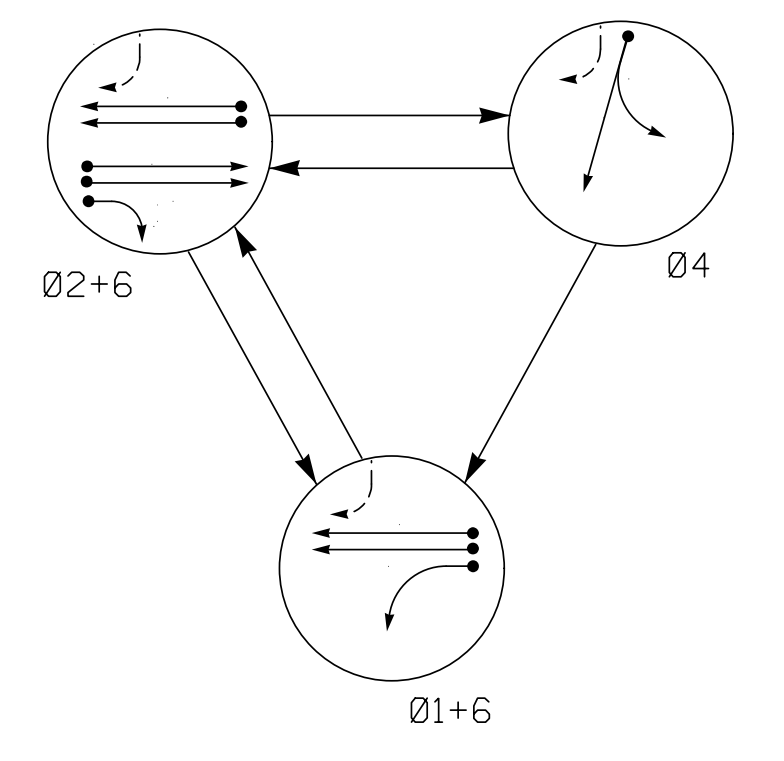


PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

EV PREEMPT PHASES
(Medium Priority)

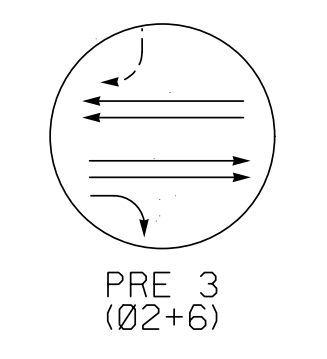
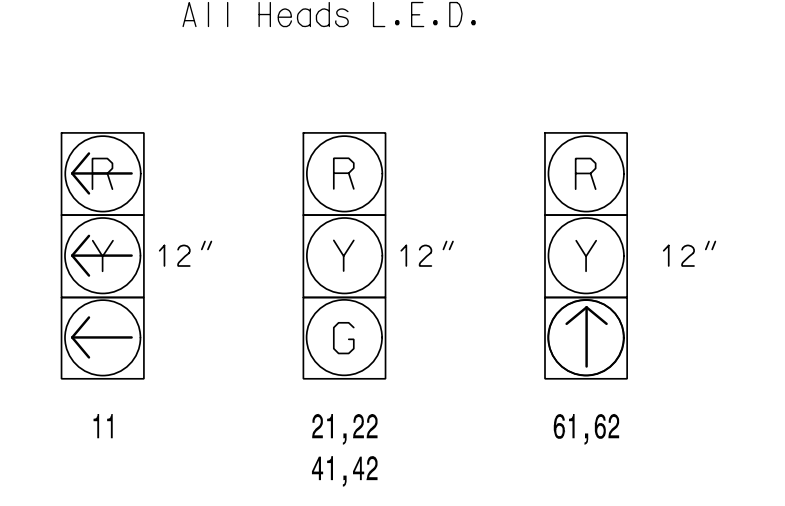


TABLE OF OPERATION

SIGNAL FACE	PHASE					
	Ø1+6	Ø2+6	Ø4	P	L	R
11	←	→	→	→	→	→
21, 22	R	G	R	G	Y	
41, 42	R	R	G	R	R	
61, 62	↑	↑	R	↑	Y	

SIGNAL FACE I.D.



DETECTOR INSTALLATION CHART

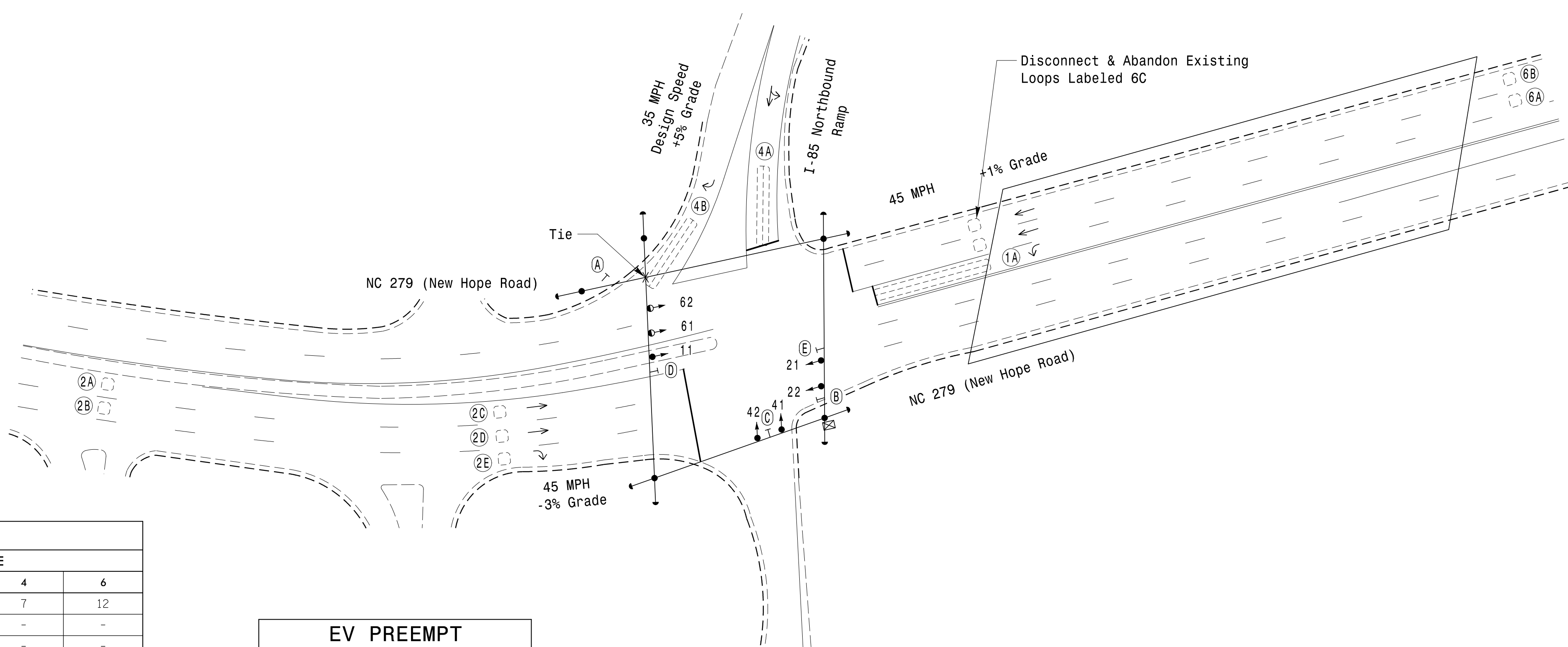
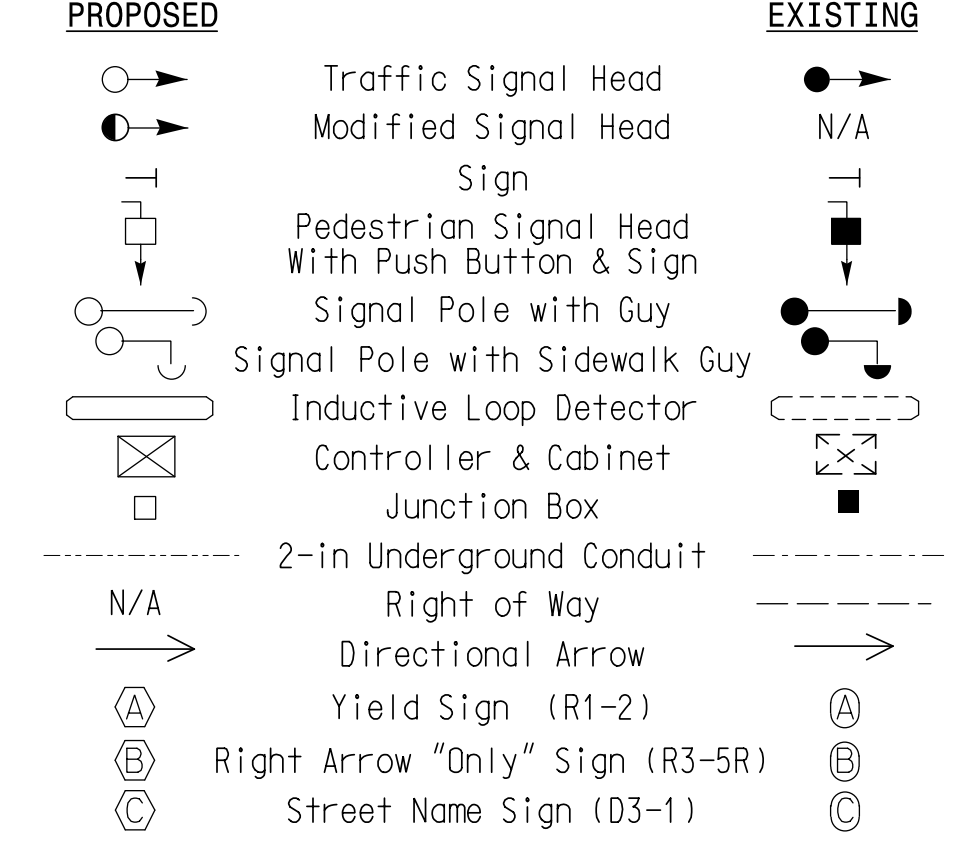
LOOP	DETECTOR			PROGRAMMING								
	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X60	0	2-4-2	-	1	Yes	-	-	-	N	-	X
2A	6X6	300	EXIST	-	2	Yes	1.6	-	-	N	-	X
2B	6X6	300	EXIST	-	2	Yes	1.6	-	-	N	-	X
2C	6X6	90	EXIST	-	2	Yes	-	-	-	N	-	X
2D	6X6	90	EXIST	-	2	Yes	-	-	-	N	-	X
2E	6X6	90	EXIST	-	2	Yes	-	-	-	N	-	X
4A	6X40	0	2-4-2	-	4	Yes	-	-	-	N	-	X
4B	6X40	0	2-4-2	-	4	Yes	-	5	-	N	-	X
6A	6X6	350	EXIST	-	6	Yes	-	-	X	N	-	X
6B	6X6	350	EXIST	-	6	Yes	-	-	X	N	-	X

3 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 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.
- 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 labeled 6C.
- 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 2A, 2B, 2C, 2D, 2E, 6A & 6B, as shown.
- Install GPS emergency preemption system per manufacturer's instructions to achieve preemption needed, as shown in phasing diagram.
- City system data:
Controller Asset #0195.

LEGEND



TIMING CHART

FEATURE	PHASE			
	1	2	4	6
Min Green *	7	12	7	12
Walk *	-	-	-	-
Ped Clear	-	-	-	-
Veh. Extension *	2.0	2.0	2.0	6.0
Max 1 *	20	45	30	45
Yellow	3.0	4.8	3.6	4.4
Red Clear	2.8	1.0	1.9	1.0
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-
Seconds / Actuation *	-	-	-	1.5
Max Initial *	-	-	-	39
Time Before Reduction *	-	-	-	15
Time To Reduce *	-	-	-	30
Minimum Gap	-	-	-	3.9
Locking Detector	-	X	-	X
Recall Position	-	MIN RECALL	-	MIN RECALL
Dual Entry	-	-	-	-
Simultaneous Gap	X	X	X	X

EV PREEMPT

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

* 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.

** Program Timing on GPS Detection Unit

Signal Upgrade

Prepared For:
Kimley-Horn

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

NC 279 (New Hope Road) at I-85 Northbound Ramp

Division 12 Gaston County Gastonia

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

REVISIONS: _____ DATE: _____

INITIALS: _____ DATE: _____

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Discussed by: _____ DATE: 3/11/2022
DATE: _____
SIG. INVENTORY NO. 12-0195

3/9/2022 11:16:57 AM Dan.Hill@k-h.com Signal Design Section