PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD ROUTE 28 (DARNESTOWN ROAD) AND TSCHIFFELY SQUARE ROAD IN MONTGOMERY COUNTY. MD ROUTE 28 (DARNESTOWN ROAD) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA, FIVE (5) PHASE, SEMI-TRAFFIC-ACTUATED MODE. THERE WILL BE AN EXCLUSIVE-PERMISSIVE LEFT TURN/U-TURN PHASE FOR BOTH THE EASTBOUND AND WESTBOUND MD 28 MOVEMENTS. THE MD 28 APPROACHES WILL OPERATE CONCURRENTLY AND THE TSCHIFFELY SQUARE AND BLACKBERRY JUGHANDLE APPROACH WILL OPERATE ~~SEPARATELY.~~ CONCURRENTLY AN ALTERNATE PEDESTRIAN PHASE WILL BE PROVIDED ACROSS THE WEST LEG OF MD 28 AND A CONCURRENT PEDESTRIAN PHASE WILL BE PROVIDED ACROSS TSCHIFFELY SQUARE ROAD.

AN EIGHT (8) PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH TW~~O (2) FOUR (4) CHANNEL LOOP DETECTOR AMPLIFIERS,~~ VIDEO TRAFFIC DETECTION SYSTEM [4] L.A.U., L.A.U. PANEL, HARNESS HOUSED IN A NEMA SIZE "6" POLE MOUNTED CABINET EXISTS AT THIS LOCATION.

III. INTERCONNECTION

THE EXISTING 50 PAIR VOICE GRADE INTERCONNECT CABLE BETWEEN THE INTERSECTIONS OF MD 28 @ TSCHIFFELY SQUARE ROAD AND MD 28 @ OWENS GLEN WAY IS TO BE MAINTAINED.

IV. PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT THREE ARE AS FOLLOWS:

MR. CHARLIE WATKINS
DISTRICT ENGINEER
PHONE (301) 513-7311

MR. AUGUSTINE REBISH
UTILITY ENGINEER
PHONE: (301) 513-7350

MR. MAJID SHAKIB
ASSISTANT DISTRICT
ENGINEER-TRAFFIC
PHONE: (301) 513-7358

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

THE POWER COMPANY REPRESENTATIVE IS
POTOMAC ELECTRIC POWER COMPANY
MR. JIM SLAYTON
PHONE: (202) 872-2000

THE CONTACT PERSON FOR
MONTGOMERY COUNTY DPW-T IS:
MR. ROBERT GONZALES
PHONE: (240) 777-8761

EQUIPMENT LIST 'A'

EQUIPMENT TO BE SUPPLIED BY THE SHA.

	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
	~~48~~	SF	813	FLAT SHEET ALUMINUM SIGNS CONSISTING OF: - 1 EACH R3-5R (30" X 36")-MAST ARM MOUNT - 1 EACH R3-5L (30" X 36")-MAST ARM MOUNT - 1 EACH R10-12 (36" X 42")-MAST ARM MOUNT - 1 EACH R10-12 (1) (36" X 42")-MAST ARM MOUNT - 1 EACH D3-2 (TSCHIFEELY SQUARE RD - ARROW) (DUEL FACE) (VAR.' X 16') -MAST ARM MOUNT - 1 EACH ASSOCIATED SHEILD ASSEMBLY (36"X75") - POLE MOUNT - 1 EACH ASSOCIATED SHEILD ASSEMBLY (24"X51") - POLE MOUNT - 1 EACH R3-3(6) MOD (24" X 36")-MAST ARM MOUNT
[8]	82			

EQUIPMENT LIST 'B'

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

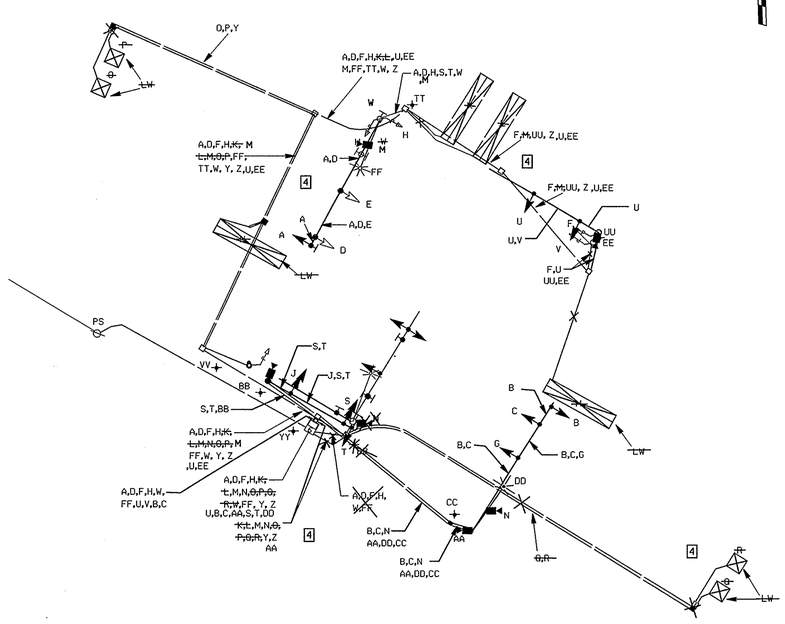
	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
[8]	660 ~~400~~	LF	556	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE
[8]	175 ~~150~~	LF	556	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING TAPE
[8]	82 ~~48~~	SF	813	INSTALL OVERHEAD SIGN
[8]	4 ~~3~~	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
[4]	~~22~~	~~LF~~	~~805~~	~~FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE~~
	115	LF	805	FURNISH AND INSTALL 4 INCH SCHEDULE 80 RIGID PVC CONDUIT- BORED
[8]	250 ~~175~~	LF	805	FURNISH AND INSTALL 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
[8]	6 ~~4~~	EA	804	FURNISH AND INSTALL GROUND ROD-3/4 INCH DIAMETER X 10-FOOT LENGTH
[8]	550 ~~420~~	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
[4]	~~2005~~	~~LF~~	~~810~~	~~FURNISH AND INSTALL ELECTRICAL CABLE- 3 CONDUCTOR (ALUMINUM SHIELDED)~~
	260	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (NO 14 AWG)

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR (CONTINUED).

	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
	270	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 3 CONDUCTOR (NO 14 AWG)
[8]	990 ~~201~~	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 5 CONDUCTOR (NO 14 AWG)
[8]	950 ~~660~~	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 7 CONDUCTOR (NO 14 AWG)
[4]	~~2050~~	~~LF~~	~~810~~	~~FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)~~
[4]	~~560~~	~~LF~~	~~815~~	~~FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)~~
[8]	480 ~~310~~	LF	810	FURNISH AND INSTALL 2-CONDUCTOR ELECTRICAL CABLE (NO 12 AWG)
	1	LS	SP	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
[8]	33 ~~24~~	EA	814	FURNISH AND INSTALL 12 INCH VEHICULAR TRAFFIC SIGNAL HEAD
[8]	200 ~~160~~	LF	805	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
	1	LS	SP	RELOCATE EXISTING COMMUNICATION CABLE
	2	EA	814	RELOCATE EXISTING SIGNAL HEAD
[4]	~~2~~	EA	SP	FURNISH AND INSTALL VIDEO TRAFFIC DETECTION SYSTEM
[8]	3			
[4]	~~325~~	LF	SP	FURNISH AND INSTALL VIDEO TRAFFIC DETECTION CABLE
[8]	1440			
[8]	1	EA	818	FURNISH AND INSTALL STEEL POLE WITH A SINGLE 30 FOOT MAST ARM
[8]	1	EA	818	FURNISH AND INSTALL STEEL POLE WITH A SINGLE 60 FOOT MAST ARM
[8]	1	EA	818	FURNISH AND INSTALL 20 FOOT LIGHTING ARM ON SIGNAL STRUCTURE
[8]	1	EA	818	FURNISH AND INSTALL 250 WATT H.P.S. LAMP & LUMINAIRE W/ PHOTOCELL

ULTIMATE WIRING DIAGRAM



WIRING KEY

[8] B,C, A,D - 7-CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
[8] G,J,S,T,U,V, E,H - 5-CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
[4] ~~K,L,M,N,O,P,Q,R - 2 CONDUCTOR ELECTRICAL CABLE (NO.14 AWG) ALUMINUM SHIELDED~~
F - 3-CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
W - 2-CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
[8] DD, FF - 2-CONDUCTOR ELECTRICAL CABLE TYPE T/C (NO.12 AWG)
[8] CC, BB,TT,UU,VV,YY - STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
[4] ~~LW - LOOP WIRE (NO.14 AWG)~~
⏚ - 3/4 INCH x 10 FOOT GROUND ROD
Y, Z - 50 PAIR COMMUNICATION CABLE, JELLY FILLED
[4] M,N ┐ VIDEO TRAFFIC DETECTION CABLING (NO.18 A.W.G.)
[8] AA,EE,GG ┘

PHASE CHART

[8]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	~~X~~	~~X~~	~~X~~	~~X~~
PHASE 1 & 5	G/R	G/R	R	G/R	G/R	R	R	R	R	R	R	DW	DW	DW	DW
1 & 5 CHANGE	TO PHASE 1+6 OR 2+5 OR 2+6														
PHASE 1 & 6	G/G	G/G	G	R	R	R	R	R	R	R	R	DW	DW	DW	DW
1 CHANGE	Y	Y	Y	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 5	R	R	R	G/G	G/G	G	R	R	R	R	R	DW	DW	DW	DW
5 CHANGE	R	R	R	Y/G	Y/G	Y	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	W	W	DW	DW
PED CLEAR	G	G	G	G	G	G	R	R	R	R	R	FL/DW	FL/DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW
ALT 4	R	R	R	R	R	R	G	G	G	G	G	DW	DW	W	W
PED CLEAR	R	R	R	R	R	R	G	G	G	G	G	DW	DW	FL/DW	FL/DW
ALT 4 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

TSP 32

REVISION 'A'
KCI TECHNOLOGIES INC.
ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
21030-1888
(410) 316-7800

KCI TECHNOLOGIES

REVISIONS
[A] 6-00 NEW MD 28 GEOMETRICS SHA CONT. NO. MO5285271
[B] ADDENDUM NO. 2 REPLACEMENT SHEET 11/ /2000
[4] REDLINE NO. 4 REPLACEMENT SHEET 8/23/2001
[8] REDLINE NO. 8 REPLACEMENT SHEET 2/15/2002
Q.X.

APPROVALS

PROJECT MANAGER, SIGNAL DESIGN DIVISION
ORIGINAL
ASST. CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
ON
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
FILE
DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
GENERAL INFORMATION SHEET
ULTIMATE PHASE
MD 28 (DARNESTOWN RD) AND TSCHIFFELY SQUARE RD

DRAWN BY: T. ZAYDEL	F.A.P. NO.	TS NO. 3609A-GI	SHEET NO.
CHECKED BY: T. HANNAN	S.H.A. NO.		
SCALE: NONE	COUNTY: MONTGOMERY	T.I.M.S. NO. D107	331 OF 434
DATE: 6-3-96	LOG MILE: 15002816.06		

M:\1997\01\97029\MD28\