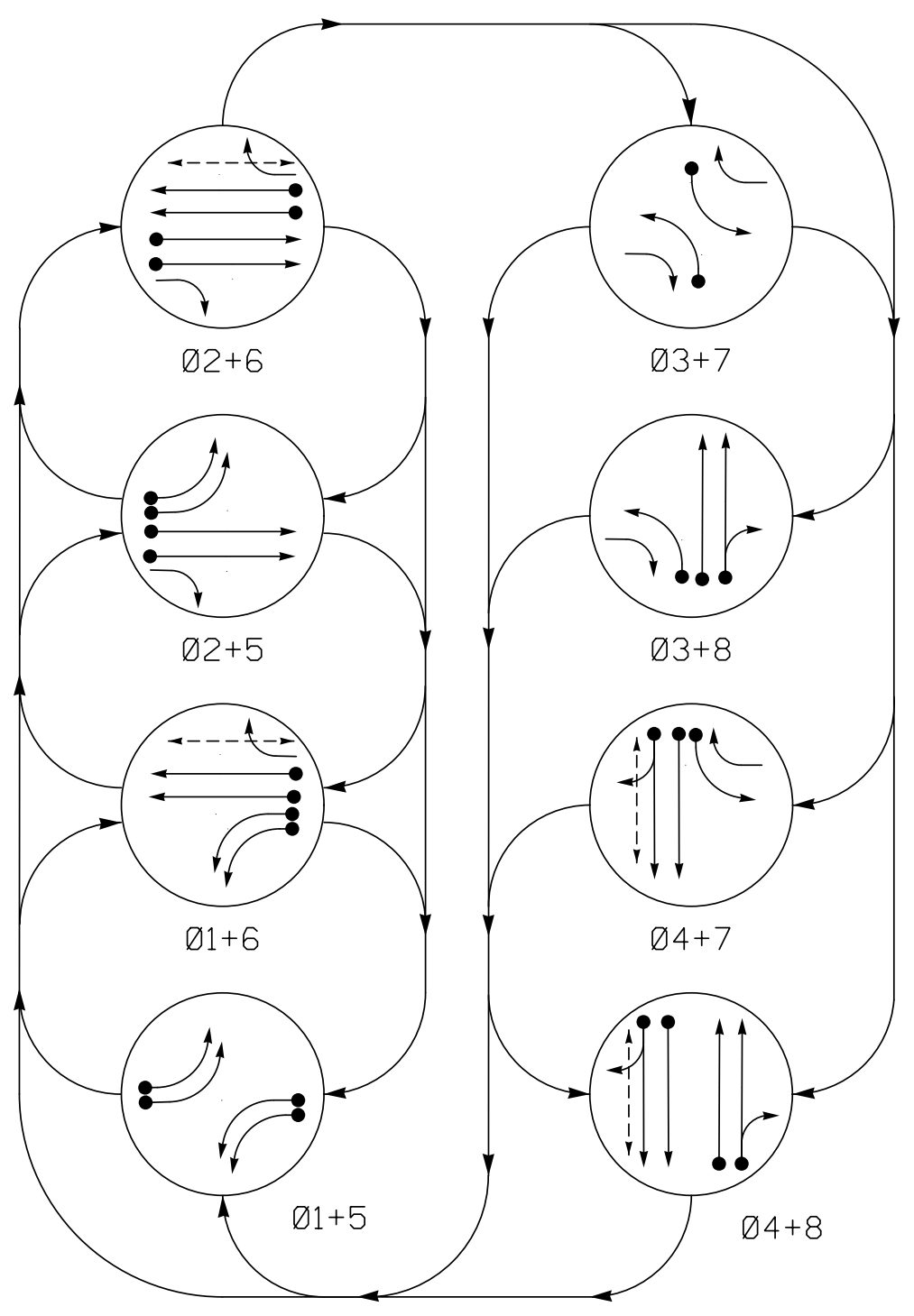


PHASING DIAGRAM



EV PREEMPT PHASES (Medium Priority)

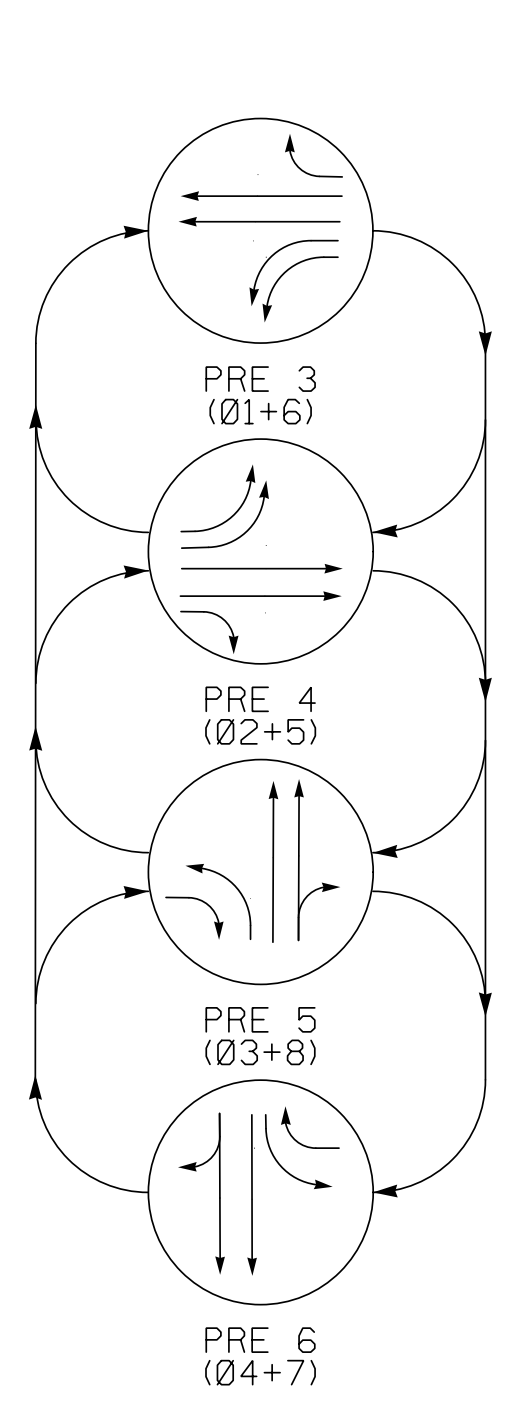
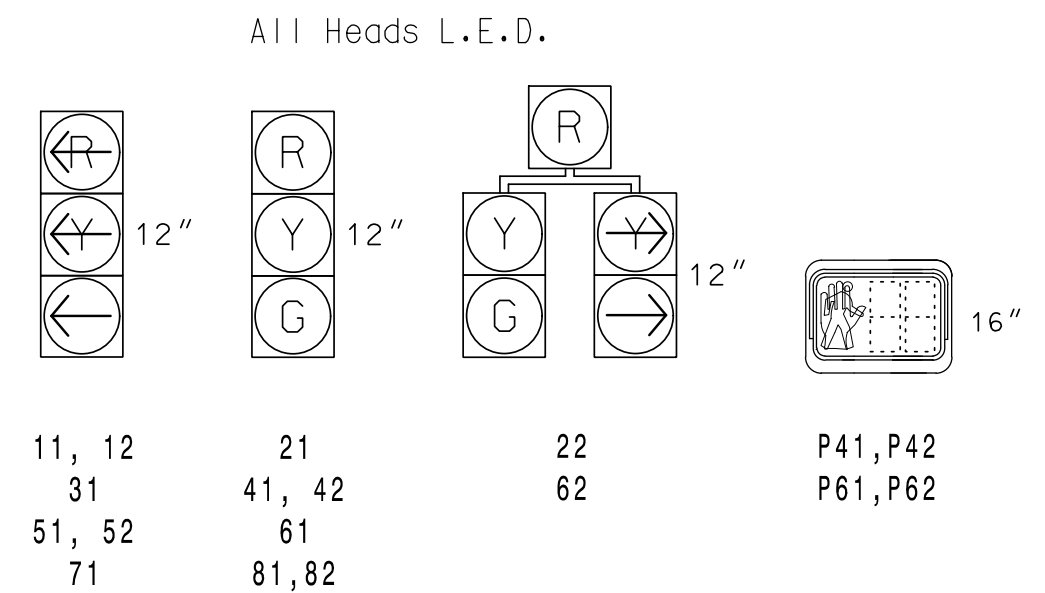


TABLE OF OPERATION

SIGNAL FACE	PHASE											
	Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 3 + 7	Ø 3 + 8	Ø 4 + 7	Ø 4 + 8	PRE 3	PRE 4	PRE 5	PRE 6
11, 12	←	←	←	←	←	←	←	←	←	←	←	←
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	←	←	←	←	←	←	←	←	←	←	←	←
41, 42	R	R	R	R	R	R	G	G	R	R	R	G
51, 52	←	←	←	←	←	←	←	←	←	←	←	←
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	←	←	←	←	←	←	←	←	←	←	←	←
81, 82	R	R	R	R	R	R	G	G	R	R	R	G
P41, P42	DW	DW	DW	DW	DW	DW	W	W	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DW	DW	DW	DW	DRK

SIGNAL FACE I.D.



DETECTOR INSTALLATION CHART

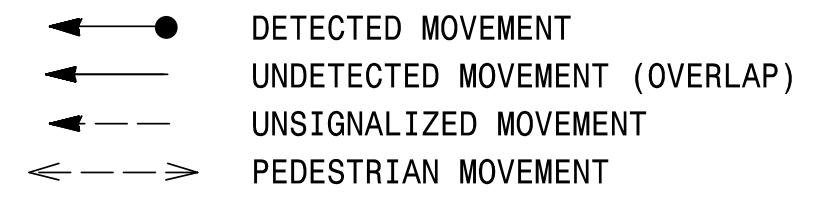
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING							
					PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	LOOP SYSTEM	NEW CARD
1A	6X60	0	2-4-2	-	1	Yes	-	-	-	N	-	X
1B	6X60	0	2-4-2	-	1	Yes	-	-	-	N	-	X
2A	6X6	300	EXIST	-	2	Yes	-	-	X	N	-	X
2B	6X6	300	EXIST	-	2	Yes	-	-	X	N	-	X
3A	6X60	+5	2-4-2	-	3	Yes	-	-	-	N	-	X
4A	6X6	300	EXIST	-	4	No	3.1	-	-	N	-	X
4B	6X6	300	EXIST	-	4	No	3.1	-	-	N	-	X
4C	6X60	+5	2-4-2	-	4	Yes	-	-	-	N	-	X
4D	6X60	+5	2-4-2	-	4	Yes	-	-	-	N	-	X
5A	6X60	0	2-4-2	-	5	Yes	-	-	-	N	-	X
5B	6X60	0	2-4-2	-	5	Yes	-	-	-	N	-	X
6A	6X6	300	EXIST	-	6	Yes	-	-	X	N	-	X
6B	6X6	300	EXIST	-	6	Yes	-	-	X	N	-	X
7A	6X60	+5	2-4-2	-	7	Yes	-	-	-	N	-	X
8A	6X6	300	EXIST	-	8	No	3.1	-	-	N	-	X
8B	6X6	300	EXIST	-	8	No	3.1	-	-	N	-	X
8C	6X60	+5	2-4-2	-	8	Yes	-	-	-	N	-	X
8D	6X60	+5	2-4-2	-	8	Yes	-	-	-	N	-	X
S1	6X6	+150	EXIST	-	-	No	-	-	-	N	X	X
S2	6X6	+150	EXIST	-	-	No	-	-	-	N	X	X
S3	6X6	+200	EXIST	-	-	No	-	-	-	N	X	X
S4	6X6	+200	EXIST	-	-	No	-	-	-	N	X	X

8 Phase Fully Actuated w/ 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.
- 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, 2E, 6C, 6D, and 6E.
- 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.
- Reconnect lead-in cable to separate loops 1A, 1B, 2A, 2B, 4A, 4B, 5A, 5B, 6A, 6B, 8A, & 8B, as shown.
- Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
- All proposed pedestrian signal heads shall be black in color. See Project Special Provisions for details.
- All proposed pedestrian pedestals and pushbutton posts shall be black in color. See Project Special Provisions for details.
- City system data: Controller Asset #1411.

PHASING DIAGRAM DETECTION LEGEND



EV PREEMPT

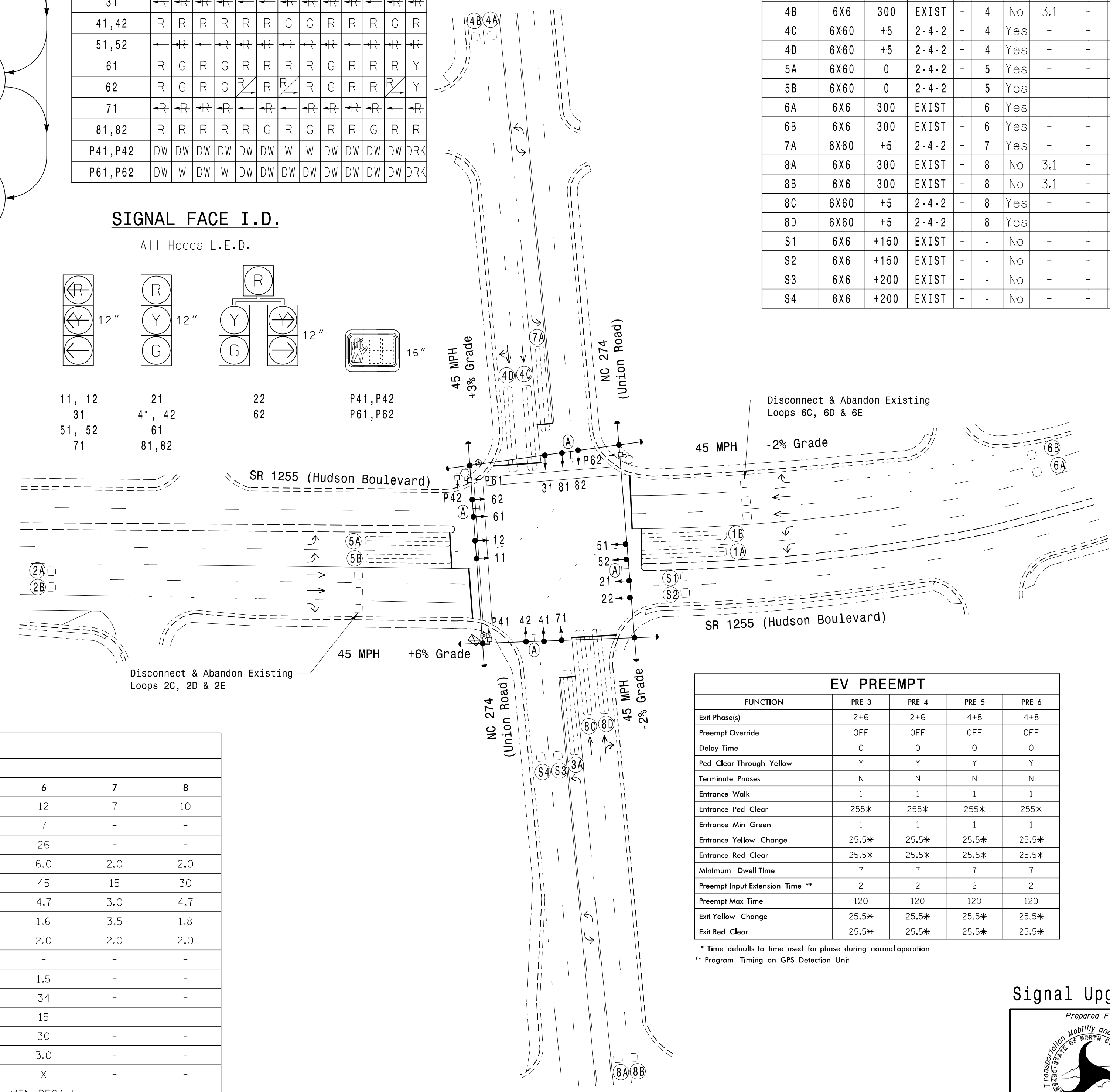
FUNCTION	PRE 3	PRE 4	PRE 5	PRE 6
Exit Phase(s)	2+6	2+6	4+8	4+8
Preempt Override	OFF	OFF	OFF	OFF
Delay Time	0	0	0	0
Ped Clear Through Yellow	Y	Y	Y	Y
Terminate Phases	N	N	N	N
Entrance Walk	1	1	1	1
Entrance Ped Clear	255*	255*	255*	255*
Entrance Min Green	1	1	1	1
Entrance Yellow Change	25.5*	25.5*	25.5*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

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

TIMING CHART

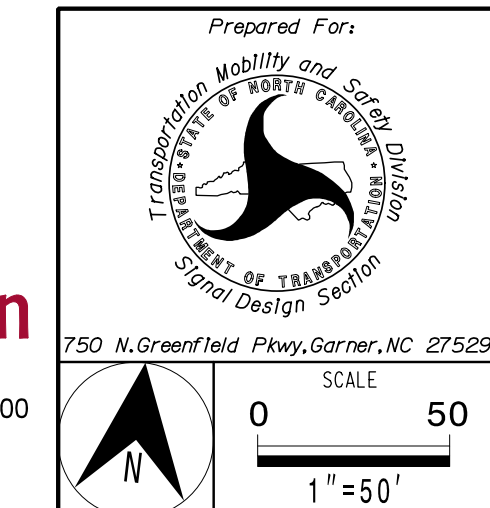
FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green *	7	12	7	10	7	12	7	10
Walk *	-	-	-	7	-	7	-	-
Ped Clear	-	-	-	26	-	26	-	-
Veh. Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max I *	15	45	15	30	15	45	15	30
Yellow	3.0	4.1	3.0	4.3	3.0	4.7	3.0	4.7
Red Clear	3.3	1.5	3.7	1.6	3.4	1.6	3.5	1.8
Red Revert	2.0	2.0	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	-	-	-	-	-	-	-	-
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.



3/9/2022 11:14:48 AM DanHelli@CurT1 ***K:\m\ey-horn.com\SE_RAL\MRAL_TIP\DK-TIS\011036569_Gastonia Signal System9_Signal\SW54 - Signal Design\0121411-2021.dgn

Signal Upgrade



SR 1255 (Hudson Boulevard) at NC 274 (Union Road)

Division 12 Gaston County Gastonia

PLAN DATE: May 2021 REVIEWED BY: SL Phillips

PREPARED BY: DM Curri REVIEWED BY: KP Baumann

REVISIONS: INIT. DATE

DocuSigned by: *[Signature]* 3/11/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL 044434

ENGINEER KEVIN P. BAUMANN

SIG. INVENTORY NO. 12-1411

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