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

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE CONSTRUCTION OF A TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 132 (W. BELAIR AVE.), MD 132A (BEARDS HILL RD.) AND BUSH CHAPEL ROAD WITH MAST ARMS IN THE CITY OF ABERDEEN.

INTERSECTION OPERATION

1. NORMAL OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX PHASE, FULL-TRAFFIC ACTUATED MODE, WITH THE MD 132 APPROACHES RUNNING CONCURRENTLY AND THE MD 132A APPROACHES RUNNING CONCURRENTLY.

EASTBOUND MD 132 AND SOUTHBOUND MD 132A WILL HAVE EXCLUSIVE/PERMISSIVE LEFT TURN PHASES.

SPECIAL NOTES

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

PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

MR. DAVE MALKOWSKI
DISTRICT ENGINEER
PHONE: 410-321-2810

MR. JOSEPH MCMAHON
DISTRICT UTILITY ENGINEER
PHONE: 410-321-2841

MR. RANDALL SCOTT
ASSISTANCE DISTRICT ENGINEER-TRAFFIC
PHONE: 410-321-2780

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

MR. DAVID RAMSEY
ASSISTANCE DISTRICT ENGINEER-MAINTENANCE
PHONE: 410-321-2761

EQUIPMENT LIST

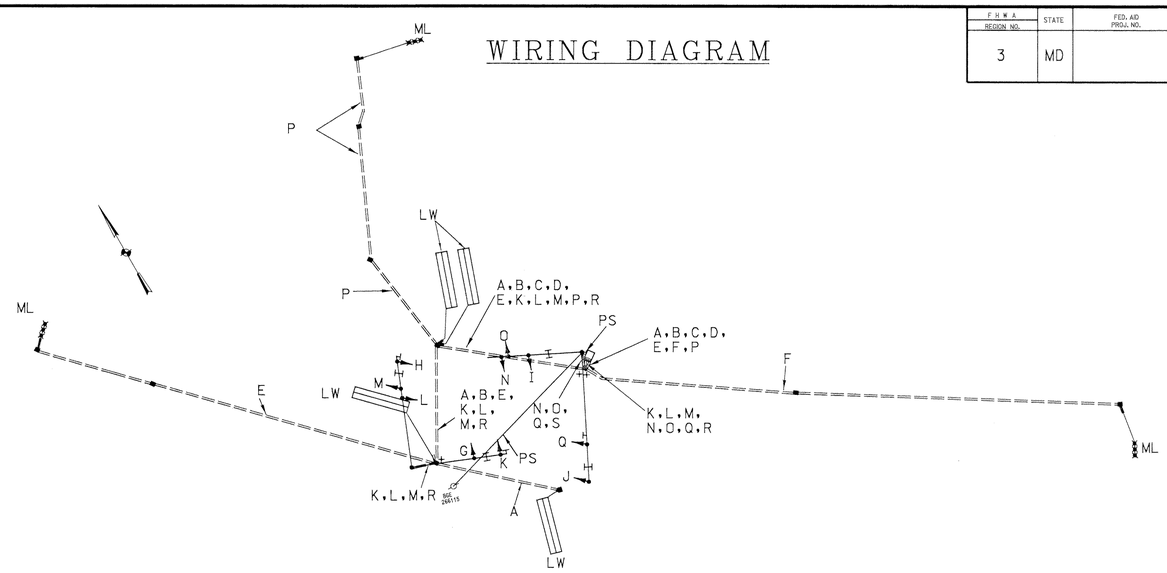
A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

CAT CODE	ITEM	QUANTITY		DESCRIPTION
900000		2	EA	(CONT/CAB/ADD) DETECTOR AMPLIFIER 4-CH RACK MT
900000		1	EA	(CONT/CAB/ADD) DETECTOR PANEL
900000		1	EA	(CONT/CAB/ADD) DETECTOR RACK POWER SUPPLY
900000		3	EA	(CONT/CAB/ADD) MICROLOOP TRIPLE PROBE SET (500 FT)
900000		6	EA	(MAST ARM MT) 12" 1-WAY, 3-SECTION SIGNAL (ALUMINUM)
900000		2	EA	(MAST ARM MT) 12" 1-WAY, 5-SECTION SIGNAL (ALUMINUM)
900000		2	EA	(MAST ARM MT) 8" & 12" COMBO SIGNAL (ALUMINUM)
900000		1	EA	CABINET INTERSECTION MONITOR, SIZE 6
900000		21	SF	R10-12 (LEFT TURN YIELD ON GREEN BALL) (36"X42") 2 EACH MAST ARM MOUNTED
900000		8	SF	R3-5R (RIGHT TURN ONLY) (30"X36") 1 EACH MAST ARM MOUNTED
900000		52	SF	W3-3 (SIGNAL AHEAD) (36" X 36"), D95-25 (NEW) (24" X 24") 4 EACH GROUND MOUNTED
900000		13.5	SF	D-3(1) (BEARDS HILL RD ⟶ & ⟵ BEARDS HILL RD) DUAL FACED (VAR.X16") 1 EACH MAST ARM MOUNTED
900000		27	SF	D-3(1) (WEST BEL AIR AVE.) DUAL FACED (VAR.X16") 2 EACH MAST ARM MOUNTED
900000		13	SF	D-3(1) (BUSH CHAPEL RD ⟶ & ⟵ BUSH CHAPEL RD) DUAL FACED (VAR.X16") 1 EACH MAST ARM MOUNTED
900000		1	EA	CONTROLLER ASC II W/TELEMETRY

WIRING KEY

A,B,C,D	– 2 CONDUCTOR ELECTRICAL CABLE (#14 AWG) ALUMINUM SHIELDED
E,F,P	– MICRO-LOOP PROBE LEAD-IN
G,H,I,J	– 5 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
K,L,M,N O,Q	– 7 CONDUCTOR ELECTRICAL CABLE (#14 AWG)
R,S	– STRANDED BARE COPPER GROUND WIRE (#6 AWG)
LW	– LOOP WIRE (#14 AWG)
ML	– MICRO-LOOP PROBE SET
PS	– PROPOSED OVERHEAD POWER SOURCE
+	– ¾" x 10' GROUND ROD

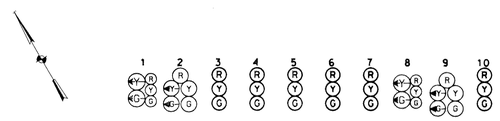
WIRING DIAGRAM



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

CAT CODE	ITEM	QUANTITY		DESCRIPTION
100000		1	EA	MAINTENANCE OF TRAFFIC
203030		2	CY	TEST PIT EXCAVATION
585443		275	LF	12 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
585445		90	LF	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
585446		4	EA	PERMANENT PREFORMED PAVEMENT MARKING LETTER
585448		5	EA	PERMANENT PREFORMED PAVEMENT MARKING ARROW
801004		10	CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
800000		10	EA	INSTALL SIGNAL HEAD (ANY TYPE)
800000		3	EA	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FT LEAD-IN
871202		1	EA	INSTALL CONTROLLER AND CABINET – BASE MOUNT
862102		545	LF	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
805160		45	LF	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON METALLIC CONDUIT FOR DETECTOR SLEEVE
800000		685	LF	FURNISH AND INSTALL 2 INCH SCH 80 RIGID PVC CONDUIT – TRENCHED
805105		215	LF	FURNISH AND INSTALL 2 INCH SCH 80 RIGID PVC CONDUIT – SLOTTED
800000		25	LF	FURNISH AND INSTALL 3 INCH SCH 80 RIGID PVC CONDUIT – TRENCHED
800000		10	LF	FURNISH AND INSTALL 4 INCH SCH 80 RIGID PVC CONDUIT – TRENCHED
805118		215	LF	FURNISH AND INSTALL 4 INCH SCH 80 RIGID PVC CONDUIT – SLOTTED
811001		11	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
837001		3	EA	FURNISH AND INSTALL GROUND ROD –¾INCH DIAMETER X 10 FOOT LENGTH
862101		1,780	LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
861104		660	LF	FURNISH AND INSTALL ELECTRICAL CABLE – 2 CONDUCTOR (ALUMINUM SHIELDED)
861107		85	LF	FURNISH AND INSTALL ELECTRICAL CABLE – 5 CONDUCTOR (NO 14 AWG)
861108		525	LF	FURNISH AND INSTALL ELECTRICAL CABLE – 7 CONDUCTOR (NO 14 AWG)
802501		165	LF	FURNISH AND INSTALL NO 6 AWG STRANDED BARE COPPER GROUND WIRE
801104		130	LF	FURNISH & INSTALL WOOD SIGN SUPPORTS 4 INCH x 4 INCH
813014		52	SF	INSTALL GROUND MOUNTED SIGN
813015		83	SF	INSTALL OVERHEAD SIGN
838003		1	EA	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240V 1PHASE 3 WIRE SYSTEM)
800000		1	EA	FURNISH AND INSTALL MAST ARM POLE AND TWIN (50 FT / 70 FT) OR (70 FT / 50 FT) MAST ARMS
800000		1	EA	FURNISH AND INSTALL MAST ARM POLE AND TWIN (50 FT / 60 FT) OR (60 FT/ 50 FT) MAST ARMS
800000		30	LF	FURNISH AND INSTALL 1" RIGID METAL ELECTRICAL CONDUIT – GALVANIZED RISER

PHASING SEQUENCE CHART



	1	2	3	4	5	6	7	8	9	10	
Phase 1 & 6	–G/G	–G/G	G	R	R	R	R	R	R	R	↑
1 Change	–Y/G	–Y/G	G	R	R	R	R	R	R	R	→
Phase 2 & 6	G	G	G	G	G	R	R	R	R	R	←
2 & 6 Change	Y	Y	Y	Y	Y	R	R	R	R	R	
Phase 4 & 7	R	R	R	R	R	R	R	–G/G	–G/G	G	↓ ←
7 Change	R	R	R	R	R	R	R	–Y/G	–Y/G	G	
Phase 4 & 8	R	R	R	R	R	G	G	G	G	G	↓ ↓
4 & 8 Change	R	R	R	R	R	Y	Y	Y	Y	Y	
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	↑ ↓

TS-2

REVISIONS	APPROVALS
	ASST. DIVISION CHIEF, TEDD
	ASST. DISTRICT ENGINEER, TRAFFIC
	CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
	DIRECTOR, OFFICE OF TRAFFIC & SAFETY

BAI BRUDIS & ASSOCIATES, INC.
CONSULTING ENGINEERS
9220 RUMSEY ROAD; SUITE 210
COLUMBIA, MARYLAND 21045
(410)-884-3607

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

GENERAL INFORMATION SHEET
MD 132 (W. BELAIR AVE.) & MD 132 A (BEARDS HILL RD.) & BUSH CHAPEL ROAD

DATE 06 /30/ 99

DRAWN BY:	R. MILSTEAD	F.A.P. NO.		PLAN SHEET NO.:	SHEET NO.
CHECK BY:	T. BRUDIS	S.H.A. NO.	HA9192176	TS-3826	___ OF ___
SCALE:	NONE	COUNTY	HARFORD		

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