

**2012 APPENDIX B  
BUILDING CODE SUMMARY  
FOR ALL COMMERCIAL PROJECTS  
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)  
(Reproduce the following data on the building plans sheet 1 or 2)**

Name of Project: Lions Den Power House Gym  
 Address: 4319 Bay Road Zip Code 28370  
 Proposed Use: gym  
 Owner/Authorized Agent: Amy Mason Phone # (910) 728-3983 E-Mail mase23333@yahoo.com  
 Owned By:  City/County  Private  State  
 Code Enforcement Jurisdiction:  City  County  State

**LEAD DESIGN PROFESSIONAL:** Amy A. Mason - 10273631 843 901 7065 aceel111@gmail.com

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				( )	
Civil				( )	
Electrical				( )	
Fire Alarm				( )	
Plumbing				( )	
Mechanical				( )	
Sprinkler-Standpipe				( )	
Structural				( )	
Retaining Walls >5' High				( )	
Other				( )	

**2012 EDITION OF NC CODE FOR:**  New Construction  Addition  Upfit  
**EXISTING:**  Reconstruction  Alteration  Repair  Renovation  
**CONSTRUCTED:** (date) \_\_\_\_\_ **ORIGINAL USE(S)** (Ch. 3): \_\_\_\_\_  
**RENOVATED:** (date) \_\_\_\_\_ **CURRENT USE(S)** (Ch. 3): \_\_\_\_\_  
**PROPOSED USE(S)** (Ch. 3): \_\_\_\_\_

**BASIC BUILDING DATA**  
**Construction Type:**  I-A  II-A  III-A  IV  V-A  
 (check all that apply)  I-B  II-B  III-B  V-B  
**Sprinklers:**  No  Partial  Yes  NFPA 13  NFPA 13R  NFPA 13D  
**Standpipes:**  No  Yes Class  I  II  III  Wet  Dry  
**Fire District:**  No  Yes (Primary) **Flood Hazard Area:**  No  Yes

**Building Height:** (feet) 25#  
**Gross Building Area:**

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6 <sup>th</sup> Floor			
5 <sup>th</sup> Floor			
4 <sup>th</sup> Floor			
3 <sup>rd</sup> Floor			
2 <sup>nd</sup> Floor			
Mezzanine			
1 <sup>st</sup> Floor	<u>2000 sq ft</u>		
Basement			
<b>TOTAL</b>	<u>2000 sq ft</u>		

ALLOWABLE AREA

Occupancy:

- Assembly  A-1  A-2  A-3  A-4  A-5
Business 
Educational 
Factory  F-1 Moderate  F-2 Low
Hazardous  H-1 Detonate  H-2 Deflagrate  H-3 Combust  H-4 Health  H-5 HPM
Institutional  I-1  I-2  I-3  I-4
I-3 Condition  1  2  3  4  5
Mercantile 
Residential  R-1  R-2  R-3  R-4
Storage  S-1 Moderate  S-2 Low  High-piled
 Parking Garage  Open  Enclosed  Repair Garage
Utility and Miscellaneous

Accessory Occupancies:

- Assembly  A-1  A-2  A-3  A-4  A-5
Business 
Educational 
Factory  F-1 Moderate  F-2 Low
Hazardous  H-1 Detonate  H-2 Deflagrate  H-3 Combust  H-4 Health  H-5 HPM
Institutional  I-1  I-2  I-3  I-4
I-3 Condition  1  2  3  4  5
Mercantile 
Residential  R-1  R-2  R-3  R-4
Storage  S-1 Moderate  S-2 Low  High-piled
 Parking Garage  Open  Enclosed  Repair Garage
Utility and Miscellaneous

Incidental Uses (Table 508.2.5):

- Furnace room where any piece of equipment is over 400,000 Btu per hour input
 Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
 Refrigerant machine room
 Hydrogen cutoff rooms, not classified as Group H
 Incinerator rooms
 Paint shops, not classified as Group H, located in occupancies other than Group F
 Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy
 Laundry rooms over 100 square feet
 Group I-3 cells equipped with padded surfaces
 Group I-2 waste and linen collection rooms
 Waste and linen collection rooms over 100 square feet
 Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
 Rooms containing fire pumps
 Group I-2 storage rooms over 100 square feet
 Group I-2 commercial kitchens
 Group I-2 laundries equal to or less than 100 square feet
 Group I-2 rooms or spaces that contain fuel-fired heating equipment

- Special Uses:  402  403  404  405  406  407  408  409  410  411  412
 413  414  415  416  417  418  419  420  421  422  423  424
 425  426  427

- Special Provisions:  509.2  509.3  509.4  509.5  509.6  509.7  509.8  509.9

Mixed Occupancy:  No  Yes Separation: \_\_\_\_\_ Hr. Exception: \_\_\_\_\_

Incidental Use Separation (508.2.5)

This separation is not exempt as a Non-Separated Use (see exceptions).

Non-Separated Use (508.3)

The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

Separated Use (508.4) - See below for area calculations

For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{25}{49} + \dots = \dots \leq 1.00$$

Gym

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 <sup>5</sup> AREA	(C) AREA FOR FRONTAGE INCREASE <sup>1</sup>	(D) AREA FOR SPRINKLER INCREASE <sup>2</sup>	(E) ALLOWABLE AREA OR UNLIMITED <sup>3</sup>	(F) MAXIMUM BUILDING AREA <sup>4</sup>

<sup>1</sup> Frontage area increases from Section 506.2 are computed thus:

- a. Perimeter which fronts a public way or open space having 20 feet minimum width = \_\_\_\_\_ (F)
- b. Total Building Perimeter = \_\_\_\_\_ (P)
- c. Ratio (F/P) = \_\_\_\_\_ (F/P)
- d. W = Minimum width of public way = \_\_\_\_\_ (W)
- e. Percent of frontage increase  $I_f = 100 [F/P - 0.25] \times W/30 = \text{_____} (\%)$

<sup>2</sup> The sprinkler increase per Section 506.3 is as follows:

- a. Multi-story building  $I_s = 200$  percent
- b. Single story building  $I_s = 300$  percent

<sup>3</sup> Unlimited area applicable under conditions of Section 507.

<sup>4</sup> Maximum Building Area = total number of stories in the building x E (506.4).

<sup>5</sup> The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

### ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type _____		Type _____	
Building Height in Feet		Feet = $H + 20' = \text{_____}$		
Building Height in Stories		Stories + 1 = _____		

**FIRE PROTECTION REQUIREMENTS**

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQ'D	PROVIDED (w/ _____)* REDUCTION)				
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Roof Construction Including supporting beams and joists							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Tenant Separation							
Incidental Use Separation							

\* Indicate section number permitting reduction

**LIFE SAFETY SYSTEM REQUIREMENTS**

- Emergency Lighting:     No     Yes  
Exit Signs:                 No     Yes  
Fire Alarm:                 No     Yes  
Smoke Detection Systems:  No     Yes     Partial \_\_\_\_\_  
Panic Hardware:          No     Yes

**LIFE SAFETY PLAN REQUIREMENTS**

- Life Safety Plan Sheet #: \_\_\_\_\_
- Fire and/or smoke rated wall locations (Chapter 7)  
 Assumed and real property line locations

- Exterior wall opening area with respect to distance to assumed property lines (705.8)
- Existing structures within 30' of the proposed building
- Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
- Occupant loads for each area
- Exit access travel distances (1016)
- Common path of travel distances (1014.3 & 1028.8)
- Dead end lengths (1018.4)
- Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- Location of doors with panic hardware (1008.1.10)
- Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
- Location of doors with electromagnetic egress locks (1008.1.9.8)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1029)
- The square footage of each fire area (902)
- The square footage of each smoke compartment (407.4)
- Note any code exceptions or table notes that may have been utilized regarding the items above

**ACCESSIBLE DWELLING UNITS  
(SECTION 1107)**

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

**ACCESSIBLE PARKING  
(SECTION 1106)**

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE UNITS PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH		
				132" ACCESS AISLE	8' ACCESS AISLE	
<i>Gym</i>	<i>10</i>	<i>17</i>				
TOTAL						

**STRUCTURAL DESIGN**

**DESIGN LOADS:**

**Importance Factors:**    Wind (I<sub>w</sub>)    \_\_\_\_\_  
    Snow (I<sub>s</sub>)    \_\_\_\_\_  
    Seismic (I<sub>e</sub>)    \_\_\_\_\_

**Live Loads:**                Roof                                \_\_\_\_\_ psf  
    Mezzanine                        \_\_\_\_\_ psf  
    Floor                                \_\_\_\_\_ psf

**Ground Snow Load:**    \_\_\_\_\_ psf

**Wind Load:** Basic Wind Speed \_\_\_\_\_ mph (ASCE-7)  
 Exposure Category \_\_\_\_\_  
 Wind Base Shears (for MWFRS)  $V_x =$  \_\_\_\_\_  $V_y =$  \_\_\_\_\_

**SEISMIC DESIGN CATEGORY:**  A  B  C  D

Provide the following Seismic Design Parameters:

**Occupancy Category (Table 1604.5)**  I  II  III  IV

**Spectral Response Acceleration**  $S_s$  \_\_\_\_\_ %g  $S_1$  \_\_\_\_\_ %g

**Site Classification (Table 1613.5.2)**  A  B  C  D  E  F

Data Source:  Field Test  Presumptive  Historical Data

**Basic structural system (check one)**

- Bearing Wall  Dual w/Special Moment Frame  
 Building Frame  Dual w/Intermediate R/C or Special Steel  
 Moment Frame  Inverted Pendulum

**Seismic base shear:**  $V_x =$  \_\_\_\_\_  $V_y =$  \_\_\_\_\_

**Analysis Procedure:**  Simplified  Equivalent Lateral Force  Dynamic

**Architectural, Mechanical, Components anchored?**  Yes  No

**LATERAL DESIGN CONTROL:** Earthquake  Wind

**SOIL BEARING CAPACITIES:**

Field Test (provide copy of test report) \_\_\_\_\_ psf

Presumptive Bearing capacity \_\_\_\_\_ psf

Pile size, type, and capacity \_\_\_\_\_

**SPECIAL INSPECTIONS REQUIRED:**  Yes  No

**PLUMBING FIXTURE REQUIREMENTS  
(TABLE 2902.1)**

USE		WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE
SPACE	EXISTING				X				
	NEW					X			
	REQUIRED								

**SPECIAL APPROVALS**

**Special approval:** (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ENERGY SUMMARY

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Climate Zone:  3  4  5

Method of Compliance:

- Prescriptive (Energy Code)
 Performance (Energy Code)
 Prescriptive (ASHRAE 90.1)
 Performance (ASHRAE 90.1)

THERMAL ENVELOPE

Roof/ceiling Assembly (each assembly)

Description of assembly: \_\_\_\_\_
U-Value of total assembly: \_\_\_\_\_
R-Value of insulation: \_\_\_\_\_
Skylights in each assembly: \_\_\_\_\_
U-Value of skylight: \_\_\_\_\_
total square footage of skylights in each assembly: \_\_\_\_\_

Exterior Walls (each assembly)

Description of assembly: \_\_\_\_\_
U-Value of total assembly: \_\_\_\_\_
R-Value of insulation: \_\_\_\_\_
Openings (windows or doors with glazing)
U-Value of assembly: \_\_\_\_\_
Solar heat gain coefficient: \_\_\_\_\_
projection factor: \_\_\_\_\_
Door R-Values: \_\_\_\_\_

Walls below grade (each assembly)

Description of assembly: \_\_\_\_\_
U-Value of total assembly: \_\_\_\_\_
R-Value of insulation: \_\_\_\_\_

Floors over unconditioned space (each assembly)

Description of assembly: \_\_\_\_\_
U-Value of total assembly: \_\_\_\_\_
R-Value of insulation: \_\_\_\_\_

Floors slab on grade

Description of assembly: concrete
U-Value of total assembly: \_\_\_\_\_
R-Value of insulation: \_\_\_\_\_
Horizontal/vertical requirement: \_\_\_\_\_
slab heated: \_\_\_\_\_



## MECHANICAL SUMMARY

### MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT-

#### Thermal Zone

winter dry bulb: \_\_\_\_\_

summer dry bulb: \_\_\_\_\_

#### Interior design conditions

winter dry bulb: \_\_\_\_\_

summer dry bulb: \_\_\_\_\_

relative humidity: \_\_\_\_\_

Building heating load: \_\_\_\_\_

Building cooling load: \_\_\_\_\_

#### Mechanical Spacing Conditioning System

##### Unitary

description of unit: \_\_\_\_\_

heating efficiency: \_\_\_\_\_

cooling efficiency: \_\_\_\_\_

size category of unit: \_\_\_\_\_

##### Boiler

Size category. If oversized, state reason.: \_\_\_\_\_

##### Chiller

Size category. If oversized, state reason.: \_\_\_\_\_

List equipment efficiencies: \_\_\_\_\_

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## ELECTRICAL SUMMARY

### ELECTRICAL SYSTEM AND EQUIPMENT

#### Method of Compliance:

Energy Code:  Prescriptive  Performance

ASHRAE 90.1:  Prescriptive  Performance

#### Lighting schedule (each fixture type)

lamp type required in fixture

number of lamps in fixture

ballast type used in the fixture

number of ballasts in fixture

total wattage per fixture

total interior wattage specified vs. allowed (whole building or space by space)

total exterior wattage specified vs. allowed

#### Additional Prescriptive Compliance

506.2.1 More Efficient Mechanical Equipment

506.2.2 Reduced Lighting Power Density

506.2.3 Energy Recovery Ventilation Systems

506.2.4 Higher Efficiency Service Water Heating

506.2.5 On-Site Supply of Renewable Energy

506.2.6 Automatic Daylighting Control Systems