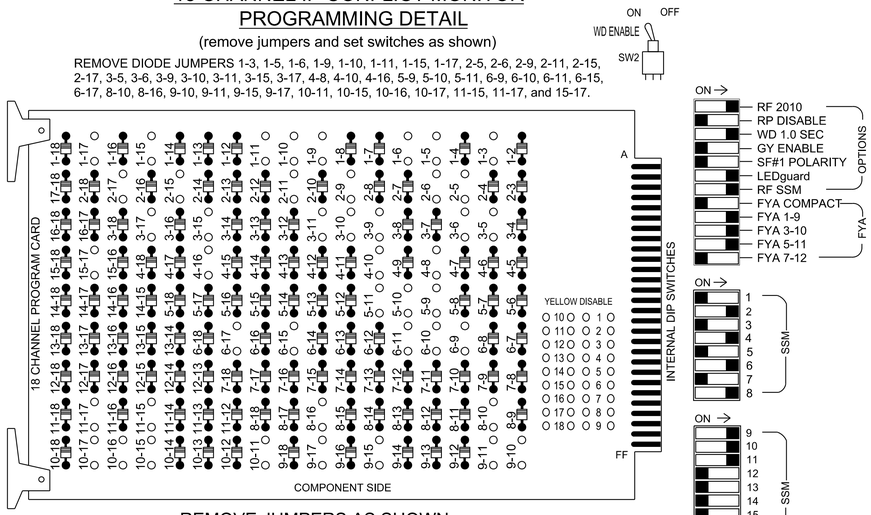
Docusign Envelope ID: E19845C9-1141-4BFE-BC9C-C469461FA476

PROJECT REFERENCE NO.	SHEET NO.
U-5760	Sig. 6.1

18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-3, 1-5, 1-6, 1-9, 1-10, 1-11, 1-15, 1-17, 2-5, 2-6, 2-9, 2-11, 2-15, 2-17, 3-5, 3-6, 3-9, 3-10, 3-11, 3-15, 3-17, 4-8, 4-10, 4-16, 5-9, 5-10, 5-11, 6-9, 6-10, 6-11, 6-15, 6-17, 8-10, 8-16, 9-10, 9-11, 9-15, 9-17, 10-11, 10-15, 10-16, 10-17, 11-15, 11-17, and 15-17.



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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 the Red Enable is active at all times during normal operation.
4. Integrate monitor with Ethernet network in cabinet.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S4, S5, S7, S8, S9, S11, S12, AUX S1, AUX S2, AUX S3, AUX S4
Phases Used.....1, 2, 4, 5, 6, 6PED, 8, 8 PED
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....NOT USED
Overlap "5".....*
Overlap "6".....NOT USED
Overlap "7".....*

*See overlap programming detail on sheet 2

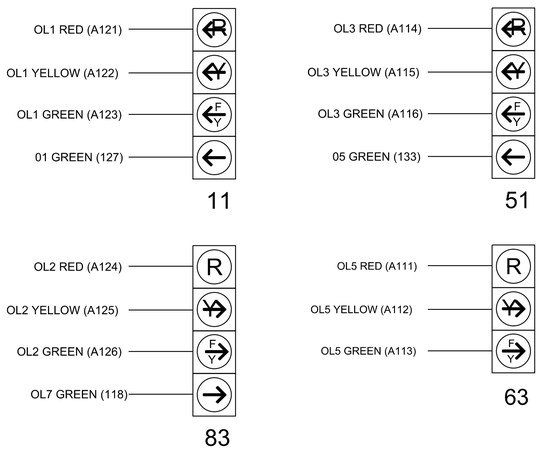
SIGNAL HEAD HOOK-UP CHART

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	2	2 PED	OL7	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	OL5	OL3	OL4	SPARE
SIGNAL HEAD NO.	11★	21,22 23	NU	83★	41,42	NU	51★	61,62 64	P61, P62	NU	81,82	P81, P82	11★	83★	63★	51★	NU	NU
RED	·	128	·	·	101	·	·	134	·	·	107	·	·	A124	A111	·	·	·
YELLOW	*	129	·	*	102	·	*	135	·	·	108	·	·	·	·	·	·	·
GREEN	·	130	·	·	103	·	·	136	·	·	109	·	·	·	·	·	·	·
RED ARROW	·	·	·	·	·	·	·	·	·	·	·	·	A121	·	·	A114	·	·
YELLOW ARROW	·	·	·	·	·	·	·	·	·	·	·	·	A122	A125	A112	A115	·	·
FLASHING YELLOW ARROW	·	·	·	·	·	·	·	·	·	·	·	·	A123	A126	A113	A116	·	·
GREEN ARROW	127	·	·	118	·	·	133	·	·	·	·	·	·	·	·	·	·	·
✋	·	·	·	·	·	·	·	·	119	·	·	110	·	·	·	·	·	·
🚶	·	·	·	·	·	·	·	·	121	·	·	112	·	·	·	·	·	·

NU = Not Used
★ Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	∅ 1 1A	∅ 1 1B	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	∅ 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	∅ 6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	NOT USED				NOT USED							∅ 8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	∅ 5 5A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	∅ 8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED					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.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	**	I1U	56	18	1 ★	1	15.0		X		X	
				-	29 ★	6	3.0		X		X	X
1B	TB2-5,6	I2U	39	1	2	1	15.0		X		X	
4A	TB4-9,10	I6U	41	3	8	4	5.0		X		X	
5A	**	J1U	55	17	15 ★	5	15.0		X		X	
				-	31 ★	2	3.0		X		X	X
8A	TB5-9,10	J6U	42	4	22	8	3.0		X		X	
PED PUSH BUTTONS												
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOT I13.

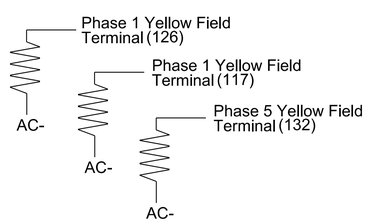
★ For the detectors to work as shown on the signal design plan, see the Detector Programming Detail for Alternate Phasing on sheet 2.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



** SPECIAL DETECTOR NOTE

For zones 1A, 2A, 5A, & 6A, install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer -approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans.

For zones 1A & 5A, inputs associated with the typical slots for an NCDOT installation are compatible with time of day instructions located on sheet 2 of this electrical detail.

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.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 09-0482T
DESIGNED: August 2024
SEALED: 07/14/2025
REVISED: N/A

Electrical Detail - Temporary Design
Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared For: NCDOT Transportation Mobility and Safety Division Traffic Engineering Branch Signals & Signal Management Section

750 N.Greenfield Pkwy.Garner,NC 27529

Big Mill Farm Road / Sr 2649 (Hopkins Road) at Bluff School Road

Division 9 Forsyth County Kernersville

PLAN DATE: August 2024	REVIEWED BY: KP Baumann
PREPARED BY: CF Davis	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN
DocuSigned by: 5DC709A86BCB447...
7/14/2025
SIGNATURE DATE
SIG. INVENTORY NO. 09-0482T

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
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Raleigh, NC 27601
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K:\RAL_Roadway\011036312 - U-5760 Big Mill Farm Road\Traffic Signal\S4 - Signal Design\09482-2024e-1.dgn
7/14/2025 9:01:24 AM Craig.Davis