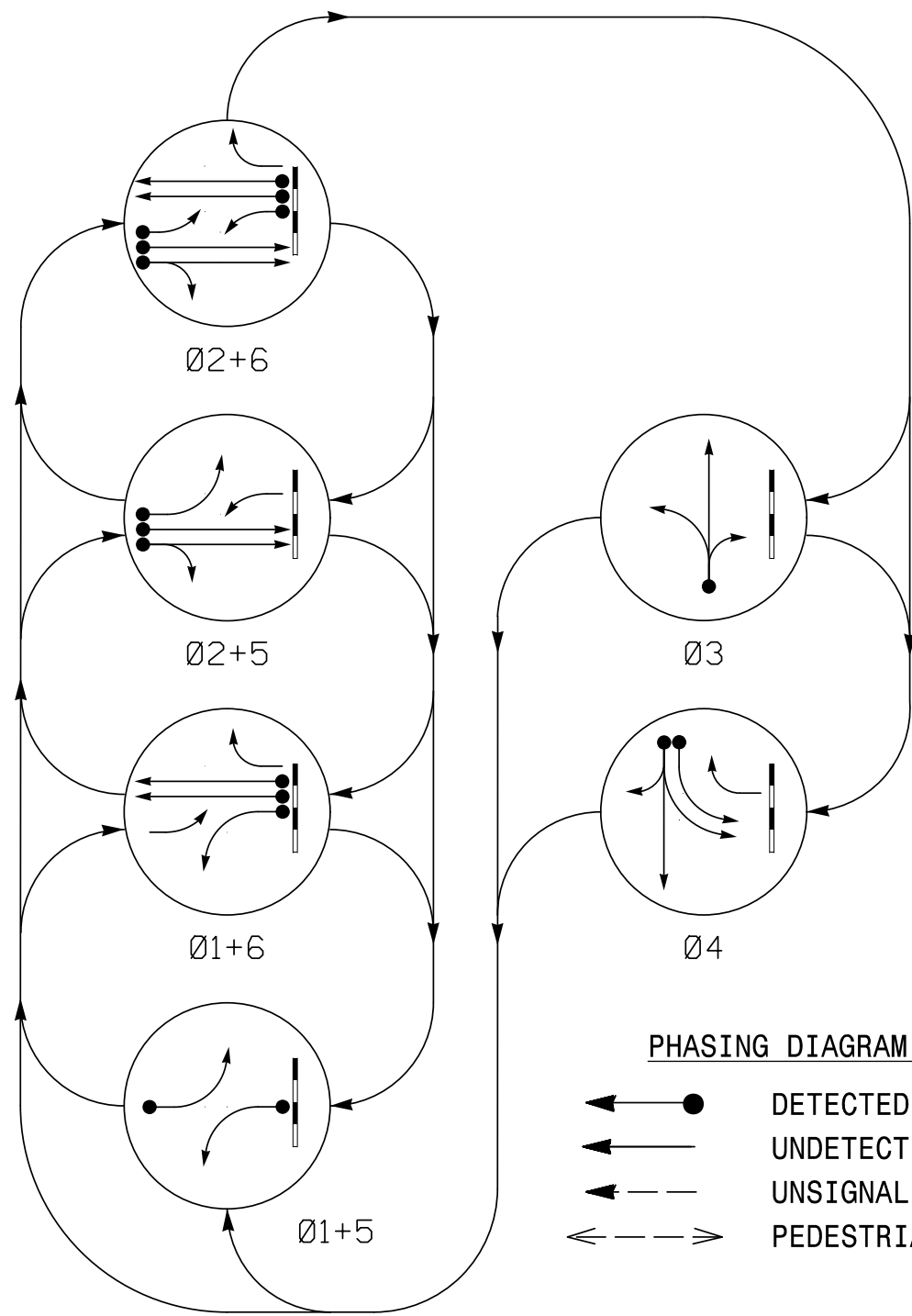


PROJECT REFERENCE NO.	SHEET NO.
U-5797	Sig. 15.0

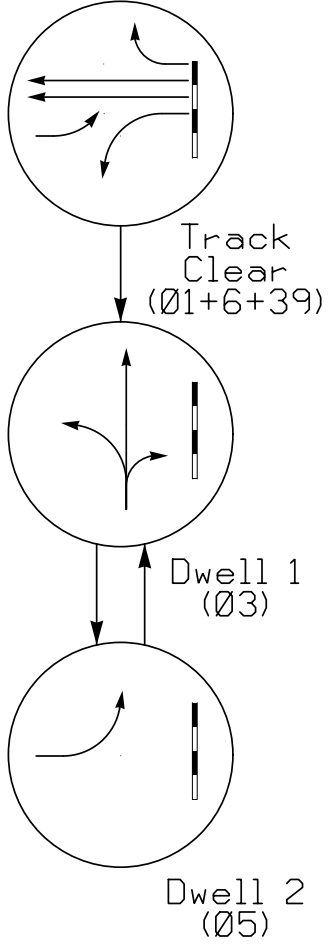
6 Phase
Fully Actuated
w/ Railroad Preemption
#D06-18 Lumberton NC 211 (N. Roberts Avenue)
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
2. This location contains railroad preemption phasing. Do not program signal for late night flashing operation.
3. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Program phase 40 to run concurrently with all phases during normal operation. Phase 39 must be incompatible with phase 40 and included as a track clear phase.
7. The Division Traffic Engineer will determine the hours of use for each phasing plan.
8. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

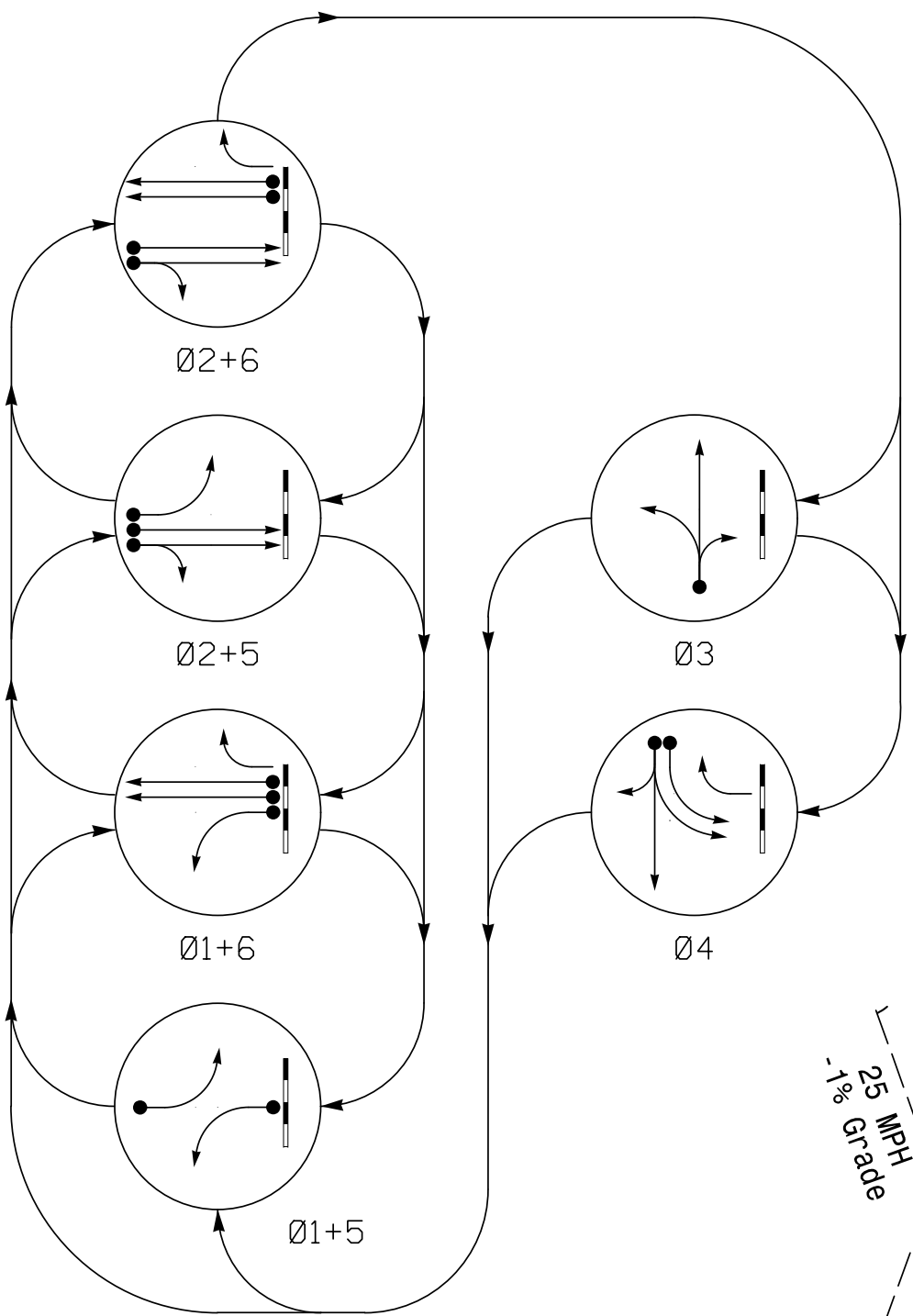
DEFAULT PHASING DIAGRAM



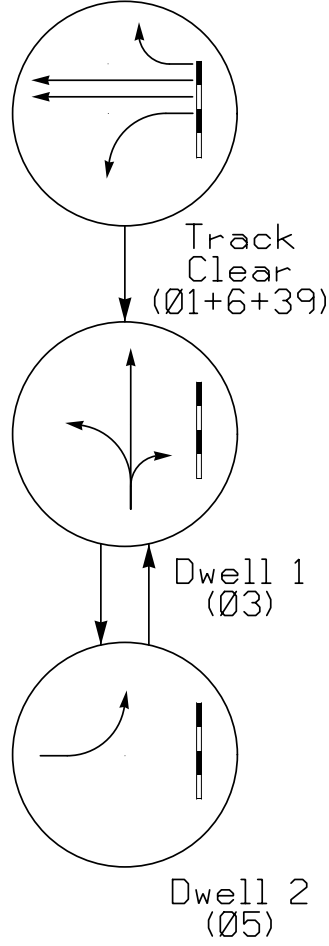
DEFAULT RAIL PREEMPT PHASES (High Priority)



ALTERNATE PHASING DIAGRAM



ALTERNATE RAIL PREEMPT PHASES (High Priority)



DEFAULT PHASING TABLE OF OPERATION

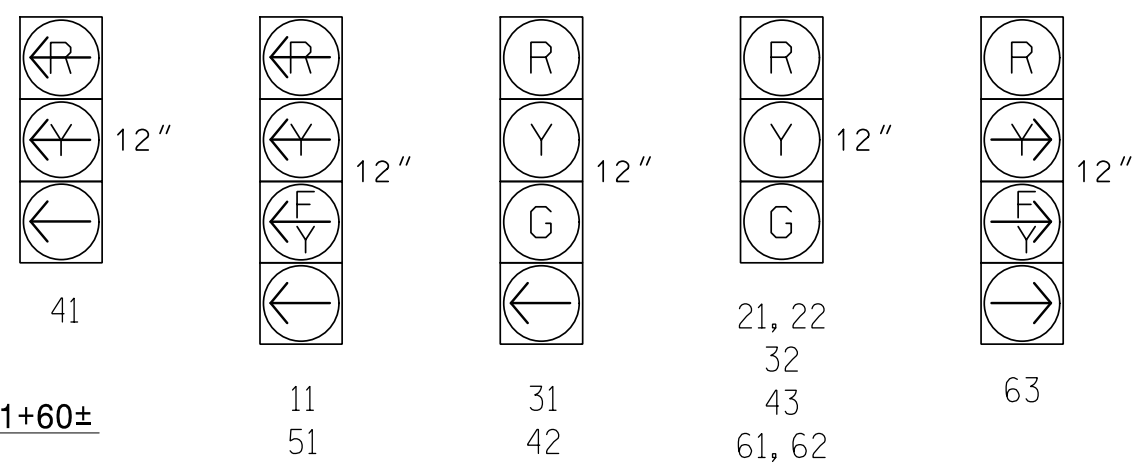
SIGNAL FACE	PHASE									
	Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 3	Ø 4	R R C L R	D W R E L 1	D W R E L 2	F L A S H
11	←	←	F	F	←	←	←	←	←	←
21, 22	R	R	G	G	R	R	R	R	R	R
31	R	R	R	R	G	R	R	G	R	R
32	R	R	R	R	G	R	R	G	R	R
41	←	←	←	←	←	←	←	←	←	←
42	R	R	R	R	R	G	R	R	R	R
43	R	R	R	R	G	R	R	R	R	R
51	←	F	←	F	←	F	←	←	←	←
61, 62	R	G	R	G	R	F	G	R	R	R
63	R	F	R	F	R	→	F	R	R	R

ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE									
	Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 3	Ø 4	R R C L R	D W R E L 1	D W R E L 2	F L A S H
11	←	←	←	←	←	←	←	←	←	←
21, 22	R	R	G	G	R	R	←	←	←	←
31	R	R	R	R	<u>G</u>	R	R	<u>G</u>	R	R
32	R	R	R	R	G	R	R	G	R	R
41	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>	<u>←</u>
42	R	R	R	R	R	<u>G</u>	R	R	R	R
43	R	R	R	R	R	G	R	R	R	R
51	←	←	←	←	←	←	←	←	←	←
61, 62	R	G	R	G	R	R	G	R	R	R
63	R	<u>←</u>	R	<u>←</u>	R	→	<u>←</u>	R	R	R

SIGNAL FACE I.D.

All Heads L.E.D.



MAXTIME PREEMPTION CHART

FUNCTION	PRE 1
Type	RAIL ROAD
Exit Phases	2.6
Delay	0.0
Max Presence	0
Enter Min Green	1
Enter Walk	1
Enter Ped Clear	0
Enter Yellow Change	4.6
Enter Red Clear	3.3
Track Green	37
Track Yellow Change	4.6
Track Red Clear	2.6
Dwell Green	7
Exit Min Green	25.5 *
Exit Yellow Change	25.5 *
Exit Red Clear	25.5 *
Call Extend Time	1.0
Exit Type	EXIT PHASES
Ped Clear Through Yellow	N
Require All Red Entry	N

* Directs controller to use default phase timing.

MAXTIME TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	39	40
Walk *	–	–	–	–	–	–		
Ped Clear *	–	–	–	–	–	–		
Min Green	7	12	7	7	7	12		
Passage *	2.0	2.0	2.0	2.0	2.0	2.0		
Max 1 *	20	90	30	30	20	90		
Yellow Change	3.0	4.6	3.2	3.2	3.0	4.6	4.6	4.6
Red Clear	2.6	1.6	2.6	3.3	2.8	1.6	2.6	3.3
Added Initial *	–	–	–	–	–	–		
Maximum Initial *	–	–	–	–	–	–		
Time Before Reduction *	–	–	–	–	–	–		
Time To Reduce *	–	–	–	–	–	–		
Minimum Gap	–	–	–	–	–	–		
Advance Walk	–	–	–	–	–	–		
Non Lock Detector	X	–	X	X	X	–		
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	MIN RECALL	
Dual Entry	–	–	–	–	–	–		

* 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.

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							NEW CARD
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	
1A	6X40	0	*	*	1 6 #	15**	-	X	-	X	-	*
3A	6X20	0	*	*	3	5	-	X	-	X	-	*
4A	6X40	0	*	*	4	-	-	X	-	X	-	*
4B	6X40	0	*	*	4	5	-	X	-	X	-	*
5A	6X40	0	*	*	5 2 #	15**	-	X	-	X	-	*
								X	-	X	-	*

* Multi-zone Microwave Detection Zone

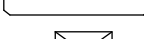
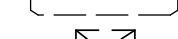
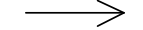
*** Disable Delay During Alternate Phasing

```
# Disable Phase Call for Loop During Alternate Phasing
```

RADAR DETECTION SYSTEM

FUNCTION	SENSOR 1 – (2A)	SENSOR 2 – (6A)
Channel	1	2
Phase	2	6
Direction of Travel	EB	WB
Detection Zone (ft)	500 – 100	500 –100
Enable Speed	Y	Y
Speed Range (mph)	35 – 100	35 – 100
Enable Estimated Time of Arrival	Y	Y
Estimated Time of Arrival (sec)	2.5 – 6.5	2.5 – 6.5

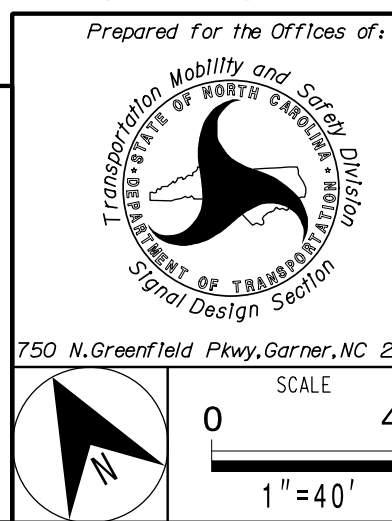
LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Metal Strain Pole	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
-----	2-in Underground Conduit	-----
	Directional Drill	N/A
N/A	Right of Way	-----
	Directional Arrow	
N/A	Railroad Tracks	
N/A	Railroad Gate and Flasher	
	Microwave Detection Zone	
(A)	Right Arrow "ONLY" Sign (R3-5R)	(A)

New Installation
Temporary Design 1 - TMP Phase III, Step 3



STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
(704) 372-1885
NC License Number F-0991



NC 211 (N. Roberts Avenue)
at
Boomerang Drive /
Restaurant Driveway

PLAN DATE: Feb 2025	REVIEWED BY: H.M. Surti
PREPARED BY: J.C. Grimm	REVIEWED BY: T.M. Moody

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

SEAL

NORTH CAROLINA
PROFESSIONAL
SEAL
040329
ENGINEER
TRENT M. MOODY

03/19/2025

DATE

G. INVENTORY NO. 06-138771