

SELECT CODE REFERENCES

Code sections referenced here are not intended to be a complete listing of all applicable sections.

Chapter 3: Use and Occupancy Classification

- 303.1.2 Spaces generally used for assembly purposes, but less than 750 SF or with less than 50 occupants that are necessary to another occupancy shall not be classified as Assembly occupancies; instead they shall be classified as Group B occupancy or as part of the occupancy of which they are accessory.
- 303.3 Assembly Group A-2 (dining spaces)
- 303.4 Assembly Group A-3 (recreation spaces)
- 304.1 Business Group B (offices)
- 308.3 Institutional Group I-1, Condition 2 (supervised environment for more than 16 persons receiving custodial care).
- 310.4 Residential Group R-2
- 311.1.1 Storage spaces less than 100 SF are considered accessory
- 311.2 Moderate-hazard storage, Group S-1 (storage spaces greater than 100 SF)
- 311.3 Low-hazard storage, Group S-2 (open parking garage)

Chapter 4: Special Detailed Requirements Based on Use and Occupancy

Section 406: Motor-Vehicle-Related Occupancies

- 406.4 The garage is classified as open and shall comply with the provisions of 406.4.1 through 406.4.6, as well as 406.5.
- 406.4.1 The clear height shall be not less than 7 feet. Vehicle and pedestrian areas accommodating van-accessible parking shall comply with Section 1106.5.
- 406.5.1 Open parking garage is of Type IIB construction.
- 406.5.2 Openings are uniformly distributed on three sides. Area of openings is greater than 20% of the total perimeter wall area.
- 1,211 SF / 5,192 SF = 23.3%
- Aggregate length of the openings is greater than 40% of the total perimeter.
- 174'-10" / 386'-8" = 45.2%
- 406.5.4 The area allowed for open parking garages constructed of Type IIB construction is unlimited per Table 406.5.4 and shall not exceed 12 tiers with ramp access or 18 tiers for mechanical access with an automatic sprinkler system.

Section 420: Groups I-1, R-1, R-2, R-3 and R-4

- 420.2 Separation walls in R-2 assemblies between dwellings and other occupancies shall be 1 hr fire partitions.
- 420.3 Horizontal separation: Floor assemblies separating dwelling units from each other shall be 1 hr rated assemblies.
- 420.4 Smoke barriers shall be provided with Group I-1, Condition 2, to subdivide every story used by persons receiving care, treatment or sleeping and to provide other stories with an occupant load of 50 or more persons, into no fewer than two smoke compartments, none with an area greater than 22,500 square feet and the travel distance from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet.
- 420.4.1 Refuge areas shall be provided within each smoke compartment, sized to accommodate the occupants and care recipients from the adjoining smoke compartment. Where a smoke compartment is adjoined by two or more smoke compartments, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments. The size of refuge area shall provide not less than 15 net square feet for each care recipient and not less than 6 net square feet for other occupants.
- 420.5 Automatic sprinkler system: Group R shall be equipped with an automatic sprinkler system in accordance with Section 903.2.6. Group I-1 occupancies shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.2.6. Quick-response or residential automatic sprinklers shall be installed in accordance with Section 903.3.2.
- 420.6 Fire alarm systems and smoke alarm shall be provided in Group R-2 in accordance 907.2.9

Location	Gross Sq Ft	Smoke Comp ¹			Occupants			Refuge Area			SF Provided ³
		Rqd	Prvd	Care Rec ²	Others ⁴	for Care Recipients ⁵	for Others ⁶	Total			
C 1	17,231 SF	2	2	26	317	290	1,902	2,192	4,871		
A 2	10,570 SF	2	2	22	0	330	0	330	868		
B 2	29,895 SF	2	3	29	366	435	2,196	2,631	10,534		
C 2	16,984 SF	2	2	27	40	405	240	665	3,185		

¹ Care recipients based on number of licensed beds. See Sheet G-101 for this information.
² Other occupants based on occupancy numbers for spaces, excluding 1-1C2. See the Life Safety Plans on G-112, G-113, G-114 and G-115.
³ 15 square feet per care recipient
⁴ 6 square feet per other occupant
⁵ Low-hazard areas including corridors, lounges and/or dining areas.
⁶ See sheet G-111 for area of smoke compartments.

Chapter 5: General Building Heights and Areas

Section 503: General Building Height and Area Limitation

- 503.1 Building height, number of stories and building area shall not exceed the limits specified in Sections 504 and 506 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302, except as modified hereafter. Building height, number of stories and building area provisions shall be applied independently. Each portion of a building separated by one or more fire walls complying with Section 706 shall be considered a separate building.

Section 504: Building Height and Number of Stories

- 504.2 Mixed Occupancy: Individual occupancy shall exceed the height and number of story limits specified in this section for the applicable occupancies.
- 504.3 Allowable building height in feet above the grade plane.

Occupancy Classification	Sprinklers	Construction Type	IB	VA
A and B	YES	N/A	N/A	70
I-1 ^{1,2}	YES	N/A	N/A	50
R	YES	N/A	N/A	70
S	YES	75	70	

- 504.4 Allowable number of stories above grade plane

Occupancy Classification	Sprinklers	Construction Type	IB	VA
A-2, A-3 and I-1 ²	YES	N/A	N/A	3
B, S-1 and R-2	YES	N/A	N/A	4
S-2	YES	4	N/A	

Section 506: Building Area

- 506.2.4 For buildings with more than three stories above grade plane, the total building area shall be such that the aggregate sum of the ratios of the actual area of each story divided by the allowable area of such stories, determined in accordance with Equation 5-3 based on the applicable provisions of Section 508.1, shall not exceed four. (Exception for buildings designed as separated occupancies under Section 506.4).

See Sheet G-111 for building area and frontage increase calculations.

Section 508: Mixed Use and Occupancy

Table 508.4 Required Separation of Occupancy (Hours)

Occupancy	A	I-1*	R*	S-2	B*, S-1
A	N	1	1	N	1
I-1*	--	N	1	1	1
R*	--	--	N	1 [†]	1
S-2	--	--	--	N	1
B*, S-1	--	--	--	--	N

- 508.4.1 Separated occupancies shall be individually classified in accordance with Section 302.1. Each separated space shall comply with the code based on occupancy classification of that portion of the building.
- 508.4.2 In each story, the building area shall be such that the sum of the ratios of the actual building area of each separated occupancy divided by the allowable building area of each separated occupancy shall not exceed 1. See sheet G-111 for detailed calculations.
- 508.4.3 Allowable height - Per Tables 504.3 and 504.4.

Section 509: Incidental Use Areas

Room or Area	Separation and/or Protection
Laundry over 100 SF	1 hour or provide automatic sprinkler system
Storage rooms	1 hour

- 509.3 Incidental uses shall not occupy more than 10 percent of the building area of the story in which they are located.

Section 510: Special Provisions

- 510.7 Open parking garages constructed beneath Groups I and R shall not exceed the height and area limitations permitted under Section 406.5. The height and area of the portion of the building above the open parking garage shall not exceed the limitations in Section 503 for the upper occupancy. The height, in both feet and stories, of the portion of the building above the open parking garage shall be measured from grade plane and shall include both the open parking garage and the portion of the building above the parking garage.

Chapter 6: Types of Construction

Fire-Resistance Rating Requirements for Building Elements (Table 601):

Construction Type: II-B (1st Floor at the Garage Only), Type V-A

Chapter 7: Fire and Smoke Protection Features

Section 704: Fire-Resistance Rating of Structural Members

- 704.1 The fire-resistance ratings of structural members and assemblies shall comply with this section and requirements for the type of construction as specified in Table 601. The fire-resistance ratings shall be not less than the ratings required for the fire-resistance-rated assemblies supported the structural members.

Section 705: Exterior Walls

- 705.2 Cornices, eave overhangs, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of this section and Section 1406.
- 705.2.1 Projections from walls of Type I construction shall be of noncombustible materials or combustible materials as allowed by Section 1406.3 and 1406.4.
- 705.2.2 Projections from walls of Type II construction shall be of any approved material.

Section 706: Firewalls

- 706.2 Designed and constructed to allow collapse of the structure on either side without collapse of the wall under fire conditions.

Table 706.4

Group	Fire Resistance Rating
I and R	3 HR
S-2	2 HR

- 706.3 Horizontal continuity - Exception 1
- 706.5.1 Exterior Wall - Statement 1
- 706.6 Vertical continuity - Exceptions 3, 4 and 6

- 706.8 Each opening through a fire wall shall be protected in accordance with Section 716.5 and shall not exceed 156 square feet. The aggregate width of openings at any floor level shall not exceed 25 percent of the length of the wall.

Section 707: Fire Barriers

Group	Fire Resistance Rating
A, B, I, R, S-2	2 HR

Section 708: Fire Partitions

- 708.1.1 Separation walls as required by Section 420.2 for Group R-2.
- 708.1.3 Corridor walls as required by Section 1020.1
- 708.3 Fire partitions shall have a fire-resistance rating of not less than 1 hour. Exception 1: Corridor walls permitted to have a 1/2-hour fire-resistance rating by Table 1020.1.

Section 713: Shaft Enclosures

- 713.4 Fire-resistance rating: 2 hours where connecting four stories or more shaft shall have fire-resistance rating of not less than the floor assembly penetrated, but need not exceed 2 hours.
- 713.13 Refuse chutes shall have a 2 hour rated enclosure while access rooms shall have fire resistance rating of 1 hour with 45 min. rated doors; termination rooms shall be 2 hour rated with 90 min. doors.

Section 712: Vertical Openings

- 712.1.12 Vertical openings containing exit access stairways in accordance with Section 1019 are permitted.

Chapter 8: Interior Finishes

Table 803.11 Interior Wall and Ceiling Finish Requirements by Occupancy
 Group A-3; Sprinklered: Exit enclosures and exit passageways - Class B, Corridors - Class B, Room and enclosed spaces - Class C
 Group M; Sprinklered: Exit enclosures and exit passageways - Class B, Corridors - Class C, Room and enclosed spaces - Class C
 Group R-2; Sprinklered: Exit enclosures and exit passageways - Class C, Corridors - Class C, Room and enclosed spaces - Class C

Chapter 9: Fire Protection Systems

Section 903: Automatic Sprinkler Systems

- 903.2.8 Automatic sprinkler systems required for R-2
- 903.3.1.1 NFPA 13 sprinkler system provided for all occupancies
- 903.3.1.2.1 Balcony and deck sprinkler protection required for type V construction

Section 905: Standpipe Systems

- 905.3.1 Exception 1, Class I standpipes are allowed in buildings equipped with a NFPA 13 sprinkler systems
- 905.4 Class I standpipes shall be provided in every stairway

Section 906: Portable Fire Extinguishers

- 906.1 Portable fire extinguishers shall be installed per this section
- Table 906.3 (1)
Maximum travel distance to extinguisher is 75'-0"

Section 907: Fire Alarm and Detection Systems

- 907.2.9 Fire alarm systems and smoke alarms shall be installed in Group R-2 occupancies

Chapter 10: Means of Egress

Table 1004.1.2 Maximum floor area allowance per occupant:

- Residential 200 gsf
- Accessory storage areas / Mechanical and equipment room 300 gsf
- Assembly without fixed seats: 15 net
- Business 100 gsf
- Institutional (Sleeping Areas, AL+MC) 120 gsf
- Kitchen 200 gsf

Section 1006: Number of Exits and Exit Access Doorways

- Table 1006.2.1
Group A, the length of a common path of egress travel shall not exceed 75 feet if the building is equipped with a NFPA 13 sprinkler system
 Group I-1, the length of a common path of egress travel shall not exceed 75 feet if the building is equipped with a NFPA 13 sprinkler system
 Group S, the length of a common path of egress travel shall not exceed 100 feet if the building is equipped with a NFPA 13 sprinkler system
 Group R-2, the length of a common path of egress travel shall not exceed 125 feet if the building is equipped with a NFPA 13 sprinkler system

Section 1007: Exit and exit access doorway configuration

- 1007 Exception 2: Fully sprinklered exit access doors, the separation distance shall be not less than 1/2 the length of max diagonal.

Section 1009: Accessible Means of Egress

- 1009.2.1 Elevation requirements: at least one required accessible means of egress shall be provided for a building is 4 or more stories above a level of exit discharge
- 1009.3 Exception 2, the clear width of 48 inches between handrails is not required at exit access stairways when the building is equipped with a NFPA 13 sprinkler system
- Exception 5, the area of refuge is not required at exit access stairways when the building is equipped with a NFPA 13 sprinkler system

Section 1011: Stairways

- 1011.7 Stairway construction shall be of materials consistent with type of construction (1A & VA)
- 1011.2 Stairway width shall not be less than 44 inches
- 1011.12 Stairway to roof required in buildings 4 or more stories above grade plane

Section 1017: Exit Access Travel Distance

- Table 1017.2
Group A - 250'-0" with NFPA 13 sprinkler system
 Group I - 250'-0" with NFPA 13 sprinkler system
 Group R - 250'-0" with NFPA 13 sprinkler system
 Group S-2 - 400'-0" with NFPA 13 sprinkler system

Section 1019: Exit Access Stairways and Ramps

- 1019.3.1 Exit access stairways and ramps that serve or atmospherically communicate between only two stories. Such interconnected stories shall not be open to other stories. -- "For use within double height space in also in accordance with LSC 8.6.8 and use of 45 minute opening "fire shutters" as per NFPA 252."

Section 1020: Corridors

- Table 1020.1 Corridor fire-resistance rating with NFPA 13 sprinkler system: 0 hour for A and S; .5 hour for R; 1 hour for I
 Corridor width not less than 44 inches or per Section 1005.1; corridors within units not less than 36 inches
 Dead end corridors not more than 20'-0" in length:
 Exception 2, Group M and R-2 where the building is equipped with a NFPA 13 sprinkler system, dead end corridor shall not exceed 50'-0" in length

Section 1023: Exit Enclosures

- 1023.2 Enclosures required where connecting 4 stories or more; 2 hour fire resistance required
- 1023.9 Stairway floor number signs; required for buildings connection more than 3 stories

Chapter 12: Interior Environment

Section 1203: Ventilation

- 1203.5 Buildings shall be provided with: natural ventilation with openings of 4% floor area served -or- mechanical ventilation in accordance with the International Mechanical Code

Section 1205: Lighting

- 1205.1 Every space intended for human occupancy shall be provided with natural light by means of 1205.2 or by artificial light by mean of 1205.3
- 1205.2 The minimum net glazed area shall not be less than 8 percent of the area of the room served
- 1205.3 Artificial light shall be provided to an average illumination of 10 foot-candles at a height of 30 inches above the floor

Section 1207: Sound Transmission

- 1207.2 Walls, partitions and floor/ceiling assemblies separating dwelling units have a STC rating of not less than 50 (45 if field tested) for air-borne noise
- 1207.3 Floor/ceiling assemblies separating dwelling units or between dwelling and public and service areas shall have an IIC rating of not less than 50 (field tested)

CODE NARRATIVE

GENERAL DESCRIPTION	
PROJECT NAME:	BEEES FERRY ROAD
PROJECT ADDRESS:	3097 BEEES FERRY ROAD, CHARLESTON, SC. 29414
AUTHORITY HAVING JURISDICTION (AHJ):	CITY OF CHARLESTON, SC
DESCRIPTION:	PROPOSED NEW CONSTRUCTION OF A FOUR STORY, SENIOR LIVING FACILITY, INCLUDING A MIX OF MEMORY CARE, ASSISTED LIVING, AND INDEPENDENT LIVING UNITS
DEFERRED SUBMITTALS:	FIRE ALARM AND FIRE PROTECTION AND SUPPRESSION SYSTEMS EXTERIOR SIGNAGE TO BE PERMITTED BY OTHERS

APPLICABLE CODES	
BUILDING	2015 SOUTH CAROLINA BUILDING CODE
FIRE	2015 SOUTH CAROLINA FIRE CODE
PLUMBING	2015 SOUTH CAROLINA PLUMBING CODE
MECHANICAL	2015 SOUTH CAROLINA MECHANICAL CODE
GAS	2015 SOUTH CAROLINA FUEL GAS CODE
ELECTRICAL	2014 NATIONAL ELECTRICAL CODE (NEC) (NFPA 70)
ENERGY	2009 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
ACCESSIBILITY	2017 INTERNATIONAL BUILDING CODE (IBC) ANSI A117.1 ACCESSIBLE & USABLE BUILDINGS (IBC) (ICC)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL	
R.E.C. STANDARDS FOR LICENSURE COMMUNITY RESIDENTIAL CARE FACILITIES	
BUILDING INFORMATION	
CONSTRUCTION	IIB, VA
USE GROUPS	SEPARATED MIXED USE PER IBC § 508.4 ASSEMBLY (A-3 DINING); BUSINESS (B); INSTITUTIONAL (I-1 CONDITION 2); RESIDENTIAL (R-2); STORAGE (S-1); STORAGE (S-2 OPEN GARAGE)
FIRE SPRINKLERS:	FULLY COVERED THROUGHOUT IN ACCORDANCE WITH NFPA 13 (IBC § 903.3.1.1)
BUILDING HEIGHT: (IBC TABLE 504.3 504.4)	ALLOWED BY CODE: 70 FT / 4 STORES ALLOWED BY CITY OF CHARLESTON ZONING: 55 up to 70 FT DESIGNED: 58 FT / 4 STORES
*PER THE CITY OF CHARLESTON ZONING ORDINANCE SECTION 54-505, EXCEPTION E **ADDITIONAL HEIGHT APPROVED BY THE CITY OF CHARLESTON DESIGN REVIEW BOARD AT 4/15/19 MEETING.	
BUILDING FLOOR AREAS	APPROXIMATE 231,344 TOTAL GROSS SQUARE FEET. SEE DIAGRAMS ON THIS SHEET FOR DETAILED ANALYSIS OF EACH BUILDING

REQUIRED FIRE RESISTANCE RATINGS: (IBC TABLES 601/ 602)	
STRUCTURAL FRAME	1 HOUR
BEARING WALLS	EXTERIOR WALLS 1 HOUR INTERIOR WALLS 1 HOUR
NON-BEARING WALLS AND PARTITIONS	EXTERIOR WALLS 1 HOUR (FOR GREATER THAN 10 FT SEPARATION) INTERIOR WALLS 0 HOURS
FLOOR CONSTRUCTION	1 HOUR
ROOF CONSTRUCTION	1 HOUR (CLASS B ROOF COVERING)
FIRE WALLS (IBC 706)	3 HOURS (30" MIN HIGH PARAPET) (EXCEPTION 1 - RATED 1 HOUR 4'-0" MIN EITHER SIDE AT EXTERIOR WALL)
SHAFTS (IBC §713.4)	2 HOURS
CORRIDORS (TABLE 1020.1)	1 HOUR I-1 CONDITION 2, 1/2 HOUR at R-2
OPENINGS:	SEE IBC TABLES 716.5 AND 716.6
FIRE BARRIERS:	SEE IBC § 707.3
FIRE-RETARDANT-TREATED WOOD PERMITTED IN (IBC § 603.1):	NON-BEARING PARTITIONS WITH REQUIRED RATING OF 2-HOUR RATING OR LESS NON-BEARING EXTERIOR WALLS WITH NO FIRE RATING REQUIRED ROOF CONSTRUCTION
HERMAL AND ACOUSTIC INSULATION HAVING A FLAME SPREAD INDEX OF NOT MORE THAN 25:	
FOAM PLASTIC INSULATION: (IBC § 2603.3): MAX FLAME SPREAD: 75; MAX SMOKE-DEVELOPED: 450	
HERMAL BARRIER REQUIRED FOR INTERIOR SEPARATION, COMPLY WITH IBC § 2603.4 SEE EXCEPTION IBC 2603.4.14 FOR INSULATION IN EXTERIOR WALLS.	
FLOOR FINISHES (IBC § 904.4): CLASS B	
INTERIOR WALL AND CEILING FINISHES (IBC TABLE 803.11):	
INTERIOR EXIT STAIRS/RAMPS-PASSAGEWAYS:	CLASS B
CORRIDORS AND EXIT ACCESS:	CLASS C
ROOMS AND ENCLOSED SPACES:	CLASS C

ENERGY REQUIREMENTS:	
CLIMATE ZONE: 3	
ENVELOPE INSULATION MINIMUM REQUIREMENTS (IECC TABLE C502.2)	
WOOD FRAMED WALLS:	R-13 min
ROOFS - ATTIC AND OTHER:	R-38 min
BELOW GRADE WALL:	No Rating Required
SLAB ON GRADE PERIMETER:	R-10 min for 24" U-0.70 max
OPAQUE SLING DOORS:	

OCCUPANCY AND EGRESS	
MAX OCCUPANCY LOAD REQUIREMENTS (IBC TABLE 1004.1.2):	
AS	