PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of an existing signal to provide for a new leg at the intersection of US Route 40 Alternate and the Town Center Plaza Entrance. The existing strain poles and span wires will be removed and new signal poles and mast arms will be installed. The existing camera and four traffic signals will be re-used from the temporary signal.

II. INTERSECTION OPERATION

1. The intersection is to operate in a NEMA 8-phase, semi-actuated mode, with the North-South approaches running separately.

III. CONTROLLER REQUIREMENT

1. Install a full-traffic-actuated, eight-phase controller with one (1) four channel, time-delay-output loop detector amplifiers, intersection monitor with battery back-up for phone drop, video detection interface modules and associated harnesses housed in a NEMA size "6" base mounted cabinet. Video interface equipment will be reinstalled from the existing controller.

IV. SPECIAL NOTES

1. The Maryland State Highway Administration Signal Shop shall be responsible for installing all equipment in cabinet.

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #7 ARE AS FOLLOWS:

MR. ROBERT FISHER DISTRICT ENGINEER (301) 624-8101	MR. MARK FLACK ADE CONSTRUCTION (301) 624-8201	MR. RICHARD DAFF DIVISION CHIEF, TOD (410) 787-7630
MR. JOHN CONCANNON ADE TRAFFIC (301) 624-8140	MR. BARRY KING CHIEF, TEDD (410) 787-4011	MR. EDWARD RODENHIZER CHIEF OF SIGNAL OPERATIONS (410) 787-7652

EQUIPMENT LIST B

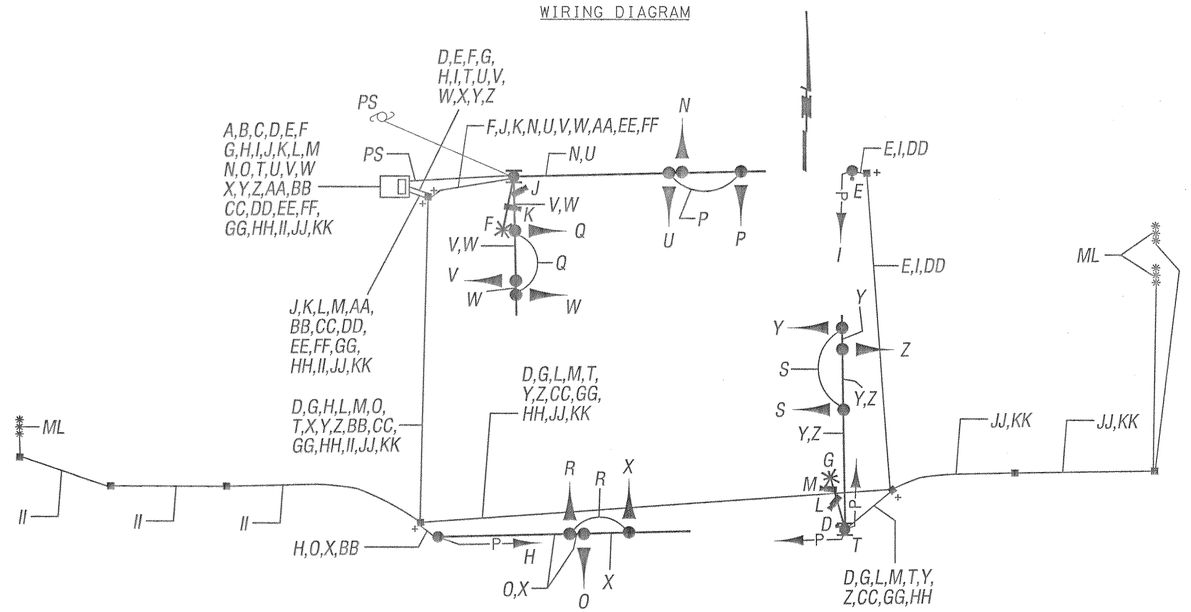
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

QUANTITY	DESCRIPTION
LS	MAINTENANCE OF TRAFFIC
3 CY	TEST PIT EXCAVATION
16 CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
340 LF	FURNISH AND INSTALL 12 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
130 LF	FURNISH AND INSTALL 24 IN. WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
4 EACH	FURNISH AND INSTALL 12 IN., ONE-WAY, THREE SECTION (R,Y,G) BLACK-FACED TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING.
2 EACH	FURNISH AND INSTALL 12 IN., ONE-WAY, FIVE SECTION (R,Y,YA,G,GA) BLACK-FACED TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING.
2 EACH	FURNISH AND INSTALL 12 IN., ONE-WAY, FOUR SECTION (R,Y,G,GA) BLACK-FACED TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING
1 EACH	FURNISH AND INSTALL 12 IN., ONE-WAY, TWO SECTION (WALK, DON'T WALK) PEDESTRIAN SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR PEDESTAL POLE MOUNTING AND CUTAWAY VISORS.
2 EACH	FURNISH AND INSTALL 12 IN./8 IN., ONE-WAY, FIVE SECTION (R,Y,YA,G,GA) BLACK-FACED TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING
2 EACH	FURNISH AND INSTALL 8 IN., ONE-WAY, THREE SECTION (R,Y,G) BLACK-FACED TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING
3 EACH	FURNISH AND INSTALL 12 IN., ONE-WAY, TWO SECTION (WALK, DON'T WALK) PEDESTRIAN SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM POLE MOUNTING AND CUTAWAY VISORS.
2 EACH	FURNISH AND INSTALL PEDESTRIAN PUSHBUTTON AND R10-4(2) SIGN - "PUSHBUTTON TO CROSS OLD NATIONAL PIKE".
1 EACH	FURNISH AND INSTALL EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR WITH BATTERY BACK-UP FOR PHONE DROP, HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.
153 SF	FURNISH AND INSTALL SHEET ALUMINUM SIGNS - 2 EACH R10-12 SIGN (30" X 36") - MAST ARM MOUNT - 4 EACH R3-5R SIGN (30" X 36") - MAST ARM MOUNT - 4 EACH D3-2 (VAR. X 16") - MAST ARM MOUNT - 2 EACH ASSOC. SH. ASSEBLY (36" X 75") - MAST ARM MOUNT - 2 EACH ASSOC. SH. ASSEMBLY (24" X 51") - MAST ARM MOUNT
5 EACH	FURNISH AND INSTALL ¾ IN. X 10 FT. GROUND ROD
1 EACH	FURNISH AND ISNTALL MAST ARM POLE AND TWIN 38 FT./70 FT. MAST ARMS
1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 70 FT. MAST ARM
1 EACH	FURNISH AND INSTALL MAST ARM POLE AND 60 FT. MAST ARM
4 EACH	FURNISH AND INSTALL INTERFACE CABLE FOR CAMERA
30 LF	FURNISH AND INSTALL ELECTRICAL CABLE-1 CONDUCTOR (NO. 4 AWG)
650 LF	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR (NO. 14 AWG)
410 LF	FURNISH AND INSTALL ELECTRICAL CABLE-2 CONDUCTOR TYPE T/C (NO. 12 AWG)

PHASING SEQUENCE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 01 & 05	G ◀G—	G ◀G—	R	G ◀G—	G ◀G—	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 01 & 05 CHANGE	G ◀Y—	G ◀Y—	R	G ◀Y—	G ◀Y—	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 02 & 06	G	G	G	G	G	G	R	R	R	R	R	R	WK	WK	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW
PHASE 02 & 06 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 03	R	R	R	R	R	R	R	R	R	G	G ◀G—	G	DW	DW	DW	DW
PHASE 03 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW
PHASE 04	R	R	R	R	R	R	G	G ◀G—	G	R	R	R	DW	DW	DW	DW
PHASE 04 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW
PHASE 04 ALT	R	R	R	R	R	R	G	G ◀G—	G	R	R	R	DW	DW	WK	WK
PED CLEAR	R	R	R	R	R	R	G	G ◀G—	G	R	R	R	DW	DW	FL/DW	FL/DW
PHASE 04 ALT CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW

WIRING DIAGRAM



A,B,C	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
D,E	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
F,G	2-CONDUCTOR ELECTRICAL CABLE TYPE T/C (NO. 12 A.W.G.)
H,I,J,K,L,M	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N,O,P,Q,R,S,T	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
U,V,W,X,Y,Z	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
AA,BB,CC,DD	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
EE,FF,GG,HH	POWER SERVICE FOR CAMERA
II,JJ,KK	MICRO-LOOP PROBE LEAD-IN
PS	PROPOSED ELECTRICAL SERVICE
ML	MICRO-LOOP PROBE SET
+	¾ IN. X 10 FT. GROUND ROD

EQUIPMENT LIST B CONTINUED

B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

QUANTITY	DESCRIPTION
20 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 40 RIGID PVC CONDUIT (TRENCHED)
350 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT (BORED)
50 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED)
700 LF	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED)
1 EACH	FURNISH AND INSTALL 10 FT. BREAKAWAY PEDESTAL POLE
9 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
LS	REMOVE AND DISPOSE OF EXISTING MATERIALS
1 EACH	REMOVE AND RELOCATE CAMERA ASSEMBLY
370 LF	FURNISH AND INSTALL ELECTRICAL CABLE-5 CONDUCTOR (NO.14 AWG)
1220 LF	FURNISH AND INSTALL ELECTRICAL CABLE-7 CONDUCTOR (NO. 14 AWG)
680 LF	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
2 EACH	FURNISH AND INSTALL 15 FT. LIGHTING ARM FOR TRAFFIC SIGNAL STRUCTURE
2 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
3 EACH	FURNISH AND INSTALL CAMERA ASSEMBLY
1 EACH	FURNISH AND INSTALL FOUR-CHANNEL, LOOP DETECTOR AMPLIFIER
150 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
20 LF	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEX. CONDUIT (DETECTOR SLEEVE)
3 EACH	FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN
1270 LF	FURNISH AND INSTALL ELECTRICAL CABLE-3 CONDUCTOR (NO. 14 AWG)

EQUIPMENT LIST C CONTINUED

C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

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REVISIONS	
Ⓐ ADDED 4TH LEG TO INTERSECTION	7/01
Ⓑ RECONSTRUCT FOR NEW GEOMETRICS	10/01

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ROCKVILLE,MD-RALEIGH,NC-FREDERICKSBURG,VA-MECHANICSBURG,PA- ST. PETERSBURG,FL

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
Traffic Signal Plan
US 40 ALT AT TOWN CENTER PLAZA ENTRANCE

DRAWN BY: CJP	F.A.P. NO. XXX	TS NO. 1919B	SHEET NO. 2 OF 2
CHECKED BY: JMC	S.H.A. NO. XXX		
SCALE: 1" = 20'	COUNTY: FREDERICK	T.I.M.S. NO. E694	
DATE: OCTOBER 31, 2001	LOG MILE: 6.10		

J:/TRANS/0251/SignalDesign/2D-DGN/TS02(A)
October 31, 2001 10:00

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