

EXISTING POLE AND EQUIPMENT SCHEDULE U.O.N										
POLE No.	TYPE OF POLE	FIXTURE TYPE	VEHICLE SIGNAL				PEDESTRIAN SIGNAL			REMARKS
			No.	TYPE	MOUNTING	VISORS	No.	TYPE	MOUNTING	
①	MUNI POLE	108 LED	81	3S12"	SV-1-T	T				EXTERNAL CONDUIT
②	(N) 1-A(10')		(N) 22	(N) 3S12"	(N) TV-1-T	(N) T	(N) 88 (N) 69	(N) 1S-COUNT (N) 1S-COUNT	(N) SP-2-T	
③	MUNI POLE	108 LED	21	3S12"	SV-1-T	T	89	1S-COUNT	SP-1	EXTERNAL CONDUIT
④	(N) 1-A(10')		(N) 42	(N) 3S12"	(N) TV-1-T	T	28	(N) 1S-COUNT	(N) SP-1	
⑤	PG&E POLE	60 LED	41	3S12"	SV-1-T	T				EXTERNAL CONDUIT
⑥	PG&E POLE		62	3S12"	TV-1-T	T	29 48	1S-COUNT 1S-COUNT	SP-2-T	EXTERNAL CONDUIT
⑦	(N) 1-A(10')		(N) 61	(N) 3S12"	(N) TV-1-T	(N) T	(N) 68	(N) 1S-COUNT	(N) SP-1	
⑧	(N) 1-A(10')		(N) 82	(N) 3S12"	(N) TV-1-T	(N) T	(N) 49	(N) 1S-COUNT	(N) SP-1	

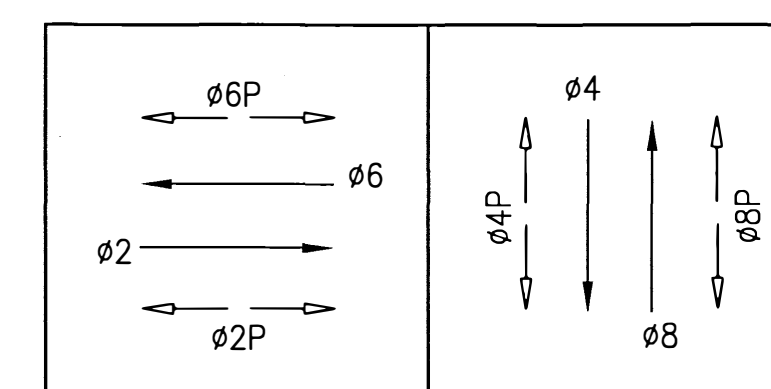
SHEET NOTES:

- A** REUSE EXISTING TRAFFIC SIGNAL WIRES FROM R/C POLE TO POLE 2.
- B** REUSE EXISTING TRAFFIC SIGNAL WIRES FROM R/C POLE TO POLE 4.
- C** REUSE EXISTING TRAFFIC SIGNAL WIRES FROM R/C POLES TO POLES 7 & 8.
- D** PRIOR TO REPLACEMENT OF PULLBOX, CONTACT SFMTA FOR EXISTING PULLBOX REQUIREMENTS. PROVIDE 7 DAYS NOTICE AFTER SIDEWALK DEMOLITION.
- E** ABANDON EXISTING CONDUIT. REFER TO GENERAL NOTES FOR ABANDONING CONDUIT.

CONDUIT:

-  1-2" PVC;

## PHASE DIAGRAM



Traffic Signal punchlist meeting 2021-08-09:

Attendees:

Ben Murphy (SFMTA Traffic Signal Shop)

Sam Lam (SFMTA Traffic Routing)

Lea Limbo (SFPW)

Beeior Rov-Ikpah (SFPW)

Cathal O'Riordan (KJ Woods)

Niall O'Flynn (Bay Area Lightworks)

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SYMBOLS					ABBREVIATIONS		GENERAL NOTES
FURNISH & INSTALL		EXISTING	REMOVE AS CONTRACTOR'S PROPERTY				
				CONDUIT	A	AMPERE	
				VEHICLE SIGNAL FACE - 12"(304.8 mm)	APS	ACCESSIBLE PEDESTRIAN SIGNALS	
				PEDESTRIAN SIGNAL	BP	SIGNAL BACKPLATE	
				PEDESTRIAN PUSH BUTTON	C	CONDUIT	
				"M" OR "M-SF" FOUNDATION	(E), EX	EXISTING	
				STREET LIGHT WITH 6' LUMINAIRE ARM	EXT	EXTERNAL	
				TRAFFIC SIGNAL OR STREET LIGHT POLE WITH FOUNDATION.	F/I	FURNISH AND INSTALL UNDER THIS CONTRACT	
				MUNI POLE	GRSC	GALVANIZED RIGID STEEL CONDUIT	
				UTILITY POLE (WOOD OR STEEL)	(N)	NEW	
				TREE	NTS	NOT TO SCALE	
				FIRE HYDRANT (LP = LOW PRESSURE) (HP = HIGH PRESSURE)	PG&E, PGE	PACIFIC GAS AND ELECTRIC COMPANY	
				PULL BOX TYPE III	PED	PEDESTRIAN	
				PULL BOX TYPE I SL: STREET LIGHT, TS: TRAFFIC SIGNAL	PPB	PEDESTRIAN PUSH BUTTON	
				CURB RAMP (SEE CR-DWGS)	PPBP	PEDESTRIAN PUSH BUTTON POST (POLE)	
				DETAIL NOTE	PVC	POLYVINYL CHLORIDE	
				POLE NUMBER	R/C	REMOVE FROM SITE OF WORK AS CONTRACTOR'S PROPERTY	
				CONDUIT RUN NUMBER	(R)	RELOCATED	
				INSTALL NEW PULL BOX IN PLACE OF EXISTING PULL BOX, (R/C EX PULL BOX), OR EXISTING CONTROLLER FOUNDATION (R/C EXISTING FOUNDATION), OR EXISTING POLE FOUNDATION (R/C EXISTING FOUNDATION) MODIFY EXISTING CONDUITS AND WIRING AS REQUIRED	R/R	REMOVE AND RELOCATE, OR REMOVE AND REINSTALL AS APPLICABLE	
				DETAIL REFERENCE, SEE DETAIL "1" ON DRAWING NO. E-3	R/S	REMOVE AND SALVAGE AS CITY'S PROPERTY	
					SL	STREET LIGHT	
					SP	SPARE	
					SPDPWSF	STANDARD PLAN, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF SAN FRANCISCO.	
					SSDPWSF	STANDARD SPECIFICATION, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF SAN FRANCISCO.	
					T	TUNNEL VISOR	
					TS	TRAFFIC SIGNAL	
					V	VOLT	
					VA	VOLTAMPERE	
					U.O.N., UON	UNLESS OTHERWISE NOTED	
					VEH	VEHICLE	
					W	WATT	
					WP	WOOD POLE	
					TV-X SV-X TP-X SP-X	VEHICLE AND PEDESTRIAN SIGNAL POLE MOUNTING DESIGNATIONS. SEE CTSP ES-4A, ES-4B, ES-4C, ES-4D EXCEPT USE U-BOLTS IN LIEU OF POLE PLATES AS APPLICABLE.	
					1-A (X)	CALTRANS TYPE OF SIGNAL STANDARD. SEE CTSP.	
					XX-X-100	CALTRANS TYPE OF SIGNAL STANDARD WITH SIGNAL MAST ARM. SEE CTSP.	
					1S-COUNT	1 SECTION COUNTDOWN TIMER LED PEDESTRIAN SIGNAL	
					3S12"	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN	
					3S12"LA	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN (ALL LEFT ARROWS)	
					3S12"RA	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN (ALL RIGHT ARROWS)	
1. THESE ELECTRICAL PLANS ARE DIAGRAMMATIC AND ARE CORRECT FOR GENERAL DESIGN ONLY. THE EXACT LOCATIONS OF EQUIPMENT & APPURTENANCES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.							
2. SPECIAL INSTRUCTION TO THE CONTRACTOR: IT IS EXPECTED THAT AN ELECTRICAL CONTRACTOR WILL BE ABLE TO INTERPRET THE DESIGNED TRAFFIC PHASING AND THE WIRING SHOWN ON THE PLANS AND ENSURE THAT THE NET RESULT WILL OPERATE CORRECTLY. ANY IRREGULARITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.							
3. ALL CALTRANS TYPE STANDARDS SHALL BE IN ACCORDANCE WITH SECTION 86-2.04 OF CTSS. EXCEPT MASTARM POLE HANDHOLES ARE 180" AWAY FROM CURB AND SL POLE HANDHOLES ARE 180" AWAY FROM CURB AND ALSO AWAY FROM TRAFFIC.							
4. COORDINATE WITH RESIDENT ENGINEER TO LAYOUT CONTRACT CURB LOCATIONS PRIOR TO POLE, PULL BOX, AND FOUNDATION CONSTRUCTION.							
5. WORK AROUND AND PROTEC ALL EXISTING FACILITIES ADJACENT TO HIS WORK AREA. THESE FACILITIES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: TREES, LANDSCAPING, HYDRANTS AND UTILITY POLES.							
6. FIELD VERIFY AND MAINTAIN TRAFFIC SIGNAL, STREETLIGHT, AND INTERCONNECT WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT. THEY SHALL BE RESTORED TO OPERATING CONDITION, AS REQUIRED AND/OR AS DIRECTED. WHERE REQUIRED, SHOWN AND/OR DIRECTED, CONDUIT RUNS SHALL BE RELOCATED. IN SOME CASES, IT MAY BE NECESSARY TO EXTEND CONDUITS AND PULL IN NEW WIRING OR REPLACE OLD WIRING WITH NEW.							
7. WHERE EXISTING CONDUIT IS TO BE ABANDONED, THE CONDUIT SHALL BE REMOVED IF IT IS EXPOSED. WHERE IT IS IMPOSSIBLE TO REMOVE THE CONDUIT, IT SHALL BE CUT OFF 6" BELOW AND CAPPED OR PLUGGED. RESTORE SIDEWALK.							
8. ALL TEMPORARY AND REMODELING WORK SHALL BE CONSIDERED AS PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OR MATERIAL EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.							
9. COORDINATE WITH OTHER TRADES TO DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGH-OUT THE PROJECT, INCLUDING EXISTING, TEMPORARY REMODELED AND NEW AREAS, WHERE APPLICABLE.							
10. NO EXPOSED CONDUITS. U.O.N.							
11. PRIOR TO FINAL COMPLETION, CLEAR ALL DEBRIS INSIDE THE PULLBOXES AND CABINETS.							
12. ALL NEW POLES AND CONTROLLER CABINETS MUST BE LOCATED AT LEAST 5 FEET FROM FIRE HYDRANTS U.O.N.							
13. RESTORE SIDEWALK AND CROSSWALK TO MATCH EXISTING SIDEWALK AND CROSSWALK IN DESIGN, COLOR, AND MATERIAL AND TO EXISTING WHOLE FLAG LINES THAT ARE AFFECTED BY THIS PROJECT.							
14. WHEN PROVIDING TEMPORARY SIGNAL, MAINTAIN 5' PATH OF TRAVEL.							
15. CONDUIT ALIGNMENTS SHOWN ON PLANS ARE SCHEMATIC. CONDUIT RUNS SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE. WHERE OBSTRUCTIONS ARE ENCOUNTERED AND WITH PRIOR APPROVAL OF THE ENGINEER, LOCATION OF CONDUIT MAY BE CHANGED OR ALIGNMENT BE CURVED ACCORDINGLY TO THE CONDUIT BENDING RESTRICTIONS SPECIFIED IN THE SPECIAL PROVISIONS.							
16. THE UTILITY INFORMATION IS FOR REFERENCE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATIONS OF THE UTILITIES. ALL DAMAGE TO EXISTING UTILITY LINES OR ADJACENT FACILITES SHALL BE REPAIRED PROMPTLY AT THE CONTRACTOR'S EXPENSE.							
17. FOR ALL TRAFFIC SIGNAL AND STREET LIGHT PULL BOXES THAT ARE ROTATED, RELOCATED, OR ADJUSTED, CONTACT SFMTA TRAFFIC SIGNAL SHOP AND SFPUC AT LEAST 3 DAYS PRIOR TO SETTING THE BOX AT THE NEW LOCATION AND/OR GRADE. THE WORK PERFORMED SHALL MEET THE FOLLOWING CONDITIONS: a. THE ENDS OF ALL EXISTING CONDUITS SHALL BE WITHIN THE WALLS OF THE EXISTING PULL BOX AT ITS NEW LOCATION; b. THE CONDUIT ENDS (I.E., BUSHINGS) SHALL BE A MINIMUM OF 5" FROM THE BOTTOM OF THE PULL BOX LID; c. CONTRACTOR SHALL CONTACT THE SFMTA TRAFFIC SIGNAL SHOP AND SFPUC THROUGH THE ENGINEER AFTER THE WORK IS COMPLETED, FOR FINAL INSPECTION AND APPROVAL OF THE PULLBOX MODIFICATION(S). d. ALL CONDUIT AND WIRING MODIFICATIONS SHALL BE PART OF INCIDENTAL COST.							
18. WHERE EXISTING CONDUITS NEED TO BE EXTENDED TO THE PULL BOX, MODIFY THE EXISTING TRAFFIC SIGNAL WIRING AS FOLLOWS: a. REMOVE EXISTING TRAFFIC SIGNAL WIRING, COMPLETE ALL NECESSARY PULL BOX AND CONDUIT MODIFICATIONS, PROVIDE NEW TRAFFIC SIGNAL WIRES TO REPLACE ALL THE EXISTING WIRING IMPACTED BY THIS MODIFICATION; OR b. WITH THE APPROVAL OF THE SFMTA TRAFFIC SIGNAL SHOP, THE CONTRACTOR SHALL PULL BACK EXISTING WIRES TO ADJACENT PULL BOX (TOWARD THE I/C), COMPLETE ALL NECESSARY PULL BOX AND CONDUIT MODIFICATIONS, RECONNECT, AND REUSE THE EXISTING TRAFFIC SIGNAL WIRES, IF FEASIBLE.							
19. PROVIDE TEMPORARY POLE BASE MOUNTED LIGHTING AND TRAFFIC SIGNAL FOR PEDESTRIAN AND VEHICULAR SAFETY IF THERE IS CONFLICT DUE TO UNFORESEEN UTILITIES WITHIN EXISTING AND/OR NEW LIGHTING/TRAFFIC SIGNAL IN THE LIMIT OF WORK AND OUTSIDE THE LIMIT OF WORK. TEMPORARY LIGHTING/TRAFFIC SIGNAL SOURCE SHALL BE TAPPED FROM NEAREST EXISTING SOURCE. THIS WORK SHALL BE PART OF INCIDENTAL COST.							
20. PRIOR TO START ELECTRICAL WORK, FIELD VERIFY THE EXISTING ELECTRICAL CIRCUIT. RECONNECT ALL EXISTING TRAFFIC SIGNAL AND STREETLIGHT SERVICE WHICH MAY HAVE BEEN INTERRUPTED DUE TO RENOVATION. RESTORE ALL ELECTRICAL SERVICE AND WIRING TO EXISTING CONDITIONS. INCLUDING THE ADJACENT FIXTURE OUTSIDE THE LIMIT OF WORK AS INCIDENTAL COST.							
21. TRAFFIC SIGNAL POLES SHALL COMPLY WITH 2015 CTSP, PLAN APPROVAL DATE, OCTOBER 30, 2015 AND 2010 CTSS.							
22. R/C REMOVED FOUNDATION (UNLESS OTHERWISE NOTED): REMOVE UP TO 36" BELOW GRADE, INCLUDING ALL ASSOCIATED EMBEDDED CONDUITS , UNLESS IT IS MUNI POLE. REFER TO SPECIFICATION. IF IT IS POLE IN OF POLE, REMOVE POLE FOUNDATION TO ACCOMMODATE THE NEW POLE FOUNDATION AND FILL THE CAVITY WITH SLURRY AS REQUIRED.							
23. ANY GAP OPENING FOR WIRE ENTRIES OR EQUIPMENT MOUNTING SHALL BE COMPLETELY WATER AND AIR TIGHT SEALED WITH DUCT SEAL TO PREVENT FOREIGN OBJECTS FROM ENTERING.							
24. PRIOR TO R/C PULL BOX, VERIFY IF ANY EXISTING CIRCUIT IS TO BE MAINTAINED, COORDINATE WITH ENGINEER, IF NO CIRCUIT IS TO BE MAINTAINED, ABANDON CONDUIT IN PLACE, DISCONNECT ALL UNUSED CIRCUITS, R/C PULL BOX AND RESTORE SIDEWALK TO MATCH EXISTING.							
25. R/C DEMOLISHED TRAFFIC SIGNAL POLES, STREETLIGHT POLES, TRAFFIC SIGNAL EQUIPMENT, FIXTURES, AND FIXTURE ARMS U.O.N.							
26. TOUCH UP ANY NEW POLES AND/OR EQUIPMENT MOUNTING THAT IS EXPOSED/RUSTED WITH RUST-OLEUM PAINT TO PREVENT CORROSION.							

REFERENCE INFORMATION & FILE NO. OF SURVEYS		BUREAU OF ENGINEERING CITY & COUNTY OF SAN FRANCISCO SAN FRANCISCO PUBLIC WORKS 30 VAN NESS AVENUE, 5TH FLOOR SAN FRANCISCO, CA 94102 - 6028		Section Mgr: PHILIP THWIN Acting Deputy Bureau Mgr: LESLEY WONG Acting Bureau Mgr: IQBAL DHAPPA		Date: 2/6/2020 2/6/2020 2/6/2020		DESIGNED: DATE: DG 01/2020 DRAWN: DATE: DG 01/2020 CHECKED: DATE: SL 01/2020		SCALE: NONE SHEET OF SHEETS OF		VARIOUS LOCATIONS PAVEMENT RENOVATION AND SEWER REPLACEMENT NO. 35 ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES		CONTRACT NO. 2791J DRAWING NO. E-0.1 FILE NO. 112,588 REV. NO. 0	
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