PROJECT REFERENCE NO.	SHEET NO.
U-3308	Sig. 24.0

PHASING DIAGRAM

Ø2+6   Ø4+8

EV Preempt Phases

EVB
(Ø1+6)

SEE
NOTE
#9

PHASING DIAGRAM DETECTION LEGEND

◄——● DETECTED MOVEMENT
◄—— UNDETECTED MOVEMENT (OVERLAP)
◄— — UNSIGNALIZED MOVEMENT
◄— — — PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	Ø2+6	Ø4+8	EVB	FLASH
		PHASE		
11	F/Y	R/Y	R/Y	Y
21	F/Y	R/Y	R/Y	Y
22,23	G	R	R	Y
41,42	R	G	R	R
61,62	R	G	R	Y
81,82	R	G	R	R
P21,P22	W	DW	DW	DRK

2033 SOFTWARE w/ 2070 CONTROLLER
LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS						DETECTOR PROGRAMMING													
						NEMA PHASE	TIMING		ATTRIBUTES								SYSTEM LOOPS	STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING		DELAY	CARRY (STRETCH)	FULL TIME DELAY	PEDESTRIAN CALL	RESERVED	COUNT	EXTENSION	TYPE 3	CALLING	ALTERNATE		NEW	EXISTING
2A	6×6	✳	70	-	✳	2	- SEC.	- SEC.	-	-	-	X	-	X	-	-	-	-	✳
2B	6×40	✳	0	-	✳	2	- SEC.	- SEC.	-	-	-	X	-	X	-	-	-	-	✳
4A	6×40	✳	0	-	✳	4	10 SEC.	- SEC.	-	-	-	X	-	X	-	-	-	-	✳
6A	6×6	✳	70	-	✳	6	- SEC.	- SEC.	-	-	-	X	-	X	-	-	-	-	✳
6B	6×40	✳	0	✳	-	6	- SEC.	- SEC.	-	-	-	X	-	X	-	-	-	✳	-
8A	6×40	✳	0	✳	-	8	10 SEC.	- SEC.	-	-	-	X	-	X	-	-	-	✳	-
PEDESTRIAN DETECTION																			
P21,P22	N/A	N/A	N/A	X	-	2	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-

✳ Video Detection Zone

2 Phase
Fully Actuated
W/ EV Preemption
(Durham Signal System)

NOTES

1. Refer to "Road Standard Drawings NCDOT" dated January 2012, "Standard Specifications for Roads and Structures" dated January 2012.
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. Program all timing information into phase banks 1,2, and 3 unless otherwise noted.
5. Set phase bank 3 maximum limit to 250 seconds for phases used.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time.
8. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
9. Upon completion of Emergency Vehicle Preemption, controller returns to normal operation.
10. Maximum times shown in timing chart are for free -run operation only. Coordinated signal system timing values supersede these values.
11. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
12. Contractor shall adjust video detection zones as required.

SIGNAL FACE I.D.

All Heads L.E.D.

11   21   22,23 41,42 61,62 81,82   P21,P22   16"
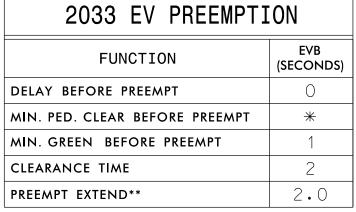
2033 EV PREEMPTION

FUNCTION	EVB (SECONDS)
DELAY BEFORE PREEMPT	0
MIN. PED. CLEAR BEFORE PREEMPT	✳
MIN. GREEN BEFORE PREEMPT	1
CLEARANCE TIME	2
PREEMPT EXTEND**	2.0

✳ See Timing Chart for Min Ped Clearance
** Program Timing on Optical Detector Unit

TIMING CHART
2033 SOFTWARE w/2070 CONTROLLER

PHASE	Ø1	Ø2	Ø4	Ø6	Ø8	OL3
MINIMUM INITIAL *	— SEC.	10 SEC.	7 SEC.	10 SEC.	7 SEC.	0 SEC.
VEHICLE EXTENSION *	— SEC.	3.0 SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.	
YELLOW CHANGE INT.	3.7 SEC.	3.7 SEC.	3.2 SEC.	3.7 SEC.	3.0 SEC.	3.7 SEC.
RED CLEARANCE	2.1 SEC.	1.4 SEC.	1.8 SEC.	1.4 SEC.	1.9 SEC.	1.4 SEC.
MAXIMUM LIMIT *	— SEC.	50 SEC.	35 SEC.	50 SEC.	35 SEC.	
RECALL POSITION	NONE	VEH. RECALL	NONE	VEH. RECALL	NONE	
VEHICLE CALL MEMORY	NONE	YELLOW LOCK	NONE	YELLOW LOCK	NONE	
DOUBLE ENTRY	OFF	OFF	ON	OFF	ON	
WALK *	— SEC.	4 SEC.	— SEC.	— SEC.	— SEC.	
FLASHING DON'T WALK	— SEC.	11 SEC.	— SEC.	— SEC.	— SEC.	
MIN PED CLEARANCE	— SEC.	6 SEC.	— SEC.	— SEC.	— SEC.	
TYPE 3 LIMIT	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.	
ALTERNATE EXTENSION	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.	
ADD PER VEHICLE *	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.	
MAXIMUM INITIAL *	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.	
MAXIMUM GAP*	— SEC.	3.0 SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.	
REDUCE 0.1 SEC EVERY *	— SEC.	— SEC.	— SEC.	— SEC.	— SEC.	
MINIMUM GAP	— SEC.	3.0 SEC.	2.0 SEC.	3.0 SEC.	2.0 SEC.	

* 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.

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	⟶
▪	Work Area	N/A
●	Drums	N/A
E	Construction Easement	N/A
PUE	Permanent Utility Easement	N/A
⧄	Barricades	N/A
	Direct Bury	——————
⋈	Optical Detector	●⋈
○	Type II Signal Pedestal	●
▭◁	Video Detector	■◀
▬	Video Detection Area	▬

Signal Upgrade - Temporary Design 2 (TMP Phase 1, Steps 1-10)

Prepared for the Offices of:
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signal Design Section

750 N.Greenfield Pkwy,Garner,NC 27529

NC 55 (North Alston Avenue)
at
Taylor Street

Division 5   Durham County   Durham

PLAN DATE: September 2014	REVIEWED BY: J Hochanadel
PREPARED BY: C Lawson	REVIEWED BY:

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
28430
ENGINEER
JEFFREY P. HOCHANADEL

REVISIONS	INIT.	DATE

4/02/15
DATE

SIG. INVENTORY NO. 05-0228T2

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SCALE
0   40
1"=40'

Map labels (intersection plan)

NC 55 (N. Alston Ave.)
Taylor Street
25 Mph +0% Grade
35 Mph +2% Grade
SCHOOL
PUE
R/W
Direct Bury
2A 2B 62 61 11 21 22 23 42 41 P21 P22 4A 81 82 6A 6B 8A
E