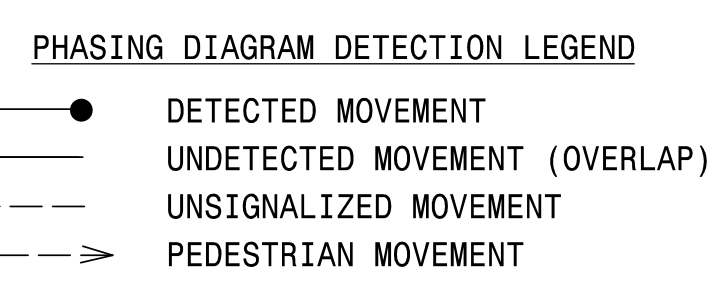
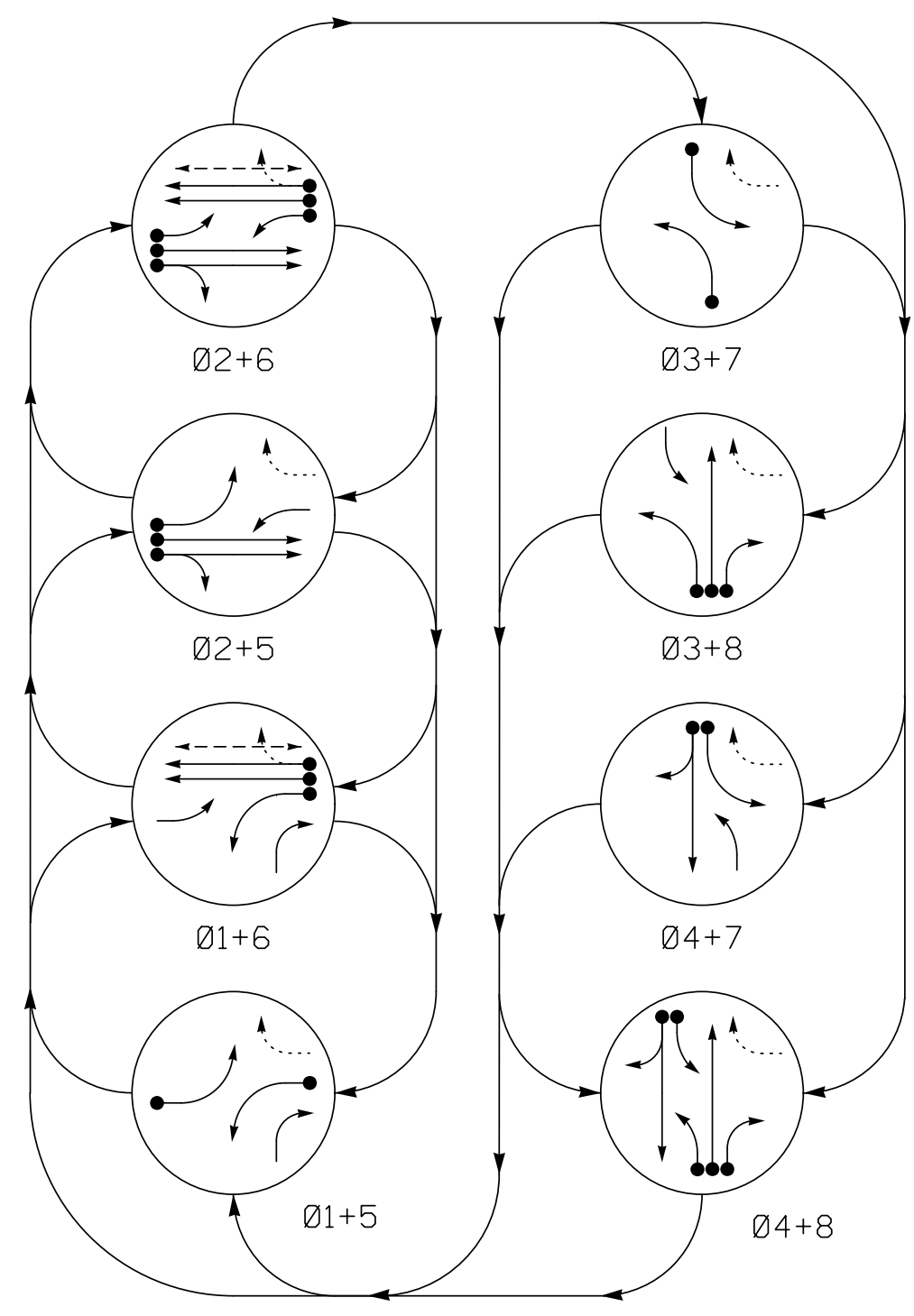
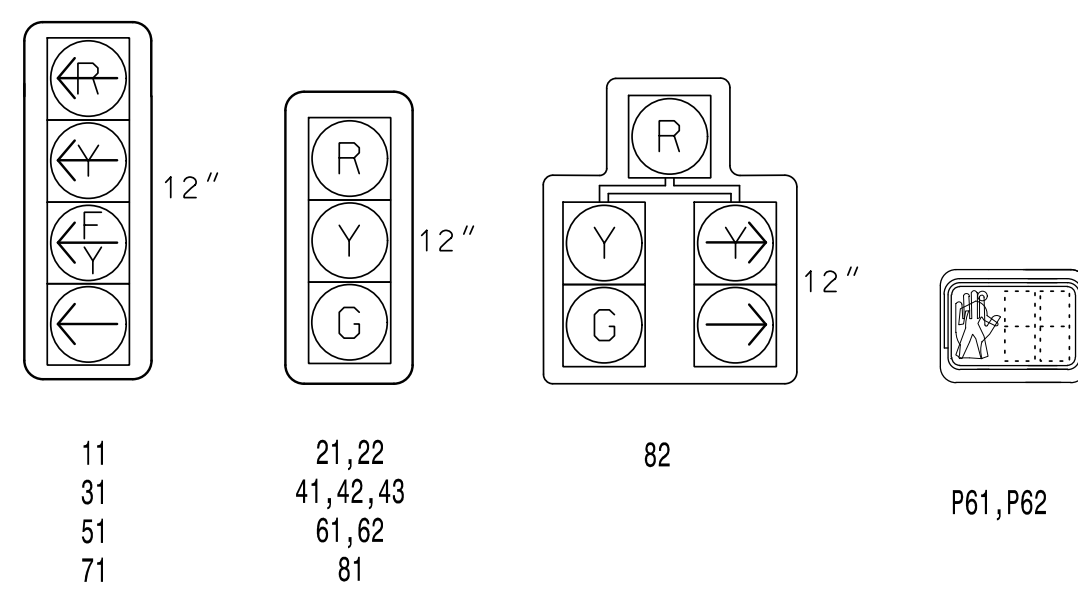


**DEFAULT PHASING DIAGRAM**

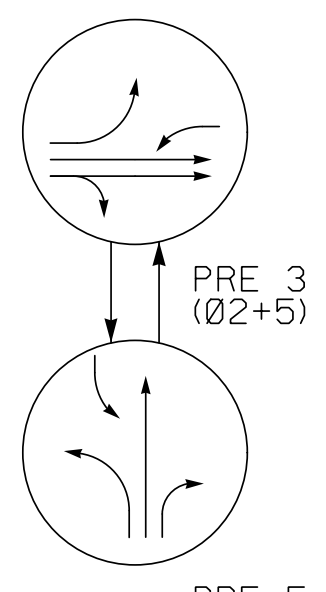


**SIGNAL FACE I.D.**

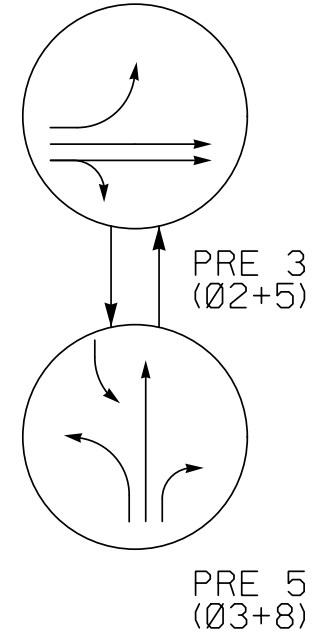
All Heads L.E.D.  
All Heads have Backplates with reflective borders



**DEFAULT EV PREEMPT PHASES (Medium Priority)**



**ALTERNATE EV PREEMPT PHASES (Medium Priority)**



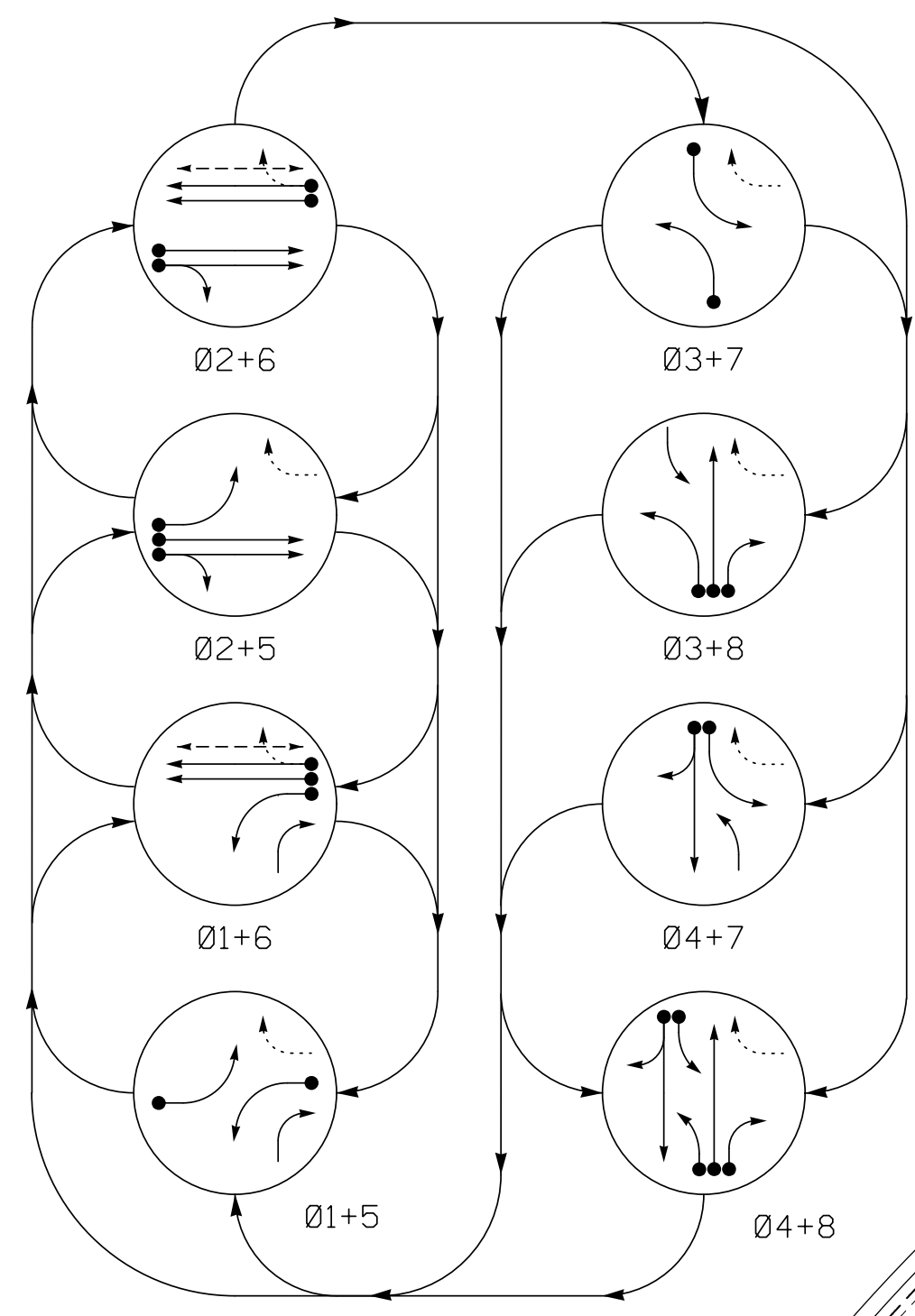
**DEFAULT PHASING TABLE OF OPERATION**

SIGNAL FACE	PHASE										
	01+5	02+5	02+6	03+7	03+8	04+7	04+8	P61	P62	P63	FLASH
11	←	←	←	←	←	←	←	←	←	←	←
21,22	R	R	G	G	R	R	R	R	G	R	Y
31	←	←	←	←	←	←	←	←	←	←	←
41,42,43	R	R	R	R	R	R	G	G	R	R	R
51	←	←	←	←	←	←	←	←	←	←	←
61,62	R	G	R	G	R	R	R	R	R	R	Y
71	←	←	←	←	←	←	←	←	←	←	←
81	R	R	R	R	R	G	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R	G	R
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DW	DRK	DRK

**ALTERNATE PHASING TABLE OF OPERATION**

SIGNAL FACE	PHASE										
	01+5	02+5	02+6	03+7	03+8	04+7	04+8	P61	P62	P63	FLASH
11	←	←	←	←	←	←	←	←	←	←	←
21,22	R	R	G	G	R	R	R	R	G	R	Y
31	←	←	←	←	←	←	←	←	←	←	←
41,42,43	R	R	R	R	R	R	G	G	R	R	R
51	←	←	←	←	←	←	←	←	←	←	←
61,62	R	G	R	G	R	R	R	R	R	R	Y
71	←	←	←	←	←	←	←	←	←	←	←
81	R	R	R	R	R	G	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R	G	R
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DW	DRK	DRK

**ALTERNATE PHASING DIAGRAM**



**DETECTOR INSTALLATION CHART**

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X60	+5	2-4-2	-	1	Yes	-	5*	-	N	-	X
2A	6X6	300	EXIST	-	6#	Yes	-	-	-	G	-	X
2B	6X6	300	EXIST	-	2	Yes	-	-	X	N	-	X
3A	6X60	+5	2-4-2	-	3	Yes	-	15	-	N	-	X
4A	6X40	+5	2-4-2	-	4	Yes	-	3	-	N	-	X
5A	6X60	0	2-4-2	-	2#	Yes	-	-	-	G	-	X
6A	6X6	300	EXIST	-	6	Yes	-	-	X	N	-	X
6B	6X6	300	EXIST	-	6	Yes	-	-	X	N	-	X
7A	6X40	+5	2-4-2	-	7	Yes	-	15	-	N	-	X
8A	6X60	+5	2-4-2	-	8	Yes	-	3	-	N	-	X
8B	6X60	+5	2-4-2	-	8	Yes	-	10	-	N	-	X

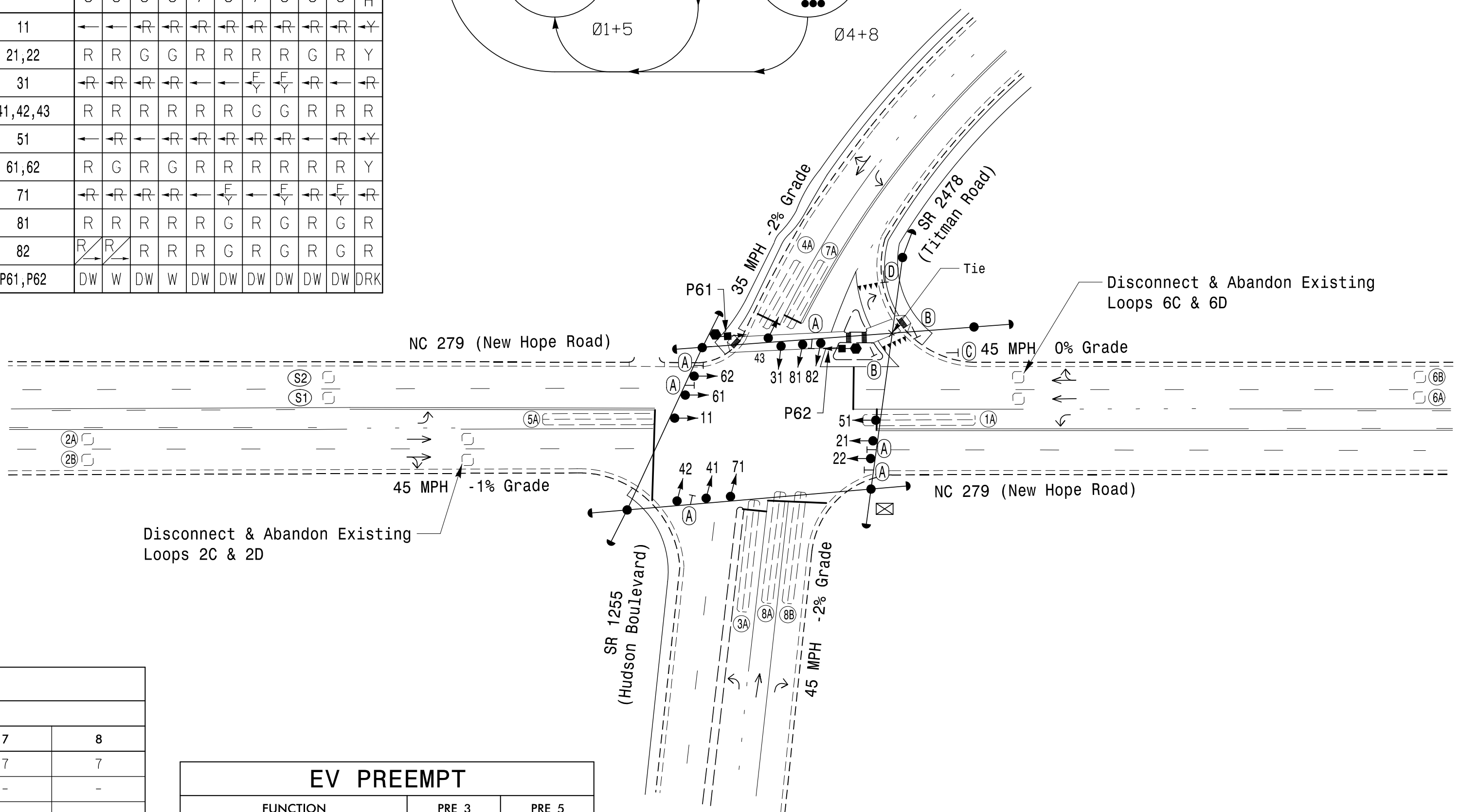
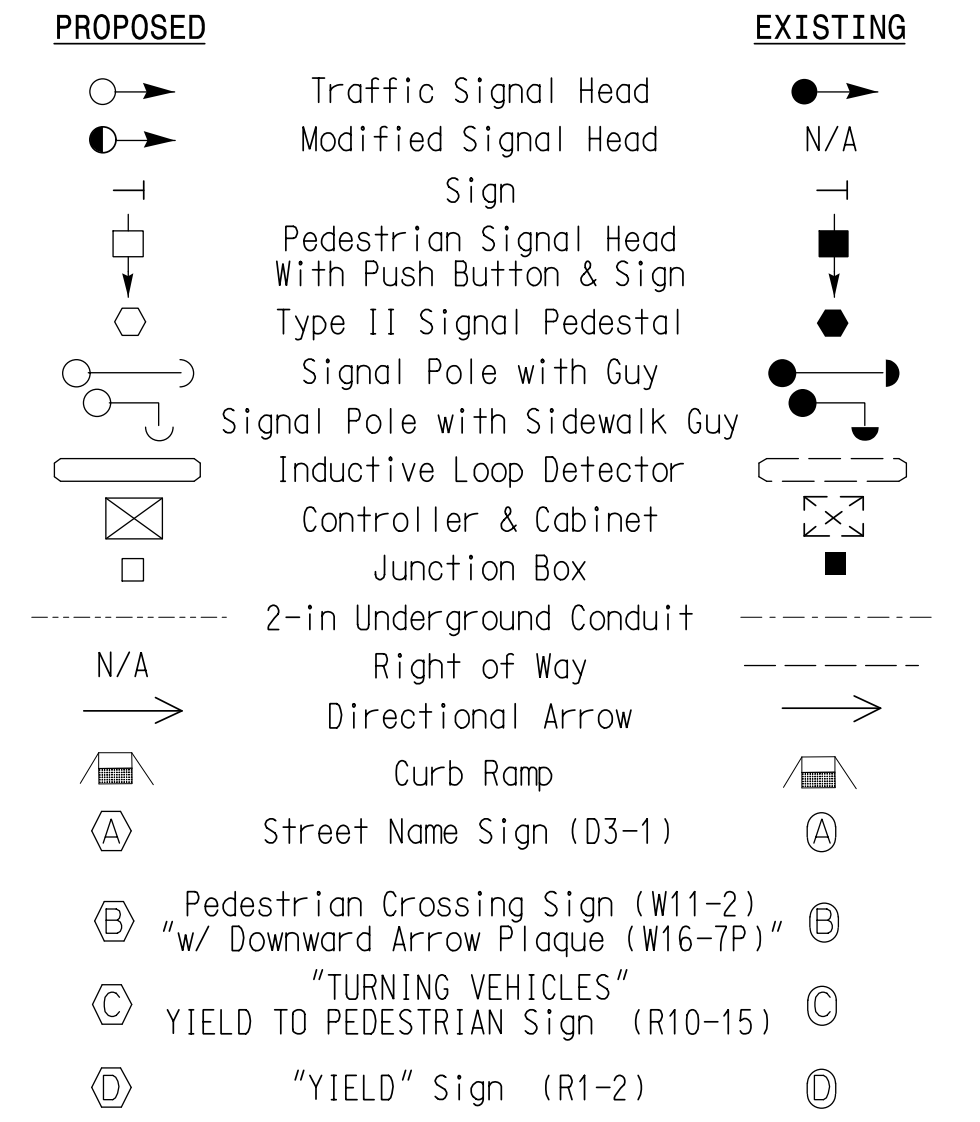
\* Reduce Delay to 3 seconds during Alternate Phasing operation.  
# Disable Phase call for loop during Alternate Phasing operation.

**8 Phase Fully Actuated 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 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- 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.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- 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.
- Disconnect and abandon existing loops 2C, 2D, 6C, & 6D.
- 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.
- Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
- City of system data: Controller Asset #0103.

**LEGEND**



**TIMING CHART**

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Walk *	-	-	-	-	-	4	-	-
Ped Clear	-	-	-	-	-	13	-	-
Veh. Extension *	1.0	6.0	1.0	2.0	1.0	6.0	2.0	1.0
Max 1 *	15	45	20	25	15	45	20	25
Yellow	3.0	4.6	3.0	4.7	3.0	4.6	3.0	4.7
Red Clear	2.9	1.4	2.3	1.8	2.9	1.4	2.4	1.8
Red Revert	2.0	2.0	2.0	2.0	2.0	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	-	-	-	X	-	-	-	X
Simultaneous Gap	X	X	X	X	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.

**EV PREEMPT**

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

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

**Signal Upgrade**

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

750 N. Greenfield Pkwy, Garner, NC 27529

Prepared For:  
TRANSPORTATION MOBILITY AND SAFETY DIVISION  
DEPARTMENT OF TRANSPORTATION  
SIGNAL DESIGN SECTION

NC 279 (New Hope Road)  
at  
SR 1255 (Hudson Boulevard) /  
SR 2478 (Titman Road)  
Division 12 Gaston County Gastonia

PLAN DATE: May 2021 REVIEWED BY: SL Phillips  
PREPARED BY: CF Davis REVIEWED BY: KP Baumann

REVISIONS: INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044434 KETIN P. BAUMANN

Discussed by: [Signature] 3/11/2022  
DATE

SIG. INVENTORY NO. 12-0103

3/9/2022 11:16:15 AM Dantellb.Curr1 \*\*\*K:\mly-horn.com\SE-RAL\MRAL\_IP\DK-LTS\011036569\_Gastonia Signal System9\_Signal\5654 - Signal Design\120103-2021.dgn