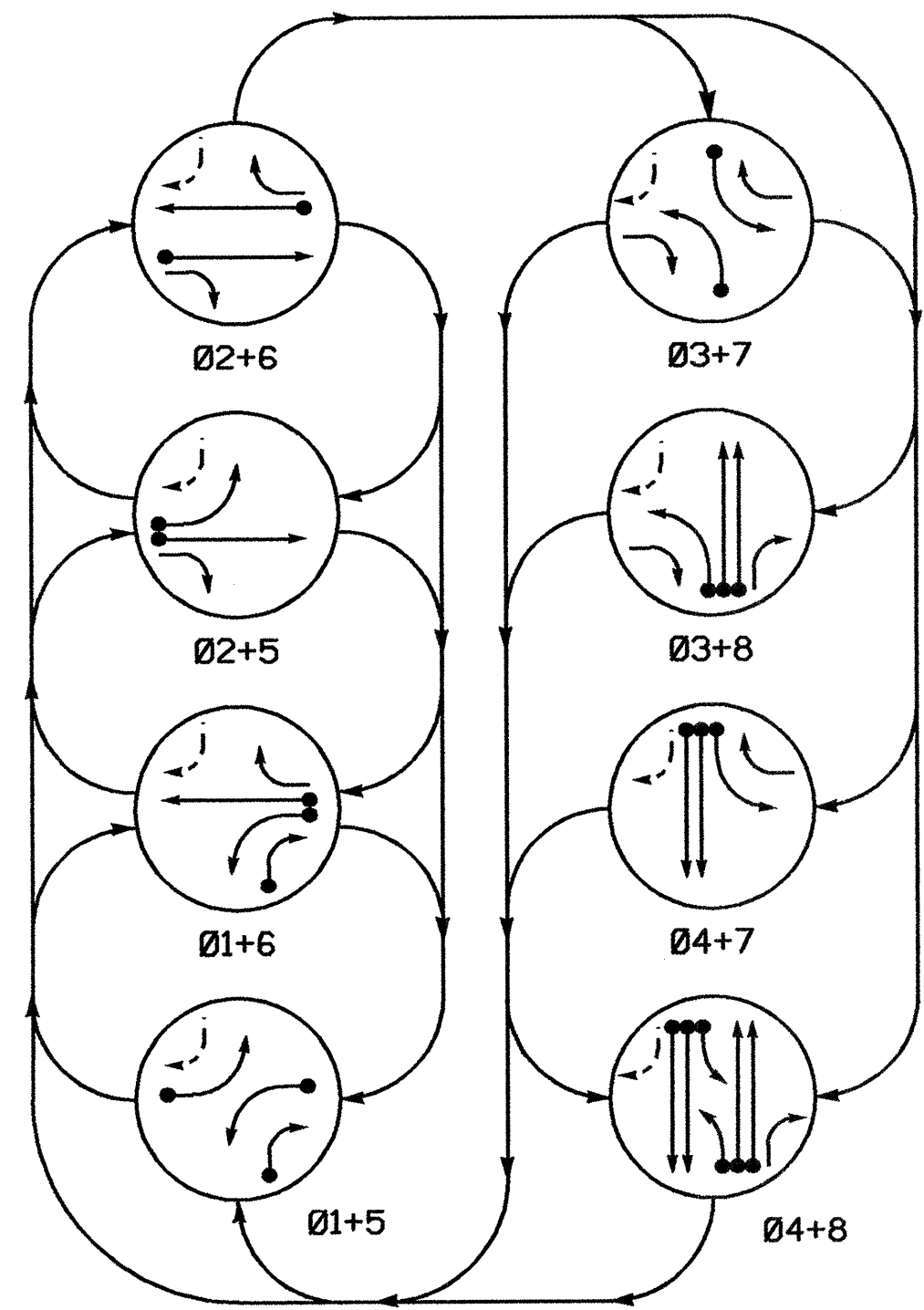


8 Phase Fully Actuated (Durham Signal System)

PHASING DIAGRAM

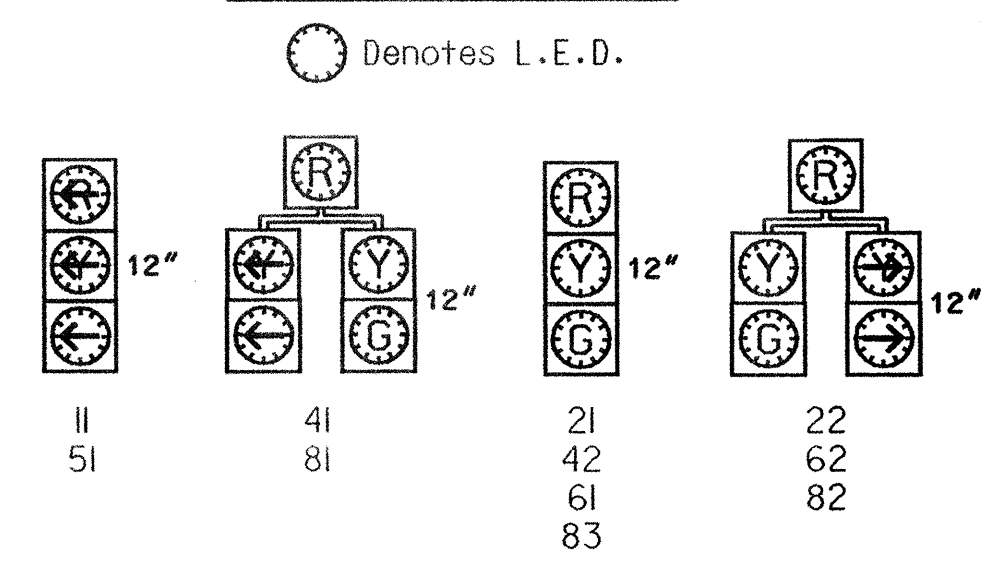


PHASING DIAGRAM DETECTION LEGEND
 ● DETECTED MOVEMENT
 ◄ UNDETECTED MOVEMENT (OVERLAP)
 - - - UNSIGNALIZED MOVEMENT
 - - - PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE								FLASH	
	01	02	03	04	05	06	07	08		
11	-	-	-	-	-	-	-	-	-	-
21	R	R	G	G	R	R	R	R	Y	
22	R	R	G	G	R	R	R	R	Y	
41	R	R	R	R	R	R	R	R	Y	
42	R	R	R	R	R	R	R	R	Y	
51	-	-	-	-	-	-	-	-	-	-
61	R	G	R	G	R	R	R	R	Y	
62	R	G	R	G	R	R	R	R	Y	
81	R	R	R	R	R	R	R	R	G	R
82	R	R	R	R	R	R	R	R	G	R
83	R	R	R	R	R	R	R	R	G	R

SIGNAL FACE I.D.



LOOP & DETECTOR UNIT INSTALLATION CHART

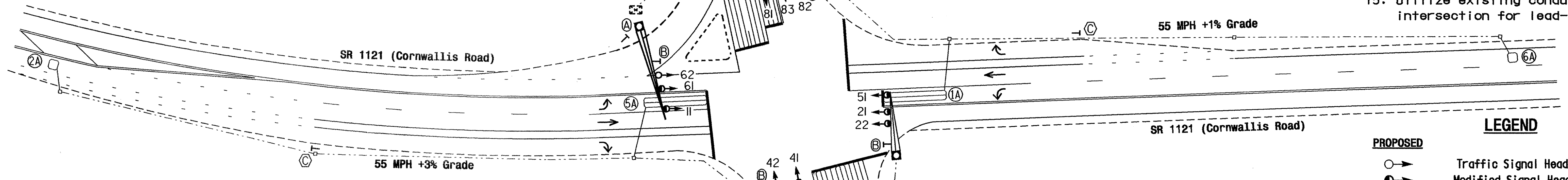
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW EXISTING	DETECTOR PROGRAMMING												
					NEMA PHASE	TIMING		ATTRIBUTES								STATUS	
						DELAY	CARRY (STRETCH)	1	2	3	4	5	6	7	8	NEW	EXISTING
1A	6X40	2-4-2	0	X	1	3 SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
1B	6X40	2-4-2	0	X	1	15 SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
2A	6X6	6	420	X	2	- SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
3A	6X40	2-4-2	0	X	3	15 SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
4A	6X40	2-4-2	0	X	4	- SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
4B	6X40	2-4-2	0	X	4	- SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
5A	6X40	2-4-2	0	X	5	3 SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
6A	6X6	6	420	X	6	- SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
7A	6X40	2-4-2	0	X	7	15 SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
8A	6X40	2-4-2	0	X	8	- SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X
8B	6X40	2-4-2	0	X	8	- SEC.	- SEC.	-	-	-	-	X	-	-	-	-	X

PLAN QUANTITIES

Pay Item	Feet
Signal Cable	330
Messenger Cable	0
Lead-in Cable	1260

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Program phase 3 as protected/permissive.
- Program phase 7 as protected/permissive.
- Phase 1 or phase 5 may be lagged.
- Reposition existing signal heads numbered 61 and 82.
- Set all detector units to presence mode.
- Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
- Set phase bank 3 maximum limit to 250 seconds for phases used.
- Remove existing "Right Turn Signal" sign-(R10-10R) and existing "Right Arrow ONLY" sign-(R3-5R).
- Existing "Left Turn Yield on Green" ball signs - (R10-12) may be removed at the discretion of the Regional Traffic Engineer.
- Pavement markings are existing unless otherwise noted.
- Extend existing stopbars across new turn lanes.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Utilize existing conduit system under intersection for lead-in cable.

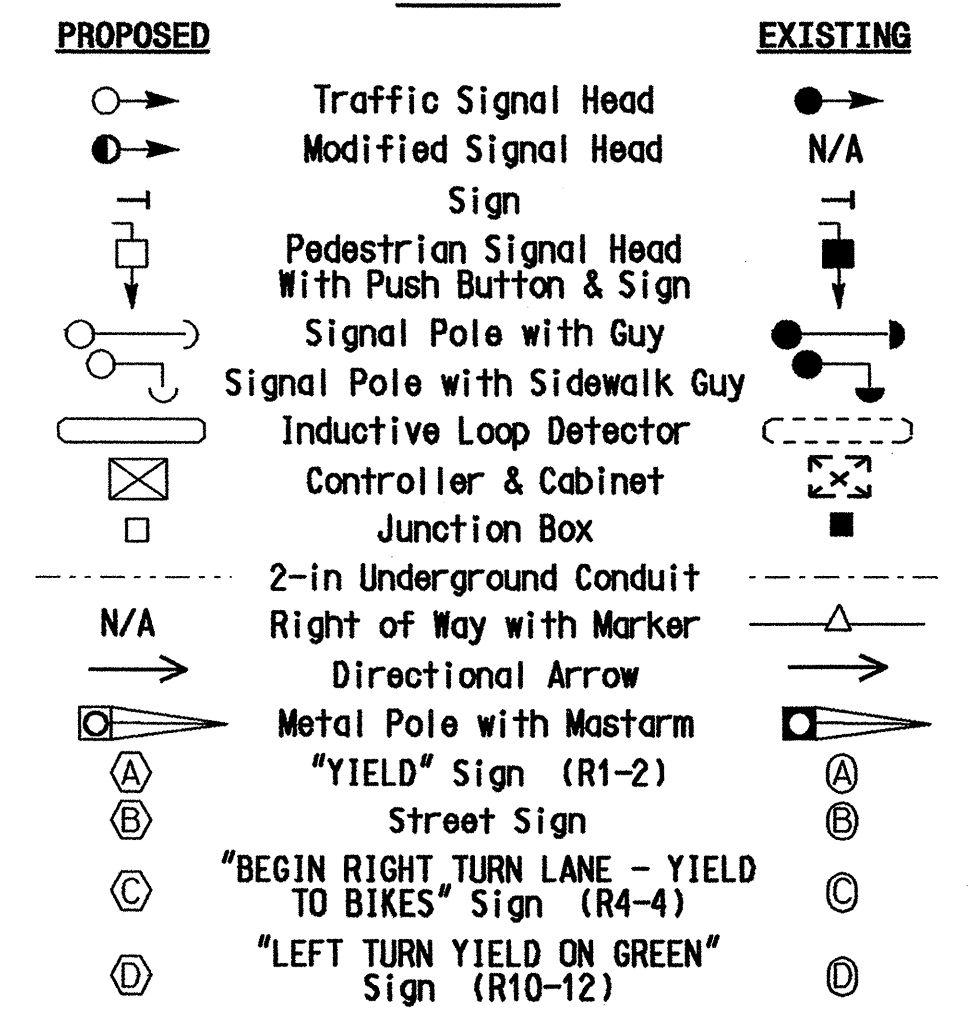


TIMING CHART

PHASE	01	02	03	04	05	06	07	08
MINIMUM INITIAL *	7 SEC.	14 SEC.	7 SEC.	7 SEC.	7 SEC.	14 SEC.	7 SEC.	7 SEC.
VEHICLE EXTENSION *	2.0 SEC.	6.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	6.0 SEC.	2.0 SEC.	2.0 SEC.
YELLOW CHANGE INT.	4.0 SEC.	5.2 SEC.	4.0 SEC.	4.5 SEC.	4.0 SEC.	5.2 SEC.	4.0 SEC.	4.5 SEC.
RED CLEARANCE	2.0 SEC.	1.4 SEC.	2.7 SEC.	1.7 SEC.	2.0 SEC.	1.2 SEC.	2.2 SEC.	2.2 SEC.
MAXIMUM LIMIT *	30 SEC.	90 SEC.	20 SEC.	40 SEC.	30 SEC.	90 SEC.	20 SEC.	40 SEC.
RECALL POSITION	NONE	VEH. RECALL	NONE	NONE	NONE	VEH. RECALL	NONE	NONE
VEHICLE CALL MEMORY	NONE	YELLOW LOCK	NONE	NONE	NONE	YELLOW LOCK	NONE	NONE
DOUBLE ENTRY	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
WALK *	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.
FLASHING DON'T WALK	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.	- SEC.
ADD PER VEHICLE *	- SEC.	2.5 SEC.	- SEC.	- SEC.	- SEC.	2.5 SEC.	- SEC.	- SEC.
MAXIMUM INITIAL *	- SEC.	46 SEC.	- SEC.	- SEC.	- SEC.	46 SEC.	- SEC.	- SEC.
MAXIMUM GAP *	2.0 SEC.	7.0 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	7.0 SEC.	2.0 SEC.	2.0 SEC.
REDUCE 0.1 SEC EVERY *	- SEC.	1.5 SEC.	- SEC.	- SEC.	- SEC.	1.5 SEC.	- SEC.	- SEC.
MINIMUM GAP	2.0 SEC.	3.4 SEC.	2.0 SEC.	2.0 SEC.	2.0 SEC.	3.4 SEC.	2.0 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



Signal Upgrade

Prepared in the Office of:
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 Signal and Geometrics Section
 222 N. McDowell St., Raleigh, NC 27603

SR 1121 (Cornwallis Road) at SR 1999 (Davis Drive)

Division 5 Durham County RTP
 PLAN DATE: February 2005 REVIEWED BY: Krauss
 PREPARED BY: Hambright REVIEWED BY:

SCALE: 1"=40'

REVISIONS: INIT. DATE

SEAL: ROBERT J. ZIEMBA, PROFESSIONAL ENGINEER, No. 026486
 Date: 3/1/05

SIG. INVENTORY NO. 05-0861

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