



# Preparing **CODE COMPLIANT** Construction Documents

A Continuing Education Course  
Sponsored by AIA Florida



# Preparing Code Compliant Construction Documents

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Presented By: AIA FLORIDA  
104 East Jefferson Street  
Tallahassee, Florida 32301

Course Description: The course provides an overview of what an architect should be including on Construction Documents that will facilitate a road map for the plan reviewer, providing a shorter time period for issuing building permits.

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**The American Institute of Architects – Course No. FHT22PCCCD/FBC990 - This program qualifies for 2.0 HSW/SD/LU Hours and Florida Advanced Building Code Requirement**



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# Learning Objectives

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At the end of this program, participants will be able to:

- Better able to understand that by having a competent reading of building code requirements, the prepared Construction Documents meet or exceed the standards of the codes;
- Show through graphic means that the architects' Construction Documents meet the requirements for life safety, energy conservation, and constructability;
- Demonstrate through written explanations that the Construction Documents have analyzed the building for structural durability, fire safety, and sustainability;
- Provide Construction Documents to the authorities having jurisdiction that will on the architect's side, provide the building's owner's quick review and approval saving time and money for all involved.

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Better Prepared Construction Documents lead to faster permit approval

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# What This Course Is-

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- A result of input from building officials and technically competent architects and engineers
  - A presentation of basic code information required for expeditious reviews
  - A guide in preparing better new commercial building Construction Documents
  - A marketing tool once learned and input into your practice
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# Where do we Start?

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## The Florida Building Code, including

- Florida Building Code (FBC-B)
- Florida Accessibility Code (FBC-A)
- Florida Building Code – Energy Conservation (FBC-EC)
- Florida Building Code – Existing Building (FBC-E)
- Florida Building Code-Fuel Gas (FBC-G)
- Florida Building Code-Mechanical (FBC-M)
- Florida Building Code-Plumbing (FBC-P)
- Florida Building Code-Residential (FBC-R)
- Florida Building Code-Test Protocols (FBC-T)



# What Other References are Necessary

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## The Florida Fire Prevention Code

Incorporating

**NFPA 1 and NFPA 101**

(Florida Version of 2018)

And

**National Electric Code (NFPA 70)**

(2017 Version)

# Chapter 1 – Scope & Administration

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- Applies to all construction, alteration, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or structure or any appurtenances connected or attached to such buildings or structures. (FBC-B 101.2; FFPC Ch 1)

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- **EXCEPTION:** Detached one and two-family dwellings and townhouses not more than three stories above grade plane in height, with a separate means of egress and their detached accessory uses not more than three stories above the grade plane in height shall comply with the *Florida Building Code – Residential*.

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- The code is a minimum requirement. (FBC-B 101.3)

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- The code is a minimum requirement. (FBC-B 101.3)
- FS 481 establishes buildings requiring an architect & FS 553.79 establishes construction requiring a permit.

# Chapter 1 – Permits

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- Section 105 establishes types of permits required and exempted

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- SubSection 105.3.1.2 Professional Engineering required for:
  - Plumbing for systems more than 250 fixture units or cost over \$125,000.00

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  - Electrical in accordance with FS 471.003(2)(h) [600 amps residential, 800 amps commercial or a value of more than \$125,000.00]

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  - Electrical in accordance with FS 471.003(2)(h) [600 amps residential, 800 amps commercial or a value of more than \$125,000.00
  - All public swimming pools or public bathing houses (FS 514)
- A permit application has 180 days to be pursued or is considered abandoned (105.3.2)

# Chapter 1 – Submittal Documents

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- Submittal documents signed & sealed by a *registered design professional in accordance with FS 471 and/or 481 (FBC-B 107; FFPC 1.14)*:

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  - Construction Documents
  - Statement of special inspections (*e.g. Threshold Inspections*)
  - Geotechnical reports
  - Any other information required by the AHJ (FBC-B 107.1)

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- Construction Document requirements:

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  - Construction Documents
  - Statement of special inspections
  - Geotechnical reports
  - Any other information required by the AHJ (FBC-B 107.1)
- Construction Document requirements:
  - Dimensioned drawings on suitable material or electronic format (107.2.1)
  - Fire protection shop drawings (107.2.2)
  - Means of egress (107.2.3)
  - Exterior wall envelope (107.2.4)
  - Exterior balcony and walking surfaces (107.2.5)
  - Site Plan, including design flood elevations (107.2.6)
  - Structural information (107.2.7)
  - Deferred submittals (107.3.4.1)

# Chapter 1 – Minimum Plan Review Criteria

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- Commercial Buildings (FBC-B 107.3.5):
  - Site Requirements (107.3.5.1)
  - Occupancy Group and special requirements (FBC-B Ch 3 & 4; FFPC Ch 6)
  - Minimum Type of Construction (FBC-B Table 601)
  - Height and Area Allowances (FBC-B Tables 504.3, 504.4 & 506.2)
  - Building Area Modifications (FBC-B 506)
  - Fire-resistance construction requirements (FBC-B Ch 7; FFPC 12.3)
  - Fire suppression & protection system (FBC-B Ch 9; FFPC Ch 12 & 13)
  - Life safety systems (FBC-B Ch 9; FFPC 10.1.2; and NFPA 101)
  - Occupant load/egress requirements (FBC-B Ch 10 and Table 1004.5; FFPC Ch 14; NFPA 101 Table 7.3.1.2)
  - Structural roof & roof-top structure requirements (FBC-B Chapters 15 & 16)
  - Materials included (FBC-B Chapters 19 – 26)
  - Accessibility (FBC-Accessibility)
  - Interior requirements & Environment (FBC-B Chapters 8 & 12; FFPC 12.5)
  - Special systems [elevators, escalators, lift] (FBC-B Chapter 30; FFPC 11.3)
  - Swimming Pools (FBC-B Chapter 4)
  - Location and installation details

# Chapter 2 – Definitions

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- Establishes meaning of terms used in code
- Terms need to be used correctly on documents
- Definitions for the Florida Building Code & Fire Prevention Code

# Determine the Building's Occupancy

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- **Chapter 3 FBC-B,**
- **Cross Referenced with FFPC, CH 6**
- **Coordinate with Chapter 4 for special requirements of use(s)**
- Assembly-303
- Business-304
- Educational-305
- Factory | Industrial-306
- High Hazard-307
- Institutional-308
- Mercantile-309
- Residential-310
- Storage-311
- Utility | Maintenance-312

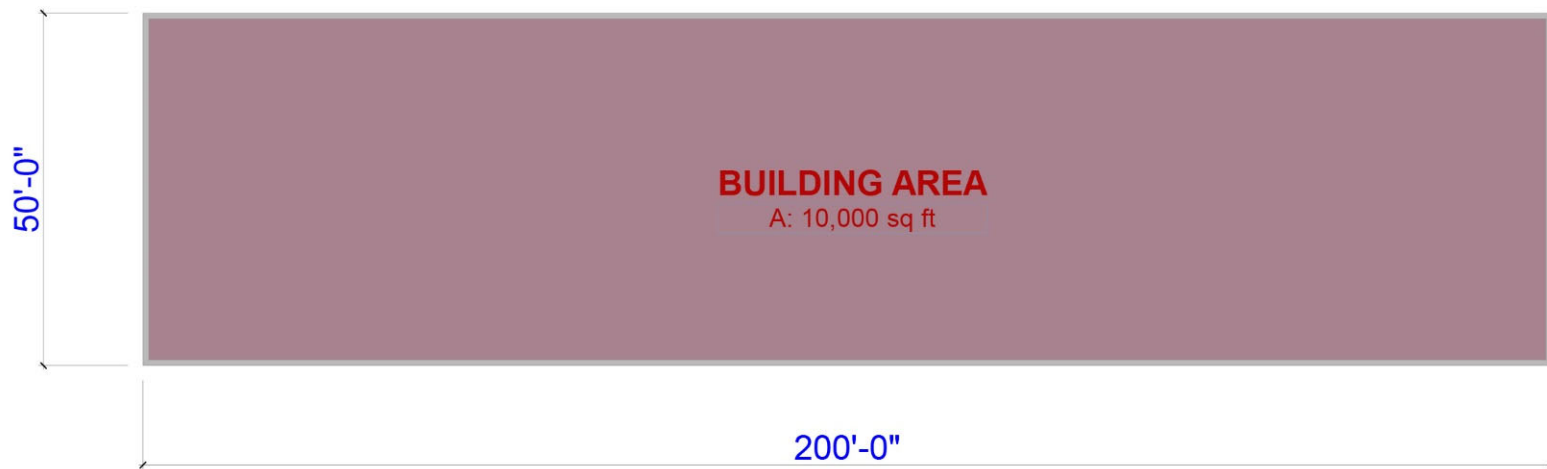
# Special Detailed Requirements - Occupancy

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- Certain Occupancies have special requirements
- Refer to Chapter 4 FBC-B

# Hypothetical Project

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## Strip Shopping Center (10,000 gsf)

Developer: Design it with wood truss roof!

Provide most flexibility in Tenant Improvements

No Sprinklers

# Construction Class & Allowable Height & Area

- Table 504.3

ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A, B, E, F, M, S, U	NS <sup>b</sup>	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
H-1, H-2, H-3, H-5	NS <sup>c, d</sup>	UL	160	65	55	65	55	65	50	40
	S									
H-4	NS <sup>c, d</sup>	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
I-1 Condition 1, I-3	NS <sup>d, e</sup>	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
I-1 Condition 2, I-2	NS <sup>d, e, f</sup>	UL	160	65	55	65	55	65	50	40
	S	UL	180	85						
I-4	NS <sup>d, g</sup>	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60
R	NS <sup>d, h</sup>	UL	160	65	55	65	55	65	50	40
	S13R	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	85	70	60

# Construction Class & Allowable Height & Area

- Table 504.4 (partial)

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	2	1
	S	UL	6	4	3	4	3	4	3	2
A-2	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-3	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-4	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL
M	NS	UL	11	4	2	4	2	4	3	1
	S	UL	12	5	3	5	3	5	4	2

# Construction Class & Allowable Height & Area

- Table 506.2 (partial)

ALLOWABLE AREA FACTOR ( $A_t$  = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1									
	SM									
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,000	27,000

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

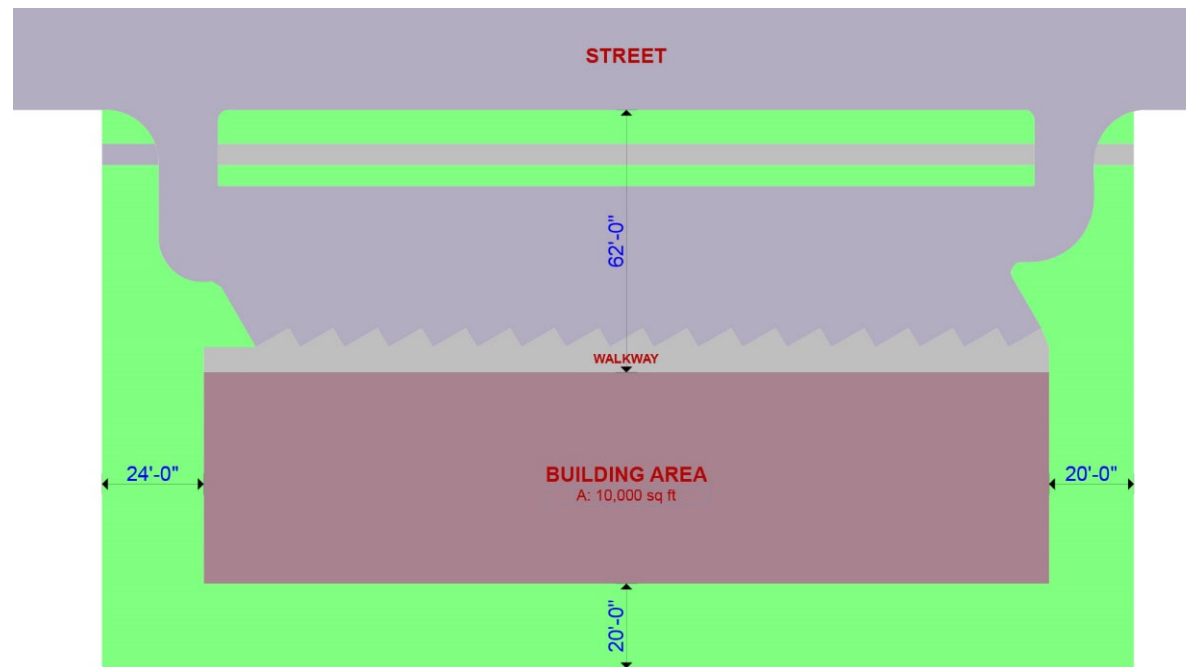
# Construction Class & Allowable Height & Area

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M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,000	27,000

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

# Allowable Area Increase



## FBC-B 506.3.2 Frontage Increase

$$I = [F/P - 0.25]W/30$$

$$I = [(500/500) - 0.25]f[(30 \times 200 + 24 \times 50 + 20 \times 250)/500] / 30$$

f

$$I = (.75) (.81) (100)$$

$$f \quad I = 60.75\%$$

Allowable Area =  $9,000f \times 1.6075 = 14,468^*$  sf Allowable

\* Mercantile Use over 12,000 GSF may require sprinklers (FBC-B 903.2.7)

# Required Separation of Occupancies (Hours)

- Table 508.4

OCCUPANCY	A, E		I-1 <sup>a</sup> , I-3, I-4		I-2		R <sup>a</sup>		F-2, S-2 <sup>b</sup> , U		B <sup>e</sup> , F-1, M, S-1		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
A, E	N	N	1	2	2	NP	1	2	N	1	1	2	NP	NP	3	4	2	3	2	NP
I-1 <sup>a</sup> , I-3, I-4	—	—	N	N	2	NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP	2	NP
I-2	—	—	—	—	N	N	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP	2	NP
R <sup>a</sup>	—	—	—	—	—	—	N	N	1 <sup>c</sup>	2 <sup>c</sup>	1	2	NP	NP	3	NP	2	NP	2	NP
F-2, S-2 <sup>b</sup> , U	—	—	—	—	—	—	—	—	N	N	1	2	NP	NP	3	4	2	3	2	NP
B <sup>e</sup> , F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2	1	NP
H-1	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	NP	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP	1	NP	1	NP
H-3, H-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1 <sup>d</sup>	NP	1	NP
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	N	NP

# Determine the Building's Construction Class

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- FBC-B Chapter 6
  - Table 601 – Fire-Resistance Rating Requirements for Building Elements
  - Table 602 – Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance

# Determine the Building's Construction Class

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- FBC-B Chapter 6

Table 601 – Fire-Resistance  
Rating Requirements for  
Building Elements

Table 602 – Fire-Resistance  
Rating Requirements for  
Exterior Walls Based on  
Fire Separation Distance

- Types I and II primarily  
non-combustible, but  
there are exceptions

# Determine the Building's Construction Class

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Table 601 – Fire-Resistance  
Rating Requirements for  
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- Types I and II primarily non-combustible, but there are exceptions
- Type III exterior wall non-combustible, interior any permitted material

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- Types I and II primarily non-combustible, but there are exceptions
- Type III exterior wall non-combustible, interior any permitted material
- Type IV non-combustible exterior wall, heavy timber interior

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Table 602 – Fire-Resistance  
Rating Requirements for  
Exterior Walls Based on  
Fire Separation Distance

- Types I and II primarily non-combustible
- Type III exterior wall non-combustible, interior any permitted material
- Type IV non-combustible exterior wall, heavy timber interior
- Type V any material permitted by code

# Construction Class & Allowable Height & Area

- Table 601

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	HT	A	B
Primary structural frame <sup>f</sup> (see Section 202)	3 <sup>a</sup>	2 <sup>a</sup>	1	0	1	0	HT	1	0
Bearing walls	3	2	1	0	2	2	2	1	0
Exterior <sup>e, f</sup>	3 <sup>a</sup>	2 <sup>a</sup>	1	0	1	0	1/HT	1	0
Interior									
Nonbearing walls and partitions	See Table 602								
Exterior									
Nonbearing walls and partitions	0	0	0	0	0	0	See Section 602.4.6	0	0
Interior <sup>d</sup>									
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1 1/2 <sup>b</sup>	1 <sup>b, c</sup>	1 <sup>b, c</sup>	0 <sup>c</sup>	1 <sup>b, c</sup>	0	HT	1 <sup>b, c</sup>	0

For SI: 1 foot = 304.8 mm.

# Construction Class & Allowable Height & Area

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- Table 602

FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE<sup>a, d, g</sup>

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H <sup>e</sup>	OCCUPANCY GROUP F-1, M, S-1 <sup>f</sup>	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U <sup>h</sup>
$X < 5^b$	All	3	2	1
$5 \leq X < 10$	IA	3	2	1
	Others	2	1	1
$10 \leq X < 30$	IA, IB	2	1	1 <sup>c</sup>
	IIB, VB	1	0	0
	Others	1	1	1 <sup>c</sup>
$X \geq 30$	All	0	0	0

# Allowable Openings and Protection

- Table 705.8 - Maximum Area of Exterior Wall Openings based on Fire Separation Distance and Degree of Opening Protection

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA <sup>a</sup>
0 to less than 3 <sup>b, c, k</sup>	Unprotected, Nonsprinklered (UP, NS)	Not Permitted <sup>k</sup>
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	Not Permitted <sup>k</sup>
	Protected (P)	Not Permitted <sup>k</sup>
3 to less than 5 <sup>d, e</sup>	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	15%
	Protected (P)	15%
5 to less than 10 <sup>e, f, j</sup>	Unprotected, Nonsprinklered (UP, NS)	10% <sup>h</sup>
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	25%
	Protected (P)	25%
10 to less than 15 <sup>e, f, g, j</sup>	Unprotected, Nonsprinklered (UP, NS)	15% <sup>h</sup>
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	45%
	Protected (P)	45%
15 to less than 20 <sup>f, g, j</sup>	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	75%
	Protected (P)	75%
20 to less than 25 <sup>f, g, j</sup>	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	No Limit
	Protected (P)	No Limit
25 to less than 30 <sup>f, g, j</sup>	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	No Limit
	Protected (P)	No Limit
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S) <sup>i</sup>	No Limit
	Protected (P)	No Limit

# Fire & Smoke Protection Features

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- Fire Resistant Ratings of Structural Members (FBC-B 704; FFPC 12.1-12.3 )
- Exterior Walls & Fire Walls (FBC-B 705/706; FFPC 12.7-12.9)
- Fire Barriers (FBC-B 707; FFPC 12.7)
- Fire Partitions (FBC-B 708; FFPC 12.7)
- Smoke Barriers & Partitions (FBC-B 709 & 710; FFPC 12.8 & 12.9)
- Floor & Roof Assemblies (FBC-B 711)
- Vertical Openings (FBC-B 712; FFPC 12.4)
- Shaft Enclosures (FBC-B 713; FFPC Ch 12)
- Penetrations of Rated Walls (FBC-B 714; FFPC 12.7-12.9)
- Fire-resistant Joint Systems (FBC-B 715; FFPC 12.3.2)

# Fire & Smoke Protection Features

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- Protected Openings (FBC-B 716; FFPC 12.7-12.9)
- Ducts & Transfer Openings (FBC-B 717; FFPC 12.8.5 & 12.9.5)
- Concealed Spaces (FBC-B 718)
- Requirements for Plaster (FBC-B 719)
- Thermal & Sound-Insulating Materials (FBC-720)

## Interior Finishes

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- Chapter 8 Based upon Occupancy

# Fire Suppression Systems

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- Automatic Sprinkler Systems (FBC-B 903 & 904; FFPC 13.3)
- Stand Pipe Systems (FBC-B 905; FFPC 13.2)
- Portable Fire Extinguishers (FBC-B 906; FFPC 13.6)
- Hazard Classification (FFPC 13.6; NFPA 101-6.2.2.3)
- Fire & Emergency Alarm Systems (FBC-B 907 & 908; FFPC 13.7 & 13.8)
- Smoke Control Systems (FBC-B 909)

# Means of Egress

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- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)

# Means of Egress

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- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5; FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)

# Means of Egress

---

- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5; FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)
- Means of Egress Sizing, Doors & Arrangement (FBC-B 1005-1007; FFPC 14.8-14.11; NFPA 101-7.2, 7.3.3)

# Means of Egress

---

- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5; FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)
- Means of Egress Sizing, Doors & Arrangement (FBC-B 1005-1007; FFPC 14.8-14.11; NFPA 101-7.2, 7.3.3)
- Common Path of Travel (FBC-B Table 1006.2.1; NFPA 101- Ch 12-42 [even numbers])

# Means of Egress

---

- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5 FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)
- Means of Egress Sizing, Doors & Arrangement (FBC-B 1005-1007; FFPC 14.8-14.11; NFPA 101-7.2, 7.3.3.1)
- Common Path of Travel (FBC-B Table 1006.2.1; NFPA 101- Ch 12-42 [even numbers])
- Means of Egress Illumination (FBC-B 1008; FFPC 14.12; NFPA 101-7.8-7.9)

# Means of Egress

---

- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5; FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)
- Means of Egress Sizing, Doors & Arrangement (FBC-B 1005-1007; FFPC 14.8-14.11; NFPA 101-7.2, 7.3.3.1)
- Common Path of Travel (FBC-B Table 1006.2.1; NFPA 101- Ch 12-42 [even numbers]))
- Means of Egress Illumination (FBC-B 1008; FFPC 14.12; NFPA 101-7.8-7.9)
- Doors (FBC-B 1010; FFPC 14.5; NFPA 101-7.2.1)

# Means of Egress

---

- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5; FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)
- Means of Egress Sizing, Doors & Arrangement (FBC-B 1005-1007; FFPC 14.8-14.11; NFPA 101-7.2, 7.3.3.1)
- Common Path of Travel (FBC-B Table 1006.2.1; NFPA 101- Ch 12-42 [even numbers]))
- Means of Egress Illumination (FBC-B 1008; FFPC 14.12; NFPA 101-7.8-7.9)
- Doors, Gates & Turnstiles (FBC-B 1010; FFPC 14.5; NFPA 101-7.2.1)
- Stairs (FBC-B 1011;1019 & 1023; FFPC 14.6; NFPA 101-7.2.2)

# Means of Egress

---

- Area Calculations-Gross, Net, Means of Egress (FBC-B Ch 2)
- Occupant Load (Table 1004.5; FFPC Table 14.8.1.2; NFPA 101-Table 7.3.1.2)
- Means of Egress Sizing, Doors & Arrangement (FBC-B 1005-1007; FFPC 14.8-14.11; NFPA 101-7.2, 7.3.3.1)
- Common Path of Travel (FBC-B Table 1006.2.1; NFPA 101- Ch 12-42 [even numbers]))
- Means of Egress Illumination (FBC-B 1008; FFPC 14.12; NFPA 101-7.8-7.9)
- Doors, Gates & Turnstiles (FBC-B 1010; FFPC 14.5; NFPA 101-7.2.1)
- Stairs (FBC-B 1011;1019 & 1023; FFPC 14.6; NFPA 101-7.2.2)

# Means of Egress

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- Exit Access Travel Distance (FBC-B 1017; NFPA 101- Ch 12-42 [even numbers])
- Corridors (FBC-B 1020; FFPC 14.2; NFPA 101-8.3)
- Exits (FBC-B 1022; FFPC 14.11; NFPA 101-7.10.1.2)
- Exit Passageways (FBC-B 1024; FFPC 14.7)
- Horizontal Exits (FBC-B 1026; FFPC 14.7; NFPA 7.3)
- Exterior Stairs & Ramps (FBC-B 1027; NFPA 101-7.2; FBC-A)
- Exit Discharge (FBC-B 1028; FFPC 14.11; NFPA 7.3)
- Assembly Uses (FBC-B 1029; NFPA 101-Ch 12)

# Other Code Considerations

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- Building Envelope & Exterior Walls (FBC-B Chs 14 & 15)

# Other Code Considerations

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- Building Envelope & Exterior Walls (FBC-B Chs 14 & 15)
- Structural Construction Documents (FBC-B 1603)
  - Floor & Roof Live and Dead Loads (FBC-B 1606 & 1607)
  - Wind Design (FBC-B 1609)
    - Risk Category (FBC-B Table 1604.5)
    - Ultimate Design Wind Speed (Vult – FBC-B 1609.3)
    - Wind Exposure | Surface Roughness (FBC-B 1609.4)
    - Internal Pressure (**ASCE 7**)
    - Design Pressures for Components & Cladding (**ASCE 7**)
    - Geotechnical Information
    - Flood Loads (FBC-B 1612)

# Other Code Considerations

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- Building Envelope & Exterior Walls (FBC-B Chs 14 & 15)
- Product Approval Data (Miami-Dade, Florida Approval Systems)
  - Note Design Responsibility

# Other Code Considerations

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- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note

# Other Code Considerations

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- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)
- Soil Conditions | Analysis (FBC-B 1803)

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)
- Soil Conditions | Analysis (FBC-B 1803)
- Termite Protection (FBC-B 1816)

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)
- Soil Conditions | Analysis (FBC-B 1803)
- Termite Protection (FBC-B 1816)
- Threshold Inspections (FBC-B 107.3.5)
  - Architect and/or Engineer Role

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)
- Soil Conditions | Analysis (FBC-B 1803)
- Termite Protection (FBC-B 1816)
- Threshold Inspections (FBC-B 107.3.5)
  - Architect and/or Engineer Role
- Life Safety Plan (NFPA Chapter 170)

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)
- Soil Conditions | Analysis (FBC-B 1803)
- Termite Protection (FBC-B 1816)
- Threshold Inspections (FBC-B 107.3.5)
  - Architect and/or Engineer Role
- Life Safety Plan (NFPA Chapter 170)
- Special Provisions | Deferred Submittals

# Other Code Considerations

---

- Through Penetration Assemblies (UL, Hilti) (FBC-B 714; ASTM E814)
  - Design Responsibility Note
- Accessible Mounting Heights (FBC-A)
- Plumbing Fixture Count (FBC-P Ch 4)
- Soil Conditions | Analysis (FBC-B 1803)
- Termite Protection (FBC-B 1806)
- Threshold Inspections (FBC-B 107.3.5)
  - Architect and/or Engineer Role
- Life Safety Plan (NFPA Chapter 170)
- Special Provisions | Deferred Permits
- M | E | P Provisions

***HOW DO WE PUT IT  
ALL TOGETHER?***



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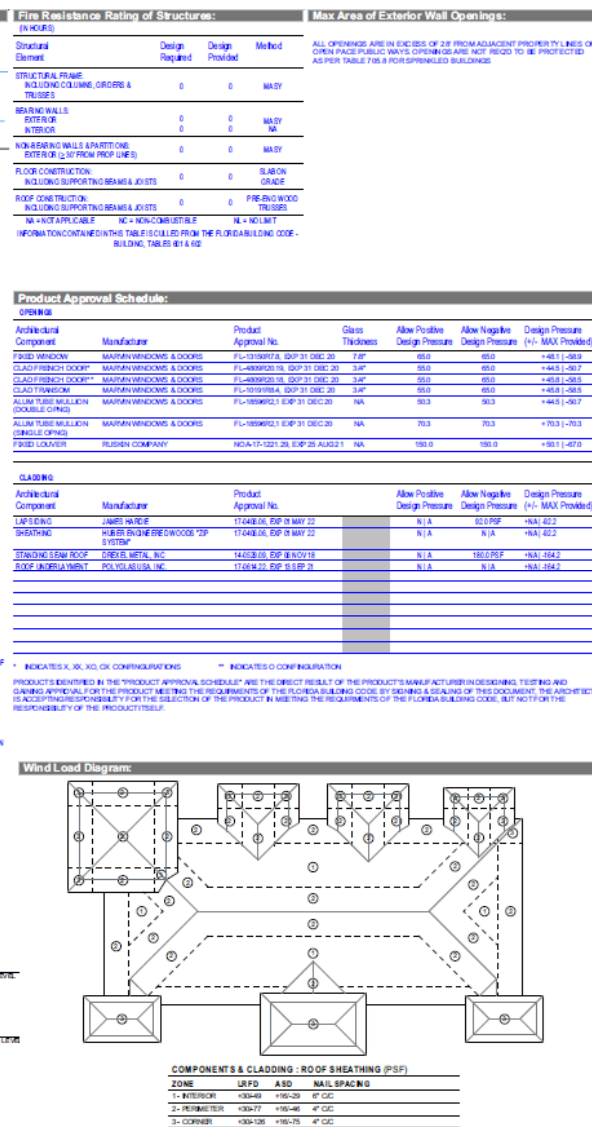
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- Code Compliance Data & Drawings immediately after Index Sheet

- Drawings as per Ch1, FBC-B

- Openings Schedule

[illegible]

# Code Analysis – Basic Code Information

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01. **PROJECT SCOPE:** THE WORK EXTENDS TO NEW DESIGN AND CONSTRUCTION FOR A MIXED-USE, TWO STORY BUILDING. THE GROUND LEVEL WILL COMPRISE RETAIL LEASE SPACE, THE UPPER LEVEL OFFICE LEASE SPACE. THE BUILDING IS THE FIRST BUILT IN AN APPROVED PLANNED MIXED-USE DEVELOPMENT (PMUD). PERMIT IS SOUGHT FOR CORE & SHELL ONLY, TENANT IMPROVEMENT DESIGNS WILL BE SUBMITTED IN SEPARATE PACKAGES.
02. **APPLICABLE CODES:**
- FLORIDA BUILDING CODE - BUILDING (FBC-B), 2020, 7<sup>TH</sup> EDITION
  - FLORIDA BUILDING CODE - ACCESSIBILITY (FBC-A), 2020, 7<sup>TH</sup> EDITION
  - FLORIDA BUILDING CODE - ENERGY CONSERVATION (FBC-E), 2020, 7<sup>TH</sup> EDITION
  - FLORIDA BUILDING CODE - MECHANICAL (FBC-M), 2020, 7<sup>TH</sup> EDITION
  - FLORIDA BUILDING CODE - PLUMBING BUILDING (FBC-P), 2020, 7<sup>TH</sup> EDITION
  - FLORIDA FIRE PROTECTION CODE, 2020, 7<sup>TH</sup> EDITION (FLORIDA VERSION - INCORPORATING NFPA 1 AND 101, 2018 EDITION)
  - NATIONAL ELECTRIC CODE (NEC-NFPA 70), 2017 EDITION

**PROJECT SCOPE:** Be as specific as possible in describing the project.

**APPLICABLE CODES:** Describe the major codes that the building is designed to meet. Sub-codes and standards are spelled out within the major code. List year and edition for clarity.

# Code Analysis – Wind Load Design

---

## 03. DESIGN PARAMETERS FOR WIND LOAD COMPLIANCE:

BUILDING CATEGORY:	II
CODE REFERENCE:	FBC-B CHAP 16 & ASCE-7.16
BUILDING DESIGN:	ENCLOSED
WIND SPEED	165 MPH (Vult, 3 SEC GUST) 128 MPH (Vasd, 3 SEC GUST)
MEAN ROOF HEIGHT:	34'-7"
INTERNAL PRESSURE COEFFICIENT:	+/- 0.18 PSF
EDGE STRIP (a):	8'-1"
END ZONE (2a):	16'-2"
SURFACE ROUGHNESS:	B
WIND EXPOSURE CLASSIFICATION:	D
WIND BORNE DEBRIS ZONE:	YES
ADJUSTMENT FACTOR FOR EXPOSURE & HEIGHT:	1.7

**WIND LOADS:** Consult wind load maps (FBC-B Ch 16 & ASCE 7-16) for wind speeds. Provide structural engineer with architectural parameters. Secure information regarding wind design from structural engineer.

# Code Analysis – Occupancy & Construction

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## 04. OCCUPANCY CLASSIFICATION:

MERCANTILE (RETAIL):

**M** - (FBC-B 309.1; FFPC 6.10; NFPA 101, CLASS B, 36.1.2.2.1 (2))

BUSINESS:

**B** - (FBC-B 304.1; FFPC 6.1.11; NFPA 101 38.1.2)

**FULLY SPRINKLED**

## 05. CONSTRUCTION CLASSIFICATION:

**VB** (FBC-B 601 & 602)

**V (000)** (FFPC 12.2.1; NFPA 220 TABLE 4.1.1)

**OCCUPANCY CLASSIFICATION:** Determine from definitions of types in FBC-B Chapter 3 and NFPA 101, specific chapter for use.

**CONSTRUCTION CLASSIFICATION:** Determine from FBC-B Table 506.2; FFPC Chapter 12 and NFPA 220.

**Cross reference with FBC-B Tables 504.3 and 504.4, 601 & 602**

**\* Sprinkler system should be specified especially for multi-family projects (NFPA 13 versus 13R)**

# Construction Class & Allowable Height & Area

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## 06. HEIGHT & AREA:

MERCANTILE (S) (ALLOWABLE):	60'-0" (FBC-B TABLE 504.3, 504.4)
MERCANTILE (DESIGN):	14'-0";
BUSINESS (S) (ALLOWABLE):	60'-0" (FBC-B TABLE 504.3, 504.4)
BUSINESS (DESIGN):	29'-0"
MERCANTILE (SM) (ALLOWABLE):	27,000 GSF (FBC-B TABLE 506.2)
MERCANTILE (DESIGN):	10,824 GSF (7,762 GSF UNDER AIR)
BUSINESS (SM) (ALLOWABLE):	10,401 GSF (8,250 GSF UNDER AIR)
	<b>NO HEIGHT OR AREA INCREASE SOUGHT</b>

**HEIGHT:** Determine from FBC-B Tables 504.3a, 504.3b and 504.4

**AREA:** Determine from FBC-B Table 506.2

**Cross reference with FBC-B Tables 601 & 602**

**Coordinate with local zoning ordinance as to allowable height**

**\*Specify if the uses are Accessory, Non-separated Occupancies or Separated Occupancies in accordance with FBC-B 508.**

# Occupant Load & Occupancy Separation

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## 07. OCCUPANT LOAD:

MERCANTILE (LOAD FACTOR):

60 GSF/PERSON (FBC-B TABLE 1004.1.2)  
**30 GSF/PERSON** (NFPA 101-TABLE 7.3.1.2)

BUSINESS (LOAD FACTOR):

100 GSF/PERSON (FBC-B TABLE 1004.2.1;  
NFPA101-TABLE 7.3.1.2)

MERCANTILE (DESIGN):

7,762 GSF / 30 GSF/P = **259 PERSONS**

BUSINESS (DESIGN, INCLUDES BALCONIES):

9,103 GSF / 100 GSF/P = **91 PERSONS**

**OCCUPANT LOAD:** Determine whether the load factors are based upon net or gross square footage. Calculate as per the requirements of FBC-B Table 1004 and NFPA 101-Table 7.3.1.2.

Load factors will be needed to determine the required number of plumbing fixtures.

## 08. MIXED-USE: OCCUPANCY SEPARATION:

2 HOURS (FBC-B Table 508.4; NFPA 101-TABLE 6.1.14.1(B)); REDUCED TO 1-HR (NFPA 101-6.1.14.4.3)

**OCCUPANCY SEPARATION:** NFPA 101 usually more restrictive than FBC-B. Refer to NFPA 101-Chapter 6 as basis of design

# Egress Requirements

---

09. **MEANS OF EGRESS SIZING:**

STAIRWAYS:

0.3"/PERSON [91 PERSONS\*0.3 = 27.3"]  
(FBC-B 1005.3.1 & NFPA 101 Table 7.3.3.1)

OTHER MEANS:

0.2"/PERSON (FBC-B 1005.3.2; NFPA 101-  
TABLE 7.3.3.1)

10. **COMMON PATH of TRAVEL:**

DETERMINED AT TENANT IMPROVEMENT  
STAGE

11. **DOOR SIZE (MINIMUM CLEAR OPENING):**

**32"** (FBC-B 1010.1.1; NFPA101-7.2.1.2.3.2)

**EGRESS SIZING:** Determines egress width for stairs, corridors and doors. Determine from FBC-B 1005.3.1 & 2; NFPA 101-Table 7.3.3.1

**COMMON PATH of TRAVEL:** Maximum distance before two means of egress are required. FBC-B Table 1006.2.1 & NFPA 101-Ch's 12-42

**DOOR SIZE:** FBC-B 1010.1.1, NFPA 101-7.2.1.2.3.2 and FBC-A

# Egress Requirements

---

- |                                       |   |
|---------------------------------------|---|
| 12. <b>STAIRWAYS</b> (MINIMUM):       | <b>44"</b> (FBC-B 1011.2; NFPA-101 7.2.2.2.1.2 (b)) |
| 13. <b>TRAVEL DISTANCE</b> (MAXIMUM): |   |
| MERCANTILE:                           | <b>250'</b> (FBC-B 1017.2; NFPA 101-36.2.6.2)       |
| BUSINESS:                             | <b>300'</b> (FBC-B 1017.2; NFPA 101-38.2.6.3)       |

**STAIRWAYS:** Determines clear width between handrails; FBC-B 1011.2 & NFPA 101-7.2.2.2.1.2

**TRAVEL DISTANCE:** Determines maximum distance from the most remote spot in building to *Exit Discharge*. FBC-B 1017.2 and NFPA Ch's 12-42

# Hazard Classification

---

## 14. HAZARD CLASSIFICATION:

MERCANTILE & BUSINESS:

**ORDINARY** (NFPA 101-6.2.2.3)

**HAZARD CLASSIFICATION:** Basis of design for various fire suppression systems including sprinklers. NFPA 101-6.2

# Wind Load Design Criteria

---

## 15. WIND LOAD DESIGN CRITERIA:

- A. DESIGN WIND LOAD ON INDIVIDUAL TRUSSES BASED UPON TRIBUTARY AREA AS FOLLOWS:
- B. SEE ROOF WIND LOAD DIAGRAM FOR ZONE LOCATIONS
- C. MAXIMUM DEAD LOAD UPLIFT SHOWN BELOW IS 8 PSF

ZONE	AREA	POS PRESSURE	NEG PRESSURE
1	10	+40.2	-63.8
1	20	+36.6	-62.0
1	50	+31.9	-59.7
1	100	+28.4	-57.9
2	10	+40.2	-111.1
2	20	+36.6	-102.2
2	50	+31.9	-90.4
2	100	+28.4	-81.5
3	10	+40.2	-164.2
3	20	+36.6	-153.6
3	50	+31.9	-139.5
3	100	+28.4	-128.8

### WALLS:

4	10	+66.9	-74.7
4	20	+65.8	-71.6
4	50	+61.7	-67.5
4	100	+58.6	-64.4
5	10	+68.9	-92.2
5	20	+65.8	-86.0
5	50	+61.7	-77.8
5	100	+58.6	-71.6

# Wind Load Design Criteria

---

## **ROOFING:**

- A. ATTACH ROOFING MATERIALS AS PER MANUFACTURER'S SPECIFICATIONS & DESIGN CRITERIA SHOWN ON THESE DRAWINGS.
- B. METAL ROOFING AS PER MANUFACTURER'S SPECIFICATIONS AND PRODUCT APPROVAL

## **EXTERIOR COMPONENTS ATTACHED TO THE WALL (SIDING, ETC)**

- A. EXTERIOR WALL COMPONENTS SHALL BE ATTACHED PER MANUFACTURER'S REQUIREMENTS TO MEET THE WIND PRESSURES SHOWN.

ZONE	POS PRESSURE	NEG PRESSURE
4	+36.2 PSF	-40.2 PSF
5	+40.4 PSF	-50.0PSF

Verify all of these conditions with your structural engineer or have the engineer supply the design criteria. Tables found in FBC-B Chapter 16 and FBC-R Chapter 3.

# Gravity Loads

---

16. **GRAVITY LOADS (DEAD [UON]):**

FLOOR (GROUND):	100 PSF
FLOOR (UPPER)	50 PSF
LOBBIES	100 PSF
EGRESS BALCONIES	50 PSF
ROOF   DEAD LOAD:	16 PSF
ROOF   LIVE LOAD:	20 PSF
WALL:	18 PSF

17. **SOIL BEARING PRESSURE:**

2,000 PSF

**GRAVITY LOADS:** FBC-B Chapter 16

**SOIL BEARING PRESSURE:** Geotechnical report

# Miscellaneous Provisions

---

**18. LIGHTWEIGHT TRUSS PLACARD:**

IN ACCORDANCE w/ FS 663.027, PLACE  
CONFORMING SIGNAGE AS INDICATED ON  
THE DRAWINGS.

**19. DEFERRED SUBMITTALS (FBC-B 107.3.4.1):**

PRE-ENGINEERED WOOD TRUSSES  
FIRE PROTECTION (SPRINKLERS)

Add any additional provisions that could potentially require further clarification by the plans examiner(s).

# Plumbing Fixtures

---

## 20. PLUMBING FIXTURE REQUIREMENTS: (FBC-P TABLE 403.1)

MERCANTILE OCCUPANCY (REQ'D)	WC U	LAVS	SERVICE SINKS	DRINK FOUNTAINS
	1/500*	1/750*	1/1,000	1/1,000
MERCANTILE (DESIGN)	DESIGN WILL BE DETERMINED AT TIME OF TENANT IMPROVEMENT			
BUSINESS OCCUPANCY (REQ'D)	WC   U	1/25 FOR FIRST 50, 1/50 >50*		
	LAVS	1/40 FOR FIRST 80, 1/80 >80*		
	S SINK	1 (OCCUPANT LOAD >15)		
	DF	1/100		
BUSINESS (DESIGN)	OCCUPANT LOAD:			91 PERSONS
	POTTY PARITY (FBC-P 403.1.1)			46 P/SEX
	ONE ACCESSIBLE TOILET ROOM PER SEX IS PROVIDED FOR EACH SUITE w/ ITS OWN DRINKING FOUNTAIN. ONE SERVICE SINK IS PROVIDED FOR THE ENTIRE BUILDING.			

\* INDICATES THE CODE COVERS THE TOTAL FOR BOTH SEXES COMBINED

# Fire Resistance

## Fire Resistance Rating of Structures:

(IN HOURS)

Structural Element	Design Required	Design Provided	Method
STRUCTURAL FRAME: INCLUDING COLUMNS, GIRDERS & TRUSSES	0	0	MASY
BEARING WALLS:			
EXTERIOR	0	0	MASY
INTERIOR	0	0	NA
NON-BEARING WALLS & PARTITIONS: EXTERIOR (≥ 30' FROM PROP LINES)	0	0	MASY
FLOOR CONSTRUCTION: INCLUDING SUPPORTING BEAMS & JOISTS	0	0	SLAB ON GRADE
ROOF CONSTRUCTION: INCLUDING SUPPORTING BEAMS & JOISTS	0	0	PRE-ENG WOOD TRUSSES
NA = NOT APPLICABLE	NC = NON-COMBUSTIBLE	NL = NO LIMIT	

INFORMATION CONTAINED IN THIS TABLE IS CULLED FROM THE FLORIDA BUILDING CODE - BUILDING, TABLES 601 & 602

## Max Area of Exterior Wall Openings:

ALL OPENINGS ARE IN EXCESS OF 28' FROM ADJACENT PROPERTY LINES OR OPEN SPACE PUBLIC WAYS. OPENINGS ARE NOT REQ'D TO BE PROTECTED AS PER TABLE 705.8 FOR SPRINKLED BUILDINGS

# Product Approvals

## Product Approval Schedule:

### OPENINGS

Architectural Component	Manufacturer	Product Approval No.	Glass Thickness	Allow Positive Design Pressure	Allow Negative Design Pressure	Design Pressure (+/- MAX Provided)
FIXED WINDOW	MARVIN WINDOWS & DOORS	FL-13150R7.8, EXP 31 DEC 20	7/8"	65.0	65.0	+48.1   -58.9
CLAD FRENCH DOOR*	MARVIN WINDOWS & DOORS	FL-4809R20.19, EXP 31 DEC 20	3/4"	55.0	65.0	+44.5   -50.7
CLAD FRENCH DOOR**	MARVIN WINDOWS & DOORS	FL-4809R20.18, EXP 31 DEC 20	3/4"	55.0	65.0	+45.8   -58.5
CLAD TRANSOM	MARVIN WINDOWS & DOORS	FL-10191R8.4, EXP 31 DEC 20	3/4"	55.0	65.0	+45.8   -58.5
ALUM TUBE MULLION (DOUBLE OPNG)	MARVIN WINDOWS & DOORS	FL-18596R2.1 EXP 31 DEC 20	NA	50.3	50.3	+44.5   -50.7
ALUM TUBE MULLION (SINGLE OPNG)	MARVIN WINDOWS & DOORS	FL-18596R2.1 EXP 31 DEC 20	NA	70.3	70.3	+70.3   -70.3
FIXED LOUVER	RUSKIN COMPANY	NOA-17-1221.29, EXP 25 AUG 21	NA	150.0	150.0	+50.1   -67.0

### CLADDING:

Architectural Component	Manufacturer	Product Approval No.		Allow Positive Design Pressure	Allow Negative Design Pressure	Design Pressure (+/- MAX Provided)
LAP SIDING	JAMES HARDIE	17-0406.06, EXP 01 MAY 22		N   A	92.0 PSF	+NA   -92.2
SHEATHING	HUBER ENGINEERED WOODS "ZIP SYSTEM"	17-0406.06, EXP 01 MAY 22		N   A	N   A	+NA   -92.2
STANDING SEAM ROOF	DREXEL METAL, INC	14-0529.09, EXP 06 NOV 18		N   A	180.0 PSF	+NA   -164.2
ROOF UNDERLAYMENT	POLYGLAS USA, INC.	17-0614.22, EXP 13 SEP 21		N   A	N   A	+NA   -164.2

\* INDICATES X, XX, XO, OX CONFIGURATIONS

\*\* INDICATES O CONFIGURATION

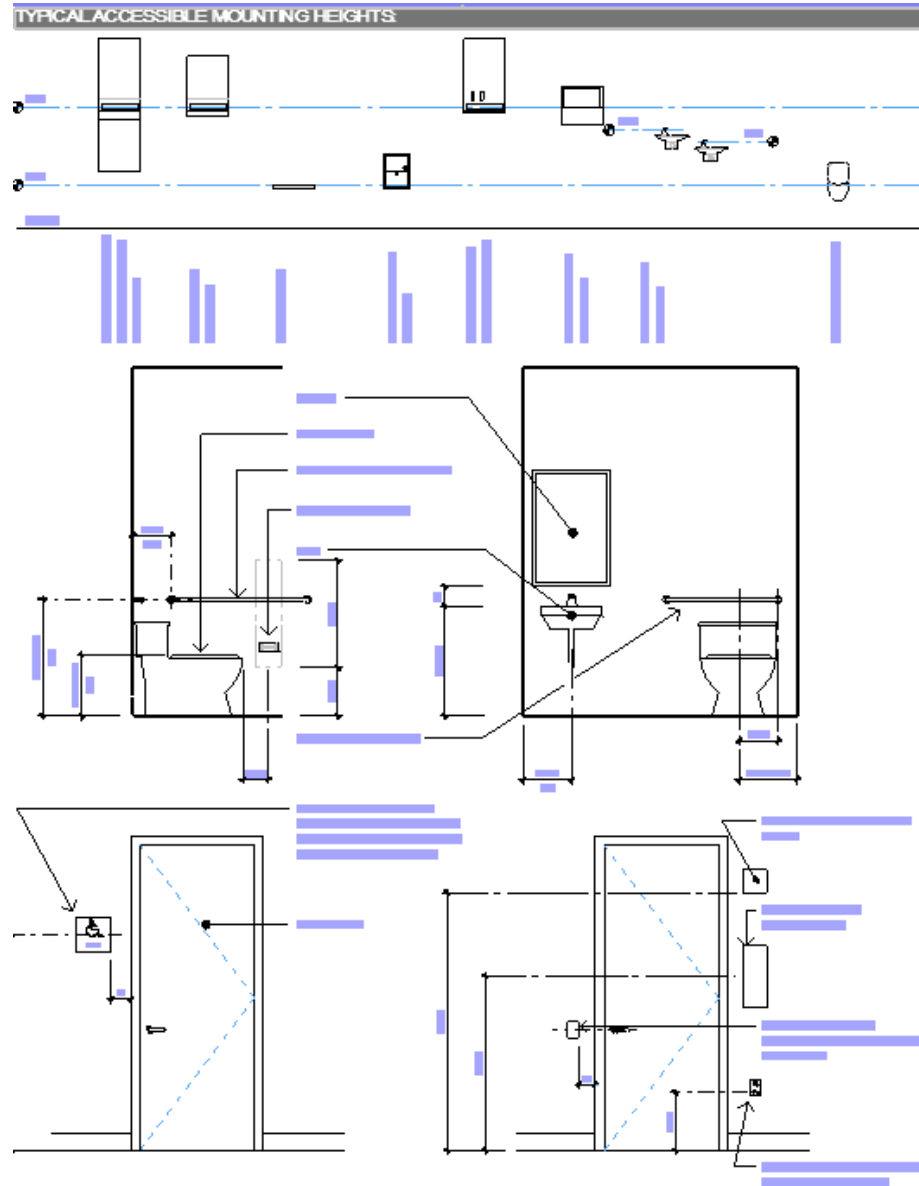
PRODUCTS IDENTIFIED IN THE "PRODUCT APPROVAL SCHEDULE" ARE THE DIRECT RESULT OF THE PRODUCT'S MANUFACTURER IN DESIGNING, TESTING AND GAINING APPROVAL FOR THE PRODUCT MEETING THE REQUIREMENTS OF THE FLORIDA BUILDING CODE. BY SIGNING & SEALING OF THIS DOCUMENT, THE ARCHITECT IS ACCEPTING RESPONSIBILITY FOR THE SELECTION OF THE PRODUCT IN MEETING THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, BUT NOT FOR THE RESPONSIBILITY OF THE PRODUCT ITSELF.

# Product Approvals

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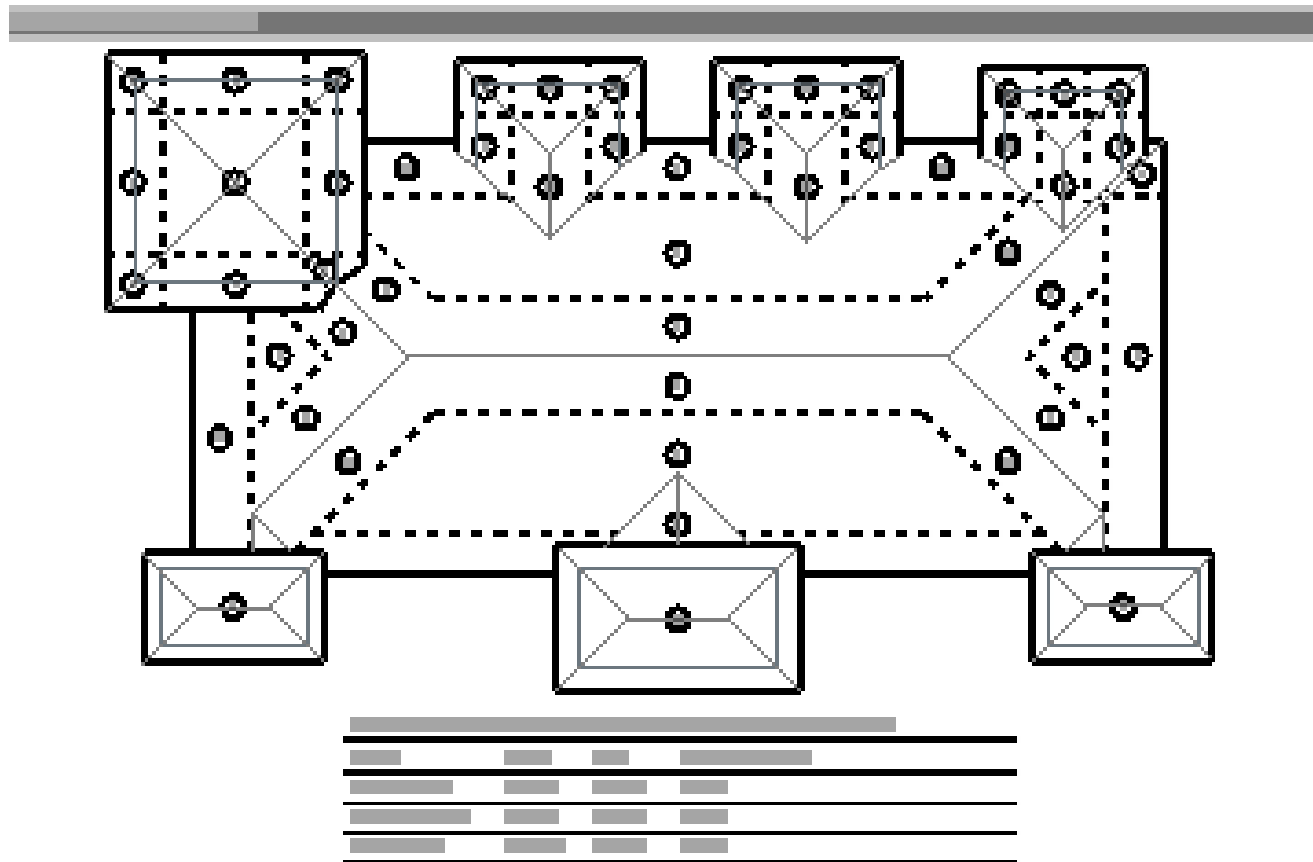
- **DISCLAIMER**
  - Disavow product design responsibility
  - Accept responsibility for meeting the code
- **SAMPLE LANGUAGE:** “Products identified in the **PRODUCT APPROVAL SCHEDULE** are the direct result of the product’s manufacturer in designing, testing and gaining approval for the product meeting the requirements of the Florida Building Code. By signing and sealing this document, the Architect is accepting responsibility for the selection of the product in meeting the requirements of the Florida Building Code, but not for the responsibility of the product itself.
- **CONSULT YOUR ATTORNEY**

# Typical Mounting Heights



# Wind Load Diagram:

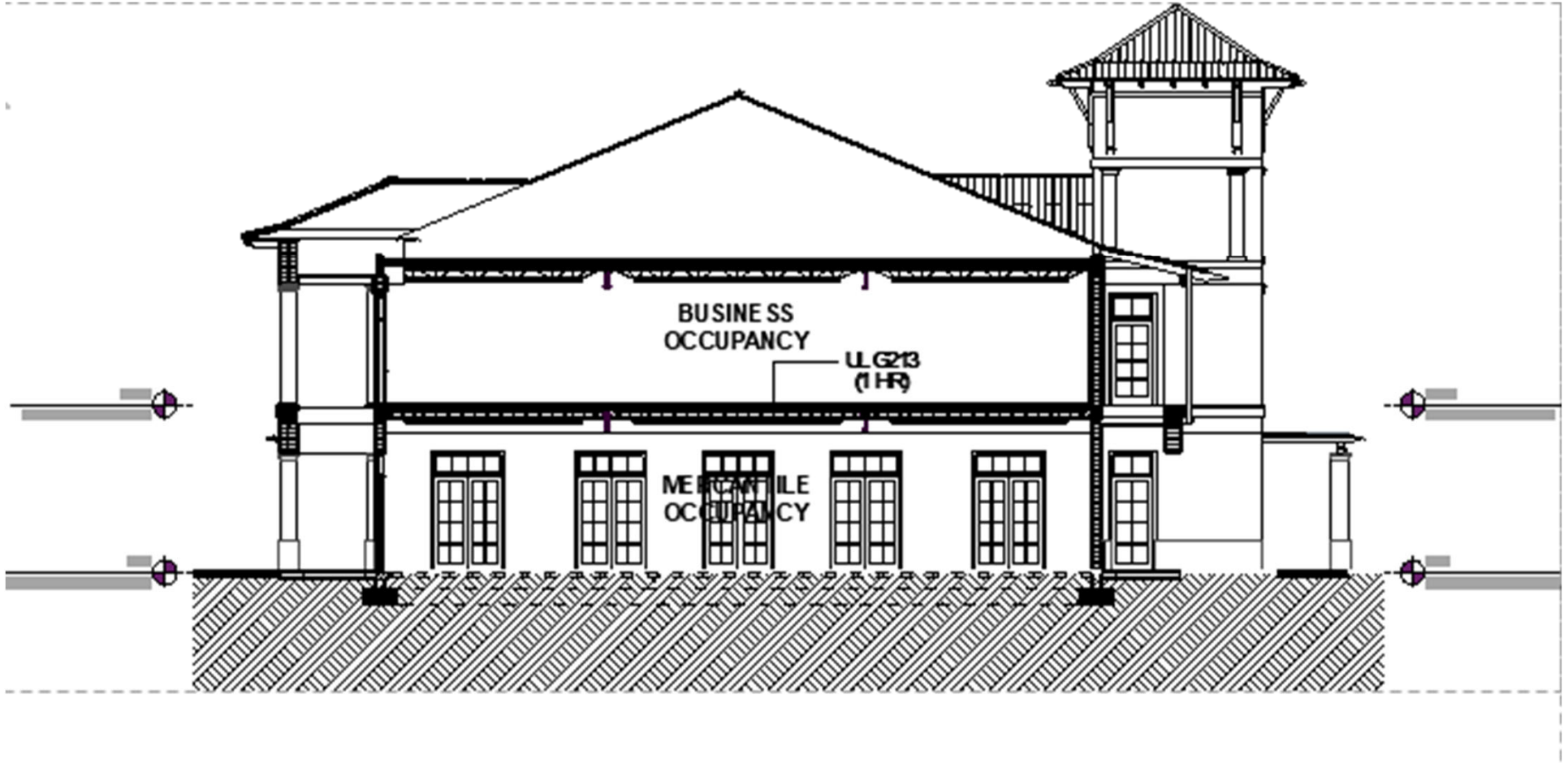
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# NFPA 170:

Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
	SMOKE BEARER WALL		EGRESS COMPONENT EX# = EXIT NUMBER HE = HORIZONTAL EXIT EP = EXIT PASSAGEWAY CP = COMMON PATH TRAVEL PD = PUBLIC DISCHARGE RD = ROOM DISCHARGE		NON-RATED SMOKE RESISTANT FIRE DOOR		60 MIN FIRE RATED DOOR
	30 MIN FIRE BARRIER						
	30 MIN FIRE/SMOKE BEARRIER WALL						
	45 MIN FIRE BEARRIER WALL		EGRESS COMPONENT CAPACITY		20 MIN FIRE-RATED DOOR		60 MIN FIRE-RATED SMOKE RESISTANT DOOR
	45 MIN FIRE/SMOKE BEARRIER WALL		GOVERNING COMPONENT CAPACITY				
	1 HR FIRE BEARRIER WALL		TRAVEL DISTANCE LEFT SIDE DISTANCE TO COMPONENT, RIGHT SIDE EXIT IDENTIFIER		20 MIN FIRE-RATED SMOKE RESISTANT DOOR		90 MIN FIRE RATED DOOR
	1 HR FIRE/SMOKE BEARRIER WALL						
	2 HR FIRE BEARRIER WALL		OCCUPANCY CAPACITY:				
	2 HR FIRE WALL		CAPACITY				
	120 MIN FIRE/SMOKE BEARRIER WALL		AREA OF SPACE		30 MIN FIRE RATED DOOR		90 MIN FIRE-RATED SMOKE RESISTANT DOOR
	3 HR FIRE BEARRIER WALL		OCCUPANT LOAD FACTOR				
	3 HR FIRE WALL		EXIT		30 MIN FIRE-RATED SMOKE RESISTANT DOOR		2 HR FIRE RATED DOOR
	3 HR FIRE/SMOKE BEARRIER WALL		EXIT ACCESS				
	4 HR FIRE BEARRIER WALL		EXIT DISCHARGE		45 MIN FIRE RATED DOOR		2 HR FIRE-RATED SMOKE RESISTANT DOOR
	4 HR FIRE WALL		BATTERY POWERED, EMERGENCY LIGHT FIXTURE				
	4 HR FIRE/SMOKE BEARRIER WALL		CEILING MOUNTED EXIST SIGN (SHADED AREA INDICATES LIT FACE)		45 MIN FIRE-RATED SMOKE RESISTANT DOOR		3 HR FIRE RATED DOOR
	ELEVATOR IN COMBUSTIBLE SHAFT		WALL MOUNTED EXIST SIGN (SHADED AREA INDICATES LIT FACE)				
	ELEVATOR IN NONCOMBUSTIBLE SHAFT				45 MIN FIRE-RATED SMOKE RESISTANT DOOR		3 HR FIRE RATED DOOR
	OPEN HOISTWAY		CEILING MOUNTED, DBL ILLUMINATED FACE EXIST SIGN (SHADED AREA INDICATES LIT FACE)				
	PARAPET WALL (ONE LINE FOR EVERY 6" ABOVE ROOF)				COMBINATION HORN   STROBE FIRE ALARM CD = CANDELA RATING		COMBINATION SPEAKER   STROBE FIRE ALARM CD = CANDELA RATING W = WATTAGE
	FIRE ALARM PULL STATION						
	AUDIBLE FIRE ALARM						

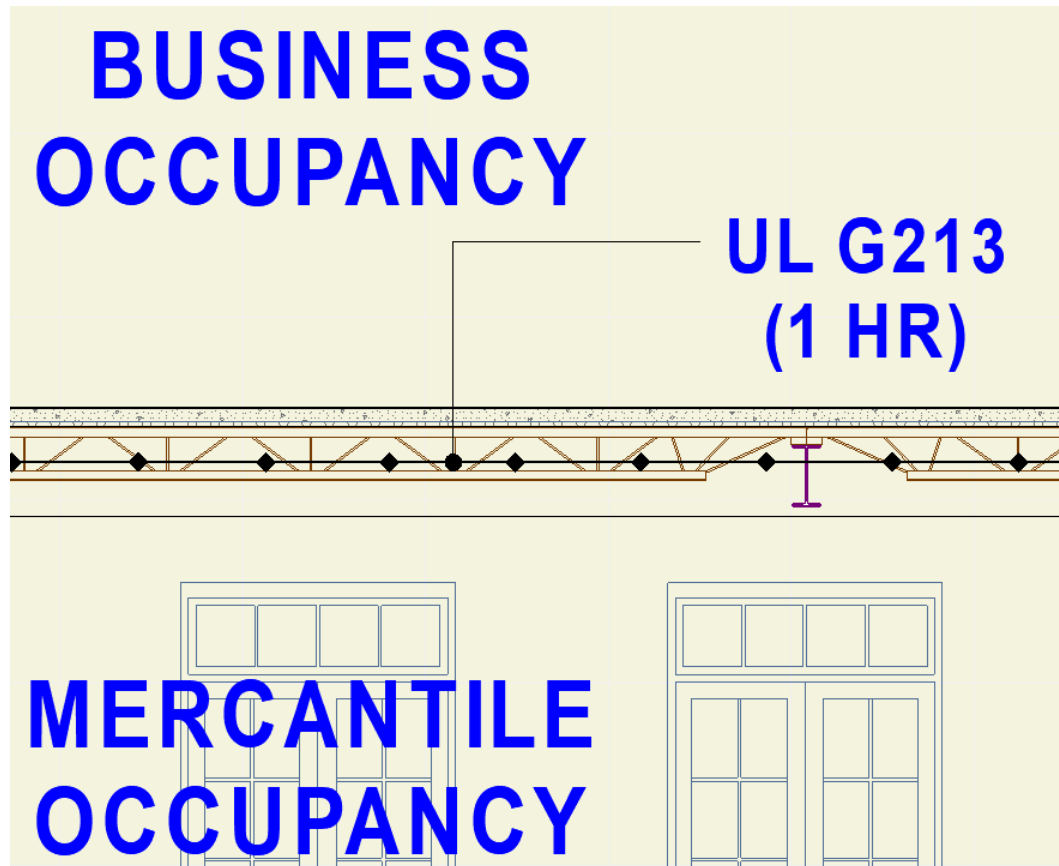
# Occupancy Separation Diagram:



Building cross-section indicated occupancy groups and how the separation is accomplished.

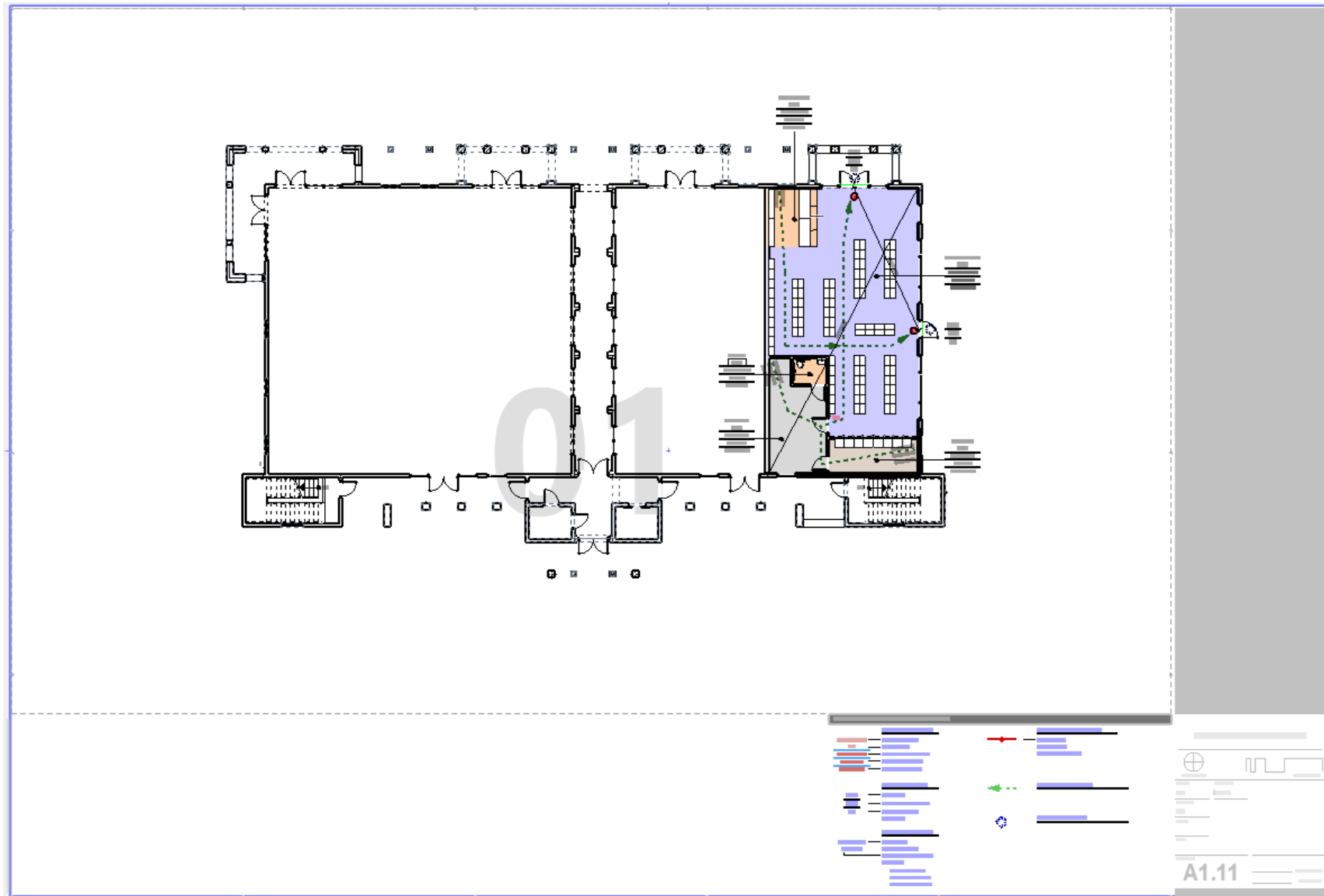
# Occupancy Separation Diagram:

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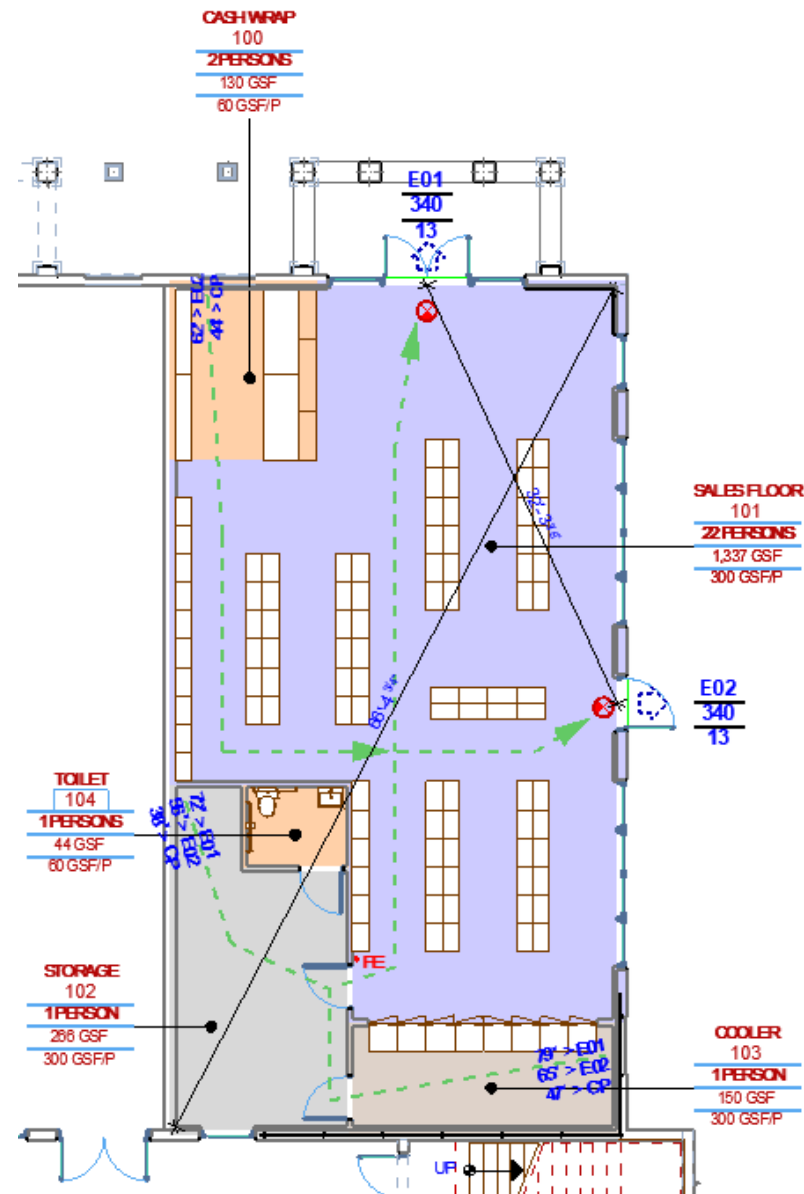


- Identify Occupancy Classifications
- Use appropriate rating symbol(s)
- Identify Separation Assembly

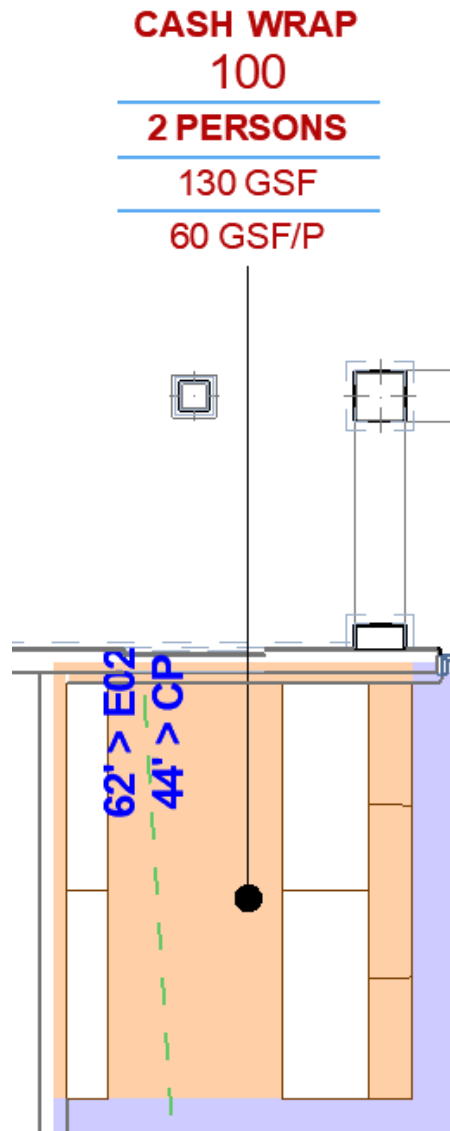
# Code Compliance Plan:



# Code Compliance Plan:



# Code Compliance Plan: Occupancy Load

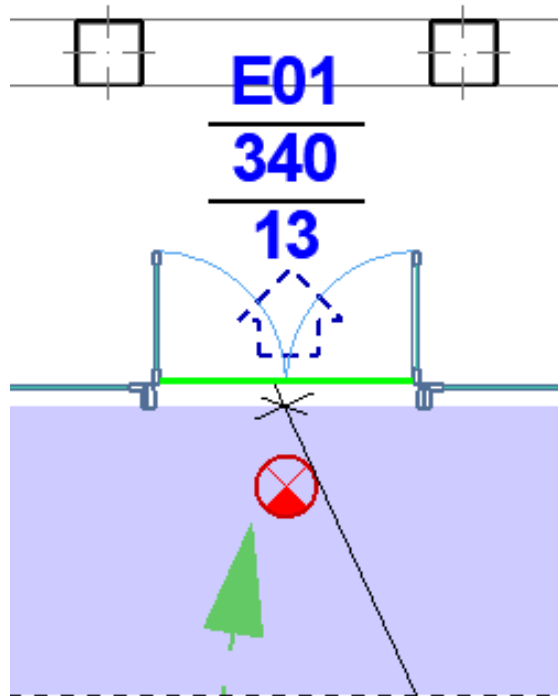


- Room (Space) Name
- Room (Space) Number
- Occupant Load
- Area of Room (Space)
- Occupant Load Factor

Information from FBC-B Table 1004.1 & NFPA 101 – 7.3.1.2. Organization of Information per NFPA 170

# Code Compliance Plan: Exit Information

---

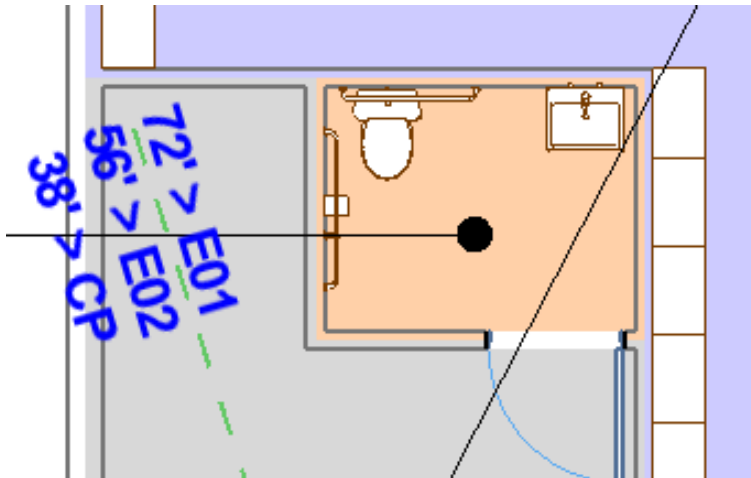


- Heavy Line-weight (Green)  
Exit Type Indicator
- Exit Identification Number
- Maximum Occupant Load  
of Exit
- Occupants Served by Exit

Organization of Information per NFPA  
170

# Code Compliance Plan: Travel Distance

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- Distance to Required Exits (in Feet)
- > (from NFPA 170)
- Exit Location
- Identify Common Path of Travel (CP) if Applicable

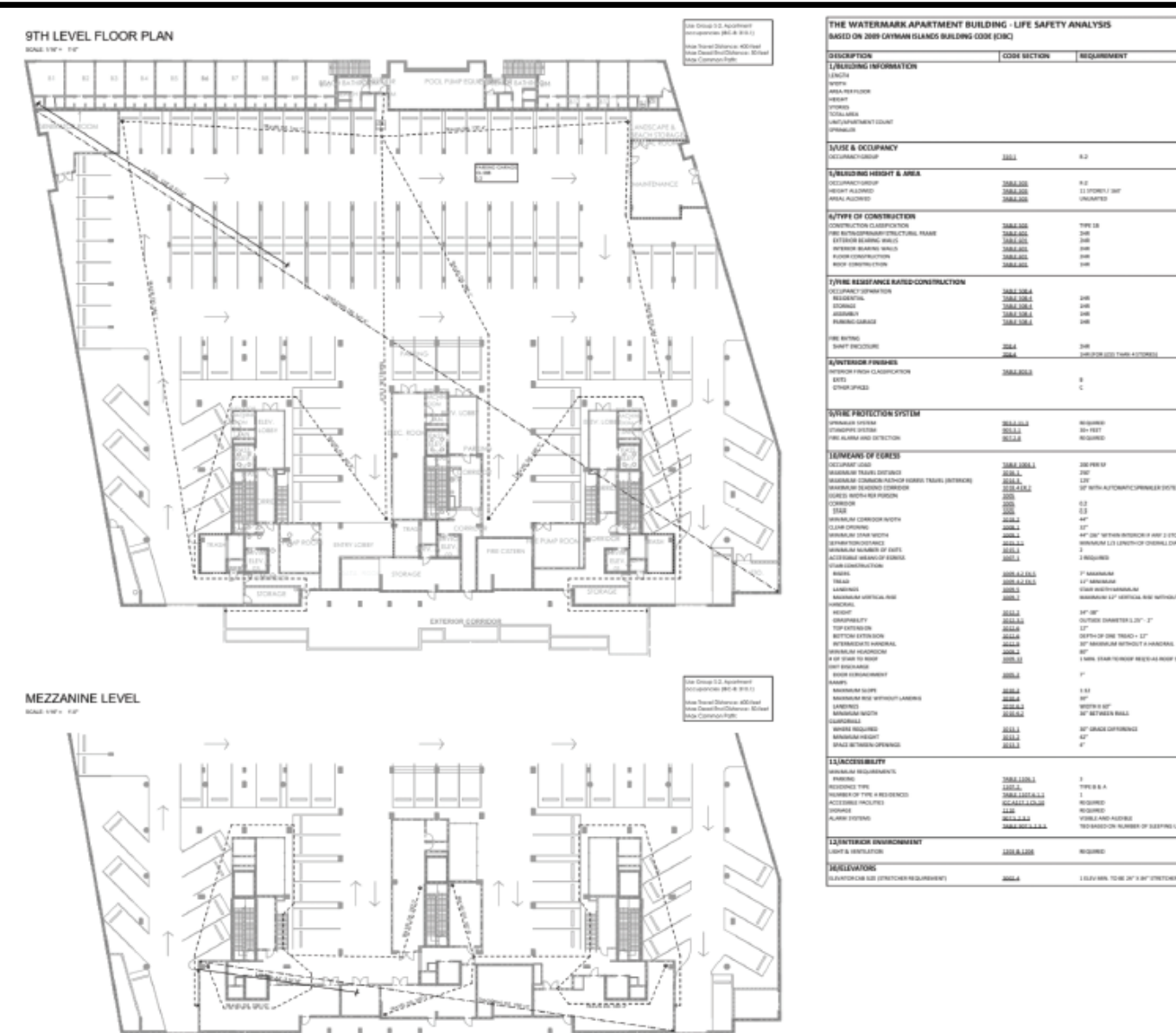
Organization of Information per NFPA 170

# Code Compliance Plan: Miscellaneous Info

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- Exit Signs
- Audible & Visual Alarms
- Fire Alarm Pull Stations
- Fire Extinguisher Locations – Radius Served
- Location of Exits (Separation Distance)






# Code Compliance Plan (Life Safety Plan)

THE WATERMARK APARTMENT BUILDING - LIFE SAFETY ANALYSIS BASED ON 2009 CAYMAN ISLANDS BUILDING CODE (CIBC)		
DESCRIPTION	CODE SECTION	REQUIREMENT
<b>1/BUILDING INFORMATION</b>		
LENGTH		
WIDTH		
AREA PER FLOOR		
HEIGHT		
STORIES		
TOTAL AREA		
UNIT/APARTMENT COUNT		
SPRINKLER		
<b>3/USE &amp; OCCUPANCY</b>		
OCCUPANCY GROUP	<u>310.1</u>	R-2
<b>5/BUILDING HEIGHT &amp; AREA</b>		
OCCUPANCY GROUP	<u>TABLE 503</u>	R-2
HEIGHT ALLOWED	<u>TABLE 503</u>	11 STOREY / 160'
AREAL ALLOWED	<u>TABLE 503</u>	UNLIMITED
<b>6/TYPE OF CONSTRUCTION</b>		
CONSTRUCTION CLASSIFICATION	<u>TABLE 503</u>	TYPE 1B
FIRE RATINGSPRIMARY STRUCTURAL FRAME	<u>TABLE 601</u>	2HR
EXTERIOR BEARING WALLS	<u>TABLE 601</u>	2HR
INTERIOR BEARING WALLS	<u>TABLE 601</u>	2HR
FLOOR CONSTRUCTION	<u>TABLE 601</u>	2HR
ROOF CONSTRUCTION	<u>TABLE 601</u>	1HR
<b>7/FIRE RESISTANCE RATED CONSTRUCTION</b>		
OCCUPANCY SEPARATION	<u>TABLE 508.4</u>	
RESIDENTIAL	<u>TABLE 508.4</u>	1HR
STORAGE	<u>TABLE 508.4</u>	1HR
ASSEMBLY	<u>TABLE 508.4</u>	1HR
PARKING GARAGE	<u>TABLE 508.4</u>	1HR
FIRE RATING		
SHAFT ENCLOSURE	<u>708.4</u>	2HR
	<u>708.4</u>	1HR (FOR LESS THAN 4 STORIES)
<b>8/INTERIOR FINISHES</b>		
INTERIOR FINISH CLASSIFICATION	<u>TABLE 803.9</u>	
EXITS		B
OTHER SPACES		C




**FIRE RATED ASSEMBLIES  
SCHEDULE**


---



Graphic: Circular



Graphic: Circular



Graphic: Circular

Drawn: \_\_\_\_\_ Proj. No. \_\_\_\_\_

GJB \_\_\_\_\_ 1332 00 \_\_\_\_\_

Checked: \_\_\_\_\_

GJB \_\_\_\_\_

Exam: \_\_\_\_\_

Date: \_\_\_\_\_

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Drawn No. \_\_\_\_\_

# A1.02

\_\_\_\_\_ Certificate No. \_\_\_\_\_

\_\_\_\_\_ Date Issued \_\_\_\_\_

# Through-penetration Assemblies

**CLASSIFIED**  
C UL US

Classified by  
Underwriters Laboratories, Inc.  
to UL 1479 and CAN/ULC-S115

**System No. F-E-1004**

ANSI/UL 1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 Hr
	FTH Rating — 0 Hr

FE 1004

**SECTION A-A**

1. Floor-Ceiling Assembly — The 1 hr fire rated concrete and steel joist Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual G500 Series Design in the UL Fire Resistance Directory, as summarized below:

A. Concrete Floor — Normal weight or lightweight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete over metal lath or steel deck as specified in the individual G500 Series Design. Diam of floor opening to be max 1 in (25 mm) larger than OD of through penetrant.

B. Joists — Steel joists or Structural Steel Members\* as specified in the individual G500 Series Design.

C. Gypsum board\* — Min 5/8 in. (16 mm) thick, screw-attached to furring channels as specified in the individual G500 Series Design. Diam of ceiling opening to be max 1 in. (25 mm) larger than OD of through penetrant.

2. Through Penetrant — One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the opening. Annular space to be min 1/4 in. (6 mm) to max 3/4 in. (19 mm). Penetrant to be located approx midway between joists and rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of metallic pipes, conduits or tubes may be used:

A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.

B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.

C. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.

D. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. Fill, Void or Cavity Materials\* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with bottom surface of gypsum board.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

**HilTI Firestop Systems**

Reproduced by HILTI, Inc. Courtesy of  
Underwriters Laboratories, Inc.  
January 21, 2015

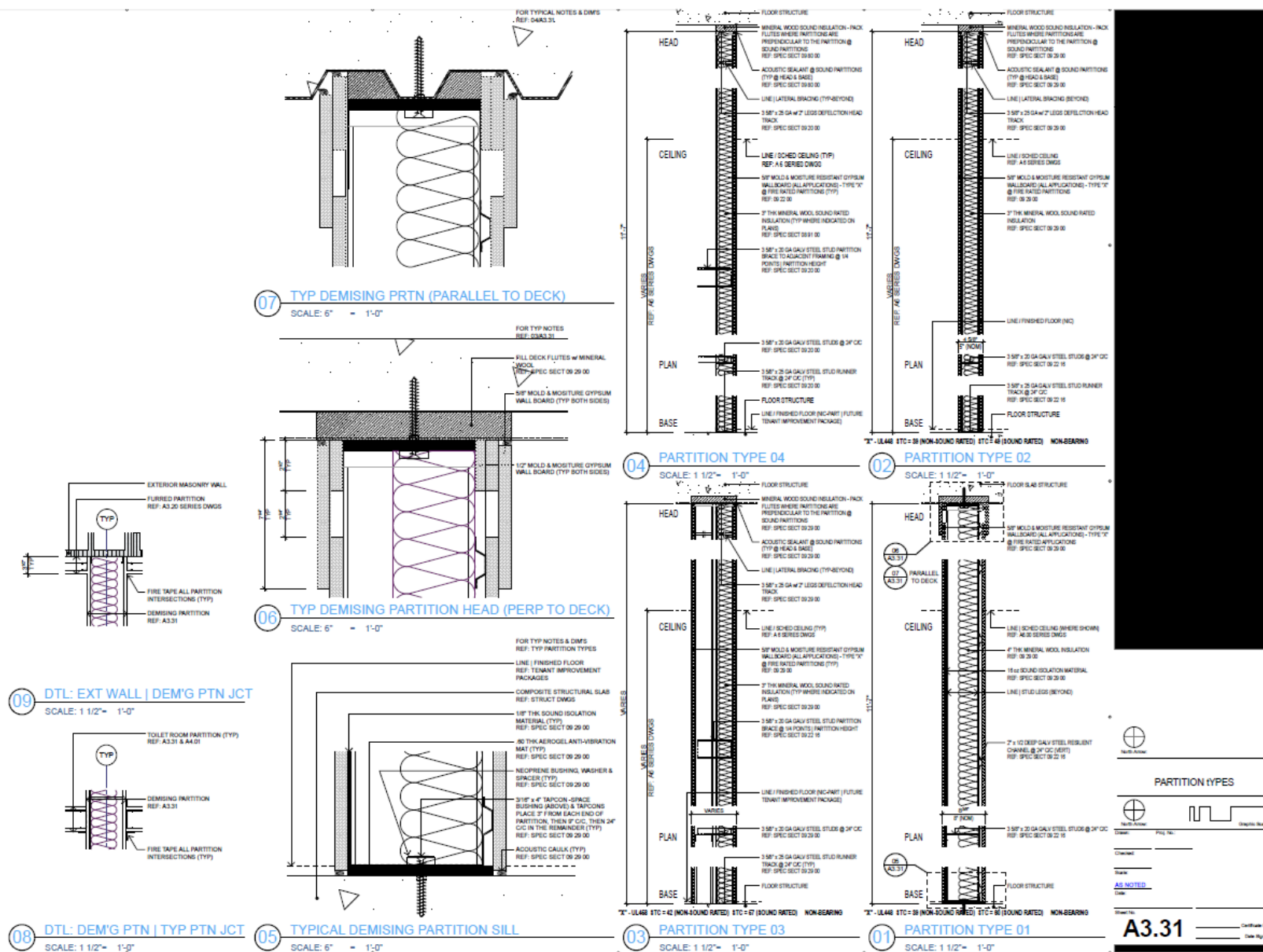
- Group with Code Data
- Provide Authority Note

# Through-penetration Assemblies

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- **DISCLAIMER**
  - Disavow product design responsibility
  - Accept responsibility for meeting the code
- **SAMPLE LANGUAGE:** “Products identified in the THRU-PENETRATION ASSEMBLY SCHEDULE are the direct result of the product’s manufacturer in designing, testing and gaining approval for the product meeting the requirements of the Florida Building Code. By signing and sealing this document, the Architect is accepting responsibility for the selection of the product in meeting the requirements of the Florida Building Code, but not for the responsibility of the product itself.
- **CONSULT YOUR ATTORNEY**

# Rated Assemblies - Partitions



\_\_\_\_\_



# Rated Assemblies – Floor | Ceiling

## Design No. G502

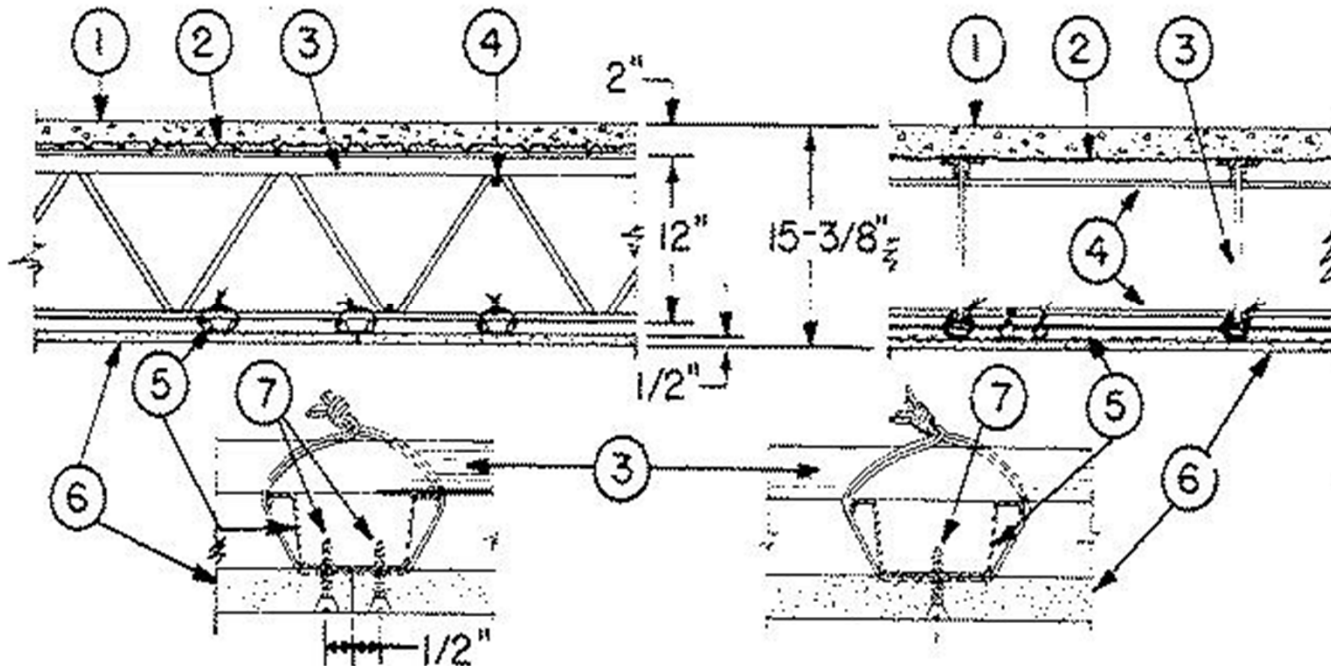
October 08, 2018

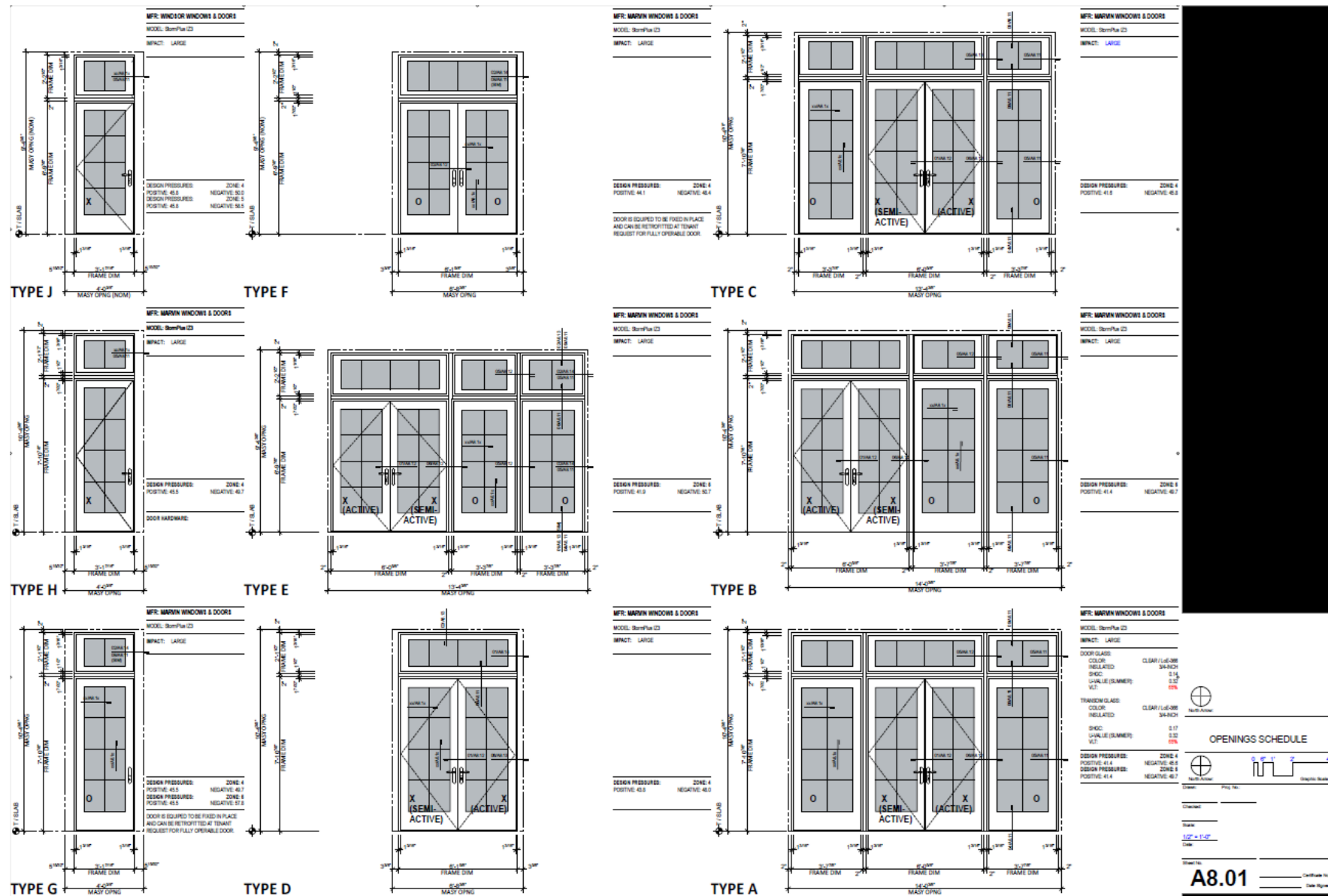
Restrained Assembly Rating – 1-1/2 Hr.

Unrestrained Assembly Rating – 1-1/2 Hr.

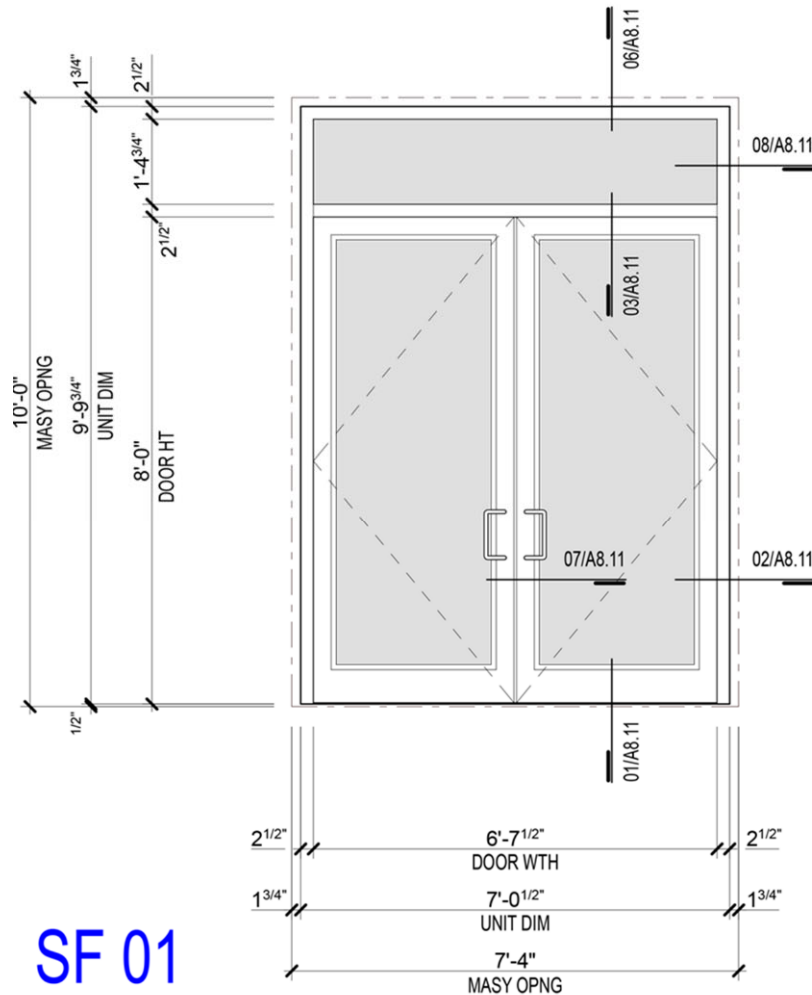
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used – See Guide [BXUV](#) or [BXUV7](#)

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.





# Openings



<b>MFR:</b> KAWNEER	<b>MODEL:</b> 350/500IR
<b>UNIT SIZE:</b>	<b>MASY OPNG:</b>
84.5" x 117.75" x 5"	88" x 120"
<b>GLASS:</b> DOOR	<b>GLASS:</b> TRANSOM
IMPACT: LARGE COLOR: CLEAR,LOW-E INSULATED: YES, 1"	IMPACT: LARGE COLOR: CLEAR,LOW-E INSULATED: YES, 1 5/16"
<b>HEAT GAIN</b> RELATIVE HEAT GAIN = 68 SHADING COEFF=0.32 SHGC = 0.28 LIGHT-TO SOLAR GAIN = 1.92	<b>HEAT GAIN</b> RELATIVE HEAT GAIN = 68 SHADING COEFF=0.32 SHGC = 0.28 LIGHT-TO SOLAR GAIN = 1.92
<b>U-VALUE</b> SUMMER (AIR) = 0.27	<b>U-VALUE</b> SUMMER (AIR) = 0.27
<b>TRANSMISSION:</b> VLT: 54% UV: 16% SOLAR ENERGY: 24%	<b>TRANSMISSION:</b> VLT: 54% UV: 16% SOLAR ENERGY: 24%
<b>DESIGN PRESSURES:</b>	
POSITIVE: 28.3 NEGATIVE: 31.0 ZONE: 4	
<b>DOOR HARDWARE:</b>	
PULL: (2) KAWNEER CO-12" ; DARK BRONZE PANIC DEVICE: (2) FALCON 1690 WITH MORTISED CYLINDER LOCK CLOSER: (2) LCN 4040XP, ADJUSTABLE HOLD-OPEN; POWDER COAT - MATCH DOOR HINGES: 4 PR. MFR'S STD BUTT; STAINLESS STEEL ACTIVE LEAF LOCK: ADAMS-RITE 1850A-500 INACTIVE LEAF LOCK: "CONTROLLER" 3-POINT LOCKING SYSTEM THRESHOLD: MFR'S 1/2" x 6 3/4" WEATHERSTRIPPING: MFR'S STD BOTTOM DOOR SWEEP	

# Site Requirements

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- Site Access | Accessible Routes (FBC-A 206 & 402)
- Parking (FBC-A 208, 502 )
- Fire Access (FFPC 18.2)
- Fire Hydrant | Water Supply | Post Valve Indicators (FFPC 18.3)
- Building Separation (Assumed Property Lines) (FBC-B 705.3)
- Flood Hazard | Flood Zones | Design Flood Elevation (FBC-B 107.2.5)

# Special Systems

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- Stairs (FBC-B 1011; NFPA 101 – 7.2.2)
- Elevators (FBC-A 407; FBC-B Ch 30)
- Escalators | Moving Walkways (FBC-B 3004)
- Platform Lifts (FBC-A 410)

# Interiors

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- Interior Finishes [Flame Spread | Smoke Developed] (FBC-B Ch8; NFPA 101 – Chs by Occupancy)
- Ventilation (FBC-B 1203)
- Light(FBC-B 1205)
- Sanitation (FBC-B 1210)

# Swimming Pools

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- Barriers (FBC-B 454.1.3.1.9)
- Spas (FBC-B 454.1.8)
- Wading Pools | Interactive Water Features (FBC-B 454.1.7)

# Existing Buildings

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- Design Methodology [Prescriptive, Work Area or Performance] (FBC-E 301.1)
- Must use one of the three methods above
- Occupancy (FBC-E 302.5; FBC-B Ch 3)
- Classification of Work
  - Repairs (FBC-E CH 4)
  - Level 1 (FBC-E 602, Ch 7)
  - Level 2 (FBC-E 603, Chs 7 & 8)
  - Level 3 (FBC-E 604, Chs 7, 8 & 9)
- Change of Occupancy (FBC-E 506, 605, CH 10 & FFPC 10.3.4)
- Additions (FBC-E 606, CH 11)

# Existing Buildings

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- **Prescriptive Design Methodology** (FBC-E Ch 5; FFPC 4.3.1)
  - Simplest method for compliance with FBC
  - A “recipe” for the work – material & installation
  - Relies on visual inspection & enforcement
  - Least cost solution

# Existing Buildings

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- **Work Area Design Methodology** (FBC-E Chs 7-13)
  - Portion or portion(s) of building worked on
  - Excludes other portions of building where incidental work entailed by intended work must be performed
  - Work not initially intended by Owner, but specifically required by this code

# Existing Buildings

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- **Performance Design Methodology (FBC-E Ch 14)**
  - Increases (exceeds) the Prescriptive Code
  - Allows for creative solutions
  - Does not require full compliance FBC-E Chs 5-13
  - Must comply with FFPC & flood hazard provisions
  - Compliance determined by Building Official
  - Structural Investigation & Evaluation required
    - Fire Safety
    - Means of Egress
    - General Safety
  - Scorecard used to determine approval

# Acknowledgements

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