

QUANTITY CALCULATIONS

SUM-59-6.91
SUMMIT COUNTY

BY DATE	F. H. W. A.	STATE	PROJECT
CALC. RW E-88	REGION	OHIO	F-53(2A)
CHECKED FW E-88	5		

103
158



⁶⁴³
ITEM 888 - 4 INCH CENTER LINES: SOLID DOUBLE

STATION	LIN. FT.
KENT ROAD (STATE ROUTE 59)	
4+00 - 6+67	267
6+67 - 7+82 (2)	230
7+82 - 10+34	852
16+34 - 17+76 (2)	284
17+76 - 28+41	8085
28+41 - 29+91 (2)	300
TOTAL	10018 L.F. OR 1.90 MILES

⁶⁴³
ITEM 889 - 4 INCH LANE LINES

STATION	SIDE	LIN. FT.
KENT ROAD (STATE ROUTE 59)		
4+00 - 102+00	RT & LT	19,600
TOTAL		49,850 L.F. OR 0.72 MILES

⁶⁴³
ITEM 890 - 8 INCH CHANNELIZING LINES: MILLE

STATION	SIDE	LIN. FT.
KENT ROAD (STATE ROUTE 59)		
8+16 - 9+51	RT	135
10+53 - 13+00	LT	247
13+65 - 14+33	LT	68
15+05 - 15+50	RT	45
TOTAL		495 L.F.

⁶⁴³
ITEM 888 - 4 INCH CENTER LINES: BROKEN AND SOLID DOUBLE

STATION	LIN. FT.
ELM ROAD	
50+45 - 50+80	25
YUKON ROAD	
49+25 - 49+64	39
WILLIAMSON ROAD	
50+47 - 51+00	53
FRANKLIN ROAD	
50+46 - 51+00	54
ORCHARD DRIVE	
50+44 - 51+00	56
SANFORD ROAD	
49+00 - 49+64	64
50+46 - 51+00	54
MARCELLA AVENUE	
49+20 - 49+64	44
50+46 - 50+70	24
HAWOOD AVENUE	
49+00 - 49+61	61
50+45 - 51+00	55
CHARRING CROSS DRIVE	
49+00 - 49+64	64
50+46 - 51+00	54
SENECA STREET	
50+46 - 51+00	54
VIRA ROAD	
50+46 - 51+00	54
HILE ROAD	
50+46 - 50+70	24
BAIRD ROAD	
50+46 - 50+70	24
KAUFFMAN ROAD	
50+46 - 50+70	24
SUBTOTAL	837 L.F. OR 0.16 MILES
TOTAL	10,855 L.F. OR 2.06 MILES

⁶⁴³
ITEM 889 - 12 INCH STOP LINES

STATION	LIN. FT.
KENT ROAD (STATE ROUTE 59)	
87+64	27
9+55	35
10+53	35
25+35	24
26+48	24
46+70	24
47+37	24
38+27	24
SUBTOTAL	220 L.F.
ELM ROAD	
50+43	18
DARROW ROAD	
49+45	32
50+50	38
YUKON ROAD	
49+66	16
WILLIAMSON ROAD	
50+45	20
FRANKLIN ROAD	
50+44	16
ORCHARD DRIVE	
49+65 (SCHOOL DR.)	14
50+42	14
SANFORD ROAD	
49+66	16
50+44	15
MARCELLA AVENUE	
49+66	16
50+44	16
HAWOOD AVENUE	
49+63	16
50+43	16
CHARRING CROSS DRIVE	
49+66	17
50+44	17
SENECA STREET	
50+44	18
VIRA ROAD	
50+44	20
HILE ROAD	
50+44	20
BAIRD ROAD	
50+44	20
KAUFFMAN ROAD	
50+44	20
TOTAL	551 L.F.

⁶⁴³
ITEM 889 - 12 INCH CROSSWALK LINES

STATION	LIN. FT.
KENT ROAD (STATE ROUTE 59)	
31+70 - 37+76	120
9+60 - 9+67	136
10+42 - 10+49	136
26+37 - 26+44	100
46+77 - 46+84	100
47+24 - 47+31	100
38+15 - 38+22	120
SUBTOTAL	812 L.F.
ELM STREET	
50+32 - 50+39	110
DARROW ROAD	
49+52 - 49+59	150
50+40 - 50+47	150
YUKON ROAD	
49+70 - 49+77	90
WILLIAMSON ROAD	
50+34 - 50+41	110
FRANKLIN ROAD	
50+33 - 50+40	86
ORCHARD DRIVE	
50+33 - 50+40	90
SCHOOL DRIVE	
49+69 - 49+76	86
SANFORD ROAD	
49+70 - 49+77	100
50+33 - 50+40	86
MARCELLA AVENUE	
49+70 - 49+77	100
50+33 - 50+40	90
HAWOOD AVENUE	
49+67 - 49+74	94
50+32 - 50+39	90
CHARRING CROSS DRIVE	
49+70 - 49+77	100
50+33 - 50+40	90
SENECA STREET	
50+33 - 50+40	90
VIRA ROAD	
50+33 - 50+40	90
HILE ROAD	
50+33 - 50+40	90
BAIRD ROAD	
50+33 - 50+40	90
KAUFFMAN ROAD	
50+33 - 50+40	90
TOTAL	2,804 L.F.

QUANTITY CALCULATIONS

BY	DATE	F. H. W. A.	STATE	PROJECT
CALC.	RW	E. 00	5	OHIO
CHECKED	FK	E. 00		F-53 (24)

104
158

SUM-59-6.91
SUMMIT COUNTY

ITEM 630

STATION	OFFSET	SIDE	REMOVAL OF GROUND MOUNTED SIGN & STORAGE (EACH)	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL (EACH)
KENT ROAD (S.R. 59)				
6+72	24'	LT	2	1
7+00	25'	RT	2	1
8+04	30'	RT	1	1
8+25	30'	RT	1	1
9+07	32'	LT	1	1
9+60	34'	LT	2	1
9+50	41'	LT	2	1
10+54	32'	RT	2	0
12+48	25'	LT	2	1
13+75	29'	LT	2	1
14+75	17'	LT	1	0
17+76	30'	RT	1	0
19+06	18'	LT	1	0
22+75	31'	RT	1	1
25+95	38'	RT	1	1
25+90	30'	RT	1	1
26+52	15'	LT	2	1
26+81	30'	RT	1	1
30+05	16'	LT	1	1
30+85	16'	LT	1	1
36+74	14'	LT	1	1
36+95	30'	RT	1	1
37+20	14'	LT	1	1
SUBTOTAL			31	20

ITEM 630

STATION	OFFSET	SIDE	REMOVAL OF GROUND MOUNTED SIGN & STORAGE (EACH)	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL (EACH)
WILLIAMSON ROAD				
50+35	35'	RT	2	1
50+45	22'	LT	1	1
FRANKLIN ROAD				
50+30	20'	RT	2	1
50+42	11'	LT	1	1
50+71	16'	RT	1	1
ORCHARD DRIVE				
50+35	10'	LT	1	1
50+36	13'	RT	2	1
50+79	19'	RT	1	1
SANFORD ROAD				
49+52	12'	LT	1	1
49+66	17'	RT	1	1
49+68	16'	LT	2	1
50+34	10'	LT	1	1
50+63	16'	RT	2	1
MARCELLA AVENUE				
49+59	20'	RT	1	1
49+66	26'	LT	2	1
50+27	10'	RT	2	1
50+29	8'	LT	1	1
SUBTOTAL			24	17

ITEM 630

STATION	OFFSET	SIDE	REMOVAL OF OVERHEAD MOUNTED SIGN & STORAGE (EACH)
KENT ROAD (S.R. 59)			
9+80	56'	RT	1
10+33	51'	LT	1
10+37	42'	RT	1
9+54	40'	LT	1
TOTAL			4
ITEM 630			
KENT ROAD (S.R. 59)			
16+07	--	C/L	1
23+16	30'	RT	1
25+10	--	RT	2
29+35	30'	LT	1
9+54	40'	LT	1
9+80	56'	RT	1
10+33	51'	LT	1
10+37	42'	RT	1
TOTAL			9
ITEM 630			
KENT ROAD (S.R. 59)			
23+16	30'	RT	1
29+35	30'	LT	1
TOTAL			2

ITEM 643 - 24 INCH TRANSVERSE LINES, YELLOW

STATION	LINE FT.
KENT ROAD (STATE ROUTE 59)	
6+67-7+82	65
16+40-17+76	75
TOTAL	140 L.F.
ITEM 643 - ISLAND MARKING, YELLOW	
KENT ROAD (STATE ROUTE 59)	
16+34 - 16+40	56
TOTAL	56 S.F.
ITEM 643 - SCHOOL SYMBOL MARKINGS, 72"	
KENT ROAD (STATE ROUTE 59)	
21+70	RT 1
30+51	LT 1
TOTAL	2 EACH

ITEM 630

STATION	OFFSET	SIDE	REMOVAL OF GROUND MOUNTED SIGN & STORAGE (EACH)	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL (EACH)
KENT ROAD (S.R. 59)				
39+22	31'	RT	1	1
41+45	13'	LT	2	1
47+42	30'	RT	2	0
50+08	19'	LT	1	1
51+65	30'	RT	1	1
56+90	30'	RT	1	1
61+62	12'	LT	2	1
68+15	30'	RT	2	1
68+15	22'	LT	1	1
69+13	30'	RT	1	1
75+50	17'	LT	2	1
77+55	29'	RT	2	1
80+85	15'	LT	2	1
83+90	10'	LT	1	1
88+47	29'	RT	2	1
91+88	13'	LT	1	1
100+37	34'	LT	1	1
102+87	34'	LT	1	1
SUBTOTAL			34	20

ITEM 630

STATION	OFFSET	SIDE	REMOVAL OF GROUND MOUNTED SIGN & STORAGE (EACH)	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL (EACH)
HILWOOD AVENUE				
49+19	18'	LT	2	1
49+30	18'	LT	1	0
49+45	15'	RT	1	1
50+29	19'	RT	2	1
50+35	15'	LT	1	1
CHARRING CROSS DRIVE				
49+09	20'	LT	2	1
49+41	20'	LT	2	0
49+55	17'	RT	1	1
49+63	13'	LT	1	1
50+25	26'	RT	2	1
50+32	11'	LT	1	1
SENECA STREET				
50+20	18'	RT	2	1
50+32	18'	LT	1	1
OSAGE STREET				
56+95 (KENT ROAD)	21'	LT	1	1
57+34 (KENT ROAD)	21'	LT	2	1
ONEIDA STREET				
60+40 (KENT ROAD)	20'	LT	1	1
60+65 (KENT ROAD)	29'	LT	1	1
60+75 (KENT ROAD)	17'	LT	2	1
SUBTOTAL			26	17

ITEM 630

STATION	OFFSET	SIDE	REMOVAL OF GROUND MOUNTED SIGN & STORAGE (EACH)	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL (EACH)
VIRA ROAD				
50+24	20'	RT	1	1
50+40	14'	LT	2	1
HILE ROAD				
50+25	15'	LT	2	1
50+27	11'	LT	1	1
BAIRD ROAD				
50+22	35'	RT	2	1
50+30	20'	LT	1	1
KAUFFMAN ROAD				
50+25	20'	RT	1	1
50+44	15'	LT	2	1
SUBTOTAL			12	8
TOTAL			127 EACH	82 EACH

ITEM 643 - WORD ONLY ON PAVEMENT 72"

STATION	EACH
KENT ROAD (STATE ROUTE 59)	
8+56	1
11+48	1
14+20	1
15+17	1
TOTAL	4 EACH
ITEM 643 - LANE ARROWS	
KENT ROAD (STATE ROUTE 59)	
9+21	1
10+83	1
12+13	1
13+75	1
15+42	1
TOTAL	5 EACH

TRAFFIC CONTROL SUMMARY

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

105
158

SUM-59-6.91
SUMMIT COUNTY

SHT No. 103	SHT No. 104	SHT No. 108	KENT RD. (S.R. 59) a DARROW RD. SHT. No. 117	KENT RD. (S.R. 59) a ORCHARD RD. SHT. No. 119	KENT RD. (S.R. 59) a CHARRING CROSS SHT. No. 122	KENT RD. (S.R. 59) a HIWOOD AVE. SHT. No. 120D	ITEM EXT.	ITEM	TOTAL	UNIT	DESCRIPTION
2.06							00300	643	2.06	MILES	CENTERLINES
372							00200	643	3.72	MILES	LANE LINES
495							00400	643	495	LIN. FT.	CHANNELIZING LINES
561							00500	643	561	LIN. FT.	STOP LINES
2884							00600	643	2884	LIN. FT.	CROSSWALK LINES
	56						00900	643	56	SQ. FT.	ISLAND MARKING
	4						01400	643	4	EACH	WORD ON PAVEMENT, 72 INCHES
	5						01300	643	5	EACH	LANE ARROWS
	140						00700	643	140	LIN. FT.	TRANSVERSE LINES
	2						01100	643	2	EACH	SCHOOL SYMBOL MARKINGS, 72 INCHES
			11	6	7		31200	625	27	EACH	PULL BOX, 713.081, 13" x 18"
			3	2	1	8	31300	625	14	EACH	PULL BOX, 713.081, 16" x 25"
			5	6	5	5	32000	625	23	EACH	GROUND ROD
	2		973	605	571	504	25402	625	2748	LIN. FT.	CONDUIT, 2", 713.07
			289	237	186	201	25502	625	913	LIN. FT.	CONDUIT, 3", 713.07
			1064	703	1159	622	29000	625	3548	LIN. FT.	TRENCH
			198	139	155	83	29600	625	575	LIN. FT.	TRENCH IN PAVED AREAS, TYPE B
	4						87100	630	4	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND RE-ERECTION
	132.15						80102	630	132	SQ. FT.	SIGNS, FLAT SHEET, TYPE G
	211.49						80100	630	291	SQ. FT.	SIGNS, FLAT SHEET
	12						81101	630	12	SQ. FT.	SIGNS ERECTED, FLAT SHEET, AS PER PLAN
	34						80500	630	34	EACH	SIGNS, DOUBLE FACED, STREET NAME
	127						85000	630	127	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE
	82						86002	630	82	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
	9						87000	630	9	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE
	2						88000	630	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-16.20
	126						00000	630	3.3	CU. YD.	CONCRETE FOR ANCHOR BASE FOUNDATIONS
	703.50						03100	630	704	LIN. FT.	GROUND MOUNTED SUPPORTS, No. 3 POST
	17						08500	630	17	EACH	STREET NAME SIGN SUPPORT
	1						10500	630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.20 DESIGN No. 5, 22 FT. ARM
	1						10500	630	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.20 DESIGN No. 5, 24 FT. ARM
	22						79100	630	22	EACH	SIGN HANGER ASSEMBLY, MAST ARM
	152						04100	630	152	LIN. FT.	GROUND MOUNTED SUPPORTS No. 4 POST
	2						93300	631	2	EACH	TIMER WITH ENCLOSURE
	2						84000	631	2	EACH	SIGN SERVICE
	2						84300	631	2	EACH	SIGNS WIRED
	2						93200	631	2	EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 60" x 72"
	2						89600	632	4	EACH	PEDESTAL, 8 FT.
	1		617	157	573		40900	632	1347	LIN. FT.	SIGNAL CABLE, 9/C No. 14 AWG
	4			7	8	8	00303	632	27	EACH	VEHICULAR SIGNAL HEAD, 3-SECTION, 12 INCH LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
	5			1			00503	632	6	EACH	VEHICULAR SIGNAL HEAD, 5-SECTION, 12 INCH LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
	9			8	8	8	25000	632	33	EACH	COVERING OF VEHICULAR SIGNAL HEAD
	8			6	8	8	20101	632	30	EACH	PEDESTRIAN SIGNAL HEAD, TYPE A2, POLYCARBONATE, AS PER PLAN
	8			6	8	8	26000	632	30	EACH	PEDESTRIAN PUSHBUTTON
	1			1	1		90100	632	3	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION
	512			256	224	291	27500	632	1283	LIN. FT.	LOOP DETECTOR PAVEMENT CUTTING
	8			4	2	2	27004	632	16	EACH	LOOP DETECTOR UNIT
	4			3	2	2	27008	632	11	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE
	173			1050	663	1069	40500	632	2955	LIN. FT.	SIGNAL CABLE, 5/C No. 14 AWG
	796			87			40700	632	883	LIN. FT.	SIGNAL CABLE, 7/C No. 14 AWG
	2345			853	536	792	64900	632	4526	LIN. FT.	LOOP DETECTOR WIRE, TYPE E
	1980			1091	880	812	65200	632	4763	LIN. FT.	LOOP DETECTOR LEAD-IN CABLE
	174			115	38	75	67200	632	402	LIN. FT.	POWER CABLE, 2/C No. 8 AWG
	1			1	1	1	70000	632	4	EACH	POWER SERVICE
	7			2	4	4	71000	632	17	EACH	CABLE SUPPORT ASSEMBLY
	8.14			531	5.82	5.92	72000	632	25.2	CU. YD.	CONCRETE FOR ANCHOR BASE FOUNDATIONS
	2						81100	632	1	EACH	* SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 1 W/23 FT. ARM, 35 FT. POLE
							81300	632	2	EACH	* SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 3 W/35 FT. ARM, 35 FT. POLE
					2		80200	632	2	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 2 W/29 FT. ARM
							80300	632	1	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 3 POLE W/ARMS TC-81.20 DESIGN 1, 22 FT. AND DESIGN 2, 27 FT.
							80400	632	1	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 4 POLE W/ARMS TC-81.20 DESIGN 2, 32 FT. AND DESIGN 3, 38 FT.
							80300	632	1	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 3 W/35 FT. ARM
					2		80200	632	2	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 2 W/26 FT. ARM
							35001	633	1	EACH	CONTROLLER, ACTUATED, 5 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN
							38001	633	1	EACH	CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN
							70000	633	6.6	CU. YD.	CONCRETE FOR CABINET FOUNDATION
			1.85	1.85	1.85		32005	633	2	EACH	CONTROLLER, ACTUATED, 2 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN

* COMBINATION

TRAFFIC CONTROL SUMMARY

FED. RD. DIVISION	STATE	PROJECT
5	OHIO	

105A
150

SUM - 59 - G.91
SUMMIT COUNTY

SHT No.103	SHT No.104	SHT No.108	KENT RD.(S.R.59)	KENT RD.(S.R.59)	KENT RD.(S.R.59)	KENT RD.(S.R.59)	ITEM EXT.	ITEM	TOTAL	UNIT	DESCRIPTION
			B DARROW RD. SHT No. 117	B ORCHARD RD. SHT No. 119	B CHARRING CROSS SHT No. 122	E HIWOOD AVE. SHT. No. 120'D					
					4	4	80200	632	4	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 2, W/ 21 FT. ARM
			8	4	- 2	2	27004	632	10	EACH	LOOP DETECTOR UNIT (DETECTOR SYSTEMS) - ALTERNATE BID.
			4	3	2	2	27008	632	11	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE (DETECTOR SYSTEMS) - ALTERNATE BID
					1	1	32005	633	2	EACH	CONTROLLER, ACTUATED, 2 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN (TRANSYT) ALTERNATE BID
				1			35001	633	1	EACH	CONTROLLER, ACTUATED, 5 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR AS PER PLAN (TRANSYT) - ALTERNATE BID
							38001	633	1	EACH	CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE DIGITAL, MICROPROCESSOR AS PER PLAN (TRANSYT) - ALTERNATE BID.
					3.33		70500	633	3.33	SQ. FT.	CONTROLLER WORK PAD

SIGNING SUB SUMMARY

 DESIGNED BY _____ BY _____ DATE _____
 DRAWN BY _____
 CHECKED BY _____

 SUM-59-691
 SUMMIT COUNTY

F H W A	STATE	PROJECT
REGION		
5	OHIO	

 106
 158

STATION	OFFSET	SIDE	ITEM DESCRIPTION																														SUB-TOTALS
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
G+58	29.5'	LT.																															
G+90	32'	LT.																															
7+28	29'	RT.																															
9+51	33'	RT.																															
10+53	31'	LT.																															
11+50	32'	RT.																															
12+53	30'	LT.																															
12+93	32'	RT.																															
13+65	30'	LT.																															
13+80	29.5'	RT.																															
15+45	29.5'	RT.																															
25+10	29'	LT.																															
16+34	32'	LT.																															
16+80	26'	RT.																															
21+47	30'	LT.																															
21+58	27'	RT.																															
22+85	32.5'	RT.																															
22+85	26.5'	LT.																															
25+45	29'	RT.																															
25+91	36'	RT.																															
25+91	36'	RT.																															
26+04	31'	LT.																															
28+50	31'	LT.																															
28+68	29'	RT.																															
26+58	29'	LT.																															
29+45	27'	RT.																															
29+45	27'	LT.																															
29+55	28'	LT.																															
30+63	27.5'	LT.																															
33+42	29'	RT.																															
34+33	28'	LT.																															
37+67	30'	RT.																															
38+31	29'	LT.																															
4C+00	29.5'	LT.																															
46+70	33'	LT.																															
47+35	33'	RT.																															
47+80	26.5'	RT.																															
50+38	25.5'	RT.																															
53+77	28'	LT.																															
56+90	29'	LT.																															
57+27	29'	LT.																															
57+32	27'	LT.																															
60+43	27'	LT.																															
60+66	30'	LT.																															
60+73	26'	LT.																															
64+40	29'	LT.																															
69+34	29'	LT.																															
69+75	29'	RT.																															
72+80	27'	LT.																															
73+85	29'	LT.																															
77+61	29'	LT.																															
82+85	26'	RT.																															
9+54	40'	LT.																															
9+73	53'	RT.																															
10+42	52'	LT.																															
10+58	39'	RT.																															
SUB-TOTALS																																	

- EM 625 GROUND RODS EACH
- EM 630 CONCRETE FOR ANCHOR BASE FOUNDATIONS CU. YD.
- EM 630 GROUND MOUNTED SUPPORTS, NO. 3 POST LIN. FT.
- EM 630 STREET NAME SIGN SUPPORT EACH
- EM 630 GROUND MOUNTED SUPPORTS NO. 4 POST LIN. FT.
- EM 630 SIGN HANGER ASSEMBLY, MAST ARM EACH
- EM 630 SIGNS, FLAT SHEET SQ. FT.
- EM 630 SIGNS, DOUBLE FACED, STREET NAME EACH
- EM 630 SIGNS ERECTED, FLAT SHEET SQ. FT.
- EM 630 SIGNS, FLAT SHEET, TYPE S SQ. FT.
- EM 631 SIGN SERVICE EACH
- EM 631 TIMER W/ENCL EACH
- EM 631 SIGNS WIRED EACH
- EM 631 SCHOOL SPEED LIMIT SIGN ASSEMBLY, 60" x 72" EACH
- EM 630 OVERHEAD, SIGN SUPPORT, TYPE 20, DESIGN N° 8, 24" ARM EACH
- EM 630 OVERHEAD, SIGN SUPPORT, TYPE 20, DESIGN N° 5, 24" ARM EACH
- 1-2-24-2 24" x 24"
- 1-17-24 24" x 12"
- 1-39-24 24" x 12"
- 1-40-24 24" x 12"
- 1-1-40 40" x 20"
- 1-1-30 30" x 30"
- 1-1-36 36" x 36"
- 1-10-24 24" x 30"
- 1-11-B 24" x 30"
- 1-21-30 30" x 36"
- 1-25A-36 36" x 42"
- 1-31F-36 36" x 30"
- 1-31C-48 48" x 30"
- 1-31FF-48 48" x 30"
- 1-55-12 12" x 18"
- 1-142-30 30" x 30"
- 1-23-24 24" x 24"
- P-23-24 24" x 9-1/2"
- 1-30-48 48" x 24"
- 1-48-30 30" x 30"
- 1-81-42 42" x 42"
- 1-82S-42 42" x 57"
- P-81-24 24" x 18"
- 1-78-24 24" x 8"
- 1-10-24 24" x 30"
- 1-18-24 24" x 10"

2 POST INSTALLATION

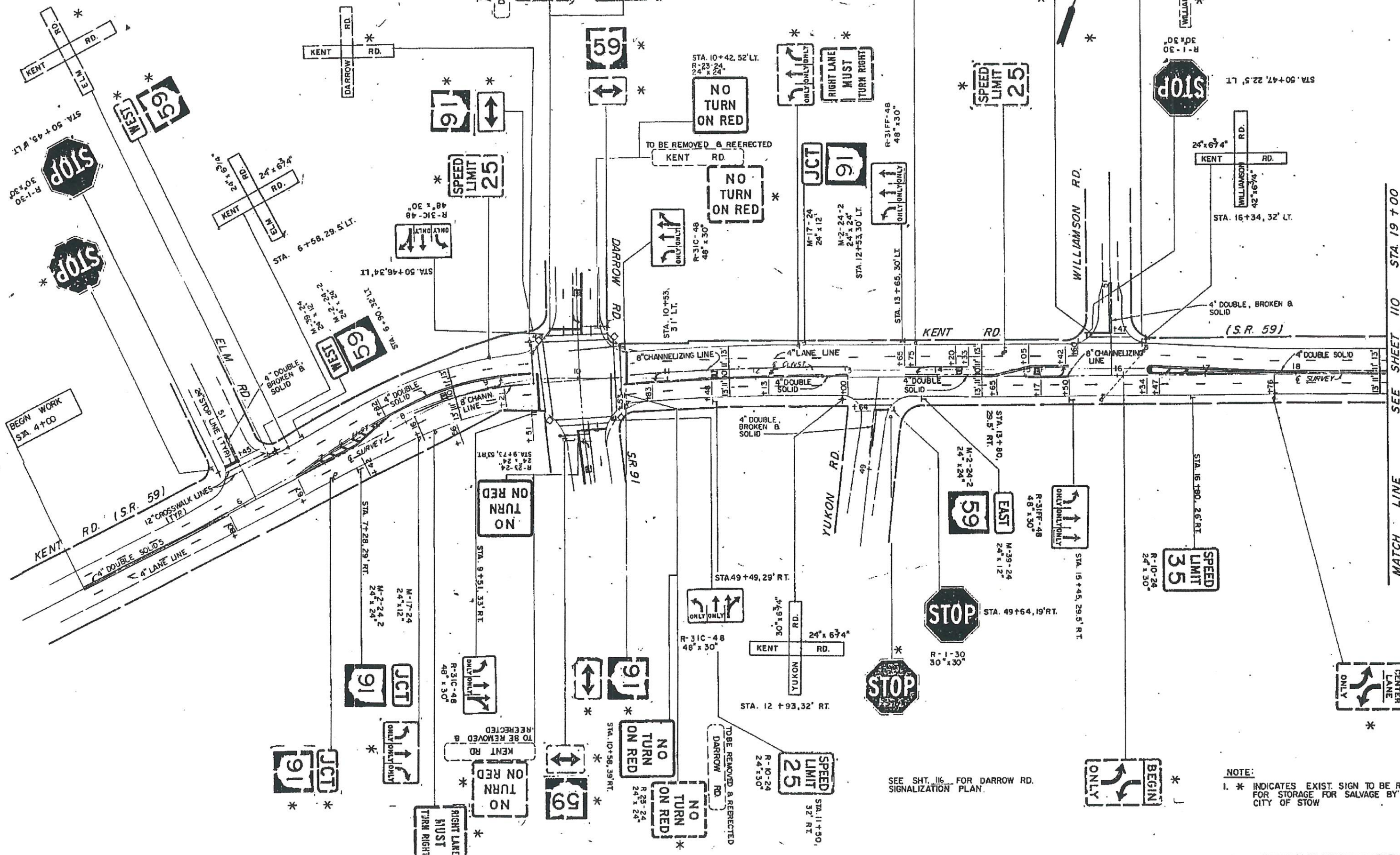
SUB-TOTALS

STRIPING & SIGNING PLAN

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	F-53(74)

109
158

SUM-59-691
SUMMIT COUNTY



MATCH LINE SEE SHEET 110 STA. 19+00

SEE SHT. 116 FOR DARROW RD. SIGNALIZATION PLAN.

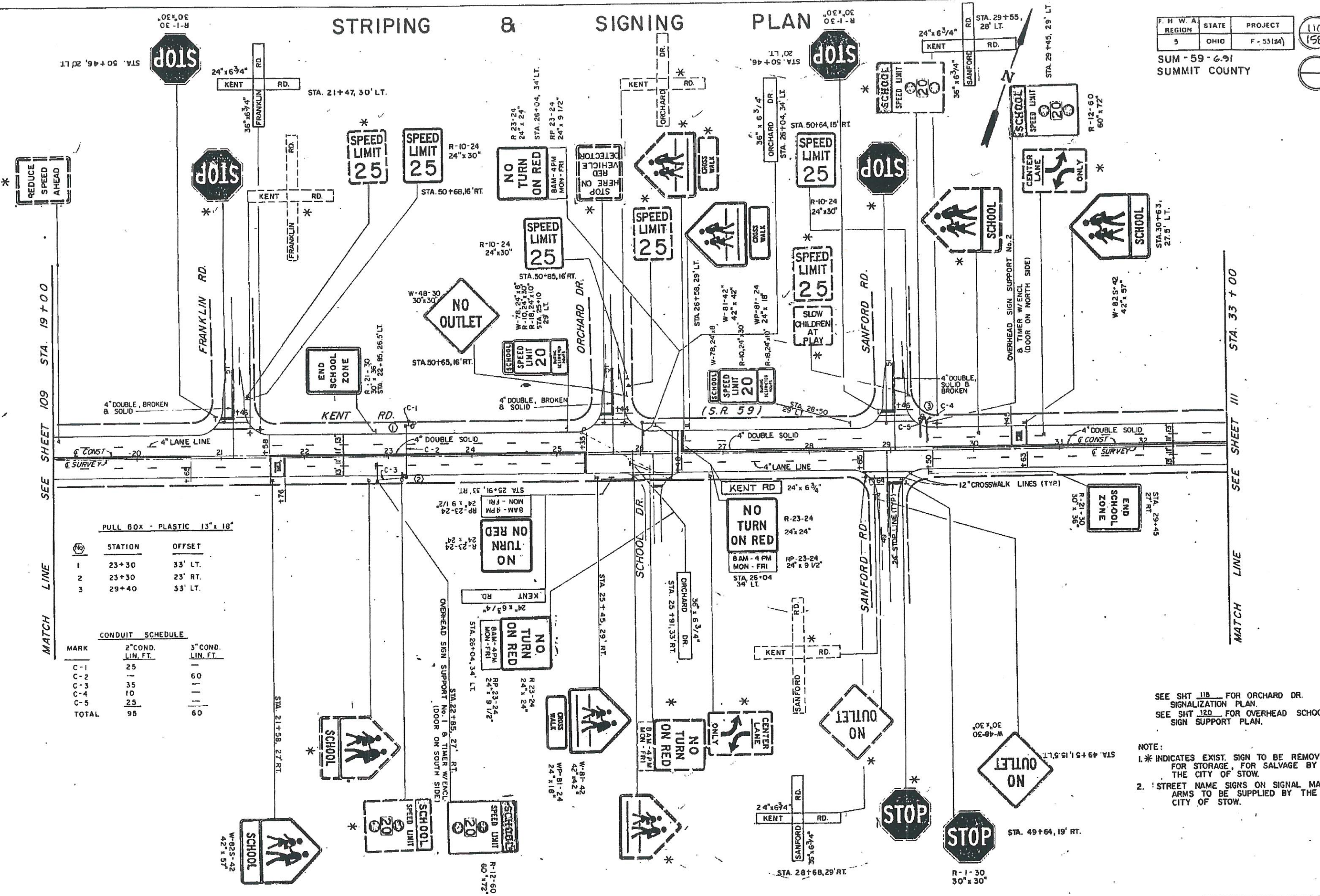
NOTE:
I. * INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE FOR SALVAGE BY THE CITY OF STOW

STRIPING & SIGNING PLAN

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	F-53(24)

110
158

SUM-59-691
SUMMIT COUNTY



MATCH LINE SEE SHEET 109 STA. 19+00

MATCH LINE SEE SHEET 111 STA. 33+00

PULL BOX - PLASTIC 13" x 18"		
STATION	OFFSET	
1 23+30	33' LT.	
2 23+30	23' RT.	
3 29+40	33' LT.	

CONDUIT SCHEDULE		
MARK	2" COND. LIN. FT.	3" COND. LIN. FT.
C-1	25	60
C-2	1	60
C-3	35	60
C-4	10	60
C-5	25	60
TOTAL	95	60

SEE SHT 118 FOR ORCHARD DR. SIGNALIZATION PLAN.
SEE SHT 120 FOR OVERHEAD SCHOOL SIGN SUPPORT PLAN.

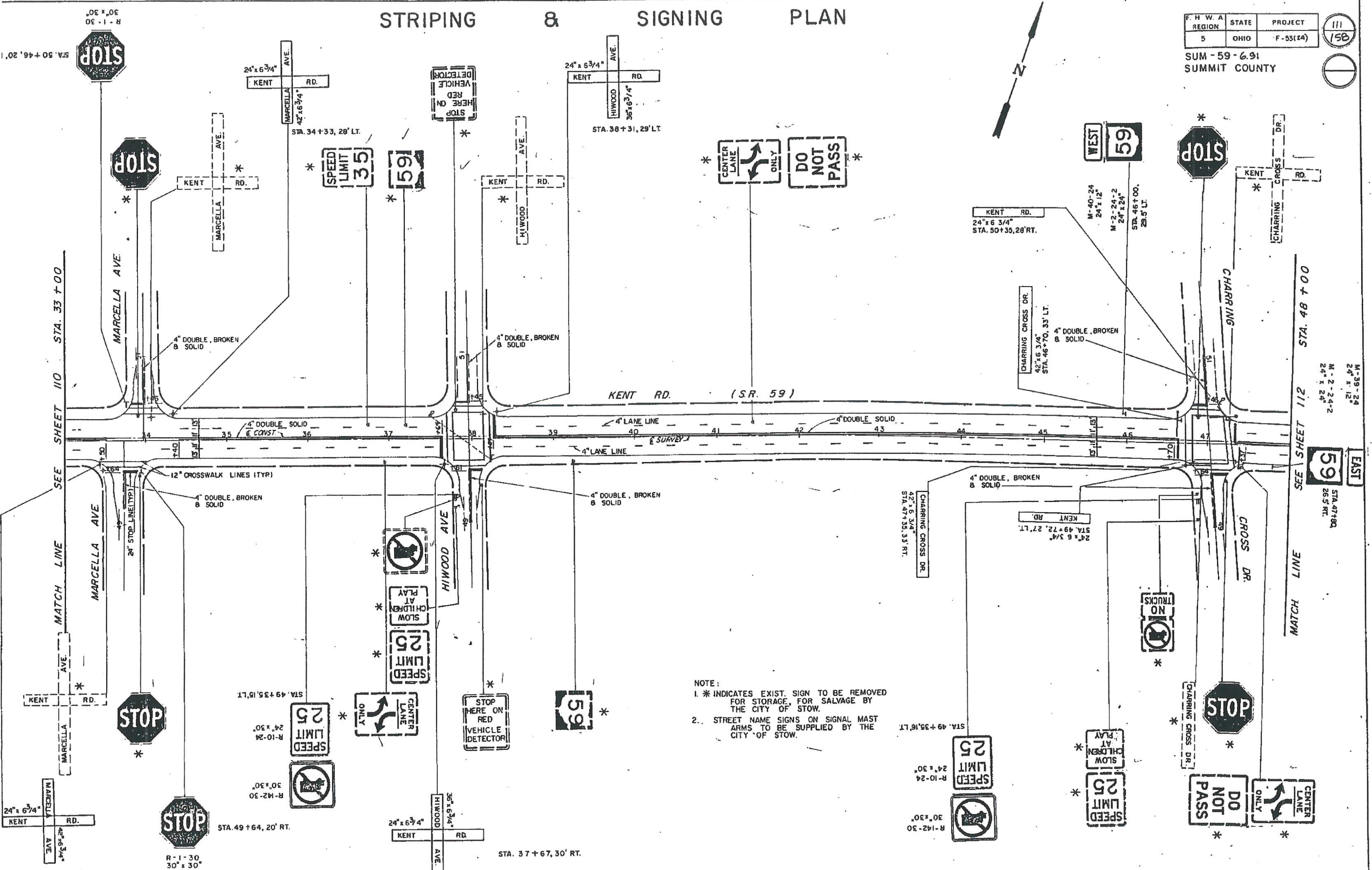
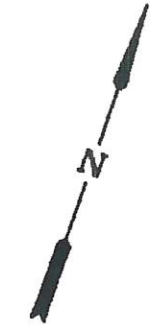
- NOTE:
- * INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE, FOR SALVAGE BY THE CITY OF STOW.
 - ! STREET NAME SIGNS ON SIGNAL MAST ARMS TO BE SUPPLIED BY THE CITY OF STOW.

STRIPING & SIGNING PLAN

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	F-53(24)

111
158

SUM - 59 - 6.91
SUMMIT COUNTY



NOTE:
 1. * INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE, FOR SALVAGE BY THE CITY OF STOW.
 2. STREET NAME SIGNS ON SIGNAL MAST ARMS TO BE SUPPLIED BY THE CITY OF STOW.

SEE SHEET 110 STA. 33 + 00

SEE SHEET 112 STA. 48 + 00

STA. 33 + 42.29' RT.

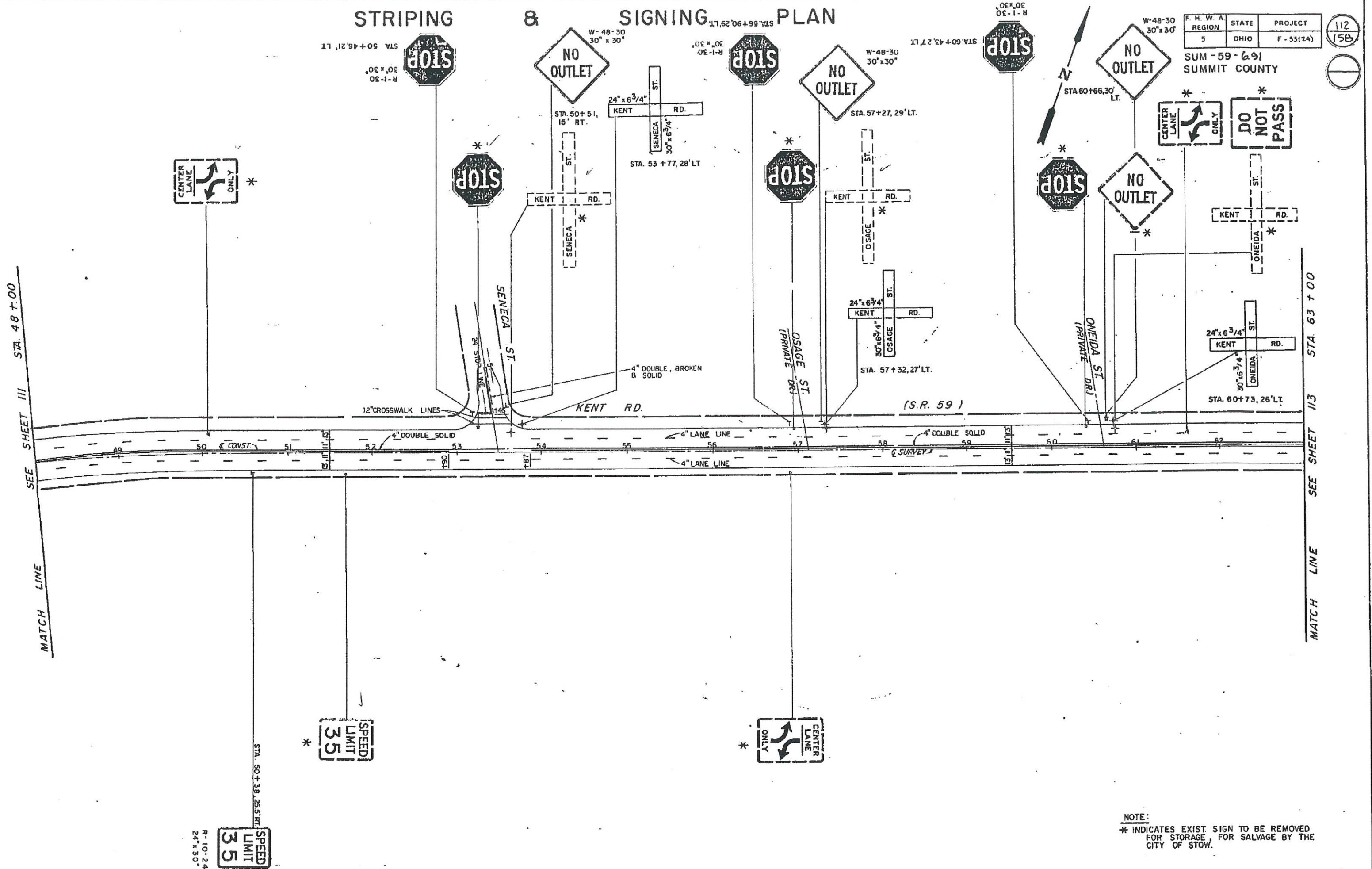
EAST
 STA. 47+80
 59
 26.5 RT.
 M-2-24-2
 24' x 24'
 N-39-24
 24' x 12'

STRIPING & SIGNING PLAN

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	F-53(24)

112
158

SUM-59-691
SUMMIT COUNTY



SEE SHEET III STA. 48+00
MATCH LINE

MATCH LINE SEE SHEET 113 STA. 63+00

R-10-24
24" x 30"
SPEED LIMIT 35

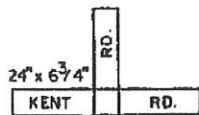
*
SPEED LIMIT 35

*
CENTER LANE ONLY

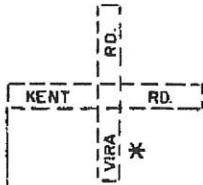
NOTE:
* INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE, FOR SALVAGE BY THE CITY OF STOW.

STA. 50+46.20' LT.

R-1-30
30" x 30"



STA. 64+40.29' LT.



STRIPING

8

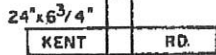
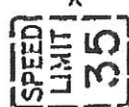
SIGNING

PLAN

R-1-30
30" x 30"



STA. 50+46.20' LT.

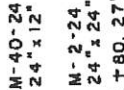


STA. 69+34.29' LT.

R-1-30
30" x 30"



STA. 73+85.29' LT.



STA. 72+80.27' LT.

BAIRD RD.

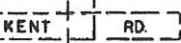
R-1-30
30" x 30"



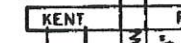
SUM-59-691
SUMMIT COUNTY

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	F-53(24)

113
158



STA. 77+61.29' LT.

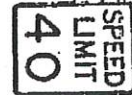
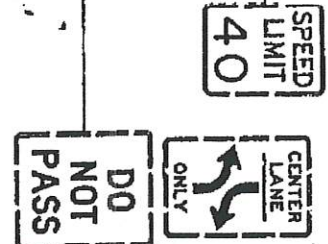


SEE SHEET 112 STA. 63+00

MATCH LINE

SEE SHEET 114 STA. 78+00

MATCH LINE



STA. 69+75.29' RT.

R-10-24
24" x 30"



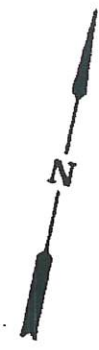
NOTE:
1. * INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE, FOR SALVAGE BY THE CITY OF STOW.

STRIPING & SIGNING PLAN

F. H. W. A. REGION	STATE	PROJECT
5	OHIO	F-53(2A)

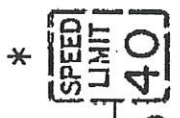
114
158

SUM-59-6.91
SUMMIT COUNTY



MATCH LINE SEE SHEET 113 STA. 78 + 00

MATCH LINE SEE SHEET 115 STA. 93 + 00



KENT RD. (S.R. 59)

4" DOUBLE SOLID
4" LANE LINE
4" LANE LINE

79 80 81 82 83 84 85 86 87 88 89 90 91 92

STA. 82+88.26 RT.
 M-39-24
 24" x 12"
 M-2-24-2
 24" x 24"

NOTE:
* INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE, FOR SALVAGE BY THE CITY OF STOW.

STRIPING & SIGNING PLAN

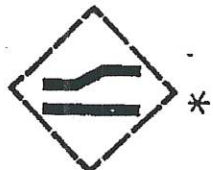
F. H. W. A. REGION	STATE	FED. NO.
5	OHIO	F-23(24)

115
158

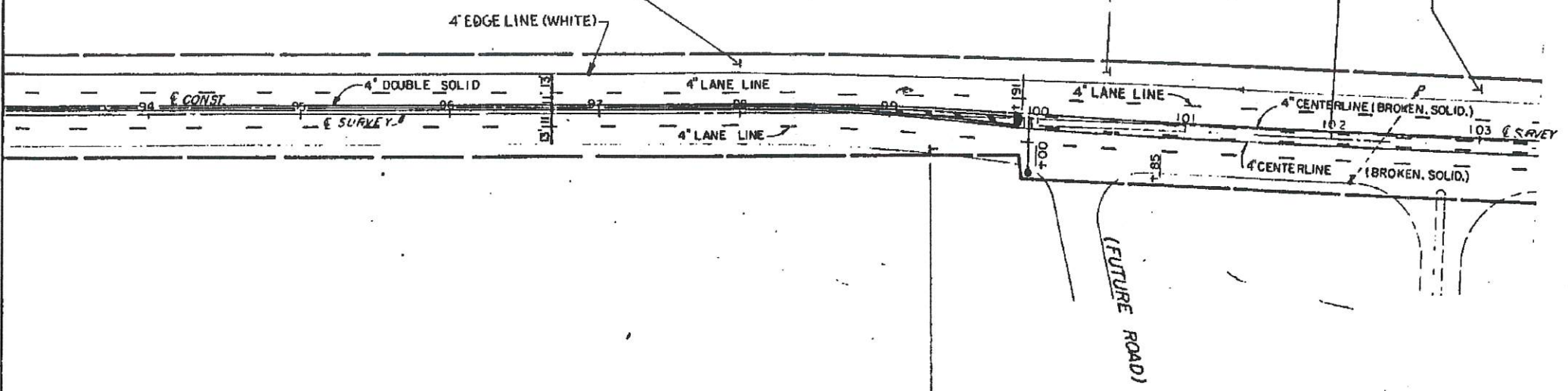
SUM-59-691
SUMMIT COUNTY



MATCH LINE SEE SHEET 114 STA. 93 +00



END WORK
STA. 102+00



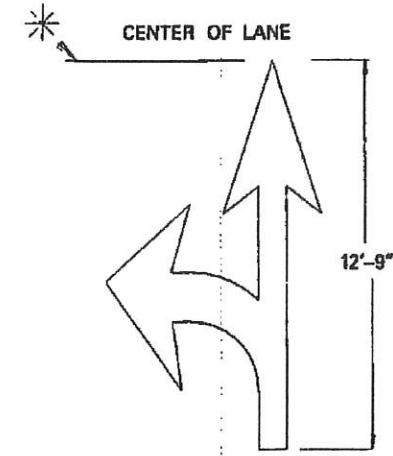
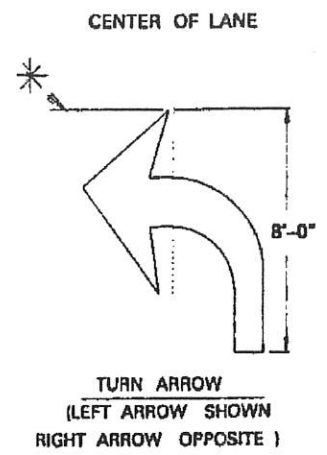
NOTE:
1. * INDICATES EXIST. SIGN TO BE REMOVED FOR STORAGE FOR SALVAGE BY THE CITY OF STOW

WORD AND SYMBOL MARKING DETAILS

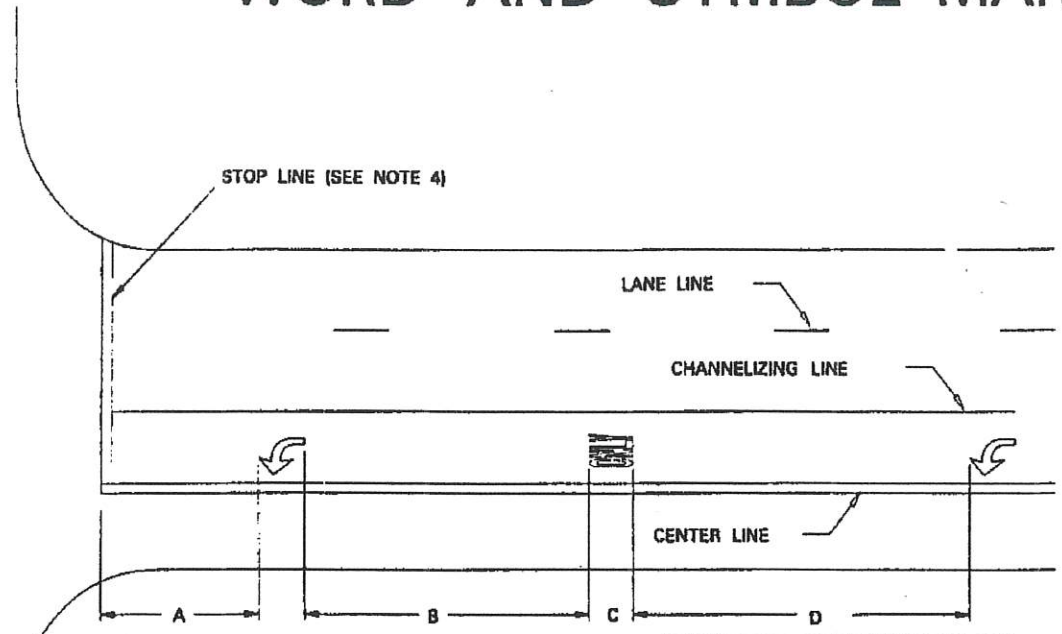
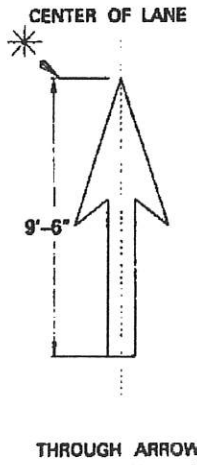
FED RD DIVISION	STATE	PROJECT	
5	OHIO	SUM-59-6.91	

115a
158

PLAN NO. _____



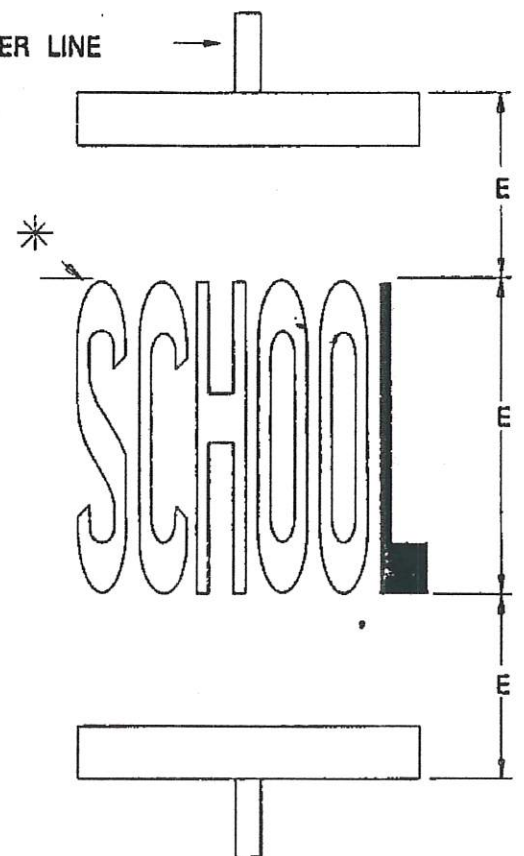
COMBINED ARROW
(THREE HEAD DIRECTIONAL ARROWS
CAN BE ACHIEVED BY THE COMBINATION
OF TURN ARROWS.)



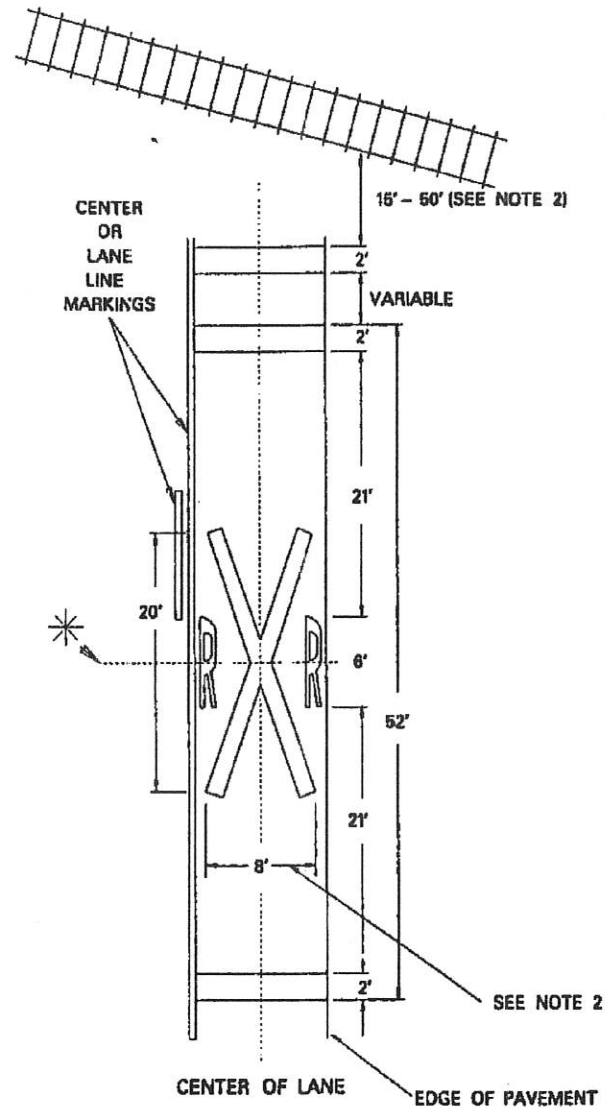
NOTE:
STOP LINE LOCATED MIN. 40' FROM
AT LEAST ONE SIGNAL HEAD WHICH APPLIES
TO THAT APPROACH

TYPE	DIMENSIONS (FEET)			
	A	B	C	D
RURAL	30 MIN.	32-80	8	32-80
URBAN	10 MIN.	32-80	6	24-60

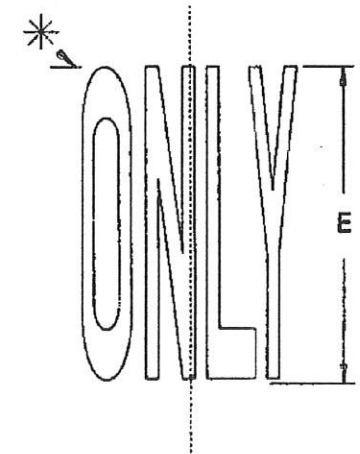
LANE OR CENTER LINE



TYPE	INCHES
	E
RURAL	96
URBAN	72



CENTER OF LANE



- NOTES:
- ON MULTI-LANE APPROACHES, THE TRANSVERSE LINES USED WITH THE RAILROAD SYMBOLS SHALL EXTEND ACROSS ALL APPROACH LANES AND SYMBOLS SHALL BE PLACED IN EACH APPROACH LANE.
 - THE RAILROAD SYMBOL SHALL BE LOCATED SO THAT THE W-94, "RAILROAD ADVANCE WARNING SIGN", IS WITHIN THE TWO TRANSVERSE BOUNDARY LINES OF THE RAILROAD SYMBOL. THE STOP LINE SHALL BE LOCATED FOR BEST SIGHT DISTANCE WITHIN 15 FEET TO 60 FEET OF THE NEAR EDGE OF THE TRACKS. STOP LINES SHALL BE PERPENDICULAR TO THE CENTER LINE OF THE ROADWAY. WIDTH OF "X" MAY VARY ACCORDING TO LANE WIDTH.
 - ON MULTI-LANE APPROACHES, THE TRANSVERSE LINES USED WITH THE WORD "SCHOOL" SHALL EXTEND ACROSS ALL APPROACH LANES WITH A SINGLE WORD "SCHOOL" CENTERED ACROSS THE APPROACH LANES. ON TWO LANE ROADWAYS, THE TRANSVERSE LINES SHALL EXTEND ACROSS THE ROADWAY WITH THE WORD "SCHOOL" CENTERED ACROSS THE ROADWAY. CENTER OR LANE LINES SHALL NOT PASS THROUGH THE "SCHOOL" MARKING.
 - THE STOP LINE SHOULD BE PLACED WHERE CROSS-CORNER VISION IS MAXIMUM, IN NO CASE MORE THAN 30 FEET OR LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY. FOR NORMAL INTERSECTIONS A MAXIMUM DISTANCE OF 10 FEET IS RECOMMENDED.
- IF A MARKED CROSSWALK IS PRESENT, THE STOP LINE SHOULD BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK.
- FOR TRAFFIC PAINT AND POLYESTER APPLICATION, TEMPLATE GAPS SHALL BE FILLED WITH MARKING MATERIAL IN ACCORDANCE WITH 641.03. FOR EXTRUDED THERMOPLASTIC MATERIAL, THESE GAPS MAY REMAIN UNFILLED IN ACCORDANCE WITH 644.03.
 - USE STANDARD DIMENSIONS CONFORMING TO REQUIREMENTS OF OMUTCD SECTION 3B-40 THROUGH 3B-43 INCLUSIVE. (THAT IS THE 1977 METRIC EDITION STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING WITH ERRATA.)

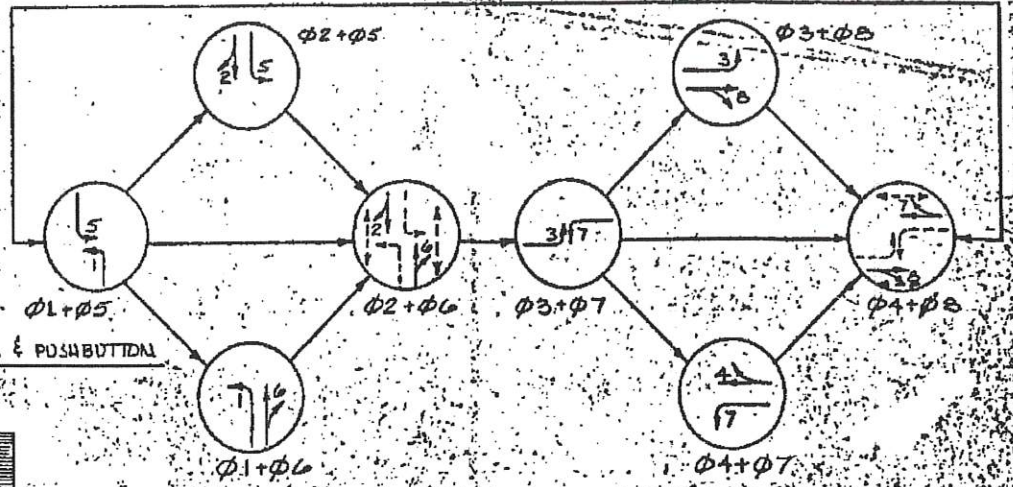
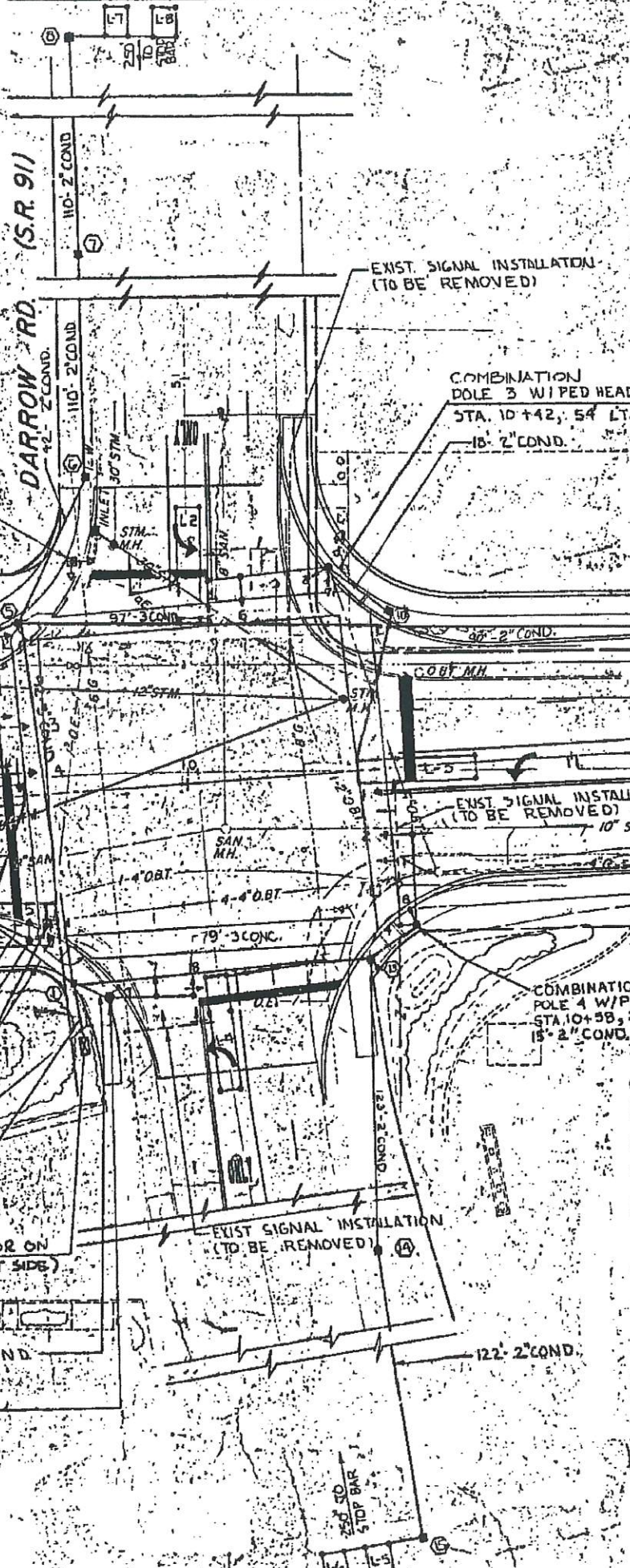
* INDICATES STATION REFERENCE POINT

FOR TRAFFIC CONTROL SUB-SUMMARY SEE SHIT 117
NOTE: ALL OFFSETS ARE FROM CONSTRUCTION

STATE PROJECT 116
SUM-59-6.91
SUMMIT COUNTY 158

No.	STATION	STREET	SIZE	No. OF TURNS OF WIRE	CONNECT TO AMPL. No.	PHASE	PULSE / PRESENCE
L-1	9+28 TO 9+58	S.R. 59	6x30'	2	1	3	PR
L-2	50+38 TO 50+60	S.R. 91	6x20'	2	2	5	PR
L-3	10+45 TO 10+75	S.R. 59	6x30'	2	3	7	PR
L-4	49+19 TO 49+49	S.R. 91	6x30'	2	4	1	PR
L-5	46+95 TO 47+03	S.R. 91	6x8'	3	5	6	PULSE
L-6	46+95 TO 47+03	S.R. 91	6x8'	3	6	6	PULSE
L-7	52+88 TO 52+96	S.R. 91	6x8'	3	7	2	PULSE
L-8	52+88 TO 52+96	S.R. 91	6x8'	3	8	2	PULSE
L-9	7+63 TO 7+71	S.R. 59	6x8'	3	9	8	PULSE
L-10	7+63 TO 7+71	S.R. 59	6x8'	3	10	8	PULSE
L-11	12+29 TO 12+33	S.R. 59	6x8'	3	11	4	PULSE
L-12	12+25 TO 12+33	S.R. 59	6x8'	3	12	4	PULSE

SIGNALIZATION PLAN

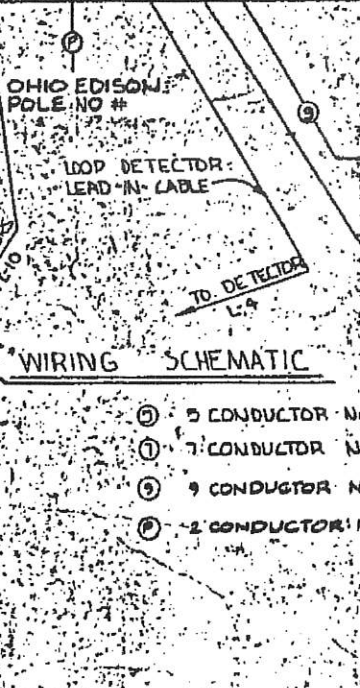


SIGNAL PHASING

625'x18" PLASTIC PULLBOXES
* 16"x25" PLASTIC PULLBOXES

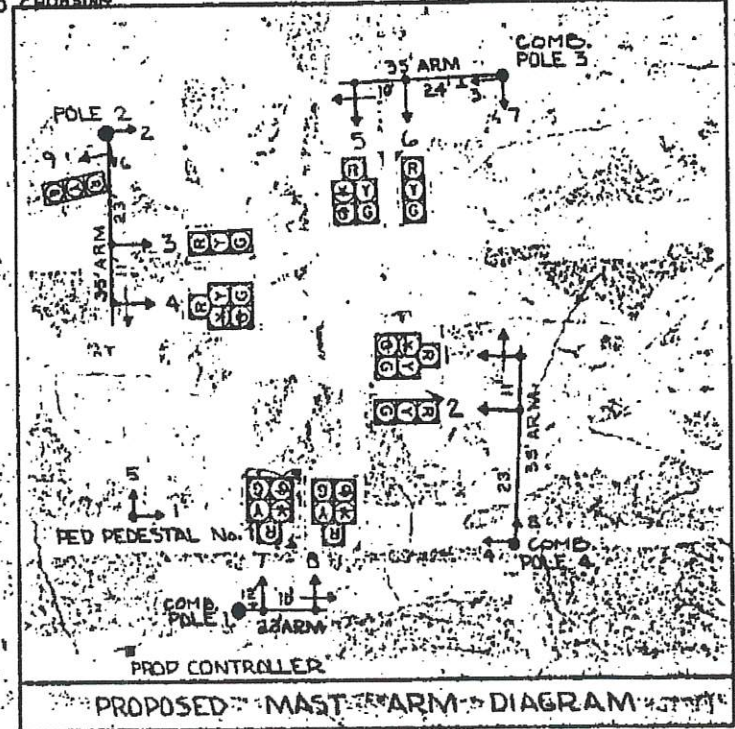
No.	STATION	OFFSET
L-11	*1	9+68 48.5' RT.
L-12	*2	9+45 31.5' RT.
	4	8+58 31' RT.
	5	7+71 31' RT.
	*5	9+57 44' LT.
	6	50+76 21' LT. DARROW RD
	7	51+86 28' LT. DARROW RD
	8	52+96 20' LT. DARROW RD
	9	DELETED
	10	10+55 40' LT.
	11	11+45 80' LT.
	12	12+33 32' LT.
	13	49+18 33' RT. DARROW RD
	14	48+25 30' RT. DARROW RD
	15	47+63 30' RT. DARROW RD

WIRING SCHEMATIC



COLOR SEQUENCE CHART

DIRECTION	FLASH	No.	INTERVALS																				FIRE			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		21	22	23
ORTHBOUND	R	5	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S.R. 91	R	6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
OUTBOUND	R	7	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S.R. 91	R	8	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
ASTBOUND	Y	1	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S.R. 59	Y	2	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
WESTBOUND	Y	3	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S.R. 59	Y	4	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
ED 5.6	OFF		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
ED 7.8	OFF		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
ED 2.3	OFF		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
ED 1.4	OFF		DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW



PROPOSED MAST ARM DIAGRAM

SUM-59-691
SUMMIT COUNTY

KENT RD (S.R.59) AND DARROW RD. (S.R. 91)
TRAFFIC CONTROL SUB-SUMMARY

QUANT.	UNIT	ITEM	DESCRIPTION
11	EACH	625	PULL BOX, 13"x18" PLASTIC, 713.081
3	EACH	625	PULL BOX, 16"x25" PLASTIC, 713.081
5	EACH	625	GROUND ROD
973	LIN. FT.	625	CONDUIT, 2", 713.07
289	LIN. FT.	625	CONDUIT, 3", 713.07
1064	LIN. FT.	625	TRENCH
198	LIN. FT.	625	TRENCH IN PAVED AREAS, TYPE B
4	EACH	632	VEHICULAR SIGNAL HEAD, 3-SECTION, 12 IN. LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
5	EACH	632	VEHICULAR SIGNAL HEAD, 5-SECTION, 12 IN. LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
9	EACH	632	COVERING OF VEHICULAR SIGNAL HEAD
8	EACH	632	PEDISTRIAN SIGNAL HEAD, TYPE A2, POLYCARBONATE, AS PER PLAN
8	EACH	632	PEDISTRIAN PUSHBUTTON
1	EACH	632	REMOVAL OF TRAFFIC SIGNAL INSTALLATION
512	LIN. FT.	632	LOOP DETECTOR PAVEMENT CUTTING
8	EACH	632	LOOP DETECTOR UNIT
4	EACH	632	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE
173	LIN. FT.	632	SIGNAL CABLE, 5/C NO. 14 AWG
796	LIN. FT.	632	SIGNAL CABLE, 7/C NO. 14 AWG
617	LIN. FT.	632	SIGNAL CABLE, 9/C NO. 14 AWG
2345	LIN. FT.	632	LOOP DETECTOR WIRE, TYPE E
1980	LIN. FT.	632	LOOP DETECTOR LEAD-IN CABLE
174	LIN. FT.	632	POWER CABLE, 2/C NO. 8 AWG
1	EACH	632	POWER SERVICE
7	EACH	632	CABLE SUPPORT ASSEMBLY
8.14	CU. YD.	632	CONCRETE FOR ANCHOR BASE FOUNDATIONS
1	EACH	632	COMBINATION SIGNAL SUPPORT, TYPE TC-81.20, 33 FT. DESIGN NO. 1 POLE W/23 FT. ARM
2	EACH	632	COMBINATION SIGNAL SUPPORT, TYPE TC-81.20, 33 FT. DESIGN NO. 3 POLE W/35 FT. ARM
1	EACH	632	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN NO. 3 POLE W/35 FT. ARM
1	EACH	632	PEDESTAL, 8 FT.
1	EACH	633	CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN
1.85	CU. YD.	633	CONCRETE FOR CABINET FOUNDATION

KENT RD (S.R.59) AND DARROW RD. (S.R. 91)
TIME INTERVAL SCHEDULE

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
MIN. GREEN (INITIAL)	5	10	5	10	5	10	5	10
UNIT EXTENSION	3	5	3	5	3	5	3	5
MAXIMUM GREEN	20	40	20	40	20	40	20	40
VEH. CLEARANCE	3	3	3	3	3	3	3	3
ALL RED	1	1	1	1	1	1	1	1
PED. INITIAL	-	10	-	10	-	10	-	10
PED. CLEARANCE	-	15	-	15	-	15	-	15
RECALL	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
MEMORY DETECTION	OFF	ON	OFF	ON	OFF	ON	OFF	ON

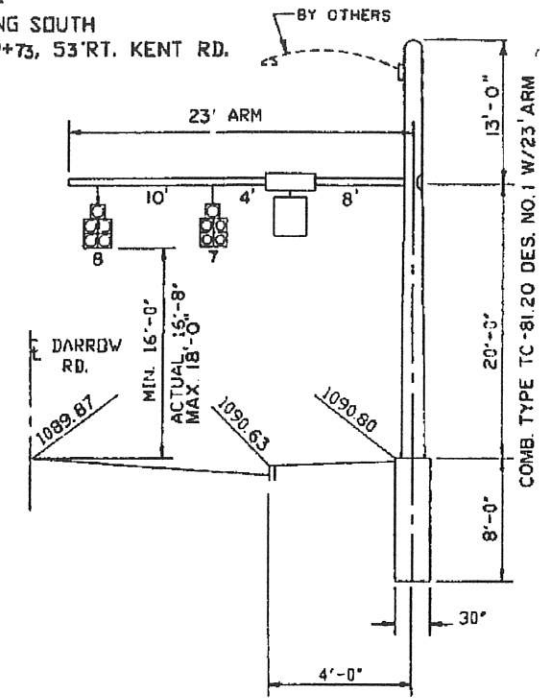
NOTE: SIGNAL DWELLS IN PHASE 4/8

KENT RD (S.R.59) AND DARROW RD. (S.R. 91)
ORIENTATION FOR NEW POLES

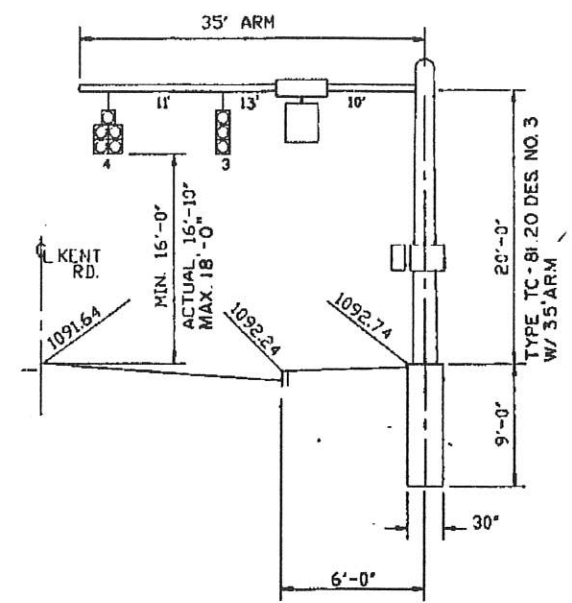
LUM. ARM ATTACH. PLATE	MAST. ARM HANG HOLE	POLE NO.	BASE PLATE	SIGNAL ARM	POLE HANG HOLE	PED BUTTON	PED SIGNALS
0°	180°	1	0°	0°	180°	-	-
-	-	2	0°	90°	270°	180°/270°	0°/90°
180°	0°	3	0°	180°	0°	90°/180°	90°/180°
270°	90°	4	0°	270°	90°	0°/270°	180°/270°
-	-	PED 1	-	-	-	0°/90°	0°/270°

NOTE: CENTERLINE OF KENT ROAD TO EAST IS REFERENCE OF 0°

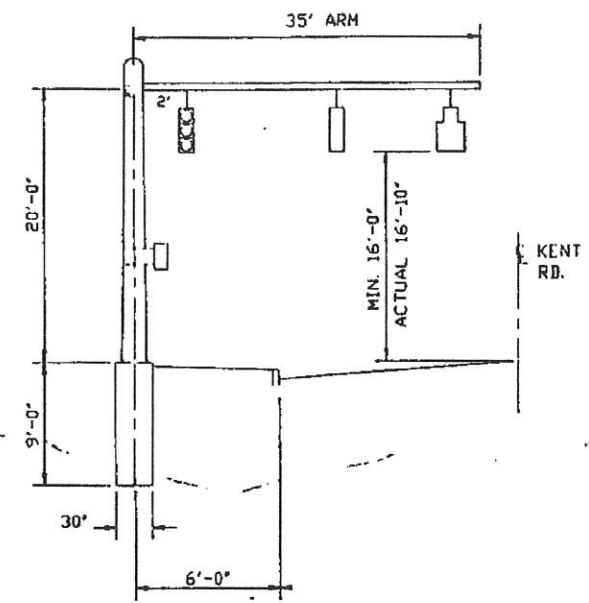
POLE 1
LOOKING SOUTH
STA. 9+73, 53'RT. KENT RD.



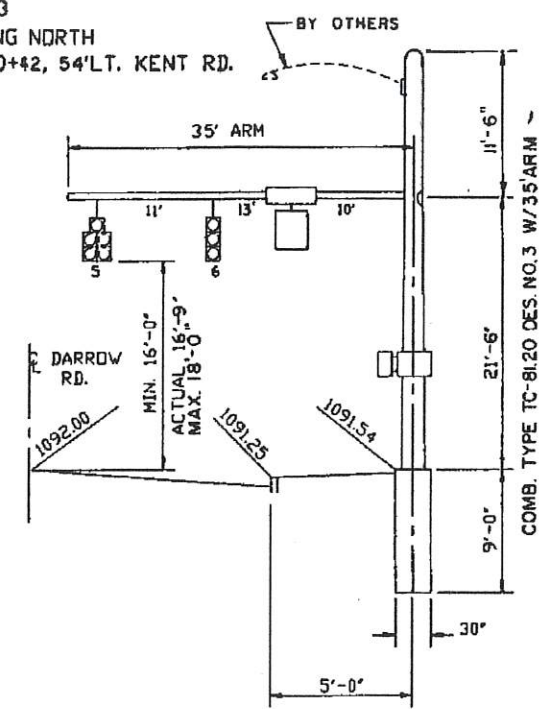
POLE 2
LOOKING WEST
STA. 9+54, 40'LT. KENT RD.



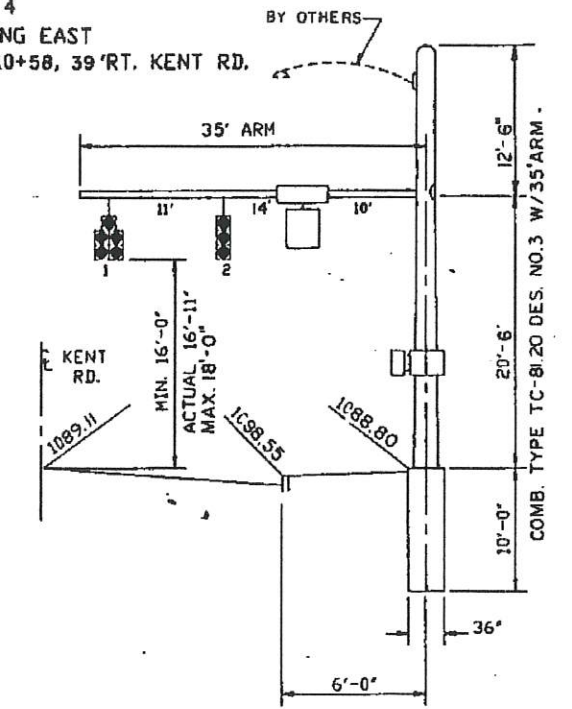
POLE 2
LOOKING EAST
STA. 9+54, 40'LT. KENT RD.



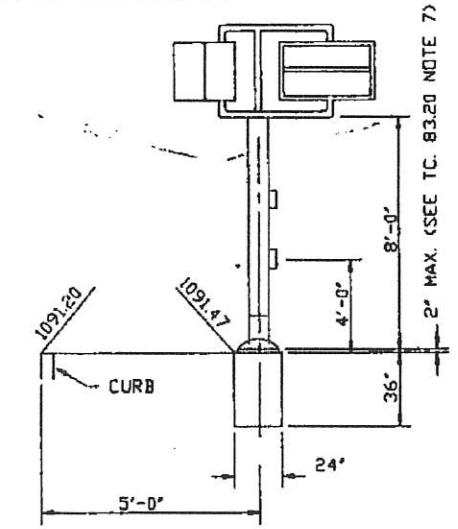
POLE 3
LOOKING NORTH
STA. 10+42, 54'LT. KENT RD.



POLE 4
LOOKING EAST
STA. 10+58, 39'RT. KENT RD.



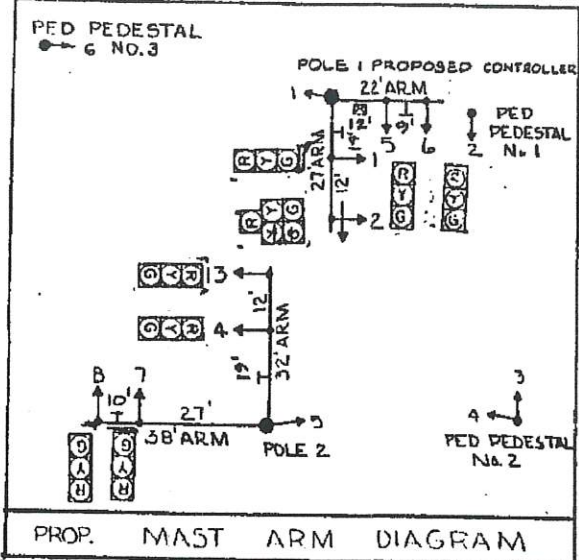
PED PEDESTAL NO.1
LOOKING SOUTH
STA. 9+55, 37'RT. KENT RD.



SIGNALIZATION PLAN

COLOR SEQUENCE CHART

INDICATIONS FACING	FLASH	No.	INTERVALS											
			1	2	3	4	5	7	8	10	11	2	13	14
WESTBOUND S.R. 59	Y	1	G	G	Y	R	R	R	R	R	R	R	R	
EASTBOUND S.R. 59		3	R	R	G	Y	R	R	R	R	R	R	R	
NORTHBOUND PRIVATE DRIVE	R	5	R	R	R	G	Y	R	R	R	R	R	R	
SOUTHBOUND ORCHARD DR.	R	7	R	R	R	R	R	R	R	R	G	Y		
PED 1.6	OFF		DW	DW	F	DW	DW	DW	DW	F	DW	DW	DW	
PED 2.3	OFF		DW	DW	DW	DW	DW	DW	DW	F	DW	DW	DW	
PED 4.5	OFF		DW	DW	F	DW	DW	DW	DW	F	DW	DW	DW	



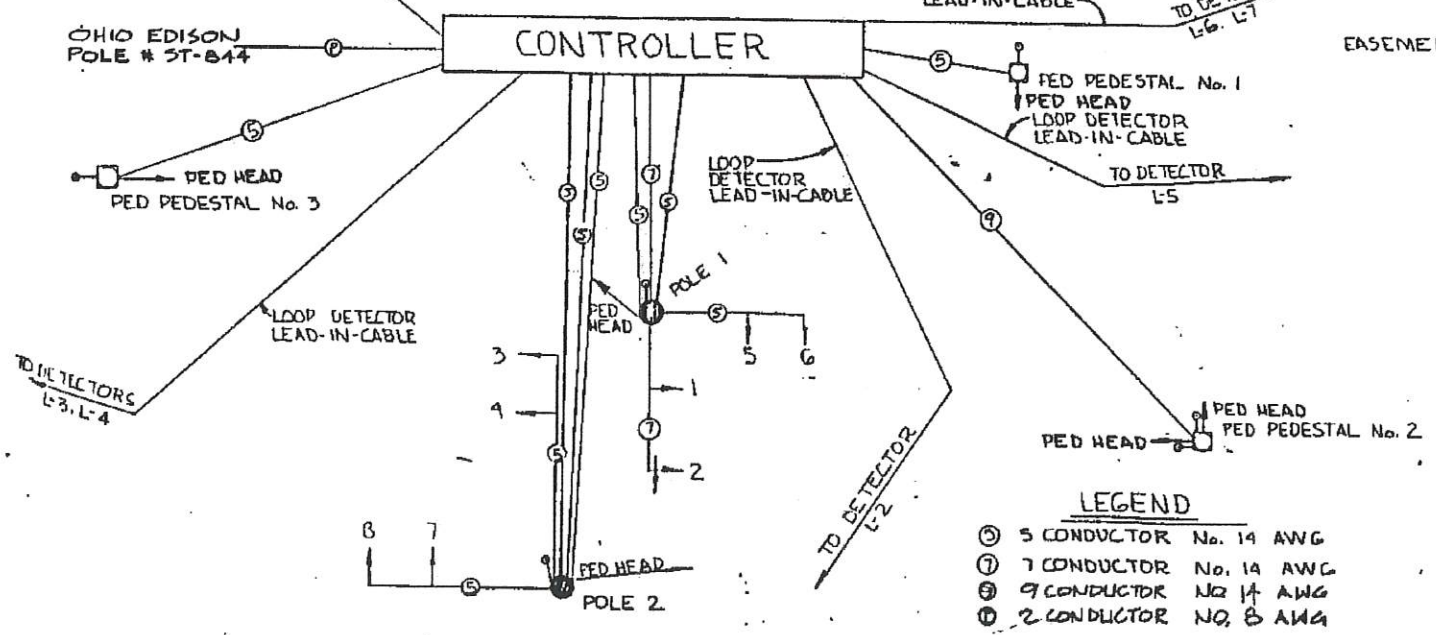
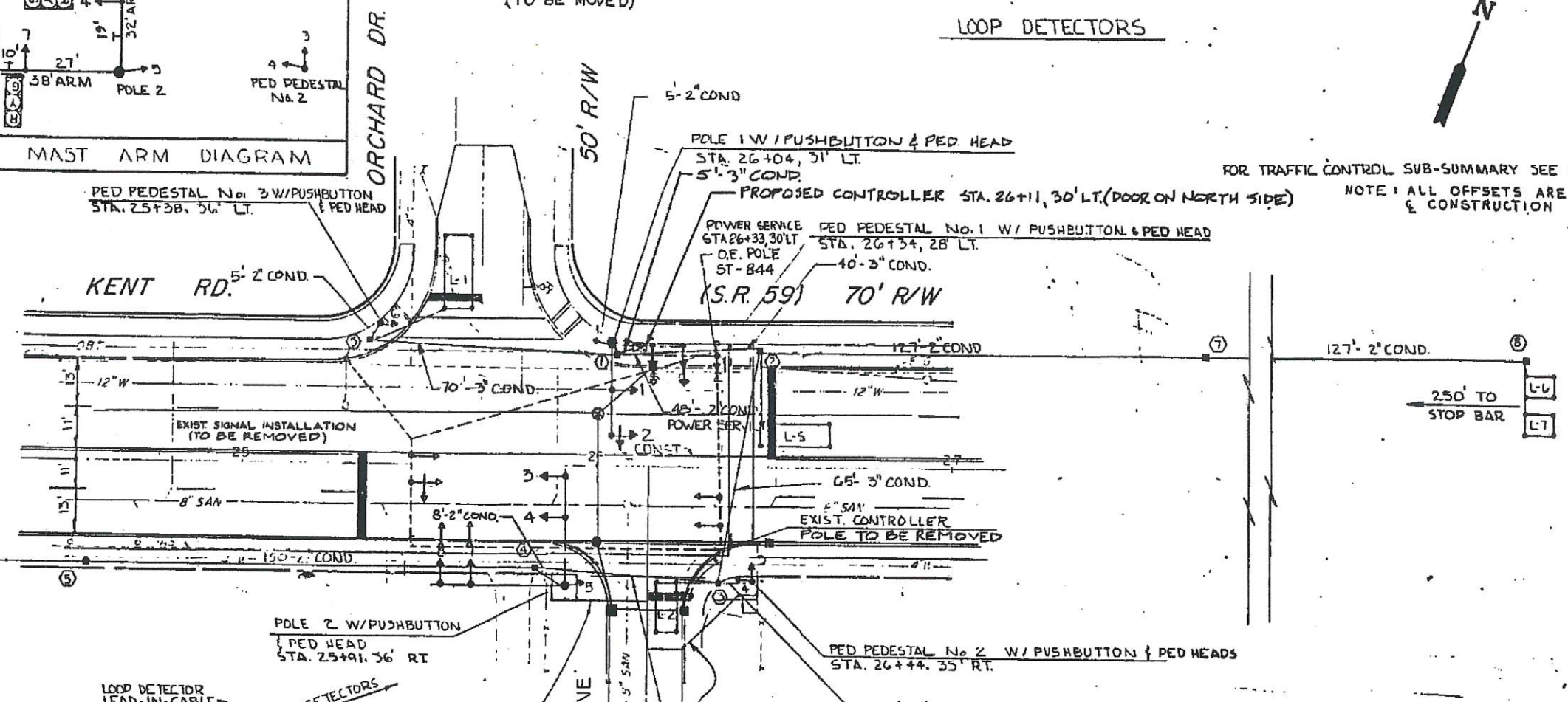
No.	STATION	STREET	SIZE	No. OF TURNS OF WIRE	CONNECT TO AMPLIFIER No.	PHASE	PULSE / PRESENCE
L-1	50+43 TO 50+63	ORCHARD	8'x20'	2	1	5	PR
L-2	49+55 TO 49+67	SCHOOL DR.	6'x12'	3	2	3	PR
L-3	22+75 TO 22+83	S.R. 59	6'x8'	3	3	2	PULSE
L-4	22+75 TO 22+83	S.R. 59	6'x8'	3	4	2	PULSE
L-5	26+46 TO 26+66	S.R. 59	6'x20'	2	5	1	PR
L-6	29+00 TO 29+08	S.R. 59	6'x8'	3	6	2	PULSE
L-7	29+00 TO 29+08	S.R. 59	6'x8'	3	7	2	PULSE

F H W A REGION	STATE	PROJECT
5	OHIO	SUM-59-6.91 SUMMIT COUNTY

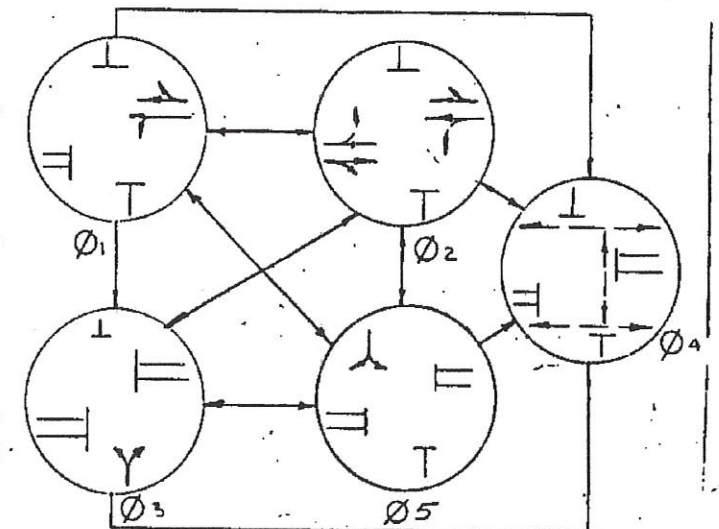
118
158

SEE NOTE 1

NOTE: 1. ALL RED/DW INTERVALS ARE 3, 4, 9.
2. SIGNAL OPERATES 8 AM - 4 PM MON. - FRI. ALL OTHER TIMES ON FLASH.



NO.	STATION	OFFSET
*1	26+05	27' LT.
*2	26+46	32' LT.
*3	26+35	35' RT.
*4	25+83	31.5' RT.
*5	24+53	31.5' RT.
*6	22+83	31.5' RT.
*7	27+73	32' LT.
*8	29+00	32' LT.



FOR TRAFFIC CONTROL SUB-SUMMARY SEE SHT. 119

NOTE: ALL OFFSETS ARE FROM E CONSTRUCTION

SUM-59-691
SUMMIT COUNTY

KENT RD (S.R.59) AND ORCHARD DR.
TRAFFIC CONTROL SUB-SUMMARY

QUANT.	UNIT	ITEM	DESCRIPTION
6	EACH	625	PULLBOX, 13"x18" PLASTIC, 713.081
2	EACH	625	PULLBOX, 16"x25" PLASTIC, 713.081
6	EACH	625	GROUND ROD
605	LIN. FT.	625	CONDUIT, 2", 713.07
237	LIN. FT.	625	CONDUIT, 3", 713.07
703	LIN. FT.	625	TRENCH
139	LIN. FT.	625	TRENCH IN PAVED AREAS, TYPE B
7	EACH	632	VEHICULAR SIGNAL HEAD, 3-SECTION, 12 IN. LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
1	EACH	632	VEHICULAR SIGNAL HEAD, 5-SECTION, 12 IN. LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
8	EACH	632	COVERING OF VEHICULAR SIGNAL HEAD
6	EACH	632	PEDESTRIAN SIGNAL HEAD, TYPE A2, POLYCARBONATE, AS PER PLAN
6	EACH	632	PEDESTRIAN PUSHBUTTON
1	EACH	632	REMOVAL OF TRAFFIC SIGNAL INSTALLATION
256	LIN. FT.	632	LOOP DETECTOR PAVEMENT CUTTING
4	EACH	632	LOOP DETECTOR UNIT
3	EACH	632	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE
1050	LIN. FT.	632	SIGNAL CABLE, 5/C NO. 14 AWG.
87	LIN. FT.	632	SIGNAL CABLE, 7/C NO. 14 AWG
157	LIN. FT.	632	SIGNAL CABLE, 9/C NO. 14 AWG
853	LIN. FT.	632	LOOP DETECTOR WIRE, TYPE E
1091	LIN. FT.	632	LOOP DETECTOR LEAD-IN CABLE
115	LIN. FT.	632	POWER CABLE, 2/C NO. 8 AWG
1	EACH	632	POWER SERVICE
2	EACH	632	CABLE SUPPORT ASSEMBLY
5.31	CU. YD.	632	CONCRETE FOR ANCHOR BASE FOUNDATIONS
1	EACH	632	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN NO. 4 POLE W/MAST ARMS TC-81.20, DESIGN NO. 2 32 FT. AND TC-81.20 DESIGN NO. 3, 38 FT.
1	EACH	632	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN NO. 3 POLE W/MAST ARMS TC-81.20 DESIGN NO. 1, 22 FT. AND TC-81.20 DESIGN NO. 2, 27 FT.
3	EACH	632	PEDESTAL, 8 FT.
1	EACH	633	CONTROLLER, ACTUATED, 5 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN
1.85	CU. YD.	633	CONCRETE FOR CABINET FOUNDATION

KENT RD (S.R.59) AND ORCHARD DR.
TIME INTERVAL SCHEDULE

FEATURE	PHASE				
	1	2	3	4	5
MIN. GREEN (INITIAL)	5	10	5	-	5
UNIT EXTENSION	3	5	3	-	3
MAXIMUM GREEN	20	40	20	-	20
VEH. CLEARANCE	3	3	3	-	3
ALL RED	1	1	1	-	1
PED. INITIAL	-	-	-	10	-
PED. CLEARANCE	-	-	-	15	-
RECALL	OFF	ON	OFF	OFF	OFF
MEMORY DETECTION	ON	ON	OFF	OFF	OFF

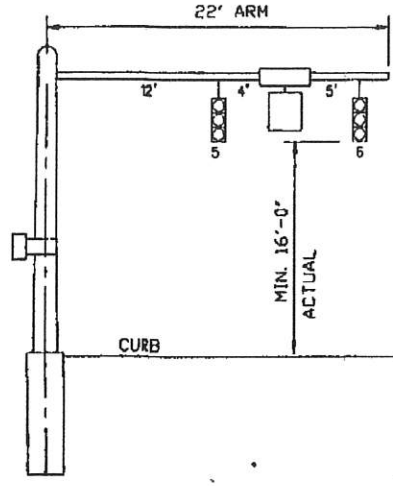
NOTE: SIGNAL DWELLS IN PHASE 2

KENT RD (S.R.59) AND ORCHARD DR.
ORIENTATION FOR NEW POLES

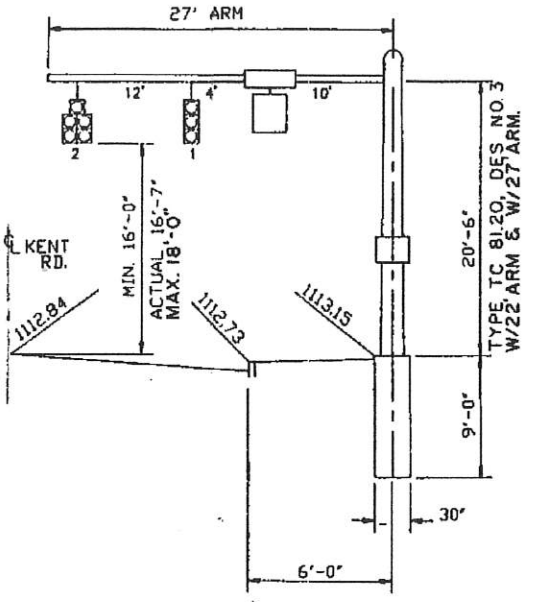
POLE NO.	BASE PLATE	SIGNAL ARM	HAND HOLE	PED BUTTON	PED SIGNALS
1	0°	0°/90°	270°	270°	180°
2	0°	180°/270°	90°	180°	0°
PED 1	-	-	-	270°	90°
PED 2	-	-	-	180°/270°	180°/270°
PED 3	-	-	-	180°	0°

NOTE: CENTERLINE OF KENT ROAD TO EAST IS REFERENCE OF 0°

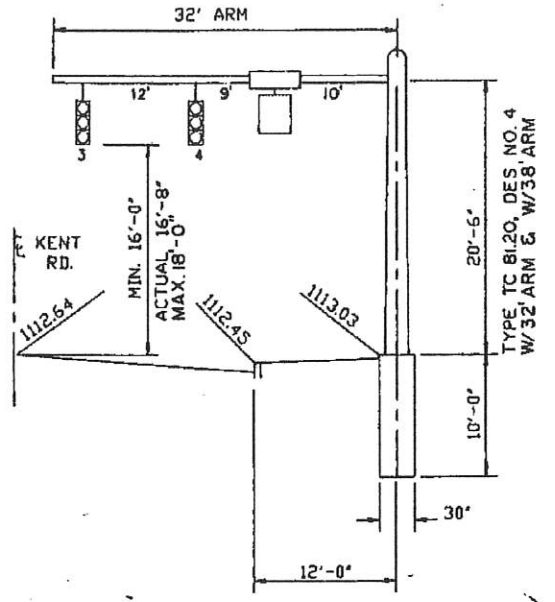
POLE 1
LOOKING NORTH



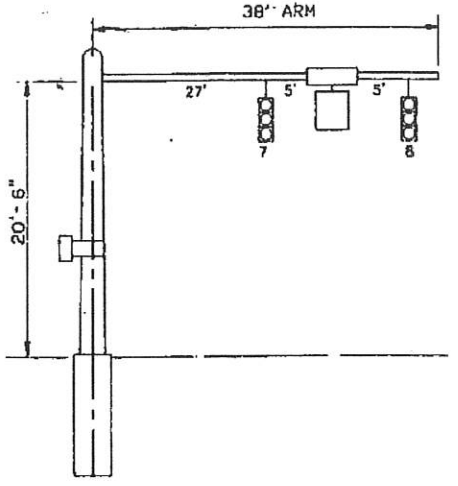
POLE 1
LOOKING WEST
STA. 26+04, 31'LT. KENT RD.



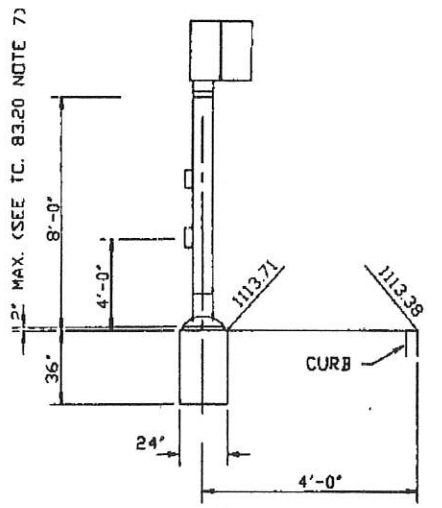
POLE 2
LOOKING EAST
STA. 25+91, 36'RT. KENT RD.



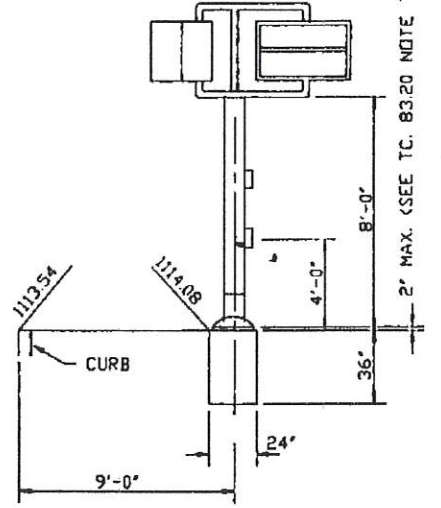
POLE 2
LOOKING SOUTH



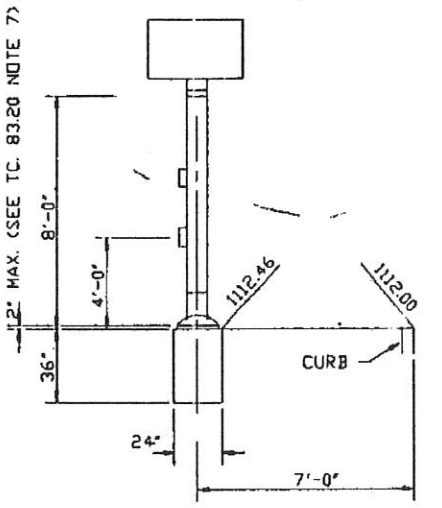
PED PEDISTAL NO.1
LOOKING EAST
STA. 26+34, 28'LT. KENT RD.



PED PEDISTAL NO.2
LOOKING EAST
STA. 26+44, 35'RT. KENT RD.



PED PEDISTAL NO.3
LOOKING EAST
STA. 25+38, 36'LT. KENT RD.



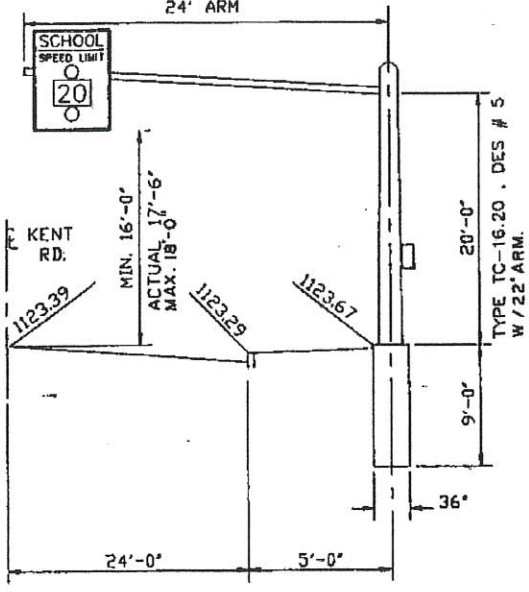
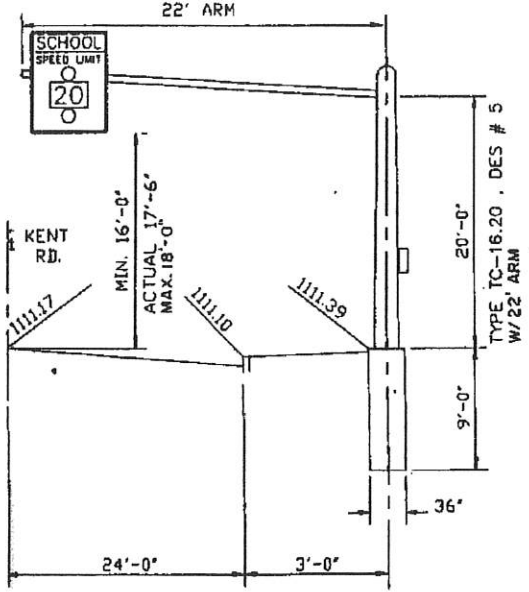
F.A.V.A. REGION	STATE	REGION
5	OHIO	

120
158

SUM-59-691
SUMMIT COUNTY

POLE W/SCHOOL SIGNAL
LOOKING EAST
STA.22+85 27'RT. KENT RD.

POLE W/SCHOOL SIGNAL
LOOKING WEST
STA. 29+45, 29'LT. KENT RD.

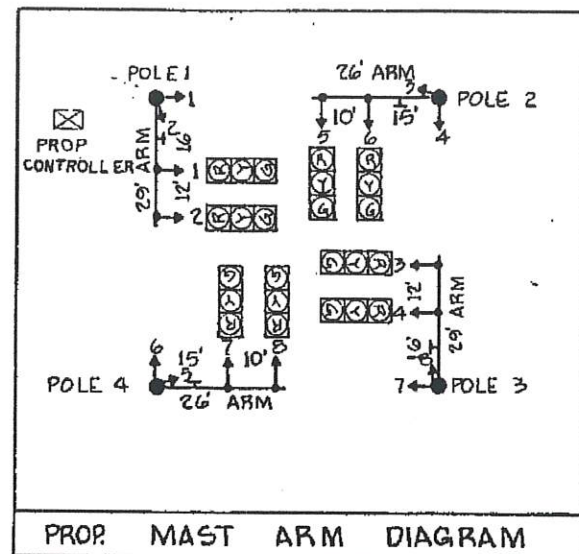


NOTE: REFER TO TC-83.10 FOR MOUNTING OF TIMER W/ENCLOSURE

COLOR SEQUENCE CHART

INDICATIONS FACING	FLASH	No	INTERVALS							
			1	2	3	4	5	6	7	8
WESTBOUND S.R. 59	Y	1	G	G	Y	R	R	R	R	R
EASTBOUND S.R. 59	Y	3	G	G	Y	R	R	R	R	R
NORTHBOUND CHARRING CROSS	R	5	R	R	R	G	G	Y	R	R
SOUTHBOUND CHARRING CROSS	R	7	R	R	R	G	G	Y	R	R
PED 1,3,5,7	OFF		W	F	DW	DW	DW	DW	DW	DW
PED 2,4,6,8	OFF		DW	DW	DW	DW	W	F	DW	DW

SIGNALIZATION PLAN



No	STATION	STREET	SIZE	NO OF TURNS OF WIRE	CONNECT TO AMPLIFIER No	PHASE	PULSE / PRESENCE
L-1	49+47 TO 49+67	CHARRING CR.	8x20	2	1**	2	PR.
L-2	50+42 TO 50+62	CHARRING CR.	8x20	2	2**	2	PR.
L-3	49+87 TO 49+95	S.R. 59	6x8	3	3	1	PULSE
L-4	49+87 TO 49+85	S.R. 59	6x8	3	3	1	PULSE
L-5	44+12 TO 44+20	S.R. 59	6x8	3	4	1	PULSE
L-6	44+12 TO 44+20	S.R. 59	6x8	3	4	1	PULSE

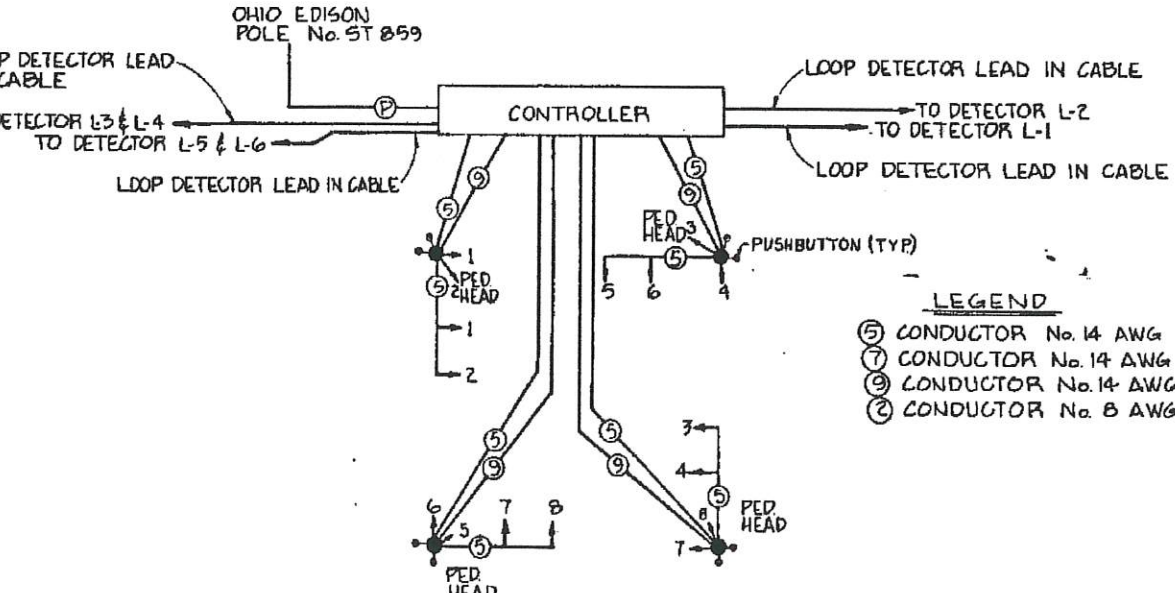
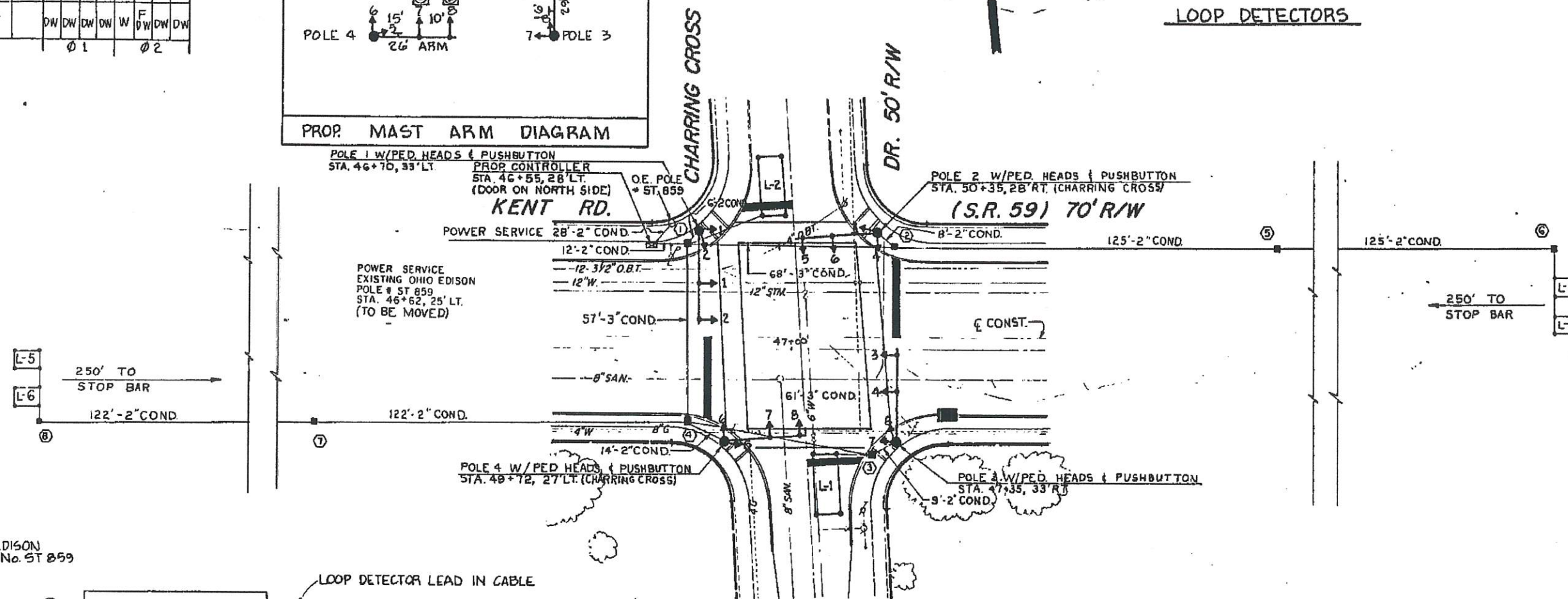
** DELAY AND EXTENSION TYPE

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

SUM-59-691
SUMMIT COUNTY

120A
15B

LOOP DETECTORS

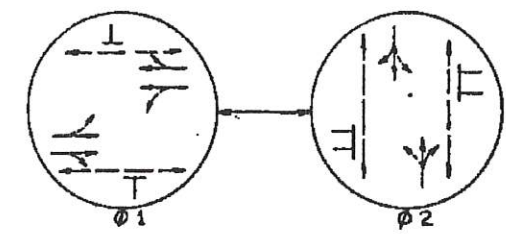


WIRING SCHEMATIC

- LEGEND
- ⑤ CONDUCTOR No. 14 AWG
 - ⑦ CONDUCTOR No. 14 AWG
 - ③ CONDUCTOR No. 14 AWG.
 - ② CONDUCTOR No. 8 AWG.

625 13x18" PLASTIC PULL BOXES
* 16x25" PLASTIC PULL BOXES

NO	STATION	OFFSET
1	46+66	29' LT.
2	47+35	28' LT.
3	47+27	38' RT.
4	46+66	28' RT.
5	48+60	28' LT.
6	49+85	28' LT.
7	45+44	28' RT.
8	44+22	28' RT.

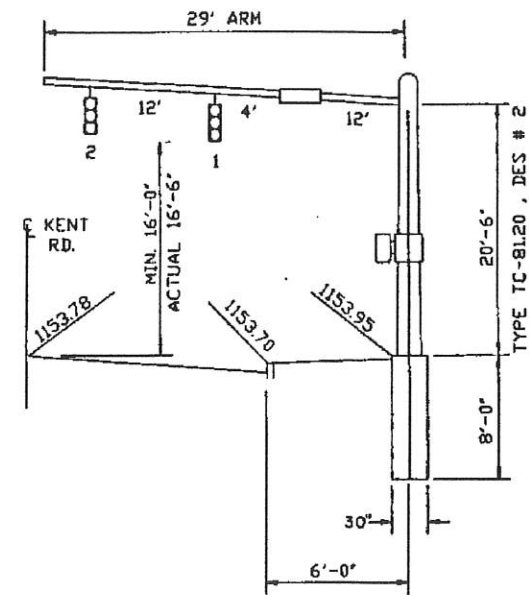


SIGNAL PHASING

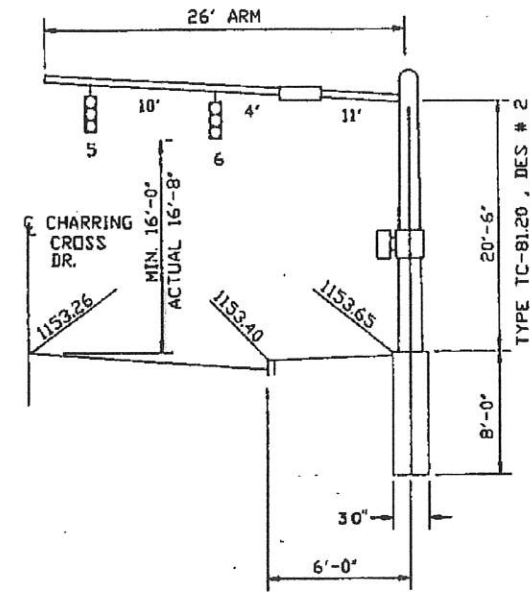
FOR TRAFFIC CONTROL SVB-SUMMARY SEE SHEET 122
NOTE: ALL OFFSETS ARE FROM Q CONSTRUCTION

SUM-59-6.91
SUMMIT COUNTY

POLE 1
LOOKING WEST
STA. 46+70, 33'LT. KENT ROAD



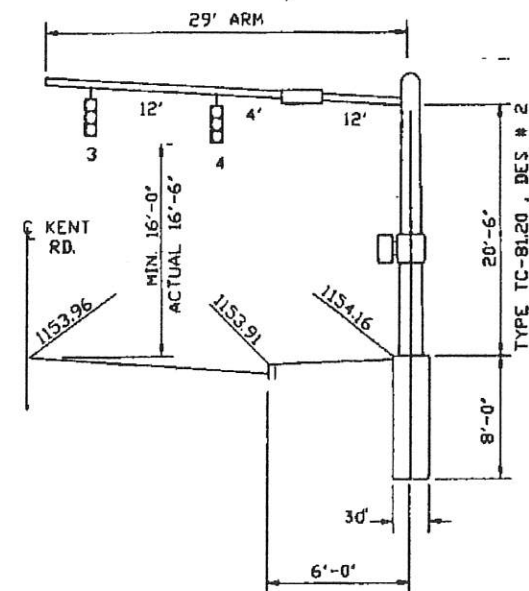
POLE 2
LOOKING NORTH
STA. 50+35, 28'RT. CHARRING CROSS DR.



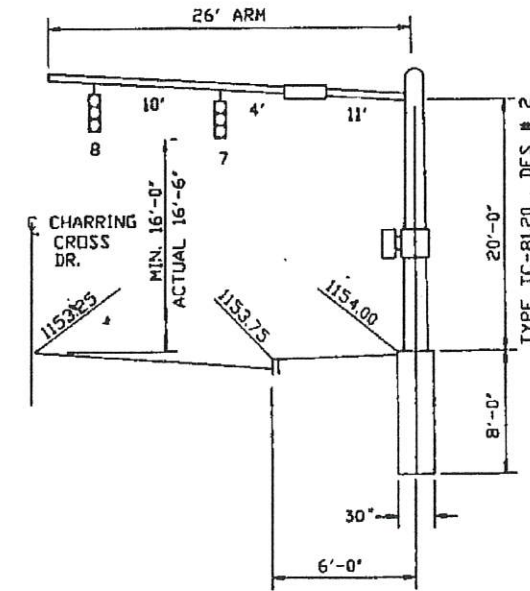
KENT RD. (S.R.59) AND CHARRING CROSS DR.
TRAFFIC CONTROL SUB-SUMMARY

QUANT.	UNIT	ITEM	DESCRIPTION
7	EACH	625	PULL BOX, 13"X18" PLASTIC, 713.081
1	EACH	625	PULL BOX, 16"X25" PLASTIC, 713.081
5	EACH	625	GROUND ROD
571	LIN. FT.	625	CONDUIT, 2" 713.07
186	LIN. FT.	625	CONDUIT, 3" 713.07
1159	LIN. FT.	625	TRENCH
155	LIN. FT.	625	TRENCH IN PAVED AREAS, TYPE B
8	EACH	632	VEHICULAR SIGNAL HEAD, 3 SECTION, 12 INCH LENS, 1 WAY, POLYCARBONATE, AS PER PLAN
8	EACH	632	COVERING OF VEHICULAR SIGNAL HEAD
8	EACH	632	PEDESTRIAN SIGNAL HEAD, TYPE A2, POLYCARBONATE, AS PER PLAN
8	EACH	632	PEDESTRIAN PUSHBUTTON
224	LIN. FT.	632	LOOP DETECTOR PAVEMENT CUTTING
2	EACH	632	LOOP DETECTOR UNIT
2	EACH	632	LOOP DETECTOR UNIT, DELAY AND EXTENTION TYPE
663	LIN. FT.	632	SIGNAL CABLE, 5/C No. 14 AWG
573	LIN. FT.	632	SIGNAL CABLE, 9/C No. 14 AWG
536	LIN. FT.	632	LOOP DETECTOR WIRE, TYPE E
880	LIN. FT.	632	LOOP DETECTOR LEAD IN CABLE
38	LIN. FT.	632	POWER CABLE, 2/C No. 8 AWG
1	EACH	632	POWER SERVICE
4	EACH	632	CABLE SUPPORT ASSEMBLY
5.82	CU. YD.	632	CONCRETE FOR ANCHOR BASE FOUNDATIONS
2	EACH	632	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 2 POLE W/MAST ARM TC-81.20, 26'
2	EACH	632	SIGNAL SUPPORT, TYPE TC-81.20, DESIGN No. 2 POLE W/MAST ARM TC-81.20, 29'
1	EACH	633	CONTROLLER, ACTUATED, 2 PHASE, SOLID STATE DIGITAL MICROPROCESSOR, AS PER PLAN
1.85	CU. YD.	633	CONCRETE FOR CABINET FOUNDATION

POLE 3
LOOKING EAST
STA. 47+35, 33'RT. KENT ROAD



POLE 4
LOOKING SOUTH
STA. 49+72, 27'LT. CHARRING CROSS DR.



KENT RD. (S.R.59) AND CHARRING CROSS DR.
TIME INTERVAL SCHEDULE

FEATURE	PHASE	
	2	1
MIN. GREEN (INITIAL)	5	10
UNIT EXTENTION	3	5
MAXIMUM GREEN	20	40
VEH. CLEARANCE	3	3
ALL RED	1	1
PED. INITIAL	5	10
PED. CLEARANCE	10	15
RECALL	OFF	ON
MEMORY DETECTION	ON	ON

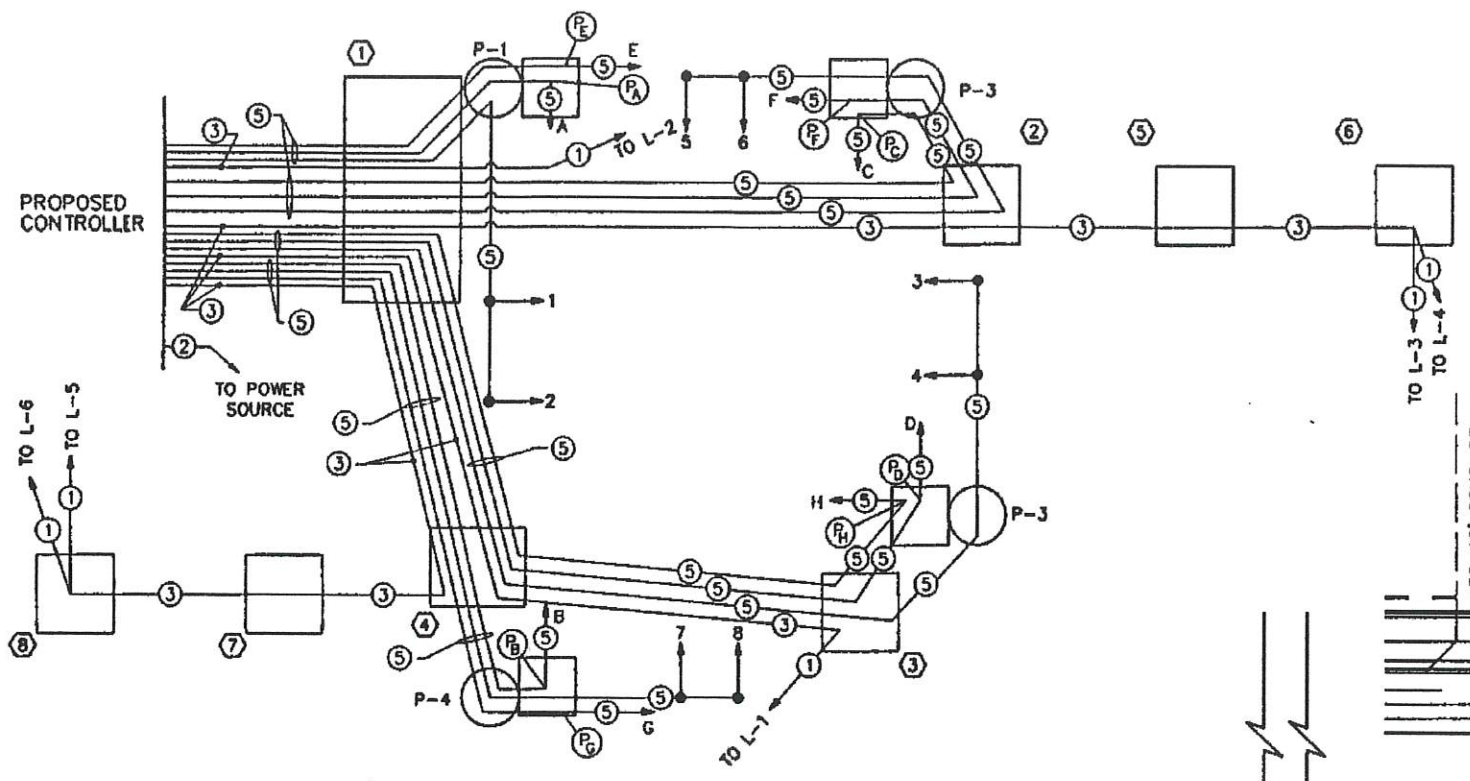
NOTE: SIGNAL DWELLS IN PHASE 1

KENT RD. (S.R.59) AND CHARRING CROSS DR.
ORIENTATION FOR NEW POLES

POLE No.	BASE PLATE	SIGNAL ARM	HAND HOLE	PED. BUTTON	PED. SIGNALS
1	0°	90°	270°	180°/270°	0°/90°
2	3°	177°	357°	0°/270°	90°/180°
3	0°	270°	90°	0°/90°	180°/270°
4	3°	357°	177°	90°/180°	0°/270°

NOTE: CENTERLINE OF KENT RD. TO EAST IS REFERENCE OF 0°

SUM - 59 - 6.91
SUMMIT COUNTY



WIRING DIAGRAM

LEGEND

- ① LOOP DETECTOR WIRE, TYPE E
- ② POWER CABLE, 2/C No. 8 AWG
- ③ LOOP DETECTOR LEAD-IN CABLE
- ⑤ SIGNAL CABLE, 5/C No. 14 AWG
- X PEDESTRIAN SIGNAL HEADS
- Ⓚ PEDESTRIAN PUSH BUTTONS



TIMING CHART

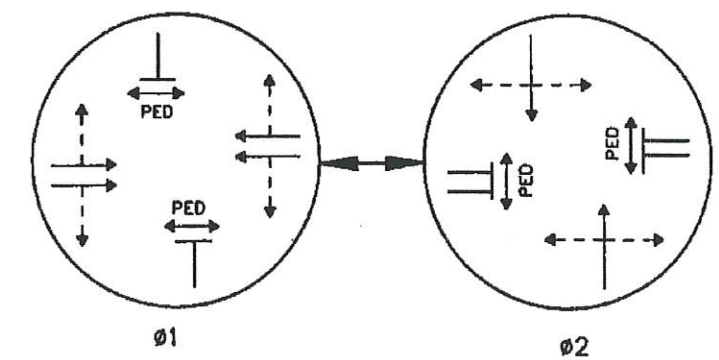
START UP		DUAL ENTRY ○	
IT IN: Y/R FLASH ○; ALL RED ○		REST IN RED: RING 1 ○; RING 2 ○	
FOR FLASH OR ALL RED _____		OVERLAP _____	
T PHASE(S) # _____ & # _____		PHASES _____	
OR DISPLAYED: GREEN ○; YELLOW ○			
INTERVAL			
MUM GREEN	20	10	
EXTENSION	5	3	
SAGE TIME	5		
MUM GREEN	33	25	
LOW CHANGE		4	4
RED CLEARANCE		1	1
PEDESTRIAN CLEARANCE	5	8.5	
ALL SWITCH	ON	OFF	
DRY	ON	ON	
MUM CYCLE	68 SEC		

COLOR SEQUENCE CHART

INDICATIONS FACINGS	No	#1								FLASH
		1	2	3	4	5	6	7	8	
WEST BOUND S.R. 59	1	G	G	Y	R	R	R	R	R	Y
EAST BOUND S.R. 59	2	G	G	Y	R	R	R	R	R	Y
NORTH BOUND HIWOOD AVE.	3	G	G	Y	R	R	R	R	R	Y
SOUTH BOUND HIWOOD AVE.	4	G	G	Y	R	R	R	R	R	Y
PEDESTRIAN SIGNALS CROSSING S.R. 59	5	R	R	R	R	G	G	Y	R	R
PEDESTRIAN SIGNALS CROSSING HIWOOD AVE.	6	R	R	R	R	G	G	Y	R	R
RECALL SWITCH	7	R	R	R	R	G	G	Y	R	R
	8	R	R	R	R	G	G	Y	R	R
	A,B	DW	DW	DW	DW	W	FDW	DW	DW	OFF
	C,D	DW	DW	DW	DW	W	FDW	DW	DW	OFF
	E,F	W	FDW	DW	DW	DW	DW	DW	DW	OFF
	G,H	W	FDW	DW	DW	DW	DW	DW	DW	OFF
		ON OFF								

TRAFFIC SIGNAL DETECTORS

LOCATION	LOOP DESIGNATION	SIZE	No OF TURNS	SHAPE	PULSE OR PRESENCE	CONNECT TO DETECTOR UNIT No	ASSOCIATED CONTROLLER PHASE	DELAY AND EXTENSION TYPE
49+45 TO 49+65 HIWOOD AVE.	L-1	8' x 20'	2	RECTANGLE	PRESENCE	1	2	X
50+41 TO 50+61 HIWOOD AVE.	L-2	8' x 20'	2	RECTANGLE	PRESENCE	2	2	X
40+67 TO 40+75 S.R. 59	L-3	6' x 8'	3	RECTANGLE	PULSE	3	1	
40+67 TO 40+75 S.R. 59	L-4	6' x 8'	3	RECTANGLE	PULSE	3	1	
35+16 TO 35+24 S.R. 59	L-5	6' x 8'	3	RECTANGLE	PULSE	4	1	
35+16 TO 35+24 S.R. 59	L-6	6' x 8'	3	RECTANGLE	PULSE	4	1	

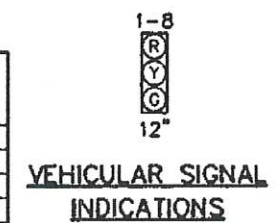
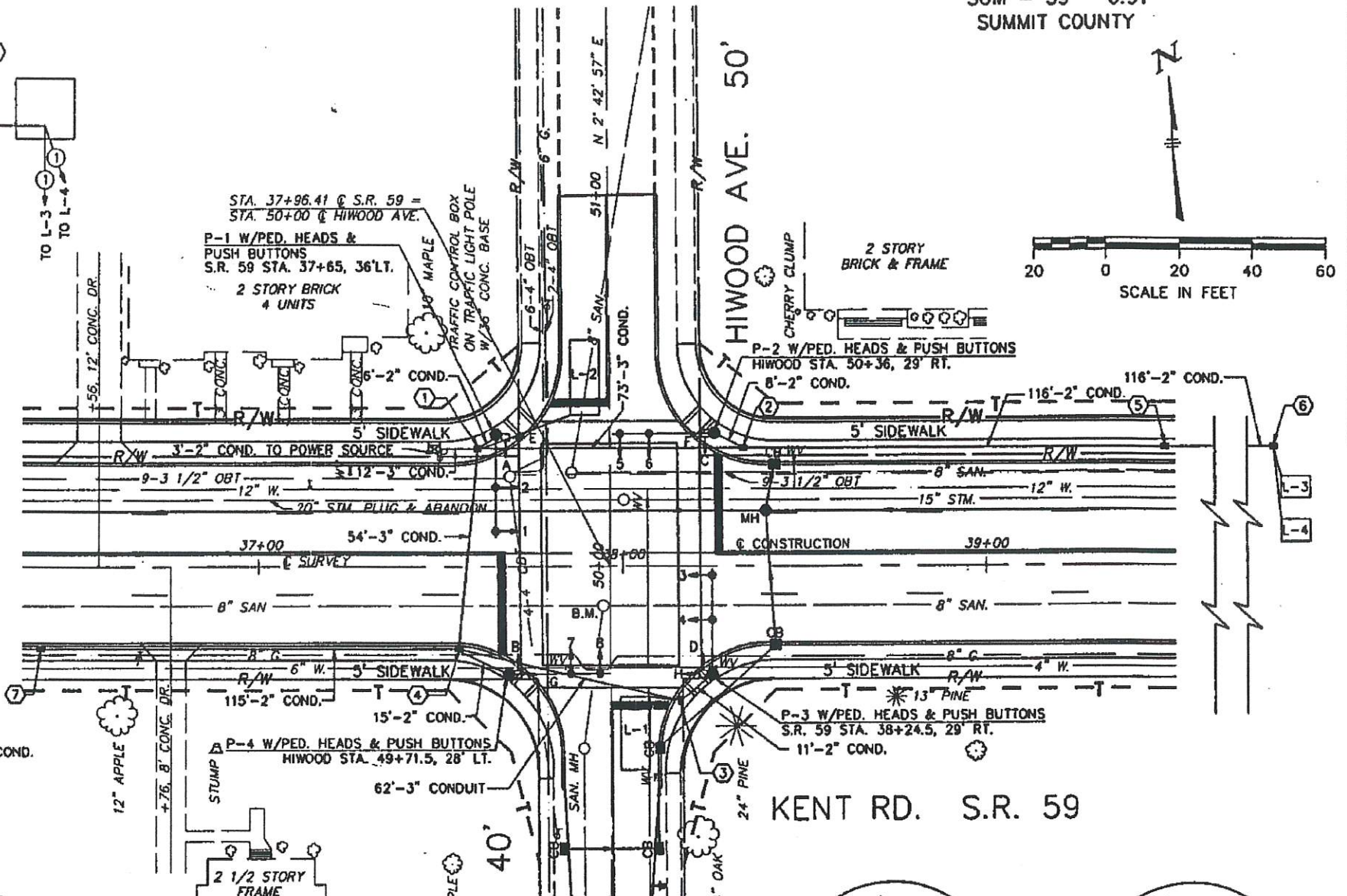


PHASING DIAGRAM

PULLBOX LOCATION CHART

No	STATION	OFFSET
1	37+60	32' LT.
2	38+33	32' LT.
3	38+11	36' RT.
4	37+55	22' RT.
5	39+49	32' LT.
6	40+65	32' LT.
7	36+40	22' RT.
8	35+26	22' RT.

ALL PULLBOXES SHALL BE 16" X 25" PLASTIC



VEHICULAR SIGNAL INDICATIONS



PEDESTRIAN SIGNAL INDICATIONS

TYPE TC-81.20 SIGNAL SUPPORT

FHWA REGION	STATE	PROJECT	
5	OHIO		

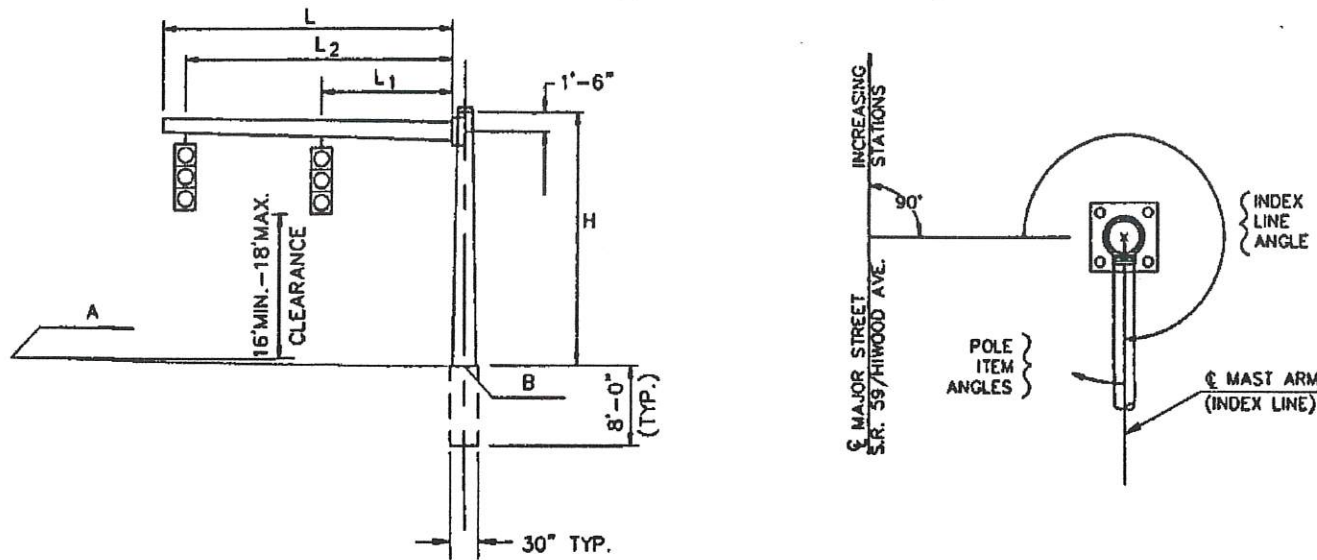
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SUM - 59 - 6.91
SUMMIT COUNTY

REFERENCE STREET	POLE NO.	INDEX LINE ANG. (DEG.)	POLE HEIGHT-H (FT.)	SIGNAL SUPPORT TYPE TC-81.20				ELEVATION		ANGLES (DEG.) FROM INDEX LINE												
				DESIGN NO.	L (FT.)	L ₁ (FT.)	L ₂ (FT.)	L ₃ (FT.)	A	B	PEDESTRIAN SIGNALS	PEDESTRIAN PUSHBUTTONS	PEDESTRIAN PUSHBUTTONS	CONTROLLER	POWER SERVICE	HANDHOLE	LUMINAIRE BRACKET	INTERCONNECT POLE SPLICE BOX	MAST ARM	2" CONDUIT ELL	2" CAPPED CONDUIT ELL (FUTURE USE)	
S.R. 59	P-1	0	23	2	27	13.5	25.5	99.81	100.56	270	Pa	Pf						180		0	59°	
HIWOOD AVE.	P-2	0	23	2	27	18	26	99.79	100.34	0	Pc	Pf						180		0	207°	
S.R. 59	P-3	0	23	2	27	14	26	100.59	100.21	270	Ph	Pd						180		0	230°	
HIWOOD AVE.	P-4	0	23	2	27	17	25	99.55	99.47	0	Pg	Pb						180		0	205°	

NOTES:

1. ALL ANGLES MEASURED CLOCKWISE.
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM (LARGEST ARM) EVEN IF SUPPORT HAS TWO MAST ARMS.



TRAFFIC CONTROL SUB-SUMMARY

ITEM	QUANTITY	UNIT	DESCRIPTION
625	8	EACH	PULLBOX, 713.081, 16"x25"
625	5	EACH	GROUND ROD
625	504	LIN.FT.	CONDUIT, 2", 713.07
625	201	LIN.FT.	CONDUIT, 3", 713.07
625	622	LIN.FT.	TRENCH
625	83	LIN.FT.	TRENCH IN PAVED AREAS, TYPE B
632	8	EACH	VEHICULAR SIGNAL HEAD, 3-SECTION, 12" LENS, 1 WAY, POLYCARBONATE, AS PER PLAN
632	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD
632	8	EACH	PEDESTRIAN SIGNAL HEAD, A2, POLYCARBONATE, AS PER PLAN
632	8	EACH	PEDESTRIAN PUSHBUTTON
632	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION
632	291	LIN.FT.	LOOP DETECTOR PAVEMENT CUTTING
632	2	EACH	LOOP DETECTOR UNIT
632	2	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE
632	1069	LIN.FT.	SIGNAL CABLE, 5/C No. 14 AWG
632	792	LIN.FT.	LOOP DETECTOR WIRE, TYPE E
632	812	LIN.FT.	LOOP DETECTOR LEAD-IN CABLE
632	75	LIN.FT.	POWER CABLE, 2/C No. 8 AWG
632	1	EACH	POWER SERVICE
632	4	EACH	CABLE SUPPORT ASSEMBLY
632	5.92	CU.YD.	CONCRETE FOR ANCHOR BASE FOUNDATIONS
632	4	EACH	SIGNAL SUPPORT, TYPE TC81.20, DESIGN No. 2 W/27 FT. ARM
632	1	EACH	CONTROLLER, ACTUATED, 2 PHASE SOLID STATE DIGITAL, MICROPROCESSOR, AS PER PLAN
633	1	CU.YD.	CONCRETE FOR CABINET FOUNDATION
633	3.33	SQ.FT.	CONTROLLER WORK PAD

