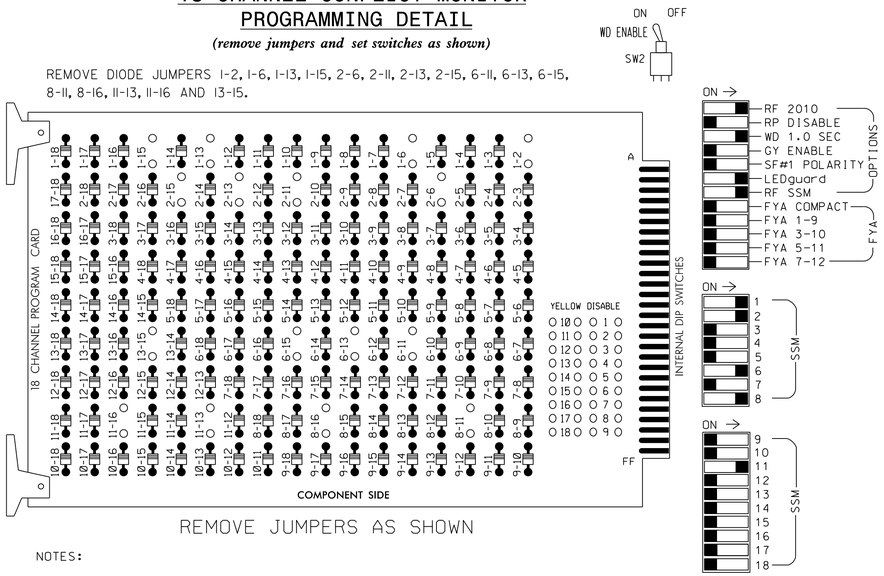
DocuSign Envelope ID: EE0A9FB1-617B-4D0E-A869-87C1A84AA294

PROJECT REFERENCE NO.	SHEET NO.
U-5748	Sig. 12.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS I-2, I-6, I-13, I-15, 2-6, 2-11, 2-13, 2-15, 6-11, 6-13, 6-15, 8-11, 8-16, 11-13, 11-16 AND 13-15.



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Program controller to start up in phases 2 and 6 green.
3. Enable simultaneous gap-out feature, on controller unit, for all phases.
4. Program phases 2 and 6, on controller unit, for volume density operation.
5. The cabinet and controller are part of the Raleigh Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
CABINET.....332 W/ AUX
SOFTWARE.....SE-PAC2070
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,S3,S8,S9,S11,S12,AUX S4
PHASES USED.....1,1PED,2,2PED,4*,6,8,8PED
OVERLAP "A".....NOT USED
OVERLAP "B".....NOT USED
OVERLAP "C".....**
OVERLAP "D".....NOT USED
OVERLAP "G".....**

* Phase used for timing puposes only.
** See Sheet 2 for Overlap programming.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	OLG	2 PED	3	4	4 PED	5	6	1 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11,12	21,22, 23,24	P21, P22	NU	NC	NU	NU	61,62, 63,64	P11, P12	NU	81,82, 83	P81,P82 P83,P84 P85,P86	NU	NU	NU	25,26, 27	NU	NU
RED		128						134										
YELLOW		129						135										
GREEN																		
RED ARROW	125										107					A114		
YELLOW ARROW	126										108					A115		
GREEN ARROW	127	130						136			109					A116		
✋			113						119			110						
🚶			115						121			112						

NU = Not Used
NC = Not Connected

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø1 1A	Ø2 2A	Ø2 2C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø2 PED DC ISOLATOR	Ø1 PED DC ISOLATOR	FS DC ISOLATOR
	L	Ø1 1B	Ø2 2B	Ø2 2D									NOT USED	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	Ø6 6A	Ø6 6C	SLOT EMPTY	SLOT EMPTY	Ø8 8A	Ø8 8C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L		Ø6 6B	Ø6 6D			Ø8 8B	NOT USED							

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	NEMA PHASE	DELAY TIME	EXTEND (STRETCH) TIME
1A	TB2-1,2	I1U	56	1	1		
1B	TB2-3,4	I1L	56	1	1		
2A	TB2-5,6	I2U	39	3	2		
2B	TB2-7,8	I2L	43	4	2		
2C	TB2-9,10	I3U	63	5	2		
2D	TB2-11,12	I3L	76	6	2		
6A	TB3-5,6	J2U	40	21	6		
6B	TB3-7,8	J2L	44	22	6		
6C	TB3-9,10	J3U	64	23	6		
6D	TB3-11,12	J3L	77	24	6		
8A	TB5-9,10	J6U	42	31	8		
8B	TB5-11,12	J6L	46	32	8		
8C	TB7-1,2	J7U	66	33	8		
PED PUSH BUTTONS							
P11,P12	TB8-7,9	I3U	68	PED 6	1 PED		
P21,P22	TB8-4,6	I2U	67	PED 2	2 PED		
P81,P82 P83,P84 P85,P86	TB8-8,9	I3L	70	PED 8	8 PED		

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-1982
DESIGNED: Jan 2023
SEALED: 1/24/2023
REVISED:

Final Design
Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for the Offices of:
NC Department of Transportation Mobility and Safety Division
Traffic Engineering & Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 401 (Louisburg Road)
at
SR 2224 (Mitchell Mill Road)

Division 5 Wake County Raleigh

PLAN DATE: Jan 2023	REVIEWED BY: H.M. Surti
PREPARED BY: A. Ravipati	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 034481 ENGINEER HEMANG M. SURTI

DocuSigned by: Hemang M. Surti AE1DBB0A7A4A41... 1/24/2023

SIG. INVENTORY NO. 05-1982

AECOM
NC Firm License No.: F-0342
5438 Wade Park Boulevard
Suite 200 Raleigh, NC 27607
Phone: 919-461-1100

1/24/2023
pw:\\aecom-na-pw.bentley.com:AECOM_DS21_NA_2020\Documents\60609754-U-5748 Ligon Mill\900-CAD GIS\910_CAD\70_NCDOT_TIP\Traffic\Signals\Design\Signals\Electrical Details_2022\051982_sm_ele_2022XXXX.dgn
michael.cavenaugh