



Timberlake Fire Protection District

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MEMORANDUM

November 18, 2009

To: Timberlake Fire Protection District Commissioners

From: Jack Krill, Fire Chief

Subject: Fire Boat Condition and Major Repairs Needed

11-18-09 Note Fire Boat insured for \$95,000

The mission of the fire boat is to provide fire suppression, water rescue, EMS/QRU, search, and other support functions to the Bayview Marinas, the Navy ARD, Lakeview, other lakeside communities, and the entire southern half of Lake Pend Oreille with mutual aid to the entire lake. Due to the potential for marina fires and the regular responses in and across the lake, it is critical that the boat perform when needed. We are the only boat readily available for all of southern Lake Pend Oreille. Sagle has an inflatable that can be launched and Sand Point has a boat for the northern end of the lake. The Navy has a fire boat that can be called for fire suppression support, but it could be up to a 1 hour response time if the staff is not on post to operate it. Even with staff on post, it could be 15-20 minutes to get it underway.

Our fire boat is showing its age and is in need of some significant repairs and upgrades for it to meet NFPA requirements and be reliable for fires and rescues. It was built in 1987 by Thunderjet out of Clarkston, WA. At the strong objection of Thunderjet, the fire district insisted to install a used 1975 Ford 409 pickup motor. It was soon discovered that this did not provide enough power to properly and safely utilize the boat. Two outboard motors were then installed to compensate for the lack of power. We have spoken with American Turbine and Kodiak Marine, two major suppliers of jet boats in the area.

The **inboard motor** is showing significant wear and is showing signs that will lead to serious mechanical failures. Currently, there is a coolant leak, oil blow by (indicating worn rings or valve seats), and rusting of the soft plugs. For reliability, both the motor systems need to fully power the boat, at this time they will not.

The **jet drive** is not large enough to power the 5,000 pound boat. The diverter valve which switches between propulsion and pumping is operated by a cable system hooked to a modified boat steering wheel which does not stay locked into position; a bungee cord is currently being used to keep the steering wheel in a stable position. Additionally, the jet will only flow 600 gallons per minute. The minimum capacity required for this type of boat is 1,500 gallons per minute. The new jet would have the capacity to pump 3,000 gpm at full power, but we would not necessarily have it in that configuration due to the existing piping, but that size jet is needed to fully power the boat.

To correct the problems with the motor without replacing the motor itself would not change the fact that the motor is underpowered. The proper size motor for this boat is an 8.1 liter marine motor at a cost of \$13,000. With a properly sized inboard motor and jet, we can downsize the two outboard motors. The two current outboards have their problems including the trim not responding on one of them and they sit too low in the water which causes them to get choked and not operate as efficiently as they should.

To correct the problems with the jet drive and diverter valve, a larger jet drive and a new diverter valve would need to be installed. The new diverter valve would not operate with a cable system but is hydraulically operated with pre-set positions. The costs for these items are expected to be \$9,000.

The labor to have these systems installed and operational is expected to cost approximately \$3,000-\$4,000. Firm estimates could not be obtained until the company can visually inspect the boat, out of the water and in a shop.

There is also a need for **additional spot lights** for night operations as well as replacing the strobe emergency light with an LED model. The strobe light is not readily visible during the day and not visible

from the side of the boat. Additionally, the strobe light pull more amps than the newer LEDs. These upgrades cost approximately \$2,000.

The current **siren and speaker** do not meet the decibel requirements by NFPA. The siren is an older cheaper model that was not necessarily meant for emergency vehicles. The sound is so weak, that you can barely tell it is on and can be present in the boat shed with. The issue isn't so much the siren, but the public address function needed to communicate during emergencies (such as the kayak rescue in June where we had to give instructions to the victims hanging onto Maiden Rock). A new siren that will fit in the boat will cost \$600 and speaker will cost \$300, figure another \$100 for wiring, mounting hardware, and connections.

The **foam system** also does not function properly and needs to be upgraded. The current foam eductor system is malfunctioning causing lake water to fill the foam reservoir. The proportioning valve is located under the engine compartment in a place where you cannot physically see what percentage it is set at. The foam system is critical to effectively controlling any fuel, boat, or marina fires. A replacement foam system will cost \$12,000.

The boat has an older style **master stream nozzle** (monitor) on the bow that only has a solid bore tip. It should be replaced with either a gear driven monitor or a remote control monitor for safer operations with the addition of a combination tip. A rear nozzle is also needed. A remote control monitor would allow a higher level of safety since it would not place a firefighter at risk. It could also reduce the need for an additional firefighter on the boat to operate it. Nozzle upgrades could cost up to \$5,000. Other items are also needed including a GPS marine chart plotter, repair of the front ladder, resurfacing the non-skid coated areas, new PFDs, and other items.

The total cost for these critical upgrades is approximately \$45,000 to \$50,000 in order to meet minimum standards as a Type IV Fire Boat per NFPA 1925, Standard on Marine Fire-Fighting Vessels, 2008 Edition. To plan for unexpected maintenance cost that may be discovered during the overhaul, at least \$50,000 should be set aside. A new similar sized boat configured to this standard would cost well over \$100,000.

Some have said that we should just keep the boat parked until it is actually needed. As I understand it that was done a couple of years ago to save costs and wear, but the ability of our personnel to operate it was negatively impacted. Operating that boat safely and effectively takes hours of training. We currently have only a few personnel "proficient" in boat operations and a few more that can get by without doing damage. Not using it for training is not an option.

I am not asking for an appropriation of funds now because it is critical that we focus our funds on retaining the ISO rate first, but wanted to provide an advisement of the condition of the boat and the needs to make it safe to operate and effective for another 20+ years. Additionally, long term future plans should include a second boat, a private secure boat garage, and other water/marina resources.

Also, I am drafting a letter to solicit support and assistance from the Commander of Naval Base Kitsap, the host command for the Bayview Acoustic Research Detachment (ARD). Other bases under this command receive resources and finances for emergency services such as full-time firefighters that provide mutual/automatic aid assistance to neighboring communities. We do not receive property taxes or any direct financial support for providing fire protection to the Navy's assets at the Bayview ARD. We have a good relationship with the Bayview ARD and recently renewed our mutual aid agreement that was exercised during the Patio fire in March.

The value of the property at the Bayview ARD is unknown, but if you reason that the Navy's assets are at least \$12 million, then annual property taxes would equate to approximately \$10,941 (with the 2010 mill rate of 0.911772). I am hoping that we can establish a stronger relationship with the Navy to at the very least, help with the acquisition of resources such as used military fire trucks, fire equipment, or water resources. I have learned that around 2003/2004, the Navy did provide us with funds to purchase our one and only thermal imaging camera at a cost of approximately \$12,000. This camera coincidentally, is currently not functioning properly and is in need of replacement.