F H W A REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	MD			

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION TO THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 3 AND WAUGH CHAPEL ROAD IN ANNE ARUNDEL COUNTY. MD 3 IS ASSUMED TO RUN IN A NORTH–SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX–PHASE, FULL–TRAFFIC–ACTUATED MODE, WITH THE MD 3 APPROACHES OPERATING CONCURRENTLY AND THE WAUGH CHAPEL ROAD APPROACHES OPERATING SEPARATELY. EXCLUSIVE LEFT TURN PHASES WILL BE PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 3

A FIREHOUSE PRE–EMPTION PHASE CURRENTLY EXISTS FOR THE WESTBOUND WAUGH CHAPEL ROAD APPROACH.

THE INTERSECTION IS CURRENTLY INTERCONNECTED TO THE INTERSECTION OF MD 3 AND JOHNS HOPKINS ROAD.

NEW INTERCONNECT CABLE WILL BE INSTALLED BETWEEN THIS SIGNAL AND THE PROPOSED SIGNAL WEST ON WAUGH CHAPEL ROAD

CONTROLLER REQUIREMENTS

THE EXISTING FULL–TRAFFIC–ACTUATED, EIGHT–PHASE CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED .INSTALL TWO, FOUR–CHANNEL TIME–DELAY–OUTPUT LOOP DETECTOR AMPLIFIERS.

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2001	2 C.Y.	TEST PIT EXCAVATION
8001	6 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8003	1 EACH	FURNISH AND INSTALL 14 FT. BREAKAWAY PEDESTAL POLE
8017	8 EACH	FURNISH AND INSTALL MICRO–LOOP PROBE SET WITH 1000 FT. LEAD–IN
8021	1150 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8022	30 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT – GALVANIZED SLEEVE
8023	70 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON–METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	500 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT – TRENCHED
8025	200 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT – SLOTTED
8027	530 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT – TRENCHED
8028	680 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT – SLOTTED
8031	130 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT – SLOTTED
8033	13 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8034	5 EACH	FURNISH AND INSTALL GROUND ROD – 3/4 IN. DIAMETER X 10 FT. LENGTH
8040	3150 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	2550 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE– 2 CONDUCTOR ALUMINUM SHIELDED (NO. 14 A.W.G.)
8044	150 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE– 5 CONDUCTOR (NO. 14 A.W.G.)
8045	3150 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE– 7 CONDUCTOR (NO. 14 A.W.G.)
8046	440 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE– 2 CONDUCTOR (NO. 12 A.W.G.)
8049	1040 L.F.	FURNISH AND INSTALL STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
8056	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8057	1 EACH	FURNISH AND INSTALL LIGHTING BRACKET FOR TRAFFIC SIGNAL STRUCTURE –1 EACH – 15 FT. LENGTH
8058	1 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION – 12 IN. BELOW GRADE
8061	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT

EQUIPMENT LIST "B"

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

ITEM NO.	QUANTITY	DESCRIPTION
8064	1 EACH	USE EXISTING DISK AND AS–BUILT TRAFFIC CONTROL DEVICE
8065	4 EACH	INSTALL CONDUIT BEND IN EXISTING BASE
8085	1 EACH	FURNISH AND INSTALL MAST ARM POLE AND TWIN 50 FT/60 FT MAST ARMS
---	6 EACH	12 IN., ONE–WAY, THREE–SECTION (R,Y,G,) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS.
---	1 EACH	12 IN., ONE–WAY, THREE–SECTION (R,Y,GA) OPTICALLY PROGRAMMED SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR PEDESTAL MOUNTING AND TUNNEL VISORS
---	4 EACH	12 IN., ONE–WAY, THREE–SECTION (R,Y,G) OPTICALLY PROGRAMMED TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS
---	4 EACH	12 IN., ONE–WAY, FOUR–SECTION (R,Y,G,GA) TRAFFIC SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR MAST ARM MOUNTING AND TUNNEL VISORS
---	5 EACH	RELOCATE EXISTING OVERHEAD SIGN
---	2 EACH	FURNISH AND INSTALL 4–CHANNEL TIME–DELAY–OUTPUT LOOP DETECTOR AMPLIFIER
---	1 EACH	12 IN., ONE–WAY, THREE–SECTION (R,Y,GA) OPTICALLY PROGRAMMED SIGNAL HEAD WITH ADJUSTABLE BRACKET FOR POLE MOUNTING AND TUNNEL VISORS
---	1 EACH	REMOVE AND SALVAGE POLE AND MAST ARM

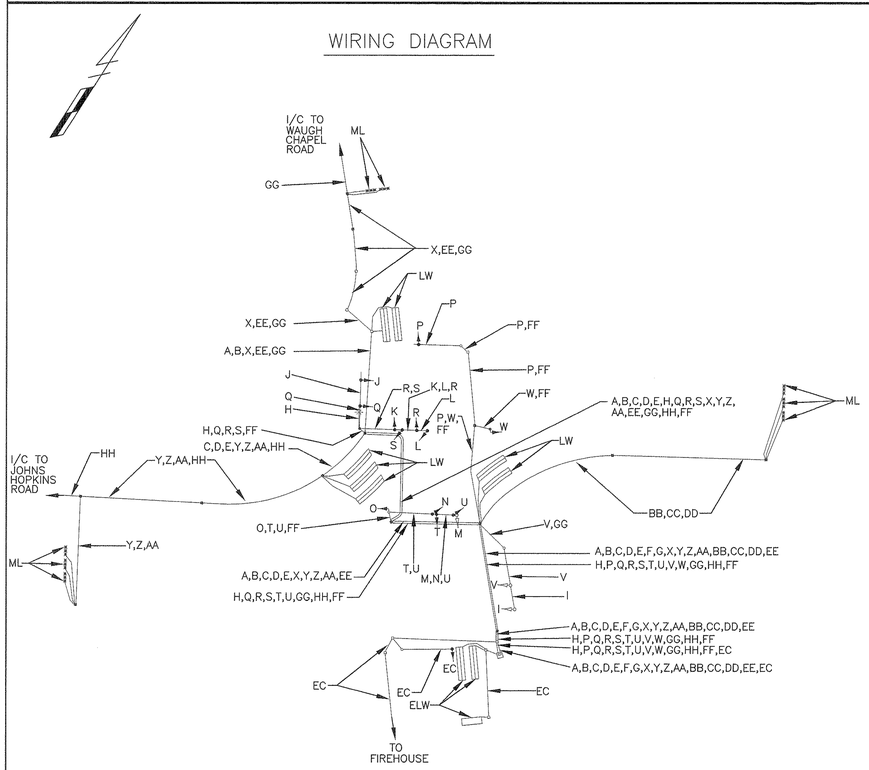
EQUIPMENT LIST "B"

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

(EQUIPMENT SHOWN ON THE INTERCONNECT PLAN AND NOT INCLUDED IN THE SIGNALIZATION QUANTITIES)

8027	950 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT – TRENCHED
8029	50 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT – BORED
8033	3 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8039	3300 L.F.	FURNISH AND INSTALL 12 PAIR COMMUNICATION CABLE, JELLY–FILLED (UNDERGROUND)
---	3 EACH	RESET EXISTING HANDHOLE FRAME AND COVER
---	780 L.F.	REMOVE AND REINSTALL EXISTING INTERCONNECT CABLE

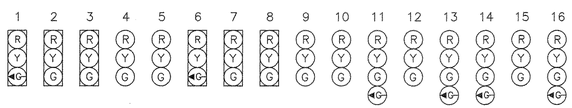
WIRING DIAGRAM



WIRING KEY

A B C D E F G	2–CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) NO. 14 A.W.G.
H	2–CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE
I J K L M N	5–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
O P Q R S T U V W	7–CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
X Y,Z,AA BB,CC DD,EE	MICRO–LOOP PROBE LEAD–IN
FF	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
GG HH	12 PAIR VOICE GRADE INTERCONNECT CABLE
ML	MICRO–LOOP PROBE
LW	LOOP WIRE (NO. 14 A.W.G.)
ELW	EXISTING LOOP WIRE
EC	EXISTING CABLE

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 + 5	G	G	G	R	R	G	G	G	R	R	R	R	R	R	R	R
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, 2 + 5 OR 2 + 6															
PHASE 2 + 5	R	R	R	R	R	G	G	G	G	G	R	R	R	R	R	R
2 + 5 CHANGE	R	R	R	R	R	Y	Y	Y	G	G	R	R	R	R	R	R
PHASE 1 + 6	G	G	G	G	G	R	R	R	R	R	R	R	R	R	R	R
1 + 6 CHANGE	Y	Y	Y	G	G	R	R	R	R	R	R	R	R	R	R	R
PHASE 2 + 6	R	R	R	G	G	R	R	R	G	G	R	R	R	R	R	R
2 + 6 CHANGE	R	R	R	Y	Y	R	R	R	Y	Y	R	R	R	R	R	R
PHASE 3	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G
3 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y
PHASE 4	R	R	R	R	R	R	R	R	R	R	G	G	G	R	R	R
4 CHANGE	R	R	R	R	R	R	R	R	R	R	Y	Y	Y	R	R	R
PRE–EMPTION	R	R	R	R	R	R	R	R	R	R	R	R	R	G	G	G
CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	Y	Y	Y
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

TRAFFIC CONCEPTS, INC.

Brightview Business Center
8258 Veterans Highway
Suite 19B
Millersville, MD 21108
(410) 987–0427

REVISIONS	APPROVALS	REVISIONS
	ASSISTANT DIVISION CHIEF	
	ASST. DISTRICT ENGINEER, TRAFFIC	
	CHIEF, TRAFFIC ENGINEERING DESIGN DIV.	
	DIRECTOR, OFFICE OF TRAFFIC AND SAFETY	

MARYLAND DOT – STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

MD 3 AND WAUGH CHAPEL ROAD

DATE: 7–23–99	DRAWN BY: T. ZAYDEL	F.A.P. NO.		PLAN SHEET NO.:	SHEET NO.
SCALE: NONE	DESIGNED BY: T. ZAYDEL	S.H.A. NO.	BW996M82	TS–1515K GI	2 OF 2
APPROVED BY:	CHECKED BY: K. SCHMID	COUNTY	ANNE ARUNDEL		