07/17/2019

CONTRACT: DH00606 TIP PROJECT: BN-0031HB/HS-2608A/HS-2608B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BN-0031HB/HS-2608A/HS-2608B	1	15

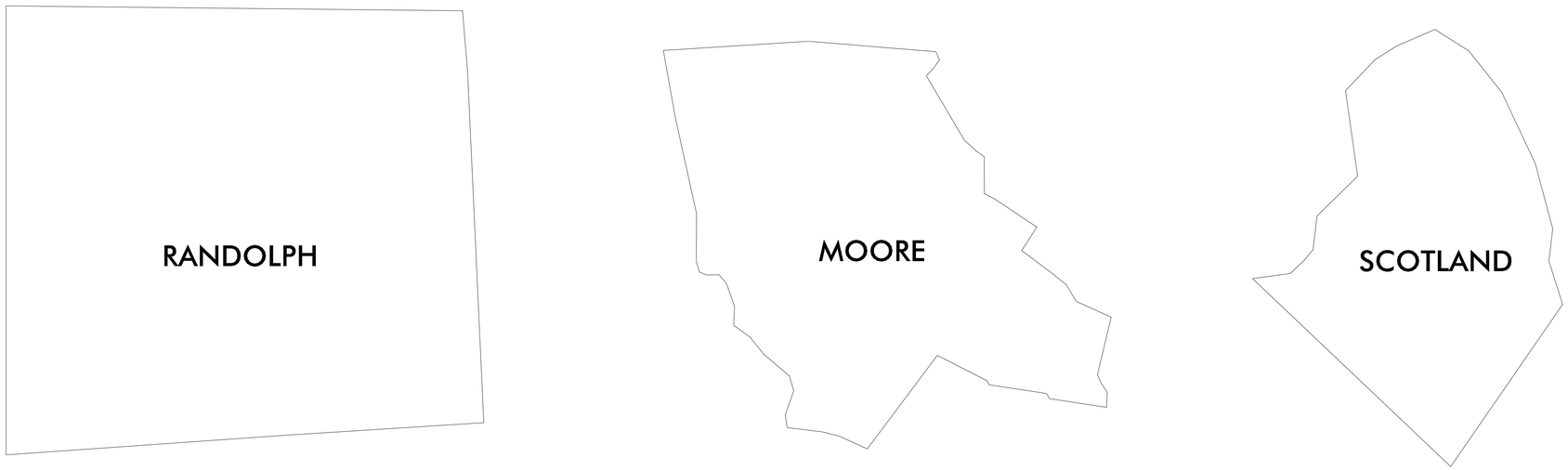
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
52073.08.302	TA08302	CON (BN-0031HB)
51918.3.2	5191802	CON (HS-2608A)
51918.3.3	5191803	CON (HS-2608B)

DIVISIONWIDE



LOCATION: RANDOLPH, MOORE AND SCOTLAND COUNTY

TYPE OF WORK: SIGNAL UPGRADES AND PEDESTRIAN SIGNALS



Prepared in the Office of:
DIVISION OF HIGHWAYS
121 DOT Dr., Carthage, N.C. 28327

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
11/24/2026

GREG DAVIS
PROJECT ENGINEER

PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

PROJECT NO.	SHEET NO.	TOTAL NO.
52073.08.302, 51918.3.2	2	15
51918.3.3		

SUMMARY OF QUANTITIES

				4457000000-N	7048500000-E	7060000000-E	7120000000-E	7132000000-E	7144000000-E	7229000000-N	7230000000-N	7288000000-E	7300000000-E		7324000000-N	7396000000-E	7408000000-E	7420000000-E	7444000000-E	7456100000-E	7642100000-N	7642200000-N	7684000000-N	7696000000-N	7744000000-N	7901000000-N
PROJECT NO	COUNTY	SIGNAL	DESCRIPTION	TEMPORARY TRAFFIC CONTROL	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	SIGNAL CABLE	VEHICLE SIGNAL HEAD (12", 3 SECTION)	VEHICLE SIGNAL HEAD (12", 4 SECTION)	VEHICLE SIGNAL HEAD (12", 5 SECTION)	APS DETECTOR STATION	CENTRAL CONTROL UNIT APS DETECTOR STATION	PAVED TRENCHING (1 CONDUIT, 2 INCH)	UNPAVED TENCHING (1 CONDUIT, 2 INCH)	UNPAVED TRENCHING (1 CONDUIT, 2")	JUNCTION BOX (STANDARD SIZE)	1/2" RISER WITH WEATHERHEAD	1" RISER WITH WEATHERHEAD	2" RISER WITH WEATHERHEAD	INDUCTIVE LOOP SAWCUT	LEAD-IN CABLE (14-2)	TYPE I POST WITH FOUNDATION	TYPE II PEDESTAL WITH FOUNDATION	SIGNAL CABINET FOUNDATION	CONTROLLER WITH CABINET (TYPE 2070LX, BASE MOUNTED)	DETECTOR CARD (TYPE 170)	CABINET BASE EXTENDER
				LS	EA	LF	EA	EA	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA	LF	LF	EA	EA	EA	EA	EA	EA
52073.08.302	Randolph	1	SIGNAL IMPROVEMENT US 220 BUSINESS AND PRITCHARD ST	0.25		750	4	1		6	1		40							350	3			1	5	1
TOTAL FOR MAP NO. 1				**0.25**		**750**	**4**	**1**		**6**	**1**		**40**							**350**	**3**			**1**	**5**	**1**
52073.08.302	Scotland	2	SIGNAL IMPROVEMENT AT ATKINSON ST AND CHURCH ST	0.25	8	1,450	4			8	1			60		1	1	4		1,050		6	1	1	4	1
TOTAL FOR MAP NO. 2				**0.25**	**8**	**1,450**	**4**			**8**	**1**			**60**		**1**	**1**	**4**		**1,050**		**6**	**1**	**1**	**4**	**1**
TOTAL FOR PROJ NO. 52073.08.302				**0.50**	**8**	**2,200**	**8**	**1**		**14**	**2**		**40**	**60**		**1**	**1**	**4**		**1,400**	**3**	**6**	**1**	**2**	**9**	**2**
													100													
51918.3.2	Randolph	3	I-73-74/US 220 RAMP @ NC 42/SR 1004 (W. SALISBURY ST.)	0.25				4																1	8	1
TOTAL FOR MAP NO. 3				**0.25**				**4**																**1**	**8**	**1**
TOTAL FOR PROJ NO. 51918.3.2				**0.25**				**4**																**1**	**8**	**1**
51918.3.3	Moore	4	SR 2080 (S. MAY ST) AT SR 2036 (E. INDIANA AVENUE)	0.25	8	1,100			1	8	1	50		100	5	6			150	1,200		8	1	1	5	1
TOTAL FOR MAP NO. 4				**0.25**	**8**	**1,100**			**1**	**8**	**1**	**50**		**100**	**5**	**6**			**150**	**1,200**		**8**	**1**	**1**	**5**	**1**
TOTAL FOR PROJ NO. 51918.3.3				**0.25**	**8**	**1,100**			**1**	**8**	**1**	**50**		**100**	**5**	**6**			**150**	**1,200**		**8**	**1**	**1**	**5**	**1**
													100													
GRAND TOTAL				**1**	**16**	**3,300**	**8**	**5**	**1**	**22**	**3**	**50**	**40**	**160**	**5**	**7**	**1**	**4**	**150**	**2,600**	**3**	**14**	**2**	**4**	**22**	**4**
													200													

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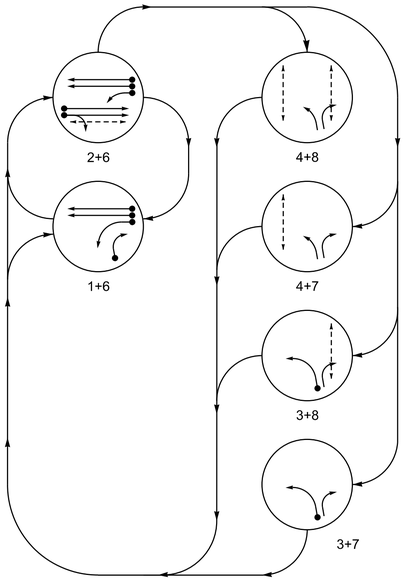
PROJECT REFERENCE NO.	SHEET NO.
BN-0031HB	Sig. 1.0

3 Phase
Fully Actuated
NC 42 (Salisbury St)/
US 220 Bus. (Fayetteville St.) CLS
Signal System #: D08-18_Asheboro

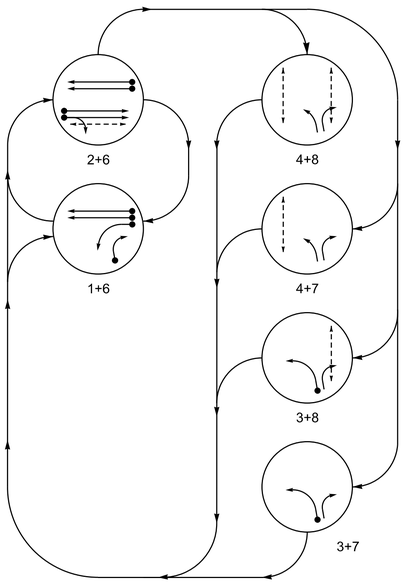
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Omit phase 3 during phase 4 on.
4. Omit phase 7 during phase 8 on.
5. Phase 1 may be lagged.
6. Set all detector units to presence mode.
7. Renumber existing pedestrian signals as shown.
8. Reposition existing signal head numbered 62.
9. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
10. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
12. Replace existing pushbuttons with APS Pushbuttons.
13. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	2+6	4+8	4+7	3+8	3+7	FLASH
11	←	FY	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21,22	R	G	R	R	R	R	R
61,62	G	G	R	R	R	R	R
81,83	~~R~~	~~R~~	FY	FY	←	←	~~R~~
82	→	R	FY	→	FY	→	R
P21,P22	DW	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	W	W	DW	DW	DRK
P81,P82	DW	DW	W	DW	W	DW	DRK

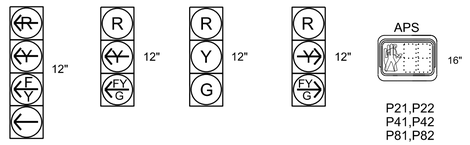
ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	2+6	4+8	4+7	3+8	3+7	FLASH
11	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21,22	R	G	R	R	R	R	R
61,62	G	G	R	R	R	R	R
81,83	~~R~~	~~R~~	FY	FY	←	←	~~R~~
82	→	R	FY	→	FY	→	R
P21,P22	DW	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	W	W	DW	DW	DRK
P81,P82	DW	DW	W	DW	W	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

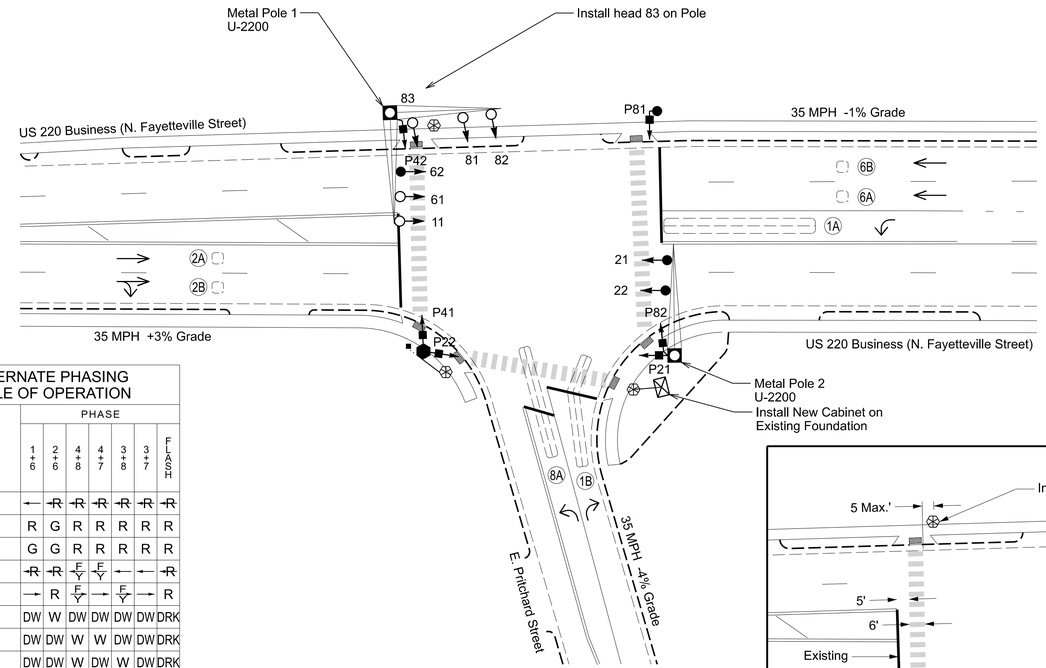
FY/G = Bimodal Section



MAXTIME DETECTOR INSTALLATION CHART

DETECTOR LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD
1A	6X60	0	2-4-2	-	1	15.0★	-	X	-	X	-	X
					6#	-	-	X	-	X	-	X
1B	6X60	+20	2-4-2	-	1	15.0	-	X	-	X	-	X
2A	6X6	70	4	-	2	-	-	X	-	X	-	X
2B	6X6	70	4	-	2	-	-	X	-	X	-	X
6A	6X6	70	4	-	6	-	-	X	-	X	-	X
6B	6X6	70	4	-	6	-	-	X	-	X	-	X
8A	6X60	+25	2-4-2	-	8	3.0	-	X	-	X	-	X

★ Disable delay during alternate phasing.
Disable phase call during alternate phasing.



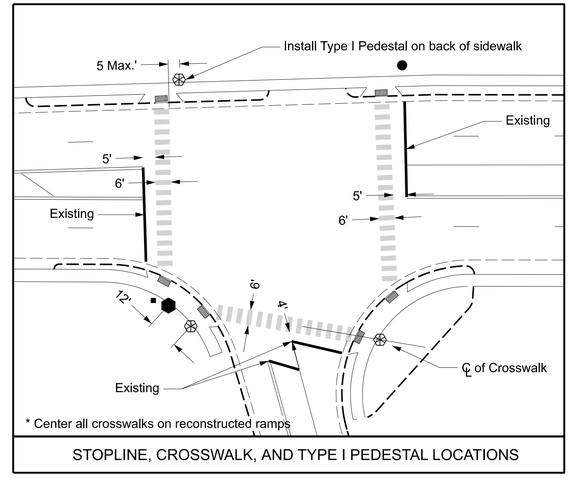
ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21,P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Pritchard.
P41, P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Fayetteville.
P81, P82	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Fayetteville.

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	6	7	8
Walk *	-	7	-	7	-	-	7
Ped Clear	-	14	-	17	-	-	20
Min Green *	7	10	7	7	10	7	7
Passage *	1.0	3.0	1.0	1.0	3.0	1.0	1.0
Max 1 *	20	70	20	20	70	20	20
Yellow Change	3.0	3.9	3.0	3.0	3.9	3.0	3.0
Red Clear	2.9	2.0	2.9	2.9	2.0	2.9	2.9
Added Initial *	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-
Time Before Reduction *	-	-		-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-
Advance Walk	-	6	-	5	-	-	7
Non Lock Detector	X	-	X	X	-	X	X
Vehicle Recall	-	MIN RECALL	-	-	MIN RECALL	-	-
Dual Entry	-	-	X	-	-	X	-

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



STOPLINE, CROSSWALK, AND TYPE I PEDESTAL LOCATIONS

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Metal Pole with Mastarm	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
X-UC	2-in Underground Conduit	UC
N/A	Right of Way	
	Directional Arrow	
	Type I Pushbutton Post	
	Type II Signal Pedestal	

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Stantec
Stantec Consulting Services Inc.
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License No. F-0672

Prepared in the Offices of:
Transportation Mobility and Safety Division
750 N. Greenfield Pkwy, Garner, NC 27529

US 220 Bus. (N. Fayetteville St)
at
E. Pritchard Street

Division 8	Randolph County	Asheboro
PLAN DATE: February 2026	REVIEWED BY: R Muncey	
PREPARED BY: J Galloway	REVIEWED BY:	

SCALE 0 30 1"=30'

REVISIONS	INIT.	DATE

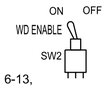
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY
Signed by: Jason Galloway 7/9/2026
DATE
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SIG. INVENTORY NO. 08-0126

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jgalloway

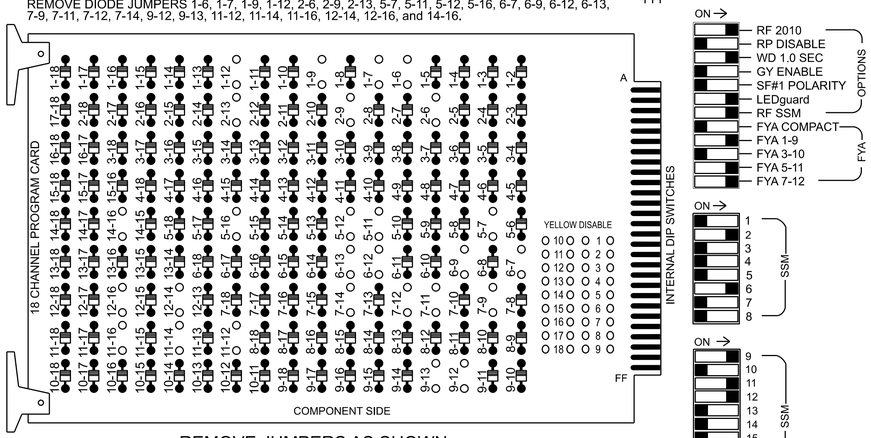
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18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-6, 1-7, 1-9, 1-12, 2-6, 2-9, 2-13, 5-7, 5-11, 5-12, 5-16, 6-7, 6-9, 6-12, 6-13, 7-9, 7-11, 7-12, 7-14, 9-12, 9-13, 11-12, 11-14, 11-16, 12-14, 12-16, and 14-16.



■ = DENOTES POSITION OF SWITCH

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.

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 3 and 7 for Dual Entry.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the NC 42 (Salisbury St)/US 220 Bus. (Fayetteville St.) CLS.

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, S6, S7, S8, S10, S12, AUX S1, AUX S4, AUX S5
Phases Used.....1, 2, 2PED, 3**, 4**, 4PED, 6, 7**, 8**, 8PED
Overlap "1".....*
Overlap "2".....NOT USED
Overlap "3".....*
Overlap "4".....*
Overlap "7".....*
Overlap "8".....*

*See overlap programming detail on sheet 2
**Phases used for timing purposes only

PROJECT REFERENCE NO.	SHEET NO.
BN-0031HB	Sig. 1.1

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	OL7	6	6 PED	OL8	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11★	21,22	P21, P22	NC	NC	P41, P42	81,83★	61,62	NU	82★	NC	P81, P82	11★	NU	NU	81,83★	82★	NU
RED		128						134								A114	A101	
YELLOW	*	129					*	135		*								
GREEN		130						136										
RED ARROW													A121					
YELLOW ARROW													A122			A115	A102	
FLASHING YELLOW ARROW													A123			A116	A103	
GREEN ARROW	127						133			124								
✋			113			104						110						
🚶			115			106						112						

NU = Not Used
NC = Not Connected
★ Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail this sheet.

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.

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 1 1B	ø 2 2A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	ø 2 PED DC ISOLATOR	NOT USED	FS DC ISOLATOR
	L	NOT USED	NOT USED	ø 2 2B									ø 4 PED DC ISOLATOR	ø 8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	ø 6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	ø 8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L		ø 6 6B				NOT USED								

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

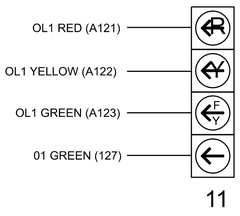
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1	15.0		X		X	
				-	29	6			X		X	
1B	TB2-5,6	I2U	39	1	2	1	15.0		X		X	
2A	TB2-9,10	I3U	63	29	4	2			X		X	
2B	TB2-11,12	I3L	76	42	5	2			X		X	
6A	TB3-5,6	J2U	40	2	16	6			X		X	
6B	TB3-7,8	J2L	44	6	17	6			X		X	
8A	TB5-9,10	J6U	42	4	22	8	3.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

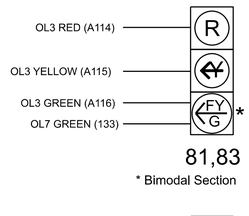
NOTE: INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

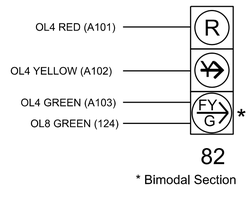
INPUT FILE POSITION LEGEND: J2L
J = FILE
2 = SLOT
L = LOWER

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



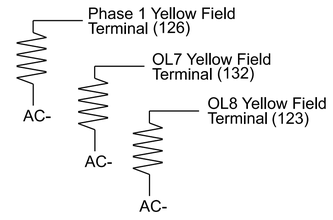




LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0126
DESIGNED: Feb. 2026
SEALED: 7/9/2026
REVISED:

Electrical Detail - Sheet 1 of 3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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www.stantec.com
License No. F-0672

Electrical and Programming Details For:

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

US 220 Bus. (N. Fayetteville St)
at
E. Pritchard Street

Division 8 | Randolph County | Asheboro

PLAN DATE: February 2026	REVIEWED BY: R Muncey
PREPARED BY: J Galloway	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY
Signed by: Jason Galloway 7/9/2026
10D1E2B40B464BE...
DATE

SIG. INVENTORY NO. 08-0126

9-JUL-2026 08:59
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PROJECT REFERENCE NO.	SHEET NO.
BN-0031HB	Sig. 1.2

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Overlap	7		X		5
6	Phase Vehicle	6		X	X	6
7	Overlap	8		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

NOTE OL7 ASSIGNED TO CH. 5 → row 5
NOTE OL8 ASSIGNED TO CH. 7 → row 7

SEQUENCE DETAIL

Front Panel
Main Menu >Controller >Sequence & Phs Config>Sequences

Web Interface
Home >Controller >Sequence

Sequence 1

Ring	Sequence Data
1	1,2,a,4,3,b
2	6,a,8,7,b

MAXTIME OVERLAP PROGRAMMING DETAIL FOR DEFAULT PHASING

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

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1 (11)	3 (81,83)	4 (82)	7 (81,83 green)	8 (82 green)
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	Normal	Normal
Included Phases	2	4	8	3	1,7
Modifier Phases	1	3	7	-	-
Modifier Overlaps	-	-	-	-	-
Trail Green	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0

MAXTIME OVERLAP PROGRAMMING DETAIL FOR ALTERNATE PHASING

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

Web Interface
Home >Controller >Overlap Configuration >Overlaps

In the table view of the web interface, right click on "Overlap" in the top left corner of the table. Copy the entire contents of Overlap Plan 1. Paste Overlap Plan 1 into Overlap Plan 2. Modify Overlap Plan 2 as shown below and save changes.

Overlap Plan 2

Overlap	1	3	4	7	8
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	Normal	Normal
Included Phases	-	4	8	3	1,7
Modifier Phases	1	3	7	-	-
Modifier Overlaps	-	-	-	-	-
Trail Green	0	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0	0.0

← NOTICE INCLUDED PHASE

ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES

1. Install push buttons and APS equipment per manufacturer's instructions.
2. Provide a dedicated cable to each push button per manufacturer's instructions.
3. If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
4. Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
6. An APS push button station that is designed to work without the need for interfacing with a pedestrian signal head shall be installed for applications where a push button is installed in a median without a pedestrian signal head.
7. A push button with a single tactile arrow that points in both directions of travel shall be installed if the median separates two parallel crosswalks.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0126
DESIGNED: Feb. 2026
SEALED: 7/9/2026
REVISED:

Electrical Detail - Sheet 2 of 3

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Electrical and Programming Details For:

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

US 220 Bus. (N. Fayetteville St)
at
E. Pritchard Street

Division 8 | Randolph County | Asheboro

PLAN DATE: February 2026	REVIEWED BY: R Muncey
PREPARED BY: J Galloway	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

Signed by: Jason Galloway 7/9/2026
DocuSigned by: 1D01E2B4BAB8ABE... DATE

SIG. INVENTORY NO. 08-0126

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PROJECT REFERENCE NO.	SHEET NO.
BN-0031HB	Sig. 1.3

MAXTIME ALTERNATE PHASING ACTIVATION DETAIL

To run alternate phasing, select a Pattern that is programmed to run Overlap Plan 2 and Detector Plan 2.
A Pattern can be selected through the scheduler or manually by changing the Operational Mode.

PHASING	OVERLAP PLAN	VEH DET PLAN
ACTIVE PLAN REQUIRED TO RUN DEFAULT PHASING	1	1
ACTIVE PLAN REQUIRED TO RUN ALTERNATE PHASING	2	2

ALTERNATE PHASING CHANGE SUMMARY

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN OVERLAP PLAN 2 AND VEHICLE DETECTOR PLAN 2 ACTIVATE TO CALL THE "ALTERNATE PHASING":

OVERLAP PLAN 2: Modifies overlap included phases for heads 11 to run protected turns only.

VEH DET PLAN 2: Disables phase 6 call on loop 1A and reduces delay time for phase 1 call on loop 1A to 0 seconds.

MAXTIME DETECTOR PROGRAMMING DETAIL FOR ALTERNATE PHASING LOOPS 1A

Front Panel
Main Menu >Controller >Detector >Veh Det Plans

Web Interface
Home >Controller >Detector Configuration >Vehicle Detectors

In the table view of web interface right click on "Detector" in the top left corner of the table. Copy the entire contents of Detector Plan 1. Paste Detector Plan 1 into Detector Plan 2. Modify Detector Plan 2 as shown below and save changes.

Plan 2

1A

Detector	Call Phase	Delay
1	1	0.0
29	0	-

LOGIC PROCESSOR PROGRAMMING

Front Panel
Main Menu >Controller >More >User Programs >Definition

Web Interface
Home >Controller >User Programs Configuration >User Programs Definition

Program 1

Statement	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext
1	Phase Phase Omit	3	Result=A	Phase On	4	-	-	0.0	0.0
2	Phase Phase Omit	7	Result=A	Phase On	8	-	-	0.0	0.0

LOGIC STATEMENT DESCRIPTION

Statement 1 Description: Prevents Phase 3 from running during the current cycle if Phase 4 is being served.

Statement 2 Description: Prevents Phase 7 from running during the current cycle if Phase 3 is being served.

MAXTIME ALTERNATE PHASING PATTERN PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Coordination >Patterns

Web Interface
Home >Controller >Coordination >Patterns

Pattern Parameters

Pattern	Veh Det Plan	Overlap Plan
*	2	2

*The Pattern number(s) are to be determined by the Division and/or City Traffic Engineer.

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THE SIGNAL DESIGN: 08-0126
DESIGNED: Feb. 2026
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Electrical Detail - Sheet 3 of 3

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US 220 Bus. (N. Fayetteville St)
at
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Division 8 | Randolph County | Asheboro

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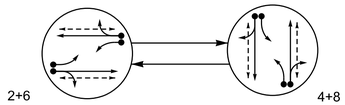
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BN-0031HB	Sig. 2.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

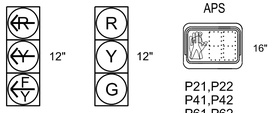
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 2+6	PHASE 4+8	FLASH
21	CY	~~R~~	~~R~~
22,23	G	R	R
41	~~R~~	CY	~~R~~
42,43	R	G	R
61	CY	~~R~~	~~R~~
62,63	G	R	R
81	~~R~~	CY	~~R~~
82,83	R	G	R
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK
P61,P62	W	DW	DRK
P81,P82	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



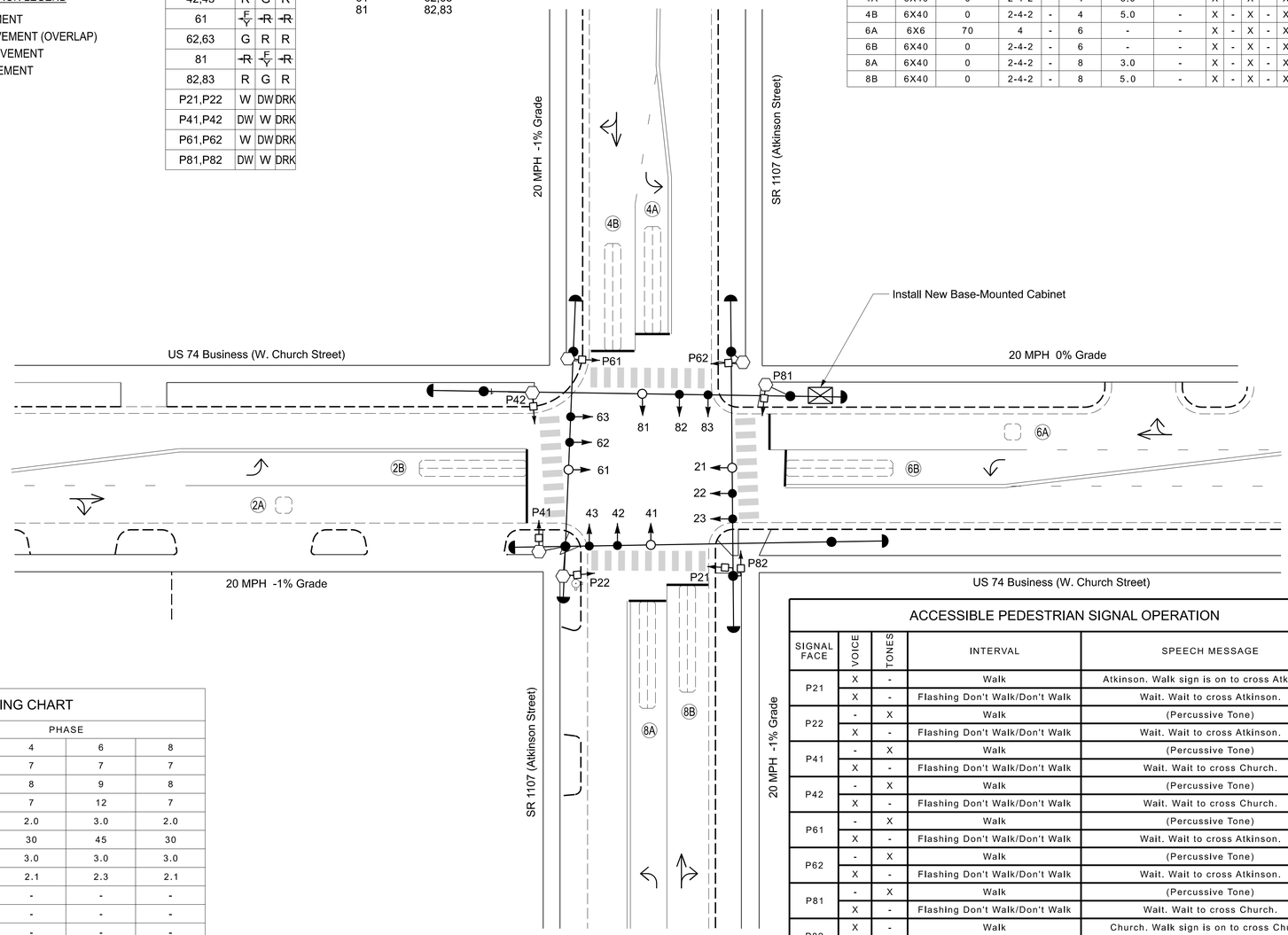
MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD
2A	6X6	70	4	-	2	-	-	X	-	X	-	X
2B	6X40	0	2-4-2	-	2	-	-	X	-	X	-	X
4A	6X40	0	2-4-2	-	4	3.0	-	X	-	X	-	X
4B	6X40	0	2-4-2	-	4	5.0	-	X	-	X	-	X
6A	6X6	70	4	-	6	-	-	X	-	X	-	X
6B	6X40	0	2-4-2	-	6	-	-	X	-	X	-	X
8A	6X40	0	2-4-2	-	8	3.0	-	X	-	X	-	X
8B	6X40	0	2-4-2	-	8	5.0	-	X	-	X	-	X

2 Phase
Fully Actuated
US 15-401-501 Bus (Laurinburg) Syst 2 CLS
Signal System #: D08-19_Laurinburg

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Reposition existing signal heads numbered 22, 23, 42, 43, 62, 63, 82, and 83.
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Center 6' high visibility crosswalks on reconstructed ramps. Stop lines are existing.



ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21	X	-	Walk	Atkinson. Walk sign is on to cross Atkinson.
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkinson.
P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkinson.
P41	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Church.
P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Church.
P61	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkinson.
P62	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Atkinson.
P81	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Church.
P82	X	-	Walk	Church. Walk sign is on to cross Church.
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Church.

MAXTIME TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Walk *	7	7	7	7
Ped Clear	9	8	9	8
Min Green *	12	7	12	7
Passage *	3.0	2.0	3.0	2.0
Max 1 *	45	30	45	30
Yellow Change	3.0	3.0	3.0	3.0
Red Clear	2.3	2.1	2.3	2.1
Added Initial *	-	-	-	-
Maximum Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Advance Walk	4	4	4	4
Non Lock Detector	-	X	-	X
Vehicle Recall	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	X	-	X

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
X-UC	2-in Underground Conduit	UC
N/A	Right of Way	
	Directional Arrow	
	Type II Signal Pedestal	

Signal Upgrade

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

SCALE 0 20 1"=20'

US 74 Business (W Church Street)
at
SR 1107 (Atkinson Street)

Division 8	Scotland County		Laurinburg
PLAN DATE:	February 2026	REVIEWED BY:	R Muncey
PREPARED BY:	J Galloway	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

Signed by:
Jason Galloway 7/9/2026
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SIG. INVENTORY NO. 08-0203

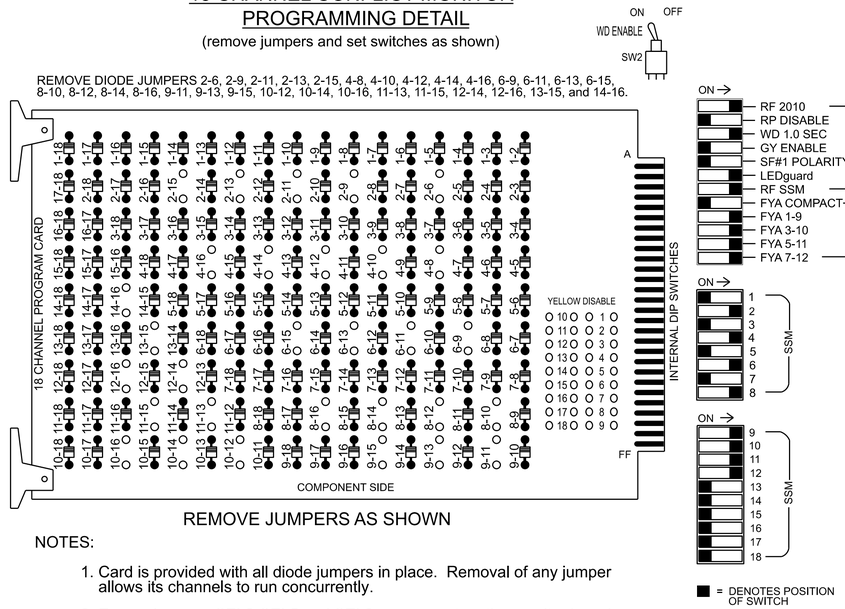
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PROJECT REFERENCE NO.	SHEET NO.
BN-0031HB	Sig. 2.1

18 CHANNEL 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 the 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. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the US 15-401-501 Bus (Laurinburg) Syst 2 CLS.

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.....S2, S3, S5, S6, S8, S9, S11, S12
AUX S1, AUX S2, AUX S4, AUX S5
Phases Used.....2, 2PED, 4, 4PED, 6, 6PED, 8, 8PED
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*

*See overlap programming detail on sheet 2

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	22,23	P21, P22	NU	42,43	P41, P42	NU	62,63	P61, P62	NU	82,83	P81, P82	61★	81★	NU	21★	41★	NU
RED		128			101			134			107							
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW													A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW																		
✋			113		104			119			110							
🚶			115		106			121			112							

NU = Not Used
*Denotes install load resistor. See load resistor installation detail this sheet.
★See pictorial of head wiring in detail this sheet.

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.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	Ø 2 2A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø2 PED DC ISOLATOR	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L		Ø 2 2B				Ø 4 4B						Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	Ø 6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L		Ø 6 6B				Ø 8 8B								

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

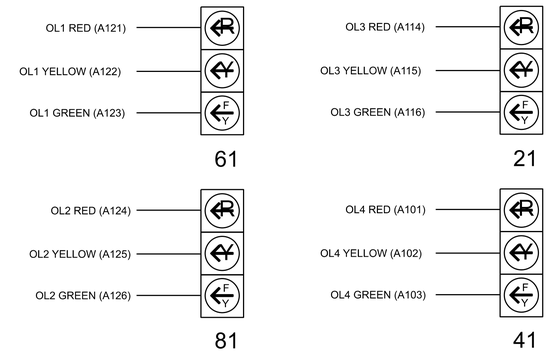
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
2A	TB2-5,6	I2U	39	1	2	2			X		X	
2B	TB2-7,8	I2L	43	5	3	2			X		X	
4A	TB4-9,10	I6U	41	3	8	4	3.0		X		X	
4B	TB4-11,12	I6L	45	7	9	4	5.0		X		X	
6A	TB3-5,6	J2U	40	2	16	6			X		X	
6B	TB3-7,8	J2L	44	6	17	6			X		X	
8A	TB5-9,10	J6U	42	4	22	8	3.0		X		X	
8B	TB5-11,12	J6L	46	8	23	8	5.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

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

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0203
DESIGNED: Feb. 2026
SEALED: 7/9/2026
REVISED:

Electrical Detail - Sheet 1 of 2

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US 74 Business (Church Street)
at
SR 1107 (Atkinson Street)

Division 8 | Scotland County | Laurinburg

PLAN DATE:	February 2026	REVIEWED BY:	R Muncey
PREPARED BY:	J Galloway	REVIEWED BY:	

REVISIONS	INIT.	DATE

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MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

NOTE FLASH RED

OVERLAP PROGRAMMING

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

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	-	-	-	-
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES

1. Install push buttons and APS equipment per manufacturer's instructions.
2. Provide a dedicated cable to each push button per manufacturer's instructions.
3. If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
4. Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
6. An APS push button station that is designed to work without the need for interfacing with a pedestrian signal head shall be installed for applications where a push button is installed in a median without a pedestrian signal head.
7. A push button with a single tactile arrow that point in both directions of travel shall be installed if the median separates two parallel crosswalks.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0203
DESIGNED: Feb. 2026
SEALED: 7/9/2026
REVISED:

Electrical Detail - Sheet 2 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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License No. F-0672

Electrical and Programming Details For:

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

US 74 Business (Church Street)
at
SR 1107 (Atkinson Street)

Division 8 | Scotland County | Laurinburg

PLAN DATE:	February 2026	REVIEWED BY:	R Muncey
PREPARED BY:	J Galloway	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

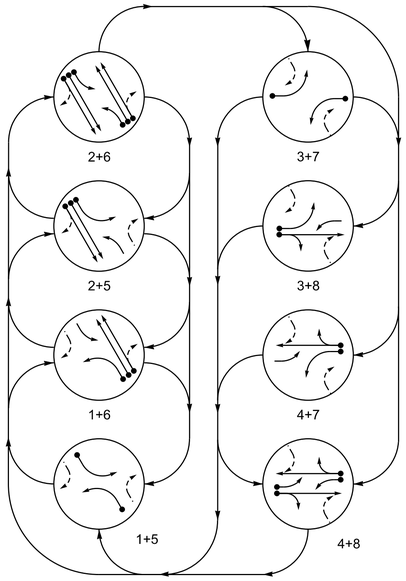
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SIG. INVENTORY NO. 08-0203

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PROJECT REFERENCE NO.	SHEET NO.
HS-2608A	Sig. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

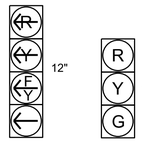
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	3+7	3+8	4+7	4+8	LEAD/LAG
11	—	—	FY	FY	R	R	R	R	R
21, 22	R	R	G	G	R	R	R	R	R
31	R	R	R	R	—	—	FY	FY	R
41, 42	R	R	R	R	R	R	G	G	R
51	—	FY	—	FY	R	R	R	R	R
61, 62	R	G	R	G	R	R	R	R	R
71	R	R	R	R	—	FY	—	FY	R
81, 82	R	R	R	R	R	G	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



11
31
51
71

21, 22
41, 42
61, 62
81, 82

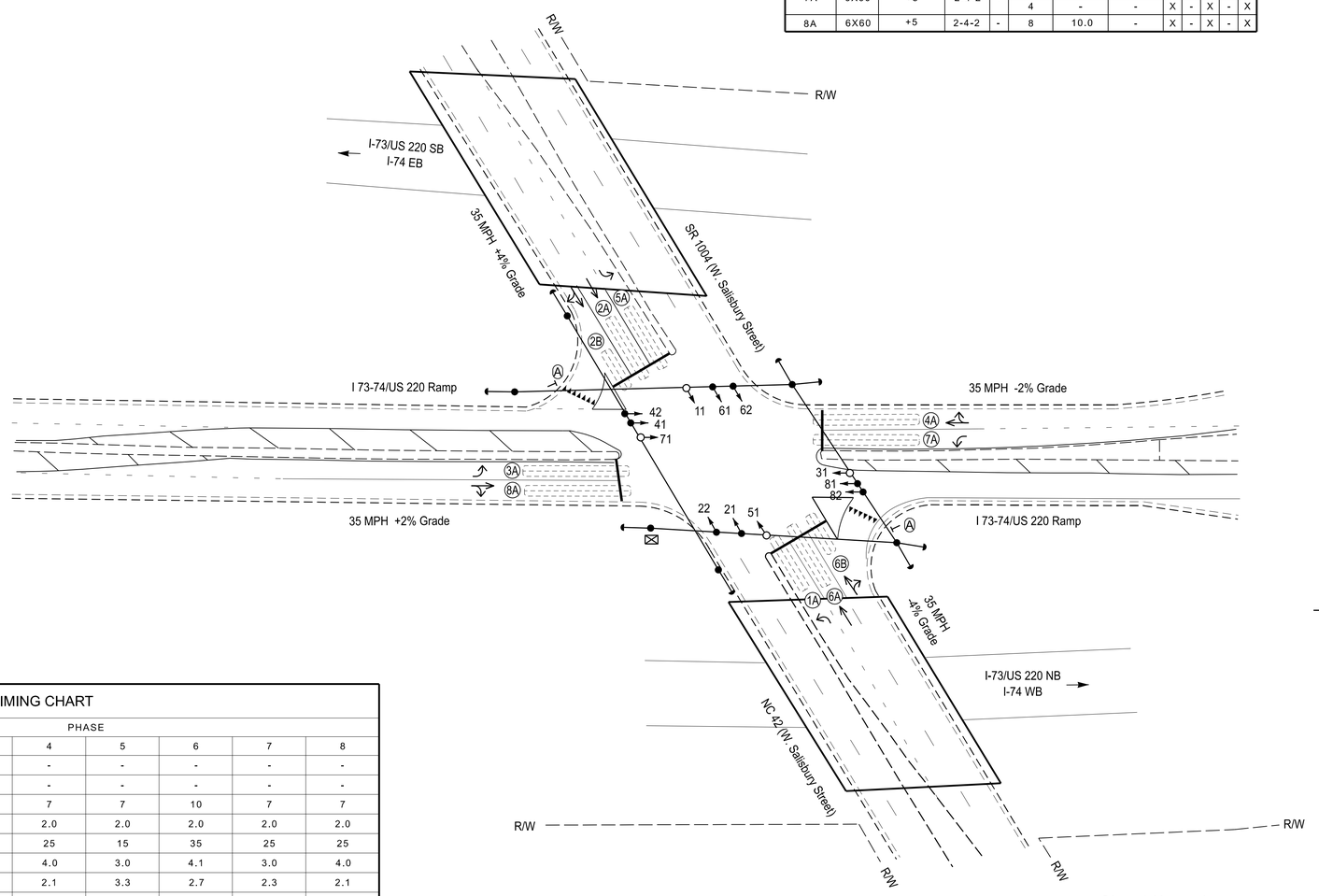
MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN	NEW CARD
1A	6X35	+5	2-4-2	-	1	15.0	-	X	-	X -	X
					6	-	-	X	-	X -	X
2A	6X40	+5	2-4-2	-	2	-	-	X	-	X -	X
2B	6X25	+5	2-4-2	-	2	-	-	X	-	X -	X
3A	6X60	+5	2-4-2	-	3	15.0	-	X	-	X -	X
					8	-	-	X	-	X -	X
4A	6X60	+5	2-4-2	-	4	10.0	-	X	-	X -	X
5A	6X40	+5	2-4-2	-	5	15.0	-	X	-	X -	X
					2	-	-	X	-	X -	X
6A	6X40	+5	2-4-2	-	6	-	-	X	-	X -	X
6B	6X25	+5	2-4-2	-	6	-	-	X	-	X -	X
7A	6X60	+5	2-4-2	-	7	15.0	-	X	-	X -	X
					4	-	-	X	-	X -	X
8A	6X60	+5	2-4-2	-	8	10.0	-	X	-	X -	X

8 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition all existing signal heads.
6. Renumber existing phases, loops, and signal heads as shown.
7. Set all detector units to presence mode.
8. In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
9. Install new cabinet on existing foundation.
10. Pavement markings are existing.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
X-UC	2-in Underground Conduit	UC
N/A	Right of Way	
	Directional Arrow	
A	"YIELD" Sign (R1-2)	A

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	-	-	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-	-	-
Min Green *	7	10	7	7	7	10	7	7
Passage *	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max 1 *	15	35	25	25	15	35	25	25
Yellow Change	3.0	4.1	3.0	4.0	3.0	4.1	3.0	4.0
Red Clear	3.4	2.7	2.4	2.1	3.3	2.7	2.3	2.1
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Advance Walk	-	-	-	-	-	-	-	-
Non Lock Detector	X	X	X	X	X	X	X	X
Vehicle Recall	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Dual Entry	-	-	-	X	-	-	-	X

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

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

NC 42/SR 1004 (W. Salisbury Street)
at
I-73-74/US 220 Ramps

Division 8 | Randolph County | Asheboro

PLAN DATE: April 2026 | REVIEWED BY:
PREPARED BY: C.E. Carter | REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

Signed by: 06/15/2026
DEPARTMENT APPROVER DATE

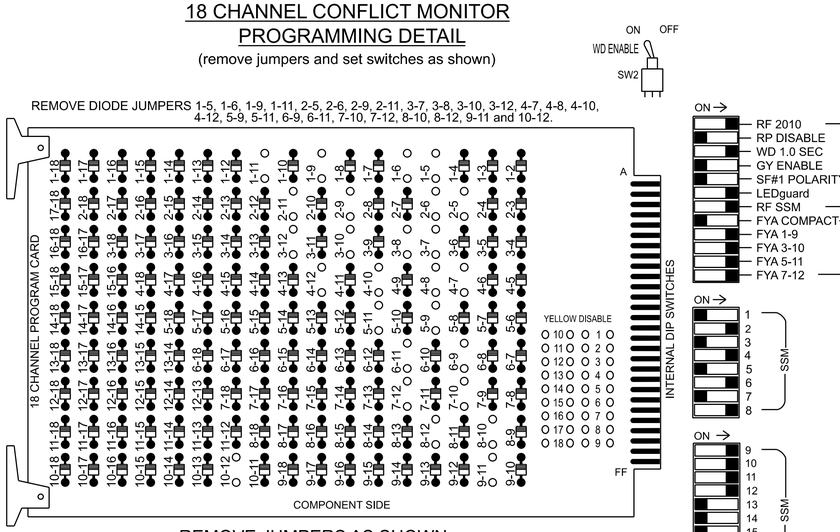
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jtpeterson

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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. 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. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

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, S11, AUX S1, AUX S2, AUX S4, AUX S5
Phases Used.....1, 2, 3, 4, 5, 6, 7, 8
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*

*See overlap programming detail on sheet 2

PROJECT REFERENCE NO.	SHEET NO.
HS-2608A	Sig. 2

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	OL7	2	2 PED	3	4	4 PED	OL8	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	11★	21,22	NU	31★	41,42	NU	51★	61,62	NU	71★	81,82	NU	11★	31★	NU	51★	71★	NU
RED		128			101			134			107							
YELLOW	*	129		*	102		*	135		*	108							
GREEN		130			103			136			109							
RED ARROW													A121	A124		A114	A101	
YELLOW ARROW													A122	A125		A115	A102	
FLASHING YELLOW ARROW													A123	A126		A116	A103	
GREEN ARROW	127			118			133			124								

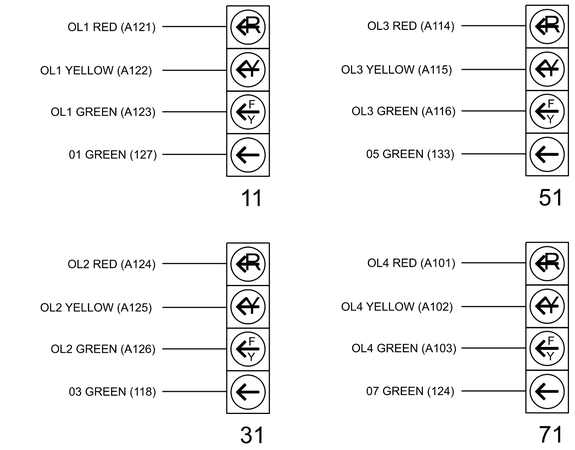
NU = Not Used

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

★See pictorial of head wiring in 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	1O	11	12	13	14
FILE "I"	U	ø 1	ø 2	SLOT EMPTY	SLOT EMPTY	ø 3	ø 4	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
		1A	2A			3A	4A								
	L	NOT USED	ø 2 2B			NOT USED	NOT USED								ST DC ISOLATOR
FILE "J"	U	ø 5	ø 6	SLOT EMPTY	SLOT EMPTY	ø 7	ø 8	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
		5A	6A			7A	8A								
	L	NOT USED	ø 6 6B			NOT USED	NOT USED								

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

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

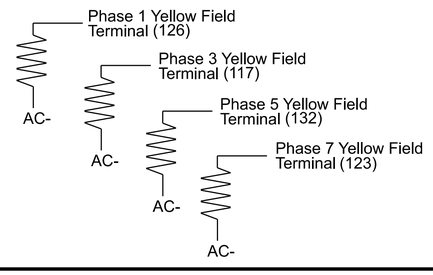
LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1	15.0		X		X	
				-	29	6			X		X	
2A	TB2-5,6	I2U	39	1	2	2			X		X	
2B	TB2-7,8	I2L	43	5	3	2			X		X	
3A	TB4-5,6	I5U	58	20	7	3	15.0		X		X	
				-	30	8			X		X	
4A	TB4-9,10	I6U	41	3	8	4	10.0		X		X	
5A	TB3-1,2	J1U	55	17	15	5	15.0		X		X	
				-	31	2			X		X	
6A	TB3-5,6	J2U	40	2	16	6			X		X	
6B	TB3-7,8	J2L	44	6	17	6			X		X	
7A	TB5-5,6	J5U	57	19	21	7	15.0		X		X	
				-	32	4			X		X	
8A	TB5-9,10	J6U	42	4	22	8	10.0		X		X	

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

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)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0147
DESIGNED: April 2026
SEALED: 6-15-26
REVISED: N/A

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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section

750 N. Greenfield Pkwy, Garner, NC 27529

NC 42/SR 1004 (W. Salisbury Street)
at
I-73-74/US 220 Ramps

Division 8 | Randolph County | Asheboro

PLAN DATE: June 2026 | REVIEWED BY:

PREPARED BY: James Peterson | REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 06/16/2026
SIGNATURE DATE

SIG. INVENTORY NO. 08-0147

PROJECT REFERENCE NO.	SHEET NO.
HS-2608A	Sig. 3

OVERLAP PROGRAMMING

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

Web Interface
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

Overlap	1	2	3	4
Type	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section	FYA 4 - Section
Included Phases	2	4	6	8
Modifier Phases	1	3	5	7
Modifier Overlaps	-	-	-	-
Trail Green	0	0	0	0
Trail Yellow	0.0	0.0	0.0	0.0
Trail Red	0.0	0.0	0.0	0.0

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0147
DESIGNED: April 2026
SEALED: 6-15-26
REVISED: N/A

Electrical Detail - Sheet 2 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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Traffic Engineering Branch
Signals Management Section

750 N. Greenfield Pkwy, Garner, NC 27529

NC 42/SR 1004 (W. Salisbury Street)
at
I-73-74/US 220 Ramps

Division 8 | Randolph County | Asheboro

PLAN DATE: June 2026 | REVIEWED BY:
PREPARED BY: James Peterson | REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

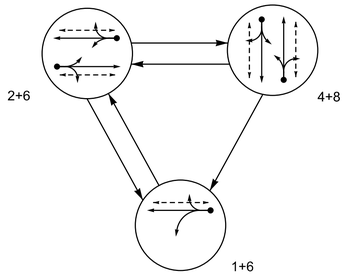
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SIG. INVENTORY NO. 08-0147

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jtpeterson

PROJECT REFERENCE NO.	SHEET NO.
HS-2608B	Sig. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.

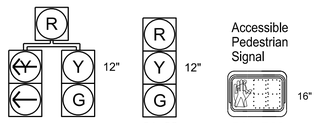
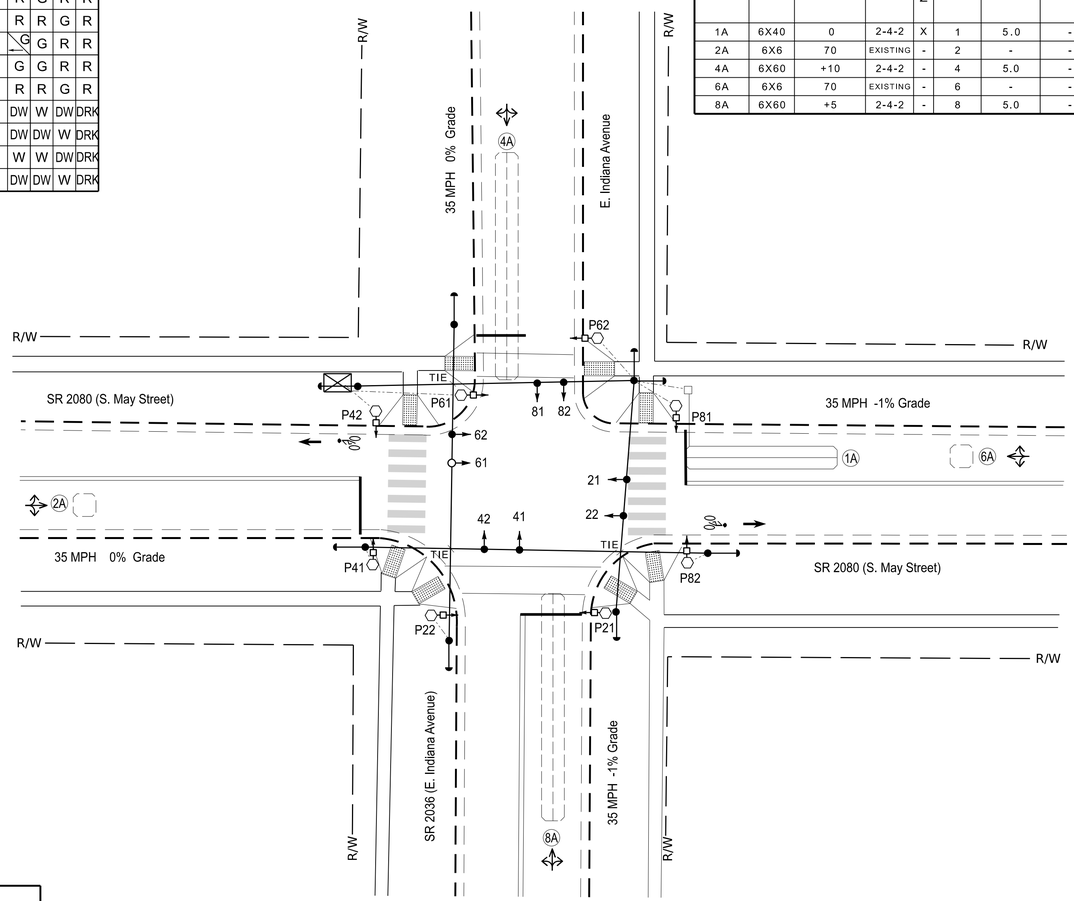


TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	2+6	4+8	FLASH
21, 22	R	G	R	R
41, 42	R	R	G	R
61	G	G	R	R
62	G	G	R	R
81, 82	R	R	G	R
P21, P22	DW	W	DW	DRK
P41, P42	DW	DW	W	DRK
P61, P62	W	W	DW	DRK
P81, P82	DW	DW	W	DRK



MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL DELAY DURING GREEN		NEW CARD
1A	6X40	0	2-4-2	X	1	5.0	-	X	-	X	-	X
2A	6X6	70	EXISTING	-	2	-	-	X	-	X	-	X
4A	6X60	+10	2-4-2	-	4	5.0	-	X	-	X	-	X
6A	6X6	70	EXISTING	-	6	-	-	X	-	X	-	X
8A	6X60	+5	2-4-2	-	8	5.0	-	X	-	X	-	X

3 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Enable Backup Prevent for phase 6 to allow the controller to clear from phase 2+6 to phase 1+6 by progressing through an all red display.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current TSMO Design Manual and submit a Plan of Record to the Signal Design Section.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
10. Pavement markings are existing.

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	4	6	8
Walk *	-	7	7	7	7
Ped Clear	-	8	5	5	5
Min Green *	7	15	7	15	7
Passage *	2.0	3.0	1.0	3.0	1.0
Max 1 *	20	45	35	45	35
Yellow Change	3.0	3.9	3.9	3.9	3.9
Red Clear	2.1	1.4	1.3	1.4	1.3
Red Revert	2.0	2.0	2.0	5.0	2.0
Added Initial *	-	-	-	-	-
Maximum Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Advance Walk	-	-	4	5	5
Non Lock Detector	-	-	X	-	X
Vehicle Recall	-	MIN RECALL	-	MIN RECALL	-
Dual Entry	-	-	X	-	X

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

ACCESSIBLE PEDESTRIAN SIGNAL OPERATION

SIGNAL FACE	VOICE	TONES	INTERVAL	SPEECH MESSAGE
P21	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Indiana.
P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Indiana.
P41	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross May.
P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross May.
P61	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Indiana.
P62	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross Indiana.
P81	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross May.
P82	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk/Don't Walk	Wait. Wait to cross May.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
X-UC	2-in Underground Conduit	UC
N/A	Right of Way	
	Directional Arrow	
N/A	Curb Ramp	
	Type II Signal Pedestal	

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SR 2080 (S. May Street)
at
SR 2036 (E. Indiana Avenue)

Division 8 | Moore County | Southern Pines

PLAN DATE:	April 2026	REVIEWED BY:	
PREPARED BY:	C.E. Carter	REVIEWED BY:	

SCALE 0 20 1"= 20'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

Signed by: 07/06/2026
DF430F2F16BA468...
DATE

SIG. INVENTORY NO. 08-0562

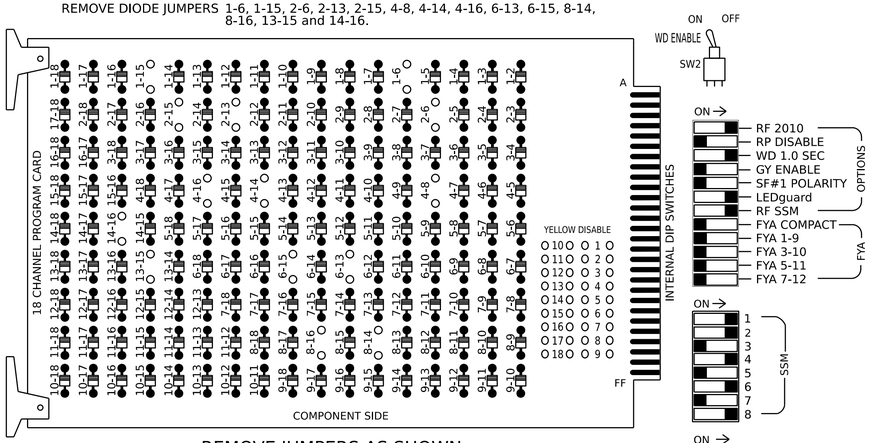
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PROJECT REFERENCE NO.	SHEET NO.
HS-2608B	Sig. 2

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-6, 1-15, 2-6, 2-13, 2-15, 4-8, 4-14, 4-16, 6-13, 6-15, 8-14, 8-16, 13-15 and 14-16.



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. 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 vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program phases 2, 4, 6 and 8 for Simultaneous Start.
4. Program controller to start up in phase 2 Green No Walk and 6 Green No Walk.
5. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

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, S5, S6, S8, S9, S11, S12
Phases Used.....1, 2, 2PED, 4, 4PED, 6, 6PED, 8, 8PED
Overlap..... NONE

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.	61	21,22	P21, P22	NU	41,42	P41, P42	NU	61,62	P61, P62	NU	81,82	P81, P82	NU	NU	NU	NU	NU	NU
RED	*	128			101			134			107							
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW																		
YELLOW ARROW	126																	
FLASHING YELLOW ARROW																		
GREEN ARROW	127																	
✋			113			104			119			110						
🚶			115			106			121			112						

NU = Not Used
*Denotes install load resistor. See LOAD RESISTOR INSTALLATION DETAIL this sheet.

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	Ø 2	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	Ø 2 PED	Ø 6 PED	FS
		1A	2A	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	DC ISOLATOR	DC ISOLATOR	DC ISOLATOR
	L	NOT USED	Ø 4										Ø 4 PED	Ø 8 PED	ST
			4A										DC ISOLATOR	DC ISOLATOR	DC ISOLATOR
FILE "J"	U	SLOT	Ø 6	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT
		EMPTY	6A	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
	L		Ø 8												
			8A												

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	5.0		X		X	
2A	TB2-5,6	I2U	39	1	2	2			X		X	
4A	TB2-7,8	I2L	43	5	3	4	5.0		X		X	
6A	TB3-5,6	J2U	40	2	16	6			X		X	
8A	TB3-7,8	J2L	44	6	17	8	5.0		X		X	
PED PUSH BUTTONS												
P21,P22	TB8-4,6	I12U	67	33	2	PED 2						
P41,P42	TB8-5,6	I12L	69	35	4	PED 4						
P61,P62	TB8-7,9	I13U	68	34	6	PED 6						
P81,P82	TB8-8,9	I13L	70	36	8	PED 8						

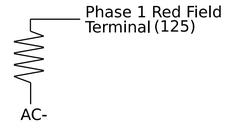
NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

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: 08-0562
DESIGNED: April 2026
SEALED: 07/06/2026
REVISED: N/A

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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals & Systems Management Unit

750 N. Greenfield Pkwy, Garner, NC 27529

SR 2080 (S. May Street)
at
SR 2036 (E. Indiana Avenue)

Division 8 | Moore County | Southern Pines

PLAN DATE: June 2026 | REVIEWED BY:
PREPARED BY: Tim Langston | REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce A90CAFDE0BD8410...
07/06/2026
DATE

SIG. INVENTORY NO. 08-0562

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tslangston

PROJECT REFERENCE NO.	SHEET NO.
HS-2608B	Sig. 3

MAXTIME STARTUP AND SOFTWARE FLASH PROGRAMMING DETAIL

Front Panel
Main Menu >Controller >Unit

Web Interface
Home >Controller >Unit

Modify parameters as shown below and save changes.

Start Up Parameters

StartUp Clearance Hold
6

Unit Flash Parameters

All Red Flash Exit Time
6

BACKUP PREVENTION PROGRAMMING

Front Panel
Home >Controller >Sequence & Phs Config >Backup Prevention >
Backup Protection Plan

Web Interface
Main Menu >Controller >Backup Prevention >Backup Protection Plan

Sequence 1

No Backup Phase	1	2	3	4	5	6	7	8
Serve Phase 1								
Serve Phase 2	X							
Serve Phase 3								
Serve Phase 4								
Serve Phase 5								
Serve Phase 6								
Serve Phase 7								
Serve Phase 8								

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.

OUTPUT CHANNEL CONFIGURATION

Front Panel
Main Menu >Controller >More>Channels>Channels Config

Web Interface
Home >Controller >Advanced IO>Channels>Channel Configuration

Channel Configuration

Channel	Control Type	Control Source	Flash Yellow	Flash Red	Flash Alt	MMU Channel
1	Phase Vehicle	1		X	X	1
2	Phase Vehicle	2		X		2
3	Phase Vehicle	3		X	X	3
4	Phase Vehicle	4		X		4
5	Phase Vehicle	5		X		5
6	Phase Vehicle	6		X	X	6
7	Phase Vehicle	7		X		7
8	Phase Vehicle	8		X	X	8
9	Overlap	1		X	X	9
10	Overlap	2		X	X	10
11	Overlap	3		X		11
12	Overlap	4		X		12
13	Phase Ped	2				13
14	Phase Ped	4				14
15	Phase Ped	6				15
16	Phase Ped	8				16
17	Overlap	5		X	X	17
18	Overlap	6		X		18

ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES

1. Install push buttons and APS equipment per manufacturer's instructions.
2. Provide a dedicated cable to each push button per manufacturer's instructions.
3. If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
4. Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
6. An APS push button station that is designed to work without the need for interfacing with a pedestrian signal head shall be installed for applications where a push button is installed in a median without a pedestrian signal head.
7. A push button with a single tactile arrow that points in both directions of travel shall be installed if the median separates two parallel crosswalks.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 08-0562
DESIGNED: April 2026
SEALED: 07/06/2026
REVISED: N/A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Electrical and Programming Details For:

SR 2080 (S. May Street)
at
SR 2036 (E. Indiana Avenue)

Division 8 | Moore County | Southern Pines

PLAN DATE: June 2026 | REVIEWED BY:
PREPARED BY: Tim Langston | REVIEWED BY:

REVISIONS	INIT.	DATE

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

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce 07/06/2026
DATE

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