



Buxton Fire-Rescue

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November 4, 2016

Fire Suppression Underground Fire Storage Tank Requirements Updated November 4, 2016

All developer/installers must meet with Buxton Fire-Rescue prior to beginning any installation of dry hydrants and/or holding tanks to cover the required criteria. Additionally, the Fire-Rescue Department must be notified 14 days prior to any such installation to allow scheduling of an on-site inspection.

1. **Tank Size:** The minimum size accepted will be 10,000 gallons. The Fire Chief shall review the building/subdivision plans and provide the information regarding further storage required per NFPA 1142 [2012] the Standard on Water Supplies for Suburban and Rural Fire Fighting as adopted in June 2015.
 - a. A 10,000-gallon hydrant/holding tank will be required per five (5) housing lots. Once the sixth lot is added an additional 10,000-gallon hydrant/holding tank will be added.
 - b. Each home in a residential subdivision will be within 1,000 feet from a hydrant/holding tank.
 - c. Holding tanks shall be filled and operating prior to the first building in the subdivision is occupied.
2. **Tank Acceptance:** For the installation to be approved and accepted by the Fire Department all the following standards must be met. Once met the Town will accept ownership of the hydrant/holding tank.
 - a. 30-days after installation, the Fire Chief or designee shall inspect the hydrant and the level of the tank once it is filled by the contractor (note the Fire Department will not fill the tank(s)).
 - b. Hydrant/holding tank must sit for a full year, then be re-inspected.
 - c. If there are deficiencies noted (e.g. low water, damage to the hydrant, or unable to draft) the developer will need to make repairs.
3. **Construction:** Construction must be designed to safely withstand the service to which they are subjected. This includes pressure of the earth or pavement above the tank.
4. **Materials:** Suitable materials include concrete, stainless steel, fiberglass, or lined concrete.
5. **Installation:** Tanks should be set on firm foundations and surrounded with soft sand, well compacted into place. Tanks must be anchored or weighted to prevent floating in locations where the water table is high or may rise. Underground tanks must be protected against damaging loads.
6. **Hardware:** Each tank will be provided with a 4.5" National standard male thread Fire Department connection with 2.5" NST cap and chain. This connection will be located within 6 feet from hot top or hard surface suitable for support of, fire apparatus. The center-to-cap elevation shall be 30" from final grade. An appropriate vent must be provided for normal operation (1000 GPM) of any tank to permit filling and emptying and for the maximum expansion or contraction of the tank contents with changes in temperature. A screen shall be provided to prevent clogged vents, which may result in the rupturing of tanks from the internal pressure or collapse due to internal vacuum. Inadequately sized vents may have the same result. The vent shall be a minimum of 6" in circumference (minimum Schedule 40 iron pipe) and terminate a minimum 6 feet above grade. Pipe materials that are resistant to corrosion and have adequate strength to withstand the maximum service pressure, shall be used.

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7. **Tank Fill:** A tank fill assembly shall be included in the vent pipe, 18" above final grade. It shall consist of a 6" minimum Schedule 40 ID iron pipe wye socket, 45 degree street elbow spigot & socket, and 6" x 4" Storz hydrant adaptor with cap and chain as illustrated below:

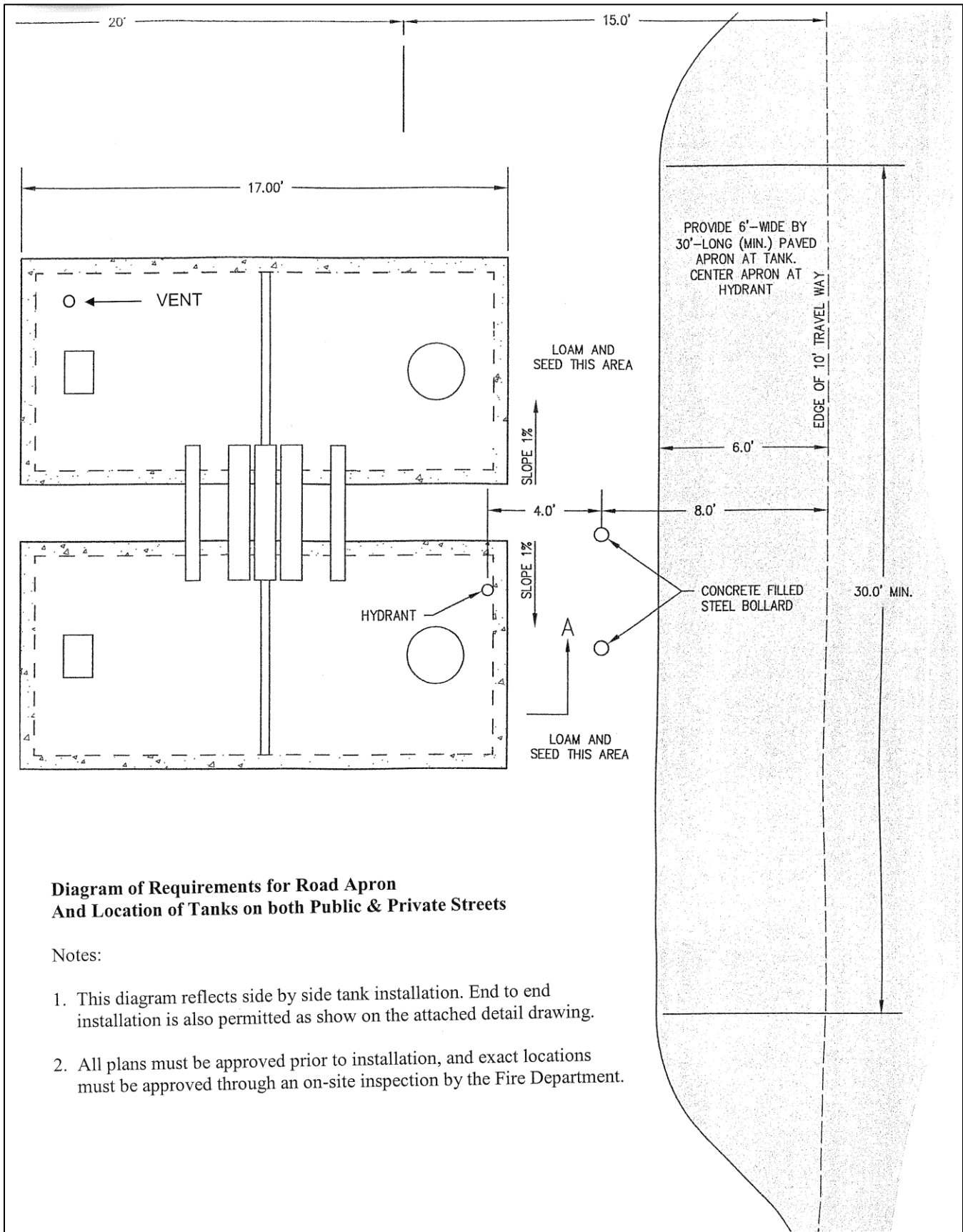


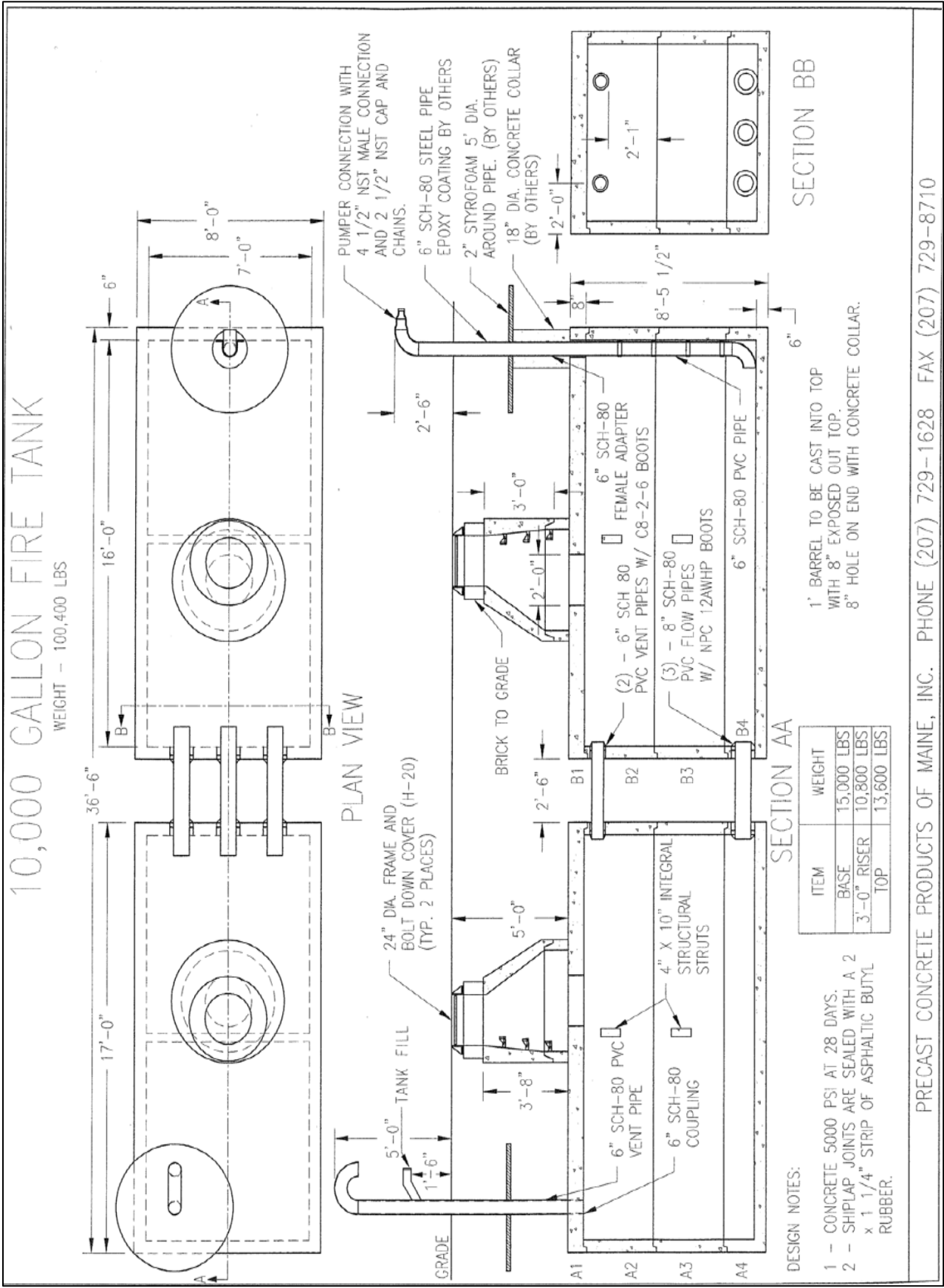
*Note the hydrant and fill hardware must be constructed of minimum Schedule 40 iron pipe.

8. The installer, owner, and/or responsible party for the project shall insure in writing to the Planning Board and Buxton Fire-Rescue, that the water in the tank and vertical lift of the hydrant will be protected from freezing. To clarify the pond or river water will rise in the vertical lift of the hydrant, equal to the level of the pond or river, and the water in the tank will rise in the hydrant connection exactly to the water level in the tank, and the water in the vertical lift in all cases must not be subject to freezing.
9. The owner or contractor shall be responsible for all maintenance for a one-year period.
10. An inspection cover shall be provided to allow any required maintenance to be done from the inside.
11. Two tanks may be connected, or the connection of several tanks to hold the required gallons is allowed if approved by the Fire Chief. There shall be 3 (8") cross connections at the bottom of the tanks of (8") schedule 80 PVC pipe. There shall be 2 top cross connection vents of (6") schedule 80 PVC pipe.
12. The piping for the Fire Department connection MUST be constructed so that it comes through the interior of the tank, not through the end or underside.
13. There must be 6' of level ground around the Fire Department connection.
14. Protective bollards shall be installed and approved by the Fire Department.
15. The suction pipe inside the tank must be 6" minimum Schedule 40 ID iron pipe to the top of the water level, then minimum Schedule 40 6" ID iron pipe from the top of the tank to the fire department connection.
16. Threaded or welded connections are acceptable.
17. The developer will be responsible for pumping any existing water, totally remove any foreign material of any kind, i.e. gasket material, dirt, leaves, concrete dust, etc., prior to on-site inspection by the Fire Department.
18. The developer will be responsible for filling the tank under Fire Department supervision.
19. A 24" concrete collar around the Fire Department connection shall be poured into place.

Note: Please see the attached drawings regarding placement requirements off a public or private way and design specifics.

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