

6-PHASE/SPLIT SIDE ST
FULLY ACTUATED
(CITY OF RALEIGH SIGNAL SYSTEM)

PHASING DIAGRAM

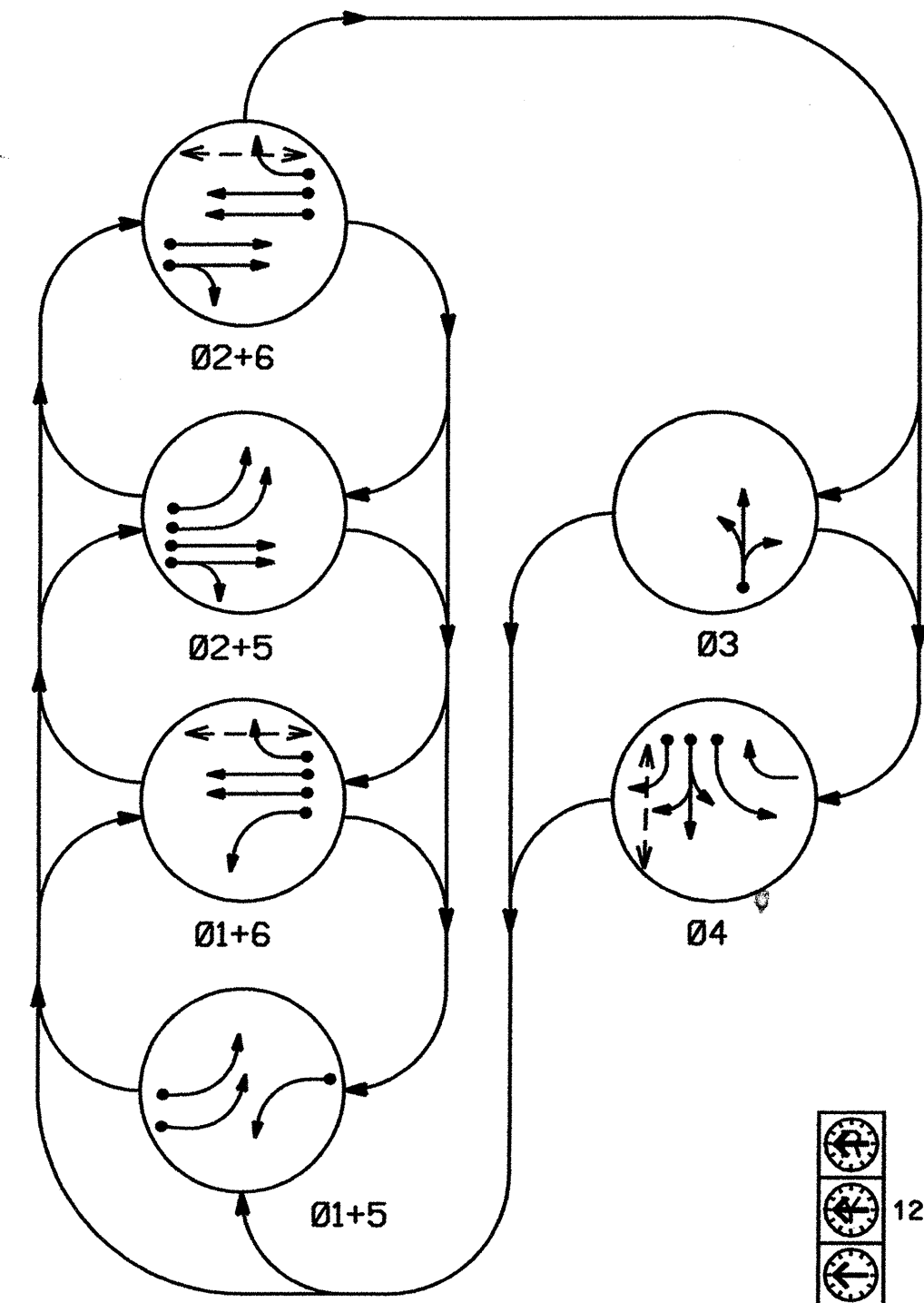
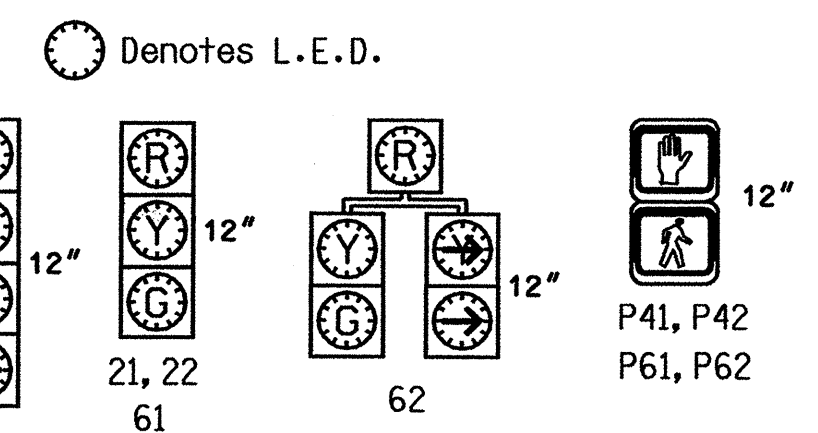


TABLE OF OPERATION

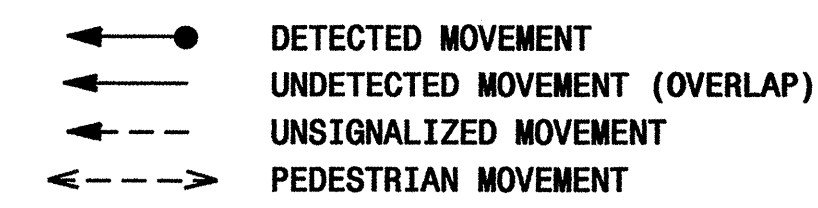
SIGNAL FACE	PHASE					
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3	Ø4
11	---	---	---	---	---	---
21, 22	R	R	G	G	R	R
31	R	R	R	R	G	R
32	R	R	R	R	G	R
41	R	R	R	R	R	G
42	R	R	R	R	R	G
51, 52	---	---	---	---	---	---
61	R	G	R	G	R	R
62	R	G	R	G	R	R
P41, P42	DW	DW	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DRK

W - WALK
FDW - FLASHING DON'T WALK
DW - DON'T WALK
DRK - DARK

SIGNAL FACE I.D.

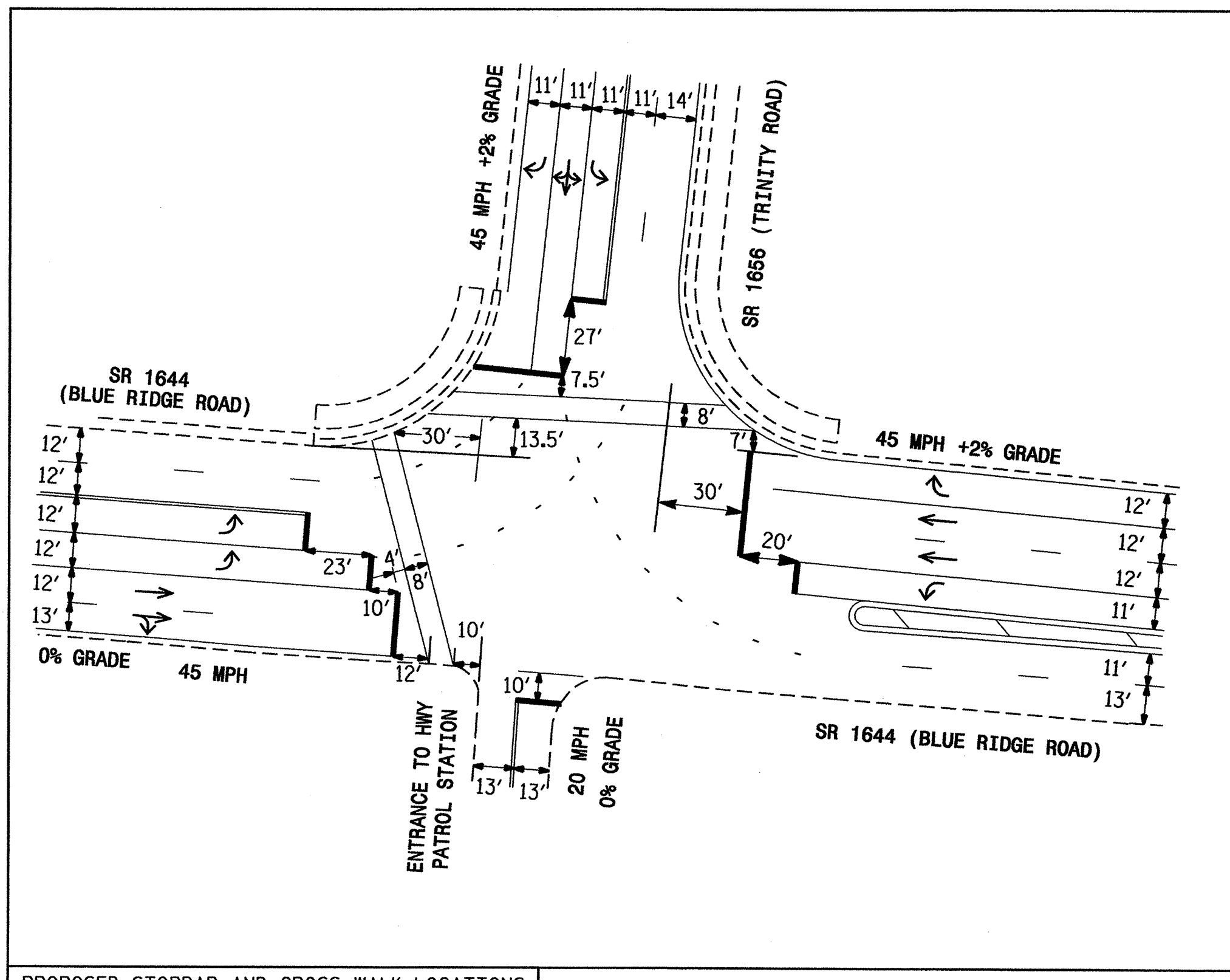


PHASING DIAGRAM DETECTION LEGEND

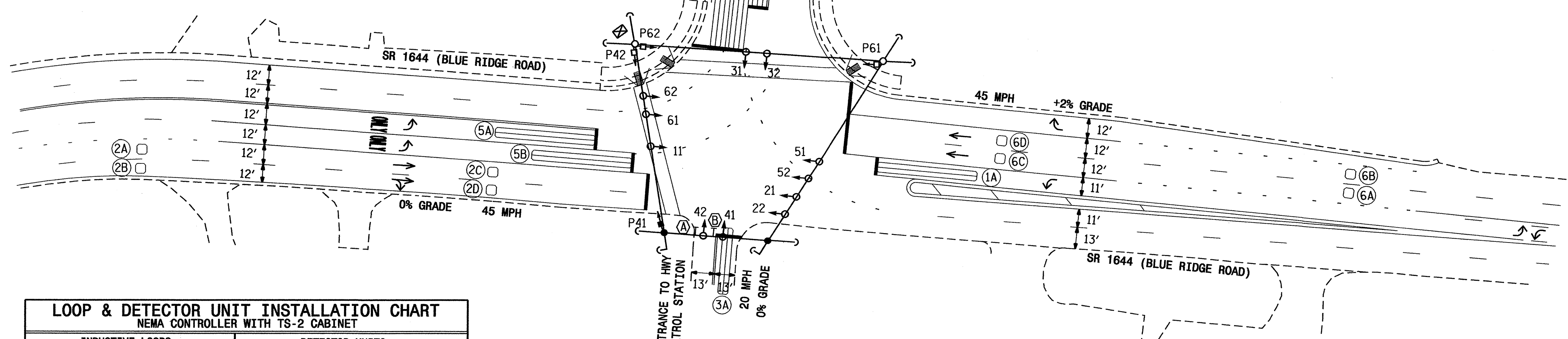


NOTES

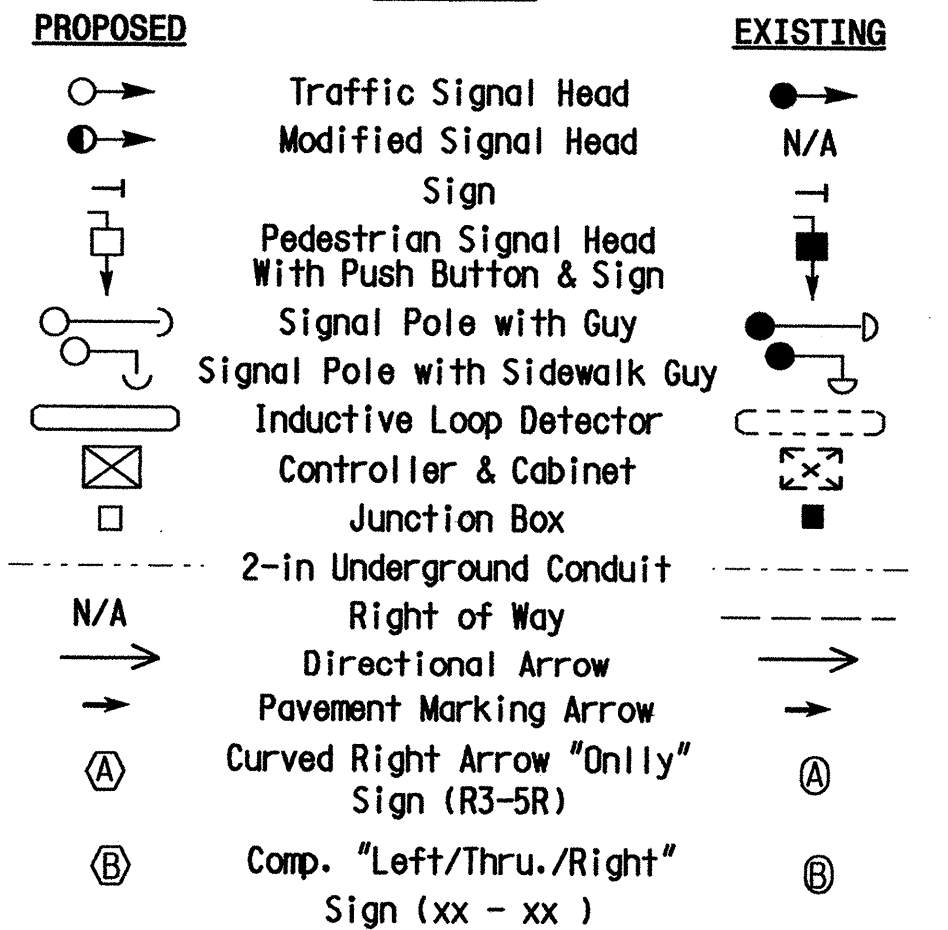
- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Program all signal heads for the same approach to flash concurrently during flashing operation.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 or phase 5 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Clearance Interval timings may be adjusted incrementally until required values are reached.



PROPOSED STOPBAR AND CROSS WALK LOCATIONS



LEGEND



LOOP & DETECTOR UNIT INSTALLATION CHART
NEMA CONTROLLER WITH TS-2 CABINET

LOOP NO.	INDUCTIVE LOOPS				DETECTOR UNITS		TIMING	PLACE CALL DURING PHASE	INHIBIT DELAY DURING GREEN	
	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE				NEW
1A	6X60	2-4-2	0	X	1	X	SEC.	ALL	NO	
2A	6X6	4	300	X	2	X	STRETCH	1.80 SEC.	ALL	NO
2B	6X6	4	300	X	2	X	STRETCH	1.80 SEC.	ALL	NO
2C	6X6	3	90	X	2	X		SEC.	ALL	NO
2D	6X6	3	90	X	2	X		SEC.	ALL	NO
3A	6X40	2-4-2	+5	X	3	X		SEC.	ALL	NO
4A	6X60	2-4-2	0	X	4	X		SEC.	ALL	NO
4B	6X60	2-4-2	0	X	4	X		SEC.	ALL	NO
4C	6X60	2-4-2	0	X	4	X	DELAY	15 SEC.	ALL	YES
5A	6X60	2-4-2	0	X	5	X		SEC.	ALL	NO
5B	6X60	2-4-2	0	X	5	X		SEC.	ALL	NO
6A	6X6	5	300	X	6	X	STRETCH	1.80 SEC.	ALL	NO
6B	6X6	5	300	X	6	X	STRETCH	1.80 SEC.	ALL	NO
6C	6X6	4	90	X	6	X		SEC.	ALL	NO
6D	6X6	4	90	X	6	X		SEC.	ALL	NO

TIMING CHART
NEMA CONTROLLER

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6
MINIMUM GREEN	7 SEC.	12 SEC.	7 SEC.	7 SEC.	7 SEC.	12 SEC.
PASSAGE GAP	1 SEC.	2 SEC.	1 SEC.	1 SEC.	1 SEC.	2 SEC.
YELLOW CHANGE INT.	4.5 SEC.	4.5 SEC.	4.5 SEC.	4.5 SEC.	4.5 SEC.	4.5 SEC.
RED CLEARANCE	2.6 SEC.	1.6 SEC.	2.6 SEC.	2.9 SEC.	2.5 SEC.	2.4 SEC.
MAX. 1	20 SEC.	45 SEC.	15 SEC.	25 SEC.	20 SEC.	45 SEC.
RECALL POSITION	NONE	MIN. RECALL	NONE	NONE	NONE	MIN. RECALL
VEH. CALL MEMORY	NONLOCK	LOCK	NONLOCK	NONLOCK	NONLOCK	LOCK
WALK	7 SEC.	- SEC.	- SEC.	7 SEC.	- SEC.	7 SEC.
FLASHING DON'T WALK	23 SEC.	- SEC.	- SEC.	16 SEC.	- SEC.	23 SEC.

THIS PLAN SUPERCEDES PLAN SEALED BY
BONIFACE MADUABUCHUKWU 11/09/2004

SIGNAL UPGRADE

SR 1664 (BLUE RIDGE ROAD)
AT
SR 1656 (TRINITY ROAD/
ENTR. TO STATE HIGHWAY PATROL

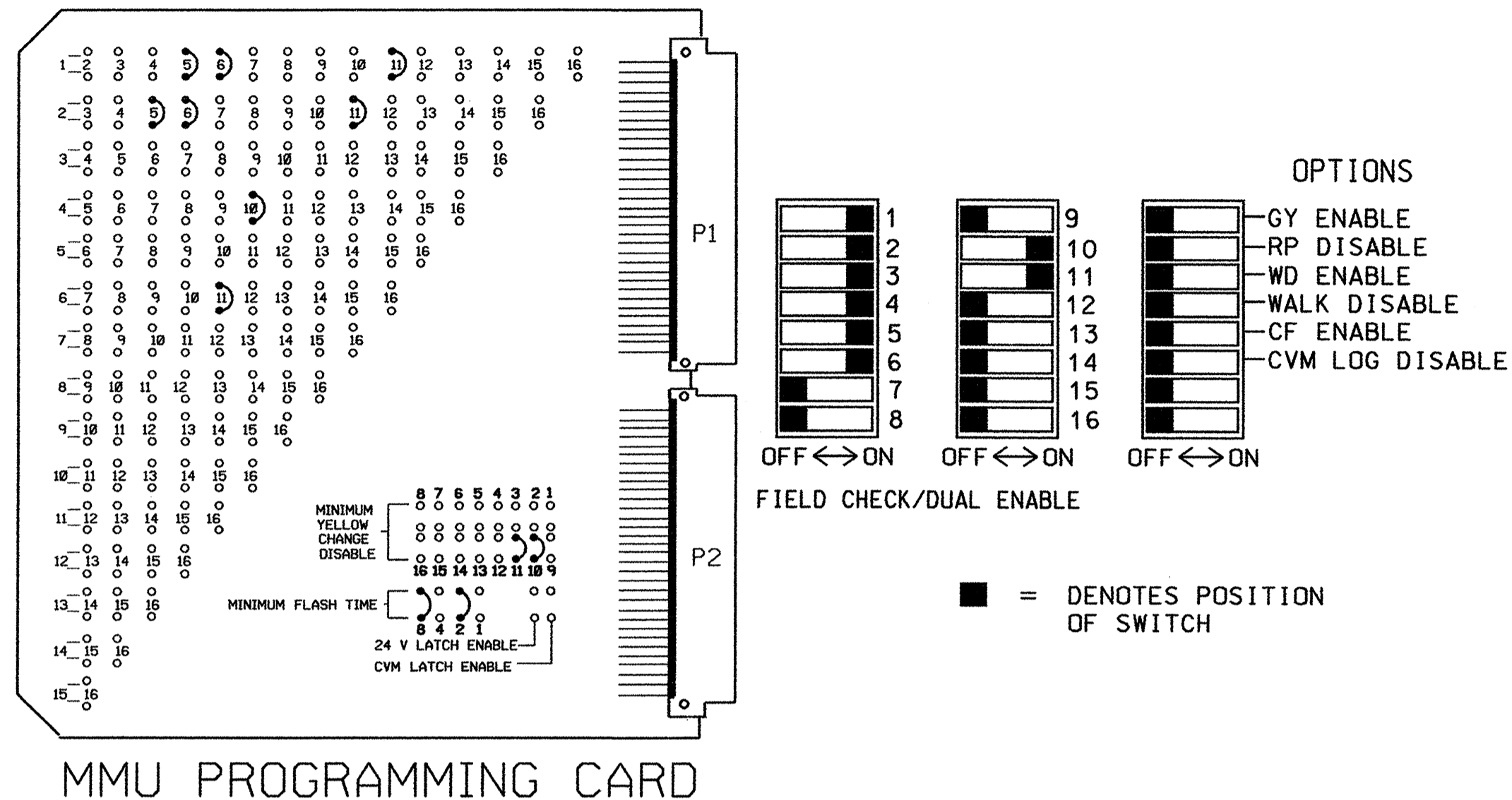
DIVISION 05 WAKE COUNTY RALEIGH
PLAN DATE: OCTOBER, 2006 REVIEWED BY:
PREPARED BY: MONIF BAZZARIE REVIEWED BY:

122 N. McDowell St., Raleigh, NC 27603
SCALE 1"=40'
DATE 10/6/06

05-001-2006 09-157
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10/6/2006 11:18:18 AM
monifb

EDI MODEL MMU-16E MALFUNCTION MANAGEMENT UNIT PROGRAMMING DETAIL

(program card and set switches as shown below)



NOTES

- TO PREVENT "FLASH-CONFLICT" PROBLEMS, WIRE ALL UNUSED LOAD SWITCHES TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.
- TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE UNUSED LOAD SWITCH RED OUTPUTS: 7, 8, 9, & 12 TO LOAD SWITCH AC+ BY INSERTING A JUMPER PLUG IN THE UNUSED LOAD SWITCH SOCKET FROM PIN 1 (LS AC+) TO PIN 3 (RED OUT). MAKE SURE ALL FLASH TRANSFER RELAYS ARE IN PLACE.
- PROGRAM THE CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.
- SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE MALFUNCTION MANAGEMENT UNIT. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.
- ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.
- SET ALL DETECTOR CARD UNITS TO 'PRESENCE' MODE.
- UNLESS OTHERWISE SPECIFIED, PROGRAM DETECTOR CALL DELAY AND STRETCH TIMING ON THE CONTROLLER.
- THIS SIGNAL IS A PART OF THE CITY OF RALEIGH'S COMPUTERIZED SIGNAL SYSTEM. PROGRAMMING, INTERCONNECTION, AND MAINTENANCE OF THIS SYSTEM IS THE RESPONSIBILITY OF THE CITY OF RALEIGH.

FIELD CONNECTION HOOK-UP CHART

PHASE	1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED			
SIGNAL HEAD NO.	11	21,22	31	32	41	42	62	51,52	61,62	NU	NU	NU	P41, P42	P61, P62	NU
GREEN		2G	3G	3G	4G	4G			6G						
YELLOW		2Y	3Y	3Y	4Y	4Y			6Y						
RED		2R	3R	3R	4R	4R			6R						
RED ARROW	1R								5R						
YELLOW ARROW	1Y							4Y	5Y						
GREEN ARROW	1G		3G	4G	4G	5G									
Hand														10R	11R
Person														10G	11G

NU = NOT USED

DETECTOR RACK SET-UP DETAIL

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW. PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

BIU	CH1	CH1	CH1	CH1	CH1	CH1	CH1	CH1	SLOT	SLOT	37-PIN (LOOPS)
	L3	L1	L7	L5	L11	L9	L15	L13			
	∅2	∅1	∅4	∅2	∅5	∅4	∅6	∅6	EMPTY	EMPTY	
	CH2	CH2	CH2	CH2	CH2	CH2	CH2	CH2	EMPTY	EMPTY	
	L4	L2	L8	L6	L12	L10	L16	L14	NOT USED		
	∅2	∅2	∅4	∅3	∅6	∅5		∅6			

WIRE LOOPS TO TERMINALS ON LOOP PANEL AS SHOWN IN THE CHART BELOW

LOOP NO.	LOOP PANEL TERMINALS
1A	L1A, L1B
2A	L2A, L2B
2B	L3A, L3B
2C	L4A, L4B
2D	L5A, L5B
3A	L6A, L6B
4A	L7A, L7B
4B	L8A, L8B
4C	L9A, L9B
5A	L10A, L10B
5B	L11A, L11B
6A	L12A, L12B
6B	L13A, L13B
6C	L14A, L14B
6D	L15A, L15B
—	L16A, L16B

NOTE

BE SURE TO PROGRAM DETECTOR TYPES AND TIMERS (STRETCH AND DELAY) AS SHOWN ON THE SIGNAL PLANS.

PROGRAM CONTROLLER DETECTORS ACCORDING TO THE SCHEDULE SHOWN IN THE CHART BELOW

CONTROLLER DETECTOR NO.	FUNCTION	TIMING	
		FEATURE	TIME (SEC)
1	∅ 1	—	—
2	∅ 2	STRETCH	1.8
3	∅ 2	STRETCH	1.8
4	∅ 2	—	—
5	∅ 2	—	—
6	∅ 3	—	—
7	∅ 4	—	—
8	∅ 4	—	—
9	∅ 4	DELAY	15
10	∅ 5	—	—
11	∅ 5	—	—
12	∅ 6	STRETCH	1.8
13	∅ 6	STRETCH	1.8
14	∅ 6	—	—
15	∅ 6	—	—
16	—	—	—

EQUIPMENT INFORMATION

CONTROLLER.....EAGLE EPAC300 (M42) TS2
 CABINET.....EAGLE TF5012TNC01 [TS2-1] NC-3
 CABINET MOUNT.....BASE
 LOADBAY POSITIONS.....12
 LOAD SWITCHES USED.....1, 2, 3, 4, 5, 6, 10, 11
 PHASES USED.....1, 2, 3, 4, 5, 6, 4PED, 6PED
 OL/A.....NOT USED
 OL/B.....NOT USED
 OL/C.....NOT USED
 OL/D.....NOT USED

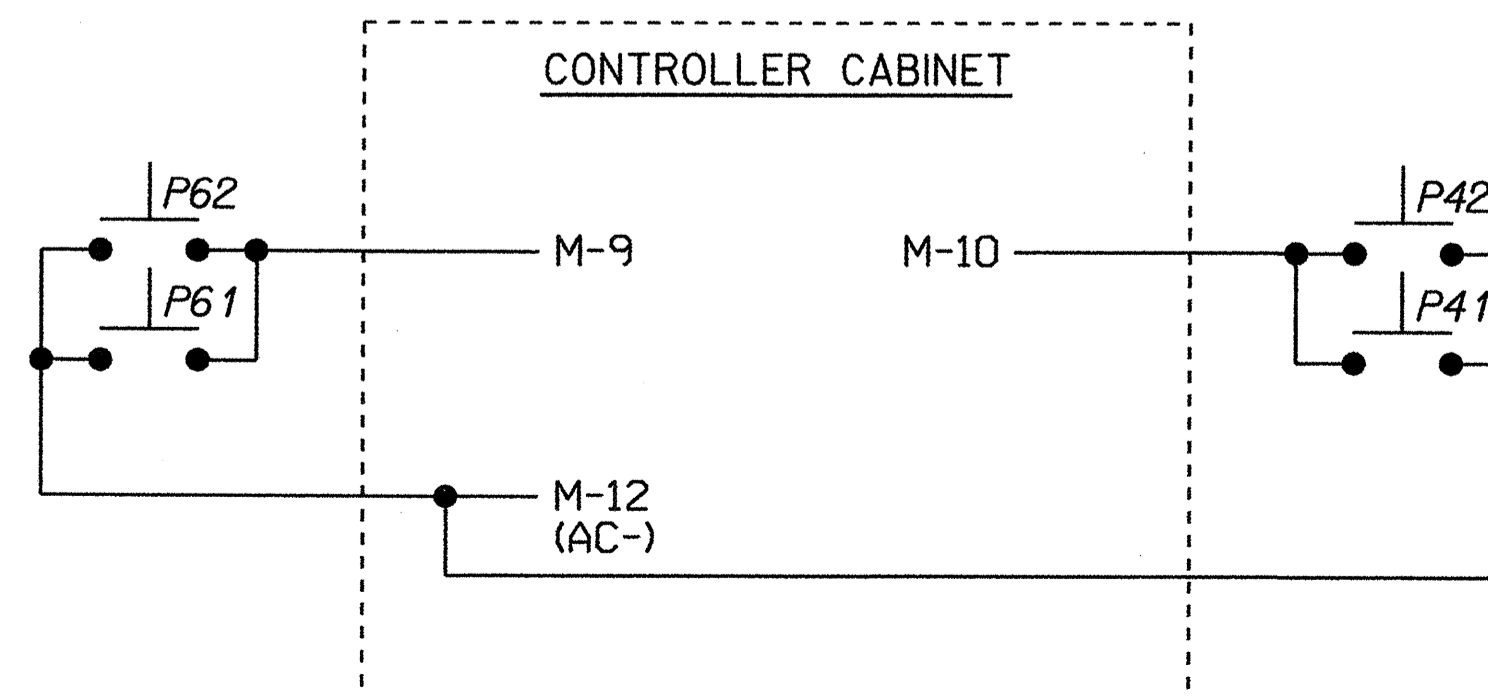
LOAD SWITCH ASSIGNMENT DETAIL

(program controller according to schedule in chart below)

LOAD SWITCH NUMBER	FUNCTION
1	∅ 1
2	∅ 2
3	∅ 3
4	∅ 4
5	∅ 5
6	∅ 6
7	∅ 7
8	∅ 8
9	∅ 2 PED
10	∅ 4 PED
11	∅ 6 PED
12	∅ 8 PED

PEDESTRIAN PUSH-BUTTON WIRING DETAIL

(wire push-buttons as shown below)



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0962
 DESIGNED: OCTOBER 2006
 SEALED: 10/6/06
 REVISED: N/A

TS-2 TYPE 1 CABINET

THIS DETAIL SUPERSEDES DETAIL DATED NOVEMBER 2004 AND SEALED 11/16/04

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared in the Offices of: 122 N. McDowell St., Raleigh, NC 27603	SR 1664 (BLUE RIDGE ROAD) at SR 1656 (TRINITY ROAD) / ENTR. to STATE HIGHWAY PATROL		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 008453 JOHN T. ROWE, JR. SIGNATURE DATE 10-12-06
	DIVISION 05 WAKE COUNTY RALEIGH	PLAN DATE: OCTOBER 2006 PREPARED BY: F.E. RUSS	
REVISIONS: _____ INIT. DATE _____			SIG. INVENTORY NO. 05-0962