CALC. BY: DATE:	LAKE COUNTY LAK-20-2.70	OHIO
CHKD. BY: DATE:		FHWA REGION 5
	CHANGE ORDER	FEDERAL PROJECT

23
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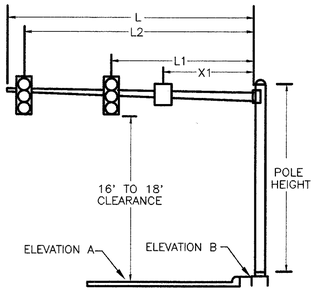
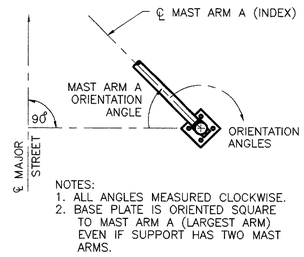
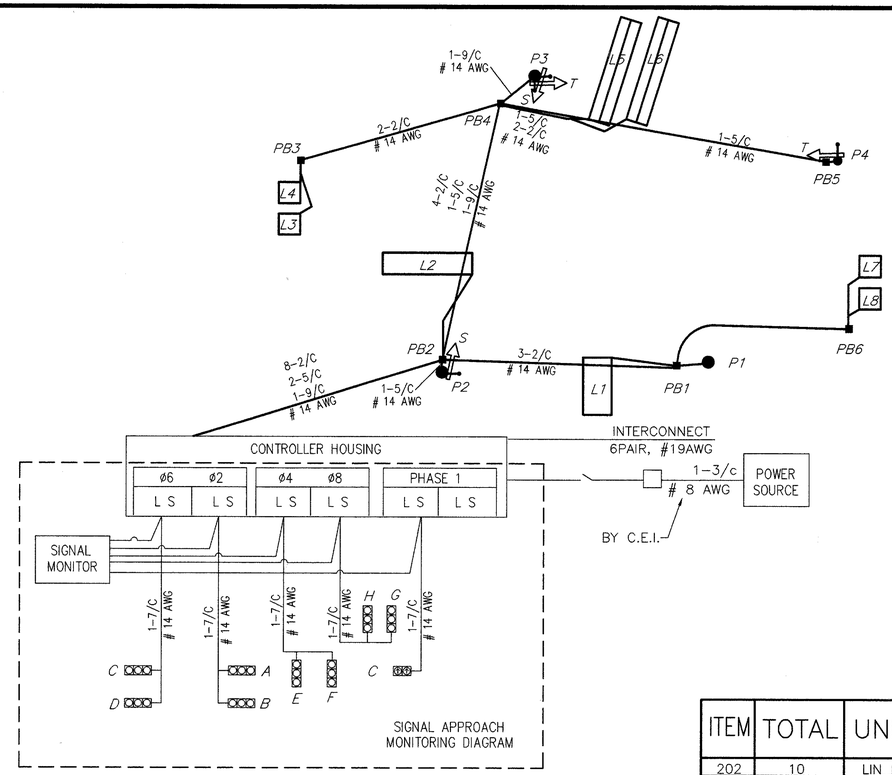




NOTES:
1. ALL ANGLES MEASURED CLOCKWISE.
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM A (LARGEST ARM) EVEN IF SUPPORT HAS TWO MAST ARMS.

SUPPORT NO.	SIGNAL SUPPORT TC-81.20 TC-12.30: POLE DESIGN NO. TC-81.20	TC-12.30	ARM DESIGN NO.	POLE HEIGHT (FT)	FOUNDATION STATION	OFFSET	L (FT.)	L 1 (FT.)	L 2 (FT.)	L 3 (FT.)		X 1 (FT.)	ELEVATION A INT. CENTERLINE	ELEVATION B SIGNAL SUPPORT	MAST ARM A ANGLE (DEG.)	ORIENTATION ANGLES (DEG.) FROM MAST ARM "A": MAST ARM B	PEDESTRIAN SIGNALS	PEDESTRIAN PUSH BUTTONS	POWER SERVICE	CONTROLLER	LUMINAIRE BRACKET	HANDHOLE	CABLE ENTRANCE (12" FROM TOP)		
P1	2		2	20'	197+06	33'R	30	16	26					680.3	0							180			
P2	4		4	20'	196+32	36'R	34	23	33					679.5	90		0	0				180			
P3	12		11	20'	196+54	45'L	40	28	38					679.1	0		0/270	0/270				180			
			2				27	16	26							270									
P4	PED			8'	197+43	24'L											180	180				180			

ORIENTATION ANGLE CHART



NOTES:
1. PHASE SPLITS SHALL INCLUDE ALL GREEN PLUS YELLOW & ALL RED
2. PERMISSIVES SHALL START AT THE ZERO POINT OF THE CYCLE
3. OFFSETS SHALL BE REFERENCED TO THE BEGINNING OF PHASE 2 & 6 YELLOW

	DIAL 1	DIAL 2	DIAL 3
CYCLE LENGTH	85	100	120
PHASE 1 SPLIT	12 %	10 %	10 %
PHASE 2 SPLIT	69 %	57 %	72 %
PHASE 4 SPLIT	19 %	33 %	18 %
PHASE 6 SPLIT	81 %	67 %	82 %
PHASE 8 SPLIT	19 %	33 %	18 %
PERMISSIVE	10 %	10 %	10 %
OFFSET	91 %	38 %	36 %
TIME OF DAY SCHEDULE	ALL OTHER TIMES	6:30AM TO 9:00AM MON-SAT	3:30PM TO 6:30PM MON-SAT

COORDINATION TIMING

FUNCTION	ø1	ø2	ø4	ø6	ø8
MINIMUM GREEN	7	23	8	23	8
PED WALK	–	7	7	–	–
PED CLEARANCE	–	16	11	–	–
GREEN EXTENSION	–	–	3.5	–	3.5
MAXIMUM GREEN	7	45	25	45	25
YELLOW CLEARANCE	3.6	3.6	3.1	3.6	3.1
ALL RED CLEARANCE	1.4	1.4	1.9	1.4	1.9
RECALL	NONE	PED	NONE	PED	NONE

SIGNAL TIMING

ITEM	TOTAL	UNIT	DESCRIPTION
202	10	LIN FT	CURB REMOVED
202	515	SQ FT	WALK REMOVED
608	50	SQ. FT.	CURB RAMP, TYPE 2
608	580	SQ. FT.	4" CONCRETE WALK
625	5	EACH	GROUND ROD
625	6	EACH	PULLBOX, MISC.: AS PER PLAN
625	147	LIN FT	CONDUIT, 2", 713.04
625	6	LIN FT	CONDUIT, 3", 713.04
625	231	LIN FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"
625	153	LIN FT	TRENCH
632	7	EACH	VEHICULAR SIGNAL HEAD, 3 SECT., 12" LENS, 1-WAY, AS PER PLAN
632	1	EACH	VEHICULAR SIGNAL HEAD, 5 SECT., 12" LENS, 1-WAY, AS PER PLAN
632	4	EACH	PEDESTRIAN SIGNAL HEAD, TYPE "D-2"
632	4	EACH	PEDESTRIAN PUSHBUTTON
632	5	EACH	LOOP DETECTOR UNIT, AS PER PLAN
632	3	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE, AS PER PLAN
632	7.45	CU YD	CONCRETE FOR ANCHOR BASE FOUNDATION
632	1	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DES. 12 WITH MAST ARMS
			TYPE TC-81.20, DES. 11, 40' AND TYPE TC-81.20, DES. 2, 27'
632	1	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DES. 2 WITH 30' ARM
632	1	EACH	SIGNAL SUPPORT, TYPE TC-81.20, DES. 4 WITH 34' ARM
632	1	EACH	PEDESTAL, 8', TRANSFORMER BASE
632	3	EACH	CABLE SUPPORT ASSEMBLY
632	480	LIN FT	LOOP DETECTOR PAVEMENT CUTTING
632	856	LIN FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
632	136	LIN FT	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG
632	1361	LIN FT	LOOP DETECTOR WIRE, TYPE E
632	934	LIN FT	LOOP DETECTOR LEAD-IN CABLE
632	42	LIN FT	POWER CABLE, 3 CONDUCTOR, NO. 8 AWG
632	1	EACH	CONDUIT RISER, 1 1/2"
632	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD
632	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN
633	10.4	SQ FT	CONTROLLER WORK PAD
633	1.85	CU YD	CONCRETE FOR CABINET FOUNDATION
633	1	EACH	CONTROLLER, ACTUATED, 8 PHASE, SOLID STATE DIGITAL MICROPROCESSOR,
			AS PER PLAN

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SIGNAL HEAD	ø1 & ø6 R/W	CLEAR		ø2 & ø6 R/W	CLEAR			ø4 & ø8 R/W		CLEAR		FLASH
A	R	R	R	G	G	Y	R	R	R	R	R	Y
B	R	R	R	G	G	Y	R	R	R	R	R	Y
C	~~G~~/G	~~G~~/G	G	G	G	Y	R	R	R	R	R	Y
D	G	G	G	G	G	Y	R	R	R	R	R	Y
E	R	R	R	R	R	R	R	G	G	Y	R	R
F	R	R	R	R	R	R	R	G	G	Y	R	R
G	R	R	R	R	R	R	R	G	G	Y	R	R
H	R	R	R	R	R	R	R	G	G	Y	R	R
S-S	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DARK
T-T	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DARK

SIGNAL DISPLAY CHART

LOOP #	SIZE	# TURNS	MODE	DELAY	UNIT #	PHASE
L1	8' x 15'	2	PRESENCE	8	1	4
L2	6' x 25'	2	PRESENCE	8	2	1
L3	6' x 6'	3	PRESENCE		3	SYSTEM
L4	6' x 6'	3	PRESENCE		4	SYSTEM
L5	6' x 30'	2-4-2	PRESENCE	8	5	8
L6	6' x 30'	2-4-2	PRESENCE		6	8
L7	6' x 6'	3	PRESENCE		7	SYSTEM
L8	6' x 6'	3	PRESENCE		8	SYSTEM

LOOP DETECTOR CHART

EUCLID AVE. & BEIDLER RD. TRAFFIC CONTROL PLAN