

GENERAL CONSTRUCTION NOTES:

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

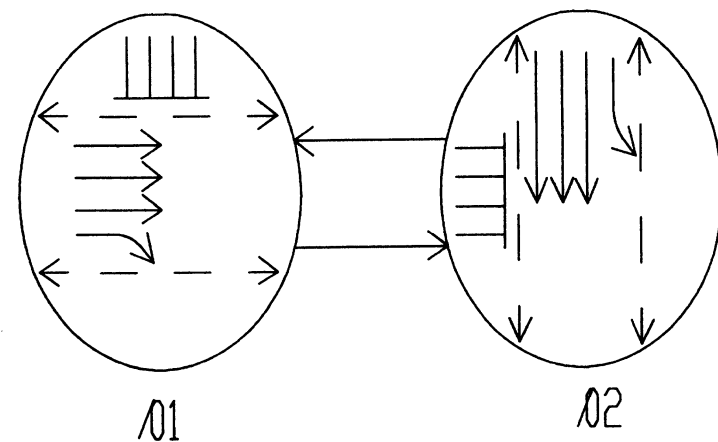
1. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IS APPROXIMATE. THE SUBCONTRACTOR SHALL DETERMINE THE LOCATION AND DEPTH OF ALL UTILITIES INCLUDING THOSE NOT SHOWN ON PLANS AND VERIFY ALL JOBSITE CONDITIONS, HAND EXCAVATE FOUNDATION UNTIL CLEAR OF ALL SUBSTRUCTURES AND PROTECT ALL FACILITIES DURING CONSTRUCTION. SUBCONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR UNDERGROUND UTILITY REMOVAL OR LOCATION 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 IS REQUIRED AND MUST SUBMIT A WEEKLY SCHEDULE PRIOR TO START OF WORK EACH WEEK. (NO EXCEPTIONS)
6. POLE DETECTOR AND EQUIPMENT LOCATIONS SHALL BE AS DEPICTED ON SITE PLAN. THE SUBCONTRACTOR SHALL VERIFY EQUIPMENT FIELD LOCATIONS WITH THE CITY TRAFFIC ENGINEER OR LOCAL AND/OR EXCAVATION AUTHORITY AND ACS PRIOR TO INSTALLATION.
7. THE SUBCONTRACTOR SHALL SUPPLY AND INSTALL ALL CONDUCTORS NECESSARY FOR THE INTENDED OPERATION AS NOTED ON THESE PLANS, NEC AND ALL APPLICABLE MUNICIPALITY CODES.
8. PROVIDE ANCHOR BOLT NUT COVERS FOR ALL STANDARDS.
9. 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.
10. ALL CONCRETE FORMS ARE TO BE INSPECTED BY LOCAL AUTHORITIES BEFORE CONCRETE IS PLACED.
11. THE SUBCONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES DURING TRAFFIC SIGNAL INSTALLATION.
12. INDUCTIVE LOOPS SHALL BE 40" x 100" OR APPLICABLE (SEE DETAIL IN THE TECHNICAL SPECIFICATIONS) WITH THREE (3) TURNS, UNLESS OTHERWISE SPECIFIED ON PLAN, OF IMSA SPECIFICATION 51-5 XLPE APPROVED LOOP DETECTOR WIRE AND ELASTOMERIC SEALANT, PER LOCAL CODES THE LEAD IN RUNS WILL BE INSTALLED WITH FIVE (5) TURNS PER FOOT INTO THE SUBROUT PER CITY AND DOT STANDARDS. ALL DLC'S SHALL MEET IMSA SPECIFICATION 59-2. ALL CONDUITS SHALL BE PVC, 2" MINIMUM INSIDE DIAMETER, UNLESS OTHERWISE SPECIFIED ON PLAN.
13. THERE SHALL BE A MINIMUM OF 36" BETWEEN EXISTING LOOPS AND PROPOSED INDUCTIVE LOOPS.
14. INDUCTIVE LOOP CABLE INTO NEW NO. 5 PULLBOX SHALL BE THROUGH 2" MINIMUM PVC CONDUIT SPACED 8" APART TO ISOLATE THE SIGNALING AND PREVENT INTERFERENCE.
15. ALL CUT LINES SHALL HAVE A MINIMUM SPACING OF 12".
16. ALL INDUCTIVE LOOPS AND CUT LINES SHALL BE PLACED A MINIMUM OF 40" FROM ANY METAL COVERS AND/OR GRATING IN ROAD SURFACES.
17. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING AND COORDINATION WITH THE SERVING (ELECTRICAL) UTILITY COMPANY AND PAY REQUIRED FEES FOR SERVICE CONNECTIONS.
18. THE SUBCONTRACTOR TO OBTAIN A NO FEE ENCROACHMENT PERMIT FROM THE CITY PRIOR TO COMMENCEMENT OF WORK. ALL WORK SHALL BE INSPECTED BY CITY OFFICES. AT COMPLETION OF PROJECT CONTACT THE CITY TRAFFIC ENGINEER 24 HOURS PRIOR TO COMPLETION OF WORK.
19. THE SUBCONTRACTOR IS TO BUILD AND MAINTAIN A CONSTRUCTION BARRICADE (ALL NECESSARY LIGHTS, SIGNS, ETC. IF REQUIRED) FOR PROTECTION OF THE PUBLIC AS DIRECTED BY THE LOCAL AUTHORITIES.
20. 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.
21. ALL WORK SHALL BE IN ACCORDANCE WITH NEC, ALL LOCAL, STATE AND FEDERAL CODES, ORDINANCES AND ANY APPLICABLE AMENDMENTS.
22. 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.
23. 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.
24. 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.
25. 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.
26. RLC EQUIPMENT SHALL NOT BE INSTALLED ON MEDIANS LESS THAN FIVE FEET (5') IN WIDTH.
27. RLC RELATED EQUIPMENT SHALL NOT BE INSTALLED WITHIN FIVE FEET (5') OF FIRE HYDRANT.
28. RLC RELATED EQUIPMENT SHALL NOT BE INSTALLED WITHIN FOUR FEET (4') OF ADA RAMPS.
29. SUBCONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS TO ACS ENGINEERING DEPARTMENT WITHIN THIRTY (30) DAYS OF CONSTRUCTION COMPLETION.
30. SUBCONTRACTOR SHALL COMPLETE A "RLC POST CONSTRUCTION INSTALLATION ACCEPTANCE FORM" FOR EACH RLC INSTALLED. COMPLETED FORMS SHALL BE FORWARDED TO ACS CONSTRUCTION DEPARTMENT.
31. 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 BE RESPONSIBLE FOR INSTALLING PHOTO ENFORCEMENT SIGNAGE PER CITY STANDARDS.
3. THE SUBCONTRACTOR SHALL SUPPLY AND INSTALL "TRANSCO, INC." BREAKAWAY BOLTS ONTO 1" ABS. THREADED BOLT SHALL NOT PROTRUDE MORE THAN 2-1/2" ABOVE FINISHED CONCRETE SURFACE.
4. PULLBOX COVERS SHALL HAVE MARKING "TRAFFIC SIGNAL".

PHASING DIAGRAM



20

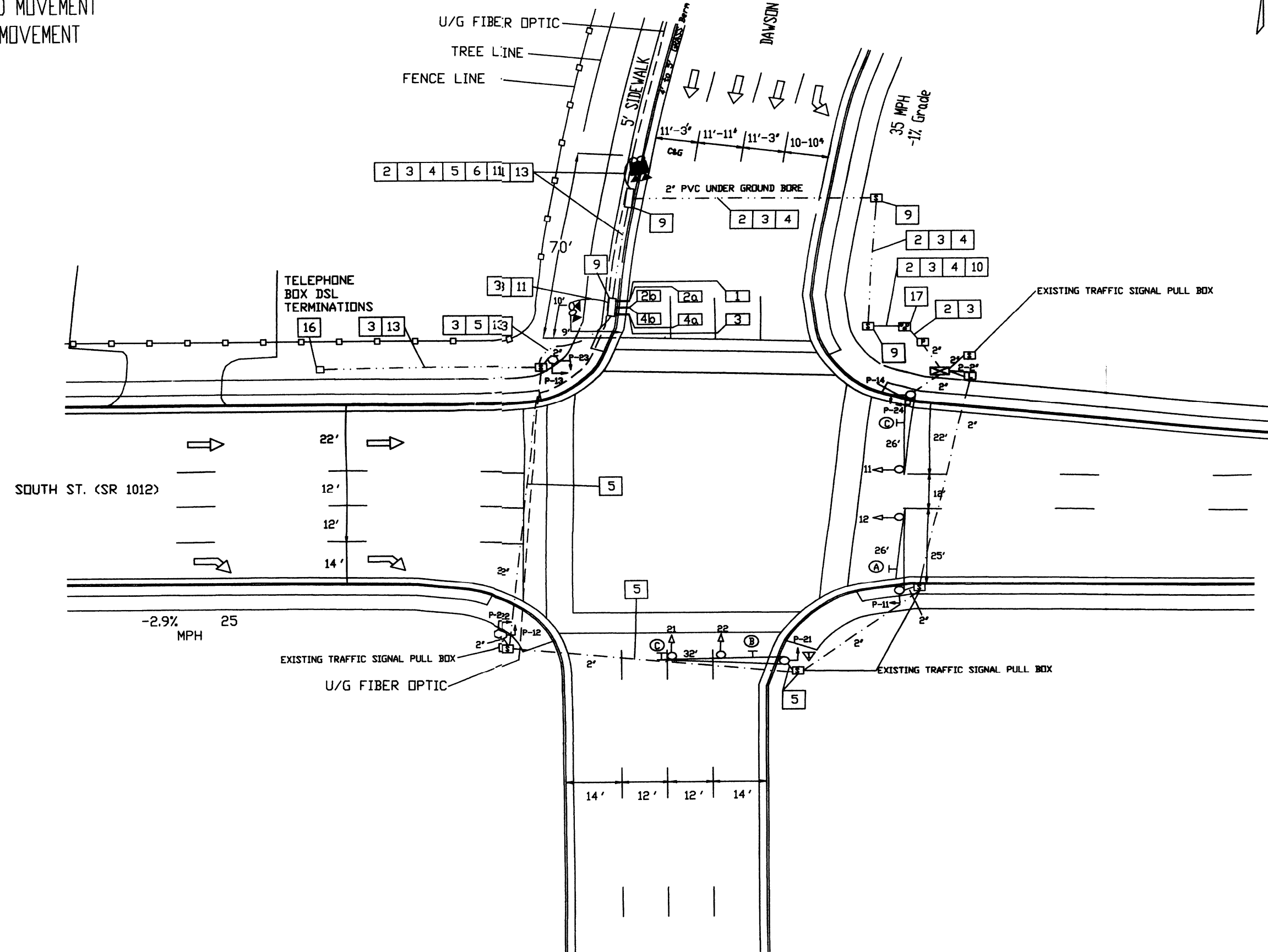
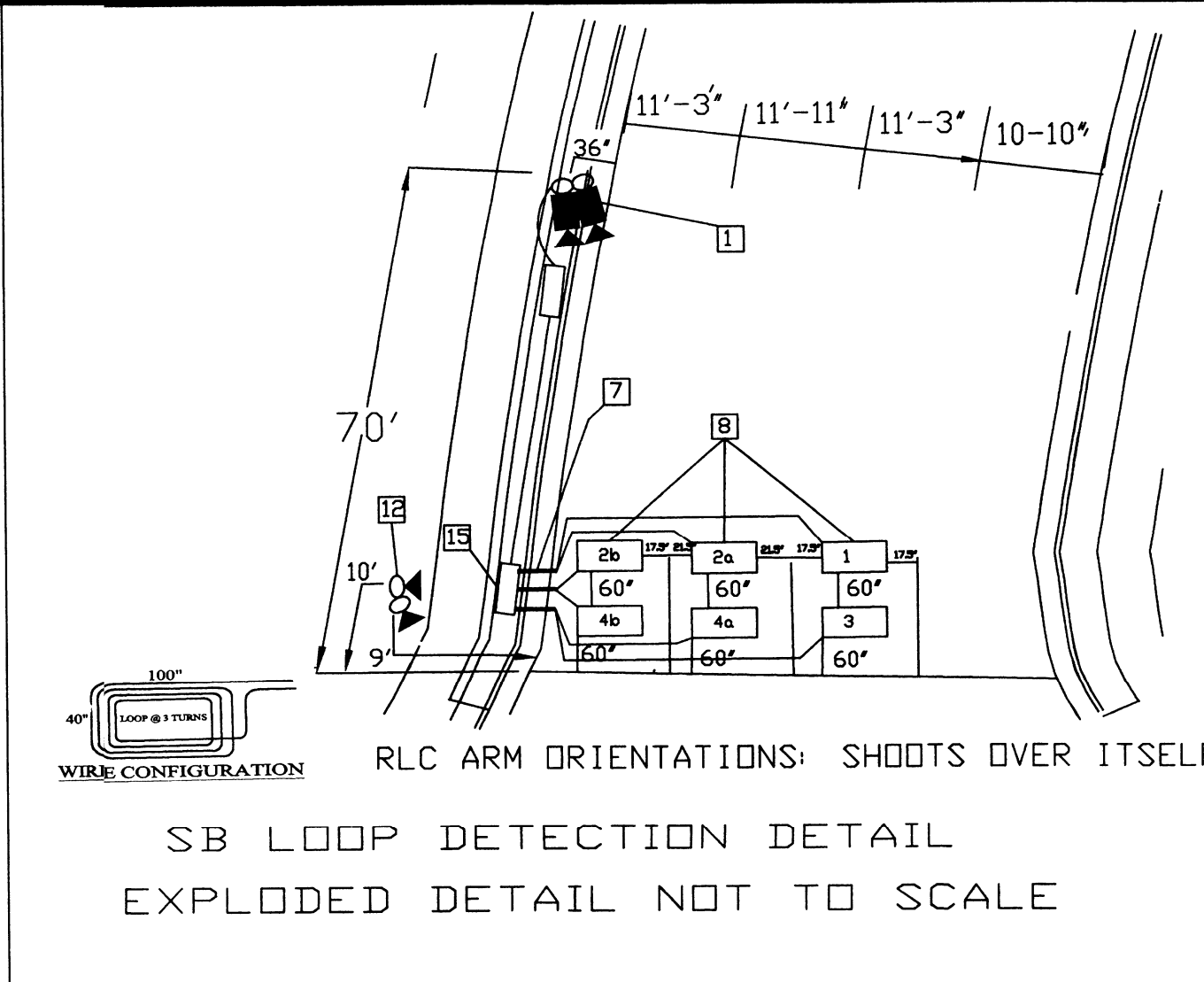
FIXED TIME

(RALEIGH CITY SIGNAL SYSTEM)

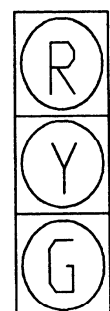
PHASING DIAGRAM

DETECTION LEGEND

- VEHICULAR MOVEMENT
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



SIGNAL HEAD I.D.



12"



12"

P-11, P-12
P-13, P-14
P-21, P-22
P-23, P-24

COLOR SEQUENCE CHART

SIGNAL HEAD	02		01		FLASH
	R	CLEAR	R	CLEAR	
11, 12	R		R	G	Y
21, 22	G	Y	R		R
P-11, P-12	DW		DW	FWD	DW
P-13, P-14	DW		DW	FWD	DW
P-21, P-22	FWD	DW	DW		DW
P-23, P-24	FWD	DW	DW		DW

TIMING CHART

INTERVAL	01	02
INITIAL	5 SEC.	10 SEC.
EXTENSION	1 SEC.	3 SEC.
MAX 1	25 SEC.	60 SEC.
MAX 2	— SEC.	— SEC.
YELLOW CLR	4.0 SEC.	4.0 SEC.
ALL RED CLR	1.5 SEC.	1.8 SEC.
WALK	5 SEC.	5 SEC.
FDW	7 SEC.	5 SEC.
RECALL POSITION	NONE	MIN. RECALL
VEH. CALL MEM.	NONLOCK	LOCK

PROPOSED	LEGEND	EXISTING
TRAFFIC SIGNAL HEADS	TRAFFIC SIGNAL HEADS	TRAFFIC SIGNAL HEADS
MODIFIED TRAFFIC SIGNAL HEAD	MODIFIED TRAFFIC SIGNAL HEAD	N/A
SIGNAL POLE WITH MAST ARM	SIGNAL POLE WITH MAST ARM	SIGNAL POLE WITH MAST ARM
PEDESTRIAN SIGNAL	PEDESTRIAN SIGNAL	PEDESTRIAN SIGNAL
INDUCTIVE LOOP DETECTOR	INDUCTIVE LOOP DETECTOR	INDUCTIVE LOOP DETECTOR
PULL BOX (S.M.L.)	PULL BOX (S.M.L.)	PULL BOX (S.M.L.)
2" UNDERGROUND CONDUIT	2" UNDERGROUND CONDUIT	2" UNDERGROUND CONDUIT
INTERCONNECT CABLE (HARDWIRED)	INTERCONNECT CABLE (HARDWIRED)	INTERCONNECT CABLE (HARDWIRED)
RIGHT OF WAY WITH MARKER	RIGHT OF WAY WITH MARKER	RIGHT OF WAY WITH MARKER
DIRECTIONAL ARROW	DIRECTIONAL ARROW	DIRECTIONAL ARROW
PAVEMENT MARKING ARROW	PAVEMENT MARKING ARROW	PAVEMENT MARKING ARROW
CONTROLLER & CABINET	CONTROLLER & CABINET	CONTROLLER & CABINET
STOP BAR	STOP BAR	STOP BAR
RIGHT ARROW ONLY SIGN (R3-50)	RIGHT ARROW ONLY SIGN (R3-50)	RIGHT ARROW ONLY SIGN (R3-50)
LEFT ARROW ONLY SIGN (R3-51)	LEFT ARROW ONLY SIGN (R3-51)	LEFT ARROW ONLY SIGN (R3-51)
NO RIGHT TURN SIGN (R3-1)	NO RIGHT TURN SIGN (R3-1)	NO RIGHT TURN SIGN (R3-1)

VIDEO DETECTION CAMERA

MODEL 450 ASSEMBLY

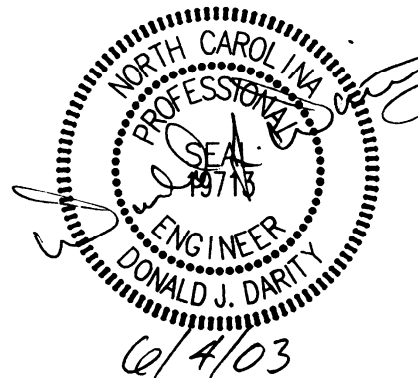
AUXILIARY FLASH ASSEMBLY

NO. 5 PULLBOX

POWER PEDESTAL

CONSTRUCTION LEGEND:

1. ACS TO PROVIDE POLE CAMERA UNIT; SUBCONTRACTOR TO PROVIDE 2" x 2" x 60" PCC FOUNDATION. SUBCONTRACTOR SHALL INSTALL 4" CAP AT LEAST 30" WIDE. POLES SHALL BE 36" MIN. FORM 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 EXISTING PULL BOX.
4. CONNECT 3 WIRE CIRCUIT TO POWER PEDESTAL ON SEPARATE 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 POLE TAP BOX.
6. INSTALL (6) 2 CONDUCTOR SHIELDED DLC'S WITH DRAIN WIRE. IMSA 50-2, 12 AWG CABLING TO EACH ACS POLE. (4 EACH CABINET)
7. INSTALL LOOP STUB OUT TO PULL BOX. EACH LOOP LEAD WIRE SHALL BE CUT IN SEPARATE CHANNELS TO STUB OUT.
8. INSTALL (6) 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.
11. INSTALL 3 PAIR # 14 THW FOR AUXILIARY FLASH POWER AND TRIGGERING FOR EACH AUXILIARY FLASH UNIT.
12. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AUXILIARY FLASH UNITS ~ 12' ABOVE SIDEWALK SURFACE ON SINGLE ARMS TO BE PROVIDED BY ACS. SEE SHEET 2 AUX FLASH DIAGRAM.
13. INSTALL 3 PAIR IMSA 59-2, # 22 AWG FOR RLC ROUTER INTERFACE CABLE. ROUTE FROM TELEPHONE JUNCTION BOX TO EACH GTCD POLE.
14. N/A
15. SPLICE & SOLDER LOOP DETECTOR LEAD INS TO DLC CABLES. AND INSTALL 3M COUPLERS OR EQUIVALENT IN THE PULL BOX.
16. TELEPHONE DSL / ISDN TERMINATIONS.
17. INSTALL POWER PEDESTAL TO DOT SPECIFICATIONS. PEDESTAL LOCATION TO BE DETERMINED BY SERVICE PLANNER



Signal Revision

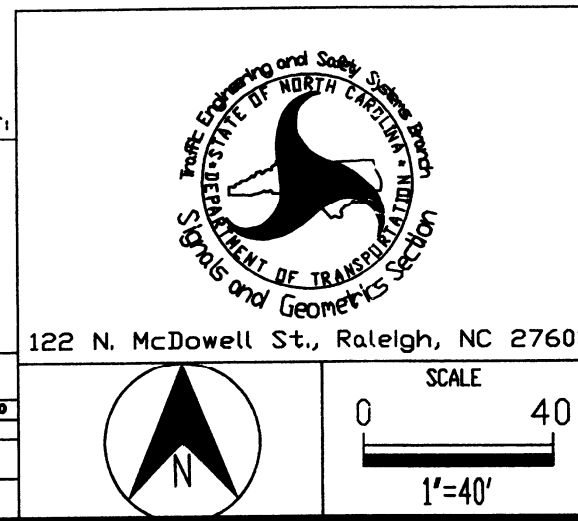
Prepared in the Offices of:



ACS STATE AND LOCAL SOLUTIONS
PUBLIC SAFETY SOLUTIONS
14405 N. 17TH STREET, SUITE B
SCOTTSDALE, AZ 85250
TEL: 480-363-3727 FAX: 480-363-1072

RED LIGHT PHOTO ENFORCEMENT PLAN
CITY OF RALEIGH
DAWSON STREET @ SOUTH STREET, SB

REVISIONS
Relocated Ped Head No. P-21
SHEET 1 OF 2



TRAFFIC SIGNAL DESIGN SR 1511 (DAWSON ST) AT SR 1012 (SOUTH ST)		Seal Originally Sealed By Michael J. Kennon #16810 3/1/00	
Division 05	Wake County	Raleigh	
PLAN DATE:	REVIEWED BY:	INIT.	DATE
		NJK	3/1/00
PREPARED BY:	REVIEWED BY:	SIGNATURE	DATE
		SIN	05-0942