



		NOMINAL DIAMETER		
		12-24" (300-600 mm)	30-36" (750-900 mm)	42-60" (1050-1500 mm)
U	MIN. FITTINGS EMBEDMENT LIMIT	12" (305 mm)	12" (305 mm)	12" (305 mm)
W	TYPICAL SIDE WALL	8-10" (203-255 mm)*	18" (457 mm)	18" (457 mm)
X	MIN. PIPE COVER DEPTH UNDER NON-TRAFFIC	12" (305 mm)	12" (305 mm)	12" (305 mm)
X	MIN. PIPE COVER DEPTH UNDER TRAFFIC	12" (305 mm)	12" (305 mm)	12-24" (305-610 mm)**
X	MAX. PIPE COVER DEPTH	REFERENCE TECH NOTE(S) 2.01, 2.02, 2.04, OR 2.05		
Y	MIN. FITTINGS COVER DEPTH UNDER NON-TRAFFIC	12" (305 mm)	12" (305 mm)	12" (305 mm)
Y	MIN. FITTINGS COVER DEPTH UNDER TRAFFIC	12" (305 mm)	12" (305 mm)	24" (610 mm)
Y	MAX. FITTINGS COVER DEPTH***	8' (2.4 m)	8' (2.4 m)	8' (2.4 m)
Z	BEDDING DEPTH	4" (102 mm)	6" (152 mm)	6" (152 mm)

\* TYPICAL SIDE WALLS FOR 18" AND 24" PIPE SYSTEMS ARE 9" (230 mm) AND 10" (255 mm), RESPECTIVELY  
 \*\* 24" MINIMUM PIPE COVER DEPTH UNDER TRAFFIC IS REQUIRED FOR 60" SYSTEMS ONLY  
 \*\*\* MAY INCREASE BASED ON SPECIFIC FITTINGS CONFIGURATION, CONTACT AN ADS REPRESENTATIVE FOR ADDITIONAL DETAILS

**NOTES:**

- ALL REFERENCES TO CLASS I OR II MATERIALS ARE PER ASTM D2321" STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
- ALL REFERENCES TO AASHTO MATERIAL SPECIFICATIONS ARE PER AASHTO M43 AND M145 GRADATIONS, LATEST EDITION.
- ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
- MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
- FILTER FABRIC:** A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
- BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER.
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" (152 mm) ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. IF DIFFERENT FILL IS USED IN ZONES B AND C, FILTER FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER PER NOTE 5.
- COVER:** ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. MAXIMUM FILL HEIGHT IS LIMITED TO 8 FT (2.4 m) OVER FITTINGS FOR TYPICAL SYSTEM INSTALLATIONS. **PLEASE NOTE THESE LIMITS APPLY TO ALL FITTINGS WITHIN SYSTEMS LIMITS, AND NOT JUST MANIFOLD FITTINGS.** CONTACT AN ADS REPRESENTATIVE WHEN MAXIMUM FILL HEIGHTS EXCEED 8 FT (2.4 m) FOR INSTALLATION CONSIDERATIONS.

**ACCEPTABLE FILL MATERIALS**

MATERIAL LOCATION	ASTM MATERIAL CLASSIFICATION	AASHTO MATERIAL CLASSIFICATION	COMPACTION / DENSITY REQUIRED
D	N/A <sup>2</sup>	N/A <sup>2</sup>	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE SPECIFIC MATERIAL AND PREPARATION REQUIREMENTS.
C	CLASS I OR II <sup>1</sup>	AASHTO M145 A1, A3 OR AASHTO M43 A5, A6, A56, A57, A67	COMPACT IN MAXIMUM 8" (203 mm) LOOSE LIFTS TO A MINIMUM OF 95% OF MAXIMUM STANDARD PROCTOR DENSITY
B	CLASS I OR II	AASHTO M145 A1, A3 OR AASHTO M43 A5, A6, A56, A57, A67	COMPACT PER THE LATEST EDITION OF ASTM D2321 SPECIFICATIONS
A	CLASS I OR II <sup>1</sup>	AASHTO M145 A1, A3 OR AASHTO M43 A5, A6, A56, A57, A67	COMPACT TO 90% STANDARD PROCTOR DENSITY

**PLEASE NOTE:**

- 60" (1500 mm) PIPE SYSTEMS ARE LIMITED TO ASTM D2321 CLASS I (AASHTO M43 A5 OR A56) BACKFILL MATERIALS ONLY.
- MATERIAL SPECIFICATIONS INCLUDE ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

**RETENTION-DETENTION  
(SYSTEM INSTALLATION)**

DRAWING NUMBER: STD-705



4640 TRUEMAN BLVD  
 HILLIARD, OHIO 43026

ADVANCED DRAINAGE SYSTEMS, INC.

DRAWN BY	GGC
DATE	06/08/21
CHK'D BY	SDL
SCALE	NTS
SHEET	1 OF 1