15A NCAC 02B .0295 MITIGATION PROGRAM REQUIREMENTS FOR PROTECTION AND MAINTENANCE OF RIPARIAN BUFFERS

(a) PURPOSE. The purpose of this Rule is to set forth the mitigation requirements that apply to applicants who wish to impact a riparian buffer when one of the following applies:

(1) The applicant has received an authorization certificate, for impacts that cannot be avoided or practicably ~~mimimized~~minimized, pursuant to 15A NCAC 02B .0290 protection and maintenance of existing riparian buffers: purpose, applicability, jurisdiction and exemptions::

(2) The applicant has received a variance pursuant to 15A NCAC 02B .0290 and is required to perform mitigation as a condition of a variance approval.

(b) DEFINITIONS. For the purpose of this Rule, these terms shall be defined as follows:

(1) "Authority" means either the Division or a local government that has been delegated or designated to implement the riparian buffer program.

(2) "Creation site" means a site where a stream previously existed but has been culverted or placed in a pipe in the past and where a riparian buffer and an open stream channel are now being proposed to be restored.

(3) "Division" means the Division of Water Quality of the North Carolina Department of Environment and Natural Resources.

(4) "Enhancement Site" means riparian zone sites that shall be distinguished from restoration or preservation sites by being characterized by conditions between restoration and preservation.

(5) "Government Entity" means the State and its agencies and subdivisions, the federal government, and units of local government.

(6) "Hydrologic Area" means the Watershed Boundary Dataset (WBD), located at http://datagateway.nrcs.usda.gov using the eight-digit Hydrologic Unit Code (HUC) prepared by the United States Geological Survey.

(7) "Monitoring period" means the length of time specified in the approved mitigation plan during which monitoring of vegetation success and stream stability is done.

~~(7)~~(8) "Non-wasting endowment" means a fund that generates enough interest each year to cover the cost of the long term monitoring and maintenance.

~~(8)~~(9) "Off-site" means off the property on which the buffer impacts occur but within the most recent version of the Watershed Boundary Dataset (WBD), located at http://datagateway.nrcs.usda.gov using the 12 digit HUC prepared by the United States Geological Survey

~~(9)~~(10) "On-site" means on the property on which the impact occurred and which is owned by the applicant on which the buffer impacts occur.

~~(10)~~(11) "Outer Coastal Plain" means the portion of the state shown as the Middle Atlantic Coastal Plain (63) on Griffith, et al (2002) "Ecoregions of North and South Carolina". Reston, VA, United States Geological Survey.

~~(11)~~(12) "Physiographic province" means one of the four Level III ecoregion shown on Griffith, et al (2002) "Ecoregions of North and South Carolina". Reston, VA, United States Geological Survey.

~~(12)~~(13) "Preservation Site" means riparian zone sites that are characterized by a closed canopy of tree species of greater than or equal to five inches diameter at breast height (dbh) or characterized by a dense growth of smaller woody stems such that nutrient removal and other buffer functions are maximized.

~~(13)~~(14) "Restoration Site" means riparian zone sites that are characterized by an absence of trees greater than or equal to five inches diameter at breast height (dbh), by a lack of dense growth of smaller woody stems, or by open tree canopies such that the planting of woody stems will maximize nutrient removal and other buffer functions.

~~(14)~~(15) "Urban" means a percent impervious cover of at least 24% in the watershed upstream of the upper end of the mitigation reach and areas where post-construction stormwater requirements apply according to Session Law 2006-246.

(c) APPLICATION REQUIREMENTS AND MITIGATION OPTIONS. Any applicant who seeks approval to impact riparian buffers covered under this Rule and who has met the requirements of Paragraph (a) shall submit to the Division a written mitigation proposal that calculates the required area of mitigation and describes the area and location of each type of proposed mitigation, The applicant may not impact buffers until the Division has approved the mitigation plan by issuance of written authorization. For all options except payment of a fee under Paragraph (h) or (i), the proposal shall include conservation easements or similar legal mechanisms to ensure perpetual maintenance and protection of the mitigation site's nutrient removal and other water quality functions, a non-wasting endowment, and a completion bond that is payable to the Division sufficient to ensure that land purchase, construction, monitoring and maintenance are completed as well as a non-wasting endowment. The Division shall issue a mitigation determination that specifies the area, type and location of mitigation. The applicant may propose any of the following types of mitigation and shall provide a written demonstration of practicality that takes into account the relative cost and availability of potential options, as well as information addressing all requirements associated with the option proposed:

(1) Applicant provided on-site or off-site riparian buffer restoration, enhancement or preservation pursuant to Paragraph (g) of this Rule;

(2) Payment of a compensatory mitigation fee to a mitigation bank if buffer credits are available pursuant (h) of this Rule or payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (i) of this Rule. Payment to the Riparian Buffer Restoration Fund shall be an option for applicants other than Government Entities only when credits are not available from a mitigation bank located within the same 8-digit cataloguing unit as the buffer impact pursuant to Paragraph (h) of this Rule is not available;

(3) Donation of real property or of an interest in real property pursuant to Paragraph (j) of this Rule; and,

(4) Alternative buffer mitigation options pursuant to Paragraph (k) of this Rule;

(d) AREA OF IMPACT. The Authority shall determine the area of impact in square feet to each zone of the proposed riparian buffer impact by adding the following:

(1) The area of the footprint of the use causing the impact to the riparian buffer;

(2) The area of the boundary of any clearing and grading activities within the riparian buffer necessary to accommodate the use;

(3) The area of any ongoing maintenance corridors within the riparian buffer associated with the use, and

(4) The Authority shall deduct from this total the area of any wetlands that are subject to mitigation requirements under 15A NCAC 2H .0506 and are located within the proposed riparian buffer impact area.

(e) AREA OF MITIGATION BASED ON ZONAL AND LOCATIONAL MULTIPLIERS. The Authority shall determine the required area of mitigation for each zone by applying each of the following multipliers to the area of impact calculated under paragraph (d) of this Rule, calculation of zonal multipliers as required under Rule 15A NCAC 02B .0290, except that the required area of mitigation for impacts proposed within the Goose Creek watershed under Rules 15A NCAC 2B .0605, .0606, and .0607 shall be determined by multiplying the impacts determined in Subparagraph (d)(1) of this Rule to the riparian buffer by 3: and,

Option A (2) Use of the following locational multipliers as applicable based on location of the proposed mitigation site relative to that of the proposed impact site. Payment of a compensatory mitigation fee to a mitigation bank if mitigation credits are available pursuant to Paragraph (h) of this rule or payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (i) of this Rule. Payment to the Riparian Buffer Restoration Fund for applicants other than Government Entities shall be available only when payment to a mitigation bank pursuant to Paragraph (h) of this rule is not available. Alternative mitigation options shown in Paragraph (k) of this rule shall be subject to these locational multipliers.

Adjacent 8 digit HUC	**Within 8 digit HUC**	**Within 12 digit HUC**	**Mitigation option**
n/a	n/a	0.75	1) On site mitigation
2.0	1.5	1	2) All other types of mitigation

Option B (2) Mitigation options shall be available to applicants. A written demonstration of practicality shall be submitted to the Division for review and approval and shall take into account the cost and availability of these options with the following conditions:

(A) Mitigation shall be within the same 8 digit HUC,

(B) Payment of a compensatory mitigation fee to a mitigation bank if mitigation credits are available pursuant to Paragraph (h) of this rule or payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (i) of this Rule. Payment to the Riparian Buffer Restoration Fund for applicants other than Government Entities shall be available only when payment to a mitigation bank pursuant to Paragraph (h) of this rule is not available,

(C) Alternative mitigation options shown in Paragraph (k) of this rule shall be subject to these locational multipliers, and

(D) Donation of property shall satisfy all the conditions of Paragraph (j) of this Rule.

(f) GEOGRAPHIC RESTRICTIONS ON LOCATION OF MITIGATION. Mitigation shall be performed in the same river basin in which the impact is located with the following additional specifications:

(1) In the following cases, mitigation shall be performed in the same watershed in which the impact is located:

(A) Falls Lake Watershed;

(B) Goose Creek Watershed;

(C) Randleman Lake Water Supply Watershed; and

(D) Each subwatershed of the Jordan Lake watershed, as defined in Rule 15A NCAC 2B .0262.

(E) Other watershed restrictions as specified in riparian buffer protection rules adopted by the Commission.

(2) Buffer mitigation for impacts within watersheds with riparian buffer rules that also have federally listed threatened or endangered aquatic species may be done within other watersheds with the same species as long as the impacts are in the same river basin and same physiographic province as the mitigation site.

(g) RIPARIAN BUFFER RESTORATION, CREATION, OR ENHANCEMENT. Enhancement, creation and restoration shall have the objective of establishing a forested riparian buffer according to the requirements of this paragraph. Division staff shall make an on-site determination as to whether a potential mitigation site qualifies as a restoration, creation or enhancement site based on the applicable definition in Paragraph (b) of this Rule. Persons who choose to meet their mitigation requirement through riparian buffer restoration, creation or enhancement, shall also meet the following requirements:

(1) The restoration area is equal to the required area of mitigation determined pursuant to Paragraph (e) of this Rule; and,

(2) The enhancement area is three times larger than the required area of mitigation determined pursuant to Paragraph (e) of this Rule.

(3) The location of the restoration or enhancement shall comply with the requirements of Paragraph (f) of this Rule.

(4) Any geographic multiplier as specified under Paragraph (e)(2) of this rule

(5) Option 1 -The restoration or enhancement site shall have a minimum width of 50 feet as measured horizontally on a line perpendicular to the surface water.

Option 2 – The restoration or enhancement site shall have a minimum width of 50 feet as measured horizontally to the nearest edge of the conservation easement or similar legal mechanism that includes a non-wasting endownment.

(A) For the Catawba River mainstem below Lake James, the width of the riparian buffer shall begin at the most landward limit of the top of the bank and extend landward a distance of 50 feet, measured horizontally on a line perpendicular to a vertical line marking the edge of the top of the bank. For the mainstem lakes located on the Catawba River mainstem, the width of the riparian buffer shall begin at the most landward limit of the full pond level and extend landward a distance of 50 feet, measured horizontally on a line perpendicular to a vertical line marking the edge of the full pond level. Buffer mitigation in the Catawba watershed may be done along the lake shoreline as well as along intermittent and perennial stream channels throughout the watershed.

(B) For the Goose Creek Watershed the riparian buffer restoration or enhancement site shall have a minimum width of 50 feet as measured horizontally on a line perpendicular to the surface water and may include restoration or enhancement of existing riparian areas, restoration or enhancement of streamside areas along first order ephemeral streams that discharge/outlet into intermittent or perennial streams, and preservation of the streamside area along first order ephemeral streams that discharge or outlet into intermittent or perennial stream at a 5:1 ratio as long as there is also an amount of restoration or enhancement equivalent to the amount of permitted impact..

(6) The mitigation site shall provide diffuse flow across the entire buffer width. Any existing stormwater conveyances such as ditches or pipes shall be eliminated and the flow converted to diffuse flow.

(7) The applicant or mitigation provider shall submit a restoration or enhancement plan for written approval by the Division. The restoration or enhancement plan shall demonstrate compliance with the requirements of Sub-Paragraphs (1) through (4) of this Paragraph and shall contain the following in addition to elements required in Paragraph (c):

(A) A map of the proposed restoration or enhancement site;

(B) A vegetation plan which shall include a minimum of five native hardwood tree species, where no one species is greater than 25% of planted stems, planted at a density sufficient to provide 320 trees per acre at maturity. The Division may approve alternative planting plans upon consideration of factors including site wetness and plant availability;

(C) A grading plan. The site shall be graded in a manner to ensure diffuse flow through the entire riparian buffer, and,

(D) A schedule for implementation including a fertilization and herbicide plan that will include protective measures to ensure that fertilizer and herbicide is not deposited downstream from the site and will be applied per manufacturers guidelines. Pesticides used must be certified by EPA for use in or near aquatics sites. Pesticides must be applied in accordance with the manufacturers' instructions, and

(8) Within one year after the Division has approved the restoration or enhancement plan, the applicant or mitigation provider shall present documentation to the Division that the riparian buffer has been restored or enhanced unless the Division agrees in writing to a longer time period due to the necessity for a longer construction period. If documentation is not presented within this timeframe, then the person shall be in violation of the Authority's riparian buffer protection program.

(9) The mitigation area shall be placed under a perpetual conservation easement or similar legal mechanism to provide for protection of the property's nutrient and sediment removal functions,

(10) If the proposed mitigation site contains a sewer easement, the portion of the site located within Zone 1 is not suitable for a buffer mitigation site. The portion within Zone 2 may be suitable mitigation if it is left in a natural, wooded condition but the area within the maintenance corridor cannot be used as buffer mitigation credit,

(11) The applicant or mitigation provider shall submit written annual reports for a period of five years after the restoration or enhancement showing that the trees planted have survived and that diffuse flow through the riparian buffer has been maintained. The applicant shall replace trees that do not survive and restore diffuse flow if needed during that five-year period, and

(12) A completion bond shall be provided for the mitigation site to account for all land purchase, construction, monitoring and maintenance costs. A non-wasting endowment must be provided for the site to ensure perpetual, long term monitoring and maintenance.

(h) PURCHASE OF BUFFER MITIGATION CREDITS FROM A PRIVATE OR PUBLIC MITIGATION BANK. Applicants who choose to satisfy some or all of their mitigation determination by purchasing mitigation credits from a private or public mitigation bank shall meet the following requirements:

(1) The mitigation bank from which credits are purchased is listed on the Division's webpage (http://portal.ncdenr.org/web/wq/swp/ws/401/certsandpermits/mitigation) and shall have available riparian buffer credits;

(2) The mitigation bank from which credits are purchased shall be appropriately located as described in Paragraphs (e) and (f) of this Rule; and,

(3) After receiving a mitigation acceptance letter from the mitigation provider, proof of payment for the credits shall be provided to the Department prior to any activity that results in the removal or degradation of the protected riparian buffer.

(i) PAYMENT TO THE RIPARIAN BUFFER RESTORATION FUND. Applicants who choose to satisfy some or all of their mitigation determination by paying a compensatory mitigation fee to the Riparian Buffer Restoration

Fund shall meet the requirements of 15A NCAC 02B .0244 (Riparian Buffer Mitigation Fees to the NC Ecosystem Enhancement Program).

(j) DONATION OF PROPERTY. Applicants who choose to satisfy their mitigation determination by donating real property or an interest in real property shall meet the following requirements:

(1) The donation of real property interests may be used to either partially or fully satisfy the payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (h) of this Rule. The value of the property interest shall be determined by an appraisal performed in accordance with Part (i)(4)(D) of this Rule. The donation shall satisfy the mitigation determination if the appraised value of the donated property interest is equal to or greater than the required fee. If the appraised value of the donated property interest is less than the required fee calculated pursuant to 15A NCAC 2B .0244, the applicant shall pay the remaining balance due.

(2) The donation of conservation easements or similar legal mechanism that includes a non-wasting endownment to satisfy compensatory mitigation requirements shall be accepted only if the ~~conservation easement~~ or similar legal mechanism that includes a non-wasting endownment is granted in perpetuity.

(3) Donation of real property interests to satisfy the mitigation determination shall be accepted only if such property meets all of the following requirements:

(A) The property shall be located within an area that is identified as a priority for restoration in the Basinwide Wetlands and Riparian Restoration Plan for the particular River Basin developed by the Department pursuant to G.S. 143-214.10 or shall be located at a site that is otherwise consistent with the goals outlined in the Basinwide Wetlands and Riparian Restoration Plan;

(B) The property shall contain riparian areas not currently protected by the State's riparian buffer protection program that are in need of restoration or enhancement rather than preservation;

(C) For the Neuse, Tar-Pamlico, Randleman basins and the Jordan Reservoir Watershed, the restorable riparian buffer on the property shall have a minimum length of 1000 linear feet along a surface water and a minimum width of 50 feet as measured horizontally on a line perpendicular to the surface water. For the Catawba River mainstem below Lake James, the width of the riparian buffer shall begin at the most landward limit of the top of the bank and extend landward a distance of 50 feet, measured horizontally on a line perpendicular to a vertical line marking the edge of the top of the bank. For the mainstem lakes located on the Catawba River mainstem, the width of the riparian buffer shall begin at the most landward limit of the full pond level and extend landward a distance of 50 feet, measured horizontally on a line perpendicular to a vertical line marking the edge of the full pond level;

(D) The size of the restorable riparian buffer on the property to be donated shall equal or exceed the acreage of riparian buffer required to be mitigated under the mitigation responsibility determined pursuant to Paragraph (e) of this Rule;

(E) The property shall not require excessive measures for successful restoration, such as removal of structures or infrastructure. Restoration of the property shall be capable of fully offsetting the adverse impacts of the requested use;

(F) The property shall be suitable to be successfully restored, based on existing hydrology, soils, and vegetation;

(G) The estimated cost of restoring and maintaining the property shall not exceed the value of the property minus site identification and land acquisition costs;

(H) The property shall not contain any building, structure, object, site, or district that is listed in the National Register of Historic Places established pursuant to Public Law 89-665, 16 U.S.C. 470 as amended;

(I) The property shall not contain any hazardous substance or solid waste;

(J) The property shall not contain structures or materials that present health or safety problems to the general public. If wells, septic, water or sewer connections exist, they shall be filled, remediated or closed at owner's expense in accordance with state and local health and safety regulations;

(K) The property and adjacent properties shall not have prior, current, or known future land use that would inhibit the function of the restoration effort; ~~and,~~

(L) The property shall not have any encumbrances or conditions on the transfer of the property interests except as otherwise allowed by this rule,

(M) The property shall be donated to the NC Ecosystem Enhancement Program or similar organization approved by the Division in order to conduct the buffer restoration or enhacement, and~~.~~

(N) The property shall be donated to a local land trust or state organization that is willing to accept the property. The donation shall be accompanied by a non-wasting endowment sufficient to ensure perpetual, long term monitoring and maintenance.

(4) At the expense of the applicant or donor, the following information shall be submitted to the Division with any proposal for donations or dedications of interest in real property:

(A) Documentation that the property meets the requirements laid out in Subparagraph (i)(3) of this Rule;

(B) US Geological Survey 1:24,000 (7.5 minute) scale topographic map, county tax map, USDA Natural Resource Conservation Service County Soil Survey Map, and county road map showing the location of the property to be donated along with information on existing site conditions, vegetation types, presence of existing structures and easements;

(C) A current property survey performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the State Board of Registration for Professional Engineers and Land Surveyors in "Standards of Practice for Land Surveying in North Carolina." Copies may be obtained from the North Carolina State Board of Registration for Professional Engineers and Land Surveyors, 3620 Six Forks Road, Suite 300, Raleigh, North Carolina 27609;

(D) A current appraisal of the value of the property performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the Appraisal Board in the "Uniform Standards of Professional North Carolina Appraisal Practice." Copies may be obtained from the Appraisal Foundation, Publications Department, P.O. Box 96734, Washington, D.C. 20090-6734; and,

(E) A title certificate.

(k) ALTERNATIVE BUFFER MITIGATION OPTIONS. Some or all of a buffer mitigation requirement may be met through any of the alternative mitigation options described in this Paragraph. Any proposal for alternative mitigation shall meet, in addition to the requirements of Paragraphs (c), (e) and (f), the requirements set out in the sub-paragraph addressing that option as well as the following requirements:

(1) Any proposal for alternative mitigation shall be provided in writing to the Division and shall meet the following content and procedural requirements for approval by the Division:

(A) Demonstration of no practical alternative. The application shall describe why traditional buffer mitigation options are not practical for the project;

(B) The application shall demonstrate that the proposed alternative removes an equal or greater annual mass load of nutrients to surface waters as the buffer that is approved by the Division for impact following the calculation of impact and mitigation areas pursuant to Paragraphs (d) and (e) of this Rule. To estimate the rate of nutrient removal of the impacted buffer, the applicant shall either propose a method acceptable to the Division or use a method previously approved by the Division. Prior to approval, both methods shall be subject to public notice through the 401 Certification Mailing List and public comment in accordance with 15A NCAC 2H .0503;

(C) Public Notice and Comment. All proposals shall be reviewed by the Division for completeness and then be subject to public comment through 60-day notice on the 401 Certification Mailing List in accordance with 15A NCAC 2H .0503;

(D) Projects that have been constructed and are within the required monitoring period as of the effective date of this Rule are eligible for use as alternative buffer mitigation. Projects that have completed monitoring and have been released by the Division as of the effective date of this Rule are not eligible for use as alternative buffer mitigation,

(E) Buffer mitigation ratios shall be applied to these alternative buffer mitigation options, and

(F) The mitigation area shall be placed under a perpetual conservation easement or similar legal mechanism to provide for protection of the property's nutrient and sediment removal functions,

(G) A completion bond shall be provided for the mitigation site to account for all land purchase, construction, monitoring and maintenance costs. A non-wasting endowment must be provided for the site to ensure perpetual, long term monitoring and maintenance.

(2) ALTERNATIVE BUFFER MITIGATION – NON-STRUCTURAL, VEGETATIVE OPTIONS.

(A) Coastal Headwater Stream Mitigation. Wooded buffers planted along Outer Coastal Plain headwater stream mitigation sites can be approved as riparian buffer mitigation as long as the site meets all applicable requirements of Paragraph (g) of this Rule. In addition, all success criteria including tree species, tree density, diffuse flow and stream success criteria specified by the Division in any required written approval or the site must be met. The area of the buffer shall be measured perpendicular to the length of the valley being restored. The area within the proposed buffer mitigation shall not also be used as wetland mitigation. Monitoring of the site must be for at least five years from the date of planting by providing annual reports for written DWQ approval.

(B) Unmapped Stream Buffer Mitigation. Restoration or enhancement of buffers may be conducted on intermittent or perennial streams that are exempt from riparian buffer rules by virtue of not being shown on maps as further specified in individual rules referenced in Paragraph (f).These streams shall be confirmed as intermittent or perennial streams by Division staff or staff from a local delegated program using the 2010 or later version of the Division's stream identification manual. Preservation of these stream buffers that meet the definition of a preservation site may also be proposed in order to permanently protect the buffer from cutting, clearing, filling and grading and similar activities that would affect the functioning of the buffer, provided that the preservation site area is five times larger than the mitigation area required under Paragraph (e) of this Rule, and restoration or enhancement is proposed with an area equal to the mitigation area required under Paragraph (e) of this Rule. The preservation site shall protect at least a 50 foot wide wooded riparian buffer. The proposal shall meet all applicable requirements of Paragraph (g) of this Rule. Applicant shall provide a written description for the Division's approval of the demonstrable threat to the buffer mitigation site and its functioning to provide nutrient removal and other water quality benefits. No existing or new stormwater discharges are allowed thru the buffer.

(C) Preservation of mapped stream buffers. Buffer preservation may be proposed in order to permanently protect the buffer from cutting, clearing, filling and grading and similar activities that would affect the functioning of the buffer above and beyond the protection afforded by the existing buffer rules,on sites that meet the definition of a preservation site

along streams, estuaries or ponds that are subject to buffer rules as long as the proposed preservation site area is ten times larger than the mitigation area required under Paragraph (e) of this Rule, and buffer restoration or enhancement is also proposed with an area equal to the mitigation area required under Paragraph (e) of this Rule. Applicant shall provide a written description for the Division's approval of the demonstrable threat to the buffer mitigation site and its functioning to provide nutrient removal and other water quality benefits. No existing or new stormwater discharges are allowed thru the buffer.

(D) Narrower buffers on urban streams. Buffer mitigation with widths less than fifty feet may be proposed along urban streams. If buffers greater than or equal to 31 feet in width are proposed and on-site stormwater management is provided to control local sources of nutrients and other pollutants, then full buffer credit shall be awarded for the mitigation area required under Paragraph (e) of this Rule. A total of 75% of full credit shall be awarded for buffers between 15 and 30 feet wide if on-site stormwater management is provided to control local sources of nutrients and other pollutants. If on-site stormwater management is not provided, then 50% of full credit shall be provided for buffers between 31 and 50 feet wide and 25% of full credit for buffers between 15 and 30 feet wide. Buffers less than 15 feet wide shall receive no buffer credit regardless of whether on-site stormwater management is provided.

(E) Enhancement of grazing areas adjacent to streams. Buffer credit at a 2:1 ratio shall be available for an applicant who proposes permanent exclusion of grazing livestock that otherwise degrade the stream and riparian zone through trampling, grazing or waste deposition by fencing the livestock out of the stream and its adjacent buffer. The riparian buffer area contained by fencing shall be two times greater than the mitigation area required under Paragraph (e) of this Rule. The applicant shall document the condition and aerial coverage of canopy and woody understory, and shall propose planting of understory trees and shrubs as well as young canopy tree species as necessary to achieve buffer restoration to the standards identified in Paragraph (g). The applicant shall demonstrate that grazing was the predominant land use for at least the past 20 years and that woody understory is absent as a result of grazing history. Conservation easements or other similar legal mechanism shall ensure perpetual maintenance of permanent fencing.

(3~~4~~) ALTERNATIVE BUFFER MITIGATION STRUCTURAL STORMWATER TREATMENT OPTIONS.

(A) For all structural options: Riparian buffer restoration or enhancement is required with an area at least equal to the ~~mitigation area required under Paragraph (d)~~footprint of the buffer impact, and the remaining mitigation ~~shall~~ resulting from the multipliers can be met through structural options;

(B) Structural measures already required by other local, state or federal rule cannot be used as alternative buffer mitigation. Stormwater Best Management Practices (BMPs) - bioretention facilities, constructed wetlands, infiltration devices and sand filter are all potentially approvable Best Management Practices for alternative buffer mitigation. Other Best Management Practices may be approved only if they meet the nutrient removal levels outlined in (4)(C) below. Existing or planned BMPs for a local, state or federal permit may be retrofitted or expanded to improve their nutrient removal if this level of treatment would not be required by other local, state or federal rules. In this case, the predicted increase in nutrient removal may be counted toward alternative buffer mitigation;

(C) Minimum treatment levels: Any structural BMP shall provide at least 30% total nitrogen and 35% total phosphorus removal as demonstrated by a scientific and engineering literature review as approved by the Division. The total load reduction from structural BMPs shall be at least equivalent to the original load reduction provided by the existing square feet of buffer being impacted;

(D~~B~~) All proposed structural Best Management Practices shall follow the Division's current or a later version of the 2009 Stormwater Best Management Practice Design Manual. If a proposed structural Best Management Practice is not addressed in this Manual, then a scientific and engineering literature review shall be submitted with the designs for written approval by the Division. The design shall be as effective as the practices described in the Division's stormwater manual;

(E~~D~~) An operation and maintenance plan is required to be approved by the Division for all structural options;

(F~~E~~) Continuous and perpetual maintenance is required for all structural options and shall follow the Division's current or more recent version of the 2009 Stormwater Best Management Practice Design Manual;

(G~~F~~) Annual reports shall be sent in writing to the Division of Water Quality concerning operation and maintenance of all structural options approved under this rule.

(H~~G~~) Removal and replacement of structural options: If a structural option is proposed to be removed and cannot be replaced on site, then a structural measure of equal or better nutrient removal capacity shall be constructed as a replacement with the location as specified by Section (e) of this Rule;

(I~~H~~) Renovation or repair of structural options: If a structural option must be renovated or repaired, it shall be renovated to provide similar or better nutrient removal capacity as originally designed;

(J~~I~~) Structural options as well as their operation and maintenance is a responsibility of the landowner unless the Division agrees in writing to operation and maintenance by another

responsible party. Structural options shall be shown on the property deed with a note that operation and maintenance is the responsibility of the landowner or other responsible party; and.

(K~~J~~) Bonding and endowment. Provisions for bonding for construction, monitoring and maintenance as well as provision for a long term, non-wasting endowment for monitoring and maintenance shall be provided in the submittal to the Division.

(~~4~~5) OTHER ALTERNATIVE BUFFER MITIGATION OPTIONS. Other riparian buffer mitigation options may be considered by the Division on a case-by-case basis after public notice through the Division's 401 Certification Mailing List and opportunity for comment as long as the options otherwise meet the requirements of this Rule. Division staff shall present recommendations to the Environmental Management Commission for a final decision with respect to any proposal for alternative buffer mitigation options not specified in this Rule.

(k) ACCOUNTING FOR BUFFER CREDIT, NUTRIENT OFFSET CREDIT AND STREAM MITIGATION CREDIT. Buffer mitigation credit, nutrient offset credit, wetland mitigation credit and stream mitigation credit shall be accounted for in accordance with the following:

(1) Riparian buffers required for Water Supply Watershed rules shall not be generate credit for buffer mitigation, nutrient offset mitigation or stream mitigation projects,

(2) Nutrient offset credits can be generated outside of the stream buffer width required for stream mitigation,

(3) Buffer and nutrient offset credits cannot be counted in the same square footage for mitigation credit,

(4) Buffer mitigation or nutrient offset credit cannot be provided on the same locations which provide wetland mitigation credit required by 15A NCAC 2H .0506, and

(5) Option 1: Buffer mitigation or nutrient offset credit can be generated on stream mitigation sites as long as the restored or enhanced riparian buffer is at least 50 feet.

(5) Option 2: Buffer mitigation or nutrient offset credit can be generated and approved on stream mitigation sites for impacts to streams and buffers as long as the restored or enhanced riparian buffer is at least 50 feet wide and is not providing wetland mitigation credit required by 15A NCAC 2H .0506. If impacts are to buffers only, then mitigation can be done on a buffer-only mitigation site. In this case, stream credits will be no longer be available from that stream mitigation site once the buffer credits are subtracted.

(5) Option 3: Buffer mitigation or nutrient offset credit cannot be generated on stream mitigation sites.

History Note: *Authority 143-214.1; 143-214.5; 143-214.7; 143-214.20; 143-215.3(a)(1); S.L. 1998, c. 221; 143-215.6A; 143-215.6B; 143-215.6C; 143-215.8A; 143-215.8B; 143-282(c); 143B-282(d); S.L. 1999, c. 329, s. 7.1; S.B. 824-2003; S.L. 2005-190; S.L 2006-259; S.L. 2009-337; S.L. 2009-486.*
Eff. Insert date here.