

## **PART 1 - GENERAL**

### **1.1 RELATED WORK**

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 31 23 10 – Excavating, Trenching and Backfilling.

### **1.2 PRODUCTS INSTALLED BUT NOT SUPPLIED UNDER THIS SECTION**

1. Owner will supply materials as follows:
  1. Pipe and Insulation Kits
  2. Ball Valves

### **1.3 SAMPLES**

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 At least 4 weeks prior to commencing work, inform Departmental Representative of proposed source of bedding materials and provide access for sampling.

### **1.4 MATERIAL CERTIFICATION**

- .1 At least 4 weeks prior to commencing work, submit manufacturer's test data and certification that materials not supplied by owner meet the requirements of this section. Include manufacturer's drawings, information and shop drawings where pertinent.

### **1.5 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

### **1.6 RECORD DRAWINGS**

- .1 Provide record as-built drawings, in accordance with Section 01 78 00 - Closeout Submittals.

### **1.7 SCHEDULING OF WORK**

- .1 Schedule work to minimize interruptions to existing services.
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- .2 Submit schedule of expected interruptions for approval by Departmental Representative and adhere to interruption schedule as approved by Departmental Representative.
- .3 Notify Departmental Representative and water works office a minimum of 24 hours in advance of any interruption in service.
- .4 Do not interrupt salt water service for more than 8 hours and confine this period between 0800 and 1600 hours local time unless otherwise authorized.

## **1.8 INSTALLATION METHOD**

- .1 Unless otherwise specified or directed by the Departmental Representative, follow the product manufacturer's recommended installation method.

## **PART 2 - PRODUCTS**

### **2.1 PIPE**

- .1 Pre-insulated 200mm SDR 11 HDPE pipe to be supplied by owner. Refer to Appendix A for full product description.

### **2.2 VALVES**

1. 200 mm Polyethylene ball valves to be supplied by Owner. Refer to Appendix A for full product description
2. Valve boxes to be supplied by Contractor. Composite valve box with one piece ABS lower and HDPE upper. Maintain minimum of 125 mm between the top of the lower and flange of the upper.
  1. Top of box to be marked "WATER"

### **2.3 JOINTS AND FITTINGS**

1. All joints and fittings to be supplied by contractor. Match all joints and fittings to be compatible to pipe supplied by the Owner and to manufacturers specifications.
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## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- .1 Clean pipes, fittings, and appurtenances of accumulated debris and water before installation. Carefully inspect materials for defects. Remove defective materials from site.

### **3.2 TRENCHING AND BACKFILL**

- .1 Do trenching and backfill work to Section 31 23 10.
- .2 Do not backfill trenches until installed work has been checked and accepted by Departmental Representative.

### **3.3 PIPE INSTALLATION**

- .1 Handle pipe using methods recommended by pipe manufacturer.
  - .2 Lay pipes on prepared bed, true to line and grade.
    1. Ensure barrel of each pipe is in contact with shaped bed throughout its fill length.
    2. Take up and replace defective pipe.
    3. Correct pipe which is not in true alignment or grade or pipe which shows differential settlement after installation greater than 10mm in 3m.
  - .3 Do not exceed permissible deflection at joints as recommended by pipe manufacturer.
  - .4 Keep jointing materials and installed pipe free of dirt and water and other foreign materials.
    - .1 Whenever work is stopped, install a removable watertight bulkhead at open end of last pipe laid to prevent entry of foreign materials.
  - .5 Pipes shall be joined by butt fusion. Position and join pipes with equipment and methods to manufacturer's specifications and to be approved by Departmental Representative.
  - .6 Cut pipes in approved manner as recommended by pipe manufacturer, without damaging pipe or its coating and to leave smooth end at right angles to axis of pipe.
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- .7 Minimize deflections after joint has been made.
- .8 Ensure completed joints are restrained by compacting bedding material alongside and over installed pipes or as otherwise approved by Departmental Representative.
- .9 When stoppage of work occurs, block pipes in an approved manner to prevent creep during down time.
- .10 Recheck plastic pipe joints assembled above ground after placing in trench to ensure that no movement of joint has taken place.
- .11 Do not lay pipe on frozen bedding.
- .12 Do hydrostatic and leakage test using equivalent pressure produced by existing saltwater pumps. Have results approved by Departmental Representative before surrounding and covering joints and fittings with granular material.
- .13 No joints to be covered until successful pressure test is completed. Contractor can test main line independently.
- .14 Backfill remainder of trench.

### 3.4 VALVE INSTALLATION

- .1 Install valves to manufacturer's recommendations at locations as indicated.
- .2 Install valve boxes to manufacturer's recommendations.