

**PROJECT DESCRIPTION**

**GENERAL**

THIS PORTION OF THE PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 355 (MARKET STREET) AND MONOCACY BOULEVARD/NEW DESIGN ROAD AND THE INSTALLATION OF TWO NEW TRAFFIC CONTROL SIGNALS AND STREET LIGHTING AT THE INTERSECTIONS OF SOUTH STREET AND MONOCACY BOULEVARD AND MD 85 AND I-70 RAMP IN FREDERICK COUNTY. MD 355 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION. MD 85 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

**INTERSECTION OPERATION**

**1. MD355 AND MONOCACY BOULEVARD/NEW DESIGN ROAD**

**STAGE 1 - 4b**

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 355 APPROACHES OPERATING CONCURRENTLY AND THE MONOCACY BLVD./NEW DESIGN ROAD APPROACHES OPERATING SPLIT.

EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 355 APPROACHES.

EMERGENCY PRE-EMPTION IS PROVIDED FOR THE SOUTHBOUND MD 355 APPROACH.

**STAGE 5g - ULTIMATE**

THE INTERSECTION WILL OPERATE IN A NEMA EIGHT-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 355 APPROACHES OPERATING CONCURRENTLY AND THE MONOCACY BLVD./NEW DESIGN ROAD APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 355 APPROACHES.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE MONOCACY BLVD./NEW DESIGN ROAD APPROACHES.

EMERGENCY PRE-EMPTION IS PROVIDED FOR THE SOUTHBOUND MD 355 APPROACH.

**2. SOUTH STREET AND MONOCACY BOULEVARD**

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE SOUTH STREET APPROACHES OPERATING CONCURRENTLY AND THE MONOCACY BLVD. ROAD APPROACH OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE SOUTH STREET APPROACHES.

EMERGENCY TRAIN PRE-EMPTION IS PROVIDED FOR THE NORTHBOUND AND SOUTHBOUND SOUTH ST. APPROACHES.

**3. MD 85 AND I-70 RAMP**

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 85 APPROACHES OPERATING CONCURRENTLY AND THE I-70 RAMP APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR NORTHBOUND AND SOUTHBOUND MD 85 APPROACHES.

**CONTROLLER REQUIREMENTS**

**1. MD 355 AND MONOCACY BOULEVARD/NEW DESIGN ROAD**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE AND TWO (2), FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

**2. SOUTH STREET AND MONOCACY BOULEVARD**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER WITH SYSTEM PACKAGE AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

**3. MD 85 AND I-70 RAMP**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER WITH SYSTEM PACKAGE AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

**PHONE DROP**

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION AT EACH INTERSECTION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. JOHN CONCANNON  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (301) 624-8140/8141

MR. JAMES BUCKALEW  
DISTRICT UTILITY ENGINEER  
PHONE: (301) 624-8115/8116

MR. DAVE COYNE  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (301) 624-8105/8106

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

**EQUIPMENT LIST "B"**

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

ITEM NO.	QUANTITY	DESCRIPTION
120500	LUMP SUM	MAINTENANCE OF TRAFFIC
114245	500 L.F.	24 INCH WHITE REMOVABLE PREFORMED PAVEMENT LINE MARKING
203030	15 C.Y.	TEST PIT EXCAVATION
585620	1600 L.F.	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585624	525 L.F.	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
800000	2 EACH	15 FT. MAST ARM
800000	2 EACH	BLANKOUT SIGN
800000	16 EACH	RELOCATE EXISTING OVERHEAD SIGNS
800000	LUMP SUM	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT
<del>800000</del>	<del>2 EACH</del>	<del>CONTROL CABLE, 900 FT., VIDEO DETECTION CAMERA TO CONTROLLER</del>
<del>800000</del>	<del>1800 L.F.</del>	<del>ELECTRICAL CABLE - 5 CONDUCTOR (NO. 12 A.W.G.)</del>
<del>800000</del>	<del>1800 L.F.</del>	<del>5 PAIR COMMUNICATION CABLE</del>
<del>800000</del>	<del>2 EACH</del>	<del>VIDEO DETECTION JUNCTION BOX</del>
<del>801004</del>	<del>61 C.Y.</del>	<del>CONCRETE FOR SIGNAL FOUNDATION</del>
<del>801104</del>	<del>50 L.F.</del>	<del>WOOD SIGN SUPPORTS 4 INCH x 4 INCH</del>
<del>801106</del>	<del>36 L.F.</del>	<del>WOOD SIGN SUPPORTS 4 INCH x 6 INCH</del>
<del>802501</del>	<del>1870 L.F.</del>	<del>NO. 6 AWG STRANDED BARE COPPER GROUND WIRE</del>
<del>805115</del>	<del>60 L.F.</del>	<del>3 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED</del>
<del>805118</del>	<del>800 L.F.</del>	<del>4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED</del>
<del>805125</del>	<del>400 L.F.</del>	<del>2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED</del>
<del>805135</del>	<del>3200 L.F.</del>	<del>3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED</del>
<del>805140</del>	<del>800 L.F.</del>	<del>4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED</del>
<del>805160</del>	<del>200 L.F.</del>	<del>1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE</del>
<del>810010</del>	<del>255 L.F.</del>	<del>ELECTRICAL CABLE 1-CONDUCTOR NO. 4 AWG-THHN/THWN</del>
<del>810550</del>	<del>7 EACH</del>	<del>MICROLOOP PROBE, 500 FOOT LEAD IN CABLE</del>
<del>810555</del>	<del>5 EACH</del>	<del>MICROLOOP PROBE, 1000 FOOT LEAD IN CABLE</del>
<del>811001</del>	<del>39 EACH</del>	<del>FURNISH AND INSTALL ELECTRICAL HANDHOLE</del>
<del>813014</del>	<del>41 S.F.</del>	<del>INSTALL GROUND MOUNTED SIGN</del>
<del>813015</del>	<del>478 S.F.</del>	<del>INSTALL OVERHEAD SIGN</del>
<del>816001</del>	<del>12 EACH</del>	<del>VIDEO DETECTION CAMERA</del>
<del>816005</del>	<del>11 EACH</del>	<del>CONTROL CABLE, 250 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER</del>
<del>816010</del>	<del>5 EACH</del>	<del>CONTROL CABLE, 500 FOOT, VIDEO DETECTION CAMERA TO CONTROLLER</del>
<del>816201</del>	<del>1 EACH</del>	<del>DISCRIMINATOR MODULE, 4 CHANNEL, NO. 764</del>
<del>816215</del>	<del>1 EACH</del>	<del>OPTICOM NO. 721 DETECTOR EYE</del>
<del>818009</del>	<del>2 EACH</del>	<del>14 IN. x 32 FT. STRAIN POLE (2-PLY)</del>
<del>818030</del>	<del>2 EACH</del>	<del>STEEL POLE WITH A 38 FOOT MAST ARM</del>
<del>818036</del>	<del>3 EACH</del>	<del>STEEL POLE WITH A SINGLE 50 FOOT MAST ARM</del>
<del>818041</del>	<del>3 EACH</del>	<del>STEEL POLE WITH A SINGLE 60 FOOT MAST ARM</del>
<del>818051</del>	<del>1 EACH</del>	<del>STEEL POLE WITH TWIN 50 FOOT AND 70 FOOT MAST ARMS</del>
<del>818052</del>	<del>2 EACH</del>	<del>STEEL POLE WITH SINGLE 70 FOOT MAST ARM</del>
<del>822002</del>	<del>1400 L.F.</del>	<del>12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)</del>
<del>831010</del>	<del>11 EACH</del>	<del>250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE</del>
<del>837001</del>	<del>18 EACH</del>	<del>GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH</del>
<del>860265</del>	<del>27 EACH</del>	<del>RELOCATE EXISTING SIGNAL HEAD</del>
<del>860270</del>	<del>18 EACH</del>	<del>8 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION</del>
<del>860272</del>	<del>162 EACH</del>	<del>12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION</del>
<del>860274</del>	<del>7 EACH</del>	<del>12 INCH OPTICALLY PROGRAMMED SIGNAL HEAD SECTION</del>
<del>860288</del>	<del>700 L.F.</del>	<del>ELECTRICAL CABLE - 4 CONDUCTOR OPTICOM CABLE</del>
<del>861104</del>	<del>2500 L.F.</del>	<del>ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)</del>
<del>861107</del>	<del>8300 L.F.</del>	<del>ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)</del>
<del>861108</del>	<del>6900 L.F.</del>	<del>ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)</del>
<del>861116</del>	<del>3400 L.F.</del>	<del>ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG)</del>
<del>862101</del>	<del>400 L.F.</del>	<del>LOOPWIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)</del>
<del>862102</del>	<del>600 L.F.</del>	<del>SAW CUT FOR SIGNAL (LOOP DETECTOR)</del>
<del>866103</del>	<del>11 EACH</del>	<del>15 FT. LIGHTING ARM ON SIGNAL STRUCTURE</del>
<del>867405</del>	<del>2 EACH</del>	<del>12 IN. x 32 FOOT STRAIN POLE</del>
<del>869101</del>	<del>200 L.F.</del>	<del>STEEL SPAN WIRE - 1/4 INCH DIAMETER</del>
<del>869102</del>	<del>200 L.F.</del>	<del>STEEL SPAN WIRE - 3/8 INCH DIAMETER</del>
<del>871202</del>	<del>3 EACH</del>	<del>INSTALL CONTROLLER AND CABINET - BASE MOUNT</del>

**EQUIPMENT LIST "A"**

**A. EQUIPMENT TO BE SUPPLIED BY THE SHA**

ITEM NO.	QUANTITY	DESCRIPTION
9016	4 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9044	3 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH SYSTEM PACKAGE HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9086	3 EACH	VIDEO INTERFACE EQUIPMENT: 1-4 CAMERAS
9571	519 <del>509</del> S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF:
	4 EACH	R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT
	2 EACH	D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - SPAN MOUNT
	8 EACH	D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT
	4 EACH	R3-5L SIGN (30 IN. x 36 IN.) - SPAN MOUNT
	8 EACH	R3-5L SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
	2 EACH	R3-5R SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
	2 EACH	R3-1 SIGN (30 IN. x 30 IN.) - MAST ARM MOUNT
	2 EACH	R5-1 SIGN (30 IN. x 30 IN.) - POLE MOUNT
	1 EACH	R10-6 SIGN (24 IN. x 30 IN.) - GROUND MOUNT
	1 EACH	R10-11a SIGN (24 IN. x 30 IN.) - MAST ARM MOUNT
	2 EACH	W3-3 SIGN (36 IN. x 36 IN.) WITH "NEW" PANEL (24 IN. x 24 IN.) AND FLAG - GROUND MOUNT
	1 EACH	ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 355, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT
	1 EACH	ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 355, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT
	1 EACH	ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 355, RIGHT ARROW" (30 IN. x 51 IN.) - POLE MOUNT
	1 EACH	ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 355, LEFT ARROW" (48 IN. x 75 IN.) - POLE MOUNT
	1 EACH	ASSOCIATED SHIELD ASSEMBLY "NORTH, MD 85, LEFT ARROW" (36 IN. x 75 IN.) - POLE MOUNT
	1 EACH	ASSOCIATED SHIELD ASSEMBLY "SOUTH, MD 85, LEFT ARROW" (36 IN. x 75 IN.) - POLE MOUNT
	1 EACH	C-1 SIGN (84 IN. x 48 IN.) - MAST ARM MOUNT
	1 EACH	C-2 SIGN (84 IN. x 48 IN.) - MAST ARM MOUNT
	2 EACH	R8-8 SIGN (24 IN. x 30 IN.) - GROUND MOUNT

**EQUIPMENT LIST "C"**

**C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA**

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET AT MD 355 AND MD 914 (NEW DESIGN ROAD)/MONOCACY BLVD. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

REDLINE REVISION NO. 10  
SHEET DELETED  
6/12/2009

ADDENDUM NO. 2  
6/17/05  
CONTRACT NO. FR4265172

TSP-19



Whitman, Reardon  
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**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
Office of Traffic & Safety  
**TRAFFIC ENGINEERING DESIGN DIVISION**  
GENERAL INFORMATION SHEET  
MD 355 SIGNALS

DRAWN BY: S.BLOSS	F.A.P. NO.	TS NO.
CHECKED BY: N.LEARY	S.J.I.A. NO. FR4265172	SHEET NO.
SCALE: NONE	COUNTY: FREDERICK	T.I.M.S. NO.
DATE: 1:46:48 PM	LOG MILE:	262 OF 634