

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF US 1 (WASHINGTON BLVD) AND MISSION ROAD IN HOWARD COUNTY, MARYLAND. US 1 (WASHINGTON BLVD) IS CONSIDERED TO RUN IN A NORTH/SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION IS TO OPERATE IN A NEMA SIX (6) PHASE, FULL-TRAFFIC-ACTUATED MODE. THERE WILL BE AN EXCLUSIVE/ PERMISSIVE LEFT TURN PHASE FOR THE NORTH AND SOUTHBOUND MOVEMENTS OF US 1. US 1 (WASHINGTON BLVD) WILL OPERATE CONCURRENTLY. THE SIDE STREETS WILL OPERATE CONCURRENTLY WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE NORTH LEG OF US 1.

AN EIGHT PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH INTERSECTION MONITOR AND HARNESS, BATTERY BACK-UP, VIDEO DETECTION EQUIPMENT, AND TWO (2) FOUR-CHANNEL RACK MOUNTED TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS HOUSED IN A BASE MOUNTED CABINET ARE TO BE INSTALLED AT THIS LOCATION.

III. SPECIAL NOTE:

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE DROP INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET NUMBER, ZIP CODE, AND TELEPHONE NUMBER.

IV. SPECIAL NOTE:

I. APS WILL FUNCTION AS FOLLOWS:
FOR US 1 (WASHINGTON BLVD.)

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS WASHINGTON BLVD."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT LIST

THE CONTACT PERSONS ARE AS FOLLOWS:
MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-624-8140

MS. ANDREA ABEND
301-624-8115

MR. RAYMOND F. JOHNSON
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
301-624-8105

MR. RICHARD L. DAFF
CHIEF, TRAFFIC OPERATIONS DIVISION
410-787-7630
MR. EDWARD RODENHIZER
SUPERVISOR, SIGNAL OPERATIONS
410-787-7652

THE POWER COMPANY REPRESENTATIVE IS:
BALTIMORE GAS AND ELECTRIC COMPANY
MR. KEITH MAYLE
7317 PARKWAY DRIVE SOUTH
HANOVER, MARYLAND 21076
410-859-9070

EQUIPMENT LIST

A. S.H.A. FURNISHED EQUIPMENT MATERIAL.
NONE.

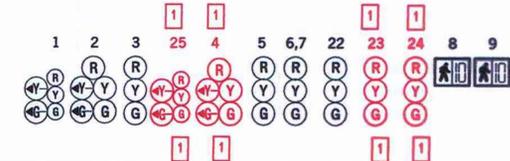
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	UNITS	DESCRIPTION
LUMP SUM	LS	MAINTENANCE OF TRAFFIC (AVERAGE)
LUMP SUM	LS	MOBILIZATION (AVERAGE)
2	EA	10 FT. STEEL PEDESTAL POLE WITH BREAKAWAY BASE
2	EA	27 FT. STEEL TWIN MAST ARM POLE WITH 50 FT. AND 70 FT. MAST ARMS
1	EA	STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, BASE MOUNTED NEMA 6 CABINET, VIDEO DETECTION INTERFACE, TELEMETRY INTERFACE EQUIPMENT, AND FOUR-CHANNEL LOOP DETECTOR AMPLIFIERS
1	EA	VIDEO DETECTOR CAMERA AND 300-FT. CABLE 875 FT. CABLE
2	EA	MICROLOOP PROBE (SET OF 3) WITH 500 FT. LEAD-IN CABLE
2	EA	NON-INVASIVE PROBE (SET OF 3) WITH 500 FT. LEAD-IN CABLE
2	EA	NON-INVASIVE PROBE (SET OF 3) WITH 1000 FT. LEAD-IN CABLE
1	EA	AUDIBLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH PUSHBUTTON SIGN
1	EA	APS 2-WIRE CENTRAL CONTROL UNIT
6	EA	12 IN. 3-SECTION LED SIGNAL HEAD - MAST
2	EA	12 IN. 5-SECTION LED SIGNAL HEAD - MAST
2	EA	8 IN. 1/2 IN. 5-SECTION LED SIGNAL HEAD - MAST
2	EA	16 IN. 1-SECTION, 1-WAY LED (COUNTDOWN) PEDESTRIAN SIGNAL HEAD - POST TOP
2	EA	16 IN. X VAR. D-30 DUAL FACED SIGN - MAST ARM
1	EA	16 IN. X VAR. D-30 SIGN - MAST ARM
1	EA	30 IN. X 51 IN. SHIELD ASSEMBLY SIGN - POLE MOUNT
1	EA	36 IN. X 75 IN. SHIELD ASSEMBLY SIGN - POLE MOUNT
2	EA	48 IN. X 48 IN. W3-3 "NEP" SIGN - TRENCHED
2	EA	32 IN. X 56 IN. D3-13 SIGN - GROUND
128	LF	4 IN. X 4 IN. WOOD SIGN SUPPORTS
2	CY	TEST PIT EXCAVATION
9	EA	HANDHOLE
15	LF	LOOP DETECTOR WIRE ENCASED IN FLEXIBLE TUBING
15	LF	1-CONDUCTOR CABLE (NO. 4 AWG)
200	LF	2-CONDUCTOR CABLE (NO. 14 AWG)
300-325	LF	5-CONDUCTOR CABLE (NO. 14 AWG) (NOTE: COIL 10' EXTRA CABLE IN HANDHOLE FOR TRAFFIC SIGNAL HEADS 2&4)
1550	LF	7-CONDUCTOR CABLE (NO. 14 AWG)
310	LF	BARE COPPER GROUND WIRE (NO. 6 AWG)
15	LF	1 IN. LIQUID TIGHT FLEXIBLE CONDUIT FOR DETECTOR SLEEVE
100	LF	2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
610	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
180	LF	3 IN. PVC CONDUIT [SCHEDULE 80] - PUSHED/BORED
155	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED
190	LF	4 IN. PVC CONDUIT [SCHEDULE 80] - PUSHED/BORED
13	CY	CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT
6	EA	GROUND ROD - 3/4 IN. X 10 FT. LENGTH
1	EA	CONTROL & DISTRIBUTION EQUIPMENT FOR ELECTRICAL SERVICE
1	EA	CUT, CLEAN, AND CAP MAST ARM
104	SF	REMOVE & REPLACE 4 IN. SIDEWALK
200	LF	12 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - CROSS WALK
165-185	LF	24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE
1	EA	REMOVE EXISTING SIGN - GROUND

GENERAL NOTES Continued

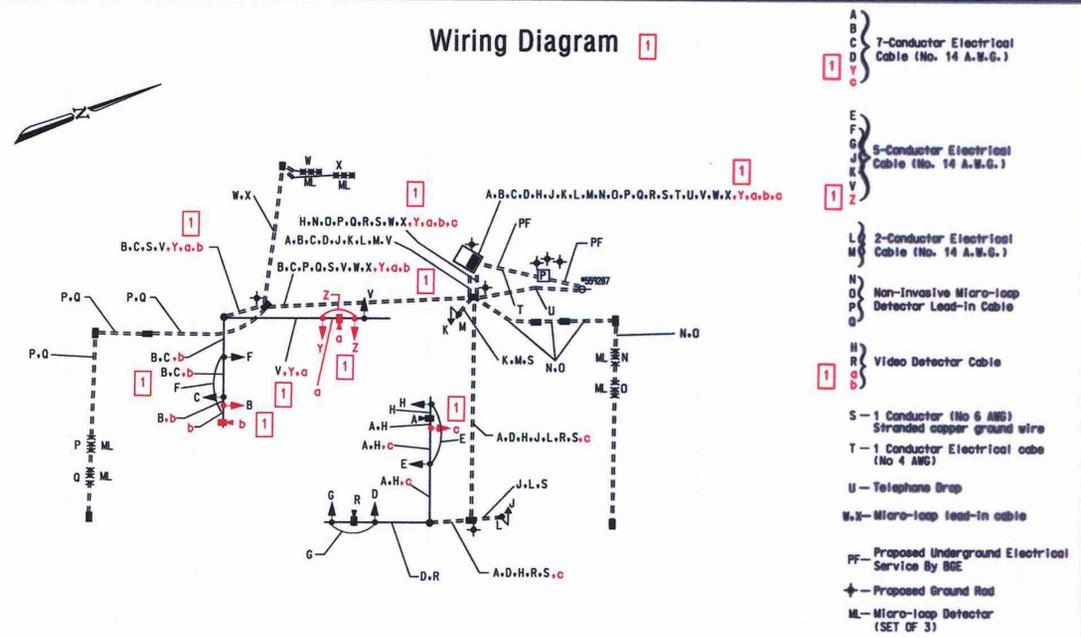
6. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18 IN. FROM A 60 IN. X 60 IN. LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
7. THE 10 FT. SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
8. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
9. THE LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.09 & FIG 4E-2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERING APS EQUIPMENT FOR PROGRAMING TO MD-SHA SIGNAL SHOP.
11. ALL UNUSED CABLE SHALL BE REMOVED.

Phase Chart



PHASE 1 AND 5	+GR	+GR	R	+GR	+GR	R	R	R	R	R	R	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6													
PHASE 1 AND 6	+GG	+GG	G	R	R	R	R	R	R	R	R	DW	DW
1 CHANGE	+GY	+YG	Y	R	R	R	R	R	R	R	R	DW	DW
PHASE 2 AND 5	R	R	R	+GG	+GG	G	R	R	R	R	R	DW	DW
5 CHANGE	R	R	R	+GY	+YG	Y	R	R	R	R	R	DW	DW
PHASE 2 AND 6	R	R	G	R	R	G	R	R	R	R	R	DW	DW
2 AND 6 CHANGE	R	R	Y	R	R	Y	R	R	R	R	R	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW
PHASE 4 & ALT 8	R	R	R	R	R	R	G	G	G	G	G	WK	WK
PED CLEARANCE	R	R	R	R	R	R	G	G	G	G	G	FLOW	FLOW
4 & ALT 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

Wiring Diagram



Redline Revision
Dated January 14, 2010

SHA NOT - SH
DATE

S.H.A. Approval Date
T.S. # 4578 T.I.M.S. # 1-287

The Traffic Group, Inc.
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
US 1 (Washington Blvd)
at Mission Rd

General Information Plan

SCALE	N.T.S.	ADVERTISED DATE	05/27/08	CONTRACT NO.	BW996M82
DESIGNED BY	B. Killian	COUNTY	Howard		
DRAWN BY	B. Killian	LOGMILE	13000104.76		
CHECKED BY		TMS NO.	1-287/4204		
F.A.P. NO.	N/A	TOD NO.			
TS NO. 4578	GI	DRAWING	-	OF	SHEET NO. 2 OF 3

THESE PLANS ARE APPROVED FOR CONSTRUCTION FOR A PERIOD OF 1 YEAR FROM THE DATE OF APPROVAL. SHOULD CONSTRUCTION NOT BEGIN WITHIN THIS TIME FRAME, THESE PLANS SHALL BE NULL AND VOID WITHOUT A RE-REVIEW FROM THE TRAFFIC ENGINEERING DESIGN DIVISION - SHA.