

## **Camp Randall Sports Center Feasibility Study**

**University of Wisconsin-Madison | Madison, WI**

**Comm. No. 5465**

The full Feasibility Study of the Camp Randall Sports Center details condition and compliance issues by trade for the entire facility. The following summaries address issues that are of highest priority for repair, replacement, safety or code compliance.

### **Egress and Occupancy**

The code summary, included with this report, will show that the egress doors on the Shell are more than adequate to serve the occupant load of the building as currently used. Occupancy based on code-dictated square foot allotments calculates to a total of 2,072 persons in the building. There is excess egress capacity which could accommodate approximately another 4,967 persons in the bleachers.

State building codes also specify the level of ventilation to be provided per person. The existing hvac system is capable of supplying air for 2,833 occupants on the track side, 500 occupants on the ice rink side, for a total of 3,333 occupants. If a renovation is undertaken, ventilation should be brought up to code levels.

### **ADA**

The Americans with Disabilities Act is a federal law, which is to be complied with at all times. Therefore, any item not in compliance could theoretically be mandated to be brought up to current accessibility standards. In reality, these changes typically take place within the context of a renovation project. At the Camp Randall Sports Center, the following items and areas have been identified to be not in compliance with ADA standards.

- Fixed benches in the Track and Field locker rooms do not allow access to lockers to an individual in a wheelchair.
- Some door hardware, usually non-egress doors, has cylindrical knob hardware in lieu of lever handles.
- Some hardware at toilet partitions and lockers requires grasping, in lieu of lever style.
- Some mounting heights of equipment is at a single, non-accessible height, for example, towel hooks and some hand/hair driers.
- The Track and Field side of the building does not provide accessible toilet stalls or showers.
- Grab bars at the older toilet stalls do not comply with current standards.

### **Plumbing and Fire Protection**

There are no life safety issues associated with the plumbing systems. However, some water main piping is installed below the facility floor and has broken on previous occasions. Although the condition of this piping is not completely known, the previous damage would indicate that this piping should be replaced. Estimate of cost: \$30,000.

There is a water drainage issues on the roof and at the locker room exit. A site drain should be added at the locker room exit. Estimated cost for new site drains is \$3,000. Significant algae growth is present on the roof. In addition to ponding rain water, there are numerous air unit condensate pipes which provide a continuous source of water, creating a continuously wet roof condition. Estimated cost for new roof drains is \$40,000.

Multiple roof drains and roof pavers are broken from the snow/ice which falls from the domed roof onto the lower flat locker room roof.

There is no automatic sprinkler system currently in the building. For an Assembly occupancy building (A-3 occupancy per code) of over 12,000 sf or over 300 person occupant load, sprinklers would be required. The shell building would fall under both qualifying criteria. A rough estimate of cost for installation of automatic sprinklers would be in the range of \$300,000 to \$350,000.

### HVAC

The building HVAC system has a couple of deficiencies which should be addressed immediately. The building is under extreme negative pressure. This is not a life threatening situation, however the negative pressure allows infiltration in areas that are not anticipated. This can lead to frozen water pipes and, in worst cases, water infiltration which can lead to mildew and mold growth in exterior walls. The reasons for the building pressure are: that the exhaust fan and outside air unit operations/balances are out of synch; multiple exhaust fans and dampers do not function; multiple air unit dampers function poorly or not at all; and at least two outside air intakes are blocked off with plywood sheets.

Most of the HVAC equipment is quite old and at or past its useful life expectancy. Although the equipment is functional, the following equipment is in need of repair and should be budgeted for replacement:

- Condensate pumps in the main mechanical room and ice melt area
- Air units serving the track area
- Exhaust fans serving the track area
- Mechanical room ventilation intakes and exhaust fans.

The Ice Hockey area and dehumidification units are functional. Building maintenance personnel have indicated that this equipment requires a lot of attention and repair.

The facility assessment has identified deficient air intakes and dampers on at least 3 air units, as well as non-operational exhaust fans and dampers. Corrective action for these outside air intakes, dampers, and exhaust fan and building pressure control is estimated at \$40,000. A more thorough maintenance review of all air unit and exhaust damper operations may reveal additional work.

An initial budget for equipment replacement of all of the air units, condensate pump, and exhaust fans has tentatively been set at \$1.8 million. This value will escalate with the addition of air conditioning, higher filtration efficiency, sporadic replacement, and construction cost inflation.

### Electrical

The primary electrical service from Camp Randall is in good condition. The primary switch and transformer have been recently up-graded and are in good condition. The primary transformer has free air wiring and needs to be properly supervised and maintained. The 480/277 volt switchboards are old and obsolete, but are code compliant. The 480 volt to 120/208 volt transformers are in fair condition. The panel boards within the facility range in age and manufacturer. The original 120/208 volt panels are old and obsolete, but are code compliant. Much of the distribution and branch circuit wiring is in bad condition, but is code compliant.

The emergency generator is in the boiler room. Current code requires it to be in its own rated room, but it is considered "grandfathered" at this time. The transfer switch and emergency panel are in poor condition. Current code requires two transfer switches, one for emergency lighting and one for the other emergency loads. This installation is considered "grandfathered" at this time.

The exterior lighting in the front of the building is in good condition; however LED sources would provide better coverage for less wattage. The lighting at the entrances is not decorative and is HID. LED fixtures would enhance the lighting and decrease the power usage. Emergency lighting is connected to the generator. The interior fixtures are in fair condition. The sports flood fixtures utilize a lot of energy. The lighting controls are old and obsolete but are code compliant.

The tele/data system is connected to the Camp Randall infrastructure and is in fair condition. The fire alarm system is in fair condition and is code compliant.