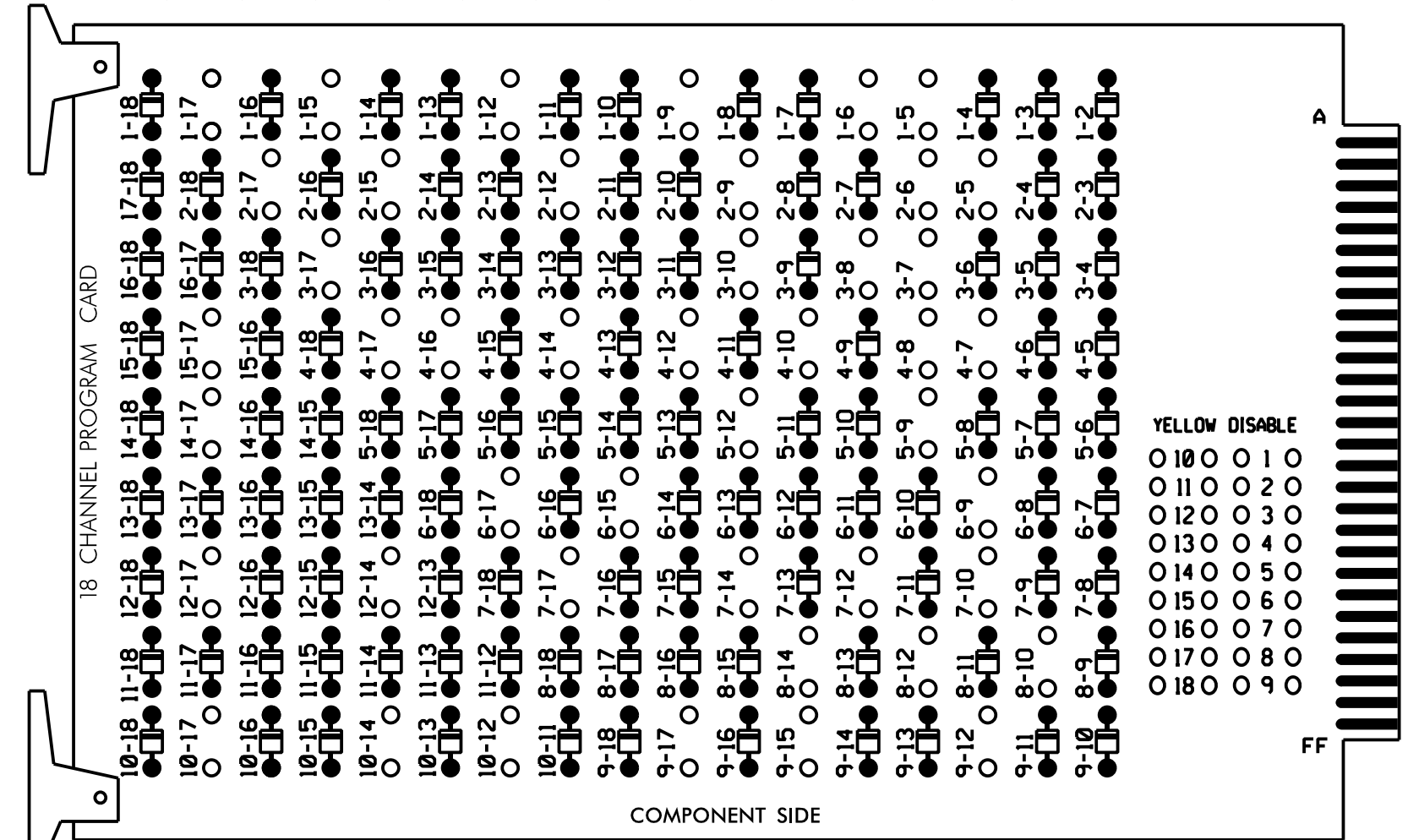


18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-15, 1-12, 1-17, 2-5, 2-6, 2-9, 2-12, 2-15, 2-17, 3-7, 3-8, 3-10, 3-17, 4-7, 4-8, 4-10, 4-12, 4-14, 4-17, 5-9, 5-12, 6-9, 6-15, 6-17, 7-10, 7-12, 7-14, 7-17, 8-10, 8-12, 8-14, 9-12, 9-15, 9-17, 10-12, 10-14, 10-17, 12-14, 12-17, 14-17 AND 15-17.



REMOVE JUMPERS AS SHOWN

NOTES:

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

■ = DENOTES POSITION OF SWITCH

NOTES

- 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.
- Program phases 4 and 8 for Dual Entry.
- Enable Simultaneous Gap-Out for all Phases.
- Program phases 2 and 6 for Startup in Green.
- Program phases 2 and 6 for Yellow Flash, and overlaps 1, 2, and 5 as Wag Overlaps.
- The cabinet and controller are part of the Wilmington Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
 CABINET.....332 W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE LOAD SWITCHES USED.....S1,S2,*S3,S4,S5,S6,S7,S8,S9,S10,S11,AUX S1,AUX S2,AUX S3,AUX S5
 PHASES USED.....1,2,3,4,4 PED,5,6,6 PED,7,8
 OVERLAP "A".....1+2
 OVERLAP "B".....3+4
 OVERLAP "C".....NOT USED
 OVERLAP "D".....4+5
 OVERLAP "E".....6+7
 OVERLAP "F".....NOT USED

* Used for Advanced Beacons

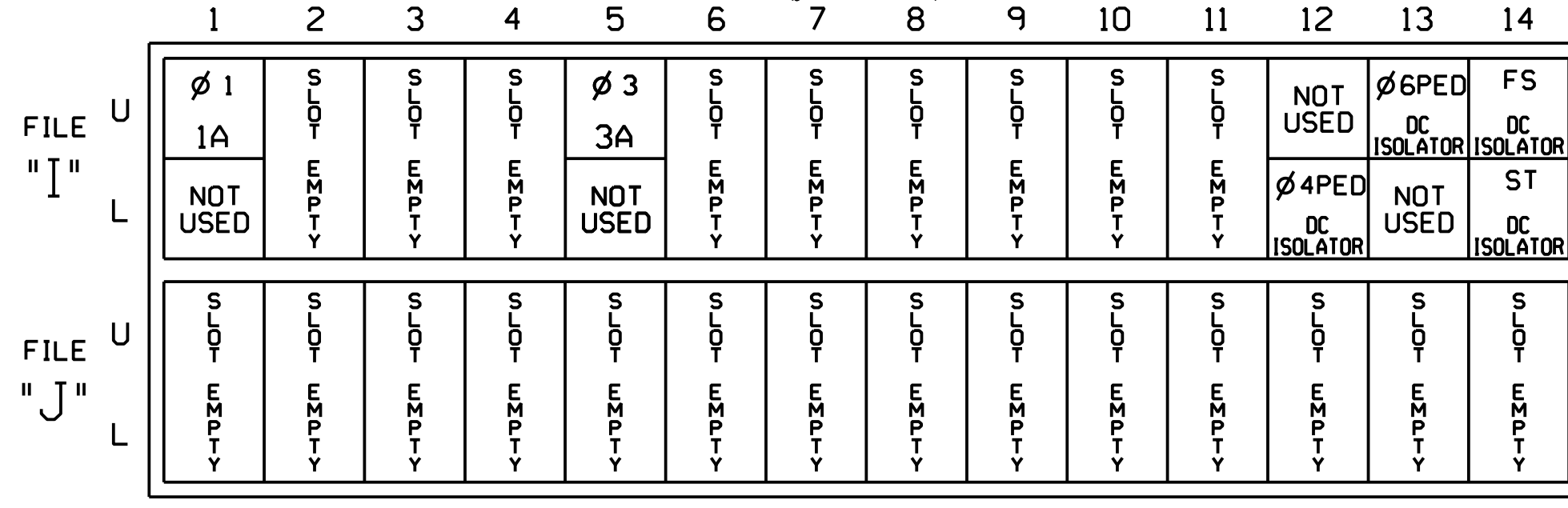
SIGNAL HEAD HOOK-UP CHART

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	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	OLE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11	21,22	23,24	31	41,42	P41,P42	51,52	61,62	P61,P62	25,26	71,72	81,82	NU	11	31	63	NU	43
RED		128			101			134				107				A111		
YELLOW	*	129		*	102			135				108						
GREEN		130			103			136				109						
RED ARROW								131				122			A121	A124		A101
YELLOW ARROW								132				123			A122	A125	A112	A102
FLASHING YELLOW ARROW															A123	A126	A113	A103
GREEN ARROW	127			118				133				124						
PED YELLOW								104			119				** 114			** 120
															*			*

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.
 ** Advance Beacons will be wired to S2P-Y and S6P-Y. See wiring and programming detail on sheet 2.
 ★ See pictorial of head wiring in detail this sheet.
 NOTE: Load switch AUX S3 requires output remapping. See Sheet 7 of this electrical detail for instructions.

INPUT FILE POSITION LAYOUT

(front view)



EX.: 1A, 2A, ETC. = LOOP NO.'S FS = FLASH SENSE ST = STOP TIME

SPECIAL DETECTOR NOTE

Install a multizone microwave detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish detection schemes shown on the Signal Design Plans.

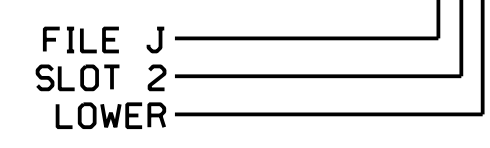
INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10★	26	6	Y	Y			
	-	I1U	56	18★	51	1	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			15
	-	J8U	50	12★	28	8	Y	Y			3
	-	I5U	58	20★	53	3	Y	Y			3
PED PUSH BUTTONS											
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					
P61,P62	TB8-7,9	I13U	68	30	PED 6	6 PED					

NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS 112 AND 113.

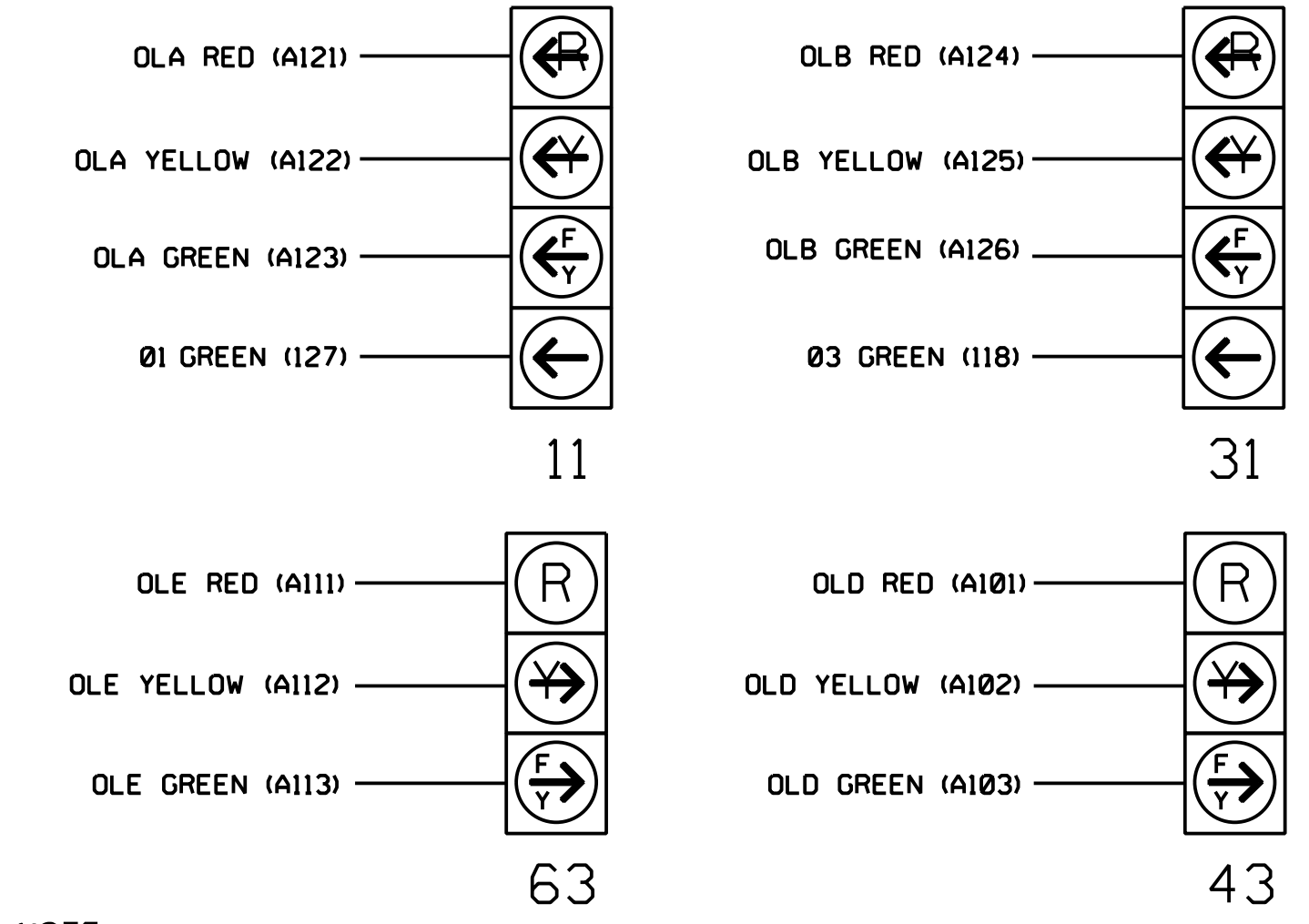
* See Input Page Assignment programming details on sheets 4 and 5.

INPUT FILE POSITION LEGEND: J2L



FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

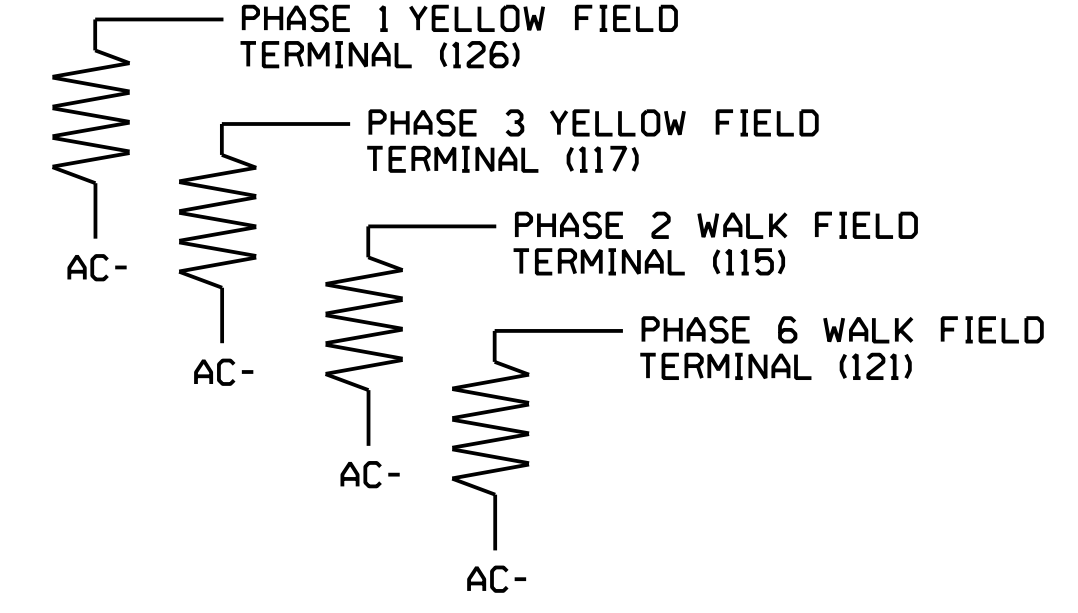


NOTE: The sequence display for signal heads 11 and 31 require special logic programming. See sheet 3 for programming instructions.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

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



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 03-0331
 DESIGNED: May 2022
 SEALED: 5/17/2024
 REVISED:

This plan supersedes the plan signed and sealed on 5/17/2024.

HNTB
 HNTB NORTH CAROLINA, P.C.
 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554
 (919) 546-8997

Signal Upgrade - Final Design
 Electrical Detail - Sheet 1 of 7

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR: I-40 EB Ramp / US 117 - NC 132 (N. College Road) at SR 2048 (Gordon Rd)

Division 3 New Hanover County Wilmington

PLAN DATE: August 2023 REVIEWED BY: N.K. Vlanich
 PREPARED BY: E.E. Tiller REVIEWED BY: N.R. Simmons

REVISIONS: INIT. DATE

Prepared in the Offices of:
 North Carolina Professional Engineer
 SEAL 031464
 N. K. Vlanich
 N. R. Simmons
 11/8/2024
 DATE
 SIGNATURE
 SIG. INVENTORY NO. 03-0331