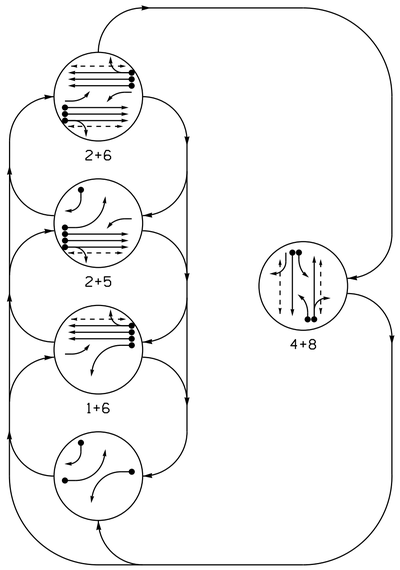
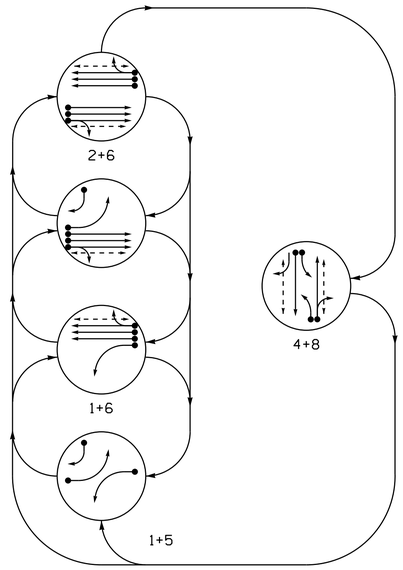
PROJECT REFERENCE NO.	SHEET NO.
U-5302	Sig. 20.0

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	4+8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~
21, 22, 23	R	R	G	G	R	R
41	~~R~~	~~R~~	~~R~~	~~R~~	F Y	~~R~~
42	R	R	R	R	G	R
43	R ↗	R	R ↗	R	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~
61, 62, 63	R	G	R	G	R	R
81	~~R~~	~~R~~	~~R~~	~~R~~	F Y	~~R~~
82, 83	R	R	R	R	G	R
P21, P22	DW	DW	W	W	DW	DRK
P41, P42	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DRK
P81, P82	DW	DW	DW	DW	W	DRK

SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS						DETECTOR PROGRAMMING														
							TIMING		OPERATION MODE									STATUS	
LOOP / ZONE NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	DELAY	EXTEND (STRETCH)	0 VEHICLE	1 PEDESTRIAN	2 1 CALL	3 STOP A	4 STOP B	5 PROTFER LEFTS	6 PROTFER THROUGHS	7 AND	SWITCH SYSTEM LOOPS	NEW	EXISTING
1A	6X40	2-4-2	0	X	-	1	5.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2A	6X6	4	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2B	6X6	4	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
2C	6X6	4	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
4A	6X40	*	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	*	-
4B	6X40	*	0	X	-	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	*	-
5A	6X40	2-4-2	0	X	-	5	5.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
5B	6X40	*	0	X	-	5	15.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	*	-
6A	6X6	6	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
6B	6X6	6	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
6C	6X6	6	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
8A	6X40	2-4-2	0	X	-	8	3.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-
8B	6X40	2-4-2	0	X	-	8	10.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	X	-

* Non-intrusive detection zone.

5 Phase
Fully Actuated
(Raleigh Signal System)

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 5 may be lagged.
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. The City Traffic Engineer will determine the hours of use for each phasing plan.
9. This intersection uses non-intrusive detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

SIGNAL FACE I.D.

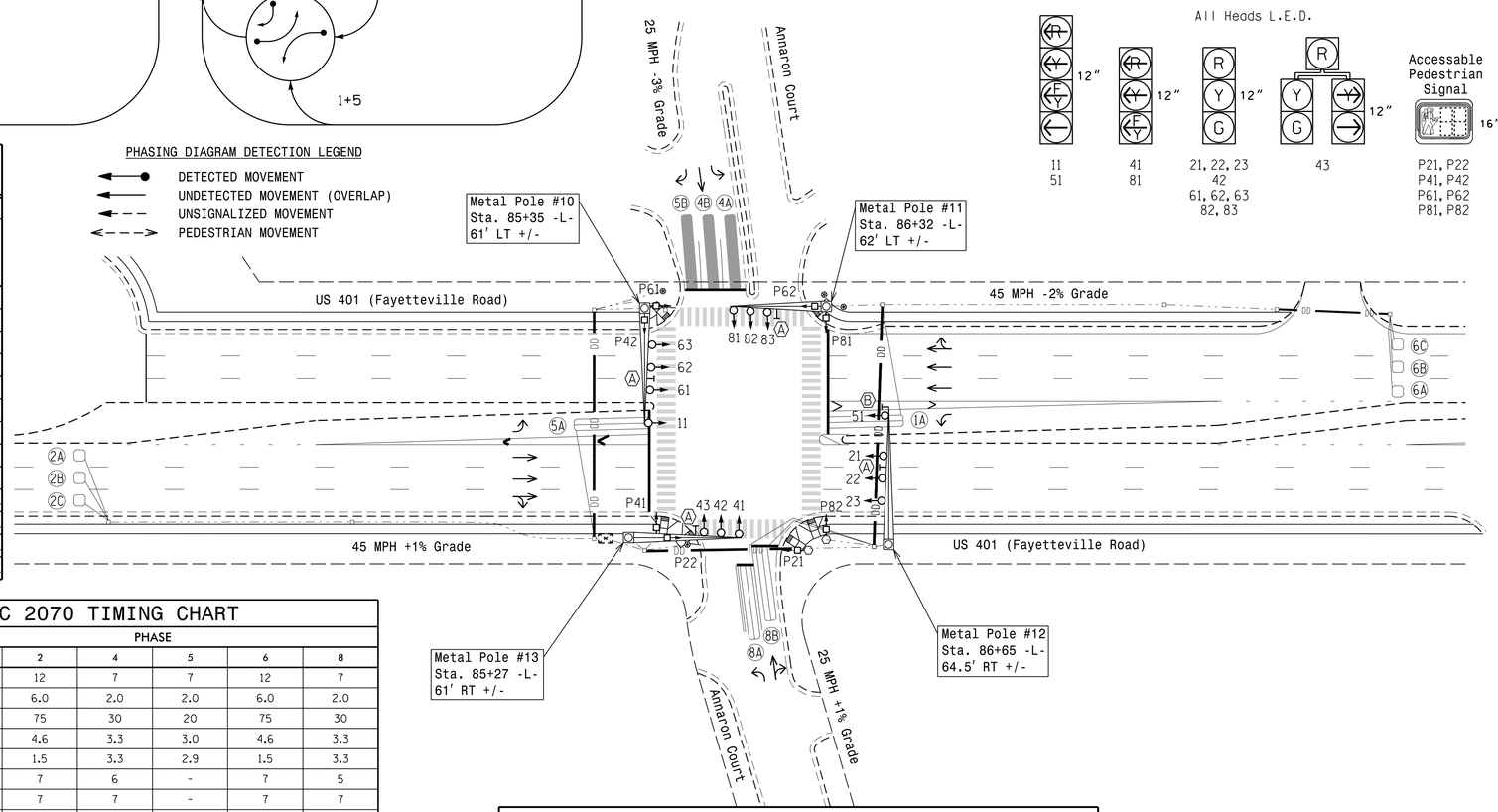
All Heads L.E.D.

DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 1+5	1+6	2+5	2+6	4+8	FLASH
11	←	←	F Y	F Y	~~R~~	~~R~~
21, 22, 23	R	R	G	G	R	R
41	~~R~~	~~R~~	~~R~~	~~R~~	F Y	~~R~~
42	R	R	R	R	G	R
43	R ↗	R	R ↗	R	G	R
51	←	F Y	←	F Y	~~R~~	~~R~~
61, 62, 63	R	G	R	G	R	R
81	~~R~~	~~R~~	~~R~~	~~R~~	F Y	~~R~~
82, 83	R	R	R	R	G	R
P21, P22	DW	DW	W	W	DW	DRK
P41, P42	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DRK
P81, P82	DW	DW	DW	DW	W	DRK

PHASING DIAGRAM DETECTION LEGEND

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



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	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Metal Pole with Mastarm	
	Type I Pushbutton Post	
	Type II Signal Pedestal	
	Non-Intrusive Detection Zone	
	Directional Drill	N/A
N/A	Curb Ramp	
	Street Name Sign (D3-1)	
	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	

SE-PAC 2070 TIMING CHART

FEATURE	PHASE 1	2	4	5	6	8
Min Green *	7	12	7	7	12	7
Passage Gap *	2.0	6.0	2.0	2.0	6.0	2.0
Maximum Green *	20	75	30	20	75	30
Yellow Change	3.0	4.6	3.3	3.0	4.6	3.3
Red Clear	2.8	1.5	3.3	2.9	1.5	3.3
Advance Walk	-	7	6	-	7	5
Walk *	-	7	7	-	7	7
Pedestrian Clear	-	12	27	-	18	29
Added Initial *	-	1.5	-	-	1.5	-
Maximum Initial *	-	34	-	-	34	-
Time Before Reduction *	-	15	-	-	15	-
Time To Reduce *	-	30	-	-	30	-
Minimum Gap	-	3.0	-	-	3.0	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	NON-LOCK	LOCK	NON-LOCK	NON-LOCK	LOCK	NON-LOCK
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension 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, P22	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Annaron.
P41, P42	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Fayetteville.
P61, P62	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Annaron.
P81, P82	-	X	Walk	(Percussive Tone)
	X	-	Flashing Don't Walk / Don't Walk	Wait. Wait to cross Fayetteville.

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SCALE 0 40 1"=40'

US 401 (Fayetteville Road) at Annaron Court

Division 5 Wake County Raleigh

PLAN DATE: February 2025 REVIEWED BY:
PREPARED BY: J.A. Lohr REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: Robert J. Ziemba 1B9B4B9B27AA4A4... 05/27/2025 DATE

SIG. INVENTORY NO. 05-1714

22-MAY-2025 13:13
S:\TPB\SSM\TS\Signals\Signal Design Section\Central Region\Div 5\U-5302\2025 Updates\A051714_sig_dsn_2025rmmd.dgn
JALOHR