

**SECTION 02465  
PROCEDURE FOR SAMPLING BACTERIOLOGICAL TESTS  
(BAC-T)**

**PART I: GENERAL**

**1.1 GENERAL REQUIREMENTS**

- A. No water lines shall be opened to the existing City utilities until all bacteriological testing of those lines have passed.

**1.2 MEASUREMENT AND PAYMENT**

- A. Unit Prices:
  - 1. No separate payment shall be made for Bacteriological Testing of water lines under this Section. Include cost in the unit price of water lines being tested.
  - 2. Refer to Section 01270 – Measurement and Payment for unit price procedures.
- B. Payment for Testing and Retesting.
  - 1. Subsequent disinfection operations which may be necessary due to nonconforming or incomplete construction shall be charged to the Contractor for each additional Bacteriological Test.
  - 2. If the City is taking the samples, the charge shall consist of base charge of eighteen dollars (\$18.00) per sample. Note that each testing location will have two (2) samples therefore it is thirty-six dollars (\$36.00) per testing location. Checks are to be made payable to Eastex Environmental.
- C. Stipulated Price (Lump Sum):

If Contract is Stipulated Price Contract, payment for work in this Section is included in Total Stipulated Price.

**1.3 REFERENCES**

- A. AWWA – American Water Works Association.  
AWWA C651 – Standard for Disinfecting Water Mains.
- B. CFTS – City of Friendswood Technical Specifications.
- C. TCEQ – Texas Commission on Environmental Quality  
TCEQ – Approved Disinfection Methods and Products.

**PART II: PRODUCTS – NOT USED**

**PART III: EXECUTION**

- 3.1 UNDER NO CIRCUMSTANCES SHALL ANY PERSON, OTHER THAN AUTHORIZED CITY PERSONNEL, OPEN OR OPERATE ANY VALVE THAT

IS CONNECTED TO AN EXISTING CITY SERVICE MAIN, BE IT A TAPPING SLEEVE AND VALVE (TS&V) MADE BY THE CONTRACTOR OR AN EXISTING STUB OUT.

### 3.2 CONDUCTING DISINFECTION

- A. Promptly disinfect water lines constructed before tests are conducted on water lines and before water lines are connected to the City water distribution system.
- B. Water for disinfection and flushing shall be furnished by the City without charge for the first two (2) sets of tests. If additional testing is needed, please refer to Section 3.4.E.
- C. Unless otherwise provided in the Contract Documents, the Contractor shall be responsible for disinfection of water lines.
- D. Coordinate chlorination operations through the Project Manager. A minimum of forty-eight hours (48 Hrs) notice shall be given.
- E. Chlorination procedures for new lines shall be performed in accordance with City of Friendswood Technical Specification 02455 – Disinfection of Waterlines.

### 3.3 SAMPLING STATIONS

- A. Provide all necessary materials for Sampling Stations.
- B. A testing station shall be two inch (2 In) minimum service lead or a one inch (1 In) meter service with a half inch (1/2 In) Hose Bib.
- C. Location Requirements:
  - 1. One (1) Sampling Station is required for every One Thousand Two Hundred Feet (1,200 Ft) of waterline.
  - 2. One (1) Sampling Station is required at the end of the line.
  - 3. One (1) Sampling Station is required at every branch of the line longer than one (1) joint of pipe (20 feet).
- D. Use of Fire Hydrants for Sampling of Bacteriological Tests shall not be allowed.
- E. Service lead with a hose bib connection shall be allowable.

### 3.4 PROCEDURE FOR SAMPLE TAKING

- A. After disinfection and flushing of water lines, Bacteriological Tests shall be performed by the City at 10:00 A.M. Tuesdays and Thursdays. The Project Manager shall need to be informed of prospective testing forty-eight hours (48 Hrs.) before these times, no exceptions.
- B. Only authorized City Personnel shall operate the valves that attach the waterline being tested to the existing City Infrastructure, NO EXCEPTIONS.
- C. The following procedure shall be used when sampling waterlines for Bacteriological Testing (BAC-T):
  - 1. All water lines shall have been disinfected in accordance with City of Friendswood Specification 02455 – Disinfection of Waterlines.

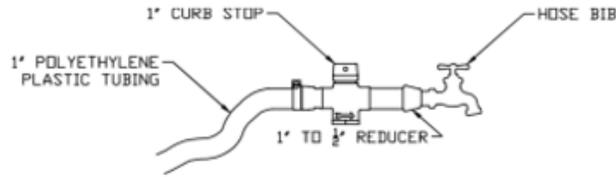
2. All water lines shall have been hydrostatically tested in accordance with City of Friendswood Specification 02450 – Hydrostatic Testing of Waterlines.
  3. Waterlines shall have been flushed fully flushing chlorinated water from the waterline until normal residual chlorine is obtained at the end of the waterline.
  4. Project Manager and Contractor identify and label the sampling locations.
  5. If the Contractor is using another TCEQ accredited laboratory in lieu of the City’s Laboratory, an authorized representative shall be onsite for chain of custody verification and witnessed by the Project Manager.
  6. Test samples shall be taken in a sterile bottle treated with sodium thiosulfate, labeled for the location, and listed as “Construction Sample.”
  7. Before opening the sampling location, coat with a disinfection solution of sodium hypochlorite from a spray bottle on the inside and outside of the hose bib. If the sampling is reused for other locations, then each time the whole testing apparatus shall be disinfected inside and outside, before being reattached for sampling. Collector shall wear sterile gloves and block all possible wind.
  8. Waterline is to sit for a minimum of sixteen hours (16 Hrs.) prior to samples being taken without flushing or in any way flowing the water in the line.
  9. There shall be two (2) tests taken at each location. Collect one (1) sample at the location as soon as the hose bib is opened, and collect the second sample after fifteen minutes (15 Mins.) of the hose bib running.
  10. Test results should be available within three days (3 Dys.) and shall be in written form only for acceptance. Verbal approval or disapproval is non-binding for testing purposes.
  11. Any one (1) test that fails is a fail of all tests being taken, and the waterline that the tests represent.
- D. After two (2) failed sets of tests, the line shall be re-chlorinated and flushed before any further tests can be taken. The Contractor shall be responsible for additional disinfection of water lines based upon Texas Commission on Environmental Quality (TCEQ) requirements.
- E. After two (2) failed samples, the **cost of multiple re-testing will be charged at \$750.00 dollars per flushing point for water usage and \$475.00 for labor costs per set for each additional set of Bacteriological Tests taken.**

### 3.5 COMPLETION

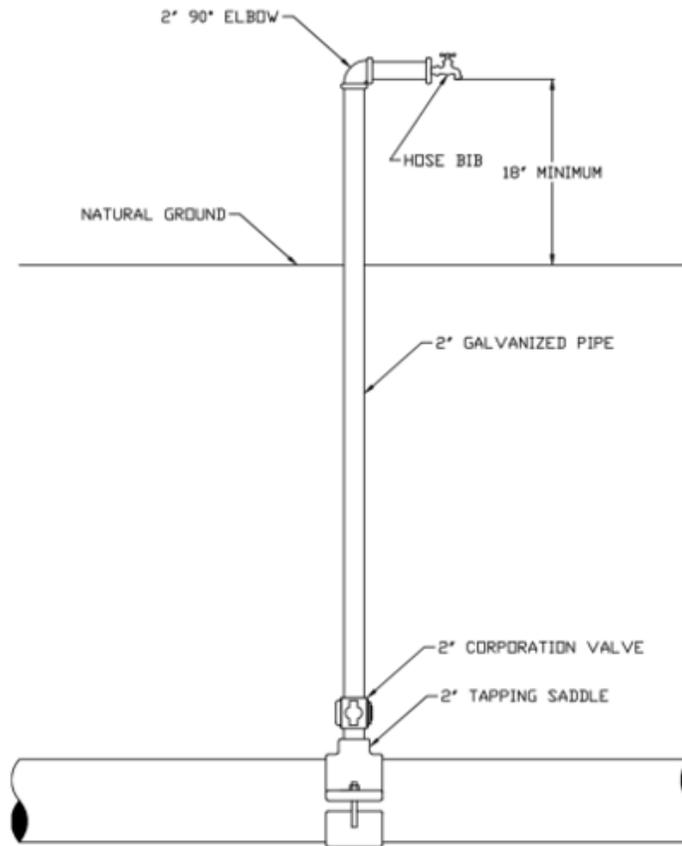
Upon passing test results having been received in writing, the waterline will be put in service as part of the City’s Infrastructure and no one but

an authorized City Employee shall be able to operate any valves attached to the new line.

**PART IV: SAMPLING STATIONS**



1" METER SERVICE TESTING STATION



2" BLOW-OFF TESTING STATION

**END OF SECTION**