

Revised Addendum to Fiscal Note for

Fiscal Analysis B. Everett Jordan Reservoir Water Supply Nutrient Strategy

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The proposed amendments to the Jordan Nutrient Strategy rules (see Appendix) represent no substantive change to the current requirements in statute being implemented since 2009 and, therefore, have no change in the current estimate of economic impact. Six Session Laws (SLs), 2009-216, 2009-484, 2011-394, 2012-200, 2012-201, and 2012-187 resulted in the changes to the Environmental Management Commission (EMC) rules passed in May 2008. These changes are summarized in Table 1.

Table 1. Jordan Nutrient Strategy Rules Changed by Recent Session Laws

Rule	Session Law	Action
15A NCAC 02B .0262	2012-187	Modified
15A NCAC 02B .0265 - New Development Stormwater	2009-484, 2012- 200 and 201	Modified
15A NCAC 02B .0266 - Local Government Existing Development Stormwater	2009-216	Disapproved/Replaced
15A NCAC 02B .0267 - Buffer Protection	2009-484	Modified
15A NCAC 02B .0270 - Wastewater	2009-216, 2011-394	Modified
15A NCAC 02B .0271 - State and Federal Stormwater	2009-484	Modified

The Division of Water Quality completed a fiscal analysis for the original rules, which was approved by the NC Office of State Budget and Management (OSBM) in July 2007¹ (NC DWQ, 2007). In 2009, the General Assembly approved changes to the rules with SLs 2009-216 and 2009-484. The requirements of these laws have been implemented since they became effective on August 11th, 2009. Since then, the General Assembly approved SL 2011-394, SL 2012-200, SL 2012-201, and SL 2012-187. These changes provided an extension in the implementation timeline for certain wastewater facilities, delayed implementation of local new development requirements, and removed certain requirements for dischargers in WS-V classified waters in the Jordan Watershed.

¹ NC Division of Water Quality: Planning Section. 6/11/2007. Fiscal Analysis: B. Everett Jordan Reservoir Water Supply Nutrient Strategy. Online at http://portal.ncdenr.org/c/document_library/get_file?uuid=2e05ae32-55b7-4f9f-b095-244bf6f6720b&groupId=38364 (Accessed 9/25/2012)

These session laws require the EMC adopt a rule to replace the disapproved rule and the modified ones in a “substantively identical” manner to the laws. Consequently, the proposed amendments are being pursued by the Division to conform existing rules to the requirements of the new session laws. Any changes in program costs and benefits can be attributed to changes in law, not the conforming rules. These proposed rules, therefore, impose no new costs or benefits on affected parties. None the less, the Division presents this analysis to characterize the probable fiscal impacts attributable to recent legislative changes.

For context, Table 2 presents the changes to the Jordan Lake Nutrient Strategy resulting from session laws as well as a qualitative assessment of how their cost and benefits compare with the rules in the 2007 fiscal analysis. Jordan Rules not affected by new laws are not included in Table 2.

Table 2. Session Law (SL) Changes and Their Effect on the Impact Analysis

Rule	Session Law Changes	Session Law Effect and Estimated Impacts
15A NCAC 02B .0262 – Purpose and Scope	1. This change in Jordan’s WS-V classification mainly affects dischargers. Those affected, no longer have to meet standards identified in 02B .0218(3)(e) through (3)(h) except at industrial intakes with drinking water or where they violate standards at boundaries of WS-II, III, or IV areas.	1. Dischargers in WS-V streams will have to meet fewer of the WS-V standards, potentially lowering costs on dischargers who may violate those standards. Some WS-V streams downstream of discharges, however, may incur increased pollutants due to a loss of some protections. In the original strategy fiscal note, best available information indicated these standards would have no associated costs on dischargers, thus their removal will not affect the strategy’s estimated costs. Affected dischargers still need to meet their nutrient load allocations, and those cost estimates remain unaffected.

(Table 2 continues on the following pages.)

Rule	Session Law Changes	Session Law Effect and Estimated Impacts
15A NCAC 02B .0265 - New Development Stormwater	<p>1. SL raised the offsite offset thresholds for new developments from 4 and 8 lbs/acre/year of nitrogen (N) to 6 and 10 lbs/acre/year of N for residential developments and commercial/ industrial/multi-family developments, respectively.</p>	<p>1. Allowing developers to meet more of their load reduction requirement offsite will potentially lower their implementation costs as offsite treatment options often cost less than onsite. The minimum of one BMP onsite treatment requirement (see #2 below) still requires onsite treatment by developers. Overall nutrient loading targets remain the same.</p>
	<p>2. Added a minimum onsite treatment of one best management practice (BMP) that achieves 85% total suspended solids (TSS) for developments not meeting loading targets.</p>	<p>2. SL is expected to not substantially affect rule implementation cost. This onsite TSS requirement already covers much of the Jordan watershed through Phase II stormwater and water supply watershed rules.</p>
	<p>3. Delayed implementation of new development program requirements from Aug 2012 to Aug 2014. Note: The original rule and fiscal analysis projected an implementation date of 2011 for new development programs. This original date was delayed one year by rule review in the 2009 legislative session.</p>	<p>3. Where local governments delay implementation of their new development programs, developers will be the primary beneficiary of lower rule implementation costs during the two year interim. Local governments who delay, however, will increase their nutrient loads to Jordan Lake, contributing to impaired conditions in the lake, and shall be required to reduce those loads to baseline levels under the existing development requirements of SL 2009-216. To avoid incurring the likely more expensive cost to treat these loads later, eight of the 34 local governments have moved forward with implementation of their new development Program.</p>

(Table 2 continues on the following pages.)

Rule	Session Law Changes	Session Law Effect and Estimated Impact																								
<p>15A NCAC 02B .0266 - Local Government Existing Development Stormwater</p> <p>(Note: The original rule was disapproved. Changes presented in this Table are the session law based rule compared with the original disapproved rule.)</p>	<p>Stage 1 SL enacted a staged approach for existing development. SL Stage 1 requirements focus on planning and mirror those of the original rules.</p>	None																								
	<p>Stage 2 / Modified Stage 2 1. SL Stage 2 requirements hinge on whether an arm of the lake is meeting its water quality standards. DWQ will provide monitoring reports to the Commission every three years beginning in March 2014 to assess the need for Stage 2 measures.</p>	<p>1. The main effect on cost is delayed commencement of rule implementation by 1.5 to 4.5 years, shifting the time when benefits would be incurred but with little anticipated effect on overall costs.</p>																								
	<p>2. SL modified local plan approval standards from practicable to reasonable and cost-effective.</p>	<p>2. Any attempt to predict the cost impact of this change in approval standards would be purely speculative.</p>																								
	<p>3. SL enacted the following changes to the long-term total nitrogen (TN) and total phosphorous (TP) reduction goals:</p> <table border="1" data-bbox="354 827 865 1031"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Original Rule % reduction goals</th> <th colspan="2">SL % reduction goals</th> </tr> <tr> <th>TN</th> <th>TP</th> <th>TN</th> <th>TP</th> </tr> </thead> <tbody> <tr> <td>UNH*</td> <td>35</td> <td>5</td> <td>35^x</td> <td>5</td> </tr> <tr> <td>LNH*</td> <td>0</td> <td>0</td> <td>8</td> <td>5</td> </tr> <tr> <td>Haw*</td> <td>8</td> <td>5</td> <td>8</td> <td>5</td> </tr> </tbody> </table> <p>^x Triggered if lake does not achieve water quality standards by 2023. Otherwise the TN goal is 8%.</p>		Original Rule % reduction goals		SL % reduction goals		TN	TP	TN	TP	UNH*	35	5	35 ^x	5	LNH*	0	0	8	5	Haw*	8	5	8	5	<p>3. The most tangible effect on cost is to potentially increase costs for LNH* local governments as a result of raising their goals from 0% for both TN and TP to 8% and 5%, respectively. Note that this arm of the lake is not as eutrophic and with implementation dependent on lake monitoring, potentially no action could be required and no incurred costs.. Also, the LNH* requirements would affect a small fraction of the Lake's watershed area (6%) so that changes to costs associated with enacted requirements would be limited.</p>
			Original Rule % reduction goals		SL % reduction goals																					
TN		TP	TN	TP																						
UNH*	35	5	35 ^x	5																						
LNH*	0	0	8	5																						
Haw*	8	5	8	5																						
<p>4. Modified Stage 2 - SL requires modification to UNH local government Stage 2 stormwater plans to meet 35% N reduction goal if UNH arm does not meet water quality standards by March 2023.</p>	<p>4. The UNH* is the most eutrophic part of the lake and local governments there will likely have to plan to meet these reductions. This would not create a discernible cost saving from the original fiscal note estimate given that UNH local government plans could easily and, based on planning activities to date, likely propose reduction rates of no higher than 8% for TN and 5% for TP by 2023. Thus, additional costs from meeting the 35% N reduction would mimic the cost estimated in the original fiscal note and the time horizon called for in the EMC rule. The only difference would be a shift in when costs would be incurred.</p>																									
<p>15A NCAC 02B .0267 - Buffer Protection</p>	<p>1. SL requires a 30-day public comment period prior to EMC approval of alternative maps used for identifying streams subject to buffer requirements.</p>	<p>1. SL changes are not expected to substantially affect rule implementation cost.</p>																								
	<p>2. SL states that the buffer rule applies to activities conducted within the buffer or, if there are hydrologic impacts, activities outside buffers.</p>	<p>2. SL changes are not expected to change rule implementation practice or cost.</p>																								

(Table 2 continues on the following page.)

Rule	Session Law Changes	Session Law Effect and Estimated Impact							
15A NCAC 02B .0270 – Wastewater	SLs extended the compliance date for achieving the required nutrient load by two years to calendar year 2016. Or, if the discharger has received construction authorization to improve their facility’s treatment system, calendar year 2018.	The cost for upgrades is not expected to change substantially however these costs may shift up to 4 years later as a result of SLs.							
15A NCAC 02B .0271 - State and Federal Stormwater	New Development Stormwater - Non-Department of Transportation (DOT), DOT No changes from Session Law	None							
	Existing Development Stormwater 1. Non-DOT - The percent in nutrient reduction goals from the baseline load (TN/TP) have not changed, but they now hinge on whether an arm of the lake is meeting its water quality standards. DWQ will provide monitoring reports to the Commission every three years beginning in March 2014 to assess the need for existing implementation measures.	1. Required implementation of a nutrient reduction program likely will be delayed by 1.5 to 4.5 years, shifting the time when benefits would be incurred but with little anticipated effect on overall costs. For those subwatersheds where standards are not violated, implementation costs will be lowered as reductions will not be needed from existing development. Also, DENR might incur some additional costs related to staff time needs to complete the three year reports.							
	2. DOT - The long-term % reduction goals from the baseline load (TN/TP) have not changed, however, the following compliance option has changed: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Original Rule</td> <td style="width: 50%;">SL Roadway</td> </tr> <tr> <td>Roadway Compliance Option</td> <td>Compliance</td> </tr> <tr> <td><u>(Removed):</u></td> <td><u>Option (Added):</u></td> </tr> <tr> <td>Reduce N loading at the rate of 500 lbs/5 years</td> <td>Complete 3 BMPs/year</td> </tr> </table>	Original Rule	SL Roadway	Roadway Compliance Option	Compliance	<u>(Removed):</u>	<u>Option (Added):</u>	Reduce N loading at the rate of 500 lbs/5 years	Complete 3 BMPs/year
Original Rule	SL Roadway								
Roadway Compliance Option	Compliance								
<u>(Removed):</u>	<u>Option (Added):</u>								
Reduce N loading at the rate of 500 lbs/5 years	Complete 3 BMPs/year								
3. Modified Existing Development Plans – DOT SL adds a modification to UNH* for DOT existing stormwater plan to meet 35% N reduction goal if UNH* arm does not meet water quality standards by March 2023. Note: UNH Non-DOT State/Federal entities have a 35% reduction if required by monitoring under by #1 above.	3. The nominal BMP implementation rates for roadways in the SL apply making the overall cost effect dependent on the BMPs DOT decides to implement. DOT, however, has latitude to potentially reduce cost relative to the lbs/year original rule requirement by implementing three low-cost BMPs per year. This low-cost approach would likely not have the same water quality benefit as the original rule compliance option of 500 lbs N reduction/year. If required, DOT non-roadways will need to meet the rule’s original reduction goal of 35%.								

* Jordan Subwatershed abbreviations: Upper New Hope River (UNH), Lower New Hope River (LNH) and Haw River (Haw).

APPENDIX

1 15A NCAC 02B .0262 is proposed for amendment as follows:

2

3 **15A NCAC 02B .0262 JORDAN WATER SUPPLY NUTRIENT STRATEGY: PURPOSE AND SCOPE**

4 PURPOSE. The purpose of this Rule, 15A NCAC 02B .0263 through .0273 and .0311(p) shall be to restore and
5 maintain nutrient-related water quality standards in B. Everett Jordan Reservoir; protect its classified uses as set out in
6 15A NCAC 02B .0216, including use as a source of water supply for drinking water, culinary and food processing
7 purposes; and maintain or enhance protections currently implemented by local governments in existing water supply
8 watersheds. These Rules, as further enumerated in Item (3) of this Rule, together shall constitute the Jordan water supply
9 nutrient strategy, or Jordan nutrient strategy. Additional provisions of this Rule include establishing the geographic and
10 regulatory scope of the Jordan nutrient strategy, defining its relationship to existing water quality regulations, setting
11 specific nutrient mass load goals for Jordan Reservoir, providing for the use of adaptive management to restore Jordan
12 Reservoir, and citing general enforcement authorities. The following provisions further establish the framework of the
13 Jordan water supply nutrient strategy:

14 (1) SCOPE. B. Everett Jordan Reservoir is hereafter referred to as Jordan Reservoir. All lands and
15 waters draining to Jordan Reservoir are hereafter referred to as the Jordan watershed. Jordan
16 Reservoir and all waters draining to it have been supplementally classified as Nutrient Sensitive
17 Waters (NSW) pursuant to 15A NCAC 02B .0101(e)(3) and 15A NCAC 02B .0223. Water supply
18 waters designated WS-II, WS-III, and WS-IV within the Jordan watershed shall retain their
19 classifications. The remaining waters in the Jordan watershed shall be classified WS-V. The
20 requirements of all of these water supply classifications shall be retained and applied except as
21 specifically noted in Item (6) of this Rule and elsewhere within the Jordan nutrient strategy. Pursuant
22 to G.S. 143-214.5(b), the entire Jordan watershed shall be designated a critical water supply watershed
23 and through the Jordan nutrient strategy given additional, more stringent requirements than the state
24 minimum water supply watershed management requirements. These requirements supplement the
25 water quality standards applicable to Class C waters, as described in Rule .0211 of this Section, which
26 apply throughout the Jordan watershed.

27 (2) STRATEGY GOAL. Pursuant to G.S. 143-215.1(c5), 143-215.8B, and 143B-282(c) and (d) of the
28 Clean Water Responsibility Act of 1997, the Environmental Management Commission establishes the
29 goal of reducing the average annual loads of nitrogen and phosphorus delivered to Jordan Reservoir
30 from all point and nonpoint sources of these nutrients located within its watershed, as specified in Item
31 (5) of this Rule, and provides for adaptive management of the strategy and goal, as specified in Item
32 (8) of this Rule.

33 (3) RULES ENUMERATED. The second rule in the following list provides definitions for terms that are
34 used in more than one rule of the Jordan nutrient strategy. An individual rule may contain additional
35 definitions that are specific to that rule. The rules of the Jordan nutrient strategy shall be titled as
36 follows:

37 (a) Rule .0262 Purpose and Scope;

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- 1 (b) Rule .0263 Definitions;
 - 2 (c) Rule .0264 Agriculture;
 - 3 (d) Rule .0265 Stormwater Management for New Development;
 - 4 (e) Rule .0266 Stormwater Management for Existing Development;
 - 5 (f) Rule .0267 Protection of Existing Riparian Buffers;
 - 6 (g) Rule .0268 Mitigation for Riparian Buffers;
 - 7 (h) Rule .0269 Riparian Buffer Mitigation Fees to the NC Ecosystem Enhancement Program;
 - 8 (i) Rule .0270 Wastewater Discharge Requirements;
 - 9 (j) Rule .0271 Stormwater Requirements for State and Federal Entities;
 - 10 (k) Rule .0272 Fertilizer Management;
 - 11 (l) Rule .0273 Options for Offsetting Nutrient Loads; and
 - 12 (m) Rule .0311 Cape Fear River Basin.
- 13 (4) RESERVOIR ARMS AND SUBWATERSHEDS. For the purpose of the Jordan nutrient strategy,
14 Jordan Reservoir is divided into three arms and the Jordan watershed is divided into three tributary
15 subwatersheds as follows:
- 16 (a) The Upper New Hope arm of the reservoir, identified by index numbers 16-41-1-(14), 16-41-
17 2-(9.5), and 16-41-(0.5) in the Schedule of Classifications for the Cape Fear River Basin,
18 15A NCAC 02B .0311, encompasses the upper end of the reservoir upstream of SR 1008,
19 and its subwatershed encompasses all lands and waters draining into it.
 - 20 (b) The Lower New Hope arm of the reservoir, identified by index number 16-41-(3.5) in the
21 Schedule of Classifications for the Cape Fear River Basin, 15A NCAC 02B .0311, lies
22 downstream of SR 1008 and upstream of the Jordan Lake Dam, excluding the Haw River arm
23 of the reservoir, and its subwatershed encompasses all lands and waters draining into the
24 Lower New Hope arm of the reservoir excluding those that drain to the Upper New Hope arm
25 of the reservoir and the Haw River arm of the reservoir.
 - 26 (c) The Haw River arm of the reservoir, identified by index number 16-(37.5) in the Schedule of
27 Classifications for the Cape Fear River Basin, 15A NCAC 02B .0311, lies immediately
28 upstream of Jordan Lake Dam, and its subwatershed includes all lands and waters draining
29 into the Haw River arm of the reservoir excluding those draining into the Upper and Lower
30 New Hope arms.
- 31 (5) NUTRIENT REDUCTION GOALS. Each arm of the lake has reduction goals, total allowable loads,
32 point source wasteload allocations, and nonpoint source load allocations for both nitrogen and
33 phosphorus based on a field-calibrated nutrient response model developed pursuant to provisions of
34 the Clean Water Responsibility Act of 1997, G.S. 143-215.1(c5). The reduction goals and allocations
35 are to be met collectively by the sources regulated under the Jordan nutrient strategy. The reduction
36 goals are expressed in terms of a percentage reduction in delivered loads from the baseline years,

1 1997-2001, while allocations are expressed in pounds per year of allowable delivered load. Each arm
2 and subwatershed shall conform to its respective allocations for nitrogen and phosphorus as follows:

- 3 (a) The at-lake nitrogen load reduction goals for the arms of Jordan Reservoir are as follows:
- 4 (i) The Upper New Hope arm has a 1997-2001 baseline nitrogen load of 986,186
5 pounds per year and a TMDL reduction goal of 35 percent. The resulting TMDL
6 includes a total allowable load of 641,021 pounds of nitrogen per year: a point
7 source mass wasteload allocation of 336,079 pounds of nitrogen per year, and a
8 nonpoint source mass load allocation of 304,942 pounds of nitrogen per year.
- 9 (ii) The Lower New Hope arm has a 1997-2001 baseline nitrogen load of 221,929
10 pounds per year and a nitrogen TMDL capped at the baseline nitrogen load. The
11 resulting TMDL includes a total allowable load of 221,929 pounds of nitrogen per
12 year: a point source mass wasteload allocation of 6,836 pounds of nitrogen per year,
13 and a nonpoint source mass load allocation of 215,093 pounds of nitrogen per year.
- 14 (iii) The Haw River arm has a 1997-2001 baseline nitrogen load of 2,790,217 pounds
15 per year and a TMDL percentage reduction of 8 percent. The resulting TMDL
16 includes a total allowable load of 2,567,000 pounds of nitrogen per year: a point
17 source mass wasteload allocation of 895,127 pounds of nitrogen per year, and a
18 nonpoint source mass load allocation of 1,671,873 pounds of nitrogen per year.
- 19 (b) The at-lake phosphorus load reduction goals for the arms of Jordan Reservoir are as follows:
- 20 (i) The Upper New Hope arm has a 1997-2001 baseline phosphorus load of 87,245
21 pounds per year and a TMDL percentage reduction of five percent. The resulting
22 TMDL includes a total allowable load of 82,883 pounds of phosphorus per year: a
23 point source mass wasteload allocation of 23,108 pounds of phosphorus per year,
24 and a nonpoint source mass load allocation of 59,775 pounds of phosphorus per
25 year.
- 26 (ii) The Lower New Hope arm has a 1997-2001 baseline phosphorus load of 26,574
27 pounds per year and a phosphorus TMDL capped at the baseline phosphorus load.
28 The resulting TMDL includes a total allowable load of 26,574 pounds of
29 phosphorus per year: a point source mass wasteload allocation of 498 pounds of
30 phosphorus per year, and a nonpoint source mass load allocation of 26,078 pounds
31 of phosphorus per year.
- 32 (iii) The Haw River arm has a 1997-2001 baseline phosphorus load of 378,569 pounds
33 per year and a TMDL percentage reduction of five percent. The resulting TMDL
34 includes a total allowable load of 359,641 pounds of phosphorus per year: a point
35 source mass wasteload allocation of 106,001 pounds of phosphorus per year, and a
36 nonpoint source mass load allocation of 253,640 pounds of phosphorus per year.

(c) The allocations established in this Item may change as a result of allocation transfer between point and nonpoint sources to the extent provided for in rules of the Jordan nutrient strategy and pursuant to requirements on the sale and purchase of load reduction credit set out in 15A NCAC 02B .0273.

(6) **RELATION TO WATER SUPPLY REQUIREMENTS.** ~~For all waters designated as WS-II, WS-III, or WS-IV within the Jordan watershed, the requirements of water supply 15A NCAC 02B .0214 through .0216 shall remain in effect with the exception of Sub-Item (3)(b) of those rules addressing nonpoint sources. The nonpoint source requirements of Sub-Item (3)(b) of those rules are superseded by the requirements of this Rule and 15A NCAC 02B .0263 through .0269, and .0271 through .0273, except as specifically stated in any of these Rules. For the remaining waters of Jordan watershed, the requirements of water supply Rule .0218 and Rules .0263 through .0273 and .0311 shall be applied. For WS-II, WS-III, and WS-IV waters, the retained requirements of 15A NCAC 02B .0214 through .0216 are the following:~~

~~(a) Item (1) of 15A NCAC 02B .0214 through .0216 addressing best usages;~~

~~(b) Item (2) of 15A NCAC 02B .0214 through .0216 addressing predominant watershed development conditions, discharges expressly allowed watershed-wide, general prohibitions on and allowances for domestic and industrial discharges, Maximum Contaminant Levels following treatment, and the local option to seek more protective classifications for portions of existing water supply watersheds;~~

~~(c) Sub-Item (3)(a) of 15A NCAC 02B .0214 through .0216 addressing waste discharge limitations; and~~

~~(d) Sub-Items (3)(e) through (3)(h) of 15A NCAC 02B .0214 through .0216 addressing aesthetic and human health standards.~~

The following water supply requirements shall apply:

(a) For all waters designated as WS-II, WS-III, or WS-IV within the Jordan watershed, the requirements of water supply 15A NCAC 02B .0214 through .0216 shall remain in effect with the exception of Sub-Item (3)(b) of those rules addressing nonpoint sources. The nonpoint source requirements of Sub-Item (3)(b) of those rules are superseded by the requirements of this Rule and 15A NCAC 02B .0263 through .0269, and .0271 through .0273, except as specifically stated in any of these Rules. For WS-II, WS-III, and WS-IV waters, the retained requirements of 15A NCAC 02B .0214 through .0216 are the following:

(i) Item (1) of 15A NCAC 02B .0214 through .0216 addressing best usages;

(ii) Item (2) of 15A NCAC 02B .0214 through .0216 addressing predominant watershed development conditions, discharges expressly allowed watershed-wide, general prohibitions on and allowances for domestic and industrial discharges, Maximum Contaminant Levels following treatment, and the local option to seek more protective classifications for portions of existing water supply watersheds;

1 (iii) Sub-Item (3)(a) of 15A NCAC 02B .0214 through .0216 addressing waste discharge
2 limitations; and

3 (iv) Sub-Items (3)(c) through (3)(h) of 15A NCAC 02B .0214 through .0216 addressing
4 aesthetic and human health standards.

5 (b) For waters designated WS-V in the Jordan Watershed, the requirements of Rules .0263
6 through .0273 and .0311 shall apply. The requirements of 15A NCAC 2B .0218 shall also
7 apply except for Sub-Items (3)(e) through (3)(h) of that Rule, which shall only apply where:

8 (i) The designation of WS-V is associated with a water supply intake used by an
9 industry to supply drinking water for their employees; or

10 (ii) Standards set out in 15A NCAC 02B .0218(3)(e) through (3)(h) are violated at the
11 upstream boundary of waters within those watersheds that are classified as WS-II,
12 WS-III, or WS-IV. This Sub-Item shall not be construed to alter the nutrient
13 reduction requirements set out in 15A NCAC 2B .0262(5) or 15A NCAC 2B
14 .0275(3).

15 (7) APPLICABILITY. Types of parties responsible for implementing rules within the Jordan nutrient
16 strategy and, as applicable, their geographic scope of responsibility, are identified in each rule. The
17 specific local governments responsible for implementing Rules .0265, .0266, .0267, .0268, and .0273
18 shall be as follows:

19 (a) Rules .0265, .0266, .0267, .0268, and .0273 shall be implemented by all incorporated
20 municipalities, as identified by the Office of the Secretary of State, with planning jurisdiction
21 within or partially within the Jordan watershed. Those municipalities currently are:

- 22 (i) Alamance;
- 23 (ii) Apex;
- 24 (iii) Burlington;
- 25 (iv) Carrboro;
- 26 (v) Cary;
- 27 (vi) Chapel Hill;
- 28 (vii) Durham;
- 29 (viii) Elon;
- 30 (ix) Gibsonville;
- 31 (x) Graham;
- 32 (xi) Green Level;
- 33 (xii) Greensboro;
- 34 (xiii) Haw River;
- 35 (xiv) Kernersville;
- 36 (xv) Mebane;
- 37 (xvi) Morrisville;

- 1 (xvii) Oak Ridge;
- 2 (xviii) Ossipee;
- 3 (xix) Pittsboro;
- 4 (xx) Pleasant Garden;
- 5 (xxi) Reidsville;
- 6 (xxii) Sedalia;
- 7 (xxiii) Stokesdale;
- 8 (xxiv) Summerfield; and
- 9 (xxv) Whitsett.

10 (b) Rules .0265, .0266, .0267, .0268, and .0273 shall be implemented by the following counties
11 for the portions of the counties where the municipalities listed in Sub-Item (7)(a) do not have
12 an implementation requirement:

- 13 (i) Alamance;
- 14 (ii) Caswell;
- 15 (iii) Chatham;
- 16 (iv) Durham;
- 17 (v) Guilford;
- 18 (vi) Orange;
- 19 (vii) Rockingham; and
- 20 (viii) Wake.

21 (c) A unit of government may arrange through interlocal agreement or other instrument of mutual
22 agreement for another unit of government to implement portions or the entirety of a program
23 required or allowed under any of the rules listed in Item (3) of this Rule to the extent that
24 such an arrangement is otherwise allowed by statute. The governments involved shall submit
25 documentation of any such agreement to the Division. No such agreement shall relieve a unit
26 of government from its responsibilities under these Rules.

27 (8) ADAPTIVE MANAGEMENT. The Division shall evaluate the effectiveness of the Jordan nutrient
28 strategy after at least ten years following the effective date and periodically thereafter as part of the
29 review of the *Cape Fear River Basinwide Water Quality Plan*. The Division shall base its evaluation
30 on, at a minimum, trend analyses as described in the monitoring section of the *B. Everett Jordan*
31 *Reservoir, North Carolina Nutrient Management Strategy and Total Maximum Daily Load*, and lake
32 use support assessments. The Division may also develop additional watershed modeling or other
33 source characterization work. Any nutrient response modeling and monitoring on which any
34 recommendation for adjustment to strategy goals may be based shall meet the criteria set forth in G.S.
35 143-215.1(c5), also known as the Clean Water Responsibility Act, and meet or exceed criteria used by
36 the Division for the monitoring and modeling used to establish the goals in Item (5) of this Rule. Any
37 modification to these rules as a result of such evaluations would require additional rulemaking.

APPENDIX

1 (9) LIMITATION. The Jordan nutrient strategy may not fully address significant nutrient sources in the
2 Jordan watershed in that the rules do not directly address atmospheric sources of nitrogen to the
3 watershed from sources located both within and outside of the watershed. As better information
4 becomes available from ongoing research on atmospheric nitrogen loading to the watershed from these
5 sources, and on measures to control this loading, the Commission may undertake separate rule making
6 to require such measures it deems necessary from these sources to support the goals of the Jordan
7 nutrient strategy.

8 (10) ENFORCEMENT. Failure to meet requirements of Rules .0262, .0264, .0265, .0266, .0267, .0268,
9 .0269, .0270, .0271, .0272 and .0273 of this Section may result in imposition of enforcement measures
10 as authorized by G.S. 143-215.6A (civil penalties), G.S. 143-215.6B (criminal penalties), and G.S.
11 143-215.6C (injunctive relief).

12
13 *History Note:* Authority G.S. 143-214.1; 143-214.5; 143-214.7; 143-215.1; 143-215.3(a)(1); 143-215.6A; 143-
14 215.6A; 143-215.6B; 143 215.6C; 143-215.8B; 143B-282(c); 143B-282(d); S.L. 2005-190; S.L.
15 2006-259; S.L. 2012-187.
16 Eff. August 11, 2009;
17 Amended Eff. September 1, ~~2011~~; July 1, 2014 (Pending Legislative Review).

18

APPENDIX

1 15a NCAC 02b .0265 is proposed for amendment as follows:

2

3 **15A NCAC 02B .0265 JORDAN WATER SUPPLY NUTRIENT STRATEGY: STORMWATER**
4 **MANAGEMENT FOR NEW DEVELOPMENT**

5 (~~See S.L. 2009 216 and S.L. 2009 484~~)

6 The following is the stormwater strategy for new development activities within the Jordan watershed, as prefaced in
7 15A NCAC 02B .0262:

8 (1) PURPOSE. The purposes of this Rule are as follows:

9 (a) To achieve and maintain the nitrogen and phosphorus loading goals established for
10 Jordan Reservoir in 15A NCAC 02B .0262 from lands in the Jordan watershed on which
11 new development occurs;

12 (b) To provide control for stormwater runoff from new development in Jordan watershed to
13 ensure that the integrity and nutrient processing functions of receiving waters and
14 associated riparian buffers are not compromised by erosive flows; and

15 (c) To protect the water supply uses of Jordan Reservoir and of designated water supplies
16 throughout the Jordan watershed from the potential impacts of new development.

17 (2) APPLICABILITY. This Rule shall apply to those areas of new development, as defined in 15A
18 NCAC 02B .0263, that lie within the Jordan watershed and the planning jurisdiction of a
19 municipality or county that is identified in 15A NCAC 02B .0262.

20 (3) REQUIREMENTS. All local governments subject to this Rule shall ~~develop~~ implement
21 stormwater management programs ~~for submission to and approval as approved~~ by the
22 ~~Commission, to be implemented~~ Commission in areas described in Item (2) of this Rule, based on
23 the standards in this Item:

24 (a) An approved stormwater management plan shall be required for all proposed new
25 development disturbing one acre or more for single family and duplex residential
26 property and recreational facilities, and one-half acre or more for commercial, industrial,
27 institutional, multifamily residential, or local government property. These stormwater
28 plans shall not be approved by the subject local governments unless the following criteria
29 are met:

30 (i) Nitrogen and phosphorus loads contributed by the proposed new development
31 activity in a given subwatershed shall not exceed the unit-area mass loading
32 rates applicable to that subwatershed as follows for nitrogen and phosphorus,
33 respectively, expressed in units of pounds per acre per year: 2.2 and 0.82 in the
34 Upper New Hope; 4.4 and 0.78 in the Lower New Hope; and 3.8 and 1.43 in the
35 Haw. The developer shall determine the need for engineered stormwater
36 controls to meet these loading rate targets by using ~~the loading calculation~~
37 ~~method called for in Sub Item (4)(a)~~ Jordan and Falls Stormwater Nutrient Load

- 1 Accounting Tool approved by the Commission in March 2011 or other
2 equivalent method acceptable to the Division;
- 3 (ii) Proposed new development undertaken by a local government solely as a public
4 road project shall be deemed compliant with the purposes of this Rule if it meets
5 the riparian buffer protection requirements of 15A NCAC 02B .0267 and .0268;
- 6 (iii) New development that would exceed the nitrogen or phosphorus loading rate
7 targets set out in this Item without the use of engineered stormwater controls
8 shall have engineered stormwater controls that meet the design requirements set
9 out in Sub-Item (3)(a)(v) of this Item and that achieve eighty-five percent (85%)
10 removal of total suspended solids;
- 11 ~~(iii)~~(iv) Proposed new development subject to NPDES, water supply, and other state-
12 mandated stormwater regulations shall comply with those regulations in addition
13 to the other requirements of this Sub-Item. Proposed new development in any
14 water supply watershed in the Jordan watershed designated WS-II, WS-III, or
15 WS-IV shall comply with the density-based restrictions, obligations, and
16 requirements for engineered stormwater controls, clustering options, and 10/70
17 provisions described in Sub-Items (3)(b)(i) and (3)(b)(ii) of the applicable Rule
18 among 15A NCAC 02B .0214 through .0216;
- 19 ~~(iv)~~(v) Stormwater systems shall be designed to control and treat the runoff generated
20 from all surfaces by one inch of rainfall. The treatment volume shall be drawn
21 down pursuant to standards specific to each practice as provided in the July
22 2007 version of the *Stormwater Best Management Practices Manual* published
23 by the Division, or other at least technically equivalent standards acceptable to
24 the Division. To ensure that the integrity and nutrient processing functions of
25 receiving waters and associated riparian buffers are not compromised by erosive
26 flows, stormwater flows from the new development shall not contribute to
27 degradation of waters of the State. At a minimum, the new development shall
28 not result in a net increase in peak flow leaving the site from pre-development
29 conditions for the one-year, 24-hour storm event;
- 30 ~~(v)~~(vi) Proposed new development that would replace or expand structures or
31 improvements that existed as of December 2001, the end of the baseline period,
32 and that would not result in a net increase in built-upon area shall not be
33 required to meet the nutrient loading targets or high-density requirements except
34 to the extent that it shall provide stormwater control at least equal to the
35 previous development. Proposed new development that would replace or
36 expand existing structures or improvements and would result in a net increase in
37 built-upon area shall have the option either to achieve at least the percentage

loading reduction goals stated in 15A NCAC 02B .0262 as applied to nitrogen and phosphorus loading from the previous development for the entire project site, or to meet the loading rate targets described in Sub-Item (3)(a)(i). These requirements shall supersede those identified in 15A NCAC 02B .0104(q);

~~(vi)~~(vii) Proposed new development shall comply with the riparian buffer protection requirements of 15A NCAC 02B .0267 and .0268; and

~~(vii)~~(viii) Developers shall have the option of offsetting part of their nitrogen and phosphorus loads by implementing or funding offsite management measures as follows: Before using offsite offset options, a development shall attain a ~~maximum~~-nitrogen loading rate on-site of ~~four~~ that does not exceed six pounds per acre per year for single-family, detached and duplex residential development and ~~eight-ten~~ pounds per acre per year for other development, including multi-family residential, commercial and industrial and shall meet any requirements for engineered stormwater controls described in Sub-Item (3)(a)(iii) and (iv) of this Rule. Offsite offsetting measures shall achieve ~~at least equivalent~~ reductions in nitrogen and phosphorus loading that are at least equivalent to the remaining reduction needed ~~onsite~~ to comply with the loading rate targets set out in Sub-Item (3)(a)(i) of this Rule. A developer may make offset payments to the NC Ecosystem Enhancement Program contingent upon acceptance of payments by that Program. A developer may use an offset option provided by the local government in which the development activity occurs. A developer may propose other offset measures to the local government, including providing his or her own offsite offset or utilizing a private seller. All offset measures identified in this Sub-Item shall meet the requirements of 15A NCAC 02B .0273 (2) through ~~(4)-(4)~~ and 15A NCAC 02B .0240.

- (b) A plan to ensure maintenance of best management practices (BMPs) implemented as a result of the provisions in Sub-Item (3)(a) of this Rule for the life of the development;
- (c) A plan to ensure enforcement and compliance with the provisions in Sub-Item (3)(a) of this Rule for the life of the new development; and
- (d) The following requirements in water supply 15A NCAC 02B .0104 shall apply to new development throughout the Jordan watershed:
 - (i) Requirements in Paragraph (f) for local governments to assume ultimate responsibility for operation and maintenance of high-density stormwater controls, to enforce compliance, to collect fees, and other measures;
 - (ii) Variance procedures in Paragraph (r);
 - (iii) Assumption of local programs by the Commission in Paragraph (x); and
 - (iv) Delegation of Commission authorities to the Director in Paragraph (aa).

1 (4) RULE IMPLEMENTATION. This Rule shall be implemented as follows:

2 ~~(a) Within 18 months after the effective date of this Rule, the Division shall submit a model~~
3 ~~local stormwater program, including a model local ordinance, in conjunction with similar~~
4 ~~requirements in 15A NCAC 02B .0266, that embodies the criteria described in Item (3) of~~
5 ~~this Rule to the Commission for approval. The model program shall include a tool that~~
6 ~~will allow developers to account for nutrient loading from development lands and loading~~
7 ~~changes due to BMP implementation to meet the requirements of Item (3) of this Rule.~~
8 ~~The accounting tool shall utilize nutrient efficiencies and associated design criteria~~
9 ~~established for individual BMPs in the July 2007 version of the Stormwater Best~~
10 ~~Management Practices Manual published by the Division, or other at least technically~~
11 ~~equivalent standards acceptable to the Division. The Division shall work in cooperation~~
12 ~~with subject local governments and other watershed interests in developing this model~~
13 ~~program;~~

14 ~~(b) Within six months after the Commission's approval of the model local stormwater~~
15 ~~program and model ordinance, subject local governments shall submit stormwater~~
16 ~~management programs, in conjunction with similar requirements in 15A NCAC 02B~~
17 ~~.0266, to the Division for preliminary approval. These local programs shall meet or~~
18 ~~exceed the requirements in Item (3) of this Rule;~~

19 ~~(c) Within 15 months after the Commission's approval of the model local stormwater~~
20 ~~program, the Division shall provide recommendations to the Commission on local~~
21 ~~stormwater programs. The Commission shall either approve the programs or require~~
22 ~~changes based on the standards set out in Item (3) of this Rule. Should the Commission~~
23 ~~require changes, the applicable local government shall have two months to submit~~
24 ~~revisions, and the Division shall provide follow up recommendations to the Commission~~
25 ~~within two months after receiving revisions;~~

26 ~~(d)(a) Within three months after the Commission's approval of a local program, or upon the~~
27 ~~Division's first renewal of a local government's NPDES stormwater permit, whichever~~
28 ~~occurs later, By August 10, 2014, the affected local government governments shall~~
29 ~~complete adoption of and implement its their local stormwater management program as~~
30 ~~approved by the Commission in May or September 2012. Programs met the requirements~~
31 ~~of Item (3) of this Rule and were guided by the model local ordinance approved by the~~
32 ~~Commission in March 2011; and~~

33 ~~(e)(b) Upon implementation, subject local governments shall submit annual reports to the~~
34 ~~Division summarizing their activities in implementing each of the requirements in Item~~
35 ~~(3) of this Rule, including changes to nutrient loading due to implementation of Sub-Item~~
36 ~~(3)(a) of this Rule.~~

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1 (5) RELATIONSHIP TO OTHER REQUIREMENTS. Local governments shall have the following
2 options with regard to satisfying the requirements of other rules in conjunction with this Rule:

3 (a) A local government may in its program submittal under Sub-Item (4)(b) of this Rule
4 request that the Division accept the local government's implementation of another
5 stormwater program or programs, such as NPDES municipal stormwater requirements, as
6 satisfying one or more of the requirements set forth in Item (3) of this Rule. The Division
7 will provide determination on acceptability of any such alternatives prior to requesting
8 Commission approval of local programs as required in Sub-Item (4)(c) of this Rule. The
9 local government shall include in its program submittal technical information
10 demonstrating the adequacy of the alternative requirements.

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12 *History Note:* Authority G.S. 143-214.1; 143-214.5; 143-214.7; 143-214.12; 143-214.21; 143-215.3(a)(1); 143-
13 215.6A; 143-215.6B; 143-215.6C; 143 215.8B; 143B-282(c); 143B-282(d); S.L. 2005-190; S.L.
14 2006-259; S.L. 2009-216; S.L. 2009-484; S.L. 2012-2000; 2012-201;
15 *Eff. August 11, 2009;*
16 *See S.L. 2009-216 and S.L. 2009-484. Amended Eff. July 1, 2014 (Pending Legislative Review)*

APPENDIX

1 15A NCAC 02B .0266 is proposed for adoption as follows:
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4 **15A NCAC 02B .0266 JORDAN WATER SUPPLY NUTRIENT STRATEGY: STORMWATER**
5 **MANAGEMENT FOR EXISTING DEVELOPMENT**

6 This Rule is the stormwater strategy to control nutrient loading from existing development. The Division shall
7 determine whether nutrient load reduction measures for existing development are necessary in each subwatershed of
8 Jordan Reservoir. The Division shall require implementation of reasonable nutrient load reduction measures for
9 existing development in each subwatershed of the Jordan Reservoir, as provided in this Rule and in accordance with
10 a staged, adaptive management program.

11 (1) PURPOSE. The purposes of this Rule are as follows:

12 (a) To improve the management of stormwater runoff from existing development in the
13 Jordan Watershed to contribute toward nitrogen and phosphorus loading goals identified
14 in 15A NCAC 02B .0262; and

15 (b) To contribute to the restoration of water quality in the Jordan Reservoir as specified in
16 Rule 15A NCAC 02B .0262.

17 (2) APPLICABILITY. This Rule shall apply to municipalities and counties located in whole or in
18 part in the Jordan Watershed as identified in Rule 15A NCAC 02B .0262 (7).

19 (3) STAGE 1 PROGRAM REQUIREMENTS. Municipalities and counties located in whole or in
20 part in the Jordan watershed shall implement a Stage 1 adaptive management program to control
21 nutrient loading from existing development in the Jordan watershed. watershed, as required in
22 ~~S.L. 2009-216.~~The Stage 1 adaptive management program shall meet the requirements set out in
23 40 CFR § 122.34 as applied by the Division in the NPDES General Permit for municipal separate
24 storm sewer systems in effect on July 1, 2009. Local governments shall report annually to the
25 Division on implementation progress on the following Stage 1 program elements:

26 (a) Public education to inform the public of the impacts of nutrient loading and measures that
27 can be implemented to reduce nutrient loading from stormwater runoff from existing
28 development.

29 (b) Mapping that includes major components of the municipal separate storm sewer system,
30 including the location of major outfalls, as defined in 40 CFR §122.26(b)(5) (July 1,
31 2008) and the names and location of all waters of the United States that receive
32 discharges from those outfalls, land use types, and location of sanitary sewers.

33 (c) Identification and remove illegal discharges.

34 (d) Identification of opportunities for retrofits and other projects to reduce nutrient loading
35 from existing developed lands.

36 (e) Maintenance of best management practices implemented by the local government.

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1 (4) NUTRIENT MONITORING. The Division shall maintain an ongoing program to monitor water
2 quality in each arm of Jordan Reservoir. The Division shall also accept water quality sampling
3 data from a monitoring program implemented by a local government or nonprofit organization if
4 the data meets quality assurance standards established by the Division. On March 1, 2014, the
5 Division shall report the results of monitoring in each arm of Jordan Reservoir to the
6 Environmental Review Commission. The Division shall submit an updated monitoring report
7 under this Item every three years thereafter until such time as the lake is no longer impaired by
8 nutrient pollution.

9 (5) STAGE 2 ADAPTIVE IMPLEMENTATION. The Division shall review monitoring described in
10 Item (4) of this Rule to decide whether to implement a Stage 2 adaptive management program to
11 control nutrient loading from existing development to achieve nutrient-related water quality
12 standards in Jordan Lake. The Division shall use the following conditions to identify local
13 governments that need to develop and implement a Stage 2 program:

14 (a) If the March 1, 2014 monitoring report or any subsequent monitoring report for the
15 Upper New Hope Creek Arm of Jordan Reservoir required under Item (4) of this Rule
16 shows that nutrient-related water quality standards are not being achieved, a municipality
17 or county located in whole or in part in the subwatershed of that arm of Jordan Reservoir
18 shall develop and implement a Stage 2 program within the subwatershed, as provided in
19 this Rule.

20 (b) If the March 1, 2017 monitoring report or any subsequent monitoring report for the Haw
21 River Arm or the Lower New Hope Creek Arm of Jordan Reservoir required under Item
22 (4) of this Rule shows that nutrient-related water quality standards are not being
23 achieved, a municipality or county located in whole or in part in the subwatershed of that
24 arm of Jordan Reservoir shall develop and implement a Stage 2 program within the
25 subwatershed, as provided in this Rule.

26 (c) The Division shall defer development and implementation of Stage 2 programs required
27 in a subwatershed by this Item if it determines that additional reductions in nutrient
28 loading from existing development in that subwatershed will not be necessary to achieve
29 nutrient-related water quality standards. In making this determination, the Division shall
30 consider the anticipated effect of measures implemented or scheduled to be implemented
31 to reduce nutrient loading from sources in the subwatershed other than existing
32 development. If any subsequent monitoring report for an arm of Jordan Reservoir
33 required under Item (4) of this Rule shows that nutrient-related water quality standards
34 have not been achieved, the Division shall notify the municipalities and counties located
35 in whole or in part in the subwatershed of that arm of Jordan Reservoir and the
36 municipalities and counties shall develop and implement a Stage 2 adaptive management
37 program as provided in this Item.

APPENDIX

- 1 (6) NOTIFICATION OF STAGE 2 REQUIREMENTS. Based on findings under Item (5) of this
2 Rule, the Division shall notify the local governments in each subwatershed that either:
3 (a) Implementation of a Stage 2 program will be necessary to achieve water quality standards
4 in an arm of the reservoir and direct the municipalities and counties in the subwatershed
5 to develop a load reduction program in compliance with this Item; or
6 (b) Implementation of a Stage 2 program is not necessary at that time but will be reevaluated
7 in three years based on the most recent water quality monitoring information.
- 8 (7) STAGE 2 LOAD GOALS. The Division shall establish a load reduction goal for existing
9 development for each municipality and county required to implement a Stage 2 program. The load
10 reduction goal shall be designed to achieve, relative to the baseline period 1997 through 2001, an
11 eight percent (8%) reduction in nitrogen loading and a five percent (5%) reduction in phosphorus
12 loading reaching Jordan Reservoir from existing developed lands within the police power
13 jurisdiction of the local government. The baseline load shall be calculated by applying the Tar-
14 Pamlico Nutrient Export Calculation Worksheet, Piedmont Version, dated October 2004, to
15 acres of different types of existing development within the police power jurisdiction of the
16 local government during the baseline period. The baseline load may also be calculated using an
17 equivalent or more accurate method acceptable to the Division and recommended by the Nutrient
18 Scientific Advisory Board established pursuant to Section 4(a) of S.L. 2009-216. The baseline
19 load for a municipality or county shall not include nutrient loading from lands under State or
20 federal control or lands in agriculture or forestry. The load reduction goal shall be adjusted to
21 account for nutrient loading increases from lands developed subsequent to the baseline period but
22 prior to implementation of new development stormwater programs.
- 23 (8) A local government receiving notice of the requirement to develop and implement a Stage 2
24 program under Item (6) of this Rule shall not be required to submit a program if the local
25 government demonstrates that it has already achieved the reductions in nutrient loadings required
26 under Item (7) of this Rule.
- 27 (9) MODEL STAGE 2 PROGRAM. ~~No later than July 1, 2013, the Division shall submit a model~~
28 ~~Stage 2 adaptive management program to control nutrient loading from existing development to~~
29 ~~the Commission for approval.~~The Commission approved model program to control nutrient
30 loading from existing development ~~shall identify~~ shall be provided to local governments
31 ~~developing a Stage 2 program to control nutrient loading from existing development as described~~
32 ~~under Item (10) of this Rule. This model program was produced by the Division under~~
33 ~~consideration of comments from municipalities and counties listed in 15A NCAC 02B .0262(7)~~
34 ~~and recommendations from the Nutrient Scientific Advisory Board. The model program identifies~~
35 specific load reduction practices and programs and reduction credits associated with each practice
36 or program and shall provide that a local government may obtain additional or alternative load-
37 reduction credits based on site-specific monitoring data. ~~In developing the model program, the~~

APPENDIX

~~Division shall consider the findings and recommendations of the Nutrient Scientific Advisory Board established pursuant to Section 4(a) of S.L. 2009-216 and comments submitted by municipalities and counties identified in 15A NCAC 02B .0262(7) (Jordan Water Supply Nutrient Strategy: Purpose and Scope). The Commission shall review the model program and either approve the program or return it to the Division with requested changes. The Division shall revise the model program to address changes requested by the Commission. The Commission shall approve a final model program no later than December 31, 2013.~~

(10) STAGE 2 IMPLEMENTATION. The following process shall be applied for local governments subject to the requirement to develop and implement a Stage 2 adaptive management program.

(a) Within six months after receiving notice to develop and implement a Stage 2 program as described in Sub-Item (6)(a) of this Rule, each local government that has not received Division approval for having achieved the required reductions as specified in Item (8) of this Rule shall submit to the Commission a program that is designed to achieve the reductions in nutrient loadings established by the Division pursuant to Item (7) of this Rule. A local government program may include nutrient management strategies that are not included in the model program developed pursuant to Item (9) of this Rule in addition to or in place of any component of the model program. In addition, a local government may satisfy the requirements of this Item through reductions in nutrient loadings from other sources in the same subwatershed to the extent those reductions go beyond measures otherwise required by statute or rule. A local government may also work with other local governments within the same subwatershed to collectively meet the required reductions in nutrient loadings from existing development within their combined jurisdictions. Any credit for reductions achieved or obtained outside of the police power jurisdiction of a local government shall be adjusted based on transport factors established by the Division document Nitrogen and Phosphorus Delivery from Small Watersheds to Jordan Lake, dated June 30, 2002 or an equivalent or more accurate method acceptable to the Division and recommended by the Nutrient Scientific Advisory Board established pursuant to Section 4(a) of S.L. 2009-216.

(b) Within six months following submission of a local government's Stage 2 adaptive management program to control nutrient loading from existing development, the Division shall recommend that the Commission approve or disapprove the program. The Commission shall approve the program if it meets the requirements of this Item, unless the Commission finds that the local government can, through the implementation of reasonable and cost-effective measures not included in the proposed program, meet the reductions in nutrient loading established by the Division pursuant to Item (7) of this Rule by a date earlier than that proposed by the local government. If the Commission finds that there are additional or alternative reasonable and cost-effective measures, the

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1 Commission may require the local government to modify its proposed program to include
2 such measures to achieve the required reductions by the earlier date. If the Commission
3 requires such modifications, the local government shall submit a modified program
4 within two months. The Division shall recommend that the Commission approve or
5 disapprove the modified program within three months after receiving the local
6 government's modified program. In determining whether additional or alternative load
7 reduction measures are reasonable and cost effective, the Commission shall consider
8 factors including, but not limited to, the increase in the per capita cost of a local
9 government's stormwater management program that would be required to implement
10 such measures and the cost per pound of nitrogen and phosphorus removed by such
11 measures. The Commission shall not require additional or alternative measures that
12 would require a local government to:

13 (i) Install or require installation of a new stormwater collection system in an area of
14 existing development unless the area is being redeveloped.

15 (ii) Acquire developed private property.

16 (iii) Reduce or require the reduction of impervious surfaces within an area of
17 existing development unless the area is being redeveloped.

18 (c) Within three months after the Commission's approval of a Stage 2 adaptive management
19 program to control nutrient loading from existing development, the local government
20 shall complete adoption and begin implementation of its program.

21 (11) ADDITIONAL MEASURES TO REDUCE NITROGEN LOADING IN THE UPPER NEW
22 HOPE CREEK SUBWATERSHED. If the March 1, 2023, monitoring report or any subsequent
23 monitoring report for the Upper New Hope Creek Arm of Jordan Reservoir shows that nutrient-
24 related water quality standards are not being achieved, a municipality or county located in whole
25 or in part in the Upper New Hope Creek Subwatershed shall modify its Stage 2 adaptive
26 management program to control nutrient loading from existing development to achieve additional
27 reductions in nitrogen loading from existing development. The modified Stage 2 program shall be
28 designed to achieve a total reduction in nitrogen loading from existing development of thirty-five
29 percent (35%) relative to the baseline period 1997 through 2001. The Division shall notify local
30 governments of the requirement to submit a modified Stage 2 adaptive management program.
31 Submission, review and approval, and implementation of a modified Stage 2 adaptive
32 management program shall follow the process, timeline, and standards set out Item (10) of this
33 Rule.

34 (12) Each local government implementing a Stage 2 program shall submit an annual report to the
35 Division summarizing its activities in implementing its program.

36 (13) If at any time the Division finds, based on water quality monitoring, that an arm of the Jordan
37 Reservoir has achieved compliance with water quality standards, the Division shall notify the local

APPENDIX

1 governments in the subwatershed. Subject to the approval of the Commission, a local government
2 may modify its Stage 2 adaptive management program to control nutrient loading from existing
3 development to maintain only those measures necessary to prevent increases in nutrient loading
4 from existing development.

5 (14) The Division shall report annually to the Commission regarding the implementation of adaptive
6 management programs to control nutrient loading from existing development in the Jordan
7 watershed.

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9 *History Note: Authority G.S. 143-214.1; 143-214.5; 143-214.7; 143-214.12; 143-214.21; 143-215.3(a)(1); 143-*
10 *215.6A; 143-215.6B; 143-215.6C; 143 215.8B; 143B-282(c); 143B-282(d); S.L. 2005-190; S.L.*
11 *2006-259; S.L. 2009-216;*
12 *Eff. July 1, 2014 (Pending Legislative Review)*

1 15A NCAC 02B .0267 is proposed for amendment as follows:

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15A NCAC 02B .0267 JORDAN WATER SUPPLY NUTRIENT STRATEGEGY: PROTECTION OF EXISTING RIPARIAN BUFFERS

(See S.L. 2009-216 and S.L. 2009-484)

Protection of the nutrient removal and other water quality benefits provided by riparian buffers throughout the watershed is an important element of the overall Jordan water supply nutrient strategy. The following is the strategy for riparian buffer protection and maintenance in the Jordan watershed, as prefaced in 15A NCAC 02B .0262:

- (1) PURPOSE. The purposes of this Rule shall be to protect and preserve existing riparian buffers throughout the Jordan watershed as generally described in 15A NCAC 02B .0262, in order to maintain their nutrient removal and stream protection functions. Additionally this Rule will help protect the water supply uses of Jordan Reservoir and of designated water supplies throughout the Jordan watershed. Local governments shall establish programs to meet or exceed the minimum requirements of this Rule. The requirements of this Rule shall supersede all locally implemented buffer requirements stated in 15A NCAC 02B .0214 through .0216 as applied to WS-II, WS-III, and WS-IV waters in the Jordan watershed. Local governments subject to this Rule may choose to implement more stringent requirements, including requiring additional buffer width.
- (2) DEFINITIONS. For the purpose of this Rule, these terms shall be defined as follows:
 - (a) 'Access Trails' means pedestrian trails constructed of pervious or impervious surfaces and related structures to access a surface water, including boardwalks, steps, rails, and signage.
 - (b) 'Airport Facilities' means all properties, facilities, buildings, structures, and activities that satisfy or otherwise fall within the scope of one or more of the definitions or uses of the words or phrases 'air navigation facility', 'airport', or 'airport protection privileges' under G.S. 63-1; the definition of 'aeronautical facilities' in G.S. 63-79(1); the phrase 'airport facilities' as used in G.S. 159-48(b)(1); the phrase 'aeronautical facilities' as defined in G.S. 159-81 and G.S. 159-97; and the phrase 'airport facilities and improvements' as used in Article V, Section 13, of the North Carolina Constitution, which shall include, without limitation, any and all of the following: airports, airport maintenance facilities, clear zones, drainage ditches, fields, hangars, landing lighting, airport and airport-related offices, parking facilities, related navigational and signal systems, runways, stormwater outfalls, terminals, terminal shops, and all appurtenant areas used or suitable for airport buildings or other airport facilities, and all appurtenant rights-of-way; restricted landing areas; any structures, mechanisms, lights, beacons, marks, communicating systems, or other instrumentalities or devices used or useful as an aid, or constituting an advantage or convenience to the safe taking off, navigation, and landing of aircraft, or the safe and efficient operation or maintenance of an airport or restricted landing area; easements

1 through, or interests in, air space over land or water, interests in airport hazards outside
 2 the boundaries of airports or restricted landing areas, and other protection privileges, the
 3 acquisition or control of which is necessary to ensure safe approaches to the landing areas
 4 of airports and restricted landing areas, and the safe and efficient operation thereof and
 5 any combination of any or all of such facilities. Notwithstanding the foregoing, the
 6 following shall not be included in the definition of 'airport facilities':

- 7 (i) Satellite parking facilities;
- 8 (ii) Retail and commercial development outside of the terminal area, such as rental
 9 car facilities; and
- 10 (iii) Other secondary development, such as hotels, industrial facilities, free-standing
 11 offices and other similar buildings, so long as these facilities are not directly
 12 associated with the operation of the airport, and are not operated by a unit of
 13 government or special governmental entity such as an airport authority, in which
 14 case they are included in the definition of 'airport facilities'.

15 (c) 'Forest management plan' means as defined in Chapter 160A-458.5(4).

16 (d) 'Forest plantation' means an area of planted trees that may be conifers (pines) or
 17 hardwoods. On a plantation, the intended crop trees are planted rather than naturally
 18 regenerated from seed on the site, coppice (sprouting), or seed that is blown or carried
 19 into the site.

20 (e) 'Greenway / Hiking Trails' means pedestrian trails constructed of pervious or impervious
 21 surfaces and related structures including but not limited to boardwalks, steps, rails, and
 22 signage, and that generally run parallel to the shoreline.

23 (f) 'High Value Tree' means a tree that meets or exceeds the following standards: for pine
 24 species, 14-inch DBH or greater or 18-inch or greater stump diameter; or for hardwoods
 25 and wetland species, 16-inch DBH or greater or 24-inch or greater stump diameter.

26 (g) 'Shoreline stabilization' is the in-place stabilization of an eroding shoreline. Stabilization
 27 techniques which include "soft" methods or natural materials (such as root wads, or rock
 28 vanes) may be considered as part of a restoration design. However, stabilization
 29 techniques that consist primarily of "hard" engineering, such as concrete lined channels,
 30 riprap, or gabions, while providing bank stabilization, shall not be considered stream
 31 restoration.

32 (h) 'Stream restoration' is defined as the process of converting an unstable, altered or
 33 degraded stream corridor, including adjacent riparian zone and flood-prone areas to its
 34 natural or referenced, stable conditions considering recent and future watershed
 35 conditions. This process also includes restoring the geomorphic dimension, pattern, and
 36 profile as well as biological and chemical integrity, including transport of water and
 37 sediment produced by the stream's watershed in order to achieve dynamic equilibrium.

1 'Referenced' or 'referenced reach' means a stable stream that is in dynamic equilibrium
2 with its valley and contributing watershed. A reference reach can be used to develop
3 natural channel design criteria for stream restoration projects.

4 (i) 'Stump diameter' means the diameter of a tree measured at six inches above the ground
5 surface level.

6 (j) 'Temporary road' means a road constructed temporarily for equipment access to build or
7 replace hydraulic conveyance structures such as bridges, culverts, pipes or water
8 dependent structures, or to maintain public traffic during construction.

9 (3) APPLICABILITY. This Rule applies to all landowners and other persons conducting activities in
10 the Jordan watershed, including state and federal entities, and to all local governments in the
11 Jordan watershed, as described in 15A NCAC 02B .0262. Local governments shall develop
12 riparian buffer protection programs for approval by the Commission, incorporating the minimum
13 standards set out throughout this Rule and shall apply the requirements of this Rule throughout
14 their jurisdictions within the Jordan watershed except where The Division shall exercise
15 jurisdiction. For the following types of buffer activities in the Jordan watershed, wherever local
16 governments are referenced in this Rule, the Division shall implement applicable requirements to
17 the exclusion of local governments:

18 (a) Activities conducted under the authority of the State.

19 (b) Activities conducted under the authority of the United States.

20 (c) Activities conducted under the authority of multiple jurisdictions.

21 (d) Activities conducted under the authority of local units of government.

22 (e) Forest harvesting activities described in Item (14) of this Rule.

23 (f) Agricultural activities.

24 (g) Activities conducted in a location where there is no local government program
25 implementing NPDES stormwater requirements, Water Supply Watershed requirements,
26 or a voluntary local stormwater or buffer initiative at the time of the activity.

27 (4) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated
28 buffers:

29 (a) This Rule shall apply to activities conducted within, or outside of with impacts upon, 50-
30 foot wide riparian buffers directly adjacent to surface waters in the Jordan watershed
31 (intermittent streams, perennial streams, lakes, reservoirs and ponds), excluding wetlands.

32 Activities conducted outside of such buffers that alter the hydrology in violation of the
33 diffuse flow requirements set out in Item (8) shall be prohibited.

34 (b) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be
35 considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H
36 .0506.

- 1 (c) A surface water shall be subject to this Rule if the feature is approximately shown on any
 2 of the following references, and shall not be subject if it does not appear on any of these
 3 references:
- 4 (i) The most recent version of the soil survey map prepared by the Natural
 5 Resources Conservation Service of the United States Department of Agriculture.
- 6 (ii) The most recent version of the 1:24,000 scale (7.5 minute) quadrangle
 7 topographic maps prepared by the United States Geologic Survey (USGS).
- 8 (iii) ~~The maps~~ Maps approved by the ~~Commission~~ Geographic Information
 9 Coordinating Council and by the Commission, as more accurate than those
 10 identified in Sub Item (4)(c)(i) and (4)(c)(ii) of this Rule. Prior to approving
 11 such maps, the Commission shall provide a 30-day public notice and
 12 opportunity for comment. Maps approved under this sub-item shall not apply to
 13 projects that are existing and ongoing within the meaning of this Rule as set out
 14 in Item (6).
- 15 (d) Where the specific origination point of a stream regulated under this Item is in question,
 16 upon request of the Division or another party, the local government shall make an on-site
 17 determination. A local government representative who has successfully completed the
 18 Division's *Surface Water Identification Training Certification* course, its successor, or
 19 other equivalent training curriculum approved by the Division, shall establish that point
 20 using the latest version of the Division publication, *Identification Methods for the Origins*
 21 *of Intermittent and Perennial Streams*, available at
 22 http://h2o.enr.state.nc.us/newetlands/documents/NC_Stream_ID_Manual.pdf
 23 <http://portal.ncdenr.org/web/wq/swp/ws/401/waterresources/streamdeterminations> or
 24 from the Division of Water Quality, 401/Wetlands Unit, 1650 Mail Service Center,
 25 Raleigh, NC, 27699-1650. A local government may accept the results of a site
 26 assessment made by another party who meets these criteria. Any disputes over on-site
 27 determinations made according to this Sub-Item shall be referred to the Director in
 28 writing. The Director's determination is subject to review as provided in Articles 3 and 4
 29 of G.S. 150B.
- 30 (e) Riparian buffers protected by this Rule shall be measured pursuant to Item (7) of this
 31 Rule.
- 32 (f) Parties subject to this rule shall abide by all State rules and laws regarding waters of the
 33 state including but not limited to 15A NCAC 02H .0500, 15A NCAC 02H .1300, and
 34 Sections 401 and 404 of the Federal Water Pollution Control Act.
- 35 (g) A riparian buffer may be exempt from this Rule as described in Item (5) or (6) of this
 36 Rule.

(h) No new clearing, grading, or development shall take place nor shall any new building permits be issued in violation of this Rule.

(5) EXEMPTION BASED ON ON-SITE DETERMINATION. When a landowner or other affected party including the Division believes that the maps have inaccurately depicted surface waters, he or she shall consult the appropriate local government. Upon request, a local government representative who has successfully completed the Division's *Surface Water Identification Training Certification* course, its successor, or other equivalent training curriculum approved by the Division, shall make an on-site determination. Local governments may also accept the results of site assessments made by other parties who have successfully completed such training. Any disputes over on-site determinations shall be referred to the Director in writing. A determination of the Director as to the accuracy or application of the maps is subject to review as provided in Articles 3 and 4 of G.S. 150B. Surface waters that appear on the maps shall not be subject to this Rule if a site evaluation reveals any of the following cases:

(a) Man-made ponds and lakes that are not part of a natural drainage way that is classified in accordance with 15A NCAC 02B .0100, including ponds and lakes created for animal watering, irrigation, or other agricultural uses. A pond or lake is part of a natural drainage way when it is fed by an intermittent or perennial stream or when it has a direct discharge point to an intermittent or perennial stream.

(b) Ephemeral streams.

(c) The absence on the ground of a corresponding intermittent or perennial stream, lake, reservoir, or pond.

(d) Ditches or other man-made water conveyances, other than modified natural streams.

(6) EXEMPTION WHEN EXISTING USES ARE PRESENT AND ONGOING. This Rule shall not apply to uses that are existing and ongoing; however, this Rule shall apply at the time an existing, ongoing use is changed to another use. Change of use shall involve the initiation of any activity that does not meet either of the following criteria for existing, ongoing activity:

(a) It was present within the riparian buffer as of the effective date of a local program enforcing this Rule and has continued to exist since that time. For any Division-administered activities listed in Item (3) of this Rule, a use shall be considered existing and ongoing if it was present within the riparian buffer as of the Rule's effective date of ~~this Rule~~ August 11, 2009 and has continued to exist since that time. Existing uses shall include agriculture, buildings, industrial facilities, commercial areas, transportation facilities, maintained lawns, utility lines and on-site sanitary sewage systems, any of which involve either specific, periodic management of vegetation or displacement of vegetation by structures or regular activity. Only the portion of the riparian buffer occupied by the footprint of the existing use is exempt from this Rule. Change of ownership through purchase or inheritance is not a change of use. Activities necessary to

1 maintain uses are allowed provided that the site remains similarly vegetated, no
 2 impervious surface is added within 50 feet of the surface water where it did not
 3 previously exist as of the effective date of a local program enforcing this Rule, or for
 4 Division-administered activities listed in Item (3) of this Rule as of the Rule's effective
 5 date of ~~this Rule~~ August 11, 2009, and existing diffuse flow is maintained. Grading and
 6 revegetating Zone Two is allowed provided that the health of the vegetation in Zone One
 7 is not compromised, the ground is stabilized and existing diffuse flow is maintained.

8 (b) Projects or proposed development that are determined by the local government to meet at
 9 least one of the following criteria:

10 (i) Project requires a 401 Certification/404 Permit and these were issued prior to the
 11 effective date of the local program enforcing this Rule, and prior to the August
 12 11, 2009 effective date of this Rule for Division-administered activities listed in
 13 Item (3) of this Rule;

14 (ii) Projects that require a state permit, such as landfills, NPDES wastewater
 15 discharges, land application of residuals and road construction activities, have
 16 begun construction or are under contract to begin construction and had received
 17 all required state permits and certifications prior to the effective date of the local
 18 program implementing this Rule, and prior to the August 11, 2009 effective date
 19 of this Rule for Division-administered activities listed in Item (3) of this Rule;

20 (iii) Projects that are being reviewed through the Clean Water Act Section
 21 404/National Environmental Policy Act Merger 01 Process (published by the US
 22 Army Corps of Engineers and Federal Highway Administration, 2003) or its
 23 immediate successor and that have reached agreement with DENR on avoidance
 24 and minimization by the effective date of the local program enforcing this Rule,
 25 and prior to the August 11, 2009 effective date of this Rule for state and federal
 26 entities; or

27 (iv) Projects that are not required to be reviewed by the Clean Water Act Section
 28 404/National Environmental Policy Act Merger 01 Process (published by the US
 29 Army Corps of Engineers and Federal Highway Administration, 2003) or its
 30 immediate successor if a Finding of No Significant Impact has been issued for
 31 the project and the project has the written approval of the local government prior
 32 to the effective date of the local program enforcing this Rule, or the written
 33 approval of the Division prior to the August 11, 2009 effective date of this Rule
 34 for state and federal entities.

35 (7) ZONES OF THE RIPARIAN BUFFER. The protected riparian buffer shall have two zones as
 36 follows:

- 1 (a) Zone One shall consist of a vegetated area that is undisturbed except for uses provided
2 for in Item (9) of this Rule. The location of Zone One shall be as follows:
- 3 (i) For intermittent and perennial streams, Zone One shall begin at the top of the
4 bank and extend landward a distance of 30 feet on all sides of the surface water,
5 measured horizontally on a line perpendicular to a vertical line marking the top
6 of the bank.
- 7 (ii) For ponds, lakes and reservoirs located within a natural drainage way, Zone One
8 shall begin at the normal water level and extend landward a distance of 30 feet,
9 measured horizontally on a line perpendicular to a vertical line marking the
10 normal water level.
- 11 (b) Zone Two shall consist of a stable, vegetated area that is undisturbed except for uses
12 provided for in Item (9) of this Rule. Grading and revegetating in Zone Two is allowed
13 provided that the health of the vegetation in Zone One is not compromised. Zone Two
14 shall begin at the outer edge of Zone One and extend landward 20 feet as measured
15 horizontally on a line perpendicular to the surface water. The combined width of Zones
16 One and Two shall be 50 feet on all sides of the surface water.
- 17 (8) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian
18 buffer by dispersing concentrated flow prior to its entry into the buffer and reestablishing
19 vegetation as follows:
- 20 (a) Concentrated runoff from new ditches or manmade conveyances shall be converted to
21 diffuse flow at non-erosive velocities before the runoff enters Zone Two of the riparian
22 buffer;
- 23 (b) Periodic corrective action to restore diffuse flow shall be taken as necessary and shall be
24 designed to impede the formation of erosion gullies; and
- 25 (c) As set out in Items (7) and (9) of this Rule, no new stormwater conveyances are allowed
26 through the buffers except for those specified in Item (9) of this Rule addressing
27 stormwater management ponds, drainage ditches, roadside ditches, and stormwater
28 conveyances.
- 29 (9) TABLE OF USES. The following chart sets out potential new uses within the buffer, or outside
30 the buffer with impacts on ~~diffuse flow through~~ the buffer, and categorizes them as exempt,
31 allowable, or allowable with mitigation. All uses not categorized as exempt, allowable, or
32 allowable with mitigation are considered prohibited and may not proceed within the riparian
33 buffer or outside the buffer if the use would impact diffuse flow through the buffer, unless a
34 variance is granted pursuant to Item (12) of this Rule. The requirements for each category are
35 given in Item (10) of this Rule.
- 36

APPENDIX

1

Use	Exempt*	Allowable*	Allowable with Mitigation*
<p>Access trails: Pedestrian access trails leading to the surface water, docks, fishing piers, boat ramps and other water dependent activities:</p> <ul style="list-style-type: none"> • Pedestrian access trails that are restricted to the minimum width practicable and do not exceed 4 feet in width of buffer disturbance, and provided that installation and use does not result in removal of trees as defined in this Rule and no impervious surface is added to the riparian buffer • Pedestrian access trails that exceed 4 feet in width of buffer disturbance, the installation or use results in removal of trees as defined in this Rule or impervious surface is added to the riparian buffer 	X	X	
<p>Airport facilities:</p> <ul style="list-style-type: none"> • Airport facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer • Airport facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer • Activities necessary to comply with FAA requirements (e.g. radar uses or landing strips)¹ 		X	X
Archaeological activities	X		
Bridges		X	
Canoe Access provided that installation and use does not result in removal of trees as defined in this Rule and no impervious surface is added to the buffer.	X		

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
Dam maintenance activities: <ul style="list-style-type: none"> • Dam maintenance activities that do not cause additional buffer disturbance beyond the footprint of the existing dam or those covered under the U.S. Army Corps of Engineers Nationwide Permit No. 3 • Dam maintenance activities that do cause additional buffer disturbance beyond the footprint of the existing dam or those not covered under the U.S. Army Corps of Engineers Nationwide Permit No.3 	X	X	

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

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Use	Exempt*	Allowable*	Allowable with Mitigation*
<p>Drainage ditches, roadside ditches and stormwater conveyances through riparian buffers:</p> <ul style="list-style-type: none"> • New stormwater flows to existing drainage ditches, roadside ditches, and stormwater conveyances provided flows do not alter or result in the need to alter the conveyance and are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies. • Realignment of existing roadside drainage ditches retaining the design dimensions, provided that no additional travel lanes are added and the minimum required roadway typical section is used based on traffic and safety considerations. • New or altered drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control nutrients and attenuate flow before the conveyance discharges through the riparian buffer • New drainage ditches, roadside ditches and stormwater conveyances applicable to linear projects that do not provide a stormwater management facility due to topography constraints provided that other practicable BMPs are employed. 	<p>X</p>	<p>X</p> <p>X</p>	<p>X</p>

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
Grading and revegetation in Zone Two provided that diffuse flow and the health of existing vegetation in Zone One is not compromised and disturbed areas are stabilized until they are revegetated.	X		
Greenway/hiking trails designed, constructed and maintained to maximize nutrient removal and erosion protection, minimize adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practical.		X	
Historic preservation	X		
Maintenance access on modified natural streams: a grassed travel way on one side of the water body when less impacting alternatives are not practical. The width and specifications of the travel way shall be only that needed for equipment access and operation. The travel way shall be located to maximize stream shading.		X	
<p>Mining activities:</p> <ul style="list-style-type: none"> • Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the requirements of Items (7) and (8) of this Rule are established adjacent to the relocated channels • Mining activities that are not covered by the Mining Act OR where new riparian buffers that meet the requirements or Items (7) and (8) of this Rule are not established adjacent to the relocated channels • Wastewater or mining dewatering wells with approved NPDES permit 	X	X	X

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
Playground equipment: <ul style="list-style-type: none"> • Playground equipment on single family lots provided that installation and use does not result in removal of vegetation • Playground equipment installed on lands other than single-family lots or that requires removal of vegetation 	X	X	
Ponds created by impounding streams and not used as stormwater BMPs: <ul style="list-style-type: none"> • New ponds provided that a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is established adjacent to the pond • New ponds where a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is NOT established adjacent to the pond 		X	X
Protection of existing structures, facilities and stream banks when this requires additional disturbance of the riparian buffer or the stream channel		X	
Railroad impacts other than crossings of streams and other surface waters subject to this Rule.			X

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
<p>Railroad crossings of streams and other surface waters subject to this Rule:</p> <ul style="list-style-type: none"> • Railroad crossings that impact equal to or less than 40 linear feet of riparian buffer • Railroad crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer • Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer 	X	X	X
<p>Recreational and accessory structures in Zone Two:</p> <ul style="list-style-type: none"> • Sheds and gazebos in Zone Two, provided they are not prohibited under local water supply ordinance: <ul style="list-style-type: none"> ○ Total footprint less than or equal to 150 square feet per lot. ○ Total footprint greater than 150 square feet per lot. • Wooden slatted decks and associated steps, provided the use meets the requirements of Items (7) and (8) of this Rule: <ul style="list-style-type: none"> ○ Deck at least eight feet in height and no vegetation removed from Zone One. ○ Deck less than eight feet in height or vegetation removed from Zone One. 		X X X X	X X X
<p>Removal of previous fill or debris provided that diffuse flow is maintained and vegetation is restored</p>	X		
<p>Road impacts other than crossings of streams and other surface waters subject to this Rule</p>			X

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
Road crossings of streams and other surface waters subject to this Rule: <ul style="list-style-type: none"> • Road crossings that impact equal to or less than 40 linear feet of riparian buffer • Road crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer • Road crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer 	X	X	X
Road relocation: Relocation of existing private access roads associated with public road projects where necessary for public safety: <ul style="list-style-type: none"> • Less than or equal to 2,500 square feet of buffer impact • Greater than 2,500 square feet of buffer impact 		X	X
Stormwater BMPs: <ul style="list-style-type: none"> • Wet detention, bioretention, and constructed wetlands in Zone Two if diffuse flow of discharge is provided into Zone One • Wet detention, bioretention, and constructed wetlands in Zone One 		X	X
Scientific studies and stream gauging	X		
Streambank or shoreline stabilization		X	

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
<p>Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation: At the end of five years the restored buffer shall comply with the restoration criteria in Item (8) of 15A NCAC 02B .0268:</p> <ul style="list-style-type: none"> • Less than or equal to 2,500 square feet of buffer disturbance • Greater than 2,500 square feet of buffer disturbance • Associated with culvert installation or bridge construction or replacement. 	<p>X</p>	<p>X</p> <p>X</p>	

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
Utility, electric, aerial, perpendicular crossings of streams and other surface waters subject to this Rule ^{2,3,5} : <ul style="list-style-type: none"> • Disturb equal to or less than 150 linear feet of riparian buffer • Disturb greater than 150 linear feet of riparian buffer 	X	X	
Utility, electric, aerial, other than perpendicular crossings ⁵ : <ul style="list-style-type: none"> • Impacts in Zone Two • Impacts in Zone One^{2,3} 		X	X
Utility, electric, underground, perpendicular crossings ^{3,4,5} : <ul style="list-style-type: none"> • Disturb less than or equal to 40 linear feet of riparian buffer • Disturb greater than 40 linear feet of riparian buffer 	X	X	
Utility, electric, underground, other than perpendicular crossings ⁴ : <ul style="list-style-type: none"> • Impacts in Zone Two • Impacts in Zone One¹ 	X X		

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

APPENDIX

Use	Exempt*	Allowable*	Allowable with Mitigation*
<p>Vegetation management:</p> <ul style="list-style-type: none"> • Emergency fire control measures provided that topography is restored • Mowing or harvesting of plant products in Zone Two • Planting vegetation to enhance the riparian buffer • Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised • Removal of individual trees that are in danger of causing damage to dwellings, other structures or human life, or are imminently endangering stability of the streambank. • Removal of individual trees which are dead, diseased or damaged. • Removal of poison ivy • Removal of invasive exotic vegetation as defined in: <p><i>Smith, Cherri L. 1998. Exotic Plant Guidelines. Dept. of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30</i></p>	<p>X</p> <p>X</p> <p>X</p> <p>X</p> <p>X</p> <p>X</p> <p>X</p> <p>X</p>		
<p>Vehicular access roads leading to water-dependent structures as defined in 15A NCAC 02B .0202, provided they do not cross the surface water and have minimum practicable width not exceeding ten feet.</p>		X	
<p>Water dependent structures as defined in 15A NCAC 02B .0202 where installation and use result in disturbance to riparian buffers.</p>		X	

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

Use	Exempt*	Allowable*	Allowable with Mitigation*
Water supply reservoirs: <ul style="list-style-type: none"> • New reservoirs where a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is established adjacent to the reservoir • New reservoirs where a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is not established adjacent to the reservoir 		X	X
Water wells <ul style="list-style-type: none"> • Single family residential water wells • All other water wells 	X	X	
Wetland, stream and buffer restoration that results in impacts to the riparian buffers: <ul style="list-style-type: none"> • Wetland, stream and buffer restoration that requires Division approval for the use of a 401 Water Quality Certification • Wetland, stream and buffer restoration that does not require Division approval for the use of a 401 Water Quality Certification 	X	X	
Wildlife passage structures		X	

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* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

- ¹ Provided that:
- No heavy equipment is used in Zone One.
 - Vegetation in undisturbed portions of the buffer is not compromised.
 - Felled trees are removed by chain.
 - No permanent felling of trees occurs in protected buffers or streams.
 - Stumps are removed only by grinding.
 - At the completion of the project the disturbed area is stabilized with native vegetation.
 - Zones one and two meet the requirements of Sub-Items (7) and (8) of this Rule.

1 2 Provided that, in Zone One, all of the following BMPs for overhead utility lines are used.
2 If all of these BMPs are not used, then the overhead utility lines shall require a no
3 practical alternative evaluation by the local government, as defined in Item (11) of this
4 Rule.

- 5 • A minimum zone of 10 feet wide immediately adjacent to the water body shall be
6 managed such that only vegetation that poses a hazard or has the potential to grow tall
7 enough to interfere with the line is removed.
- 8 • Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- 9 • Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps
10 shall remain where trees are cut.
- 11 • Riprap shall not be used unless it is necessary to stabilize a tower.
- 12 • No fertilizer shall be used other than a one-time application to re-establish vegetation.
- 13 • Construction activities shall minimize the removal of woody vegetation, the extent of the
14 disturbed area, and the time in which areas remain in a disturbed state.
- 15 • Active measures shall be taken after construction and during routine maintenance to
16 ensure diffuse flow of stormwater through the buffer.
- 17 • In wetlands, mats shall be utilized to minimize soil disturbance.

18 3 Provided that poles or aerial infrastructure shall not be installed within 10 feet of a water
19 body unless the local government completes a no practical alternative evaluation as
20 defined in Item (11) of this Rule.

21 4 Provided that, in Zone One, all of the following BMPs for underground utility lines are
22 used. If all of these BMPs are not used, then the underground utility line shall require a
23 no practical alternative evaluation by the local government, as defined in Item (11) of this
24 Rule.

- 25 • Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- 26 • Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps
27 shall remain, except in the trench where trees are cut.
- 28 • Underground cables shall be installed by vibratory plow or trenching.
- 29 • The trench shall be backfilled with the excavated soil material immediately following
30 cable installation.
- 31 • No fertilizer shall be used other than a one-time application to re-establish vegetation.
- 32 • Construction activities shall minimize the removal of woody vegetation, the extent of the
33 disturbed area, and the time in which areas remain in a disturbed state.
- 34 • Measures shall be taken upon completion of construction and during routine maintenance
35 to ensure diffuse flow of stormwater through the buffer.
- 36 • In wetlands, mats shall be utilized to minimize soil disturbance.

5 Perpendicular crossings are those that intersect the surface water at an angle between 75
degrees and 105 degrees.

(10) REQUIREMENTS FOR CATEGORIES OF USES. Uses designated in Item (9) of this Rule as
exempt, allowable, and allowable with mitigation within a riparian buffer shall have the following
requirements:

(a) EXEMPT. Uses designated as exempt are permissible without local government
authorization provided that they adhere to the limitations of the activity as defined in Item
(9). In addition, exempt uses shall be designed, constructed and maintained to minimize
soil disturbance and to provide the maximum water quality protection practicable,
including construction, monitoring, and maintenance activities.

(b) ALLOWABLE. Uses designated as allowable may proceed provided that there are no
practical alternatives to the requested use pursuant to Item (11) of this Rule. This
includes construction, monitoring, and maintenance activities. These uses require written
authorization from the local government.

(c) ALLOWABLE WITH MITIGATION. Uses designated as allowable with mitigation
may proceed provided that there are no practical alternatives to the requested use
pursuant to Item (11) of this Rule and an appropriate mitigation strategy has been
approved pursuant to Item (13) of this Rule. These uses require written authorization
from the local government.

(11) DETERMINATION OF "NO PRACTICAL ALTERNATIVES."

(a) Persons who wish to undertake uses designated as allowable or allowable with mitigation
shall submit a request for a "no practical alternatives" determination to the local
government. The applicant shall certify that the project meets all the following criteria for
finding "no practical alternatives":

(i) The basic project purpose cannot be practically accomplished in a manner that
would better minimize disturbance, preserve aquatic life and habitat, and protect
water quality;

(ii) The use cannot practically be reduced in size or density, reconfigured or
redesigned to better minimize disturbance, preserve aquatic life and habitat, and
protect water quality; and

(iii) Best management practices shall be used if necessary to minimize disturbance,
preserve aquatic life and habitat, and protect water quality;

(b) The applicant shall also submit at least the following information in support of their
assertion of "no practical alternatives":

(i) The name, address and phone number of the applicant;

(ii) The nature of the activity to be conducted by the applicant;

(iii) The location of the activity, including the jurisdiction;

- 1 (iv) A map of sufficient detail to accurately delineate the boundaries of the land to be
- 2 utilized in carrying out the activity, the location and dimensions of any
- 3 disturbance in riparian buffers associated with the activity, and the extent of
- 4 riparian buffers on the land;
- 5 (v) An explanation of why this plan for the activity cannot be practically
- 6 accomplished, reduced or reconfigured to better minimize disturbance to the
- 7 riparian buffer, preserve aquatic life and habitat and protect water quality; and
- 8 (vi) Plans for any best management practices proposed to be used to control the
- 9 impacts associated with the activity.
- 10 (c) Within 60 days of a submission that addresses Sub-Item (11)(b) of this Rule, the local
- 11 government shall review the entire project and make a finding of fact as to whether the
- 12 criteria in Sub-Item (11)(a) have been met. A finding of "no practical alternatives" shall
- 13 result in issuance of an Authorization Certificate. Failure to act within 60 days shall be
- 14 construed as a finding of "no practical alternatives" and an Authorization Certificate shall
- 15 be issued to the applicant unless one of the following occurs:
- 16 (i) The applicant agrees, in writing, to a longer period;
- 17 (ii) The local government determines that the applicant has failed to furnish
- 18 requested information necessary to the local government's decision;
- 19 (iii) The final decision is to be made pursuant to a public hearing; or
- 20 (iv) The applicant refuses access to its records or premises for the purpose of
- 21 gathering information necessary to the local government's decision.
- 22 (d) The local government may attach conditions to the Authorization Certificate that support
- 23 the purpose, spirit and intent of the riparian buffer protection program.
- 24 (e) Any appeals of determinations regarding Authorization Certificates shall be referred to
- 25 the Director. The Director's decision is subject to review as provided in G.S. 150B
- 26 Articles 3 and 4.
- 27 (12) VARIANCES. Persons who wish to undertake prohibited uses may pursue a variance. The local
- 28 government may grant minor variances. For major variances, local governments shall prepare
- 29 preliminary findings and submit them to the Commission for approval. The variance request
- 30 procedure shall be as follows:
- 31 (a) For any variance request, the local government shall make a finding of fact as to whether
- 32 there are practical difficulties or unnecessary hardships that prevent compliance with the
- 33 riparian buffer protection requirements. A finding of practical difficulties or unnecessary
- 34 hardships shall require that the following conditions are met:
- 35 (i) If the applicant complies with the provisions of this Rule, he/she can secure no
- 36 reasonable return from, nor make reasonable use of, his/her property. Merely
- 37 proving that the variance would permit a greater profit from the property shall

- 1 not be considered adequate justification for a variance. Moreover, the local
2 government shall consider whether the variance is the minimum possible
3 deviation from the terms of this Rule that shall make reasonable use of the
4 property possible;
- 5 (ii) The hardship results from application of this Rule to the property rather than
6 from other factors such as deed restrictions or other hardship;
 - 7 (iii) The hardship is due to the physical nature of the applicant's property, such as its
8 size, shape, or topography, such that compliance with provisions of this rule
9 would not allow reasonable use of the property;
 - 10 (iv) The applicant did not cause the hardship by knowingly or unknowingly violating
11 this Rule;
 - 12 (v) The applicant did not purchase the property after August 11, 2009, the effective
13 date of this Rule, and then request a variance; and
 - 14 (vi) The hardship is rare or unique to the applicant's property.
- 15 (b) For any variance request, the local government shall make a finding of fact as to whether
16 the variance is in harmony with the general purpose and intent of the State's riparian
17 buffer protection requirements and preserves its spirit; and
- 18 (c) For any variance request, the local government shall make a finding of fact as to whether,
19 in granting the variance, the public safety and welfare have been assured, water quality
20 has been protected, and substantial justice has been done.
- 21 (d) **MINOR VARIANCES.** A minor variance request pertains to activities that will impact
22 only Zone Two of the riparian buffer. Minor variance requests shall be reviewed and
23 approved based on the criteria in Sub-Items (12)(a) through (12)(c) of this Rule by the
24 local government pursuant to G.S. 153A-Article 18, or G.S. 160A-Article 19. The local
25 government may attach conditions to the variance approval that support the purpose,
26 spirit and intent of the riparian buffer protection program. Request for appeals to
27 decisions made by the local governments shall be made in writing to the Director. The
28 Director's decision is subject to review as provided in G.S. 150B Articles 3 and 4.
- 29 (e) **MAJOR VARIANCES.** A major variance request pertains to activities that will impact
30 any portion of Zone One or any portion of both Zones One and Two of the riparian
31 buffer. If the local government has determined that a major variance request meets the
32 requirements in Sub-Items (12)(a) through (12)(c) of this Rule, then it shall prepare a
33 preliminary finding and submit it to the Commission for approval. Within 90 days after
34 receipt by the local government, the Commission shall review preliminary findings on
35 major variance requests and take one of the following actions: approve, approve with
36 conditions and stipulations, or deny the request. Appeals from a Commission decision on
37 a major variance request are made on judicial review to Superior Court.

- 1 (13) MITIGATION. Persons who wish to undertake uses designated as allowable with mitigation shall
2 meet the following requirements in order to proceed with their proposed use:
- 3 (a) Obtain a determination of "no practical alternatives" to the proposed use pursuant to Item
4 (11) of this Rule; and
- 5 (b) Obtain approval for a mitigation proposal pursuant to 15A NCAC 02B .0268.
- 6 (14) REQUIREMENTS SPECIFIC TO FOREST HARVESTING. The following requirements shall
7 apply for forest harvesting operations and practices:
- 8 (a) All the following measures shall apply in the entire riparian buffer as applicable:
- 9 (i) Logging decks and sawmill sites shall not be placed in the riparian buffer;
- 10 (ii) Access roads and skid trails shall be prohibited except for temporary and
11 permanent stream crossings established in accordance with 15A NCAC 01I
12 .0203. Temporary stream crossings shall be permanently stabilized after any
13 site disturbing activity is completed;
- 14 (iii) Timber felling shall be directed away from the stream or waterbody;
- 15 (iv) Skidding shall be directed away from the stream or water body and shall be done
16 in a manner that minimizes soil disturbance and prevents the creation of
17 channels or ruts;
- 18 (v) Individual trees may be treated to maintain or improve their health, form or
19 vigor;
- 20 (vi) Harvesting of dead or infected trees as necessary to prevent or control the spread
21 of tree pest and disease infestation shall be allowed. These practices must be
22 approved by the Division of Forest Resources for a specific site pursuant to the
23 rule. The Division of Forest Resources must notify the Division of all
24 approvals;
- 25 (vii) Removal of individual trees that are in danger of causing damage to structures or
26 human life shall be allowed;
- 27 (viii) Natural regeneration of forest vegetation and planting of trees, shrubs, or ground
28 cover plants to enhance the riparian buffer shall be allowed provided that soil
29 disturbance is minimized;
- 30 (ix) High-intensity prescribed burns shall not be allowed; and
- 31 (x) Application of fertilizer shall not be allowed except as necessary for permanent
32 stabilization. Broadcast application of fertilizer to the adjacent forest stand shall
33 be conducted so that the chemicals are not applied directly to or allowed to drift
34 into the riparian buffer.
- 35 (b) In Zone One, forest vegetation shall be protected and maintained. Selective harvest as
36 provided for below is allowed on forest lands that have a deferment for use value under
37 forestry in accordance with G.S. 105-277.2 through 277.6 or on forest lands that have a

1 forest management plan. A plan drafted under either option shall meet the standards set
 2 out in this Item. Copies of either the approval of the deferment for use value under
 3 forestry or the forest management plan shall be produced upon request. For such forest
 4 lands, selective harvest is allowed in accordance with the following:

5 (i) Tracked or wheeled vehicles are permitted for the purpose of selective timber
 6 harvesting where there is no other practical alternative for removal of individual
 7 trees provided activities comply with forest practice guidelines for water quality
 8 as defined in 15A NCAC 01I .0101 through .0209, and provided no equipment
 9 shall operate within the first 10 feet immediately adjacent to the stream except at
 10 stream crossings designed, constructed and maintained in accordance with Rule
 11 15A NCAC 01I .0203;

12 (ii) Soil disturbing site preparation activities are not allowed; and

13 (iii) Trees shall be removed with the minimum disturbance to the soil and residual
 14 vegetation.

15 (c) In addition to the requirements of (b) in this Item, the following provisions for selective
 16 harvesting shall be met:

17 (i) The first 10 feet of Zone One directly adjacent to the stream or waterbody shall
 18 be undisturbed except for the removal of individual high value trees as defined
 19 provided that no trees with exposed primary roots visible in the streambank be
 20 cut unless listed as an exempt activity under Vegetation Management in the
 21 Table of Uses, Sub-Item (9) of this Rule;

22 (ii) In the outer 20 feet of Zone One, a maximum of 50 percent of the trees greater
 23 than five inches DBH may be cut and removed. The reentry time for harvest
 24 shall be no more frequent than every 15 years, except on forest plantations
 25 where the reentry time shall be no more frequent than every five years. In either
 26 case, the trees remaining after harvest shall be as evenly spaced as possible; and

27 (iii) In Zone Two, harvesting and regeneration of the forest stand shall be allowed in
 28 accordance with 15A NCAC 01I .0100 through .0200 as enforced by the
 29 Division of Forest Resources.

30 (15) RULE IMPLEMENTATION. This Rule shall be implemented as follows:

31 (a) For Division-administered activities listed in Item (3) of this Rule, the Division shall
 32 continue to implement the requirements of this ~~Rule-Rule, which it has done since as of~~
 33 ~~its effective date: date of August 11, 2009:~~

34 ~~(b) Within two months after the effective date of this Rule, the Division shall submit a model~~
 35 ~~local riparian buffer protection ordinance that embodies the standards set out in this Rule~~
 36 ~~and 15A NCAC 02B .0268 to the Commission for approval;~~

- 1 ~~(e) Within six months after the Commission's approval of a model local buffer ordinance,~~
2 ~~local governments shall submit local programs to the Division for review based on the~~
3 ~~standards set out in this Rule and 15A NCAC 02B .0268. A local program shall also~~
4 ~~detail implementation including but not limited to such factors as a method for making~~
5 ~~variance determinations, a plan for record keeping, and a plan for enforcement. Local~~
6 ~~governments shall use the latest version of the Division's publication, Identification~~
7 ~~Methods for the Origins of Intermittent and Perennial Streams, available at~~
8 ~~http://h2o.enr.state.nc.us/newetlands/documents/NC_Stream_ID_Manual.pdf or at the~~
9 ~~401/Wetlands Unit of the North Carolina Division of Water Quality at: Mail Service~~
10 ~~Center 1650, Raleigh, NC, 27699-1650, to establish the existence of streams;~~
- 11 ~~(d) Within one year after the Commission's approval of a model local buffer ordinance, the~~
12 ~~Division shall provide recommendations to the Commission on local buffer programs.~~
13 ~~The Commission shall either approve the programs or require changes based on the~~
14 ~~standards set out in this Rule and 15A NCAC 02B .0268. Should the Commission~~
15 ~~require changes, the applicable local government shall have two months to submit~~
16 ~~revisions, and the Division shall provide follow up recommendations to the Commission~~
17 ~~within two months after receiving revisions;~~
- 18 ~~(e)(b) Within two months after the Commission's approval of local buffer programs, local Local~~
19 ~~governments shall continue to implement buffer programs approved by the Commission~~
20 ~~in September 2010 and January 2011 to ensure that existing land use activities and~~
21 ~~proposed development complies with local programs. These programs are guided by the~~
22 ~~model buffer program approved by the Commission in September 2009. A local~~
23 ~~government shall issue an approval for new development only if the development~~
24 ~~application proposes to avoid impacts to riparian buffers defined in Item (4) of this Rule,~~
25 ~~or where the application proposes to impact such buffers, it demonstrates that the~~
26 ~~applicant has done the following, as applicable:~~
- 27 (i) Determined that the activity is exempt from requirements of this Rule;
- 28 (ii) Received an Authorization Certificate from the Division pursuant to Item (11) of
- 29 this Rule for uses designated as Allowable or Allowable with Mitigation;
- 30 (iii) For uses designated as Allowable with Mitigation, received approval of a
- 31 mitigation plan pursuant to 15A NCAC 02B .0268; and
- 32 (iv) Received a variance pursuant to Item (12) of this Rule;
- 33 ~~(c) Local governments shall use the latest version of the Division's publication, Identification~~
34 ~~Methods for the Origins of Intermittent and Perennial Streams, available at~~
35 ~~<http://portal.ncdenr.org/web/wq/swp/ws/401/waterresources/streamdeterminations> or at~~
36 ~~the 401/Wetlands Unit of the North Carolina Division of Water Quality at: Mail Service~~
37 ~~Center 1650, Raleigh, NC, 27699-1650, to establish the existence of streams;~~

1 ~~(f)~~(d) ~~Upon implementation, local~~ Local governments shall continue to submit annual reports
2 to the Division summarizing their activities in implementing the requirements of this
3 Rule;

4 ~~(g)~~(e) If a local government fails to adopt or adequately implement its program as called for in
5 this Rule, the Division may take appropriate enforcement action as authorized by statute,
6 and may choose to assume responsibility for implementing that program until such time
7 as it determines that the local government is prepared to comply with its responsibilities;
8 and

9 ~~(h)~~(f) LOCAL OVERSIGHT. The Division shall periodically inspect local programs to ensure
10 that they are being implemented and enforced in keeping with the requirements of this
11 Rule. Local governments shall maintain on-site records for a minimum of five years, and
12 shall furnish a copy of these records to the Division within 30 days of receipt of a written
13 request for them. Local programs' records shall include the following:

- 14 (i) A copy of all variance requests;
- 15 (ii) Findings of fact on all variance requests;
- 16 (iii) Results of all variance proceedings;
- 17 (iv) A record of complaints and action taken as a result of complaints;
- 18 (v) Records for stream origin calls and stream ratings; and
- 19 (vi) Copies of all requests for authorization, records approving authorization and
20 Authorization Certificates.

21 (16) OTHER LAWS, REGULATIONS AND PERMITS. In all cases, compliance with this Rule does
22 not preclude the requirement to comply with all other federal, state and local laws, regulations, and
23 permits regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting,
24 surface mining, land disturbance activities, or any other landscape feature or water quality-related
25 activity.

26
27 *History Note:* Authority 143-214.1; 143-214.5; 143-214.7; 143-215.3(a)(1); 143-215.6A; 143-215.6B; 143-
28 215.6C; 143 215.8B; 143B-282(c); 143B-282(d) S.L. 1999-329, s. 7.1.; S.L. 2005-190; S.L. 2006-
29 259; S.L. 2009-216; S.L. 2009-484;
30 Eff. August 11, 2009;
31 See S.L. 2009-216 and S.L. 2009-484;
32 Amended Eff. September 1, ~~2011-2011~~; July 1, 2014 (Pending Legislative Review).
33

1 15a NCAC 02b .0270 is proposed for amendment as follows:

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3 **15A NCAC 02B .0270 JORDAN WATER SUPPLY NUTRIENT STRATEGY: WASTEWATER**
 4 **DISCHARGE REQUIREMENTS**

5 *(See S.L. 2009-216 and S.L. 2009-484)*

6 The following is the NPDES wastewater discharge management strategy for the B. Everett Jordan Reservoir
 7 watershed, or Jordan watershed:

8 (1) **PURPOSE.** The purpose of this Rule is to establish minimum nutrient control requirements for
 9 point source wastewater discharges in the Jordan watershed in order to restore and maintain water
 10 quality in the reservoir and its tributaries and protect their designated uses, including water supply.

11 (2) **APPLICABILITY.** This Rule applies to all wastewater treatment facilities discharging in the
 12 Jordan watershed that receive nutrient-bearing wastewater and are subject to requirements for
 13 individual NPDES permits.

14 (3) **DEFINITIONS.** For the purposes of this Rule, the following definitions apply:

15 (a) In regard to point source dischargers, treatment facilities, and wastewater flows and
 16 discharges,

17 (i) "Existing" means that which was subject to a NPDES permit as of December 31,
 18 2001;

19 (ii) "Expanding" means that which has increased or will increase beyond its
 20 permitted flow as defined in this Rule; and

21 (iii) "New" means that which was not subject to a NPDES permit as of December 31,
 22 2001.

23 (b) "Active" allocation means that portion of an allocation that has been applied toward and
 24 is expressed as a nutrient limit in an individual NPDES permit. Allocation that is held but
 25 not applied in this way is "reserve" allocation.

26 (c) "Limit" means the mass quantity of nitrogen or phosphorus that a discharger or group of
 27 dischargers is authorized through a NPDES permit to release into surface waters of the
 28 Jordan watershed. Limits are enforceable and may be expressed as "delivered limit" or as
 29 the equivalent "discharge limit."

30 (d) "MGD" means million gallons per day.

31 (e) "Permitted flow" means the maximum monthly average flow authorized in a facility's
 32 NPDES permit as of December 31, 2001, with the following exceptions:

Facility Owner	Facility Name	NPDES Permit	Permitted Flow (MGD)
B. E. Jordan & Son, LLC	B. E. Jordan & Son WWTP	NC0042528	0.036
Durham County	Triangle WWTP	NC0026051	12.0
Ferrington Utilities, Inc.	Ferrington Village WWTP	NC0043559	0.5

APPENDIX

1	Greensboro, City of	T.Z. Osborne WWTP	NC0047384	40.0
2	Mervyn R. King	Countryside Manor WWTP	NC0073571	0.03
3	OWASA	Mason Farm WWTP	NC0025241	14.5
4	Pittsboro, Town of	Pittsboro WWTP	NC0020354	2.25
5	Quarterstone Farm Assoc.	Quarterstone Farm WWTP	NC0066966	0.2
6	Aqua North Carolina, Inc.	Chatham WRF	NC0056413	0.35

7

8 (f) "Reserve" allocation means allocation that is held by a permittee or other person but

9 which has not been applied toward and is not expressed as a nutrient limit in an

10 individual NPDES permit. Allocation that has been applied and expressed in this way is

11 "active" allocation.

12 (4) This Item provides for the initial division of nutrient wasteload allocations among point source

13 dischargers under this strategy.

14 (a) The delivered wasteload allocations of nitrogen and phosphorus assigned to point source

15 dischargers collectively in each of the Jordan subwatersheds, as set out in 15A NCAC

16 02B .0262(4), shall be divided as follows:

Subwatershed and Discharger Subcategories	Delivered Allocations (lb/yr)	
	Total Nitrogen	Total Phosphorus
Upper New Hope Arm		
Permitted flows ≥ 0.1 MGD	332,466	22,498
Permitted flows < 0.1 MGD	3,613	608
Lower New Hope Arm		
Permitted flows ≥ 0.1 MGD	6,836	498
Permitted flows < 0.1 MGD	0	0
Haw River Arm		
Permitted flows ≥ 0.1 MGD	881,757	104,004
Permitted flows < 0.1 MGD	13,370	1,996

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28 (b) The nutrient allocations in Sub-Item (a) of this Item shall be apportioned among the

29 existing dischargers in each subcategory in proportion to the dischargers' permitted flows

30 and the resulting delivered nutrient allocations assigned to each individual discharger.

31 (5) This Item describes allowable changes in nutrient allocations.

32 (a) The aggregate and individual nutrient allocations available to point source dischargers in

33 the Jordan watershed are subject to change:

34 (i) Whenever the Commission, through rulemaking, revises the wasteload

35 allocations in 15A NCAC 02B .0262 in order to ensure the protection of water

36 quality in the reservoir and its tributaries or to conform with applicable state or

37 federal requirements;

- 1 (ii) Whenever one or more point source dischargers acquires any portion of the
- 2 nonpoint load allocations under the provisions in this Rule, and 15A NCAC 02B
- 3 .0273, Options for Offsetting Nutrient Loads;
- 4 (iii) As the result of allocation transfers between point sources or between point and
- 5 nonpoint sources, except that nutrient allocation can be transferred and applied
- 6 only within its assigned subwatershed; or
- 7 (iv) Any allocation is valid only in the subwatershed for which it is first established.
- 8 (b) In the event that the Commission changes any nutrient wasteload allocation specified in
- 9 15A NCAC 02B .0262 or Item (4) of this Rule, the Commission shall also re-evaluate the
- 10 apportionment among the dischargers and shall revise the individual allocations as
- 11 necessary.
- 12 (6) This Item identifies nutrient control requirements specific to existing discharges.
- 13 (a) ~~Beginning with the first full calendar year following the effective date of this Rule, any~~
- 14 ~~Any~~ existing discharger with a permitted flow of 0.1 MGD or greater shall continue to
- 15 limit its total phosphorus discharge to its active individual discharge allocation initially
- 16 applied as of calendar year 2010 as defined or modified pursuant to this Rule.
- 17 (b) ~~No later than six months after the effective date of this Rule, each~~ Each existing
- 18 discharger with a permitted flow greater than or equal to 0.1 ~~MGD~~ MGD, ~~having shall~~
- 19 ~~evaluate~~ evaluated its treatment facilities and ~~operations~~ operations, ~~and identify~~
- 20 identified further opportunities to improve and optimize nitrogen reduction in the existing
- 21 ~~facilities beyond those previously implemented pursuant to G.S. 143-215.1B(d);~~
- 22 ~~facilities, and submit~~ submitted a report to the Division in 2010 ~~documenting its findings,~~
- 23 ~~proposing optimization measures, and describing expected results. No later than six~~
- 24 ~~months following shall, upon~~ Division acceptance of the report, implement the measures
- 25 ~~or~~ as provided in the acceptance, and shall continue to implement such measures until
- 26 treatment system improvements undertaken to comply with this Rule's nitrogen limits are
- 27 completed and operational.~~the discharger shall implement the proposed measures.~~
- 28 ~~Beginning one year following Division acceptance of the report and continuing through~~
- 29 ~~the fifth calendar year in 2015 and continuing until one year after the improvements are~~
- 30 ~~operational, after the effective date of this Rule,~~ each such discharger shall submit a
- 31 progress report to the Division by March 1 of each year documenting the status of the
- 32 proposed measures and the nitrogen reductions achieved at the facility in the previous
- 33 calendar year.
- 34 (c) ~~Beginning with the fifth full calendar year after the effective date of this Rule, No later~~
- 35 ~~than the calendar year 2016,~~ each existing discharger with a permitted flow greater than
- 36 or equal to 0.1 MGD shall limit its total nitrogen discharge to its active individual
- 37 discharge allocation as defined or modified pursuant to this ~~Rule.~~ Rule, except that if by

December 31, 2016, the discharger has received an authorization pursuant to G.S. 143-215.1 for construction, installation, or alteration of its treatment works for purposes of complying with its total nitrogen limit, at which point the limit shall become effective no later than calendar year 2018.

~~(d) Not later than 45 days after the effective date of this Rule, the Director shall notify existing permittees of the individual nitrogen and phosphorus allocations assigned according to Item (4) of this Rule and shall further notify each permittee, pursuant to 15A NCAC 02H .0114, of the Division's intent to modify the permittee's NPDES permit to incorporate nitrogen and phosphorus limits pursuant to the requirements set out in this rule and in accordance with applicable rules and regulations.~~

(7) This Item identifies nutrient control requirements specific to new discharges.

(a) Any person proposing a new wastewater discharge to surface waters shall meet the following requirements prior to applying for an NPDES permit:

(i) Evaluate all practical alternatives to said discharge, pursuant to 15A NCAC 02H .0105(c)(2);

(ii) If the results of the evaluation support a new discharge, acquire sufficient nitrogen and phosphorus allocations for the discharge. The proponent may obtain allocation for the proposed discharge from existing dischargers pursuant to the applicable requirements of Item (9) of this Rule or employ measures to offset the increased nutrient loads resulting from the proposed discharge. The proponent may fund offset measures by making payment to the NC Ecosystem Enhancement ~~Program, Program or private sellers of reduction credit, contingent upon acceptance of payments by that Program~~ or may implement other offset measures contingent upon approval by the ~~Division, either of which shall meet Division as meeting~~ the requirements of rule 15A NCAC 02B ~~.0273, .0273 and 15A NCAC 02B .0240~~. The offsets shall be of an amount equivalent to the allocations required for a period of 30 years. Payment for each 30-year portion of the nonpoint source load allocation shall be made prior to the ensuing permit issuance;

(iii) Determine whether the proposed discharge of nutrients will cause local water quality impacts; and

(iv) Provide documentation with its NPDES permit application demonstrating that the requirements of Sub-Items (i) through (iii) of this Sub-Item have been met.

(b) The nutrient discharge allocations and offsets for a new facility shall not exceed the mass loads equivalent to a concentration of 3.0 mg/L nitrogen or 0.18 mg/L phosphorus at the permitted flow in the discharger's NPDES permit.

- 1 (c) Upon the effective date of its NPDES permit, a new discharger shall be subject to
 2 nitrogen and phosphorus limits not to exceed its active individual discharge allocations.
- 3 (8) This Item identifies nutrient control requirements specific to expanding discharges.
- 4 (a) Any person proposing to expand an existing wastewater discharge to surface waters
 5 beyond its permitted flow as defined in this Rule shall meet the following requirements
 6 prior to applying for an NPDES permit:
- 7 (i) Evaluate all practical alternatives to said discharge, pursuant to 15A NCAC 02H
 8 .0105(c)(2);
- 9 (ii) If the results of the evaluation support an expanded discharge, acquire sufficient
 10 nitrogen and phosphorus allocations for the discharge. The proponent may
 11 obtain allocation for the proposed discharge from existing dischargers pursuant
 12 to the applicable requirements of Item (9) of this Rule or employ measures to
 13 offset the increased nutrient loads resulting from the proposed discharge. The
 14 proponent may fund offset measures by making payment to the NC Ecosystem
 15 Enhancement Program contingent upon acceptance of payments by that Program
 16 or implement other offset measures contingent upon approval by the Division,
 17 either of which shall meet the requirements of rule 15A NCAC 02B .0273. The
 18 offsets shall be of an amount equivalent to the allocations required for a period
 19 of 30 years. Payment for each 30-year portion of the nonpoint source load
 20 allocation shall be made prior to the ensuing permit issuance;
- 21 (iii) Determine whether the proposed discharge of nutrients will cause local water
 22 quality impact; and
- 23 (iv) Provide documentation with its NPDES permit application demonstrating that
 24 the requirements of Sub-Items (i) through (iii) of this Sub-Item have been met.
- 25 (b) The nutrient discharge limits for an expanding facility shall not exceed the greater of its
 26 nutrient allocations or the mass value equivalent to a concentration of 3.0 mg/L nitrogen
 27 or 0.18 mg/L phosphorus at the permitted flow in the discharger's NPDES permit; except
 28 that this provision shall not result in an allocation or limit that is less than originally
 29 assigned to the discharger under this Rule.
- 30 (c) Upon expansion or upon notification by the Director that it is necessary to protect water
 31 quality, any discharger with a permitted flow of less than 0.1 MGD, as defined under this
 32 Rule, shall become subject to total nitrogen and total phosphorus permit limits not to
 33 exceed its active individual discharge allocations.
- 34 (9) This Item describes additional requirements regarding nutrient discharge limits for wastewater
 35 facilities:
- 36 (a) Annual mass nutrient limits shall be established as calendar-year limits.

- 1 (b) Any point source discharger holding nutrient allocations under this Rule may by mutual
 2 agreement transfer all or part of its allocations to any new, existing, or expanding
 3 dischargers in the same Jordan subwatershed or to other person(s), subject to the
 4 provisions of the Jordan nutrient strategy.
- 5 (c) For NPDES compliance purposes, the enforceable nutrient limits for an individual facility
 6 or for a compliance association described in Item (10) shall be the effective limits in the
 7 governing permit, regardless of the allocation held by the discharger or association.
- 8 (d) The Director may establish more stringent nitrogen or phosphorus discharge limits for
 9 any discharger upon finding that such limits are necessary to prevent the discharge from
 10 causing adverse water quality impacts on surface waters other than an arm of Jordan
 11 Reservoir as defined in Rule .0262(4) of this strategy. The Director shall establish such
 12 limits through modification of the discharger's NPDES permit in accordance with
 13 applicable rules and regulations. When the Director does so, the discharger retains its
 14 nutrient allocations, and the non-active portion of the discharger's allocation becomes
 15 reserve allocation. The allocation remains in reserve until the director determines that
 16 less stringent limits are allowable or until the allocation is applied to another discharge
 17 not subject to such water quality-based limits.
- 18 (e) In order for any transfer of allocation to become effective as a discharge limit in an
 19 individual NPDES permit, the discharger must request and obtain modification of the
 20 permit. Such request shall:
- 21 (i) Describe the purpose and nature of the modification;
 - 22 (ii) Describe the nature of the transfer agreement, the amount of allocation
 23 transferred, and the dischargers or persons involved;
 - 24 (iii) Provide copies of the transaction agreements with original signatures consistent
 25 with NPDES signatory requirements; and
 - 26 (iv) Demonstrate to the Director's satisfaction that the increased nutrient discharge
 27 will not violate water quality standards in localized areas.
- 28 (f) Changes in a discharger's nutrient limits shall become effective upon modification of its
 29 individual permit but no sooner than January 1 of the year following modification. If the
 30 modified permit is issued after January 1, the Director may make the limit effective on
 31 that January 1 provided that the discharger made acceptable application in a timely
 32 manner.
- 33 (g) Regional Facilities. In the event that an existing discharger or group of dischargers
 34 accepts wastewater from another NPDES-permitted treatment facility in the same Jordan
 35 subwatershed and that acceptance results in the elimination of the discharge from the
 36 other treatment facility, the eliminated facility's delivered nutrient allocations shall be
 37 transferred and added to the accepting discharger's delivered allocations.

- 1 (10) This Item describes the option for dischargers to join a group compliance association to
 2 collectively meet nutrient control requirements.
- 3 (a) Any or all facilities within the same Jordan subwatershed may form a group compliance
 4 association to meet delivered nutrient allocations collectively. More than one group
 5 compliance association may be established in any subwatershed. No facility may belong
 6 to more than one association at a time.
- 7 (b) Any such association must apply for and shall be subject to an NPDES permit that
 8 establishes the effective nutrient limits for the association and for its members.
- 9 (c) No later than 180 days prior to the proposed date of a new association's operation or
 10 expiration of an existing association's NPDES permit, the association and its members
 11 shall submit an application for a NPDES permit for the discharge of nutrients to surface
 12 waters of the Jordan watershed. The association's NPDES permit shall be issued to the
 13 association and its members. It shall specify the delivered nutrient limits for the
 14 association and for each of its co-permittee members. Association members shall be
 15 deemed in compliance with the permit limits for nitrogen and phosphorus contained in
 16 their individually issued NPDES permits so long as they remain members in an
 17 association.
- 18 (d) An association's delivered nitrogen and phosphorus limits shall be the sum of its
 19 members' individual active delivered allocations for each nutrient plus any other active
 20 allocation obtained by the association or its members.
- 21 (e) The individual delivered allocations for each member in the association permit shall
 22 initially be equivalent to the discharge limits in effect in the member's NPDES permit.
 23 Thereafter, changes in individual allocations or limits must be incorporated into the
 24 members' individual permits before they are included in the association permit.
- 25 (f) An association and its members may reapportion the individual delivered allocations of
 26 its members on an annual basis. Changes in individual allocations or limits must be
 27 incorporated into the members' individual permits before they are included in the
 28 association permit.
- 29 (g) Changes in nutrient limits shall become effective no sooner than January 1 of the year
 30 following permit modification. If the modified permit is issued after January 1, the
 31 Director may make the limit effective on that January 1 provided that the discharger
 32 made acceptable application in a timely manner.
- 33 (h) Beginning with the first full calendar year that the nitrogen or phosphorus limits are
 34 effective, an association that does not meet its permit limit for nitrogen or phosphorus for
 35 a calendar year shall, no later than May 1 of the year following the exceedance, make an
 36 offset payment to the NC Ecosystem Enhancement Program or to private sellers of
 37 nutrient offset credit, contingent upon acceptance of payments by that Program or by

1 implementing other load offsetting measures contingent upon approval by the Division,
2 ~~either of which shall meet as meeting~~ the requirements of rule 15A NCAC 02B ~~.0273.~~
3 ~~.0273 and 15A NCAC 02B .0240.~~

- 4 (i) Association members shall be deemed in compliance with their individual delivered
5 limits in the association NPDES permit for any calendar year in which the association is
6 in compliance with its delivered limit. If the association fails to meet its delivered limit,
7 the association and the members that have failed to meet their individual delivered
8 nutrient limits in the association NPDES permit will be out of compliance with the
9 association NPDES permit.

10
11 *History Note:* Authority G.S. 143-214.1; 143-214.5; 143-215; 143-215.1; 143-215.3(a)(1); 143-215B; 143B-
12 282(c); 143B-282(d); S.L. 1995, c. 572; S.L. 2005-190; S.L. 2006-259; S.L. 2009-216; S.L. 2011-
13 394; S.L. 2012-187;
14 Eff. August 11, 2009;
15 See S.L. 2009-216 and S.L. 2009-484 Amended Eff. July 1, 2014 (Pending Legislative Review).
16

APPENDIX

1 15A NCAC 02b .0271 is proposed for amendment as follows:

2
3 **15A NCAC 02B .0271 JORDAN WATER SUPPLY NUTRIENT STRATEGY: STORMWATER**
4 **REQUIREMENTS FOR STATE AND FEDERAL ENTITIES**

5 ~~(See S.L. 2009-216 and S.L. 2009-484)~~

6 The following is the stormwater strategy for the activities of state and federal entities within the Jordan watershed,
7 as prefaced in Rule 02B .0262.

8 (1) PURPOSE. The purposes of this Rule are as follows.

9 (a) To ~~accomplish the following on lands under state and federal control: achieve and~~
10 ~~maintain, on new non-road development lands, the nonpoint source nitrogen and~~
11 ~~phosphorus percentage reduction goals established for Jordan Reservoir in 15A NCAC~~
12 ~~02B .0262 relative to the baseline period defined in that Rule, to provide the highest~~
13 ~~practicable level of treatment on new road development, and to achieve and maintain the~~
14 ~~percentage goals on existing developed lands by reducing loading from state-maintained~~
15 ~~roadways and facilities, and from lands controlled by other state and federal entities in~~
16 ~~the Jordan watershed;~~

17 ~~(i) Achieve and maintain, on new non-road development lands, the nonpoint source~~
18 ~~nitrogen and phosphorus percentage reduction goals established for Jordan~~
19 ~~Reservoir in 15A NCAC 02B .0262 relative to the baseline period defined in~~
20 ~~that Rule;~~

21 ~~(ii) Provide the highest practicable level of treatment on new road development; and~~

22 ~~(iii) Contribute toward the nitrogen and phosphorus loading goals by reducing~~
23 ~~loading from existing state-maintained roadways and facilities, and from~~
24 ~~existing developed lands controlled by other state and federal entities in the~~
25 ~~Jordan watershed.~~

26 (b) To ensure that the integrity and nutrient processing functions of receiving waters and
27 associated riparian buffers are not compromised by erosive flows from state-maintained
28 roadways and facilities and from lands controlled by other state and federal entities in the
29 Jordan watershed; and

30 (c) To protect the water supply uses of Jordan Reservoir and of designated water supplies
31 throughout the Jordan watershed.

32 (2) APPLICABILITY. This Rule shall apply to all existing and new development, both as defined in
33 15A NCAC 02B .0263, that lies within or partially within the Jordan watershed under the control
34 of the NC Department of Transportation (NCDOT), including roadways and facilities, and to all
35 lands controlled by other state and federal entities in the Jordan watershed.

36 ~~(3) EXISTING DEVELOPMENT ADAPTIVE IMPLEMENTATION. The Division of Water Quality~~
37 ~~shall review monitoring required in Item (4) of 15A NCAC 02B .0266 to decide whether to~~
38 ~~implement a program to control nutrient loading from existing development to achieve nutrient-~~

1 related water quality standards in Jordan Lake. The Division shall use the following conditions to
2 identify state and federal entities that need to develop and implement a program to control nutrient
3 loadings:

4 (a) If the March 2014 monitoring report or any subsequent monitoring report for the Upper
5 New Hope Creek Arm of Jordan Reservoir required under Item (4) of 15A NCAC 02B
6 .0266 shows that nutrient-related water quality standards are not being achieved, state and
7 federal entities in the subwatershed of that arm of Jordan Reservoir shall develop and
8 implement a program to control nutrient loading from existing development within the
9 subwatershed, as provided in this Rule;

10 (b) If the March 2017 monitoring report or any subsequent monitoring report for the Haw
11 River Arm or the Lower New Hope Creek Arm of Jordan Reservoir required under Item
12 (4) of 15A NCAC 02B .0266 shows that nutrient-related water quality standards are not
13 being achieved, state and federal entities in the subwatershed of that arm of Jordan
14 Reservoir shall develop and implement a program to control nutrient loading from
15 existing development within the subwatershed, as provided in this Rule;

16 (c) The Division shall defer development and implementation of a program to control
17 nutrient loading from existing development required in a subwatershed by this Sub-Item
18 if it determines that additional reductions in nutrient loading from existing development
19 in that subwatershed will not be necessary to achieve nutrient-related water quality
20 standards. In making this determination, the Division shall consider the anticipated effect
21 of measures implemented or scheduled to be implemented to reduce nutrient loading
22 from sources in the subwatershed other than existing development. If any subsequent
23 monitoring report for an arm of Jordan Reservoir required under Item (4) of 15A NCAC
24 02B .0266 shows that nutrient-related water quality standards have not been achieved, the
25 Division shall notify each state and federal entity in the subwatershed of that arm of
26 Jordan Reservoir, and each entity shall develop and implement a program to control
27 nutrient loading from existing development as provided in this Rule; and

28 (d) ADDITIONAL MEASURES TO REDUCE NITROGEN LOADING IN THE UPPER
29 NEW HOPE CREEK SUBWATERSHED. If the March 1, 2023, monitoring report or
30 any subsequent monitoring report for the Upper New Hope Creek Arm of Jordan
31 Reservoir shows that nutrient-related water quality standards are not being achieved, state
32 and federal entities located in whole or in part in the Upper New Hope Creek
33 Subwatershed shall modify their programs to control nutrient loading from existing
34 roadway and nonroadway development to achieve additional reductions in nitrogen
35 loadings. The modified program shall be designed to achieve a total reduction in nitrogen
36 loading from existing development of thirty-five percent (35%) relative to the baseline
37 period 1997 through 2001 in that arm of Jordan Reservoir. Subject state and federal

1 entities shall develop and implement a program to control nutrient loading from existing
 2 development within the subwatershed, as provided in this Rule.

3 (4) EXISTING DEVELOPMENT NOTIFICATION REQUIREMENTS. Based on findings under
 4 Item (3) of this Rule, the Division shall notify the state and federal entities in each subwatershed
 5 that either:

6 (a) Implementation of a program to control nutrient loading from existing development, or
 7 additional measures under an existing program, will be necessary to achieve water quality
 8 standards in an arm of the reservoir and direct the state and federal entities in the
 9 subwatershed to develop or modify a load reduction program in compliance with this
 10 Rule; or

11 (b) Implementation of a program to control nutrient loading from existing development is not
 12 necessary at that time but will be reevaluated in three years based on the most recent
 13 water quality monitoring information.

14 (3)(5) NON-NCDOT REQUIREMENTS. With the exception of the NCDOT, all state and federal
 15 entities that control lands within the Jordan watershed shall meet the following requirements:

16 (a) For any new development proposed within their jurisdictions that would disturb one-half
 17 acre or more, non-NCDOT state and federal entities shall continue to develop stormwater
 18 management plans for submission to and approval by the Division. These stormwater
 19 plans shall not be approved by the Division unless the following criteria are met:

20 (i) The nitrogen and phosphorus loads contributed by the proposed new
 21 development activity in a given subwatershed shall not exceed the unit-area
 22 mass loading rates applicable to that subwatershed as follows for nitrogen and
 23 phosphorus, respectively, expressed in units of pounds per acre per year: 2.2 and
 24 0.82 in the Upper New Hope; 4.4 and 0.78 in the Lower New Hope; and 3.8 and
 25 1.43 in the Haw. The developer shall determine the need for engineered
 26 stormwater controls to meet these loading rate targets by using the loading
 27 calculation method called for in ~~this Section-Item (10) of this Rule~~ or other
 28 equivalent method acceptable to the Division;

29 (ii) Proposed new development subject to NPDES, water supply, and other state-
 30 mandated stormwater regulations shall comply with those regulations in addition
 31 to the other requirements of this Sub-Item. Proposed new development in any
 32 water supply watershed in the Jordan watershed designated WS-II, WS-III, or
 33 WS-IV shall comply with the density-based restrictions, obligations, and
 34 requirements for engineered stormwater controls, clustering options, and 10/70
 35 provisions described in Sub-Items (3)(b)(i) and (3)(b)(ii) of the applicable Rule
 36 among 15A NCAC 02B .0214 through .0216;

- 1 (iii) Stormwater systems shall be designed to control and treat the runoff generated
2 from all surfaces by one inch of rainfall. The treatment volume shall be drawn
3 down pursuant to guidance specific to each practice as provided in the most
4 recent version of the *Stormwater Best Management Practices Manual* published
5 by the Division, or other technically at least equivalent guidance acceptable to
6 the Division. To ensure that the integrity and nutrient processing functions of
7 receiving waters and associated riparian buffers are not compromised by erosive
8 flows, stormwater flows from the development shall not contribute to
9 degradation of waters of the State. At a minimum, the development shall not
10 result in a net increase in peak flow leaving the site from pre-development
11 conditions for the one-year, 24-hour storm event;
- 12 (iv) Proposed new development that would replace or expand structures or
13 improvements that existed as of December 2001, the end of the baseline period,
14 and which would not result in a net increase in built-upon area shall not be
15 required to meet the nutrient loading targets or high-density requirements except
16 to the extent that it shall provide stormwater control at least equal to the
17 previous development. Proposed new development that would replace or
18 expand existing structures or improvements and would result in a net increase in
19 built-upon area shall have the option either to achieve at least the percentage
20 load reduction goals stated in 15A NCAC 02B .0262 as applied to nitrogen and
21 phosphorus loading from the previous development for the entire project site, or
22 to meet the loading rate targets described in Sub-Item ~~(3)(5)~~(a)(i) of this Rule;
- 23 (v) Proposed new development shall comply with the riparian buffer protection
24 requirements of 15A NCAC 02B .0267 and .0268;
- 25 (vi) The entity shall have the option of offsetting part of the nitrogen and phosphorus
26 loads by implementing or funding offsite management measures as follows:
27 Before using offsite offset options, a development shall meet any requirements
28 for engineered stormwater controls described in Sub-Item ~~(3)(5)~~(a)(iii) of this
29 Rule, and shall attain a maximum nitrogen loading rate on-site of four pounds
30 per acre per year for single-family, detached and duplex residential development
31 and eight pounds per acre per year for other development, including multi-
32 family residential, commercial and industrial and shall meet any requirements
33 for engineered stormwater controls described in Sub-Item ~~(3)(5)~~(a)(iii) of this
34 Rule. An entity may make offset payments to the NC Ecosystem Enhancement
35 Program or to private sellers of reduction credit contingent upon acceptance of
36 payments by that Program. as meeting the applicable requirements of 15A
37 NCAC 02B .0240. An entity may propose other offset measures to the Division,

1 including providing its own offsite offset or utilizing a private seller. All offset
2 measures identified in this Sub-Item shall meet the requirements of 15A NCAC
3 02B .0273(2)-(4); and

4 (vii) The non-NCDOT state or federal entity shall include measures to ensure
5 maintenance of best management practices (BMPs) implemented as a result of
6 the provisions in Sub-Item ~~(3)(5)~~(a) of this Rule for the life of the development.

7 (b) For existing development, non-NCDOT state and federal entities receiving notice from
8 the Division of the requirement to develop and implement or modify a program to control
9 nutrient loading from existing development, as specified under Item (4) of this Rule, shall
10 ~~develop and implement load reduction programs for achieving and maintaining nutrient~~
11 ~~load reductions from existing development- do so~~ based on the standards set out in this
12 Sub-Item. Such entities shall submit these programs for approval by the Division in
13 accordance with the process identified in Item (7) of this Rule. A load reduction program
14 shall include the following elements and meet the associated criteria:

15 (i) The long-term objective of this program shall be for the entity to achieve the
16 percentage nutrient load reduction goals in Item (5) of 15A NCAC 02B .0262
17 relative to annual mass loads, in pounds per year, representative of the baseline
18 period defined in that Rule and reaching Jordan Reservoir from existing
19 developed lands within each subwatershed under its control. Loads shall be
20 calculated by applying the ~~Tar Pamlico Nutrient Export Calculation Worksheet,~~
21 ~~Piedmont Version, dated October 2004,~~ method called for in Item (10) of this
22 Rule or an equivalent or more accurate method acceptable to the Division, to
23 acreages of different types of existing developed lands as defined in this Sub-
24 Item and in Item (2) of this Rule. To provide entities spatial latitude to obtain
25 reductions in different locations, loads thus calculated shall be converted to
26 delivered loads to Jordan Reservoir using transport factors established in the
27 Division document, *Nitrogen and Phosphorus Delivery from Small Watersheds*
28 *to Jordan Lake*, dated June 30, 2002. Subject entities shall include estimates of,
29 and plans for offsetting, nutrient load increases from lands developed
30 subsequent to the baseline period but prior to implementation of new
31 development programs. For these post-baseline developed lands, the new
32 loading rate shall be compared to the applicable loading rate target in Sub-Item
33 ~~(3)(5)~~(a)(i) of this Rule for the subwatershed and acres involved, and the
34 difference shall constitute the load reduction need. Should percentage reduction
35 goals be adjusted pursuant to Item (8) of 15A NCAC 02B .0262, then the annual
36 load goals established in this Sub-Item shall be adjusted accordingly. Entities
37 may seek to fund implementation of load-reducing activities through grant

1 sources such as the North Carolina Clean Water Act Section 319 Grant Program,
2 or other funding programs for nonpoint sources;

3 (ii) The load reduction program shall include a plan and supporting technical
4 analysis for achieving half of each load reduction goal within 10 years ~~after the~~
5 ~~effective date~~ of the applicable notification date established under Item (4) of
6 this Rule, and a plan and timeframes for achieving the remaining half subject to
7 modification based on technical analysis at 10 years after ~~effective date~~. the
8 notification date established under Item (4) of this Rule. A load reduction
9 program may propose an alternative compliance timeframe provided it includes
10 a technical analysis that demonstrates the need for that timeframe. A program
11 technical analysis shall examine the feasibility of achieving stated goals and
12 shall consider factors such as magnitude of reduction need relative to area within
13 a subwatershed, the potential for utilizing the range of load-reducing activities
14 listed in Sub-Item ~~(3)(5)~~(b)(iv) of this Rule, and relative costs and efficiencies of
15 each activity to the extent information is available. The load reduction program
16 shall propose implementation rates and timeframes for each activity, and shall
17 provide for proportionate annual progress toward meeting the reduction goals as
18 practicable, that is capable of being put into practice, done, or accomplished;

19 (iii) The load reduction program shall identify specific load-reducing practices
20 implemented to date subsequent to the baseline period and for which it is
21 seeking credit. It shall estimate load reductions for these practices using
22 methods provided for in Item ~~(8)~~(10) of this Rule, and their anticipated duration;

23 (iv) The load reduction program shall identify the types of activities the entity
24 intends to implement and types of existing development affected, relative
25 proportions or a prioritization of practices, and the relative magnitude of
26 reductions it expects to achieve from each. An entity may credit any nitrogen or
27 phosphorus load reductions in excess of those required by other rules in this
28 Chapter. The program shall identify the duration of anticipated load reductions,
29 and may seek activities that provide sustained, long-term reductions. The load
30 reduction program shall meet the requirements of 15A NCAC 02B .0273.
31 Potential load-reducing activities may include stormwater activities such as
32 street sweeping, improvement of existing ponds and stormwater structures,
33 removal of existing built-upon area, retrofitting of existing development with
34 engineered best management practices (BMPs), treatment of runoff in
35 redevelopment projects, over-treatment of runoff in new development projects,
36 source control activities such as pet waste reduction and fertilization reduction,
37 alternative stormwater practices such as rain barrels, cisterns, downspout

1 disconnections, and stormwater capture and reuse, restoration of ecological
 2 communities such as streams and riparian buffers, and wastewater activities
 3 such as creation of surplus allocation through advanced treatment at wastewater
 4 facilities, expansion of surplus allocation through regionalization, collection
 5 system improvements, and removal of illegal discharges;

6 (v) The load reduction program shall identify anticipated funding mechanisms or
 7 sources and discuss steps taken or planned to secure such funding;

8 (vi) An entity shall have the option of working with municipalities or counties within
 9 its subwatershed to jointly meet the load targets from all existing development
 10 within their combined jurisdictions. An entity may utilize private or third party
 11 sellers. All reductions shall meet the requirements of 15A NCAC 02B .0273;

12 (vii) The entity shall include measures to provide for operation and maintenance of
 13 retrofitted stormwater controls to ensure that they meet the load targets required
 14 in Sub-Item ~~(3)~~(5)(b) of this Rule for the life of the development; and

15 (viii) An entity may choose to conduct monitoring of stream flows and runoff from
 16 catchments to quantify disproportionately high loading rates relative to those
 17 used in the accounting methods stipulated under Item ~~(8)~~(10) of this Rule, and to
 18 subsequently target load-reducing activities to demonstrated high-loading source
 19 areas within such catchments for proportionately greater load reduction credit.
 20 An entity may propose such actions in its initial load reduction program
 21 submittal or at any time subsequent, and shall obtain Division approval of the
 22 monitoring design. It shall also obtain Division approval of any resulting load
 23 reduction benefits based on the standards set out in this Rule. ~~As detailed in Item~~
 24 ~~(5), an An~~ entity that chooses such monitoring ~~initially may delay submittal of~~
 25 ~~its load reduction program by one year for the purpose of incorporating~~
 26 ~~monitoring findings into its program design provided it submits to the Division~~
 27 ~~within six months of the effective date of this Rule a satisfactory monitoring~~
 28 ~~proposal involving at least one year of up front monitoring, executes shall~~
 29 ~~execute~~ the monitoring, and ~~provides provide~~ the results to the Division as part
 30 of its load reduction program submittal.

31 ~~(4)~~(6) NCDOT REQUIREMENTS The NCDOT shall meet the following requirements on lands within
 32 the Jordan Watershed: develop a single Stormwater Management Program that will be applicable
 33 to the entire Jordan watershed and submit this program for approval by the Division according to
 34 the following standards:

35 ~~(a)~~ Identify NCDOT stormwater outfalls from Interstate, US, and NC primary routes;

36 ~~(b)~~ Identify and eliminate illegal discharges into the NCDOT's stormwater conveyance
 37 system;

1 ~~(e)~~(a) ~~Establish a~~ Implementation of its program for post-construction stormwater runoff
2 control for new development approved by the Commission in November 2012, including
3 new and widening NCDOT roads and facilities. The program ~~shall establish~~ established
4 a process by which the Division ~~shall review~~ reviews and ~~approve~~ approves stormwater
5 designs for new NCDOT development projects. The program ~~shall delineate~~ delineates
6 the scope of vested projects that would be considered as existing development, and ~~shall~~
7 ~~define~~ defines lower thresholds of significance for activities considered new
8 development. In addition, the following criteria ~~shall~~ apply:

- 9 (i) For ~~new and~~ new, widening roads, compliance with the riparian buffer
10 protection requirements of Rules 15A NCAC 02B .0267 and .0268 which are
11 expected to achieve a 30 percent nitrogen reduction efficiency in runoff
12 treatment through either diffuse flow into buffers or other ~~practices~~ practices,
13 shall be deemed as ~~compliance~~ compliant with the purposes of this Rule;
- 14 (ii) New non-road development shall achieve and maintain the nitrogen and
15 phosphorus percentage load reduction goals established for each subwatershed
16 in 15A NCAC 02B .0262 relative to either area-weighted average loading rates
17 of all developable lands as of the baseline period defined in 15A NCAC 02B
18 .0262, or to project-specific pre-development loading rates. Values for area-
19 weighted average loading rate targets for nitrogen and phosphorus, respectively,
20 in each subwatershed shall be the following, expressed in units of pounds per
21 acre per year: 2.2 and 0.82 in the Upper New Hope; 4.4 and 0.78 in the Lower
22 New Hope; and 3.8 and 1.43 in the Haw. The NCDOT shall determine the need
23 for engineered stormwater controls to meet these loading rate targets by using
24 the loading calculation method called for in Item ~~(8)~~ (10) of this Rule or other
25 equivalent method acceptable to the Division. Where stormwater treatment
26 systems are needed to meet these targets, they shall be designed to control and
27 treat the runoff generated from all surfaces by one inch of rainfall. Such
28 systems shall be assumed to achieve the nutrient removal efficiencies identified
29 in the most recent version of the *Stormwater Best Management Practices*
30 *Manual* published by the Division provided that they meet associated drawdown
31 and other design specifications included in the same document. The NCDOT
32 may propose to the Division nutrient removal rates for practices currently
33 included in the BMP Toolbox required under its NPDES stormwater permit, or
34 may propose revisions to those practices or additional practices with associated
35 nutrient removal rates. The NCDOT may use any such practices approved by
36 the Division to meet loading rate targets identified in this Sub-Item. New non-
37 road development shall also control runoff flows to meet the purpose of this

1 Rule regarding protection of the nutrient functions and integrity of receiving
2 ~~waters.~~ waters;

3 (iii) For new non-road development, the NCDOT shall have the option of partially
4 offsetting its nitrogen and phosphorus loads by implementing or funding offsite
5 management measures. These offsite offsetting measures shall achieve at least
6 equivalent reductions in nitrogen and phosphorus load to the remaining
7 reduction needed onsite to comply with Sub-Item ~~(4)(e)(6)(a)~~(ii) of this Rule.
8 Before using offsite offset options, a development shall attain a maximum
9 nitrogen loading rate of 8 pounds per acre per year. The NCDOT may make
10 offset payments to the NC Ecosystem Enhancement Program contingent upon
11 acceptance of payments by that Program. The NCDOT may propose other
12 offset measures to the Division. All offset measures identified in this Sub-Item
13 shall meet the requirements of ~~15A NCAC 02B .0273~~15A NCAC 02B .0273;
14 and

15 (iv) New non-roadway development shall comply with the riparian buffer protection
16 requirements of 15A NCAC 02B .0267 and .0268 through a Division approval
17 process as of this Rule's effective date of August 11, 2009.

18 ~~(d) Establish a program to identify and implement load-reducing opportunities on existing~~
19 ~~development within the watershed. The long-term objective of this effort shall be for the~~
20 ~~NCDOT to achieve the nutrient load goals in 15A NCAC 02B .0262 as applied to~~
21 ~~existing development under its control, including roads and facilities.~~

22 ~~(i) For existing non-roadway development, the program shall include estimates of,~~
23 ~~and plans for offsetting, nutrient load increases from lands developed~~
24 ~~subsequent to the baseline period but prior to implementation of its new~~
25 ~~development program. It shall include a technical analysis that includes a~~
26 ~~proposed implementation rate and schedule. This schedule shall provide for~~
27 ~~proportionate annual progress toward reduction goals as practicable throughout~~
28 ~~the proposed compliance period. The program shall identify the types of~~
29 ~~activities NCDOT intends to implement and types of existing non-roadway~~
30 ~~development affected, relative proportions or a prioritization of practices, and~~
31 ~~the relative magnitude of reductions it expects to achieve from each.~~

32 ~~(ii) For existing roadway development, NCDOT may meet minimum~~
33 ~~implementation rate and schedule requirements by implementing retrofits or~~
34 ~~other load-reducing measures in the watershed to achieve load reductions at the~~
35 ~~rate of 500 pounds of nitrogen reduction per 5-year period and at least 50~~
36 ~~pounds per year. To the maximum extent practicable, retrofits shall be designed~~
37 ~~to treat the runoff generated from all surfaces by 1 inch of rainfall, and shall~~

~~conform to the standards and criteria established in the most recent version of the Division approved NCDOT BMP Toolbox required under NCDOT's NPDES stormwater permit. To establish removal rates for nutrients in the Toolbox, design criteria for individual practices therein shall be modified as needed consistent with such criteria in the most recent version of the *Stormwater Best Management Practices Manual* published by the Division, or other technically at least equivalent guidance acceptable to the Division, and the Division shall approve such modifications as part of the accounting process defined in Item (8) of this Rule. Other aspects of nutrient mass load calculations shall be based on the accounting process defined in Item (8) of this Rule.~~

(b) NCDOT EXISTING DEVELOPMENT LOAD REDUCTION GOALS. For NCDOT existing roadway and non-roadway development, a load reduction goal shall be designed to achieve, relative to the baseline period 1997 through 2001, an eight percent (8%) reduction in nitrogen loading and a five percent (5%) reduction in phosphorus loading reaching Jordan Reservoir in the Upper New Hope and Haw subwatersheds. The load reduction goal for the Lower New Hope arm shall be designed to maintain no increases in nitrogen and phosphorus loads from existing roadway and nonroadway development relative to the baseline period 1997 through 2001. Load reduction goals for each subwatershed shall be calculated as follows:

(i) For existing NCDOT roadways and industrial facilities, baseline loads shall be established using stormwater runoff nutrient load characterization data collected through the National Pollutant Discharge Elimination System (NPDES) Research Program under NCS0000250 Permit Part II Section G;

(ii) For other NCDOT nonroadway development, baseline loads shall be established by applying the Tar-Pamlico Nutrient Export Calculation Worksheet, Piedmont Version, dated October 2004, to acreages of nonroadway development under the control of NCDOT during the baseline period. The baseline load for other nonroadway development may also be calculated using an equivalent or more accurate method acceptable to the Division and recommended by the Scientific Advisory Board established under Session Law 2009-216; and

(iii) The existing development load reduction goal shall be adjusted to account for nutrient loading increases from existing roadway and nonroadway development subsequent to the baseline period but prior to implementation of new development stormwater programs pursuant to Sub-Item (6)(a) of this Rule.

(c) If notified by the Division of the requirement to develop and implement, or modify a program to control nutrient loading from existing development as specified under Item (4) of this Rule, the NCDOT shall do so based on the standards set out in this sub-item.

1 The NCDOT shall submit such programs to the Division for approval according to the
2 processes identified in Item (8) of this Rule. Such program shall achieve the nutrient load
3 reduction goals in Sub-Item (6)(b) of this rule and address both roadway and nonroadway
4 development. Such program shall include the following elements:

5 (i) Identification of the NCDOT stormwater outfalls from Interstate, US, and NC
6 primary routes;

7 (ii) Identification and elimination of illegal discharges into the NCDOT's
8 stormwater conveyance system; and

9 (iii) Initiation of a "Nutrient Management Education Program" for NCDOT staff and
10 contractors engaged in the application of fertilizers on highway rights of way.
11 The purpose of this program shall be to contribute to the load reduction goals
12 established in 15A NCAC 02B .0262 through proper application of nutrients,
13 both inorganic fertilizer and organic nutrients, to highway rights of way in the
14 Jordan watershed in keeping with the most current state-recognized technical
15 guidance on proper nutrient management.

16 (d) If notified by the Division of the requirement to develop and implement, or modify a
17 program to control nutrient loading from existing development as specified under Item
18 (4) of this Rule, the NCDOT shall achieve the nutrient load reduction goals under Sub-
19 Item (6)(b) of this Rule by development of a load reduction program that addresses both
20 roadway and nonroadway development in each subwatershed of the Jordan Reservoir.
21 Such program may include, but not be limited to, the following load-reducing measures:

22 (i) street sweeping;

23 (ii) source control activities such as pet waste reduction and fertilizer management
24 at NCDOT facilities;

25 (iii) improvement of existing stormwater structures;

26 (iv) alternative stormwater practices such as use of rain barrels and cisterns;

27 (v) stormwater capture and reuse; and

28 (vi) purchase of nutrient reduction credits.

29 (e) The NCDOT may meet minimum implementation rate and schedule requirements of its
30 program by implementing a combination of three stormwater retrofits per year for
31 existing roadway development in the Jordan Lake watershed and other load-reducing
32 measures identified in its program developed pursuant to this Rule and approved by the
33 Commission.

34 ~~(e) Initiate a "Nutrient Management Education Program" for NCDOT staff and contractors~~
35 ~~engaged in the application of fertilizers on highway rights of way. The purpose of this~~
36 ~~program shall be to contribute to the load reduction goals established in 15A NCAC 02B~~
37 ~~.0262 through proper application of nutrients, both inorganic fertilizer and organic~~

~~nutrients, to highway rights of way in the Jordan watershed in keeping with the most current state recognized technical guidance on proper nutrient management; and~~

~~(f) — Address compliance with the riparian buffer protection requirements of 15A NCAC 02B .0267 and .0268 through a Division approval process.~~

~~(5)(7)~~ NON-NCDOT RULE IMPLEMENTATION. For all state and federal entities that control lands within the Jordan watershed with the exception of the NCDOT, this Rule shall be implemented as follows:

~~(a) — Within six months after the effective date of this Rule, any entity that intends to use water quality monitoring to guide the initial design of its load reduction program shall provide a monitoring design to the Division. The Division shall notify any such entity of the adequacy of its design within three months of submittal. When an entity's monitoring design is deemed adequate, it may delay submittal of its load reduction program by up to one year from the timeframe given in Sub Item (5)(c) of this Rule, whereupon the same time interval would be added to the approval and implementation timeframes given in Sub Items (5)(d) through (5)(f) of this Rule;~~

~~(b)(a)~~ Upon Commission approval of the accounting methods required by Item (8) of this Rule, ~~subject entities shall comply with~~ As of July 2012, the date of Commission approval for the nutrient accounting methods, entities shall comply with the requirements of Sub-Item ~~(3)(5)~~(a) of this Rule for any new development proposed within their jurisdictions;

~~(e)(b)~~ ~~Within 24 months after the Commission's approval of the accounting methods, Within six months after receiving notice to develop and implement, or modify a program to control nutrient loading from existing development as specified in Sub Item (4)(a) of this Rule,~~ subject entities shall submit load reduction programs to the Division for preliminary approval according to the standards set out in Sub-Item ~~(3)(5)~~(b) of this Rule;

~~(d)(c)~~ ~~Within 34 months after the Commission's approval of the accounting methods, Within six months following submission of the subject entity's program to control nutrient loading from existing development,~~ the Division shall request the Commission's approval of entities' load reduction programs. The Commission shall either approve the programs or require changes. Should the Commission require changes, the Division shall seek Commission approval at the earliest feasible date subsequent to the original request;

~~(e)(d)~~ Within ~~36 months after the Commission's approval of the accounting methods, or within~~ two months following Commission approval of a load reduction program, ~~whichever is later,~~ entities shall begin to implement load reduction programs; ~~and~~

~~(f)(e)~~ Upon implementation of the requirements of Item ~~(3)(5)~~ of this Rule, subject entities shall provide annual reports to the Division documenting their progress in implementing those ~~requirements.~~ requirements; and

1 (f) If the 2023 monitoring report or subsequent monitoring reports for the Upper New Hope
2 Arm of Jordan Reservoir shows that nutrient-related water quality standards are not being
3 achieved, the Division shall notify the subject entities of the need for additional measures
4 to reduce nitrogen loading in the subwatershed. The subject entities shall then submit a
5 modified program to achieve the nutrient reductions specified in Sub-Item (3)(d) of this
6 Rule. Submission, review and approval, and implementation of a modified program shall
7 follow the process, timeline, and standards set out in Sub-Items (7)(b) through (7)(d) of
8 this Rule.

9 ~~(6)~~(8) NCDOT RULE IMPLEMENTATION. For the NCDOT, this Rule shall be implemented as
10 follows:

11 ~~(a) Within 30 months of the effective date of this Rule, the NCDOT shall submit the~~
12 ~~Stormwater Management Program for the Jordan watershed to the Division for approval.~~
13 ~~This Program shall meet or exceed the requirements in Item (4) of this Rule;~~

14 ~~(b) Within 40 months of the effective date of this Rule, the Division shall request the~~
15 ~~Commission's approval of the NCDOT Stormwater Management Program;~~

16 ~~(c) Within 42 months of the effective date of this Rule, the NCDOT shall implement the~~
17 ~~approved Stormwater Management Program; and~~

18 (a) NCDOT shall continue to implement the Stormwater Management Program for New
19 Development submitted to the Division in February 2012, approved by the Commission
20 in November 2012, and implemented as of January 2013. This program shall continue
21 to meet or exceed the requirements in Sub-Items (6)(c) through (6)(e) of this Rule;

22 (b) Existing development requirements shall be implemented as follows:

23 (i) Within six months after receiving notice to develop and implement, or modify a
24 program to control nutrient loading from existing development as specified in
25 Item (4)(a) of this Rule, the NCDOT shall submit the Existing Development
26 Program for the Jordan watershed to the Division for approval. This Program
27 shall meet or exceed the requirements in Sub-Items (6)(c) through (6)(e) of this
28 Rule;

29 (ii) Within six months following submission of the NCDOT's program to control
30 nutrient loading from existing development, the Division shall request the
31 Commission's approval of the NCDOT Existing Development Program. If the
32 Commission disapproves the program, the NCDOT shall submit a modified
33 program within two months. The Division shall recommend that the
34 Commission approve or disapprove the modified program within three months
35 after receiving the NCDOT's modified program;

1 (iii) Within two months after the Commission's approval of a program to control
2 nutrient loading from existing development, the NCDOT shall implement their
3 approved program; and

4 (iv) If the 2023 monitoring report or subsequent monitoring reports for the Upper
5 New Hope Arm of Jordan Reservoir shows that nutrient-related water quality
6 standards are not being achieved, the Division shall notify the NCDOT of the
7 need for additional measures to reduce nitrogen loading in the subwatershed.
8 The NCDOT shall then submit a modified program to achieve the nutrient
9 reductions specified in Sub-Item (3)(d) of this Rule. Submission, review and
10 approval, and implementation of a modified program shall follow the process
11 and timeline set out in Sub-Items (8)(b)(i) through (8)(b)(iii) of this Rule.

12 ~~(4)(c)~~ Upon implementation, the NCDOT shall submit annual reports to the Division
13 summarizing its activities in implementing each of the requirements in ~~Item (4) Sub-~~
14 ~~Items (6)(c) through (6)(e)~~ of this Rule. This annual reporting may be incorporated into
15 annual reporting required under NCDOT's NPDES stormwater permit.

16 ~~(7)(9)~~ RELATIONSHIP TO OTHER REQUIREMENTS. A party may in its program submittal under
17 Item ~~(5)(7)~~ or ~~(6)(8)~~ of this Rule request that the Division accept its implementation of another
18 stormwater program or programs, such as NPDES stormwater requirements, as satisfying one or
19 more of the requirements set forth in Item ~~(3)(5)~~ or ~~(4)(6)~~ of this Rule. The Division shall provide
20 determination on acceptability of any such alternatives prior to requesting Commission approval
21 of programs as required in Items ~~(5)(7)~~ and ~~(6)(8)~~ of this Rule. The party shall include in its
22 program submittal technical information demonstrating the adequacy of the alternative
23 requirements.

24 ~~(8)(10)~~ ACCOUNTING METHODS. ~~Within 18 months after the effective date of this Rule, the Division~~
25 ~~shall submit a nutrient accounting framework to the Commission for approval. This framework~~
26 ~~shall include tools for quantifying load reduction assignments on existing development for parties~~
27 ~~subject to this Rule, load reduction credits from various activities on existing developed lands, and~~
28 ~~a tool that will allow subject parties to account for loading from new and existing development~~
29 ~~and loading changes due to BMP implementation. The Division shall work in cooperation with~~
30 ~~subject parties and other watershed interests in developing this framework. Non-NCDOT entities~~
31 ~~shall continue to utilize the Jordan/Falls Lake Stormwater Load Accounting Tool approved by the~~
32 ~~Commission in July 2012 for all applicable load reduction estimation activities or equivalent,~~
33 ~~more source-specific or more accurate methods acceptable to the Division. Except as for the~~
34 ~~establishment of baseline loads as specified under Item (6)(b) of this Rule, NCDOT shall utilize~~
35 ~~the NCDOT-Jordan/Falls Lake Stormwater Load Accounting Tool approved by the Commission~~
36 ~~in July 2012 for all applicable load estimation activities or equivalent, more source-specific, or~~
37 ~~more accurate methods acceptable to the Division. The Division shall periodically revisit these~~

APPENDIX

1 accounting methods to determine the need for revisions to both the methods and to existing
2 development load reduction assignments made using the methods set out in this Rule. It shall do
3 so no less frequently than every 10 years. Its review shall include values subject to change over
4 time independent of changes resulting from implementation of this Rule, such as untreated export
5 rates that may change with changes in atmospheric deposition. It shall also review values subject
6 to refinement, such as BMP nutrient removal efficiencies.

7
8 *History Note:* Authority G.S. 143-214.1; 143-214.5; 143-214.5(i); 143-214.7; 143-214.12; 143-214.21; 143-
9 215.3(a)(1); 143-215.6A; 143-215.6B; 143-215.6C; 143-215.8B; 143B-282(c); 143B-282(d); S.L.
10 2005-190; S.L. 2006-259; S.L. 2009-216, S.L. 2009-484;
11 *Eff. August 11, 2009*;
12 *See S.L. 2009-216 and S.L. 2009-484; Amended Eff. September 1, 2011, July 1, 2014 (Pending*
13 *Legislative Review).*