

1 unless the construction documents (drawings and specifications), bear the North Carolina seal of a
2 registered design professional. Construction documents shall include the name and address of the business
3 entity (individual, corporation or partnership) with whom the registered design professional is affiliated.
4 Questions concerning this section should be directed to the North Carolina Board of Architecture and
5 Registered Interior Designers, the North Carolina Board of Landscape Architects, the North Carolina Board
6 of Examiners for Engineers and Land Surveyors, or the National Institute for Certified Engineering
7 Technologies (NICET) Board of Governors.

8
9 **204.4.5.1 Registered design professional.** The registered design professional shall be a registered
10 architect, registered interior designer, registered landscape architect, licensed professional engineer or
11 NICET Level III sprinkler or fire alarm designer legally registered or licensed under the laws of this state.

12
13 **Motion/Second/Approved** – The request was granted. The proposed effective date of this rule is January
14 1, 2025, unless the BCC assigns a delayed effective date.

15
16 **Reason Given** – This amendment is proposed to protect the public by updating the code to current
17 standards of practice. This change proposed to the declared definition of a registered design professional
18 would resolve any conflicts when a system, structure or element, defined by the NC State Building Code is
19 appropriately designed and certified by a Registered Landscape Architect practicing within their expertise.
20 Currently when the NCBC specifies certain systems, structures, and elements, be designed or certified by a
21 “registered design professional” that precludes a qualified Registered Landscape Architect from providing
22 design services for things like, but not limited to, retaining walls, decks, soils or foundation analysis. A
23 Registered Landscape Architect is a professional who has demonstrated knowledge acquired through
24 professional education, experience, testing and continuing education and is deemed eligible to perform the
25 services in connection with the development of land areas. This practice shall include the preparation of
26 plans and specifications and supervising the execution of projects involving the arranging of land and
27 construction elements in accordance with the accepted professional standards of public health, safety, and
28 welfare. Further, the scope of this practice, as defined by G.S. 89A-1(3) and G.S. 89A2(b) shall be limited
29 only by the licensee possessing the requisite knowledge and experience to provide the service. These
30 services can include the design and certification of systems, structures, or elements such as retaining walls
31 and decks, among others. Furthermore, this proposed change aligns the state’s building codes with the 1989
32 opinion from the Attorney General of NC (copy attached) which states that a town cannot exclude a
33 qualified licensed design professional --- and specifically mentions “landscape architect” – from designing
34 and sealing something the licensee is qualified to design. There is no legal distinction between a town and
35 the State as a unit of government, and the Attorney General’s opinion should be equally applicable.

36

1 **Fiscal Statement** – This rule is anticipated to provide equivalent compliance with no net decrease/increase
2 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
3 funds. A fiscal note has not been prepared.
4

5 **2. Request from Kerry Sutton, P.E. representing the American Concrete Institute, Edward Deaver**
6 **representing the ACI Carolinas Chapter, Caroline Sutton representing Carolinas Ready Mixed**
7 **Concrete Association, Shamim Rashid-Sumar, P.E., F.S.F.P.E. representing National Ready Mixed**
8 **Concrete Association, Griff Shapack, P.E. representing Simpson Strong-Tie, Jay Pease, P.E.**
9 **representing Owens Corning/Infrastructure Solutions, Jerzy Zemajtis, P.E. representing NEX: An**
10 **ACI Center of Excellence for Nonmetallic Building Materials, and Jay Thomas representing**
11 **Structural Technologies to amend the 2024 NC Building Code, Section 1901 as follows:**

12
13 **1901.2 Plain and reinforced concrete.** Structural concrete shall be designed and constructed in accordance
14 with the requirements of this chapter and ACI 318 as amended in Section 1905 of this code. Except for the
15 provisions of Section 1904 and 1907, the design and construction of slabs on grade shall not be governed in
16 this chapter unless they transmit vertical *loads* or lateral forces from other parts of the structure to the soil.
17

18 **1901.2.1 Structural concrete with GFRP reinforcement.** Cast-in-place structural concrete internally
19 reinforced with glass fiber reinforced polymer (GFRP) reinforcement conforming to ASTM D7957 and
20 designed in accordance with ACI CODE 440.11 shall be permitted where fire resistance ratings are not
21 required and only for structures assigned to Seismic Categories A, B or C.

22
23 **Exception:** Concrete internally reinforced with GFRP bars shall not be permitted for concrete elements that
24 are part of the seismic lateral force resisting system in structures assigned to Seismic Design Categories B
25 or C.

26
27 **Add new reference standard(s) to Chapter 35 as follows:**

28
29 **ACI**
30 **440.11-22 Building Code Requirements for Structural Concrete Reinforced with Glass Fiber-Reinforced**
31 **Polymer (GFRP) Bars-Code and Commentary.....1901.2.1**

32
33 **ASTM**
34 **D7957-17 Standard Specification for Solid Round Glass Fiber Reinforced Polymer Bars for Concrete**
35 **Reinforcement.....1901.2.1**
36

1 **Motion/Second/Approved** – The request was granted. The proposed effective date of this rule is January
2 1, 2025, unless the BCC assigns a delayed effective date.

3
4 **Reason Given** – This proposal adds a new referenced standard: ACI CODE 440.11-22: Structural Concrete
5 Buildings Reinforced Internally with Fiber Reinforced Polymer (FRP) Bars – Code Requirements. The
6 addition of this new standard allows the design and construction of cast-inplace reinforced concrete using
7 non-metallic reinforcement bars. The design and construction requirements contained in the standard are
8 limited to use in structures assigned to Seismic Design Category A, B or C where fire resistance ratings are
9 not required (Section 4.11.1). It further clarifies that GFRP bars shall not be permitted for structure
10 elements assigned to Seismic Design Category B and C where part of seismic force-resisting systems
11 (Section 4.4.6.5). ACI Committee 440 developed this standard to provide for public health and safety by
12 establishing minimum requirements for strength, stability, serviceability, durability, and integrity of GFRP
13 reinforced concrete structures. The standard not only provides a means of establishing minimum
14 requirements for the design and construction of GFRP reinforced concrete, but for acceptance of design and
15 construction of GFRP reinforced concrete structures by the building officials or their designated
16 representatives. Due to the performance of other types of FRP reinforcement and the lack of research and
17 testing of other types, the standard only applies to reinforced concrete structures designed and constructed
18 with GFRP manufactured in accordance with ASTM D7957 Standard Specification for Solid Round Glass
19 Fiber Reinforced Polymer Bars for Concrete. GFRP reinforced concrete is especially beneficial for
20 satisfying a demand for improved resistance to corrosion in highly corrosive environments, such as
21 reinforced concrete exposed to water, sea water, sea air, and de-icing salts. This standard establishes
22 minimum requirements for GFRP reinforced concrete in a similar fashion as ACI 318 Building Code
23 Requirements for Structural Concrete establishes minimum requirements for structural concrete reinforced
24 with steel reinforcement. A separate standard is needed, as GFRP reinforcement behaves differently than
25 steel reinforcement. ACI CODE 440.11 will be referenced in the 2024 International Building Code.
26 Because of the many corrosive environments in North Carolina, acceptance of ACI CODE 440.11 prior to
27 the review of the 2024 I-Codes can be beneficial for the health, safety, and general welfare of the public in
28 North Carolina. Currently GFRP is accepted for use to reinforce highway bridge decks. Acceptance is
29 primarily in areas where saltwater is prevalent and where deicing salts are used on the roads and cause
30 severe corrosion to conventional steel reinforcement. This proposed change provides minimum
31 requirements for other applications where GFRP reinforced concrete is being considered, such as marine
32 and coastal structures, parking garages, water tanks, and structures supporting MRI machines. Design
33 reasons to use GFRP bars in structures are resistance to corrosion in the presence of chloride ions, lack of
34 interference with electromagnetic fields, and low thermal conductivity. The use of GFRP reinforcement is
35 accepted by the North Carolina Department of Transportation and has been specified in the Harkers Island
36 Bridge replacement project currently under construction.

37

1 **Fiscal Statement** – This rule is anticipated to provide equivalent compliance with no net decrease/increase
2 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
3 funds. A fiscal note has not been prepared.

4

5 **3. Request from Julius Ballanco, P.E. representing JB Engineering and Code Consulting, P.C. to**
6 **amend the 2024 NC Mechanical Code, Chapter 15 as follows:**

7

ASHRAE
ASHRAE 1791 Tullie Circle, NE
Atlanta, GA 30329

15—
~~2019~~2022 Safety Standard for Refrigeration Systems 1101.1, 1106.4.2

34—
~~2019~~2022 Designation and Safety Classification of Refrigerants 1102.2.1, 1103.1, Table 1103.1

8

UL LLC
UL 333 Pfingsten Road
Northbrook, IL 60062-2096

9

UL/CSA Household And Similar Electrical Appliances - Safety 908.1, 916.1,
60335-2-40- — Part 2-40: Particular Requirements for Electrical 918.1, 918.2,
~~2019~~2022 Heat Pumps, Air-Conditioners and Dehumidifiers Table 1101.2

10

UL/CSA Household And Similar Electrical Appliances - Safety — Part
60335- 2-89: Particular Requirements for Commercial Refrigerating Table 1101.2
2-89- Appliances with an Incorporated or Remote Refrigerant Units
~~17~~2021 or Compressor

11

12 **Motion/Second/Approved** – The request was granted. The proposed effective date of this rule is January
13 1, 2025, unless the BCC assigns a delayed effective date.

14

15 **Reason Given** – These proposed amendments are based on the 2024 North Carolina Mechanical Code
16 language but include updates based on approved 2024 ICC International Mechanical Code changes to these
17 referenced standards – as related to A2L refrigerants. Updating noted standards to the 2022 editions are
18 needed because computer room air conditioners and data center air conditioners using A2L refrigerants are
19 not addressed in the UL/CSA 60335-2-40-2019 standard. These are only addressed in the UL/CSA 60335-

1 2-40-2022 edition. The ASHRAE 15-2022 standard has revised installation requirements for equipment
2 using A2L refrigerants. The ASHRAE 34-2022 standard has new refrigerants added. UL 60335-2-89 is
3 being added to allow for the use of new Low GWP, Group A2L refrigerants to be used in refrigeration
4 equipment. This UL/CSA 60335-2-89 standard was added in the 2021 IMC but updated to the 2021 edition
5 in the 2024 IMC. I am simply bringing them forward for early adoption to help speed the transition to new
6 lower GWP A2L refrigerants until such time as North Carolina adopts the 2024 I-Codes.

7
8 **Fiscal Statement** – This rule is anticipated to provide equivalent compliance with no net decrease/increase
9 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
10 funds. A fiscal note has not been prepared.

11
12 **4. Request from David Rittlinger representing NCDOT to amend the 2024 NC Administrative Code**
13 **and Policies by adding Appendix H: “Affidavit of on-site wastewater existing system pursuant to**
14 **N.C.G.S. 160D-1110(h1)” to comply with SL 2023-90 (H628) that was signed into law on 7/10/23 and**
15 **becomes effective 10-1-23.**

16

APPENDIX H

AFFIDAVIT OF ON-SITE WASTEWATER EXISTING SYSTEM PUSUANT TO N.C.G.S. §160D-1110(h1)

[This form is only required with a permit application if the permit applicant is applying for exemption as allowed by N.C.G.S. § 160D-1110(h1)]

STATE OF NORTH CAROLINA

COUNTY OF _____

_____ Inspection Department

Address and Parcel Identification of Real Property Where Building is to be Constructed or Altered:

I, _____,

(Print Full Name)

owner of the property, do hereby under penalties of perjury affirm that the proposed building construction will meet local and State on-site wastewater system setback requirements pursuant to N.C.G.S. § 130A-335. Additionally, the proposed construction shall not increase the design daily flow or wastewater strength of the existing system and thereby absolves the State, Inspection Department, and Local Health Department of any responsibility or liability regarding the existing wastewater system.

The property owner may, at his or her discretion, consult with an authorized on-site wastewater evaluator certified by the North Carolina On-Site Wastewater Contractors and Inspectors Certification Board or an inspector, as defined in N.C.G.S. § 90A-71(5), to locate the on-site wastewater existing system and verify setbacks requirements prior to executing this affidavit.

(Signature of Affiant)

Date

Sworn to (or affirmed) and Subscribed before me this the ____ day of _____, 20__

Signature of Notary Public

Printed Name of Notary Public

My Commission Expires: _____ (Notary Stamp or Seal)

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Motion/Second/Approved – The request was granted. The proposed effective date of this rule is January 1, 2025, unless the BCC assigns a delayed effective date.

Reason Given – Adding Appendix H: “Affidavit of on-site wastewater existing system pursuant to N.C.G.S. 160D1110(h1)” to comply with SL 2023-90 (H628) that was signed into law on 7/10/23 and becomes effective 10-123.

1 **Fiscal Statement** – This rule is anticipated to provide equivalent compliance with no net decrease/increase
2 in cost. This rule is not expected to either have a substantial economic impact or increase local and state
3 funds. A fiscal note has not been prepared.

4

5 **NOTICE:**

6 **Appeals and Interpretations** of the North Carolina State Building Codes are published online at the
7 following link.

8 <https://www.ncosfm.gov/interpretations>

9

10 **NOTICE:**

11 **Amendments** of the North Carolina State Building Codes are published online at the following link.

12 <https://www.ncosfm.gov/codes/codes-current-and-past>

13

14 **NOTICE:**

15 **Objections and Legislative Review** requests may be made to the NC Office of Administrative Hearings in
16 accordance with G.S. 150B-21.3(b2) after Rules are adopted by the Building Code Council.

17 <http://www.ncoah.com/rules/>