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 PLOTTED: Tuesday, September 03, 2019 @ 04:19PM

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	50
TRAFFIC SIGNAL POLE (SEE CHART B) STEEL	EACH	4
PEDESTAL POLE (SEE CHART B)(10' ALUMINUM)	EACH	-
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	12
TRAFFIC SIGNAL LAMP YELLOW LED KIT	EACH	12
TRAFFIC SIGNAL LAMP GREEN LED KIT	EACH	12
TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT	EACH	4
TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT	EACH	4
TRAFFIC SIGNAL LAMP LED (12" COMBINATION)	EACH	8
BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE A)	EACH	4
BACKPLATE W/ RETROREFLECTIVE TAPE ALONG THE OUTSIDE FOR SIGNAL HEAD (TYPE I)	EACH	4
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & BOX 125 AMP	EACH	1
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	8
LEAD-IN-WIRE NO. 6 A.W.G. 1/C	LIN. FT.	195
NO. 8 A.W.G. 1/C (GROUND)	LIN. FT.	683
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.	320
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 7/C	LIN. FT.	1135
CONDUIT 1" RGC	LIN. FT.	7
CONDUIT 2" RGC	LIN. FT.	104
CONDUIT 3" RGC	LIN. FT.	350
CONDUIT 2" PVC	LIN. FT.	310
WAVETRONIX SMARTSENSOR	EACH	4
WAVETRONIX MOUNTING HARDWARE (MOUNT BRACKET)	EACH	4
WAVETRONIX POLE MOUNT CABINET	EACH	4
SMARTSENSOR CABLE	LIN. FT.	220
WAVETRONIX POWER CABLE (WPC)	LIN. FT.	550
STREET NAME SIGNS W/ MOUNTING HARDWARE (D-3)	EACH	4
LEFT TURN YIELD ON GREEN W/ MOUNTING HARDWARE (R10-12)	EACH	2
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	X4	OTHER EQUIPMENT ON ARM	SIGNALS ON POLE	SIGNS ON POLE
1	19+62.4, 39.6' Lt.	A	36'	2-E	12'	22'			1-D, 1-G, 1-H, 1-I	1-E, 2-F	
2	20+40.9, 43.5' Lt.	B	36'	2-E	11'	23'			1-G, 1-H, 1-I	1-E, 2-F	
3	20+43.3, 23.2' Rt.	B	29'	2-E	11'	16'			1-D, 1-G, 1-H, 1-I	1-E, 2-F	
4	19+59.6, 33.8' Rt.	B	36'	2-E	12'	22'			1-D, 1-G, 1-H, 1-I	1-E, 2-F	

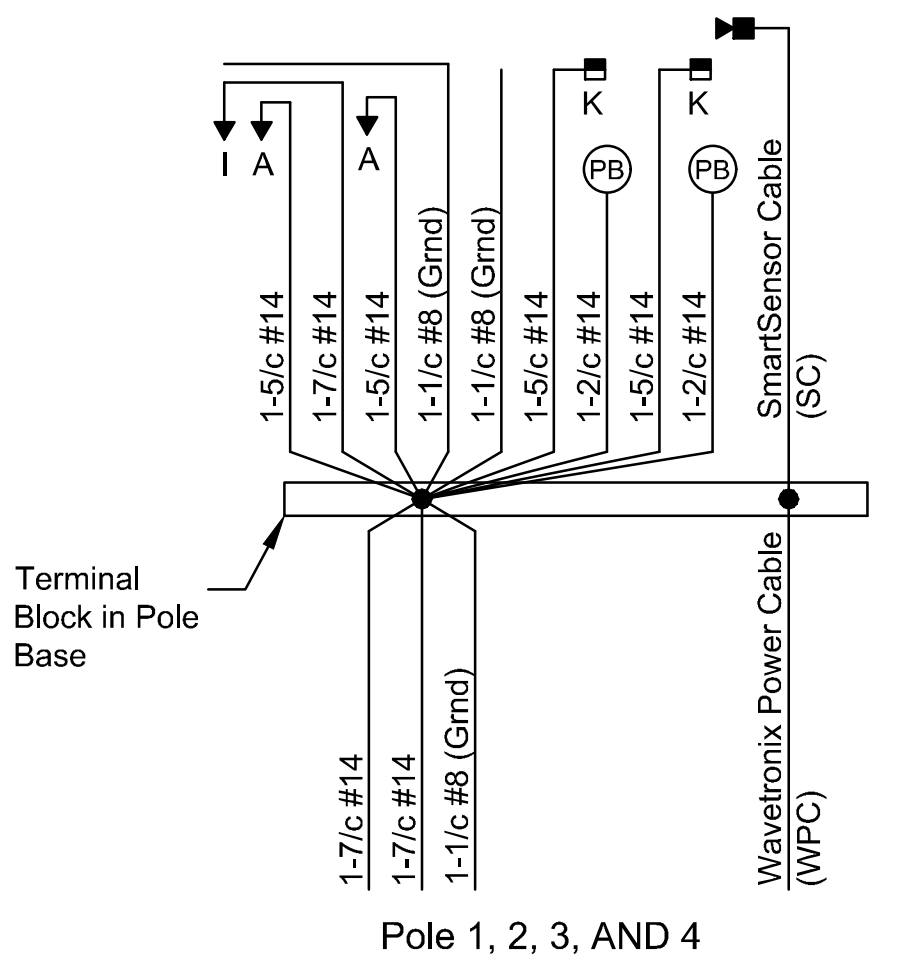
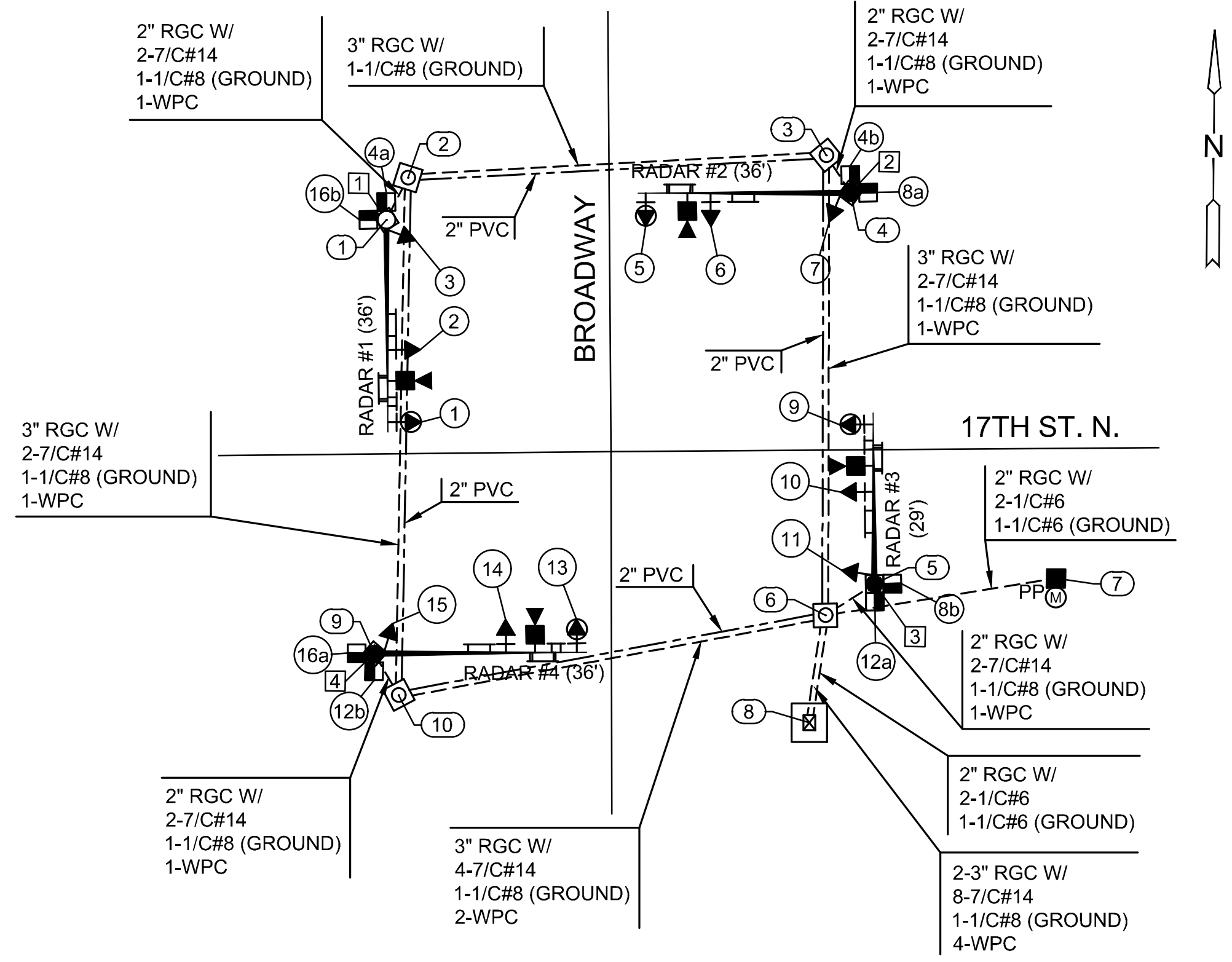
A - Joint Use Steel Pole with Mast Arm
 B - Standard Steel Pole with Mast Arm
 C - Pedestal Pole (10' Aluminum)
 D - Left Turn Sign (R10-12)
 E - Traffic Signal
 F - Pedestrian Signal with Push Button
 G - Street Name Sign
 H - Radar Detection Sensor
 I - Wind Damper

STREET NAME SIGN SUMMARY	
LEGEND	QUANTITY
17th St 200 E	1
17th St 300 E	1
Broadway 1700 N	1
Broadway 1800 N	1
TOTAL	4

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	---	PVC CONDUIT
○	TRAFFIC SIGNAL INDICATION (TYPE I) W/BACKPLATE	TT	OVERHEAD STREET NAME SIGN
○	MAST ARM SUSPENDED TRAFFIC SIGNAL	TT	OVERHEAD SIGN R10-10 (LT. TURN YIELD ON GREEN)
○	WAVETRONIX RADAR UNIT	TT	WIND DAMPER
○	SERVICE BOX	PP	POWER POLE
○	PEDESTRIAN INDICATION	Ⓜ	METER BOX AND POWER DISCONNECT
○	POLE NUMBER	Ⓧ	CONTROLLER AND PAD
○	SIGNAL NUMBER	①	BUBBLE POINT NUMBER



SIGNAL POINTS				
Point #	Station/Offset	Northing	Easting	Desc.
1	19+62.4/39.6' LT.	1696517.664	1649303.205	POLE #1
2	19+66.1/46.8' LT.	1696524.849	1649306.799	SB #1
3	20+36.8/49.9' LT.	1696529.262	1649377.611	SB #2
4	20+40.9/43.5' LT.	1696522.928	1649381.766	POLE #2
5	20+44.5/22.7' RT.	1696456.733	1649386.435	POLE #3
6	20+36.1/28.0' RT.	1696451.326	1649378.122	SB #3
7	20+75.2/22.0' RT.	1696457.932	1649417.135	PP
8	20+33.3/46.1' RT.	1696433.142	1649375.572	CONTROLLER
9	19+59.6/33.8' RT.	1696444.185	1649301.820	POLE #4
10	19+63.6/40.8' RT.	1696437.220	1649305.988	SB #4

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.

* Removal of existing traffic signal equipment shall include removal of foundations, service boxes, and junction boxes. See construction traffic control regarding removal of existing signals.

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	5-12"	TYPE I	1
6	A	3-12"	TYPE I	1
7	A	3-12"	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 I	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

All Signal Heads to be L.E.D.

SIGNAL HEAD ARRANGEMENT



STREET IMPROVEMENTS FOR
17TH ST - BROADWAY TO I-135
 FROM BROADWAY TO I-135

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WIRING PLAN-17TH & BROADWAY	
PROJECT NO.	87 N-0662-01
DATE	8/30/2019
SCALE	NA
DESIGNED	DRAWN
JRA	WNJ
CHECKED	JRA
NO.	REVISION
	DATE
SHEET NO.	
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