PROJECT REFERENCE NO.	SHEET NO.
W-5705C	Sig. 2.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

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

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. Make sure jumpers SEL2-SEL5 are present on the monitor board.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1		S2	S2P	S3		S4	S4P	S5	S6	S6P	S7			S8	S8P	S9	S10	S11	S12			S13	S14
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.	11	33	21,22 23	NU	23	34,35	41,42 43,44	NU	51	61,62	NU	62	71	72	NU	NU	91	91,92	NU	31	32	33	NU	NU
RED			128			116	101			134			122	122			✱	A124			A114	A114		
YELLOW			129			117	102			135			123	123				A125			A115	A115		
GREEN			130			118	103			136			124	124				A126			A116	A116		
RED ARROW	125								131											A114				
YELLOW ARROW	126	126			117				132			123					A122			A115				
GREEN ARROW	127	127			118				133			124	124				A123			A116	A116			

NU = Not Used

✱ Denotes install load resistor. See load resistor installation detail this sheet.

EQUIPMENT INFORMATION

CONTROLLER.....2070E
CABINET.....332 W/ AUX
SOFTWARE.....McCAIN 2033
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S7,S9,S10,S12
PHASES USED.....1,2,3,4,5,6,7
OVERLAP 1.....1+2+7
OVERLAP 2.....1+2+3+7
OVERLAP 3.....3+4
OVERLAP 4.....NOT USED

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. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels 8,12,13,14,15 and 16 tie unused red monitor inputs to load switch AC+ per the cabinet manufacturer's instructions.
3. Program controller to Start Up in phases 2 and 6 green.
4. 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.
5. Enable Simultaneous Gap-Out feature for all phases.
6. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
7. Set phase bank 3 maximum limit to 250 seconds for phases used.
8. Ensure start up flash phases are coordinated with flash program block assignments.
9. Set the Red Revert interval on the controller to 1 second.
10. This cabinet and controller are part of the Durham Signal System.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1 1A	Ø 2 2A,2B,2C	SLOT EMPTY	SLOT EMPTY	Ø 3 3A,3B	Ø 4 4A	SYS. DET. S124	SLOT EMPTY	Ø 1 1B	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	Ø 2 2D,2E,2F			Ø 3 3C,3D,3E	Ø 4 4B	SYS. DET. S123		NOT USED					ST DC ISOLATOR
FILE "J"	U	Ø 5 5A	Ø 6 6A,6B	SLOT EMPTY	SLOT EMPTY	Ø 7 7A	SLOT EMPTY	SYS. DET. S122	SLOT EMPTY	Ø 7 7B	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø 6 6C,6D			NOT USED		NOT USED		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.	DETECTOR NO.	PIN NO.	ATTRIBUTES	NEMA PHASE
1A	TB2-1,2	I1U	14	56	5 7	1
1B	TB6-9,10	I9U	18	60	5 7	1
2A,2B,2C	TB2-5,6	I2U	1	39	5 7	2
2D,2E,2F	TB2-7,8	I2L	5	43	5 7	2
3A,3B	TB4-5,6	I5U	16	58	5 7	3
3C,3D,3E	TB4-7,8	I5L	16	58	5 7	3
4A	TB4-9,10	I6U	3	41	5 7	4
4B	TB4-11,12	I6L	7	45	5 7	4
5A	TB3-1,2	J1U	13	55	5 7	5
6A,6B	TB3-5,6	J2U	2	40	5 7	6
6C,6D	TB3-7,8	J2L	6	44	5 7	6
7A	TB5-5,6	J5U	15	57	5 7	7
7B	TB7-9,10	J9U	17	59	5 7	7
S124	TB6-1,2	I7U	23	65	4	SYS
S123	TB6-3,4	I7L	31	78	4	SYS
S122	TB7-1,2	J7U	24	66	4	SYS

DETECTOR ATTRIBUTES LEGEND:

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

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

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-0143
DESIGNED: May 2017
SEALED: 8/31/2017
REVISED: N/A

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)

SPECIAL CAMERA NOTE

Install a CCTV camera according to manufacturer's directions and NCDOT engineer-approved mounting locations and integrate into the system.

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

US 15-501 Business
(Durham-Chapel Hill Blvd.)
at Westgate Drive/SR 1301
(Petty Rd.) and Service Road

Division 5 Durham County Durham

PLAN DATE: August 2017	REVIEWED BY:
PREPARED BY: S. Armstrong	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS

DocuSigned by: Keith M. Mins 9/11/2017
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SIG. INVENTORY NO. 05-0143

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