PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE TRAFFIC SIGNAL AT US 1 (WASHINGTON BOULEVARD) AND HOWARD STREET / CORRIDOR ROAD. US 1 IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION IS TO OPERATE IN A NEMA SIX-PHASE, FULLY-ACTUATED MODE, WITH THE NORTHBOUND AND SOUTHBOUND US 1 MOVEMENTS OPERATING CONCURRENTLY. EXCLUSIVE LEFT TURN PHASE IS PROVIDED FOR NORTHBOUND AND SOUTHBOUND US 1. THE SOUTHBOUND US 1 LEFT TURN WILL OPERATE AS THE LEAD LEFT TURN AND THE NORTHBOUND US 1 LEFT TURN WILL BE THE LAG LEFT TURN.
A SPLIT PHASE IS PROVIDED FOR EASTBOUND HOWARD STREET AND WESTBOUND CORRIDOR ROAD.
THIS INTERSECTION IS INTERCONNECTED TO THE TRAFFIC SIGNAL AT US 1 SOUTHBOUND AND MD 32 SOUTHBOUND SOUTH RAMP.
THE PRE-EMPTION PHASE IS ACTIVATED BY A PUSHBUTTON IN THE FIREHOUSE LOCATED ON CORRIDOR ROAD.

III. PEDESTRIAN OPERATION

NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTONS TO CROSS THE EAST LEG, WEST LEG, NORTH LEG ACROSS US 1 SOUTHBOUND, NORTH LEG ACROSS SOUTHBOUND LEFT TURN RAMP, AND NORTH LEG ACROSS US 1 NORTHBOUND ARE TO BE PROVIDED. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:

EAST: "WAIT TO CROSS CORRIDOR AT WASHINGTON, WAIT."

WEST: "WAIT TO CROSS HOWARD AT WASHINGTON, WAIT."

PUSHBUTTONS NO. 33 AND 34
NORTH: "WAIT TO CROSS WASHINGTON AT HOWARD, WAIT. CROSSWALK ANGLES RIGHT."

PUSHBUTTONS NO. 36 AND 52
NORTH: "WAIT TO CROSS WASHINGTON AT CORRIDOR, WAIT."

PUSHBUTTONS NO. 35 AND 51
NORTH: "WAIT TO CROSS RAMP, WAIT."

SPECIAL NOTES

1. THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

DISTRICT
MS. ANDREA ABEND
UTILITY ENGINEER
301-624-8115/8116

MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-624-8140/8141

MR. JOHN HUCHROWSKI
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
301-624-8200/8201

MS. SUE PALMER
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
301-624-8105/8106

OFFICE OF TRAFFIC AND SAFETY
MR. RICHARD DAFF SR.
CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ED RODENHIZER
TEAM LEADER SIGNAL OPERATIONS
410-787-7650

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
410-787-7670

MR. MIKE STOCKER
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
410-787-7668

2. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.04-13, 104.04-15, 104.03-12, 104.04-05.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADIMISTRATION

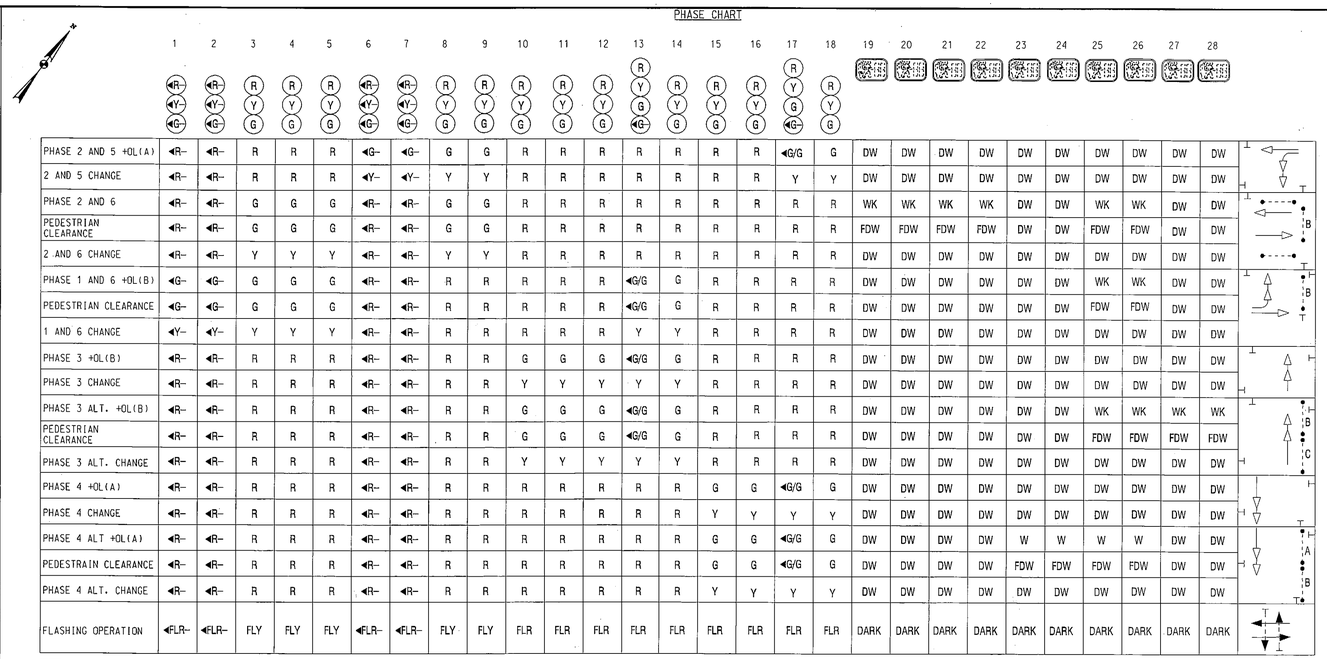
ITEM NO./ CAT CODE	QUANTITY	DESCRIPTION
9000	1 EA	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED ASC III CONTROLLER
9000	1 EA	NEMA SIZE "S" BASE MOUNTED CABINET WITH INTERSECTION MONITOR
9000	1 EA	UNINTERUPTABLE POWER SUPPLY
9000	1 EA	UPS BATTERIES (6 BATTERY BANK)
9000	1 EA	UPS BYPASS SWITCH
9000	1 EA	QUICK CONNECT BLOCK AND HARNESS FOR TELEMETRY INTERFACE PANEL
9000	2 EA	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9000	139 SF	SHEET ALUMINUM SIGNS CONSISTING OF:
	12.5 SF 2 EACH	R3-1, (30"X30"), MAST ARM MOUNT
	18 SF 2 EACH	R3-5(L), (30"X36"), MAST ARM MOUNT
	7.5 SF 1 EACH	R3-5(R), (30"X36"), MAST ARM MOUNT
	18 SF 2 EACH	R3-6, (30"X36"), MAST ARM MOUNT
	21.33 SF 2 EACH	D-3(1), (VAR.X16"), MAST ARM MOUNT
	12.5 SF 2 EACH	R3-2, (30"X30"), MAST ARM MOUNT
	6 SF 3 EACH	M3-3, (24"X12"), POST MOUNT
	6 SF 3 EACH	M3-1, (24"X12"), POST MOUNT
	24 SF 6 EACH	M1-4, (24"X24"), POST MOUNT
	4.38 SF 2 EACH	M5-1, (21"X15"), POST MOUNT
	8.75 SF 4 EACH	M6-1, (21"X15"), POST MOUNT

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

ITEM NO./ CAT CODE	QUANTITY	DESCRIPTION
1001	1 EA	MAINTENANCE OF TRAFFIC
2001	60 CY	CLASS II EXCAVATION
2002	5 CY	TEST PIT EXCAVATION
5001	6 EA	REMOVAL OF EXISTING PERMANENT PAVEMENT MARKINGS SYMBOLS OR LEGENDS
5003	200 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS ANY WIDTH
5004	500 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5005	200 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5006	82 SF	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
6001	440 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	1480 SF	5 INCH CONCRETE SIDEWALK
6003	100 SF	DETECTABLE WARNING SURFACE FOR CURB RAMP
8001	56 EA	12 INCH LED SIGNAL HEAD SECTION
1 8002	2 EA	2-WIRE CENTRAL CONTROL UNIT
8007	5 EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP AND LUMINAIRE
8008	10 EA	AUDIBLE/TACTILE PEDESTRIAN PUSH BUTTON STATION AND SIGNS
8009	8 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8015	10 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
8017	3 EA	MAST ARM POLE AND 38 FOOT MAST ARM ANY 'T' DIMENSION
8018	1 EA	MAST ARM POLE AND 50 FOOT MAST ARM ANY 'T' DIMENSION
8022	5 EA	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000 FEET
8023	1 EA	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
8025	2 EA	TWIN MAST ARM POLE AND 50 FOOT/60 FOOT MAST ARM
8028	6 EA	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH
8030	90 LF	1-CONDUCTOR ELECTRICAL CABLE, NO. 2 AWG/THHN
8031	600 LF	12-PAIR COMMUNICATION CABLE, SELF-SUPPORTING, JELLY-FILLED/UNDERGROUND
8033	500 LF	DISCONNECT, PULL-BACK & REROUTE CABLE
8034	1400 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TYPE T/C
8037	700 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES-SLOTTED
8038	600 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES-TRENCHED
8039	115 LF	WOOD SIGN SUPPORTS UP TO 4"X6"
8040	139 SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8042	930 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8045	30 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
8046	17 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8051	1 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8053	2200 LF	ELECTRICAL CABLE-2 CONDUCTOR (NO. 14 AWG)
8055	4300 LF	ELECTRICAL CABLE-5 CONDUCTOR (NO. 14 AWG)
8056	2400 LF	ELECTRICAL CABLE-7 CONDUCTOR (NO. 14 AWG)
8061	1 EA	INSTALL CONTROLLER AND CABINET-BASE MOUNT (ANY SIZE)

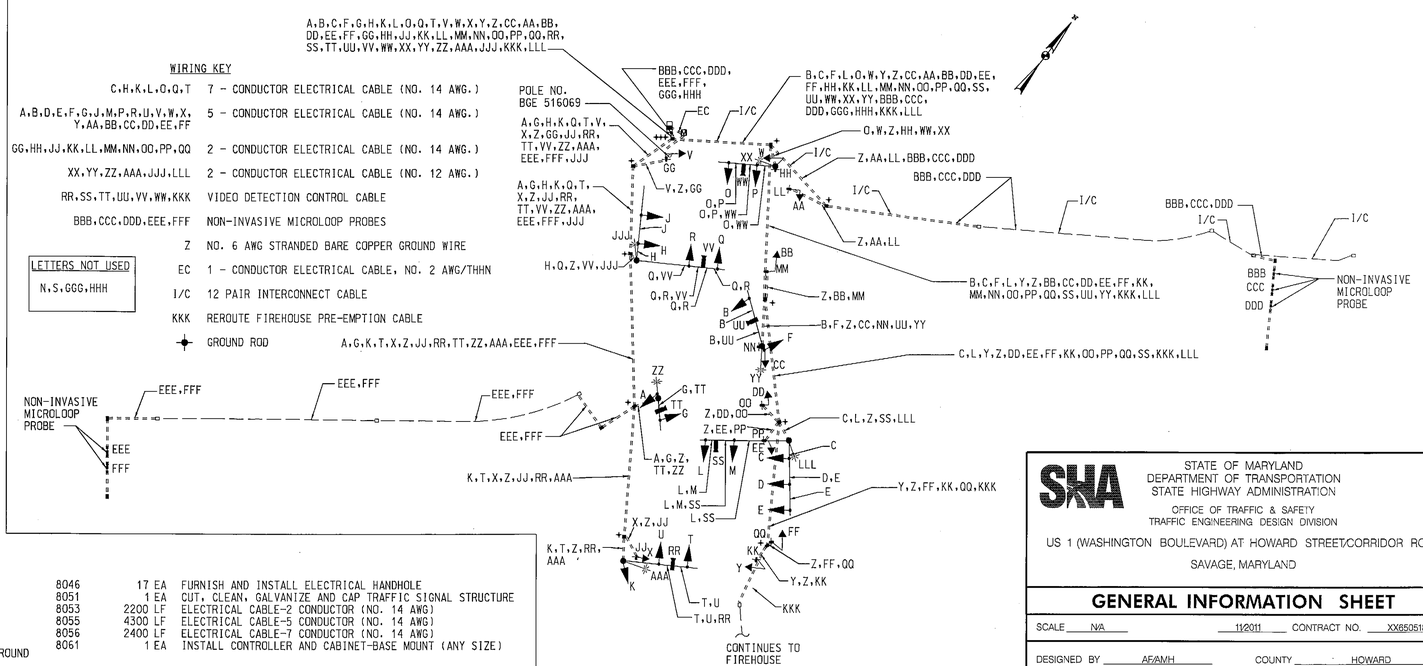
C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	◄R- ◄Y- ◄G-	◄R- ◄Y- ◄G-	R Y G	R Y G	R Y G	◄R- ◄Y- ◄G-	◄R- ◄Y- ◄G-	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G ◄G-	R Y G	R Y G	R Y G	R Y G ◄G-	R Y G										
PHASE 2 AND 5 +OL(A)	◄R-	◄R-	R	R	R	◄G-	◄G-	G	G	R	R	R	R	R	R	R	◄G/G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
2 AND 5 CHANGE	◄R-	◄R-	R	R	R	◄Y-	◄Y-	Y	Y	R	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	◄R-	◄R-	G	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	WK	WK	DW	DW
PEDESTRIAN CLEARANCE	◄R-	◄R-	G	G	G	◄R-	◄R-	G	G	R	R	R	R	R	R	R	R	R	FDW	FDW	FDW	FDW	DW	DW	FDW	FDW	DW	DW
2 AND 6 CHANGE	◄R-	◄R-	Y	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 1 AND 6 +OL(B)	◄G-	◄G-	G	G	G	◄R-	◄R-	R	R	R	R	R	◄G/G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	WK	WK	DW	DW
PEDESTRIAN CLEARANCE	◄G-	◄G-	G	G	G	◄R-	◄R-	R	R	R	R	R	◄G/G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	FDW	FDW	DW	DW
1 AND 6 CHANGE	◄Y-	◄Y-	Y	Y	Y	◄R-	◄R-	R	R	R	R	R	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 +OL(B)	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G	G	G	◄G/G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 ALT. +OL(B)	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G	G	G	◄G/G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	WK	WK	WK	WK
PEDESTRIAN CLEARANCE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G	G	G	◄G/G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	FDW	FDW	FDW	FDW
PHASE 3 ALT. CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 +OL(A)	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	R	G	G	◄G/G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 ALT +OL(A)	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	R	G	G	◄G/G	G	DW	DW	DW	DW	W	W	W	W	DW	DW
PEDESTRAIN CLEARANCE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	R	G	G	◄G/G	G	DW	DW	DW	DW	FDW	FDW	FDW	FDW	DW	DW
PHASE 4 ALT. CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	◄FLR-	◄FLR-	FLY	FLY	FLY	◄FLR-	◄FLR-	FLY	FLY	FLR	FLR	FLR	FLR	FLR	FLR	FLR	FLR	FLR	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK
PRE-EMPTION PHASE 3 +OL(B)	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	G	G	G	◄G/G	G	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PRE-EMPTION CHANGE	◄R-	◄R-	R	R	R	◄R-	◄R-	R	R	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW

WIRING DIAGRAM



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JANUARY 19 2012

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

US 1 (WASHINGTON BOULEVARD) AT HOWARD STREET/CORRIDOR ROAD
SAVAGE, MARYLAND

GENERAL INFORMATION SHEET

SCALE N/A 11/2011 CONTRACT NO. XX6505185

DESIGNED BY AF/AWH COUNTY HOWARD
DRAWN BY AF/RB LOGMILE 13000102.60
CHECKED BY JFL TIMS NO. K974
F.A.P. NO. TOD NO.

TS NO. 1685(1) DRAWING SG-3 OF 3 SHEET NO. 3 OF 3

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BY: bmalcolm