



Ashland City Fire Department



Fire Department Headquarters Station Design Review

January 9, 2020

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Municipal Technical Advisory Service



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Chuck Walker, Fire Chief
Ashland City Fire Department
101 Court Street
Ashland City, Tennessee

Dear Chief Walker,

The staff of the University of Tennessee Municipal Technical Advisory Service (UT-MTAS) strives daily to meet its consensus mission. As an agency of the University of Tennessee and in collaboration with the Tennessee Municipal League, MTAS leverages the resource of the university to improve the lives of the people of Tennessee with technical consulting, research, and training for municipal governments. This fire headquarters station design review works toward meeting this mission.

Using the plans provided by the fire department, there was not enough detail to analyze all features of the proposed facility. This report will serve to review in as much detail as possible for design features to ensure smooth, efficient, and safe operation of the fire department.

The facility appears to be designed taking into consideration the current needs of the department as well as planning for projected needs into the future. Some components noted below:

- Facility is equipped with an automatic fire sprinkler system.
- Facility is equipped with specially designed apparatus bay doors for quick and safe operation.
- Turnout gear washer and drier.
- Adequately sized training room.
- A slide for firefighter egress from upper floor.

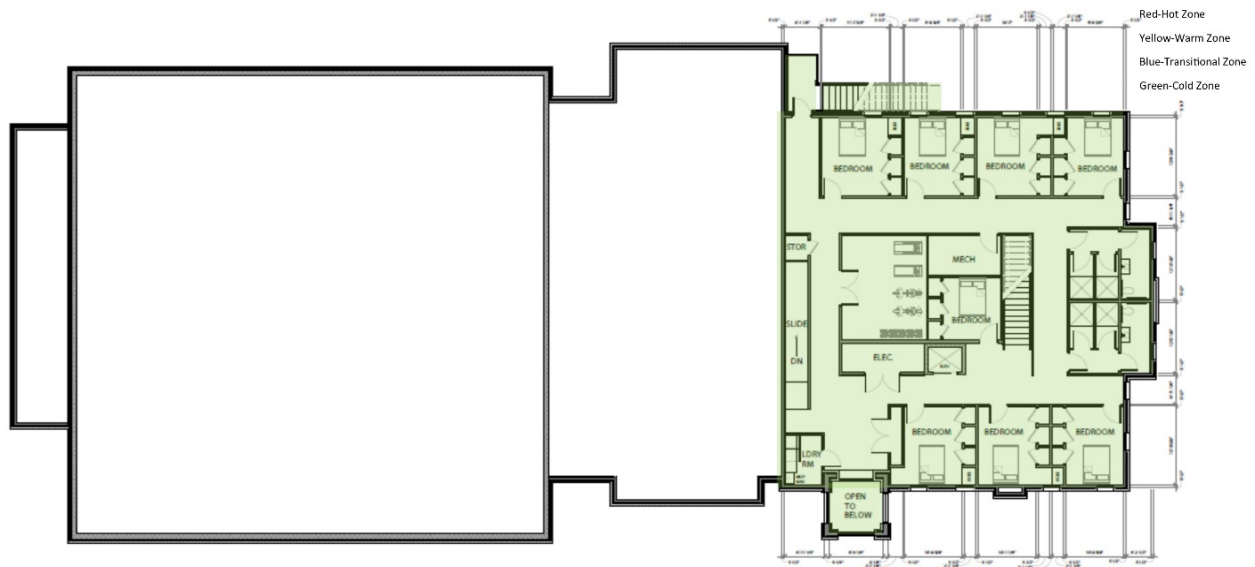
The design of the facility must take into consideration additional firefighter safety and cancer risk reduction measures. Some of these design components may have already been included in the project but not detailed on the drawings.

- Storage room/air compressor room-consider adding a door between the compressor and the storage room to isolate the compressor/cascade system from the other storage area that is accessible from outside.
- Water/Air Access- Each truck bay should have compressed air and hot/cold water facet connections. The addition of hot water helps ensure complete decontamination of firefighting equipment and apparatus.

- 110 Volt Shorelines- Each apparatus bay should be equipped with a minimum of two 110 volt shorelines capable of operation of apparatus battery maintainer as well as operate apparatus 110 volt air conditioner should apparatus be equipped.
- Establish and identify Hot, Warm, Transitional, and Cold Contamination Zones within the fire station. Hot Zone (Red) areas of fire station that exposed to dirty equipment and gear. Warm Zone (Yellow) areas of the fire station are support areas/cleaning areas. Transitional Zone (Blue) areas of the fire station equipped with hand cleaner/sanitizer and etc. to decontaminate occupants moving to a cleaner zone, and Cold Zone (Green) areas of the fire station where employees live, eat, sleep, train, and etc. Restricted area where no firefighting gear or equipment is to ever be.



Main Floor



Upper Floor



- Ice Machine-consider moving the ice machine to a cold zone area such as in the main hallway. Notch out area of the storage area room for the ice machine.
- Decontamination room equipped with stainless steel sinks to clean fire and medical gear.
- Heating, Ventilation, and Air Conditioning (HVAC)-Provide for positive pressure HVAC in Cold Zones. This will help ensure hot and warm zone contaminants do not migrate to cold zone.
- Heating, Ventilation, and Air Conditioning (HVAC)-Provide for a separate HVAC system for cold zone and warm/hot zone areas. HVAC for cold zone areas of facility should be completely separate from other systems.
- Floor Surfaces-Floor surfaces should be non-porous materials such as sealed concrete, vinyl tile, or other material that resists absorption of contaminants. There should be no or very minimal carpet or carpet type floor coverings in cold zone and none in warm, transitional, or hot zones.

In conclusion, it appears that the Ashland City Fire Department is making good decisions on replacing their existing fire department headquarters and in the design of their new facility. Most of the recommendations made to modify current components or design of the new fire station are in direct correlation to cancer risk reduction measures that fire departments must consider and address when building or modifying fire facilities. Please do not hesitate to contact me to clarify any part of this report.

Best Regards,

Steven E. Cross BS, CFO
University of Tennessee
Fire Management Consultant



Municipal Technical
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