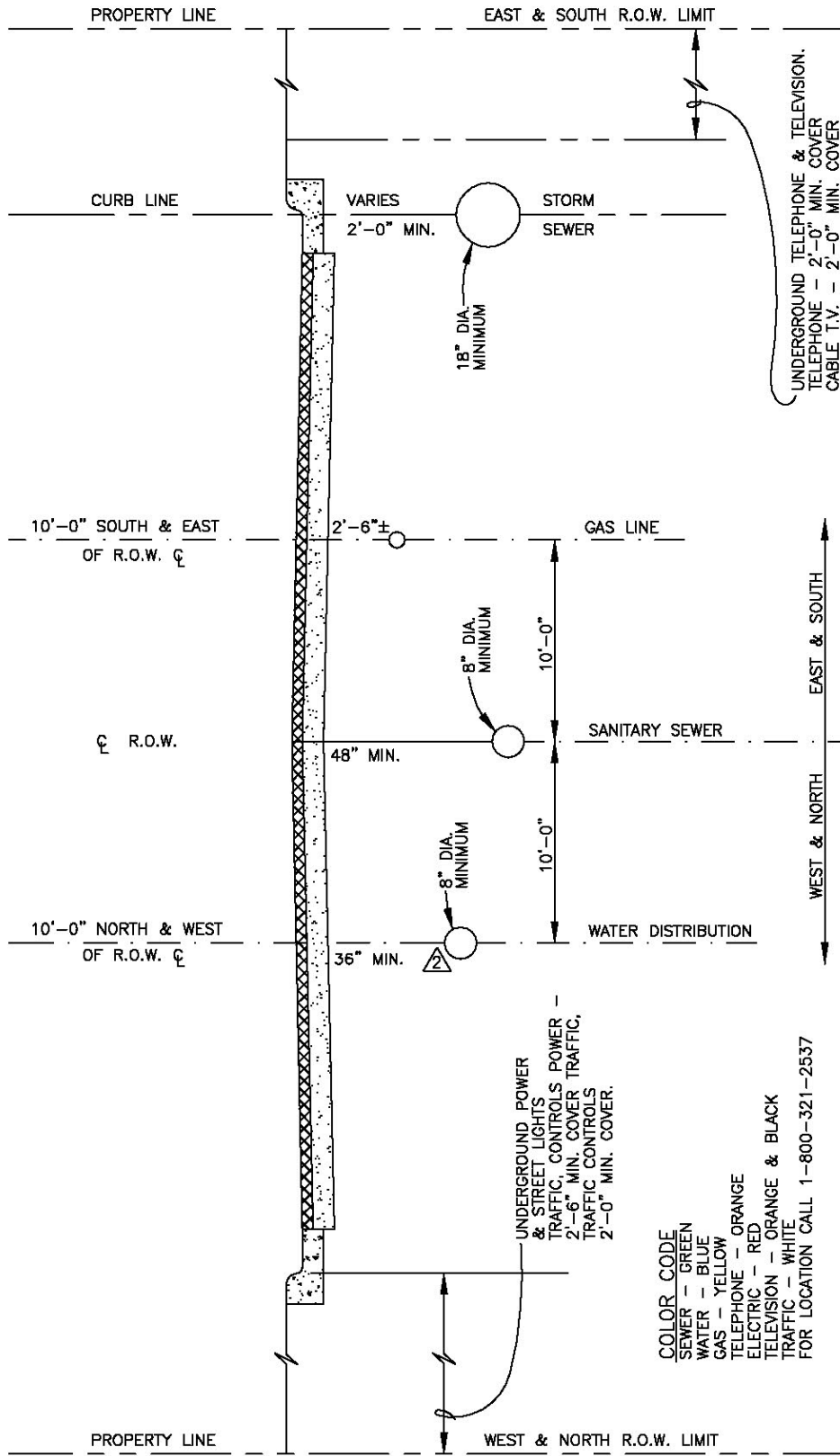


## Pipe

General Utility Location .....	D-401 (1-2)
Casting Spacers .....	D-402
Pipe Culvert Full Height Headwall .....	D-404.1
Pipe Culvert Full Height Headwall Dimensions .....	D-404.2
Pipeline Installation in Rock Areas .....	D-405
Sewer Line Encasement .....	D-409
Pipe Bedding.....	D-410



**COLOR CODE**  
 SEWER - GREEN  
 WATER - BLUE  
 GAS - YELLOW  
 TELEPHONE - ORANGE  
 ELECTRIC - RED  
 TELEVISION - ORANGE & BLACK  
 TRAFFIC - WHITE  
 FOR LOCATION CALL 1-800-321-2537

**NOTES**

- 1) FOR SANITARY SEWER AND/OR WATERLINES GREATER THAN 16" IN DIAMETER, UTILITY LOCATIONS MUST BE ADJUSTED TO MAINTAIN MINIMUM SEPARATION OUTSIDE, BETWEEN SEWER AND WATERLINES IN WHICH CASE THE SANITARY WILL BE RELOCATED TO THE SOUTH OR EAST.
- 2) A MINIMUM OF 3' SEPARATION BETWEEN WATERLINE, SEWER LINE AND TELEPHONE, ELECTRIC OR CABLE T.V. LINES IS REQUIRED. A MINIMUM OF 6" VERTICAL CLEARANCE REQUIRED WHEN CROSSING OCCURS. A 2' SEPARATION IS ALLOWED BETWEEN WATERLINE AND MANHOLES FOR THESE UTILITIES.
- 3) STRICT ADHERENCE TO THESE LOCATIONS MAY NOT ALWAYS BE PRACTICAL; LOCATIONS WILL BE RESOLVED BETWEEN THE INVOLVED UTILITIES.
- 4) MINIMUM COVER WILL BE MEASURED FROM FINISHED GRADE TO TOP OF UNDERGROUND LINES.
- 5) ANY CHANGES IN MINIMUM SEPARATION WILL BE APPROVED BY CITY ENGINEER.

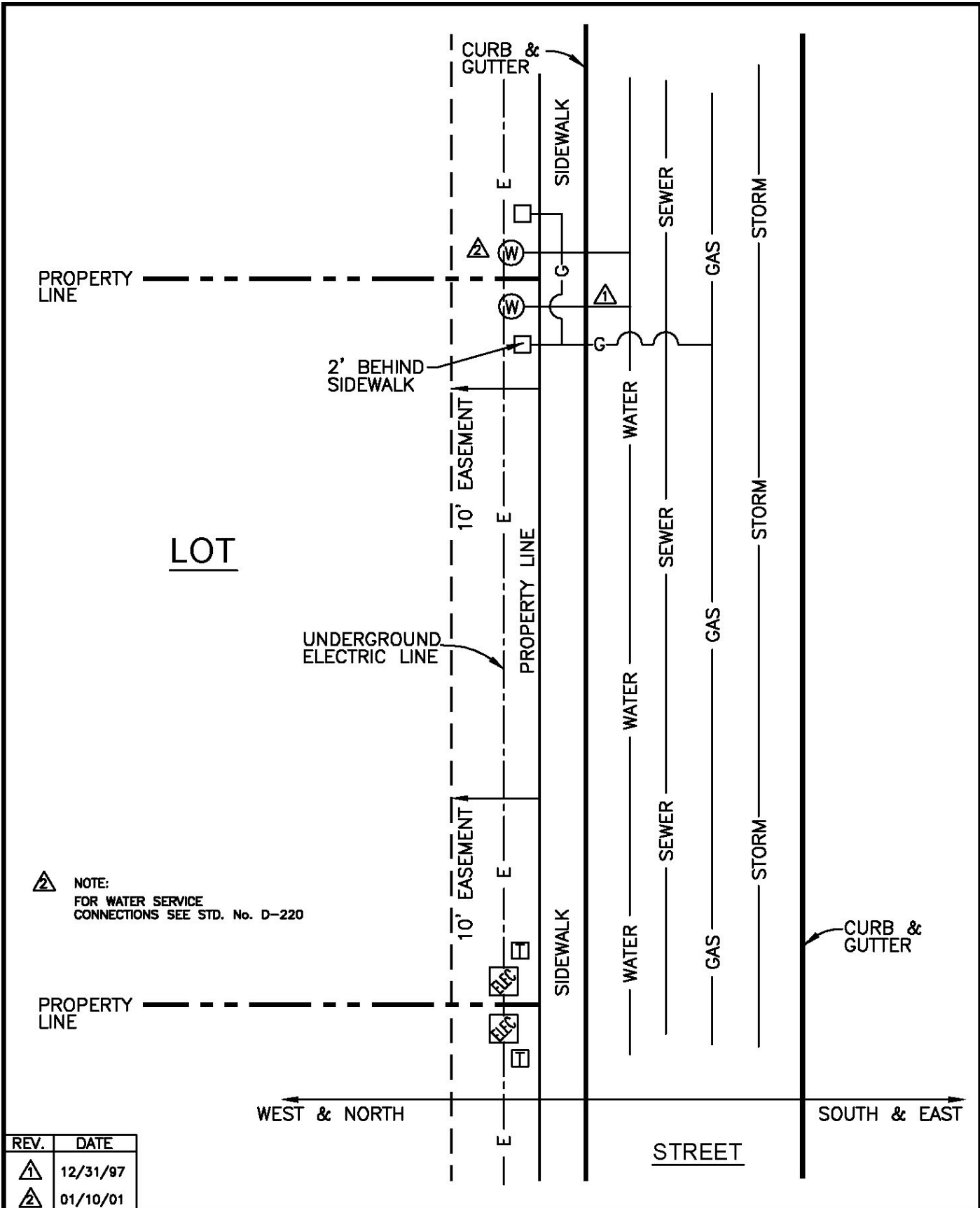
REV.	DATE
1	12/15/94
2	01/02/01

**CONSTRUCTION STANDARDS**

**GENERAL UTILITY LOCATION**

STANDARD No. D-401 SHEET 1 OF 2

**CITY OF AZTEC**  
**PUBLIC WORKS DEPARTMENT**



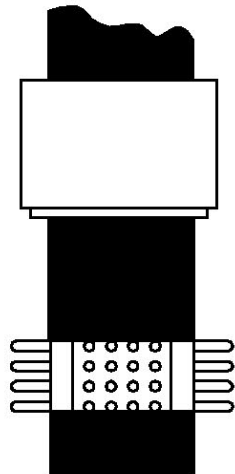
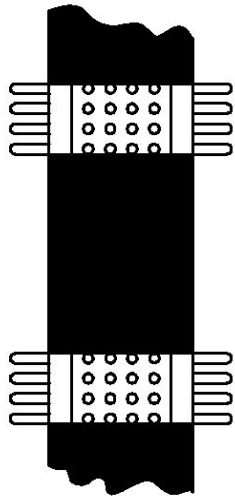
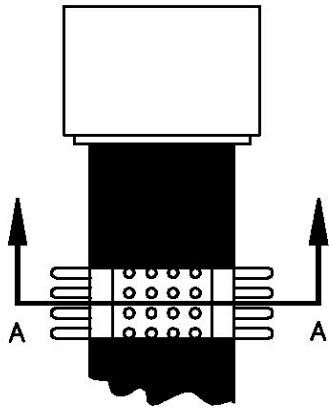
REV.	DATE
①	12/31/97
②	01/10/01

CONSTRUCTION  
STANDARDS

# GENERAL UTILITY LOCATION

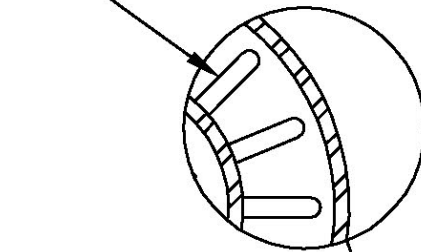
STANDARD No. D-401 SHEET 2 OF 2

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT

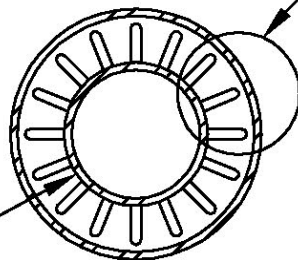


HIGH DENSITY POLYETHYLENE CASING SPACERS  
 RACI TYPE F/G O.C. OR APPROVED EQUAL BY CONTRACTOR

NOT TO SCALE



SECTION A-A.



CARRIER PIPE AND SIZE PER PLAN  
 FURNISHED AND INSTALLED BY CONTRACTOR

NOT TO SCALE

REV.	DATE
ALL	01/03/01

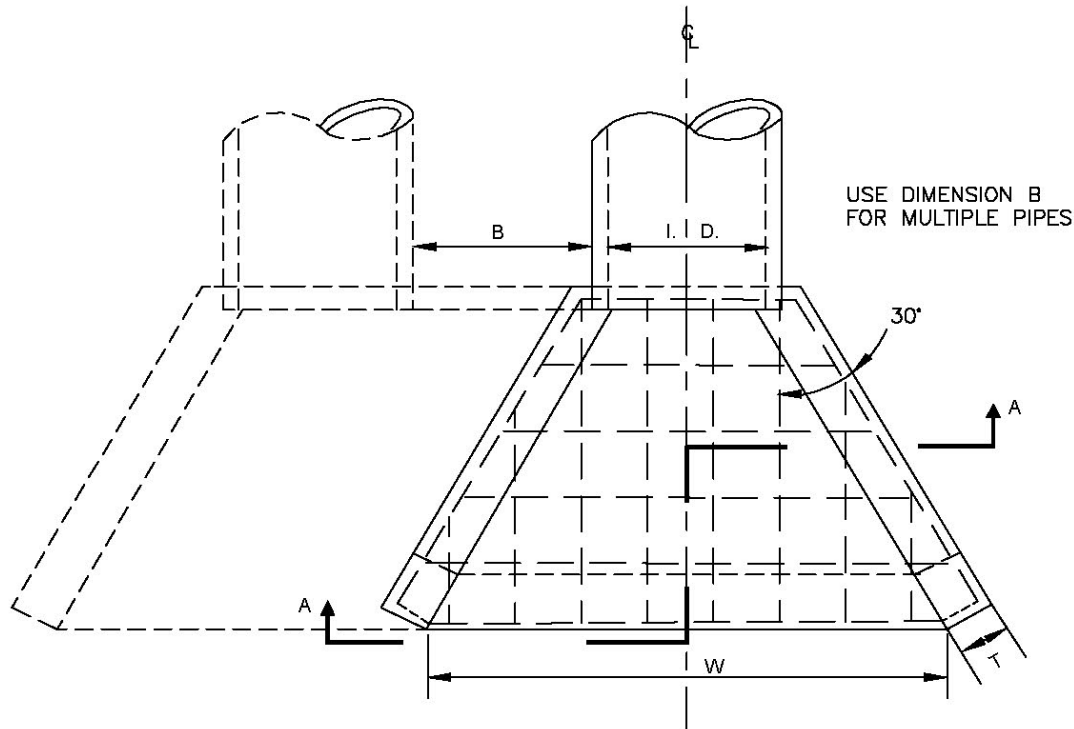
NOTES 1) SIZE AND TYPE PER PLAN

CONSTRUCTION  
 STANDARDS

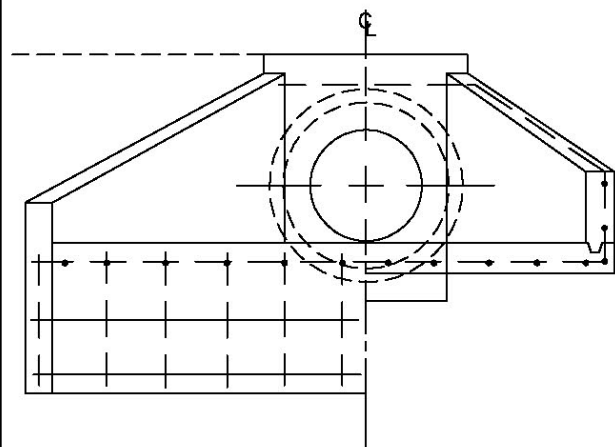
# CASTING SPACERS

STANDARD No. D-402 SHEET 1 OF 1

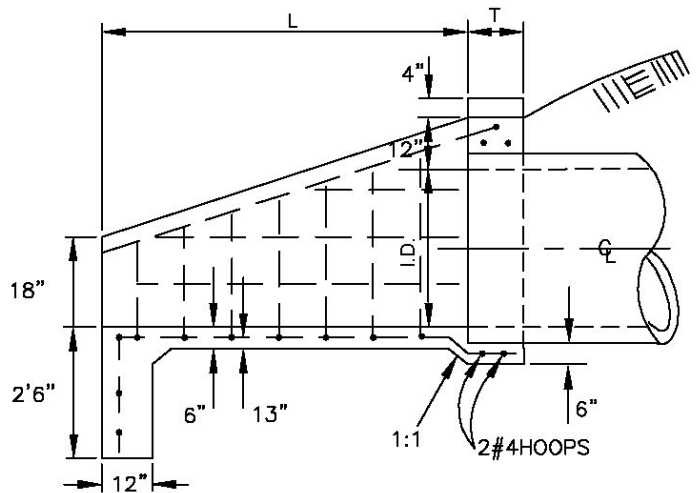
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 AZTEC  
 PUBLIC WORKS  
 DEPARTMENT



USE DIMENSION B FOR MULTIPLE PIPES



SECTION A-A



LONGITUDINAL SECTION

**NOTE:**  
ALL BARS #4@12" MIN. 2 1/2" CLEAR OUTSIDE FACE  
OR AS SHOWN.

CONSTRUCTION  
STANDARDS

PIPE CULVERT FULL  
HEIGHT HEADWALL

STANDARD No. D-404 SHEET 1 OF 2

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT

PIPE  INSIDE DIAMETER	DIMENSIONS				APPROXIMATE QUANTITIES			
	T	L	W	B	SINGLE PIPE HEADWALL		ADD EACH ADDITIONAL PIPE	
					CONC. C.Y.	REIN. STEEL LBS.	CONC. C.Y.	REIN. STEEL LBS.
12	8	4'-0"	5'-7 7/16"	1'-6"	1.60	93	0.71	38
15	8	4'-6"	6'-5 3/8"	1'-6"	1.72	118	0.73	44
18	8	5'-0"	7'-3 1/4"	1'-9"	2.00	133	0.92	49
21	9	5'-6"	7'-6 5/16"	1'-9"	2.39	150	1.09	55
24	9	6'-0"	8'-11 1/8"	2'-0"	2.79	182	1.35	74
27	9	6'-6"	9'-9"	2'-3"	3.15	201	1.59	80
30	10	7'-0"	10'-7"	2'-6"	3.81	231	1.93	100
36	10	8'-0"	12'-2 7/8"	3'-0"	4.65	288	2.51	130
42	10	9'-0"	13'-10 11/16"	3'-6"	5.61	330	3.19	164
48	11	10'-0"	15'-8 9/16"	4'-0"	7.02	404	4.11	202
54	11	11'-0"	17'-2 7/16"	4'-6"	8.25	468	4.96	242
60	12	12'-0"	18'-10 1/4"	5'-0"	10.16	540	6.11	287
72	12	14'-0"	22'-2"	5'-6"	12.94	650	7.69	344

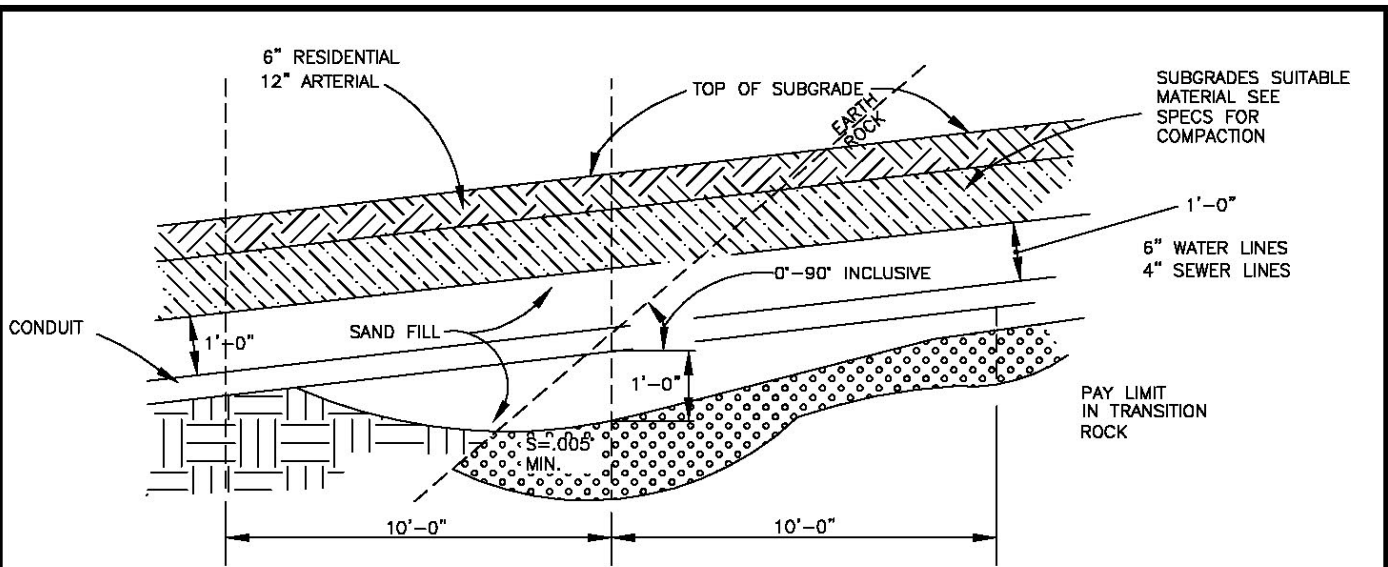
FOR ELLIPTICAL OR SQUASH PIPE USE NEXT LARGEST HORIZONTAL  
AND VERTICAL PIPE I.D. SHOWN.

CONSTRUCTION  
STANDARDS

PIPE CULVERT FULL HT.  
HEADWALL DIMENSIONS

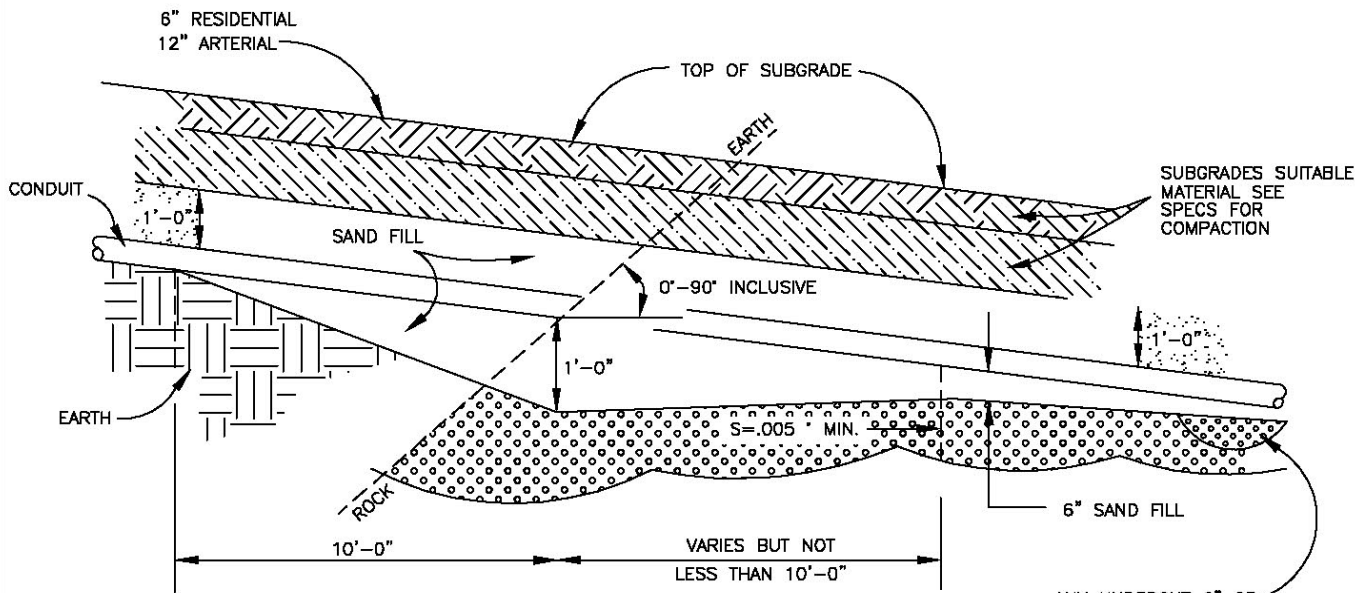
STANDARD No. D-404 SHEET 2 of 2

CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT



**EARTH TO ROCK  
LONGITUDINAL TRANSITION**

ANY MODIFICATIONS OR  
CHANGES SHALL BE  
APPROVED AT THE DIRECTION  
OF THE CITY ENGINEER



**NOTES**

AS DETERMINED BY A.S.T.M. D.-1557  
A.A.S.H.O. DEG. T-147-FIELD TEST  
MOISTURE CONTENT OF ALL COMPACTED  
SUBGRADE MATERIAL IN PLACE SHALL  
BE NO GREATER THAN OPTIMUM NOR  
ANY LESS THAN OPTIMUM MINUS 5%

ANY UNDERCUT 6" OR  
OVER TO BE FILLED  
WITH 1 1/2" STONE

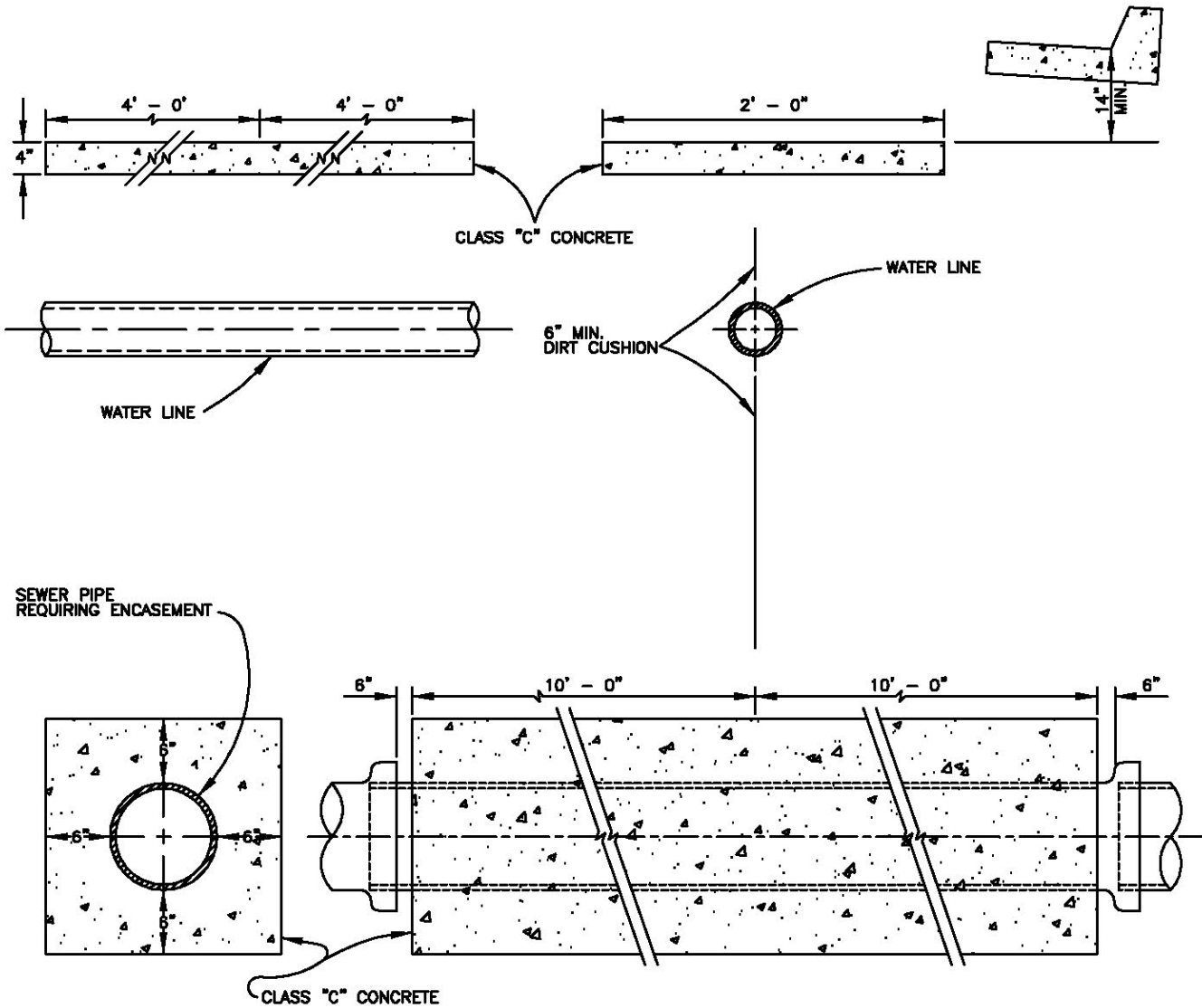
**EARTH TO ROCK  
LONGITUDINAL TRANSITION**

**CONSTRUCTION  
STANDARDS**

**PIPELINE INSTALLATION  
IN ROCK AREAS**

STANDARD NO. D-405 SHEET 1 OF 1

**CITY OF  
AZTEC  
PUBLIC WORKS  
DEPARTMENT**



NOTES

- 1) ENCASEMENT IS REQUIRED WHERE THE VERTICAL SEPARATION BETWEEN A WATER LINE AND A V.C.P. SEWER LINE DOES NOT EXCEED 24" AT A CROSSING. ENCASEMENT IS TO EXTEND A MINIMUM OF 10' EACH DIRECTION ALONG THE SEWER LINE FROM THE POINT OF CROSSING.
- 2) ENCASEMENT IS NOT REQUIRED IF DUCTILE IRON PIPE OR PVC IS USED FOR SEWER LINE A MINIMUM OF 10' EACH DIRECTION FROM CROSSING. IF WATER MAIN CROSSES UNDER SEWER MAIN, THE SEWER MAIN MUST BE ENCASED, AND WATER MAIN SHALL BE DUCTILE IRON PIPE.

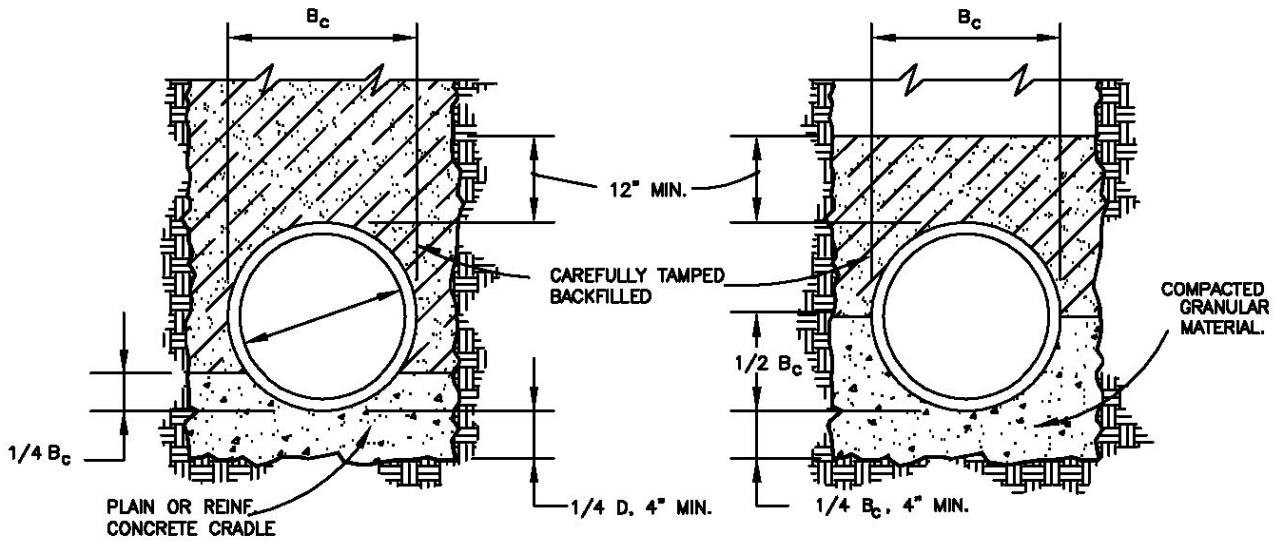
REV.	DATE
1	12/15/94

CONSTRUCTION  
STANDARDS

SEWER LINE  
ENCASEMENT

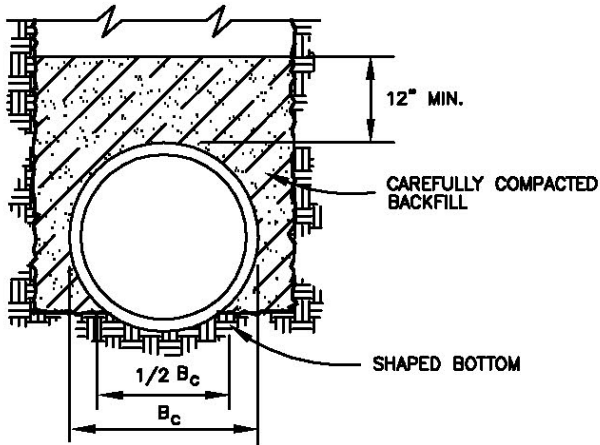
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PUBLIC WORKS  
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**CLASS "A"**  
 (CONCRETE CRADLE)  
 L.F. = 2.8

**CLASS "B"**  
 (GRANULAR BASE)  
 L.F. = 1.9



**CLASS "C"**  
 (SHAPED BOTTOM)  
 L.F. = 1.5



NOTES

1. FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6" AND REFILLED WITH GRANULAR BEDDING MATERIAL AS DEFINED BY CLASS "B" BEDDING.
2. "L.F." LOAD FACTOR.

REV.	DATE
1	01/31/06

CONSTRUCTION  
STANDARDS

PIPE BEDDING

STANDARD No. D-410 SHEET 1 OF 1

CITY OF  
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DEPARTMENT