



**NOTES:**

1. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM D2321 AND THE MANUFACTURER'S INSTALLATION GUIDELINES.
2. A NON-WOVEN GEOTEXTILE FILTER FABRIC OR OTHER MEASURES SHOULD BE TAKEN TO PREVENT NATIVE SOIL FROM MIGRATING INTO THE INITIAL BACKFILL MATERIAL, WHEN REQUIRED.
3. **FOUNDATION:** TRENCH BOTTOMS WITH UNSTABLE OR UNYIELDING MATERIAL SHALL BE EXCAVATED TO A DEPTH DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE MATERIAL. FOR UNSTABLE MATERIALS, GEOTEXTILE MAY BE USED TO STABILIZE THE TRENCH BOTTOM, IF DIRECTED BY THE ENGINEER.
4. **BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I OR II, AS SPECIFIED BY ASTM D2321. MINIMUM BEDDING THICKNESS SHALL BE 4" (100 mm).
5. **INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I OR II, AS SPECIFIED BY ASTM D2321. COMPACTION AND BACKFILL LIFTS SHALL BE IN ACCORDANCE WITH ASTM D2321. INITIAL BACKFILL SHALL EXTEND TO NOT LESS THAN 6" (150 mm) ABOVE THE TOP OF THE PIPE.
6. **MINIMUM COVER:** FOR UP TO H-25 TRAFFIC APPLICATIONS A MINIMUM OF 12" (300 mm) FOR PIPE DIAMETER UP TO 36" (900 mm) DIAMETER, 15" (375 mm) FOR 42" (1050 mm) AND 18" (450 mm) FOR 48" (1200 mm) AND 60" (1500 mm) DIAMETER. MINIMUM COVER, V, SHALL BE MEASURED FROM THE TOP OF THE PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO THE TOP OF RIGID PAVEMENT. ADDITIONAL COVER MAY BE REQUIRED FOR CONSTRUCTION LOADS, VEHICLES OVER 25T [23MT], OR TO PREVENT FLOATATION.
7. **FINAL BACKFILL:** SUITABLE MATERIALS DIRECTED BY THE ENGINEER SHALL BE USED IN LANDSCAPE OR NON-TRAFFIC APPLICATIONS. FOR AREAS SUBJECTED TO TRAFFIC A HIGHER DEGREE OF COMPACTION IS REQUIRED AND A SEPARATION LAYER OF NON-WOVEN GEOTEXTILE MAY BE REQUIRED. COMPACTION LEVELS AND/OR GEOTEXTILE MAY BE SPECIFIED AT THE DISCRETION OF THE DESIGN ENGINEER.

NOMINAL I.D. in (mm)	NOMINAL O.D. in (mm)	MIN. SIDE WALL "X" in (mm)	STANDARD SPACING "M" in (mm)	STANDARD SPACING "C" in (mm)	MIN. COVER "V" in (mm)
12 (300)	14.4 (360)	8 (200)	12 (300)	24.4 (610)	12 (300)
15 (375)	17.6 (440)	8 (200)	12 (300)	29.6 (740)	12 (300)
18 (450)	21.5 (538)	9 (225)	12 (300)	33.5 (838)	12 (300)
24 (600)	28.4 (710)	10 (250)	12 (300)	40.4 (1010)	12 (300)
30 (750)	34.8 (870)	18 (450)	15 (375)	49.8 (1245)	12 (300)
36 (900)	41.0 (1025)	18 (450)	18 (475)	59.0 (1475)	12 (300)
42 (1050)	47.8 (1195)	18 (450)	21 (525)	68.8 (1720)	12 (300)
48 (1200)	54.0 (1350)	18 (450)	24 (600)	78.0 (1950)	12 (300)
60 (1500)	66.5 (1663)	18 (450)	30 (750)	96.5 (2413)	18 (450)

\*MINIMUM SPACING "M" MEASURED FROM OUTSIDE DIAMETERS

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TITLE: HDPE PIPE - PARALLEL PIPE CROSS-SECTION		REV:
DRAWN BY: SLE	DATE: 21-Jun-19	DRAWING NUMBER:
SCALE: NTS	SHEET: 1 OF 1	D-1-102