2 Phase Fully Actuated W/ EV and Bridge Preemption (Elizabeth City Signal System)

NOTES

- 1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- 2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- 3. Set all detector units to presence mode.
- 4. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- 5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- 6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- 7. Pavement markings are existing.
- 8. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
- 9. Relocate existing Optical detection equipment from existing cabinet to new cabinet. Install a new 2-channel phase selector and return 4-channel phase selector to the Department
- 10. Optical detector 10 calls EVP 4. Optical detector 20 calls EVP 6. Optical detector 30 calls EVP 6.
- 11. Relocate existing wireless detection equipment from existing cabinet to new cabinet. Sidewalk
 - 12. Relocate existing FO transceivers and contact closures with all associated equipment for bridge preemption at this location and 01-0009 and 01-0010 from existing cabinet to new cabinet.

EXISTING

13. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

Traffic Signal Head Modified Signal Head Sign

Pedestrian Signal Head

With Push Button & Sign Type II Signal Pedestal

Type I Pushbutton Post Signal Pole with Guy Signal Pole with Sidewalk Guy Wireless Detection Zone Controller & Cabinet Junction Box

> Right of Way Directional Arrow

> > Fire Hydrant

Metal Pole with Mastarm

Optical Detector

Truncated Dome

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	
2 [.] A	6×6	70	*	-	2	Yes	_	-	_	S	-	7
2 ¹ B	6×6	7:0	*	-	2	Yes	-	_	-	S	-)
2°C	6×40	0	*	-	2	Yes	-	-	-	S	-	,
4 A	6×40	0	*	-	4	Yes	-	5	-	S	-	,
6·A	6×6	70	*	-	6	Yes	-	_	_	S	-)
6B	6×6	70	*	-	6	Yes	-	_	_	S	-)
6C	6×40	0	*	-	6	Yes	_	_	_	S	_	
8·A	6x40	0	*	-	8	Yes	_	5	_	S	-	
S05	6×6	+80	*	-	_	_	_	_	_	N	Χ	
S06	6×6	+80	*	-	-	-	_	-	-	N	Χ	$ \rangle$

US 158 (Elizabeth Street)

EX. PILE CAP (8-FT. X 8-FT.)

- METAL POLE # 4

SIGNAL FACE	Ø2+6	Ø 4 + 8
11	▼ F	
21	→ F	
22, 23	G	R
41, 42	R	G
61, 62	G	R
81, 82	R	G
P41, P42	DW	W
P81, P82	DW	W

TABLE OF OPERATION

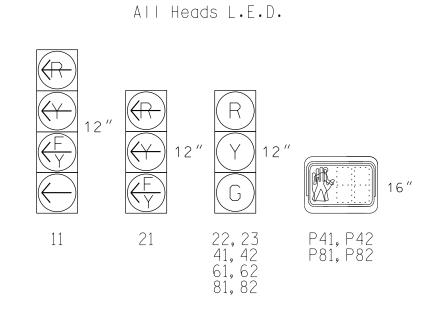
PHASE

DW DW DW DW DF

EV PREEMPT PHASES

EVP 4 (Ø1+6)

EVP 6 (Ø4+8)



SIGNAL FACE I.D.

PHASING DIAGRAM DETECTION LEGEND

BRIDGE Dwell

(04+8)

←	DETECTED MOVEMENT	

PHASING DIAGRAM

BRIDGE PREEMPT (PRE 3)

Clear (Ø1+6)

UNDETECTED MOVEMENT (OVERLAP) LINCTONAL TZED MOVEMENT

	UNSIGNALIZE	ED MOVEMENT
->	PEDESTRIAN	MOVEMENT

ASC/3 E	V PREEM	PT
FUNCTION	PRE 4	PRE 6
Exit Phase(s)	2,6	2,6
Preempt Override	OFF	OFF
Delay Time	0	0
Ped Clear Through Yellow	Y	Y
Terminate Phases	N	N
Entrance Walk	255*	255*
Entrance Ped Clear	255*	255*
Entrance Min Green	1	1
Entrance Yellow Change	25.5 *	25.5 *
Entrance Red Clear	25.5 *	25.5 *
Minimum Dwell Time	10	7
Preempt Input Extension Time	2	2
Preempt Max Time	120	120
Exit Yellow Change	25.5 *	25.5 *
Exit Red Clear	25 5 *	25.5 *

	ASC	/3 TIM]	ING CH	IART	
FEATURE	1	2	4	6	8
Min Green *	7	10	7	10	7
Delayed Green *	-	-	7	-	7
Walk *	0	0	7	0	7
Ped Clear	0	0	14	0	13
Veh. Extension *	2.0	3.0	2.0	3.0	2.0
Max 1 *	15	30	15	30	15
Yellow	3.0	3.8	3.3	3.8	3.3
Red Clear	2.1	1.3	2.2	1.3	2.1
Actuations B4 Add *	-	-	-	-	-
Seconds /Actuation *	-	-	-	-	-
Max Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	_	-	_	-
Minimum Gap	_	_	-	-	_
Locking Detector	-	X	-	X	-
Recall Position	-	VEH. RECALL	_	VEH. RECALL	_
Dual Entry	-	-	X	-	X
Simultaneous Gap	Χ	X	X	X	Χ

* 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

ASC/3 BRIDGE P	REEMPT
FUNCTION	PRE 3
Exit Phase(s)	2,6
Preempt Override	ON
Delay Time	0
Ped Clear Trough Yellow	N
Terminate Phases	N
Bridge Clear Reservice	Y
Entrance Walk	255*
Entrance Ped Clear	255 *
Entrance Min Green	10
Entrance Yellow Change	25.5 *
Entrance Red Clear	25.5 *
Bridge Clear Min Green	25
Bridge Clear Yellow Change	3.8
Bridge Clear Red Clear	1.3
Min Dwell Time	10*
Exit Yellow Change	25.5*
Exit Red Clear	25.5 *

Plans Prepared By:



Signal Upgrade

Sidewalk

PROPOSED

N/A

 \bigcirc

N/A

US 158 (Elizabeth Street) N. MLK Junior Drive

---- 2-in Underground Conduit

Division 1 Pasquotank County Elizabeth City PLAN DATE: February 2018 REVIEWED BY: AJ Davis JA Le REVIEWED BY: LM Moon

022516

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Lisa M. Moon

* Time defaults to time used for phase during

25.5* 25.5*

Exit Red Clear

lower than 4 seconds.

* Allows normal phase times to be used.

Sidewalk

Sidewalk

35 Mph 0% Grade

US 158 (Elizabeth Street)

METAL POLE # 3 —

EX. PILE CAP (8-FT. X 8-FT.)

ACC/O TIMINO CHADE

8000 Regency Parkway, Suite 175 Cary, NC 27518 NC LIcense No. C-2213 (919) 650-1038

INIT. DATE

SIG. INVENTORY NO.