

		1			
				PROJECT REFERENCE NO.	SHEET NO.
		8 PHASE		WBS 37853	1 of 3
	F	8 PHASE FULLY ACTUATE	D		
(		ED COORDINAT			
			NOTES		
	1	Refer to "Roadway		ings NCDOT"	
	1.	dated January 200	2 and "Standard	d Specifications	
	2.		wn in timing c	hart are for free-ru	
		operation only. shall supersede t		gnal system timing v	alues
	3.			WALK" with no pedest	rian
	4.	Set all detector			ing and
	5.	conditions shown	are existing a	ipment, phasing, tim nd were designed by	others.
	6.	Opticom sensor 20	calls Emergen	cy Vehicle Preemptio cy Vehicle Preemptio	n 1.
		Opticom sensor 30	calls Emergen	cy Vehicle Preemptio cy Vehicle Preemptio	n 4.
1910 /	7.		n heads to cou	nt down the "flashin	
1313 (WALNUT 5 MPH 2% GRAD	DE 8.			Waynard st. as shown	
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-6.					
•3					
	]				
			LEGI	END	
		PROPOSED		EXIS	TING
=			Traffic Si Si	gnal Head 🛛 🗕	▶
		ç		Signal Head I	
		) 	Signal Pol	le with Guy	<u> </u>
	the sea too too as		-	th Sidewalk Guy	
		$\boxtimes$	Controller	& Cabinet	×
			2-in Undergr	Box round Conduit ·	
L ADI	prox Exlet R/W	D:			<b>-</b>
/		$\rightarrow$		v with Marker — — nal Arrow —	<u>→</u>
/		*	Pavement Ma	arking Arrow -	*
/				train Pole 🛛 🖸	
		$\sim$		iver/Detector •-	•
		<b>A</b>	"Yield" Si	· · · · · · · · · · · · · · · · · · ·	Ø
EVISION		B	"No Turn on Rec	1″ Sign (R10-11A) (	3
Safar Star	SR 1	313 (WALNUT	STREET)	SEAL	
C Martin Ba		AT	120	This document original	y issued and
No.	SR 141	15 (SE. MAYN	ARD ROAD)	secled by Stephanle B. 03/10/02. This media sh considered a certified	Privette, 24432, Idinot be
100 C	DIVISION D5 Plan date: DC	WAKE COUNTY TOBER, 2002 REVIEWE	BY: M. Habbook	CARY	
IRABE S'		TE RATTARTE REVIEWE			

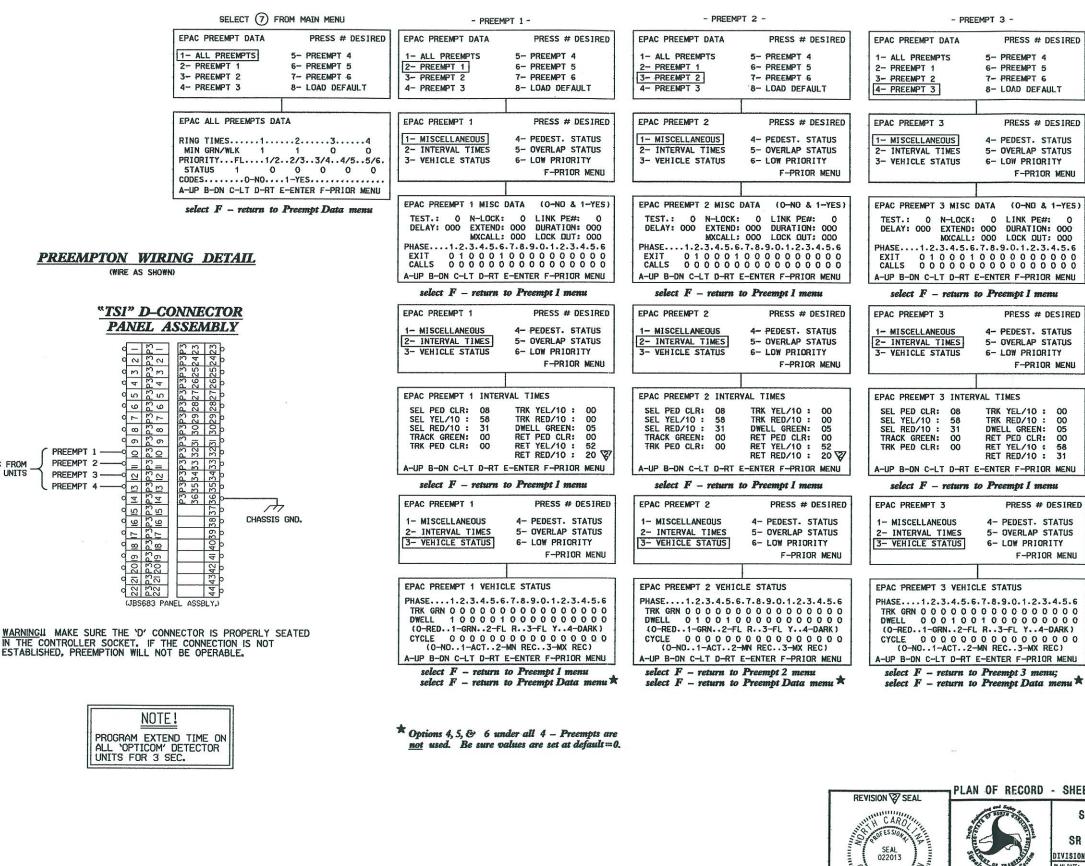
PREPARED BY: MONIF BAZZARIE REVIEWED BY: SB PRIVETTE REVISIONS INIT. DATE RECHECKED AND UPDATED TIMING ZREALIGN BOTH CROSS MALKS ON MAYNARD ST. & ADJUST FOM TIME FOR PHASE 2 AND 6, AND ADJUST RED CLEAR AFTER REEMPT FOR EVP 1 AND EVP 2.INSTALL YELLOW L.E.D LENSES. 03-17-20 SIG. INVENTORY NO. 05-0128

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1"=40'

#### EAGLE EPAC300 (M34) CONTROLLER EMERGENCY VEHICLE PREEMPTION PROGRAMMING

(program controller as shown below)



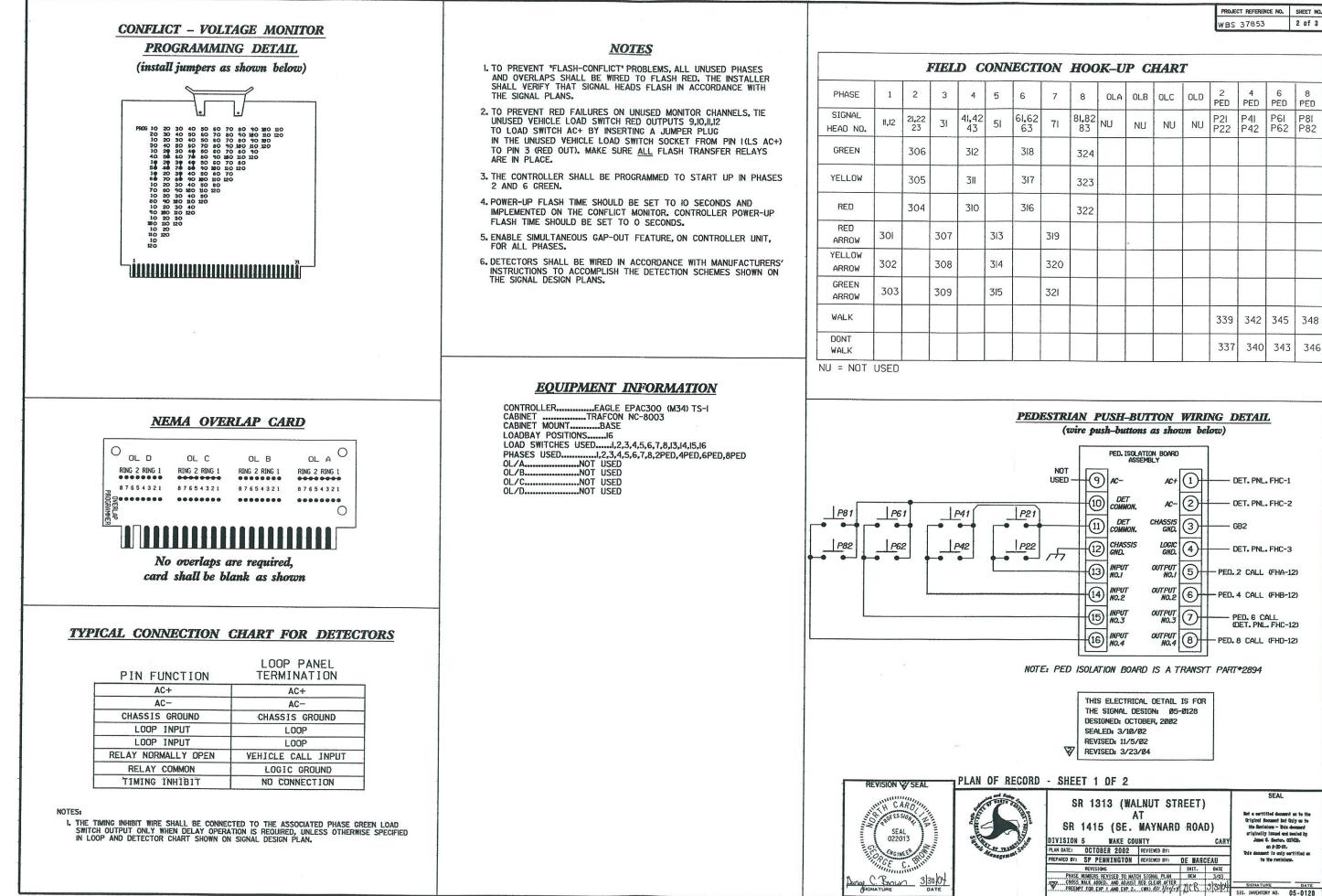
OUTPUTS FROM

'OPTICOM' UNITS

PROJECT REFERENCE NO. SHEET NO. 3 of 3 VAS 37853 - PREEMPT 4 -PRESS # DESIRED EPAC PREEMPT DATA PRESS # DESIRED 5- PREEMPT 4 5- PREEMPT 4 1- ALL PREEMPTS 6- PREEMPT 5 2- PREEMPT 1 6- PREEMPT 5 7- PREEMPT 6 3- PREEMPT 2 7- PREEMPT 6 8- LOAD DEFAULT 8- LOAD DEFAULT 4- PREEMPT 3 PRESS # DESIRED EPAC PREEMPT 4 PRESS # DESIRED 4- PEDEST, STATUS 1- MISCELLANEOUS 4- PEDEST, STATUS 5- OVERLAP STATUS 2- INTERVAL TIMES 5- OVERLAP STATUS 6- LOW PRIORITY 3- VEHICLE STATUS 6- LOW PRIORITY F-PRIOR MENU F-PRIOR MENU EPAC PREEMPT 4 MISC DATA (0-NO & 1-YES) TEST .: 0 N-LOCK: 0 LINK PE#: 0 0 DELAY: 000 EXTEND: 000 DURATION: 000 MXCALL: 000 LOCK OUT: 000 MXCALL: 000 LOCK OUT: 000 PHASE....1.2.3.4.5.6.7.8.9.0.1.2.3.4.5.6 A-UP B-DN C-LT D-RT E-ENTER F-PRIOR MENU select F - return to Preembt I menu PRESS # DESIRED EPAC PREEMPT 4 PRESS # DESIRED 4- PEDEST. STATUS 1- MISCELLANEOUS 4- PEDEST. STATUS 5- OVERLAP STATUS 5- OVERLAP STATUS 2- INTERVAL TIMES 6- LOW PRIORITY 3- VEHICLE STATUS 6- LOW PRIORITY F-PRIOR MENU E-PRIOR MENU EPAC PREEMPT 4 INTERVAL TIMES TRK YEL/10 : SEL PED CLR: 08 TRK YEL/10 : 00 00 TRK RED/10 : 00 SEL YEL/10 : 58 TRK RED/10 : 00 DWELL GREEN: 05 RED/10 31 DWELL GREEN: 05 SEL 00 RET PED CLR: 00 RET PED CLR: 00 TRACK GREEN: RET YEL/10 : 58 RET YEL/10 : 58 TRK PED CLR: 00 RET RED/10 : 31 RET RED/10 : 31 A-UP B-DN C-LT D-RT E-ENTER F-PRIOR MENU select F - return to Preempt 1 menu PRESS # DESIRED FPAC PREEMPT 4 PRESS # DESIRED 4- PEDEST. STATUS 1- MISCELLANEOUS 4- PEDEST. STATUS 5- OVERLAP STATUS 2- INTERVAL TIMES 5- OVERLAP STATUS 6- LOW PRIORITY 3- VEHICLE STATUS 6- LOW PRIORITY E-PRIOR MENU F-PRIOR MENU EPAC PREEMPT 4 VEHICLE STATUS PHASE....1.2.3.4.5.6.7.8.9.0.1.2.3.4.5.6 (0-RED..1-GRN..2-FL R..3-FL Y..4-DARK) CYCLE 000000000000000000 (0-N0..1-ACT..2-MN REC..3-MX REC) A-UP B-DN C-LT D-RT E-ENTER F-PRIOR MENU end of programming 🖈 THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0128 DESIGNED: OCTOBER, 2002 SEALED: 3/10/02 REVISED: 11/05/02 2 REVISED: 3/23/04 PLAN OF RECORD - SHEET 2 OF 2 SEAL SR 1313 (WALNUT STREET) Not a certified document on to the Original Bocument but Drive to the Novietow - This document ariginally issued and sealed by James 0. Destan. (2013), an 6-30-01. This document is only certified as to the revietons. AT SR 1415 (SE. MAYNARD ROAD) DIVISION 5 WAKE COUNTY CARY PLAN DATE: OCTOBER 2002 REVIEWED BY: PREPARED BY: SP PENNINGTON REVIEWED BY: DE MARCEAU 
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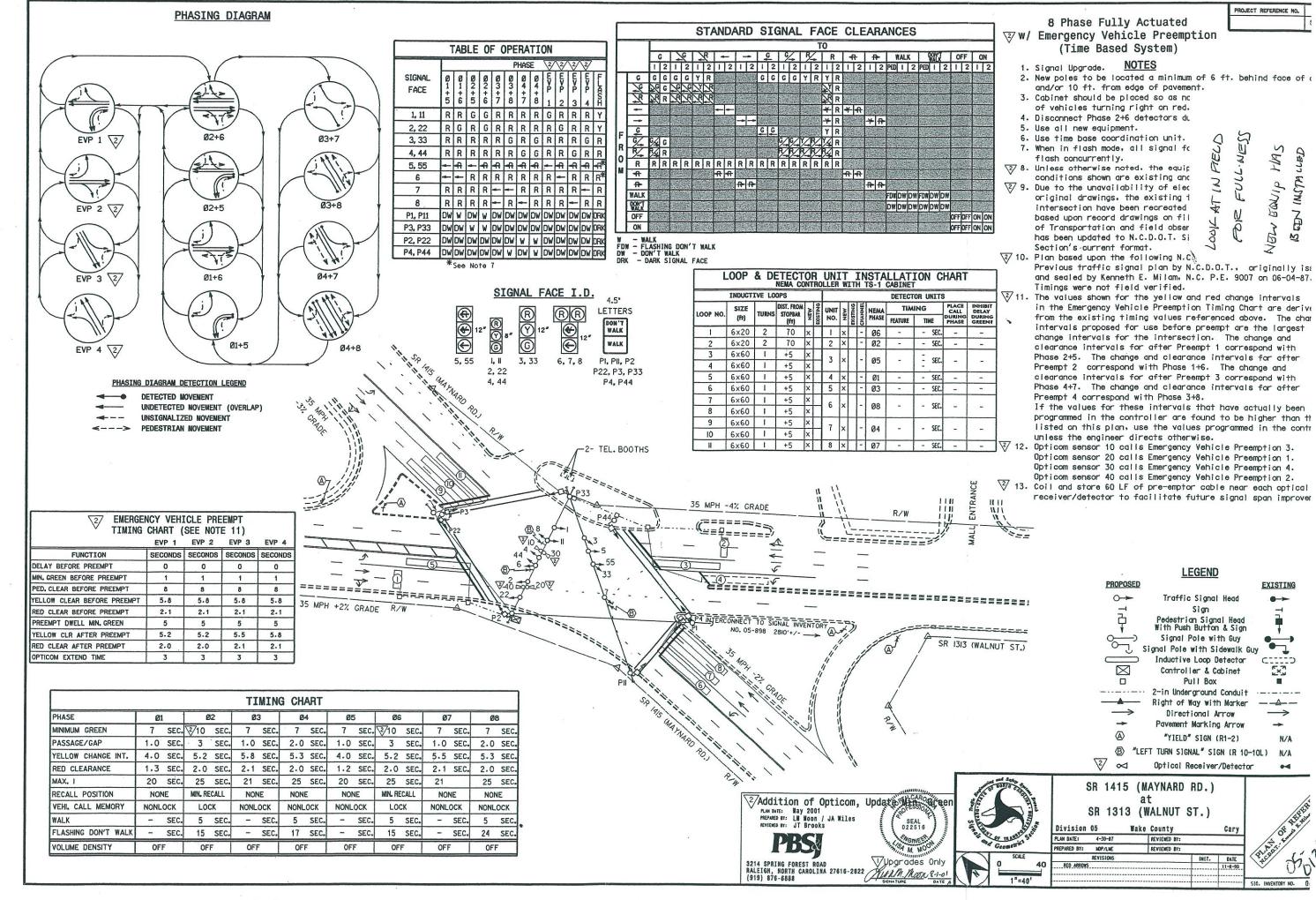
Drear C. Brown 3/30/04



2 of 3

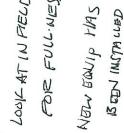
ECT	ON	HOOK-UP CHART									
6	7	8	OLA	OLB	OLC	OLD	2 PED	4 PED	6 PED	8 PED	
61,62 63	71	81,82 83	NU	NU	NU	NU	P21 P22	P4I P42	P61 P62	P81 P82	
318		324									
317		323									
316		322									
	319										
	320										
	321										
							339	342	345	348	
						G	337	340	343	346	
	6 61,62 63 318 317	6     7       61,62     71       318     -       317     -       316     -       319     -       320	6     7     8       61,62     71     81,82       318     324       317     323       316     322       319     320	6         7         8         OLA           61,62         71         81,82 83         NU           318         324         324           317         323         323           316         322         323           319         320         320	6         7         8         OLA         OLB           61,62         71         81,82         NU         NU           318         324         .         .           317         323         .         .           316         322         .         .           319         .         .         .           320         .         .         .	6       7       8       OLA       OLB       OLC         61,62       71       81,82       NU       NU       NU         318       324            317       323            316        322            319             320	61.62     71     81.82 83     NU     NU     NU     NU       318     324          317     323         316     322         319	6       7       8       OLA       OLB       OLC       OLD       2         61,62       71       81,82       NU       NU       NU       NU       NU       P21         318       324       324       Image: Second Seco	6       7       8       OLA       OLB       OLC       OLD $\stackrel{2}{PED}$ $\stackrel{4}{PED}$ 61,62       71       81,82       NU       NU       NU       NU       PU       P41         318       324       A       A       A       A       A       A       A         318       324       A       A       A       A       A       A       A         317       A       323       A       A       A       A       A       A         316       A       322       A       A       A       A       A       A         316       A       322       A       A       A       A       A       A         316       A       322       A       A       A       A       A       A         319       A       A       A       A       A       A       A       A         320       A       A       A       A       A       A       A       A         A       A       A       A       A       A       A       A       A         A       B       A	6       7       8       OLA       OLB       OLC       OLD $\frac{2}{PED}$ $\frac{4}{PED}$ $\frac{6}{PED}$ $6I_{63}^{+}$ 71 $8I_{83}^{+}$ NU       NU       NU       NU       P21       P41       P61 $318$ 324	

NORTH S	SR 1313 (WA	SEAL			
17	SR 1315 (RA A SR 1415 (SE. DIVISION 5 WAKE CON	AT Maynard		Not a certified document as to the Griginal Document but Only as to the Anviatament Dut Only as to crisinally instand and social by Jame G. Detron. COT435, an 0-20-01.	
E THAT SE	PLAN DATE: OCTOBER 2002	REVIEWED BY:		This document is only certified as	
	PREPARED BY: SP PENNINGTON	REVIEWED BY:	DE MARCEAU	to the revisione.	
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	REVISIONS	1	INIT. DATE		
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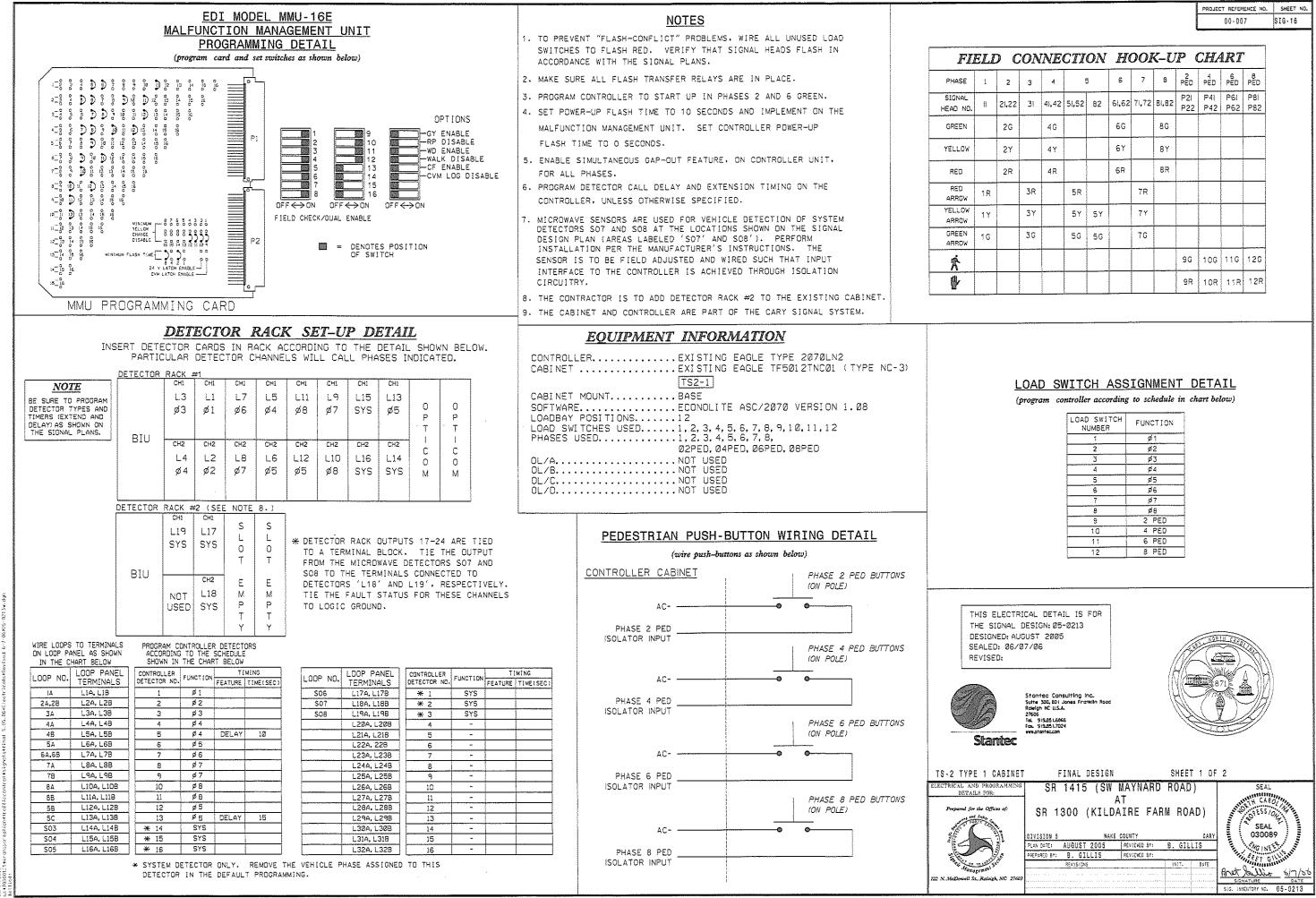
# ECONOLITE CONTROL PRODUCTS, INC. ECONTROL PRODUCTS, INC. ECONOLITE ASC2 FAMILY EMERGENCY VEHICLE <u>PREEMPTOR PROGRAMMING DETAIL</u> (program controller as shown below)

PREEMPTOR SUBMENU	PREEMPTOR SUBMENU	PREEMPTOR SUBMENU	PREEMPTOR SUBMENU
PRICRITY PMT 1 5. PRICRITY PMT 5	1, PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1 5. PRIORITY PMT 5
2. PRIDRITY PMT 2 6. PRIDRITY PMT 6	2. PRIGRITY PMT 2 6. PRIGRITY PMT 6	2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY PMT 2 6. PRIORITY PMT 6
3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTORS
			4. PRIDRITY PMT 4
. PRIORITY PMT 4	4. PRIORITY PMT 4	4. PRIORITY PMT 4	R. PRIURIIT PMI 4
PRIORITY PREEMPTOR 1 1 1 1	PRIORITY PREEMPTOR 2	PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
PHASE 123456789012	PHASE 123456789012	PHASE 123456789012	PHASE 123456789012
TERM PHASE OVLP	TERM PHASE OVLP	TERM PHASE OVLP	TERM PHASE OVLP
TRK CLR PHASE	TRK CLR PHASE	TRK CLR PHASE	TRK CLR PHASE
HOLD PHASES X X	HOLD PHASES $X \cdot \cdot \cdot X \cdot \cdot \cdot \cdot X$	HOLD PHASES X X	HOLD PHASES X X
EXIT PHASES	EXIT PHASES	EXIT PHASES	EXIT PHASES
EXIT CALLS	EXIT CALLS	EXIT CALLS	EXIT CALLS
TERM OVERLAP A: . 8: . C: . D: .	TERM DVERLAP A: . B: . C: . D: .	TERM OVERLAP A: , 6: , C: . D: .	TERM OVERLAP A: . B: . C: . D:
ACTIVE YES PED DARK ND	ACTIVEYES PED DARK NO	ACTIVE YES PED DARK NO	ACTIVE YES PED DARK NO
PRIORITY NO PED ACTIVE NO	PRICRITY NO PED ACTIVE NO	PRIORITY NO PED ACTIVE NO	PRIORITY NO PED ACTIVE NO
DET LOCK NO ZERO PC TIME NO	DET LOCK NO ZERO PC TIME NO	DET LOCK NO ZERO PC TIME ND	DET LOCK NO ZERO PC TIME NO
HOLD FLASH, NO PC THRU YELLOW, NO	HOLD FLASH NO PC THRU YELLOW, NO	HOLD FLASH NO PC THRU YELLOW. NO TERM OVLP ASAP. NO TERM PHASES NO	HOLD FLASH NO PC THRU YELLOW, NO TERM OVLP ASAP. NO TERM PHASES NO
TERM OVLP ASAP. NO TERM PHASES NO	TERM OVLP ASAP. NO TERM PHASES NO		ADDITIONAL PAGE(S)
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 1	PRIORITY PREEMPTOR 2	PRIORITY PREEMPTOR 3	PRIGRITY PREEMPTOR 4
DON'T OVERRIDE FLASH	DON'T OVERRIDE FLASH	DON'T OVERRIDE FLASH	DON'T OVERRIDE FLASH
FLASH ALL CUTPUTS	FLASH ALL DUTPUTS	FLASH ALL OUTPUTS	FLASH ALL OUTPUTS
YELLOW-RED GOES GREEN.	YELLOW-RED GOES GREEN	YELLOW-RED GDES GREEN	YELLOW-RED GOES GREEN
ENABLE MAX PREEMPT TIME	ENABLE MAX PREEMPT TIME	ENABLE MAX PREEMPT TIME	ENABLE MAX PREEMPT TIME
ACTIVE ONLY DURING HOLD.,	ACTIVE ONLY DURING HOLD	ACTIVE ONLY DURING HOLD	ACTIVE ONLY DURING HOLD
NO CVM IN FLASH	NO CVM IN FLASH	ND CVM IN FLASH	NO CVM IN FLASH
FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD
OUT OF FLASH GREEN	OUT OF FLASH GREEN	OUT OF FLASH GREEN	OUT OF FLASH GREEN
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
	L	L	L
PRIORITY PREEMPTOR 1	PRIORITY PREEMPTOR 2	PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
MAX TIME O DURATION TIME O	MAX TIME O DURATION TIME O	MAX TIME O BURATION TIME O	MAX TIME O DURATION TIME O
MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5 DELAY TIME 0
MIN PED CLEAR. 7 INHIBIT TIME 0	MIN PED CLEAR. 7 INHIBIT TIME 0	MIN PED CLEAR, 7 INHIBIT TIME 0	MIN PED CLEAR. 7 INHIBIT TIME 0
EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. O
	GRN YEL RED	GRN YEL RED	GRN YEL RED
GRN YEL RED	GRN TEL HED MINIMUM	MINIMUM 1 4.0 3.5	MINIMUM 1 4.0 3.5
MINIMUM 1 4.0 3.5 TRACK CLEAR 0 0.0 0.0	MINIMUM 1 4.0 3.5 TRACK CLEAR 0 0.0 0.0	TRACK CLEAR 0 0.0 0.0	TRACK CLEAR 0 0.0 0.0
HOLD	HOLD	HOLD	HOLD
	LINKED PREEMPTORO	LINKED PREEMPTORO	LINKED PREEMPTOR C

NOTES: 1. SET OPTICOM EXTEND TIME TO 3 SECONDS ON OPTICOM UNITS.

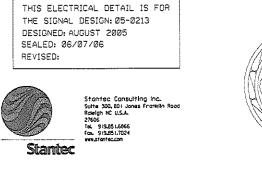


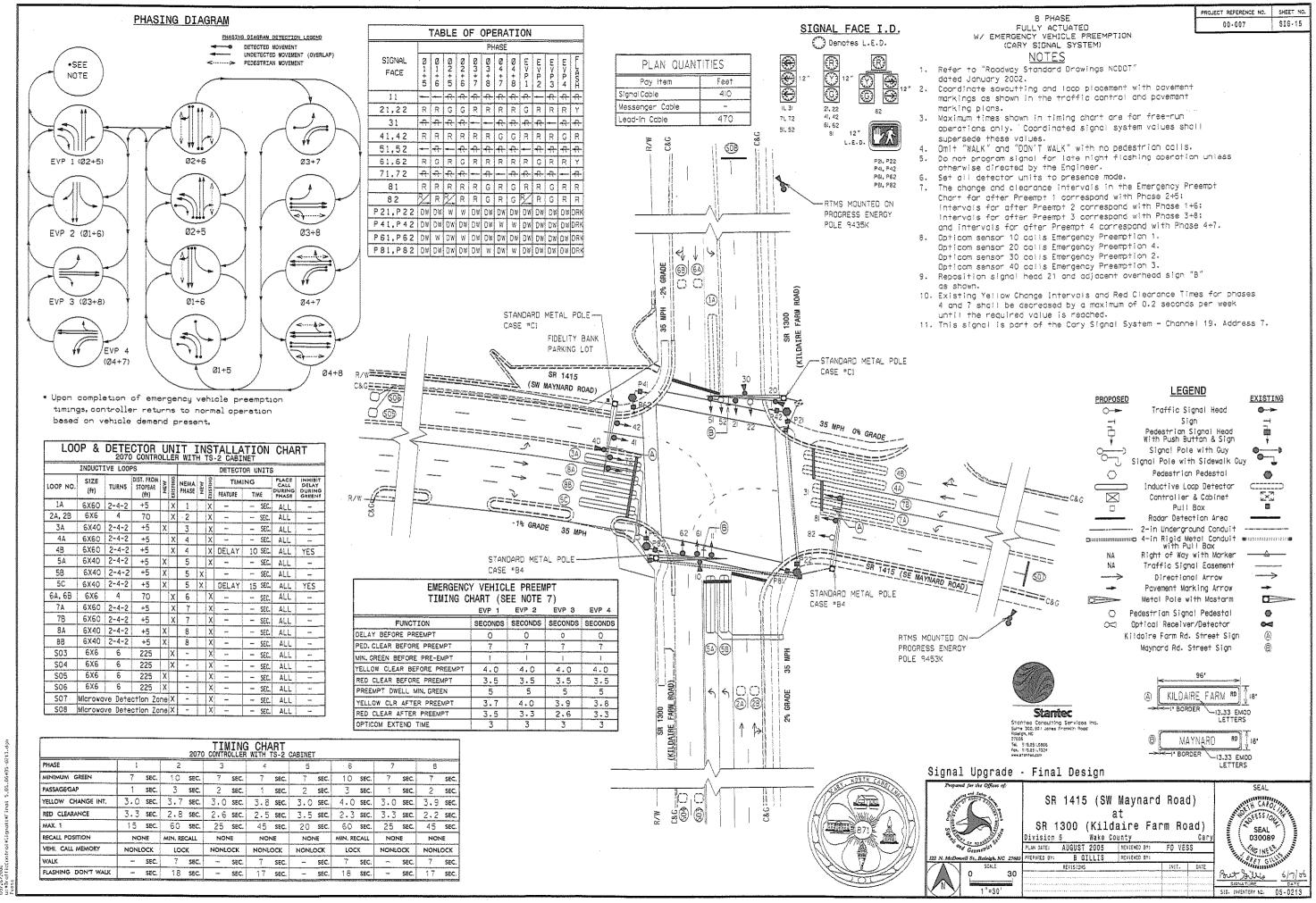
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	Stantec Consulting Inc. Suite 300.001 Jones Franklin Rood	1	CTRICAL DET	1 1
	Suite 300,801 Jones Franklin Rood Raisigh NC U.S.A, 27606 Two are set case	\$	IAL DESIGN: Ø AUGUST 202	
	Tel. 919.851.5866 Fax. 919.851.7024 www.stantac.com	SEALED:	06/07/06	
Stantec		REVISED:		
		BUFFF	0 05 0	
TS-2 TYPE 1 CABINET	FINAL DESIGN SR 1415 (SW MAYNAF		2 OF 2	SEAL
DETAILS FOR:	AT			H CARO
Prepared for the Offices of:	SR 1300 (KILDAIRE F	ARM ROA	D)	FESS/OLA
	DIVISION B WAKE COUNTY		DARY	SEAL 030089
	PLAN DATE: AUGUST 2005 REVIEWED BY PREPARED BY: B. GILLIS REVIEWED BY			SEAL 030089
Tage drangement Section	AEVISIONS		BATE R.D.C.	ALLE 60/06
122 N. McDawell St., Raleigh, NG 27603	1	· · · · · · · · · · · · · · · · · · ·	510 172	URE DATE
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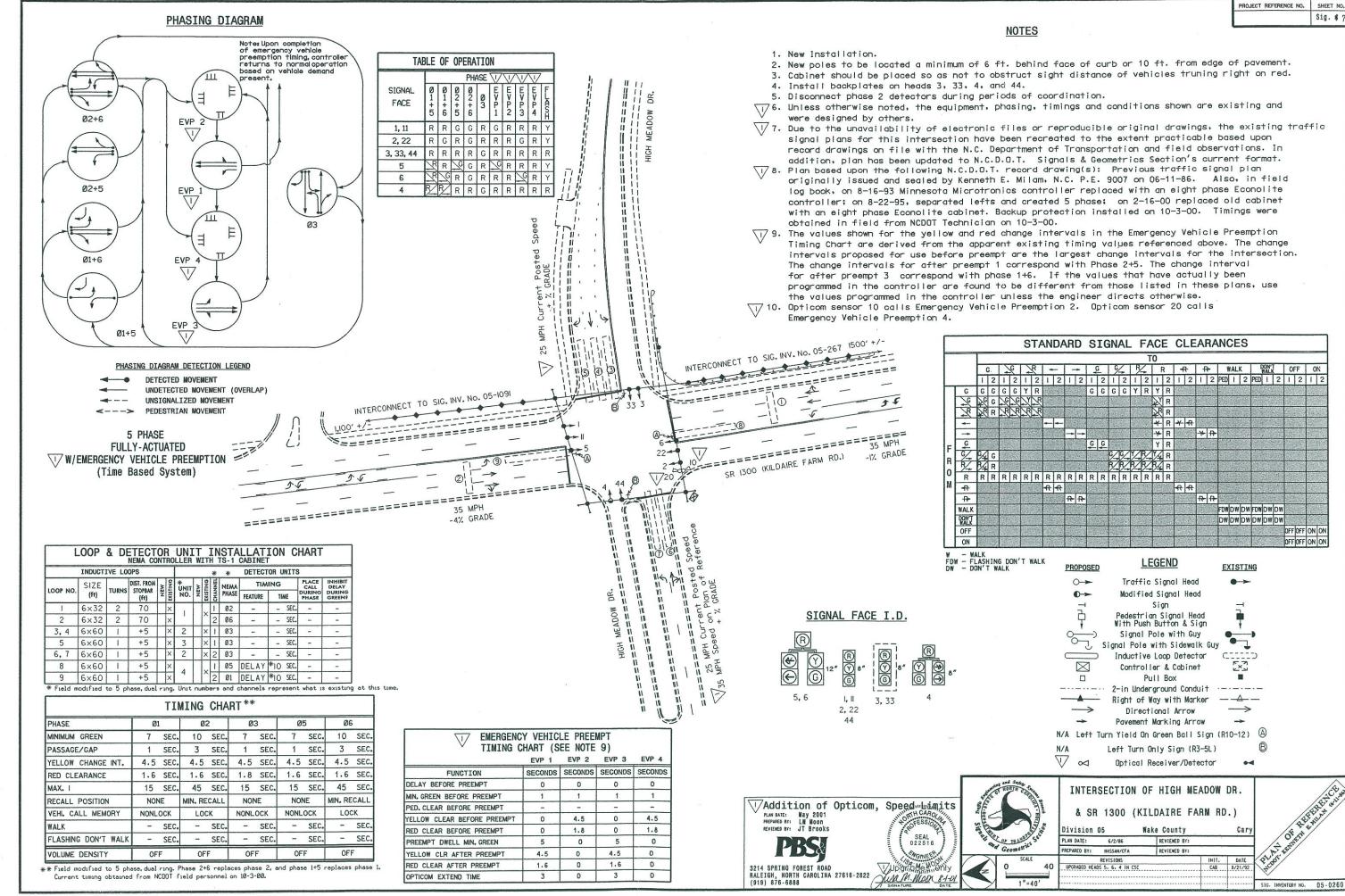


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PHASE	1	2	з	4	Ę	5	6	7	8	PED	PED	PED	PED
SIGNAL EAD NO.	11	21,22	31	41,42	51,52	82	61,62	71,72	81,82	P21 P22	P41 P42	P61 P62	P8I P82
GREEN		2G		4 G			6G		8G				
YELLOW		2Y		4Y			6Y		8Y				
RED		2R		4R			6R		BR	2			
RED ARROW	1R		3R		5R			7R					
YELLOW ARROW	1Y		3Y		5Y	5 Y		7Y					
GREEN ARROW	1 G		30		5G	5G		7G					
Ŕ										9G	106	11G	12G
₽										9R	10R	11R	12R

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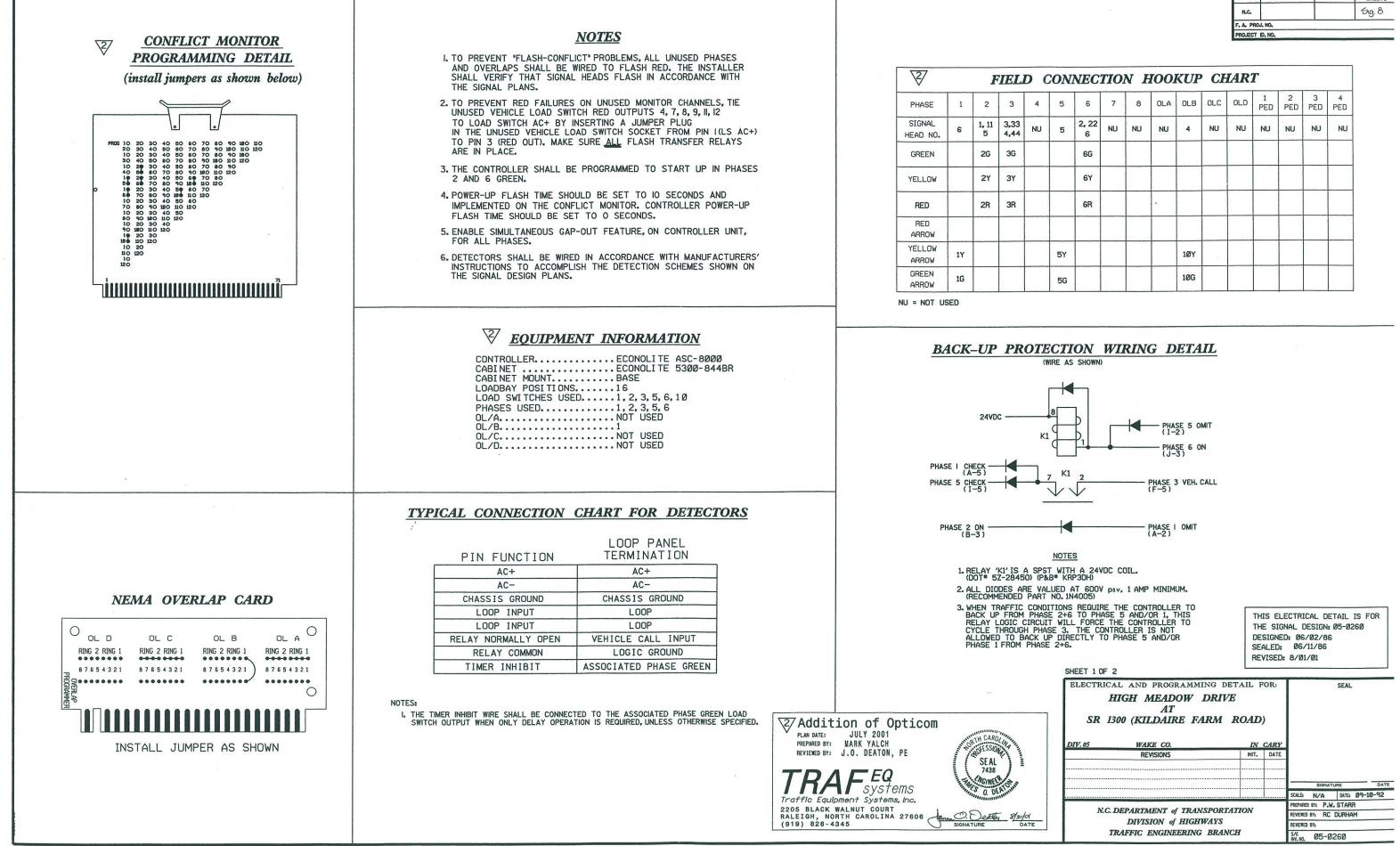






PROJECT	REFERENCE	NO.	

SIG. INVENTORY NO. 05-0260



STATE	PROJECT NO.	SHEET NO.	TOTAL
N.C.			51g.8
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PRO FOT	D NO		

IJ	DC	CON	NEC	TIO	NE	1001	KUP	CE	<b>LAR</b>	Г			
	4	5	6	7	8	OLA	OLB	OLC	OLD	1 PED	2 PED	3 PED	4 PED
34	NU	5	2, 22 6	NU	NU	NU	4	NU	NU	NU	NU	NU	NU
			6G										
			6Y										
			6R										
		5Y					1ØY	140					
		5G		24			1ØG						

2 ECONOLITE CONTROL PRODUCTS, INC. EMERGENCY VEHICLE PREEMPTOR PROGRAMMING DETAIL

FOR ASC-8000 TRAFFIC SIGNAL CONTROLLER

(program controller as shown below)

	MAIN MENU	
1. CONTROLLER	4. NEC/TOD	7. STATUS DISP.
2. COORDINATOR	5. TELEMETRY	8. UTILITIES
3. PREEMPTOR	6. DETECTORS	9. OPTIONS

1

1 6

1 1

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4. 1

PREEMPTOR 1	1								PREEMPTOR 2	2
ACTIVE YES	PED AC	TIVE	NO	TERM OLAP	YEL	TO G	IN N	ACTIVE YES	P	
PRIORITY YES	PED D	PED DARK NO		TERM OLAP	B	SP	ARE		PRIORITY NO	1
DET LOCK NO	) ZERO PC TIM		NO	TERM OLAP	C SPAR		SPARE		DET LOCK NO	TE
HLD FLASH NO	PC THR	YEL	ND	TERM OLAP	D	SP	ARE		HLD FLASH NO	PC
DURATION TIME	0			MENEMLIM TRA		CK CLEAR	CLEAR		DURATION TIME	Г
DELAY TIME	0	OR	EEN	1 1 0		0	0 5		DELAY TIME	
DHUBIT TIME	0	YE	LOW	0.0	0			4.5	INHIBIT TIME	
Minimum ped clear	0	R	ED	0.0		0		1.6	MINIMUM PED CLEAR	
PHASE	1	2	3	4	5	6	7	8	PHASE	Т
TRACK CLEARANCE			-						TRACK CLEARANCE	T
HOLD PHASES	1	X			X				HOLD PHASES	Т
EXIT PHASES			T						EXIT PHASES	Т
EXIT CALLS			1						EXIT CALLS	Τ

ACTIVE YES	PED ACTIVE	NO	TERM OLAP	A	YEL TO	GRIN	
PRIORITY NO	PED DARK	NO	TERM OLAP B		SPARE		
DET LOCK NO	ZERO PC TIN	ENO	TERM OLAP	C	SPAR	E	
HLD FLASH NO	PC THRU YE	LNO	TERM OLAP	D	SPAR	E	
DURATION TIME	0		MINIMUM	TRACK	CLEAR	HO	LD
DELAY TIME	0	GREEN	1 1	0	)	0	)
INHIBIT TIME	0	YELLOW	4.5	0	)	0.	. 0
MINIMUM PED CLEAR	0	RED	1.8	C	)	0.	0
PHASE	1 :	2 3	4	5	6	7	8
TRACK CLEARANCE						-	-
HOLD PHASES							
EXIT PHASES						T	
EXIT CALLS	TT					T	

PREEMPTOR SUBMENU

1-6 PRIORITY PREEMPTORS 7. BUS PREEMPTORS

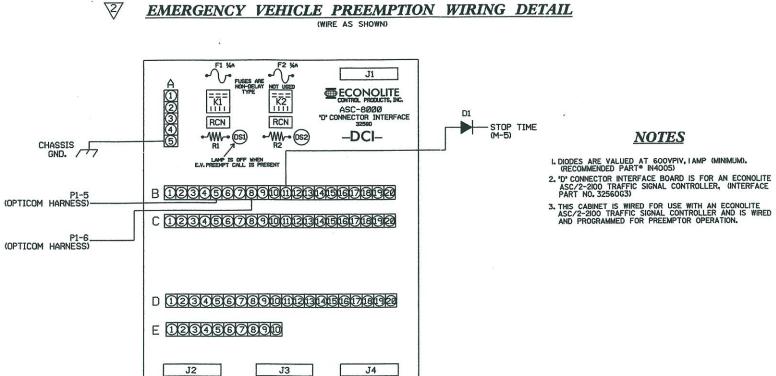
LINKED PREEMPTOR \_\_\_\_\_

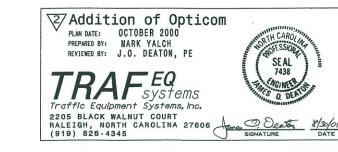
LINKED PREEMPTOR \_\_\_\_O

ACTIVE YES	PED ACT	THE	NO	TERM OLA		YEL	TO C	100	ACTIVE YES	PED ACT	THE	NO	TERM OLAP	4	YEL T	0 00	a T
PRIORITY YES	PED DA		NO	TERM OLA			ARE		PRIORITY NO	PED DA		NO	TERM OLAP	_	SPA	-	+
					_	-								_	-		+
	ZERO PC			TERM OLA	_	-	ARE			ZERO PC			TERM OLAP		SPA		-
HLD FLASH NO	PC THRU	YEL.	NO	TERM OLA	• D	SP SP	ARE		HLD FLASH NO	PC THRU	YEL	NO	TERM OLAP	D	SPA	RE	1
DURATION TIME	0			MINIMUM	TRAC	K CLEAR	T	HOLD	DURATION TIME	0			MINIMUM	TRAC	X CLEAR	T	HOLD
DELAY TIME	0	10	REEN	1	T	0	T	5	DELAY TIME	0	10	REEN	1		0	T	0
INHIBIT TIME	0	Y	ELLOW	0.0	T	0		4.5	INVERIT TIME	0	1 Y	WOLLE	4.5		0	T	0.0
MINIMUM PED CLEAR	0		RED	0.0	1	0		1.6	MINIDHUM PED CLEAR	0		RED	1.8		0	1	0.0
PHASE	1	2	3	4	5	6	7	8	PHAGE	1	2	3	4	5	6	7	8
TRACK CLEARANCE			-						TRACK CLEARANCE		0	1					-
HOLD PHASES	X					X			HOLD PHASES			T					1
EXIT PHASES			T						EXIT PHASES			T					
EXIT CALLS									EXIT CALLS			T					T

PHASE	1	2	3	4	5	6	7	8
TRACK CLEARANCE								

NOTES: 1. SET OPTICOM EXTEND TIME TO 3 SECONDS ON OPTICOM UNIT.

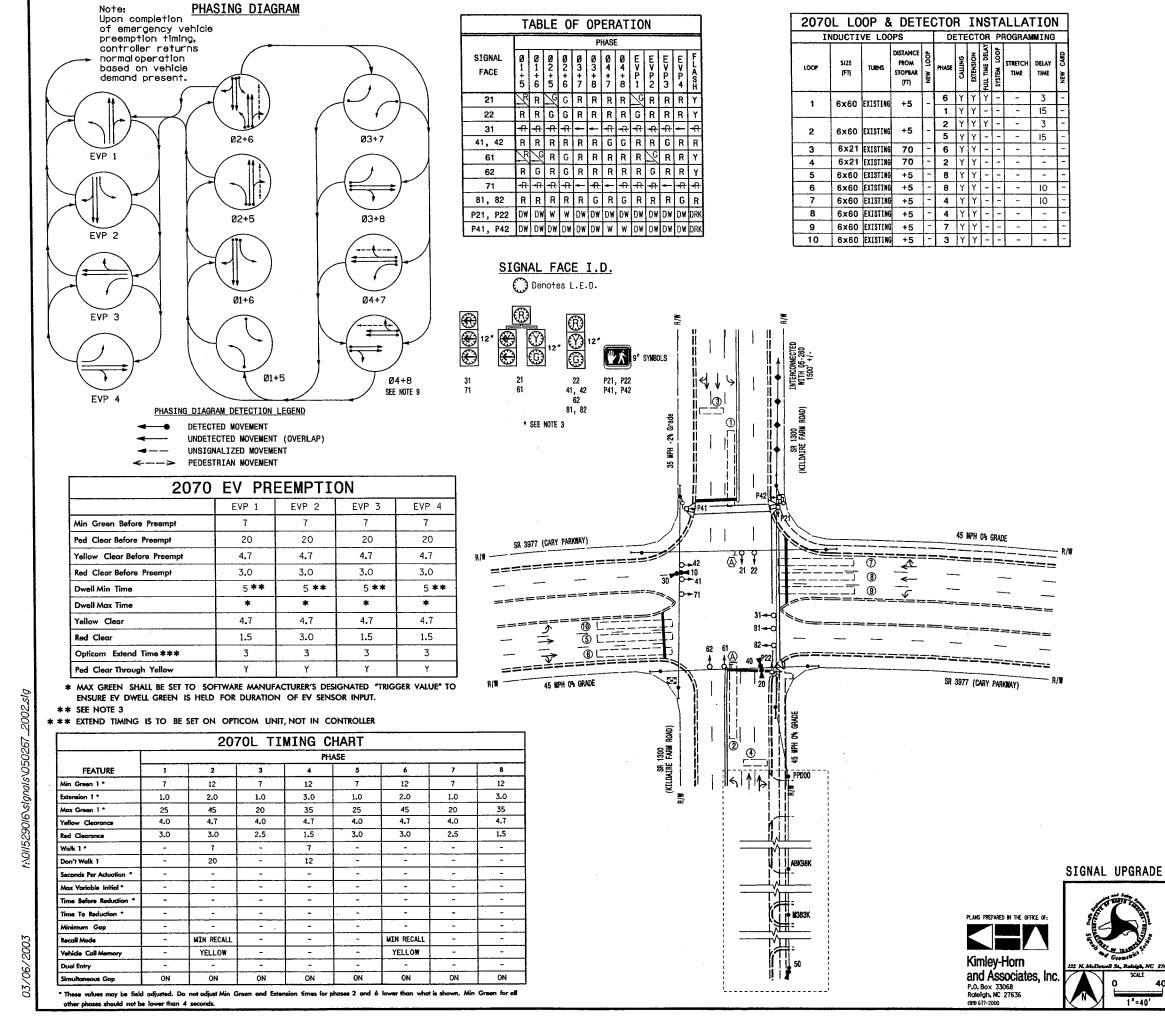




STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.			Sig 19
F. A. PROJ	. NO.		1
PROJECT I	D. NO.		

SHEET 2 OF	2	SE	ALED:	06/03 06/11/ 08/01/	/86			
ELECTRICA	L AND PROGRAMMIN	G DETAIL	FOR:	1		SEAL		
	IGH MEADOW D AT 00 (KILDAIRE FAR		))					
DIV. 05	WAKE CO.		CARY					
DIV. 05	WAKE CO. REVISIONS	IN NIT.	DATE					
DIV. 05			and the second se		SIGNATI	URE		DA
DIV. 05			and the second se	SCALE:	SIGNATI	-	09-10-	92
	REVISIONS	INIT.	and the second se	SCALE: N	N/A	DATEs		
	REVISIONS	PORTATION	and the second se		N/A 11 P.W.	DATE:	2	
	REVISIONS	PORTATION	and the second se	PREPARED BY	√A 1: P.W. 1: RC	DATE:	2	-

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0260



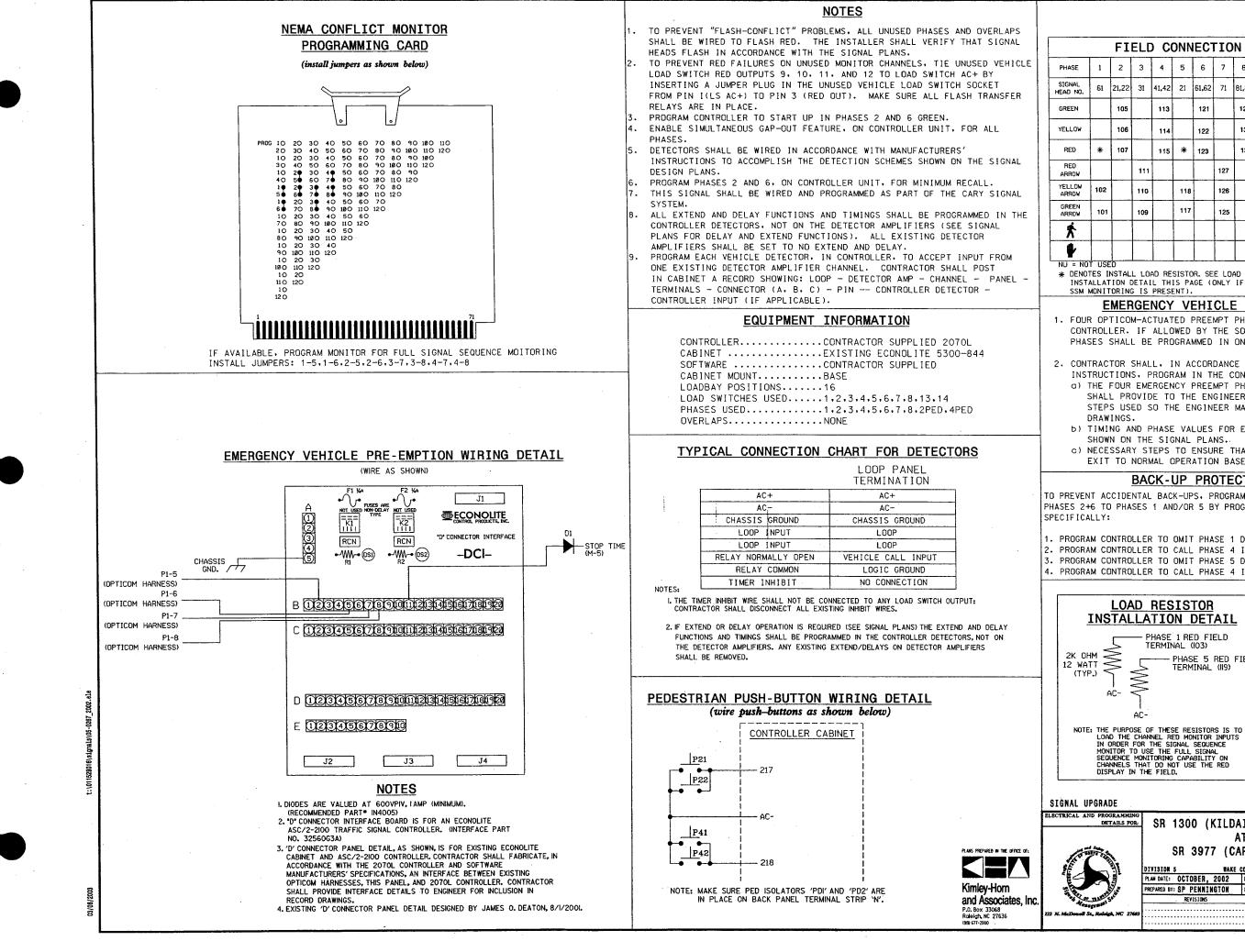
	······································	PROJE	CT REFERENCE NO.	SHEET NO.
				60
	8 PHASE FULLY ACTUATED W/ EMERGENCY VEHICLE PREEM (CARY SIGNAL SYSTEM)	PT10	1	
	<u>NOTES</u>			
۱.	Refer to "Roadway Standard Drawings NCD	0T"		
	dated January 2002 and "Standard Specifications for Roads and Structures	″dat	e đ	
	January 2002.			
2. 3.	Pavement markings are existing. The Division Traffic Engineer will dete	raina	the Dwall	
•.	Nin Green time for the emergency vehicl			
	timing.			
4.	Install backplates for signal heads num 71, 81, and 82.	loereo	31, 41, 42,	
5.	Omit phase 1 during phase 2 on.			
6. 7.	Omit phase 5 during phase 6 on. Program controller to clear from phase	2+6 †	o nhase 1 and	/or 5
	by progressing through phase 4+8.			••••
8.	Maximum times shown in timing chart are operation only. Coordinated signal sys			
	shall supersede these values.		10103 401000	
9.	During coordination, phase 3 or phase 3 Omit "WALK" and flashing "DON'T WALK" w			
10.	calls.	ת חזב	o pedestrian	
11.	Contractor shall reinstall all existing			
	this intersection to function at the sa the signal head upgrade.	ame ca	pacity as bef	ore
12.	Opticom sensor 10 calls EVP 3.			
	Opticom sensor 20 calls EVP 1. Opticom sensor 30 calls EVP 4.			
	Opticom sensor 40 calls EVP 2.			
10	Opticom sensor 50 calls EVP 1.			
13.	Thirty days after implementation of the operation, sign B and/or orange flags :			
	the discretion of the Area Traffic Eng.	-		
	LEGEND			
		XISTI	NG	
	→ Traffic Signal Head	•	-	
	● → Modified Signal Head	N/A		
	With Push Button & Sign	Ţ		
	Signal Pole with Guy	•	-• •	
	Inductive Loop Detector		10	
	Controller & Cabinet	ند×ے ∎		
	2-in Underground Conduit			
	N/A Right of Way with Narker -	<u> </u>		
	→ Directional Arrow → Pavement Marking Arrow			
	oct Optical Receiver/Detector			
	A "LEFT TURN YIELD ON GREEN" Sign With Flags (R10-12)	N/A		
		RANGE		
		ARNING FLAG		
1				
	SR 1300 (KILDAIRE FARM ROA	D)	SEAL	
			ORTH CAN	
	SR 3977 (CARY PARKWAY)		SEAL	
	IVISION 5 WAKE COUNTY AN DATE: JULY, 2002 REVIEWED BY:	CARY	2443	Jel-
_	REPARED BY: SP PENNINGTON REVIEWED BY: SB PRIVE	TTE	HANIE B.	RIVE

SIGNATURE

1"=40'

mate

INVENTORY NO. 05-0267



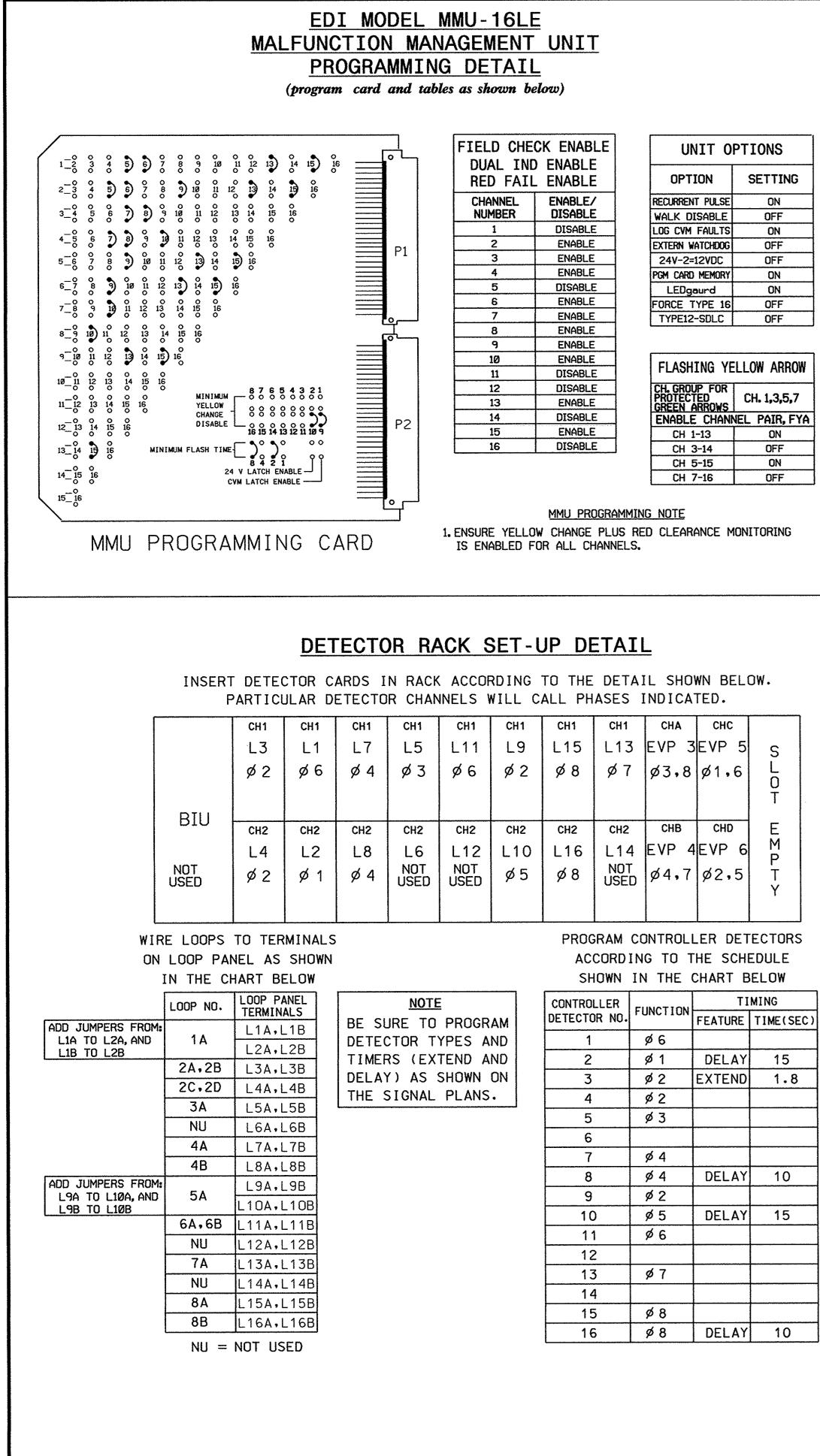
PROJECT REFERENCE NO. SHEET NO.

																6	
		FI	ELD	) C(	ONN	ECI	10	NF	100	K-U	IP (	CHA	RT				
SE	1	2	3	4	5	6	7	8	OLA	OLB	OLC	OL D		PED	PED	PED	
NO.	61	21,22	31	41,42	21	61,62	71	81,82	NU	NU	NU	NU	P21, P22	P41, P42	NU	NU	
EN		105		113		121		129									
-0₩		106		114		122		130									
D	*	107		115	*	123		131									
D IOW			111				127										
LOW IOW	102		110		118		126										
EN IOW	101		109		117		125										
4													133	136	ļ		
<u>اً</u>	 												135	138			
DENOT	NOT USED NOTES INSTALL LOAD RESISTOR. SEE LOAD RESISTOR VSTALLATION DETAIL THIS PAGE (ONLY IF DUAL INDICATION M MONITORING IS PRESENT).																
N		MER				HI		<u> </u>	ROG	RA	MMI	NG	DE	TAI	Ľ		
		TICON _ER.	M-AC	TUAT	ED F	PREEN	MPT	PHAS	SES S	SHALI	L BE	PRO	GRAM		_	THE	
		SHALL															
		TOR S									SOFT	WARE	: MAN	<b>UFA</b>	CTUR	ER'S	
a) 1	THE F		EME	RGEN	ICY F	PREE	MPT	PHAS	SES.	TH							
S	STEPS	L PRO S USE	ED S														
ь) Т		INGS NG AN	ND P					EME	RGEI	VCY I	PREE	MPTS	; AS				
c) M	IECE:	N DN SSAR`	Y ST	EPS	TO E	ENSU	RE T							-			
		1 OT	NORM	AL O	DPER	ATIO	N BA	SED	ON	VEHI	CLE	DEMA	AND F	-			
<u>-</u>	т			<u>К-I</u>									-	c =-	014		
S 2+		CIDEI PHAS															
		NTRO															
		INTROI											WHEN	I PHA	SE 2	2 15	ON.
		NTRO											WHEN	I PHA	SE 6	5 15	DN.
		104	ים	250	<u>דסד</u>	ron											
]		LOA TAL						-									
		5		HASE ERMIN			ELD										

PHASE 5 RED FIELD

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0267 DESIGNED: JULY, 2002 SEALED: MARCH 6, 2003 REVISED: N/A

L UPGRADE			
AL AND PROGRAMMING DETAILS FOR:	SR 1300 (KILDAIRE FAR	RM ROAD)	SEAL
and the second sec	AT SR 3977 (CARY PAR) Division 5 Nake county	(WAY)	SEAL 024910
	PLAN DATE: OCTOBER, 2002 REVIEWED BY:	DE MARCEAU	Go Chemes N
an and a set	PREPARED BY: SP PENNINGTON REVIEWED BY:	CA HULTGREN	E. MARCHER
Henerenest Sta	REVISIONS	INIT- DATE	0 5 m dela
lowell St., Raisigh, NC 27683			SIGNATURE DATE
			SIG. INVENTORY NO. 05-0267



אכ	SETTING
PULSE	ON
SABLE	OFF
AULTS	ON
TCHDOG	OFF
2VDC	OFF
MEMORY	ON
urd	ON
'PE 16	OFF
SDLC	OFF
	LLOW ARROW
PFOR	LLOW ARROW CH. 1,3,5,7
	CH. 1,3,5,7
P FOR ED RROWS	CH <b>.</b> 1 <b>,</b> 3 <b>,</b> 5 <b>,</b> 7
p For D RROWS Chani	CH. 1,3,5,7 NEL PAIR, FYA
FOR D RROWS CHANN 13	CH. 1,3,5,7 NEL PAIR, FYA ON

- NOTES 1. To prevent "Flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
- 2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 11,12,14 and 16 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.
- 3. Program controller to start up in phases 2 and 6 green.
- 4. Set power-up flash time to 10 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 0 seconds.
- 5. Enable Simultaneous Gap-out feature, on controller unit, for all phases.
- 6. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- 7. Program detector call delay and extension timing on the controller, unless otherwise specified.
- 8. Set all detector card unit channels to "presence" mode.
- 9. Ensure optical detectors are wired for preempt inputs 3, 4, 5 and 6 as needed.
- 10. This controller and cabinet are part of the Cary Signal System.

## EQUIPMENT INFORMATION

CABINET .....NC-8A TS-2 SOFTWARE .....ASC/2070 CABINET MOUNT.....BASE LOADBAY POSITIONS.....16 LOAD SWITCHES USED.....1,2,3,4,5,6,7,8,9,10,13,15 OLA.....\* OLB.....NOT USED OLC....\* OLD.....NOT USED

\*See Sheet 2 of 3 Econolite ASC/2070 Overlap Programming Detail.

### LOAD SWITCH ASSIGNMENT DETAIL

(program controller according to schedule in chart below)

LOAD SWITCH NUMBER	FUNCTION
1	Ø 1
2	ø2
3	øз
4	ø 4
5	Ø5
6	Ø6
7	ø7
8	Ø 8
9	Ø2 PED
10	Ø4 PED
11	Ø6 PED
12	Ø8 PED
13	OLA
14	OLB
15	OLC
16	OLD

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0267 DESIGNED: March 2009 SEALED: 04/28/09 REVISED: N/A

PROJECT REFERENCE NO.

-				r										1		
	1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OLA	OLB	OLC	OLD
	11 <sup>★</sup>	21,22	31	41,42	51 <b>*</b>	61,62	71	81,82	P21, P22	P41, P42	NU	NU	<b>★</b>	NU	<b>★</b> 51	NU
-		2R		4R		6R		8R								<del>.</del>
	*	2Y		4Y	*	6Y		8Y								
		2G		4G		6G		8G								
			ЗR				7R						13R		15R	
			3Y				7Y						13Y		15Y	
													13G		15G	
	1G		3G		5G		7G		-							
									96	1ØG						
									9R	1ØR						

#### NU = Not Used

PHASE

SIGNAL

HEAD NO.

RED

YELLOW

GREEN

RED

ARROW

YELLOW

ARROW

FLASHING YELLOW ARROW

GREEN

ARROW

WALK

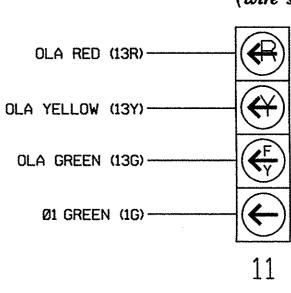
DON'T

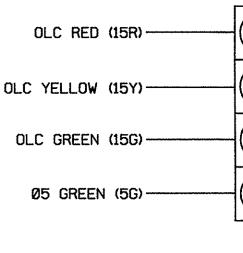
WALK

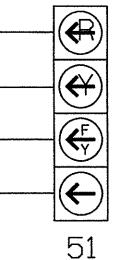
\* Denotes install Load Resistor, see Load Resistor installation detail sheet 2 of 3. \* See pictorial of head wiring detail this sheet.

## **4 SECTION FYA PPLT SIGNAL WIRING DETAIL**

(wire signal heads as shown)





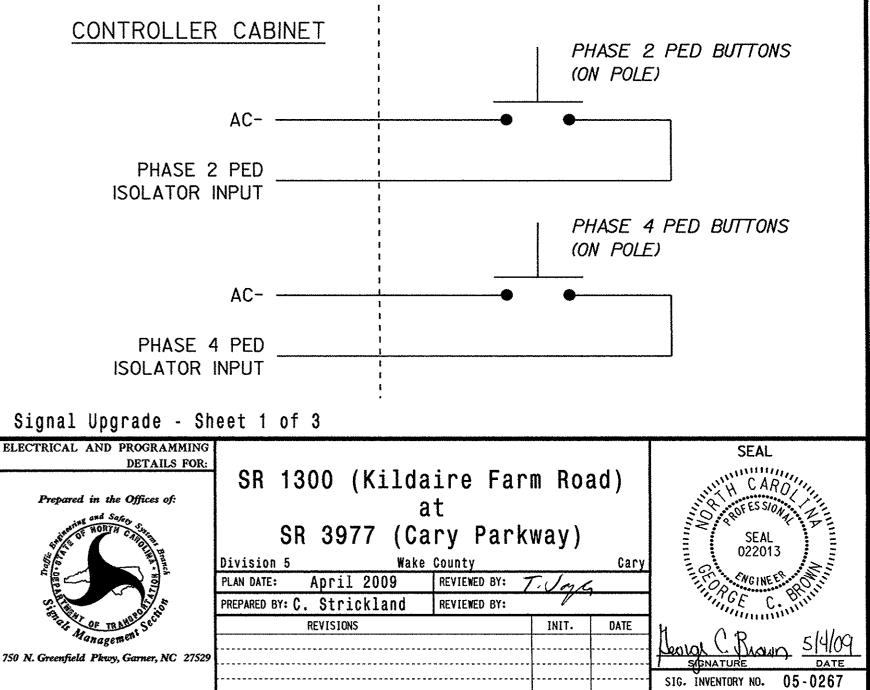


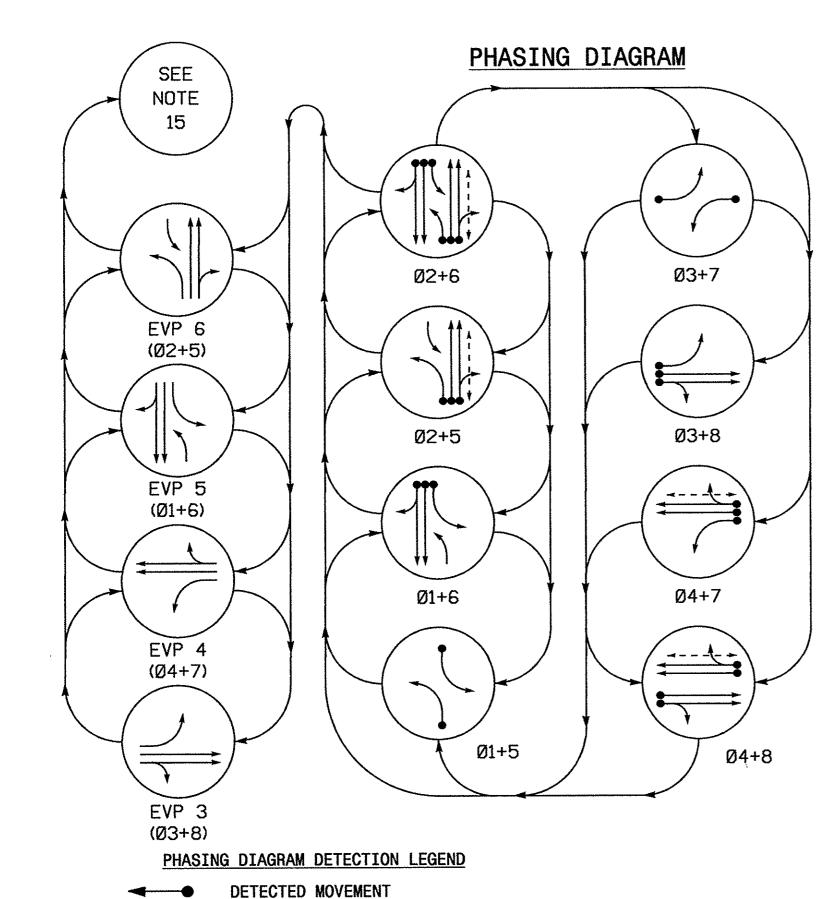
<u>NOTE</u>

1. SEE OVERLAP PROGRAMMING INSTRUCTIONS SHEET 2 OF 2.

## PEDESTRIAN PUSH-BUTTON WIRING DETAIL

(wire push-buttons as shown below)





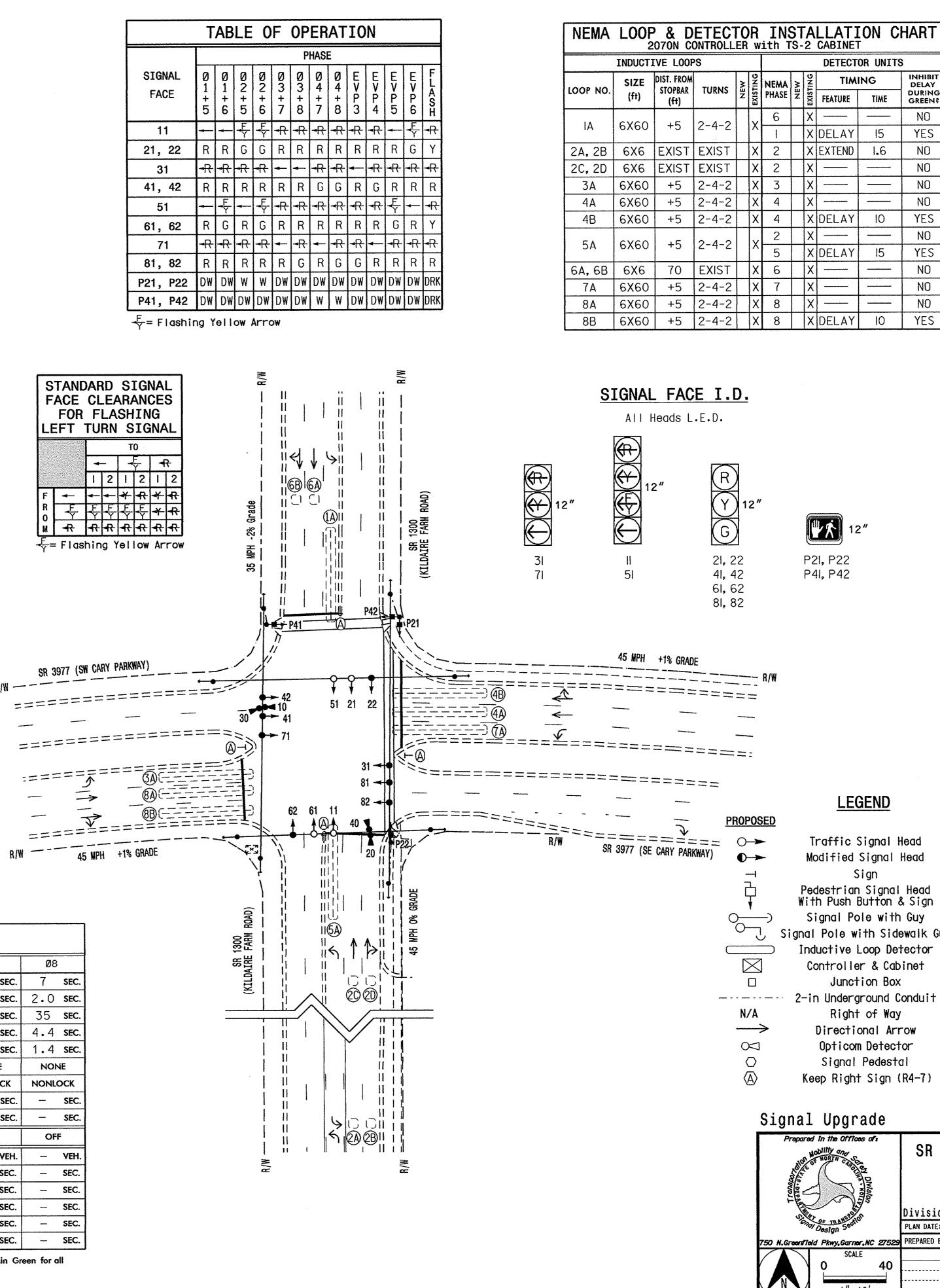
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- <---> PEDESTRIAN MOVEMENT

EMERGENCY VE	HICLE	PREEMPT	FION	
FUNCTION	EVP 3 (SEC)	EVP 4 (SEC)	EVP 5 (SEC)	EVP 6 (SEC)
DELAY TIME (BEFORE PREEMPT)	0	0	0	0
MIN PED CLEAR (BEFORE PREEMPT)	12	20	20	20
MIN. GREEN (BEFORE PREEMPT)	1	1	1	1
MIN YELLOW (BEFORE PREEMPT)	0.0*	0.0*	0.0*	0.0*
MIN RED (BEFORE PREEMPT)	0.0*	0.0*	0.0*	0.0*
MIN HOLD TIME	7#	7#	7#	7#
HOLD YELLOW (AFTER PREEMPT)	0.0*	0.0*	0.0*	0.0*
HOLD RED (AFTER PREEMPT)	0.0*	0.0*	0.0*	0.0*
ENABLE BACKUP PROTECT	N	N	N	N
PED CLEAR THROUGH YELLOW	Y	Y	Y	Y
OPTICOM EXTEND TIME	3	3	3	3
	• I			

\* Time defaults to time used for phase during normal operation # See Note 11

							0.000							-
							G CHA							
PHASE	Ø1		Ø2	2	ØЗ		Ø4		Ø5		Ø6		Ø7	7
MINIMUM GREEN*	7	SEC.	12	SEC.	7	SEC.	7	SEC.	7	SEC.	12	SEC.	7	SEC
PASSAGE/GAP*	1.0	SEC.	2.0	SEC.	1.0	SEC.	2.0	SEC.	1.0	SEC.	2.0	SEC.	1.0	SEC
MAX. 1*	25	SEC.	45	SEC.	20	SEC.	35	SEC.	25	SEC.	45	SEC.	20	SEC
YELLOW CHANGE INT.	3.0	SEC.	4.5	SEC.	3.0	SEC.	4.4	SEC.	3.0	SEC.	4.5	SEC.	3.0	SEC
RED CLEARANCE	3.4	SEC.	2.1	SEC.	3.6	SEC.	1.3	SEC.	2.8	SEC.	2.1	SEC.	2.9	SEC
RECALL POSITION	NON	NE	MIN. RE	CALL	NOM	٩E	NON	٩E	NOM	<b>NE</b>	MIN. RE	CALL	NOI	NE
VEHI. CALL MEMORY	NONL	оск	LOC	Ж	NONLO	оск	NONLO	оск	NONL	оск	LOC	Ж	NONL	.OCK
WALK*	-	SEC.	7	SEC.	-	SEC.	7	SEC.	-	SEC.	_	SEC.		SEG
FLASHING DON'T WALK	-	SEC.	29	SEC.		SEC.	16	SEC.	_	SEC.	_	SEC.		SE
VOLUME DENSITY	OF	F	OF	F	OF	-	OF	=	OF	=	OF	F	OF	F
ACTUATION B4 ADD		VEH.		VEH.	_	VEH.	_	VEH.	_	VEH.	<u> </u>	VEH.		VE
SEC. PER ACTUATION*		SEC.		SEC.	-	SEC.	_	SEC.	-	SEC.	_	SEC.	_	SEC
MAX. INITIAL*		SEC.	_	SEC.		SEC.	_	SEC.	-	SEC.		SEC.		SEC
TIME B4 REDUCTION*	-	SEC.	_	SEC.	_	SEC.		SEC.		SEC.		SEC.	_	SEC
TIME TO REDUCE*		SEC.	-	SEC.		SEC.		SEC.		SEC.		SEC.	_	SEC
MINIMUM GAP	_	SEC.	_	SEC.		SEC.		SEC.		SEC.	-	SEC.	_	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.



	PROJECT	REFERENCE	NO.	SHEET	1
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Sig.

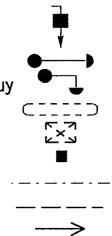
# DETECTOR UNITS

		DETECT	OR UNITS	
₹	EXISTING	TIM	ING	INHIBIT DELAY
Nev	EXIST	FEATURE	TIME	DURING GREEN?
	Х			NO
	Х	DELAY	15	YES
	Х	EXTEND	1.6	ŃO
	Х			NO
	Х			NO
	Х			NO
	Х	DELAY	10	YES
	Х			NO
	Х	DELAY	15	YES
	Х			NO
	Х		·	NO
	Х			NO
	X	DELAY	10	YES



### LEGEND

<u>EXISTING</u> Traffic Signal Head Modified Signal Head 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 Right of Way Directional Arrow Opticom Detector Signal Pedestal Keep Right Sign (R4-7)



A

♦→

N/A

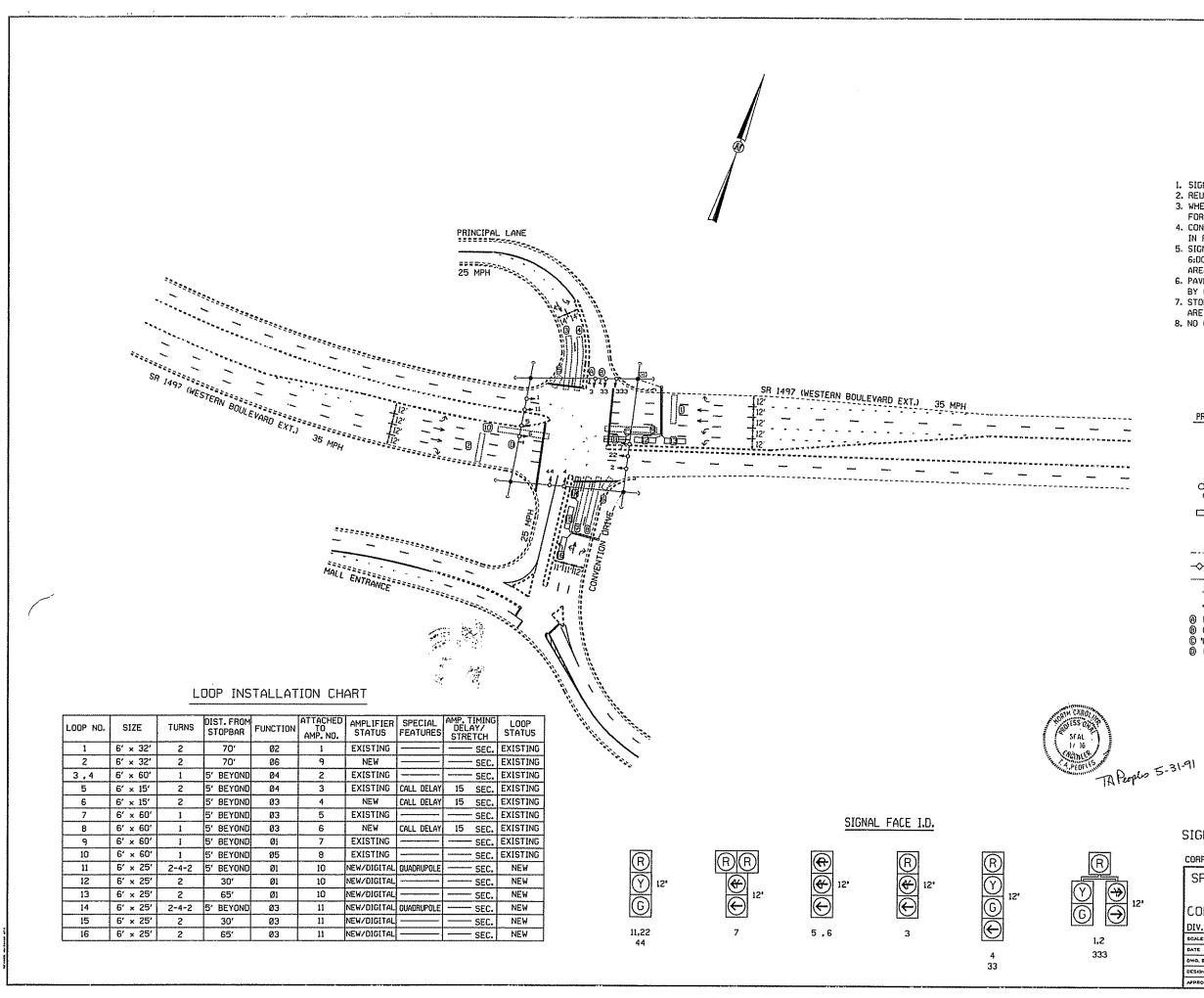
#### 8 Phase Fully Actuated w/ EV Preemption (Cary Signal System)

### NOTES

- 1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- 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. Reposition existing signal heads numbered 22 and 62.
- 6. Set all detector units to presence mode.
- 7. In the event of loop replacement, refer to the current Signals and Geometrics Design Manual and submit a Plan of Record to the Signals and Geometrics Section.
- 8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- 9. Pavement markings are existing.
- 10. The Division Traffic Engineer will determine the Preempt Dwell Min Green time for the emergency vehicle preemption timing.
- 11. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- 12. Opticom sensor 10 calls EVP 4; Opticom sensor 20 calls EVP 6; Opticom sensor 30 calls EVP 3; Opticom sentor 40 calls EVP 5.
- 13, Program MAX PREEMPT TIME for 120 seconds for EV preemptors.
- 14. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- 15. Upon completion of Emergency Vehicle Preemption, controller returns to normal operation based on vehicle demand.

### Signal Upgrade

Prepared In the Offices of: Prepared In the Offices of: Notifity one Notifity one		t ry Parkway)	SEAL OZ6486
Greenfield Pkwy,Garner,NC 27529	PREPARED BY: R. J. Ziemba	REVIEWED BY:	
SCALE 0 40 1"=40'	REVISIONS	INIT. DATE	MA (128/09) SIGNATURE DATE SIG. INVENTORY NO. 05-0267

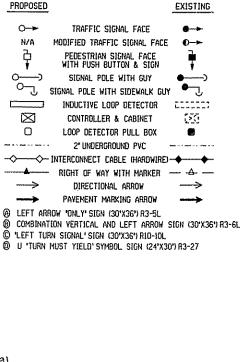


STATE	PROJECT NO.	SHEET NO	TOTAL SHEETS
H.C.	4.6332069	1	4
F. A. PRO	J. NO.	N/A	
PROJECT	ID. NO.	N/A	

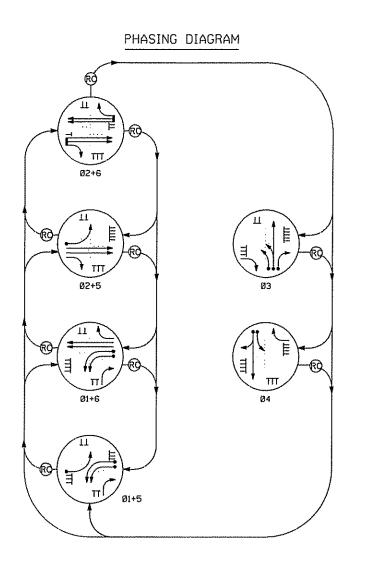
#### NOTES

- 1. SIGNAL UPGRADE.
- 2. REUSE EXISTING EQUIPMENT AS SHOWN.
- 3. WHEN IN FLASH MODE, ALL SIGNAL FACES
- FOR SAME APPROACH SHALL FLASH CONCURRENTLY. 4. CONTROLLER SHOULD BE PROGRAMMED TO START UP IN PHASE 2+6 GREEN.
- 5. SIGNAL TO FLASH FROM 11:00 PM UNTIL 6:DD AM UNLESS OTHERWISE DIRECTED BY AREA TRAFFIC ENGINEER.
- 6. PAVEMENT MARKING PLANS TO BE PREPARED BY OTHERS.
- 7. STOPBAR LOCATIONS ON ALL APPROACHES ARE EXISTING.
- 8. NO COUNTS AVAILABLE.

#### LEGEND



SIGNAL UPG	RADE	
CORR. FILE NO.	05-90-71	
SR 1497 ()	WESTERN BOULE	VARD EXT.)
	AND	
CONVENTION	N DRIVE - PRIN	CIPAL LANE
DIV. 05	WAKE COUNTY	CARY
\$CALK ["=50"	N. C. DEPARTMENT OF	REVISIONS
DATE 05-20-91	TRANSPORTATION	
owo, by TGP	DIVISION OF HIGHWAYS	
DESIGN BY TGP	TRAFFIC ENGINEERING	CADD 11ght/ver/theres/05081
APPROVED CTA	BRANCH	<sup>976</sup> му.но. 05-0873



60 FULLY ACTUATED ( ISOLATED )

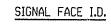
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	L					Ø2+	6										ØЗ					Τ				Ø	4			T			Ø	1+5						Ø1+	6		Т			Øź	2+5		1	-1	
SIGNAL	R				E	LE	AR					٦L				C	LE	١R				R	Т			CLE	AR			Τ	p		CL	EAF	2		P.			CLF	7					C	LR		i		SIGNAL
FACE	12	6	93	Ø	4	Ø1+	5	01+	6	02+	5	20	ð2+	e	Ø4	6	31+	5 0	1+6	Ø	2+5	72	Ø	2+6	ØI	+5	Øi	+6	Ø2+	+5	76	92+6	; Ø	1+6	Ø2	+5	Z	Ø2+	+6	Ø1+	5   0	12+1			2+6	Ø	+5	Øŀ	+6	S	FACE
	W	1	2	1	2		2		2	1 3	_	۳ſ	1 2	2 1		2	1	2 1	. 2	1	2	-	T	5	1	2	1	2	1	2	w٢	1 2	1	2	1	2	۷I	1	2	1	2 1	1 2	- W	1	2	1	2	1	2	4	
11	G	Y	R	Y	R	Y	R	G	G	YF	۱ ۲	R		_	-	-	_		1-	-	R	R	]	T	-		_		-1	R	R  -	-	T			R	G	G	6	YI	3 1	7   F	ז R	-					R '	Y	11
22	G	Y	R	Y	R	Y   I	R	Y	R	GI	G	R  -	-	-	_	_	-		-	+	R	R	-	-	-		_		-1	R	R  -					R	R	_	_			-  F	1 6	G	G	Y	R	Y	R	7	22
З	R	-					-	-			₹ 🗲	- (	¥ I	₹ (€	¥ F	₹ <b>(</b> €	Υ	•	YR	<b>*</b>	r R	R	1-		<u> </u>			_	-1	R	R -	-		1-		R	R	=	_	-	-	- F	R	-	-				RI	1	3
33	R	-	-				-	-	_	- 1	۲ (	G		7 F		• • •		1 5	- 144			R		1	<u> </u>					R	R  -			1-		R	R	_	-	_	1	- F	R	-		<u> </u>			RF	t.	33
333	R	-	-		_		-			- F	٩Ģ	4)	4	₹ <b>)</b> ⁄c	ζį F	۱)X	49	<u>3</u> ¥	(B	<b>X</b>	R	R	1		F			_		R	SI	G R	R	ß	R.	R	Z	<u>R</u>	R	乙原	公历	🖌 F	R	1-	1.	<b>—</b>			RF	1	333
4	R		-	-				_			1 1		-		1	Ŧ	-	—	_	7-		P		R	Y	R	Y	R		R			1-	-	Ē		R	_	Ť	1	-	_	R	1-	-				RF	7	4
44	R	-				_		_		F	2	<b>२</b>   •	-		-	-	-			1-	R	G	Tγ	R	Y	R	Y	R	Y	R	R  -	+	╞			R	R	_	-	1	-	- F	R	-	1	ļ			RF	7	44
5,6	۴R	-					_			-+	<del>R</del> (*	fi -		-	╋	+	-		+	-	<b>*</b> †	{ <b>{</b> +}	1-	-						6- 4	- (	¥K	₹~	+	€Y	€R (	-	<del>(</del>	(R)	(- i <	-+	¥€	R	2	1	-			<del>(</del>   (	R	5,6#
7	R	-			_	-	_		_	- 1	1 1	٦.		+-	╀		+		-		R	R	1-	-			-		-	R 🖣	- 4	Y F	<b>4</b> Y	R	←	←	R	_	_	-	1	- 6	i F	•	R	4	←		RF	_	7 ₩
1	64	X	R	14	3	4	R J	40		41				-	-		-		+	-	R	P	B	13	队	R	2	K!	K	R	R  -	+	1			R	S	Z	zh	4 5	1/2	G R	R	-	—				RY	it	1
2	84	X	R	¥	R	4	R ()	4	R 9	59	纲	须	43	3B	۶ F	阳	Ç I	1 3	, R	P	P	1 R	1-	1	<u> </u>			1		R	R  -		1			R			-	1	1			6	6	YZ	R	X	R	1	2

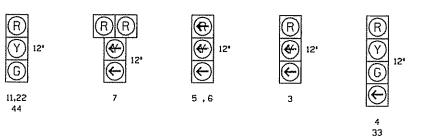
COLOR SEQUENCE CHART

• REFER TO NOTE 3

	Т	IMING	CHART
--	---	-------	-------

PHASE	Ø2	2	Ø6	3	Ø	3	Ø	4	Ø	5	Ø1	
MINIMUM GREEN	10	SEC.	10	SEC.	7	SEC.	7	SEC.	7	SEC.	7	SEC.
PASSAGE/GAP	3	SEC.	3	SEC.	1	SEC.	1	SEC.	1	SEC.	1	SEC.
YELLOW CLEARANCE	4,0	SEC.	4.0	SEC.	5.0	SEC.	4.5	SEC.	4.0	SEC.	4.5	SEC.
RED CLEARANCE	1.7	SEC.	1.3	SEC.	1.6	SEC.	1.6	SEC.	1.7	SEC.	1.6	SEC.
MAX. 1	40	SEC.	40	SEC.	30	SEC.	20	SEC.	20	SEC.	20	SEC.
MAX. 2		- SEC.		- SEC.		- SEC.		- SEC.		- SEC.		SEC.
RECALL POSITION	MIN, RE	CALL	MIN. RE	CALL	NO	NE	NO	νE	NO	١E	NON	E
VEHICLE CALL MEMORY	LO	СК	LO	СК	NONL	.0CK	NONL	OCK	NONL	ОСК	NONLO	)CK







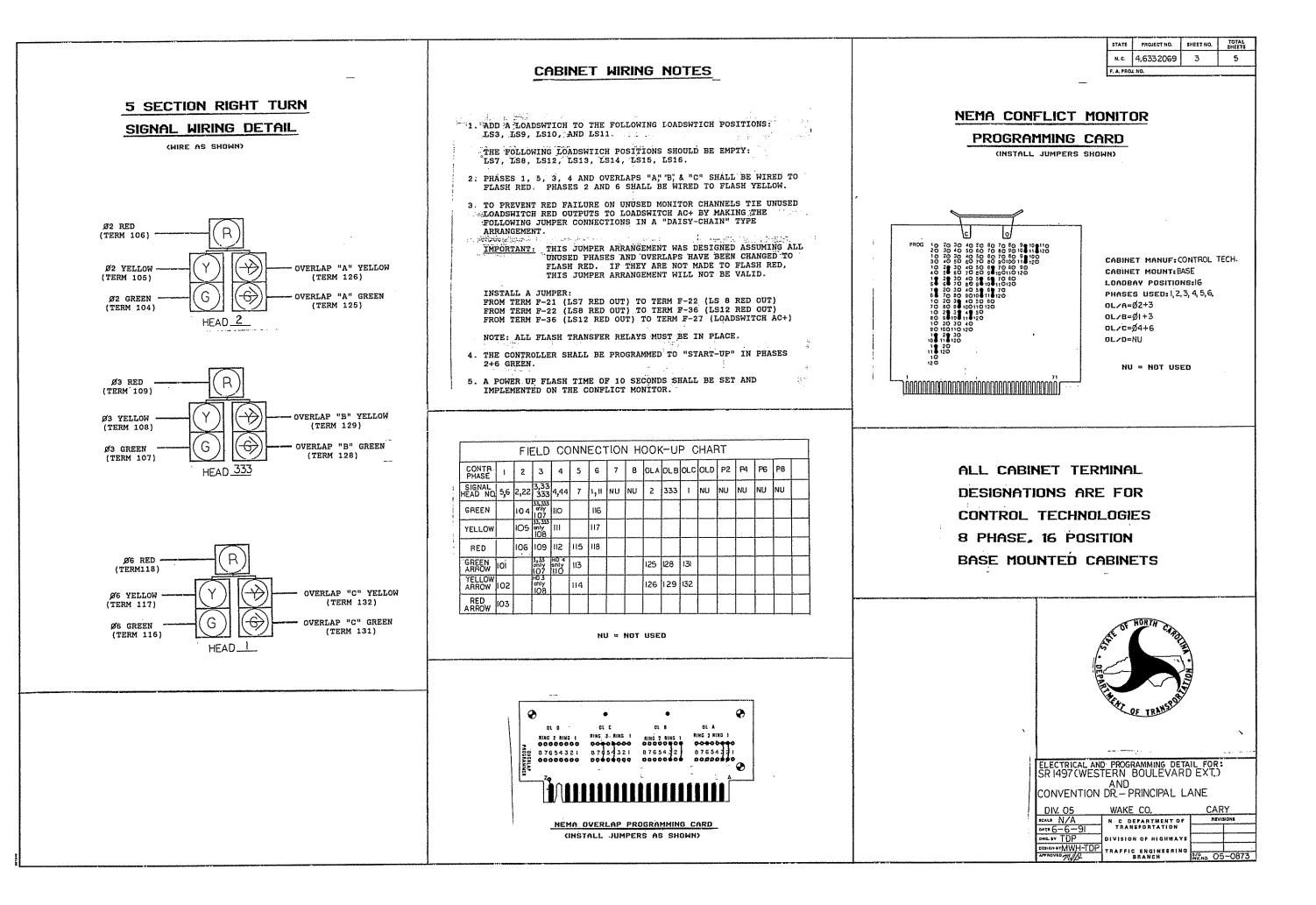
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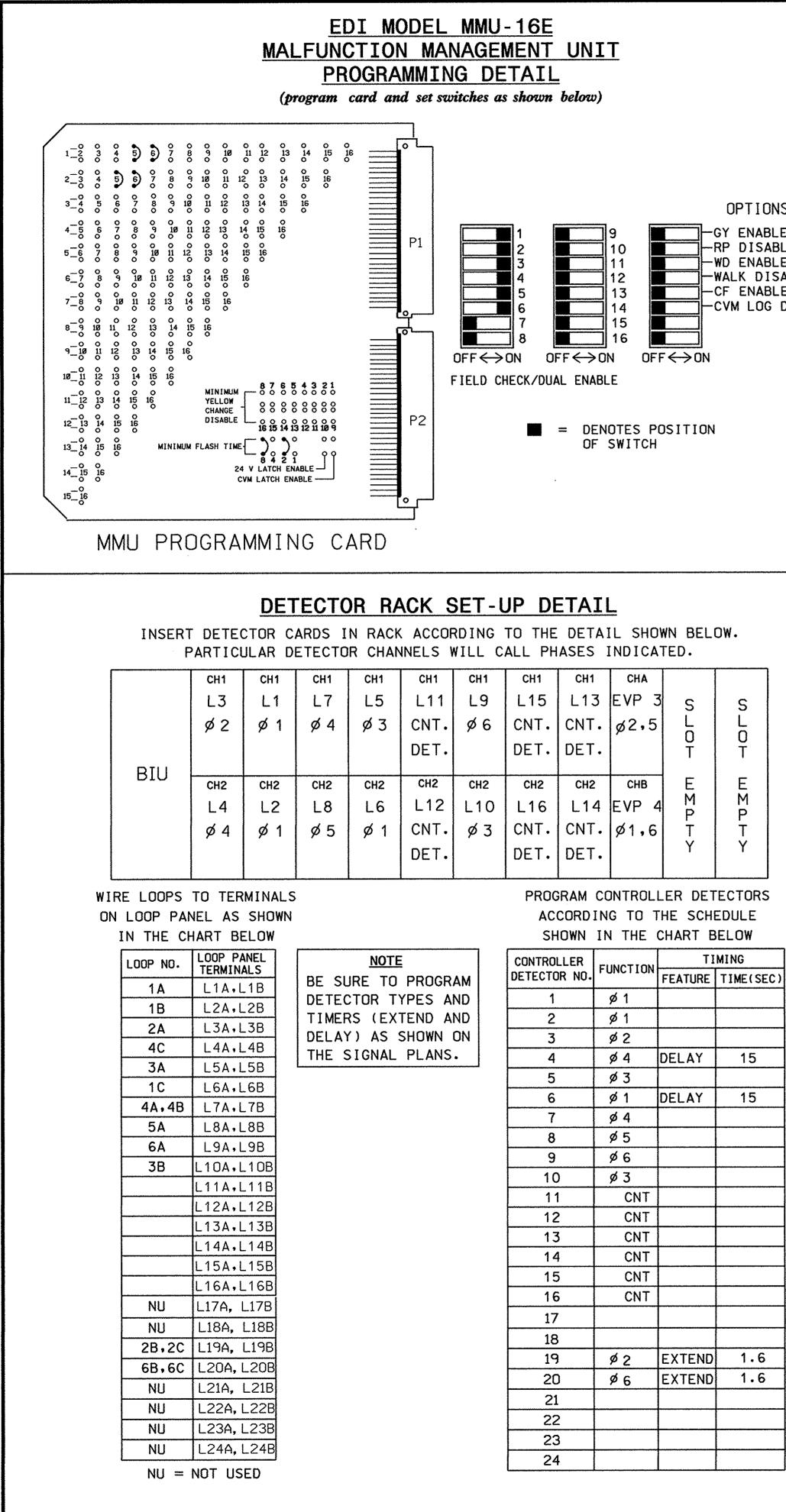
6

1,2 333

STATE	PROJECT NO.	SHEET NO	TOTAL SHEETS
H.C.	4.6332069	2	.4 <sub>6</sub> .
F.A. PRO	Ј. НО.	N/A	
PROJECT	ID. 110.	N/A	

SIGNAL UPG	RADE		
CORR. FILE NO. (	35-90-71		
SR 1497 (\	ESTERN BOULE	VARD	EXT.)
	AND		
CONVENTION	V DRIVE - PRINC	IPAL	LANE
DIV. 05	WAKE COUNTY		CARY
SCALE N/A	N C. DEPARTMENT OF	REVI	2101/2
DATE 05-20-91	TRANSPORTATION		
OWO, BY TGP	DIVISION OF HIGHWAYS		
oction by TGP	TRAFFIC ENGINEERING		/showee/050873
APPROVED CFA	BRANCH	870 HNC NO (	5-0873





OPTIONS -GY ENABLE RP DISABLE WD ENABLE -WALK DISABLE -CF ENABLE THORY LOG DISABLE

						S	IGN	AL	HEA	D I	100	K-U	PC	HAF	٦T								
PHASE		l	2		3	3	:		4		5	6	7	8	2 PED	4 PED	6 PED	8 PED	OLA	OLB	OLC	OLD	
SIGNAL HEAD NO.	11,12	33	21,22	22	31	32	33	41	42	62	51	61,62	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU	EQUIPMENT INFORMATION
RED			2R			ЗR	ЗR	4R	4R			6R											CONTROLLER
YELLOW			2Y			ЗY	3Y	4Y	4Y			6Y											CABINETBASE
GREEN			2G			ЗG	3G	4G	4G			6G											LOADBAY POSITIONS
RED ARROW	1R				ЗR						5R												PHASES USED
YELLOW	1Y	1Y		3Y	3Y					4Y	5Y												OLBNOT USED OLCNOT USED
GREEN	1G	1G		ЗG	ЗG	3G		4G		4G	5G												OLDNOT USED

#### NOTES

- 1. To prevent "Flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
- 2. To prevent red failures on unused monitor channels, tie unused load switch red outputs 7,8,9,10,11,12,13,14, 15 and 16 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.
- 3. Program controller to start up in phases 2 and 6 green.
- 4. Set power-up flash time to 10 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 0 seconds.
- 5. Enable simultaneous gap-out feature, on controller unit, for all phases.
- 6. Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- 7. Program detector call delay and extension timing on the controller, unless otherwise specified.
- 8. Set all detector card unit channels to "presence" mode.
- 9. This controller and cabinet are part of the Cary Signal System.

### DETECTOR RACK NO. 2 SET-UP DETAIL

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

	сн1 L19 Ø2	S L O T	S L D T	S L O T
BIU	сн2 L20 Ø6	E M P T Y	E M P T Y	E M P T Y

### LOAD SWITCH ASSIGNMENT DETAIL

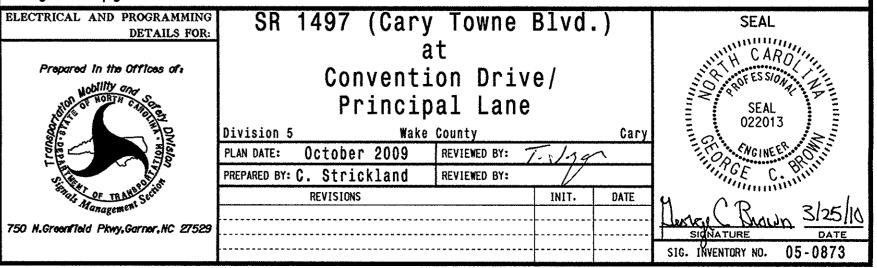
(program controller according to schedule in chart below)

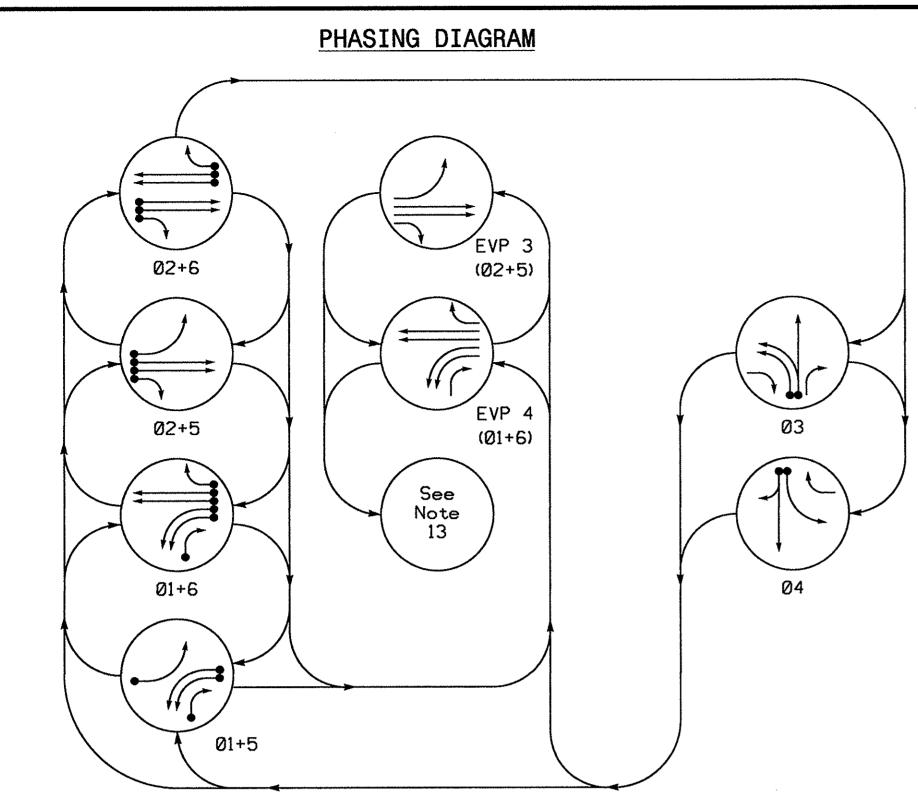
LOAD SWITCH	FUNCTION
NUMBER	
1	Ø 1
2	ø2
3	øЗ
4	ø 4
5	Ø 5
6	Ø6
7	ø7
8	ø8
9	Ø2 PED
10	Ø4 PED
11	Ø6 PED
12	Ø8 PED
13	OLA
14	OLB
15	OLC
16	OLD

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-Ø873 DESIGNED: September 2009 SEALED: Ø3/19/1Ø **REVISED:** 

THIS ELECTRICAL DETAIL SUPERSEDES THE DETAIL SEALED ON 11/09/09

Signal Upgrade - Sheet 1 of 2



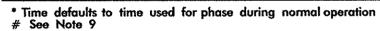


020

PHASING DIAGRAM DETECTION LEGEND

	DETECTED MOVEMENT
	UNDETECTED MOVEMENT (OVERLAP)
<b>-</b>	UNSIGNALIZED MOVEMENT
<>	PEDESTRIAN MOVEMENT

EMERGENCY VEHICLE	PREEMPT	TION
FUNCTION	EVP 3 (SEC)	EVP 4 (SEC)
DELAY TIME (BEFORE PREEMPT)	0	0
MIN PED CLEAR (BEFORE PREEMPT)	0*	0*
MIN. GREEN (BEFORE PREEMPT)	1	1
MIN YELLOW (BEFORE PREEMPT)	0.0*	0.0*
MIN RED (BEFORE PREEMPT)	0.0*	0.0*
MIN HOLD TIME	7#	7#
HOLD YELLOW (AFTER PREEMPT)	0.0*	0.0*
HOLD RED (AFTER PREEMPT)	0.0*	0.0*
ENABLE BACKUP PROTECT	N	N
PED CLEAR THROUGH YELLOW	N	N
OPTICOM EXTEND TIME	3	3



TIMING CHART 2070N CONTROLLER												
PHASE												
FEATURE	Ø1		02	2	03		04		Ø5		Ø6	
MINIMUM GREEN *	7	SEC.	10	SEC.	7	SEC.	7	SEC.	7	SEC.	10	SEC.
PASSAGE/GAP *	1.0	SEC.	3.0	SEC.	1.0	SEC.	1.0	SEC.	1.0	SEC.	4.0	SEC.
YELLOW CHANGE INT.	3.0	SEC.	4.5	SEC.	3.3	SEC.	3.1	SEC.	3.0	SEC.	4.5	SEC.
RED CLEARANCE	2.9	SEC.	1.3	SEC.	3.0	SEC.	2.9	SEC.	2.8	SEC.	1.0	SEC.
MAX. 1 *	20	SEC.	40	SEC.	30	SEC.	30	SEC.	30	SEC.	40	SEC.
RECALL POSITION	NOM	<b>NE</b>	MIN. RE	CALL	NONE		NONE		NON	1E	MIN. RE	CALL
VEHICLE CALL MEMORY	NONL	OCK	LOC	LOCK		оск	NONLO	оск	NONLO	ОСК	LOC	ж
WALK *	_	SEC.		SEC.		SEC.	-	SEC.	ł	SEC.	_	SEC.
FLASHING DON'T WALK		SEC.	_	SEC.	-	SEC.	_	SEC.	-	SEC.	_	SEC.
VOLUME DENSITY	OF	F	OF	F	OF	:	OFI	:	OFF	2	OF	F
ACTUATION B4 ADD *	-	VEH.	_	VEH.		VEH.		VEH.		VEH.	_	VEH.
SEC. PER ACTUATION *		SEC.		SEC.		SEC.	_	SEC.	*****	SEC.	_	SEC.
MAX. INITIAL *		SEC.		SEC.		SEC.		SEC.		SEC.		SEC.
TIME B4 REDUCTION *	_	SEC.		SEC.	_	SEC.		SEC.		SEC.	-	SEC.
TIME TO REDUCE *		SEC.	_	SEC.		SEC.		SEC.		SEC.	-	SEC.
MINIMUM GAP		SEC.	_	SEC.	_	SEC.		SEC.	_	SEC.		SEC.

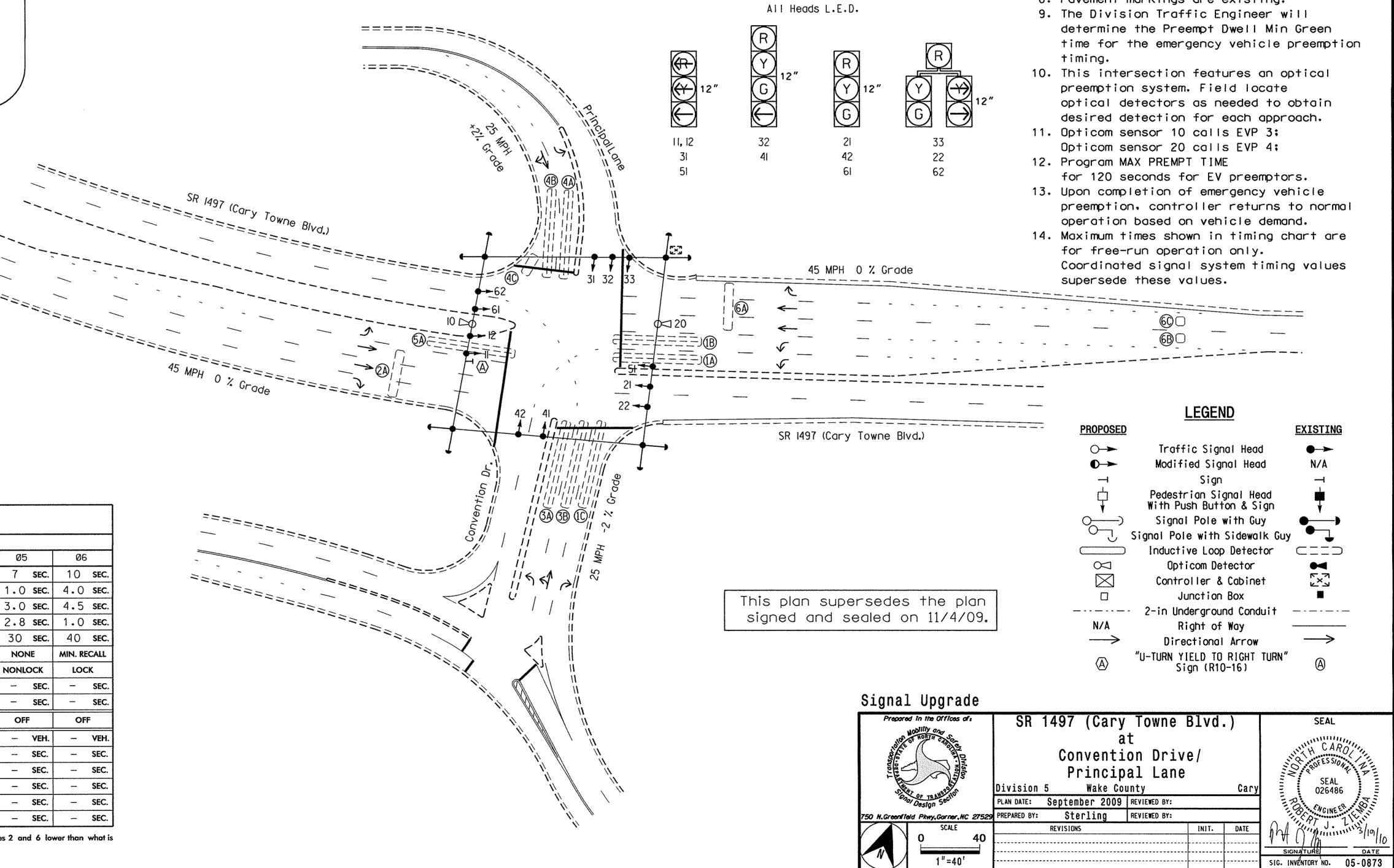
\* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

NEMA	LOOP	&	DETECTO	R II	NSTA	LLATION	CH
	20	70N	CONTROLLER	with	TS-2	CABINET	

NEMA									LLATI CABINET		HART
	INDUCTI	VE LOOF	<b>PS</b>						DETECT	OR UNITS	\$
	SIZE	ZE DIST. FROM STOPBAR TURNS Z PHASE Z FEATURE TIME									INHIBIT DELAY
LOOP NO.	(ft)	STOPBAR (ft)	TURNS	NEV	EXISTING	PHASE	ž	EXISTING	FEATURE	TIME	DURING GREEN?
IA	6X60	+5	2-4-2	-	Х	I	-	Х	-		NO
IB	6X60	+5	2-4-2	-	Х	1	-	Х	-	-	NO
IC	6X60	+5	2-4-2	-	X	1	-	Х	Delay	15	YES
2A	Exist	70	Existing	-	X	2	-	Х	-		NO
2B, 2C	6X6	300	5	χ	-	2	Х	-	Extend	1.6	NO
3A	6X60	+5	2-4-2	-	X	3	-	Х	-	-	NO
3B	6X60	+5	2-4-2	-	X	3	-	X	-	***	NO
4A, 4B	6X60	+5	2-4-2	-	X	4	-	Х	-	-	NO
4C	Exist	+5	Existing	-	X	4	-	X	Delay	15	YES
5A	6X60	+5	2-4-2	-	Х	5	-	Х	-	-	NO
6A	Exist	70	Existing	-	X	6	-	Х	-		NO
6B, 6C	6X6	300	5	Х	-	6	Х	-	Extend	1.6	NO

TABLE OF OPERATION										
				Ρ	HAS	E				
signal Face	Ø1+5	0 1 + 6	Ø2+5	Ø2+6	0 3	Ø 4	EI≯₽ 3	E > ₽ 4	FLAOT	
II <b>,</b> 12	4	+	<b>-</b> ₽	₽	₽	<del>-R</del>	╉	<b>4</b>	<del>-R</del>	
21	R	R	G	G	R	R	G	R	Y	
22	R	R	G	G	R	R	G	R	Y	
31	<del>-</del> R-	<del>-</del> ₽	<del>-</del> R-	<del>-</del> R-		₽₽	<del>-</del> R-	₹R	<b>-</b> ₽	
32	R	R	R	R	G	R	R	R	R	
33	RZ.	R	R	R	G	R	R	R	R	
41	R	R	R	R	R	G	R	R	R	
42	R	R	R	R	R	G	R	R	R	
51		<del>-</del> ₽	4	<del>-</del> R	₽R	₽		<del>-R</del>	<del>⊀R</del>	
61	R	G	R	G	R	R	R	G	Y	
62	R	G	R	G	R	R	R	G	Y	





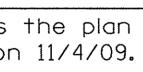
	PROJECT REFERENCE NO.	SHEET NO
6 Phase	36249.2810	Sig. 72
Fully Actuated		
With Emergency Vehicle Preemptic	on	

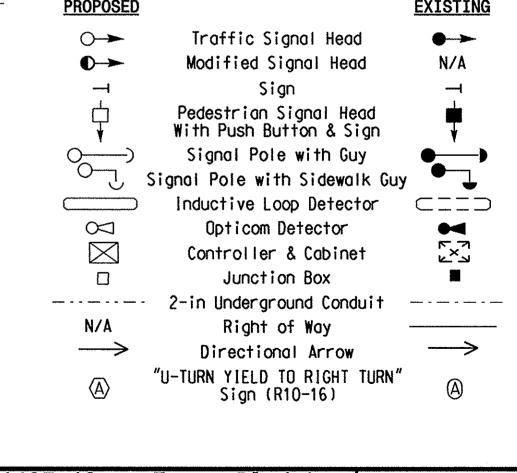
# (Cary Signal System)

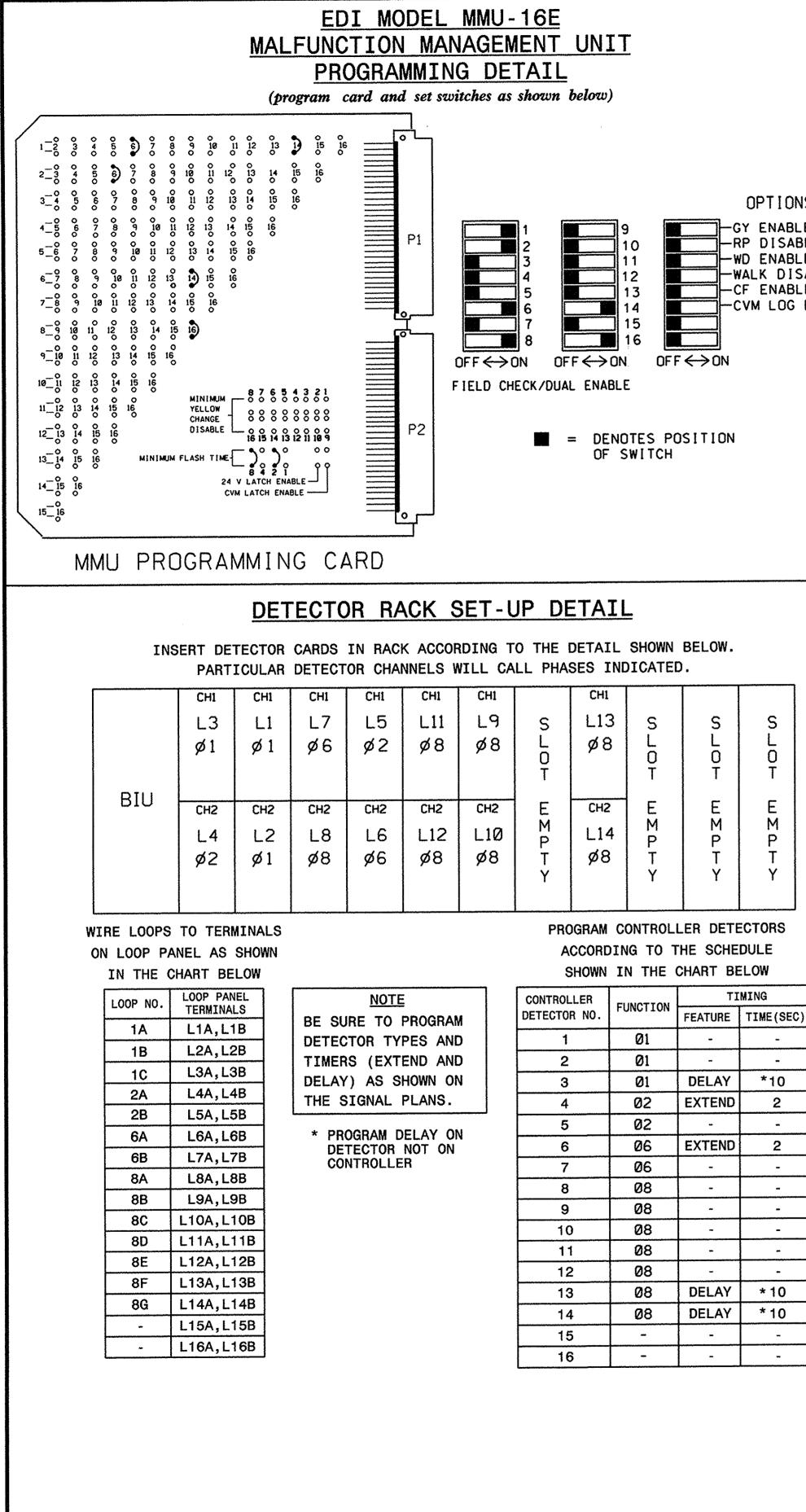
### NOTES

- 1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- 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. The order of phase 3 and phase 4 may be reversed.
- 5. Renumber existing loops as shown.
- 6. Set all detector units to presence mode. 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. Pavement markings are existing.
- 9. The Division Traffic Engineer will

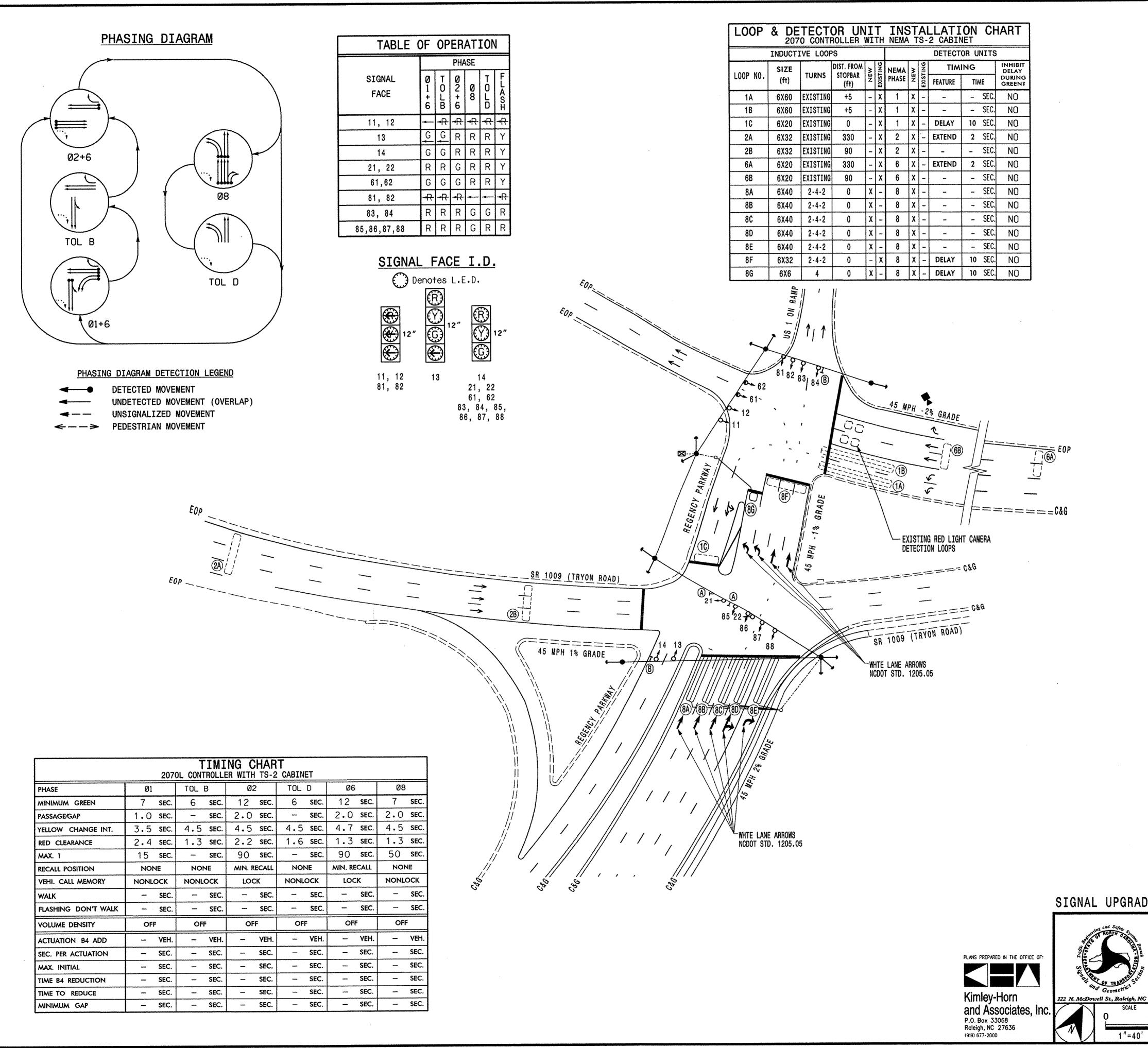
 -	-	-	-	-	~	 		
							60	
 -	-	-	-	-	-	 -	(B)	







	NOTEO																	PR	ROJECT I	REFERENCE	NO. SHEET NO.
	<b>NOTES</b> 1. TO PREVENT "FLASH-CONFLICT" PROBLEMS, WIRE ALL UNUSED LOAD																		;	36259	SIG. 2
	SWITCHES TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.				F	IEL	.D C	CONN		ΓΙΟΙ	N H	100	<-UF	> C	HAR	T					
	2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE	PHASE	1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OLA	01	B	OLC	0	LD	
	UNUSED LOAD SWITCH RED OUTPUTS 3,4,5,7,9,10,11,12,13 & 15 TO LOAD SWITCH AC+ BY INSERTING A JUMPER PLUG IN THE UNUSED	SIGNAL HEAD NO.	11,12	21,22	NU	NU	NU	61,62	NU I	85,86 87,88	NU	NU	NU	NU	NU	13	14	NU	81,82	83,84	
٧S	LOAD SWITCH SOCKET FROM PIN 1 (LS AC+) TO PIN 3 (RED OUT). MAKE SURE ALL FLASH TRANSFER RELAYS ARE IN PLACE.	GREEN		2G				6G		8G						14G	14G			16G	
.E BLE	3. PROGRAM CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.	YELLOW		2Y				6Y		8Y						14Y	14Y			16Y	
ABLE	4. SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE	RED		2R				6R		8R						14R	14R			16R	
.E DISABLE	MALFUNCTION MANAGEMENT UNIT. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.	RED ARROW	1R																16R		
	5. ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT,	YELLOW ARROW	1Y																16Y		
	FOR ALL PHASES.	GREEN ARROW	1G													14G			16G		
	6. PROGRAM DETECTORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ACCOMPLISH THE DETECTION SCHEMES SHOWN ON	×.																			
	THE SIGNAL DESIGN PLANS.	<b>*</b>																			
	7. PROGRAM DETECTOR CALL DELAY AND EXTENSION TIMING ON THE CONTROLLER, UNLESS OTHERWISE SPECIFIED.	NU = N	OT USE	D																	
	8. SET ALL DETECTOR CARD UNIT CHANNELS TO "PRESENCE" MODE.																				
	9. PROGRAM CONTROLLER AND WIRE CABINET TO BE PART OF THE												VER DET								
	CARY SIGNAL SYSTEM. 10. PROVIDE ALL CABLING AND ADAPTERS FOR CABINET COMPATIBILITY								(progr	ram (	contro	oller d	as sho	wn)							
	WITH EXISTING 2070L (LN2) CONTROLLER. 11. THERE IS A RED LIGHT CAMERA IN USE AT THIS INTERSECTION.	(program controller as shown) FROM THE MAIN MENU, PRESS '2' FOR CONTROLLER SUBMENU, AND THEN PRESS '5' FOR OVERLAP DATA OVERIAP B																			
	THE INTERFACE BETWEEN THIS SIGNAL AND THE CAMERA SYSTEM SHALL BE DESIGNED AND INSTALLED BY OTHERS.	OVERLAP B         OVERLAP B         OVERLAP DATA         1         OVERLAP DATA         OVERLAP B.         OVERLAP B.         OVERLAP DATA         OVERLAP B.         O																			
	EQUIPMENT INFORMATION																				
	CONTROLLEREXISTING 2070L (LN2)																				
	CABINETEAGLE TF5116TNC-CARY06 TS2-1 (NC8A) SOFTWAREECONOLITE ASC/2070							• • •	• •	•	•	• •	• •	•	•••						
	CABINET MOUNTBASE							LAG/ LAG/	NCE GI LEAD LEAD	GREEN YELLO	TIME W TIM	R	0.0 6.0 4.5	) 5							
	LOAD SWITCHES USED1,2,6,8,14,16 PHASES USED1,2,6,8						ADD	LAG/ ITIONA	LEAD		IMER		1.3		· · · · ·						
	OLA					[		1		OVER					1 1 1						
	OLC					OVE		D		ROLLE				7	89	1 1 0 1	1				
-						STA PRO	NDARD	 D	••	•	•	•••	•••	•	× •	•••	•				
-						ENA	BLE L	AG	• •	•	•	• •	• •	•	· · × ·	• •	•				
-						SPA	RE		NCE G				•••		•••	• •	•				
	LOAD SWITCH ASSIGNMENT DETAIL (program controller according to schedule in chart below)						ADD	LAG/	LEAD	GREEN YELLO RED T	TIME W TIM	R	6.( 4.5 1.(	) 5							
4	LOAD SWITCH FUNCTION										ROGF	RAMM	ING C	OMP	LETE			1			
4	1 Ø 1								[	TUTO		тртса	ישמי וו	ΔΤΙ	IS FO	R					
	2 Ø2 3 Ø3								-	THE S	IGNA	L DES	SIGN:	05	5-1094						
	4 Ø 4 5 Ø 5									DESIG SEALE	D:	5/9/	NUAR) 2005		5						
	6 Ø6 7 Ø7									REVIS	SED:	N/A	<b>\</b>								
	8 Ø8 9 Ø2 PED				0.7.	<b>ON A 1</b>	UDAD														
	10 Ø 4 PED 11 Ø 6 PED					GNAL	AND PI	AUE ROGRAM DETAILS			21	<b>२</b> १ १	)00	( T P	YON	R0/	וחא			S	EAL
	12 Ø 8 PED										UI			AT			,			NORTH NORTH	CAROLIN S
	13 OLA 14 OLB	PLANS PREPAR	ED IN THE O	FFICE OF:		State OF	NORTH C	Streetin Br		14101-	Ni #	RE				NAY		^		0 0	SEAL 24910
	15 OLC 16 OLD	Kimley-	Horn			Lange Contraction		and a	Ρ	IVISIO LAN DATE REPARED	: JA		2005		INTY EVIEWED B' EVIEWED B'		A HUL De Mar	TGREN	ARY	O APEN	CINEF Brock House
		and As	sociate	es, Inc.		isnals M	or man	Real Section	F		R	EVISIONS					JE MAR INIT.	DAT		5 m	1~~~ 5/9/05
		P.O. Box 3: Raleigh, NC (919) 677-200	27636		122 N.	McDowe	ll St., Ra	leigh, NC	27603		· · · · · · · · · ·	•••••			•••••		•••••			SIGNATUR	E DATE



1	
	PHASE
	MINIMUM GRE
	PASSAGE/GAP
	YELLOW CHAN
	RED CLEARAN
	MAX. 1
	RECALL POSITIO
	VEHI. CALL ME

		207	DL CONT		R WITH		CABIN	ET				
PHASE	Ø1		TOL	в	02		TOL	D	Ø6		08	
MINIMUM GREEN	7	SEC.	6	SEC.	12	SEC.	6	SEC.	12	SEC.	7	SEC.
PASSAGE/GAP	1.0	SEC.	_	SEC.	2.0	SEC.		SEC.	2.0	SEC.	2.0	SEC.
YELLOW CHANGE INT.	3.5	SEC.	4.5	SEC.	4.5	SEC.	4.5	SEC.	4.7	SEC.	4.5	SEC.
RED CLEARANCE	2.4	SEC.	1.3	SEC.	2.2	SEC.	1.6	SEC.	1.3	SEC.	1.3	SEC.
MAX. 1	15	SEC.		SEC.	90	SEC.	-	SEC.	90	SEC.	50	SEC.
RECALL POSITION	NON	٩E	NO	٩E	MIN. R	ECALL	NON	1E	MIN. RE	CALL	NON	١E
VEHI. CALL MEMORY	NONLOCK		NONLOCK		LOCK		NONLOCK		LOCK		NONLO	оск
WALK		SEC.	-	SEC.	_	SEC.	-	SEC.		SEC.	_	SEC.
FLASHING DON'T WALK		SEC.	-	SEC.		SEC.		SEC.		SEC.		SEC.
VOLUME DENSITY	OF	:	OFF		OF	F	OF	:	OF	:	OFF	
ACTUATION B4 ADD		VEH.		VEH.		VEH.		VEH.		VEH.	-	VEH.
SEC. PER ACTUATION	-	SEC.		SEC.		SEC.	_	SEC.	-	SEC.	_	SEC.
MAX. INITIAL		SEC.		SEC.	-	SEC.		SEC.		SEC.		SEC.
TIME B4 REDUCTION		SEC.	. —	SEC.	-	SEC.		SEC.		SEC.	-	SEC.
TIME TO REDUCE	—	SEC.		SEC.		SEC.		SEC.		SEC.		SEC.
MINIMUM GAP	-	SEC.	ŧ	SEC.	-	SEC.	_	SEC.	_	SEC.		SEC.

		PROJECT REFERENCE NO.	SHEET NO.
		36259	SIG. 1
	3 PHASE		
	FULLY ACTUATED		
	(CARY SIGNAL SYSTEM)		
	NOTES		
	1. Refer to "Cary Signal System Project Spe	cial Provisions"	
	dated April 17, 2003, the "Roadway Stand NCDOT" dated January 2002, and the "Stan	dard	
	Specifications for Roads and Structures" 2002, and all subsequent addenda to the	documents.	
	<ol><li>Do not program signal for late night fla operation unless otherwise directed by t</li></ol>	he Engineer.	
	<ol> <li>Set all detector units to presence mode.</li> <li>In the event of loop replacement, refer</li> </ol>	to the Signals and	
	Geometrics Design Manual and submit a Pl to the Signals and Geometrics Section.	an of Record	
	<ol> <li>Locate new cabinet so as not to obstruct of vehicles turning right on red.</li> </ol>		
	<ol> <li>Remove existing Combined Through and Lef</li> <li>Maximum times shown in timing chart are</li> </ol>	for free-run	•
	operation only. Coordinated signal syst shall supersede these values.	em timing values	
	8. Install thermoplastic pavement markings navement markings and raised reflective	markings shown	
	are a representation of actual placement NCDOT Roadway Standard Drawings for actu	; criteria. Refer to	
	Remove existing pavement markings as nee 9. Modify signal heads 61 and 62 to add LED	eded.	
	modules. 10. Red light camera contractor is responsib		
	in cabinet.		
	PLAN QUANTITIES		
	Pay Item Feet		
	Signal Cable 1430		
	Messenger Cable O		,
	Lead-in Cable 500		
	LEGEND		
	PROPOSED	EXISTING	
	Curb & Gutter		
	●→ Modified Signal Head	N/A	
	Sign	Т Д	
	☐ Pedestrian Signal Head ↓ With Push Button & Sign		
	, Signal Pole with Guy	Guy •	
	Inductive Loop Detector	• •	
	Controller & Cabinet		、
	Junction Box	• • • • • • • • • • • • • • • • • • •	
	N/A Right of Way		
	> Directional Arrow 		
	⟨A⟩ No Left Turn Sign (R3-2)	) A	
	(B) No Right Turn Sign (R3-2) N/A Red Light Camera	2) ®	
	N/A Red Light Camera	<b>1</b>	
)E			
		SEAL	
	SR 1009 (TRYON ROAD) AT	BTH CARO	IN TO
	REGENCY PARKWAY	SEAL	
	DIVISION 5 WAKE COUNTY	CARY CARY	
	PLAN DATE: JANUARY 2005 REVIEWED BY:	CALL AND AND A	N Street

40'

SCALE

1"=40'

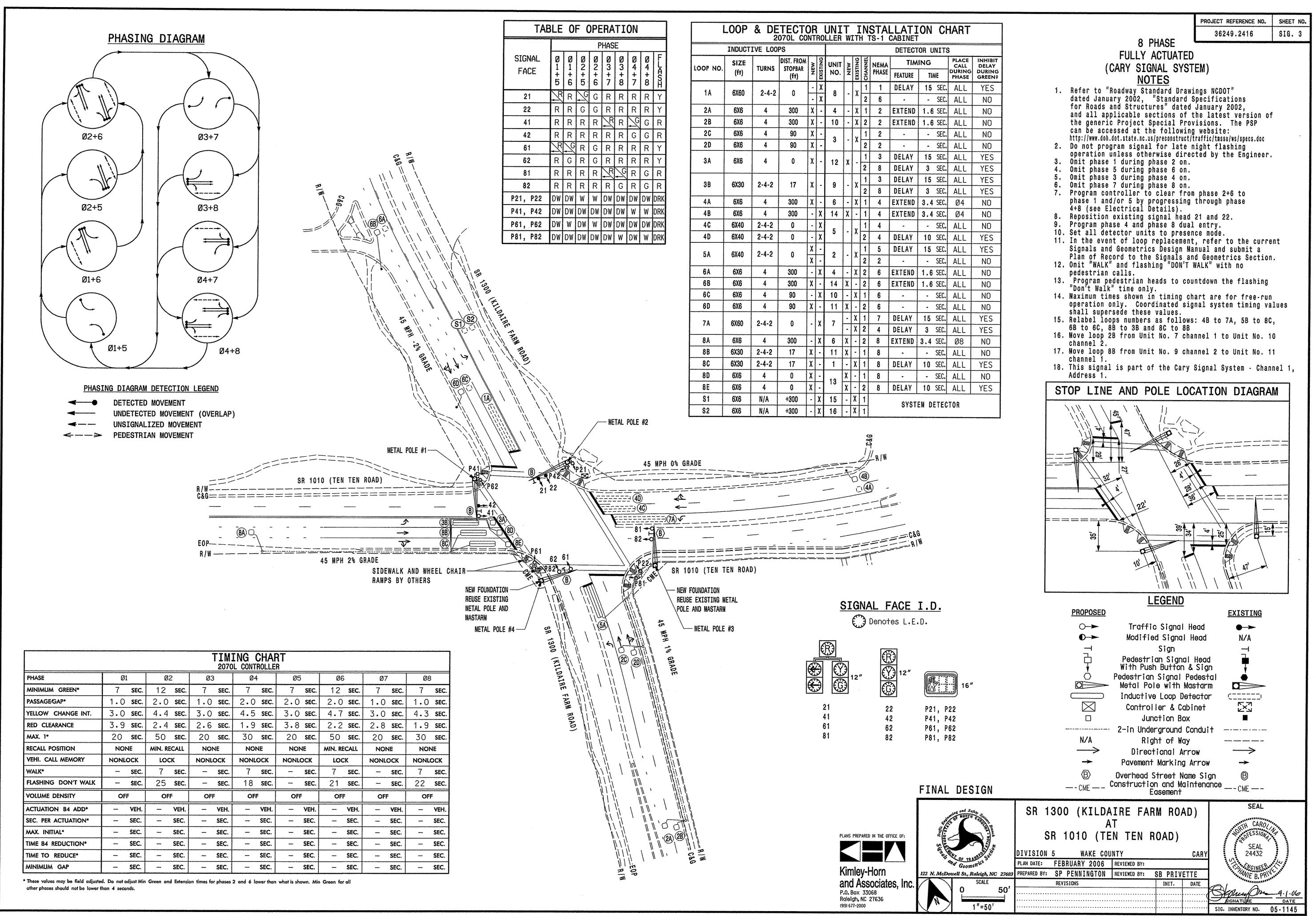
122 N. McDowell St., Raleigh, NC 27603 PREPARED BY: SP PENNINGTON REVIEWED BY: SB PRIVETTE REVISIONS INIT. DATE SIG. INVENTORY NO. 05-1094

	PD4 PLAS PREARED IN THE OFFICE OF Reference of Associates, Inc. Prove Box 33068 Reference of Crases Reference of Crases	LOGIC GROUND CIATED PHASE GREEN LOAD THE ASSOCIATED PHASE GREEN LOAD REQUIRED UNLESS OTHERWISE SPECIFIED CHART. HBIT WIRE SHALL NOT BE CONNECTED.
VERLAP CARD SHALL BE COMPLETELY BLANK (NO OVERLAPS) DESIGNED: FEBRUARY : SEALED: 9/1/2006 REVISED: N/A	PD2 PD2 PD2 PD2 PD2 PHASE 6 PED BUTTONS AC- (ON POLE) PD3 PD3 PD3 PD3 PD3 PD2 BUTTONS AC- (ON POLE)	FOR DETECTORS         LOOP PANEL         LOOP PANEL         TERMINATION         AC+         AC+         AC+         AC-         AC-         LOOP         AC+         LOOP         HASSIS GROUND         LOOP         LOOP         LOOP         LOOP         LOOP
O OL D OL C OL B OL A RING 2 RING 1 RING 2 RING 1 RING 2 RING 1 87654321 87654321 87654321 87654321	AC-	FOR PANEL, EXCEPT FOR PHASE D Part No. IN4005.
NEMA OVERLAP CARD		* SEE NOTE IBELOW
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.		GRD. (B-9) 6 VEH. CALL (C-4) LOOP
COUNTDOWN PEDESTRIAN SIGNAL OPERATION	PEDESTRIAN PUSH-BUTTON WIRING DETAIL	/EH. CALL (B-4)
3. IT IS REQUIRED FOR THE CONTROLLER TO BE PROGRAMMED SUCH THAT IF IT IS IN PHASE 2+6. THEN PHASE 1 AND/OR 5 CANNOT BE SERVED NEXT WITHOUT FIRST PROGRESSING THROUGH PHASE 4. THIS ADDITIONAL BACK-UP PROTECTION FEATURE SHALL BE IMPLEMENTED IN THE WRITE-PROTECT AREA OF THE CONTROLLER SOFTWARE. FOR DIRECTIONS ON HAVING THIS FEATURE INSTALLED. CONTACT THE NCDOT TRAFFIC ELECTRONICS REPAIR CENTER AT: (919) 233-0884.	LOAD SWITCHES USED1.2.3.4.5.6.7.8.13.14.15.16 PHASES USED1.2.3.4.5.6.7.8.2PED.4PED.6PED.8PED OVERLAP ANOT USED OVERLAP BNOT USED OVERLAP CNOT USED OVERLAP DNOT USED	3) ALL (D-4)
-UP FEATURE DESCRIBED IN NOTE DTECTION GROUP 1' AND 'BACK PRI R SUBMENU	TONS	01 <sup>4</sup> /b-3) /EH. CALL (B-4) /ED. COP
A TRUGRAM CUNTRULLER TO UMIT PHASE I DURING PHASE 2 UN. AND TO OMIT PHASE 3 DURING PHASE 4 ON. AND TO OMIT PHASE 5 DURING PHASE 6 ON. AND TO OMIT PHASE 7 DURING PHASE 8 ON.	UIPMENT INFORMAT	RING DETAIL
SPECIAL BACK-UP PROTECTION NOTES	7. SET ALL DETECTOR UNIT CHANNELS TO "PRESENCE" MODE. 8. PROGRAM PHASES 4 AND 8. ON CONTROLLER UNIT. FOR DUAL ENTRY.	
= NOT USED	DN THE SIGNAL DESIGN PLANS.	
136     146     156       138     146     156       138     148     158	TECTORS IN ACCOR TIONS TO ACCOMPL	
	5. ENABLE SIMULTANEDUS GAP-DUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.	
RED ARROW ARROW ARROW IY 3Y 5Y 7Y	<ol> <li>SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE CONFLICT MONITOR. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.</li> </ol>	)
26 66	3. PROGRAM CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.	0 120
P41, P61, P42 P62	2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS. TIE UNUSED LOAD SWITCH RED OUTPUTS 9.10.11 AND 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.	1
FIELD CONNECTION HOOK-UP CHART	1. TO PREVENT "FLASH-CONFLICT" PROBLEMS. WIRE ALL UNUSED PHASES AND OVERLAPS TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.	LAD elow)
PROJECT REFERENCE NO. SHEET NO. 36249.2416 SIG. 4	NOTES	NONITOR

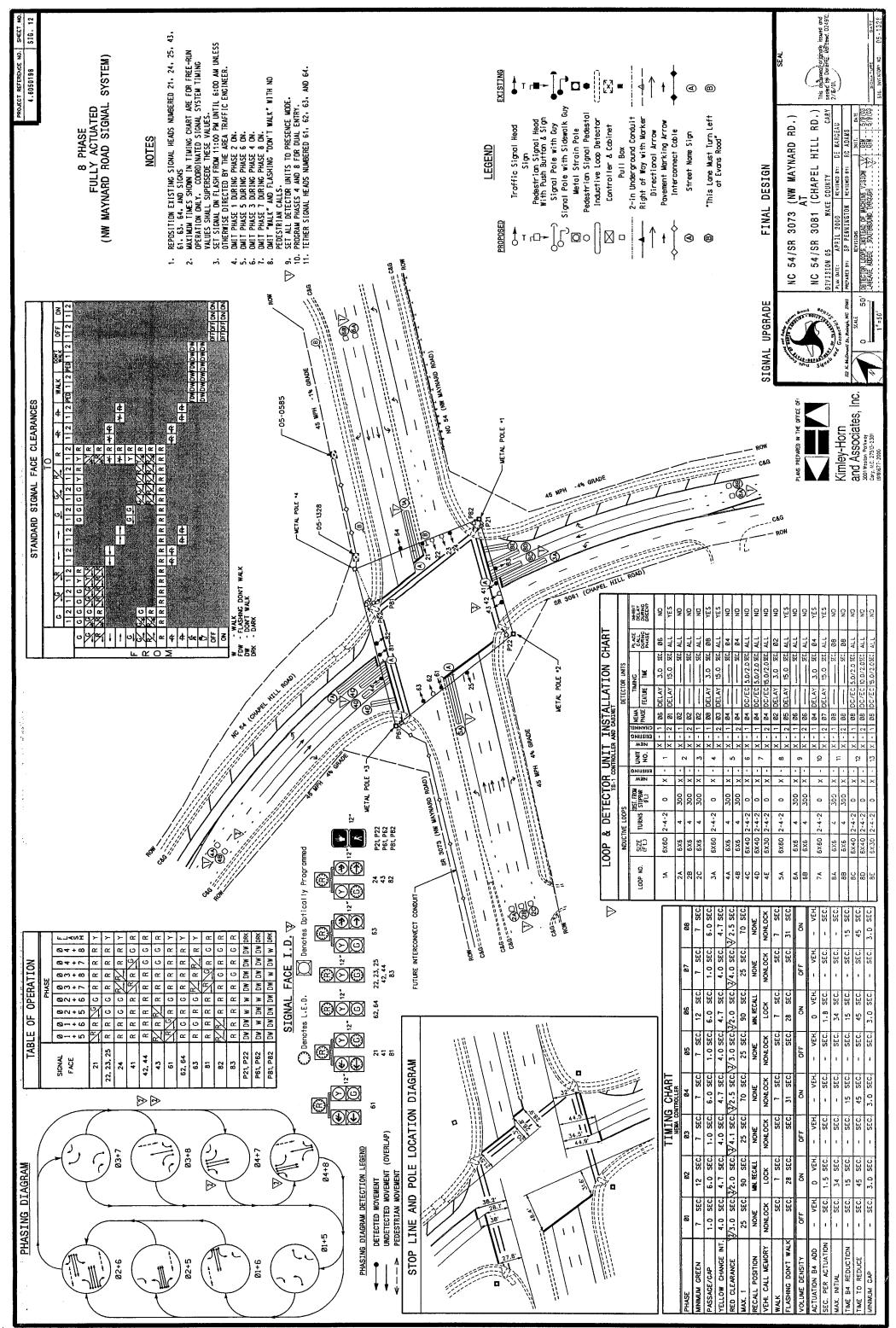
INSM - 12E CONFLICT MO EPIOGRAMMING CAT (install jumpers at shoen bdd (install jumpers) (install jumpers) (instal
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t:/000signals/011899008-1010 & kildaire/05-1145\_2006.ele

6/1/5006

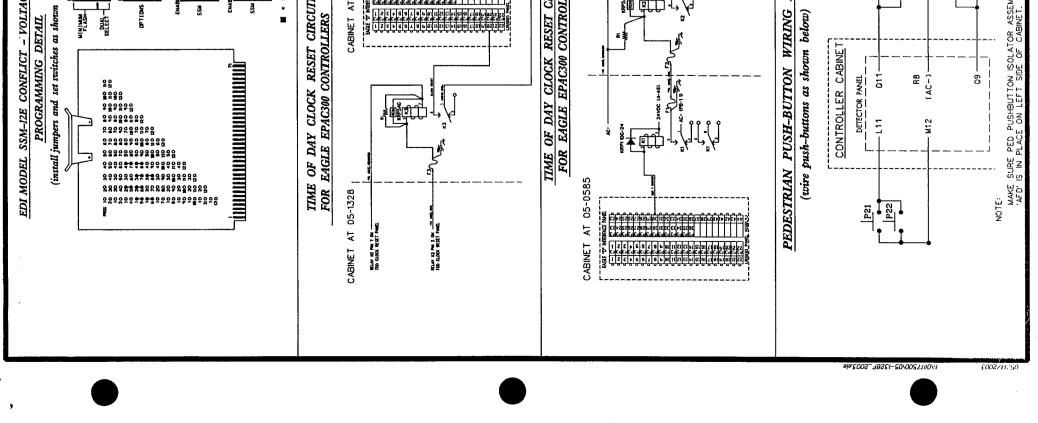


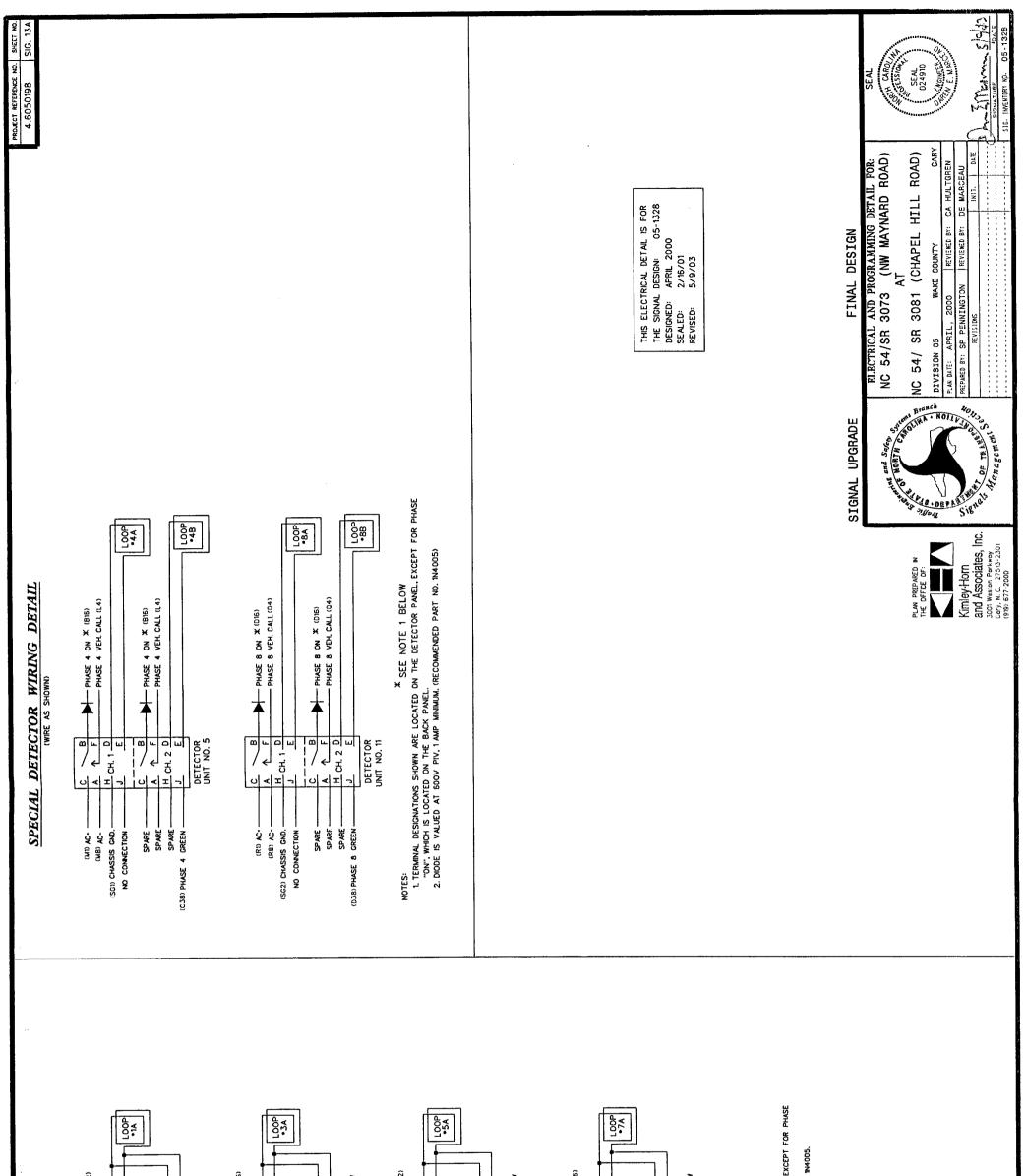
															مرسم
					•		ING (								
PHASE	Ø	l	Ø	2	Ø3	}	Ø4		Ø5	,	Øe	;	Ø7		
MINIMUM GREEN*	7	SEC.	12	SEC.	7	SEC.	7	SEC.	7	SEC.	12	SEC.	7	SEC.	
PASSAGE/GAP*	1.0	SEC.	2.0	SEC.	1.0	SEC.	2.0	SEC.	2.0	SEC.	2.0	SEC.	1.0	SEC.	
YELLOW CHANGE INT.	3.0	SEC.	4.4	SEC.	3.0	SEC.	4.5	SEC.	3.0	SEC.	4.7	SEC.	3.0	SEC.	
RED CLEARANCE	3.9	SEC.	2.4	SEC.	2.6	SEC.	1.9	SEC.	3.8	SEC.	2.2	SEC.	2.8	SEC.	
MAX. 1*	20	SEC.	50	SEC.	20	SEC.	30	SEC.	20	SEC.	50	SEC.	20	SEC.	
RECALL POSITION	NOI	NE	MIN. RE	CALL	NON	NE	NON	٩E	NOM	NE	MIN. RE	CALL	NOM	٩E	
VEHI. CALL MEMORY	NONL	оск	LOC	ж	NONL	оск	NONLO	ОСК	NONL	оск	LOC	ж	NONL	оск	
WALK*		SEC.	7	SEC.	_	SEC.	7	SEC.	_	SEC.	7	SEC.	_	SEC.	
FLASHING DON'T WALK	-	SEC.	25	SEC.		SEC.	18	SEC.		SEC.	21	SEC.	-	SEC.	
VOLUME DENSITY	OF	F	OF	F	OF	-	OFF		OF	5	OF	:	OF	:	
ACTUATION B4 ADD*	-	VEH.		VEH.	-	VEH.		VEH.	_	VEH.		VEH.	_	VEH.	
SEC. PER ACTUATION*		SEC.		SEC.	_	SEC.		SEC.		SEC.	_	SEC.	-	SEC.	
MAX. INITIAL*		SEC.		SEC.	_	SEC.		SEC.	-	SEC.	_	SEC.	-	SEC.	
TIME B4 REDUCTION*		SEC.		SEC.	_	SEC.		SEC.		SEC.	-	SEC.		SEC.	
TIME TO REDUCE*		SEC.		SEC.		SEC.	—	SEC.		SEC.	_	SEC.		SEC.	
MINIMUM GAP		SEC.		SEC.		SEC.	_	SEC.		SEC.		SEC.		SEC.	



pis.coo2\_182E1-20/00217110/:

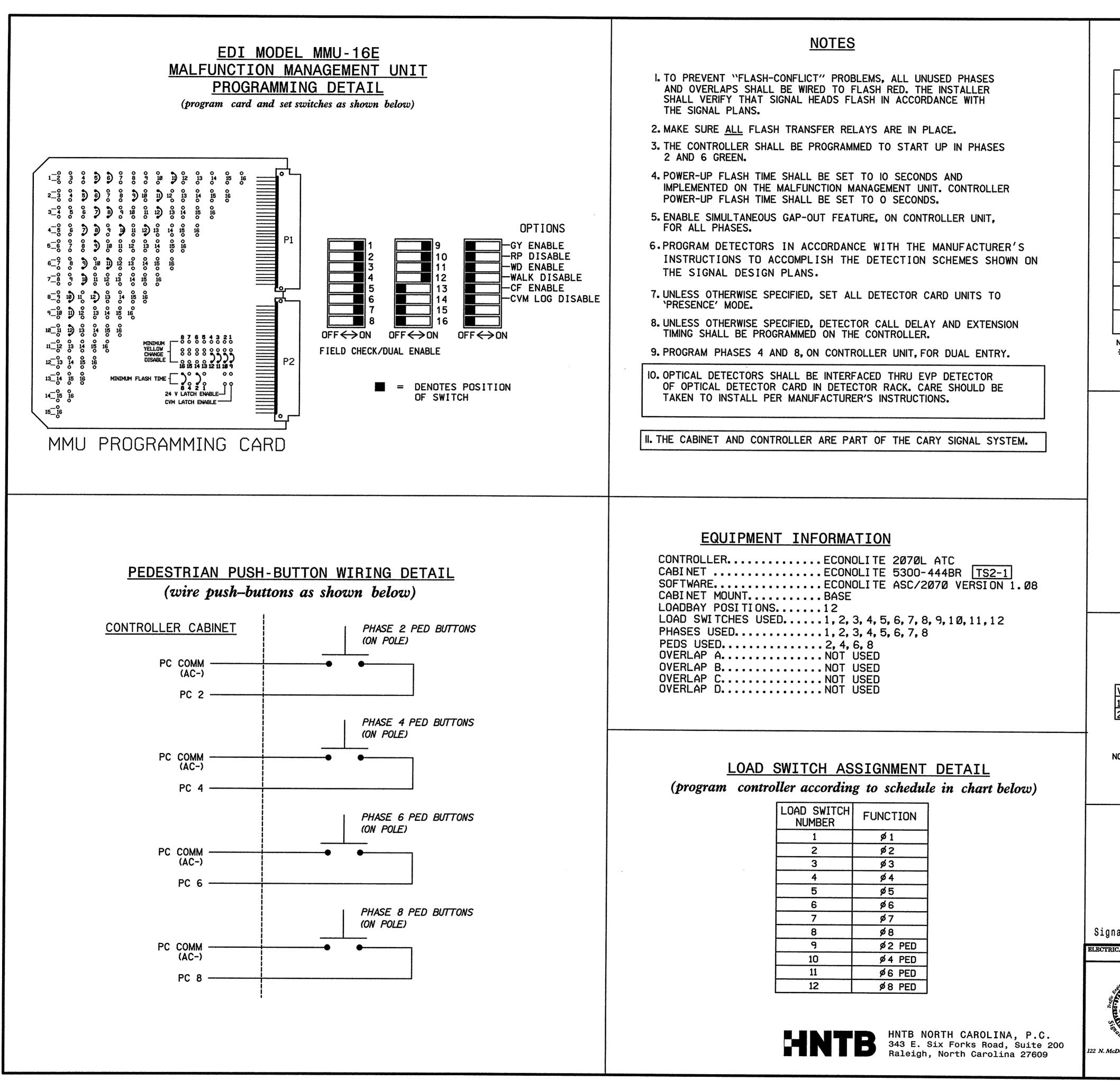
PROJECT REFERENCE NO.     PROJECT REFERENCE NO.     SHET NO.       4.6050198     \$16.13       THELD CONNECTION HOOK-UP CHART	ASE         I         2         3         4         5         6         7         8         0.4         D.         MU         MU         61         82         21/22         24         81         41,442         21         43         61.65         41         63         81.82         NU         MU         MU         61         82         21/22         24         81         41,442         21         43         61.65         41         63         81.82         NU         MU         MU           EN         20         40         40         60         60         80         81         81         MU         MU </th <th>EQUIPMENT INFORMATION       LOAD RESISTOR         CONTROLLER       EXISTING EAGLE EPAC 300 M34       INSTALLATION DETAIL         CABINET       EXISTING EAGLE FF4016TNCO101       EXISTING EAGLE FF4016TNCO101         CABINET       MOUNT       EXISTING EAGLE FF4016TNCO101         CABINET       MOUNT       EXISTING EAGLE FF4016TNC0101         CABINET       MOUNT       BASE         LOADBAY POSITIONS       IS       PHASE 3 RED (3R)         LOADBAY POSITIONS       IS       PHASE 3 RED (3R)         DOL/A       NOT USED       NOT USED       AC-         OL/C       NOT USED       AC-       AC-         NOT USED       AC-</th> <th>THIS ELECTRICAL DETAL IS FOR THE SIGNAL DESIGN: 05-1328 DESIGNED: APRL 2000 SEALED: 2/16/01 REVISED: 5/9/03</th> <th>Russ Repare N if o FIGINAL UPGRADE     FINAL DESIGN       Russ Repare N if o FIGINAL     DESCRIMANTING DETAIL FOR       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL</th>	EQUIPMENT INFORMATION       LOAD RESISTOR         CONTROLLER       EXISTING EAGLE EPAC 300 M34       INSTALLATION DETAIL         CABINET       EXISTING EAGLE FF4016TNCO101       EXISTING EAGLE FF4016TNCO101         CABINET       MOUNT       EXISTING EAGLE FF4016TNCO101         CABINET       MOUNT       EXISTING EAGLE FF4016TNC0101         CABINET       MOUNT       BASE         LOADBAY POSITIONS       IS       PHASE 3 RED (3R)         LOADBAY POSITIONS       IS       PHASE 3 RED (3R)         DOL/A       NOT USED       NOT USED       AC-         OL/C       NOT USED       AC-       AC-         NOT USED       AC-	THIS ELECTRICAL DETAL IS FOR THE SIGNAL DESIGN: 05-1328 DESIGNED: APRL 2000 SEALED: 2/16/01 REVISED: 5/9/03	Russ Repare N if o FIGINAL UPGRADE     FINAL DESIGN       Russ Repare N if o FIGINAL     DESCRIMANTING DETAIL FOR       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL       Russ Repare N if o FIGINAL     Russ Repare N if o FIGINAL
<b>NOTES</b> 1. TO PREVENT "FLASH-CONFLICT" PROBLEMS, ALL UNUSED PHASES AND OVERLAPS SHALL BE WIRED TO FLASH RED. THE INSTALLER SHALL VERFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.	<ol> <li>TO PREVENT RED FALURES ON UMSED MONTOR CHANNELS, TE UNUSED VEHICLE LOAD SWITCH AC: BY NESETING A JUMER PLUG II &amp; 12 OL LOAD SWITCH AC: BY NESETING A JUMER PLUG IN THE UNASED VEHICLE LOAD SWITCH SOCKET FROM PN I (LS AC:) TO PN 3 RED OUT). MAKE SURE <u>ALL</u> FLASH TRANSFER RELAYS ARE IN PLACE.</li> <li>THE CONTROLLER SHALL BE PROGRAMED TO START UP IN PHASES 2 AND 6 GREEN.</li> <li>POWER-UP FLASH TIME SHALL BE PROGRAMED TO START UP IN PHASES 2 AND 6 GREEN.</li> <li>POWER-UP FLASH TIME SHALL BE SET TO DO SECONDS AND MPLEMENTED ON THE CONFLICT UNONTOR. CONTROLLER POWER- UP FLASH TIME SHALL BE SET TO OD SECONDS AND MPLEMENTED ON THE CONFLICT WONTOR. CONTROLLER DWER- UP FLASH TIME SHALL BE SET TO 0 SECONDS AND MPLEMENTED ON THE CONFLICT WONTOR. CONTROLLER UNIT, FOR ALL PHASES.</li> <li>ENABLE SMULTANEOUS CAPOUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.</li> <li>ENABLE SMULTANEOUS CAPOUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.</li> <li>ENABLE SMULTANEOUS CAPOUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.</li> <li>BE SURE TO PROGRAMED TO BE COORDINATED WITH 05-0558 AND 5F-1956. COORDINATION SHALL BE TIME BASED WITH HARD WITH 05-0558 AND 15-1956. COORDINATION SHALL BE TIME BASED WITH HARD WITH 05-0558 AND 15-1956. COORDINATION SHALL BE TIME BASED TO PRATI NO KREMING.</li> <li>BE SURE TO PROGRAMED TO BE COORDINATED WITH 05-0558 AND 15-1956. COORDINATION SHALL BE TIME BASED TO PRATI NO. KREPAGUT.</li> <li>BE SURE TO PROGRAMED TO BE TO PART NO. 52-28605 FOR RELAY 52-28650 FOR BASE.</li> <li>DOT PART NO. KREPAG. WITH A 277E122 BASE. DOT PART NO. 52-28605 FOR RELAY 52-28650 FOR BASE.</li> <li>BART NO. KREPAGUT.</li> <li>RELAY SC 2 AND KR RELAY SCIEZ BASE. DOT PART NO. 52-28605 FOR RELAY 52-28650 FOR BASE.</li> <li>RELAY SCIEZ BASE. DOT PART NO. 52-28605 FOR RELAY 52-28650 FOR RELAY 52-286</li></ol>	vi	BACK-UP PROTECTION WIRING DETAIL       INNER AS SHOWN       INNER AS SHOWN       PHASE 2 OW       PHASE 2 OW     PHASE 1 OWT       PHASE 2 OW     PHASE 2 OW       PHASE 3 OW     PHASE 2 OW       PHASE 3 OW     PHASE 3 OW	PIN FUNCTION     TERMINATION       AC+     AC+       AC-     AC+       AC-     AC-       CHASSIS GROUND     CHASSIS GROUND       LOOP INPUT     LOOP       LOOP INPUT     LOOP       RELAY DOMALY DFEN     VEHICLE CALL INPUT       RELAY DOMANLY DFEN     VEHICLE CALL INPUT       RELAY DOMANLY DFEN     VEHICLE CALL INPUT       RELAY DOMANLY DFEN     VEHICLE CALL INPUT       RELAY DOP ANDIO INHIBIT     ASSOCIATED PHASE GREEN LOAD       NOTES     TIMING INHIBIT     ASSOCIATED PHASE GREEN LOAD       NOTES     THE THANG INHIBIT     ASSOCIATED PHASE GREEN LOAD       NOTES     THE THANG NEW RE SHALL BE CONNECTED TO THE ASSOCIATED PHASE GREEN LOAD       SWITCH OUTPUT WHEN WER SHALL BE CONNECTED TO THE ASSOCIATED PHASE GREEN LOAD       SWITCH OUTPUT WHEN NET ALL AND NO SCHAL DESCIN LOAD       NLOOP AND DETECTOR UNIT I
rAGE MONITOR m below)	In the second se			ESEMBLY ET.





WIRING DETAIL TOWN)	X Phase 6 GRN. DRVER(1032) Phase 6 VEN. Call (02)	- LOGIC GND. (M10) - PHASE TVEH. CALL (L1) - Sef NOTF TRETOW	B CRN. DR	- LOGIC GNO.MUD) - PHASE 3 VEH. CALL (1.3) X SEE NOTE 1 BELOW	HHASE 2 GRN, DRIVER(C32) PHASE 2 VEN, CALL (12) 	X SEE NOTE 1 BELOW	M PHASE 4 GRN. DRIVER (1916) PHASE 4 VEN. CALL (14) 	* SEE NOTE 1 BELOW	ON THE DETECTOR PANEL, ED CK PANEL. JJ. RECOMMENDED PART NO. 1	
SPECIAL DETECTOR WIRI (WIRE AS SHOWN)	(R3) AC- (R7) AC- (R3) A	SP ARE SP ARE SP ARE ASE 1 GREEN		SPARE C C F C F C F C F C F C F C F C F C F	(M11) AC. (M11) AC. (M7)	2 TECTO	(MI) AC. (MB) AC. (MC) (MC) (MC) (MC) (MC) (MC) (MC) (MC)	DETECTO	NDTES: 1. FERMINAL DESIGNATIONS SHOWN ARE LOCATED ON THE DETECTOR GREEN DRAVER, WHICH IS LOCATED ON THE BACK PANEL. 2. DIODE IS VALUED AT 600V PV, 1 AMP (MINIMUM). RECOMMENDED P	

##E002 JB251-S0/0051111011



PROJECT REFERENCE NO.

-PHASE 5 RED

(5R)

#### SHEET NO. sig. 35

		FI	EL	C C	ONN	NEC.	TIO	N F	1001	K-U	IP (	CHA	RT		
PHASE	1		2		3	4	5	6	7	,	8	2 PED	4 PED	6 PED	8 PED
SIGNAL HEAD NO.	61	82	21,22 23	31	23	41,42	21	61,62 63	71,72	63	81,82	P21, P22	P4I, P42	P61, P62	P81, P82
RED	*		2R			4R	*	6R			8R				
YELLOW			2Y			4Y		6Y			8Y				
GREEN			2G			4G		6G			8G				
RED ARROW				3R					7R				-		
YELLOW ARROW	1Y	1Y		3Y	3Y		5Y		7Y	7Y					
GREEN ARROW	1G	1G		3G	3G		5G		7G	7G					
¥												9R	10R	11R	12R
Ŕ												9G	10G	11G	12G

\* A LOAD RESISTOR SHALL BE INSTALLED ON LOAD SWITCHES I AND 5 RED FIELD TERMINALS. REFER TO LOAD RESISTOR INSTALLATION DETAIL THIS SHEET.

# SPECIAL BACK-UP PROTECTION NOTES

- 1. PROGRAM CONTROLLER TO OMIT PHASE 1 DURING PHASE 2 ON. AND PHASE 5 DURING PHASE 6 ON.
- 2. TO ACCOMPLISH BACK-UP FEATURE DESCRIBED IN NOTE 1. ENABLE 'BACK-UP PROTECTION GROUP 1' UNDER CONTROLLER SUBMENU 9: 'OPTION DATA'.

3. IT IS REQUIRED FOR THE CONTROLLER TO BE PROGRAMMED SUCH THAT IF IT IS IN PHASE 2+6, THEN PHASE 1 AND/OR 5 <u>CANNOT</u> BE SERVED NEXT WITHOUT FIRST PROGRESSING THROUGH PHASE 4+8. THIS ADDITIONAL BACK-UP PROTECTION FEATURE SHALL BE IMPLEMENTED IN THE WRITE-PROTECT AREA OF THE CONTROLLER SOFTWARE. FOR DIRECTIONS ON HAVING THIS FEATURE INSTALLED, CONTACT THE TOWN OF CARY ENGINEERING DEPARTMENT AT: (919) 469-4030.

# LOAD RESISTOR INSTALLATION DETAIL

ACCEPTABLE	VALUES	5	PHASE 1 RED (1R)
VALUE (ohms)	WATTAGE	$\geq$	
1.5K - 1.9K	25W (min)	$\leq$	
2.ØK - 3.ØK	10W (min)	$\leq$	
		AC-	

NOTE: THE PURPOSE OF THESE RESISTORS IS TO LOAD THE CHANNEL RED MONITOR INPUTS IN ORDER FOR THE MALFUNCTION MANAGEMENT UNIT TO USE THE FULL SIGNAL SEQUENCE MONITORING CAPABILITY ON PHASES THAT DO NOT USE THE RED DISPLAY IN THE FIELD.

> THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-1339 DESIGNED: July 2006 SEALED: 09-05-06 **REVISED:**

Signal Upgrade - Sheet 1 of 3

CAL AND PROGRAMMING DETAILS FOR:	SR		a	rrison t ynard R			SEAL MARTH CAROL PRINCESSION
	Division 5 PLAN DATE:			County		Cary lodevick	Phillipperson Burling
Hanagement Secu	PREPARED BY:		errell	REVIEWED BY:	<u>H.L. W</u>	linstead	L. WINSTERNUM
Vanagenvo <sup>n</sup> Dowell St., Raleigh, NC 27603		REVISION	<u>s</u>		INIT	• DATE	HUINTERAC 9/18/06 SIGNATURE DATE SIG. INVENTORY NO. 05-1339

# **DETECTOR RACK SET-UP DETAIL**

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

	CH1	CHA	CHC								
	L3	L1	L7	L5	L11	L9	L15	L13	EVP3	EVP5	S
	ø1	ø1	Ø 5	ø2	ø6	ø4	Ø 8	ø7	ø1,6	ø3,8	Ĺ
DTU											Т
BIU	CH2	CHB	CHD	Е							
	L4	L2	L8	L6	L12	L10	L16	L14	EVP4	EVP6	M P
	ø2	ø6	ø2	ø 4	ø7	ø6	øЗ	ø8	ø2,5	ø4,7	Ť
		*	*								Ŷ

#### WIRE LOOPS TO TERMINALS ON LOOP PANEL AS SHOWN TN THE CHAPT DELOW

IN THE C	HART BELOW
LOOP NO.	LOOP PANEL TERMINALS
10	L1A, L1B
111	L2A, L2B
1B	L3A, L3B
2A,2B	L4A, L4B
2C,2D	L5A, L5B
4A	L6A, L6B
50	L7A, L7B
Эп	L8A, L8B
4B	L9A, L9B
6A,6B	L10A, L10B
6C,6D	L11A, L11B
7A	L12A, L12B
7B	L13A, L13B
8A	L14A, L14B
8B	L15A, L15B
ЗA	L16A, L16B
S31	L17A, L17B
S32	L18A, L18B
	L19A, L19B
	L20A, L20B
	L21A, L21B
	L22A, L22B
	L23A, L23B
	L24A, L24B
	LOOP NO. 1A 1B 2A,2B 2C,2D 4A 5A 4B 6A,6B 6C,6D 7A 7B 8A 8B 3A 8B 3A

# **NOTE**

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

#### ASSIGN CONTROLLER SYSTEM DETECTORS TO LOCAL CONT. DET. NUMBERS AS SHOWN IN CHART BELOW CONTROLLER LOCAL CONT. SYS. DET. NO. DETECTOR NO. 1 17 2 19

6	18
3	
4	
5	
6	
7	
8	

\_\_\_\_

\* THIS DETECTOR IS EQUIPPED WITH DELAY AND EXTEND TIMERS. PROGRAM THE TIMING REQUIRED FOR THIS DETECTOR CHANNEL ON THE DETECTOR UNIT, NOT THE CONTROLLER.

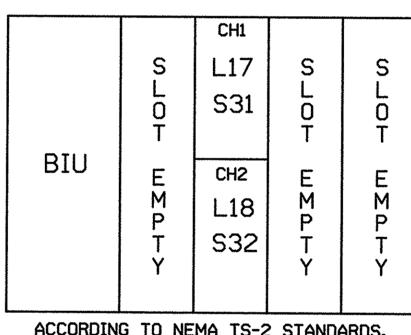
•

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

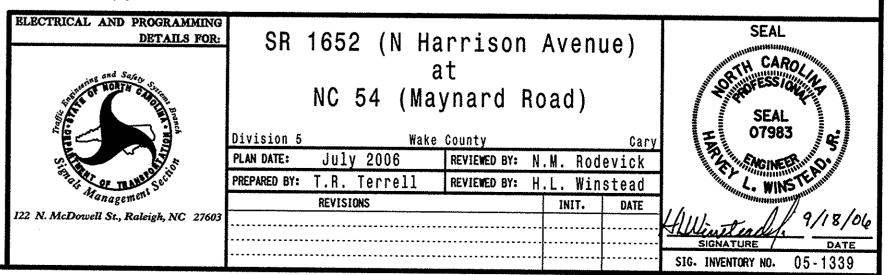
	SHOWN IN THE CHHNI DELOW							
	CONTROLLER	FUNCTION	TI	MING				
	DETECTOR NO.	FUNCTION	FEATURE	TIME (SEC)				
	1	ø 1	DELAY	15				
	* 2	Ø6	DELAY	3				
	3	ø 1	DELAY	15				
	4	ø2	EXTEND	1.6				
	5	ø2						
	6	ø4						
	7	Ø5	DELAY	15				
	* 8	ø2	DELAY	3				
7	9	ø 4	DELAY	1Ø				
	10	Ø6	EXTEND	1.6				
	11	ø6						
4	12	ø7	DELAY	3				
-	13	ø7						
4	14	Ø 8						
1	15	Ø 8						
1	16	øЗ						
]	17	SYS. DET.						
	18	SYS.DET.						
	19							
	2Ø							
	21							
	22							
	23							
	24							

# DETECTOR RACK NO.2 SET-UP DETAIL

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



ACCORDING TO NEMA TS-2 STANDARDS, THIS RACK SHALL BE ADDRESSED AS "9"





HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609

PROJECT	REFERENCE NO.	SHEET NO.
		sig.36

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-1339 DESIGNED: July 2006 SEALED: 09-05-06 **REVISED:** 

#### Signal Upgrade - Sheet 2 of 3

### PREEMPTOR SUBMENU

1. PRIORITY PMT 1	5. PRIORITY PMT 5
2. PRIORITY PMT 2	6. PRIORITY PMT 6
3. PRIORITY PMT 3	7. BUS PREEMPTORS
4. PRIORITY PMT 4	

PRIORITY	PR	EE	MP	то	R	3				1	1	1	-
PHASE	1	2	3	4	5	6	7	8	9		1	2	
TERM PHASE OVLP	٠	٠	•	•	•	٠	•	•	•	•	•	•	
TRK CLR PHASE	•	٠	٠	•	•	•	٠	•	•	•	•	٠	
HOLD PHASES	Х	٠	٠	٠		Х	•	•	٠	•	•	•	
EXIT PHASES	٠	٠	٠	•	•	•	•	•	•	•	٠	•	
EXIT CALLS	•	•	•	•	•	•	•	•	•	•	•		
SPARE	•	•	٠	٠	•	•	•		•	•	•	•	
TERM OVERLAP	ļ	:	•	E	3:	•	C	:	•	C	):	٠	
ACTIVEY	ES	F	PEC	) [	)AF	к.		••		N	10		
PRIORITY	NO	F	PEC			٦I	/E.			N	10		
DET LOCK Y		-				21				•	10		
HOLD FLASH	NO	F	ъС	Tł	IRI	JY	(EL	LC	JW.	, <b>`</b>	/ES	S	
TERM OVLP ASAP.	NO	1	ſEF	RM	Pł	A	SES	5		, <b>`</b>	ES	S	
ADDITIONAL PAGE	S)												
		1											-

PRIORITY PREEMPTOR	3
DON'T OVERRIDE FLASH	X
FLASH ALL OUTPUTS	•
YELLOW-RED GOES GREEN	•
ENABLE MAX PREEMPT TIME	YES
ACTIVE ONLY DURING HOLD	•
NO CVM IN FLASH	•
FAST FLASH GRN ON HOLD	•
OUT OF FLASH	GREEN

ADDITIONAL PAGE(S)

PRIORIT	Y PR	EEMPTOR 3
MAX TIME	120	DURATION TIME 0
MIN HOLD TIME.	5	DELAY TIME 0
MIN PED CLEAR.	14	INHIBIT TIME 0
EXIT MAX	0	HLD DELAY TIME. O
	GR	N YEL RED
MINIMUM		1 0.0* 0.0*
TRACK CLEAR		0 0.0 0.0
HOLD		0.0* 0.0*
LINKED PREEMPTO	0R	0
END OF SUBMENU		

return to Preemptor Submenu

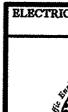
**\*** TIME DEFAULTS TO TIME USED FOR PHASE DURI

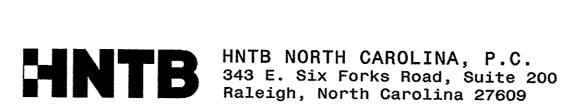
ECONTROL PRODUCTS, INC. ECONOLITE ASC/2070 EMERGENCY VEHICLE PREEMPTOR PROGRAMMING DETAIL

(program controller as shown below)

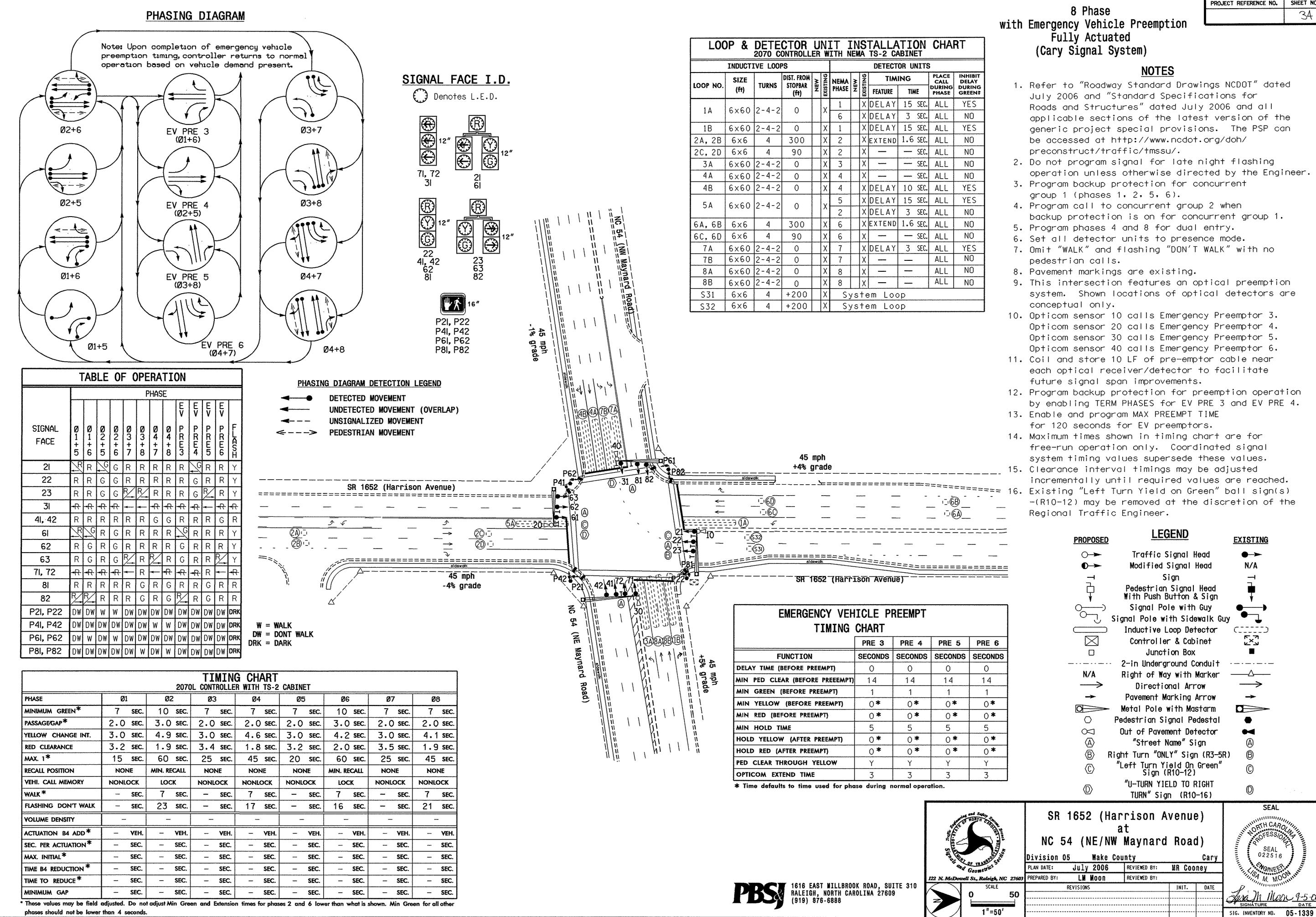
PREEMPTOR SUBMENU	PREEMPTOR SUBMENU	PREEMPT
1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1
2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY PMT 2
3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3
4. PRIORITY PMT 4		
	4. PRIORITY PMT 4	4. PRIORITY PMT 4
		<b>-</b>
PRIORITY PREEMPTOR 4	PRIORITY PREEMPTOR 5 1 1 1	PRIORITY PRE
PHASE 123456789012	PHASE 123456789012	PHASE 1
	TERM PHASE OVLP	TERM PHASE OVLP .
IRK CLR PHASE.	TRK CLR PHASE.	TRK CLR PHASE
HOLD PHASES   X   X   X     EXIT PHASES   X   X   X	HOLD PHASES X X	HOLD PHASES
EXIT CALLS	EXIT PHASES EXIT CALLS	EXIT PHASES
SPARE	SPARE	EXIT CALLS
TERM OVERLAP A: B: C: D: .	TERM OVERLAP A: B: C: D:	TERM OVERLAP A
CTIVEYES PED DARK NO	ACTIVE	ACTIVEYES
PRIORITY NO PED ACTIVE NO	PRIORITY NO PED ACTIVE NO	PRIORITY NO
DET LOCKYES ZERO PC TIME NO	DET LOCK YES ZERO PC TIME NO	DET LOCKYES
OLD FLASH NO PC THRU YELLOW. YES	HOLD FLASH NO PC THRU YELLOW. YES TERM OVLP ASAP. NO TERM PHASES NO	HOLD FLASH NO
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	TERM OVLP ASAP. NO
		ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 4	PRIORITY PREEMPTOR 5	PRIORITY P
DON'T OVERRIDE FLASH X	DON'T OVERRIDE FLASH X	
FLASH ALL OUTPUTS	FLASH ALL OUTPUTS	DON'T OVERRIDE FL.
YELLOW-RED GOES GREEN		FLASH ALL OUTPUTS
ENABLE MAX PREEMPT TIME YES	ENABLE MAX PREEMPT TIME YES	YELLOW-RED GOES G ENABLE MAX PREEMP
ACTIVE ONLY DURING HOLD	ACTIVE ONLY DURING HOLD.	ACTIVE ONLY DURIN
NO CVM IN FLASH	NO CVM IN FLASH	NO CVM IN FLASH
FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD	FAST FLASH GRN ON
OUT OF FLASH GREEN	OUT OF FLASH GREEN	OUT OF FLASH
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
	L]	
PRIORITY PREEMPTOR 4	PRIORITY PREEMPTOR 5	PRIORITY P
MAX TIME 120 DURATION TIME 0	MAX TIME 120 DURATION TIME 0	MAX TIME 120
MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5
MIN PED CLEAR. 14 INHIBIT TIME O	MIN PED CLEAR. 14 INHIBIT TIME 0	MIN PED CLEAR. 14
EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. O	EXIT MAX 0
GRN YEL RED	GRN YEL RED	G
MINIMUM 1 0.0* 0.0*	MINIMUM 1 0.0* 0.0*	MINIMUM
TRACK CLEAR 0 0.0 0.0	TRACK CLEAR 0 0.0 0.0	TRACK CLEAR
HOLD 0.0* 0.0*	HOLD 0.0* 0.0*	HOLD
LINKED PREEMPTOR0	LINKED PREEMPTOR0	LINKED PREEMPTOR
	END OF SUBMENU	END OF SUBMENU
END OF SUBMENU		
END OF SUBMENU return to Preemptor Submenu	return to Preemptor Submenu	end og
	return to Preemptor Submenu	end o

PROGRAM EXTEND TIME ON OPTICAL DETECTOR UNIT FOR 3.0 SEC.



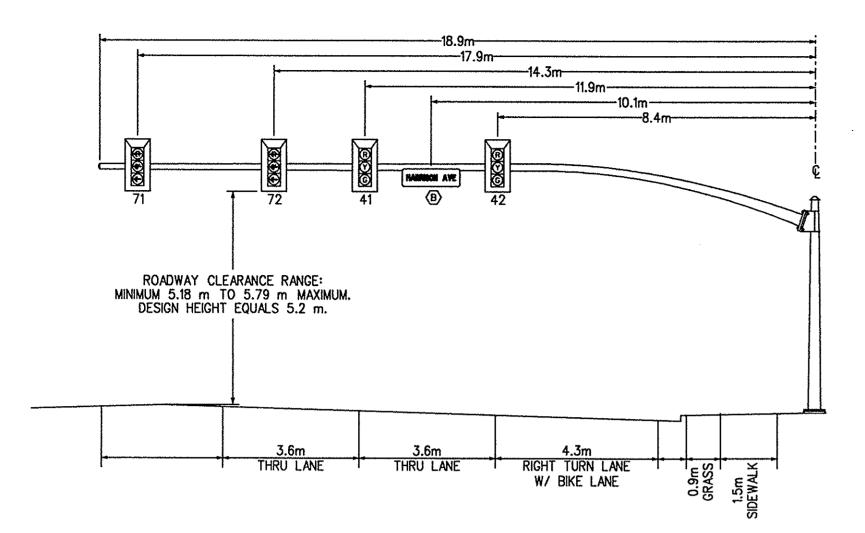


	PROJECT REFERENCE NO.	SHEET NO.
		Sig. 37
PREEMPTOR SUBMENU		
PMT 1 5. PRIORITY PMT 5		
PMT 2 6. PRIORITY PMT 6		
PMT 3 7. BUS PREEMPTORS		
PMT 4		
RITY PREEMPTOR 6		
123456789012		
VLP		
E		
··· · · · X · · X · · · · ·		
••• • • • • • • • • • • • •		
••• • • • • • • • • • • • • •		
A: . B: . C: . D: .		
YES PED DARK NO		
NO PED ACTIVE NO		
YES ZERO PC TIME NO		
AP. NO TERM PHASES NO		
AP. NO TERM PHASES NO		
ORITY PREEMPTOR 6		
UNTEL FILLMETUR D		
RIDE FLASH X		
OUTPUTS		
GOES GREEN		
PREEMPT TIME YES		
Y DURING HOLD FLASH		
GRN ON HOLD		
SH GREEN		
PAGE(S)		
DRITY PREEMPTOR 6		
120 DURATION TIME 0		
E. 5 DELAY TIME O		
R. 14 INHIBIT TIME 0		
O HLD DELAY TIME. O		
GRN YEL RED	THIS ELECTRICAL DETAIL IS FOR	
··· 1 0.0 <del>*</del> 0.0* ··· 0 0.0 0.0	THE SIGNAL DESIGN: Ø5-1339	
0.0* 0.0*	DESIGNED: July 2006	
MPTOR0	SEALED: Ø9-Ø5-Ø6 REVISED:	
INU		
end of programming		
one of programming		
Signal Upgrade - Sheet 3 of 3		
ELECTRICAL AND PROGRAMMING DETAILS FOR: SR 165	2 (N Harrison Avenue) SEAL	
	2 (N Harrison Avenue) at	MANDAN .
NC	54 (Maynard Road)	
	SEAL	
	Wake county Cary	/ <del>5</del> /
PREPARED BY: T.R.	Terrell REVIEWED BY: H.L. Winstead	EATT
122 N. McDowell St., Raleigh, NC 27603	IONS INIT. DATE	9/18/06
	SIGNATURE	DATE
	SIG. INVENTORY NO. O	5-1339

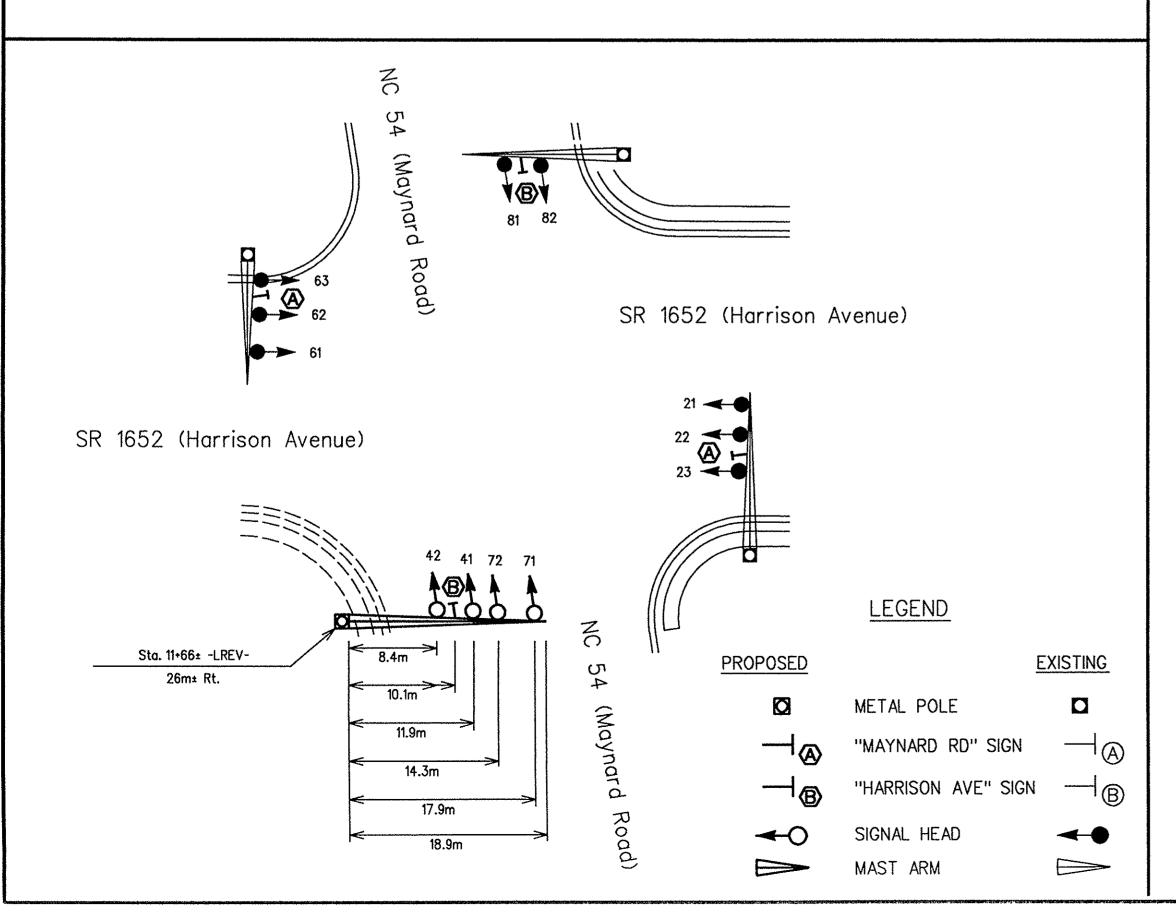


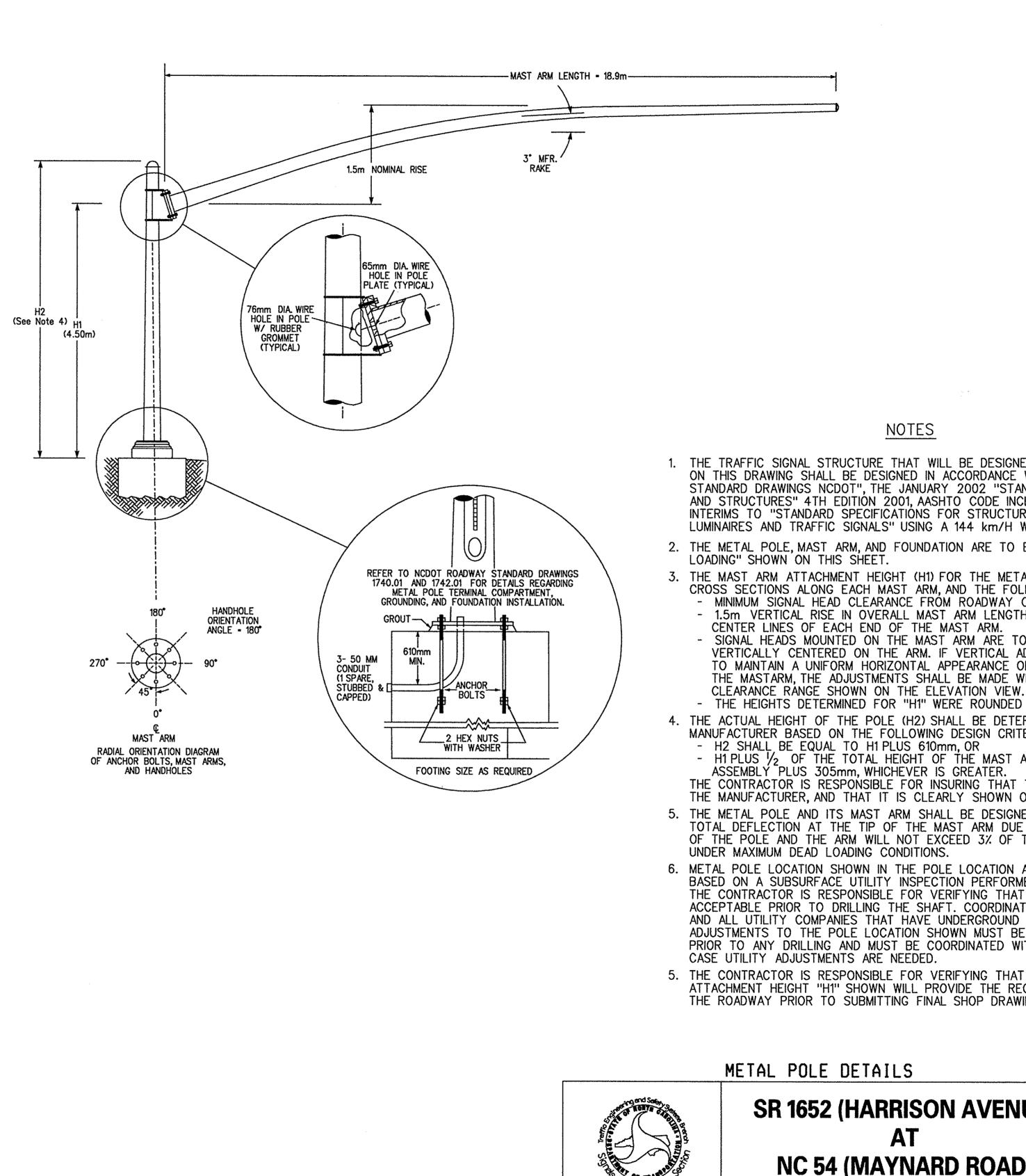
SIGNATURE DATE

#### ELEVATION VIEW: MAST ARM LOADING CONDITIONS



LOADING SCHEDULE - DESIGN LOAD					
05-1339 I.D. No.	DESCRIPTION	AREA (m <sup>2</sup> )	SIZE (mm)	WEIGHT (	(kg)
41, 42 71, 72	SIGNAL HEAD, 300mm - 3 SECTION, RIGID-MOUNTED WITH ASTRO-BRAC HANGERS, WITH BACKPLATES	0.9	660 W X 1350 L	27.2	
B	STREET NAME SIGN, REGULATORY, RIGID-MOUNTED WITH ASTRO-BRAC HANGERS 2mm ALUMINUM SHEETING	0.7	450 W X 1520 L	6.4	





X

NOT TO SCALE Prepared by

PLAN DATE:

PREPARED BY: R

122 N. McDowell St.

Raleigh, NC 27603

CHAS. H. SELLS, INC.

Consulting Engineers, Surveyors & Photogrammetrists CIVIL, STRUCTURAL, AND TRANSPORTATION ENGINEERING

PROJECT NO.	SHEET N
364249.2043	SIG-3

NOTES

1. THE TRAFFIC SIGNAL STRUCTURE THAT WILL BE DESIGNED USING THE INFORMATION SHOWN ON THIS DRAWING SHALL BE DESIGNED IN ACCORDANCE WITH THE JANUARY 2002 "ROADWAY" STANDARD DRAWINGS NCDOT", THE JANUARY 2002 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" 4TH EDITION 2001, AASHTO CODE INCLUDING ALL THE LATEST INTERIMS TO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" USING A 144 km/H WIND ZONE VELOCITY.

2. THE METAL POLE, MAST ARM, AND FOUNDATION ARE TO BE DESIGNED USING THE "DESIGN

3. THE MAST ARM ATTACHMENT HEIGHT (H1) FOR THE METAL POLE WAS DETERMINED USING CROSS SECTIONS ALONG EACH MAST ARM, AND THE FOLLOWING DESIGN CRITERIA: - MINIMUM SIGNAL HEAD CLEARANCE FROM ROADWAY OF 5.18m ASSUMED.

- 1.5m VERTICAL RISE IN OVERALL MAST ARM LENGTH AS MEASURED FROM THE CENTER LINES OF EACH END OF THE MAST ARM.

- SIGNAL HEADS MOUNTED ON THE MAST ARM ARE TO BE RIGID MOUNTED AND VERTICALLY CENTERED ON THE ARM. IF VERTICAL ADJUSTMENTS ARE REQUIRED TO MAINTAIN A UNIFORM HORIZONTAL APPEARANCE OF THE SIGNAL HEADS ALONG THE MASTARM, THE ADJUSTMENTS SHALL BE MADE WITHIN THE ROADWAY

- THE HEIGHTS DETERMINED FOR "H1" WERE ROUNDED UP TO THE NEAREST 0.25 METER. 4. THE ACTUAL HEIGHT OF THE POLE (H2) SHALL BE DETERMINED BY THE POLE

MANUFACTURER BASED ON THE FOLLOWING DESIGN CRITERIA:

- H1 PLUS 1/2 OF THE TOTAL HEIGHT OF THE MAST ARM GUSSET PLATE ASSEMBLY PLUS 305mm, WHICHEVER IS GREATER.

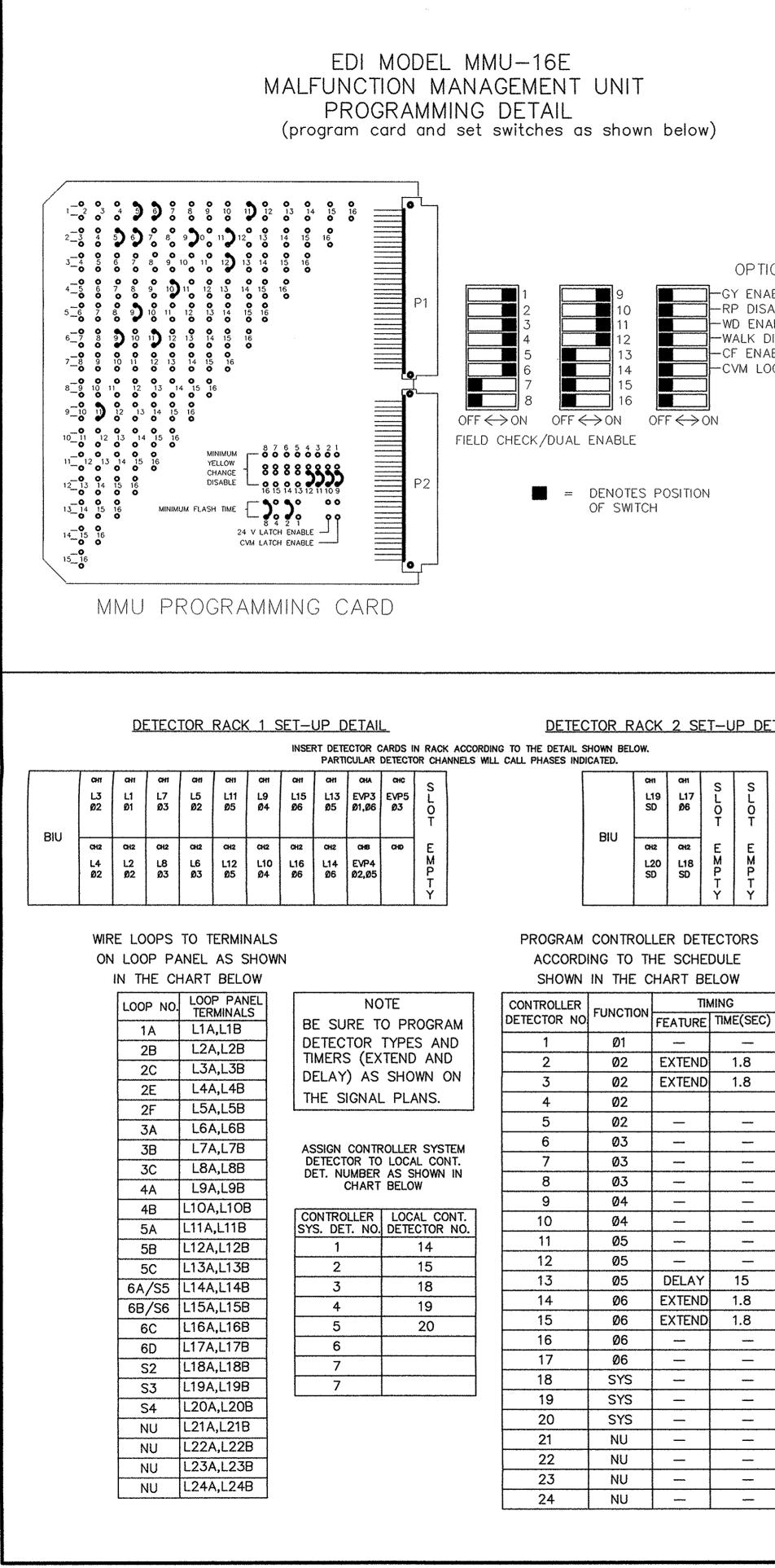
THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS INFORMATION IS RELAYED TO THE MANUFACTURER, AND THAT IT IS CLEARLY SHOWN ON THE SHOP DRAWINGS.

5. THE METAL POLE AND ITS MAST ARM SHALL BE DESIGNED SO THAT THE MAXIMUM TOTAL DEFLECTION AT THE TIP OF THE MAST ARM DUE TO THE COMBINED DEFLECTION OF THE POLE AND THE ARM WILL NOT EXCEED 3% OF THE TOTAL MAST ARM LENGTH UNDER MAXIMUM DEAD LOADING CONDITIONS.

6. METAL POLE LOCATION SHOWN IN THE POLE LOCATION AND ORIENTATION DETAIL ARE BASED ON A SUBSURFACE UTILITY INSPECTION PERFORMED AS PART OF THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE POLE LOCATION SHOWN IS ACCEPTABLE PRIOR TO DRILLING THE SHAFT. COORDINATE WITH LOCAL NCDOT ENGINEERS AND ALL UTILITY COMPANIES THAT HAVE UNDERGROUND UTILITIES IN THE AREA. ANY ADJUSTMENTS TO THE POLE LOCATION SHOWN MUST BE APPROVED BY THE ENGINEER PRIOR TO ANY DRILLING AND MUST BE COORDINATED WITH ALL UTILITY COMPANIES IN

5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE MAST ARM LENGTH AND ATTACHMENT HEIGHT "H1" SHOWN WILL PROVIDE THE REQUIRED VERTICAL CLEARANCE FROM THE ROADWAY PRIOR TO SUBMITTING FINAL SHOP DRAWINGS.

POLE DETAI	LS				
1652 (HAR C 54 (MA <sup>v</sup>	AT		-	SEAL	And the second se
MAY 2003	REVIEWED BY:			WGINE	
R. STRAUB	REVIEWED BY:			The same J. DICKING	
REVISIONS		INIT.	DATE	11-2-0	3
		•		SIGNATURE SIG. INVENTORY NO.	DATE Ø5-1339



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	NOTES			
	<ol> <li>TO PREVENT "FLASH-CONFLICT" PROBLEMS, WIRE ALL UNUSED LOAD SWITCHES TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.</li> </ol>			
	2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE UNUSED LOAD SWITCH RED OUTPUTS 7,8,13,14,15 AND 16 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.	PHASE         1         2           SIGNAL HEAD NO.         11         21,22         3		
OPTIONS	3. PROGRAM CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.	RED 2R		
É ENABLE P DISABLE D ENABLE NLK DISABLE	4. SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE MALFUNCTION MANAGEMENT UNIT. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.	YELLOW 2Y GREEN 2G RED ARROW 1R		
ENABLE M LOG DISABLE	5. ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.	YELLOW 1Y ARROW 1Y GREEN 1G ARROW 1G		
	6. PROGRAM DETECTORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ACCOMPLISH THE DETECTION SCHEMES SHOWN ON THE SIGNAL DESIGN PLANS.	*		
	7. PROGRAM DETECTOR CALL DELAY AND EXTENSION TIMING ON THE CONTROLLER, UNLESS OTHERWISE SPECIFIED.	NU = NOT USEI		
	8. SET ALL DETECTOR CARD UNIT CHANNELS TO "PRESENCE" MODE.			
	9. OPTICAL DETECTORS SHALL BE INTERFACED THRU EVP DETECTOR CONNECTION ON DETECTOR LOOP INTERFACE PANEL AND INSTALLATION OF OPTICAL DETECTOR CARD IN DETECTOR RACK. CARE SHOULD BE TAKEN TO INSTALL PER MANUFACTURE'S INSTRUCTIONS.	TO EN PROGR 1. PR		
	10. ENSURE OPTICAL DETECTORS ARE WIRED FOR PREEMPT INPUTS 3,4,&5 AS NEEDED	PEI		
P DETAIL	11. THE CABINET AND CONTROLLER ARE PART OF THE CARY SIGNAL SYSTEM. (CHANNEL 4 – ADDRESS 12)	2. PF PEI		
S L O T	EQUIPMENT INFORMATION	CONTROLLER CABINET		
E M P T Y	CONTROLLERCONTRACTOR SUPPLIED 2070L ATC CABINETCONTRACTOR SUPPLIED TS2-1 (NC8A) SOFTWAREECONOLITE ASC/2070 VERSION 1.00.05 CABINET MOUNTBASE LOADBAY POSITIONS16	AC PHASE 2 PED ISOLATOR INPUT		
DRS 2 /	LOAD SWITCHES USED1,2,3,4,5,6,9,10,11,12 PHASES USED1,2,3,4,5,6 PEDS USED	AC PHASE 4 PED ISOLATOR INPUT		
C(SEC)	OLBNOT USED OLCNOT USED			
8 .8	OLDNOT USED	C( Pl F(		
	LOAD SWITCH ASSIGNMENT DETAIL (program controller according to schedule in chart below)			
	LOAD SWITCH NUMBER FUNCTION			
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	nc def Divisio		
 15	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Final (		
.8 .8	5 Ø5 6 Ø6	Traffic		
.8 	7 Ø7 8 Ø8	Signal Upgrade –		
	9     2 PED     ELECTRICAL AND PROGRAMMING DETAILS FOR:       10     4 PED	ELECTRICAL AND PROGRAM DETAILS FO		
	116 PED123 PED	STATUS THE ROOT AND THE ROOT AN		
	13 OLA 14 OLB			
	15 OLC 16 OLD	122 N. McDowell St., Raleigh, NC		

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PEDECTRIZEMENT NO         DOK         UP         Chart No.           3         3         4         0         0         7         8         80         9         80         0         0         0         7         8         80         9         80         0         0         7         8         80         9         80         0         0         7         8         80         9         9         9         7         9         80         9																				
FIELD         CONNECTION         HOOK-UP         CHART           3         4         5         6         7         9         920         920         920         920         920         920         920         920         920         920         920         920         920         921 <td></td> <td>PRO</td> <td>JECT</td> <td>REFERI</td> <td>ENCE N</td> <td>10.</td> <td></td> <td></td>														PRO	JECT	REFERI	ENCE N	10.		
3         4         5         6         7         9         PED         PED         PED         OLA         OLS         OLA         OLA <thola< th=""> <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><b>I</b></td><td></td><td></td></th<></thola<>																		<b>I</b>		
3         4         5         6         7         9         PED         PED         PED         OLA         OLS         OLA         OLA <thola< th=""> <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<></thola<>																				
3         4         5         6         7         9         PED         PED         PED         OLA         OLS         OLA         OLA <thola< th=""> <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<></thola<>																				
3         4         5         6         7         9         PED         PED         PED         OLA         OLS         OLA         OLA <thola< th=""> <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<></thola<>																				
3         4         5         6         7         9         PED         PED         PED         OLA         OLS         OLA         OLA <thola< th=""> <th< td=""><td></td><td colspan="13">FIELD CONNECTION HOOK-UP CHART</td></th<></thola<>		FIELD CONNECTION HOOK-UP CHART																		
33.33       34       41       42       32.52       34       41.8       10							<b></b>							·······	3			010		
38         38         48         47         68         12<	2	31,32	33	34	41	42	51.52	34	61,62	NU	NU	P21.	P41,	P61,	P31,					
37         37         47         47         67           38         30         46         46         60         1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>F22</td><td>F42</td><td>F02</td><td>P 52</td><td></td><td></td><td></td><td></td><td></td></td<>												F22	F42	F02	P 52					
35         33         44         46         66           37         38         37 </td <td>-</td> <td></td>	-																			
38         38<	-					·														
y         y	-	70					50													
30         30         44         50         50         96         106         110         128           ED         PEDESTRIAN PROGRAMMING NOTES           NSURE THAT PHASE 3 PEDESTRIAN SIGNALS OPERATE PROPERLY, SRAM THE CONTROLLER AS FOLLOWS:         PROPERTY AND ACTIVATION TO PHASE 3 PEDESTRIAN CALLS.           PROGRAM THE CONTROLLER TO DIRECT PHASE 8         EDESTRIAN OUTPUTS TO LOAD SWITCH 12           PEDESTRIAN PUSH-BUTTON WIRING DETAIL (wire push-button os shown below)         PMSE 8 PED PUTTOR           REMEMBER ARE A PED PUTTOR         COMPLETAR A PUSH-BUTTON WIRING DETAIL (wire push-button os shown below)           REMEMBER ARE A PED PUTTOR         COMPLETAR A PUSH-BUTTON WIRING DETAIL (wire push-button os shown below)           REMEMBER ARE A PED PUTTOR         COMPLETAR A PUSH-BUTTON WIRING DETAIL (wire push-button os shown below)           REMEMBER ARE A PED PUTTOR         COMPLETAR A PUSH-BUTTOR           COLUNTDOWN PED BUTTORS         COMPLETAR A PUSH-BUTTORS           REMEMBER A PED PUTTORS         COMPLETAR A PUSH-BUTTORS           COLUNTDOWN PED BUTCHS         COMPLETAR A PUSH-BUTTORS           COLUNTDOWN PED BUTCHS         COMPLETAR A PUSH-BUTTORS           COLUNTDOWN PED BUTCHS         COMPLETAR A PUSH-BUTCHS           COLUNTDOWN PED BUTCHS         COMPLETAR A PUSH-BUTCHS           COLUNTDOWN PED BUTCHS         COMPLETAR A PUSH-BUTCHS           COLUNTDOWN PED	-							EV												
PEDESTRIAN PROGRAMMING NOTES PEDESTRIAN PROGRAMMING NOTES NSURE THAT PHASE 3 PEDESTRIAN SIGNALS OPERATE PROPERLY, SRAM THE CONTROLLER AS FOLLOWS: PROGRAM THE CONTROLLER TO CONVERT PHASE 8 EDESTRIAN COLTUNITOR OF PHASE 3 PEDESTRIAN CALLS. PROGRAM THE CONTROLLER TO DIRECT PHASE 8 EDESTRIAN OUTPUTS TO LOAD SWITCH 12  PEDESTRIAN OUTPUTS TO LOAD SWITCH 12  PEDESTRIAN OUTPUTS TO LOAD SWITCH 12  PEDESTRIAN PUSH_BUTTON WIRING DETAIL (wire publication of shown below)  SUBJECT OF MASSAGE REQUIRED ON MARKED PROFENSION SUBJECT OF THIS CONTROLLER COMMENT OF THE STRUCTURE  SUBJECT OF THIS CONTROL SUBJECT PHASE 8 EDESTRIAN OUTPUTS TO LOAD SWITCH 12  PEDESTRIAN OUTPUTS TO LOAD SWITCH 12  PEDESTRIAN OUTPUTS TO LOAD SWITCH 12  PEDESTRIAN PUSH_BUTTON COUNTOON PED STRUCT ON CONTROL OF AND TO DIRECT PHASE 8 EDESTRIAN CONTROL STRUCT OF THIS EXCLUSION INPUT  COUNTDOWN PED STRUCT OF THIS CONTROL OF AND THE STRUCTURE CONTROL OF THIS FEATURE.  SCONTON WED STRUCT OF THIS FEATURE.  SCONTON PED STRUCT OF THIS FEATURE.  SCO			70		40															
COUNTDOWN PEDESTRIAN SIGNAL OPERATION COUNTDOWN PEDESTRIAN SIGNAL OPERATION COUNTDOWN PEDESTRIAN SIGNAL OPERATION COUNTDOWN PEDESTRIAN SIGNAL CABRET  PHASE & PED  COUNTDOWN PEDESTRIAN SIGNAL CABRET  COUNTDOWN PEDESTRIAN SIGNAL CONSULT PED SIGNAL MODULE USER'S MANNAL  COUNTDOWN PEDESTRIAN SIGNAL CONSULT PED SIGNAL MODULE USER'S MANNAL  COUNTDOWN PEDESTRIAN SIGNAL CONSULT PED SIGNAL MODULE USER'S MANNAL  COUNTDOWN PEDESTRIAN SIGNAL CONSULT PED SIGNAL MODULE USER'S MANNAL  COUNTDOWN PEDESTRIAN SIGNAL PEDESTRIAN CALLES  PROVING SIGNAL PERCENTER SIC D SPENCER  SIGNAR	-	JG	36		46		56	56						44.0	100					
ED	_																			
PEDESTRIAN PROGRAMMING NOTES         NISURE THAT PHASE 3 PEDESTRIAN SIGNALS OPERATE PROPERLY,         RRAM THE CONTROLLER TO CONVERT PHASE 8         DEDESTRIAN ACTUATION TO PHASE 3 PEDESTRIAN CALLS.         PROGRAM THE CONTROLLER TO DIRECT PHASE 3         DEDESTRIAN PUSH—BUTTON WIRING DETAIL (wire push-button as shown below)         PROVE # PROFILE         PEDESTRIAN PUSH—BUTTON WIRING DETAIL (wire push-button as shown below)         RECONTROLLER TO DIRECT PHASE 3         PEDESTRIAN PUSH—BUTTON WIRING DETAIL (wire push-button as shown below)         AC												9R	10R	11R	12R					
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EDESTRIAN OUTPUTS TO LOAD SWITCH 12         PEDESTRIAN PUSH-BUTTON WRING DETAIL (wire push-button as shown below)         ELECTRICAL PUSH-BUTTONS CONTROLLER CANNELL (wire push-button as shown below)         PINASE & PED BUTTONS AC														LLS.						
PEDESTRIAN PUSH-BUTTON WIRING DETAIL (wire push-button as shown below)         PINSE 2 PED BUTTONS (WI PEDESTAL)         PINSE 2 PED BUTTONS (WI PEDESTAL)         PINSE 2 PED BUTTONS (WI PEDESTAL)         PINSE 5 PED ISOLATOR INPUT         EL         PINSE 5 PED ISOLATOR INPUT         COUNTDOWN PEDESTRIAN SIGNAL OPERATION COUNTDOWN PEDESTRIAN SIGNAL OPERATION SCOLOTON PED SIGNALS ARE REQUIRED TO DISPLAY TIMING ONLY DURING PED CLEARACE INTERVAL COULT PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIEN COUNTDOWN PED SIGNALS ARE REQUIRED TO DISPLAY TIMING ONLY DURING PED CLEARACE INTERVAL COULT PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE COUNTDOWN PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE COUNTDOWN PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE COUNTDOWN PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE COUNTDOWN PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE COUNTDOWN PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE COUNTDOWN PED SIGNAL MODULE USER'S MANUAL FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         VERAFILIENCE SIGNED DANOT REVEAL COLSPAN												SE 3	3							
(wire push-button as shown below)         EI       PHASE 2 PED BUTTONS         COMBERGUER CABINET       PHASE 6 PED DUTTONS         AC-       PHASE 6 PED DUTTONS         PHASE 6 PED DUTTONS       CONTROLLER CABINET         PHASE 4 PED BUTTONS       CONTROLLER CABINET         PHASE 4 PED BUTTONS       CONTROLLER CABINET         PHASE 4 PED BUTTONS       CONTROLLER CABINET         PHASE 5 PED DUTTONS       CONTROLLER CABINET         PHASE 5 PED DUTTONS       CONTROLLER CABINET         PHASE 5 PED DUTTONS       CONTROLLER CABINET         COUNTDOWN PED SIGNALS ARE REQUIRED TO DISPLAY TIMING ONLY DURING PED CLEARANCE INTERVAL CONSULT PED SIGNAL MODULE USER'S MANUAL         FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         KEPARTIMENT OF TRANSPORTATION         SIGNACE       2/2/2002         COLUMTOOWN PED SIGNALS ARE REQUIRED TO DISPLAY TIMING ONLY DURING PED SIGNAL MODULE USER'S MANUAL         FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         KEPARTIMENT OF TRANSPORTATION         SIGNACE       2/2/2002         COUNTOOWN PED SIGNAL         COUNTOON ON SELECTING THIS FEATURE.         THE SIGNAL DESIGNA         LIDRAWING Date:       2/2/2002         CACLES       AT         SR 1005 (RICHARD DRIVE)/       SEALE         <	PE	EDES	TRIA	N OL	JTPU	ITS	TO L	OAD	SW	ICH	12									
(wire push-button as shown below)         EI       PHASE 2 PED BUTTONS         COMBERGUER CABINET       PHASE 6 PED DUTTONS         AC-       PHASE 6 PED DUTTONS         PHASE 6 PED DUTTONS       CONTROLLER CABINET         PHASE 4 PED BUTTONS       CONTROLLER CABINET         PHASE 4 PED BUTTONS       CONTROLLER CABINET         PHASE 4 PED BUTTONS       CONTROLLER CABINET         PHASE 5 PED DUTTONS       CONTROLLER CABINET         PHASE 5 PED DUTTONS       CONTROLLER CABINET         PHASE 5 PED DUTTONS       CONTROLLER CABINET         COUNTDOWN PED SIGNALS ARE REQUIRED TO DISPLAY TIMING ONLY DURING PED CLEARANCE INTERVAL CONSULT PED SIGNAL MODULE USER'S MANUAL         FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         KEPARTIMENT OF TRANSPORTATION         SIGNACE       2/2/2002         COLUMTOOWN PED SIGNALS ARE REQUIRED TO DISPLAY TIMING ONLY DURING PED SIGNAL MODULE USER'S MANUAL         FOR INSTRUCTIONS ON SELECTING THIS FEATURE.         KEPARTIMENT OF TRANSPORTATION         SIGNACE       2/2/2002         COUNTOOWN PED SIGNAL         COUNTOON ON SELECTING THIS FEATURE.         THE SIGNAL DESIGNA         LIDRAWING Date:       2/2/2002         CACLES       AT         SR 1005 (RICHARD DRIVE)/       SEALE         <																· · · · · · · · · · · · · · · · · · ·				
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PHASE 6 PED	E	I		1				IS	CONIR	OLLER (	ABINET							;		
ISOLATOR INPUT      ISOLATOR INPUT      ISOLATOR INPUT      IMAGE 3 PED BUTTONS     CONTIBULER CABINEL     (ON PEDESTAL)     AC-     PHASE 3 PED BUTTONS     AC-     DIVISION ON SELECTRICAL DETAIL IS FOR     THE SIGNAL MODULE USER'S MANUAL     PFOR INSTRUCTIONS ON SELECTING THIS FEATURE.     THE SIGNAL DESIGN     DESIGNED JAN, 2009     SEALED: JAN, 2009     REVISION     SEAL				<b>-</b>	•		٦			AC	<del></del>			• •	<u></u>					
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Image: Construction of the product	<b>r</b>	Ŧ			PHASE	4 PED	BUTTO	15	CONTR						PHASE	3 PED I	BUTTONS	5		
PHASE & PED		r.			(ON PI	edestai	L)		2223.02			•			(on pei 	DESTAL)				
ISOLATOR INPUT       COUNTDOWN PEDESTRIAN SIGNAL OPERATION       COUNTDOWN PEDESTRIAN SIGNAL ODISPLAY TIMING ONLY DURING       PED CLEARANCE INTERVAL CONSULT PED SIGNAL MODULE USER'S MANUAL       POR INSTRUCTIONS ON SELECTING THIS FEATURE.       THIS ELECTRICAL DETAIL IS FOR       THIS ELECTRICAL DETAIL IS FOR       THE SIGNAL DESIGNE USER'S MANUAL       FOR INSTRUCTIONS ON SELECTING THIS FEATURE.       THIS ELECTRICAL DETAIL IS FOR       THE SIGNAL DESIGNE 05-1460       DESIGNES       COCCUS       THE SIGNAL DESIGNE 05-1460       DESIGNES DATE: JAN. 2009       SEALED: 1/29/09       REVISED: -       - Sheet 1 of 2       Moke County Cary       Division 5       Note County Cary       Division 5       Note County Cary       INIT: DATE: JAN 2009       RELILY       REVISIONS       INIT: DATE       NOT			······	•	•		]							•	<u></u>					
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FOR INSTRUCTIONS ON SELECTING THIS FEATURE.	(														;					
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# ECONOLITE CONTROL PRODUCTS, INC. ECONOLITE ASC/2070 EMERGENCY VEHICLE <u>PREEMPTOR PROGRAMMING DETAIL</u> (program controller as shown below)

PREEMPTOR SUBMENU	PREEMPTOR SUBMENU
1. PRIORTY PMT 1 5. PRIORTY PMT 5	1. PRIORTY PMT 1 5. PRIORTY PMT 5
2. PRIORTY PMT 2 6. PRIORTY PMT 6	2. PRIORTY PMT 2 6. PRIORTY PMT 6
3. PRIORTY PMT 3 7. BUS PREEMPTORS	3. PRIORTY PMT 3 7. BUS PREEMPTORS
4. PRIORTY PMT 4	4. PRIORTY PMT 4
PRIORITY PREEMPTOR 3 1 1 1	PRIORITY PREEMPTOR 4 111
PHASE 123456789012	PHASE 123456789012
TERM PHASE OVLP	TERM PHASE OVLP
TRK CLR PHASE	TRK CLR PHASE
HOLD PHASE X	HOLD PHASE
EXIT PHASE	EXIT PHASE
EXIT CALLS	EXIT CALLS
TERM OVERLAP A: B: C: D:	TERM OVERLAP A: B: C: D: .
ACTIVE	ACTIVEYES PED DARKNO
PRIORITYNO PED ACTIVENO	PRIORITYNO PED ACTIVENO
DET LOCK	DET LOCK YES ZERO PC TIME NO
HOLD FLASH	HOLD FLASH
TERM OVLP ASAP NO TERM PHASES NO	TERM OVLP ASAPNO TERM PHASESNO
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
Land and the second	
PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
DON'T OVERRIDE FLASH X	DON'T OVERRIDE FLASH X
FLASH ALL OUTPUTS	FLASH ALL OUTPUTS
YELLOW-RED GOES GREEN	YELLOW-RED GOES GREEN
ENABLE MAX PREEMPT TIME X	ENABLE MAX PREEMPT TIME X
ACTIVE ONLY DURNING HOLD	ACTIVE ONLY DURNING HOLD
NO CVM IN FLASH	NO CVM IN FLASH
FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD
OUT OF FLASH GREEN	OUT OF FLASH GREEN
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
MAX TIME 120 DURATION TIME 0	MAX TIME 120 DURATION TIME 0
MIN HOLD TIME 5 DELAY TIME 0	MIN HOLD TIME 5 DELAY TIME 0
MIN PED CLEAR 0 INHIBIT TIME 0	MIN PED CLEAR 0 INHIBIT TIME 0
EXIT MAX 0 HLD DELAY TIME. 0	EXIT MAX 0 HLD DELAY TIME, 0
GRN YEL RED	GRN YEL RED
MINIMUM 1 0.0* 0.0*	MINIMUM 1 0.0* 0.0*
TRACK CLEAR 0 0.0 0.0	TRACK CLEAR 0 0.0 0.0
HOLD 0.0* 0.0*	HOLD 0.0* 0.0*
LINKED PREEMPTOR	LINKED PREEMPTOR
END OF SUBMENU	END OF SUBMENU
return to Preemptor Submenu	return to Preemptor Submenu
ME DEFAULTS TO TIME USED FOR PHASE	DURING NORMAL OPERATION.

# NOTE!

PROGRAM EXTEND TIME ON ALL 'OPTICOM' DETECTOR UNITS FOR 3 SEC.

·····	······
	PREEMPTOR SUBMENU
	1. PRIORTY PMT 1 5. PRIORTY PMT 5
	2. PRIORTY PMT 2 6. PRIORTY PMT 6
	3. PRIORTY PMT 3 7. BUS PREEMPTORS
	4. PRIORTY PMT 4
Ì	L
1 1	PRIORITY PREEMPTOR 5 1 1 1
12	PHASE 123456789012
	TERM PHASE OVLP
	TRK CLR PHASE
	HOLD PHASE
	EXIT PHASE
	EXIT CALLS
): .	TERM OVERLAP A: B: C: D: .
NO	ACTIVE
NO	PRIORITYNO PED ACTIVENO
NO	DET LOCK
YES	HOLD FLASH
NO	TERM OVLP ASAP NO TERM PHASES NO
	ADDITIONAL PAGE(S)
	······································
	PRIORITY PREEMPTOR 5
	DON'T OVERRIDE FLASH X
	FLASH ALL OUTPUTS
	YELLOW-RED GOES GREEN
	ENABLE MAX PREEMPT TIME X
	ACTIVE ONLY DURNING HOLD
	NO CVM IN FLASH
	FAST FLASH GRN ON HOLD
	OUT OF FLASH GREEN
]	ADDITIONAL PAGE(S)
1	
	PRIORITY PREEMPTOR 5 MAX TIME 120 DURATION TIME 0
	MIN HOLD TIME 5 DELAY TIME 0
	MIN PED CLEAR 0 INHIBIT TIME 0
	EXIT MAX 0 HLD DELAY TIME. 0
	GRN YEL RED
	MINIMUM 1 0.0* 0.0*
	TRACK CLEAR 0 0.0 0.0
	HOLD 0.0* 0.0*
	LINKED PREEMPTOR 0
	END OF SUBMENU
J	L

end of programming



		PROJECT REFERENCE NO.	SHEET NO.
			Sig.3
	NC DEPARTMEN DIVISION OF HI	T of Transportation	
	•		
		Date: 2/2/2009	
	Traffic Engineeri	ng Branch	
	THIS ELEC	TRICAL DETAIL IS FOR	
	THE SIGN	AL DESIGN: 05-1460 JAN, 2009	
	SEALED: REVISED:	1/29/09	
		······	
Signal Upgrade – Sheet 2 of 2			
ELECTRICAL AND PROGRAMMING DETAILS FOR: SR 1652 (N HARRISC	)N AVF)	SEAL	
À T			000000
SR 3005 (RICHARD WESTON PARKW	DRIVE)/	Cary SEAL	a a a a a a a a a a a a a a a a a a a
Division 5 Wake County		Cary 633171	0000000 140606000
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PLAN DATE: JAN 2009 REVIEWED BY: PREPARED BY: REVIEWED BY: NONOGENENT 122 N. McDowell St., Roleigh, NC 27603	NIT.	DATE	
		SIGNATURE)	<u>1-29-09</u> DATE 15-1460
		SIG. INVENTORY NO. (	J-140U

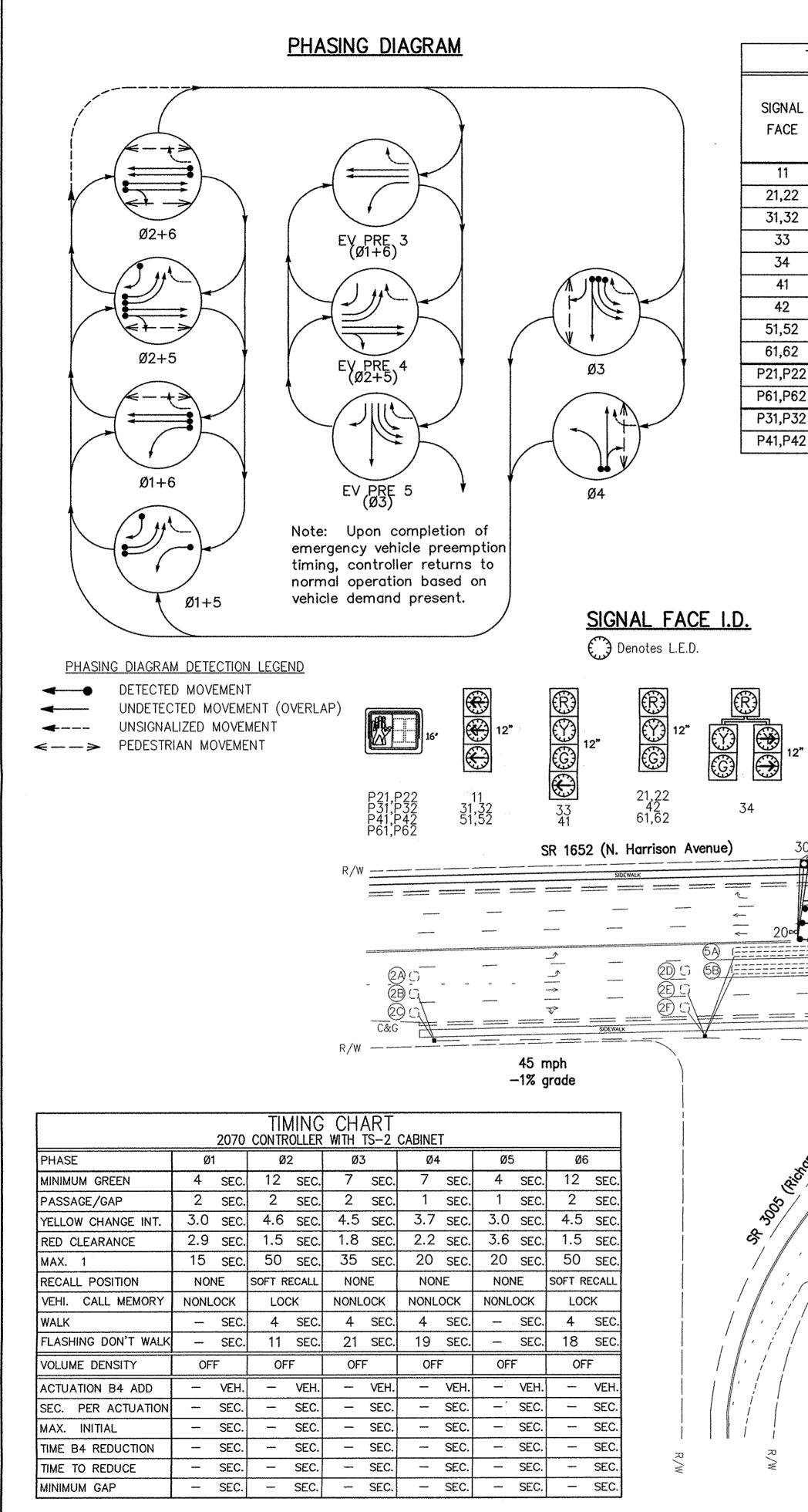
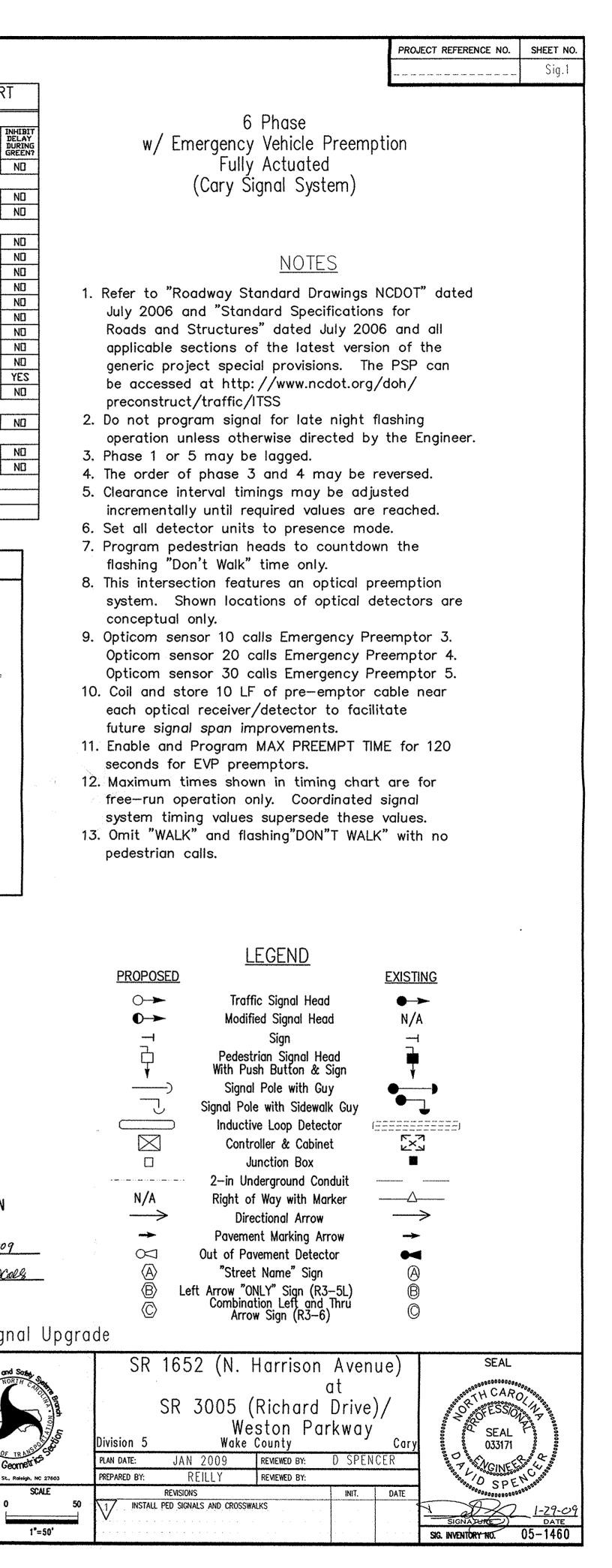
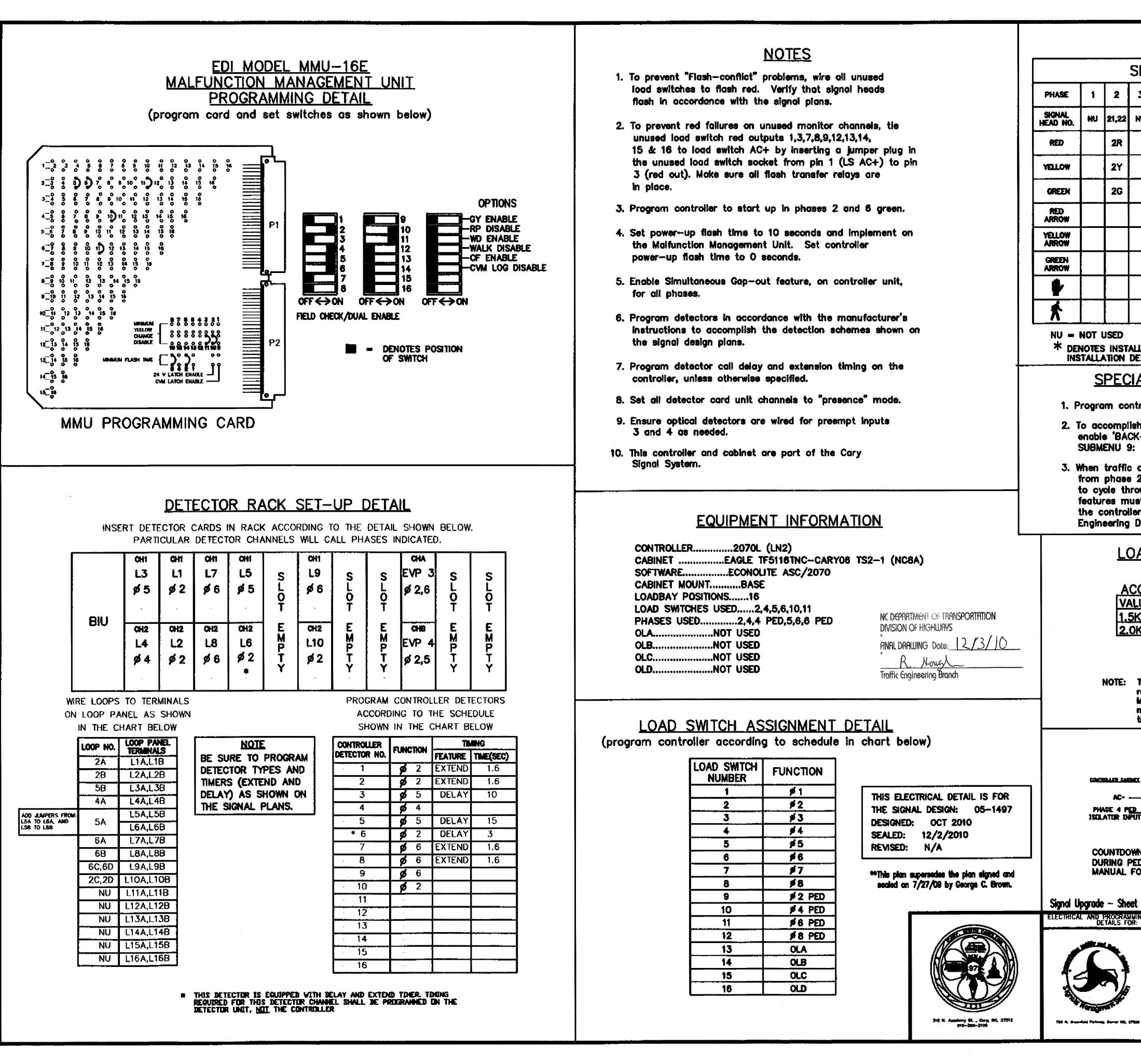


TABLE OF OPERATION			LOOP	& DETECTOR	UNIT INSTALL/ Roller with ts-2 cabi	ATION CHAR	रा ]
				CTIVE LOOPS	DETECT	IDR UNITS	
PHASE			LOOP NO. SIZ	E TURNS STOPBAR (ft)	NEMA > TIN EX PHASE Z FEATURE	TING PLACE CALL DURING PHASE	INHIBIT DELAY DURING GREEN?
-  1 1 2 2 0 0 P P P 5			1A 6X6		X 1 X -	- SEC ALL	GREEN?
+ + + + 3 4 R R R S 5 6 5 6 5 6 5 6 5 6 7 8 4 5 H			2A 6X		-+	INECTED	ND
			2C 6X	6 5 300	X 2 X EXTEND	1.8 SEC ALL	ND
2 R R G G R R R G R Y			2D 6X		X DISCEN	INECTED	ND
2 <del>-R</del> - <del>R</del>			2F 6X	6 5 90	X 5 X -	- SEC ALL	ND
R R R R G R R R G R			3A 6X6 3B 6X6		X 3 X -	- SEC. ALL	NO
R R R G R R R G R			3C 6X6	50 2-4-2 0	X 3 X -	- SEC, ALL	ND
RRRRGRRRR			4A 6X6 4B 6X6		X 4 X - X 4 X -	- SEC. ALL	NO
RRRRGRRRR			5A 6X6		X 5 X -	- SEC. ALL - SEC. ALL	
			5B 6X6 5C 6X6		X         5         X         -           X         5         X         DELAY	15 SEC ALL	YES
2 R G R G R R G R R Y 22 DWDW W W DWDWDRKDRKDRK			6A-S5 6X	6 5 300	X 6 X EXTEND	1.8 SEC. ALL SYSTEM LOOP	
32 DW W DW W DWDWDRKDRKDRK			6B-S6 6X	6 5 300	X 6 X EXTEND	1.8 SEC. ALL	ND
32 DWDWDWDW W DWDRKORKORK	w cac		6C 6X		X 6 X -	SYSTEM LOOP	ND
	R/M CC		6D 6X	6 5 90	X 6 X -	- SEC ALL	ND
			S2 6X S3 6X		X X X	SYSTEM LOOP	
		ere	S4 6X	<u>*****</u> *******-	x x	SYSTEM LOOP	
		1. // .	M .				
		LENDY R	STO	P LINE AND CR	ROSSWALK LOCATI	ON DIAGRAM	
× 1 / / /		n Porr		/ 11	1 1		
AS MOTORE		eston Porkwoy				1	
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					18 EXISTING		
					HOWN	h	
					E STOP BARS AS SHOWN EXSTAG	NEW	
11/2/0/01/1/1	/			-	ESTOR /		
	"H			. RELOCT	14-		
2"			angeneral distance Angeneral distance		EXISTING		
	" <u>"</u> "				NEW / DU X		
P61				4	11 A		
30 P32-5	i tot i						
	A Mar-	<u> </u>	L			<u></u>	]
			45 mph 0% grade				
	< HZ		Jude				
51			3'UGe				
52 100 62		4			R/W		
- 405		~	_	REAC	= C&G		
P31 23				6BGA	•		
	SIDEW	CD					
MODIFY EXISTING FO TO ACCOMMODATE N WITH FRONT & REAL	UNDATION EW CABINET	SR 1652 ( N. H	Ore <sup>1</sup>				
WITH FRONT & REAL	R TECHNICIAN PADS		virison Aver	C&G			
in a commodate a real with FRONT & REAL			—				
s <sup>o</sup> //// EMERG	ENCY VEHICLE PI	REEMPT		R/W			
5 A	TIMING CHART				NC DEPARTMENT OF T		N
58	PRE 3	PRE 4 PRE			DIVISION OF HIGHWA	;	
HIN PED CLEAR (BEFORE		SECONDS SECON	DS		FINAL DRAWING Dat	e: <b>2</b> /2/200	09
MIN PED CLEAR (BEFORE		0 0			Troffic Constantion A		Colls
MIN PED CLEAR (BEFO MIN GREEN (BEFORE F		0 0			Troffic Engineering B	UNCI	
MIN YELLOW (BEFORE		0* 0*					gnal Up
MIN RED (BEFORE PRE	EMPT) 0*	0* 0*		FREMAKEU IN I	HE OFFICES OF:		ynur Ul
MIN HOLD TIME	5	5 5				Aing	NORTH S
HOLD YELLOW (AFTER HOLD RED (AFTER PRI		0* 0* 0* 0*		ABY	CORTH CARDON	State of	
PED CLEAR THROUGH		Y Y		MK		F CEP	No.
						<ul> <li>O.Va.</li> </ul>	• • • • · · · · · · · · · · · · ·
OPTICOM EXTEND TIME	······	3 3		N	187 2 11/1	STICK I	OS TO INSPECT
			peration.		87	STOR ON	Geometrics
	3		peration.		871	Ends and	OF IR NUEL SE
	3		peration.		871	Ends and	





								<u></u>									
												PRO	ect rei	TERENCE	HO.		_
																Sig. Z	4
			SIC	SNAL	_ H	EAD	) H(	OOk	(–U	P (	CHA	RT					
	t	2	3	4	5	6	7	8	PED	4 PED	6 PED	8 PED	OLA	OLB	ac	OLD	
	NU	21,22	NU	41,42	21,42	61, 62,63	NU	NU	NU	P41, P42	P61, P62	NU	NU	NU	Ň	NU	
		2R		4R	*	6R											
		2Y		4Y		6Y											
		2G		4G		6G											
		-								ļ!							
					5Y												
					5G												
										10R	11R						
										10G	11G						
N	OTES	USED 5 INST ATION	ALL I DETA	LOAD ( VIL THI	resis' Is pai	tor. Ge.	SEE	LOAD	RESI	STOR							
	<u>S</u>	PEC	JAL	_ B/	ACK	<u>–U</u>	<u>P</u> F	<u>R0</u>	TEC	;TIQ	<u>N 1</u>	<u>101</u>	<u>ES</u>				
٦r	ogra	ım co	introl	ller to	) omi	t pha	<b>se</b> 5	durir	ıg ph	ose f	3 on.						
e	nable	e '8À	CK-L	back— UP PR XPTION	OTEC	TION	GROL	cribed JP 1'	i in r unde	iote 1 ir con	i, strolle	ſ					
				nditior 6 to								force	d				

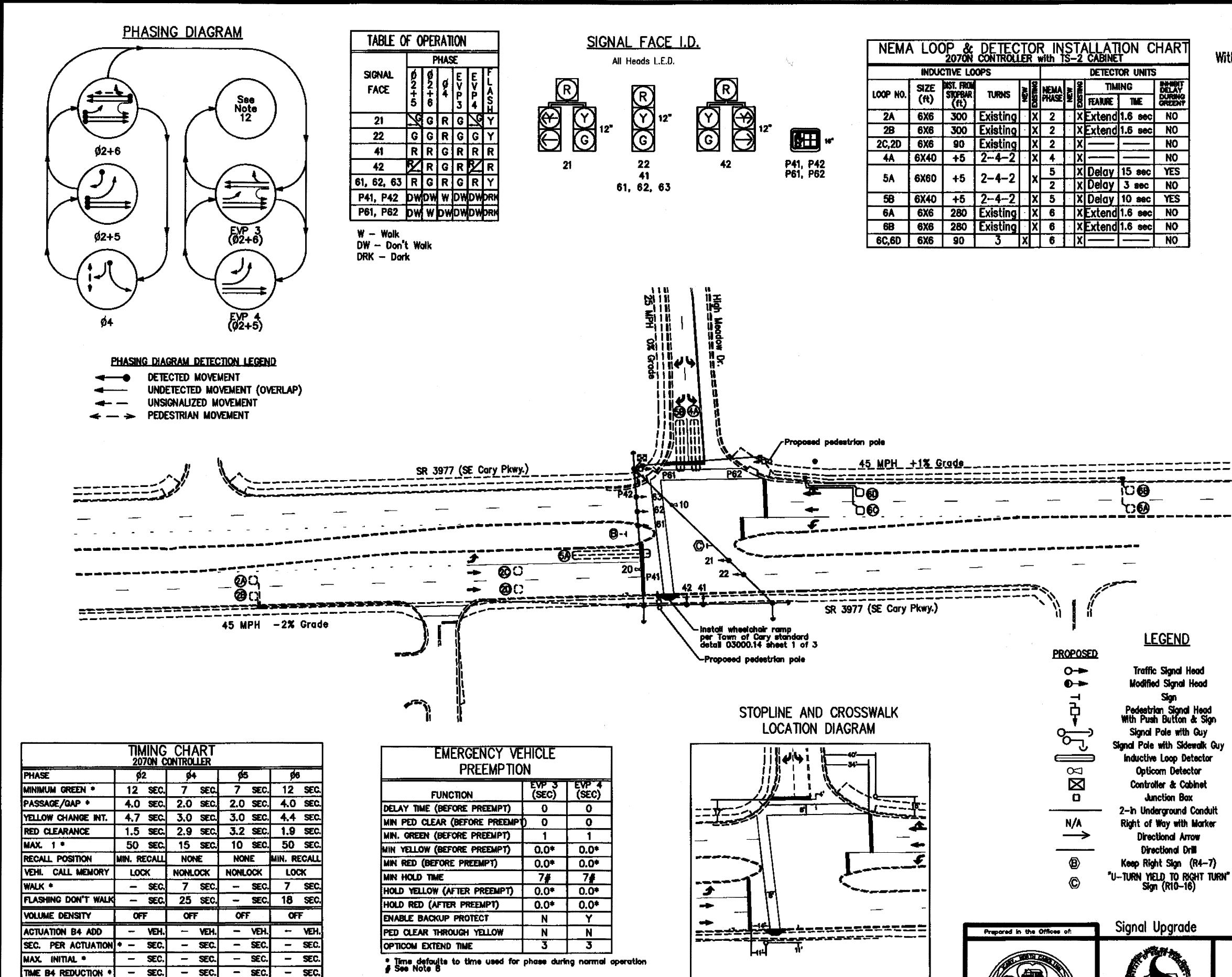
from phase 2+6 to phase 2+5, the controller shall be forced to cycle through phase 4. Additional backup protection features must be implemented in the write-protect area of the controller software. Contact the Town of Cary Engineering Department at 919-380-2105.

LOA	RESISTOR IN	STALLATION D	DETAIL
VALUE	PTABLE VALUES (ohms) WATTAGE - 1.9K 25W (min) - 3.0K 10W (min)		E 5 RED
red Mar ma	purpose of this resistor monitor input in order in agement unit to use the nitoring capability on pho- red display in the field.	for the Maifunction e full eignal sequence uses that do not use	
	PEDESTRIAN PUSH-BU (wire push-button	<u>TTON WIRING DETAIL</u> as shown below)	
CONTROLLER CARDEL	(DM PERESTAL)	CONTROLLER CARDET	CHIPERETAL)
AC		AC	•
PHASE 4 PED ISOLATOR DIPUT		PHASE 6 PED ISOLATOR INPUT	
DURING PED (	COUNTDOWN PEDESTE PED SIGNALS ARE TO RE CLEARANCE INTERVAL. ( INSTRUCTIONS ON SELEC	CONSULT PED SIGNAL M	ING ONLY
grade - Sheet 1 (	of 2		
AND PROCRAMMINC DETAILS FOR:		at eadow Drive • Cuety	SEAL SEAL SEAL SEAL SEAL SEAL
	BOT GALA	00 mm / 11 11 11 11 11 11 11 11 11 11 11 11 1	
	plan date: OCT 2010 prepared by: T REILLY	REVENED BY: W VO	

NET.

SC. INVENTORY NO.

REVISIONS



\* 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.

- SEC.

- SEC. - SEC.

– SEC.

- SEC.

- SEC.

- SEC.

- SEC.

TIME TO REDUCE +

MINIMUM GAP

	INDU	CTIVE LO	ops			-			DETECT	OR UNITS	TS				
	SIZE	DIST. FROM			Ž	NEMA	NEMA PHASE	¥	Ž	TIM	ING				
LOOP NO.	(ft)	STOPBAR (ft)	TURNS	Ş	503	PHASE	MEN		FEATURE	THE					
2A	6X6	300	Existing	•	X	2	·	X	Extend	1.6 sec	NO				
28	6X6	300	Existing	•	X	2	•	X	Extend	1.6 sec	NO				
2C,2D	6X6	90	Existing		X	2	·	X			NO				
<b>4</b> A	6X40	+5	2-4-2	•	X	4	•	X			NO				
5A	6X60		2 4 2			5		X	Delay	15 sec	YES				
JA	0,00	+5	2-4-2		X	2		X	Delay	3 sec	NO				
58	6X40	+5	2-4-2	•	X	5		X	Delay	10 sec	YES				
6A	6X6	280	Existing		X	6		X	Extend	1.6 sec	NO				
<del>6</del> B	6X6	280	Existing	•	X	6		X	Extend	1.6 sec	NO				
6C,6D	6X6	90	3	X		6	·	X		·	NO				

314 H. Andany St. , Cury, H2, 27912 019-300-2148

**\***\*This plan supersedes the plan signed and sealed on 7/20/09 by Robert J. Ziemba.

PROJECT REFERENCE NO. SHEET NO.

3 Phase **Fully Actuated** With Emergency Vehicle Preemption (Cary Signal System)

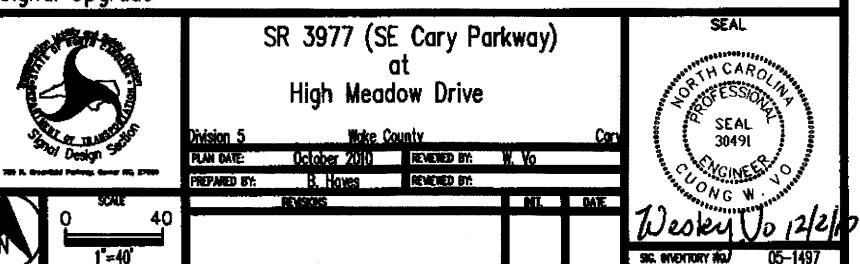
### <u>NOTES</u>

- 1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006 and all applicable sections of the latest version of the Project Special Provisions. The PSP can be accessed at the following website: http://www.ncdot.org/ doh/preconstruct/troffic/itss
- 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- 3. Omit phase 5 during phase 6 on.
- 4. Program controller to clear from phase 2+6 to phase 2+5 by progressing through phase 4 (see Electrical Details).
- 5. Set all detector units to presence mode.
- 6. In the event of loop replacement, refer to the current ITS and Signals Design Monual and submit a Plan of Record to the Signal Design Section. 7. Pavement markings are existing.
- 8. The Division Traffic Engineer will determine the Preempt Dwell Min Green time for the emergency vehicle preemption timing.
- 9. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- 10. Optical sensor 10 calls EVP 3;
- Optical sensor 20 calls EVP 4; 11. Program MAX PREEMPT TIME
- for 120 seconds for EV preemptors. 12. Upon completion of emergency vehicle preemption, controller returns to normal operation based on vehicle demand.
- 13. Maximum times shown in timing chart are for free—run operation only. Coordinated signal system timing values supersede these values.
- 14. Omit "WALK" and flashing "DON'T WALK" with no pedestrian colls.
- 15. Program pedestrian heads to countdown the flashing "Don't Walk" time only

#### NC DEPARTMENT OF TRANSPORTATION **DIVISION** OF HIGHWAYS

FINAL DRAWING Date: 12/3/10

R. House Traffic Engineering Branch

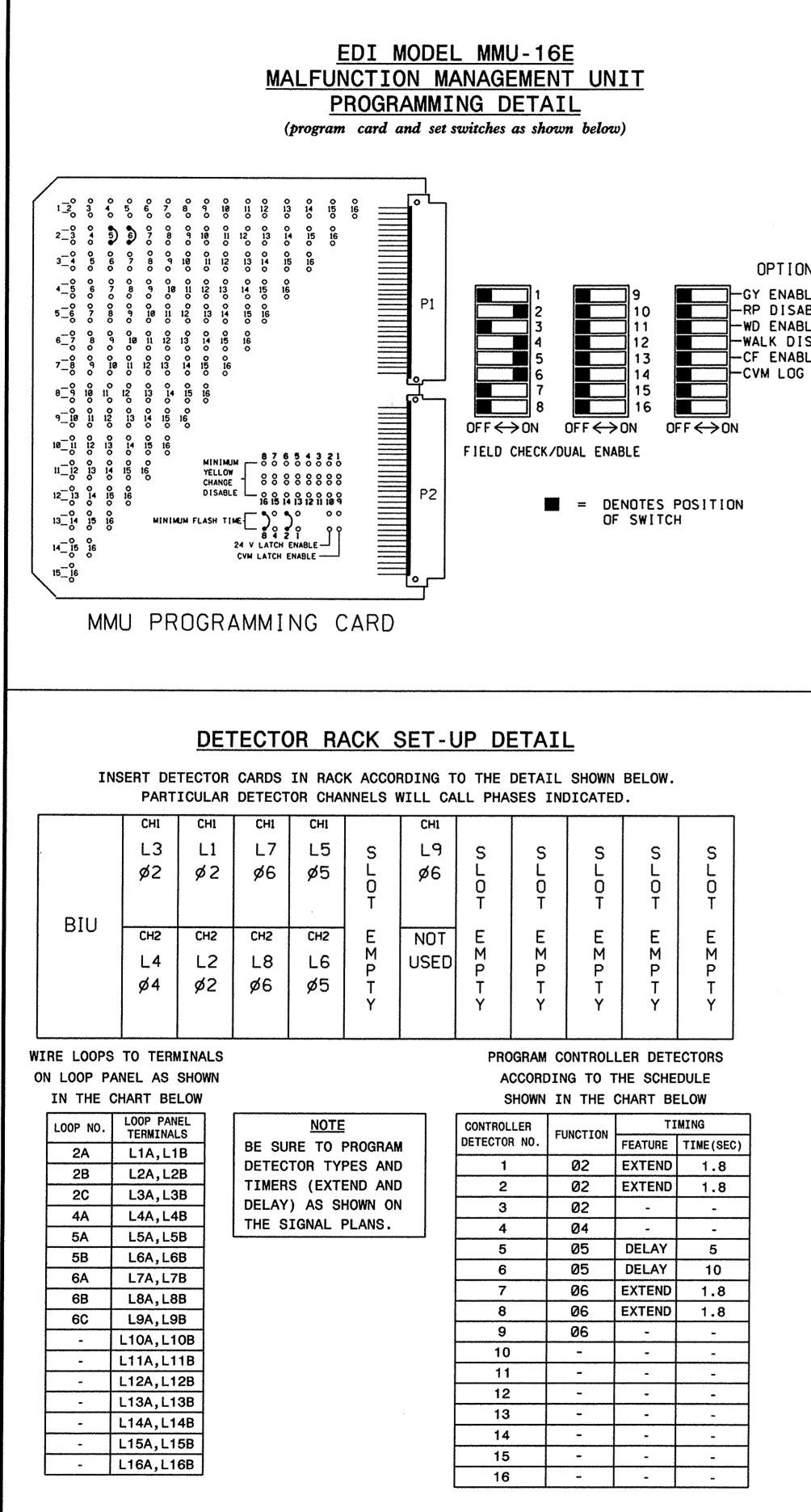


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G

EXISTING

N/A



	NOTES	
	1. TO PREVENT "FLASH-CONFLICT" PROBLEMS, WIRE ALL UNUSED LOAD SWITCHES TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN	FIE
	ACCORDANCE WITH THE SIGNAL PLANS.	PHASE 1 2 3
	2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE UNUSED LOAD SWITCH RED OUTPUTS 1,3,7,8,9,10,11,12,13,14, 15 & 16 TO LOAD SWITCH AC+ BY INSERTING A JUMPER PLUG IN THE UNUSED	SIGNAL HEAD NO. NU 21,22 NU 4
	LOAD SWITCH SOCKET FROM PIN 1 (LS AC+) TO PIN 3 (RED OUT). MAKE SURE ALL FLASH TRANSFER RELAYS ARE IN PLACE.	GREEN 2G YELLOW 2Y
ONS	3. PROGRAM CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.	RED 2R
ABLE SABLE ABLE SABLE	4. SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE MALFUNCTION MANAGEMENT UNIT. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.	RED ARROW YELLOW
ABLE DG DISABLE	5. ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.	ARROW GREEN ARROW
	6. PROGRAM DETECTORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ACCOMPLISH THE DETECTION SCHEMES SHOWN ON THE SIGNAL DESIGN PLANS.	
	7. PROGRAM DETECTOR CALL DELAY AND EXTENSION TIMING ON THE CONTROLLER, UNLESS OTHERWISE SPECIFIED.	NU = NOT USED * A LOAD RESISTOR SHALL SWITCH 5 RED FIELD TEP
	8. SET ALL DETECTOR CARD UNIT CHANNELS TO "PRESENCE" MODE. 9. PROGRAM CONTROLLER AND WIRE CABINET TO BE PART OF THE	LOAD RESISTOR INSTALL
	CARY SIGNAL SYSTEM.	<u>SPE(</u>
	10. PROVIDE ALL CABLING AND ADAPTERS FOR CABINET COMPATIBILITY WITH EXISTING 2070L (LN2) CONTROLLER.	1. PROGRAM (
	EQUIPMENT INFORMATION	2. TO ACCOMF ENABLE 'E SUBMENU S
	CONTROLLEREXISTING 2070L (LN2) CABINETEAGLE TF5116TNC-CARY06 TS2-1 (NC8A) SOFTWAREECONOLITE ASC/2070 CABINET MOUNTBASE LOADBAY POSITIONS16 LOAD SWITCHES USED2,4,5,6 PHASES USED2,4,5,6 OLANOT USED	3. IT IS REC THAT IF I BE SERVED THIS ADDI IMPLEMENT SOFTWARE. CONTACT T (919) 233
	OLBNOT USED OLCNOT USED OLDNOT USED	LOAD RESISTOR INSTALLATION DETAI
	LOAD SWITCH ASSIGNMENT DETAIL (program controller according to schedule in chart below)	AC-
	LOAD SWITCH NUMBER 1 Ø1 2 Ø2 3 Ø3	NOTE: THE PURPOSE OF THIS RESISTOR IS TO LOAD THE CHANNEL RED MONITOR INPUT IN ORDER FOR THE MALFUNCTION MANAGEMENT UNIT TO USE THE FULL S SEQUENCE MONITORING CAPABILITY ON CHANNELS THAT DO NOT USE THE RED DISPLAY IN THE FIELD.
	4     Ø 4       5     Ø 5       6     Ø 6       7     Ø 7       8     Ø 8       9     Ø 2 PED	
	10       Ø 4 PED         11       Ø 6 PED         12       Ø 8 PED         13       OLA         14       OLB	PLANS PREPARED IN THE OFFICE OF:
	15 OLC 16 OLD	Kimley-Horn and Associates, Inc. P.O. Box 33068 Roleigh, NC 27636 (919) 677-2000

											PROJECT	REFER	ENCE NO.	SHEET N
												36259		SIG.
LD	CC	)NNE	ECT	ION	HO	OK-	UP	CH	ART					
4	5	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OLA	OLB	OLC	OLD	
1,42	21	42	61,62	NU	NU	NU	NU	NU	NU	NU	NU	NU	NU	
4G			6G											
4Y			6Y											
4R	*		6R											
						-								
	5Y	5Y												
	5G	5G												

SHALL BE INSTALLED ON LOAD ELD TERMINAL. REFER TO NSTALLATION DETAIL THIS SHEET.

## SPECIAL BACK-UP PROTECTION NOTES

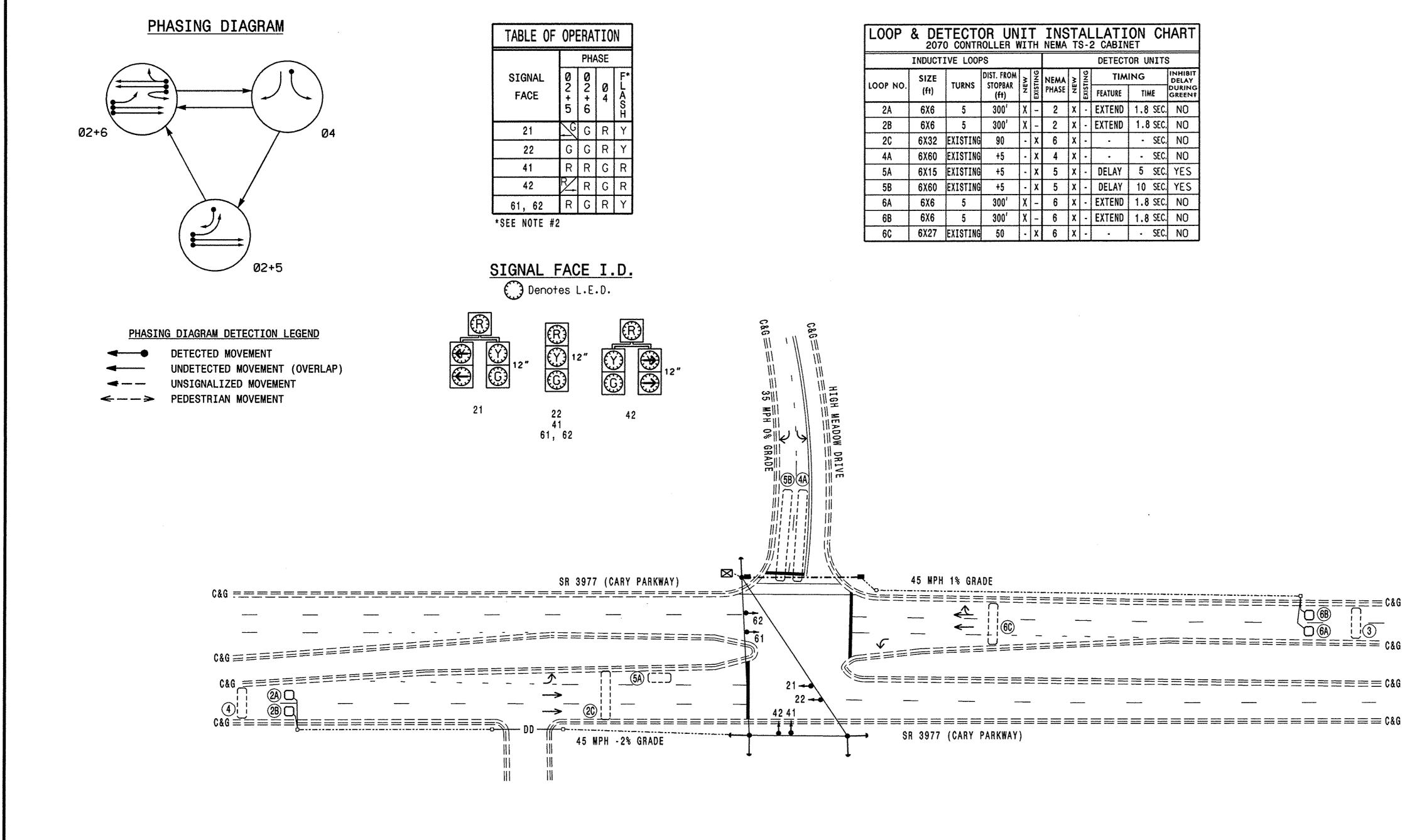
OGRAM CONTROLLER TO OMIT PHASE 5 DURING PHASE 6 ON.

ACCOMPLISH BACK-UP FEATURE DESCRIBED IN NOTE 1. ABLE 'BACK-UP PROTECTION GROUP 1' UNDER CONTROLLER BMENU 9: 'OPTION DATA'.

IS REQUIRED FOR THE CONTROLLER TO BE PROGRAMMED SUCH T IF IT IS IN PHASE 2+6. THEN PHASE 5 CANNOT SERVED NEXT WITHOUT FIRST PROGRESSING THROUGH PHASE 4. S ADDITIONAL BACK-UP PROTECTION FEATURE SHALL BE LEMENTED IN THE WRITE-PROTECT AREA OF THE CONTROLLER TWARE. FOR DIRECTIONS ON HAVING THIS FEATURE INSTALLED. TACT THE NCDOT TRAFFIC ELECTRONICS REPAIR CENTER AT: 9) 233-0884.

THIS ELECTRICAL DETAIL IS FO THE SIGNAL DESIGN: 05-1497 DESIGNED: JANUARY 2005 SEALED: 5/9/2005 REVISED: N/A	

NAL UPGRADE					
ICAL AND PROGRAMMING DETAILS FOR:	SR 3977 (CA A HIGH MEAI	T DOW DRIV	,		SEAL NORTH CAROLINA SEAL 024910
	DIVISION 5 WAKE PLAN DATE: JANUARY 2005	COUNTY REVIEWED BY:		CARY	OF NOINFEB
5.5	PREPARED BY: SP PENNINGTON	REVIEWED BY:	DE NARC	EAU	E. MARCLINE
A al Management Section	REVISIONS		INIT.	DATE	$\int \int \mathbf{n} = 11$
cDowell St., Raleigh, NC 27603				· · · <i>· ·</i> · · · <i>· · · ·</i>	Hom & Malion 5/9/05 SIGNATURE DATE
		•••••			SIG. INVENTORY NO. 05-1497

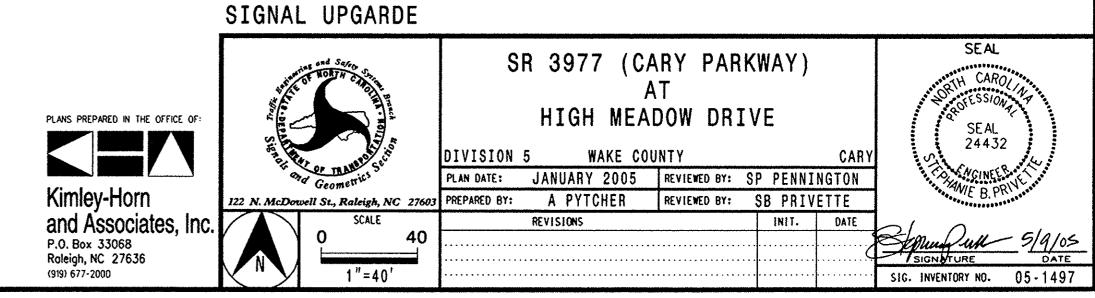


00701			G CH/			-		
20701	_ CUNIK	ULLER	WIIM	18-2	CABINET			
PHASE	Ø2		Ø4		05	5	Ø6	
MINIMUM GREEN	12	SEC.	7	SEC.	7	SEC.	12	SEC.
PASSAGE/GAP	2.0	SEC.	1.0	SEC.	2.0	SEC.	2.0	SEC.
YELLOW CHANGE INT.	4.7	SEC.	3.8	SEC.	3.5	SEC.	4.5	SEC.
RED CLEARANCE	1.7	SEC.	2.6	SEC.	2.9	SEC.	1.9	SEC.
MAX. 1	50	SEC.	15	SEC.	10	SEC.	50	SEC.
RECALL POSITION	MIN. RE	CALL	NON	1E	NON	E	MIN. RE	CALL
VEHI. CALL MEMORY	LOC	к	NONLO	оск	NONLO	ОСК	LOC	к
WALK		SEC.		SEC.	-	SEC.	-	SEC.
FLASHING DON'T WALK	-	SEC.	1	SEC.		SEC.		SEC.
VOLUME DENSITY	OFF	:	OFF	:	OF	5	OF	2
ACTUATION B4 ADD	-	VEH.		VEH.		VEH.		VEH.
SEC. PER ACTUATION		SEC.		SEC.	-	SEC.		SEC.
MAX. INITIAL	-	SEC.		SEC.		SEC.	-	SEC.
TIME B4 REDUCTION		SEC.	-	SEC.		SEC.		SEC.
TIME TO REDUCE	-	SEC.	-	SEC.		SEC.	-	SEC.
MINIMUM GAP		SEC.		SEC.	_	SEC.	-	SEC.

\_2004.sig t:\011529016\2004 signals\05-1497\_

05/09/2005

LOOP	& DE	TECTO CONTR	OR UN	I	T TH				LATI 2 CABIN		IART				
	INDUCT	EVE LOOP	°S	DETECTOR UNITS											
	SIZE	DIST. FROM 3 2 NEMA 3 2 TIMING													
LOOP NO.	(ft)	TURNS	STOPBAR (ft)	NEV	EXISTING	PHASE	NEV	EXISTING	FEATURE	TIME	DURING GREEN?				
2A	6X6	5	300'	χ	-	2	X	•	EXTEND	1.8 SEC	NO				
2B	6X6	5	300'	χ	-	2	X	-	EXTEND	1.8 SEC	NO				
2C	6X32	EXISTING	90	•	X	6	X	•	•	- SEC	NO				
4A	6X60	EXISTING	+5	•	X	4	X	•	•	- SEC	NO				
5A	6X15	EXISTING	+5	-	X	5	X	-	DELAY	5 SEC	YES				
5B	6X60	EXISTING	+5	•	X	5	X	-	DELAY	10 SEC.	YES				
6A	6X6	5	300'	χ	-	6	X	•	EXTEND	1.8 SEC	NO				
6B	6X6	5	300'	X	-	6	X	•	EXTEND	1.8 SEC.	NO				
6C	6X27	EXISTING	50	•	X	6	X	•	•	- SEC.	NO				



 PROJECT REFERENCE NO.	SHEET NO.
 36259	SIG. 1

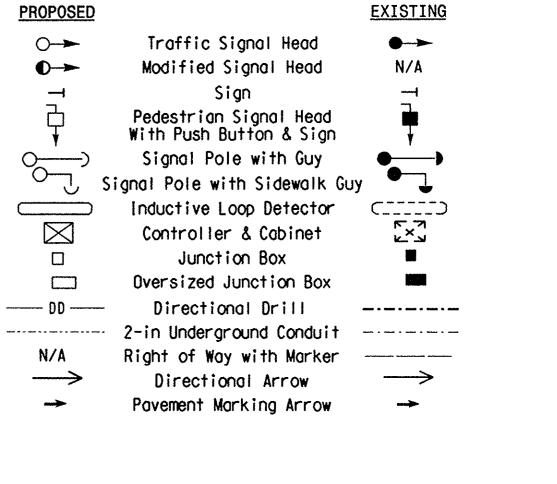
### 3 PHASE FULLY ACTUATED (CARY SIGNAL SYSTEM)

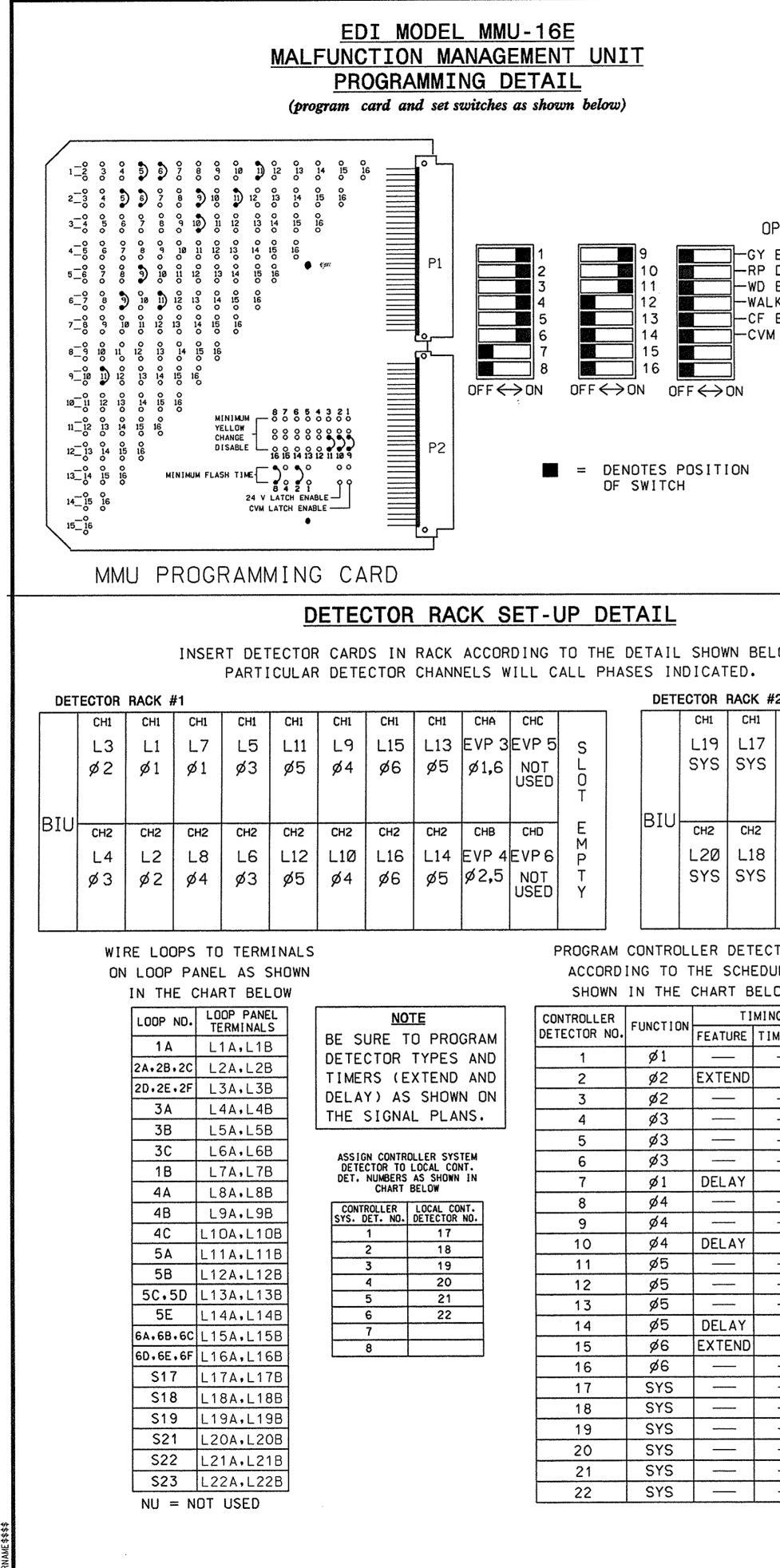
## NOTES

- Refer to the "Cary Signal System Project Special Provisions" dated April 17, 2003, the "Roadway Standard Drawings NCDOT" dated January 2002, and the "Standard Specifications for Roads and Structures" dated January 2002, and all subsequent addenda to the documents.
   Do not program signal for late night flocking
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
   Omit phase 5 during phase 6 on.
   Program controller to clear from phase 2+6 to phase 2+5 by progressing through phase 4 (see Electrical Details for wining)
- Details for wiring). 5. Abandon existing loops 3 and 4.
- Run all lead-in cable overhead on existing utility poles where possible.
- Set all detector units to presence mode.
   In the event of loop replacement, refer to the Signals and Geometrics Design Manual and submit a Plan of Record to the Signals and Geometrics Section.
- 9. Pavement markings are existing.
   10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
   11. Install new cabinet on existing foundation. Wire cabinet and program controller with head and loop numbers shown as well as times shown in timing chart. Expand existing cabinet foundation to accommodate new cabinet. existing cabinet foundation to accommodate new cabinet.

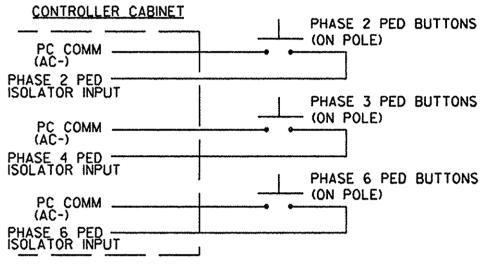
PLAN QUANT	ITIES
Pay Item	Feet
Signal Cable	0
Messenger Cable	0
Lead-in Cable	980







						•																			
			NOTES																			CT REFI	ERENCE		SHEET NO. Sig-2
			1. To prevent "Flash-conflict" problems, wire all unused load						FT	FI	D CO	) NN	IFC		И Н	00K	-11P	СН	ART						
			switches to flash red. The installer shall verify that signal heads flash in accordance with the signal plans.	PHASE		1	2		3			4		5			7				6 8 ED PEC		OLB	OLC	
			2. To prevent red failures on unused monitor channels, tie	SIGNAL HEAD NO.	11	34	21,22 23	31,32	33,34 2	23 4	11,42 43	,44	63 8	51,52	44	61,62 63	NU		21 PC			-	UN		
			unused load switch red outputs 7,8,12,13,14,15 & 16 to load switch AC+ by inserting a jumper plug in the unused	RED			2R		3R			R				6R									
OPTIO	١S		load switch socket from pin 1 (LS AC+) to pin 3 (red out). Make sure all flash transfer relays are in place.	YELLOW			2Y		3Y			Y				6Y									
GY ENAB RP DISA	BLE		3. Program controller to start up in phases 2 and 6 green.	GREEN	1R		26	3R	36		4R 4	G		5R		66									
WD ENAB WALK DI CF ENAB	SABLE		4. Set power-up flash time to 10 seconds and implement on the malfunction management unit. Set controller	ARROW YELLOW ARROW	_	1Y		ЗY	3		4Y		4Y		5Y							•			
CVM LOG		BLE	power-up flash time to 0 seconds.	GREEN ARROW	16	16		3G	3	3G	4G		4G	56	5G										
			5. Enable Simultaneous Gap-out feature, on controller unit, for all phases.	*															9R 10	IR 1	1R				
			6. Program detectors in accordance with the manufacturer's	×		<u> </u>													96 10	IG 1	16				
I			instructions to accomplish the detection schemes shown on the signal design plans.	NU = Nc	t Use	əd 			0.001 AMBIE CONTRACT BALLING OF																
			7. Program detector call delay and extension timing on the controller, unless otherwise specified.							PE	DES							TO	<u>N</u>						
			8. Set all detector card unit channels to "presence" mode.	,							•					Show	LL m bel	ow)							
			9. Ensure optical detectors are wired for preempt inputs 3 and 4 as needed.								LLER C						SE 2 POLE		UTTON	5					
BELOW.			10. This controller and cabinet are part of the Cary Signal System, Channel 7, Address 2.						PHASE										UTTON	5					
CK #2		-							PC (AC PHASE ISOLAT	CON ;-) 4 PE						— (ON		)							
.17 S	Сні L21		EQUIPMENT INFORMATION							OR IN			 				SE 6		UTTON	S					
YS L O	SYS		CONTROLLERCONTRACTOR SUPPLIED 2070 VN2						PHASE				] J	******											
H2 E	CH2		CABINETCONTRACTOR SUPPLIED TS-2 NC-8A SOFTWAREASC/2070																						
18   M YS   T	L22 SYS		CABINET MOUNTBASE LOADBAY POSITIONS16				00	רואו ונ		VNI	PFI		STR	ΤΔ		STG	NΔI	Ω	PFR	ΔΤ	ION				
	515		LOAD SWITCHES USED1,2,3,4,5,6,9,10,11 PHASES USED1,2,3,4,5,6,2PED,3PED,6PED			Coun															nly c		חם		
TECTORS			OLANOT USED OLBNOT USED			ped	cle	aran		nter	val.	Cc	onsu	1 t p	bed	sigr	ו ומר	-		-	′s mo		_		
IEDULE			OLCNOT USED OLDNOT USED		L	*****				<u></u>		<u></u>	<u></u>			a - than an dir a an air airt airt	t de la de alemante en sectement de la constante de la constante de la constante de la constante de la constant	14 - <sup>1</sup> 12 - 14 2 <sup>14</sup> 22 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -	en milita (n. 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997), 1997)						
IMING		-	· · · · · · · · · · · · · · · · · · ·																						
TIME(SEC	· ) . 						-								<b>,</b>										
) I.6			LOAD SWITCH ASSIGNMENT DETAIL						S ELEC SIGNA						R										
			(program controller according to schedule in chart below)					DESI	IGNED: LED: 1	Ju	1 200	9													
25			LOAD SWITCH FUNCTION						ISED:																
			NUMBER 1 ON 1 1 Ø1 2 Ø2																						
15			$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						CTF	ЪΤ	C A 1		nc	ТΛ	TI										
			5 Ø5 6 Ø6				L		She							-		(						ffices of	
25 ) I.6			7 Ø7 8 Ø8 9 2 PED					•		~ (			- 1	<b>Bass</b>							ASS	OC port	IAT ation	Eng	INC.
			10 3 PED 11 6 PED			S	igr	nal	Upgr	ade	9										R 919-	aleigh,   872-511	North Ca 5 Tel. 91	ice, Suite rolina 27 -878-541 License	609
			12 8 PED 13 OLA			E	LECTR	ICAL A	ND PROG DET	RAMN			SR	13	13	•		t S	tree					EAL	·
	-		14 OLB 15 OLC					ARGENTER AN	NA SAVAD SA	à				М	eet		lt   St	ree	t			() In In	P P P	Spick	
<b></b>			16 OLD				Tree		Talla	er Branch		LVIS: AN DAT	ion 5 TE:		Y		County REVIEW	<u> </u>	H.N.	Sun	Cary ti	mann	3 Spr.SM	448 I	
							ç	S I AN ALL SI	TRANSPOS	Moon	Jana		D BY:		Dari	ty			0911 INI	4 (0			ANC	M. SUR	and the second sec
						2	50 Gree	~~a <sub>n</sub> enfield Pk	agen <sup>env</sup> wy, Garner	r, NC 🛛	27529	 			 							SI	10-26 GNATURE NVENTORY		DATE 5-1558
						8					1								I			JID+ I		U	0-1000



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## ECONOLITE ASC/2070 EMERGENCY VEHICLE PREEMPTOR PROGRAMMING DETAIL

## (program controller as shown below)

FROM MAIN MENU PRESS 4 (PREEMPTOR)

PREEMPTOR SUBMENU	PREEMPTOR SUBMENU
1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1 5. PRIORITY PMT 5
2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY PMT 2 6. PRIORITY PMT 6
3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTORS
4. PRIORITY PMT 4	4. PRIORITY PMT 4
4. PRIORITE PME 4	
	PRIORITY PREEMPTOR 4
PRIORITY PREEMPTOR 3	111
PHASE 1 2 3 4 5 6 7 8 9 0 1 2	PHASE 123456789012
TERM PHASE OVLP	TERM PHASE OVLP
TRK CLR PHASE	TRK CLR PHASE
HOLD PHASES X X	HOLD PHASES X X
EX1T PHASES	EXIT PHASES
EXIT CALLS	
TERM OVERLAP A: B: C: D:	TERM OVERLAP A: B: C: D: .
ACTIVE YES PED DARK NO	ACTIVE YES PED DARK NO
PRIORITY NO PED ACTIVE NO	PRIORITY NO PED ACTIVE NO
DET LOCKYES ZERO PC TIME NO HOLD FLASH NO PC THRU YELLOW, YES	DET LOCKYES ZERO PC TIME NO HOLD FLASH NO PC THRU YELLOW. YES
TERM OVLP ASAPNO TERM PHASES NO	TERM OVLP ASAPNO TERM PHASES NO
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
DON'T DVERRIDE FLASH X	DON'T OVERRIDE FLASH X
FLASH ALL OUTPUTS	FLASH ALL OUTPUTS
YELLOW-RED GOES GREEN	
ENABLE MAX PREEMPT TIME YES	ENABLE MAX PREEMPT TIME YES
ACTIVE ONLY DURING HOLD.	ACTIVE ONLY DURING HOLD
NO CVM IN FLASH	NO CVM IN FLASH
FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD
OUT OF FLASH GREEN	OUT OF FLASH GREEN
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
MAX TIME 120 DURATION TIME 0	MAX TIME 120 DURATION TIME 0
MIN HOLD TIME. 5 DELAY TIME O	MIN HOLD TIME. 5 DELAY TIME 0
MIN PED CLEAR. O* INHIBIT TIME O	MIN PED CLEAR. O* INHIBIT TIME O
EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. O
GRN YEL RED	GRN YEL RED
MINIMUM 1 0.0* 0.0*	MINIMUM 1 0.0* 0.0*
TRACK CLEAR 0 0.0 0.0	TRACK CLEAR 0 0.0 0.0
HOLD 0.0* 0.0*	HOLD
LINKED PREEMPTOR 0.0	LINKED PREEMPTOR 0.0
END OF SUBMENU	END OF SUBMENU
return to Preemptor Submenu	end of programming

Program extend time on optical detector unit for 3.0 seconds.

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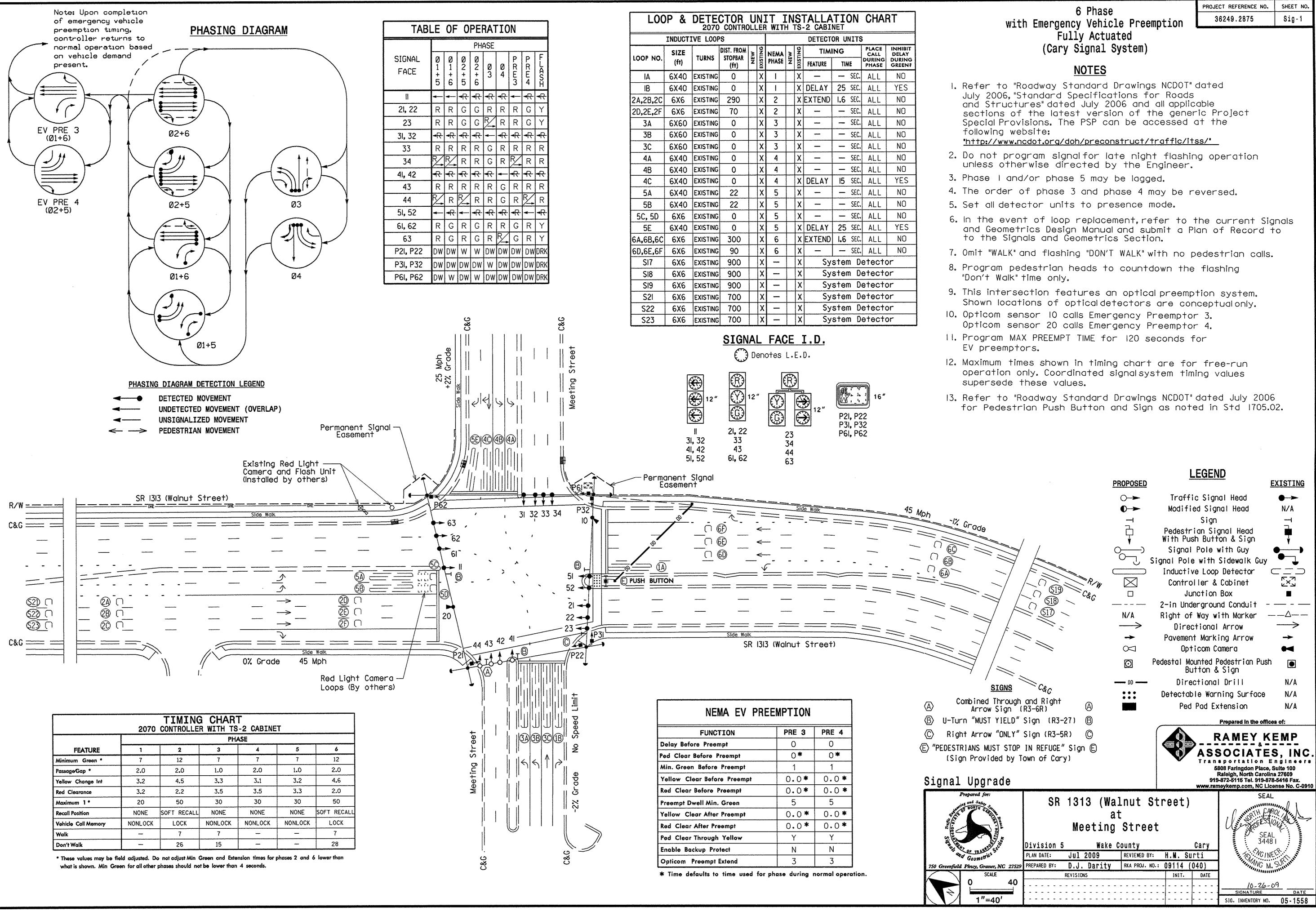
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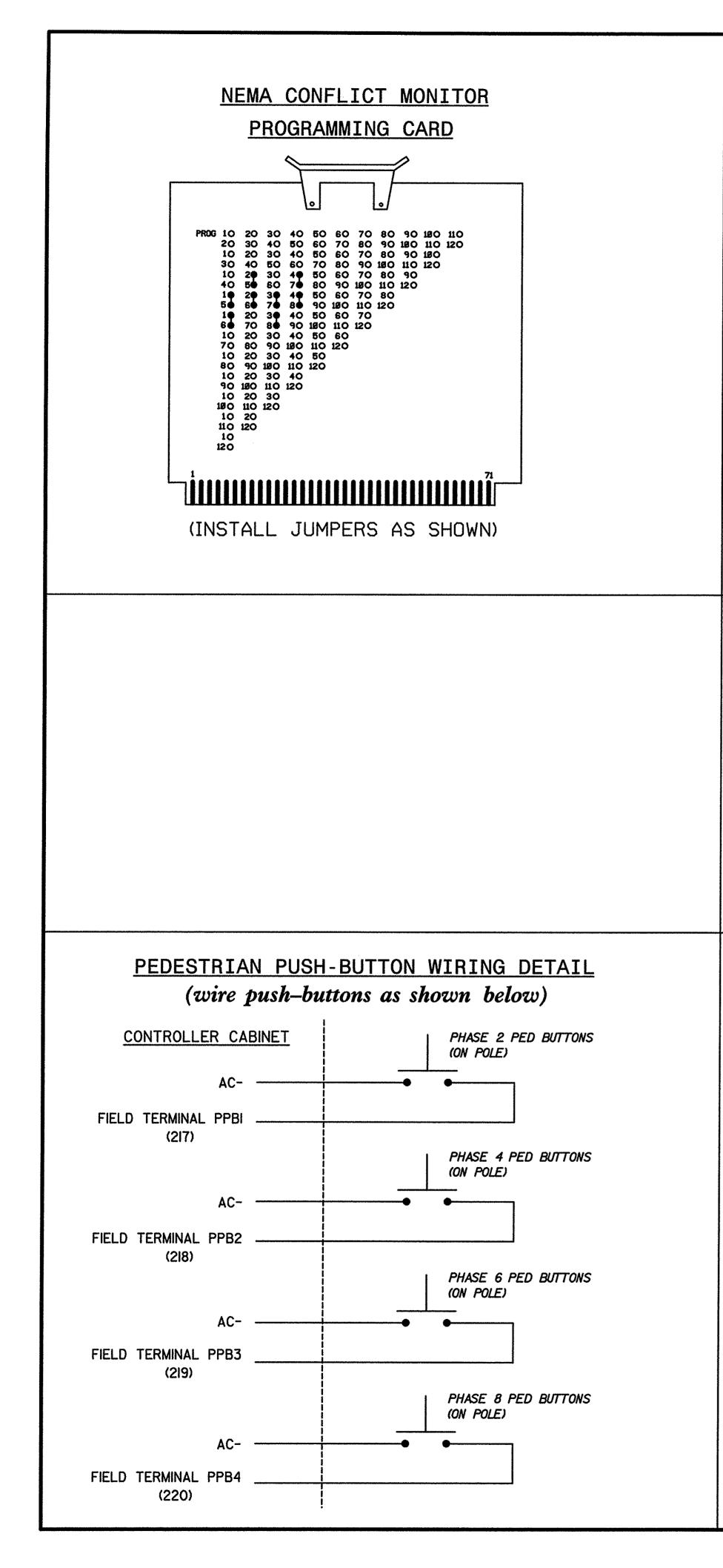
Signal

ELECTRICA



	PROJECT REFERENCE NO.	SHEET NO.
	36249.2875	Sig-3
THIS ELECTRICAL DETAIL IS FOR		
THE SIGNAL DESIGN: 05-1558 DESIGNED: Jul 2009		
SEALED: 10-26-2009		
REVISED:		
LECTRICAL DETAIL		
Sheet 2 of 2	Prepared in the office	s of:
	RAMEYK	
	ASSOCIATES Transportation E	S, INC.
1 linanada	5808 Faringdon Place, S Raleigh, North Carolin 919-872-5115 Tel. 919-878	Suite 100
AL AND DROOD A MMING	919-872-5115 Tel. 919-878 www.rameykemp.com, NC Lice SEAL	nse No. C-0910
DETAILS FOR: SR 1313 (Walnut Street)	SEAL	or the n
At Meeting Street Division 5 Wake County	A STESPIC	
Division 5 Wake County	Cary SEAL	
PLAN DATE: JUI 2009 REVIEWED BY: H.N. SUF	Cary ti 40) DATE	EP.
PREPARED BY: D.J. Darity RKA PROJ. NO.: 09114 (0 REVISIONS INIT.	DATE	, in m
Tield Phusy, Garner, NC 27529	<u>IO-26-0</u> <u>SIGNATURE</u> 	<u>9</u> DATE 05-1558
	L C.C. INCRIMING.	00-1000





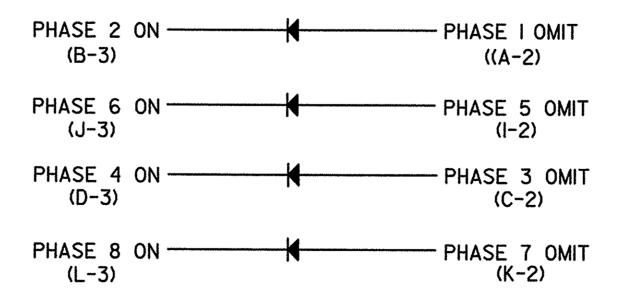
NATEO														PROJECT	REFERE	NCE NO.	SHEET N
NOTES																	Sig.8
I. TO PREVENT "FLASH-CONFLICT" PROBLEMS, ALL UNUSED PHASES AND OVERLAPS SHALL BE WIRED TO FLASH RED. THE INSTALLER SHALL VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.				F	ELC	) C(	ONNE	ECT	ION	НО	OK-	UP	CHA	\RT			
2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE UNUSED VEHICLE LOAD SWITCH RED OUTPUTS 9, 10, 11, AND 12	PHASE	1	2	3	4	5	6	7	8	OLA	OLB	OLC	OLD	2 PED	4 PED	6 PED	8 PED
TO LOAD SWITCH AC+ BY INSERTING A JUMPER PLUG IN THE UNUSED VEHICLE LOAD SWITCH SOCKET FROM PIN I (LS AC+)	SIGNAL HEAD NO.	61	21,22	81	41,42	21	61,62	41	81,82	NU	NU	NU	NU	P3, P4	P1, P2		P5, P6
TO PIN 3 (RED OUT). MAKE SURE <u>ALL</u> FLASH TRANSFER RELAYS ARE IN PLACE.	RED		107		115		123		131								
3. THE CONTROLLER SHALL BE PROGRAMMED TO START UP IN PHASES 2 AND 6 GREEN.	YELLOW		106		114		122		130								
4. POWER-UP FLASH TIME SHOULD BE SET TO IO SECONDS AND IMPLEMENTED ON THE CONFLICT MONITOR. CONTROLLER POWER-UP FLASH TIME SHOULD BE SET TO O SECONDS.	GREEN RED ARROW		105		113		121		129								
5. ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.	YELLOW	102		110		118		126									
6. DETECTORS SHALL BE WIRED IN ACCORDANCE WITH MANUFACTURERS'	GREEN ARROW	101		109		117		125									
INSTRUCTIONS TO ACCOMPLISH THE DETECTION SCHEMES SHOWN ON THE SIGNAL DESIGN PLANS.	₩													135	138	141	144
7. SET ALL DETECTOR UNIT CHANNELS TO 'PRESENCE' MODE.	Ŕ			- - - -										133	136	139	142
8. PROGRAM PHASES 4 AND 8 FOR DUAL ENTRY OPERATION.	NU = NOT	USED					1								ł		
9.THE CABINET AND CONTROLLER ARE PART OF THE CARY SIGNAL SYSTEM.																	
	*******			<u>SP</u>	ECI	AL	BAC	K-U	ΡP	ROT	ECT	ION	I NO	<u>)TE</u>	<u> </u>	<u></u>	

# EQUIPMENT INFORMATION

CONTROLLEREAGLE 2070LN1 CABINETECONOLITE 5300-844	
SOFTWARE	
CABINET MOUNTBASE	
LOAD SWITCHES USED1, 2, 3, 4, 5, 6, 7, 8, 13, 14, 15, 16.	
PHASES USED	
PEDS USED	
OL/BNOT USED	
OL/CNOT USED	
OL/DNOT USED	

## BACK-UP PROTECTION WIRING DETAIL

(install jumpers with diodes as shown)



DIODE = 600VPIV, I AMP (MINIMUM). RECOMMENDED PART NO. IN4005.







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SHEE	T NO.
Sig	. 87

1. PROGRAM CONTROLLER TO OMIT PHASE 1 DURING PHASE 2 ON AND TO OMIT PHASE 5 DURING PHASE 6 ON.

2. PROGRAM CONTROLLER TO OMIT PHASE 3 DURING PHASE 4 ON AND TO OMIT PHASE 7 DURING PHASE 8 ON.

3. TO ACCOMPLISH BACK-UP FEATURE DESCRIBED IN NOTE 1, ENABLE 'BACK-UP PROTECTION GROUP 1' UNDER CONTROLLER SUBMENU 9: 'OPTION DATA.'

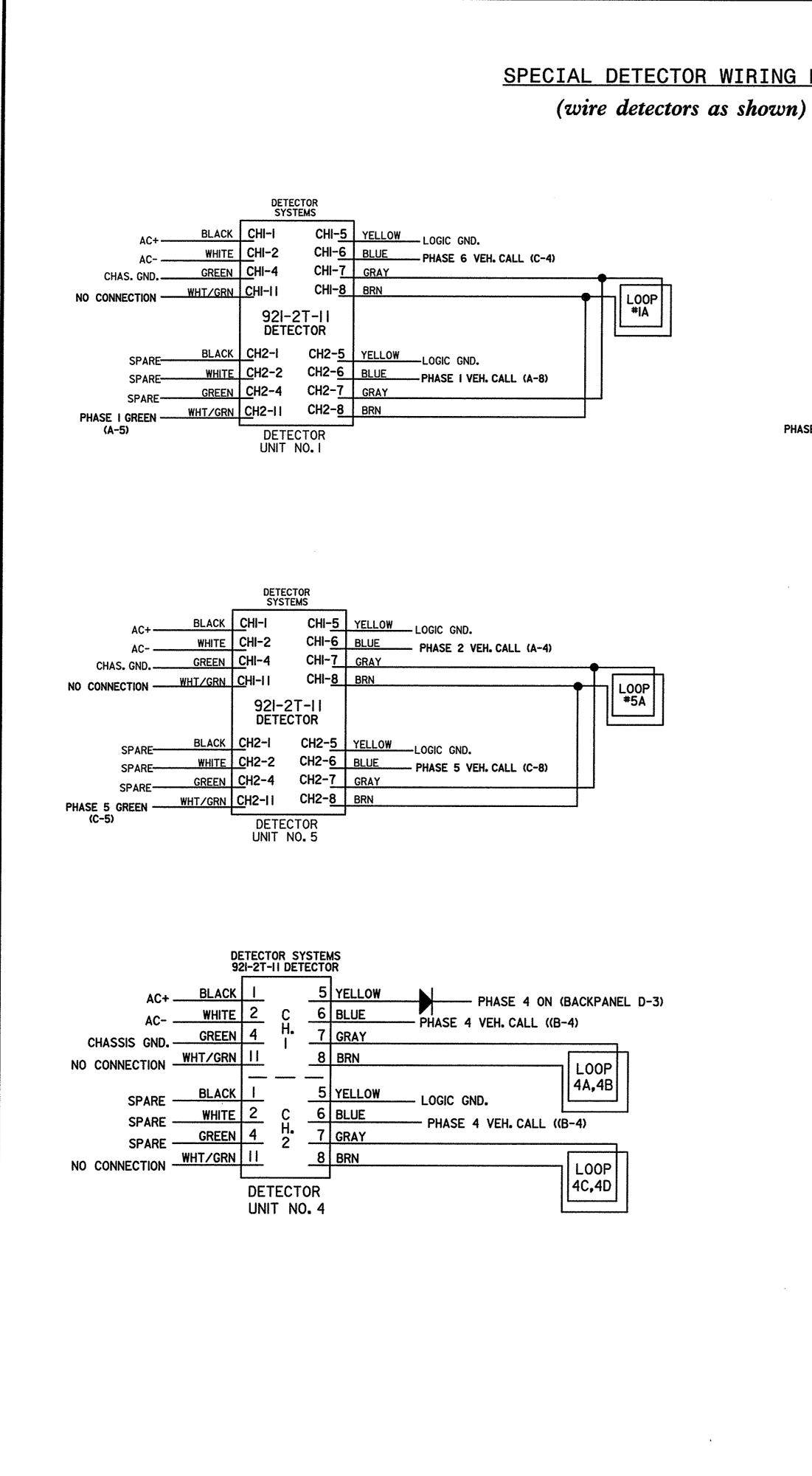
4. TO ACCOMPLISH BACK-UP FEATURE DESCRIBED IN NOTE 2, ENABLE 'BACK-UP PROTECTION GROUP 2' UNDER CONTROLLER SUBMENU 9: 'OPTION DATA.'

5. AN ADDITIONAL BACK-UP PROTECTION FEATURE MUST BE IMPLEMENTED IN THE WRITE-PROTECT AREA OF THE CONTROLLER SOFTWARE. FOR DIRECTIONS ON HAVING THIS FEATURE INSTALLED, CONTACT THE TOWN OF CARY ENGINEERING DEPARTMENT AT (919) 469-4030.

> THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-1692 DESIGNED: August 2006 SEALED: 10-05-06 REVISED:

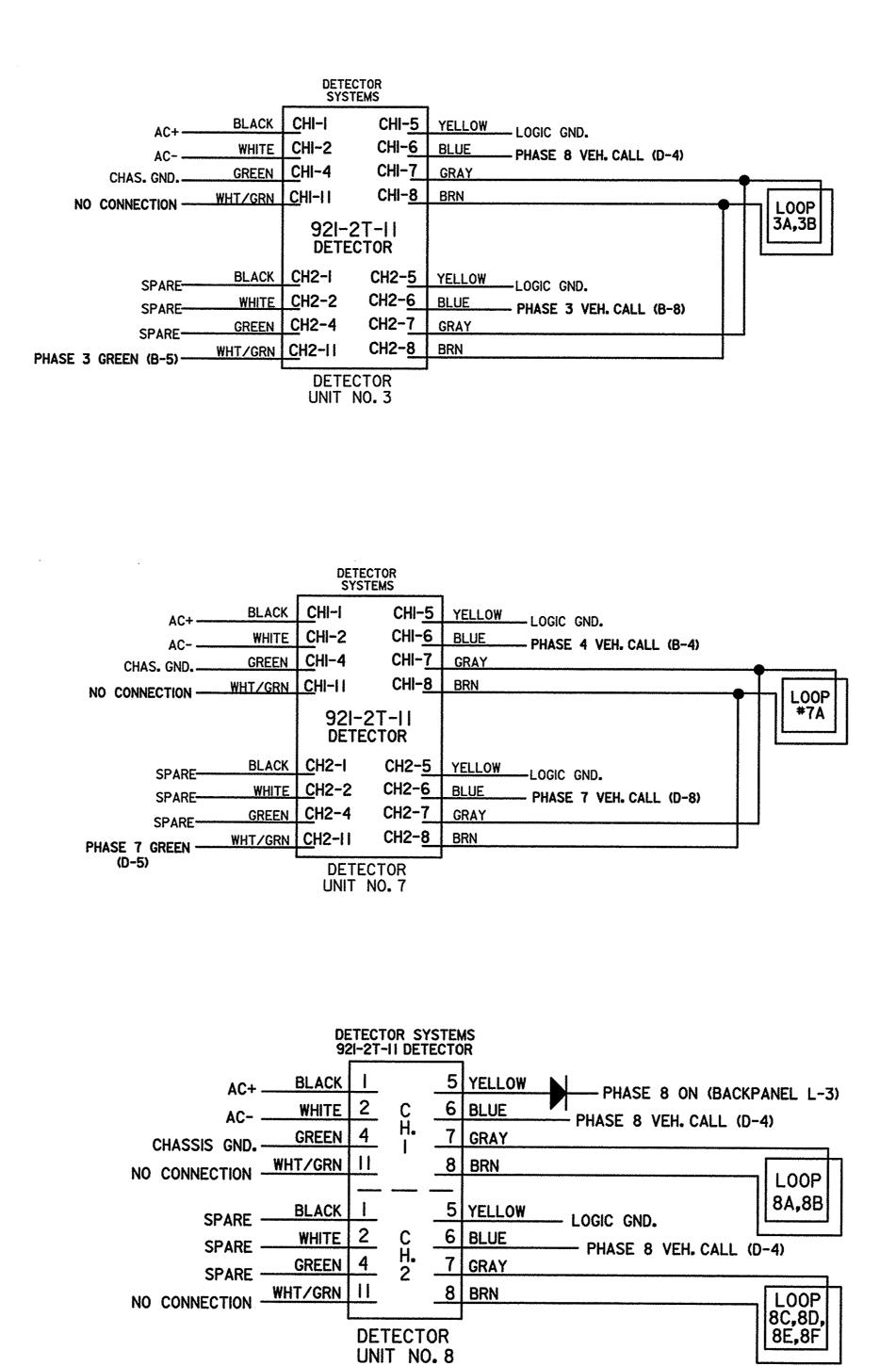
### Signal Upgrade - Sheet 1 of 3

ELECTRICAL AND PROGRAMMING DETAILS FOR:	SR 1615 (Hig 8 SR 3977 (Ca	at ary Parkway) <sub>County</sub>	) Cary levick	SEAL ORIGINESSIGNER EAL 07983 SEAL 07983 STANDARD
ATT AL ANA ANA ANA ANA ANA ANA ANA ANA ANA	PREPARED BY: T.R. Terrell	REVIEWED BY: H.L. Win		HILL & WINSTERMUNIT
122 N. McDowell St., Raleigh, NC 27603	REVISIONS	INIT.	DATE	HUmeles 10/10/06 SIGNATURE DATE
	•••••••••••••••••••••••••••••••••••••••	••••••		SIG. INVENTORY NO. 05-1692



## SPECIAL DETECTOR WIRING DETAIL

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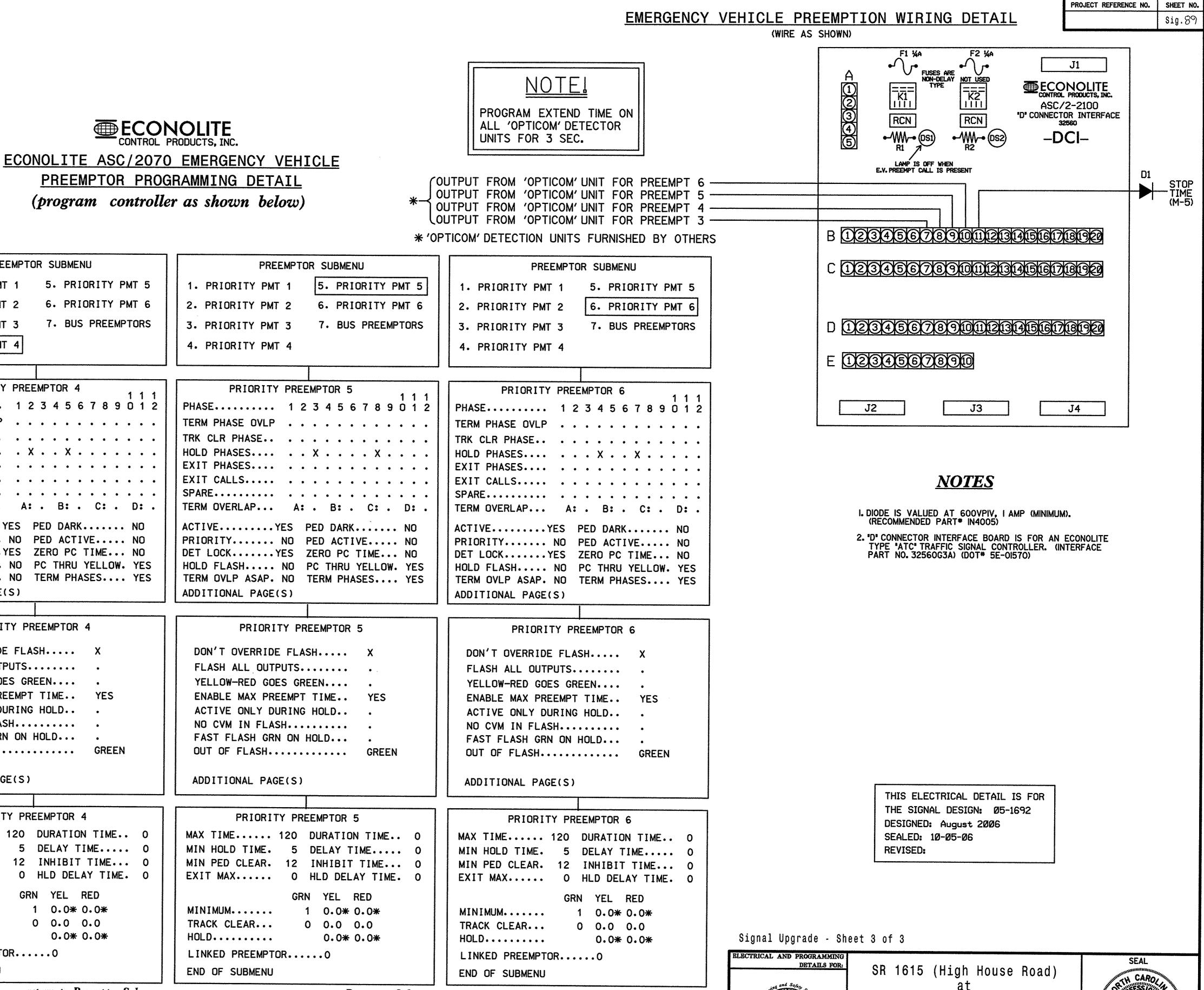
HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609

Sigı ELECTR



	PRO IECT REFERENCE NO	SHEET NO							
	PROJECT REFERENCE NO.								
TYPICAL DETECTOR WIRING DETAIL FOR DETECTOR UNITS 2 &         DETECTOR SYSTEMS 92I-2T-II DETECTOR         AC+ BLACK 1       5 YELLOW       LOGIC GND.         AC-       WHTE 2       C       6       BLUE       VEH. CALL IN         CHASSIS GND.         GREEN 4       1       8       BRN         NO CONNECTION         WHTZ GRN 11       8       BRN         SPARE       BLACK 1       5       YELLOW       LOGIC GND.         SPARE         WHTZ C       6       BLUE       VEH. CALL IN         SPARE         WHTE 2       C       6       BLUE       VEH. CALL IN         SPARE       BLACK 1       SPARE       SPARE         WHTZ C       GREEN 4       2         NO CONNECTION       WHTZ/GRN 11       8       BRN         DETECTOR	IPUT TO CONTROLLE								
	L <u></u>								
NOTES I. DETECTOR UNITS SHOWN ARE DETECTOR SYSTEMS 92I-2T-II 2 CHANNEL DETECTORS. 2. SET CALL DELAY AND EXTEND TIMES AS SHOWN ON THE SIGNAL DESIGN PLANS. 3. PAY CAREFUL ATTENTION TO SPECIAL DETECTOR WIRING DETAILS. 4. ALL CABINET TERMINAL DESIGNATIONS SHOWN ARE ON THE DETECTOR ECONOLITE 8 PHASE, I6 POSITION CABINET (5300-844), UNLESS OTHERWISE SPECIFIED. 5. DIODES SHOWN ARE RATED AT 600VPIV, I AMP MINIMUM. RECOMMENDED PART NO. IN4005.									
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-1692									
DESIGNED: August 2006 SEALED: 10-05-06 REVISED:									
Signal Upgrade - Sheet 2 of 3									
ELECTRICAL AND PROGRAMMING	SEAL								
SR 1615 (High House Road) at SR 3977 (Cary Parkway)	Id WINST	10/10/06							
	SIGNATURE / SIGNAT	DATE 5-1692							

PREEMPTOR SUBMENU 1. PRIORITY PMT 1 5. PRIORITY PMT 5	
1. PRIORITY PMT 1 5. PRIORITY PMT 5	PREEMPTOR SUBMENU
	1. PRIORITY PMT 1 5. PRIORITY
2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY PMT 2 6. PRIORITY
3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEM
4. PRIORITY PMT 4	4. PRIORITY PMT 4
PRIORITY PREEMPTOR 3	
1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	PRIORITY PREEMPTOR 4
TERM PHASE OVLP         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •         •	PHASE         1         2         3         4         5         6         7         8         9           TERM PHASE OVLP         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .
TRK CLR PHASE.	TERM PHASE OVLP    TRK CLR PHASE.
HOLD PHASES X X	HOLD PHASES X X
EXIT PHASES	EXIT PHASES
EXIT CALLS	EXIT CALLS
SPARE            TERM OVERLAP       A:        B:	SPARE
	TERM OVERLAP A: B: C: .
ACTIVE YES PED DARK NO PRIORITY NO PED ACTIVE NO	ACTIVEYES PED DARK
DET LOCKYES ZERO PC TIME NO	PRIORITY NO PED ACTIVE DET LOCKYES ZERO PC TIME
HOLD FLASH NO PC THRU YELLOW. YES	HOLD FLASH NO PC THRU YELLOW
TERM OVLP ASAP. NO TERM PHASES YES	TERM OVLP ASAP. NO TERM PHASES
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
DON'T OVERRIDE FLASH X	DON'T OVERRIDE FLASH X
FLASH ALL OUTPUTS	FLASH ALL OUTPUTS
YELLOW-RED GOES GREEN	YELLOW-RED GOES GREEN
ENABLE MAX PREEMPT TIME YES ACTIVE ONLY DURING HOLD	ENABLE MAX PREEMPT TIME YES
NO CVM IN FLASH	ACTIVE ONLY DURING HOLD NO CVM IN FLASH
FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD
OUT OF FLASH GREEN	OUT OF FLASH GREEN
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3	PRIORITY PREEMPTOR 4
MAX TIME 120 DURATION TIME 0	MAX TIME 120 DURATION TIME.
	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME
MAX TIME 120 DURATION TIME O MIN HOLD TIME. 5 DELAY TIME O	MAX TIME 120 DURATION TIME.
MAX TIME 120 DURATION TIME O MIN HOLD TIME. 5 DELAY TIME O MIN PED CLEAR. 12 INHIBIT TIME O	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME.
MAX TIME 120 DURATION TIME 0 MIN HOLD TIME. 5 DELAY TIME 0 MIN PED CLEAR. 12 INHIBIT TIME 0 EXIT MAX 0 HLD DELAY TIME. 0 GRN YEL RED MINIMUM 1 0.0* 0.0*	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME. EXIT MAX 0 HLD DELAY TIME
MAX TIME 120 DURATION TIME 0 MIN HOLD TIME. 5 DELAY TIME 0 MIN PED CLEAR. 12 INHIBIT TIME 0 EXIT MAX 0 HLD DELAY TIME. 0 GRN YEL RED MINIMUM 1 0.0* 0.0* TRACK CLEAR 0 0.0 0.0	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME EXIT MAX 0 HLD DELAY TIME GRN YEL RED MINIMUM 1 0.0* 0.0* TRACK CLEAR 0 0.0 0.0
MAX TIME 120 DURATION TIME 0 MIN HOLD TIME. 5 DELAY TIME 0 MIN PED CLEAR. 12 INHIBIT TIME 0 EXIT MAX 0 HLD DELAY TIME. 0 GRN YEL RED MINIMUM 1 0.0** 0.0** TRACK CLEAR 0 0.0 0.0 HOLD 0.0** 0.0*	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME EXIT MAX 0 HLD DELAY TIME GRN YEL RED 1 0.0* 0.0* TRACK CLEAR 0 0.0 0.0 HOLD 0.0*
MAX TIME 120 DURATION TIME 0 MIN HOLD TIME. 5 DELAY TIME 0 MIN PED CLEAR. 12 INHIBIT TIME 0 EXIT MAX 0 HLD DELAY TIME. 0 GRN YEL RED MINIMUM 1 0.0** 0.0* TRACK CLEAR 0 0.0 0.0 HOLD 0.0** 0.0* LINKED PREEMPTOR0	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME EXIT MAX 0 HLD DELAY TIME GRN YEL RED MINIMUM 1 0.0* 0.0* TRACK CLEAR 0 0.0 0.0 HOLD 0.0* 0.0* LINKED PREEMPTOR0
MAX TIME 120 DURATION TIME 0 MIN HOLD TIME. 5 DELAY TIME 0 MIN PED CLEAR. 12 INHIBIT TIME 0 EXIT MAX 0 HLD DELAY TIME. 0 GRN YEL RED MINIMUM 1 0.0** 0.0** TRACK CLEAR 0 0.0 0.0 HOLD 0.0** 0.0*	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME EXIT MAX 0 HLD DELAY TIME GRN YEL RED MINIMUM 1 0.0* 0.0* TRACK CLEAR 0 0.0 0.0 HOLD 0.0* 0.0*
MAX TIME 120 DURATION TIME 0 MIN HOLD TIME. 5 DELAY TIME 0 MIN PED CLEAR. 12 INHIBIT TIME 0 EXIT MAX 0 HLD DELAY TIME. 0 GRN YEL RED MINIMUM 1 0.0** 0.0** TRACK CLEAR 0 0.0 0.0 HOLD 0.0** 0.0** LINKED PREEMPTOR0	MAX TIME 120 DURATION TIME. MIN HOLD TIME. 5 DELAY TIME MIN PED CLEAR. 12 INHIBIT TIME EXIT MAX 0 HLD DELAY TIME GRN YEL RED MINIMUM 1 0.0* 0.0* TRACK CLEAR 0 0.0 0.0 HOLD 0.0* 0.0* LINKED PREEMPTOR0



r Submenu

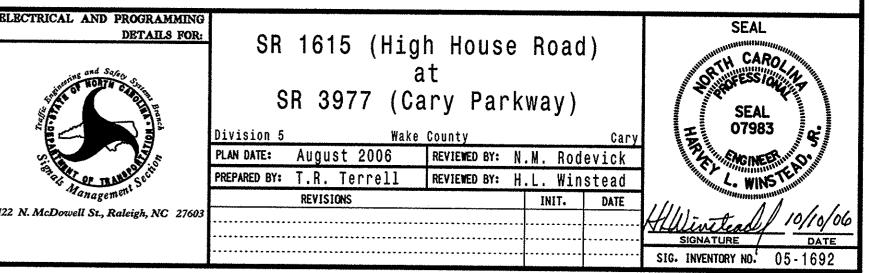
return to Preemptor Submenu

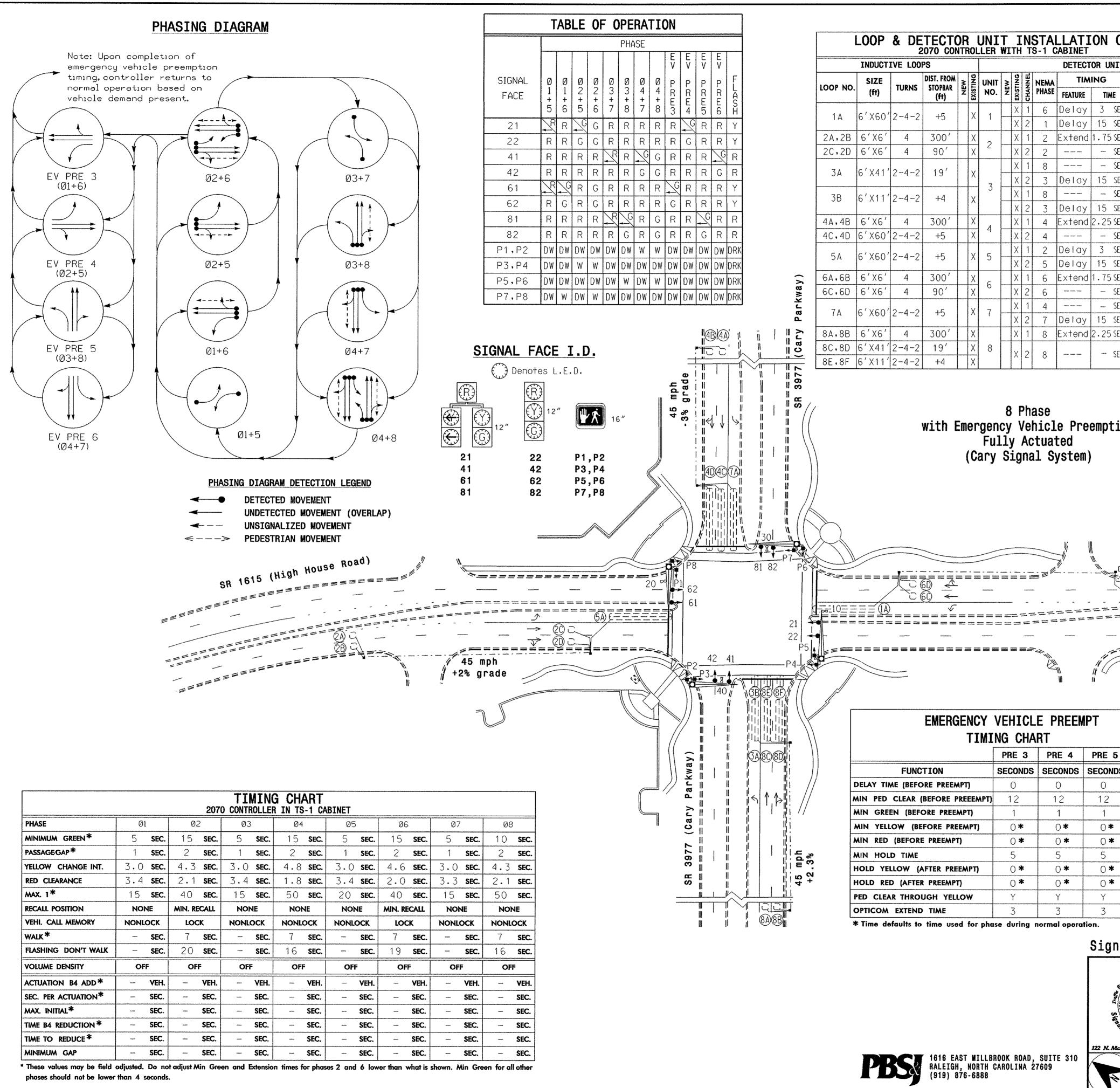
end of programming



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			A	207			R IN TS		BINET																																																																			
PHASE	Ø	[	02	2	03	3	Ø4		05		Ø6	·	07	7																																																														
MINIMUM GREEN*	5	SEC.	15	SEC.	5	SEC.	15	SEC.	5	SEC.	15	SEC.	5	SEG																																																														
PASSAGE/GAP*	1	SEC.	2	SEC.	1	SEC.	2	SEC.	1	SEC.	2	SEC.	1	SEC																																																														
YELLOW CHANGE INT.	3.0	SEC.	4.3	SEC.	3.0	SEC.	4.8	SEC.	3.0	SEC.	4.6	SEC.	3.0	SEC																																																														
RED CLEARANCE	3.4	SEC.	2.1	SEC.	3.4	SEC.	1.8	SEC.	3.4	SEC.	2.0	SEC.	3.3	SEC																																																														
MAX. 1*	15	SEC.	40	SEC.	15	SEC.	50	SEC.	20	SEC.	40	SEC.	15	SEC																																																														
RECALL POSITION	NO	NE	MIN. RE	CALL.	NO	NE	NOM	NE	NO	1E	MIN. RE	CALL	NONE																																																															
VEHI. CALL MEMORY	NONL	оск	LOC	ĸ	NONL	оск	NONLO	оск	NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		NONLOCK		LOC	ĸ	NONL	OCK
WALK*		SEC.	7	SEC.		SEC.	7	SEC.		– SEC.		- SEC.		- SEC.		SEC.		SEC																																																										
FLASHING DON'T WALK		SEC.	20	SEC.		SEC.	16	SEC.		SEC.	19	SEC.	<u> </u>	SEC																																																														
VOLUME DENSITY	OF	F	OF	F	OF	OFF		•	OFF		OFF		OFF																																																															
ACTUATION B4 ADD*	T	VEH.		VEH.		VEH.		VEH.	_	VEH.		VEH.		VE																																																														
sec. per actuation*		SEC.		SEC.		SEC.		SEC.		SEC.		SEC.	<u> </u>	SEC																																																														
MAX, INITIAL*		SEC.		SEC.	-	SEC.		SEC.		SEC.	_	SEC.	_	SEC																																																														
TIME B4 REDUCTION *		SEC.		SEC.		SEC.		SEC.		SEC.		SEC.		SEC																																																														
TIME TO REDUCE*		SEC.		SEC.	_	SEC.		SEC.		SEC.	<u> </u>	SEC.	-	SEC																																																														
MINIMUM GAP		SEC.		SEC.		SEC.		SEC.		SEC.		SEC.		SEC																																																														
• These values may be field	adjusted.	Do no	ot adjust N	lin Gre	en and i	Extensio	n times f	or phas	ses 2 and	6 low	ver than v	vhat is	shown, A	Vin (																																																														

14:17 \*280310 -001-2006 \*TE6\*Curr

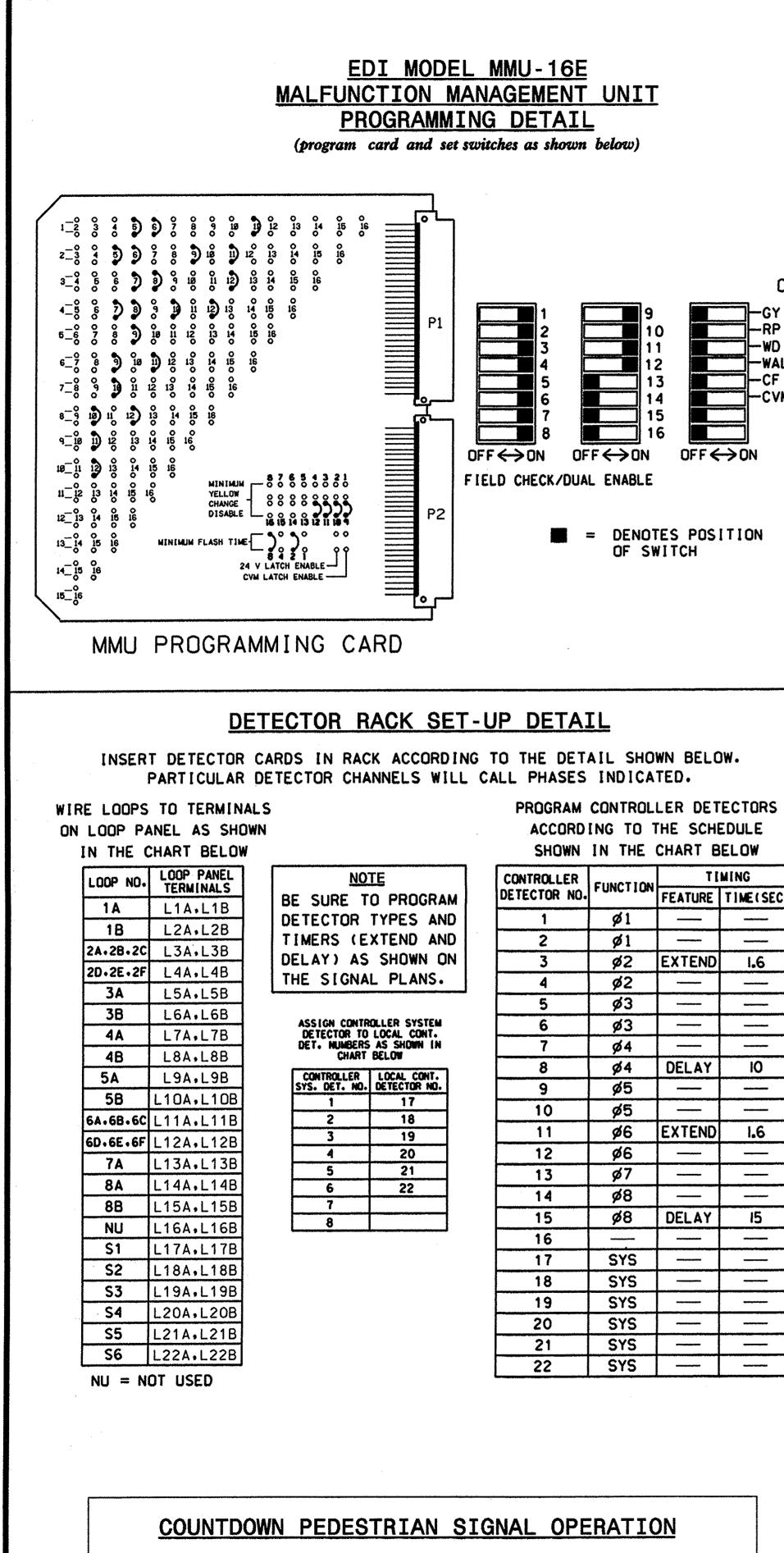
							1
						PROJECT REFERENCE NO.	SHEET NO.
ON CH					NOTES		<b>Sig.</b> 86
			1.	Refer to "Ro	adway Standard Dr	rawings NCDOT" da	ted
OR UNITS	S	All David Description and a second		•	d "Standard Speci		
ING		INHIBIT DELAY			ructures" dated J ections of the lo	-	the
TIME	DURING PHASE	DURING GREEN?			ect special provi		
3 SEC.	·}	NO		•	at http://www.ncc		
15 SEC.		YES		preconstruct	/traffic/tmssu/.		
1.75 SEC. - SEC.		NO NO	2.		am signal for lat	-	
- SEC.		NO	<b>र</b>	-	less otherwise di up protection for	-	gineer.
15 SEC.	<b>}</b>	YES	5.	•	ses 1, 2, 5, 6),		
– SEC.	ł	NO	4.	<b>e</b> , , ,	to concurrent gr	oup 2 when	
15 SEC.	ALL	YES			ction is on for c		1.
2.25 SEC.	<u> </u>	NO	5.	•	up protection for	concurrent	
- SEC.		NO	6.	•	ses 3, 4, 7, 8) es 4 and 8 for du	ial entry.	
3 SEC.		NO		÷ .	ctor units to pre	-	
15 SEC. 1.75 SEC.		YES NO			and flashing "DON		
- SEC.		NO		pedestrian c	alls.		
- SEC.		NO			kings are existin	-	•
15 SEC.		YES	10.		ction features ar		
2.25 SEC.	<u>↓</u>	NO		conceptual c	wn locations of c nly,	UNITED TO THE TOPS	U B
- SEC.		NO	11.	•	or 10 calls Emerg	jency Preemptor 3	
SEC.	ALL	NU			or 20 calls Emerg		
					or 30 calls Emerg		
			10		or 40 calls Emerg		•
			12.		re 10 LF of pre-e receiver/detecto		
emptio	n			•	l span improvemen		
	•••		13.	•	up protection for		ation
				by enabling	TERM PHASES for E	V PRE 3, EV PRE	4
				EV PRE 5, an			
			14.		rogram MAX PREEMP pds for EV proomp		
			15.		nds for EV preemp s shown in timing		
			10.		ration only. Coc		
					g values supersed		
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					LEGEND		
		]		PROPOSED		EXISTING	
Т				<b>○&gt;</b>	Traffic Signal Head	<b>•</b> >-	
				0->	Modified Signal Head	N/A	
PRE 5	PRE	6			Sign Podostrian Sianal Hoa		
ECONDS	SECON	IDS		[_] ¥	Pedestrian Signal Hea With Push Button & Sig	ia in internationalista internationalista internationalista internationalista internationalista internationalista Igno internationalista internationalista internationalista internationalista internationalista internationalista	
0	0			$\sim$	Signal Pole with Guy	• •	
12	12			Si	gnal Pole with Sidewalk	• •	
1	1				Inductive Loop Detecto	or (1111)	
0*	0*				Controller & Cabinet		
0 <b>*</b> 5	0*				Junction Box 2-in Underground Condu	••••••••••••••••••••••••••••••••••••••	
<u> </u>	c	 ⊧		N/A	Right of Way with Mark		
0*	0 *			$\rightarrow$	Directional Arrow	$\rightarrow$	
Y	Y				Pavement Marking Arro	w ->	
3	3			$\bigcirc$	Metal Pole with Mastar		
n.				$\sim$	Out of Pavement Detect	or 🛏	
Siano	]   n	grade	1				
July	- oh	yı aut	, 				
	still and Sea	5 S.		SR 1615 (	High House Road	Cary ney	Intr.
States	th OF HONYN	C JIIOLIE B		,	at	URTH CAA	OL IN THE
Traff.		No. NO		SR 3977	(Cary Parkway)	A POFESS	
Signals		N. S. S.	n-			SEAL 02251	6
Tal.	and Geome	nics Sect		AN DATE: August 20	e County 106 REVIEWED BY: MR COO	Cary ney	R. M. HILL
122 N. McDe		aleigh, NC 2		EPARED BY: LN NOO		1111SA M. N	00141111
$\langle \nabla$		SCALE		REVISIONS	INIT.	DATE ()	·

1"=50'

-50

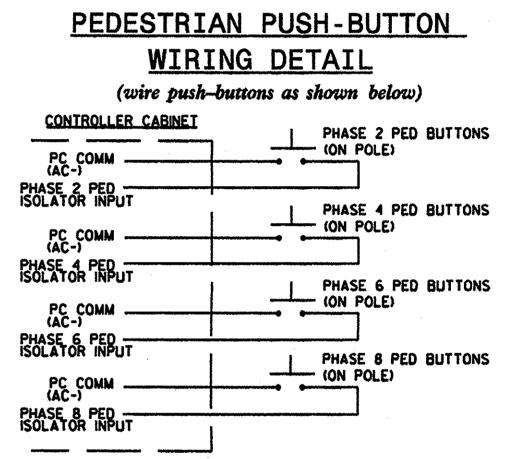
SIG. INVENTORY NO.

05-1692



Countdown ped signals are required to display timing only during ped clearance interval. Consult ped signal module user's manual for instructions on selecting this feature.

							~																						PRO	NECT F	EFERENCE NO.	SHEET NO. Sig-14
			//			NOTES	-		•																							UTA IT
		tche	es to	flash	red.	Verif Signal	y that	r sign									FIE	.D (	CONN	EC	ΓΙΟΙ											
	2. To					-	-		r cha	nnel	s. +	ie		PHASE	1	2	3	4	5	6	7						OLA					, ,
	unu	sed	load	switch	n red (	output	s 13.1	4.15	& 16	to				HEAD NO	- 11.12	2 21,22 2R	31,32	41,42 4R		6R		1,82 8R	P22	P42	P62	P82	NU	NU	NU	NU		
	loa	id sw	/itch	socke	t from	rting pin 1	(LS A	(C+) 1	o pin	3 (	red			YELLOW		2n 2Y		4Y		6Y		8Y										
						nsfer	·		-					GREEN		26		4G		6G		86										
OPTIONS	3. Pro	-									-			RED	IR		3R		5R		7R											
Y ENABLE P DISABLE	<ol> <li>Set power-up flash time to 10 seconds and implement on the Malfunction Management Unit. Set controller</li> </ol>				gement Unit. Set controller						YELLOW	14		ЗҮ		5Y		7Y														
VD ENABLE VALK DISABLE CF ENABLE	pow	er-u	ıp fla	ish tin	ne to (	0 seco	nds.							GREEN	16		3G		50		76											
WM LOG DISABLE	5. Ena for		Simul phas		us Gap	-out f	eature	e on	contr	olle	r un	nit.											9R	10R	11R	12R						
	6. Pro	gram	n dete	ctors	in ac	cordan	ce wit	h the	manu	fact	urer	's		<b>*</b>									96	10G	11G	126						
	ins	truc	tions	to ac		ish th								NU =	Not l	Jsed					Mad 1 - 10 - 10 - 10 - 10								A. 112-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	<u></u>		
	<ol> <li>Program detector call delay and extension timing on the controller, unless otherwise specified.</li> </ol>											<u>P</u>	EDE	ST	RI/	<u>N</u>	PU	<u>SH</u>	<u>- Bl</u>	JTT	ON											
	8. Set all detector card unit channels to "presence" mode.						le.							(a)						<u>AIL</u> rwn b		))										
	9. Thi						-		the C	ary								CONTR	OLLER	~			1	P	HASE	2 PEI	D BUT	ONS				
	SIG	ngi	Syste	m. Cho		6, Add	ress o	•															•	• ((	ON PO	LE)						
		EQUIPMENT INFORMATION																	HASE		D BUT	ONS										
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	CABIN	NET .			C		TOR SU							PC COMM PHASE 6 PED BUTTONS																		
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	L3   L	_1	L7	L5	L11	L9	L15	L13				S								6 7			ø6 ø7									
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BIU	CH2 CI	H2	CH2	CH2	CH2	СН2	CH2	CH2	СНВ	C	HD	F								10 11			4 P 6 P	ED			A	ic dep	QQTAAC	∖୲⊤∙∩⊊ 1	RANSPORTATIO	<b>.</b>
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	ø2 ø	\$1	ø4	ø3	ø6	Ø5	NOT USED	ø8	EVP Ø2,	4 EV 5 Ø4		T Y								14 15			OL OL	8			<b>*</b> *	• )	RAWING	11	8306	Land
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DETECTOR R		:H1		CHI																							ſ		RAME	YKEN	MP & ASSOC	ATES, INC.
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L					]											NC	NE								·						7-20-	DATE
																													-	SIG	INVENTORY NO.	05-1732



PREEMPTOR SUBMENU	
1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY
2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY
3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY
4. PRIORITY PMT 4	4. PRIORITY
	PRIO
PRIORITY PREEMPTOR 3	PHASE
PHASE 123456789012	TERM PHASE O
	TRK CLR PHASE O
TRK CLR PHASE.	HOLD PHASES.
HOLD PHASES X X	EXIT PHASES.
	EXIT CALLS
TERM OVERLAP A: . B: . C: . D: .	TERM OVERLAP
ACTIVE YES PED DARK NO	ACT [ VE
PRIORITY NO PED ACTIVE NO	PRIORITY
DET LOCK YES ZERO PC TIME NO	DET LOCK
HOLD FLASH NO PC THRU YELLOW. YES	HOLD FLASH
TERM OVLP ASAPNO TERM PHASES NO	ADDITIONAL P
ADDITIONAL PAGE(S)	AUDITIONAL
	PRI
PRIORITY PREEMPTOR 3	PRI PRI
DON'T OVERRIDE FLASH X	DON'T OVER
FLASH ALL OUTPUTS	FLASH ALL
YELLOW-RED GOES GREEN	YELLOW-RED
ENABLE MAX PREEMPT TIME YES	ENABLE MAX
ACTIVE ONLY DURING HOLD	ACTIVE ONL
NO CVM IN FLASH	NO CVM IN
FAST FLASH GRN ON HOLD OUT OF FLASH GREEN	FAST FLASH OUT OF FLA
ADDITIONAL PAGE(S)	ADDITIONAL
PRIORITY PREEMPTOR 3	PRI
MAX TIME 120 DURATION TIME 0	MAX TIME
MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TO
MIN PED CLEAR. 15 INHIBIT TIME 0	NIN PED CLE
EXIT MAX O HLD DELAY TIME. O	EXIT MAX
GRN YEL RED	
MINIMUM 1 0.0* 0.0*	MINIMUM
TRACK CLEAR 0 0.0 0.0	TRACK CLEAR
HOLD	HOLD
END OF SUBMENU	END OF SUBM
active to Beaution Seiberance	

\* Time defaults to time used for phase during normal oper-

return to Preemptor Submenu

# ECONOLITE ASC/2070 EMERGENCY VEHICLE PREEMPTOR

PROGRAMMING DETAIL

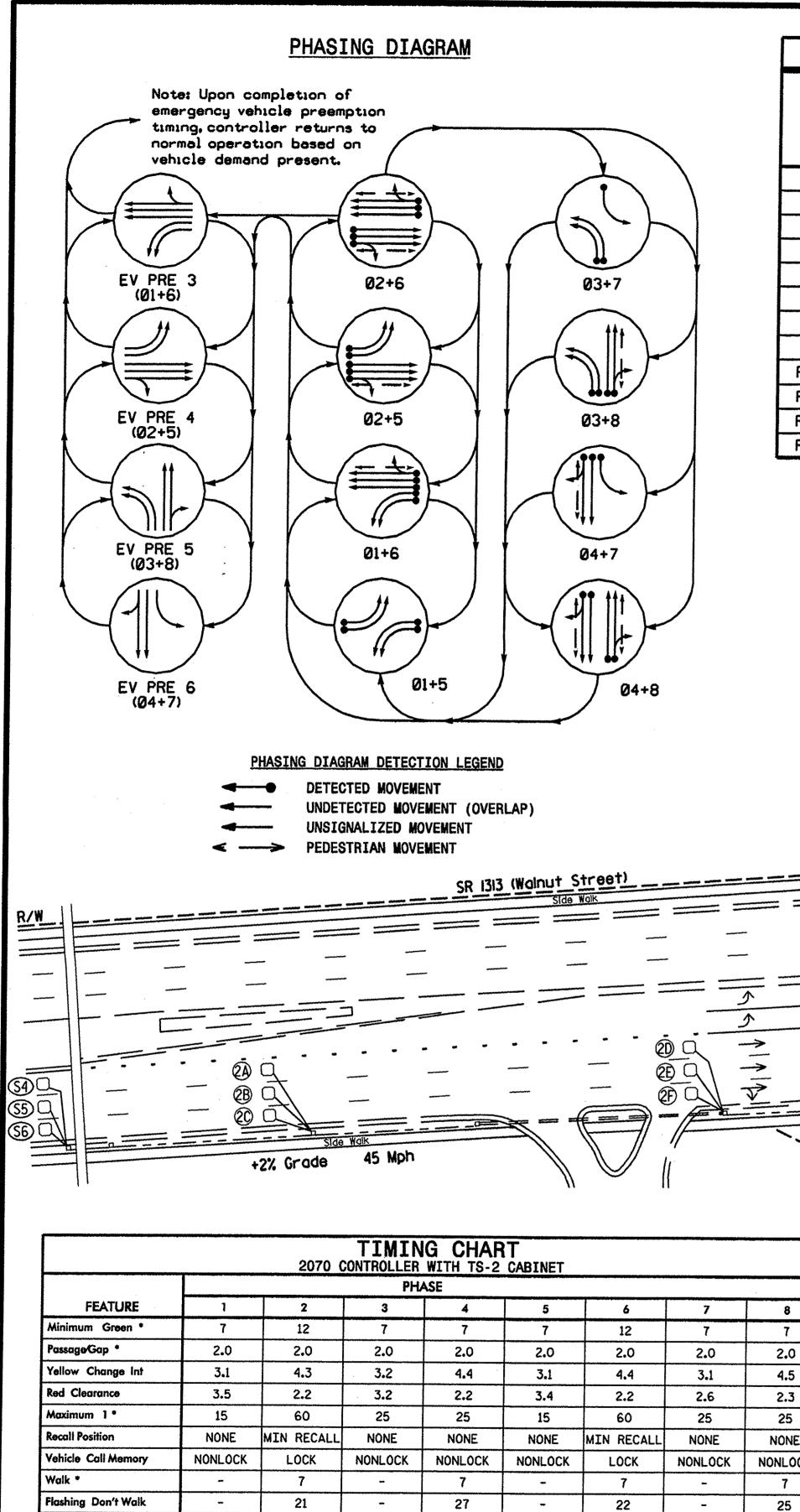
(program controller as shown below) FROM MAIN MENU PRESS 4 (PREEMPTOR)

PREEMPTOR SUBMENU	PREEMPTOR SUBMENU	PREEMPTOR SUBMENU
1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1 5. PRIORITY PMT 5	1. PRIORITY PMT 1 5. PRIORITY PMT
2. PRIORITY PNT 2 6. PRIORITY PNT 6	2. PRIORITY PMT 2 6. PRIORITY PMT 6	2. PRIORITY PMT 2 6. PRIORITY PMT
3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTORS	3. PRIORITY PMT 3 7. BUS PREEMPTOR
I. PRIORITY PNT 4	4. PRIORITY PMT 4	4. PRIORITY PMT 4
PRIORITY PREEMPTOR 4 1 1 1	PRIORITY PREEMPTOR 5 1 1 1	PRIORITY PREEMPTOR 6
PHASE 123456789012	PHASE 123456789012	PHASE 1 2 3 4 5 6 7 8 9 0 1
ERM PHASE OVLP	TERM PHASE OVLP	
IRK CLR PHASE		TRK CLR PHASE    TRK CLR PHASE      HOLD PHASES    X
HOLD PHASES         X         X         X         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .         .          .         .	HOLD PHASES X X	EXIT PHASES
TERM OVERLAP A: . B: . C: . D: .	TERM OVERLAP At . Bt . Ct . Dt .	TERN OVERLAP A: . B: . C: . D:
ACTIVE YES PED DARK NO	ACTIVE YES PED DARK NO	ACTIVE YES PED DARK NO
PRIORITY NO PED ACTIVE NO	PRIORITY NO PED ACTIVE NO	PRIORITY NO PED ACTIVE NO
DET LOCK YES ZERO PC TIME NO	DET LOCK YES ZERO PC TIME NO	DET LOCK YES ZERO PC TIME NO
HOLD FLASH NO PC THRU YELLOW. YES	HOLD FLASH NO PC THRU YELLOW. YES	HOLD FLASH NO PC THRU YELLOW. YES
TERM OVLP ASAPNO TERM PHASES NO	TERM OVLP ASAPNO TERM PHASES NO	TERM OVLP ASAPNO TERM PHASES NO
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 4	PRIORITY PREEMPTOR 5	PRIORITY PREEMPTOR 6
		DON'T OVERRIDE FLASH X
DON'T OVERRIDE FLASH X	DON'T OVERRIDE FLASH X FLASH ALL OUTPUTS	FLASH ALL OUTPUTS
FLASH ALL OUTPUTS	YELLOW-RED GOES GREEN	YELLOW-RED GOES GREEN
YELLOW-RED GOES GREEN ENABLE MAX PREEMPT TIME YES	ENABLE MAX PREEMPT TIME YES	ENABLE MAX PREEMPT TIME YES
ACTIVE ONLY DURING HOLD.	ACTIVE ONLY DURING HOLD.	ACTIVE ONLY DURING HOLD.
NO CVM IN FLASH	NO CVM IN FLASH	NO CVM IN FLASH
FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD	FAST FLASH GRN ON HOLD
OUT OF FLASH GREEN	OUT OF FLASH GREEN	OUT OF FLASH GREEN
ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)	ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 4	PRIORITY PREEMPTOR 5	PRIORITY PREEMPTOR 6
MAX TIME 120 DURATION TIME 0	MAX TIME 120 DURATION TIME 0	MAX TIME 120 DURATION TIME 0
MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5 DELAY TIME 0	MIN HOLD TIME. 5 DELAY TIME C
MIN PED CLEAR. 15 INHIBIT TIME 0	MIN PED CLEAR. 15 INHIBIT TIME 0	MIN PED CLEAR. 15 INHIBIT TIME 0
EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. O	EXIT MAX O HLD DELAY TIME. C
GRN YEL RED	GRN YEL RED	GRN YEL RED
MINIMUM 1 0.0* 0.0*	MINIMUM 1 0.0* 0.0*	NINIMUM 1 0.0* 0.0*
TRACK CLEAR 0 0.0 0.0	TRACK CLEAR 0 0.0 0.0	TRACK CLEAR         0         0.0         0.0           HOLD         0.0*         0.0*         0.0*
HOLD	HOLD	HOLD
END OF SUBMENU	END OF SUBMENU	END OF SUBMENU
return to Preemptor Submenu	return to Preemptor Submenu	end of programming

PROGRAM EXTEND TIME ON OPTICAL DETECTOR UNIT FOR 3.0 SEC.



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN 65-1722 DESIGNED July 2007 SaleD 7-28-2007 SaleD 7-28-20					PROJEC	T REFERENCE NO.	SHEET NO.
THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGNED: July 2007 SEALED: 7-20-2007 REVISED:       NK DEPERMENT OF TRENSPORTATION DISCON OF HIGHLINS FIREL DRAUMS DOG: CONTACT OF TRENSPORTATION DISCON OF HIGHLINS FIREL DRAUMS DOG: CONTACT DISCON OF HIGHLINS FIREL DRAUMS DOG DOG FIREL DRAUMS					Į		Sig-15
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Upgrade - Sheet 2 of 2       RAMEY KEMP & ASSOCIATES, INC.         Deprograde - Sheet 2 of 2       State 1313 (Walnut Street) at Dillard Drive         Dillard Drive       SEAL         Division 5       Wake County         Prograde NC 27603       PREPARED BY: H.W. Surti         Radeeba NC 27603       PREPARED BY: H.W. Surti         NE       Stona Ture				*		Q Z	57
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at       Dillard Drive       Division 5     Wake County       Plan Date:     July 2007       Reviewe NC 27603       PREPARED BY:     H. M. Surti       RKA PROJ. ND.:     06020 (040)       NE	ND PROGRAMMING		·····	······		SEAL	
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\* 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.

	LOOP & DETECTOR UNIT INSTALLATION CHART
TABLE OF OPERATION	2070 CONTROLLER WITH TS-2 CABINET
PHASE	
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	5806 Faringdon Place Roleigh, North Carolina 27609 919-872-5115 tel. 919-878-5416 fax - wew.romeykemip.com
	919-8/2-5115 tel. 919-878-5416 fax - wew.romeykemp.com

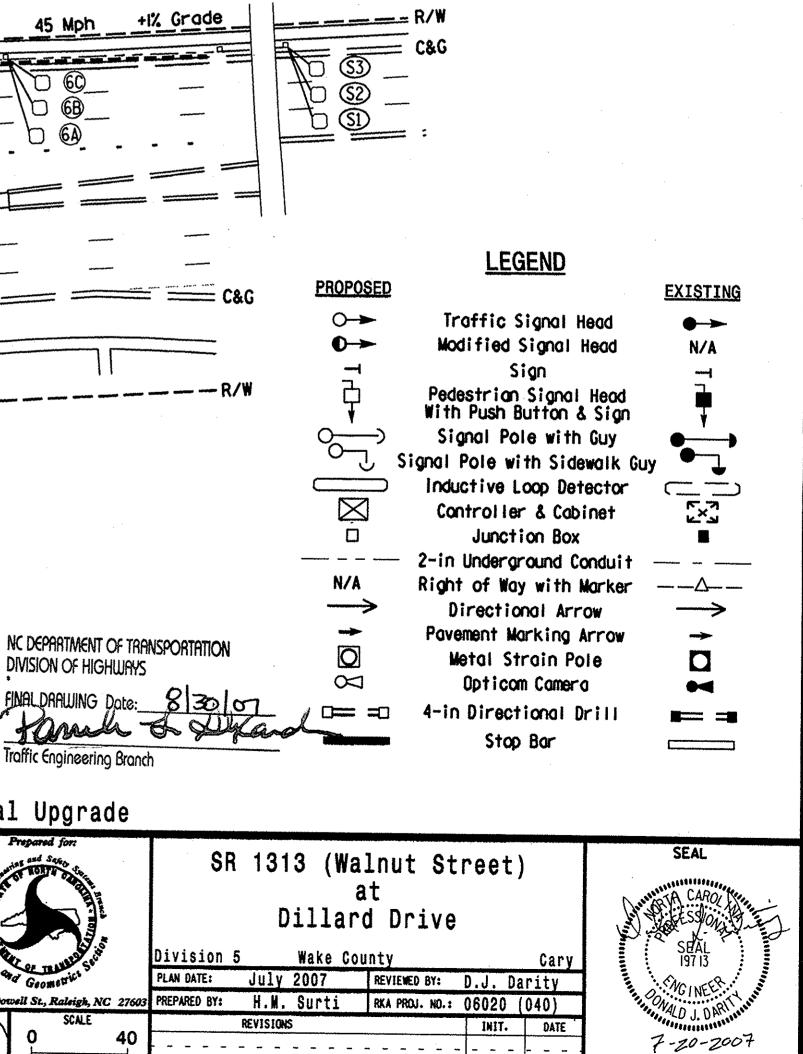
PROJECT REFERENCE NO.

SHEET NO. Sig-13

### 8 Phase with Emergency Vehicle Preemption Fully Actuated (Cary Signal System)

## NOTES

- I. Refer to "Roadway Standard Drawings NCDOT" dated July 2006, "Standard Specifications for Roads and Structures" dated July 2006.
- 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- 3. Phase I or phase 5 may be lagged.
- 4. Set all detector units to presence mode.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
   Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- 7. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- 8. Opticom sensor 10 calls Emergency Preemptor 3. Opticom sensor 20 calls Emergency Preemptor 4. Opticom sensor 30 calls Emergency Preemptor 5. Opticom sensor 40 calls Emergency Preemptor 6.
- 9. Program MAX PREEMPT TIME for 120 seconds for EV preemptors.
- 10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Contractor shall maintain operation of existing video detection zones during construction.
- 12. Cut back nose of island 10' on NB approach of Walnut St.

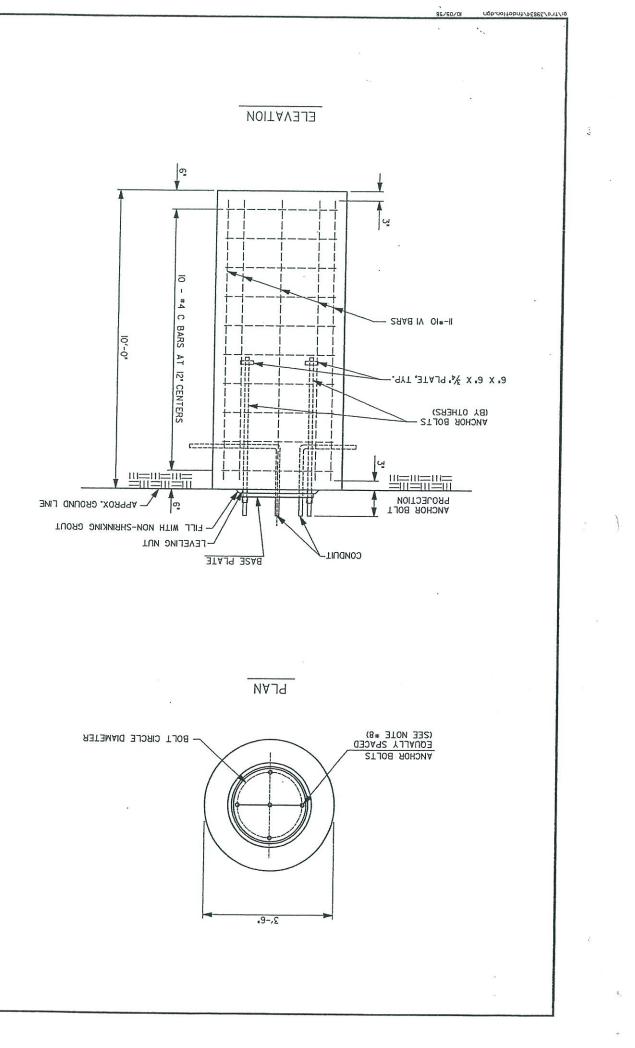


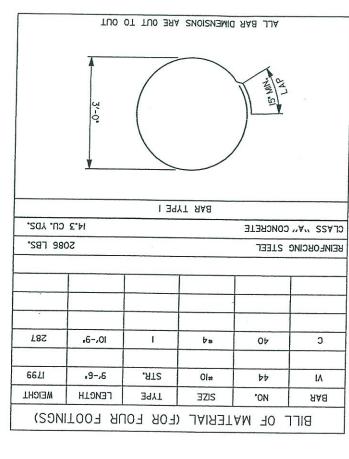
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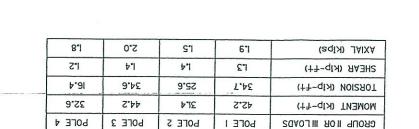
SIGNATURE

SIG. INVENTORY NO. 05-1732

DATE







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WAKE COUNTY

LEGAULT DRIVE PRESTONWOOD PARKWAY

TΑ

SR. IGIS (HIGH HOUSE RD.)

SNOISIAE

2301 Rexwoods Drive, Suite 200 Roleigh, NC 27607 Tet 919/782-5511 Fax: 919/782-5905

ARCADIS GERAGHTY& MILLER

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IL &S SHOWN IN THE TABLE BELOW, THE FOUNDATIONS ARE DESIGNED TO RESIST THE SIMULTANEOUS WORST CASE LOADS DERIVED FROM THE 80 MPH WIND AND 25-YEAR MEAN OCCURANCE INTERVAL. THE PROPOSED METAL STRAIN POLE SHALL BE OF SUFFICIENT STRENGTH TO RESIST THESE SAME LOADS AT THE BASE.

IO. THE FOUNDATION DESIGN IS BASED ON THE ASSUMPTION THAT WATER IS BELOW. THE BOTTOM OF THE FOUNDATION.

9. FOR OTHER DETAILS REGARDING CONSTRUCTION OF THE CONCRETE FOUNDATION, REFER TO THE SPECIAL PROVISION.

8. ANCHOR BOLTS FOR ALL POLES TO BE DESIGNED BY THE POLE SUPPLIER. THE REQUIRED NUMBER OF ANCHOR BOLTS, STRENGTH, BOLT DIAMETER, EMBEDMENT LENGTHS, PROJECTION, AND BOLT CIRCLE DIAMETER SHALL BE DERIVED FROM APPROVED DRAWINGS SHOWING POLE DETRILS.

7. PROVISIONS SHALL BE MADE FOR DRAINAGE OF WATER FROM INSIDE OF THE METAL SUPPORTS.

6. NOW-SHRINKING GROUT SHALL BE A MIX CONSISTING OF ONE PART CEMENT AND THREE PARTS CONCRETE SAND BY WEIGHT AND TWO GRAMS OF ALUMINIUM POWDER PER NINETY-FOUR POUNDS OF CEMENT USED, WATER SHALL BE LIMITED TO THAT AMOUNT REQUIRED TO PRODUCE A WORKABLE SLUMP.

5. THE TRAFFIC SIGNAL STRUCTURE SHALL NOT BE ERECTED BEFORE THE CONCRETE IN THE FOUNDATION HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.

4. IF SHORING IS USED IN CONJUNCTION WITH EXCAVATION TO KEEP SOIL FROM COLLAPSING, IT SHALL BE SOND SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OF RATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER CONCRETE IS CAST. OPERATIONS SHALL BE CONDUCTED IN A MANNER FOR A

3. CONCRETE SHALL BE CAST AGAINST UNDISTURBED SOIL.

2. REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, GRADE 60.

L CONCRETE SHALL BE CLASS "A".

NOTES

L '9IS 6.407250 PROJECT REFERENCE NO. SHEET NO.

1571-20

WOHL 7 NEWS

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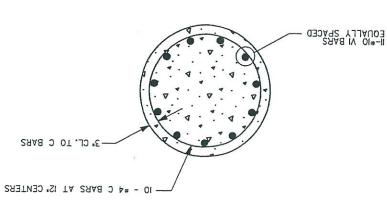
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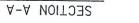
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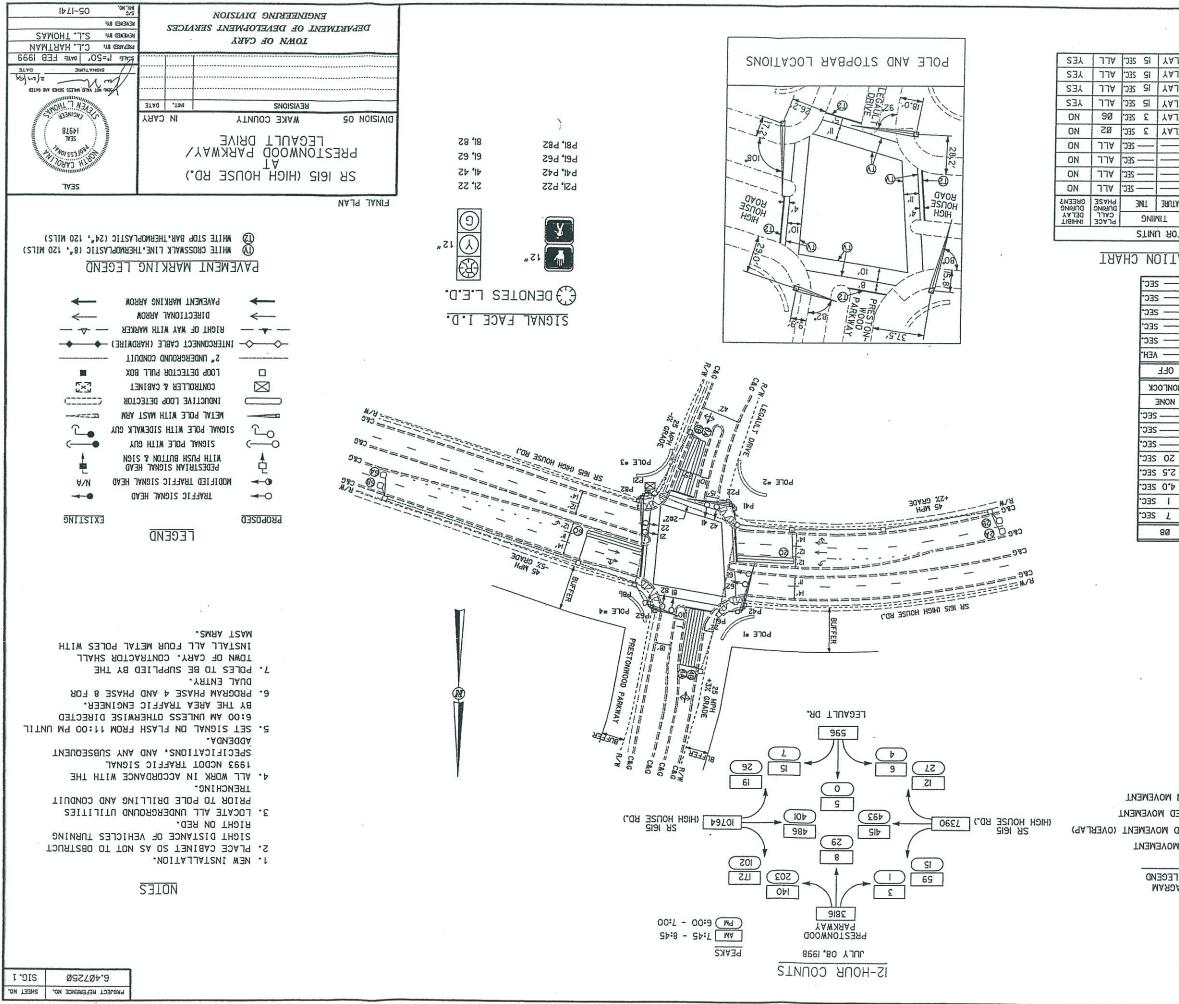
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PHASING DIAG	8+46	CERAM	AID DIA	MISAH9	05+6

	1	8	8+70		Ø2+6				
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8l <b>,</b> 82	Я	Я	٢	ງ	Я	Я	Я	81, 82	
P2I,P22		Ma	MQ	MQ	ΜŪ	FDW	M	P21,P22	
P41,P42		MO	FDW	M	Μđ	Μđ	MO	P41,P42	
P61,P62		Ma	MG	MQ	MO	EDM	M	P61,P62	
P81,P82		MO	MOH	M	MO	DM	MO	P81,P82	

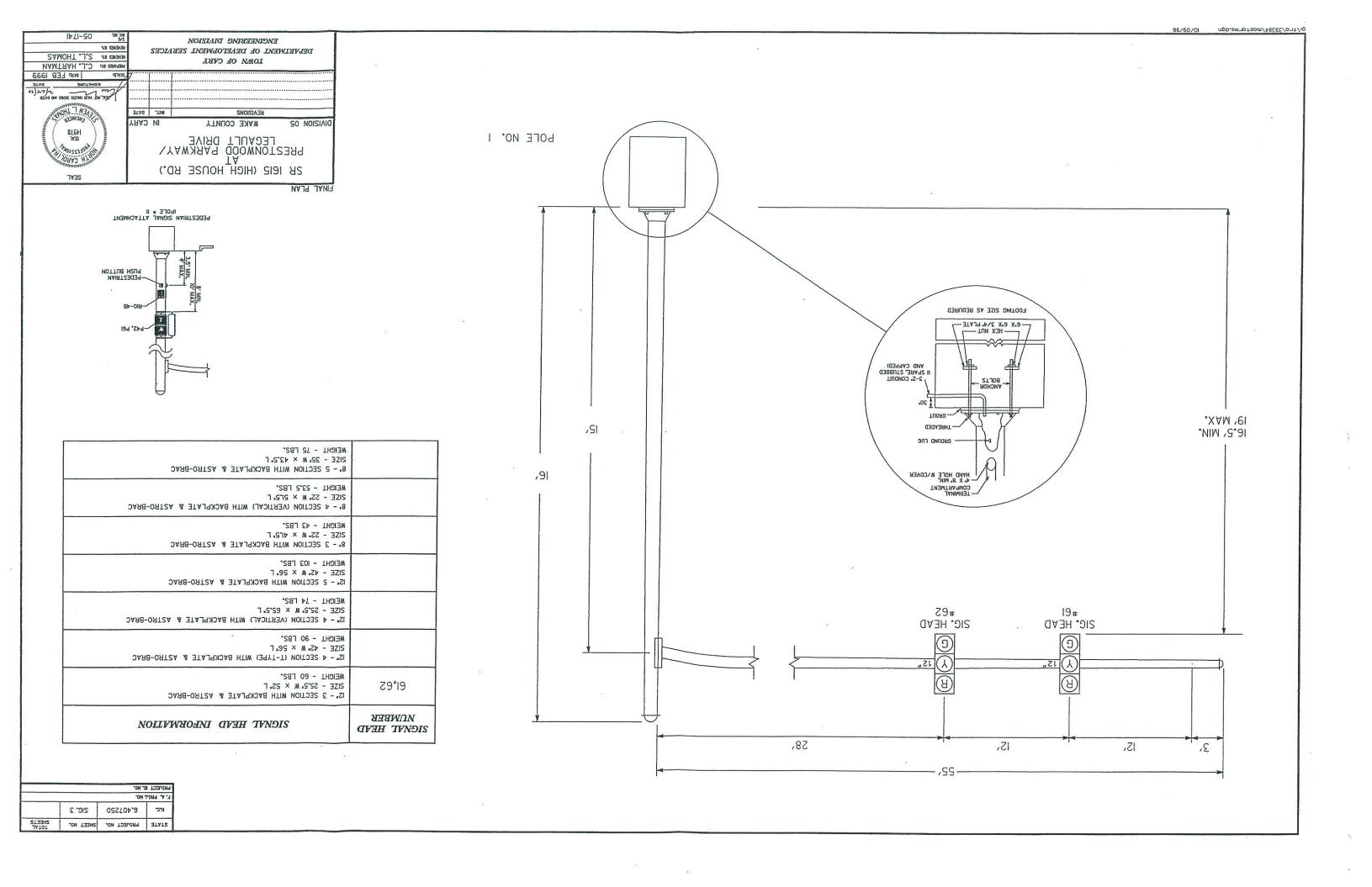
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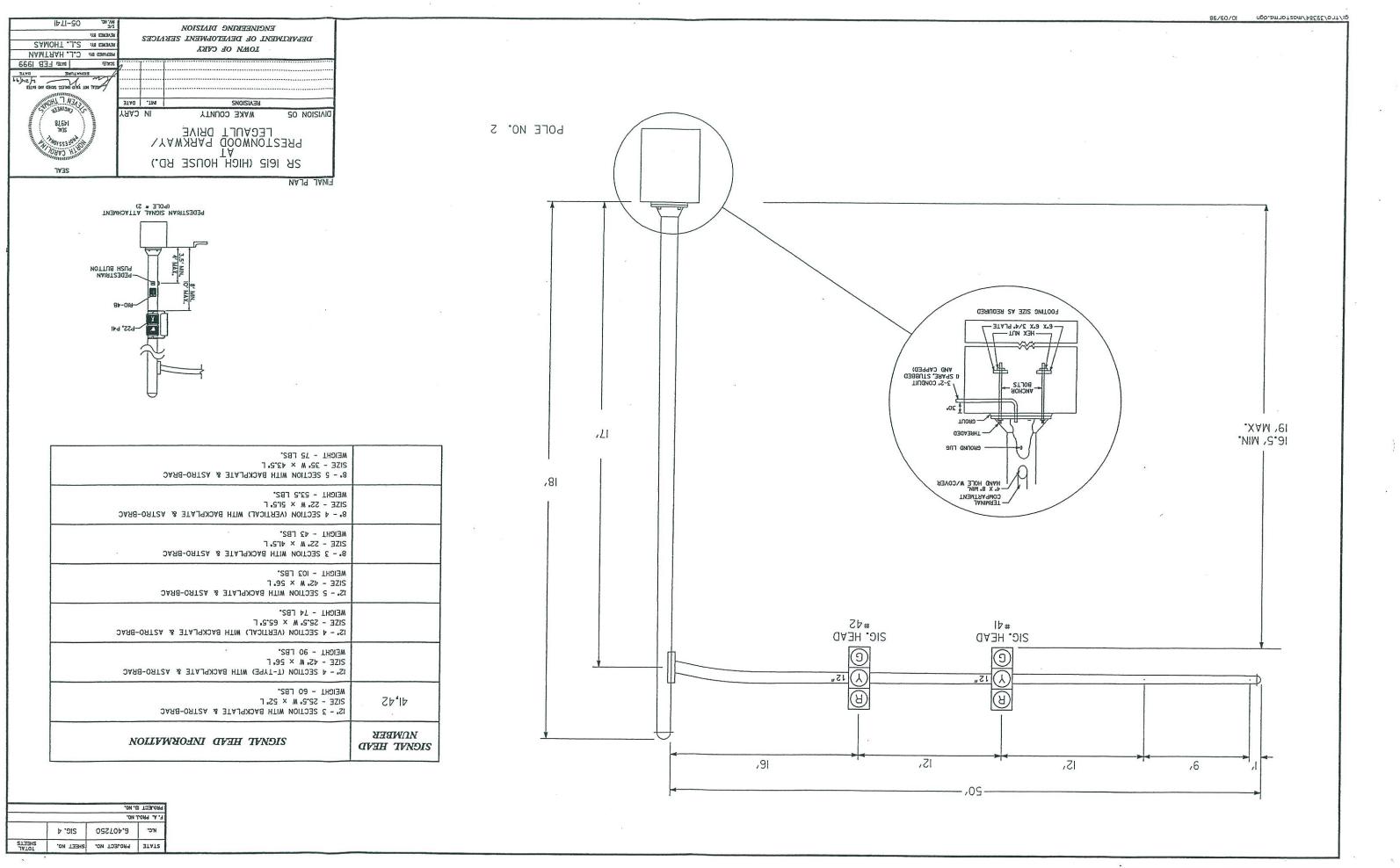
### TIMING CHART

	3*0 SEC.	SEC.	3"0 2EC"	AAD MUMIMIM
	30 2EC"	SEC.	30 2EC	TIME TO REDUCE
	"DES SI	SEC.	I2 ZEC"	TIME B4 REDUCTION
	34 SEC.	ZEC	24 2EC*	JAITINI MUMIXAM
	"2 SEC"	ZEC	"23 SEC.	SEC. PER ACTUATION
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N	MIN. RECALL	NONE	MIN. RECALL	RECALL POSITION
	IZ ZEC	SEC.	IE ZEC'	FLASHING DONT WALK
	• SEC.	SEC.	*DES b	MALK
	2EC*	SEC.	ZEC	S .XAM
Z	°09 2EC	SO SEC	°035 09	I "XAM
S	S°0 ZEC*	S'2 ZEC'	5"0 2EC"	RED CLEARANCE
6	4°2 SEC	4'0 SEC.	4"2 SEC	YELLOW CHANGE INT.
	°DES 9	-DEC	• PEC	PASSAGE/GAP
	IS ZEC*	L SEC	IS REC*	МИМИМОМ СВЕЕИ
	90	1 <del>1</del> 0	20	JSAH9

### LOOP & DETECTOR UNIT INSTALLATION CHART

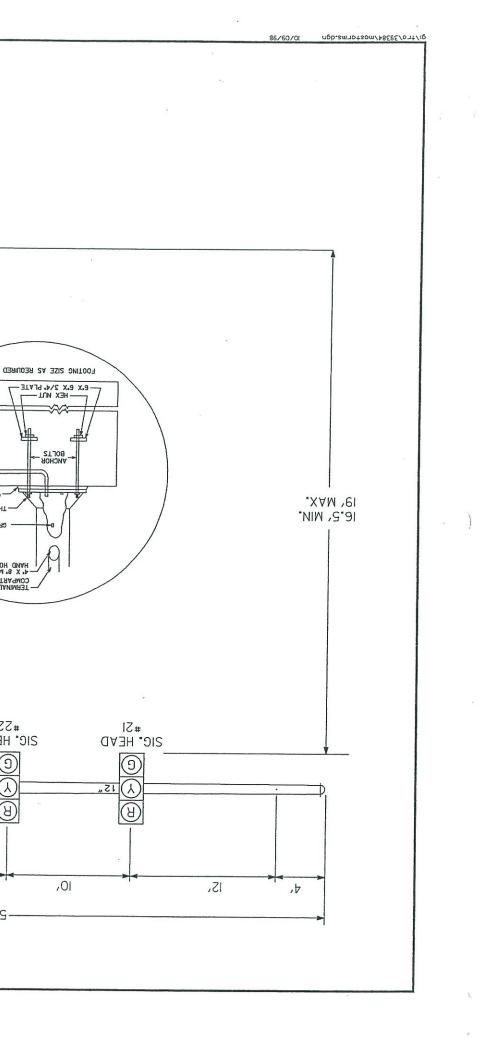
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DEC		X	80	Z	T	X	g	T	X	,0	2-4-2	,09X,9	88	
DEC /		X	8Ø	1		X	1 3	Г	X	,0	2-4-2	,09X,9	A8	
סברי		X	140	S		X		Γ	X	,0	2-4-2	,09X,9	48	
DEC		X	10	1		X		* -		,0	2-4-2	,09X,9	A4	
סברי		X	90	S		X		Γ	X	,0	2-4-2	,09X,9	09	
סברי		X	SQ	1		X	2	Г	X	,0	2-4-2	,09X,9	SC	
		X	90	S		X	S	Γ	X	300	Þ	,9X,9	89	
		X	90	1	Γ	X	6	Г	X	300	4	,9X,9	¥9	
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		X	SQ	1		Х	1	Γ	X	300	Þ	,9X,9	AS	
ТАЭЛ	PULSE	PRESENCE	amən Əzahq	CHANNEL	EXISTING	NEW	.ON NO.	EXISTING	NEW	MOST. FROM Saggotz	гияиз	JZIS	-оор ио.	
010	31	DE						INDUCTIVE LOOPS						
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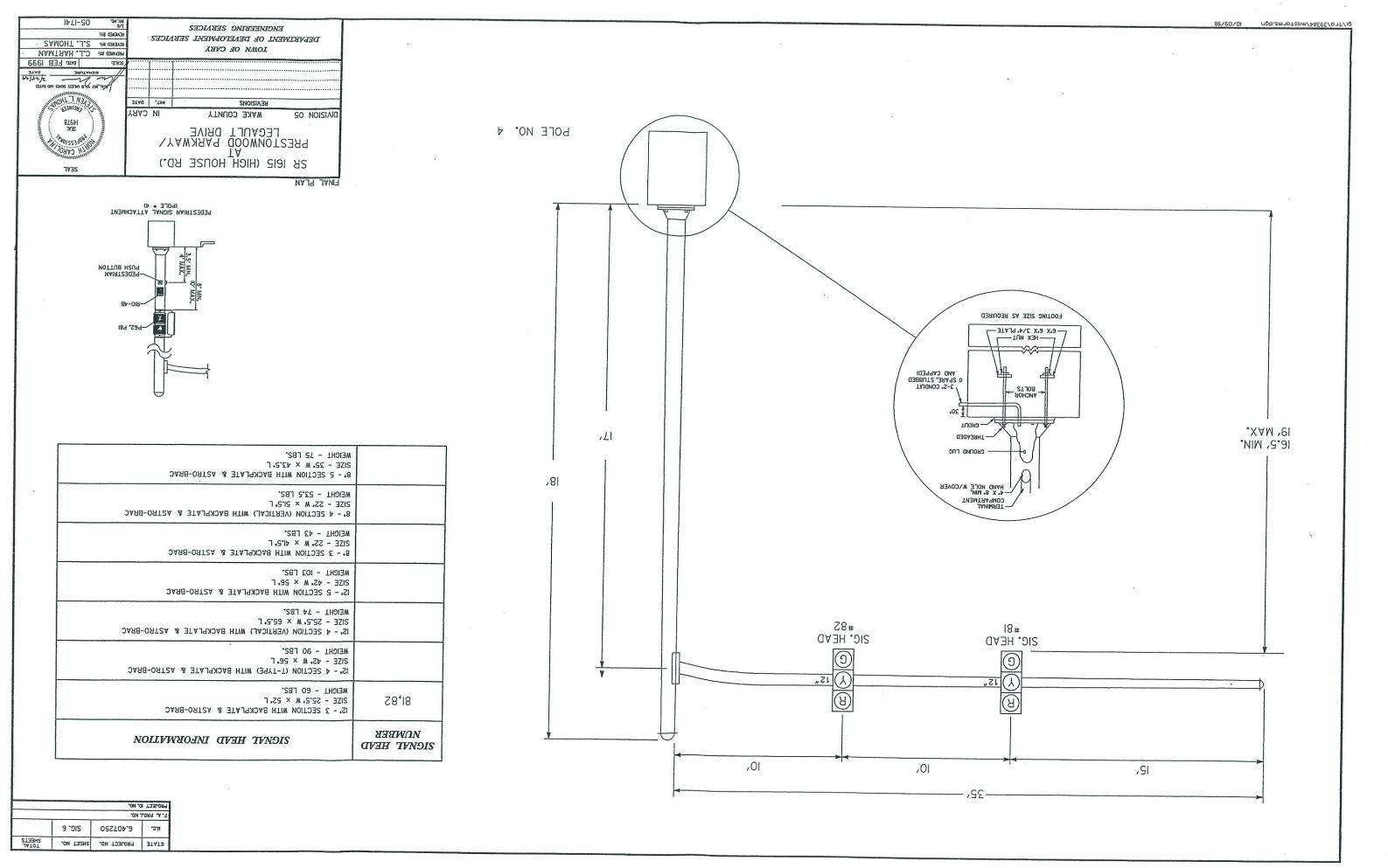




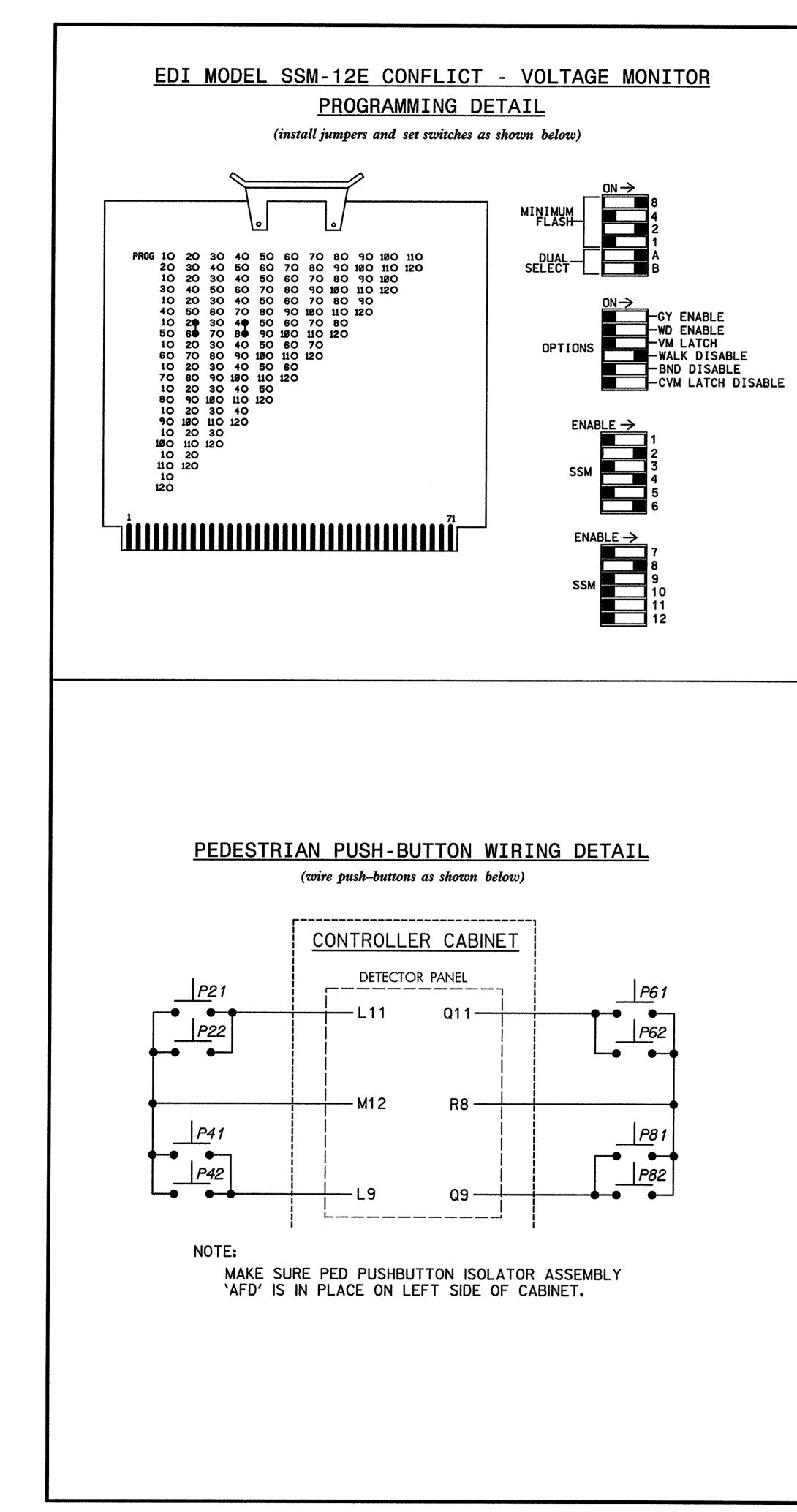
	1	
22.10	5'9IS	022709.

FINAL PLAN     SEAL       SR IGIS (HIGH HOUSE RD.)     SEAL       PRESTONWOOD PARKWAY     SEAL       IOWN OF CARY     IN CARY       PRESTONWOOD PARKWAY     SEAL       IOWN OF CARY     IN CARY       PRESTONWOOD PARKWAY     SEAL       IOWN OF CARY     IN CARY       PRESTONWOOD PARKWAY     IN CARY       PRESTONS     IN CARY <t< th=""><th></th><th>РОГЕ ИО. З</th><th></th><th></th><th></th><th></th></t<>		РОГЕ ИО. З				
POLE # SIGNAL ATTACHMENT POLE # SIGNAL ATTACHMENT POLE # SIGNAL ATTACHMENT POLE # SIGNAL			,SI			WID CY66ED) (1 2FWEE 2.1080ED) 2-5, COMDILL 800L 12-5, COMDILL 12-5, COMDILL 13-5, COMDILL
SIZE - 22' W × 51.5' L WEIGHT - 53.5 LBS. 8' - 5 SECTION WITH BACKPLATE & ASTRO-BRAC SIZE - 35' W × 43.5' L WEIGHT - 75 LBS.		,9I		×		лию гле ж. Чемд Чемд
8° – 4 SECTION WITH BACKPLATE & ASTRO-BRAC SIZE – 22° W × 4L5° L WEIGHT – 43 LBS. 8° – 4 SECTION (VERTICAL) WITH BACKPLATE & ASTRO-BRAC						
WEIGHT - 74 LBS. IS' - 5 SECTION WITH BACKPLATE & ASTRO-BRAC SIZE - 42' W × 56' L WEIGHT - 103 LBS.						
WEIGHT - 90 LBS. SIZE - 25.5' W × 65.5' L						QA:
SIZE - 42. W × 52. L 12 4 SECTION (T-TYPE) WITH BACKPLATE & ASTRO-BRAC SIZE - 42. W × 56. L	52,15		*			
SIGNAL HEAD INFORMATION	NUMBER SIGNAT HEAD					
אוטריבכב וסי אטי בי עי גאטידעטי אוטריבכב וסי אטי				,	61	,0I ,2





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	NOTES	PROJECT REFERENCE NO. SHEET NO Sig. 94										
	1. TO PREVENT "FLASH-CONFLICT" PROBLEMS, WIRE ALL UNUSED PHASES AND OVERLAPS TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.											
	2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE	FIELD CONNECTION HOOK-UP CHART										
	UNUSED LOAD SWITCH RED OUTPUTS 1,3,5,7,9,10,11 AND 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).	PHASE         1         2         3         4         5         6         7         8         OLA         OLB         OLC         OLD         PED										
	MAKE SURE ALL FLASH TRANSFER RELAYS ARE IN PLACE.	RED     2R     4R     6R     8R										
	3. PROGRAM CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.	YELLOW         2Y         4Y         6Y         8Y           GREEN         2G         4G         6G         8G										
	4. SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE CONFLICT MONITOR. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.	RED ARROW     20     40     60     60										
E	5. ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.	YELLOW       ARROW       GREEN       ARROW										
	6. WIRE DETECTORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ACCOMPLISH THE DETECTION SCHEMES SHOWN ON THE SIGNAL DESIGN PLANS.	Image: Solution         Image: Sol										
	7. SET ALL DETECTOR UNIT CHANNELS TO "PRESENCE" MODE.	NU = NOT USED										
	8. PROGRAM PHASES 2 AND 6, ON CONTROLLER UNIT, FOR VOLUME DENSITY OPERATION.											
	9. PROGRAM PHASES 4 AND 8. ON CONTROLLER UNIT. FOR DUAL ENTRY.	SPECIAL DETECTOR WIRING DETAIL										
	10. THE CABINET AND CONTROLLER ARE PART OF THE CARY SIGNAL SYSTEM.	(wire detectors as shown)										
	EQUIPMENT INFORMATION	$(M-3) AC+ \frac{BLACK C}{WHITE A} \uparrow F BLUE PH 2 GRN DRIVER *(C-32)$										
	CONTROLLEREAGLE 2070LN1 CABINETEAGLE TF4016TNC0101 SOFTWAREECONOLITE ASC/2070 VERSION 1.08 CABINET MOUNTBASE LOADBAY POSITIONS16 LOAD SWITCHES USED2.4.6.8.13.14.15.16 PHASES USED2.4.6.8 PEDS USED2.4.6.8 OVERLAP ANOT USED OVERLAP BNOT USED OVERLAP CNOT USED OVERLAP DNOT USED	(M-7) AC- WHITE A T F BLUE PH 2 VEH CALL (L-2) $(SG-I) CHASSIS GND. GREEN H C D BROWN$ $NO CONNECTION WHT/RED J H. E GRAY$ $SPARE BLACK C B YELLOW PH 6 GRN DRIVER (D-32)$ $SPARE WHITE A f F BLUE PH 6 VEH. CALL (Q-2)$ $SPARE GREEN H C D BROWN$ $H. E GRAY$ $NO CONNECTION WHT/RED J 2 E GRAY$ $NO CONNECTION WHT/RED J 2 E GRAY$ $DETECTOR UNIT NO. 3 * SEE NOTE I BELOW$ $NOTES:$										
	TYPICAL CONNECTION CHART FOR DETECTORS	<ul> <li>I. TERMINAL DESIGNATIONS SHOWN ARE LOCATED ON THE DETECTOR PANEL, EXCEPT FOR PHASE GREEN DRIVER, WHICH IS LOCATED ON THE BACK PANEL.</li> <li>2. DIODE IS VALUED AT 600V PIV, I AMP (MINIMUM). RECOMMENDED PART NO. IN4005.</li> </ul>										
	LOOP PANEL PIN FUNCTION TERMINATION AC+ AC+ AC- AC- CHASSIS GROUND CHASSIS GROUND LOOP INPUT LOOP LOOP INPUT LOOP RELAY NORMALLY OPEN VEHICLE CALL INPUT RELAY COMMON LOGIC GROUND TIMER INHIBIT ASSOCIATED PHASE GREEN	THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-1741 DESIGNED: August 2006 SEALED: 10-05-06 REVISED: Signal Upgrade - Sheet 1 of 2										
	NOTES: I. THE TIMER INHIBIT WIRE SHALL BE CONNECTED TO THE ASSOCIATED PHASE GREEN LOAD SWITCH OUTPUT WHEN ONLY DELAY OPERATION IS REQUIRED UNLESS OTHERWISE SPECIFIED BY THE LOOP AND DETECTOR UNIT INSTALLATION CHART. 2. IF EXTEND OPERATION IS REQUIRED, THE DELAY INHIBIT WIRE SHALL NOT BE CONNECTED. HNTB NORTH CAROLINA, P.C.	BLECTRICAL AND PROGRAMMING DETAILS FOR: SR 1615 (High House Road) at Prestonwood Parkway & Legault Drive Division 5 Wake County Cary PLAN DATE: August 2006 REVIEWED BY: N.M. Rodevick PREPARED BY: T.R. Terrell REVIEWED BY: H.L. Winstead										
	HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609	Managernerit     REVISIONS     INIT.     DATE       122 N. McDowell St., Raleigh, NC 27603										



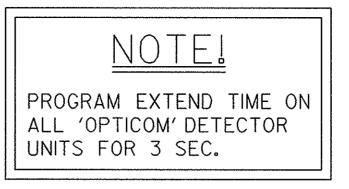
## ECONOLITE ASC/2070 EMERGENCY VEHICLE PREEMPTOR PROGRAMMING DETAIL (program controller as shown below)

1. PRIORITY
2. PRIORITY
3. PRIORITY
4. PRIORITY
PRIO
PHASE
TERM PHASE (
TRK CLR PHAS
HOLD PHASES
EXIT PHASES.

IERM	UVERLAP
ACTI	VE
PRIO	RITY
DET	LOCK
HOLD	FLASH.
TERM	OVLP AS
ADD I	TIONAL F

PREEMPTOR SUBMENU
1. PRIORITY PMT 1 5. PRIORITY PMT 5
2. PRIORITY PMT 2 6. PRIORITY PMT 6
3. PRIORITY PMT 3 7. BUS PREEMPTORS
4. PRIORITY PMT 4
PRIORITY PREEMPTOR 3
PHASE 123456789012
TERM PHASE OVLP
TRK CLR PHASE
HOLD PHASES X X
EXIT CALLS
SPARE
TERM OVERLAP A: B: C: D:
ACTIVE YES PED DARK NO
PRIORITY NO PED ACTIVE NO
DET LOCKYES ZERO PC TIME NO HOLD FLASH NO PC THRU YELLOW. YES
TERM OVLP ASAP. NO TERM PHASES NO
ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3
DON'T OVERRIDE FLASH X
FLASH ALL OUTPUTS
YELLOW-RED GOES GREEN
ENABLE MAX PREEMPT TIME YES
ACTIVE ONLY DURING HOLD
NO CVM IN FLASH FAST FLASH GRN ON HOLD
OUT OF FLASH GREEN
ADDITIONAL PAGE(S)
PRIORITY PREEMPTOR 3
MAX TIME 120 DURATION TIME 0
MIN HOLD TIME. 5 DELAY TIME O MIN PED CLEAR. 10 INHIBIT TIME O
EXIT MAX O HLD DELAY TIME. O
GRN YEL RED
MINIMUM 1 0.0* 0.0*
TRACK CLEAR 0 0.0 0.0
HOLD 0.0* 0.0*
LINKED PREEMPTOR0
END OF SUBMENU
end of programming

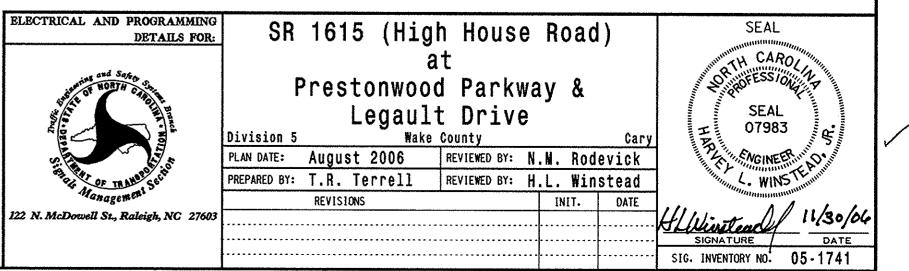
\* TIME DEFAULTS TO TIME USED FOR PHASE DURING NORMAL OPERATION.



# ECONTROL PRODUCTS, INC.

end of programming

\*-{OUTPUT FROM 'OPTICOM' UNIT FOR PREEMPT 3 ------\* 'OPTICOM' DETECTION UNITS FURNISHED BY OTHERS



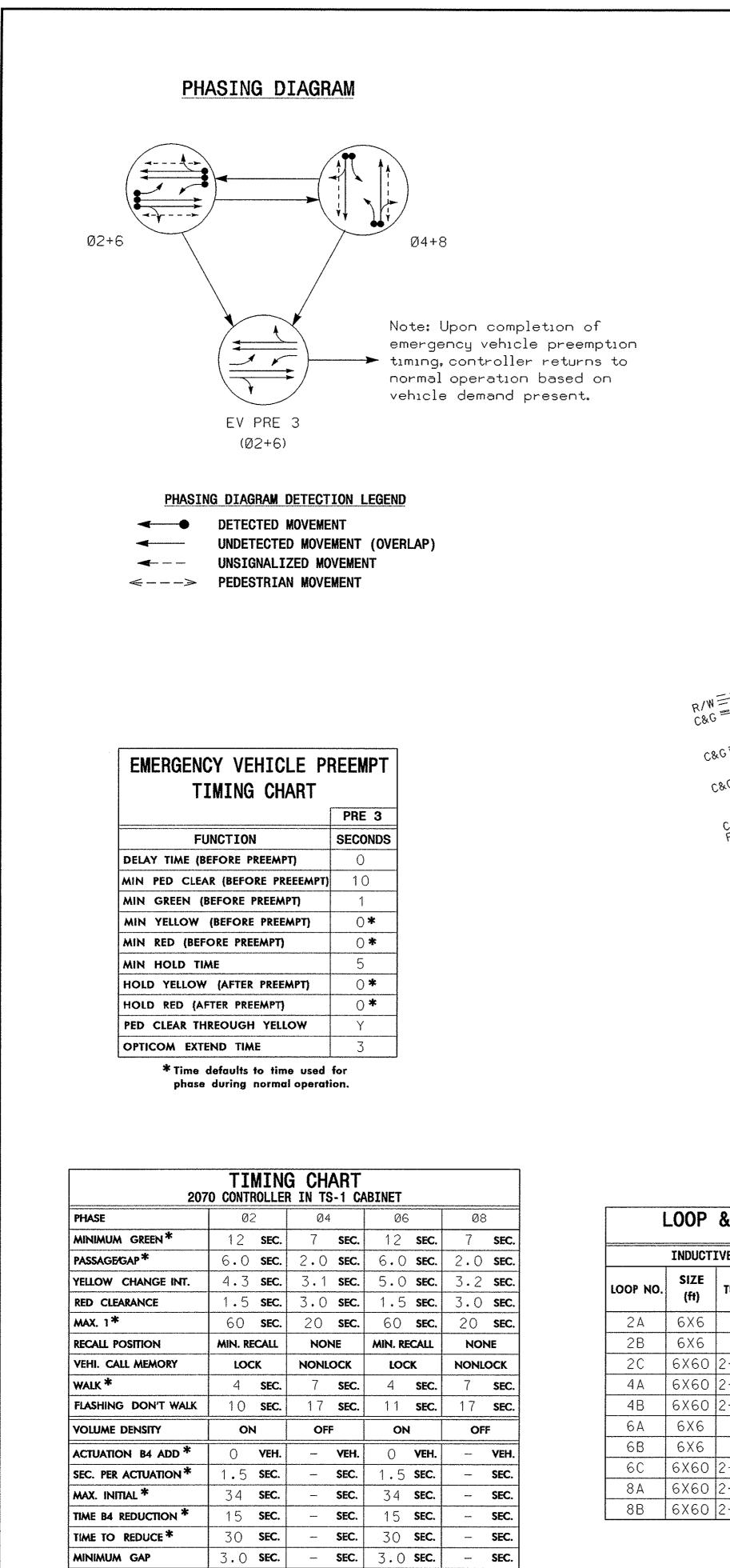


HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609

			r
	MPTION WIRING DETAIL	PROJECT REFERENCE NO.	SHEET NO.
WIRE AS SHO			<b>Sig</b> .95
	$\begin{array}{c c} & & F1 \frac{1}{4}A & & F2 \frac{1}{4}A \\ & & & & \\ \hline \\ 1 \\ \hline \\ 1 \\ \hline \\ 2 \\ \hline \\ \hline \\ 2 \\ \hline \\ \hline \\ 3 \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline$	J1 <b>NOLITE</b> PRODUCTS, INC. 2-2100 OR INTERFACE 2560 <b>CI</b> -	STOP TIME
	B 1234567891041142413441546417	181920	
	C 1234567891011121314151617	181920	
	D 123456789101121314151617	131323	
	E 12345678910		
	J2J3	J4	
	<b>NOTES</b> I. DIODE IS VALUED AT 600VPIV, I AMP (MINIMUM (RECOMMENDED PART# IN4005) 2. "D" CONNECTOR INTERFACE BOARD IS FOR AN TYPE "ATC" TRAFFIC SIGNAL CONTROLLER. (IN PART NO. 32560G3A) (DOT# 5E-01570)	ECONOLITE	

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: Ø5-1741 DESIGNED: August 2006 SEALED: 10-05-06 REVISED:

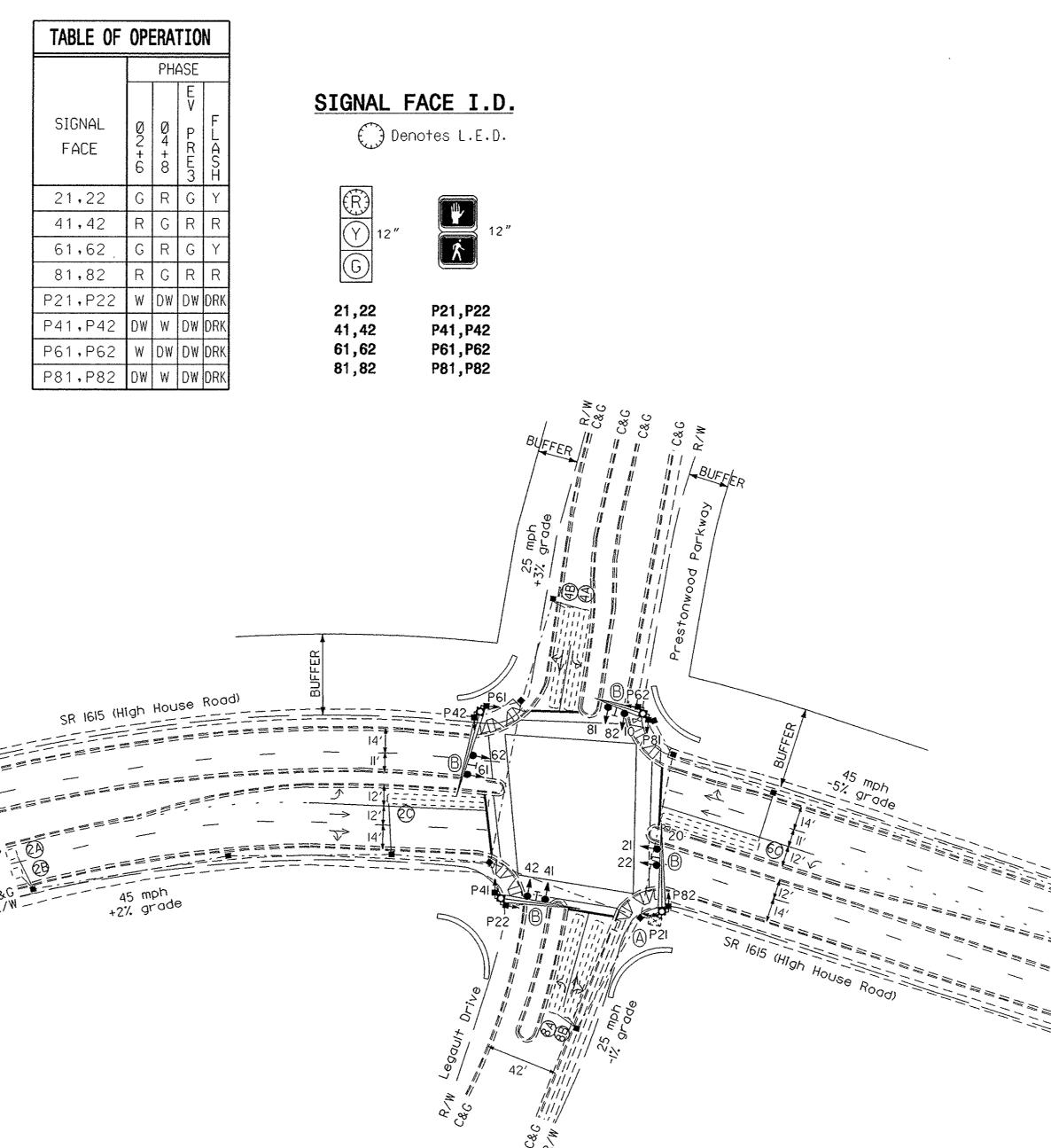
### Signal Upgrade - Sheet 2 of 2



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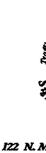
\* These values may be field adjusted. Do not adjust Min Green and Extension times for phases

2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

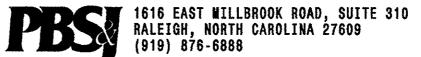


											·····		
& DE	DETECTOR UNIT INSTALLATION CHART 2070 CONTROLLER WITH TS-1 CABINET												
E LOOPS DETECTOR UNITS													
TURNS	DIST. FROM STOPBAR	NEW	EXISTING	UNIT	3	EXISTING	CHANNEL	NEMA	TIM	ING		PLACE	INHIBIT DELAY
TUKNG	STOPBAK (ft)	Z	EXISI	NO.	NEV	EXIST	CHA	PHASE	FEATURE	TIN	NE	DURING PHASE	DURING GREEN?
4	300		Х	1		Х	1	2		-	SEC.	ALL	NO
4	300		Х			^	2	2			SEC.	ALL	NO
2-4-2	0		Х	3		Х	1	2	Delay	3	SEC.	2	NO
2-4-2	0		Х	4		х	1	4	Delay	15	SEC.	ALL	YES
2-4-2	0		Х	4			2	4	Delay	15	SEC.	ALL	YES
4	300		Х	2		Х	1	6			SEC.	ALL	NO
4	300		Х	2			2	6			SEC.	ALL	NO
2-4-2	0		Х	3		Х	2	6	Delay	3	SEC.	6	NO
2-4-2	0		Х	5		Х	1	8	Delay	15	SEC.	ALL	YES
2-4-2	0		Х	0			2	8	Delay	10	SEC.	ALL	YES

(ft)







SHEET NO

### 2 Phase with Emergency Vehicle Preemption Fully Actuated (Cary Signal System)

### NOTES

- 1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006 and all applicable sections of the latest version of the generic project special provisions. The PSP can be accessed at http://www.ncdot.org/doh/ preconstruct/traffic/tmssu/,
- 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- 3. Program phases 4 and 8 for dual entry.
- 4. Set all detector units to presence mode. 5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- 6. Pavement markings are existing.
- 7. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- 8. Opticom sensors 10 & 20 call Emergency Preemptor 3. 9. Coil and store 10 LF of pre-emptor cable near
- each optical receiver/detector to facilitate future signal span improvements.
- 10. Enable and program MAX PREEMPT TIME for 120 seconds for EV preemptors.
- 11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values. 12. Clearance interval timings may be adjusted
- incrementally until required values are reached.

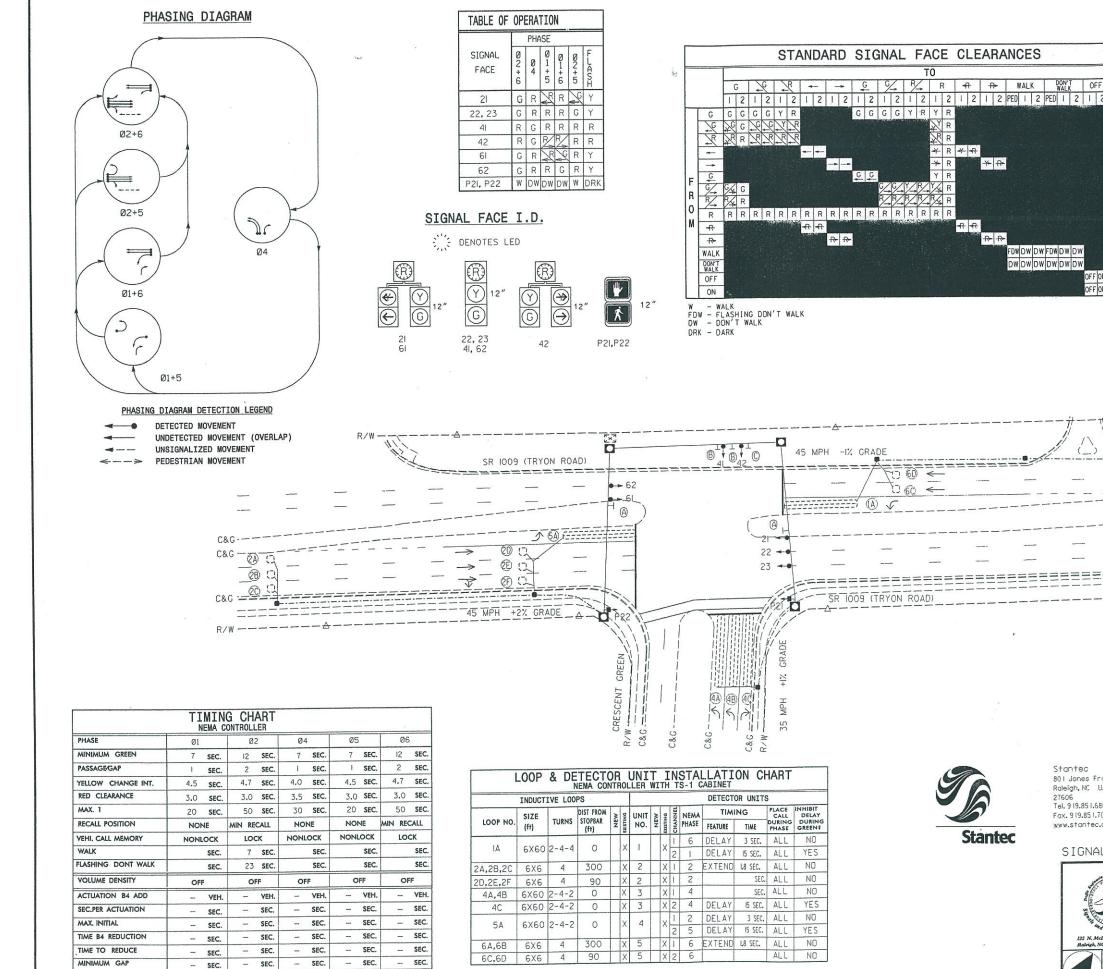
= 6A C&G
C&C
C&G C&G C&G C&C C&C C&C R/W

### LEGEND

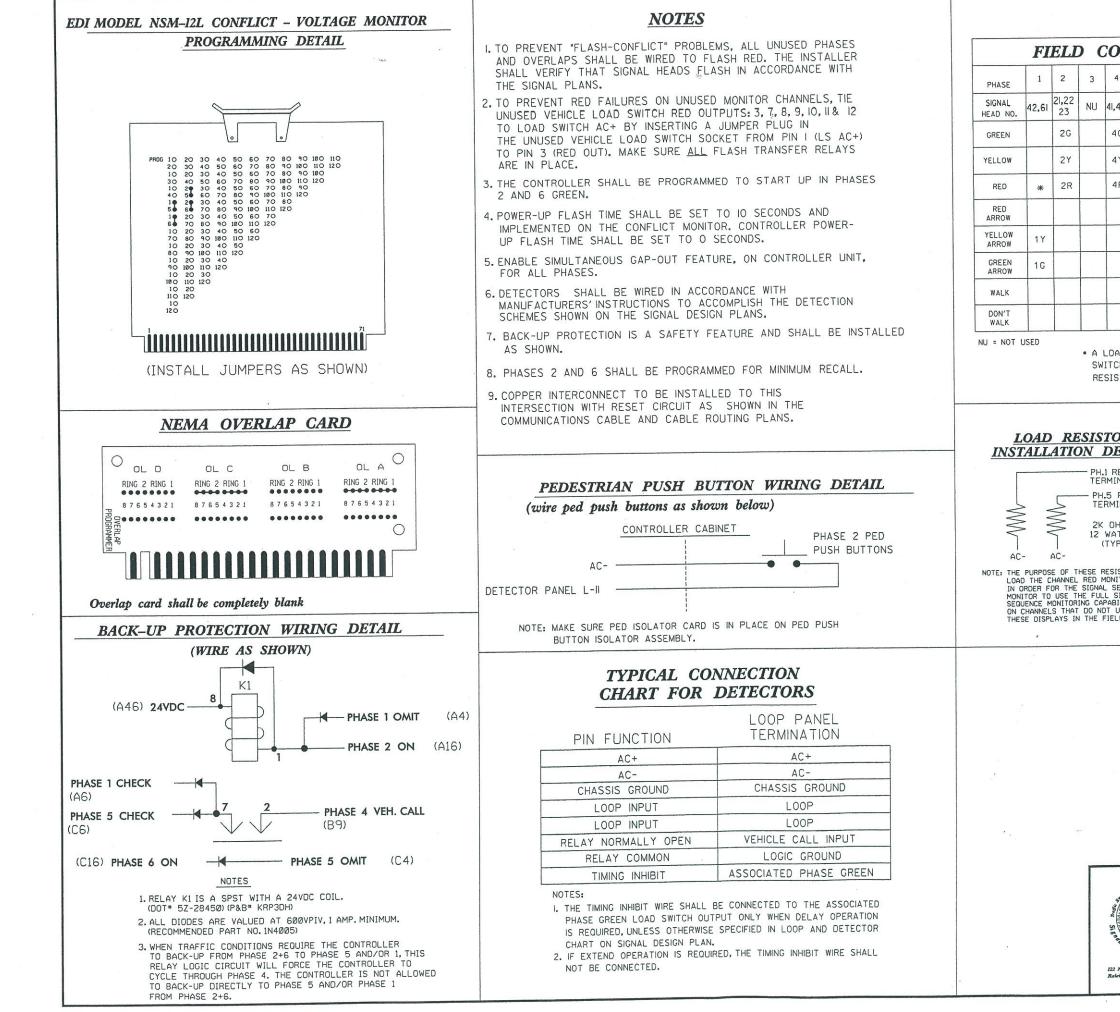
PROPOSED		EXISTING
<b>)-&gt;</b>	Traffic Signal Head	•>
●>	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	uina ∀
$\bigcirc$	Signal Pole with Guy	•
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	$( \  \  \  \  \  \  \  \  )$
$\boxtimes$	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	а навал и калала за навика е лавика.
N/A	Right of Way with Marker	<u>\</u>
$\longrightarrow$	Directional Arrow	$\longrightarrow$
	Pavement Marking Arrow	->
O	Metal Pole with Mastarm	0
$\bigtriangledown$	Out of Pavement Detector	•
$\langle A \rangle$ "	NO TURN ON RED" Sign (R10-11	) (A)
(B)	Street Name Sign	B

Signal Upgrade

inar opgrado					
ist and Saver	SR 1615 (Hig	SEAL			
State of HOMPH CARDINAL STATE	a Prestonwoo Legaul Division 5 Wake Co	SEAL 022516			
and Geometrics	PLAN DATE: August 2006	REVIEWED BY: NR Cooney	GINE GONE		
McDowell St., Raleigh, NC 27603	PREPARED BY: LN MOON	REVIEWED BY:	MANNOONIN'		
SCALE	REVISIONS	INIT. DATE	C		
0 50			Jua M. Mom 10-506		
		·····	SIGNATURE DATE		
1"=50'			SIG. INVENTORY NO. 05-1741		



		71000133 1 0F 3								
		SHEET 24 OF 29								
DFF ON		5 PHASE FULLY ACTUATED (TRYON ROAD & KILDAIRE FARM ROAD TIME BASED COORDINATION)								
2 1 2		NOTES								
		I. PAVEMENT MARKINGS ARE EXISTING.								
		<ol> <li>PERFORM ALL WORK IN ACCORDANCE WITH THE 1993 NODOT "TRAFFIC SIGNAL SPECIFICATIONS"</li> </ol>								
		AND ANY SUBSEQUENT ADDENDA. 3. OMIT PHASE I DURING PHASE 2 ON.								
		4. OMIT PHASE 5 DURING PHASE 6 ON. 5. WIRE CABINET TO ALLOW THE CONTROLLER TO CLEAR								
		FROM PHASE 2+6 TO PHASE IAND/OR 5 BY PROGRESSING THROUGH PHASE 4 (SEE ELECTRICAL DETAILS).								
F OFF ON ON		6. MAXIMUM TIMES SHOWN IN TIMING CHART ARE FOR FREE-RUN OPERATION ONLY. COORDINATED SIGNAL SYSTEM TIMING VALUES SHALL SUPERSEDE THESE VALUES.								
FOFFONON		7. OMIT "WALK" AND FLASHING "DON'T WALK" WITH NO PEDESTRIAN CALLS								
		8. SET SIGNAL ON FLASH FROM 11:00 PM UNTIL 6:00 AM UNLESS OTHERWISE DIRECTED BY THE AREA TRAFFIC ENGINEER.								
	8	9. SET ALL DETECTOR UNITS TO PRESENCE MODE.								
++	_— R∕W									
		 == c&G								
	CT B									
		LEGEND								
		C&G PROPOSED EXISTING								
		○→ TRAFFIC SIGNAL HEAD ●→								
	≡≡C&G	©→> MODIFIED TRAFFIC SIGNAL HEAD N/A								
		WITH PUSH BUTTON & SIGN								
	W									
		CONTROLLER & CABINET								
		LOOP DETECTOR PULL BOX								
		2' UNDERGROUND CONDUIT      INTERCONNECT CABLE (HARDWIRE)								
		PAVEMENT MARKING ARROW     PAVEMENT MARKING ARROW								
		GREEN BALL SIGN (RID-12)								
Franklin Roa U.S.A.	d, Suite 30	C RIGHT ARROW "ONLY" SIGN (R3-5R)								
1.6866										
1.7024 ec.com										
IAL UPG	RADE									
wint and Safety Star		SR 1009 (TRYON ROAD)								
S		CRESCENT GREEN								
	Kon	DIVISION 5 WAKE COUNTY CARY								
McDowell St.,		PLAN DATE: JANUARY 2002 REVIEWED BY: K LEWIS								
M, NC 27603		REPARED BY: B GILLIS REVIEWED BY: M FREEMAN								



										ŀ	STANTEC PROJECT NO. SHEET NO.					
										L		1000133 HEET		2 0F 3 OF 29	4	
CON	NE	CTI	ON	H	001	<b>Z_I</b> )	P	CH/	4 <i>R</i> 7	<b>n</b> 2	5		20			
4	5	6	7	8	OLA	OLB	OLC	OLD	2 PED	4 PED	6 PED	8 PED				
41,42	21	61,62	NU	NU	NU	NU	NU	NU	P2I P22	NU	NU	NU				
4G		6G														
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4R	*	6R														
															T BOAT A DOUBLE A	
	5Y															
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									13G							
									13R							
LOAD F ITCH 1 SISTOF	1 & 5	RED	FIELD	TERM	1INALS	. REF	ER TO	id ) Loai	D							
TOR DETAILEQUIPMENT INFORMATION11 RED FIELD RMINAL (1R)CONTROLLERECONOLITE ASC/2-2100 CABINETEAGLE TF4016TNC01 CABINET MOUNTBASE LOADBAY POSITIONS16 LOAD SWITCHES USED1, 2, 4, 5, 6, 13 PHASES USEDNOT USED OL/ANOT USED OL/CNOT USED OL/DNOT USEDRESISTORS IS TO MONTOR INPURE PABILITY OT USE FIELD.CONTROLLER																
		÷		TH DI SI	HIS ELE HE SIGH ESIGNE EALED: EVISED	NAL DI D: J.		( Y, 200	)5-20  )2							
		-		Stan	tec	1	Raleig 27606 Tel. 9 Fax. 9	ones Fr Ih, NC I	U.S.A. 866 1024	Road, S	uite 30	0		, s		
Si Ralaigh, NO	A C 27603		DI	VISI VISI N DATE: PARED BY:	C DN 5 JANU	1009 RESC ARY 200	AT CENT WAKE	RYON GRE	N RO EEN Ty R	AD)		SIGNA SIGNA		DATE		

