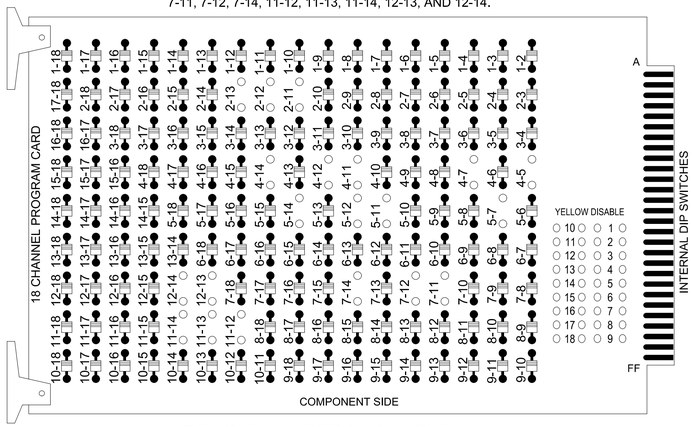
Docusign Envelope ID: 7E475AA5-FEC4-8B6E-80C0-1B538B2274F0

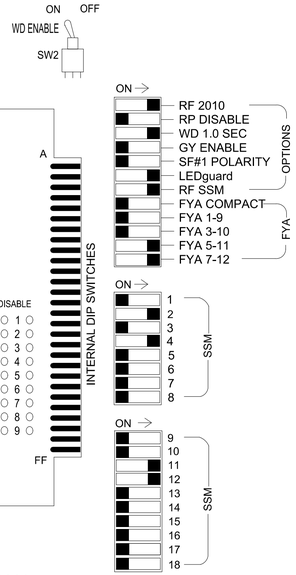
PROJECT REFERENCE NO.	SHEET NO.
U-4700 CB	Sig. 7.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-11, 2-12, 2-13, 4-5, 4-7, 4-11, 4-12, 4-14, 5-7, 5-11, 5-12, 5-14, 7-11, 7-12, 7-14, 11-12, 11-13, 11-14, 12-13, AND 12-14.





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. 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 plan.
2. Program phases 4 and 7 for Dual Entry.
3. Program controller to start up in phase 2 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.
5. The cabinet and controller are part of the US 321 Closed Loop Signal System.

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.....S2, S3, S5, S6, S7, S10, AUX S4, AUX S5
Phases Used.....2, 2PED, 4, 7, 7PED
Overlap "1".....NOT USED
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*
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	3	4	7 PED	OL7	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	21	22	P21, P22	NU	41,42 43	P71, P72	72★	NU	NU	71★	NU	NU	NU	NU	NU	72★	71★	NU
RED		128	128			101													
YELLOW		129	129					*			*								
GREEN			130																
RED ARROW																	A114	A101	
YELLOW ARROW						102											A115	A102	
FLASHING YELLOW ARROW																	A116	A103	
GREEN ARROW		130				103		133			124								
✋				113			104												
🚶				115			106												

NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	1O	11	12	13	14
FILE "I"	U	SLOT EMPTY	Ø 2 2A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 2 PED DC ISOLATOR	SLOT EMPTY	FS DC ISOLATOR
	L		Ø 2 2B				Ø 4 4B						Ø 7 PED DC ISOLATOR		ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 7 7A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L					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
2A	TB2-5,6	I2U	39	1	2	2			X	X	X	
2B	TB2-7,8	I2L	43	5	3	2			X	X	X	
4A	TB4-9,10	I6U	41	3	8	4	15.0		X		X	
4B	TB4-11,12	I6L	45	7	9	4	15.0		X		X	
7A	TB5-5,6	J5U	57	19	21*	7	15.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P71,P72	TB8-5,6	I12L	69	35	4	PED 7						

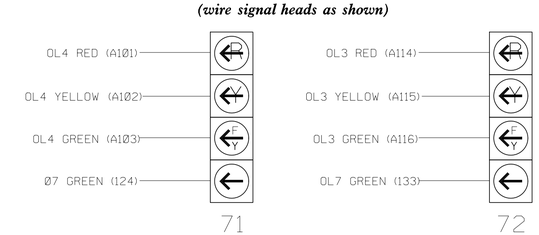
NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOT I12.

* For the detectors to work as shown on the signal plan, see the Vehicle Detector Setup Programming Detail for Alternate Phasing on sheet 3.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

4 SECTION FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

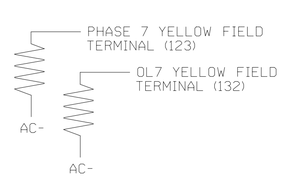


LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 11-1449
DESIGNED: May 2026
SEALED: 5/29/2026
REVISED: N/A

ELECTRICAL DETAIL SHEET 1 OF 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 321 (Hickory Boulevard) SB
at
SR 1809/SR 1952
(Pine Mountain Road)

Division 11 Caldwell County Hudson

PLAN DATE:	May 2026	REVIEWED BY:	B. Roth-Roffy
PREPARED BY:	R.L. Aristondo	REVIEWED BY:	T.M. Moody

REVISIONS	INIT.	DATE

Prepared for the Offices of:
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State of North Carolina Department of Transportation
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NORTH CAROLINA PROFESSIONAL SEAL 040329 ENGINEER TRENT M. MOODY

DocuSigned by:
Trent Moody
45EA1D4A3E7D4EB...
5/29/2026
DATE

SIG. INVENTORY NO. 11-1449

5/29/2026
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LeonLR