PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE CONSTRUCTION OF A NEW FOUR LEG INTERSECTION OF US ROUTE 113 (WORCESTER HWY) AND PEERLESS AND SHINGLE LANDING ROADS.

ALL UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE BECAUSE THEY MAY BE MODIFIED PRIOR TO AND DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES 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 EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.

INTERSECTION OPERATION

THE INTERSECTION IS TO OPERATE IN A NEMA SIX PHASE FULLY TRAFFIC ACTUATED MODE. THERE WILL BE EXCLUSIVE/PERMITTED LEFT TURNS FOR US 113. PEERLESS AND SHINGLE LANDING ROADS WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

INSTALL AN EIGHT PHASE, FULLY TRAFFIC ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH FOUR FOUR-CHANNEL RACK MOUNTED LOOP DETECTOR AMPLIFIER, INTERSECTION MONITOR AND TELEMETRY MODULE WITH ALL THE NECESSARY HARNESSES AND EQUIPMENT TO BE HOUSED IN A NEMA SIZE 6 BASE MOUNTED CABINET.

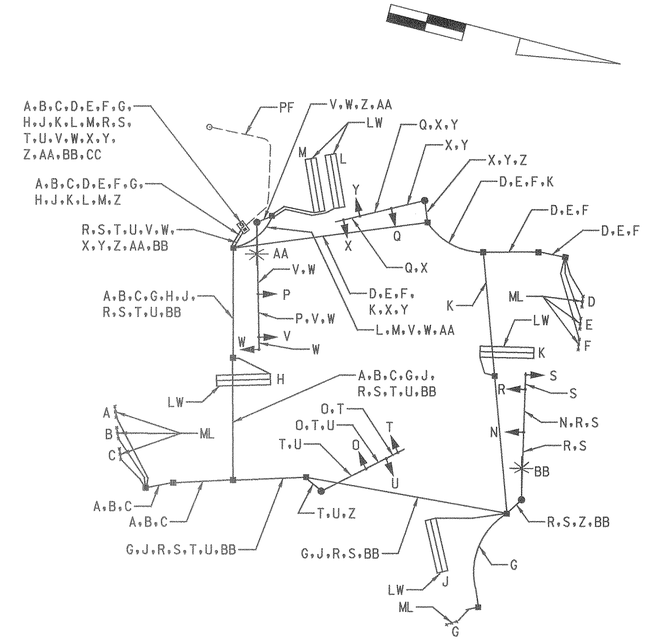
EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	DESCRIPTION
973023	245 S.F.	SHEET ALUMINUM SIGN - 4 EACH R10-12 (36" x 42") - MAST ARM MOUNT - 1 EACH R3-5L (30" x 36") - MAST ARM MOUNT - 1 EACH R3-6R (30" x 36") - MAST ARM MOUNT - 1 EACH W9-2(4) (30" x 42") - MAST ARM MOUNT - 4 EACH D3-2 DUAL FACE (VAR. x 16") - MAST ARM MOUNTED - 2 EACH ASSOCIATED SHIELD ASSEMBLY (45" x 75") - POLE MOUNTED - 2 EACH ASSOCIATED SHIELD ASSEMBLY (30" x 51") - POLE MOUNTED - 2 EACH W3-3 (36" x 36") AND D95-25 (24" x 24") WITH ADVISORY FLAGS - GROUND MOUNTED - 2 EACH W3-3 (48" x 48") AND D95-25 (24" x 24") WITH ADVISORY FLAGS - GROUND MOUNTED
900000	3 EA.	FOUR CHANNEL LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)
900000	1 EA.	CONTROLLER ASC II W/TELEMETRY
900000	1 EA.	CABINET INTERSECTION MONITOR, SIZE 6

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

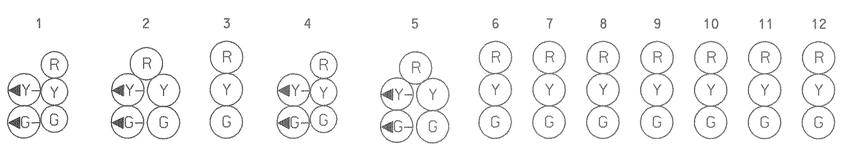
ITEM NO.	QUANTITY	DESCRIPTION
203030	5 C.Y.	TEST PIT EXCAVATION
585624	155 L.F.	INSTALL 24" WHITE HEAT APPLIED THERMOPLASTIC PERMANENT PAVEMENT MARKING
801004	16 C.Y.	FURNISH & INSTALL CONCRETE FOR SIGNAL FOUNDATION
801106	65 L.F.	FURNISH & INSTALL 4" x 6" WOOD SIGN SUPPORTS
802501	50 L.F.	FURNISH & INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805160	120 L.F.	FURNISH & INSTALL 1" LIQUID TIGHT NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
810010	120 L.F.	FURNISH & INSTALL ELECTRICAL CABLE - 1 CONDUCTOR (NO 4 AWG THHN/THWN)
811011	13 EA.	FURNISH & INSTALL ELECTRICAL HANDHOLE
813014	135 S.F.	INSTALL SHEET ALUMINUM SIGN - GROUND MOUNT
813015	110 S.F.	INSTALL SHEET ALUMINUM SIGN - OVERHEAD MOUNT
837001	5 EA.	FURNISH & INSTALL GROUND ROD - 3/4 IN. DIA. X 10 FT. LENGTH
838003	1 EA.	FURNISH & INSTALL CONTROL & DIST. EQUIP. (120V/240V, 1 PHASE, 3 WIRE SYSTEM)
861104	800 L.F.	FURNISH & INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861107	150 L.F.	FURNISH & INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO 14 AWG)
861108	2300 L.F.	FURNISH & INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO 14 AWG)
861116	500 L.F.	FURNISH & INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO 12 AWG)
862101	2800 L.F.	FURNISH & INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
862102	900 L.F.	FURNISH & INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
866104	2 EA.	FURNISH & INSTALL 20 FT. LIGHTING ARM ON SIGNAL STRUCTURE
871202	1 EA.	INSTALL CONTROLLER AND CABINET - BASE MOUNT
800000	38 EA.	FURNISH & INSTALL 12 INCH POLYCARBONATE VEHICULAR TRAFFIC SIGNAL HEAD - MAST ARM MOUNT
800000	6 EA.	FURNISH & INSTALL 8 INCH POLYCARBONATE VEHICULAR TRAFFIC SIGNAL HEAD - MAST ARM MOUNT
800000	920 L.F.	FURNISH & INSTALL 3 IN. SCHEDULE 80 PVC CONDUIT - TRENCHED.
800000	600 L.F.	FURNISH & INSTALL 4 IN. SCHEDULE 80 PVC CONDUIT - TRENCHED
800000	2 EA.	FURNISH & INSTALL 250 WATT HPS VAPOR LUMINAIRE WITH PHOTO-CELL
800000	2 EA.	FURNISH & INSTALL 27 FT. STEEL MAST ARM POLE WITH SINGLE 70 FT. MAST ARM
800000	2 EA.	FURNISH & INSTALL 21 FT. STEEL MAST ARM POLE WITH SINGLE 50 FT. MAST ARM
800000	7 EA.	FURNISH & INSTALL MICROLOOP PROBE SET WITH 1000 FT. LEAD-IN



WIRING DIAGRAM

A B C D E F G	MICROLOOP PROBE LEAD-IN
H J K L M	2-CONDUCTOR CABLE (NO 14 AWG) ALUMINUM SHIELDED
N O P Q	5-CONDUCTOR CABLE (NO 14 AWG)
R S T U V W X Y	7-CONDUCTOR CABLE (NO 14 AWG)
AA BB	2-CONDUCTOR CABLE TYPE T/C (NO 12 AWG)
ML	MICROLOOP PROBE
LW	LOOP WIRE (NO 14 AWG)
Z	BARE COPPER STRANDED GROUND WIRE (NO 6 AWG)
CC	1-WIRE #4 AWG FOR TRAFFIC SIGNAL ELECTRICAL SERVICE
PF	PROPOSED UNDERGROUND ELECTRICAL SERVICE BY DELMARVA POWER & LIGHT

PHASE DIAGRAM



	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1&5	◀G-R	◀G-R	R	◀G-R	◀G-R	R	R	R	R	R	R	R
1&5 CHANGE	THE CONTROLLER MAY SKIP TO PHASE 1&6, PHASE 2&5 OR PHASE 2&6											
PHASE 1&6	◀G-G	◀G-G	G	R	R	R	R	R	R	R	R	R
1 CHANGE	◀Y-G	◀Y-G	G	R	R	R	R	R	R	R	R	R
PHASE 2&5	R	R	R	◀G-G	◀G-G	G	R	R	R	R	R	R
5 CHANGE	R	R	R	◀Y-G	◀Y-G	G	R	R	R	R	R	R
PHASE 2&6	G	G	G	G	G	G	R	R	R	R	R	R
2&6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 4&8	R	R	R	R	R	R	G	G	G	G	G	G
4&8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y
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

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REVISIONS	APPROVALS
	TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
	ASST. 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

US 113 (WORCESTER HIGHWAY) AND PEERLESS / SHINGLE LANDING ROADS

DRAWN BY: M. SMOKER	F.A.P. NO. SEE TITLE SHEET	GI NO. 3998	SHEET NO.
CHECKED BY: J. MALINOWSKI	S.H.A. NO. W0738517O		
SCALE: 1"=20'	COUNTY: WORCESTER	T.I.M.S. NO. D 556	275 OF 335
DATE: 05-21-2000	LOG MILE:		