Minutes
Building Board of Appeals
Ground Floor Conference Room
Tuesday, October 13, 2015, 8 a.m.

Members Present

Dave Van Nieuwenhuizen, Liz Squyer, and Allison Dvorak

Members Absent

Terry Kelley and Jarrod Smart

Guests Present

Mike Cooper

New Business

1. The hearing will be devoted to review and discussion of the following 2015
   I-Codes:

   - 2015 International Building Code
   - 2015 International Residential Code
   - 2015 International Existing Building Code

   The following significant changes that are found in the 2015 I-Codes were presented along with the local modifications to the following respective codes.

Significant changes to the 2015 IBC are as follows:

Previous editions of the IBC have been adopted at the state or local level in all 50 states. Now in its sixth edition, the 2015 IBC contains many important changes such as:

HEIGHT AND AREA REQUIREMENTS. Chapter 5 of the IBC has been heavily revised into a new, more user friendly format. The revisions were meant primarily as a format change and were not intended to be technical in nature. The increases for both height and area when sprinklers are installed are now integrated into the tables with separate tables used for height, number of stories and for allowable areas of buildings based on occupancy and type of construction.

HEALTHCARE. There was a comprehensive re-working of requirements in the codes for Group I-1 and R-4 (assisted living and group homes) and Group I-2 (hospitals and nursing homes).

Both Group I-1 and Group I-2 will now have Condition 1 and Condition 2, based on the type of care, level of care and the occupant's capability for self-evacuation. In the case of Group I-1, Condition 1 denotes facilities where the occupants are capable of evacuation without assistance. Condition 2 occupants require some assistance during evacuation.

Generally, the requirements for Condition 2 are more restrictive than Condition 1. In the case of Group I-2 occupancies, the two conditions are used to separate those types of facilities with ongoing nonsurgical care such as nursing homes (Condition 1) and those that perform surgeries or procedures such as hospitals (Condition 2). The Condition 1 and Condition 2 terminology will be used where the requirements differ. If the requirement is generally applicable, the requirement will have a general reference to Group I-1 or I-2.

There were also several significant revisions with regard to Group I-2 hospitals (Condition 2). The smoke compartment size for Group I-2 hospitals was increased from 22,500 square feet (2,090 m^2) to 40,000 square feet (3,716 m^2). In addition, smoke dampers in smoke barriers were eliminated where a fully ducted system is provided.

STRUCTURAL. The construction of complying storm shelters will be required in critical emergency operations facilities such as fire, rescue, ambulance and police stations. Additionally storm shelter construction capability will be required in new schools.

A new structural standard, ASTM E2397, *Standard Practice for the determination of Dead and Live Loads Associated with Vegetative (Green) Roof Systems* has been introduced to accommodate soil and vegetative load on occupiable roofs.

HORIZONTAL BUILDING SEPARATION. There is no longer a limit of one story above grade plane for that portion of a structure located below the three hour separation for that portion of a pedestalled building. The limitation of permitted occupancies located below the horizontal separation has been eliminated, except for Group H, hazardous occupancies.

SHAFT ENCLOSURES. Ducts are now expressly allowed to exit a shaft, transition horizontally, and then enter another shaft without continuous shaft construction.

CO DETECTION AND ALARMS. The carbon monoxide (CO) alarm provisions have been relocated, reformatted and revised to clarify the requirements with regard to detector and alarm placement. As part of these revisions, the requirements have also been increased in scope to address Group E educational occupancies, which is consistent with a nationwide trend.

SPRINKLERS. An automatic sprinkler system is now required to be installed throughout a building when the roof is used for a drinking and dining assembly

use exceeding 100, as well as other assembly occupancies where the occupant load exceeds 300.

MEANS OF EGRESS. For stairways in buildings ≥ four stories above grade plane that do not have an occupied roof or elevator equipment on the roof, access to the roof does not need to be by one of the stairways in the building. It can be provided by an alternating tread device, a ship's ladder or a permanent ladder. A new section with specific requirements for permanent ladders has been added. Such ladders cannot serve as a part of the means of egress from occupied spaces within a building.

Exit access is permitted through an enclosed elevator lobby that leads to at least one of the required exits. Exit access to not less than one of the other required exits shall be provided without travel through the enclosed elevator lobby.

An exit stairway does not require a door at the stairway opening into an exit passageway if the exit passageway has no other openings into it from the building.

The occupant load for mercantile occupancies has been revised to 60 square feet per occupant for all floors. Previously, the basement and grade-level floors had a higher occupant load of 30 square feet per person.

ACCESSIBILITY. More detailed scoping requirements for recreational facilities have been included in Chapter 11 of the IBC and the A117.1 accessibility standard to coordinate with modifications to the Americans with Disabilities Act (ADA).

ELEVATORS. The 2015 IBC has undergone many changes with regard to elevators. Hoistway venting was deleted. The provisions were historic in nature and were provided for the fire service, but they were no longer seen as necessary. In addition, the hoistway venting requirements often conflicted with the hoistway pressurization option for elevator lobby enclosures.

EXISTING BUILDINGS. A significant change in the IBC is the deletion of Chapter 34 dealing with existing buildings. The requirements (Chapter 34) for existing structures have been removed from the 2015 IBC. All existing construction requirements are now in the 2015 International Existing Building Code (IEBC).

The majority of local modifications to the 2015 IBC carry over the same provisions from the 2012 IBC. Notable local ordinances or modifications to the 2012 IBC with a commentary are as follows:

Scope. The previous local amendment that referenced the utilization of the *International Existing Building Code (IEBC)* instead of Chapter 34 for remodels, renovations and repairs has been eliminated because the 2015 IBC has deleted Chapter 34 from its entirety and existing buildings will now be solely regulated by the *IEBC.*

Buildings with sloped roofs. Instead of mandating a parapet that would extend perpendicular to the slope of a roof to protect the possibility of fire spread over the top of a fire wall, this local provision will provide an alternate consistent with the same type of protection for a fire wall located in a stepped building.

Criteria. This clarifies that the less stringent energy conservation provisions of the 2009 International Energy Conservation Code is the applicable standard for determining energy efficiency standards.

Solid Risers. The previous local amendment allowing open risers in stairs has been eliminated because it is not consistent with the A117.1 Accessibility Standards or the ADA.

Alternating tread devices; Ship ladders; Stairway to roof. C. These local amendments have been eliminated because the 2015 IBC recognizes ladders consistent with the previous local amendments.

The major national changes to the 2015 IEBC are as follows:

Chapter 4. Chapter 34, Existing Structures, of the International Building Code (IBC) has been deleted in its entirety, and existing buildings will now be solely regulated in Chapter 4 of the 2015 International Existing Building Code (IEBC). The intent is to provide a more consistent and coordinated document to deal with existing buildings. With the removal of Chapter 34 of the building code, there will now be a single specific document for existing buildings, as opposed to partial requirements that were previously found in Chapter 34 of the IBC.

Replacement window opening control devices. Windows that are replaced in apartments and dwellings where the sill is located less than 36 inches above the finished floor and 72 inches above the adjoining grade will now be required to be provided with opening control devices limiting the opening to not more than 4 inches for fall protection.

Replacement window emergency escape and rescue openings. Under the Prescriptive Compliance Method or Level 1 Alterations, the replacement window must be the largest standard size that will fit within the existing frame.

Reroofing. IEBC 706 "Under Level 1 Alterations, requirements from 2015 IBC Section 1511 were also placed in the IEBC.

Fire-resistance rating. Under Level 2 Alterations, in buildings where an automatic sprinkler system is installed throughout, the required fire resistance rating of building elements and materials can be reduced to meet the requirements of the current building code.

Fire protection-Group R occupancies. The exception to not require automatic sprinkler systems in Group R occupancies three stories or less in height has been eliminated. Sprinklers are now required where the work area exceeds 50% of the floor area.

Alterations-Level III. Revised to clarify that where four or more Group I- 1, I-2, R-1, R-2, R-3 or R4 dwelling or sleeping units are be altered, the requirements of Section 1107 of the IBC for Type B units and Chapter 9 of the IBC for visible alarms apply only to the spaces being altered. Exception: Group I-1, I-2, R-1, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

Fire alarm system- Alteration Levels 3. The installation of a fire alarm and detection system will now be required with any Level 3 alteration.

The local modifications to the 2015 IEBC carry over the same provisions from the 2012 IEBC, except for.

IEBC Chapter 13 Relocated and moved buildings. The existing ordinance for moved buildings which requires licensure for building movers, moving permit issuance and fees, street restrictions, notices to utilities etc. has been relocated from the modifications to the IBC into Chapter 13-Relocated o Moved Buildings of the IEBC.

Significant changes to the 2015 IRC are as follows:

This comprehensive code covers one and two family dwellings and townhouses up to three stories and their accessory structures. Now in its sixth edition, the IRC contains many important changes including:

WIND DESIGN. The wind design speed has been changed from 90 mph to 115 mph and the ultimate design wind speed replaces the basic wind speed values for a 3 second gust to be consistent with the IBC and the most up to date version of ASCE 7 for engineered wind design analysis.

CARBON MONOXIDE DETECTORS Along with smoke detectors that have been required for years, carbon monoxide detectors will additionally be required where alterations, repairs, or additions occur in existing dwellings that have an attached garage, with fuel-fired appliances or where sleeping rooms are added.

MINIMUM HABITABLE ROOM AREAS. The requirement for one habitable room with a minimum floor area of 120 square feet has been removed from the code to accommodate proponents of minimalist living.

SAFETY GLAZING. Where glazing is installed perpendicular to a door, safety glazing is required only on the hinge side of an in-swinging door to accommodate a person being pushed into the glass from the in-swinging door. A 180 degree arc measured from the bottom of a stair landing will now be defined as a hazardous location for safety glazing instead of the landing only. The provision to require safety glazing within 60 inches of a wet surface has been expanded to showers, saunas and steam rooms.

EGRESS WINDOWS. A clarification now says that a remodeling of an existing basement does not require the installation of an egress window unless a bedroom is created.

GUARD HEIGHT. The provision to require a 36 inch guard height measured from the surface of a fixed seat has been removed from the code.

THERMAL BARRIERS. Instead of only allowing a ½ inch gypsum board as a thermal barrier to protect a foam plastic insulation from an interior fire exposure, a change now allow a 25/32 plywood or oriented strand board as an acceptable alternative.

FLOOR JOIST SPANS. Based on two years of testing by the American Lumber Standards Committee of the current lumber available on the market, span lengths of Southern Pine have decreased and span lengths for Hem Fir and Douglas Fir larch have increased. New span tables are provided for the changed design values.

DECKS. New span tables are provided for the allowable spacing for deck joists supporting various types of common decking material; deck joist spans whether cantilevered or not; deck beam span lengths; and prescriptive methods of deck post to beam connections.

SIMPLIFIED WIND BRACING. Simplified wind bracing is now allowed in a Wind Exposure Category C, which now matches the local amendment that Sioux Falls has in place.

The majority of local modifications to the 2015 IRC carry over the same provisions from the 2012 IRC. Notable local ordinances or modifications to the 2015 IRC with a commentary are as follows:

TOWNHOUSE SEPARATIONS. This reduces the required fire resistivity of a common wall between townhouse units from two hours to one hour, but is based upon the national model code that mandates sprinklers for all townhouses. The local amendment recognizes that a reduced fire resistivity and eliminates the requirement for structural independence per the national modification if there is a sprinkler system installed, which is not a local code mandate but an option of the owner. The 2015 provision eliminated the penetration of the common wall by plumbing and mechanical systems. Because mechanical systems rarely penetrate common walls said requirement will remain. Although the section has been modified locally to specify that any membrane or through penetrations are required to be fire stopped to maintain the integrity of the common wall.

FIRE PROTECTION OF FLOORS. This national provision which requires all floor assemblies consisting of light frame construction to be protected on the underside with a layer of ½ inch gypsum wallboard, which appeared in the code in the last cycle was eliminated locally. This provision is proposed to be placed in the 2015 IRC and would require a homeowner who chooses to finish a basement at a later date to remove the covering to accommodate ductwork and electrical and plumbing systems where light frame floor construction is utilized. This provision was additionally relocated from Section 501.5 in the 2012 to Section 302.13 in the 2015 IRC and was changed national to clarify that unprotected openings are allowed to penetrate the sheetrock ceiling.

EAVE AND SOFFIT FIRE PROTECTION. Previous IRC editions have required fire protection installed on any projections located less than 5 feet from a property line. A new provision allows the substitution of fire blocking between the double top plate and the roof sheathing which would eliminate the attic ventilation at the soffit. A local amendment continues to not require fire protection unless the soffit is located less than 3 fee to the property line.

WINDOW OPENING FALL PROTECTION. The previous local amendment that decreased the sill height threshold at 18 inches to determine when fall protection devices are required has been eliminated. The threshold height per the national standard will be at 24 inches.

SILL PLATE PROTECTION. This the legacy standard for sill plates to be pressure treated for a 6-inch instead of an 8-inch wood to earth separation that has been in prior editions of the IRC has been eliminated.

INSULATING MECHANICAL ROOMS. The new requirement to insulate mechanical rooms that are provided with an outdoor source of combustion air will not be required.

The Board's input and review is sought to receive recommendations prior to submitting the ordinances to the City Council. A motion was made by Mr. Van Neiuwenhuizen and a second was made by Ms. Squyer to approve the adoption of the 2015 International Building Code, International Existing Building Code and the International Residential Code along with the local amendments. Yeses, 3. Noes, 0.

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Secretary