PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF NEW VIDEO DETECTION CAMERAS AND PEDESTRIAN PUSHBUTTONS AT THE INTERSECTION OF ARUNDEL MILLS CIRCLE AND WAL MART IN ANNE ARUNDEL COUNTY. ARUNDEL MILLS CIRCLE IS ASSUMED TO RUN IN AN EAST–WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA SIX–PHASE, FULLY–ACTUATED MODE WITH EXCLUSIVE–PERMISSIVE LEFT TURN PHASES FOR EASTBOUND AND WESTBOUND ARUNDEL MILLS CIRCLE.
THE ALTERNATE PEDESTRIAN PHASE FOR THE EAST AND WEST LEG OF ARUNDEL MILLS CIRCLE AND THE CONCURRENT PEDESTRIAN PHASE FOR THE NORTH AND SOUTH LEG OF WAL MART WILL REMAIN.

CONTROLLER REQUIREMENTS

THE EXISTING EIGHT–PHASE, FULLY–ACTUATED CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED.

APS NOTES

TO CROSS ARUNDEL MILLS CIRCLE

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS ARUNDEL MILLS AT SHOPPING CENTER ENTRANCE, WAIT."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE

TO CROSS SHOPPING CENTER ENTRANCE

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS SHOPPING CENTER ENTRANCE AT ARUNDEL MILLS, WAIT."
B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE

EQUIPMENT LIST "A"

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

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	DESCRIPTION
LS	MAINTENANCE OF TRAFFIC
LS	REMOVE AND DISPOSE OF MATERIAL AND EQUIPMENT
10 CY	TEST PIT EXCAVATION
875 LF	5 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
1180 LF	5 IN. YELLOW HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
715 LF	12 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
190 LF	24 IN. WHITE HEAT APPLIED WHITE THERMOPLASTIC PAVEMENT MARKINGS
1 EA	VIDEO INTERFACE EQUIPMENT
10 CY	CONCRETE FOUNDATION FOR SIGNAL
7 EA	10 FT. BREAKAWAY PEDESTAL POLE WITH PEDESTRIAN PUSHBUTTON AND SIGN
1 EA	10 FT. BREAKAWAY PEDESTAL POLE WITH MODIFIED BASE, PEDESTRIAN PUSHBUTTON AND SIGN
8 EA	CUT, CLEAN, GALVANIZE, AND CAP TRAFFIC SIGNAL STRUCTURE
1 EA	ADJUST HANDHOLE TO FINAL GRADE
50 LF	1 IN. FLEXIBLE, LIQUID–TIGHT CONDUIT – DETECTOR SLEEVE
1 EA	REMOVAL OF EXISTING PERMANENT PAVEMENT MARKING ARROW
37 EA	12 IN. LED SIGNAL HEAD SECTION
6 EA	8 IN. LED SIGNAL HEAD SECTION
8 EA	16 IN. LED COUNTDOWN PEDESTRIAN SIGNAL
1 EA	27 FT. MAST ARM POLE & 50 FT. MAST ARM
1 EA	27 FT. MAST ARM POLE & 60 FT. MAST ARM
1 EA	15 FT. LIGHTING ARM WITH 250 WATT HPSV LUMINAIRE
4 EA	ELECTRICAL HANDHOLE
105 LF	3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT – TRENCHED
425 LF	4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT – TRENCHED
260 LF	4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT– SLOTTED
1 EA	D–3(t) (VAR X 16") DUAL FACE SIGN -- MAST ARM MOUNT
1 EA	R3–5L (30" X 36") SIGN -- MAST ARM MOUNT
1 EA	R3–5R (30" X 36") SIGN – MAST ARM MOUNT
1 EA	R3–8A MOD. (78" X 30") SIGN – GROUND MOUNT
30 LF	4 IN. X 4 IN. WOOD SUPPORTS
4 EA	VIDEO DETECTION CAMERA AND CABLE
6 EA	MICRO–LOOP PROBE WITH LEAD IN CABLE
235 LF	SAWCUT FOR MICRO–LOOP PROBE
1205 LF	ELECTRICAL CABLE 2 – CONDUCTOR (NO. 14 A.W.G.)
310 LF	ELECTRICAL CABLE 2 – CONDUCTOR (NO. 12 A.W.G.) TRAY CABLE
1370 LF	ELECTRICAL CABLE 5 -- CONDUCTOR (NO. 14 A.W.G.)
1860 LF	ELECTRICAL CABLE 7 – CONDUCTOR (NO. 14 A.W.G.)
95 LF	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
945 LF	12 PAIR VOICE GRADE INTERCONNECT CABLE
2 EA	3/4 IN. X 10 FT. GROUND ROD
1 EA	2–WIRE CENTRAL CONTROL UNIT

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787–7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 5 ARE AS FOLLOWS:

MRS. KIM TRAN
ASSISTANT DISTRICT ENGINEER – TRAFFIC
(410) 841–1003

MR. MIKE HUBER
UTILITY ENGINEER
(410) 841–1039

MR. JOHN MAYS
ASSISTANT DISTRICT ENGINEER – MAINTENANCE
(410) 841–1002

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
(410) 787–7630

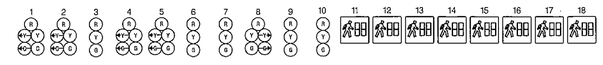
MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787–7631

MR. ED RODENHIZER
CHIEF – SIGNAL OPERATIONS SECTION
(410) 787–7652

MR. EUGENE BAILEY
TEAM LEADER SIGN OPERATIONS
(410) 787–7676

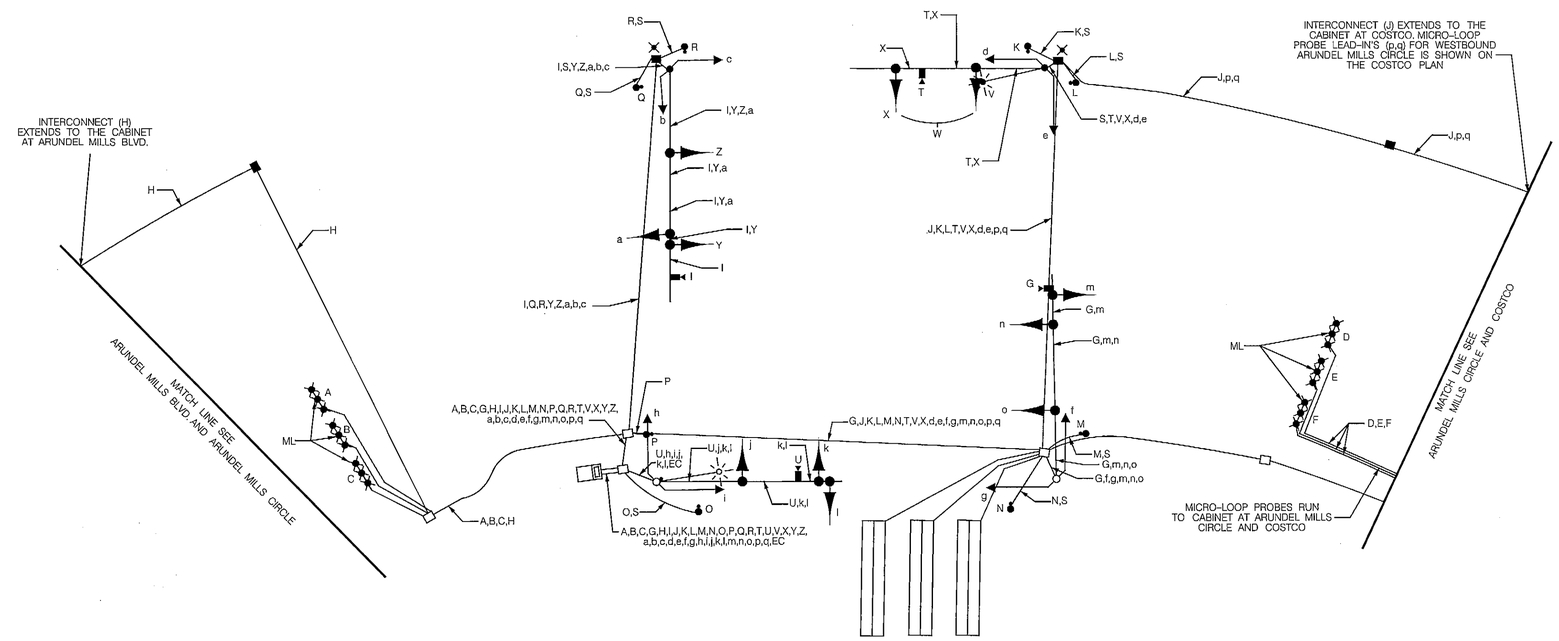
MR. MIKE STOCKER
SUPPLY OFFICE
SIGNAL SHOP WAREHOUSE
(410) 787–7668

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHASE 1 & 5	R ◄G—	R ◄G—	R	R ◄G—	R ◄G—	R	R	R —G►	R	R	DW	DW	DW	DW	DW	DW	DW	DW
1 & 5 CHANGE	PHASE 1 & 5 MAY CHANGE TO PHASE 1 & 6, 2 & 5, OR 2 & 6																	
PHASE 1 & 6	G ◄G—	G ◄G—	G	R	R	R	R	R —G►	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PED CLEAR	G ◄G—	G ◄G—	G	R	R	R	R	R —G►	R	R	DW	FL/DW	FL/DW	DW	DW	DW	DW	DW
1 & 6 CHANGE	Y ◄Y—	Y ◄Y—	Y	R	R	R	R	R —Y►	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	G ◄G—	G ◄G—	G	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PED CLEAR	R	R	R	G ◄G—	G ◄G—	G	R	R	R	R	FL/DW	DW	DW	FL/DW	DW	DW	DW	DW
2 & 5 CHANGE	R	R	R	Y ◄Y—	Y ◄Y—	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	FL/DW	FL/DW	FL/DW	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 & 8 ALT.	R	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEAR	R	R	R	R	R	R	G	G	G	G	DW	DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
4 & 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FLR	FLR	FLR	FLR	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A–F,p,q	MICRO–LOOP PROBE LEAD–IN
G,I,T,U	VIDEO DETECTION CABLE
K–R	2–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
S	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
V	2–CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
W,b–i	5–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
X–Z,a,j–o	7–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H,J	12 PAIR VOICE GRADE *INTERCONNECT CABLE*
ML	MICRO–LOOP PROBE
X	GROUND ROD

TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite B
Gambrills, MD 21054
(410) 923–7101
FAX: (410) 923–6473
EMAIL: TRAFFIC@TRAFFIC–CONCEPTS.COM

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

ARUNDEL MILLS CIRCLE AND WAL MART

HANOVER, MARYLAND

GENERAL INFORMATION PLAN

SCALE	NONE	DATE	7–22–11
CONTRACT NO.	BW996M82		
DESIGNED BY	J.K. SCHMID	COUNTY	ANNE ARUNDEL
DRAWN BY	J.K. SCHMID	LOGMILE	02550101.83
CHECKED BY	K. SCHMID	T.I.M.S. NO.	K–976
F.A.P. NO.	N/A	TOD NO.	
DRAWING NO.	TS—3962 A GI	SHEET NO.	2 OF 2

FILE PATH: M:\2400\2475\Signals\Arundel Mills Cr@Wal-Mart\signal v7.dgn
DATE: Wednesday, August 03, 2011 AT 09:12 AM

DRILL HOLES
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