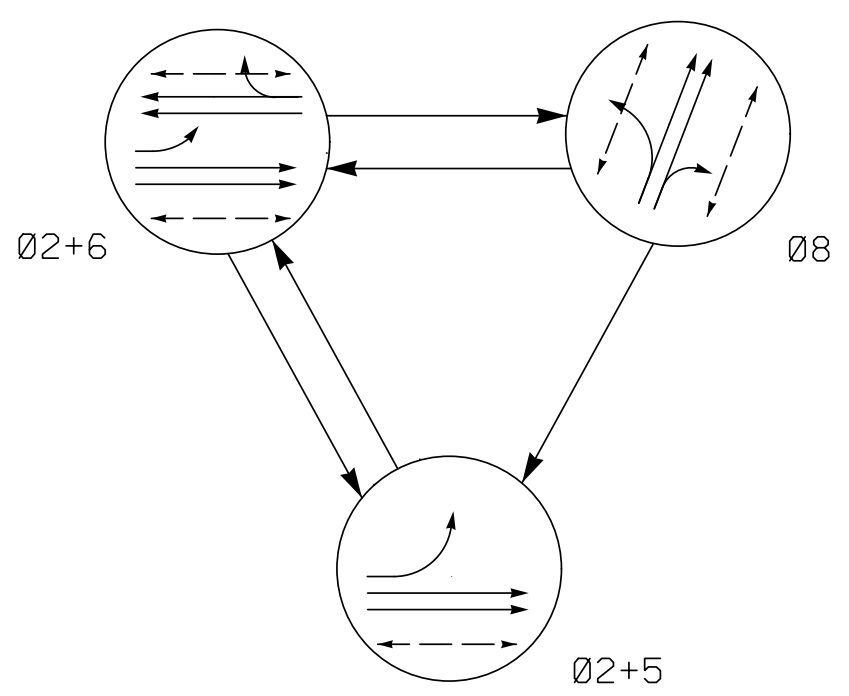
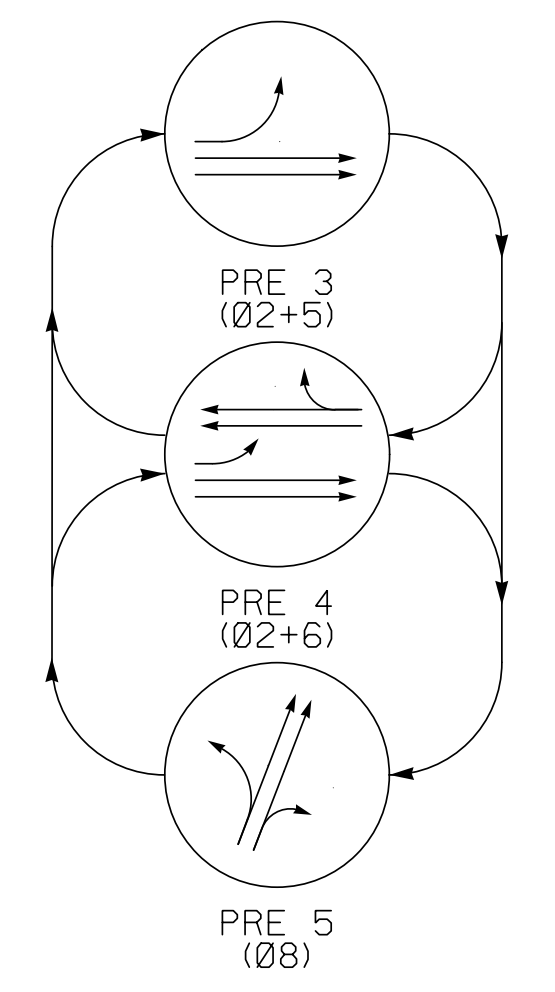


DEFAULT PHASING DIAGRAM



DEFAULT EV PREEMPT PHASES (Medium Priority)

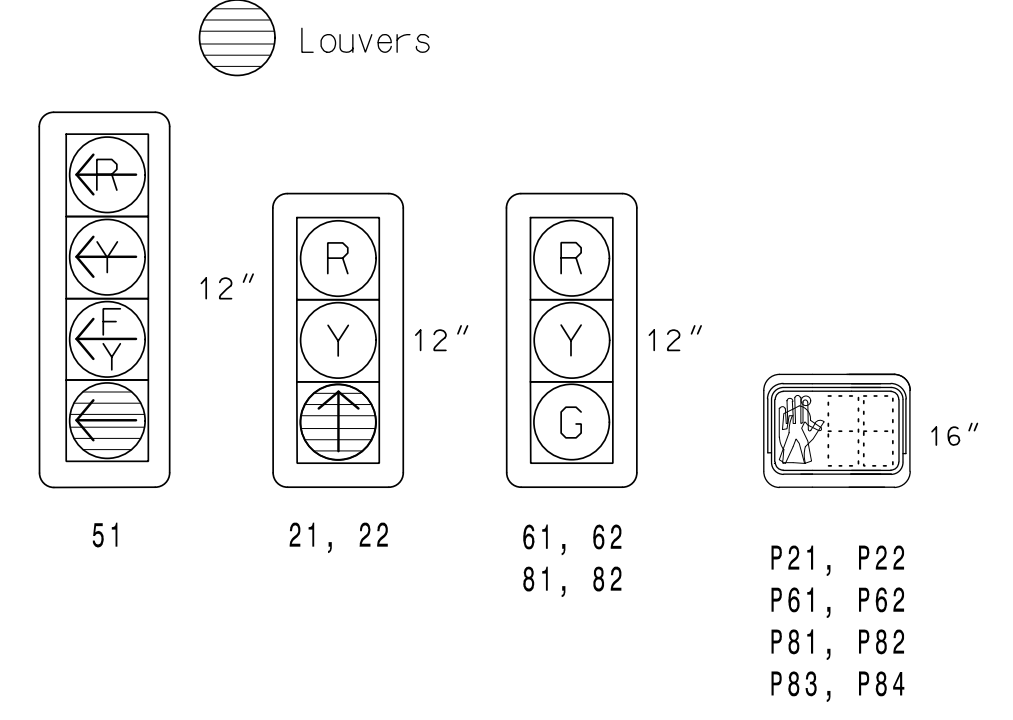


PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE I.D.

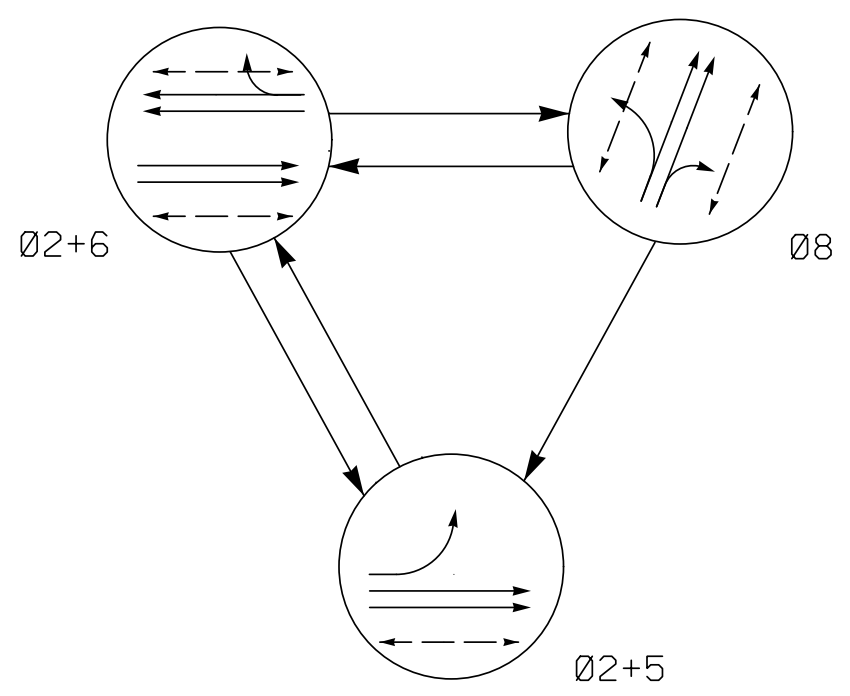
All Heads L.E.D.
All heads have backplates with reflective borders.



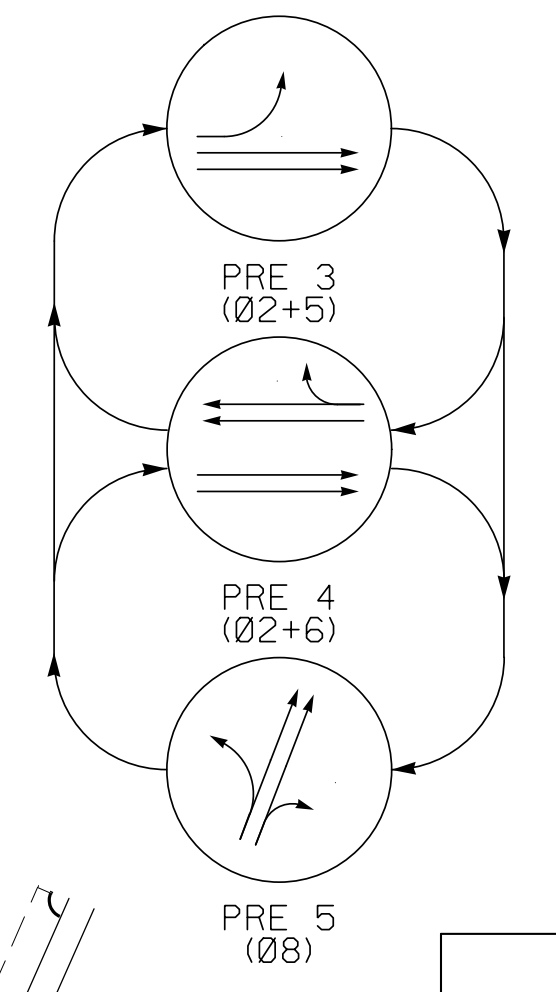
DEFAULT PHASING TABLE OF OPERATION

| SIGNAL FACE | PHASE | | | | | | | |
|-------------|-------|------|----|-------|-------|-------|-------|--|
| | 02+5 | 02+6 | 08 | PRE 3 | PRE 4 | PRE 5 | FLASH | |
| 21, 22 | ↑ | ↑ | R | ↑ | ↑ | R | Y | |
| 51 | ← | ← | ← | ← | ← | ← | Y | |
| 61, 62 | R | G | R | R | G | R | Y | |
| 81, 82 | R | R | G | R | R | G | R | |
| P21, P22 | W | W | DW | DW | DW | DW | DRK | |
| P61, P62 | DW | W | DW | DW | DW | DW | DRK | |
| P81, P82 | DW | DW | W | DW | DW | DW | DRK | |
| P83, P84 | DW | DW | W | DW | DW | DW | DRK | |

ALTERNATE PHASING DIAGRAM



ALTERNATE EV PREEMPT PHASES (Medium Priority)



ALTERNATE PHASING TABLE OF OPERATION

| SIGNAL FACE | PHASE | | | | | | | |
|-------------|-------|------|----|-------|-------|-------|-------|--|
| | 02+5 | 02+6 | 08 | PRE 3 | PRE 4 | PRE 5 | FLASH | |
| 21, 22 | ↑ | ↑ | R | ↑ | ↑ | R | Y | |
| 51 | ← | ← | ← | ← | ← | ← | Y | |
| 61, 62 | R | G | R | R | G | R | Y | |
| 81, 82 | R | R | G | R | R | G | R | |
| P21, P22 | W | W | DW | DW | DW | DW | DRK | |
| P61, P62 | DW | W | DW | DW | DW | DW | DRK | |
| P81, P82 | DW | DW | W | DW | DW | DW | DRK | |
| P83, P84 | DW | DW | W | DW | DW | DW | DRK | |

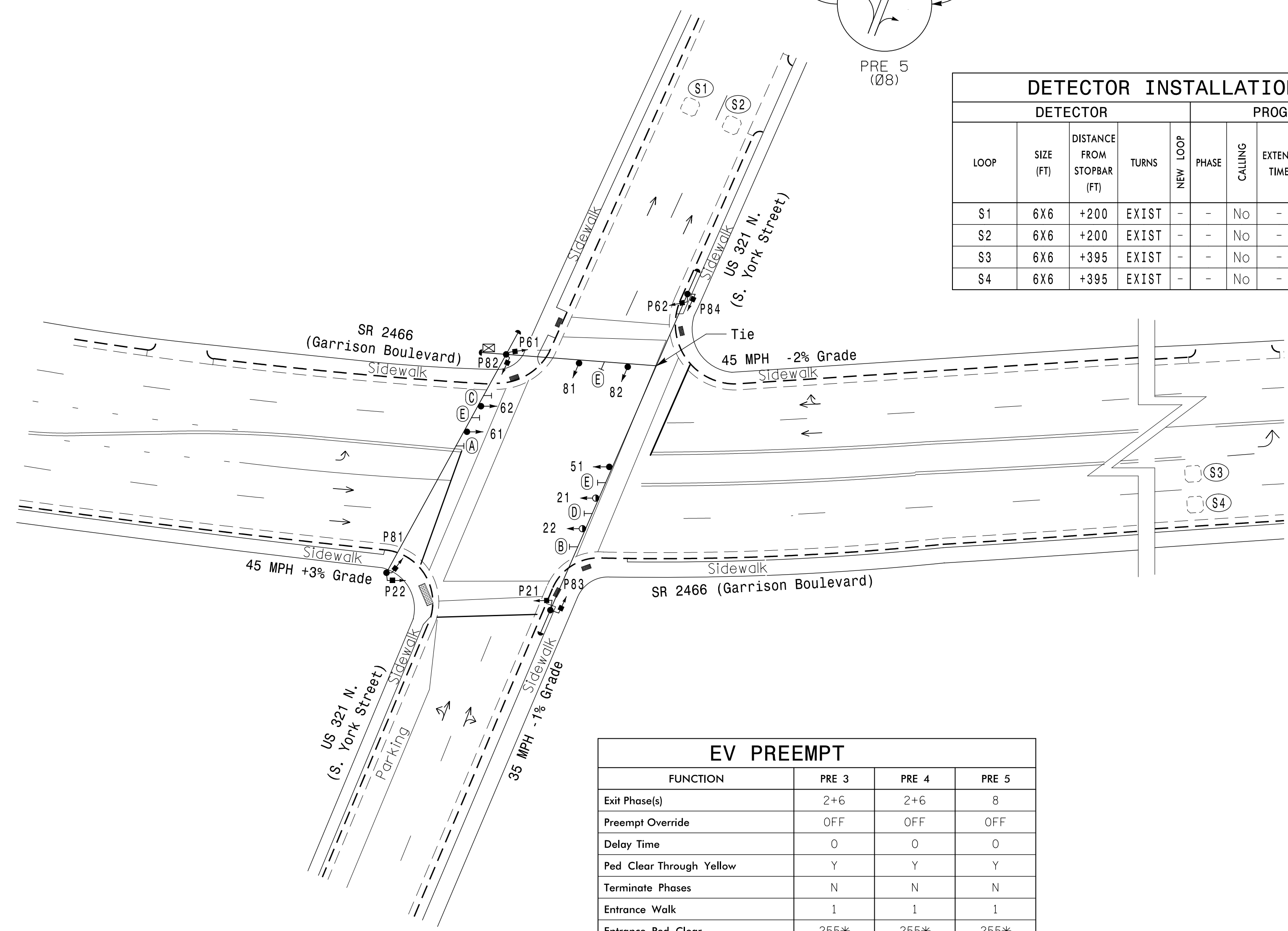
DETECTOR INSTALLATION CHART

| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | PROGRAMMING | | | | | | | |
|------|-----------|----------------------------|-------|----------|-------------|---------|-------------|------------|-------------------|------|------|----------|
| | | | | | PHASE | CALLING | EXTEND TIME | DELAY TIME | USE ADDED INITIAL | TYPE | LOOP | NEW CARD |
| S1 | 6X6 | +200 | EXIST | - | - | No | - | - | - | N | X | X |
| S2 | 6X6 | +200 | EXIST | - | - | No | - | - | - | N | X | X |
| S3 | 6X6 | +395 | EXIST | - | - | No | - | - | - | N | X | X |
| S4 | 6X6 | +395 | EXIST | - | - | No | - | - | - | N | X | X |

3 Phase Pre-Timed w/ Alternate Phasing Operation and Emergency Vehicle Preemption Gastonia 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 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pavement markings are existing.
- The City Engineer or their representative 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 shall supersede these values.
- Install new cabinet on the existing cabinet foundation.
- All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
- Existing signal heads 41 and 42 have been relabeled to 81 and 82, respectively.
- Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
- City system data: Controller Asset #0068.



EV PREEMPT

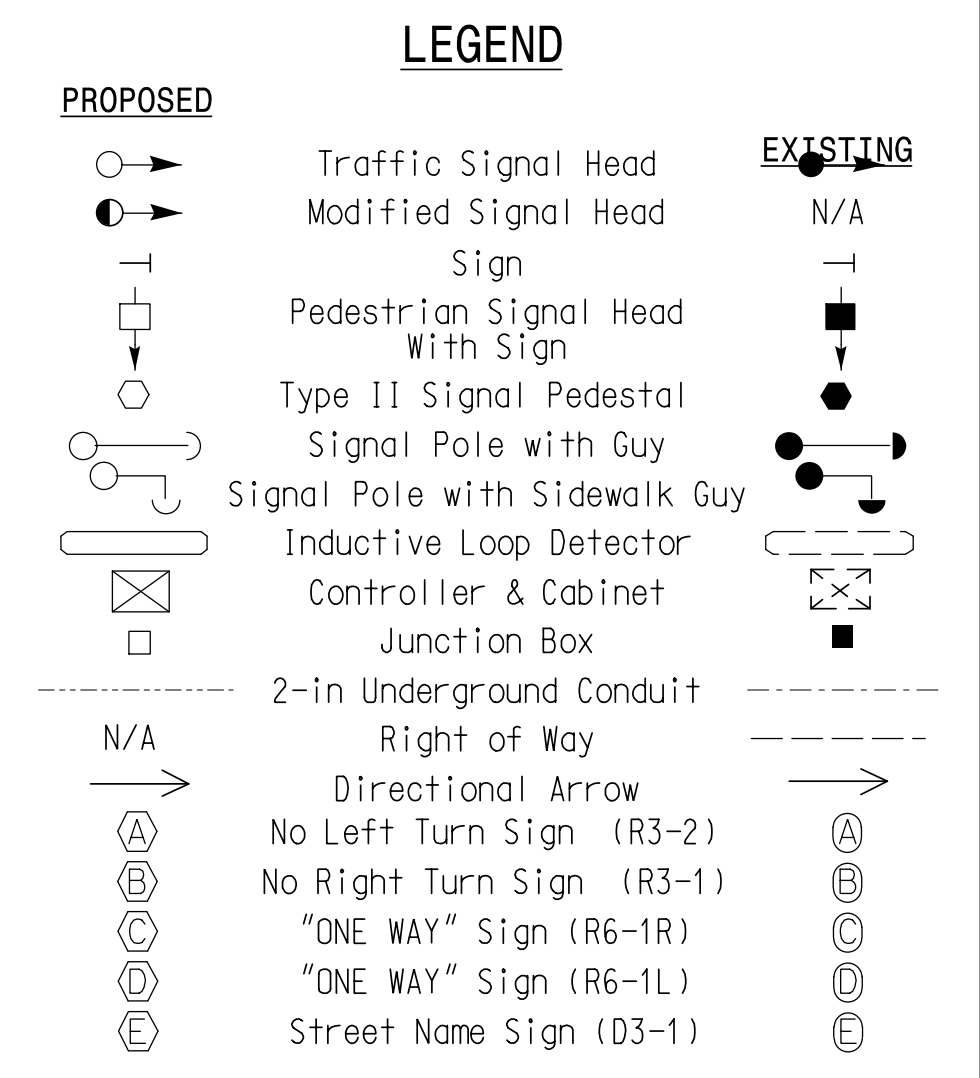
| FUNCTION | PRE 3 | PRE 4 | PRE 5 |
|---------------------------------|-------|-------|-------|
| Exit Phase(s) | 2+6 | 2+6 | 8 |
| Preempt Override | OFF | OFF | OFF |
| Delay Time | 0 | 0 | 0 |
| Ped Clear Through Yellow | Y | Y | Y |
| Terminate Phases | N | N | N |
| Entrance Walk | 1 | 1 | 1 |
| Entrance Ped Clear | 255* | 255* | 255* |
| Entrance Min Green | 1 | 1 | 1 |
| Entrance Yellow Change | 25.5* | 25.5* | 25.5* |
| Entrance Red Clear | 25.5* | 25.5* | 25.5* |
| Minimum Dwell Time | 7 | 7 | 7 |
| Preempt Input Extension Time ** | 2 | 2 | 2 |
| Preempt Max Time | 120 | 120 | 120 |
| Exit Yellow Change | 25.5* | 25.5* | 25.5* |
| Exit Red Clear | 25.5* | 25.5* | 25.5* |

* Time defaults to time used for phase during normal operation
** Program Timing on GPS Detection Unit

TIMING CHART

| FEATURE | PHASE | | | |
|-------------------------|---------|------------|---------|---------|
| | 2 | 5 | 6 | 8 |
| Min Green * | 12 | 7 | 12 | 7 |
| Walk * | 7 | - | 7 | 7 |
| Ped Clear | 9 | - | 9 | 22 |
| Veh. Extension * | - | - | - | - |
| Max 1 * | 45 | 20 | 45 | 30 |
| Yellow | 4.7 | 3.0 | 4.7 | 3.9 |
| Red Clear | 1.6 | 2.9 | 1.6 | 2.3 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 |
| Actuations B4 Add * | - | - | - | - |
| Seconds / Actuation * | - | - | - | - |
| Max Initial * | - | - | - | - |
| Time Before Reduction * | - | - | - | - |
| Time To Reduce * | - | - | - | - |
| Minimum Gap | - | - | - | - |
| Locking Detector | - | - | - | - |
| Recall Position | PED/MAX | MAX RECALL | PED/MAX | PED/MAX |
| Dual Entry | - | - | - | - |
| Simultaneous Gap | X | 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.



Signal Upgrade

Prepared For: **US 321 N. (S. York Street) at SR 2466 (Garrison Boulevard)**

Division 12 Gaston County Gastonia

PLAN DATE: May 2021 REVIEWED BY: SL Phillips

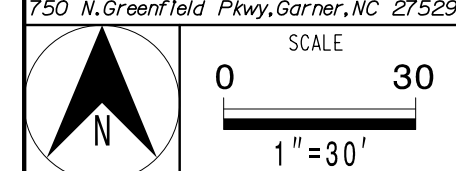
PREPARED BY: DM Curri REVIEWED BY: KP Baumann

REVISIONS: _____ INIT. DATE

Discussed by: _____ DATE: 3/11/2022

SIG. INVENTORY NO. 12-0068

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



3/9/2022 11:16:02 AM Don'tell,Curri ***K:\mly-horn\com\SE-RAL\RAL-TIP\DK-TIS\011036569 Gastonia Signal System\Signal\SW4 - S1\gnal_Design\12066-2021.dgn