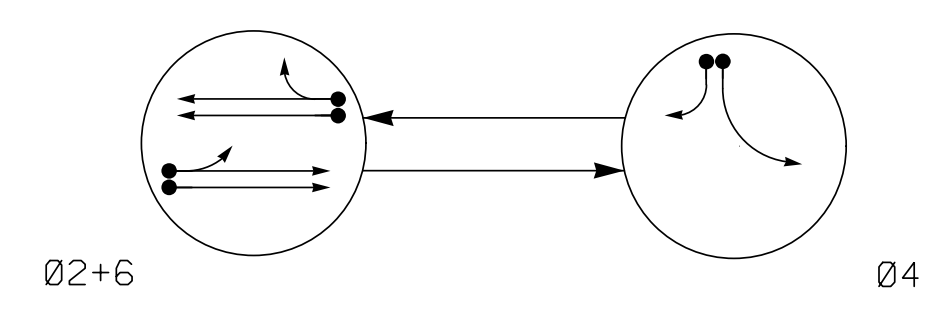


**PHASING DIAGRAM**



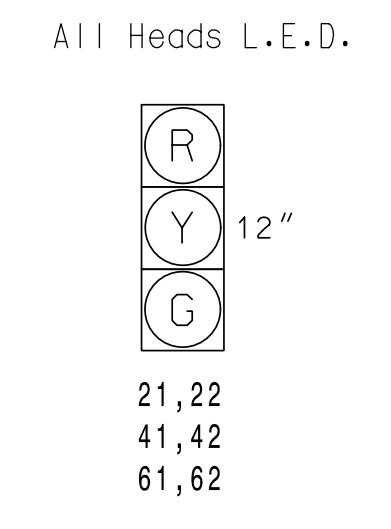
**PHASING DIAGRAM DETECTION LEGEND**

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

**TABLE OF OPERATION**

| SIGNAL FACE | PHASE |    |       |
|-------------|-------|----|-------|
|             | Ø2+6  | Ø4 | FLASH |
| 21,22       | G     | R  | Y     |
| 41,42       | R     | G  | R     |
| 61,62       | G     | R  | Y     |

**SIGNAL FACE I.D.**



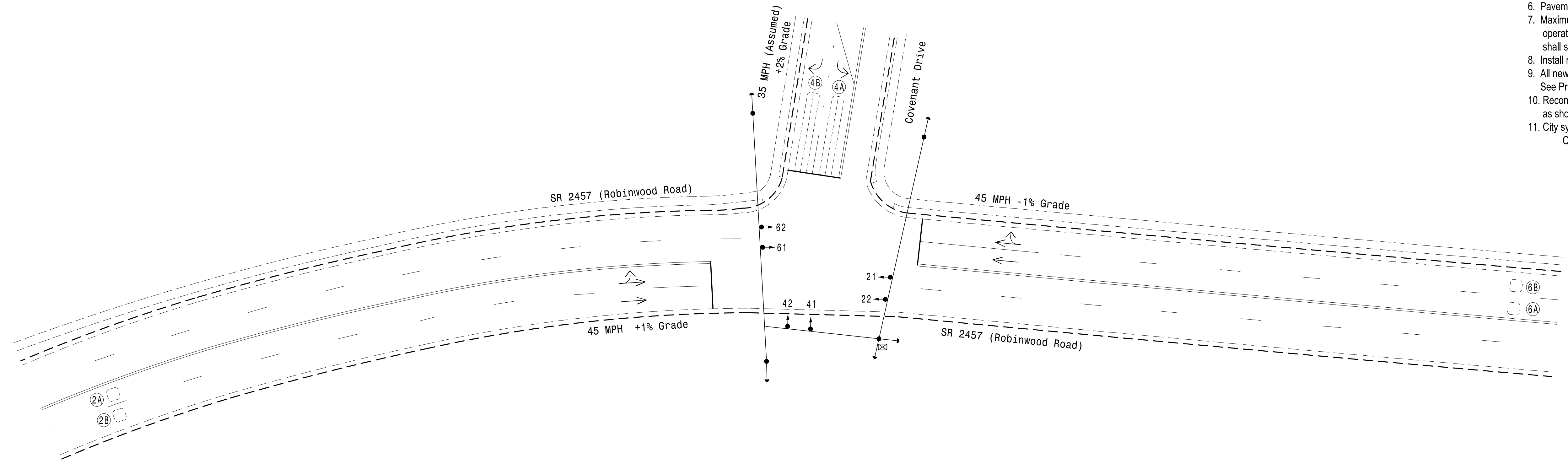
**DETECTOR INSTALLATION CHART**

| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | PROGRAMMING |         |             |            |                   |      |      |          |
|------|-----------|----------------------------|-------|----------|-------------|---------|-------------|------------|-------------------|------|------|----------|
|      |           |                            |       |          | PHASE       | CALLING | EXTEND TIME | DELAY TIME | USE ADDED INITIAL | TYPE | LOOP | NEW CARD |
| 2A   | 6X6       | 300                        | EXIST | -        | 2           | Yes     | -           | -          | X                 | N    | -    | X        |
| 2B   | 6X6       | 300                        | EXIST | -        | 2           | Yes     | -           | -          | X                 | N    | -    | X        |
| 4A   | 6X40      | 0                          | 2-4-2 | -        | 4           | Yes     | -           | 3          | -                 | N    | -    | X        |
| 4B   | 6X40      | 0                          | 2-4-2 | -        | 4           | Yes     | -           | 10         | -                 | N    | -    | X        |
| 6A   | 6X6       | 300                        | EXIST | -        | 6           | Yes     | -           | -          | X                 | N    | -    | X        |
| 6B   | 6X6       | 300                        | EXIST | -        | 6           | Yes     | -           | -          | X                 | N    | -    | X        |

**2 Phase Fully Actuated Gastonia Signal System**

**NOTES**

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. In the event of loop replacement, refer to the current ITS and Signal Design Manual and submit a Plan of Record to the Signal Design Section.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Pavement markings are existing.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
8. Install new cabinet on the existing cabinet foundation.
9. All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
10. Reconnect lead-in cable to separate loops 4A & 4B, as shown.
11. City system data:  
Controller Asset #1512.



**TIMING CHART**

| FEATURE                 | PHASE      |     |            |
|-------------------------|------------|-----|------------|
|                         | 2          | 4   | 6          |
| Min Green *             | 12         | 7   | 12         |
| Walk *                  | -          | -   | -          |
| Ped Clear               | -          | -   | -          |
| Veh. Extension *        | 6.0        | 2.0 | 6.0        |
| Max I *                 | 45         | 20  | 45         |
| Yellow                  | 4.6        | 3.0 | 4.6        |
| Red Clear               | 1.2        | 1.8 | 1.2        |
| Red Revert              | 2.0        | 2.0 | 2.0        |
| Actuations B4 Add *     | -          | -   | -          |
| Seconds / Actuation *   | 1.5        | -   | 1.5        |
| Max Initial *           | 34         | -   | 34         |
| Time Before Reduction * | 15         | -   | 15         |
| Time To Reduce *        | 30         | -   | 30         |
| Minimum Gap             | 3.0        | -   | 3.0        |
| Locking Detector        | X          | -   | X          |
| Recall Position         | MIN RECALL | -   | MIN RECALL |
| Dual Entry              | -          | -   | -          |
| Simultaneous Gap        | X          | X   | X          |

\* 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.

**LEGEND**

| PROPOSED | EXISTING |
|----------|----------|
|          |          |
|          | N/A      |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |

**Signal Upgrade**

Prepared For:  
  
 TRANSPORTATION MOBILITY AND SAFETY DIVISION  
 STATE OF NORTH CAROLINA  
 SIGNAL DESIGN SECTION

PLANS PREPARED IN THE OFFICE OF:  
**Kimley»Horn**  
 NC License #F-0102  
 421 Fayetteville Street, Suite 600  
 Raleigh, NC 27601  
 (919) 677-2000

**SR 2457 (Robinwood Road)  
at  
Covenant Drive**

Division 12 Gaston County Gastonia

PLAN DATE: May 2021 REVIEWED BY: SL Phillips  
 PREPARED BY: DM Curri REVIEWED BY: KP Baumann

REVISIONS: \_\_\_\_\_ INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

KEVIN P. BAUMANN  
 ENGINEER

Discussed by: 3/11/2022  
 DATE

SIG. INVENTORY NO. 12-1512

3/9/2022 11:16:40 AM DanHelle.Curri \*\*\*K:\mley-horn.com\SE-RAL\MRAL-TPIDK-ITS\011036569\_Gastonia Signal System\Signal\KWS4 - Signal Design\121512-2021.dgn