

L E G E N D

GENERAL NOTES

GENERAL NOTES (CONT.)

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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. SYMBOLS, ABBREVIATIONS AND GENERAL NOTES APPLY TO ALL "ET" DRAWINGS.
3. THIS IS A GENERAL LEGEND. NOT ALL SYMBOLS ARE USED.
4. 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.
5. 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 90' AWAY FROM CURB AND ALSO AWAY FROM TRAFFIC. FOR THE VAN NESS SPECIAL MASTARM POLE THE TOP AND BOTTOM HANDHOLES ARE BOTH 180' AWAY FROM CURB.
6. IC DOOR SHALL BE ORIENTED AWAY FROM INTERSECTION SUCH THAT WHILE WORKING IN THE IC, THE TECHNICIAN IS FACING THE INTERSECTION. NO PULL BOX SHALL BE LOCATED WITHIN A 3' BY 3' CLEARANCE IN FRONT OF IC DOOR.
7. THE CONTRACTOR SHALL COORDINATE WITH PG&E VIA BHASKAR GOSWAMI OF HETCH HETCHY AT (415) 554-3135 FOR SERVICE CONNECTIONS; TEN WORKING DAYS ADVANCE NOTICE IS REQUIRED.
8. SERVICE CONNECTIONS SHALL BE MADE PER SPDPWSF #87,203. IF THE PLAN REQUIRES FUSING IN A PULL BOX FOR IC SERVICE, THIS IS THE POINT THE NEUTRAL IS BONDED TO GROUND. THE GROUND ROD IN THE PULL BOX SHALL BE CONNECTED TO THE GROUND ROD IN THE IC WITH #6 BSCW TO FORM A GROUNDING SYSTEM.
9. FOR SIGNAL SERVICE FROM PG&E THAT DOES NOT GO DIRECTLY TO INTERSECTION CONTROLLER, CONTRACTOR SHALL PROVIDE IN LINE FUSE AND FUSE HOLDER SIMILAR TO STREET LIGHTS APPLICATIONS. SEE SPDPWSF #87,203. F/I IN-LINE FUSE HOLDERS W/40A FUSES FOR IC SERVICE AND SL SERVICE.
10. PROVIDE GROUND WIRES IN ALL TRAFFIC SIGNAL, STREET LIGHT AND SERVICE CONDUIT. SEE PROJECT MANUAL, SECTION 16120 IN CONTRACT SPECIFICATIONS AND DETAIL 3 ET-9
11. CONTRACTOR SHALL VERIFY THE VOLTAGE OF EACH EXISTING STREETLIGHT LUMINAIRE SO THE NEW STREETLIGHT LUMINAIRE REPLACING THE OLD LUMINAIRE SHALL HAVE THE SAME VOLTAGE, U.O.N.
12. PROVIDE 12" CONCRETE COLLAR ALL AROUND PULL BOX IN UNPAVED OR LAWN AREA PER SPDPWSF #87,201.
13. CONTRACTOR SHALL CONSTRUCT A CONCRETE PAD AROUND A POLE OR CONTROLLER CABINET FOUNDATION IN AN UNPAVED OR LAWN AREA. FINAL DIMENSIONS OF CONCRETE PAD SHALL BE DIRECTED BY RESIDENT ENGINEER.
14. CONTRACTOR SHALL COORDINATE WITH RESIDENT ENGINEER TO LAYOUT CONTRACT CURB LOCATIONS PRIOR TO POLE, PULL BOX, AND FOUNDATION CONSTRUCTION.
15. CONTRACTOR SHALL PROTECT EXISTING CURB RAMPS NOT SHOWN ON THE PLANS BY RUNNING CONDUITS AROUND THEM. EXISTING CURB RAMPS DAMAGED DURING CONSTRUCTION SHALL BE RECONSTRUCTED BY THE CONTRACTOR AT THEIR EXPENSE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR WORKING AROUND AND PROTECTING ALL EXISTING FACILITIES ADJACENT TO HIS WORK AREA. THESE FACILITIES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: TREES, LANDSCAPING, HYDRANTS AND UTILITY POLES.
17. PROVIDE 1/4" PULL ROPE IN ALL EMPTY PVC OR GRS CONDUITS AND ALL CONDUITS CROSSING THE STREET CONTAINING TS OR 12/C. PROVIDE 3/8" PULL TAPE IN ALL POLYETHYLENE CONDUITS OR HIGH DENSITY POLYETHYLENE CONDUITS.
18. CONDUITS RUNNING IN THE SAME DIRECTION CAN BE JOINT TRENCHED.
19. CONTRACTOR SHALL COORDINATE WITH RESIDENT ENGINEER TO REFERENCE EX SURVEY MONUMENTS BEFORE CONSTRUCTION: 48 HOURS ADVANCE NOTICE IS REQUIRED.
20. IN ACCORDANCE WITH SAN FRANCISCO ADMINISTRATIVE CODE SECTION 6.22(E), THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL PAY THEIR WORKERS THE GENERAL RATES OF PREVAILING WAGE BASED ON THE TYPE OF WORK PERFORMED. THE CONTRACTOR AND ITS SUBCONTRACTORS ARE ADVISED THAT THE CITY CONSIDERS THE PROPER CLASSIFICATION FOR EMPLOYEES WHO PERFORM ALL ELECTRICAL WORK ASSOCIATED WITH THE INSTALLATION OF UNDERGROUND FED TRAFFIC SIGNALS TO BE THAT OF ELECTRICIAN: INSIDE WIREMAN. THE CLASSIFICATION OF ELECTRICAL UTILITY LINEMAN IS NOT APPLICABLE FOR THIS TYPE OF WORK. THE SAN FRANCISCO BOARD OF SUPERVISORS ANNUALLY DETERMINES THE CLASSIFIED PREVAILING RATES OF WAGE. PRINTED VERSIONS ARE AVAILABLE FROM DEPUTY BUREAU CHIEF MAURICE WILLIAMS AT (415)554-8362. THE RATES ARE ALSO AVAILABLE ON-LINE AT <http://www.dir.ca.gov/DIRS/PWD>.

21. CONTRACTOR TO 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.
22. 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 AND CAPPED OR PLUGGED.
23. ALL TEMPORARY AND REMODELING WORK SHALL BE CONSIDERED A 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.
24. COORDINATE WITH OTHER TRADES TO DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGH-OUT THE PROJECT, INCLUDING EXISTING, TEMPORARY REMODELED AND NEW AREAS, WHERE APPLICABLE.
25. RECONNECT ALL EXISTING TRAFFIC SIGNAL AND STREETLIGHTING SERVICES WHICH MAY HAVE BEEN INTERRUPTED DUE TO RENOVATION. RESTORE ALL ELECTRICAL SERVICES AND WIRING TO EXISTING CONDITION.
26. NO EXPOSED CONDUITS. U.O.N.
27. PROVIDE GROUND ROD IN PULL BOX THAT HAS SERVICE CONNECTION.
28. CONTRACTOR SHALL F/I A LABEL ON THE PG&E SERVICE CABLES IN THE IC CABINET THAT IDENTIFIES CORNER OF INTERSECTION WHERE IN-LINE FUSE HOLDER FOR IC SERVICE WAS INSTALLED. (I.E. A SAMPLE LABEL IS AS FOLLOWS: "IC IN-LINE FUSE HOLDER INSTALLED IN NE CORNER")
29. CONTRACTOR TO COORDINATE THE SEQUENCE OF CONSTRUCTION AND SWITCHOVER WITH ENGINEER PRIOR TO INSTALLATION.
30. SPLICING FOR STREETLIGHT AND CONTROLLER ONLY ALLOWED AT UTILITY SERVICE BOXES.
31. PRIOR TO FINAL COMPLETION, CONTRACTOR SHALL CLEAR ALL DEBRIS INSIDE THE PULLBOXES AND CABINETS.
32. ALL NEW POLES AND CONTROLLER CABINETS MUST BE LOCATED AT LEAST 5 FEET FROM FIRE HYDRANTS U.O.N.
33. ALL EXISTING STREETLIGHTS SHALL REMAIN IN OPERATION THROUGHOUT THE DURATION OF THE PROJECT. PROVIDE TEMPORARY LIGHTING AS NEEDED.
34. THE CONTRACTOR SHALL COORDINATE WITH SFMTA TRAFFIC SIGNAL SHOP AT (415)550-2736 TO COORDINATE PICK UP AND DELIVERY OF CONTROLLER CABINET. TEN (10) WORKING DAYS ADVANCE NOTICE IS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR INSTALLING CABINET PER PG&E REQUIREMENTS BEFORE PG&E CONNECTION.
35. CONTRACTOR SHALL RESTORE SIDEWALK TO MATCH EXISTING SIDEWALK IN DESIGN, COLOR, AND MATERIAL AND TO EXISTING WHOLE FLAG LINES THAT ARE AFFECTED BY THIS PROJECT.
36. WHEN PROVIDING TEMPORARY SIGNAL, CONTRACTOR SHALL MAINTAIN 5' PATH OF TRAVEL.
37. CONTRACTOR SHALL RELABEL NEW AND REUSED SIGNAL WIRES PER SPECIFICATIONS SECTION 16120. USE SIGNAL HEAD NUMBERS ON PLANS.
38. 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.
39. CONDUITS SHALL BE LOCATED A MINIMUM OF 5 FEET FROM EXISTING TREES WHERE FEASIBLE.
40. 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 FACILITIES SHALL BE REPAIRED PROMPTLY AT THE CONTRACTOR'S EXPENSE.
41. ANY PULLBOXES INSTALLED ON ROADWAY OR DRIVEWAY SHALL BE H-20 LOADING WITH NON-SKID METAL COVER AND SEE SHEET NOTE 4 SPDPWSF #87,201.
42. ALL EXTERNAL CONDUITS SHALL BE GRS CONDUITS U.O.N.

43. FOR ALL TRAFFIC SIGNAL AND STREET LIGHT PULL BOXES THAT ARE ROTATED, RELOCATED, OR ADJUSTED, THE CONTRACTOR SHALL CONTACT SFMTA TRAFFIC SIGNAL SHOP AND SFMUC AT LEAST 3 DAYS PRIOR TO SETTING THE BOX AT THE NEW LOCATION AND/OR GRADE. THE WORK PERFORMED SHALL MEET THE FOLLOWING CONDITIONS:
 1. THE ENDS OF ALL EXISTING CONDUITS SHALL BE WITHIN THE WALLS OF THE EXISTING PULL BOX AT ITS NEW LOCATION;
 2. THE CONDUIT ENDS (I.E., BUSHINGS) SHALL BE A MINIMUM OF 5" FROM THE BOTTOM OF THE PULL BOX LID;
 3. CONTRACTOR SHALL CONTACT THE SFMTA TRAFFIC SIGNAL SHOP AND SFMUC THROUGH THE ENGINEER AFTER THE WORK IS COMPLETED, FOR FINAL INSPECTION AND APPROVAL OF THE PULLBOX MODIFICATION(S).
 4. ALL CONDUIT AND WIRING MODIFICATIONS SHALL BE PART OF INCIDENTAL COST.
44. WHERE EXISTING CONDUITS NEED TO BE EXTENDED TO THE PULL BOX, THE CONTRACTOR SHALL MODIFY THE EXISTING TRAFFIC SIGNAL WIRING AS FOLLOWS:
 1. 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
 2. 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.

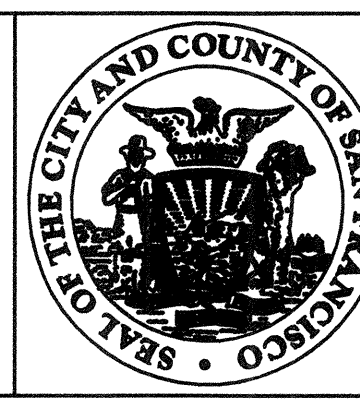
SHEET NOTES:

- 1] INSTALL (N) CITY FURNISHED ITS CABINET ON NEW CALTRANS 332 FOUNDATION UNLESS NOTED ON INTERSECTION PLANS. SEE CALTRANS STANDARD PLAN ES-3C FOR FOUNDATION DETAILS.
- 2] MOUNT (N) SIGNAL HEADS AND MAST ARM ON (N) COMBINED OCS/STREET LIGHT POLE.
- 3] (N) TRAFFIC SIGNAL BATTERY BACK-UP SYSTEM.
- 4] (N) PULL BOX FOR PG&E SERVICE CONNECTION.
- 5] MOUNT (N) SIGNAL HEADS ON (E) OCS/STREET LIGHT POLE.
- 6] CITY-INSTALLED TRANSIT SIGNAL PRIORITY RECEIVER.
- 7] (N) CITY TYPE 48X PULL BOX FOR TRAFFIC SIGNAL INTERCONNECT. FOR MORE DETAILS SEE SIGNAL INTERCONNECT DRAWINGS ET-200 TO ET-204.
- 8] (N) TRANSIT SIGNAL
- 9] REMOVE AND SALVAGE SIGNAL HEADS, CABINET ASSEMBLY AS CITY'S PROPERTY. FOR STREETLIGHTS, SEE SL-SERIES PLANS.
- 10] REMOVE AND SALVAGE SIGNAL PULL BOXES AND WIRES AS CONTRACTOR'S PROPERTY. FOR STREETLIGHTS, SEE SL-SERIES PLANS.
- 11] ABANDON UNUSED EXISTING CONDUITS IN PLACE.
- 12] FURNISH AND INSTALL VARIABLE MESSAGE SIGN (VMS) FOUNDATION, CANTILEVER POLE, AND VMS SYSTEM. NOTE: IF THE SITE CONDITIONS DO NOT ALLOW FOR THE CONSTRUCTION OF THE FOUNDATION, CONTRACTOR SHALL REQUEST THE ENGINEER TO PROVIDE AN ALTERNATE DESIGN.
- 13] FURNISH AND INSTALL NEMA 4X PAD LOCKABLE 60A NON-FUSE DISCONNECT SWITCH ON VMS POLE
- 14] FURNISH AND INSTALL CAT 5E CABLE WITH RJ-45 CONNECTORS AND 3-#18 WIRES FOR PAN-TILT-ZOOM TRAFFIC CAMERA. CAT 5E CABLES AND WIRES SHALL HAVE 3 FEET MINIMUM OF SLACK IN THE TRAFFIC SIGNAL PULL BOX ADJACENT TO THE POLE.
- 15] EXISTING PULL BOX SHARED BY STREETLIGHT & TRAFFIC SIGNAL SYSTEMS. STREETLIGHT WIRING TO REMAIN. WHEN REMOVING TRAFFIC SIGNAL WIRES, USE CAUTION TO MAINTAIN EXISTING STREETLIGHT WIRES IN SHARED PULL BOX AND CONDUITS. SEE SL-SERIES PLANS FOR STREETLIGHT WORK.
- 16] EXISTING COMBINATION TRAFFIC SIGNAL/STREETLIGHT POLE TO BE REPLACED IN PLACE BY NEW TRAFFIC SIGNAL POLE. SEE SL-SERIES PLANS FOR REMOVAL OF EXISTING COMBINATION TRAFFIC SIGNAL/STREETLIGHT POLE.
- 17] NEW TRAFFIC SIGNAL POLE TO SUPPORT STREETLIGHT. IN ADDITION TO TRAFFIC SIGNAL CONDUIT WORK, FURNISH AND INSTALL 1- 1.5" GRS CONDUITS, CONDUIT ELBOWS & COUPLINGS IN TRAFFIC SIGNAL POLE FOUNDATION FOR STREETLIGHT WIRES. SEE SL-SERIES PLANS FOR STREETLIGHT WORK.
- 18] EXISTING COMBINATION TRAFFIC SIGNAL/STREETLIGHT POLE (TO BE REPLACED IN PLACE BY NEW TRAFFIC SIGNAL POLE) SUPPORTS PG&E OWNED LUMINAIRE & BRACKET ARM. SEE SL-SERIES PLANS FOR REMOVAL OF EXISTING COMBINATION TRAFFIC SIGNAL/STREETLIGHT POLE AND PG&E OWNED FACILITIES.

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CITY AND COUNTY OF SAN FRANCISCO
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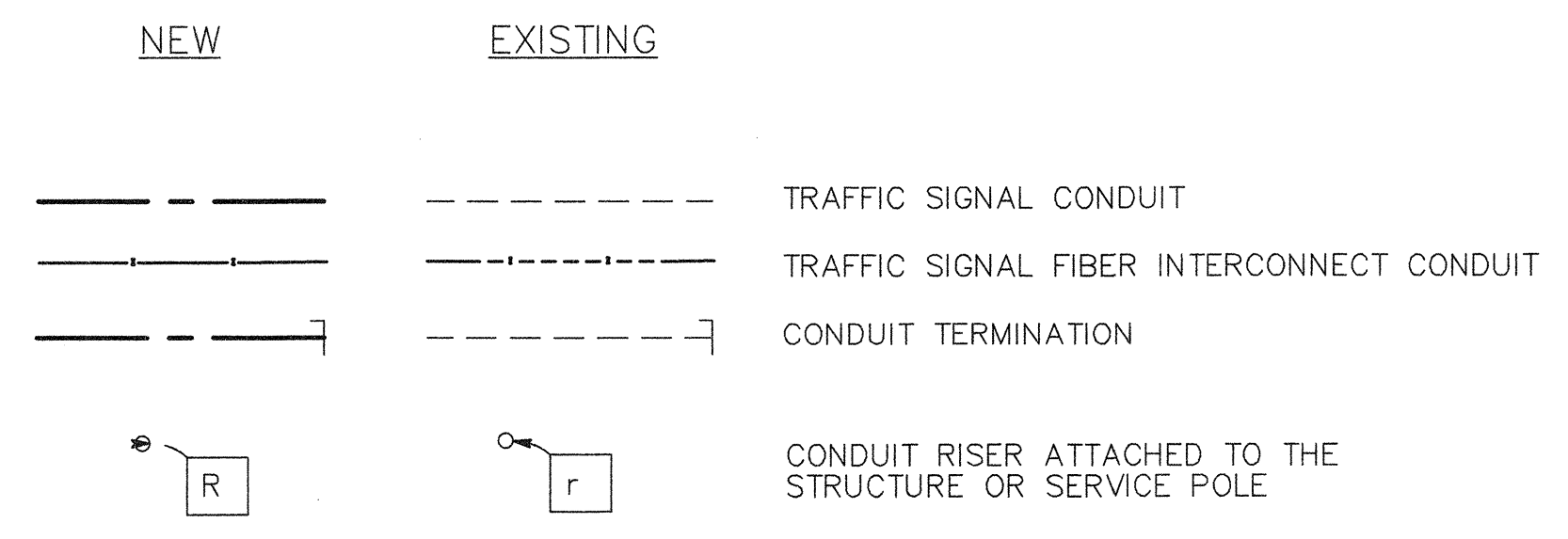
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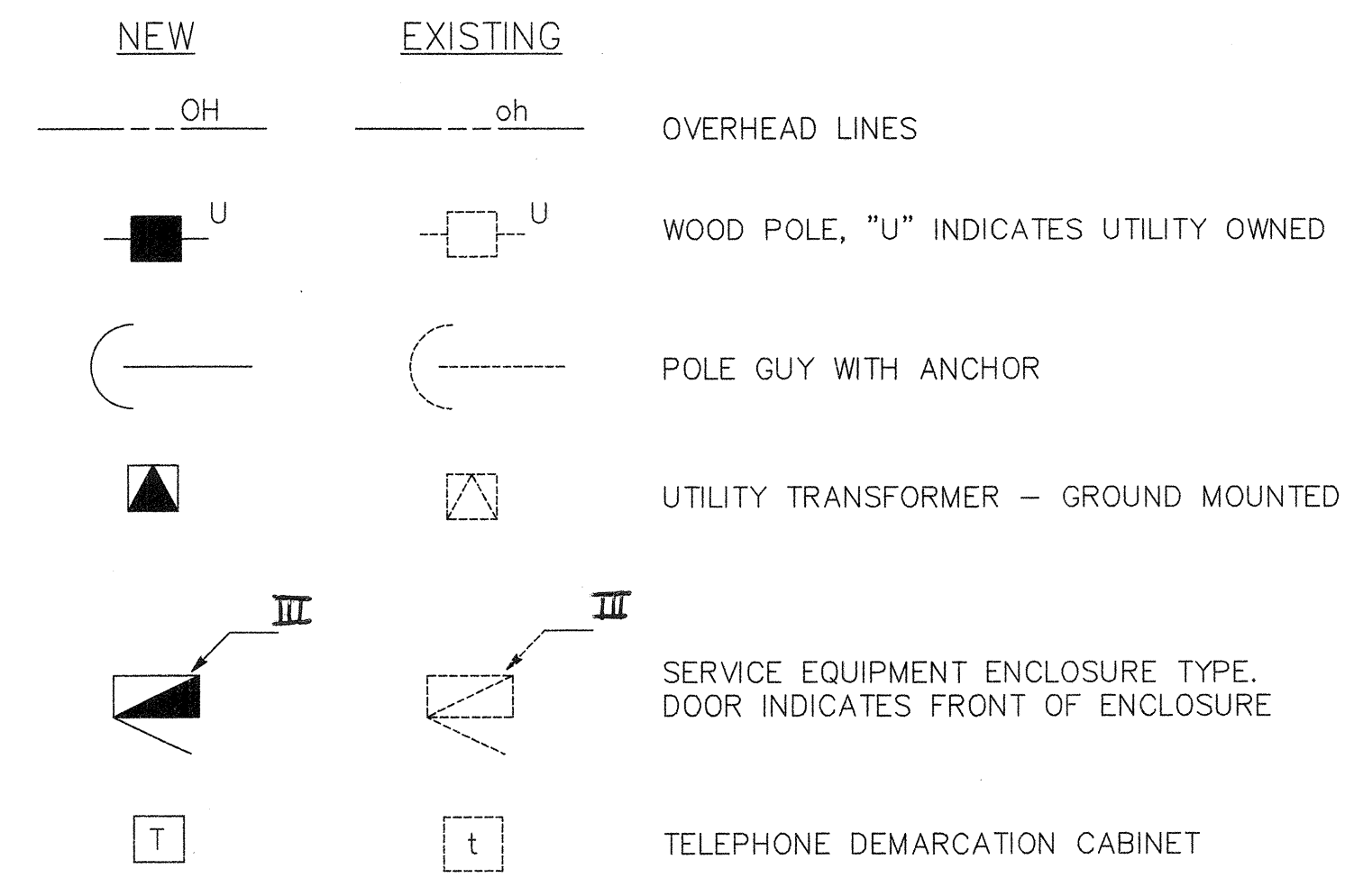
MUNI BUS RAPID TRANSIT SYSTEM		1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT		
TRAFFIC SIGNALS GENERAL NOTES	ET-001.0	REVISION
	ET-204	

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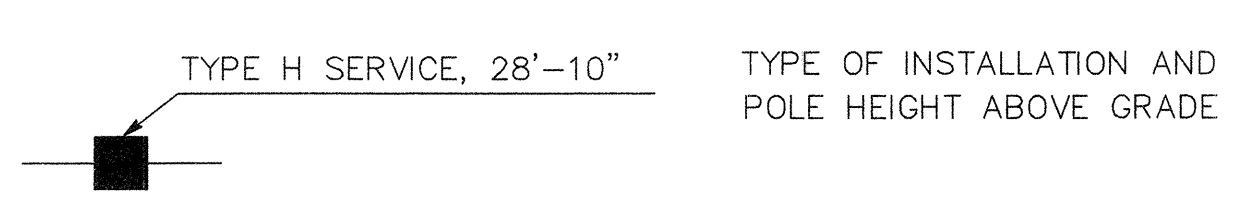
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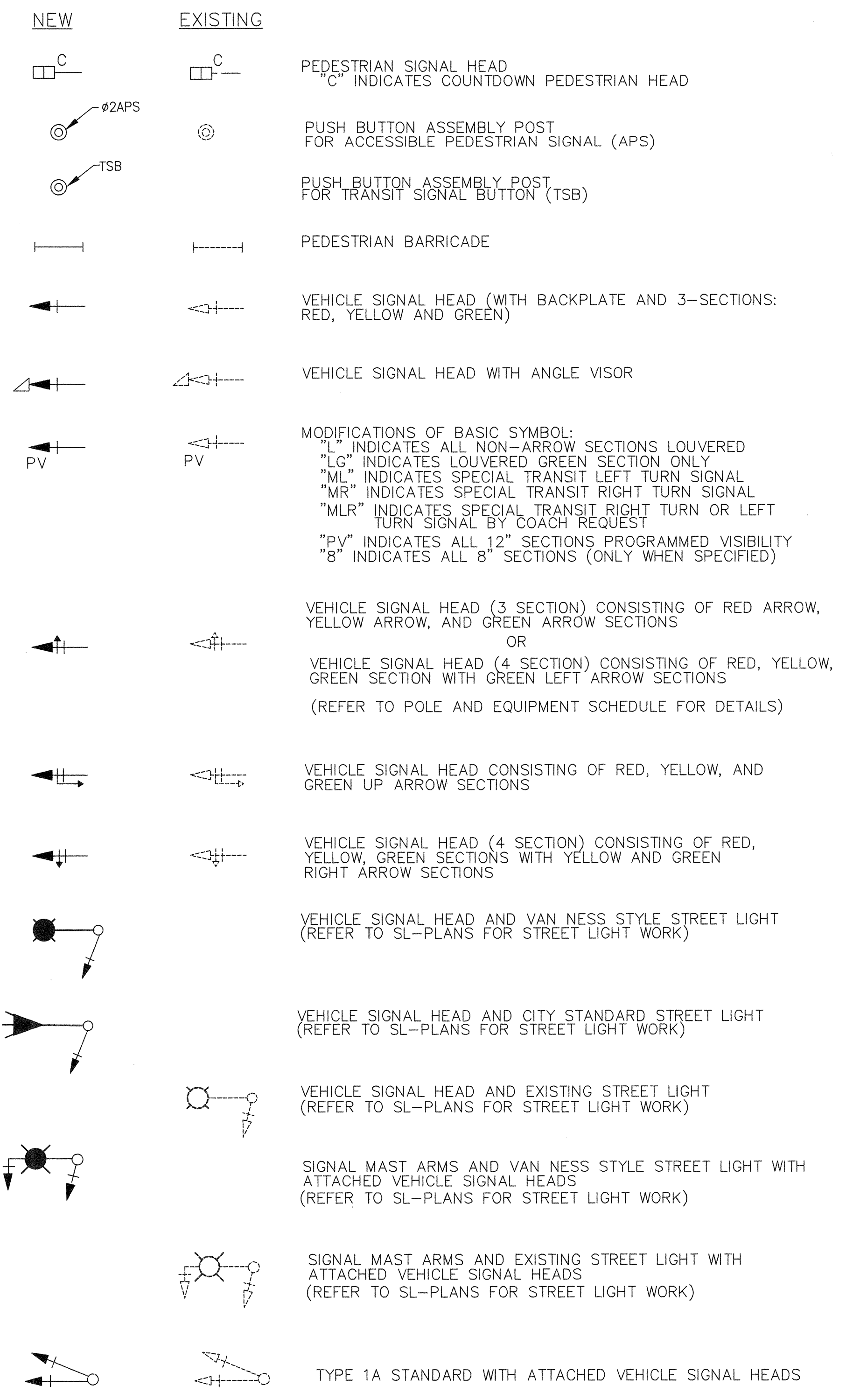
SERVICE EQUIPMENT



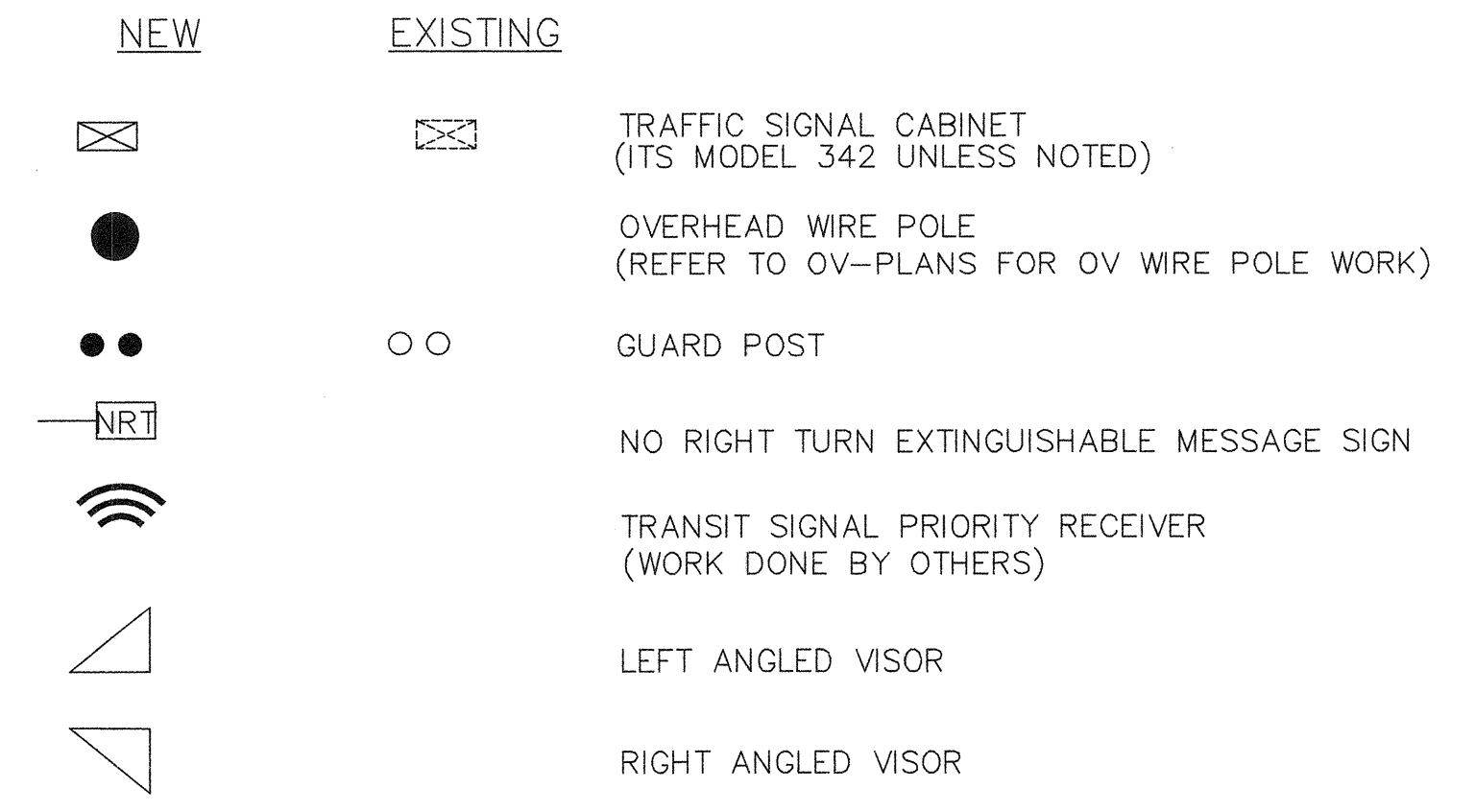
POLE-MOUNTED SERVICE DESIGNATION



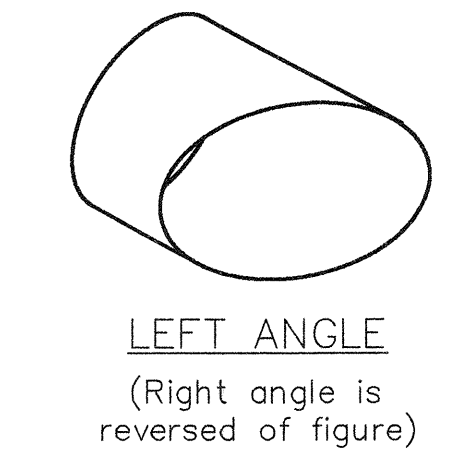
SIGNAL EQUIPMENT



SIGNAL EQUIPMENT Cont



VISORS

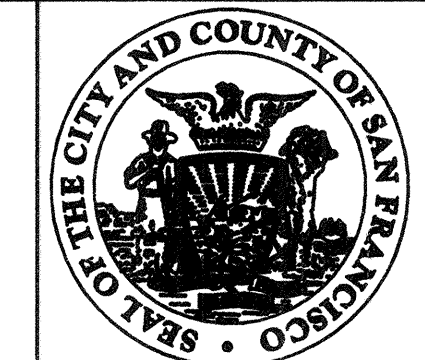


NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.

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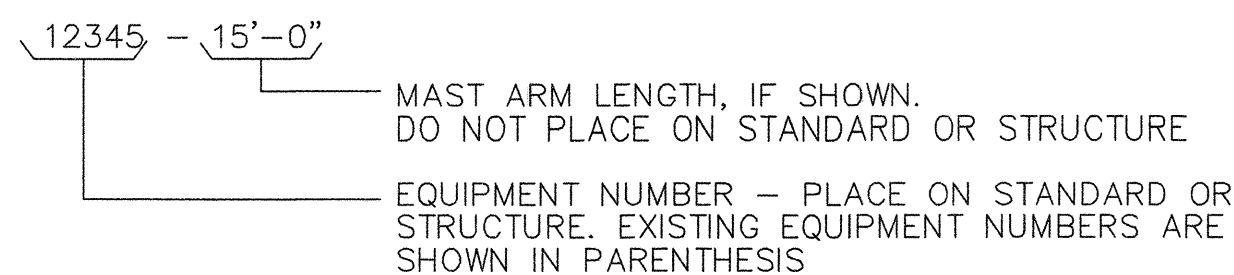
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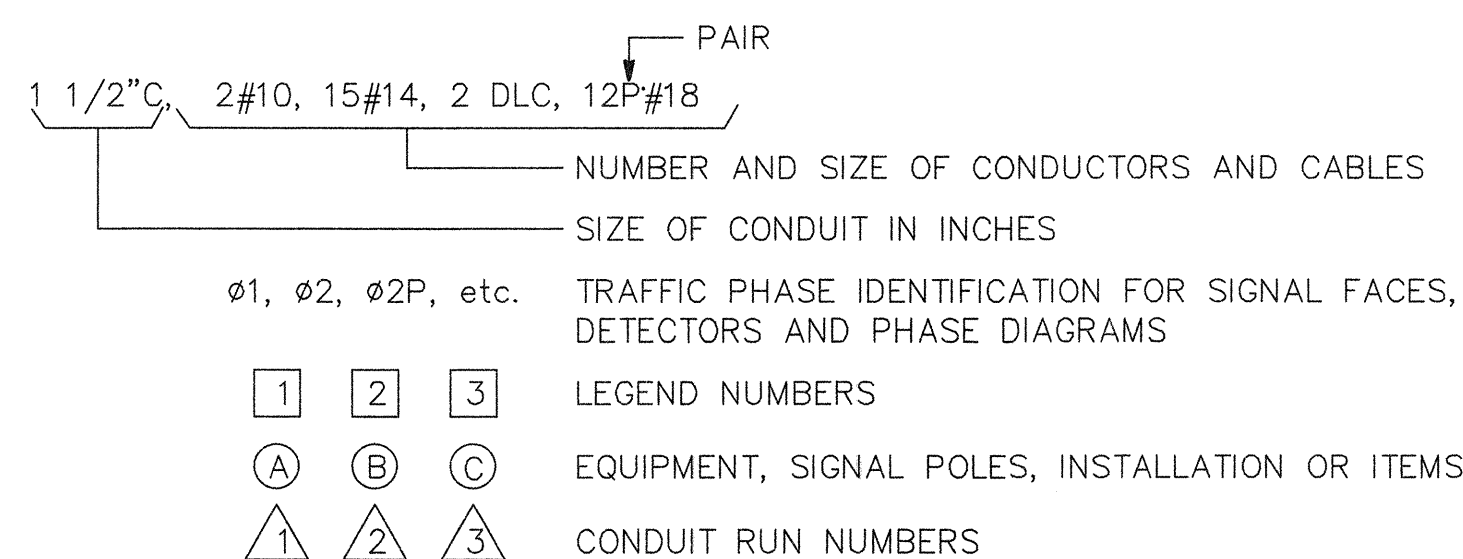
MUNI BUS RAPID TRANSIT SYSTEM		1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT		
TRAFFIC SIGNALS LEGEND AND ABBREVIATIONS		ET-002.0
		REVISION
		ET-204

EQUIPMENT IDENTIFICATION

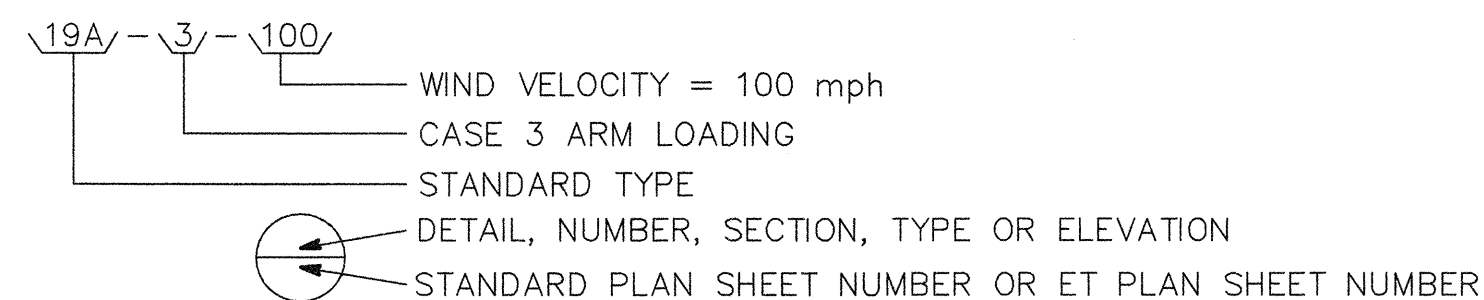
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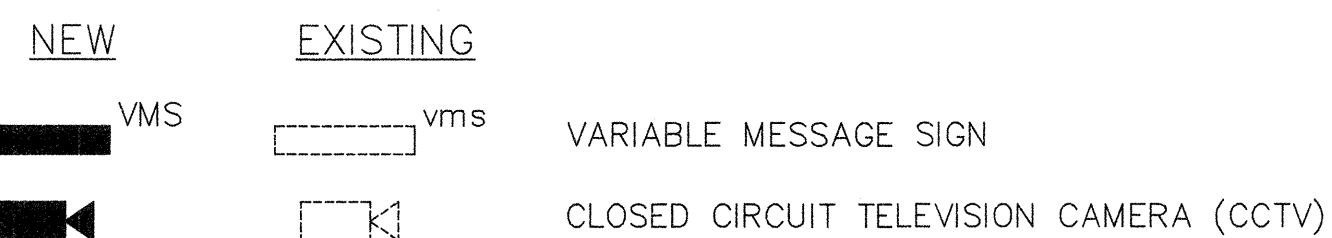
CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



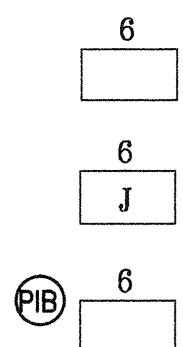
MISCELLANEOUS EQUIPMENT



PULL BOXES

NEW

EXISTING



PULL BOX, No. 6

PULL BOX, No. 6 FOR JOINT TRAFFIC SIGNAL AND STREET LIGHT PG&E SERVICE CONNECTION PULL BOX

REMOVE EXISTING PULL BOX AND INSTALL NEW PULL BOX IN ITS PLACE

PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

- 5 No. 5 PULL BOX
- 6 No. 6 PULL BOX
- 48X TRAFFIC SIGNAL INTERCONNECT TYPE 48X PULL BOX
- J JOINT TRAFFIC SIGNAL AND STREET LIGHT PG&E SERVICE CONNECTION PULL BOX
- T TRAFFIC-RATED PULL BOX

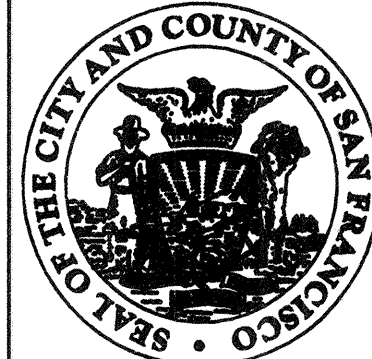
NOTE FOR JOINT TRAFFIC SIGNAL AND STREET LIGHT PG&E SERVICE CONNECTION PULL BOX

On western side of Van Ness Ave at joint pull boxes, provide parallel branch circuits, with separate 40A main fuses, for each of the following: 1) traffic signal intersection controller, 2) streetlight safety circuit luminaires, 3) streetlight mid-block roadway luminaires, and 4) streetlight mid-block pedestrian luminaires. See SL-series plans for streetlight work. See Std Dwg 43,665, "Typical: Details of Splicing of 600-Volt Multi-conductor Cable; Details of Splicing of 600-volt and 5000-Volt Thermoplastic Insulated Single Conductor Wiring", for multi-tap splice details. First splice work of service wires to parallel branch circuit wires in a joint pull box on western side of Van Ness Ave shall be done under the direction and supervision of both SFPUC Streetlight Shop and SFMTA Traffic Signal Shop personnel.

T:_FILES\Geo\Projects\Van Ness BRT\Signal Design\CA00\ ET- 1 to 4_Notes, Legends, Abbrev.dwg kkwang Tue Jul 07,2015 - 3:21 pm

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CITY AND COUNTY OF SAN FRANCISCO
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MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

TRAFFIC SIGNALS
LEGEND AND ABBREVIATIONS

1289
ET-003.0
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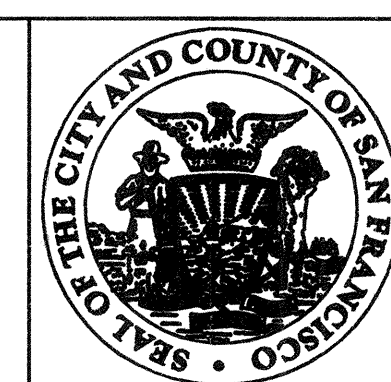
LEGEND

LEGEND

ABBREVIATIONS		ABBREVIATIONS (CONT.)		ABBREVIATIONS (CONT.)		ABBREVIATIONS (CONT.)	
A	AMPERE	MAS	MAST ARM MOUNTED VEHICLE SIGNALS SIDE MOUNTED	T	TUNNEL VISOR	3S12"	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN
APS	ACCESSIBLE PEDESTRIAN SIGNALS	MA	MAST ARM	TS	TRAFFIC SIGNAL	3S12" GUA	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN UP ARROW
ATS	AUTOMATIC TRANSFER SWITCH	mm	MILLIMETER	TP	TROLLEY POLE	3S12"LA	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN (ALL LEFT ARROWS)
A.T.&T.	AMERICAN TELEPHONE COMPANY	(N)	NEW	V	VOLT	3S12"RA	3 SECTION 12"(304.8 mm), RED, YELLOW, GREEN (ALL RIGHT ARROWS)
AWG	AMERICAN WIRE GAUGE	NIC	NOT IN CONTRACT	VA	VOLTAMPERE	3S12"GRA	3 SECTION 12"(304.8 mm) RED, YELLOW, GREEN RIGHT ARROW
BP	SIGNAL BACKPLATE	NTS	NOT TO SCALE	VDS	VIDEO DETECTION SYSTEM CAMERA	3S12"GSA	3 SECTION 12"(304.8 mm) RED, YELLOW, GREEN STRAIGHT ARROW
BBS	BATTERY BACKUP SYSTEM	OH	OVERHEAD	U.O.N., UON	UNLESS OTHERWISE NOTED	3S12"FY	3 SECTION 12"(304.8 mm) RED, YELLOW, FLASHING YELLOW
BSCW	BARE STRANDED COPPER WIRE	PAC	PACIFIC BELL CO.	VEH	VEHICLE	3S12"LB	3 SECTION 12"(304.8 mm) HORIZONTAL LUNAR BAR, VERTICAL LUNAR BAR, AND 45 DEGREE LEFT LUNAR BAR
C	COUNTDOWN SIGNAL	PG&E, PGE	PACIFIC GAS AND ELECTRIC COMPANY	VMS	VARIABLE MESSAGE SIGN	3S12"RB	3 SECTION 12"(304.8 mm) HORIZONTAL LUNAR BAR, VERTICAL LUNAR BAR, AND 45 DEGREE RIGHT LUNAR BAR
CAB	CABINET	PED	PEDESTRIAN	W	WATT	3S12"LRB	3 SECTION 12"(304.8 mm) HORIZONTAL LUNAR BAR, 45 DEGREE LEFT LUNAR BAR, AND 45 DEGREE RIGHT LUNAR BAR
CCTV	CLOSED CIRCUIT TELEVISION CAMERA	PED(S) XING	PEDESTRIAN CROSSING	WM	WALKING MAN	L3S12"	3 SECTION 12"(304.8 mm) RED, YELLOW, GREEN LOUVER ON SIGNAL FACE.
CKT	CIRCUIT	(N)	NEW	WP	WOOD POLE	PV3S12"	PROGRAMMED VISIBILITY, 3 SECTION 12" (304.8 mm), RED, YELLOW, GREEN
CB	CIRCUIT BREAKER	NIC	NOT IN CONTRACT	WPR	WEATHERPROOF	PV3S12"RA	PROGRAMMED VISIBILITY, 3 SECTION 12" (304.8 mm), RED RIGHT ARROW, YELLOW RIGHT ARROW, AND GREEN RIGHT ARROW
CO	CONDUIT ONLY	NRT	NO RIGHT TURN	Y	YELLOW	4S8"-X	4 SECTION 8"(203.2 mm), RED, YELLOW, GREEN, AND GREEN "X" FOR MUNI
CT	CALTRANS	NTS	NOT TO SCALE	TV-X } SV-X } TP-X } SP-X }	VEHICLE AND PEDESTRIAN SIGNAL POLE MOUNTING DESIGNATIONS. SEE CTSP ES-3A, ES-3B, ES-3C EXCEPT USE U-BOLTS IN LIEU OF POLE PLATES AS APPLICABLE.	4S8"GRA	4 SECTION 8"(203.2 mm), RED, YELLOW, GREEN, AND 12"(304.8 mm) GREEN RIGHT ARROW
CTSP	STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS AND STANDARD SPECIFICATIONS.	PPB	PEDESTRIAN PUSH BUTTON	EB } WB } NB } SB }	TRAFFIC DIRECTION SUCH AS EAST BOUND, WEST BOUND, NORTH BOUND AND SOUTH BOUND.	4S12"GLA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, AND GREEN LEFT ARROW
CTSS	STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS AND STANDARD SPECIFICATIONS.	PPBP	PEDESTRIAN PUSH BUTTON POST (POLE)	1-A (X)	CALTRANS TYPE OF SIGNAL STANDARD. SEE CTSP.	L4S12"GLA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN AND GREEN LEFT ARROW. LOUVER ON GREEN BALL ONLY
DLC	DETECTOR LEAD-IN CABLE	PV	PROGRAMMED VISIBILITY	12/C	12-CONDUCTOR CABLE	4S12"-GRA, GLA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN RIGHT ARROW AND GREEN LEFT ARROW
DLW	DETECTOR LOOP WIRES	PVC	POLYVINYL CHLORIDE	XX-X-100	CALTRANS TYPE OF SIGNAL STANDARD WITH SIGNAL MAST ARM. SEE CTSP.	4S12"GRA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, AND GREEN RIGHT ARROW
DT	CITY OF SAN FRANCISCO DEPT. OF TECHNOLOGY	R	RED	1S-IN	1 SECTION INCANDESCENT PEDESTRIAN SIGNAL	4S12"GLA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, AND GREEN LEFT ARROW
DWG	DRAWING	R/C	REMOVE FROM SITE OF WORK AS CONTRACTOR'S PROPERTY	1S-LED	1 SECTION LIGHT EMITTING DIODES (LED) PEDESTRIAN SIGNAL	4S12"GRA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, AND GREEN RIGHT ARROW
EMS	EXTINGUISHABLE MESSAGE SIGN	RH	RED HAND	1S-COUNT	1 SECTION COUNTDOWN TIMER LED PEDESTRIAN SIGNAL	4S12"GLA	4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, AND GREEN LEFT ARROW
(E), EX	EXISTING	RLC	RED LIGHT CAMERA	1S12"FY	1 SECTION 12"(304.8mm), FLASHING YELLOW	PV4S12"GLA	PROGRAMMED VISIBILITY, 4 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, & GREEN LEFT ARROW
EXT	EXTERNAL	(R)	RELOCATED	1S12"-GX	1 SECTION 12"(304.8mm), GREEN "X" FOR RAILROAD	5S12"GYRA	5 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, YELLOW RIGHT ARROW & GREEN RIGHT ARROW
FA	FIRE ALARM	R/R	REMOVE AND RELOCATE, OR REMOVE AND REINSTALL AS APPLICABLE	2S12"-X	2 SECTION 12"(304.8mm), RED "X" AND GREEN "X" FOR RAILROAD	5S12"YGLA	5 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, YELLOW LEFT ARROW & GREEN LEFT ARROW
F/I	FURNISH AND INSTALL UNDER THIS CONTRACT	R/S	REMOVE AND SALVAGE AS CITY'S PROPERTY	2S12"LB	2 SECTION 12"(304.8 mm) HORIZONTAL LUNAR BAR AND 45 DEGREE LEFT LUNAR BAR	PV5S12"YGLA	PROGRAMMED VISIBILITY, 5 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, YELLOW LEFT ARROW, AND GREEN LEFT ARROW
FRH	FLASHING RED HAND	R/W	RIGHT OF WAY	2S12"RB	2 SECTION 12"(304.8 mm) HORIZONTAL LUNAR BAR AND 45 DEGREE RIGHT LUNAR BAR	PV5S12"-GLA, GRA	PROGRAMMED VISIBILITY, 5 SECTION 12"(304.8 mm), RED, YELLOW, GREEN, GREEN LEFT ARROW, AND GREEN RIGHT ARROW
FO	FIBER OPTIC	SCGW	STRANDED COPPER GROUND WIRE	2S12"VB	2 SECTION 12"(304.8 mm) HORIZONTAL LUNAR BAR AND VERTICAL BAR		
HDPE	HIGH DENSITY POLYETHYLENE	SL	STREET LIGHT	3S8"	3 SECTION 8"(203.2 mm), RED, YELLOW, GREEN		
HW	HIGH VOLTAGE VAULT	SP	SPARE	3S8"FY	3 SECTION 8"(203.2 mm) RED, YELLOW, FLASHING YELLOW		
HPS	HIGH PRESSURE SODIUM	SPDPWSF	STANDARD PLAN, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF SAN FRANCISCO.	L3S8"	3 SECTION 8"(203.2 mm) RED, YELLOW, GREEN LOUVER ON SIGNAL FACE.		
HZ	HERTZ	SSDPWSF	STANDARD SPECIFICATION, DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF SAN FRANCISCO.				
G	GREEN	STD	STANDARD				
GND	GROUND	SW	SWITCH				
GRS	GALVANIZED RIGID STEEL CONDUIT	TSB	TRANSIT SIGNAL PUSH BUTTON				
IC	INTERSECTION CONTROLLER						
I/P	IN PLACE OF						
JB	JUNCTION BOX						
KW	KILOWATT						
LGT	LIGHT						
LUM	LUMINAIRE						
M	METER						

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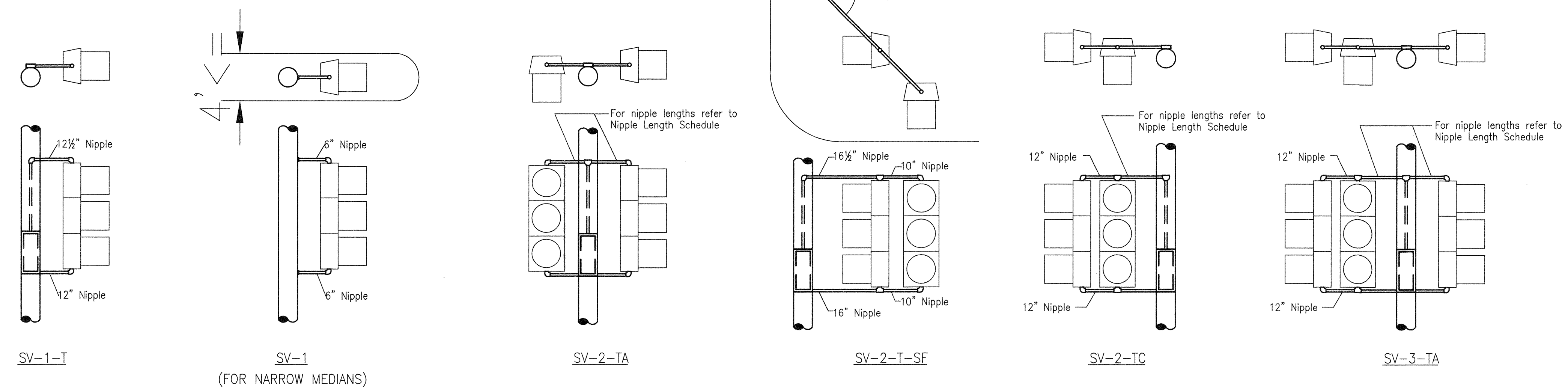
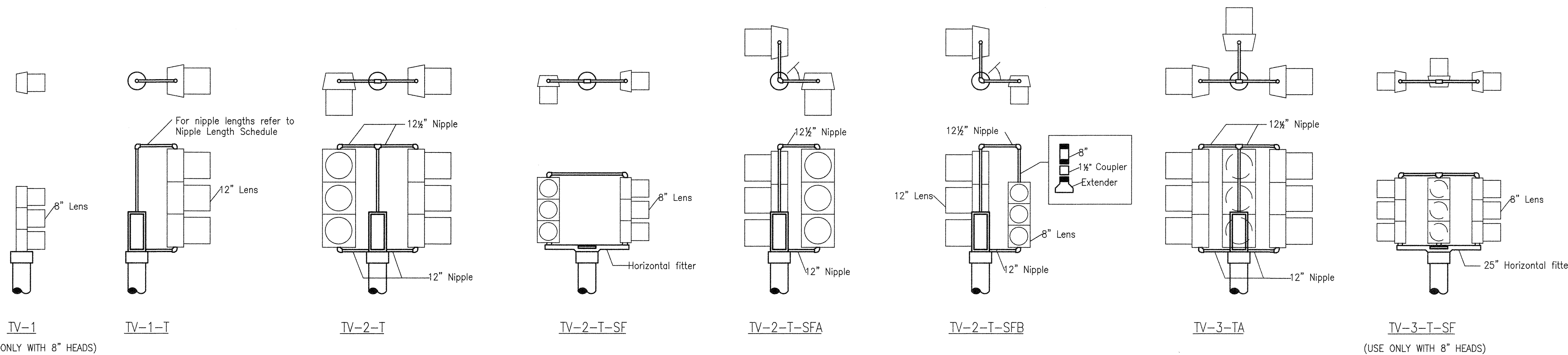
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MUNI BUS RAPID TRANSIT SYSTEM
 VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT
 TRAFFIC SIGNALS ABBREVIATIONS

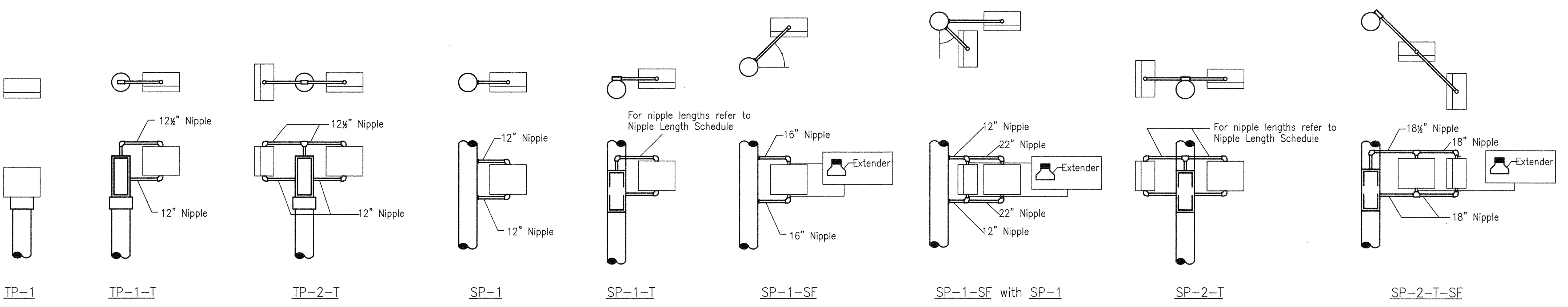
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VEHICULAR SIGNAL MOUNTINGS



PEDESTRIAN SIGNAL MOUNTINGS

NIPPLE LENGTH SCHEDULE

MOUNTING DETAIL	POLE DIAMETER	LENS TYPE	TOP NIPPLE LENGTH	BOTTOM NIPPLE LENGTH
SV-2-TA SV-3-TA SV-2-TC	If ≤ 8" and 8" Sections Otherwise		12 1/2" 16 1/2"	12" 16"
SP-1-T SP-2-T	4" TO 6"	Pedestrian	12 1/2"	12"
SP-1-T SP-2-T	7" TO 8"	Pedestrian	14 1/2"	14"
SP-1-T SP-2-T	> 8"	Pedestrian	18 1/2"	18"
TV-1-T		12" Sections or Combinations	12 1/2"	12"

Notes: Combinations denote at least one 12" lens on the signal head.
All dimension are expressed in inches.

NOTES:

- Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
- Bracket arms shall be long enough to permit proper alignment of signals and backplates.
- See State of California Department of Transportation standard plans ES-3D and ES-3E for attachment fitting details (except pole plates).
- All framing shall be 1-1/2 hot dip galvanized pipe.
- Mounting details are for internally wired poles.
- Mounting height is measured from the sidewalk to bottom of lower bracket nipple.
- For side mounted signals, U-bolt clamp required for steel or concrete poles. Pole plate with lag screws for wood poles.
- Framework plugs shall be galvanized steel.
- For TV-2-T-SFA and TV-2-T-SFB mountings, the terminal compartment shall be oriented to face the nearest curb to provide for street access.
- See State of California Department of Transportation Standard plans ES-3A and ES-3B for other types of signal head mounting details.
- All vehicle signals shall have backplates.

ABBREVIATIONS:

- TP Top mounted pedestrian signal
- TV Top mounted vehicular signal
- SP Side mounted pedestrian signal
- SV Side mounted vehicular signal
- 1,2,3,4 Number of signal heads (3 section unless otherwise indicated)
- T Terminal compartment
- TA Terminal compartment in configuration "A" (See Caltrans ES-3A)
- SF San Francisco Standard
- SFA San Francisco Standard in configuration "A"

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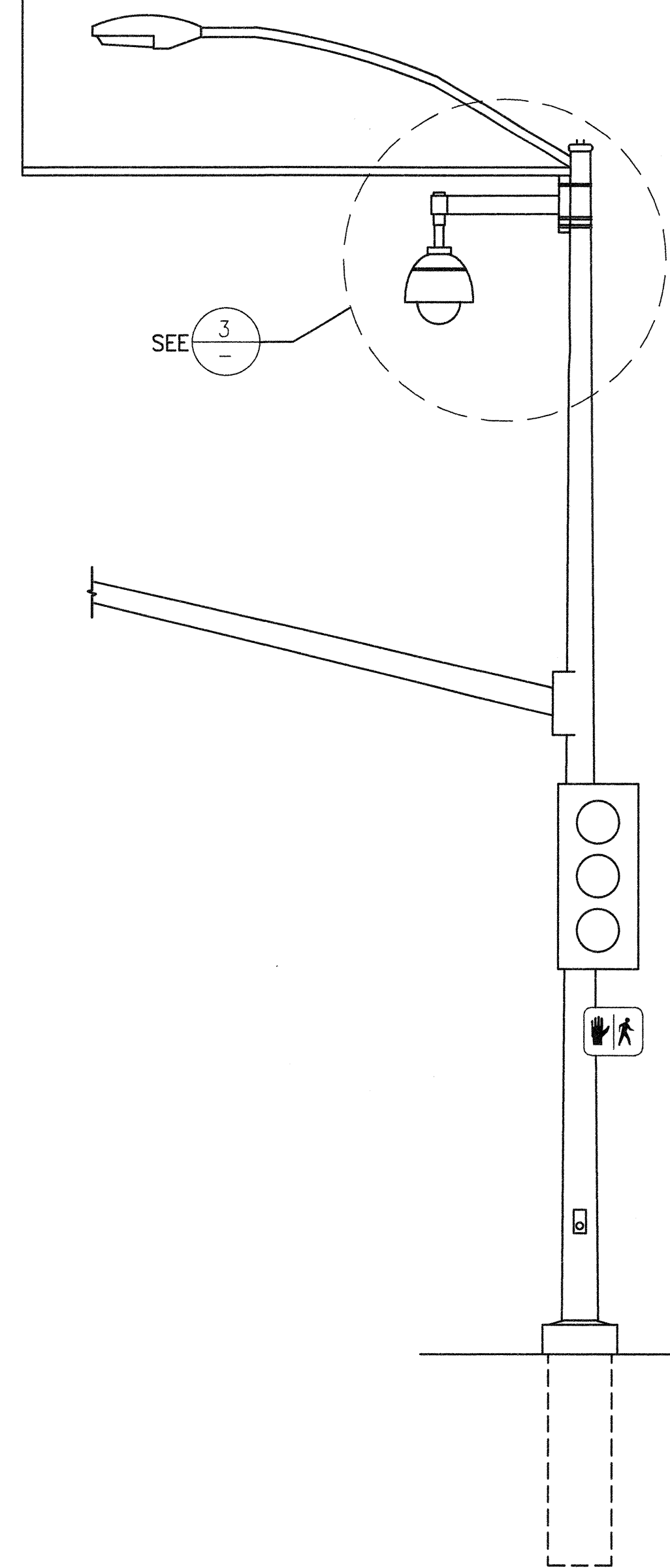
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MUNI BUS RAPID TRANSIT SYSTEM
 VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

TRAFFIC SIGNALS
 SIGNAL HEAD MOUNTINGS

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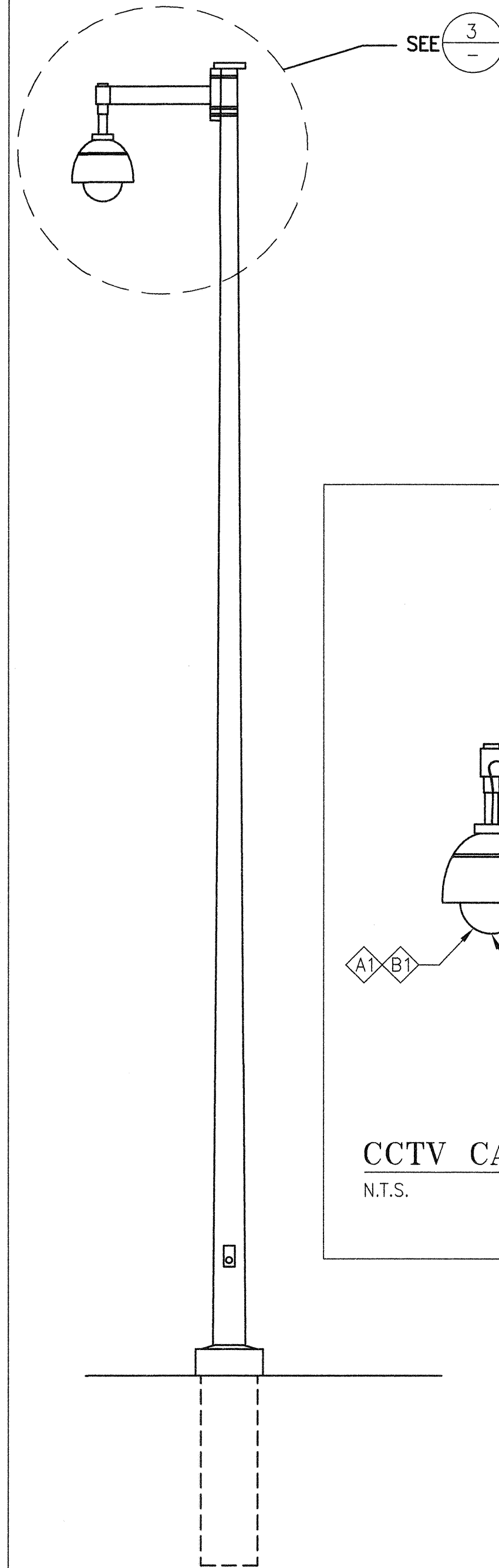
MIN 6", MAX 12" FROM THE BOTTOM OF LUMINAIRE ARM



CCTV CAMERA MOUNTING ON EXISTING POLE DETAIL WITH LUMINAIRE ARM

N.T.S.

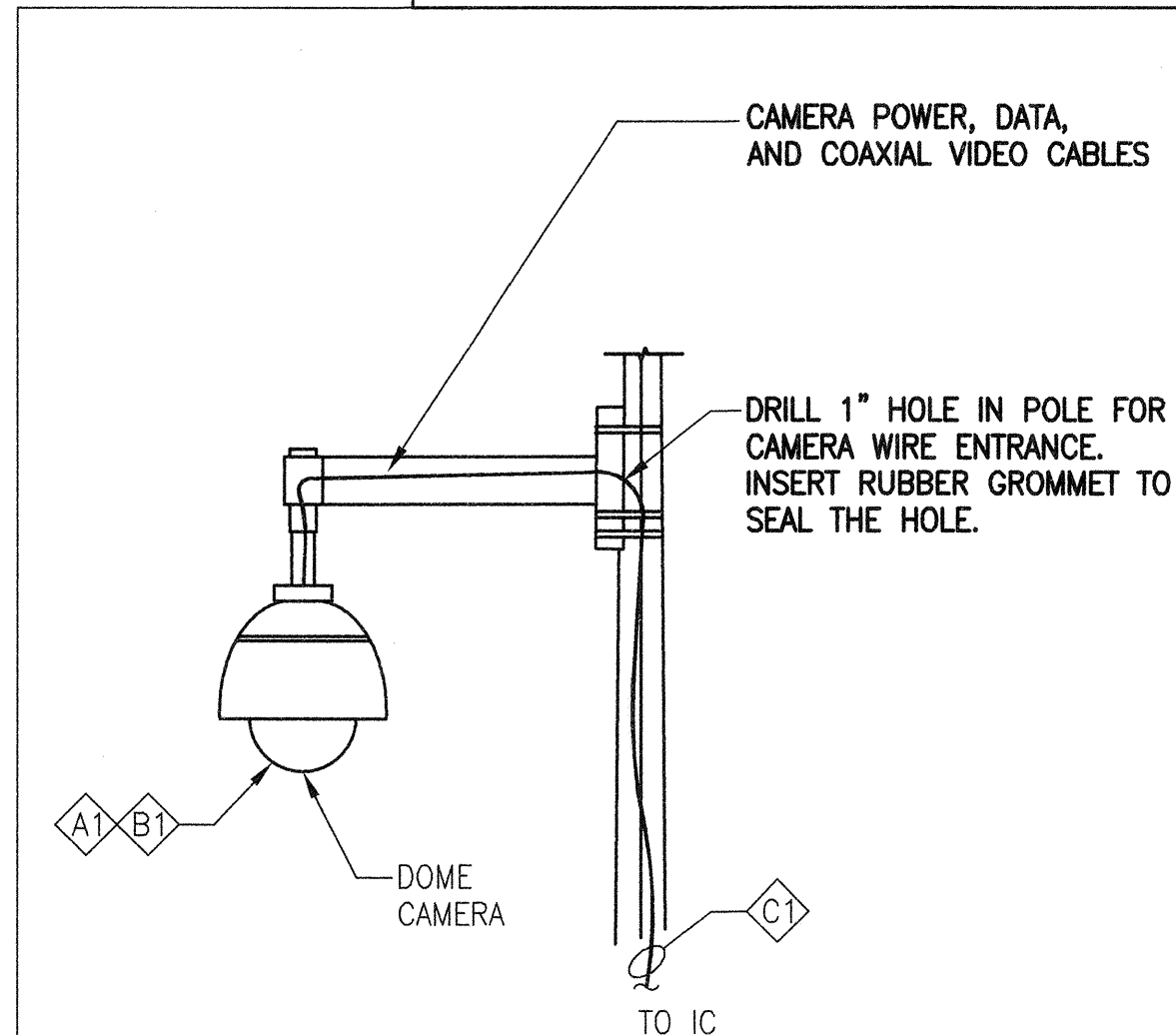
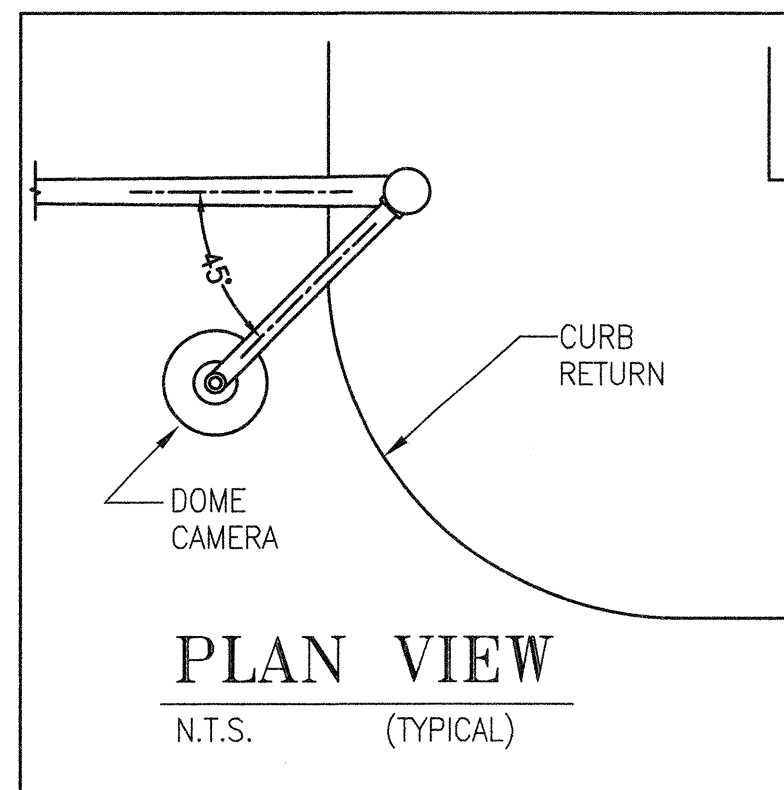
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CCTV CAMERA MOUNTING ON NEW POLE DETAIL WITHOUT LUMINAIRE ARM

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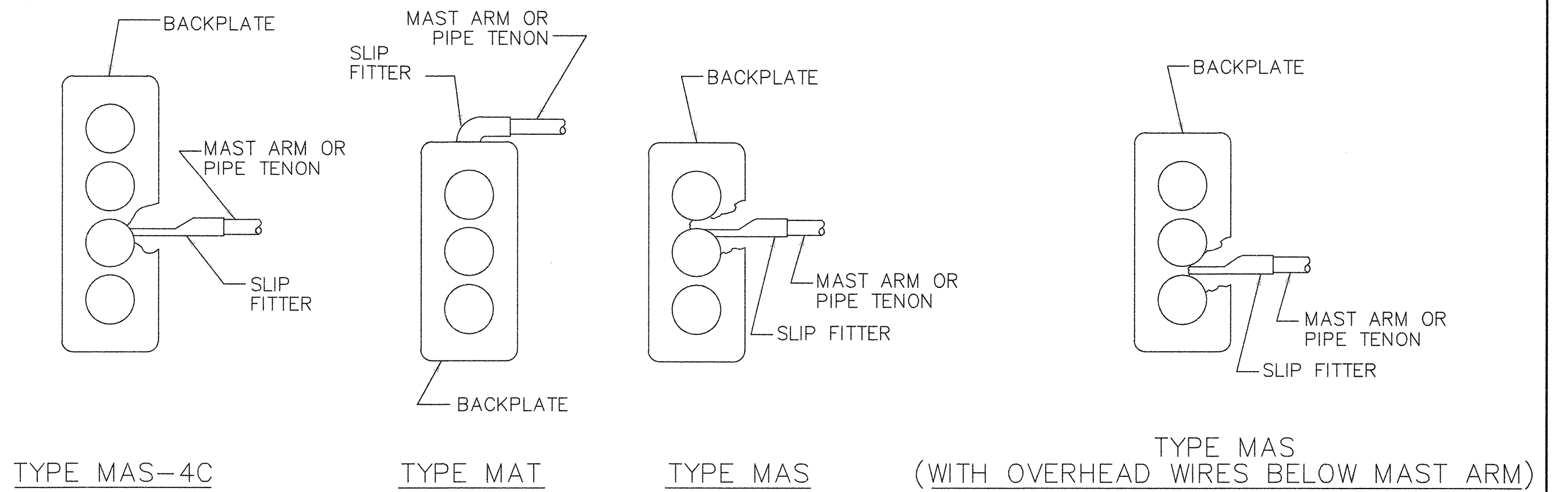
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CCTV CAMERA INSTALLATION DETAIL

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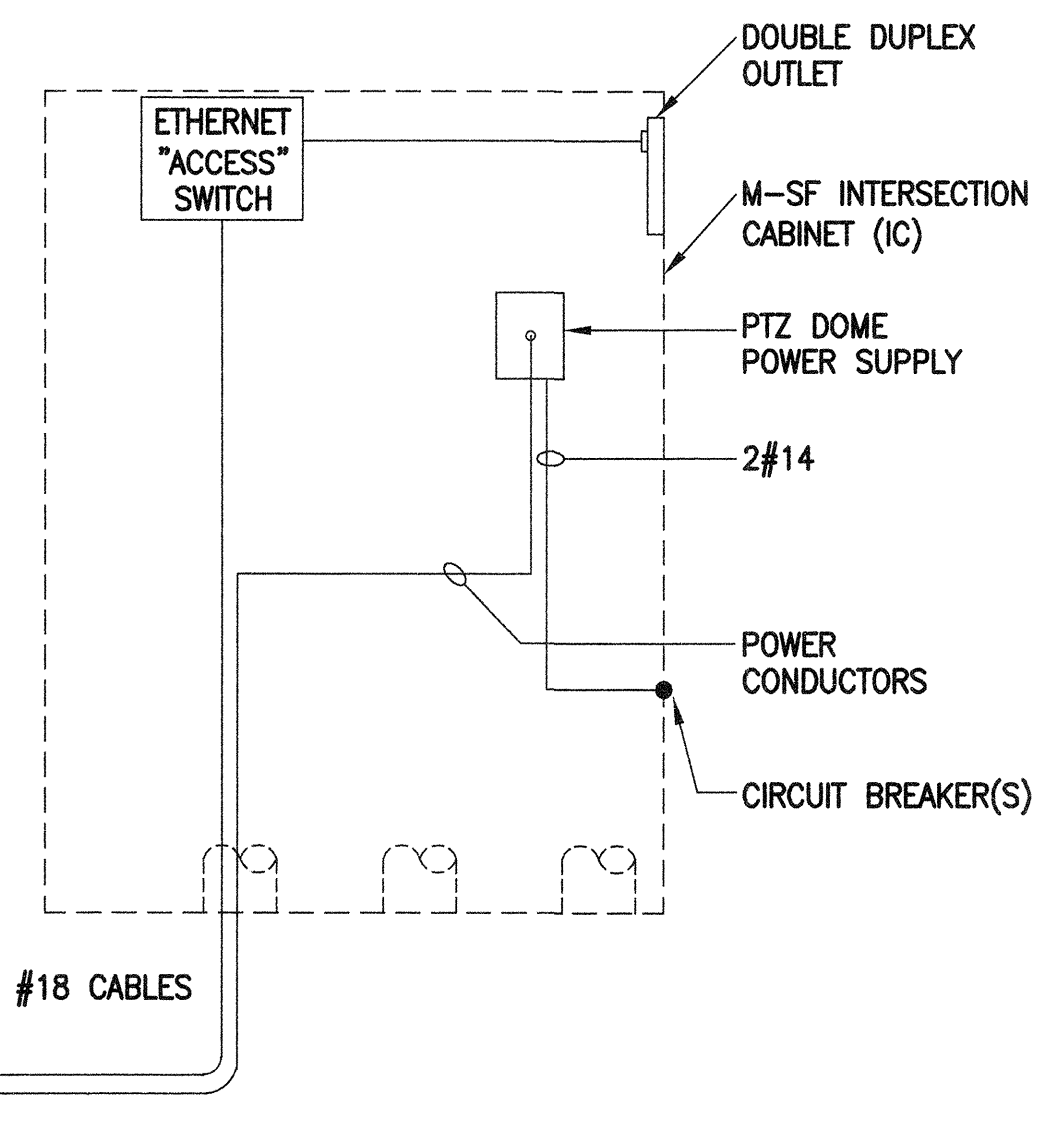
3



MAST ARM MOUNTINGS

N.T.S.

(TYPICAL)



CCTV CAMERA CONNECTIONS IN CABINET DETAIL

N.T.S.

4

DETAIL NOTES:

- Ⓐ DOME ENCLOSURES AND MOUNTS SHOWN ON THIS SHEET ARE TO BE USED FOR GENERAL INSTALLATION DETAILS ONLY, AND DO NOT NECESSARILY REPRESENT THE APPEARANCE OF CAMERAS MOUNTED IN THE FIELD.
- Ⓑ THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE CAMERA ENCLOSURE ASSEMBLY AND POSITIONING IT AS DIRECTED BY THE ENGINEER. ALL MOUNTING EQUIPMENT AND MOUNTING METHODS SHALL BE AS SPECIFIED BY THE CAMERA MANUFACTURER AND IN THE SPECIAL PROVISIONS.
- Ⓒ F/I POWER AND CAT5E CONDUIT AND CABLES TO IC. TERMINATE CABLES IN IC AS SHOWN IN 4 WITH 10 FEET OF SLACK.

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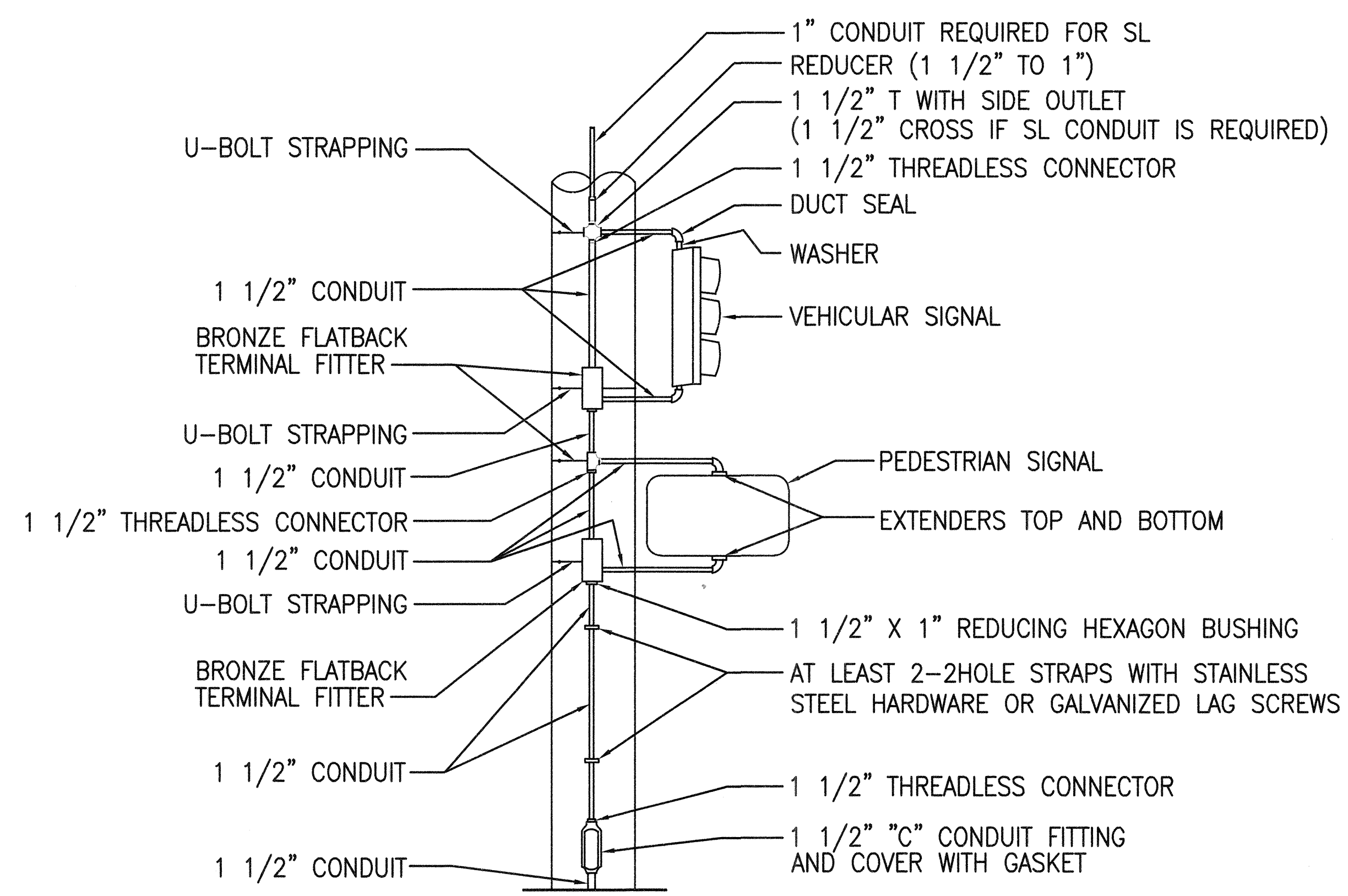
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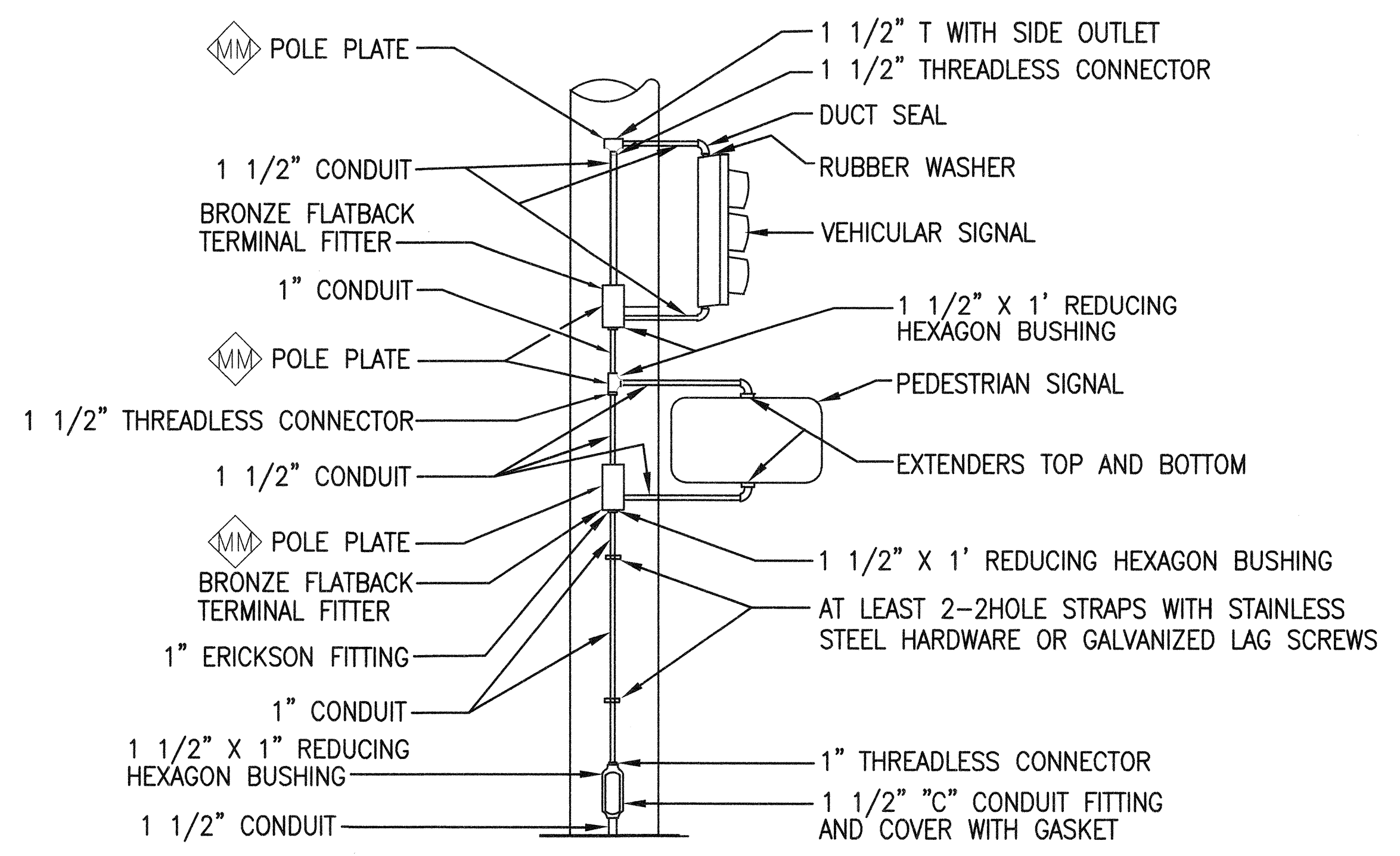
MUNI BUS RAPID TRANSIT SYSTEM		1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT		
TRAFFIC SIGNALS		ET-007.0
CCTV CAMERA AND MAST ARM MOUNTINGS		ET-204
		REVISION

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EXTERNAL CONDUIT INSTALLATION ON STEEL POLE

DETAIL 1

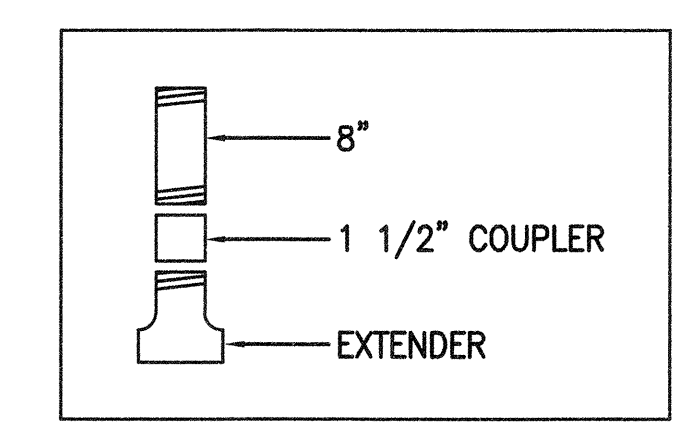


EXTERNAL CONDUIT INSTALLATION ON WOODEN POLE

DETAIL 2

DETAIL NOTE:

F/1 POLE PLATE AND 5/8" GALVANIZED THROUGH BOLTS, LENGTH AS REQUIRED. THE POLE PLATE SHALL BE TRAFFIC SIGNAL HARDWARE INC. CAT. NO. TSH0152 OR EQUAL.



EXTENDER

DETAIL 3

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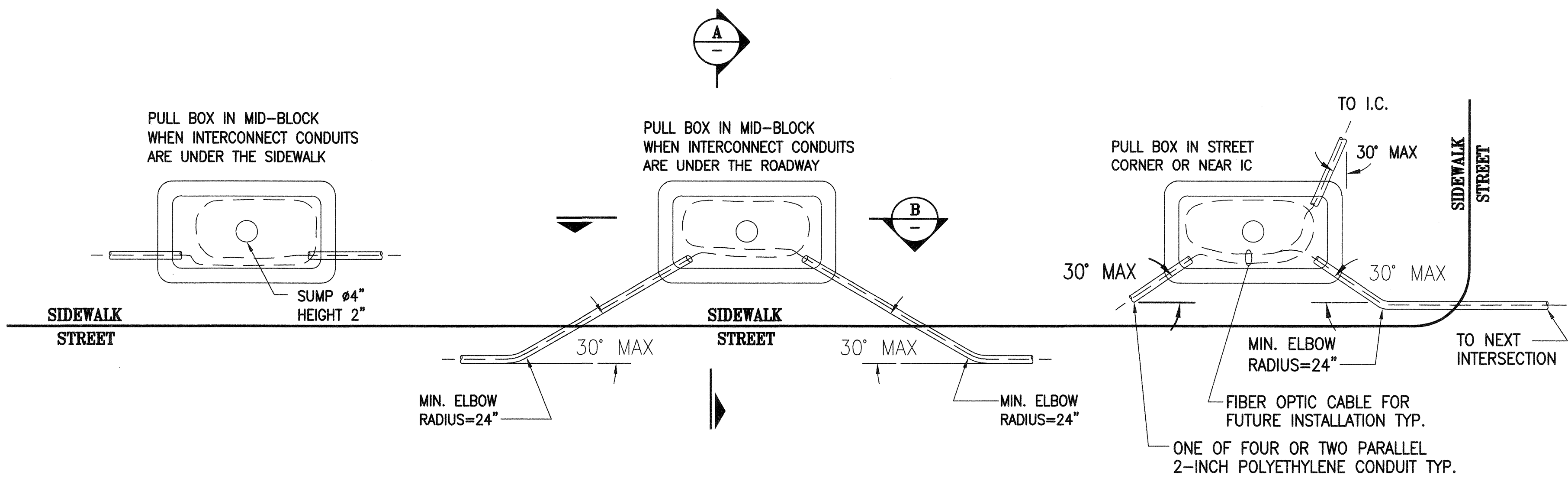
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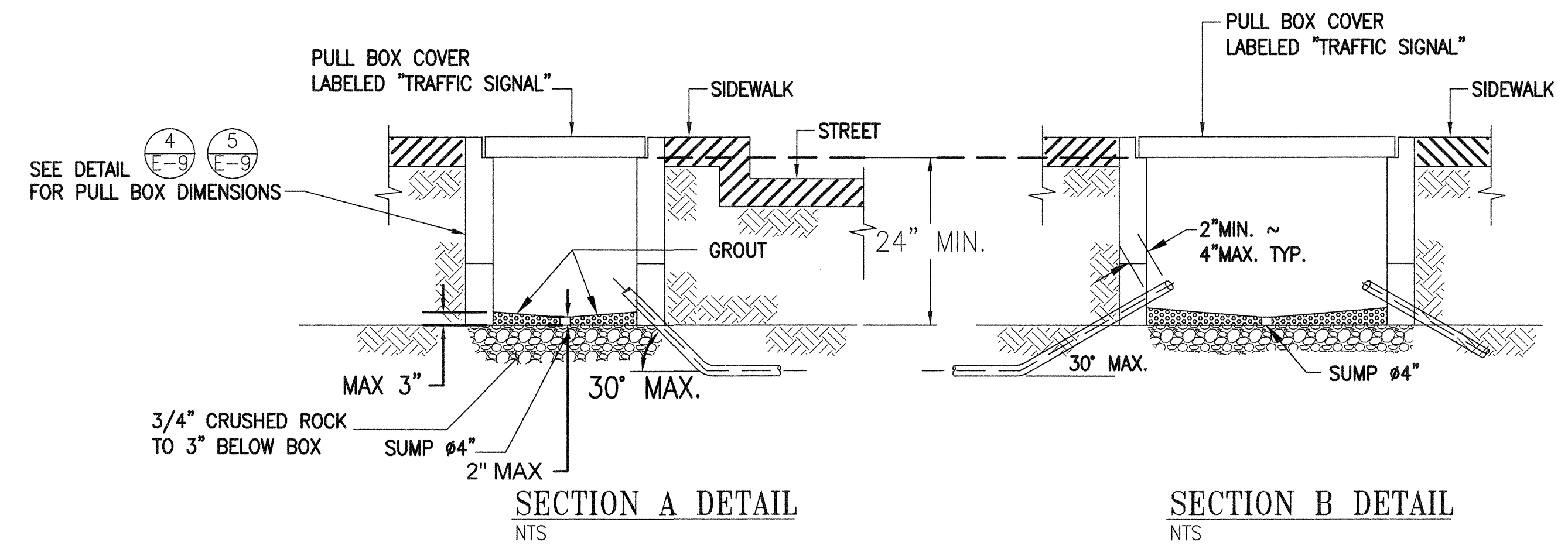
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MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	1289
TRAFFIC SIGNALS EXTERNAL CONDUIT DETAILS	ET-008.0 ET-204

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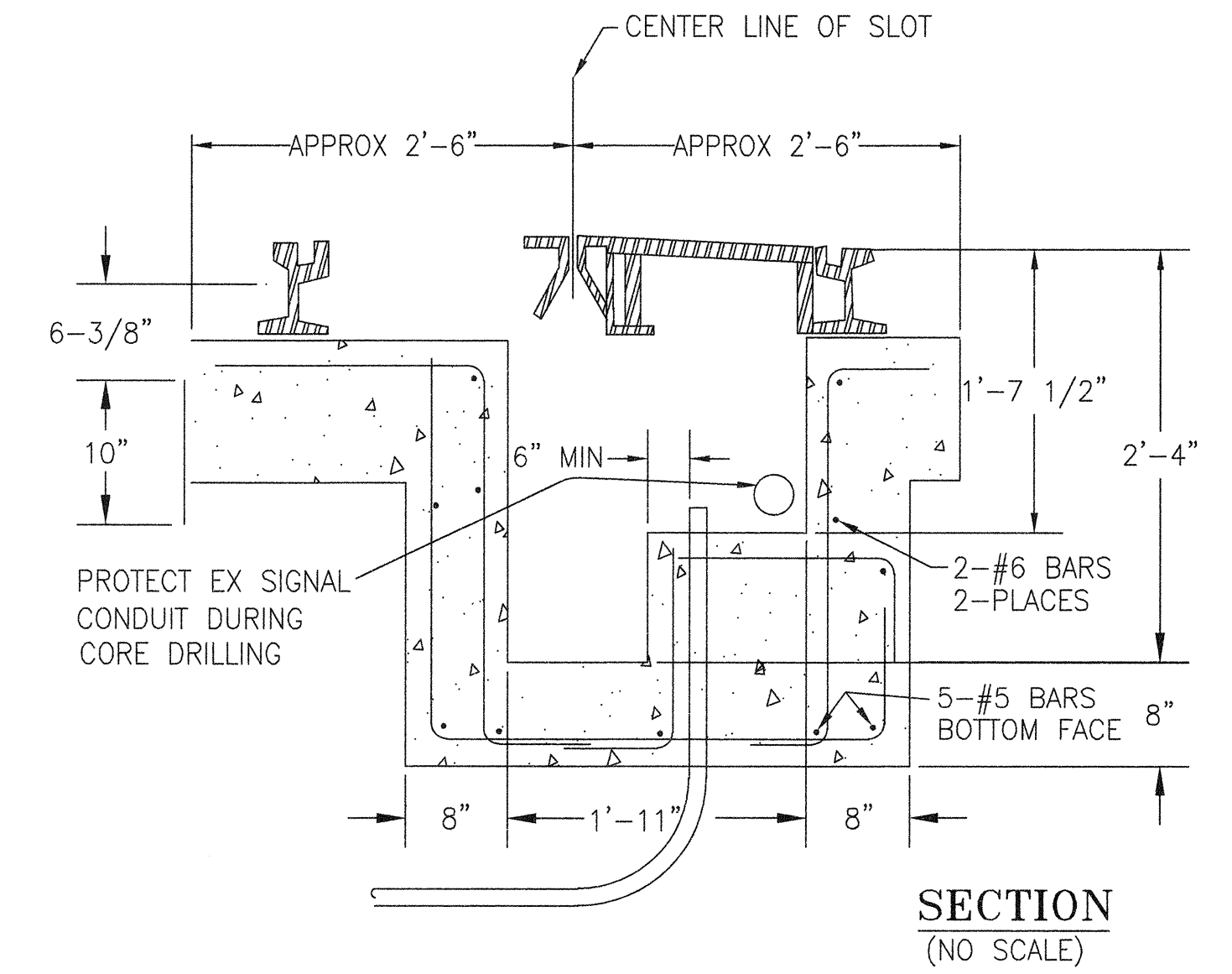


INTERCONNECT PULL BOX AND CONDUIT DETAIL
(PLAN VIEW)



INTERCONNECT PULL BOX AND CONDUIT DETAIL
(SIDE VIEW)

DETAIL 1
NTS



CABLE CAR SLOT/TRACK DETAIL

DETAIL 2
NTS

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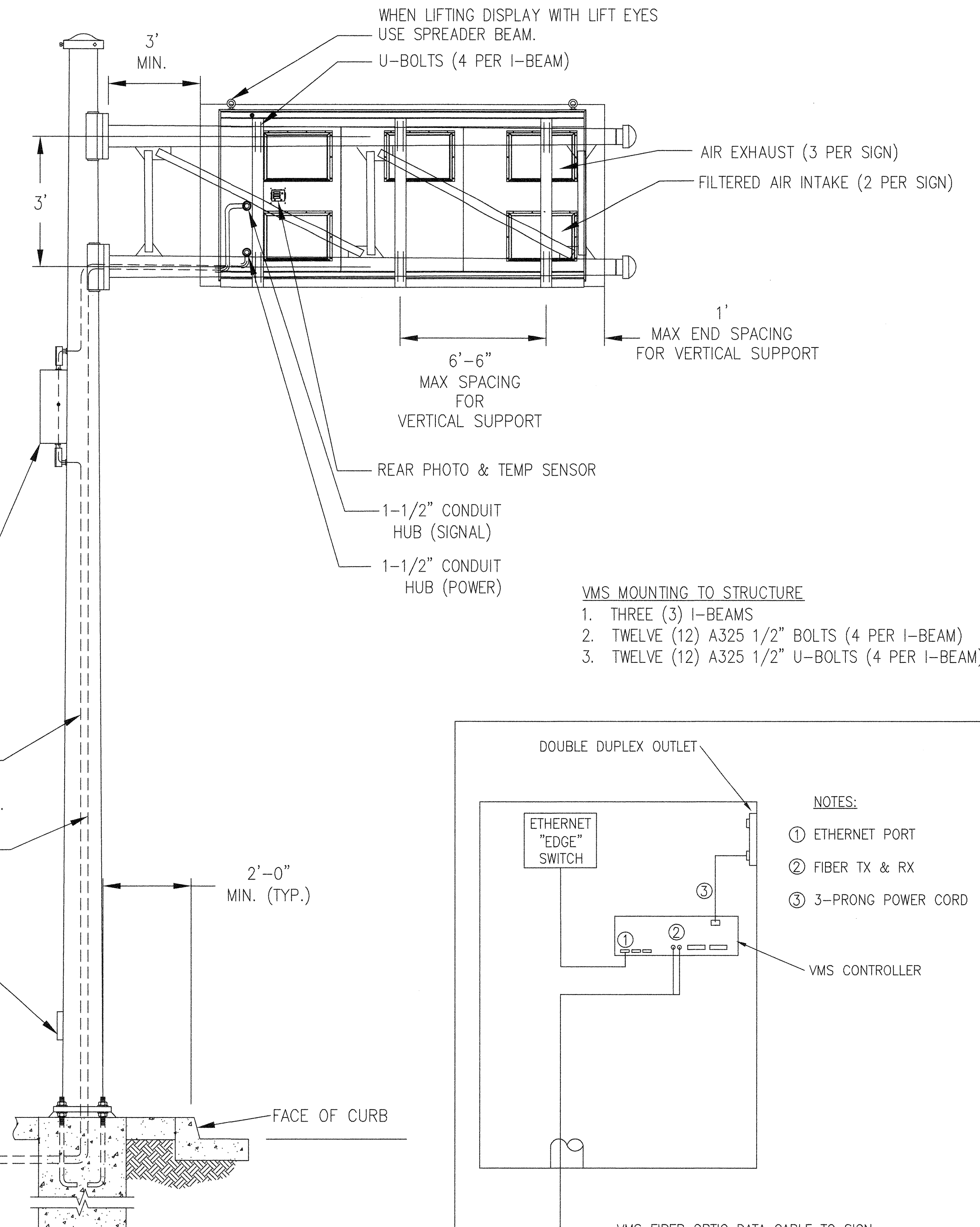
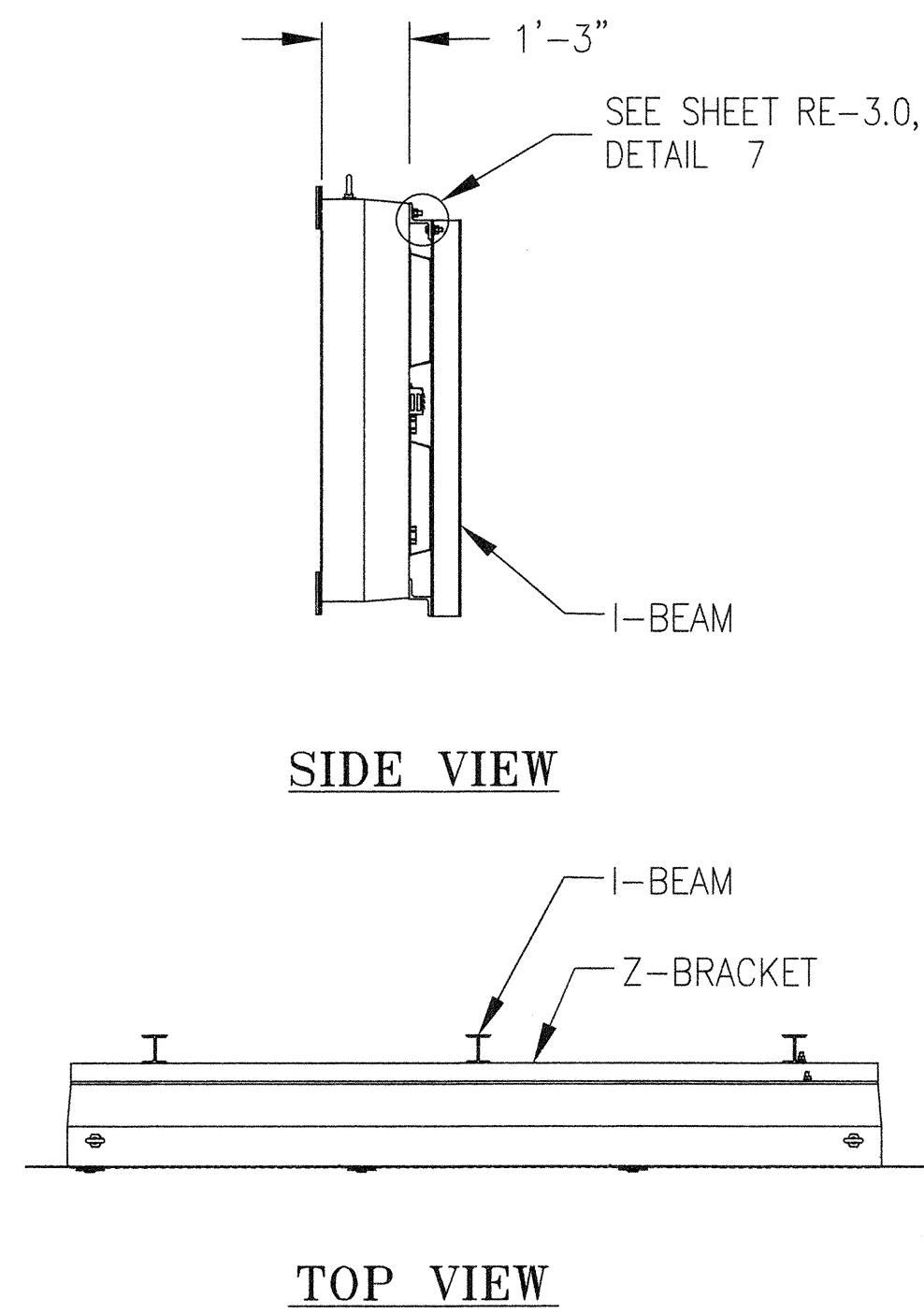
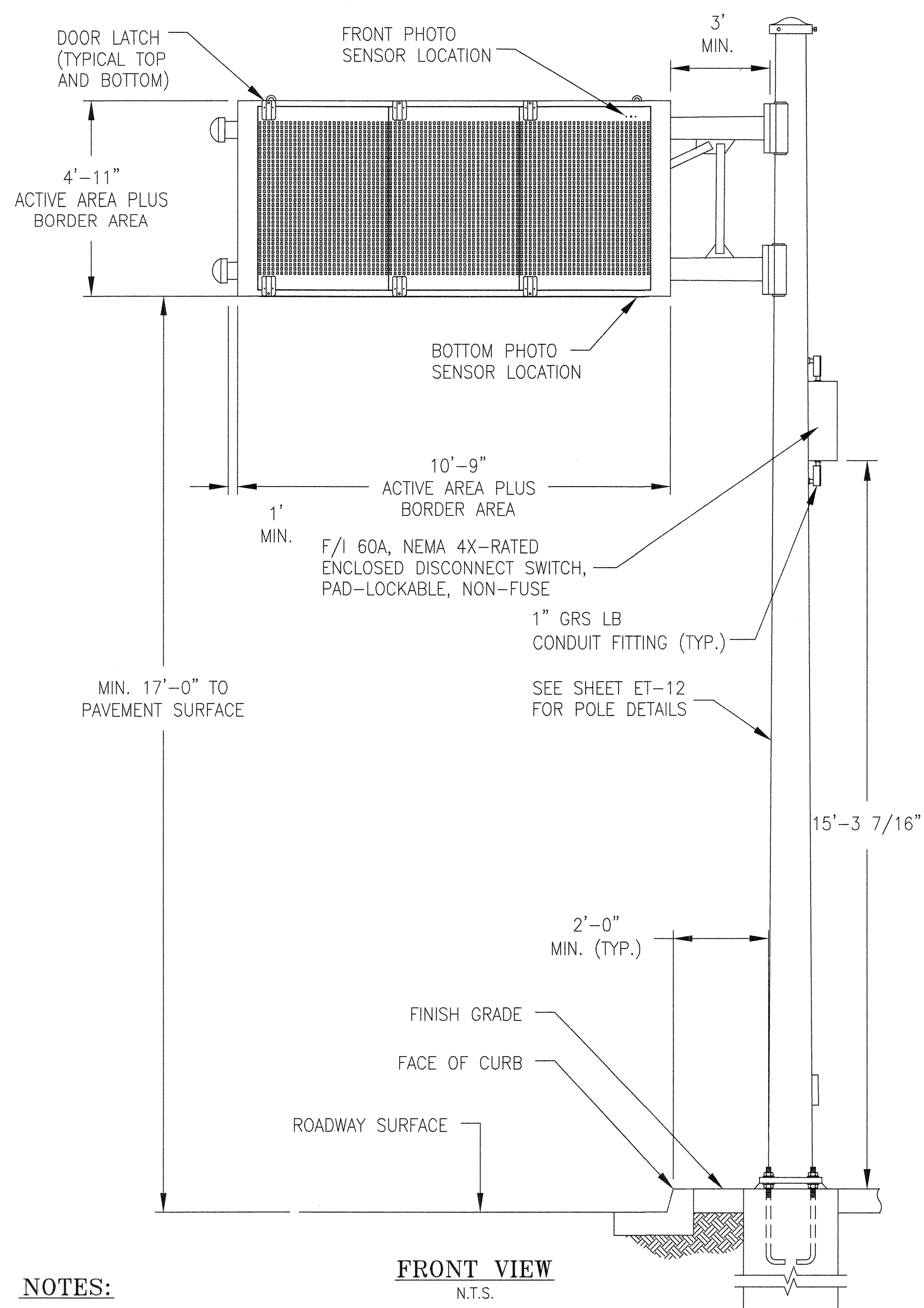
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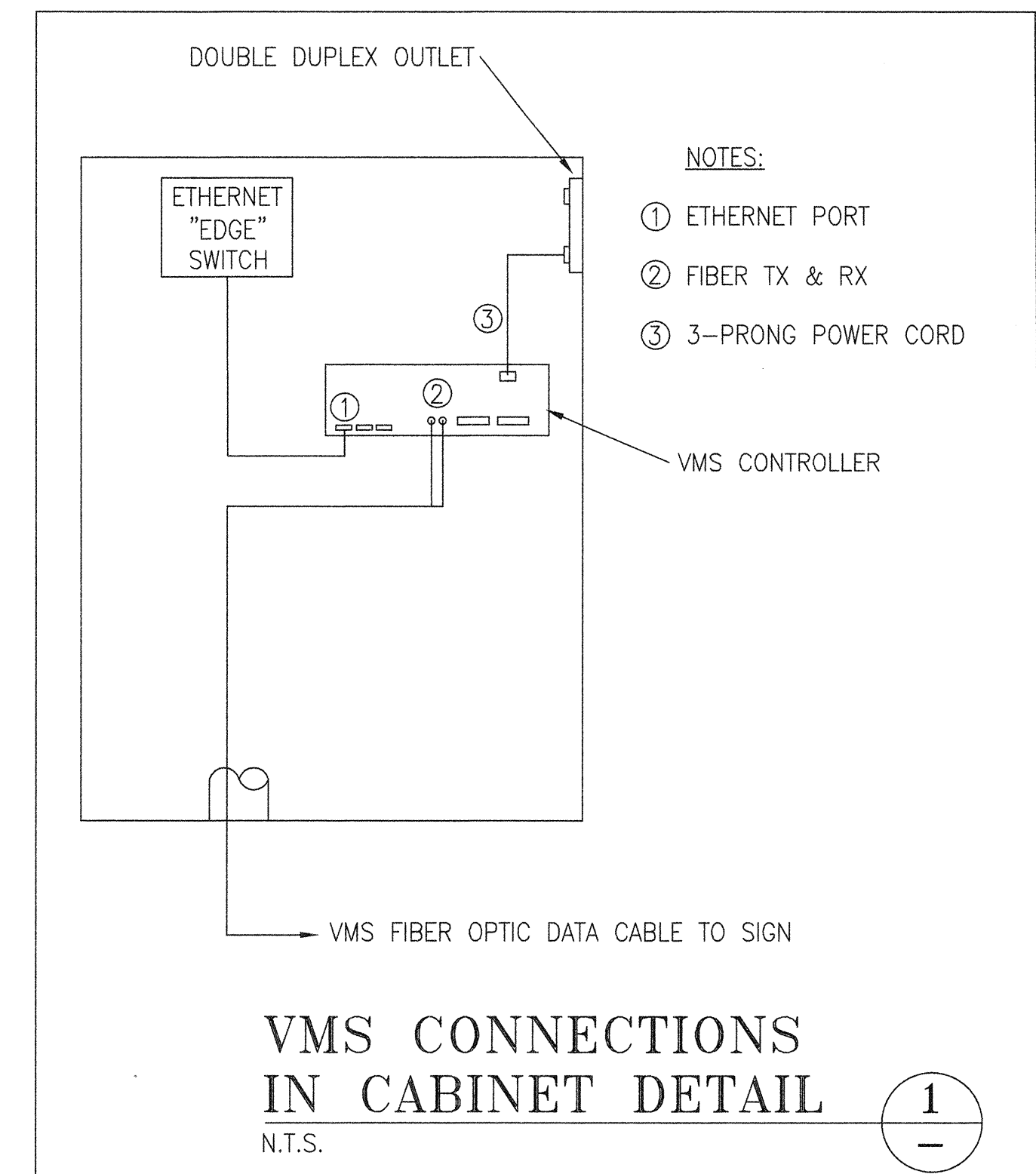
MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

TRAFFIC SIGNALS
INTERCONNECT PULL BOX AND CONDUIT DETAIL

1289	REVISION
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ET-204	



- VMS MOUNTING TO STRUCTURE**
- THREE (3) I-BEAMS
 - TWELVE (12) A325 1/2" BOLTS (4 PER I-BEAM)
 - TWELVE (12) A325 1/2" U-BOLTS (4 PER I-BEAM)



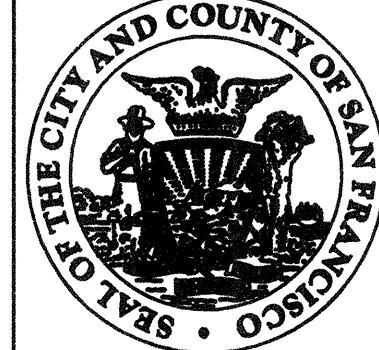
NOTES:

- ALL DIMENSIONS ARE IN FEET & INCHES
- MATRIX SIZE IS 36X90
- 9" NOMINAL CHARACTER
- DISPLAY WILL BE A SINGLE FACE CONFIGURATION.
- SEE ILLUSTRATIONS FOR POWER AND DATA CONDUIT.
- FULL PROTECTIVE MASKED FACE PANEL.
- INTERNAL MAINTENANCE OF DISPLAY IS ACCESSED VIA FRONT ACCESS.
- ALL ALUMINUM CONSTRUCTION.
- WEIGHT OF DISPLAY INCLUDING STRUCTURAL I-BEAMS IS 1100 LBS.
- CONTRACTOR SHALL FIELD-LOCATE POLE WITH APPROVAL OF ENGINEER. 36" MIN. SIDEWALK CLEARANCE SHALL BE MAINTAINED AT ALL TIMES.

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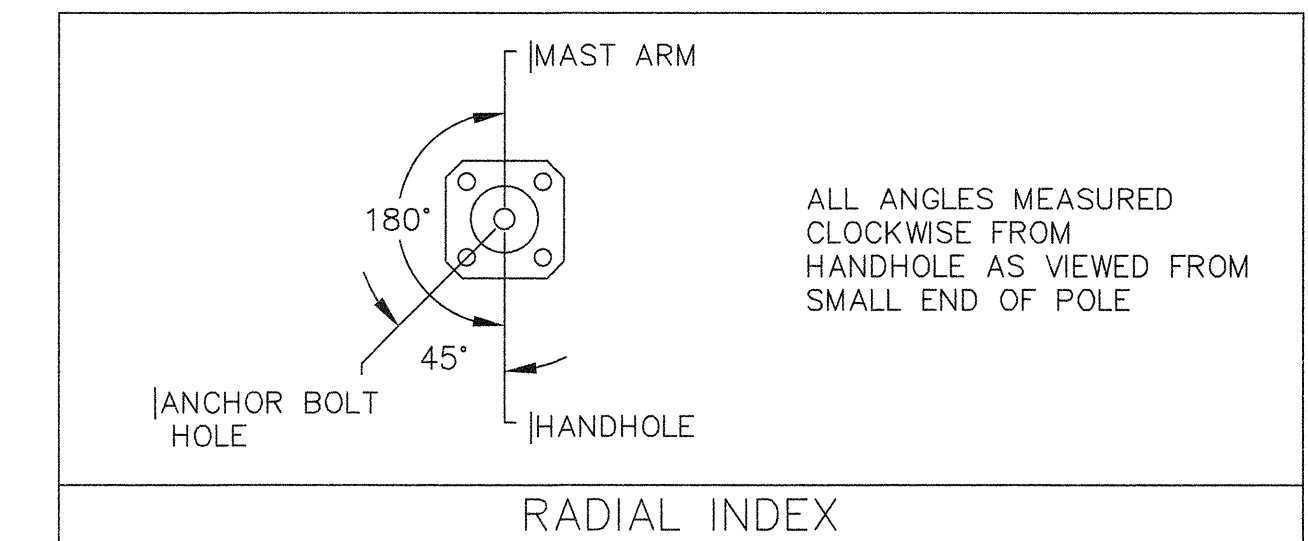
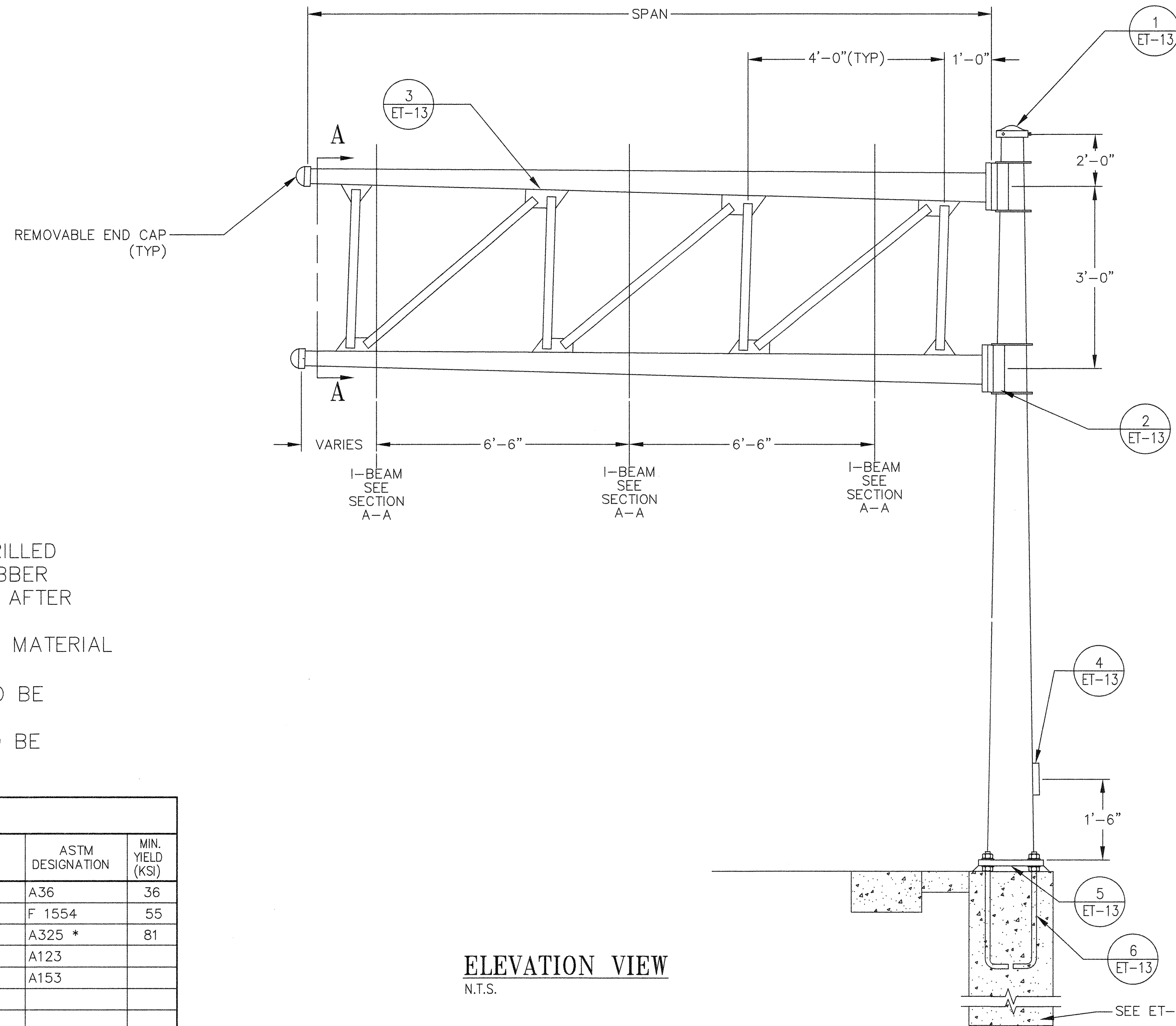
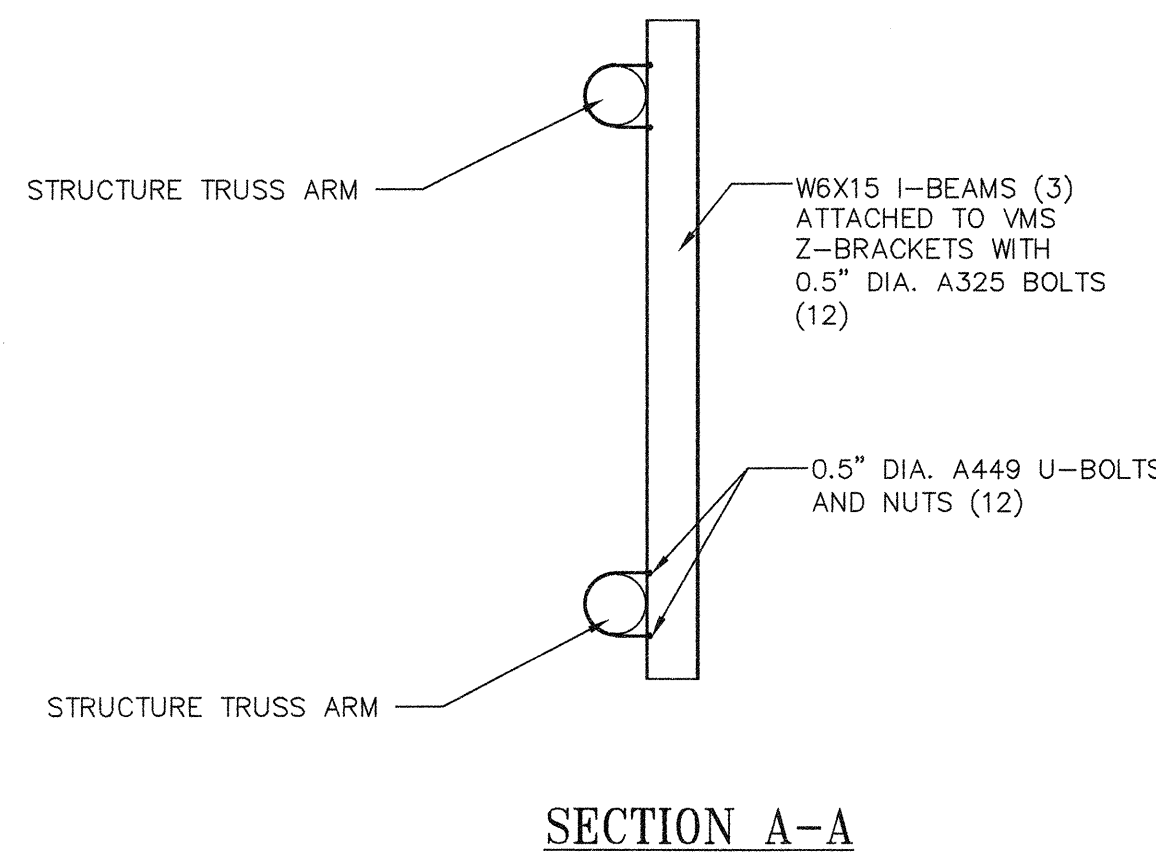
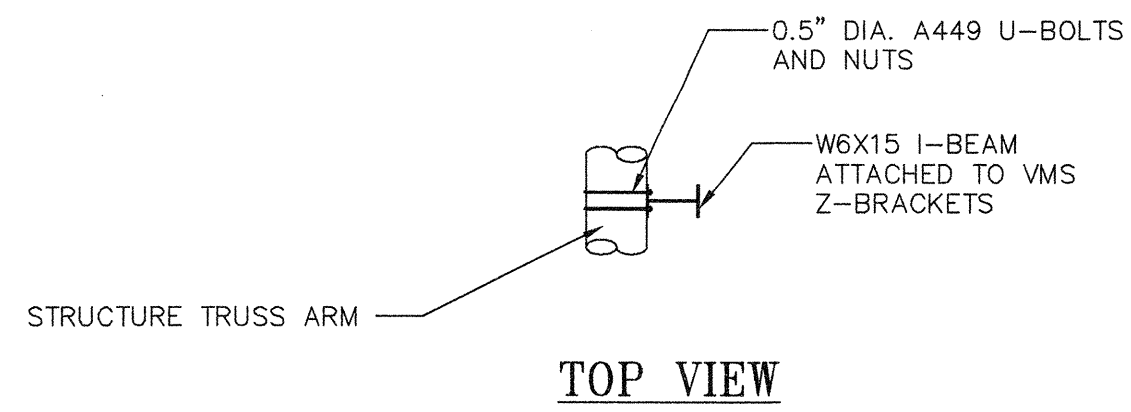
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MUNI BUS RAPID TRANSIT SYSTEM	1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	
VARIABLE MESSAGE SIGN DETAILS	
ET-011.0	REVISION
ET-204	

STRUCTURE SCHEDULE																			
STRUCTURE DATA			POLE DATA				TRUSS ARM DATA				BASEPLATE DATA				ANCHOR BOLT DATA				
SIGN NO.	STATION NO.	SPAN	BASE DIA.	TOP DIA.	LENGTH	THK.	BASE DIA.	END DIA.	LENGTH	THK.	PLATE SQUARE "S"	BOLT CIRCLE "Y"	THICKNESS "M"	BOLT HOLE "Z"	NO.	DIAMETER "K"	LENGTH "J"	HOOK "H"	THREAD LENGTH "U"
N/A	N/A	15'-0"	15.00"	11.64"	24.00'	0.3125"	9.00"	6.90"	15'-0.00"	0.1793"	21.00"	20.00"	1.75"	2.00"	4	1.75"	84.00"	6.00"	8.00"



NOTES:

- 1.50" DIA. CONDUCTOR HOLES TO BE FIELD DRILLED AND TOUCHED UP WITH ZINC RICH PAINT. RUBBER GROMMETS TO BE PROVIDED BY CONTRACTOR AFTER DRILLING HOLES.
- CONTRACTOR TO PROVIDE WATER PROOF SEAL MATERIAL AT ALL ELECTRICAL INLET/OUTLET HOLES.
- I-BEAM AND SIGN ATTACHMENT HARDWARE TO BE PROVIDED BY SIGN MANUFACTURER.
- EMBARCADERO BLUE FINISH POWDER PAINT TO BE SPECIFIED ON/BEFORE BIDDING.

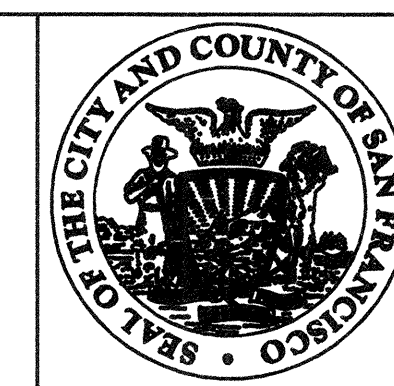
MATERIAL DATA					
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFT	A595 GR.55	55	GUSSETS	A36	36
ARM SHAFT	A595 GR.55	55	ANCHOR BOLTS	F 1554	55
BASEPLATE	A36	36	CONNECTING BOLTS	A325 *	81
SIMPLEX PLATES	A36	36	STRUCTURE GALVANIZING	A123	
WEB MEMBERS	A501,A513,A618 A500 GR. B	36	HARDWARE GALVANIZING	A153	

*LUBRICATE IN THE FIELD IF NECESSARY IN LIEU OF THE REQUIREMENTS IN A325.

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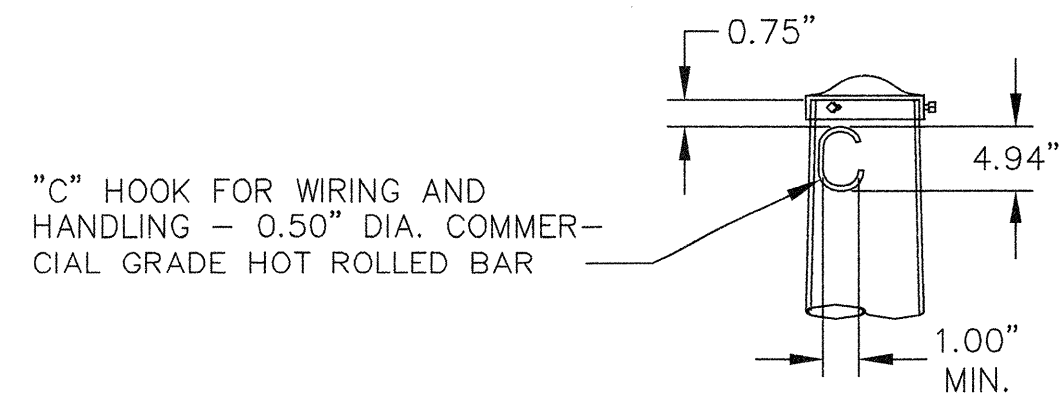
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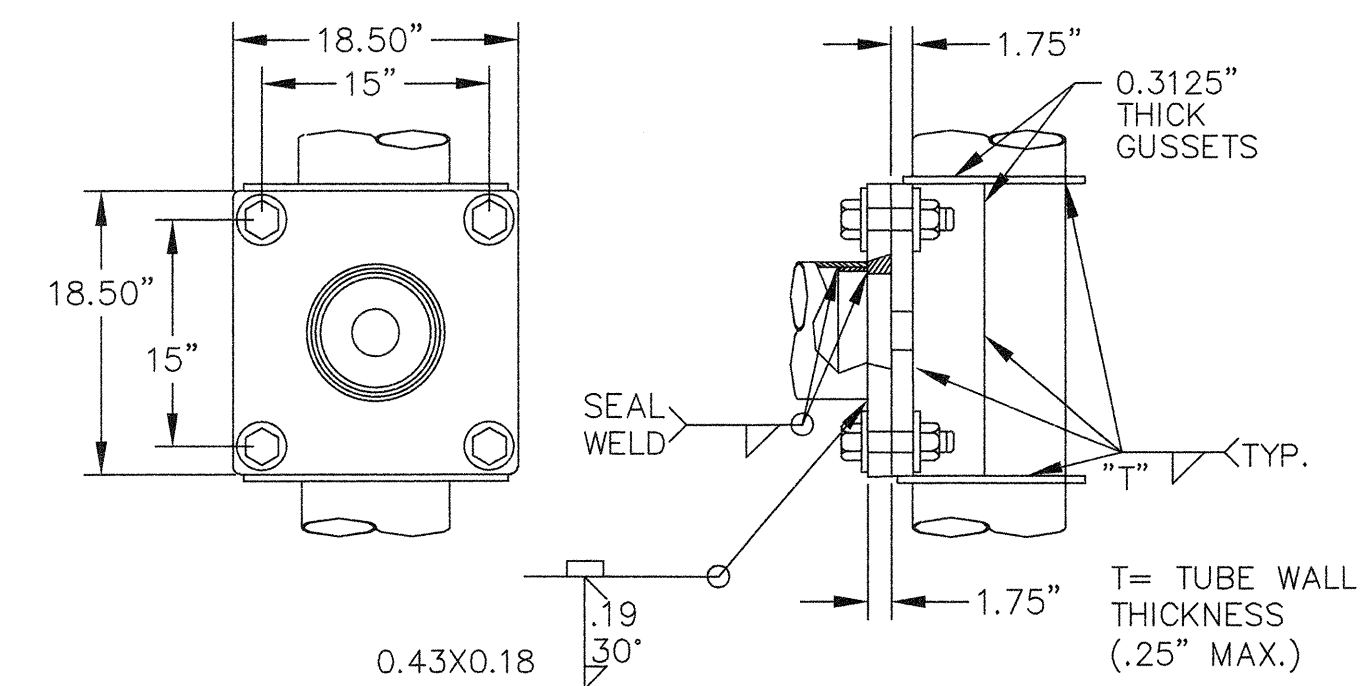
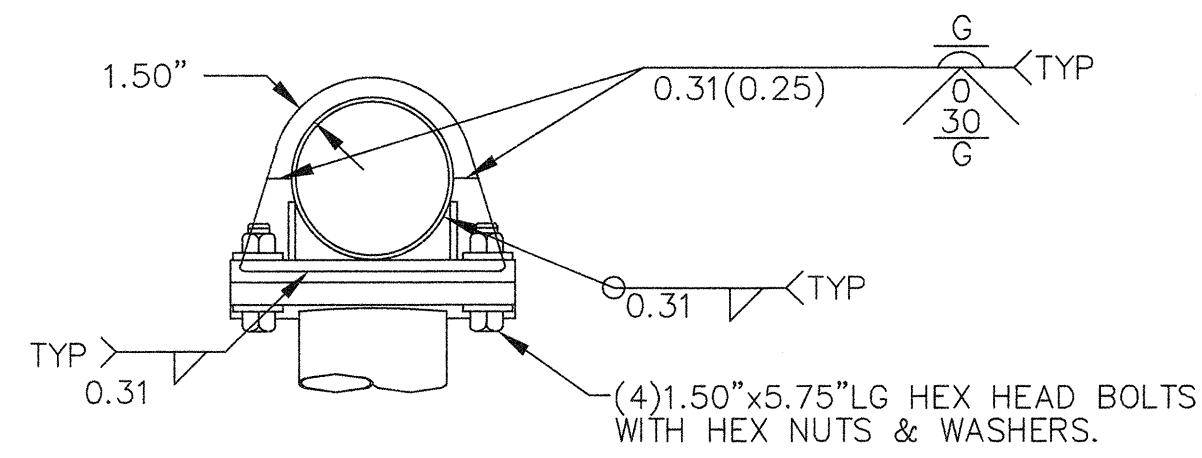
MUNI BUS RAPID TRANSIT SYSTEM
 VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT
 VARIABLE MESSAGE SIGN TRUSS DETAIL

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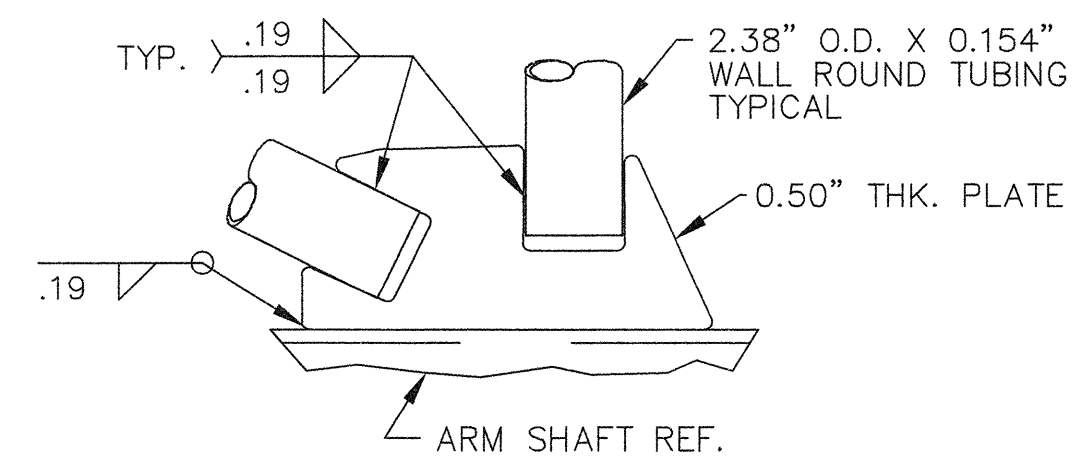
POLE TOP DETAIL

1
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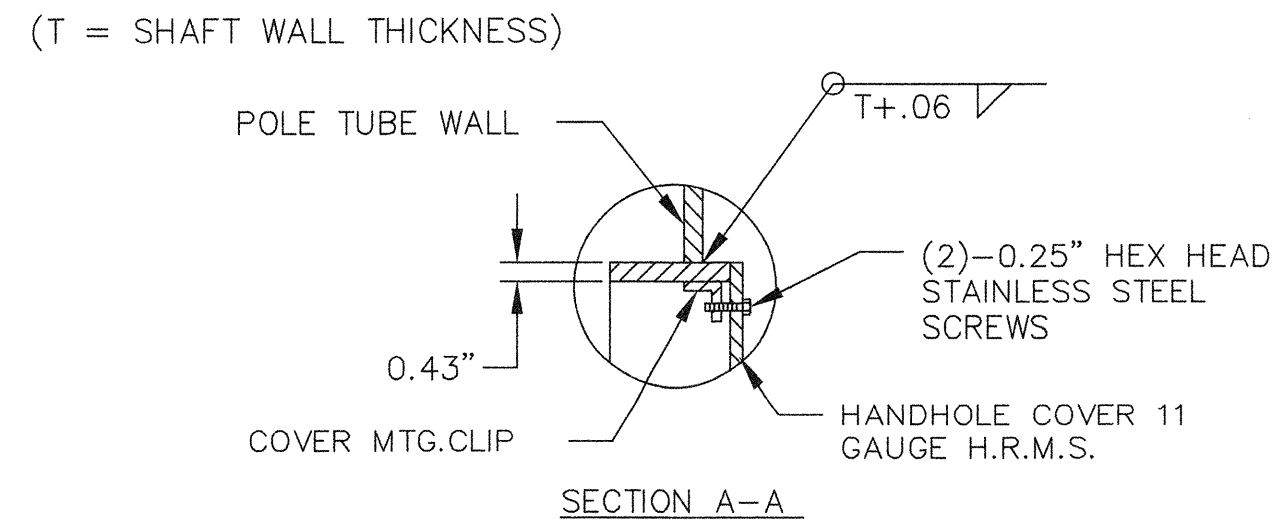
TRUSS ARM ATTACHMENT

2
-



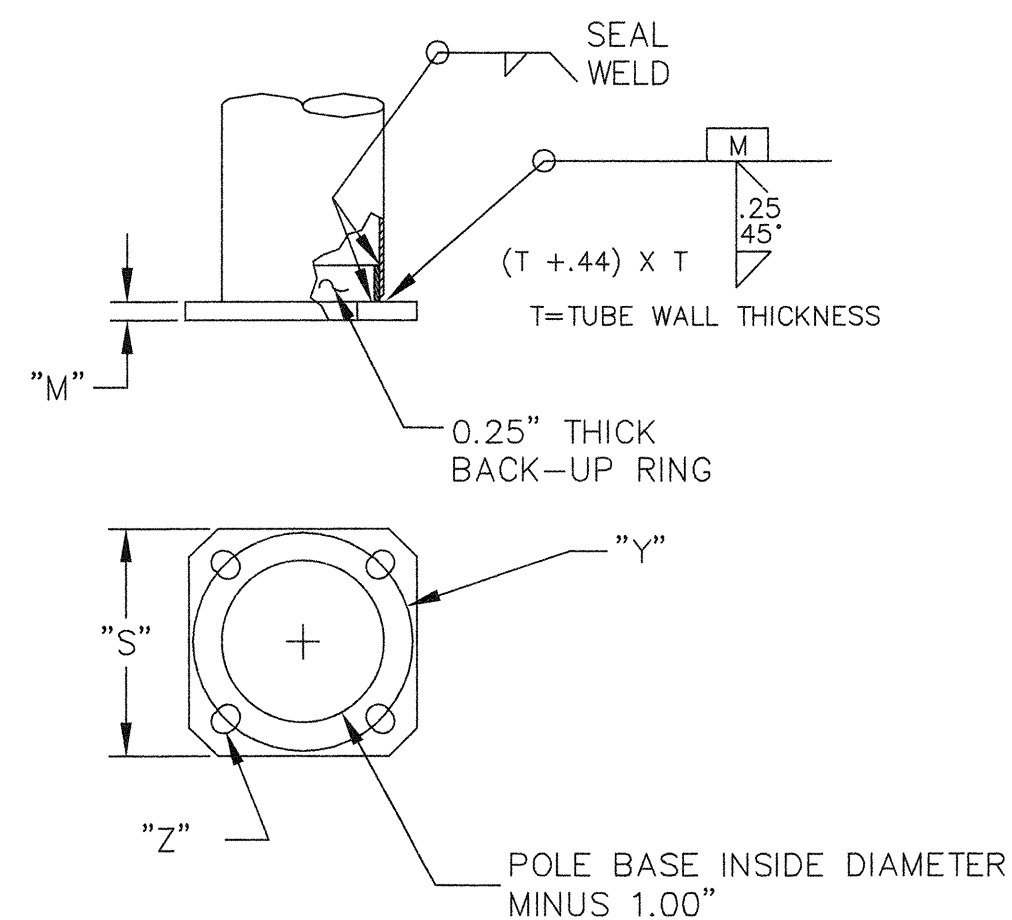
WEB GUSSET DETAIL

3
-



HANDHOLE DETAIL

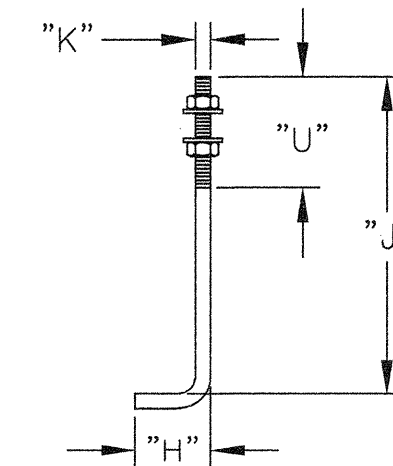
4
-



POLE BASE DETAIL

5
-

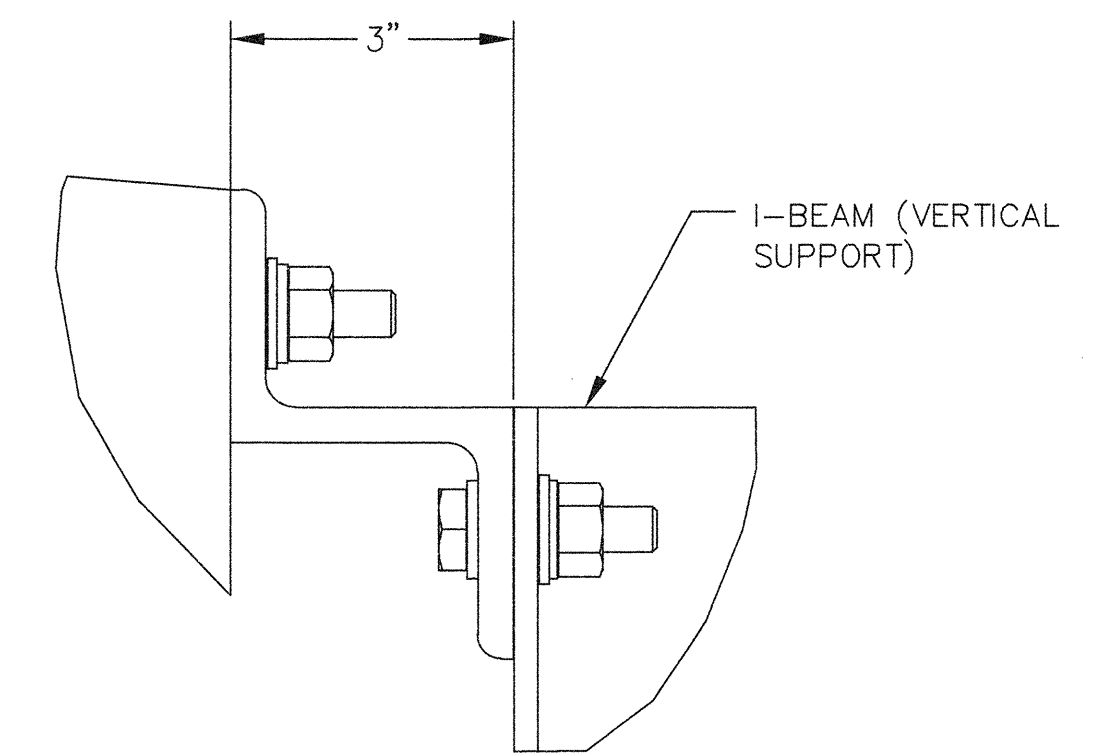
(4)-ANCHOR BOLTS WITH
(2) HEX NUTS AND (2) WASHERS
PER BOLT WITH THREADED
END GALVANIZED AT LEAST 12".



ANCHOR BOLT

ANCHOR BOLT DETAIL

6
-



Z-BRACKET DETAIL

7
-

TWO Z-BRACKETS ARE BOLTED TO THE REAR OF THE DISPLAY BY DAKTRONICS. THE VERTICAL SUPPORTS SHOWN ARE PROVIDED BY THE CONTRACTOR. EACH Z-BRACKET IS ATTACHED TO THE CABINET USING ϕ 1/2" A325 MECHANICALLY GALVANIZED STRUCTURAL GRADE HARDWARE. THE VERTICAL SUPPORTS MUST BE ATTACHED AS SHOWN WITHIN THE STATED VALUES ON SHEET ET-11.

ALL DETAIL DRAWINGS NOT TO SCALE

T:\T_E_FILES\SFgo\Projects\Van Ness BRT\Signal Design\CADD\ET-13_VMS Connections Detail.dwg kkwong Mon Jul 06 2015 - 5:02 pm

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
REVISIONS					

DESIGNED	SRO
DRAWN	<i>[Signature]</i>
CHECKED	FSZ
REVIEWED	<i>[Signature]</i>
RECOMMENDED	<i>[Signature]</i>
APPROVED	<i>[Signature]</i>
DATE	12/9/2015

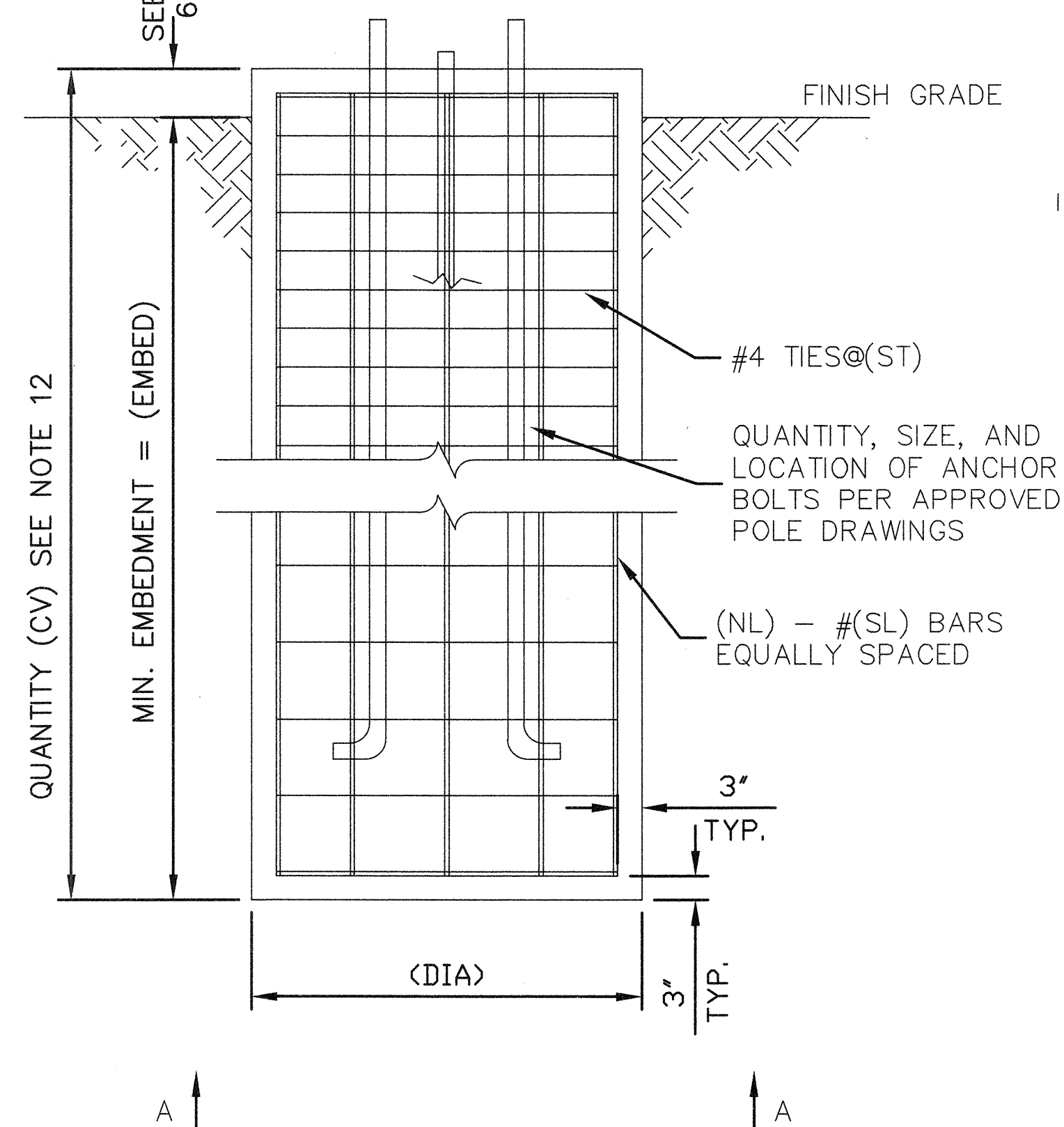
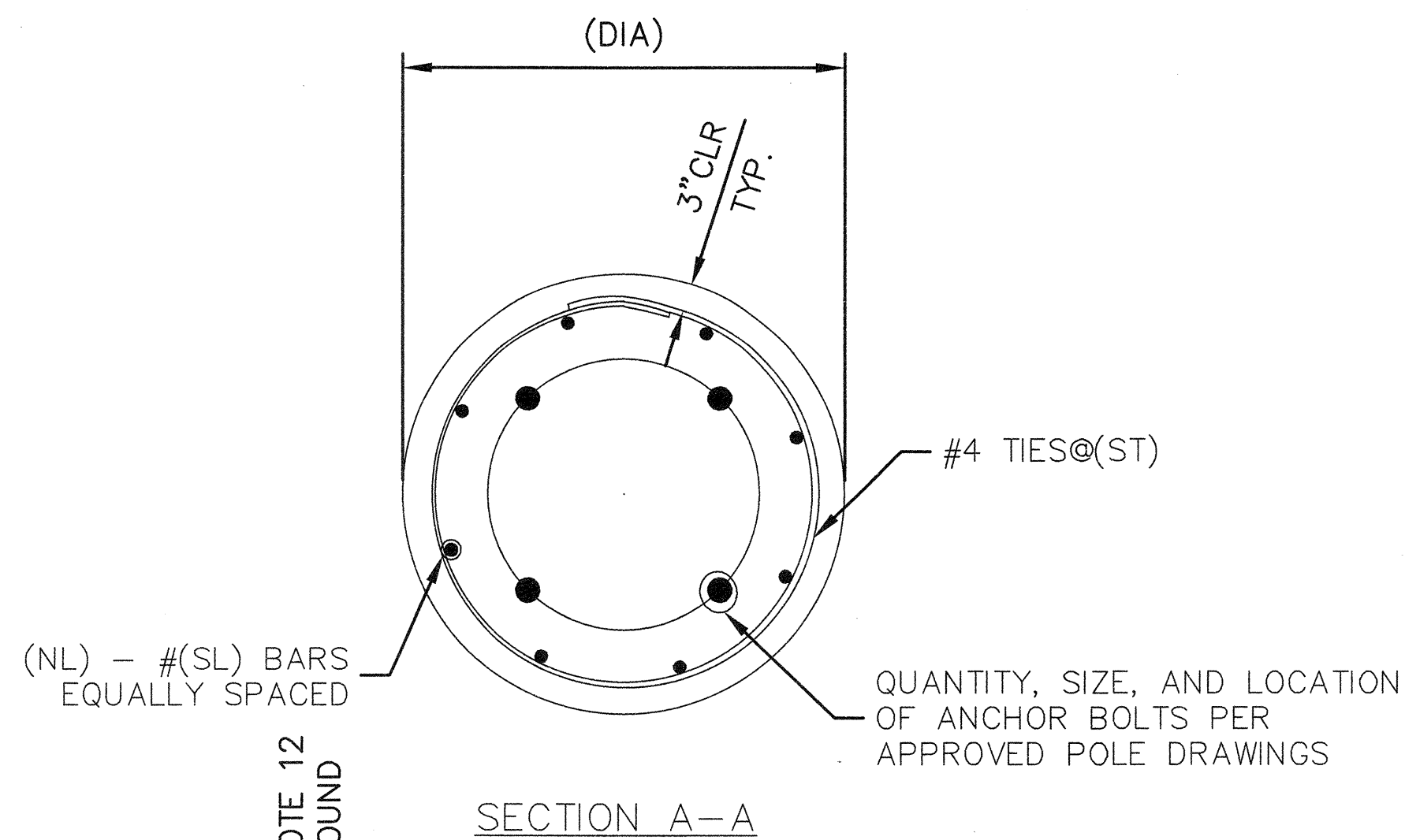


CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

APPROVED
[Signature]
for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	1289
VAR. MESSAGE SIGN CONNECTIONS DETAIL	ET-013.0 ET-204

REVISION	
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ELEVATION
 CONCRETE = (CV) YD³
 REINFORCEMENT = (RW) LB
 LAP 14", SEE TABLE

1. FOUNDATION HOLE SHALL BE AUGERED AND FILLED WITH CONCRETE. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'_c) OF 4000 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 4" AS DETERMINED BY ASTM C143.
2. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60 OR EQUAL.
3. CONTRACTOR SHALL FOLLOW REPORT AND CONFORM SOIL CONDITIONS STATED. FOUNDATION IS DESIGNED ASSUMING A NON-COHESIVE SANDY SOIL. SOIL HAS A POSSIBILITY OF BEING HIGHLY SENSITIVE TO MOISTURE CONTENT AND MAY HAVE POOR SHRINKAGE AND SWELLING CHARACTERISTICS. CONTRACTOR SHALL CONTACT GEOTECHNICAL ENGINEER WITH SOIL CONDITIONS.
4. IF SOIL CONDITIONS DURING CONSTRUCTION DO NOT MEET THE DESCRIPTION GIVEN ABOVE OR IF SOLID BEDROCK IS REACHED BEFORE REACHING THE SPECIFIED EMBEDMENT DEPTH CONTACT VALMONT ENGINEERING AT (402) 359-2201 BEFORE CONTINUING EXCAVATION.
5. FOUNDATION TO BE CAST AGAINST UNDISTURBED SOIL. IF CASINGS ARE REQUIRED TO PREVENT CAVING OF THE PIER THE CASING SHALL BE PULLED AFTER USE.
6. FOUNDATION TO BE POURED MONOLITHICALLY. DUE TO THE POSSIBILITY OF EXISTING SENSITIVE SOILS THE CONCRETE SHALL BE POURED THE SAME DAY AS THE EXCAVATION.
7. FOUNDATION DESIGN IS BASED ON WATER TABLE BEING BELOW THE BOTTOM OF THE PIER. CONSTRUCTION BELOW THE WATER TABLE MAY REQUIRE SPECIAL CONSTRUCTION TECHNIQUES TO PREVENT RUPTURING DUE TO HYDROSTATIC PRESSURE.
8. SITE GRADE IS 7H TO 1V OR FLATTER.
9. NO CONDUIT. LAYOUT IS SHOWN. CONDUIT BY OTHERS.
10. CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH OSHA REQUIREMENTS WITH REGARDS TO WORKER ACCESS TO THE EXCAVATION.
11. PROVIDE 3" MINIMUM CONCRETE COVER ON ALL FACES.
12. SITE REQUIREMENTS MAY ADJUST TOP OF FOOTING ABOVE GRADE. CONTRACTOR SHALL FOLLOW PROJECT REQUIREMENTS. CONTRACTOR SHALL DETERMINE TOP OF FOOTING AND ADJUST CONCRETE AND REINFORCING STEEL QUANTITIES.
13. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ACI SPECIFICATIONS AND LOCAL CODES.
14. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE FOUNDATION, MAXIMUM PROJECTION SHALL BE 4".
15. ALL METHODS OF CONSTRUCTION AND INSTALLATION ARE THE RESPONSIBILITY OF THE CONTRACTOR.
16. NO OTHER LOADING CONDITIONS WERE CONSIDERED AND DESIGN IS BASED ON WIND LOADS ONLY.

GENERAL NOTES

FOUNDATION LOADS HAVE BEEN CALCULATED BASED ON 100MPH WIND. AN OVERTURNING (FS = 2.0) AND TORSIONAL (FS = 1.5) WERE USED IN DESIGN.

CONTRACTOR TO VERIFY NUMBER OF ANCHOR BOLTS AND BOLT CIRCLE.

NON-COHESIVE SOIL
 $\phi = 30^\circ$
 $\gamma = 100$ PCF ASSUMED
 $u = 0.45$ (FRICTION FACTOR)

CONTRACTOR TO CONFIRM SOIL CONDITIONS ON SITE.

SOILS DATA

AXIAL	=	3,007	LB
SHEAR _X	=	0	LB
SHEAR _Y	=	2,126	LB
MOMENT _X	=	44,917	FT-LB
MOMENT _Y	=	0	FT-LB
TORSION	=	17,417	FT-LB

FOUNDATION LOADS (POLE)

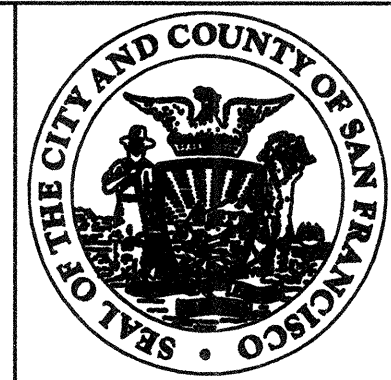
POLE NO.	CAISSON DATA (EA)		LONGITUDINAL BARS (EA)		TRANSVERSE BARS (EA)	MATERIAL QTY. (EA)	
	DIA (FT)	EMBED (FT)	NL (QTY)	SL (SIZE)	(ST)	CONCRETE CV (YD~3)	STEEL RW (LB)
4.9' X 10.75' VMS	3.5	11.0	10	8	#4 TIES @ 6" TOP 4' #4 TIES @ 12" LOWER 7.5'	4.0	401

* QUANTITIES BASED ON FOOTING 6" ABOVE GROUND (TOTAL 11'-6" LONG)

T:\T.E. FILES\SP\Projects\Van Ness BRT\Signal Design\CADD\ET-14_VMS Foundation Detail.dwg skwang Mar Jul 06 2015 - 4:59 pm

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED

DESIGNED: **SRO**
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*
 REVIEWED: *[Signature]*
 RECOMMENDED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 12/9/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

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 for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM	1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	
VARIABLE MESSAGE SIGN FOUNDATION DETAIL	ET-014.0
	ET-204

POLE AND EQUIPMENT SCHEDULE

POLE NO.	POLE STANDARD			VEHICLE SIGNAL				PEDESTRIAN SIGNAL			HPS LUMINAIRE (WATTS)	SPECIAL REQUIREMENTS	
	TYPE	SIG. MA (FEET)	OCS ^{100'} SL ^{100'}	No.	TYPE	MOUNTING	VISORS	LOUVERS	No.	TYPE			MOUNTING
(A)	SIGNAL, SL & OCS COMBO POLE	10	99 13	24 21	3S12" 3S12"	MAS SV-1-T	T T		-	-	-	-	
(B)	1-A (10')	-		72 85	3S12" ^{LA} 3S12"	TV-2-T	T		28 89	1S-COUNT 1S-COUNT	SP-1 (22") SP-1-SFC(22")	-	APS (x2) ①
(C)	1-A (7')	-		-	-	-	-		29	1S-COUNT	TP-1	-	APS ①
(D)	SIGNAL, SL & OCS COMBO POLE	-	1573 W1511 E1511	27 36 73	3S12" 3S12" ^{LA} 4S12" ^{GLA} LAV	SV-3-TA	T T L		98	1S-COUNT	SP-1	-	
(E)	16-1-100	8		44 41	3S12" ^{LAV} 3S12" ^{LAV}	MAS SV-1-T	L L		-	-	-	-	
(F)	1-A (7')	-		-	-	-	-		48 99	1S-COUNT 1S-COUNT	TP-2-T	-	APS ①
(G)	SIGNAL, SL & OCS COMBO POLE	-	103 11	25 152	3S12" 3S12" ^{LRB}	SV-2-TA	T T		-	-	-	-	APS ① TSP ②
(H)	SIGNAL, SL & OCS COMBO POLE	-	105 W115 E115	26 153	3S12" 3S12" ^{LRB}	SV-2-TA	T T		-	-	-	-	
(I)	SPECIAL SIGNAL MAST ARM POLE (18-3-100)	30		67 61	3S12" 3S12"	MAS SV-1-T	T T		68	1S-COUNT	SP-1	-	SIGNAL MA MOUNT AT 20' HIGH APS ①
(J)	1-A (10')	-		45	3S12"	TV-1-T	T		49	1S-COUNT	SP-1	-	APS ①
(K)	EX SIGNAL & OCS COMBO POLE (FEEDER)	-	1600	76	3S12" ^{LA}	SV-1-T	T		-	-	-	-	EXTERNAL CONDUIT
(L)	EXISTING SL/TS MA POLE	-		-	-	-	-		69 118	1S-COUNT 1S-COUNT	SP-2-T	-	APS ①
(M)	SPECIAL SIGNAL MAST ARM POLE (18-3-100)	30		64 33	3S12" 4S12" ^{GLA}	MAS SV-1-T	T T		-	-	-	-	SIGNAL MA MOUNT AT 22.5' HIGH APS ①
(N)	SIGNAL & OCS COMBO MAST ARM POLE	20	9	34	4S12" ^{GLA}	MAS	T		-	-	-	-	SIGNAL MA MOUNT AT 22.5' HIGH
(O)	SIGNAL & OCS COMBO MAST ARM POLE	15	10	84 81	3S12" 3S12"	MAS SV-1-T	T T		88	1S-COUNT	SP-1	-	SIGNAL MA MOUNT AT 22.5' HIGH APS ①
(P)	1-A (10')	-		65	3S12"	TV-1-T	T		119	1S-COUNT	SP-1	-	APS ①
(Q)	SIGNAL, SL & OCS COMBO POLE	-	97 W012 E012	23	3S12"	SV-1-T	T		-	-	-	-	TRAFFIC CAMERA ③
(R)	TSB POLE	-		-	-	-	-		-	-	-	-	TSB

*OTHER REQUIREMENTS ARE COVERED BY NOTES, LEGEND, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS. FOR TYPE OF STANDARD, VEHICLE AND PEDESTRIAN SIGNAL MOUNTING, SEE CALTRANS STANDARD PLANS OR DETAIL DRAWINGS.

- ① INSTALL APS WIRING AS SHOWN IN CONDUIT AND WIRING SCHEDULE. CITY FORCES TO INSTALL CITY FURNISHED APS UNIT.
- ② INSTALL CITY FURNISHED TSP WIRING FROM TS OR COMBINED POLES WITH 3 FEET OF SLACK TO TS CABINET.
- ③ INSTALL CITY FURNISHED TRAFFIC CAMERA AND CONTRACTOR FURNISHED WIRING.
- ④ FOR STREETLIGHT WORK, SEE SL-SERIES PLANS.

I:_FILES\Proj\Projects\Van Ness BRT\Signal Design\CADD\CPTB401EIBS.dwg Mwangi Tue Jul 07 2015 - 3:44 PM

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
REVISIONS					

DESIGNED: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*
 REVIEWED: *[Signature]*
 RECOMMENDED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 12/4/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
 APPROVED: *[Signature]*
 for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM		1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT		
MISSION/OTIS STREET		ET-101.2
CONDUCTOR POLE AND EQUIPMENT SCHEDULES		ET-204

CONDUIT AND WIRING SCHEDULE

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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
CONDUIT SIZE (INCH)	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	3	2	2	2	
				SP	SP					SP									SP			SP	SP									SP							SP					SP							
#14 NEUTRAL	2	2					2				2	2	2							2	3				1	2	1	1					2	3																	
#14 SPARE			3					3	3					3	3			3				3								3	3	3									3	3	3								
TOTAL #14 WIRES	8	16	23				4	25	19		8	8	9	44	22	2	3	8		9	13	25			5	11	7	4	25	25	25		9	13	25	25	20		8	25	25	26		25	25	26					
#10 WIRES NEUTRAL			1					1	1					2	1		1	1				2																													
#6 WIRES (120 V SERVICE)																																																			
#8 WIRES (120 V SERVICE)																																																			
#6 BSCW (SEE GENERAL NOTE 10)																																																			
#8 WIRES (BBS)																																																			
#8 GROUND (BBS)																																																			
TSP RECEIVER (10 CONDUCTOR CABLE)							1	1						1																																					
NO RIGHT TURN EMS WIRES (1#14, 1#10 & 1#6 GROUND)																											1			1	1					1					1										
CCTV CAMERA WIRES (CAT5e & 3#18)																		1	1				1																												

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NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
REVISIONS					

DESIGNED: *[Signature]*
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 REVIEWED: *[Signature]*
 RECOMMENDED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 12/4/2015

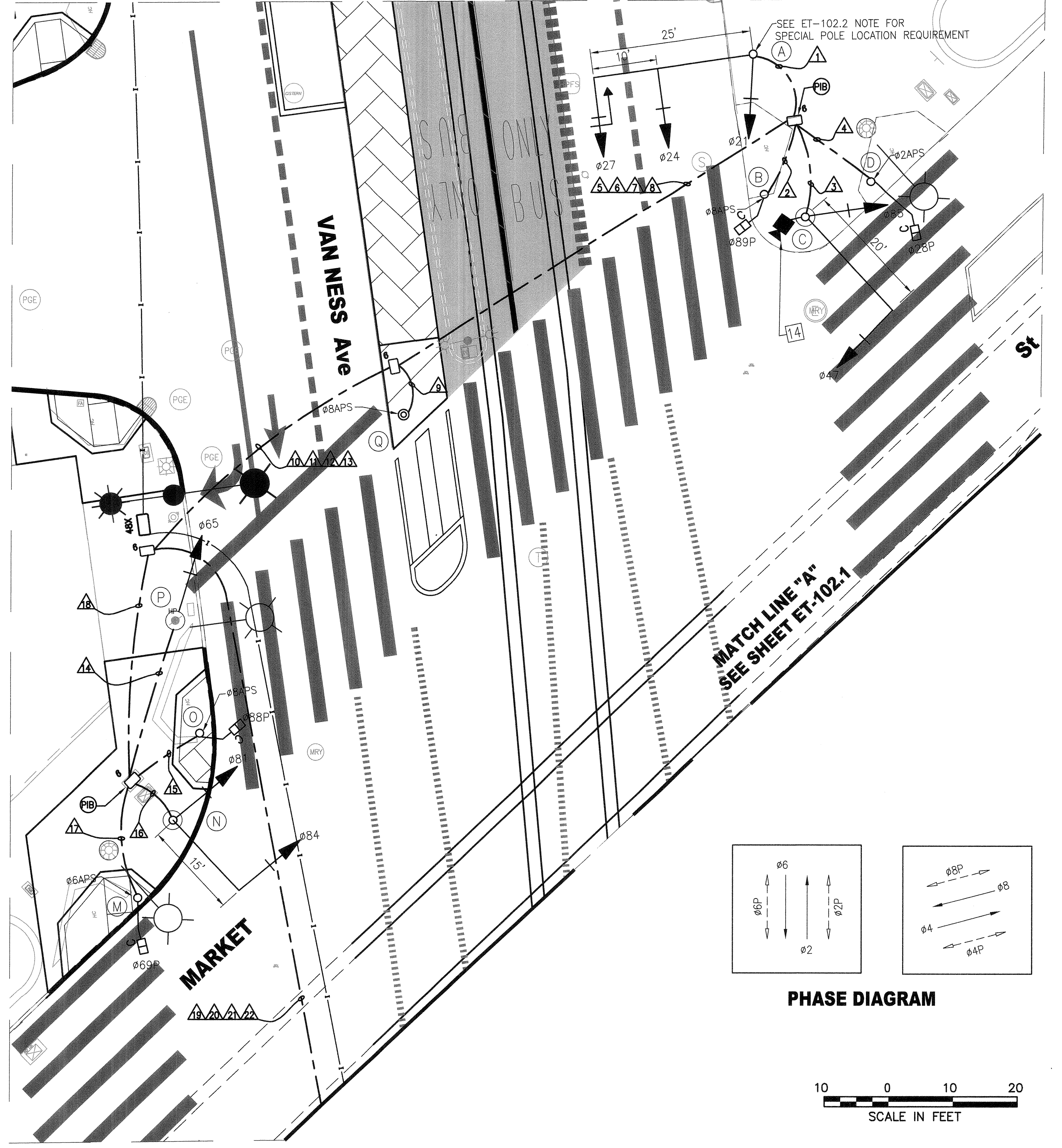
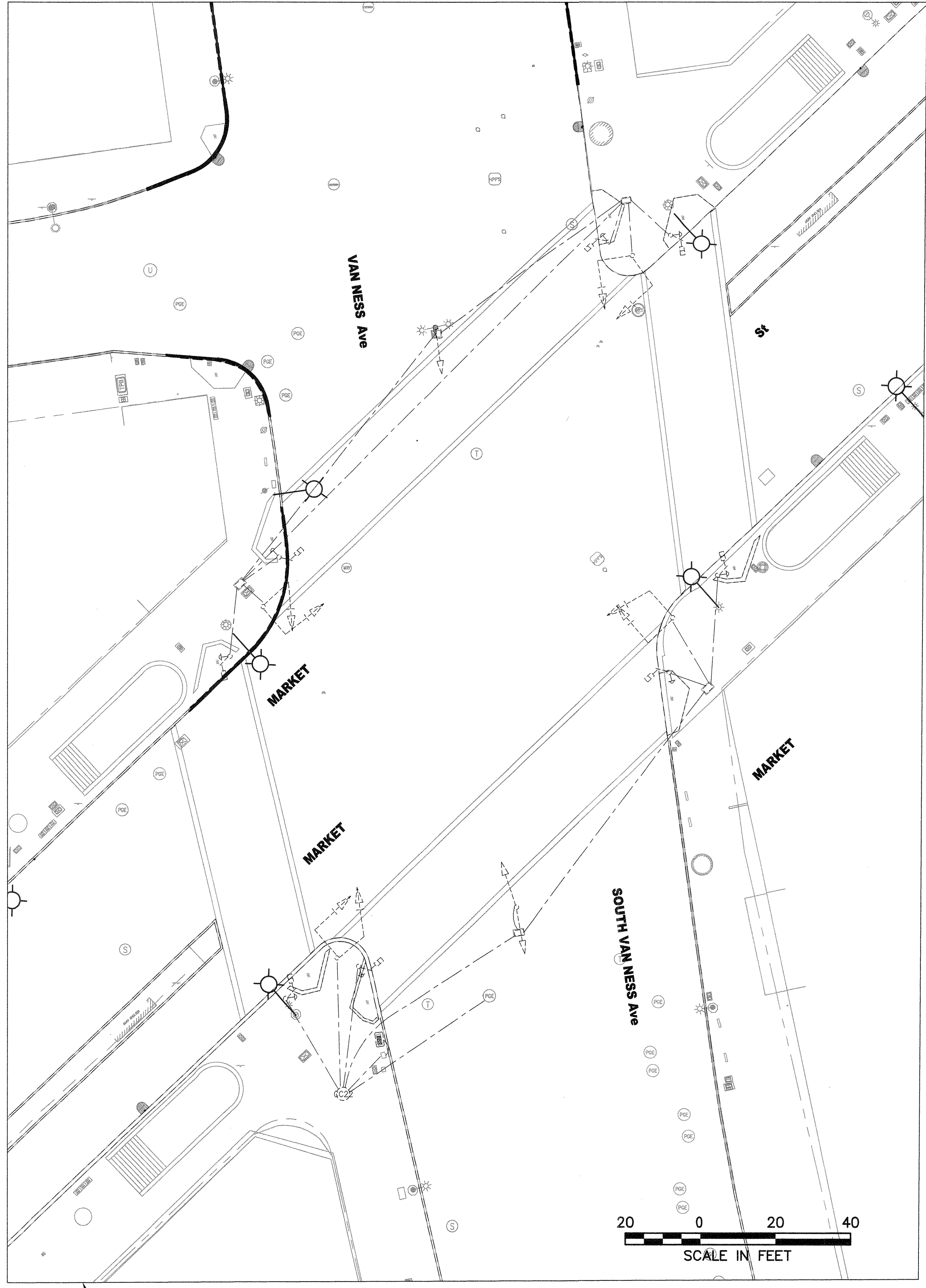


CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

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 for the DIRECTOR OF TRANSPORTATION

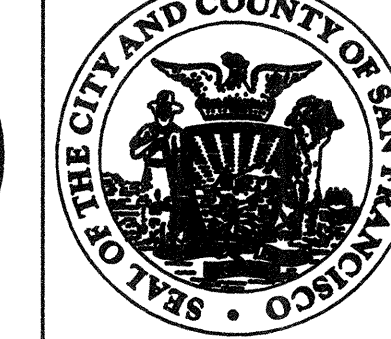
MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	1289
MISSION/OTIS STREET CONDUIT & WIRING SCHEDULES	ET-101.4 ET-204

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 CHECKED: *[Signature]*
 REVIEWED: *[Signature]*
 RECOMMENDED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 12/9/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
 APPROVED: *[Signature]*
 for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM	1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	
MARKET STREET TRAFFIC SIGNAL WORK	
ET-102.0	REVISION
ET-204	

DETAIL NOTES:

◊ INTERCEPT EXISTING CONDUITS, CONNECT WITH SIMILAR MATERIALS AND EXTEND TO NEW PULL BOX.

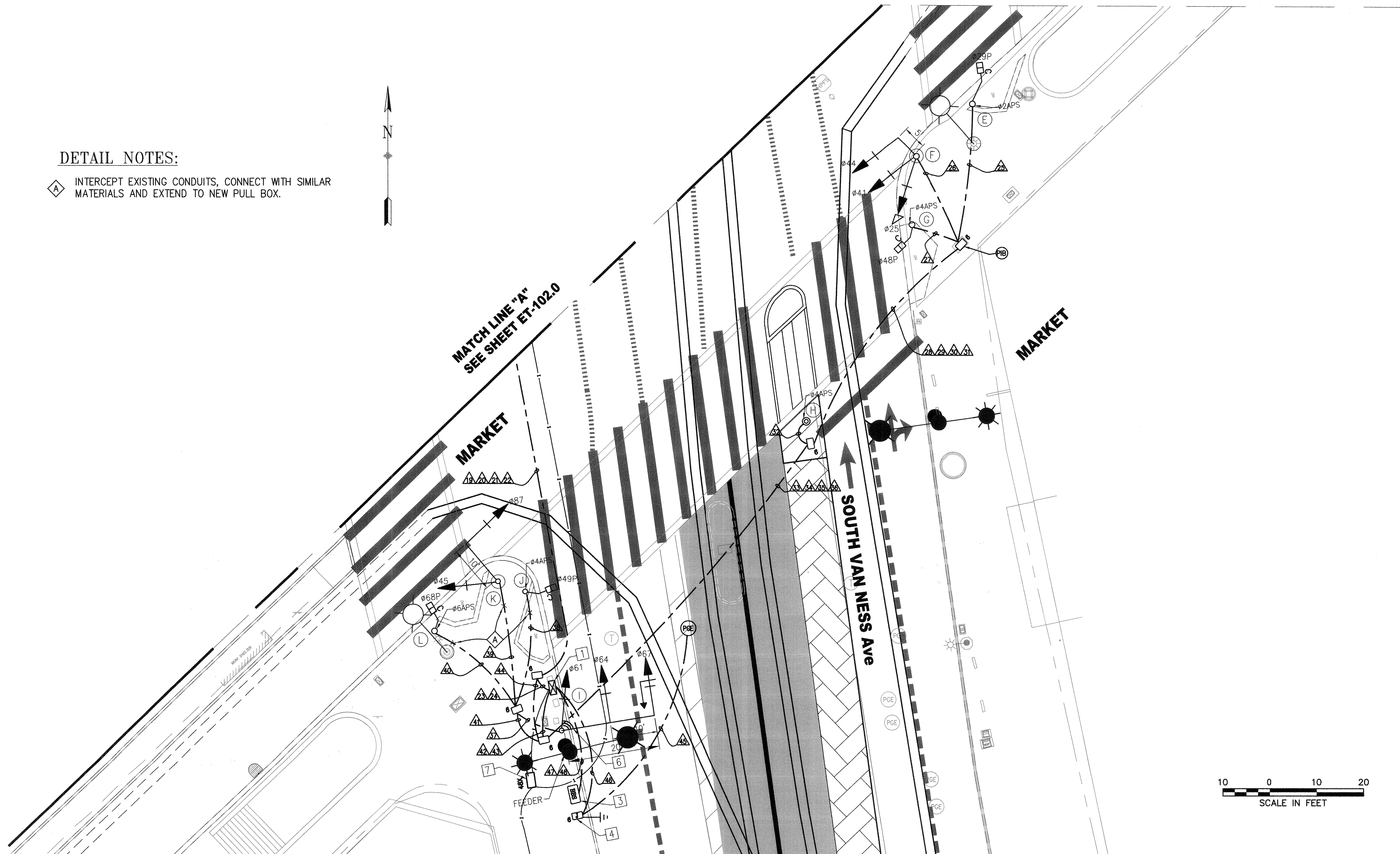


MATCH LINE "A"
SEE SHEET ET-102.0

MARKET

MARKET

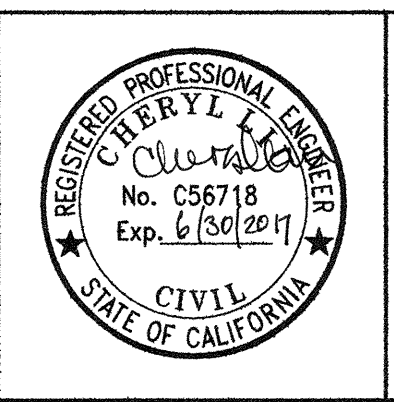
SOUTH VAN NESS AVE



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NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED

DESIGNED	<i>Khong</i>
DRAWN	<i>Khong</i>
CHECKED	<i>Cherrellin</i>
REVIEWED	<i>Cherrellin</i>
RECOMMENDED	<i>Cherrellin</i>
APPROVED	<i>Rolo</i>
DATE	12/9/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

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MUNI BUS RAPID TRANSIT SYSTEM
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT

**MARKET STREET
TRAFFIC SIGNAL WORK**

1289

ET-102.1
ET-204

REVISION

POLE AND EQUIPMENT SCHEDULE

POLE NO.	POLE STANDARD			VEHICLE SIGNAL				PEDESTRIAN SIGNAL			HPS LUMINAIRE (WATTS)	SPECIAL REQUIREMENTS	
	TYPE	SIG. MA (FEET)	OCS SL NO.	No.	TYPE	MOUNTING	VISORS	LOUVERS	No.	TYPE			MOUNTING
(A)	SPECIAL MAST ARM POLE (18-3-100)	25		21 24 27	3S12" 3S12" 3S12"GUA	SV-1-T MAS MAS	T T T		-	-	-	-	SIGNAL MA MOUNT AT 20' HIGH COORDINATE WITH JC DECAUX (415-633-1210) TO RELOCATE KIOSK
(B)	EXISTING PED POLE	-		-	-	-	-		89	1S-COUNT	TP-1	-	APS ①
(C)	EXISTING OCS POLE	20	1416	47 85	3S12" 3S12"	MAS SV-1-T	T T		-	-	-	-	MOUNT SIGNAL MA AT 20' HIGH ON EXISTING OCS POLE APS ① TRAFFIC CAMERA ③
(D)	EXISTING PED POLE	-		-	-	-	-		28	1S-COUNT	TP-1	-	APS ①
(E)	EXISTING PED POLE	-		-	-	-	-		29	1S-COUNT	TP-1	-	APS ①
(F)	EXISTING OCS POLE	5	1499	25 41 44	3S12"RAV 3S12" 3S12"	SV-2-TC MAS	R T T		-	-	-	-	MOUNT SIGNAL MA AT 20' HIGH ON EXISTING OCS POLE
(G)	EXISTING PED POLE	-		-	-	-	-		48	1S-COUNT	TP-1	-	APS ①
(H)	PPBP POLE	-		-	-	-	-		-	-	-	-	APS ①
(I)	SPECIAL MAST ARM POLE (16-3-100)	20		61 64 67	3S12" 3S12" 3S12"GUA	SV-1-T MAS MAS	T T T		-	-	-	-	TSP ②
(J)	EXISTING PED POLE	-		-	-	-	-		49	1S-COUNT	TP-1	-	APS ①
(K)	EXISTING OCS POLE	10	1501	45 87	3S12" 3S12"	SV-1-T MAS	T T		-	-	-	-	MOUNT SIGNAL MA AT 20' HIGH ON EXISTING OCS POLE
(L)	EXISTING PED POLE	-		-	-	-	-		68	1S-COUNT	TP-1	-	APS ①
(M)	EXISTING PED POLE	-		-	-	-	-		69	1S-COUNT	TP-1	-	APS ①
(N)	EXISTING OCS POLE	15	1502	81 84	3S12" 3S12"	SV-1-T MAS	T T		-	-	-	-	MOUNT SIGNAL MA AT 20' HIGH ON EXISTING OCS POLE
(O)	EXISTING PED POLE	-		-	-	-	-		88	1S-COUNT	TP-1	-	APS ①
(P)	EXISTING OCS POLE	-	1500	65	3S12"	SV-1-T	T		-	-	-	-	EXTERNAL CONDUIT
(Q)	PPBP POLE	-		-	-	-	-		-	-	-	-	APS ①

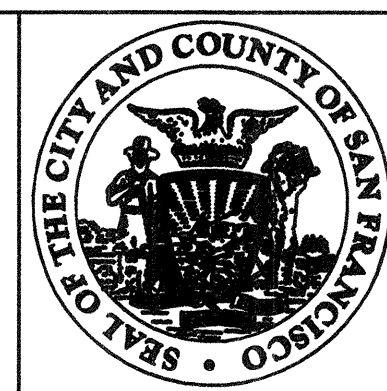
*OTHER REQUIREMENTS ARE COVERED BY NOTES, LEGEND, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS.
FOR TYPE OF STANDARD, VEHICLE AND PEDESTRIAN SIGNAL MOUNTING, SEE CALTRANS STANDARD PLANS OR DETAIL DRAWINGS.

- ① INSTALL APS WIRING AS SHOWN IN CONDUIT AND WIRING SCHEDULE. CITY FORCES TO INSTALL CITY FURNISHED APS UNIT.
- ② INSTALL CITY FURNISHED TSP WIRING FROM TS OR COMBINED POLES WITH 3 FEET OF SLACK TO TS CABINET.
- ③ INSTALL CITY FURNISHED TRAFFIC CAMERA AND CONTRACTOR FURNISHED WIRING.
- ④ FOR STREETLIGHT WORK, SEE SL-SERIES PLANS.

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NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
REVISIONS					

DESIGNED	<i>[Signature]</i>
DRAWN	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>
REVIEWED	<i>[Signature]</i>
RECOMMENDED	<i>[Signature]</i>
APPROVED	<i>[Signature]</i>
DATE	12/4/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

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for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM		1289
VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT		
MARKET STREET CONDUCTOR POLE AND EQUIPMENT SCHEDULES		ET-102.2
		REVISION
		ET-204

CONDUIT AND WIRING SCHEDULE

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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48		
CONDUIT SIZE (INCH)	2				2	2	2	2	1	2	2	2	2	2					2	2	2	3	2						2	2	2	2	1	2	2	2	2	2	2	2	3	2	2	3	2	2				
VEHICLE SIGNAL Ø21	3				3					3									3			3																												
VEHICLE SIGNAL Ø24	3				3					3									3			3																												
VEHICLE SIGNAL Ø27	3				3					3									3			3																												
PED SIGNAL Ø89P		2			2					2									2			2																												
APS PPB FOR XING VAN NESS NS ON POLE A		2			2					2									2			2																												
VEHICLE SIGNAL Ø47			3		3					3									3			3																												
VEHICLE SIGNAL Ø85			3		3					3									3			3																												
PED SIGNAL Ø28P				2	2					2									2			2																												
APS PPB FOR XING MARKET ES ON POLE D				2	2					2									2			2																												
APS PPB FOR XING VAN NESS NS ON POLE Q									2	2									2			2																												
VEHICLE SIGNAL Ø65													3					3			3																													
PED SIGNAL Ø88P														2				2			2																													
APS PPB FOR XING VAN NESS NS ON POLE O														2				2			2																													
VEHICLE SIGNAL Ø81															3			3			3																													
VEHICLE SIGNAL Ø84															3			3			3																													
PED SIGNAL Ø69P																			2		2																													
APS PPB FOR XING MARKET WS ON POLE M																			2		2																													
PED SIGNAL Ø29P																																																		
APS PPB FOR XING MARKET ES ON POLE E																																																		
VEHICLE SIGNAL Ø25																																																		
VEHICLE SIGNAL Ø41																																																		
VEHICLE SIGNAL Ø44																																																		
PED SIGNAL Ø48P																																																		
APS PPB FOR XING SOUTH VAN NESS SS ON POLE G																																																		
APS PPB FOR XING VAN NESS SS ON POLE H																																																		
VEHICLE SIGNAL Ø61																																																		
VEHICLE SIGNAL Ø64																																																		
VEHICLE SIGNAL Ø67																																																		
PED SIGNAL Ø49P																																																		
APS PPB FOR XING VAN NESS SS ON POLE J																																																		
VEHICLE SIGNAL Ø45																																																		
VEHICLE SIGNAL Ø87																																																		
PED SIGNAL Ø68P																																																		
APS PPB FOR XING MARKET WS ON POLE L																																																		
#14 NEUTRAL	3	1	2	1										1	1	2	1																																	
#14 SPARE					3					3									3	3	3		6																											
TOTAL #14 WIRES	12	5	8	5	26					2	28			4	5	8	5		20	28	20		48	5	12	5	20																							
#10 WIRES NEUTRAL					1					1									1	1	1		2																											
#6 WIRES (120 V SERVICE)																																																		
#8 WIRES (120 V SERVICE)																																																		
#6 BSCW (SEE GENERAL NOTE 10)																																																		
#8 WIRES (BBS)																																																		
#8 GROUND (BBS)																																																		
TSP RECEIVER (10 CONDUCTOR CABLE)																																																		
CCTV CAMERA WIRES (CAT5e & 3#18)			1		1					1																																								

T:\T_E_FILES\SF\Projects\Van Ness BRT\Signal Design\CADD\CP16401ETBS.dwg kkwong Tue Jul 07 2015 -- 3:45 pm

NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED

DESIGNED: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*
 REVIEWED: *[Signature]*
 RECOMMENDED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 12/9/2015

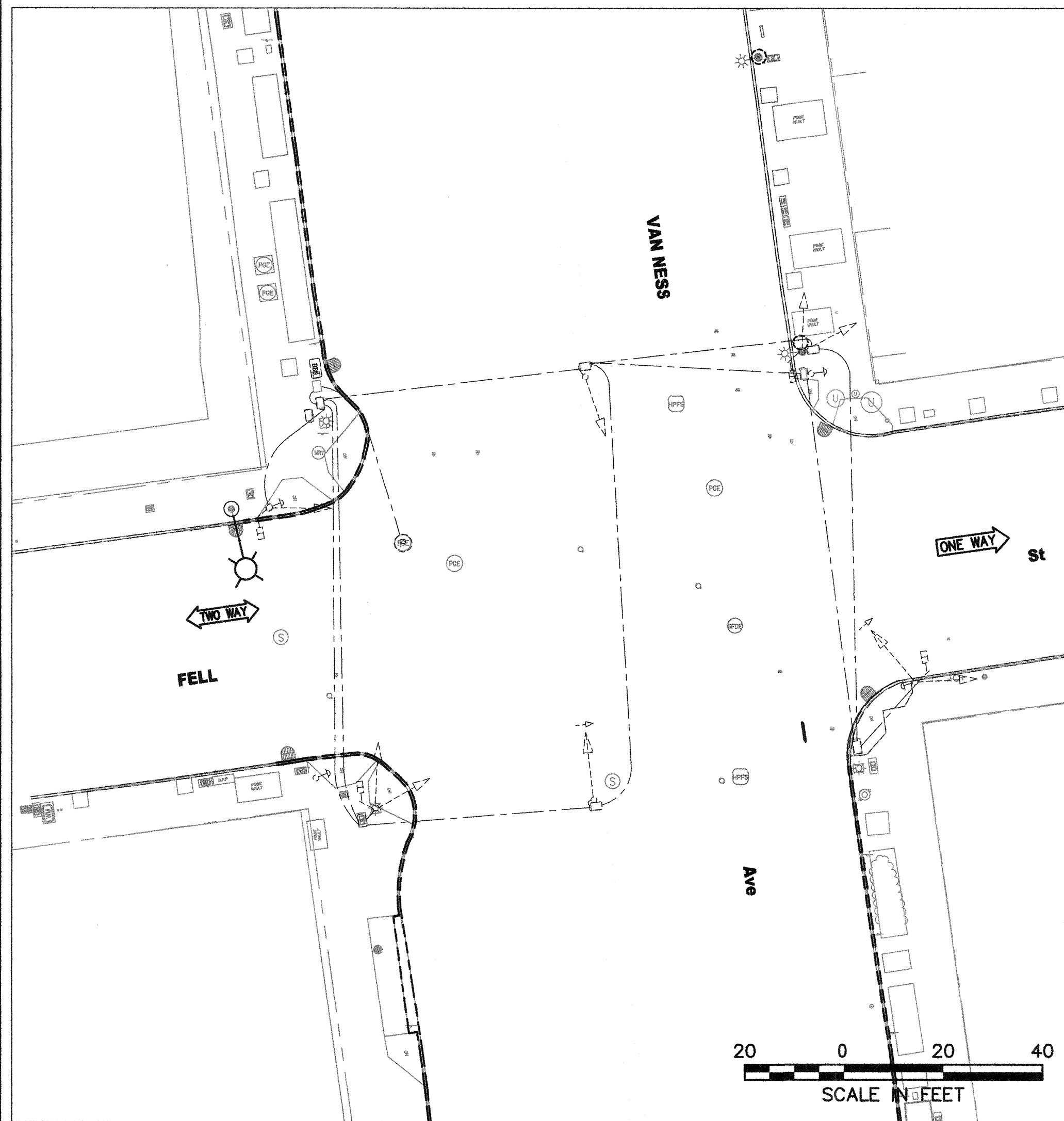


CITY AND COUNTY OF SAN FRANCISCO
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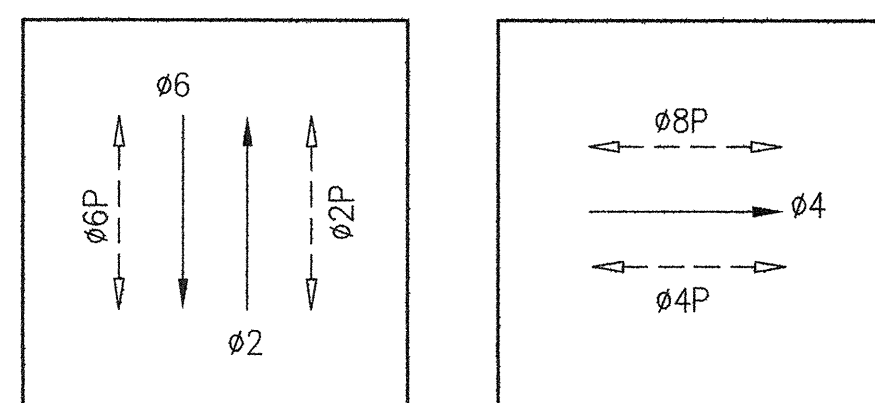
APPROVED
[Signature]
 for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT	1289
MARKET STREET CONDUIT & WIRING SCHEDULES	ET-102.3 ET-204

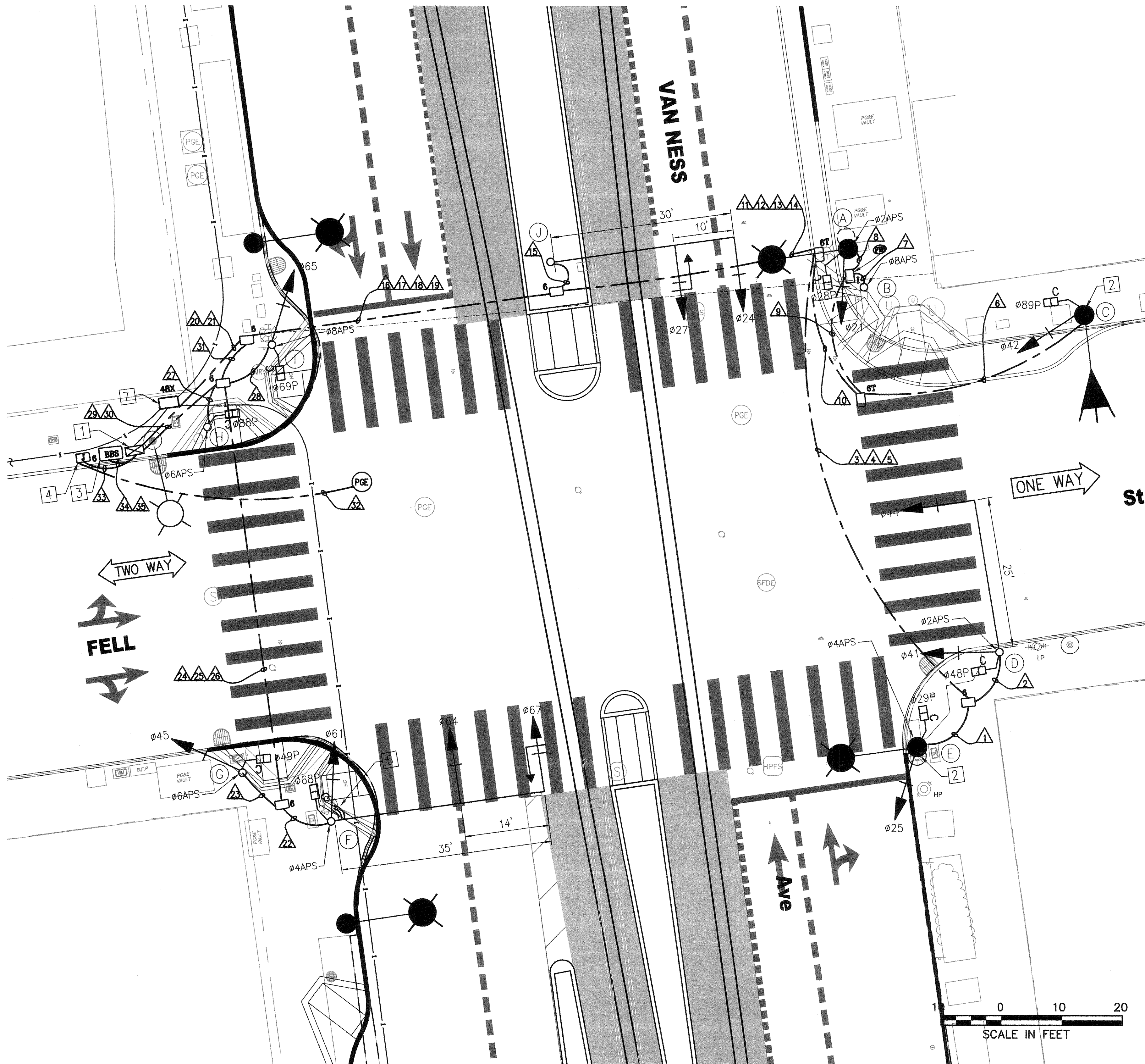
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EXISTING EQUIPMENT



PHASE DIAGRAM



NO.	DATE	DESCRIPTION	REVISED	CHECKED	APPROVED
REVISIONS					

DESIGNED: *KK*
 DRAWN: *KK*
 CHECKED: *Cherrell*
 REVIEWED: *Cherrell*
 RECOMMENDED: *Cherrell*
 APPROVED: *R. O'Leary*
 DATE: 12/4/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
 APPROVED: *[Signature]*
 for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM
 VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT
 FELL STREET
 TRAFFIC SIGNAL WORK

1289
 ET-103.0
 ET-204
 REVISION

POLE AND EQUIPMENT SCHEDULE

POLE NO.	POLE STANDARD			VEHICLE SIGNAL					PEDESTRIAN SIGNAL			HPS LUMINAIRE (WATTS)	SPECIAL REQUIREMENTS
	TYPE	SIG. MA (FEET)	OCS SL	No.	TYPE	MOUNTING	VISORS	LOUVERS	No.	TYPE	MOUNTING		
(A)	SIGNAL & SL COMBO POLE	-	12	21	3S12"	SV-1-T	T		28	1S-COUNT	SP-1	-	APS SPECIAL POLE FOUNDATION
(B)	PPBP POLE	-		-	-	-	-		-	-	-	-	APS NEW PPBP POLE IS IN PLACE OF EXISTING PPBP POLE
(C)	SIGNAL & OCS COMBO POLE	-	96	42	3S12"	SV-1-T	T		89	1S-COUNT	SP-1	-	SPECIAL POLE FOUNDATION
(D)	18-2-100	25		41 44	3S12" 3S12"	SV-1-T MAS	T T		48	1S-COUNT	SP-1	-	APS
(E)	SIGNAL, SL & OCS COMBO POLE	-	90 08	25	3S12"	SV-1-T	T		29	1S-COUNT	SP-1	-	APS
(F)	SPECIAL MAST ARM POLE (23-3-100)	35		61 64 67	3S12" 3S12" 3S12"GUA	SV-1-T MAS MAS	T T T		68	1S-COUNT	SP-1	-	SIGNAL MA MOUNT AT 20' HIGH APS
(G)	1-A (10')	-		45	3S12"	TV-1-T	T		49	1S-COUNT	SP-1	-	APS
(H)	1-A (7')	-		-	-	-	-		88	1S-COUNT	TP-1	-	APS
(I)	1-A (10')	-		65	3S12"	TV-1-T	T		69	1S-COUNT	SP-1	-	APS TSP
(J)	SPECIAL MAST ARM POLE (18-3-100)	30		24 27	3S12" 3S12"GUA	MAS MAS	T T		-	-	-	-	SIGNAL MA MOUNT AT 22.5' HIGH

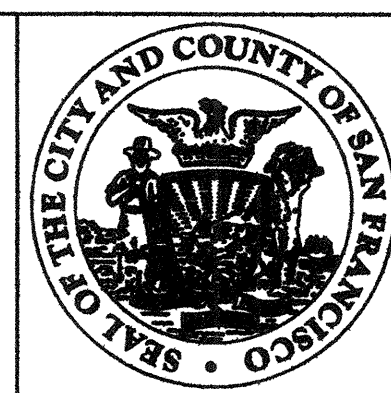
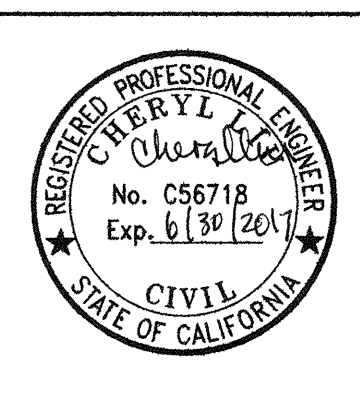
*OTHER REQUIREMENTS ARE COVERED BY NOTES, LEGEND, SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS.
FOR TYPE OF STANDARD, VEHICLE AND PEDESTRIAN SIGNAL MOUNTING, SEE CALTRANS STANDARD PLANS OR DETAIL DRAWINGS.

- INSTALL APS WIRING AS SHOWN IN CONDUIT AND WIRING SCHEDULE. CITY FORCES TO INSTALL CITY FURNISHED APS UNIT.
- INSTALL CITY FURNISHED TSP WIRING FROM TS OR COMBINED POLES WITH 3 FEET OF SLACK TO TS CABINET.
- INSTALL CITY FURNISHED TRAFFIC CAMERA AND CONTRACTOR FURNISHED WIRING.
- FOR STREETLIGHT WORK, SEE SL-SERIES PLANS.

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NO.	DATE	DESCRIPTION	REVISIONS	REVISOR	CHECKED	APPROVED

DESIGNED: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*
 REVIEWED: *[Signature]*
 RECOMMENDED: *[Signature]*
 APPROVED: *[Signature]*
 DATE: 12/4/2015



CITY AND COUNTY OF SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
 APPROVED: *[Signature]*
 for the DIRECTOR OF TRANSPORTATION

MUNI BUS RAPID TRANSIT SYSTEM
 VAN NESS CORRIDOR TRANSIT IMPROVEMENT PROJECT
 FELL STREET
 CONDUCTOR POLE AND EQUIPMENT SCHEDULES

1289
 ET-103.1
 ET-204
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