

Casing Pipe

A. General

Utilities must often be encased in a steel pipe when crossing under roadways or railroads. Steel casing pipe complying with the requirements of ASTM A252 (Standard Specification for Welded and Seamless Steel Pipe Piles) is generally used.

Depending on the timing of the installation, the casing pipe can be either installed in an open cut trench or by one of the trenchless techniques described in [Chapter 14](#).

Regardless of the installation method, the casing pipe thickness and casing pipe diameter should be specified on the plans.

B. Casing Thickness

The casing pipe must have sufficient thickness to withstand both earth loads and any live loads imposed from traffic above. Table 9C-1.01 provides minimum recommended casing pipe thicknesses for both roadway and railroad installations. The roadway values are based upon common industry standards. The railroad values are based upon American Railway Engineering and Maintenance-of-Way Association (AREMA) design standards. Individual railroad standards may vary.

Table 9C-1.01: Minimum Casing Pipe Thickness

Nominal Diameter (inches)*	Roadway (inches)	Railroad (inches)
6 through 14	0.250	0.25
16	0.250	0.281
18	0.250	0.312
20	0.250	0.344
24	0.281	0.375
30	0.312	0.469
36	0.344	0.531
42	0.344	0.625
48	0.344	0.687
54		0.719
60		0.843
66		0.937
72		1.000

*Additional casing diameters are available.

Notes: Minimum thicknesses assume a minimum of 4.5 feet of cover over top of pipe.

C. Casing Diameter

The casing pipe should be sized to provide a minimum of 4 inches of clearance between the inside of the casing pipe and the largest outside diameter of the carrier pipe (including pipe bells) to allow for deflection of the casing pipe and installation of casing spacers.