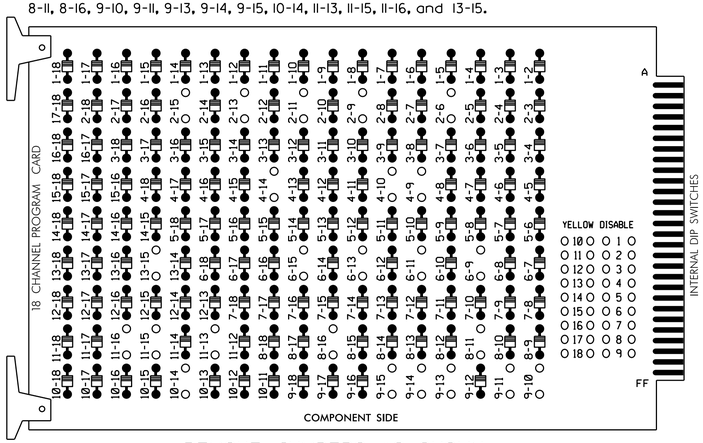
PROJECT REFERENCE NO.	SHEET NO.
SS-4905CK	Sig. 6.1

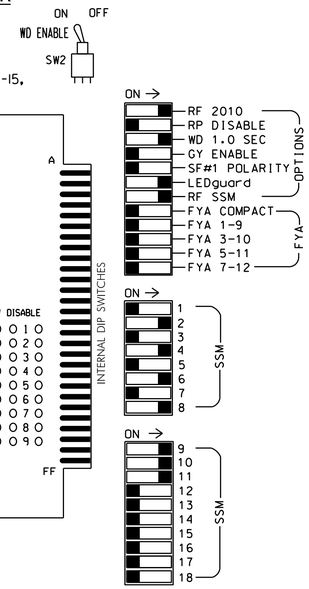
EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-6, 2-9, 2-11, 2-13, 2-15, 4-9, 4-10, 4-14, 6-9, 6-11, 6-13, 6-15, 8-11, 8-16, 9-10, 9-11, 9-13, 9-14, 9-15, 10-14, 11-13, 11-15, 11-16, and 13-15.



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 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. Verify that signal heads flash in accordance with the signal plans.
2. Program controller to Start Up in phases 2 and 6 green.
3. Set power-up flash time to 0 seconds within the controller programming. The conflict monitor will govern startup flash. Ensure STARTUP "RED START" is set to 0 seconds.
4. Enable Simultaneous Gap-Out feature for all phases.
5. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
6. Set phase bank 3 maximum limit to 250 seconds for phases used.
7. Ensure start up flash phases are coordinated with flash program block assignments.
8. Program Startup Ped Calls for phases 2, 4, 6, and 8.
9. Set the Red Revert interval on the controller to 1 second.
10. This cabinet and controller are part of the Durham Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 W/ AUX
SOFTWARE.....McCAIN 2033
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX FILE
LOAD SWITCHES USED.....S2,S3,S5,S6,S8,S9,S11,S12, AUX S1,AUX S2,AUX S4
PHASES USED.....2,2 PED,4,4 PED,6,6 PED,*7,8,8 PED
OVERLAP 1.....2+4+6+7
OVERLAP 2.....4+7
OVERLAP 3.....2+6+8
OVERLAP 4.....NOT USED

* Phase used only for Dummy Green Extend

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	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	21,22	P21, P22	NU	41,42	P41,P42, P43,P44	NU	61,62	P61, P62	NC	23	81,82	P81, P82	63,64	63	NU	23,24	NU	NU
RED		128			101			134				107		A121	*		A114		
YELLOW		129			102			135				108		A122			A115		
GREEN		130			103			136				109		A123			A116		
RED ARROW																			
YELLOW ARROW											108				A125				
GREEN ARROW											109				A126				
✋			113			104			119				110						
🚶			115			106			121				112						

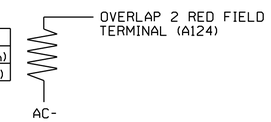
NU = Not Used
NC = No Connection
* Denotes install load resistor. See load resistor installation detail on this sheet.

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

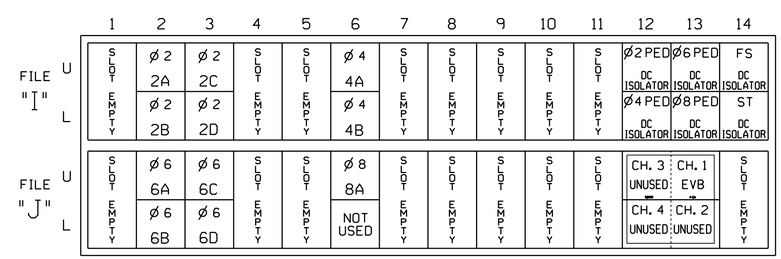
ACCEPTABLE VALUES

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



INPUT FILE POSITION LAYOUT

(front view)



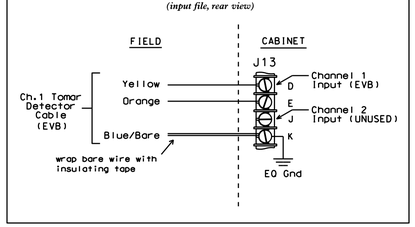
EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME
EVx = EMERGENCY VEHICLE PREEMPT

4 CHANNEL TOMAR OSP CARD INSERT CARD INTO SLOT J13

TYPICAL TOMAR FIELD WIRE DETAIL

(input file, rear view)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
2A	TB2-5,6	I2U	1	39	5 7	2
2B	TB2-7,8	I2L	5	43	5 7	2
2C	TB2-9,10	I3U	21	63	5 7	2
2D	TB2-11,12	I3L	29	76	5 7	2
4A	TB4-9,10	I6U	3	41	5 7	4
4B	TB4-11,12	I6L	7	45	5 7	4
6A	TB3-5,6	J2U	2	40	5 7	6
6B	TB3-7,8	J2L	6	44	5 7	6
6C	TB3-9,10	J3U	22	64	5 7	6
6D	TB3-11,12	J3L	30	77	5 7	6
8A	TB5-9,10	J6U	4	42	5 7	8
PED PUSH BUTTONS						
P21,P22	TB8-4,6	I12U	25	67	2	2 PED
P41,P42, P43,P44	TB8-5,6	I12L	27	69	2	4 PED
P61,P62	TB8-7,9	I13U	26	68	2	6 PED
P81,P82	TB8-8,9	I13L	28	70	2	8 PED

NOTE: PROGRAM DETECTOR DELAY AND CARRYOVER TIMES AS SPECIFIED ON SIGNAL DESIGN PLANS.

NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

DETECTOR ATTRIBUTES LEGEND:

1-FULL TIME DELAY
2-PED CALL
3-RESERVED
4-COUNTING
5-EXTENSION
6-TYPE 3
7-CALLING
8-ALTERNATE

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

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.

ADVANCE WALK PROGRAMMING

Program Leading PED Interval as follows:
1. Main Menu - 1) PHASE - 1) PHASE FUNCTIONS PAGE ONE
   ADVANCE WALK = 4
2. Main Menu - 1) PHASE - 5) PEDESTRIAN TIMING
   WALK Phase 4 = 1
   ADV/DELAY WALK Phase 4 = 7

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-0304
DESIGNED: September 2015
SEALED: 2/12/2016
REVISED:

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 03/19/15

Electrical Detail - Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 501 Bus. (N. Roxboro St.)
at
E. Murray Ave./Bon Air Ave.

Division 5 Durham County Durham

PLAN DATE: December 2015 REVIEWED BY:
PREPARED BY: C. Strickland REVIEWED BY:

REVISIONS	INIT.	DATE

Prepared in the Offices of: Transportation Mobility and Safety Division, Traffic Engineering Branch, Signal Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS
DocuSigned by: Keith M. Mins 2/12/2016
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DATE
SIG. INVENTORY NO. 05-0304

12-FEB-2016 08:16
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