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New Construction And the Fire Code

If you are planning to construct a new building in the City of Superior, there are a number of municipal fire codes that you will want to take into consideration. For your convenience, they are outlined below. You may also view the municipal fire code in its entirety on the city's website at <http://www.ci.superior.wi.us/council/CodeOrd/Ch14%20-%20fire%20prevent%20&%20protect.pdf>

If you are planning to alter an existing building in the City of Superior in a significant manner, some or all of the codes outlined below may apply to you project.

Plan Review: Certain construction documents must be reviewed by and receive approval from the Fire Department before construction begins. This is true whether or not the plans require state review and approval. Plans which require Fire Department approval are plans for fire department access (which may be part of a site plan), plans for fire alarm systems, plans for automatic fire suppression systems (including sprinkler systems), and plans for standpipe and hydrant installation.

Plans that require state approval must first be reviewed by the state. Following their approval, they must be submitted to the Fire Department for review.

Plans which are submitted to the Fire Department for review must be submitted in triplicate to the Building Inspection Division at the City/County Government Center, 1316 North 14th Street, Superior, WI, 54880. Plans for automatic fire suppressions sprinkler systems must include the hydraulic calculations, which must also be submitted in triplicate. Upon completion of the plan review and the granting of conditional approval, one set of plans will be returned to the contractor with a letter of conditional approval.

The turnaround time for plan review is usually one week from the time the plans are received to the time the review is complete. However, due to vacations and other personnel issues, plan review may take as long as a month.

Address: All buildings located within the City of Superior must have the address numerals of the building posted on the address side of the building as well as on the alley side of the building. The numerals must be of sufficient size as to be legible from the street or alley. They may be posted directly on the building or on a sign.

Smoke Detectors: The City of Superior has adopted the Wisconsin Smoke Detector Code. In addition, the City of Superior has adopted two ordinances which are particular to this jurisdiction.

Commercial/Residential Mixed Occupancy: Any commercial property such as a business, an office, a retail establishment, or a warehouse which has a residence attached either adjacent to the business or above it, must install an alarm system which includes smoke and heat sensing detectors in the business and which will sound an alarm in the residence. If the devices that constitute the system are battery powered, the batteries must be capable of powering the device for a minimum of ten years.

Residential Rental Occupancies: Residential occupancies that are not either occupied by the owner or the owner's next of kin must be equipped with smoke detectors that are either hardwired to the building's electrical panel or are powered by a non-replaceable ten year battery. This code applies to all such buildings whether of new construction or existing construction.

KnoxBox: A rapid entry device known as a KnoxBox must be installed on the exterior of any newly constructed building in the City of Superior meeting certain conditions. A KnoxBox is a key safe which is affixed to the exterior of the building. It contains the keys to the exterior doors of the building and to any locked interior doors in the building. KnoxBoxes are available in both recessed and surface mounted models. Additional information on KnoxBoxes is available at the Knox Company website at <http://www.knoxbox.com/store/>

KnoxBoxes must be ordered directly from the Knox Company by the construction contractor or the building owner. Written authorization from the Fire Department is required to place an order. Authorization forms may be obtained from the Fire Department at the address above.

KnoxBoxes are required in the following cases:

Building Height: If the building is three stories in height or more.

Fire Safety Features: If the building has an automatic fire suppression system, a fire alarm system that is remotely monitored, or an Ansul type kitchen system.

Elevator: If the building has an elevator.

Hazardous Materials: If the occupancy of the building is required to file a Tier II report.

Apartments: If the building has more than seven residential units.

KnoxBoxes must be mounted within 3' horizontally of the principle entrance of the building and within 5.5'-7' of the pavement.

Elevator Key Box: Elevator key boxes are required to be installed on the floor of recall adjacent to the hoistway door. They must be mounted within 1' horizontally of the hoistway door and within 6' vertically of the floor. They must be keyed to accept elevator key number MM7802,

commonly known as the “St. Paul Key.”

The elevator key box must contain the keys for the fire department operation of the elevator as well as the key to the elevator machinery room and any keys to any locked doors between the elevator key box and the elevator machinery room.

Any keys for the lock for the elevator key box that come with the box must be turned over to the Fire Department.

The key for the shaftway door must be installed adjacent to the electrical shutoff in the elevator machinery room and not in the elevator key box.

Fire Hydrants: The location of fire hydrants installed on private property must be approved by the Fire Department. Such hydrants must be painted red in color. They must be installed with their large diameter or steamer fitting facing the public way. Private hydrants will be required when there are inadequate public (Superior Water Light and Power (SWLP)) owned hydrants to meet the design requirements:

Hydrant Distance to Building: No point on the building exterior at ground level may be more than 400’ from a fire hydrant as measured along the drivable surface.

Hydrant Spacing: The distance between hydrants may not exceed 500’ as measured along the drivable surface.

Fire Department Connection (FDC): A fire hydrant must be located within 250’ of any FDC.

Automatic Fire Suppression System: Designs for automatic fire suppression systems must be approved by the Fire Department. The FDC for an automatic fire suppression sprinkler system must be installed on the side of the building facing the street of address. It must be installed adjacent to and within 3’ of the principle entrance, must be between 3’ and 4’ above grade, and must be located within 250’ of the nearest fire hydrant. In cases where there is no public hydrant located within 250’ of the FDC, a private hydrant will be required to be installed by the property owner. The location of the FDC must be approved by the Fire Department.

Consideration must be made for clearing snow from the access to the FDC. Although not required by code, paving the area from in front of the FDC to the public way should be considered to facilitate snow removal.

Standpipes: Standpipe designs must be approved by the Fire Department. Fire Department Connections (FDC’s) for standpipes must meet the same requirements as those for FDC’s for automatic fire suppression sprinkler systems. When a standpipe is located within a stairwell and the stairs do not reach the roof, the stand pipe must extend through the roof to provide a hose connection on the roof.

Fire Apparatus Access Roads: Clear, unobstructed access must be provided to the

building. Fire roads may consist of roadways, fire lanes, parking lot lanes, or a combination thereof and must meet these design requirements:

Proximity to Exit Door: A fire access road must extend to within 50' of at least one door that can be opened from the outside.

Proximity to Structure: Fire access roads must extend to within 150' of any point on the ground level exterior wall of the building as measured along the drivable surface.

Dimensions: Access roads shall have an unobstructed width of no less than 20'. They shall be unobstructed vertically for a height of 13.5'.

Turning Radius: Turning radii shall be at least 37.5'. However, allowance needs to be made for the aerial ladder that protrudes out in front of the vehicle. To account for it an additional 2' must be added to the turning radius. This additional 2' need not be paved, but must be clear of any impediments such as utility poles, trees, light poles, fences, retaining walls, or structures.

Weight Requirements: Fire access roads must be designed to support a vehicle of at least 28,000 pounds and must have an all-weather drivable surface.

Dead ends: Access roads with a dead end of more than 150' shall be provided with a turnaround. Turn arounds may consist of one of the following:

Cul-de-sac: The diameter of a cul-de-sac must be 71' with a clear area extending 2' from the edge of the road, or 75' which would include the 2' allowance for aerial apparatus.

Y-turn: The length of the turn-in must be 36' long with an allowance of 3' for aerial apparatus and the turn into the turn-in must take into account the turning radius given above.

“Grand-fathering” The codes outlined above apply to all newly constructed buildings in the City of Superior. In cases where significant remodeling of an existing building is involved, these codes may also apply. If a contractor or building owner is uncertain whether or not a particular code applies, they should contact the Fire Department.

**If you have any questions regarding the requirements of these codes as they applies to your project,
please feel free to contact the fire inspector at the number listed above.**