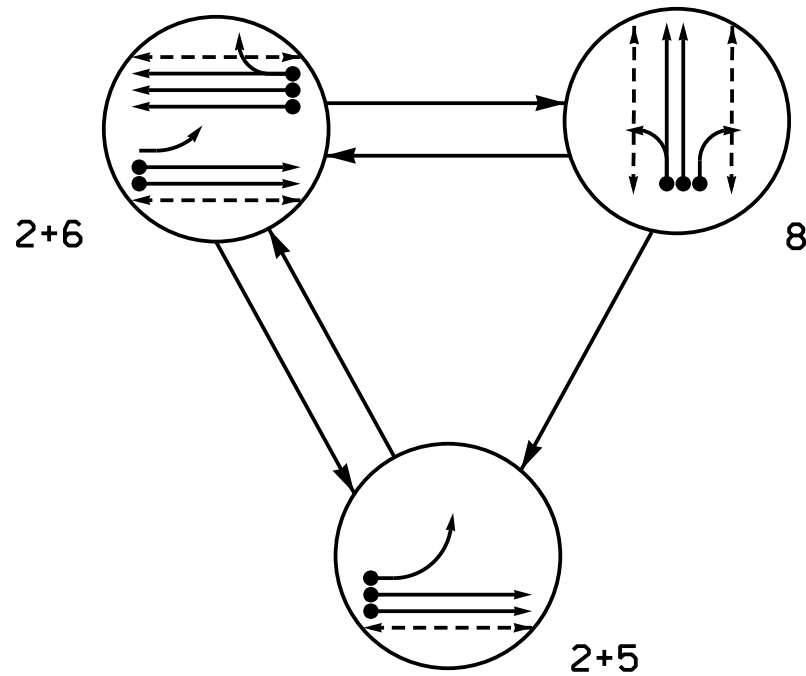


PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

EV PREEMPT PHASES
(Medium Priority)

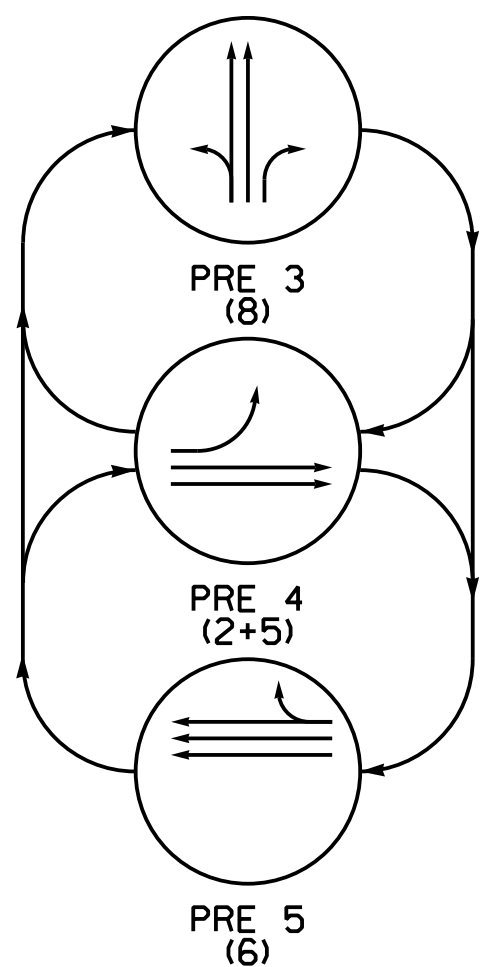


TABLE OF OPERATION										
SIGNAL FACE	PHASE									
	2+5	2+6	8	PRE 3	PRE 4	PRE 5	FLASH			
21	G	G	R	R	G	R	R			
22	↑	↑	R	R	↑	R	R			
51	←	←	R	R	←	R	R			
61	R	↑	R	R	R	↑	R			
62,63	R	G	R	R	R	G	R			
81,82	R	R	G	G	R	R	R			
83	R	R	←	←	R	R	R			
P21,P22	W	W	DW	DW	DW	DW	DRK			
P61,P62	DW	W	DW	DW	DW	DW	DRK			
P81,P82	DW	DW	W	DW	DW	DW	DRK			
P83,P84	DW	DW	W	DW	DW	DW	DRK			

SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART																					
INDUCTIVE LOOPS						DETECTOR PROGRAMMING															
						ASSIGNED PHASE	TIMING		OPERATION MODE							SYSTEM LOOPS		STATUS			
0	1	2	3	4	5				6	7											
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOP LINE (ft)	NEW	EXISTING		DELAY	EXTEND (STRETCH)	VEHICLE	PEDESTRIAN	1 CALL	STOP A	STOP B	PROTECTOR	LEFT TURN	THROUGH	AND	THROUGH	SWITCH	NEW	EXISTING
2A	6x6	3	70	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
2B	6x6	3	70	X	-	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
5A	6x40	2-4-2	0	X	-	5	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
6A	6x6	4	70	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
6B	6x6	4	70	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
6C	6x6	4	70	X	-	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
8A	6x40	2-4-2	0	X	-	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
8B	6x40	2-4-2	0	X	-	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-
8C	6x40	2-4-2	0	X	-	8	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X	-

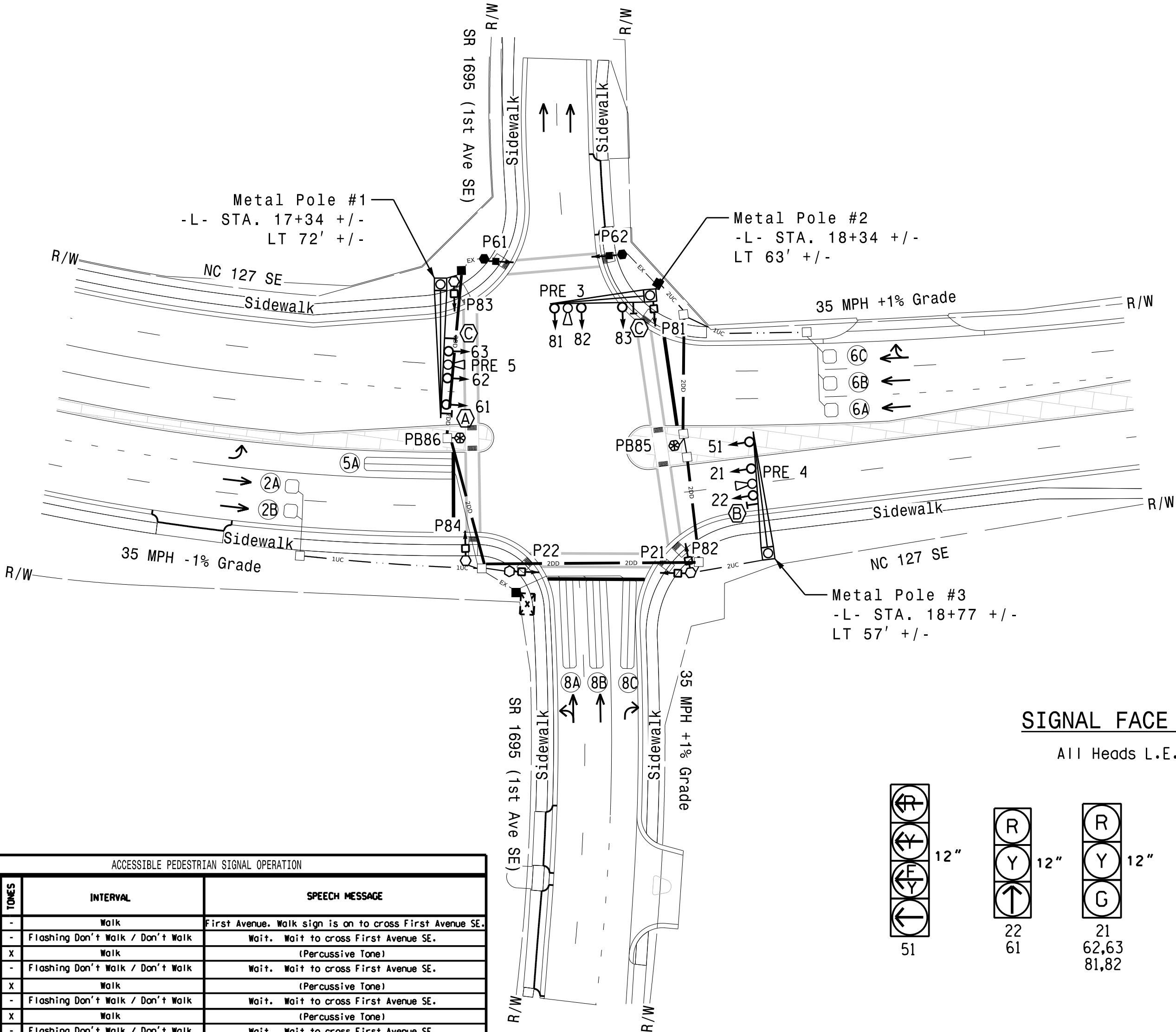
3 Phase with EVP
Fully Actuated
Hickory City Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 5 may be lagged.
- Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- This intersection features accessible pedestrian signals utilizing percussive tone walk indications and/or speech messages.
- This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Program phase 4 as a dummy phase for Ring 1.
- Hickory Signal System Data: Controller Asset #0316.

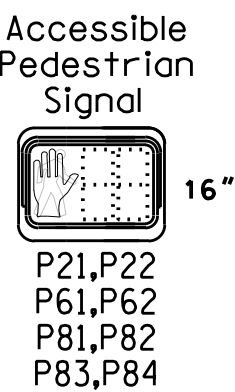
SE-PAC Preemption			
FUNCTION	PRE 3	PRE 4	PRE 5
MIN GRN / WLK	1	1	1
EXIT PHASES	8	2+5	6
DELAY	0.0	0.0	0.0
MXCALL	120	120	120
SEL PED CLR	26	12	8
SEL YEL / 10	0*	0*	0*
SEL RED / 10	0*	0*	0*
TRACK GREEN	0	0	0
TRK PED CLR	0	0	0
TRK YEL / 10	0	0	0
TRK RED / 10	0	0	0
DWELL GRN	7	10	10
RET PED CLR	0	0	0
RET YEL / 10	0*	0*	0*
RET RED / 10	0*	0*	0*
PREEMPT EXTEND**	2.0	2.0	2.0

* Time defaults to time used for phase during normal operation.
** Program Timing on Optical Detection Unit.



SIGNAL FACE I.D.

All Heads L.E.D.



PROPOSED	EXISTING

SE-PAC 2070 TIMING CHART					
FEATURE	PHASE				
	2	4	5	6	8
Min Green *	10	7	7	10	7
Passage Gap *	3.0	2.0	2.0	3.0	2.0
Maximum Green *	40	40	20	40	40
Yellow Change	3.9	3.8	3.0	3.9	3.8
Red Clear	2.5	2.8	3.4	2.5	2.8
Walk *	7	-	-	7	7
Pedestrian Clear	13	-	-	9	27
Advance Walk *	7	-	-	7	7
Added Initial *	1.5	-	-	1.0	-
Maximum Initial *	11	-	-	11	-
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	LOCK	NON-LOCK	NON-LOCK	LOCK	NON-LOCK
Dual Entry	-	-	-	-	-
Simultaneous Gap	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	SPEECH MESSAGE
P21	X	-	Walk
P22	X	-	Flashing Don't Walk / Don't Walk
P61	X	-	Walk
P62	X	-	Flashing Don't Walk / Don't Walk
P81	X	-	Walk
P82	X	-	Flashing Don't Walk / Don't Walk
P83	X	-	Walk
P84	X	-	Flashing Don't Walk / Don't Walk
P85	X	-	Walk
P86	X	-	Flashing Don't Walk / Don't Walk



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(919) 546-8997

Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

	NC 127 SE at SR 1692 (1st Ave SE)		
	Division 12 Catawba County Hickory		
	PLAN DATE: October 2023	REVIEWED BY: N.K. Vlanich	
	PREPARED BY: E.E. Tiller	REVIEWED BY: N.R. Simmons	
REVISIONS		INIT.	DATE
0 40			
1"=40'			

DocuSigned by:
Natasha R. Simmons 9/6/2024
SIGNATURE DATE
SIG. INVENTORY NO. 12-0954