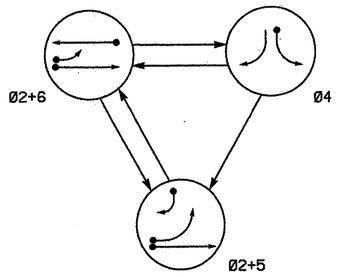
PROJECT REFERENCE NO.	SHEET NO.
36272	Sig. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

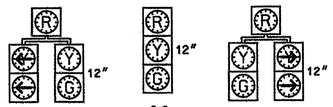
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	PHASE Ø2+6	PHASE Ø4	FLASH
21	G/-	G	R	Y
22	G	G	R	Y
41	R	R	G	R
42	R/-	R	G	R
61,62	R	G	R	Y

SIGNAL FACE I.D.

Denotes L.E.D.



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	6X6	300	5	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	3	-	Y
5A	6X40	0	2-4-2	Y	2	Y	Y	Y	-	3	-	Y
					5	Y	Y	-	-	15	-	Y
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
6A	6X6	300	5	Y	6	Y	Y	-	-	-	-	Y
S10	6X6	+355	4	Y	-	-	-	-	-	-	Y	Y

3 Phase
Fully Actuated
(Closed Loop System)

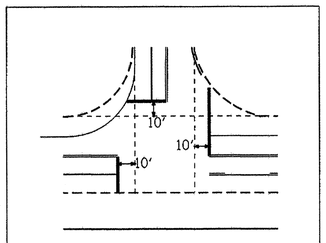
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
2. Set all detector units to presence mode.
3. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
4. Closed loop system data: Master Asset 10605, Controller Asset 1283.
5. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

2070L TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 5	PHASE 6
Min Green 1 *	12	7	7	12
Extension 1 *	6.0	1.0	1.0	6.0
Max Green 1 *	80	20	20	80
Yellow Clearance	4.4	3.0	3.0	4.6
Red Clearance	1.0	1.9	1.8	1.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	2.0	-	-	2.0
Max Variable Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduce *	40	-	-	40
Minimum Gap	3.2	-	-	3.2
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

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



Stopbar Locations

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	→
Ⓐ	"LEFT TURN YIELD ON GREEN" Sign (R10-12)	Ⓐ

New Installation

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, Signals and Geometrics Section, NC DEPARTMENT OF TRANSPORTATION
1122 N. McDonald St., Raleigh, NC 27603

US 701 Bypass at SR 1552 (Smyrna Rd.)

Division 6 | Columbus | Whiteville

PLAN DATE: January 2006 | REVIEWED BY: W. Wahbooba
PREPARED BY: K. Maldonado | REVIEWED BY: MKM.

SCALE: 0 50 — 1"=50'

REVISIONS	INIT.	DATE

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 25475 BONIFACE MADUABUCHI OWU

SIGNATURE: Boniface Maduabuchi Owu DATE: 3/21/06

SIG. INVENTORY NO. 06-1283

02-MAR-2006 09:33
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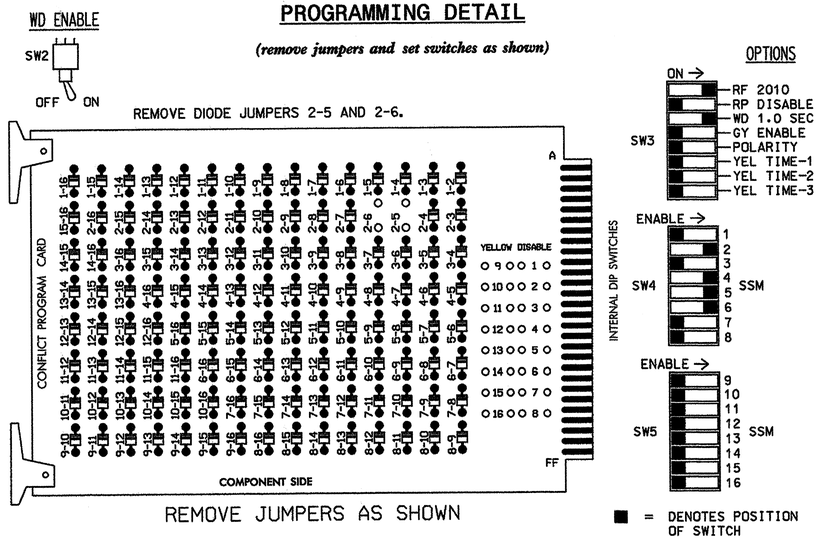
PROJECT REFERENCE NO.	SHEET NO.
36272	Sig. 2

EDI MODEL 2010ECL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



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 monitor board.

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. To prevent red failures on unused monitor channels, see Red Monitor Board Programming Detail this sheet.
3. Program phases 2 and 6, on the controller unit, for Start Up In Green.
4. Enable Simultaneous Gap-Out, on the controller unit, for all phases.
5. Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.
6. The cabinet and controller are part of a Closed Loop System.

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	21,42	61,62	NU	NU	NU	NU
RED		128			101		*	134				
YELLOW		129			102			135				
GREEN		130			103			136				
RED ARROW												
YELLOW ARROW							132					
GREEN ARROW							133					

NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

EQUIPMENT INFORMATION

CONTROLLER.....EAGLE TYPE 2070L
CABINET.....McCAIN/CONTROL TECHNOLOGIES (DWG.NO.9500-332-NCDOT)
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...12
LOAD SWITCHES USED.....S2,S4,S5,S6
PHASES USED.....2,4,5,6
OVERLAPS.....NONE

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	ø4 4A	SLOT EMPTY	SLOT EMPTY	SYS. DET. S10	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
L		NOT USED				NOT USED			NOT USED					ST DC ISOLATOR
FILE "J" U	ø5 5B	ø2 5A	ø6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
L	NOT USED	ø5 5A	NOT USED											

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	TB2-5,6	I2U	39	1	2	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3
*S10	TB6-9,10	I9U	60	22	11	SYS					
5B	TB3-1,2	J1U	55	17	5	5	Y	Y			15
5A[1]	TB3-5,6	J2U	40	2	6	2	Y	Y	Y		3
	TB3-7,8	J2L	44	6	16	5	Y	Y			15
6A	TB3-9,10	J3U	64	26	36	6	Y	Y			

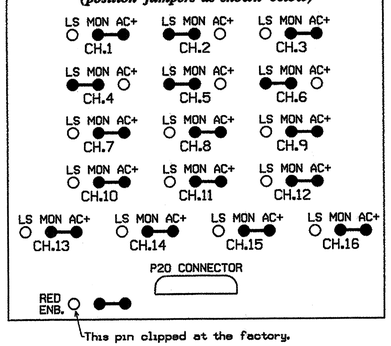
[1]Add jumpers from TB3-5 to TB3-7, and from TB3-6 to TB3-8.

* System detector only. Remove the vehicle phase assigned to this detector in the default programming.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

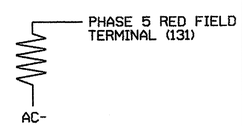
RED MONITOR BOARD PROGRAMMING

(position jumpers as shown below)



LOAD RESISTOR INSTALLATION DETAIL

ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



NOTE: The purpose of this resistor is to load the channel red monitor input in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on the channel that dose not use the red display in the field.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1283
DESIGNED: January 2006
SEALED: 03/21/06
REVISED: NA

New Installation

ELECTRICAL AND PROGRAMMING DETAILS FOR:	US 701 Bypass at SR 1552 (Smyrna Rd.)	SEAL
Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, Signal Management Section, NCDOT, State of North Carolina, Department of Transportation	Division 6 Columbus Whiteville	NORTH CAROLINA PROFESSIONAL SEAL 008453 ENGINEER JOHN T. ROWE, JR.
122 N. McDowell St., Raleigh, NC 27603	PLAN DATE: February 2006 REVIEWED BY: T. Jayes	John T Rowe 3-23-06
	PREPARED BY: Paul Marak REVIEWED BY:	SIGNATURE DATE
	REVISIONS INIT. DATE	SIG. INVENTORY NO. 06-1283

23-MAR-2006 08:05
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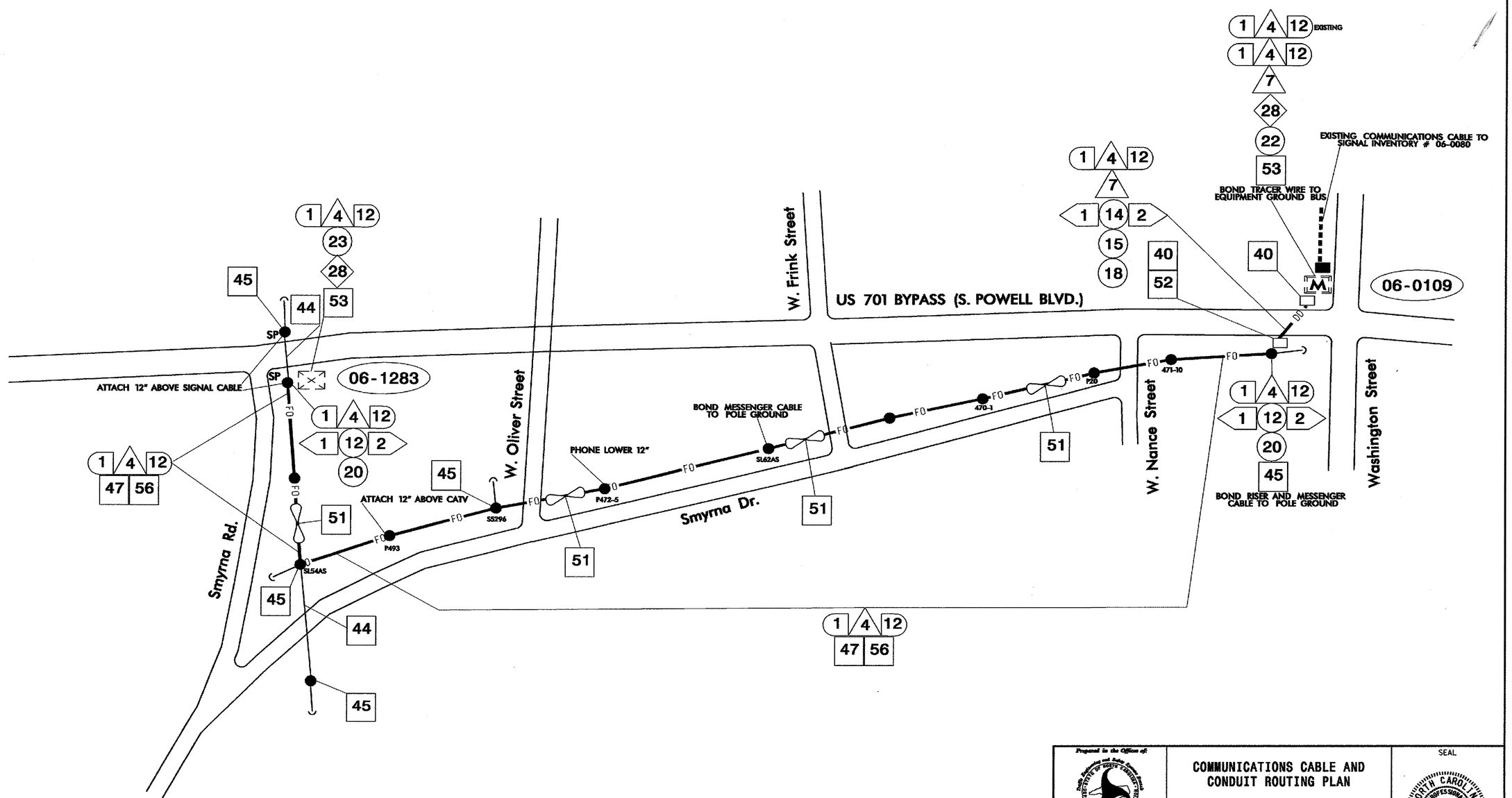
pmarak

PROJECT REFERENCE NO.	SHEET NO.
36272	SIG-3



ALL NCDOT ATTACHMENT POINTS ARE 12" ABOVE PHONE, FRONT SIDE OF POLE, UNLESS OTHERWISE NOTED

Prepared in the Office of:
Traffic Management Section
NCDOT Division of Highways
1722 N. McDowell St., Raleigh, NC 27603

SCALE 0

COMMUNICATIONS CABLE AND CONDUIT ROUTING PLAN

DIVISION 06 COLUMBUS CO. WHITEVILLE

PLAN DATE: APRIL 06 REVIEWED BY: I. N. AVERY

PREPARED BY: P. C. LOUDER REVIEWED BY: G.G.MURR,JR.,PE

REVISIONS	INIT.	DATE

SEAL

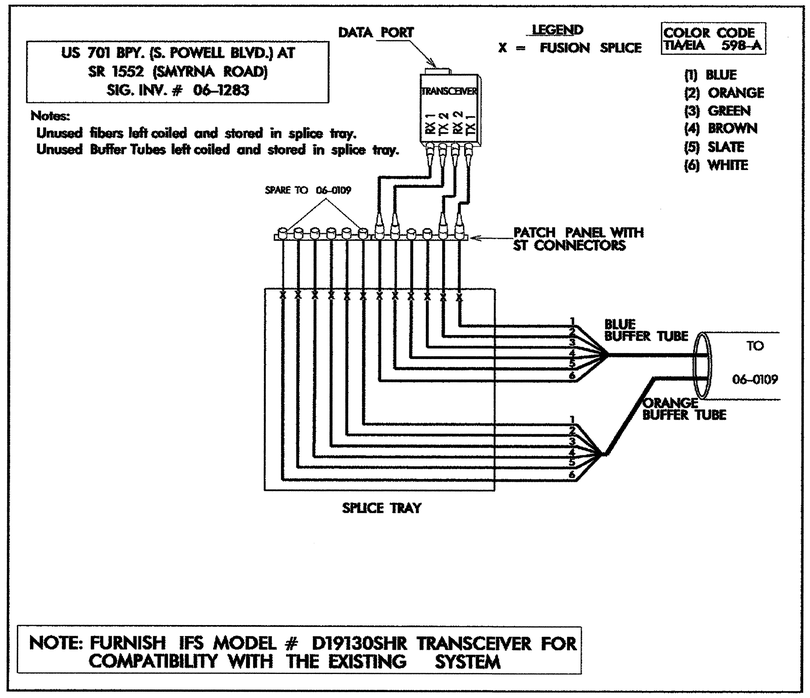
NORTH CAROLINA PROFESSIONAL SEAL 14543 ENGINEER GENE G. MURR, JR.

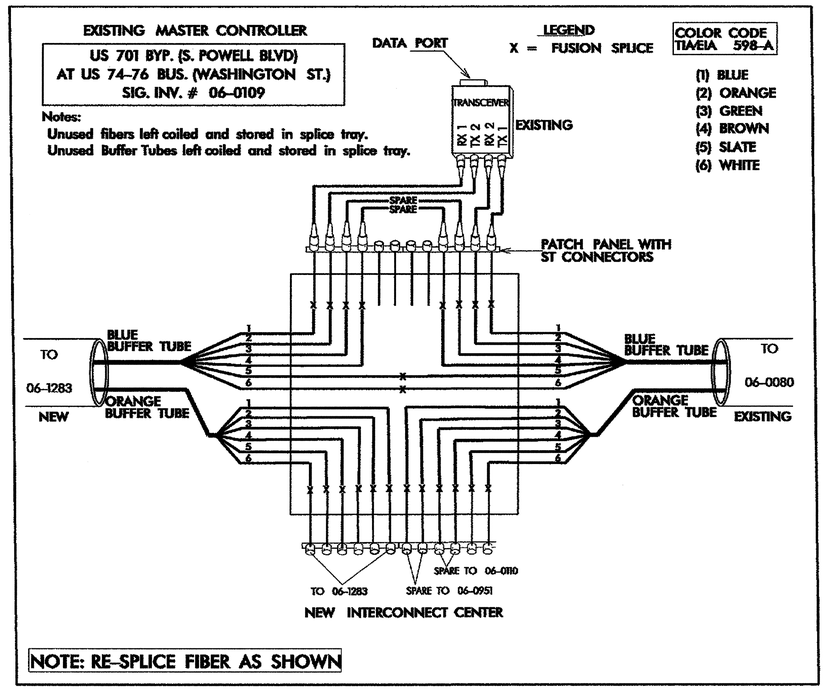
SIGNATURE 4-18-06 DATE

CADD Filename:

PROJECT REFERENCE NO.	SHEET NO.
36272	SIG.-4

FIBER OPTIC CABLE





TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS

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

SCALE 0

SPLICE DETAIL

DIVISION: 06 COLUMBUS COUNTY WHITEVILLE

PLAN DATE: APRIL 06 REVIEWED BY: I. N. AVERY

PREPARED BY: P. C. LOUDER REVIEWED BY: G. G. MURR, JR. PE

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
14543
ENGINEER
GENE G. MURR JR.

SIGNATURE 4/18/06 DATE

CADD Filename: