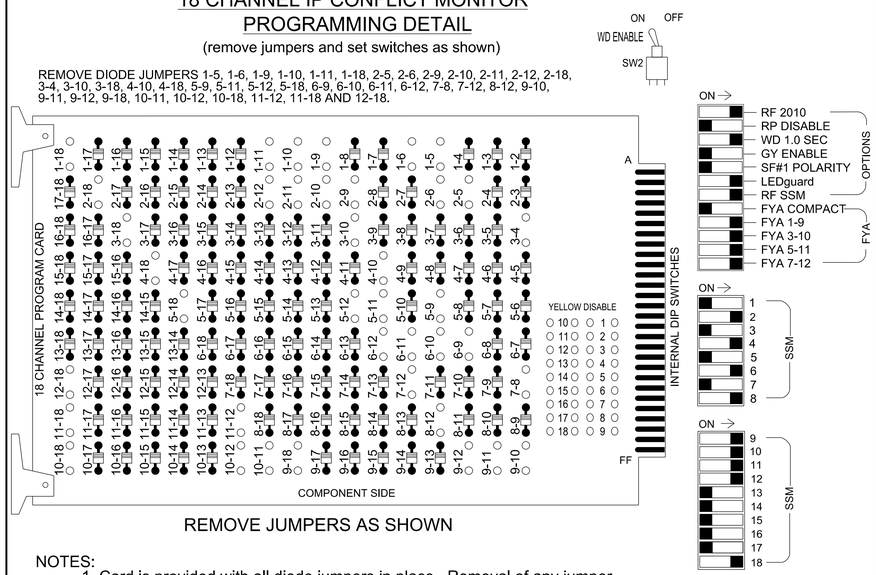
Docusign Envelope ID: E237D0F0-9E2A-4677-A80C-647C717DF96C



## 18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

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

## 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 | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | FS DC ISOLATOR |
| | L | NOT USED | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | ST DC ISOLATOR |
| FILE "J" | U | Ø 5 5A | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT | SLOT |
| | L | NOT USED | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY | EMPTY |

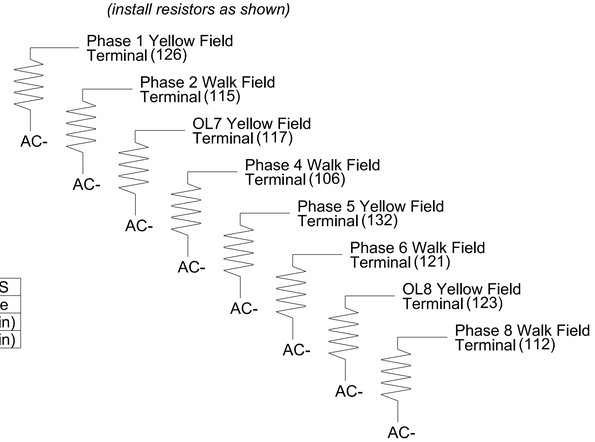
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

For Detection Zones 1A and 5A the equipment and slots reserved are typical for a NCDOT installation.

## 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) |

## 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 controller to start up in phase 2 Green No Walk and 6 Green No Walk.
3. Program phase 2 and phase 6 for Advance Warning.
4. Program phase 2 and phase 6 for 3.0 seconds of Pre Clearance.
5. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
6. The cabinet and controller are part of the US 17 Bus. (MLK Blvd) D02-15_New Bern 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.....S1, S2, S3**, S4, S5, S6**, S7, S8, S9**, S10,S11, S12**, AUX S1, AUX S2, AUX S4, AUX S5, AUX S6
Phases Used.....1, 2, 3, 4, 5, 6
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....*
Overlap "7".....*
Overlap "8".....*
Overlap "9".....*

* See overlap programming detail on sheet 2
** Used for Advance Beacon Control only.

## 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 | | | X | | X | |
| 5A | TB3-1,2 | J1U | 55 | 17 | 15 ★ | 5 | 15.0 | | X | | X | |
| | | | | - | 31 ★ | 2 | | | X | | X | |

★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

## 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 the detection schemes shown on the Signal Design Plans.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 02-0629
DESIGNED: Apr 2025
SEALED: 4/24/2025
REVISED: N/A

Plans Prepared By:
DRMP
DRMP, Inc.
8210 University Executive Park Dr, Suite 220
Charlotte, NC 28262
NC License No. F-1524 (704) 549-4260

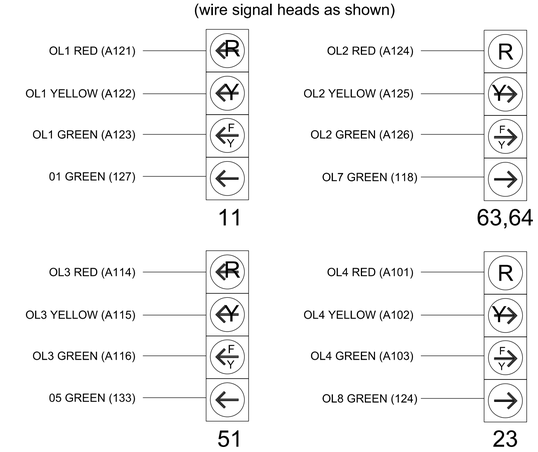
## SIGNAL HEAD HOOK-UP CHART

| 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 | ADVANCE BEACON | OL7 | 4 | | | 4 PED | ADVANCE BEACON | 5 | 6 | 6 PED | ADVANCE BEACON | OL8 | OL9 | | 8 PED | ADVANCE BEACON | OL1 | OL2 | SPARE | OL3 | OL4 | OL6 |
| SIGNAL HEAD NO. | 11 ★ | 21,22 | NU | 24,26 | 63,64 ★ | 41 | 42 | 43 | NU | 65,67 | 51 ★ | 61,62 | NU | 25,27 | 23 ★ | 31 | 32 | NU | 66,68 | 11 ★ | 63,64 ★ | NU | 51 ★ | 23 ★ | 44,45 |
| RED | | 128 | | | | | 101 | 101 | | | | 134 | | | | 107 | 107 | | | | A124 | | | A101 | A104 |
| YELLOW | * | 129 | | | * | | 102 | 102 | | | * | 135 | | | * | 108 | 108 | | | | | | | | |
| GREEN | | 130 | | | | | 103 | 103 | | | | 136 | | | | 109 | 109 | | | | | | | | |
| RED ARROW | | | | | | 101 | | | | | | | | | | | | | | A121 | | | A114 | | |
| YELLOW ARROW | | | | | | 102 | | | | | | | | | | | | | | A122 | A125 | | A115 | A102 | A105 |
| FLASHING YELLOW ARROW | | | | | | | | | | | | | | | | | | | | A123 | A126 | | A116 | A103 | |
| GREEN ARROW | 127 | | | | 118 | 103 | 103 | | | | 133 | | | | 124 | 109 | | | | | | | | | A106 |
| ✋ | | | | ** 114 | | | | | | ** 105 | | | | ** 120 | | | | | ** 111 | | | | | | |
| 🚶 | | | * | | | | | | * | | | | * | | | | | * | | | | | | | |

NU = Not Used
* Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.
** Advance Beacons will be wired to S2P-Y, S4P-Y, S6P-Y and S8P-Y. See wiring and programming detail on sheet 3.

## FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)




Electrical Detail - Final Design
Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 17 Business
(M. L. King, Jr. Blvd.)
at
NC 43/Ben D. Quinn Elementary
Division 2 Craven County New Bern

| | | | |
|---|---|---|---|
| PLAN DATE: April 2025 | REVIEWED BY: BN Groome | | |
| PREPARED BY: DS Griffin | DRMP PROJ. NO.: 17359 (040) | | |
| REVISIONS | | INIT. | DATE |

750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 052936 ENGINEER BRITTANY N GROOME

Signed by: Brittany N Groome 4/24/2025
DESIGNED ENGINEER DATE
SIG. INVENTORY NO. 02-0629