

Waste Water Standard Details Index

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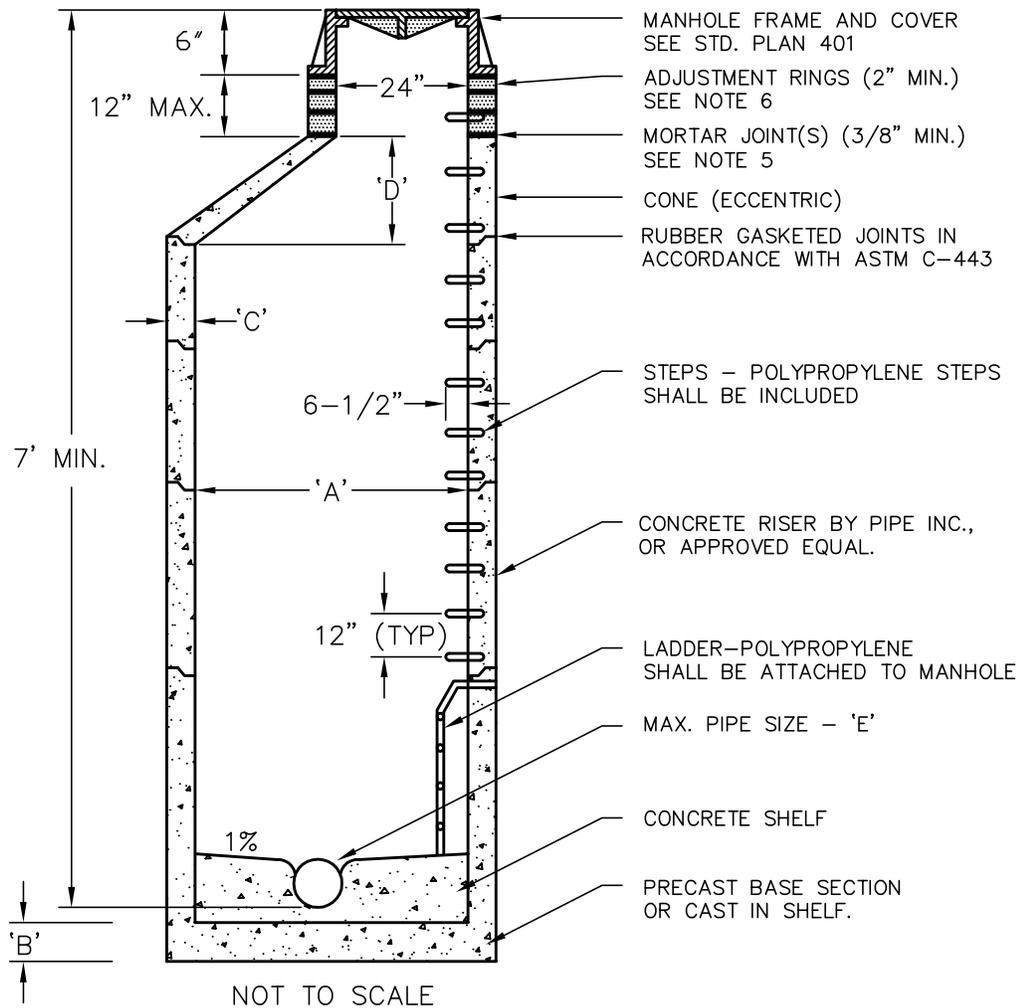
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410 – Air Test Table (Low Pressure) For Sanitary Sewers



	'A'	'B'	'C'	'D'	'E'
48" MH	48"	6" MIN.	5" MIN.	24" MIN.	21" I.D.
54" MH	54"	8" MIN.	5.5" MIN.	24" MIN.	24" I.D.
60" MH	60"	8" MIN.	6" MIN.	42" MIN.	30" I.D.

NOTES:

1. STEPS TO BE POLYPROPYLENE SAFETY STEPS.
2. STEPS ARE TO BE IN PLACE BEFORE MANHOLE SECTIONS ARE INSTALLED.
3. CASTING SHALL BE PER STD. PLAN 401.
4. MANHOLE SECTIONS TO BE OF REINFORCED PRECAST CONCRETE.
5. ALL JOINTS BETWEEN THE CONE, RISER RINGS, BRICKS AND CASTING SHALL BE GROUTED.
6. ADJUSTMENT OF THE CASTING TO GRADE SHALL BE ACCOMPLISHED WITH A COMBINATION OF ADJUSTMENT RINGS, BRICKS AND MORTAR ONLY. BRICKS SHALL BE STAGGERED TO CREATE A RUNNING BOND OR 1/2 BOND. THE USE OF SHIMS IS PROHIBITED.
7. SANITARY SEWER MANHOLES SHALL HAVE ALL INTERIOR SURFACES, INCLUDING CHANNELING, COATED (SEALED) WITH A HIGH SOLIDS URETHANE COATING; WASSER MC-AROSHIELD OR APPROVED EQUAL; COLOR OF COATING SHALL BE WHITE.
8. RUBBER GASKETED JOINTS SHALL BE IN CONFORMANCE WITH ASTM C-443.
9. CHANNEL HEIGHT SHALL BE A MINIMUM OF 3/4 OF THE INSIDE DIAMETER OF THE LARGEST PIPE.
10. CONNECTIONS TO MANHOLE SHALL BE MADE USING GPK ADAPTOR, KOR-N-SEAL BOOTS OR APPROVED EQUAL.
11. IN UNIMPROVED AREAS, MANHOLES SHALL EXTEND A MINIMUM OF 6" AND A MAXIMUM OF 12" ABOVE FINISHED GRADE OR MUST HAVE A MINIMUM 2' DIAMETER CONCRETE RINGS POURED AT GRADE. IN PAVED AREAS, COVER MUST SLOPE IN ALL DIRECTIONS TO MATCH PAVING.

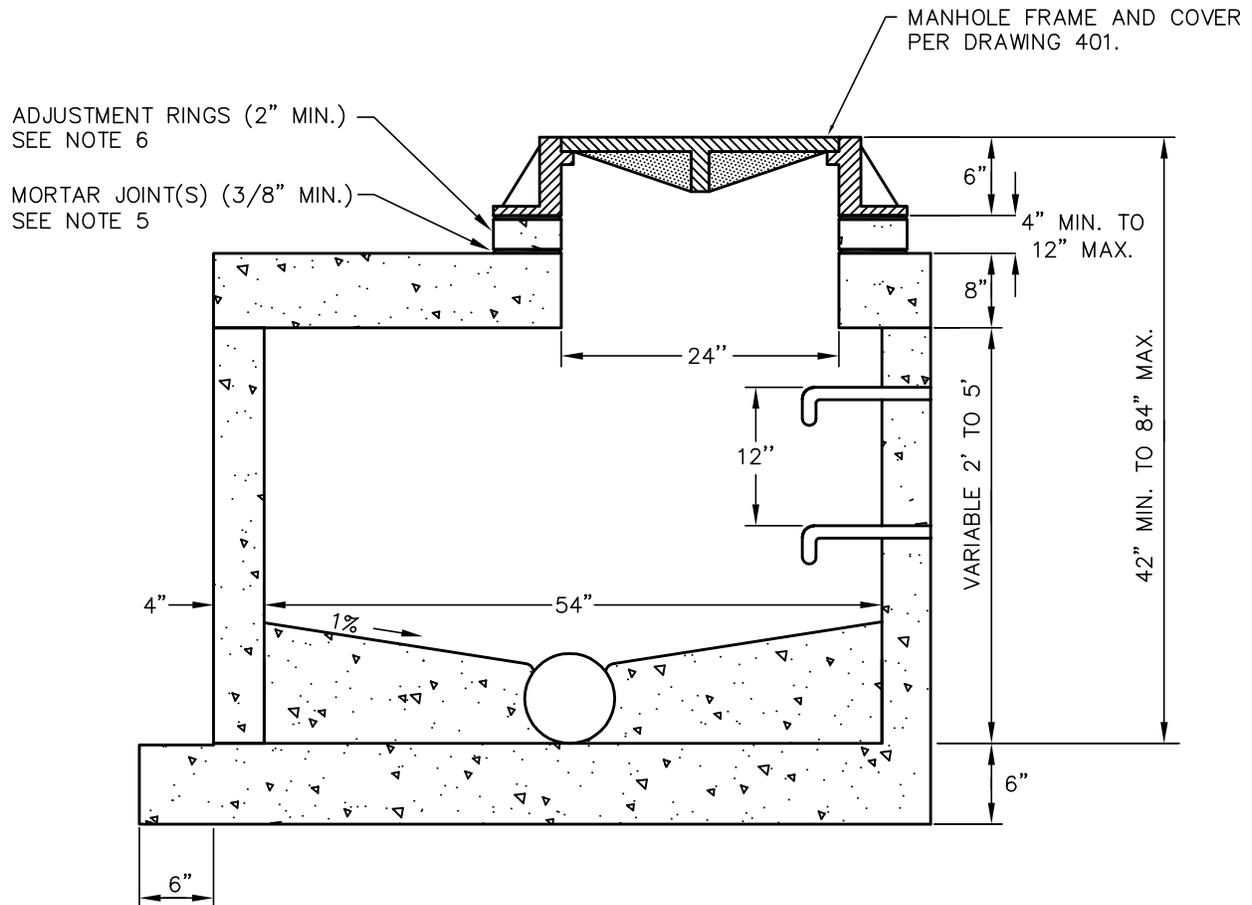


PUBLIC WORKS
DEPARTMENT

STANDARD SANITARY MANHOLE

STD. PLAN - 400.1

SEPTEMBER 2011



NOTES:

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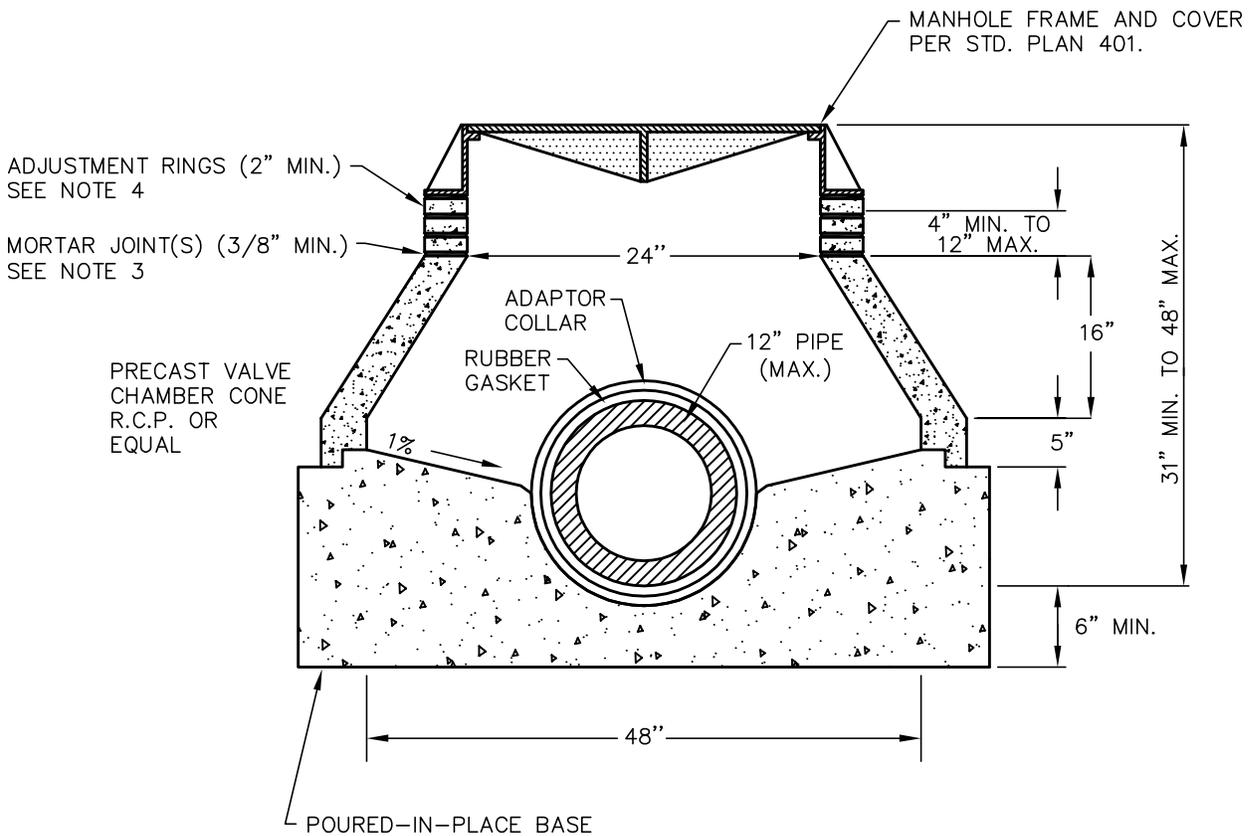


PUBLIC WORKS
DEPARTMENT

**SANITARY MANHOLE
SHALLOW**

STD. PLAN - 400.2

SEPTEMBER 2011



NOTES:

1. CASTING SHALL BE PER STD. PLAN 401.
2. CONE SECTION TO BE OF REINFORCED PRECAST CONCRETE.
3. ALL JOINTS BETWEEN THE CONE, RISER RINGS, BRICKS AND CASTING SHALL BE GROUTED.
4. ADJUSTMENT OF THE CASTING TO GRADE SHALL BE ACCOMPLISHED WITH A COMBINATION OF ADJUSTMENT RINGS, BRICKS AND MORTAR ONLY. BRICKS SHALL BE STAGGERED TO CREATE A RUNNING BOND OR 1/2 BOND. THE USE OF SHIMS IS PROHIBITED.
5. SANITARY SEWER MANHOLES SHALL HAVE ALL INTERIOR SURFACES, INCLUDING CHANNELING, COATED (SEALED) WITH A HIGH SOLIDS URETHANE COATING; WASSER MC-AROSHIELD OR APPROVED EQUAL; COLOR OF COATING SHALL BE WHITE.
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7. CHANNEL HEIGHT SHALL BE A MINIMUM OF 3/4 THE INSIDE DIAMETER OF THE LARGEST PIPE.
8. CONNECTIONS TO MANHOLE SHALL BE MADE USING GPK ADAPTOR, KOR-N-SEAL BOOTS OR APPROVED EQUAL.
9. IN UNIMPROVED AREAS, MANHOLES SHALL EXTEND A MINIMUM OF 6" AND A MAXIMUM OF 12" ABOVE FINISHED GRADE OR MUST HAVE A MINIMUM 2' DIAMETER CONCRETE RINGS POURED AT GRADE. IN PAVED AREAS, COVER MUST SLOPE IN ALL DIRECTIONS TO MATCH PAVING.

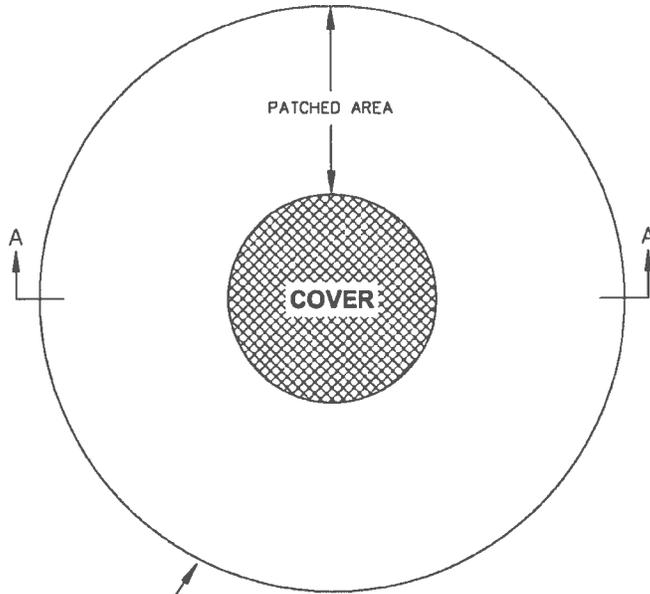


PUBLIC WORKS
DEPARTMENT

**SANITARY MANHOLE
EXTRA SHALLOW**

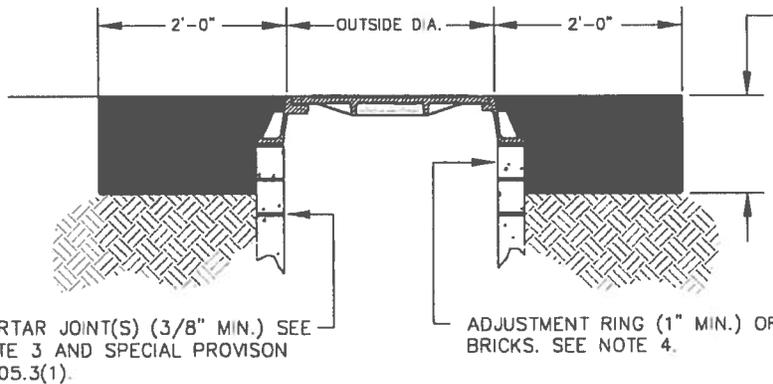
STD. PLAN - 400.3

SEPTEMBER 2011



SEAL WITH AR 4000 OR APPROVED
EQUAL AND DRY SAND AFTER
PATCHING

PLAN
NTS



SECTION A-A

NOTES

1. REMOVE PAVEMENT AND BASE MATERIALS FOR A DISTANCE WHICH IS EQUAL TO THE DIAMETER OF THE FRAME PLUS FOUR FEET. ADJUST CASTING FRAME TO PAVEMENT SURFACE USING RISER RINGS OR CONCRETE BLOCKS PER STD. PLAN 400.1.
2. REPLACE EXCAVATED MATERIAL WITH A MINIMUM OF 8" OF CLASS "B" ASPHALT OR TO A DEPTH THAT IS 2" BELOW THE BOTTOM OF THE UPPER ADJUSTMENT RING WHICHEVER IS GREATER OR AS APPROVED BY THE ENGINEER.
3. ALL JOINTS BETWEEN THE CONE, ADJUSTMENT RINGS, BRICKS AND FRAME SHALL BE GROUTED.
4. ADJUSTMENT OF THE FRAME TO GRADE SHALL BE ACCOMPLISHED WITH A COMBINATION OF ADJUSTMENT RINGS, BRICKS AND MORTAR ONLY. BRICKS SHALL BE STAGGERED TO CREATE A RUNNING BOND OR 1/2 BOND. THE USE OF SHIMS IS PROHIBITED.



PUBLIC WORKS
DEPARTMENT

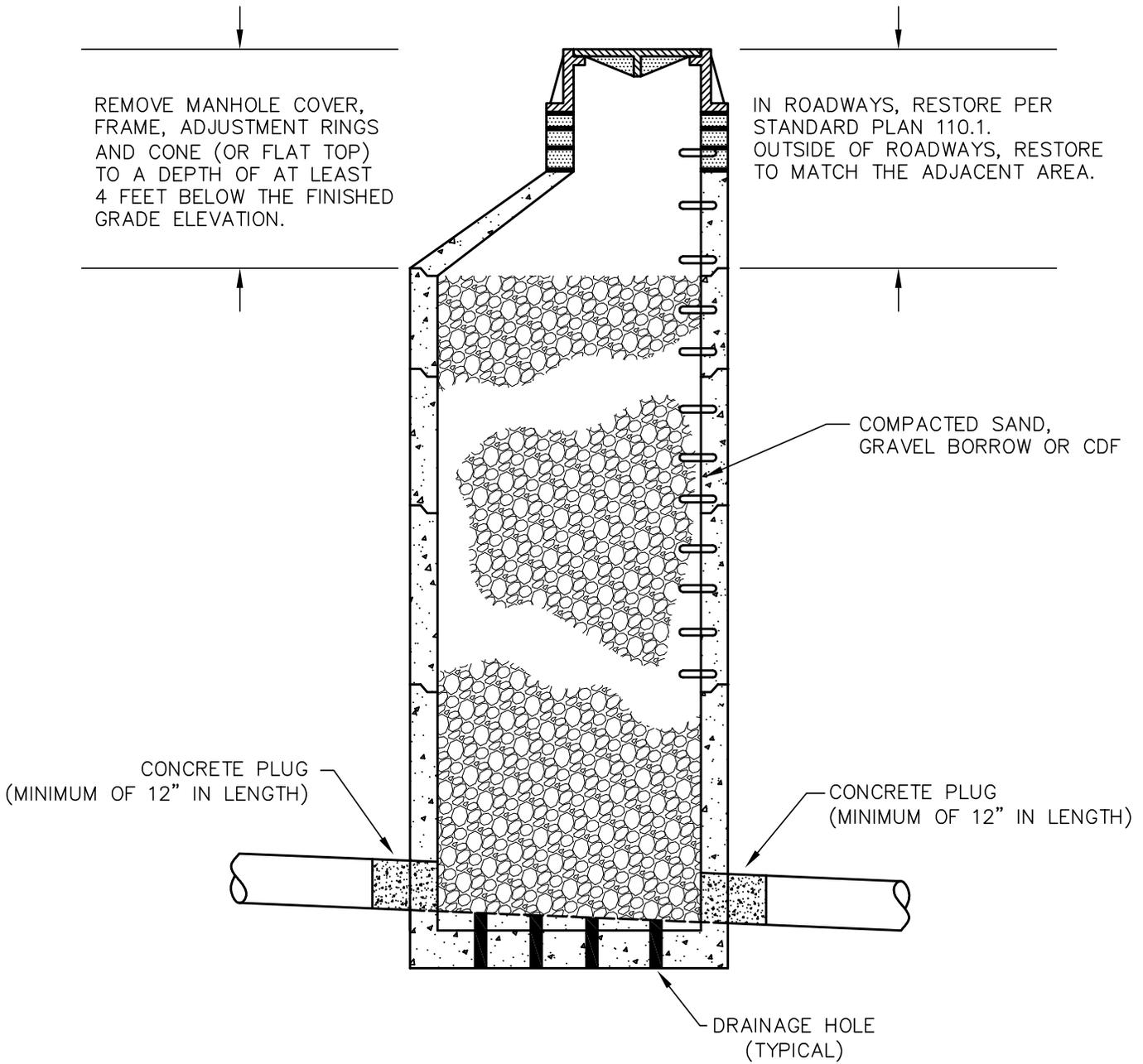
**TYPICAL UTILITY COVER
ADJUSTMENT FOR
PAVEMENT OR OVERLAY**

STD. PLAN -- 400.4

APPROVED:

Gregg Zimmerman
Gregg Zimmerman
Public Works Administrator

4/29/15
DATE



NOTES:

1. DRILL A MINIMUM OF 4 - 2" DRAINAGE HOLES IN THE BOTTOM OF THE MANHOLE.
2. PLUG ALL INCOMING AND OUTGOING PIPES WITH CONCRETE.
3. FILL THE MANHOLE WITH COMPACTED SAND, GRAVEL BORROW (SECTION 9-03.14(1)) OR CDF.
4. DEBRIS FROM BREAKING THE UPPER PORTION OF THE MANHOLE MAY BE MIXED WITH THE FILL MATERIAL SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. THE FRAME AND COVER SHALL BE SALVAGED AND ALL OTHER MATERIAL DISPOSED OF.

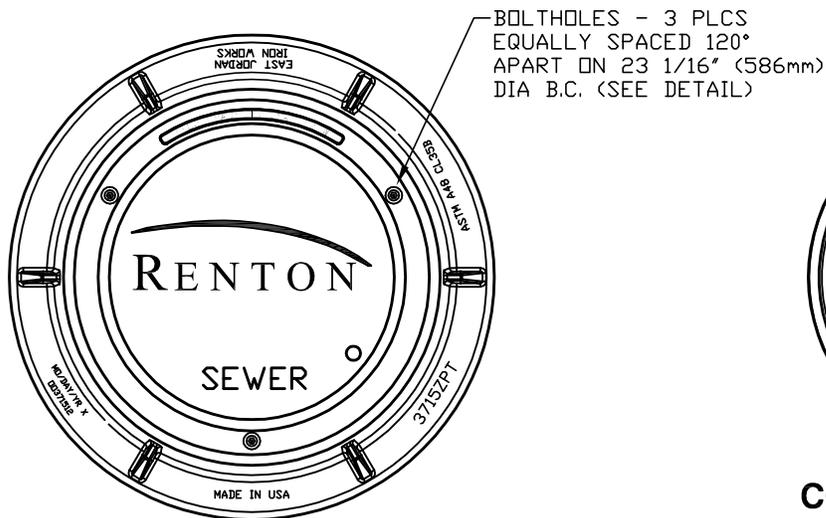


PUBLIC WORKS
DEPARTMENT

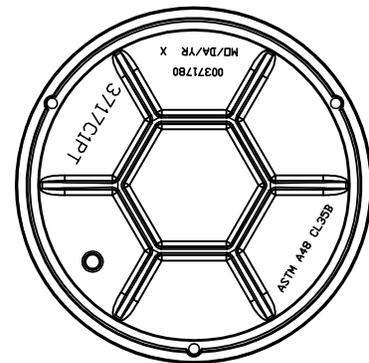
ABANDON MANHOLE

STD. PLAN - 400.5

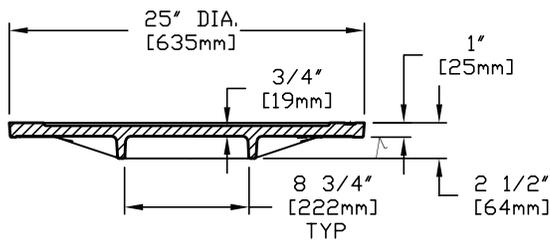
JANUARY 2011



**COVER & FRAME
PLAN VIEW**

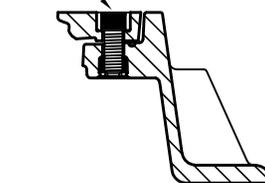


COVER BOTTOM VIEW

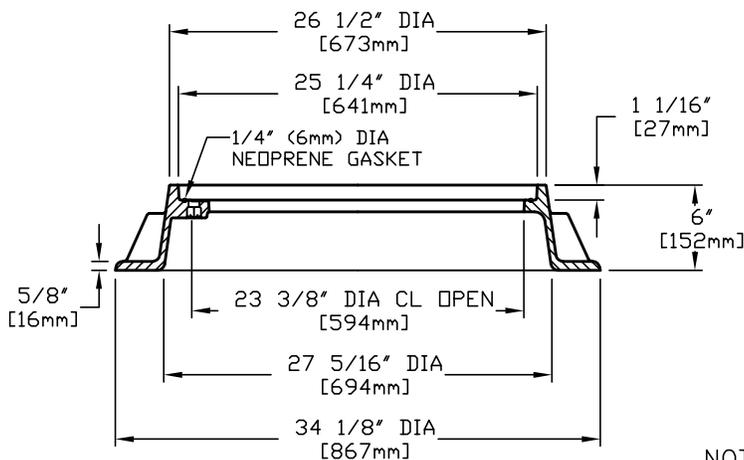


COVER SECTION VIEW

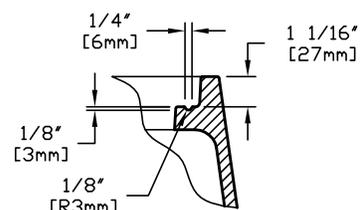
(3) BLT SOC. (ALLEN HEAD)
5/8"-11 X 1.5 SS
RUBBER WASHER



EON BOLTING DETAIL



FRAME SECTION VIEW



GASKET GROOVE DETAIL

NOTES:

1. ALL COVERS SHALL BE LOCKING LID PER EAST JORDAN IRON WORKS INC. No. 3717C1 OR EQUAL.
2. USE FRAME AND COVER FOR STORM (SPECIFY "DRAIN" ON COVER), SANITARY (SPECIFY "SEWER"), OR WATER (SPECIFY "WATER").

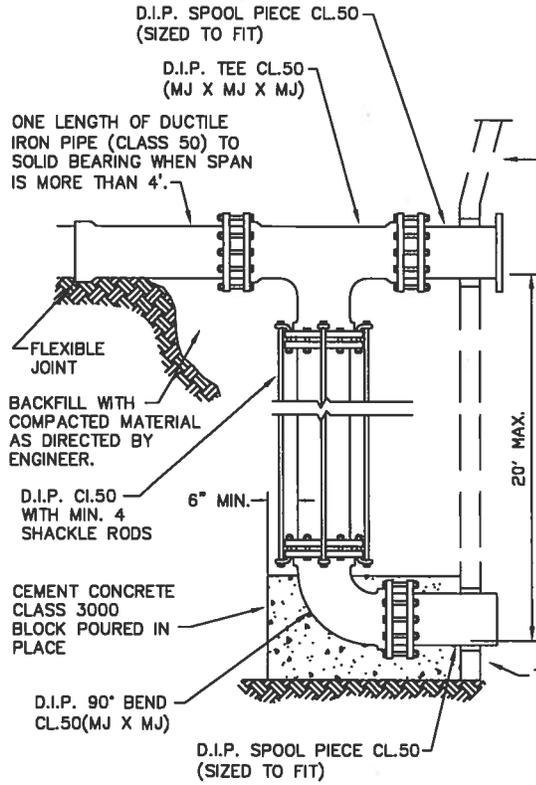
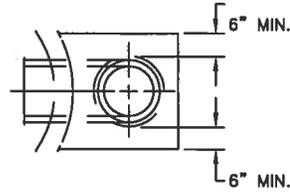
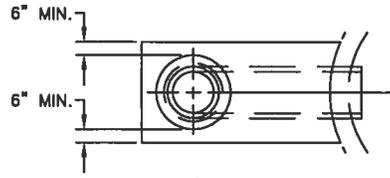


PUBLIC WORKS
DEPARTMENT

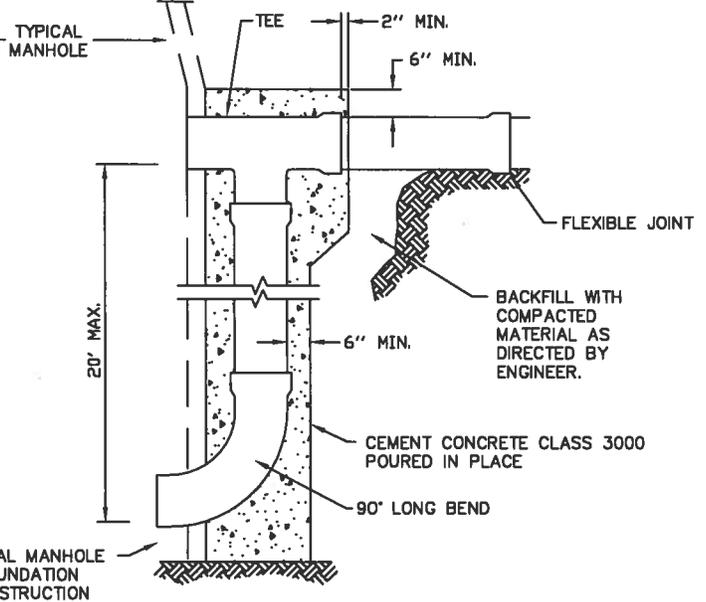
MANHOLE FRAME AND COVER

STD. PLAN - 401

DECEMBER 2008



**DUCTILE IRON
DROP CONNECTION**



**CONCRETE ENCASED
PVC DROP CONNECTION**

NOTES:

1. SANITARY SEWER MANHOLE DROPS ARE ONLY TO BE USED UPON APPROVAL BY THE WASTEWATER UTILITY SECTION.
2. ALL CONNECTIONS TO MANHOLE SHALL BE MADE USING GPK ADAPTOR, KOR-N-SEAL BOOTS OR APPROVED EQUAL.



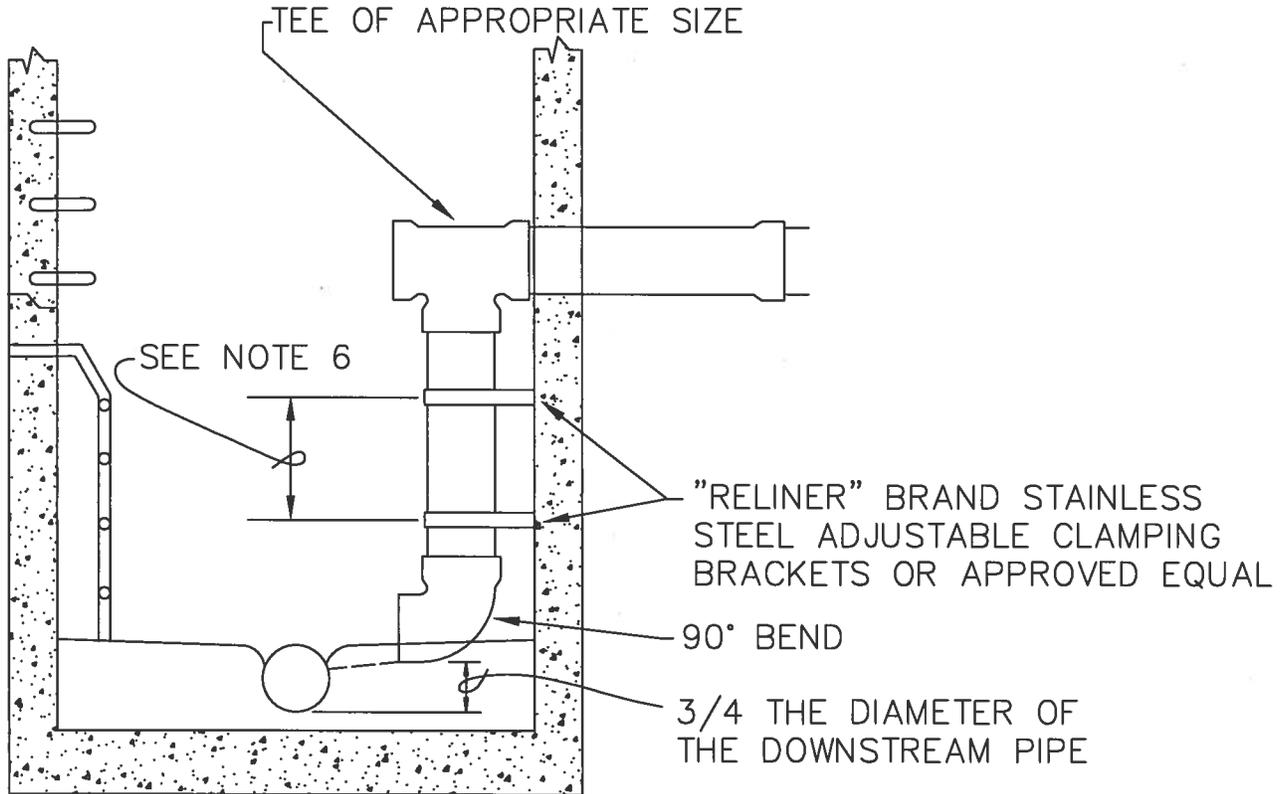
**PUBLIC WORKS
DEPARTMENT**

**OUTSIDE DROP CONNECTION
FOR SANITARY MANHOLE**

STD. PLAN - 402.1

APPROVED:
Greg Zimmerman
Greg Zimmerman
Public Works Administrator

9/10/15
DATE



NOTES:

1. SANITARY SEWER MANHOLE DROPS ARE ONLY TO BE USED UPON APPROVAL BY THE WASTEWATER UTILITY SECTION.
2. ALL PIPES AND FITTINGS SHALL BE SIMILAR SIZE AND MATERIAL AS INCOMING MAINLINE.
3. MINIMUM SIZE MANHOLE FOR INSIDE DROP CONNECTION SHALL BE 60" DIAMETER.
4. CONNECTIONS TO MANHOLE SHALL BE MADE USING GPK ADAPTOR, KOR-N-SEAL BOOTS OR APPROVED EQUAL.
5. WITHIN A 60" DIAMETER MANHOLE, THE MAXIMUM ALLOWABLE DIAMETER OF THE INSIDE DROP PIPING IS 12". INSIDE DROPS EXCEEDING 12" IN DIAMETER OR MULTIPLE DROPS SHALL BE REVIEWED BY THE WASTEWATER UTILITY AND MAY REQUIRE A LARGER DIAMETER MANHOLE.
6. "RELINER" BRAND STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS OR APPROVED EQUAL SHALL BE INSTALLED WITHIN 6" OF BOTH BELL AND SPIGOT ENDS OF EACH DROP PIPE. IF DROP PIPE LENGTH EXCEEDS 5 FEET THEN CENTER STRAPS SHALL BE INSTALLED WITH A MAXIMUM SPACING OF 4 FEET ON CENTER. BRACKETS SHALL BE ATTACHED UTILIZING STAINLESS STEEL EXPANSION BOLTS, MIN. 2 EACH AT CONNECTION POINTS.



PUBLIC WORKS
DEPARTMENT

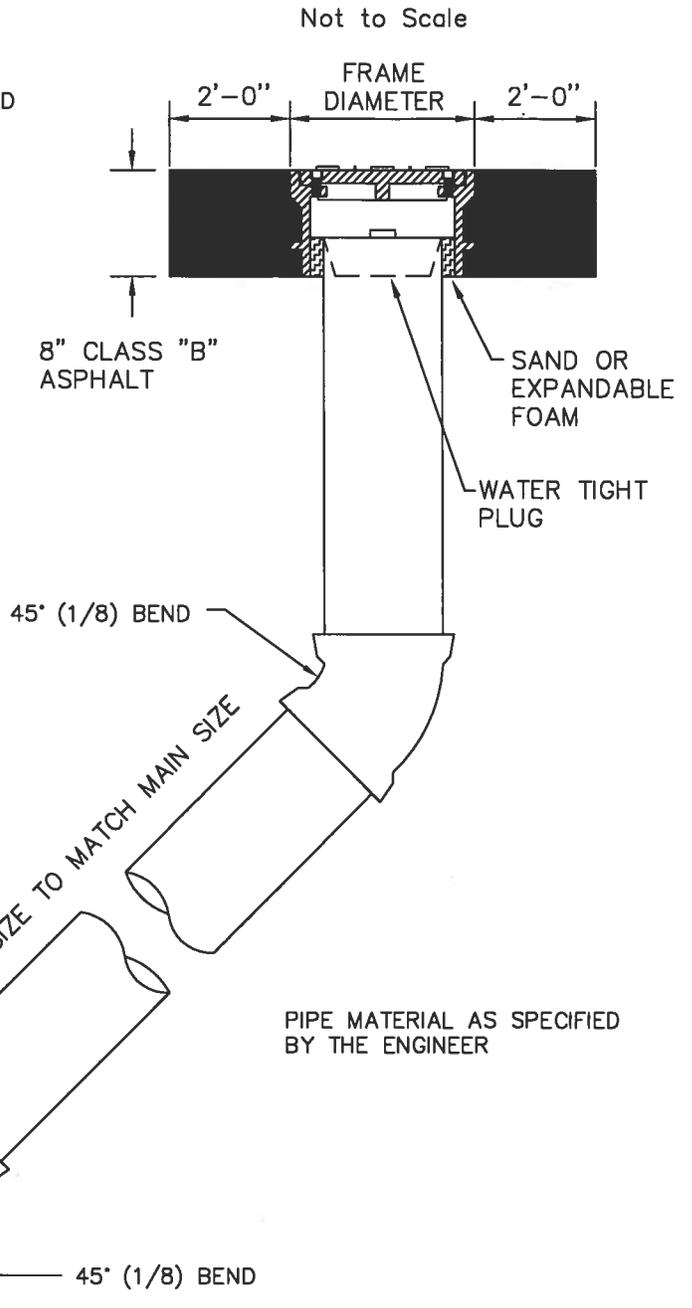
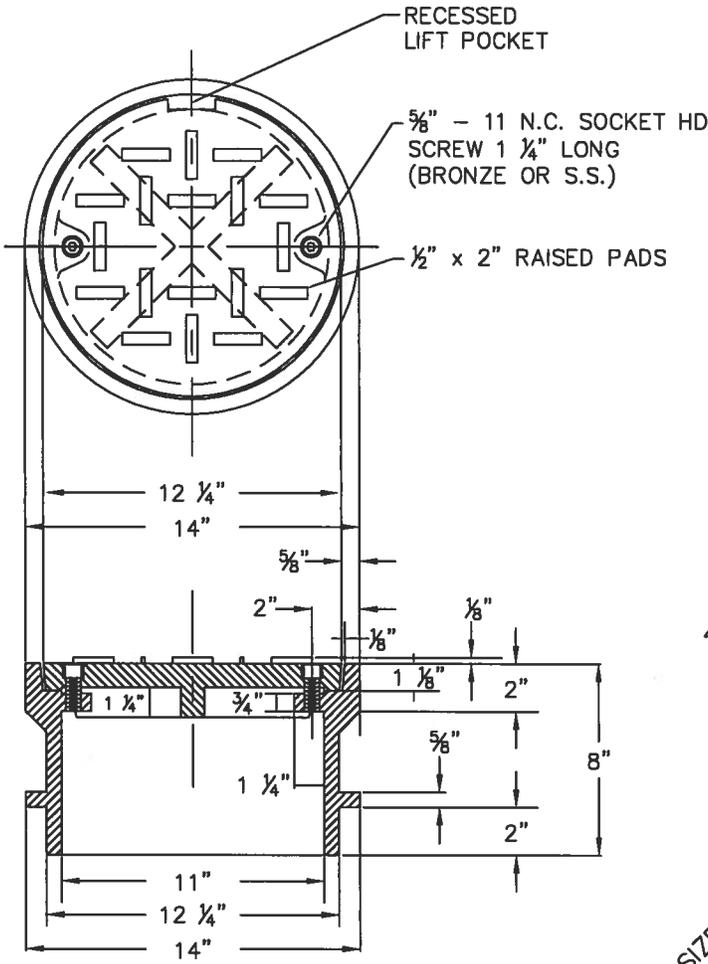
**INSIDE DROP CONNECTION
FOR SANITARY MANHOLE**

STD. PLAN - 402.2

APPROVED:

[Signature]
Grant Zimmerman
 Public Works Administrator

9/10/15
 DATE



CAST IRON RING AND COVER

NOTES:

1. 8" AND 6" CLEANOUTS ON SEWER MAINS SHALL BE EAST JORDAN IRON WORKS, INC. No. 3698 OR EQUAL. CLEAN OUT SHALL BE A WATER TIGHT ASSEMBLY.
2. IN UNIMPROVED AREAS, POUR A 1'-0" THICK, 2'-0" SQUARE CONCRETE, CLASS 3000, PAD AROUND THE RING AND COVER.



PUBLIC WORKS DEPARTMENT

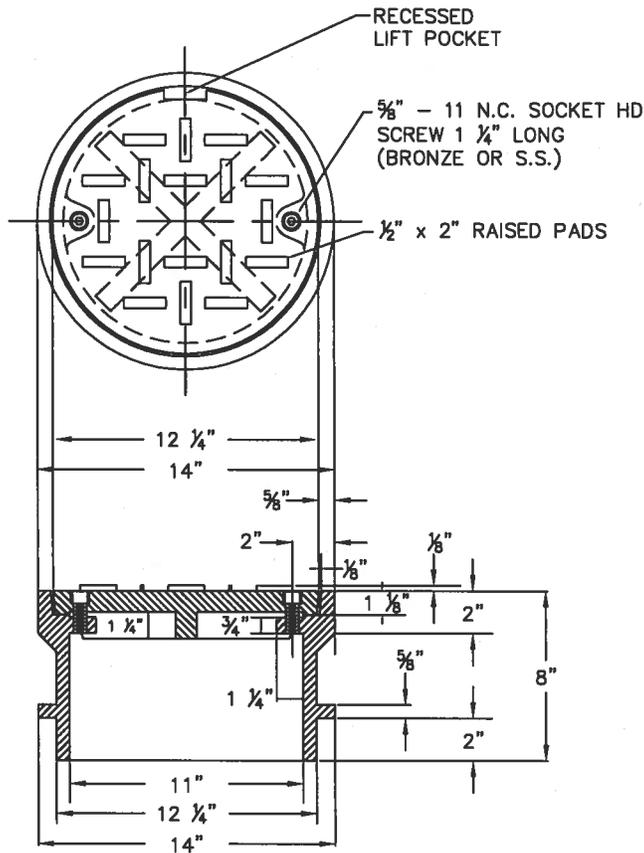
8 OR 6 INCH CLEAN-OUT FOR SANITARY SEWER MAINS

STD. PLAN - 403.1

APPROVED:

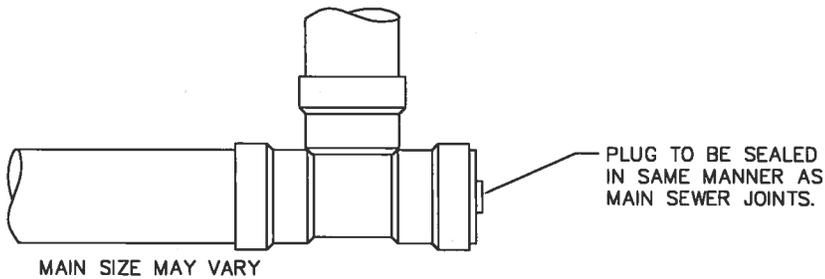
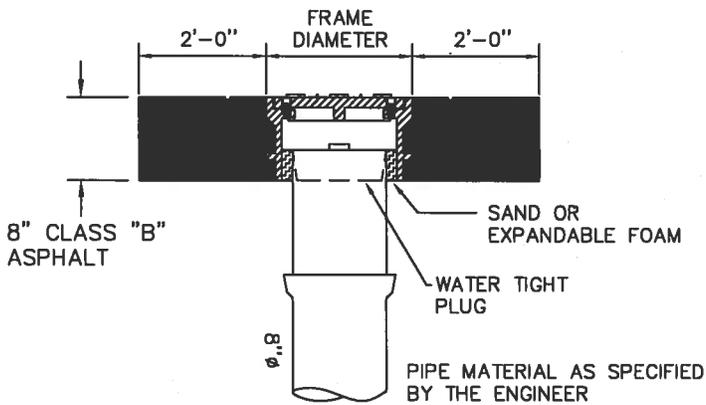
Gregg Zimmerman
 Gregg Zimmerman
 Public Works Administrator

9/10/16
 DATE



NOTE:

1. CLEANOUT IS ONLY TO BE USED AT THE PERMISSION OF THE CITY OF RENTON ENGINEER.
2. THIS CLEANOUT IS ONLY TO BE USED FOR "DRY" SEWER LINES THAT MAY BE EXTENDED IN THE FUTURE. ITS PURPOSE IS TO ALLOW THE ENGINEER TO DETERMINE THE INVERT ELEVATION OF THE PIPE FOR FUTURE DESIGNS. ALL "LIVE" LINES SHALL USE STANDARD DETAIL B076-1.
3. RING AND COVER SHALL BE EAST JORDAN IRON WORKS, INC. No. 3698 OR EQUAL.
4. IN UNIMPROVED AREAS POUR 1'-0" THICK 2'-0" SQUARE CONCRETE, CLASS 3000, PAD AROUND RING AND COVER.



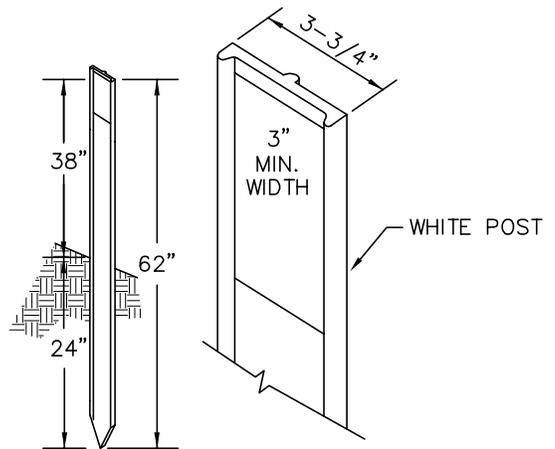
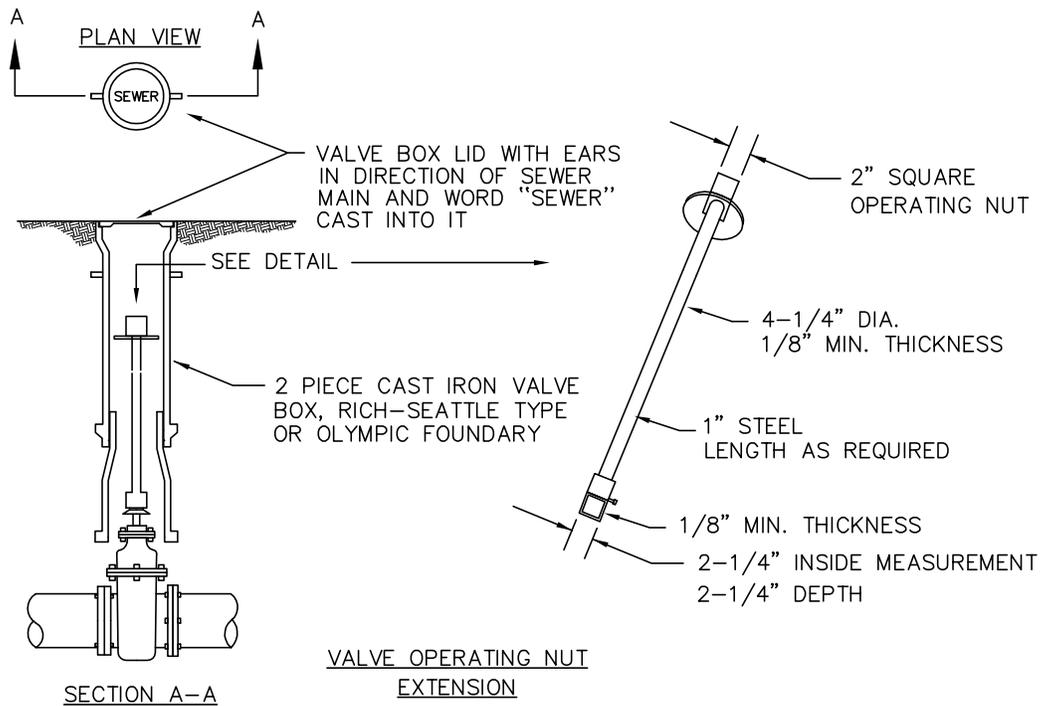
PUBLIC WORKS
DEPARTMENT

**8 INCH CLEAN-OUT
FOR "DRY" SEWER MAIN**

STD. PLAN - 403.2

APPROVED:

[Signature] 9/10/17
Public Works Administrator DATE



VALVE MARKER POST

VALVE OPERATION NUT EXTENSION NOTE:

EXTENSIONS ARE REQUIRED WHEN VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG. ONLY ONE EXTENSION TO BE USED PER VALVE.

NOTE: ALL EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO COATS OF METAL PAINT.

VALVE MARKER NOTES:

VALVE MARKERS SHALL BE EQUAL TO CARSONITE UTILITY MARKER

VALVE MARKER POST TO BE USED FOR ALL MAIN LINE VALVES OUTSIDE PAVED AREAS

VALVE MARKER POST SHALL IDENTIFY VALVES AS SEWER

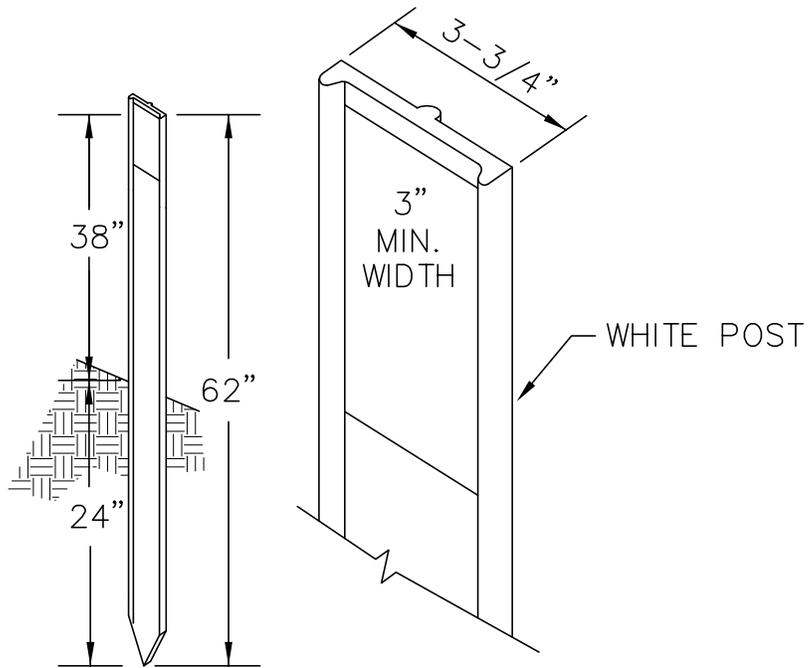


PUBLIC WORKS
DEPARTMENT

**SEWER VALVE
OPERATING NUT EXTENSION
AND VALVE MARKER POST**

STD. PLAN - 404.1

SEPTEMBER 2011



SEWER MANHOLE MARKER POST

SEWER MANHOLE MARKER NOTES:

SEWER MANHOLE MARKER POST SHALL BE EQUAL TO CARSONITE UTILITY MARKER

SEWER MANHOLE MARKER POST TO BE USED FOR SANITARY SEWER MANHOLES IN UNIMPROVED AREAS.

SEWER MANHOLE MARKER POST SHALL IDENTIFY THE MANHOLE AS "SANITARY SEWER".

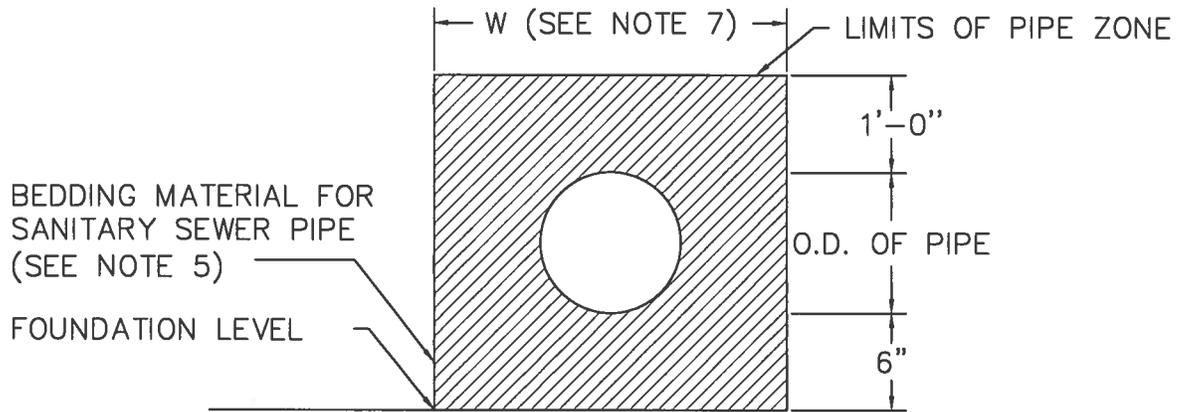


PUBLIC WORKS
DEPARTMENT

SEWER MANHOLE MARKER POST

STD. PLAN - 404.2

SEPTEMBER 2011



BEDDING FOR SANITARY SEWER PIPE

NOTES:

1. PROVIDE UNIFORM SUPPORT UNDER BARREL.
2. HAND TAMP UNDER HAUNCHES.
3. COMPACT BEDDING MATERIAL TO 95% MAX. DENSITY EXCEPT DIRECTLY OVER PIPE. HAND TAMP ONLY.
4. PIPE INSTALLATION SHALL BE PER SECTION 7-08 OF THE STANDARD SPECIFICATIONS.
5. PIPE ZONE MATERIAL SHALL BE PER SECTION 9-03.12(3) OF THE STANDARD SPECIFICATIONS OR PEA GRAVEL WITH A SAND CONTENT EQUAL TO SECTION 9-03.12(3).
6. PIPE MUST BE ANCHORED IN SUCH A MANNER AS TO ENSURE FLOW LINE IS MAINTAINED.
7. TRENCH WIDTH SHALL BE PER SECTION 2-09.4 OF THE STANDARD SPECIFICATIONS.

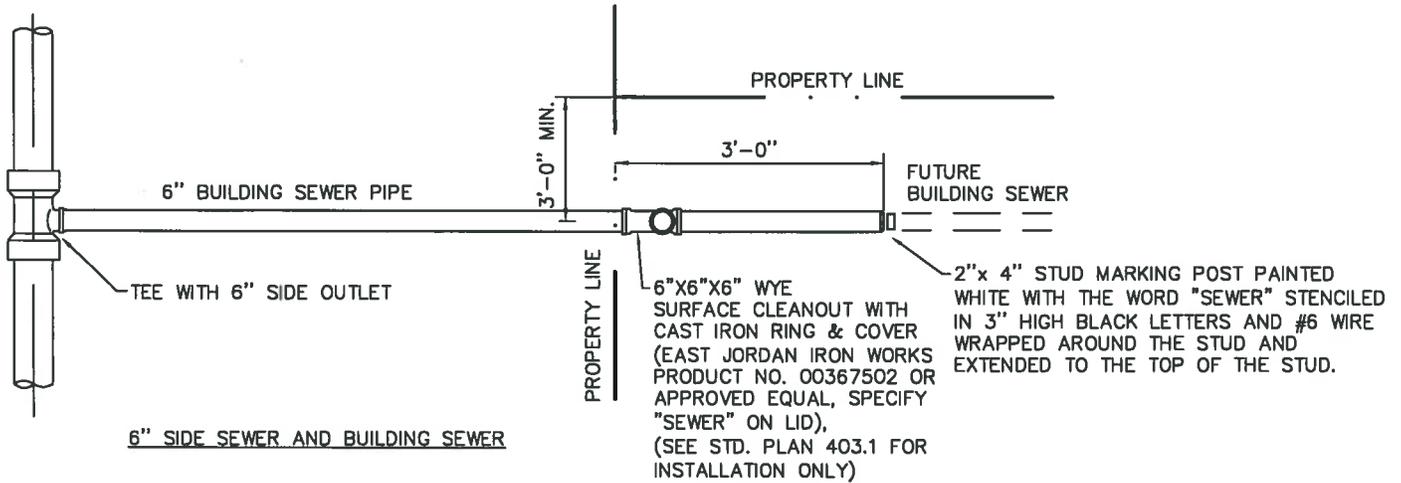


PUBLIC WORKS
DEPARTMENT

**PIPE BEDDING
FOR SANITARY SEWERS**

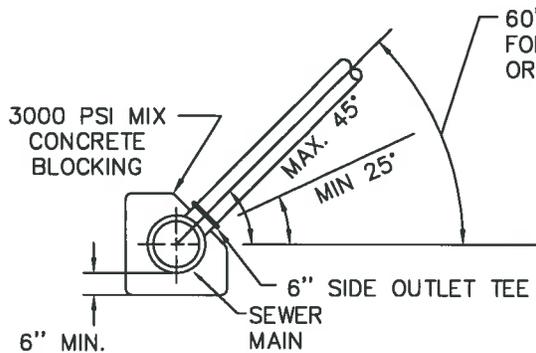
STD. PLAN - 405

OCTOBER 2012

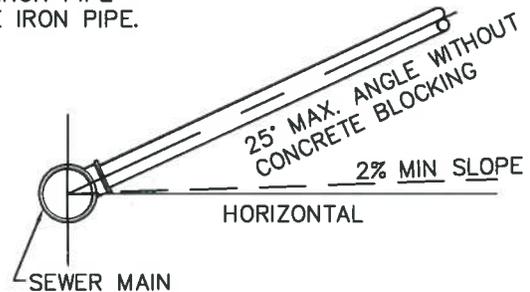


ACCEPTABLE PROCEDURES FOR SIDE SEWER CONNECTIONS TO MAIN LINES ARE AS FOLLOWS:

- A. VITRIFIED CLAY MAIN - CUT IN A NEW SECTION OF SEWER MAIN WITH A NEW TEE USING FLEXIBLE COUPLINGS (FERNCO OR APPROVED EQUAL).
- B. CONCRETE MAIN - CUT IN A NEW SECTION OF SEWER MAIN WITH A NEW TEE USING FLEXIBLE COUPLINGS (FERNCO OR APPROVED EQUAL).
- C. PVC MAIN - CORE-DRILLED WITH A ROMAC SADDLE (OR APPROVED EQUAL) OR CUT IN A NEW TEE USING RIGID COUPLINGS.
- D. DUCTILE IRON MAIN - CORE-DRILLED WITH A ROMAC SADDLE (OR APPROVED EQUAL)
- E. MANHOLE CONNECTION - ALL CONNECTIONS TO MANHOLES SHALL BE AT MANUFACTURED KNOCK-OUTS OR THE STRUCTURE SHALL BE CORE-DRILLED.



CONCRETE BLOCKING ANGLE OF TEE AT MAIN BETWEEN 25° AND 45°



TYPICAL SIDE SEWER

NOTE:

UNLESS OTHERWISE SHOWN ON PLAN, SIDE SEWER SHALL HAVE A MINIMUM 2.5' COVER AT PROPERTY LINE OR 3-5' LOWER THAN THE LOWEST HOUSE ELEVATION, WHICHEVER IS LOWER.



PUBLIC WORKS DEPARTMENT

STANDARD SIDE SEWER INSTALLATION (SEWER MAIN TO PROPERTY LINE)

STD. PLAN - 406.1

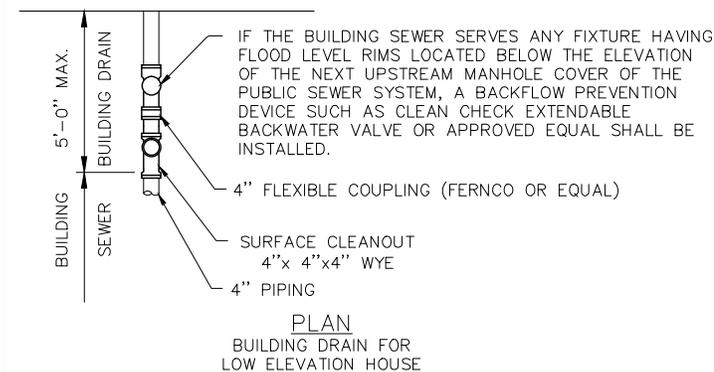
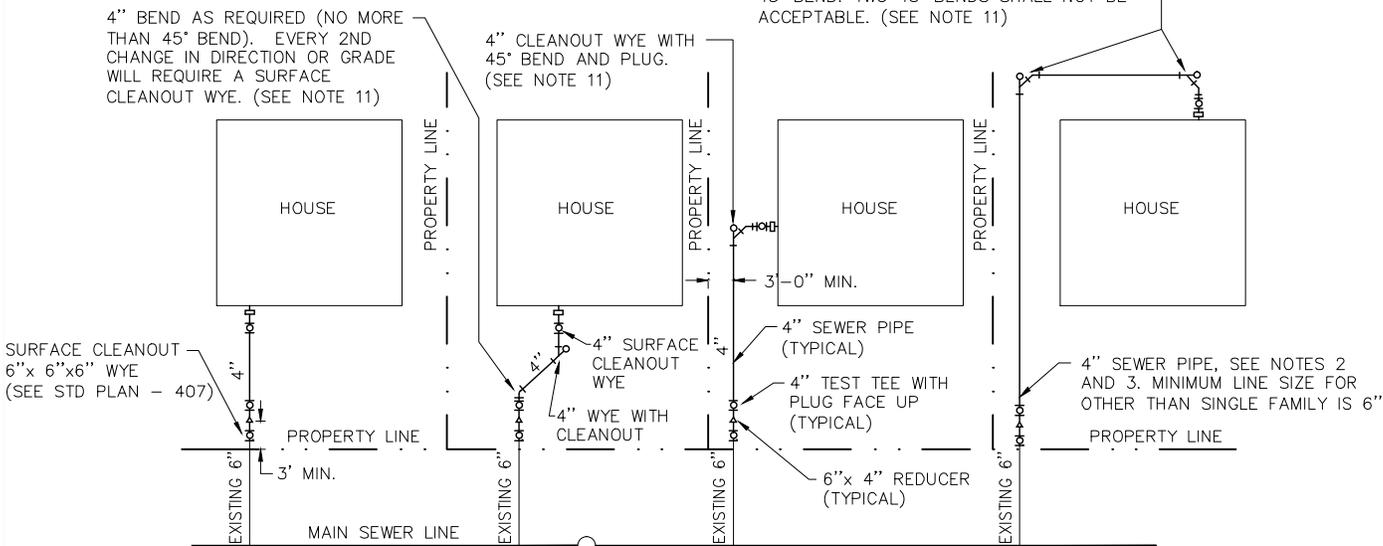
APPROVED:

Greg Zimmerman 7/17/19

Greg Zimmerman
Public Works Administrator

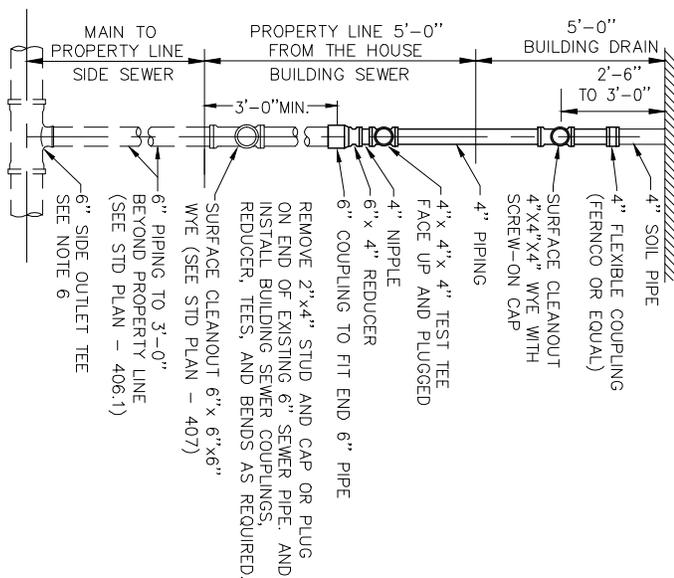
DATE

ALL 90° TURNS SHALL BE ACCOMPLISHED BY MEANS OF A WYE WITH CLEANOUT AND 45° BEND. TWO 45° BENDS SHALL NOT BE ACCEPTABLE. (SEE NOTE 11)



NOTES:

1. Prior to installation of a sanitary sewer connection, a side-sewer permit must be purchased from the City of Renton Public Works Department.
2. Types of pipe and fittings that can be used for sanitary sewers shall be approved by the Department of Public Works. Rubber or neoprene gaskets as specified by the manufacturer, shall be used on joints.
3. A minimum grade of 2% (1/4" per foot) must be maintained with 4" pipe. In the event a 2% grade cannot be maintained, the owner must sign a City of Renton grade release form and then can install 6" pipe at a grade of 1%.
4. For inspection of side sewer, call 24 hours in advance. The inspection phone number is on the side sewer permit. Site must be ready for inspection and representative on site when inspector arrives at appointed time. Side sewer and stub shall be tested per City specifications. Make the connection at the house. Do not backfill the ditch until approval is given by the inspector. Final approval will be granted after the existing septic tank has been pumped out and filled with sand.
5. Install side sewer with 2' minimum cover. 18" cover is allowed at the house if outlet is shallow.
6. If side sewer stub is not available. The owner shall be responsible for its installation per standard drawing 406.1. All work within street right-of-way shall be done by a licensed and bonded contractor.
7. All work shall be accomplished in accordance with the Washington Industrial Safety and Health Act. (WISHA)
8. All trench restoration for side sewers in the public right-of-way shall conform to the most current trench restoration requirements as in the Renton Standard Drawings.
9. All building sewer and side sewers shall have bedding in accordance with standard drawing 405.
10. There shall be a minimum 10 foot horizontal separation between sanitary side sewers and water services and a minimum 5 foot horizontal separation between sanitary side sewers and all other utilities.
11. The cleanout at the Right-of-Way shall be installed per Standard Plan 407. The cleanout at the building shall be installed to surface grade. All other cleanouts shall be installed to within 12" of the surface.



CALL FOR LOCATIONS BEFORE YOU DIG
48HR LOCATORS 1-800-424-5555

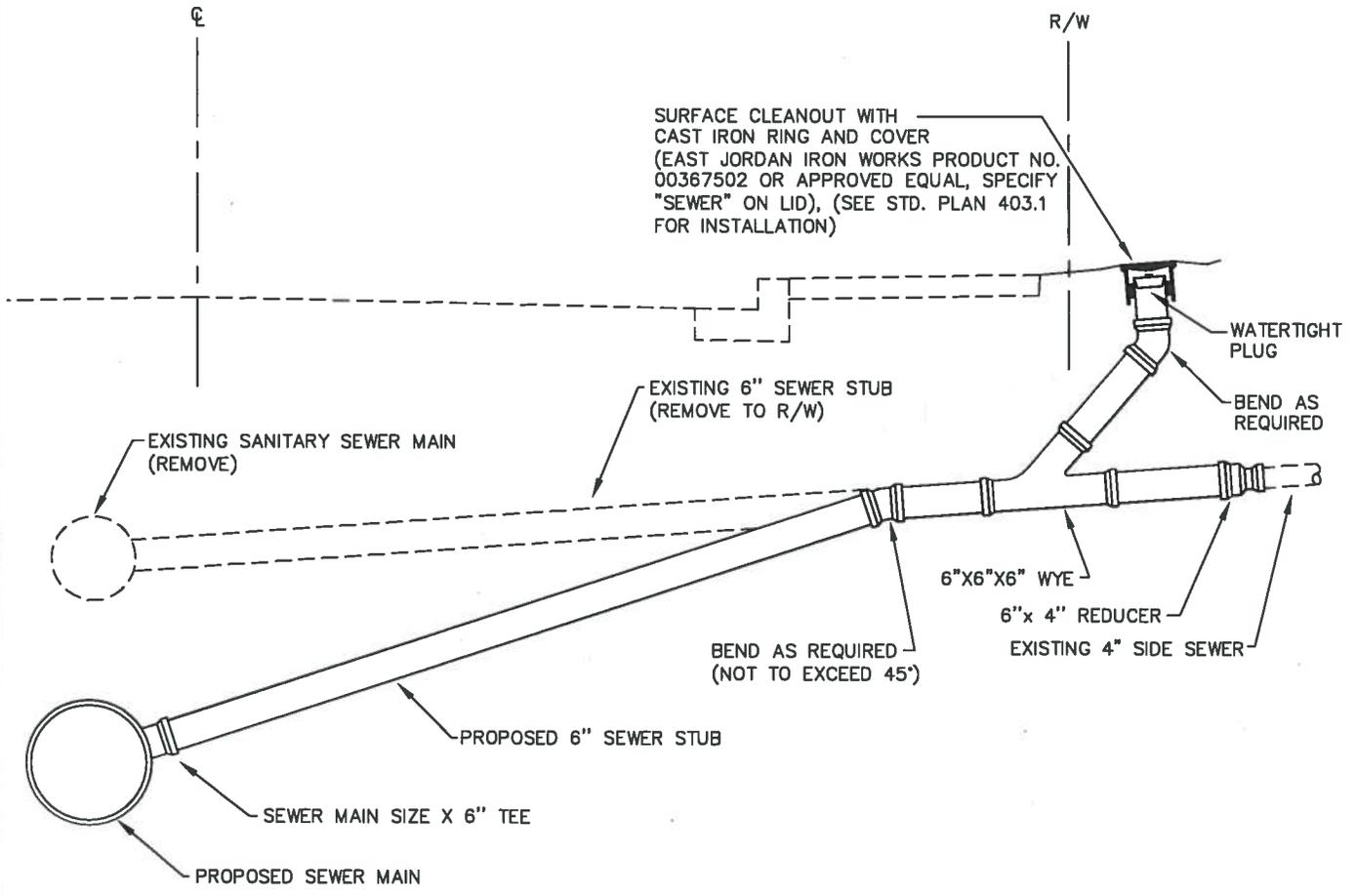


PUBLIC WORKS
DEPARTMENT

**TYPICAL BUILDING SEWER
FROM PROPERTY LINE TO
BUILDING CONNECTION**

STD. PLAN - 406.2

AUGUST 2013



NOT TO SCALE



PUBLIC WORKS
DEPARTMENT

**TYPICAL SIDE SEWER CONNECTION
FOR SEWER MAIN REPLACEMENT**

STD. PLAN - 407

APPROVED:
Greg Zimmerman
Greg Zimmerman
Public Works Administrator

7/17/15
DATE

6" SEWER PIPE

6" PLUG

45° (1/8) BENDS FOR ONE CONNECTION ON EACH SIDE.

8"x 6" WYE

8"x 6" WYE

8" PVC OR D.I. SEWER PIPE

CEMENT CONCRETE CLASS 3000

VARIABLE

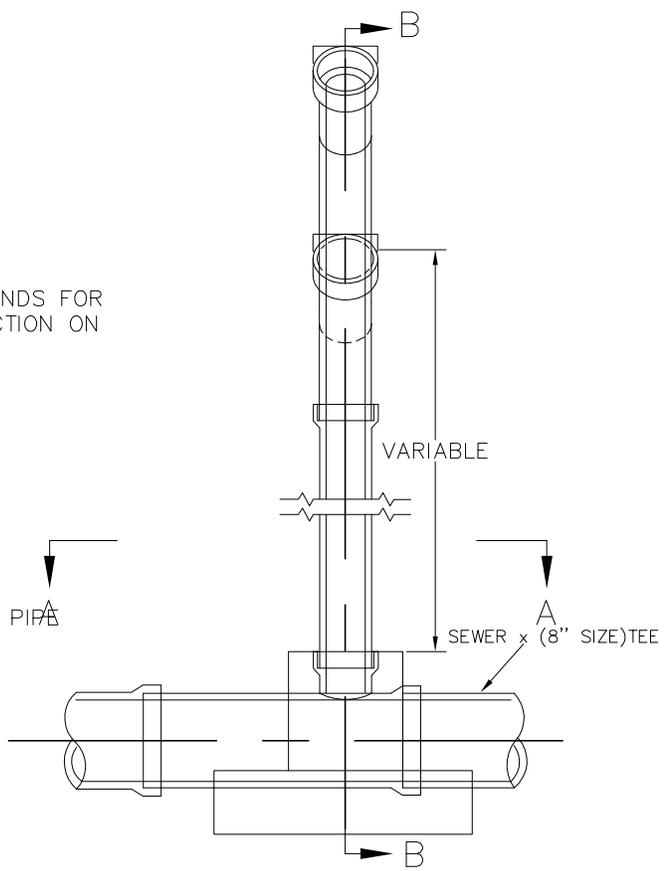
3"

6"

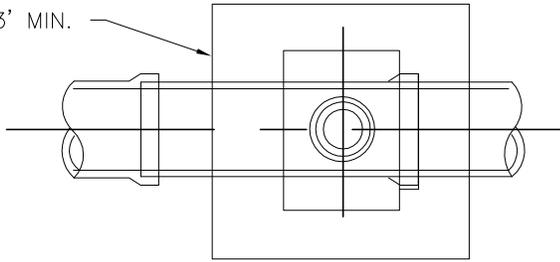
4" TYP.

3' MIN.

SECTION B-B



3'x 3' MIN.



SECTION A-A

NOTE:

UTILIZATION OF THIS DETAIL REQUIRES WRITTEN APPROVAL OF THE WASTEWATER UTILITY.

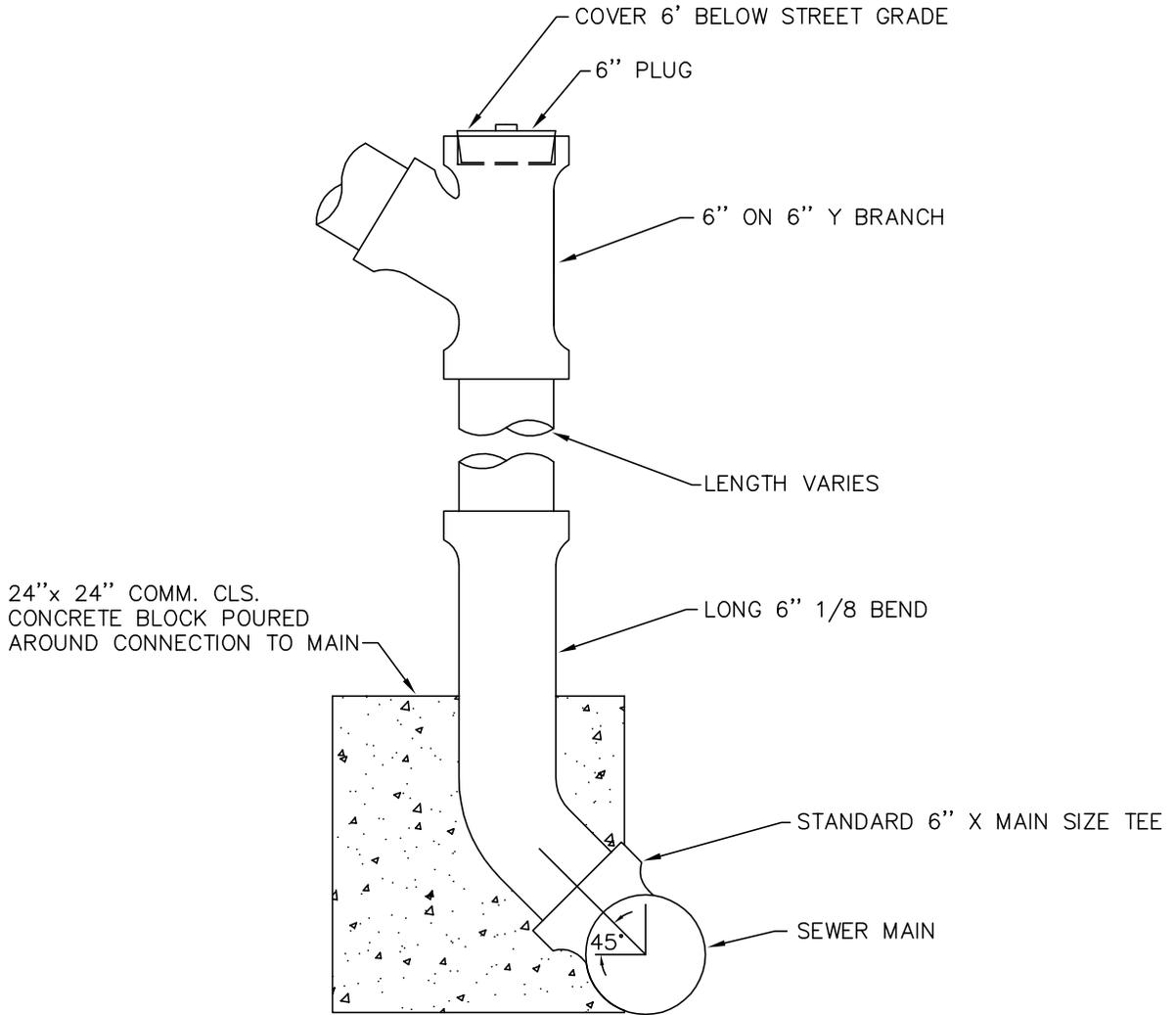


PUBLIC WORKS DEPARTMENT

DUAL SIDE SEWER SERVICE VERTICAL CONNECTION

STD. PLAN - 408

MARCH 2008



NOTE:
DO NOT USE WITHOUT WRITTEN
APPROVAL OF THE WASTEWATER
UTILITY.

NOTE:
TO RAISE TO GRADE
USE STANDARD 6'' SEWER PIPE



PUBLIC WORKS
DEPARTMENT

**SIDE SEWER RISER
CONNECTION TO SEWER MAIN**

STD. PLAN - 409

MARCH 2008

		6 IN. DIAMETER PIPE										
8 IN. DIAMETER PIPE	LENGTH(FT)	0	50	100	150	200	250	300	350	400	450	500
	0	0	80	160	236	316	396	476	556	632	680	680
	50	140	220	300	380	456	536	616	696	712	708	708
	100	280	360	440	520	600	676	748	744	736	732	728
	150	424	500	580	660	740	780	772	764	756	748	744
	200	564	644	720	800	808	796	788	780	772	764	760
	250	704	784	856	836	820	808	800	792	784	776	772
	300	844	880	860	844	832	820	808	800	792	788	780
	350	908	884	868	852	840	828	820	808	804	796	788
	400	908	888	872	856	844	836	824	816	808	804	796
	450	908	888	876	860	852	840	832	824	816	808	804
		TIME (SECONDS)										

		6 IN. DIAMETER PIPE										
10 IN. DIAMETER PIPE	LENGTH(FT)	0	50	100	150	200	250	300	350	400	450	500
	0	0	80	160	236	316	396	476	556	632	680	680
	50	220	300	380	456	536	616	696	768	760	752	744
	100	440	520	600	676	756	836	840	828	812	804	792
	150	660	740	820	896	932	908	888	868	856	840	832
	200	880	960	1028	992	964	940	920	900	888	872	860
	250	1100	1084	1044	1012	988	964	944	928	912	900	888
	300	1132	1092	1056	1028	1004	984	964	948	932	920	908
	350	1132	1096	1068	1040	1016	996	980	964	948	936	924
	400	1132	1100	1076	1052	1028	1008	992	976	964	952	940
	450	1132	1104	1080	1056	1036	1020	1004	988	976	964	952
		TIME (SECONDS)										

		6 IN. DIAMETER PIPE										
12 IN. DIAMETER PIPE	LENGTH(FT)	0	50	100	150	200	250	300	350	400	450	500
	0	0	80	160	236	316	396	476	556	632	680	680
	50	316	396	476	556	632	712	832	816	804	804	792
	100	632	712	792	872	952	984	952	928	908	888	876
	150	952	1028	1108	1132	1088	1052	1020	992	972	952	936
	200	1268	1284	1224	1176	1132	1100	1068	1044	1020	1000	984
	250	1360	1300	1248	1204	1164	1132	1104	1080	1056	1036	1020
	300	1360	1308	1264	1224	1192	1160	1132	1108	1088	1068	1052
	350	1360	1316	1276	1240	1208	1180	1156	1132	1112	1096	1076
	400	1360	1320	1284	1252	1224	1200	1176	1152	1132	1116	1100
	450	1360	1324	1292	1264	1236	1212	1192	1168	1152	1132	1116
		TIME (SECONDS)										

		6 IN. DIAMETER PIPE										
15 IN. DIAMETER PIPE	LENGTH(FT)	0	50	100	150	200	250	300	350	400	450	500
	0	0	80	160	236	316	396	476	556	632	680	680
	50	496	576	652	732	812	892	972	948	924	900	884
	100	988	1068	1148	1228	1248	1192	1144	1104	1072	1044	1020
	150	1484	1564	1484	1408	1344	1292	1248	1208	1172	1144	1116
	200	1700	1608	1532	1464	1408	1360	1316	1280	1248	1216	1192
	250	1700	1624	1560	1504	1452	1408	1368	1332	1304	1272	1248
	300	1700	1636	1580	1532	1484	1444	1408	1376	1344	1316	1292
	350	1700	1644	1596	1552	1512	1472	1440	1408	1380	1352	1328
	400	1700	1652	1608	1568	1532	1496	1464	1436	1408	1384	1360
	450	1700	1656	1616	1580	1548	1516	1484	1460	1432	1408	1388
		TIME (SECONDS)										

PROCEDURE:

SLOWLY PRESSURIZE THE PIPE TO 4.0 P.S.I.G. ALLOW 2 MINUTES FOR STABILIZATION, ADDING AIR AS REQUIRED TO STABILIZE THE PRESSURE AT 4.0 P.S.I.G.

ALL SEWER PIPE SHALL MEET A MINIMUM AIR PRESSURE TEST OF 4.0 P.S.I.G. FOR 5 MINUTES WITH NO LOSS OF PRESSURE. IF THERE IS A LOSS OF PRESSURE, THEN THE TIME OF THE DROP FROM 3.5 P.S.I.G. TO 2.5 P.S.I.G. SHALL NOT BE LESS THAN THE TIME SHOWN ON THE ABOVE TABLES.



PUBLIC WORKS
DEPARTMENT

**AIR TEST TABLE
(LOW PRESSURE)
FOR SANITARY SEWERS**

STD. PLAN - 410

MARCH 2008

Utility Specifications

Sanitary Sewer Notes and Specifications

THESE NOTES SHALL APPEAR ON PROJECTS FOR THE WASTEWATER UTILITY.

1. All work and work material shall be in conformance with the standards and specifications of the City of Renton Planning/Building/Public Works Department and the latest edition of the WSDOT/APWA Standards and Specifications, as approved and modified by the City of Renton in the Renton Standard Plans & Specifications. A set of approved plans shall be kept on site at all times during construction.
2. The hours of work in the street right of way shall be per City specifications on weekdays unless otherwise approved in writing by the Planning/Building/Public Works Department. An approved traffic control plan must be obtained prior to beginning any work within public right of way.
3. All locations of existing utilities shown are approximate and it shall be the contractor's responsibility to verify the true and correct location so as to avoid damage or disturbance.
4. A pre-construction conference and a 24 hour notice shall be required prior to starting new construction. It shall be the contractor's responsibility to secure all necessary permits prior to starting construction. (Inspection will be accomplished by a representative of the City of Renton.) It shall be the contractor's responsibility to notify the Public Works inspector 24 hours in advance of backfilling all construction.
5. Contractor is solely responsible for the means, methods and sequences of construction and for the safety of workers and others on the construction site.
6. It shall be the responsibility of the contractor to obtain street use and any other related permits prior to any construction.
7. Plans approved by the City of Renton, Public Works Department shall take precedence over all other plans.
8. A copy of these approved plans must be on the job site whenever construction is in progress.
9. The contractor shall provide the City of Renton with an as-built drawing of the sanitary sewer system, which has been stamped and signed by a licensed professional engineer or licensed professional surveyor.
10. Backfill shall be placed equally on both sides of the pipe in layers with a loose average depth of 6 inches, maximum depth of 8 inches, thoroughly tamping each layer to 95 percent of maximum density. These compacted layers must extend for one pipe diameter on each side of the pipe or to the side of the trench. Materials to complete the fill over pipe shall be the same as described.
11. Open cut road crossings for utility trenches on existing traveled roadway shall be backfilled with crushed rock and mechanically compacted unless otherwise approved by

Utility Specifications

12. Datum for Vertical Control shall be North American Vertical Datum 1988 Meters, and for Horizontal Control shall be North American Datum 1983/1991 Meters unless otherwise approved by the City of Renton Public Works Department. Reference benchmark and elevations are noted on the plans.
13. All disturbed areas shall be seeded and mulched or otherwise stabilized to the satisfaction of the Department for the prevention of on-site erosion after the completion of construction.
14. All pipe and appurtenances shall be laid on a properly prepared foundation in accordance with the standards and specifications of the City of Renton Planning/Building/Public Works Department and the latest edition of the WSDOT/APWA Standards and Specifications, as approved and modified by the City of Renton in the Renton Standard Plans & Specifications. This shall include necessary leveling of the trench bottom or the top of the foundation material, as well as placement and compaction of required bedding material, to uniform grade so that the entire length of the pipe will be supported on a uniformly dense, unyielding base. Pipe bedding shall be pea gravel 6 inches above and below the pipe.
15. Sanitary sewer pipe shall be polyvinyl chloride (PVC) rubber gasketed ASTM D 3034, SDR 35, or ductile iron class 50, unless otherwise approved by the Wastewater Utility.
16. In unimproved areas, manhole to extend minimum 6 inches and maximum 12 inches above finished grade or must have minimum 2' diameter concrete ring poured at grade. In paved area, cover must slope in all directions to match paving.