

PLAN

ALL MANHOLES SHALL HAVE A 12" MIN. 24" MAX. BOTTOM RISER, TO BE BEDDED IN THE CONCRETE AS THE BASE TAKES ITS INITIAL SET.

ALL PRECAST SECTIONS AND POURED CONCRETE BASES SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.

ALL JOINTS SHALL BE SEALED WITH PREFORMED PLASTIC OR RUBBER RING TO FORM A WATERTIGHT SEAL. GROUTED JOINTS MAY BE USED FOR STORM MANHOLES.

USE PRECAST BASE IN TRAVELED STREETS UNLESS OVER EXISTING LINE. USE SHALLOW MANHOLE DETAIL FOR LESS THAN 5 FT. DEPTH



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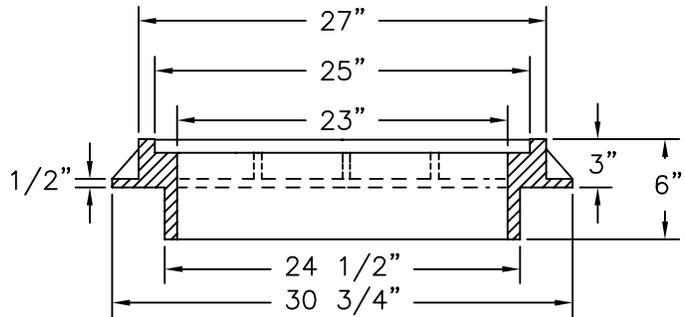
Standard Manhole for <27" Pipe

DRAWING NO.

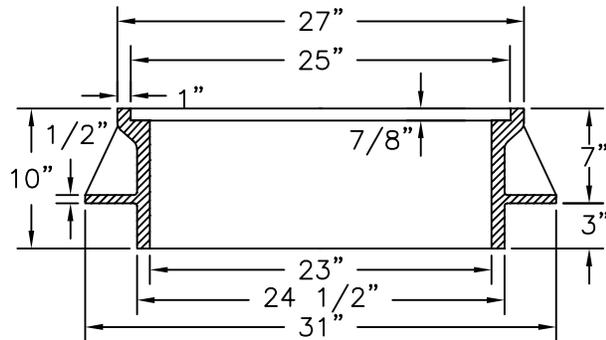
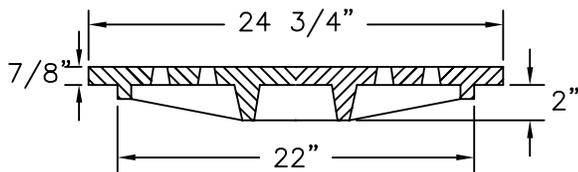
300

APPROVED	<i>Gary Parki</i>	5/10	NO.	REVISIONS	DATE	BY
CITY ENGINEER						

MAY 2010



CAST IRON SUBURBAN
APPROX. WT. - 305 LBS.



CAST IRON STANDARD
APPROX. WT. - 387 LBS.

NOTES:

1. COVER AND FRAME TO BE MACHINED FOR TRUE BEARING.
2. MATERIAL SHALL BE GREY CAST IRON A.S.T.M. A-48 CLASS 30.
3. SUBURBAN FRAMES ARE ONLY AUTHORIZED TO BE USED IN NON-VEHICULAR AREAS.
4. FOR LIDS CONTACT THE CITY OF MILWAUKIE ENGINEERING DEPARTMENT.



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Sewer Manhole Frame and Cover

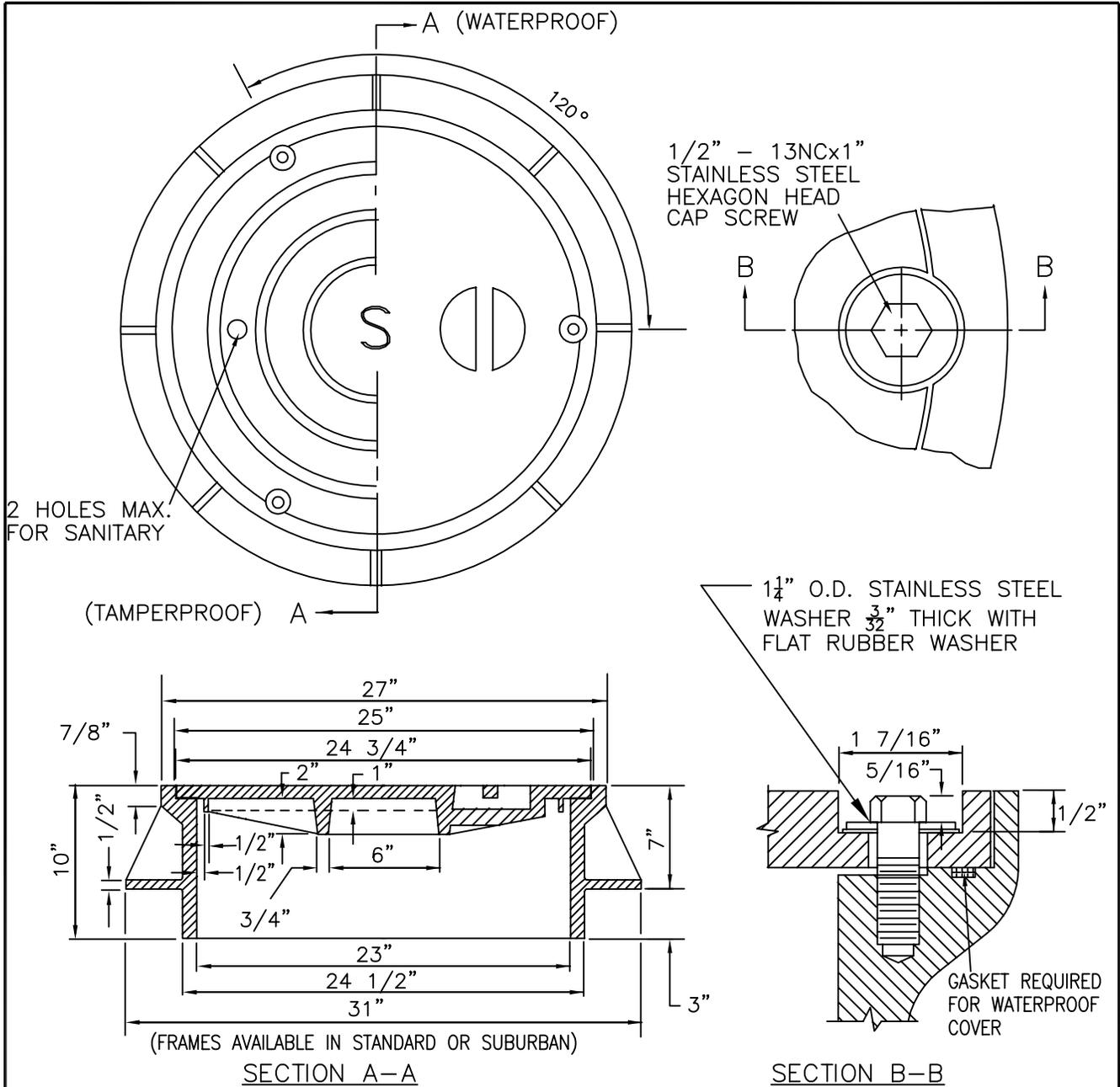
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303

APPROVED *Gary Parki* 5/10
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	CLEAN UP	10-09	GP

MAY 2010



NOTES:

1. TAMPER PROOF COVERS REQUIRED ON SANITARY OR STORM MANHOLES LOCATED IN UNIMPROVED EASEMENTS AND RIGHT OF WAYS.
2. WATER TIGHT COVERS REQUIRED IF LOCATED WHERE COVER MAY BE SUBMERGED.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
4. MATERIAL SHALL BE OF GREY IRON A.S.T.M. A-48 CLASS 30.



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Waterproof and Tamperproof Frame and Cover

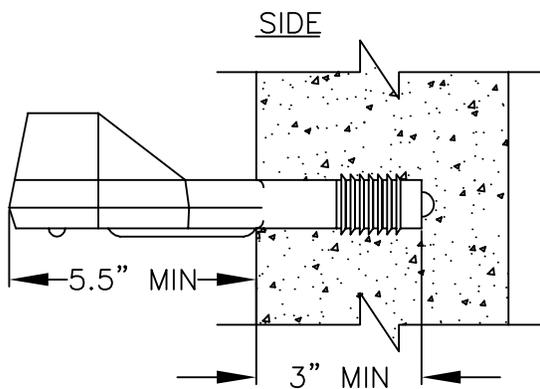
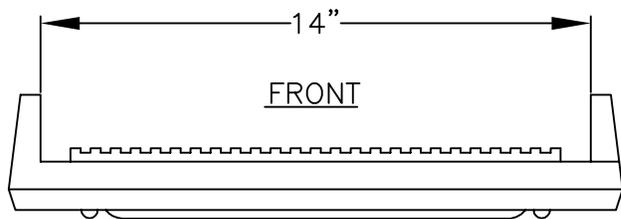
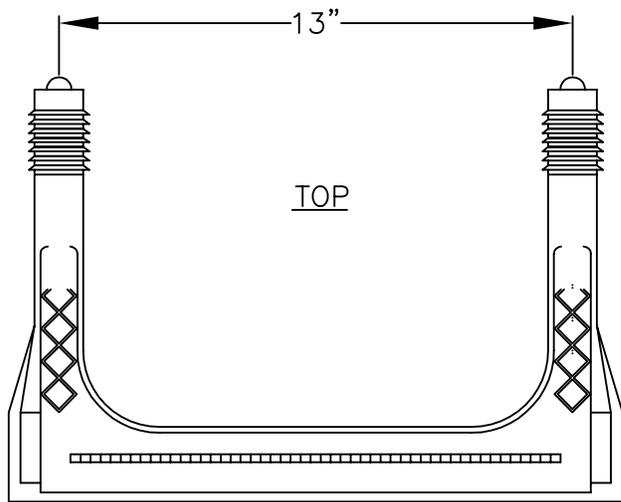
DRAWING NO.

304

APPROVED *Gary Parki* 5/10
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	DELETION OF LOCATING STUD	1/20/10	JLR

MAY 2010



NOTES:

1. STEPS SHALL BE DEFORMED STEEL REINFORCED POLYPROPYLENE PLASTIC CONFORMING WITH ASTM C478 AND ASTM A615.
2. ALL STEPS WITHIN A MANHOLE SHALL BE OF THE SAME DESIGN TYPE AND SIZE. (MIXING OF UNMATCHED STEPS WITHIN THE SAME MANHOLE IS NOT PERMITTED.)
3. LOOSE STEPS SHALL BE CAUSE FOR REJECTION OF THAT CONE OR SECTION.
4. STEPS ARE TO BE DRIVEN INTO PRE-FORMED HOLES IN PRECAST CONCRETE SECTIONS BY THE MANHOLE MANUFACTURER PRIOR TO DELIVERY TO THE JOB SITE.
5. MINIMUM HORIZONTAL PULLOUT LOAD SHALL BE 1500 LBS.
6. STEPS SHALL BE ALIGNED VERTICALLY.
7. STEPS SHALL BE SPACED 12" O.C.



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Manhole Step

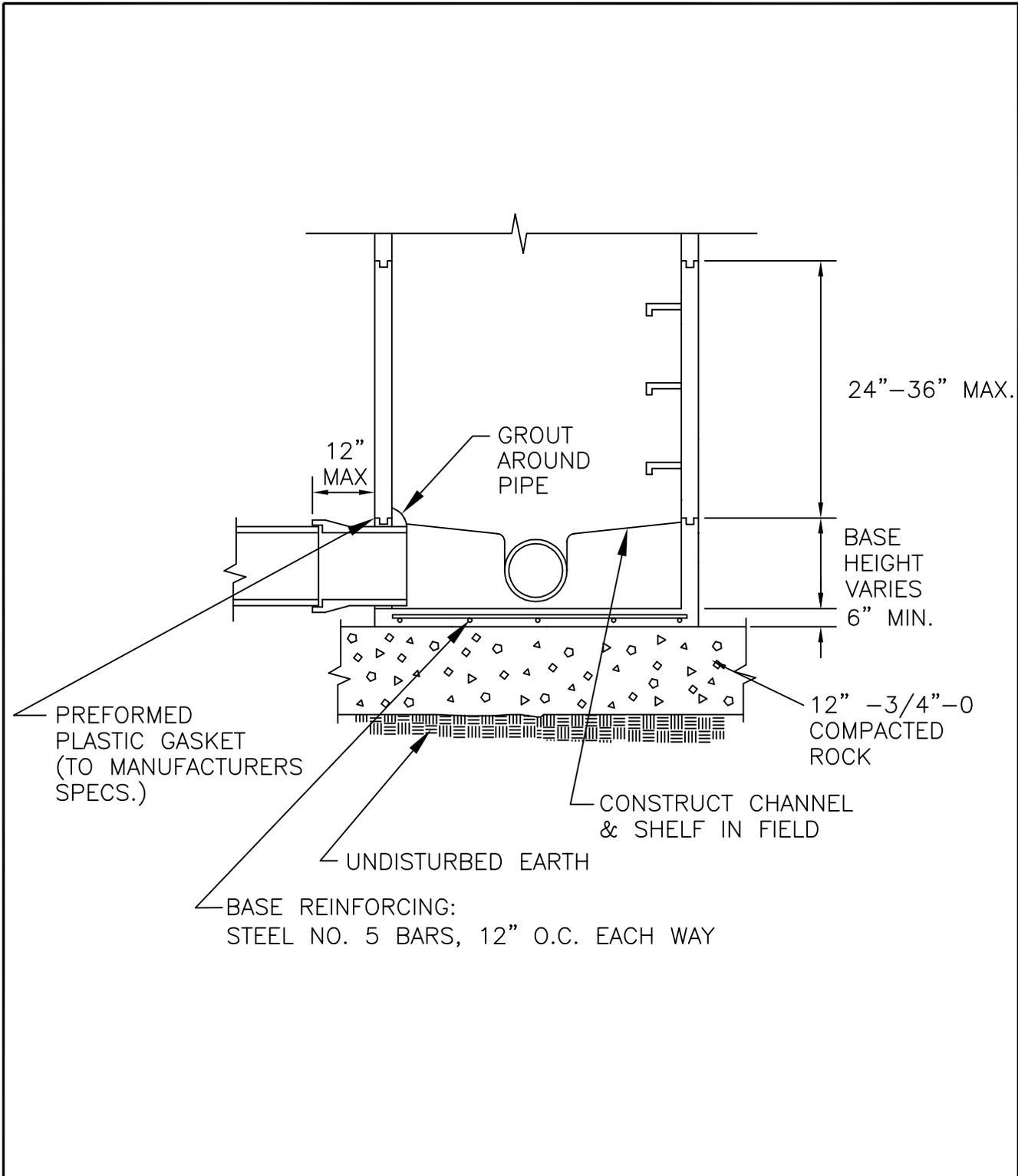
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305

APPROVED *Gary Parki* 5/10
 CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY

MAY 2010



CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.

Precast Concrete Manhole Base

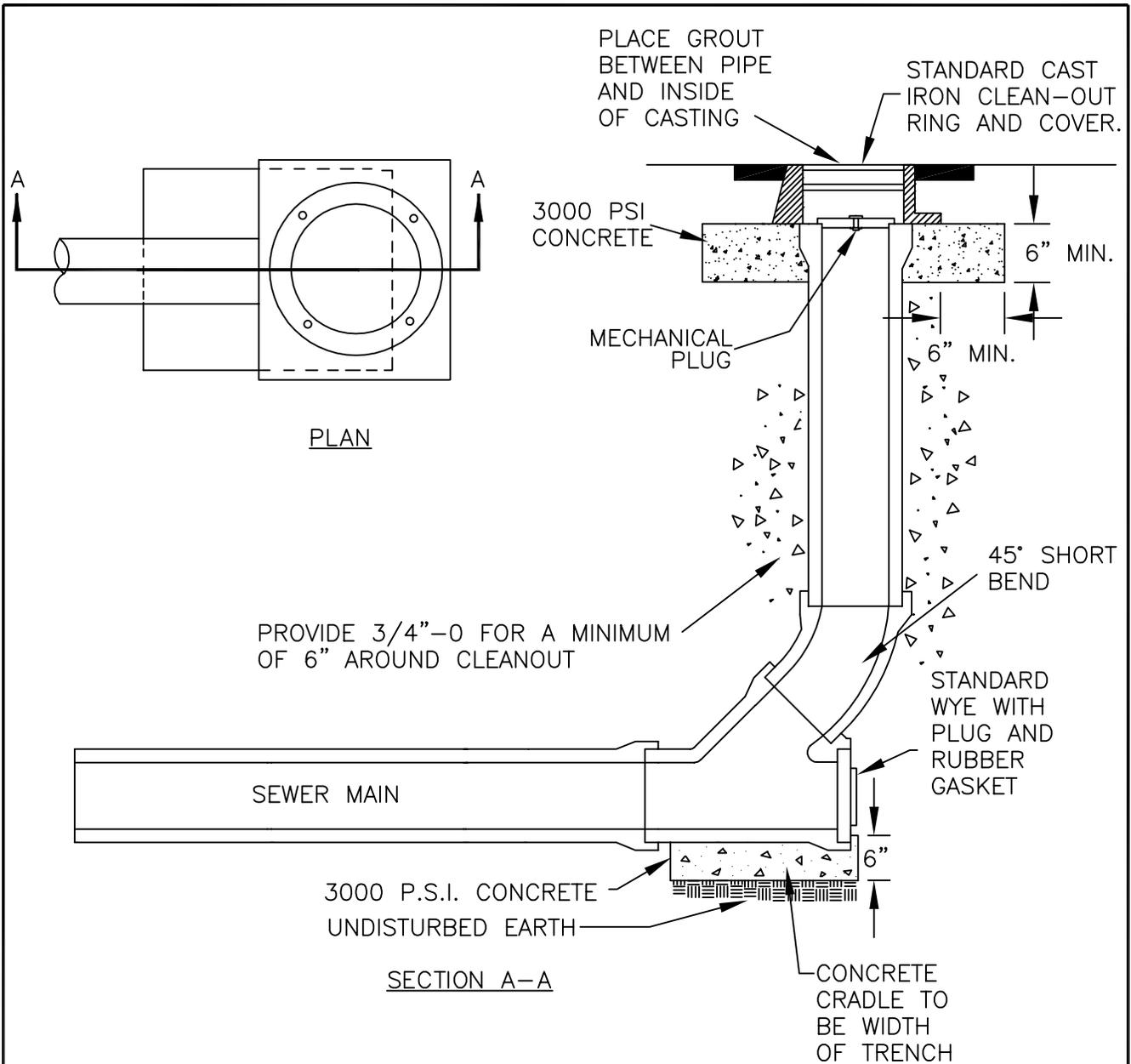
DRAWING NO.

306

APPROVED *Gary Parki* 5/10
 CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	REMOVED MESH AS REINFORCEMENT	10-09	JR

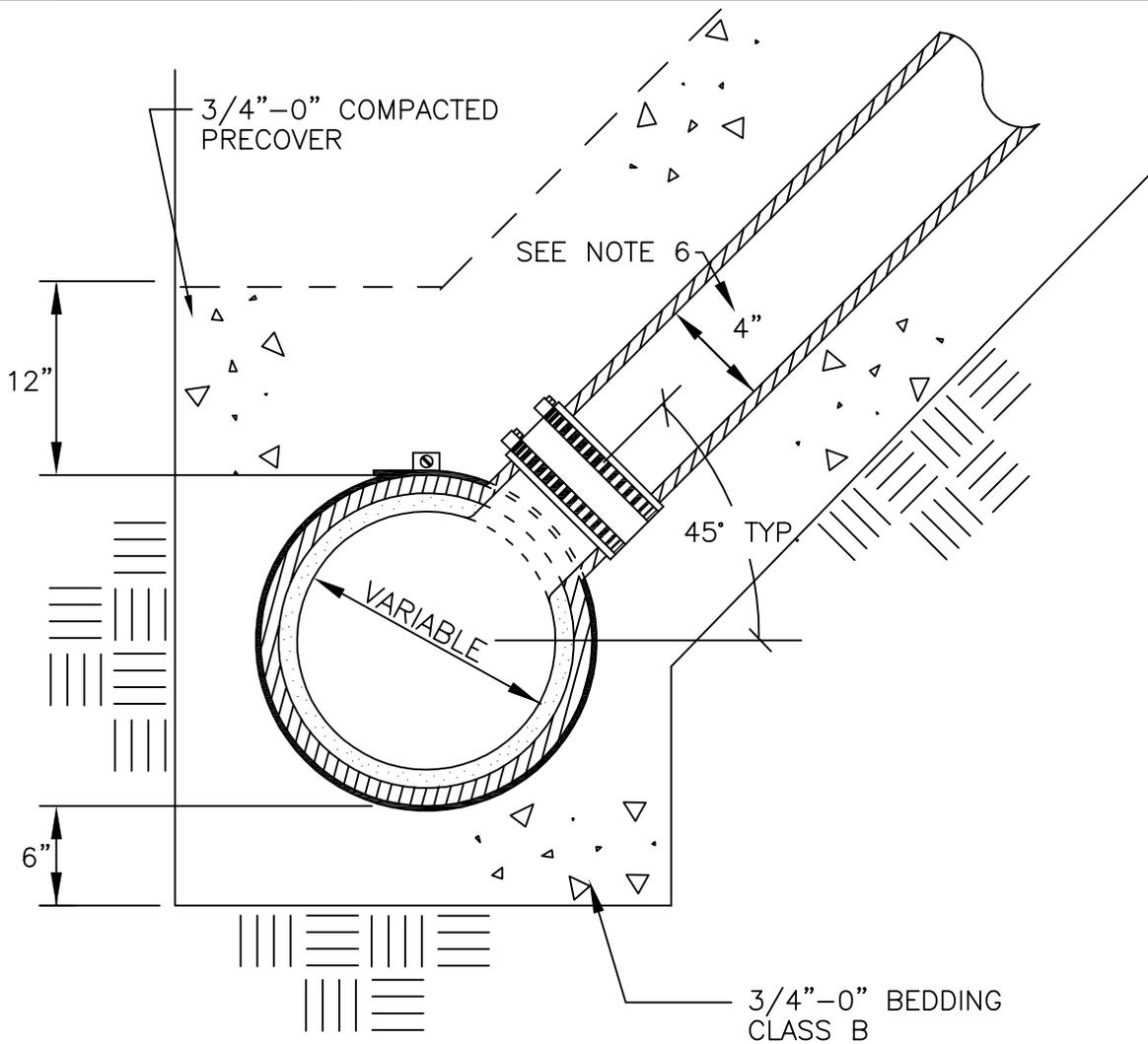
MAY 2010



NOTES:

1. IF IN GRAVEL STREET PLACE 2" A/C PAVEMENT IN 4' DIAMETER CIRCLE AROUND CLEAN-OUT. SLOPE AWAY FROM CLEANOUT.
2. IF IN OPEN AREA & NOT SUBJECT TO STREET USE, USE LOCKING IRRIGATION BOX INSTEAD OF STANDARD CAST IRON CLEAN-OUT RING & COVER.
3. UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER CLEANOUTS ARE TO BE USED ONLY AS A TEMPORARY TERMINUS.
4. ALL CLEAN-OUT MATERIAL TO BE SAME AS SEWER MAIN PIPE.

	CITY OF MILWAUKIE, OREGON – PUBLIC WORKS DEPT.				DRAWING NO.		
	Standard Cleanout				307		
	APPROVED	<i>Gary Parki</i>	5/10	NO.	REVISIONS	DATE	BY
	CITY ENGINEER	DATE	1	CLARIFIED DWG	12/09	JR	MAY 2010



NOTES:

1. THE TAP SHALL NOT BE MADE EXCEPT IN THE PRESENCE OF A CITY INSPECTOR; NOR SHALL ANY CONNECTION BE MADE WITHOUT CITY APPROVAL.
2. AN INSERT-A-TEE OR APPROVED EQUAL SHALL BE USED.
3. HOLE IN MAIN TO BE CORED.
4. TAP TO BE ABOVE SPRINGLINE.
5. 4" MAXIMUM TAP FOR 8" MAIN (CUT-IN TEE TO BE USED FOR 6" HOUSE BRANCH ON 8" MAIN) WITH APPROVED COUPLERS.
6. 4" HOUSE BRANCH MAY BE USED FOR SINGLE FAMILY LOTS ONLY.



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Standard Sewer Tap

DRAWING NO.

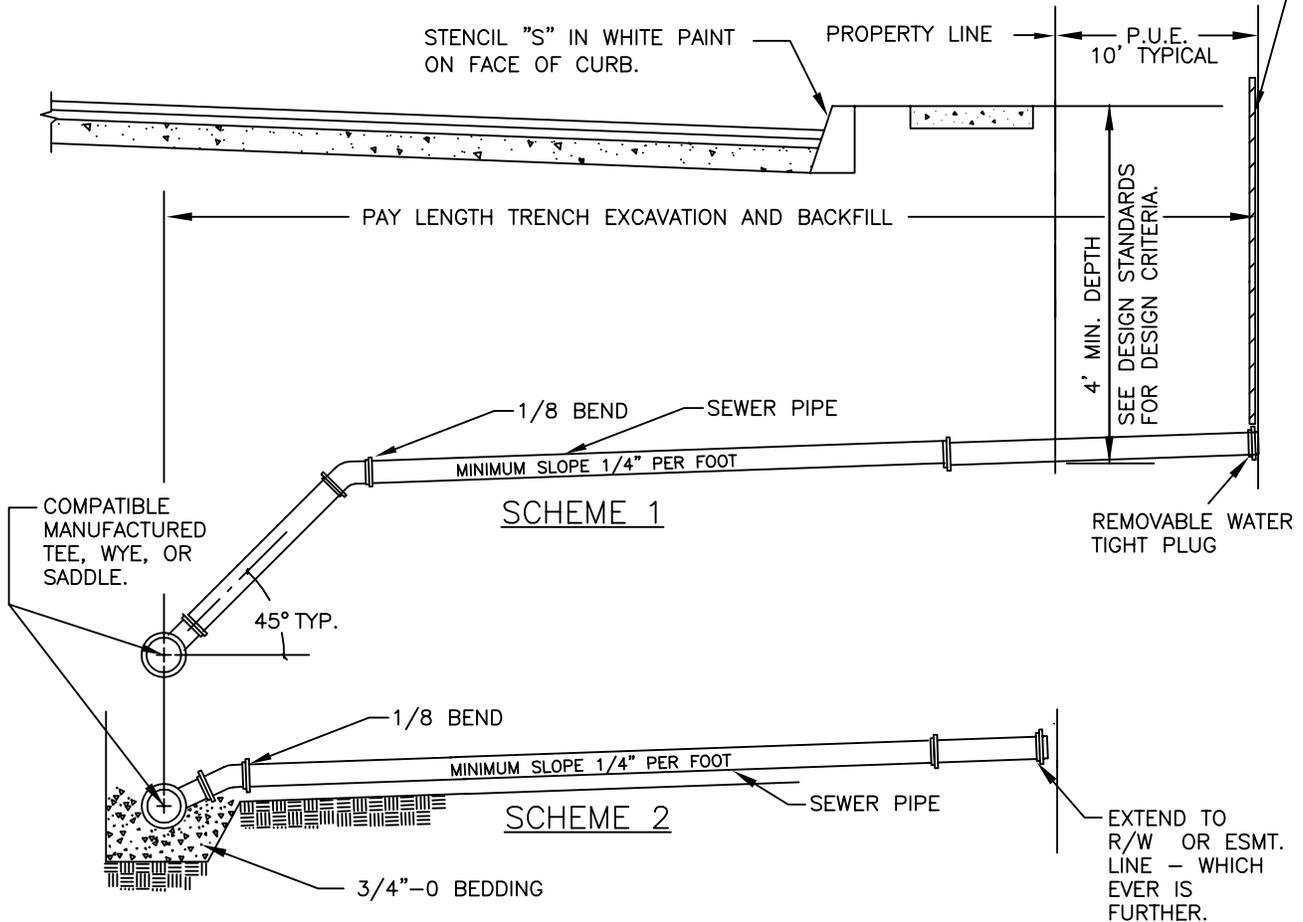
308

APPROVED *Gary Parki* 5/10
 CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	CLARIFIED DWG	10/09	JR

MAY 2010

2" x 4" TREATED STAKE FROM INVERT TO 1' ABOVE FINISH GRADE. STAKE SHALL BE CONTINUOUS AND REMAIN VERTICAL AFTER BACKFILLING. END SHALL BE PAINTED WHITE. (TYPICAL AT ALL SERVICES.)



NOTES:

1. SCHEME AND DEPTH FOR HOUSE SERVICE TO BE DETERMINED IN THE FIELD BY ENGINEER.
2. SERVICE SHALL NOT BE BACKFILLED PRIOR TO INSPECTION.
3. INSTALL TRACER WIRE (GREEN, 18 GAUGE, INSULATED COPPER) FROM MAINLINE TO SURFACE AT 2" x 4" STAKE.



CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Sewer Service Branch

DRAWING NO.

309

APPROVED

Gary Parki 5/10

CITY ENGINEER

DATE

NO.

REVISIONS

DATE

BY

MAY 2010