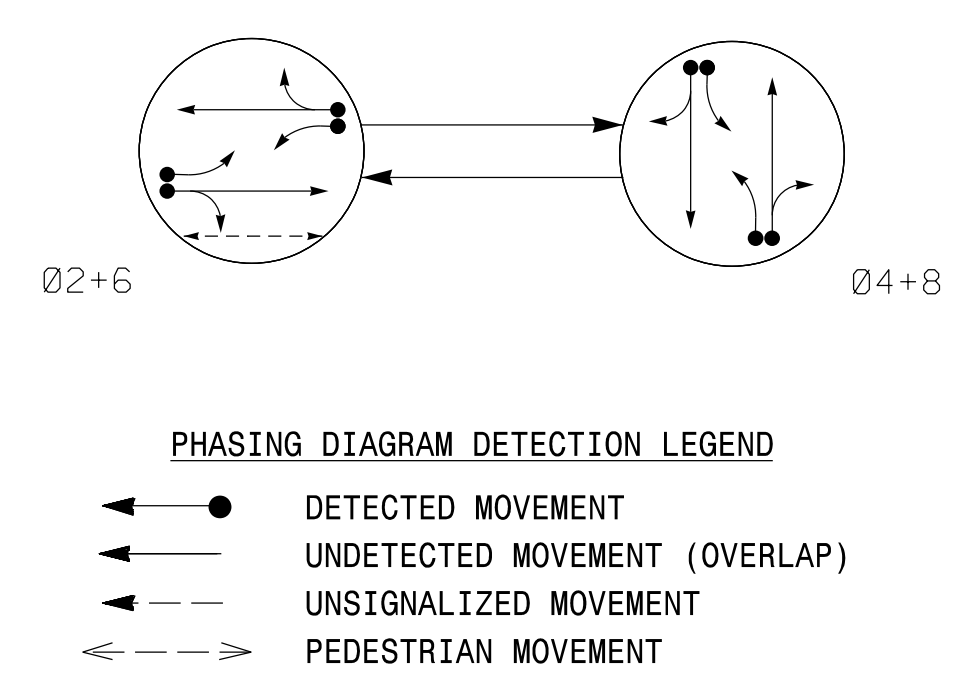
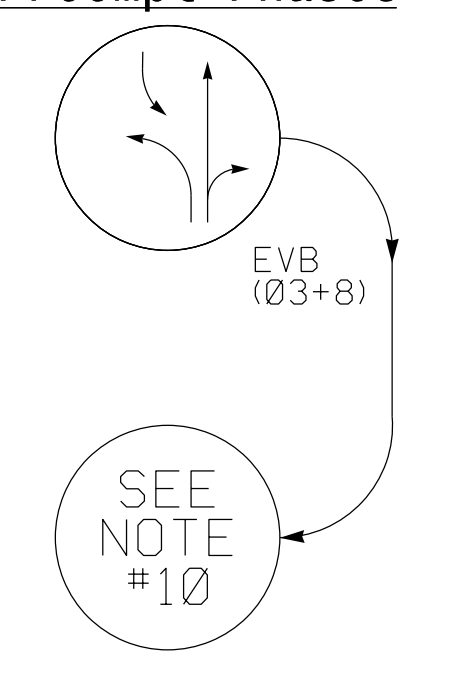


PHASING DIAGRAM



EV Preempt Phases



2033 EV PREEMPTION

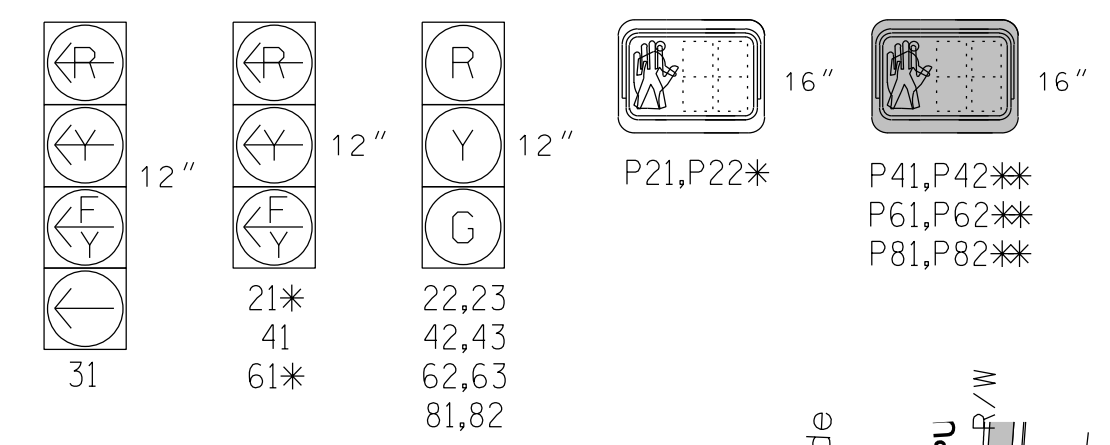
FUNCTION	EVB (SECONDS)
DELAY BEFORE PREEMPT	0
MIN. PED. CLEAR BEFORE PREEMPT	*
MIN. GREEN BEFORE PREEMPT	1
CLEARANCE TIME	2
PREEMPT EXTEND**	2.0

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

TABLE OF OPERATION

SIGNAL FACE	PHASE			
	02+6	04+8	EVB (03+8)	F
21	F	R	R	Y
22,23	G	R	R	Y
31	R	F	F	R
41	R	F	F	R
42,43	R	G	R	R
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.
 All Heads L.E.D.
 * See Note 12
 ** See Note 13



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	-	-	*						
2B	6x40	*	0	*	-	2	- SEC.	- SEC.	-	-	-	-	-	-	-	-	-	*						
4A	6x40	*	0	*	-	4	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	*						
4B	6x40	*	0	*	-	4	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	*						
6A	6x6	*	70	*	-	6	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	*						
6B	6x40	*	0	*	-	6	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	*						
8A	6x40	*	0	*	-	8	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	*						
8B	6x40	*	0	*	-	8	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	*						
PEDESTRIAN DETECTION																								
P21,P22	N/A	N/A	N/A	X	-	2	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	-	*					

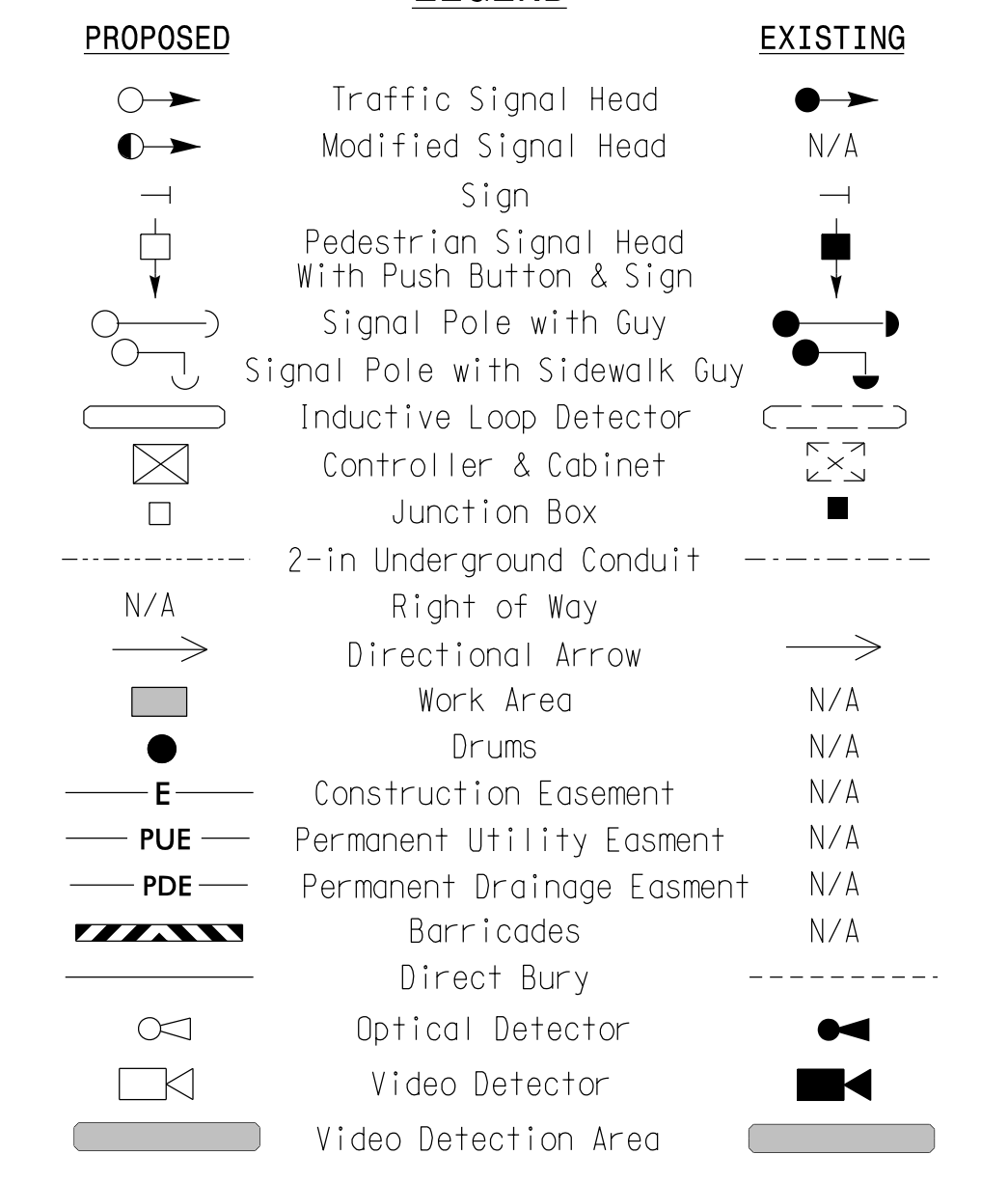
* Video Detection Zone

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.
- Reposition signal heads numbered #21, #22, #23, 61, 62, and #63 during this phase of construction.
- Set all detector units to presence mode.
- 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.
- 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.
- Reconnect and unbag signal heads #P21 and #P22 during this phase of construction.
- Disconnect and bag pedestrian signal heads #P41, #P42, #P61, #P62, #P81, and #P82 during this phase of construction.
- Contractor shall adjust video detection areas as required.

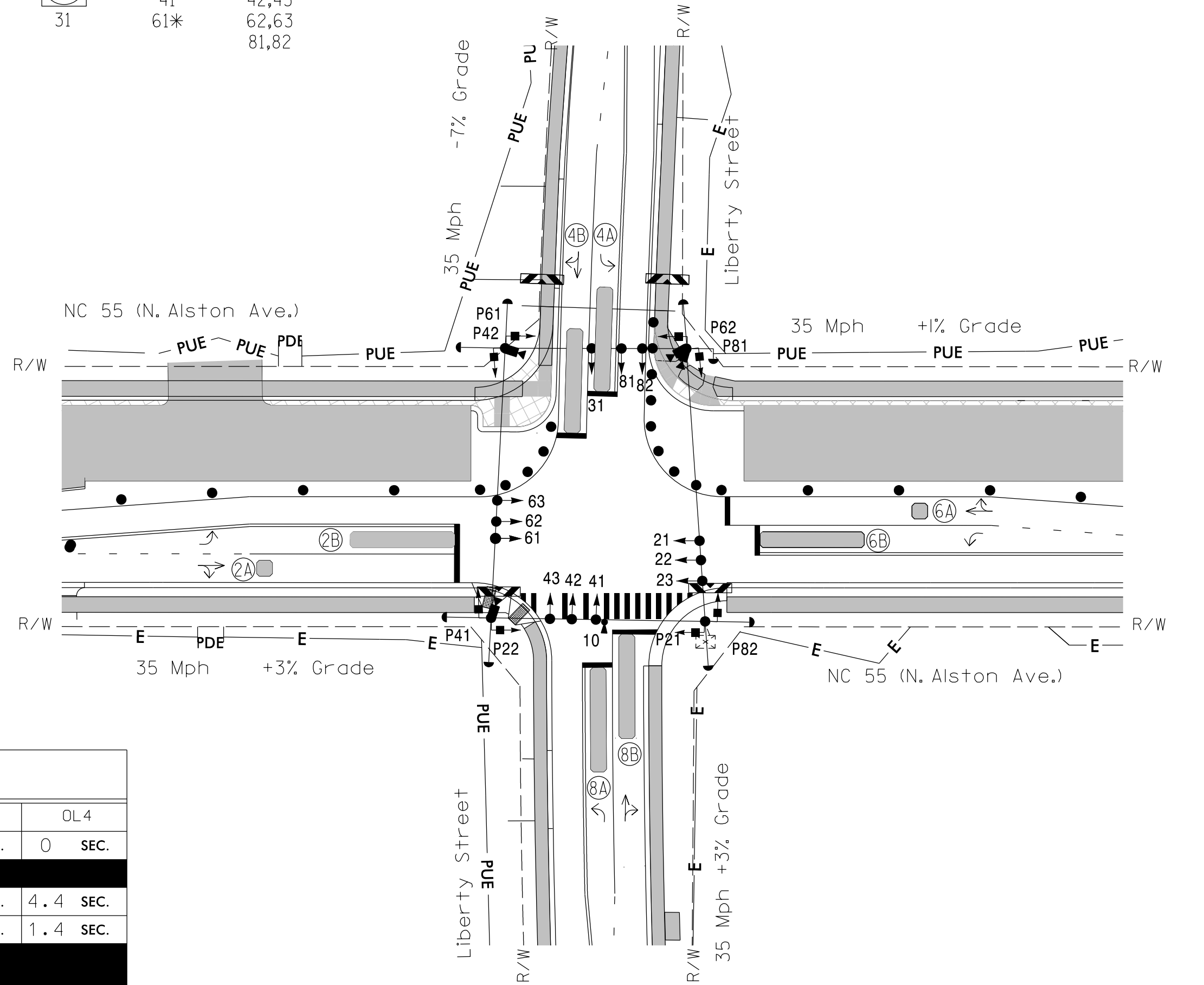
LEGEND



TIMING CHART
2033 SOFTWARE w/2070 CONTROLLER

PHASE	02	03	04	06	08	OL1	OL3	OL4
MINIMUM INITIAL *	10 SEC.	- SEC.	7 SEC.	10 SEC.	7 SEC.	0 SEC.	0 SEC.	0 SEC.
VEHICLE EXTENSION *	3.0 SEC.	- SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.			
YELLOW CHANGE INT.	3.8 SEC.	4.4 SEC.	4.4 SEC.	3.8 SEC.	4.4 SEC.	3.8 SEC.	3.8 SEC.	4.4 SEC.
RED CLEARANCE	1.8 SEC.	2.1 SEC.	1.4 SEC.	1.8 SEC.	1.4 SEC.	1.8 SEC.	1.8 SEC.	1.4 SEC.
MAXIMUM LIMIT *	50 SEC.	35 SEC.	35 SEC.	50 SEC.	35 SEC.			
RECALL POSITION	VEH. RECALL	NONE	NONE	VEH. RECALL	NONE			
VEHICLE CALL MEMORY	YELLOW LOCK	NONE	NONE	YELLOW LOCK	NONE			
DOUBLE ENTRY	OFF	OFF	ON	OFF	ON			
WALK *	4 SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
FLASHING DON'T WALK	14 SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MIN PED CLEARANCE	7 SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
ADD PER VEHICLE *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MAXIMUM INITIAL *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MAXIMUM GAP*	3.0 SEC.	- SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.			
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.			
MINIMUM GAP	3.0 SEC.	- SEC.	2.0 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.



Signal Upgrade - Temporary Design 6 (TMP Phase 2, Steps 1-6)

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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

 DocuSigned by:

 4/02/15
 DATE
 SIG. INVENTORY NO. 05-1029T6

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