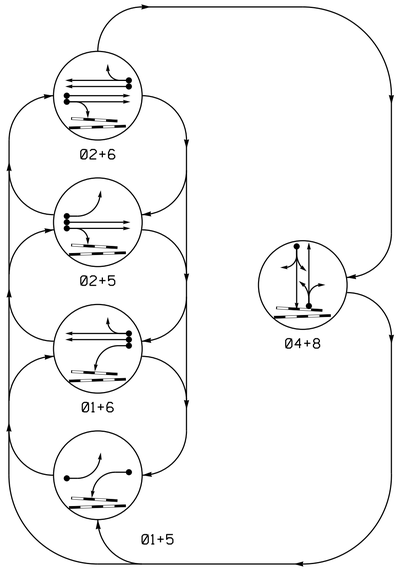
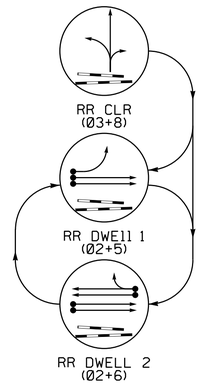
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-4715 B | Sig.150.0 |

## PHASING DIAGRAM




## RR PREEMPT PHASES
(High Priority)



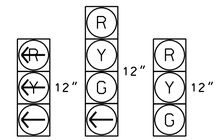

## TABLE OF OPERATION

| SIGNAL FACE | PHASE 01+5 | 01+6 | 02+5 | 02+6 | 04+8 | RR CLR | RR DWELL 1 | RR DWELL 2 | FLASH |
|---|---|---|---|---|---|---|---|---|---|
| 11 | ← | ← | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ | ~~R~~ |
| 21, 22 | R | R | G | G | R | R | G | G | Y |
| 41, 42 | R | R | R | R | G | R | R | R | R |
| 51 | ← | ~~R~~ | ← | ~~R~~ | ~~R~~ | ~~R~~ | ← | ~~R~~ | ~~R~~ |
| 61, 62 | R | G | R | G | R | R | R | G | Y |
| 81 | R | R | R | R | G | G ← | R | R | R |
| 82 | R | R | R | R | G | G | R | R | R |
| Sign "C" | OFF | OFF | OFF | OFF | OFF | ON | ON | ON | * |

* See Note #8

## SIGNAL FACE I.D.

All Heads L.E.D.




11
51

81

21, 22
41, 42
61, 62
82

## OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

| INDUCTIVE LOOPS | | | | | DETECTOR PROGRAMMING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | PHASE | CALLING | EXTENSION | FULL TIME DELAY | STRETCH TIME | DELAY TIME | SYSTEM LOOP | NEW CARD |
| 1A | 6X60 | +5 | 2-4-2 | - | 1 | Y | Y | - | - | 3 | - | Y |
| 2A | 6X6 | 300 | 4 | - | 2 | Y | Y | - | - | - | - | Y |
| 2B | 6X6 | 300 | 4 | - | 2 | Y | Y | - | - | - | - | Y |
| 4A | 6X60 | +5 | 2-4-2 | - | 4 | Y | Y | - | - | 5 | - | Y |
| 5A | 6X60 | +5 | 2-4-2 | - | 5 | Y | Y | - | - | 3 | - | Y |
| 6A | 6X6 | 300 | 4 | - | 6 | Y | Y | - | - | - | - | Y |
| 6B | 6X6 | 300 | 4 | - | 6 | Y | Y | - | - | - | - | Y |
| 8A | 6X60 | +5 | 2-4-2 | - | 8 | Y | Y | - | - | 5 | - | Y |

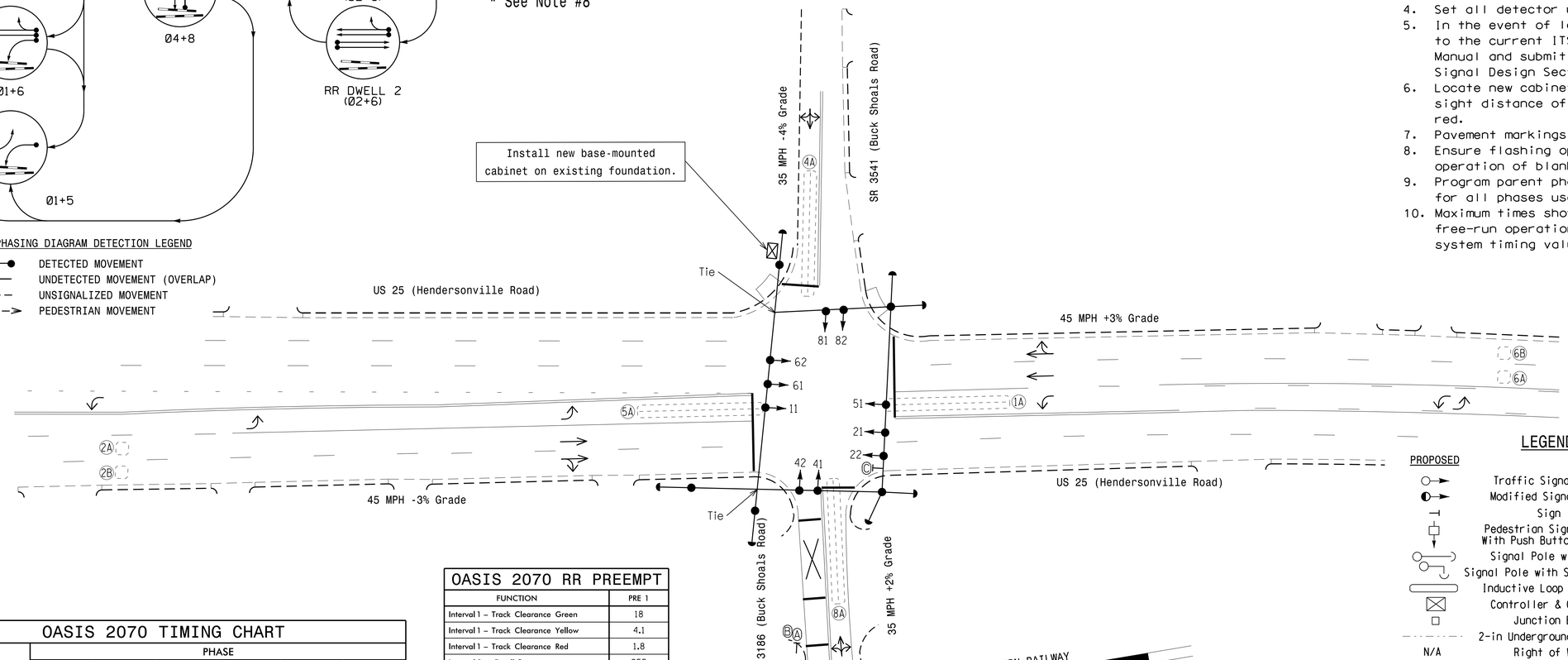
## 5 Phase W/ RR Preemp
## Fully Actuated
## Asheville Signal System

### NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. This location contains railroad preemption phasing. Do not program signal for late night flashing operation.
3. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. Pavement markings are existing.
8. Ensure flashing operation does not alter operation of blankout signs.
9. Program parent phases for Overlap "P" for all phases used in normal operation.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

PHASING DIAGRAM DETECTION LEGEND

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




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | Traffic Signal Head | |
| | 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 | |
| | Controller & Cabinet | |
| | Junction Box | |
| | 2-in Underground Conduit | |
| N/A | Right of Way | |
| | Directional Arrow | |
| N/A | Railroad Tracks | |
| N/A | Railroad Gate and Flasher | |
| A | "DO NOT STOP ON TRACKS" Sign (R8-8) | A |
| B | "STOP HERE ON RED" Sign (R10-6) | B |
| C | "NO RIGHT TURN - TRAIN" L.E.D. Blankout Sign | C |

## OASIS 2070 TIMING CHART

| FEATURE | PHASE 1 | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|---|
| Min Green 1 * | 7 | 12 | 7 | 7 | 12 | 7 |
| Extension 1 * | 1.0 | 6.0 | 1.0 | 1.0 | 6.0 | 1.0 |
| Max Green 1 * | 15 | 90 | 20 | 15 | 90 | 20 |
| Yellow Clearance | 3.0 | 4.8 | 4.1 | 3.0 | 4.8 | 4.1 |
| Red Clearance | 1.9 | 1.0 | 1.8 | 1.9 | 1.0 | 1.8 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Walk 1 * | - | - | - | - | - | - |
| Don't Walk 1 | - | - | - | - | - | - |
| Seconds Per Actuation * | - | 1.5 | - | - | 1.5 | - |
| Max Variable Initial * | - | 34 | - | - | 34 | - |
| Time Before Reduction * | - | 15 | - | - | 15 | - |
| Time To Reduce * | - | 30 | - | - | 30 | - |
| Minimum Gap | - | 3.0 | - | - | 3.0 | - |
| Recall Mode | - | MIN RECALL | - | - | MIN RECALL | - |
| Vehicle Call Memory | - | YELLOW | - | - | YELLOW | - |
| Dual Entry | - | - | ON | - | - | ON |
| Simultaneous Gap | ON | ON | ON | ON | ON | ON |

* 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.

## OASIS 2070 RR PREEMPT

| FUNCTION | PRE 1 |
|---|---|
| Interval 1 – Track Clearance Green | 18 |
| Interval 1 – Track Clearance Yellow | 4.1 |
| Interval 1 – Track Clearance Red | 1.8 |
| Interval 2 – Dwell Green | 255 |
| Interval 2 – Dwell Yellow | 0.0* |
| Interval 2 – Dwell Red | 0.0* |
| Interval 5 – Exit Green | 1 |
| Interval 5 – Yellow | 0.0 |
| Interval 5 – Red | 0.0 |
| Exit Phase(s) | 4+8 |
| Priority | High |
| Delay Time | 0.0 |
| Min Green Before Pre | 1 |
| Ped Clear Before Pre | 0 |
| Yellow Clear Before Pre | 4.8 |
| Red Clear Before Pre | 1.0 |
| Dwell Min Time | 12 |
| Enable Backup Protection | N |
| Ped Clear Through Yellow | N |
| Omit Overlaps | "P" |

* Time defaults to time used for phase during normal operation

This signal is designed for Simultaneous Preemption.

Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 25 (Hendersonville Road)
at
SR 3541 (Buck Shoals Road)
/ SR 3186 (Buck Shoals Road)

Division 13 Buncombe County Arden

| PLAN DATE: | January 2016 | REVIEWED BY: | T. Williams |
|---|---|---|---|
| PREPARED BY: | M. Mahbooba | REVIEWED BY: | |

SCALE 0 30 1"=30'

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

DocuSigned by: T. J. Williams 10/25/2016
STATE TRAFFIC ENGINEER DATE
SIG. INVENTORY NO. I3-0784

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 024393 ENGINEER TIMOTHY J. WILLIAMS

25-OCT-2016 13:39
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