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**APPLETON FIRE DEPARTMENT
700 N. DREW STREET
APPLETON, WI 54911**

MEMORANDUM

To: Alderperson Kyle Lobner, Chair, Safety and Licensing Committee
Members of the Common Council

From: Len Vander Wyst., Fire Chief

Date: September 6, 2016

Re: 2016 CIP Project Modification - Training Tower Upgrade

The 2016 approved budget contains funding for the second phase of the upgrade of the training tower located at Fire Station Six. The original upgrade was the installation of an exterior flashover simulator with fire generated smoke being piped into the training tower. The goal of this upgrade was to enhance training opportunities including the education on flashover, fire behavior and smoke travel. Enhance search and rescue operations with high density dark smoke and enhanced direct fire attack through fire simulation.

After budget adoption, the department determined some negative impacts with moving forward with the original plan. Recent studies have identified the impacts of all types of fire generated smoke with a direct correlation to increased cancer levels in firefighters. This exposure initially identified as a respiratory concern is now being identified as a skin absorption concern through direct smoke contact and contact through contaminated personal protective equipment. As a result, the department immediately initiated practices to improve protective equipment cleaning, practices for immediate decontamination of firefighters at the scene and upon return to the station and improved respiratory protection with modification in operating procedures. Additionally, concerns were raised regarding the potential impact to the surrounding neighborhood by using an exterior fire smoke generating flashover simulator.

To address these concerns, the department sent members of the chief's staff to the Fire Department Instructor's Conference to evaluate safer options for enhancing the training of our members but excluding the additional exposure to potential hazardous smoke as well as protective equipment contamination.

The modified proposal addresses the original training needs but significantly reduces the concerns related to firefighter exposure and neighborhood concerns of fire generated smoke. The modified proposal includes:

1. Purchase two large smoke machines which utilizes non-toxic heavy density/dark theatrical smoke.
2. Replacement of the current PVC pipe smoke distribution system in the tower to provide better smoke distribution and adjustment abilities within the tower.
3. Purchase a flashover/fire behavior training simulator for flashover simulation.

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4. Purchase and install a roof ventilation system.
5. Purchase a digital fire training system for fire attack simulation.
6. Add (GFCI) electrical outlets more accessible throughout tower for use of digital fire system.

The proposed modification exceeds the original training tower upgrade plan and also provides additional flexibility in training opportunities for our employees. The modified plan eliminates the exposure of fire generated smoke, eliminating the concern to our employees as well as concerns from our neighbors, still providing us with alternatives to improve department training. The costs of the new plan are within the guidelines originally established by the approved 2016 CIP project.

If you have any questions or need additional clarification, please contact me at 832-5810.