

PED SIGNALS ACTIVATED AS PART OF CT 32 ON 3/17/09

DETAIL NOTES:

- ① EX CONDUIT AND WIRING. R/C EX WIRING. F/I NEW WIRING AS SHOWN.
- ② R/C EX WIRING AND CONDUIT. REPAIR SIDEWALK TO MATCH EX.
- ③ EX CONDUIT AND WIRING. R/C EX WIRING. CUT CONDUIT FLUSH TO PULL BOX WALL OR 12" DEPTH, CAP OR DUCT SEAL END(S).
- ④ EX CONDUIT(S) WITH 12/C AND SERVICE WIRING TO REMAIN.
- ⑤ F/I WITH INTEGRAL BALLAST AND PHOTOELECTRIC CONTROL. F/I FUSE AND FUSE HOLDERS PER SPODW FILE #67.203.
- ⑥ F/I GUARD POSTS PER SPODW FILE #A-021.
- ⑦ R/C EXISTING GUARD POSTS
- ⑧ EXTEND 12/C INTERCONNECT TO NEW IC LOCATION. SPLICE TO EX 12/C TO MAINTAIN INTERCONNECT SYSTEM.
- ⑨ RETAIN EX SERVICE WIRES. SPLICE AND EXTEND TO NEW IC LOCATION. F/I 40A IN LINE FUSE AND FUSE HOLDER IN PULL BOX.
- ⑩ CONTRACTOR SHALL INSTALL MUNI POLE, ANCHOR BOLTS, NUTS, WASHERS, AND ANCHOR PLATES TO BE PROVIDED BY THE CITY. CONTRACTOR TO PICK UP MATERIALS FROM THE MUNI YARD LOCATED AT 1401 BRYANT STREET. CONTRACTOR TO PROVIDE 72 HOURS NOTICE TO RICH HAHN FROM MUNI AT (415) 554-9223 TO SCHEDULE PICK-UP. CONTRACTOR SHALL FURNISH AND INSTALL LUMINAIRE ARM, AND LUMINAIRE.
- ⑪ AFTER INSTALLATION OF NEW MUNI POLE, CONTRACTOR TO CONTACT RICH HAHN FROM MUNI AT (415) 554-9223 TO SCHEDULE PERMANENT ATTACHMENT OF OVERHEAD TROLLEY WIRES BY MUNI STAFF.

AS-BUILT

Date:

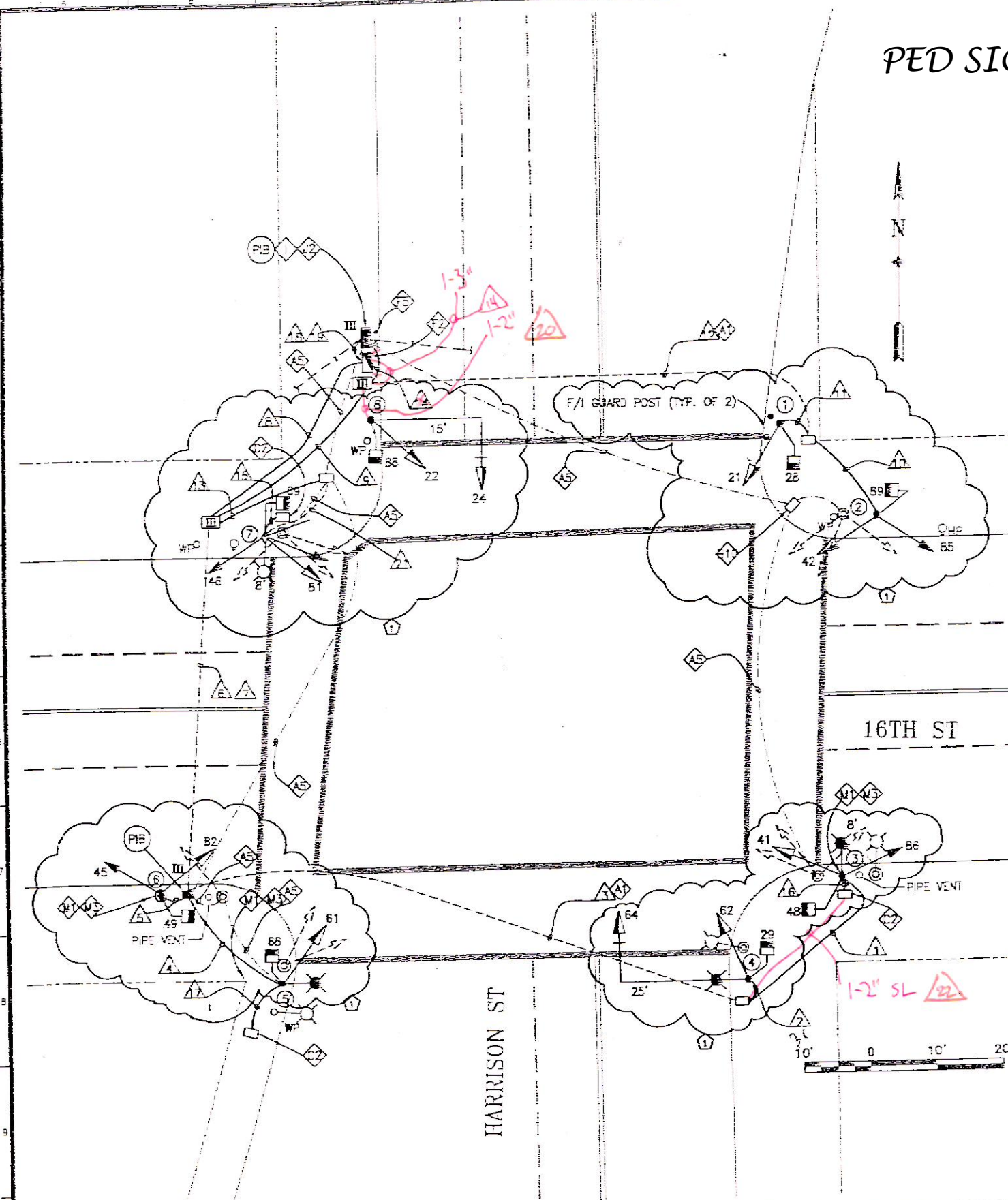
By: *[Signature]*

PLANS ARE TO BE RETURNED WITH CORRECTIONS MADE AND CERTIFIED TO IN RED INK AND DATED BY THE INSPECTOR IN CHARGE UPON COMPLETION OF THE WORK BEFORE FINAL PAYMENT CAN BE MADE.

Sumathy C. Chen 11/5/09
SIGNED-INSPECTOR

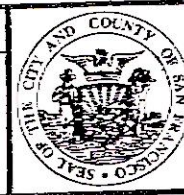
NOTE:

THIS AUTOCAD DRAWING HAS BEEN REVISED AND REPLOTED SUBSEQUENT TO INTERNAL ENGINEERING APPROVAL AND SIGN-OFF. FOR THOSE SIGNATURES, SEE THE DRAWING PLOTTED AND ISSUED PREVIOUSLY DURING BIDDING. THE SIGNED DRAWING REMAINS VALID EXCEPT FOR THE CHANGES ONLY AS CLEARLY MARKED ON THIS DRAWING AND ISSUED UNDER THIS LATEST REVISION NUMBER AS SHOWN IN THE TABLE OF REVISIONS LOCATED AT THE LOWER LEFT CORNER OF THE DRAWING. ALL ISSUED REVISIONS SUBSEQUENT TO PREVIOUSLY PLOTTED DRAWING DURING BIDDING REMAIN VALID UNLESS SUPERSEDED BY LATER ISSUED REVISIONS. CHECK ALL ISSUED REVISIONS OF THIS DRAWING.

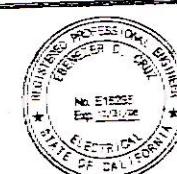


NO.	DATE	DESCRIPTION	BY	APP.
1	8/26/08	POD #1: VARIOUS CHANGES BASED ON POLE LAYOUT	JS	SL
TABLE OF REVISIONS				
CHECK WITH TRACINGS TO SEE IF YOU HAVE LATEST REVISION				

REFERENCE INFORMATION	FILE NO. OF SURVEYS



BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO

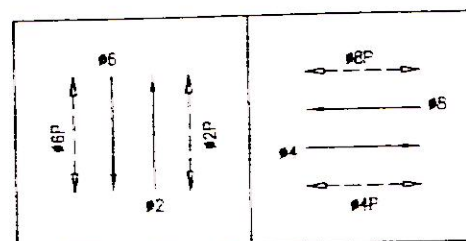


DESIGNED	DATE	APPROVED	SCALE
GD/JS	10/07		AS SHOWN
DRAWN	DATE	SECTION MANAGER	DATE
CXL	10/07		
CHECKED	DATE	DEPUTY BUREAU MANAGER	DATE
BC	10/07		
	DATE	CITY ENGINEER	DATE

CONTRACT 32	SPECIFICATION NO.
TRAFFIC SIGNAL MODIFICATIONS	0985J
16TH ST AND HARRISON ST	DRAWING NO. E-16.0
	FILE NO. 87.519
	REV. NO. 1

POLE AND EQUIPMENT SCHEDULE										CONTRACT WORK IN BOLD	
POLE No.	TYPE OF POLE	LUMINAIRE (HPS) VOLTAGE/ WATTAGE	VEHICLE SIGNAL					PEDESTRIAN SIGNAL			REMARKS
			No.	TYPE	MOUNTING	VISORS	LOUVERS	No.	TYPE	MOUNTING	
①	1-A (10')		21	3S12"	TV-1-T	T		28	1S-COUNT	SP-1	BACKPLATE
②	1-A (10')		42 85	3S12" 3S8"	TV-2-T-SFA	T T		89	1S-COUNT	SP-1	
③	MUNI 761N POLE W/ 6' LUMINAIRE ARM, AND LUMINAIRE	120V/ 150W	41 86	3S12" 3S8"	SV-2-TA	T T		48	1S-COUNT	SP-1	
④	19-1-100 W/ 25' MAST ARM, 6' LUMINAIRE ARM AND LUMINAIRE	120V/ 150W	62 64	3S12" 3S12"	SV-1-T MAS	T T		29	1S-COUNT	SP-1	BACKPLATE
⑤	CITY STANDARD STREET LIGHT	120V/ 150W	61	3S12"	SV-1-T	T		68	1S-COUNT	SP-1	
⑥	MUNI 765N POLE		45 82	3S8" 3S12"	SV-2-TA	T T		49	1S-COUNT	SP-1	
⑦	EX MUNI	120V/ 150W	46 81	3S8" 3S8"	SV-2-TA	T T		69	1S-COUNT	SP-1	
⑧	16-1-100 W/ 15' MAST ARM		22 24	3S12" 3S12"	SV-1-T MAS	T T		88	1S-COUNT	SP-1	BACKPLATE

PHASE DIAGRAM



PHASE SEQUENCE

G	Y	R	HARRISON ST (NB AND SB) - #2 AND #6		
R	G	Y	16TH ST (EE AND WB) - #4 AND #8		
WM	FRH	RH	PED XING 16TH ST (E/S AND W/S) - 2P AND 5P		
RH	WM	FRH	PED XING HARRISON ST (S/S AND N/S) - 4P AND 8P		

AS-BUILT

Date:

By:

DETAIL NOTES:

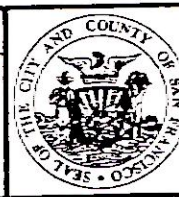
CONTRACTOR SHALL INSTALL MUNI POLE, ANCHOR BOLTS, NUTS, WASHERS, AND ANCHOR PLATES TO BE PROVIDED BY THE CITY. CONTRACTOR TO PICK UP MATERIALS FROM THE MUNI YARD LOCATED AT 1401 BRYANT STREET. CONTRACTOR TO PROVIDE 72 HOURS NOTICE TO RICH HAHN FROM MUNI AT (415) 554-9223 TO SCHEDULE PICK-UP. CONTRACTOR SHALL FURNISH AND INSTALL LUMINAIRE ARM, LUMINAIRE.

PLANS ARE TO BE RETURNED WITH CORRECTIONS MADE AND CERTIFIED TO IN RED INK AND DATED BY THE INSPECTOR IN CHARGE UPON COMPLETION OF THE WORK BEFORE FINAL PAYMENT CAN BE MADE.

Jerrold Chen 11/5/09
SIGNED-INSPECTOR

NO.	DATE	DESCRIPTION	BY	APP.
1	8/26/08	POD #1: VARIOUS CHANGES BASED ON POLE LAYOUT	JS	SL

REFERENCE INFORMATION & FILE NO. OF SURVEYS
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BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO



DESIGNED:	DATE:	APPROVED:	SCALE:
GD	10/07	SECTION MANAGER	NONE
DRAWN:	DATE:	DEPUTY BUREAU MANAGER	SHEET OF SHEETS
CXL	10/07		54 OF 78
CHECKED:	DATE:	CITY ENGINEER	
BC	10/07		

CONTRACT 32
TRAFFIC SIGNAL MODIFICATIONS
16TH ST AND HARRISON ST
SCHEDULE

SPECIFICATION NO.	0985J
DRAWING NO.	E-16.1
FILE NO.	E7,520
REV. NO.	

CONDUIT AND WIRING SCHEDULE (FURNISH AND INSTALL CONDUIT AND WIRES)																									
CONDUIT RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
CONDUIT SIZE (INCH)	2	2	2	2		2	2	3	2	2	2	2	2	3	1.5	1.5	1.5	2	2	2					
CONDUIT SIZE (mm)	53	53	53	53		53	53	78	53	53	53	53	53	78	41	41	41				53				
NOTES			EX		EX	EX	EX		SP			EX			GRS	GRS	GRS				EX				
SIGNAL 41	3		3			3		3																	
SIGNAL 86	3		3			3		3																	
SIGNAL 48	2		2			2		2																	
SIGNAL 62		3	3			3		3																	
SIGNAL 29		2	2			2		2																	
SIGNAL 68				2				2	2																
SIGNAL 61				3				3	3																
SIGNAL 64		3	3					3	3																
SIGNAL 45						3		3	3																
SIGNAL 82						3		3	3																
SIGNAL 49						2		2	2																
SIGNAL 89										2		2		2											
SIGNAL 42										3		3		3											
SIGNAL 85										3		3		3											
SIGNAL 24											3		3		3										
SIGNAL 21											3		3		3										
SIGNAL 28										2	2		2		2										
SIGNAL 69								2					2		2										
SIGNAL 88													3	3											
SIGNAL 81													3	3											
SIGNAL 22														3											
SIGNAL 46														3	3										
#14 NEUTRAL	3	3		2	2					2	2		2								3	3			
#14 SPARE			3			3		3				3		3											
TOTAL #14 WIRES	11	11	19	7	10	16	16	40		10	7	16	10	30							11	11			
#10 WIRES NEUTRAL			1			1	1	2				1	1												
#10 WIRES STREET LIGHT															2	2	2								
#8 WIRES STREET LIGHT																									
#8 WIRES (120 V SERVICE)																			2						
#5 BSCW																									
INTERCONNECT 12C CABLE																				2					
DLW (DETECTOR LOOP WIRE)																									
DLC (DETECTOR LED-IN-CABLE)																									
PRE-EMPTION																									

SHEET NOTES:

1 GROUNDING WIRES NOT INCLUDED IN THIS WIRING SCHEDULE. FOR REQUIREMENTS SEE DETAIL E-0.5

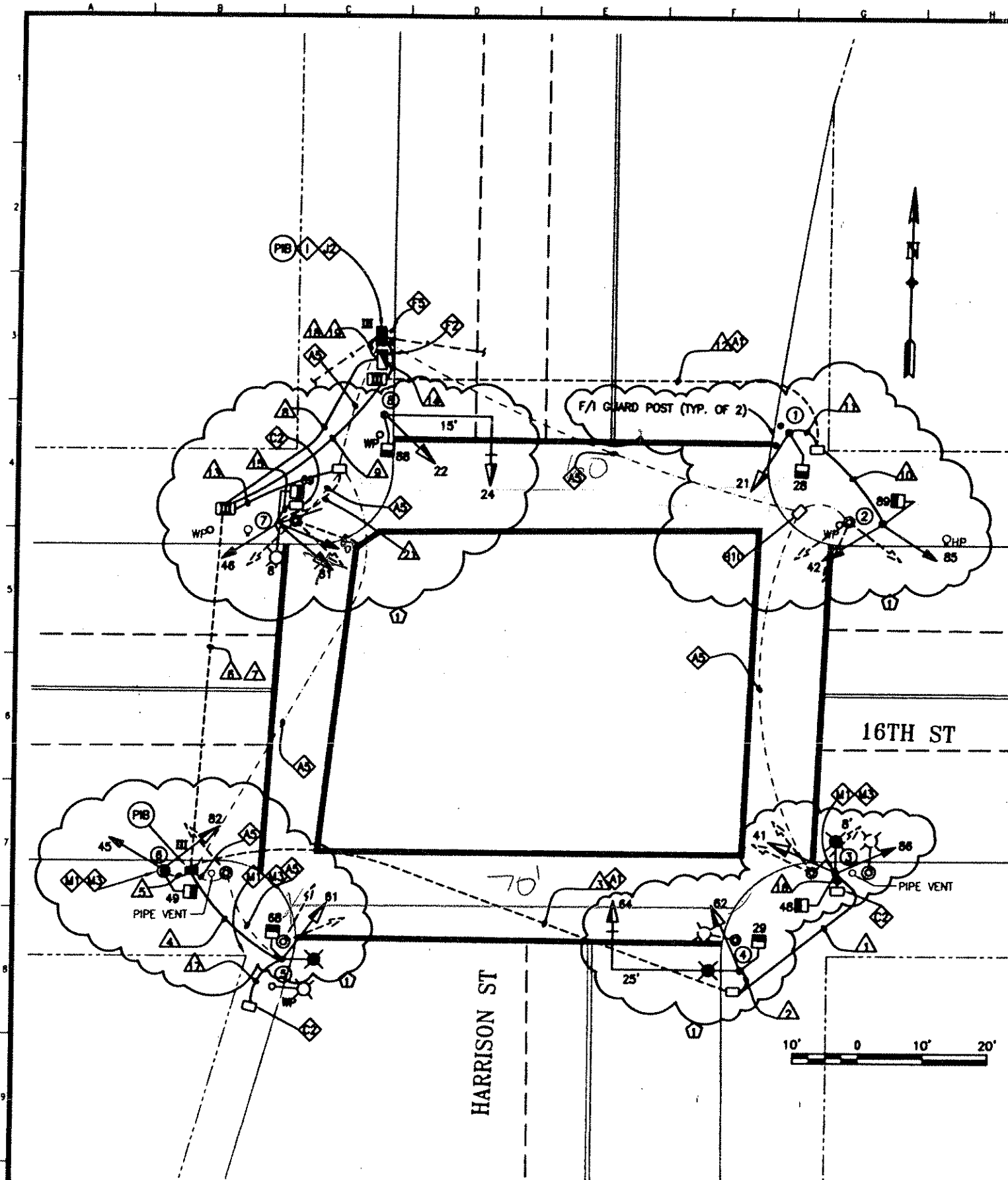
AS-BUILT

Date:

By:

PLANS ARE TO BE RETURNED WITH
CORRECTIONS MADE AND CERTIFIED
TO IN RED INK AND DATED BY THE
INSPECTOR IN CHARGE UPON
COMPLETION OF THE WORK BEFORE
FINAL PAYMENT CAN BE MADE.
SIGNED-INSPECTOR Samuel C. Chen 11/5/09

11/8/26/08 PCO #1: VARIOUS CHANGES BASED ON POLE LAYOUT	JS	SL
NO. DATE DESCRIPTION BY APP		
TABLE OF REVISIONS		
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION		
REFERENCE INFORMATION & FILE NO. OF SURVEYS		BUREAU OF ENGINEERING DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF SAN FRANCISCO
		DESIGNED: DATE: 10/07 DRAWN: DATE: 10/07 CHECKED: DATE: 10/07 BC
	APPROVED: DATE: 10/07 SECTION MANAGER: DATE: 10/07 DEPUTY BUREAU MANAGER: DATE: 10/07 CITY ENGINEER: DATE: 10/07	SCALE: NONE SHEET OF SHEETS: 55 OF 78
CONTRACT 32 TRAFFIC SIGNAL MODIFICATIONS 16TH ST AND HARRISON ST SCHEDULE		SPECIFICATION NO. 0985J DRAWING NO. E-16.2 FILE NO. 87.521 REV. NO. 1



DETAIL NOTES:

- AD EX CONDUIT AND WIRING. R/C EX WIRING. F/I NEW WIRING AS SHOWN.
- AA R/C EX WIRING AND CONDUIT. REPAIR SIDEWALK TO MATCH EX.
- AS EX CONDUIT AND WIRING. R/C EX WIRING. CUT CONDUIT FLUSH TO PULL BOX WALL OR 12" DEPTH. CAP OR DUCT SEAL END(S).
- BS EX CONDUIT(S) WITH 12/C AND SERVICE WIRING TO REMAIN.
- C2 F/I WITH INTEGRAL BALLAST AND PHOTOELECTRIC CONTROL. F/I FUSE AND FUSE HOLDERS PER SPOFWSF FILE #87,203.
- F2 F/I GUARD POSTS PER SPOFWSF FILE #LA-021.
- FS R/C EXISTING GUARD POSTS
- I EXTEND 12/C INTERCONNECT TO NEW IC LOCATION. SPLICE TO EX 12/C TO MAINTAIN INTERCONNECT SYSTEM.
- J2 RETAIN EX SERVICE WIRES. SPLICE AND EXTEND TO NEW IC LOCATION. F/I 40A IN LINE FUSE AND FUSE HOLDER IN PULL BOX.
- M1 CONTRACTOR SHALL INSTALL MUNI POLE, ANCHOR BOLTS, NUTS, WASHERS, AND ANCHOR PLATES TO BE PROVIDED BY THE CITY. CONTRACTOR TO PICK UP MATERIALS FROM THE MUNI YARD LOCATED AT 1401 BRYANT STREET. CONTRACTOR TO PROVIDE 72 HOURS NOTICE TO RICH HAHN FROM MUNI AT (415) 554-9223 TO SCHEDULE PICK-UP. CONTRACTOR SHALL FURNISH AND INSTALL LUMINAIRE ARM, AND LUMINAIRE.
- M2 AFTER INSTALLATION OF NEW MUNI POLE, CONTRACTOR TO CONTACT RICH HAHN FROM MUNI AT (415) 554-9223 TO SCHEDULE PERMANENT ATTACHMENT OF OVERHEAD TROLLEY WIRES BY MUNI STAFF.

NEW VEHICLE SIGNALS AS SHOWN AND
 RED SIGNALS ACTIVATED ON 3/17/09 AT 10:31 AM.
 ATTENDED BY: GERARDINE DE LEON (DPT), TIM WON (DPW BCM),
 PHILIP ORTIZ (SIGNAL SHOP), JOHN NG (SIGNAL SHOP),
 AND PHONG NGUYEN (SIGNAL SHOP)

NOTE:
 THIS AUTOCAD DRAWING HAS BEEN REVISED AND REPLOTED
 SUBSEQUENT TO INTERNAL ENGINEERING APPROVAL AND
 SIGN-OFF. FOR THOSE SIGNATURES, SEE THE DRAWING
 PLOTTED AND ISSUED PREVIOUSLY DURING BIDDING. THE
 SIGNED DRAWING REMAINS VALID EXCEPT FOR THE CHANGES
 ONLY AS CLEARLY MARKED ON THIS DRAWING AND ISSUED
 UNDER THIS LATEST REVISION NUMBER AS SHOWN IN THE
 TABLE OF REVISIONS LOCATED AT THE LOWER LEFT CORNER
 OF THE DRAWING. ALL ISSUED REVISIONS SUBSEQUENT TO
 PREVIOUSLY PLOTTED DRAWING DURING BIDDING REMAIN
 VALID UNLESS SUPERSEDED BY LATER ISSUED REVISIONS.
 CHECK ALL ISSUED REVISIONS OF THIS DRAWING.

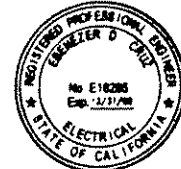
NO.	DATE	DESCRIPTION	BY	APP
17	8/29/08	PCO #1: VARIOUS CHANGES BASED ON POLE LAYOUT	JS	SL

CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION
 & FILE NO. OF SURVEYS



BUREAU OF ENGINEERING
 DEPARTMENT OF PUBLIC WORKS
 CITY AND COUNTY OF SAN FRANCISCO



DESIGNED: DATE: 10/07
 GD/JS
 DRAWN: DATE: 10/07
 CKL
 CHECKED: DATE: 10/07
 BC

APPROVED: I
 SECTION MANAGER DATE:
 DEPUTY BUREAU MANAGER DATE:
 CITY ENGINEER DATE:

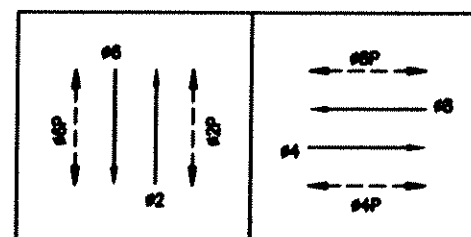
SCALE:
 AS SHOWN
 SHEET OF SHEETS
 54 OF 78

CONTRACT 32
 TRAFFIC SIGNAL MODIFICATIONS
 16TH ST AND HARRISON ST

SPECIFICATION NO.
 0985J
 DRAWING NO.
 E-16.0
 FILE NO.
 87,519
 REV. NO.
 1

POLE AND EQUIPMENT SCHEDULE											CONTRACT WORK IN BOLD
POLE No.	TYPE OF POLE	LUMINAIRE (FPS) VOLTAGE/ WATTAGE	VEHICLE SIGNAL					PEDESTRIAN SIGNAL			REMARKS
			No.	TYPE	MOUNTING	VSORS	LOUVERS	No.	TYPE	MOUNTING	
①	1-A (10')		21	3812"	TV-1-T	T		28	18-COUNT	SP-1	BACKPLATE
②	1-A (10')		42 85	3812" 388"	TV-2-T-SFA	T T		89	18-COUNT	SP-1	
③	MUNI 761N POLE W/ 6' LUMINAIRE ARM, AND LUMINAIRE	120V/ 150W	41 86	3812" 388"	SV-2-TA	T T		48	18-COUNT	SP-1	
④	18-1-100 W/ 25' MAST ARM, 6' LUMINAIRE ARM AND LUMINAIRE	120V/ 150W	62 64	3812" 3812"	SV-1-T MAS	T T		29	18-COUNT	SP-1	BACKPLATE
⑤	CITY STANDARD STREET LIGHT	120V/ 150W	61	3812"	SV-1-T	T		68	18-COUNT	SP-1	
⑥	MUNI 765N POLE		45 82	388" 3812"	SV-2-TA	T T		49	18-COUNT	SP-1	
⑦	EX MUN	120V/ 150W	46 81	388" 388"	SV-2-TA	T T		69	18-COUNT	SP-1	
⑧	18-1-100 W/ 15' MAST ARM		22 24	3812" 3812"	SV-1-T MAS	T T		88	18-COUNT	SP-1	BACKPLATE

PHASE DIAGRAM



PHASE SEQUENCE

G		Y	R			HARRISON ST (NB AND SB) - #2 AND #6	
R			G		Y	R	16TH ST (EB AND WB) - #4 AND #8
WM	FRH	RH				PED XING 16TH ST (E/S AND W/S) - 2P AND 8P	
RH		WM		FRH	RH	PED XING HARRISON ST (S/S AND N/S) - 4P AND 8P	

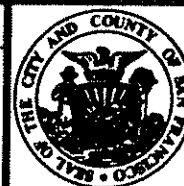
DETAIL NOTES:

④ CONTRACTOR SHALL INSTALL MUNI POLE, ANCHOR BOLTS, NUTS, WASHERS, AND ANCHOR PLATES TO BE PROVIDED BY THE CITY. CONTRACTOR TO PICK UP MATERIALS FROM THE MUNI YARD LOCATED AT 1401 BRYANT STREET. CONTRACTOR TO PROVIDE 72 HOURS NOTICE TO RICH HAHN FROM MUNI AT (415) 554-9223 TO SCHEDULE PICK-UP. CONTRACTOR SHALL FURNISH AND INSTALL LUMINAIRE ARM, LUMINAIRE.

NO.	DATE	DESCRIPTION	BY	APP.
①	8/29/06	PCO #1: VARIOUS CHANGES BASED ON POLE LAYOUT	JS	SL

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION
& FILE NO. OF SURVEYS



BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO



DESIGNED: DATE: 10/07
DRAWN: DATE: 10/07
CHECKED: DATE: 10/07

APPROVED
SECTION MANAGER DATE:
DEPUTY BUREAU MANAGER DATE:
CITY ENGINEER DATE:

SCALE:
NONE
SHEET OF SHEETS
54 OF 78

CONTRACT 32
TRAFFIC SIGNAL MODIFICATIONS
16TH ST AND HARRISON ST
SCHEDULE

SPECIFICATION NO. 0985J
DRAWING NO. E-16.1
FILE NO. 87,520
REV. NO. 1

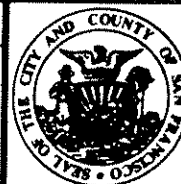
CONDUIT AND WIRING SCHEDULE (FURNISH AND INSTALL CONDUIT AND WIRES)																										
CONDUIT RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
CONDUIT SIZE (INCH)	2	2	2	2		2	2	3	2	2	2	2	2	3	1.5	1.5	1.5	2	2	2						
CONDUIT SIZE (mm)	53	53	53	53		53	53	78	53	53	53	53	53	78	41	41	41									
NOTES			EX		EX	EX	EX		SP		EX			GRS	GRS	GRS								EX		
SIGNAL 41	3		3			3		3																		
SIGNAL 46	3		3			3		3																		
SIGNAL 48	2		2			2		2																		
SIGNAL 62		3	3			3		3																		
SIGNAL 29		2	2			2		2																		
SIGNAL 68				2				2	2																	
SIGNAL 61				3				3	3																	
SIGNAL 64		3	3					3	3																	
SIGNAL 45					3			3	3																	
SIGNAL 82					3			3	3																	
SIGNAL 49					2			2	2																	
SIGNAL 69										2		2		2												
SIGNAL 42										3		3		3												
SIGNAL 85										3		3		3												
SIGNAL 24											3		3		3											
SIGNAL 21											2	2		2												
SIGNAL 28																										
SIGNAL 60																										
SIGNAL 88																										
SIGNAL 81																										
SIGNAL 22																										
SIGNAL 46																										
#14 NEUTRAL	3	3		2	2					2	2		2										3	3		
#14 SPARE			3			3		3			3		3													
TOTAL #14 WIRES	11	11	19	7	10	18	18	40		10	7	18	10	30								11	11			
#10 WIRES NEUTRAL			1			1	1	2				1	1													
#10 WIRES STREET LIGHT															2	2	2									
#8 WIRES STREET LIGHT																										
#8 WIRES (120 V SERVICE)																										
#6 BSCW																										
INTERCONNECT 12C CABLE																										
DLW (DETECTOR LOOP WIRE)																										
DLC (DETECTOR LED-IN-CABLE)																										
PRE-EMPTION																										

SHEET NOTES:

1 GROUNDING WIRES NOT INCLUDED IN THIS WIRING SCHEDULE. FOR REQUIREMENTS SEE DETAIL E-0.5

NO.	DATE	DESCRIPTION	BY	APP.
1	8/29/08	PCO #1: VARIOUS CHANGES BASED ON POLE LAYOUT	JS	SL

REFERENCE INFORMATION
& FILE NO. OF SURVEYS



BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO



DESIGNED: DATE
JS 10/07
DRAWN: DATE
CXL 10/07
CHECKED: DATE
BC 10/07

APPROVED
SECTION MANAGER DATE
DEPUTY BUREAU MANAGER DATE
CITY ENGINEER DATE

SCALE:
NONE
SHEET OF SHEETS
55 OF 78

CONTRACT 32
TRAFFIC SIGNAL MODIFICATIONS
16TH ST AND HARRISON ST
SCHEDULE

SPECIFICATION NO.
0985J
DRAWING NO.
E-16.2
FILE NO.
87,521
REV. NO.
1