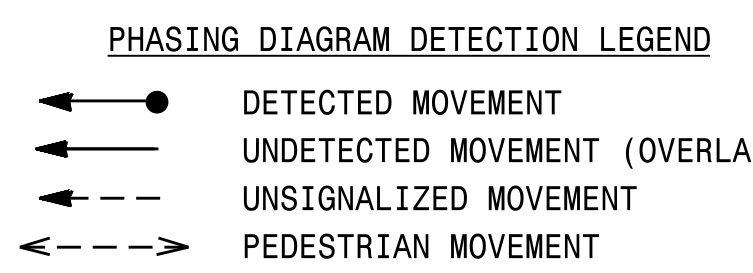
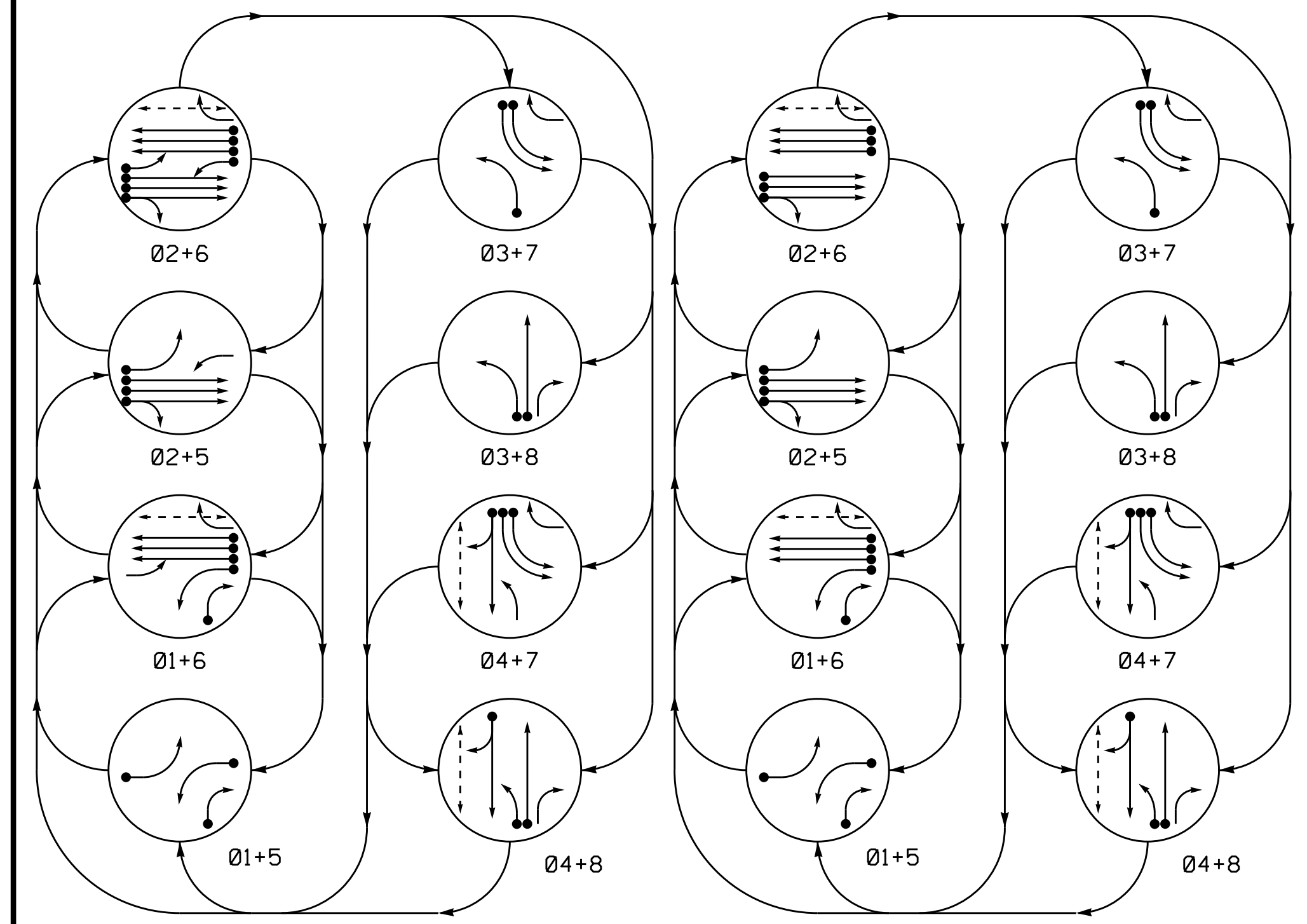


DEFAULT PHASING DIAGRAM

ALTERNATE PHASING DIAGRAM



DEFAULT TABLE OF OPERATION

| SIGNAL FACE | PHASE |      |      |      |      |      |      |      |
|-------------|-------|------|------|------|------|------|------|------|
|             | 01+5  | 01+6 | 02+5 | 02+6 | 03+7 | 03+8 | 04+7 | 04+8 |
| 11          | -     | -    | F    | F    | R    | R    | R    | Y    |
| 21, 22, 23  | R     | R    | G    | G    | R    | R    | R    | Y    |
| 31          | -     | -    | -    | -    | -    | -    | F    | F    |
| 41, 42, 43  | R     | R    | R    | R    | R    | G    | G    | R    |
| 51          | -     | F    | F    | F    | R    | R    | R    | Y    |
| 61, 62      | R     | G    | R    | G    | R    | R    | R    | Y    |
| 63          | R     | G    | R    | G    | R    | R    | R    | Y    |
| 71, 72      | -     | -    | -    | -    | -    | -    | -    | -    |
| 81, 83      | R     | R    | R    | R    | G    | G    | R    | R    |
| 82          | R     | R    | R    | R    | G    | G    | R    | R    |
| P41, P42    | DW    | DW   | DW   | DW   | DW   | W    | W    | DRK  |
| P61, P62    | DW    | W    | DW   | W    | DW   | DW   | DW   | DRK  |

ALTERNATE TABLE OF OPERATION

| SIGNAL FACE | PHASE |      |      |      |      |      |      |      |
|-------------|-------|------|------|------|------|------|------|------|
|             | 01+5  | 01+6 | 02+5 | 02+6 | 03+7 | 03+8 | 04+7 | 04+8 |
| 11          | -     | -    | -    | -    | -    | -    | -    | -    |
| 21, 22, 23  | R     | R    | G    | G    | R    | R    | R    | Y    |
| 31          | -     | -    | -    | -    | -    | -    | -    | -    |
| 41, 42, 43  | R     | R    | R    | R    | R    | G    | G    | R    |
| 51          | -     | -    | -    | -    | -    | -    | -    | -    |
| 61, 62      | R     | G    | R    | G    | R    | R    | R    | Y    |
| 63          | R     | G    | R    | G    | R    | R    | R    | Y    |
| 71, 72      | -     | -    | -    | -    | -    | -    | -    | -    |
| 81, 83      | R     | R    | R    | R    | G    | G    | R    | R    |
| 82          | R     | R    | R    | R    | G    | G    | R    | R    |
| P41, P42    | DW    | DW   | DW   | DW   | DW   | W    | W    | DRK  |
| P61, P62    | DW    | W    | DW   | W    | DW   | DW   | DW   | DRK  |

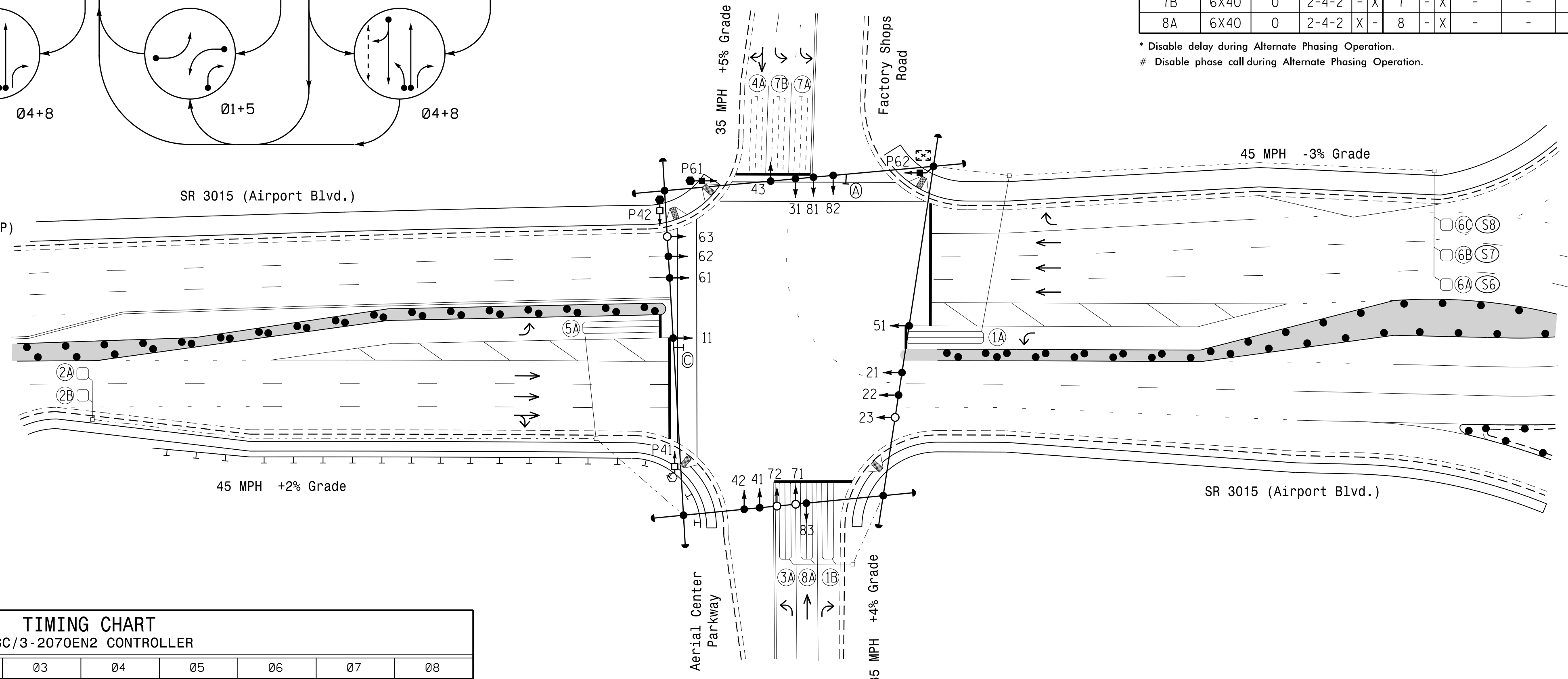
LOOP & DETECTOR INSTALLATION CHART  
ASC/3-2070EN2 CONTROLLER w/ TS-2 CABINET

| LOOP NO. | SIZE (ft) | DIST. FROM STOPBAR (ft) | TURNS | NEW EXISTING | DETECTOR UNITS |          | TIMING | ADDED INITIAL | DET. TYPE |   |   |
|----------|-----------|-------------------------|-------|--------------|----------------|----------|--------|---------------|-----------|---|---|
|          |           |                         |       |              | NEMA PHASE     | EXISTING |        |               |           |   |   |
| 1A       | 6X40      | 0                       | 2-4-2 | X            | -              | 1        | -      | DELAY         | 15*       | - | S |
| 1B       | 6X40      | 0                       | 2-4-2 | X            | -              | 1        | -      | DELAY         | 15        | - | S |
| 2A       | 6X6       | 300                     | 5     | X            | -              | 2        | X      | -             | -         | X | N |
| 2B       | 6X6       | 300                     | 5     | X            | -              | 2        | X      | -             | -         | X | N |
| 3A       | 6X40      | 0                       | 2-4-2 | X            | -              | 3        | -      | DELAY         | 15        | - | S |
| 4A       | 6X40      | 0                       | 2-4-2 | X            | -              | 4        | -      | DELAY         | 10        | - | S |
| 5A       | 6X40      | 0                       | 2-4-2 | X            | -              | 5        | -      | DELAY         | 15*       | - | S |
| 6A/S6    | 6X6       | 260                     | 5     | X            | -              | 6        | X      | -             | -         | X | N |
| 6B/S7    | 6X6       | 260                     | 5     | X            | -              | 6        | X      | -             | -         | X | N |
| 6C/S8    | 6X6       | 260                     | 5     | X            | -              | 6        | X      | -             | -         | X | N |
| 7A       | 6X40      | 0                       | 2-4-2 | X            | -              | 7        | -      | DELAY         | 3         | - | S |
| 7B       | 6X40      | 0                       | 2-4-2 | X            | -              | 7        | -      | -             | -         | - | S |
| 8A       | 6X40      | 0                       | 2-4-2 | X            | -              | 8        | -      | -             | -         | - | S |

\* Disable delay during Alternate Phasing Operation.  
# Disable phase call during Alternate Phasing Operation.

8 Phase Fully Actuated (Cary Signal System)

- NOTES
- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
  - Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
  - Phase 1 and/or phase 5 may be lagged.
  - Phase 3 and/or phase 7 may be lagged.
  - Set all detector units to presence mode.
  - Reposition existing signal heads numbered 11, 21, 22, and 51.
  - Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
  - Program pedestrian heads to countdown the flashing "Don't Walk" time only.
  - The Division (City) Traffic Engineer will determine the hours of use for each phasing plan.
  - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
  - Cary signal system data: Fiber Channel #: 26.

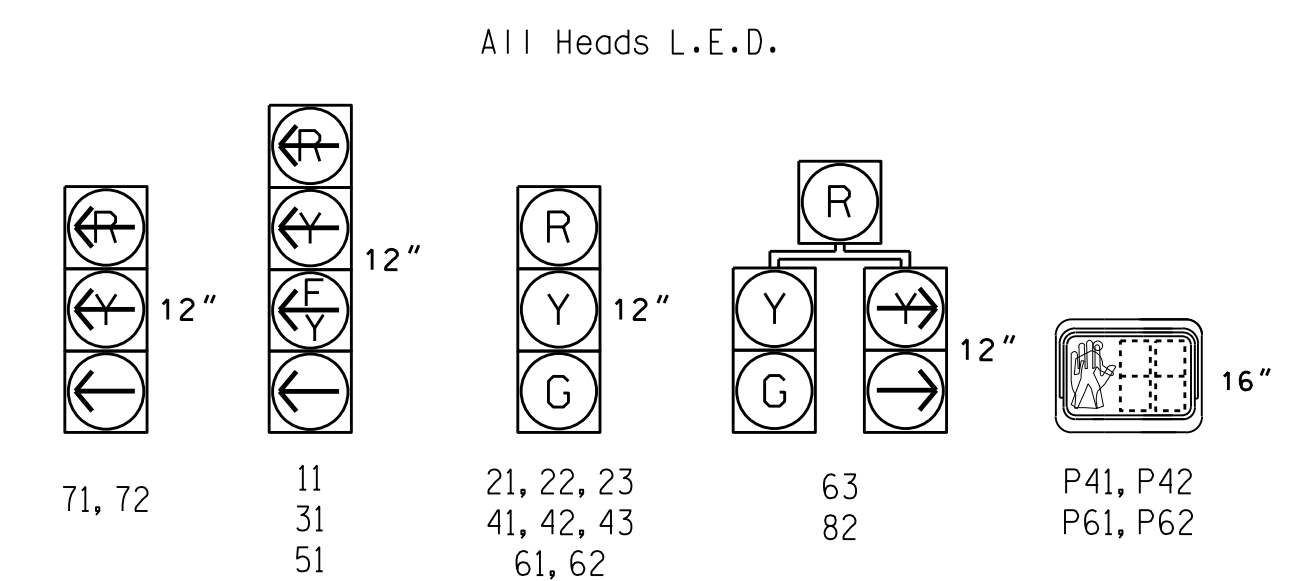


TIMING CHART  
ASC/3-2070EN2 CONTROLLER

| PHASE                | 01       | 02          | 03       | 04       | 05       | 06          | 07       | 08       |
|----------------------|----------|-------------|----------|----------|----------|-------------|----------|----------|
| MINIMUM GREEN *      | 7 SEC.   | 12 SEC.     | 7 SEC.   | 7 SEC.   | 7 SEC.   | 12 SEC.     | 7 SEC.   | 7 SEC.   |
| VEHICLE EXT. *       | 2.0 SEC. | 6.0 SEC.    | 2.0 SEC. | 2.0 SEC. | 2.0 SEC. | 5.0 SEC.    | 2.0 SEC. | 2.0 SEC. |
| YELLOW CHANGE INT.   | 3.0 SEC. | 4.8 SEC.    | 3.0 SEC. | 3.6 SEC. | 3.0 SEC. | 4.8 SEC.    | 3.0 SEC. | 3.6 SEC. |
| RED CLEARANCE        | 3.1 SEC. | 2.0 SEC.    | 3.4 SEC. | 2.9 SEC. | 3.3 SEC. | 2.0 SEC.    | 3.6 SEC. | 2.9 SEC. |
| MAX. I *             | 20 SEC.  | 120 SEC.    | 20 SEC.  | 30 SEC.  | 15 SEC.  | 120 SEC.    | 20 SEC.  | 30 SEC.  |
| RECALL POSITION      | NONE     | MIN. RECALL | NONE     | NONE     | NONE     | MIN. RECALL | NONE     | NONE     |
| LOCK DET.            | OFF      | ON          | OFF      | OFF      | OFF      | ON          | OFF      | OFF      |
| WALK *               | - SEC.   | - SEC.      | - SEC.   | 7 SEC.   | - SEC.   | 7 SEC.      | - SEC.   | - SEC.   |
| PED. CLEAR           | - SEC.   | - SEC.      | - SEC.   | 30 SEC.  | - SEC.   | 22 SEC.     | - SEC.   | - SEC.   |
| VOLUME DENSITY       | OFF      | ON          | OFF      | OFF      | OFF      | ON          | OFF      | OFF      |
| ACTUATION B4 ADD *   | - VEH.   | - VEH.      | - VEH.   | - VEH.   | - VEH.   | - VEH.      | - VEH.   | - VEH.   |
| SEC. PER ACTUATION * | - SEC.   | 1.0 SEC.    | - SEC.   | - SEC.   | - SEC.   | 1.0 SEC.    | - SEC.   | - SEC.   |
| MAX. INITIAL *       | - SEC.   | 34 SEC.     | - SEC.   | - SEC.   | - SEC.   | 30 SEC.     | - SEC.   | - SEC.   |
| TIME B4 REDUCTION *  | - SEC.   | 20 SEC.     | - SEC.   | - SEC.   | - SEC.   | 20 SEC.     | - SEC.   | - SEC.   |
| TIME TO REDUCE *     | - SEC.   | 40 SEC.     | - SEC.   | - SEC.   | - SEC.   | 40 SEC.     | - SEC.   | - SEC.   |
| MINIMUM GAP          | - SEC.   | 3.0 SEC.    | - SEC.   | - SEC.   | - SEC.   | 3.0 SEC.    | - SEC.   | - SEC.   |
| DUAL ENTRY           | OFF      | OFF         | OFF      | ON       | OFF      | OFF         | OFF      | OFF      |
| SIMULTANEOUS GAP     | ON       | ON          | 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.

SIGNAL FACE I.D.



LEGEND

| PROPOSED                                       | EXISTING |
|--|----------|
| Traffic Signal Head                            | N/A      |
| Modified Signal Head                           | N/A      |
| Sign   | N/A      |
| Pedestrian Signal Head With Push Button & Sign | N/A      |
| Signal Pole with Guy                           | N/A      |
| Signal Pole with Sidewalk Guy                  | N/A      |
| Inductive Loop Detector                        | N/A      |
| Controller & Cabinet                           | N/A      |
| Junction Box                                   | N/A      |
| 2-in Underground Conduit                       | N/A      |
| Right of Way                                   | N/A      |
| Directional Arrow                              | N/A      |
| Type II Signal Pedestal                        | N/A      |
| Guardrail                                      | N/A      |
| Curb Ramp                                      | N/A      |
| Construction Zone Drums                        | N/A      |
| Construction Zone                              | N/A      |
| Right Arrow "ONLY" Sign (R3-5R)                | N/A      |
| "U-TURN YIELD TO RIGHT TURN" Sign (R10-16)     | N/A      |

Signal Upgrade - Temporary Design 5 (TMP Phase IV)

SR 3015 (Airport Blvd.) at Factory Shops Road/Aerial Center Parkway

Division 5 Wake County Morrisville

PLAN DATE: March 2019 REVIEWED BY: J.A. Lohr

PREPARED BY: J.A. Lohr

SCALE: 1"=40'

750 N. Greenfield Pkwy, Garner, NC 27529

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER ROBERT J. ZIEGLER

DATE: 7/24/2019

SIG. INVENTORY NO. 05-1726T5