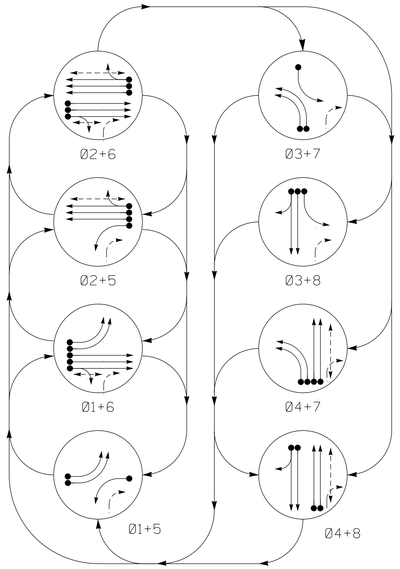
PROJECT REFERENCE NO.	SHEET NO.
U-6229	Sig.4.0

8 Phase
Fully Actuated
Fayetteville Signal System

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

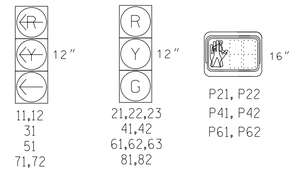
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11,12	←	←	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21,22	R	R	G	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~~
61,62	R	G	R	G	R	R	R	R	Y
71,72	~~R~~	~~R~~	~~R~~	~~R~~	←	~~R~~	←	~~R~~	~~R~~
81,82	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	DRK	
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

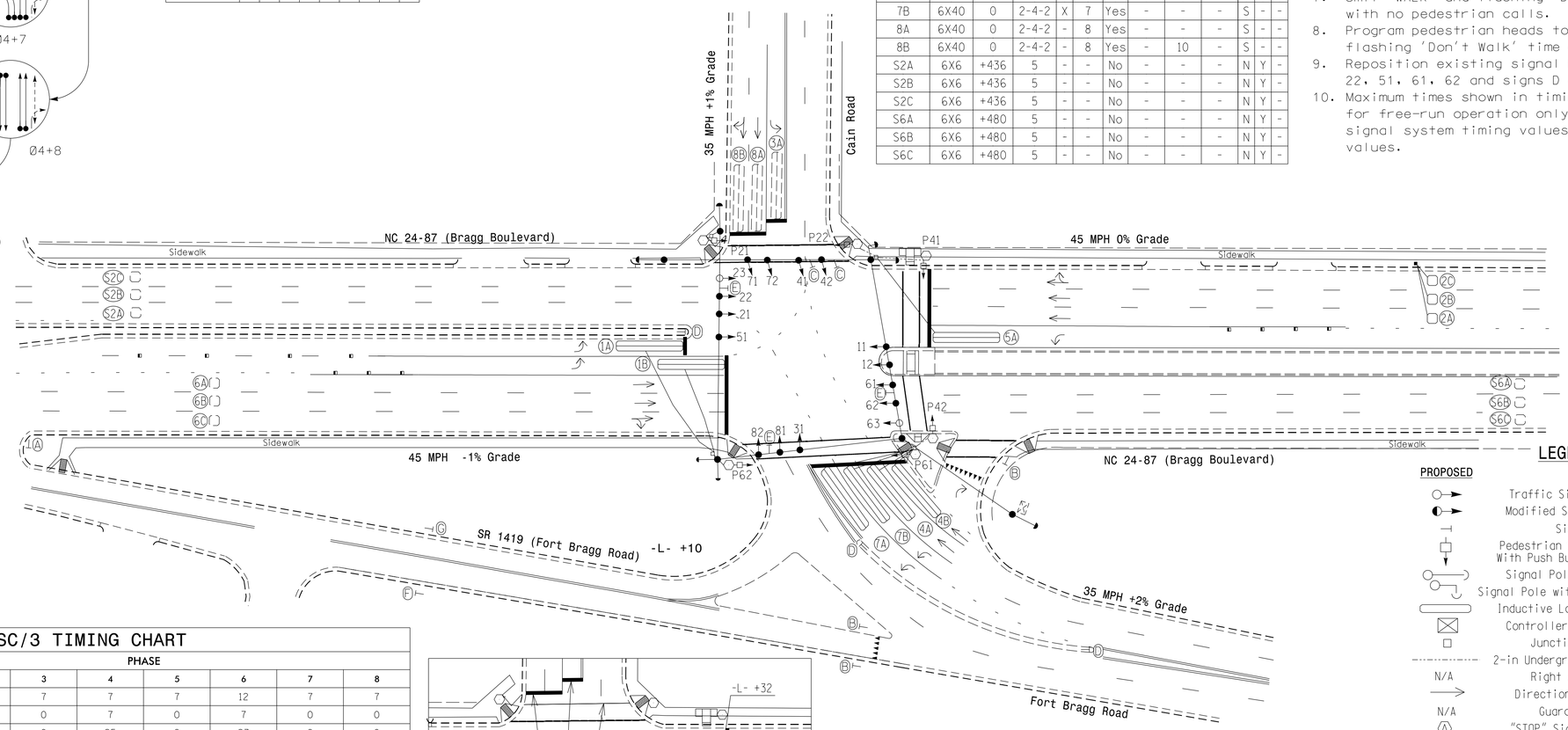


ASC/3 DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	-
1B	6X40	0	2-4-2	X	1	Yes	-	-	-	S	-	-
2A	6X6	300	6	-	2	Yes	-	-	X	N	-	-
2B	6X6	300	6	-	2	Yes	-	-	X	N	-	-
2C	6X6	300	6	-	2	Yes	-	-	X	N	-	-
3A	6X40	0	2-4-2	-	3	Yes	-	3	-	S	-	-
4A	6X40	0	2-4-2	X	4	Yes	-	-	-	S	-	-
4B	6X40	0	2-4-2	X	4	Yes	-	-	-	S	-	-
5A	6X40	0	2-4-2	X	5	Yes	-	-	-	S	-	-
6A	6X6	300	6	-	6	Yes	-	-	X	N	-	-
6B	6X6	300	6	-	6	Yes	-	-	X	N	-	-
6C	6X6	300	6	-	6	Yes	-	-	X	N	-	-
7A	6X40	0	2-4-2	X	7	Yes	-	3	-	S	-	-
7B	6X40	0	2-4-2	X	7	Yes	-	-	-	S	-	-
8A	6X40	0	2-4-2	-	8	Yes	-	-	-	S	-	-
8B	6X40	0	2-4-2	-	8	Yes	-	10	-	S	-	-
S2A	6X6	+436	5	-	-	No	-	-	-	N	Y	-
S2B	6X6	+436	5	-	-	No	-	-	-	N	Y	-
S2C	6X6	+436	5	-	-	No	-	-	-	N	Y	-
S6A	6X6	+480	5	-	-	No	-	-	-	N	Y	-
S6B	6X6	+480	5	-	-	No	-	-	-	N	Y	-
S6C	6X6	+480	5	-	-	No	-	-	-	N	Y	-

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
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. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
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. Reposition existing signal heads 11, 12, 21, 22, 51, 61, 62 and signs D and E.
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 With Push Button & Sign	
	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	Guardrail	
Ⓐ	"STOP" Sign (R1-1)	Ⓐ
Ⓑ	"YIELD" Sign (R1-2)	Ⓑ
Ⓒ	Through Arrow "ONLY" Sign (R3-5A)	Ⓒ
Ⓓ	Keep Right Sign (R4-7)	Ⓓ
Ⓔ	Street Sign	Ⓔ
Ⓕ	Yield Ahead Sign (W3-2)	Ⓕ
Ⓖ	Stop Ahead Sign (W3-1)	Ⓖ

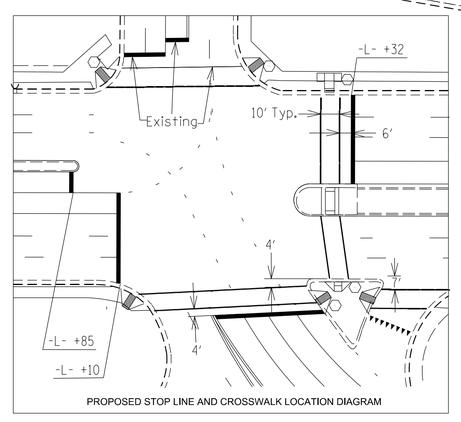
LEGEND

PROPOSED		EXISTING
	Type II Signal Pedestal	

ASC/3 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Walk *	0	7	0	7	0	7	0	0
Ped Clear	0	17	0	25	0	23	0	0
Veh. Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	15	90	15	15	15	90	20	15
Yellow	3.0	4.6	3.0	3.7	3.0	4.6	3.0	3.8
Red Clear	2.9	1.9	3.9	2.6	3.5	1.9	3.8	2.6
Actuations B4 Add *	-	0	-	-	-	0	-	-
Seconds /Actuation *	-	1.5	-	-	-	1.5	-	-
Max Initial *	-	32	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	45	-	-	-	45	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Locking Detector	-	X	-	-	-	X	-	-
Recall Position	-	VEH. RECALL	-	-	-	VEH. RECALL	-	-
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	X	X	X	X	X	X	X	X

* 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.



PROPOSED STOP LINE AND CROSSWALK LOCATION DIAGRAM

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

vhb
VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27607
P: 919-829-0328

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

SCALE 0 40
1" = 40'

NC 24-87 (Bragg Boulevard)
at
Fort Bragg Road /
Cain Road

Division 6 Cumberland County Fayetteville

PLAN DATE:	December 2022	REVIEWED BY:	M. L. Stygles
PREPARED BY:	J. Ma	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 033108 ENGINEER JIANXIN MA

DocuSigned by: Jianxin Ma
SIGNATURE 1/6/2023
DATE

SIG. INVENTORY NO. 06-0425

38976.01