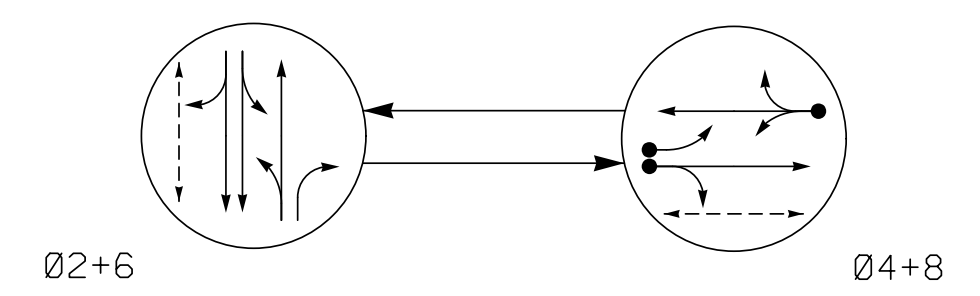| PROJECT REFERENCE NO.	SHEET NO.
C-5703	Sig.47.0

PHASING DIAGRAM

Ø2+6   Ø4+8

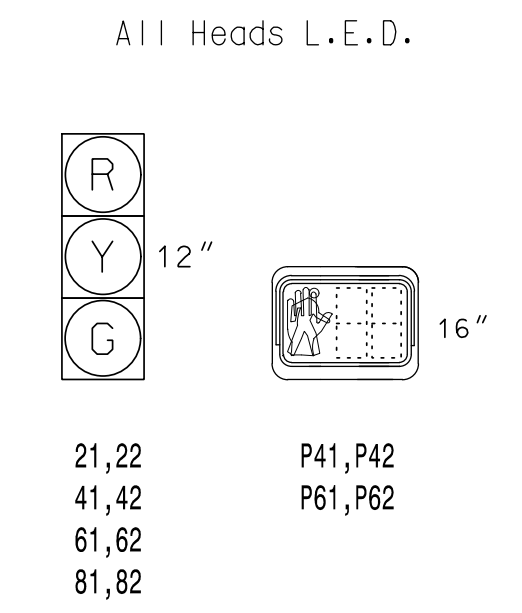### PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	Ø4+8	FLASH
21,22	G	R	Y
41,42	R	G	R
61,62	G	R	Y
81,82	R	G	R
P41,P42	DW	W	DRK
P61,P62	W	DW	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

R
Y   12"
G

16"

21,22
41,42
61,62
81,82

P41,P42
P61,P62

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
4A	6X40	0	2-4-2	–	4	Yes	–	3	–	N	–	X
4B	6X40	0	2-4-2	–	4	Yes	–	5	–	N	–	X
8A	6X50	0	EXIST	–	8	Yes	–	5	–	N	–	X

2 Phase
Semi-Actuated
Gastonia Signal System

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. 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.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls on phase 4.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. Pavement markings are existing.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
10. Install new cabinet on the existing cabinet foundation.
11. Existing phase 4 has been changed to phase 8 on this plan. Change all signal heads, pedestrian signal heads, pedestrian push buttons, and loops as needed to achieve the phasing shown.
12. All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
13. City of system data:
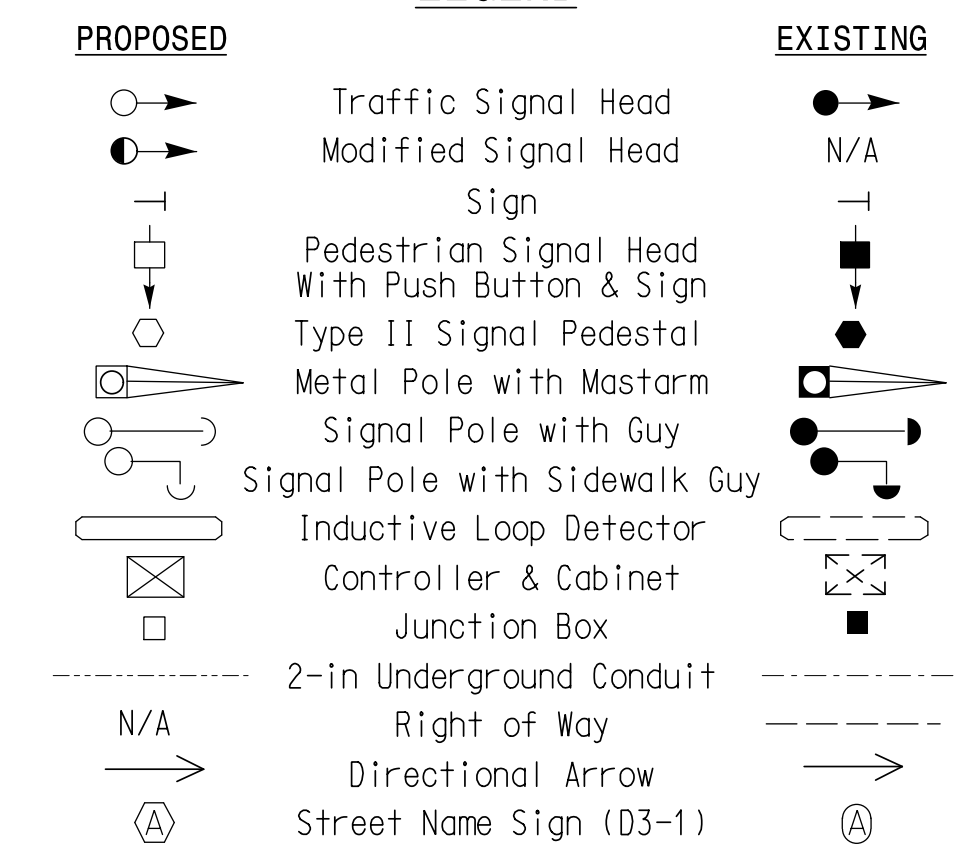   Controller Asset #0097.

LEGEND

PROPOSED   EXISTING

	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Type II Signal Pedestal	
	Metal Pole with Mastarm	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
Ⓐ	Street Name Sign (D3-1)	Ⓐ
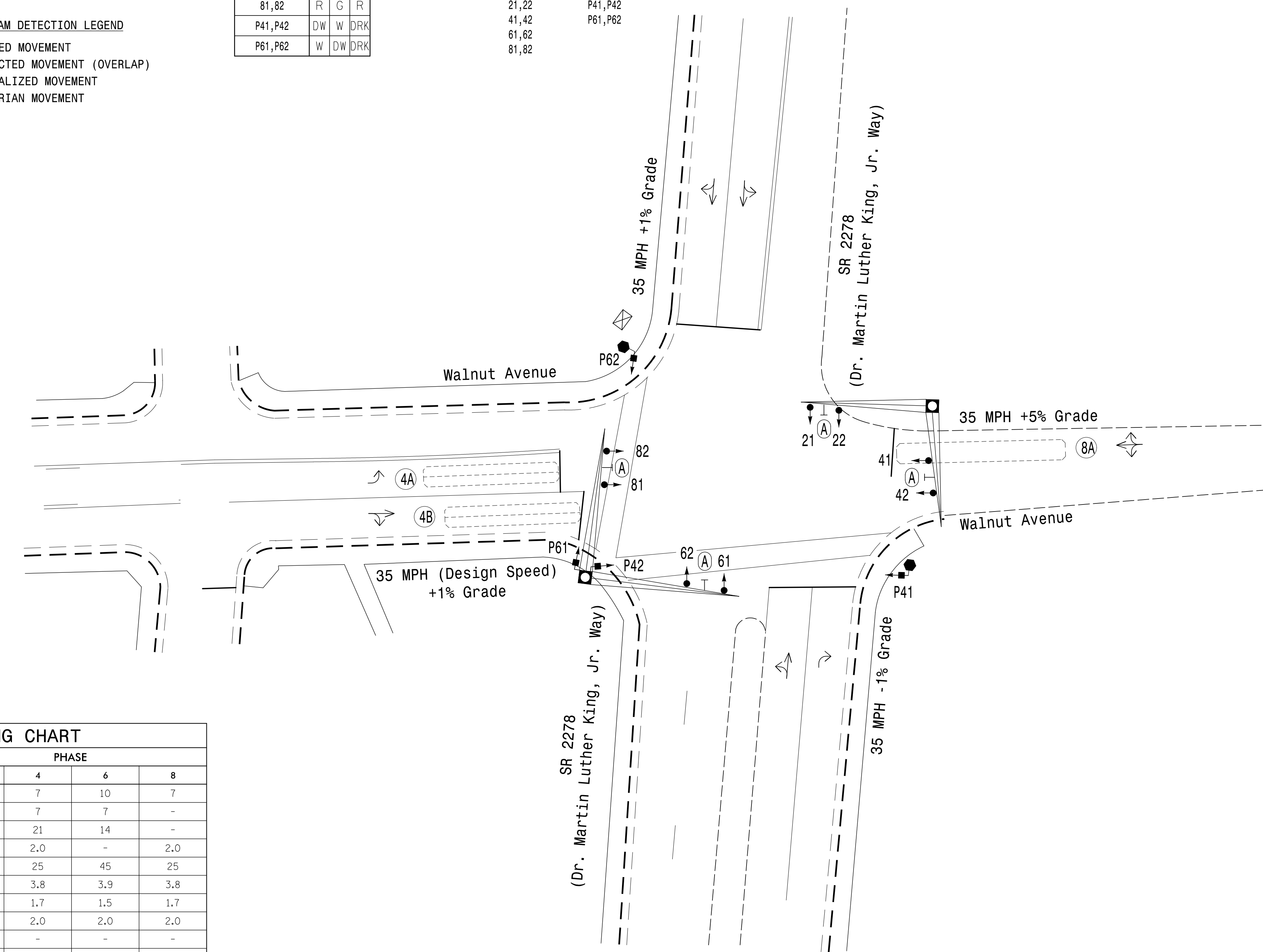
TIMING CHART

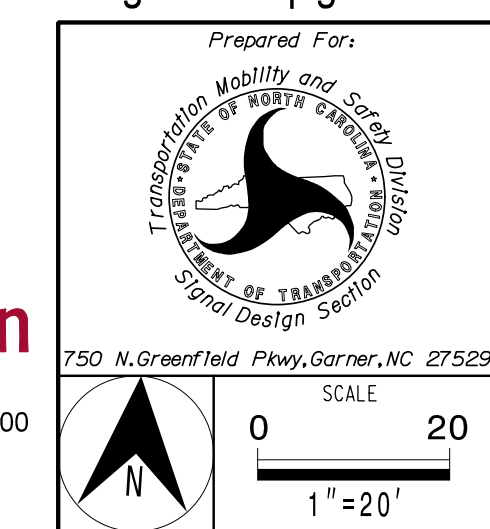| FEATURE	PHASE 2	4	6	8
Min Green *	10	7	10	7
Walk *	–	7	7	–
Ped Clear	–	21	14	–
Veh. Extension *	–	2.0	–	2.0
Max 1 *	45	25	45	25
Yellow	3.9	3.8	3.9	3.8
Red Clear	1.5	1.7	1.5	1.7
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	–	–	–	–
Seconds /Actuation *	–	–	–	–
Max Initial *	–	–	–	–
Time Before Reduction *	–	–	–	–
Time To Reduce *	–	–	–	–
Minimum Gap	–	–	–	–
Locking Detector	–	–	–	–
Recall Position	MAX RECALL		PED/MAX	
Dual Entry		X		X
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.
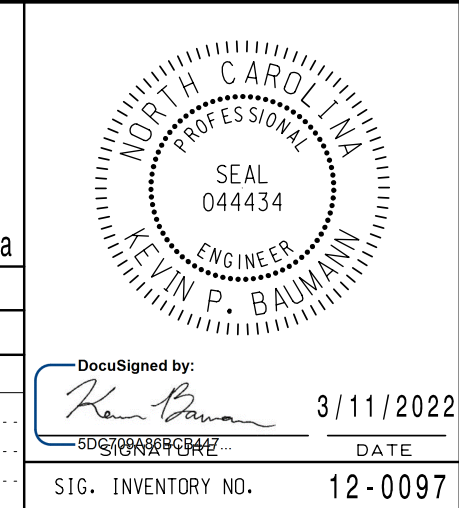

SR 2278 (Dr. Martin Luther King, Jr. Way)

35 MPH +1% Grade

Walnut Avenue

35 MPH +5% Grade

35 MPH (Design Speed) +1% Grade

35 MPH -1% Grade

Walnut Avenue

PLANS PREPARED IN THE OFFICE OF:

Kimley»Horn

NC License #F-0102
421 Fayetteville Street, Suite 600
Raleigh, NC 27601

Prepared For:
Transportation Mobility and Safety Division
DEPARTMENT OF NORTH CAROLINA
Signal Design Section

750 N.Greenfield Pkwy,Garner,NC 27529
(919) 677-2000

Signal Upgrade

SR 2278 (Dr. Martin Luther King, Jr. Way)
at
Walnut Avenue

Division 12	Gaston County	Gastonia
PLAN DATE: May 2021	REVIEWED BY: SL Phillips	
PREPARED BY: CF Davis	REVIEWED BY: KP Baumann	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
044434

NORTH CAROLINA
PROFESSIONAL ENGINEER
KEVIN P. BAUMANN

3/11/2022
DATE

REVISIONS	INIT.	DATE

SIG. INVENTORY NO. 12-0097

SCALE
0   20
1"=20'