PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT US 40 AND US 15 NORTH BOUND RAMP IN FREDERICK COUNTY.

US 40 IS ASSUMED TO RUN IN A EAST–WEST DIRECTION.

THE INTERSECTION WILL OPERATE IN A NEMA TWO–PHASE , FULL–ACTUATED MODE. THE EAST BOUND US 40 LEFT TURN WILL FLASH RED UNTIL VEHICLES ACTUATE THE LEFT TURN SIGNALS. AT THAT TIME THE SIGNALS WILL SHOW GREEN ARROWS AND THE US 40 WEST BOUND SIGNAL HEADS WILL TURN RED

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	DESCRIPTION
9086	1 EA	CABINET W/TELEMETRY (SYSTEM CAB), SIZE 6
9087	1 EA	CONTROLLER ASC II W/TELEMETRY
9089	15 SF	FLAT SHEET ALUM SIGN–YELLOW, ORANGE, & SILVER (SF)
9090	15 SF	FLAT SHEET ALUM. SIGN–BLUE OR GREEN (SF)
9090	9 SF	FLAT SHEET ALUM. SIGN–BLUE OR GREEN (SF)
9000	1 EA	27 FT STEEL POLE WITH 64 FT MAST ARM
9000	1 EA	14 FT PEDESTAL POLE

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

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EA	MAINTENANCE OF TRAFFIC
2001	1 CY	TEST PIT EXCAVATION
5004	50 LF	24 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
8016	2 EA	FURNISH AND INSTALL MICROLOP PROBE SET WITH 500 FOOT LEAD–IN
8020	1 EA	INSTALL CONTROLLER AND CABINET – BASE MOUNT
8021	185 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8023	15 LF	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON–METALLIC CONDUIT FOR DETECTOR SLEEVE
8024	10 LF	FURNISH AND INSTALL 2 INCH SCHEDULE 80 RIGID PVC CONDUIT – TRENCHED
8027	950 LF	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT – TRENCHED
8028	140 LF	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT – SLOTTED
8029	140 LF	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT – BORED
8033	9 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8034	3 EA	FURNISH AND INSTALL GROUND ROD – 3/4 INCH DIAMETER X 10 FOOT LENGTH
8039	750 LF	FURNISH AND INSTALL 12 PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
8041	450 LF	FURNISH AND INSTALL ELECTRICAL CABLE – 2 CONDUCTOR (ALUMINUM SHIELDED)
8044	200 LF	FURNISH AND INSTALL ELECTRICAL CABLE – 5 CONDUCTOR (NO 14 AWG)
8045	125 LF	FURNISH AND INSTALL ELECTRICAL CABLE – 7 CONDUCTOR (NO 14 AWG)
8046	75 LF	FURNISH AND INSTALL ELECTRICAL CABLE – 2 CONDUCTOR (NO 12 AWG) TYPE IN. TC IN.
8047	50 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1–CONDUCTOR NO. 8 AWG– THHN/THWN
8048	20 LF	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8049	150 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1–CONDUCTOR NO. 4 AWG– THHN/THWN
8051	15 LF	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 INCH X 6 INCH
8053	9 SF	INSTALL OVERHEAD SIGN
8055	1 EA	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8056	1 EA	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8064	30 LF	FURNISH AND INSTALL 2 INCH ELECTRICAL CONDUIT SCHEDULE 80 PVC RISER
8066	1 EA	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V, 1 PHASE 3 WIRE SYSTEM)
8072	1 EA	INSTALL PEDESTAL POLE ANY SIZE
8074	1 EA	INSTALL MAST ARM POLE AND 64 FOOT MAST ARM
8084	15 EA	FURNISH AND INSTALL 12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION

PROJECT CONTACTS

THE CONTACT PERSONS ARE AS FOLLOWS:

MR. ROBERT FISHER
DISTRICT ENGINEER
PHONE: 301 624–8140

MR. JOHN CONCANNON
ASSISTANT DISTRICT ENGINEER–TRAFFIC
PHONE: 301 624–8141

MR. LEON KERNS/JOHN CONCANNON
ACTING ASSISTANT DISTRICT
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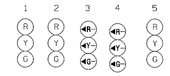
ACTING DISTRICT ENGINEER–UTILITIES
PHONE: 301 624–8136

MR. RICHARD L. DAFF
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: 301 624–7630

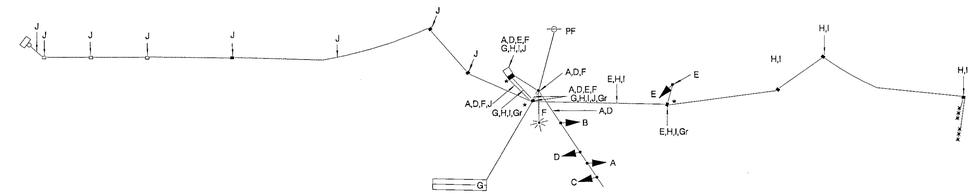
PHASE CHART



Phase 1	R	R	◄G–	◄G–	G	↑
1 Change	R	R	◄Y–	◄Y–	Y	↗
Phase 2	G	G	◄FL/R–	◄ FL/R–	R	←
2 Change	Y	Y	◄FL/R–	◄FL/R–	R	←
Flashing Operation	FL/Y	FL/Y	FL/R	FL/R	FL/R	← ↑

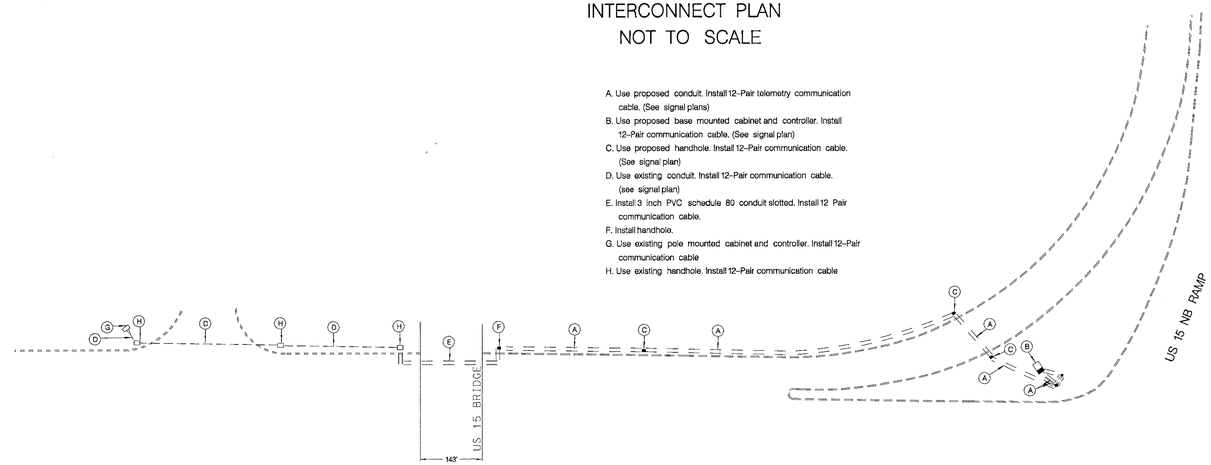
WIRING DIAGRAM

A,C,E – 7 CONDUCTOR ELECTRICAL CABLE NO. 14 AWG
D,B – 5 CONDUCTOR ELECTRICAL CABLE NO. 14 AWG
F – 2 CONDUCTOR NO 12. AWG COPPER TYPE TC
G– 2 CONDUCTOR ELECTRICAL CABLE NO. 14 (ALUMINUM SHIELDED)
H, I– MICRO–LOOP PROBE
J– 12–PAIR COMMINCATION CABLE
* GROUND ROD – NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
PF– 1 CONDUCTOR ELECTRICAL CABLE NO. 4 AWG.



INTERCONNECT PLAN
NOT TO SCALE

A. Use proposed conduit. Install 12–Pair telemetry communication cable. (See signal plans)
B. Use proposed base mounted cabinet and controller. Install 12–Pair communication cable. (See signal plan)
C. Use proposed handhole. Install 12–Pair communication cable. (See signal plan)
D. Use existing conduit. Install 12–Pair communication cable. (see signal plan)
E. Install 3 inch PVC schedule 80 conduit slotted. Install 12 Pair communication cable.
F. Install handhole.
G. Use existing pole mounted cabinet and controller. Install 12–Pair communication cable
H. Use existing handhole. Install 12–Pair communication cable



REVISIONS	APPROVALS
	TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
	ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
US 40 AND US 15

DRAWN BY: D. DICKERSON	F.A.P. NO.		TS NO. 4044	SHEET NO.
CHECKED BY:	S.H.A. NO.	XX1005785		
SCALE: 1" = 20'	COUNTY:	FREDERICK	T.I.M.S. NO. E037	2 OF 2
DATE: 102000	LOG MILE:	10040013.79		