

ROOFS AND ROOF STRUCTURES (Chapter 15)

Performance requirements (1505.0) _____ Low-slope roof coverings (1507.5)
 Flashing (1508.0) _____
 Steep-slope roof coverings (1507.4) _____ Roof structures (1510.0)

STRUCTURAL SYSTEMS (Chapters 16, 17, 18)

STRUCTURAL LOADS (Chapter 16)

DESIGN LOADS ON CONSTRUCTION DOCUMENTS (1603.1) 4.25 Internal pressure coefficient (Table 1609.7[6])
 Uniformly distributed floor live loads (1603.2, 1606.0) N/A Wind design pressure, P (1609.7)
 Floor Area Use Loads Shown
1ST, CONCRETE ON GRADE
 Earthquake loads (1603.6, 1610.0)
 Peak velocity-related acceleration, A_v (1610.1.3) .10
 Peak acceleration, A_a (1610.1.3) .10
 Seismic hazard exposure group (1610.1.5) I
 Seismic performance category (1610.1.7) C
 Soil-profile type (Table 1610.3.1) S1
 Basic structural system and seismic-resisting system (Table 1610.3.3) OURS
 Response modification factor, R, and deflection amplification factor, C_d (Table 1610.3.3) 4.5/4.0
 Analysis procedure (1610.4, 1610.5) ELF
 Other loads
 Attic load (1606.2.2, 1606.2.3) N/A
 Partition loads (1606.2.4) _____
 Concentrated loads (1606.3) _____
 Impact loads (1606.6) _____
 Misc. loads (1606.4, 1606.8, 1606.9, 1607.5, 1612.0) _____
 STRUCTURAL DESIGN CALCULATIONS
 Submitted for all structural members (107.7) ✓

NOTES: N.R. — Not required
 N.A. — Not applicable

ADMINISTRATION (Chapter 1)

Complete construction documents (107.5, 107.6, 107.7) _____ Signed/sealed construction documents (107.7, 114.1) _____

BUILDING PLANNING (Chapters 3, 4, 5, 6)

USE OF OCCUPANCY CLASSIFICATION (302.6(13))

Single Use Group SI Specific occupancy areas (302.1) _____
 Mixed Use Groups _____ Accessory areas (302.1.2) _____

GENERAL BUILDING TYPES (Chapters 5 & 6)

Apply Case 1 to determine the allowable height and area and permitted types of construction for a building containing a single use group or nonseparated mixed use groups. Apply Case 2 to determine the allowable height and area and permitted types of construction for a building containing separated mixed use groups.

PERMITTED MODIFICATIONS TO TABLE 503

% of Allowable tabular area (Table 503) 10
 % Reduction for height (Table 506.4) _____
 % Increase for open perimeter (506.2) 1
 % Increase for automatic sprinklers (506.3) +0%
 Total percentage factor 2.2
 Conversion factor (Total percentage factor/100%) _____

Open perimeter (506.2)	167	North	East	South	West
Open perimeter (506.2)	352	ft.			
% Open perimeter =	$\frac{352}{8690} \times 100\%$				
% Tab. area increase =	$\frac{60\% \times 2.2}{2 \times (\% \text{ Open perim.} - 25\%)}$				

CASE 1 — SINGLE USE OR NONSEPARATED MIXED USE GROUPS (313.1.1)

Using Table 503, identify the allowable height and area of the single use group or the most restrictive of the nonseparated mixed use groups. Construction types that provide an allowable tabular area equal to or greater than the adjusted floor area and allowable heights (as modified by Section 504.0) equal to or greater than the actual building height are permitted.

Actual floor area 8726 ft.² Actual building height 28 feet 1 stories
 Adjusted floor area* 8400 x 2.2 = 18480 ft.² Allowable building height 30 feet 2 stories

*Adjusted floor area = actual floor area/conversion factor

Permitted types of construction ALL EXCEPT JA Type of construction assumed for review (602.3) 2C

OCCUPANT NEEDS (Chapters 10, 11, 12)

MEANS OF EGRESS (Chapter 10)

OCCUPANT LOAD (1008.0 and Table 1008.1.2)

Location	Floor Area	Sq. ft./person	Occupant load	Other occupant loads	Total
1st	8729	30	291		30

CAPACITY OF EGRESS COMPONENTS (1009.0 and Table 1009.2)

Egress width (inch/occupant)

Stairways 3

Doors/ramps/corridors 2

CAPACITY

Location	Stairways	Doors/ramps/corridors
1st	5-48"	5-36" doors

ATRIUMS

Automatic sprinkler system (404.2)

Occupancy (404.3)

Smoke control (404.4)

Enclosure (404.5)

Fire alarm system (404.6)

Travel distance (404.7)

OTHER SPECIAL USE AND OCCUPANCY

Underground structures (405.0)

Open parking structures (406.0)

Private garages (408.0)

- Public garages (408.0)
- Use Group I-2 (409.0)
- Use Group I-3 (410.0)
- Stages and platforms (412.0)
- Special amusement buildings (413.0)
- HPM facilities (416.0)
- Hazardous materials (307.8, 417.0)
- Use Groups H-1, H-2, H-3 and H-4 (418.0)
- Swimming pools (421.0)

FIRE PROTECTION (Chapters 6, 7, 8, 9)

FIRERESISTANT MATERIALS AND CONSTRUCTION (Chapter 7 and Table 602)

Note: Entry in indicates required rating in hours. NC indicates noncombustible construction required.

COMBUSTIBILITY (603.0, 604.0, 605.0, 606.0)

Exterior walls

Interior elements

Roof

CONSTRUCTION DOCUMENTS (703.0)

Fire tests (704.0)

EXTERIOR WALLS (507.2, 705.0, 716.6)

North East South West

Fire separation distance

Loadbearing

Nonloadbearing

NC N/A Exterior opening protectives (705.3, 706.0)

NC N/A Continuity of exterior walls (705.6)

FIRE SEPARATION ASSEMBLIES

NC N/A Exit enclosures (709.0, 710.0, 1014.11)

NC N/A Other shafts (709.0, 710.0)

NC N/A Mixed use and fire area separations (313.1) ^{313.1} WALL

OTHER FIRE RESISTANT CONSTRUCTION

2 Fire and party walls (707.0 and Table 707.1)

N/A Smoke barriers (712.0)

0 Nonloadbearing partitions (Table 602)

0 Interior loadbearing walls, columns, girders, trusses (716.0)

0 Supporting construction (716.0)

0 Floor construction (713.0, 1006.3.1)

0 Roof construction (713.0, 715.0)

NONE Penetrations (714.0)

Opening protectives (717.0, 719.0, 720.0)

Fire dampers (718.0)

Fireblocking/draftstopping (721.0)

Thermal and sound-insulating materials (723.0)

FROM EXISTING FIRE AREA TO REDUCE LOSS THAN 12000 SQ FT