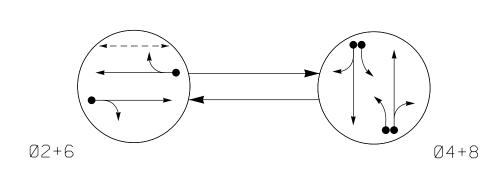
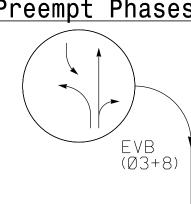
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

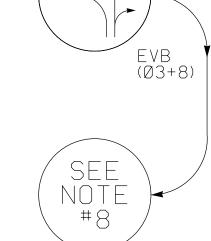
DETECTED MOVEMENT

EV Preempt Phases



UNDETECTED MOVEMENT (OVERLAP) UNSIGNALIZED MOVEMENT

PEDESTRIAN MOVEMENT



All Heads L.E.D. * See Note 10

| TABLE OF | 0PI | ERA | TI0 | N | | |
|----------------|-------------|------------------|----------------|---------------|--|--|
| | PHASE | | | | | |
| SIGNAL FACE | Ø 2 + 6 | Ø 4 + 8 | E V B | FLASH | | |
| 22,23 | G | R | R | Y | | |
| 31 | | F | - | | | |
| 41 | | F | - F | -R | | |
| 42;43 | R | G | R | R | | |
| 62,63 | G | R | R | Y | | |
| 81,82 | R | G | G | R | | |
| P61,P62 | W | DW | DW | DRK | | |
| | | | | | | |

| | LO | OP & | DETE | C | ГС | R U | NIT | INS | STA | LL | .AT | IC | N | Cl | HA | RT | • | | | |
|-----------------|--------------|--------|-------------------------------|---------|----------|---------------|------------|-----|---------------|--------------------|--------------------|----------|-------|-----------|--------|---------|-----------|--------|----------|----------|
| | | | DETECTOR PROGRAMMING | | | | | | | | | | | | | | | | | |
| INDUCTIVE LOOPS | | | | TIMINIC | | | ATTRIBUTES | | | | | | | | PS | STATUS | | | | |
| | | | DICT FROM | 1 | | - | TIMING | | 1 | 2 Z | 3 | 4 | 5 | 6 | 7 | 8 | LOOPS | | <u>ა</u> | |
| LOOP NO. | SIZE (ft) | TURNS | DIST. FROM STOPBAR (ft) | NEW | EXISTING | NEMA PHASE | DELAY | | RRY RETCH) | FULL TIME DELAY | PEDESTRIAN CALL | RESERVED | COUNT | EXTENSION | TYPE 3 | CALLING | ALTERNATE | SYSTEM | NEW | EXISTING |
| 2A | 6×6 | * | 70 | * | _ | 2 | - SEC. | _ | SEC. | _ | _ | - | - | Χ | _ | Χ | _ | _ | - | * |
| 4A | 6×40 | * | 0 | * | - | 4 | 3 SEC. | _ | SEC. | _ | _ | 1 | - | Χ | _ | Χ | _ | - | - | * |
| 4B | 6×40 | * | 0 | * | - | 4 | 10 SEC. | - | SEC. | - | - | - | - | Χ | - | Χ | - | - | - | * |
| 6A | 6×6 | * | 70 | * | - | 6 | - SEC. | - | SEC. | _ | - | - | - | Χ | - | Χ | - | - | - | * |
| 8.8 | 6×40 | * | 0 | * | - | 8 | 3 SEC. | - | SEC. | - | - | - | - | Χ | - | Χ | - | - | - | * |
| 8B | 6×40 | * | 0 | * | _ | 8 | 10 SEC. | - | SEC. | - | _ | 1 | - | Χ | _ | Χ | - | - | _ | * |
| PEDESTR | IAN DE | TECTIC | Ν | | | | | | | | | | | | | | | | | |
| P61,P62 | N/A | N/A | N/A | Χ | _ | 6 | - SEC. | _ | SEC. | - | Χ | 1 | - | - | _ | _ | _ | - | Χ | - |

2033 SOFTWARE w/ 2070 CONTROLLER

* Video Detection Zone SIGNAL FACE I.D.

| 2033 EV PREEMPTI | ON | | | | | |
|---|------------------|--|--|--|--|--|
| 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 | | | | | | |

| 12" T2" T2" | 16" P21,P22* P61,P62 | |
|---|---|----------------------------|
| | PUE 35 Mph -7% Grade BAR -7% Grade R -10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 | |
| NC 55 (N. Alston Ave.) R/WPUE PUE PUE PUE | P61 P62 | 35 Mph +2% Grade PUE - R/W |
| R/W = E PDE E = 35 Mph +3% Grade | 43 22 41 P22 110 8B P21 | NC 55 (N. Alston Ave.) |
| | Liberty St | |

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

NOTES

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. Reposition signal heads #21, #22, #23, #41, #42, 43, #61, #62, and #63 during this phase of construction.

PROJECT REFERENCE NO.

U-3308

|Sig. 33.0|

4. Set all detector units to presence mode.

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

6. Set phase bank 3 maximum limit to 250 seconds for phases used.

7. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.

8. Upon completion of Emergency Vehicle Preemption, controller returns to normal operation.

9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

10. Disconnect and bag signal heads #21 and, #61, and pedestrian signal heads #P21 and #P22 during this phase of construction.

11. Contractor shall adjust video detection zones as required.

LEGEND PROPOSED EXISTING \bigcirc Traffic Signal Head **-**Modified Signal Head N/A Pedestrian Signal Head With Push Button & Sign Signal Pole with Guy Signal Pole with Sidewalk Guy Inductive Loop Detector Controller & Cabinet Junction Box ----- 2-in Underground Conduit -----Right of Way Directional Arrow "No Left Turn" (R3-2) Work Area N/A Drums N/A ----E---- Construction Easement Permanent Utility Easment Permanent Drainage Easment N/A Barricades N/A Direct Bury Optical Detector \bigcirc Video Detector Video Detection Area



shown. Min Green for all other phases should not be lower than 4 seconds

1025 Wade Avenue Raleigh, NC 27605 Tel:919-789-9977 Fax:919-789-9591 License #: C-2197

Prepared for the Offices of:

NC 55 (North Alston Avenue) Liberty St

Division 5 Durham County Durham

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

PLAN DATE: September 2014 REVIEWED BY: J Hochanadel 750 N.Greenfield Pkwy, Garner, NC 27529 PREPARED BY: R Drayton REVIEWED BY: REVISIONS INIT. DATE

DATE SIG. INVENTORY NO. 05-1029T3

FUNCT DELAY BEFORE PRE