### PROJECT REFERENCE NO. Sig. 27.0 U-3308

# 2 Phase Fully Actuated W/ EV Preemption

## NOTES

- flashing operation unless otherwise directed by the Engineer.
- 3. Reposition signal heads #11, #21, #22, #23, #61, #62 and optical detector #10 during this phase of
- 4. Set all detector units to presence mode.
- 5. Program all timing information into phase banks
- 6. Set phase bank 3 maximum limit to 250 seconds for phases used.
- 8. Program pedestrian heads to countdown the flashing "Don't Walk" time.
- system. Shown locations of optical detectors are conceptual only.
- 10. Upon completion of Emergency Vehicle Preemption,
- operation only. Coordinated signal system timing values supersede these values.
- this phase of construction.
- reference only. See sheets P1-P3 for location details.
- required.

1	9	1
Ţ	Pedestrian Signal Head With Push Button & Sign	
	·	<b>'</b>
	Signal Pole with Guy	
	Signal Pole with Sidewalk Gu	у
	Inductive Loop Detector	
	Controller & Cabinet	× N
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
$\longrightarrow$	Directional Arrow	$\longrightarrow$
	Work Area	N/A
	Dums	N/A
——E——	Construction Easement	N/A
PUE	- Permanent Utility Easement	N/A
	Barricades	N/A
$\bigcirc$	Optical Detector	•
$\Longrightarrow$	Type I Signal Pedestal	<b>↔</b>
	Rigid Conduit	
	Video Detector	
	Video Detection Area	

(Durham Signal System)

- 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
- construction.
- 1,2, and 3 unless otherwise noted.
- 7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls
- 9. This intersection features an optical preemption
- controller returns to normal operation.
- 11. Maximum times shown in timing chart are for free-run
- 12. Reconnect and unbag signal head #21 during
- 13. Pedestrian pedestals are conceptual and shown for
- 14. Contractor shall adjust video detection zones as

L	.EGEND	
PROPOSED		<b>EXISTING</b>
○→ Traffi	c Signal Head	<b></b>
<b>○→</b> Modifie	ed Signal Head	N/A
$\dashv$	Sign	$\dashv$
	ian Signal Head h Button & Sign	
○ Signal	Pole with Guy	
Signal Pole	with Sidewalk Guy	
<pre>Inductiv</pre>	e Loop Detector	
Control	ller & Cabinet	
☐ Jur	nction Box	
2-in Unde	erground Conduit	
N/A Riç	ght of Way	
—> Direc	tional Arrow	$\longrightarrow$
W	lork Area	N/A
•	Dums	N/A
E Constru	uction Easement	N/A
PUE Permanent	Utility Easement	N/A
Bo	arricades	N/A
○□ Optio	cal Detector	•
	Signal Pedestal	<b>❸</b>
Rig	id Conduit -	
□ <  Vide	eo Detector	
Vidoo D	Notaction Aroa	

### TABLE OF OPERATION 2033 SOFTWARE w/ 2070 CONTROLLER LOOP & DETECTOR UNIT INSTALLATION CHART

| P41, P42 | N/A | N/A | X | - | 4 | - SEC. | - SEC. | - | X | - | - | - | - | - | X

		I	1	T	-																		
SIGNAL	0 2	Ø 4	E	F		DETECTOR PROGRA										AMMING							
FACE	+	+	V B	Ā			INDUCTIVE LOOPS TIMING					ATTRIBUT					1						
	6	8		5   H					DIST. FROM		ڻ ا			11/4/11		ING		2 Z	3	4	5 Z	6	<del>  7</del>
11	F	<b>→</b> R	<b>-</b>	<del>-</del> Y	-	LOOP NO.	SIZE (ft)	TURNS	STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DEL	.AY	CAF (STRE		FULL TIME DELAY	PEDESTRIAN CALL	RESERVED	COUNT	EXTENSION	TYPE 3	Ž
21	<del>-</del> F	<del>-R</del>	<del>-</del> F	<b>←</b>		2A	6×6	*	70	*	-	2	_	SEC.	-	SEC.	_	_	-	_	Χ	-	X
22,23	G	R	R	Y		2B	6×40	*	0	*	-	2	_	SEC.	-	SEC.	_	_	-	_	Χ	-	X
41,42	R	G	R	R		4 A	6×40	*	0	*	-	4	10	SEC.	-	SEC.	-	-	-	-	Χ	-	X
61,62	G	R	G	Υ		6A	6×6	*	70	*	_	6	-	SEC.	-	SEC.	_	_	_	_	Χ	-	X
81,82	R	G	R	R		6B	6×40	*	0	*	_	6	_	SEC.	_	SEC.	_	_	-	_	Χ	_	Χ
P21,P22	W	DW	DW	DRK		8.8	6×40	*	0	*	_	8	10	SEC.	-	SEC.	_	-	-	_	Χ	_	X
P41,P42	DW	W	DW	DRK		PEDES	STRIAN	DETECT	ION														
1 1191 1		**		וויום		P21,P22	N/A	N/A	N/A	X	_	2	-	SEC.	-	SEC.	_	Χ	-	-	-	-	_

\* Video Detection Zone

NC 55 (N. Alston Ave.)

\_\_\_\_\_ PUE \_\_\_\_ \_Rigid Conduit P42

### UNDETECTED MOVEMENT (OVERLAP) UNSIGNALIZED MOVEMENT $<\!\!--\!\!>$ PEDESTRIAN MOVEMENT

(SECONDS)

0

2.0

PHASING DIAGRAM

PHASING DIAGRAM DETECTION LEGEND

DETECTED MOVEMENT

2033 EV PREEMPTION

FUNCTION

MIN. PED. CLEAR BEFORE PREEMPT

\* See Timing Chart for Min Ped Clearance

\*\* Program Timing on Optical Detector Unit

MIN. GREEN BEFORE PREEMPT

DELAY BEFORE PREEMPT

CLEARANCE TIME

PREEMPT EXTEND\*\*

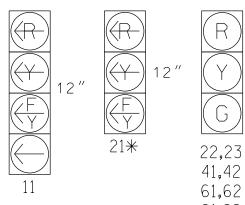
EVB (Ø1+6)

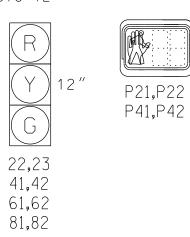
EV Preempt Phases

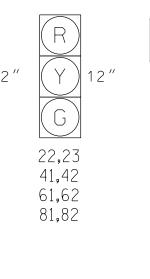
## SIGNAL FACE I.D.

PHASE

All Heads L.E.D. \* See Note 12







TIMING CHART 2033 SOFTWARE w/2070 CONTROLLER											
PHASE	Ø1	Ø2	Ø4	Ø6	Ø8	OL3					
MINIMUM INITIAL *	- SEC.	10 <b>SEC</b> .	7 <b>SEC</b> .	10 <b>SEC</b> .	7 <b>SEC</b> .	O SEC.					
VEHICLE EXTENSION *	- SEC.	3.0 <b>SEC</b> .	2.0 <b>SEC</b> .	3.0 <b>SEC</b> .	2.0 <b>SEC</b> .						
YELLOW CHANGE INT.	3.8 <b>SEC</b> .	3.8 <b>SEC</b> .	3.2 <b>SEC</b> .	3.8 <b>SEC</b> .	3.0 <b>SEC</b> .	3.8 <b>SEC</b> .					
RED CLEARANCE	3.2 <b>SEC</b> .	2.5 <b>SEC</b> .	1 . 8 <b>SEC</b> .	2.5 <b>SEC</b> .	2.4 <b>SEC</b> .	2.5 <b>SEC</b> .					
MAXIMUM LIMIT *	- SEC.	50 <b>SEC</b> .	35 <b>SEC</b> .	50 <b>SEC</b> .	35 <b>SEC</b> .						
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.	4 SEC.	- SEC.	– SEC.						
FLASHING DON'T WALK	- SEC.	10 <b>SEC</b> .	9 sec.	- SEC.	– SEC.						
MIN PED CLEARANCE	- SEC.	5 <b>SEC</b> .	5 <b>SEC</b> .	- 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 <b>.</b> 0 <b>sec</b> .	2 <b>.</b> 0 <b>sec</b> .	3 • 0 <b>sec</b> .	2 <b>.</b> 0 <b>sec</b> .						
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.						
MINIMUM GAP	– SEC	3 . O SEC	2 . O SEC	3.0 <b>SEC</b>	2 . O SEC						

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50 N.Greenfield Pkwy,Garner,NC 27529 PREPARED BY: C Lawson

Taylor Street Division 5 Durham County Durham PLAN DATE: September 2014 REVIEWED BY: J Hochanadel

Signal Upgrade - Temporary Design 6 (TMP Phase 2, Steps 1-6)

NC 55 (North Alston Avenue)

MyPAL

SIG. INVENTORY NO. 05-0228T6