

**TOWN OF STOW, MASSACHUSETTS**

**INVITATION FOR BIDS**

**FOR**

**Procurement of Fire Protection Cistern**

**IFB 8/03/2023**



**Advertisement Date:**

**7/13/2023**

**TOWN OF STOW  
380 GREAT ROAD  
STOW, MASSACHUSETTS 01775  
978-216-2244**

**ADVERTISEMENT FOR BIDDERS**  
**Town of Stow**  
**Procurement of Fire Protection Cistern**  
**IFB 8/3/2023**

The Town of Stow is requesting sealed bids for the procurement of a fire protection cistern.

Sealed Proposals addressed to the Town of Stow, Procurement, 380 Great Road, Stow Massachusetts and endorsed “IFB 8/03/2023, Procurement of a Fire Protection Cistern” will be accepted until 10:00 a.m. on Thursday August 3, 2023, and then at that time and place, publicly opened and read aloud in the lower level at Stow Town Building.

The scope of work consists of procurement and connection of the cistern.

Electronic copies of the plans, specifications and proposal forms will be available beginning Thursday July 13, 2023, and can be obtained at <https://www.stow-ma.gov/procurement/pages/bids-and-proposals>.

The Town of Stow reserves the right to reject any or all bids wholly or in part and accept any bid or part thereof in the Town’s best interest.

## INFORMATION FOR BIDDERS

- 1.1 The scope of this Contract consists of furnishing all materials and labor necessary for the completion of the Work as specified herein. Prior to invoicing, the Contractor shall submit to the Owner a breakdown of all associated costs for all items listed. All supporting documentation for items billed shall be submitted to the Fire Department along with the payment application.

### Scope of Work:

#### **Conant Drive, across the street from #31 and #35 Conant Drive**

- Provide and connect the cistern to manufacturers specifications.

The Site Work for the Cistern has been bid out separately and will be awarded to a contractor to complete.

- 1.2 The cistern shall be installed in accordance with the “Fire Protection Cistern Specifications and Requirements” document that is attached to this contract.
- 1.3 Contract Documents: The Advertisement for Bidders, GENERAL AND DETAIL SPECIFICATIONS, and forms for Bid, may be obtained at <https://www.stow-ma.gov/procurement/pages/bids-and-proposals>.
- 1.4 Questions Regarding Drawings and Documents. In general, no answers will be given to prospective bidders in reply to an oral question. To receive consideration, such questions shall be submitted in writing to Procurement Administrator, Ashley Pinard, at [procurement@stow-ma.gov](mailto:procurement@stow-ma.gov) by Friday July 28<sup>th</sup> at 10:00am. The Town will set forth as Addenda, which shall become a part of the Contract Documents, such questions received and decision regarding each. This addenda will be published on the website and sent to all vendors who have requested the bid documents.
- 1.5 Blank Form for Bid. All bids must be upon the blank form for bid annexed hereto, state the proposed price of each item of the Work, both in words and in figures, and be signed by the bidder with his business address and place of residence.
- 1.6 Withdrawal of Bids. Except as hereinafter in this subsection otherwise expressly provided, once his bid is submitted and received by the Town for consideration and comparison with other bids similarly submitted, the bidder agrees that he may not and will not withdraw it within 40 (forty) consecutive calendar days after the actual date of the opening of bids.

Upon proper written request and identifications, bids may be withdrawn as follows:

1. At any time prior to the designated time for the opening of bids.
2. Provided the bid has not therefore been accepted by the Town, at any time subsequent to the expiration of the period during which the bidder has agreed not to withdraw his bid.

Unless a bid is withdrawn as provided above, the bidder agrees that it shall be deemed open for acceptance until the AGREEMENT has been executed by both parties thereto or until the Owner notified a bidder in writing, that his bid is rejected or that the owner does not intend to accept it. Notice of acceptance of a bid shall not constitute rejection of any bid.

- 1.7 Ability and Experience of Bidder. No award will be made to any bidder who cannot satisfy the Town that they have sufficient ability and experience in this class of work and sufficient capital and plant to enable them to prosecute and furnish the material and work within a normal period of time. The Town's decision or judgment on these matters shall be final, conclusive, and binding.
- 1.8 Bids. The Town may reject bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities, or the Town may waive such omissions, conditions or irregularities.
- 1.9 The Town of Stow reserves the right to reject any or all bids wholly or in part; to waive technicalities and informalities; to amend and/or cancel the bid prior to the time of opening; and to correct any award erroneously made as a result of a clerical error on the part of the Town.
- 1.10 Execution of Agreement. The bidder whose bid is accepted will be notified by letter and agrees to duly execute the AGREEMENT, after notification.
- 1.11 Comparison of Bids. The Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.
- 1.12 Bidder is to list exceptions in detail of any and all material, item or design specifications in their bid.
- 1.13 Disputes. In the event of any dispute as to any of the terms and conditions of this contract, it shall be determined in accord with the laws of the Commonwealth of Massachusetts and the Courts of the Commonwealth of Massachusetts shall have exclusive jurisdiction of the same.
- 1.14 Addenda. This bid includes addenda number/numbers \_\_\_\_\_.
- 1.15 Equal Employment Opportunity Anti-Discrimination and Affirmative Action. The successful bidder must comply with Chapter 151B as amended, of the Massachusetts General Laws and with the provisions of Executive Order No. 74, as amended by Executive Order No. 116 dated May 1, 1975 pertaining to Equal Opportunity Anti-Discrimination and Affirmative Action.
- 1.16 The Town reserves the right to revoke this contracted AGREEMENT in writing with two week's notice, if the Contractor is clearly not performing services required in the Contract in a timely or workmanlike manner.

1.17 Insurance The following types of insurance shall be provided by the successful bidder, hereinafter referred to as the Contractor:

- A. General Liability: of at least \$1,000,000 Bodily Injury and Property Damage Liability, Combined Single Limit with a \$3,000,000 Annual Aggregate Limit. The Town shall be named as an “Additional Insured”
- B. Automobile Liability: (applicable for any contractor who has an automobile operating exposure) of at least \$1,000,000 Bodily Injury and Property Damage per accident. The Town should be named as an “Additional Insured”
- C. Workers’ Compensation Insurance: providing statutory coverage as required by the Commonwealth of Massachusetts, and (ii) Employers' Liability Insurance coverage with limits of not less than \$500,000 per accident. Each contractors, subcontractors, and consultants performing work on or about the Premises shall have similar policies covering their employees.
- D. Property Coverage: for materials and supplies being transported by the contractor, as the Town’s Property Contract provides coverage for personal property within 100 feet of the premises.
- E. Umbrella Liability: of at least \$2,000,000/ occurrence, \$2,000,000/ Annual aggregate. The Town should be named as an “Additional Insured”

The Contractor shall indemnify and save harmless the Town, and all of its officers, agents and employees from all suits, actions or claims of any character.

All policies naming the Town as additional insured shall be written that the Town is co-insured with the Contractor for the full amounts stated above. Also, policies shall be so written that the Town will be notified in writing of cancellation or restrictive amendments at least thirty (30) days prior to the effective date of such cancellation or amendments. Contractor shall provide the Town with copies of all policies required herein.

**PROPOSAL FORM**

To the Town of Stow, Massachusetts, (hereinafter called the "Owner") acting through its Fire Department, duly authorized therefore, who act solely for said Town and without personal liability to themselves:

The undersigned \_\_\_\_\_, as bidder, declares that the only persons or parties interested in this bid as principals are those named herein; that the bidder has carefully examined the proposed form of Proposal and the Specifications (and amendments thereto); and he bids and agrees, if this bid is accepted, that the bidder will furnish all materials and labor necessary for the completion of the Work as specified in the Proposal, in the manner and time therein prescribed and according to the requirements of Owner as herein set forth.

The Bidder agrees that the Owner will have forty (40) consecutive days from date of opening to accept the bid, except as described in the specifications, the unit(s) at the price, therein. The Bidder also understands that the Owner reserves the right to accept or reject any or all bids and to waive any informalities in the Proposals if it is in the Owner's interest to do so. The Advertisement for Bidders, Information for Bidders, Specifications and Proposal Form attached thereto, shall become a contract upon the receipt by the Bidder of written acceptance of this bid by the Owner.

The Bidder will take in full payment, therefore, the following price, to wit:

Item Number	Estimated Quantity	Brief Description; unit or lump sum price bid in both words and figures	Total in Figures
1.	1	<b>30,000 gallon Tunnel Tank Cistern with Piping</b>  _____ dollars and _____ cents (\$_____)	\$_____
2.		<b>Delivery and Connection of Cistern</b>  _____ dollars and _____ cents (\$_____)	\$_____

The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

**TOTAL of ITEMS 1 - 2** \_\_\_\_\_ dollars  
and \_\_\_\_\_ cents (\$ \_\_\_\_\_) \$ \_\_\_\_\_

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The Owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.

All entries shall be made clearly in ink or typewritten.

The unit prices shall include all labor, materials, installation, overhead, profit, insurance, etc., to cover the complete type of work/service called for.

The Contractor understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts.

The Contractor understands that the OWNER reserves the right to reject any or all bids and to waive any informality in the bidding.

The Contractor agrees that this Bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of Bids.

If this BID is accepted by the Town, the undersigned agrees to complete the entire work provided to be done under the Contract within the time stipulated as otherwise expressly provided in the AGREEMENT.

If the Town shall accept this BID, the bidder will duly execute and acknowledge the AGREEMENT and furnish, duly executed and acknowledged, the required CONTRACT BONDS within ten (10) days after notification that the AGREEMENT and other Contract Documents are ready for signature.

Should the bidder fail to fulfill any of his agreements as hereinabove set forth, the Town shall have the right to retain as liquidated damages the amount of the bid check which shall become the Town's property.

This BID includes Addenda number \*\*\* \_\_\_\_\_.

\_\_\_\_\_  
\*\* Bidder must fill in this blank

\*\*\* To be filled in by Bidder if Addenda are issued.

The Bidder, by submittal of this BID, agrees with the Owner that the amount of the bid security deposited with this BID fairly and reasonably represents the amount of damages the Owner will suffer due to the failure of the Bidder to fulfill his agreements as above provided.

The Bidder hereby certifies he shall comply with the minority manpower ration and specific action steps contained in the STATE REQUIREMENTS under Massachusetts Equal Employment Program, including the minority contractor compliance. Prior to the award of the Contract, the Contractor must submit a Contractor's Certification of Compliance. The Contractor receiving the award of the Contract shall be required to obtain from each of its Sub-Contractors and submit to the contracting or administering agency prior to the performance of any work under said Contract a certification by said Sub-Contractor, regardless of tier, that it will comply with the minority manpower ratio and specific affirmative action steps contained in the Massachusetts Equal Employment Program.

\_\_\_\_\_  
Name of Bidder

(SEAL)

By \_\_\_\_\_  
(Signature and title of authorized representative)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
(City & State)

Date \_\_\_\_\_

The Bidder is a corporation incorporated in the State (or Commonwealth) of \_\_\_\_\_  
\_\_\_\_\_  
(Bidder must add and delete, as necessary, to make this sentence read correctly).

(Note: If the Bidder is a corporation, affix corporate seal and give below the names of its president, treasurer, and general manager, if any; if a partnership, give full names and residential addresses of all partners, and if an individual, give residential address if different from business address.)



**CERTIFICATE OF NON-COLLUSION**

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

\_\_\_\_\_  
Signature of individual submitting bid or proposal

\_\_\_\_\_  
Name of Business

**TAX COMPLIANCE CERTIFICATION**

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that I, to the best of my knowledge and belief, am in compliance with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

\_\_\_\_\_  
Signature of individual submitting bid or proposal

\_\_\_\_\_  
Name of business

## **SPECIFICATIONS:**

### **ITEM 1 – Cistern**

- The cistern shall be installed according to the manufacturer's specifications.
- The cistern shall have a capacity of 30,000 usable gallons available through the suction piping system.
- A pre-cast concrete tunnel tank which meets the 30,000 gallon capacity shall be used.
- The entire cistern is to be rated for H-20 loading
- A method of positive leak prevention designed by the tank manufacturer must be provided. The outside of the tank walls must be waterproofed with an acceptable material.
- Suction piping shall be 6in and capable of delivering 1000 gallons of water per minute.
- All suction piping shall be schedule 40 PVC or steel. A deviation from this must be specifically approved by the Fire Department.
- The final suction connection shall be a 6 inch NST male. It must have a cap with T-handles or long handles and be on a chain swivel connected to the suction pipe with extra chain. Both the adaptor and cap must be made of non-corrosive materials.
- The bottom of the suction pipe (inside the tank) to the fire apparatus connection must not exceed 14 feet of vertical distance.
- The top of the suction pipe will be 24 inches above finish level of the road or shoulder.
- The suction pipe shall be positioned in such a way that it can be utilized by fire apparatus while parked in the street.
- Two protective bollard collums will be installed 18in from the side of the suction pipe on each side and stand four feet above finish grade.
- All piping shall be primed and painted red.
- A spring based antenna type marker shall be attached to the suction pipe.
- The fill pipe should be 4 inches in diameter, made of schedule 40 PVC or steel with the final connection being a STORTZ
- The fill connection will be no higher than 36 inches from finish grade and within 20 feet from the edge of the paved roadway.

### **ITEM 2 – Delivery and Connection of Cistern**

- Delivery of the Cistern to the site on Conant Drive
- Placement and connection of the Cistern



**Joseph Landry**  
*Fire Chief*

# **STOW FIRE DEPARTMENT**

**511 Great Road**  
**Stow, Massachusetts 01775**  
*Phone (978) 897-4537*  
*Fax (978) 461-1400*  
*Firechief@stow-ma.gov*

**FIRE PROTECTION CISTERN**  
**SPECIFICATIONS AND REQUIREMENTS**  
**UPDATED**  
**JANUARY 1, 2017**

**Stow Fire Department**  
**Fire Protection Cistern**  
**Specifications and Requirements**  
**January 1, 2017**

**CISTERN SPECIFICATIONS – GENERAL**

The Town of Stow and the Stow Fire Department are the ultimate customers and owners of any cistern constructed for subdivisions. As a result, the Town and the Fire Department have a clear interest in assuring that all work is satisfactory. To that end, inspections will be performed by a representative of the Stow Fire Department as outlined on page 10 of this document.

**IMPORTANT!!!** When the fire cistern is the only fire protection (water source) available for the dwellings within the development. Occupancy permits will be issued to owners of property only when the cistern or cisterns have been completed and are completely functional. The approval of the Fire Chief is required in all cases.

**DETERMINING THE LOCATION AND NUMBER OF CISTENS REQUIRED WITHIN A PROPOSED DEVELOPMENT**

- 1) Developers must provide the Fire Chief with a preliminary scaled subdivision plan showing all lots, roads and private driveways within the proposed development. The Fire Chief will evaluate the fire protection needs and site the fire cistern (s) as development will include, the length of the road or street (s), the layout of the development including roads, lots, driveway length, and the size and location of the proposed dwellings. Based on these factors the Fire Chief shall specify the number of fire cisterns required and their location within the development. All fire protection cisterns shall have a 30,000-usable gallon available capacity. Please note that the road at the cistern location must be at least 20 feet wide for a 40-foot length so as to allow vehicles to pass through the road when the fire engine is pumping from the cistern.

**SPECIFICATIONS, REQUIREMENTS AND PLANS**

- 1) The Stow Fire Departments design of the cistern is reasonable, practical, trouble-free and expected to last a lifetime. Current specifications, requirements, and plans shall be obtained from the Stow Fire Department.
- 2) The engineer, developer, and contractor must complete, sign, and return to the Fire Chief, the "Receipt of Specifications and Agreement to Conform" sheet which is attached herein Page 9.

- 3) The contractor is responsible for seeing that all fire department specifications, requirements and plans are followed and that all work is performed in accordance with the "Job Sequence and Inspection Sheet" attached herein as Page 10.

### **CISTERN**

1. All cisterns shall have a capacity of 30,000 usable gallons, minimum, available through the suction piping system.
2. A pre-cast concrete tank manufactured by the ROTONDO CO. 41 Alemida Rd., Rehoboth, MA, 508-336-7600, CHASE PRECAST CORP. 70E Brookfield Rd., N. Brookfield, MA 01535, Telephone: 508-867-8312, 800-242-7314, Fax: 508-867-3721, WILLIAM N LAMARRE CONCRETE 87 Adams Hill Road, Greenville NH 03048 or equal which meets the 30,000-gallon capacity shall be used. , other tank manufacturers may be allowed. The contractor must submit information and specifications to the Fire Chief for review and approval.
3. The entire cistern is to be rated for H-20 loading, unless specifically exempted by the Fire Chief.
4. A method of positive leak prevention designed by the tank manufacturer must be provided. The outside of the cistern walls must be waterproofed with an acceptable material.
5. The perimeter of the tank at floor/wall joint is to be sealed with continuous 8 inch PVC water stop. All butt ends are to be sealed.
6. No holes shall be made in the sides or bottom of the tank and all connections shall go through the top of the tank. If multiple tanks are required, water tight connections are needed. Two connections near the bottom for water and two connections near the top for ventilation are required per tank.

### **EXCAVATION FOR CISTERN**

- 1) After the site location for the cistern has been approved, the site for the cistern may be excavated. The cistern must be positioned in the ground with the long side parallel to the roadway. See cistern plan detail.
- 2) Bedding for the cistern shall be at a minimum 12 inches of 1 & ½ inch crushed, washed stone, compacted. No fill shall be used under the stone.

- 3) The cistern must be designed and sited so that it will not float when empty. This is a requirement. Buoyancy calculations shall be submitted if ground water is expected. If concrete ballast is required on top of cistern all connections etc. shall be made on top of the ballast. No connections or steel plates are to be embedded in the ballast.
- 4) The top of the cistern shall have cover 3' above the top of the concrete tank at the manhole location. See cistern detail plan.
- 5) Manholes shall be raised to finish grade and shall have a locking cover.

### **SUCTION PIPING**

- 1) The suction pipe shall be six inches (6").
- 2) The suction piping system shall be capable of delivering 1000 gallons per minute for three-quarters of the cistern capacity. The suction piping shall have a 6" strainer connected to it and rest on the bottom of the tank. The openings on the 6" tee shall face towards one end of the tank.
- 3) All suction piping is to be schedule 40 P.V.C.. Any deviation from this must be specifically approved by the Fire Chief. No holes shall be made in the sides or bottom of the tank and all connections shall go through the top of the tank.
- 4) All piping and fittings are available from Kocheck Co. Inc. local suppliers.
- 5) The final suction connection is a 6 inch NST. It must have a cap with T-handles or long handles and be on a chain swivel connected to the suction pipe with extra chain. Both the adapter and the cap must be non-corrosive

Materials. The cap will need to be drilled to install a 1/4 " eye bolt to accept a 1/4" chain 24" in length. The chain shall be welded to the suction pipe.

- 6) The bottom of the suction pipe to pumper connection must not exceed 14 feet vertical distance. The distance from the suction connection to the edge of the street shall be 6' to 8' or as specified by the Fire Department.
- 7) The top of the suction pipe connection shall be 24 inches above the finish level of the road or shoulder where the vehicle wheels will be located when the cistern is in use. No benchmark grades are permitted to be shown on plans. The only notation Permitted indicating height of suction pipe connection is in relation to the level of the road or shoulder.

- 8) Two protective bollard columns shall be installed 18" from side of the suction pipe on both sides and shall stand 4' above finished grades as shown on the cistern detail sheet.
- 9) A spring based antenna type marker shall be attached to the suction pipe.
- 10) All piping shall be primed and painted red

### **FILL PIPE**

- 1) All fill piping is to be schedule 40 P.V.C.. Any deviation from this must be specifically approved by the Fire Chief. No holes shall be made in the sides or bottom of the tank and all connections shall go through the top of the tank.
- 2) The four-inch (4") fill pipe will have a Stortz connection and be no higher than 36 inches from street level, and within 20 feet from the edge of the paved roadway.
- 3) The fill pipe shall be located 24 inches from the street side, on the right corner of the tank. The fill pipe Stortz connection will be 36 inches above finished grade. The 4 inch filler pipe shall go through the top of the tank.
- 4) No holes shall be made in the sides or bottom of the tank and all connections shall go through the top of the tank.
- 5) All piping will be primed and painted.

### **VENT PIPE**

- 1) The vent pipe size shall be 6 inches. The opening of the vent pipe shall have a bug screen.
- 2) The vent pipe shall be located 24 inches from the street side and be in the left corner of the tank. The vent piping is to be schedule 40 P.V.C.. Any deviation from this must be specifically approved by the Fire Chief. The vent pipe shall go through the top of the tank..
- 3) No holes shall be made in the sides or bottom of the tank and all connections shall go through the top of the tank.
- 4) All piping shall be primed and painted red.

- 5) If multiple tanks are utilized in series, 2 vent pipes are required 1' from the top of the tank connecting the air space of the tanks.

#### **ACCESS MANHOLE / FLOAT SWITCH BRACKET**

- 1) The access manhole shall have a 36-inch diameter cover that shall be at finished grade. The float switch-mounting bracket shall be installed near the top of the manhole opening. It shall be mounted in such a way so as to allow adjustments to the floats from the manhole opening.
- 2) If multiple tanks are utilized there shall be a manhole to grade on each tank.
- 3) Manhole covers shall be locking.

#### **INSPECTION PRIOR TO BACK FILLING AND FILLIN OF TANK**

- 1) An inspection of the interior of the tank ***is required*** by the Fire Department ***PRIOR*** to the filling of the tank for the first time. The tank interior must be clean with no sand, dirt, stone or other debris inside it. In addition, the entire cistern is completed, filled with water and inspected before any back filling is done.
- 2) All back fill material is to be screened gravel with no stones larger than 1-1/2 inches and shall be lightly compacted by mechanical means.
- 3) All construction, back fill, and grading material will be in accordance with proper construction practices and acceptable to the Fire Chief.
- 4) Back fill over tank shall be:
  - a) 3 feet of fill; or
  - b) If less than 3 feet, the top and highest 2 feet of sides of cistern shall be insulated with vermin-resistant foam insulation, and minimum 2 feet of fill.
  - c) All back fill shall extend 10 feet beyond the edge of the cistern, then maximum 3:1 slope, with 8 inches of loam and seeded.
- 5) After back filling, all above grade piping shall be protected by lally columns, large stones or boulders. NO plantings or obstructions shall be permitted near or on top of the tank or suction pipe.
- 6) Pitch of shoulder and vehicle pad from edge of pavement to pumper suction connection must be 3% downgrade.



- 7) Shoulder and vehicle pad must be forty feet (40') in length minimum to permit convenient access to suction connection when pumper is set at 90-degrees to the suction connection.

### **INSPECTIONS AND TESTS**

- 1) Inspections shall be performed by the Fire Chief's designated representative. At a minimum, inspections shall occur at construction milestones identified on page 10 of this specification.
- 2) Installer is responsible for completely filling the cistern and leaving it full for a minimum of one week until inspected and accepted by the Stow Fire Department.
- 3) The Fire Department shall perform such tests on the cistern both during and after construction, as they deem necessary. These tests shall include a flow test and leakage test; the latter requires a minimum of at least one week. The leakage test time may be extended as deemed necessary by the fire department.

### **TANK LEVEL GAUGE**

#### **A. GENERAL**

1. The installations shall comply with:
  - a. These specifications and contract drawings
  - b. The contractor shall be responsible for final operation, layout and installation details
2. Record Documents
  - a. The contractor shall submit drawings and materials list to the Authority Having Jurisdiction for review prior to purchase.
  - b. The contractor shall submit record "as built" documents.
3. Final acceptance
  - a. Final testing and acceptance shall be by the Stow Fire Department.

#### **B. OPERATION**

1. The gauge shall be a floating type device (similar to an oil gauge).
2. The top of the gauge shall be contained in a vandal proof, water tight clear Lexan Cover.

3. Lexan Cover shall have markings of Full,  $\frac{3}{4}$ ,  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and Empty and shall be marked visibly.

### **MISCELLANEOUS**

1. All applicable State and Local codes and regulations shall apply to all work.
2. A marker sign, "FIRE DEPT. WATER SOURCE – CISTERN" shall be installed at the cistern site. The sign shall be 12" x 18" with Red background color and white lettering, highway type style on wording with boarded. See attached marker sign with four (4) pan head bolts and hex nuts, one in each corner. The sign shall be secured in such a manner that the sign cannot be removed from the exterior. In addition, the sign shall face towards the street and the tank.
3. All piping shall be primed and painted red.
4. The developer shall be responsible for payment of all inspection fees incurred.
5. The cistern and associated plumbing shall be guaranteed by the developer for a period of one year after acceptance by the Town of Stow.
6. No holes shall be made in the sides or bottom of the tank and all connections shall go through the top of the tank. If multiple tanks are required, water tight connections are needed. Two connections near the bottom for water and two connections near the top for ventilation are required per tank.
7. **IMPORTANT!!! When the fire cistern is the only fire protection (water source) available for the dwelling within the development occupancy permits will be issued to owners of property only when the cistern has been completed and is completely functional. The approval of the Fire chief is required in all cases.**

**NOTE:**

These specifications and accompanying drawings are subject to change.

**RECEIPT OF SPECIFICATIONS AND AGREEMENT TO CONFORM**

The undersigned have received the "Stow Fire Department Fire Protection Cistern Specifications dated 2017" and understand and agree to the provisions therein. In addition to any plans submitted and approved, the above specifications shall be part of the job plan set. The developer also agrees that any matters, dealing with any construction questions or inconsistencies, shall be his/her responsibility to pursue and correct.

**ENGINEER:** Signed: \_\_\_\_\_  
Date: \_\_\_\_\_  
Name & Title: \_\_\_\_\_

**DEVELOPER:** Signed: \_\_\_\_\_  
Date: \_\_\_\_\_  
Name & Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_

**CONTRACTOR:** Signed: \_\_\_\_\_  
Date: \_\_\_\_\_  
Name & Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_

**CHIEF OF THE FIRE DEPARTMENT:** \_\_\_\_\_, **DATE:** \_\_\_\_\_

## JOB SEQUENCE AND INSPECTION SHEET

Inspection must be conducted and work found acceptable at the following points during construction before installation may proceed. The Fire Department's authorized agent must be notified at least 48 hours before the inspection is required. Contact the Fire Department by telephone at 978-897-4537.

SEQUENCE	FIRE CHIEF or AGENT/DATE
1) Location and sitting of cistern(s) within development (Requires plan to be submitted to the fire chief and approval of plan is required):	_____
2) Excavation for tank to virgin soil and prior to placing of stone:	_____
3) Placement of 12 inches of crushed stone:	_____
4) Placement of tank & leveling:	_____
5) Ends of tank only – backfilled:	_____
6) Tank filled with water:	_____
7) Tank to sit filled for one week:	_____
8) Backfill sides of tank:	_____
9) Tank pumped dry:	_____
10) Tank cored an pipes installed and painted.	_____
11) Manhole constructed:	_____
12) Tank covered with fill:	_____
13) Floats installed:	_____
14) Manhole frame & cover installed:	_____
15) Tank filled using float system:	_____
16) Landscaping around cistern area:	_____
17) Installation of "FIRE DEPT. – CISTERN" sign:	_____
18) Final inspection:	_____



Kirkland Drive

Kirkland Drive

nt Drive

Conant Drive

137

127

144

152

65

59

33

47

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