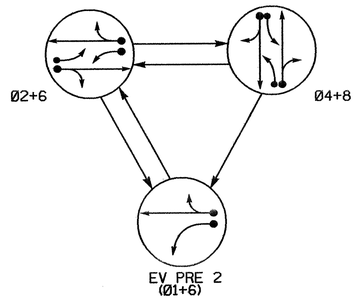
## PHASING DIAGRAM




**PHASING DIAGRAM DETECTION LEGEND**

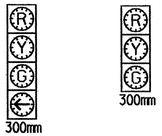
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

## TABLE OF OPERATION

| SIGNAL FACE | PHASE Ø2+6 | PHASE Ø4+8 | PHASE EV PRE 2 | PHASE FLASH |
|---|---|---|---|---|
| 21,22 | G | R | R | Y |
| 41,42 | R | G | R | R |
| 61 | G | R | G | Y |
| 62 | G | R | G | Y |
| 81,82 | R | G | R | R |

## SIGNAL FACE I.D.

Denotes L.E.D.




61

21,22
41,42
62
81,82

* See Note 6.

## 2070L LOOP & DETECTOR INSTALLATION

| INDUCTIVE LOOPS | | | | | DETECTOR PROGRAMMING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOOP | SIZE (M) | TURNS | DISTANCE FROM STOPBAR (M) | NEW LOOP | PHASE | CALLING | EXTENSION | FULL TIME DELAY | SYSTEM LOOP | STRETCH TIME | DELAY TIME | NEW CARD |
| 2A | 1.8X1.8 | 5 | 128 | - | 2 | Y | Y | - | - | - | - | Y |
| 2B | 1.8X18 | 2-4-2 | 0 | - | 2 | Y | Y | Y | - | - | 3 | Y |
| 4A | 1.8X18 | 2-4-2 | 0 | - | 4 | Y | Y | - | - | - | 3 | Y |
| 4B | 1.8X18 | 2-4-2 | 0 | - | 4 | Y | Y | - | - | - | 10 | Y |
| 4C | 1.8X3.7 | 3 | +1.5 | - | 4 | Y | Y | - | - | - | 15 | Y |
| 6A/SO1 | 1.8X1.8 | 6 | 128 | - | 6 | Y | Y | - | Y | - | - | Y |
| 6B | 1.8X18 | 2-4-2 | 0 | - | 6 | Y | Y | Y | - | - | 3 | Y |
| 8A | 1.8X18 | 2-4-2 | 0 | - | 8 | Y | Y | - | - | - | 3 | Y |
| 8B | 1.8X18 | 2-4-2 | 0 | - | 8 | Y | Y | - | - | - | 10 | Y |
| 8C | 1.8X3.7 | 3 | +1.5 | - | 8 | Y | Y | - | - | - | 15 | Y |

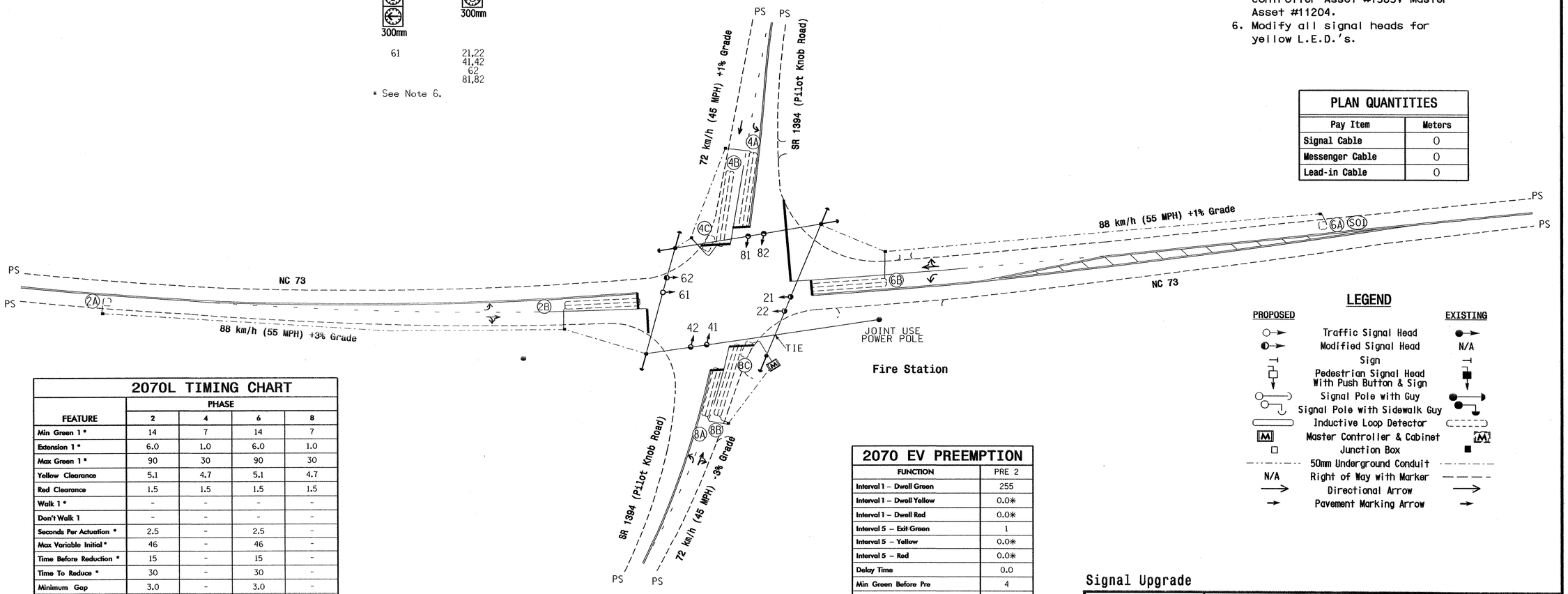
## 2 Phase
## (Fully Actuated with Fire Preemption)
## (NC 73 Closed Loop System)

### NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
2. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
3. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
4. Set all detector units to presence mode.
5. Closed loop system data: Controller Asset #1383, Master Asset #11204.
6. Modify all signal heads for yellow L.E.D.'s.

## PLAN QUANTITIES

| Pay Item | Meters |
|---|---|
| Signal Cable | 0 |
| Messenger Cable | 0 |
| Lead-in Cable | 0 |




## 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 | |
| M | Master Controller & Cabinet | M |
| | Junction Box | |
| | 50mm Underground Conduit | |
| N/A | Right of Way with Marker | |
| | Directional Arrow | |
| | Pavement Marking Arrow | |

## 2070L TIMING CHART

| FEATURE | PHASE 2 | PHASE 4 | PHASE 6 | PHASE 8 |
|---|---|---|---|---|
| Min Green 1 * | 14 | 7 | 14 | 7 |
| Extension 1 * | 6.0 | 1.0 | 6.0 | 1.0 |
| Max Green 1 * | 90 | 30 | 90 | 30 |
| Yellow Clearance | 5.1 | 4.7 | 5.1 | 4.7 |
| Red Clearance | 1.5 | 1.5 | 1.5 | 1.5 |
| Walk 1 * | - | - | - | - |
| Don't Walk 1 | - | - | - | - |
| Seconds Per Actuation * | 2.5 | - | 2.5 | - |
| Max Variable Initial * | 46 | - | 46 | - |
| 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 |

* 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.

## 2070 EV PREEMPTION

| FUNCTION | PRE 2 |
|---|---|
| Interval 1 – Dwell Green | 255 |
| Interval 1 – Dwell Yellow | 0.0* |
| Interval 1 – Dwell Red | 0.0* |
| Interval 5 – Exit Green | 1 |
| Interval 5 – Yellow | 0.0* |
| Interval 5 – Red | 0.0* |
| Delay Time | 0.0 |
| Min Green Before Pre | 4 |
| Ped Clear Before Pre | - |
| Yellow Clear Before Pre | 0.0* |
| Red Clear Before Pre | 0.0* |
| Dwell Min Time | 30 |
| Enable Backup Protection | Y |
| Ped Clear Through Yellow | N |

* Time defaults to time used for phase during normal operation.

Signal Upgrade

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, Traffic Signals and Geometrics Section, 122 N. McDowell St., Raleigh, NC 27603

SCALE 5 0 10 1:500

NC 73
At
SR 1394 (Pilot Knob Road)

Division 12 Lincoln County N. Cornelius
PLAN DATE: August 2004 REVIEWED BY: J.P. Galloway
PREPARED BY: C.J. Collins REVIEWED BY:

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

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 24393 ENGINEER TIMOTHY J. WILLIAMS
SIGNATURE 8/13/04 DATE
SIG. INVENTORY NO. 12-1363

13-AUG-2004 10:25
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