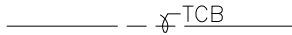


ITEM

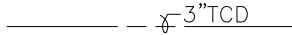
EXISTING

PROPOSED

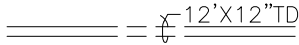
Telephone Cable  
(direct burial)



Telephone Conduit



Telephone Duct



Telephone Enclosure



Telephone Maintenance  
Hole



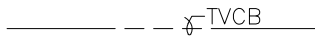
Telephone Pole



Telephone Handhole



Television Cable  
(direct Burial)



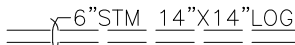
Television Handhole



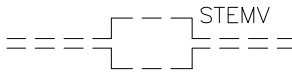
Telegraph Maintenance  
Hole



Steam Log



Steam Vault



Gas Main <1'-0\"/>



Gas Main ≥1'-0\"/>



Gas Valve



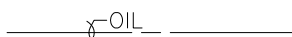
Gas Meter



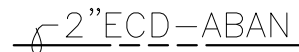
Gas Regulator



Petroleum or Oil



Abandon(ed)



revised

REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS  
PRIVATE UTILITIES

ITEM

details added

EXISTING

PROPOSED

90° Bend w/Conc Blocking

Plug w/Conc Blocking

Tee w/Conc Blocking

Watermain  
<1'-0"Dia

Watermain  
≥1'-0"Dia

11 1/4° Bend

22 1/2° Bend

45° Bend

90° Bend

Cross

Tee

Pipe Sleeve

Plug

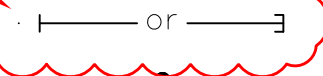
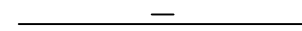
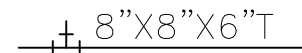
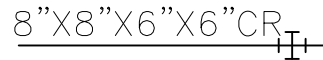
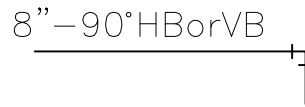
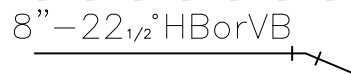
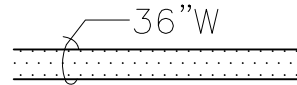
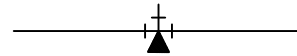
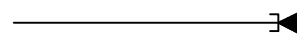
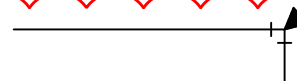
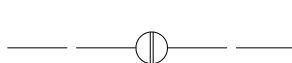
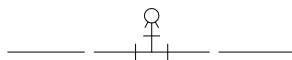
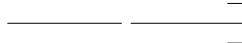
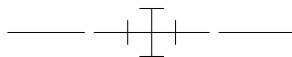
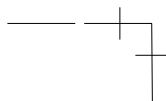
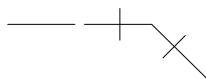
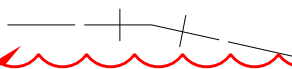
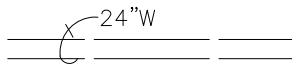
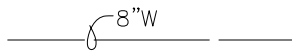
Hydrant

Water Meter

Valve Box

Gate Valve

Gate Valve  
w/ Chamber



revised

revised

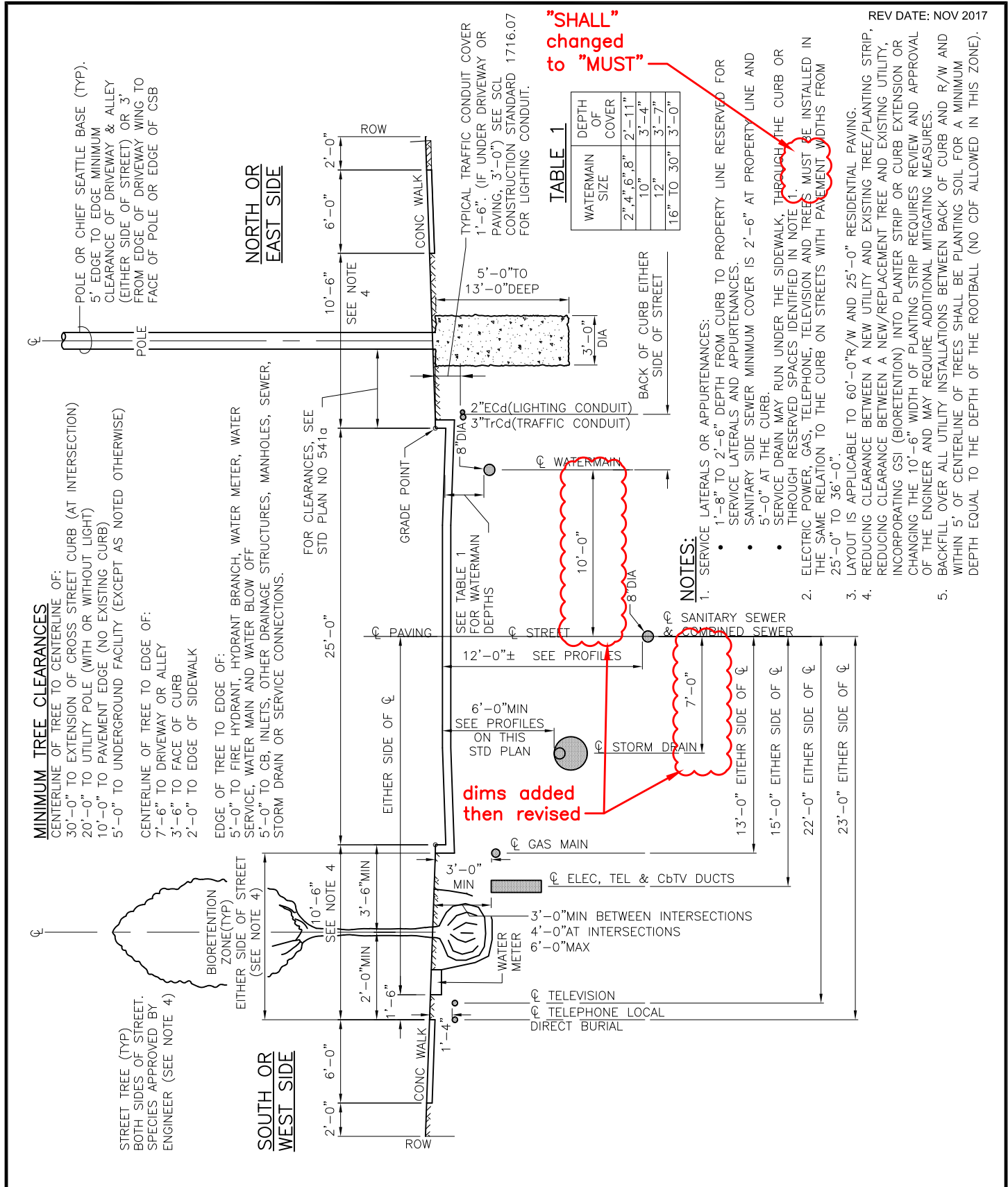
REF STD SPEC SEC



City of Seattle

NOT TO SCALE

STANDARD SYMBOLS  
WATER



REF STD SPEC SEC 1-07.16, 1-07.17 & 1-07.28

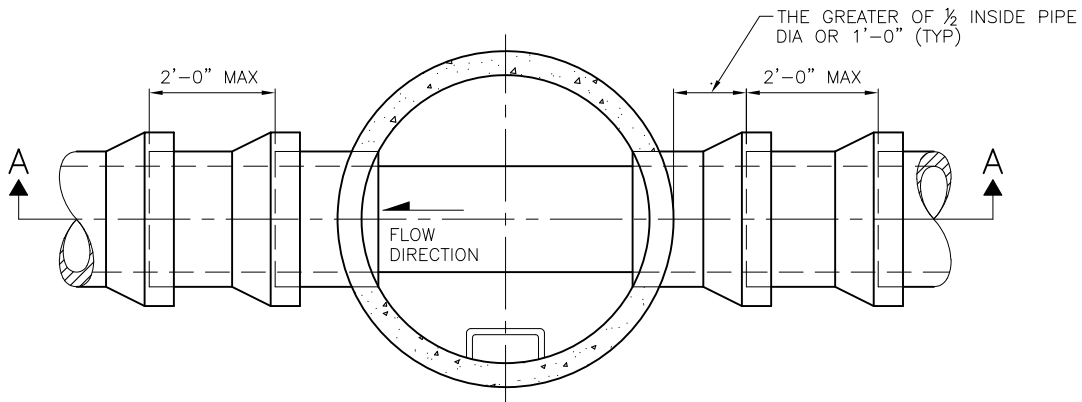


City of Seattle

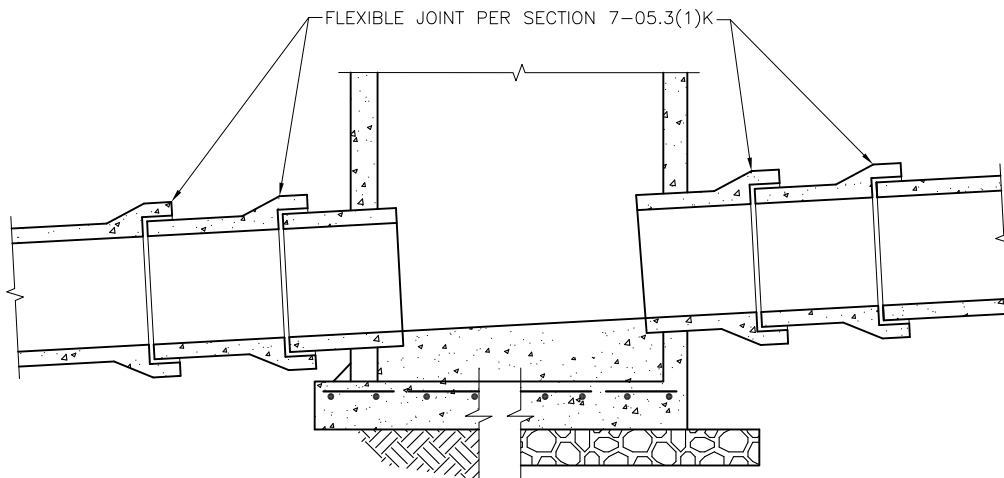
NOT TO SCALE

DESIRABLE LOCATIONS FOR UTILITIES (RESIDENTIAL STREET)

new standard plan



PLAN VIEW  
(TOP REMOVED)



SECTION A-A

NOTES:

- 1. SEE STANDARD PLANS NO 204a THROUGH 212b FOR MAINTENANCE HOLE REQUIREMENTS.

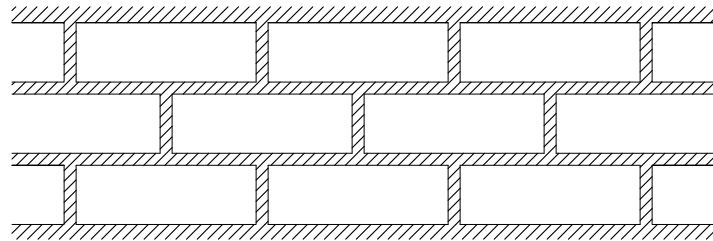
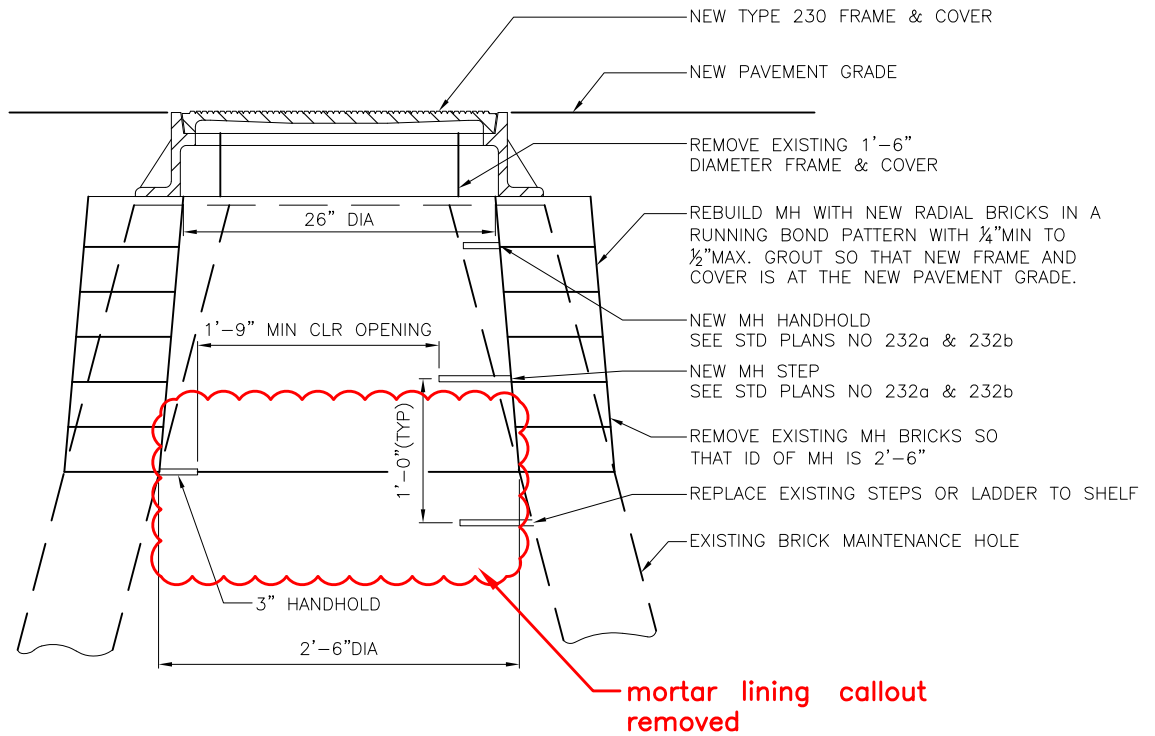
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

FLEXIBLE JOINT FOR VCP  
CONNECTION TO  
MAINTENANCE HOLES



**RUNNING BOND PATTERN**  
GROUT BETWEEN ALL BRICKS

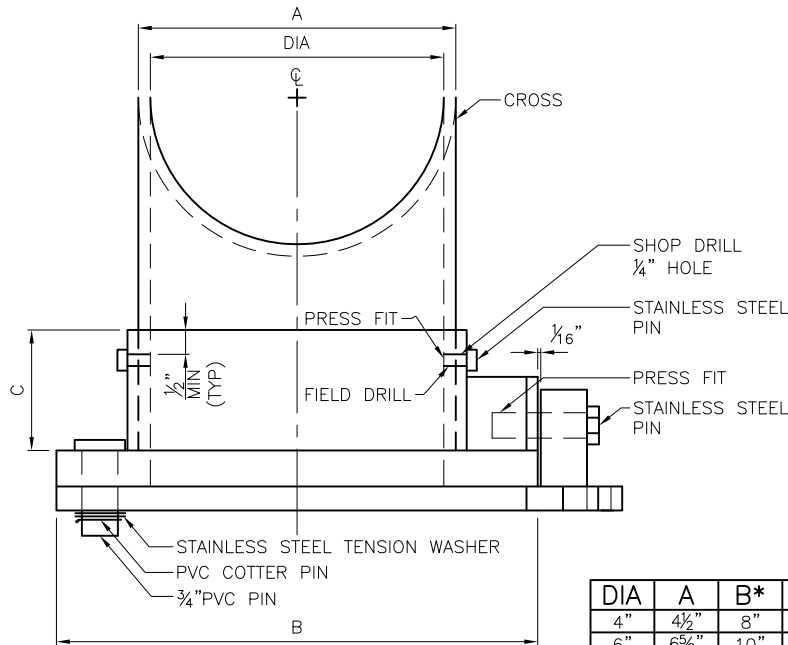
REF STD SPEC SEC 7-05



City of Seattle

NOT TO SCALE

**REBUILD EXISTING  
BRICK MAINTENANCE HOLE**

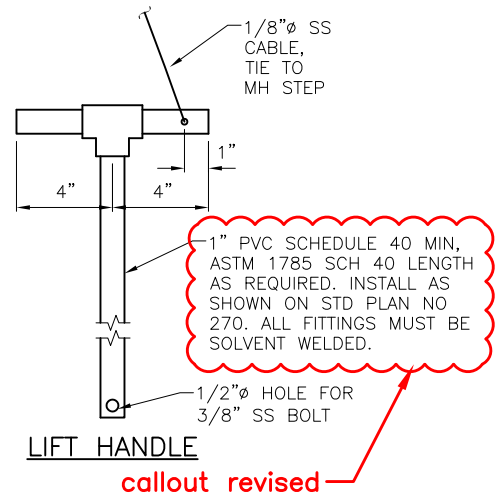


TOP VIEW

DIA	A	B*	C*
4"	4 1/2"	8"	2"
6"	6 5/8"	10"	2 1/2"
8"	8 3/8"	12"	3"
10"	10 3/4"	14"	3"
12"	12 3/4"	16"	3"

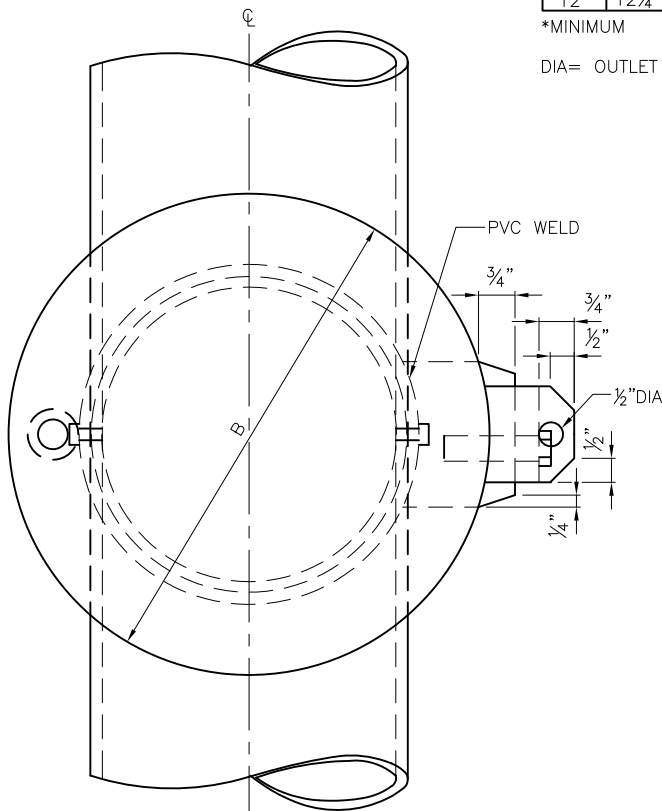
\*MINIMUM

DIA= OUTLET PIPE DIAMETER

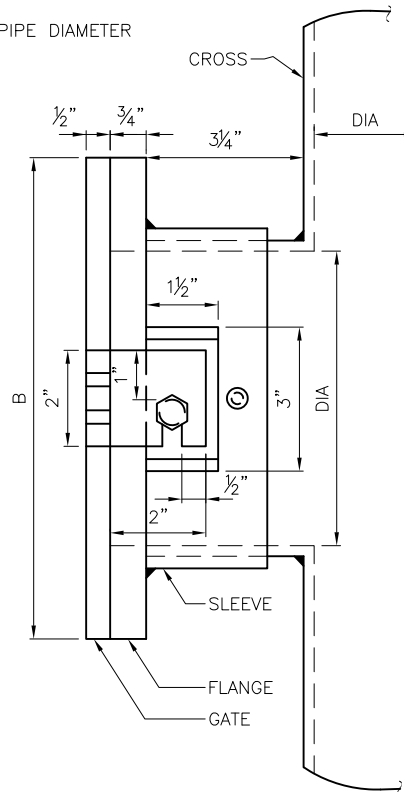


LIFT HANDLE

callout revised



FRONT VIEW



SIDE VIEW

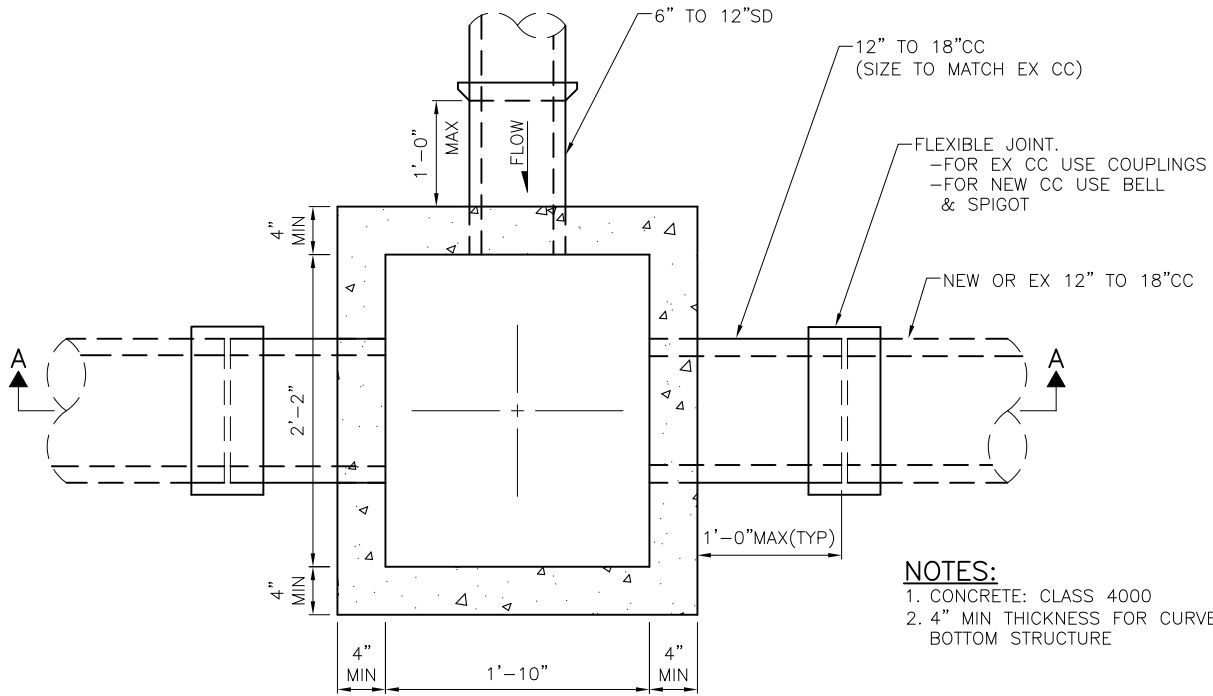
REF STD SPEC SEC 7-16



City of Seattle

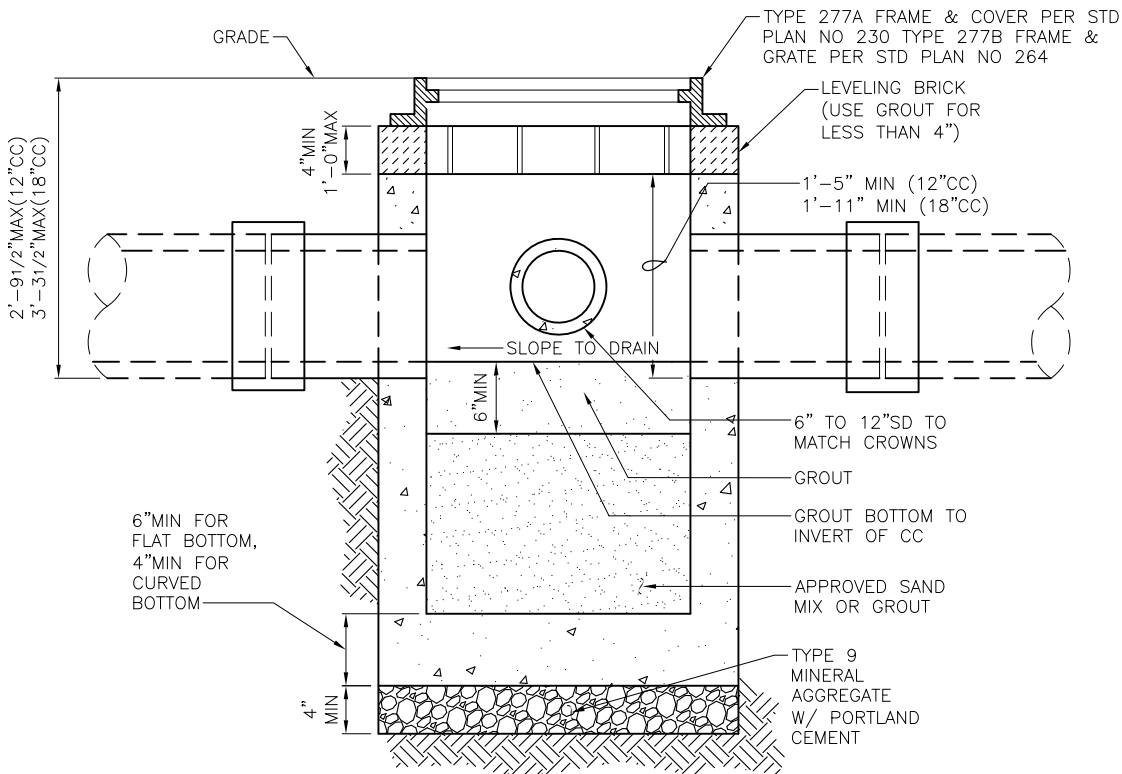
NOT TO SCALE

PVC SHEAR GATE  
FOR USE IN ROW ONLY



- NOTES:**
1. CONCRETE: CLASS 4000
  2. 4" MIN THICKNESS FOR CURVED BOTTOM STRUCTURE

PLAN



SECTION A-A

REF STD SPEC SEC 7-05

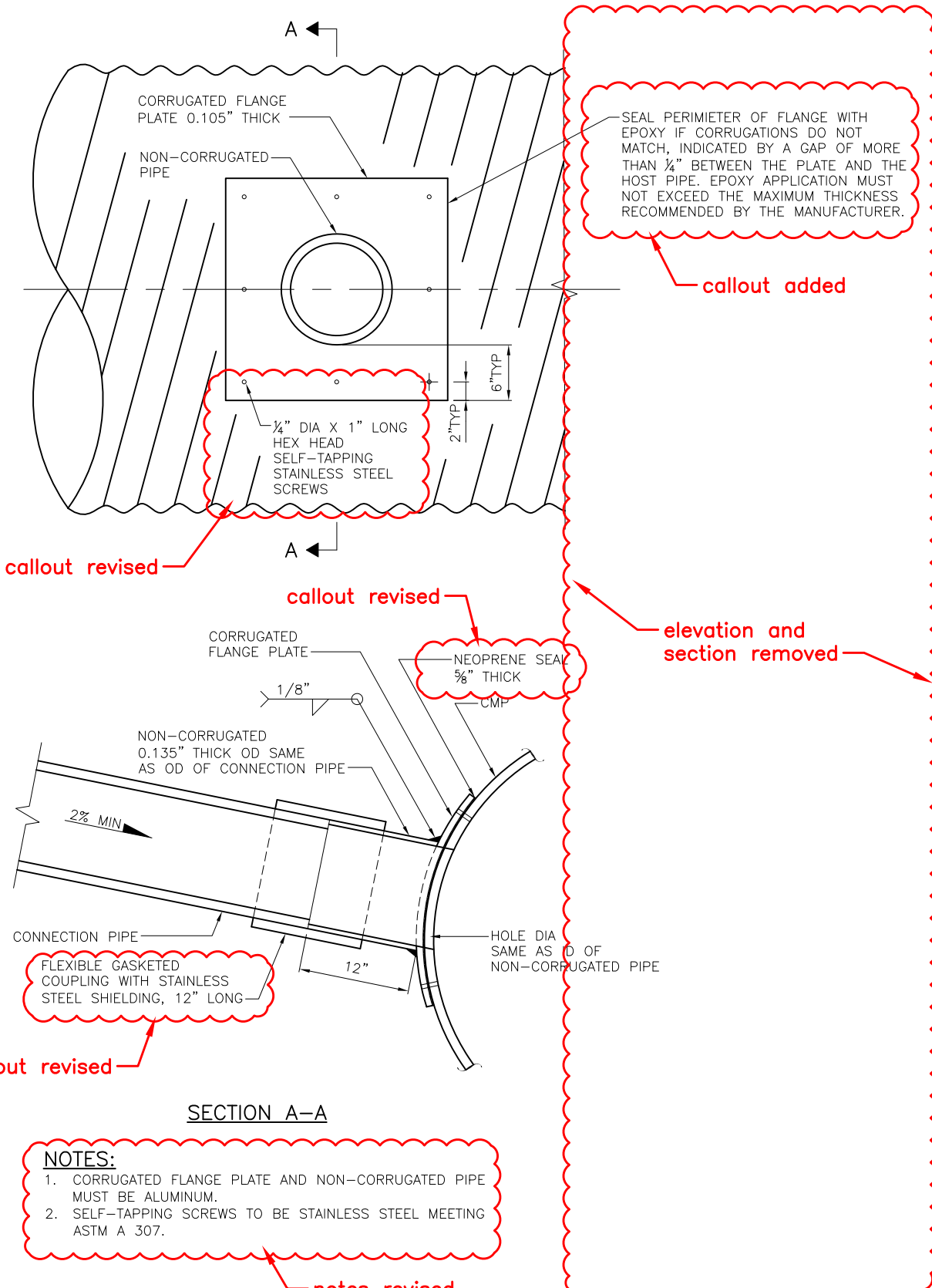
7-02, 9-12.9 revised



City of Seattle

NOT TO SCALE

**TYPE 277 JUNCTION  
BOX & INSTALLATION**



SEAL PERIMETER OF FLANGE WITH EPOXY IF CORRUGATIONS DO NOT MATCH, INDICATED BY A GAP OF MORE THAN 1/4\"/>

callout added

1/4\"/>

callout revised

callout revised

elevation and section removed

NEOPRENE SEAL 3/8\"/>

FLEXIBLE GASKETED COUPLING WITH STAINLESS STEEL SHIELDING, 12\"/>

callout revised

SECTION A-A

- NOTES:**
1. CORRUGATED FLANGE PLATE AND NON-CORRUGATED PIPE MUST BE ALUMINIUM.
  2. SELF-TAPPING SCREWS TO BE STAINLESS STEEL MEETING ASTM A 307.

notes revised

REF STD SPEC SEC 7-17 & 7-16.2

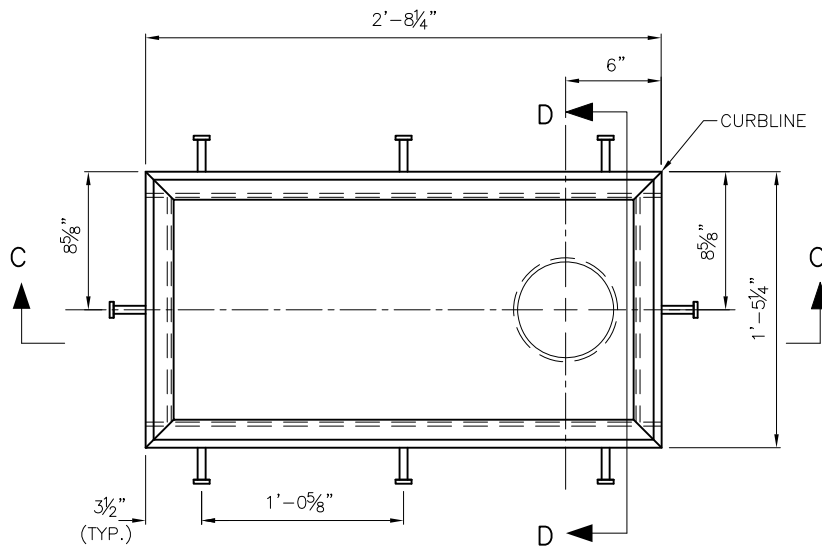


City of Seattle

NOT TO SCALE

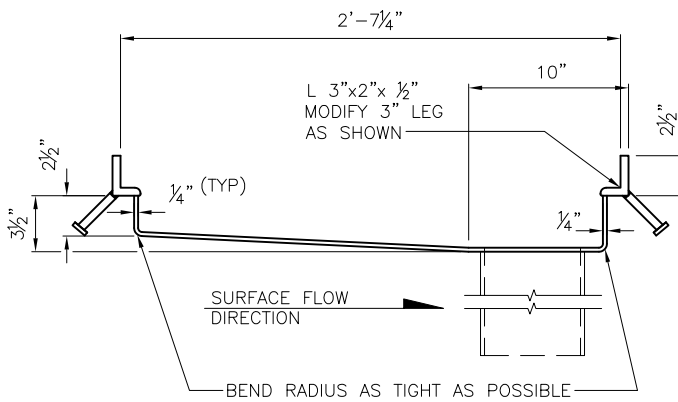
TEE INSTALLATION  
CORRUGATED METAL PIPE



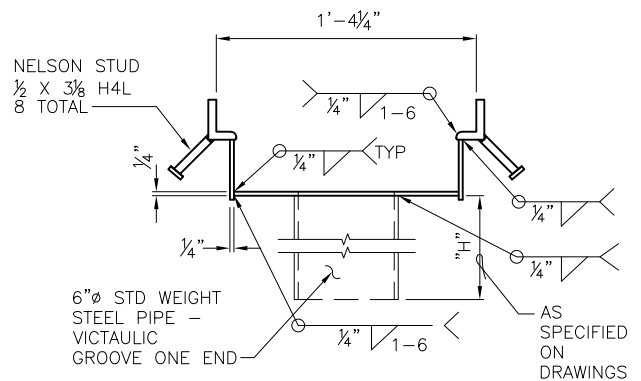


PLAN VIEW - BRIDGE DRAIN

SURFACE FLOW DIRECTION →



SECTION C-C



SECTION D-D

NOTES:

1. ALL 1/4" STEEL & L3"x 2"x 1/2" TO BE A-36.
2. 6" PIPE TO BE STANDARD WEIGHT STEEL.
3. AFTER FABRICATION, DRAIN ASSEMBLY TO BE HOT DIP GALVANIZED.
4. VANED GRATE TO BE PER STD PLAN NO 265.

REF STD SPEC SEC 6-01, 7-05

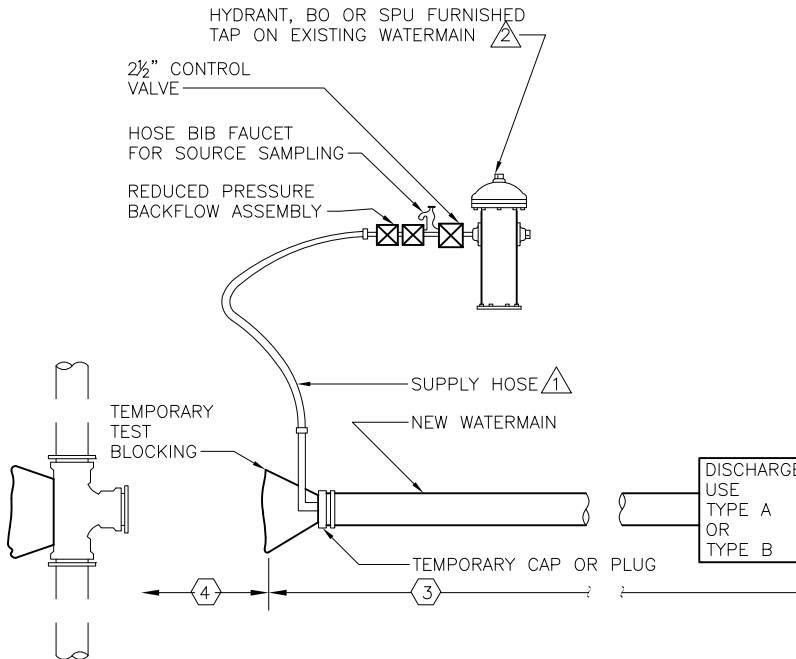
6-02 removed



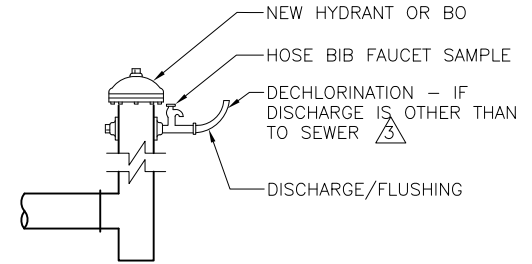
City of Seattle

NOT TO SCALE

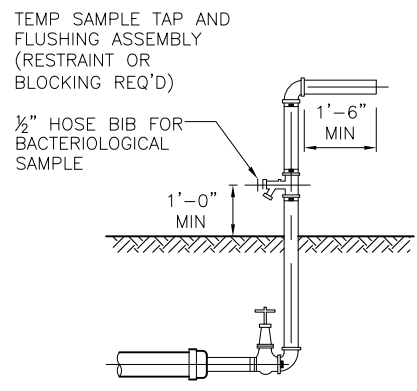
BRIDGE DRAIN



**DETAIL 1**  
TEMPORARY FLUSHING/TESTING CONN



**TYPE A**



**TYPE B**

**NOTES:**

1. ALL FITTINGS MUST BE DUCTILE IRON
2. ALL EXCAVATION MUST PROVIDE A MINIMUM OF 1'-0" CLEAR AROUND PIPE AND FITTINGS.
3. THESE PLANS ARE FOR DIP AND CIP WATERMAINS 12" OR SMALLER DIA OTHER SIZES AND TYPES SEE PROJECT DRAWINGS
4. REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) MUST BE INSTALLED AS A UNIT (TWO SHUT-OFF VALVES, RELIEF PORT, TWO CHECK VALVES AND FOUR TEST COCKS). WHEN RPBA IS CONNECTED TO HYDRANT AND THE HOSE BIB FAUCET SAMPLE THEY MUST BE CAPPED WHEN NOT IN USE. ASSEMBLY MUST BE TESTED WHEN INSTALLED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER (BAT) AND A CURRENT TEST REPORT MUST BE ON SITE. FOR INSTALLATION PROCEDURES CALL 684-3536.
5. ALL FITTINGS AND MATERIALS FURNISHED BY CONTRACTOR AND TO BE INSTALLED BY SPU MUST BE VERIFIED, INSPECTED AND ON THE JOB SITE PRIOR TO SHUTDOWN OF EXISTING MAIN. FAILURE TO MEET THIS REQUIREMENT COULD RESULT IN DELAYS.

**LEGEND**

- ① CLEAN & DISINFECTED POTABLE WATER HOSE ONLY. SIZE FLUSHING RISER PER TABLE IN STD SPEC SEC 7-11.3(12)
- ② HYDRANT PERMIT REQUIRED
- ③ CHECK WITH SEWER UTILITY BEFORE DISCHARGE TO SEWERS
- ④ CONTRACTOR TO DETERMINE ALIGNMENT, GRADE AND OUTSIDE DIAMETER OF EXISTING PIPE PRIOR TO INSTALLING NEW WATERMAIN. ENGINEER TO DETERMINE OUTSIDE DIAMETER OF EXISTING PIPE WHEN CONTRACTOR EXCAVATES TO DETERMINE ALIGNMENT & GRADE.
- ⑤ ALL EXCAVATION, PIPE, FITTINGS (EXCEPT AS NOTED BELOW), OTHER MATERIAL, BEDDING, BACKFILL, COMPACTION & STREET RESTORATION BY CONTRACTOR. ALL MATERIALS MUST BE ON JOB SITE PRIOR TO SHUTDOWN OF EXISTING MAIN.
- ⑥ INSTALLED BY CONTRACTOR
- ⑦ CONNECTION PIPE: CONTRACTOR FURNISHED, INSTALLED BY SPU
- ⑧ WATERMAIN WITH PLAIN ENDS
- ⑨ MECHANICAL JOINT SLEEVE WITH SPACER CUT TO FIT GAP, FURNISHED AND INSERTED AT TIME OF CONNECTION BY SPU
- ⑩ TAPPING SLEEVE & TAPPING VALVE FURNISHED AND INSTALLED BY SPU
- ⑪ APPLIES TO PIPES 4" THROUGH 12". ALL LARGER SIZES TO BE ADDRESSED ON DRAWINGS
- ⑫ MECHANICAL JOINT SLEEVE, FURNISHED BY CONTRACTOR AND INSTALLED BY SPU, SPACERS BY SPU WHERE REQUIRED.

REF STD SPEC SEC 7-11

revised



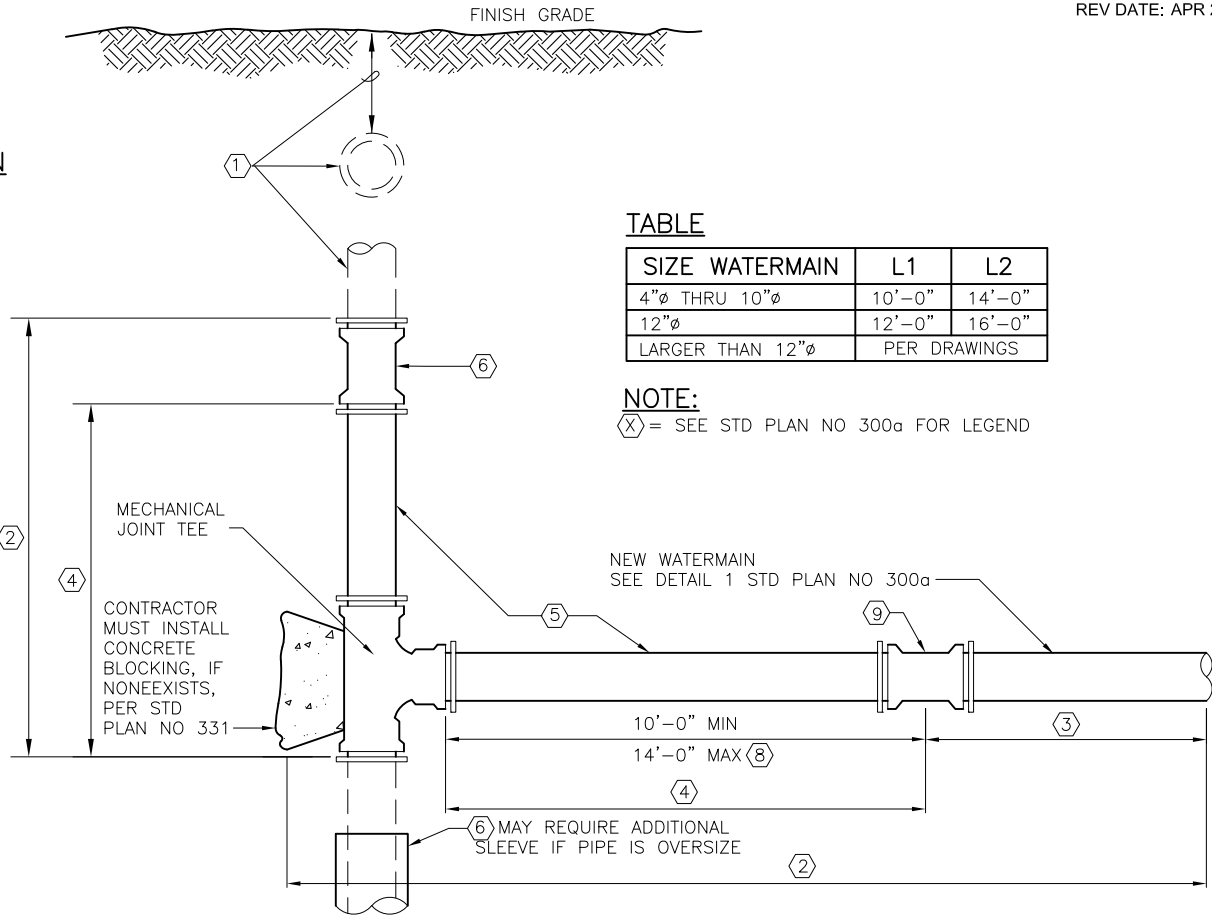
City of Seattle

NOT TO SCALE

CONNECTIONS TO EXISTING WATERMAINS

ELEVATION

PLAN



TABLE

SIZE WATERMAIN	L1	L2
4"φ THRU 10"φ	10'-0"	14'-0"
12"φ	12'-0"	16'-0"
LARGER THAN 12"φ	PER DRAWINGS	

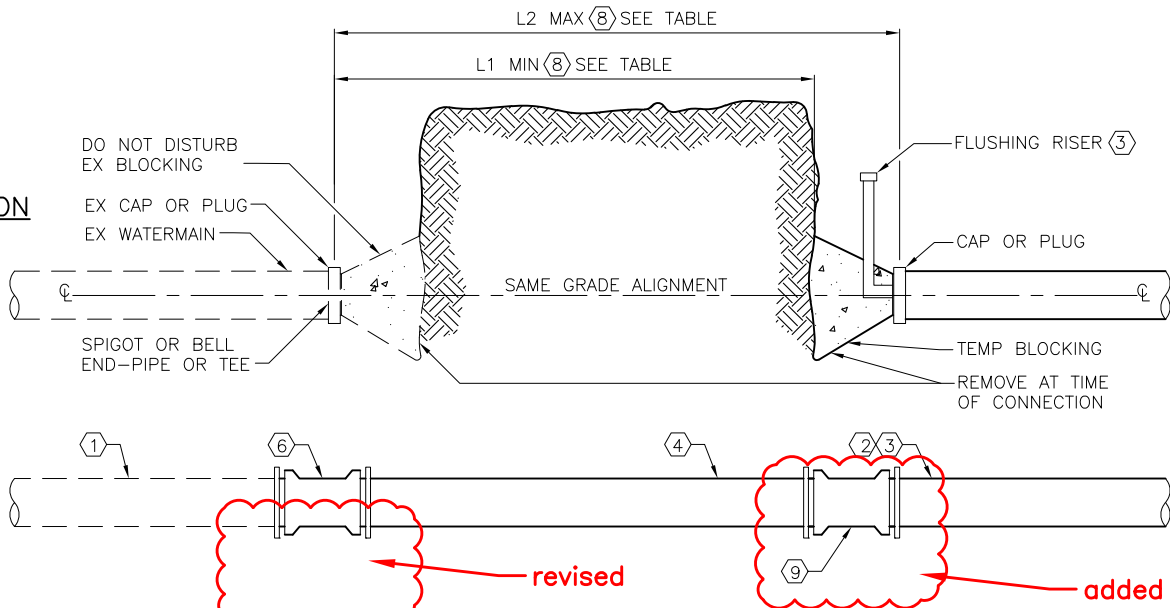
NOTE:

(X) = SEE STD PLAN NO 300a FOR LEGEND

CONNECTIONS TO EXISTING MAIN, WITH A NEW TEE OR CROSS  
(CUT IN NEW TEE)

ELEVATION

PLAN



CONNECTIONS TO EXISTING MAIN, STUB  
OR END OUTLET OF TEE OR CROSS

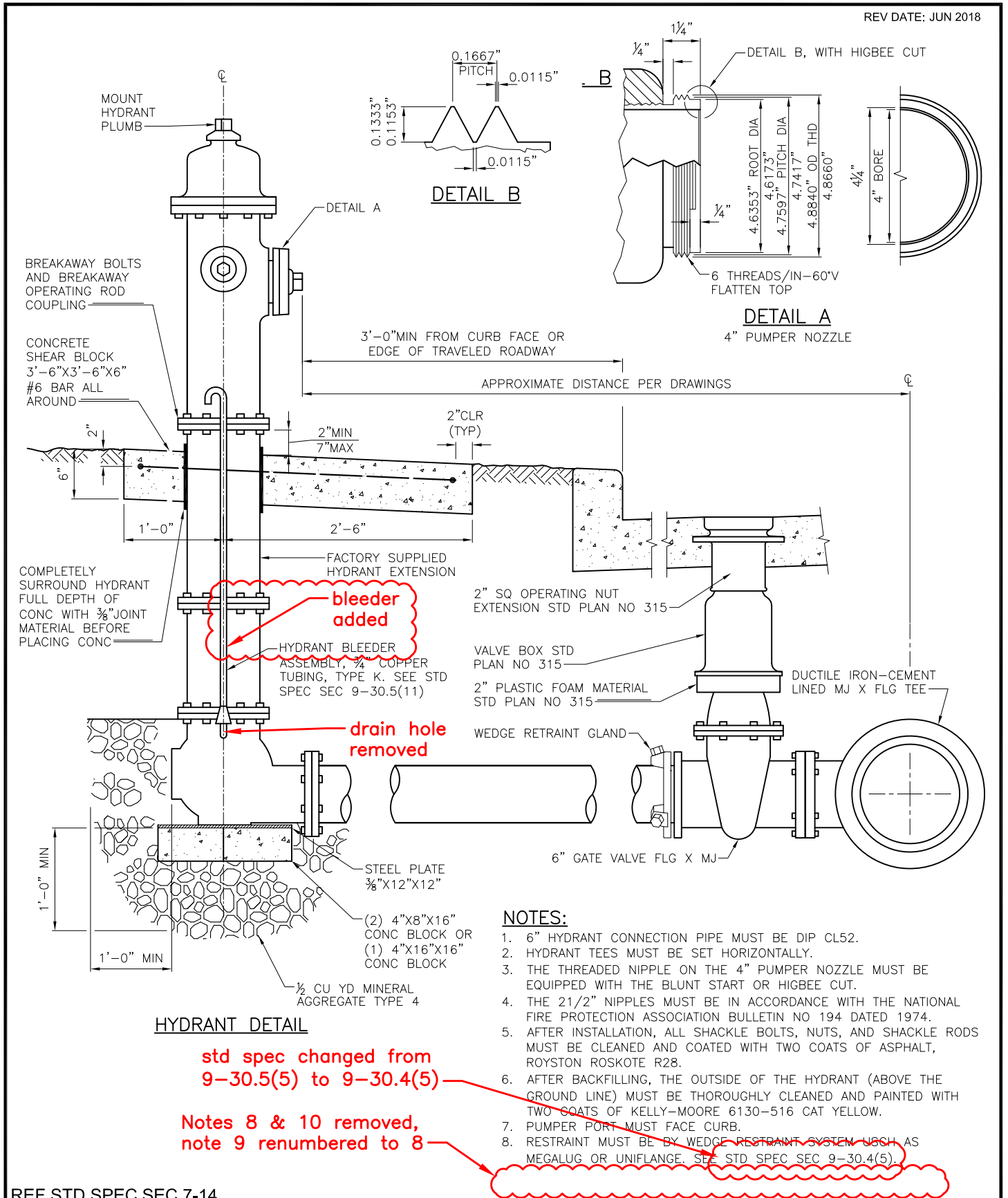
REF STD SPEC SEC 7-11



City of Seattle

NOT TO SCALE

CONNECTIONS TO EXISTING WATERMANS



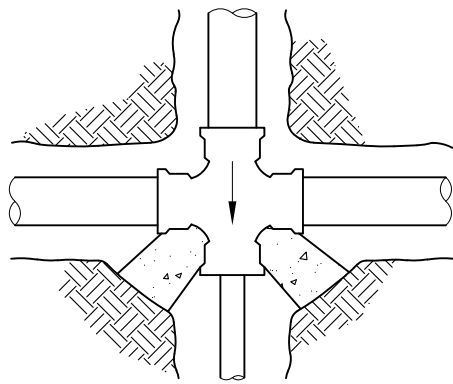
REF STD SPEC SEC 7-14



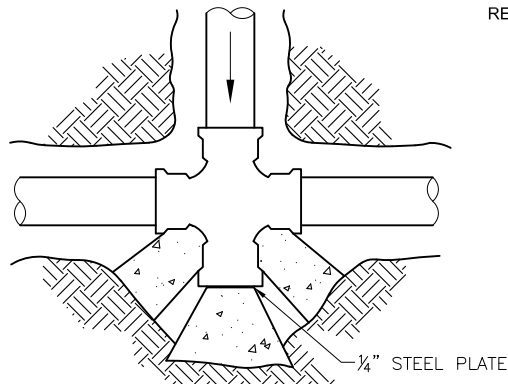
City of Seattle

NOT TO SCALE

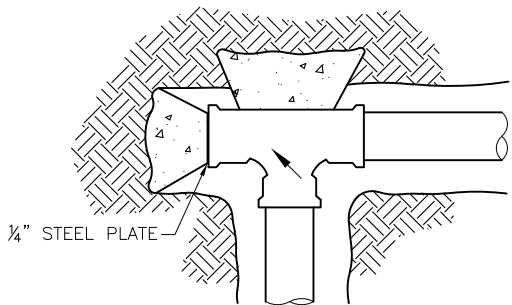
TYPE 311 HYDRANT SETTING  
DETAIL



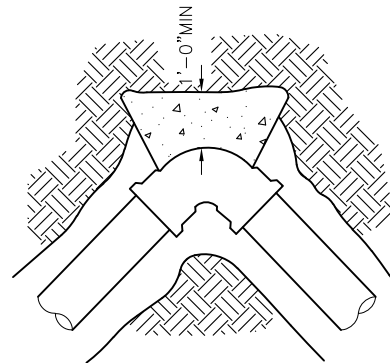
UNBALANCED CROSS



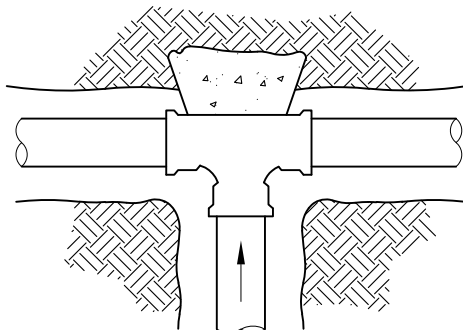
CROSS WITH PLUG



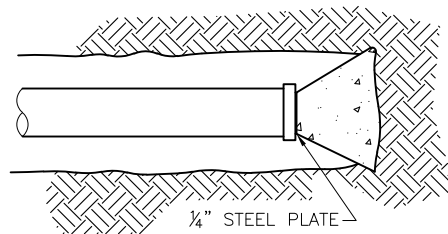
PLUGGED TEE



HORIZONTAL BEND



TEE



PIPE & CAP

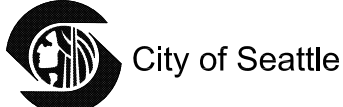
**THRUST BLOCK AREA IN SQUARE FEET (SEE STD PLAN NO 331B)**

PIPE SIZE	FIRM SILT OR FIRM SILTY SAND				COMPACT SAND				COMPACT SAND & GRAVEL			
	90° BEND	TEE	45° BEND CAP OR PLUG	11¼° & 22½° BEND	90° BEND	TEE	45° BEND CAP OR PLUG	11¼° & 22½° BEND	90° BEND	TEE	45° BEND CAP OR PLUG	11¼° & 22½° BEND
4"	7.0	4.2	4.2	1.7	2.9	2.1	2.1	1.0	2.2	1.6	1.6	1.0
6"	13.3	9.4	9.4	3.8	6.7	4.7	4.7	1.9	5.0	3.5	3.5	1.4
8"	23.3	16.7	16.7	6.7	11.7	8.4	8.4	3.4	8.8	6.3	6.3	2.5
12"	53.0	37.5	37.5	15.0	26.5	18.8	18.8	7.5	20.0	14.0	14.0	5.6

AREAS CALCULATED ON 300 PSI TEST PRESSURE AND 3'-0" MIN COVER OVER WATERMAIN

ECOLOGY BLOCKS, PER STD PLAN NO 460, MAY BE USED, AT THE DISCRETION OF THE ENGINEER ONLY, IN LIEU OF POURED-IN-PLACE BLOCKING FOR FITTINGS IN HEAVY OUTLINED PORTION OF TABLE. ECOLOGY BLOCKS USED FOR THRUST BLOCKING AT TEES MUST TRANSFER LOAD TO THE PIPE BODY PER SPEC SECTION 7-11.3(13).

REF STD SPEC SEC 7-11



NOT TO SCALE

**WATERMAIN THRUST BLOCKING HORIZONTAL FITTINGS**

