PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 193 (GREENBELT ROAD) AND HANOVER PARKWAY IN PRINCE GEORGES COUNTY, MARYLAND. MD 193 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 193 APPROACHES OPERATING CONCURRENTLY AND THE HANOVER PARKWAY APPROACHES OPERATING SPLIT.

EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR THE EASTBOUND AND WESTBOUND MD 193 APPROACHES.

AN ALTERNATE PEDESTRIAN PHASE IS PROVIDED ACROSS THE WEST LEG OF MD 193 AND PEDESTRIAN INDICATIONS ARE PROVIDED ACROSS BOTH LEGS OF HANOVER PARKWAY.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS WITH SYSTEM PACKAGE AND ASSOCIATED HARNESSES AND VIDEO INTERFACE EQUIPMENT (1-4 CAMERAS) HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

PHONE DROP

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT. ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.

STANDARD NO. MD-104.04-01 (SHOULDER WORK)
STANDARD NO. MD-104.04-03 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.04-05 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.04-07 (CENTER LANE CLOSURE)
STANDARD NO. MD-104.04-13 (LEFT TURN BAY CLOSURE)
STANDARD NO. MD-104.04-15 (INTERSECTION LEFT LANE, TURN BAY)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

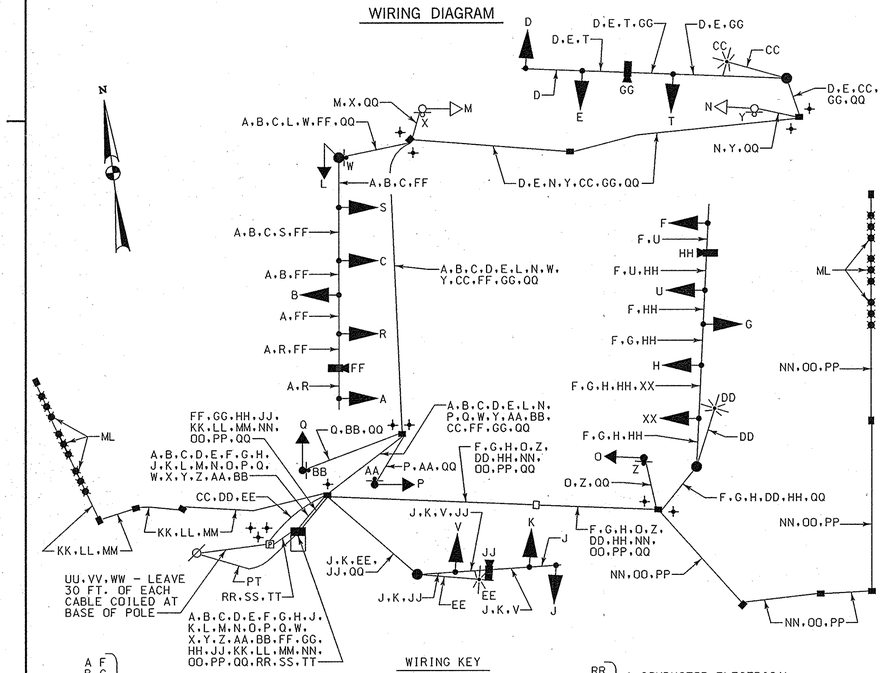
MR. BRIAN YOUNG
PHONE: (301) 513-7358
ASSISTANT DISTRICT ENGINEER - TRAFFIC

MR. WAYNE MOWDY
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. AUGIE REBISH
DISTRICT UTILITY ENGINEER
PHONE: (301) 513-7350

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

WIRING DIAGRAM



WIRING KEY

A B C D E F G H J K — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

L M N O P Q R S T U V XX — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

W X Y Z AA BB — 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

CC DD EE — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)

FF GG HH JJ — VIDEO CAMERA DETECTION LEAD-IN CABLE

KK LL MM NN OO PP — MICROLOOP PROBE LEAD-IN

RR SS TT — 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

UU VV WW — 1-CONDUCTOR, 250 KCML,CU, USE

QQ — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

ML - MICROLOOP PROBE SET

PT - PROPOSED UNDERGROUND TELEPHONE SERVICE

+ - 3/4 IN. X 10 FT. GROUND ROD

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	QUANTITY	DESCRIPTION
900000	1 EACH	VIDEO INTERFACE EQUIPMENT: 1-4 CAMERAS
917017	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
963010	2 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
973023	198 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF :
	- 4 EACH	D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "EAST, MD 193, RIGHT ARROW" (36 IN. x 51 IN.) - POLE MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "WEST, MD 193, LEFT ARROW" (48 IN. x 75 IN.) - GROUND MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "WEST, MD 193, RIGHT ARROW" (36 IN. x 51 IN.) - GROUND MOUNT
	- 1 EACH	ASSOCIATED SHIELD ASSEMBLY "EAST, MD 193, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT
	- 4 EACH	R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS HANOVER PKWY"
	- 2 EACH	R10-3(1) SIGN (9 IN. x 15 IN.) TO READ "PUSHBUTTON TO CROSS GREENBELT ROAD"
	- 7 EACH	R3-5(L) SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
	- 1 EACH	R3-5(R) SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
	- 1 EACH	R3-6 SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR.

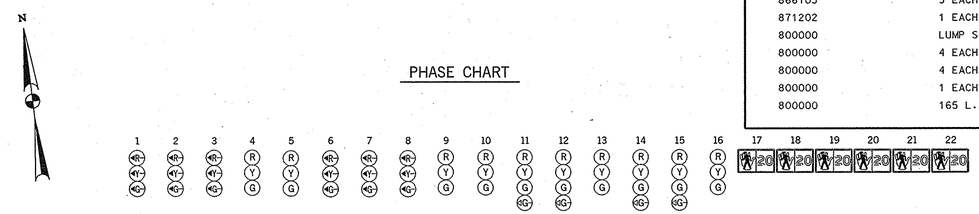
ALL AUDIBLE PEDESTRIAN SIGNAL EQUIPMENT AND COUNTDOWN PEDESTRIAN SIGNAL HEADS BEING REMOVED SHALL BE RETURNED TO SHA.

EQUIPMENT LIST "B"

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

CATEGORY CODES	QUANTITY	DESCRIPTION
120500	LUMP SUM	MAINTENANCE OF TRAFFIC
203030	9 C.Y.	TEST PIT EXCAVATION
585620	725 L.F.	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	210 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
655104	30 S.F.	4 INCH CONCRETE SIDEWALK
801004	23 C.Y.	CONCRETE FOR SIGNAL FOUNDATION
801106	38 L.F.	WOOD SIGN SUPPORTS 4 INCH X 6 INCH
802501	610 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805105	45 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805115	145 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805118	250 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED
805125	315 L.F.	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805135	895 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805140	110 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
805150	300 L.F.	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
805155	120 L.F.	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
807202	1 EACH	METERED SERVICE PEDESTAL
810010	75 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN
810601	3 EACH	NON-INVASIVE MICROLOOP PROBE, 500 FOOT LEAD IN CABLE
810605	3 EACH	NON-INVASIVE MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE
811001	18 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813014	38 S.F.	INSTALL GROUND MOUNTED SIGN
813015	160 S.F.	INSTALL OVERHEAD SIGN
816001	4 EACH	VIDEO DETECTION CAMERA
816005	1 EACH	CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
816010	3 EACH	CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER
818004	3 EACH	10 FOOT BREAKAWAY PEDESTAL POLE
818030	1 EACH	STEEL POLE WITH A SINGLE 38 FOOT MAST ARM
818052	2 EACH	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM
822002	3180 L.F.	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
831010	3 EACH	250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
837001	12 EACH	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	56 EACH	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	1085 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1180 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	2690 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
861116	690 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)
866103	3 EACH	15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
871202	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
800000	LUMP SUM	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
800000	4 EACH	16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	4 EACH	AUDIBLE/ TACTILE PEDESTRIAN PUSHBUTTON STATION
800000	1 EACH	16.5 FT. STEEL "T" POLE WITH SINGLE 70 FT. MAST ARM
800000	165 L.F.	CABLE 1-CONDUCTOR, 250 KCML, CU, USE 600V

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PHASE 1 + 5	G	G	G	R	R	G	G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6																					
PHASE 1 + 6	G	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
1 + 6 CHANGE	Y	Y	Y	G	G	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 5	R	R	R	R	R	G	G	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
2 + 5 CHANGE	R	R	R	R	R	Y	Y	Y	G	G	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 + 6 ALT	R	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW
PED CLEARANCE	R	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW
2 + 6 ALT CHANGE	R	R	R	Y	Y	R	R	R	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	DW	DW	DW	DW	WK	WK
PED CLEARANCE	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW
4 ALT CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 193 (Greenbelt Road) and Hanover Parkway

Whitman, Requardt and Associates, LLP
Engineers, Architects and Planners

801 South Caroline Street
Baltimore, Maryland 21231
410-235-3450

GENERAL INFORMATION SHEET

SCALE NONE DATE 5/02/2007 CONTRACT NO. PG679821

DESIGNED BY S. Bloss COUNTY Prince Georges
DRAWN BY S. Bloss LOGMILE 16019307.29
CHECKED BY N. Leary TIMS NO. I-284
FAP NO. SEE TITLE SHEET TOD NO.

TS NO. 1797J-GI | DRAWING TSP-5 - 5 OF 6 | SHEET NO. OF

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