


PUBLIC WORKS

To: All Interested Bidders and plan holders

From: James Lynn Raynor, PE 

RE: 2018 Street Resurfacing Project, PWD-2018-002
Addendum #2

Date: April 24, 2018

The following items clarify, add to, delete from and/or otherwise change and supersede information previously issued to you in the Bid Documents for the above-referenced project. As such, said items shall be considered part of the contract and receipt of this addendum shall be acknowledged appropriately in the bid package. Please review the following items carefully and adjust your proposal accordingly.

Pre-bid Clarifications/Follow-up:

1. See pre-bid minutes, Item 3(p): The attached drawings show locations of GridSmart Cameras to be installed at intersections shown in the Bid Form. CAT5 cable shall be installed overhead along the shortest runs necessary from the proposed cameras to the cabinet. City of Greenville signal technicians will be onsite during installation.

Changes/Additions to Bid List and Specifications:

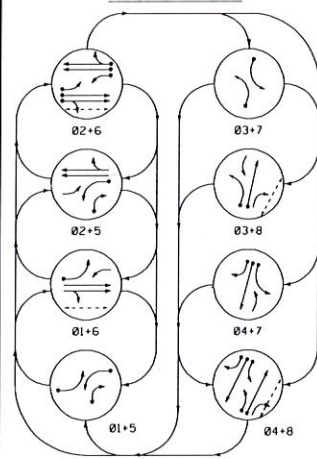
1. Information regarding E-Verify Compliance is hereby struck from the Advertisement for Bidders. Article 28 of the Standard Special Provisions is revised as follows:

“By submitting a proposal, Contractor acknowledges that compliance with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes is required by the Contractor and its Subcontractors by North Carolina law and the provisions of the Contract Documents. By signing the Bid Form, the Contractor represents that the Contractor and its Subcontractors are in compliance with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Article 2 of Chapter 64 of the North Carolina General Statutes requires employers, that transact business in the State of North Carolina and employ 25 or more employees in the State of North Carolina, to electronically verify the legal employment status of an employee through the federal E-Verify program after hiring the employee to work in the State of North Carolina.”

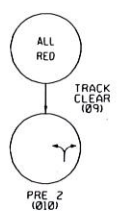
Any questions regarding this Addendum should be directed to Mr. Lynn Raynor, PE, at telephone 252-329-4620 or email at lraynor@greenvillenc.gov.

ec: Scott Godefroy, PE, City Engineer
Ronnie Donley, Streets Superintendent
Gentry Coward, Asst. Streets Superintendent

PHASING DIAGRAM



EV PREEMPT PHASES
(Medium Priority)



PHASING DIAGRAM DETECTION LEGEND
 -> DETECTED MOVEMENT
 -> UNDETECTED MOVEMENT (OVERLAP)
 -> UNSIGNALIZED MOVEMENT
 -> PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01	02	03	04	05	06	07	08
11	--	--	--	--	--	--	--	--
21,22	R	R	G	R	G	R	R	Y
31	--	--	--	--	--	--	--	--
41,42	R	R	R	R	R	G	G	R
51	--	--	--	--	--	--	--	--
61,62	R	G	R	C	R	R	R	Y
71	--	--	--	--	--	--	--	--
81	R	R	R	R	R	G	R	R
82	R	R	R	R	R	G	R	R
P61,P62	D	W	D	W	D	D	D	DR
P81,P82	D	W	D	W	D	D	D	DR
E1	R	R	R	R	R	R	R	R
Sign A	OH	OH	OH	OH	OH	OH	OH	OH

Flashing Red
See Notes 13 and 14

NEMA LOOP & DETECTOR INSTALLATION CHART
ASC/3 with TS-2 CABINET

LOOP NO	SIZE (ft)	DET FROM STOPBAR (ft)	TURNS	NEMA PHASE	DETECTOR UNITS	
					FEATURE	TIME
1A	6X60	0	2-4-2	X	1	DELAY 15 S
2A/SO1	6X6	300	4	X	2	DELAY 3 S
2B/SO2	6X6	300	4	X	2	DELAY 3 S
3A	6X60	0	2-4-2	X	3	DELAY 15 S
4A	6X60	+5	2-4-2	X	4	DELAY 3 S
4B	6X60	+5	2-4-2	X	4	DELAY 10 S
5A	6X40	0	2-4-2	X	5	DELAY 15 S
5B	6X60	0	2-4-2	X	5	DELAY 15 S
6A/SO3	6X6	300	4	X	6	DELAY 3 S
6B/SO4	6X6	300	4	X	6	DELAY 3 S
7A	6X60	+5	2-4-2	X	7	DELAY 15 S
8A	6X60	0	2-4-2	X	8	DELAY 3 S

8 Phase Fully Actuated W/EV Preempt Greenville Signal System

NOTES

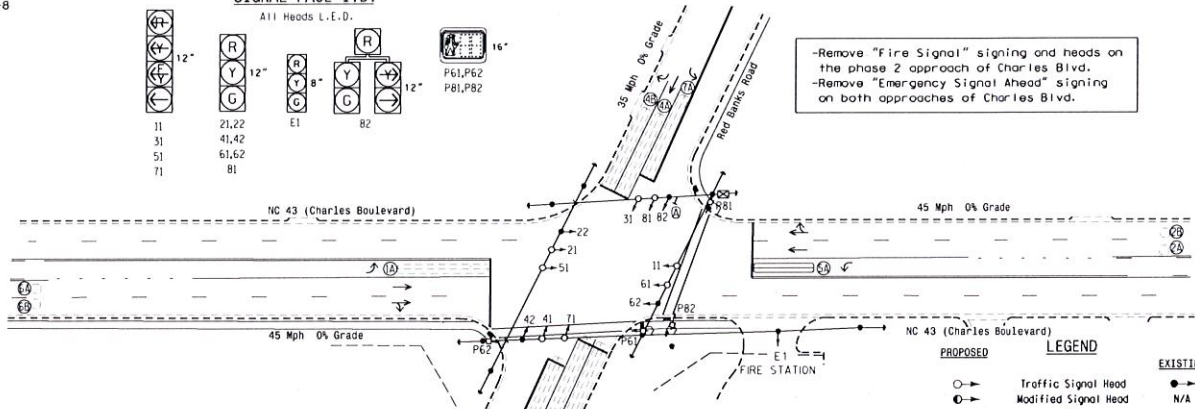
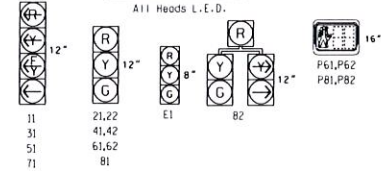
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Reposition existing signal heads numbered 22,42, & 62.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- Locate new cabinet on existing foundation.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
- The Division Traffic Engineer will determine the Delay before Preempt and Preempt Min Dwell time for the emergency vehicle preemption timing.
- When entering preemption, clear signal head E1 from flashing red to steady red during clearance interval 1 and maintain steady red during clearance interval 2.
- When entering preemption, program sign "A" to come on during yellow and red clear before preempt and stay on during red and yellow clear after preempt.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

EMERGENCY VEHICLE PREEMPT

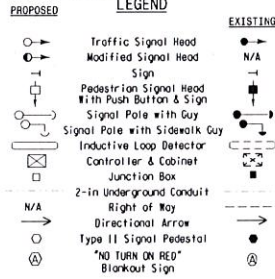
FUNCTION	PRE 2
DELAY BEFORE PREEMPT	*
PHASE OVERRIDE	OFF
PED CLEAR THROUGH YELLOW	Y
TERMINATE PHASES	N
ENTRANCE WALK	1
ENTRANCE PED CLEAR	12
ENTRANCE MIN GREEN	5
ENTRANCE YELLOW CLEAR	25.5*
ENTRANCE RED CLEAR	25.5*
TRACK CLEAR GREEN	1
TRACK CLEAR YELLOW	3.0
TRACK CLEAR RED	0.0
PREEMPT MIN DWELL	**
PREEMPT MAX PRESENCE INTERVAL	0
PREEMPT DWELL YELLOW	25.5*
PREEMPT DWELL RED	25.5*
EXIT PHASE(S)	2,6

*Time defaults to time used for phase during normal operation
**See Note 12

SIGNAL FACE I.D.



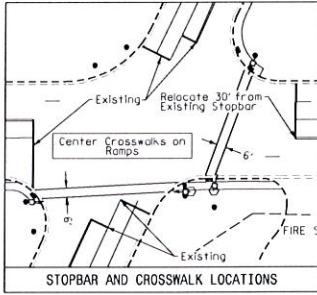
-Remove "Fire Signal" signing and heads on the phase 2 approach of Charles Blvd.
 -Remove "Emergency Signal Ahead" signing on both approaches of Charles Blvd.



TIMING CHART
ASC/3 CONTROLLER

PHASE	01	02	03	04	05	06	07	08
MINIMUM GREEN *	7 SEC	12 SEC	7 SEC	7 SEC	7 SEC	12 SEC	7 SEC	7 SEC
VEHICLE EXT *	2.5 SEC	6.0 SEC	1.0 SEC	2.0 SEC	1.5 SEC	6.0 SEC	1.0 SEC	2.0 SEC
YELLOW CHANGE INT.	3.0 SEC	4.5 SEC	3.0 SEC	3.8 SEC	3.0 SEC	4.5 SEC	3.0 SEC	3.8 SEC
RED CLEARANCE	3.3 SEC	2.3 SEC	2.4 SEC	2.0 SEC	3.8 SEC	2.3 SEC	2.6 SEC	2.0 SEC
MAX. I *	30 SEC	90 SEC	20 SEC	50 SEC	30 SEC	90 SEC	20 SEC	50 SEC
RECALL POSITION	NONE	MIN RECALL	NONE	NONE	MIN RECALL	NONE	NONE	NONE
LOCK DET.	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
WALK *	- SEC	- SEC	- SEC	- SEC	- SEC	7 SEC	- SEC	7 SEC
PED. CLEAR	- SEC	- SEC	- SEC	- SEC	- SEC	24 SEC	- SEC	19 SEC
VOLUME DENSITY	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
ACTUATION B4 ADD *	- VEH	0 VEH	- VEH	- VEH	- VEH	0 VEH	- VEH	- VEH
SEC PER ACTUATION *	- SEC	1.5 SEC	- SEC	- SEC	- SEC	1.5 SEC	- SEC	- SEC
MAX. INITIAL *	- SEC	34 SEC	- SEC	- SEC	- SEC	34 SEC	- SEC	- SEC
TIME B4 REDUCTION *	- SEC	15 SEC	- SEC	- SEC	- SEC	15 SEC	- SEC	- SEC
TIME TO REDUCE *	- SEC	30 SEC	- SEC	- SEC	- SEC	30 SEC	- SEC	- SEC
MINIMUM GAP	- SEC	3.0 SEC	- SEC	- SEC	- SEC	3.0 SEC	- SEC	- SEC
DUAL ENTRY	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
SIMULTANEOUS GAP	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be held 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.



Signal Upgrade Corr. File No. 02-14-31246

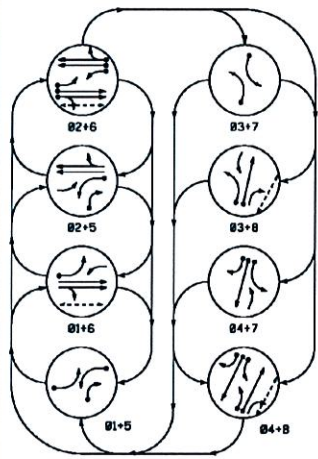
Prepared in the Office of:

 NC 43 (Charles Boulevard) at Red Banks Road
 Greenville
 Division 02 Pitt County
 PLAN DATE: April 2015 REVIEWED BY: JFG
 PREPARED BY: Jeff Speck REVIEWED BY:
 REVISIONS: INIT. DATE
 0 SCALE 40
 1"=40'
 5/25/2015
 DATE
 02-0314

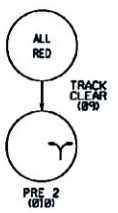
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BA
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PHASING DIAGRAM



EV PREEMPT PHASES (Reduce Priority)



PHASING DIAGRAM DETECTION LEGEND
DETECTED MOVEMENT
UNDETECTED MOVEMENT (OVERLAP)
UNBALANCED MOVEMENT
PEDESTRIAN MOVEMENT

TABLE OF OPERATION

Table with columns: SIGNAL FACE, PHASE, and a grid of signal status (R, G, Y, etc.) for various phases and signal faces.

** Flashing Red See Notes 13 and 14

NEMA LOOP & DETECTOR INSTALLATION CHART

Table with columns: LOOP NO., SIZE, DIST. FROM SIGNAL, TURNS, NEMA PHASE, DETECTOR UNITS, and DET. TYPE.

8 Phase Fully Actuated W/EV Preempt Greenville Signal System

NOTES

- 1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
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 logged.
4. Phase 3 and/or phase 7 may be logged.
5. Reposition existing signal heads numbered 22, 42, & 62.
6. Set all detector units to presence mode.
7. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
8. Locate new cabinet on existing foundation.
9. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
10. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
11. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pedestrian location details.
12. The Division Traffic Engineer will determine the Delay before Preempt and Preempt Min Dwell time for the emergency vehicle preemption timing.
13. When entering preemption, clear signal head E1 from flashing red to steady red during clearance interval 1 and maintain steady red during clearance interval 2.
14. When entering preemption, program sign "A" to come on during yellow and red clear before preempt and stay on during red and yellow clear after preempt.
15. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

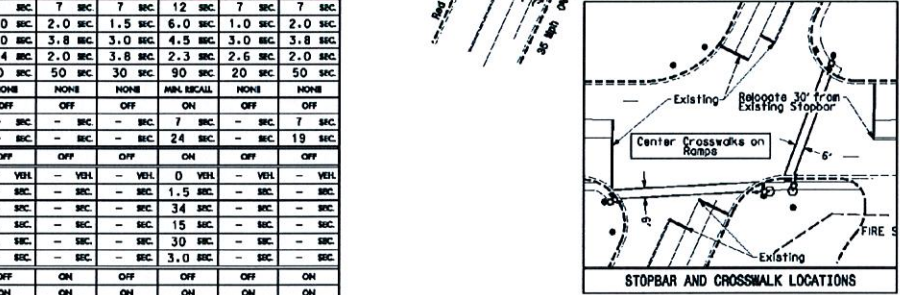
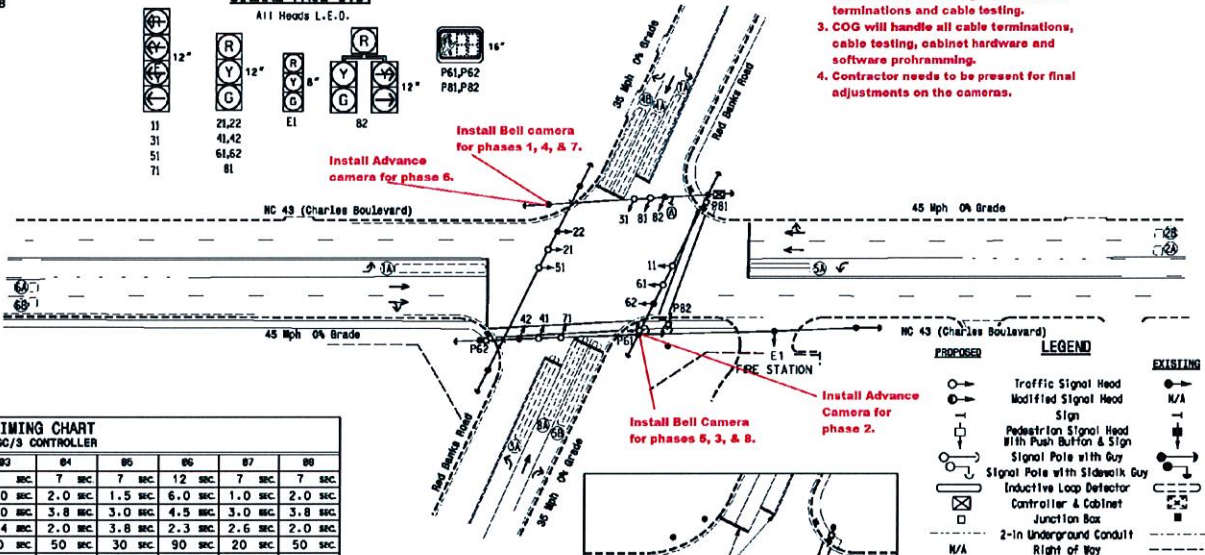
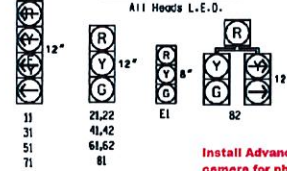
- 1. Provide 3 shielded CAT 5E cables for each camera.
2. Provide enough slack in the cables at the cameras to reach the ground for RJ 45 terminations and cable testing.
3. COG will handle all cable terminations, cable testing, cabinet hardware and software programming.
4. Contractor needs to be present for final adjustments on the cameras.

EMERGENCY VEHICLE PREEMPTION

Table with columns: FUNCTION and PRE 8, listing functions like DELAY BEFORE PREEMPT, PRE 8, etc.

*Time delays in this used for phase during normal operation. See Note 12

SIGNAL FACE I.D.



LEGEND
PROPOSED: Traffic Signal Head, Modified Signal Head, Signal, 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, Right of Way, Directional Arrow, Type II Signal Pedestal, NO TURN ON RED, Blankout Sign.
EXISTING: N/A, Signal Pole, Signal Head, etc.

TIMING CHART ASG/3 CONTROLLER

Timing chart table with columns: PHASE, B1, B2, B3, B4, B5, B6, B7, B8 and rows for various signal functions like MINIMUM GREEN, YELLOW CHANGE INT., etc.

*These values may be field adjusted. Do not adjust Min Green and Redden Times for phases 3 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade Corr. File No. 02-14-31248
NC 43 (Charles Boulevard) at Red Banks Road
Division 02 Pitt County Greenville
PLN DSN: April 2013 REVIEWED BY: JFB
PROJ BY: Jeff Sipes REVIEWED BY:
SCALE: 1"=40'

11-10-2013 2:15 PM
C:\Users\jps\AppData\Local\Temp\11-10-2013 2:15 PM

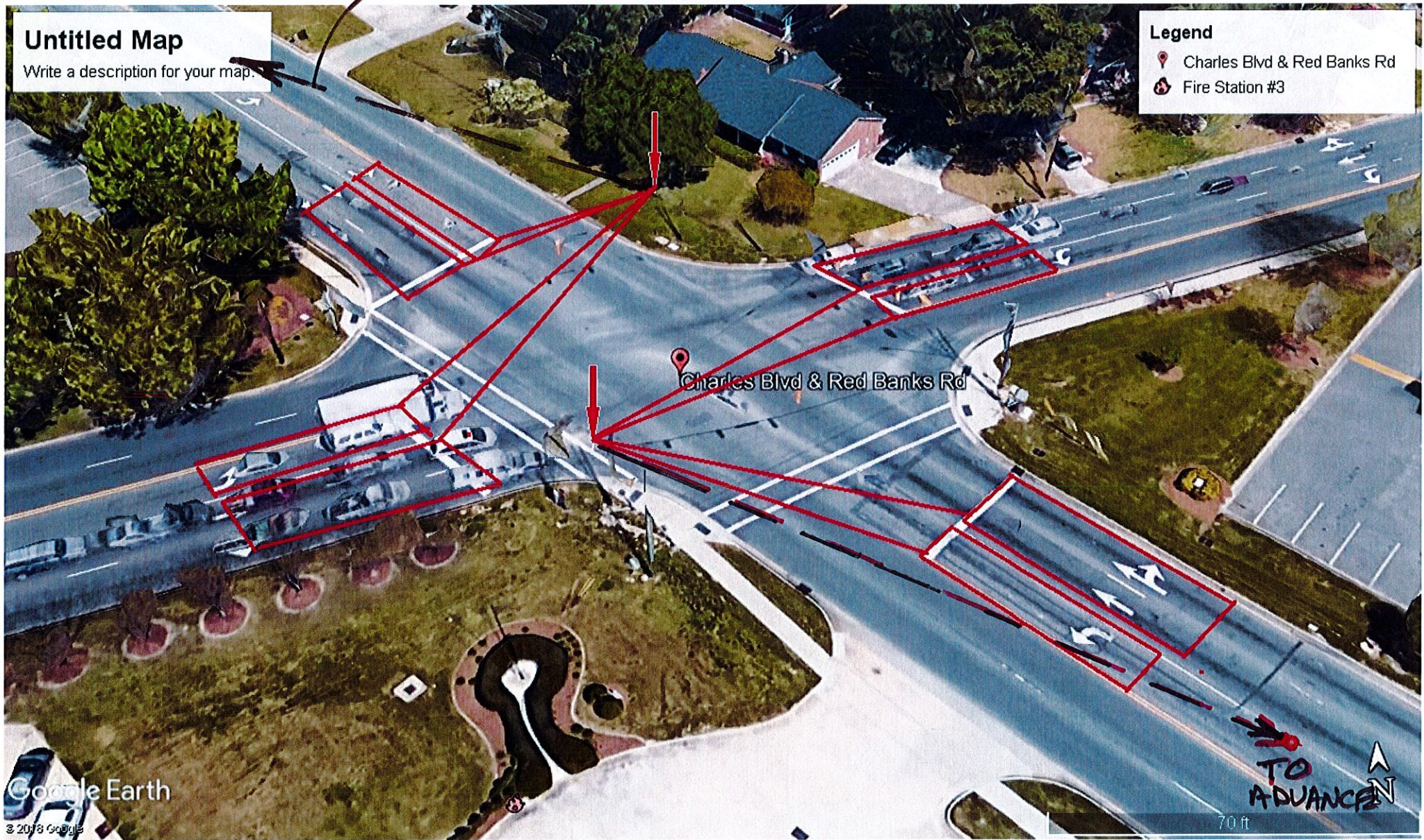
TO ADVANCE DET. ZONE.

Untitled Map

Write a description for your map.

Legend

- Charles Blvd & Red Banks Rd
- Fire Station #3



Google Earth

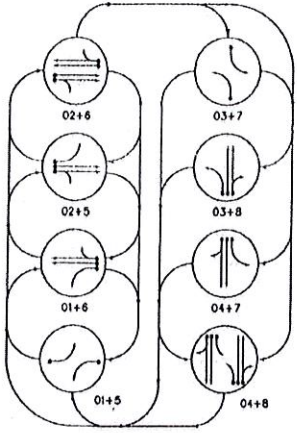
© 2018 Google

70 ft

TO ADVANCE

DET. ZONE

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND
 -> DETECTED MOVEMENT
 -> UNDETECTED MOVEMENT (OVERLAP)
 -> UNSYNCHRONIZED MOVEMENT
 -> PEDESTRIAN MOVEMENT

LOOP & DETECTOR UNIT INSTALLATION CHART
 NEMA CONTROLLER WITH 15-2 CABINET

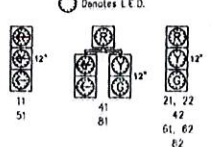
LOOP NO.	INDUCTIVE LOOPS			DETECTOR UNITS				PLATE CALL	DELAY	DURING PHASE	
	SIZE (ft)	TURNS	RESISTANCE (ohms)	TYPE	PHASE	TIME	ALL				
* 1A	6x60	2-4-2	+5	X	1	X	DELAY	3 SEC	ALL	YES	
2A	6x6	5	300	X	2	X	-	-	SEC	ALL	NO
2B	6x6	5	300	X	2	X	-	-	SEC	ALL	NO
* 2C	6x60	2-4-2	+5	X	2	X	DC/EC	5/2 SEC	ALL	NO	
* 2D	6x60	2-4-2	+5	X	2	X	DC/EC	5/2 SEC	ALL	NO	
3A	6x40	2-4-2	+5	X	3	X	DELAY	3 SEC	ALL	YES	
4A	6x60	2-4-2	+5	X	4	X	-	-	SEC	ALL	NO
4B	6x60	2-4-2	+5	X	4	X	DELAY	10 SEC	ALL	YES	
* 5A	6x60	2-4-2	+5	X	5	X	DELAY	3 SEC	ALL	YES	
6A	6x6	5	300	X	6	X	-	-	SEC	ALL	NO
6B	6x6	5	300	X	6	X	-	-	SEC	ALL	NO
* 6C	6x60	2-4-2	+5	X	6	X	DC/EC	5/2 SEC	ALL	NO	
* 6D	6x60	2-4-2	+5	X	6	X	DC/EC	5/2 SEC	ALL	NO	
7A	6x60	2-4-2	+5	X	7	X	DELAY	3 SEC	ALL	YES	
8A	6x60	2-4-2	0	X	8	X	-	-	SEC	ALL	NO
8B	6x40	2-4-2	0	X	8	X	DELAY	10 SEC	ALL	YES	
S3126	6x6	6	+520	X	-	-	-	-	-	-	SYSTEM DETECTOR
S2226	6x6	Existing	+520	X	-	-	-	-	-	-	SYSTEM DETECTOR
S3226	6x6	6	+520	X	-	-	-	-	-	-	SYSTEM DETECTOR
S2126	6x6	Existing	+520	X	-	-	-	-	-	-	SYSTEM DETECTOR
S3326	6x6	5	+320	X	-	-	-	-	-	-	SYSTEM DETECTOR
S2326	6x6	Existing	+320	X	-	-	-	-	-	-	SYSTEM DETECTOR

* Unable to field verify loops.

TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01	02	03	04	05	06	07	08
11	-	-	-	-	-	-	-	-
21, 22	R	R	R	R	R	R	R	R
41	R	R	R	R	R	R	R	R
42	R	R	R	R	R	R	R	R
51	-	-	-	-	-	-	-	-
61, 62	R	R	R	R	R	R	R	R
81	R	R	R	R	R	R	R	R
82	R	R	R	R	R	R	R	R

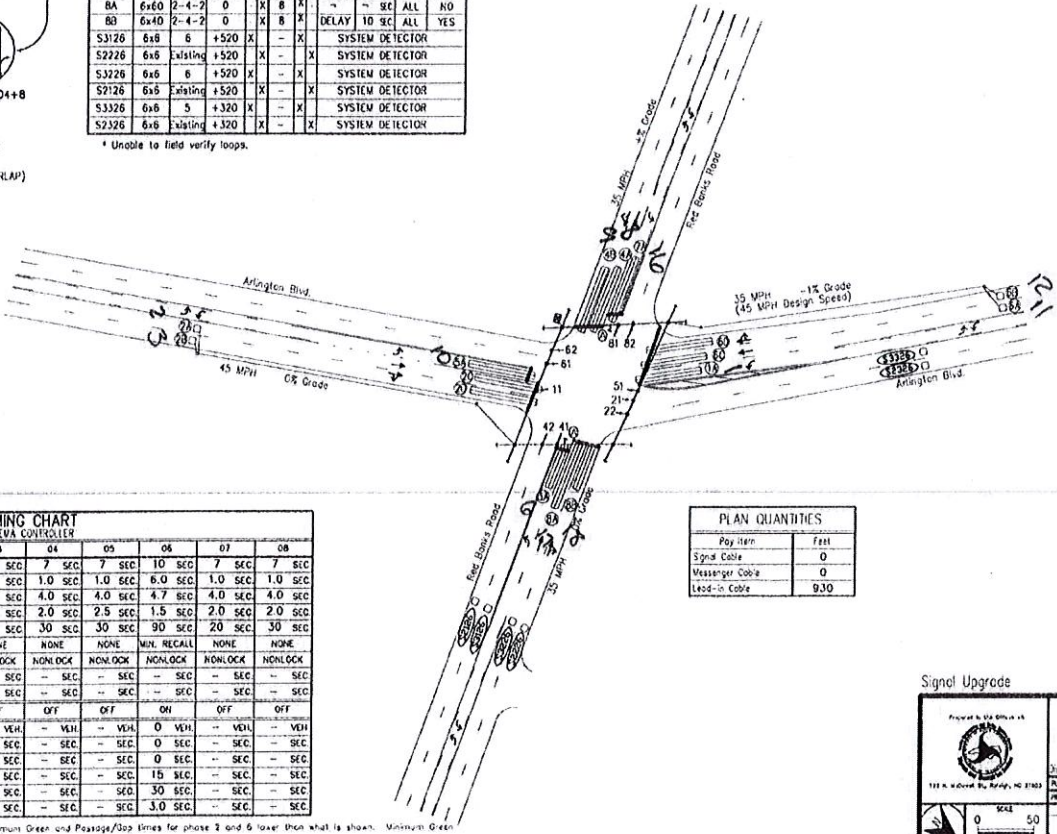
SIGNAL FACE I.D.



8 Phase Fully Actuated (Greenville City System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Pavement markings are existing.
- Omit phase 3 during phase 4 on.
- Omit phase 7 during phase 8 on.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- During coordination, phase 1 or phase 5 may be logged.
- Existing "Left Turn Yield on Green" ball signs (R10-12) may be removed at the discretion of the Regional Traffic Engineer.
- Set all detector units to presence mode.
- Program phase 4 and phase 8 for dual entry.
- Intersection Zone Number: 0
System Address Number: 28



PLAN QUANTITIES

Qty Item	Feet
Signal Cable	0
Message Cable	0
Lead-in Cable	930

TIMING CHART
NEMA CONTROLLER

PHASE	01	02	03	04	05	06	07	08
MINIMUM GREEN *	7 SEC	10 SEC	7 SEC	7 SEC	7 SEC	10 SEC	7 SEC	7 SEC
PASSAGE/GAP *	1.0 SEC	6.0 SEC	1.0 SEC	1.0 SEC	1.0 SEC	6.0 SEC	1.0 SEC	1.0 SEC
YELLOW CHANGE INT.	4.0 SEC	4.7 SEC	4.0 SEC	4.0 SEC	4.0 SEC	4.7 SEC	4.0 SEC	4.0 SEC
RED CLEARANCE	2.5 SEC	1.5 SEC	2.0 SEC	2.0 SEC	2.5 SEC	1.5 SEC	2.0 SEC	2.0 SEC
MAX. I *	20 SEC	90 SEC	20 SEC	30 SEC	30 SEC	90 SEC	20 SEC	30 SEC
RECALL POSITION	NONE	MIN. RECALL	NONE	NONE	NONE	MIN. RECALL	NONE	NONE
VEH. CALL MEMORY	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK
WALK *	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC
FLASHING DON'T WALK	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC	-- SEC
VOLUME DENSITY	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
ACTUATION B4 ADD	-- VEH	0 VEH	-- VEH	-- VEH	-- VEH	0 VEH	-- VEH	-- VEH
SEC PER ACTUATION *	-- SEC	0 SEC	-- SEC	-- SEC	-- SEC	0 SEC	-- SEC	-- SEC
MAX. INITIAL *	-- SEC	0 SEC	-- SEC	-- SEC	-- SEC	0 SEC	-- SEC	-- SEC
TIME B4 REDUCTION *	-- SEC	15 SEC	-- SEC	-- SEC	-- SEC	15 SEC	-- SEC	-- SEC
TIME TO REDUCE *	-- SEC	30 SEC	-- SEC	-- SEC	-- SEC	30 SEC	-- SEC	-- SEC
MINIMUM GAP	-- SEC	3.0 SEC	-- SEC	-- SEC	-- SEC	3.0 SEC	-- SEC	-- SEC

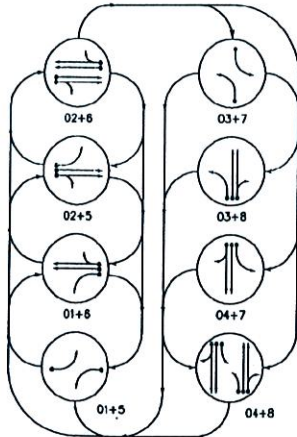
* These values may be field adjusted. Do not adjust Minimum Green and Passage/Gap times for phase 2 and 6 lower than what is shown. Minimum Green for all other phases should not be lower than 4 seconds.



Signal Upgrade

	Arlington Blvd. at Red Banks Rd.		
	Division 02 PLAN DATE: 4-27-2011 PREPARED BY: B.A. BOSTON	PIN County DESIGN DATE: 4-27-2011 REVIEWED BY: S.T. FORTNEY	
SCALE: 1"=50' DATE:	PROJECT NO. 8920-9	TITLE:	DRAWN BY:

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND
 → DETECTED MOVEMENT
 → UNDETECTED MOVEMENT (OVERLAP)
 → UNSIGNALIZED MOVEMENT
 → PEDESTRIAN MOVEMENT

LOOP & DETECTOR UNIT INSTALLATION CHART

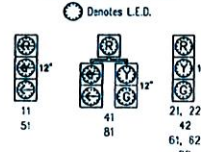
INDUCTIVE LOOPS				DETECTOR UNITS				
LOOP NO.	SIZE (ft)	DELT FROM STOPBAR (ft)	IS NEW	NEW PHASE	TYPE	TIMING	PLACE CALL SIGNAL PHASE	INHIBIT DELAY DURING PHASE
* 1A	6x80	2-4-2	+5	X	1	X	DELAY 3 SEC	ALL YES
2A	6x6	5	300	X	2	X	-	SEC ALL NO
2B	6x6	5	300	X	2	X	-	SEC ALL NO
* 2C	6x80	2-4-2	+5	X	2	X	DC/EC 5/2 SEC	ALL NO
* 2D	6x80	2-4-2	+5	X	2	X	DC/EC 5/2 SEC	ALL NO
3A	6x10	2-4-2	+5	X	3	X	DELAY 3 SEC	ALL YES
4A	6x80	2-4-2	+5	X	4	X	DELAY 15 SEC	ALL YES
4B	6x80	2-4-2	+5	X	4	X	DELAY 10 SEC	ALL YES
* 5A	6x80	2-4-2	+5	X	5	X	DELAY 3 SEC	ALL YES
6A	6x6	5	300	X	6	X	-	SEC ALL NO
6B	6x6	5	300	X	6	X	-	SEC ALL NO
* 6C	6x80	2-4-2	+5	X	6	X	DC/EC 5/2 SEC	ALL NO
* 6D	6x80	2-4-2	+5	X	6	X	DC/EC 5/2 SEC	ALL NO
7A	6x80	2-4-2	+5	X	7	X	DELAY 3 SEC	ALL YES
8A	6x80	2-4-2	0	X	8	X	-	SEC ALL NO
8B	6x40	2-4-2	0	X	8	X	DELAY 10 SEC	ALL YES
S3126	6x6	5	+520	X	-	-	-	SYSTEM DETECTOR
S2226	6x6	Existing	+520	X	-	-	-	SYSTEM DETECTOR
S3226	6x6	6	+520	X	-	-	-	SYSTEM DETECTOR
S2126	6x6	Existing	-520	X	-	-	-	SYSTEM DETECTOR
S3326	6x6	5	+320	X	-	-	-	SYSTEM DETECTOR
S2326	6x6	Existing	+320	X	-	-	-	SYSTEM DETECTOR

* Unable to field verify loops.

TABLE OF OPERATION

SIGNAL FACE	PHASE							
	01+5	02+5	03+7	04+8	01+5	02+5	03+7	04+8
11	-	-	-	-	-	-	-	-
21, 22	R	R	G	R	R	R	R	R
41	R	R	R	R	R	R	R	G
42	R	R	R	R	R	R	R	G
51	-	-	-	-	-	-	-	-
61, 62	R	R	R	R	R	R	R	R
81	R	R	R	R	R	R	R	R
82	R	R	R	R	R	R	R	R

SIGNAL FACE I.D.



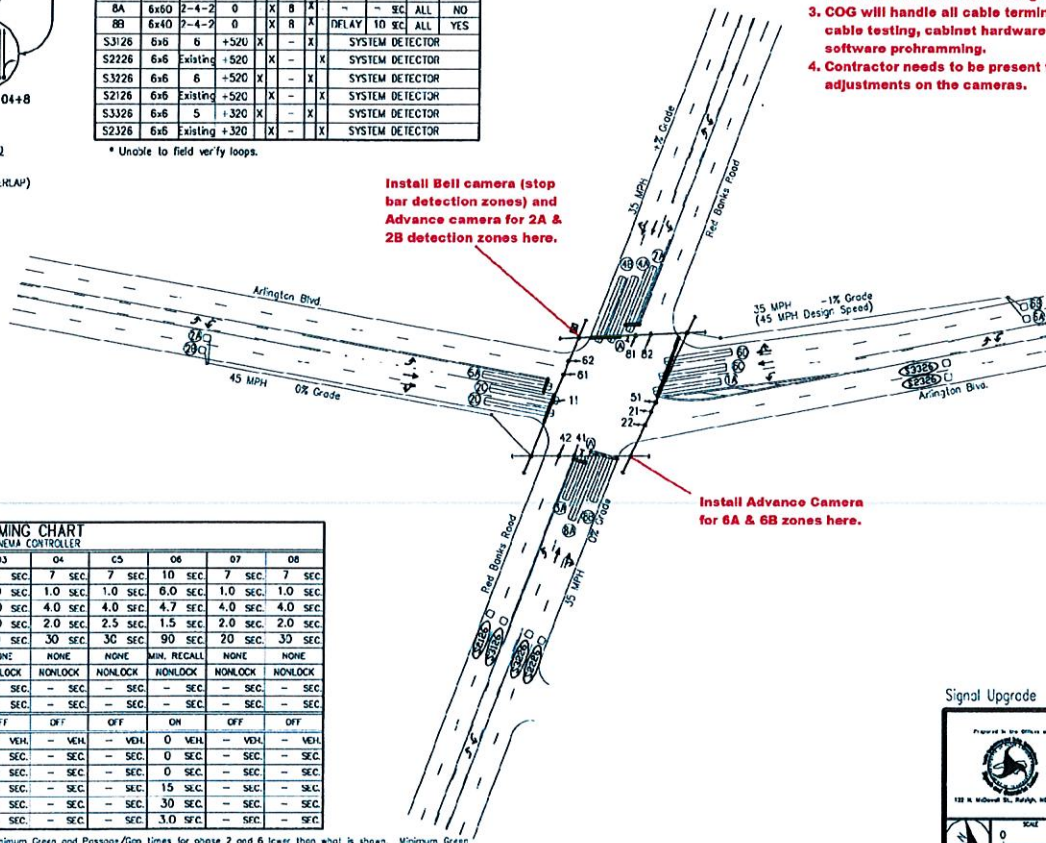
8 Phase Fully Actuated (Greenville City System)

- Provide 3 shielded CAT 6E cables for each camera.
- Provide enough slack in the cables at the cameras to reach the ground for RJ 45 terminations and cable testing.
- COG will handle all cable terminations, cable testing, cabinet hardware and software programming.
- Contractor needs to be present for final adjustments on the cameras.

- NOTES
- Refer to "Roadway Standard Drawings (RSD01)" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
 - Pavement markings are existing.
 - Omit phase 3 during phase 4 on.
 - Omit phase 7 during phase 8 on.
 - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
 - During coordination, phase 1 or phase 5 may be lagged.
 - Existing "Left Turn Yield on Green" boll signs-(R10-12) may be removed at the discretion of the Regional Traffic Engineer.
 - Set all detector units to presence mode.
 - Program phase 4 and phase 8 for dual entry.
 - Intersection Zone Number: 8 System Address Number: 26

Install Bell camera (stop bar detection zones) and Advance camera for 2A & 2B detection zones here.

Install Advance Camera for 6A & 6B zones here.



TIMING CHART
NEMA CONTROLLER

PHASE	01	02	03	04	05	06	07	08
MINIMUM GREEN *	7 SEC	10 SEC	7 SEC	7 SEC	7 SEC	10 SEC	7 SEC	7 SEC
PASSAGE/GAP *	1.0 SEC	6.0 SEC	1.0 SEC	1.0 SEC	1.0 SEC	6.0 SEC	1.0 SEC	1.0 SEC
YELLOW CHANGE INT.	4.0 SEC	4.7 SEC	4.0 SEC	4.0 SEC	4.0 SEC	4.7 SEC	4.0 SEC	4.0 SEC
RED CLEARANCE	2.5 SEC	1.5 SEC	2.0 SEC	2.0 SEC	2.5 SEC	1.5 SEC	2.0 SEC	2.0 SEC
MAX 1 *	20 SEC	90 SEC	20 SEC	30 SEC	30 SEC	90 SEC	20 SEC	30 SEC
RECALL POSITION	NONE	MIN. RECALL	NONE	NONE	NONE	MIN. RECALL	NONE	NONE
VEH. CALL MEMORY	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK	NONLOCK
WALK *	- SEC	- SEC	- SEC	- SEC	- SEC	- SEC	- SEC	- SEC
FLASHING DON'T WALK	- SEC	- SEC	- SEC	- SEC	- SEC	- SEC	- SEC	- SEC
VOLUME DENSITY	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
ACTUATION BY ADD	- VEH.	0 VEH.	- VEH.	- VEH.	- VEH.	0 VEH.	- VEH.	- VEH.
SEC. PER ACTUATION *	- SEC.	0 SEC.	- SEC.	- SEC.	- SEC.	0 SEC.	- SEC.	- SEC.
MAX. INITIAL *	- SEC.	0 SEC.	- SEC.	- SEC.	- SEC.	0 SEC.	- SEC.	- SEC.
TIME BY REDUCTION *	- SEC.	15 SEC.	- SEC.	- SEC.	- SEC.	15 SEC.	- SEC.	- SEC.
TIME TO REDUCE *	- SEC.	30 SEC.	- SEC.	- SEC.	- SEC.	30 SEC.	- SEC.	- SEC.
MINIMUM GAP	- SEC.	3.0 SEC.	- SEC.	- SEC.	- SEC.	3.0 SEC.	- SEC.	- SEC.

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

LEGEND

PROPOSED	EXISTING
○ → Traffic Signal Head	○ → Traffic Signal Head
○ → Modified Signal Head	N/A
— Sign	— Sign
○ → Pedestrian Signal Head With Push Button & Sign	○ → Pedestrian Signal Head With Push Button & Sign
○ → Signal Pole with Guy	○ → Signal Pole with Guy
○ → Signal Pole with Siderack Guy	○ → Signal Pole with Siderack Guy
□ → Inductive Loop Detector Controller & Cabinet	□ → Inductive Loop Detector Controller & Cabinet
□ → Junction Box	□ → Junction Box
— 2-in Underground Conduit	— 2-in Underground Conduit
→ Right of Way with Marker	→ Right of Way with Marker
→ Directional Arrow	→ Directional Arrow
→ Pavement Marking Arrow	→ Pavement Marking Arrow
⊙ → "LEFT TURN YIELD ON GREEN" Sign (R10-12)	⊙ → "LEFT TURN YIELD ON GREEN" Sign (R10-12)

Signal Upgrade

Arlington Blvd. at Red Banks Rd.

Division 02 Pitt County Greenville

PLN DATE: April 2003 REVIEWER: P.J. Porter

PREPARED BY: P.A. Seccombe REVIEWER: S.L. Foy

SCALE: 1"=50'

DATE: 04/23/03

PROJECT NO. 23489

DATE: 04/23/03

SCALE: 1"=50'




PROJECT NO. 23489

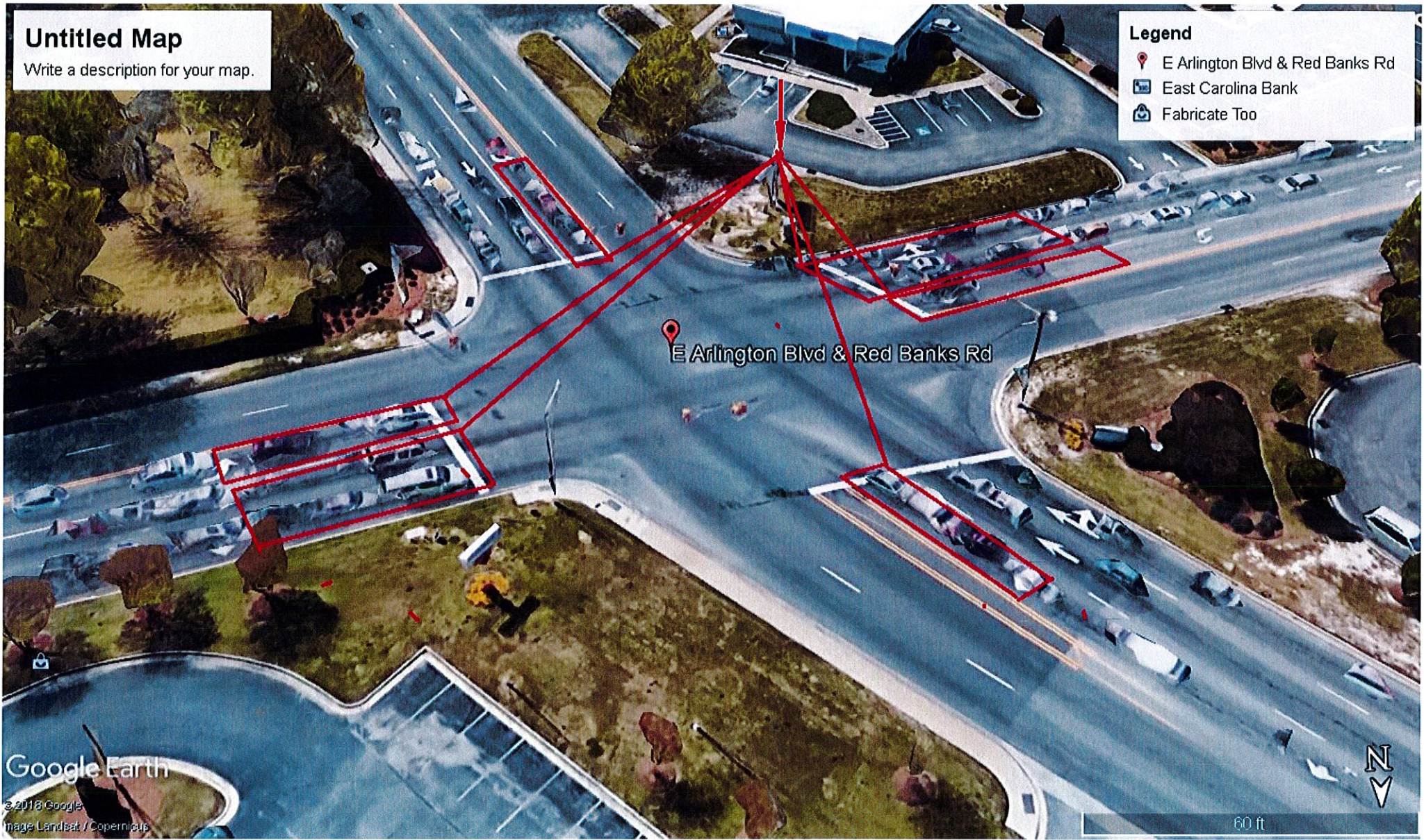
2B

Untitled Map

Write a description for your map.

Legend

-  E Arlington Blvd & Red Banks Rd
-  East Carolina Bank
-  Fabricate Too



Google Earth

© 2018 Google
Image Landsat / Copernicus

60 ft






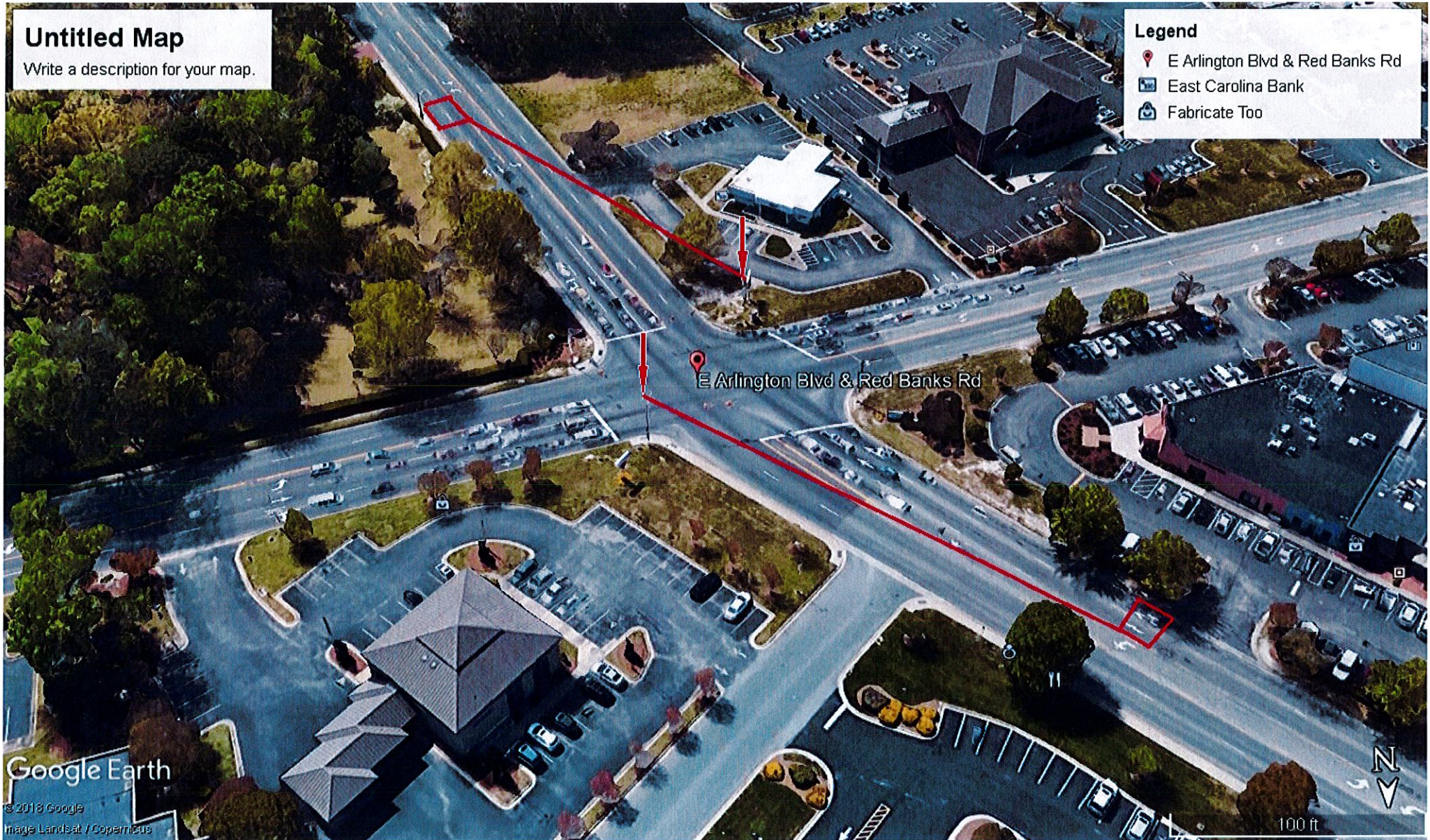
2c

Untitled Map

Write a description for your map.

Legend

-  E Arlington Blvd & Red Banks Rd
-  East Carolina Bank
-  Fabricate Too



Google Earth

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Image Landsat / Copernicus

100 ft

PHASING DIAGRAM

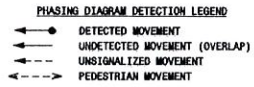
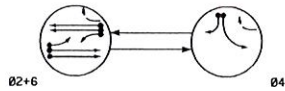
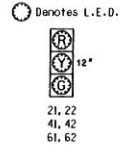


TABLE OF OPERATION

SIGNAL FACE	PHASE		
	02+6	04	06
21, 22	G	R	Y
41, 42	R	G	R
61, 62	G	R	Y

SIGNAL FACE I.E.D.



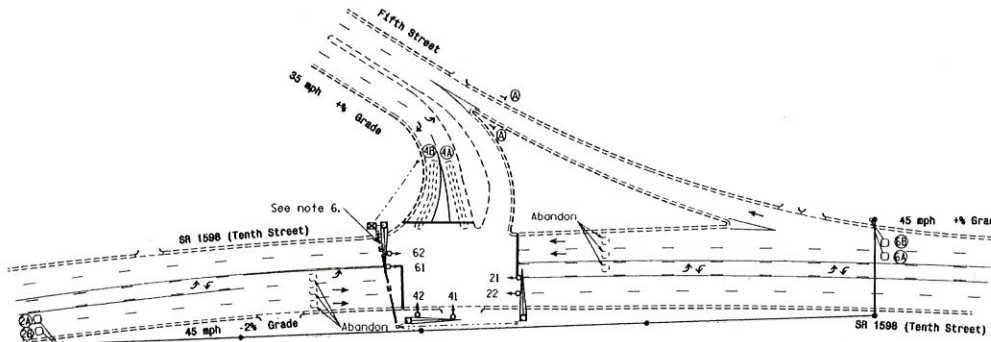
LOOP & DETECTOR UNIT INSTALLATION CHART
NEMA CONTROLLER WITH TS-2 CABINET

LOOP NO.	INDUCTIVE LOOPS				DETECTOR UNITS				
	SIZE (ft)	TURNS	DIST. FROM STORAGE (ft)	SIZE	NEMA PHASE	TIMING FEATURE	TIME	PLACE CALL DURING PHASE	INHIBIT DELAY DURING GREEN
2A	6X6	4	300	X	2	X	-	- SEC. ALL	NO
2B	6X6	4	300	X	2	X	-	- SEC. ALL	NO
4A	6X60	2-4-2	+5	X	4	X	-	- SEC. ALL	NO
4B	6X60	2-4-2	+5	X	4	X	DELAY	15 SEC. ALL	YES
6A	6X6	4	300	X	6	X	-	- SEC. ALL	NO
6B	6X6	4	300	X	6	X	-	- SEC. ALL	NO

2 Phase Fully Actuated (Greenville City System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2002 and "Standard Specifications for Roads and Structures" dated January 2002.
- Pavement markings are existing.
- Run all lead-in cable overhead on existing utility poles where possible.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Set all detector units to presence mode.
- Where directional drill is indicated, install two separate conduits, one for lead-in cable and one for signal cable.
- Intersection Zone Number: 5
System Address Number: 79



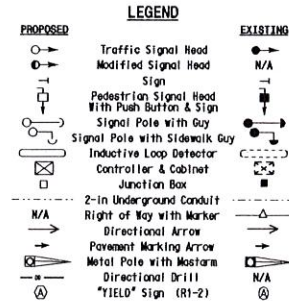
TIMING CHART
NEMA CONTROLLER

PHASE	02	04	06
MINIMUM GREEN*	12 SEC.	7 SEC.	12 SEC.
PASSAGE GAP*	6.0 SEC.	1.0 SEC.	6.0 SEC.
YELLOW CHANGE INT.	4.7 SEC.	4.0 SEC.	4.7 SEC.
RED CLEARANCE	1.5 SEC.	1.5 SEC.	1.5 SEC.
MAX. Y*	90 SEC.	50 SEC.	90 SEC.
RECALL POSITION	MIN. RECALL	NONE	MIN. RECALL
YEB. CALL MEMORY	LOCK	NONLOCK	LOCK
WALK*	- SEC.	- SEC.	- SEC.
FLASHING DON'T WALK	- SEC.	- SEC.	- SEC.
VOLUME DENSITY	ON	OFF	ON
ACTUATION BA ADD	0 YEB.	- YEB.	0 YEB.
SEC. PER ACTUATION*	1.5 SEC.	- SEC.	1.5 SEC.
MAX. INITIAL*	3.4 SEC.	- SEC.	3.4 SEC.
TIME BA REDUCTION*	15 SEC.	- SEC.	15 SEC.
TIME TO REDUCE*	30 SEC.	- SEC.	30 SEC.
MINIMUM GAP	3.0 SEC.	- SEC.	3.0 SEC.

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

PLAN QUANTITIES

Pay Item	Feet
Signal Cable	520
Messenger Cable	760
Lead-in Cable	1150



Signal Upgrade

Prepared by the Office of

SR 1598 (Tenth Street) at Fifth Street
Greenville

Division 02
Plan Date: **JANUARY 2003** REVISION BY: **S.T. Franklin**

PREPARED BY: **L.A. Elliott** REVIEWED BY:

REVISIONS: _____

SCALE: 0 50
1"=50'



DATE: **7/9/03**

SIGNATURE: _____ DATE: _____
SIC: INVENTORY NO. 02-0052

Untitled Map

Write a description for your map.

Legend

-  Charles Blvd & Red Banks Rd
-  Fire Station #3

