



NFPA 101 Chapter 43 Building Rehab

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Objectives

- Review and Understand how to apply Chapter 43 of the Life Safety Code.
- Understand the Documentation Required for the Application of Chapter 43 and the International Existing Building Code (IEBC).
- Compare and Contrast the Requirements of Chapter 43 with those of the IEBC.

Application

- Any building undergoing repair, renovation, modification or reconstruction shall meet the requirements of BOTH.
- Existing Occupancy Chapters
- Chapter 43

Existing Occupancy

- Missing stair or ramp handrails
 - Leave Chapter 43
 - Go to Chapter 19
 - add handrails on 1 side, not both.
 - position handrails 30 - 38 in. height range, not 34 - 38 in.

Multiple Levels in Single Project

- Each Area Considered Separate
- Modification and Reconstruction together
 - Reconstruction
 - Unless less than 10%

Technically Infeasible

- A change to a building that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load-bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces, or features that are in full and strict compliance with applicable requirements.

Technically Infeasible

- Structural
- Constructability
- Dimensional

Existing Features in Excess of New Requirements

- Can not reduce below what is required for new construction.

Levels of Rehabilitation

- Repair
- Renovation
- Modification
- Reconstruction
- Change of Use / Occupancy
- Addition

2012 Life Safety Code

2012 IEBC

Term	Definition	Section	Term	Definition	Chapter
Repair	The patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment, or fixtures in good or sound condition.	43.3	Repair	The restoration to good or sound condition of any part of an existing building for the purpose of its maintenance. Including the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements.	6
Renovation	The replacement in kind, strengthening, or upgrading of building elements, materials, equipment, or fixtures, that does not result in a reconfiguration of the building spaces within.	43.4	Alteration Level 1	Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.	7
Modification	The reconfiguration of any space; the addition, relocation, or elimination of any door or window; the addition or elimination of load-bearing elements; the reconfiguration or extension of any system; or the installation of any additional equipment.	43.5	Alteration Level 2	Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.	8
Reconstruction	The reconfiguration of a space that affects an exit or a corridor shared by more than one occupant space; or the reconfiguration of a space such that the rehabilitation work area is not permitted to be occupied because existing means of egress and fire protection systems, or their equivalent, are not in place or continuously maintained.	43.6	Alteration Level 3	Level 3 alterations apply where the work area exceeds 50 percent of the aggregate area of the building.	9
Change of Use	A change in the purpose or level of activity within a structure that involves a change in application of the requirements of the Code.	43.7.1	Change of Occupancy	A change in the purpose or level of activity within a building that involves a change in application of the requirements of this code.	10
Change of Occupancy	The change in the occupancy classification of a structure or portion of a structure.	43.7.2			
Addition	An increase in the building area, aggregate floor area, building height, or number of stories of a structure.	43.8	Additions	An extension or increase in floor area, number of stories, or height of a building or structure.	11
Historic Buildings	A building or facility deemed to have historical, architectural, or cultural significance by a local, regional, or national jurisdiction.	43.10	Historic Buildings	Any building or structure that is listed in the State or National Register of Historic Places; designated as a historic property under local or state designation law or survey; certified as a contributing resource within a National Register listed or locally designated historic district; or with an opinion or certification that the property is eligible to be listed on the National or State Register of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places.	12 10

Repair

- The patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment, or fixtures in good or sound condition.

- Like Materials
- The work shall not make the building less conforming with the other sections of this Code, or with any previously approved alternative arrangements, than it was before the repair was undertaken.

Repair



Rehabilitation Work Area

- That portion of a building affected by any renovation, modification, or reconstruction work as initially intended by the owner, and indicated as such in the permit, but excluding other portions of the building where incidental work entailed by the intended work must be performed, and excluding portions of the building where work not initially intended by the owner is specifically required.

Renovation

- The replacement in kind, strengthening, or upgrading of building elements, materials, equipment, or fixtures, that does not result in a reconfiguration of the building spaces within.

- All new work shall comply with the requirements of this Code applicable to existing buildings.
- The work shall not make the building less conforming with other sections of this Code, or with any previous approved alternative arrangements, than it was before the renovation was undertaken.
- Minor reductions in the clear opening dimensions of replacement doors and windows that result from the use of different materials shall be permitted.

Renovation

- New interior finish materials shall meet the requirements for new construction.
- The reconfiguration or extension of any system, or the installation of any additional equipment, shall meet the requirements of a Modification.

Renovation



Modification

- The reconfiguration of any space; the addition, relocation, or elimination of any door or window; the addition or elimination of load-bearing elements; the reconfiguration or extension of any system; or the installation of any additional equipment.

Modification



Modification

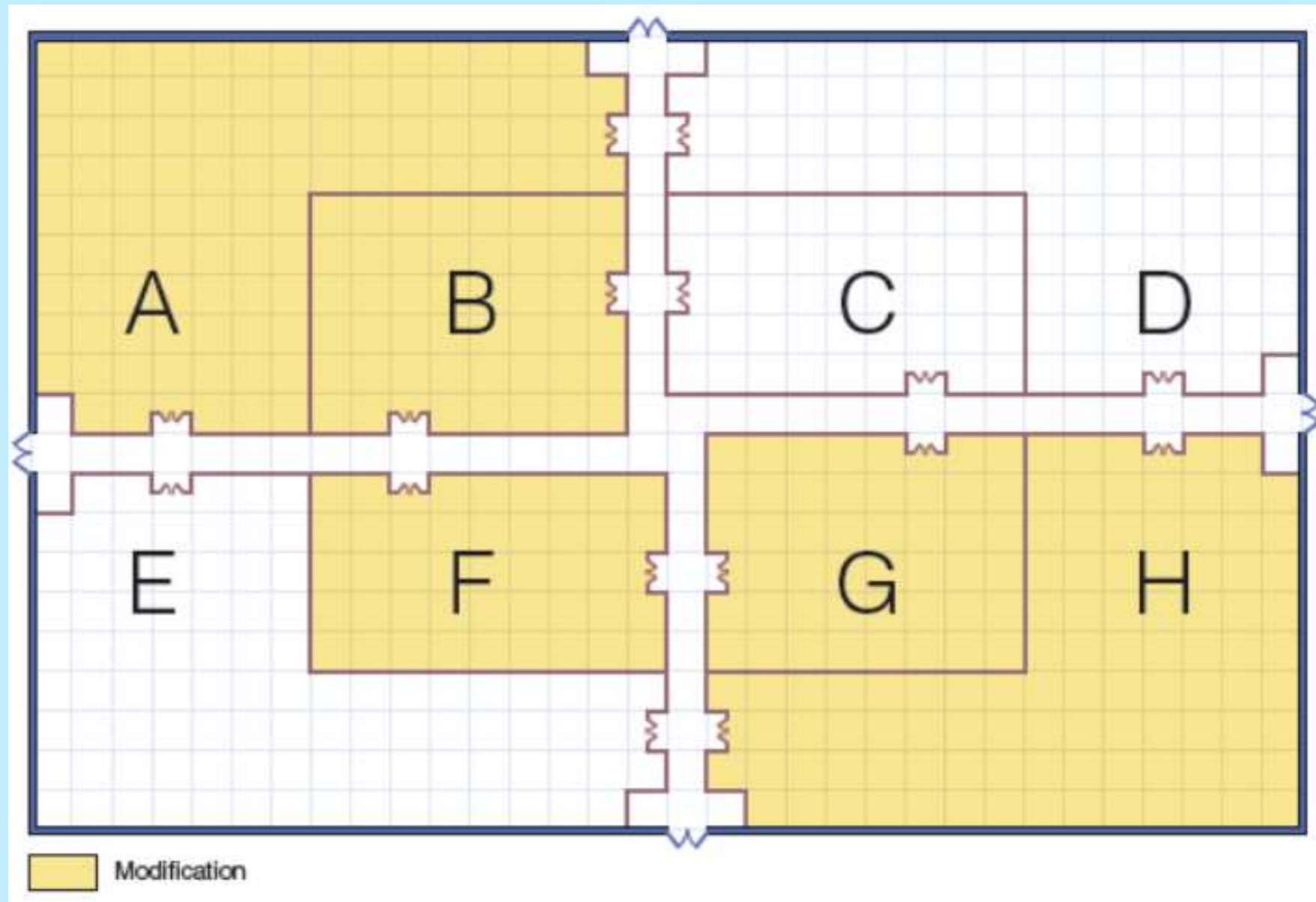
43.5

- Newly constructed elements, components, and systems shall comply with the requirements of other sections of this Code applicable to new construction.
- The modification of an entire building or an entire occupancy within a building shall be considered as a reconstruction.

Extensive Modification

- Where the total area of all the rehabilitation work areas included in a modification exceeds 50 percent of the area of the building, the work shall be considered a reconstruction.
- Modification work that is exclusively electrical, plumbing, mechanical, fire protection system, or structural work shall not be considered a reconstruction, regardless of its extent.

Extensive Modification



Reconstruction

- The reconfiguration of a space that affects an exit or a corridor shared by more than one occupant space
- The reconfiguration of a space such that the rehabilitation work area is not permitted to be occupied because existing means of egress and fire protection systems, or their equivalent, are not in place or continuously maintained.

Reconstruction



Reconstruction



Reconstruction

43.6

- Mean of Egress
 - Existing Occupancy

Reconstruction

- Mean of Egress
 - Existing Occupancy
 - New Occupancy
 - Egress Illumination
 - Emergency Lighting
 - Exit Marking

Reconstruction

- Where the reconstruction rehabilitation work area on any **floor** exceeds 50 percent of that **floor** area, means of egress throughout the **floor** shall be provided with illumination, emergency lighting, and marking of means of egress in accordance with new requirements.

Reconstruction

- In a **building** with rehabilitation work areas involving more than 50 percent of the aggregate floor area within the **building**, the means of egress within the rehabilitation work area and the means of egress, **including the exit and exit discharge paths, serving the rehabilitation work area** shall be provided with illumination, emergency lighting, and marking of means of egress in accordance with new requirements.

Reconstruction

- Sprinklers
 - On any **story** with rehabilitation work areas involving over 50 percent of the area of the **story**, a sprinkler system shall be provided throughout the **story** in accordance with the requirements of new construction for the occupancy.

Reconstruction

- Sprinklers
 - In a **building** with rehabilitation work areas involving over 50 percent of the aggregate **building** area, automatic sprinkler systems shall be provided on the **highest floor** containing a rehabilitation work area and on **all floors below** in accordance with the requirements of new construction for the occupancy.

Reconstruction

- Where sprinklers are installed in an elevator hoist-way or elevator machine room as part of the rehabilitation work, the elevators shall comply with the fire fighters' emergency operations.
- Any rehabilitation work areas in a **building** that is required to be provided with a standpipe system shall be provided with standpipes up to and including the highest rehabilitation work area floor.

Reconstruction

- Elevators
 - In high-rise buildings, where the rehabilitation work area is one entire floor, or where the rehabilitation work area is 20 percent or more of the occupied floor area of the **building**, all floors shall be accessible by at least one elevator.

Change in Use

- A change in the purpose or level of activity within a structure that involves a change in application of the requirements of the Code.

Change in Use

43.7

-
- A change of use that does not involve a change of occupancy classification shall comply with the requirements applicable to the new use in accordance with the applicable existing occupancy chapter, unless the change of use creates a hazardous contents area.

Change in Use

Patient Room Converted
to Storage

Existing Health Care
Occupancy

Building 100% Sprinkler
Protected

Room Less than 250 SF

Smoke Partition and
Self-closing Door



Change in Occupancy

- The change in the occupancy classification of a structure or portion of a structure.

Change in Occupancy

Hazard Category	Occupancy Classification
1 (highest hazard)	Industrial or storage occupancies with high hazard contents
2	Health care, detention and correctional, residential board and care
3	Assembly, educational, day care, ambulatory health care, residential, mercantile, business, general and special-purpose industrial, ordinary hazard storage
4 (lowest hazard)	Industrial or storage occupancies with low hazard contents

Change in Occupancy

43.7

- Where a change of occupancy classification creates other than an assembly occupancy, and the change occurs within the same hazard classification category or to an occupancy classification of a lesser hazard classification category:
 - Existing Chapter
 - New Chapter
 - Sprinklers, Fire Alarm , Hazardous Areas

Change in Occupancy

- Where a change of occupancy classification creates an assembly occupancy, and the change occurs within the same hazard classification category or to an occupancy classification of a lesser hazard classification category:
- Existing - Chapter 13 Existing Assembly
- New – Chapter 12 New Assembly
 - Sprinklers, Fire Alarm, Hazardous Areas, Main Entrance / Exit

Change in Occupancy

- Where a change of occupancy classification occurs to an occupancy classification of a higher hazard classification category, the building shall comply with the requirements of the new occupancy chapters.

Addition

- An increase in the building area, aggregate floor area, building height, or number of stories of a structure.

- Addition must meet New Requirements
- Existing must meet Existing Requirements
- An addition shall not create or extend any nonconformity with regard to fire safety or the means of egress in the existing building for which the addition is constructed.

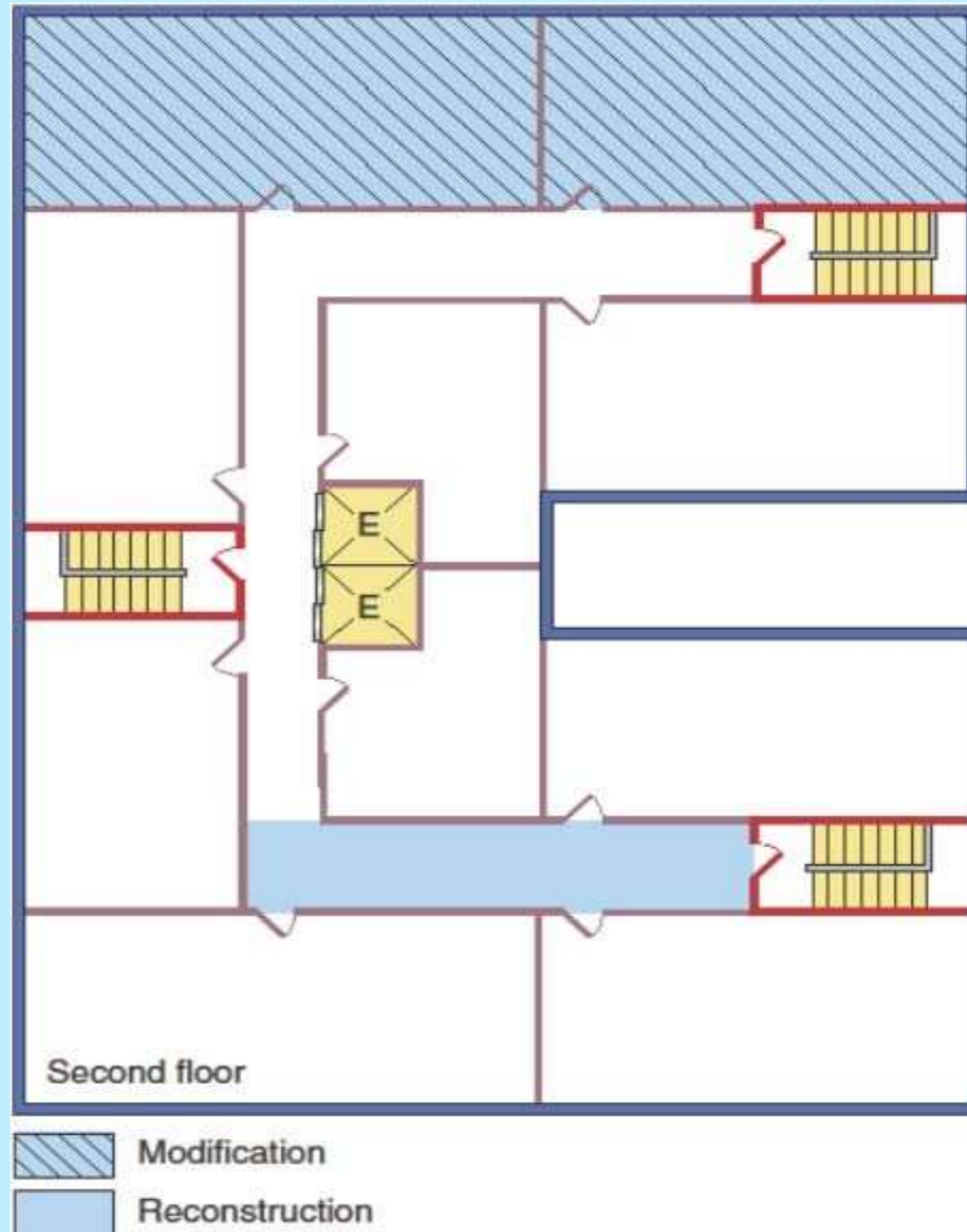
Addition

- Fire Protection
 - Existing compartment areas without an approved separation from the addition shall be protected by an approved automatic sprinkler system where the combined areas would be required to be sprinklered by the provisions applicable to new construction for the occupancy.

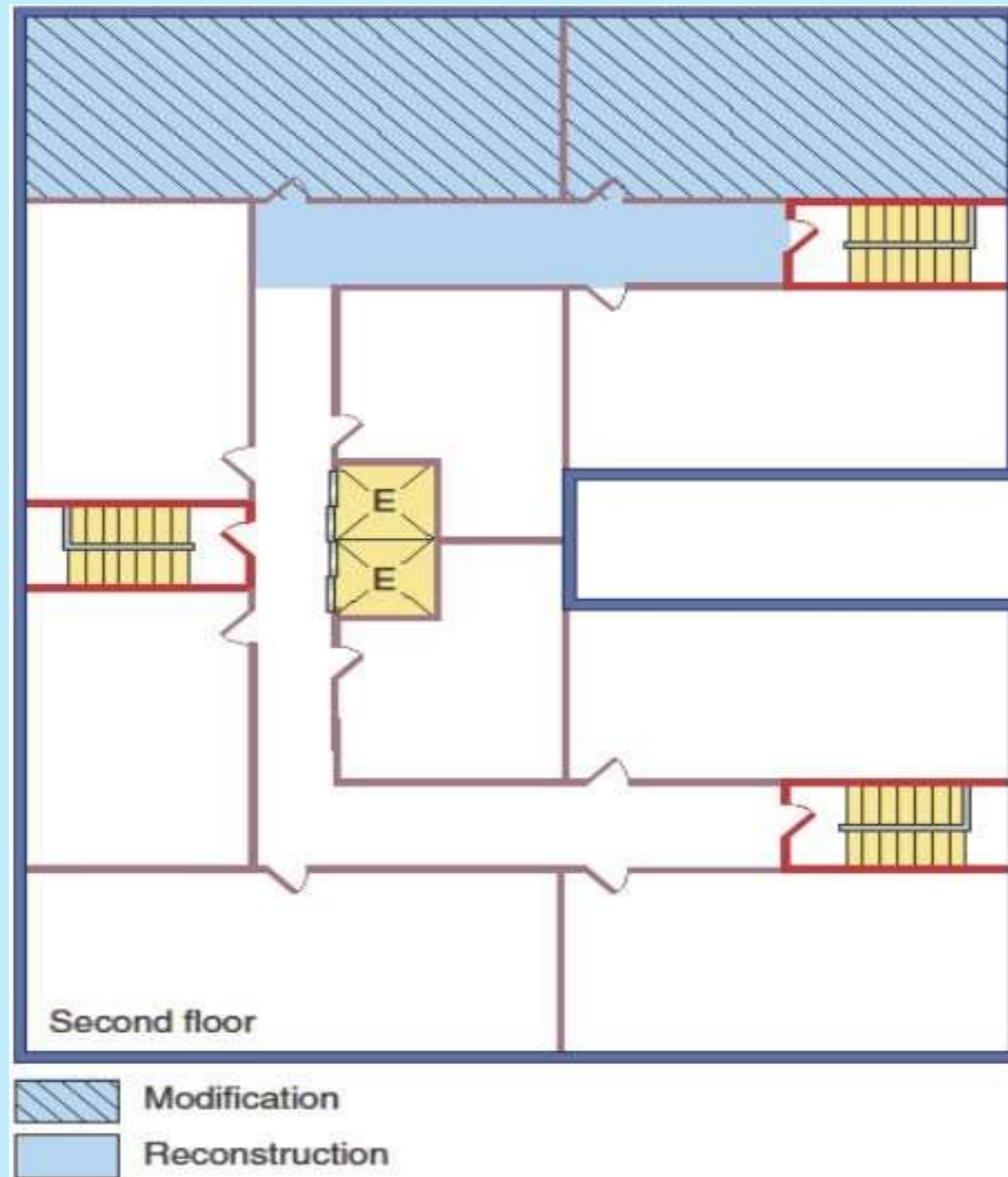
Historic Buildings

- See Section 43.10

Examples



Examples



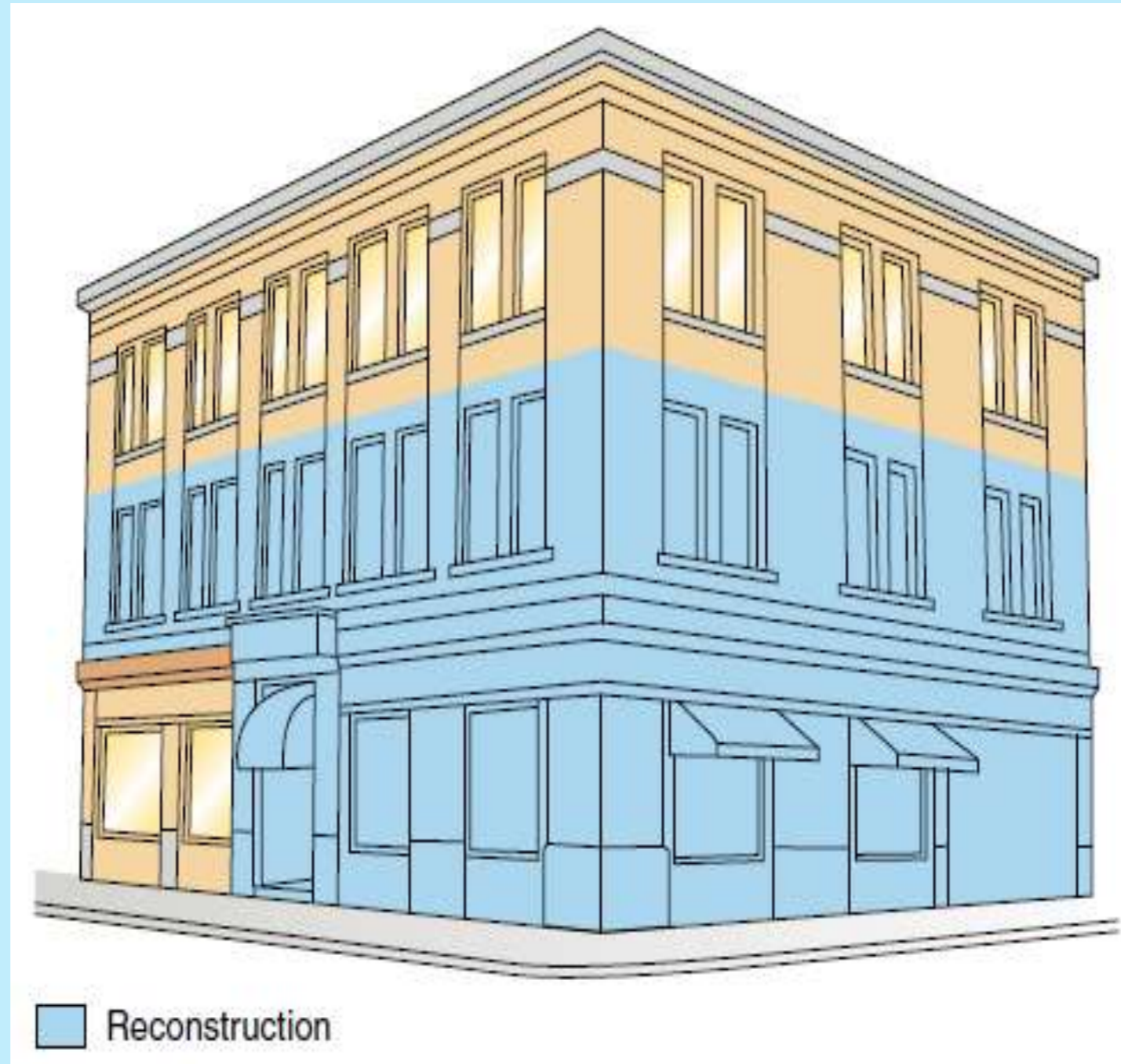
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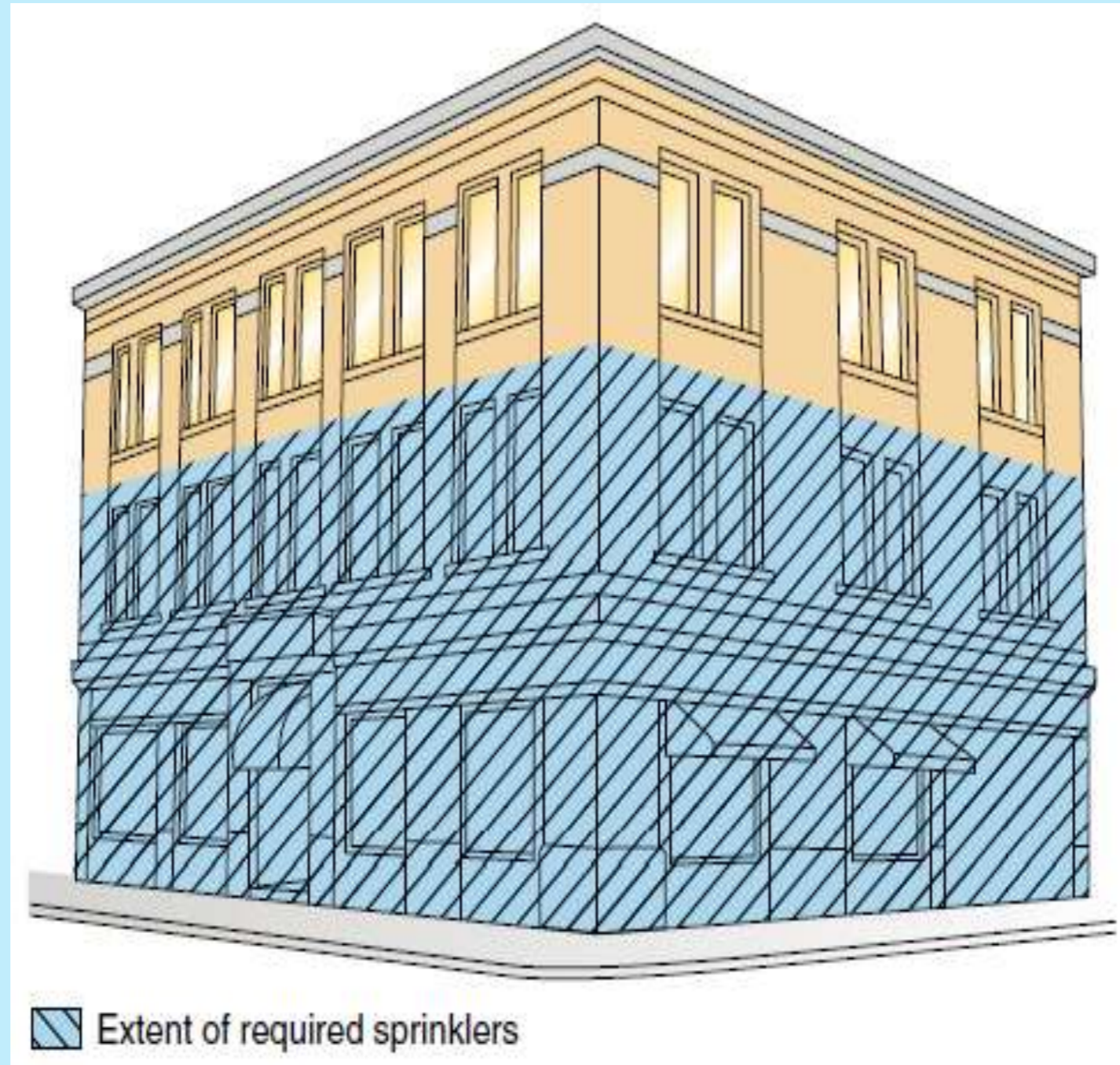
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Examples



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Questions?

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