PROJECT DESCRIPTION

I. General

This project involves the installation of a new traffic control signal at the intersection of Powder Mill Road and Soil Conservation Road in Prince George's County. Powder Mill Road is assumed to run in a east - west direction. Stop signs currently control the intersection.

II. Intersection Operation

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

The intersection will operate in a NEMA, five (5) phase, full-traffic-actuated mode. There is to be an exclusive/permissive left turn for the westbound movement of Powder Mill Road. The thru movements are to operate concurrently. The Soil Conservation Road movements are to operate separately.

III. The following are SHA District 3 Contact persons:

Mr. Richard L. Daff, Sr.
Chief, Traffic Operations Division (410) 787-7630

Mr. Charlie Watkins
District Engineer
(301) 513-7300

Mr. Majid Shakib
Asst. District Engineer-Traffic
(301) 513-7300

Mr. Carter Wilson
Asst. District Engineer-Maintenance
(301) 513-7300

Mr. Sonny Laver
Asst. District Engineer-Utility
(301) 513-7300

EQUIPMENT LIST 'A'

EQUIPMENT TO BE PURCHASED FROM S.H.A.

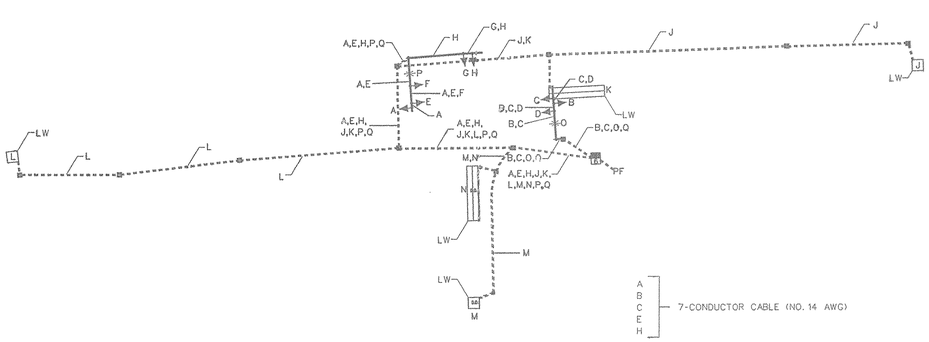
ITEM NO.	DESCRIPTION	QUANTITY
9001	SHEET ALUMINUM SIGNS - 1 EACH, R10-12 (30"X36") SPAN MOUNTED - 1 EACH, D3-2 (16"X96") SPAN MOUNTED	18.5 S.F.
9002	12 INCH ONE WAY 3 SECTION (R,Y,G) SIGNAL HEAD	6 EACH
9003	12 INCH ONE WAY 5 SECTION (R,Y,YA,G,GA) SIGNAL HEAD	1 EACH
9004	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET, BASE MOUNTED- SYSTEM READY	1 EACH
9005	TWO CHANNEL LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)	3 EACH
9006	8/12 INCH ONE WAY 5 SECTION (8-R,Y,G, 12-YA,GA) SIGNAL HEAD	1 EACH

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1008	MAINTENANCE OF TRAFFIC	LUMP SUM
1011	TEMPORARY TRAFFIC SIGNS HIGH PERFORMANCE WIDE ANGLE RETROREFLECTIVE	50 S.F.
1025	MOBILIZATION	LUMP SUM
1026	ARROW PANEL	5 U.D.
2005	TEST PIT EXCAVATION	1 C.Y.
8006	FURNISH AND INSTALL ELECTRICAL HANDHOLE	12 EACH
8007	AS-BUILT FOR TRAFFIC SIGNAL	1 EACH
8008	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE	250 L.F.
8009	FURNISH AND INSTALL GROUND ROD - 3/4 INCH DIA. X 10 FEET LENGTH	3 EACH
8010	INSTALL 12 INCH ONE WAY 3 SECTION (R,Y,G) SIGNAL HEAD	6 EACH
8011	INSTALL 12 INCH ONE WAY 5 SECTION (R,Y,YA,G,GA) SIGNAL HEAD	1 EACH
8012	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (ALUM. SHIELDED)	1950 L.F.
8013	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)	600 L.F.
8014	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)	800 L.F.
8015	FURNISH AND INSTALL ELECTRICAL CABLE 3 WIRE (NO. 4 A.W.G.)	50 L.F.
8016	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEX. TUBING (NO. 14 A.W.G.)	1200 L.F.
8017	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)	341 L.F.
8018	INSTALL CONTROLLER AND CABINET BASE MOUNT	1 EACH
8019	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION	5.5 C.Y.
8023	FURNISH AND INSTALL 2 INCH SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED	860 L.F.
8024	FURNISH AND INSTALL 4 INCH SCHEDULE 40 RIGID PVC CONDUIT - TRENCHED	80 L.F.
8025	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE	70 L.F.
8026	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (B-16)	1 EACH
8027	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 10 A.W.G.)	326 L.F.
8028	INSTALL TWO CHANNEL LOOP DETECTOR AMPLIFIER	3 EACH
8029	INSTALL 8/12 INCH ONE WAY 5 SECTION (8-R,Y,G,12-YA,GA) SIGNAL HEAD	1 EACH
8030	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED	220 L.F.
8031	INSTALL OVERHEAD SIGN	18.5 S.F.
8032	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LUMINAIRE	2 EACH
8033	FURNISH AND INSTALL 20 FT LIGHTING ARM ON SIGNAL STRUCTURE	2 EACH
8034	F&I 27' STEEL POLE WITH 50'/50' 90 DEGREE TWIN MAST ARM (4, 1¾" x 90" ANCHOR BOLTS)	1 EACH
8035	F&I 27' STEEL POLE WITH 38' SINGLE MAST ARM (4, 1¾" x 90" ANCHOR BOLTS)	1 EACH
8036	F&I ELECTRICAL CABLE 1 CONDUCTOR (No. 4 A.W.G.)	50 L.F.

WIRING DIAGRAM



A, B, C, E, H — 7-CONDUCTOR CABLE (NO. 14 AWG)

D, F, G — 5-CONDUCTOR CABLE (NO. 14 AWG)

J, K, L, M, N — 2-CONDUCTOR CABLE ALUMINUM SHIELDED (NO. 14 AWG)

O, P — 2-CONDUCTOR CABLE (NO. 10 AWG) TRAY CABLE

O — STRANDED BARE COPPER WIRE (No. 6AWG)

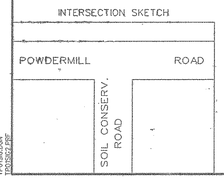
LW LOOP WIRE

PF POWER FEED - 3 CONDUCTOR (NO. 4 AWG)

PHASE CHART

	1 (R Y G) 12"	2 (R Y G) 12"	3 (R Y G) 12"	4 (R Y G) 12"/8"	5 (R Y G) 12"	6 (R Y G) 12"	7 (R Y G) 12"	8 (R Y G) 12"	
PHASE 2 & 5	R	R	R	G/G	G/G	G	R	R	
5 CHANGE	R	R	R	Y/G	Y/G	G	R	R	
PHASE 2 & 6	G	G	G	G	G	G	R	R	
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	
PHASE 4	R	R	R	R	R	R	G	G	
4 CHANGE	R	R	R	R	R	R	Y	Y	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	

INTERSECTION SKETCH



STATE OF MARYLAND
JOHN W. ERDMAN
No. 5240
REGISTERED
PROFESSIONAL ENGINEER

John W. Erdman

KCI TECHNOLOGIES

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

REVISION

APPROVALS

CHIEF, SIGNAL DESIGN SECTION

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISON

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

MDOT - STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

DRAWN BY: TCC
DES. BY: TCC
CHK. BY: GWC

POWDER MILL ROAD AND SOIL CONSERVATION SERVICE ROAD
TRAFFIC SIGNAL PLAN — SHEET 2

SIGNAL NO. :
COUNTY: PRINCE GEORGE'S

DATE:
SCALE:
F.A.P. NO.
S.H.A. NO. BW956M82

TS/STD. NO. TS-3620

SHEET NO. 49 OF 64

M:\0450\05-T
W:\0450\05-T
T0305G1.DGN