LOGICAL I/O PROCESSOR PROGRAMMING DETAIL

TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(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 ACT Logic Commands 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

2. From Main Menu press '6' (OUTPUTS), then '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1   (+/-COMMAND#)
IF  ACTIVE PHASE        #1   IS ON
AND RED CLEAR ON PHASE #1   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #50 ON
SET OUTPUT   ASSIGNMENT #51 OFF
```
PRESS '+'

NOTE: Logic for Phase 1 RED Clear when transitioning from Phase 1 to Phase 2 (Head 11).

```
LOGICAL I/O COMMAND #2   (+/-COMMAND#)
IF  ACTIVE PHASE        #1   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #52 OFF
```
PRESS '+'

NOTE: Logic for Switching Flashing Yellow Arrow "OFF" during Phase 1 (Head 11).

```
LOGICAL I/O COMMAND #3   (+/-COMMAND#)
IF  YELLOW ON PHASE     #1   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #51 ON
```
PRESS '+'

NOTE: Logic for Yellow Arrow Clearance from Phase 1 (Head 11).

```
LOGICAL I/O COMMAND #4   (+/-COMMAND#)
IF  ACTIVE PHASE        #5   IS ON
AND RED CLEAR ON PHASE #5   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #42 ON
SET OUTPUT   ASSIGNMENT #43 OFF
```
PRESS '+'

NOTE: Logic for Phase 5 RED Clear when transitioning from Phase 5 to Phase 6 (Head 51).

```
LOGICAL I/O COMMAND #5   (+/-COMMAND#)
IF  ACTIVE PHASE        #5   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #44 OFF
```
PRESS '+'

NOTE: Logic for Switching Flashing Yellow Arrow "OFF" during Phase 5 (Head 51).

```
LOGICAL I/O COMMAND #6   (+/-COMMAND#)
IF  YELLOW ON PHASE     #5   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #43 ON
```
PRESS '+'

NOTE: Logic for Yellow Arrow Clearance from Phase 5 (Head 51).

```
LOGICAL I/O COMMAND #7   (+/-COMMAND#)
IF  ACTIVE PHASE        #3   IS ON
AND RED CLEAR ON PHASE #3   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #47 ON
SET OUTPUT   ASSIGNMENT #48 OFF
```
PRESS '+'

NOTE: Logic for Phase 3 RED Clear when transitioning from Phase 3 to Phase 4 (Head 31).

```
LOGICAL I/O COMMAND #8   (+/-COMMAND#)
IF  ACTIVE PHASE        #3   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #49 OFF
```
PRESS '+'

NOTE: Logic for Switching Flashing Yellow Arrow "OFF" during Phase 3 (Head 31).

```
LOGICAL I/O COMMAND #9   (+/-COMMAND#)
IF  YELLOW ON PHASE     #3   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #48 ON
```
PRESS '+'

NOTE: Logic for Yellow Arrow Clearance from Phase 3 (Head 31).

```
LOGICAL I/O COMMAND #10  (+/-COMMAND#)
IF  ACTIVE PHASE        #7   IS ON
AND RED CLEAR ON PHASE #7   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #39 ON
SET OUTPUT   ASSIGNMENT #40 OFF
```
PRESS '+'

NOTE: Logic for Phase 7 RED Clear when transitioning from Phase 7 to Phase 8 (Head 71).

```
LOGICAL I/O COMMAND #11  (+/-COMMAND#)
IF  ACTIVE PHASE        #7   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #41 OFF
```
PRESS '+'

NOTE: Logic for Switching Flashing Yellow Arrow "OFF" during Phase 7 (Head 71).

```
LOGICAL I/O COMMAND #12  (+/-COMMAND#)
IF  YELLOW ON PHASE     #7   IS ON
```
SCROLL DOWN
```
THEN:
SET OUTPUT   ASSIGNMENT #40 ON
```
PRESS '+'

NOTE: Logic for Yellow Arrow Clearance from Phase 7 (Head 71).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press '8' (OVERLAPS), then '1' (VEHICLE OVERLAP SETTINGS).

```
PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:            :12345678910111213141516
VEH OVL PARENTS:  :XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED  _ YELLOW  _ GREEN
FLASH COLORS:   _ RED  _ YELLOW  X GREEN    <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```
PRESS '+'

```
PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:            :12345678910111213141516
VEH OVL PARENTS:  :       XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED  _ YELLOW  _ GREEN
FLASH COLORS:   _ RED  _ YELLOW  X GREEN    <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```
PRESS '+'

```
PAGE 1: VEHICLE OVERLAP 'B' SETTINGS
PHASE:            :12345678910111213141516
VEH OVL PARENTS:     XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED  _ YELLOW  _ GREEN
FLASH COLORS:   _ RED  _ YELLOW  X GREEN    <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```
PRESS '+'

```
PAGE 1: VEHICLE OVERLAP 'D' SETTINGS
PHASE:            :12345678910111213141516
VEH OVL PARENTS:         XX
VEH OVL NOT VEH:
VEH OVL NOT PED:
VEH OVL GRN EXT:
STARTUP COLOR:  _ RED  _ YELLOW  _ GREEN
FLASH COLORS:   _ RED  _ YELLOW  X GREEN    <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...N
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT.3-25.5 SEC)..0.0
RED CLEAR (0=PARENT.0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```
PRESS '+'

OVERLAP PROGRAMMING COMPLETE

FLASHER CIRCUIT MODIFICATION DETAIL

In order to insure that signals flash concurrently on the same approach, make the following flasher circuit changes:

1. On Rear of PDA – Remove wire from Term. T2-4 and Terminate on T2-2.

2. On Rear of PDA – Remove wire from Term. T2-5 and Terminate on T2-3.

3. Remove Flasher Unit 2.

The changes listed above ties all Phases and Overlaps to Flasher Unit 1.

ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES

1. Install push buttons and APS equipment per manufacturer's instructions.

2. Provide a dedicated cable to each push button per manufacturer's instructions.

3. If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.

4. Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.

5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.
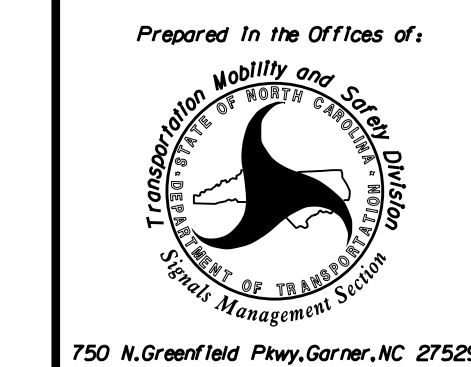
OUTPUT REFERENCE SCHEDULE
USE TO INTERPRET LOGIC PROCESSOR

```
OUTPUT 39 = Overlap D Red
OUTPUT 40 = Overlap D Yellow
OUTPUT 41 = Overlap D Green
OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 47 = Overlap B Red
OUTPUT 48 = Overlap B Yellow
OUTPUT 49 = Overlap B Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green
```

Electrical Detail - Sheet 2 of 2

```
THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1923
DESIGNED: July 2014
SEALED: 3/17/2015
REVISED: N/A
```

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1278 (North College Drive) at North Centennial Street

Division 7	Guilford County	High Point
PLAN DATE: September 2014	REVIEWED BY: T. Joyce	
PREPARED BY: B. Simmons	REVIEWED BY:	

SEAL
NORTH CAROLINA
SEAL
022013
GEORGE C. BROWN
PROFESSIONAL ENGINEER
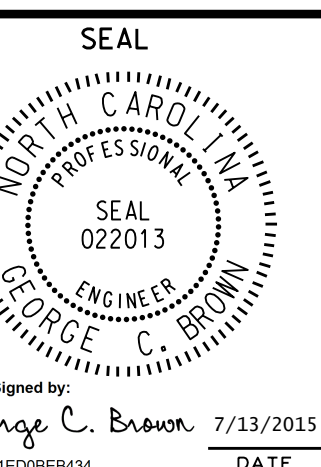
DocuSigned by:
George C. Brown 7/13/2015
F12601ED00BEB436
DATE

SIG. INVENTORY NO. 07-1923

REVISIONS | INIT. | DATE