

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

**DESIGN LOADS:**

**Importance Factors:** Snow (Is)        Select one  
Seismic (Is)        Select one

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

**Ground Snow Load:**        psf

**Wind Load:** Ultimate Wind Speed        mph (ASCE-7)  
Exposure Category        Select one

**SEISMIC DESIGN CATEGORY:** Select one

Provide the following Seismic Design Parameters:  
Risk Category (Table 1604.5)        Select one  
Spectral Response Acceleration  $S_s$         %g  $S_1$         %g

**Site Classification (ASCE 7)**        Select one  
Data Source:        Select one

Basic structural system        Select one  
Analysis Procedure:        Select one  
Architectural, Mechanical, Components anchored?        Select one

**LATERAL DESIGN CONTROL:** Select one

**SOIL BEARING CAPACITIES:**  
Select one        psf  
File size, type, and capacity       

No structural work required for this project

2018 NC Administrative Code and Policies

**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:** Select one

**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

Refer to Electrical Drawings

2018 NC Administrative Code and Policies

face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min average truss depth of 18 in. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. If the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

**3. Batts and Blankets\*** — Optional — Glass fiber insulation fitted in the concealed space, draped over the resilient channels and gypsum wallboard ceiling membrane or fastened to underside of roofing system. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf.

**3A. Loose Fill Material\*** — As an alternate to Item 3, any loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a min density of 0.5 pcf.

**3B. Fiber, Sprayed\*** — As an alternate to Item 3 — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft<sup>3</sup>, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fibers applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft<sup>3</sup> over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft<sup>3</sup> behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.

**APPLGATE GREENFIBER ACQUISITION LLC — SANCTUARY** for use with wet or dry application. INSS10LD, INSS15LD, INSS41LD, and Insulmax are to be used for dry application only.

**3C. Cavity Insulation - Batts and Blankets\*, Loose Fill\* or Fiber, Sprayed\*** — (As described above) in Items 3, 3A and 3B — (For Use with Item 7A, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6D) gypsum board (Item 7A) ceiling membrane.

**3D. Foamed Plastic\*** — (As an alternate to Item 3 or 3A, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft<sup>3</sup> density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through 5AB) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.

**SES FOAM INC — Succraseal**  
**3E. Foamed Plastic\*** — (As alternate to Item 3, 3A, or 3B, Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft<sup>3</sup> or 2.0 lb/ft<sup>3</sup> density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through 5AB) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.

**BASF CORP** — Enerlite® NM, Enerlite® G, FE178®, Sprayite® 178, Sprayite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, and Walltite® HP+

**3F. Foamed Plastic\*** — (As an alternate to Item 3, 3A, 3B, 3C, or 3D, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft<sup>3</sup> density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly and occur midway between the continuous furring channels. If used with a ceiling damper (Items 5 through 5AB) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.

**SES FOAM INC — EasySeal.5, EasySeal ULD**

**4. Air Duct\*** — N/A

**5. Ceiling Damper\*** — N/A.

**6. Furring Channels** — Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation is fitted in the concealed space, or a max of 12 in. OC when insulation is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane, or when insulation applied to the underside of the roofing system (Item 1). Channels overlapped 4 in. at splices. Channels oriented opposite at wallboard butt joints (spaced 6 in. OC) as shown in the above illustration. Channels secured to each truss with 1-1/4 in. long Type S screws.

**6A. Steel Framing Members\*** — (Optional, Not Shown) — As an alternate to Item 6 - Nom 12 ft (3.66 m) long main runners installed perpendicular to wood trusses and spaced 48 in. (1.22 m) OC. Main runners suspended from trusses with No. 12 SWG galv steel hanger wires reliably secured to the bottom chords of the trusses with screw-attached steel clips and spaced max 48 in. (1.22 m) OC. Nom 4 ft (1.22 m) long cross tees with 1-1/2 in. (38 mm) wide face installed perpendicular to main runners and spaced max 16 in. (406 mm) OC. Cross tees located 4 in. (102 mm) from each side of butted gypsum board end joints. Ends of steel framing members at walls to be supported by galv or painted steel angles or channels with min 1 in. (25 mm) horizontal leg.  
**ARMSTRONG WORLD INDUSTRIES INC — Type DFR-8000**

**7. Gypsum Board\*** — Nom 5/8 in. thick, 48 in. wide, installed with long dimension perpendicular to resilient channels with 1-1/8 in. long Type S screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. At end joints, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When insulation, Item 3 or 3A, is draped over the resilient channel/gypsum wallboard ceiling membrane, screws shall be installed at 8 in. OC.  
**NATIONAL GYPSUM CO — Types oXP-C, FSW-G, FSW-C, FSK-G, FSK-C**  
When Steel Framing Members\* (Item 6A) are used, gypsum board installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Gypsum board secured to cross tees with 1-1/8 in. long Type S bugle head screws spaced 12 in. OC in the field and 8 in. OC along end joints. Gypsum board also secured to main runners with 1 in. long Type S bugle head screws midway between cross tees. Screws along sides and ends of boards spaced 3/4 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.

**8. Finishing System** — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, non 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum wallboard.

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**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:         
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:**       

Refer to Mechanical Drawings

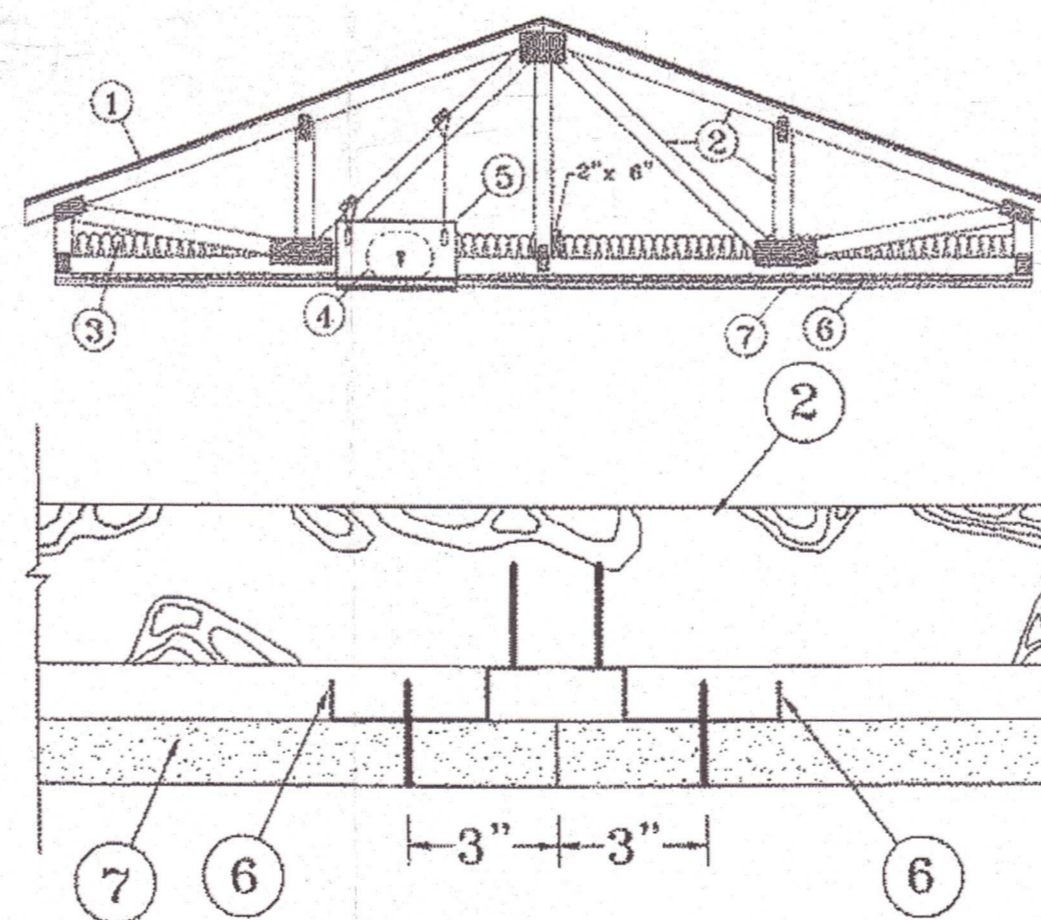
2018 NC Administrative Code and Policies

**UL Design No. P533**

August 4, 2023

Unrestrained Assembly Rating — 1 Hr  
Finish Rating — 23 Min

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide EXUV or EXUV7 respectively.  
\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada).



**1. Roofing System\*** — Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or staples.

**2. Trusses** — Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior

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**BENFIELD APARTMENTS**

111 E. Main St.  
Gibsonville, NC 27249

DRAWING NAME:  
APPENDIX 'B', CONT';  
UL P533



DRAWN  
MMM  
CHECKED  
MMM  
DATE  
11/29/2023  
SCALE  
AS NOTED  
JOB NO.  
23052  
SHEET

G-2