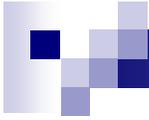


# Regional Training

2009 Virginia Construction Code  
and IBC Code Update



**Presentation Team:**

**Cary Jamison**

**Vic Wolf**

**Conrad Stout**



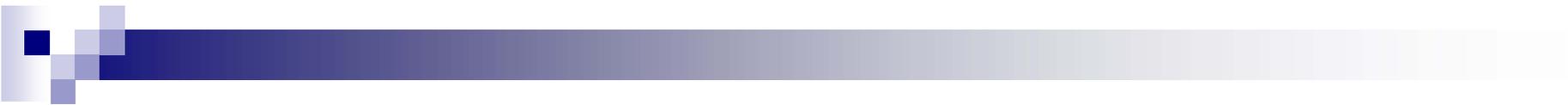
# HOUSEKEEPING





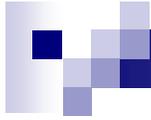
If you don't like change,  
you're going to like  
irrelevance even less.

General Eric Shinseki , U.S.  
ARMY Chief of Staff



Presentation goals:

- **Highlight significant IBC changes**
- **Highlight significant VA changes**
- **Understand the reasoning behind the change**



## **CHAPTER 3**

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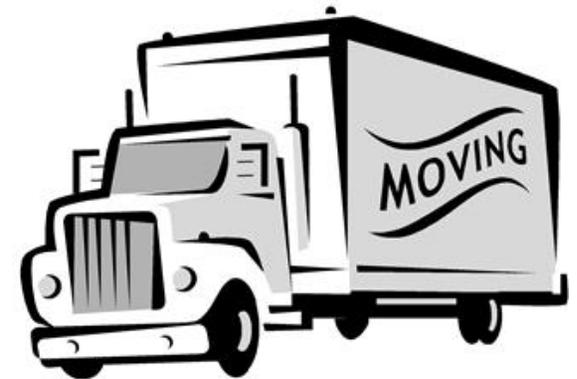
# **Use and Occupancy Classification**

## **Group A, Section 303**

- **2009 edition 303.1 Group A exceptions:**
  - #4 accessory to group E**
  - #5 accessory to religious facilities <100 occupants**

## **MOVED FROM**

- **2006 edition 508.3.1 Accessory occupancy exceptions**



# **Group B, Section 304**

## **Group B Health care facilities**

- **Added and defined Ambulatory Health Care Facility**
- **Defined existing term Clinic-outpatient**



## Group B medical, Section 304.1

- Ambulatory Health Care Facility (Group B “Plus”)
  - licensed by the Virginia Department of Health as outpatient surgical hospitals
- Details to come in chapter 4

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## Outpatient surgical hospitals, VA definition:

- **Surgery beyond standard office visit**
- **Does not require 24 hour hospitalization**
- **1 or more operating rooms**
- **Congregate recovery area**
  - **No individual rooms**

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# Group B medical, Section 304.1

## ■ Clinic-outpatient

- Less than 24 hours NOT rendered incapable of self-preservation
- Effectively same as professional service (dentist, physician)



## **Group F and S, Sections 306.2, 311.3**

- **Clarified F-1 aircraft manufacture is not repair.  
(S-1 still aircraft repair)**
- **Raised the alcohol content from 12% to 16% F-1 & S-1 verses F-2 & S-2.**
  - **Targeted wineries, wine is 16% max.**



## Group I –1, Section 308.2

- Added an exception for residents that require physical assistance
  - 5 maximum
  - Must reside on the level of exit discharge
- Convalescent facilities moved to I-2

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## **Group I-2 Medical, Section 308.3**

- **More than 5 has been removed, any number qualifies for hospital**
- **More than 5 retained for nursing homes**
- **See definitions for qualifiers**



# Hospice changes, Section 308

- Added state health dept. definition
- Base occupancy classification is I-2

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# Hospice changes, Section 308

- **Exception for 16 or less in a residential setting**
  - **Group R-4 for 1-16 occupants**
  - **Group R-5 is permitted for up to 5 occupants with sprinkler**

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## Group I-4 Day care, Section 308.5

- **Adult day care exception **BIGGIE****
  - **Exception for Capable of responding to an emergency**
    - **Was A-3**
    - **Now R-3**
    - **SPRINKLER MANDATORY**



# Group R-1, Section 310

- Congregate living facility (transient)
- New exemption, 10 or less R-3
  - Already addressed by 2006 state B & B amendment
    - R-5 exemption retained by VA



# Group R-4, Section 310

## Assisted Living related changes

- **Group homes licensed by VA Dept. of Behavioral Health retain the 8 and 5 exception**

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## Assisted living facilities

- R-5 exception capable (NO CHANGE)
  - 8 occupant maximum
  - All must be capable of emergency response
  - No sprinkler required
    - R2, R3 sprinkler required

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## Assisted living facilities

- R-5 exception not capable (CHANGE)
  - Sprinkler required (13R, 13D or IRC P2904)
  - Maximum 5 residents require assistance
  - Residents requiring assistance must be on 1<sup>st</sup> floor

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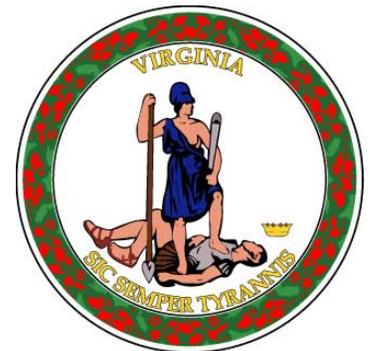


## Definitions, Section 310.2

- **Residential Care/Assisted Living Facilities Definition changed**

- Correlated to state definition**
- Code requirements not affected**

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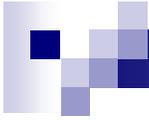


## ■ Residential Care/Assisted Living Facilities:

- Supervision/assistance for 4 or more adults
- Residents are capable of self-evacuation
- Residential setting
- 24-hour supervision

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## **CHAPTER 4**

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# **SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY**

# GROUP I-2

## Section 407

- **Section 407.4.3 Horizontal assemblies supporting smoke barriers shall be designed to resist movement of smoke**



## **Add Section 407.10**

- **Special locking arrangement.**

## **Add Section 407.11**

- **Emergency power systems**

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## Section 410, Stages

- Delete Fly gallery and Gridiron
- Add Technical Production Area
- Stage means of egress deleted from chapter 10

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# LIVE/WORK UNITS, Section 419





**Live/work unit is a dwelling unit or sleeping unit where a significant portion of the space includes a non-residential use that is operated by the tenant**



## **Live/work unit**

### **Limitation, Section 419.1.1**

- **Maximum of 3,000 square feet**
- **Nonresidential area – maximum 50% of area**
- **Nonresidential – first floor only**
- **Maximum of 5 nonresidential workers**



## **Live/work unit**

### **Occupancies, Section 419.2**

- **Classified as R-2**
- **Separation requirements not required**
- **Groups H and S not permitted**
- **Storage limited to 10-percent**



## **Live/work unit**

### **Means of egress, Section 419.3**

- **Group R-2 occupancies**
- **Egress capacity based on function**
- **Sliding doors permitted**
- **Spiral stairways permitted**
- **Locks permitted**



## **Live/work unit**

- **Vertical openings permitted**
- **Fire protection**
  - Monitored fire alarm system**
  - Automatic sprinkler system**
- **Structural**
  - Meet Table 1607.1**



## **Live/work unit**

- **Accessibility**

- **Meet Chapter 11**

- **Ventilation**

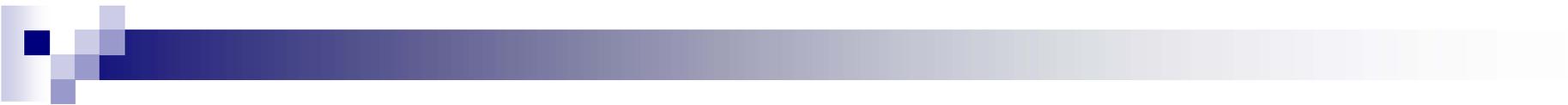
- **IMC for function of space**



# **AMBULATORY HEALTH CARE FACILITIES, Section 422**

## **Smoke barriers, Section 422.2**

- **Two compartments when > 10,000 square feet**
- **Travel distance shall not exceed 200 feet**



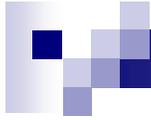
## **Ambulatory Health Care**

- **Independent egress, Section 422.4**
- **Automatic sprinkler systems, Section 422.5**
- **Fire alarm system, Section 422.6**



## **Storm Shelters, Section 423**

- **Constructed in accordance with ICC-500**
- **Constructed as separate detached buildings, or**
- **Constructed as safe rooms within buildings**
- **Designed for use during a severe wind storm event, such as hurricane or tornado**



## **CHAPTER 5**

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# **GENERAL BUILDING HEIGHTS AND AREAS**

## Chapter 5, Various sections

- The term Fire Area was replaced with
  - Building or building area
  - Floor or floor area
  - Occupancies
- Fire area is Chapter 9 exclusive



**Unlimited area A-3, Type 2 construction only, Section 507.6, 507.7**

- **The 21” elevation limit removed**
- **Limit based on Beverly Hills Supper Club Fire**



# Mixed Use and Occupancy, Section 508

- Major shuffle of the first 3 sections
  - General provision
  - Accessory
  - Incidental



# Incidental accessory occupancies, Section 508.2.5

- Incidental is no longer stand-alone
- Sub-section of Accessory
- Option to choose accessory
- Incidental requirements mandatory if accessory chosen



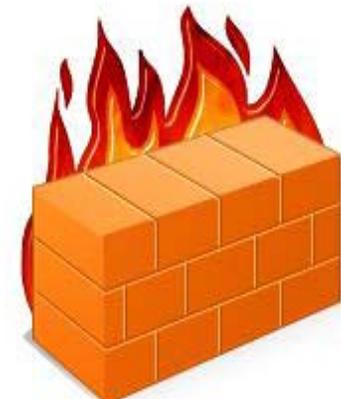
## **Incidental accessory occupancies, Section 508.2.5**

- **Storage rooms are not incidental**
- **Storage rooms can be accessory**



## **Accessory and non-separated mixed, Sections 508.2.4 and 508.3.3**

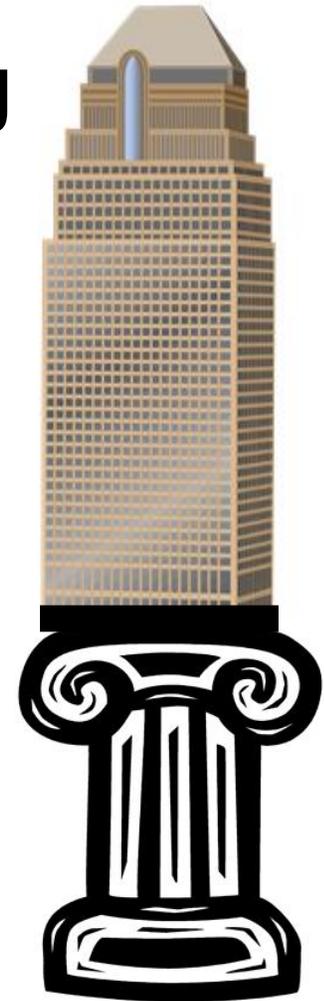
- **New exception that requires dwelling unit separation**
- **Correlation with revision to 420**
- **Dwelling/sleeping units must be separated from all occupancies**



# Special Provisions, Section 509

## ■ Major re-write

- Expanded use beyond parking
- Expanded uses above and below horizontal separation



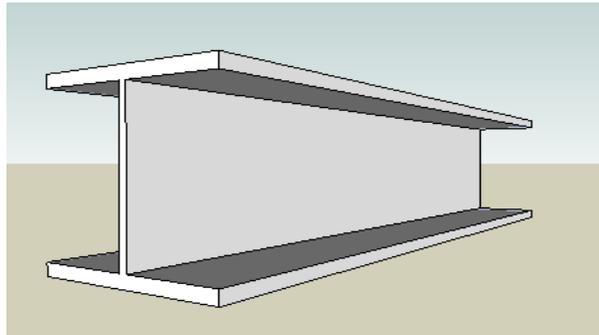
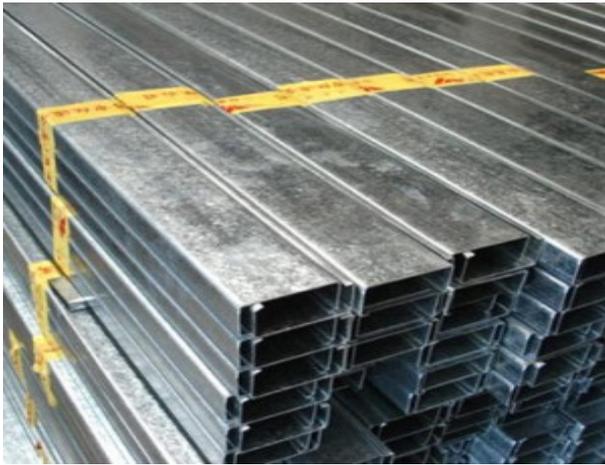
# Special Provisions, Section 509

- Major re-write continued...
  - Max height increase expanded to R-1
  - 509.9 Added to allow multiple buildings above the horizontal



# Chapter 6

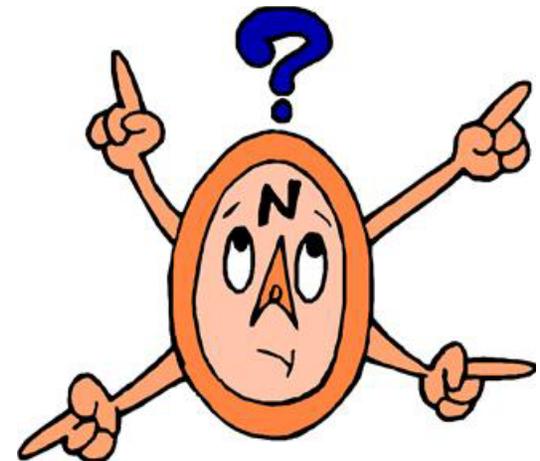
## TYPES OF CONSTRUCTION



# Construction Classification, Section 602.1

## ■ Clarifications

- Reference to section 703.2 for ratings
- Opening/penetration protection not based on construction type



# Fire resistance rating requirements For building elements, Table 601

- **Structural frame, beams, joists,  
and footnote a changed:**
  - **Primary frame**
  - **Secondary frame**
  - **See Sections 202 and 704**



## **Combustible material in type 1 & 2 construction, Section 603**

- **Re-numbered**
- **Finish exemptions cross referenced with chapter 8**
- **Type 1B permits FRT roof. Type 1A permits FRT roof > 20'**

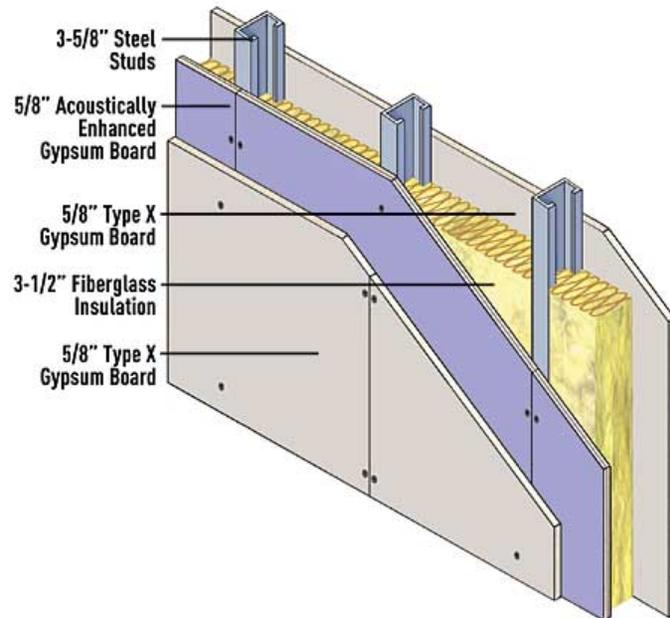


# CHAPTER 7

## FIRE AND SMOKE PROTECTION FEATURES

Featured Design — UL U465

STC 57 (1-HOUR FIRE-RATED ASSEMBLY — 5-1/2" WALL THICKNESS)

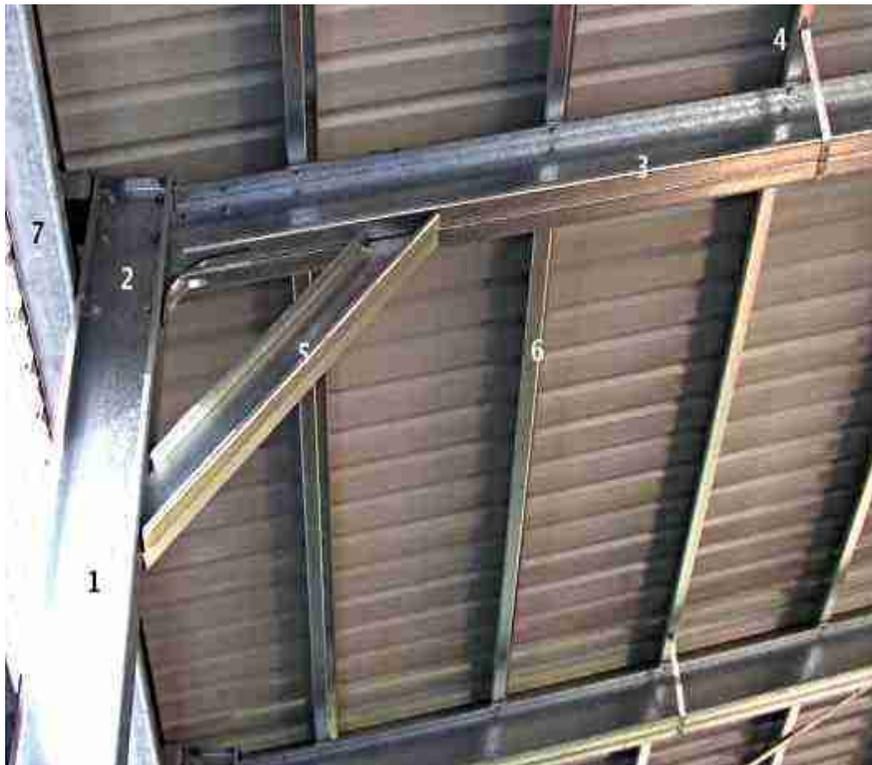




## **Primary Structural Frame. (Load-bearing)**

- **Columns.**
- **Girders, beams, trusses etc connected to columns.**
- **Essential bracing to structural members under gravity loads.**

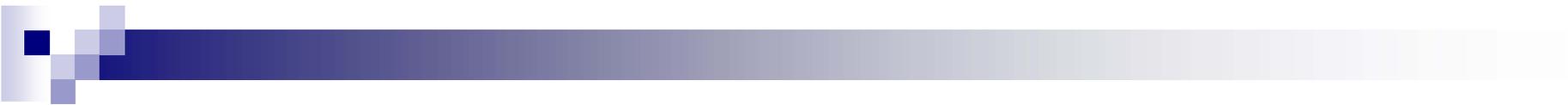
# Primary Structural Frame





## **Column protection, Section 704.2**

- **Per table 601.**
- **Types 1A, 1B, 2A, 3A and 5A construction.**
- **Individually wrapped in all conditions.**



## **Secondary Members**

- **Structural members with no direct connection to Columns.**
- **Floor construction with no direct connection to columns.**
- **Other than Primary Frame Structural Frame.**

# Secondary Members





**Protection of Secondary members,  
section 704.4 as per table 601.**

- **Membrane within horizontal ceiling assemblies, individual encasement per section 712 or combination of both.**

## Projections, Section 705.2

- Not to extend beyond the lesser distance determined through one of three methods.
- VA exempts decks and open porches in R3 and R4.

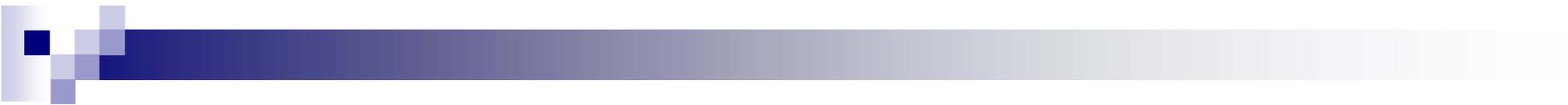
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## **Fire-Resistance Rating of Exterior Walls, Section 705.5.**

- **Rating per table 602**
- **Distances  $> 10'$  are rated for inside exposure only**
- **Distances  $< 10'$  are rated for exposure on both inside and outside.**



## **Exterior Wall Openings**

### **Table 705.8**

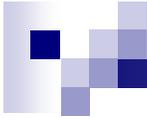
- **New column referencing unprotected openings in sprinklered buildings.**
- **Fire separation distances to agree with table 602.**



## **Fire wall continuity at Exterior walls, Section 706.5.1.**

- **New method of compliance**

- **Use of imaginary lot line between the two buildings to establish distances for purpose of determining exterior wall's rating and opening protection requirements.**



## **Horizontal Smoke Barrier, Section 712.9**

- **Joints and penetrations require protection per UL 2079 for air leakage.**



## **Exterior curtain wall/nonfire-resistance-rated floor assembly intersection, Section 714.4.1.**

- **Protection must be made with non-combustible material that resists spread of fire and free passage of heat and hot gases.**



## **Ducts and Air transfer openings in Exterior walls, Section 716.5.6.**

- **Ducts and air transfer openings that penetrate an exterior rated wall which requires opening protection must be protected with complying fire dampers.**

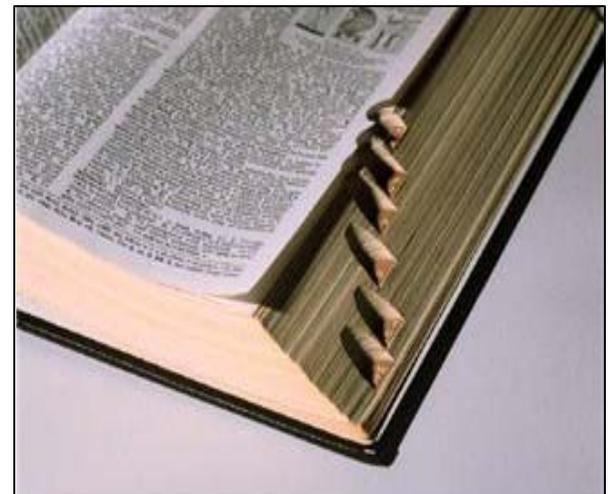
# CHAPTER 10

## MEANS OF EGRESS



## Definitions, Section 1002.1

- **Exit access doorway**
  - **Door or POINT to measure separation in section 1015.**
  
- **Photoluminescent**
  - **Glow in the dark  
no power source**



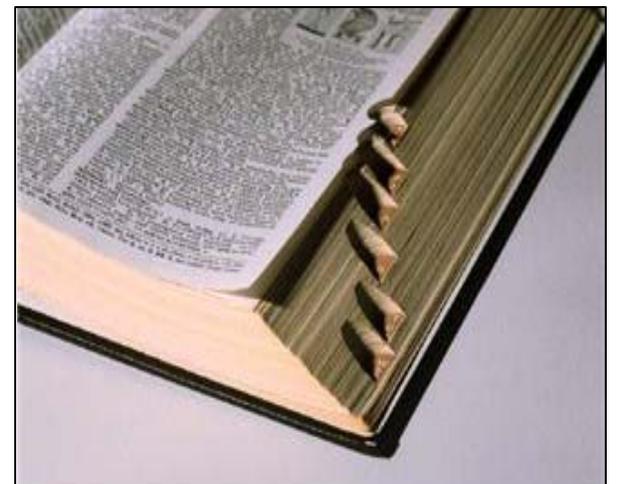
# Definitions, Section 1002.1

- **Self-luminous**

- Illuminated with independent non-battery power source**

- **Suite**

- Group of patient rooms with staff supervision see 1014.2.2-1014.2.7**



## Ceiling height, Section 1003.2

- Added exceptions to 7 feet 6 inches

- Ramps 80 inches, 1010.5.2

- Parking garage ramps  
7 feet, 406.2.2

- Below mezzanines  
7 feet, 505.1



# Minimum required egress width, Section 1005

- IBC was changed to remove .2 & .15 factors for sprinklered buildings
- The state amendment returned the .2 & .15 sprinkler incentive

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# Accessible means of egress, Section 1007

- VA AIA state sprinkler amendment exemptions returned in 2009 IBC
- Exterior area for assisted rescue cleaned up per a 2012 IBC Change

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## **Stairways (Accessible MOE), Section 1007**

- **Areas of refuge not required in smoke protected seating (theaters and stadiums)**
- **Areas of refuge not required in group R-2**



## **Stairways (Accessible MOE), Section 1007**

- **1007.3 stairways and 1007.6 areas of refuge revised for open stairs**
  - **Open exit access stairs are permitted**
  - **Coordinated with 1016.1 changes**
  - **Area of refuge required in non-sprinklered buildings**

## Two-way communication Section 1007.8

- Two way communication required at elevator landings **BIGGIE**
- All elevator landings above/below story of exit discharge unless:
  - A ramp is provided
  - Area of refuge is provided (with communication)



## **System requirements Section 1007.8.1**

### **All Two-way communication**

- **Must go to central control point or fire command center**
- **Time out to 911 or monitoring agency**
- **Post instructions**





## **Bolt locks Section 1008.1.9.4**

- **Expanded Manual bolt lock use one leaf of pair without hardware**
  - **Group B, F, S**
    - **Occupant load of 50 or less or;**
    - **Sprinklered and not required for egress**
  - **I-2 and not required for egress**

# Electromagnetically locked egress doors, Section 1008.1.9.8

- New section specific to LISTED hardware.





## Listed hardware continued...

- Groups A,B,M,E, R-1, R-2**
- Operational in all light conditions**
- One hand operation**
- Immediate lock release at door**
- Power loss unlocks**
- Any door not required to have panic**

# Panic and fire exit hardware

## Section 1008.1.10

- Reformatted section
- Added requirements for listing
  - UL 305 for panic
  - UL 303 or UL10C for Fire exit



## Profile, Section 1009.4.5

- **Open risers now allowed in F, H, S, I-3**
  - No public access allowed
  - I-3 already a state amendment
- **Open risers allowed Spiral and alternating tread stairs**



# Stairway to elevator equipment

## Section 1009.14

- Fully compliant stairway to roof or penthouse for elevator equipment



## **Exit signs, Section 1011.1**

- **Required at intervening doors within exits**
- **Required every 100 foot spacing in exit passageways**
  - **Previously just corridors**



# Tactile exit signs, Section 1011.3

- Clarified and consolidated required locations
  - Area of refuge, exterior area of rescue assistance
  - Exit stairs and ramps
  - Exit passages
  - Exit discharges



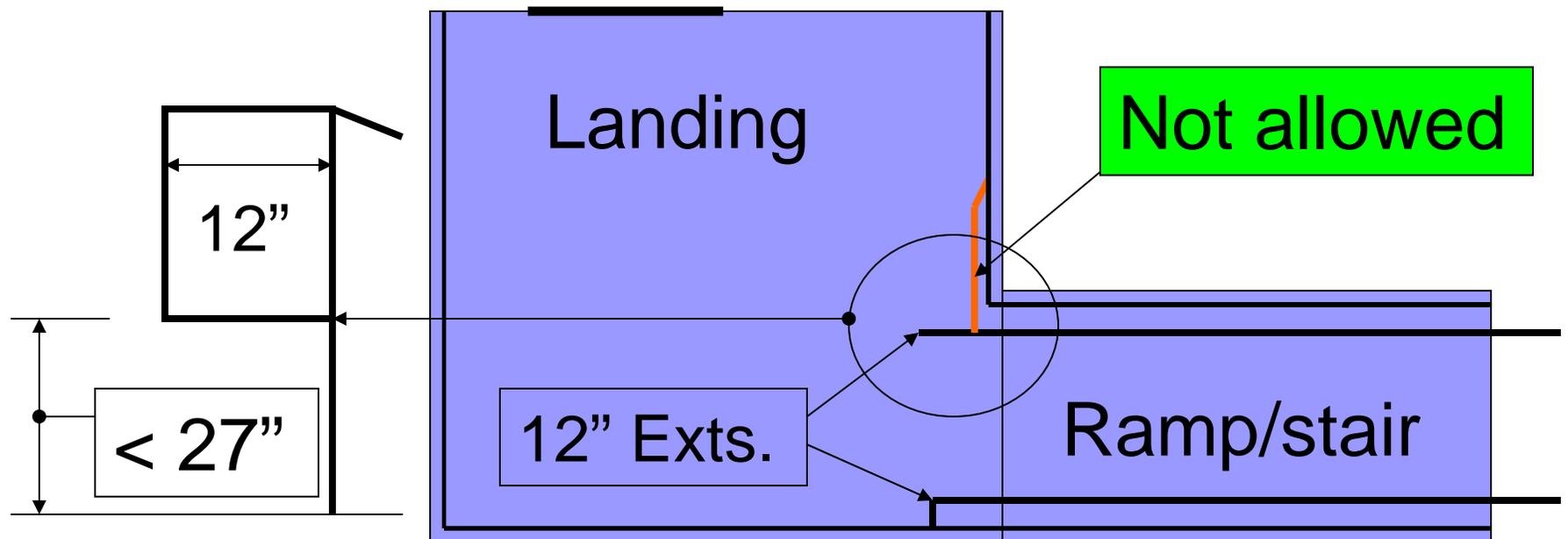
## **Internally illuminated exit signs, Section 1011.4**

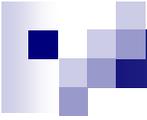
- **Self-luminous and photoluminescent exit signs included**
- **New reference to UL 924-06**



# Handrail extensions, Section 1012.6

- Handrail extensions to follow ramp or stair direction





## **Common path of travel, Section 1014.3**

**R-2 occupancy 125 ft. common path of travel with NFPA 13R**

**Previously NFPA 13 only**

## **Exits or exit access doorways, Section 1015.1**

**R-2 unit to 20 occupants  
(4000 s.f.) can have one exit**

**Previously 10 occupant limit**



# Travel distance limitations Section 1016.1 & Exit enclosures Section 1022

- Moved exit enclosure exceptions 8 and 9 for unenclosed exit stairs to 1016.1 (3 & 4)
  - Now exceptions to exit per story
  - Now exit access stairs
  - Not exits
  - Part of Ch. 10 evolution



# Corridor width Section 1018.2

- State added exception #7
- Allows reduction in I-2 to 48", either
  - Patients capable of self preservation
  - Patient rooms have door to exterior

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## Dead Ends Section 1018.4

- Expanded exception #2 allowing 50' dead end corridors in sprinklered buildings
  - Was group B & F only
  - Now includes:  
E, I-1, M, R, S & U



# Number of Exits Section 1021

Cleaner and now completely story based

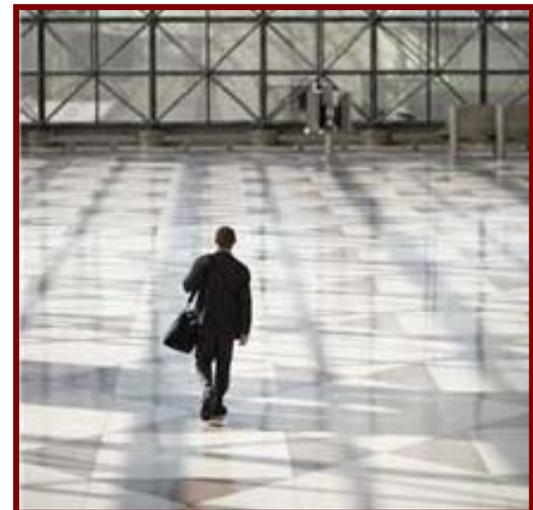
- Buildings with one exit table 1019.2 in 2006 IBC

- Now Stories with one exit (1021.2)
- Coordinates with unenclosed exit access 1016.1 exception 3 & 4
- Part of Ch. 10 evolution



# Exit Discharge, Section 1027.1

- **Combined use of exceptions #1 and #2 cannot exceed 50% of the required exits.**
  - Ex. #1 is “lobbies”, sprinklered level of exit discharge
  - Ex. #2 is vestibules
- **Horizontal exit exception added.**



# Foyers and lobbies (A1),

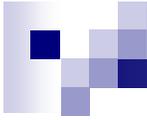
## Section 1028.4

- The physical separation between waiting areas in theater lobbies and means of egress from the theater was deleted.



**Chapter 11**  
**ACCESSIBILITY**





## **Employee Work Areas Section 1103.2.3**

- **If the work area is less than 300 square feet and elevated more than 7 inches it is exempt. This is consistent with latest ADA Accessibility Guidelines.**



## **Live Work Units, Section 1103.2.13**

- **Group R-2 Occupancies**
- **The nonresidential portion of the unit requires full accessibility for the intended use.**

## **Raised and lowered areas in places of religious worship, Section 1103.2.16**

- **Not required to be accessible provided such areas are used exclusively for the performance of religious ceremonies and located in an accessible story or mezzanine.**

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## **Accessible Spaces, Section 1107.3**

- **Group I-2 facilities, room side maneuvering clearances exempted when door width is 44 inches or greater.**



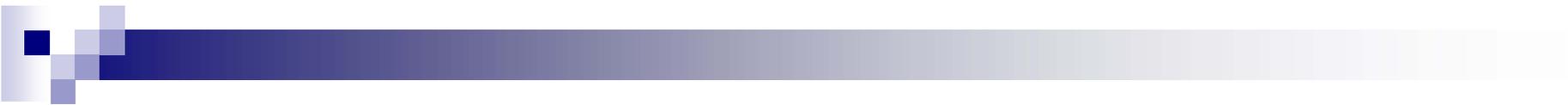
## **Companion seats, Section 1108.2.3**

- **New section**
- **Each wheelchair space must be adjacent to at least one companion seat**



## **Courtrooms, Sections 1108.4.1 thru 1108.4.1.5**

- **All courtrooms are required to be accessible for participants at every level.**
- **Jury Box, Gallery Seating, Assistive Listening Systems, Employee Work Stations and other Work Stations.**



## **“Family or Assisted” use toilet rooms**

- **Section 1109.2.1**

- Groups A and M

- Required where aggregate of 6 or more male and female water closets is required.

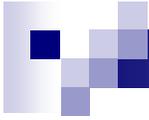
- Referenced in Plumbing code

- Proper identification is required (sign)



## **Lavatories, Section 1109.2.3**

- **Clarification- lavatories as particular type of sink, where provided, at least 5 % but not less than 1 shall be accessible.**
- **New Requirement-In large facilities where 6 or more lavatories within one toilet facility, 1 must be provided with enhanced reach requirements for faucet controls.**



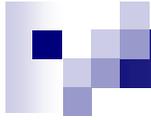
# Appendix E

## ■ State adopted

- Supplementary accessibility requirements**
- Special occupancies**
- Allows building code to be recognized as a parallel document for accessibility in accordance with ANSI A-117**

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**Thanks for your attention**

**And be safe out there!**