STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	2
F.A. PROJ. NO.			
PROJECT ID NO.			

GENERAL CONSTRUCTION NOTES:

INSTALLATION AND CONSTRUCTION SHALL CONFORM TO THE DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS SECTIONS APPLICABLE, STANDARD PLANS DATED AND EFFECTIVE FOR THE CURRENT YEAR, AND ANY SPECIAL MUNICIPALITY CODE PROVISIONS.

1. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IS APPROXIMATE. THE SUBCONTRACTOR SHALL DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES INCLUDING THOSE NOT SHOWN ON PLANS AND VERIFY ALL JOB SITE CONDITIONS, HAND EXCAVATE FOUNDATION UNTIL CLEAR OF ALL SUBSTRUCTURES AND PROTECT ALL FACILITIES DURING CONSTRUCTION. SUBCONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR UNDERGROUND UTILITY REMOVAL OR RELOCATION WITH RESPECTIVE UTILITY OWNERS AS MAY BE REQUIRED SUFFICIENTLY IN ADVANCE TO PREVENT DELAY IN OPERATIONS.
2. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND UTILITIES ENCOUNTERED IN AREAS WHERE EXCAVATIONS ARE INDICATED AND SHALL REPAIR ANY SUCH DAMAGE AT OWN EXPENSE. WHERE UTILITY LINES MUST BE MAINTAINED UNDER STRUCTURE, THEY SHALL BE PROPERLY SLEEVED THROUGH FOUNDATION.
3. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF ANY DAMAGE CAUSED BY THEM OR THEIR SUBCONTRACTORS.
4. THE SUBCONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND NOTIFY ALL UTILITIES AND THE CITY AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION.
5. THE SUBCONTRACTOR SHALL CALL THE TRANSPORTATION TRAFFIC DIVISION, FIVE (5) DAYS PRIOR TO THE START OF WORK FOR A TRAFFIC CONTROL PLAN APPOINTMENT
6. THE SUBCONTRACTOR IS REQUIRED TO SUBMIT A WEEKLY SCHEDULE PRIOR TO START OF WORK EACH WEEK. (NO EXCEPTIONS)
7. POLE MOUNTED DETECTOR AND EQUIPMENT LOCATIONS SHALL BE AS DEPICTED ON SITE PLAN. THE SUBCONTRACTOR SHALL VERIFY EQUIPMENT FIELD LOCATIONS WITH THE ACS IMPLEMENTATION MANAGER (972) 689-0420 OR LOCAL AND/OR EXCAVATION AUTHORITY AND ACS PRIOR TO INSTALLATION.
8. THE SUBCONTRACTOR SHALL SUPPLY AND INSTALL ALL CONDUCTORS NECESSARY FOR THE INTENDED OPERATION AS NOTED. ON THESE PLANS, NEC AND ALL APPLICABLE MUNICIPALITY CODES.
9. PROVIDE ANCHOR BOLT NUT COVERS IF REQUIRED DUE TO EXTERIOR INSTALLATION.
10. ALL PULLBOXES AND COVERS SHALL BE CONCRETE OR PVC AS REQUIRED BY THE MUNICIPALITY. ALL PULLBOXES SHALL BE NO. 5 UNLESS OTHERWISE NOTED OR REQUIRED BY THE MUNICIPALITY.
11. ALL CONCRETE FORMS ARE TO BE INSPECTED BY LOCAL AUTHORITIES BEFORE CONCRETE IS PLACED.
12. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING AND COORDINATION WITH THE SERVING (ELECTRICAL) UTILITY COMPANY AND PAY REQUIRED FEES FOR SERVICE CONNECTIONS.
13. THE SUBCONTRACTOR TO OBTAIN A NO FEE ENCROACHMENT PERMIT FROM THE CITY PRIOR TO COMMENCEMENT OF WORK. ALL WORK SHALL BE INSPECTED BY CITY FORCES. AT COMPLETION OF PROJECT CONTACT THE CITY ENGINEER 24 HOURS PRIOR TO COMPLETION OF WORK.
14. THE SUBCONTRACTOR IS TO BUILD AND MAINTAIN A CONSTRUCTION BARRICADE. TRAFFIC CONTROLS SHALL BE PER THE LATEST MUTCD STANDARDS TO INCLUDE THE ARROW BOARD. NO LANE CLOSURES DURING PEAK TRAFFIC HOURS.
15. ALL SUBCONTRACTORS TO PROVIDE LIABILITY INSURANCE AND WORKERS COMPENSATION BENEFITS IN ACCORDANCE WITH STATE LAW FOR ALL WORKERS AND AGENTS WHO WILL BE ON THE SITE AT ANY TIME WHILE PERFORMING WORK ON THIS PROJECT. ALL WORK SHALL BE IN ACCORDANCE WITH NEC, ALL LOCAL, STATE AND FEDERAL CODES, ORDINANCES AND ANY APPLICABLE AMENDMENTS.
16. ALL DEBRIS, EXCESS MATERIAL, ETC. IS TO BE REMOVED BY THE SUBCONTRACTOR BY THE END OF THE JOB. JOB TO BE LEFT SUFFICIENTLY CLEAN AS TO WARRANT CITY APPROVAL.
17. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, FEES AND INSPECTIONS AS MAY BE REQUIRED FOR COMPLETION OF THE JOB AS PER ALL GOVERNING AGENCIES.
18. THE SUBCONTRACTOR TO PROVIDE COST ESTIMATE FOR ALL WORK SHOWN ON DRAWINGS AND WORK NORMALLY REQUIRED TO CARRY OUT THE DESIGN INTENT OF THESE DRAWINGS.
19. DRAWINGS ARE NOT TO BE SCALED. WORK SHALL BE GOVERNED BY DIMENSION ONLY. DISCREPANCIES BETWEEN THE DRAWINGS AND/OR THE EXISTING SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF ACS IMMEDIATELY.
20. P.R.C. EQUIPMENT SHALL NOT BE INSTALLED ON MEDIANS LESS THAN FIVE FEET (5') IN WIDTH.
21. P.R.C. RELATED EQUIPMENT SHALL NOT BE INSTALLED WITHIN FIVE FEET (5') OF FIRE HYDRANT.
22. P.R.C. RELATED EQUIPMENT SHALL NOT BE INSTALLED WITHIN FOUR FEET (4') OF ADA RAMPS.
23. SUBCONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS TO ACS ENGINEERING DEPARTMENT WITHIN THIRTY (30) DAYS OF CONSTRUCTION COMPLETION.
24. SUBCONTRACTOR SHALL COMPLETE A "RLC POST CONSTRUCTION INSTALLATION ACCEPTANCE FORM" FOR EACH RLC INSTALLED. COMPLETED FORMS SHALL BE FORWARDED TO ACS CONSTRUCTION DEPARTMENT.
25. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE RESPECTIVE OWNERS AND OTHER AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

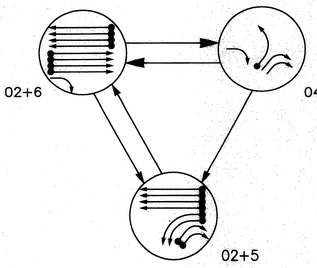
CONTACT:
- GAS COMPANY
- WATER DISTRICT
- PHONE COMPANY
- CABLE COMPANY
- LOCAL AND/OR STATE EXCAVATION AUTHORITY

SPECIFIC CONSTRUCTION NOTES:

1. THE SUBCONTRACTOR SHALL INSTALL ALL SUBSTRUCTURES ACCORDING TO LOCAL GOVERNING AGENCY FROST LINE REQUIREMENTS WHERE APPLICABLE.

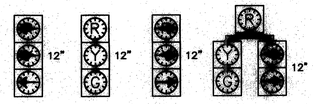
2. THE SUBCONTRACTOR SHALL MODIFY ALL SIDEWALKS WHERE NECESSARY, IN COMPLIANCE WITH THE ADA STANDARDS, TO ALLOW ACCESS FOR HANDICAP PEDESTRIAN PASSAGE.

PHASING DIAGRAM



SIGNAL FACE I.D.

Denotes L.E.D.



41
51, 52
21,22,23
61,62,63
42,43
64

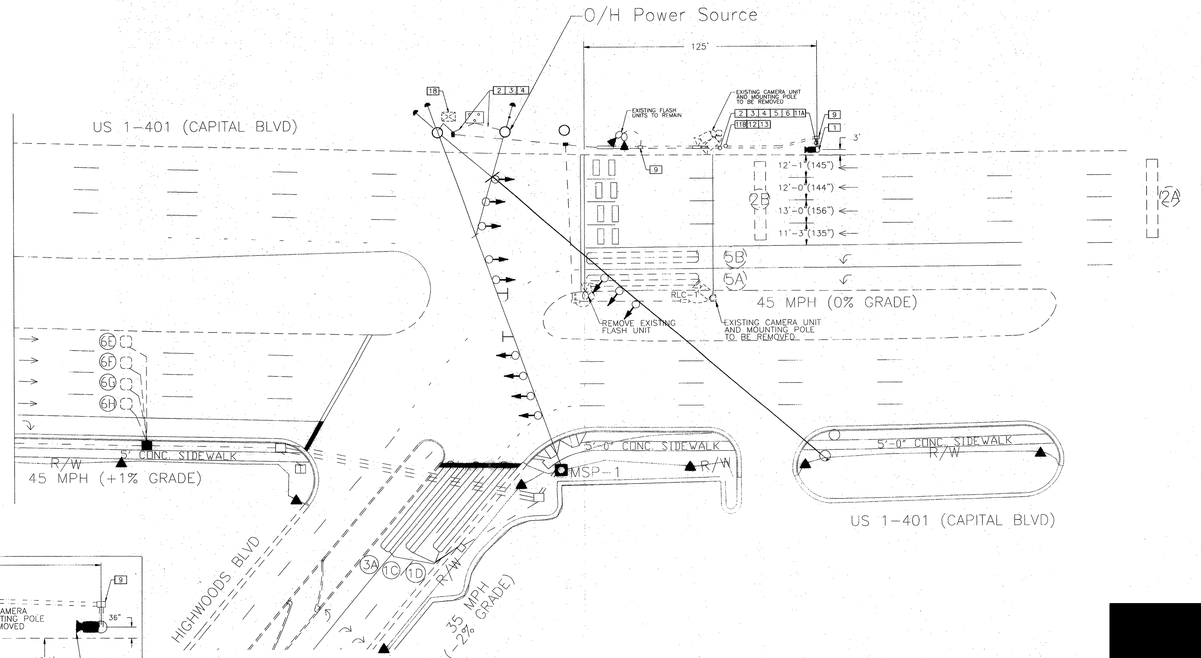
PHASING DIAGRAM DETECTION LEGEND

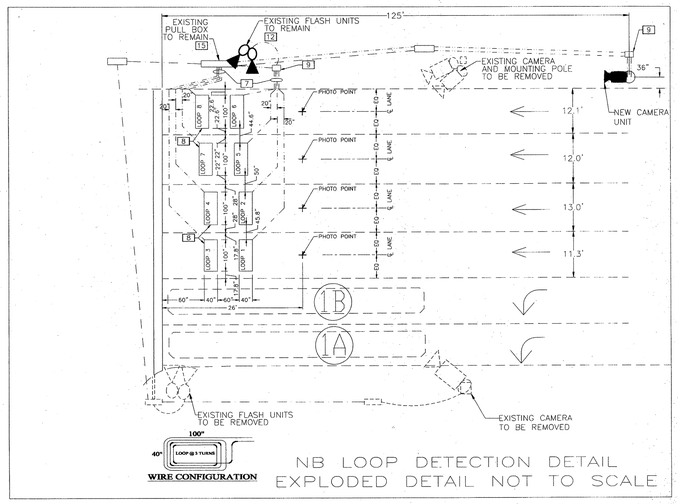
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

3 PHASE FULLY ACTUATED (RALEIGH CITY SIGNAL SYSTEM)

NOTES

1. REFER TO "ROADWAY STANDARD DRAWINGS NCDOT" DATED JULY 2006 AND "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JULY 2006.
2. MAXIMUM TIMES SHOWN IN TIMING CHART ARE FOR FREE-RUN OPERATION ONLY. COORDINATED SIGNAL SYSTEM TIMING VALUES SHALL SUPERSEDE THESE VALUES.
3. SET ALL DETECTOR UNITS TO PRESENCE MODE.
4. DURING COORDINATION, PHASE 1 MAY BE LAGGED. THE CONTROLLER SHOULD BE ALLOWED TO CLEAR FROM LAGGED PHASE 1 TO SIDE STREET PHASE ONLY.
5. DIVISION TO PROVIDE AND INSTALL LED LENSES FOR SIGNAL DISPLAY SECTIONS NOT UPGRADED AS PART OF THIS REVISION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OTHER SIGNAL DISPLAYS AS NOTED ON THIS PLAN.
6. CONTRACTOR TO RE-ATTACH EXISTING HARDWARE INTERCONNECT CABLE TO RELOCATED POWER POLES AS NECESSARY.





NB LOOP DETECTION DETAIL
EXPLODED DETAIL NOT TO SCALE

LEGEND

PROPOSED		EXISTING
	TRAFFIC SIGNAL HEADS	
	MODIFIED TRAFFIC SIGNAL HEAD	N/A
	SIGNAL POLE WITH GUY	
	SIGNAL POLE WITH SIDEWALK GUY	
	METAL STRAIN POLE,	
	INDUCTIVE LOOP DETECTOR	
	CONTROLLER & CABINET	
	LOOP DETECTOR PULL BOX	
	2" UNDERGROUND CONDUIT	
	4" UNDERGROUND RMC	
	INTERCONNECT CABLE (HARDWIRE)	
	RIGHT OF WAY WITH MARKER	
	DIRECTIONAL ARROW	
	PAVEMENT MARKING ARROW	
	STOP BAR	
A	STREET NAME SIGN	A
B	NO "U" TURN SIGN (R3-4)	B
C	U-TURN "MUST YIELD" SIGN (R3-27)	C
NO. 5 PULLBOX POWER PEDESTAL	VIDEO DETECTION CAMERA	
	NEW CAMERA UNIT	
	AUXILIARY FLASH ASSEMBLY	

CONSTRUCTION LEGEND:

1. ACS TO PROVIDE POLE CAMERA UNIT. SUBCONTRACTOR TO PROVIDE CAMERA POLE FOUNDATION. SUBCONTRACTOR SHALL INSTALL 4" CAP AT LEAST 30" WIDE. POLES SHALL BE 36" MIN. FROM CURB FACE UNLESS OTHERWISE NOTED ON DRAWING.
2. INSTALL 3 # 10 THW CABLING FOR 120 Vac POWER. COLOR CODE BLACK, WHITE & GREEN.
3. INSTALL 2" PVC CONDUIT PER CITY SPECIFICATIONS, STUB INTO NEW OR EXISITING PULL BOX.
4. CONNECT 3 WIRE CIRCUIT TO POWER PEDESTAL ON SEPERATE 20 AMP CIRCUIT BREAKER FOR 120 Vac POWER
5. INSTALL 3 CONDUCTOR # 14 SHIELDED CABLE FOR 120 Vac RED AND YELLOW PHASE CONTROL. ROUTE FROM RLC CAMERA TO TRAFFIC SIGNAL CONTROLLER CABINET. REFER TO CR 9321 MAGNETIC MODULE WIRING DETAIL ON SHEET 2.
6. INSTALL (6) 2 CONDUCTOR SHIELDED DLC'S WITH DRAIN WIRE: IMSA 50-2, 12 AWG CABLING TO THE ACS CAMERA POLE. (4 EACH CABINET)
7. INSTALL LOOP STUB OUT TO PULL BOX. EACH LOOP LEAD WIRE SHALL BE CUT IN SEPERATE CHANNELS TO STUB OUT.
8. INSTALL (8) LOOP DETECTORS: IMSA 51-7, 14 AWG CABLING.
9. INSTALL NEW PULL BOX: ALL PULL BOXES SHALL BE NO. 5 UNLESS OTHERWISE NOTED ON DRAWING.
10. INSTALL IN-LINE FUSE HOLDERS RATED AT 20 AMPS FOR POWER. INSTALL IN-LINE FUSE HOLDERS RATED AT 5 AMPS FOR PHASE CONDUCTORS.
11A. INSTALL 3 PAIR # 14 THIN FOR AUXILIARY FLASH POWER
11B. INSTALL (2) IMSA #40-2 3 PAIR19 AWG W/POLYETHLENE JACKET FOR EACH FLASH UNIT.
12. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REWIRING AUXILIARY FLASH UNITS
13. LOCATION OF OUTSIDE COMMUNICATIONS SHALL BE VERIFIED WITH THE COMMUNICATIONS PROVIDER.
14. SUB CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING & INSTALLING NEW OVERHEAD WIRING (IF REQUIRED)
15. SPLICE & SOLDER LOOP DETECTOR LEAD INS TO DLC CABLES AND INSTALL 3M COUPLERS OR EQUIVALENT IN THE PULL BOX.
16. NOT USED
17. INSTALL POWER PEDESTAL TO DOT SPECIFICATIONS. POWER PEDESTAL LOCATION TO BE DETERMINED BY SERVICE PLANNER (FOR NEW INSTALLATION).
18. INSTALL CR 9321 MAGNETIC MODULE AT TRAFFIC SIGNAL CONTROLLER CABINET. SEE CR 9321 WIRING DIAGRAM ON SHEET 2.

[redacted]
12/12/08

REDLIGHT CAMERA INSTALLATION

Prepared in the Offices of:

ACS
Germantown, MD
12410 MILESTONE CENTER DRIVE
4TH FLOOR
GERMANTOWN, MD 20876

RED LIGHT PHOTO ENFORCEMENT PLAN
CITY OF RALEIGH
NB-US 1 (Capital Blvd) & Highwoods Blvd

SCALE: 1" = 40'	APPROVED BY:	DRAWN BY: D.D'AMATO
DATE: 08/31/2003	DAVE D'AMATO	REVISED: 09/01/2003
SHEET 1 OF 2		DRAWING NUMBER:

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signals and Geometrics Section

N

0 Scale 40
1" = 40'

US 1-401 (CAPITAL BLVD)
AT
HIGHWOODS BOULEVARD

DIVISION 05 WAKE COUNTY RALEIGH

Plan Date: 8-21-03	Reviewed by: [redacted]
Prepared by: [redacted]	RKA Proj. No.: 03060 (041)

REVISIONS	INIT.	DATE

SEAL

SIGNATURE DATE

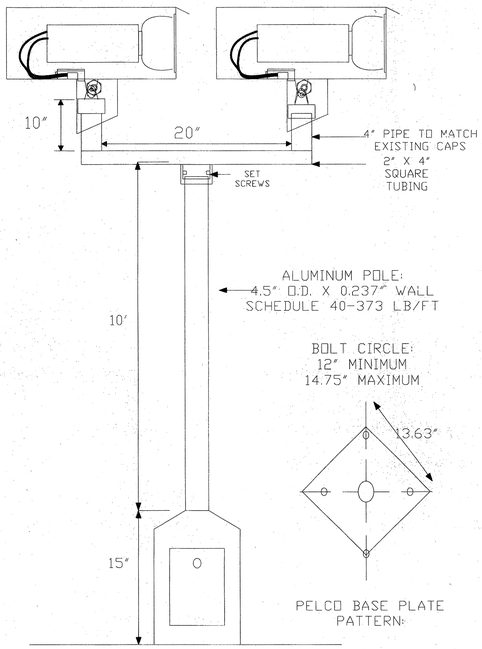
SIG. INVENTORY NO. 05-0844

12/11/2008 7:10:40 PM, ACS

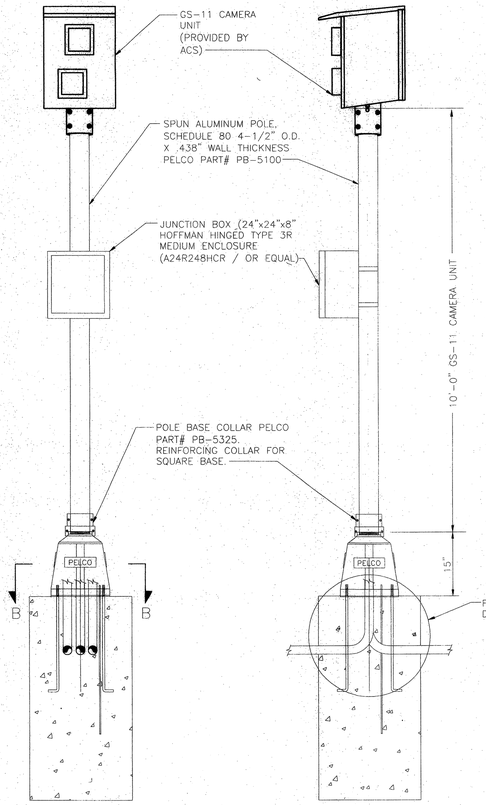
PROJECT REFERENCE NO.	SHEET NO.
	2

FREE STANDING PELCO POLE

DUAL AUX ARMS MANUFACTURED IN ALUMINUM

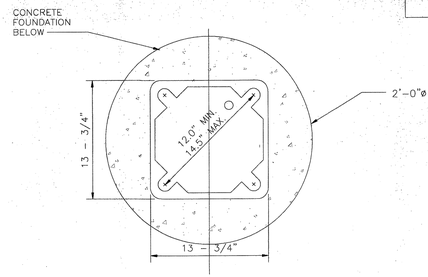


EXISTING DUAL AUX FLASH UNIT

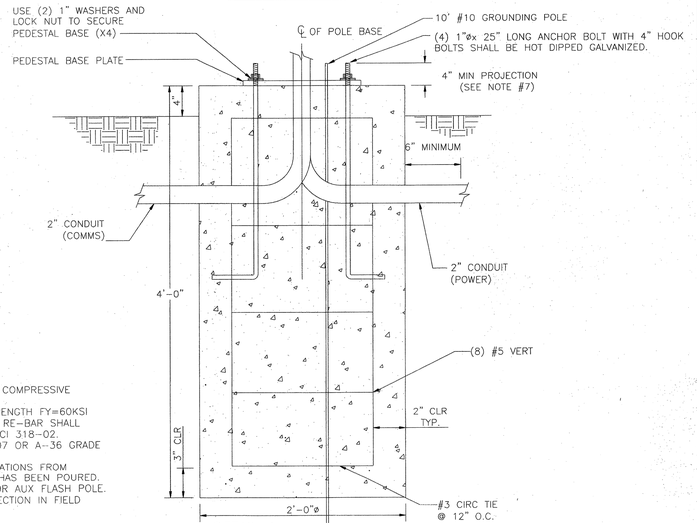


PELCO GS-11 POLE FRONT VIEW

PELCO GS-11 POLE SIDE VIEW



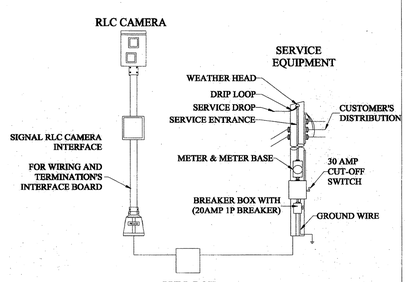
SECTION B-B
PEDESTAL BASE PLAN
FOR GS-11 POLE



DETAIL A:
CONCRETE FOUNDATION
FOR GS-11 POLE

NOTES:
1. ALL CONCRETE SHALL BE 4000 PSI COMPRESSIVE STRENGTH.
2. ALL RE-BAR SHALL HAVE YIELD STRENGTH FY=60KSI
3. THE PLACEMENT OF CONCRETE AND RE-BAR SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-02.
4. ALL ANCHOR BOLTS SHALL BE A-307 OR A-36 GRADE STEEL.
5. CONTRACTOR SHALL PROTECT EXCAVATIONS FROM INCLEMENT WEATHER UNTIL CONCRETE HAS BEEN POURED.
6. USE PELCO CAMERA FOUNDATION FOR AUX FLASH POLE.
7. CONTRACTOR TO VERIFY BOLT PROJECTION IN FIELD BEFORE INSTALLATION OF SHAFT.

SINGLE LINE DRAWING



1. The pole diameter shall be at least six (6) inches at its smallest dimension. The setting depth shall be five (5) feet minimum for poles thirty (30) feet tall or less. Poles between thirty (30) and fifty (50) feet tall shall have a setting depth of seven (7) feet. Contact the company for the setting depths of poles taller than (50) feet.

2. The height of the pole must be such that minimum required clearance for company and customer conductors are maintained.

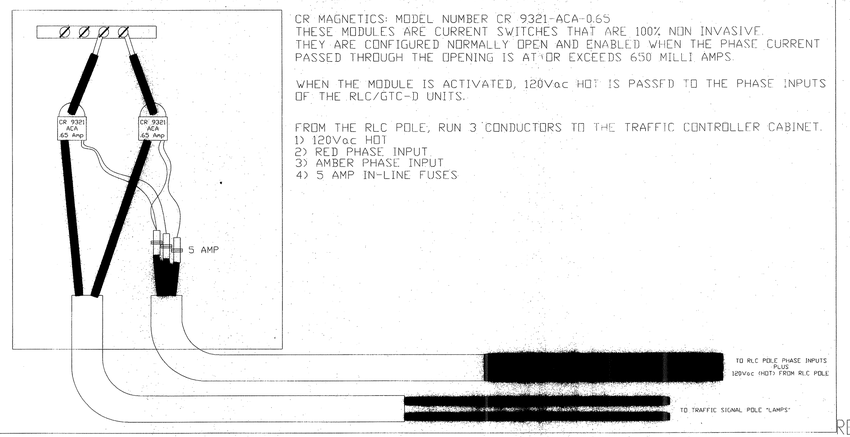
3. The customer owned pole must be approved by the company prior to upgrading service.

4. Service entrance conductors where entering and exiting the meter base shall have watertight connectors.

5. The center of the meter shall be no lower than four (4) feet or higher than six (6) feet (5 feet preferred) above final grade or final grade of the traveled surface.

6. A clear space shall be maintained.

CR 9321 MAGNETIC MODULE WIRING DEATAIL

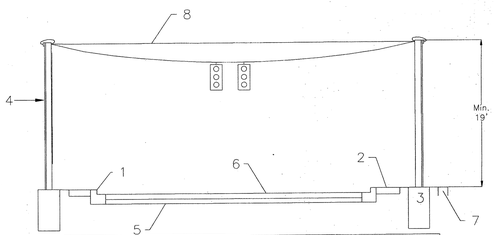


CR MAGNETICS: MODEL NUMBER CR 9321-ACA-0.65
THESE MODULES ARE CURRENT SWITCHES THAT ARE 100% NON INVASIVE. THEY ARE CONFIGURED NORMALLY OPEN AND ENABLED WHEN THE PHASE CURRENT PASSED THROUGH THE OPENING IS AT OR EXCEEDS 650 MILLI AMPS.

WHEN THE MODULE IS ACTIVATED, 120Vac HOT IS PASSED TO THE PHASE INPUTS OF THE RLC/GTC-D UNITS.

FROM THE RLC POLE, RUN 3 CONDUCTORS TO THE TRAFFIC CONTROLLER CABINET.
1) 120Vac HOT
2) RED PHASE INPUT
3) AMBER PHASE INPUT
4) 5 AMP IN-LINE FUSES

[redacted]
12/12/08



Street Section Detail

1) Curb
2) Sidewalk
3) Polebase
4) 2" Sch. 80 Conduit
5) 4" Ballast
6) 6" Asphalt
7) Pullbox
8) 7 Conductor #14 Shielded

REDLIGHT CAMERA INSTALLATION
Prepared in the Offices of:

A C S
Germantown, MD
12410 MILESTONE CENTER DRIVE
4TH FLOOR
GERMANTOWN, MD 20876

RED LIGHT PHOTO ENFORCEMENT PLAN
CITY OF RALEIGH
NB US 1 (Capital Blvd) & Highwoods

SCALE: NONE	APPROVED BY:	DRAWN BY:
DATE: 12/05/2008		REVISIONS: 12/05/2008
SHEET 2 OF 2		DRAWING NUMBER:

Traffic Engineering and Safety Systems Branch
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
Signals and Geometrics Section
1122 N. McDowell St., Raleigh, NC 27603

SCALE
NONE

US 1-401 (Capital Blvd)
at
Highwoods Blvd

Division 05 Wake County Raleigh

PLAN DATE:	REVIEWED BY:
PREPARED BY:	RKA PROJ NO: 03060 (041)

REVISIONS	INIT.	DATE

SEAL

SIGNATURE DATE

SIG. INVENTORY NO. 05-0844

12/11/2008 7:11:32 PM, ACS