PROJECT DESCRIPTION

GENERAL:

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING INTERSECTIONS MD 26 (LIBERTY ROAD) AND ESSEX ROAD 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: [2]

THE INTERSECTION OPERATES A NEMA ~~SIX~~ EIGHT PHASE, FULL- ACTUATED MODE. MD 26 THROUGH MOVEMENT OPERATE CONCURRENTLY, WITH AN EXCLUSIVE/PERMISSIVE LEFT TURN FOR BOTH APPROACHES. PROVIDE VIDEO CAMERA DETECTION AND NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTON MOVEMENTS TO CROSS ALL FOUR LEGS OF THE INTERSECTION. ESSEX ROAD MOVEMENTS OPERATE CONCURRENTLY WITH AN EXCLUSIVE/PERIMISSIVE LEFT TURN FOR BOTH APPROACHES.

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.

QUANTITY	DESCRIPTION
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.
[1] 40 ~~36~~ 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, Essex RD" (VARIABLE x 16") DUAL FACED
[1] 4 EA	**R10-4(1) "COUNTDOWN PEDESTRIAN PUSH BUTTON" (9" X 12")**

PROJECT CONTACTS:

THE CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: 410-321-2781/2885

MR. DANIEL WITT
ASSISTANT DISTRICT ENGINEER-CONSTRUCTION
410-321-2821

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

[1] MR. MICHAEL PASQUARIELLO
DISTRICT UTILITY ENGINEER
PHONE: 410-321-2841

THE CONTACT PERSONS FOR OFFICE OF TRAFFIC AND SAFTEY:

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATION SECTION
PHONE: 410-787-7652

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

EQUIPMENT LIST "B"

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

QUANTITY	DESCRIPTION
570 LF	REMOVAL OF EXISTING PAINTED STRIP MARKING-ANY WIDTH
6 CY	TEST PIT EXCAVATION
450 LF	12" WHITE HEAT APPLIED THERMOPLASTIC PERMANENT PREFORMED PAVEMENT MARKING
120 LF	24" WHITE HEAT APPLIED THERMOPLASTIC PERMANENT PREFORMED PAVEMENT MARKING
[1] 40 ~~48~~ SF	BRICK PAVERS
[1] 163 ~~143~~ LF	STANDARD TYPE A COMBINATION CURB ANG GUTTER (12" GUTTER PAN-8" DEPTH)
[1] 761 ~~950~~ SF	5" CONCRETE SIDEWALK
12 CY	CONCRETE FOR SIGNAL FOUNDATION
235 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
250 LF	4" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED
15 LF	2" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT-TRENCHED
155 LF	3" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT-TRENCHED
30 LF	4" SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT-TRENCHED
[1] 158 ~~205~~ LF	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
7 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
36 SF	INSTALL OVERHEAD SIGN
4 EA	FURNISH AND INSTALL BREAKAWAY BASE SUPPORT SYSTEM FOR TRAFFIC SIGNAL STRUCTURE
8 EA	GROUND ROD 3/4"DIA. X 10' LENGTH
[2] 40 ~~32~~ EA	FURNISH AND INSTALL 12" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
1 EA	INSTALL CONTROLLER CABINET BASE- MOUNTED
1 EA	2 WIRE NAVIGATOR CENTRAL CONTROL UNIT
585 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR NO. 14 AWG
8 EA	FURNISH AND INSTALL AUDIBLE TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGN
1 EA	FURNISH AND INSTALL STEEL POLE WITH TWIN 50' x 50' MAST ARM
3 EA	FURNISH AND INSTALL STEEL POLE WITH SINGLE 50' MAST ARM
16 EA	16" LED CLAM SHELL COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION
4 EA	MICRO LOOP PROBE WITH 500' LEAD -IN CABLE
4 EA	VIDEO DETECTOR CAMERA
2 EA	250' VIDEO CAMERA LEAD- IN CABLE TO CONTROLLER
2 EA	500' VIDEO CAMERA LEAD- IN CABLE TO CONTROLLER
[1] OMIT ~~1 EA~~	~~CONTROL AND DISTRIBUTION EQUIPMENT~~
45 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1- CONDUCTOR NO.4 AWG- THHN/THWN
1 EA	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE
[2] 12 ~~6~~ EA	FURNISH AND INSTALL 8" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
9 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
950 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5- CONDUCTOR NO. 14 AWG
[2] 1515 ~~1110~~ LF	FURNISH AND INSTALL ELECTRICAL CABLE 7- CONDUCTOR NO. 14 AWG
225 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2- CONDUCTOR NO. 12 AWG TRAY CABLE
310 LF	SAWCUT FOR SIGNAL
1 EA	FURNISH AND INSTALL 15' LIGHTING ARM ON SIGNAL STRUCTURE
4 EA	10' BREAKAWAY PEDESTAL POLE
50 LF	1" GALVANIZED STEEL DETECTOR SLEEVE
[1] NEW 1 EA	METERED SERVICE PEDESTAL

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).

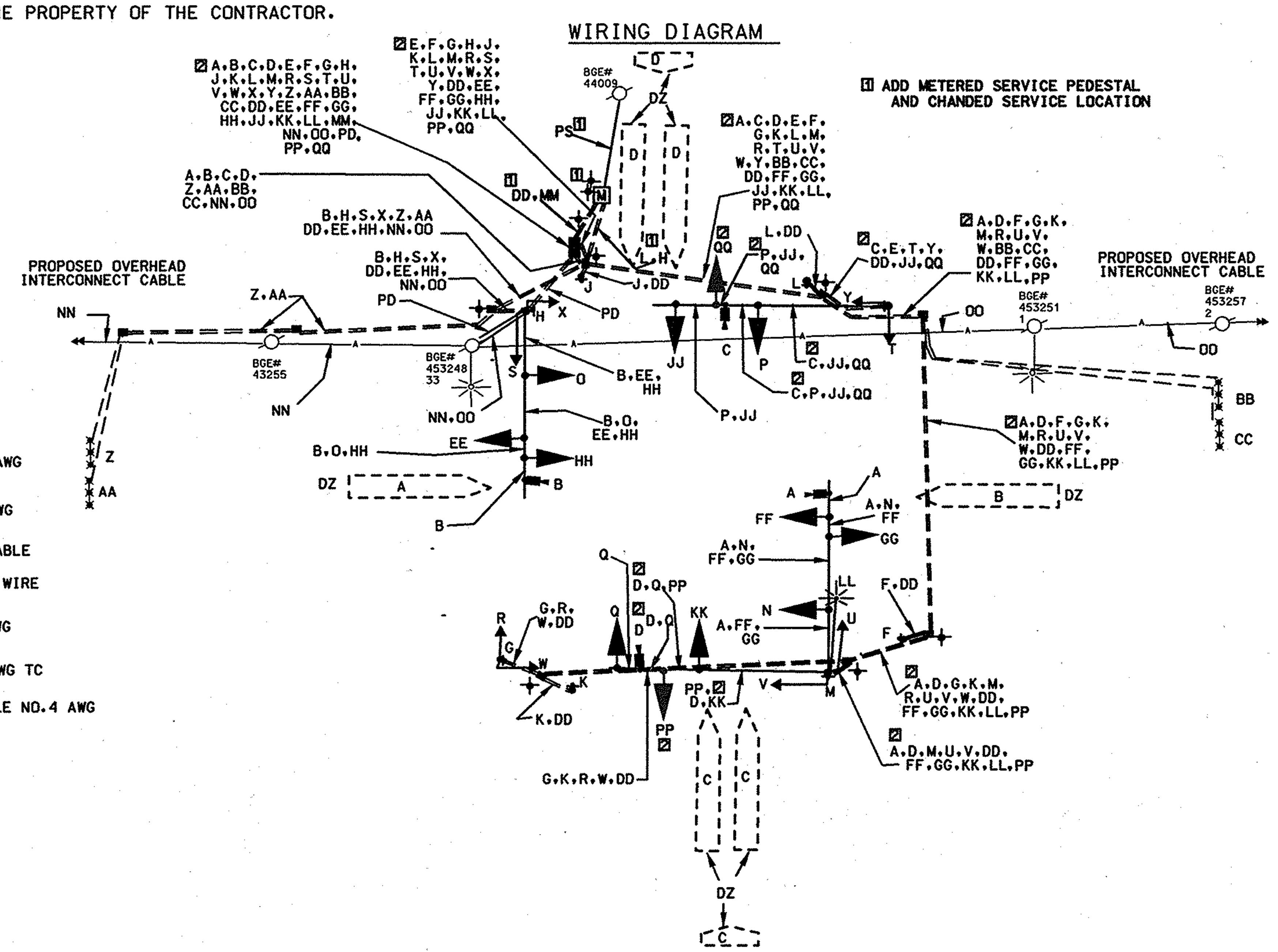
EQUIPMENT LIST "C"

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.

REDLINE REVISION
[1] /06

GREENLINE REVISION
[2] 5/15/07

WIRING DIAGRAM



WIRING KEY

A,B,C	CAMERA W/ 250' LEAD-IN TO CONTROLLER
D	CAMERA W/ 500' LEAD-IN TO CONTROLLER
E,F,G,H, J,K,L,M	2-CONDUCTOR ELECTRICAL CABLE NO. 14 AWG
N,O,P,Q,R,S, T,U,V,W,X,Y	5-CONDUCTOR ELECTRICAL CABLE NO.14 AWG
Z,AA,BB,CC	MIRCO LOOP PROBE WITH 500' LEAD-IN CABLE
DD	NO.6 AWG STRANDED BARE COPPER GROUND WIRE
EE,FF,GG, [2] HH,JJ,KK, PP,QQ	7-CONDUCTOR ELECTRICAL CABLE NO.14 AWG
[1] LL	2-CONDUCTOR ELECTRICAL CABLE NO.12 AWG TC
[1] MM	(3-WIRES) 1-CONDUCTOR ELECTRICAL CABLE NO.4 AWG
NN,OO	REMOVE EXISTING OVERHEAD I/C CABLE, INSTALL 12-PAIR INTERCONNECT CABLE
DZ	CAMERA DETECTOR ZONE
PD	PROPOSED PHONE DROP
[1] PS	PROPOSED SERVICE FEED
+	3/4" DIA x 10' LENGHT GROUND ROD
[1] [M]	METERED SERVICE PEDESTAL

PHASE CHART

[1] CHANGE

[2] (chart crossed out)

	1	2	3	4	5	6	7	8	9	10	11-14	15-18
Phase 1 & 5	◀G R	◀G R	R	◀G- R	◀G- R	R	R	R	R	R	DW	DW
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6											
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 & 5	R	R	R	◀G-G	◀G-G	G	R	R	R	R	DW	DW
5 Change	R	R	R	◀Y-G	◀Y-G	G	R	R	R	R	DW	DW
[1] ~~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~~
[1] Phase2&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
[1] 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
Phase4&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

[2]

	1	2	3	4	5	6	23	7	8	24	9	10	11-14	15-18
Phase 1 & 5	◀G R	◀G R	R	◀G- R	◀G R	R	R	R	R	R	R	R	DW	DW
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6													
Phase 1 & 6	◀G-G	◀G-G	G	R	R	R	R	R	R	R	R	R	DW	DW
1 Change	◀Y-G	◀Y-G	G	R	R	R	R	R	R	R	R	R	DW	DW
Phase 2 & 5	R	R	R	◀G-G	◀G-G	G	R	R	R	R	R	R	DW	DW
5 Change	R	R	R	◀Y-G	◀Y-G	G	R	R	R	R	R	R	DW	DW
Phase2&6	G	G	G	G	G	G	R	R	R	R	R	R	WK	DW
Ped. Clear Countdown	G	G	G	G	G	G	R	R	R	R	R	R	FL/DW	DW
2&6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW
Phase 3 & 7	R	R	R	R	R	R	◀G-R	◀G-R	R	◀G-R	◀G-R	R	DW	DW
3 & 7 Change	THE CONTROLLER MAY SKIP TO PHASES 3 & 8 OR 4 & 7 OR 4 & 8													
Phase 3 & 8	R	R	R	R	R	R	◀G-G	◀G-G	G	R	R	R	WK	DW
3 Change	R	R	R	R	R	R	◀Y-G	◀Y-G	G	R	R	R	FL/DW	DW
Phase 4 & 7	R	R	R	R	R	R	R	R	R	◀G-G	◀G-G	G	DW	DW
7 Change	R	R	R	R	R	R	R	R	R	◀Y-G	◀Y-G	G	DW	DW
Phase 4 & 8	R	R	R	R	R	R	G	G	G	G	G	G	DW	DW
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	DW	DW
Phase4&8 Alt.	R	R	R	R	R	R	G	G	G	G	G	G	DW	WK
Ped. Clear Countdown	R	R	R	R	R	R	G	G	G	G	G	G	DW	FL/DW
4&8 Alt. Change	R	R	R	R	R	R	Y	Y	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	FL/R	FL/R	DARK	DARK

TS 6 OF 10

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

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031
Phone: (410) 823-8070 Fax: (410) 823-2184

DRAWN BY:	EMM	F.A.P. NO.		TS NO.	SHEET NO.
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SCALE:	NONE	COUNTY:	BALTIMORE	T.I.M.S. NO.	20 OF 28
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