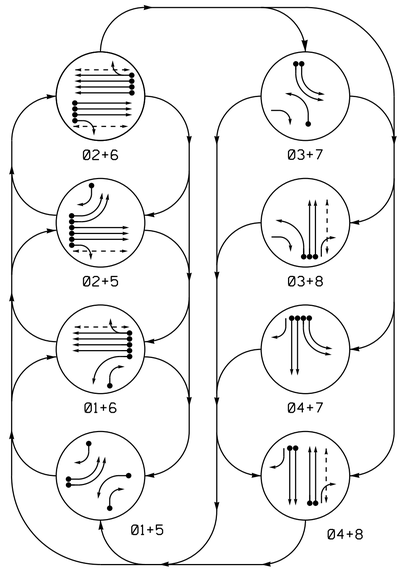
PROJECT REFERENCE NO.	SHEET NO.
W-5601J	Sig. 3.1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

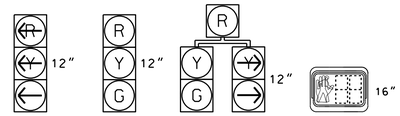
TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
21, 22	R	R	G	G	R	R	R	R	Y
23	R	R	G	G	R/~~R~~	~~R~~/R	R	R	Y
31	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
41	R	R	R	R	R	R	G	G	R
42	R/~~R~~	R	R/~~R~~	R	R	R	G	G	R
51, 52	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61, 62, 63, 64	R	G	R	G	R	R	R	R	Y
71, 72	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
81, 82	R	R	R	R	R	G	R	G	R
83	R/~~R~~	R/~~R~~	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	W	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



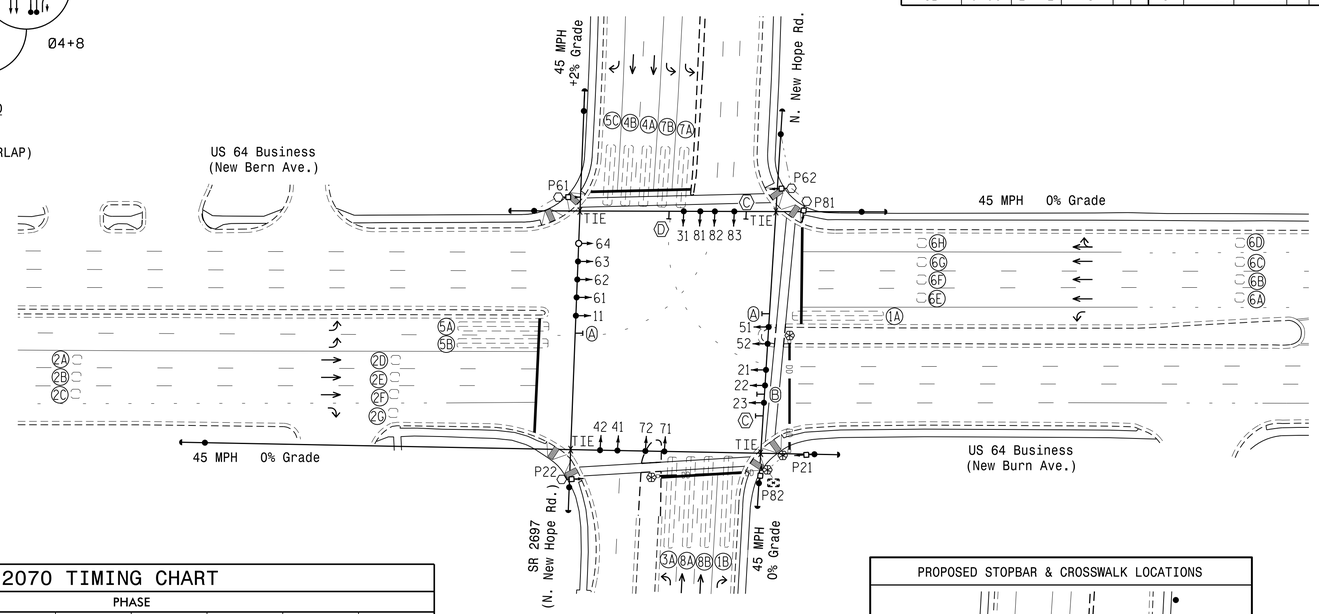
SE-PAC 2070 LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING																		
						TIMING		OPERATION MODE												STATUS	
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	ASSIGNED PHASE	DELAY	EXTEND (STRETCH)	0 VEHICLE	1 PEDESTRIAN	2 1 CALL	3 STOP A	4 STOP B	5 PROTFER LEFT	6 PROTFER THROUGH	7 AND	SWITCH	SYSTEM LOOPS	NEW	EXISTING
1A	6X60	2-4-2	+5	-	X	1	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
1B	6X60	2-4-2	+5	-	X	1	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2A,2B,2C	6X6	EXIST	300	-	X	2	- SEC.	1.6 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2D, 2E	6X6	EXIST	90	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
2F, 2G	6X6	EXIST	90	-	X	2	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
3A	6X60	2-4-2	+5	-	X	3	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4A	6X40	2-4-2	+10	-	X	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
4B	6X40	2-4-2	+10	-	X	4	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5A	6X60	2-4-2	+5	-	X	5	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5B	6X60	2-4-2	+5	-	X	5	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
5C	6X40	2-4-2	+9	-	X	5	15 SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6A, 6B	6X6	EXIST	285	-	X	6	- SEC.	1.6 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6C, 6D	6X6	EXIST	285	-	X	6	- SEC.	1.6 SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6E, 6F	6X6	EXIST	75	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
6G, 6H	6X6	EXIST	75	-	X	6	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
7A	6X40	2-4-2	+12	-	X	7	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
7B	6X40	2-4-2	+11	-	X	7	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
8A	6X60	2-4-2	+5	-	X	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X
8B	6X60	2-4-2	+5	-	X	8	- SEC.	- SEC.	X	-	-	-	-	-	-	-	-	-	-	X

8 Phase
Fully Actuated
(Raleigh Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "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. 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 61, 62, and 63.
7. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
11. Pavement markings are existing unless otherwise shown.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



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	
N/A	Wheelchair Ramp	
	Directional Drill	N/A
	Type I Pushbutton Post	
	Type II Signal Pedestal	
Ⓐ	U-Turn "MUST YIELD" Sign (R3-27)	Ⓐ
Ⓑ	Lane Ends Sign [See Figure 1]	Ⓑ
Ⓒ	Right Arrow "ONLY" Sign (R3-5R)	Ⓒ
Ⓓ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓓ

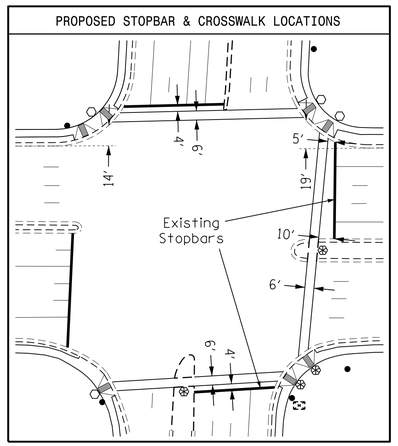
Figure 1
Sign Ⓑ

SE-PAC 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Passage Gap *	1.0	2.0	1.0	1.0	1.0	2.0	1.0	1.0
Maximum Green *	15	120	15	25	15	120	15	25
Yellow Change	3.0	4.5	3.0	4.3	3.0	4.5	3.0	4.5
Red Clear	4.1	2.4	3.8	2.9	4.2	2.2	4.0	2.8
Walk *	-	7	-	-	-	7	-	7
Pedestrian Clear	-	27	-	-	-	31	-	37
Added Initial *	-	-	-	-	-	-	-	-
Maximum Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	NON-LOCK	LOCK	NON-LOCK	NON-LOCK	NON-LOCK	LOCK	NON-LOCK	NON-LOCK
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* 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.

PROPOSED STOPBAR & CROSSWALK LOCATIONS



Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 50
1"=50'

US 64 Business (New Bern Ave.)
at
SR 2697 (N. New Hope Rd.)

Division 5 Wake County Raleigh

PLAN DATE: October 2014 REVIEWED BY:
PREPARED BY: R.N. Zinser REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIELINSKI

DocuSigned by:
12/9/2014
DOCUSIGNED SIGNATURE DATE

SIG. INVENTORY NO. 05-1390

09-DEC-2014 13:22
S:\TMS\CAD\ITS\Signals\Signal Design Section\Central Region\Div 5\W-5601J\05-1390\05139Osig.dgn,20141209.dgn
Zielinski