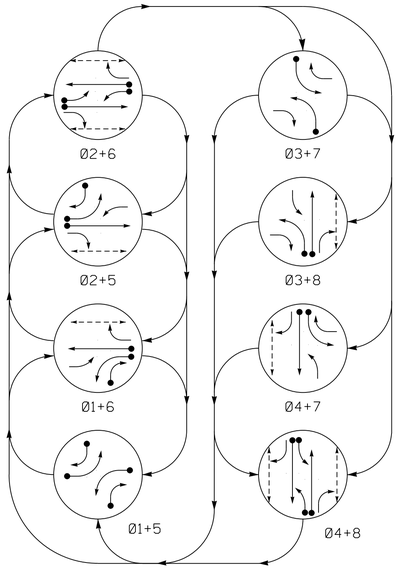
PROJECT REFERENCE NO.	SHEET NO.
U-5783	Sig. 5.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

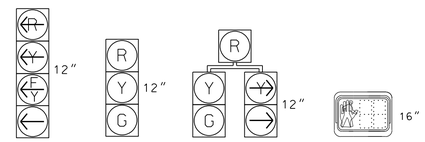
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11	←R	←R	←F Y	←F Y	←R	←R	←R	←R	←Y
21	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R/→	R/→	R	R	Y
31	←R	←R	←R	←R	←	←	←F Y	←F Y	←R
41	R	R	R	R	R	R	G	G	R
42	R/→	R	R/→	R	R	R	G	G	R
51	←R	←F Y	←R	←F Y	←R	←R	←R	←R	←Y
61,63	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R/→	R	R/→	R	Y
71	←R	←R	←R	←R	←	←F Y	←	←F Y	←R
81	R	R	R	R	R	G	R	G	R
82	R/→	R/→	R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81,P82	DW	DW	DW	DW	DW	W	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.

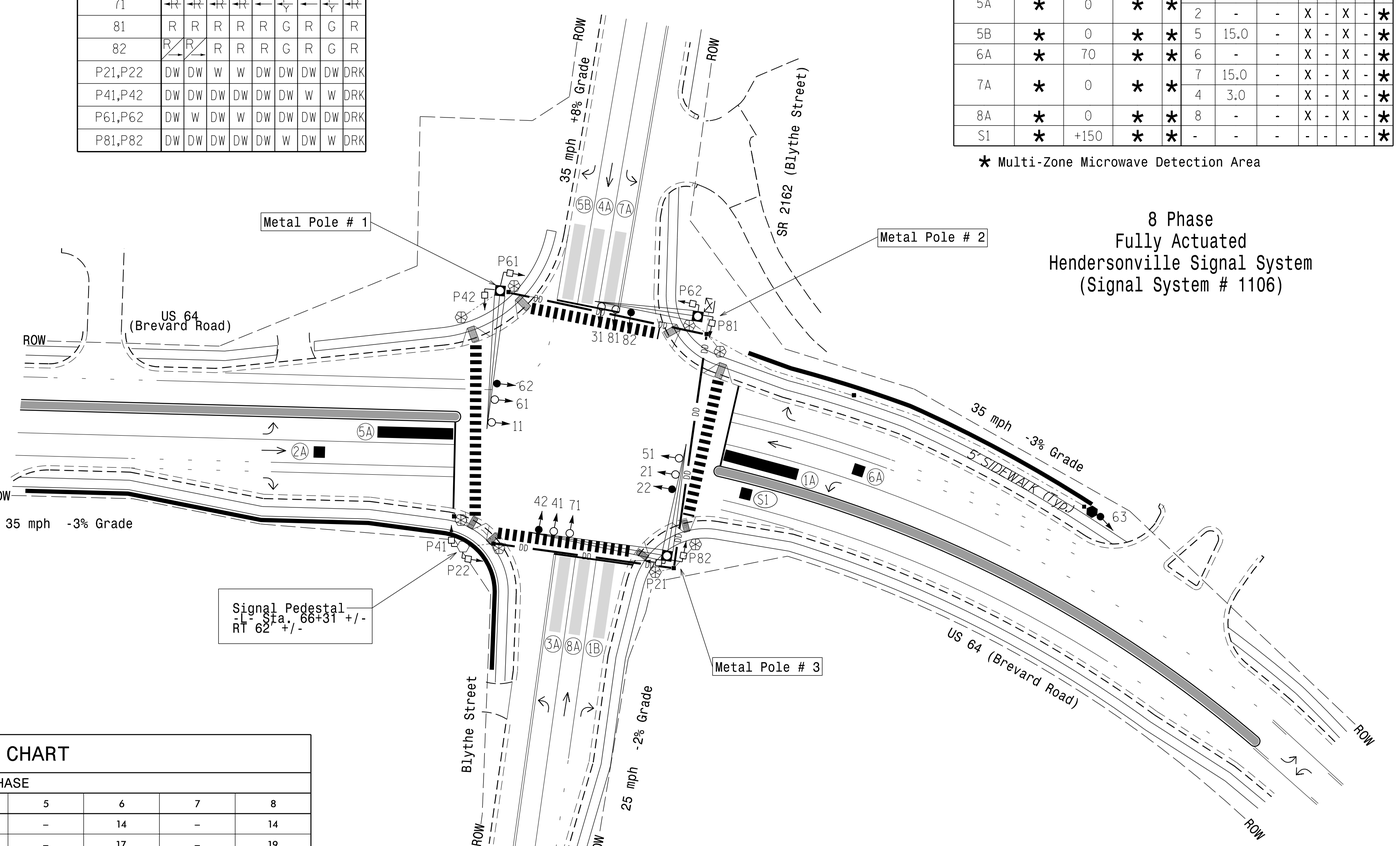


11	21	22	P21,P22
31	41	42	P41,P42
51	61,63	62	P61,P62
71	81	82	P81,P82

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	*	0	*	*	1	15.0	-	X	-	X	-	*
					6	-	-	X	-	X	-	*
1B	*	0	*	*	1	15.0	-	X	-	X	-	*
2A	*	70	*	*	2	-	-	X	-	X	-	*
3A	*	0	*	*	3	15.0	-	X	-	X	-	*
					8	3.0	-	X	-	X	-	*
4A	*	0	*	*	4	-	-	X	-	X	-	*
5A	*	0	*	*	5	15.0	-	X	-	X	-	*
					2	-	-	X	-	X	-	*
5B	*	0	*	*	5	15.0	-	X	-	X	-	*
6A	*	70	*	*	6	-	-	X	-	X	-	*
7A	*	0	*	*	7	15.0	-	X	-	X	-	*
					4	3.0	-	X	-	X	-	*
8A	*	0	*	*	8	-	-	X	-	X	-	*
S1	*	+150	*	*	-	-	-	-	-	-	-	*

* Multi-Zone Microwave Detection Area



8 Phase
Fully Actuated
Hendersonville Signal System
(Signal System # 1106)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024.
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. Set all detector units to presence mode.
6. Reposition existing signal heads numbered 22, 42, 62, and 82.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
10. All proposed signal heads, pedestals, posts and bases shall be hunter green in color.
11. See Roadway Pavement Marking Plans for pavement marking locations.
12. This intersection uses multi-zone microwave detection. Install detectors according to the manufacturer's instructions to achieve the desired detection. Relocate/re-position detectors from TCP Phase 5B to achieve detection shown.
13. Suppress FYA for signal head 11 during the first 7 seconds of the phase 2 ped.
14. Suppress FYA for signal head 31 during the first 7 seconds of the phase 4 ped.
15. Suppress FYA for signal head 51 during the first 7 seconds of the phase 6 ped.
16. Suppress FYA for signal head 71 during the first 7 seconds of the phase 8 ped.

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	
	Metal Pole with Mastarm	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
	Directional Drill	N/A
N/A	Right of Way	
	Directional Arrow	
N/A	Curb Ramp	
	Type II Signal Pedestal	
	Type I Pushbutton Post	
	Non-Intrusive Detection Zone	

MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	14	–	14	–	14	–	14
Ped Clear	–	18	–	24	–	17	–	19
Min Green *	7	10	7	7	7	10	7	7
Passage *	2.0	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Max 1 *	20	60	15	35	20	60	15	35
Yellow Change	3.0	4.1	3.0	3.4	3.0	4.1	3.0	3.4
Red Clear	3.3	2.6	3.2	3.3	3.3	2.6	3.3	3.3
Added Initial *	–	–	–	–	–	–	–	–
Maximum Initial *	–	–	–	–	–	–	–	–
Time Before Reduction *	–	–	–	–	–	–	–	–
Time To Reduce *	–	–	–	–	–	–	–	–
Minimum Gap	–	–	–	–	–	–	–	–
Advance Walk	–	–	–	–	–	–	–	–
Non Lock Detector	X	–	X	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.

Mattern & Craig
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NC LIC. NO. C-1154

Signal Upgrade - Final

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared for the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40
1"=40'

US 64 (Brevard Road)
at
SR 2162 (Blythe Street)

Division 14 Henderson County Hendersonville

PLAN DATE: September 2023	REVIEWED BY:	JB Voso	
PREPARED BY: KG Eudy	REVIEWED BY:		

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022599 ENGINEER JAMES B. VOSO

DocuSigned by:
James Voso
140FD603BE6E1F
SIGNATURE

4/1/2024
DATE

SIG. INVENTORY NO. I4-0002

8:28:17 AM
11/4/2022
JBVOSO

U-5783 US 64 Widening (U-5783)#06 U:\5783\Traffic\Signals\Design\Signals\I4-0002\U5783_I40002 Microwave detection.dgn