECTRICAL: SEE STANDARD PLANS 903.09.

SIGNING
Sheet 9 of 11

APRIL 1986

STANDARD SIGN ASSEMBLIES

SIGN SUMMARY

[illegible]

~~408~~ 361

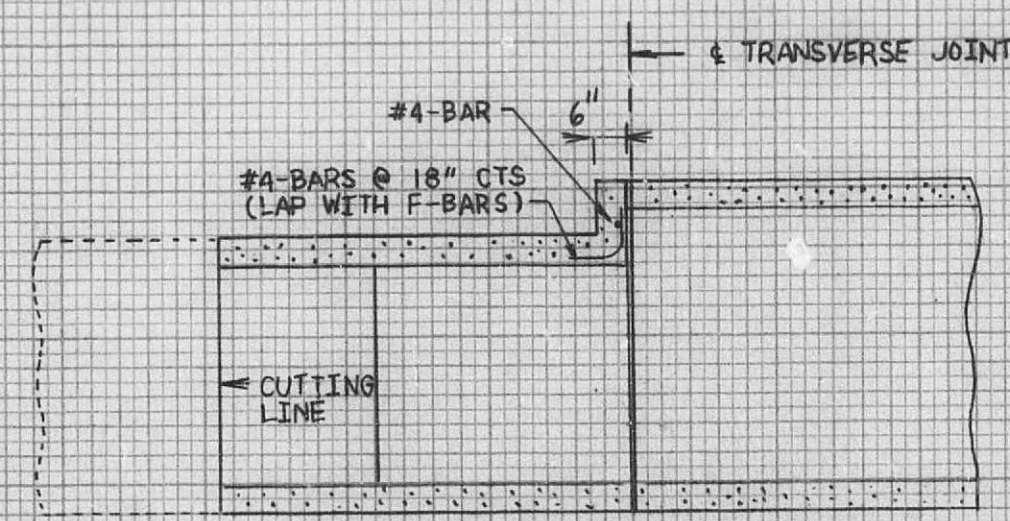
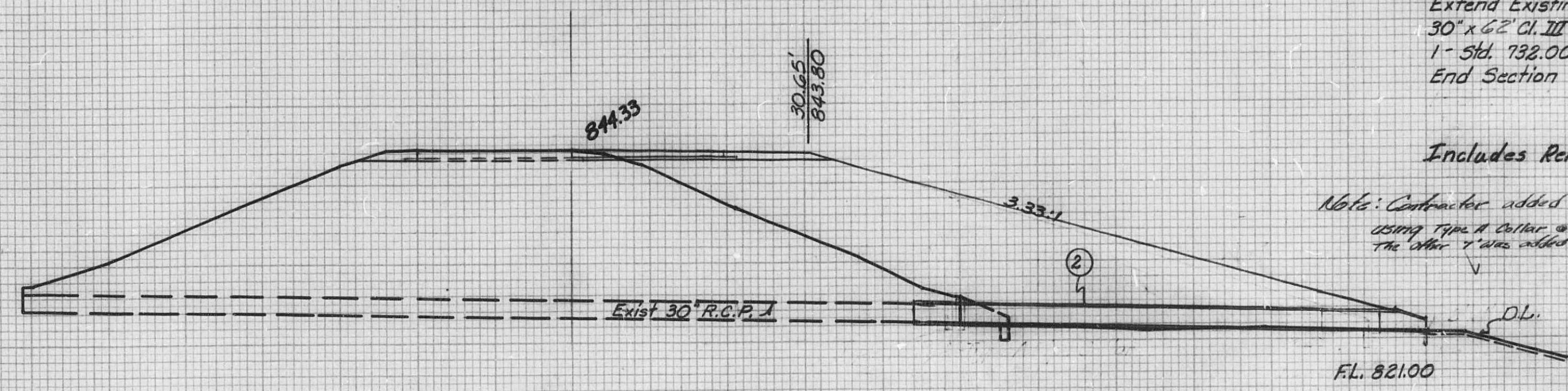
FINAL PLANS

- ② 12+39.57 Ramp F-3 Sk. 24° P.A.
 Extend Existing 30" R.C.P. with
 30" x 62" CI. III R.C.P.
 1-Std. 732.00 Precast Conc. Flared
 End Section

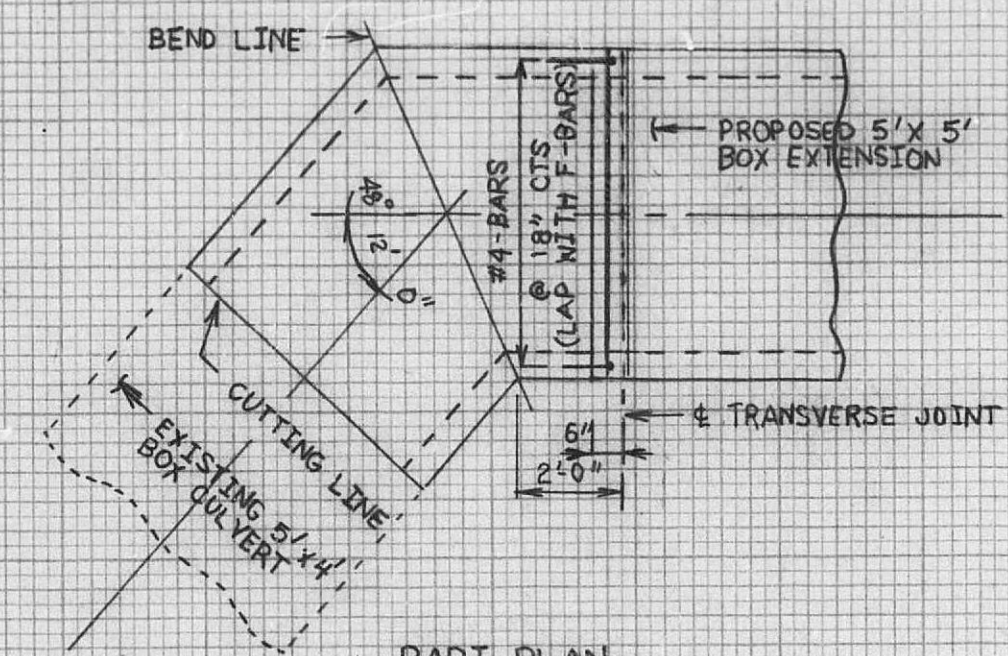
Cl. 3 Exc. 7 C.Y.

Includes Removal of Exist. Hdwall.

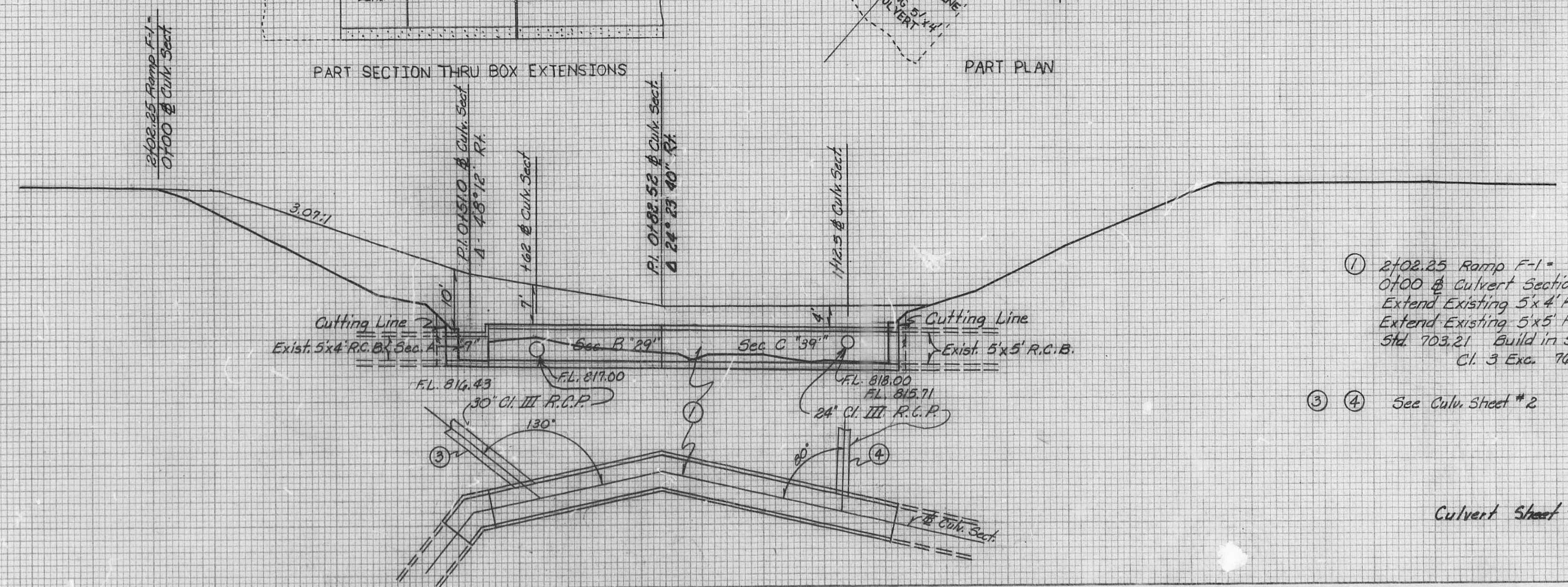
Note: Contractor added 7" of pipe instead of
 using Type A Collar @ no additional class 3 Exc.
 The other 7" was added in PVI stream.



PART SECTION THRU BOX EXTENSIONS



PART PLAN



- ① 2+02.25 Ramp F-1 = Sk. 15° L.A.
 0+00 @ Culvert Section
 Extend Existing 5' x 4' R.C.B. Rt. 7'
 Extend Existing 5' x 5' R.C.B. Rt. 66'
 Std. 703.21 Build in Sections
 Cl. 3 Exc. 76 C.Y.

- ③ ④ See Culv. Sheet #2

Culvert Sheet #1

DATE
 BY
 CHECKED
 NO. 104

DATE
 BY
 CHECKED
 NO. 362

FINAL PLANS
 Sta. 165+65.1 RT & LT - E.B.L.
 2-Std. 609.40 Drain Basins
 8"x10' Unperforated Pipe
 8"x6' Unperforated Pipe
 Include 1-15° Elbow
 Cl. 3 Exc. 11 C.Y.

Sta. 165+67.2 RT & LT of WBL
 2-Std. 609.40 Drain Basins
 8"x8' Unperforated Pipe
 8"x10' Unperforated Pipe
 Include 1-15° Elbow
 Cl. 3 Exc. 17 C.Y.

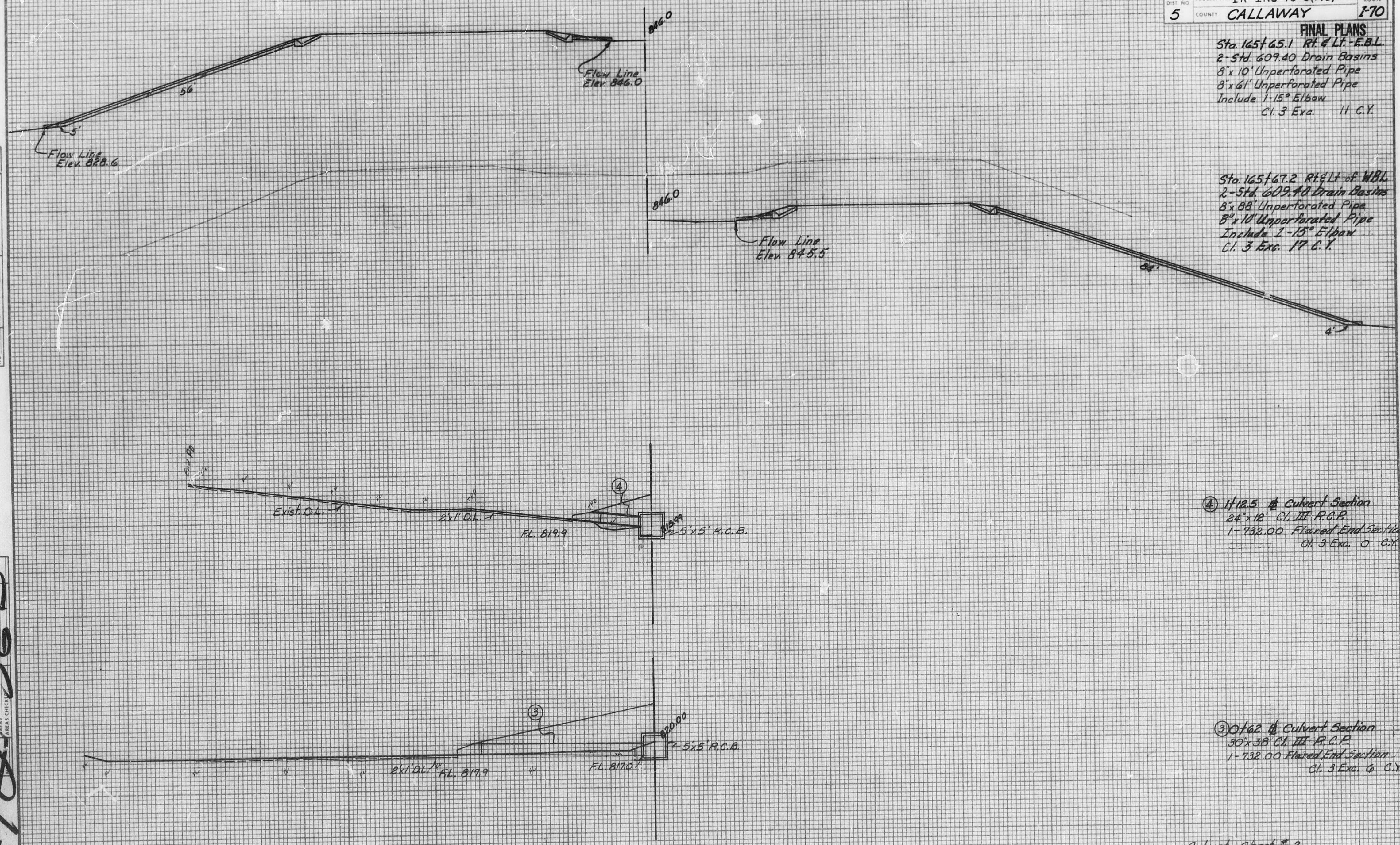
④ 11/12.5' @ Culvert Section
 24"x12' Cl. III R.C.P.
 1-732.00 Flared End Section
 Cl. 3 Exc. 0 C.Y.

③ 07/62' @ Culvert Section
 30"x36' Cl. III R.C.P.
 1-732.00 Flared End Section
 Cl. 3 Exc. 6 C.Y.

Culvert Sheet # 2

FINAL SURVEY
 SURVEYED
 PLOTTED
 NOTE BOOK
 AREAS CHECKED
 NO.

ORIGINAL
 SURVEYED
 PLOTTED
 NOTE BOOK
 AREAS CHECKED
 NO.



ORIGINAL SURVEY	SURVEYED PLOTTED TEMPLATE NEWS	BY	DATE

STATE MO.	JOB NO 5-I-70-426	SHEET NO 35
DIST NO 5	PROJECT NO IR-IRG-70-3 (143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS

⑦ Sta. 169+34.05 Cross-Over
Exist. 18"x47' R.C.P.
Extend Lt. 18"x42' Cl. III R.C.P.
1-3rd. 604.05 Type 3 Hdwl.
Cl. 3 Exc. 5 C.I.

Sta. 164+46.0 Cross-Over
Exist. 12"x39" R.C.P.
(6) Extend Rt. 12"x43" Cl. III R.C.P.
(5) Extend Lt. 12"x21" Cl. III R.C.P.
2'-Std. 604.05 Type 5 Hwll.
1'-Std. 604.40 Type A Pipe Colliar
Cl. 3 Exc. 10 C.Y.

Culvert Sheet # 3

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

WIDEN SUBSTRUCTURE AND SUPERSTRUCTURE EXISTING N.B.L. & S.B.L.
(44', 56', 56') CONTINUOUS CONCRETE SLAB SPANS (VOIDED)

GR.ELEV.853.38 @ RDWY. (N.B.L.)
GR.ELEV.853.30 @ RDWY. (S.B.L.)

STATE	PROJ. NO.	SHEET NO.
MO.	IR-IRG-70-3 (43)	36
SEC./SUR.	9 TWP. 48N RGE. 9W	

GR.ELEV.849.27 @ RDWY. (N.B.L.)
GR.ELEV.849.18 @ RDWY. (S.B.L.)

+1.943% N.B.L., +1.949% S.B.L.

NOTE: ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE FILL FACE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.

ELEV. 825.0

ELEV. 824.0 N.B.L.
ELEV. 823.0 S.B.L.

ELEV. 825.0

** 4" CONCRETE SLOPE PROTECTION
(EXTEND THRU MEDIAN) (2:1 SLOPE
NORMAL) (RDWY. ITEM)

GROUND LINE (SURVEY DATE-1989)

GENERAL ELEVATION

GENERAL NOTES:

DESIGN SPECIFICATIONS: A.A.S.H.T.O.-1989 LOAD FACTOR DESIGN

DESIGN LOADING:

HS20-44 MODIFIED 24000# TANDEM AXLE
NO FUTURE WEARING SURFACE.

EARTH 120#/CU.FT. EQUIVALENT FLUID PRESSURE
45#/CU.FT.

DESIGN UNIT STRESSES:

CLASS B CONCRETE (FOOTINGS) $f'_c=3000$ PSI.
CLASS B1 CONCRETE (SAFETY BARRIER CURB, INT BENT COLUMNS AND
END BENTS BELOW LOWER CONST.JT.) $f'_c=4,000$ PSI
CLASS B2 CONCRETE (SUPERSTRUCTURE EXCEPT SAFETY BARRIER
CURB) $f'_c=4000$ PSI
REINFORCING STEEL (GRADE 60) $f_y=60,000$ PSI

REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE
1 1/2" UNLESS OTHERWISE SHOWN.

BARS BONDED IN OLD CONCRETE NOT REMOVED SHALL
BE CLEANLY STRIPPED AND EMBEDDED INTO NEW CONCRETE
WHERE POSSIBLE. IF LENGTH IS AVAILABLE, OLD BARS
SHALL EXTEND INTO NEW CONCRETE AT LEAST 40
DIAMETERS FOR SMOOTH BARS AND 30 DIAMETERS FOR
DEFORMED BARS.

JOINT FILLER

ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF
STD. SPEC. 1057.2.4 EXCEPT AS NOTED.

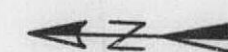
CONSTRUCTION CLEARANCE:

FALSEWORK OVER EXISTING LANES SHALL BE CONSTRUCTED WITH A
MINIMUM VERTICAL CLEARANCE OF 14'-3" FROM CROWN OF EXISTING
LANES AND A MINIMUM LATERAL CLEARANCE OF 28'-0" CENTERED
ON EXISTING LANES.

OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED
LINES. HEAVY LINES INDICATE NEW WORK.

TRAFFIC OVER STRUCTURE TO BE MAINTAINED DURING CONSTRUCTION.
FOR DETAILS OF STAGE CONSTRUCTION, SEE SHEETS NO. 5 & 6.

NOTE: FOR ESTIMATED QUANTITIES AND PILE DATA, SEE SHEET NO. 2.
● INDICATES LOCATION OF BORING. FOR BORING DATA,
SEE SHEETS NO. 3 & 4.



B.M. ELEV.849.83 X ON N.E. WINGWALL AT N. END EBL BR. RTE. 54.

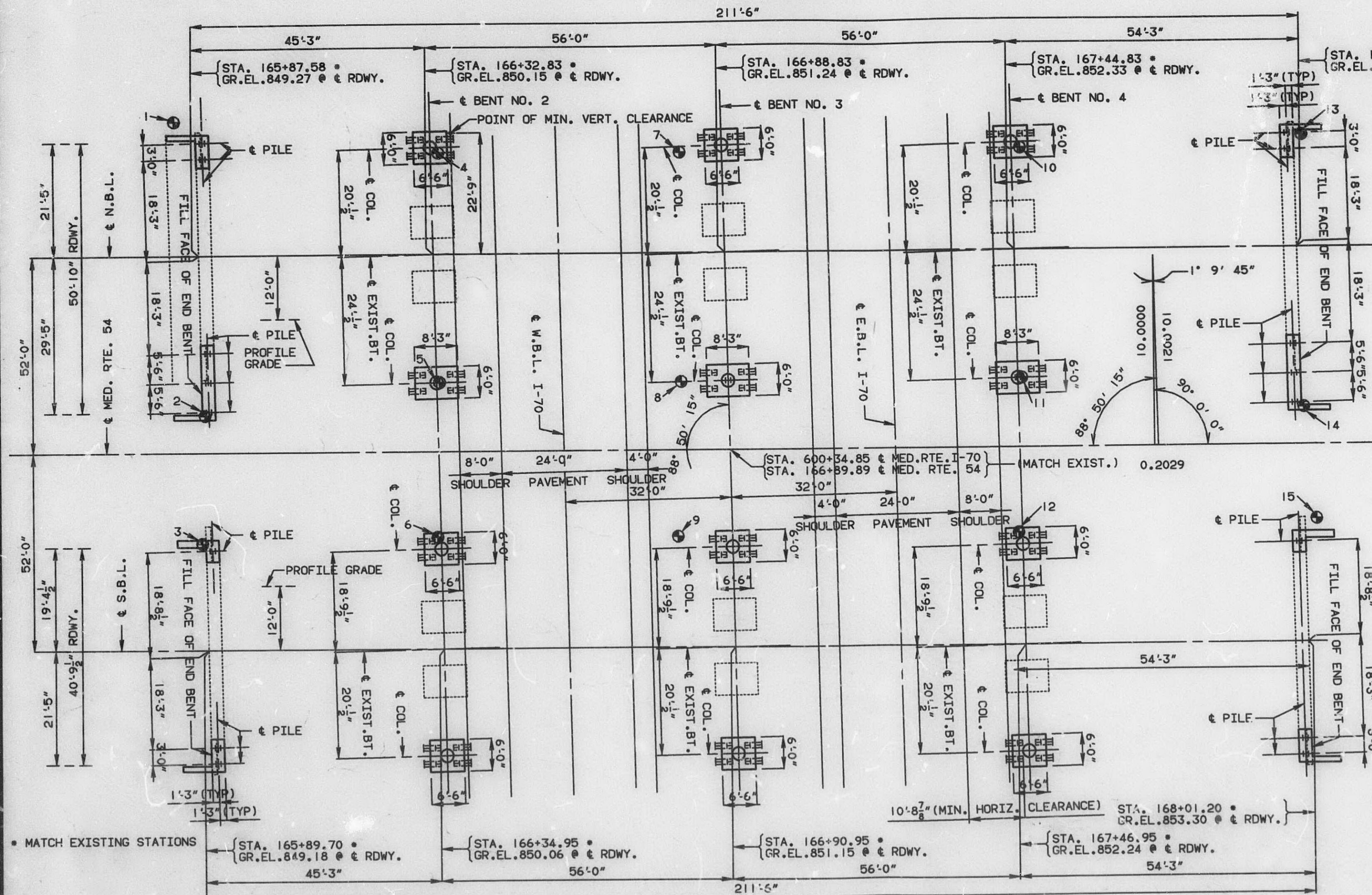
BRIDGE: RTE. 54 UNDERPASS

STATE ROAD: INTERSTATE ROUTE 70
IN KINGDOM CITY

PROJECT NO. IR-IRG-70-3 (43) STA. 600+34.85
JOB NO. 5I 426-70 RTE. I-70

CALLAWAY COUNTY

STD. 611.60
STD. 606.22
STD. 706.35
L-964R



PLAN

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SEE FINAL PLANS

SHEET NO. 1 OF 26

DESIGNED MAR. 1990
DETAILED MAR. 1990
CHECKED APR. 1990

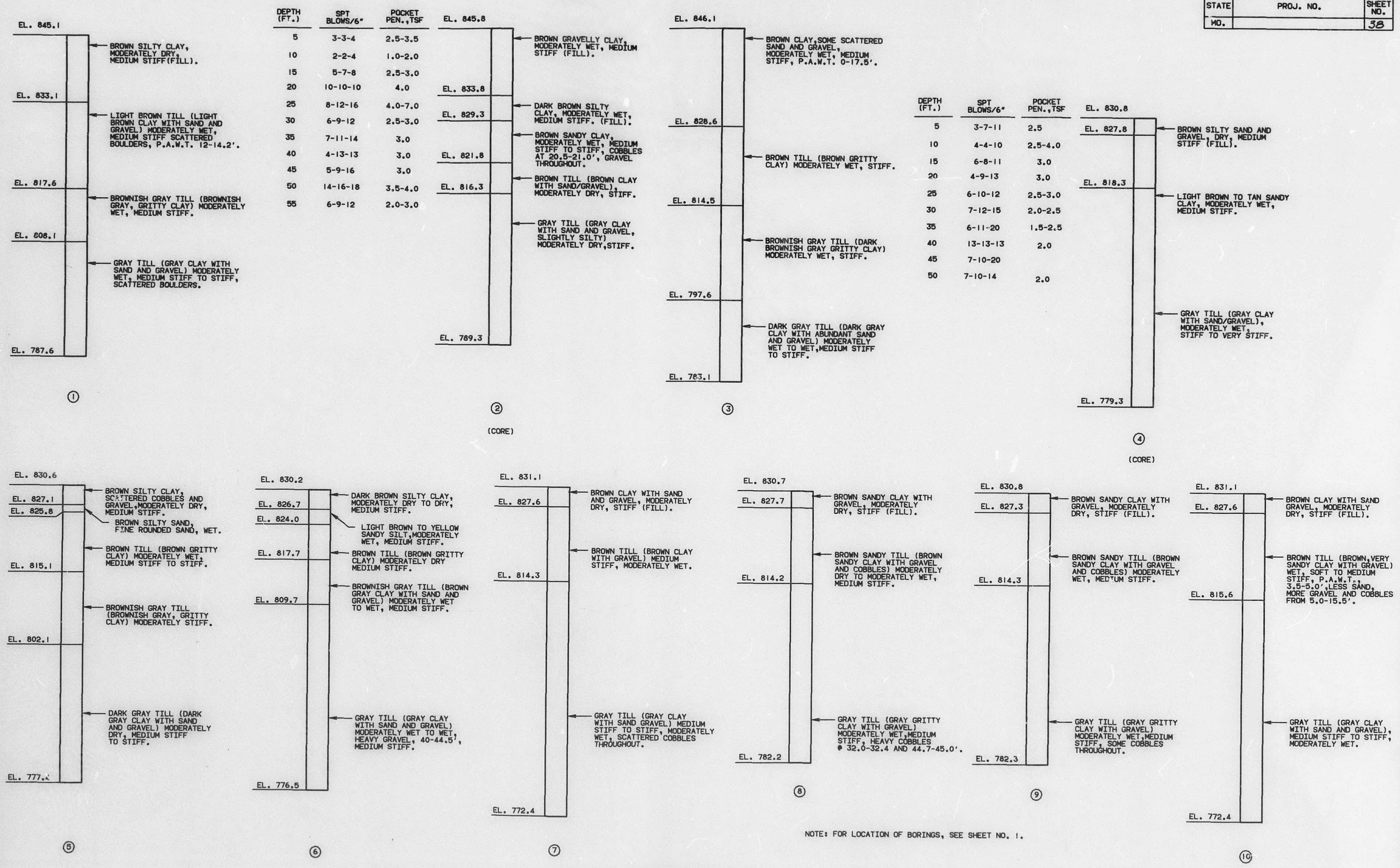
442 365

ESTIMATED QUANTITIES		N.B.L.		S.B.L.		
ITEM		SUBSTR.	SUPERSTR.	SUBSTR.	SUPERSTR.	TOTAL
REMOVAL AND STORAGE OF EXISTING BRIDGE RAIL	LIN.FT.		406		406	812
CURB REMOVAL	LIN.FT.		423		423	846
PARTIAL REMOVAL OF SUBSTRUCTURE CONCRETE	LUMP SUM					1
ASPHALT REMOVAL	SQ. FT.		5979		—	5979
CLASS 1 EXCAVATION	CU.YD.	150		120		270
STRUCTURAL STEEL PILES (12")	LIN.FT.	637		529		1166
PREBORE FOR PILING	LIN.FT.	68		40		108
PILE POINT REINFORCEMENT	EACH	37		30		67
CLASS B CONCRETE	CU.YD.	29.4		26.1		55.5
SUPERSTRUCTURE REPAIR (UNFORMED) SEE SPECIAL PROVISIONS	SQ. FT.		400		400	800
CLASS B1 CONCRETE	CU.YD.		36.5		31.0	67.5
CLASS B2 CONCRETE	CU.YD.		334.3		188.5	522.8
SAFETY BARRIER CURB	LIN.FT.		445		445	890
REPAIRING CONCRETE DECK (HALF-SOLING)	SQ. FT.		900		900	1800
MICROSILICA CONCRETE WEARING SURFACE	SQ. YD.		922		959	1881
REINFORCING STEEL	LBS.	1970	6040	1740	5730	15,480
REINFORCING STEEL (EPOXY COATED)	LBS.		79,820		47,540	127,360

NOTE: ALL REINFORCEMENT IN END BENTS AND INTERMEDIATE BENT COLUMNS IS INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
 ALL CONCRETE IN THE END BENTS AND INTERMEDIATE BENT COLUMNS IS INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
 ALL CONCRETE IN THE END BENTS ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.

PILE DATA (N.B.L.)						
BENT NO.		1	2	3	4	5
PILE TYPE AND SIZE		HP12X53	HP12X53	HP12X53	HP12X53	HP12X53
NUMBER		5	4 LT., 5 RT.	4 LT., 5 RT.	4 LT., 5 RT.	5
APPROXIMATE LENGTH FT.		21	13	14	26 LT., 12 RT.	25
DESIGN BEARING TONS		30	27 LT., 41 RT.	27 LT., 41 RT.	27 LT., 44 RT.	34
MINIMUM TIP PENETRATION ELEV.		825.0	815.0	814.0	815.0	825.0
HAMMER ENERGY REQUIRED FT.-LBS.		7000	7000 LT., 9600 RT.	7000 LT., 9600 RT.	7000 LT., 10,400 RT.	7400
PILE DATA (S.B.L.)						
BENT NO.		1	2	3	4	5
PILE TYPE AND SIZE		HP12X53	HP12X53	HP12X53	HP12X53	HP12X53
NUMBER		3	8	8	8	3
APPROXIMATE LENGTH FT.		34	14	13	14	33
DESIGN BEARING TONS		34	27	27	27	38
MINIMUM TIP PENETRATION ELEV.		825.0	813.0	813.0	813.0	825.0
HAMMER ENERGY REQUIRED FT.-LBS.		7400	7000	7000	7000	8400

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER BASED ON PLAN LENGTH OF PILES.
 ALL PILE SHALL BE DRIVEN TO THE MINIMUM PENETRATIONS AND TO NOT LESS THAN THE DESIGN BEARINGS NOTED.
 PREBORE FOR PILES AT END BENT NO. 1 TO ELEV. 830.0.
 MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES IN THIS STRUCTURE. SEE SPECIAL PROVISIONS.



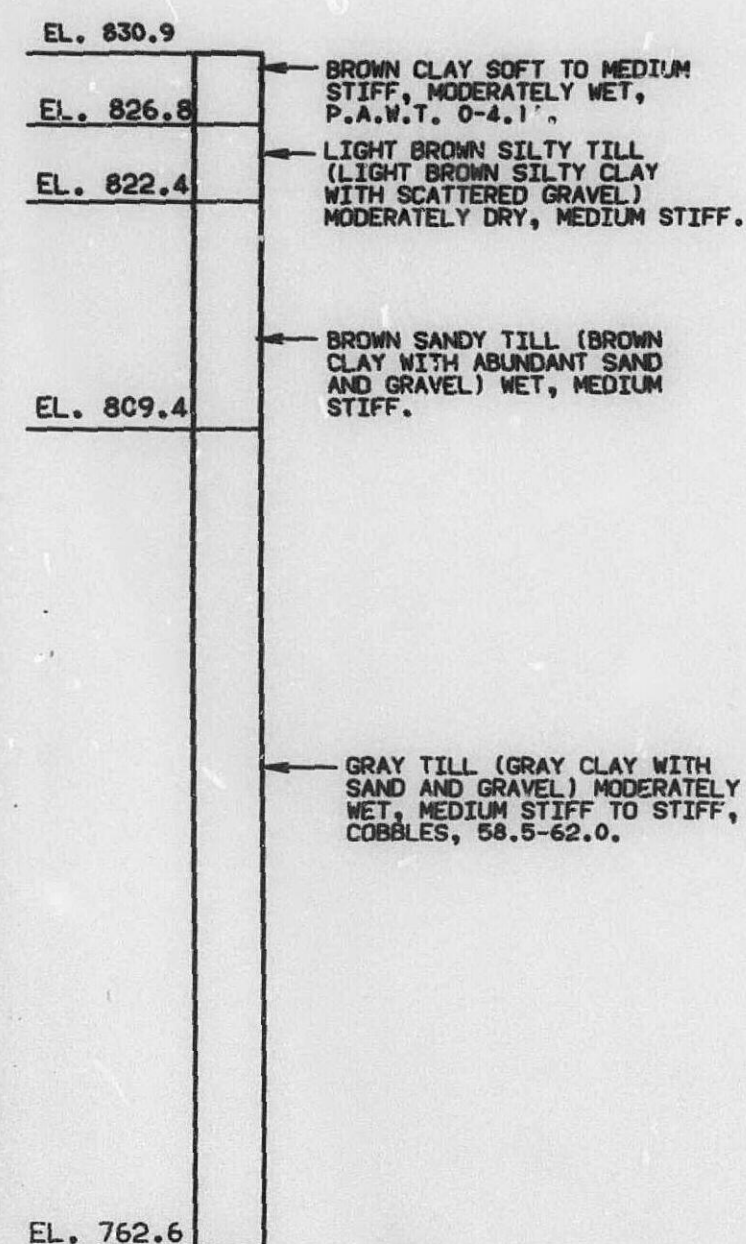
44-367

BORING DATA

DETAILED APR. 1990
CHECKED APR. 1990

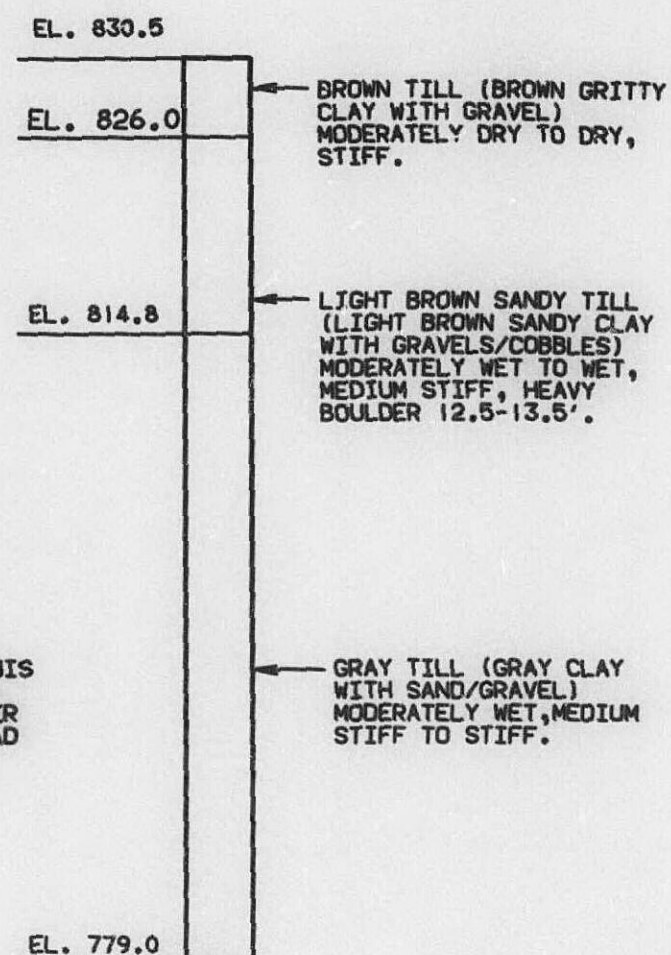
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 3 OF 26

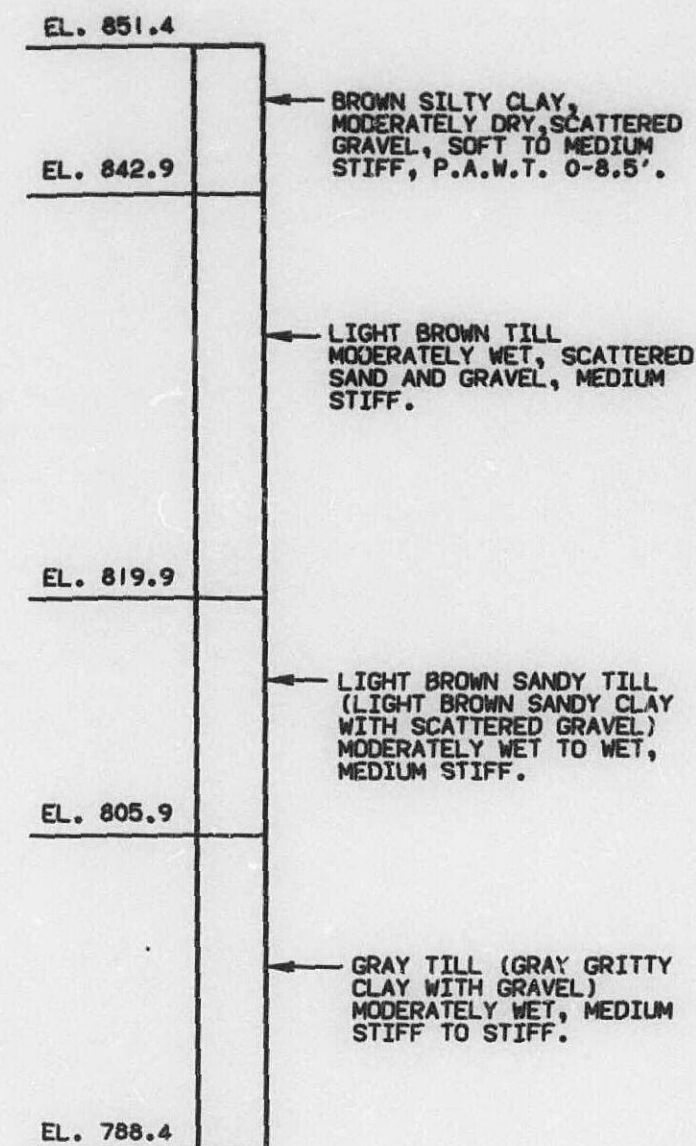


DEPTH (FT.)	SPT BLOWS/6"	POCKET PEN., TSF
5	7-12-13	5.8
10	4-9-14	4.0-4.5
15	1-4-8	2.0
20	8-10-13	2.5
25	4-9-13	2.5
30	7-11-13	2.5
35	7-11-18	3.0
40	7-11-13	2.5
45	7-6-4	2.5
50	9-16-17	2.5

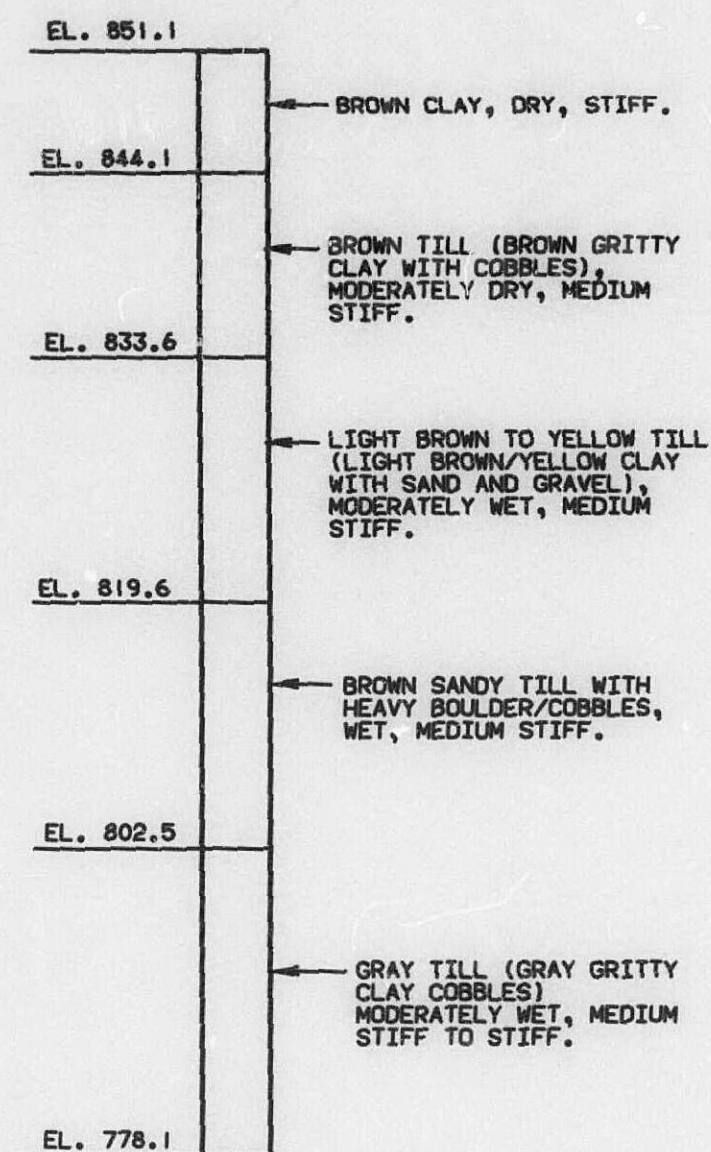
* NOTE: THE BLOW COUNT FOR THIS INTERVAL IS IN ERROR BECAUSE DRILL STRING WAS NOT AT PROPER DEPTH. SAMPLED FALL-IN INSTEAD OF NATURAL GROUND.



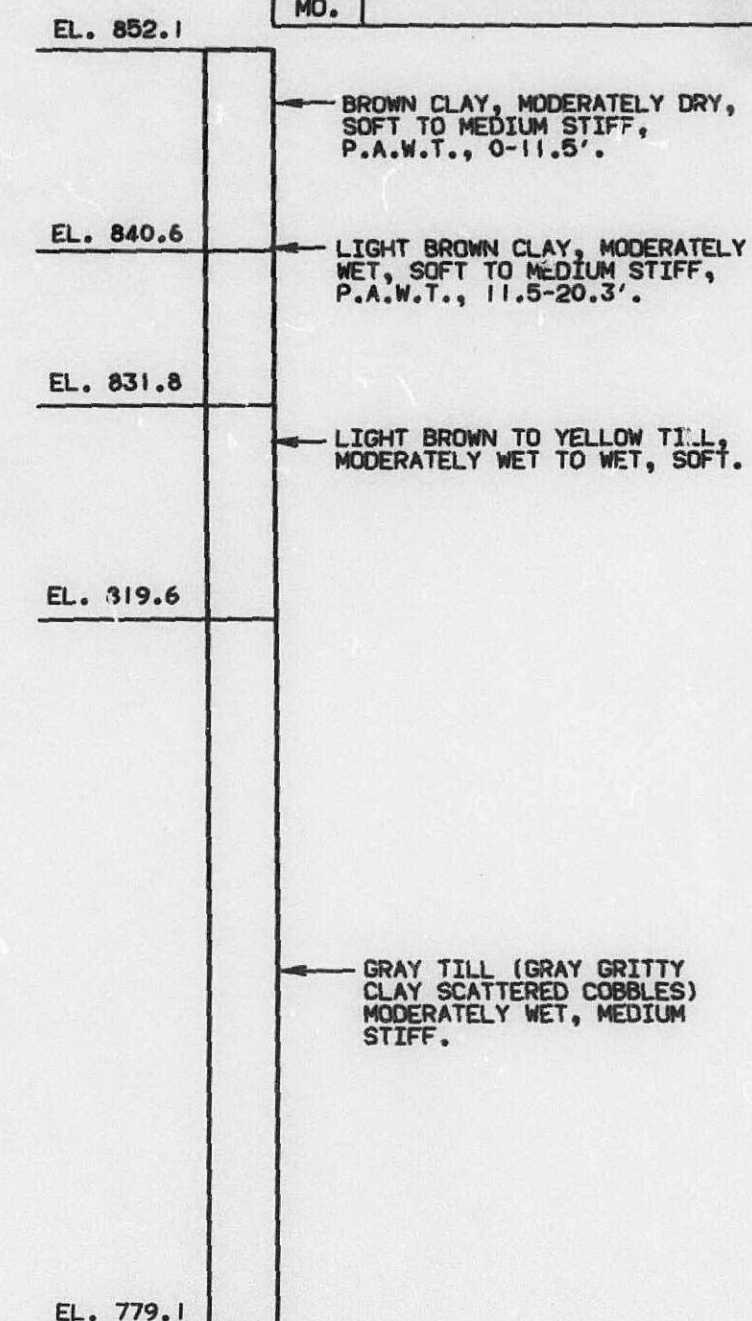
(12)
(CORE)



(13)



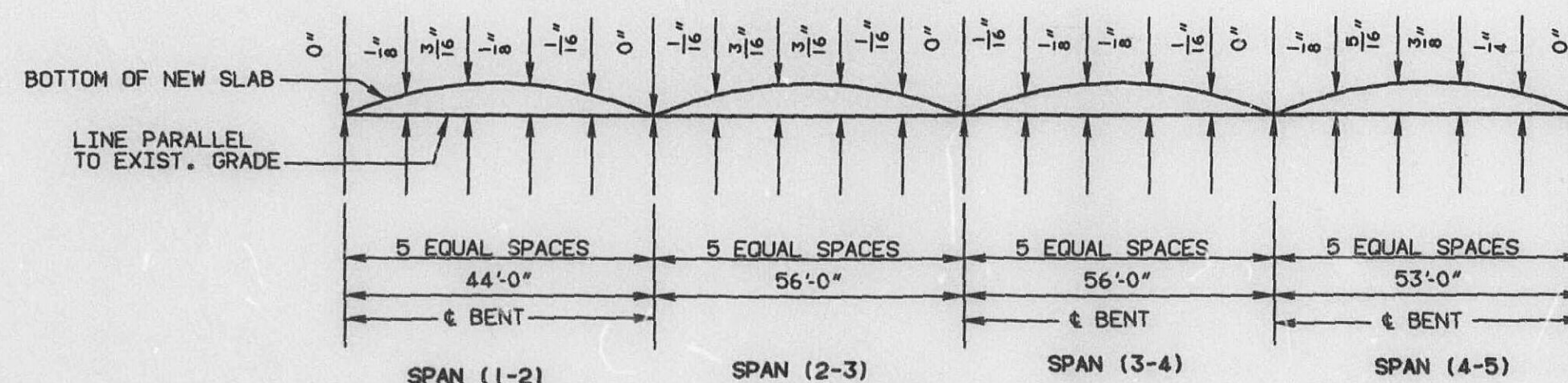
(14)



(15)

NOTE: FOR LOCATION OF BORINGS, SEE SHEET NO. 1.

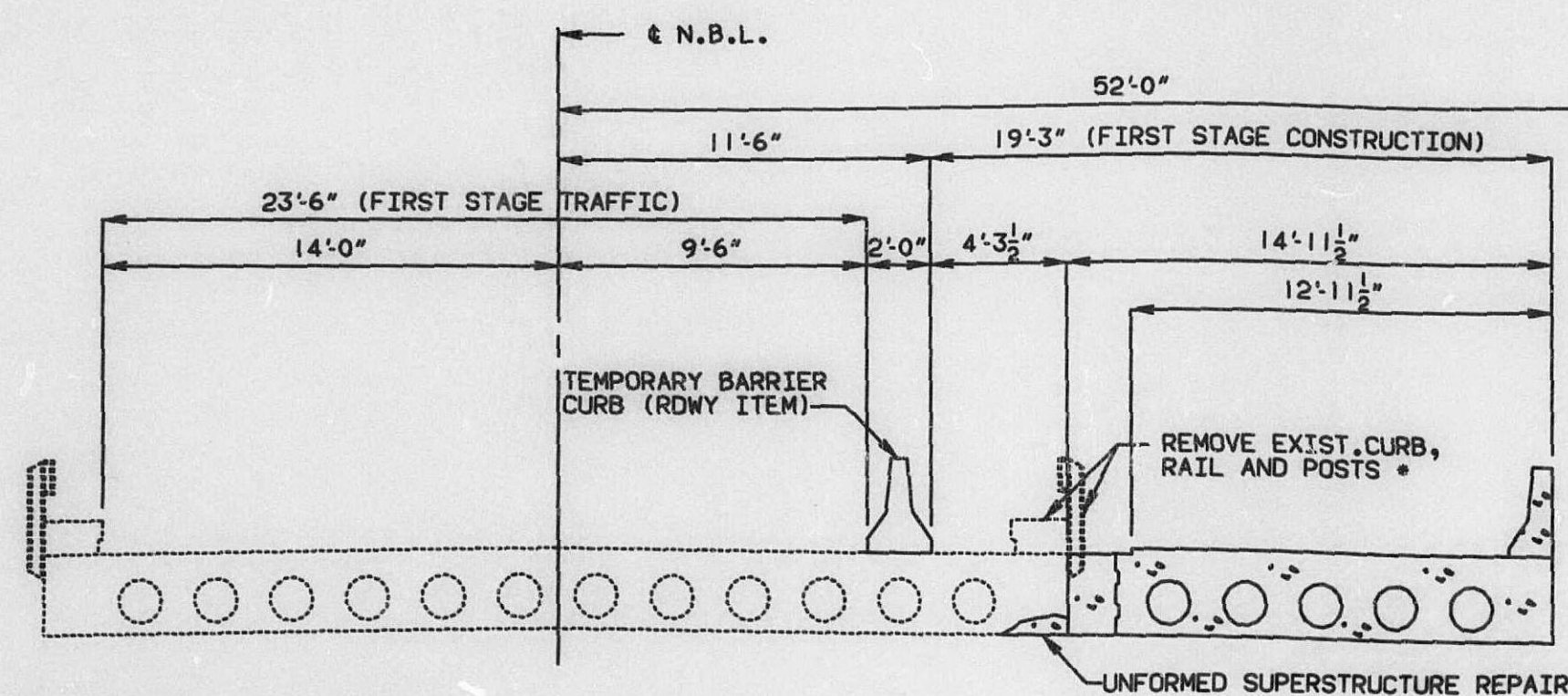
BORING DATA



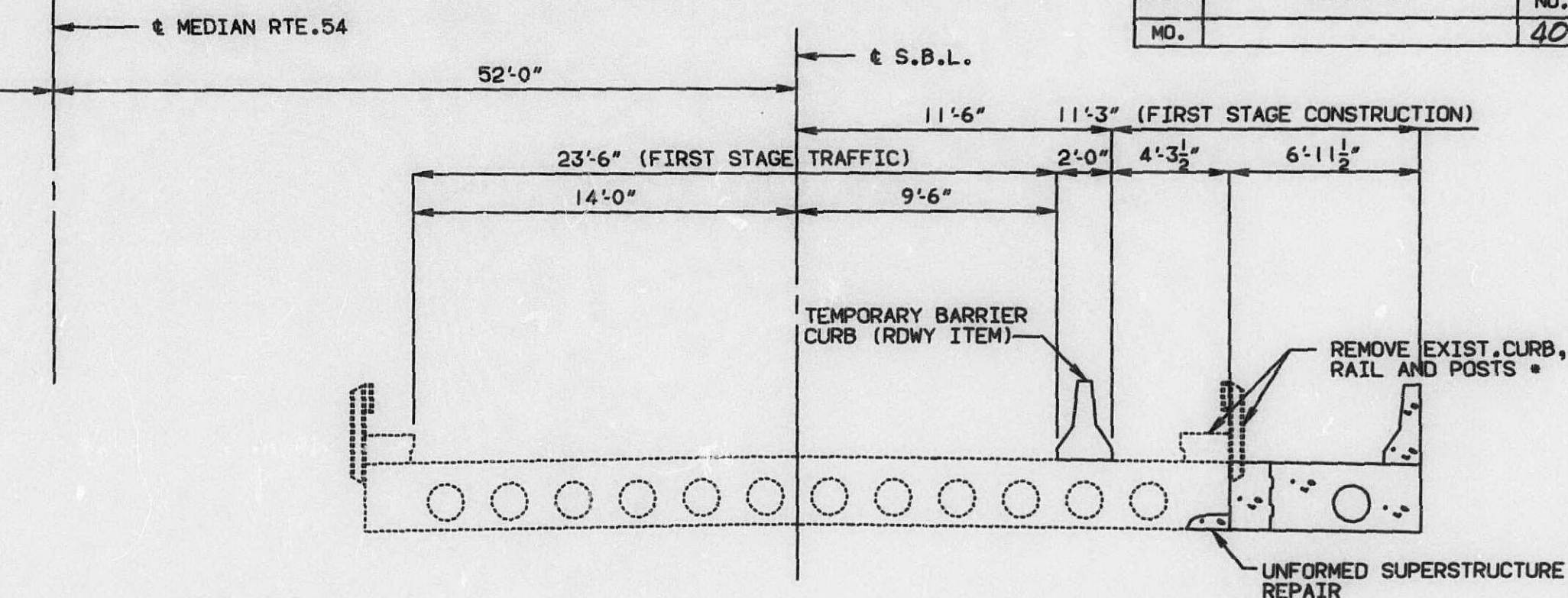
CAMBER DIAGRAM

445 368

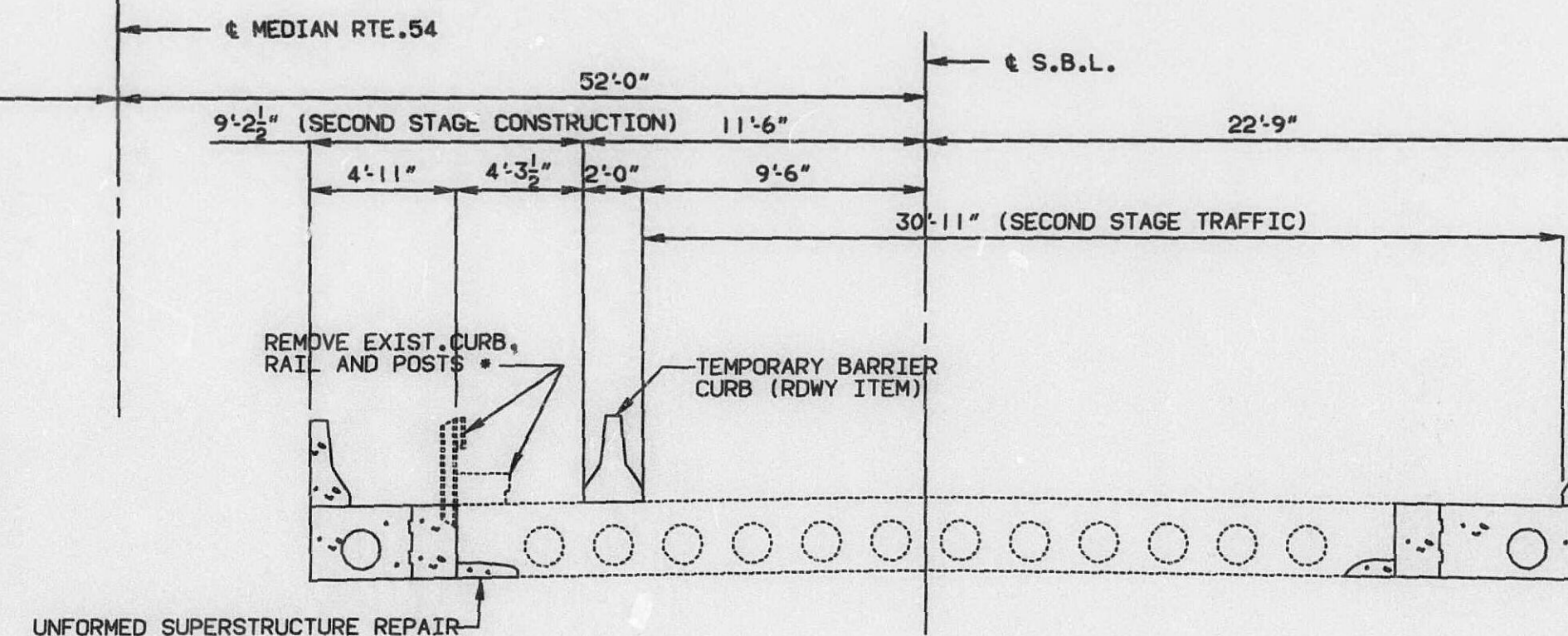
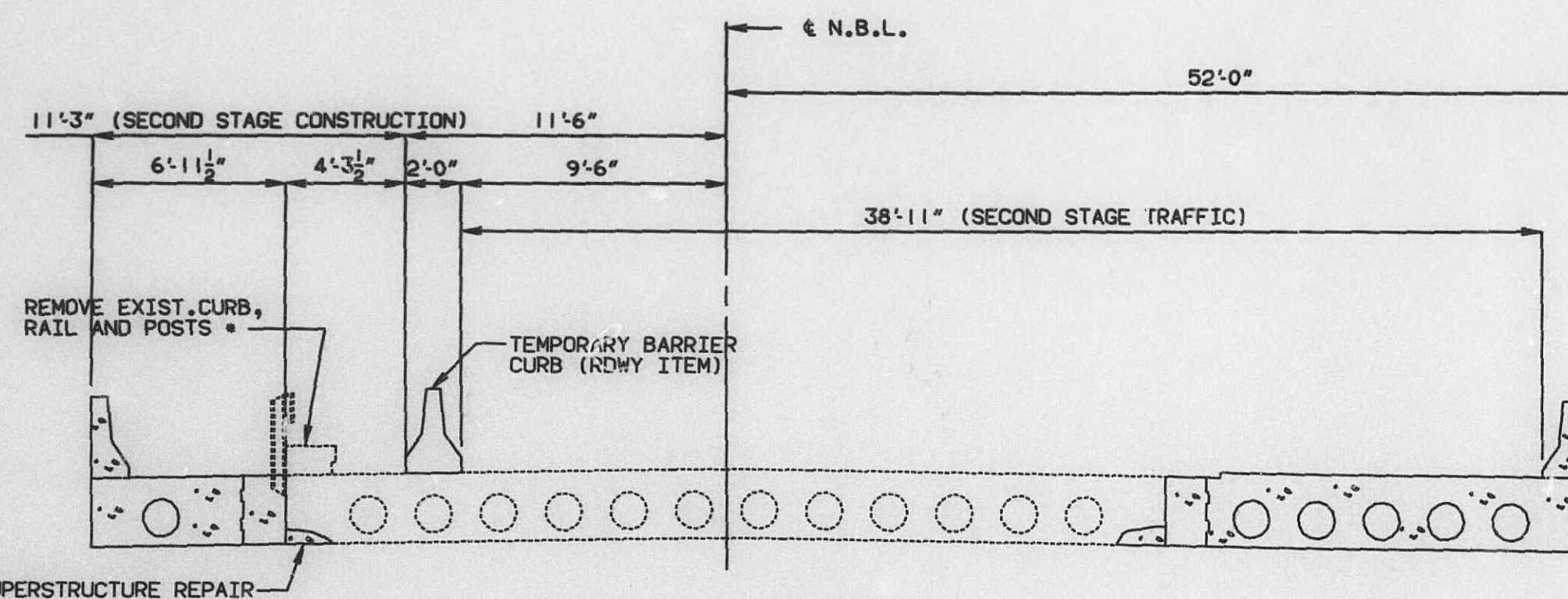
STATE	PROJ. NO.	SHEET NO.
MO.		40



* EXISTING RAIL AND POSTS SHALL BE SALVAGED.
(SEE SPECIAL PROVISIONS).



FIRST STAGE CONSTRUCTION



SECOND STAGE CONSTRUCTION

NOTE: FOR THIRD, FOURTH AND FIFTH STAGE CONSTRUCTION,
SEE SHEET NO. 6.

DETAILED JUNE 1990
CHECKED JUNE 1990

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 5 OF 26

CALLAWAY

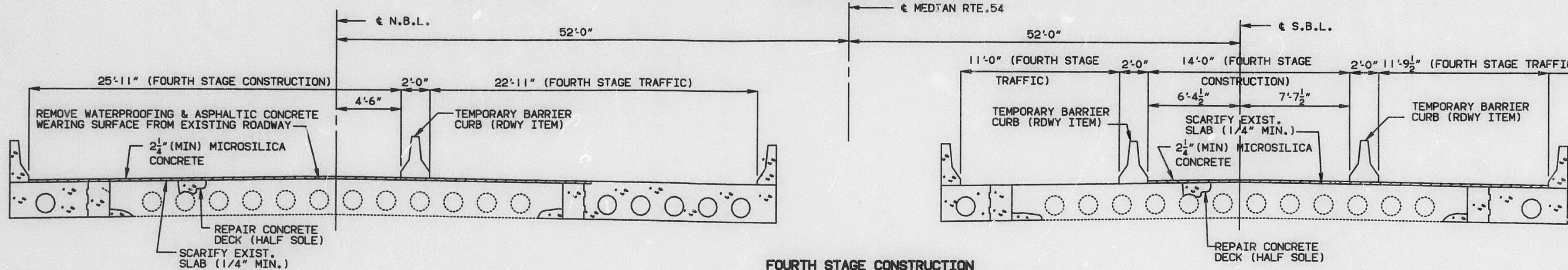
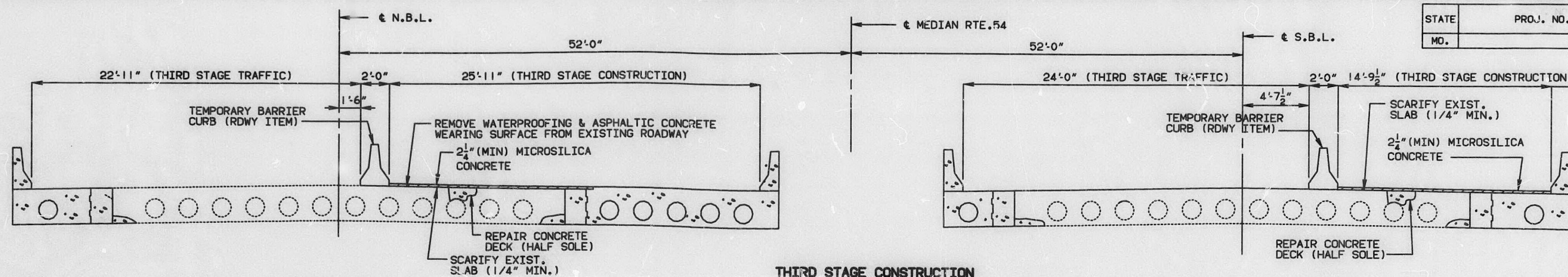
COUNTY

L-964R

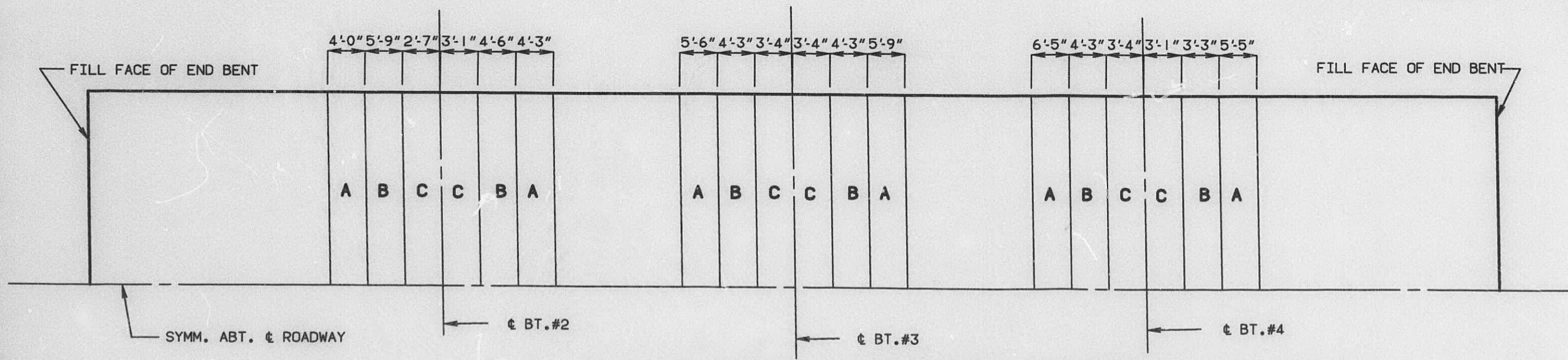
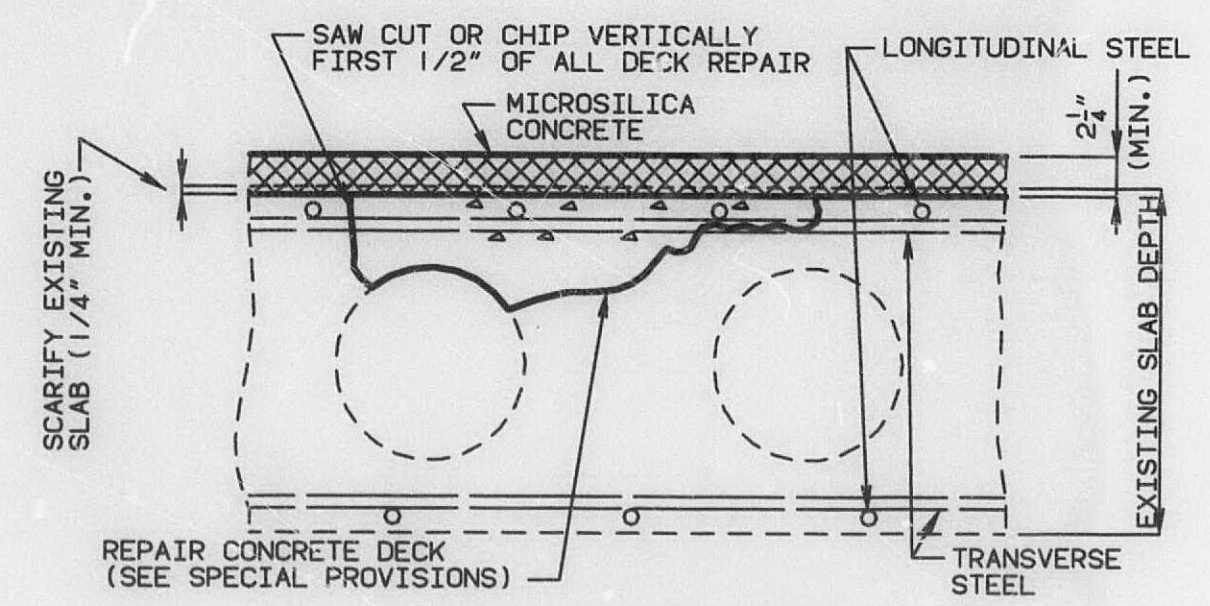
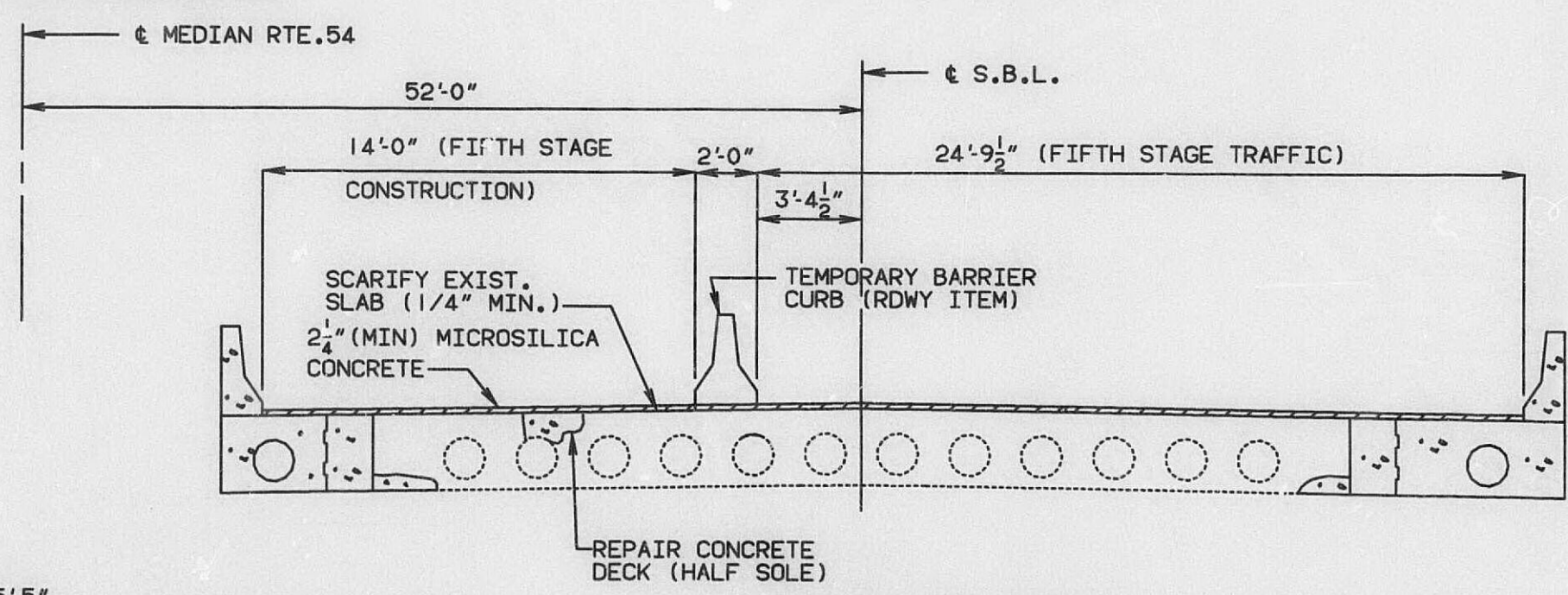
446 369

447 370

STATE	PROJ. NO.	SHEET NO.
MO.		



NOTE: FOR FIRST AND SECOND STAGE CONSTRUCTION, SEE SHEET NO. 5.



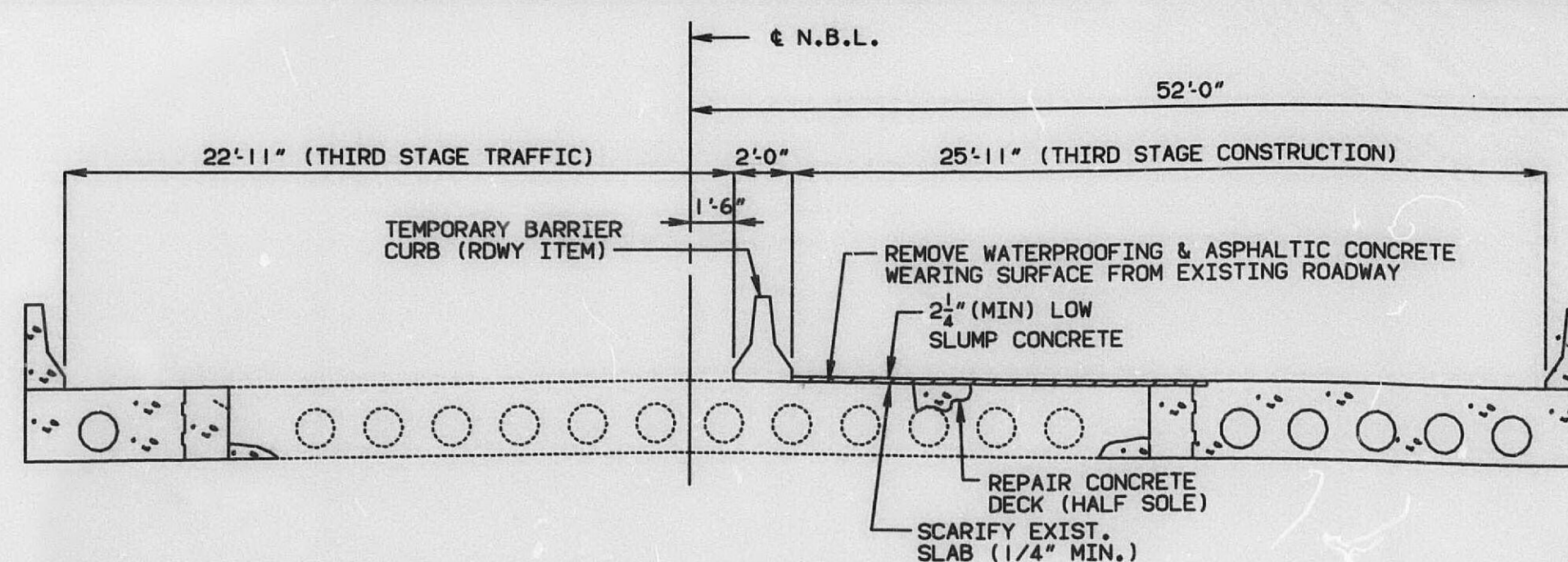
NOTE: SEQUENCE OF REPAIR: ZONE A, THEN ZONE B, THEN ZONE C.
 ANY REPAIR IN THE REMAINDER OF THE BRIDGE THAT IS WITHIN 5'-0" OF ZONE A SHALL BE COMPLETED BEFORE REMOVING OLD CONCRETE IN ZONES A.
 ZONES WITH THE SAME LETTER DESIGNATION MAY BE REPAIRED AT THE SAME TIME.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

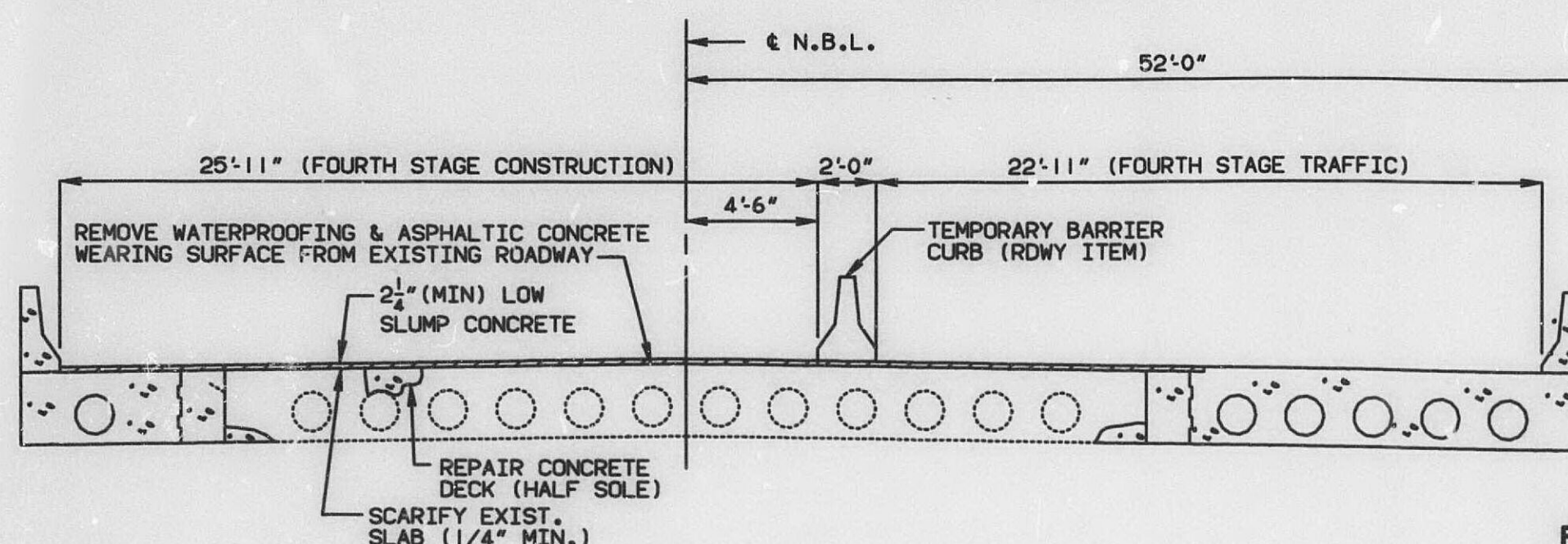
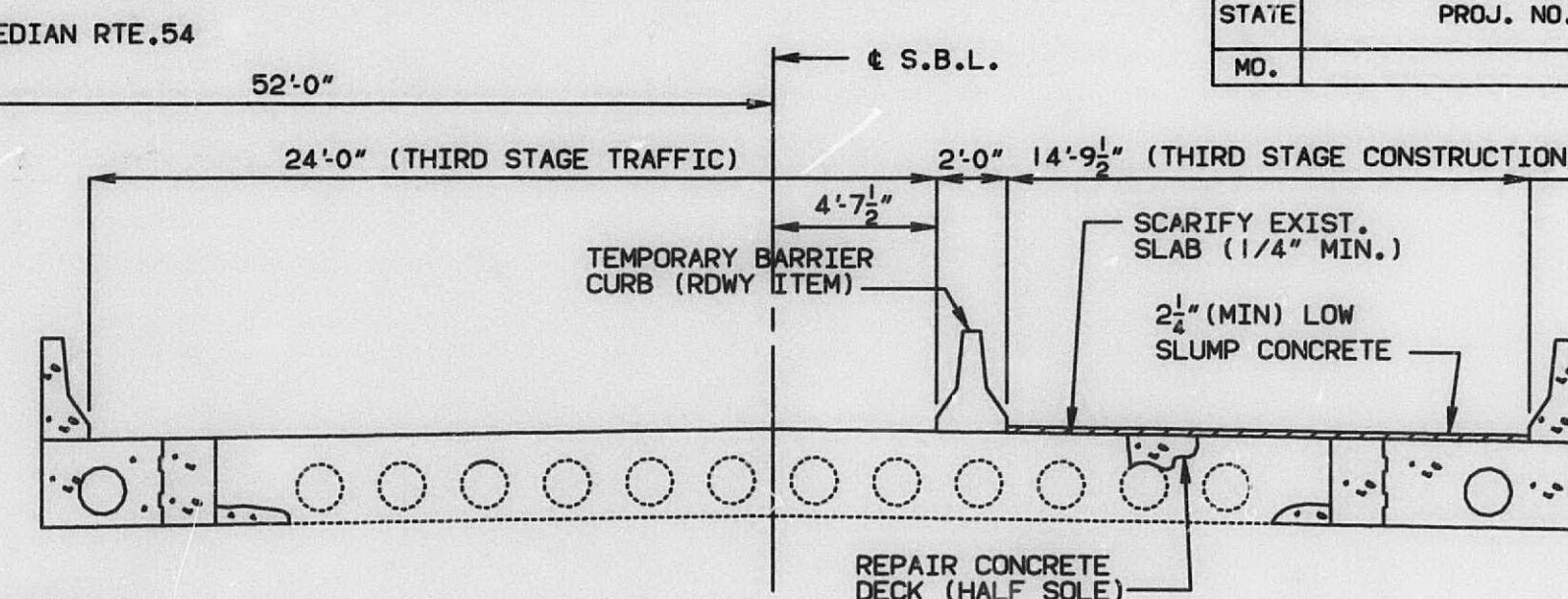
DETAILED JUNE 1990
 CHECKED JUNE 1990

SHEET NO. 6 OF 26

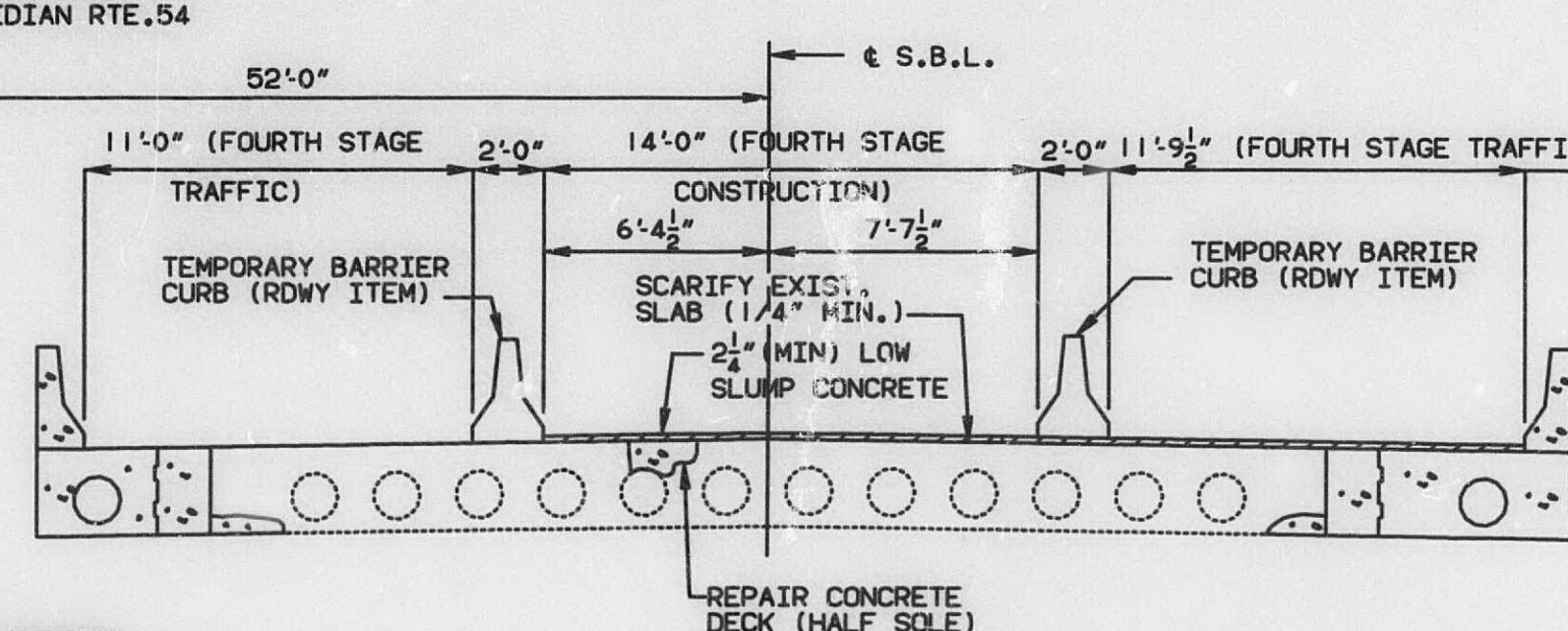
CALLAWAY COUNTY L-964R



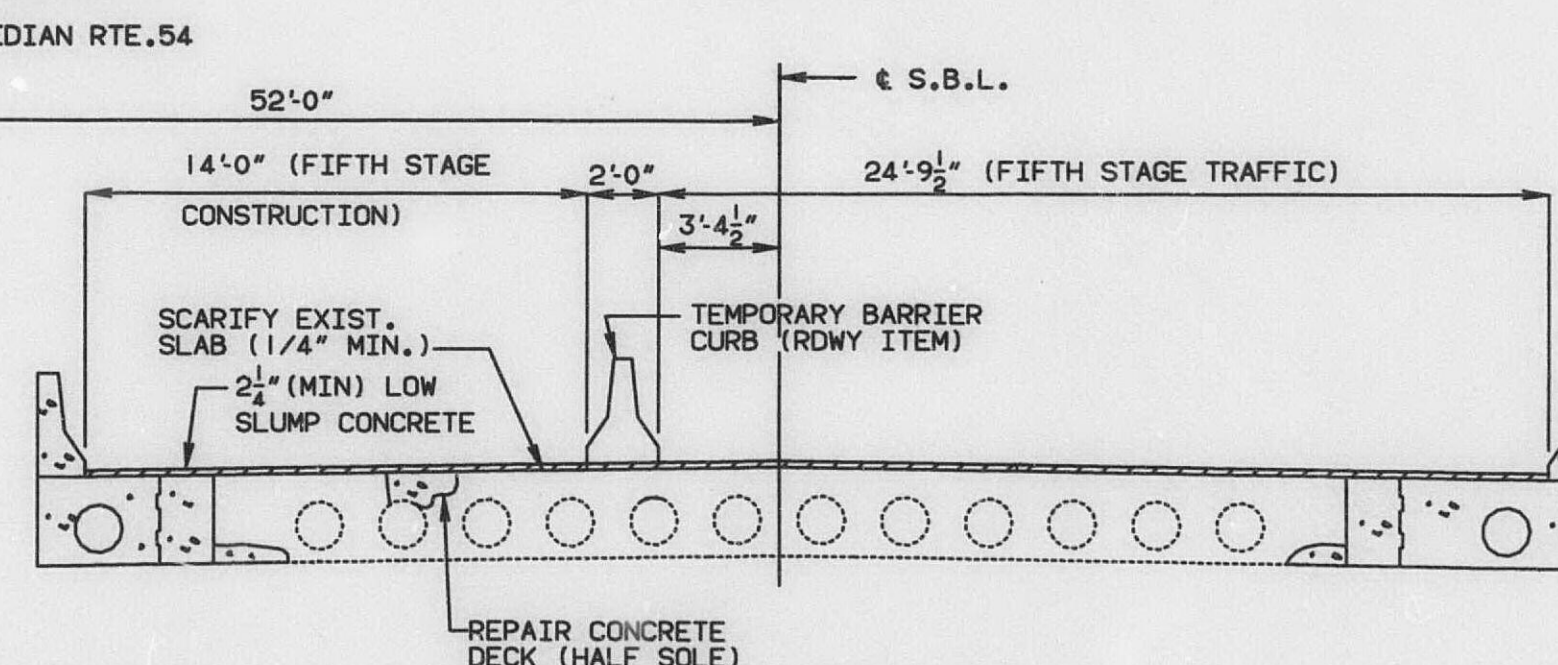
THIRD STAGE CONSTRUCTION



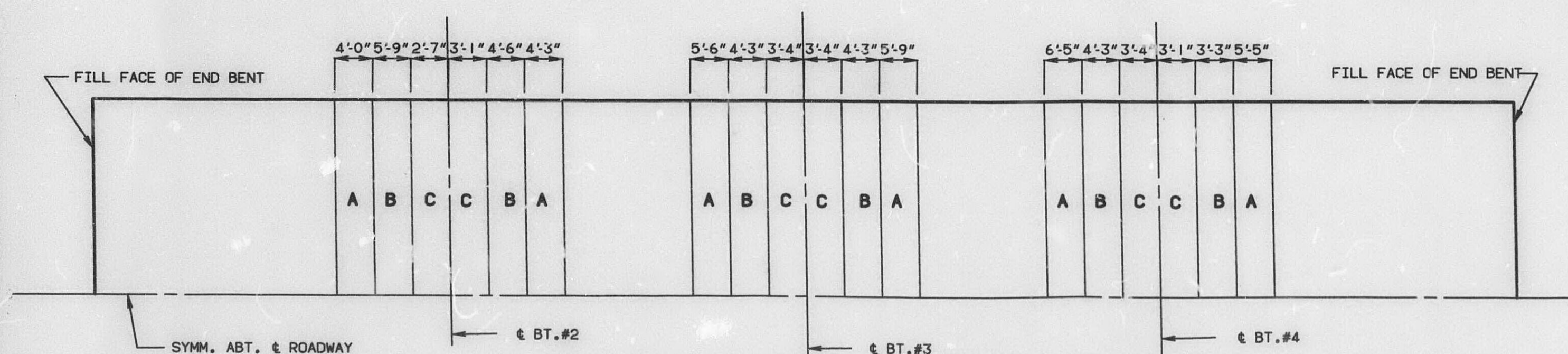
FOURTH STAGE CONSTRUCTION



NOTE: FOR FIRST AND SECOND STAGE CONSTRUCTION, SEE SHEET NO. 5.



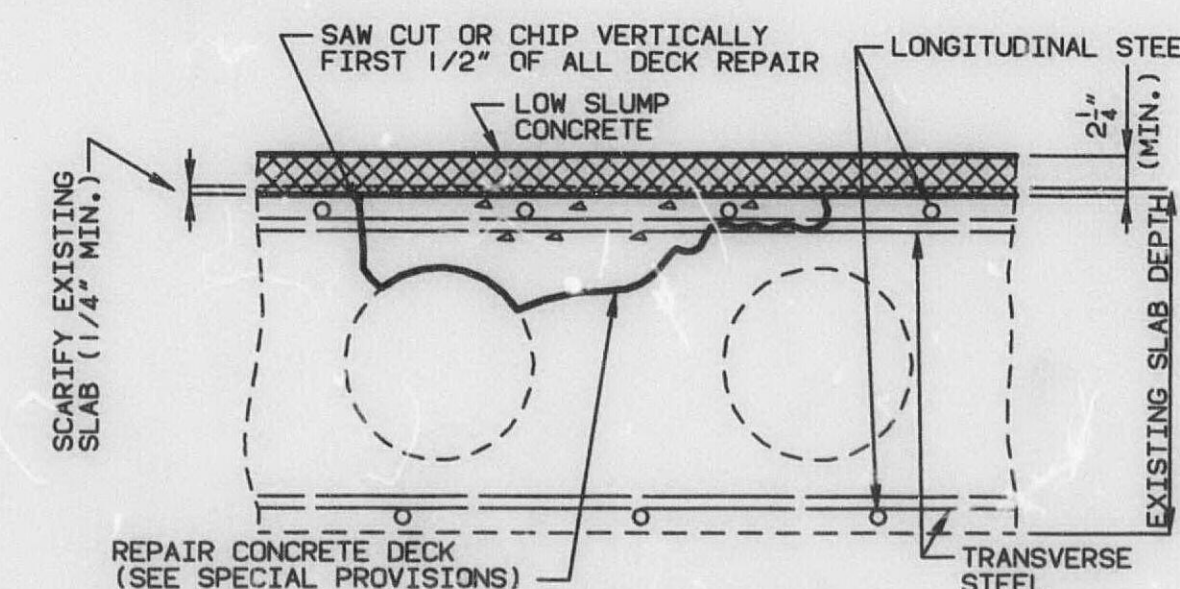
FIFTH STAGE CONSTRUCTION



PLAN OF EXISTING SLAB SHOWING SPECIAL REPAIR ZONES (TYPICAL BOTH LANES)

NOTE: SEQUENCE OF REPAIR: ZONE A, THEN ZONE B, THEN ZONE C.
ANY REPAIR IN THE REMAINDER OF THE BRIDGE THAT IS WITHIN 5'-0" OF ZONE A SHALL BE COMPLETED BEFORE REMOVING OLD CONCRETE IN ZONES A.
ZONES WITH THE SAME LETTER DESIGNATION MAY BE REPAIRED AT THE SAME TIME.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



HALF-SOLED AREA

DETAILED JUNE 1990
CHECKED JUNE 1990

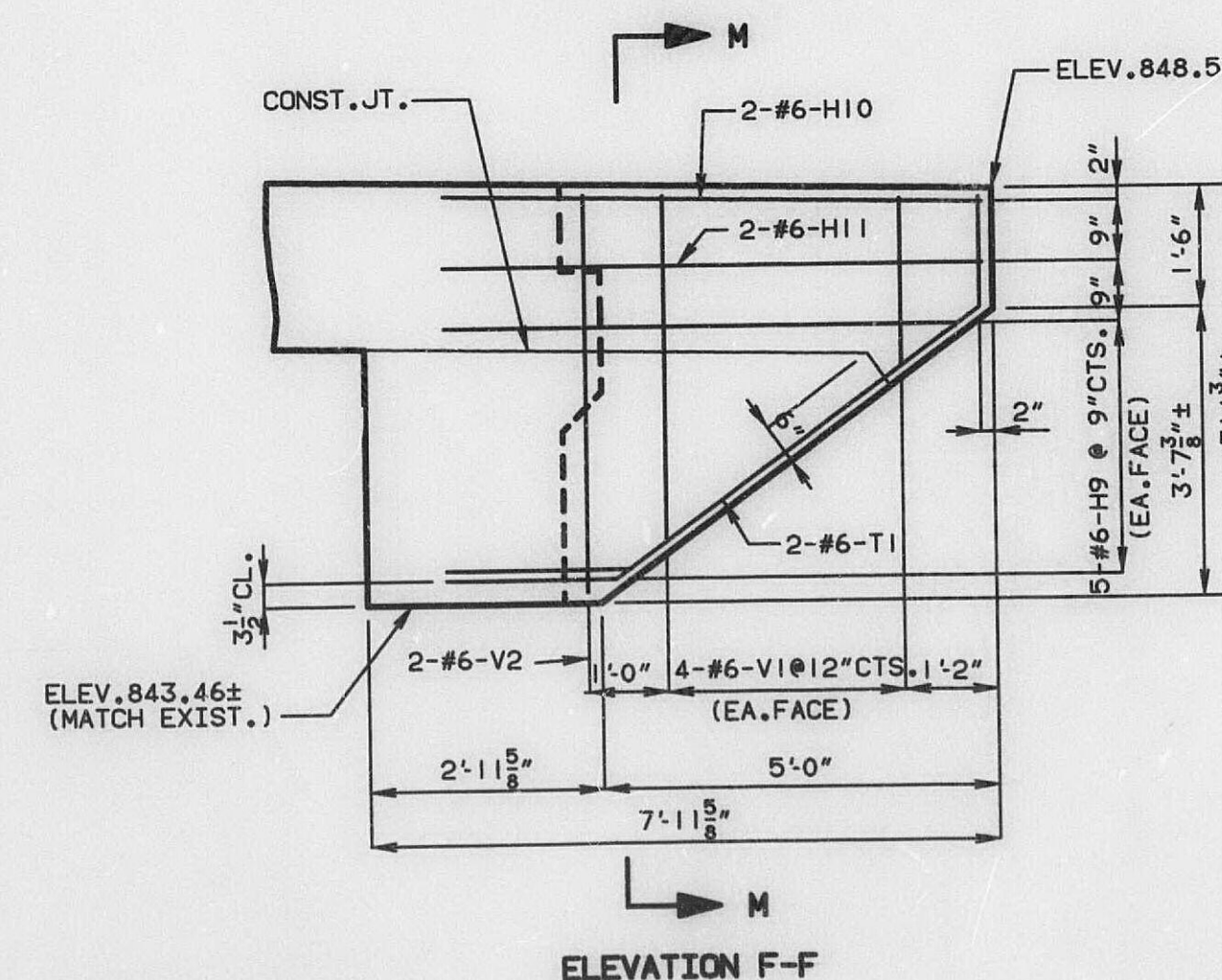
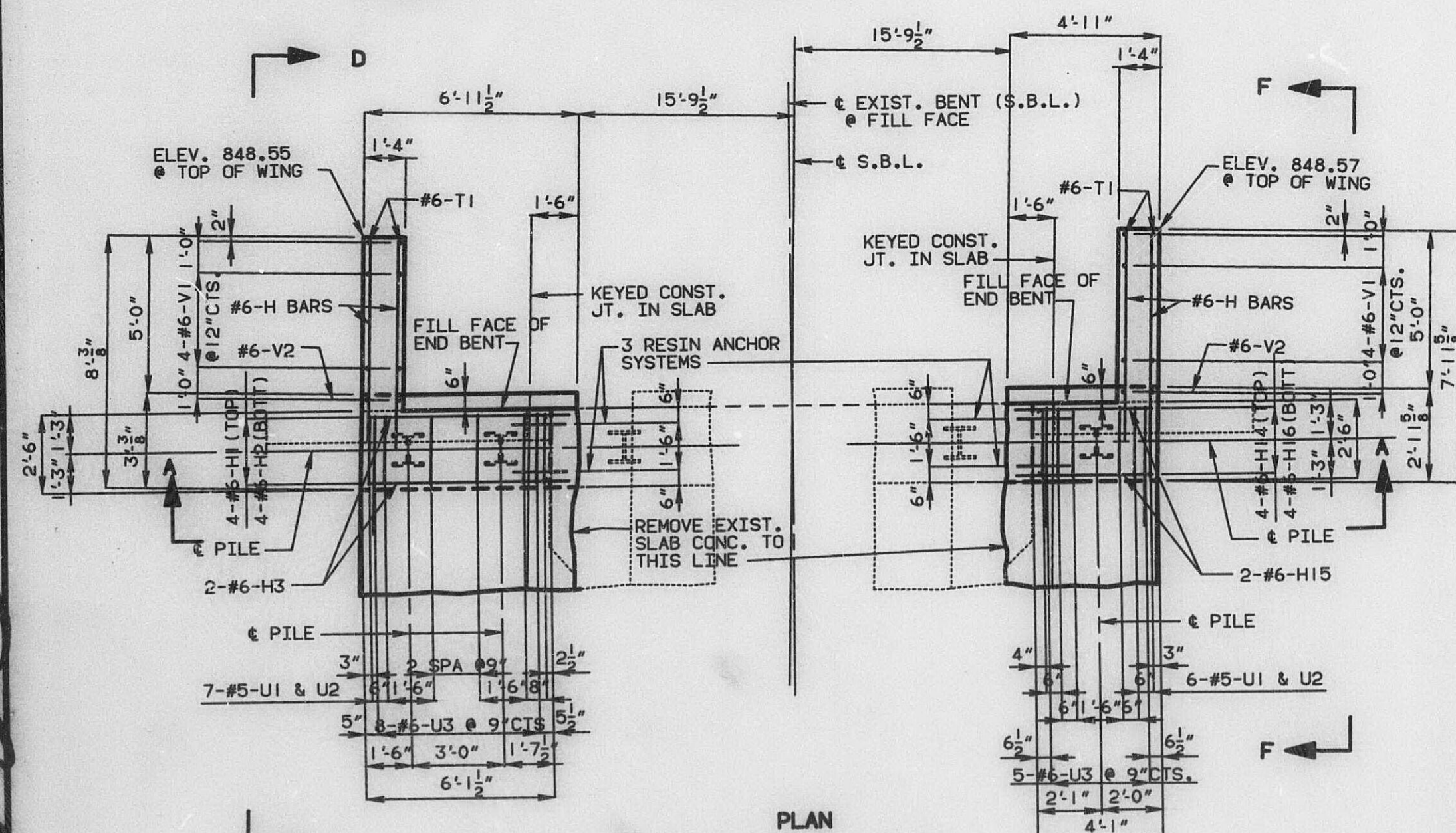
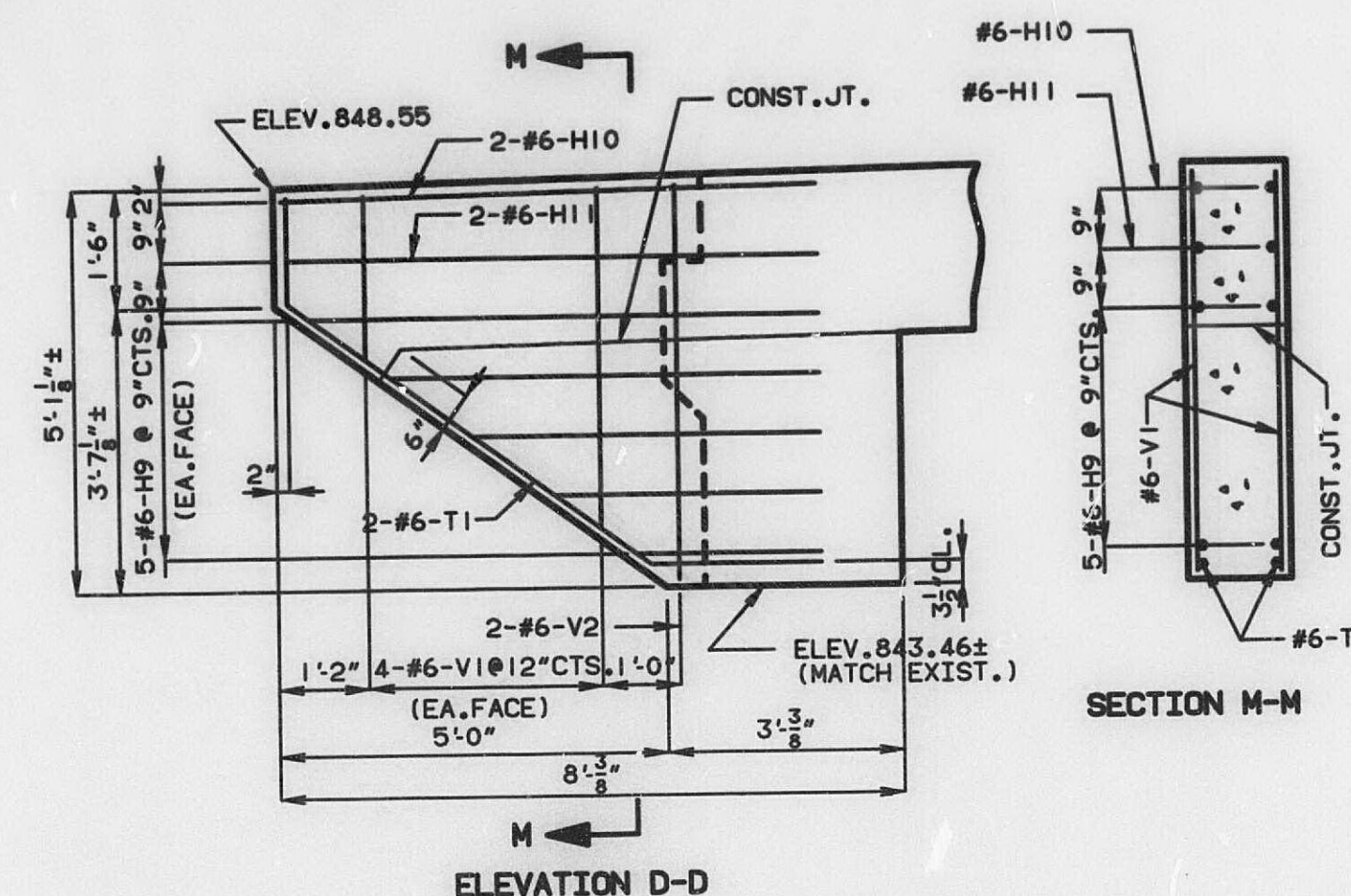
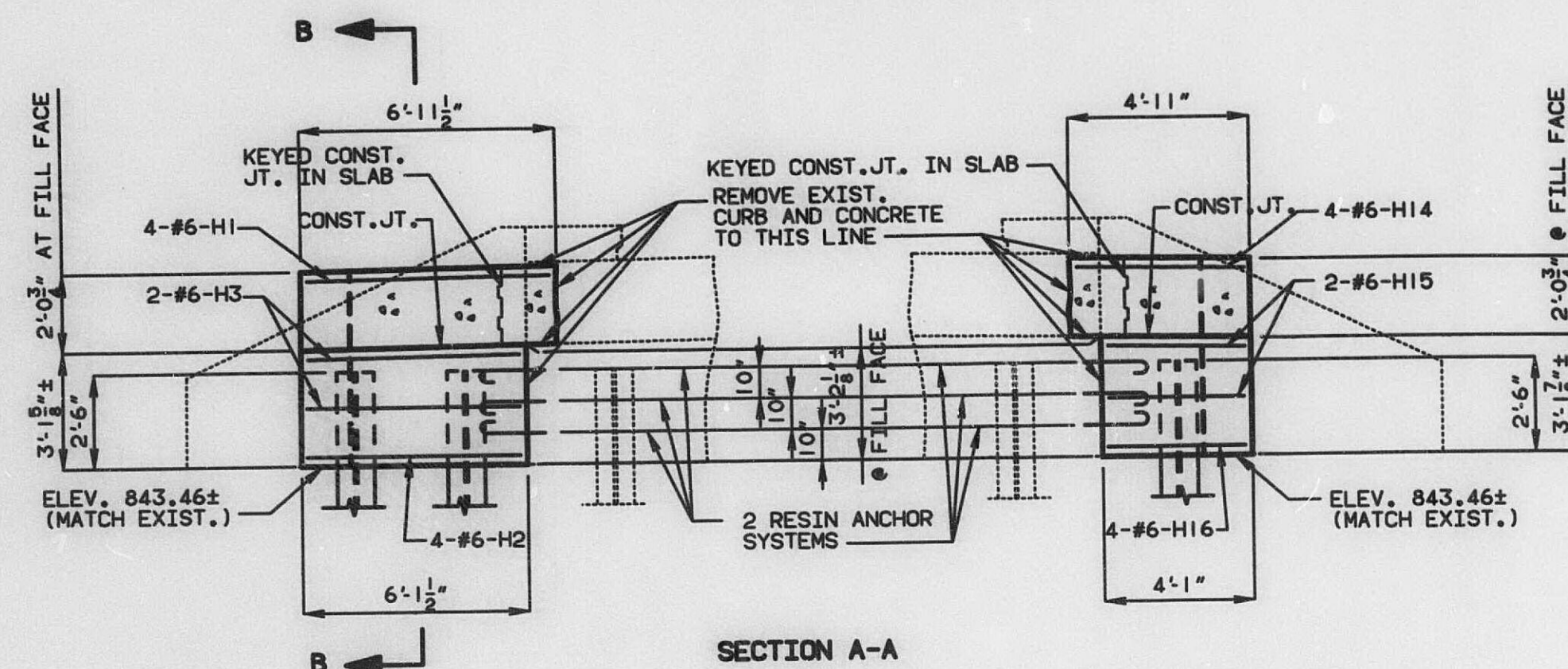
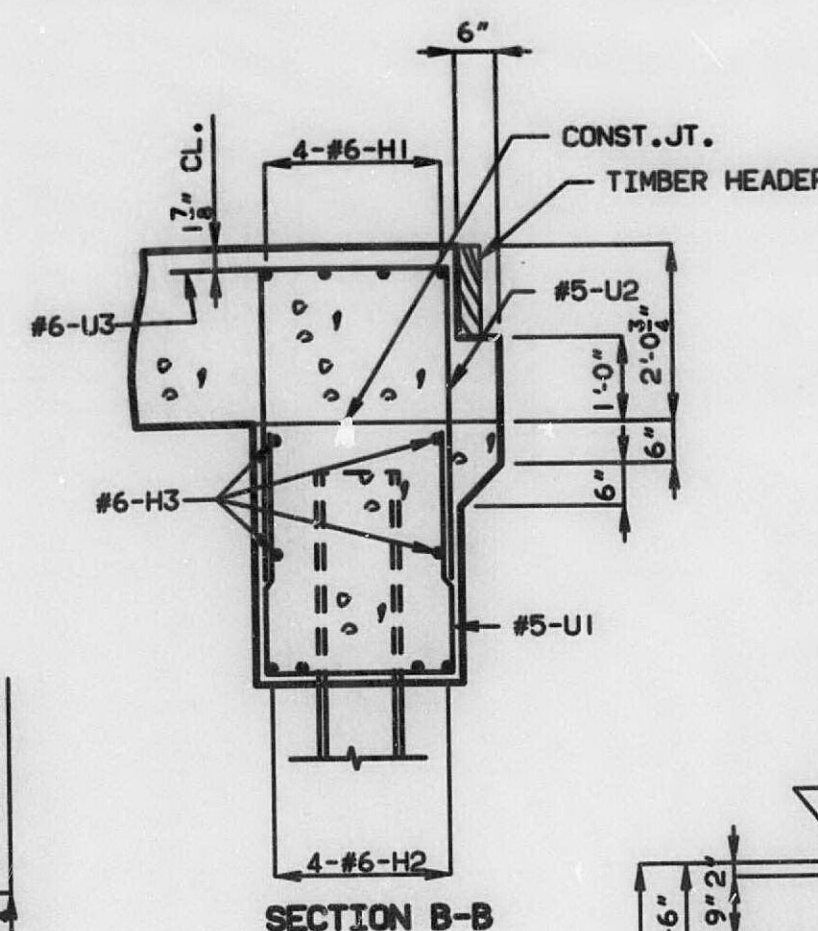
SHEET NO. 6 OF 26

CALLAWAY

COUNTY

L-964R

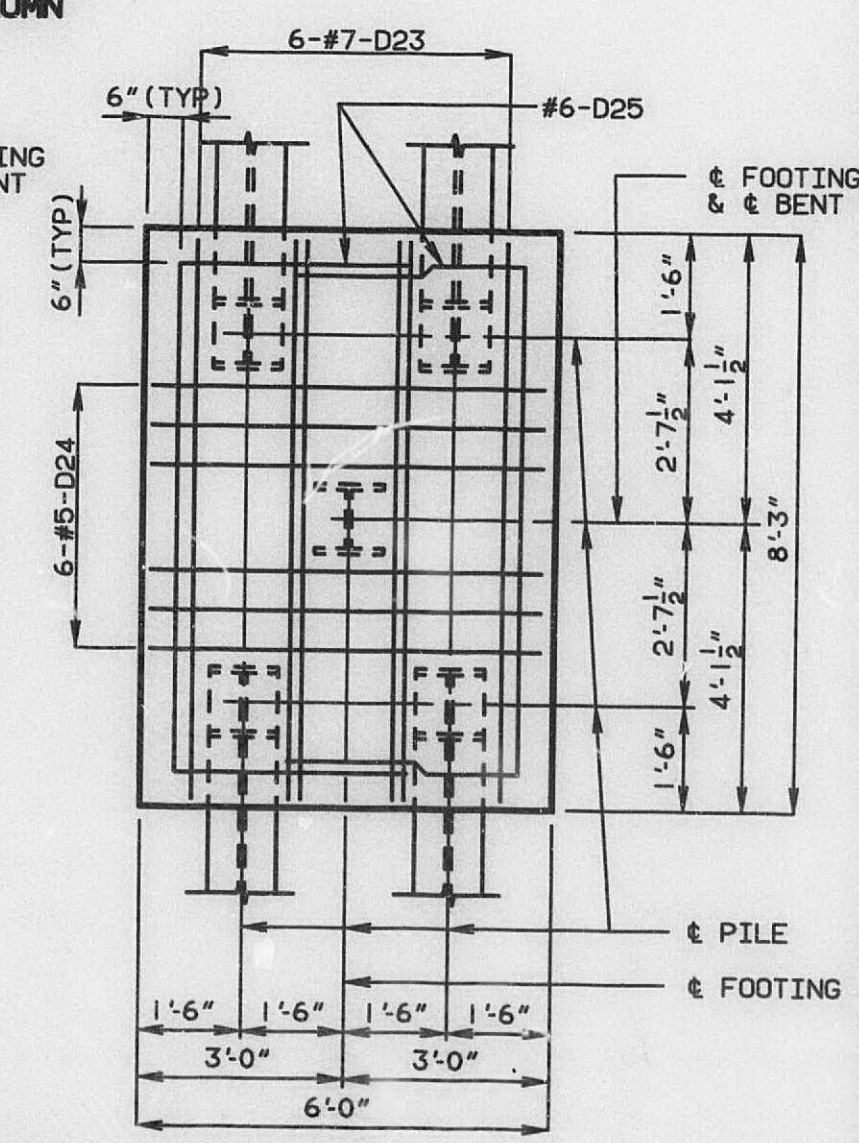
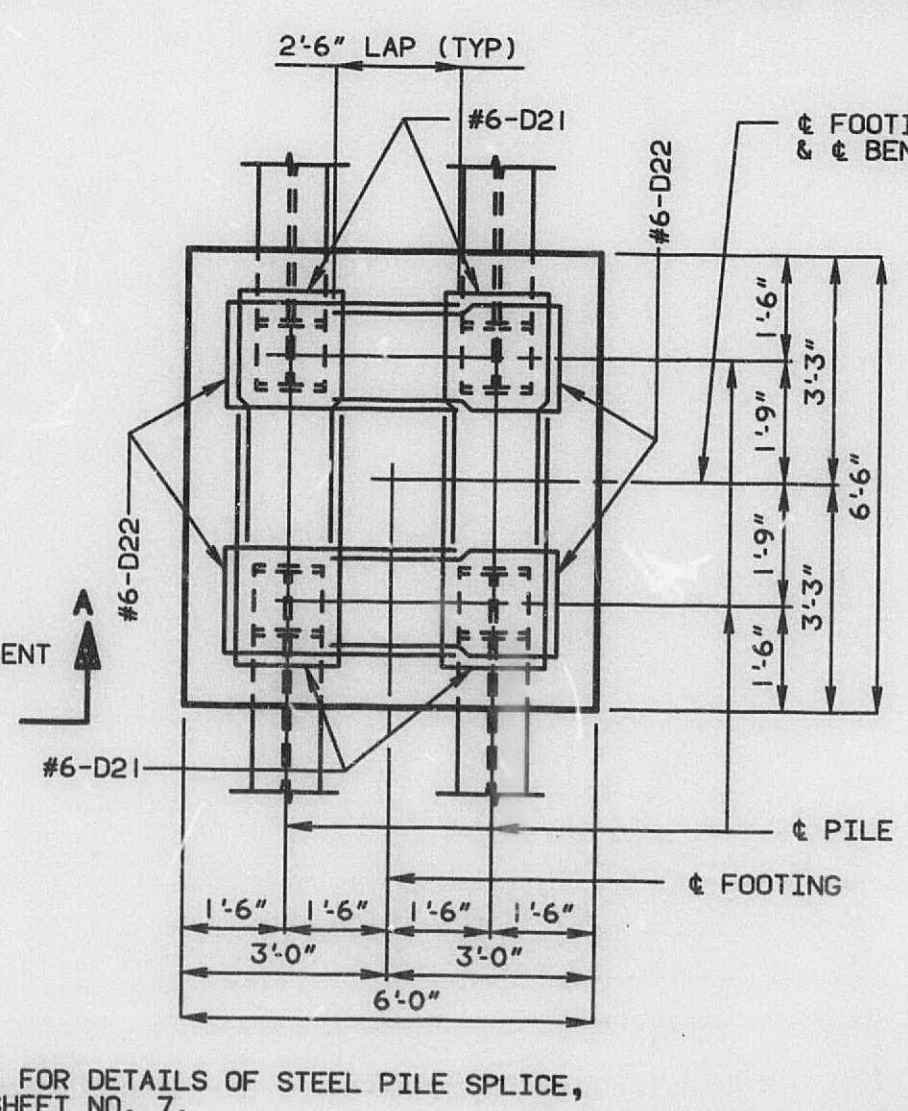
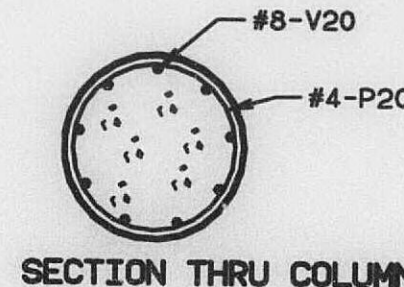
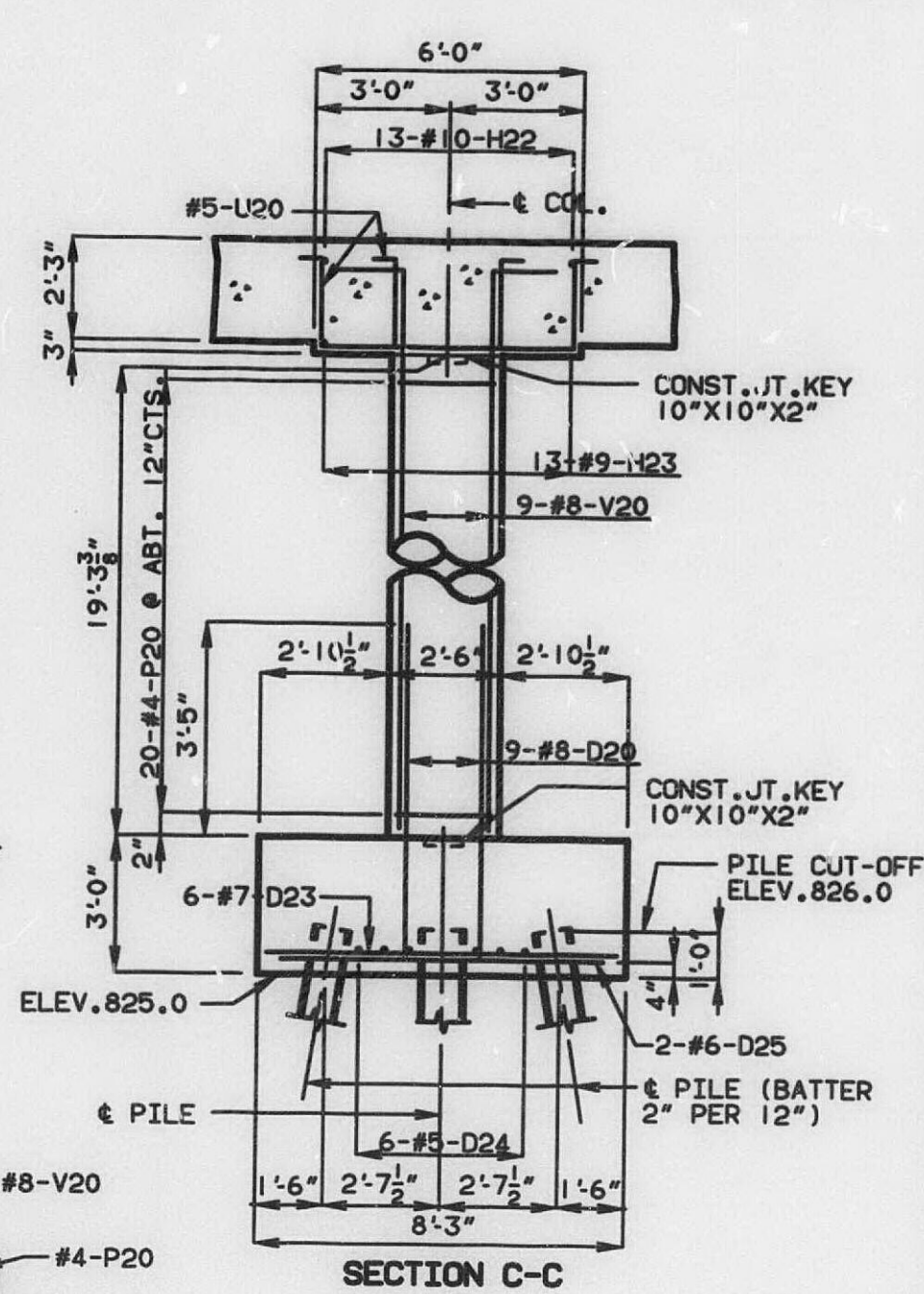
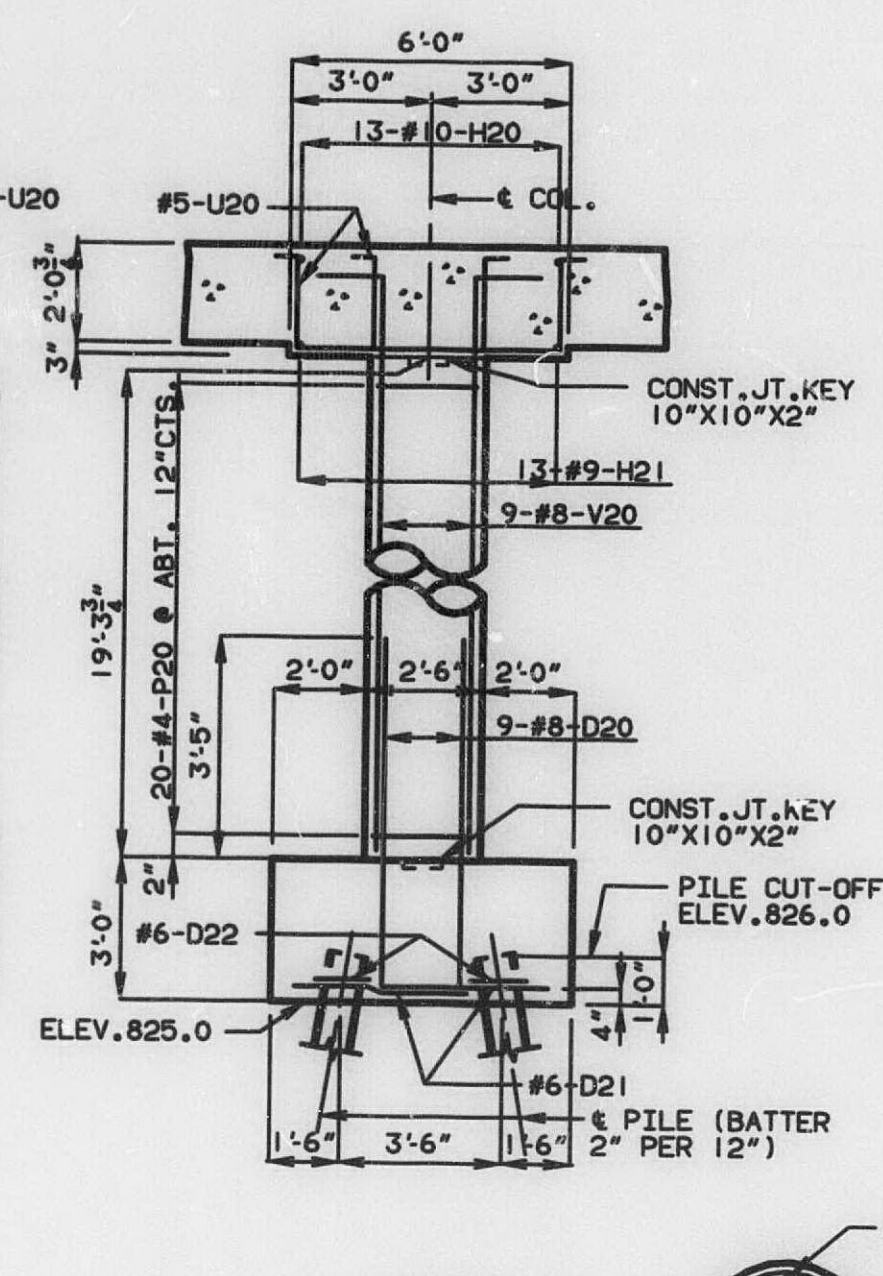
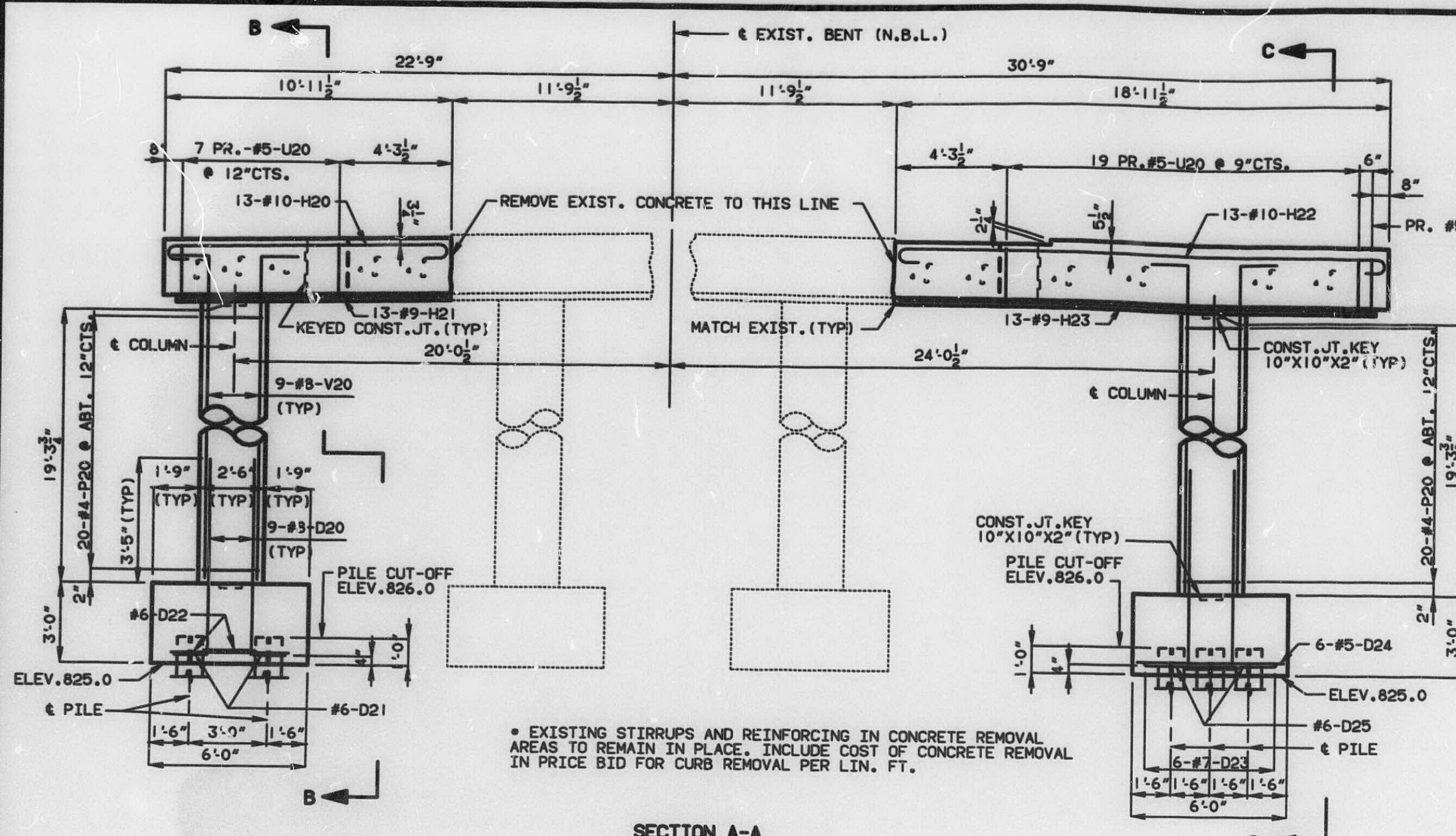
NOTE: FOR DETAILS OF TIMBER HEADER, SEE SHEET NO. 23.
FOR DETAILS AND REINFORCEMENT OF BARRIER CURBS, SEE SHEET NO. 23.
FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.



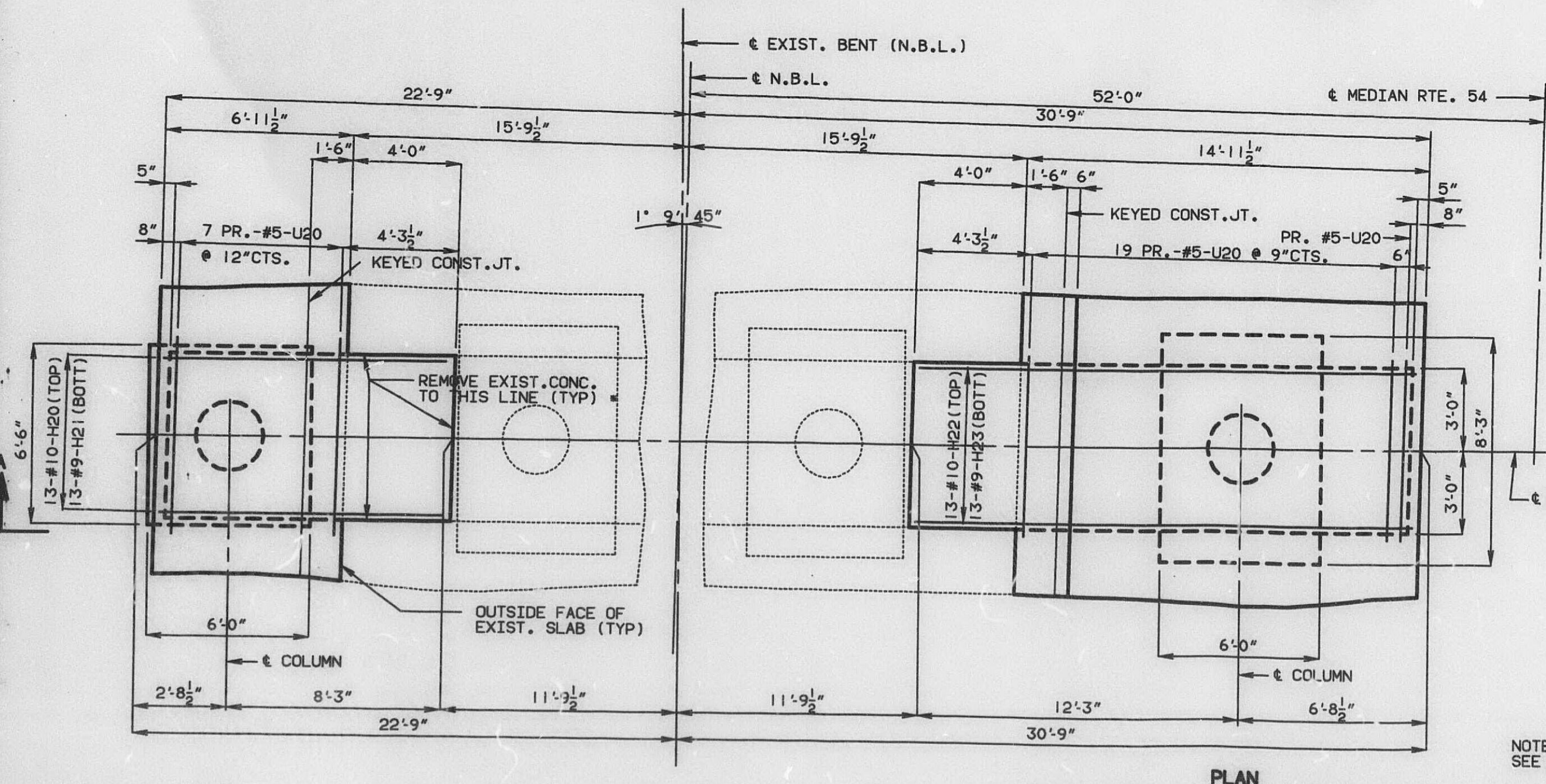
NOTE: PLACE ALL U BARS PARALLEL TO ROADWAY.
FOR RESIN ANCHOR SYSTEM NOTES, SEE SHEET NO. 17.

DETAILS OF END BENT NO. 1 (S.B.L.)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.



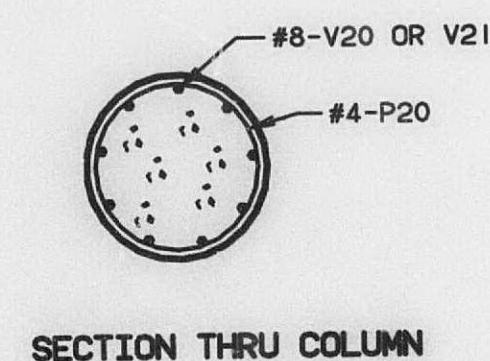
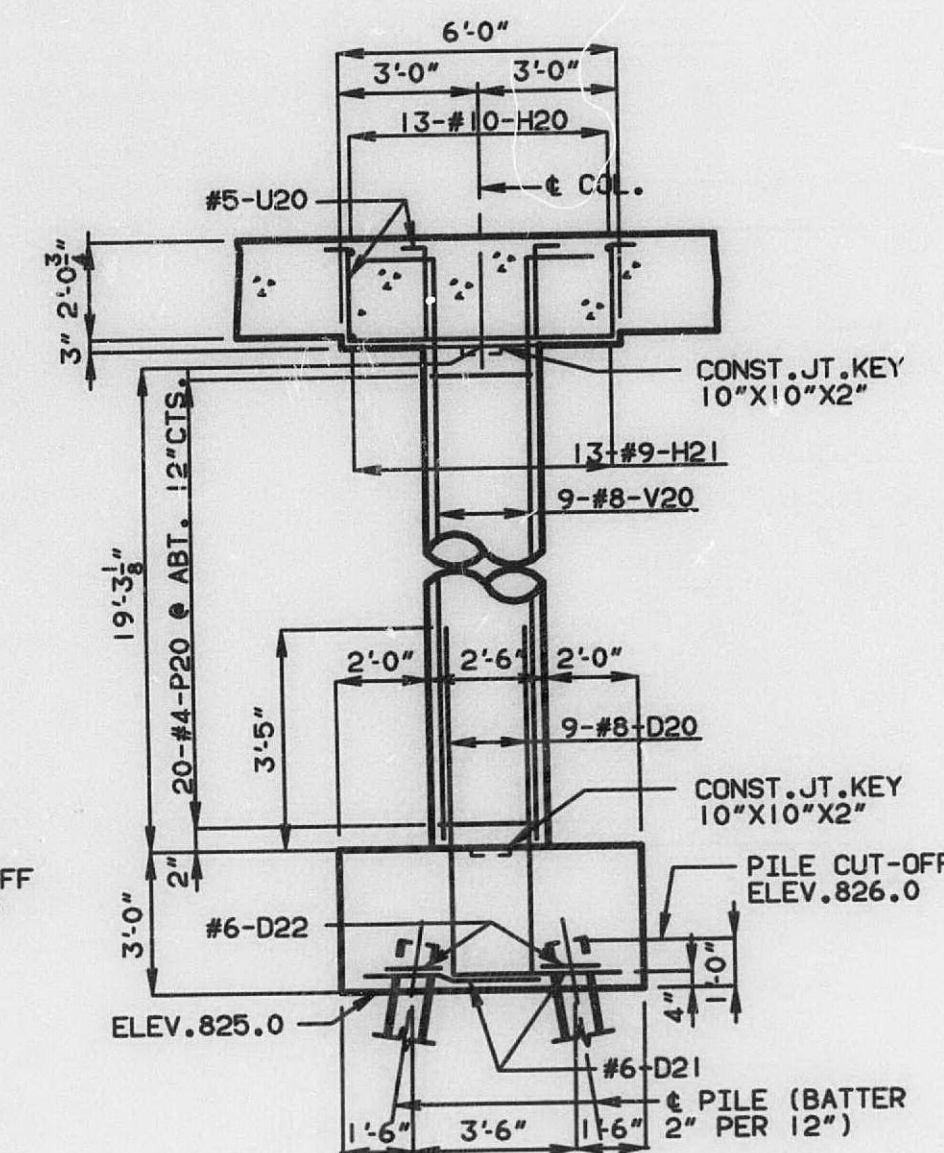
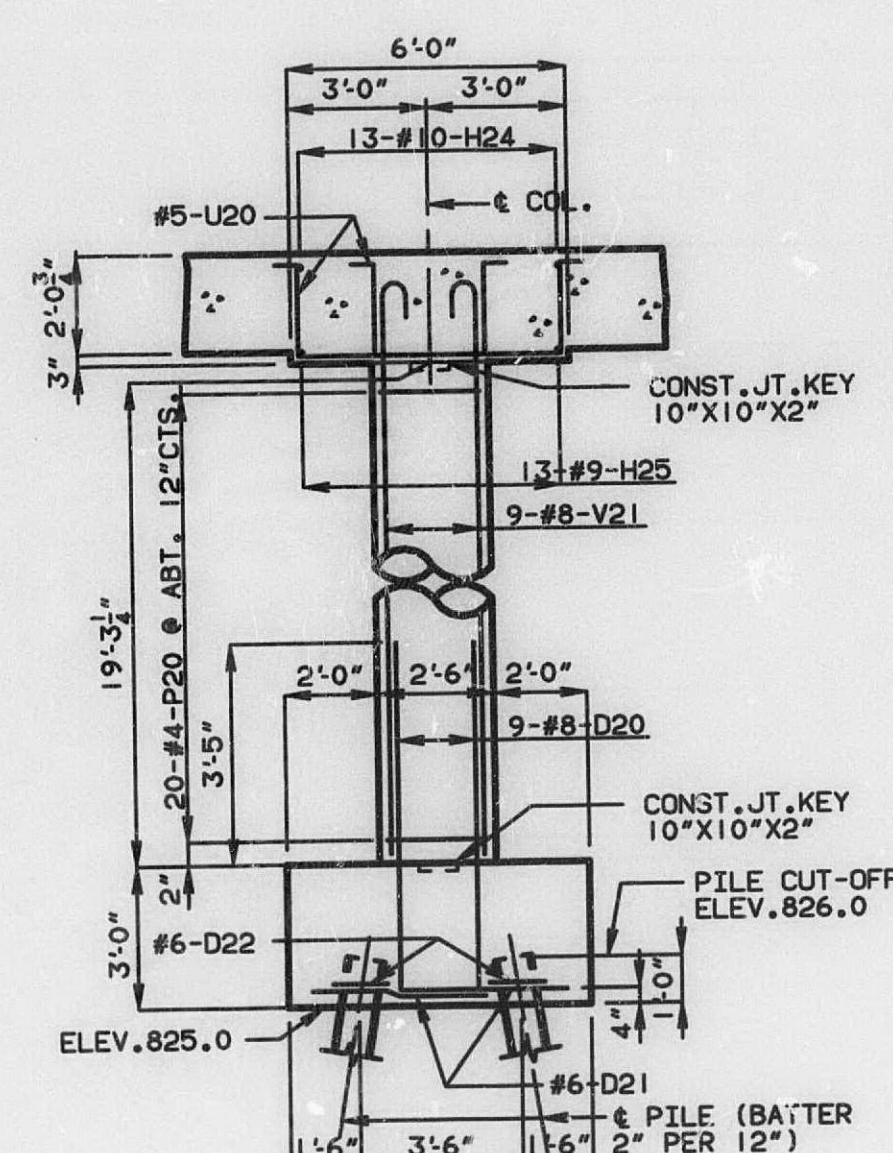
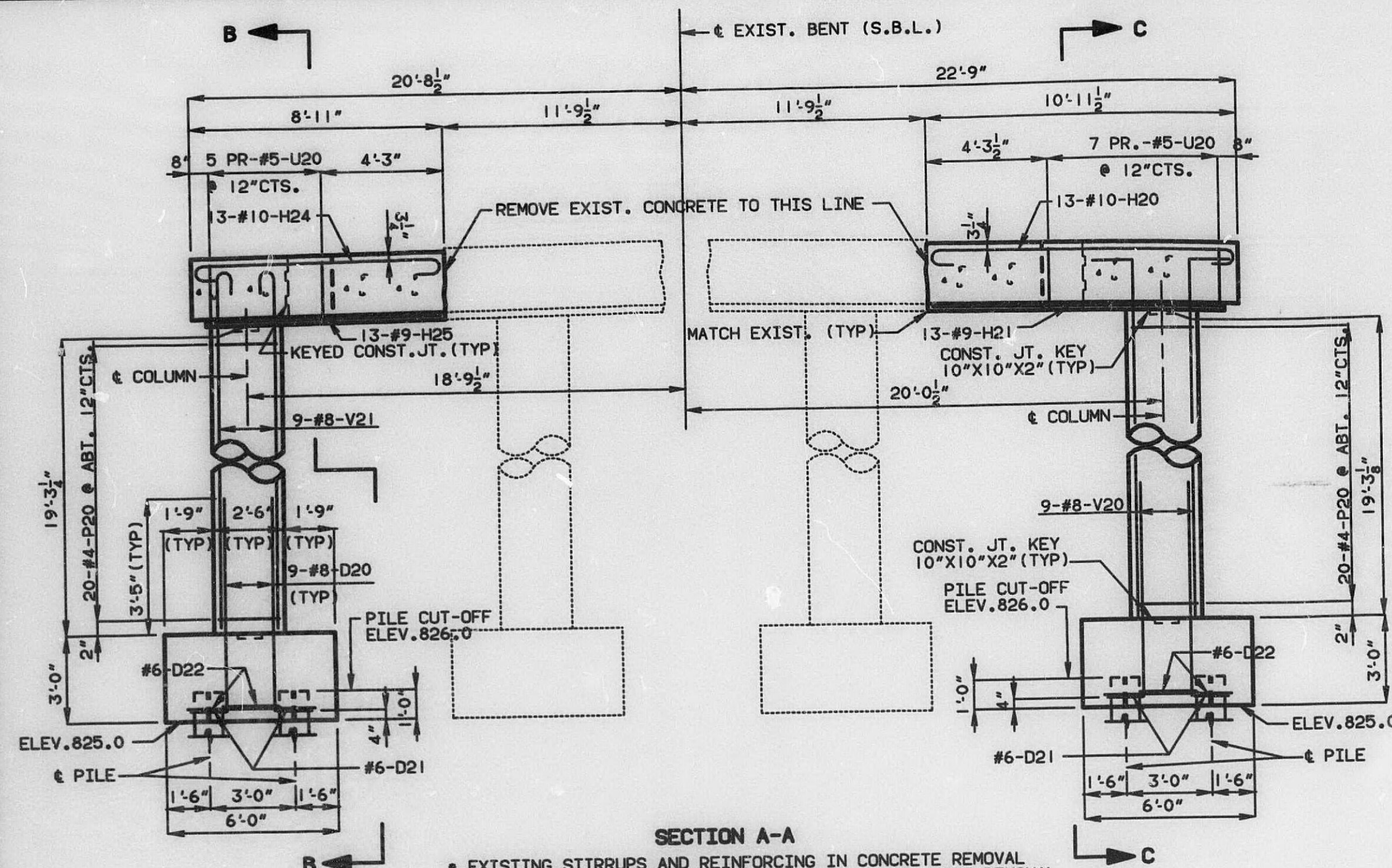
NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.



DETAILS OF INT. BENT NO. 2 (N.B.L.)

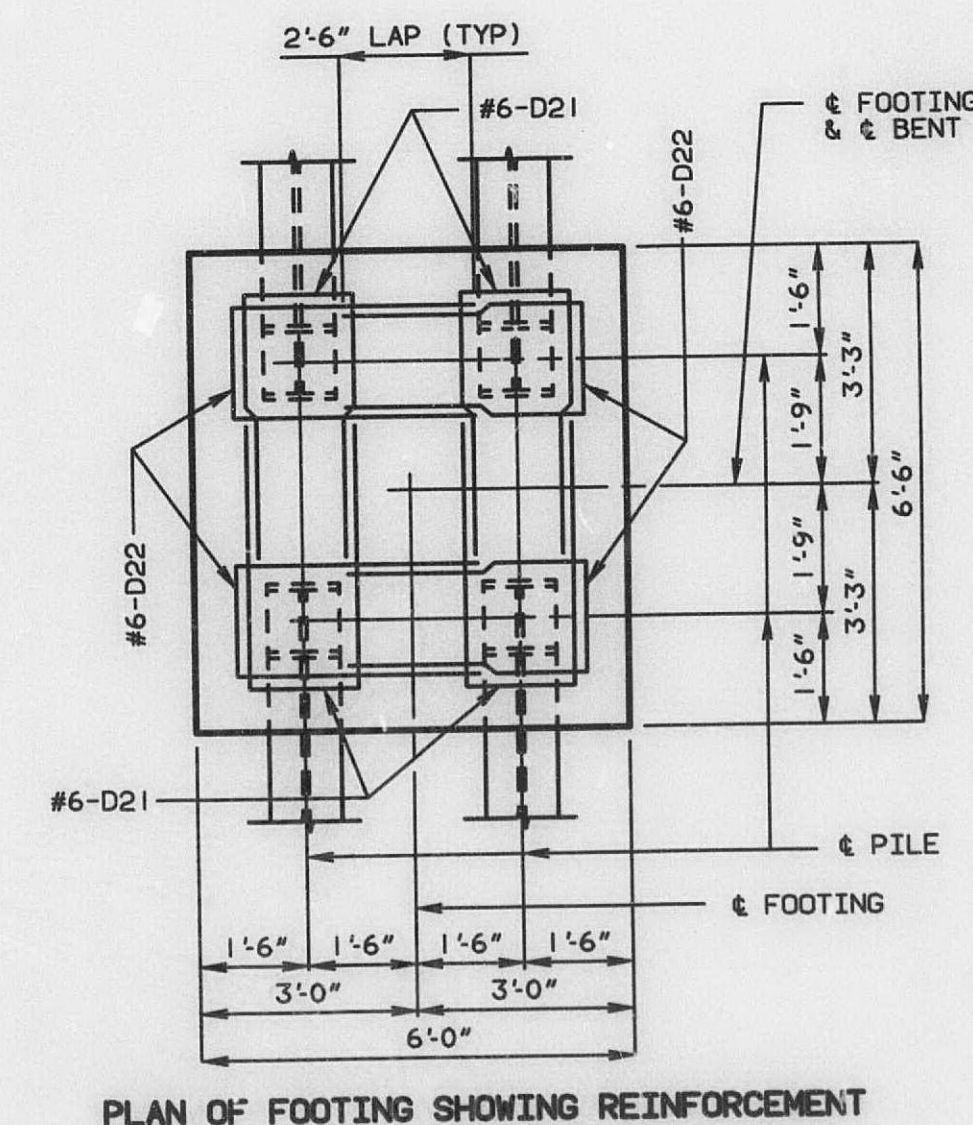
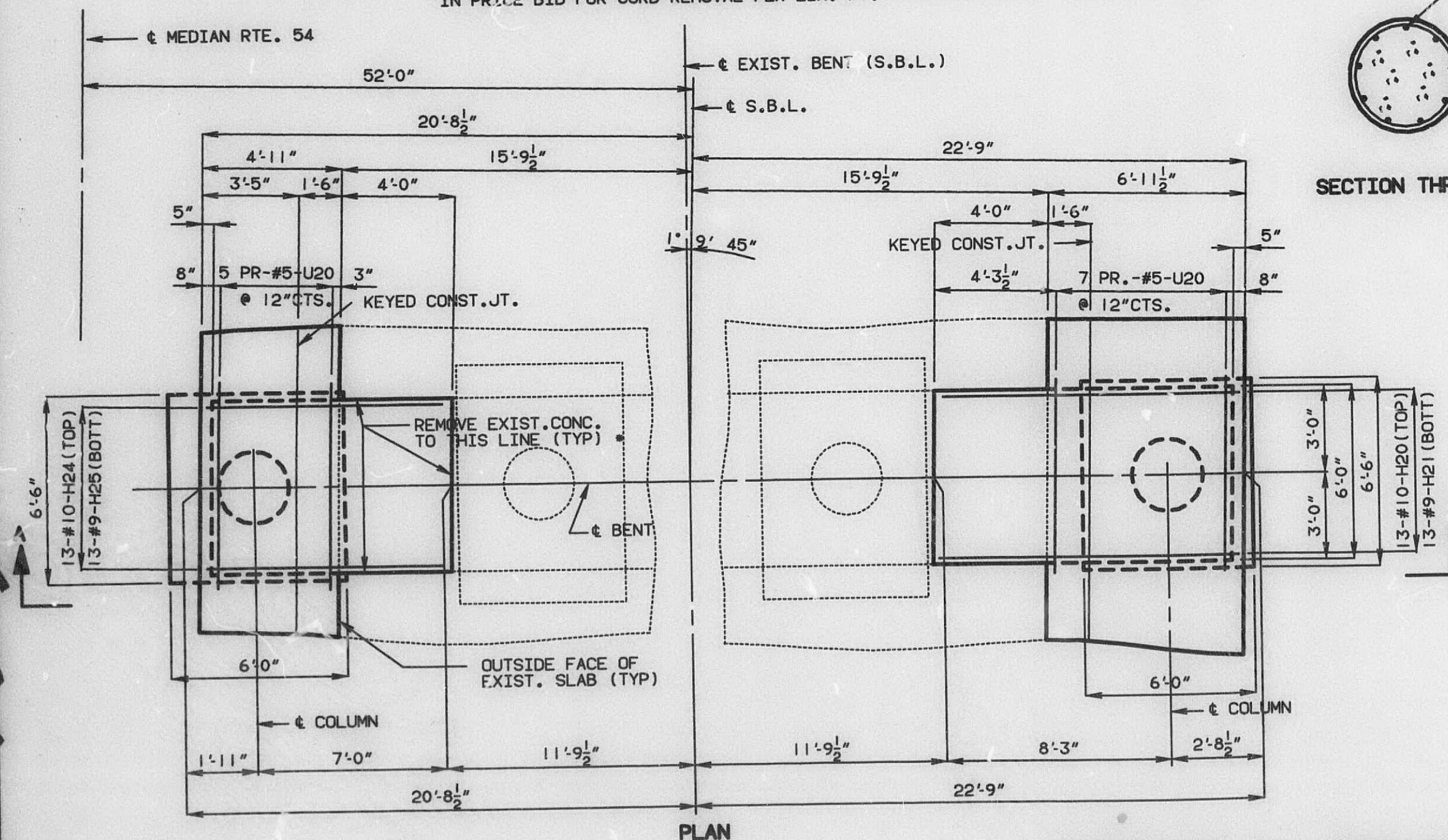
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

48/374



SECTION B-B

SECTION C-C



NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.

DETAILS OF INT. BENT NO. 2 (S.B.L.)

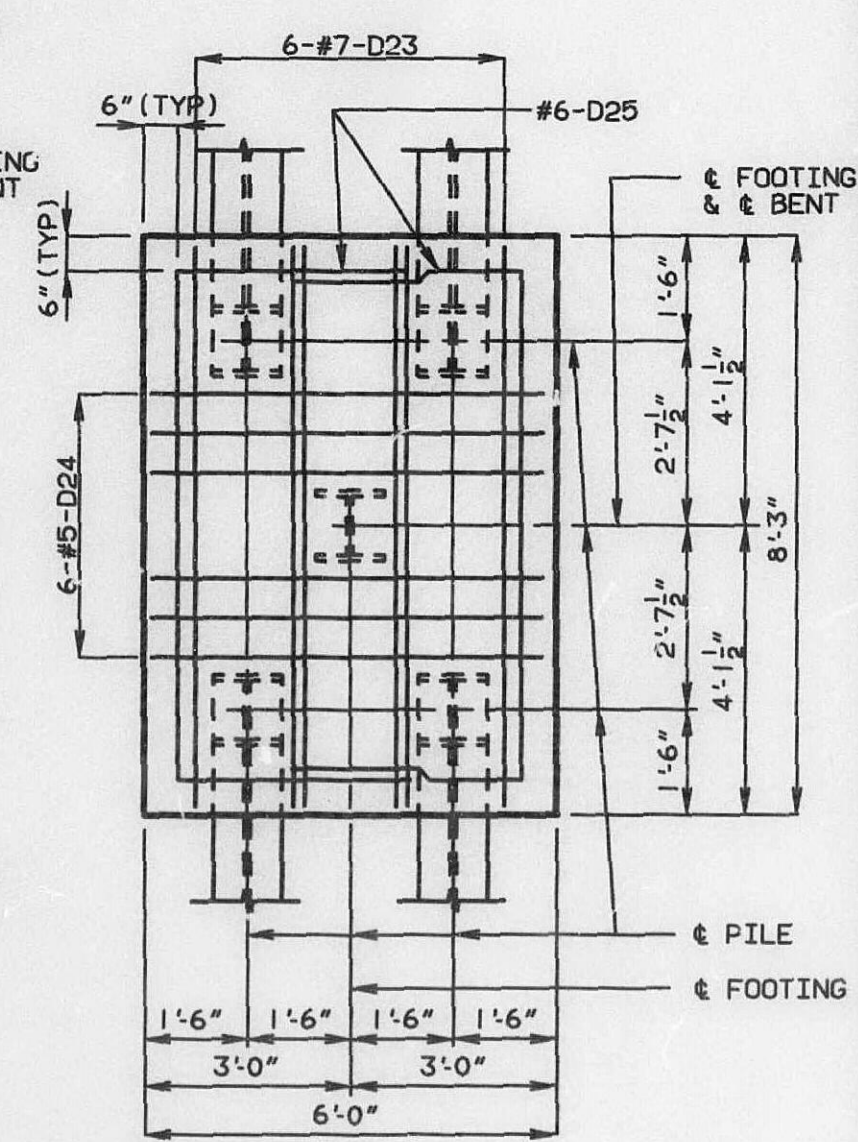
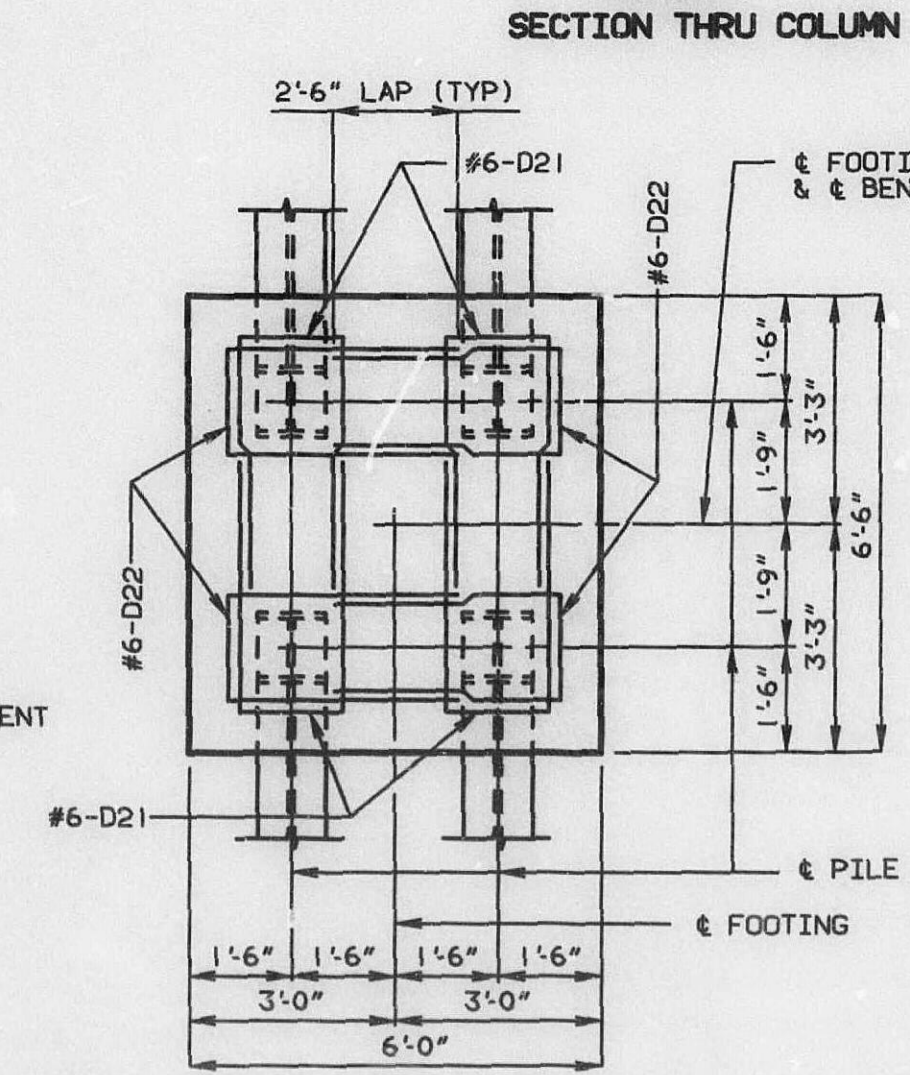
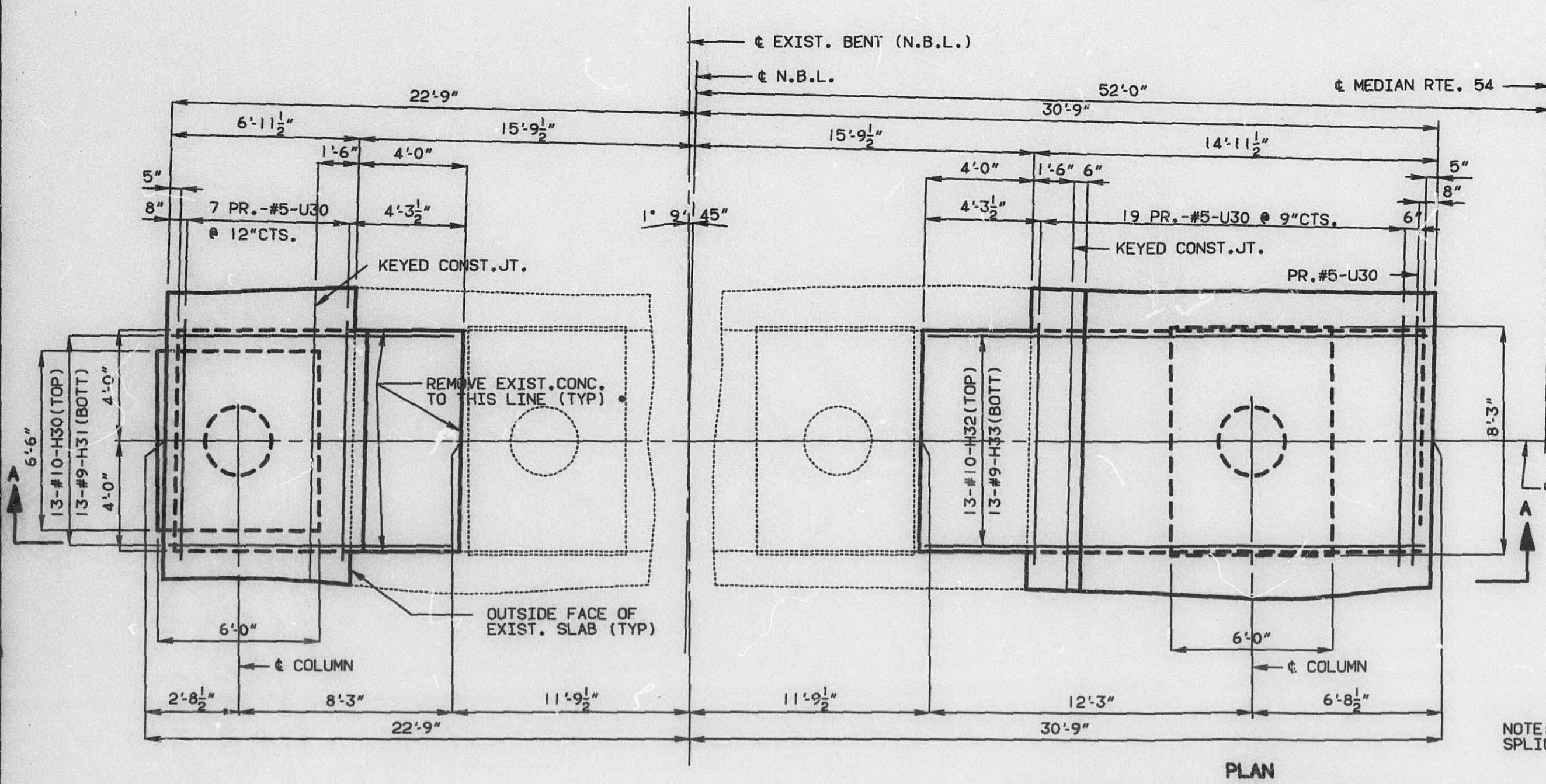
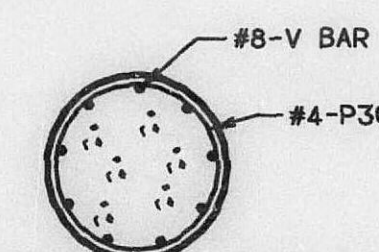
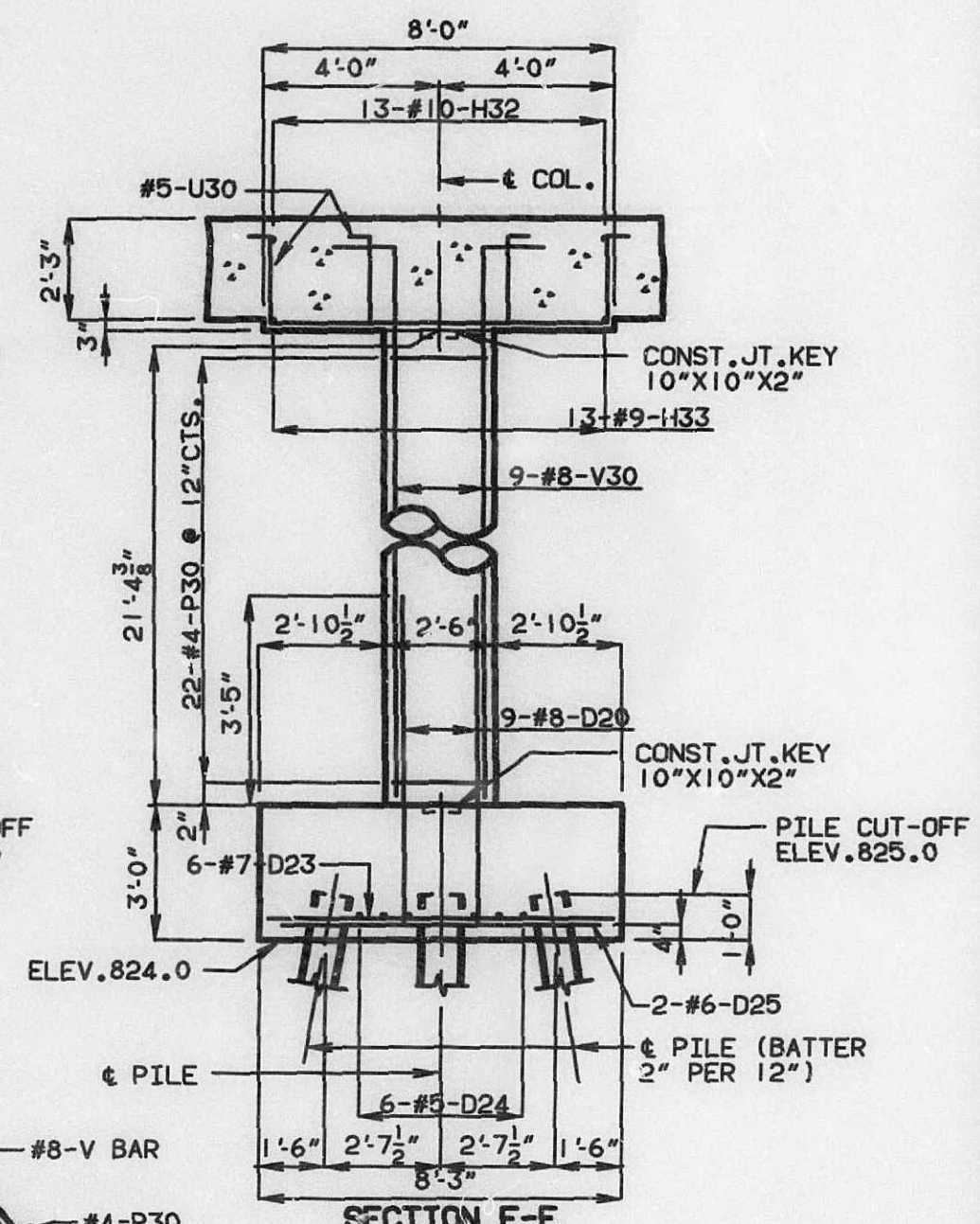
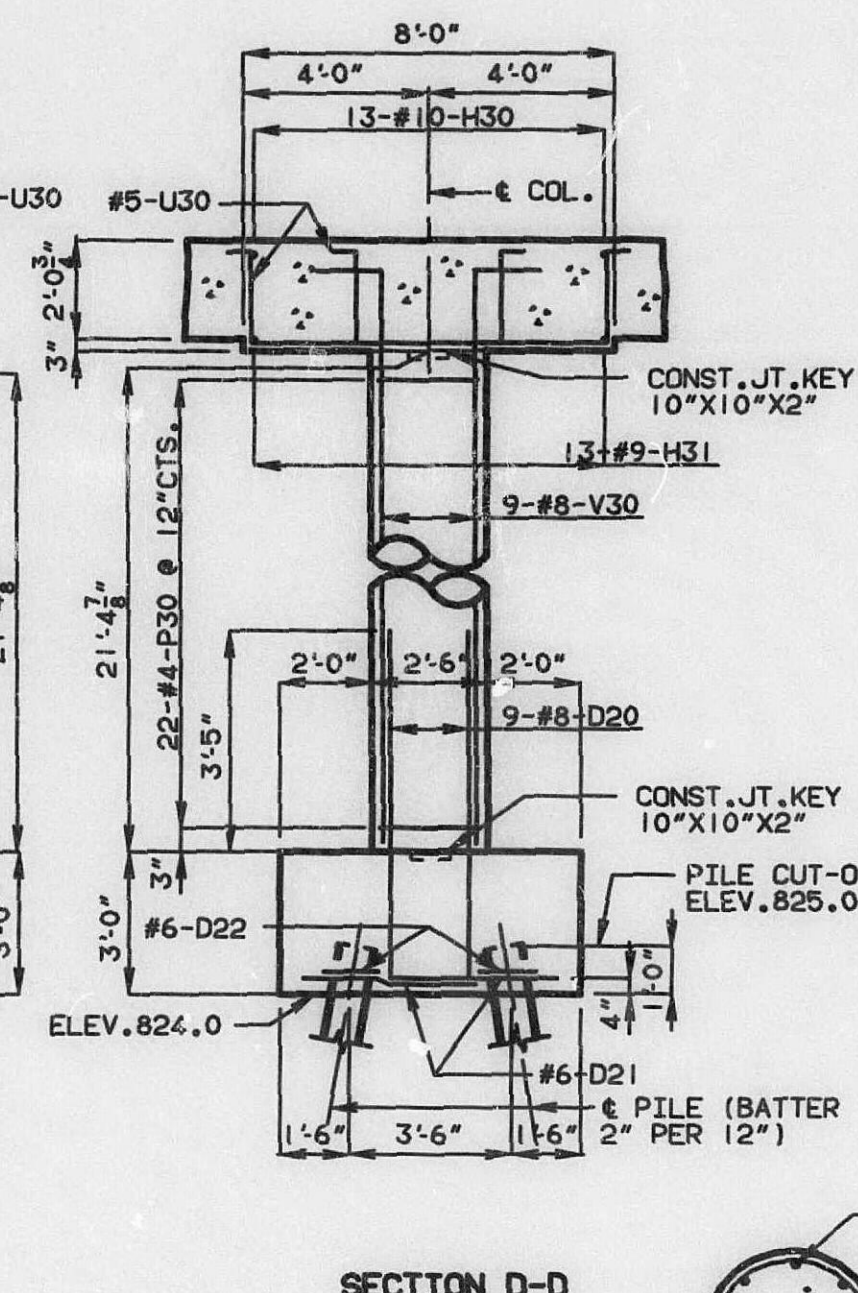
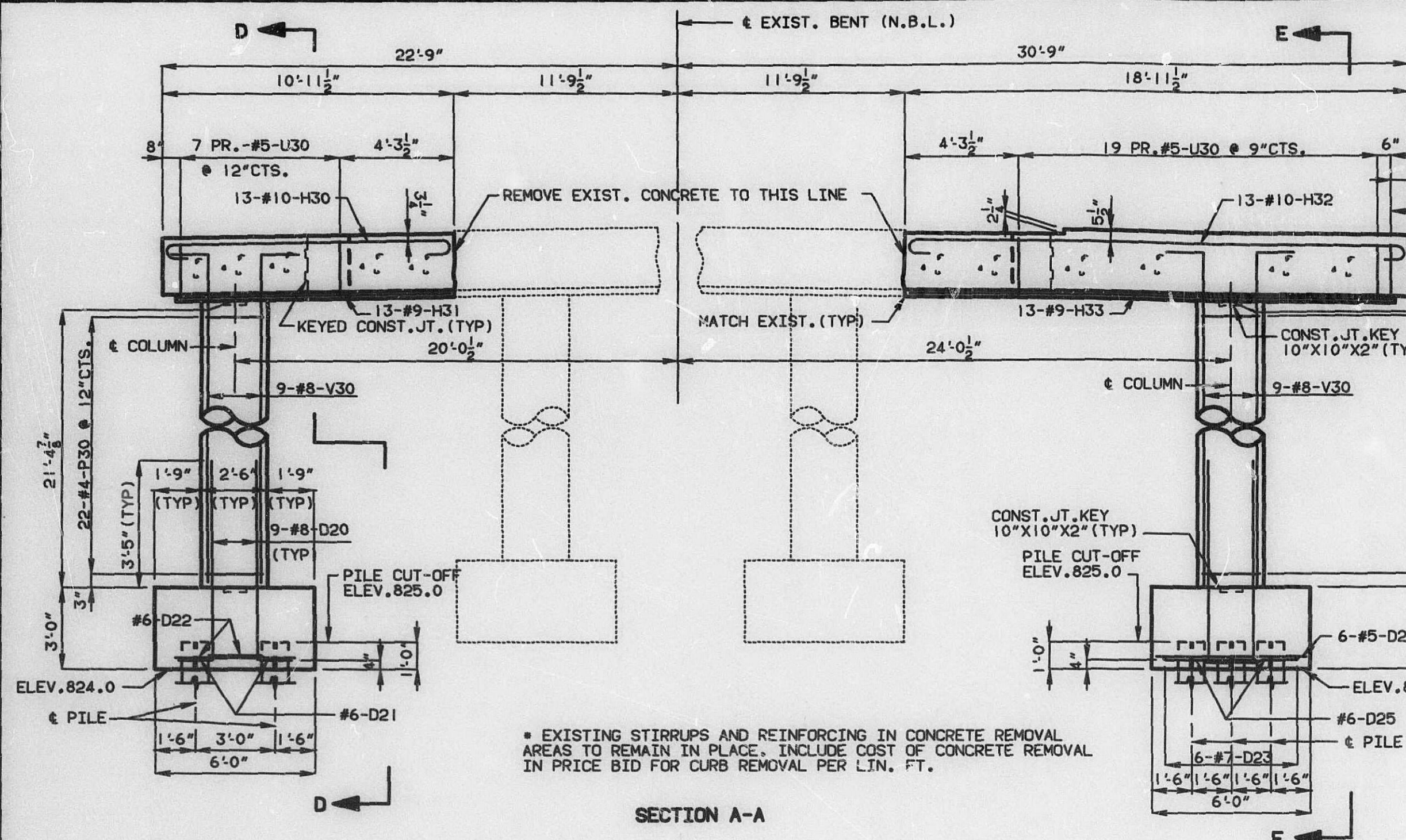
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 10 OF 26

CALLAWAY COUNTY **L-964R**

DETAILED APR. 1990
CHECKED APR. 1990

427 375



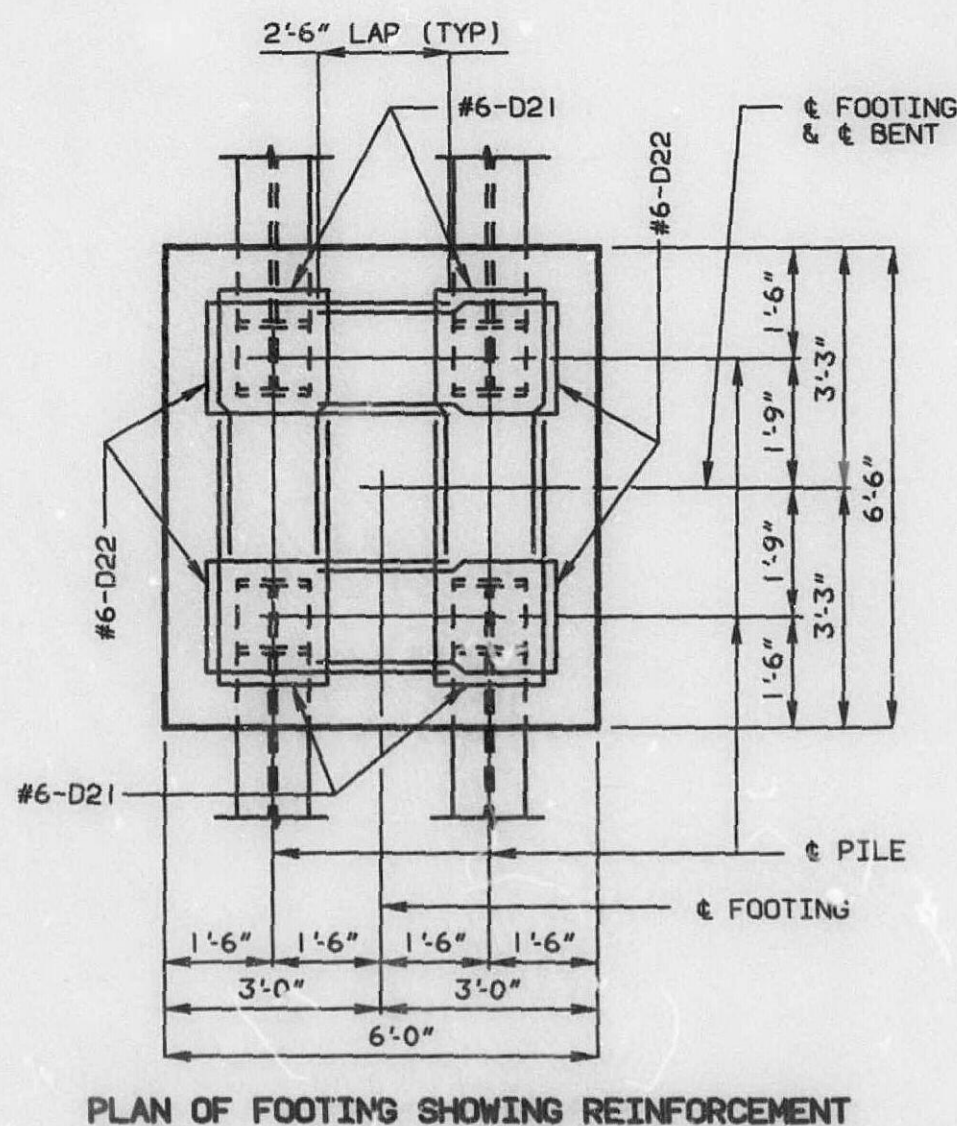
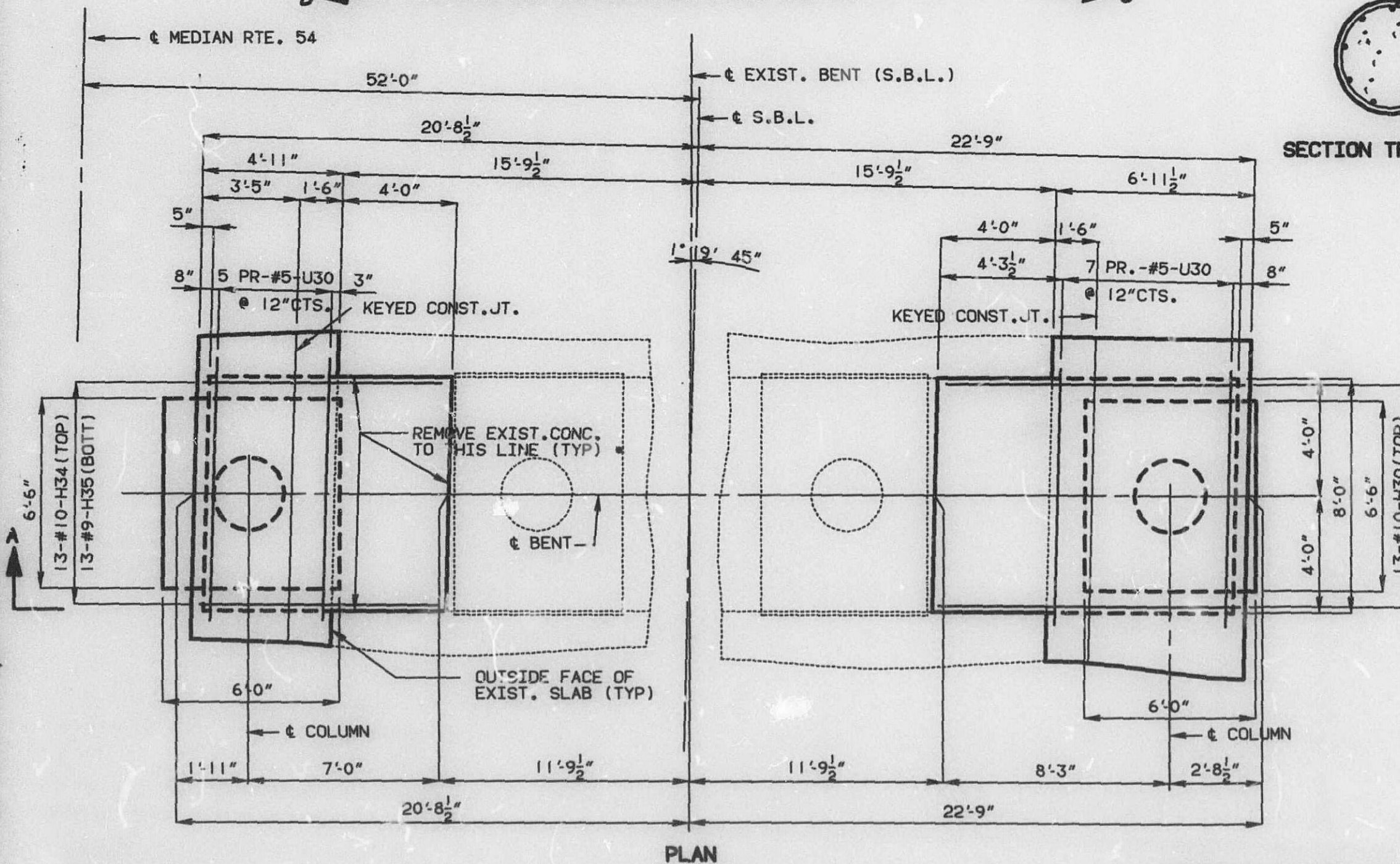
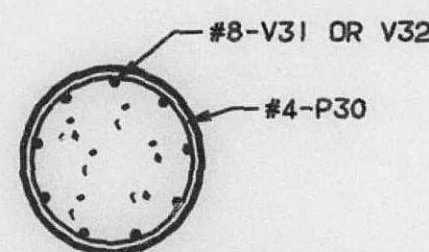
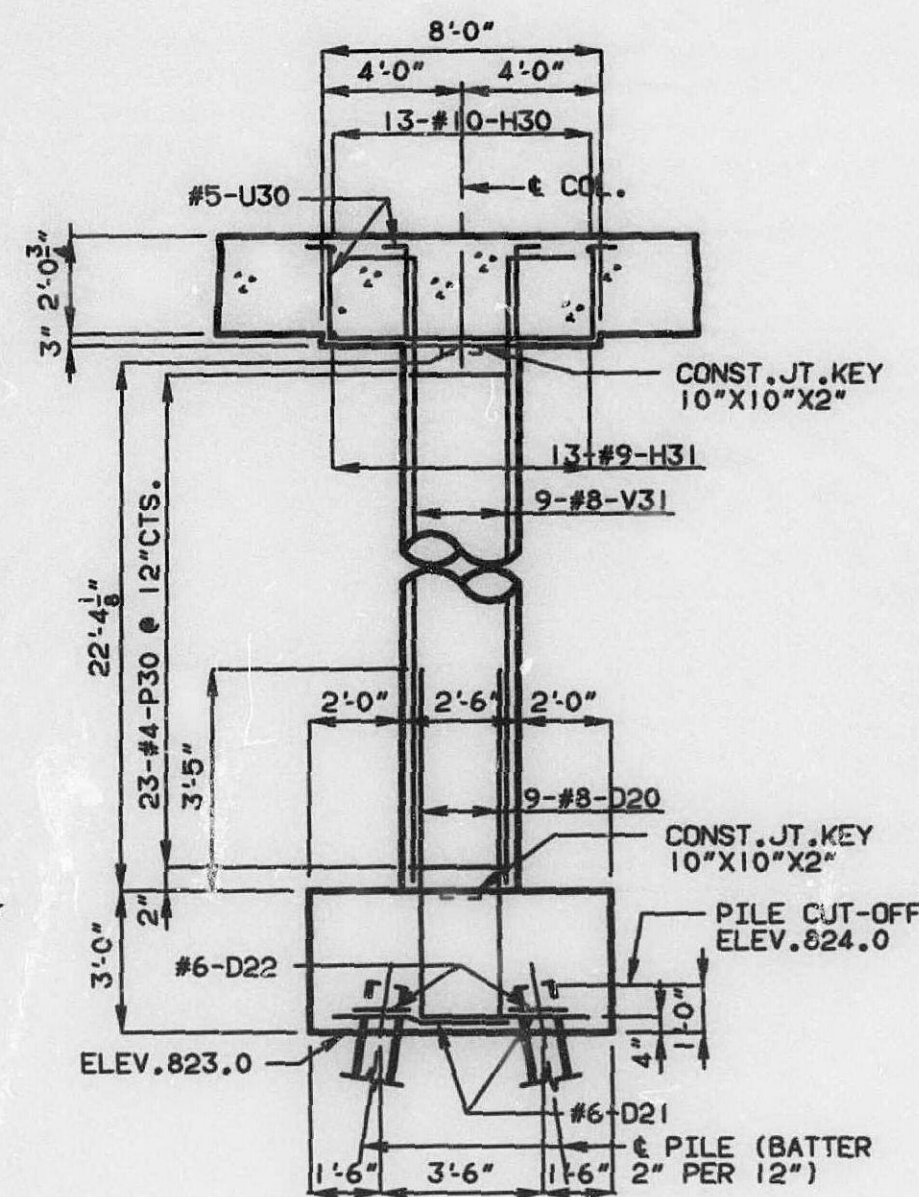
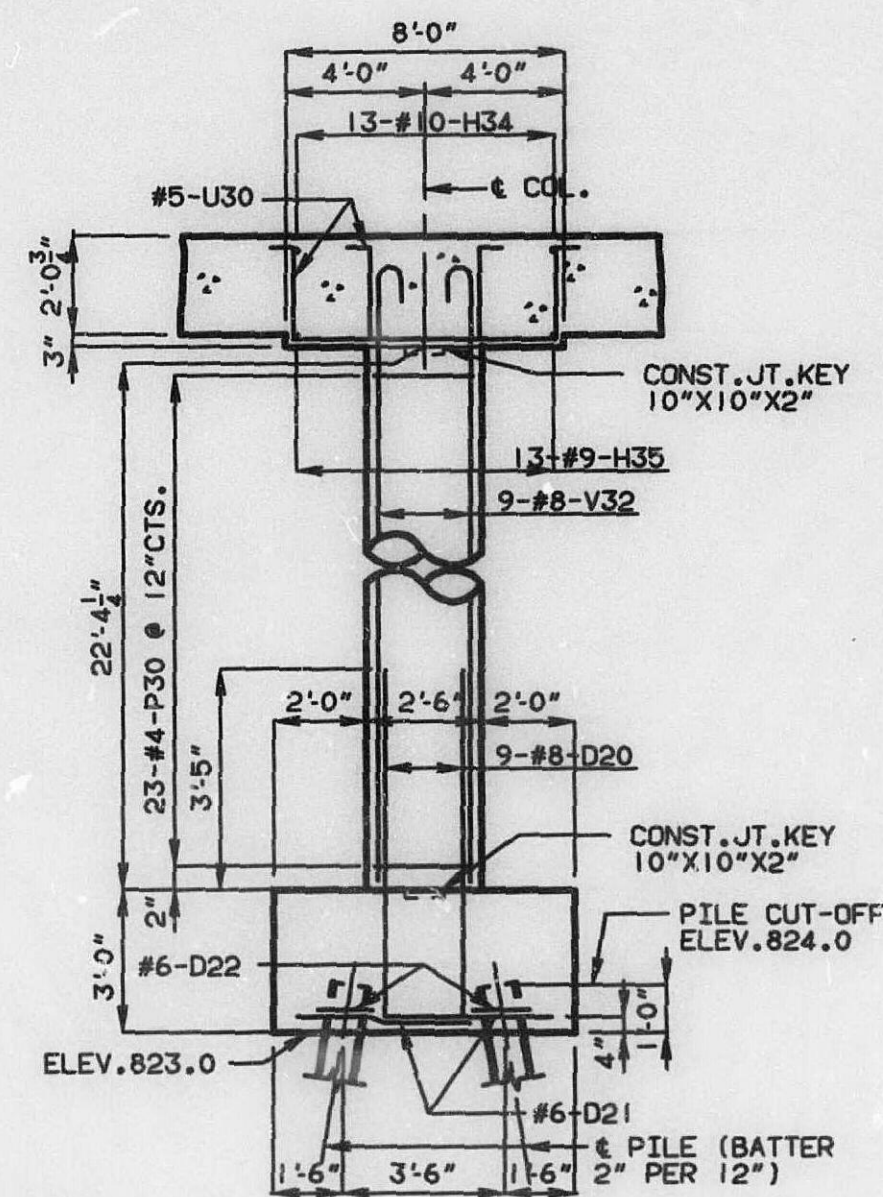
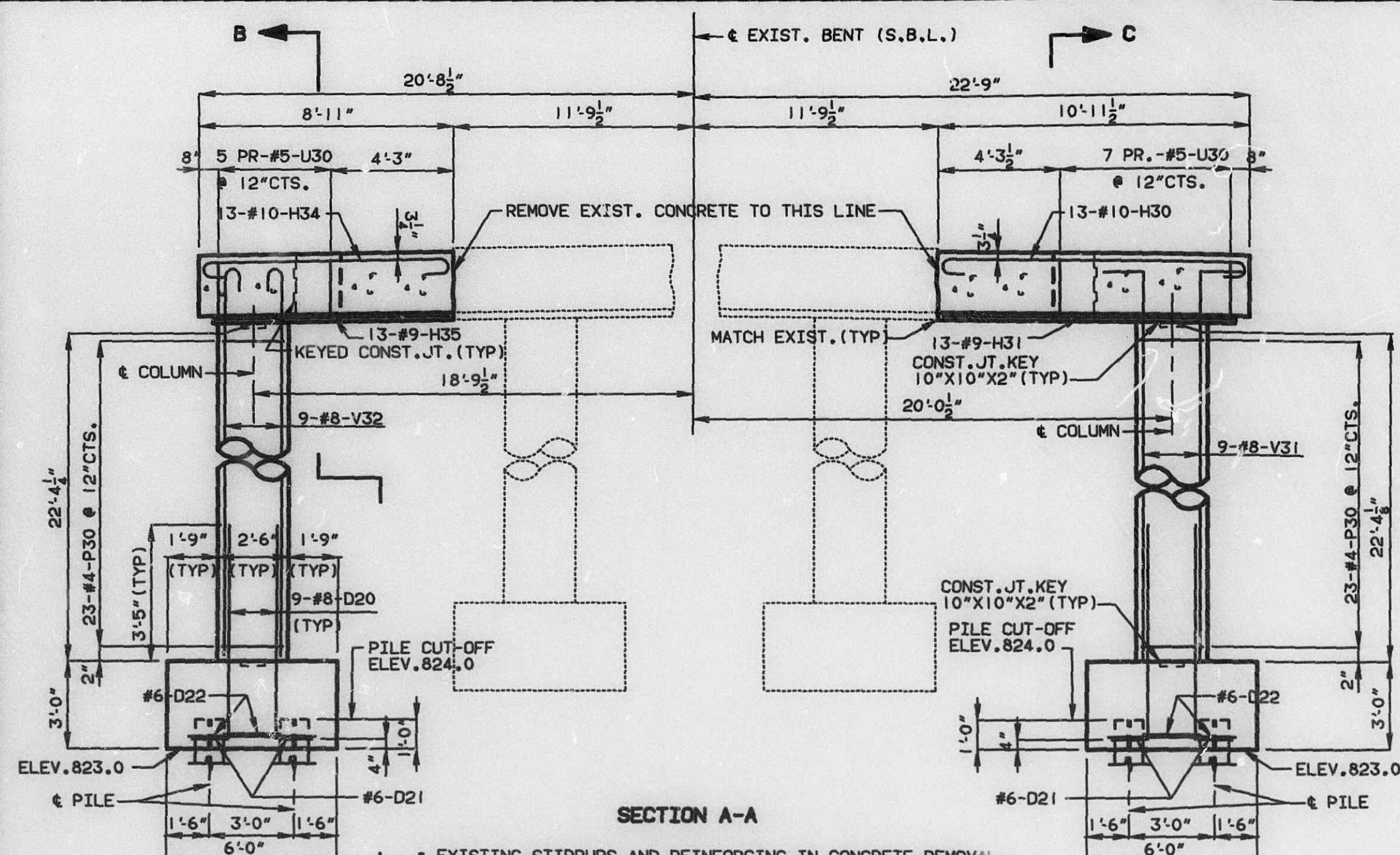
NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.

DETAILS OF INT. BENT NO. 3 (N.B.L.)

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 11 OF 26

483-376



NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.

484 377

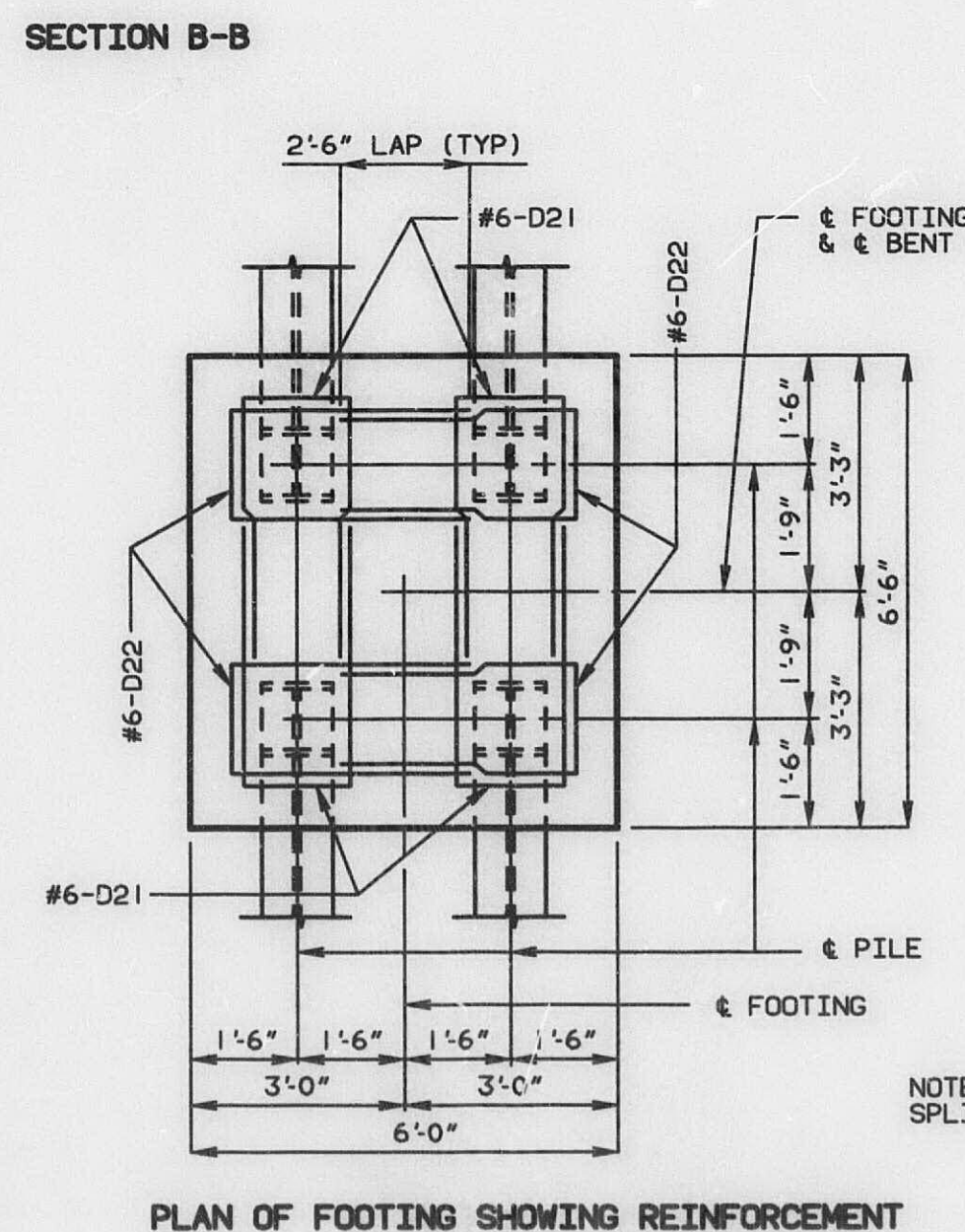
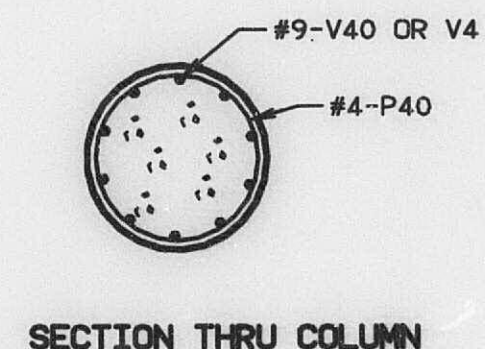
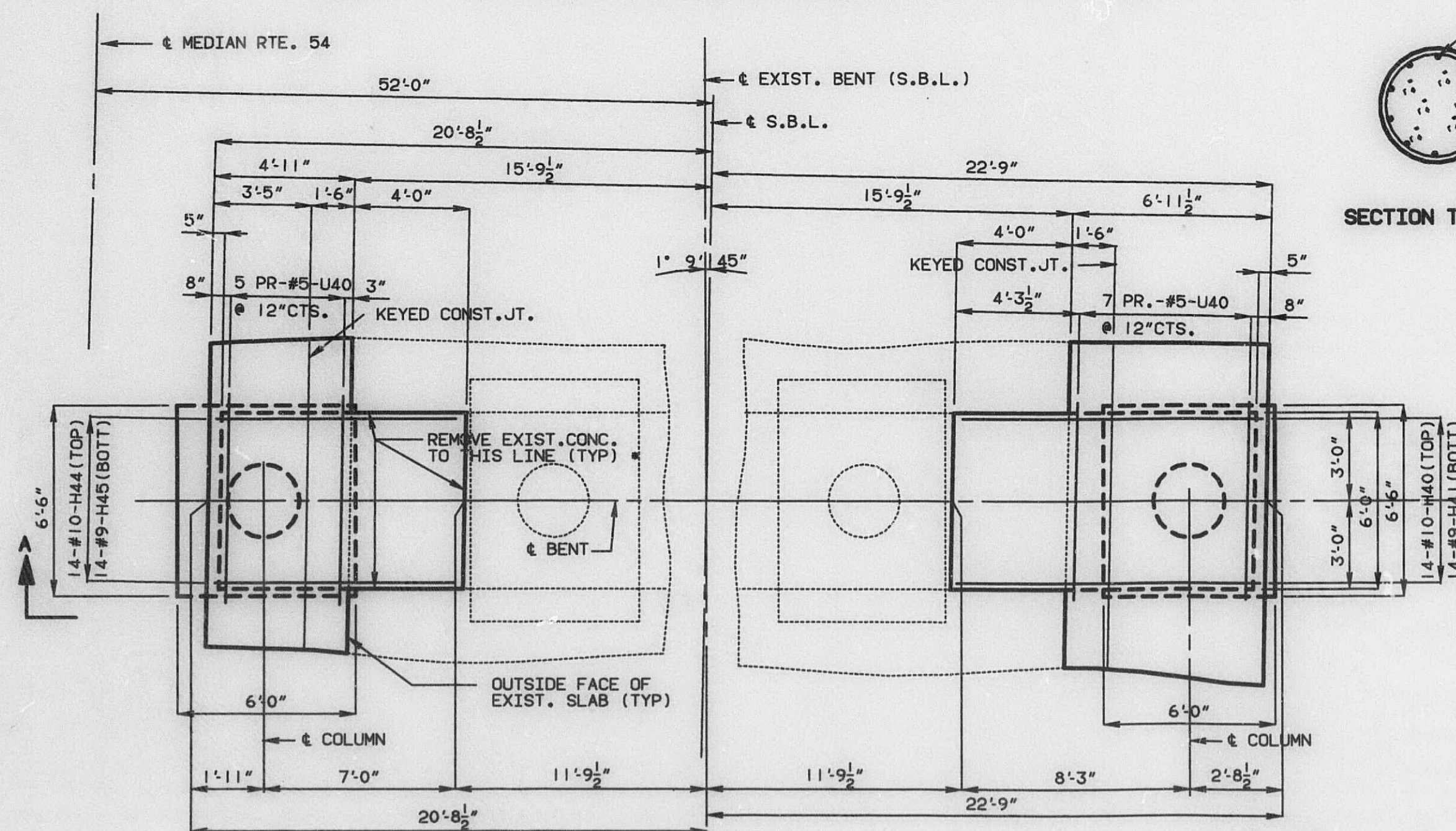
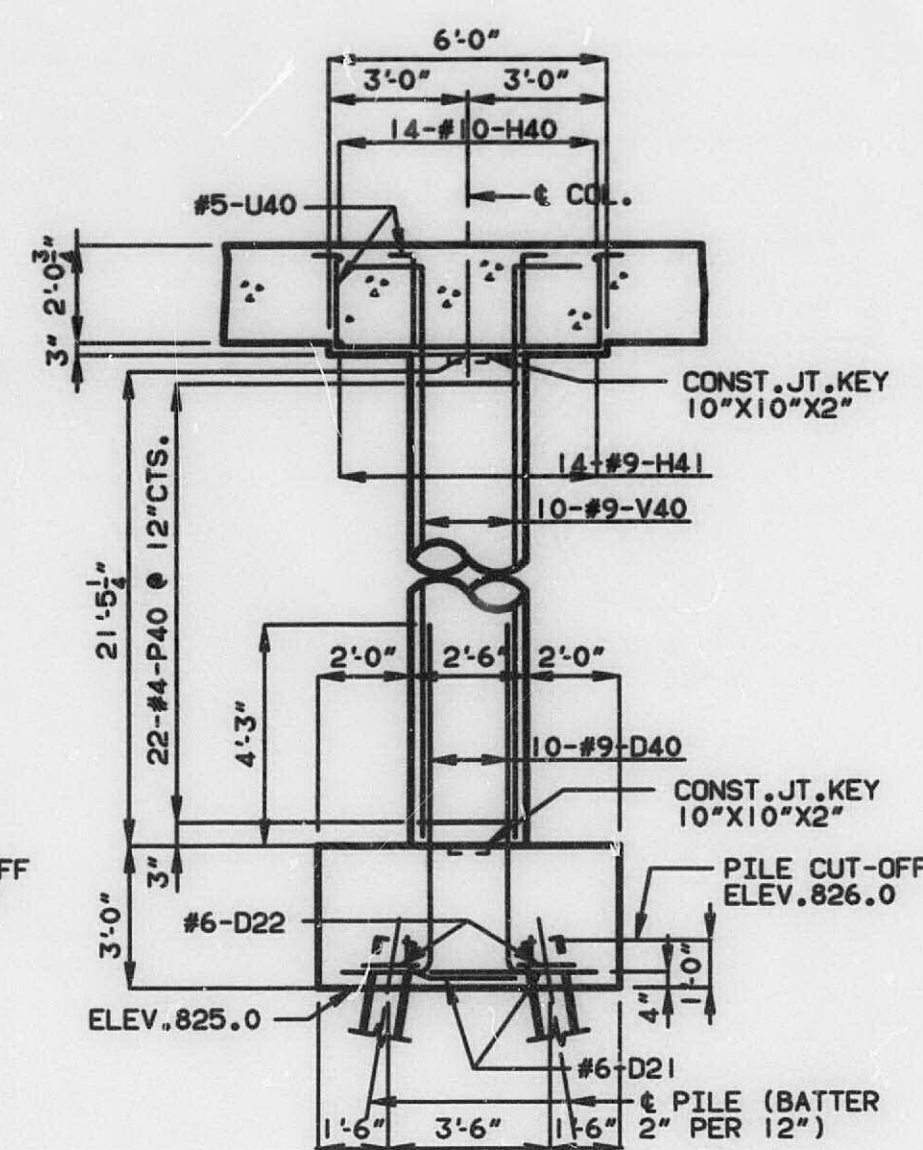
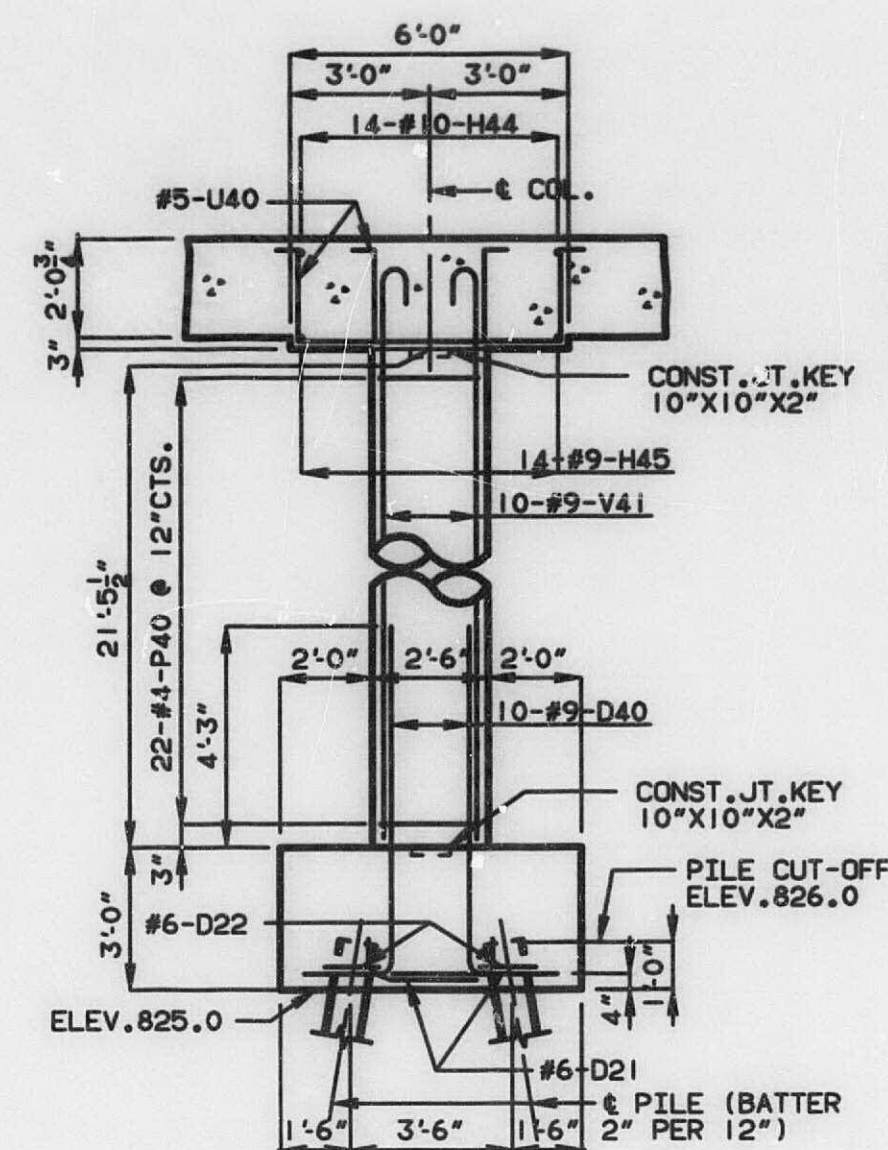
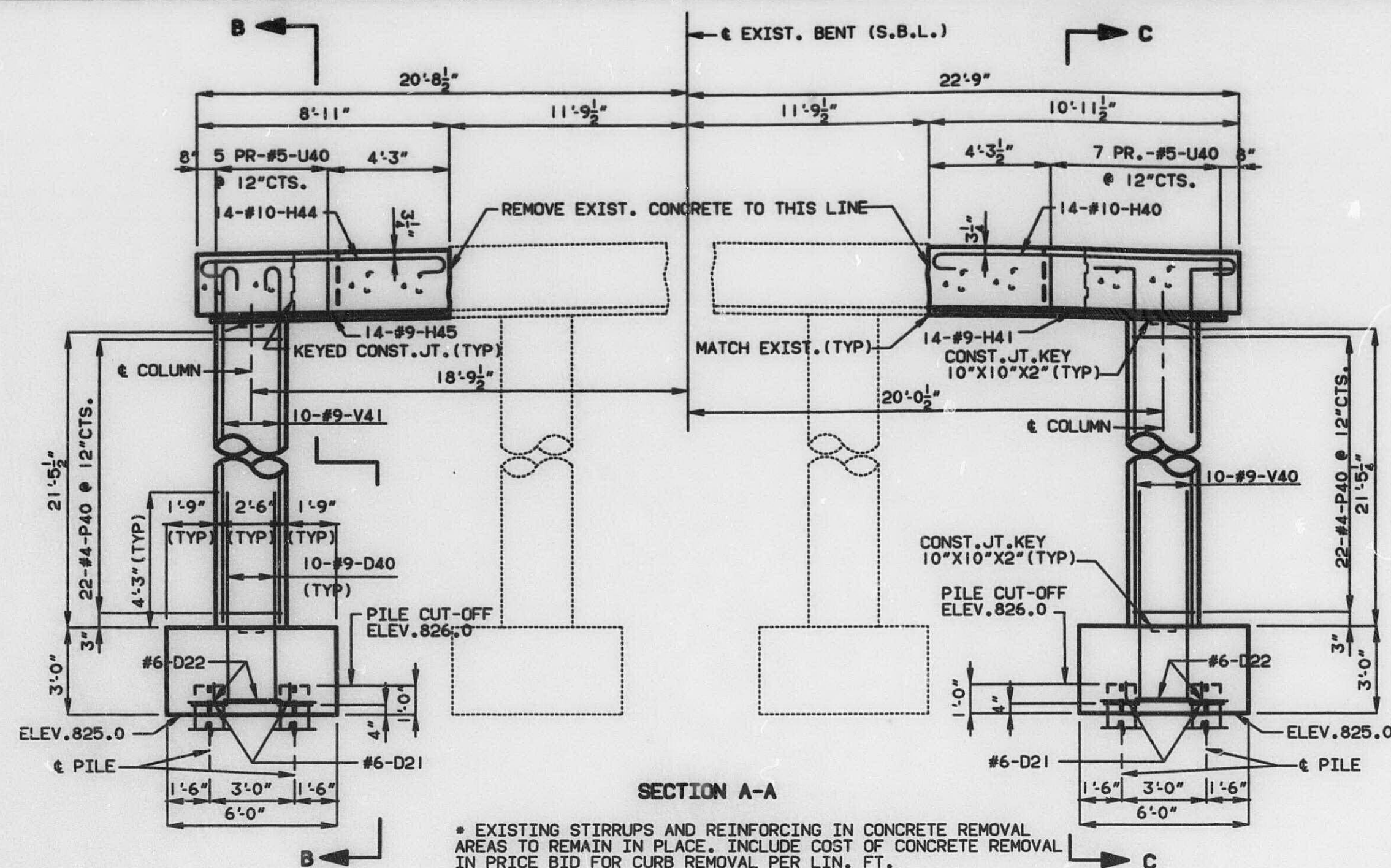
DETAILS OF INT. BENT NO. 3 (S.B.L.)

DETAILED APR. 1990
CHECKED APR. 1990

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 12 OF 26

CALLAWAY COUNTY L-964R



NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.

DETAILS OF INT. BENT NO. 4 (S.B.L.)

DETAILED MAR. 1990
CHECKED MAR. 1990

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

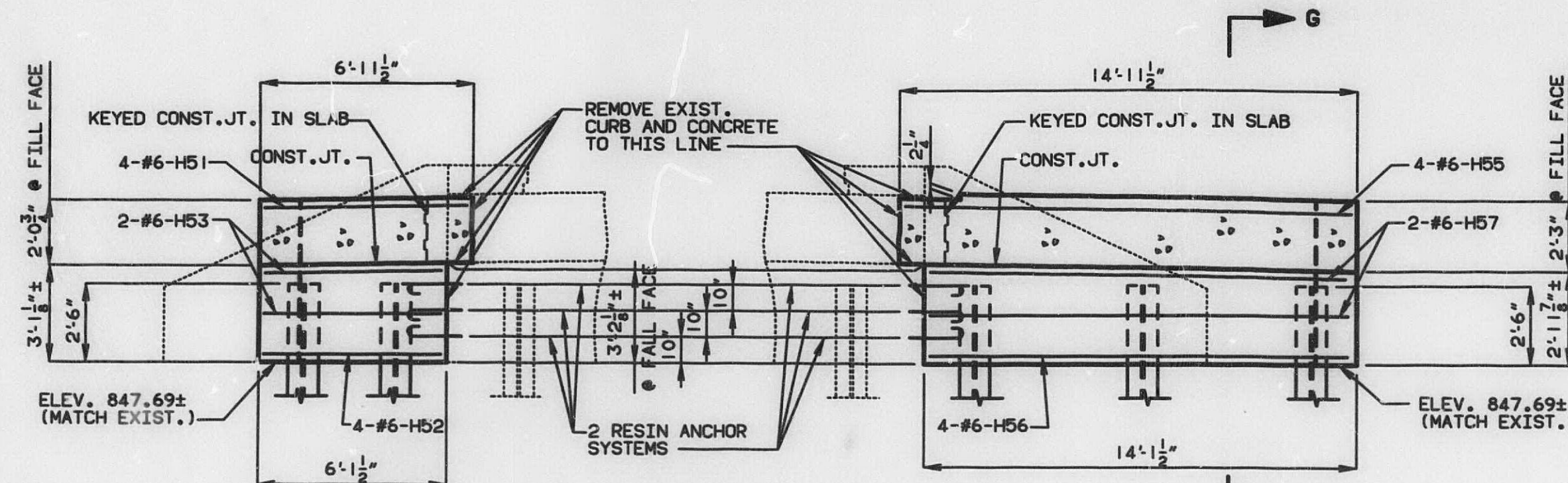
SHEET NO. 14 OF 26

CALLAWAY COUNTY L-964R

486 379

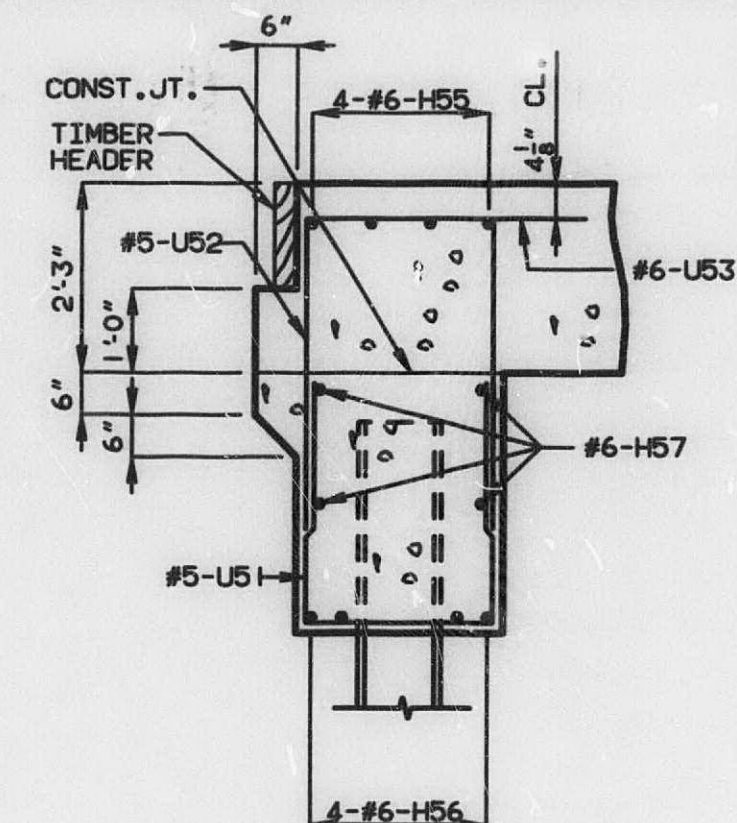
NOTE: FOR DETAILS OF TIMBER HEADER, SEE SHEET NO. 23.
FOR DETAILS AND REINFORCEMENT OF BARRIER CURB,
SEE SHEETS NO. 21 & 23.

STATE	PROJ. NO.	SHEET NO.
MO.		50

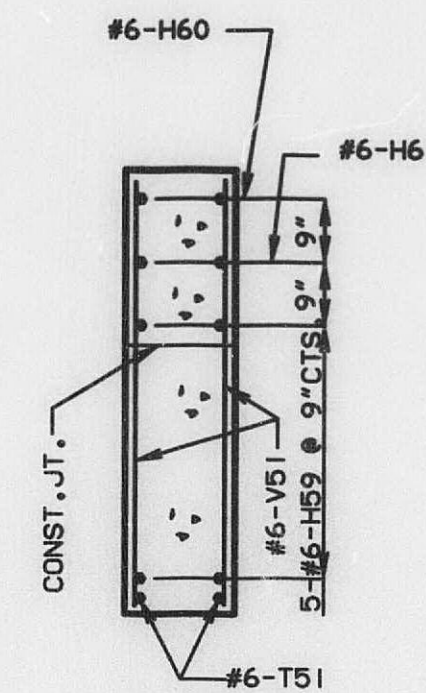


SECTION A-A

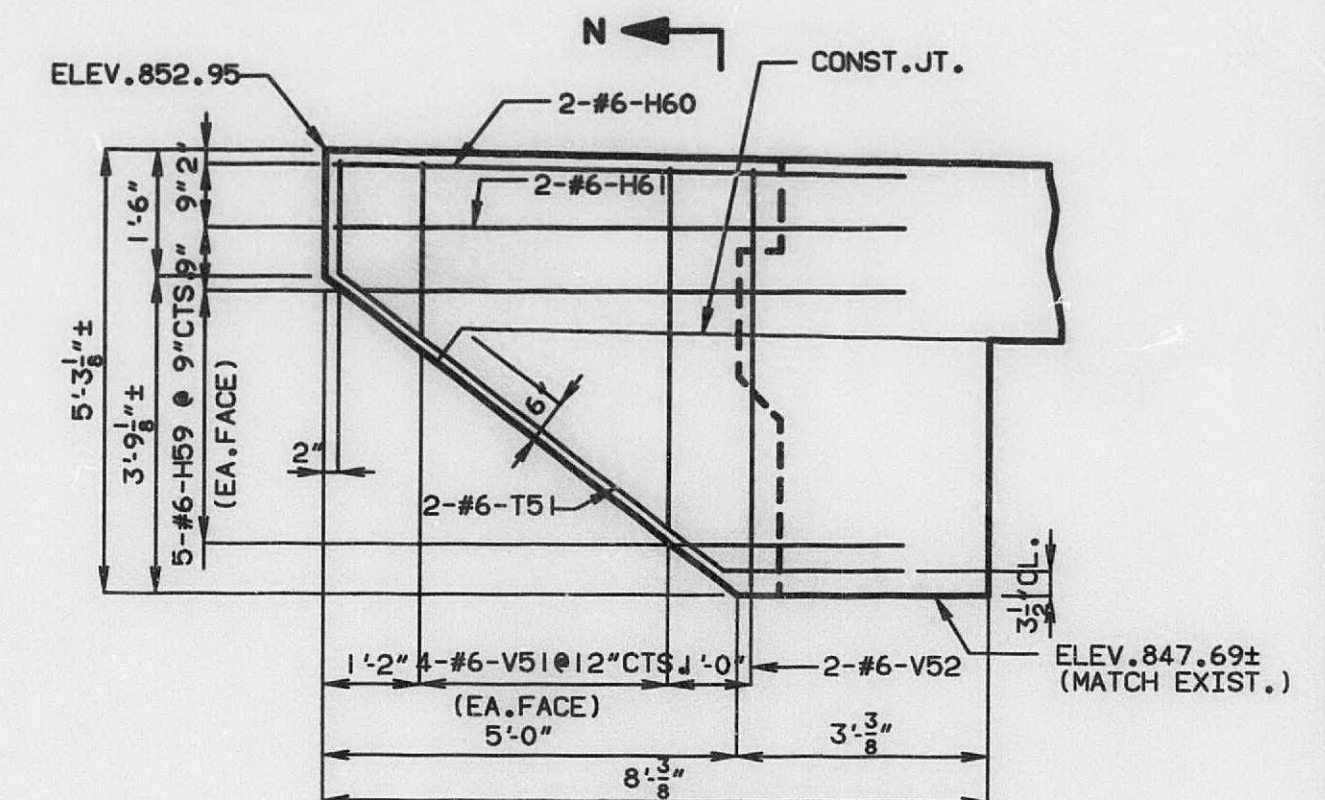
NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.
FOR RESIN ANCHOR SYSTEM NOTES, SEE SHEET NO. 17.



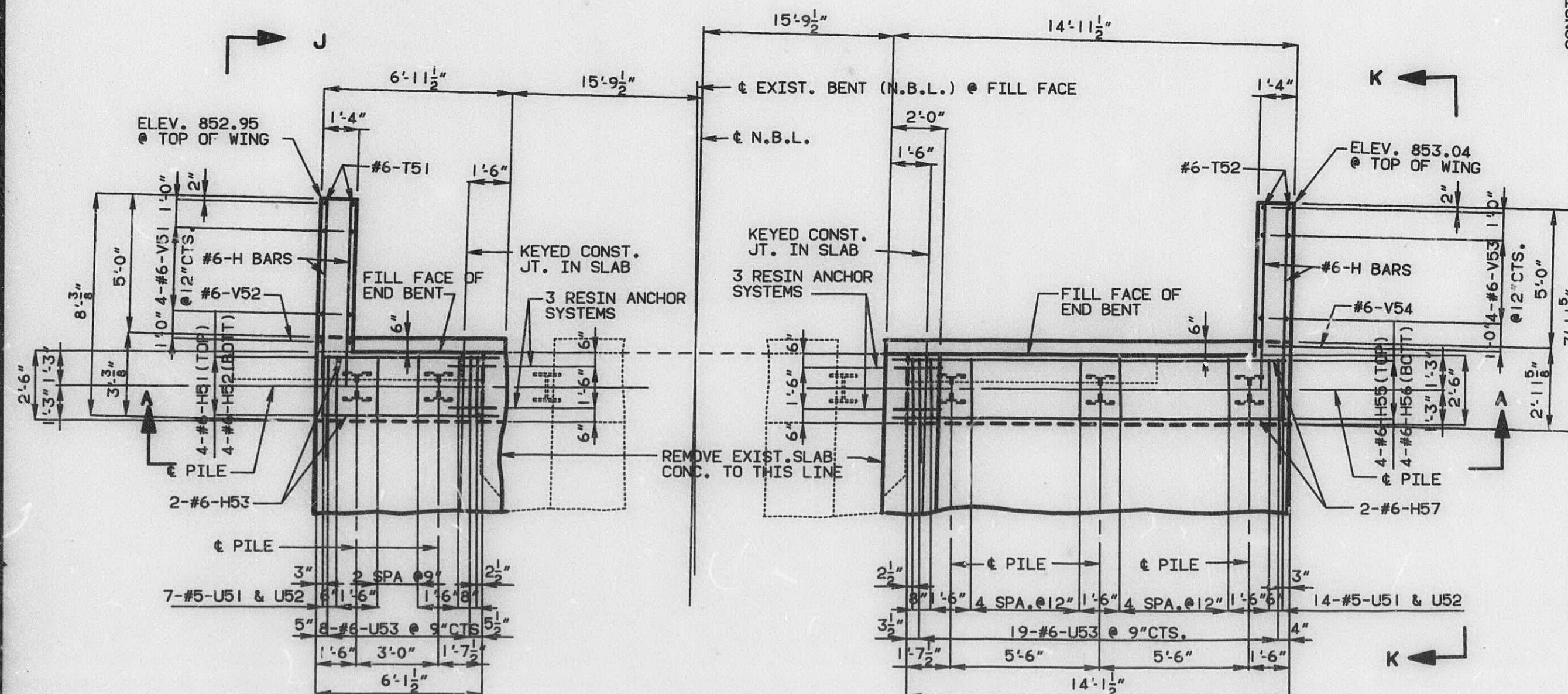
SECTION G-G



SECTION N-N

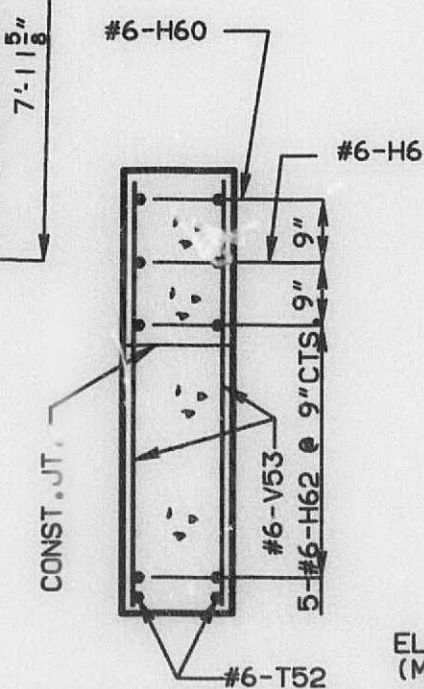


ELEVATION J-J

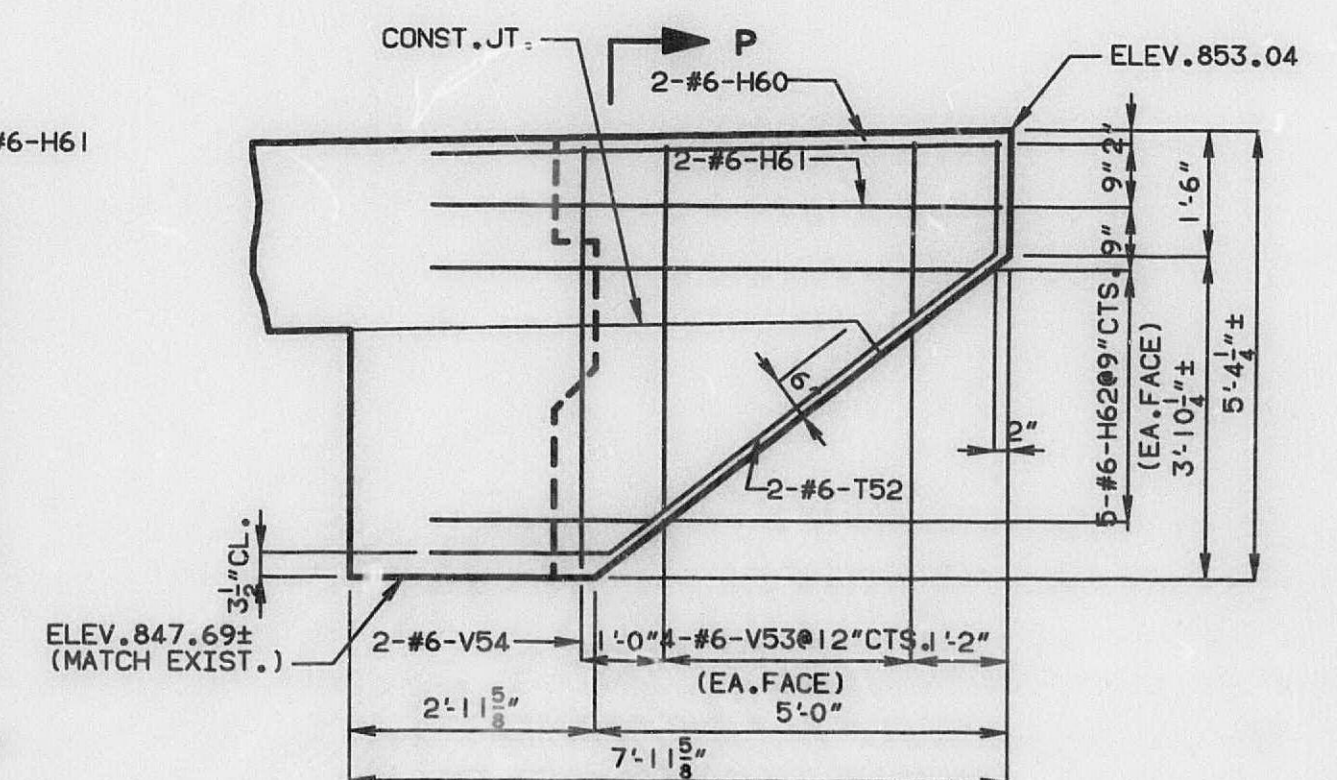


PLAN

NOTE: PLACE ALL U BARS PARALLEL TO ROADWAY.



SECTION P-P



ELEVATION K-K

DETAILS OF END BENT NO. 5 (N.B.L.)

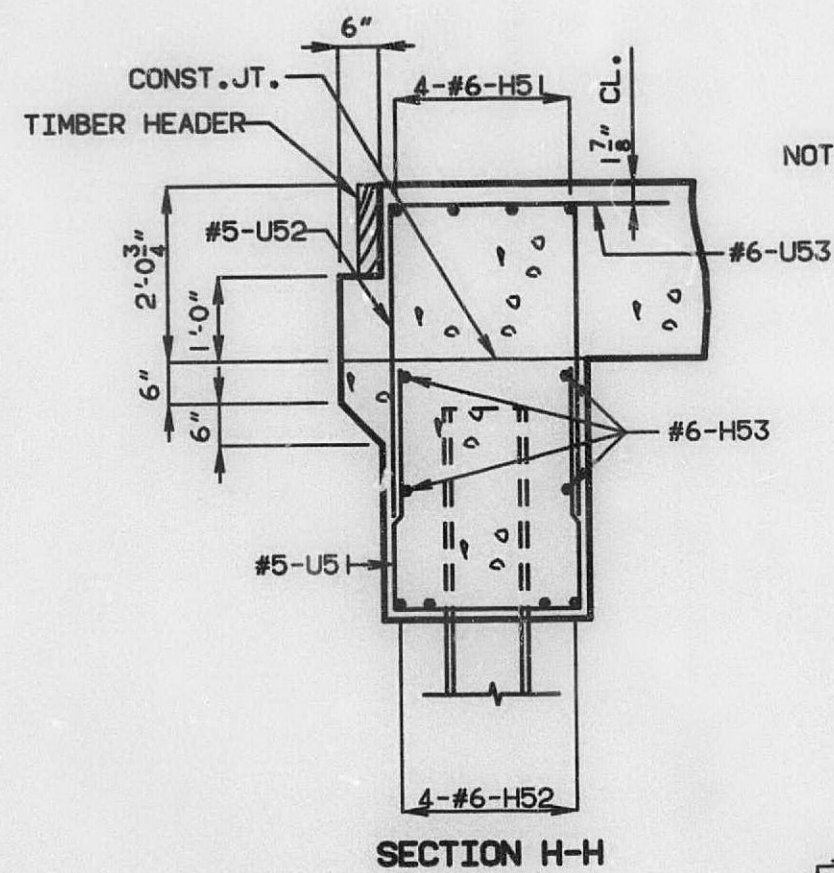
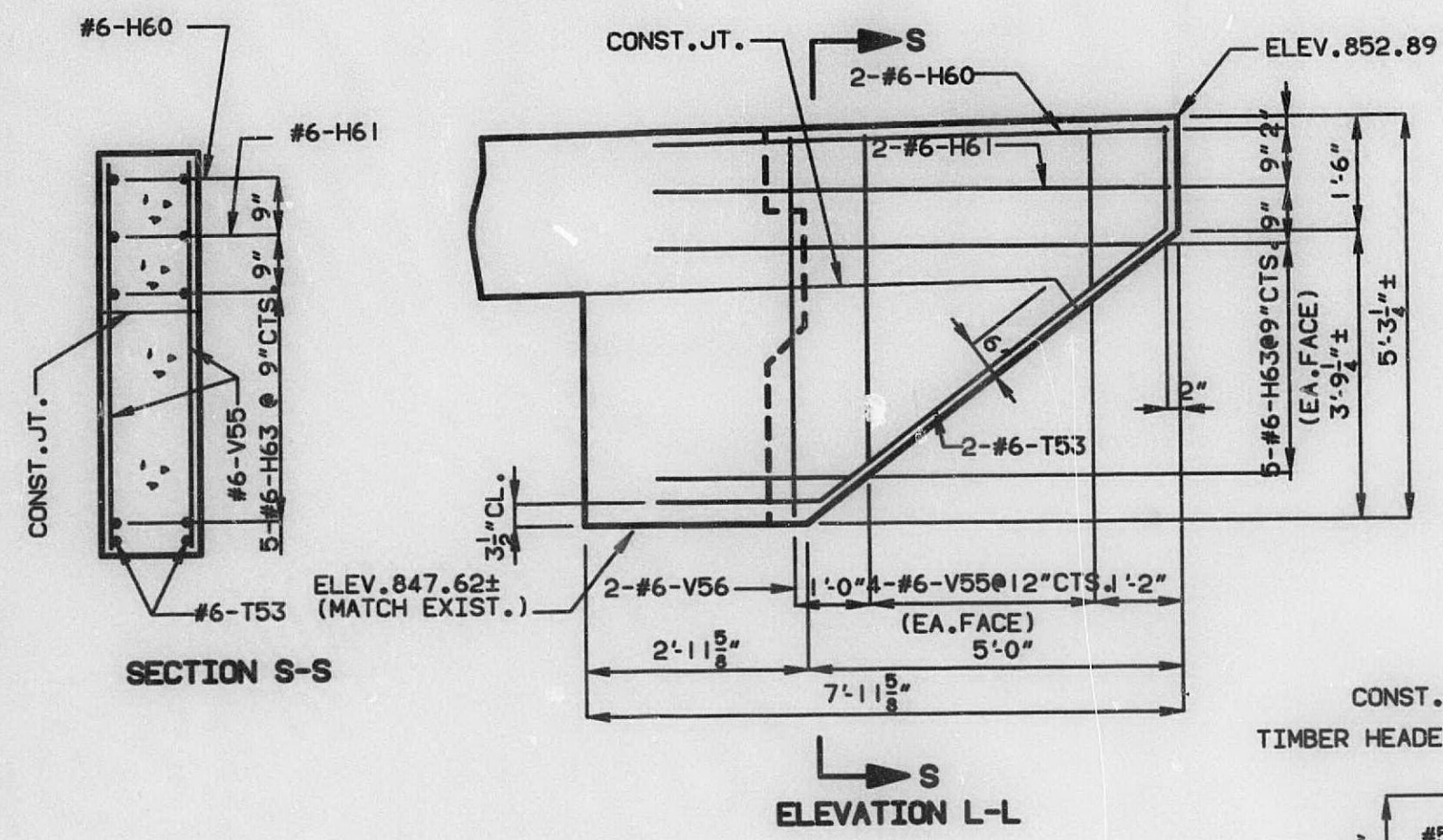
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 15 OF 26

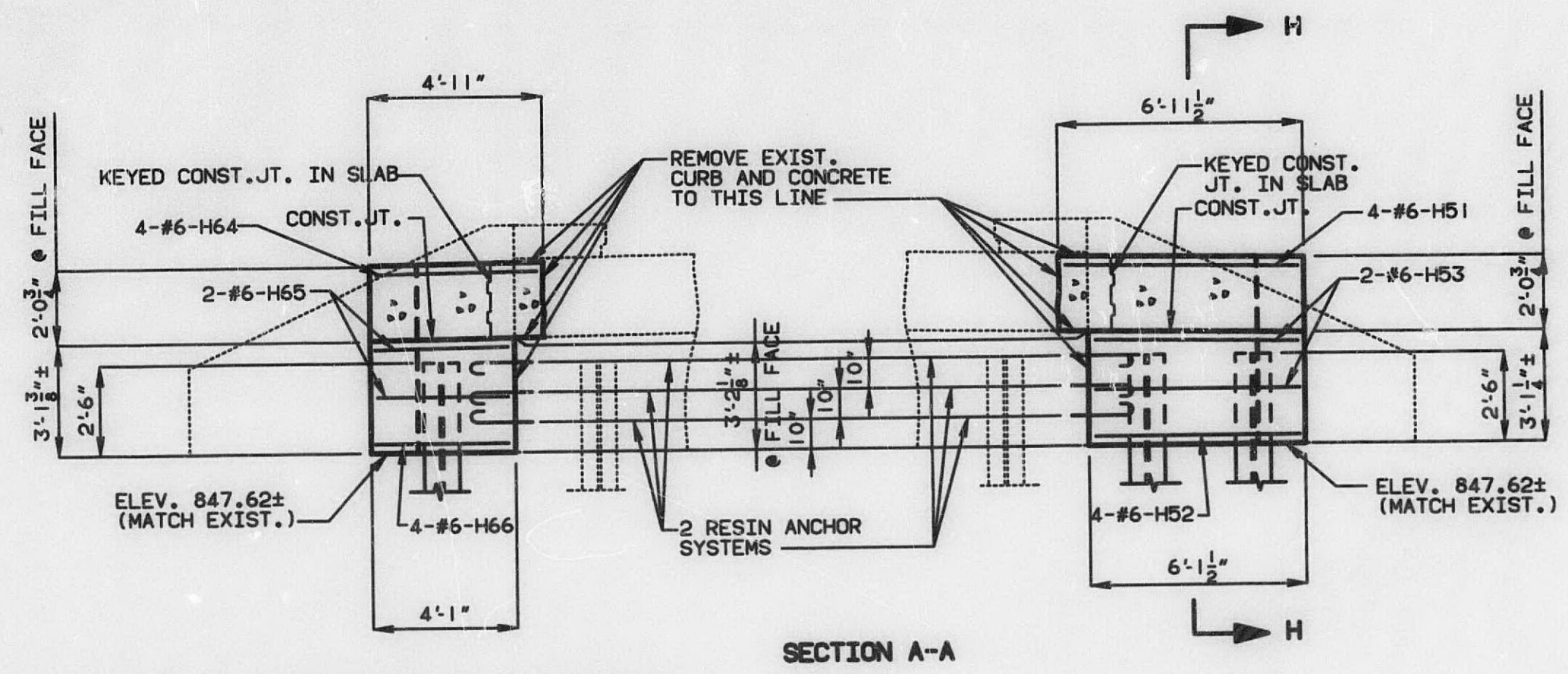
CALLAWAY COUNTY L-964R

DETAILED MAR. 1990
CHECKED MAR. 1990

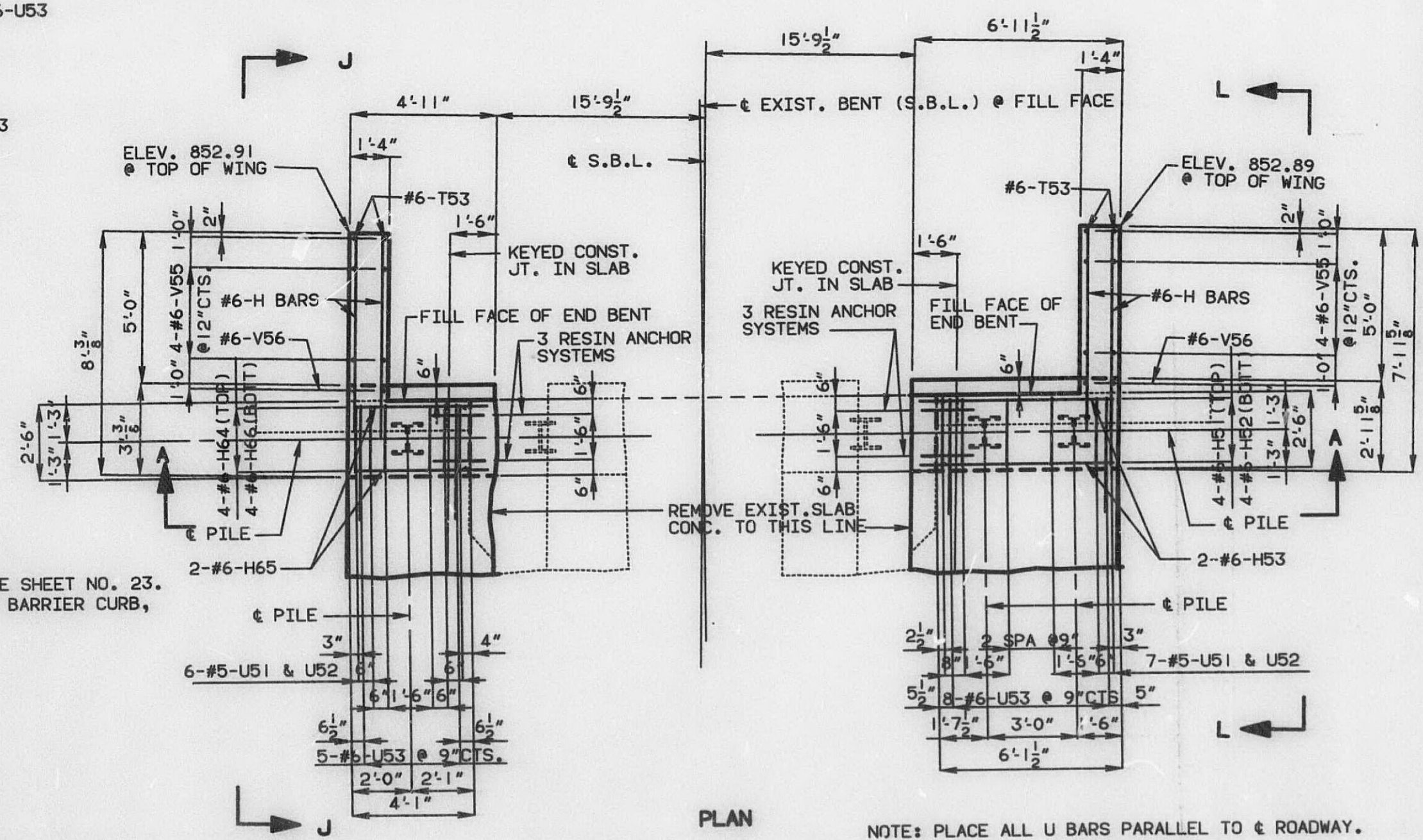
487 380



NOTE: FOR DETAILS OF TIMBER HEADER, SEE SHEET NO. 23.
FOR DETAILS AND REINFORCEMENT OF BARRIER CURB, SEE SHEET NO. 23.



NOTE: FOR DETAILS OF STEEL PILE SPLICE, SEE SHEET NO. 7.
FOR RESIN ANCHOR SYSTEM NOTES, SEE SHEET NO. 17.



NOTE: PLACE ALL U BARS PARALLEL TO ROADWAY.

DETAILS OF END BENT NO. 5 (S.B.L.)

DETAILED MAY 1990
CHECKED MAY 1990

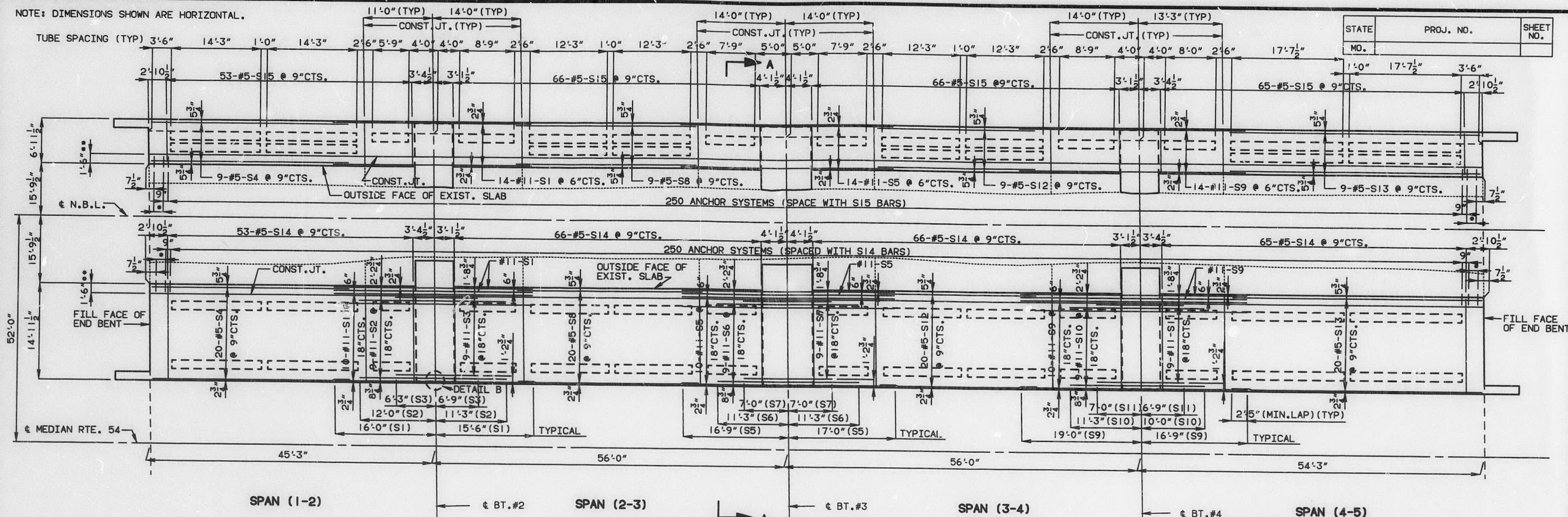
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 16 OF 26

CALLAWAY COUNTY L-964R

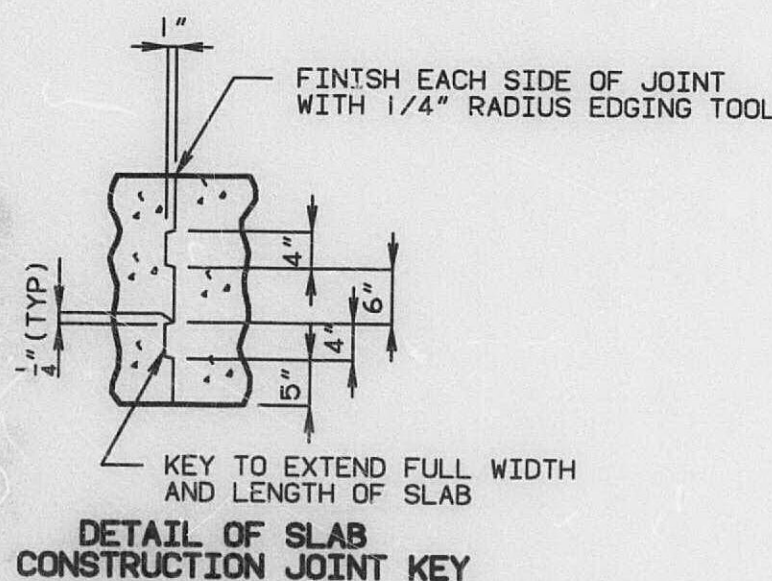
478 381

NOTE: DIMENSIONS SHOWN ARE HORIZONTAL.

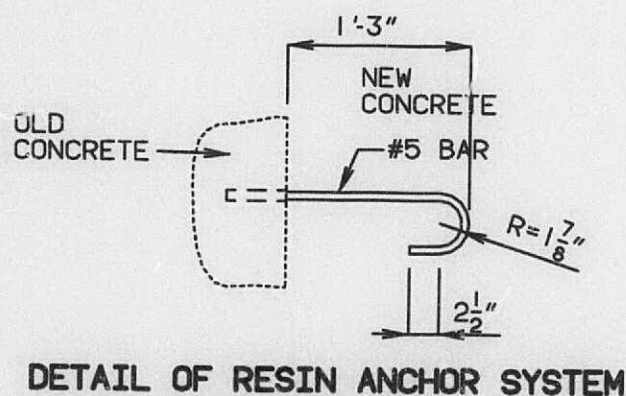


PLAN OF SLAB SHOWING TOP REINFORCEMENT (N.B.L.)

* 3 ANCHOR SYSTEMS AT 9" CTS.
 ** CLOSURE POUR (SEE SPECIAL PROVISIONS). RELEASE FORMS BEFORE CLOSURE POUR IS PLACED. USE EXPANSIVE CONCRETE IN CLOSURE POUR (SEE SPECIAL PROVISIONS).

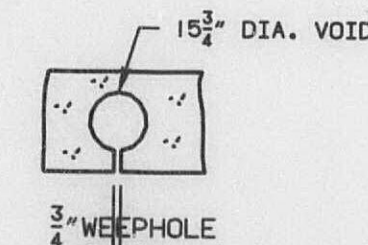


NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE ROADWAY SLAB AT A RATE OF NOT LESS THAN 25 CU. YDS. PER HR. (THE CONTRACTOR SHALL OBSERVE THE TRANSVERSE CONSTRUCTION JTS. SHOWN ON THE PLANS UNLESS HE CAN DEMONSTRATE TO THE ENGINEER THAT HE IS EQUIPPED TO POUR AND SATISFACTORILY FINISH THE ROADWAY SLAB AT A RATE WHICH PERMITS A CONTINUOUS POURING THROUGH SOME OR ALL OF THESE JOINTS).



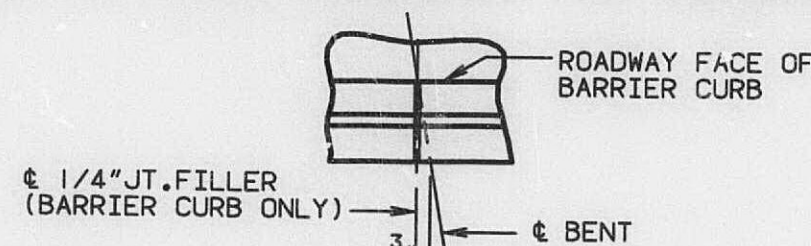
DETAIL OF RESIN ANCHOR SYSTEM

NOTE: COST OF FABRICATING AND INSTALLING RESIN ANCHOR SYSTEMS SHALL BE INCLUDED IN CONTRACT UNIT PRICE BID FOR CONCRETE. THE CONTRACTOR SHALL USE ONE OF THE RESIN ANCHOR SYSTEMS LISTED IN THE JOB SPECIAL PROVISIONS. THESE RESIN ANCHOR SYSTEMS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS, EXCEPT AS MODIFIED BY THE JOB SPECIAL PROVISIONS AND THAT AN EPOXY COATED #5 GRADE 60 REINFORCING BAR SHALL BE USED.

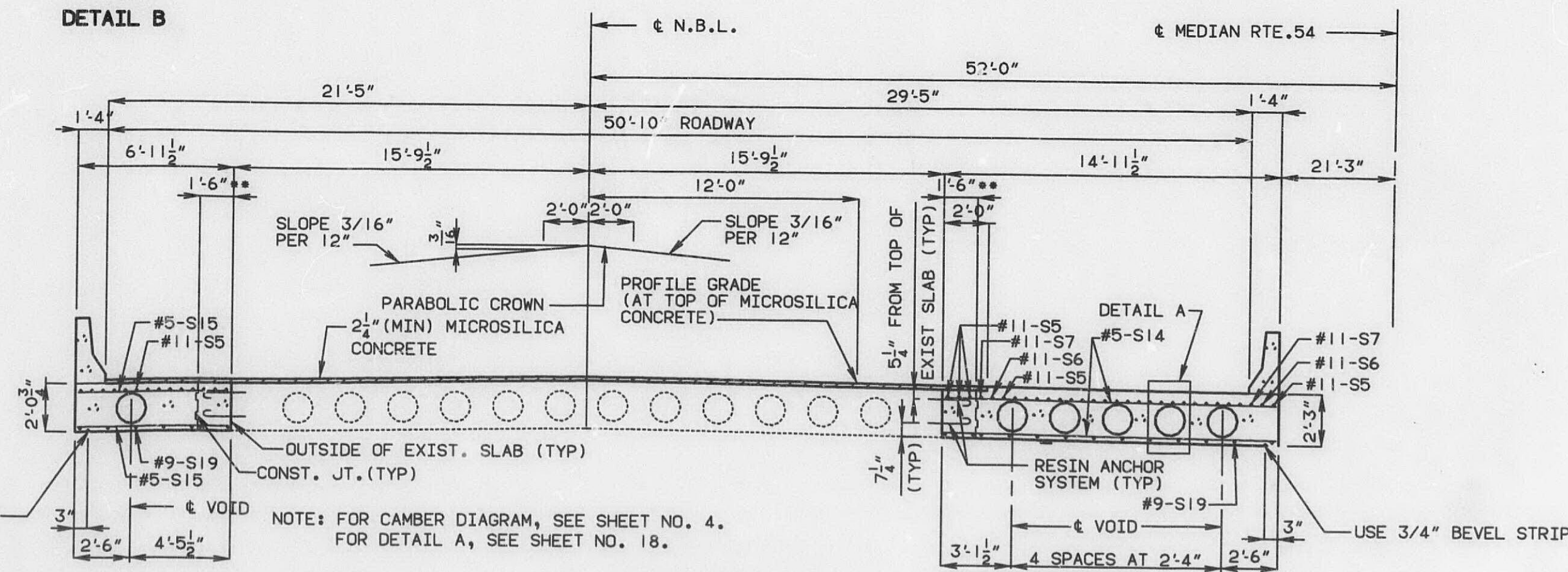


DETAIL OF WEEPHOLE IN VOIDS

NOTE: ONE 3/4" WEEPHOLE SHALL BE PROVIDED NEAR EACH END OF EACH VOID. WEEPHOLES SHALL BE PLACED IN STRAIGHT LINES PARALLEL TO BENTS.



DETAIL B



SECTION A-A

(VOID SPACING TYPICAL NEAR ALL INTERMEDIATE BENTS)

DETAILED FEB. 1990
 CHECKED FEB. 1990

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 17 OF 26.

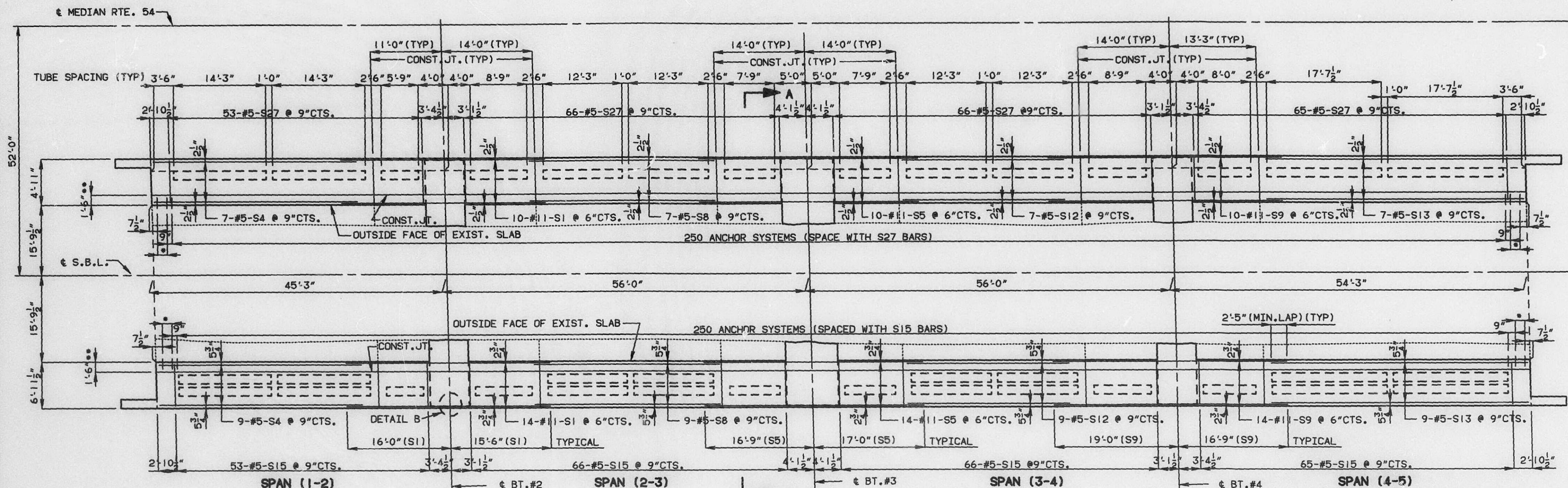
CALLAWAY

COUNTY

L-964R

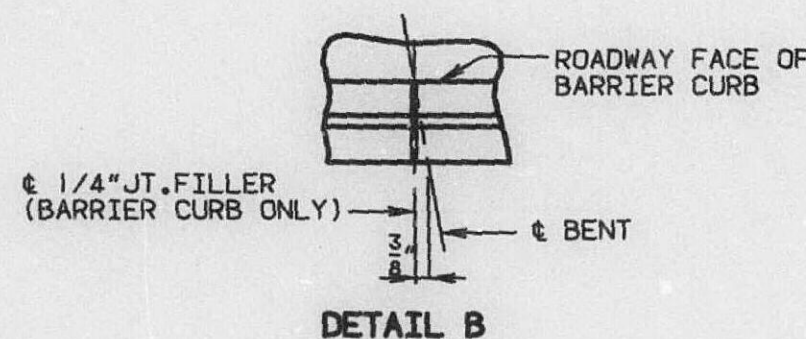
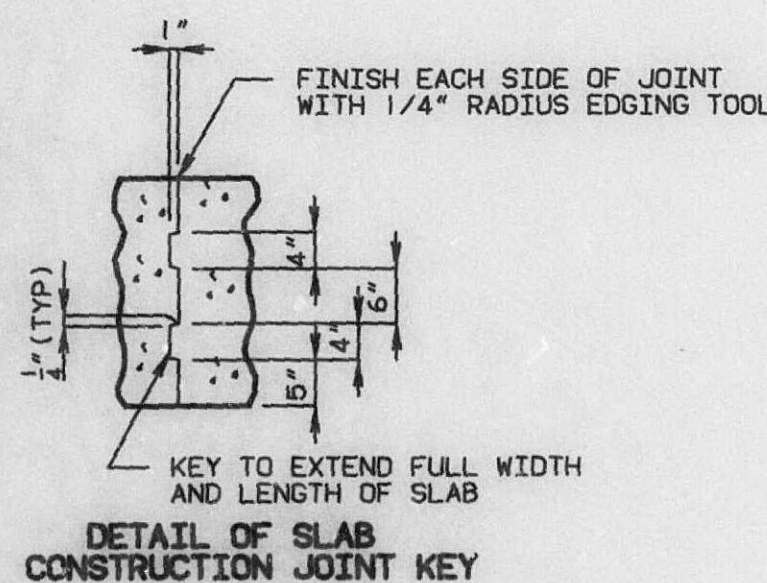
STATE	PROJ. NO.	SHEET NO.
MO.		

NOTE: DIMENSIONS SHOWN ARE HORIZONTAL.



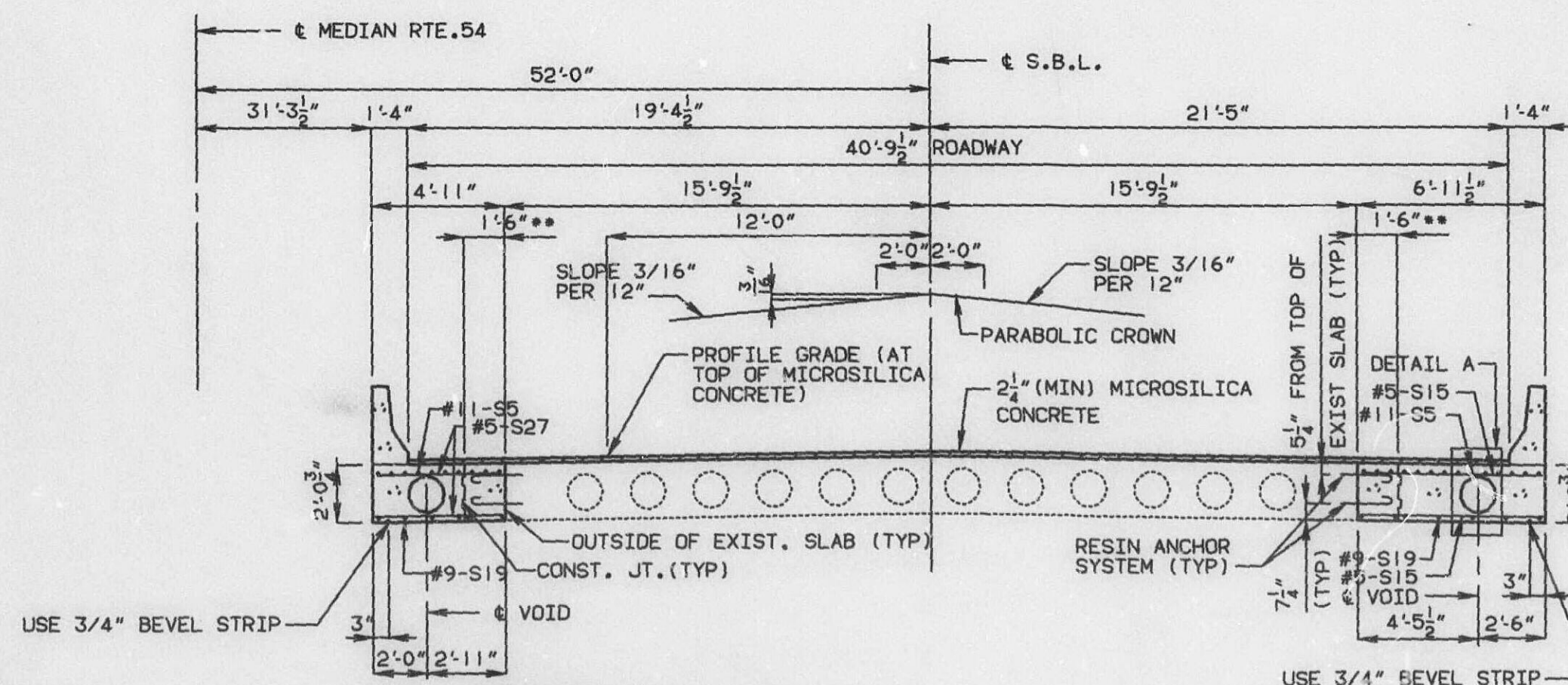
* 3 ANCHOR SYSTEMS AT 9" CTS.
 ** CLOSURE POUR (SEE SPECIAL PROVISIONS). RELEASE FORMS BEFORE CLOSURE POUR IS PLACED. USE EXPANSIVE CONCRETE IN CLOSURE POUR (SEE SPECIAL PROVISIONS).

PLAN OF SLAB SHOWING TOP REINFORCEMENT (S.B.L.)



NOTE: THE CONTRACTOR SHALL FURNISH AN APPROVED RETARDER TO RETARD THE SET OF THE CONCRETE TO 2.5 HOURS AND SHALL POUR AND SATISFACTORILY FINISH THE ROADWAY SLAB AT A RATE OF NOT LESS THAN 25 CU. YDS. PER HR. (THE CONTRACTOR SHALL OBSERVE THE TRANSVERSE CONSTRUCTION JTS. SHOWN ON THE PLANS UNLESS HE CAN DEMONSTRATE TO THE ENGINEER THAT HE IS EQUIPPED TO POUR AND SATISFACTORILY FINISH THE ROADWAY SLAB AT A RATE WHICH PERMITS A CONTINUOUS POURING THROUGH SOME OR ALL OF THESE JOINTS).

NOTE: FOR CAMBER DIAGRAM, SEE SHEET NO. 4.
 FOR DETAIL A, SEE SHEET NO. 20.
 FOR DETAILS OF RESIN ANCHOR SYSTEM, SEE SHEET NO. 17.



SECTION A-A
 (VOID SPACING TYPICAL NEAR ALL INTERMEDIATE BENTS)
 SHEET NO. 19 OF 26.

CALLAWAY

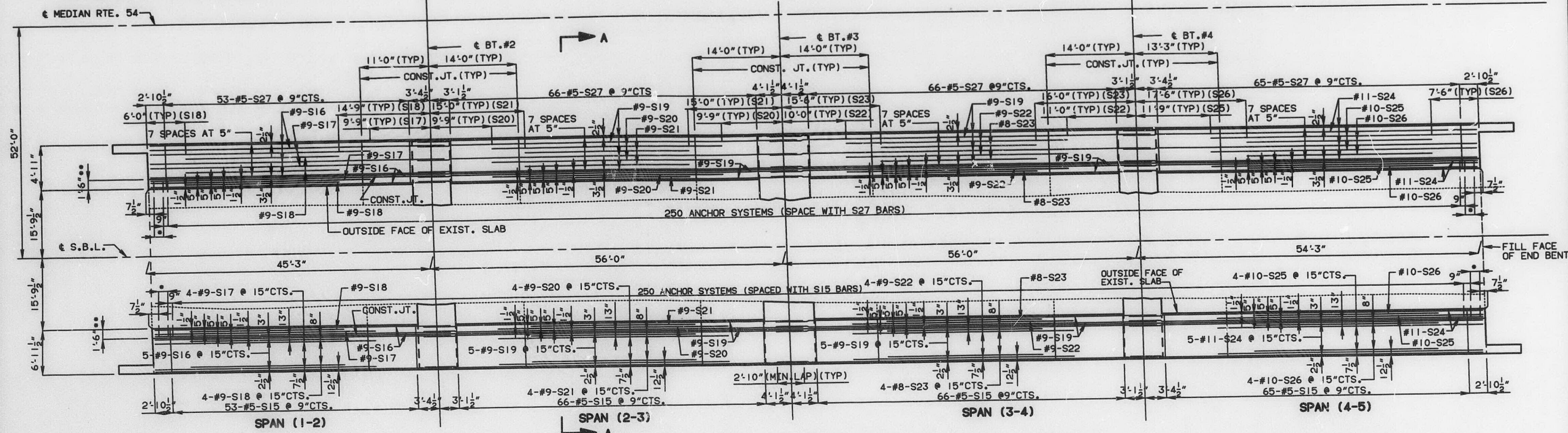
COUNTY

L-964R

DETAILED FEB. 1990
 CHECKED FEB. 1990

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

NOTE: DIMENSIONS SHOWN ARE HORIZONTAL.
FOR TUBE SPACING IN PLAN, SEE SHEET NO. 19.

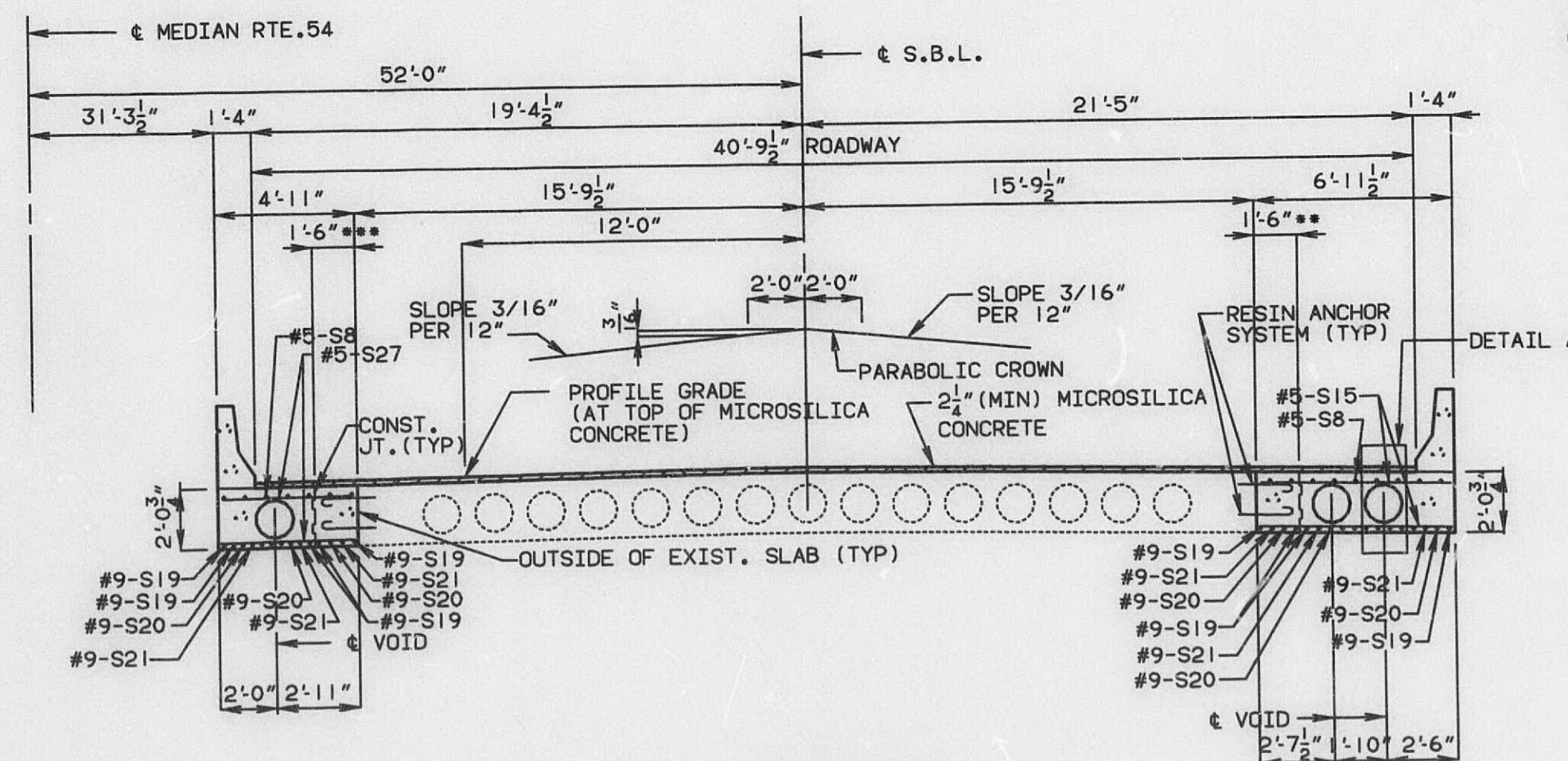


PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT (S.B.L.)

* 3 ANCHOR SYSTEMS AT 9" CTS.
** CLOSURE POUR (SEE SPECIAL PROVISIONS).
RELEASE FORMS BEFORE CLOSURE POUR IS PLACED.
USE EXPANSIVE CONCRETE IN CLOSURE POUR
(SEE SPECIAL PROVISIONS).

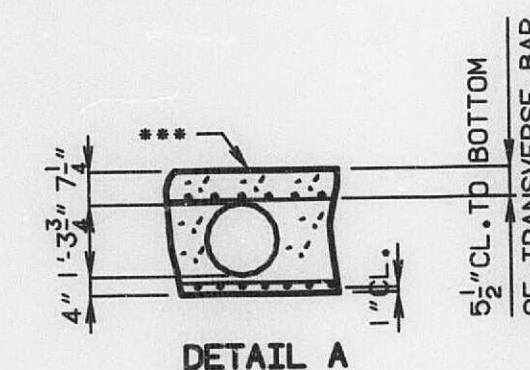
*** TOP SURFACE OF MICROSILICA CONCRETE

NOTE: TUBES FOR PRODUCING VOIDS SHALL HAVE AN OUTSIDE DIAMETER OF 15.7" AND SHALL BE ANCHORED AT NOT MORE THAN 3'-0" CENTERS. FIBER TUBES SHALL HAVE A WALL THICKNESS OF NOT LESS THAN .300".
FOR LOCATION OF 3/4" BEVEL STRIPS ON BOTTOM OF SLAB, SEE SHEET NO. 19.
FOR CAMBER DIAGRAM, SEE SHEET NO. 4.
FOR DETAIL OF RESIN ANCHOR SYSTEM, SEE SHEET NO. 17.



SECTION A-A

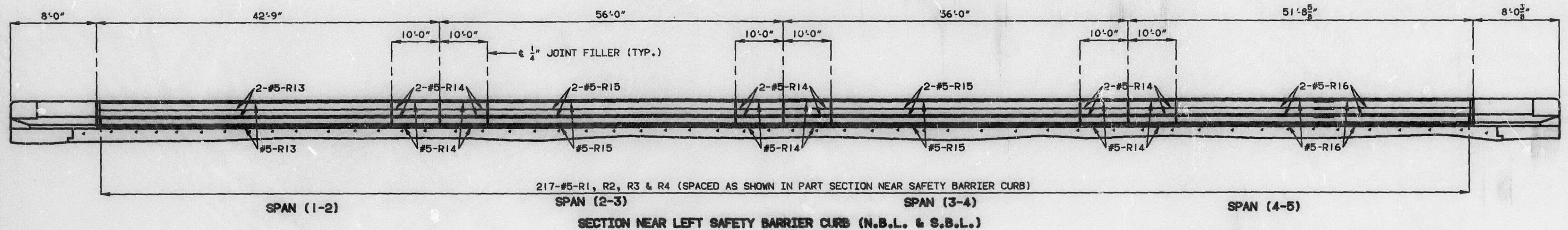
(VOID SPACING TYPICAL NEAR CENTER OF ALL SPANS)



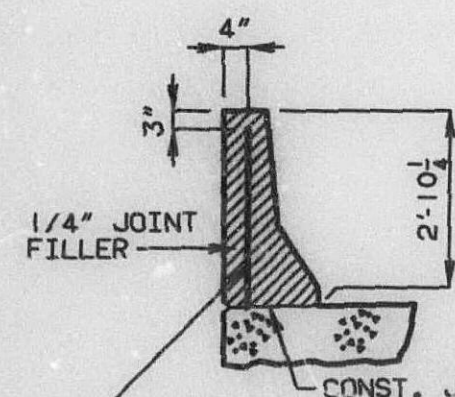
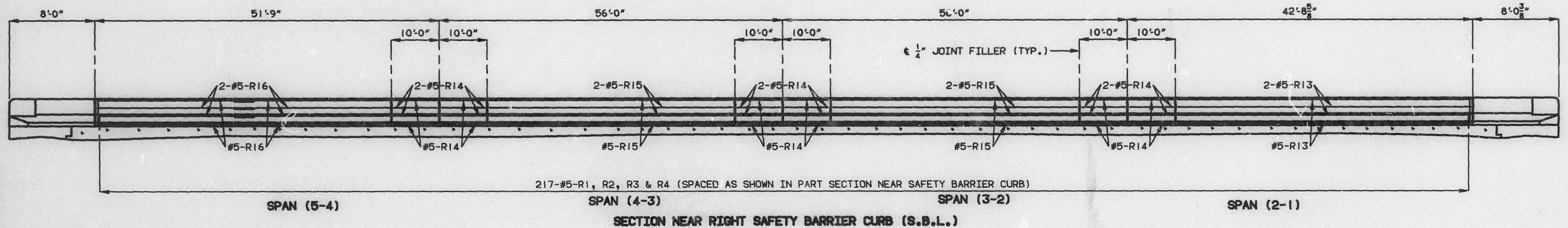
432 385

NOTE: RUSTICATION NOT SHOWN FOR CLARITY.
FOR RUSTICATION DETAILS, SEE SHEET NO. 23.

STATE	PROJ. NO.	SHEET NO.
MO.		57



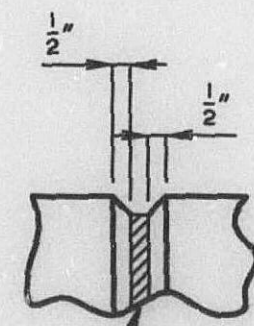
NOTE: LONGITUDINAL DIMENSIONS SHOWN ARE HORIZONTAL.



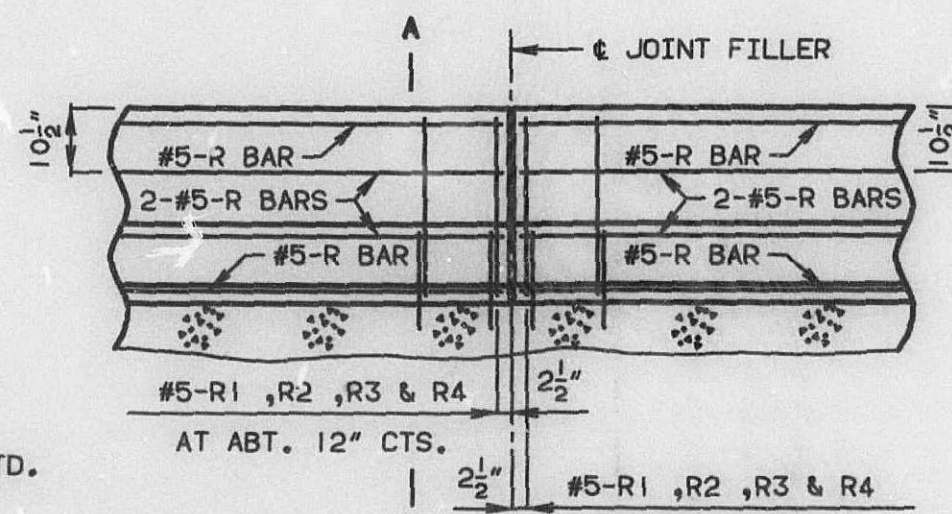
NOTE: PLASTIC WATERSTOP SHALL BE PLACED IN ALL SAFETY BARRIER CURB FILLED JOINTS. (EXCEPT STRUCTURES WITH SUPERELEVATION, USE ON ALL LOWER SAFETY BARRIER CURB JOINTS ONLY).

COST OF PLASTIC WATERSTOP COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR SAFETY BARRIER CURB.

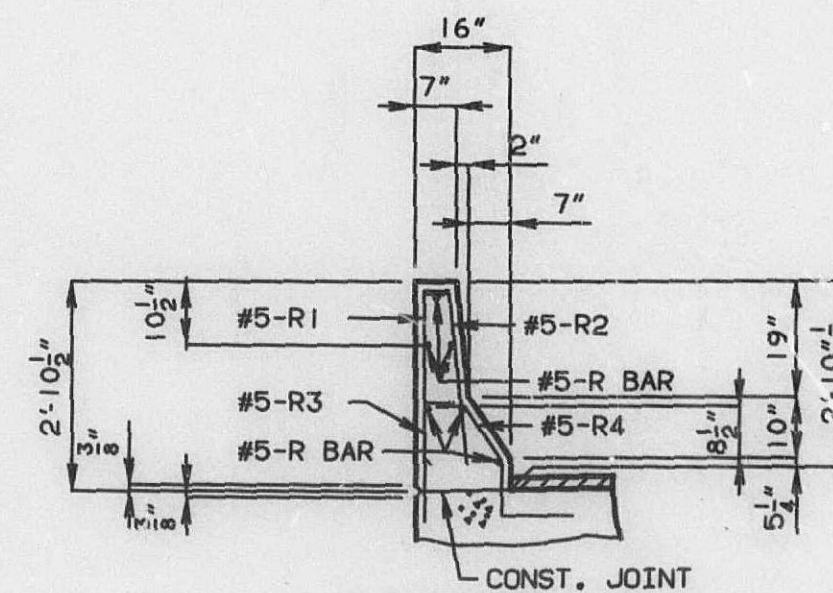
DETAILS OF PLASTIC WATERSTOP



FILLED JOINT DETAIL



PART SECTION NEAR SAFETY BARRIER CURB



NOTE: USE A MINIMUM LAP OF 17" FOR #5 HORIZONTAL SAFETY BARRIER CURB BARS.
THE CROSS-SECTIONAL AREA ABOVE THE SLAB = 2.51 SQ. FT.

NOTE:

TOP OF SAFETY BARRIER CURB SHALL BE BUILT PARALLEL TO GRADE WITH SAFETY BARRIER CURB JOINTS (EXCEPT AT END BENTS) NORMAL TO GRADE.

ALL EXPOSED EDGES OF SAFETY BARRIER CURB SHALL HAVE EITHER A 1/2" RADIUS OR A 3/8" BEVEL, UNLESS OTHERWISE NOTED.

WHEN THE SAFETY BARRIER CURB IS BID BY LINEAR FEET, THE CONTRACT UNIT PRICE SHALL INCLUDE THE COST OF ALL CONCRETE AND REINFORCEMENT, COMPLETE-IN-PLACE.

CONCRETE IN THE SAFETY BARRIER CURB SHALL BE CLASS B1.

MEASUREMENT OF SAFETY BARRIER CURB IS TO THE NEAREST LINEAR FOOT FOR EACH STRUCTURE, MEASURED ALONG THE OUTSIDE TOP OF SLAB FROM END OF WING TO END OF WING.

BARRIER CURB ELEVATION (REVISED):
JAN. 1990

DETAILED MAR. 1990
CHECKED MAR. 1990

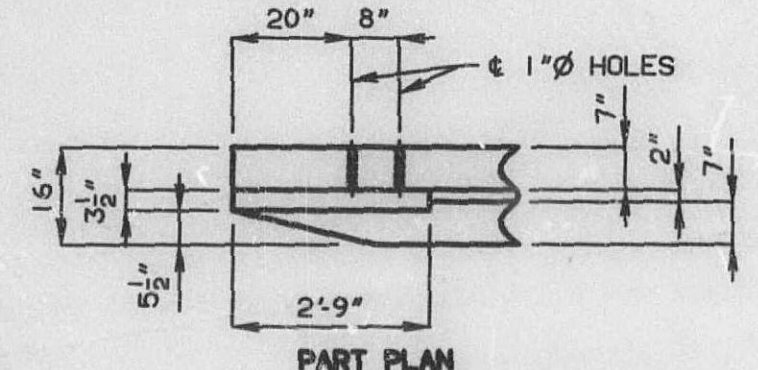
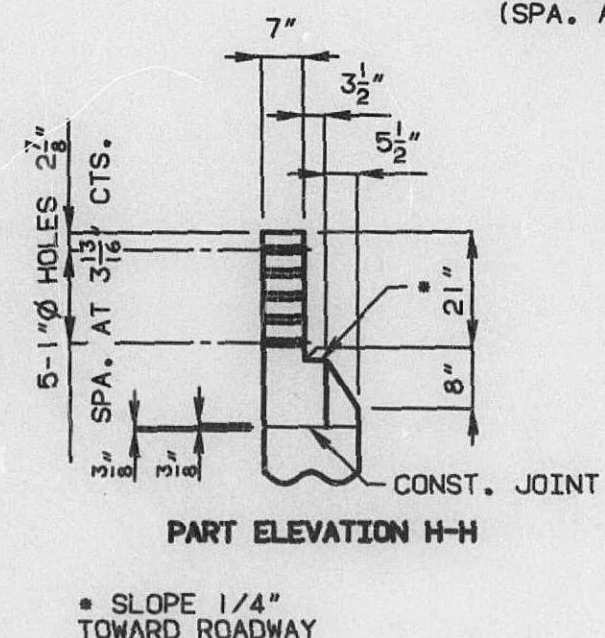
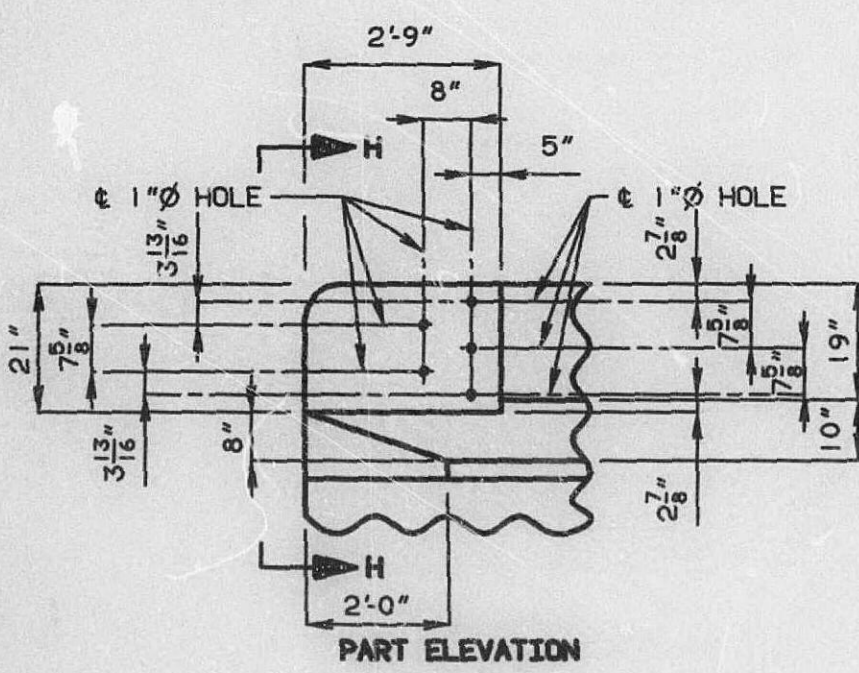
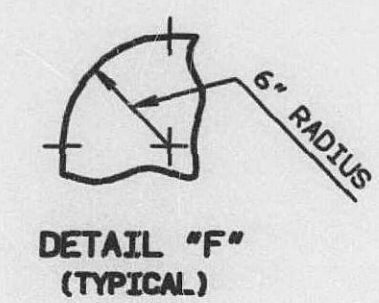
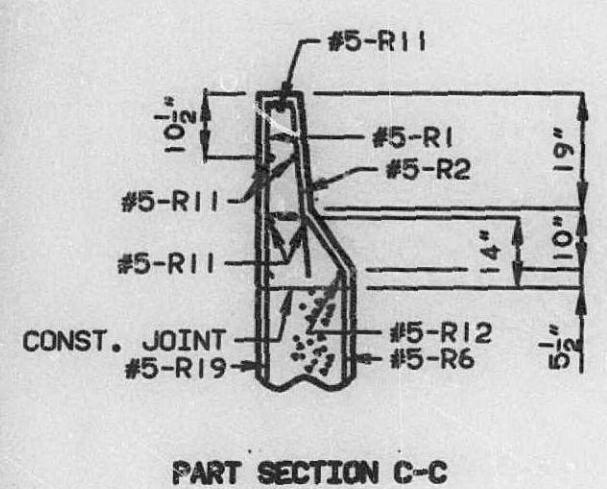
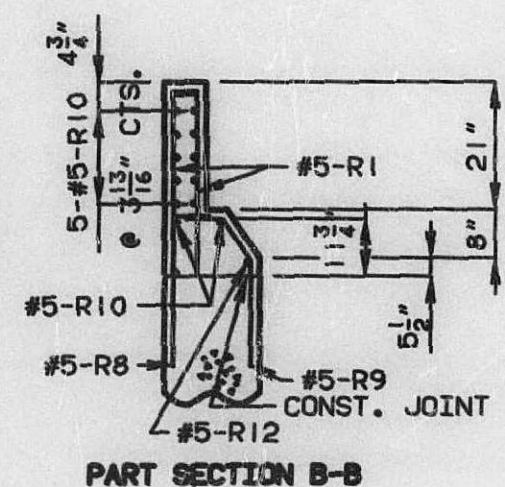
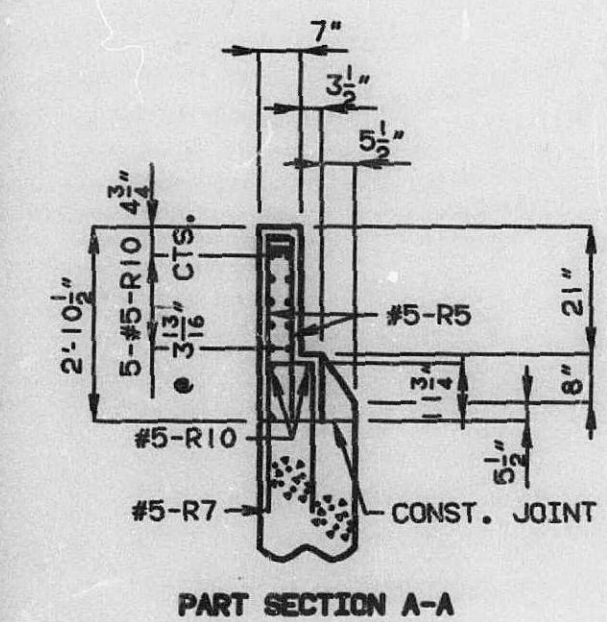
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 22 OF 26

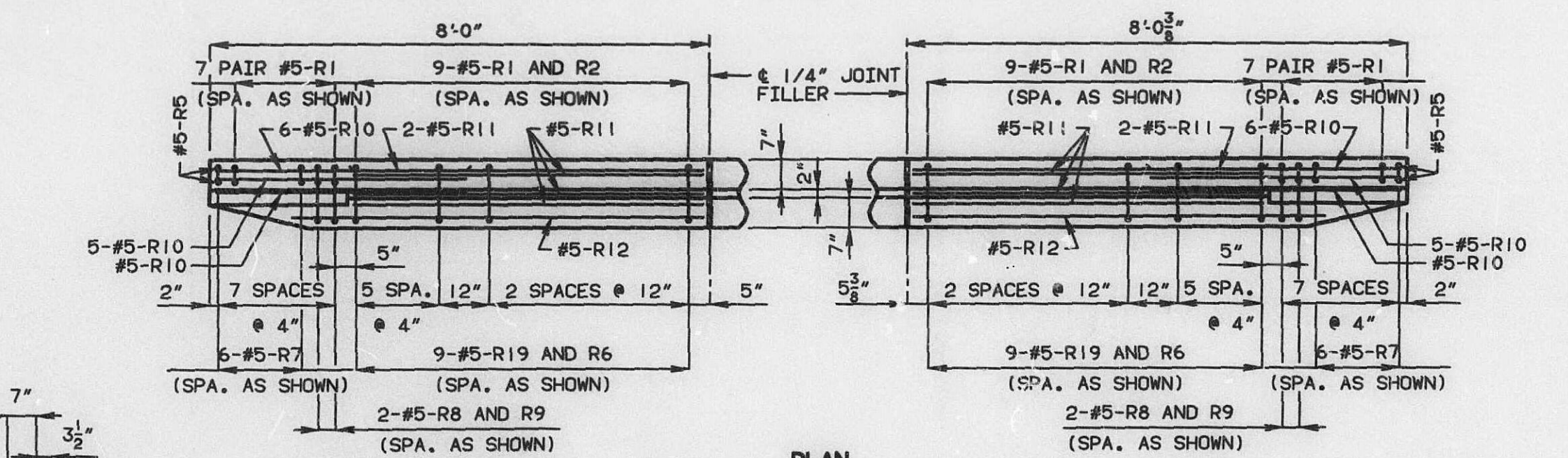
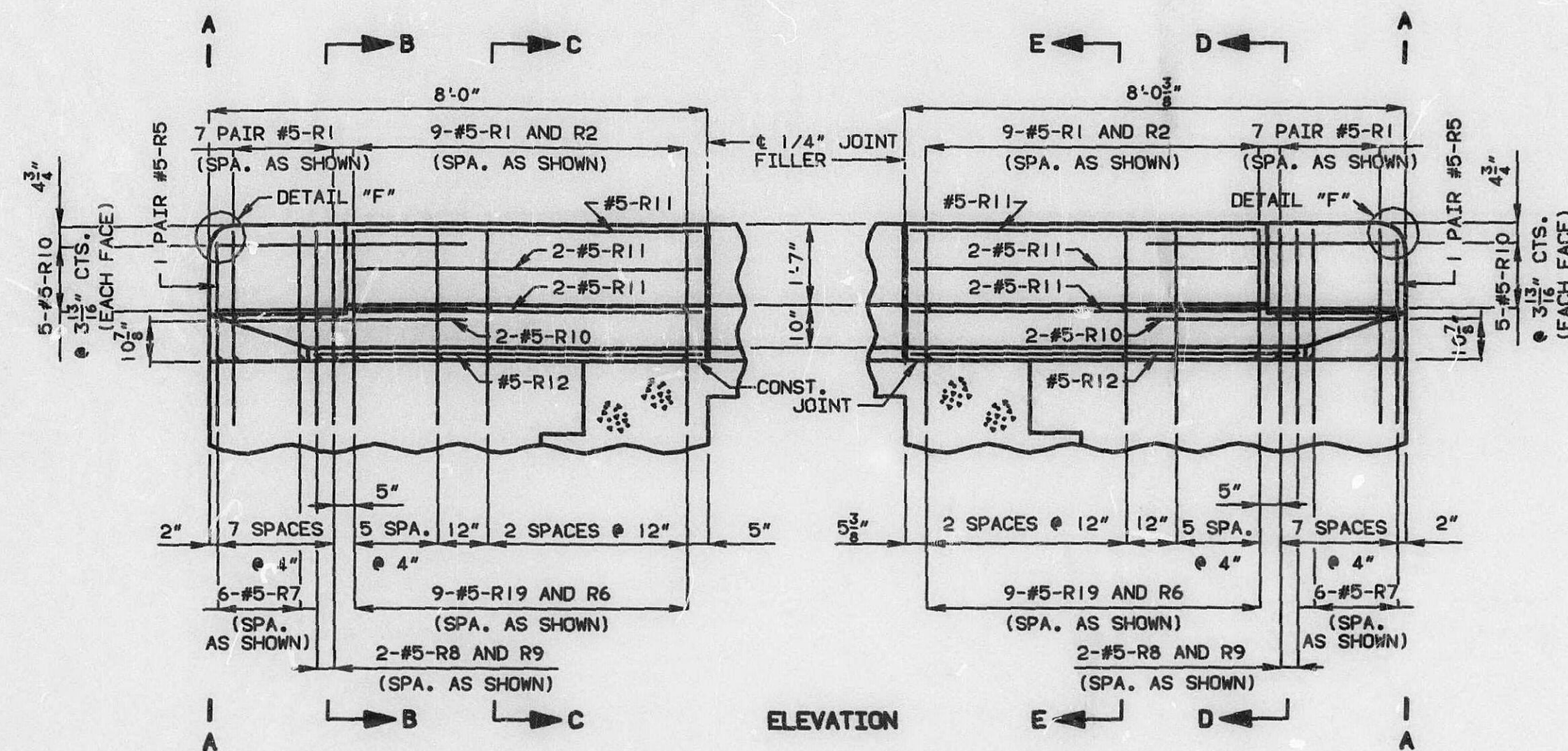
CALLAWAY

COUNTY

L-964R

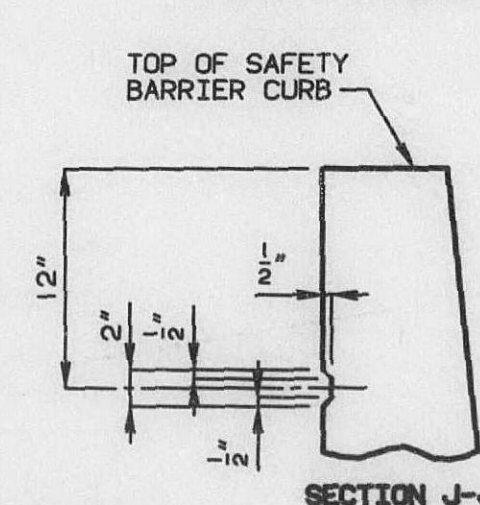
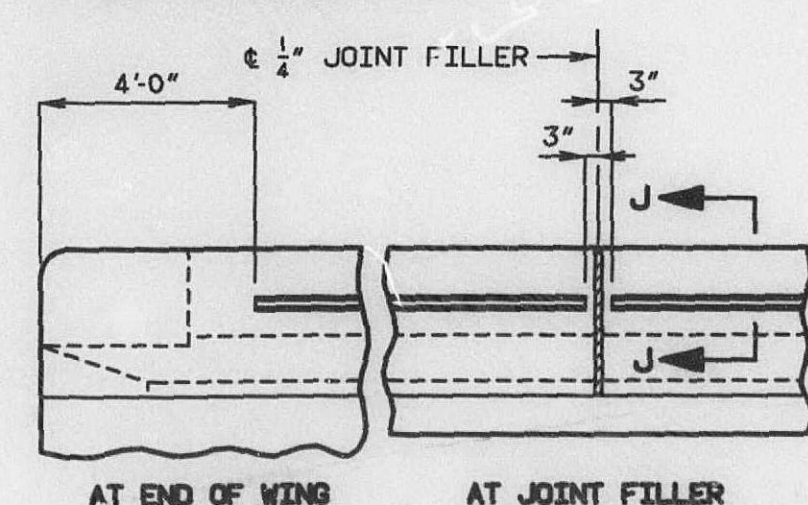


DETAILS OF GUARD RAIL ATTACHMENT

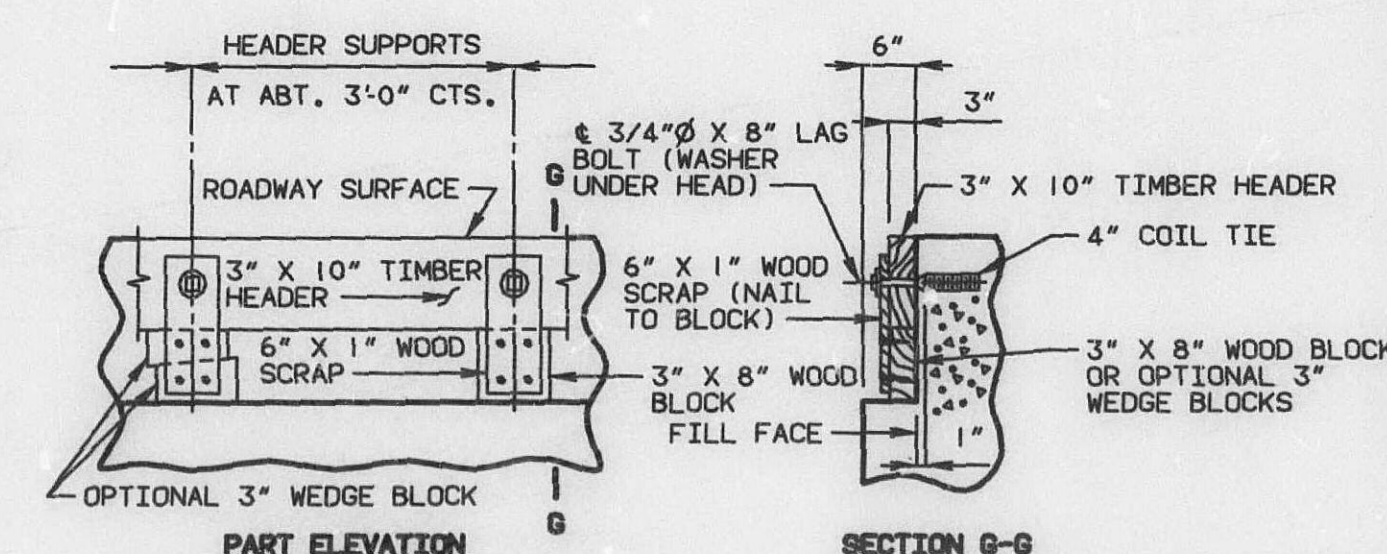
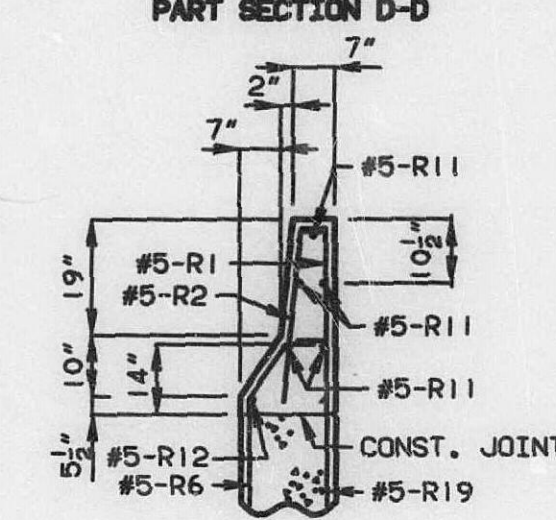
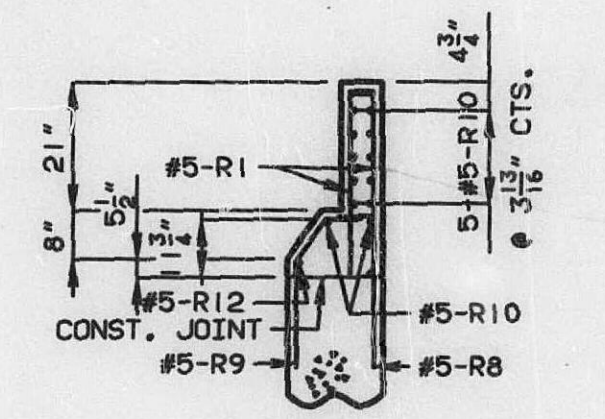


**BT.#1 (LT.SIDE-N.B.L. & S.B.L.)
BT.#5 (RT.SIDE-S.B.L.)**

**BT.#5 (LT.SIDE-N.B.L. & S.B.L.)
BT.#1 (RT.SIDE-S.B.L.)**



DETAILS OF SAFETY BARRIER CURB AT END BENTS



NOTE: COST OF TIMBER HEADERS COMPLETE IN PLACE TO BE INCLUDED IN CONTRACT UNIT PRICE FOR CONCRETE.

DETAILS OF TIMBER HEADER AT END BENTS

435 300

INT-END POST (16')
MAR. 13 1990 (JDC)
REVISOR
CHECKED
MAR. 1990

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 23 OF 26

CALLAWAY COUNTY L-964R

388
426

COMPLETE BILL OF REINFORCING STEEL

NO. REQ.	MARK NO.	LOCATION	(E)	(S)	(D)	(V)	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
							B		C		D		E		F		H					K	
							FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.
		SUBSTRUCTURE																					
		NORTHBOUND LANE																					
		INT BT NO 2,3&4																					
36	8020	FOOTING BT 2&3	20	X			6	1.000									6	1	4	1			
12	6021	FOOTING	10	S	X				3	9.000		18.000					9	0	8	8			
12	6022	FOOTING	10	S	X				3	6.000		18.000					8	0	8	2			
18	7023	FOOTING	20	X			8	0.000									8	0	8	0			
18	5024	FOOTING	20	X			5	9.000									5	9	5	9			
6	6025	FOOTING	10	X					3	6.000	7	3.000					14	3	13	11			
20	9040	FOOTING BT 4	17	X			6	11.000									6	2	8	2			
		SOUTHBOUND LANE																					
		INT BT NO 2,3&4																					
36	8020	FOOTING BT 2&3	20	X			6	1.000									6	1	6	1			
24	6021	FOOTING	10	S	X				3	9.000		18.000					9	0	8	8			
24	6022	FOOTING	10	S	X				3	6.000		18.000					8	0	8	2			
20	9040	FOOTING BT 4	17	X			6	11.000									6	2	8	2			
		SUPERSTRUCTURE																					
		NORTHBOUND LANE																					
		END BT NO 1																					
4	6H1	SLAB	E 20				6	8.000									6	8	6	8			
4	6H2	BEAM	20				5	10.000									5	10	5	10			
4	6H3	BEAM	20				5	10.000									5	10	5	10			
4	6H5	SLAB *	E 20				14	8.000									14	8	14	8			
4	6H6	BEAM	20				13	10.000									13	10	13	10			
4	6H7	BEAM	20				13	10.000									13	10	13	10			
4	6H10	WING	E 20				6	11.000									6	11	6	11			
4	6H11	WING	20				6	11.000									6	11	6	11			
10	6H12	WING	20	V 2			6	7.000									6	7	6	7			
		INCR = 12.250 IN					2	6.000									2	6	2	6			
10	6H13	WING	20	V 2			6	7.000									6	7	6	7			
		INCR = 12.500 IN					2	5.000									2	5	2	5			
2	612	WING	21				16.125		5	9.375	2	2.000			3	9.000	4	8.000	9	4			
2	613	WING	25				16.125		5	8.875	2	2.000			3	4.125	4	8.000	9	3			
21	5U1	BEAM	10	S					2	9.000	2	3.000					7	9	7	7			
21	5U2	SLAB	E 10 S						3	10.500	2	3.000					10	0	9	10			
27	6U3	SLAB	E 15 S				4	1.000	3	10.500					4	1.000	1.000	8	0	7			
8	6V3	WING	20	V 2			2	1.170									2	1	2	1			
		INCR = 9.000 IN					4	4.000									4	4	4	4			
2	6V4	WING	20				5	0.000									5	0	5	0			

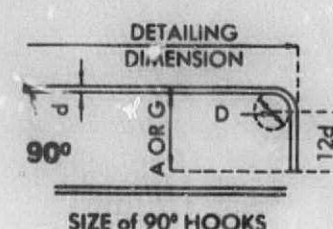
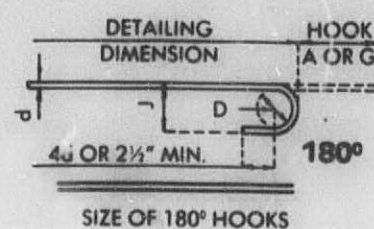
* Two (2) additional #5, #20 and #21 bars are included in the bar bill for testing.

STIRRUP HOOK DIMENSIONS

BAR SIZE	D (IN.)	GRADES 40-50-60 KSI		
		90° HOOK	135° HOOK	APPROX. H
#3	1 1/4"	4"	4"	2 1/4"
#4	2"	4 1/4"	4 1/4"	3"
#5	2 1/2"	6"	5 1/4"	3 1/4"
#6	4 1/4"	12"	7 1/4"	4 1/4"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

Note: This drawing is not to scale. Follow dimensions.



COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	(E)	SHAPE NO.	(S)	(X)	(V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT		
									B		C		D		E		F		H					K	
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.
8	6V5	WING		20				2	2	1.000								2	1	2	1				
		INCR = 8.625 IN						4	3.000									4	3	4	3				
2	6V6	WING		20				4	11.000									4	11	4	11				
		INT BT NO 2																							
15	10H20	SLAB *	E	18				10	8.000									13	6	13	6				
15	9H21	DROP PANEL *	E	20				10	3.000									10	3	10	3				
13	10H22	SLAB	E	18				18	8.000									21	6	21	6				
13	9H23	DROP PANEL	E	20				18	3.000									18	3	18	3				
40	4P20	COLUMN		16				2	3.000									7	11	7	11				
54	5U20	SLAB	E	10	S			6.000	23.000	3	10.000	6.000						8	8	8	3				
18	8V20	COLUMN		19				20	11.000	16.000								22	3	22	1				
		INT BT NO 3																							
13	10H30	SLAB	E	18				10	8.000									13	6	13	6				
13	9H31	DROP PANEL	E	20				10	3.000									10	3	10	3				
13	10H32	SLAB	E	18				18	8.000									21	6	21	6				
13	9H33	DROP PANEL	E	20				18	3.000									18	3	18	3				
44	4P30	COLUMN		16				2	3.000									7	11	7	11				
54	5U30	SLAB	E	10	S			6.000	23.000	5	4.000	6.000						10	2	9	9				
18	8V30	COLUMN		19				23	0.000	16.000								24	4	24	2				
		INT BT NO 4																							
14	10H40	SLAB	E	18				10	8.000									13	6	13	6				
14	9H41	DROP PANEL	E	20				10	3.000									10	3	10	3				
14	10H42	SLAB	E	18				18	8.000									21	6	21	6				
14	9H43	DROP PANEL	E	20				18	3.000									18	3	18	3				
44	4P40	COLUMN		16				2	3.000									7	11	7	11				
54	5U40	SLAB	E	10	S			6.000	23.000	3	10.000	6.000						8	8	8	3				
20	9V40	COLUMN		19				23	0.000	16.000								24	7	24	4				
		END BT NO 5																							
4	6H51	SLAB	E	20				6	8.000									6	8	6	8				
4	6H52	BEAM		20				5	10.000									5	10	5	10				
4	6H53	BEAM		20				5	10.000									5	10	5	10				
4	6H55	SLAB	E	20				14	8.000									14	8	14	8				
4	6H56	BEAM		20				13	10.000									13	10	13	10				
4	6H57	BEAM		20				13	10.000									13	10	13	10				
10	6H59	WING		20		V	2	6	7.000									6	7	6	7				
		INCR = 12.000 IN						2	7.000									2	7	2	7				
4	6H60	WING	E	20				6	11.000									6	11	6	11				
4	6H61	WING		20				6	11.000									6	11	6	11				

BEND HOOK DIMENSIONS

BAR SIZE	D (IN.)	180° HOOKS		90° HOOKS	
		A O R G	J	A O R G	J
#3	2 1/4"	5"	3"	6"	4"
#4	3"	6"	4"	8"	5"
#5	3 1/4"	7"	5"	10"	6"
#6	4 1/4"	8"	6"	12"	7"
#7	5 1/4"	10"	7"	14"	8"
#8	6"	11"	8"	16"	9"
#9	6 1/4"	13"	9"	18"	10"
#10	7 1/4"	15"	11"	20"	11"
#11	8 1/4"	17"	13"	22"	12"
#12	9 1/4"	19"	14"	24"	13"
#14	11 1/4"	23"	17"	28"	15"

NOTES:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.

S - STIRRUP.

X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

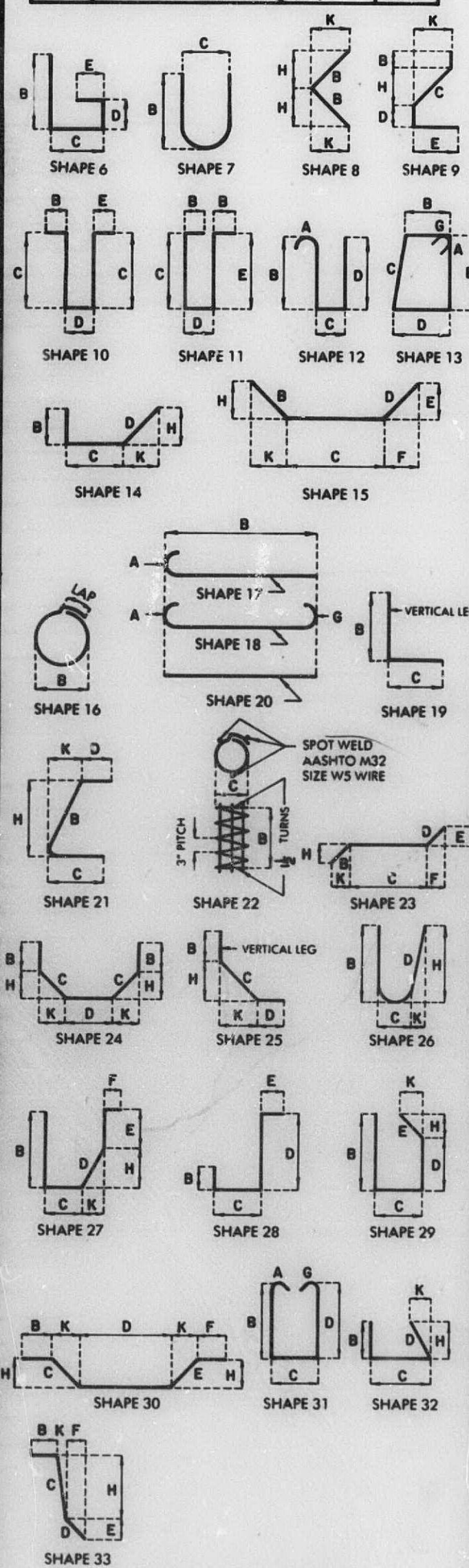
NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S USE. (NEAREST INCH.)

ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAWWEIGHTS - ARE BASED ON ACTUAL LENGTHS.

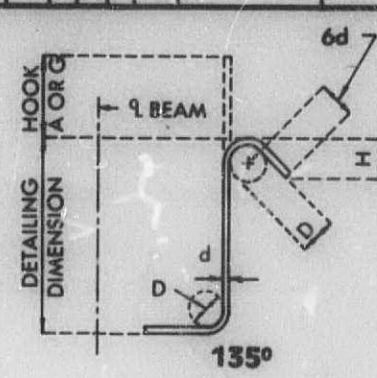
STATE	PROJ NO	SHEET NO
MO	IR-IRG-70-3 (43)	59



BENDING DIAGRAMS

REVISED
MAY 1974
NOV 1989

6d FOR #3 THRU #5
12d FOR #6 OR 2 1/2" MIN.
9 BEAM
DETAILED Apr. 1990
CHECKED Apr. 1990



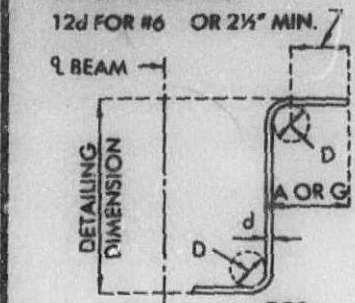
437 390

REVISED
MAY 1974
NOV 1989

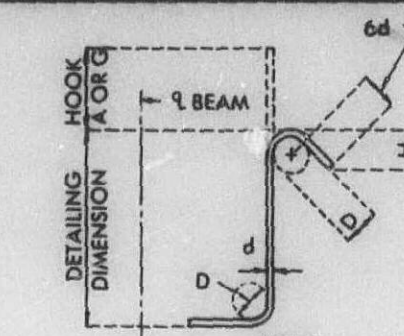
COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP	SUBSTR.	VARIES	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
									B		C		D		E		F		H					K			
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.		
10	6H62	WING		20					2	6	7.000									6	7	6	7				
		INCR = 11.790 IN								2	8.000										2	8	2	8			
2	6T51	WING		25						16	12.5	5	10.375	2	2.000					3	8.250	4	8.250	9	9	4	
2	6T52	WING		25						16	12.5	5	10.625	2	2.000					3	7.125	4	8.000	9	9	4	
21	5U51	BEAM		10	S					2	9.000	2	3.000								7	9	7	7	144		
21	5U52	SLAB		10	S					3	10.500	2	3.000								10	0	9	10	215		
27	6U53	SLAB		21						4	1.000	3	10.500								4	1.000	1.000	8	0	7	10
8	6V51	WING		20		V		2	2	1.000											2	1	2	1			
		INCR = 8.625 IN								4	3.000											4	3	4	3		
2	6V52	WING		20						4	11.000											4	11	4	11		
8	6V53	WING		20		V		2	2	1.000												2	1	2	1		
		INCR = 9.000 IN								4	4.000											4	4	4	4		
2	6V54	WING		20						5	0.000											5	0	5	0		
26	11S1	SLAB		20						31	6.000											31	6	31	6		
9	11S2	SLAB		20						23	3.000											23	3	23	3		
11	11S3	SLAB *		20						13	0.000											13	0	13	0		
29	584	SLAB		20						31	7.000											31	7	31	7		
26	11S5	SLAB		20						33	9.000											33	9	33	9		
9	11S6	SLAB		20						22	6.000											22	6	22	6		
9	11S7	SLAB		20						14	0.000											14	0	14	0		
29	580	SLAB		20						28	7.000											28	7	28	7		
26	11S9	SLAB		20						35	9.000											35	9	35	9		
9	11S10	SLAB		20						21	3.000											21	3	21	3		
9	11S11	SLAB		20						13	9.000											13	9	13	9		
29	5812	SLAB		20						24	10.000											24	10	24	10		
29	5813	SLAB		20						39	10.000											39	10	39	10		
500	5814	SLAB		20						14	9.000											14	9	14	9		
500	5815	SLAB		20						6	9.000											6	9	6	9		
21	9816	SLAB		20						46	6.000											46	6	46	6		
16	9817	SLAB		20						35	4.000											35	4	35	4		
16	9818	SLAB		20						24	6.000											24	6	24	6		
42	9819	SLAB		20						98	10.000											98	10	98	10		
16	9820	SLAB		20						36	6.000											36	6	36	6		
16	9821	SLAB		20						26	6.000											26	6	26	6		
16	9822	SLAB		20						35	0.000											35	0	35	0		
18	9823	SLAB *		20						24	6.000											24	6	24	6		
21	11S24	SLAB		20						55	6.000											55	6	55	6		
16	10S25	SLAB		20						42	4.000											42	4	42	4		
16	10S26	SLAB		20						29	3.000											29	3	29	3		
253	5R1	BARRIER CURB		19	S					2	8.000		3.500									3	0	2	10		
235	5R2	BARRIER CURB		15	S					2	8.125		3.500					2	8.000		3.000		3	0	2	11	
434	5R3	BARRIER CURB		19	S					19.000		6.000										2	1	2	0		
434	5R4	BARRIER CURB		27	S							6.000		11.125		9.000		12.000		9.125		6.375		3	2	3	
4	5R5	BARRIER CURB		19	S					2	5.500		3.500									2	9	2	8		
18	5R6	BARRIER CURB		27	S							6.000		11.125		19.750				9.125		6.375		3	1		
12	5R7	BARRIER CURB		10	S					2	2.500		7.500									5	1	4	10		
4	5R8	BARRIER CURB		19	S					2	2.500		6.000									2	9	2	7		
4	5R9	BARRIER CURB		27	S							6.000		8.250		19.750				6.750		4.750		2	10		
48	5R10	BARRIER CURB		20						5	0.000											5	0	5	0		
20	5R11	BARRIER CURB		20						5	0.000											5	0	5	0		
4	5R12	BARRIER CURB		20						6	1.000											6	1	6	1		
12	5R13	BARRIER CURB		30						32	6.000											32	6	32	6		
74	5R14	BARRIER CURB *		20						9	9.000											9	9	9	9		
24	5R15	BARRIER CURB		20						35	9.000											35	9	35	9		

6d FOR #3 THRU #5
12d FOR #6 OR 2 1/2" MIN.

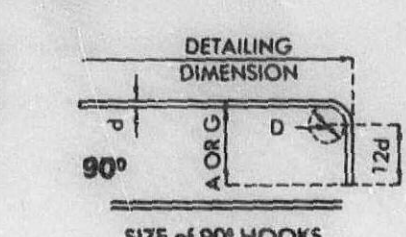
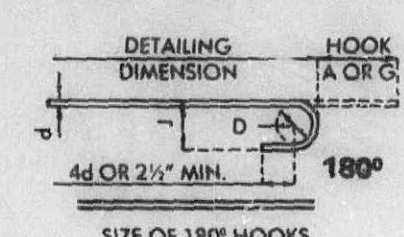


DETAILED Apr. 1980
CHECKED Apr. 1980



STIRRUP HOOK DIMENSIONS				
GRADES 40-50-60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
#3	1 1/4"	4"	4"	2 1/4"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 1/2"
#6	4 1/4"	12"	7 1/4"	4 1/4"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.
Note: This drawing is not to scale. Follow dimensions.



* Two (2) additional 53,523 and R14 bars are included in bar bill for testing.

COMPLETE BILL OF REINFORCING STEEL

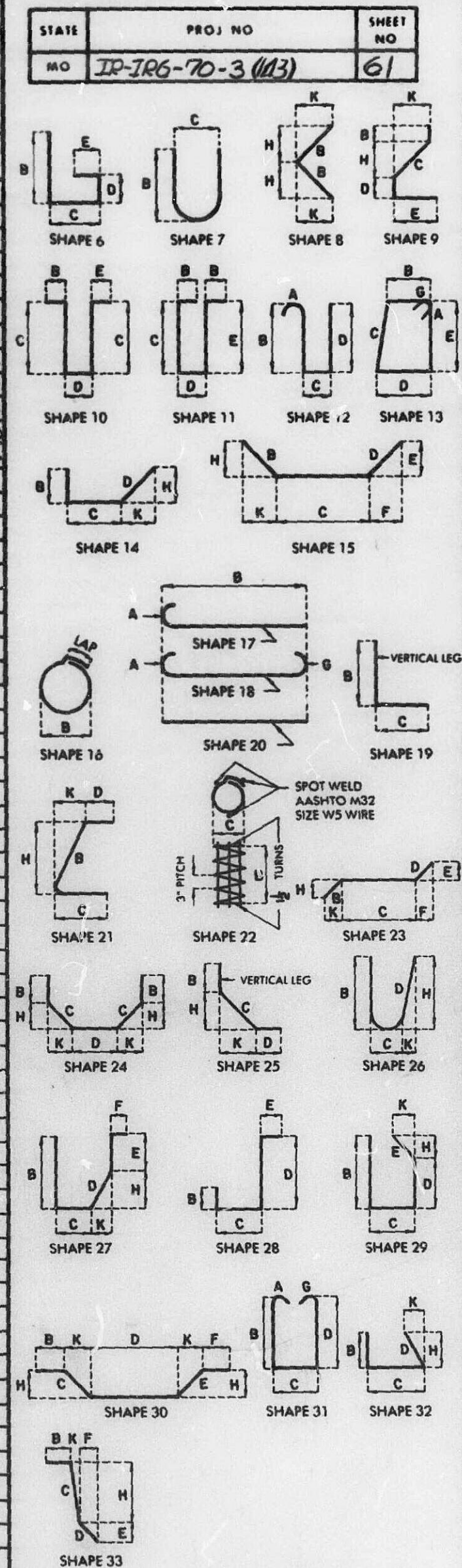
NO. REQD.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP	SUBSTR.	VARIES	NO. EACH	DIMENSIONS																NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B		C		D		E		F		H		K						
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.					
24	5R14	BARRIER CURB	E 20						21	6.000									23	6	21	6	93				
18	5R19	BARRIER CURB	E 19 S						2	4.000	6.000								2	11	2	9	52				
18	5R20	BARRIER CURB	E 19 S						2	2.500	6.000								2	9	2	7	48				
18	5R21	BARRIER CURB	E 27 S							6.000	11.125	17.750			9.125	6.375			2	11	2	10	53				
12	5R22	BARRIER CURB	E 10 S							2	0.500	7.500							4	9	4	6	39				
4	5R23	BARRIER CURB	E 19 S						2	0.500	6.000								2	7	2	5	34				
4	5R24	BARRIER CURB	E 27 S							6.000	6.250	17.750			6.750	4.750			2	8	2	7	41				
263	5R31	BARRIER CURB	E 19 S						2	6.000	3.500								2	10	2	8	73				
235	5R32	BARRIER CURB	E 19 S						2	6.125	3.500				2	6.000	3.000		2	10	2	9	61				
4	5R35	BARRIER CURB	E 19 S						2	3.500	3.500								2	7	2	6	31				
		SOUTHBOUND LANE																									
		END ST NO 1																									
4	6H1	SLAB	E 20						6	8.000									6	8	6	8	40				
4	6H2	BEAM	20						5	10.000									5	10	5	10	39				
4	6H3	BEAM	20						5	10.000									5	10	5	10	39				
4	6H4	SLAB	E 20						4	8.000									4	8	4	8	28				
20	6H9	WING	20	V A					6	7.000									6	7	6	7	136				
		INCR = 12.500 IN							2	3.000									2	5	2	5	136				
4	6H10	WING	E 20						6	11.000									6	11	6	11	42				
4	6H11	WING	20						6	11.000									6	11	6	11	42				
4	6H15	BEAM	20						3	10.000									3	10	3	10	21				
4	6H16	BEAM	20						5	10.000									5	10	5	10	25				
4	6T1	WING	25						16.125	5	9.000	2	2.000			3	4.250	4	8.000	9	3	9	2	50			
13	5U1	BEAM	10 S							2	9.000	2	3.000						7	9	7	7	102				
13	5U2	SLAB	E 10 S							3	10.500	2	3.000						10	0	9	10	133				
13	6U3	SLAB	E 19 S						4	1.000	3	10.500				4	1.000	1.000	8	0	7	10	153				
16	6V1	WING	20	V A					2	1.000									2	1	2	1					
		INCR = 8.625 IN							4	3.000									4	3	4	3	70				
4	6V2	WING	28						4	11.000									4	11	4	11	30				
		INT ST NO 2																									
13	10H24	SLAB	E 18						8	8.000									11	6	11	6	64				
13	10H20	SLAB	E 18						10	8.000									13	6	13	6	75				
13	9H21	DROP PANEL	E 20						10	3.000									10	3	10	3	45				
13	9H25	DROP PANEL	E 20						8	3.000									8	3	8	3	30				
40	4P20	COLUMN	16						2	3.000									7	11	7	11	21				
24	5U20	SLAB	E 10 S						6.000	23.000	3	10.000	6.000						8	8	8	3	20				
9	8V20	COLUMN	19						20	11.000	16.000								22	3	22	1	53				
9	8V21	COLUMN	17						21	0.000									21	11	21	11	52				
		INT ST NO 3																									
13	10H34	SLAB	E 18						8	8.000									11	6	11	6	64				
13	10H30	SLAB	E 18						10	8.000									13	6	13	6	75				
13	9H31	DROP PANEL	E 20						10	3.000									10	3	10	3	45				
13	9H35	DROP PANEL	E 20						8	3.000									8	3	8	3	30				
46	4P30	COLUMN	16						2	3.000									7	11	7	11	21				
24	5U30	SLAB	E 10 S						6.000	23.000	5	4.000	6.000						10	2	9	9	24				
9	8V31	COLUMN	19						24	0.000	16.000								25	4	25	2	60				
9	8V32	COLUMN	17						24	1.000									25	0	25	0	60				

COMPLETE BILL OF REINFORCING STEEL

NO. REQ.	MARK NO.	LOCATION	EPOXY	SHAPE NO	STIRRUP	SUBSTR.	VARIES	NO. EACH	DIMENSIONS										NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY	SHAPE NO	STIRRLP	SUBSTR	VARIES	NO EACH	DIMENSIONS																NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B		C		D		E		F		H		K						
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.					
36	5R6	BARRIER CURB	E	27	S						6.000	11.125	19.750				9.125	6.375	3	1	3	0					
24	5R7	BARRIER CURB	E	10	S					2	2.500	7.500							5	1	4	10					
8	5R8	BARRIER CURB	E	19	S					2	2.500	6.000							2	9	2	7					
8	5R9	BARRIER CURB	E	27	S						6.000	8.250	19.750				6.750	4.750	2	19	2	9					
48	5R10	BARRIER CURB	E	20						5	0.000								5	0	5	0					
20	5R11	BARRIER CURB	E	20						5	0.000								5	0	5	0					
4	5R12	BARRIER CURB	E	20						6	1.000								6	1	6	1					
12	5R13	BARRIER CURB	E	20						32	6.000								32	6	32	6					
72	5R14	BARRIER CURB	E	20						9	9.000								9	9	9	9					
24	5R15	BARRIER CURB	E	20						35	9.000								35	9	35	9					
24	5R16	BARRIER CURB	E	20						21	6.000								21	6	21	6					
36	5R19	BARRIER CURB	E	19	S					2	4.500	6.000							2	11	2	9					
		END OF BAR LIST																									



BENDING DIAGRAMS

NOTES:

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E - EPOXY COATED REINFORCEMENT.

S - STIRRUP

X - BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.

V - BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.

NO. EA. - NUMBER OF BARS OF EACH LENGTH.

NOMINAL LENGTHS - ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)

ACTUAL LENGTHS - ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

BAR SIZE	D (IN.)	END HOOK DIMENSIONS		
		180° HOOKS		90° HOOKS
		ALL GRADES		ALL GRADES
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/4"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/4"	15"	11 1/4"	19"
#10	10 1/4"	17"	13 1/4"	
#11	12"	19"	14 1/4"	2'-0"
#14	18 1/4"	2'-3"	21 1/4"	2'-7"

Sheet No. 26 of 26

CALLAWAY COUNTY

L-964R

REVISED NOV 1989
MAY 1974

6d FOR #3 THRU #5
12d FOR #6 OR 2 1/2" MIN.

1 BEAM

90°

135°

DETAILED Apr. 1990

CHECKED Apr. 1990

STIRRUP HOOK DIMENSIONS				
GRADES 40-50-60 KSI				
BAR SIZE	D (IN.)	90° HOOK	135° HOOK	APPROX. H
#3	1 1/4"	4"	4"	2 1/4"
#4	2"	4 1/4"	4 1/4"	3"
#5	2 1/4"	6"	5 1/4"	3 1/4"
#6	4 1/4"	12"	7 1/4"	4 1/4"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

WIDEN SUBSTRUCTURE AND SUPERSTRUCTURE EXISTING N.B.L. & S.B.L.
(44', 56', 56', 53') CONTINUOUS CONCRETE SLAB SPANS (VOIDED)

GR.ELEV.853.38 @ & RDWY. (N.B.L.)
GR.ELEV.853.30 @ & RDWY. (S.B.L.)

GR.ELEV.849.27 @ & RDWY. (N.B.L.)
GR.ELEV.849.18 @ & RDWY. (S.B.L.)

+1.943% N.B.L., +1.949% S.B.L.

NOTE: ROADWAY FILL SHALL BE COMPLETED TO THE FINAL ROADWAY SECTION AND UP TO THE ELEVATION OF THE BOTTOM OF THE CONCRETE BEAM WITHIN THE LIMITS OF THE STRUCTURE AND FOR NOT LESS THAN 25' IN BACK OF THE FILL FACE OF THE END BENTS BEFORE PILES ARE DRIVEN FOR ANY BENTS FALLING WITHIN THE EMBANKMENT SECTION.

4" CONCRETE SLOPE PROTECTION (EXTEND THRU MEDIAN) (2:1 SLOPE NORMAL) (RDWY. ITEM)

GENERAL ELEVATION

GENERAL NOTES:

DESIGN SPECIFICATIONS: A.A.S.H.T.O.-1989 LOAD FACTOR DESIGN

DESIGN LOADING:

HS20-44 MODIFIED 24000# TANDEM AX'LE
NO FUTURE WEARING SURFACE.

EARTH 120#/CU.FT. EQUIVALENT FLUID PRESSURE
45#/CU.FT.

DESIGN UNIT STRESSES:

CLASS B CONCRETE (FOOTINGS) $f'_c=3000$ PSI.
CLASS B1 CONCRETE (SAFETY BARRIER CURB, INT BENT COLUMNS AND END BENTS BELOW LOWER CONST.JT.) $f'_c=4,000$ PSI
CLASS B2 CONCRETE (SUPERSTRUCTURE EXCEPT SAFETY BARRIER CURB) $f'_c=4000$ PSI
REINFORCING STEEL (GRADE 60) $f_y=60,000$ PSI

REINFORCING STEEL:

MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE $\frac{1}{2}$ " UNLESS OTHERWISE SHOWN.

BARS BONDED IN OLD CONCRETE NOT REMOVED SHALL BE CLEANLY STRIPPED AND EMBEDDED INTO NEW CONCRETE WHERE POSSIBLE. IF LENGTH IS AVAILABLE, OLD BARS SHALL EXTEND INTO NEW CONCRETE AT LEAST 40 DIAMETERS FOR SMOOTH BARS AND 30 DIAMETERS FOR DEFORMED BARS.

JOINT FILLER

ALL JOINT FILLER SHALL MEET THE REQUIREMENTS OF STD. SPEC. 1057.2.4 EXCEPT AS NOTED.

CONSTRUCTION CLEARANCE:

FALSEWORK OVER EXISTING LANES SHALL BE CONSTRUCTED WITH A MINIMUM VERTICAL CLEARANCE OF 14'-3" FROM CROWN OF EXISTING LANES AND A MINIMUM LATERAL CLEARANCE OF 28'-0" CENTERED ON EXISTING LANES.

OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.

TRAFFIC OVER STRUCTURE TO BE MAINTAINED DURING CONSTRUCTION. FOR DETAILS OF STAGE CONSTRUCTION, SEE SHEETS NO. 5 & 6.

NOTE: FOR ESTIMATED QUANTITIES AND PILE DATA, SEE SHEET NO. 2.
⊙ INDICATES LOCATION OF BORING. FOR BORING DATA, SEE SHEETS NO. 3 & 4.

B.M. ELEV. 855.77- Bolt at End Post WBL Sta. 168+01.20 B1 DLSA
(Top of Wall at Bt #5 SBL)

BRIDGE: RTE. 54 UNDERPASS

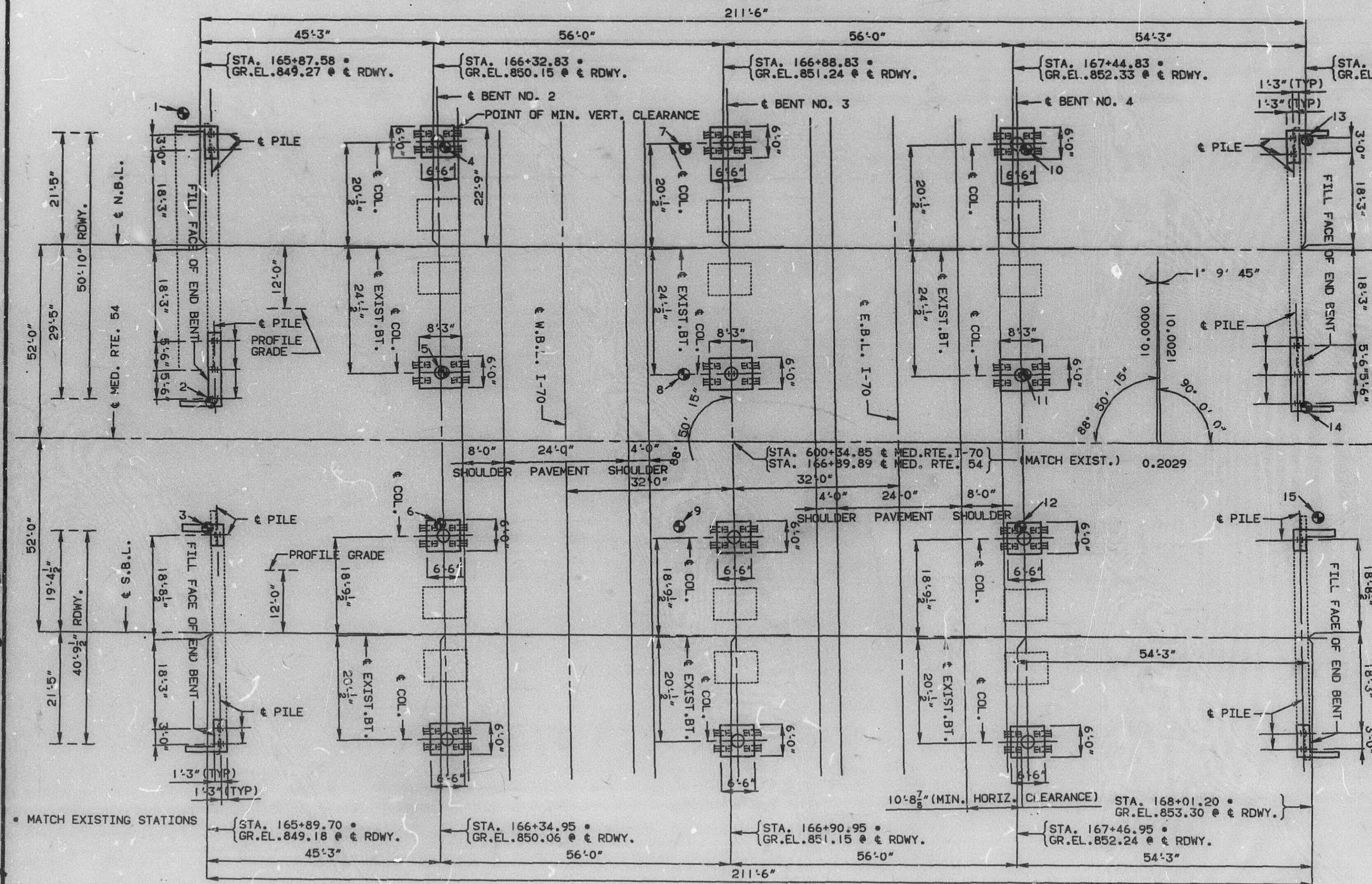
STATE ROAD: INTERSTATE ROUTE 70
IN KINGDOM CITY

PROJECT NO. IR-IRG-70-3 (43) STA. 600+34.85

JOB NO. 51 426-70 RTE. I-70

CALLAWAY COUNTY

STD. 611.60
STD. 606.22
STD. 706.35
L-964R



PLAN

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1A OF 26

DESIGNED MAR. 1990
DETAILED MAR. 1990
CHECKED APR. 1990

412 392

FINAL QUANTITIES		N.B.L.		S.B.L.		
ITEM		SUBSTR.	SUPERSTR.	SUBSTR.	SUPERSTR.	TOTAL
REMOVAL AND STORAGE OF EXISTING BRIDGE RAIL	LIN.FT.		406 ✓		406 ✓	812 ✓
CURB REMOVAL	LIN.FT.		423 ✓		423 ✓	846 ✓
PARTIAL REMOVAL OF SUBSTRUCTURE CONCRETE	LUMP SUM					1 ✓
ASPHALT REMOVAL	SQ. FT.		5979 ✓		—	5979 ✓
CLASS 1 EXCAVATION	CU.YD.	See Total		See Total		3120 ✓
STRUCTURAL STEEL PILES (12")	LIN.FT.	1040 ✓		920 ✓		1960 ✓
PREBORE FOR PILING	LIN.FT.	68 ✓		40 ✓		108 ✓
PILE POINT REINFORCEMENT	EACH	37 ✓		30 ✓		67 ✓
CLASS B CONCRETE	CU.YD.	29.4 ✓		26.1 ✓		55.5 ✓
SUPERSTRUCTURE REPAIR (UNFORMED) SEE SPECIAL PROVISIONS	SQ. FT.		438 ✓		444 ✓	882 ✓
CLASS B1 CONCRETE	CU.YD.		36.5 ✓		31.0 ✓	67.5 ✓
CLASS B2 CONCRETE	CU.YD.		34.3 ✓		188.5 ✓	522.8 ✓
SAFETY BARRIER CURB	LIN.FT.		223 ✓		160 ✓	383 ✓
REPAIRING CONCRETE DECK (HALF-SOLING)	SQ. FT.		188 ✓		1154 ✓	1342 ✓
MICROSILICA CONCRETE WEARING SURFACE	SQ. YD.		922 ✓		959 ✓	1881 ✓
REINFORCING STEEL	LBS.	1970 ✓	6040 ✓	1740 ✓	5730 ✓	15,480 ✓
REINFORCING STEEL (EPOXY COATED)	LBS.		79,820 ✓		47,540 ✓	127,360 ✓
CONTINGENT ITEM						
Modified Safety Barrier Curb	LIN. FT.		429 ✓		222 ✓	651 ✓

NOTE: ALL REINFORCEMENT IN END BENTS AND INTERMEDIATE BENT COLUMNS IS INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
 ALL CONCRETE IN THE END BENTS AND INTERMEDIATE BENT COLUMNS IS INCLUDED WITH SUPERSTRUCTURE QUANTITIES.
 ALL CONCRETE IN THE END BENTS ABOVE TOP OF BEAM AND BELOW TOP OF SLAB SHALL BE CLASS B2.

PILE DATA (N.B.L.)					
BENT NO.	1	2	3	4	5
PILE TYPE AND SIZE	HP12X53	HP12X53	HP12X53	HP12X53	HP12X53
NUMBER	5	4 LT., 5 RT.	4 LT., 5 RT.	4 LT., 5 RT.	5
APPROXIMATE LENGTH FT.	36 - 50	17-31 LT., 22-26 RT.	15 LT., 11-14 RT.	17-22 LT., 23-32 RT.	29-35
DESIGN BEARING TONS	30	27 LT., 41 RT.	27 LT., 41 RT.	27 LT., 44 RT.	34
MINIMUM TIP PENETRATION ELEV.	825.0	815.0	814.0	815.0	825.0
HAMMER ENERGY REQUIRED FT.-LBS.	7000	7000 LT., 9600 RT.	7000 LT., 9600 RT.	7000 LT., 10,400 RT.	7400
PILE DATA (S.B.L.)					
BENT NO.	1	2	3	4	5
PILE TYPE AND SIZE	HP12X53	HP12X53	HP12X53	HP12X53	HP12X53
NUMBER	3	8	8	8	3
APPROXIMATE LENGTH FT.	42 - 47	13-20 LT., 20-23 RT.	18-20 LT., 17-25 RT.	15-24 LT., 22-26 RT.	32-37
DESIGN BEARING TONS	34	27	27	27	38
MINIMUM TIP PENETRATION ELEV.	825.0	813.0	813.0	813.0	825.0
HAMMER ENERGY REQUIRED FT.-LBS.	7400	7000	7000	7000	8400

NOTE: MINIMUM ENERGY REQUIREMENT OF HAMMER BASED ON PLAN LENGTH OF PILES.
 ALL PILE SHALL BE DRIVEN TO THE MINIMUM PENETRATIONS AND TO NOT LESS THAN THE DESIGN BEARINGS NOTED.
 PREBORE FOR PILES AT END BENT NO. 1 TO ELEV. 830.0.
 MANUFACTURED PILE POINT REINFORCEMENT SHALL BE USED ON ALL PILES IN THIS STRUCTURE. SEE SPECIAL PROVISIONS.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STANDARD PLANS

REV JUL 1, 1990

STATE MO	JOB NO. 5I 426-70	SHEET NO. 66
DIST NO. 5	PROJECT NO. IR-IRG-70-3 (143)	ROUTE I-70
	COUNTY CALLAWAY	

FINAL PLANS

✓	NO.	DESCRIPTION
✓	203.00E	EXCAVATION & EMBANKMENT
	203.02C	UNDERGRADING
	203.10A	TABULATED EARTHWORK & SECTION DATA
	203.20B	SUPERELEVATION SPIRALS & WIDENING (UNDIVIDED)
	203.21B	SUPERELEVATION SPIRALS & WIDENING (DIVIDED)
	203.30A	ENTRANCES & APPROACHES (LESS THAN 400 ADT)
	203.31B	ENTRANCES & APPROACHES (GREATER THAN 400 ADT - NO SAFETY ZONE)
	203.32D	ENTRANCES & APPROACHES (GREATER THAN 400 ADT - SAFETY ZONE)
	203.35A	MAILBOX TURNOUTS
	203.40E	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (OTHER THAN 6:1 FORESLOPE)
	203.41E	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (6:1 FORESLOPE)
	203.50J	TYPICAL CROSS-OVERS (DIVIDED HIGHWAYS)
	204.00D	EMBANKMENT CONTROL MEASURING DEVICES
	502.00M	CONCRETE PAVEMENT & BASE APPURTENANCES
✓	502.10E	DOWEL SUPPORTING UNITS
✓	503.00J	CONCRETE APPROACH SLABS TO BRIDGES (ALSO INCLUDE 502.00)
	602.00A	RIGHT-OF-WAY & DRAIN MARKERS
✓	604.05B	PIPE CULVERT HEADWALLS - TYPE S
	604.10B	HEADWALL-WITH ENERGY DISSIPATOR - 18"
	604.11B	HEADWALL-WITH ENERGY DISSIPATOR - 24"
	604.12B	HEADWALL-WITH ENERGY DISSIPATOR - 30"
	604.13B	HEADWALL-WITH ENERGY DISSIPATOR - 36"
	604.14B	HEADWALL-WITH ENERGY DISSIPATOR - 42"
	604.15B	HEADWALL-WITH ENERGY DISSIPATOR - 48"
	604.20B	DROP INLET - TYPE B
	604.21B	DROP INLET - TYPE C
	604.22B	DROP INLET - TYPE D
	604.23B	DROP INLET - TYPE E
	604.24B	DROP INLET - TYPE EE
	604.25C	DROP INLET - TYPE F
	604.26D	DROP INLET - TYPE G
	604.27C	DROP INLET - TYPE S (3 SHEETS)
	604.28E	DROP INLET - TYPE T (ALSO INCLUDE 614.30)
	604.29C	DROP INLET - TYPE X
	604.30F	CONCRETE MANHOLES (ALSO INCLUDE 614.30)
✓	604.40E	PIPE COLLARS
	605.10A	CLASS A UNDERDRAINS
✓	606.00U	GUARD RAIL (2 SHEETS)
✓	606.22F	BRIDGE ANCHOR SECTION (SAFETY BARRIER CURB ON BRIDGE) (ALSO INCLUDE 606.00)
	606.23	BRIDGE ANCHOR SECTION (THREE BEAM RAIL ON BRIDGE) (ALSO INCLUDE 606.00)
✓	606.30E	TERMINAL SECTION (ALSO INCLUDE 606.00)
	606.40A	GUARD CABLE
	607.10R	CHAIN LINK FENCE
	607.11B	CHAIN LINK FENCE FOR RETAINING WALLS
	607.20F	WOVEN WIRE FENCE (ALSO INCLUDE 607.10)

✓	NO.	DESCRIPTION
	608.00C	PAVED APPROACHES
	608.10G	CONCRETE SIDEWALK & WHEELCHAIR RAMPS
	608.20C	CONCRETE STEPS
	609.00G	CONCRETE CURB - CURB & GUTTER - GUTTER
	609.15B	PAVED DITCHES
✓	609.40D	DRAIN BASIN, SHOULDER PAVING & FILL SLOPE AT BRIDGE ENDS
✓	609.60B	DITCH LINER
	609.70C	ROCK LINING FOR CULVERT OUTLETS
	610.20E	BRICK MANHOLES (ALSO INCLUDE 614.30)
✓	611.60L	CONCRETE SLOPE PROTECTION
	612.10K	BARRICADES AND FLASHER SIGNS
	613.00B	PAVEMENT REPAIR
	614.10Q	CURB INLETS, GRATES & BEARING PLATES
	614.30D	MANHOLE FRAMES & COVERS
	615.00A	OFFICE FOR ENGINEER
✓	616.10L	TRAFFIC CONTROL DEVICES (3 SHEETS) (ALSO INCLUDE 903.01)
✓	617.00V	CONCRETE TRAFFIC BARRIER (3 SHEETS)
	702.01F	16" CONCRETE PILES (APPROVED TYPES) (2 SHEETS)
	702.02B	CAST-IN-PLACE CONCRETE PILES (APPROVED TYPES)
✓	703.21D	CONCRETE BOX CULVERTS, H20 LOADING (3 SHEETS) (FLARED WINGS) (INCL 706.35)
	703.24E	CONCRETE BOX CULVERTS, SKEW DATA (703.30) (INCL 706.35)
	703.25E	CONCRETE BOX CULVERTS, SKEW DATA (703.21) (3 SHTS) (FLRD WINGS) (INCL 706.35)
	703.30E	CONCRETE BOX CULVERTS, 4' SPANS & LESS-ALL LOADING (INCL 706.35)
	703.35B	CONCRETE BOX CULVERTS, CUTTING DETAILS (STRAIGHT WINGS) (INCL 706.35)
	703.36A	CONCRETE BOX CULVERTS, CUTTING DETAILS (FLARED WINGS) (INCL 706.35)
	703.50G	CONCRETE DOUBLE BOX STRUCTURE-SQUARE (INCL 706.35)
	703.51F	CONCRETE DOUBLE BOX STRUCTURE-SKEWED (INCL 706.35)
	703.52C	CONCRETE DOUBLE BOX STRUCTURE-CUT SECTIONS (INCL 706.35)
	703.54D	DOUBLE BOX STRUCTURE REINFORCEMENT-H20 OR HS20 LOADING (8 SHEETS)
	703.55D	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS) SQUARE (INCL 706.35)
	703.56D	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS) SKEWED (INCL 706.35)
	703.60C	CONCRETE BOX STRUCTURE-PIPE INLET
	703.70C	CONCRETE TRIPLE BOX STRUCTURE-SQUARE (2 SHEETS) (INCL 706.35)
	703.71C	CONCRETE TRIPLE BOX STRUCTURE-SKEWED (2 SHEETS) (INCL 706.35)
	703.72C	CONCRETE TRIPLE BOX STRUCTURE-(FLARED WINGS) (SQUARE) (2 SHEETS) (INCL 706.35)
	703.73C	CONCRETE TRIPLE BOX STRUCTURE-(FLARED WINGS) (SKEWED) (2 SHEETS) (INCL 706.35)
	703.74C	CONCRETE TRIPLE BOX STRUCTURE-CUT SECTIONS (INCL 706.35)
	703.76B	CONCRETE TRIPLE BOX STRUCTURE REINFORCEMENT-H20 OR HS20 LOADING (5 SHEETS)
✓	706.30E	REINFORCING BAR SUPPORTS
✓	706.35E	BAR SUPPORTS FOR CONCRETE REINFORCEMENT
	712.40E	STEEL DAMS FOR BRIDGES (6" CHANNEL)
	725.31C	METAL CURTAIN WALL AND METAL INLETS
✓	726.30C	CULVERT INSTALLATION METHODS
	731.00S	PRECAST MANHOLES (ALSO INCL 614.30)
	731.10H	PRECAST DROP INLETS (4 SHTS) (ALSO INCL 614.30 & 614.10)

✓	NO.	DESCRIPTION
✓	732.00L	FLARED END SECTION (2 SHEETS)
	806.02A	STAPLE PLACEMENT FOR PLASTIC NETTING
		HIGHWAY LIGHTING
	901.00P	POLES & APPURTENANCES-30' (3 SHEETS)
	901.01U	POLES & APPURTENANCES-45' (3 SHEETS)
	901.05A	CONTROL PANEL CABINET DETAILS (2 SHEETS) (SEE NOTE)
	901.12C	POLE MOUNT CONT STA-SECONDARY SERV-480 V MULTI CIR (NOT METERED)
	901.15E	POLE MOUNT CONT STA-SEC SERV-120,240, & 480 V MULTI CIR
	901.16D	POLE MOUNT CONT STA-SEC SERV-480 V MULTI CIR (METERED)
	901.18D	POLE MOUNT CONT STA-SEC SERV-120/240 V MULTI CIR
	901.19D	POLE MOUNT CONT STA-SEC SERV-240 V MULTI CIR (NOT METERED)
	901.20D	POLE MOUNT CONT STA-SEC SERV-120/240 V MULTI CIR (SIG METERED)
	901.22E	POLE MOUNT CONT STA-SEC SERV-120/240 & 480 V MULTI CIR (BOTH METERED)
	901.23E	POLE MOUNT CONT STA-SEC SERV-240 V MULTI CIR (METERED)
	901.24D	POLE MOUNT CONT STA-SEC SERV-240 V MULTI CIR (LIGHTS & SIGNALS-BOTH METERED)
	901.25D	BASE MOUNT CONT STA-SEC SERV-120/240 V MULTI CIR
		NOTE: ALSO INCLUDE 901.05 WITH 901.12 THROUGH 901.25 EXCEPT 901.18
		TRAFFIC SIGNALS
✓	902.00F	SIGNAL HEADS, LENSES AND MOUNTING
✓	902.10J	PULL BOXES, CONTROLLERS, COND LOCATION
✓	902.15D	POWER SUPPLY ASSEMBLY
	902.21B	TELEPHONE INTERCONNECT
✓	902.30G	CONCRETE BASES
✓	902.40H	TUBULAR STEEL POST
✓	902.50E	DETECTORS
	902.60F	SPAN WIRE DETAILS-STEEL POST
	902.70C	SPAN WIRE DETAILS-WOOD POLE
✓	902.80A	TRAFFIC SIGNAL SYMBOLS
		HIGHWAY SIGNING
✓	903.01C	ALPHABETS (2 SHEETS)
✓	903.02X	HIGHWAY SIGNING (7 SHEETS)
✓	903.03AM	SIGN MOUNTING DETAILS (5 SHEETS)
	903.04D	WEIGH STATION SIGNING
	903.05C	TUBULAR SPAN SUPPORT-ONE TUBE, TYPE S
	903.06C	TUBULAR SPAN SUPPORT-TWO TUBE, TYPE S
	903.07C	TUBULAR CANTILEVER SUPPORTS, TYPE C
	903.08C	TUBULAR BUTTERFLY SUPPORTS, TYPE B
✓	903.09C	LIGHTING SUPPORT BRACKET
✓	903.10T	SIGN TRUSSES-OVERHEAD ALUMINUM (8 SHEETS) (INCL 903.03)
	903.12N	SIGN TRUSSES-BUTTERFLY & CANTILEVER-STEEL (7 SHEETS) (INCL 903.03)
✓	903.60S	SIGN TRUSSES-OVERHEAD STEEL (7 SHEETS) (INCL 903.03)

NOTES:
PLANS FOR THIS PROJECT WERE DEVELOPED USING DRAWINGS FROM THIS INDEX

* REVISED SINCE JANUARY 1990

FINAL PLANS

Edge
of Pavt.

Total Addl. Emb in Place - 123 Cu Yds.

168+42
0-0 Sec Bk.

E.I.P. ~ 69

168+42
0-0 Sec Bk.

E.I.P. ~ 59

168+06
E.I.P. ~ 103

167+75
0-0 Sec Ah

Additional Emb in Place

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

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

393