Recommended Handling & Installation Procedures for Concrete Pipe

Concrete pipe strength requirements are directly related to the type of installation as well as backfill cover and traffic loadings. Project contract documents should clearly detail and define the appropriate installation requirements intended to be used as a part of the design. In addition follow these general steps when installing concrete pipe:

1. Handle pipe sections with care to avoid chipping of the spigots or bell grooves. Balance pipe sections when lifting and moving, do not drag pipe along ground. Assure that pipe is always lifted and handled in a safe manner.

2. Stockpile pipe sections in a safe manner such that all sections are supported by the pipe barrel. Avoid point loads on the pipe ends as these may cause unacceptable joint damage, paying particular attention to any flared bells. Store gasket material out of direct sunlight in a cool and clean location.

3. Follow all appropriate safety regulations and guidelines while excavating and preparing pipe foundation. Insure that pipe foundation meets contract design requirements and that provisions are in place to assure proper line and grade.

4. Prepare bedding as detailed in the contract documents using appropriate bedding material. Bedding works best when the middle third under the pipe is loosely placed uncompacted, allowing it to cradle the pipe as the pipe is set. For flared bell pipe, prior to laying pipe into bedding, provide “bell groove pockets” so that the pipe will be supported fully along the pipe barrel and not point loaded.

5. Follow appropriate joint sealing procedure for specific type of joint. Avoid direct contact of pipe with excavation equipment when pushing or homing the joints. Do not exert force on pipe with excavation equipment as a means to adjust line and grade.

6. Embed pipe as detailed in the contract documents using appropriate embedment material with the appropriate compaction requirements specified. Avoid embedment material larger than 1 ½” or other material that may create a potential concentrated load on the pipe.

7. Exercise care when operating compaction equipment and construction loads over pipe until adequate cover is in place.

Additional resources: ASTM C 1479; ASCE 15; AASHTO; American Concrete Pipe Association.

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