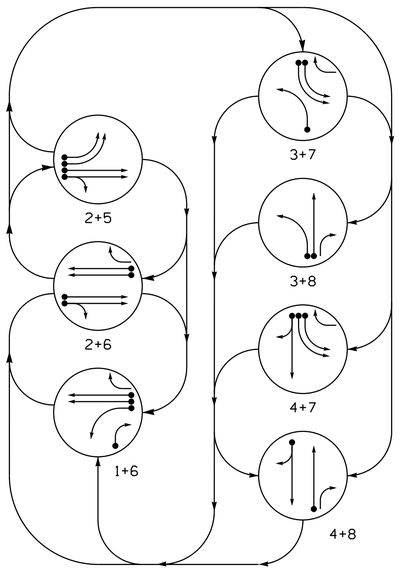
PROJECT REFERENCE NO.	SHEET NO.
U-5302	Sig. 12.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE 1+6	2+5	2+6	3+7	3+8	4+7	4+8	FLASH
11	←-	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21, 22	R	G	G	R	R	R	R	R
31, 32	~~R~~	~~R~~	~~R~~	←-	←-	~~R~~	~~R~~	~~R~~
41, 42, 43	R	R	R	R	R	G	G	R
51, 52	~~R~~	←-	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61	G	R	G	R	R	R	R	R
62	G	R	G	R/	R	R/	R	R
71, 72, 73	~~R~~	~~R~~	~~R~~	←-	~~R~~	←-	~~R~~	~~R~~
81, 83	R	R	R	R	G	R	G	R
82	R/	R	R	R	G	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

11
31, 32
51, 52
71, 72, 73

21, 22
41, 42, 43
61
81, 83

62
82

SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

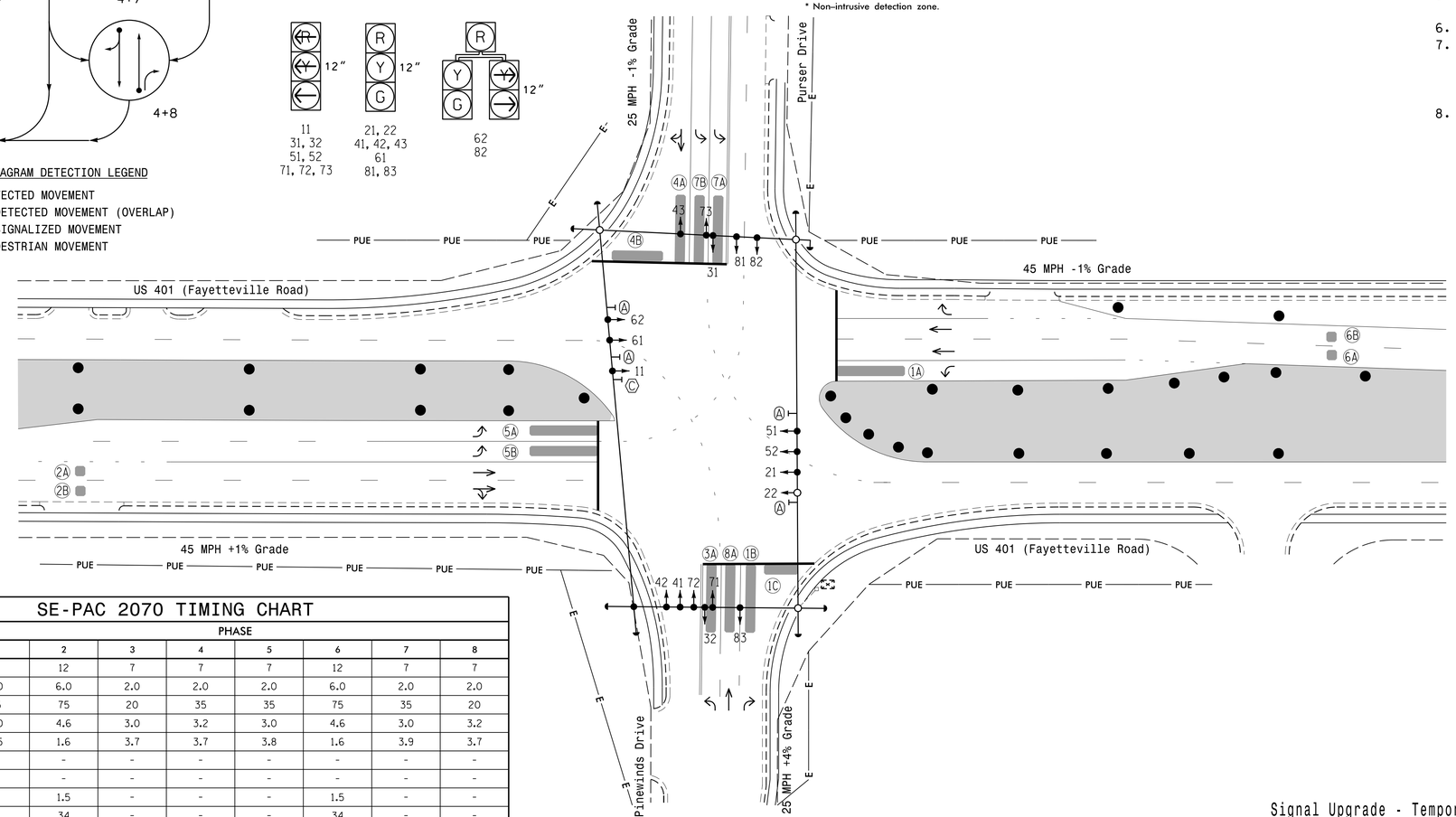
INDUCTIVE LOOPS						DETECTOR PROGRAMMING														
							TIMING		OPERATION MODE									STATUS	
ZONE	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	DELAY	EXTEND (STRETCH)	0 VEHICLE	1 PEDESTRIAN	2 1 CALL	3 STOP A	4 STOP B	5 PROTPER LEFT	6 PROTPER THROUGH	7 AND	SWITCH	SYSTEM LOOPS	NEW	EXISTING
1A	6X40	*	0	X	-	1	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
1B	6X40	*	0	X	-	1	15.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	*
1C	20X6	*	0	X	-	1	15.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
2A	6X6	*	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
2B	6X6	*	300	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
3A	6X40	*	0	X	-	3	3.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	*
4A	6X40	*	0	X	-	4	10.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	*
4B	30X6	*	0	X	-	4	15.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
5A	6X40	*	0	X	-	5	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
5B	6X40	*	0	X	-	5	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
6A	6X6	*	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
6B	6X6	*	300	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	*	-
7A	6X40	*	0	X	-	7	3.0 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	*
7B	6X40	*	0	X	-	7	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	*
8A	6X40	*	0	X	-	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	*

* Non-intrusive detection zone.

7 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. The order of phase 1 and phase 5 may be reversed, but phase 1 and phase 5 shall not operate simultaneously.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads numbered 11, 21, 51, 52, 61, and 62.
6. Set all detector units to presence mode.
7. This intersection uses non-intrusive detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
8. 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	
	Non-Intrusive Detection Zone	
N/A	Permanent Utility Easement	PUE
N/A	Construction Easement	E
	Construction Zone	
	Construction Zone Drums	
A	Street Name Sign (D3-1)	A
B	Right Arrow "ONLY" Sign (R3-5R)	B
C	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	C

SE-PAC 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Passage Gap *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Maximum Green *	25	75	20	35	35	75	35	20
Yellow Change	3.0	4.6	3.0	3.2	3.0	4.6	3.0	3.2
Red Clear	3.5	1.6	3.7	3.7	3.8	1.6	3.9	3.7
Walk *	-	-	-	-	-	-	-	-
Pedestrian Clear	-	-	-	-	-	-	-	-
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	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.

Signal Upgrade - Temporary Design 2 (TMP Phase III)

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 Purser Drive and Pinewinds Drive

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 03/27/2025
1B9B4B66074A484 DATE

SIG. INVENTORY NO. 05-1174T2

21-MAR-2025 07:41
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JALOHr