



TEMPORARY RULE-MAKING FINDINGS OF NEED

[Authority G.S. 150B-21.1]

OAH USE ONLY

VOLUME:

ISSUE:

1. Rule-Making Agency: Environmental Management Commission

2. Rule citation & name: 15A NCAC 02H .1002 Definitions

3. Action: ☐ Adoption ☒ Amendment ☐ Repeal

4. Was this an Emergency Rule: ☐ Yes ☒ No Effective date:

5. Provide dates for the following actions as applicable:

- a. Proposed Temporary Rule submitted to OAH: January 13, 2014
- b. Proposed Temporary Rule published on the OAH website: January 15, 2014
- c. Public Hearing date: January 23, 2014
- d. Comment Period: January 15, 2014 to February 7, 2014
- e. Notice pursuant to G.S. 150B-21.1(a3)(2): January 15, 2014
- f. Adoption by agency on: March 13, 2014
- g. Proposed effective date of temporary rule [if other than effective date established by G.S. 150B- 21.1(b) and G.S. 150B-21.3]: March 28, 2014
- h. Rule approved by RRC as a permanent rule:

6. Reason for Temporary Action. Attach a copy of any cited law, regulation, or document necessary for the review.

- ☒ A serious and unforeseen threat to the public health, safety or welfare.
- ☒ The effective date of a recent act of the General Assembly or of the U.S. Congress.
Cite: Session Law 2013-413
Effective date: August 23, 2013
- ☐ A recent change in federal or state budgetary policy.
Effective date of change:
- ☐ A recent federal regulation.
Cite:
Effective date:
- ☐ A recent court order.
Cite order:
- ☐ State Medical Facilities Plan.
- ☐ Other:

Explain: The purpose of this rulemaking is to amend Rule 15A NCAC 02H .1002 in order to 1) comply with a recent change in state law; 2) prevent a serious and unforeseen threat to the environment and public welfare; and 3) provide clarity to the regulated community on the implementation of rules as required by N.C.G.S.143-214.7. This rulemaking is authorized by Section 51.(d) of Session Law 2013-413. During the most recent legislative session, N.C.G.S. 143-214.7 was amended to exclude "gravel" from the definition of "built-upon area." Since August 2013, when the amendment became effective, the regulated community has questioned how to interpret the term "gravel" in the amended statute. Laypersons often imprecisely use the term "gravel" to refer to any aggregate material, such as the crushed stone material that is typically used in constructing roads or parking lots. As classified by the American Association of State Highway and Transportation Officials (AASHTO) and the Natural Resources Conservation Service (NRCS), gravel is actually the type of material often used as walkways through gardens and yards or around vegetation as it is permeable, allowing adequate drainage while being harder and more aesthetically pleasing than exposed soil. Crushed stone, on the other hand, typically does not allow water to infiltrate due to clogging at its surface or compaction of the underlying soil (at the time of installation or as a result of ongoing vehicular or foot traffic). Stormwater runoff from aggregate crushed stone surfaces typically has higher velocities, volumes, and pollutant loadings than stormwater runoff from pervious surfaces.

7. Why is adherence to notice and hearing requirements contrary to the public interest and the immediate adoption of the rule is required?

Box 7 - Refer to attachment.

8. Rule establishes or increases a fee? (See G.S. 12-3.1)

☐ Yes

Agency submitted request for consultation on:
Consultation not required. Cite authority:

☒ No

9. Rule-making Coordinator: Jennifer Everett

Phone: 919-707-8614

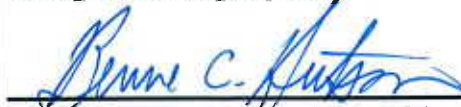
E-Mail: jennifer.everett@ncdenr.gov

Agency contact, if any: Julie Ventaloro

Phone: 919-807-6370

E-Mail: julie.ventaloro@ncdenr.gov

10. Signature of Agency Head*:



* If this function has been delegated (reassigned) pursuant to G.S. 143B-10(a), submit a copy of the delegation with this form.

Typed Name: Benne C. Hutson

Title: Chairman, Environmental Management Commission

RULES REVIEW COMMISSION USE ONLY

Action taken:

Submitted for RRC Review:

☐ Date returned to agency:



Pat McCrory, Governor
John Skvarla, Secretary

ENVIRONMENTAL MANAGEMENT COMMISSION

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL
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To: Rules Review Commission
From: Environmental Management Commission
Date: March 13, 2014
Re: **Attachment to FORM 0500 TEMPORARY RULE-MAKING FINDINGS OF NEED
Rule 15A NCAC 02H .1002 Definitions**

Box 7. Why is adherence to notice and hearing requirements contrary to the public interest and the immediate adoption of the rule is required?

During the most recent legislative session, N.C. General Statute 143-214.7 was amended to exclude "gravel" from the definition of "built upon area." The term "built upon area" is used in North Carolina law and regulations to determine when development of property requires the stormwater management actions have to be taken. This legislative exclusion for "gravel" raised two issues that persist to this day.

First, the amendment created uncertainty and confusion for DENR, the regulated community and citizens with an interest in protecting water quality from pollution caused by stormwater runoff because it did not provide a definition of the term "gravel". Historically, the General Assembly has recognized that "gravel" is different from "stone" and "rock" as each of these terms are separately used together in a number of statutes. (For example, N.C. General Statute 74-49, also known as the Mining Act, defines "minerals" as including various materials including "stone, gravel, . . . [and] rock" while N.C. General Statute 20-116, which is part of the Motor Vehicle Act, establishes limitations on vehicles carrying "rock, gravel, [and] stone.") However, the General Assembly did not in those statutes need to define "gravel", "rock" and "stone" to show how they were different from each other because these statutes covered all three. This most recent statutory amendment, however, only applies to "gravel" but did not provide a definition showing how "gravel" was different from "stone" and "rock."

Laypersons often use the term “gravel” to refer to any aggregate material, such as the crushed stone material that is typically used in constructing roads or parking lots. However, that is not how “gravel” is defined in stone, sand and gravel industry. Within that industry, “gravel” is defined as a “loose aggregate of small rounded water-worn or pounded stones” with, per the American Association of State Highway and Transportation Officials (AASHTO) soil classification system, a diameter of between 2.00 mm (0.08 inches) and 76 mm (3 inches). The same size range for gravel appears in the “Field Book for Describing and Sampling Soils” published by the Natural Resources Conservation Service (NRCS). Gravel must have less than 5 percent fines, which is the reason the proposed rule states that gravel shall be “clean or washed.”

This ambiguity as to what constitutes “gravel” leads directly to the second issue – the protection of water quality in North Carolina. The potential for adverse environmental impacts from stormwater runoff is directly related to the porosity of the surface that the stormwater comes in contact with. Under the industry definition, “gravel” is porous with stormwater able to move through the voids between the individual stones so that it can infiltrate into the subsoil. Larger stones and rocks with significant amounts of fines (which laypersons might characterize as “gravel”) are much less porous. Rather, rainwater does not readily infiltrate into the subsoil but rather runs off of these surfaces with sediments and pollutants that reach North Carolina’s waterways. In addition, such runoff can travel with much greater velocity causing flooding conditions, damage to stream and river banks, and degraded water quality. If “gravel” as used in this legislative amendment is interpreted to include larger stones and rocks with significant amounts of fines and hence exclude those surfaces from the definition of “built upon area,” development will either not be required to have or will underdesign stormwater management systems or best management practices designed to protect waterways from such pollution and damage. As a result, North Carolina surface waters would be put at significant risk.

Based on the public comments received and information provided by experienced DENR staff responsible for implementation of the stormwater regulations and programs along with the knowledge and experience of its individual members, the Environmental Management Commission has reached the conclusion that the definition of “gravel” in the temporary rule is necessary to protect water quality in North Carolina and that the absence of such a definition poses a serious and unforeseen threat to the public health, safety, or welfare as set forth in N.C. General Statute 150B-21.1(a)(1) (the statute governing the adoption of temporary rules).

Temporary rules may also be adopted when it is required by “The effective date of a recent act of the General Assembly or the United States Congress.” N.C. General Statute 150B-21.1(a)(2). This rulemaking is authorized by Section 51.(d) of Session Law 2013-413 which provides that “The Environmental Management Commission shall amend its rules to be consistent with the definition of ‘built-upon area’ set out in subsection (b2) of G.S. 143-214.7, as enacted by Section 51(a) of this act” which created the exclusion for “gravel.” N.C. General Statute 150B-21.1(a2) defines a “recent act” as one “occurring or made effective no more than 210 days prior to the submission of a temporary rule to the Rules Review Commission.” This session law was signed by the Governor on August 23, 2013 which was less than 210 days ago meaning that it is a “recent act of the General Assembly” as defined in N.C. General Statute 150B-21.1(a2).

Based on all of the foregoing, adherence to the notice and hearing requirements is contrary to the public interest and immediate adoption of the rule is required.

- (11) The violator's previous record in complying or not complying with the provisions of Article 9 of this Chapter, Article 11 of this Chapter, or G.S. 130A-325, and any regulations adopted thereunder, as applicable to the violation in question.

...."

LIMIT LOCAL GOVERNMENT REGULATION OF STORAGE, RETENTION, OR USE OF NONHAZARDOUS RECYCLED MATERIALS

SECTION 50. G.S. 130A-309.09A is amended by adding a new subsection to read:

"(h) The storage, retention, and use of nonhazardous recyclable materials, including asphalt pavement, rap, or roofing shingles, shall be encouraged by units of local government. A unit of local government shall not impede the storage, retention, or use of nonhazardous recyclable materials in properly zoned storage facilities through the regulation of the height or setback of recyclable material stockpiles, except when such facilities are located on lots within 200 yards of residential districts."

AMEND THE DEFINITION OF "BUILT-UPON AREA" FOR PURPOSES OF IMPLEMENTING STORMWATER PROGRAMS

SECTION 51.(a) G.S. 143-214.7 is amended by adding a new subsection to read:

"(b2) For purposes of implementing stormwater programs, "built-upon area" means impervious surface and partially impervious surface to the extent that the partially impervious surface does not allow water to infiltrate through the surface and into the subsoil. "Built-upon area" does not include a wooden slatted deck, the water area of a swimming pool, or gravel."

SECTION 51.(b) Subdivision (7) of Section 2 of S.L. 2006-246 is repealed.

SECTION 51.(c) Subdivision (3) of subsection (a) of Section 2 of S.L. 2008-211 is repealed.

SECTION 51.(d) The Environmental Management Commission shall amend its rules to be consistent with the definition of "built-upon area" set out in subsection (b2) of G.S. 143-214.7, as enacted by Section 51(a) of this act.

SECTION 51.(e) The Environmental Review Commission shall study State stormwater programs, including how partially impervious surfaces are treated in the calculation of built-upon area under those programs. The Environmental Review Commission shall report its findings and recommendations to the 2014 Regular Session of the 2013 General Assembly.

SECTION 51.(f) This section is effective when it becomes law, and subsection (b2) of G.S. 143-214.7, as enacted by subsection (a) of this section, applies to projects for which permit applications are received on or after that date.

EXEMPT PONDS THAT ARE CONSTRUCTED AND USED FOR AGRICULTURAL PURPOSES FROM RIPARIAN BUFFER RULES

SECTION 52.(a) Except as required by federal law or in an imminent threat to public health or safety, (i) the temporary rules adopted July 22, 1997, January 22, 1998, April 22, 1998, and June 22, 1999, and the permanent rule adopted and effective August 1, 2000, as 15A NCAC 02B .0233 regarding the protection and maintenance of existing riparian buffers in the Neuse River Basin; (ii) the temporary rule adopted January 1, 2000, and the permanent rule adopted and effective August 1, 2000, as 15A NCAC 02B .0259 regarding the protection and maintenance of existing riparian buffers in the Tar-Pamlico River Basin; (iii) the permanent rule adopted and effective August 11, 2009, Session Law 2009-216, Session Law 2009-484, and the permanent rule, as amended, effective September 1, 2011, as 15A NCAC 02B .0267 regarding the protection and maintenance of existing riparian buffers in the Jordan Water Supply Watershed; (iv) the permanent rule adopted effective April 1, 1999, and the permanent rule, as amended, effective June 1, 2010, as 15A NCAC 02B .0250 regarding the protection and maintenance of existing riparian buffers in the Randleman Lake Water Supply Watershed; (v) the temporary rule effective June 30, 2001, and the permanent rule effective August 1, 2004, as 15A NCAC 02B .0243 regarding the protection and maintenance of existing riparian buffers in the Catawba River Basin; (vi) the permanent rule adopted and effective February 1, 2009, as 15A NCAC 02B .0605 and the permanent rule adopted and effective February 1, 2009, as 15A NCAC 02B .0607 regarding the protection and maintenance of existing riparian buffers in the Goose Creek Watershed (Yadkin Pee-Dee River Basin); and (vii) any similar rule adopted for

TEMPORARY RULE
REQUEST FOR TECHNICAL CHANGE

AGENCY: Environmental Management Commission

RULE CITATION: 15A NCAC 02H .1002

DEADLINE FOR RECEIPT: Tuesday, March 18, 2014

NOTE WELL: *This request when viewed on computer extends several pages. Please be sure you have reached the end of the document.*

The Rules Review Commission staff has completed its review of this rule prior to the Commission's next meeting. The Commission has not yet reviewed this rule and therefore there has not been a determination as to whether the rule will be approved. You may call this office to inquire concerning the staff recommendation.

In reviewing these rules, the staff determined that the following technical changes need to be made:

This Rule has lost its formatting. Please use the Rule as it currently appears in the Code to make the changes, including proper indentation and spacing.

On Page 1, in the language on lines 4-6, you state that the definitions of G.S. 143, Article 21 apply, and that the below listed Items are defined as follows, which would seem to say that the items defined in the Rule are not defined in the General Statutes. However, Item 18, "stormwater" is defined as set forth in the statute. Do you need the definition of "stormwater" in this Rule? Alternatively, do you need the introductory language on Page 1?

In Item 2, change the language on line 14 to "as set forth in 15 NCAC 07J, Sections..."

In review of the Sections in the Code, 15A NCAC 07J .0100 is definitions. Is this applicable in this Rule? (I note that 15A NCAC 07J, Section .0200, addresses permits and does appear to be appropriate here.)

On Page 1, Item 4, is it that the term "includes" or should it read "Coastal Counties" are ..."?

In Item 5, remove the brackets on line 21 and state "criteria set forth in Rule .1003(d)(1) of this Section, with breaks..."

In Item 8, I take it your regulated public is familiar with the term "weir"?

In Item 9, why is "permit" in quotes on line 29?

In Item 10, Page 2, is there a reason to state "from a lower limit" rather than "between"? If so, then should it read, "0.08 inches to an upper limit of 3.0 inches..."?

Amanda J. Reeder
Commission Counsel

Date Submitted to the Agency: March 17, 2014

In Item 12, should there be a “the” before “application” on line 6? And why is “application” in quotation marks?

In Item 15, why is the language on lines 14 and 15 in parenthesis, rather than being two sentences?

I know I mentioned Item 18 above, but I take it the definition you are referring to is G.S. 143-213(16a)? Do you at least want to cite to the specific statute here?

In Item 19, I take it that your regulated public with familiar with the term “swales”?

On Page 3, Items 25 through 28 are not in alphabetical order. Please make put the terms in alphabetical order within the existing rule text.

In Item 26, is that really a definition? I searched the rest of the Section, and you use the term in Rules 15A NCAC 02H .1005 and .1008. In .1005, you state that “BMP” is “Best Management Practices.” In .1008, it is part of the name of a document. You define it again in 02H .1015. Do you need this term in this Rule?

Just so I understand – with the changes in S.L. 2013-413, Section 51 and the definition of gravel here, there is no longer a need to state in Item 27 that compacted gravel is not permeable pavement?

In Item 28, you state “Residential development activities” has the same meaning as 15A NCAC 02B .0202(54). That rule is for the definition of “residential development,” defined as:

- (54) Residential development means buildings for residence such as attached and detached single family dwellings, apartment complexes, condominiums, townhouses, cottages, and their associated outbuildings such as garages, storage buildings, and gazebos.

Is this still the appropriate term for this Section?

Please retype the rule accordingly and resubmit it to our office at 1711 New Hope Church Road, Raleigh, North Carolina 27609.

Of course, this will also require conforming changes to the attached copies of the rule. Please check to see that this paperwork is in order and is returned along with the revised rule.

1 15A NCAC 2H .1002 is proposed for amendment with changes as follows:

3 **15A NCAC 02H .1002 DEFINITIONS**

4 The definition of any word or phrase in this Section shall be the same as given in Article 21, Chapter 143 of
5 the General Statutes of North Carolina, as amended. Other words and phrases used in this Section are defined as
6 follows:

7 (1) "Built-upon Area" means ~~that portion of a development project that is covered by impervious surface or~~
8 ~~and partially impervious surface including, but not limited to, buildings; pavement to the extent that the partially~~
9 ~~impervious surface does not allow water to infiltrate through the surface and gravel areas such as roads, parking lots,~~
10 ~~and paths; and recreation facilities such as tennis courts into the subsoil.~~ "Built upon area" does not include a
11 wooden slatted deck, the water area of a swimming pool, or ~~pervious or partially pervious paving material to the~~
12 ~~extent that the paving material absorbs water or allows water to infiltrate through the paving material~~ gravel.

13 (2) "CAMA Major Development Permits" mean those permits or revised permits required by the Coastal
14 Resources Commission according to 15A NCAC 7J Sections .0100 and .0200.

15 (3) "Certificate of Stormwater Compliance" means the approval for activities that meet the requirements for
16 coverage under a stormwater general permit for development activities that are regulated by this Section.

17 (4) "Coastal Counties" include Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck,
18 Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and
19 Washington.

20 (5) "Curb Outlet System" means curb and gutter installed in a development which meets low density
21 criteria [Rule .1003(d)(1) of this Section] with breaks in the curb or other outlets used to convey stormwater runoff
22 to grassed swales or vegetated or natural areas and designed in accordance with Rule .1008(g) of this Section.

23 (6) "Development" means any land disturbing activity that increases the amount of built-upon area or that
24 otherwise decreases the infiltration of precipitation into the soil.

25 (7) "Drainage Area or Watershed" means the entire area contributing surface runoff to a single point.

26 (8) "Forebay" means a device located at the head of a wet detention pond to capture incoming sediment
27 before it reaches the main portion of the pond. The forebay is typically an excavated settling basin or a section
28 separated by a low weir.

29 (9) "General Permit" means a "permit" issued under G.S. 143-215.1(b)(3) and (4) authorizing a category of
30 similar activities or discharges.

1 (10) "Gravel" means a clean or washed, loose, uniformly-graded aggregate of stones from a lower limit of
2 0.08 inches up to 3.0 inches in size.

3 ~~(10)~~(11) "Infiltration Systems" mean stormwater control systems designed to allow runoff to pass or move
4 (infiltrate/exfiltrate) into the soil.

5 ~~(11)~~(12) "Notice of Intent" means a written notification to the Division that an activity or discharge is
6 intended to be covered by a general permit and takes the place of "application" used with individual permits.

7 ~~(12)~~(13) "Off-site Stormwater Systems" mean stormwater management systems that are located outside the
8 boundaries of the specific project in question, but designed to control stormwater drainage from that project and
9 other potential development sites. These systems shall designate responsible parties for operation and maintenance
10 and may be owned and operated as a duly licensed utility or by a local government.

11 ~~(13)~~(14) "On-site Stormwater Systems" mean the systems necessary to control stormwater within an
12 individual development project and located within the project boundaries.

13 ~~(14)~~(15) "Redevelopment" means any land disturbing activity that does not result in a net increase in built-
14 upon area and that provides greater or equal stormwater control than the previous development (stormwater controls
15 shall not be allowed where otherwise prohibited).

16 ~~(15)~~(16) "Seasonal High Water Table" means the highest level that groundwater, at atmospheric pressure,
17 reaches in the soil in most years. The seasonal high water table is usually detected by the mottling of the soil that
18 results from mineral leaching.

19 ~~(16)~~(17) "Sedimentation/Erosion Control Plan" means any plan, amended plan or revision to an approved
20 plan submitted to the Division of Energy, Mineral, and Land Resources or delegated authority in accordance with
21 G.S. 113A-57.

22 ~~(17)~~(18) "Stormwater" is defined in G.S. 143, Article 21.

23 ~~(18)~~(19) "Stormwater Collection System" means any conduit, pipe, channel, curb or gutter for the primary
24 purpose of transporting (not treating) runoff. A stormwater collection system does not include vegetated swales,
25 swales stabilized with armoring or alternative methods where natural topography or other physical constraints
26 prevents the use of vegetated swales (subject to case-by-case review), curb outlet systems, or pipes used to carry
27 drainage underneath built-upon surfaces that are associated with development controlled by the provisions of Rule
28 .1003(d)(1) in this Section.

~~(19)~~(20) "10 Year Storm" means the surface runoff resulting from a rainfall of an intensity expected to be equaled or exceeded, on the average, once in 10 years, and of a duration which will produce the maximum peak rate of runoff, for the watershed of interest under average antecedent wetness conditions.

~~(20)~~(21) "Water Dependent Structures" means a structure for which the use requires access or proximity to or siting within surface waters to fulfill its basic purpose, such as boat ramps, boat houses, docks, and bulkheads. Ancillary facilities such as restaurants, outlets for boat supplies, parking lots and boat storage areas are not water dependent uses.

~~(21)~~(22) "Wet Detention Pond" means a structure that provides for the storage and control of runoff and includes a designed and maintained permanent pool volume.

~~(22)~~(23) "Vegetative Buffer" means an area of natural or established vegetation directly adjacent to surface waters through which stormwater runoff flows in a diffuse manner to protect surface waters from degradation due to development activities. The width of the buffer is measured horizontally from the normal pool elevation of impounded structures, from the bank of each side of streams or rivers, and from the mean high water line of tidal waters, perpendicular to the shoreline.

~~(23)~~(24) "Vegetative Filter" means an area of natural or planted vegetation through which stormwater runoff flows in a diffuse manner so that runoff does not become channelized and which provides for control of stormwater runoff through infiltration of runoff and filtering of pollutants. The defined length of the filter shall be provided for in the direction of stormwater flow.

~~(24)~~(25) "One-year, 24-hour storm" means a rainfall of an intensity expected to be equaled or exceeded, on average, once in 12 months and with a duration of 24 hours.

~~(25)~~(26) "BMP" means Best Management Practice.

~~(26)~~(27) "Permeable pavement" means paving material that absorbs water or allows water to infiltrate through the paving material. Permeable pavement materials include porous concrete, permeable interlocking concrete pavers, concrete grid pavers, porous asphalt, and any other material with similar characteristics. ~~Compacted gravel shall not be considered permeable pavement.~~

~~(27)~~(28) "Residential development activities" has the same meaning as in 15A NCAC 02B .0202(54).

~~(28)~~(29) "Vegetative conveyance" means a permanent, designed waterway lined with vegetation that is used to convey stormwater runoff at a non-erosive velocity within or away from a developed area.

*History Note: Authority G.S. 143-213; 143-214.1; 143-214.7; 143-215.3(a)(1);
Eff. January 1, 1988;*

1 *Amended Eff. March 28, 2014; August 1, 2012 (see S.L. 2012-143, s.1(f)); July 3, 2012;*
2 *December 1, 1995; September 1, 1995.*

**Classification of Soil and Soil-Aggregate Mixtures
For Highway Construction Purposes
AASHTO M-145-91 (2000)
(Modified)**

Information submitted
by the EMC to support
Findings of Need

This practice describes a procedure for classifying soils into seven groups based on laboratory determination of particle-size distribution, liquid limit, and plasticity index. The group classification should be useful in determining the relative quality of the soil material for use in embankments, subgrades, and backfills. For detailed design of important structures, additional data concerning strength or performance characteristics of the soil under field conditions will usually be required.

Modification: Determination of Group Index will not be a part of certification, but taught as a useful tool for more accurate determination of soil classification.

Key Elements:

- 1. Determine sieve analysis.** Determine sieve analysis using AASHTO T-11 and AASHTO T-27 test procedures (Note 1). The 2.00 mm (No. 10) sieve, 425- μ m (No. 40) sieve, and 75- μ m (No. 200) sieve must be included to determine the particle size distribution as a basis for classification.
- 2. Determine the liquid limit.** Determine the liquid limit of the material using AASHTO T-89 test procedures.
- 3. Determine the plastic limit.** Determine the plastic limit and plasticity index of the material using AASHTO T-90 test procedures.
- 4. Determine classification of material.** Using the test limits shown in Table 1 of AASHTO M-145, make the classification of the material. If a more detailed classification is desired, a further subdivision of the groups may be made using Table 2 of AASHTO M-145 **(3.1)**. With required test data available, proceed from left to right in Table 1 or Table 2 and the correct group will be found by process of elimination **(3.2)**. The first group from the left into which the test data will fit is the correct classification **(3.2)**.
- 5. Report classification.** All limiting test values are shown as whole numbers. If fractional numbers appear on test reports, convert to the nearest whole number for purposes of classification **(3.2)**.

DESCRIPTION OF SOIL CLASSIFICATION GROUPS:

Soil Fractions: According to the AASHTO system, soils are divided into two major groups as shown in Table 1 of AASHTO M-145. These are the granular materials with 35 percent or less passing the 75- μ m (No. 200) sieve **(5.1, Note 2)** and the silt-clay materials with more than 35 percent passing the 75- μ m (No. 200) sieve **(5.2)**. Moreover, five soil fractions are recognized and often used in word descriptions of a material. These five fractions are defined as follows:

AASHTO M-145, Continued...

Boulders and Cobbles – material retained on the 75 mm (3 in.) sieve. They should be excluded from the portion of a sample to which the classification is applied, but the percentage of such material should be recorded (4.1.5).

Gravel – materials passing sieve with 75 mm (3 in.) square openings and retained on the 2.0 mm (No. 10) sieve (4.1.1).

Coarse Sand – materials passing the 2.0 mm (No. 10) sieve and retained on the 425- μ m (No. 40) sieve (4.1.2).

Fine Sand – materials passing the 425- μ m (No. 40) sieve and retained on the 75- μ m (No. 200) sieve (4.1.3).

Combined Silt and Clay – material passing the 75- μ m (No. 200) sieve. The word “silty” is applied to a fine material having a Plasticity Index of **10** or less, and the term “clayey” is applied to fine material having a PI of more than **10** (4.1.6).

GRANULAR MATERIALS:

Group A-1: Well-graded mixtures of stone fragments or gravel ranging from coarse to fine with a non-plastic or slightly plastic soil binder (5.1.1). However, this group also includes coarse materials without soil binder.

Subgroup A-1-a: Materials consisting predominantly of stone fragments or gravel, either with or without a well graded soil binder (5.1.1.1).

Subgroup A-1-b: Materials consisting predominantly of coarse sand either with or without a well-graded soil binder (5.1.1.2).

Group A-3: Material consisting of sands deficient in coarse material and soil binder. Typical is fine beach sand or fine desert blow sand, without silt or clay fines or with a very small amount of non-plastic silt. This group also includes stream deposited mixtures of poorly graded fine sand and limited amounts of coarse sand and gravel (5.1.2). These soils make suitable subgrades for all types of pavements when confined and damp. They are subject to erosion and have been known to pump and blow under rigid pavements. (Information: They can be compacted by vibratory, pneumatic-tired, and steel-wheeled rollers but not with a sheepfoot roller.)

Group A-2: This group includes a wide variety of “granular” materials that are borderline between the materials falling in Groups A-1 and A-3 and silt-clay materials of Groups A-4, A-5, A-6 and A-7. It includes all materials containing 35 percent or less passing the 75- μ m (No. 200) sieve that cannot be classified as A-1 or A-3 (5.1.3).

Subgroups A-2-4 and A-2-5: Include various granular materials containing 35 percent or less passing the 75- μ m (No. 200) sieve, and with that portion passing 425- μ m (No. 40) sieve having the characteristics of the A-4 and A-5 groups. These groups include such materials as

gravel and coarse sand with silt contents or Plasticity Indexes in excess of the limitations of Group A-1, and fine sand with non-plastic silt content in excess of the limitations of Group A-3 (5.1.3.1).

Subgroups A-2-6 and A-2-7: Include materials similar to those describe under Subgroups A-2-4 and A-2-5, except that the fine portion contains plastic clay having the characteristics of the A-6 or A-7 group (5.1.3.2).

A-2 soils are given a poorer rating than A-1 soils because of inferior binder, poor grading, or a combination of the two. Depending on the character and amount of binder, A-2 soils may become soft during wet weather and loose and dusty in dry weather when used as a road surface. If, however, they are protected from these extreme changes in moisture content, they may be quite stable. The A-2-4 and A-2-5 soils are satisfactory as base materials when properly compacted and drained. A-2-6 and A-2-7 soils with low percentages of minus 75- μm (No. 200) sieve material are classified as good bases, whereas these same soils with high percentages of minus 75- μm (No. 200) sieve and PI's of 10 or higher are questionable as a base material. Frequently, the A-2 soils are employed as a cover material for very plastic subgrades.

SILT-CLAY MATERIALS:

Group A-4: The typical material of this group is a non-plastic or moderately plastic silty soil usually having 75 percent or more passing the 75 μm (No. 200) sieve. The group includes also mixtures of fine silty soil and up to 64 percent of sand and gravel retained on the 75- μm (No. 200) sieve (5.2.1). These predominantly silty soils are quite common in occurrence. Their texture varies from sandy loams to silty and clayey loams. With the proper amount of moisture present, they may perform well as a pavement component. However, they frequently have an affinity for water and will swell and lose much of their stability unless properly compacted and drained. Moreover, they are subject to frost heave. These soils do not drain readily and may absorb water by capillary action with resulting loss in strength. The silty loams are often difficult to compact properly. Careful field control of moisture content and pneumatic tired rollers are normally required for proper compaction.

Group A-5: The typical material of this group is similar to that described under Group A-4, except that it is usually of diatomaceous or micaceous character and may be highly elastic as indicated by the high liquid limit (5.2.2). These soils do not occur as widely as the A-4 soils. They are normally elastic or resilient in both the damp and semi-dry conditions. They are subject to frost heave, erosion, and loss of stability if not properly drained. Since these soils do not drain readily and may absorb water by capillary action with resulting loss in strength. Careful control of moisture content is normally required for proper compaction.

Group A-6: The typical material of this group is plastic clay soil usually having 75 percent or more passing the 75- μm (No. 200) sieve. The group includes also mixtures of fine clayey soil and up to 64 percent of sand and gravel retained on the 75- μm (No. 200) sieve. Materials of this group usually have high volume change between wet and dry states (5.2.3). These soils are quite common in occurrence and are widely used in fills. When moisture content is properly controlled, they compact

AASHTO M-145, Continued...

quite readily with either a sheepsfoot or pneumatic tired roller. They have high dry strength but lose much of this strength upon absorbing water. The A-6 soils will compress when wet and shrink and swell with changes in moisture content. When placed in the shoulders adjacent to the pavement, they tend to shrink away from the pavement edge upon drying and thereby provide an access route to the under side of the pavement for surface water. The A-6 soils do not drain readily and may absorb water by capillary action with resulting loss in strength.

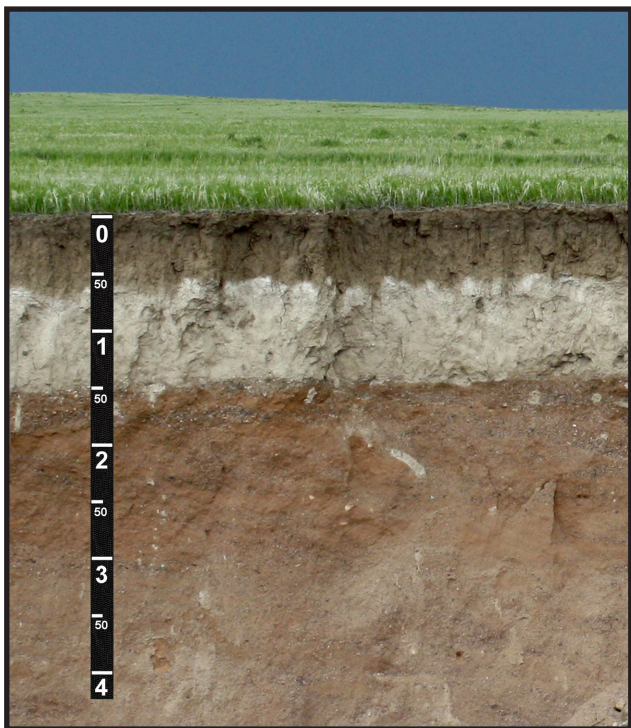
Group A-7: The typical materials and problems of this group are similar to those described under Group A-6, except that they have the high liquid limits characteristic of the A-5 group and may be elastic as well as subject to high volume change (5.2.4).

Subgroup A-7-5: Includes those materials with moderate Plasticity Indexes in relation to Liquid Limit and which may be highly elastic as well as subject to considerable volume change (5.2.4.1).

Subgroup A-7-6: Includes those materials with high Plasticity Indexes in relation to Liquid Limit and which are subject to extremely high volume change (5.2.4.2).

Highly organic soils such as peat or muck are not included in this classification. Because of their many undesirable properties, their use should be avoided, if possible, in all types of construction.

Field Book for Describing and Sampling Soils



Version 3.0

**National Soil Survey Center
Natural Resources Conservation Service
U.S. Department of Agriculture**

Kind	Code	Kind	Code
ironstone nodules	FSN	volcanic rock fragments, unspecified ²	VOL
lapilli	LA	wood fragments	WO

¹ Fragments strongly cemented by carbonate; may include fragments derived from petrocalcic horizons.

² Generic rock names may be appropriate for identifying fragments (e.g., a cobble) but are too general and should *not* be used to name Bedrock - Kind.

³ Numerous unspecified fragment lithologies are present, as in till or alluvium; not for use with residuum.

ROCK and OTHER FRAGMENTS - VOLUME PERCENT

(Quantity)—Estimate the quantity (volume percent) of rock and other fragments present. **NOTE:** Refer to the "Total (rock) fragment volume percent" column found under **Texture Modifiers - Quantity and Size** table (p. 2-39).

ROCK and OTHER FRAGMENTS - SIZE CLASSES AND DESCRIPTIVE TERMS—

Size ¹	Noun	Adjective ²
SHAPE—SPHERICAL or CUBELIKE (discoidal, subdiscoidal, or spherical)		
>2 - 76 mm diam.	gravel	gravelly
>2 - 5 mm diam.	fine gravel	fine gravelly
>5 - 20 mm diam.	medium gravel	medium gravelly
>20 - 76 mm diam.	coarse gravel	coarse gravelly
>76 - 250 mm diam.	cobbles	cobbly
>250 - 600 mm diam.	stones	stony
>600 mm diam.	boulders	bouldery
SHAPE—FLAT (prismoidal or subprismoidal)		
>2 - 150 mm long	channers	channery
>150 - 380 mm long	flagstones	flaggy
>380 - 600 mm long	stones	stony
>600 mm long	boulders	bouldery

¹ Fragment sizes measured by sieves; class limits have a greater lower limit.

§ 74-49. Definitions.

Wherever used or referred to in this Article, unless a different meaning clearly appears from the context:

- (1) "Affected land" means the surface area of land that is mined, the surface area of land associated with a mining activity so that soil is exposed to accelerated erosion, the surface area of land on which overburden and waste is deposited, and the surface area of land used for processing or treatment plant, stockpiles, nonpublic roads, and settling ponds.
- (1a) "Affiliate" has the same meaning as in 17 Code of Federal Regulations § 240.12(b)-2 (1 April 1992 Edition), which defines "affiliate" as a person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control of another person.
- (2) "Borrow pit" means an area from which soil or other unconsolidated materials are removed to be used, without further processing, for highway construction and maintenance.
- (3) "Commission" means the North Carolina Mining and Energy Commission created by G.S. 143B-293.1.
- (4) "Department" means the Department of Environment and Natural Resources. Whenever in this Article the Department is assigned duties, they may be performed by the Secretary or an employee of the Department designated by the Secretary.
- (5) "Land" shall include submerged lands underlying any river, stream, lake, sound, or other body of water and shall specifically include, among others, estuarine and tidal lands.
- (6) "Minerals" means soil, clay, coal, stone, gravel, sand, phosphate, rock, metallic ore, and any other solid material or substance of commercial value found in natural deposits on or in the earth.
- (7) "Mining" means:
 - a. The breaking of the surface soil in order to facilitate or accomplish the extraction or removal of minerals, ores, or other solid matter.
 - b. Any activity or process constituting all or part of a process for the extraction or removal of minerals, ores, soils, and other solid matter from their original location.
 - c. The preparation, washing, cleaning, or other treatment of minerals, ores, or other solid matter so as to make them suitable for commercial, industrial, or construction use."Mining" does not include:
 - a. Those aspects of deep mining not having significant effect on the surface, where the affected land does not exceed one acre in area.
 - b. Mining operations where the affected land does not exceed one acre in area.
 - c. Plants engaged in processing minerals produced elsewhere and whose refuse does not affect more than one acre of land.
 - d. Excavation or grading when conducted solely in aid of on-site farming or of on-site construction for purposes other than mining.
 - e. Removal of overburden and mining of limited amounts of any ores or mineral solids when done only for the purpose and to the extent necessary to determine the location, quantity, or quality of any natural deposit, provided that no ores or mineral solids removed during exploratory excavation or mining are sold, processed for sale, or consumed in the regular operation of a business, and provided further that the affected land resulting from any exploratory excavation does not exceed one acre in area.
 - f. Excavation or grading where all of the following apply:

1. The excavation or grading is conducted to provide soil or other unconsolidated material to be used without further processing for a single off-site construction project for which an erosion and sedimentation control plan has been approved in accordance with Article 4 of Chapter 113A of the General Statutes.
 2. The affected land, including nonpublic access roads, does not exceed five acres.
 3. The excavation or grading is completed within one year.
 4. The excavation or grading does not involve blasting, the removal of material from rivers or streams, the disposal of off-site waste on the affected land, or the surface disposal of groundwater beyond the affected land.
 5. The excavation or grading is not in violation of any local ordinance.
 6. An erosion and sedimentation control plan for the excavation or grading has been approved in accordance with Article 4 of Chapter 113A of the General Statutes.
- (8) "Neighboring" means in close proximity, in the immediate vicinity, or in actual contact.
- (9) "Operator" means any person or persons, any partnership, limited partnership, or corporation, or any association of persons, engaged in mining operations, whether individually, jointly, or through subsidiaries, agents, employees, or contractors.
- (10) "Overburden" means the earth, rock, and other materials that lie above the natural deposit of minerals.
- (10a) "Parent" has the same meaning as in 17 Code of Federal Regulations § 240.12(b)-2 (1 April 1992 Edition), which defines "parent" as an affiliate that directly, or indirectly through one or more intermediaries, controls another person.
- (11) "Peak" means overburden removed from its natural position and deposited elsewhere in the shape of conical piles or projecting points.
- (12) "Reclamation" means the reasonable rehabilitation of the affected land for useful purposes, and the protection of the natural resources of the surrounding area. Although both the need for and the practicability of reclamation will control the type and degree of reclamation in any specific instance, the basic objective will be to establish on a continuing basis the vegetative cover, soil stability, water conditions and safety conditions appropriate to the area.
- (13) "Reclamation plan" means the operator's written proposal as required and approved by the Department for reclamation of the affected land, which shall include but not be limited to:
- a. Proposed practices to protect adjacent surface resources;
 - b. Specifications for surface gradient restoration to a surface suitable for the proposed subsequent use of the land after reclamation is completed, and proposed method of accomplishment;
 - c. Manner and type of revegetation or other surface treatment of the affected areas;
 - d. Method of prevention or elimination of conditions that will be hazardous to animal or fish life in or adjacent to the area;
 - e. Method of compliance with State air and water pollution laws;
 - f. Method of rehabilitation of settling ponds;
 - g. Method of control of contaminants and disposal of mining refuse;
 - h. Method of restoration or establishment of stream channels and stream banks to a condition minimizing erosion, siltation, and other pollution;
 - i. Maps and other supporting documents as may be reasonably required by the

Department; and

- j. A time schedule that meets the requirements of G.S. 74-53.
- (14) "Refuse" means all waste soil, rock, mineral, scrap, tailings, slimes, and other material directly connected with the mining, cleaning, and preparation of substances mined and shall include all waste materials deposited on or in the permit area from other sources.
- (15) "Ridge" means overburden removed from its natural position and deposited elsewhere in the shape of a long, narrow elevation.
- (16) "Spoil bank" means a deposit of excavated overburden or refuse.
- (16a) "Subsidiary" has the same meaning as in 17 Code of Federal Regulations § 240.12(b)-2 (1 April 1992 Edition), which defines "subsidiary" as an affiliate that is directly, or indirectly through one or more intermediaries, controlled by another person.
- (17) "Termination of mining" means cessation of mining operations with intent not to resume, or cessation of mining operations as a result of expiration or revocation of the permit of the operator. Whenever the Department shall have reason to believe that a mining operation has terminated, the Department shall give the operator written notice of its intention to declare the operation terminated, and the operator shall have an opportunity to appear within 30 days and present evidence that the operation is continuing; where the Department finds that the evidence is satisfactory, the Department shall not declare the mining operation terminated. (1971, c. 545, s. 4; 1973, c. 1262, ss. 33, 86; 1977, c. 771, s. 4; c. 845, s. 1; 1989, c. 727, s. 218(13); 1993 (Reg. Sess., 1994), c. 568, s. 1; 1997-443, s. 11A.119(a); 1999-82, s. 1; 2002-165, s. 2.1; 2012-143, s. 1(d).)

§ 20-116. Size of vehicles and loads.

(a) The total outside width of any vehicle or the load thereon shall not exceed 102 inches, except as otherwise provided in this section. When hogsheads of tobacco are being transported, a tolerance of six inches is allowed. When sheet or bale tobacco is being transported the load must not exceed a width of 114 inches at the top of the load and the bottom of the load at the truck bed must not exceed the width of 102 inches inclusive of allowance for load shifting or settling. Vehicles (other than passenger buses) that do not exceed the overall width of 102 inches and otherwise provided in this section may be operated in accordance with G.S. 20-115.1(c), (f), and (g).

(b) No passenger-type vehicle or recreational vehicle shall be operated on any highway with any load carried thereon extending beyond the line of the fenders on the left side of such vehicle nor extending more than six inches beyond the line of the fenders on the right side thereof.

(c) No vehicle, unladen or with load, shall exceed a height of 13 feet, six inches. Provided, however, that neither the State of North Carolina nor any agency or subdivision thereof, nor any person, firm or corporation, shall be required to raise, alter, construct or reconstruct any underpass, wire, pole, trestle, or other structure to permit the passage of any vehicle having a height, unladen or with load, in excess of 12 feet, six inches. Provided further, that the operator or owner of any vehicle having an overall height, whether unladen or with load, in excess of 12 feet, six inches, shall be liable for damage to any structure caused by such vehicle having a height in excess of 12 feet, six inches.

(d) **Maximum Length.** - The following maximum lengths apply to vehicles. A truck-tractor and semitrailer shall be regarded as two vehicles for the purpose of determining lawful length and license taxes.

- (1) Except as otherwise provided in this subsection, a single vehicle having two or more axles shall not exceed 40 feet in length overall of dimensions inclusive of front and rear bumpers.
- (2) Trucks transporting unprocessed cotton from farm to gin, or unprocessed sage from farm to market shall not exceed 50 feet in length overall of dimensions inclusive of front and rear bumpers.
- (3) Recreational vehicles shall not exceed 45 feet in length overall, excluding bumpers and mirrors.
- (4) Vehicles owned or leased by State, local, or federal government, when used for official law enforcement or emergency management purposes, shall not exceed 45 feet in length overall, excluding bumpers and mirrors.

(e) Except as provided by G.S. 20-115.1, no combination of vehicles coupled together shall consist of more than two units and no such combination of vehicles shall exceed a total length of 60 feet inclusive of front and rear bumpers, subject to the following exceptions: Motor vehicle combinations of one semitrailer of not more than 53 feet in length and a truck tractor (power unit) may exceed the 60-foot maximum length. Said maximum overall length limitation shall not apply to vehicles operated in the daytime when transporting poles, pipe, machinery or other objects of a structural nature which cannot readily be dismembered, nor to such vehicles transporting such objects operated at nighttime by a public utility when required for emergency repair of public service facilities or properties, provided the trailer length does not exceed 53 feet in length, but in respect to such night transportation every such vehicle and the load thereon shall be equipped with a sufficient number of clearance lamps on both sides and marker lamps upon the extreme ends of said projecting load to clearly mark the dimensions of such load: Provided that vehicles designed and used exclusively for the transportation of motor vehicles shall be permitted an overhang tolerance front or rear not to exceed five feet. Provided, that wreckers may tow a truck, combination tractor and trailer, trailer, or any other disabled vehicle or combination of vehicles to a place for repair, parking, or storage within 50 miles of the point where the vehicle was disabled and may tow a truck, tractor, or other replacement vehicle to the site of the disabled vehicle. Provided further, that the said limitation that no combination of vehicles coupled

together shall consist of more than two units shall not apply to trailers not exceeding three in number drawn by a motor vehicle used by municipalities for the removal of domestic and commercial refuse and street rubbish, but such combination of vehicles shall not exceed a total length of 50 feet inclusive of front and rear bumpers. Provided further, that the said limitation that no combination of vehicles coupled together shall consist of more than two units shall not apply to a combination of vehicles coupled together by a saddle mount device used to transport motor vehicles in a driveway service when no more than three saddle mounts are used and provided further, that equipment used in said combination is approved by the safety regulations of the Federal Highway Administration and the safety rules of the Department of Public Safety.

(f) The load upon any vehicle operated alone, or the load upon the front vehicle of a combination of vehicles, shall not extend more than three feet beyond the foremost part of the vehicle. Under this subsection "load" shall include the boom on a self-propelled vehicle.

A utility pole carried by a self-propelled pole carrier may extend beyond the front overhang limit set in this subsection if the pole cannot be dismembered, the pole is less than 80 feet in length and does not extend more than 10 feet beyond the front bumper of the vehicle, and either of the following circumstances apply:

- (1) It is daytime and the front of the extending load of poles is marked by a flag of the type required by G.S. 20-117 for certain rear overhangs.
- (2) It is nighttime, operation of the vehicle is required to make emergency repairs to utility service, and the front of the extending load of poles is marked by a light of the type required by G.S. 20-117 for certain rear overhangs.

As used in this subsection, a "self-propelled pole carrier" is a vehicle designed to carry a pole on the side of the vehicle at a height of at least five feet when measured from the bottom of the brace used to carry the pole. A self-propelled pole carrier may not tow another vehicle when carrying a pole that extends beyond the front overhang limit set in this subsection.

- (g) (1) No vehicle shall be driven or moved on any highway unless the vehicle is constructed and loaded to prevent any of its load from falling, blowing, dropping, sifting, leaking, or otherwise escaping therefrom, and the vehicle shall not contain any holes, cracks, or openings through which any of its load may escape. However, sand may be dropped for the purpose of securing traction, or water or other substance may be sprinkled, dumped, or spread on a roadway in cleaning or maintaining the roadway. For purposes of this subsection, the terms "load" and "leaking" do not include water accumulated from precipitation.
- (2) A truck, trailer, or other vehicle licensed for more than 7,500 pounds gross vehicle weight that is loaded with **rock, gravel, stone, or any other similar substance, other than sand**, that could fall, blow, leak, sift, or drop shall not be driven or moved on any highway unless:
 - a. The height of the load against all four walls does not extend above a horizontal line six inches below their tops when loaded at the loading point; and
 - b. The load is securely covered by tarpaulin or some other suitable covering to prevent any of its load from falling, dropping, sifting, leaking, blowing, or otherwise escaping therefrom.
- (3) A truck, trailer, or other vehicle:
 - a. Licensed for any gross vehicle weight and loaded with sand; or
 - b. Licensed for 7,500 pounds or less gross vehicle weight and loaded with **rock, gravel, stone, or any other similar substance** that could fall, blow, leak, sift, or drop; shall not be driven or moved on any highway unless:
 - a. The height of the load against all four walls does not extend above a horizontal line six inches below the top when loaded at the loading point;
 - b. The load is securely covered by tarpaulin or some other suitable covering; or
 - c. The vehicle is constructed to prevent any of its load from falling, dropping, sifting,

leaking, blowing, or otherwise escaping therefrom.

- (4) This section shall not be applicable to or in any manner restrict the transportation of seed cotton, poultry or livestock, or silage or other feed grain used in the feeding of poultry or livestock.

(h) Whenever there exist two highways of the State highway system of approximately the same distance between two or more points, the Department of Transportation may, when in the opinion of the Department of Transportation, based upon engineering and traffic investigation, safety will be promoted or the public interest will be served, designate one of the highways the "truck route" between those points, and to prohibit the use of the other highway by heavy trucks or other vehicles of a gross vehicle weight or axle load limit in excess of a designated maximum. In such instances the highways selected for heavy vehicle traffic shall be designated as "truck routes" by signs conspicuously posted, and the highways upon which heavy vehicle traffic is prohibited shall likewise be designated by signs conspicuously posted showing the maximum gross vehicle weight or axle load limits authorized for those highways. The operation of any vehicle whose gross vehicle weight or axle load exceeds the maximum limits shown on signs over the posted highway shall constitute a Class 2 misdemeanor: Provided, that nothing in this subsection shall prohibit a truck or other motor vehicle whose gross vehicle weight or axle load exceeds that prescribed for those highways from using them when its destination is located solely upon that highway, road or street: Provided, further, that nothing in this subsection shall prohibit passenger vehicles or other light vehicles from using any highways designated for heavy truck traffic.

(i) Repealed by Session Laws 1973, c. 1330, s. 39.

(j) Nothing in this section shall be construed to prevent the operation of self-propelled grain combines or other self-propelled farm equipment with or without implements, not exceeding 25 feet in width on any highway, unless the operation violates a provision of this subsection. Farm equipment includes a vehicle that is designed exclusively to transport compressed seed cotton from a farm to a gin and has a self-loading bed. Combines or equipment which exceed 10 feet in width may be operated only if they meet all of the conditions listed in this subsection. A violation of one or more of these conditions does not constitute negligence per se.

- (1) The equipment may only be operated during daylight hours.
- (2) The equipment must display a red flag on front and rear ends or a flashing warning light. The flags or lights shall be attached to the equipment as to be visible from both directions at all times while being operated on the public highway for not less than 300 feet.
- (3) Equipment covered by this section, which by necessity must travel more than 10 miles or where by nature of the terrain or obstacles the flags or lights referred to in subdivision (2) of this subsection are not visible from both directions for 300 feet at any point along the proposed route, must be preceded at a distance of 300 feet and followed at a distance of 300 feet by a flagman in a vehicle having mounted thereon an appropriate warning light or flag. No flagman in a vehicle shall be required pursuant to this subdivision if the equipment is being moved under its own power or on a trailer from any field to another field, or from the normal place of storage of the vehicle to any field, for no more than ten miles and if visible from both directions for 300 feet at any point along the proposed route.
- (4) Every piece of equipment so operated shall operate to the right of the center line when meeting traffic coming from the opposite direction and at all other times when possible and practical.
- (5) Repealed by Session Laws 2008-221, s. 6, effective September 1, 2008.
- (6) When the equipment is causing a delay in traffic, the operator of the equipment shall move the equipment off the paved portion of the highway at the nearest practical location until the vehicles following the equipment have passed.
- (7) The equipment shall be operated in the designed transport position that minimizes

equipment width. No removal of equipment or appurtenances is required under this subdivision.

- (8) Equipment covered by this subsection shall not be operated on a highway or section of highway that is a fully controlled access highway or is a part of the National System of Interstate and Defense Highways without authorization from the North Carolina Department of Transportation. The Department shall develop an authorization process and approve routes under the following conditions:

- a. Persons shall submit an application to the Department requesting authorization to operate equipment covered by this subsection on a particular route that is part of a highway or section of highway that is a fully controlled access highway or is a part of the National System of Interstate and Defense Highways.
- b. The Department shall have a period of 30 days from receipt of a complete application to approve or reject the application. A complete application shall be deemed approved if the Department does not take action within 30 days of receipt by the Department; such a route may then be used by the original applicant.
- c. The Department shall approve an application upon a showing that the route is necessary to accomplish one or more of the following:
 1. Prevent farming operations from traveling more than five miles longer than the requested route during the normal course of business.
 2. Prevent excess traffic delays on local or secondary roads.
 3. Allow farm equipment access due to dimension restrictions on local or secondary roads.
- d. For applications that do not meet the requirements of sub-subdivision c. of this subdivision, the Department may also approve an application upon review of relevant safety factors.
- e. The Department may consult with the North Carolina State Highway Patrol, the North Carolina Department of Agriculture and Consumer Services, or other parties concerning an application.
- f. Any approved route may be subject to any of the following additional conditions:
 1. A requirement that the subject equipment be followed by a flag vehicle with flashing lights that shall be operated at all times on the route so as to be visible from a distance of at least 300 feet.
 2. Restrictions on maximum and minimum speeds of the equipment.
 3. Restrictions on the maximum dimensions of the equipment.
 4. Restrictions on the time of day that the equipment may be operated on the approved route.
- g. The Department shall publish all approved routes, including any conditions on the routes' use, and shall notify appropriate State and local law enforcement officers of any approved route.
- h. Once approved for use and published by the Department, a route may be used by any person who adheres to the route, including any conditions on the route's use imposed by the Department.
- i. The Department may revise published routes as road conditions on the routes change.

(k) Nothing in this section shall be construed to prevent the operation of passenger buses having an overall width of 102 inches, exclusive of safety equipment, upon the highways of this State which are 20 feet or wider and that are designated as the State primary system, or as municipal streets, when, and not until, the federal law and regulations thereunder permit the operation of passenger buses having a width of 102 inches

or wider on the National System of Interstate and Defense Highways.

(l) Nothing in this section shall be construed to prevent the operation of passenger buses that are owned and operated by units of local government, operated as a single vehicle only and having an overall length of 45 feet or less, on public streets or highways. The Department of Transportation may prevent the operation of buses that are authorized under this subsection if the operation of such buses on a street or highway presents a hazard to passengers of the buses or to the motoring public.

(m) Notwithstanding subsection (a) of this section, a boat or boat trailer with an outside width of less than 120 inches may be towed without a permit. The towing of a boat or boat trailer 102 inches to 114 inches in width may take place on any day of the week, including weekends and holidays, and may take place at night. The towing of a boat or boat trailer 114 inches to 120 inches in width may take place on any day of the week, including weekends and holidays from sun up to sun down. A boat or boat trailer in excess of 102 inches but less than 120 inches must be equipped with a minimum of two operable amber lamps on the widest point of the boat and the boat trailer such that the dimensions of the boat and the boat trailer are clearly marked and visible.

(n) Vehicle combinations used in connection with motorsports competition events that include a cab or other motorized vehicle unit with living quarters, and an attached enclosed specialty trailer, the combination of which does not exceed 90 feet in length, may be operated on the highways of this State, provided that such operation takes place for one or more of the following purposes:

- (1) Driving to or from a motorsports competition event.
- (2) For trips conducted for the purpose of purchasing fuel or conducting repairs or other maintenance on the competition vehicle.
- (3) For other activities related to motorsports purposes, including, but not limited to, performance testing of the competition vehicle.

The Department of Transportation may prohibit combinations authorized by this subsection from specific routes, pursuant to G.S. 20-115.1(b). (1937, c. 246; c. 407, s. 80; 1943, c. 213, s. 1; 1945, c. 242, s. 1; 1947, c. 844; 1951, c. 495, s. 1; c. 733; 1953, cc. 682, 1107; 1955, c. 296, s. 2; c. 729; 1957, c. 65, s. 11; cc. 493, 1183, 1190; 1959, c. 559; 1963, c. 356, s. 1; c. 610, ss. 1, 2; c. 702, s. 4; c. 1027, s. 1; 1965, c. 471; 1967, c. 24, s. 4; c. 710; 1969, cc. 128, 880; 1971, cc. 128, 680, 688, 1079; 1973, c. 507, s. 5; c. 546; c. 1330, s. 39; 1975, c. 148, ss. 1-5; c. 716, s. 5; 1977, c. 464, s. 34; 1979, cc. 21, 218; 1981, c. 169, s. 1; 1983, c. 724, s. 2; 1985, c. 587; 1987, c. 272; 1989, c. 277, s. 1; c. 790, s. 2; 1991, c. 112, s. 1; c. 449, ss. 1, 2.1; 1993, c. 539, s. 355; 1994, Ex. Sess., c. 24, s. 14(c); 1995 (Reg. Sess., 1996), c. 573, s. 1; c. 756, s. 14; 1998-149, s. 7; 1999-438, s. 28; 2000-185, s. 2; 2001-341, ss. 3, 4; 2001-512, s. 2; 2002-72, s. 19(c); 2002-159, s. 31.5(b); 2002-190, s. 2; 2003-383, s. 8; 2005-248, s. 2; 2007-77, s. 1; 2007-194, ss. 2, 3; 2007-484, s. 5; 2007-499, s. 1; 2008-221, ss. 5, 6; 2008-229, s. 1; 2009-7, s. 1; 2009-127, s. 1; 2009-128, s. 1; 2011-145, s. 19.1(g); 2012-33, s. 1; 2012-78, s. 5; 2013-413, s. 59.2(f).)