PHASING DIAGRAM

PHASING DIAGRAM DETECTION LEGEND

DETECTED MOVEMENT

UNSIGNALIZED MOVEMENT

PEDESTRIAN MOVEMENT

2033 EV PREEMPTION

FUNCTION

MIN. PED. CLEAR BEFORE PREEMPT

\* See Timing Chart for Min Ped Clearance

\*\* Program Timing on Optical Detector Unit

MIN. GREEN BEFORE PREEMPT

DELAY BEFORE PREEMPT

CLEARANCE TIME

PREEMPT EXTEND\*\*

MINIMUM INITIAL

RED CLEARANCE

MAXIMUM LIMIT

**RECALL POSITION** 

DOUBLE ENTRY

TYPE 3 LIMIT

VEHICLE EXTENSION

YELLOW CHANGE INT.

VEHICLE CALL MEMORY

FLASHING DON'T WALK

MIN PED CLEARANCE

ALTERNATE EXTENSION

REDUCE 0.1 SEC EVERY \*

phases should not be lower than 4 seconds

ADD PER VEHICLE

MAXIMUM INITIAL

MAXIMUM GAP\*

UNDETECTED MOVEMENT (OVERLAP)

(SECONDS)

0

\*

1

2.0

Ø2

1 () **SEC**.

3.0 SEC.

2.4 **SEC**.

50 **SEC**.

VEH. RECALL

YELLOW LOCK

OFF

4 **SEC**.

9 **SEC**.

5 **SEC**.

SEC.

— SEC.

SEC.

SEC.

3 . 0 **SEC**.

SEC.

3 **.** 0 **SEC**.

2.0 **SEC**.

2.9 **SEC**.

4 **SEC**.

17 **SEC**.

— SEC.

SEC.

SEC.

SEC.

2 . O SEC.

SEC.

2 **.** () **SEC**.

2.0 **SEC**.

3.1 **SEC**.

15 **SEC**.

OFF

— SEC.

— SEC.

SEC.

— SEC.

— SEC.

SEC.

— SEC.

2 . O **SEC**.

SEC.

TIMING CHART

2033 SOFTWARE w/2070 CONTROLLER

1 () **SEC**.

3.0 **SEC**.

2.4 **SEC**.

50 **SEC**.

VEH. RECALL

YELLOW LOCK

4 **SEC**.

8 SEC.

4 SEC.

— SEC.

- SEC.

— SEC.

SEC.

SEC.

3 . 0 **SEC**.

3 **.** 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

Ø8

2.9 **SEC**.

NONE

ON

4 **SEC**.

16 **SEC**.

8 **SEC**.

SEC.

SEC.

SEC.

SEC.

. () SEC.

SEC.

SEC.

OL2

OL3

SEC. SEC. SEC.

**SEC.** | 2.4 **SEC.** | 2.9 **SEC.** 

## PROJECT REFERENCE NO. |Sig. 16.0| U-3308

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

## **NOTES**

- 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer
- 4. Set all detector units to presence mode.
- 5. Program all timing information into phase banks
- 6. Set phase bank 3 maximum limit to 250 seconds for phases used.
  - calls.
- "Don't Walk" time.
- system. Shown locations of optical detectors are conceptual only. 10. Upon completion of Emergency Vehicle Preemption,
- controller returns to normal operation. 11. Maximum times shown in timing chart are for free-run
- estrian pedestals are conceptual and shown for ation details.

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- R/W			

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

- 1,2, and 3 unless otherwise noted.
- 8. Program pedestrian heads to countdown the flashing
- 9. This intersection features an optical preemption

- erence only. See sheets P1-P3 for pushbutton

Sign

**EXISTING** 

N/A

# 3. Phase 1 may be lagged.

- 7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian

- ration only. Coordinated signal system timing ues supersede these values.

## LEGEND **PROPOSED** Traffic Signal Head $\bigcirc$ Modified Signal Head Pedestrian Signal Head With Push Button & Sign Signal Pole with Guy Signal Pole with Sidewalk Guy Inductive Loop Detector Controller & Cabinet Junction Box

 $\bigcirc$ 

	2-in Underground Conduit -	
N/A	Right of Way —	- — — –
$\longrightarrow$	Directional Arrow	$\longrightarrow$
$\langle A \rangle$	Left Arrow "ONLY" Sign (R3-5L)	$\triangle$
$\langle \mathbb{B} \rangle$	Street Name Sign	B
⊗	Type I Pushbutton Post	

Type II Signal Pedestal Metal Pole with Mastarm Optical Detector

Signal Upgrade - Final Design



NC 55 (South Alston Avenue)

Division 5 Durham County PLAN DATE: September 2014 | REVIEWED BY: J Hochanadel

INIT. DATE

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

2033 SOFTWARE w/ 2070 CONTROLLER

LOOP & DETECTOR UNIT INSTALLATION CHART

NEMA

PHASE | DELAY

8 3 SEC.

- | 8 | 10 SEC.

6 - SEC. - SEC. - X |

INDUCTIVE LOOPS

6×40 | 2-4-2 |

TURNS

STOPBAR

0

P21,P22 | N/A | N/A | N/A | X | - | 2 | - SEC. | - SEC. | - | X |

| P81.P82 | N/A | N/A | N/A | X|-| 8 | - SEC.| - SEC.| - | X |

SIZE

6×6

6×6

6×40

6×40

6×40

6×6

6×40 | 2-4-2 |

PEDESTRIAN DETECTION

P41,P42 | N/A | N/A | N/A

Metal Pole #5

52′ +/– Lt.

35 Mph

See Loading Diagram

Sta. 31 + 13 +/- -LALT-

NC 55 (S. Alston Ave.) P42

Arm "A" —

-4% Grade

| P61,P62 | N/A | N/A | N/A | X | -

6×40 | 2-4-2 | 0

LOOP NO.

2Α

4Α

6A

DETECTOR PROGRAMMING

Arm "B"

21 \_

+2% Grade

NC 55 (S. Alston Ave.)

See Loading Diagram Sta. 31 + 90 + / - LALT -

Metal Pole #6

50′ +/– Rt.

TABLE OF OPERATION

SIGNAL

FACE

11

21

22;23

41

42;43

61,62

82;83

P21**,**P22

P41,P42

P61,P62

12"

PHASE

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DW | W | DW | DW | DRK

|DW|DW|W|DW|DRK

W W DW DW DRK

P21**,**P22

P41,P42

P61,P62

P81,P82

P81,P82 | DW | DW | W | DW | DRK

SIGNAL FACE I.D.

All Heads L.E.D.

22,23

42,43

61,62

82,83

EV Preempt Phases

#10

SR 1926 (Angier Avenue) 50 N.Greenfield Pkwy,Garner,NC 27529 PREPARED BY: C Lawson

MyPDU DATE 05-1026 SIG. INVENTORY NO.

SEAL