

Section 02514

DISINFECTION OF WATER LINES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Disinfection of potable water lines.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

- 1. No separate payment will be made for disinfection of water lines under this Section. Include cost in unit price of water lines being disinfected.
- 2. Refer to Section 01270 - Measurement and Payment for unit price procedures.

- B. Adjusting Payment for Retesting.

- 1. Subsequent disinfection operations which may be necessary due to nonconforming or incomplete construction will be charged to Contractor. Charges will be deducted from retainage amounts when construction estimates are processed for final payment.
- 2. Total charge will consist of base charge of \$135.00 plus footage charge based on number of feet of specified diameter pipe in construction project. Footage charge is as follows:

<u>Size of Pipe</u>	<u>Charge per Linear Foot</u>
2-inch to 4-inch	\$0.03
6-inch	\$0.04
8-inch	\$0.05
10-inch to 12-inch	\$0.07
16-inch to 20-inch	\$0.09
24-inch to 30-inch	\$0.13
32-inch to 48-inch	\$0.16
54-inch	\$0.20
60-inch	\$0.22
66-inch	\$0.31
72-inch to 84-inch	\$0.40
90-inch to 96-inch	\$0.58
108-inch	\$0.75
120-inch or larger	\$1.00

- C. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 REFERENCES

- A. AWWA C 651 - Standard for Disinfecting Water Mains.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 CONDUCTING DISINFECTION

- A. Promptly disinfect water lines constructed before tests are conducted on water lines and before water lines are connected to City water distribution system.
- B. Water for disinfection and flushing will be furnished by City without charge.
- C. Unless otherwise provided in Contract Documents, City will conduct disinfection operations assisted by Contractor.
- D. Coordinate chlorination operations through City Engineer.

3.02 PREPARATION

- A. Provide temporary blind flanges, cast-iron sleeves, plugs, necessary service taps, copper service leads, risers and jumpers of sizes, location and materials, and other items needed to facilitate disinfection of new water lines prior to connection to City water distribution system. Normally, each valved section of water line requires two each 3/4-inch taps. A 2-inch minimum blow-off is required for water lines up to and including 6-inch diameter.
- B. Use fire hydrants as blow-offs to flush newly constructed water lines 8-inch diameters and above. Where fire hydrants are not available on water lines, install temporary blow-off valves and remove promptly upon successful completion of disinfection and testing.
- C. Slowly fill each section of pipe with water in manner approved by City Engineer. Average water velocity when filling pipeline should be less than one foot per second and shall not, under any circumstance, exceed 2 feet per second. Before beginning disinfection operations, expel air from pipeline.
- D. Backfill excavations immediately after installation of risers or blow-offs.
- E. Install blow-off valves at end of water line to facilitate flushing of dead-end water lines. Install permanent blow-off valves according to Drawings.

3.03 DISINFECTION BY CITY PERSONNEL

- A. Correct problems that may prevent disinfection operations prior to advising City Engineer to perform disinfection work. When disinfection work cannot be performed due to covered up valves, missing valve stacks, inoperative fire hydrants or other nonconforming construction, charges will be levied against Contractor for each trip made by City personnel.
- B. Notify and coordinate with City Engineer minimum of 72 hours before disinfection work is to be performed. Assist City personnel during disinfection operations.

3.04 DISINFECTION BY CONTRACTOR

- A. The following procedure will be used when disinfection by Contractor is required by Contract Documents:
  - 1. Use not less than 100 parts of chlorine per million parts of water.
  - 2. Introduce chlorinating material to water lines in accordance with AWWA C 651.
  - 3. After contact period of not less than 24 hours, flush system with clean water until residual chlorine is no greater than 1.0 parts per million parts of water.
  - 4. Open and close valves in lines being sterilized several times during contact period.
  - 5. If chemical compound is used for sterilizing agent, place in pipes as directed by City Engineer.

3.03 BACTERIOLOGICAL TESTING

- A. After disinfection and flushing of water lines, bacteriological tests will be performed by City or testing laboratory in accordance with Section 01454 - Testing Laboratory Services. When test results indicate need for additional disinfection of water lines based upon Texas Department of Health requirements, assist City with additional disinfection operations.

3.06 COMPLETION

- A. Upon completion of disinfection and testing, remove risers except those approved for use in subsequent hydrostatic testing, and backfill excavation promptly.

END OF SECTION