



CITY OF HOUSTON

Administration and Regulatory Affairs Department
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Date: August 9, 2011

Subject: Letter of Clarification No. 1
Fire Hydrant Certification

Reference: Invitation to Bid (ITB) No.: S35-Q24024

To All Prospective Bidders:

This Letter of Clarification is issued for the following reasons:

- To revise the above referenced solicitation as follows:
 1. At the City's electronic website, **added:** "Fire Hydrant Certification Checklist" has been uploaded in the system.

This Letter of Clarification will be considered part of the solicitation referenced above.

Furthermore, it is the responsibility of each BIDDER to obtain any previous Letter(s) of Clarification associated with this solicitation.

A handwritten signature in cursive script that reads "John Dearmon".

John Dearmon
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Strategic Purchasing Division
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rdk
JD:DRH:jd

Fire Hydrant Certification of Responsibility Detail Information Check List

Part D Engineering Standards

All items listed in Part D are clearly identified as required in the Engineering Control Drawings under Part C.5

1. Nozzles

- a. Number(s) of hose nozzles _____; size _____
- b. Number(s) of pumper nozzles _____; size _____
Nozzle hose coupling screw threads conform to NFPA 194 & ANSI B-
- c. 26-192S standards
- d. Nozzle fastening method _____
- e. Nozzles are locked in place by _____
Nozzle caps seal material, rubber gasket _____ or neoprene gasket
- f. _____
- g. Nozzle cap secured by a chain, min. one-eighth inch (1/8") diameter
- h. Pumper Nozzle has an unobstructed clearance of **ten inches (10")**

2. Traffic Breakable Features on FAHD. barrel

3. Operating and Hold Down Nuts

- a. Material
 - i. Operating Nut _____
 - ii. Hold Down Nut _____
- b. Security Device _____
- c. Special tool for normal F.H. operation _____

4. Size of Hydrant / Inlet Connection

- a. 6" F.H. connection
- b. MJ _____; Push-on _____ Flange _____

5. Shut-off Design

- a. Compression Type
- b. Closes with pressure
- c. Center stem construction
- d. Circular opening confirmed on control drawing
- e. Minimum valve with 5-1/4" diameter opening

6. Opening Direction: Turn to left (counterclockwise)

7. Valve Mechanism

- a. Seat Ring material is Bronze _____
- b. Seat Ring to have a Bronze Drain Ring _____
- c. Seat Ring / Main Valve Removable
 - i. From Ground above
 - ii. With light weight wrench
- d. Molded (natural) rubber on main valve seat facing
- e. Min Rubber Durometer Shore "A" test rating is _____
 - I. Copy of Durometer Shore "A" test report attached
- f. Min valve seat rubber thickness is 1/2"
- g. Breakable stem coupling opposite barrel breakaway feature
- h. Connecting pins to be bronze or corrosion resistant material
- i. Locking device to be bronze or corrosion resistant material
- j. Valve stem
- k. Pumper Nozzle has an unobstructed clearance of **ten inches (10")** turning
 - i. Bronze or copper sleeve material at dynamic seals
 - ii. Suitable "O-Ring" seals
 - iii. Travel Stop
 - iv. Operating thread and bearing surface lubricated
 - v. Thrust bearing _____ or lubricating thrusting collar _____
 - vi. Lubricating reservoir, seal at top and bottom
 - vii. Lubricant is food grade
 - viii. Lubricant MSDA sheet is submitted

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- 8. Hydrant Barrel
 - a. Lower barrel a single piece _____
 - b. Joint coupling connecting low barrel to upper barrel that rotates on 360° _____
 - c. Bury depth shall be specified from bottom of inlet to the ground line. _____
 - d. Inside wall thickness (with tolerance) _____
 - i. Upper Barrel _____ Tolerance _____
 - ii. Lower Barrel _____ Tolerance _____
 - iii. Bonnet _____ Tolerance _____
 - e. Barrel Material on wall thickness on AWWA C-502, Table 3
 - i. Upper Barrel _____
 - ii. Lower Barrel _____
 - iii. Bonnet _____
- 9. Hydrant Barrel Drain Construction
 - a. bronze or corrosion resistant material to line the drain opening _____
- 10. Gaskets and Seals
 - a. All dynamic seals to be "O-Ring" type for watertight seal _____
 - b. All dynamic seals to be Buna "N" or oil resistant materials _____
 - All moving parts contact with seal to be bronze or corrosion-resistant
 - c. material, if not bronze specify _____
 - d. All bronze parts contacting with O-Ring _____
- 11. Extensions
 - a. F.H. barrel is available on extensions from 6" to 60" in 6" increments _____
 - b. Hydrant Painting (Attached MSDS sheet for paints should comply with _____
- 12. City Specification)
 - a. Exterior above Traffic Flange _____
 - b. Exterior below Traffic Flange _____
 - c. Interior Surfaces Above or Below Main Valve _____

Part E Performance Standards

1. Hydraulic Performance

All testing information, drawings and testing reports are submitted _____

All fire hydrants were tested in upright position, _____

All fire hydrants were tested with min. water pressure of 65 psi _____

All fire hydrants were tested with water supply pipes of 6 inch or larger _____

a. Hydraulic Performance Standards

- 1. Discharge 1500 GPM at inlet static pressure not to exceed 20 psig _____
- Discharge 1500 GPM at Pumper Nozzle with a max head loss of 8 psig _____
- 2. (with pressure not to exceed 37 psig) _____
- Perform standard Hydrostatic testing on meeting Section 5.1 of AWWA _____
- 3. C-502-05 _____

b. Hydraulic Performance Testing

Test by qualified and independent testing lab acceptable by the City _____

Testing Fire hydrant to be a five-foot length _____

A certified testing report is submitting with the followings _____

- 1. The date of testing is less than 5 years from date to apply CR _____
- 2. Fire hydrants tested _____
 - a. Fire hydrant's name _____
 - b. Catalogue number of fire hydrant _____
 - c. Fire Hydrant Date of production _____
- 3. Schematic drawing of testing apparatus, dimension of piping element _____
 - a. Inside diameter and length of piping _____
 - Distance from flow measuring points to pressure measurement _____
 - b. point _____
 - c. Distance from flow and pressure monitoring points to hydrant inlet _____
 - d. Distance from flow and pressure measuring points to nozzles _____
 - e. Distance from flow measuring points to pressure measurement _____
 - f. Inside diameter and length of discharge tubing _____

Fire Hydrant Certification of Responsibility Detail Information Check List

- 4. Elevation of all points of measurement, inlet, and outlet _____
 Reports or certificates documenting accuracy of all measuring devices _____
- 5. used in the test _____
- 6. Raw test data _____
 Sample hand calculation demonstrating reduction of data and indicating relevant equation, fluids properties, conversion factors and _____
- 7. assumptions _____
 Point of Clarification: Hydraulic Performance Testing and Traffic _____
- 8. a. Impact Testing to be witnessed by COH acceptable parties _____
 The test must be conduct on at least 3 separate hydrants and inlet _____
- b. water temperature shall be 70 degree F +/- 5 _____
- 2. Traffic Impact Performance**
- a. Traffic Impact Performance Standards _____
 Certified fire hydrants tested shall be equipped with items for clean
- 1. break _____
- 2. Breakable barrel feature _____
- 3. Breakable valve stem coupling _____
- 4. After impaction, shut-off valve remain closed without leakage _____
- 5. Repairing cost for replacing damaged parts < \$250 _____
- b. Traffic Impact Performance Testing _____
- 1. Certified test report on impact test _____
- 2. F.H. to be installed per this standard for testing _____
- 3. F.H. to be struck at point of 18" ± 2" above ground line _____
 Point of Impact on F.H. to be within 2" of line perpendicular to base and
- 4. middle between pump nozzle and one hose nozzle _____
- 5. Vehicle to hit F.H. within 6" of bumper midpoint _____
- Traffic Impact Performance Testing Requirement _____
 Three successive tests by standard American made vehicles of 3500 ,
- 6. 5500 & 10500 lbs ± 500 lbs _____
- Testing on three (3) separate F.H. per Approved Engineering Control
- 7. Drawing _____
- 8. Impact speed of 35 mph for each vehicle weight _____
 Speed equivalent to Kinetic Energy from calculation of different weight vs. test speed 35 mph and their equivalent speeds are 3500 lb
- 9. (_____), 5500 lb (_____) & 10500 lb (_____) _____
- 10. Inlet water temperature to be 70± 5 degree Fahrenheit _____
 Test F.H. was installed with un-harnessed push-on joint _____ or
- 11. with mechanical joint _____
 Test F.H. was installed, backfilled with thrust blocking to City of
- 12. Houston standard _____
 Test F.H. was installed with upper body or nozzle section to have
- 13. pumper nozzle positioned _____
- 3. Test Report**
- 1. Detail schematic drawing of testing facility _____
- 2. Description of Mechanical equipment used in impact testing _____
- 3. List of damaged F.H. parts in each testing and their current price schedule _____
- 4. a. Photos on each F.H. before and after the impact testing _____
- b. Photos on F.H. installation and bedding before the impact testing _____
- c. Photos of a fabricated bumper used for the impact testing _____
- d. Photos on F.H. installation and bedding before the impact testing _____
- 5. Size of water main supplying water to F.H. _____
 Static pressure of water main supplying water to F.H. _____

Fire Hydrant Certification of Responsibility Detail Information Check List

- Any water loss & estimation on water loss within 10 minutes after Impact
- 6. Testing for F.H. # 1
 - Any water loss & estimation on water loss within 10 minutes after Impact
 - Testing for F.H. # 2
 - Any water loss & estimation on water loss within 10 minutes after Impact
 - Testing for F.H. # 3
- 7. F.H. was inspected and tested for damage after each test
 - Perform visual inspection of each F.H. and list parts cracking, breakage
 - a. or other than disfigurement for normal operation
 - Verify upper valve rod is straight and true to meet manufacturer's
 - b. 1. standard
 - Verify run-out at F.H. shear coupling is less than 0.002 inches of
 - 2. total indicator movement is straight and true to meet manufacturer's
 - Verify all F.H. operating nut and three (3) outlet nozzle cap nuts are fully functional will fit a standard 1-1/2" x 1-7/16" tapered pentagon
 - c. operating wrench.
 - Verify all F.H. outlet nozzles locking devices are functional cap nuts are
 - d. fully functional to fit hose coupling meeting AWWA standard.
 - Replace all damaged parts and reassemble F.H. to existing lower section and perform standard Mechanical test meeting Section 5.1
 - e. 1. of AWWA C-502-05 (Attach separate sheet on testing result)
 - Replace all damaged parts and reassemble F.H. to existing lower section and perform standard Hydrostatic testing meeting Section
 - 2. 5.1 of AWWA C-502-05 (Attach separate sheet on testing result)