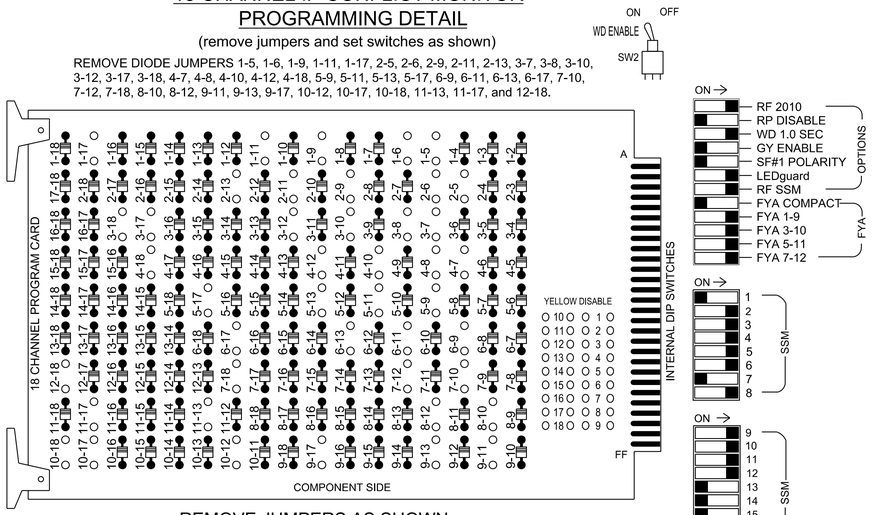
Docusign Envelope ID: E19845C9-1141-4BFE-BC9C-C469461FA476

18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-11, 1-17, 2-5, 2-6, 2-9, 2-11, 2-13, 3-7, 3-8, 3-10, 3-12, 3-17, 3-18, 4-7, 4-8, 4-10, 4-12, 4-18, 5-9, 5-11, 5-13, 5-17, 6-9, 6-11, 6-13, 6-17, 7-10, 7-12, 7-18, 8-10, 8-12, 9-11, 9-13, 9-17, 10-12, 10-17, 10-18, 11-13, 11-17, and 12-18.



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 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 2, 6, and 40 for Min Veh Recall.
3. Program phases 4 and 8 for Dual Entry.
4. Program phases 9 and 39 for No Startup Veh Call.
5. Program controller to start up in phase 2 Green No Walk, 6 Green No Walk, 9 Phase Not On, 39 Phase Not On, and 40 Green No Walk.
6. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

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	OL6
SIGNAL HEAD NO.	11★	21,22	P21, P22	22	31★	41,42	NU	42	51★	61,62	NU	71★	81,82	NU	11★	31★	82	51★	71★	62
RED	·	128	·	*	·	101	·	*	·	134	·	·	107	·	·	·	*	·	·	*
YELLOW	*	129	·	·	·	102	·	·	·	135	·	*	108	·	·	·	·	·	·	·
GREEN	·	130	·	·	·	103	·	·	·	136	·	·	109	·	·	·	·	·	·	·
RED ARROW	·	·	·	·	·	·	·	·	·	·	·	·	·	·	A121	A124	·	A114	A101	·
YELLOW ARROW	·	·	·	117	·	·	·	132	·	·	·	·	·	·	A122	A125	A112	A115	A102	A105
FLASHING YELLOW ARROW	·	·	·	·	·	·	·	·	·	·	·	·	·	·	A123	A126	·	A116	A103	·
GREEN ARROW	127	·	·	118	118	·	·	133	133	·	·	124	·	·	·	·	A113	·	·	A106
✋	·	·	113	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·		
🚶	·	·	115	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·		

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

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,S3,S4,S5,S7,S8,S10,S11,AUX S1, AUX S2,AUX S3,AUX S4,AUX S5,AUX S6
Phases Used.....1,2,2 PED,3,4,5,6,7,8,9**,39**,40**
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*
Overlap "5".....*
Overlap "6".....*
Overlap "7".....*

*See overlap programming detail on sheet 2.
**Phase used for preemption timing purposes only.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	1O	11	12	13	14
FILE "I"	U	Ø 1 1A	Ø 1 1B	Ø 2 2A	SLOT EMPTY	Ø 3 3A	Ø 4 4A	Ø 4 4C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 2 PED DC ISOLATOR	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	NOT USED	NOT USED		NOT USED	Ø 4 4B	Ø 4 4D					NOT USED		ST DC ISOLATOR
FILE "J"	U	Ø 5 5A	Ø 5 5B	Ø 6 6A	SLOT EMPTY	Ø 7 7A	Ø 7 7B	Ø 8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	PRE1 AC ISOLATOR
	L	NOT USED	Ø 5 5C	NOT USED		NOT USED	Ø 7 7C	Ø 8 8B							NOT USED

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

FS = FLASH SENSE
ST = STOP TIME
PRE = PREEMPT

INPUT FILE CONNECTION & PROGRAMMING CHART

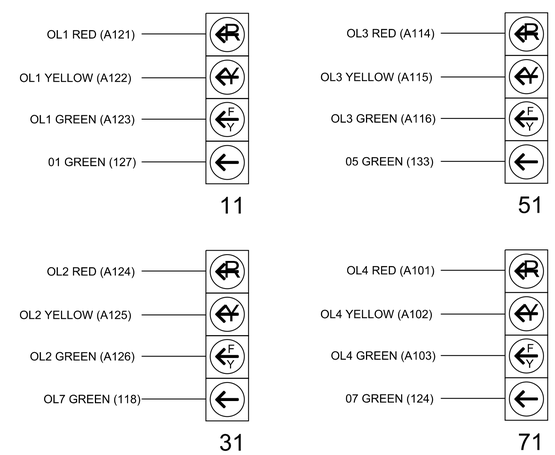
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1	15.0		X		X	
				-	29	6	3.0		X		X	X
1B	TB2-5,6	I2U	39	1	2	1/9	15.0		X		X	
2A	TB2-9,10	I3U	63	29	4	2			X	X	X	
3A	TB4-5,6	I5U	58	20	7	3/9	15.0		X		X	
				-	30	8			X		X	
4A	TB4-9,10	I6U	41	3	8	4			X		X	
4B	TB4-11,12	I6L	45	7	9	4			X		X	
4C	TB6-1,2	I7U	65	31	10	4			X		X	
4D	TB6-3,4	I7L	78	44	11	4	5.0		X		X	
5A	TB3-1,2	J1U	55	17	15	5	15.0		X		X	
				-	31	2	3.0		X		X	X
5B	TB3-5,6	J2U	40	2	16	5	15.0		X		X	
5C	TB3-7,8	J2L	44	6	17	5	10.0		X		X	
6A	TB3-9,10	J3U	64	30	18	6			X	X	X	
7A	TB5-5,6	J5U	57	19	21	7	15.0		X		X	
				-	32	4	3.0		X		X	
7B	TB5-9,10	J6U	42	4	22	7	3.0		X		X	
7C	TB5-11,12	J6L	46	8	23	7	3.0		X		X	
8A	TB7-1,2	J7U	66	32	24	8			X		X	
8B	TB7-3,4	J7L	79	45	25	8			X		X	
PED PUSH BUTTONS												
P21;P22	TB8-4,6	I12U	67	33	2	PED 2						

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

FYA SIGNAL WIRING DETAIL

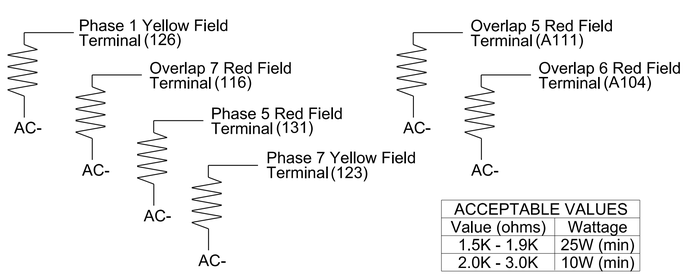
(wire signal heads as shown)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 09-0567
DESIGNED: August 2024
SEALED: 07/14/2025
REVISED: N/A

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)

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

Electrical Detail - Final Design
Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared For:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

NC 66/SR 2377 (W. Mountain St.)
at
NC 66 (Old Hollow Road) and
SR 2649 (Hopkins 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:
5DC709A86BC8447...
SIGNATURE 7/14/2025 DATE

SIG. INVENTORY NO. 09-0567

K:\HAL_Roadway\011036312 - U-5760 Big Mill Farm Road\Traffic Signal\S4 - Signal Design\090567-2024e.dgn 9:01:17 AM CraigDavis 7/14/2025