

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
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. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. 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.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
8. Ensure flashing operation does not alter operation of blank out signs.
9. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
10. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
11. Program phase 40 to run concurrently with all phases during normal operation. Phase 39 must be incompatible with phase 40 and included as a track clear phase.

| PROPOSED |                                                 | EXISTING |
|----------|-------------------------------------------------|----------|
|          | Traffic Signal Head                             |          |
|          | Modified Signal Head                            | N/A      |
|          | Sign                                            |          |
|          | Pedestrian Signal Head                          |          |
|          | Signal Pole with Guy                            |          |
|          | Signal Pole with Sidewalk Guy                   |          |
|          | Metal Strain Pole                               |          |
|          | Type I Pushbutton Post                          |          |
|          | 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 Cantilever                             |          |
| N/A      | Railroad Gate and Flasher                       |          |
| (A)      | "NO RIGHT TURN - TRAIN"<br>L.E.D. Blankout Sign | (B)      |
| (B)      | "STOP" Sign (R1-1)                              | (B)      |
| (C)      | "DO NOT STOP ON TRACKS" Sign (R8-8)             | (C)      |
| (D)      | "DO NOT BLOCK INTERSECTION"<br>Sign (R10-7)     | (D)      |
| (E)      | "STOP HERE WHEN FLASHING"<br>Sign (R8-10)       | (E)      |
| (F)      | "U-TURN YIELD TO RIGHT TURN"<br>Sign (R10-16)   | (F)      |

The diagram illustrates the experimental task in three stages, each within a circle:

- Track Clear (4+7+39):** Shows a horizontal track with a vertical line in the center. Arrows indicate movement from the center towards the left and right ends of the track.
- Dwell 1 (2+6):** Shows a horizontal track with a vertical line in the center. Arrows indicate movement from the ends of the track towards the center.
- Dwell 2 (9):** Shows a horizontal track with a vertical line in the center. Arrows indicate movement from the center towards the left and right ends of the track.

| FUNCTION                 | PRE 1       |
|--------------------------|-------------|
| Type                     | RAIL ROAD   |
| Exit Phases              | 4,8         |
| Delay                    | 0           |
| Call Extend Time         | 1.0         |
| Max Presence             | 0           |
| Enter Min Green          | 1           |
| Enter Walk               | 1           |
| Enter Ped Clear          | 5           |
| Enter Yellow Change      | 4.9         |
| Enter Red Clear          | 3.3         |
| Track Green              | 28          |
| Track Yellow Change      | 4.4         |
| Track Red Clear          | 2.3         |
| Dwell Green              | 0           |
| Exit Min Green           | 25.5 *      |
| Exit Yellow Change       | 25.5 *      |
| Exit Red Clear           | 25.5 *      |
| Exit Type                | EXIT PHASES |
| Ped Clear Through Yellow | Y           |
| Require All Red Entry    | -           |

This signal was designed  
for advance preemption.

| SIGNAL<br>FACE | PHASE |       |       |       |       |       |       |       |           |               |               |           |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|---------------|---------------|-----------|
|                | 1 + 5 | 1 + 6 | 2 + 5 | 2 + 6 | 3 + 7 | 3 + 8 | 4 + 7 | 4 + 8 | R R C F L | R R D W L F L | R R D W L F N | F L A S H |
| 11             | ←     | ←     | F     | F     | ←     | ←     | ←     | ←     | ←         | ←             | ←             | ←         |
| 21             | R     | R     | G     | G     | R     | R     | R     | R     | R         | G             | R             | R         |
| 22             | R     | R     | G     | G     | R     | R     | R     | R     | R         | G             | R             | R         |
| 31             | ←     | ←     | ←     | ←     | ←     | ←     | F     | F     | F         | ←             | ←             | ←         |
| 41             | R     | R     | R     | R     | R     | R     | G     | G     | G         | R             | R             | R         |
| 42             | R     | R     | R     | R     | R     | R     | G     | G     | G         | R             | R             | R         |
| 51             | ←     | F     | ←     | F     | ←     | ←     | ←     | ←     | ←         | ←             | ←             | ←         |
| 61             | R     | G     | R     | G     | R     | R     | R     | R     | R         | G             | R             | R         |
| 62             | R     | G     | R     | G     | R     | R     | R     | R     | R         | G             | R             | R         |
| 71             | ←     | ←     | ←     | ←     | ←     | F     | ←     | F     | ←         | ←             | ←             | ←         |
| 81             | R     | R     | R     | R     | R     | G     | R     | G     | R         | R             | R             | R         |
| 82             | R     | R     | R     | R     | R     | G     | R     | G     | R         | R             | R             | R         |
| P21, P22       | DW    | DW    | W     | W     | DW    | DW    | DW    | DW    | DW        | DW            | DW            | DRK       |
| Sign A         | OFF   | OFF   | OFF   | OFF   | OFF   | OFF   | OFF   | OFF   | ON        | ON            | ON            | *         |

[illegible]

| DETECTOR |                |                                     |       |          | PROGRAMMING   |               |                |        |               |      |                    |          |
|----------|----------------|-------------------------------------|-------|----------|---------------|---------------|----------------|--------|---------------|------|--------------------|----------|
| LOOP     | SIZE<br>(FT)   | DISTANCE<br>FROM<br>STOPBAR<br>(FT) | TURNS | NEW LOOP | CALL<br>PHASE | DELAY<br>TIME | EXTEND<br>TIME | EXTEND | ADDED INITIAL | CALL | DELAY DURING GREEN | NEW CARD |
| 1A       | 6X40           | 0                                   | 2-4-2 | -        | 1<br>6        | 15.0<br>3.0   | -              | X      | -             | X    | -                  | -        |
| 1B       | 6X40           | 0                                   | 2-4-2 | X        | 1/9           | 15.0          | -              | X      | -             | X    | -                  | -        |
| 2A       | 6X6            | 355                                 | 5     | X        | 2             | -             | -              | X      | X             | X    | -                  | -        |
| 3A       | 6X40           | 0                                   | 2-4-2 | X        | 3/9<br>8      | 15.0          | -              | X      | -             | X    | -                  | -        |
| 4A       | 6X40           | 0                                   | 2-4-2 | -        | 4             | -             | -              | X      | -             | X    | -                  | -        |
| 4B       | 6X25           | +12 #                               | 2-4-2 | -        | 4             | -             | -              | X      | -             | X    | -                  | -        |
| 4C       | 6X25           | 0 ##                                | 2-4-2 | -        | 4             | -             | -              | X      | -             | X    | -                  | -        |
| 4D       | 6X25           | 0 ##                                | 2-4-2 | -        | 4             | 5.0           | -              | X      | -             | X    | -                  | -        |
| 5A       | 6X40           | 0                                   | 2-4-2 | X        | 5<br>2        | 15.0<br>3.0   | -              | X      | -             | X    | -                  | -        |
| 5B       | 6X40           | 0                                   | 2-4-2 | -        | 5             | 15.0          | -              | X      | -             | X    | -                  | -        |
| 5C       | 6X25           | +12 #                               | 2-4-2 | -        | 5             | 10.0          | -              | X      | -             | X    | -                  | -        |
| 6A       | 6X6            | 355                                 | 5     | -        | 6             | -             | -              | X      | X             | X    | -                  | -        |
| 7A       | 6X35           | 0                                   | 2-4-2 | -        | 7<br>4        | 15.0<br>3.0   | -              | X      | -             | X    | -                  | -        |
| 7B       | 6X25           | +12 #                               | 2-4-2 | -        | 7             | 3.0           | -              | X      | -             | X    | -                  | -        |
| 7C       | 6X25           | 0 ##                                | 2-4-2 | -        | 7             | 3.0           | -              | X      | -             | X    | -                  | -        |
| 8A       | 6X40           | 0                                   | 2-4-2 | X        | 8             | -             | -              | X      | -             | X    | -                  | -        |
| * 8B     | 6X<br>Diagonal | 0                                   | 2-4-2 | X        | 8             | -             | -              | X      | -             | X    | -                  | X        |

PHASING DIAGRAM DETECTION LEGEND

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

| FEATURE                 | PHASE |            |     |     |     |            |     |     |     |     |            |
|-------------------------|-------|------------|-----|-----|-----|------------|-----|-----|-----|-----|------------|
|                         | 1     | 2          | 3   | 4   | 5   | 6          | 7   | 8   | 9   | 39  | 40         |
| Walk *                  | –     | 14         | –   | –   | –   | –          | –   | –   | –   |     |            |
| Ped Clear               | –     | 22         | –   | –   | –   | –          | –   | –   | –   |     |            |
| Min Green *             | 7     | 14         | 7   | 7   | 7   | 14         | 7   | 7   | 7   |     |            |
| Passage *               | 2.0   | 6.0        | 2.0 | 2.0 | 2.0 | 6.0        | 2.0 | 2.0 | 2.0 |     |            |
| Max 1 *                 | 20    | 60         | 20  | 30  | 30  | 60         | 40  | 30  | 20  |     |            |
| Yellow Change           | 3.0   | 4.9        | 3.0 | 4.4 | 3.0 | 4.9        | 3.0 | 4.4 | 3.0 | 4.4 | 4.9        |
| Red Clear               | 2.8   | 1.3        | 3.3 | 1.9 | 2.9 | 1.3        | 2.3 | 1.9 | 3.3 | 2.3 | 3.3        |
| Added Initial *         | –     | 2.5        | –   | –   | –   | 2.5        | –   | –   | –   |     |            |
| Maximum Initial *       | –     | 40         | –   | –   | –   | 40         | –   | –   | –   |     |            |
| Time Before Reduction * | –     | 15         | –   | –   | –   | 15         | –   | –   | –   |     |            |
| Time To Reduce *        | –     | 20         | –   | –   | –   | 20         | –   | –   | –   |     |            |
| Minimum Gap             | –     | 3.0        | –   | –   | –   | 3.0        | –   | –   | –   |     |            |
| Advance Walk            | –     | 7          | –   | –   | –   | –          | –   | –   | –   |     |            |
| Non Lock Detector       | X     | –          | X   | X   | X   | –          | X   | X   | X   |     |            |
| Vehicle Recall          | –     | MIN RECALL | –   | –   | –   | MIN RECALL | –   | –   | –   |     | MIN RECALL |
| Dual Entry              | –     | –          | –   | X   | –   | –          | –   | X   | –   |     |            |

\* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

| <p>Prepared For:</p>  <p>750 N. Greenfield Pkwy, Garner, NC 27529</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>NC 66/SR 2377 (W. Mountain St.)<br/>at<br/>NC 66 (Old Hollow Road) and<br/>SR 2649 (Hopkins Road)</p> <p>Division 9      Forsyth County      Kernersville</p>                                                                                                                                                                                                                                                                                                                                                                                                           | <p>SEAL</p>  <p>7/14/2025</p> |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |             |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| PREPARED BY: CF Davis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | REVISED BY:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                    |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |             |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <p>SIG. INVENTORY NO. 09-0567</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                    |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |             |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |