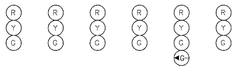
FHWA REGION NO	STATE	FED. AID PROJ. NO	SHEET NO.	TOTAL SHEETS
3	MD.	STPG-218-I(7)E	20	66

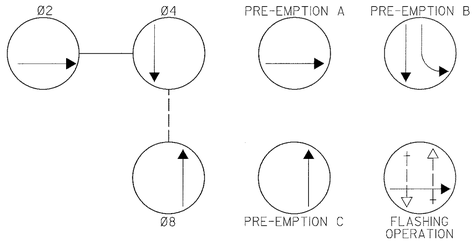
PHASING DIAGRAM



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

U.S. 40 EAST (WASHINGTON AVENUE) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

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

CONSTRUCTION DETAILS

(A) INSTALL 21' STEEL POLE, 42' MAST ARM, SIGNAL HEADS, SIGNS, OPTICOM DETECTOR (NOTE: 1-2", 90-DEGREE P.V.C. BEND).

(B) INSTALL 27' STEEL POLE, 48' MAST ARM, SIGNAL HEADS, SIGNS, OPTICOM DETECTOR, 15' STREET LIGHTING ARM AND 250 WATT H.P.S. (CUTOFF) LUMINAIRE WITH PHOTOELECTRIC CELL (NOTE: 1-2", 90-DEGREE P.V.C. BEND).

(C) INSTALL 21' STEEL POLE, 42' MAST ARM, SIGNAL HEADS, SIGNS, AND OPTICOM DETECTOR (NOTE: 1-2", 90-DEGREE P.V.C. BEND).

(D) INSTALL BASE-MOUNTED CABINET, SIZE #6, MASTER/LOCAL CONTROLLER WITH ALL NECESSARY EQUIPMENT AS SHOWN (NOTE: 2-4", 90-DEGREE P.V.C. BENDS; AND, 2-2", 90-DEGREE P.V.C. BENDS.)

(E) INSTALL HANDHOLE.

(F) INSTALL 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (SLOTTED).

(G) INSTALL 2" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).

(K) INSTALL 4" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).

(M) REMOVE AND REPLACE EXISTING SIDEWALK.

(P) INSTALL 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT - RISER AND 2" WEATHERHEAD.

(R) INSTALL 2-10' SECTIONS OF 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT - RISER AND COIL 25' OF ADDITIONAL CABLE.

(S) REMOVE EXISTING SIGN AND POLE.

(T) REMOVE EXISTING STOP BAR.

(U) INSTALL 24" SOLID WHITE LINE.

(V) REMOVE EXISTING STEEL POLE AND FOUNDATION.

(W) REMOVE EXISTING CABINET AND CONTROLLER.

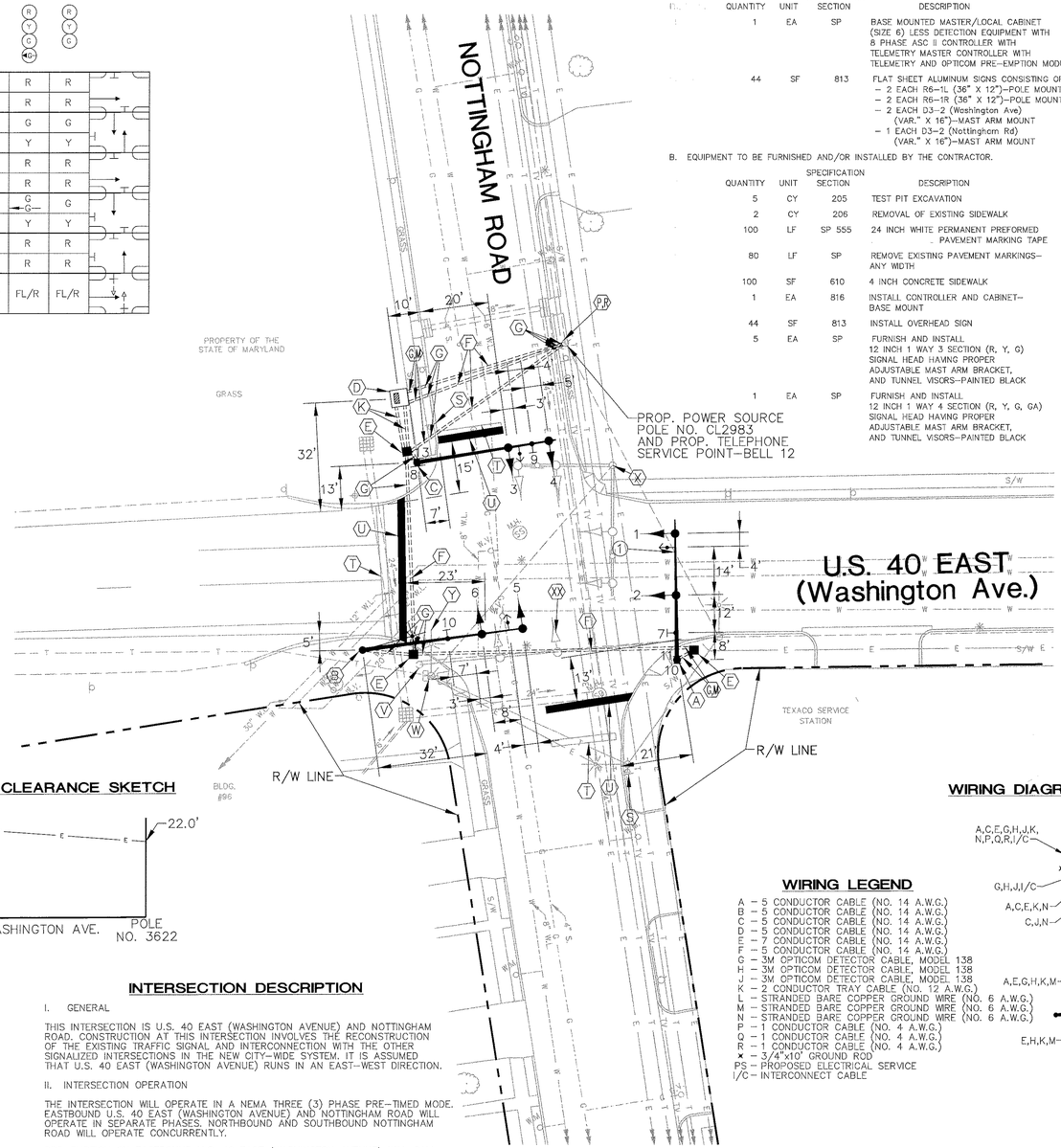
(X) REMOVE EXISTING STEEL POLE, MAST ARM, SIGNALS, SIGNS, AND FOUNDATION.

(XX) REMOVE EXISTING SPAN WIRE AND SIGNALS.

(Y) REMOVE EXISTING STREET LIGHTING LUMINAIRE AND ARM.

UTILITY LEGEND

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



① VERTICAL CLEARANCE SKETCH

INTERSECTION DESCRIPTION

I. GENERAL

THIS INTERSECTION IS U.S. 40 EAST (WASHINGTON AVENUE) AND NOTTINGHAM ROAD. 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 EAST (WASHINGTON AVENUE) RUNS IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA THREE (3) PHASE PRE-TIMED MODE. EASTBOUND U.S. 40 EAST (WASHINGTON AVENUE) AND NOTTINGHAM ROAD WILL OPERATE IN SEPARATE PHASES. NORTHBOUND AND SOUTHBOUND NOTTINGHAM ROAD WILL OPERATE CONCURRENTLY.

PRE-EMPTION ON EASTBOUND U.S. 40 EAST (WASHINGTON AVENUE) WILL CALL PRE-EMPTION A. PRE-EMPTION ON SOUTHBOUND NOTTINGHAM ROAD WILL CALL PRE-EMPTION B. PRE-EMPTION ON NORTHBOUND NOTTINGHAM ROAD 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.

III. SPECIAL NOTE

MDSHA WILL PROVIDE BELL ATLANTIC WITH THE FOLLOWING INFORMATION FOR TELEPHONE SERVICE: POLE 12 IN FRONT OF 100 NOTTINGHAM ROAD.

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

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	BASE MOUNTED MASTER/LOCAL CABINET (SIZE 6) LESS DETECTION EQUIPMENT WITH 8 PHASE ASC II CONTROLLER WITH TELEMETRY MASTER CONTROLLER WITH TELEMETRY AND OPTICOM PRE-EMPTION MODULE
44	SF	813	FLAT SHEET ALUMINUM SIGNS CONSISTING OF: - 2 EACH R6-1L (36" X 12")-POLE MOUNT - 2 EACH R6-1R (36" X 12")-POLE MOUNT - 2 EACH D3-2 (Washington Ave) (VAR." X 16")-MAST ARM MOUNT - 1 EACH D3-2 (Nottingham Rd) (VAR." X 16")-MAST ARM MOUNT

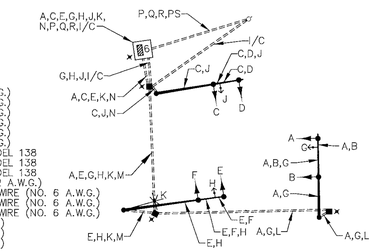
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
5	CY	205	TEST PIT EXCAVATION
2	CY	206	REMOVAL OF EXISTING SIDEWALK
100	LF	SP 555	24 INCH WHITE PERMANENT PREFORMED PAVEMENT MARKING TAPE
80	LF	SP	REMOVE EXISTING PAVEMENT MARKINGS-ANY WIDTH
100	SF	610	4 INCH CONCRETE SIDEWALK
1	EA	816	INSTALL CONTROLLER AND CABINET-BASE MOUNT
44	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
3	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
16	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
50	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
40	LF	805	FURNISH AND INSTALL 4" SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
250	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
1	EA	807	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
2	EA	SP	FURNISH AND INSTALL 21-FOOT STEEL POLE WITH A SINGLE 50-FOOT MAST ARM-PAINTED GREEN
1	EA	SP	FURNISH AND INSTALL 27-FOOT STEEL POLE WITH A SINGLE 50-FOOT MAST ARM-PAINTED GREEN
3	EA	SP	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE
1	EA	SP	AS-BUILT FOR TRAFFIC SIGNAL
1	EA	806	FURNISH AND INSTALL 250 WATT HIGH PRESSURE SODIUM LAMP AND LUMINAIRE WITH PHOTOCELL
1	EA	SP	FURNISH AND INSTALL 15 FOOT LIGHTING ARM ON SIGNAL STRUCTURE-PAINTED GREEN
4	EA	804	FURNISH AND INSTALL GROUND ROD-3/4 INCH DIAMETER X 10-FOOT LENGTH
225	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
325	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-1 CONDUCTOR (NO. 4 AWG - THHN/THWN)
400	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-5 CONDUCTOR (NO 14 AWG)
200	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-7 CONDUCTOR (NO 14 AWG)
150	LF	810	FURNISH AND INSTALL 2-CONDUCTOR TRAY CABLE (NO 12 AWG)
525	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	CONTROLLER AND CABINET

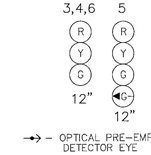
WIRING DIAGRAM



WIRING LEGEND

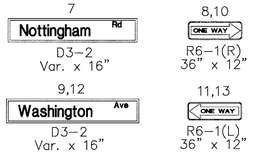
A - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
B - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
C - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
D - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
E - 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
F - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
G - 3M OPTICOM DETECTOR CABLE, MODEL 138
H - 3M OPTICOM DETECTOR CABLE, MODEL 138
J - 3M OPTICOM DETECTOR CABLE, MODEL 138
K - 2 CONDUCTOR TRAY CABLE (NO. 12 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 - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
P - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
Q - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
R - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
x - 3/4"x10' GROUND ROD
PS - PROPOSED ELECTRICAL SERVICE
I/C - INTERCONNECT CABLE

SIGNALS



→ - OPTICAL PRE-EMPTION DETECTOR EYE

SIGNS



NOTE: EXISTING RIGHT-OF-WAY BASED ON MDSHA PLAT NO. 14089.

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. 21E04034.91

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

US 40 East (Washington Ave.) at Nottingham Rd.

COUNTY: WASHINGTON

DATE: 05/30/97
SCALE: 1" = 20'

F.A.P. NO. STPG-218-I(7)E
S.H.A. NO. WA9535185

TS NO. 3683

SHEET NO. 20 OF 66