15A NCAC 02H .1031 is proposed for adoption as follows:

**15A NCAC 02H .1031 NEW STORMWATER TECHNOLOGIES (NEST) PROGRAM: PERFORMANCE STANDARD AND PROCESS FOR APPLICATION, REVIEW AND APPROVAL**The purpose of this Rule is to set forth the requirements of the New Stormwater Technologies (NEST) Program so that the Division can consider and review new stormwater technologies as meeting the requirements of the state post-construction stormwater program.Applicants who successfully complete the process set forth in this Rule may have proposed stormwater technologies approved for use throughout the state without site-specific monitoring requirements.

1. PERFORMANCE STANDARD FOR the NEST PROGRAM. The NEST Program requires that stormwater technologies, at a minimum, achieve at least one of the following:

(a) Discharge at a median effluent concentration of no greater than 25 mg/L TSS when the median influent concentration of TSS is between 50 and 150 mg/L; or

(b) Reduce the annual cumulative load of TSS by 85% or greater. Cumulative load reduction shall be determined per *Urban Stormwater BMP Performance Monitoring*. GeoSyntec Consultants, Urban Drainage and Flood Control District, 2002. Washington DC. (Office of Water (4303T), US Environmental Protection Agency, EPA-821-B-02-001).

(2) NEST PROGRAM STEPS. The process for a stormwater technology to be considered by the Division shall be as follows:

(a) During the application, monitoring, reporting and evaluation process, the new stormwater technology may not be used as an SCM to meet the requirements associated with high density development associated with 15A NCAC 2H .1013(3) on any sites other than the research sites.

(b) The applicant shall submit a NEST Program Application to the Division that includes the items listed in Item (3).

(c) The Division shall accept the device into the NEST Program if it finds that the application is complete and that the stormwater technology has the capability of meeting the performance standard in Item (1).

(d) The stormwater technology shall be installed on the proposed research sites and an entity other than the applicant shall conduct monitoring in accordance with Item (4). Research that has already been conducted may be used to demonstrate that the stormwater technology achieves the performance standard in Item (1) provided that the research meets all of the requirements in Item (4).

(e) The applicant shall submit a NEST Final Report to the Division for review.

(f) The Division shall review the NEST Final Report monitoring report and determine whether the applicant has demonstrated that the stormwater technology will meet the performance standards stated in Item (1).

(g) If the NEST Final Report is approved, then the Division shall list the device on its web site as an approved Stormwater Technology. The web site shall include the MDC and pollutant removal credit associated with the stormwater technology.

(h) If a device is accepted into the NEST Program but the applicant does not complete monitoring within 36 months after acceptance, then the Division shall consider that the application has lapsed.

(3) NEST PROGRAM APPLICATION. The following information shall be provided to the Division when an applicant applies to the NEST Program.

(a) A NEST Program Application Form;

(b) Description of physical, chemical, and/or biological treatment mechanisms employed;

(c) Design drawings with dimensions for the test sites;

(d) Description of construction materials, including a description of any components of the treatment system that may contain nutrients or metals that might contribute to increased pollutant concentrations in the effluent;

(e) Proposed MDC for the stormwater technology that include all requirements for siting; site preparation, design, construction, and maintenance activities and frequencies that are necessary to insure that the device meets the stated pollutant removal rates in perpetuity, including the following:

(i) Description of any pretreatment requirements or recommendations;

(ii) Detailed description of the sizing methodology based on a design maintenance frequency no more frequent than once per year;

(iii) Description of bypass provisions incorporated in the equipment or installation; and

(iv) Maintenance procedures.

(f) Expected treatment capabilities, including existing monitoring studies that have been performed on the stormwater technology;

(g) Description of the research site that will be used to demonstrate the stormwater technology’s effectiveness as a stormwater treatment device, including the Hydrologic Soil Group on the site;

(h) A Quality Assurance Project Plan conforming to the requirements in Item (4) describing the monitoring procedures and protocols that will be used; and

(i) A timeframe for completion of the monitoring and for submittal of the report to the Division for review.

 (4) NEST MONITORING REQUIREMENTS. The following monitoring requirements shall be met:

(a) A minimum of two sites shall be monitored to demonstrate the performance of the stormwater technology. A minimum of one site shall be located within the state of North Carolina. The second site shall be in an area with similar soils, climate and weather patterns as North Carolina. If one or more of the research sites is in Hydrologic Soil Group A soils, then the technology will be approved for use in Hydrologic Soil Group A only;

(b) The monitoring shall include sampling of the stormwater technology’s performance for a minimum of 15 storm events greater than 0.25 inch over the course of a one-year period, with a minimum of three storm events in each season;

(c) Monitoring shall be full storm hydrograph flow-weighted composite sampling of both the influent and effluent. The median influent concentration of TSS shall be between 50 and 150 mg/L;

(d) Seventy percent or more of the hydrograph’s volume shall be sampled for each storm event;

(e) In addition to TSS, the following parameters at a minimum shall be monitored: TKN, nitrate, TP and runoff volume into and out of the stormwater technology. Other parameters may be monitored if the applicant is seeking approval for removal rates of those pollutants; and

(f) Sampling, laboratory analysis, and data interpretation shall be conducted by an independent third party. The laboratory that is used shall be certified.

 (5) NEST FINAL REPORT. The following items shall be included in the NEST Final Report that the applicant submits to the Division:

(a) As-built plans and details showing the site and the stormwater technology from all monitoring sites;

(b) A certification from the entity conducting the research that the Quality Assurance Project Plan approved by the Division was followed during the conduct of the trial installations;

(c) Raw water quality data, including reports from the laboratory;

(d) Summary of water quality data and removal calculations;

(e) Influent and effluent volume data from each discrete storm event;

(f) Storm event information, including depth, date, duration, antecedent period, peak five-minute rainfall intensity.

(g) A summary and interpretation of the monitoring results;

 (h) Statistical analysis of the monitoring data;

(i) Proposed runoff volume reduction rates for the stormwater technology as well as proposed effluent concentration credits for TN and TP. In addition, proposed effluent concentrations for any other pollutants that have been monitored as part of the NEST Program; and

(j) A final list of MDC in the report, with notes on whether the MDC have changed since initial enrollment in the NEST Program.

(6) AGENCY ACTION ON NEST FINAL REPORT. As a part of this evaluation, the Division shall consider whether the test period loading was representative of likely installation conditions, the reported maintenance activities during the test period, and whether additional pre-treatment measures are necessary in most potential installations. The Division shall take one of the following actions within 90 days of receiving the NEST Final Report:

(a) If the NEST final report demonstrates that the stormwater technology meets the performance standard in Item (1), then the Division shall allow the stormwater technology to be used as an SCM to meet the requirements associated with high density development associated with 15A NCAC 2H .1013(3). Stormwater technologies that have demonstrated compliance with Item (1) will be published on the Division’s stormwater web site. The web site shall include the NEST final report on the stormwater technology.

(b) If the NEST final report is inconclusive about whether the stormwater technology meets the performance standard in Item (1), then the Division shall require additional research studies before the stormwater technology may be approved to be used as an SCM to meet the requirements associated with high density development associated with 15A NCAC 2H .1013(3). The additional research studies shall comply with Item (4) and a second NEST final report that complies with Item (5) shall be submitted to the Division for review and approval.

(c) If the NEST final report demonstrates that the stormwater technology does not meet the performance standard in Item (1), then the Division shall take the following actions:

(i) The Division shall consider whether the device could be approved as a secondary SCM that could be used in conjunction with a primary SCM on a site;

(ii) The Division shall not allow the stormwater technology to be used as a stand-alone SCM to meet the requirements associated with high density development associated with 15A NCAC 2H .1013(3) on future projects; and

(iii) The Division shall allow the continued use of the stormwater technology on the research sites provided that the NEST Final Report establishes that the stormwater technology discharges at a median effluent concentration of 35 mg/L or less or reduce the annual cumulative load of TSS by 65% or greater. If the stormwater technology does not meet this performance standard, then it shall be replaced by an approved SCM that is designed, constructed and maintained in accordance with this Sub-Chapter.