Project No.	Sheet No.
B–3538	Sig. 1

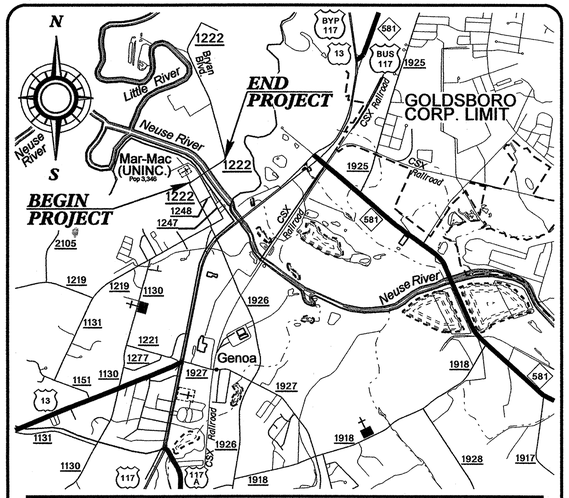
Project: B–3538

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

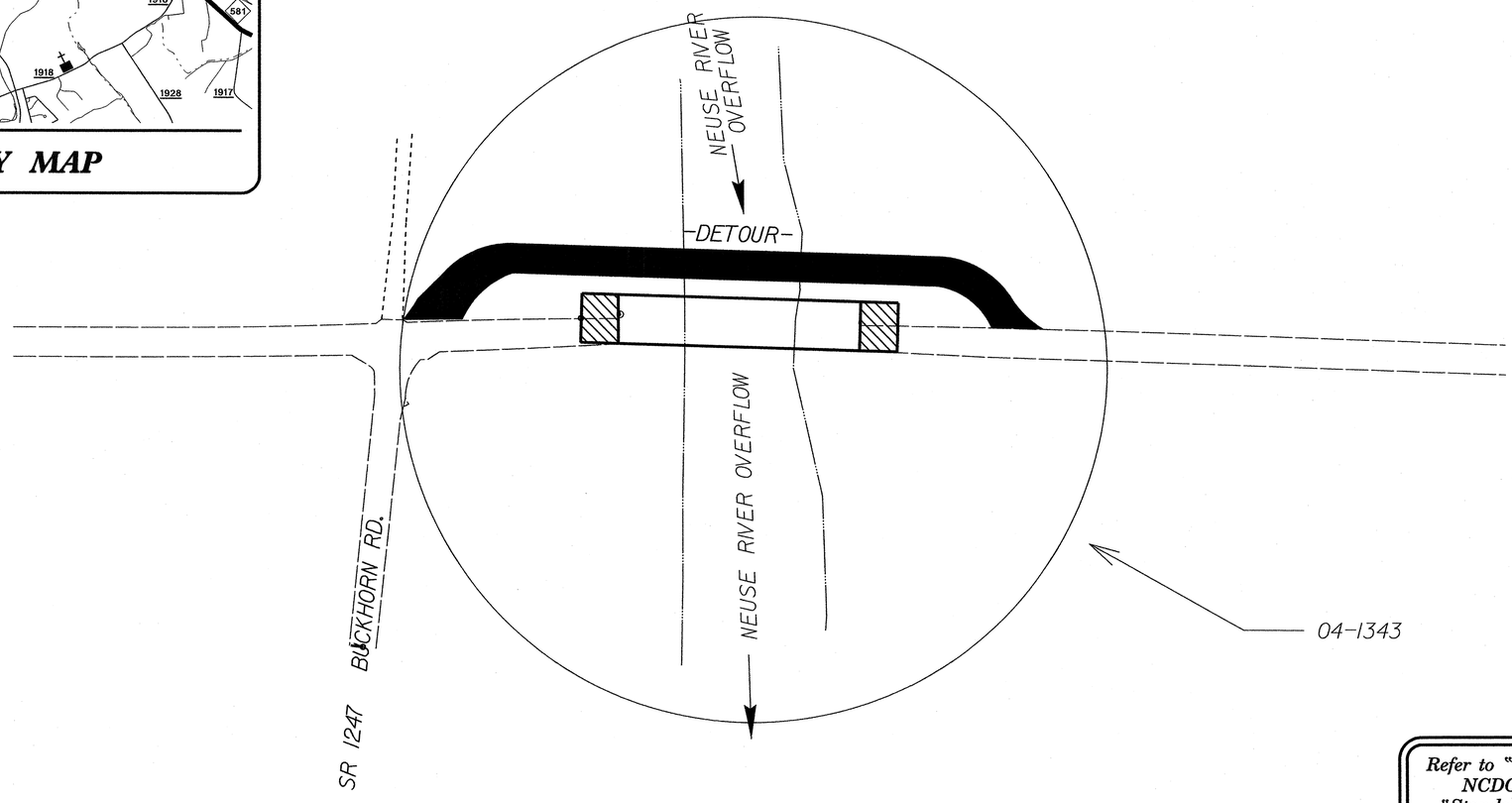
Wayne County

LOCATION: BRIDGE NO. 296 OVER THE NEUSE RIVER OVERFLOW ON SR 1222

TYPE OF WORK: Signals



VICINITY MAP



Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.

Index of Plans

Sheet #	Reference #	Location/Description
Sig. 1	--------	Title Sheet
Sig. 2	04–1343	SR 1222 (Bryan Blvd.) / SR 1247 (Buckhorn Rd.) at Bridge 226 over Neuse River Overflow

INTELLIGENT TRANSPORTATION AND SIGNALS UNIT

Contacts:

D. Y. Ishak – Signals and Geometrics Contracts Engineer
G. C. Brown, PE – Signal Equipment Design Engineer
G. G. Murr, Jr., PE – Intelligent Transportation Systems Engineer

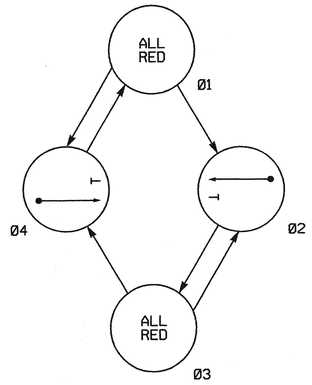
Prepared In the Office of:
DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH

Intelligent Transportation Systems & Signals Unit
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

122 N. McDowell St., Raleigh, NC 27603

PROJECT REFERENCE NO.	SHEET NO.
B-3538	Sig. 2

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION					
SIGNAL FACE	PHASE Ø1	Ø2	Ø3	Ø4	FLASH
21,22	R	G	R	R	R
41,42	R	R	R	G	R

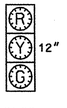
2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X40	0	2-4-2	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	Y

2 Phase
Fully Actuated
(Isolated)

SIGNAL FACE I.D.

Denotes L.E.D.



21,22
41,42

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Program controller to rest in red in the absence of vehicle calls.
3. Program controller to start up in phase 4 red clearance.
4. Set all detector units to presence mode.

2070L TIMING CHART

FEATURE	PHASE 1 (Dummy)	2	3 (Dummy)	4
Min Green 1 *	1	12	1	12
Extension 1 *	0.0	2.0	0.0	2.0
Max Green 1 *	1	40	1	40
Yellow Clearance	3.0	3.0	3.0	3.0
Red Clearance	5.0	25.0	5.0	25.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Dynamic Max /Max.3	0	120	0	120
Dynamic Max Adjust	0.0	15.0	0.0	15.0
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduction *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	-	-	-	-
Vehicle Call Memory	-	-	-	-
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Min Green for all phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Pavement Marking Arrow	
	Construction Zone	N/A
Ⓐ	"STOP HERE ON RED" Sign (R10-6)	Ⓐ

Temporary Signal - New Installation

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
North Carolina Department of Transportation
Traffic Engineering and Safety Systems Branch
122 N. McDowell St., Raleigh, NC 27603

SR 1222 (Bryan Blvd.) / SR 1247 (Buckhorn Rd.) at Bridge 296
(Neuse River Overflow)
Division 4 Wayne County near Goldsboro

PLAN DATE:	February 2007	REVIEWED BY:	D.Y. Ishak
PREPARED BY:	Z.W. Little	REVIEWED BY:	

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER RICHARD E. MULLINAX 19 February 07

SIGNATURE DATE

SIG. INVENTORY NO. 04-1343

19-FEB-2007 17:54
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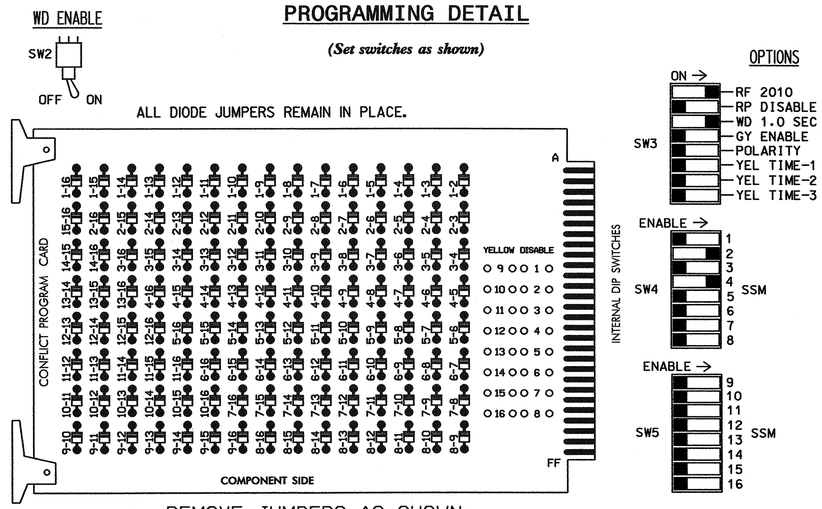
zmlittle

PROJECT REFERENCE NO.	SHEET NO.
B-3538	Sig. 3

EDI MODEL 2010ECL CONFLICT MONITOR PROGRAMMING DETAIL

(Set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL1-SEL5 are present on the controller board.

INPUT FILE POSITION LAYOUT

(front view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I" U	SLOT EMPTY	ø2 2A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
FILE "I" L		ø4 4A												ST DC ISOLATOR

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A	TB21-3,4	I2U	39	1	2	2	Y	Y			
4A	TB23-3,4	I2L	43	5	12	4	Y	Y			

INPUT FILE POSITION LEGEND: I2L
FILE I
SLOT 2
LOWER

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Ensure that Red Enable is active at all times during normal operation. To prevent red failures on unused monitor channels, tie unused red monitor inputs 1,3,5, 6,7,8,9,10,11,12,13,14,15 & 16 to load switch AC+ per cabinet manufacturer's instructions.
3. Program controller to start up in phase 4 Red Clearance. (See programming note this sheet.)
4. Enable Simultaneous Gap-Out, on the controller unit, for all phases.
5. Set all detector card units to 'Presence' mode.
6. Program controller to Rest in Red when no vehicle calls are present. (See programming note this sheet.)

EQUIPMENT INFORMATION

CONTROLLER.....CONTRACTOR SUPPLIED 2070L
CABINET .....CONTRACTOR SUPPLIED 336
SOFTWARE .....ECONOLITE OASIS
CABINET MOUNT.....POLE
OUTPUT FILE POSITIONS...12
LOAD SWITCHES USED.....S2,S4
PHASES USED.....1*,2,3*,4
OVERLAPS.....NONE

*Dummy Phase used for timing purposes only.

DYNAMIC BACK-UP CONTROL PROGRAMMING

(program controller as shown below)

1. From Main Menu press '2' (Phase Control), then '1' (Phase Control Functions). Scroll to the bottom of the menu and enable Dynamic/Backup Control Functions 1 and 2.
2. From Phase Control Functions Menu press '2' (Dynamic/Backup Control Functions).

```
 DYNAMIC/BACKUP CONTROL FUNCTION #01
                OVERLAPS:¦ABCDEFGHIJKLMNOP
IF OVERLAPS ARE ACTIVE ¦
OR       PHASES:¦1234567891011121314 1516
IF PHASES ARE ON¦ X
OMIT PHASES     ¦
CALL PHASES     ¦  X
```

PRESS 'NEXT'

```
 DYNAMIC/BACKUP CONTROL FUNCTION #02
                OVERLAPS:¦ABCDEFGHIJKLMNOP
IF OVERLAPS ARE ACTIVE ¦
OR       PHASES:¦1234567891011121314 1516
IF PHASES ARE ON¦    X
OMIT PHASES     ¦
CALL PHASES     ¦X
```

BACKUP PROTECTION PROGRAMMING COMPLETE

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	NU	NU	NU	NU	NU	NU	NU
RED		128			101							
YELLOW		129			102							
GREEN		130			103							
RED ARROW												
YELLOW ARROW												
GREEN ARROW												

NU = Not Used

'RED REST' OPERATION PROGRAMMING

FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL DOWN ON THIS SCREEN TO 'RED REST' AND TOGGLE PHASES 1 AND 3 'ON'. (AN 'X' WILL APPEAR UNDER THE PHASE COLUMNS TO INDICATE ACTIVATION.)

RED CLEARANCE START-UP PROGRAMMING

FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL DOWN ON THIS SCREEN TO 'STARTUP RED CLR' AND TOGGLE PHASE 4 'ON'. (AN 'X' WILL APPEAR UNDER THIS PHASE COLUMN TO INDICATE ACTIVATION.)

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 04-1343
DESIGNED: February 2007
SEALED: 02/19/07
REVISED: N/A

Temporary Signal - New Installation

ELECTRICAL AND PROGRAMMING DETAILS FOR:

SR 1222 (Bryan Blvd.) / SR 1247 (Buckhorn Rd.) at Bridge 296 (Neuse River Overflow)

Division 4 | Wayne County | near Goldsboro

PLAN DATE: February 2007 | REVIEWED BY: T. Jolly
PREPARED BY: C. Strickland | REVIEWED BY:

REVISIONS	INIT.	DATE

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
Traffic Signal Design Section
DEPARTMENT OF TRANSPORTATION
122 N. McDowell St., Raleigh, NC 27603

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022013 ENGINEER GEORGE C. BROWN

George C. Brown 2/21/07
SIGNATURE DATE

SIG. INVENTORY NO. 04-1343

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c.strickland