

Rural Deltana Volunteer Fire Dept.
P.O. Box 524
Delta Junction, AK 99737
907-895-5036 (answering & FAX)

Homemade Water Tank
(to augment protection from wildfires)
(copyright RDVFD 1999)

In our part of Alaska wind driven wildfires are common. In general two things stop wind driven fires: a lack of fuel or buckets of rain. Homeowners can do several things to help prevent their house from adding to the fire fuel load. There are pamphlets available from the Alaska Division of Forestry on creating defensible space and preparing your home. Here is one more thing that may help protect your home.

If one has defensible space for the fire to circumvent buildings, the next danger is from flying embers igniting roofs, decks, wood piles, outdoor furniture, or anything else left lying around which could burn. Keeping these wet will put out embers and prevent ignition. A 1700 gallon water tank, portable pump, 5 oscillating sprinkler heads, 450 ft. of garden hose, and one spray nozzle could create a damp zone for an hour. (The 30 minutes before and after the fire passes are the most critical times.

Materials List & Construction Tips

Pump Pacer SEB2PLE3C 2" 3.5 hp agricultural pump 145 gpm 50 psi or equivalent available from Harbor Freight 800-905-5220 or harborfreight.com web site.

16 x 20 ft. heavy duty silver tarp for tank liner available from Harbor Freight or heavy duty green/silver 20 x 20 ft. tarp from Hamilton Marine 800-639-2715 or hamiltonmarine.com

6 3/4 inch ball valves or water faucets to be used in a manifold attached to pump outlet.

6 75' length of hose and 5 plastic oscillating sprinkler heads on spikes to mount on roof and ground. 5 hose clamps to mount sprinklers to stands or poles.

The tank will be a 10 by 12 ft. frame lined with a tarp. Most of the weight will be on the ground. The total weight of the water at full capacity will be nearly 7 tons. The corners should be bolted through the horizontal center of the 5 pieces of 2X4 and 6" down from the top and 6" up from the bottom. Plywood

gussets are added on the top corners. A length of rope should be strung along the bottom at the middle of the 12" sides to prevent bowing especially when the ground is not totally flat.

Sides made of 4 12' 2x4s, 4 10' 2x4s, and 7 8' 2x4s cut into 28 21" studs. The corners are doubled at the end of the 10' sections and tripled at the 12' sections. (The 3.5 " face will be flat with the inside surface for the 2 additional corner pieces on the 12' side.) The inside of the tank frame will be sheathed with 1/2" plywood or 7/16" osb. Three 4x8' sheets should be ripped in half to 6 2x8' panels. One full panel is attached to each side. The smaller pieces and gussets are cut from the 2 remaining panels.

The side walls are put together with 120 3" deck screws. The plywood is attached with roughly 100 1 5/8" deck screws. The corners will require 8 10" 3/8 bolts or 4 sections of threaded rod with 16 fender washers and 8 to 16 wing nuts.

It will take a gallon of porch paint or wood preservative to weather proof the tank.

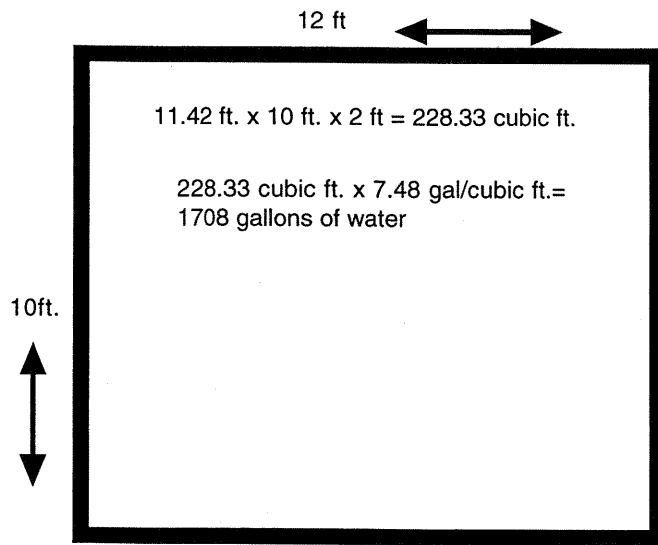
One piece of 15' 3/4" rope is needed to run across the bottom. Don't use poly line due to too much stretch.

26 1 15/16" large eye screws should be placed on the bottom unsheathed side within the frame, around the corners, and at every 2 ft. for liner lacing points. The liner should be laced in with 120' of parachute cord. Do not lace through the corner grommets on the tarp. The lacing is only to hold the tarp in place while being filled and should have no strain on it. The tarp will be held against the tank by the 7 tons of water.

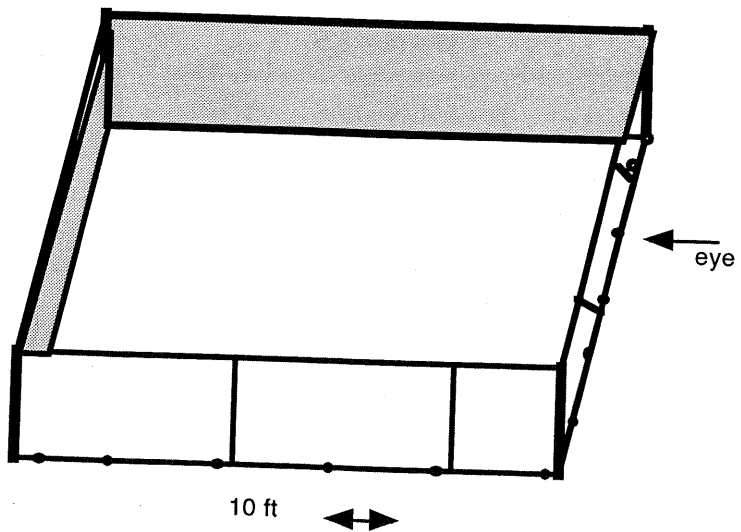
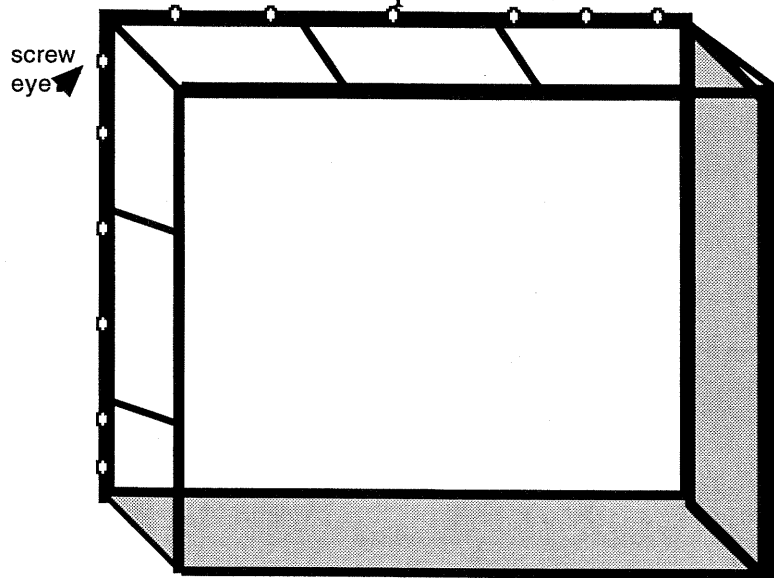
The pump can be attached across a corner of the tank with 2 large C clamps. A suction line can be made from 2" abs pipe , flexible rubber connector, and a couple hose clamps. The bottom of the suction should be about 1" from the tank bottom and covered with a screen and hose clamp to prevent debris from reaching the pump.

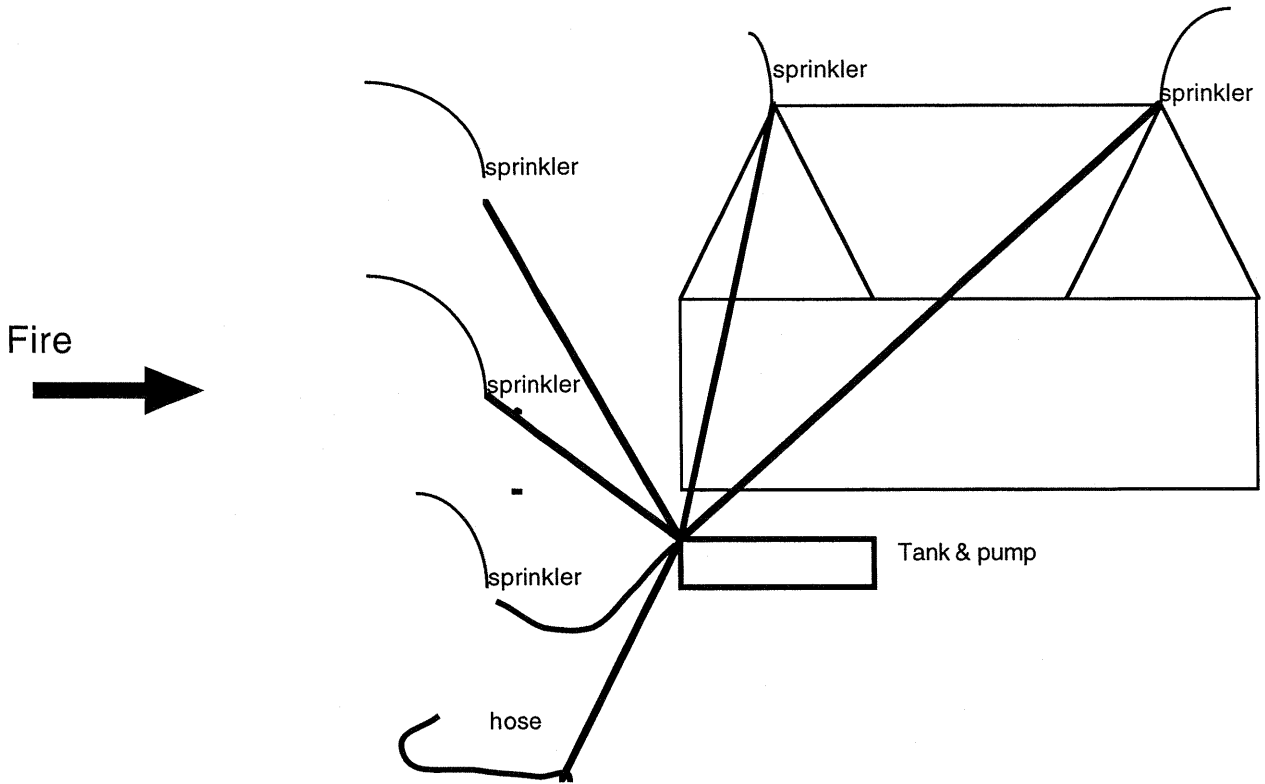
The tank can be used to hold warm water for the lawn or garden.

The system gives an edge in preventing a fire disaster. The sprinklers can be left running as one evacuates. This is no substitute for defensible space. This system is not meant to suppress a fire. It is meant to have the dragon look elsewhere for its next meal, to keep your home from being the fuel. Have a fire safe day!



views top & front

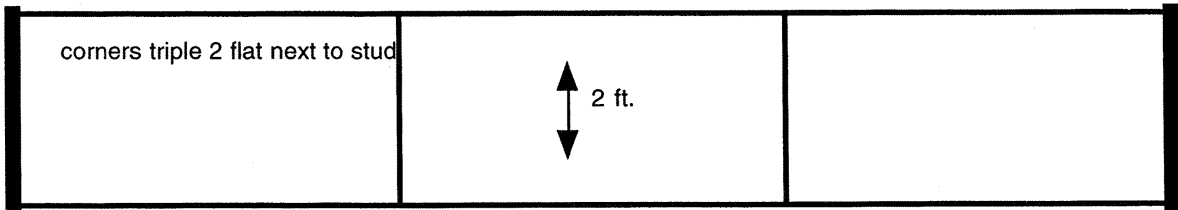




Tank Plans



12 ft. verticals on 4' centers



10 ft verticals at 4' & 8"

