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STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I_W) 1.0
Snow (I_S) 1.0
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine N/A
Floor N/A

Snow Load: 20 psf

Wind Load: Basic Wind Speed 90 mph (ASCE-7-98)
Exposure Category C
Wind Base Shears (for MWFRS) V_x = 17.6 psf V_y = 17.6 psf
(windward+leeward pressure)

SEISMIC DESIGN CATEGORY A
Compliance with Section 1616.4 only? ☐ Yes X No

SEISMIC DESIGN CATEGORY B, C, & D
Provide the following Seismic Design Parameters:
Seismic Use Group II
Spectral Response Acceleration S_{MS} - 33.9 %g S_{M1} - 11.8 %g
Site Classification C
Basic structural system (check one)
X Bearing Wall ____ Dual w/Special Moment Frame
____ Building Frame ____ Dual w/Intermediate R/C or Special Steel
____ Moment Frame ____ Inverted Pendulum
Seismic base shear $V_X = 0.077W$ $V_Y = 0.077W$
Analysis Procedure ____ Simplified X Equivalent Lateral Force ____ Modal
Architectural, Mechanical, Components anchored? Yes

LATERAL DESIGN CONTROL: Earthquake ______ Wind X

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) N/A
Presumptive Bearing capacity N/A
Pile size, type, and capacity N/A

PLUMBING FIXTURE REQUIREMENTS

OCCUPANCY	WATERCLOSETS		URINALS	LAVATORIES		SHOWERS/TUBS	DRINKING FOUNTAINS	
	MALE	FEMALE		MALE	FEMALE		REGULAR	ACCESSIBLE

ACCESSIBLE PARKING

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED		TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☐ Yes
Exit Signs: ☐ No ☐ Yes
Fire Alarm: ☐ No ☐ Yes
Smoke Detection Systems: ☐ No ☐ Yes
Panic Hardware: ☐ No ☐ Yes

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

FLOOR, ROOM OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS		TRAVEL DISTANCE		ARRANGEMENT MEANS OF EGRESS (SECTION 1004.1)	
	REQUIRED	SHOWN ON PLANS	ALLOWABLE TRAVEL DISTANCE (TABLE 1004.2.4)	ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	REQUIRED DISTANCE BETWEEN EXIT DOORS	ACTUAL DISTANCE SHOWN ON PLANS

[1] Corridor dead ends (Section 1004.3.2.3)
[2] Single exits (Table 1005.2.2)
[3] Common Path of Travel (Section 1004.2.5)

EXIT WIDTH

USE GROUP OR SPACE DESCRIPTION	(a) AREA[1] SQ. FT.	(b) AREA PER OCCUPANT (TABLE 1003.2.2.2)	(c) EGRESS WIDTH PER OCCUPANT (TABLE 1003.2.3)		EXIT WIDTH (in)[2,3,4,5,6]			
					REQUIRED WIDTH (SECTION 1003.2.3) (a÷b) x c		ACTUAL WIDTH SHOWN ON PLANS	
			STAIR	LEVEL	STAIR	LEVEL	STAIR	LEVEL

[1] See Table 1003.2.2.2 to determine whether net or gross area is applicable.
See definition "Area, Gross" and "Area, Net" (Section 1002)
[2] Footnote deleted.
[3] Minimum stairway width (Section 1003.3.3); min. corridor width (Section 1004.3.2.2); min. door width (Section 1003.3.1)
[4] Minimum width of exit passageway (Section 1005.3.3)
[5] The loss of one means of egress shall not reduce the available capacity to less than 50 percent of the total required (Section 1003.2.3)
[6] Assembly occupancies (Section 1008)

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type ______		Type ______	
Building Height in Feet	Feet ______	Feet H + 20' = ______		
Building Height in Stories	Stories ______	Stories + 1 = ______	Stories	

FIRE PROTECTION REQUIREMENTS

Life Safety Plan Sheet #, if Provided ______

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/* REDUCTIONS)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses							
Bearing walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and partitions							
Exterior							
North							
East							
West							
South							
Interior							
Floor construction including supporting beams and joists							
Roof construction including supporting beams and joists							
Shafts - Exit							
Shafts - Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Tenant Separation							

* Indicate section number permitting reduction

STORY NO	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR OPEN SPACE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE	(E) ALLOWABLE AREA OR UNLIMITED	(F) MAXIMUM BUILDING AREA

[1] Open space 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] x W/30 = ______ (%).
[2] 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.
[3] Unlimited area applicable under conditions of Sections Group B, F, M, S, A-4 (507.1, 507.2, 507.3, 507.5); Group A motion picture (507.8); Malls (402.6); and H-2 aircraft paint hangers (507.6).
[4] Maximum Building Area = total number of stories in the building x E but not greater than 3 x E.
[5] The maximum area of parking garages must comply with 406.3.5. The maximum area of air traffic control towers must comply with 412.1.2.

BUILDING DATA
Construction Type: ☐ I-A ☐ I-B ☐ II-A ☒ II-B ☐ III-A ☐ III-B
☐ IV ☐ V-A ☐ V-B
Mixed construction: ☒ No ☐ Yes Types ______
Sprinklers: ☐ No ☒ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☐ No ☒ Yes
Building Height: 36'-0" Feet 1 Number of Stories Unlimited per ______
Mezzanine: ☒ No ☐ Yes
High Rise: ☒ No ☐ Yes Central Reference Sheet # (if provided) ______
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor	n/a		
5th Floor	n/a		
4th Floor	n/a		
3rd Floor	n/a		
2nd Floor	n/a		
Mezzanine	n/a		
1st Floor	196,353	0	196,353
Basement	n/a		
TOTAL	196,353		196,353

ALLOWABLE AREA

Primary Occupancy: ☐ Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ Business ☐ Educational ☐ Factory-Industrial ☐ F-1 ☐ F-2
☐ High-Hazard ☐ H-1 ☐ H-2 ☐ H-3 ☐ H-4 ☐ H-5
☐ Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
☐ I-3 Use Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☒ Mercantile ☐ Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
☐ Storage ☐ S-1 ☐ S-2 ☐ High-piled
☐ Utility and Miscellaneous Parking Garage ☐ Open ☐ Enclosed ☐ Repair
Secondary Occupancy: ______
Special Occupancy: ☐ 508.2 ☐ 508.3 ☐ 508.4 ☐ 508.5 ☐ 508.6 ☐ 508.7 ☐ 508.8
Mixed Occupancy: ☐ No ☒ Yes Separation: 1 Hr. Exception: ______

☐ Non-Separated Mixed Occupancy (302.3.2)
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 Mixed Occupancy (302.3.3) - 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.

Actual Area of Occupancy A / *Allowable Area of Occupancy A* + *Actual Area of Occupancy B* / *Allowable Area of Occupancy B* ≤ 1

______ + ______ + ______ = ______ ≤ 1.00

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: Mt Airy, North Carolina (General Remodel)
Address: 2241 Rockford Street , Mt Airy, North Carolina
Proposed Use: Mercantile
Owner or Contact Person: Arboretum Joint Venture Phone # (336)719-2300
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City______ ☒ County Surry

LEAD DESIGN PROFESSIONAL: ______

	DESIGNER FIRM	NAME	LICENSE #	TELEPHONE #
Architectural	PB2 Architecture & Engineering	Barry L. McNeill	33546	(479)636-3545
Civil	N/A			
Electrical	Project Solutions Engineering, Inc.	Kraig Spence	031176	(573)443-7100
Fire Alarm	N/A			
Plumbing	Project Solutions Engineering, Inc.	Kraig Spence	031176	(573)443-7100
Mechanical	Project Solutions Engineering, Inc.	Kraig Spence	031176	(573)443-7100
Sprinkler-Standpipe	TVA Fire & Life Safety, Inc.	Jim McDaniel	105595	(770)432-3882
Structural	N/A			
Retaining Walls				
>5' High				( )
Other				( )

YEAR EDITION OF CODE: 2006 North Carolina Building Code
☐ New Construction ☒ Renovation (Existing Bldg) ☐ Upfit ☐ Alteration

pb2 architecture & engineering
710 West Roselawn Drive
Rogers, Arkansas 72756
Phone: 479.636.3545
Fax: 479.636.1209

Architect of Record
Barry L. McNeill

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WAL★MART
GENERAL REMODEL
MOUNT AIRY, NORTH CAROLINA
STORE NO. 1039
JOB NUMBER: 2006-0625

ISSUE BLOCK

CHECKED BY:	RF/DCH
DRAWN BY:	LJE
DOCUMENT DATE:	12-14-06
PROTO:	188
PROTO CYCLE:	10-26-06

BUILDING CODE SUMMARY

SHEET: BCS1

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MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Method of Compliance

☐ Prescriptive ☐ Energy Cost Budget

Thermal Zone - Existing HVAC equipment to remain, no changes in this project scope of work.

Winter dry bulb – N/A
Summer dry bulb – N/A

Interior design conditions - Existing HVAC equipment to remain, no changes in this project scope of work.

Winter dry bulb – N/A
Summer dry bulb - N/A
Relative humidity – N/A

Building heating load - Existing HVAC equipment to remain, no changes in this project scope of work.

Building cooling load - Existing HVAC equipment to remain, no changes in this project scope of work.

Mechanical Spacing Conditioning System - Existing HVAC equipment to remain, no changes in this project scope of work.

Unitary – N/A
Description of unit – N/A
Heating efficiency – N/A
Cooling efficiency – N/A
Heat output of unit – N/A
Cooling output of unit – N/A
Boiler – N/A
Total boiler output. If oversized, state reason.
Chiller – N/A
Total chiller capacity. If oversized, state reason.

List equipment efficiencies – N/A

Equipment schedules with motors (mechanical systems) – New Exhaust fans or new exhaust fans to replace existing exhaust fans.

Motor horsepower – Maximum 1/3 HP
Number of phases – Single
Minimum efficiency – N/A
Motor type - Direct
# of poles – N/A

E

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ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimums 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 energy cost budget method, state the annual energy cost budget vs allowable annual energy cost budget.

THERMAL ENVELOPE

Method of Compliance:

☐ Prescriptive ☐ Performance ☐ Energy Cost Budget

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
Shading coefficient
Projection factor
Low-e required, if applicable
Door R-Values

Walls adjacent to unconditioned space (each assembly)

Description of assembly
U-Value of total assembly
R-Value of insulation
Openings (windows or doors with glazing)
U-Value of assembly
Low-e required, if applicable
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
U-Value of total assembly
R-Value of insulation
Horizontal/vertical requirement
Slab heated

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SPECIAL APPROVALS

Special approvals: (Local Jurisdiction, Department of Insurance, SBCCI, ICC, etc., describe below)

SCHEDULE OF SPECIAL INSPECTION SERVICES

☐ No special inspections required for this project ☐ Special inspections required

The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows:

- ☐ IT-1 Verification of Soils
- ☐ IT-2 Excavation and Fill
- ☐ IT-3 Piling and Drilling Piers
- ☐ IT-4 Modular Retaining Walls
- ☐ IT-5 Reinforced Concrete
- ☐ IT-6 Post Tension Slab
- ☐ IT-7 Pre-cast Concrete Erection
- ☐ IT-8 Pre-stressed Concrete
- ☐ IT-9 Inspection of Pre-Cast Fabricators
- ☐ IT-10 Inspection of Structural Steel Fabricators
- ☐ IT-11 Structural Masonry
- ☐ IT-12 Welding
- ☐ IT-13 High Strength Bolts & Steel Framing Insp.
- ☐ IT-14 Sprayed Fire-Resistance Materials
- ☐ IT-15 Exterior Insulation and Finish system
- ☐ IT-16 Seismic Resistance
- ☐ IT-17 Smoke Control
- ☐ IT-18 Demolition Basic
- ☐ IT-19 Special Cases

Check the above boxes for the special inspection required for this project and list below specific special inspections required under Chapter 17.

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:

☐ Prescriptive ☒ Performance ☐ Energy Cost Budget

Lighting schedule

Lamp type required in fixture
Number of lamps in fixture
Ballast type used in the fixture
Number of ballasts in fixture — See attached COMcheck
Total wattage per fixture
Total interior wattage specified vs. allowed
Total exterior wattage specified vs. allowed — No new exterior lights

Equipment schedules with motors (not used for mechanical systems) No new motors

Motor horsepower
Number of phases
Minimum efficiency
Motor type
# of poles

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pb2 architecture engineering
710 West Rosetown Drive
Rogers, Arkansas 72756
Phone: 479.636.3646
Fax: 479.636.1209

Architect of Record
Barry L. McNeill

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