

PLOTTED: Tuesday, April 16, 2019 @ 04:03PM

J:\PROJECTS\2018\1601010151\_MT\_VERNON AND HILLSIDE\_160151\_CADD\SHOTS\05\_CIVIL\SIGNS\16151-SP02.DWG

BILL OF MATERIALS (For Information Only)		
ITEM	UNIT	QUANT.
PAD MOUNTED CONTROLLER & CABINET	EACH	1
TRAFFIC SIGNAL HEAD (SEE CHART A) W/MOUNTING HARDWARE	EACH	21
TRAFFIC SIGNAL POLE (SEE CHART B) STEEL	EACH	4
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING - POLE	EACH	4
CONDUIT ELBOW 90 2"	EACH	AS NEEDED
CONDUIT ELBOW 90 3"	EACH	AS NEEDED
SERVICE BOX	EACH	4
GROUND ROD & CLAMP	EACH	5
TRAFFIC SIGNAL LAMP RED LED KIT	EACH	13
TRAFFIC SIGNAL LAMP YELLOW LED KIT	EACH	13
TRAFFIC SIGNAL LAMP GREEN LED KIT	EACH	13
TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT	EACH	5
TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT	EACH	5
TRAFFIC SIGNAL LAMP LED (12" COMBINATION)	EACH	8
BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE A)	EACH	5
BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE I)	EACH	4
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & BOX 70 AMP	EACH	1
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	8
LEAD-IN-WIRE NO. 6 A.W.G. 1/c	LIN. FT.	55
NO. 8 A.W.G. 1/C (GROUND)	LIN. FT.	635
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 2/C	LIN. FT.	30
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 5/C	LIN. FT.	446
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 7/C	LIN. FT.	1295
CONDUIT 1" RGC	LIN. FT.	-
CONDUIT 2" RGC	LIN. FT.	86
CONDUIT 3" RGC	LIN. FT.	375
WAVETRONIX SMARTSENSOR	EACH	4
WAVETRONIX MOUNTING HARDWARE (MOUNT BRACKET)	EACH	4
WAVETRONIX POLE MOUNT CABINET	EACH	4
SMARTSENSOR CABLE (SC)	LIN. FT.	285
WAVETRONIX POWER CABLE (WPC)	LIN. FT.	505
STREET NAME SIGNS W/ MOUNTING HARDWARE (D-3)	EACH	4
LEFT TURN YIELD ON GREEN W/ MOUNTING HARDWARE (R10-12)	EACH	4
REMOVAL OF EXISTING TRAFFIC CONTROL EQUIPMENT**	EACH	1

**EQUIPMENT SPECIFICATIONS 2070 CONTROLLER**  
 Controller Units: The 2070L controllers supplied shall meet the requirements  
 2 2070-1B CPU module with RJ-45 Ethernet port connector.  
 4 2070-3B 8X40 front panel with LCD display.  
 5 2070-4A 10 amp power supply.  
 6 2070-7A asynchronous serial communications module (RS-232).  
 7 Any unused slot position shall have a cover plate.

**B. Conflict monitors:**  
 The Conflict Monitors supplied shall be 2010 ECL conflict monitors.

**C. 1-Loop-back cable for 2070-2A Field I/O (Type 170, 104 pin and 37 pin connector).**  
**D. 1-Loop-back cable for 2070-7A port.**

**Note:** The Contractor shall supply and install all necessary material and equipment for the installation of the Traffic Signal System shown in these plans.

RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES		
BID ITEM	QUANTITY	UNIT
TRAFFIC SIGNALIZATION	1	L.S.
TRAFFIC SIGNALIZATION (TEMPORARY)	1	L.S.

TRAFFIC SIGNAL POLE SUMMARY (CHART B)									
POLE NO.	STATION	TYPE	ARM LENGTH	SIGNALS ON ARM	X1 X2 X3	OTHER EQUIPMENT ON ARM	SIGNALS ON POLE	SIGNS ON POLE	
1	99+57.8, 46.4' Lt.	B	48'	2-E	11'	1-D, 1-G, 1-H, 1-I	1-E, 2-F		
2	99+54.8, 48.5' Rt.	B	46'	2-E	11.5'	1-D, 1-G, 1-H, 1-I	1-E, 2-F		
3	100+50.6, 49.0' Rt.	B	49'	2-E	11.5'	1-D, 1-G, 1-H, 1-I	1-E, 2-F		
4	100+42.4, 46.4' Lt.	B	46'	3-E	11' 11'	1-D, 1-G, 1-H, 1-I	1-E, 2-F		

A - Joint Use Steel Pole with Mast Arm  
 B - Standard Steel Pole with Mast Arm  
 C - Pedestal Pole (10' Aluminum)  
 D - Left Turn Sign (R10-12)  
 E - Traffic Signal  
 F - Pedestrian Signal with Push Button  
 G - Street Name Sign  
 H - Radar Detection Sensor  
 I - Wind Damper

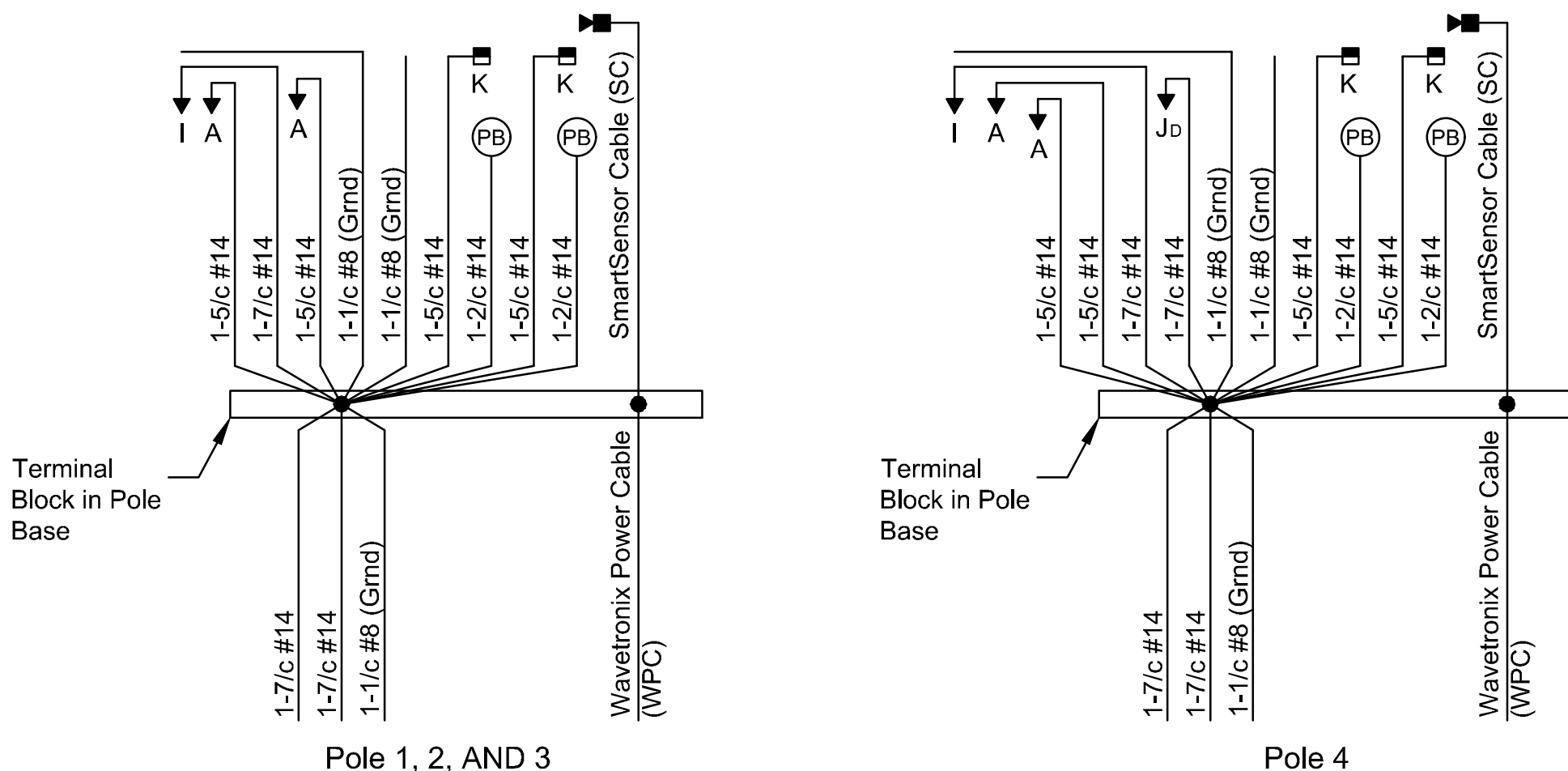
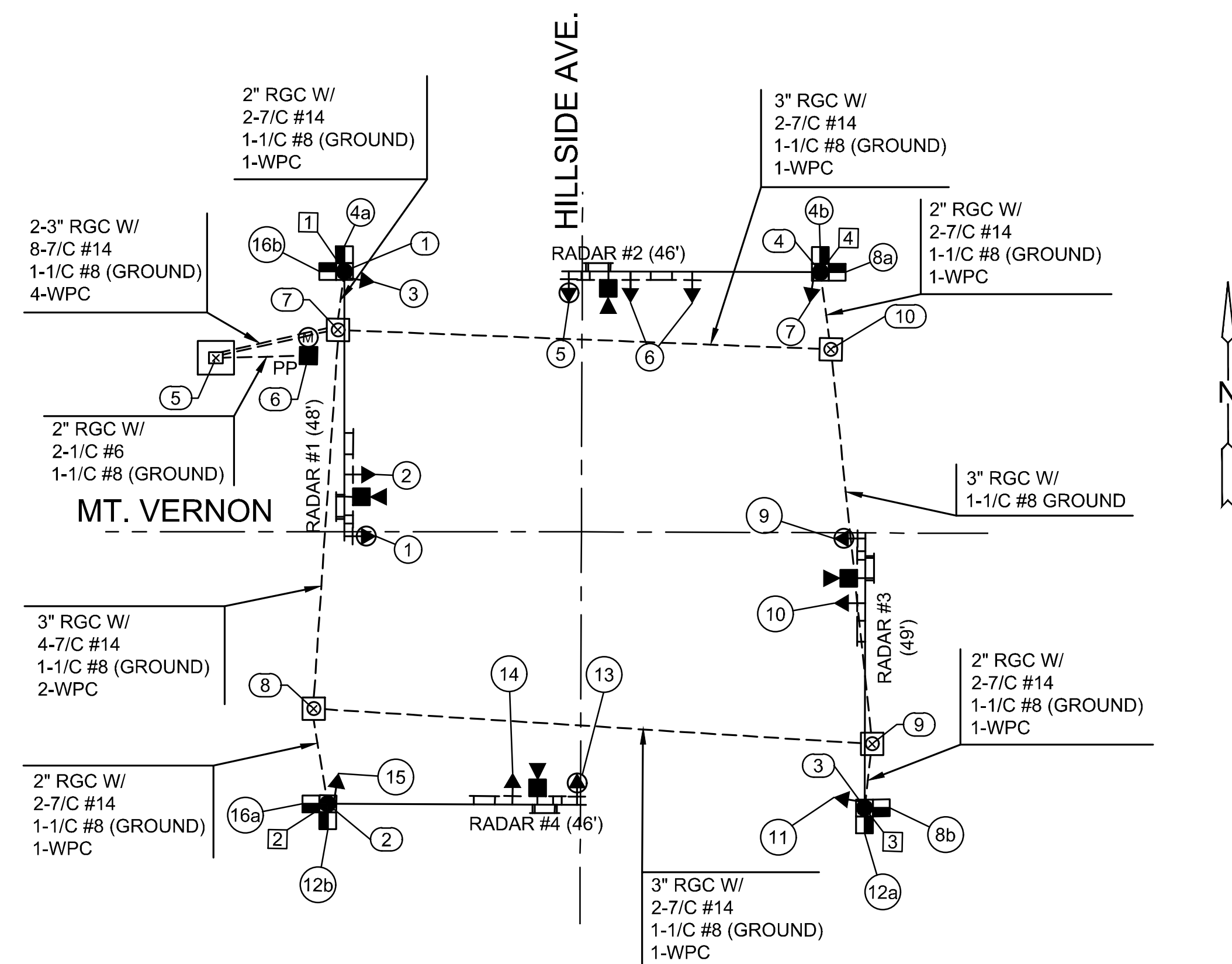
STREET NAME SIGN SUMMARY	
LEGEND	
Mt Vernon 3200 E	1
Mt Vernon 3100 E	1
Hillside 1900 S	1
Hillside 2000 S	1
<b>TOTAL</b>	<b>4</b>

Letters shall be series "E" Modified

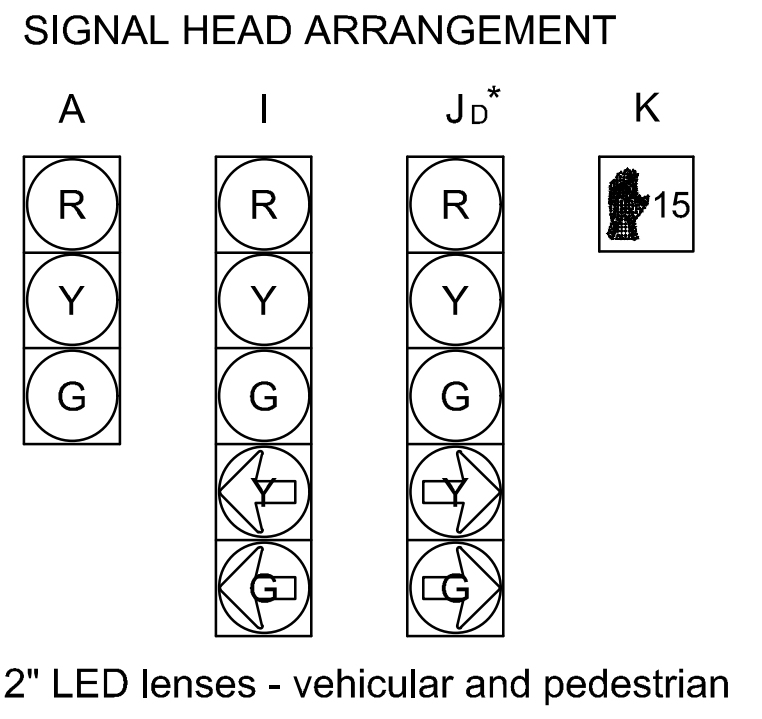
**LEGEND**

○	STEEL TRAFFIC SIGNAL POLE (JOINT USE)	□	VEHICLE DETECTION ZONE
●	STEEL TRAFFIC SIGNAL POLE (STD. POLE)	①	DETECTOR NUMBER
⊕	ALUMINUM TRAFFIC SIGNAL POLE (PEDESTAL)	---	RIGID GALVANIZED CONDUIT (RGC)
→	TRAFFIC SIGNAL INDICATION (TYPE A) W/BACKPLATE	TT	OVERHEAD STREET NAME SIGN
↔	TRAFFIC SIGNAL INDICATION (TYPE I) W/BACKPLATE	π	OVERHEAD SIGN R10-12 (LT. TURN YIELD ON GREEN)
↔	MAST ARM SUSPENDED TRAFFIC SIGNAL	TT	WIND DAMPER
↔	WAVETRONIX RADAR SENSOR	■	PP POWER POLE
□	SERVICE BOX	⊕	METER BOX AND POWER DISCONNECT
□	PEDESTRIAN INDICATION	□	CONTROLLER AND PAD
①	POLE NUMBER	①	BUBBLE POINT #
①	SIGNAL NUMBER		

SIGNAL POINTS				
Point #	Station/Offset	Northing	Easting	Desc.
1	99+57.8/46.4' Lt.	1675527.183	1660210.368	Pole 1
2	99+54.8/48.5' Rt.	1675432.282	1660209.407	Pole 2
3	100+50.6/49.0' Rt.	1675433.562	1660305.051	Pole 3
4	100+42.4/46.4' Lt.	1675528.836	1660295.168	Pole 4
5	99+34.9/31.0' Lt.	1675511.296	1660187.778	CONTROLLER
6	99+51.3/31.4' Lt.	1675512.042	1660204.261	PP
7	99+56.6/36.0' Lt.	1675516.745	1660209.431	SB#1
8	99+52.3/31.5' Rt.	1675449.159	1660206.522	SB#2
9	100+52.0/37.6' Rt.	1675444.987	1660306.163	SB#3
10	100+44.3/32.7' Lt.	1675515.127	1660297.310	SB#4



TRAFFIC SIGNAL HEAD SUMMARY (CHART A)				
SIGNAL NO.	TYPE	SIZE	MOUNTING BRACKET	QUANTITY
1	I	5-12"	TYPE I	1
2	A	3-12"	TYPE I	1
3	A	3-12"	TYPE III	1
4	K	1-12"	TYPE II	2
5	I	4-12"	TYPE II	1
6	A	3-12"	TYPE I	2
7	JD	5-12"	TYPE III	1
8	K	1-12"	TYPE II	2
9	I	5-12"	TYPE I	1
10	A	3-12"	TYPE I	1
11	A	3-12"	TYPE III	1
12	K	1-12"	TYPE II	2
13	I	5-12"	TYPE I	1
14	A	3-12"	TYPE I	1
15	A	3-12"	TYPE III	1
16	K	1-12"	TYPE II	2



**Note:** The contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.

\* Subscript "P" indicates programmed signals. Subscript "D" indicates dual-mode green/yellow arrow section.

\*\* Removal of existing traffic signal equipment shall include removal of foundations, service boxes, and junction boxes. Removals paid for as part of "Removal of Existing Structures".



STREET IMPROVEMENTS FOR **MT. VERNON & HILLSIDE INTERSECTION** PAVING PLANS

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**TRAFFIC SIGNAL WIRING PLAN**

PROJECT NO.	472-85286	
DATE	DATE	
SCALE	NTS	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA
NO.	REVISION	DATE