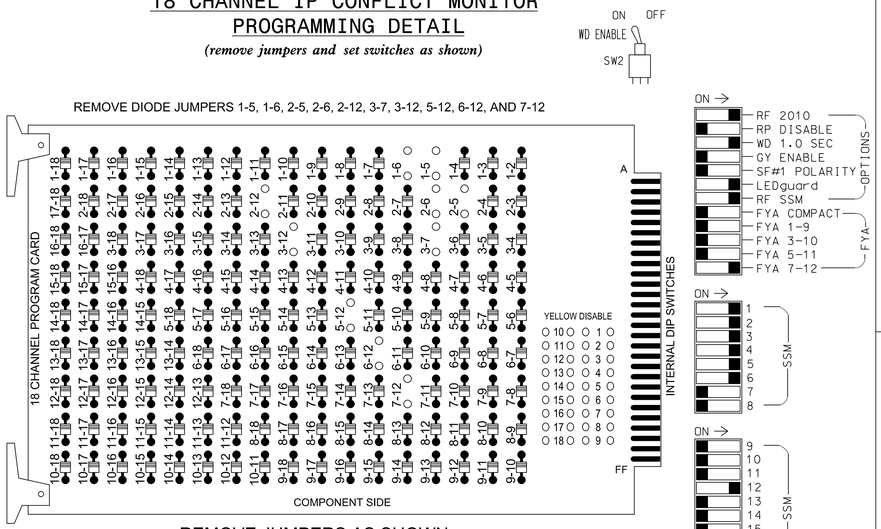
Docusign Envelope ID: AEE1D590-D1DA-41D6-85C4-068DB1A8C2DE

PROJECT REFERENCE NO.	SHEET NO.
U-5956	Sig 7.1

18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



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. Integrate monitor with Ethernet network in cabinet.

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. The cabinet and controller are part of the Concord Central 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,S4,S5,S7,S8,S10,AUX S5
PHASES USED.....1,2,3,4,5,6
OVERLAP "1".....NOT USED
OVERLAP "2".....NOT USED
OVERLAP "3".....NOT USED
OVERLAP "4".....*
OVERLAP "5".....NOT USED
OVERLAP "6".....NOT USED
OVERLAP "7".....*

* See overlap programming detail on this sheet.

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	OL7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11	21,22	NU	31	32	41	42	62	NU	42	51	61,62	NU	★23,24	NU	NU	NU	NU	NU	NU	★23,24	NU
RED		128		116	116	101	101					134									A101	
YELLOW		129		117	117	102	102					135		*								
GREEN		130		118	118	103	103					136										
RED ARROW	125										131											
YELLOW ARROW	126							102		132	132										A102	
FLASHING YELLOW ARROW																					A103	
GREEN ARROW	127			118		103		103		133	133			124								

NU = Not Used

★See pictorial of head wiring in detail this sheet.

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

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)

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	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
FILE "I" L	NOT USED	Ø 2 2B					Ø 4 4B							ST DC ISOLATOR
FILE "J" U	SLOT EMPTY	Ø 5 5A	Ø 6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 8 3A	SLOT EMPTY	Ø 8 3C	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
FILE "J" L		Ø 5 5B	Ø 6 6B				Ø 8 3B		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
1A	TB2-1,2	I1U	56	18	1	1			X		X	
2A	TB2-5,6	I2U	39	1	2	2			X	X	X	
2B	TB2-7,8	I2L	43	5	3	2			X	X	X	
3A	TB7-1,2	J7U	66	32	24	3			X		X	
3B	TB7-3,4	J7L	79	45	25	3	5.0		X		X	
3C	TB7-9,10	J9U	59	21	27	3	15.0		X		X	
4A	TB6-1,2	I7U	65	31	10	4			X		X	
4B	TB6-3,4	I7L	78	44	11	4			X		X	
5A	TB3-5,6	J2U	40	2	16	5			X		X	
5B	TB3-7,8	J2L	44	6	17	5	15.0		X		X	
6A	TB3-9,10	J3U	64	30	18	6			X	X	X	
6B	TB3-11,12	J3L	77	43	19	6			X	X	X	

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

OVERLAP PROGRAMMING

Front Panel
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

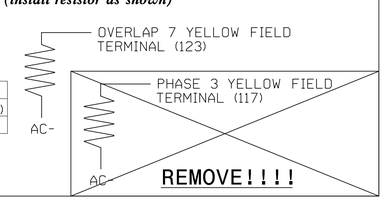
Overlap	4	7
Type	FYA 4 - Section	NORMAL
Included Phases	2	3
Modifier Phases	3	-
Modifier Overlaps	-	-
Trail Green	0	0
Trail Yellow	0.0	0.0
Trail Red	0.0	0.0

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown)

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: 10-0702
DESIGNED: February 2025
SEALED: 08-21-2025
REVISED: N/A

Electrical Detail Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for the Offices of:
Traffic Engineering Division of Mobility and Safety Division
NC Department of Transportation
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 29 (Concord Parkway South)
at
SR 1002 (Cabarrus Avenue)/
The Village Shopping Center

Division 10 Cabarrus County Concord

PLAN DATE: February 2025 REVIEWED BY: KP Baumann
PREPARED BY: SP Pennington REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN
DocuSigned by: 5DC709A8B8C8447...
8/21/2025
DATE
SIG. INVENTORY NO. 10-0702

PLANS PREPARED IN THE OFFICE OF:
Kimley»Horn
NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000

8/20/2025 2:07:44 PM susan.pennington K:\CHL_PRJ\011036427 - U-5956 (Union Cemetery)\Signals\S4 - Signal Design\7.1 100702-2025a.dgn