Stream Buffer Variance/ Mitigation Checklist & Guidance

Project Name: _____ Date: _____

This application and support documents must be reviewed and approved by the Department of Engineering staff prior to acceptance of the request for **Board Consideration** variance application by the Planning and Community Development Department.

Guidance:

Forsyth County acknowledges the beneficial functions of undisturbed stream buffers including: water quality protection, pollutant/runoff infiltration, maintenance of base flow water levels, erosion/sedimentation reduction, increased channel/bank stability, stream shading, support of aquatic and terrestrial wildlife habitats, and recreational/aesthetic value. To compensate for the lost stream buffer functions due to impacts, mitigation should revegetate, protect, and otherwise maintain and improve stream buffer functioning at the same site where the impact will occur.

Checklist:

- ☐ Site plan consisting of stream locations, wetlands, floodplain boundaries and all other natural features as determined by a field survey.
- ☐ Copies of the variance application and approval letter from the Georgia Environmental Protection Division, regarding proposed intrusions within the 25' stream buffer.
- ☐ Description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property.
- ☐ Detailed plan of all streams and the buffers associated with the streams. Include a clear depiction of the area to be disturbed if the variance is granted.
- ☐ Calculation of the total square footage of the proposed intrusion of the buffer.
- ☐ Detailed plan of the erosion, sedimentation and pollution control measures proposed if the variance is granted.
- ☐ Detailed plan that shows all existing and proposed structures including all impervious areas and clearing limits for the entire property.
- ☐ Documentation of the extraordinary hardship should the buffer variance not be granted.
- ☐ At least one alternate plan which does not include a buffer or setback intrusion, or an explanation of why an alternative plan is not feasible.
- ☐ Storm water management plan, if applicable.

☐ A buffer mitigation plan in accordance with the following items:

A buffer extending out from a stream serves three main functions: hydrologic, water quality, and aquatic/buffer habitat protection. The following mitigation requirements were established to address all three functions. All applicants applying for a stream buffer variance before impacting the buffer must comply with the following three components:

1. *Hydrologic Protection* – The applicant must use onsite minimum Stormwater management standards that conform to guidance established in Section 1.3 of the Georgia Stormwater Management Manual (or "Blue Book"). These practices reduce downstream bank and channel erosion; reduce downstream flooding; and by capturing runoff from the first 1.2" of rainfall ensure an 80% reduction in total suspended solids (TSS).

2. *Water Quality Protection* – The applicant must implement onsite best management practices (BMPs) that address common post construction pollutants other than TSS. Practices used to address these other pollutants can be selected from Appendix A. The applicant must choose an appropriate BMP or "treatment train"; that is, a combination of BMPs, to fully address all pollutants of concern generated on site. For the first 1.2" of rainfall, the BMP or treatment train must result in at least 60% pollutant removal efficiency from the site runoff for each pollutant of concern. (Please refer to Section 3.1.6 of the Blue Book for calculating removal rates of treatment trains). Should the applicant choose practices not listed in Appendix A, documented and proven pollutant removal efficiency rates must be submitted with the proposed practice and be accepted by EPD during the application review process. Developments with significant parking spaces and/or high volume traffic areas must implement BMPs addressing oil and grease as pollutants. Pollutant removal efficiencies for these oil and grease BMPs must be included in the stream buffer variance application.

3. *Aquatic/Buffer Habitat Protection* – To protect aquatic and buffer habitats, an applicant has the option of completing either (a) or (b) below. If a U.S. Army Corps of Engineers
(COE) Section 404 Permit is required, only (a) must be completed.

a. Complete the COE requirements for Section 404 Permitting included in their published Standard Operating Procedures.

b. Complete one of the following:
   i. Preserve land:
      1. 1.5 times the impacted area if the preservation occurs onsite
      2. 3 times the impacted area if the preservation occurs offsite

   ii. Restore land:
      1. 1 times the impacted area if the restoration occurs onsite
      2. 2 times the impacted area if the restoration occurs offsite

The preservation and/or restoration must be done permanently through a restrictive covenant. The land to be preserved or restored must contain native riparian species, be "multitrophic;" i.e., have low growing grasses, forbs (nonwoody flowering plants other than grass), and other plants; small trees, bushes and shrubs AND canopy cover (medium to larger trees) ; and may be trimmed to provide "lines of sight" to provide a view of a house and/or surface water; however an entire trophic layer must NOT be removed.

It is preferred that these mitigation practices be done on site. However, they will often have to occur off site due to the nature of the project. If the mitigation must be done off site, it must remain within the same 10 digit hydrologic unit code (HUC) watershed as the buffer impact. For large projects covering multiple 10digit HUC watersheds, the mitigation practices may be completed in any of the affected HUC10 watersheds. The US Geological Survey, the Soil and Water Conservation Service, or EPD can provide maps and delineations of HUC10 watersheds.

On-site Mitigation Checklist:

Description:
Restored riparian buffer are constructed low-maintenance ecosystems adjacent to state waters, where trees, shrubs, grasses, and herbaceous plants function as a filter to remove pollutants from overland and groundwater flows.

General Characteristics: Riparian buffers are naturally vegetated areas along a stream bank that improve the habitat by:

- Providing food and cover for wildlife and aquatic organisms,
- Stabilizing stream banks,
- Filtering pollutants from Storwater,
- Attenuating the rate of runoff into streams, and
- Increasing infiltration and recharge to ground and surface water bodies.

Site Assessment: The riparian area to be restored should be evaluated with respect to the following factors.

- Soil moisture, PH, and texture.
- Flooding potential
- Aspect, topography, and microtopographic relief.

Based on the site assessment, the designer should choose 10 to 12 native species of trees and shrubs. **Trees must be planted at a density of 320 trees per acre** and **shrubs must be planted at a density of 1,200 per acre.** Ground cover grasses and plants must be sufficient enough to provide adequate ground cover as determined by Forsyth County Department of Engineering. To achieve this density, trees should be planted at a spacing of 8x8 to 10x10 feet. Shrubs should be planted at a spacing of 3x3 to 5x5 feet. **There shall be 3 small trees (understory trees) for every large tree (canopy trees) to provide structural diversity similar to a mature forest.** Shrubs should be distributed more densely at the outer reaches of the riparian zone to reduce light penetration and recolonization of invasive species. The minimum tree size required is 2.5 inches diameter breast height. Shrubs should be planted at a minimum of 1 gallon size plants.

Checklist:

- ☐ Include 5 copies of the restoration plan for review & approval.
- ☐ Depiction of the area that has been disturbed with a total square foot calculation.
- ☐ Show the center line and top of bank of any stream or creek with the appropriate undisturbed buffer.
- ☐ Plans stamped and signed by a Registered Engineer, Land Surveyor, Landscape Architect, or CPESC.
- ☐ Provide the name of the owner/builder with their mailing address and telephone number.
- ☐ Drawn at a scale of 1" = 40' maximum.
- ☐ Provide a physical address and description of the property where the encroachment has occurred.
- ☐ Provide a plant schedule of the buffer revegetation.

This application was reviewed by: _____

Staff Notes: _____