PHASING DIAGRAM

Ø2+6

Ø2+5

Ø1+6

Ø1+5

Ø4+8

EV PREEMPT PHASES

EVP 3
(Ø2+5)

EVP 4
(Ø1+6)

EVP 5
(Ø3+8)

EVP 6
(Ø4+7)

PHASING DIAGRAM DETECTION LEGEND

●——→ DETECTED MOVEMENT
——→ UNDETECTED MOVEMENT (OVERLAP)
—– –→ UNSIGNALIZED MOVEMENT
←– –→ PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø4+8	EVP 3	EVP 4	EVP 5	EVP 6	FLASH
11	←	←R	←R	←R	←R	←	←R	←R	←R	R
21, 22	R	R	G	G	R	G	R	R	R	Y
31	R	R	R	R	G	R	R	R	←Y	Y
41, 42	R	R	R	G	R	G	R	R	R	G	R
51	←	←R	←	←R	←R	←R	←	←R	←R	R
61, 62	R	G	R	G	R	G	R	R	R	Y
71	←R	←R	←R	←R	G	R	R	R	←Y	Y
81, 82	R	R	R	G	R	G	R	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	W	DW	DW	DW	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	W	DW	DW	DW	DW	DRK

ASC/3 DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	Yes	–	3	–	S	–	X
2A	6X6	70	EXIST	–	2	Yes	–	–	–	N	–	X
2B	6X6	70	EXIST	–	2	Yes	–	–	–	N	–	X
4A	6X40	0	2-4-2	X	4	Yes	–	3	–	S	–	X
4B	6X40	0	2-4-2	X	4	Yes	–	10	–	S	–	X
5A	6X40	0	2-4-2	X	5	Yes	–	3	–	S	–	X
6A	6X6	70	EXIST	–	6	Yes	–	–	–	N	–	X
6B	6X6	70	EXIST	–	6	Yes	–	–	–	N	–	X
8A	6X40	+5	2-4-2	X	8	Yes	–	3	–	S	–	X
8B	6X40	+5	2-4-2	X	8	Yes	–	10	–	S	–	X
S1	6X6	+110	EXIST	–	–	–	–	–	–	N	X	X
S2	6X6	+110	EXIST	–	–	–	–	–	–	N	X	X

SIGNAL FACE I.D.
All Heads L.E.D.

12" 11 51

12" 21, 22 41, 42 61, 62 81, 82

R / Y / G 12" 31 71

16" P21, P22 P41, P42 P61, P62 P81, P82

5 Phase
Fully Actuated
W/ EV Preemption
(Elizabeth City Signal System)

PROJECT REFERENCE NO. U-5942
SHEET NO. Sig 1.0

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. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. This intersection features an optical preemption system. Shown locations of optical detectors are conceptual only.
9. Optical detector 10 calls EVP 3; Optical detector 20 calls EVP 4; Optical detector 30 calls EVP 5; Optical detector 40 calls EVP 6.
10. Relocate existing Optical detection equipment from existing cabinet to new cabinet.
11. Raise signal span with signal heads 41, 42 & 71 to obtain 17' minimum head height clearance.
12. Install new CCTV pole directly adjacent to existing pole and maintain 17' minimum clearance for head heights.
13. Remove existing "Combined Through and Left Arrow" sign-(R3-6L), "Combined Through, Left and Right Arrow" sign, "Left Arrow Only" sign-(R3-5L) and "Right Arrow Only" sign-(R3-5R).
14. Pavement markings are existing unless otherwise noted. See Sig 1.1
15. Install "NEW TRAFFIC PATTERN AHEAD" sign (W23-2) two weeks prior to installation of signal plan. The sign may be removed at the discretion of the Division Traffic Engineer.
15. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
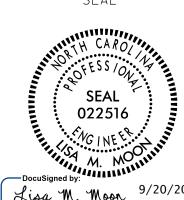
ASC/3 EV PREEMPT

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

* Allows normal phase times to be used.

ASC/3 TIMING CHART

FEATURE	1	2	3	4	5	6	7	8
Min Green *	7	10	7	7	7	10	7	7
Delay Green	–	–	–	7	–	–	–	7
Walk *	0	7	–	7	0	7	–	7
Ped Clear	0	10	–	19	0	10	–	19
Veh. Extension *	2.0	3.0	–	2.0	2.0	3.0	–	2.0
Max 1 *	25	60	–	35	25	60	–	35
Yellow	3.0	3.8	3.0	3.1	3.0	3.8	3.0	3.2
Red Clear	2.4	1.7	3.3	3.1	2.4	1.7	3.2	3.1
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	X	X	X	X	X	X	X	X

* 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.

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	——→
N/A	Fire Hydrant	⬠
N/A	Wheelchair Ramp	
⋈	Optical Detector	●◄

Drawing labels (intersection plan)

US 17 Bus. (S. Road St.)
Sidewalk C
C&G Sidewalk
25 MPH +2% Grade
Tighten DGUY
New 50' pole for CCTV
35 MPH 0% Grade
Sidewalk C&G
US 17 Bus. (W. Ehringhaus St.)
Sidewalk C&G
C&G Sidewalk
35 MPH 0% Grade
SR 1268 (E. Ehringhaus St.)
C&G Sidewalk
SR 1269 (S. Road Street)
SR 1269 (S. Road St.)
Sidewalk C&G
C&G Sidewalk
25 MPH 0% Grade

Title block

Signal Upgrade

US 17 Bus./(W. Ehringhaus St)
SR 1268/(E. Ehringhaus St) at
US 17 Bus./(S. Road St)/
SR 1269 (S. Road St)

Division 1   Pasquotank County   Elizabeth City

PLAN DATE:	June 2018	REVIEWED BY: AJ Davis
PREPARED BY:	DJ White	REVIEWED BY: LM Moon

SIG. INVENTORY NO. 01-0001

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL 022516
LISA M. MOON

9/20/2018

SCALE
0   40
1"=40'