FHWA REGION NO	STATE	FED. AID PROJ. NO	SHEET NO.	TOTAL SHEETS
3	MD.	STPG-218-1(7)E	11	66

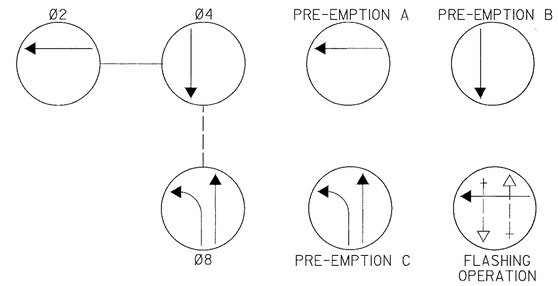
WEST FRANKLIN STREET) IS
UN IN AN EAST-WEST DIRECTION.

PHASING DIAGRAM

	1	2	3	4	5	6
PHASE 2	G	G	R	R	R	R
2 CHANGE	Y	Y	R	R	R	R
PHASE 4 & 8	R	R	G	G	G	G
4 & 8 CHANGE	R	R	Y	Y	Y	Y
PRE-EMPTION A	G	G	R	R	R	R
A CHANGE	Y	Y	R	R	R	R
PRE-EMPTION B	R	R	R	R	G	G
B CHANGE	R	R	R	R	Y	Y
PRE-EMPTION C	R	R	G	G	R	R
C CHANGE	R	R	Y	Y	R	R
FLASHING OPERATION	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R

STEWART DIST. SERVICES INC.

NEMA PHASING



PHASING NOTES:
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	BASE MOUNTED LOCAL CABINET (SIZE 5) LESS DETECTION EQUIPMENT WITH 8 PHASE ASC II CONTROLLER WITH TELEMETRY AND OPTICOM PRE-EMPTION MODULE
41	SF	813	FLAT SHEET ALUMINUM SIGNS CONSISTING OF: – 1 EACH M1-1(81) (24" X 24")-POLE MOUNT – 1 EACH M4-5a (24" X 12")-POLE MOUNT – 1 EACH M6-1a (21" X 15")-POLE MOUNT – 2 EACH D3-2 (W. Franklin St) (VAR." X 16")-MAST ARM MOUNT – 1 EACH D3-2 (N. Walnut St) (VAR." X 16")-MAST ARM MOUNT

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

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
5	CY	205	TEST PIT EXCAVATION
9	CY	206	REMOVAL OF EXISTING SIDEWALK
80	LF	SP 555	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
80	LF	SP	REMOVE EXISTING PAVEMENT MARKINGS-ANY WIDTH
600	SF	610	4 INCH CONCRETE SIDEWALK
1	EA	816	INSTALL CONTROLLER AND CABINET-BASE MOUNT
41	SF	813	INSTALL OVERHEAD SIGN
5	EA	SP	FURNISH AND INSTALL 12 INCH 1 WAY 3 SECTION (R, Y, G) SIGNAL HEAD HAVING PROPER ADJUSTABLE MAST ARM BRACKET, AND TUNNEL VISORS-PAINTED BLACK
1	EA	SP	FURNISH AND INSTALL 12 INCH 1 WAY 4 SECTION (R, Y, G, GA) SIGNAL HEAD HAVING PROPER ADJUSTABLE MAST ARM BRACKET, AND TUNNEL VISORS-PAINTED BLACK
3	EA	SP	FURNISH AND INSTALL OPTICOM DETECTOR EYE-MODEL 521
4	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
9	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
40	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT-RISER
100	LF	805	FURNISH AND INSTALL 2" SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
20	LF	805	FURNISH AND INSTALL 4" SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
80	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
1	EA	807	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
1	EA	SP	FURNISH AND INSTALL 21-FOOT STEEL POLE WITH A SINGLE 38-FOOT MAST ARM-PAINTED GREEN
1	EA	SP	FURNISH AND INSTALL 21-FOOT STEEL POLE WITH A SINGLE 50-FOOT MAST ARM-PAINTED GREEN
2	EA	SP	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE
1	EA	SP	AS-BUILT FOR TRAFFIC SIGNAL
3	EA	804	FURNISH AND INSTALL GROUND ROD-3/4 INCH DIAMETER X 10-FOOT LENGTH
200	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
200	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-1 CONDUCTOR (NO. 4 AWG – THHN/THWN)
425	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-5 CONDUCTOR (NO 14 AWG)
450	LF	810	FURNISH AND INSTALL OPTICOM M-138 DETECTOR CABLE
2	EA	SP	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12" BELOW GRADE
1	LS	SP	DELIVERY OF SALVAGED EQUIPMENT
1	LS	SP	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
1	LS	SP	REMOVAL OF EXISTING SIGNAL EQUIPMENT TO BE SALVAGED

NOTE: ALL EQUIPMENT AND/OR MATERIALS TO BE REMOVED BY THE CONTRACTOR, BUT NOT LISTED BELOW, SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

QUANTITY	UNIT	DESCRIPTION
1	EA	MAST ARM POLE (NORTHEAST CORNER)
1	EA	CONTROLLER AND CABINET
3	EA	OPTICOM DETECTOR EYE

SIGNALS

3
R
Y
G
G
12"
L PRE-EMPTION
TOR EYE

SIGNS

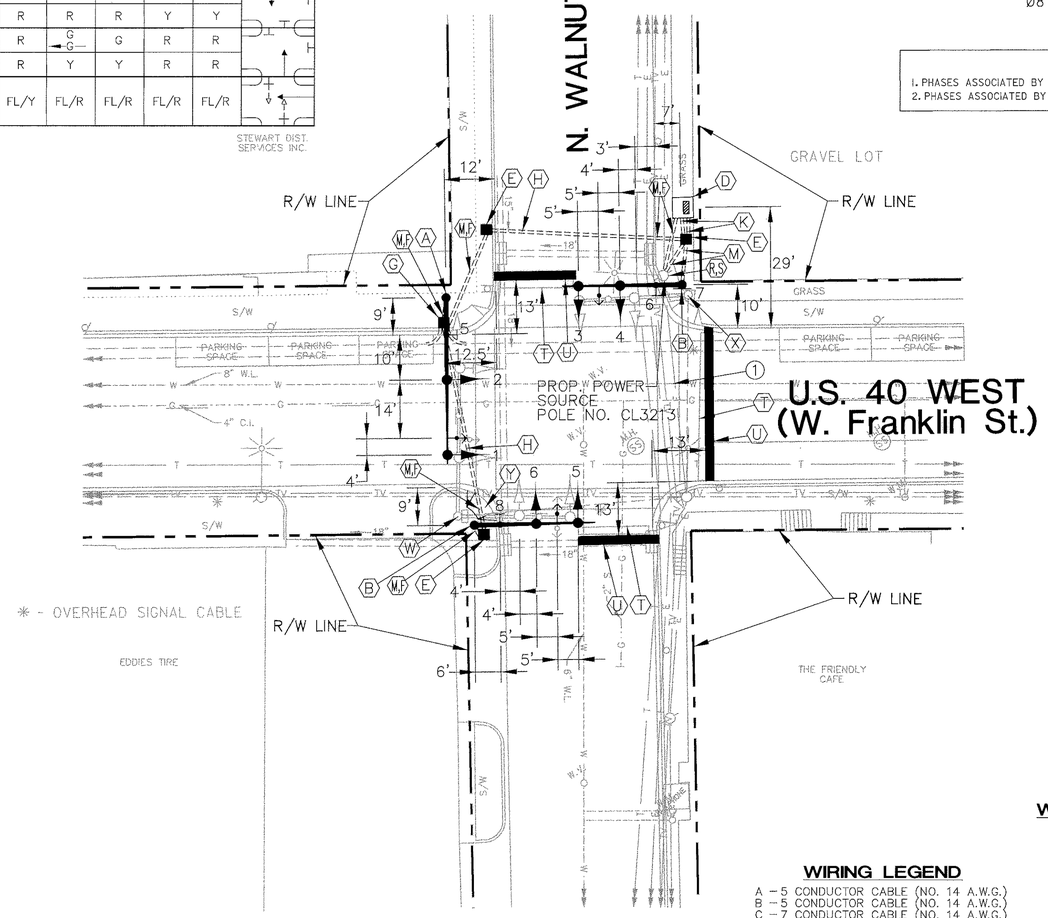
5
N. Walnut St
D3-2
Var. x 16"

6,8
W. Franklin St
D3-2
Var. x 16"

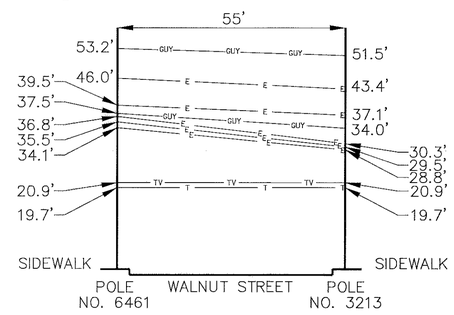
7
TO INTERSTATE 81
M4-5A
24" x 12"

M1-1
24" x 24"

M6-1A
21" x 15"



① VERTICAL CLEARANCE SKETCH



CONSTRUCTION DETAILS

STEEL POLE, 42' MAST ARM, SIGNAL HEADS, SIGN AND OPTICOM
OTE: 1-2", 90-DEGREE P.V.C. BEND).

STEEL POLE, 28' MAST ARM, SIGNAL HEADS, SIGNS AND OPTICOM
OTE 1-2", 90-DEGREE P.V.C. BEND).

-MOUNTED CABINET, SIZE #5, AND CONTROLLER WITH ALL NECESSARY
S SHOWN (NOTE: 2-4", 90-DEGREE P.V.C. BENDS; AND, 2-2",
.V.C. BENDS).

HOLE.

REPLACE EXISTING SIDEWALK.

TALL HANDHOLE. CONNECT TO EXISTING CONDUITS.

V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (SLOTTED).

V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).

.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).

V.C. (SCHEDULE 80) ELECTRICAL CONDUIT – RISER AND 2"
.

F 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT – RISER AND COIL 25'
L CABLE.

ING STOP BAR.

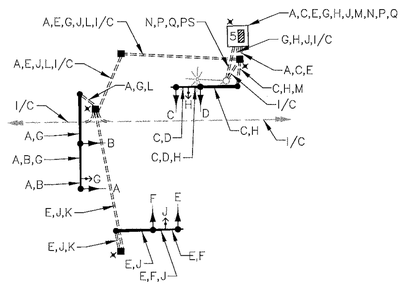
SOLID WHITE LINE.

TING STEEL POLE, MAST ARMS, SIGNALS, SIGNS, CABINET, CONTROLLER,
CTOR AND FOUNDATION.

ING STEEL POLE, MAST ARM, SIGNALS, SIGNS, AND FOUNDATION.

DEWALK RAMP.

WIRING DIAGRAM



WIRING LEGEND

A – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
B – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
C – 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
D – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
E – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
F – 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
G – 3M OPTICOM DETECTOR CABLE, MODEL 138
H – 3M OPTICOM DETECTOR CABLE, MODEL 138
J – 3M OPTICOM DETECTOR CABLE, MODEL 138
K – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
L – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
M – STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
N – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
P – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
Q – 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
× – 3/4"x10' GROUND ROD
PS – PROPOSED ELECTRICAL SERVICE
I/C – INTERCONNECT CABLE

INTERSECTION DESCRIPTION

I. GENERAL

THIS INTERSECTION IS U.S. 40 WEST (WEST FRANKLIN) STREET AND WALNUT STREET. CONSTRUCTION AT THIS INTERSECTION INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AND INTERCONNECTION WITH THE OTHER SIGNALIZED INTERSECTIONS IN THE NEW CITY-WIDE SYSTEM. IT IS ASSUMED THAT U.S 40 WEST (WEST FRANKLIN STREET) RUNS IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA THREE (3) PHASE PRE-TIMED MODE. WESTBOUND U.S. 40 WEST (WEST FRANKLIN STREET) AND NORTHBOUND AND SOUTHBOUND NORTH WALNUT STREET WILL OPERATE IN SEPARATE PHASES.

PRE-EMPTION ON WESTBOUND U.S. 40 WEST (WEST FRANKLIN STREET) WILL CALL PRE-EMPTION A. PRE-EMPTION ON SOUTHBOUND NORTH WALNUT STREET WILL CALL PRE-EMPTION B. PRE-EMPTION ON NORTHBOUND NORTH WALNUT STREET WILL CALL PRE-EMPTION C.

A NEW EIGHT PHASE FULLY ACTUATED CONTROLLER WITH TELEMETRY MODULE, AND PRE-EMPTION HOUSED IN A GROUND MOUNTED CABINET WILL BE INSTALLED.

ITY LEGEND

- G —— GAS MAIN
- W —— WATER MAIN
- S —— SEWER MAIN
- ==== STORM DRAIN
- TV —— CABLE TELEVISION
- E —— ELECTRIC CABLES
- T —— TELEPHONE CABLES
- A —— AERIAL CABLES

NOTE: EXISTING RIGHT-OF-WAY BASED ON INFORMATION PROVIDED BY THE CITY OF HAGERSTOWN.

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 95-289

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

MDOT – STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION LOG MI. 21W04035.76

DRAWN BY: M. GESELL
DES. BY: J. LAWRENCE
CHK. BY:

US 40 West (West Franklin St.) at North Walnut St.

COUNTY: WASHINGTON

DATE: 05/30/97
SCALE: 1" = 20'
F.A.P. NO. STPG-218-1(7)E
S.H.A. NO. WA9535185
TS NO. 3675
SHEET NO. 11 OF 66