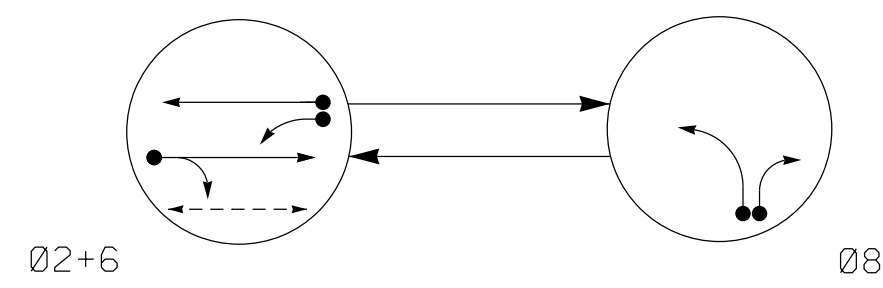


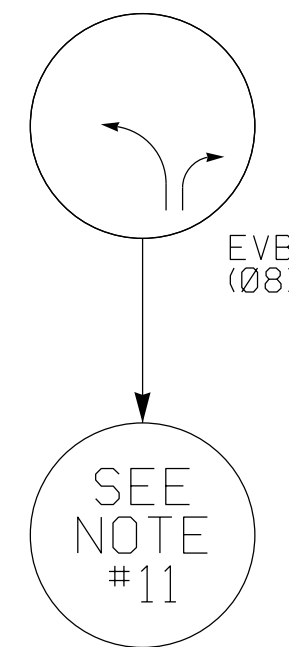
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

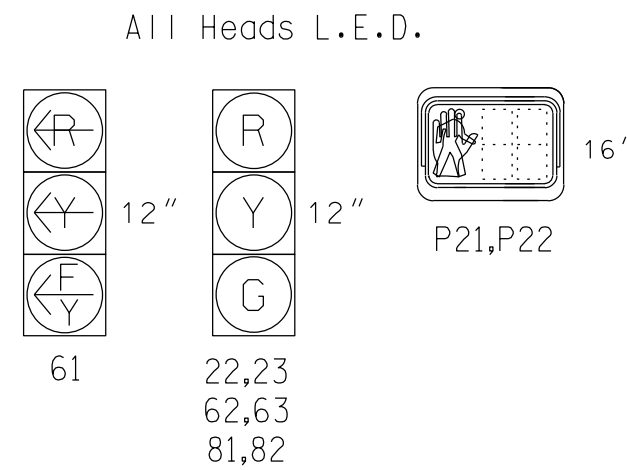
- ←● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- ←--- PEDESTRIAN MOVEMENT

EV Preempt Phases



SIGNAL FACE	PHASE			
	02+6	08	EVB	F
22,23	G	R	R	Y
61	F	R	R	Y
62,63	G	R	R	Y
81,82	R	G	G	R
P21,P22	W	DW	DW	DRK

SIGNAL FACE I.D.



2033 SOFTWARE w/ 2070 CONTROLLER LOOP & DETECTOR UNIT INSTALLATION CHART

LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW EXISTING	NEMA PHASE	DETECTOR PROGRAMMING													
						TIMING		ATTRIBUTES								STATUS			
						DELAY	CARRY (STRETCH)	1	2	3	4	5	6	7	8	NEW	EXISTING		
2A	6x6	*	70	*	-	2	- SEC.	- SEC.	-	-	-	-	X	-	X	-	*	-	
6A	6x6	*	70	*	-	6	- SEC.	- SEC.	-	-	-	-	-	-	-	-	*	-	
6B	6x40	*	0	*	-	6	- SEC.	- SEC.	-	-	-	-	X	-	X	-	*	-	
8A	6x40	*	0	*	-	8	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	*	-	
8B	6x40	*	0	*	-	8	15 SEC.	- SEC.	-	-	-	-	X	-	X	-	*	-	
PEDESTRIAN DETECTION						P21,P22	N/A	N/A	N/A	X	-	2	- SEC.	- SEC.	-	X	-	-	X

* Video Detection Zone

2033 EV PREEMPTION	
FUNCTION	EVB (SECONDS)
DELAY BEFORE PREEMPT	0
MIN. PED. CLEAR BEFORE PREEMPT	*
MIN. GREEN BEFORE PREEMPT	1
CLEARANCE TIME	2
PREEMPT EXTEND**	2.0

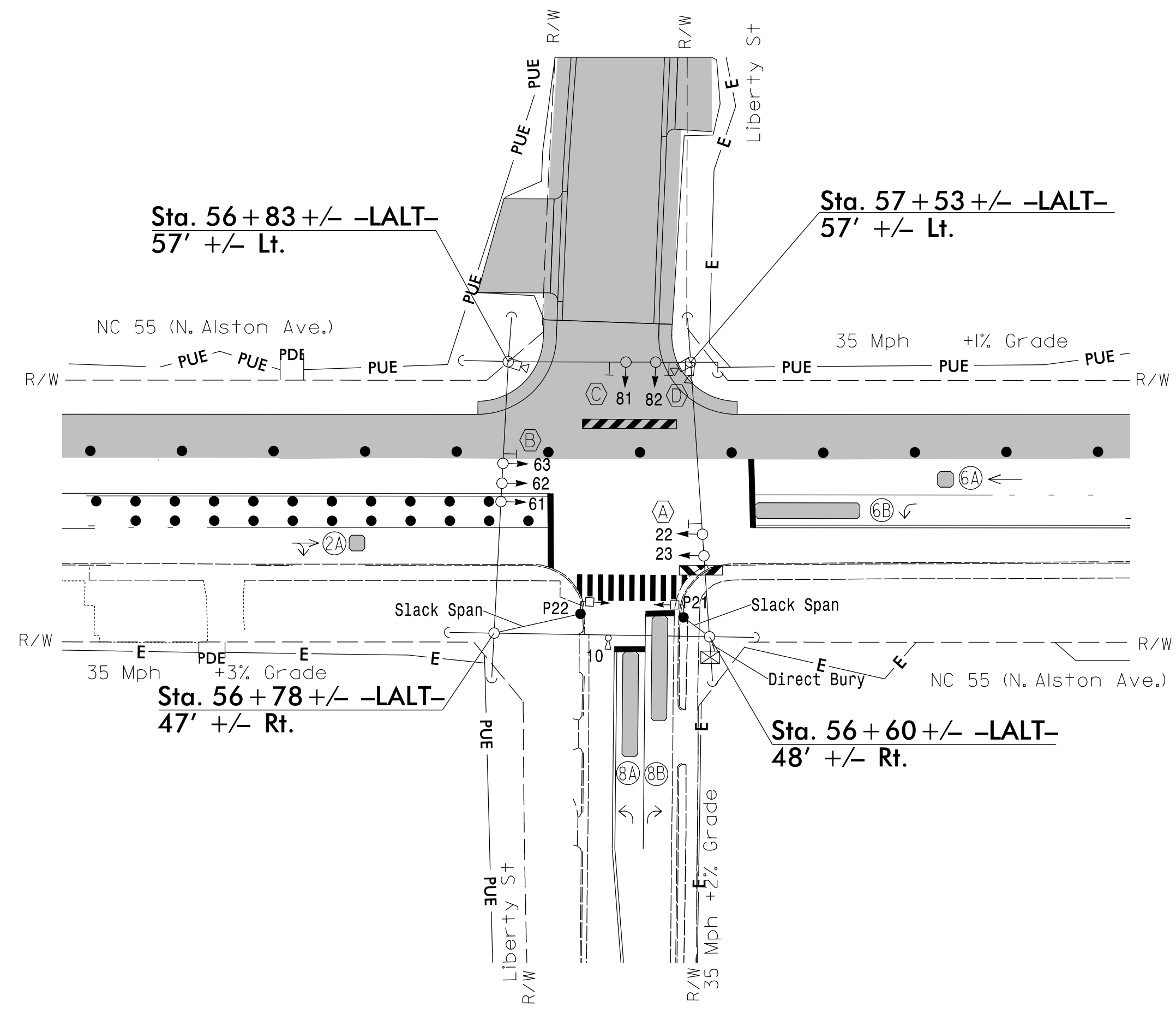
* See Timing Chart for Min Ped Clearance
** Program Timing on Optical Detector Unit

2 Phase Fully Actuated W/ EV Preemption (Durham Signal System)

- NOTES**
- Refer to "Road Standard Drawings NCDOT" dated January 2012, "Standard Specifications for Roads and Structures" dated January 2012.
 - Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
 - Set all detector units to presence mode.
 - Locate new cabinet as to not obstruct sight distance of vehicles turning right on red.
 - Program all timing information into phase banks 1,2, and 3 unless otherwise noted.
 - Set phase bank 3 maximum limit to 250 seconds for phases used.
 - Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
 - Program pedestrian heads to countdown the flashing "Don't Walk" time.
 - Pavement markings are existing.
 - This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
 - Upon completion of Emergency Vehicle Preemption, controller returns to normal operation.
 - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

TIMING CHART				
2033 SOFTWARE w/2070 CONTROLLER				
PHASE	02	06	08	0L1
MINIMUM INITIAL *	10 SEC.	10 SEC.	7 SEC.	0 SEC.
VEHICLE EXTENSION *	3.0 SEC.	3.0 SEC.	2.0 SEC.	
YELLOW CHANGE INT.	3.8 SEC.	3.8 SEC.	3.0 SEC.	3.8 SEC.
RED CLEARANCE	1.3 SEC.	1.3 SEC.	2.3 SEC.	1.3 SEC.
MAXIMUM LIMIT *	50 SEC.	50 SEC.	35 SEC.	
RECALL POSITION	VEH. RECALL	VEH. RECALL	NONE	
VEHICLE CALL MEMORY	YELLOW LOCK	YELLOW LOCK	NONE	
DOUBLE ENTRY	OFF	OFF	OFF	
WALK *	4 SEC.	- SEC.	- SEC.	
FLASHING DON'T WALK	10 SEC.	- SEC.	- SEC.	
MIN PED CLEARANCE	5 SEC.	- SEC.	- SEC.	
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	
ADD PER VEHICLE *	- SEC.	- SEC.	- SEC.	
MAXIMUM INITIAL *	- SEC.	- SEC.	- SEC.	
MAXIMUM GAP*	3.0 SEC.	3.0 SEC.	2.0 SEC.	
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.	
MINIMUM GAP	3.0 SEC.	3.0 SEC.	2.0 SEC.	

* 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.



LEGEND	
PROPOSED	EXISTING
	N/A
N/A	
	N/A
	N/A
	N/A
	N/A
	N/A
	N/A

Signal Upgrade - Temporary Design 1 (TMP Phase 1, Steps 1-10)

SEPI ENGINEERING & CONSTRUCTION
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Prepared for the Offices of:
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NC 55 (North Alston Avenue) at Liberty St
Division 5 Durham County Durham
PLAN DATE: September 2014 REVIEWED BY: J Hochanadel
PREPARED BY: A Drayton REVIEWED BY:

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
JEFFREY P. HOCHANADEL
28430
DATE: 4/02/15
SIG. INVENTORY NO. 05-102911

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