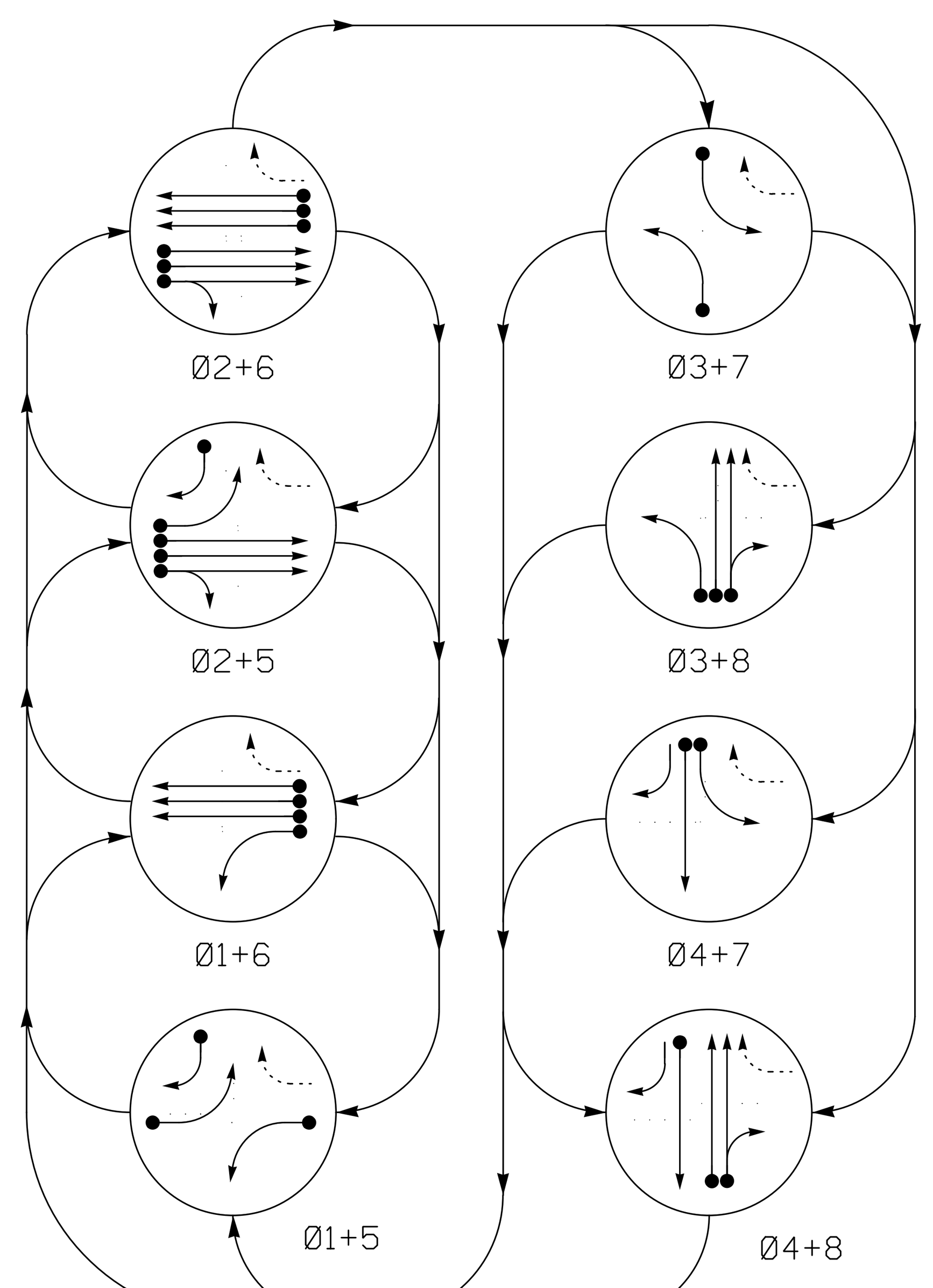
PROJECT REFERENCE NO.	SHEET NO.
C-5703	Sig.51.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

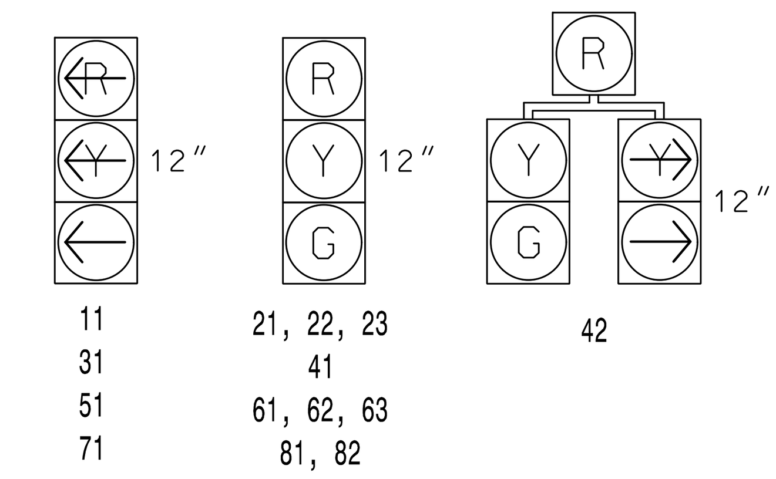
TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3+7	Ø3+8	Ø4+7	Ø4+8	FLASH
11	←	←	←R	←R	←R	←R	←R	←R	←R
21, 22, 23	R	R	G	G	R	R	R	R	Y
31	←R	←R	←R	←R	←	←	←R	←R	←R
41	R	R	R	R	R	R	G	G	R
42	R / →	R	R / →	R	R	R	G	G	R
51	←	←R	←	←R	←R	←R	←R	←R	←R
61, 62, 63	R	G	R	G	R	R	R	R	Y
71	←R	←R	←R	←R	←	←R	←	←R	←R
81, 82	R	R	R	R	R	G	R	G	R
SIGN 'C'	*	*	*	*	*	*	*	*	OFF
SIGN 'D'	*	*	*	*	*	*	*	*	OFF
SIGN 'E'	*	*	*	*	*	*	*	*	OFF
SIGN 'F'	*	*	*	*	*	*	*	*	OFF

* Changeable Trailblazer Sign controlled remotely

SIGNAL FACE I.D.

All Heads L.E.D.



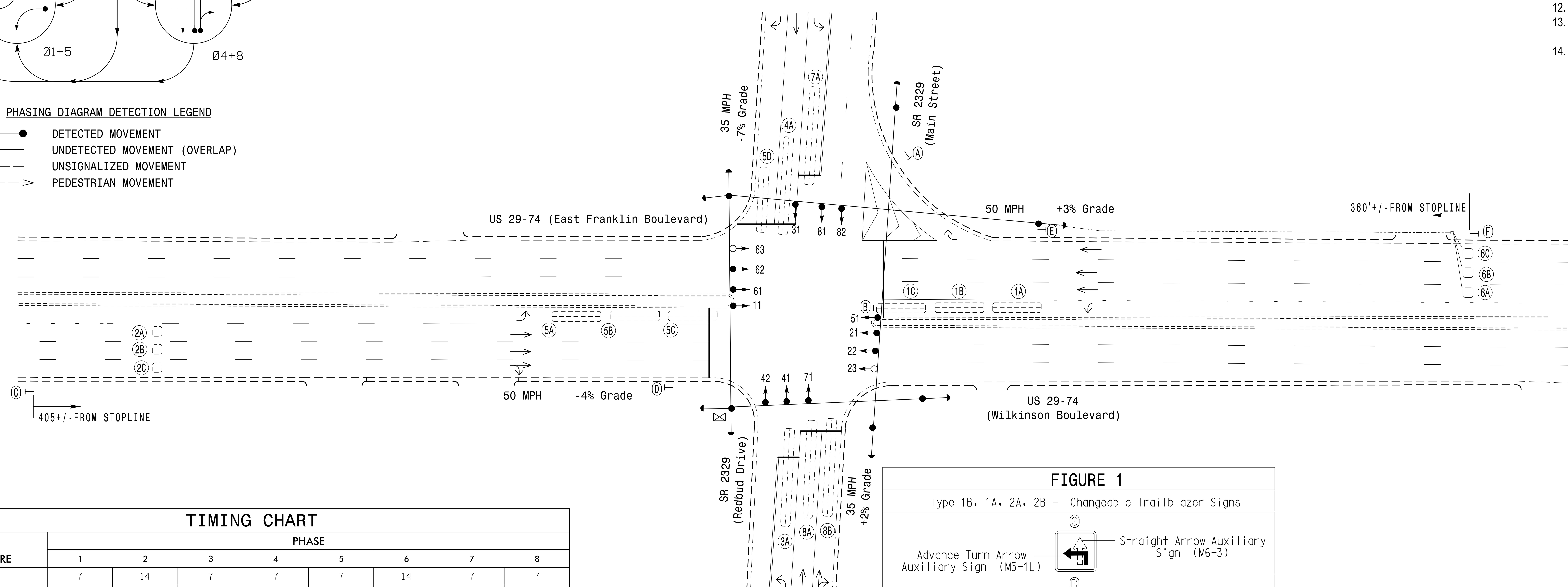
DETECTOR INSTALLATION CHART

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	6X30	65	2-4-2	-	1	Yes	-	-	-	N	-	X
1B	6X30	30	2-4-2	-	1	Yes	-	-	-	N	-	X
1C	6X30	+5	2-4-2	-	1	Yes	-	-	-	N	-	X
2A	6X6	335	EXIST	-	2	Yes	-	-	X	N	-	X
2B	6X6	335	EXIST	-	2	Yes	-	-	X	N	-	X
2C	6X6	335	EXIST	-	2	Yes	-	-	X	N	-	X
3A	6X60	20	2-4-2	-	3	Yes	-	-	-	N	-	X
4A	6X60	+5	2-4-2	-	4	Yes	-	-	-	N	-	X
5A	6X30	65	2-4-2	-	5	Yes	-	-	-	N	-	X
5B	6X30	30	2-4-2	-	5	Yes	-	-	-	N	-	X
5C	6X30	+5	2-4-2	-	5	Yes	-	-	-	N	-	X
5D	6X40	+5	2-4-2	-	5	Yes	-	10	-	N	-	X
6A	6X6	355	6	X	6	Yes	-	-	X	N	-	X
6B	6X6	355	6	X	6	Yes	-	-	X	N	-	X
6C	6X6	355	6	X	6	Yes	-	-	X	N	-	X
7A	6X60	+5	2-4-2	-	7	Yes	-	-	-	N	-	X
8A	6X60	+5	2-4-2	-	8	Yes	-	-	-	N	-	X
8B	6X60	+5	2-4-2	-	8	Yes	-	5	-	N	-	X

8 Phase
Fully 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. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads numbered 21, 22, 61, and 62.
6. Set all detector units to presence mode.
7. Relabel existing loop 4B as 5D.
8. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
9. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
10. Pavement markings are existing.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
12. Install new cabinet on the existing cabinet foundation.
13. All new cabinets and base extenders shall be black in color. See Project Special Provisions for details.
14. City system data:
    Controller Asset #0151

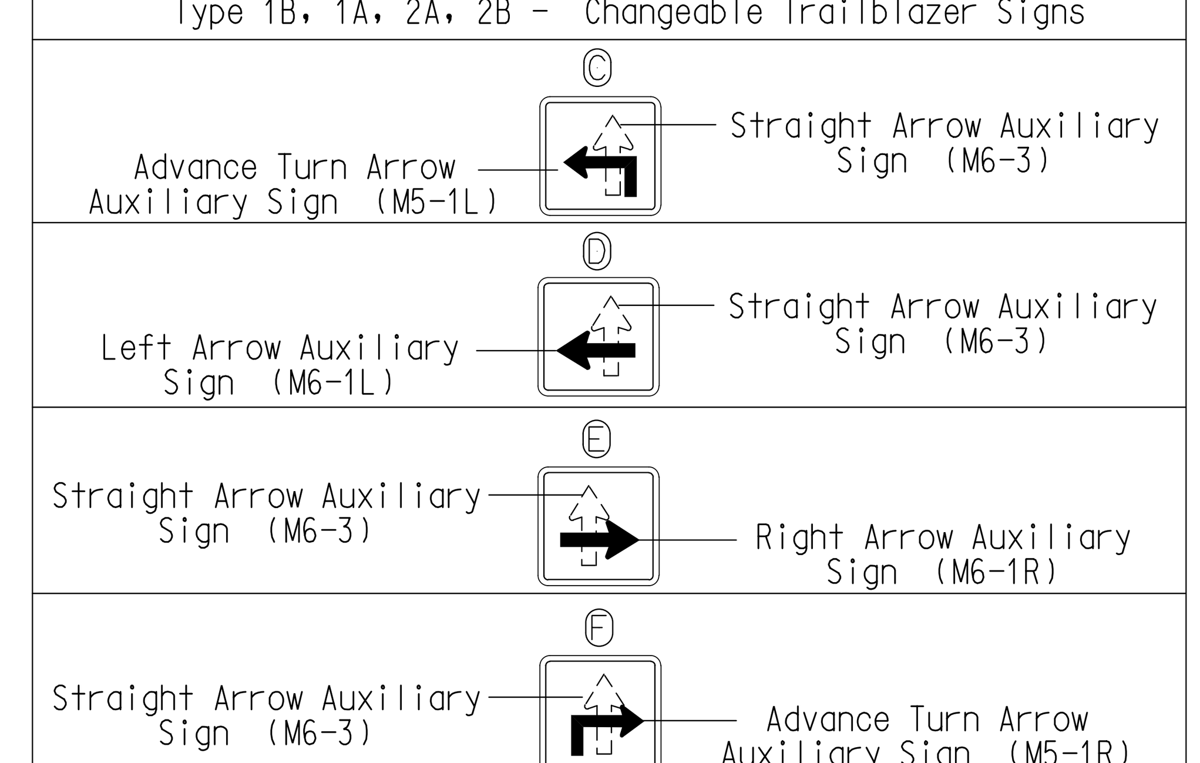


LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	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	
A	"YIELD" Sign (R1-2)	A
B	U-Turn "MUST YIELD" Sign (R3-27)	B
C	Type 1B Changeable Trailblazer sign (See Figure 1)	C
D	Type 1A Changeable Trailblazer sign (See Figure 1)	D
E	Type 2A Changeable Trailblazer sign (See Figure 1)	E
F	Type 2B Changeable Trailblazer sign (See Figure 1)	F

FIGURE 1

Type 1B, 1A, 2A, 2B - Changeable Trailblazer Signs



TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	14	7	7	7	14	7	7
Walk *	-	-	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-	-	-
Veh. Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max 1 *	20	90	20	30	20	90	20	30
Yellow	3.0	5.2	3.0	4.4	3.0	4.6	3.2	3.7
Red Clear	2.9	1.7	3.3	2.7	3.1	1.7	3.3	2.4
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-	-	-	-	-
Seconds /Actuation *	-	1.0	-	-	-	1.0	-	-
Max Initial *	-	38	-	-	-	40	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	2.8	-	-	-	3.1	-	-
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.

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

Signal Upgrade

Prepared For: Transportation Mobility and Safety Division, State of North Carolina Department of Transportation, Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 29-74 (Wilkinson Boulevard) at SR 2329 (Main Street/ Redbud Drive)

Division 12 | Gaston County | Gastonia

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

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN

DocuSigned by: 5DC709A86BCB447... SIGNATURE 3/11/2022 DATE

SIG. INVENTORY NO. 12-0151