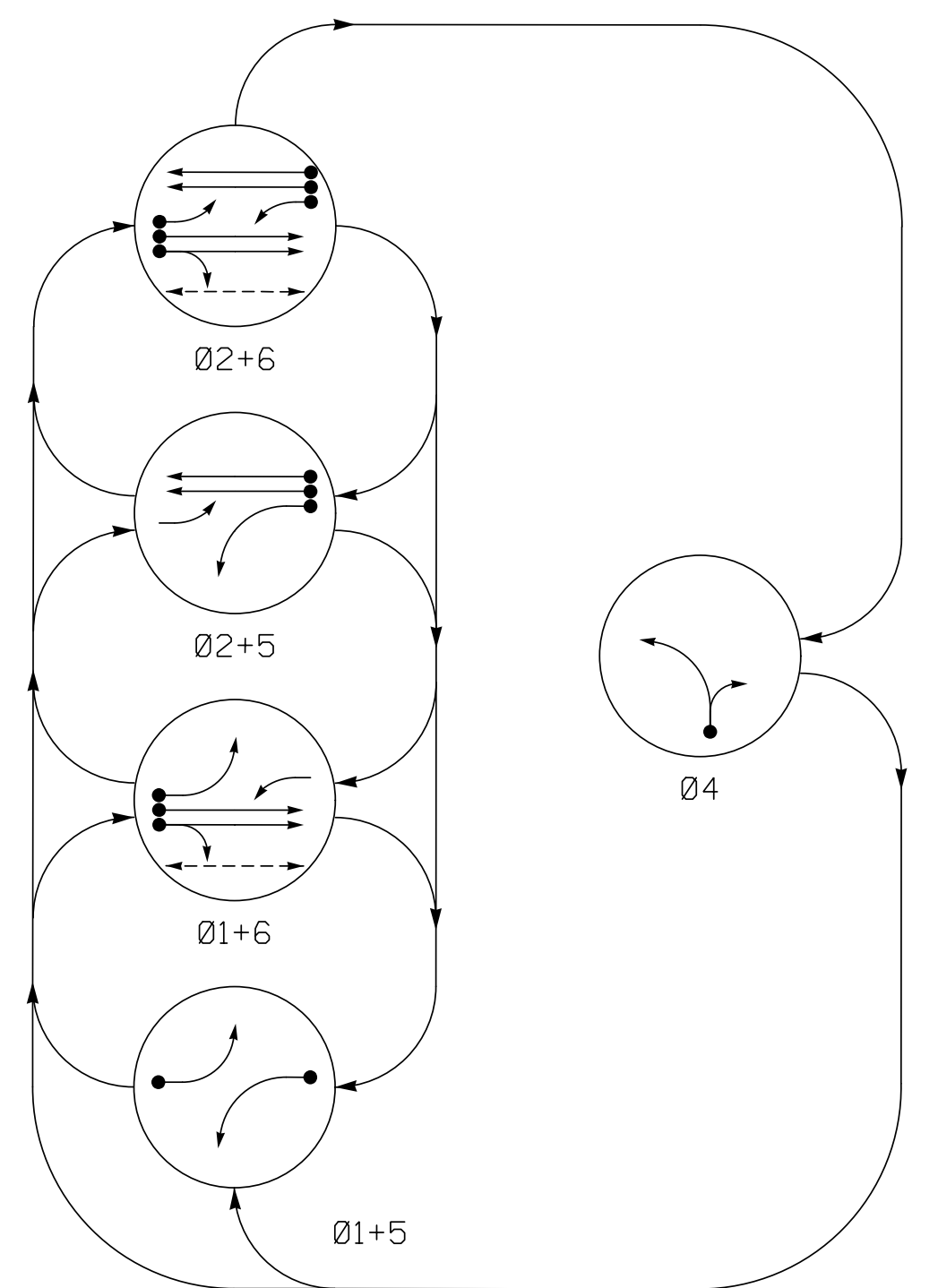


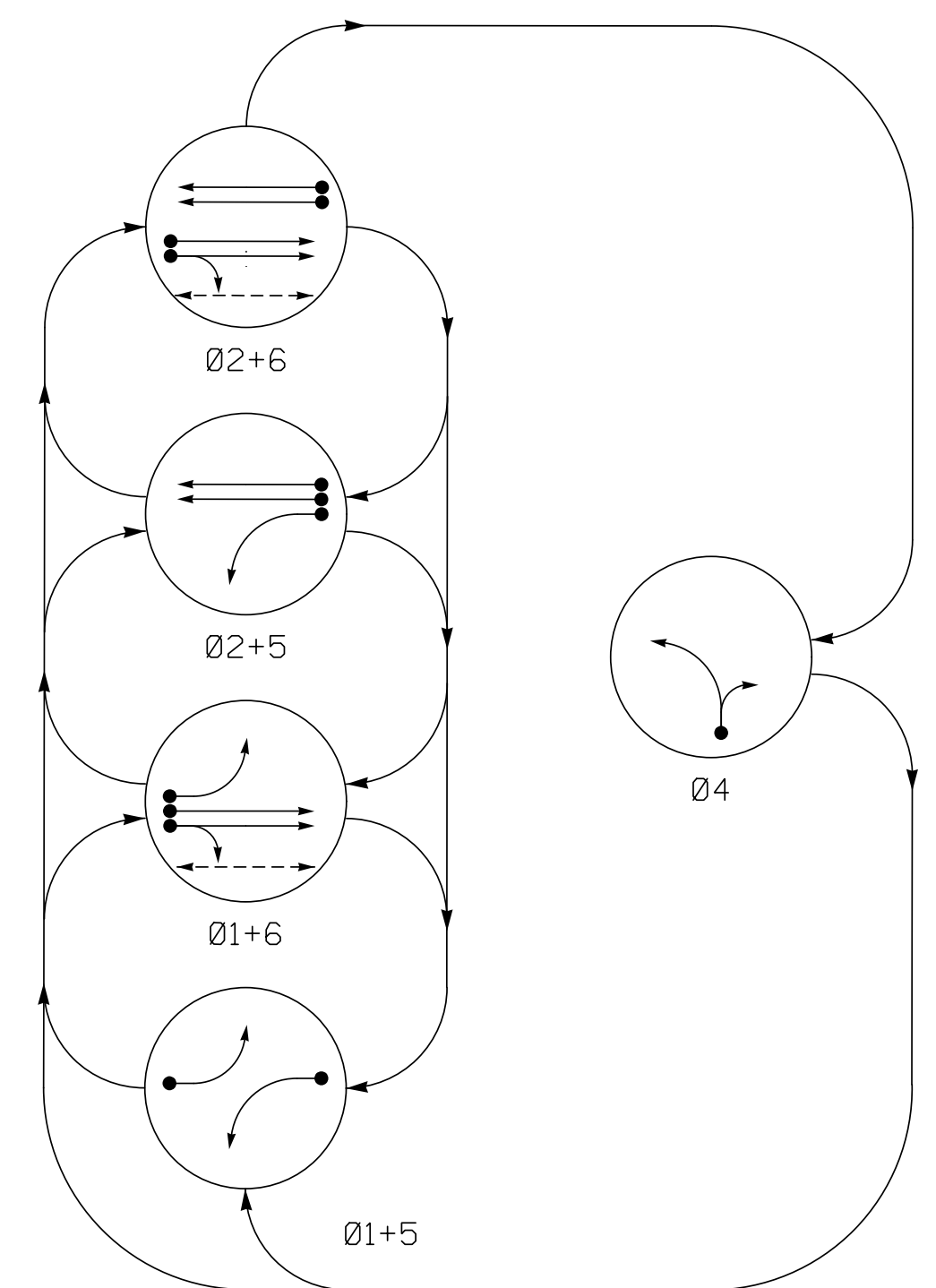
DEFAULT PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE					FLASH
	01+5	02+5	02+6	04	FLASH	
11	←	←	←	←	←	Y
21,22	R	R	G	G	R	Y
41,42	R	R	R	R	G	R
51	←	←	←	←	←	Y
61,62	R	G	R	G	R	Y
P61,P62	DW	W	DW	W	DW	DRK

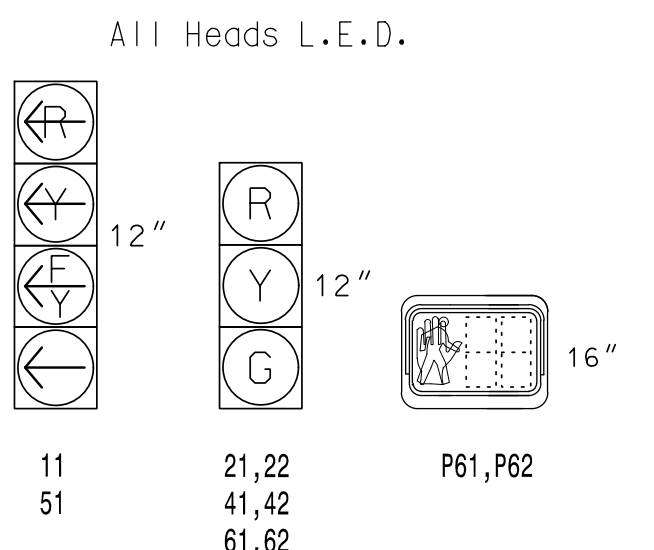
ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

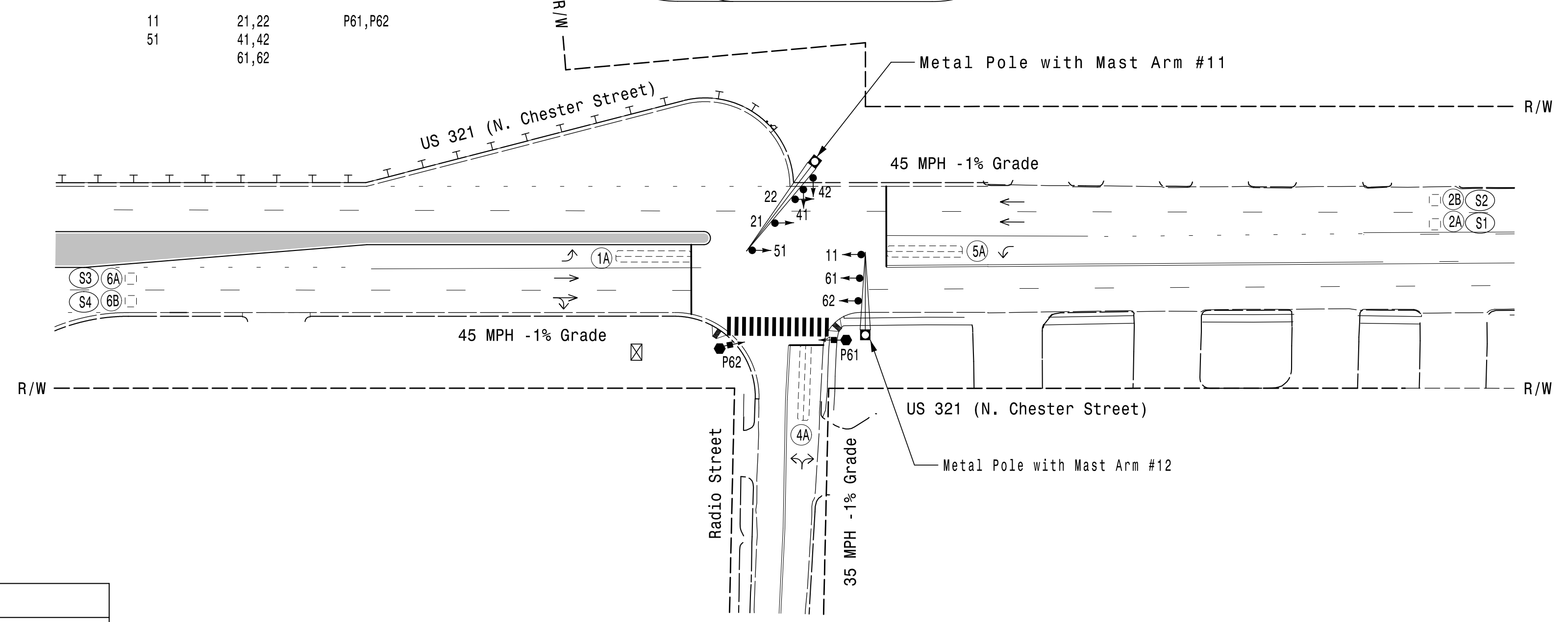
SIGNAL FACE	PHASE					FLASH
	01+5	02+5	02+6	04	FLASH	
11	←	←	←	←	←	Y
21,22	R	R	G	G	R	Y
41,42	R	R	R	R	G	R
51	←	←	←	←	←	Y
61,62	R	G	R	G	R	Y
P61,P62	DW	W	DW	W	DW	DRK

SIGNAL FACE I.D.



PHASING DIAGRAM DETECTION LEGEND

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



TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	
Min Green *	7	12	7	7	12	
Walk *	-	-	-	-	4	
Ped Clear	-	-	-	-	13	
Veh. Extension *	2.0	6.0	2.0	2.0	6.0	
Max I *	20	90	25	20	90	
Yellow	3.0	4.6	3.0	3.0	4.6	
Red Clear	3.7	2.1	2.6	2.4	2.1	
Red Revert	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	

DETECTOR INSTALLATION CHART

DETECTOR				PROGRAMMING								
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	-	1	Yes	-	5 @	-	N	-	X
2A/S1	6X6	300	EXIST	-	2	Yes	-	-	X	N	X	X
2B/S2	6X6	300	EXIST	-	2	Yes	-	-	X	N	X	X
4A	6X40	0	2-4-2	-	4	Yes	-	5	-	N	-	X
5A	6X40	0	2-4-2	-	5	Yes	-	5 *	-	N	-	X
6A/S3	6X6	300	EXIST	-	2#	Yes	-	3	-	G	-	X
6B/S4	6X6	300	EXIST	-	6	Yes	-	-	-	X	N	X

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

5 Phase Fully Actuated w/ Alternate Phasing Operation 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.
- Set all detector units to presence mode.
- 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.
- 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.
- City of system data: Controller Asset #1623.

LEGEND

- | | |
|--|----------------------------|
| PROPOSED | EXISTING |
| ○ Traffic Signal Head | ● Traffic Signal Head |
| ○ Modified Signal Head | N/A |
| ⊥ Sign | ⊥ Sign |
| ⊥ Pedestrian Signal Head With Push Button & Sign | ⊥ Pedestrian Signal Head |
| ⊥ Type II Signal Pedestal | ⊥ Type II Signal Pedestal |
| ⊥ Metal Pole with Mastarm | ⊥ Metal Pole with Mastarm |
| ⊥ Inductive Loop Detector | ⊥ Inductive Loop Detector |
| ⊥ Controller & Cabinet | ⊥ Controller & Cabinet |
| ⊥ Junction Box | ⊥ Junction Box |
| ⊥ 2-in Underground Conduit | ⊥ 2-in Underground Conduit |
| N/A Right of Way | Right of Way |
| N/A Directional Arrow | Directional Arrow |
| N/A Guardrail | Guardrail |
| N/A Curb Ramp | Curb Ramp |

Signal Upgrade

Prepared For:

 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 Signal Design Section

US 321 (N. Chester Street) at Radio Street

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

DocuSigned by:

 KEVIN P. BAUMANN
 ENGINEER
 DATE: 3/11/2022

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
 SCALE: 1" = 50'

3/9/2022 11:15:49 AM Dantellb.Cur1 ***Kinley-Horn.com/E-RAL/MRAL-T/DK-LTS/011036569 Gastonia Signal System9 Signal/WS4 - Signal Design/121623-2021.dgn

* 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.