

GASTON COLLEGE FIC CONNECTIONS FOR TEXTILE CARDING MACHINERY - PHASE I

MCKIM & CREED PROJECT # 10663-0002



GASTON COLLEGE

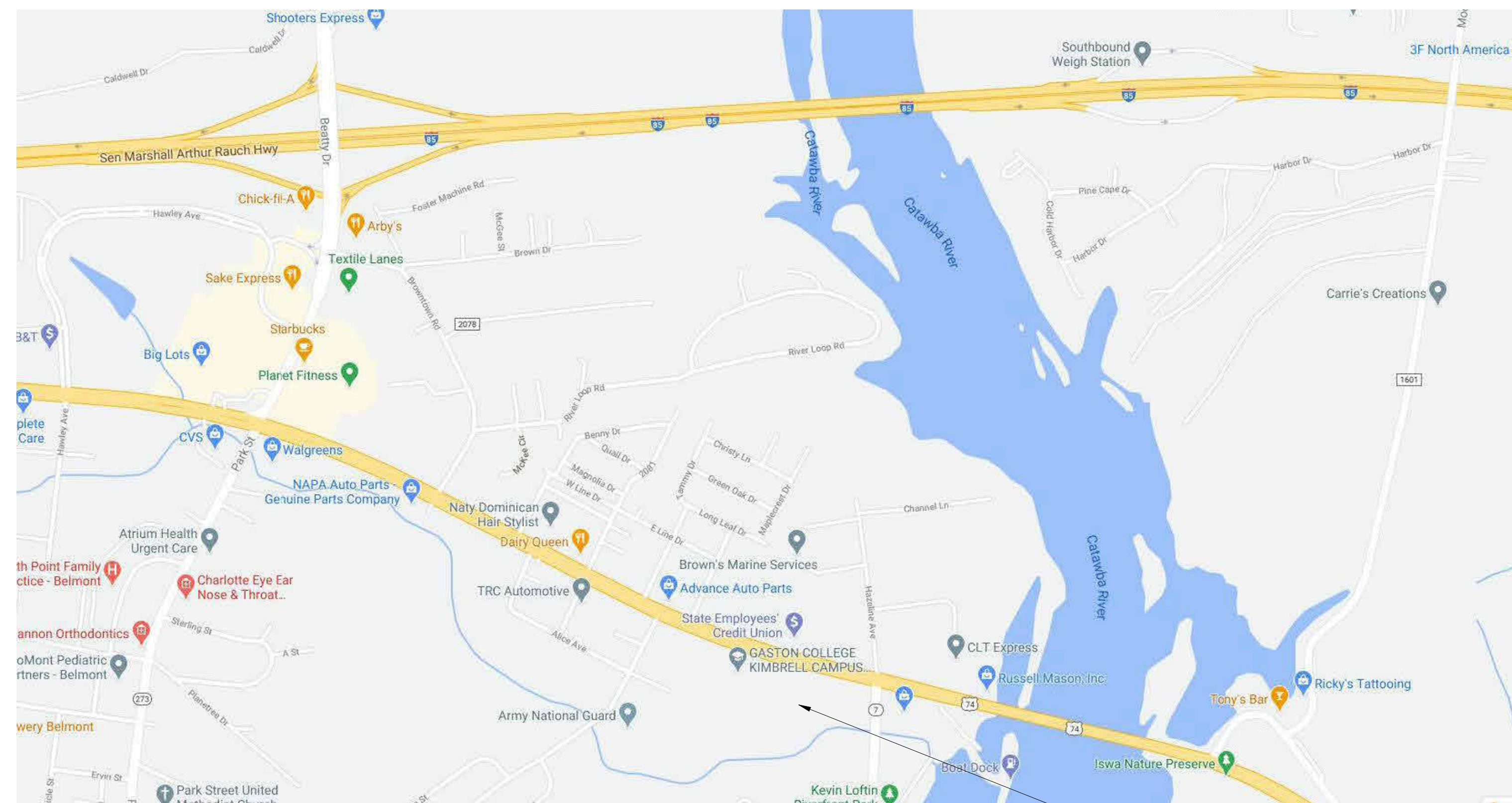
GASTON COLLEGE, KIMBRELL CAMPUS
7224 WILKINSON BOULEVARD
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ENGINEER - MEP



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VICINITY MAP
NOT TO SCALE

GASTON COLLEGE KIMBRELL CAMPUS

LIST OF DRAWINGS

GENERALS

- G001 COVER SHEET
- G002 APPENDIX B
- G003 APPENDIX B

ELECTRICAL

- E001 ELECTRICAL SYMBOLS
- E010 ELECTRICAL SPECIFICATIONS
- E011 ELECTRICAL SPECIFICATIONS
- E201 POWER - FIRST FLOOR PLAN
- E401 ELECTRICAL ENLARGED PLANS
- E501 ELECTRICAL RISER DIAGRAM
- E801 PANEL SCHEDULES
- E802 PANEL SCHEDULES
- E803 FOR REFERENCE ONLY INTERCONNECTION DIAGRAM
- E804 FOR REFERENCE ONLY INTERCONNECTION DIAGRAM
- E805 FOR REFERENCE ONLY INTERCONNECTION DIAGRAM
- E701 ELECTRICAL DETAILS

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Designed CLP Drawn CLP
 Checked TPB Date 2026-02-13
 Project No. 10663-0002

**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)

GASTON COLLEGE FIC CONNECTIONS FOR TEXTILE CARDING
 Name of Project: MACHINERY - PHASE 1
 Address: 7224 WILKINSON BOULEVARD BELMONT Zip Code 28012
 Owner/Authorized Agent: _____ Phone # _____ E-Mail _____
 Owned By: City/County Private State
 Code Enforcement Jurisdiction: City County Gaston State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil					
Electrical	Mikin & Creed	City Person	064201	828.252.1581	cmekin@creedcreed.com/mkreed@creedcreed.com
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler-Standard					
Structural					
Retaining Walls >5' High					
Other					

2018 NC CODE FOR: New Construction Addition Renovation
 1st Time Interior Completion
 Shell/Car
 Phased Construction - Shell/Core
 Renovation

2018 NC EXISTING BUILDING CODE: Prescriptive Repair Chapter 14
 Alteration: Level I Level II Level III
 Historic Property Change of Use

CONSTRUCTED: (date) _____ ORIGINAL OCCUPANCY(S) (Ch. 3): _____
RENOVATED: (date) _____ CURRENT OCCUPANCY(S) (Ch. 3): _____

RISK CATEGORY (table 1604.5) Current: I II III IV
 Proposed: I II III IV

BASIC BUILDING DATA
 Construction Type: I-A I-B II-A II-B III-A III-B IV V-A V-B
 (check all that apply)

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
 Special Inspections Required: No Yes - Only for Retaining Walls > 5'

2018 NC Administrative Code and Policies Appendix B for Building

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING	PROVIDED (Y/N) (W/DESCRIPTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0	0				
Roofing							
Exterior							
North	>30	0	0				
East	>30	0	0				
West	>30	0	0				
South	>30	0	0				
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North	0	0	0				
East	0	0	0				
West	0	0	0				
South	0	0	0				
Interior walls and partitions							
Floor Construction							
Including supporting beams and joists							
Floor Ceiling Assembly							
Column Supporting Floor							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Shall Enclosure - East							
Shall Enclosure - Other							
Corridor Separation							
Occupancy Fire Barrier Separation	1 HR	1 HR	1/0004	1/465	C-AJ-1001	100-15-0004	
Party Fire Wall Separation	2 HR	2 HR	2/0002	N/A/11			
Smoke Barrier Separation	0	0	0				
Smoke Partition	0	0	0				
Tenant Dwelling Unit Sleeping Unit Separation	N/A	N/A	N/A				
Incidental Use Separation	N/A	N/A	N/A				

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET FROM PROPERTY LINES)	DEGREES OF OPENING PROTECTION (TABLE 705.4)	ALLOWABLE AREA (%)	ACTUAL SHOWINGS PLANS (%)
30 or greater	Unprotected, Sprinklered	No limit	No limit

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ENERGY REQUIREMENTS

ENERGY REQUIREMENTS:
 The following data shall be considered minimum and any special attribute required to meet the North Carolina Energy Conservation Code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan and subject. 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 Yes (The remainder of this section is not applicable)

Exempt Building: No Yes (Provide Code or Statutory reference: _____)

Climate Zone: 3A 4A 5A

Method of Compliance: Energy Code Performance Prescriptive
 ASHRAE 90.1: Performance Prescriptive
 (If "Other" specify source here: _____)

THERMAL ENVELOPE (Prescriptive method only)

Roofing Assembly (each assembly)
 Description of assembly: Rigid insulation above concrete roof deck
 U-Value of total assembly: R-7.5ci min.
 R-Value of insulation: N/A
 Skylights in each assembly: N/A

Total sq. ft. **NOT APPLICABLE**

Exterior Walls (each assembly)
 Description of assembly: Insulating precast concrete panels
 U-Value of total assembly: R-7.5ci min.
 R-Value of insulation: R-7.5ci min.
 Openings (windows or doors with glazing):
 U-Value of opening: 0.45 min.
 Solar heat gain coefficient: 0.25 min.
 Projection factor: < 0.25 min.
 Door U-Value: 0.45 min.

Walls below grade (each assembly) - N/A
 Description of assembly: Insulating precast concrete panels
 U-Value of total assembly: R-7.5ci min.
 R-Value of insulation: R-7.5ci min.

Floors over unconditioned space (each assembly) - N/A
 Description of assembly: N/A
 U-Value of total assembly: N/A
 R-Value of insulation: N/A

Floors slab on grade
 Description of assembly: 4" min. concrete slab
 U-Value of total assembly: NR
 R-Value of insulation: NR
 Horizontal/Vertical requirement: NR
 Slab Head: N/A

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

ELECTRICAL SYSTEM AND EQUIPMENT: SEE ELECTRICAL DRAWINGS

Method of Compliance: Energy Code: Prescriptive Performance
 ASHRAE 90.1: Prescriptive Performance

Lighting schedule (each fixture type)
 lamp type required in fixture: LED
 number of lamps in fixture: N/A
 ballast type used by the fixture: N/A
 number of ballasts in fixture: N/A
 total wattage per fixture: See Sheet E002
 total interior wattage specified vs. allowed (whole building): Whole Bldg. 21,789W vs. 48,177W
 total exterior wattage specified vs. allowed: 2,953W vs. 3,147W

**Additional Efficiency Package Options
 (When using the 2018 NCECC; not required for ASHRAE 90.1)**
 C406.2 More Efficient Mechanical Equipment
 C4
 C4.1
 C4.2
 C406.7 Reduced Energy Use in Service Water Heating

NOT APPLICABLE

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Gross Building Area:

FLOOR	EXISTING (SQ.FT.)	NEW (SQ.FT.)	RENOVATE (SQ.FT.)	SUB-TOTAL
6 th Floor				
5 th Floor				
4 th Floor				
3 rd Floor				
2 nd Floor				
Mezzanine				
1 st Floor		37,558		
Basement				
TOTAL		37,558		

* A mezzanine shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories per NCBC Section 506.2.

ALLOWABLE AREA

Primary Occupancy Classification: SELECT ONE

Assembly A-1 A-2 A-3 A-4 A-5
 Business B-1 B-2 B-3 B-4 B-5
 Educational E-1 E-2 E-3 E-4 E-5
 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 Condition I-2 I-3 I-4
 Mercantile M-1 M-2 M-3
 Residential R-1 R-2 R-3
 Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
 Utility and Miscellaneous U-1
 U-2
 U-3
 U-4

Accessory Occupancy Classification(s): H-3, H-4

Incidental Uses (Table 509): _____

Special Uses (Chapter 4 - List Code Sections): _____

Special Provisions (Chapter 5 - List Code Sections): _____

Mixed Occupancy: No Yes Separation: 1 & 2 Hr. Exception: _____

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 ratio of the ratio of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

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

$\frac{0.28}{0.28} + \frac{0.06}{0.06} = 0.34 \leq 1.00$

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LIFE SAFETY SYSTEM REQUIREMENTS

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

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet # G001

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 (705.4)
 Occupancy types for each area as it relates to occupant load calculation (Table 1604.1.2)
 Occupant loads for each area
 Exit access travel distances (1017)
 Common path of travel distances (1006.2.1 & 2006.3.2(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 egress barrier.

ACCESSIBLE DWELLING UNITS - N/A (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

2018 NC Administrative Code and Policies Appendix B for Building

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

DESIGN LOADS: SEE STRUCTURAL DRAWINGS

Importance Factors: Snow (s) 1.0 Seismic (s) 1.0

Live Loads: Roof 20 psf Mezzanine N/A psf Floor 250/100 psf (Manufacturing / Lobby - Slab on Grade)

Ground Snow Load: 10 psf

Wind Load: Ultimate Wind Speed 115 mph (ASCE-7) Exposure Category C

SEISMIC DESIGN CATEGORY: A B C D

Provide the following Seismic Design Parameters:
 Risk Category (Table 1604.5) I II III IV
 Spectral Response Acceleration S_s 2.18 %
 Site Classification (ASCE 7) A B C D E F

Basic structural **NOT APPLICABLE**

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) 2,500 psf
 Presumptive bearing capacity N/A psf
 Pile size, type, and capacity N/A

2018 NC Administrative Code and Policies Appendix B for Building

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 506.2 ¹ AREA	(C) AREA PER FOOTING INCREASE ²	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ³
1	Factory F-1	37,558	62,000	15,500	77,500

¹ Footing area increases from Section 506.3 are computed thus:
 a. Perimeter which fronts a public way or open space having 20 feet minimum width = 276' (F)
 b. Total Building Perimeter = 552' (P)
 c. Ratio (F/P) = 0.5 (R)
 d. W = Minimum width of public way = 30' (W)
 e. Percent of footing increase $1 - 100 (F/P - 0.25) \times W/30 = 25\%$
² Unlimited area applicable under conditions of Section 507.
³ Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
⁴ The maximum area of open parking garages must comply with Table 406.5.4
⁵ Footing increase is based on the sprinklered area value in Table 506.2.

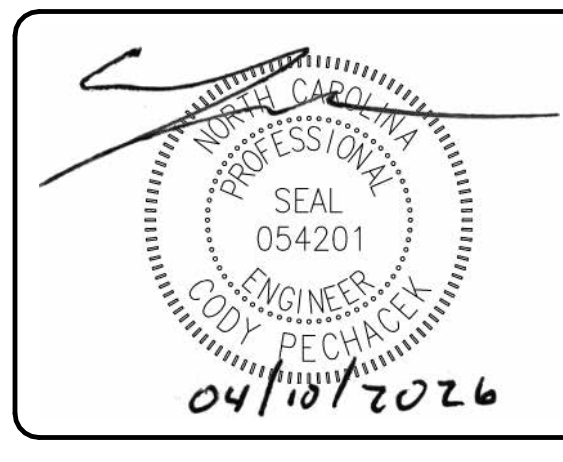
ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	75	36' - 0"	
Building Height in Story			

Provide code reference:
¹ The maximum height
² The maximum height of open parking garages must comply with Table 406.5.4

2018 NC Administrative Code and Policies Appendix B for Building

**GASTON COLLEGE, KIMBRELL CAMPUS
 7224 WILKINSON BOULEVARD
 BELMONT, NC 28012**



REV.	DESCRIPTION	DATE

REVISIONS

**GASTON COLLEGE
 FIC CARDING ROOM**

APPENDIX B

PROJ. START DATE:	2026-01-21
MCE PROJ. #	19663-0002
DRAWN	CLP
DESIGNED	CLP
CHECKED	TPB
PROJ. MGR	TR

STATUS:
NOT FOR CONSTRUCTION

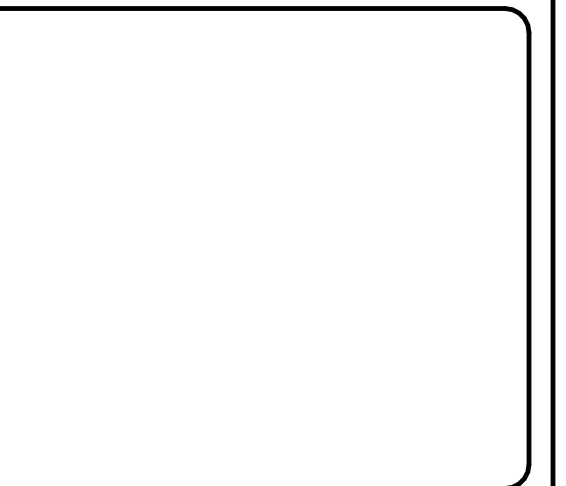
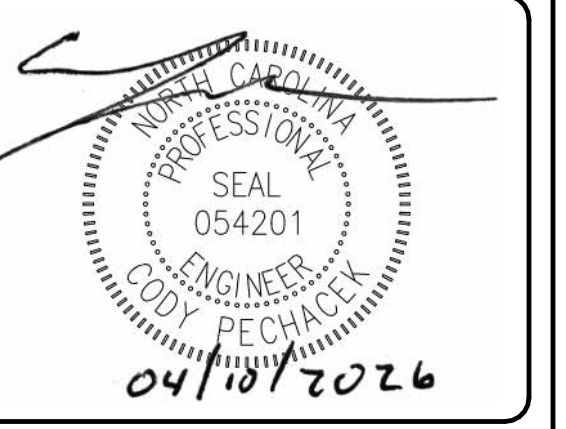
G002	SCALE
DRAWING NUMBER	
REVISION	

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Designed CLP _____ Drawn CLP _____
 Checked TPB _____ Date 2026-02-13
 Project No. 10663-0002

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GASTON COLLEGE, KIMBRELL CAMPUS
7224 WILKINSON BOULEVARD
BELMONT, NC 28012



REV.	DESCRIPTION	DATE

REVISIONS

GASTON COLLEGE
FIC CARDING ROOM

APPENDIX B

PROJ. START DATE:	2026-01-21
MCE PROJ. #	10663-0002
DRAWN	CLP
DESIGNED	CLP
CHECKED	TPB
PROJ. MGR	TR

STATUS:
NOT FOR CONSTRUCTION

G003	SCALE
DRAWING NUMBER	
REVISION	

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESSIBLE	VAN SPACES WITH 15' ACCESSIBLE	8' ACCESSIBLE	
EXISTING	172*	7	1	1		2
NEW	59*					
TOTAL		181				2

*49 existing parking spaces will be demolished for new construction. 58 new spaces will be added in the new construction. Net difference = 19 spaces. See civil drawings for details.

PLUMBING FIXTURE REQUIREMENTS - SEE OCC. LOAD TABLE ON SHEET G003 (TABLE 2902.1)

USE	WATER CLOSETS			URINALS	LAVATORIES			SHOWERS	DRINKING FOUNTAINS	
	MALE	FEMALE	UNSEX		MALE	FEMALE	UNSEX		REGULAR	ACCESSIBLE
SPACE										
EXIST'G	1	2		1	2	2	1		1	1
NEW	1	1			1	1	1		1	1

SPECIAL APPROVALS

Special approval: (Local) **NOT APPLICABLE** (the below)
 SCO: Dist. Gaston County

2018 NC Administrative Code and Policies Appendix B for Building

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: SEE MECHANICAL DRAWINGS

Thermal Zone
 winter dry bulb: 18.0°F
 summer dry bulb: 94.0°F DB / 74.0°F WB

Interior design conditions
 winter dry bulb: 70.0°F
 summer dry bulb: 80.0°F
 relative humidity: 50%

Building heating load: See Mechanical Schedule for Partial Loading

Building cooling load: See Mechanical Schedule for Partial Loading

Mechanical Spacing Conditioning System
 Unitary
 electric heating
 cooling
 size category of unit: See Equipment Schedules
 Boiler
 size category: If oversized, state reason.: N/A
 Chiller
 size category: If oversized, state reason.: N/A

List equipment efficiencies: See Equipment Schedules and Drawings

2018 NC Administrative Code and Policies Appendix B for Building