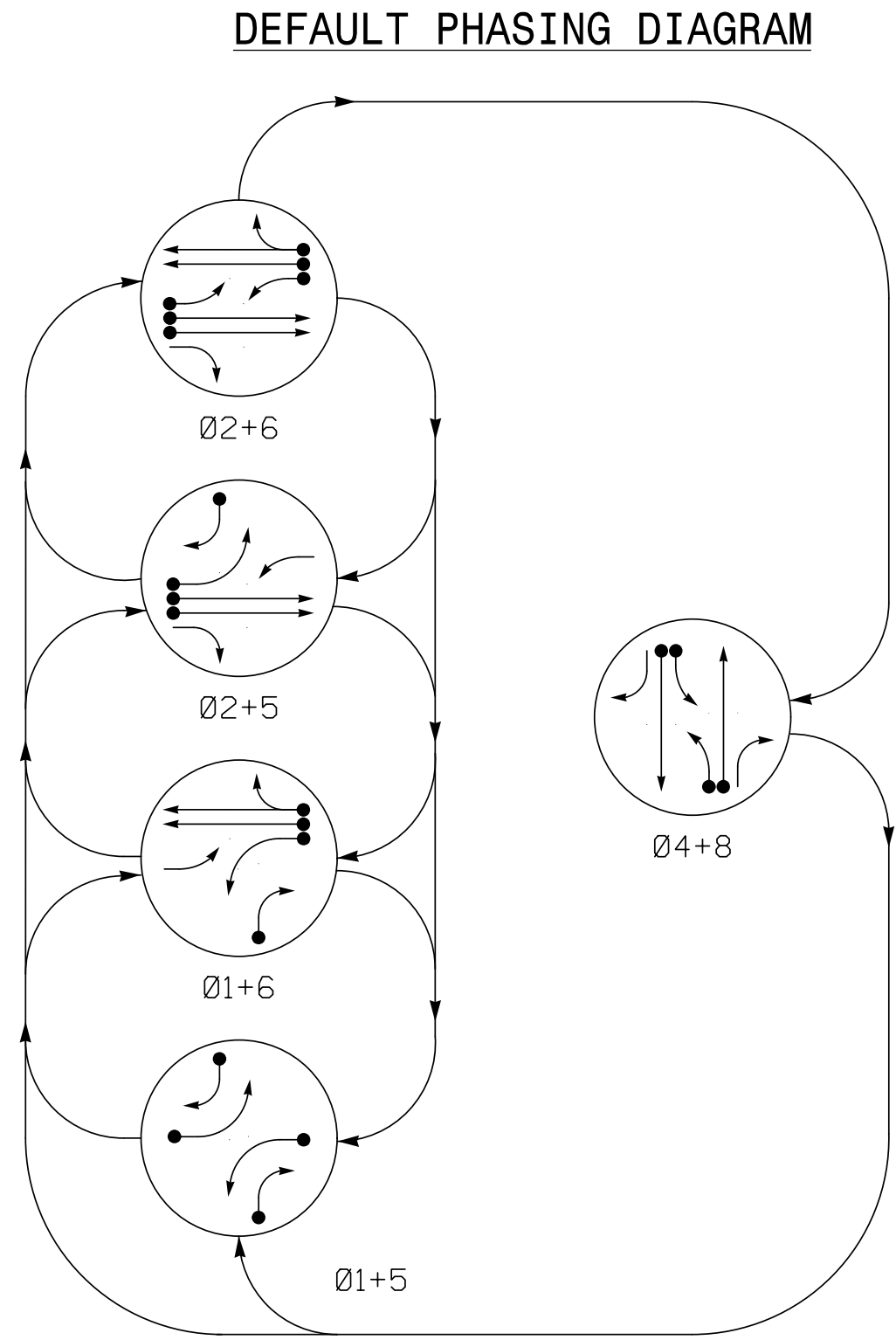


PROJECT REFERENCE NO.	SHEET NO.
U-5797	Sig. 12.0

5 Phase
Fully Actuated with EV Preemption
NC 211 Closed Loop System

NOTES

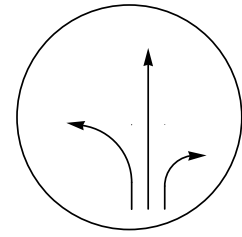
- Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Set all detector units to presence mode.
- The Division Traffic Engineer will determine the Delay Time and Minimum Dwell Time for the emergency vehicle preemption timing.
- This intersection uses microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Emergency vehicle preemption switch is located inside rescue squad building. When switch is actuated, controller will display interval and then emergency preemption phasing.



PHASING DIAGRAM DETECTION LEGEND

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

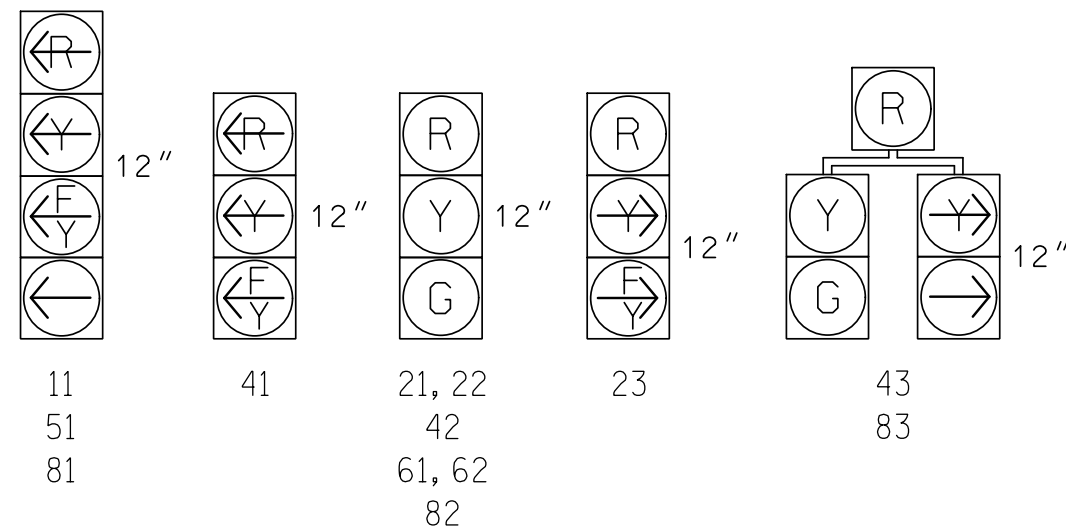
EV PREEMPT PHASE
(Medium Priority)



EV PRE 2
(Ø3+8)

SIGNAL FACE I.D.

All Heads L.E.D.



SIGNAL FACE	PHASE							
	Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 4 + 8	PREV 2	FLASH	
11	←	←	←	←	←	←	←	
21, 22	R	R	G	G	R	R	R	
23	R	R	←	←	R	R	R	
41	←	←	←	←	←	←	←	
42	R	R	R	R	G	R	R	
43	←	←	←	←	R	G	R	
51	←	←	←	←	←	←	←	
61, 62	R	G	R	G	R	R	R	
81	←	←	←	←	←	←	←	
82	R	R	R	R	G	G	R	
83	←	←	←	←	R	G	G	

MAXTIME DETECTOR INSTALLATION CHART												
DETECTOR						PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	*	*	1	15	-	X	-	X	-	*
1B	6X40	0	*	*	6	-	-	X	-	X	-	*
4A	6X40	0	*	*	1	15	-	X	-	X	-	*
4B	6X40	0	*	*	4	3	-	X	-	X	-	*
5A	6X40	0	*	*	4	-	-	X	-	X	-	*
5B	6X40	0	*	*	5	15	-	X	-	X	-	*
8A	6X40	0	*	*	2	-	-	X	-	X	-	*
8B	6X40	0	*	*	5	15	-	X	-	X	-	*
8B	6X40	0	*	*	8	-	-	X	-	X	-	*
8B	6X40	0	*	*	8	-	-	X	-	X	-	*

* Multi-zone Microwave Detection Zone

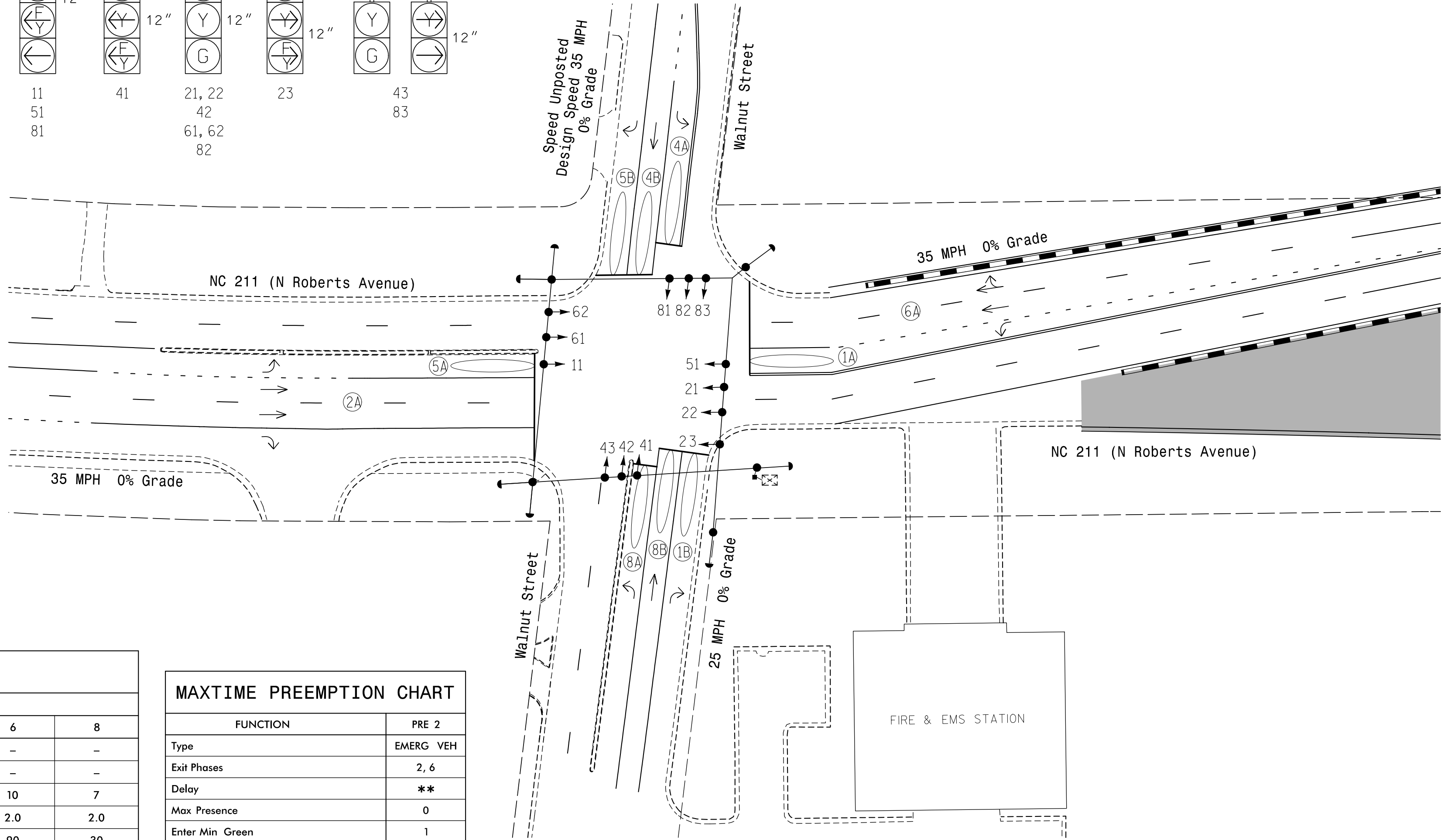
RADAR DETECTION SYSTEM		
FUNCTION	SENSOR 1 - (2A)	SENSOR 2 - (6A)
Channel	1	2
Phase	2	6
Direction of Travel	EB	WB
Detection Zone (ft)	200 - 70	200 - 70
Enable Speed	Y	Y
Speed Range (mph)	25 - 100	25 - 100
Enable Estimated Time of Arrival	Y	Y
Estimated Time of Arrival (sec)	2.5 - 5.5	2.5 - 5.5

FEATURE	PHASE					
	1	2	4	5	6	8
Walk *	-	-	-	-	-	-
Ped Clear *	-	-	-	-	-	-
Min Green	7	10	7	7	10	7
Passage *	2.0	2.0	2.0	2.0	2.0	2.0
Max 1 *	20	90	30	20	90	30
Yellow Change	3.0	3.8	3.8	3.0	3.8	3.8
Red Clear	2.8	2.0	2.1	2.8	2.0	2.1
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	-
Dual Entry	-	-	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.

MAXTIME PREEMPTION CHART	
FUNCTION	PRE 2
Type	EMERG VEH
Exit Phases	2, 6
Delay	**
Max Presence	0
Enter Min Green	1
Enter Walk	0
Enter Ped Clear	255 *
Enter Yellow Change	25.5 *
Enter Red Clear	25.5 *
Dwell Green	**
Exit Min Green	255 *
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.
** See Note 5.

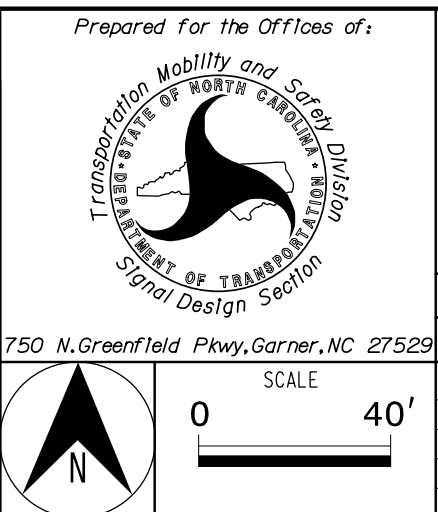


LEGEND

- | PROPOSED | EXISTING |
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Signal Upgrade
Temporary Design 2 - TMP Phase V, Step 1

stv
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 Walnut Street			
Division 6	Robeson County	Lumberton	
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	
SEAL 040329	
ENGINEER T.M. MOODY	
SIGNATURE	3/19/2025
DATE	
SIG. INVENTORY NO.	06-089772