

NOTES:

1. PC'S & PT'S ARE TO BE WITHIN THE MANHOLE.
2. ALL INVERTS TO BE U-SHAPED CHANNEL EQUAL TO PIPE I.D. AND SHALL BE CONSTRUCTED WITH SWEEPS.
3. A MINIMUM RADIUS (R) OF 2.5 TIMES THE I.D. OF THE BRANCH MAIN IS REQUIRED FOR ALL SWEEPS. IF THE 2.5 TIMES THE I.D. OF THE BRANCH CAN'T BE MET, A LARGER DIAMETER MANHOLE SHALL BE REQUIRED. SEE DETAIL SHEET 9-3.
4. MANHOLE PIPE CONNECTOR SHALL BE A RESILIENT WATER TIGHT SEAL.

CITY OF RAPID CITY

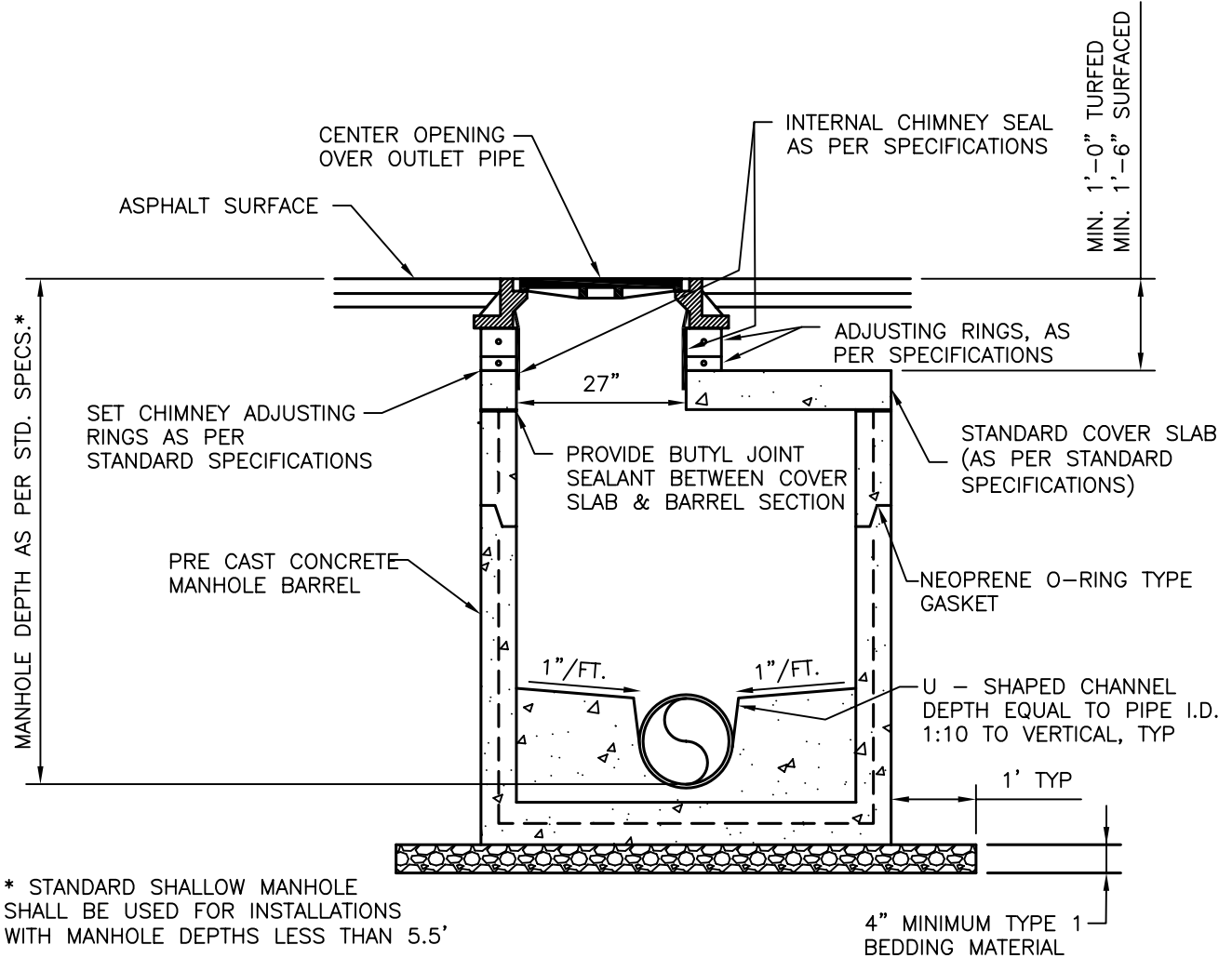
PUBLIC WORKS DEPARTMENT

STANDARD MANHOLE DETAIL WITH
MONOLITHIC BASE (48" & 60")

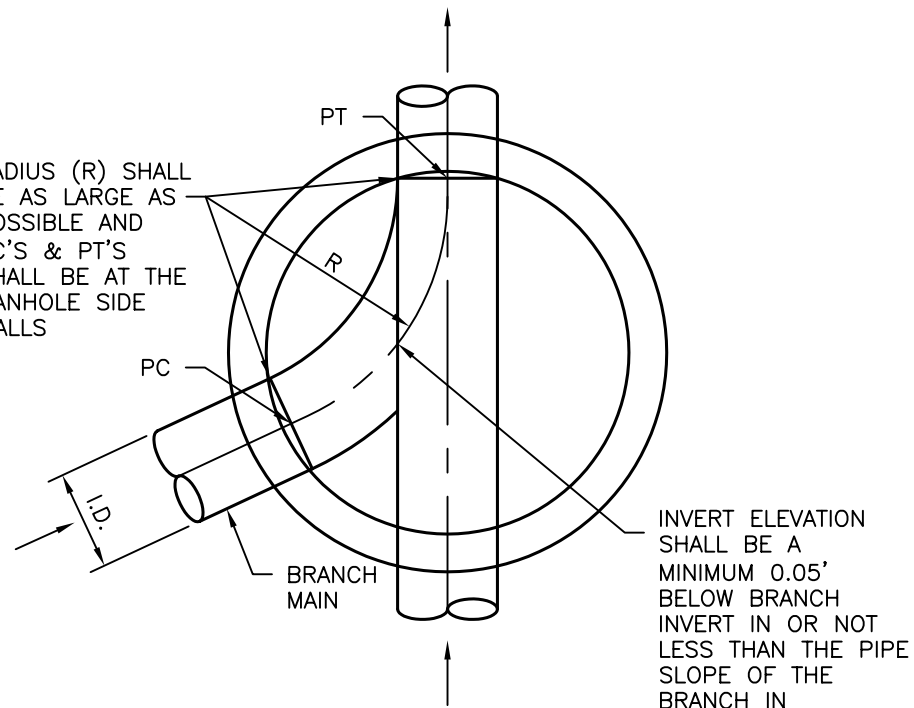
DATE: 5-1-07

SEC. SHT.

9-1

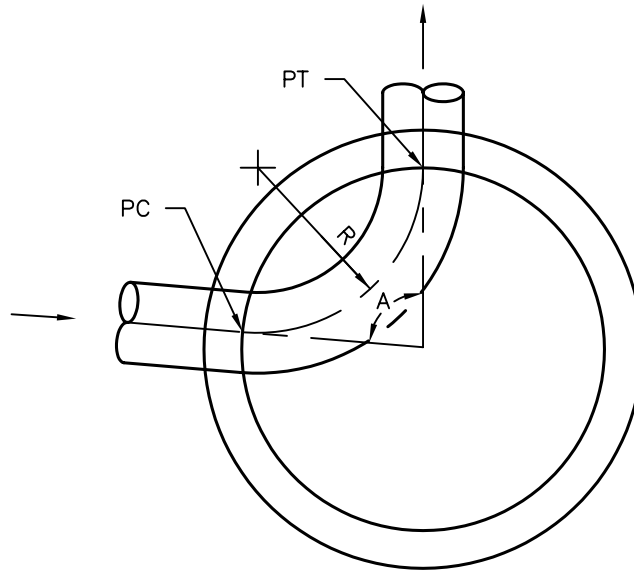


RADIUS (R) SHALL BE AS LARGE AS POSSIBLE AND PC'S & PT'S SHALL BE AT THE MANHOLE SIDE WALLS



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OUTLET PIPE DIA. INCHES	INLET PIPE DIA. INCHES	MIN. ANGLE "A" IN DEGREES				
		48" DIA.	60" DIA.	72" DIA.	84" DIA.	96" DIA.
8	8	80	75	75	75	75
10	8	81	75	75	75	75
10	10	94	80	75	75	75
12	8	81	75	75	75	75
12	10	94	81	75	75	75
12	12	104	91	80	75	75
15	8	83	75	75	75	75
15	10	95	81	75	75	75
15	12	106	92	81	75	75
15	15	117	104	94	84	77



ANGLES LESS THAN 90°

NOTE:

"A" ANGLES LESS THAN 90° REQUIRE THE DESIGN ENGINEER TO SUBMIT A WRITTEN REQUEST AND JUSTIFICATION FOR A DESIGN EXCEPTION, AND OBTAIN CITY APPROVAL. IN NO CASE SHALL THE "A" ANGLE BE LESS THAN 75°.

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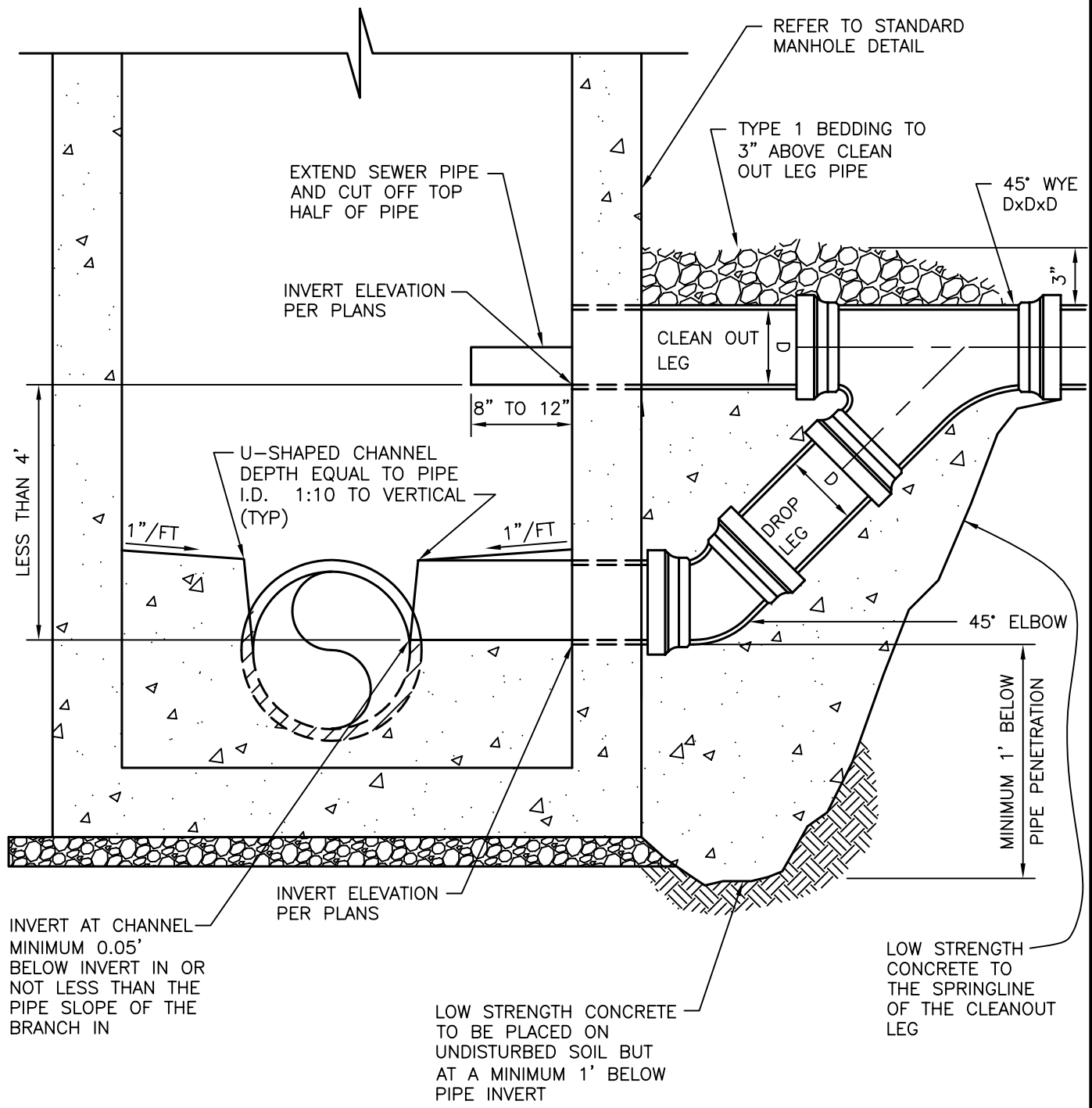
PUBLIC WORKS DEPARTMENT

MINIMUM INVERT ANGLES FOR
SANITARY MANHOLES

DATE: 5-1-07

SEC. SHT.

9-3



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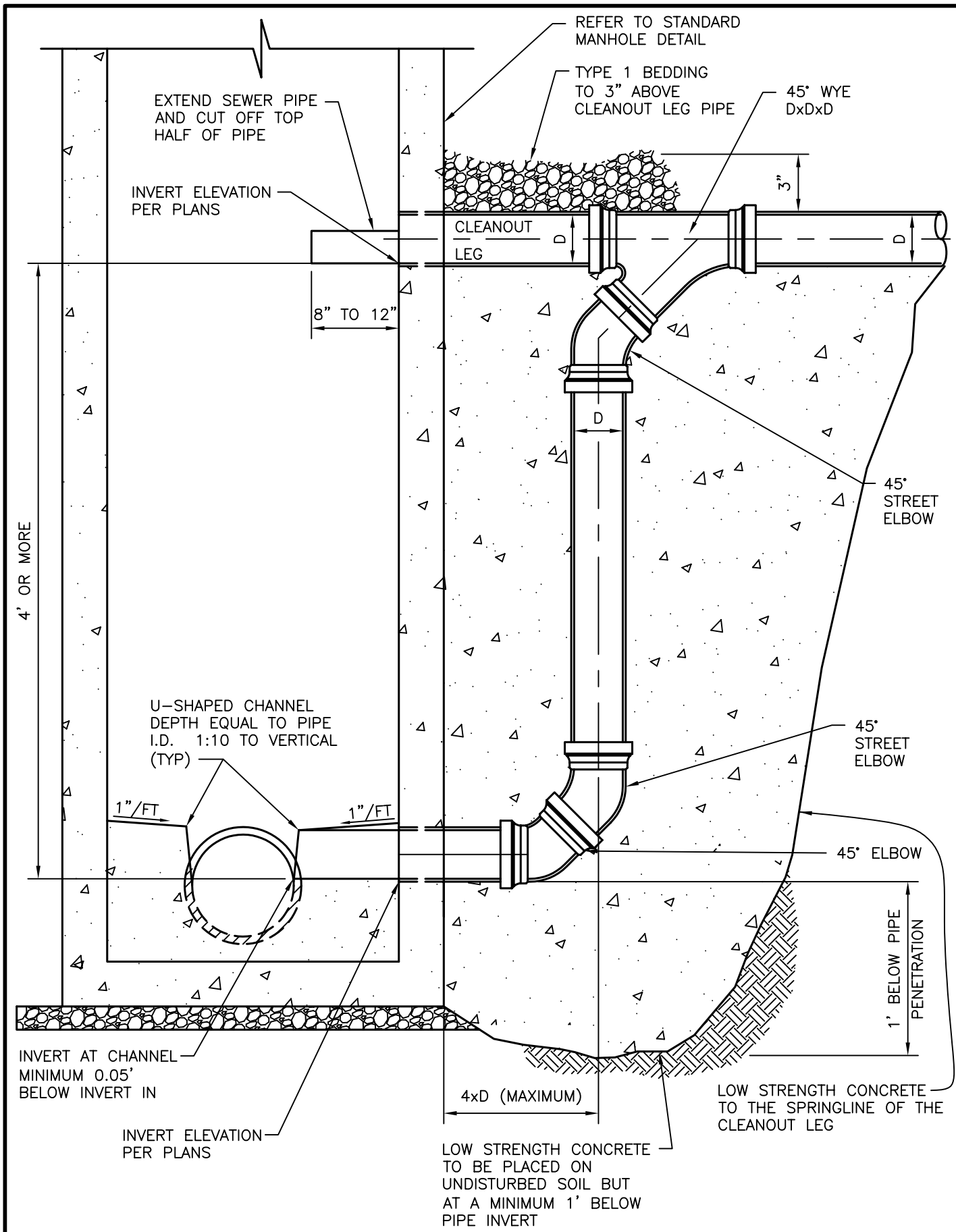
PUBLIC WORKS DEPARTMENT

STANDARD DROP MANHOLE DETAIL
FOR INVERT CHANGES LESS THAN 4'

DATE: 5-1-07

SEC. SHT.

9-4



CITY OF RAPID CITY

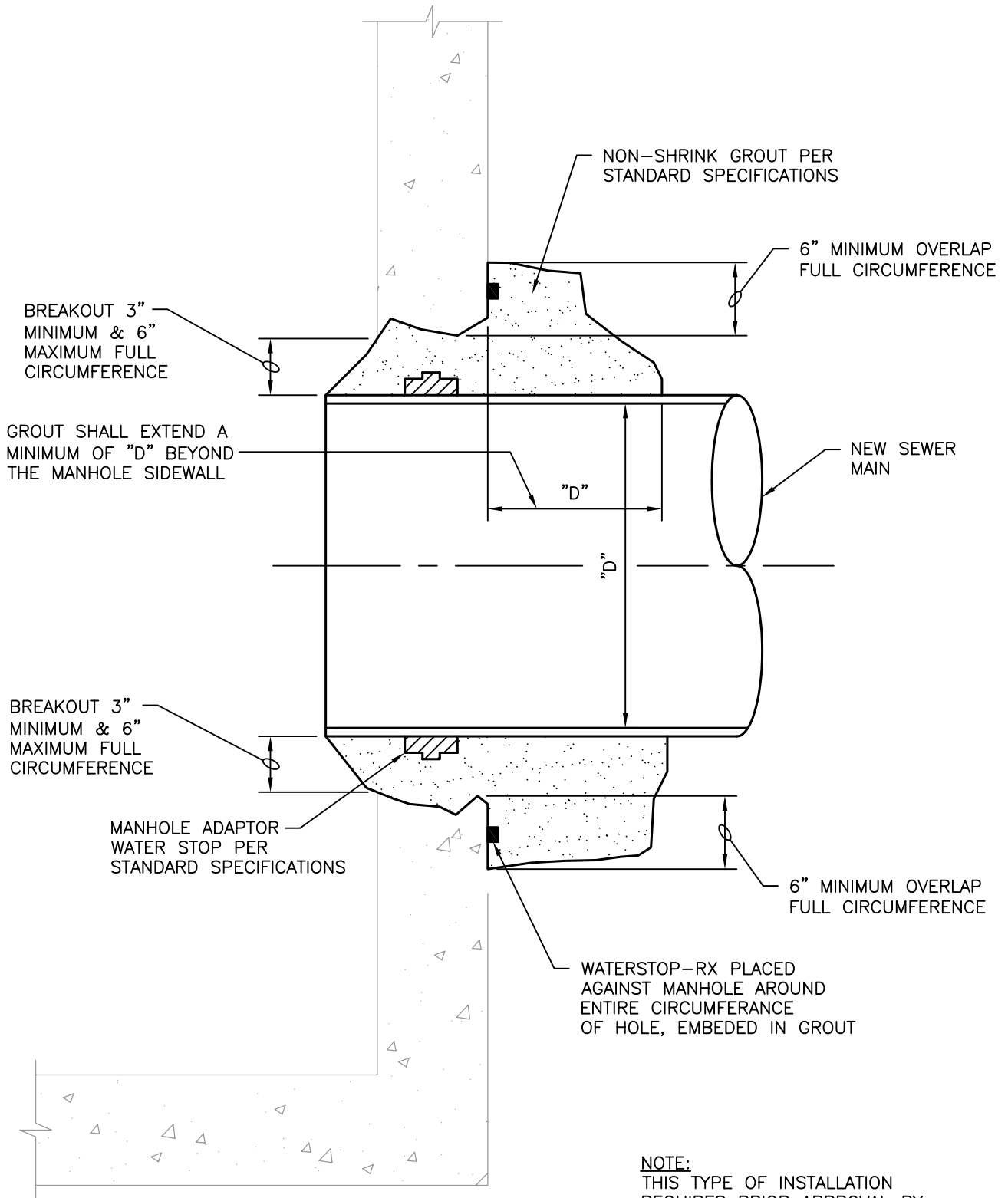
PUBLIC WORKS DEPARTMENT

STANDARD DROP MANHOLE DETAILS
FOR INVERT CHANGES MORE THAN 4'

DATE: 5-1-07

SEC. SHT.

9-5



CITY OF RAPID CITY

PUBLIC WORKS DEPARTMENT

PIPE CONNECTION TO EXISTING MANHOLE
(GROUTED CONNECTION)

DATE: 5-1-07

SEC. SHT.

9-6

NOTES:

1. DEPENDING ON LOCATION, CROSS-SLOPE OF STREET, HEIGHT ADJUSTMENT REQUIREMENTS, ETC.. THE INSPECTOR/ENGINEER RESERVES THE RIGHT TO REQUIRE A LARGER CUT TO ASSURE THAT ALL TRANSITIONS AND TOLERANCES AS CALLED FOR IN CITY SPECIFICATIONS WILL STILL BE MET.

2. BLOCKS FOR SHIMMING PER SPECIFICATIONS.

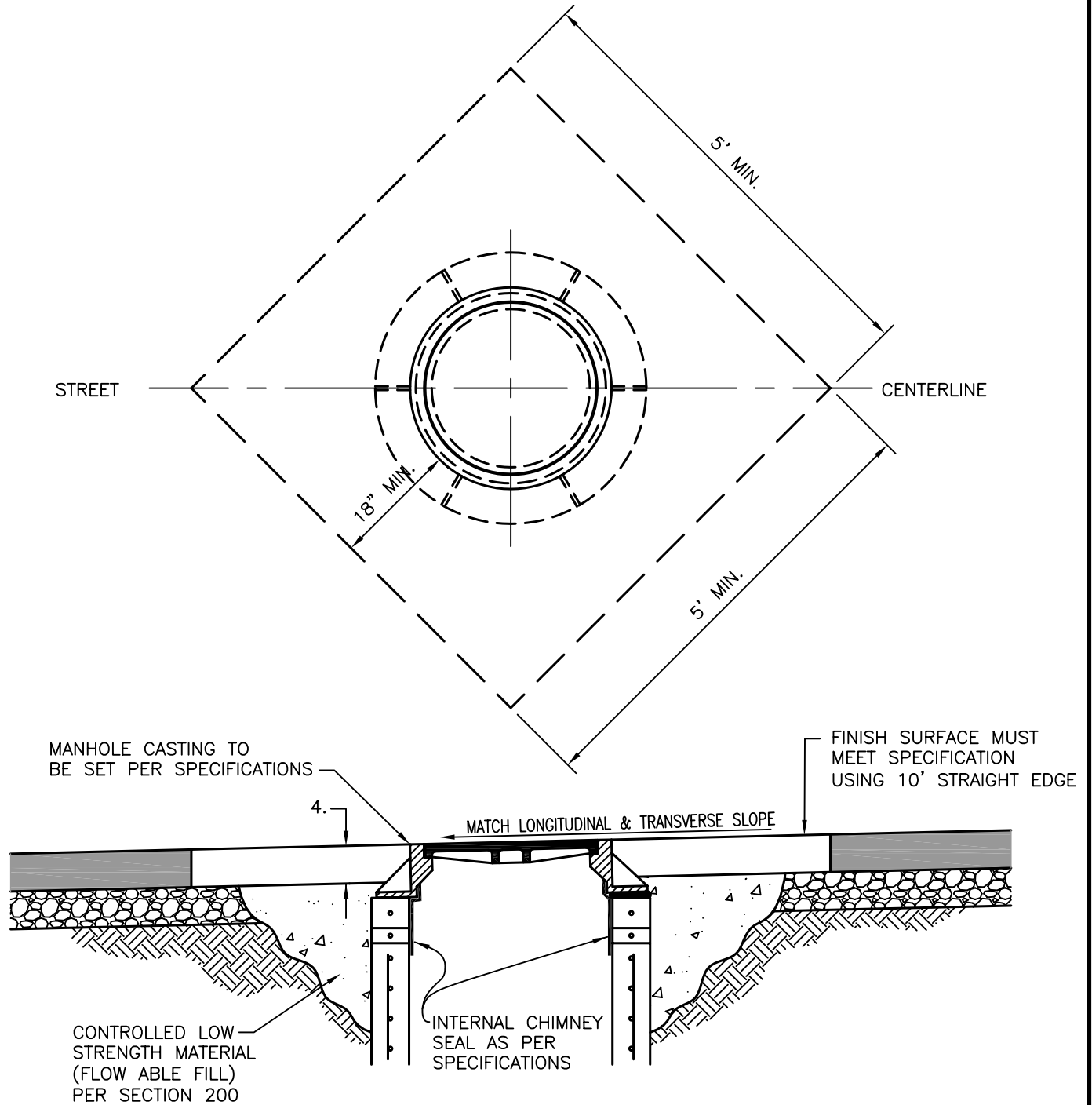
3. 0.25 INCH MAX.. SURFACE DEVIATION IN 10 FEET.

4. PATCH MATERIAL – PATCH MATERIAL SHALL MATCH THE EXISTING PAVEMENT MATERIAL. (i.e. PCC PAVEMENT SHALL BE PATCHED WITH PCC AND EXISTING ASPHALT PAVEMENT WITH ASPHALT).

MINIMUM PATCH DEPTHS SHALL BE:

*PCC-6" PCC PAVEMENT OR MATCH MINIMUM EXISTING PAVEMENT DEPTH WHICHEVER IS GREATER.

*ASPHALT-5" MINIMUM. (2 LIFTS COMPACTED OR MATCH EXISTING PAVEMENT DEPTH WHICHEVER IS GREATER).



CITY OF RAPID CITY

PUBLIC WORKS DEPARTMENT

MANHOLE ADJUSTMENT AND PATCH DETAIL

DATE: 5-1-07

SEC. SHT.

9-7

4'x4'x6"
CONCRETE PAD

#4 REBAR

7 1/2"

PVC CLEAN OUT WITH
CAP. CLEAN OUT SHALL
BE SAME SIZE AS SEWER
MAIN STUB OUT (8" MIN..)

18"x18" OPENING
IN SLAB

STANDARD SANITARY SEWER
MANHOLE, RING & COVER

6"
6"

3/4" BASE COURSE

4" MIN. PVC CAP

45° STREET ELBOW

INSTALL TWO 45° BENDS
AT END OF STUB OUT AND
BRING PIPE UP TO PROPER
ELEVATION

FLOW LINE ELEVATION

45° ELBOW

NOTE:

AS BUILT, RECORD FLOW LINE
ELEVATION IN RELATION TO NEAREST
MANHOLE PRIOR TO BACK FILL

THE INSTALLATION OF A STANDARD SEWER MAIN
TERMINATION CLEAN OUT IS NOT PERMITTED
WITHIN THE JURISDICTIONAL BOUNDARIES OF THE
CITY OF RAPID CITY UNLESS WRITTEN APPROVAL
FROM THE CITY ENGINEER IS OBTAINED AND THEN
IS ONLY PERMITTED IF THERE ARE OR WILL NOT
BE ANY SANITARY SEWER SERVICES CONNECTED
TO THE SEWER MAIN BETWEEN THE CLEAN OUT
AND THE NEXT DOWN STREAM MANHOLE.

CITY OF RAPID CITY

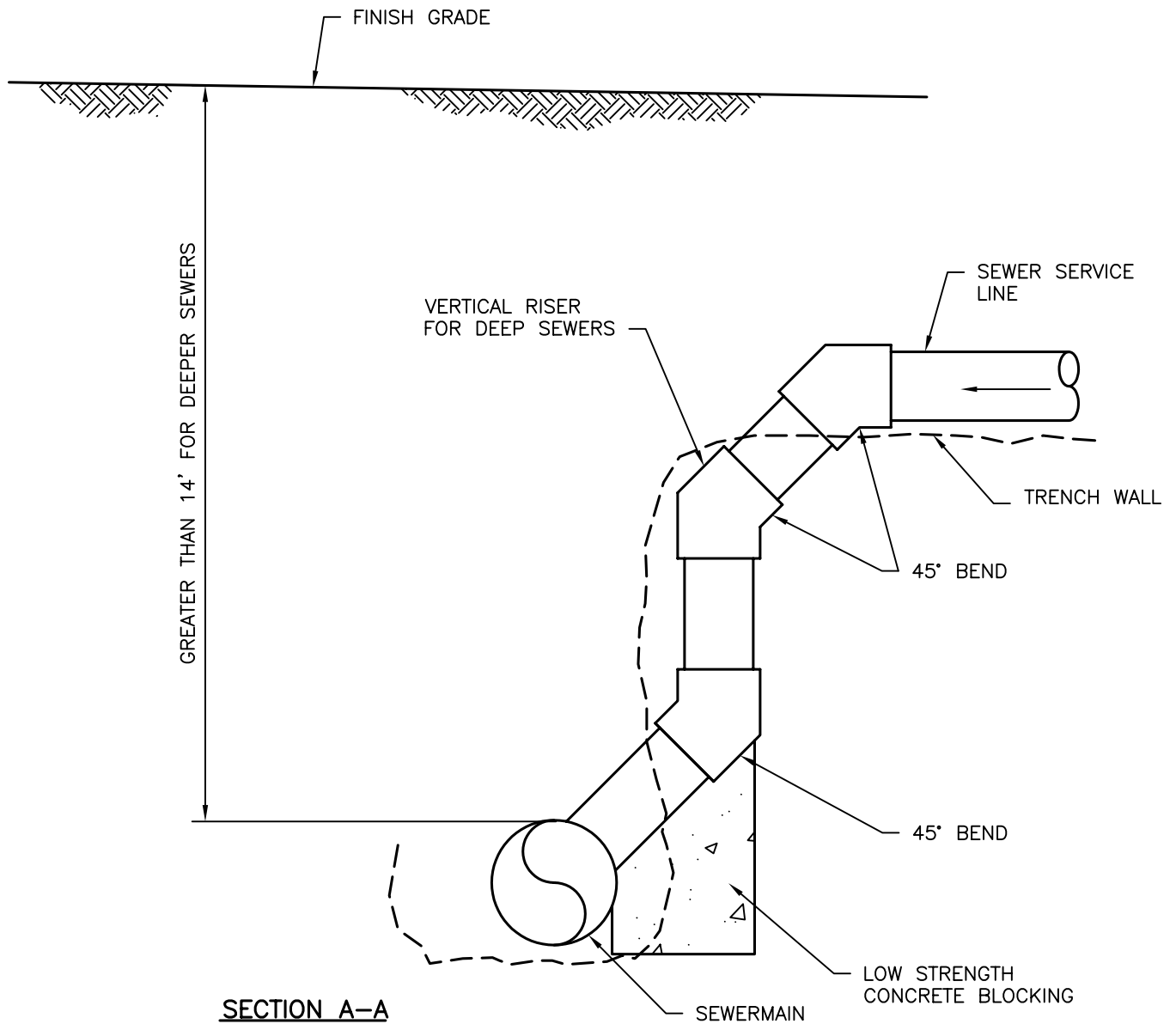
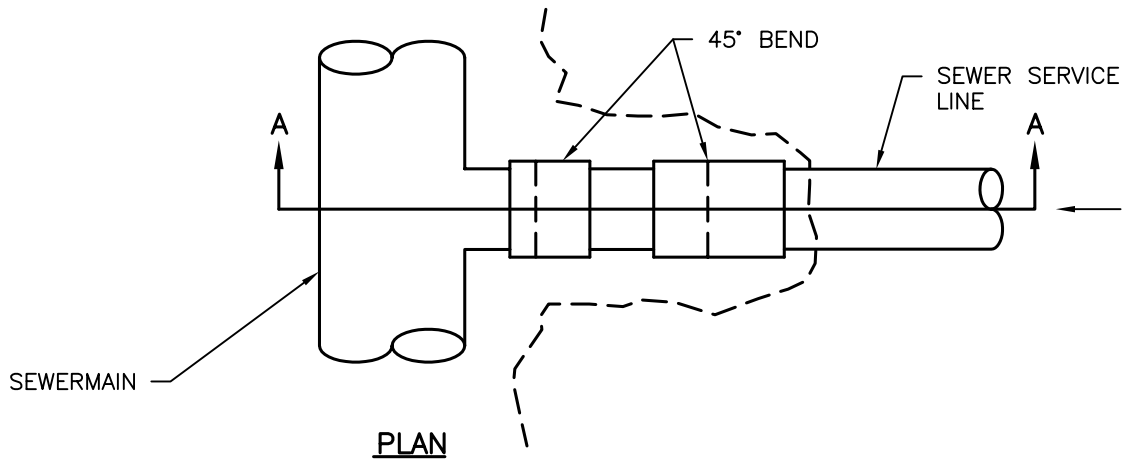
PUBLIC WORKS DEPARTMENT

STANDARD SEWER MAIN TERMINATION CLEAN OUT

DATE: 5-1-07

SEC. SHT.

9-8



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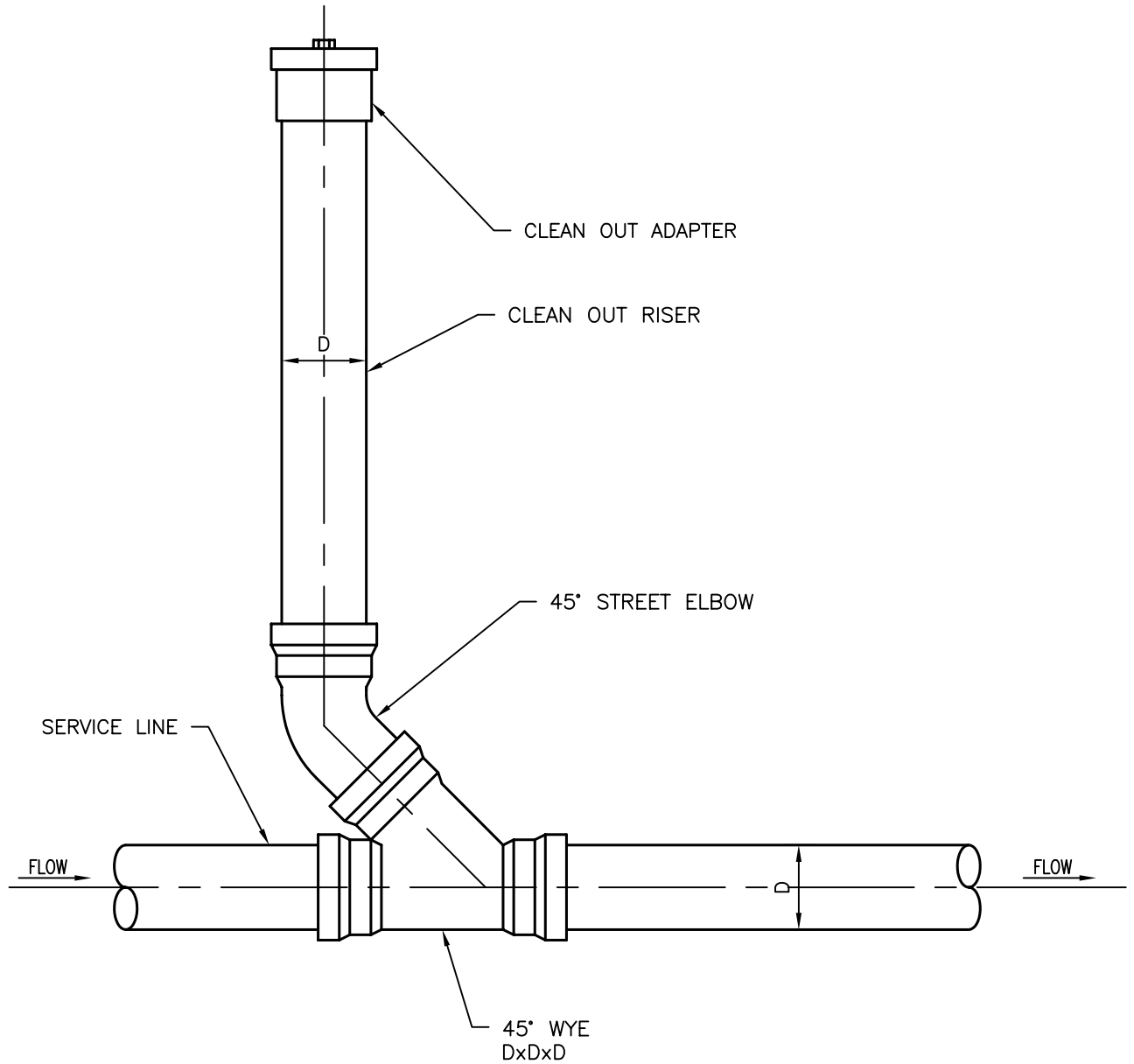
PUBLIC WORKS DEPARTMENT

DEEP SANITARY
SERVICE CONNECTION

DATE: 5-1-07

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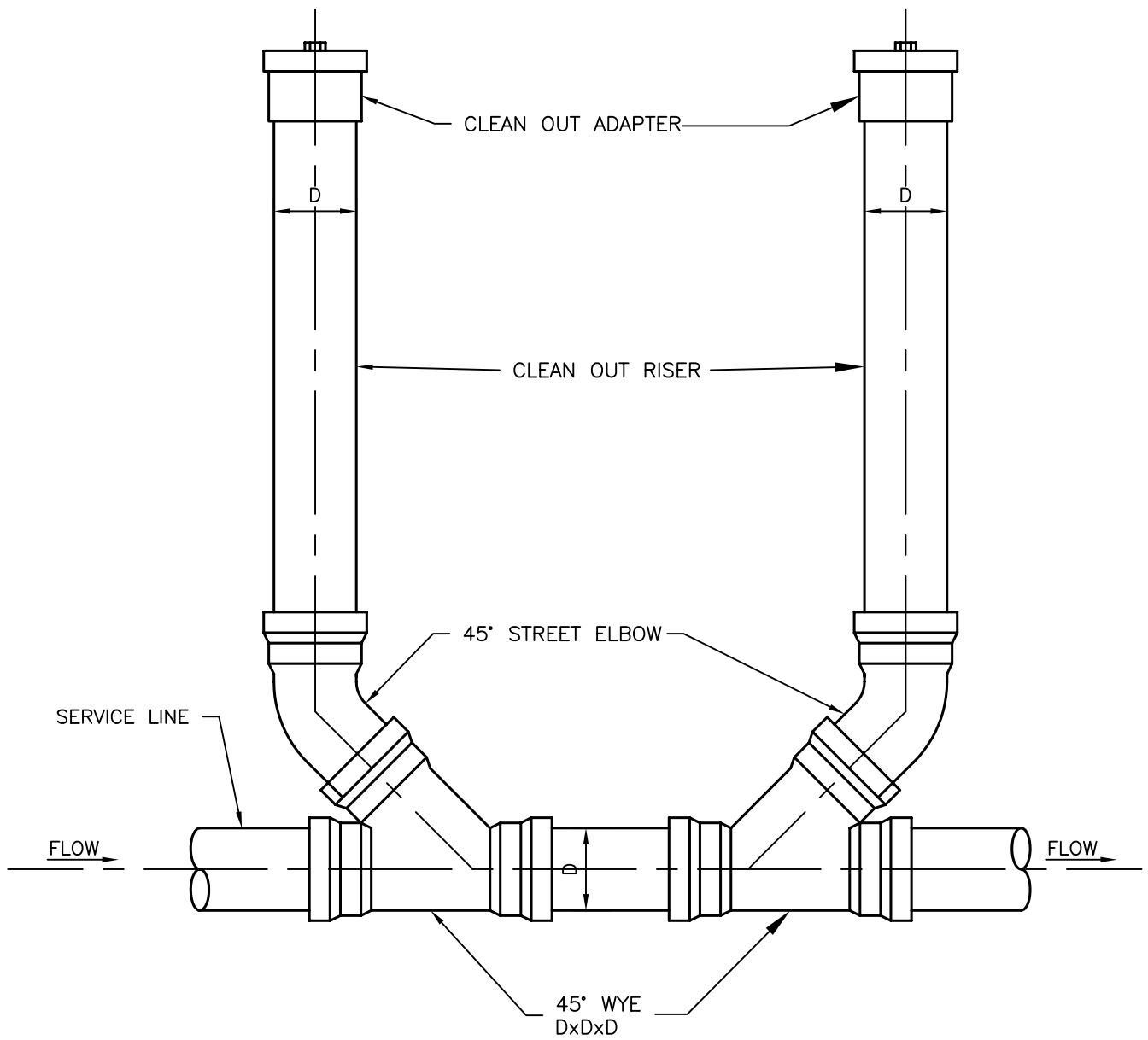
9-9



ELEVATION

NOTES:

1. ALL FITTINGS SHALL BE GASKETED.
2. CLEAN OUTS TO BE SAME DIAMETER (D) AS SERVICE LINE.



ELEVATION

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2. CLEAN OUTS TO BE SAME DIAMETER (D) AS SERVICE LINE

CITY OF RAPID CITY

PUBLIC WORKS DEPARTMENT

SANITARY SEWER SERVICE
DOUBLE CLEAN OUT DETAIL

DATE: 5-1-07

SEC. SHT.

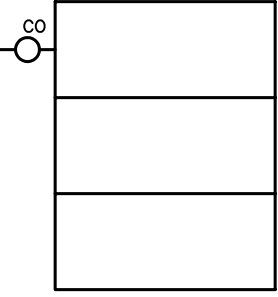
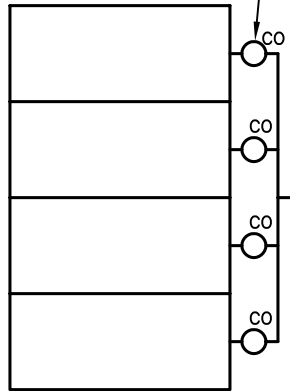
9-11

MULTI-UNIT, SINGLE OWNER

MULTI-UNIT, SINGLE OWNER

PROPERTY LINE

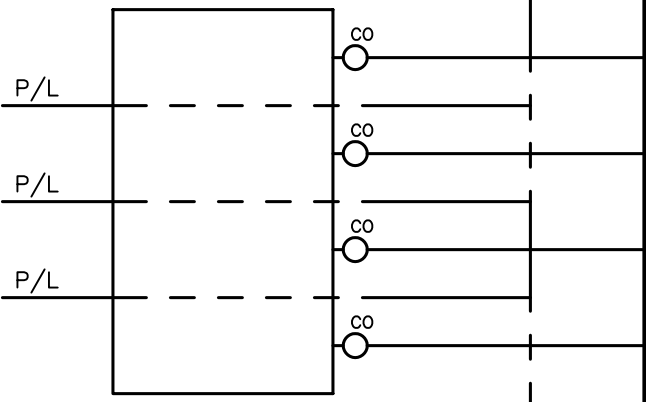
CLEANOUT,
TYP



CONDOMINIUMS ARE INCLUDED IN THIS CLASSIFICATION

P/L

MULTI-UNIT, MULTIPLE OWNERS

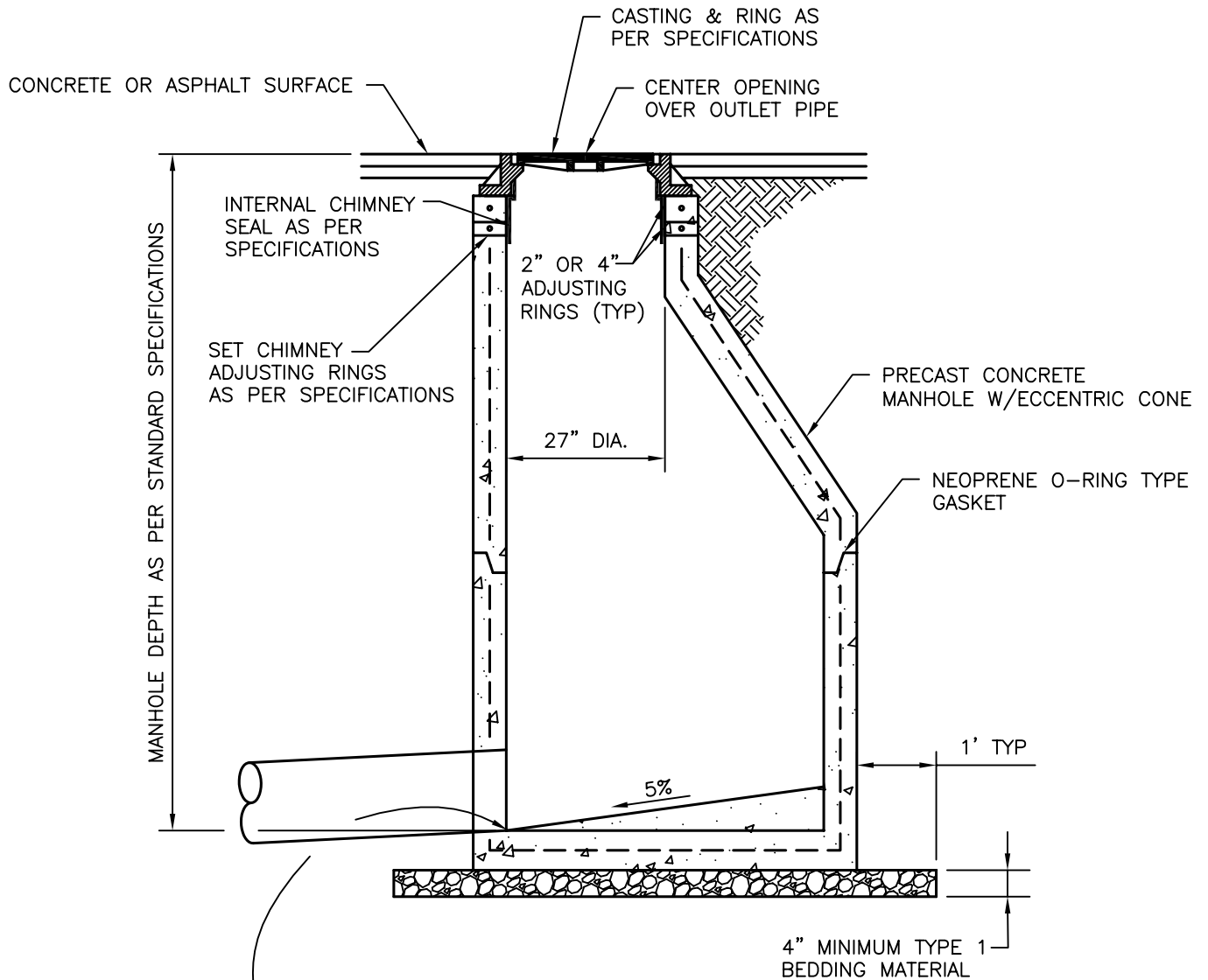


P/L

TOWNHOMES ARE INCLUDED IN THIS CLASSIFICATION

NOTES:

1. 4" & 6" SERVICES SHALL BE CONNECTED TO THE SEWER MAIN, 8" OR LARGER SERVICES SHALL BE CONNECTED TO THE MAIN AT A MANHOLE.
2. CLEANOUT (CO) SPACING & LOCATION PER DESIGN CRITERIA AND PLUMBING CODE.



SLOPE MANHOLE INVERT SO THAT ANY FLOW ENTERING MANHOLE WILL FLOW INTO PIPE PENETRATION. 'U' SHAPED CHANNEL REQUIREMENTS ARE NOT REQUIRED FOR TERMINATION MANHOLES

NOTE:

MANHOLE PIPE CONNECTOR SHALL BE A RESILIENT WATER TIGHT SEAL.