PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES A NEW TRAFFIC SIGNAL INSTALLATION IN CONJUNCTION WITH GEOMETRIC IMPROVEMENTS AT THE INTERSECTION OF ST PATRICKS DRIVE /ST PHILLIPS DRIVE. THIS TRAFFIC SIGNAL INSTALLATION INVOLVES NEW TRAFFIC SIGNAL POLES, TRAFFIC SIGNAL HEADS, COUNTDOWN PEDESTRIAN HEADS, APS PUSH BUTTON AND ASSOCIATED SIGNS, HANDBOXES, AND ETC. TO ACCOMODATE THE PROPOSED GEOMETRICS. ST PATRICKS DRIVE IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THIS INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL TRAFFIC ACTUATED MODE. ST PATRICK'S DRIVE WILL OPERATE WITH EXCLUSIVE/PERMISSIVE LEFT TURN PHASING. ST PHILLIPS DRIVE WILL OPERATE SPLIT PHASE.

III. CONTROLLER REQUIREMENTS

THE CONTROLLER ASSEMBLY WILL BE AN EIGHT PHASE FULLY ACTUATED NEMA CONTROLLER COMPLETE WITH THE SYSTEM PACKAGE, VIDEO INTERFACE EQUIPMENT, AND MISCELLANEOUS AUXILIARY EQUIPMENT AS REQUIRED. A NEMA SIZE "6" BASE MOUNTED CABINET IS TO BE USED. ALL INTERNAL CONTROLLER WIRING TO BE DONE BY SHA.

IV. SPECIAL NOTES

1. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: 104.00 – 104.00-30, 104.31-01 (FLAGGING OPERATION), 104.33-01 (SHOULDER WORK), 104.35 (LANE SHIFT), 104.32-01 (INTERSECTION FLAGGING OPERATION).

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL CABLE TO THE CABINET AND SHALL PROPERLY LABEL EACH CABLE.

3. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1+5	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 1+5 CHANGE	NOTE: PHASE 1 + 5 CAN CHANGE TO PHASE 1 + 6, PHASE 2 + 5, OR PHASE 2 + 6.															
PHASE 1+6	R	R	G	R	R	R	R	R	R	R	W	W	W	DW	DW	DW
PHASE 1 CHANGE	Y	Y	G	R	R	R	R	R	R	R	DW	W	W	DW	DW	DW
PHASE 2+5	R	R	R	R	G	R	R	R	R	R	W	DW	DW	W	DW	DW
PHASE 5 CHANGE	R	R	R	Y	G	R	R	R	R	R	W	DW	DW	W	DW	DW
PHASE 2+6	G	G	G	G	G	G	R	R	R	R	W	W	W	W	DW	DW
PHASE 2+6 PED CLEAR	G	G	G	G	G	G	R	R	R	R	FLDW	FLDW	FLDW	FLDW	DW	DW
PHASE 2+6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	R	R	R	G	DW	DW	DW	DW	DW	DW
PHASE 3 CHANGE	R	R	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	G	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 CHANGE	R	R	R	R	R	R	Y	Y	R	R	DW	DW	DW	DW	DW	DW
ALT PHASE 3	R	R	R	R	R	R	R	R	R	G	DW	DW	DW	DW	W	W
ALT PHASE 3 PED CLEAR	R	R	R	R	R	R	R	R	R	G	DW	DW	DW	DW	FLDW	FLDW
ALT PHASE 3 CHANGE	R	R	R	R	R	R	R	R	Y	Y	DW	DW	DW	DW	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	DARK	DARK	DARK	DARK

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CHARLES COUNTY ROADS DIVISION.

NONE

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOGUE CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY (OOTS) FOR APPROVAL.

QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
1	LS	104	MAINTENANCE OF TRAFFIC.
1	LS	108	MOBILIZATION.
6	CY	205	TEST PIT EXCAVATION.
1	EA	800	2 WIRE CENTRAL CONTROL UNIT (APS)
14	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION.
9	EA	804	FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER x 10 FT.
745	LF	804	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (No. 6 AWG)
60	LF	805	2 IN. SCHEDULE 80 RIGID PVC CONDUIT (BORED).
55	LF	805	2 IN. SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED).
920	LF	805	3 IN. SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED).
120	LF	805	3 IN. SCHEDULE 80 RIGID PVC CONDUIT (BORED).
170	LF	805	4 IN. SCHEDULE 80 RIGID PVC CONDUIT (BORED).
45	LF	805	4 IN. SCHEDULE 80 RIGID PVC CONDUIT (TRENCHED).
255	LF	805	4 IN. SCHEDULE 80 RIGID PVC CONDUIT (SLOTTED).
1	EA	807	FURNISH AND INSTALL 200 AMP METERED SERVICE PEDESTAL.
6	EA	801	FURNISH AND INSTALL SQUARE PERFORATED STEEL SIGN POST.
170	LF	549	FURNISH AND INSTALL 24 IN. WHITE HEAT-APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE.
1130	LF	549	FURNISH AND INSTALL 12 IN. WHITE HEAT-APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE.
1200	LF	810	ELECTRICAL CABLE – 2 CONDUCTOR (No. 14 AWG) (PUSH BUTTON)
490	LF	810	ELECTRICAL CABLE – 2 CONDUCTOR (No. 12 AWG) TRAY CABLE (LUMINAIRE)
1050	LF	810	ELECTRICAL CABLE – 5 CONDUCTOR (No. 14 AWG).
1150	LF	810	ELECTRICAL CABLE – 7 CONDUCTOR (No. 14 AWG).
5	EA	810	FURNISH AND INSTALL NON-INVASIVE MICROLOOP PROBE SET 1000' LEAD-IN.
12	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE.

EQUIPMENT LIST "B" CONTINUED

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOGUE CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY (OOTS) FOR APPROVAL.

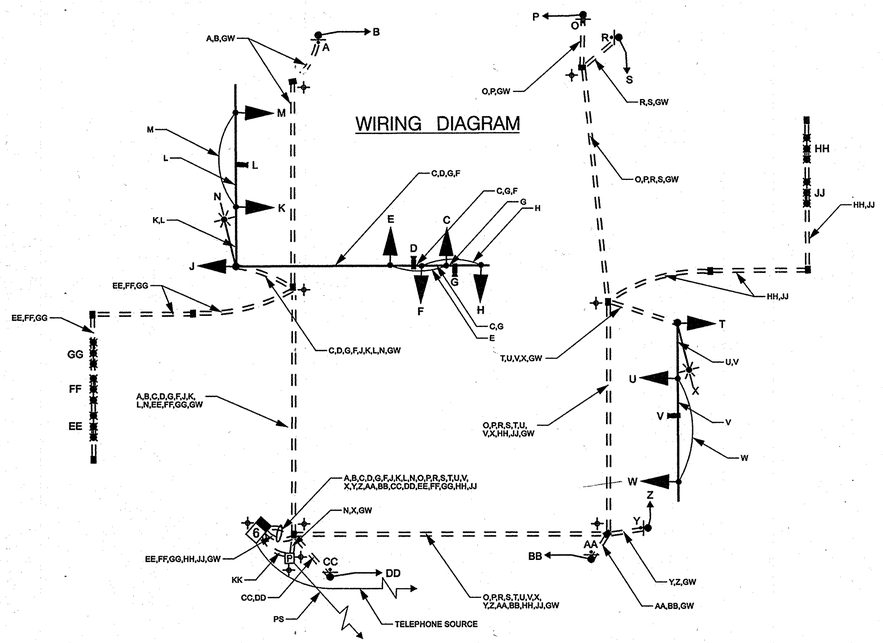
QUANTITY	UNITS	SPECIFICATION SECTION	DESCRIPTION
150	SF	813	FURNISH AND INSTALL SHEET ALUMINUM SIGNS CONSISTING OF: 2 EA. D-3(1) (DUAL-FACED) VAR. x 16" (MAST ARM MOUNTED) (ST PATRICKS DR) 4 EA. D-3(1) VAR. x 16" (MAST ARM MOUNTED) (ST PHILLIPS DR) 4 EA. D-3(1) VAR. x 16" (MAST ARM MOUNTED) (HIGHGATE PL) 2 EA. R4-7 30" x 36" (GROUND MOUNTED) (KEEP RIGHT) 6 EA. R10-3(1) 9" x 15" (PEDESTRIAN POLE MOUNTED) 4 EA. W3-3 30" x 30" (GROUND MOUNTED)
6	EA	860	FURNISH AND INSTALL 16 IN., ONE-WAY, ONE-SECTION (LED SYMBOLIC WALK/DON'T WALK & COUNTDOWN) BLACK-FACED ALUMINUM PEDESTRIAN SIGNAL HEAD PEDESTAL POLE MOUNTED.
6	EA	806	FURNISH AND INSTALL 8 IN. LED VEHICULAR TRAFFIC SIGNAL HEAD.
34	EA	806	FURNISH AND INSTALL 12 IN. LED VEHICULAR TRAFFIC SIGNAL HEAD.
1	EA	816	FURNISH AND INSTALL VIDEO DETECTION INTERFACE EQUIPMENT.
3	EA	816	FURNISH AND INSTALL 250 FT VIDEO DETECTION CABLE FOR DETECTION UNIT.
1	EA	816	FURNISH AND INSTALL 500 FT VIDEO DETECTION CABLE FOR DETECTION UNIT.
4	EA	816	FURNISH AND INSTALL VIDEO DETECTION CAMERA WITH ARM AND CLAMP.
1	EA	816	FURNISH AND INSTALL ECONOLITE EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET PER MDSHA SPECIFICATIONS. CABINET TO BE DELIVERED TO SHA SIGNAL SHOP FOR WIRING PRIOR TO INSTALLATION. CONTACT ED RODENHIZER 72 HOURS PRIOR TO DELIVERY.
6	EA	817	FURNISH AND INSTALL APS PUSH BUTTON AND SIGN.
6	EA	818	FURNISH AND INSTALL 10 FT PEDESTAL POLE.
1	EA	818	FURNISH AND INSTALL 27 FT STEEL POLE WITH SINGLE 50 FT MAST ARM.
1	EA	818	FURNISH AND INSTALL 27 FT STEEL POLE WITH TWIN 50 FT/70 FT MAST ARM.
75	SF	655	FURNISH AND INSTALL DETECTABLE WARNING SURFACE.
2	EA	806	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL.
2	EA	806	FURNISH AND INSTALL 20 FT LIGHTING ARM ON SIGNAL POLE STRUCTURE.

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO CHARLES COUNTY ROADS DIVISION.

THE SHA SIGNAL SHOP WILL REMOVE THE CONTROLLER AND ALL OTHER INTERNAL CABINET EQUIPMENT. ALL OTHER MATERIAL REMOVED IN ACCORDANCE WITH THESE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

WIRING DIAGRAM



MESSAGES FOR ACCESSIBLE PED SIGNALS

A. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CHARLES COUNTY ROADS DIVISION.

LEG	WAIT MESSAGE	WALK MESSAGE
NORTH	"WAIT TO CROSS ST PATRICKS AT ST PHILLIPS AND HIGHGATE."	*
SOUTH		
EAST	"WAIT TO CROSS HIGHGATE AT ST PATRICKS."	*
WEST	"WAIT TO CROSS ST PHILLIPS AT ST PATRICKS."	*

* RAPID TICK SHALL BE USED FOR ALL LEGS.

WIRING LEGEND

KK	1 CONDUCTOR ELECTRICAL CABLE (#4 AWG) – 3 RUNS
N,X	2 CONDUCTOR ELECTRICAL TRAY CABLE (#12 AWG) (LUMINAIRE)
A,O,R,Y,AA,CC	2 CONDUCTOR ELECTRICAL CABLE (#14 AWG) (PUSH BUTTON)
B,E,H,K,P,S,U,Z,BB,DD	5 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
C,F,J,M,T,W	7 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
D,G,L,V	VIDEO DETECTOR LEAD-IN
EE,FF,GG,HH,JJ	NON-INVASIVE MICROLOOP LEAD-IN CABLE
GW	STRANDED BARE COPPER GROUND WIRE (#6 AWG)
	GROUND ROD
PS	POWER SOURCE

PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT IN DISTRICT #5 ARE AS FOLLOWS:

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ASSISTANT DISTRICT ENGINEER – TRAFFIC
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MR. JOHN MAYS
ASSISTANT DISTRICT ENGINEER – MAINTENANCE
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THE POWER COMPANY REPRESENTATIVE IS:
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P.O. BOX 1937
HUGHESVILLE, MD 20637-1937
PHONE: 1(888) 440-3311

MR. JOE HORTY
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SIGNAL OPERATIONS SUPERVISOR
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BW407M84
ST. PATRICKD DR. @ ST.
PHILLIPS DR.
CHARLES CO.

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TRANSPORTATION, TRAFFIC AND PARKING CONSULTANTS
■ 5 Wirt Street SW, Suite 300, Leesburg, Virginia 20175
Phone: 703/ 443-1442 Facsimile: 703/ 443-1295
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STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

ST PATRICKS DRIVE AT ST PHILLIPS DRIVE

GENERAL INFORMATION SHEET

SCALE 1" = 20' DATE SEPT 2008 CONTRACT NO. BW996M82

DESIGNED BY DPN COUNTY CHARLES
DRAWN BY APV LOGMILE 08081001.26
CHECKED BY CT MF T.I.M.S. NO. I- 749
F.A.P. NO. TOD NO.

DRAWING NO. GI – 4629 SHEET NO. 2 OF 2

PLOTTED:
FILE: L:\Projects\3501 – 4000\3581 – St. Patrick Dr. & St. Phillips Dr. Signal – 0916 Electronic Submittal to SHA\ST PATRICK_ST PHILLIPS_GI.dgn

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BY: WELLS+ASSOCIATES, INC.