35 Mph +5% Grade

TABLE OF OPERATION											
PHASE											
SIGNAL FACE	Ø 1 + 6	Ø2+6	Ø 4	E V B	LLASI						
1·1	-	<del>-</del> F	<del></del>	-	<del>-</del>						
21,22	R	G	R	R	Υ						
41,42	R	R	G	R	R						
61,62	G	G	R	G	Υ						

SIGNAL FACE I.D.

All Heads L.E.D.

\* See Note 11

DETECTOR PROGRAMMING

35 Mph -3% Grade

NC 55 (S. Alston Avenue)

\* Video Detection Zone

DETECTED MOVEMENT

UNDETECTED MOVEMENT (OVERLAP)

PHASING	DIAGRAM	DETECTION	LEGEND
•			•

UNSIGNALIZED MOVEMENT

2.0

← − → PEDESTRIAN MOVEMENT

2033 EV PREEMPTI	ON
FUNCTION	EVB (SECONDS)
DELAY BEFORE PREEMPT	0
MIN. PED. CLEAR BEFORE PREEMPT	0

\*\* Program Timing on Optical Detector Unit

MIN. GREEN BEFORE PREEMPT

CLEARANCE TIME

PREEMPT EXTEND\*\*

TIMING CHART 2033 SOFTWARE w/2070 CONTROLLER														
PHASE	Ø1		Ø2		Ø4		Ø6							
MINIMUM INITIAL *	7	SEC.	10	SEC.	7	SEC.	10	SEC.						
VEHICLE EXTENSION *	2.0	SEC.	3.0	SEC.	2.0	SEC.	3.0	SEC.						
YELLOW CHANGE INT.	4.1	SEC.	4.1	SEC.	3.1	SEC.	4.1	SEC.						
RED CLEARANCE	2.6	SEC.	1.5	SEC.	1.5	SEC.	1.5	SEC.						
MAXIMUM LIMIT *	15	SEC.	50	SEC.	35	SEC.	50	SEC.						
RECALL POSITION	NONE		VEH. RE	CALL	ИОИ	1E	VEH. RECALL							
VEHICLE CALL MEMORY	ИОИ	1E	YELLOW	LOCK	ИОИ	1E	YELLOW	LOCK						
DOUBLE ENTRY	OFI	F	OFF	:	OFF	:	OFF							
WALK *	_	SEC.	_	SEC.	_	SEC.	_	SEC.						
FLASHING DON'T WALK	_	SEC.	_	SEC.	_	SEC.	_	SEC.						
MIN PED CLEARANCE	_	SEC.	_	SEC.	_	SEC.	_	SEC.						
TYPE 3 LIMIT	_	SEC.	_	SEC.	_	SEC.	_	SEC.						
ALTERNATE EXTENSION	_	SEC.	_	SEC.	_	SEC.	_	SEC.						
ADD PER VEHICLE *	_	SEC.	_	SEC.	_	SEC.	_	SEC.						
MAXIMUM INITIAL *	- SEC.		_	- SEC.		SEC.	_	SEC.						
MAXIMUM GAP*	2.0	SEC.	3.0	SEC.	2.0	SEC.	3.0	SEC.						
DED.LIGE 0.1.050 EVED./ #		SEC.	_	SEC.		SEC.	_	SEC.						
REDUCE 0.1 SEC EVERY *	_	JLC.		SEC.		JLC.		JLC.						

\* 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.

	2 + #
	<i>₩</i>
	W #
	35

21,22 41,42\* 61,62

Sta. 13 + 93 + / - - LALT -58' +/- Lt. Sta. 14 + 71 + / - - LALT -42' +/- Lt.

NC 55 (S. Alston Avenue)

**→** 14 22 ←

> Sta. 14 + 61 + / - LALT57′ +/– Rt.

Direct Bury

Sta. 13 + 96 + / - - LALT -54' +/- Rt.

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

	INDUCT	INF FOO	JPS								Α	ΓTRΙ	BUT	ES			PS	STA	TUS
							TIM	ING	1	2	3	4	5	6	7	8	8		l
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DELAY	CARRY (STRETCH)	FULL TIME DELAY	lio ∢	RESERVED	COUNT	EXTENSION	TYPE 3	CALLING	ALTERNATE	SYSTEM L	NEW	EXISTING
1 Λ	6X40	*	0	*		1	15 SEC.	- SEC.	-	-	-	-	Χ	-	Χ	-	-	*	-
1 A	6840	<u></u> 木		*		6	- SEC.	- SEC.	-	-	-	_	Χ	-	Χ	-	-	*	-
2A	6×6	*	70	*	-	2	- SEC.	- SEC.	_	-	ı	_	Χ	-	Χ	ı	-	*	-
4 A	6×40	*	0	*	_	4	- SEC.	- SEC.	_	_	ı	_	Χ	_	Χ	ı	-	*	_
6A	6×6	*	70	*	-	6	- SEC.	- SEC.	_	-	_	-	Χ	_	Χ	-	_	*	-

3 Phase Fully Actuated w/ EV Preemption NOTES

PROJECT REFERENCE NO. Sig. 2.0 U-3308

(Durham Signal System)

1. Refer to "Road Standard Drawings NCDOT" dated January 2012, "Standard Specifications for Roads and Structures" dated January 2012.

2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.

3. Phase 1 may be lagged

4. Set all detector units to presence mode.

5. Locate new cabinet as to not obstruct sight distance of vehicles turning right on red.

6. Program all timing information into phase banks 1,2, and 3 unless otherwise noted.

7. Set phase bank 3 maximum limit to 250 seconds for

phases used. 8. This intersection features an optical preemption system.

Shown locations of optical detectors are conceptual only. 9. Upon completion of Emergency Vehicle Preemtion, controller

returns to normal operation based on vehicle demand. 10. Maximum times shown in timing chart are for free-run

operation only. Coordinated signal system timing values supersede these values.

11. Reconnect and unbag signal heads #41 and #42 for Temporary Signal Design 3.

12. Poles are existing during Temporary Signal Design 3, TMP Phase 1, Steps 11-21.

## LEGEND **PROPOSED EXISTING** Traffic Signal Head $\bigcirc$ **-**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 × N Controller & Cabinet Junction Box ----- 2-in Underground Conduit -----N/A Right of Way Directional Arrow ⟨∆⟩ Right Arrow "Only" Sign (R3-5R) (A) No Right Turn Sign (R3-1) No Left Turn Sign (R3-2) "YIELD" Sign (R1-2) N/A Work Area N/A Drums Optical Detector Video Detector Video Detection Area Direct Bury \_\_\_\_\_

Signal Upgrade - Temporary Design 1 (TMP Phase 1, Steps 1-10) Signal Upgrade - Temporary Design 3 (TMP Phase 1, Steps 11-21)



NC 55 (South Alston Avenue)

NC 147 SB Ramps

Division 5 Durham County Durham PLAN DATE: September 2014 REVIEWED BY: J Hochanadel REVISIONS INIT. DATE

SIG. INVENTORY NO. 05-102871/73

1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977 Fax:919-789-9591

License #: C-2197

750 N.Greenfield Pkwy, Garner, NC 27529 PREPARED BY: R Drayton REVIEWED BY:

MyPAL DATE

SEAL

SEAL