PROJECT DESCRIPTION

GENERAL:

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING INTERSECTION OF MD 26 (LIBERTY RD.) AT PATTERSON AVENUE/ CHURCH DRIVEWAY IN BALTIMORE COUNTY. THE INTERSECTION IS PART OF THE EXISTING MD 26 TRAFFIC SIGNAL SYSTEM.

MD 26 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION:

THE INTERSECTION OPERATES A NEMA FIVE PHASE, FULL-ACTUATED MODE WITH VIDEO DETECTION CAMERAS. MD 26 THROUGH MOVEMENTS OPERATE CONCURRENTLY, WITH AN EXCLUSIVE/PERMISSIVE LEFT TURN FOR THE EASTBOUND APPROACH. AN EXCLUSIVE/PERMISSIVE RIGHT TURN FOR THE SOUTHBOUND APPROACH OF PATTERSON AVENUE OPERATES WITH MD 26 E/P LEFT TURN. PATTERSON AVENUE/ CHURCH DRIVEWAY THROUGH MOVEMENTS OPERATE CONCURRENTLY. NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTON MOVEMENTS CROSS THE NORTH AND EAST LEGS OF THE INTERSECTION.

CONTROLLER INFORMATION:

A NEMA EIGHT-PHASE, FULL-ACTUATED CONTROLLER WITH ALL NECESSARY EQUIPMENT HOUSED IN A BASE-MOUNTED CABINET SHALL BE INSTALLED AT THE INTERSECTION.

SEE THE PLAN SHEET'S GENERAL NOTES FOR INSTRUCTIONS IN REGARD TO THE NAVIGATOR CENTRAL CONTROL UNIT.

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EA	NEMA EIGHT PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH TELEMETRY, VIDEO DETECTION UNIT, CENTRAL CONTROL NAVIGATOR UNIT, 2- FOUR CHANNEL RACK MOUNTED AMPLIFIERS AND ALL NECESSARY EQUIPMENT HOUSED IN A BASE MOUNTED CABINET.
9071	26 SF	SHEET ALUMINUM FOR MAST ARM MOUNTING
	1 EA	M95-1(MOD) "Liberty RD./ EAST,ARROW,MD 26,WEST,ARROW" (VARIABLE x 42")
	1 EA	M95-1(MOD) "Liberty RD. / WEST,ARROW,MD 26,EAST,ARROW" (VARIABLE x 42")
	2 EA	D3-2 "BELL SYMBOL, Patterson AVE" (VARIABLE x 16") DUAL FACED

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND SUPPLIED BY THE CONTRACTOR.

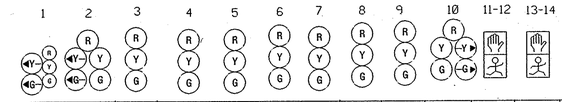
CATEGORY CODE	QUANTITY	DESCRIPTION
120662	360 LF	REMOVAL OF EXISTING PAINTED STRIP MARKING-ANY WIDTH
203030	5 CY	TEST PIT EXCAVATION
585616	50 LF	5" YELLOW HEAT APPLIED THERMOPLASTIC PERMANENT PREFORMED PAVEMENT MARKING
585620	270 LF	12" WHITE HEAT APPLIED THERMOPLASTIC PERMANENT PREFORMED PAVEMENT MARKING
585624	130 LF	24" WHITE HEAT APPLIED THERMOPLASTIC PERMANENT PREFORMED PAVEMENT MARKING
600000	18 SF	BRICK PAVERS
634300	85 LF	STANDARD TYPE A COMBINATION CURB ANG GUTTER (12" GUTTER PAN-8" DEPTH)
655105	600 SF	5" CONCRETE SIDEWALK
801004	17 CY	CONCRETE FOR SIGNAL FOUNDATION
802501	390 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805010	30 LF	FURNISH AND INSTALL 1" ELECTRICAL CONDUIT GALVANIZED RISER
805125	20 LF	2" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT-TRENCHED
805135	205 LF	3" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT-TRENCHED
805140	60 LF	4" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT-TRENCHED
805155	225 LF	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
811001	5 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813015	26 SF	INSTALL OVERHEAD SIGN
821003	3 EA	FURNISH AND INSTALL BREAKAWAY BASE SUPPORT SYSTEM FOR TRAFFIC SIGNAL STRUCTURE
837001	6 EA	GROUND ROD 3/4"DIA. X 10' LENGTH
800000	33 EA	FURNISH AND INSTALL 12" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
871202	1 EA	INSTALL CONTROLLER CABINET BASE- MOUNTED
800000	1 EA	2 WIRE NAVIGATOR CENTRAL CONTROL UNIT
800000	170 LF	PULL BACK AND INSTALL EXISTING ELECTRICAL CABLE
861105	620 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR NO. 14 AWG
865001	4 EA	FURNISH AND INSTALL PUSHBUTTON AND SIGN
818021	1 EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50' x 50' MAST ARM
818036	1 EA	FURNISH AND INSTALL STEEL POLE WITH SINGLE 50' MAST ARM
818052	1 EA	FURNISH AND INSTALL STEEL POLE WITH SINGLE 70' MAST ARM
800000	8 EA	16" LED CLAM SHELL COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION
810550	4 EA	MICRO LOOP PROBE WITH 500' LEAD -IN CABLE
816001	4 EA	VIDEO DETECTOR CAMERA
816005	3 EA	250' VIDEO CAMERA LEAD- IN CABLE TO CONTROLLER
816010	1 EA	500' VIDEO CAMERA LEAD- IN CABLE TO CONTROLLER
805050	1 EA	3" WEATHER HEAD
807400	1 EA	CONTROL AND DISTRIBUTION EQUIPMENT
810010	90 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1- CONDUCTOR NO.4 AWG- THHN/THWN
831010	1 EA	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
860270	3 EA	FURNISH AND INSTALL 8" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	8 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861107	765 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5- CONDUCTOR NO. 14 AWG
861108	1550 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7- CONDUCTOR NO. 14 AWG
861116	335 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2- CONDUCTOR NO. 12 AWG TRAY CABLE
862102	430 LF	FURNISH AND INSTALL SAWCUT FOR SIGNAL
866103	1 EA	FURNISH AND INSTALL 15' LIGHTING ARM ON SIGNAL STRUCTURE
805160	8 LF	FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
818004	3 EA	10' BREAKAWAY PEDESTAL POLE
805011	20 LF	1" GALVANIZED STEEL DETECTOR SLEEVE

NOTE: THE QUANTY FOR THE 12 PAIR COMMUNICATION CABLE SHALL BE ON THE GENERAL INFORMATION SHEET FOR MD 26 AT KELOX RD (SHEET 24 OF 28).

EQUIPMENT LIST "C"

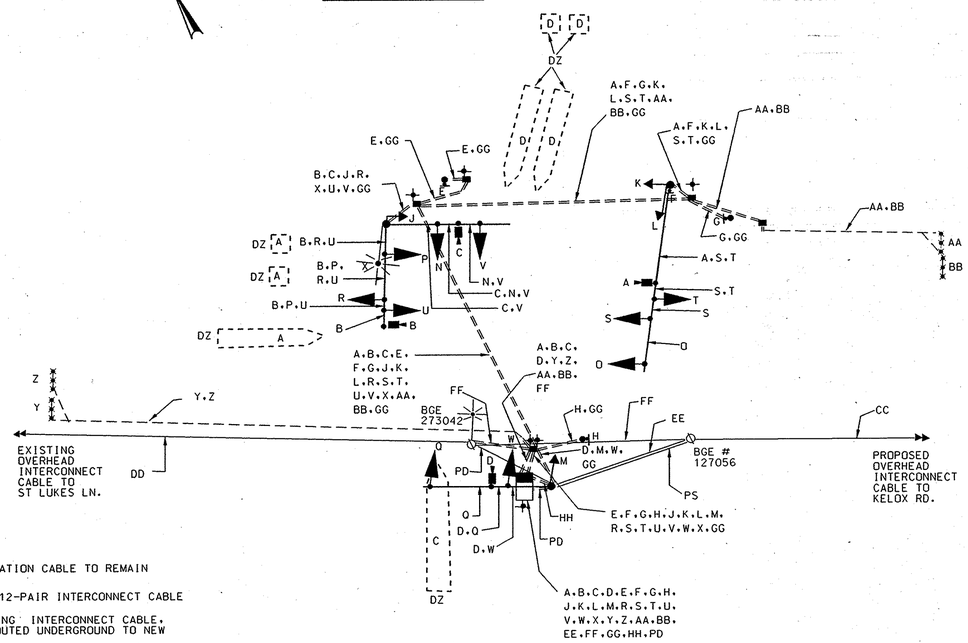
SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11-12	13-14
Phase 1	G R	G R	R	R	R	R	R	R	G R	G R	DW	DW
1 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 6								Y R	Y R	DW	DW
Phase 1 & 6	G G	G G	G	R	R	R	R	R	R	R	DW	DW
1 Change	Y G	Y G	G	R	R	R	R	R	R	R	DW	DW
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	DW	DW
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW
Phase 2 & 6 Alt.	G	G	G	G	G	G	R	R	R	R	WK.	DW
Ped. Clear Countdown	G	G	G	G	G	G	R	R	R	R	FL/DW	DW
2 & 6 Alt. Change	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW
Phase 4 & 8	R	R	R	R	R	R	G	G	G	G	DW	DW
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW
Phase 4 & 8 Alt.	R	R	R	R	R	R	G	G	G	G	DW	WK
Ped. Clear Countdown	R	R	R	R	R	R	G	G	G	G	DW	FL/DW
4 & 8 Alt. Change	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK

WIRING DIAGRAM



WIRING KEY

B.C.D – CAMERA W/ 250' LEAD-IN TO CONTROLLER

A – CAMERA W/ 500' LEAD-IN TO CONTROLLER

E.F. G.H } 2-CONDUCTOR ELECTRICAL CABLE NO.14 AWG

J.K.L.M. N.O.P.Q } 5-CONDUCTOR ELECTRICAL CABLE NO.14 AWG

R.S.T. U.V.W } 7-CONDUCTOR ELECTRICAL CABLE NO.14 AWG

X – 2-CONDUCTOR ELECTRICAL CABLE NO.12 AWG TC

Y.Z. AA.BB } MIRCO LOOP PROBE WITH 500' LEAD CABLES

CC – REMOVE EXISTING OVERHEAD I/C CABLE. INSTALL 12-PAIR INTERCONNECT CABLE

DD – EXISTING COMMUNICATION CABLE TO REMAIN

EE – INSTALL OVERHEAD 12-PAIR INTERCONNECT CABLE

FF – DISCONNECT EXISTING INTERCONNECT CABLE. PULLED-BACK RE-ROUTED UNDERGROUND TO NEW CONTROLLER

GG – NO.6 AWG STRANDED BARE COPPER GROUND WIRE

HH – (3-WIRES) 1-CONDUCTOR ELECTRICAL CABLE NO.4 AWG

DZ – CAMERA DETECTOR ZONE

PS – PROPOSED OVERHEAD SERVICE FEED

PD – PROPOSED OVERHEAD PHONE DROP

3/4" DIA. x 10' LENGTH GROUND ROD

PROJECT CONTACTS:

THE CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

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ASSISTANT DISTRICT ENGINEER-CONSTRUCTION
410-321-2821

MR.STEVE MARCISZEWSKI
ASSISTANT DISTRICT ENGINEER-MAINTENANCE
PHONE: 410-321-2761

MS SUENETTE POPE
DISTRICT UTILITY ENGINEER
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THE CONTACT PERSONS FOR OFFICE OF TRAFFIC AND SAFTEY:

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ASST. CHIEF, TRAFFIC OPERATION DIVISION
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MR. DERRICK DICKERSON
PROJECT MANGER, TARFFIC
ENGINEERING DESIGN DIVISION
PHONE: 410-787-5856

TS 8 OF 10

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS – PLANNERS
32 WEST ROAD
TOWSON, MARYLAND 21204
410-823-6070

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
MD 26 AT PATTERSON AVE

DRAWN BY: EMM	F.A.P. NO.		TS NO. 4438	SHEET NO. 22 OF 28
CHECKED BY: DA/TH	S.H.A. NO.	BA 4845176		
SCALE: NONE	COUNTY:	BALTIMORE		
DATE: 6/24/05	LOG MILE:	03002609.62	T.I.M.S. NO. G503	

o:*TRANSDWG*23024.12*FINAL DESIGN*G503 GIMD26 PATTERSON.dgn 6/27/2005