

1 15A NCAC 18A .1934 - .1935 are repealed with changes as published in 35:17 NCR 1849-1942 as follows:

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3 **15A NCAC 18A .1934 SCOPE**

4 **15A NCAC 18A .1935 DEFINITIONS**

5
6 *History Note: Authority 130A-335(e) and (f);*

7 *Eff. July 1, 1982;*

8 *Amended Eff. July 1, 1995; December 1, 1990; January 1, 1990; August 1, 1988; April 1, 1985;*

9 *Temporary Amendment Eff. June 24, 2003;*

10 *Amended Eff. June 1, 2006; May 1, 2004;*

11 *Repealed Eff. October 1, 2021*

1 15A NCAC 18A .1937 - .1962 are repealed with changes as published in 35:17 NCR 1849-1942 as follows:

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3 **15A NCAC 18A .1937 PERMITS**

4 **15A NCAC 18A .1938 RESPONSIBILITIES**

5 **15A NCAC 18A .1939 SITE EVALUATION**

6 **15A NCAC 18A .1940 TOPOGRAPHY AND LANDSCAPE POSITION**

7 **15A NCAC 18A .1941 SOIL CHARACTERISTICS (MORPHOLOGY)**

8 **15A NCAC 18A .1942 SOIL WETNESS CONDITIONS**

9 **15A NCAC 18A .1943 SOIL DEPTH**

10 **15A NCAC 18A .1944 RESTRICTIVE HORIZONS**

11 **15A NCAC 18A .1945 AVAILABLE SPACE**

12 **15A NCAC 18A .1946 OTHER APPLICABLE FACTORS**

13 **15A NCAC 18A .1947 DETERMINATION OF OVERALL SITE SUITABILITY**

14 **15A NCAC 18A .1948 SITE CLASSIFICATION**

15 **15A NCAC 18A .1949 SEWAGE FLOW RATES FOR DESIGN UNITS**

16 **15A NCAC 18A .1950 LOCATION OF SANITARY SEWAGE SYSTEMS**

17 **15A NCAC 18A .1951 APPLICABILITY OF RULES**

18 **15A NCAC 18A .1952 SEPTIC TANK, EFFLUENT FILTER, DOSING TANK AND LIFT STATION
19 DESIGN**

20 **15A NCAC 18A .1953 PREFABRICATED SEPTIC TANKS AND PUMP TANKS**

21 **15A NCAC 18A .1954 MINIMUM STANDARDS FOR PRECAST REINFORCED CONCRETE TANKS**

22 **15A NCAC 18A .1955 DESIGN INSTALLATION CRITERIA FOR CONVENTIONAL SEWAGE
23 SYSTEMS**

24 **15A NCAC 18A .1956 MODIFICATIONS TO SEPTIC TANK SYSTEMS**

25 **15A NCAC 18A .1957 CRITERIA FOR DESIGN OF ALTERNATIVE SEWAGE SYSTEMS**

26 **15A NCAC 18A .1958 NON-GROUND ABSORPTION SEWAGE TREATMENT SYSTEMS**

27 **15A NCAC 18A .1959 PRIVY CONSTRUCTION**

28 **15A NCAC 18A .1960 MAINTENANCE OF PRIVIES**

29 **15A NCAC 18A .1961 MAINTENANCE OF SEWAGE SYSTEMS**

30 **15A NCAC 18A .1962 APPLICABILITY**

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32 *History Note: Authority 89C; 89E; 89F; 90A; 130A-335(e),(f)(f1); 130A-342;*

33 *Eff. July 1, 1982;*

34 *Amended Eff. July 1, 1995; April 1, 1993; February 1, 1992; August 1, 1991;*

35 *Filed as a Temporary Amendment Eff. July 3, 1991, for a period of 180 days to expire on December*
36 *30, 1991;*

37 *Amended Eff. May 1, 1991; December 1, 1990; October 1, 1990;*

1 *Filed as a Temporary Amendment Eff. June 30, 1990, for a period of 180 days to expire on*
2 *December 27, 1990;*
3 *Amended Eff. January 1, 1990; August 1, 1988; April 1, 1985; January 1, 1984; October 1, 1983;*
4 *October 1, 1982; July 1, 1983; January 1, 1983;*
5 *Temporary Amendment Eff. January 20, 1997;*
6 *Amended Eff. August 1, 1998;*
7 *Temporary Amendment Eff. January 1, 1999;*
8 *Amended Eff. August 1, 2000; November 1, 1999;*
9 *Temporary Amendment Eff. June 24, 2003; April 17, 2002;*
10 *Amended Eff. August 1, 2007; June 1, 2006; May 1, 2004.*
11 *Repealed Eff. October 1, 2021*

1 15A NCAC 18A .1964 - .1968 are repealed with changes as published in 35:17 NCR 1849-1942 as follows:

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3 **15A NCAC 18A .1964 INTERPRETATION AND TECHNICAL ASSISTANCE**

4 **15A NCAC 18A .1965 APPEALS PROCEDURE**

5 **15A NCAC 18A .1966 SEVERABILITY**

6 **15A NCAC 18A .1967 INJUNCTIONS**

7 **15A NCAC 18A .1968 PENALTIES**

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9 *History Note: Authority G.S. 130A-335(e);*

10 *Eff. July 1, 1982;*

11 *Amended Eff. January 1, 1990; February 1, 1987; January 1, 1985.*

12 *Repealed Eff. October 1, 2021*

1 15A NCAC 18A .1969 is repealed with changes as published in 35:17 NCR 1849-1942 as follows:

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3 **15A NCAC 18A .1969 APPROVAL AND PERMITTING OF ON-SITE SUBSURFACE WASTEWATER**
4 **SYSTEMS, TECHNOLOGIES, COMPONENTS, OR DEVICES**
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6 *History Note: Authority G.S. 130A-335(e),(f); 130A-343;*
7 *Eff. April 1, 1993;*
8 *Temporary Amendment Eff. June 24, 2003; February 1, 2003;*
9 *Amended Eff. June 1, 2006; February 1, 2005; May 1, 2004;*
10 *Repealed Eff. October 1, 2021.*
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1 15A NCAC 18A .1970 is repealed with changes as published in 35:17 NCR 1849-1942 as follows:

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3 **15A NCAC 18A .1970 ADVANCED WASTEWATER PRETREATMENT SYSTEM**

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5 *History Note: Authority G.S. 130A-334; 130A-335; 130A-336; 130A-337; 130A-340; 130A-342; 130A-343;*
6 *Eff. June 1, 2006;*
7 *Amended Eff. October 1, 2011;*
8 *Repealed Eff. October 1, 2021.*
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1 15A NCAC 18A .1971 is repealed with changes as published in 35:17 NCR 1849-1942 as follows:

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3 **15A NCAC 18A .1971 ENGINEERED OPTION PERMIT**

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5 *History Note: Authority G.S. 130A-335; 130A-336.1;*
6 *Temporary Adoption Eff. July 1, 2016;*
7 *Eff. April 1, 2017;*
8 *Repealed Eff. October 1, 2021.*
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1 15A NCAC 18A .2651 is amended with changes as published in 35:23 NCR 2526–2535 as follows:

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3 **15A NCAC 18A .2651 DEFINITIONS**

4 The provisions of this Rule make amendments, additions, and deletions to the Food Code incorporated by reference
5 in Rule .2650 of this Section. In Chapter 1, the following apply:

- 6 (1) In Paragraph 1-201.10(B), add: "'Commissary' means a food establishment that services a mobile
7 food unit or a pushcart."
- 8 (2) In Paragraph 1-201.10(B), add: "'Congregate nutrition sites' means food establishments where food
9 preparation is limited to same day service, reheating of ~~potentially hazardous food (time/temperature~~
10 ~~control for safety food), time/temperature control for safety food,~~ and operated under the rules of
11 the Division of Aging and Adult Services, N.C. Department of Health and Human
12 Services."Services, which are found in 10A NCAC 05 and 06."
- 13 (3) In Paragraph 1-201.10(B), add: "'Department' means the N.C. Department of Health and Human
14 Services."
- 15 (4) In Paragraph 1-201.10(B), amend "Equipment (1)" to read: "means an article that is used in the
16 operation of a food establishment such as a freezer, grinder, hood, ice maker, meat block, mixer,
17 oven, reach-in refrigerator, scale, sink, slicer, stove, table, temperature measuring device for ambient
18 air, or warewashing machine."
- 19 ~~(4)(5)~~ In Paragraph 1-201.10(B), amend "Food establishment (2)(b)" to read: "An operation that is
20 conducted in a mobile, stationary, temporary, or permanent facility or location and where
21 consumption is on or off the premises."
- 22 ~~(5)(6)~~ In Paragraph 1-201.10(B), amend "Food establishment (3)" to read: "Food establishment' does not
23 include entities exempted as described in G.S. 130A-250 or establishments that only serve such
24 items as dip ice cream, popcorn, candied apples, or cotton candy."130A-250.
- 25 ~~(6)(7)~~ In Paragraph 1-201.10(B), add: "'Food stand' means a food establishment that prepares or serves
26 food and that ~~does not only provide~~ provides seating facilities ~~for customers to use while eating or~~
27 ~~drinking."~~ as set forth in G.S. 130A-248(a6)."
- 28 ~~(7)(8)~~ In Paragraph 1-201.10(B), add: "'Good repair' means equipment and utensils shall be maintained in
29 a state of repair and condition that meets the requirements specified under Parts 4-1 and 4-2 of the
30 Food Code as amended by Rule .2654."
- 31 ~~(8)(9)~~ In Paragraph 1-201.10(B), amend "Imminent health hazard" ~~to:~~ to read: "'Imminent health hazard'
32 means an imminent hazard as defined in G.S. 130A-2(3)."
- 33 ~~(9)(10)~~ In Paragraph 1-201.10(B), add: "'Limited food services establishment' means a food establishment
34 as defined in G.S. 130A-247(7)."
- 35 ~~(10)(11)~~ In Paragraph 1-201.10(B), add: "'Local health director' means a local health director as defined in
36 G.S. 130A-2(6)."

(11)(12) In Paragraph 1-201.10(B), amend "Meat" to read: "Meat' means the flesh of animals used as food including the dressed flesh of cattle, swine, sheep, or goat, other edible animals, and as defined in G.S. 106-549.15(14), except fish, poultry, and wild game animals as specified under Subparagraphs 3-201.17(A)(3) and (4)."

(12)(13) In Paragraph 1-201.10(B), add: "'Mobile food unit' means a food establishment ~~or pushcart~~ with no permanent utility connections, except for an onsite electrical connection, that is designed to be readily moved and vend food." food and that does not provide seating facilities for customers to use while eating or drinking."

(13)(14) In Paragraph 1-201.10(B), amend "Person" ~~to~~ to read: "'Person' means person as defined in G.S. 130A-2(7)."

(14)(15) In Paragraph 1-201.10(B), amend "Poultry (1)" to read: "Any domesticated bird (chickens, turkeys, ducks, geese, guineas, ratites, or squabs), whether live or dead, as defined in 9 CFR 381.1 Poultry Products Inspection Regulations Definitions, Poultry, and G.S. 106-549.51(26); and"

(15)(16) In Paragraph 1-201.10(B), add: "'Pushcart' means a mobile piece of equipment or vehicle used to vend food."

(16)(17) In Paragraph 1-201.10(B), add: "'Registered Environmental Health Specialist' means a Registered Environmental Health Specialist as defined in G.S. 90A-51(2b) and 90A-51(4) and authorized agent of the Department."

(17)(18) In Paragraph 1-201.10(B), ~~add:~~ amend "Regulatory Authority" to read: "'Regulatory Authority' means the Department or authorized agent of the Department."

(18)(19) In Paragraph 1-201.10(B), add: "'Restaurant' means a food establishment that prepares or serves food and provides seating."

(19)(20) In Paragraph 1-201.10(B), add: "'Supplemental cooking room' means a separate attached or detached structure in that food is cooked on grills, pits, or fireplaces and no other processing occurs."

(20)(21) In Paragraph 1-201.10(B), amend "Temporary food establishment" ~~to~~ to read: "(1) 'Temporary 'Temporary food establishment' means a food establishment that operates for a period of time not to exceed 21 days in one location, affiliated with and endorsed by a transitory fair, carnival, circus, festival, or public exhibition. Food establishments that operate in the same event location for more than 21 days per calendar year are not eligible for a temporary food establishment permit. Domestic yard sales and businesses such as auctions, flea markets, or farmers' markets are not eligible for a temporary food establishment permit." as defined in G.S. 130A-247(8).

(2) 'Temporary food establishment' does not include domestic yard sales and businesses such as auctions and flea markets."

(21)(22) In Paragraph 1-201.10(B), add: "'Temporary food establishment commissary' means a food establishment affiliated with a temporary food establishment that prepares food in advance of or off-site. ~~off-site from the event~~. The temporary food establishment commissary permit shall be valid for no more than ~~21 consecutive days~~ the time period described in G.S. 130A-247(8) and shall be

permitted no more than 7 days prior to commencement of the event. Food establishments that operate in the same location for more than ~~21 days~~ the time period described in G.S. 130A-247(8) per calendar year are not eligible for a temporary food establishment commissary permit. Food shall not be sold directly from the temporary food establishment commissary. The temporary food establishment commissary shall comply with all temporary food establishment ~~requirements.~~ requirements as set forth in the Rules at 15A NCAC 18A .2600."

~~(22)~~(23) In Paragraph 1-201.10(B), add: "'Transitional Permit' means ~~a permit issued by the regulatory authority upon the transfer of ownership or lease of an existing food establishment to allow the correction of construction and equipment problems that do not represent an immediate threat to public health, as defined at G.S. 130A-248(c).~~ The transitional permit shall expire 180 days after the date of issuance."

~~(23)~~(24) In Paragraph 1-201.10(B), delete the definition of "Vending machine."

~~(24)~~(25) In Paragraph 1-201.10(B), delete the definition of "Vending machine location."

History Note: Authority G.S. 130A-248; S.L. ~~2011-394, Section 15(a); 2019-129;~~

Eff. September 1, 2012;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. July 20, 2019;

Amended Eff. October 1, 2021.

1 15A NCAC 18A .2661 is amended with changes as published in 35:23 NCR 2526–2535 as follows:

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3 **15A NCAC 18A .2661 INSPECTIONS AND REINSPECTIONS**

4 (a) Upon entry into a food ~~establishment,~~establishment for an inspection or reinspection, the regulatory authority shall
5 provide identification and the purpose in visiting that establishment. The regulatory authority shall inquire as to the
6 identity of the person in charge and invite the person in charge to accompany the regulatory authority during the
7 inspection. If no employee is identified as the person in charge, the regulatory authority shall invite an employee to
8 accompany the regulatory authority on the inspection. Following the inspection, the regulatory authority shall offer to
9 review the results of the inspection with the person in charge or employee, as applicable.

10 (b) The grading of food establishments shall be conducted using an inspection form furnished by the regulatory
11 authority. The form shall provide for the following information:

- 12 (1) ~~The the~~ name and mailing address of the food establishment;
13 (2) ~~The the~~ name of the permit holder;
14 (3) ~~The the~~ permit status and score given;
15 (4) ~~Standards~~ standards of construction and operation as listed in .2651 through .2677 of this Section;
16 (5) ~~An an~~ explanation for all points deducted;
17 (6) ~~The the~~ signature of the regulatory authority; and
18 (7) ~~The the~~ date.

19 (c) The grading of food establishments shall be based on the standards of operation and construction as set forth in
20 Rules .2650 through .2676 of this Section.

21 (d) The Food Establishment Inspection form shall be used to document points assessed for violation of the rules of
22 this Section as follows:

- 23 (1) Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to person
24 in charge present, ~~demonstration of knowledge, certification by accredited program~~ or
25 performance of duties shall equal no more than ~~2 points.~~ 1 point.
26 (2) Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to the
27 person in charge being a certified food protection manager by having certification from an
28 accredited program shall equal no more than 1 point.
29 ~~(2)(3)~~ Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to
30 management awareness, policy present, and allergy awareness shall equal no more than 32 points.
31 ~~(3)(4)~~ Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to proper
32 use of reporting, restriction, and exclusion shall equal no more than 3 points.
33 ~~(5)~~ Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to
34 procedures responding to vomiting and diarrheal events shall equal no more than 1 point.
35 ~~(4)(6)~~ Violation of Chapters 2 and 3 of the Food Code as amended by Rules .2652 and .2653 of this Section
36 related to proper employee eating, tasting, drinking, or tobacco use shall equal no more than ~~2 points.~~
37 1 point.

- 1 ~~(5)~~(7) Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to no
2 discharge from eyes, nose, and mouth shall equal no more than 1 point.
- 3 ~~(6)~~(8) Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to hands
4 clean and properly washed shall equal no more than 4 points.
- 5 ~~(7)~~(9) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to no
6 bare hand contact with ready-to-eat food or approved alternate method properly followed shall equal
7 no more than ~~3~~4 points.
- 8 ~~(8)~~(10) Violation of Chapters 5 and 6 of the Food Code as amended by Rules .2655 and .2656 of this Section
9 related to handwashing facilities supplied and accessible shall equal no more than 2 points.
- 10 ~~(9)~~(11) Violation of Chapters 3 and 5 of the Food Code as amended by Rules .2653 and .2655 of this Section
11 related to food obtained from an approved source shall equal no more than 2 points.
- 12 ~~(10)~~(12) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to food
13 received at proper temperature shall equal no more than 2 points.
- 14 ~~(11)~~(13) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to food
15 in good condition, safe, and unadulterated shall equal no more than 2 points.
- 16 ~~(12)~~(14) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to required
17 records available, shellstock tags, and parasite destruction shall equal no more than 2 points.
- 18 ~~(13)~~(15) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to food
19 separated and protected shall equal no more than 3 points.
- 20 ~~(14)~~(16) Violation of Chapter 4 of the Food Code as amended by Rule .2654 of this Section related to food-
21 contact surfaces cleaned and sanitized shall equal no more than 3 points.
- 22 ~~(15)~~(17) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to
23 disposition of returned, previously served, reconditioned, and unsafe food shall equal no more than
24 2 points.
- 25 ~~(16)~~(18) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to cooking
26 time and temperatures shall equal no more than 3 points.
- 27 ~~(17)~~(19) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to
28 reheating for hot holding shall equal no more than 3 points.
- 29 ~~(18)~~(20) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to cooling
30 time and temperatures shall equal no more than 3 points.
- 31 ~~(19)~~(21) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to hot
32 holding temperatures shall equal no more than 3 points.
- 33 ~~(20)~~(22) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to cold
34 holding temperatures shall equal no more than 3 points.
- 35 ~~(21)~~(23) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to date
36 marking and disposition shall equal no more than 3 points.

- 1 ~~(22)~~(24) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to time
2 as a public health control procedures and records shall equal no more than ~~2-3~~ points.
- 3 ~~(23)~~(25) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to
4 consumer advisory provided for raw or undercooked foods shall equal no more than 1 point.
- 5 ~~(24)~~(26) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to
6 pasteurized foods used and prohibited foods not offered shall equal no more than 3 points.
- 7 ~~(25)~~(27) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to food
8 additives approved and properly used shall equal no more than 1 point.
- 9 ~~(26)~~(28) Violation of Chapter 7 of the Food Code as amended by Rule .2657 of this Section related to toxic
10 substances properly identified, stored, and used shall equal no more than 2 points.
- 11 ~~(27)~~(29) Violation of Chapters 3, 4 and 8 of the Food Code as amended by Rules .2653, .2654, and .2658 of
12 this Section related to compliance with variance, specialized process, and HACCP plan shall equal
13 no more than 2 points.
- 14 ~~(28)~~(30) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to
15 pasteurized eggs used where required shall equal no more than 1 point.
- 16 ~~(29)~~(31) Violation of Chapters 3 and 5 of the Food Code as amended by Rules .2653 and .2655 of this Section
17 related to water from an approved source shall equal no more than 2 points.
- 18 ~~(30)~~(32) Violation of Chapter 8 of the Food Code as amended by Rule .2658 of this Section related to
19 variance obtained for specialized processing methods shall equal no more than ~~1 point~~ 2 points.
- 20 ~~(31)~~(33) Violation of Chapters 3 and 4 of the Food Code as amended by Rules .2653 and .2654 of this Section
21 related to proper cooling methods used or adequate equipment for temperature control shall equal
22 no more than 1 point.
- 23 ~~(32)~~(34) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to plant
24 food properly cooked for hot holding shall equal no more than 1 point.
- 25 ~~(33)~~(35) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to
26 approved thawing methods used shall equal no more than 1 point.
- 27 ~~(34)~~(36) Violation of Chapter 4 of the Food Code as amended by Rule .2654 of this Section related to
28 thermometers provided and accurate shall equal no more than 1 point.
- 29 ~~(35)~~(37) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to food
30 properly labeled or original container shall equal no more than 2 points.
- 31 ~~(36)~~(38) Violation of Chapters 2 and 6 of the Food Code as amended by Rules .2652 and .2656 of this Section
32 related to insects and rodents not present or no unauthorized animals or persons shall equal no more
33 than 2 points.
- 34 ~~(37)~~(39) Violation of Chapters 3 and 6 of the Food Code as amended by Rules .2653 and .2656 of this Section
35 related to contamination prevented during food preparation, storage, and display shall equal no more
36 than 2 points.

- 1 ~~(38)~~(40) Violation of Chapter 2 of the Food Code as amended by Rule .2652 of this Section related to
2 personal cleanliness shall equal no more than 1 point.
- 3 ~~(39)~~(41) Violation of Chapters 3 and 4 of the Food Code as amended by Rules .2653 and .2654 of this Section
4 related to wiping cloths properly used and stored shall equal no more than 1 point.
- 5 ~~(40)~~(42) Violation of Chapters 3 and 7 of the Food Code as amended by Rules .2653 and .2657 of this Section
6 related to washing fruits and vegetables shall equal no more than 1 point.
- 7 ~~(41)~~(43) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to in-use
8 utensils properly stored shall equal no more than 1 point.
- 9 ~~(42)~~(44) Violation of Chapter 4 of the Food Code as amended by Rule .2654 of this Section related to utensils,
10 equipment, and linens properly stored, dried and handled shall equal no more than 1 point.
- 11 ~~(43)~~(45) Violation of Chapter 4 of the Food Code as amended by Rule .2654 of this Section related to single-
12 use and single-service articles properly stored and used shall equal no more than 1 point.
- 13 ~~(44)~~(46) Violation of Chapter 3 of the Food Code as amended by Rule .2653 of this Section related to gloves
14 used properly shall equal no more than 1 point.
- 15 ~~(45)~~(47) Violation of Chapters 3 and 4 of the Food Code as amended by Rules .2653 and .2654 of this Section
16 related to equipment, food and non-food contact surfaces approved, cleanable, properly designed,
17 constructed and used shall equal no more than ~~2 points~~ 1 point.
- 18 ~~(46)~~(48) Violation of Chapter 4 of the Food Code as amended by Rule .2654 of this Section related to
19 warewashing facilities installed, maintained, used, and test strips shall equal no more than 1 point.
- 20 ~~(47)~~(49) Violation of Chapter 4 of the Food Code as amended by Rule .2654 of this Section related to non-
21 food contact surfaces clean shall equal no more than 1 point.
- 22 ~~(48)~~(50) Violation of Chapter 5 of the Food Code as amended by Rule .2655 of this Section related to hot
23 and cold water available and adequate pressure shall equal no more than ~~2 points~~ 1 point.
- 24 ~~(49)~~(51) Violation of Chapter 5 of the Food Code as amended by Rule .2655 of this Section related to
25 plumbing installed and proper backflow devices shall equal no more than 2 points.
- 26 ~~(50)~~(52) Violation of Chapter 5 of the Food Code as amended by Rule .2655 of this Section related to sewage
27 and wastewater properly disposed shall equal no more than 2 points.
- 28 ~~(51)~~(53) Violation of Chapters 5 and 6 of the Food Code as amended by Rules .2655 and .2656 of this Section
29 related to toilet facilities properly constructed, supplied, and cleaned shall equal no more than 1
30 point.
- 31 ~~(52)~~(54) Violation of Chapters 5 and 6 of the Food Code as amended by Rules .2655 and .2656 of this Section
32 related to garbage and refuse properly disposed and facilities maintained shall equal no more than 1
33 point.
- 34 ~~(53)~~(55) Violation of Chapters 4 and 6 of the Food Code as amended by Rules .2654 and .2656 of this Section
35 related to physical facilities installed, maintained, and clean shall equal no more than 1 point.

(54)(56) Violation of Chapters 4 and 6 of the Food Code as amended by Rules .2654 and .2656 of this Section related to meets ventilation and lighting requirements and designated areas used shall equal no more than 1 point.

(e) In filling out the inspection form, points may be deducted only once for a single occurrence or condition existing within or outside of the food establishment. Deductions shall be based on actual violations of the rules of this Section observed during the inspection. The regulatory authority shall take zero, one-half, or a full deduction of points depending upon the severity or the recurring nature of the core item violations. Priority items or priority foundation items may be corrected during the inspection and no more than one-half of the total point value shall be deducted when the violation meets the following criteria:

(1) ~~The~~ the priority item or priority foundation item violation was not documented on the previous inspection; and

(2) ~~Correction~~ correction of the item is documented on the inspection form.

(f) At the time of inspection, if a priority item or priority foundation item violation is observed and not corrected, the regulatory authority shall take one-half or a full deduction of points depending upon the severity or the recurring nature of the violation. ~~The regulatory authority shall specify a time frame of no more than 10 calendar days to correct the priority items or priority foundation items.~~

(g) In determining whether items or areas of a food establishment are clean for purposes of enforcing the rules set forth in this Section and grading a food establishment, the regulatory authority shall consider, among other things:

(1) ~~The~~ the age of the accumulated material;

(2) ~~The relative percentage of items which are clean and not clean;~~

(3)(2) ~~The~~ the cleaning practices of the food establishment; and

(4)(3) ~~The~~ the health risk posed by the circumstances.

(h) Upon request of the permit holder or his or her representative a reinspection shall be made. In the case of a food establishment that requests an inspection for the purpose of raising the alphabetical grade, and that holds an unrevoked permit, the regulatory authority shall make an unannounced inspection within 15 calendar days from the date of the request.

(i) In the case of food establishments that have been closed for failure to comply with the rules of this Section, a reinspection to consider the issuance or reissuance of a permit shall be scheduled by ~~made at the earliest convenience~~ of the regulatory authority.

(j) In Section 8-304.11 of the Food Code delete (K).

History Note: Authority G.S. 130A-248; S.L. 2011-394, Section 15(a); 2019-129;

Eff. September 1, 2012;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. July 20, 2019;

Amended Eff. October 1, 2021.

1 15A NCAC 18A .2670 is readopted with changes as published in 35:23 NCR 2526–2535 as follows:

2
3 **15A NCAC 18A .2670 GENERAL REQUIREMENTS FOR PUSHCARTS AND MOBILE FOOD UNITS**

4 Notwithstanding the provisions set forth in Rules .2671 and .2672, pushcarts and mobile food units shall comply with
5 all requirements in this Section with the following exceptions:

6 ~~(a)~~(1) A permit shall be issued by the regulatory authority that inspects the commissary from which a
7 pushcart or mobile food unit is to **operate**, if the regulatory authority determines that the pushcart or
8 mobile food unit complies with the rules of this Section. The permit shall be maintained on the
9 pushcart or mobile food unit and made available to the regulatory authority upon request.

10 ~~(b)~~(2) The regulatory authority that issues the permit shall be provided by the permit holder a list of
11 counties and locations where each pushcart or mobile food unit will operate.

12 ~~(c)~~(3) Prior to initiating food service operations in a particular county, the pushcart or mobile food unit
13 permit holder shall provide the regulatory authority in each county in which food service operations
14 are proposed a list of locations where they will operate. Such lists must be kept current.

15 ~~(d)~~(4) Pushcarts or mobile food units shall operate in conjunction with a permitted commissary and shall
16 report at least daily to the commissary for supplies, cleaning, and servicing. Facilities, in compliance
17 with this Section, shall be provided at the commissary for storage of all supplies. The pushcart shall
18 also be stored in an area that protects it from dirt, debris, vermin, and other contamination. Water
19 faucets used to supply water for pushcarts or mobile food units shall be protected to prevent contact
20 with chemicals, splash, and other sources of contamination. Solid waste storage and liquid waste
21 disposal facilities must also be provided on the commissary premises.

22 ~~(e) All food shall be obtained from sources that comply with Chapter 3 of the Food Code as amended by Rule .2653~~
23 ~~of this Section.~~

24 ~~(f) All potentially hazardous food (time/temperature control for safety food) shall be maintained at temperatures as~~
25 ~~required in Chapter 3 of the Food Code as amended by Rule .2653 of this Section. A metal stem type thermometer~~
26 ~~accurate to 1°C (2°F) shall be available to check food temperatures.~~

27 ~~(g)~~(5) Single service articles shall be used for serving customers. ~~Single service articles shall be purchased~~
28 ~~in sanitary containers, shall be stored therein in a clean, dry place until used, and shall be handled~~
29 ~~in a manner to prevent contamination.~~

30 ~~(h) All garbage and other solid waste shall be stored and disposed in an approved manner.~~

31 ~~(i) Employees shall wear effective hair restraints, clean outer clothing, and maintain good hygienic practices as~~
32 ~~specified in Part 2-4 of the Food Code as amended by Rule .2652 of this Section.~~

33 ~~(j) Employees shall comply with the requirements in Subpart 2-201 of the Food Code as amended by Rule .2652. of~~
34 ~~this Section~~

35 ~~(k) Equipment and utensils shall meet the requirements in Parts 4-1 and 4-2 of the Food Code as amended by Rule~~
36 ~~.2654 of this Section.~~

37 ~~(l) The pushcart or mobile food unit shall be kept clean and free of flies, roaches, rodents, and other vermin.~~

1

2 *History Note:* *Authority G.S. 130A-248; S.L. ~~2011-394, Section 15(a);~~ 2019-129;*

3 *Eff. September 1, 2012;*

4 *Readopted Eff. October 1, 2021.*

1 15A NCAC 18A .2674 is readopted with changes as published in 35:23 NCR 2526–2535 as follows:

2
3 **15A NCAC 18A .2674 LIMITED FOOD SERVICES ESTABLISHMENTS**

4 Limited food services establishments shall comply with all the requirements in Rules .2650 through .2662 of this
5 Section, except as follows: ~~that the following provisions apply in lieu of Rules .2654(2) and .2659(a) and (b), Section~~
6 ~~5 204.11(b) of the Food Code as amended by Rule .2655 of this Section, and Sections 8 201.11 and 8 201.12 of the~~
7 ~~Food Code as amended by Rule .2658 of this Section:~~

- 8 (1) The permit for a limited food services establishment shall be posted in a conspicuous place where it
9 can be readily seen by the public at all times, accordance with G.S. 130A-249. ~~Permits for limited~~
10 ~~food services establishments shall expire on December 31 of each year, one year from the date of~~
11 ~~issuance.~~ A new permit from the regulatory authority shall be obtained before the limited food
12 services establishment shall be allowed to operateoperates each year. Transitional permits shall not
13 be issued.
- 14 (2) The permit application shall be submitted to the local health department at least 30 days prior to
15 construction or commencing operation. The permit application shall include a proposal for review
16 and approval by the local health department that includes a menu, plans, and specifications for the
17 proposed limited food services establishment, and ~~location~~ location, hours, and dates of operation.
- 18 (3) Limited food services establishments shall not prepare any ~~potentially hazardous food~~
19 ~~(time/temperature control for safety food)~~ time/temperature control for safety food prior to the day
20 of sale.
- 21 (4) ~~Potentially hazardous food (time/temperature control for safety food)~~ Time/temperature control for
22 safety food that has been heated at the limited food services establishment and remains at the end of
23 the day shall not be served or placed in refrigeration to be used another day.
- 24 (5) All meats, poultry, and fish shall be purchased in a pre-portioned and ready-to-cook form.
- 25 (6) Equipment in the limited food services establishment that is not certified or classified for sanitation
26 by an ANSI-accredited certificate program ~~that is in good repair and operating properly~~ may be
27 used. At least a two-compartment sink shall be provided. The sink shall be of sufficient size to
28 submerge, wash, rinse, and sanitize utensils and shall have splashback protection. At least one
29 drainboard, table, or counter space shall be provided for air-drying.
- 30 (7) Only single-service articles shall be ~~used,~~ used as tableware as defined in Chapter 1 of the Food
31 Code.
- 32 (8) Limited food services establishments may ~~prepare~~ reheat pre-cooked and cook food in accordance
33 with the overhead protection requirements set forth in Rule .2669(b) of this Section.
- 34 (9) Floors, walls, and ceilings of limited food services establishments shall meet the requirements of
35 this Section, except those limited food services establishments preparing food in accordance with
36 Rule .2669(b) of this Section. ~~Limited food establishments shall use dustless methods of floor~~

1 ~~cleaning and all, except emergency floor cleaning, shall be done during those periods when the least~~
2 ~~amount of food and drink is exposed, such as after closing, or between meals.~~

3 (10) All areas in which food is handled, prepared, or in which utensils are washed, shall be provided with
4 artificial lighting that complies with Section 6-202.11 of the Food Code as amended by Rule .2656
5 of this Section.

6 (11) A handwashing sink shall be provided in food service areas for use by employees only.

7 (12) Toilet facilities shall be provided for use by employees. Public toilet facilities provided on the
8 grounds of the facility where the ~~associated amateur athletic~~ event is taking place are acceptable.
9 Toilet facilities for the public are not required.

10
11 *History Note: Authority G.S. 130A-248; S.L. ~~2011-394, Section 15(a); 2019-129;~~*
12 *Eff. September 1, 2012;*
13 *Readopted Eff. October 1, 2021.*

1 15A NCAC 18E .0105 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0105 DEFINITIONS**

4 In addition to the definitions set forth in G.S. 130A-334, the following shall apply to the Rules in this Subchapter:

- 5 (1) "Aggregate" means naturally occurring inorganic material of a specific size or grade. An example
6 of aggregate is clean, washed ~~gravel~~ gravel, or crushed stone ~~which~~ that is graded or sized in
7 accordance with size numbers 4, 5, or 6 of ASTM D448.
- 8 (2) "Apparent Cation Exchange Capacity" means the sum of exchangeable bases plus total soil acidity
9 at a pH of 7.0. ACEC is expressed in milliequivalents per 100 grams (meq/100g) of soil or
10 centimoles per kilogram (cmol/kg) of soil. The soil ACEC is calculated by determining the ACEC
11 using the neutral normal ammonium acetate method, pH of 7.0 neutral normal, dividing by the
12 percent clay as determined by particle size distribution using the pipette method, and then
13 multiplying by 100, as described in USDA-NRCS Soil Survey Laboratory Information Manual, Soil
14 Survey Investigations Report No. 45 and Kellogg Soil Survey Laboratory Methods Manual, Soil
15 Survey Investigation Report No. 42, page 229, or EPA Method 9080.
- 16 (3) "Applicant" means the individual who submits an application to the LHD for an IP, CA, OP, or
17 existing system authorization.
- 18 ~~(3)~~(4) "Approved" means that which the Department or LHD has determined is in accordance with this
19 Subchapter and G.S. 130A, Article 11.
- 20 ~~(4)~~(5) "Artificial drainage" means any man-made structure or device designed to overcome a SWC or
21 intercept lateral flowing ground or surface water. Artificial drainage systems include groundwater
22 lowering systems, interceptor drains, and surface water diversions.
- 23 ~~(5)~~(6) "Authorized agent" means a person who has been authorized by the Department in accordance with
24 G.S. 130A, Article 4 and 15A NCAC 01O .0100 to permit wastewater systems.
- 25 ~~(6)~~(7) "Authorized designer" means a service provider authorized by the manufacturer who creates plans
26 for the installation, expansion, or repair of a proprietary wastewater system.
- 27 ~~(7)~~(8) "Authorized On-Site Wastewater Evaluator" means a person licensed in accordance with G.S. 90A,
28 Article 5 and meeting the certification requirements in G.S. 130A-336.2(a) and 21 NCAC 39.
- 29 ~~(8)~~(9) "Backfill" means the soil that is placed in a trench or bed that surrounds or is on top of the dispersal
30 media within the excavation up to the naturally occurring soil surface.
- 31 ~~(9)~~(10) "Bed" means an excavation with a width greater than three feet containing dispersal media and one
32 or more laterals.
- 33 ~~(10)~~(11) "Bedroom" means any room defined as a sleeping room in the North Carolina Building Code.
- 34 ~~(11)~~(12) "Building drain" means the lowest piping of a drainage system that receives the discharge from
35 waste pipes inside the design unit and extends to 10 ft beyond the walls of the building or five feet
36 for a building with a foundation and conveys the sewage to a building sewer.

~~(12)~~(13) "Building sewer" means the part of a drainage system that extends from the end of the building drain and conveys the discharge to a wastewater system.

~~(13)~~(14) "Certified Inspector" means a person authorized to inspect a wastewater system in accordance with G.S. 90A, Article 5, and applicable rules of the North Carolina On-Site Wastewater Contractors and Inspectors Certification Board.

(15) "Clod" means a compact, coherent, mass of soil produced by digging, plowing, or other human land manipulation.

~~(14)~~(16) "Coastal region" means Beaufort, Bertie, Bladen, Brunswick, Camden, Carteret, Chowan, Columbus, Craven, Cumberland, Currituck, Dare, Duplin, Edgecombe, Gates, Greene, Halifax, Harnett, Hertford, Hoke, Hyde, Johnston, Jones, Lenoir, Martin, New Hanover, Northampton, Onslow, Pamlico, Pender, Pasquotank, Perquimans, Pitt, Richmond, Robeson, Sampson, Scotland, Tyrrell, Washington, Wayne, and Wilson counties.

~~(15)~~(17) "Collection sewer" means gravity flow pipelines, force mains, effluent supply lines, manholes, lift stations stations, and all appurtenances used for conveying wastes from the building drain or building sewer to and within a wastewater system. A collection system is a collection sewer.

~~(16)~~(18) "Complete data set" means analytical results for all required influent and effluent constituents as specified in the effluent standard for a specific site on a specific date. A data set may include other constituents specified in an RWTS or PIA Approval, permit, or other document.

~~(17)~~(19) "Component" means a part of a wastewater system. The component may be any part of the wastewater system, such as a collection sewer, pretreatment, dispersal field, etc.

~~(18)~~(20) "Composite sample" means commingled individual samples collected from the same point at different times. Samples may be of equal volume or may be proportional to the flow at time of sampling.

~~(19)~~(21) "Control system" means either conventional or accepted systems that are surveyed as part of a survey protocol identified in Rule .1706 of this Subchapter.

~~(20)~~(22) "Cover" means the soil that is placed at or above the naturally occurring soil surface to cover the wastewater system.

~~(21)~~(23) "Demand dosing" means a configuration in which a specific volume of effluent is delivered to a component based upon patterns of wastewater generation from the source and liquid level detection device settings.

~~(22)~~(24) "Department" means the North Carolina Department of Health and Human Services, as defined in G.S. 130A-334(1f). The mailing address for the Department is as follows: NCDHHS, Division of Public Health, On-Site Water Protection Branch, 1642 Mail Service Center, Raleigh, North Carolina 27699-1642.

~~(23)~~(25) "Design daily flow" means the unadjusted quantity of wastewater a facility is projected to produce in a 24-hour period upon which wastewater system sizing and design are based as determined in Section .0400 of this Subchapter.

~~(24)~~(26) "Design unit" means a discrete connection such as an individual dwelling unit, place of business, or place of public assembly on which wastewater DDF is based. Multiple design units may comprise a facility.

~~(25)~~(27) "Dispersal field" means the physical location where final treatment and dispersal of effluent occurs in the soil.

~~(26)~~(28) "Dispersal media" means the media used to provide void space through which effluent flows and may be stored prior to infiltration, such as washed gravel or crushed stone, products referenced in Section .0900 of this Subchapter, products approved pursuant to Section .1700 of this Subchapter, etc.

~~(27)~~(29) "Dispersal system" means the dispersal field and associated components that distribute effluent to and within the dispersal field. This includes a pump, pump tank, pressure manifold, distribution box, drip box, lateral, dispersal media, etc.

~~(28)~~(30) "Dose volume" means an amount of effluent delivered during a dosing event as determined by the liquid level detection device settings in a demand dosing system or by a timer in a timed dosing system.

~~(29)~~(31) "Dwelling unit" means any room or group of rooms located within a structure and forming a single, habitable unit with facilities which are used or intended to be used for living, sleeping, bathing, toilet usage, cooking, and eating.

~~(30)~~(32) "Effluent" means the liquid discharge from a pretreatment process, component, or system.

~~(31)~~(33) "Facility" means one or more design units located on a single or multiple lot(s) or tract(s) of land and served by a wastewater system comprised of one or more wastewater systems.

~~(32)~~(34) "Finished grade" means the final elevation of the land over the wastewater system after installation.

~~(33)~~(35) "Flow equalization" means a system configuration that includes sufficient storage capacity to allow for uniform flow to a subsequent component despite variable flow from the source.

~~(34)~~(36) "Full kitchen" means the appliances meet the requirements of North Carolina Food Code, Chapters 4-1 and 4-2.

~~(35)~~(37) "Grab sample" means a discrete sample collected at a specific time and location.

~~(36)~~(38) "Grease tank" means the tank located outside the facility that is used to reduce the amount of grease discharged to a wastewater system.

~~(37)~~(39) "Grease trap" means a device used inside the facility to reduce the amount of grease discharged to a wastewater system.

~~(38)~~(40) "Gravity distribution" means gravity flow of effluent to and within each lateral.

~~(39)~~(41) "Groundwater lowering system" means a type of artificial drainage system designed to lower the water table by gravity or, in conjunction with a pump, to maintain the vertical separation beneath a dispersal field.

~~(40)~~(42) "Horizon" means a layer of soil, parallel to the surface that has distinct physical, chemical, and biological properties or characteristics such as color, structure, texture, consistence, kinds and

number of organisms present, degree of acidity or alkalinity, etc., resulting from soil forming processes.

~~(41)~~(43) "Infiltrative surface" means the designated interface where effluent moves from dispersal media or a distribution device into treatment media, naturally occurring soil, or fill.

~~(42)~~(44) "Influent" means the sewage discharged to a pretreatment component.

~~(43)~~(45) "Installer" means a person authorized to construct, install, or repair a wastewater system in accordance with G.S. 90A, Article 5 and applicable rules of the North Carolina On-Site Wastewater Contractors and Inspectors Certification Board.

~~(44)~~(46) "Interceptor drain" means a type of artificial drainage designed to intercept and divert lateral moving groundwater or perched water away from the dispersal field or other system component to an effective outlet.

~~(45)~~(47) "Invert" means the lowest elevation of the internal cross-section of a pipe, fitting, or component.

~~(46)~~(48) "Jurisdictional wetland" means an area subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers or DEQ.

~~(47)~~(49) "Ksat" or saturated hydraulic conductivity, means the rate of water flow through a unit cross sectional area of soil under saturated conditions. In-situ Ksat is measured in the field using clean water. Results of in-situ Ksat are used to simulate movement of effluent through the soil and may be used to field verify LTAR.

~~(48)~~(50) "Lateral water movement" means the movement of subsurface water downslope often associated with a less permeable horizon. Lateral water movement can be observed in a bore hole, excavation, or monitoring well on sloping sites.

~~(49)~~(51) "Lateral" means any pipe, tubing, or other device used to convey and distribute effluent in a dispersal field.

~~(50)~~(52) "Limiting condition" means soil conditions or site features that determine wastewater system design options. Soil conditions are morphology, depth, restrictive horizons, soil wetness, or organic matter content. Site features are topography, slope, landscape position, or available space.

~~(51)~~(53) "Lithochromic feature" means soil mottle or matrix associated with variations of color due to weathering of parent materials.

~~(52)~~(54) "Long Term Acceptance Rate" means the rate of effluent absorption by the soil, existing fill, or saprolite in a wastewater system after long-term use. The LTAR, in units of gpd/ft², is assigned based upon soil textural class, structure, consistence, depth, percent coarse rock, landscape position, topography, and system type, and is used to determine the dispersal field sizing requirements, in accordance with applicable rules of this Subchapter.

~~(53)~~(55) "Local health department" means any county, district, or other health department authorized to be organized under the General Statutes of North Carolina.

~~(54)~~(56) "Management Entity" means the person, entity, company, or firm designated by the owner of the wastewater system who has primary responsibility for the operation of a wastewater system in

accordance with this Subchapter, G.S. 90A, Article 3, and applicable rules of the Water Pollution Control System Operators Certification Commission. The Management Entity may be the owner, a public Management Entity, a certified operator, a management company, or an entity that employs certified operators. The Management Entity is or employs the operator in responsible charge for the wastewater system.

~~(55)~~(57) "Mass loading" means the total mass of one or more organic or inorganic effluent constituents delivered to the wastewater system over a specified period. It is computed by multiplying the total volume of flow during the specified period by the flow-weighted average constituent concentration in the same period. Units of measurement are pounds per day.

~~(56)~~(58) "Matrix" means a volume of soil equivalent to 50 percent or greater of the total volume of a horizon.

~~(57)~~(59) "Mean high-water mark" means, for coastal waters having six inches or more lunar tidal influence, the average height of the high-water over a 19-year period as may be ascertained from National Ocean Survey, U.S. Army Corps of Engineers tide stations data, or as otherwise determined under the provisions of the Coastal Area Management Act. The highest high-water mark as reported by the three agencies shall be applied.

~~(58)~~(60) "Media" means a solid material that can be described by shape, dimensions, surface area, void space, and application.

~~(59)~~(61) "Media filter" means a device that uses materials designed to treat effluent by reducing BOD₅ and removing TSS in an unsaturated environment. Biological treatment is facilitated via microbial growth on the surface of the treatment media.

~~(60)~~(62) "Mottle" means subordinate color of a differing Munsell color system notation in a soil horizon.

~~(61)~~(63) "Mountain region" means Alleghany, Ashe, Avery, Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Swain, Transylvania, Watauga, and Yancey counties.

~~(62)~~(64) "Naturally occurring soil" means soil formed in place due to natural formation processes that is unaltered by filling, removal, or other artificial modification other than tillage.

~~(63)~~(65) "NEMA 4X" means an enclosure for an electrical control panel or junction box that meets standards for protection of equipment due to the ingress of water, including rain and hose-directed water, and an additional level of protection against corrosion, as set forth in NEMA Standard 250.

~~(64)~~(66) "NSF 40 "NSF/ANSI 40 systems" means individual RWTS that are approved and listed in accordance with the standards adopted by NSF International for Class I residential wastewater treatment systems under ~~NSF ANSI~~ NSF/ANSI Standard 40 and approved for use in accordance with G.S. 130A-342 and the Rules of this Subchapter.

~~(65)~~(67) "Non-ground absorption system" means a system for waste treatment designed not to discharge to the soil, land surface, or surface waters, including approved vault privies, incinerating toilets, mechanical toilets, composting toilets, chemical toilets, and recycling systems.

~~(66)~~(68) "Normal water level" means the term as defined in 15A NCAC 02B .0610(28).

1 (67)(69) "Off-site system" means a wastewater system where any system component is located on property
2 other than the lot where the facility is located.

3 (68)(70) "Ordinary high-water mark" means the line on the shore established by the fluctuations of water and
4 indicated by physical characteristics such as: a clear, natural line impressed on the bank; shelving;
5 changes in the character of soil; destruction of terrestrial vegetation; or the presence of litter and
6 debris; debris, or other appropriate means that reflect the characteristics of the surrounding areas.

7 (69)(71) "Organic soils" means those organic mucks and peats consisting of more than 20 percent organic
8 matter, by dry weight, and greater than or equal to 18 inches in thickness.

9 (70)(72) "Owner" means a person holding legal title to the facility, wastewater system, or property or his or
10 her representative. The owner's representative is a person who holds power of attorney to act on an
11 owner's behalf or an agent designated by letter or contract to act on the owner's behalf.

12 (71)(73) "Parallel distribution" means the distribution of effluent that proportionally loads multiple sections
13 of a dispersal field at one time.

14 (72)(74) "Parent material" means the mineral and organic matter that is in its present position through rock
15 decomposition or deposition by water, wind, or gravity.

16 (73)(75) "Ped" means a unit of soil structure, such as blocky, granular, prismatic, or platy formed by natural
17 processes, in contrast to a clod, which is a compact, coherent, mass of soil produced by digging,
18 plowing, or other human land manipulation, processes.

19 (74)(76) "Perched water table" means a zone of saturation held above the main groundwater body by a less
20 permeable layer, impermeable rock, or sediment, which may or may not exhibit redoximorphic
21 features.

22 (75)(77) "Person" means any individual, firm, association, organization, partnership, business trust,
23 corporation, company, or unit of local government.

24 (76)(78) "Piedmont region" means Alamance, Alexander, Anson, Burke, Cabarrus, Caldwell, Caswell,
25 Catawba, Chatham, Cleveland, Davidson, Davie, Durham, Forsyth, Franklin, Gaston, Granville,
26 Guilford, Iredell, Lee, Lincoln, Mecklenburg, Montgomery, Moore, Nash, Orange, Person, Polk,
27 Randolph, Rockingham, Rowan, Rutherford, Stanly, Stokes, Surry, Union, Vance, Wake, Warren,
28 Wilkes, and Yadkin counties.

29 (77)(79) "Pressure dispersal" means a system utilizing an effluent pump or siphon to distribute effluent
30 uniformly to the infiltrative surface in the dispersal field through a pressurized pipe network.

31 (78)(80) "Pressure dosed gravity distribution" means pressure delivery of effluent to a manifold, distribution
32 box, or other splitter with subsequent gravity distribution within one or more laterals to the
33 infiltrative surface.

34 (79)(81) "Public management entity" means a public entity legally authorized to operate and maintain
35 wastewater systems, including a city pursuant to G.S. 160A, Article 16, a county pursuant to G.S.
36 153A, Article 15, an interlocal contract pursuant to G.S. 160A, Article 20, a joint management
37 agency pursuant to G.S. 160A, Article 20, a county service district pursuant to G.S. 153A, Article

1 16, a county water and sewer district pursuant to G.S. 162A, Article 6, a sanitary district pursuant
2 to G.S. 130A, Article 2, Part 2, a water and sewer authority pursuant to G.S. 162A, Article 1, a
3 metropolitan water district pursuant to G.S. 162A, Article 4, a metropolitan sewerage district
4 pursuant to G.S. 162A, Article 5A, a public utility pursuant to G.S. 62, Article 1, a county or district
5 health department pursuant to G.S. 130A, Article 2, or any other public entity legally authorized to
6 operate and maintain wastewater systems.

7 ~~(80)~~(82) "Raw sewage lift stations" means a dosing system that is designed to move untreated sewage from
8 a lower elevation to a higher elevation. Raw sewage lift stations are installed prior to any wastewater
9 treatment.

10 ~~(81)~~(83) "RCW systems" means advanced pretreatment systems approved by the Department in accordance
11 with Section .1700 of this Subchapter that meet RCW effluent standards in Rule .1002 of this
12 Subchapter.

13 ~~(82)~~(84) "Redoximorphic features" means a color pattern of a horizon due to a depletion or concentration of
14 pigment compared to the matrix color, formed by oxidation and reduction of Fe coupled with its
15 removal, translocation, or accrual, or a soil matrix color controlled by the presence of Fe⁺². Redox
16 depletions are a type of redoximorphic feature.

17 ~~(83)~~(85) "Repair area" means an area that has been classified suitable consistent with the Rules in this
18 Subchapter that is reserved for the extension, alteration, wastewater system relocation, or
19 replacement of part or all of the initial wastewater system. The repair area shall be available to be
20 used in the event of a malfunction or if a wastewater system is partially or totally destroyed.

21 ~~(84)~~(86) "Residential Wastewater Treatment Systems" means approved individual advanced pretreatment
22 systems that are covered under standards of NSF International, in accordance with G.S. 130A-342
23 and applicable Rules in this Subchapter.

24 ~~(85)~~(87) "Restrictive horizon" means a soil horizon that is capable of perching groundwater or effluent and
25 that is brittle and strongly compacted or strongly cemented with iron, aluminum, silica, organic
26 matter, or other compounds. Restrictive horizons may occur as fragipans, iron pans, or organic pans,
27 and are recognized by their resistance in excavation or in using a soil auger.

28 ~~(86)~~(88) "Rock" means the body of consolidated or partially consolidated material composed of minerals at
29 or below the land surface. Rock includes bedrock and partially weathered rock that is hard and
30 cannot be dug with hand tools. The upper boundary of rock is saprolite, soil, or the land surface.

31 ~~(87)~~(89) "Saprolite" means the body of porous material formed in place by weathering of rock that has a
32 massive, rock-controlled structure and retains the arrangement of minerals of its parent rock in a
33 minimum of 50 percent of its volume. Saprolite can be dug with hand tools. The lower limit of
34 saprolite is rock and its upper limit is soil or the land surface.

35 ~~(88)~~(90) "Septic tank" means a structurally sound, water-tight, covered receptacle, approved in accordance
36 with Section .1400 of this Subchapter. A septic tank is designed for primary treatment of wastewater
37 and is constructed to:

- (a) receive the discharge of wastewater from a building;
- (b) separate settleable and floating solids from the liquid;
- (c) digest organic matter by anaerobic bacterial action;
- (d) store digested solids through a period of detention; and
- (e) allow effluent to discharge for additional treatment and final dispersal.

~~(89)~~(91) "Septic tank effluent pump" means a collection system that uses a septic tank to separate solids and incorporates a pump vault, pump, and associated devices to convey effluent under pressure to a subsequent component.

~~(90)~~(92) "Sequential distribution" means the distribution method in which effluent is loaded into one trench and fills it to a predetermined level before passing through a drop box or relief device to the succeeding trench at a lower elevation. All trenches are fed from the same side.

~~(91)~~(93) "Setback" means the minimum horizontal separation distance between the wastewater system and features listed in Section .0600 of this Subchapter.

~~(92)~~(94) "Settling tank" means a septic tank designed for use in conjunction with a RWTS. A settling tank is not required to meet the design requirements of a septic tank.

~~(93)~~(95) "Serial distribution" means the distribution method in which effluent is loaded into one trench and fills it to a predetermined level before passing through a pipe to the succeeding trench at a lower elevation.

~~(94)~~(96) "Site" means the area in which the wastewater system is located, including the repair area.

~~(95)~~(97) "Soil" means the naturally occurring body of unconsolidated mineral and organic materials on the land surface. Soil is composed of sand-, silt-, and clay-sized particles that are mixed with varying amounts of larger fragments and some organic material. Soil contains less than 50 percent of its volume as rock, saprolite, or coarse-earth fraction. The coarse-earth fraction are mineral particles greater than 2.0 millimeters. The upper limit of the soil is the land surface, and its lower limit is rock, saprolite, or other parent materials.

~~(96)~~(98) "Soil consistence" means the degree and kind of cohesion and adhesion that a soil exhibits.

~~(97)~~(99) "Soil series" means an official series name established by USDA-NRCS.

~~(98)~~(100) "Soil structure" means the arrangement of primary soil particles into compound particles, peds, or clusters that are separated by natural planes of weakness from adjoining units.

~~(99)~~(101) "Soil textural classes" means soil classification based upon size distribution of mineral particles in the fine-earth fraction less than two millimeters in diameter. The fine-earth fraction includes sand, silt, and clay particles. Sand particles are 0.05 – 2.0 mm in size, silt particles are 0.002 – 0.05 mm in size, and clay particles are less than 0.002 mm in size.

~~(100)~~(102) "Stream" means a body of concentrated flowing water in a natural low area or natural or manmade channel on the land surface. This includes ephemeral, intermittent, and perennial streams as those terms are defined by DEQ at 15A NCAC 02B .0233(2)(d), (g), and (i), respectively, as well as streams which have been modified by channeling, culvert installation, or relocation.

1 ~~(101)~~(103) "Structurally sound" means a tank that has been installed in accordance with the tank
2 manufacturer's requirements and is able to withstand a minimum uniform live loading of 150 pounds
3 per square foot in addition to all loads to which an underground tank is normally subjected, such as
4 dead weight of the material and soil over the tank, active soil pressure on tank walls, and the uplifting
5 force of groundwater.

6 ~~(102)~~(104) "Surface water diversion" means a natural or constructed drainage feature used to divert
7 surface water, collect runoff, and direct it to an effective outlet. Surface water diversions include
8 waterways, berms, swales, and ditches. Surface water diversions are a type of artificial drainage.

9 ~~(103)~~(105) "TS-I systems" means advanced pretreatment systems approved by the Department in
10 accordance with Section .1700 of this Subchapter that meet TS-I effluent standards in Table XXV
11 of Rule .1201(a) of this Subchapter.

12 ~~(104)~~(106) "TS-II systems" means advanced pretreatment systems approved by the Department in
13 accordance with Section .1700 of this Subchapter that meet TS-II effluent standards in Table XXV
14 of Rule .1201(a) of this Subchapter.

15 ~~(105)~~(107) "Telemetry" means the ability to contact by phone, email, or another electronic medium.
16 The telemetry unit shall continue alarm notifications to the designated party until the alarm condition
17 is remedied or the telemetry unit is physically turned off.

18 ~~(106)~~(108) "Test system" means the dispersal system proposed for accepted status as part of a survey
19 protocol identified in Rule .1706 of this Subchapter.

20 ~~(107)~~(109) "Third-party" means a person or entity engaged in testing or evaluation that may be
21 compensated for their work product that is independent of the parties for whom testing or evaluation
22 is performed and does not otherwise benefit regardless of the outcome. The third-party person or
23 entity has knowledge of the subject area based upon relevant training and experience.

24 ~~(108)~~(110) "Timed dosing" means a configuration in which a specific volume of effluent is delivered
25 to a component based upon a prescribed interval, regardless of facility water use variation over time.

26 ~~(109)~~(111) "Treatment media" means the media used for physical, chemical, and biological treatment
27 in a wastewater treatment component.

28 ~~(110)~~(112) "Trench" means an excavation with a width less than or equal to three feet containing
29 dispersal media and one or more laterals.

30 (113) "Underground utility" means any underground line, system, or infrastructure used for producing,
31 storing, conveying, transmitting, identifying, locating, or distributing communication, electricity,
32 gas, petroleum or petroleum products, hazardous liquids, water, steam, or sewage.

33 ~~(111)~~(114) "Unstable slopes" means areas showing indications of mass downslope movement such as
34 debris flows, landslides, and rock falls.

35 ~~(112)~~(115) "Vertical separation" means the depth beneath the dispersal field infiltrative surface to a
36 LC.

1 ~~(113)~~(116) "Warming kitchen" means a kitchen that does not meet the requirements of North Carolina
2 Food Code, Chapters 4-1 and 4-2.

3 ~~(114)~~(117) "Water main standards" means design criteria for pipe and pipe joints and associated
4 installation procedures used in potable water systems and that have been approved by North
5 Carolina DEQ Public Water Supply Section in accordance with 15A NCAC 18C.

6 (118) "Watertight" means that no water moves into or out of the structure or device, except through
7 designated inlets and outlets. Watertight tanks shall demonstrate compliance with the leak testing
8 requirements in Rule .0805 of this Subchapter.

9
10 *History Note:* Authority G.S. 130A-335(e) and (f);
11 Eff. October 1, 2021.

1 15A NCAC 18E .0201 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0201 GENERAL**

4 (a) All wastewater in any facility containing water-using fixtures connected to a water supply source shall discharge
5 to a wastewater system approved by the Department in accordance with the Rules of this Subchapter.

6 (b) In order for a wastewater system to be approved:

7 (1) the **owner applicant** shall submit an application in accordance with Rule .0202 of this Section;

8 (2) an IP shall be issued in accordance with Rule .0203 of this Section;

9 (3) a CA shall be issued in accordance with Rule .0204 of this Section; and

10 (4) the authorized agent shall inspect the installation and issue an OP in accordance with Rule .0205 of
11 this Section.

12 (c) Upon issuance of the CA, the **owner applicant** may obtain a building permit in accordance with G.S. 130A-338.

13 (d) Notwithstanding Paragraph (b) of this Rule, an **owner applicant** may choose to have a wastewater system approved
14 under the provisions of G.S. 130A-336.1 or G.S. 130A-336.2 and in accordance with Rule .0207 of this Section.

15 (e) All documentation related to a wastewater system shall be maintained by the LHD in the county where the permit
16 is **issued, issued** and the property taxes are paid.

17 (f) Holding tanks shall not be considered an acceptable wastewater treatment and dispersal system. An IP shall not
18 be issued for a holding tank for new construction or to serve a permanent facility.

19
20 *History Note: Authority G.S. 130A-335; 130A-336; 130A-336.1; 130A-336.2; 130A-337; 130A-338;*
21 *Eff. October 1, 2021.*

1 15A NCAC 18E .0301 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0301 OWNERS**

4 (a) The owner of a wastewater system shall:

5 ~~(1)~~ ~~apply in accordance with Section .0200 of this Subchapter;~~

6 ~~(2)~~(1) comply with G.S. 130A, Article 11, the Rules of this Subchapter, and permit conditions regarding
7 wastewater system location, including repair area;

8 ~~(3)~~(2) identify property lines and fixed reference points in the field prior to the LHD site evaluation;

9 ~~(4)~~(3) make the site accessible for the site evaluation described in Rule .0501 of this Subchapter;

10 ~~(5)~~(4) field stake or otherwise mark the proposed facility location and all associated appurtenances, such
11 as vehicular traffic areas, garage, swimming pool, shed, entryways, decks, etc.;

12 ~~(6)~~(5) provide for pits with excavated steps or a ramp in the pit that allow for ingress and egress when
13 necessary for a soil and site evaluation at the site as determined by the LHD or the Department in
14 accordance with Rule .0501 of this Subchapter;

15 ~~(7)~~(6) provide for system operation, maintenance, monitoring, and reporting, including access for system
16 maintenance;

17 ~~(8)~~(7) maintain artificial drainage systems, as applicable;

18 ~~(9)~~(8) prevent encroachment on the initial wastewater system and repair area by utilities, structures,
19 vehicular traffic areas, etc.;

20 ~~(10)~~(9) provide documentation supporting an exemption from the minimum setback requirements in Rule
21 .0601(a) of this Subchapter to the LHD, as applicable;

22 ~~(11)~~(10) establish and maintain site-specific vegetation over the dispersal field and repair area; and

23 ~~(12)~~(11) repair a malfunctioning system as necessary in accordance with this Subchapter.

24 (b) The entire initial wastewater system and repair area shall be on property owned or controlled by the wastewater
25 system owner. An easement or encroachment agreement shall be required for the permitting of any of the following
26 installations:

27 (1) any part of the wastewater system is located in a common area with other wastewater systems;

28 (2) any part of the wastewater system is located in an area with multiple or third-party ownership or
29 control;

30 (3) any part of the wastewater system is proposed to be in an off-site area; or

31 (4) any part of the wastewater system and the facility are located on different lots or tracts of land and
32 cross a property line or right-of-way.

33 (c) Any necessary easements, rights-of-way, or encroachment agreements shall be obtained prior to the issuance of a
34 CA. The easement, right-of-way, or encroachment agreement shall meet the following conditions:

35 (1) be appurtenant to specifically described property and run with the land;

36 (2) not be affected by change of ownership or control;

- 1 (3) remain valid for as long as the wastewater system is required for the facility that it is designed to
2 serve;
- 3 (4) include a description of the uses being granted and shall include ingress, egress, and regress, system
4 installation, operation, maintenance, monitoring, and repairs and any other activity required to
5 remain in compliance with this Subchapter, including that the easement, right-of-way, or
6 encroachment remain free of structures, landscaping, or any other activities that would interfere with
7 the use of the easement or encroachment for its intended purpose;
- 8 (5) specify in a deed by metes and bounds description the area or site required for the wastewater system
9 and repair area, including collection sewers, tanks, raw sewage lift stations, distribution devices,
10 and dispersal fields; and
- 11 (6) be recorded with the register of deeds in the county where the system and facility are located.
- 12 (d) Prior to OP issuance for a system required to be designed by an authorized designer or PE, the owner shall submit
13 to the LHD a statement signed by the authorized designer or PE specifying that the system has been installed in
14 accordance with the permitted design. For systems designed by a PE, the statement shall be affixed with the PE seal.

15
16 *History Note:* *Authority G.S. 130A-335;*
17 *Eff. October 1, 2021.*

1 15A NCAC 18E .0303 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0303 LICENSED OR CERTIFIED PROFESSIONALS**

4 (a) Any wastewater system that meets one or more of the following conditions shall be designed by a PE if required
5 in G.S. 89C:

- 6 (1) the system has a DDF greater than 3,000 gpd, as determined in Section .0400 of this Subchapter,
7 except where the system is limited to an individual wastewater system serving an individual
8 dwelling unit or multiple individual wastewater systems, each serving an individual dwelling unit;
- 9 (2) the system requires advanced pretreatment or drip dispersal and is not a system approved under
10 Sections .1500, .1600, or .1700 of this Subchapter;
- 11 (3) pressure dispersal systems that require pumping more than 500 feet horizontally or more than 50
12 feet of net elevation head;
- 13 (4) pressure dosed gravity distribution systems that require pumping more than 1,000 feet horizontally
14 or more than 100 feet of net elevation head;
- 15 (5) dosing systems or force mains that have one or more intermediate high points greater than five feet;
- 16 (6) the system requires pumping downhill to a pressure dosed gravity or pressure dispersal field where
17 the volume of the supply line that could drain to the dispersal field between doses exceeds 25 percent
18 of the required dose volume;
- 19 (7) pressure dispersal systems and pressure dosed gravity systems with a DDF greater than 600 gpd
20 serving a single design unit;
- 21 (8) pressure dispersal systems where there is more than 15 percent variation in line length. The 15
22 percent variation shall be measured by comparing the longest line length to the shortest line length
23 in any dispersal field;
- 24 (9) two or more septic tanks or advanced pretreatment units, each serving a separate design unit, and
25 served by a common dosing tank;
- 26 (10) a STEP system with a pressure sewer or other pressure sewer system receiving effluent from two or
27 more pump tanks;
- 28 (11) an adjusted DDF is proposed based on the use of low-flow fixtures or low-flow technologies in
29 accordance with Rule .0403(e) of this Subchapter;
- 30 (12) the system requires use of sewage pumps prior to the septic tank or other pretreatment system, except
31 for systems governed by the North Carolina Plumbing Code or which consist of grinder pumps and
32 associated pump basins that are approved and listed in accordance with standards adopted by NSF
33 International;
- 34 (13) an individual system is required to use more than one pump or siphon in a single pump tank.
35 Examples include dual pumps as set forth in Rule .1101(b) of this Subchapter;
- 36 (14) the system includes a collection sewer prior to the septic tank or other pretreatment system serving
37 two or more design units, except for systems governed by the North Carolina Plumbing Code;

- 1 (15) the wastewater system includes structures that have not been pre-engineered;
- 2 (16) the proposed pump model is not listed by a third-party electrical testing and listing agency;
- 3 (17) the system is designed for the collection, treatment, and dispersal of IPWW, except under the
- 4 following circumstances:
- 5 (A) the Department has determined that the wastewater generated by the proposed facility has
- 6 a pollutant strength that is lower than or equal to DSE and does not require specialized
- 7 treatment or management. This determination shall be made based on a review of the
- 8 wastewater generating process, wastewater characteristic data, and material safety data
- 9 sheets, as compared to DSE; or
- 10 (B) the Department has approved a treatment system or process and management method
- 11 proposed by the facility owner that generates effluent with a pollutant strength which is
- 12 lower than or equal to DSE. This approval shall be based on a review of documentation
- 13 provided in conjunction with prior project specific reviews or a PIA approval. This
- 14 approval shall be based on data from other facilities, management practices, and other
- 15 information provided by the owner;
- 16 (18) the wastewater system is designed for RCW;
- 17 (19) any wastewater system designed by a licensed professional that has been determined to be within
- 18 the practice of engineering in accordance with G.S. 89C-3(6) by the North Carolina Board of
- 19 Examiners for Engineers and Surveyors;
- 20 (20) any wastewater system approved in accordance with Sections .1500, .1600, and .1700 of this
- 21 Subchapter that requires in the RWTS or PIA Approval that the system be designed by a PE;
- 22 (21) any system or system component where the Rules of this Subchapter provide for an engineer to
- 23 propose alternative materials, capacity determination, or performance requirements; and
- 24 (22) any other system so specified by the LHD, based on wastewater system complexity and LHD's
- 25 experience with the proposed system type.
- 26 (b) A PE, in accordance with G.S. 89C, may propose an alternative design for a facility projected to generate HSE in
- 27 accordance with Rule .0401(h) of this Subchapter. The alternative design shall include supporting documentation
- 28 showing that the proposed system design will meet DSE in Table III of Rule .0402(a) of this Subchapter. The
- 29 alternative design shall be reviewed and approved by the Department unless the system has been approved in
- 30 accordance with Section .1700 of this Subchapter.
- 31 (c) Plans and specifications for the use of a groundwater lowering system to comply with the vertical separation to a
- 32 SWC shall be prepared by a licensed professional if required in G.S. 89C, 89E, or 89F. Prior to the issuance of an IP
- 33 or CA, the plans and specifications shall be reviewed and approved by the authorized agent if the plans and
- 34 specifications meet the requirements of Rules .0504 and .0910 of this Subchapter and accepted design practices.
- 35 (d) An installer shall construct, install, or repair wastewater systems as required by G.S. 90A, Article 5. The installer
- 36 shall be responsible for the following:

- (1) certification at the required level according to the system design specifications as required by G.S. 90A, Article 5;
- (2) notification to the LHD upon completion of the system installation and each stage requiring inspection as conditioned on a CA;
- (3) participation in a preconstruction conference when specified in the CA or by the RWTS or PIA Approval;
- (4) participation during the inspection of the wastewater system by the authorized agent;
- (5) participation during the post-construction conference and all other requirements when the wastewater system is permitted in accordance with Rule .0207 of this Subchapter and G.S. 130A-336.1 or G.S. 130A-336.2; and
- (6) final cover of the system after LHD approval. The wastewater system shall be in the same condition when covered as when approved.

(e) The Management Entity, or its employees, shall hold a valid and current certificate or certifications as required for the system from the Water Pollution Control Systems Operators Certification Commission. Nothing in this Subchapter shall preclude any requirements for system Management Entities in accordance with G.S. 90A, Article 3.

(f) Nothing in this Rule shall be construed as allowing any licensed professional to provide services for which he or she has neither the educational background, expertise, or license to perform, or is beyond his or her scope of work and the applicable ~~statues~~ statutes for their respective professions.

(g) The ~~PE PE, AOWE~~ or authorized designer shall provide a written statement to the owner specifying that construction is complete and in accordance with approved plans, specifications, and modifications. This statement shall be based on periodic observations of construction and a final inspection for design compliance. Record drawings shall be provided to the owner and LHD when any change has been made to the wastewater system installation from the approved plans.

*History Note: Authority G.S. 89C; 89E; 89F; 90A; 130A-335;
Eff. October 1, 2021.*

15A NCAC 18E .0401 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

15A NCAC 18E .0401 DESIGN DAILY FLOW

(a) The minimum DDF for dwelling units shall be based on:

- (1) 175 gpd for a one bedroom dwelling unit with no more than two occupants and 400 square feet of living space or less; or
- (2) 120 gpd per bedroom with a minimum of 240 gpd per dwelling unit or 60 gpd per person when occupancy exceeds two persons per bedroom, whichever is greater.

(b) DDF for facilities other than dwelling units shall be in accordance with Table II as follows:

TABLE II. Design daily flow for Facilities

Facility type	Design daily flow
Commercial	
Airports, railroad stations, bus and ferry terminals, etc.	5 gal/traveler, food preparation not included
Barber shops	50 gal/chair
Bars, cocktail lounges	20 gal/seat, food preparation not included
Beauty shops, style shops, hair salons	125 gal/chair
Bed and breakfast homes and inns	Dwelling unit DDF based on Paragraph (a) of this Rule plus 120 gal/rented room which includes the following: Meals served to overnight guests Laundry for linens 150 gal/room with cooking facilities in individual rooms
Event Center	5 gal/person with toilets and hand sinks up to 4 hrs 10 gal/person with toilets and hand sinks up to 8 hrs 15 gal/person with toilets and hand sinks greater than 8 hrs Add 5 gal/person with full kitchen
Markets open less than four days/week, such as a flea market or farmers market	30 gal/stall or vendor, food preparation not included
Marinas with no holding tank discharge included	30 gal/boat slip, with bathhouse 10 gal/boat slip, wet slips or slips on dock 5 gal/boat slip, dry storage or warehouse
Motels/hotels	120 gal/room includes the following: No cooking facilities in individual rooms other than a microwave or other similar devices No food service or limited food service establishment Laundry for linens 150 gal/room with cooking facilities in individual rooms

Offices and factories with no IPWW included	12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift Add 10 gal/employee for showers
Stores, shopping centers, and malls	100 gal/1,000 ft ² of retail sales area, food preparation not included
Warehouse that are not retail sales warehouses	100 gal/loading bay or 12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift
Storage warehouse including self-storage facilities and does not include caretaker residence	12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift
Alcoholic beverage tasting areas with no process wastewater included	200 gal/1,000 ft ² of tasting area floor space and includes glass washing equipment Food preparation and food clean up not included 12 gal/employee/≤ 8 hr shift
Camps/Campgrounds	
Summer camps with overnight stays*	60 gal/person, applied as follows: 15 gal/person/food preparation 20 gal/person/toilet facilities 10 gal/person/bathing facilities 15 gal/person/laundry facilities
Day camps not inclusive of swimming area bathhouse*	20 gal/person and 5 gal/meal served with multiuse service or 3 gal/meal served with single-service articles
Temporary Labor Camp or Migrant Housing Camp with overnight stays*	60 gal/person, applied as follows: 15 gal/person/food preparation 20 gal/person/toilet facilities 10 gal/person/bathing facilities 15 gal/person/laundry facilities
Travel trailer or RV in an RV park*	100 gal/space
Recreational Park Trailer or Park Model Trailer 400 ft ² or less in an RV park*	150 gal/space
Bathhouse for campsites and RV park sites with no water and sewer hook ups with a maximum of four people per campsite	70 gal/campsite
Food preparation facilities	
Food Establishments with multiuse articles*	25 gal/seat or 25 gal/15 ft ² of floor space open 6 hrs/day or less 40 gal/seat or 40 gal/15 ft ² of floor space open 6 to 16 hrs/day Add 4 gpd/seat for every additional hour open beyond 16 hrs
Food Establishments with single service articles*	20 gal/seat or 20 gal/15 ft ² of floor space open 6 hrs/day or less 30 gal/seat or 30 gal/15 ft ² of floor space open 6 to 16 hrs/day Add 3 gpd/seat for every additional hour open beyond 16 hrs

Food stand with up to eight seats, mobile food units, and commissary kitchens*	50 gal/100 ft ² of food stand, food unit, or food prep floor space and 12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift
Other food service facilities*	5 gal/meal served with multiuse articles 3 gal/meal served with single service articles
Meat markets or fish markets with no process wastewater included*	50 gal/100 ft ² of floor space and 12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift
Health care and other care institutions	
Hospitals*	300 gal/bed
Rest homes, assisted living homes, and nursing homes*	150 gal/bed with laundry 75 gal/bed without laundry Add 60 gal/resident employee with laundry
Day care facilities	15 gal/person open ≤ 12 hr shift without laundry Add 1 gal/person/hr open for more than 12 hrs per day Add 5 gal/person with full kitchen
Group homes, drug rehabilitation, mental health, and other care institutions	75 gal/person with laundry
Orphanages	60 gal/student or resident employee with laundry
Public access restrooms	
Convenience store, service station, truck stop*	250 gal/toilet or urinal meeting the following: Open less than 16 hrs/day Food preparation not included Retail space not included 325 gal/toilet or urinal meeting the following: Open 16 to 24 hrs/day Food preparation not included Retail space not included
Highway rest areas and visitor centers*	325 gal/toilet or urinal or 10 gal/parking space, whichever is greater
Recreational facilities	
Bowling center	50 gal/lane, food preparation not included
Community center, gym∞	5 gal/person plus 12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift or 50 gal/100 ft ² , whichever is greater
Country club or golf course	10 gal/person 12 gal/employee/≤ 8 hr shift Add 2 gal/employee/hr for more than 8 hr shift 3 gal/person for convenience stations Food preparation not included
Fairground	250 gal/toilet or urinal

Fitness center, spas, karate, dance, exercise∞	50 gal/100 ft ² of floor space used by clientele Food preparation not included
Recreational park, State park, county park, and other similar facilities with no sports facilities	10 gal/parking space
Outdoor sports facilities, mini golf, batting cages, driving ranges, motocross, athletic park, ball fields, stadium, and other similar facilities	250 gal/toilet or urinal, 5 gal/seat, or 10 gal/parking space, whichever is greater Food preparation not included
Auditorium, theater, amphitheater, drive-in theater	2 gal/seat or 10 gal/parking space, whichever is greater Food preparation not included
Swimming pools and bathhouses	5 gal/person domestic waste only, bathing load of pool may be used as an alternative method of sizing
Sports facilities courts or other similar facilities	250 gal/toilet or urinal or 50 gal/court, whichever is greater
Institutions	
Church or other religious institution*	2 gal/seat sanctuary only 3 gal/seat with warming kitchen in same structure as sanctuary 5 gal/seat with full kitchen in same structure as sanctuary
Public or private assembly halls used for recreation, regularly scheduled meetings, events, or amusement∞*	2 gal/person with toilets and hand sinks 3 gal/person with addition of a warming kitchen 5 gal/person with full kitchen
For churches, flow shall be in addition to sanctuary structure flow	
Schools	
Day schools*	6 gal/student with no cafeteria or gymnasium 9 gal/student with cafeteria only 12 gal/student with cafeteria and gymnasium
After school program	5 gal/student in addition to flow for regular school day
Boarding schools	60 gal/student and resident employee with laundry

* Facility has potential to generate HSE.

∞Designer shall use the maximum building occupancy assigned by the local fire marshal in calculating DDF unless another method for determining DDF is proposed, including the justification for not using the maximum building occupancy.

(c) The minimum DDF from any facility other than a dwelling unit shall be 100 gpd. For facilities with multiple design units, the minimum DDF shall be 100 gpd per design unit. The DDF of the facility shall be the sum of all design unit flows.

(d) DDF determination for wastewater systems with facilities not identified in this Rule shall be determined using available water use data, capacity of water-using fixtures, occupancy or operation patterns, and other measured data from the facility itself or a comparable facility.

1 (e) Where laundry is not specified for a facility in Table II, but is proposed to be provided, the DDF shall be adjusted
2 to account for the proposed usage and machine water capacity. The ~~owner~~ applicant or a licensed professional shall
3 provide cut-sheets for laundry machines proposed for use in facilities.

4 (f) HVAC unit or ice machine condensate, gutter or sump pump discharge, water treatment system back flush lines,
5 or similar incidental flows shall not discharge to the wastewater system, unless a PE designs the wastewater system
6 for these flows.

7 (g) Unless otherwise noted in Table II, the DDF per unit includes employees.

8 (h) Food service facilities and other facilities that are projected to generate wastewater with constituent levels greater
9 than DSE, as defined in Rule .0402 of this Section, are identified in Table II with a single asterisk (*) as HSE. Any
10 facility that has a food service component that contributes 50 percent or more of the DDF shall be considered to
11 generate HSE. Determination of wastewater strength shall be based on projected or measured levels of one or more
12 of the following: BOD, TSS, FOG, or TN. Table III of Rule .0402(a) of this Section identifies the constituent limits
13 for DSE.

14 (i) Wastewater with constituents other than those listed in Table III of Rule .0402(a) of this Section may be classified
15 as IPWW as defined in G.S. 130A-334(2a) on a site-specific basis.

16 (j) A request for an adjusted DDF shall be made in accordance with Rule .0403 of this Section.

17
18 *History Note: Authority G.S. 130A-335(e); S.L. 2013-413, s.34; S.L. 2014-120, s.53;*
19 *Eff. October 1, 2021.*

1 15A NCAC 18E .0504 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0504 SOIL WETNESS CONDITION**

4 (a) SWC, such as those caused by a seasonal high-water table, a perched water table, tidal water, seasonally saturated
5 soil, or by lateral water movement, shall be determined by field observations of soil wetness indicators as follows:

6 (1) the presence of colors with a value 4 or more and a chroma 2 or less using the Munsell Soil Color
7 Book at greater than or equal to two percent of soil volume as redox depletions or as the matrix of
8 a horizon. Colors of chroma 2 or less that are lithochromic features shall not be considered indicative
9 of a SWC; or

10 (2) the observation or indication of saturated soils, a perched water table, or lateral water movement
11 flowing into a bore hole, monitoring well, or open excavation above a less permeable horizon, that
12 may occur without the presence of colors with a value 4 or more or chroma 2 or less at greater than
13 or equal to two percent of soil volume as redox depletions or as the matrix of a horizon.

14 (3) The shallowest depth to SWC determined in this Paragraph shall be used.

15 (b) Initial site suitability as to SWC shall be determined by field observations of soil wetness indicators in accordance
16 with Paragraph (a) of this Rule. Sites where the SWC is less than 12 inches below the naturally occurring soil surface,
17 or less than 18 inches if more than six inches of Group I soils are present, shall be considered unsuitable with respect
18 to SWC.

19 (c) Monitoring or modeling procedures as set forth in this Rule may be used to reclassify the site as suitable with
20 respect to SWC.

21 (d) Monitoring or modeling procedures as set forth in this Rule shall be required when the owner proposes to use a
22 wastewater system requiring a greater depth to a SWC than the depth observed by soil wetness indicators in accordance
23 with Paragraph (a) of this Rule.

24 (e) Modeling procedures as set forth in this Rule shall be required when the owner proposes to use sites with Group
25 III or IV soils within 36 inches of the naturally occurring soil surface with artificial drainage, or on sites when fill is
26 proposed to be used in conjunction with an artificial drainage system.

27 (f) Monitoring or modeling procedures may include the following:

28 (1) direct monitoring procedure as set forth in Paragraph (g) of this Rule;

29 (2) modeling procedure as set forth in Paragraph (h) of this Rule;

30 (3) monitoring and modeling procedure as set forth in Paragraph (i) of this Rule; or

31 (4) other modeling procedures as set forth in Paragraph (j) of this Rule.

32 (g) The direct monitoring procedure involves determining the SWC by observation of water surface elevations in
33 wells during periods of high-water in accordance with the following:

34 (1) no later than 30 days prior to the start of the monitoring period, the owner shall notify the LHD of
35 the intent to monitor water surface elevations by submitting a proposal prepared by a licensed
36 professional, if required in G.S. 89C, 89E, or 89F, that includes a site plan, well and soil profile at
37 each monitoring site, and a monitoring plan as follows:

- (A) the site plan shall include the proposed sites for wastewater systems, the longitude and latitude of the site, the location of monitoring wells, and all drainage features that may influence the SWC. The site plan shall also specify any proposed fill and drainage modifications;
- (B) the monitoring plan shall include the proposed number, installation depth, screening depth, soil and well profile, materials, and installation procedures for each monitoring well. A minimum of three water level monitoring wells shall be installed for water surface observation at each site. Sites handling systems with a DDF greater than 600 gpd shall have one additional well per 600 gpd increment. Well locations shall include portions of the initial and repair dispersal field areas containing the most limiting soil and site conditions. The monitoring plan shall also provide for monitoring of the water surface elevations in the wells and all precipitation at the site; and
- (C) notification of whether the owner or a licensed professional will perform the monitoring, including the name of the licensed professional, if applicable.
- (2) prior to installation of the monitoring wells, the authorized agent shall approve the plan. Plan approval shall be based upon a site visit and compliance with this Rule. If the plan is denied, a signed, written report shall be provided to the owner that describes the reasons for ~~denial denial~~, and the changes necessary for approval of the ~~plan~~. plan, and notice of the right to appeal under G.S. 130A-24 and 150B;
- (3) wells shall extend a minimum of five feet below the naturally occurring soil surface, or existing ground surface for existing fill determined in accordance with Rule .0909(d) of this Subchapter, except that wells that extend down only 40 inches from the ground surface may be used if a continuous record of the water table is provided for a minimum of half of the monitoring period. One or more shallower wells may be required on sites where shallow lateral water movement or a perched SWC is anticipated based on the site investigation;
- (4) the water elevation in the monitoring wells shall be recorded daily from January 1 to April 30, taken at the same time during the day, plus or minus three hours. Rain gauges shall be located within two miles of the site. Daily rainfall measurements shall also be recorded from December 1 through April 30; and
- (5) the most recent information available from the SCO shall be used to determine the recurrence frequency of the total amount of rainfall at the site for the 120-day period ending April 15 based upon the site's historic rainfall record. This shall be done when the 120-day cumulative rainfall for the monitoring period ending on April 15 equals or exceeds the site's historic rainfall for the same period with a 30 percent frequency. The recurrence frequency shall be determined with one of the following methods:
- (A) the ~~owner's~~ licensed professional shall determine the 120-day SPI for April 15 by using the Integrated Water Portal located on the SCO's website at:

<http://climate.ncsu.edu/water/map>. The licensed professional shall click on the map pixel that corresponds closest to the site's location. The Department will assist in obtaining this information upon request; or

(B) the recurrence frequency of the site's cumulative precipitation for the 120-day monitoring period ending on April 15 shall be determined for the site on a case-by-case basis from the most recent master grid provided to the Department by the SCO. The master grid contains probability distribution parameters that shall be used by the Department based upon guidance from the SCO. Based on the master grid, the Department shall derive the recurrence frequency values for the grid point that corresponds closest to the site's latitude and longitude.

(6) The SWC shall be determined by the shallowest level that is continuously saturated for the number of consecutive days during the January through April well monitoring period shown in Table VIII as follows:

TABLE VIII. Rainfall SPI and exceedance probability during monitoring season related to number of consecutive days of continuous saturation

April 15 SPI 120-day range	Recurrence frequency range 120-day cumulative April 15 rainfall	Number of consecutive days of continuous saturation for SWC
SPI -0.543 to 0	30% to 49.9% duration	3 days or 72 hours
SPI 0 to 0.545	50% to 69.9% duration	6 days or 144 hours
SPI 0.546 to 0.864	70% to 79.9% duration	9 days or 216 hours
SPI $\geq$ 0.865	80% to 100% duration	14 days or 336 hours

(7) If monitoring well data is collected during monitoring periods that span multiple years, the year that yields the shallowest SWC shall apply.

(h) The modeling procedure may be used to determine SWC by using DRAINMOD, a groundwater simulation model, to predict daily water levels over a minimum 30-year period using site-specific input parameters as outlined in the DRAINMOD User's Guide. The SWC shall be determined as the shallowest level predicted by DRAINMOD to be saturated for a 14-day continuous period between January 1 and April 30 with a recurrence frequency of 30 percent, an average of a minimum of nine years in 30, and in accordance with the following:

- (1) weather input files shall consist of hourly rainfall and daily temperature data collected over the entire period of record but for a minimum of a 30-year period from a measuring station site, such as the National Weather Service or SCO. The measuring station used shall be the station located closest to the owner's site;
- (2) soil and site inputs for DRAINMOD shall include the following:
 - (A) soil input file with the soil moisture characteristic curve and data for the soil profile that is closest to the described soil profile that is present on the site;
 - (B) soil horizon depths determined on site;
 - (C) site measured or proposed drain depth and spacing, and drain outlet elevation;

(D) in-situ Ksat measurements for a minimum of three representative locations on the site and at each location for the three most representative soil horizons within five feet of the surface. In-situ Ksat measurements shall be for one representative soil horizon at or above redoximorphic depletion features and two representative soil horizons at and below redoximorphic concentration features at each location on the site;

(E) all other model parameters based upon the DRAINMOD User's Guide; and

(F) a sensitivity analysis shall be conducted for the following model parameters: soil input files for a minimum of two other most closely related soil profiles; in-situ Ksat of each horizon; drain depth and spacing; and surface storage and depth of surface flow inputs.

The sensitivity analysis shall be used to evaluate the range of soil and site characteristics for choosing input parameters related to the soil profiles, Ksat input values based upon the range of in-situ Ksat values measured on the site, and inputs for surface and subsurface drainage features based upon the range of possible elevations and distances that occur or may occur after installation of improvements. The sensitivity analysis shall establish which parameters are most critical for determination of the depth to SWC. Conservative values for the most critical parameters shall be used in applying the model to the site;

(3) for sites designed to receive over 600 gpd, the SWC determination using DRAINMOD shall take into consideration the impact of wastewater application on the projected water table surface; and

(4) the groundwater simulation analysis shall be prepared and submitted to the LHD by licensed professionals, if required in G.S. 89C, 89E, or 89F, qualified to use DRAINMOD by training and experience. The LHD shall submit the groundwater simulation analysis to the Department for technical review prior to approval of the SWC determination.

(i) The monitoring and modeling procedure is a combination of the direct monitoring procedure and the modeling procedure. The SWC shall be determined as the shallowest level predicted by DRAINMOD to be saturated for a 14-day continuous period between January 1 and April 30 with a recurrence frequency of 30 percent, an average of a minimum of nine years in 30, and in accordance with the following:

(1) the procedures set forth in Paragraph (g) shall be used to monitor water surface elevation and precipitation. The rain gauges and monitoring wells required by Subparagraph (g)(4) shall use a recording device and a data file that is DRAINMOD compatible. The recording devices shall record rainfall hourly or daily and well water levels daily. The data file shall be submitted with the report to the LHD;

(2) DRAINMOD shall be used to predict daily water levels. The DRAINMOD modeling shall be in accordance with the following:

(A) weather input files shall be developed from daily temperature and hourly or daily rainfall data collected over a minimum 30-year period from a measuring station, such as the National Weather Service or SCO. The measuring station used shall be the station located closest to the site. Daily maximum and minimum temperature data for the December 1

1 through April 30 monitoring period shall be obtained from the closest available weather
2 station;

3 (B) soil and site inputs for DRAINMOD, including a soils data file closest to the soil series
4 identified, depths of soil horizons, in-situ Ksat of each horizon, depth and spacing of
5 drainage features, and depression storage shall be selected in accordance with procedures
6 outlined in the DRAINMOD User's Guide;

7 (C) inputs shall be based upon site-specific soil profile descriptions. Soil and site input factors
8 shall be adjusted during the model calibration process to achieve the best possible fit as
9 indicated by the least squares analysis of the daily observations over the whole monitoring
10 period and to achieve the best possible match between the shallowest water table depth
11 during the monitoring period that is saturated for 14 consecutive days, measured vs.
12 predicted. The mean absolute deviation between measured and predicted values shall be
13 no greater than six inches during the monitoring period;

14 (D) for sites intended to receive greater than 1,500 gpd, the SWC determination using
15 DRAINMOD shall take into consideration the impact of wastewater application on the
16 projected water table surface; and

17 (E) the DRAINMOD analysis shall be prepared and submitted to the LHD by licensed
18 professionals, if required in G.S. 89C, 89E, or 89F, qualified to use DRAINMOD by
19 training and experience. The LHD or owner may request a technical review by the
20 Department prior to approval of the SWC determination.

21 The monitoring and modeling procedure may also be used to re-evaluate a SWC that was previously
22 evaluated by the direct monitoring procedure.

23 (j) Modeling procedures other than those set forth in this Rule may be used to determine SWC upon approval by the
24 Department. Other modeling procedures shall be approved if the following requirements are met:

25 (1) the modeling procedures use daily water levels or weather records over a 30-year period to predict
26 future daily water levels;

27 (2) the proposed model and prediction are shown to be as accurate as the prediction from DRAINMOD,
28 calculated in accordance with Paragraph (h) of this Rule; and

29 (3) documentation is provided in accordance with Rule .0509(c) of this Section.

30 (k) A report of the investigations made for the direct monitoring procedure, modeling procedure, or monitoring and
31 modeling procedure in accordance with Paragraphs (g), (h), or (i) of this Rule shall be prepared prior to approval of
32 the SWC determination. A request for technical review of the report by the Department shall include digital copies of
33 monitoring data, model inputs, output data, and graphic results, as applicable.

34
35 *History Note: Authority G.S. 130A-335(e);*

36 *Eff. October 1, 2021.*

1 15A NCAC 18E .0805 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0805 TANK LEAK TESTING AND INSTALLATION REQUIREMENTS**

4 (a) All tanks installed under the following conditions shall be leak tested:

- 5 (1) when a SWC is present within four feet of the elevation of the top of a mid-seam pump tank;
6 (2) with advanced pretreatment when required in the RWTS or PIA Approval;
7 (3) when required in the approved plans and specifications for a wastewater system designed by a PE;
8 (4) when the tank is constructed in place; or
9 (5) as required by the authorized agent based upon site or system specific conditions, such as misaligned
10 seams, exposed reinforcement, or damage observed that may have occurred during transport or
11 installation.

12 (b) Tanks subject to leak testing in accordance with Paragraph (a) of this Rule shall be leak tested using either a
13 hydrostatic test procedure or vacuum test procedure as follows:

14 (1) The operational procedures to be followed for the hydrostatic test are:

- 15 (A) ~~Fill~~ fill tank with water to the outlet invert or pipe, as applicable;
16 (B) ~~Allow~~ allow the tank to sit for one hour;
17 (C) ~~Tank~~ tank shall be approved if the water level drops less than or equal to one-eighth inch
18 in one hour;
19 (D) ~~If~~ if a leak is detected, the tank may be repaired in accordance with the tank manufacturer's
20 written instructions, refilled, and retested;
21 (E) ~~Surface~~ surface wetness or condensation shall not be considered an active water leak; and
22 (F) ~~The~~ the tank manufacturer or installer is allowed one attempt to retest the tank before the
23 authorized agent can ~~turn down~~ deny the tank for use in the installation ~~for~~ based on failure
24 to pass the leak test.

25 (2) The operational procedures to be followed for the vacuum test are:

- 26 (A) ~~Temporarily~~ temporarily seal inlet and outlet pipes and access openings;
27 (B) ~~Using~~ using calibrated equipment, draw a vacuum on the empty tank to a negative pressure
28 of two and one half inches of mercury;
29 (C) ~~Hold~~ hold the vacuum for five minutes and re-measure and record the ending negative
30 pressure inside the tank;
31 (D) ~~No~~ no bracing or internal support that is not part of the approved tank shall be allowed;
32 (E) ~~Tank~~ tank shall be approved if the difference between the starting negative pressure and
33 the ending negative pressure is less than or equal to one-fifth inch;
34 (F) ~~If~~ if a leak is detected, the tank may be repaired in accordance with the tank manufacturer's
35 written instructions and retested;

(G) ~~The~~ the tank manufacturer or installer is allowed one attempt to retest the tank before the authorized agent can ~~turn down~~ deny the tank for use in the installation based on the failure to pass the leak test; and

(H) ~~All~~ all tank openings shall be un-sealed after the vacuum test is completed.

(c) Tanks unable to pass a leak test or be repaired to pass a leak test shall be removed from the site and the imprint described in Rule .1402(d)(15) or (e)(8) of this Subchapter marked over.

(d) The septic tank outlet pipe shall be inserted through the outlet pipe penetration boot, creating a watertight joint, and extending a minimum of two feet beyond the septic tank outlet. The pump tank outlet pipe shall be inserted through the outlet pipe penetration boot, creating a watertight joint, or through another watertight joint, such as a rubber grommet, in the pump tank riser.

(e) The septic tank outlet pipe and pump tank outlet pipe shall be placed on undisturbed soil or bedded in accordance with Rule .0703(b) of this Subchapter to prevent differential settling of the pipe. The pipe shall be level for a minimum of two feet after exiting the tank.

(f) The tank shall be installed level. A tank is considered level if the difference between the front and back is plus or minus one inch and the difference from side to side is plus or minus one inch. The tank excavation, bedding, backfill, and compaction shall be in accordance with the tank manufacturer's installation ~~requirements~~ requirements, specifications, and the tank approval.

(g) The tank excavation shall be separated from the dispersal system by at least two feet of undisturbed soil. Piping from the tank to the next component shall be placed on undisturbed soil, compacted soil, or bedded using sand, gravel, stone, or other aggregate.

(h) Effluent filters and risers shall be installed in accordance with the design and construction criteria of Rule .1402(b) and (c) of this Subchapter.

~~[(i) Tanks shall be installed in accordance with the manufacturer's specifications.]~~

(i) [(+)] Any system serving a facility with a DDF greater than 3,000 gpd shall have access manholes installed on the tank and extending at a minimum to finished grade. The access manholes shall be designed and maintained to prevent surface water inflow and sized to allow access for routine inspections, operation, and maintenance.

History Note: Authority G.S. 130A-335(e), (f), and (f1);

Eff. October 1, 2021.

15A NCAC 18E .0907 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

15A NCAC 18E .0907 LOW PRESSURE PIPE SYSTEMS

(a) LPP systems utilize a network of small diameter pipes with three feet to six feet pressure head to distribute effluent across the entire dispersal field. Any subsurface dispersal system listed in this Section may incorporate LPP dispersal.

(b) LPP systems with advanced pretreatment shall comply with Rules .1202, .1203, .1205, or .1206 of this Subchapter.

(c) The LTAR shall be determined as follows:

- (1) Tables XXI and XXII shall be used to determine the LTAR for LPP systems, as applicable;
- (2) the LTAR determined from Table XXI shall be based on the soil textural class of the most limiting, naturally occurring soil horizon to a depth of 12 inches below the infiltrative surface;
- (3) the LTAR determined from Table XXII shall be based on the saprolite textural class of the most limiting, naturally occurring saprolite to a depth of 24 inches below the infiltrative surface, or less than 24 inches if combined with soil in accordance with Rule .0506(b) of this Subchapter; and
- (4) for facilities that generate HSE as specified in Rule .0401(h) of this Subchapter or a facility with a full kitchen, the LTAR shall not exceed the mean rate for the applicable Soil Group.

TABLE XXI. LTAR for LPP systems based on Soil Group and texture class

Soil Group	USDA Soil Textural Class		LTAR in gpd/ft ²
I	Sands	Sand	0.4 – 0.6
		Loamy Sand	
II	Coarse Loams	Sandy Loam	0.3 – 0.4
		Loam	
III	Fine Loams	Sandy Clay Loam	0.15 – 0.3
		Silt Loam	
		Clay Loam	
		Silty Clay Loam	
		Silt	
IV	Clays	Sandy Clay	0.05 – 0.2
		Silty Clay	
		Clay	

TABLE XXII. LTAR for LPP systems in saprolite based on Saprolite Group and texture class

Saprolite Group	Saprolite Textural Class		LTAR in gpd/ft ²
I	Sands	Sand	0.3 – 0.4
		Loamy Sand	0.25 – 0.35
II	Loams	Sandy Loam	0.2 – 0.3
		Loam	0.1 – 0.2
		Silt Loam	0.05 – 0.15

(d) The minimum required dispersal field area and trench length shall be calculated in accordance with the following:

(1) the minimum required dispersal field area shall be calculated by dividing the DDF by the LTAR; and

(2) the minimum trench length shall be calculated by dividing the required dispersal field area by a lateral spacing of five feet. The following equation shall be used to calculate the minimum line length required.

$$TL = (DDF \div LTAR) \div LS$$

Where TL = length of trench, in feet

DDF = design daily flow, in gpd

LTAR = in gpd/ft²

LS = five-foot line spacing

(3) When HSE is proposed to be discharged to an LPP dispersal field with no advanced pretreatment or has not been reclassified as DSE in accordance with Rule .0402(c) of this Subchapter, a licensed professional, if required in G.S. 89C, 89E, or 89F, shall calculate the adjusted LTAR in accordance with Rule .0402(b) of this Subchapter.

(e) In addition to the requirements set forth in Rule .0901(g) of this Section, LPP system design and installation shall comply with the following, unless otherwise specified in a PIA Approval:

(1) the LPP distribution network shall be constructed of one to two-inch diameter pressure rated Schedule 40 PVC laterals placed in gravel that meets the requirements in Rule .0902(b)(4) of this Section or other approved media;

(2) the trench width shall be one to two feet;

(3) trenches shall be located not less than three times the trench width on center. The minimum spacing for trenches shall be five feet on center;

(4) trenches shall include a minimum of eight inches of gravel or other approved media, either from a PIA Approval or subsurface dispersal system listed in Section .0900 of this Subchapter. The lateral shall be installed a minimum of five inches above the infiltrative surface;

(5) laterals, manifolds and LPP fields shall comply with the following design criteria:

(A) the maximum lateral length shall yield no more than a 10 percent difference in orifice delivery rate between the first and last orifice along the lateral;

(B) no more than one-third of the total number of holes shall be less than 5/32 inches in diameter, with no orifices sized smaller than one-eighth inch in diameter in any lateral line;

(C) all orifices shall face upwards, except for two orifices, one-third of the way from the beginning and end of each lateral, which shall face downward; and

(D) maximum orifice spacing shall be as follows: Soil Group I - five feet; Soil Group II - six feet; Soil Group III - eight feet; and Soil Group IV - 10 feet;

(6) the orifices shall be protected by the following:

(A) lateral sleeved within a three or four-inch perforated corrugated or smooth wall tubing meeting the requirements of Rule .0703(d) of this Subchapter; or

- (B) ~~pecially designed and approved orifice shields;~~ shields that prevent aggregate, soil, and tree roots from clogging the orifices;
- (7) the following additional design provisions shall be required for sloping sites:
- (A) separately valved manifolds shall be required for all subfield segments where the elevation difference between the highest and lowest laterals exceeds three feet;
- (B) the orifice spacing, orifice size or both shall be adjusted to compensate for relative elevation differences between laterals branching off a common supply manifold and to compensate for the lines at the lowest elevation receiving more effluent at the beginning and end of a dosing cycle;
- (C) the lateral network shall be designed to achieve a 10 to ~~30~~ 40 percent higher steady state flow rate ~~per linear foot~~ into the upper lines, relative to the lower lines, depending on the amount of elevation ~~difference.~~ difference and the number of laterals. The steady state flow rate is based on the pipe being full; ~~and~~
- (D) maximum elevation difference between the highest and lowest laterals in a field shall not exceed 10 feet unless the flow is uniformly divided using multiple pumps or split between subfield segments without requiring simultaneous adjustment of multiple pressure regulating valves in separate locations. Flow shall be uniformly divided such that the dose volumes to the subfields does not vary more than 10 percent on an area ~~basis; and basis.~~
- (E) ~~The the~~ Department shall approve other designs based upon the authorized designer or PE providing documentation showing equivalent hydraulic performance to this Subparagraph;
- (8) turn-ups shall be provided at the ends of each lateral, constructed of Schedule 40 PVC pipe or stronger pressure-rated pipe, and shall terminate at the ground surface and be installed in a valve box or equivalent that provides access for operation and maintenance;
- (9) the supply manifold shall be constructed of solvent-welded pressure rated Schedule 40 PVC;
- (10) the supply manifold shall be sized large enough based on the size and number of laterals served to prevent more than a 20 percent variation in pressure head between the first and last laterals due to losses within the manifold when feeding the manifold from a lower elevation;
- (11) the supply manifold shall comply with the following design criteria:
- (A) the ratio of the supply manifold inside cross-sectional area to the sum of the inside cross-sectional areas of the laterals served shall exceed 0.7:1 as measured from where the supply line connects to the manifold;
- (B) the reduction between the manifold and connecting laterals shall be made off the manifold using reducing tees or fittings; and
- (C) cleanouts shall be installed at the distal ends of the supply manifold and shall be enclosed in valve boxes accessible from the ground surface;
- (12) pressure regulating valves shall be provided for pressure adjustment at the fields;

- 1 (13) valves shall be installed in an access device, such as a valve box, and be accessible and operable
2 from the ground surface. Valves serving contiguous subfields shall be in a common valve box;
- 3 (14) the LPP dosing system shall comply with the following design criteria:
- 4 (A) the pump operating flow rate shall be based upon delivering three feet to six feet of residual
5 pressure head at the distal end of all laterals;
- 6 (B) the dose volume shall be between five and 10 times the liquid capacity of the lateral pipe
7 dosed, plus the liquid capacity of the portions of manifold and supply lines which drain
8 between doses; and
- 9 (C) when pumping downhill and the supply line volume exceeds 20 percent of the calculated
10 dose volume, special design considerations shall be followed to prevent more than 20
11 percent of the dose volume from draining by gravity to the dispersal field between doses;
12 and
- 13 (15) the trenches shall be covered to a minimum depth of four inches after settling.
- 14 (f) The authorized agent or Department may approve on a site-specific basis drip dispersal systems used in LPP
15 trenches and other LPP designs based on documentation showing that the proposed design meets the performance
16 requirements of this Rule.

17
18 *History Note: Authority G.S. 130A-335(e) and (f);*
19 *Eff. October 1, 2021.*

1 15A NCAC 18E .0911 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .0911 PRIVIES**

4 (a) A privy shall be approved when it consists of a pit, floor slab, and seat assembly housed in a building that affords
5 privacy and protection from the weather and meets the following criteria:

- 6 (1) the pit shall consist of an excavation with a minimum bottom surface area of three and one half feet
7 square;
- 8 (2) the maximum depth of the pit shall not exceed 36 inches;
- 9 (3) the pit bottom shall not be located closer than 12 inches to a LC;
- 10 (4) the pit shall be curbed to prevent caving. In sandy or loose soil, the curb shall extend the full depth
11 of the pit. In clay soils, partial curbing may be acceptable if soils have sufficient cohesion to not
12 collapse;
- 13 (5) the floor shall be constructed of concrete, wood, or other approved materials. The following criteria
14 shall be met, as applicable:
 - 15 (A) for wood construction, rot resistant joists are used covered with tight tongue-and-groove
16 rot resistant flooring;
 - 17 (B) wood floors shall be anchored to the sills. The minimum sill size shall be four-inch by four-
18 inch; and
 - 19 (C) when other materials are used the material shall be shown to provide strength, durability
20 and prevent entrance of flies and mosquitoes to the privy pit;
- 21 (6) the pit shall be vented through screened PVC Schedule 40 pipe or other pipe approved in accordance
22 with Rule .0703 of this Subchapter, six inches in diameter, and extending above the roofline. The
23 vent pipe shall be:
 - 24 (A) located on a south side wall of the building;
 - 25 (B) covered to prevent rainfall from entering, but still allow gases to escape;
 - 26 (C) straight without any bends in the pipe; and
 - 27 (D) black colored pipe; and
- 28 (7) privies shall not be used for the disposal of water-carried sewage.

29 (b) Any person owning or controlling the property upon which a privy is located shall be responsible for the following
30 requirements:

- 31 (1) when the pit becomes filled to within 18 inches of the top of the ground, the privy building shall be
32 moved to a new pit and the old pit covered with soil; and
- 33 (2) if the pit caves in, a new pit shall be provided.

34 (c) The person owning or controlling the system shall be responsible for the following requirements:

- 35 (1) the privy and grounds adjacent shall be kept free of ~~debris and excess vegetation;~~ **debris;**
- 36 (2) a hinged seat cover and hinged door shall be provided and kept closed when the privy is not in use;

- 1 (3) flies shall be excluded from the pit by the privy building door fitting in the frame and no unscreened
2 openings in the building;
3 (4) garbage and trash shall be kept out of the pit; and
4 (5) the privy building shall not be used for storage.
5 (d) When a new pit is required, a CA and OP shall be obtained.

6
7 *History Note: Authority G.S. 130A-335(e) and (f);*
8 *Eff. October 1, 2021.*

1 15A NCAC 18E .1306 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .1306 SYSTEM MALFUNCTION AND REPAIR**

4 (a) This Rule identifies the responsibilities of the LHD and the owner when a system is malfunctioning or otherwise
5 determined to require repair.

6 (b) The LHD or Department shall issue a written NOV to the wastewater system owner in accordance with Rule
7 .0302(c) of this Subchapter.

8 (c) The wastewater system shall be repaired within 30 days of the date on the NOV issued by the Department or LHD
9 unless the NOV specifies a different time frame for the repair based on site-specific factors, such as the severity of the
10 repair, wastewater backing up into a restaurant or discharging into SA waters, or adverse weather that delays
11 construction of the repair. The following steps shall be followed to remedy a malfunctioning wastewater system:

12 (1) The owner shall apply for a repair in accordance with Section .0200 of this Subchapter, unless only
13 maintenance is required to bring the wastewater system into compliance.

14 (2) After investigating the malfunction, the Department or LHD shall require that the wastewater system
15 be repaired to correct the malfunction and eliminate any public health hazard. The wastewater
16 system shall be repaired so that it meets G.S. 130A, Article 11 and this Subchapter. When it is not
17 possible to bring the wastewater system into compliance with G.S. 130A, Article 11 and this
18 Subchapter, the authorized agent shall use their best professional judgement, based on education
19 and experience, to require a repair that should enable the wastewater system to function in a manner
20 that complies with Rule .1303(a)(1) of this Section. The LHD shall document that the repair using
21 uses best professional judgement on the CA and OP.

22 (3) When necessary to protect the public health, the Department or LHD shall require the owner of a
23 malfunctioning system to pump and haul sewage to an approved wastewater system during the time
24 needed to repair the wastewater system. This requirement shall be included in the NOV issued to
25 the owner.

26 (d) If no repair options are available for the wastewater system in accordance with Paragraph (c), the LHD may issue
27 a CA and OP for a permanent pump and haul system. The owner applicant shall submit an application to the LHD for
28 the permanent pump and haul system. The application and permanent pump and haul system shall meet the following
29 conditions:

30 (1) The owner shall provide the following information as part of the application:

31 (A) a report documentation that the system cannot be repaired by connection to a system
32 approved under this Section or Rules adopted by the Environmental Management
33 Commission; a system approved under G.S. 143, Article 21;

34 (B) a contract with a septage management firm permitted in accordance with G.S. 130A-291.1
35 to pump and haul the sewage;

36 (C) documentation that the wastewater system has been approved under this Subchapter or in
37 accordance with 15A NCAC 02H or 15A NCAC 02T to accept sewage; and

- (D) documentation from the facility receiving the sewage confirming that the facility has the capacity for the additional sewage and agrees to accept it.
- (2) The LHD shall design the pump and haul system based on the following criteria:
- (A) tankage with a minimum of five days storage capacity and two days emergency storage capacity;
- (B) high-water alarm set to go off with two days of emergency storage capacity left in the tankage; and
- (C) telemetry unit that contacts the septage management firm.
- (3) The owner of a non-residential facility may request a reduction in the five day storage requirement, if the owner can document the ability to have the tanks pumped out with only 24 hours' notice. The total tank capacity shall never be less than the minimum required septic tank and pump tank capacity required by Section .0800 of this Subchapter.
- (4) Tanks shall be approved by the LHD for permanent pump and haul if shown to be structurally sound, watertight, and of a capacity needed based on the DDF and projected pumping frequency. Existing tanks may be used for permanent pump and haul if the tanks meet the requirements in this Subparagraph.
- (5) Prior to issuing the OP, the LHD shall receive from the owner a contract with a Management Entity for inspection and maintenance of the system.
- (6) A non-transferrable OP, valid for a period ~~not to exceed~~ of five years, shall be issued to the pump and haul system owner.
- (e) A malfunctioning wastewater system that has been disconnected from the facility for any reason shall be repaired prior to reuse.
- (f) If the dispersal field in a malfunctioning wastewater system is found to be ~~nonrepairable~~ nonrepairable, the dispersal ~~system field~~ shall not be used. The system owner shall be required to abandon the system to protect the public health and safety as specified in Rule .1307 of this Section.
- (g) For facilities with a malfunctioning wastewater system installed prior to July 1, 1977, the authorized agent shall use their best professional judgement, based on education and experience, to repair the system.
- (h) For facilities with a ~~straight pipe~~ wastewater disposal method installed prior to July 1, 1977, which has been in continual use and acts as the sole source of wastewater disposal, the authorized agent shall use their best professional judgement, based on education and experience, to repair the ~~straight pipe~~ wastewater disposal method.
- (i) Legal remedies may be pursued, in accordance with G.S. 130A, Article 1, Part 2, after an authorized agent has observed and documented one or more malfunctioning conditions and issued an NOV.

*History Note: Authority G.S. 130A-291.1; 130A-291.2; 130A-335(e) and (f);
Eff. October 1, 2021.*

1 15A NCAC 18E .1401 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .1401 PLANS FOR PREFABRICATED TANKS**

4 (a) All tanks proposed for use in a wastewater system described in this Subchapter shall be approved by the
5 Department. Tanks shall be approved as follows:

6 (1) The tank design shall be approved based on the plans and specifications submitted in accordance
7 with Subparagraphs (c)(1) through (c)(8) of this Rule. After the tank design has been approved, a
8 temporary identification number shall be assigned for tracking purposes.

9 (2) The tank shall pass a structural load test as described in Subparagraph (c)(9) of this Rule. The test
10 shall be performed and certified by a third-party. The test shall be observed in person by the
11 Department, LHD, PE, or a **credentialed third-party** testing organization. If the tank passes the
12 structural load test, then the tank shall be assigned a permanent identification number. Tanks shall
13 not be sold for use in a wastewater system without a permanent identification number.

14 (3) The structural design verification shall be required for new tanks, modifications to tank design, and
15 when tank forms are sold to a different tank manufacturer.

16 (4) Pump tanks may be tested and approved with a baffle wall, without a baffle wall, or with a partial
17 baffle wall. The most limiting design produced by the manufacturer shall be tested.

18 (b) The tank manufacturer shall submit three copies of the plans and specifications for the initial design of each tank
19 to the Department for approval.

20 (c) Plans and specifications for tanks with a total liquid capacity less than or equal to 4,000 gallons shall include the
21 following:

22 (1) all tank dimensions in inches, including:

23 (A) top, bottom, and sidewall thickness and variations;

24 (B) minimum and maximum dimensions on tanks with tapered or ribbed walls;

25 (C) baffle wall location and minimum and maximum thickness and variations;

26 (D) location and dimension of all openings in baffle wall for gas and liquid movement; and

27 (E) dimensions of all compartments;

28 (2) material type and strength, including reinforcement material and location, as applicable, specified
29 by the manufacturer;

30 (3) method for fastening the baffle wall to the tank interior;

31 (4) liquid depth and operating capacity in gallons;

32 (5) pipe penetration boot locations and pipe penetration boots approved in accordance with Rule .1404
33 of this Section;

34 (6) methods and material for sealing sections and forming watertight joints in tanks with multiple
35 sections;

36 (7) drawings showing access openings, tank lids, access manhole risers, and other proposed
37 appurtenances to the tank;

- 1 (8) tank manufacturer and PE requirements for installation, including bedding, additional sealing
2 methods, and leak testing procedures; and
- 3 (9) documentation of proof of design. The tank shall withstand a minimum uniform live load of 150
4 pounds per square foot in addition to the dead weight of the material and all geostatic and hydrostatic
5 loads to which an underground tank is normally subjected, such as active soil pressure on tank walls
6 and the uplifting force of groundwater. The documentation shall be one of the following:
- 7 (A) a vacuum test of 4.24 inches of mercury held for five minutes meeting the following
8 criteria:
- 9 (i) no loss in vacuum greater than two-fifths of an inch of mercury during the test;
- 10 (ii) no deformation or deflection greater than two percent along any dimension unless
11 shown by measurement or calculation to result in a reduction in volume no greater
12 than two percent;
- 13 (iii) no distortion of the access openings occurs during the testing that prevents
14 removal and replacement of the access opening lids at the conclusion of the test;
15 and
- 16 (iv) for tanks constructed with integral risers, no distortion of the riser during the
17 testing and the riser lid can be removed and replaced at the conclusion of the test;
- 18 (B) calculations from a PE that the tank can withstand the loading requirements of this
19 Subparagraph and the performance requirements of Part (A) of this Subparagraph shall be
20 met; or
- 21 (C) the tank shall be either IAPMO/ANSI Z1000 or CSA B66 certified and the tank
22 manufacturer enrolled in a third-party quality assurance and quality control program, which
23 includes material testing and unannounced annual manufacturing facility audits.
- 24 (d) Plans and specifications for tanks with a total liquid capacity greater than 4,000 gallons and all tanks designed for
25 traffic loads shall be designed by a PE in accordance with ASTM C890. Plans shall show the design, including all the
26 information listed in Paragraph (c) of this Rule and engineering calculations showing the minimum and maximum soil
27 burial depth, water table, and traffic load the tank is designed to support.
- 28 (e) Plans for tanks not proposed for general use and issued an identification number under this Section shall meet the
29 minimum requirements of this Section and shall be approved by the Department.
- 30 (f) The Department or LHD may inspect approved tanks at the place of manufacture, the inventoried sites of the
31 distributors, or at the installation of the tank in a wastewater system for compliance with the approved plans and
32 specifications.
- 33 (g) Tanks found to be out of compliance shall be brought back into compliance by the tank manufacturer or the
34 installer as directed by the Department or LHD. Tanks that are not or cannot be brought into compliance shall not be
35 used in a wastewater system and the imprints identified in Rule .1402(d)(15) or (e)(8) of this Section shall be
36 permanently marked over by the authorized agent.
- 37

- 1 *History Note:* *Authority G.S. 130A-335(e), (f), and (f1);*
- 2 *Eff. October 1, 2021.*

1 15A NCAC 18E .1603 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .1603 DRIP DISPERSAL SYSTEM TESTING**

4 (a) The drip dispersal system field testing shall include system designer requirements and the following items:

- 5 (1) all leaks in the pipe network or from emitters exhibiting **excessive** emission rates **greater than 20**
6 **percent of the emitter design flow rate** ~~the~~ shall be repaired; and
7 (2) after the system is pressurized, dosing and flushing flow rates and pressures for each zone shall be
8 measured and confirmed to be in accordance with the design parameters as follows:
9 (A) dosing pressure shall be measured at the lowest point in the supply manifold and highest
10 point in the return manifold;
11 (B) minimum and maximum emitter pressure shall be verified to be within emitter design
12 parameters;
13 (C) flushing pressures shall be measured at the ends of each supply and return manifold within
14 each zone;
15 (D) dosing and flushing flow rates shall be measured with the flow meter after the system is
16 pressurized; and
17 (E) all dosing and flushing flow rates and pressures shall be recorded.

18 (b) All components shall be demonstrated to be operable and in accordance with their design during the inspection
19 by the LHD.
20

21 *History Note: Authority G.S. 130A-343;*

22 *Eff. October 1, 2021.*

1 15A NCAC 18E .1706 is adopted with changes as published in 35:17 NCR 1849-1942 as follows:

2
3 **15A NCAC 18E .1706 APPROVAL CRITERIA FOR ACCEPTED SYSTEMS**

4 (a) The Commission shall designate a wastewater dispersal system as an Accepted System when it finds based on the
5 information provided in accordance with this Rule that the standards set forth by G.S. 130A-343(a)(1) and G.S. 130A-
6 343(h) have been met.

7 (b) The following information shall be provided by the petitioner and reviewed by the Commission prior to granting
8 Accepted System status:

- 9 (1) documentation of a minimum of 300 systems installed statewide and in use for more than five years
10 as an approved Innovative System or a wastewater dispersal system identified in the rules of this
11 Subchapter;
- 12 (2) data and findings of all prior evaluations of the system performance as provided by the
13 manufacturer;
- 14 (3) results of prior performance surveys of the systems in use in North Carolina for at least the five-
15 year period immediately preceding the petition, including any information available to the
16 manufacturer pertinent to the accuracy and validity of performance surveys not completed under
17 their control;
- 18 (4) review(s) of records on system use and performance reported by LHDs, authorized designers,
19 installers, and Management Entities documenting the experiences with performance of the system
20 in North Carolina, including information collected and reported in accordance with Rules .1711 and
21 .1713 of this Section. The Department, in consultation with the manufacturer, shall evaluate the
22 accuracy and validity of performance data and surveys considered for inclusion in the review. LHDs
23 and other stakeholders shall be invited to participate in the discussion; and
- 24 (5) the results of a statistically valid survey of system performance in North Carolina in accordance
25 with Paragraphs (d) or (g) of this Rule.

26 (c) The manufacturer shall propose a plan for the statistically valid ~~survey.~~ survey for review and approval by the ~~The~~
27 Department ~~shall concur with the proposed survey plan~~ prior to the survey being performed. The Department shall
28 approve a statistically valid survey plan when it meets the requirements of Paragraphs (d) or (g) of this Rule and
29 includes ~~The plan shall specify~~ the following information:

- 30 (1) number of systems to be evaluated;
- 31 (2) period of evaluation;
- 32 (3) method to randomly select systems to be evaluated;
- 33 (4) methods of field and data evaluation; and
- 34 (5) proposed survey team members, including proposed cooperative arrangements to be made with
35 Department and LHD staff.

36 (d) The proposed survey shall meet one of the following survey protocols:

- (1) a field survey of test and control systems that compares the failure rates between the systems. Statistical analysis of the survey results using a one-sided test shall document at the 95 percent confidence level that there is a five percent or less chance that a difference in failure rates of five percentage points or more would occur by chance. The field survey shall meet the following criteria:
- (A) a minimum of 250 randomly selected test and control systems that have been in operation for at least two years and are currently in use, for a total of at least 500 systems that are surveyed;
 - (B) a minimum of 40 percent of both test and control systems shall have been in operation for at least five years;
 - (C) systems surveyed shall be distributed among the Soil Groups in the Coastal, Piedmont, and Mountain regions of the State in approximate proportion to their use across the State;
 - (D) systems shall be evaluated from February 1 through April 15; and
 - (E) similar numbers of test and control systems of similar ages shall be surveyed during similar time periods across the State; or
- (2) a field survey of test systems only. The failure rate determined by the field survey shall not exceed seven percent at the 95 percent confidence level. The field survey for test systems only shall meet the following criteria:
- (A) the system is identified in the rules of this Subchapter and the manufacturer provides documentation that there have been at least 3,000 operational systems installed in the state in more than one county. The systems shall have been installed over at least an eight-year period with a total reported failure rate statewide of less than two percent. The statewide failure rate is based on records provided by the manufacturer and monthly activity reports from the LHD;
 - (B) a minimum of 250 randomly selected systems that are currently in operation are surveyed; and
 - (C) the survey criteria in Subparagraph (d)(1) of this Rule are met.
- (e) The Department shall facilitate LHD participation with any performance review or ~~survey.~~ survey to identify sites and systems for evaluation based on the LHD's permit records.
- (f) The Department shall utilize the Division of Public Health's State Center for Health Statistics for assistance in evaluating the statistical validity of the proposed evaluation protocols.
- (g) ~~Other criteria for determining whether the test system has been in general use and other~~ Alternative survey protocols, which evaluate different numbers of test and control systems or test systems only, may be submitted by the petitioner approved by to the Department. Department for approval. The alternative survey protocol shall be approved by the Department when the survey protocol is designed to verify equal or superior performance of the test system when compared to the control system under actual field conditions in North Carolina. Carolina and when the The alternative survey protocol ~~shall be demonstrated to have~~ has comparable statistical validity as described in Subparagraph (d) of this Rule. The Department's review and approval of proposed ~~alternate criteria for determining~~

1 ~~whether the system has been in general use or~~ alternative survey protocols ~~are~~ shall be subject to review and
2 concurrence by the ~~Commission.~~ Commission, which shall use the same approval criteria as the Department as set
3 forth in in this Paragraph.

4 (h) The Commission shall impose any use, design, installation, operation, maintenance, monitoring, and management
5 conditions in accordance with G.S. ~~130A-343.~~ 130A-343 and the Rules of this Subchapter.

6 (i) If there is a conflict between approvals or between an approval and the Rules of this Subchapter, then an Accepted
7 System approval shall take precedence, followed by an Innovative System Approval, and then the Rules of this
8 Subchapter.

9
10 *History Note: Authority G.S. 130A-335(e) and (f); 130A-343; S.L. 2014-120, s.47; S.L. 2019-151, s.13;*
11 *Eff. October 1, 2021.*