2018 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: G26RW2 Raceway 83'-3" x 45'-5" Modular Convenience Store
Address: 4251 US Hwy 421 Wilmington, NC Zip Code: 28401
Owner/Authorized Agent: John Maxwell Phone # (770) 714-4073 E-Mail _____
Owned By: Private
Code Enforcement Jurisdiction: State

CONTACT: _____

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				(___)___	
Civil				(___)___	
Electrical	Greenberg-Farrow	Ross E. Waters	053741	(404)604-4000	rwaters@greenbergfarrow.com
Fire Alarm				(___)___	
Plumbing		Ross E. Waters		(___)___	
Mechanical		Ross E. Waters		(___)___	
Sprinkler-Standpipe				(___)___	
Structural	Frey-Moss Structures	Charles H. Moss	11066	(770) 483-9229	
Retaining Walls >5' High				(___)___	
Other				(___)___	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building

2018 NC EXISTING BUILDING CODE: N/A N/A N/A
CONSTRUCTED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3): _____
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3): _____
OCCUPANCY CATEGORY (Table 1604.5): **Current:** II **Proposed:** II

BASIC BUILDING DATA
Construction Type: II-B
Sprinklers: No N/A
Standpipes: N/A
Primary Fire District: No **Flood Hazard Area:** No
Special Inspections Required: No

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor		3705	
Basement			
TOTAL		3705	

ALLOWABLE AREA

Primary Occupancy Classification(s): Mercantile

Accessory Occupancy Classification(s): _____
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 – List Code Sections): _____
Special Provisions: (Chapter 5 – List Code Sections): _____
Mixed Occupancy: No Separation: Select one Exception: _____

Select one

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

3680 / 0 + ... = 0.065 ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,2]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
One	M-Mercantile	3680	23,000		

[1] 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 $I_f = 100[F/P - 0.25] \times W/30$ = _____ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55	23'-2"	
Building Height in Stories (Table 504.4)	Three	One	

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/___ % REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		N/A					
Bearing Walls		N/A					
Exterior		N/A					
North		N/A					
East		N/A					
West		N/A					
South		N/A					
Interior		N/A					
Nonbearing Walls and Partitions		N/A					

Exterior walls		N/A					
North		N/A					
East		N/A					
West		N/A					
South		N/A					
Interior walls and partitions		N/A					
Floor Construction including supporting beams and joists		N/A					
Floor Ceiling Assembly		N/A					
Columns Supporting Floors		N/A					
Roof Construction, including supporting beams and joists		N/A					
Roof Ceiling Assembly		N/A					
Columns Supporting Roof		N/A					
Shaft Enclosures - Exit		N/A					
Shaft Enclosures - Other		N/A					
Corridor Separation		N/A					
Occupancy/Fire Barrier Separation		N/A					
Party/Fire Wall Separation		N/A					
Smoke Barrier Separation		N/A					
Smoke Partition		N/A					
Tenant/Dwelling Unit/ Sleeping Unit Separation		N/A					
Incidental Use Separation		N/A					

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
➢ 30 ft	N/A	N/A	N/A

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: Yes
Exit Signs: Yes
Fire Alarms: No
Smoke Detection Systems: No
Carbon Monoxide Detection: No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: CS3

☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations (if not on the site plan)
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☒ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)

☒ Occupant loads for each area
☒ Exit access travel distances (1017)
☒ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
☒ Dead end lengths (1020.4)
☒ Clear exit widths for each exit door
☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
☒ 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 (1010.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1030)
☒ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
☐ 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
N/A							

ACCESSIBLE PARKING
(SECTION 1106)

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 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	
N/A						
TOTAL						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS			URINALS	LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
SPACE	EXIST'G										
	NEW	2	2	N/A	3	2	2	N/A	N/A	N/A	N/A
	REQ'D										

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, 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.

Existing building envelope complies with code: No

Exempt Building: No Provide code or statutory reference: ASHRAE 90.1 (2016)

Climate Zone: 3A

Method of Compliance: Energy Code - Performance
(If "Other" specify source here)_____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: TPO Roofing System
U-Value of total assembly: 0.037
R-Value of insulation: 26.1
Skylights in each assembly: N/A
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: Metal Framed Walls
U-Value of total assembly: 0.084
R-Value of insulation: 17.5
Openings (windows or doors with glazing)
U-Value of assembly: 0.28
Solar heat gain coefficient: 0.25
projection factor: 1.00
Door R-Values: 0.35

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: Steel Joist
U-Value of total assembly: 0.040
R-Value of insulation: 19/5.5&

Floors slab on grade
Description of assembly: N/A
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: 27.6
summer dry bulb: 91.0

Interior design conditions
winter dry bulb: 40
summer dry bulb: 95
relative humidity: 50%

Building heating load: 206 kBtu/h

Building cooling load: 277 kBtu/h (23 ton)

Mechanical Spacing Conditioning System
Unitary
description of unit: Roof/op HVAC
heating efficiency: 80.0 AFUE
cooling efficiency: 12.2 EER, 16.7 IEER
size category of unit: 2 @ 145.3 kBtu/h (290.6 kBtu/h / 24 ton total)
Boiler
Size category. If oversized, state reason.: N.A.
Chiller
Size category. If oversized, state reason.: N.A.

List equipment efficiencies: 80.0 AFUE – 12.2 EER/16.7 IEER Cooling

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

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

Live Loads: Roof 20 psf
Mezzanine N/A psf
Floor 100 psf

Ground Snow Load: 10 psf

Wind Load: Basic Wind Speed 144 mph (ASCE-7)
Exposure Category C

SEISMIC DESIGN CATEGORY: C
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) II
Spectral Response Acceleration S_S 0.220 %g S_1 0.092 %g
Site Classification (ASCE 7) D
Data Source: Presumptive
Basic structural system Building Frame
Analysis Procedure: Simplified
Architectural, Mechanical, Components anchored? Yes

LATERAL DESIGN CONTROL: Wind

SOIL BEARING CAPACITIES:
Presumptive Bearing Capicity 2000 psf
Pile size, type, and capacity _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: ASHRAE 90.1 - Prescriptive

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 Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

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DATE	BY	CHK	REVISIONS

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CUSTOMER:
CIRCLE K

43'-10" X 92'-9" Modular Building
Appendix B

DRAWN BY: Andy Rape
DATE: 10/3/2025
CHECKED BY:
DATE:

SEAL:

JOB #	G25B6
NC 55 & E Jackson Blvd	
Erwin, NC 28339	
United States of America	
SCALE : 1/4" = 1'-0"	
DRAWING # -	

CS2
2 of 2