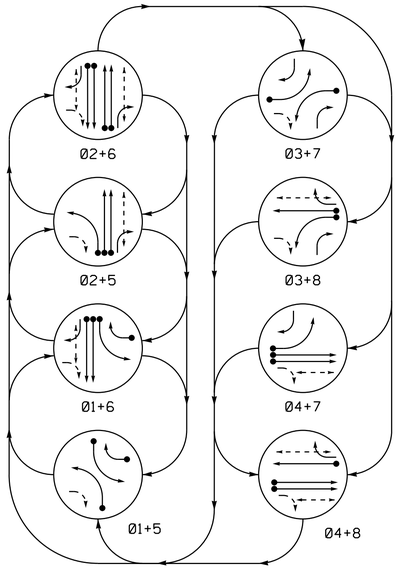
PROJECT REFERENCE NO.	SHEET NO.
P-5715	Sig. 3.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11	←-	←-	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R/~~R~~	R/~~R~~	R	R	Y
31	~~R~~	~~R~~	~~R~~	~~R~~	←-	←-	~~R~~	~~R~~	~~R~~
41, 42	R	R	R	R	R	R	G	G	R
51	←-	~~R~~	←-	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R/~~R~~	R	R/~~R~~	R	Y
71	~~R~~	~~R~~	~~R~~	~~R~~	←-	~~R~~	←-	~~R~~	~~R~~
81	R	R	R	R	R	G	R	G	R
82	R/~~R~~	R/~~R~~	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	W	W	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

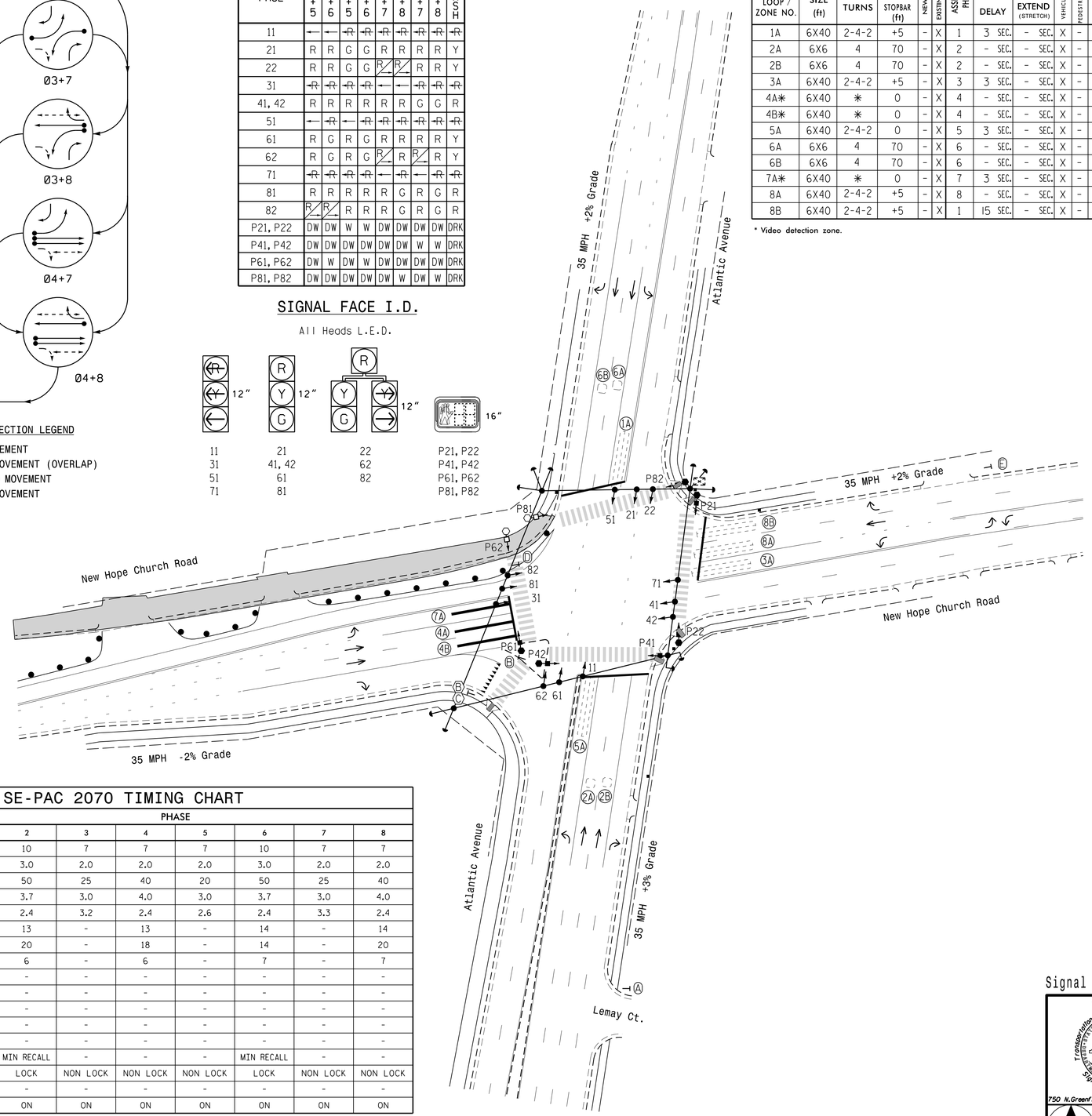
11	21	22	P21, P22
31	41, 42	62	P41, P42
51	61	82	P61, P62
71	81		P81, P82

LOOP & DETECTOR UNIT INSTALLATION CHART

SE-PAC 2070 CONTROLLER WITH 170 CABINET

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 PROTPER LEFT	6 PROTPER THROUGH	7 AND	SWITCH	SYSTEM LOOPS NEW	EXISTING
1A	6X40	2-4-2	+5	-	X	1	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
2A	6X6	4	70	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
2B	6X6	4	70	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
3A	6X40	2-4-2	+5	-	X	3	3 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	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
6A	6X6	4	70	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
6B	6X6	4	70	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
7A*	6X40	*	0	-	X	7	3 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*
8A	6X40	2-4-2	+5	-	X	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X
8B	6X40	2-4-2	+5	-	X	1	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	X

* Video detection zone.



SE-PAC 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	10	7	7	7	10	7	7
Passage Gap *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Maximum Green *	20	50	25	40	20	50	25	40
Yellow Change	3.0	3.7	3.0	4.0	3.0	3.7	3.0	4.0
Red Clear	2.8	2.4	3.2	2.4	2.6	2.4	3.3	2.4
Walk *	-	13	-	13	-	14	-	14
Pedestrian Clear	-	20	-	18	-	14	-	20
Advance Walk *	-	6	-	6	-	7	-	7
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	NON LOCK	LOCK	NON LOCK	NON LOCK	NON LOCK	LOCK	NON LOCK	NON LOCK
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	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.

8 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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. Pavement markings are existing unless otherwise shown.
9. This intersection uses video 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.

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	
N/A	Curb Ramp	
	Video Detection Zone	
	Construction Zone	
	Construction Zone Drums	
	Type II Signal Pedestal	
A	"STOP" Sign (R1-1)	A
B	"YIELD" Sign (R1-2)	B
C	Pedestrian Crossing Sign (W11-2) w/ Diagonal Arrow Plaque (W16-6pL)	C
D	Right Arrow "ONLY" Sign (R3-5R)	D
E	"RIGHT LANE MUST TURN RIGHT" Sign (R3-7R)	E

Signal Upgrade - Temporary Design 2 (TMP Phase II, Step 4)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared For:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

Atlantic Avenue at New Hope Church Road

Division 5 Wake County Raleigh

PLAN DATE: February 2023 REVIEWED BY:

PREPARED BY: J.A. Lohr REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: Robert J. Ziemba 1B9B4B9B6274A404 8/30/2023 DATE

SIG. INVENTORY NO. R-0434T2

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