

F. H. VA. REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
	MD.		2	2

### PROJECT DESCRIPTION

#### I. General

This project involves the modification of an traffic control signal at the intersection of Old Branch Avenue and Kirby Rd in Prince George's County. Old Branch Avenue is assumed to run in a north - south direction.

#### II. Intersection Operation

An eight (8) phase, full-traffic-actuated, solid state digital controller with (5) two-channel loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

The intersection will operate in a NEMA, four (4) phase, full-traffic-actuated mode. There are to be exclusive/permissive left turns for the northbound movements of Old Branch Ave. The Old Branch Avenue thru movements are to operate concurrently. The Kirby Road and MD 5 Spur Ramp movements are to operate independently.

### EQUIPMENT LIST 'A'

EQUIPMENT SUPPLIED BY S.H.A.

960022	12 INCH ONE WAY 3 SECTION (R,Y,G) SIGNAL HEAD (MAST ARM MOUNTED)	2 <sup>1/2</sup> EACH
960025	12 INCH ONE WAY 3 SECTION (R,Y,G) OPTICALLY PROGRAMMED SIGNAL HEAD	4 EACH
960028	12 INCH ONE WAY 5 SECTION (R,Y,YA,G,GA) SIGNAL HEAD (MAST ARM MOUNTED)	2 EACH
963007	TWO CHANNEL LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)	5 EACH
965001	PUSH BUTTON AND SIGN	2 EACH
971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT- SYSTEM READY	1 EACH *
973023	SHEET ALUMINUM SIGNS	72 S.F.**
900000	ONE WAY 1 SECTION PEDESTRIAN SIGNAL HEAD (POLE MOUNTED)	1 EACH ***
900000	ONE WAY 1 SECTION PEDESTRIAN SIGNAL HEAD (PEDESTAL MOUNTED)	1 EACH ***

\* COUNTY SUPPLIED CONTROLLER  
\*\* COUNTY SUPPLIED STREET SIGNS  
\*\*\* MUST MEET P.G. COUNTY SPECIFICATIONS

### EQUIPMENT LIST 'B'

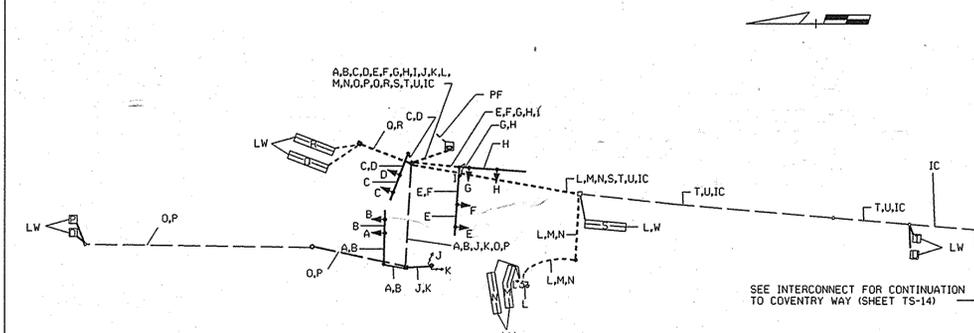
EQUIPMENT FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

120500	MAINTENANCE OF TRAFFIC	LUMP SUM
120610	ARROW PANEL	5 U.D.
130850	MOBILIZATION	LUMP SUM
230030	TEST PIT EXCAVATION	1 C.Y.
585445	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE	30 L.F.
801004	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION	11 C.Y.
802501	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE	150 L.F.
805105	FURNISH AND INSTALL 2 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	170 L.F.
805125	FURNISH AND INSTALL 2 INCH SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED	230 L.F.
805135	FURNISH AND INSTALL 3 INCH SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED	190 L.F.
805160	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE	50 L.F.
807205	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (B-15)	1 EACH
81001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	4 EACH
813015	INSTALL OVERHEAD SIGN	72 S.F.
822500	AS-BUILT FOR TRAFFIC SIGNAL	1 EACH
837001	FURNISH AND INSTALL GROUND ROD - 3/4 INCH DIA. X 10 FEET LENGTH	4 EACH
860022	INSTALL 12 INCH ONE WAY 3 SECTION (R,Y,G) SIGNAL HEAD	2 EACH
860025	INSTALL 12 INCH ONE WAY 3 SECTION (R,Y,G) OPTICALLY PROGRAMMED SIGNAL HEAD	4 EACH
860028	INSTALL 12 INCH ONE WAY 5 SECTION (R,Y,YA,G,GA) SIGNAL HEAD	2 EACH
861004	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (ALUM. SHIELDED)	2770 L.F.
861006	FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR (NO. 14 A.W.G.)	680 L.F.
861007	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)	520 L.F.
861008	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)	580 L.F.
861017	FURNISH AND INSTALL ELECTRICAL CABLE 3-WIRE (NO. 4 A.W.G.)	75 L.F.
862101	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEX. TUBING (NO. 14 A.W.G.)	700 L.F.
862102	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)	300 L.F.
865201	INSTALL PUSH BUTTON AND SIGN	2 EACH
868003	FURNISH AND INSTALL 10 FOOT BREAKAWAY PEDESTAL	1 EACH
871202	INSTALL CONTROLLER AND CABINET - BASE MOUNT	1 EACH
800000	FURNISH AND INSTALL 21' STEEL POLE WITH 38' MAST ARM	2 EACH
800000	FURNISH AND INSTALL 21' STEEL POLE WITH 50'x50' TWIN MAST ARM	1 EACH
800000	FURNISH AND INSTALL 3-PAIR COMMUNICATION CABLE, (MEET IMSA SPEC 40-2-1984)	2200 L.F.
800000	INSTALL ONE WAY 1 SECTION PEDESTRIAN SIGNAL HEAD	2 EACH

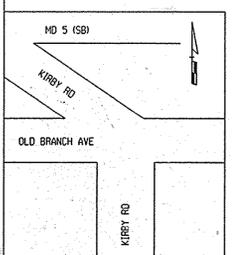
### PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	
PHASE 2 & 5	R	R	R	R	G	G	R	R	DW	DW	DW	DW	
5 CHANGE	R	R	R	R	Y	G	R	R	DW	DW	DW	DW	
PHASE 2 & 6	R	R	G	G	G	G	R	R	DW	DW	DW	DW	
2 & 6 CHANGE	R	R	Y	Y	Y	Y	R	R	DW	DW	DW	DW	
PHASE 3	R	R	R	R	R	R	G	G	DW	DW	DW	DW	
3 CHANGE	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW	
PHASE 4	G	G	R	R	R	R	R	R	DW	DW	DW	DW	
4 CHANGE	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 2 & 6 ALT	R	R	G	G	G	G	R	R	W	W	DW	DW	
PEDESTRIAN CLEAR	R	R	G	G	G	G	R	R	FL	FL	DW	DW	
2 & 6 ALT CHANGE	R	R	Y	Y	Y	Y	R	R	DW	DW	DW	DW	
PHASE 3 ALT	R	R	R	R	R	R	G	G	DW	DW	W	W	
PEDESTRIAN CLEAR	R	R	R	R	R	R	G	G	DW	DW	FL	FL	
3 ALT CHANGE	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW	
FLASHING OPERATION	FL	DARK	DARK	DARK	DARK								

### WIRING DIAGRAM



- A B C D E F G H I J K L M N O P R S T U V W X Y Z
- 7-CONDUCTOR CABLE (NO. 14 AWG)
- 5-CONDUCTOR CABLE (NO. 14 AWG)
- 3-CONDUCTOR CABLE (NO. 14 AWG)
- 2-CONDUCTOR CABLE ALUMINUM SHIELDED (NO. 14 AWG)
- IC - 3 PAIR INTERCONNECT CABLE
- LW - LOOP WIRE
- PF - POWER FEED



TS-11 OF TS-16  
DEPARTMENT OF PUBLIC WORKS  
AND TRANSPORTATION  
PRINCE GEORGE'S COUNTY, MARYLAND

MD ROUTE 5 RAMP / KIRBY RD  
@ OLD BRANCH AVENUE

**KCI TECHNOLOGIES INC.**  
ENGINEERS AND PLANNERS  
10 NORTH PARK DRIVE  
HUNT VALLEY, MARYLAND  
21030-1888  
(410) 316-7800

REVISIONS

SCALE: 1"=20'

APPROVED *[Signature]* 11/6/96  
DATE FOR BETTY HAGER FRANCIS DIRECTOR

DESIGNED: TCC / GWC  
DRAWN: TCC  
CHECKED: STB 11-6-96  
APPROVED: *[Signature]* 11/6/96  
DATE

CONTRACTOR NO. \_\_\_\_\_  
LOCATION NO. \_\_\_\_\_ JOB NO. \_\_\_\_\_  
FILE NO. \_\_\_\_\_