Section 02240 - BORING AND JACKING

1. SCOPE. This section covers boring and jacking of casing pipe, installation of carrier pipe, and all associated items. Refer to Standard Details for additional information.

2. INSTALLATION. Lines installed under major highways or railroads shall be performed by boring under the highway or railroad, or tunneling as may be required by and as stipulated by the North Carolina Department of Transportation or Railroad Authority.

In placing the casing pipe, any annular space exceeding one-quarter inch in width between casing and tunnel shall be filled with 1:3 portland cement mortar grout, pumped into the space at 50 psi pressure or greater to form a tight fit between casing and tunnel walls. Cost of grouting shall be an integral part of the price submitted in the Bid Form for the type and size casing pipe.

All work on boring and jacking under highways shall be under the supervision of the District Engineer of the Department of Transportation or his authorized representative who shall be notified at least five (5) days before actual work or installation begins.

All work on railroad right-of-way including any necessary supporting of tracks shall be under the supervision of the Chief Engineer of the railroad or his authorized representative, who shall be notified at least 5 days before actual work or installation is begun. This work shall be done only in the presence of the authorized representative of the Chief Engineer, and no work shall be done or methods used which will in his opinion, be hazardous in any way to the railway.

Carrier line pipe and joints under primary highways or railroads shall be as specified and shown on the drawings and of approved material and construction satisfactory to the District Engineer of the Department of Transportation or Railroad Authority, respectively. In pipelines operating under pressure Carrier line pipe shall be restrained push-on joint ductile iron pipe provided with two (2) stainless steel spiders per joint. See Standard Details for additional information.

The inside diameter of casing pipe shall be as shown on the drawings, or shall, in all cases, be great enough to afford easy removal of the carrier pipe without disturbing the casing pipe or roadbed.

The casing pipe must be capable of withstanding highway or railroad loadings and must be so constructed as to prevent leakage of any matter throughout its length, except in cases where the ends are not sealed.

Casing shall be installed in a manner to prevent the formation of a waterway under the highway or railroad. It must have an even bearing throughout its length and slope to one end.

Casing pipe shall be steel pipe in sizes 12 inches and larger manufactured from steel having a minimum yield strength of 35,000 psi and having minimum permissible wall thicknesses as listed below:

DIAMETER OF PIPE	HIGHWAY		RAILROAD	
INCHES	CASING O.D.	MIN. WALL THICKNESS	CASING O.D.	MIN. WALL THICKNESS
6	12.75”	0.188”	12.75”	0.250”
8	18”	0.250”	18”	0.312”
12	24”	0.250”	24”	0.406”
16	30”	0.312”	30”	0.500”
24	36”	0.375”	36”	0.5625”

End of Section