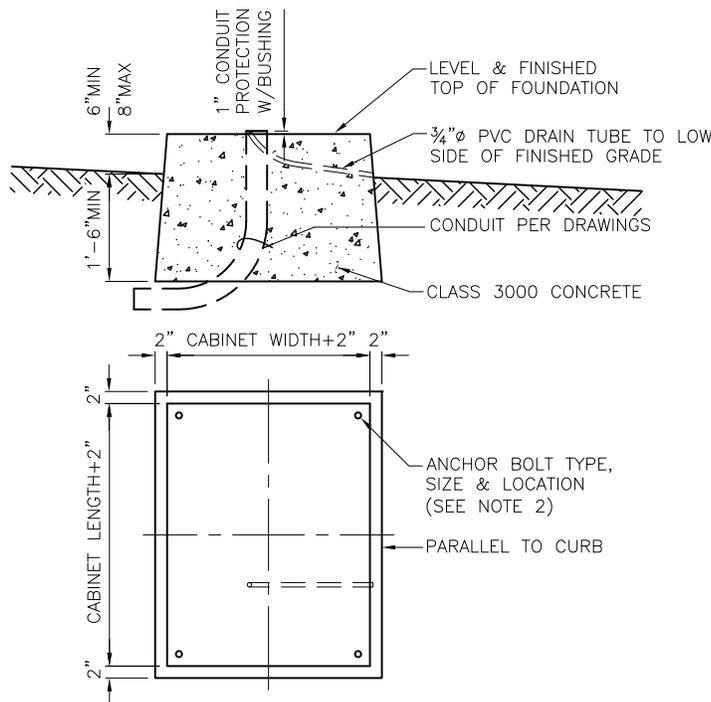


NOTES:

1. UNLESS OTHERWISE SPECIFIED, TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE FURNISHED BY THE CITY
2. UNLESS OTHERWISE SPECIFIED, EXACT CABINET DIMENSIONS & ANCHOR BOLT LOCATIONS SHALL BE PROVIDED BY THE TRAFFIC SIGNAL SHOPS
3. PLACE CABINET DOOR ON SIDEWALK SIDE OF FOUNDATION
4. SEAL CABINET TO FOUNDATION WITH GREY OR CLEAR SILICON TO PREVENT MOISTURE FROM ENTERING THE CABINET

DIMENSION	2'	TYPE III	TYPE VI
A	30"	44"	44"
B	17"	25 1/2"	25 1/2"
C	38" TO 52"	50" TO 58"	64 3/4" TO 67 1/2"

SIGNAL CONTROLLER CABINET—TYPES II, III, VI



SIGNAL CONTROLLER FOUNDATION

SEE STD PLANS NO 500b & 500c FOR CONDUIT LAYOUT

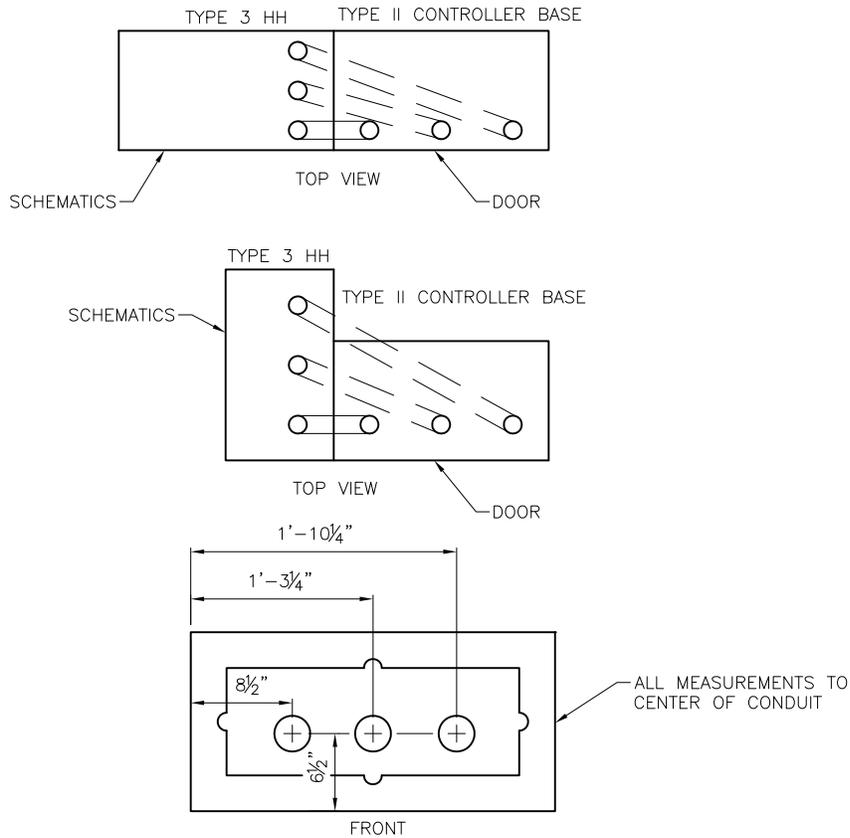
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

NOT TO SCALE

SIGNAL CONTROLLER CABINET & FOUNDATION



CONDUIT LAYOUT--TYPE II SIGNAL CONTROLLER FOUNDATION

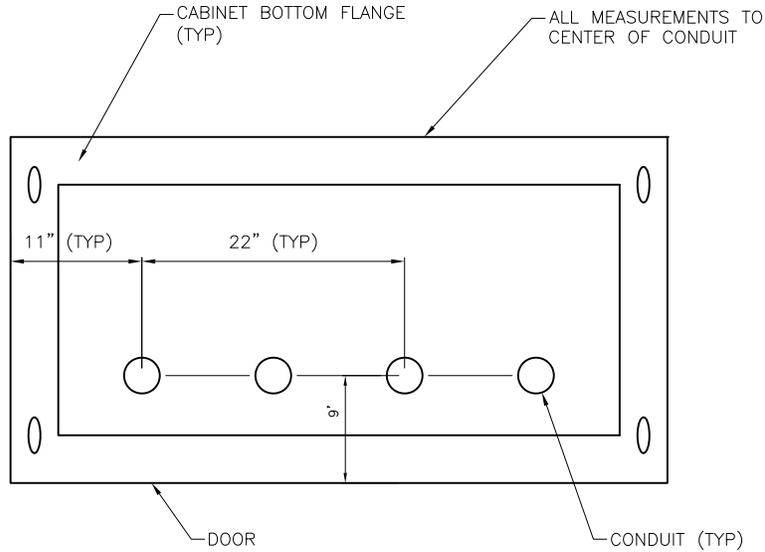
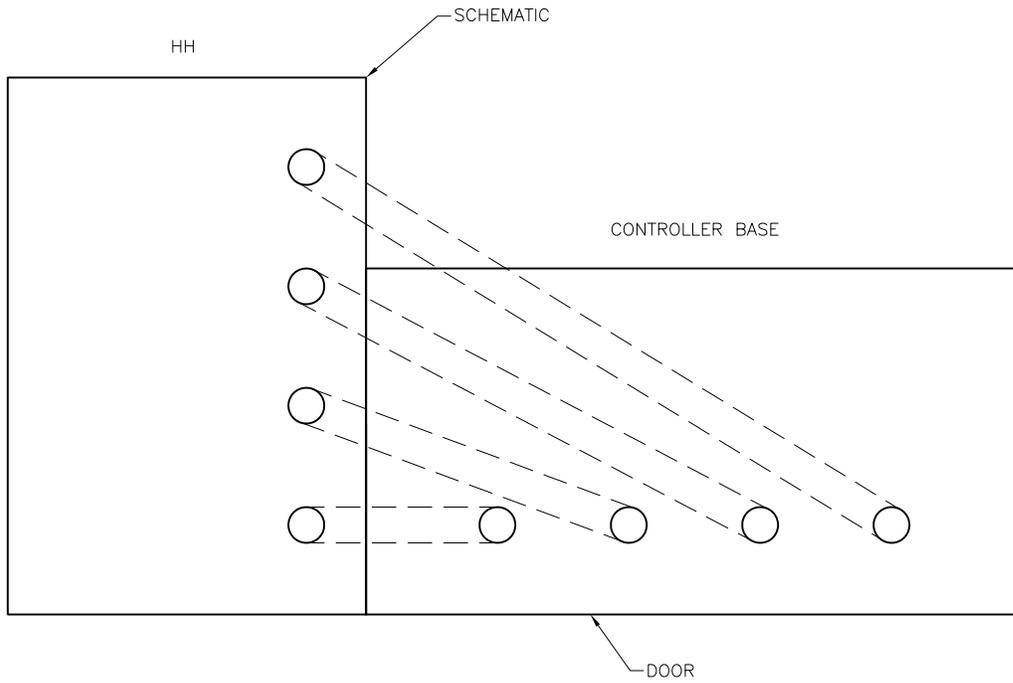
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

NOT TO SCALE

SIGNAL CONTROLLER
FOUNDATION CONDUIT LAYOUT



TOP VIEWS

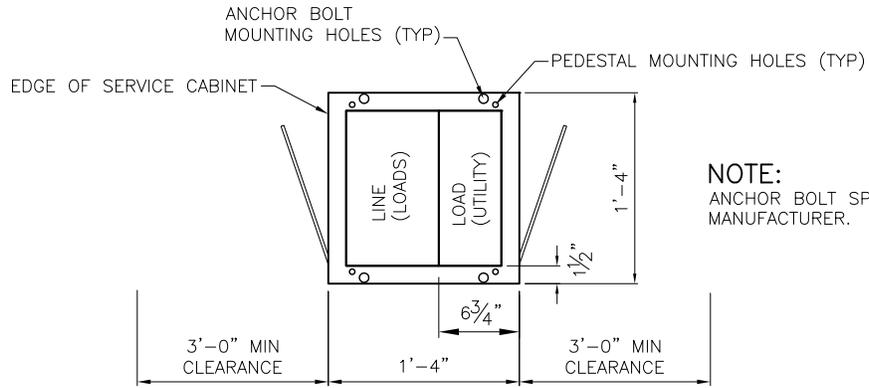
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

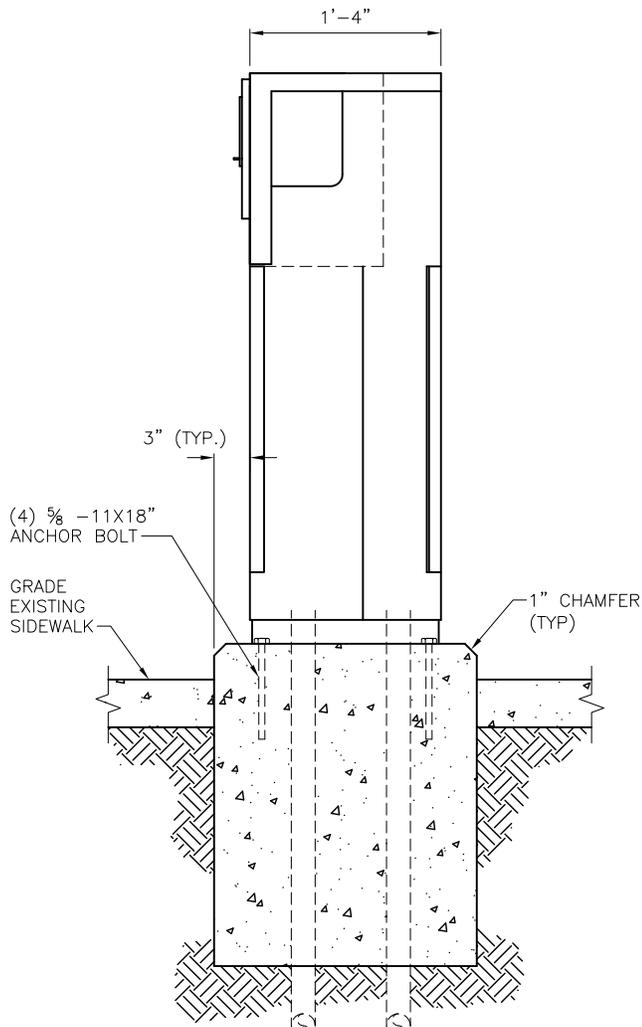
NOT TO SCALE

**SIGNAL CONTROLLER TYPE III & VI
FOUNDATION CONDUIT LAYOUT**

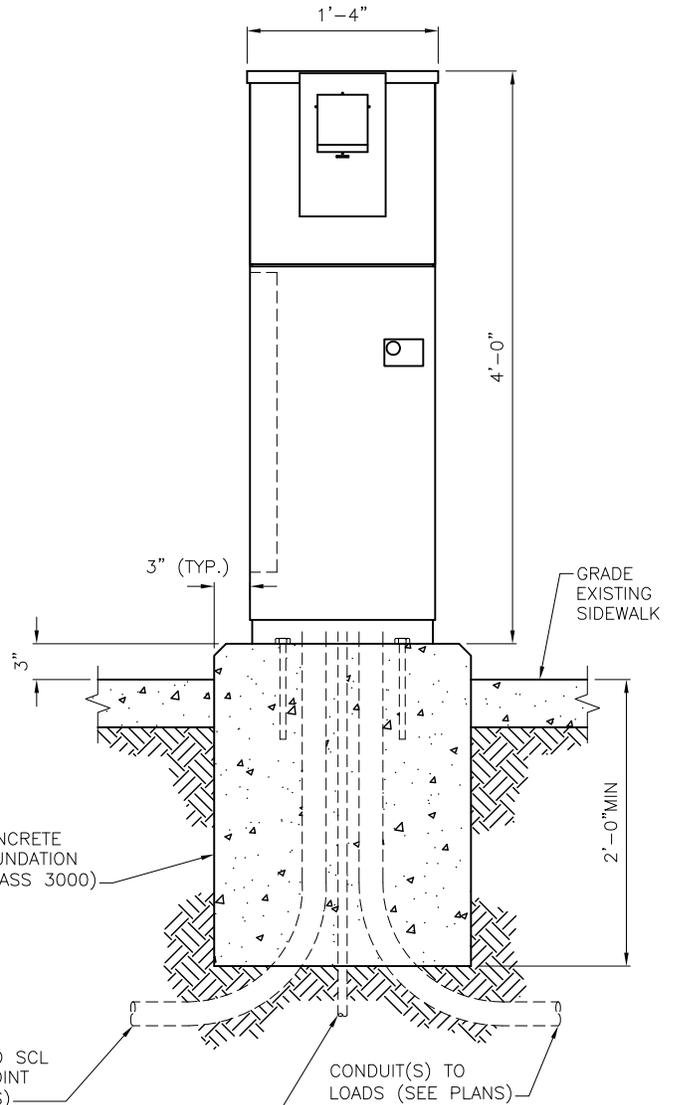


NOTE:
ANCHOR BOLT SPACING PROVIDED BY MANUFACTURER.

TOP VIEW



SIDE VIEW



FRONT VIEW

GROUND ROD 3/4"x120" COPPER WITH GROUND CLAMP. A SECOND GROUND SHALL BE INSTALLED A MINIMUM 8' AWAY IN A GROUND ROD HANDHOLE AS PER CITY OF SEATTLE STANDARD PLAN NO 550b. COORDINATE WITH ELECTRICAL INSPECTOR FOR LOCATION. INSTALL #4 AWG COPPER-CLAD GROUND WIRE BETWEEN CABINET FOUNDATION AND GROUND ROD HANDHOLE

REF STD SPEC SEC



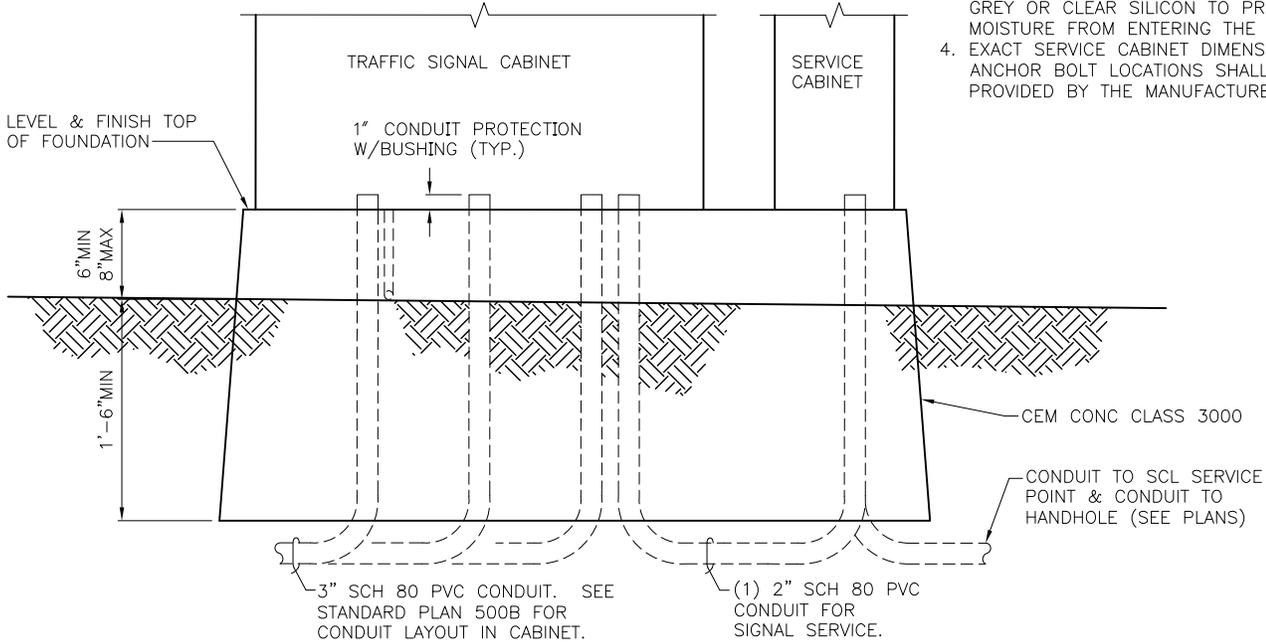
City of Seattle

NOT TO SCALE

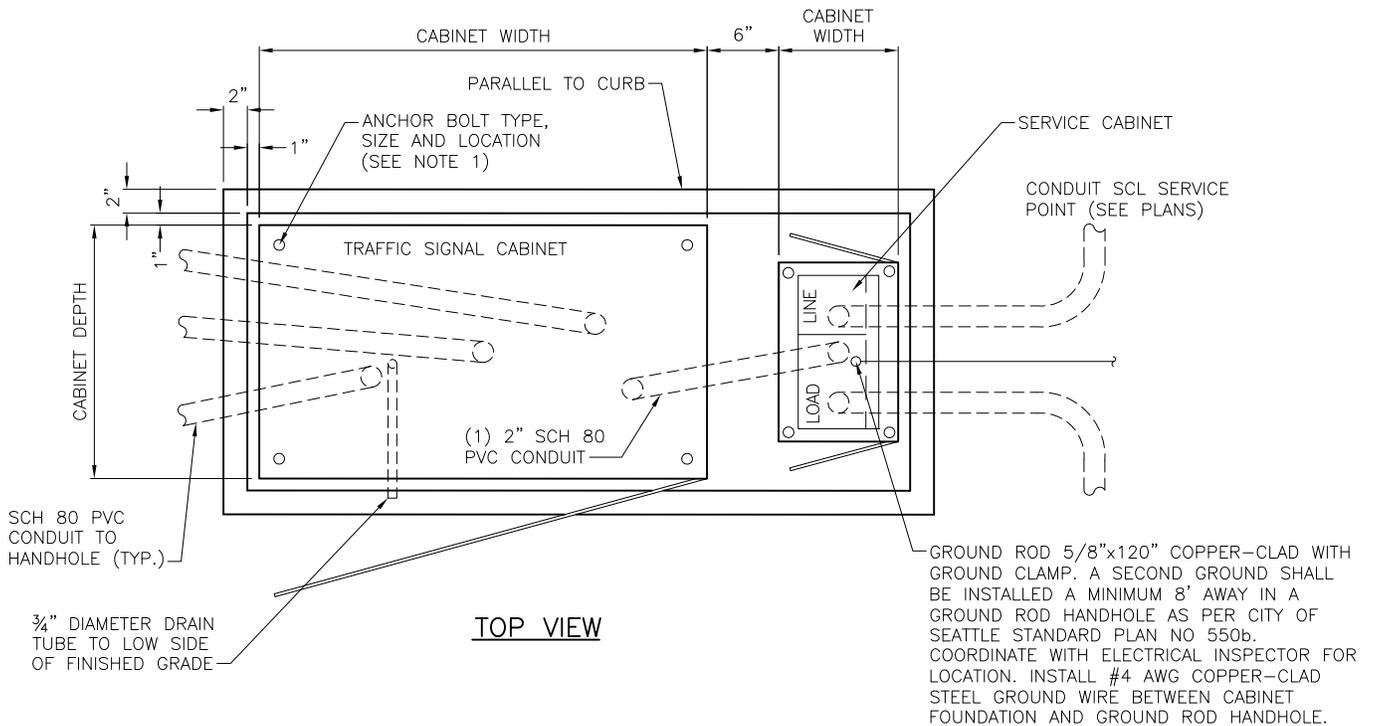
**SERVICE CABINET
FOUNDATION DETAIL**

NOTES:

1. EXACT TRAFFIC SIGNAL CABINET DIMENSIONS AND ANCHOR BOLT LOCATIONS SHALL BE PROVIDED BY THE SIGNAL SHOP.
2. TRAFFIC SIGNAL CABINET SHALL BE INSTALLED WITH DOOR ON SIDEWALK SIDE OF FOUNDATION.
3. SEAL CABINETS TO FOUNDATION WITH GREY OR CLEAR SILICON TO PREVENT MOISTURE FROM ENTERING THE CABINET.
4. EXACT SERVICE CABINET DIMENSIONS AND ANCHOR BOLT LOCATIONS SHALL BE PROVIDED BY THE MANUFACTURER.



SIDE VIEW



TOP VIEW

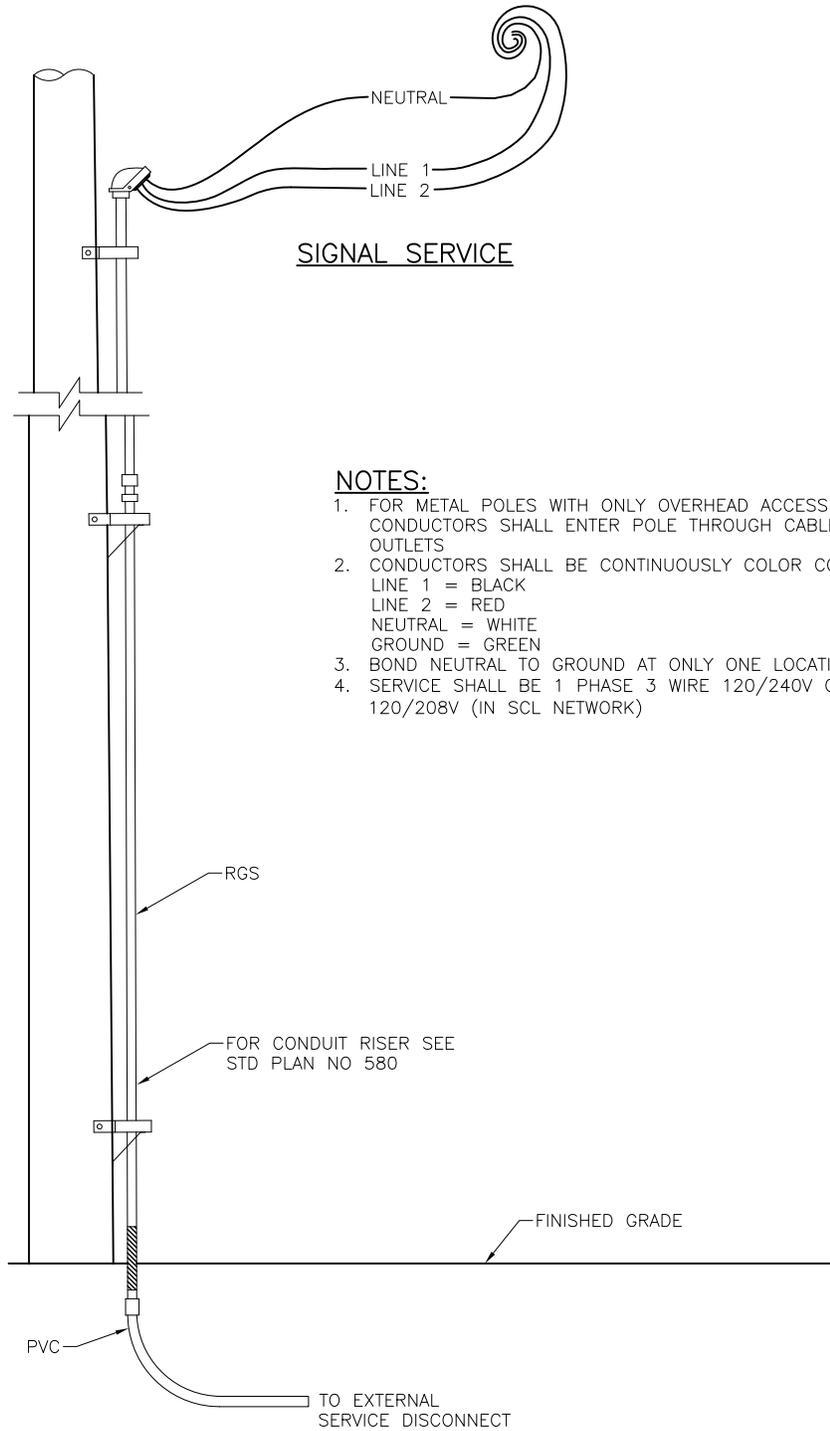
REF STD SPEC SEC



City of Seattle

NOT TO SCALE

**JOINT SIGNAL CONTROLLER/
SERVICE CABINET
FOUNDATION DETAIL**



SIGNAL SERVICE

NOTES:

1. FOR METAL POLES WITH ONLY OVERHEAD ACCESS, CONDUCTORS SHALL ENTER POLE THROUGH CABLE OUTLETS
2. CONDUCTORS SHALL BE CONTINUOUSLY COLOR CODED
 LINE 1 = BLACK
 LINE 2 = RED
 NEUTRAL = WHITE
 GROUND = GREEN
3. BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION
4. SERVICE SHALL BE 1 PHASE 3 WIRE 120/240V OR 120/208V (IN SCL NETWORK)

OVERHEAD SERVICE CONNECTION

REF STD SPEC SEC 8-30, 8-31, 9-31, & 9-32



City of Seattle

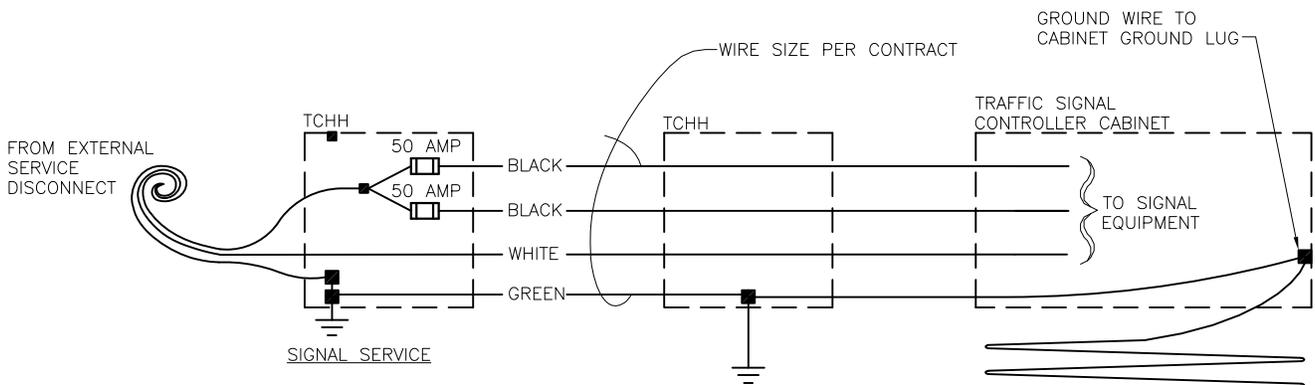
NOT TO SCALE

**SIGNAL SERVICE
 CONNECTION WIRING DETAIL**

VOLTAGE PER DRAWINGS
CURRENT LIMITERS BY SCL
LINE 1 & NEUTRAL 120V

SCL UNDERGROUND SERVICE POINT VAULT/HANDHOLE/ MAINTENANCE HOLE

TO EXTERNAL SERVICE DISCONNECT



UNDERGROUND SERVICE CONNECTION

NOTE:

BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION

COIL 20' OF #4 SOLID BARE COPPER WIRE IN CONTROLLER CABINET FOUNDATION W/2" MINIMUM CLEARANCE FROM ALL SIDES (UFER GROUND)

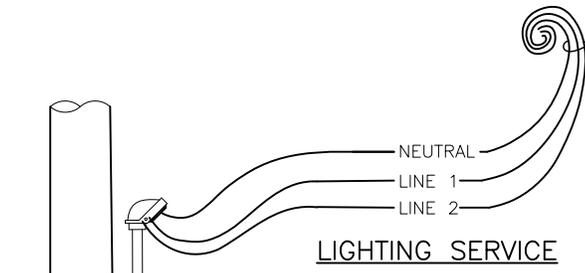
REF STD SPEC SEC 8-30 & 8-31



City of Seattle

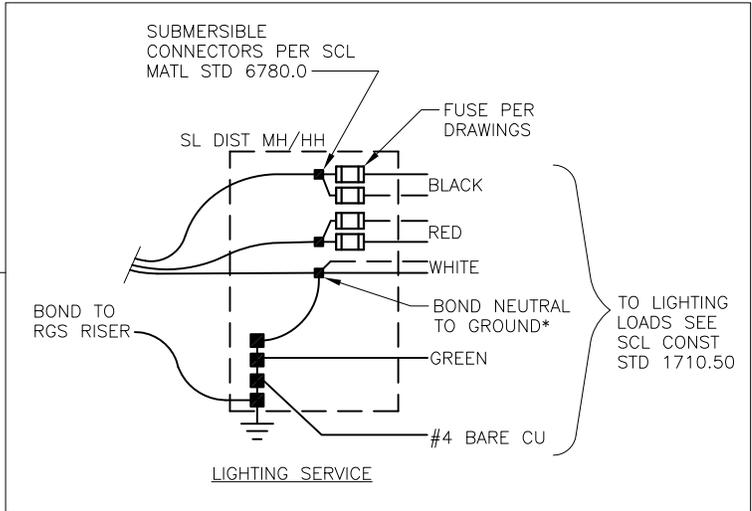
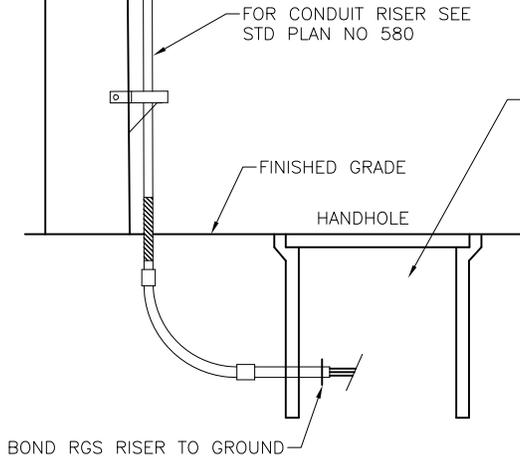
NOT TO SCALE

SIGNAL SERVICE CONNECTION WIRING DETAIL



NOTES:

1. FOR METAL POLES WITH ONLY OVERHEAD ACCESS, CONDUCTORS SHALL ENTER POLE THROUGH CABLE OUTLETS
2. CONDUCTORS SHALL BE CONTINUOUSLY COLOR CODED BY SERVICE VOLTAGE
NEUTRAL = WHITE
GROUND = GREEN
3. BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION IN SCL DISTRIBUTION MH/HH
4. WHEN POSSIBLE, RISER SHALL BE INSTALLED ON DOWNSTREAM SIDE OF TRAFFIC



OVERHEAD SERVICE CONNECTION

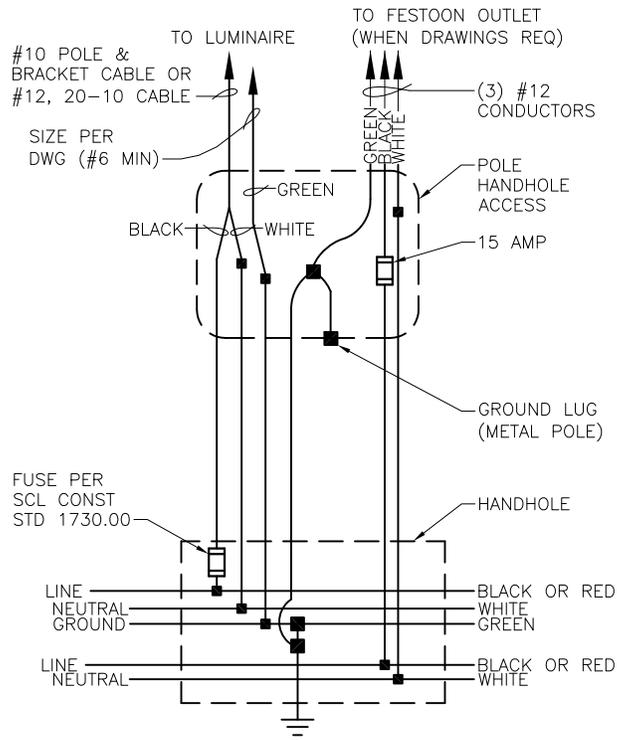
REF STD SPEC SEC 8-30, 8-31, 9-31 & 9-32



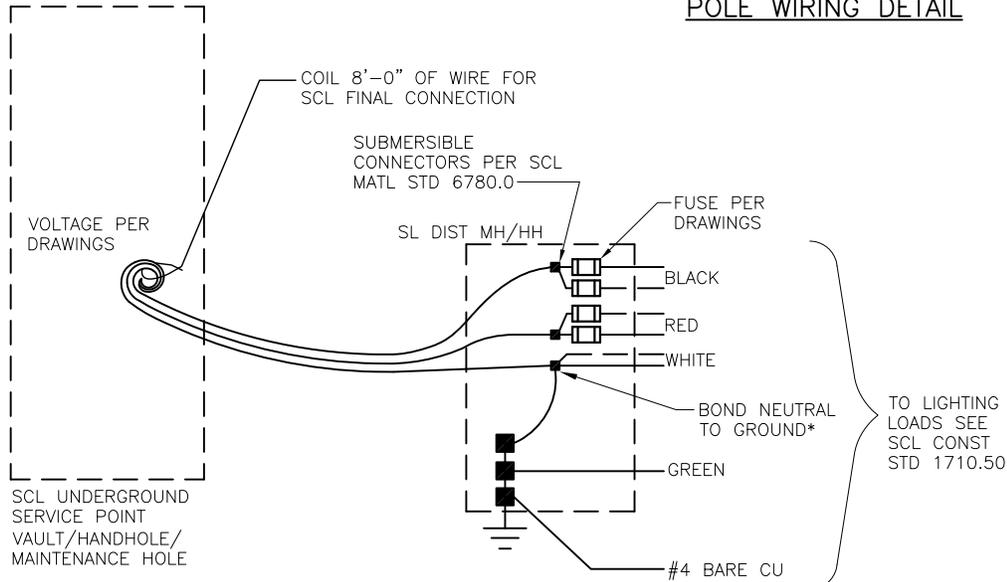
City of Seattle

NOT TO SCALE

**LIGHTING SERVICE
CONNECTION & LIGHT POLE
WIRING DETAIL**



POLE WIRING DETAIL



LIGHTING SERVICE

UNDERGROUND SERVICE CONNECTION

NOTES:

1. SCL REQ NEUTRAL TO BE BONDED TO GROUND IN SCL SERVICE POINT
2. BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION
3. FOR JOINT SCL STREETLIGHT & SDOT TRAFFIC HANDHOLES, SEE SCL CONST STD 1810.05

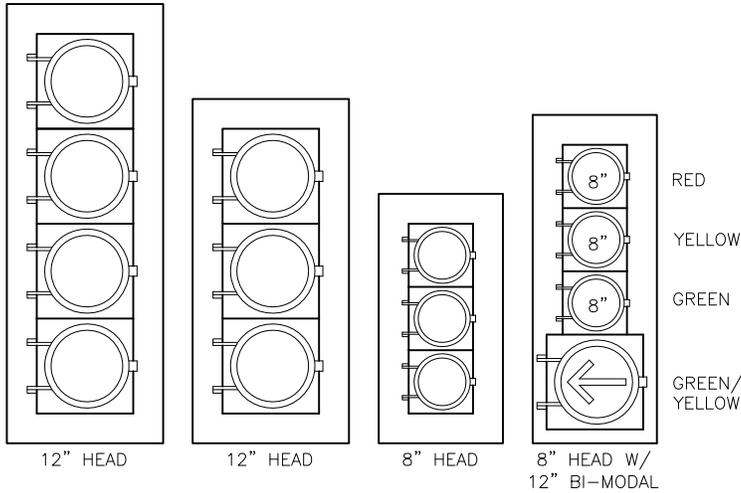
REF STD SPEC SEC 8-30 & 8-31



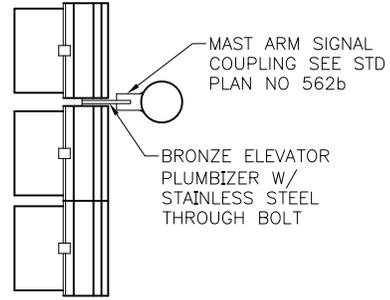
City of Seattle

NOT TO SCALE

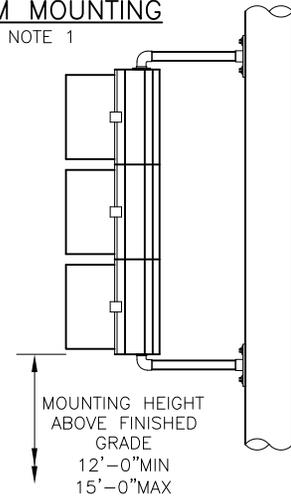
LIGHTING SERVICE CONNECTION & LIGHT POLE WIRING DETAIL



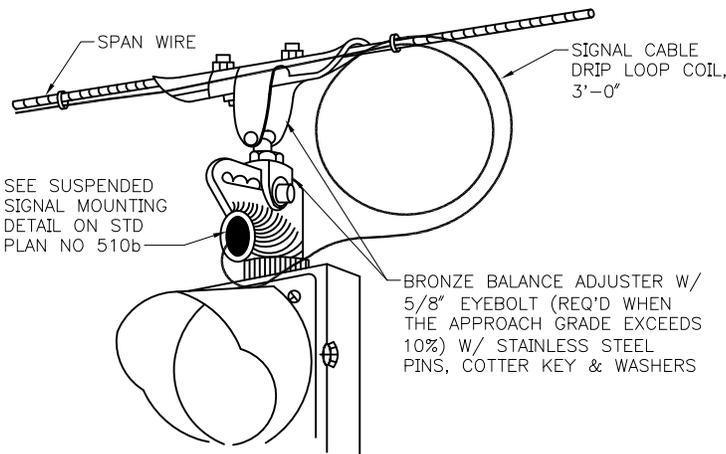
TYPICAL SIGNAL FACES
W/ TUNNEL VISORS & 5" BACKPLATE (LOUVERED)



MAST ARM MOUNTING
SEE NOTE 1



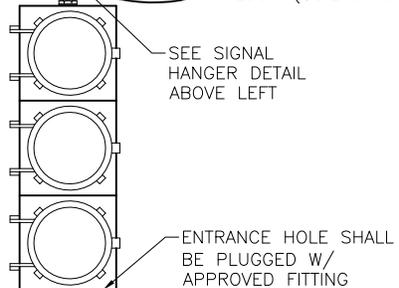
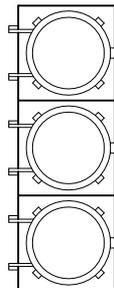
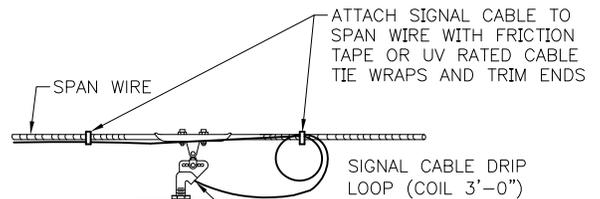
BRACKET MOUNTING
FOR SIGNAL HEAD BRACKET ASSEMBLY
SEE STD PLAN NO 511



SIGNAL HANGER DETAIL

NOTES:

1. VERTICAL CLEARANCE: 17' MIN TO ROADWAY 19'-0" MAX (ON TRUCK ROUTES USE 18' TO 19')
2. BACKPLATES HAVE BEEN OMITTED FROM VARIOUS VIEWS FOR CLARITY



PEDESTAL TOP MOUNTING
FOR PEDESTAL SEE STD PLAN NO 524

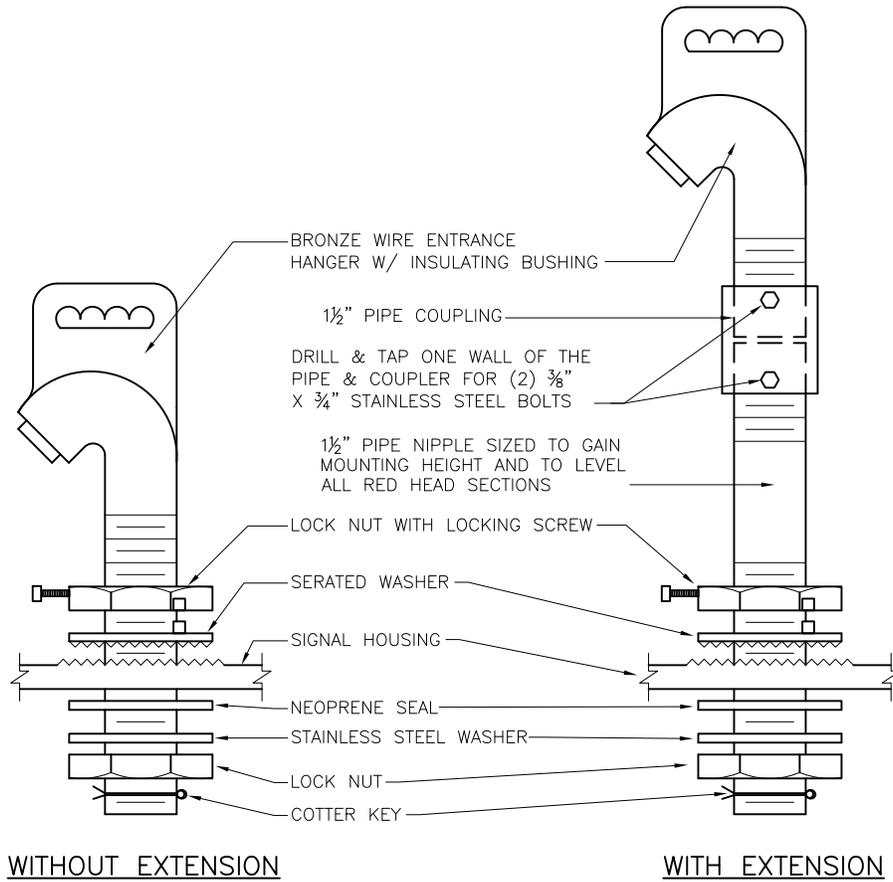
REF STD SPEC SEC 8-31



City of Seattle

NOT TO SCALE

VEHICULAR SIGNAL MOUNTING



SUSPENDED SIGNAL MOUNTING DETAIL

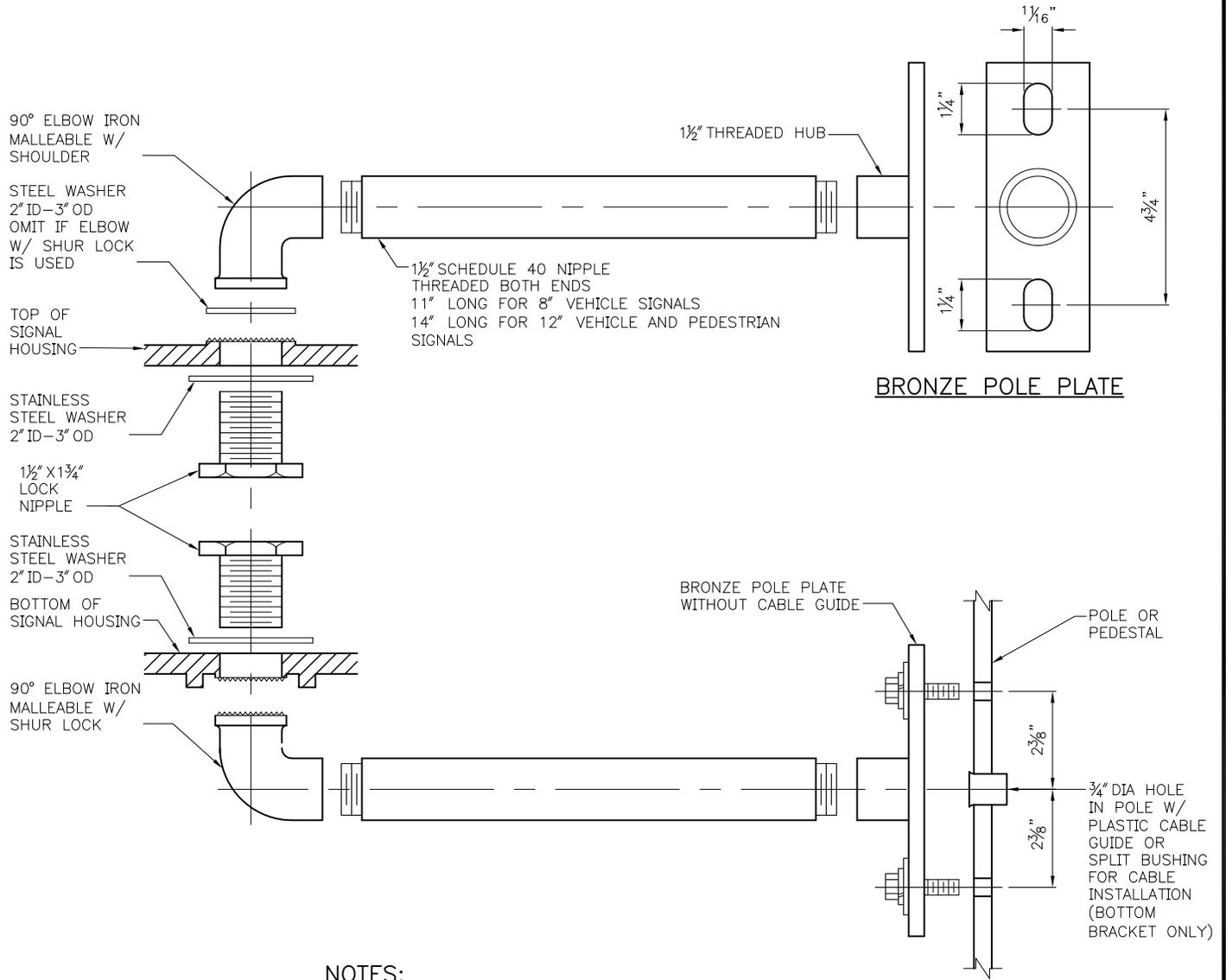
REF STD SPEC SEC 8-31



City of Seattle

NOT TO SCALE

VEHICULAR SIGNAL MOUNTING



NOTES:

1. 3/8"x1 1/2" BOLT, 3/8" LOCK WASHER, 7/16"x1 3/8" WASHER 4 OF EACH REQUIRED PER ASSEMBLY; ALL STAINLESS STEEL.
2. MOUNTING SHALL BE AS FOLLOWS:
 - ON METAL POLES THINNER THAN 7 GAUGE, USE 3/8" STAINLESS STEEL RIVNUTS.
 - ON METAL POLES 7 GAUGE OR THICKER, DRILL AND TAP FOR 3/8" BOLT (STAINLESS STEEL RIVNUTS OPTIONAL).
 - ON POLES FILLED OR MADE WITH CONCRETE USE 3/8"x2 1/2" MIN STUD BOLT ANCHORS, SLEEVE TYPE.
 - ON WOOD POLES USE 1 1/2"x2 1/2" LAG BOLTS.

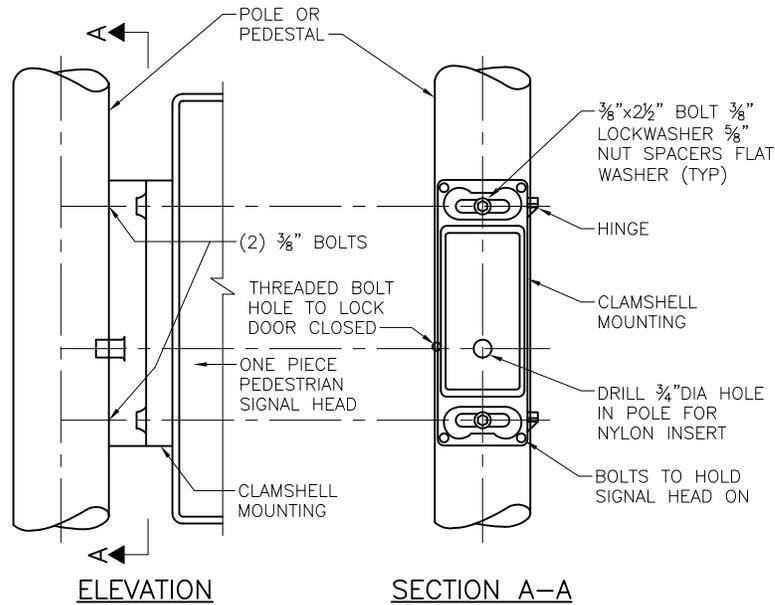
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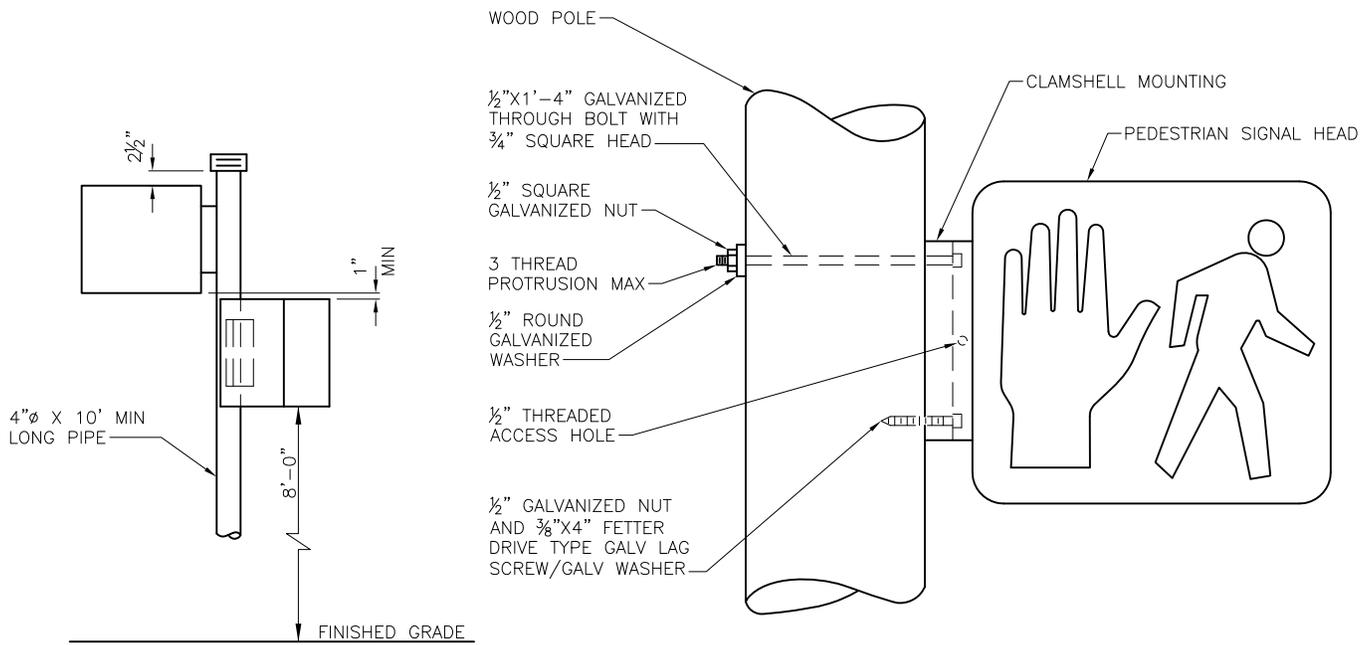
City of Seattle

NOT TO SCALE

SIGNAL HEAD BRACKET ASSEMBLY



METAL POLE MOUNT



PEDESTAL MOUNT

WOOD POLE MOUNT

NOTES:

1. BOLT AND WASHERS SHALL BE STAINLESS STEEL PER ASTM A 563 DH AND ASTM F 436
2. MOUNTING SHALL BE AS FOLLOWS:
 - ON METAL POLES THINNER THAN 7 GAUGE, USE 3/8" STAINLESS STEEL RIVNUTS
 - ON METAL POLES 7 GAUGE OR THICKER, DRILL AND TAP FOR 3/8" BOLT (STAINLESS STEEL RIVNUTS OPTIONAL)
 - ON POLES FILLED WITH OR MADE FROM CONCRETE USE 3/8"x2 1/2" STUD BOLT ANCHORS WITH HEX NUT
3. FOR STREET NAME SIGN PEDESTAL INSTALLATION, SEE STD PLAN NO 623

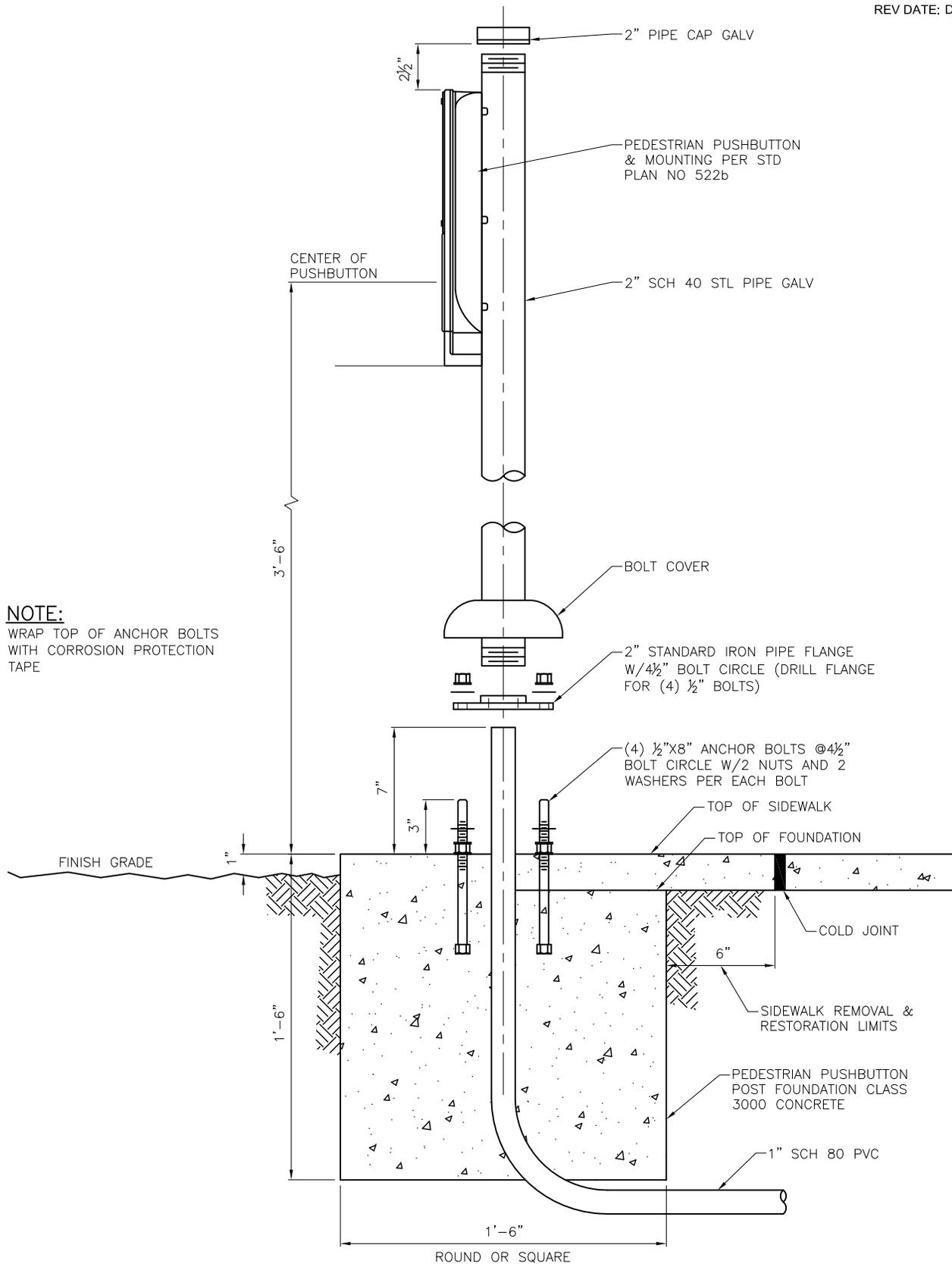
REF STD SPEC SEC 8-31



City of Seattle

NOT TO SCALE

PEDESTRIAN SIGNAL
CLAMSHELL MOUNTING



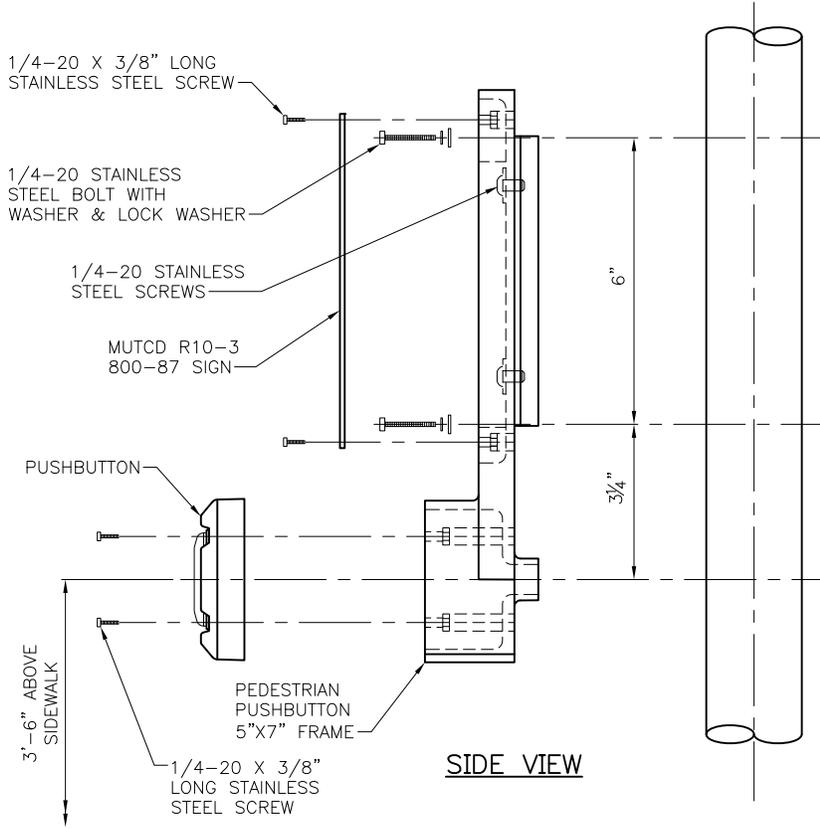
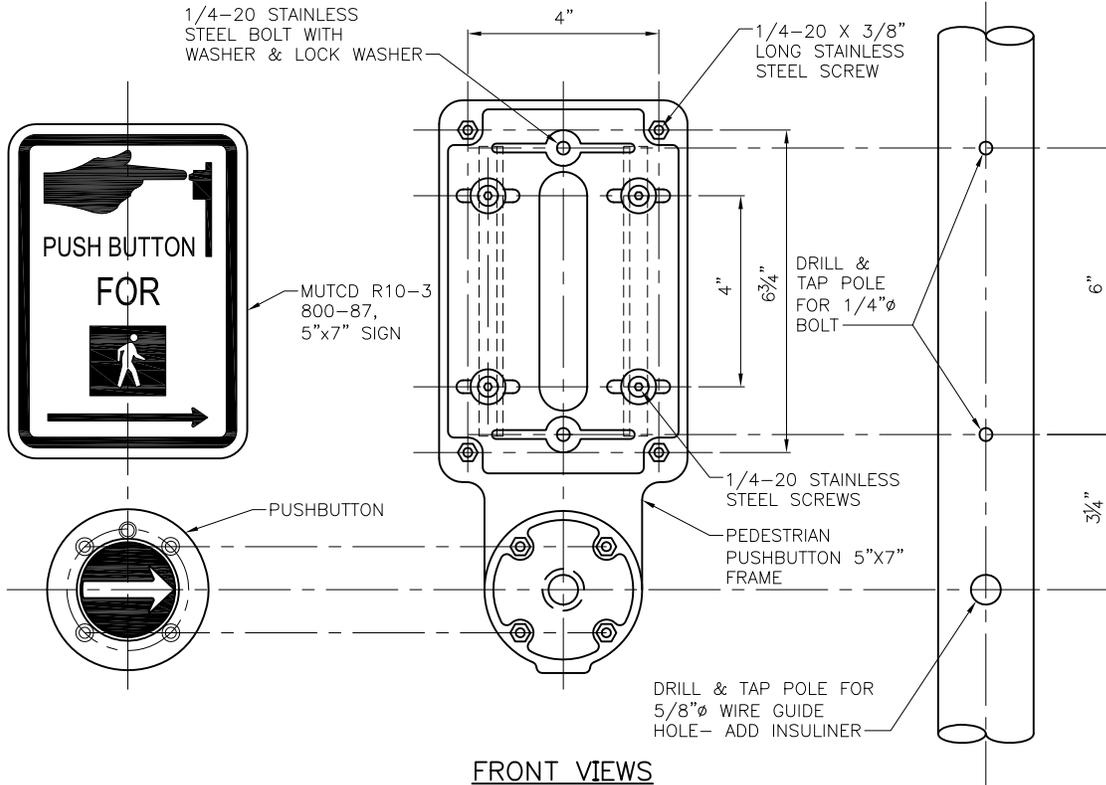
REF STD SPEC SEC 8-31 & 8-32



City of Seattle

NOT TO SCALE

PEDESTRIAN PUSHBUTTON
POST & FOUNDATION



NOTES:

1. PUSHBUTTON SHALL HAVE DIRECTIONAL ARROW AS SPECIFIED ON THE PLANS.
2. INSTALLATION OF TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES SHALL REQUIRE A MOUNTING ADAPTER.

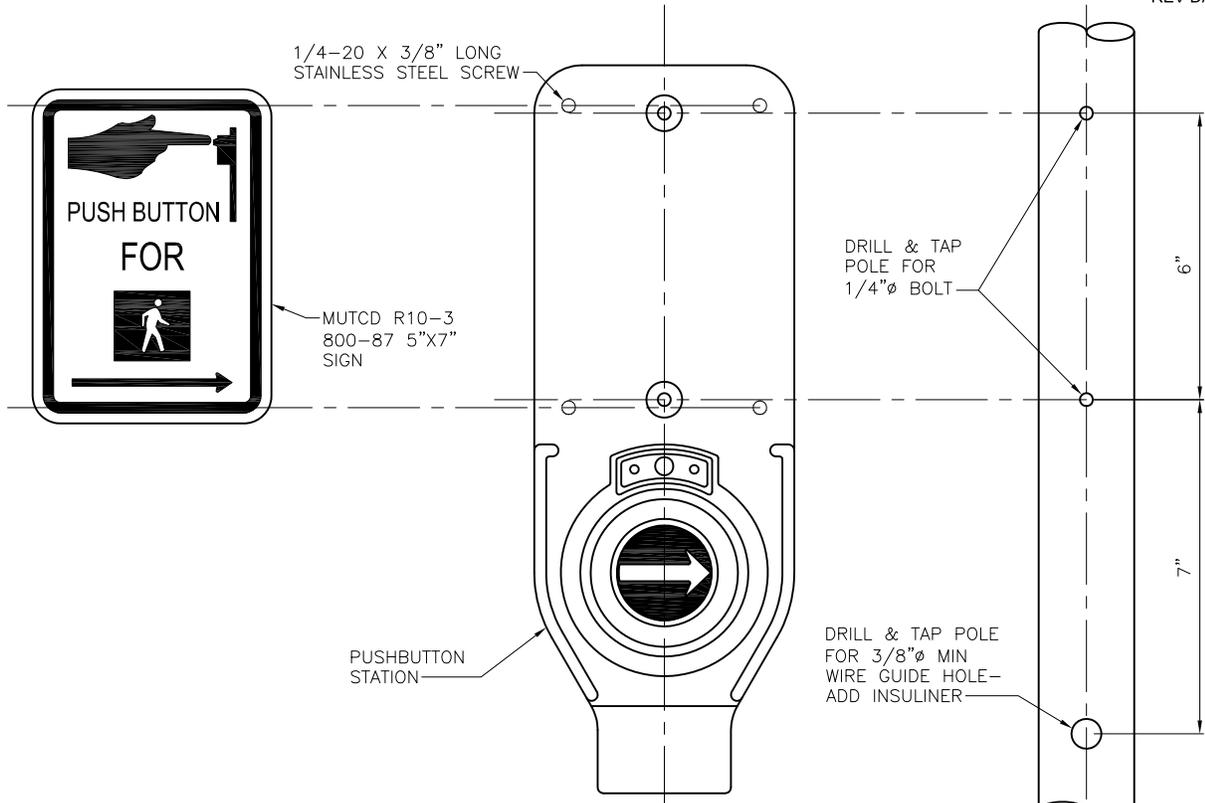
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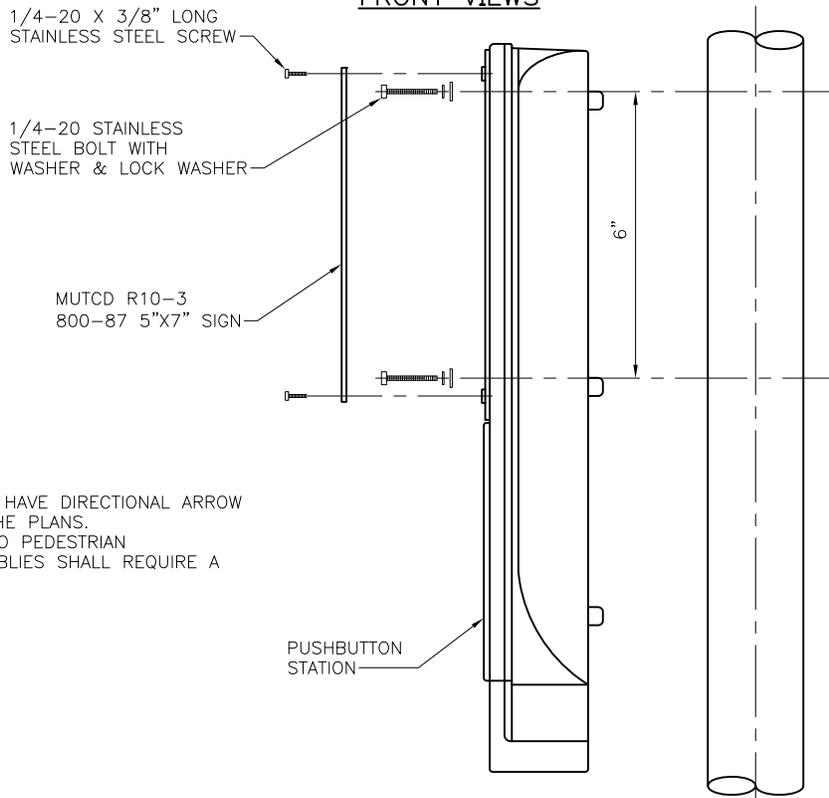
City of Seattle

NOT TO SCALE

PEDESTRIAN PUSHBUTTON ASSEMBLY



FRONT VIEWS



SIDE VIEW

NOTES:

1. PUSHBUTTON SHALL HAVE DIRECTIONAL ARROW AS SPECIFIED ON THE PLANS.
2. INSTALLATION OF TWO PEDESTRIAN PUSHBUTTON ASSEMBLIES SHALL REQUIRE A MOUNTING ADAPTER.

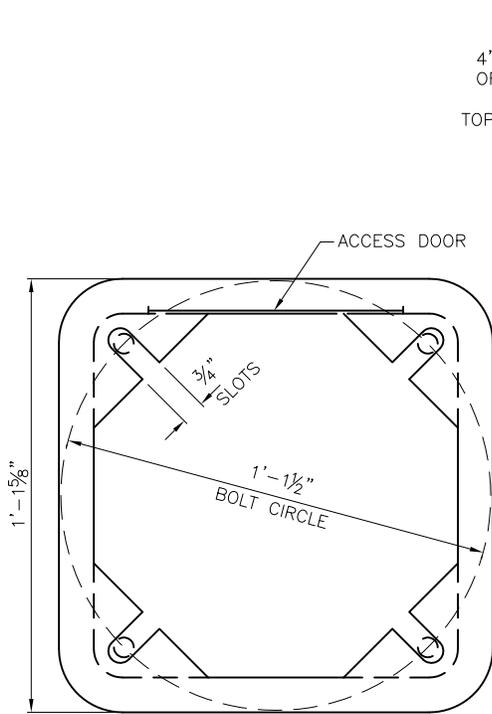
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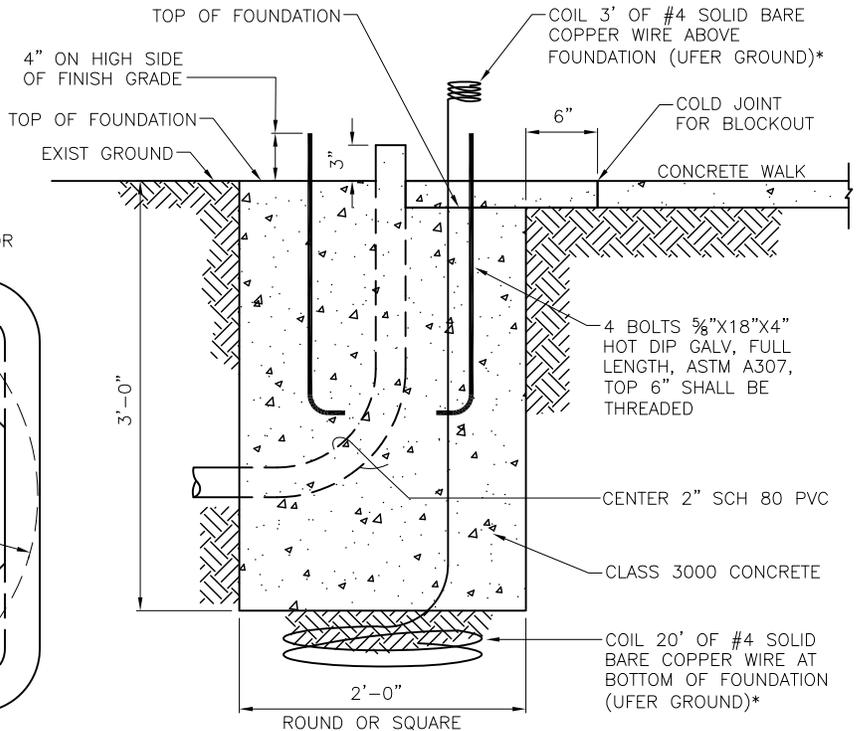
City of Seattle

NOT TO SCALE

ACCESSIBLE PEDESTRIAN
PUSHBUTTON STATION

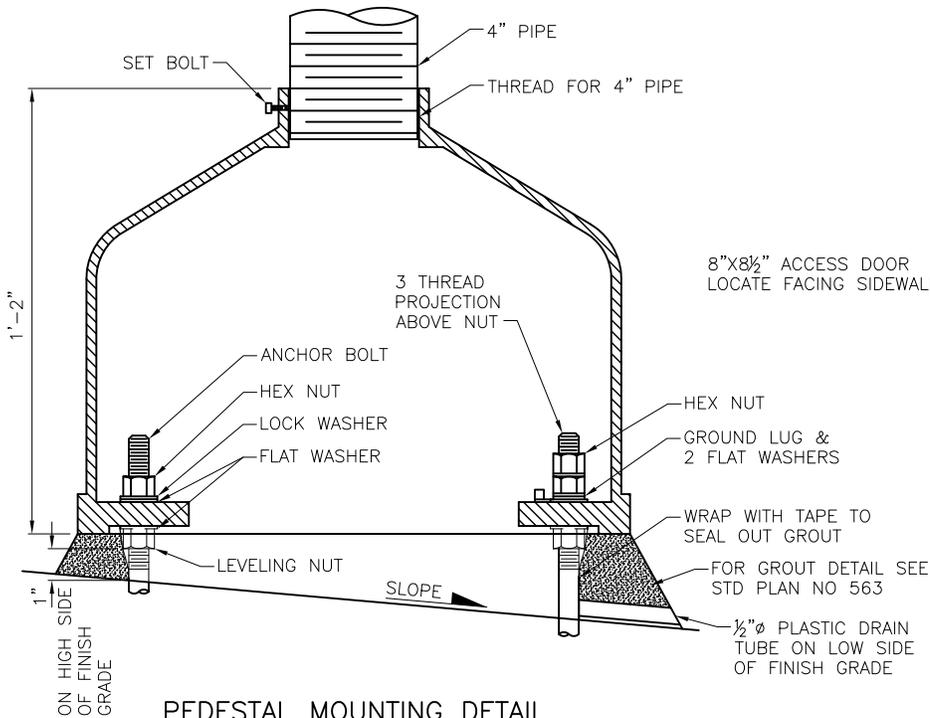


BOTTOM VIEW

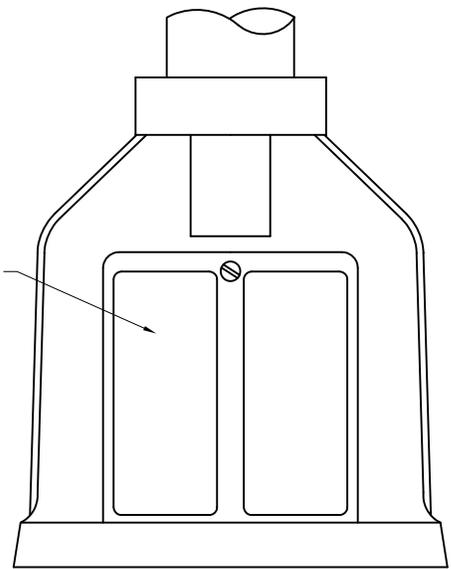


PEDESTAL FOUNDATION

*UFER GROUND ONLY INSTALLED ON LIGHT POLE FOUNDATIONS



PEDESTAL MOUNTING DETAIL



SQUARE BASE PEDESTAL

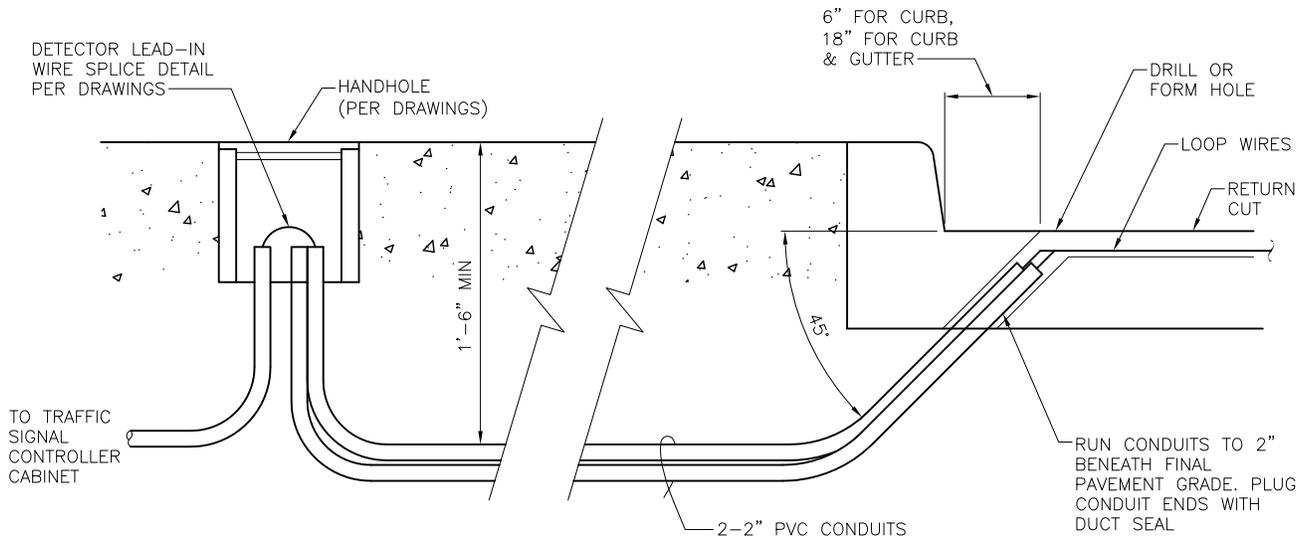
REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

PEDESTAL & FOUNDATION



CURB/PAVEMENT ENTRANCE FOR DETECTOR LOOP WIRES

NOTES:

1. SHARP EDGE TOOLS SHALL NOT BE USED IN PLACING CONDUCTORS IN SAW CUTS
2. EACH PAIR OF LOOP WIRES IN THE RETURN CUT SHALL BE TWISTED A MINIMUM OF 3 TURNS PER FOOT AND MAY SHARE COMMON RETURN CUTS WITH OTHER TWISTED PAIRS
3. TAPE LOOP WIRE A MINIMUM OF 2 TURNS AT EACH CORNER
4. REMOVE SHARP CORNER EDGES IN SAW CUTS WHERE LOOP WIRE WILL BE BENT AROUND
5. PERFORM RESISTANCE AND CONTINUITY TESTS PRIOR TO SEALING LOOP WIRES
6. COIL 5'-0" OF LOOP WIRE IN HANDHOLE

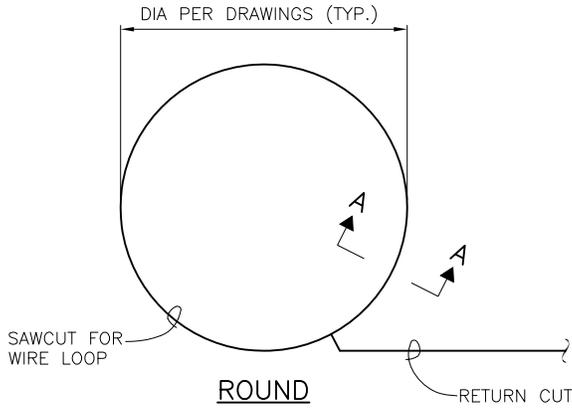
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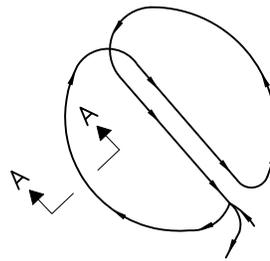
City of Seattle

NOT TO SCALE

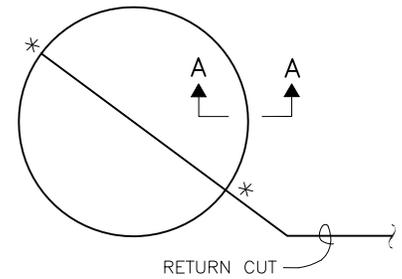
LOOP DETECTORS



DIPOLE LOOP DETECTOR

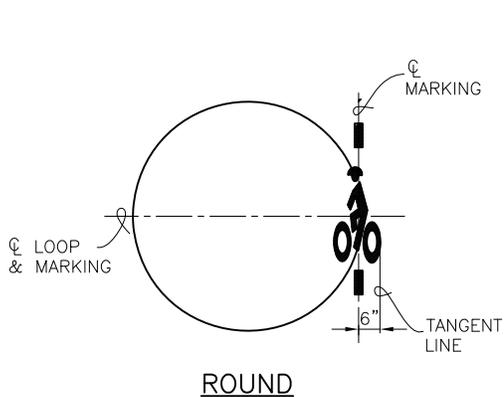


WINDING
DETAIL



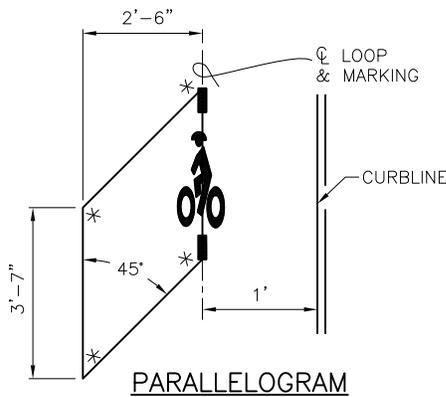
ROUND

QUADRIPOLE LOOP DETECTOR



ROUND

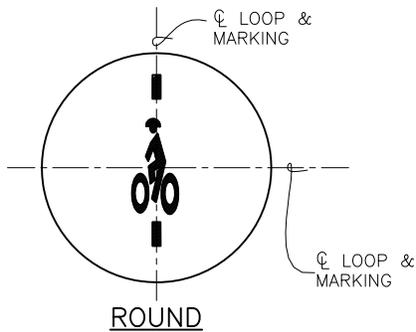
BICYCLE DIPOLE



PARALLELOGRAM

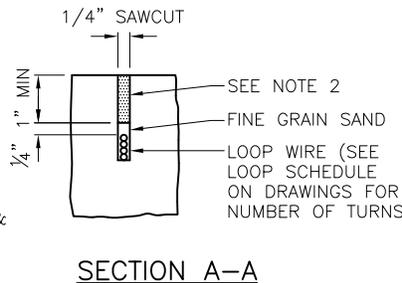
***NOTE:**

OVERLAP CUT FOR FULL DEPTH AT CORNERS (TYP) CHIP 1" BACK THEN ROUND OFF CORNERS WHERE LOOP WIRE WILL BE BENT 90° OR LESS.

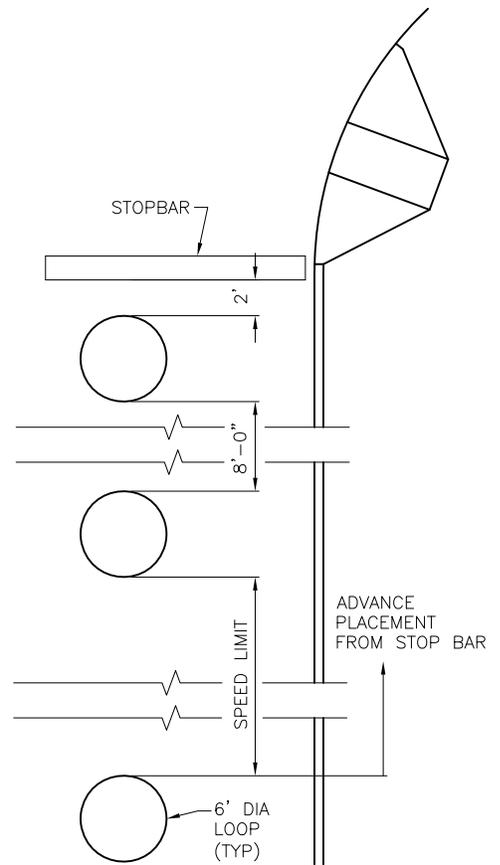


ROUND

BICYCLE QUADRIPOLE



SECTION A-A



STANDARD LOOP SPACING

NOTES:

1. SEE STD PLAN NO. 725 FOR BICYCLE DETECTOR PAVEMENT MARKER DETAIL.
2. FILL CUT AFTER VERTICAL PLACEMENT AND TESTING WITH HOT PAVING GRADE LIQUID ASPHALT ASTM D 312 TYPE III OR QUICK SETTING HIGH STRENGTH GROUT

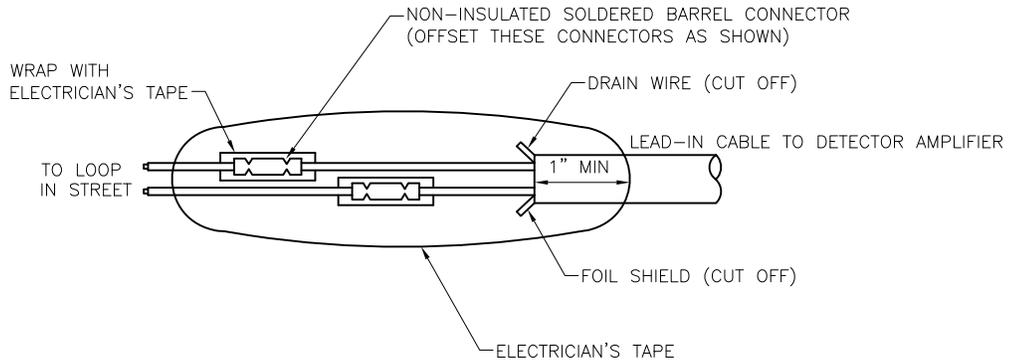
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City of Seattle

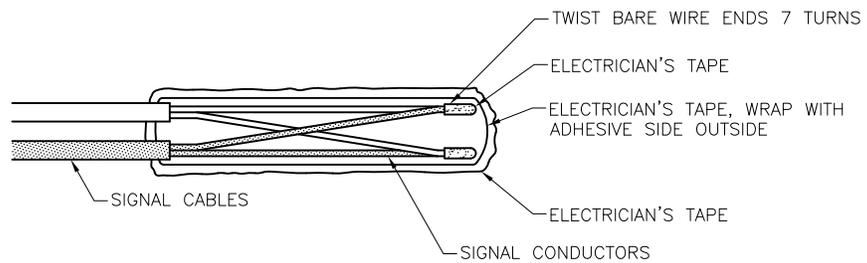
NOT TO SCALE

**BICYCLE DETECTOR PAVEMENT
MARKING LOCATIONS
ON DETECTOR LOOPS**



DETECTOR LEAD-IN WIRE SPLICE DETAIL

NOTE:
SOLDER CONNECTION AFTER CRIMPING



SIGNAL CABLE SPLICE

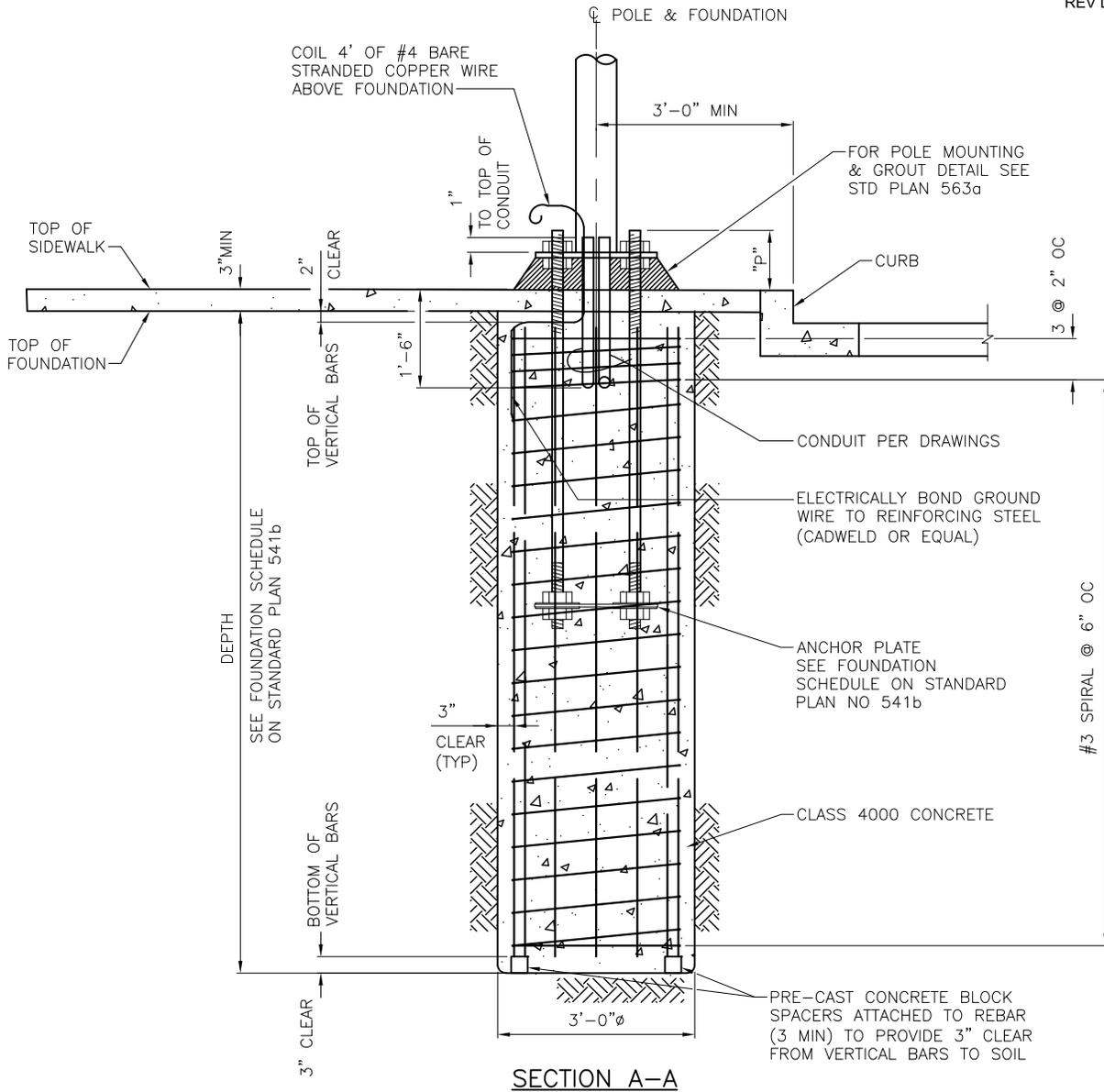
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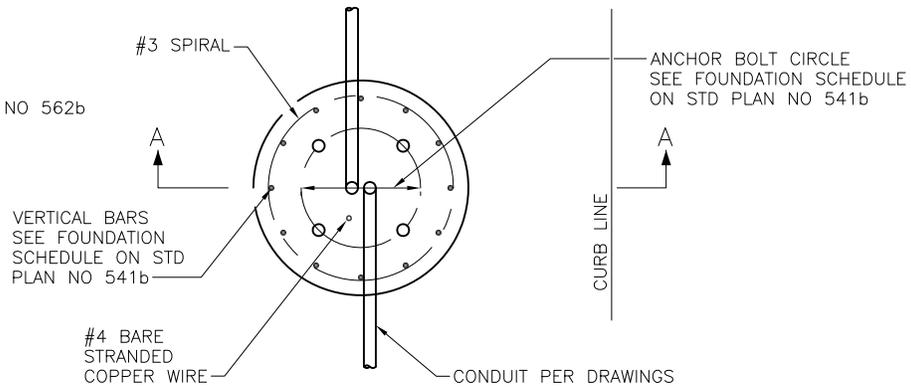
City of Seattle

NOT TO SCALE

**DETECTOR LOOP WIRE &
SIGNAL CABLE SPLICE**



NOTE:
FOR STEEL MAST ARM POLE FOUNDATION SEE STD PLAN NO 562b



PLAN VIEW
STRAIN POLE FOUNDATION IN SIDEWALK

REF STD SPEC SEC 8-32, 6-02

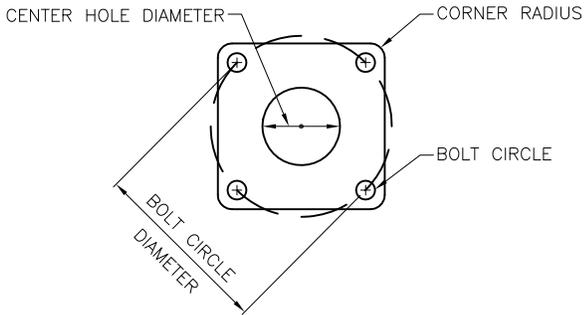


City of Seattle

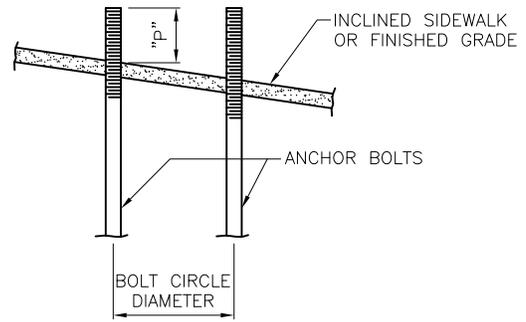
NOT TO SCALE

FOUNDATION STRAIN POLE FOUNDATION DETAIL (TYPE T, V, X & Z)

FOUNDATION SCHEDULE										
POLE TYPE	PROJECTION	VERTICAL REINFORCING	DEPTH (LATERAL BEARING)		ANCHOR BOLTS (TOTAL 4 PER POLE)	ANCHOR PLATE DIMENSIONS				
	P		100#/SF/FT	150#/SF/FT		SIZE	BOLT CIRCLE DIA	BOLT HOLE	CENTER HOLE	CORNER RADIUS
T	7½"	10 #8	8'-0"	7'-6"	1½" DIA X 60"	¾" X 16" X 16"	14½"	1½"	10"	1½"
V	9"	10 #8	9'-6"	8'-6"	1¾" DIA X 72"	¾" X 16" X 16"	18"	1⅞"	12½"	1½"
X	10"	12 #8	12'-6"	10'-6"	2" DIA X 72"	¾" X 18" X 18"	20"	2¼"	14"	2"
Z	11½"	12 #8	15'-0"	13'-0"	2½" DIA X 72"	½" X 20" X 20"	22"	2⅝"	15"	2¼"



ANCHOR PLATE



INCLINED CONDITION

NOTES:

1. CONCRETE STRENGTH SHALL BE CLASS 4000, 3/4" MAX SIZE COARSE AGGREGATE.
2. ANCHOR BOLTS FOR TYPE V,X,Z: ASTM F1554-99, GRADE 105, CLASS 2A INCLUDING SUPPLEMENTARY REQUIREMENTS S2, S3 AND S5. ANCHOR BOLTS FOR TYPE T: ASTM F 1554 FY=55 KSI MIN. NUTS: ASTM A563 HEAVY HEX GRADE DH. HARDENED STEEL WASHERS: ASTM F436.
3. ANCHOR PLATE: ASTM A36. HOT DIP GALVANIZED.
4. ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A706, GRADE 60.
5. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED ASTM A153 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH 18" OF THREADS ON TOP & 12" ON BOTTOM
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8-32.3(2)A PRIOR TO POURING CONCRETE.

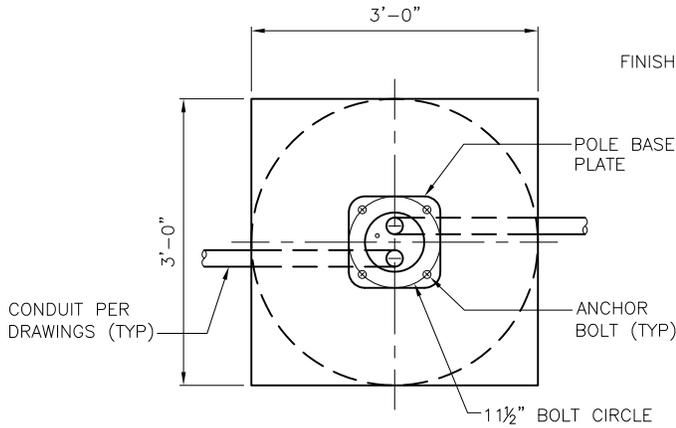
REF STD SPEC SEC 8-32



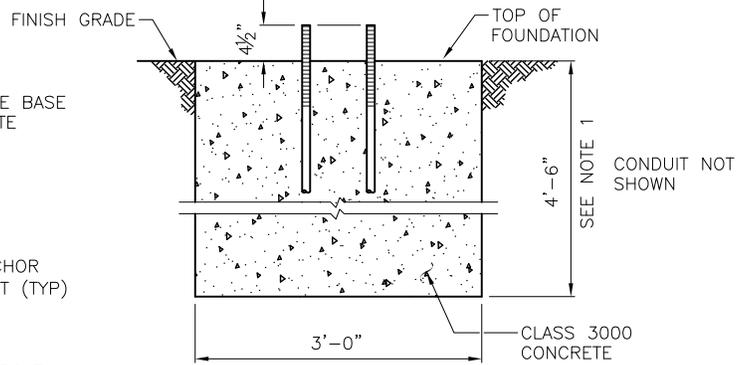
City of Seattle

NOT TO SCALE

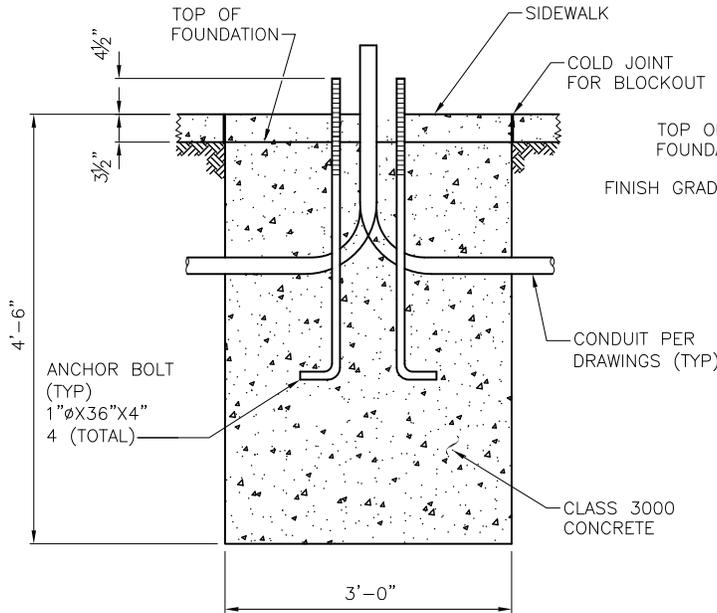
**STRAIN POLE FOUNDATION
SCHEDULE & NOTES
(TYPE T, V, X & Z)**



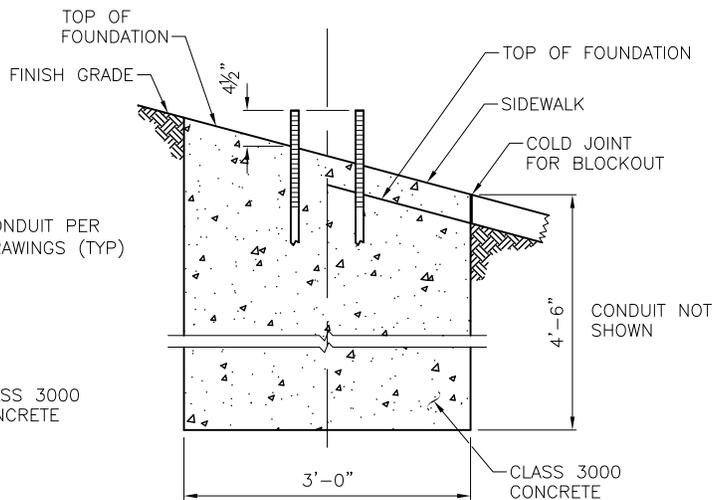
PLAN



IN EARTH



IN SIDEWALK



ON AN INCLINE

NOTES:

1. BOLT CIRCLE: 1 1/2" TYP
2. SEE STD PLAN NO 563a FOR POLE MOUNTING AND GROUT DETAIL
3. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED (ASTM A153) FULL LENGTH AND FABRICATED FROM ASTM F1554 OR A576 WITH 12" THREADS ON TOP
4. INSTALL UFER GROUND IN FOUNDATION (SEE STD PLAN NO 524a)

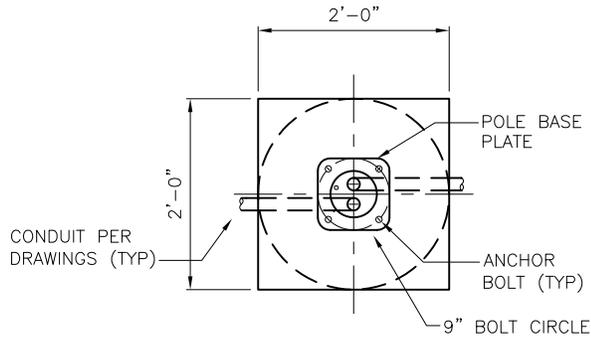
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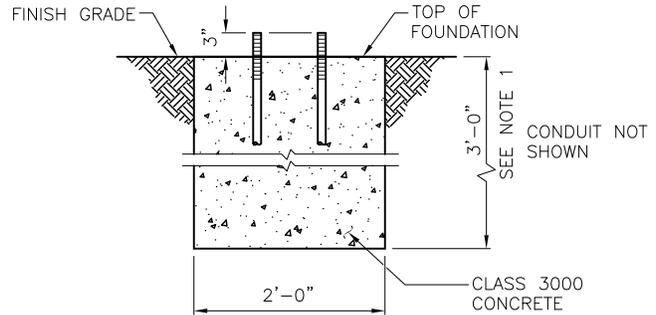
City of Seattle

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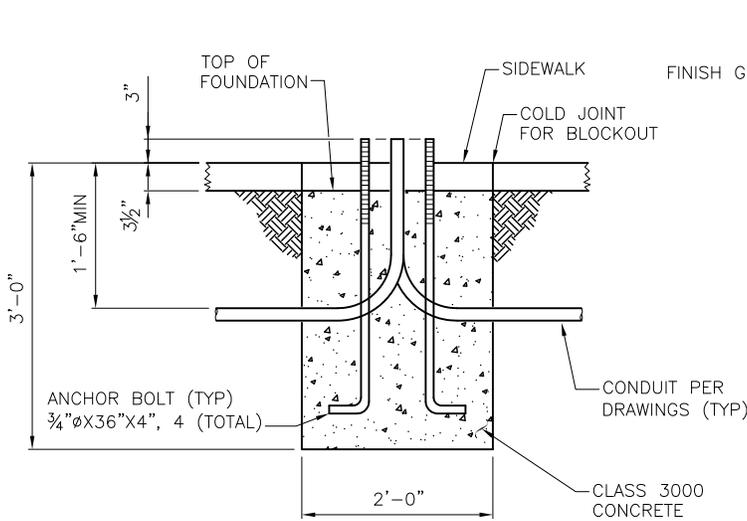
STREET LIGHT
POLE FOUNDATIONS



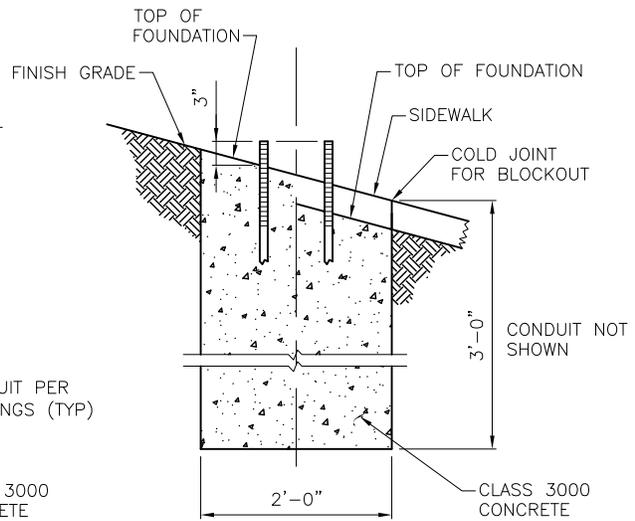
PLAN



IN EARTH



IN SIDEWALK



ON AN INCLINE

NOTES:

1. BOLT CIRCLE: 9" TYP
2. SEE STD PLAN NO 563a FOR POLE MOUNTING AND GROUT DETAIL
3. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED (ASTM A153) FULL LENGTH AND FABRICATED FROM ASTM F1554 OR A576 WITH 12" THREADS ON TOP
4. SEE SCL MATERIAL STANDARD 5756.09 FOR POLES

REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

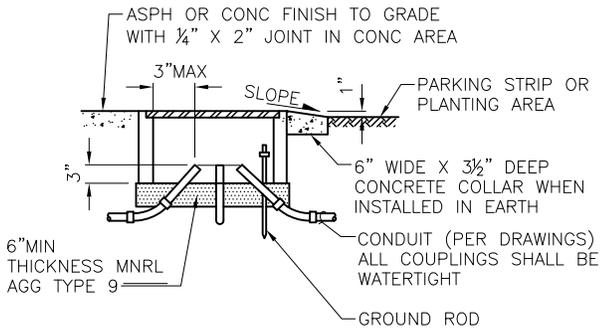
PEDESTRIAN STREET LIGHT POLE FOUNDATIONS

NOTES:

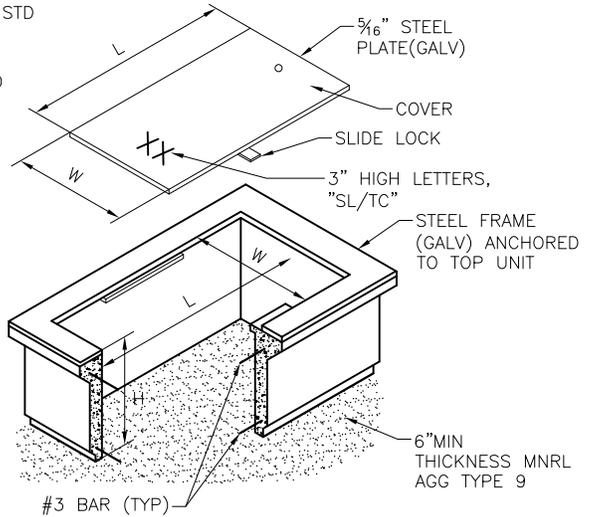
1. THE COVER SHALL HAVE 1/8" TO 1/4" CLEARANCE ON EACH EDGE WITHIN THE FRAME AFTER GALVANIZING.
2. THE GROUND ROD SHALL EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR MINERAL AGGREGATE.
3. TYPE 1, 2, 3, 5 & 6 HANDHOLE COVERS SHALL HAVE "TC" AND/OR "SL" ON THEM, AS APPROPRIATE.
4. TYPE 4 HANDHOLE SHALL BE INSTALLED IN ROADWAYS, PARKING LOTS, ETC.
5. FOR PAVEMENT DEPTH GREATER THAN 7" USE FRAME EXTENSIONS (SEE STD PLAN NO 231) TO BRING THE COVER UP THE THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING THE BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT.
6. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE SHALL BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. WITH A 4'-0" LENGTH FROM FRAME THAT CAN BE HOOKED UP TO A GROUND ROD.
7. ALL HANDHOLE COVERS AND FRAMES SHALL HAVE A NON-SKID SURFACE (SEE STD SPEC SEC 9-34.6)
8. ALL HANDHOLES SHALL HAVE A LOAD RATING OF H20.
9. GROUND ROD REQUIRED IN ALL STREETLIGHT HANDHOLES PER SCL CONSTR STD 1710.50

HANDHOLE SCHEDULE

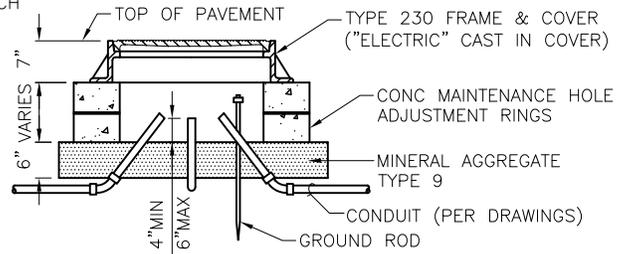
HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H	H	L	W
1	19"	14"	12"	12"	18"	13"
2	28"	17"	12"	12"	26 1/2"	17"
3	36"	24"	12"	12"	35"	24"
4	24"Ø	VAR	NA	NA	NA	NA
5	36"	24"	32"	NA	35"	24"
6	42"	42"	38 1/2"	NA	33 1/2"	33 3/4"
GRHH	8"Ø			NA		



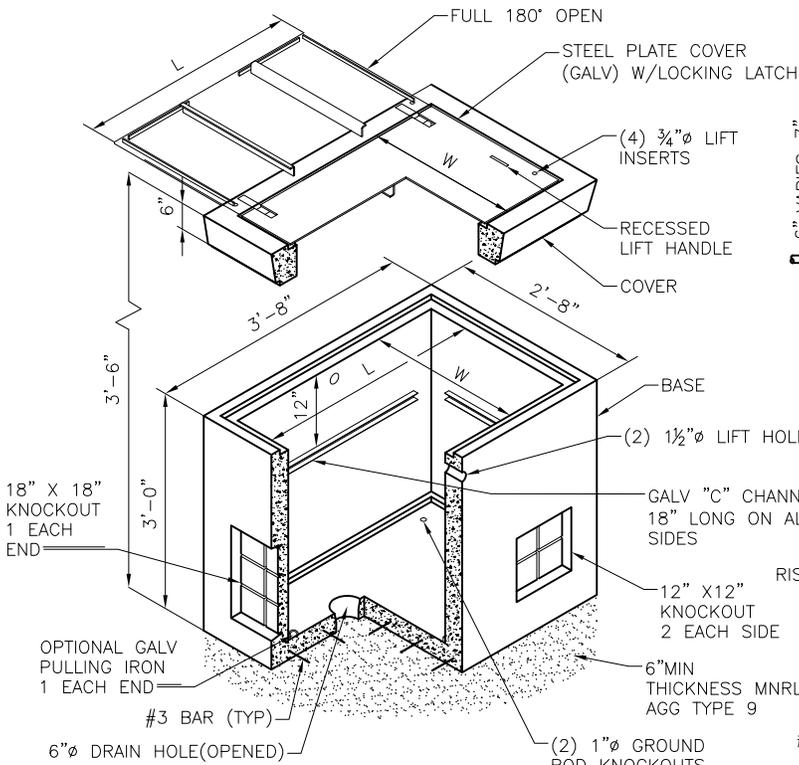
HANDHOLE INSTALLATION DETAIL



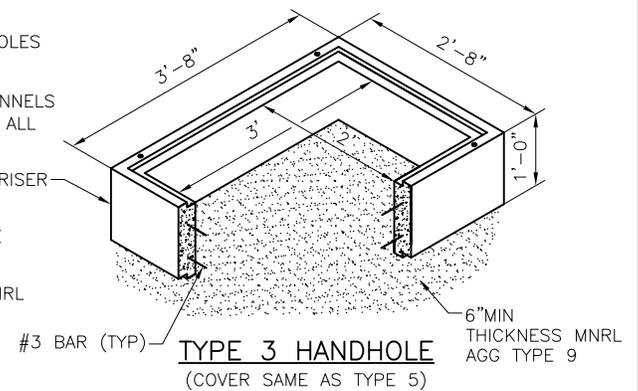
TYPE 1 & 2 HANDHOLE



TYPE 4 HANDHOLE
TRAFFIC BEARING



TYPE 5 HANDHOLE



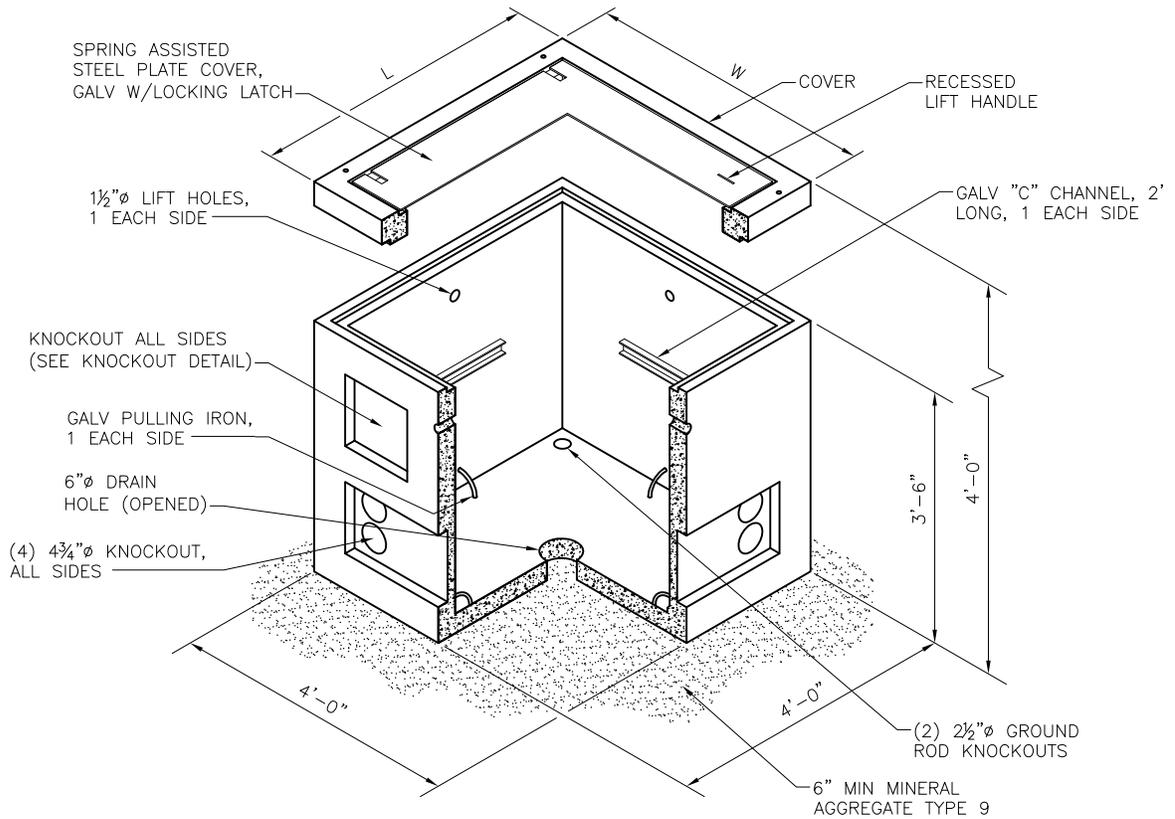
REF STD SPEC SEC 8-33



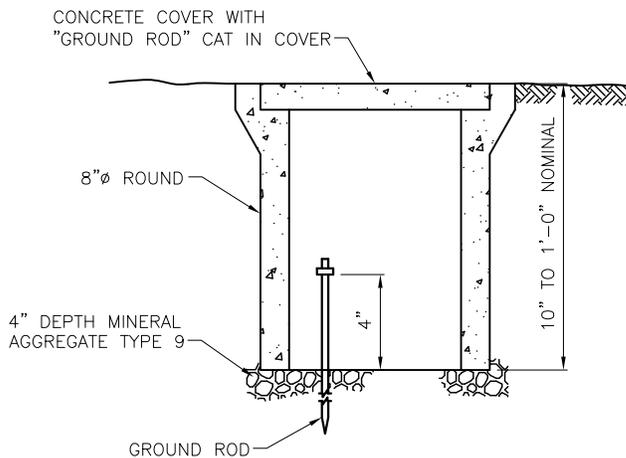
City of Seattle

NOT TO SCALE

HANDHOLES



TYPE 6 HANDHOLE



GROUND ROD HANDHOLE (GRHH)

NOTES:

1. ALL HANDHOLES SHALL HAVE A H20 LOAD RATING.
2. ALL HANDHOLE COVERS AND FRAMES SHALL HAVE A NON-SKID SURFACE (SEE STD SPEC SEC 9-34.6)

REF STD SPEC SEC 8-33



City of Seattle

NOT TO SCALE

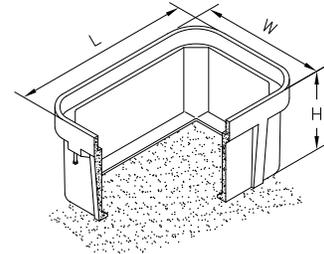
HANDHOLES

NOTES:

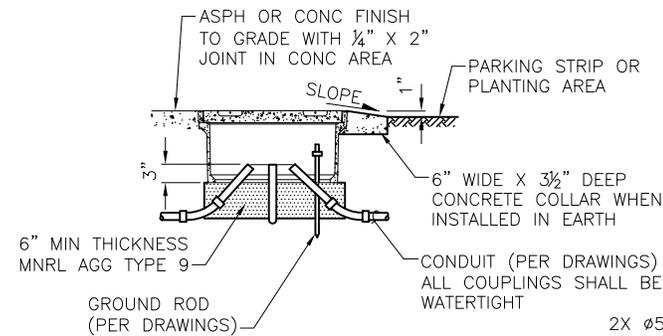
1. ALL NON-DELIBERATE TRAFFIC PULL BOX COVERS MUST COMPLY WITH ALL TEST PROVISIONS OF ANSI/SCTE 77 2010 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", & MUST MEET THE TIER 15 APPLICATION. MARKING SHOWING THE TIER 15 RATING MUST BE EMBOSSED IN THE TOP SURFACE OF THE COVER.
2. ALL NON-DELIBERATE TRAFFIC PULL BOXES MUST COMPLY WITH ALL TEST PROVISIONS OF ANSI/SCTE 77 2012 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", & MUST MEET THE TIER 22 APPLICATION. MARKINGS SHOWING THE TIER 22 RATING MUST BE LABELED OR STENCILED ON THE INSIDE & OUTSIDE OF THE BOX.
3. ALL NON-DELIBERATE TRAFFIC PULL BOXES & COVERS MUST BE MADE OF POLYMER CONCRETE WITH FIBERGLASS REINFORCEMENT. THE BOX MUST HAVE CONTINUOUS FIBERGLASS CLOTH REINFORCEMENT ON THE INSIDE & OUTSIDE PERIMETERS. THE COVER MUST HAVE A MINIMUM OF TWO LAYERS OF FIBERGLASS CLOTH REINFORCEMENT.
4. ALL NON-DELIBERATE TRAFFIC PULL BOXES & COVERS MUST BE TESTED & CERTIFIED, MEETING ALL TEST PROVISIONS ON THE ANSI/SCTE 77, TO THE 66WF, MEETING ALL TEST PROVISION OF THE LATEST REVISION OF ANSI/SCTE 77.
5. PULL SLOTS MUST BE RATED FOR MINIMUM PULL OUT OF 3,000 POUNDS.
6. TYPE 4 HANDHOLE SHALL BE INSTALLED IN ROADWAYS PARKING LOTS, ETC. ALL COVERS MUST BE COMPLETE WITH A MOLDED LOGO, MANUFACTURERS NAME & TIER RATING LOGO (NO GLUE IN LOGO). LOGO SHALL READ "TC" AND/OR "SL" UNLESS STATED OTHERWISE BY THE CITY OF SEATTLE.
7. THE GROUND ROD SHALL EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR MINERAL AGGREGATE.
8. FOR PAVEMENT DEPTH GREATER THAN 7" USE FRAME EXTENSIONS (SEE STD PLAN NO 231) TO BRING THE COVER UP TO THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING THE BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT.
9. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE SHALL BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. WITH A 4'-0" LENGTH FROM FRAME THAT CAN BE HOOKED UP TO A GROUND ROD.
10. ALL HANDHOLE COVERS AND FRAMES SHALL HAVE A NON-SKID SURFACE (SEE STD SPEC SEC 9-34.6)

HANDHOLE SCHEDULE

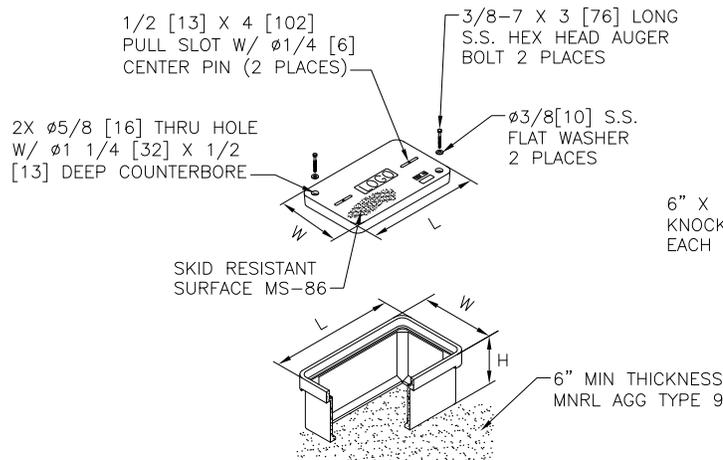
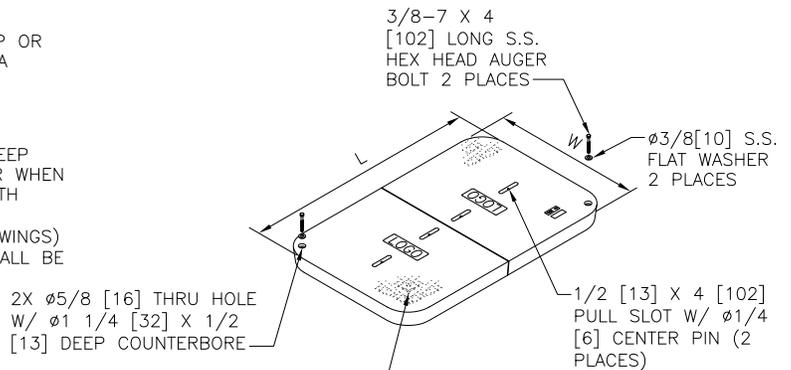
HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H		L	W
1	24"	13"	12"	12"	24"	13"
2	30"	17"	12"	12"	30"	17"
3	36"	24"	18"	12"	36"	24"
4	24"	13"	VAR	NA	NA	NA
5	30"	48"	36"	NA	30"	48"
6	48"	48"	48"	NA	48"	48"
GRHH	8"Ø			NA		



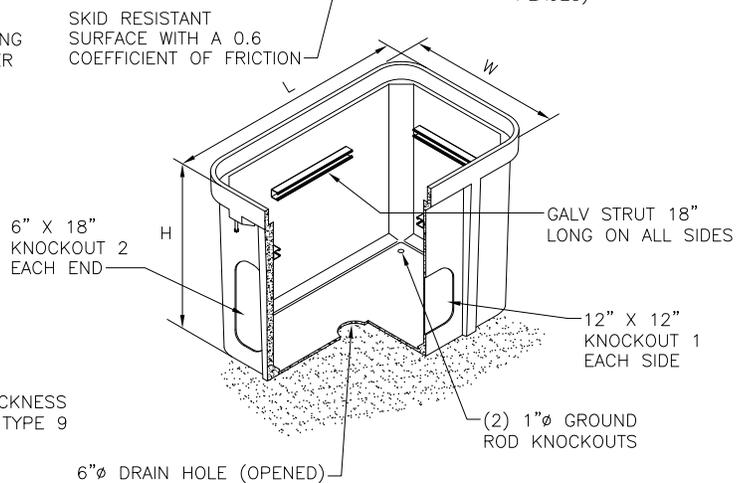
TYPE 3 HANDHOLE
(COVER SAME AS TYPE 5)



HANDHOLE INSTALLATION DETAIL



TYPE 1 & 2 HANDHOLE



TYPE 5 HANDHOLE

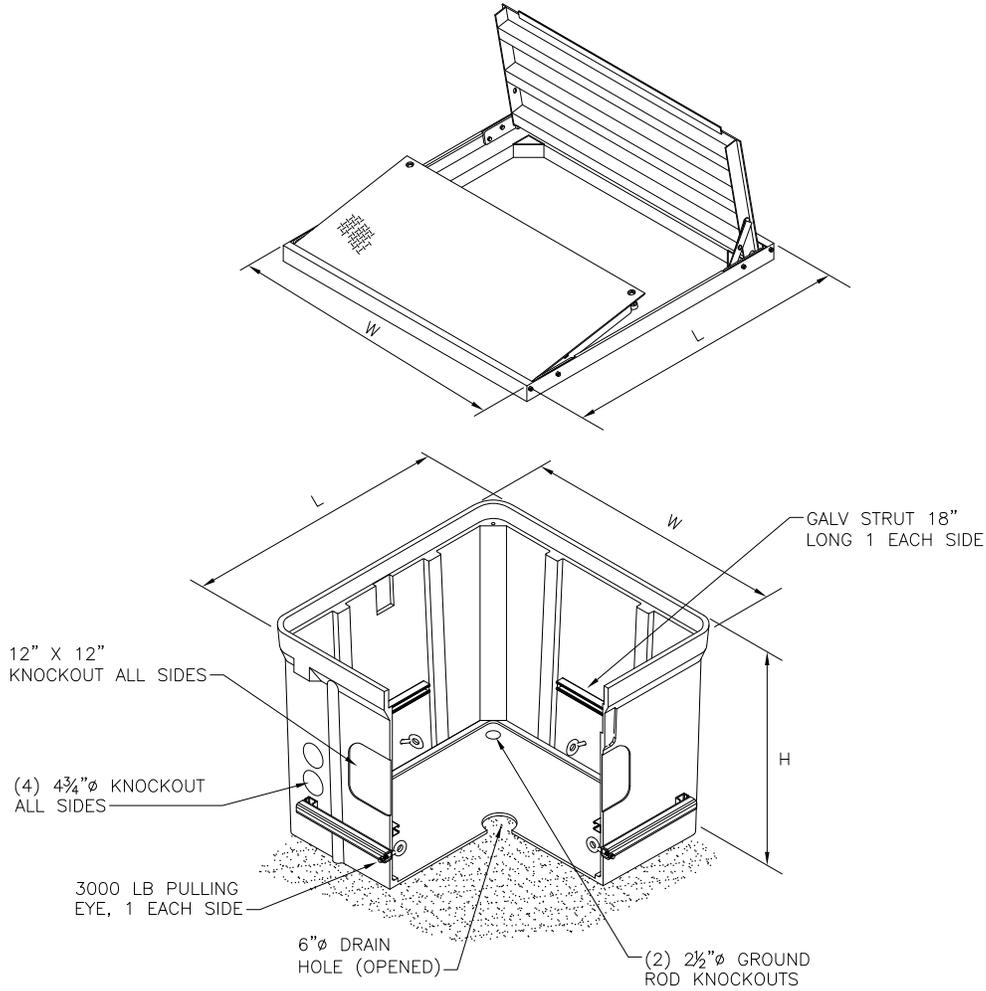
REF STD SPEC SEC 8-33



City of Seattle

NOT TO SCALE

POLYMER CONCRETE HANDHOLES



TYPE 6 HANDHOLE

NOTES:

1. FOR DETAILS NOT SHOWN, SEE STD PLAN NO 550b
2. ALL HANDHOLE COVERS AND FRAMES SHALL HAVE A NON-SKID SURFACE (SEE STD SPEC SEC 9-34.6)

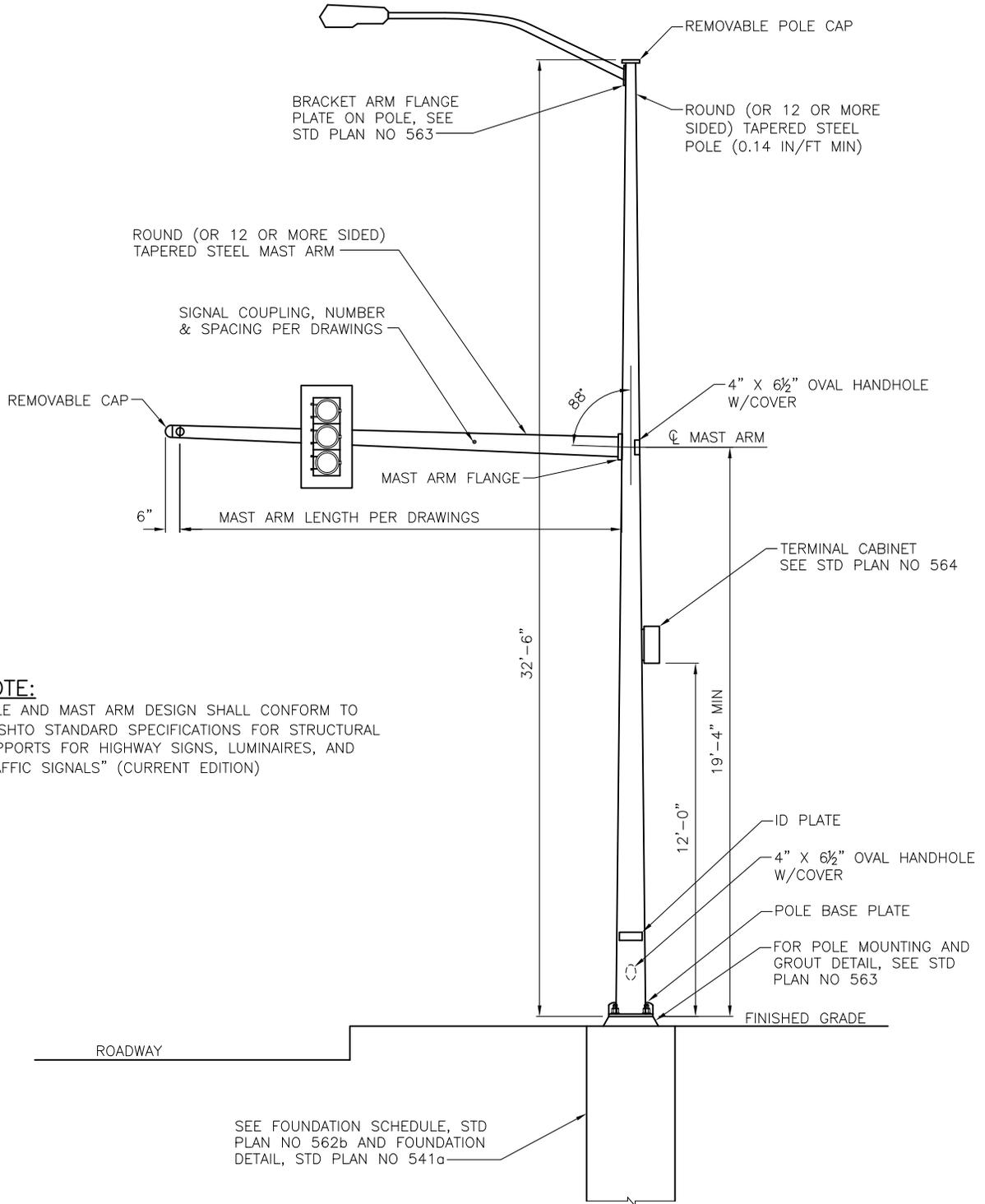
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City of Seattle

NOT TO SCALE

POLYMER CONCRETE
HANDHOLES



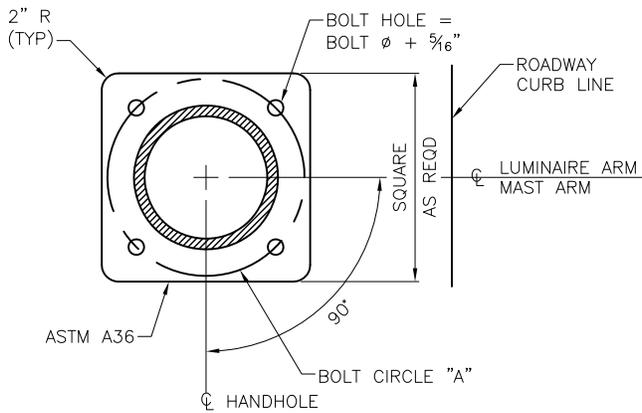
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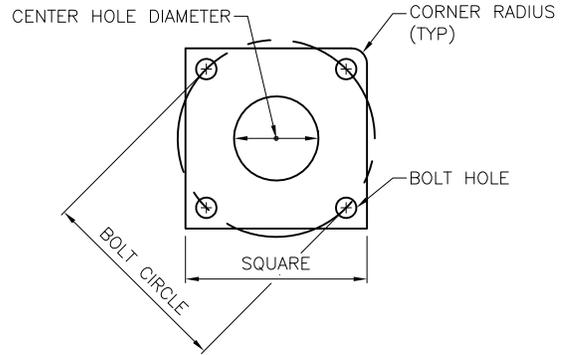
City of Seattle

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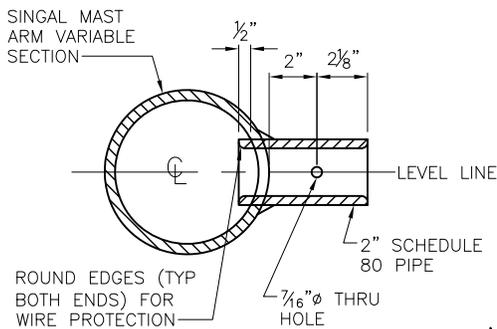
STEEL MAST ARM POLE



POLE BASE PLATE

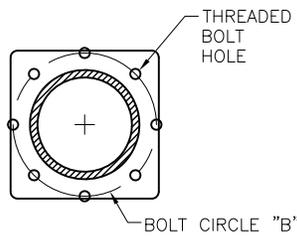


ANCHOR PLATE
PER FOUNDATION SCHEDULE

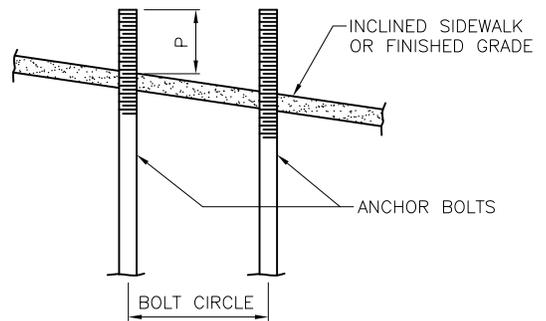


SIGNAL COUPLING

COUPLING TO BE FABRICATED & INSTALLED BEFORE GALVANIZING



MAST ARM FLANGE



INCLINED CONDITION

MAST ARM SCHEDULE		POLE SCHEDULE			
MAST ARM LENGTH	FLANGE PLATE		POLE BASE PLATE		
	BOLT CIRCLE "B"	THREADED BOLT DIA	SQUARE	BOLT CIRCLE "A"	BOLT HOLE
15'-0" TO 30'-0"	11"	1"-8NC	16" X 16"	14½"	1¾"
31'-0" TO 40'-0"	12"	1¼"-7NC	18" X 18"	16½"	2¼"
41'-0" TO 45'-0"	13½"	1¼"-7NC	18" X 18"	18"	2¼"
46'-0" TO 60'-0"	14"	1½"-6NC	20" X 20"	20"	2½"

POLE FOUNDATION NOTES

1. CONCRETE STRENGTH SHALL BE CLASS 4000 AIR ENTRAINED.
2. ANCHOR BOLTS SHALL HAVE $F_y = 55$ KSI MIN, NUTS: ASTM A563 HEAVY HEX GRADE DH. HARDENED STEEL WASHERS: ASTM F436.
3. BOTTOM ANCHOR PLATE: ASTM A36. HOT DIP GALVANIZED.
4. ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A706, GRADE 60.
5. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED ASTM A153 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH A MINIMUM OF 18" OF THREADS ON TOP & 12" ON BOTTOM.
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8-32.3(2)A PRIOR TO POURING CONCRETE.
7. SEE STD PLAN NO 541a FOR FOUNDATION DETAILS.

FOUNDATION SCHEDULE											
MAST ARM LENGTH	FOUNDATION DEPTH (LATERAL BEARING)		ANCHOR BOLTS ($F_y=55$ KSI MIN.)			VERTICAL REINFORCING	ANCHOR PLATE DIMENSIONS				
	150#/SF /FT	100#/SF /FT	PROJECTION	BOLT CIRCLE DIA	SIZE (J HOOK)		SIZE	BOLT CIRCLE DIA	BOLT HOLE	CENTER HOLE	CORNER RADIUS
15'-0" TO 30'-0"	7'-6"	8'-0"	7½"	14½"	1½" X 60"	10 #8	¾" X 16" X 16"	14½"	1½"	10"	1½"
31'-0" TO 40'-0"	8'-6"	9'-6"	9"	16½"	1¾" X 72"	10 #8	¾" X 16" X 16"	16½"	1⅞"	12½"	1½"
41'-0" TO 45'-0"	8'-6"	9'-6"	9"	18"	1¾" X 72"	10 #8	¾" X 16" X 16"	18"	1⅞"	12½"	1½"
46'-0" TO 60'-0"	10'-6"	12'-6"	10"	20"	2" X 72"	12 #8	¾" X 18" X 18"	20"	2¼"	14"	2"

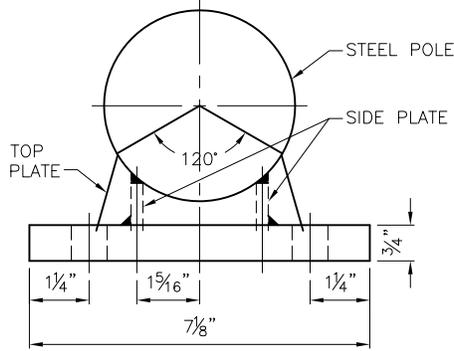
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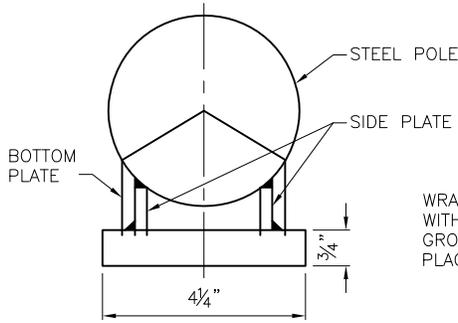
City of Seattle

NOT TO SCALE

**STEEL MAST ARM POLE
FOUNDATION SCHEDULE & DETAIL
W/O METRO TROLLEY LOADS)**

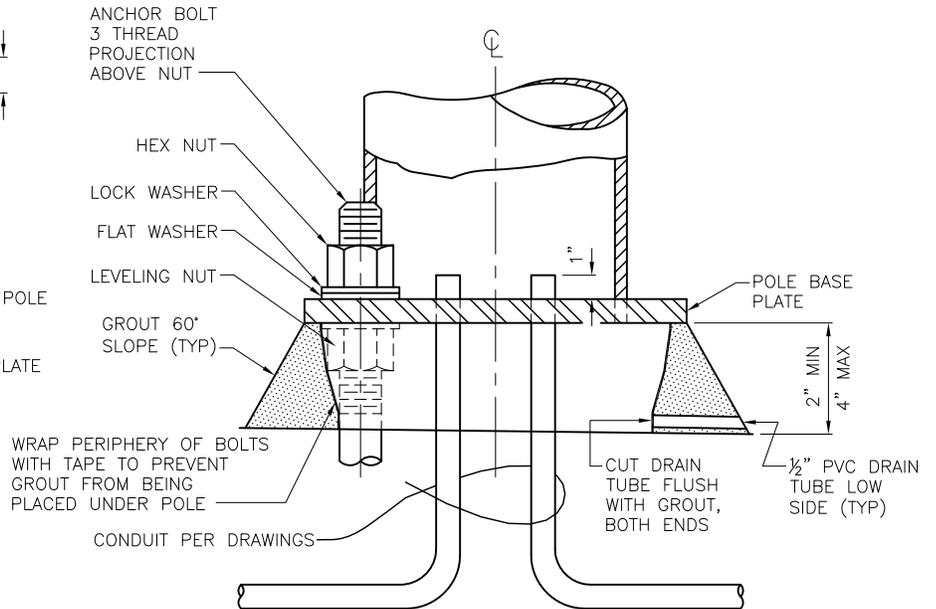


SECTION A-A



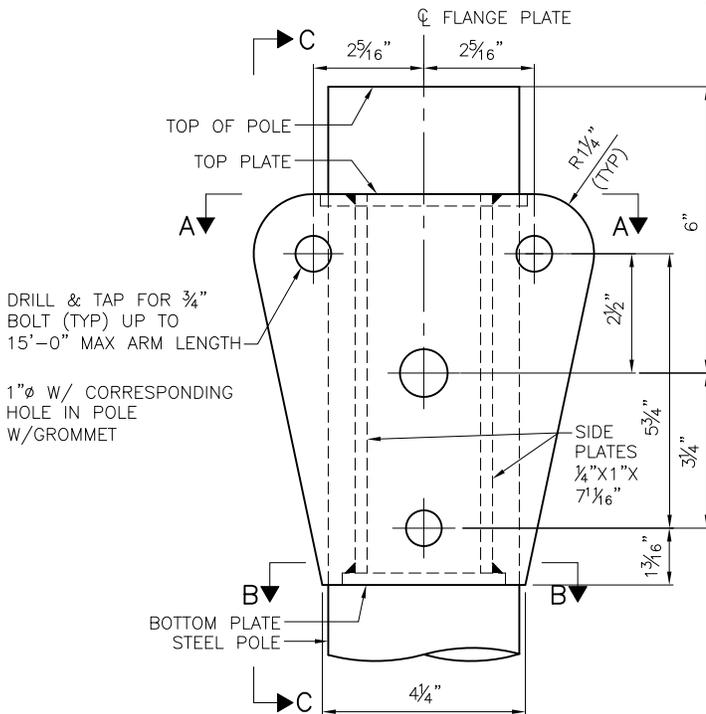
SECTION B-B

NOTE:
GROUT SHALL BE PREMIXED,
NON-SHRINK AND NON-METALLIC

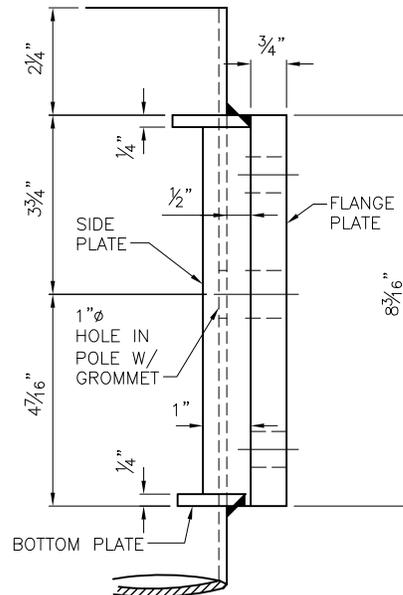


POLE MOUNTING & GROUT DETAIL

(EXCEPT FOR POLES W/CHIEF SEATTLE BASE)



BRACKET ARM FLANGE
PLATE ON POLE



SECTION C-C

STRUCTURAL CARBON STEEL PLATES
SHALL BE ASTM A36

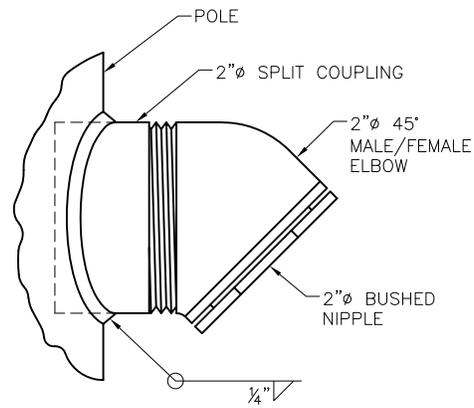
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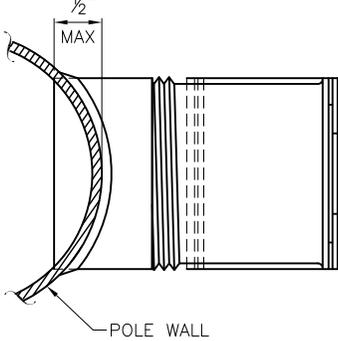
City of Seattle

NOT TO SCALE

MISCELLANEOUS STEEL
POLE DETAILS

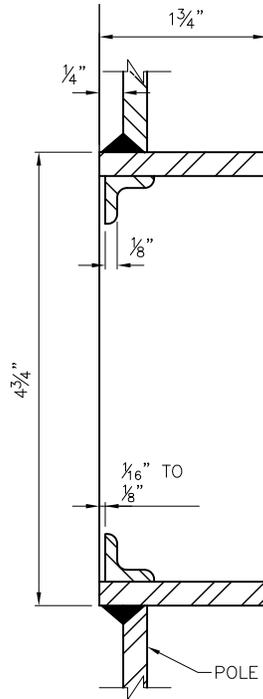


ELEVATION



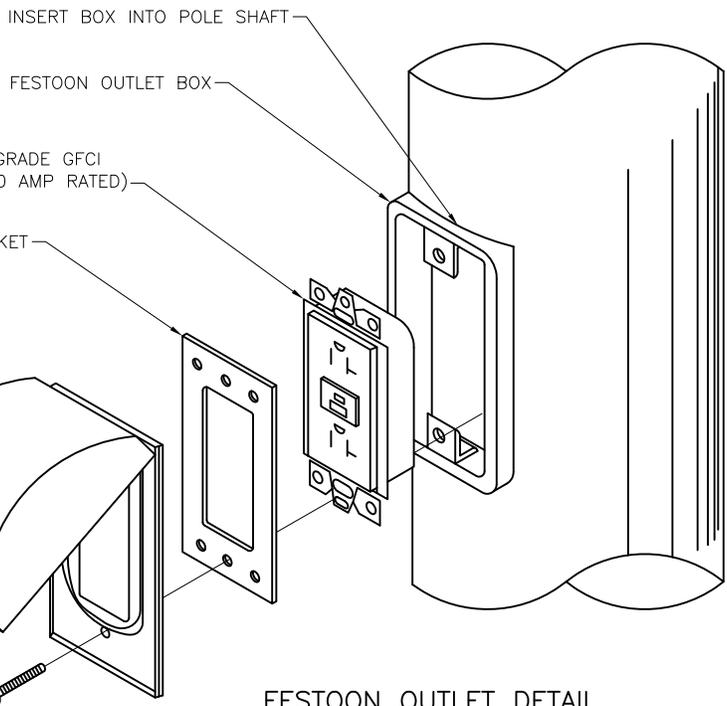
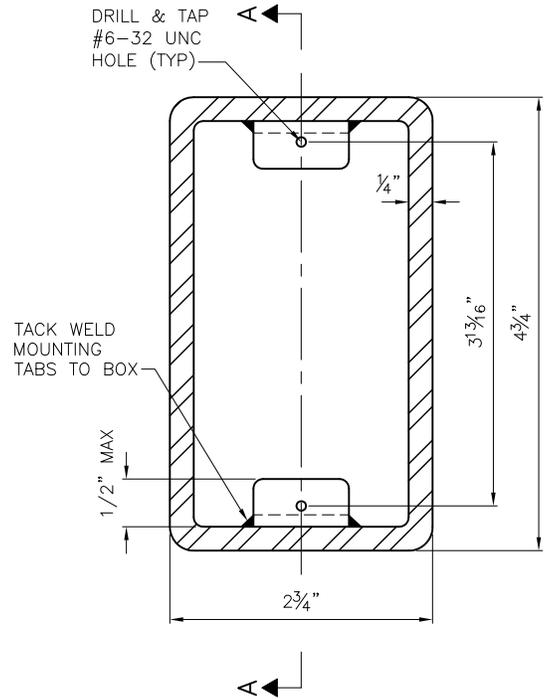
PLAN

CABLE OUTLET DETAIL



SECTION A-A

FESTOON OUTLET BOX



FESTOON OUTLET DETAIL

(METAL POLES)

NOTES:

1. ALL OUTLETS SHALL BE PLUGGED WITH THREADED INSERT PLUGS DURING SHIPMENT TO PREVENT DAMAGE TO PLUGS.
2. REMOVE BURRS AND SHARP EDGES TO PREVENT DAMAGE TO ELECTRICAL CABLE.
3. SPLIT COUPLING SHALL EXTEND INTO THE POLE ½" MAX AS SHOWN.

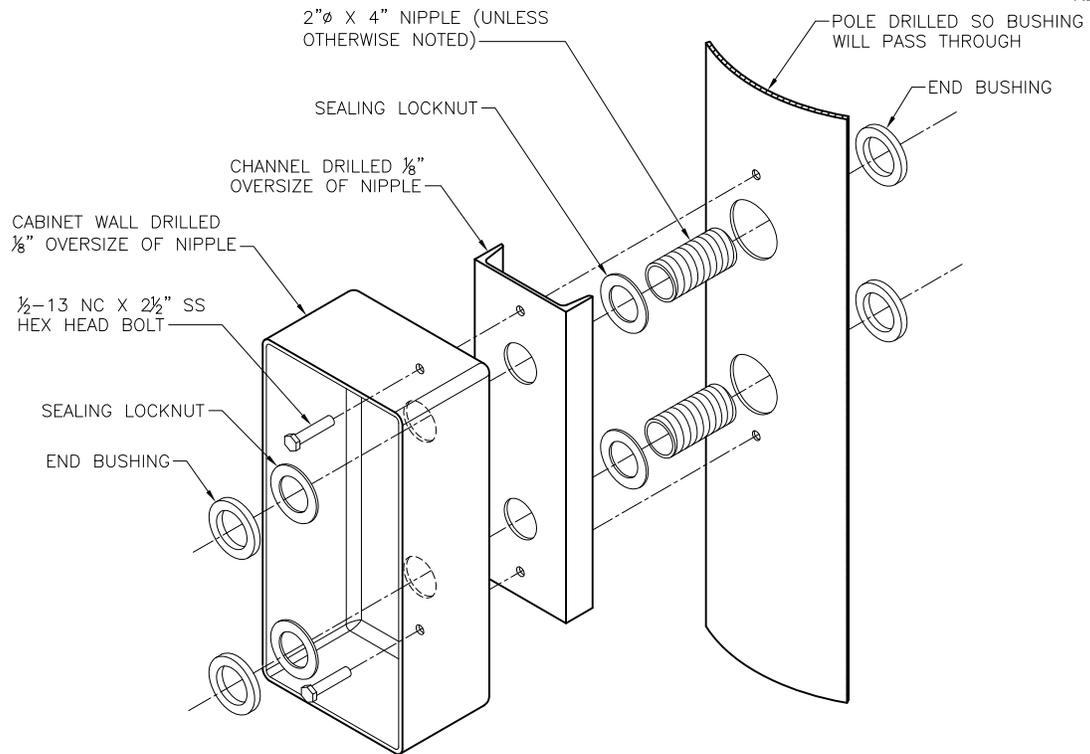
REF STD SPEC SEC 8-30 & 8-32



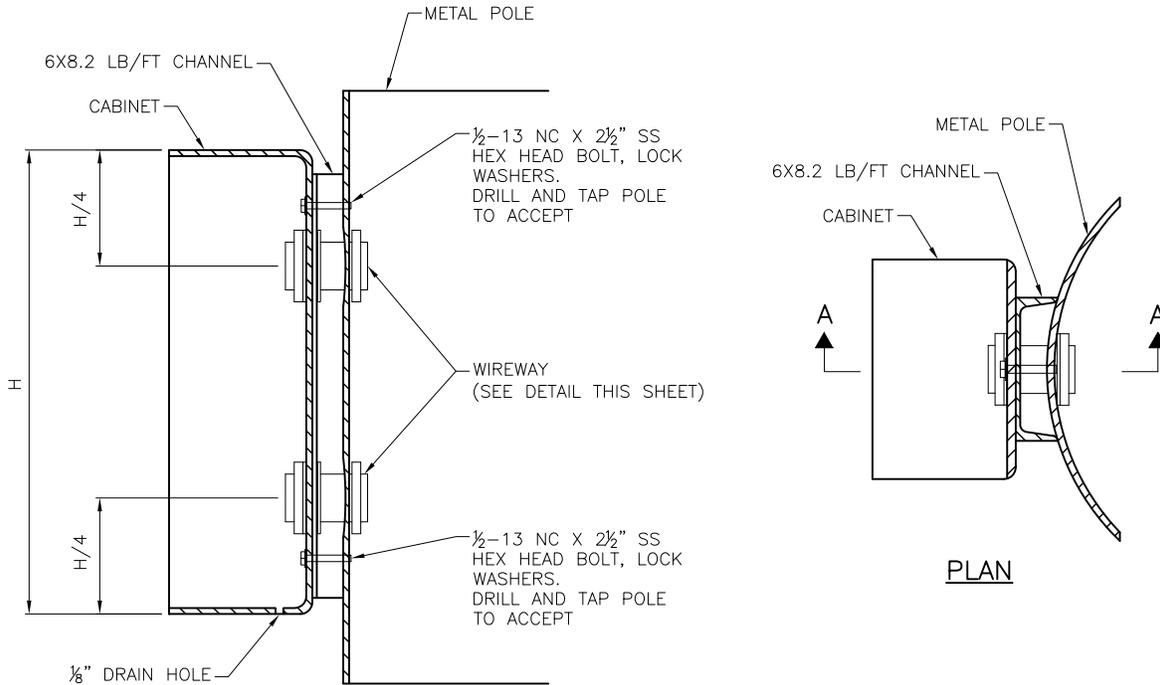
City of Seattle

NOT TO SCALE

MISCELLANEOUS STEEL POLE DETAILS



WIREWAY ISOMETRIC DETAIL



SECTION A-A

PLAN

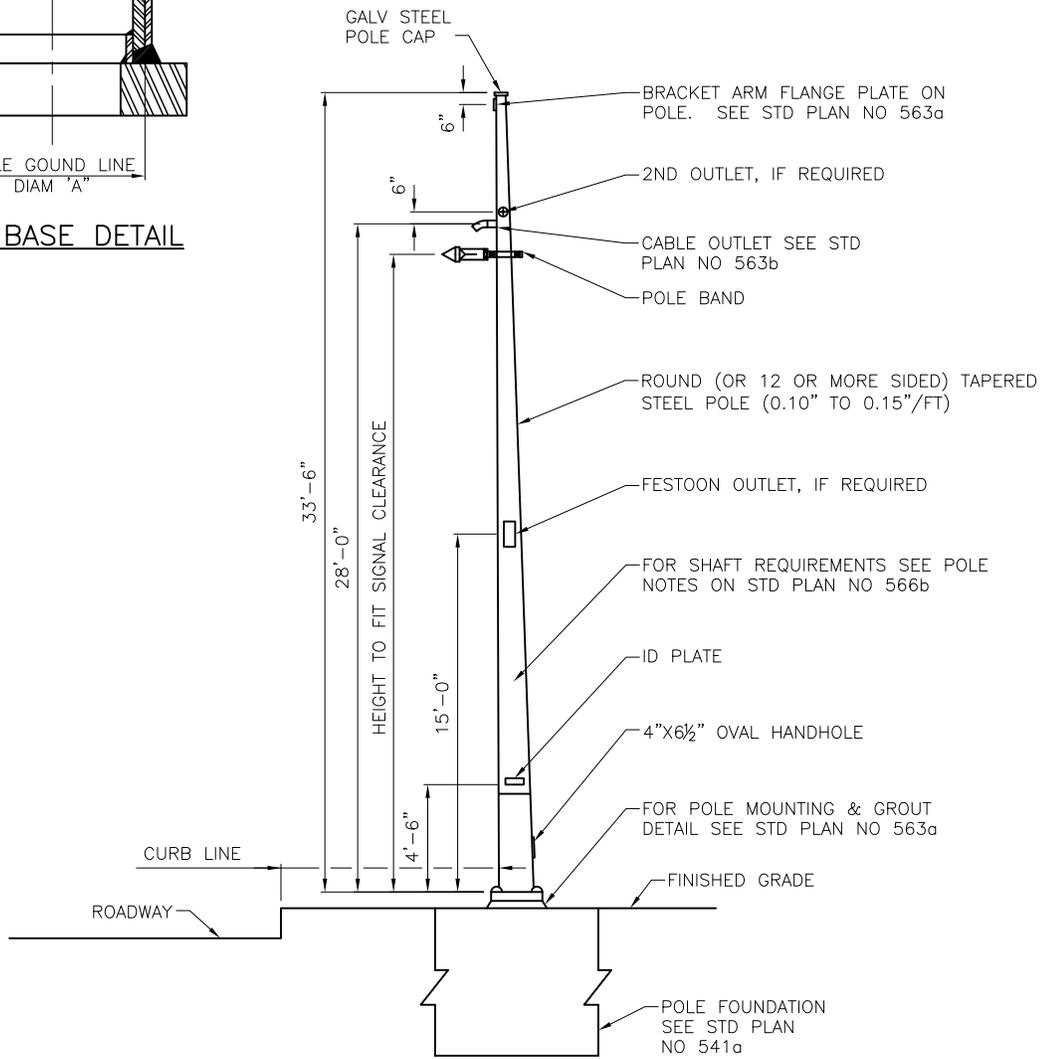
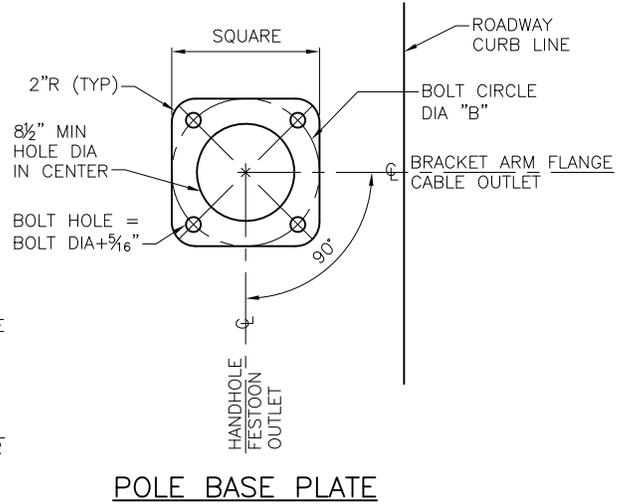
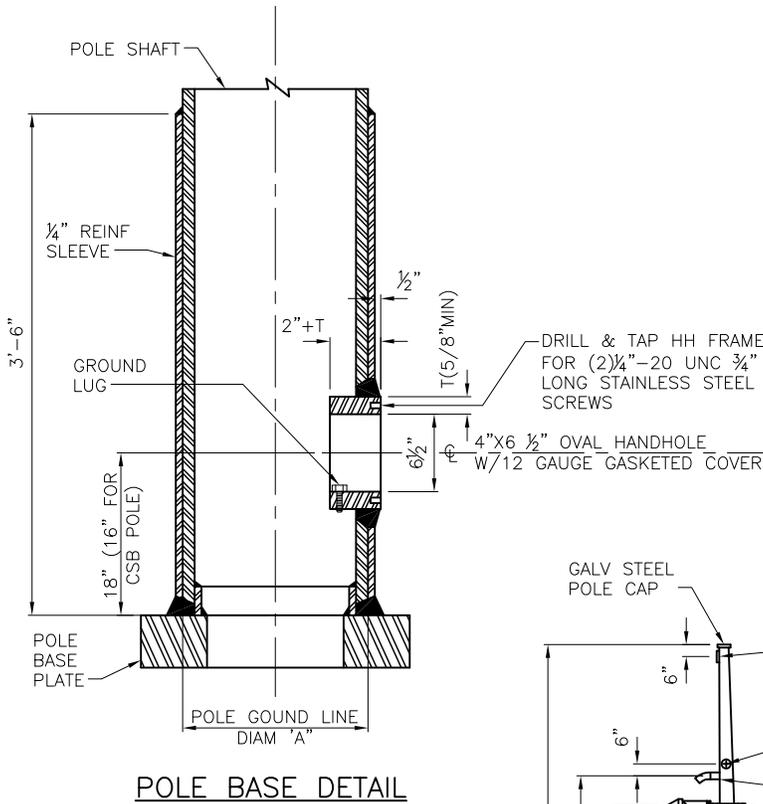
REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

TERMINAL CABINET
POLE MOUNTING



REF STD SPEC SEC 8-32



City of Seattle

NOT TO SCALE

**STRAIN POLE DETAILS
(TYPE V, X & Z POLES)**

POLE TYPE	DEAD LOAD MOMENT KIP-FT (AT GROUND LINE)	POLE SCHEDULE						
		GROUND LINE DIA "A"		POLE BASE PLATE SIZE		BOLT CIRCLE DIA "B"	BOLT HOLE	ANCHOR BOLTS
		STD	CSB	STD	CSB			
V	51	12"	12"	1¾"X18"X18"	1¾"X23"X23"	18"	2¼"	1¾"DIA X 72"
X	93	14"	12½"	2"X20"X20"	2"X23"X23"	20"	2⅝"	2"DIA X 72"
Z	164	15"	--	2½"X23"X23"	--	22"	2⅓"	2½"DIA X 72"

NOTES:

1. THE YIELD MOMENT SHALL BE 2X THE DEAD LOAD MOMENT. THE ULTIMATE PLASTIC MOMENT SHALL BE 2.5X THE DEAD LOAD MOMENT.
2. POLE SHAFT AND REINFORCING SLEEVE: ASTM A572 GRADE 50, 60 OR 65 (Fy=50, 60 OR 65 KSI RESPECTIVELY) OR ASTM A595 GRADE A OR B (Fy=55 OR 60 KSI RESPECTIVELY).
3. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE Fy≥0.65 POLE SHAFT Fy THE BASE PLATE THICKNESS MAY BE REDUCED BY ¼" IF ASTM A572 GRADE 42 STEEL IS USED.
4. REINFORCING SLEEVE SHALL BE FABRICATED FROM THE SAME MATERIAL AND YIELD STRENGTH AS THE POLE SHAFT.
5. POLE SHAFTS SHALL HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
6. MINIMUM SHAFT WALL THICKNESS OF EACH PLY SHALL BE 0.239" (3 GAUGE). POLE SHALL HAVE A MAXIMUM OF TWO PLYS NOT INCLUDING THE ¼" REINFORCING SLEEVE.
7. MAXIMUM SILICON CONTENT IN STEEL SHALL BE 0.04%. SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
8. POLE DIAMETER FOR 12 OR MORE SIDED POLES SHALL BE MEASURED FROM THE POINT TO POINT DIMENSION.
9. POLES SHALL MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT 25' ABOVE GROUND LINE.
10. POLE STRENGTH SHALL MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (CURRENT EDITION).

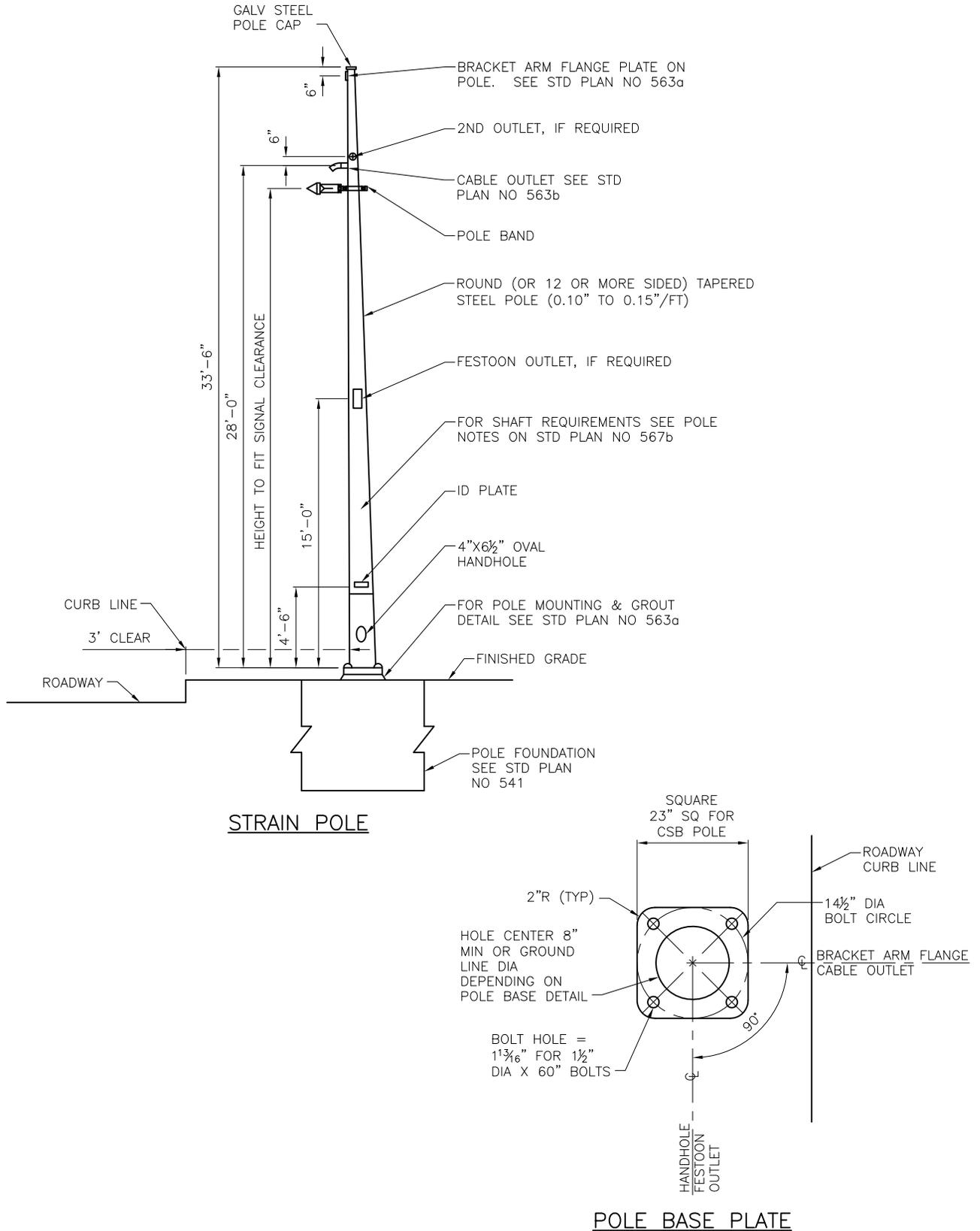
REF STD SPEC SEC 8-32, 9-33



City of Seattle

NOT TO SCALE

**STRAIN POLE DETAILS
(TYPE V, X, Z POLES)**



REF STD SPEC SEC 8-32



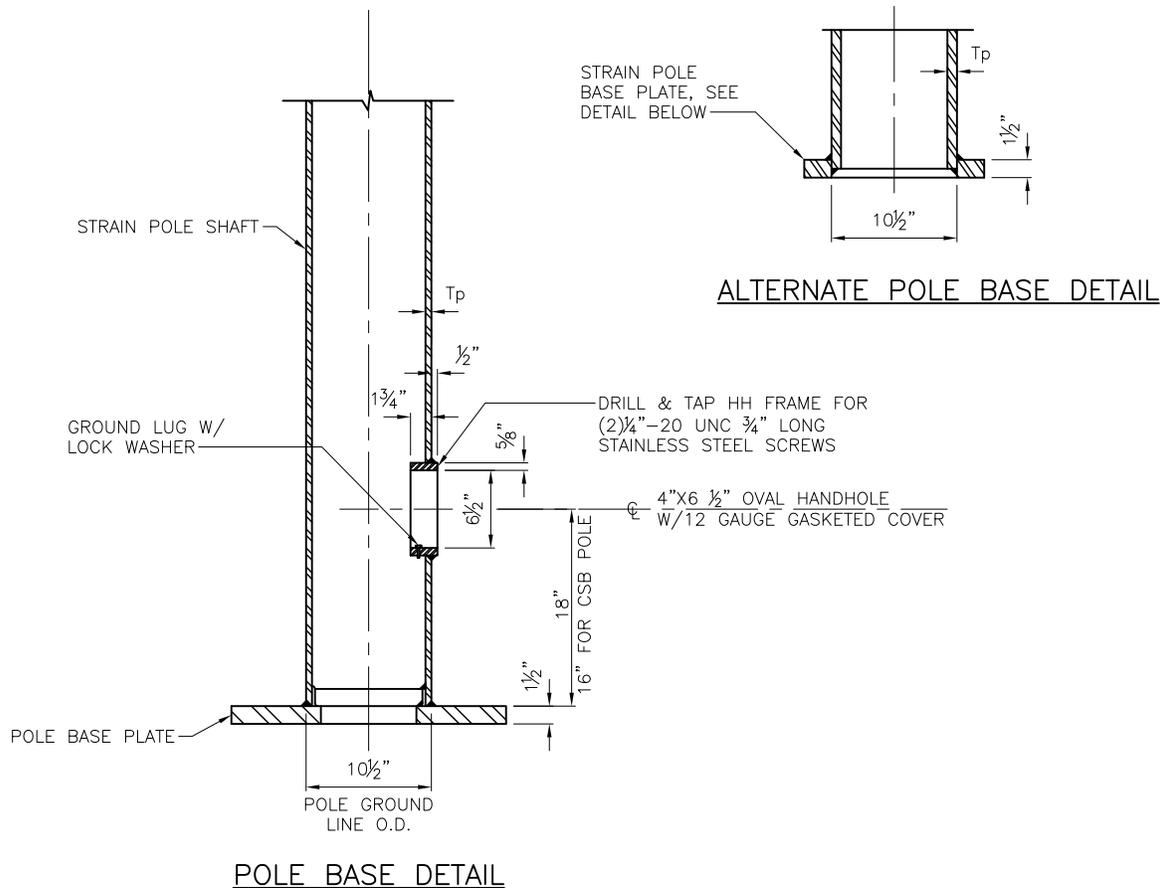
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TYPE T STRAIN POLE DETAILS
TRAFFIC SIGNAL ONLY

NOTES:

1. THE DEAD LOAD MOMENT AT THE GROUNDLINE SHALL BE 40 KIP-FT. THE YIELD MOMENT SHALL BE 2X DEAD LOAD MOMENT.
2. POLE STRENGTH SHALL MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (CURRENT EDITION).
3. POLE SHAFT: ASTM A572 GRADE 50, 60 OR 65 ($F_y=50, 60$ OR 65 KSI RESPECTIVELY), OR ASTM A595 GRADE A OR B ($F_y=55$ OR 60 KSI RESPECTIVELY)
4. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE $F_y \geq 0.65$ POLE SHAFT F_y THE BASE PLATE THICKNESS MAY BE REDUCED BY $\frac{1}{4}$ " IF ASTM A572 GRADE 42 STEEL IS USED.
5. POLE SHAFTS SHALL HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
6. MINIMUM SHAFT WALL THICKNESS OF EACH PLY SHALL BE 0.239" (3 GAUGE). POLE SHALL HAVE A MAXIMUM OF TWO PLYS.
7. MAXIMUM SILICON CONTENT IN STEEL SHALL BE 0.04%. SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
8. POLE DIAMETER FOR 12 OR MORE SIDED POLES SHALL BE MEASURED FROM THE POINT TO POINT DIMENSION.
9. POLES SHALL MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT 27' ABOVE GROUND LINE.
10. THE POLES SHALL BE COMPACT AND MUST MEET THE REQUIREMENTS IN AASHTO SECTION 4, TABLE 1.4 1B(1).



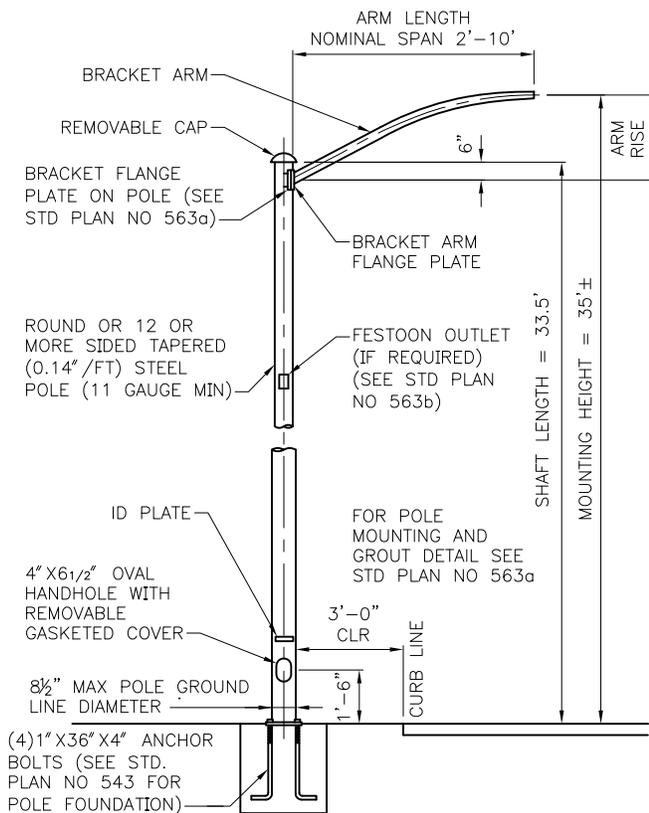
REF STD SPEC SEC 8-32, 9-33



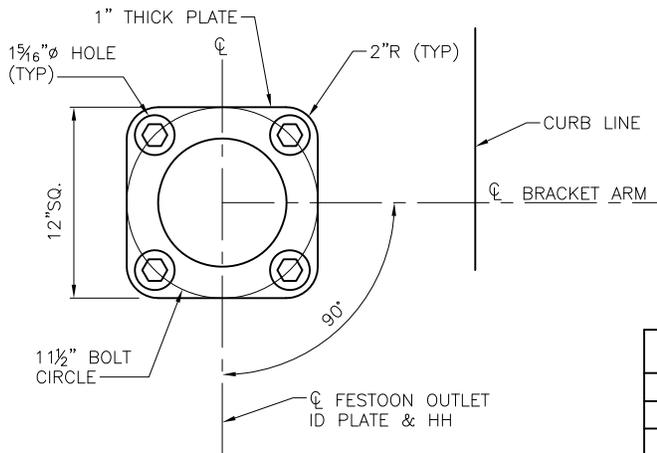
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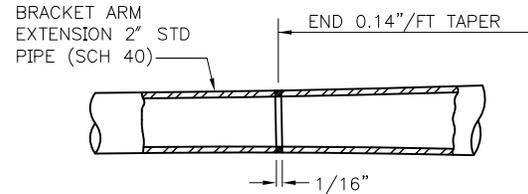
**TYPE T STRAIN POLE DETAILS
TRAFFIC SIGNAL ONLY**



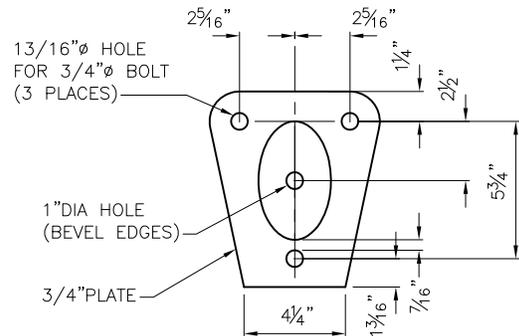
STEEL STREET LIGHT POLE



POLE BASE PLATE

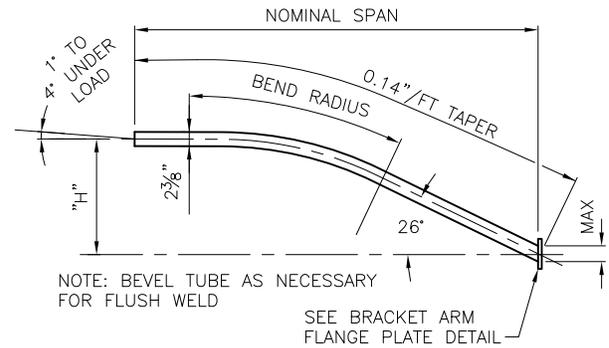


BRACKET ARM EXTENSION IF REQUIRED



NOTE: FLANGE DIMENSIONS AND HOLE LOCATIONS MUST MATCH THOSE ON FLANGE PLATE ON POLE (SEE STD PLAN NO 563a)

BRACKET ARM FLANGE PLATE



2' THRU 10' BRACKET ARMS

NOM SPAN	H*	BEND RADIUS	TUBE REQUIREMENT
2'	5 1/4"	-	2" STD PIPE
4'	12"	6'	11 GAUGE
6'	18"	9'	11 GAUGE
8'	24"	13'	11 GAUGE
10'	30"	15'	11 GAUGE

MATERIAL SPECIFICATION
 PLATE AND SHAPES:
 ASTM A36
 POLE SHAFTS:
 ASTM A570
 GR 40 MIN.
 ANCHOR BOLTS:
 ASTM A307
 BRACKET ARM FLANGE PLATE BOLT: ASTM A325

NOTE:

1. ALL OTHER ARM LENGTHS REQUIRE SCL REVIEW AND APPROVAL

* THESE DIMENSIONS ARE ONLY ILLUSTRATIVE OF THE GENERAL OUTLINE AND MATERIALS USED IN THE CONSTRUCTION OF THESE ARMS AND ARE NOT INTENDED TO EXCLUDE MANUFACTURER'S STANDARD PRODUCTS.

REF STD SPEC SEC 8-32



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STEEL STREET LIGHT POLE WITH BRACKET ARM

