

## INSTRUCTIONS FOR USE

# Construction Specification 53 – Ductile-Iron Pipe

### 1. Applicability

Construction Specification 53 is applicable to the installation of ductile-iron pipe and fittings used in water distribution systems.

### 2. Material Specifications

Material Specification 553, Ductile-Iron Pipe, complements Construction Specification 53.

### 3. Included Items

Items to be included in the contract specifications and drawings follow:

- a. Line and grade of the conduit. Include a statement in items of work that the pipe shall be installed so reversal of grade between joints does not occur unless shown on the drawings.
- b. Details of bedding including description and grading limits of bedding material
- c. Method of backfill consistent with minimum job requirements, complexity, and inspection compliance considerations. Refer to Construction Specification 23, Earthfill, if used.
- d. Pay limits or actual limits for excavation, minimum trench width, and any special considerations necessary. Consider the need for contractor's compliance with the excavation safety requirements of OSHA.
- e. Pay limits or actual limits of backfill, compaction requirements, or other special methods of performance and controlling backfill, as appropriate. (AWWA Standard C600 provides a prepared standard that may be referenced for installation as appropriate.) Provide the necessary guidance when sand bedding is specified so bulking potential is avoided.
- f. Kind of pipe (thickness class and rated working pressure)
- g. Size of pipe (diameter)

- h. Laying length of pipe
- i. Type of joints for pipe and fittings (mechanical push-on or flanged). Pipe joining details if different from manufacturer's recommendations.
- j. Lining thickness and coating for pipe (interior and exterior) and methods of repair. Loose polyethylene pipe encasement, tube or sheet form, for corrosion protection can be specified as per ANSI A21.5 (AWWA C105). Provide placing and handling details as appropriate. Protective coatings applied to the pipe during manufacture must be specified on the job basis. Outline minimum repair procedures to correct tears and rips in the loose encasement coverings.
- k. Pressure and leakage test requirements including the duration of the test period
- l. Details of special fittings and appurtenances
- m. Concrete thrust and anchor block specifications and details

#### **4. Methods**

##### *Section 7, Backfill*

Methods are self-explanatory.

##### *Section 8, Measurement and Payment*

When deduction in measured pipe length will be made for special fittings and other appurtenances, outline in Section 9 the procedures that will be implemented to determine pipe length for payment purposes.

#### **5. Items of Work and Construction Details**

Starting at the top of page 53–3, prepare and outline job specific "Items of Work and Construction Details" (IWCD) in accordance with these instructions. For ease of utilization, the use of recyclable color paper for the IWCD should be considered.