PENNBOC
Pennsylvania Building Officials Conference

September 21, 2022

Historic Buildings & Codes 101:

WYNTK for Working with Pennsylvania's Older and Historic Places

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Introduction

- Building Code History
- The IEBC Historic Building Provisions
- Building Code Compliance Options
- ADA Accessibility
- Case Studies
- Designer Responsibility

History of the Building Code

United States

- Building codes have historically been inspired by high profile disasters
- Portsmouth New Hampshire Brick Act of 1814
- Chicago Building Code of 1875
- 27 notable fire disasters in the US between 1794 and 1982
- First National Building Code of 1905 prepared by the national insurance industry

History of the Building Code

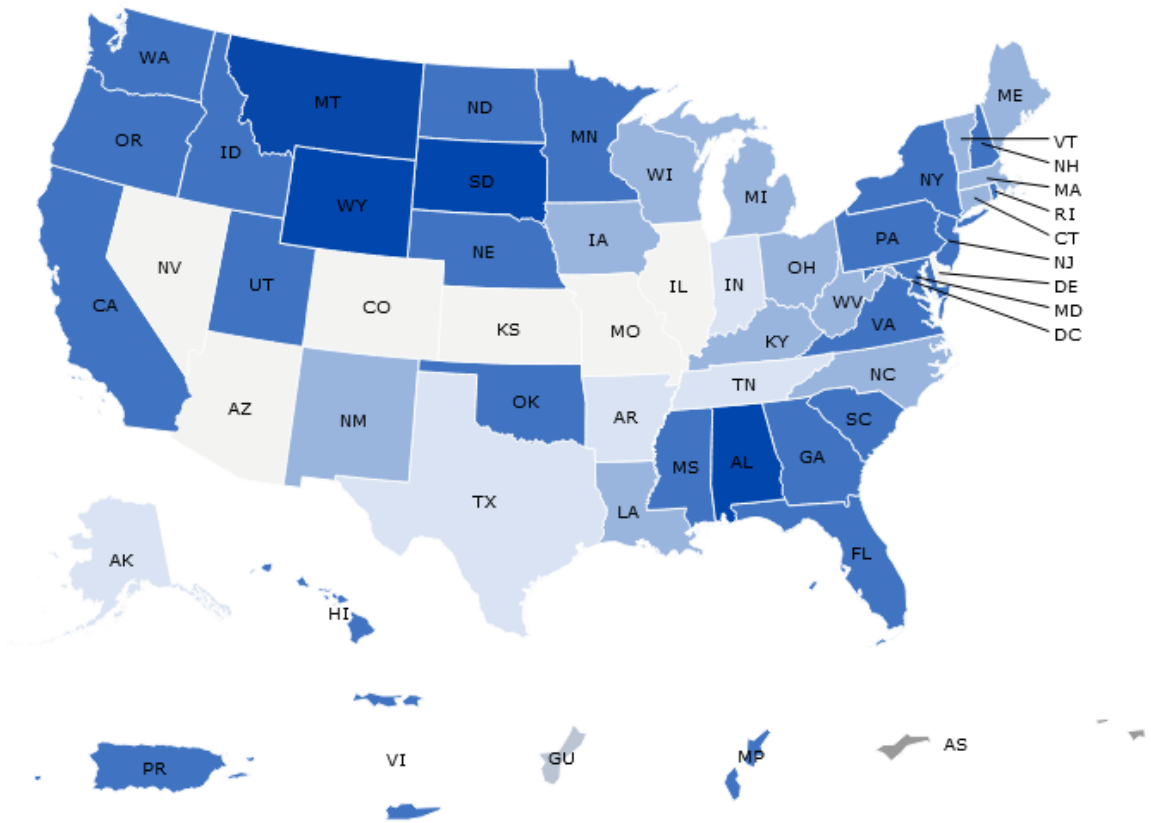
Model Building Codes

- Created by industry experts with no legislative authority
- Model codes are typically revised on a three-year cycle
- Each time a code is revised, a new class of non-conforming buildings is created
- Code changes incorporate new materials or technologies with no material changes to other provisions of the code
- International Code Council
  - Merger of numerous regional building code, including the Uniform Construction Code, Southern Building Code and BOCA Building Code
  - First International Building Code created in 2000
  - First International Existing Building Code created in 2003

International Building Code Adoption

INTERNATIONAL BUILDING CODE® (IBC®)

ADOPTION MAP



MAP KEY

Edition of code currently in effect by state:

- **2021 IBC®**
- **2018 IBC®**
- **2015 IBC®**
- **2012 IBC®**
- **2009 IBC®**
- **Local Adoptions**
- **No state-wide IBC adoption**

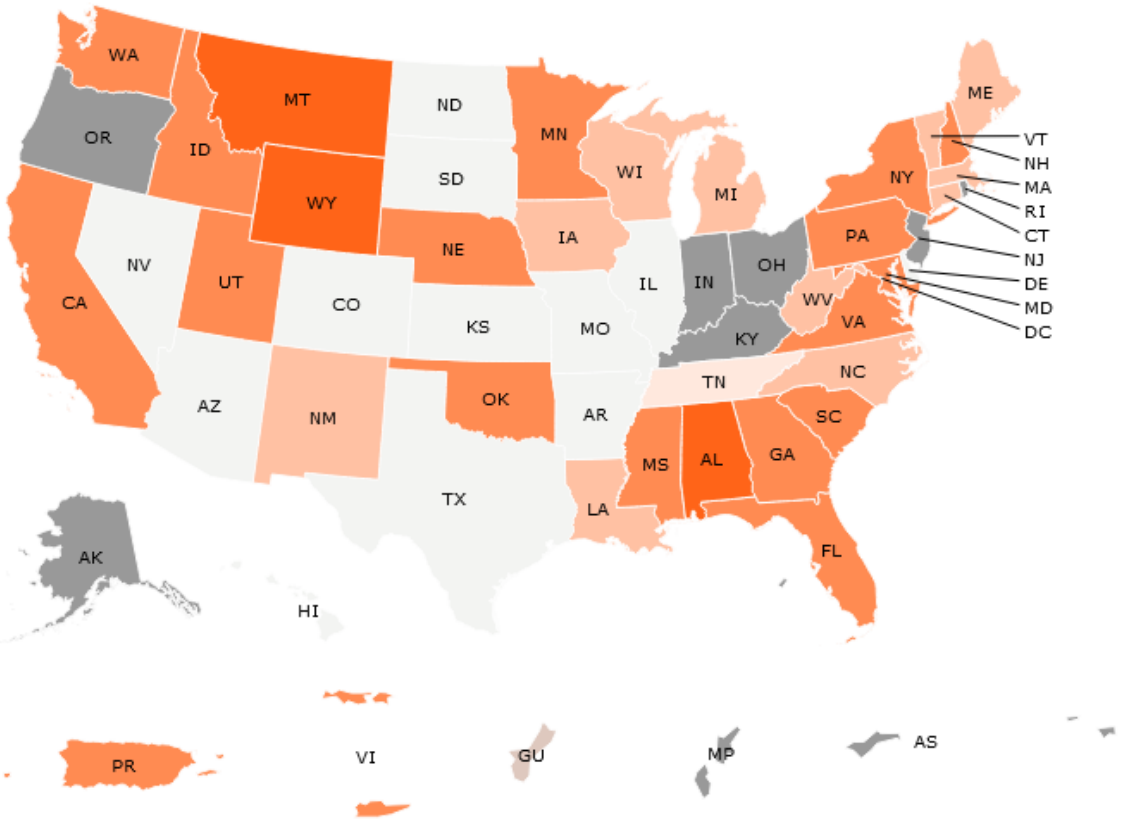
Adoption information is provided for states where the IBC is adopted statewide, adopted statewide for certain categories of buildings, or adopted by a state body to guide local code adoption.

Map source: iccsafe.org

International Existing Building Code Adoption

INTERNATIONAL EXISTING BUILDING CODE® (IEBC®)

ADOPTION MAP



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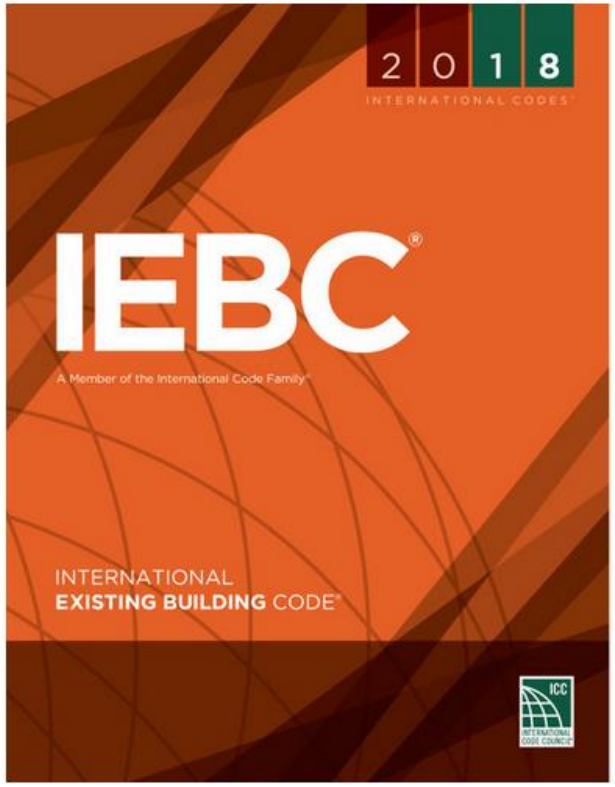
Pennsylvania Uniform Construction Code

- Statewide building code called the Uniform Construction Code
- UCC adopted the ICC codes in 2003
- UCC adopts the International Code Council codes:
  - International Building Code
  - International Fire Code
  - **International Existing Building Code**
  - International Energy Conservation Code
  - International Fuel Gas Code
  - International Mechanical Code
  - International Plumbing Code
  - International Residential Code
  - International Wildland-Urban Interface Code
- Current code is the 2018 family of ICC codes, with 2021 Accessibility provisions
- Opt in and Opt out municipalities: 90% of PA municipalities "Opt In"
- Local amendments



Historic Building Provisions

Historic District Designations

- Historic building is defined as a building listed on or eligible for listing on the National Register of Historic Places or designated as a historic property under local or state designation or **certified as a contributing resource within a National Register listed or locally designated historic district** (IEBC 202)

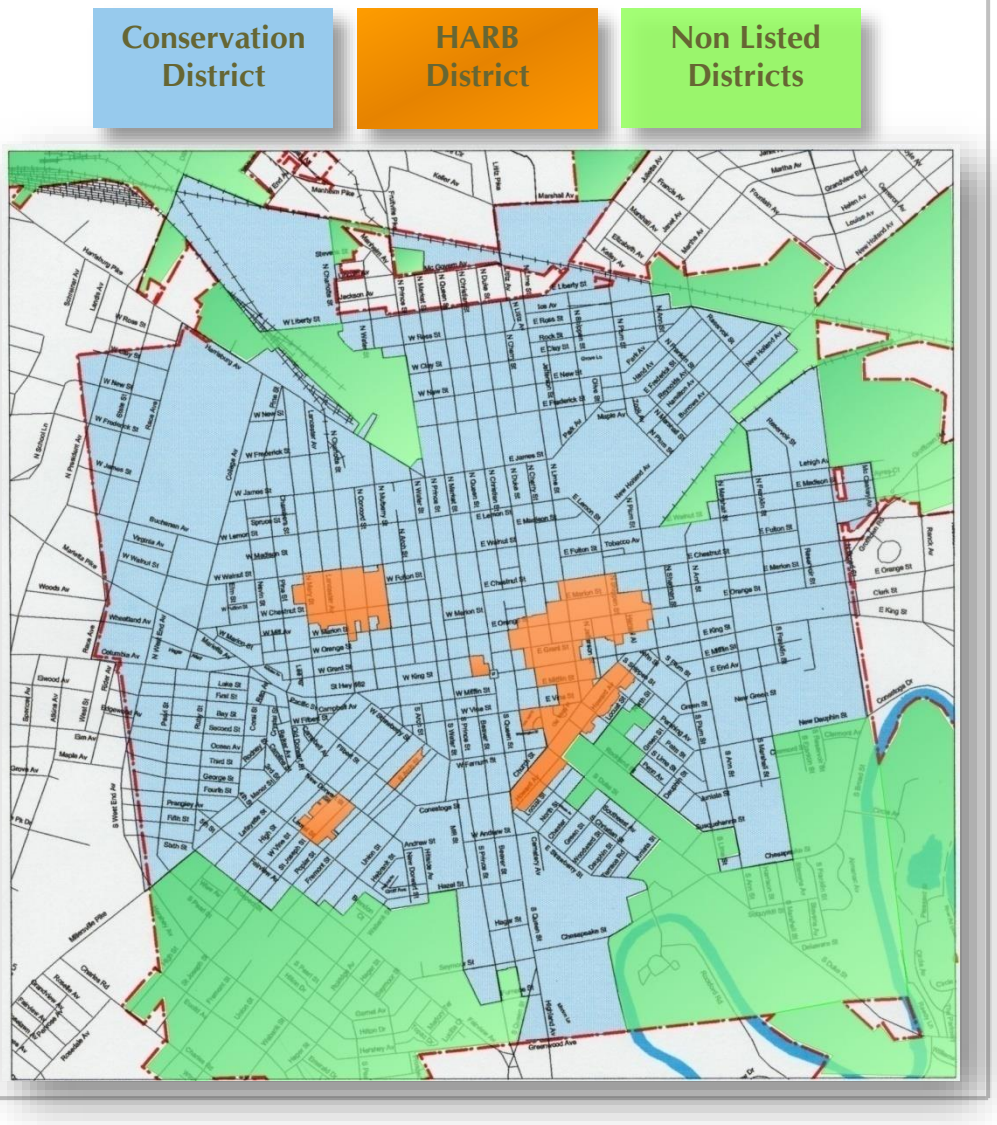
- Any building that is considered a contributing structure to the historic district is eligible for a Certified Rehabilitation and the relevant tax credit.

Historic Building Provisions

Historic District Designations

- Lancaster, Pennsylvania and Savannah, Georgia are the two largest historic districts listed on the National Register of Historic Places

- Lancaster Historic Districts:
  - 11 Historic Districts
  - 50 NRHP individually listed properties
  - 14,000 contributing historic structures



UCC Special Provisions

Historic Buildings

UCC § 403.24. Historic buildings, structures and sites.

A building code official may exclude an entire historic building or structure or part of the building or structure **from compliance with the Uniform Construction Code** if it meets all of the following conditions under section 902 of the act (35 P. S. § 7210.902):

(1) The building or structure is an existing building or structure, or a new building or structure that is not intended for residential use on an historic sites.

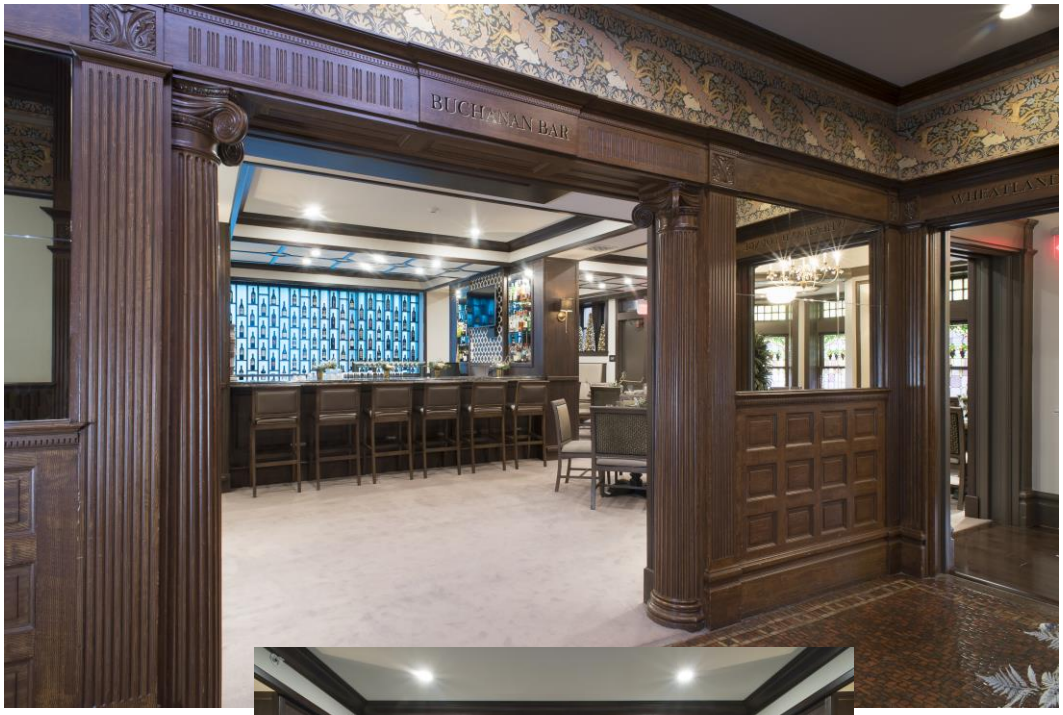
(2) The building or structure is identified and classified by Federal or local government authority or the Historical and Museum Commission as an historic building or site.

(3) A building code official judges the building or structure or parts of the building and structure as safe and the exclusion is in the interest of public health, safety or welfare. The building code official shall apply the Uniform Construction Code to parts of the building or structure where its exclusion is not within the interest of the public health, safety and welfare. A building code official may not waive the Uniform Construction Code's accessibility requirements under this section.

IEBC Special Provisions

Existing and Historic Buildings

- Accessibility
- Egress Widths
- Historic Transom Windows
- Interior Finishes
- Stairway Enclosure
- Stair design (rise/run)
- Stairway Railings
- 1- Hour Fire Resistant Assemblies
- Building Area
- Exterior Opening Protection
- 1-Hour Occupancy Separation
- Exit Sign Alternatives
- Energy Conservation
- Fire Escapes
- Sprinkler Systems



Sprinkler Requirements

International Existing Building Code

For Level 2 Alterations:

IEBC 803.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

1. The *work area* is required to be provided with automatic sprinkler protection in accordance with the *International Building Code* as applicable to new construction;

2. The *work area* exceeds 50 percent of the floor area;

Exception: The building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with sections 907.4, 907.5 and 907.6 of the IBC.

Sprinkler Requirements

ICC Interpretation

ICC Interpretation No 12-04

Q1: Is a fire sprinkler system required to be provided to the work area if a new water service pipe is required to be installed between the municipal water supply and the building?

A1: **No.** Section 604.2.2, condition 3 indicates that "the building has sufficient...". Therefore **it was not intended that new water service pipes be installed from the water main to the building.**

Q2: Is a fire sprinkler system required to be provided to the work area if a new water distribution pipe (or riser) is required to be installed between the water service pipe and the work area?

A2: **No. Sprinkler system will not be required if a new riser must be constructed to bring water from lower floors.**

Sprinkler Requirements

Applications in the Field

Sprinkler Requirements

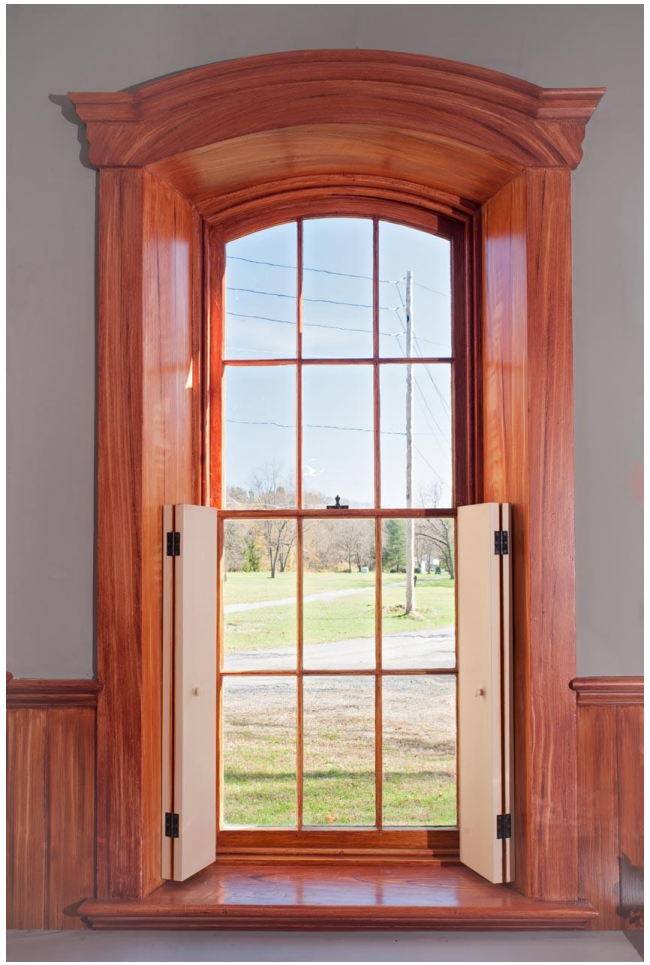
Applications in the Field

IEBC Compliance Options

Existing and Historic Buildings

Applicant may choose how a project is reviewed (IEBC 301.3)

- Prescriptive Compliance Method (IEBC Chapter 5)
- **Work Area Compliance Method (IEBC Chapters 6-12)**
- **Performance Compliance Method (IEBC Chapter 13)**



IEBC Compliance Options

Prescriptive Compliance Method

Accessibility

- **2018 IEBC reorganized accessibility requirements into Chapter 3 "Provisions for All Compliance Options"**
- Compliance is required with the 2009 edition of the ICC A117.1, not the 2017 version adopted for use with the IBC
- Provisions apply to change of occupancy, additional, alterations and historic buildings

IEBC Compliance Options

Repairs

Repair Code Provisions

- Only require compliance with IEBC Chapter 4
- Includes the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good condition
- Generally, work must be done in a manner that maintains the level of safety/fire protection
- Unsafe structural, glazing or electrical systems must be repaired

Repair Accessibility Provisions

- No specific requirements other than that “the work shall not make the building less compliant than it was before the repair was undertaken

IEBC Compliance Options

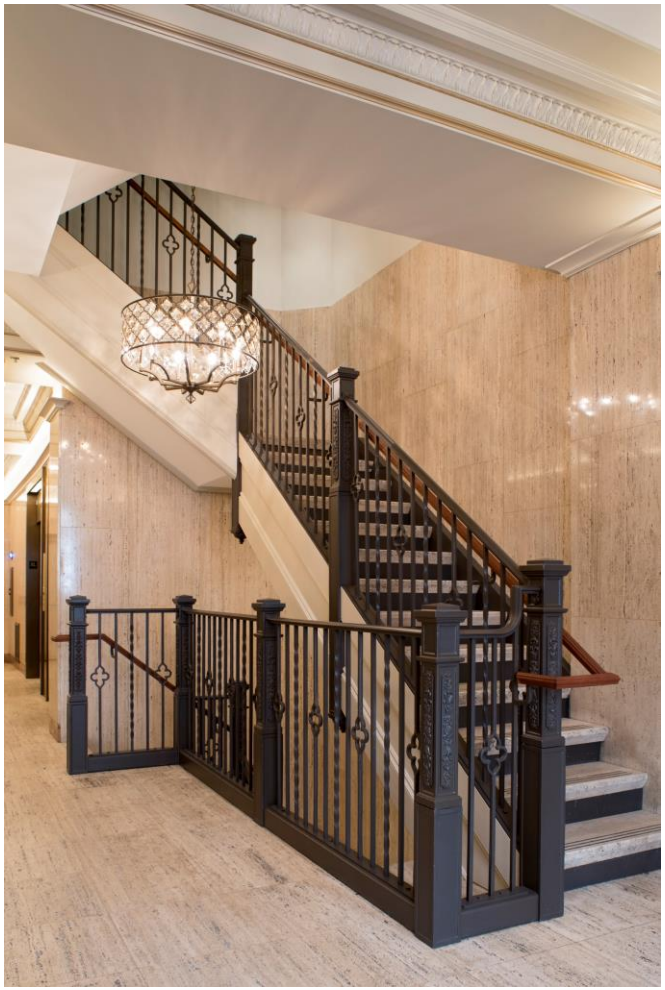
Prescriptive Compliance Method

Code Provisions

- Streamlined approach
- **Entire building must comply with the International Fire Code (IEBC 301.3.1)**
- Focus on structural system upgrades and compliance
- Change of Occupancy, permitted with full IBC compliance for new group

Applicability

- Best used for renovations of newly constructed buildings
- Also applicable to simple buildings (warehouses, open industrial buildings or similar)



IEBC Compliance Options

Work Area Compliance Method

Work Area Compliance Method

- Similar to IBC code for new construction in that project must comply with all applicable code provisions
- **Work Area Method provides extensive accommodations for historic buildings**

IEBC Compliance Options

Work Area Compliance Method

Step 1: Define Work Area

- That portion or portions of a building consisting of all reconfigured spaces. Work area excludes areas where incidental work must be performed and work not intended by the owner but required by code
- Must be specifically identified on drawings

Step 2: Determine "Classification of Work"

(IEBC Chapter 6)

- Repairs
- Alteration – Level 1
- Alteration – Level 2
- Alteration – Level 3
- Change of Occupancy
- Additions
- Historic Buildings
- Relocated Buildings

IEBC Compliance Options

Work Area Compliance Method

Level 1 Alteration Code Provisions

- Includes removal and replacement or covering of existing materials, elements, equipment or fixtures using new materials that serve the same purpose
- Existing level of protection provided for Fire Protection and Means of Egress shall be maintained (IEBC 703.1 and 704.1)
- Level 1 alterations are permitted without requiring the entire building to comply with the IECC. Alterations shall conform to the IECC (IEBC 707.1)

IEBC Compliance Options

Work Area Compliance Method

Level 2 Alteration Code Provisions

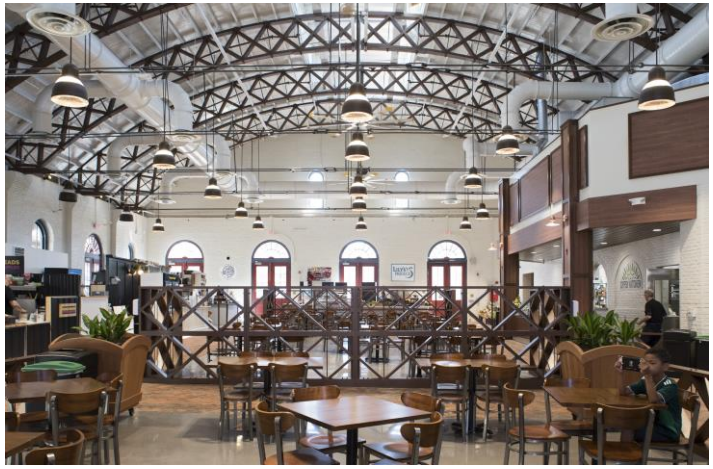
- Includes reconfiguration of space, the addition or elimination of any door or window, the reconfiguration of any system, or the installation of any additional equipment
- **Must also comply with all requirements of Level 1 Alterations**
- Vertical openings connecting 2 or more floors shall be enclosed with 1 hour fire rated assemblies (IEBC 802.2.1) *Note that numerous exceptions apply to this provision*
- Interior finishes in exits and corridors must comply with IBC (IEBC 802.4)
- **Sprinklers must be provided where special conditions exist (IEBC 803.2.2)**
- Means of egress must comply with minimum requirements (IEBC 805.2)
- Level 2 alterations are permitted without requiring the entire building to comply with the IECC. Alterations shall conform to the IECC (IEBC 810.1)

IEBC Compliance Options

Work Area Compliance Method

Level 3 Alteration Code Provisions

- Includes alterations where the work area exceeds 50 percent of the area of the building
- **Must also comply with all requirements of Level 1 and Level 2 Alterations**
- Additional provisions are applicable for vertical openings, sprinklers and other items
- **Exit signs must be installed from the highest work area to the exit discharge (IEBC (905.3)**



IEBC Compliance Options

Work Area Compliance Method

Change of Occupancy

- Includes change in the purpose **or level of activity** within a building

Additions

- Extension or increase in floor area, number of stories, or height of the building.

Historic Buildings

- A structure defined as a historic building

Relocated Buildings

- Existing building in a new location

IEBC Compliance Options

Work Area Compliance Method

Change of Occupancy Code Provisions

- Define as a Change of Occupancy with or without a separation
- Change of Occupancy Classification
  - Means of Egress Hazard Category
  - Heights and Areas Hazard Category
  - Exposure of Exterior Wall Hazard Category

Means of Egress Hazard Categories	
Relative Hazard	**Occupancy Classification**
1 (Highest Hazard)	H
2	I-2, I-3, I-4
3	A, E, I-1, M, R-1, R-2, R-4
4	B, F-1, R-3, S-1
5 (Lowest Hazard)	F-2, S-2, U

IEBC Compliance Options

Work Area Compliance Method

Change of Occupancy Accessibility Provisions

- Partial Change of Occupancy
  - Portion of the building where the change of occupancy occurs must comply with specific accessibility provisions, subject to 20% rule
- Complete Change of Occupancy
  - Accessible building entrance
  - Accessible route from entrance to primary function area
  - Accessible signage
  - Accessible parking, passenger loading zone and accessible route connecting parking to entrance

IEBC Compliance Options

Work Area Compliance Method

Selected Historic Building Provisions

- "The existing finishes of walls and ceilings shall be accepted when it is demonstrated that they are historic finishes." (IEBC 1203.5)
- "In a building of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of tight fitting doors and solid elements. Such elements are **not required to have a fire resistance rating**." (IEBC 1203.6)
- "Where 1-hour fire resistance rated construction is required… **it need not be provided**… where the existing wall and ceiling finish is wood or metal lath and plaster." (IEBC 1203.7)
- "Every building that cannot be made to conform to the construction requirements of the **IBC…Shall be deemed in compliance if provided with an approved automatic fire extinguishing system**." (IEBC 1203.12)
- IEBC accessibility requirements "shall apply to buildings and facilities designated as historic structures that undergo alterations, **unless technically infeasible**. Where compliance…would threaten or destroy the historic significance of the building or facility, **as determined by the code official**, alternate requirements…shall be permitted." (IEBC 309.5)

IEBC Compliance Options

Performance Compliance Method

Performance Compliance Method of Code Compliance

- **Comprehensive approach to evaluating the life safety of the overall building**
- **"Point system evaluation"** using 19 life safety categories
- Proposed building after renovations is compared to a baseline, to determine level of safety of each aspect of building life safety
- Points are accumulated based on each of 19 categories, and compared to Mandatory Safety Scores
- Mandatory Safety Scores are given for Fire Safety, Means of Egress and General Safety, and very by building occupancy.
- Mixed use, unseparated buildings must be evaluated separately with the lowest score used in the calculation

Note: Performance Compliance not permitted with H or I-1, I-3, I-4 occupancy (IEBC 1301.2)

IEBC Compliance Options

Performance Compliance Method

19 Evaluation Categories

- Building Height
- Building Area
- Compartmentation
- Tenant and Dwelling Unit Separation
- Corridor Walls
- Vertical Openings
- HVAC Systems
- Automatic Fire Detection
- Fire Alarm System
- Smoke Control
- Means of Egress Capacity
- Dead Ends
- Maximum Exit Access Travel Distance
- Elevator Control
- Means of Egress Emergency Lighting
- Mixed Occupancy
- Automatic Sprinklers
- Standpipes
- Incidental Use Area Protection

IEBC Compliance Options

Performance Compliance Method

Example: **Automatic Sprinklers** (IEBC 1301.6.17)

	Categories					
Occupancy	**a**	**b**	**c**	**d**	**e**	**f**
A-1, A-3, F, M, R, S-1	-6	-3	0	2	4	6
A-2	-4	-2	0	1	2	4
A-4, B, E, S-2	-12	-6	0	3	6	12

Categories:

- Category A: Sprinklers are required throughout; sprinkler protection is not provided or the sprinkler system design is not adequate for the hazard protected in accordance with IBC.
- Category B: Sprinklers are required in a portion of the building; sprinkler protection is not provided or the sprinkler system design is not adequate for the hazard protected in accordance with IBC.
- Category C: Sprinklers are not required; none are provided
- Category D: Sprinklers are required in a portion of the building; sprinklers are provided in such portion; the system is one that complied with the code at the time of installation and is maintained and supervised in accordance with the IBC
- Category E: Sprinklers are required throughout; sprinklers are provided throughout in accordance with IBC
- Category F: Sprinklers are not required throughout; sprinklers are provided throughout in accordance with IBC

IEBC Compliance Options

Performance Compliance Method

PERFORMANCE COMPLIANCE METHOD WORKSHEET

301 North Queen Street
Lancaster, PA

Revision Date: March 10, 2010
2006 International Existing Building Code

Compliance Alternatives - Chapter 13 - 2006 IEBC

► 1301.6.**1 - Building Height**

	Allowable Height		Existing Bldg Height				
Height Value-Feet	55	minus	35.00	x	1	=	1.6
	12.5						
Height Value-Stories	3	minus	3	x	1	=	0

Calculated based on S-1 occupancy (most restrictive).

► 1301.6.**2 - Building Area**

		Frontage Increase	Sprinkler Increase		Tabular Area		
Equation 13-2 *S-1 occupancy*	100	0	0	x	17,500	=	17,500
			100				
Equation 13-2 *M occupancy*	100	0	0	x	12,500	=	12,500
			100				
Equation 13-2 *R-2 occupancy*	100	0	0	x	16,000	=	16,000
			100				

	Allowable Area Per Floor		Number of Floors			
	Allowable Area for Entire Building					
Equation 13-3 *S-1 occupancy*	17,500	x	3		=	17,500
	3					
	Number of Stories					
Equation 13-3 *M occupancy*	12,500	x	4		=	16,667
	3					
Equation 13-3 *R-2 occupancy*	16,000	x	4		=	21,333
	3					

	Allowable Area				Actual Area		
Equation 13-4 *S-1 occupancy*	17,500	x	1	-	1,770	=	13.11
	1200				17,500		
	Square Feet				Allowable Area		
Equation 13-4 *M occupancy*	16,667	x	1	-	1,895	=	12.31
	1200				16,667		
Equation 13-4 *R-2 occupancy*	21,333	x	1	-	1,895	=	16.20
	1200				21,333		

PERFORMANCE COMPLIANCE METHOD WORKSHEET

301 North Queen Street
Lancaster, PA

Revision Date: March 10, 2010
2006 International Existing Building Code

		Category	Value
► 1301.6.**3 - Compartmentation** *With fire separation between first and second floor*	Value from Table 1301.6.3 =	d	19
► 1301.6.**4 - Tenant and Dwelling Unit Seperations**	Table 1301.6.4 =	d	2
► 1301.6.**5 - Corridor Walls** *With 1 hour fire rated corridors*	Value from Table 1301.6.5 =	c	0
► 1301.6.**6 - Vertical Openings**			

Protection Value from Table 1301.6.6 (1) = 1
Construction Type Factor from Table 1301.6.6 (2) = 3.5

	Protection Value		Construction Type Factor		
Equation 13-5 - Vertical Opening Value	1	x	3.5	=	3.5

► 1301.6.**7 - HVAC Systems**	Value from section 1301.6.7.1 =	d	0
► 1301.6.**8 - Automatic Fire Detection**	Value from Table 1301.6.8 =	e	6
► 1301.6.**9 - Fire Alarm Systems**	Value from Table 1301.6.9 =	b	-5
► 1301.6.**10 - Smoke Control**	Value from Table 1301.6.10 =	d	3
► 1301.6.**11 - Means of Egress Capacity**	Value from Table 1301.6.11 =	a	-3
► 1301.6.**12 - Dead Ends**	Value from Table 1301.6.12 =	b	0

► 1301.6.**13 - Maximum Exit Access Travel Distance to an Exit**

		Maximum Allowable Travel Distance		Maximum Actual Travel Distance		
Equation 13-6: Points =	20 x	200	-	76	=	12.4
		200				
		Maximum Allowable Travel Distance				

IEBC Compliance Options

Performance Compliance Method

PERFORMANCE COMPLIANCE METHOD WORKSHEET

301 North Queen Street
Lancaster, PA

Revision Date: March 10, 2010
2006 International Existing Building Code

		CATEGORY	VALUE
► 1301.6.**14 - Elevator Control**	Value from Table 1301.6.14 =	a	-2
► 1301.6.**15 - Means of Egress Emergency Lighting**	Table 1301.6.15 =	b	0
► 1301.6.**16 - Mixed Occupancies**	Value from Table 1301.6.16 =	-	0
► 1301.6.**17 - Automatic Sprinklers**	Value from Table 1301.6.17 =	a	-6
► 1301.6.**18 - Standpipes**	Value from Table 1301.6.18 =	b	0
► 1301.6.**19 - Incidental Use**	Value from Table 1301.6.19 =		0

PERFORMANCE COMPLIANCE METHOD WORKSHEET

301 North Queen Street
Lancaster, PA

Revision Date: March 10, 2010
2006 International Existing Building Code

		FIRE SAFETY (MFS)	MEANS OF EGRESS (MME)	GENERAL (MGS)
1301.6.1	Building Height	0.00	0.00	0.00
1301.6.2	Building Area	12.31	12.31	12.31
1301.6.3	Compartmentation	19.00	19.00	19.00
1301.6.4	Tenant/Dwelling Seperations	2.00	2.00	2.00
1301.6.5	Corridor Walls	0.00	0.00	0.00
1301.6.6	Vertical Openings	3.50	3.50	3.50
1301.6.7	HVAC Systems	0.00	0.00	0.00
1301.6.8	Automatic Fire Detection	6.00	6.00	6.00
1301.6.9	Fire Alarm System	-5.00	-5.00	-5.00
1301.6.10	Smoke Control	*****	3.00	3.00
1301.6.11	Means of Egress Capacity	*****	-3.00	-3.00
1301.6.12	Dead Ends	*****	0.00	0.00
1301.6.13	Maximum Exit Access Travel	*****	12.40	12.40
1301.6.14	Elevator Control	-2.00	-2.00	-2.00
1301.6.15	Emergency Lighting	*****	0.00	0.00
1301.6.16	Mixed Occupancies	0.00	*****	0.00
1301.6.17	Automatic Sprinklers	-6.00	-3.00	-6.00
1301.6.18	Standpipes	0.00	0.00	0.00
1301.6.19	Incidental Use Area Protection	0.00	0.00	0.00
Building Score - Total Value		29.81	45.21	42.21

1301.8. **Mandatory Safety Scores**

Occupancy Group:	**S-1**	19	29	29
Occupancy Group:	**M**	23	40	40
Occupancy Group:	**R-2**	21	38	38
Compared to hightest mandatory score:		6.81 **PASS**	5.21 **PASS**	2.21 **PASS**

IEBC Compliance Options

Performance Compliance Method

Accessibility

- **Performance Compliance Method is now applicable to all accessibility provisions which are applicable to other compliance paths (IEBC 305.1)**

ICC Compliance Options

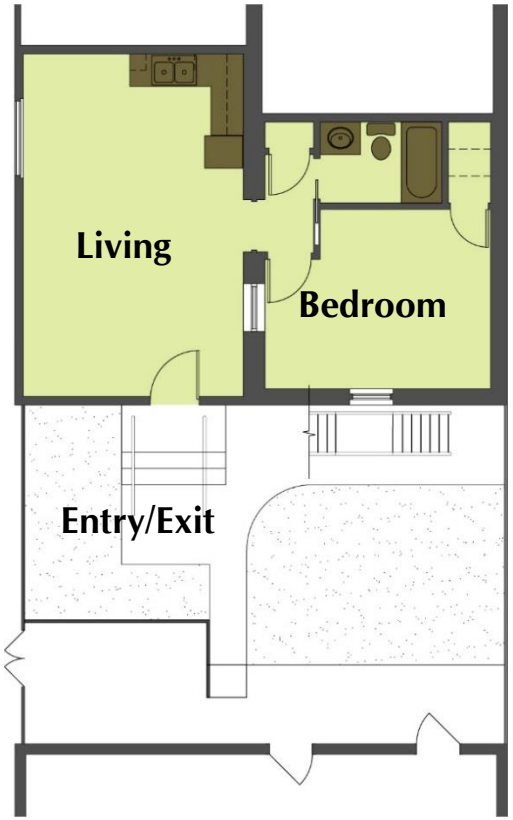
Selecting a Compliance Option

- Each project is unique
- Begin with Work Area Compliance
- Consider Prescriptive or Performance Compliance as alternatives

IEBC Compliance Options

401 West Walnut Street

- Conversion of existing space to a single apartment
- IEBC Work area required installation of an automatic sprinkler system
- IEBC Performance Compliance Alternative illustrated adequate life safety provisions without installation of an automatic sprinkler system



IEBC Compliance Options

301 North Queen Street, Lancaster, PA

- Renovations for mixed use – residential apartments over assembly

IEBC Compliance Options

301 North Queen Street, Lancaster, PA

- IEBC Work area required installation of an automatic sprinkler system
- IEBC Performance Compliance Alternative illustrated adequate life safety provisions without installation of an automatic sprinkler system
- IEBC permitted modifications and continued use of existing fire escape for egress
- Installation of 2 hour fire separation to achieve compartmentation
- Fire Alarm system was installed

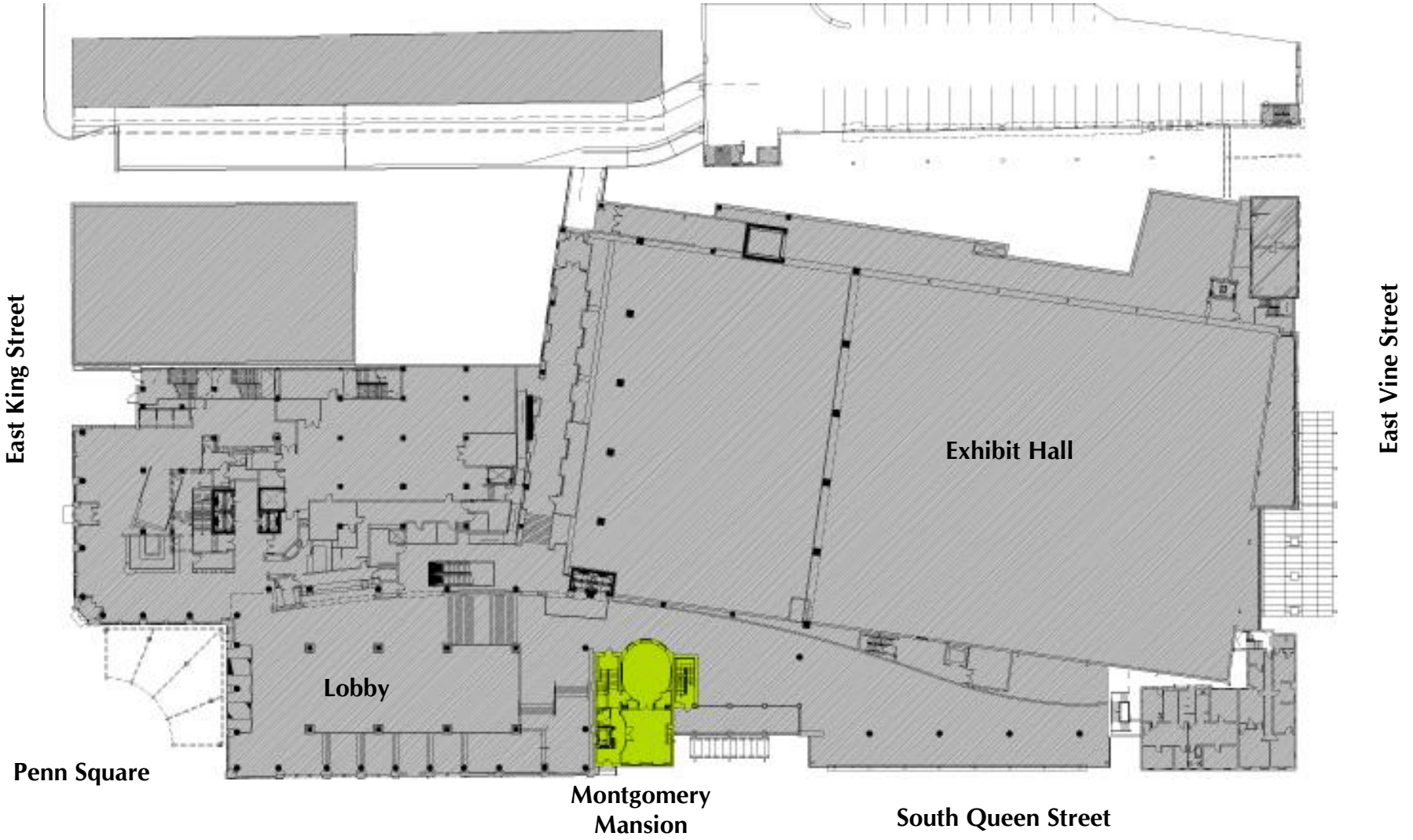
ICC Compliance Options

Selecting a Compliance Option

- Extensive collaboration with City of Lancaster Code Officials and Fire Marshal Officials
- Conformance to Marriott life safety standards

ICC Compliance Options

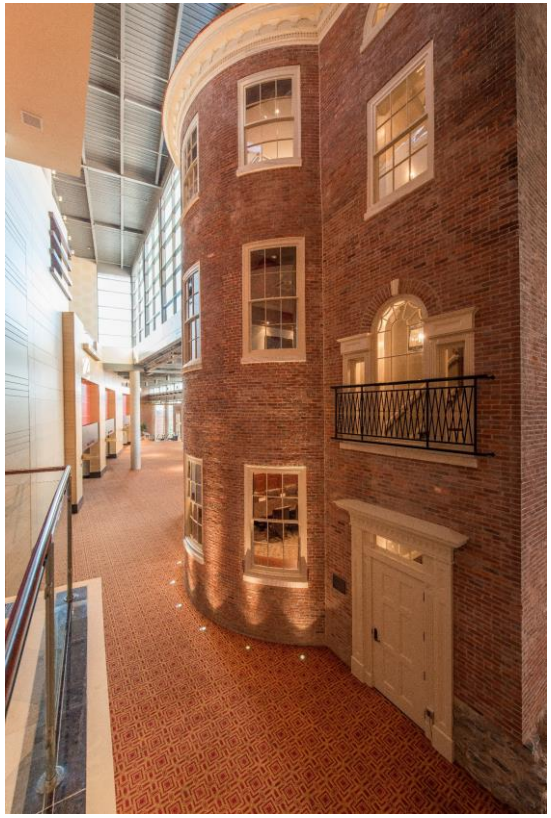
Selecting a Compliance Option



ICC Compliance Options

Selecting a Compliance Option

- Constructed in 1803 – 1804 for local attorney William Montgomery
- Individually listed on the National Register of Historic Places



ICC Compliance Options

Selecting a Compliance Option

c. 1890s

Before Rehabilitation

After Rehabilitation

ICC Compliance Options

Selecting a Compliance Option

- Reconstruction of the original oval room
- Meeting and private dining facilities to compliment the adjacent Convention Center

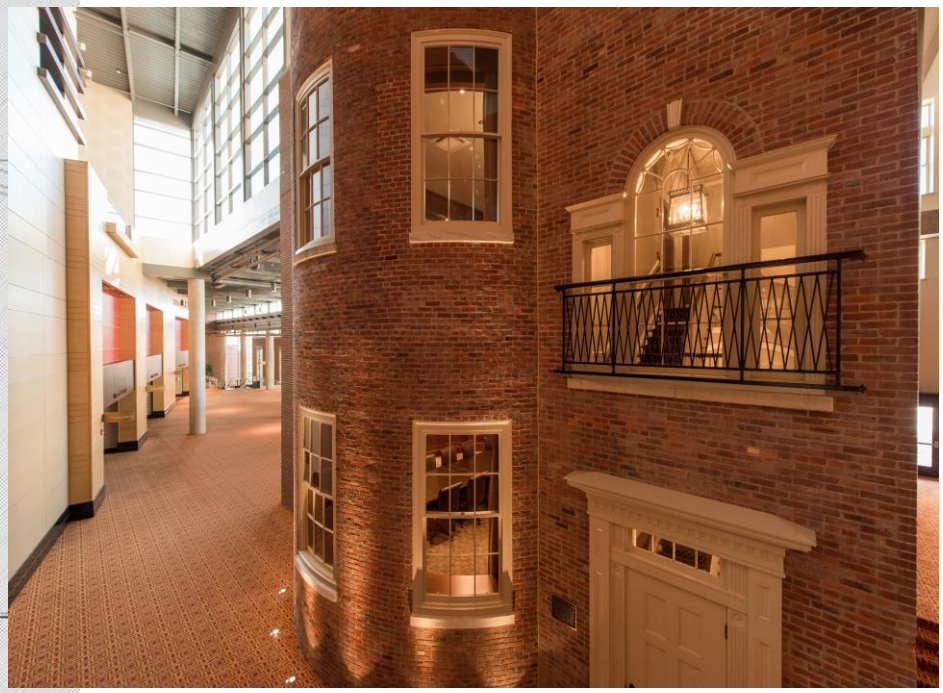
ICC Compliance Options

Selecting a Compliance Option

- Bridal Suite
- Modern systems and full ADA accessibility

ICC Compliance Options

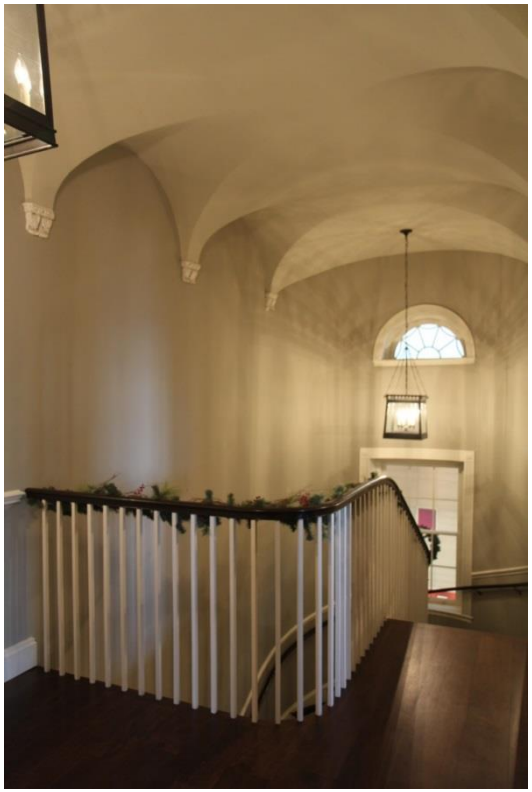
Selecting a Compliance Option

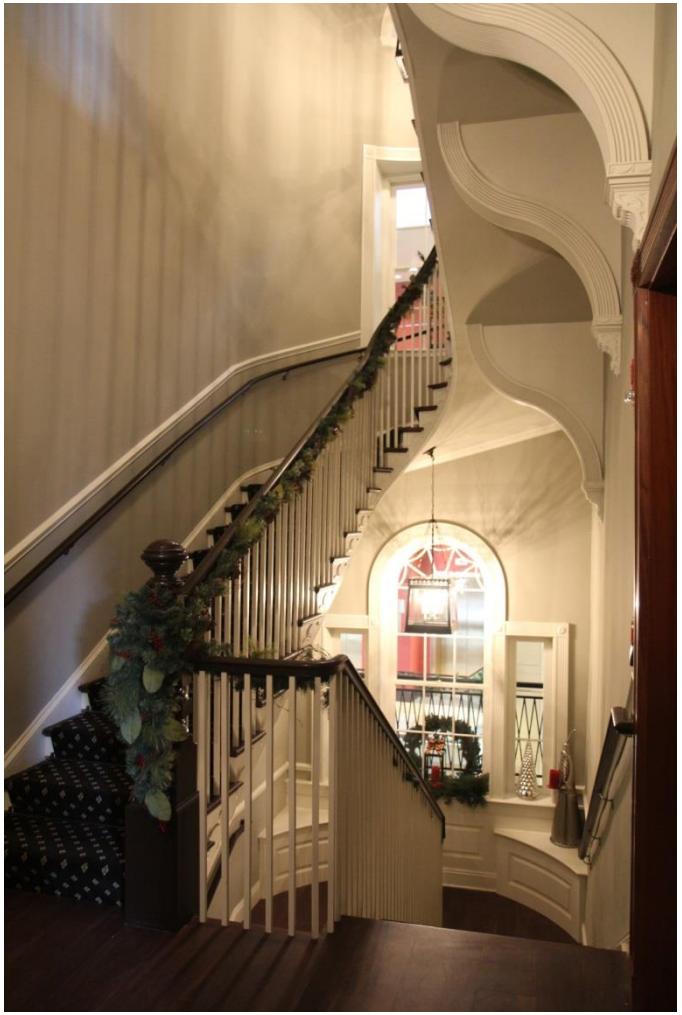


ICC Compliance Options

Selecting a Compliance Option

- Historic staircase largely intact
- Main entrance from LCCC to historic staircase





ICC Compliance Options

Selecting a Compliance Option

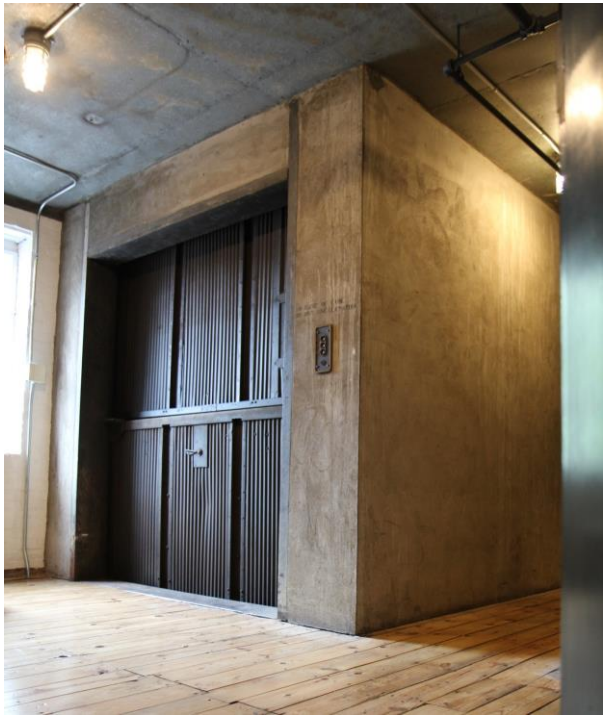
Example: Historic Building with a grand staircase connecting 3 stories, 3B construction

- Prescriptive Compliance
  - Building **must comply with IFC** (IEBC 101.5.1)
  - Vertical Exit Enclosure – **1 hour rating** (IBC 1020.1)
- Performance Compliance
  - Vertical Opening Protection Value (VO) (IEBC 1301.6.6(1))
  - VO = PV x CF
  - VO = (PV factor) (number of stories) x (construction type value)
  - VO = (-2)(3) x 3.5 = **-21 points**
- Work Area Compliance
  - Vertical openings up to 3 stories must be protected by a **30 minute enclosure** (IEBC 8032.2.1, exc #4)
  - Lath and Plaster may be **accepted** as 1 hour rating (IEBC 1203.7)
  - In buildings 3 stories or less, exit enclosures **need only limit spread of smoke and is not required to have a fire rating** (IEBC 1203.6)

Cooperative Code Compliance

City of Lancaster

- Recent history of third party code review in Lancaster
- City of Lancaster Administrative Order #2010-3
  - Provides guidelines which are intended to provide some relief to building owners for commercial projects within Lancaster City
  - Defines minimum thresholds after which stamped/signed MEP drawings are required
    - Changes in use group
    - New construction or additions
    - Major changes in the building infrastructure
      - Increase in plumbing fixture count
      - Upgrades to electrical service over 200 AMP
      - Special wiring applications
      - Complete replacement of HVAC systems



Cooperative Code Compliance

City of Lancaster

- Concrete results of cooperative code enforcement
  - Data collected from recent 40 month period
    - **2,619 commercial permit applications**
    - **8 appeals to the Building Code Board of Appeals** (.03% of all permit applications)
    - **3 appeals denied** (.01% of all permit applications)

Designer Responsibility

Applying and Interpreting Codes with for Public Safety

IEBC Historic Building Provisions for Handrail and Guardrails

IEBC 1203.9 Stairway Railings

Grand stairways shall be accepted without complying with handrail and guard requirements. Existing handrails and guards at all stairways shall be permitted to remain, provided they are not structurally dangerous.

IEBC 1203.10.1 Height

Existing guards shall comply with the requirements of Section 404.

> **IEBC 404 Height**
> Repairs shall be done in a manner that maintains the level of protection provided for the means of egress.

IEBC 1203.10.2 Guard Openings

The Spacing between existing intermediate railings or openings in existing ornamental patterns shall be accepted. Missing elements or members of a guard may be replaced in a manner that will preserve the historic appearance of the building or structure.

Designer Responsibility

Applying and Interpreting Codes with for Public Safety

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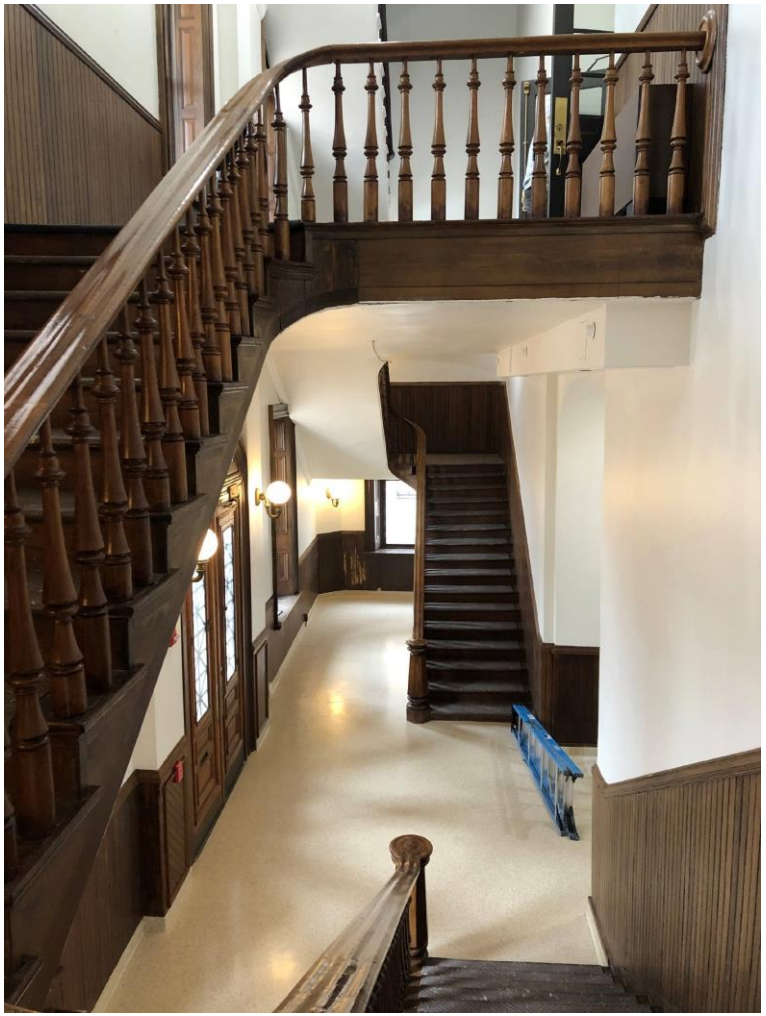
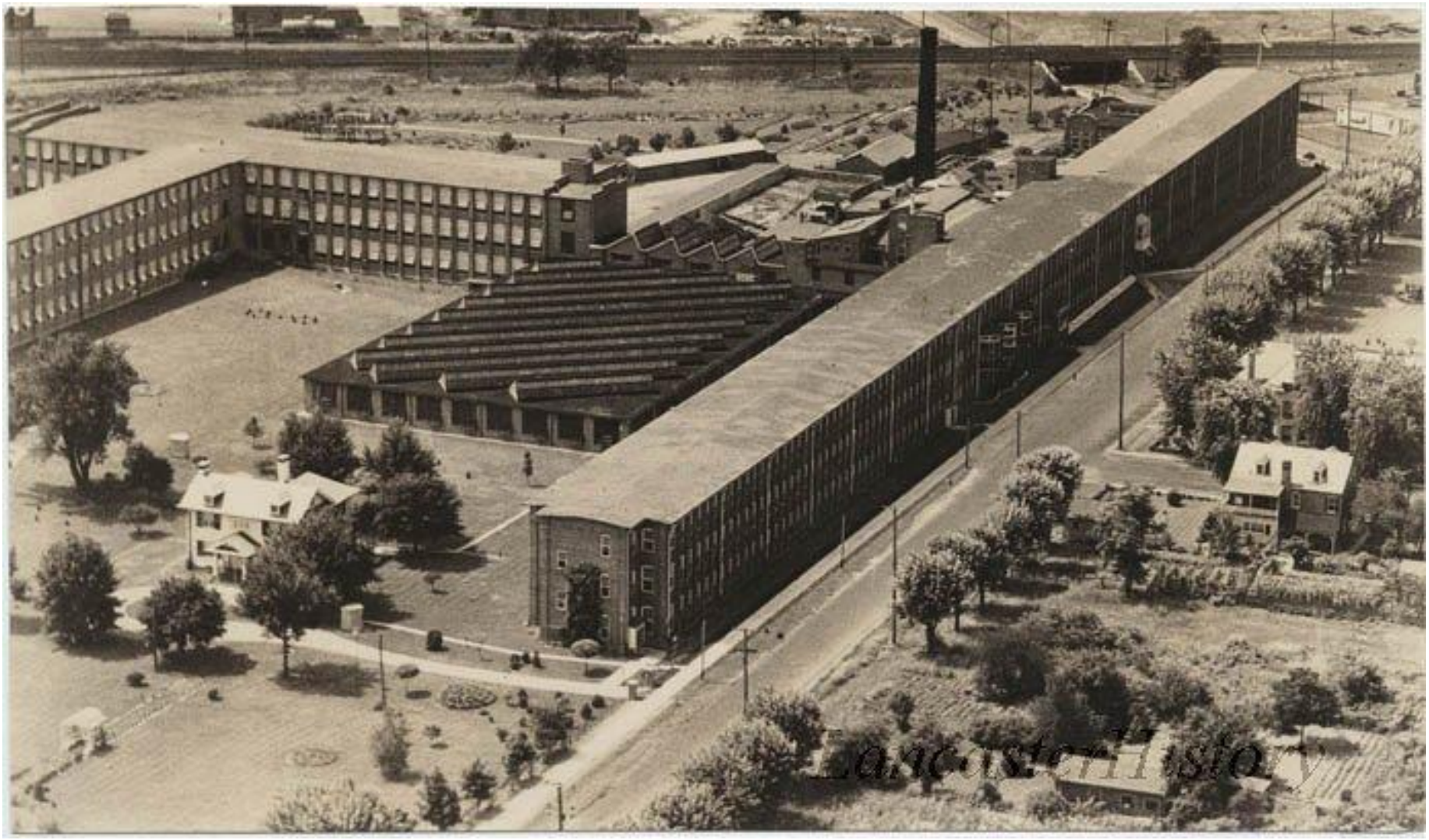


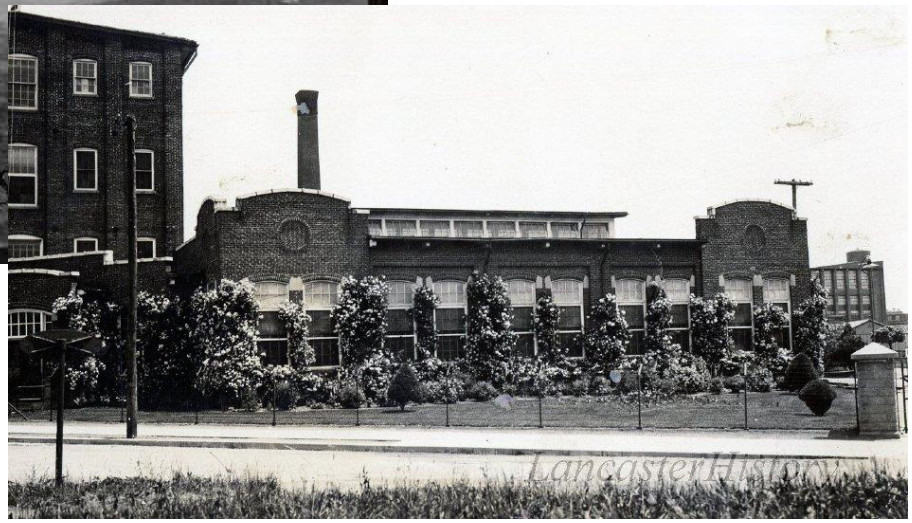
Designer Responsibility

Applying and Interpreting Codes with for Public Safety



Designer Responsibility

Applying and Interpreting Codes with for Public Safety



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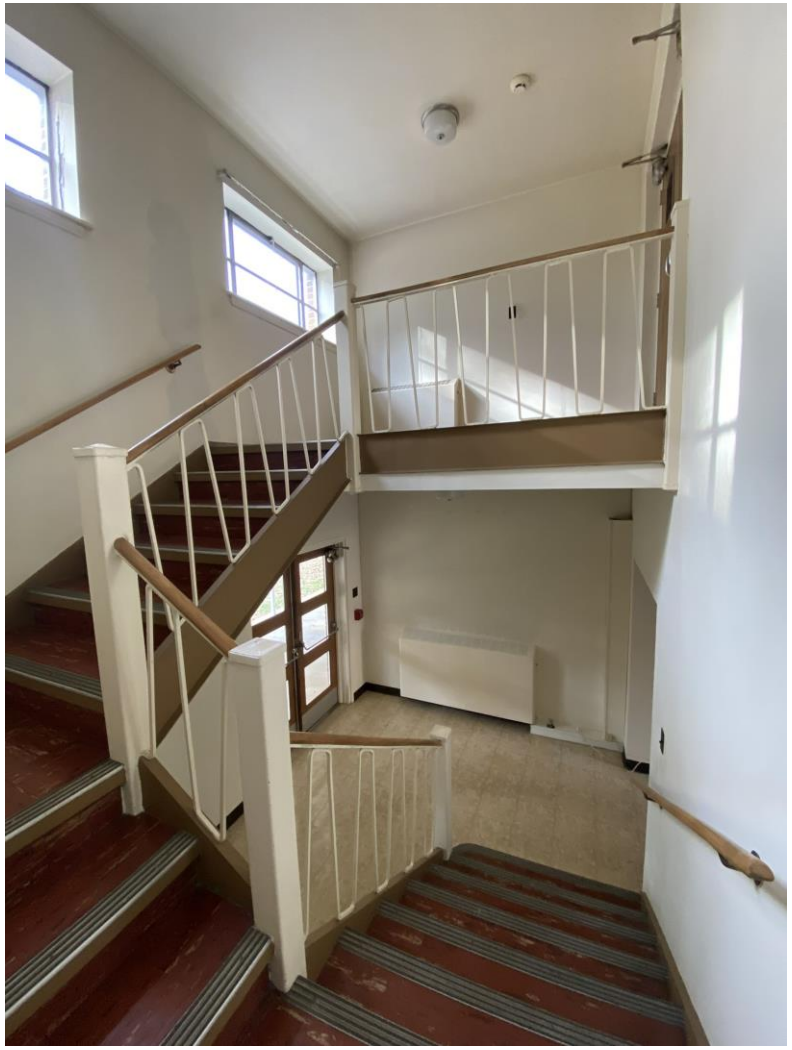

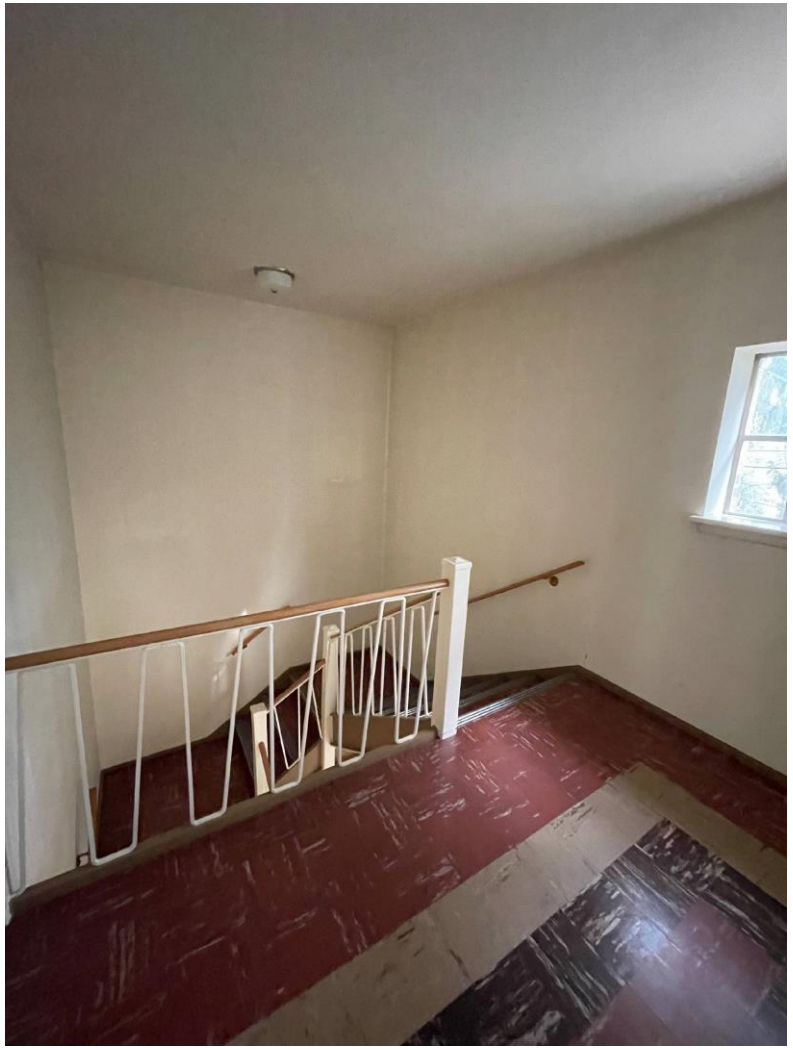

Applying Building Codes to Historic Buildings

Summary and Resources

Summary:

- A qualified design professional who is knowledgeable about historic buildings and applicable buildings codes is one of the keys to a successful project
- Applicant may select one of 3 options for code compliance with existing buildings
    - Work Area Compliance for Historic Buildings
    - Performance Compliance (Point System) for small buildings
- Emphasize good working relationships amongst design professionals, owner and local code officials

Questions?

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Course Description

The International Building Code (IBC) and International Existing Building Code (IEBC) give consideration to historic buildings to accommodate their use and reuse for a multitude of purposes. The presenter, an experienced preservation architect whose firm has worked on more than 120 historic buildings, will use case studies to illustrate alternative compliance paths. He will trace the history of building codes and their application to historic buildings. He will also discuss accessibility.

Learning Objectives

- Discuss how existing and historic buildings are addressed in the International Building Code and International Existing Building Code.
- Compare and contrast alternative compliance paths available to the project designer.
- Cite examples of alternative compliance paths that have been successfully used in historic preservation through the session case studies.
- Recall historic architectural elements, finishes and materials that have been saved in the case studies presented and use similar strategies to protect historic materials in future work.