POST-CONSTRUCTION SITE RUNOFF CONTROLS

BACKGROUND (40 CFR PART 122.34)

The LOCAL GOVERNMENT must implement a program to control stormwater discharges from new development and redeveloped sites, including public transportation maintained by the permittee, that disturb at least one acre, including projects that disturb less than one acre that are part of a larger common plan of development. The program applies to private and public development sites, including roads. To ensure that all applicable new development and redeveloped sites conform to the performance standards the LOCAL GOVERNMENT must continue to implement project and site plan review, approval, and enforcement. The LOCAL GOVERNMENT must continue to implement strategies which include a combination of structural and/or non-structural stormwater Control Measures (SCMs) appropriate for the community, use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects and ensure adequate long-term operation and maintenance of SCMs. Compliance with 15A NCAC 02H Section .1000 effectively meets the Post-Construction Stormwater Runoff control requirements.

The LOCAL GOVERNMENT must have the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance the Post-Construction Stormwater Management Program.

Site plan review shall address how the project applicant meets the performance standards and how the project will ensure long-term maintenance. Property owners or operators of any new development or redeveloped site subject to the performance standards are required to provide verification of maintenance for approved structural stormwater control measures used to comply with the required performance standards.

The operation and maintenance plan shall require the owner of each structural SCM to perform and maintain a record of annual inspections of each structural BMP. Annual inspection of permitted structural SCMs shall be performed by a qualified professional.

Post-Construction inventories include basic information on each project, such as project name, owner’s name and contact information, location, start/end date, a short description of each stormwater control measure (type, number, design or performance specifications), latitude and longitude coordinates of each stormwater control measure, a short description of maintenance requirements (frequency of required maintenance and inspections); and inspection information (date, findings, follow up activities, prioritization of follow-up activities, compliance status).

To ensure that all stormwater control measures are operating correctly and are being maintained the LOCAL GOVERNMENT must conduct inspections of each project site and document and maintain records of inspection findings and enforcement actions. All structural stormwater control measures installed and implemented to meet the performance standards must be maintained in perpetuity.

To protect North Carolina rivers, streams, lakes, estuaries, sounds, and coastline and to preserve and protect scenic waterways, recreational swimming and boating opportunities, commercial and recreational fishing, shell fishing resources for future generations and stimulate development the permittee may allow compensatory treatment of existing development to offset the effects of stormwater runoff from new development so as to nullify the effects of new development within the same watershed. By treating existing development, the location and types of SCMs can be selected to treat locations with the greatest pollutant loads. More water quality benefits will result from treating a more polluted, but similarly-sized, impervious area elsewhere within the same watershed. Where it is impracticable or infeasible to treat all or some of the stormwater runoff on site the LOCAL GOVERNMENT may allow 1) on site compensatory stormwater treatment and 2) off-site mitigation and stormwater management facilities within the same watershed to meet the requirements to manage stormwater.
The LOCAL GOVERNMENT may adopt a **comprehensive watershed management plan** with an emphasis on controlling stormwater run-off rather than placing a cap or limit on impervious surfaces, i.e., high and low density development limits.

The LOCAL GOVERNMENT may either develop the necessary requirements for post-construction controls that will pertain to their own projects, or develop procedures to ensure that the project meets the requirements by complying with another entity's Phase II Stormwater Management Programs for post-construction. If the LOCAL GOVERNMENT decides to rely on another program for compliance with these program areas for their own projects, they shall fully comply with the requirements of the second party's post-construction programs.

*Note for each question answer Yes or No, and enter a comment and/or a recommendation if appropriate. Comments are normally associated with positive findings where recommendations are normally associated when either responding “no” or where there are specific recommendations to strengthen the program.*
BMP: Provide adequate legal authorities that comply with 15A NCAC 02H Section .1000 to develop and maintain a Post-Construction Program

Measurable Goals: Maintain adequate legal authorities to meet the objectives of the Post-Construction Site Runoff Controls Stormwater Management Program, and to ensure that new development and redevelopment does not cause or contribute to the continued impairment of downstream waters. Compliance with 15A NCAC 02H Section .1000 effectively meets the Post-Construction Stormwater Runoff control requirements. In order to fulfill the post-construction minimum measure program requirement the LOCAL GOVERNMENT may use the State’s model ordinance, design its own post-construction practices that meet or exceed the State’s Stormwater Manual, or develop its own comprehensive watershed plan.

Minimum Control Measures (MCMs)

1. Has the LOCAL GOVERNMENT developed by ordinance (or similar regulatory mechanism) a program to address stormwater runoff from new development and redevelopment that meets or exceeds the requirements of 15A NCAC 02H Section .1000?
2. Has the LOCAL GOVERNMENT developed, adopted, and implemented an ordinance (or similar regulatory mechanism) to ensure that the stormwater control measures selected adequately protect designated special waters including but not limited to nutrient sensitive waters, trout waters, shellfish waters, water supply watershed, and/or other high quality designated waters, if and as applicable?
3. Do projects approved as a low density projects require use of vegetated conveyances to the maximum extent practicable?
4. Do projects approved as high density projects meet or exceed the requirements in the 15A NCAC 02H Section .1000 rules?
5. Are legal and enforcement authorities in place to assure the maintenance of public and privately owned/operated stormwater management control structures?

Sustainability Measures

6. Has the LOCAL GOVERNMENT established administrative implementation and enforcement processes/procedures for the post-construction ordinance including maintenance of privately owned/operated stormwater management control structures? If YES, are ordinance administrative implementation and enforcement processes/procedures reviewed and updated as needed?
7. Is the post-construction ordinance developed and maintained by the LOCAL GOVERNMENT strategically aligned and consistent with other applicable local programs, goals, and objectives beyond the post-construction program? Examples of other local programs, goals, and objectives may include community strategic plans, tree conservation ordinances, area master plans, unified development ordinances, and other structural and non-structural programs and control measures.
8. Are any special stormwater management control requirements established by the LOCAL GOVERNMENT for new development and redevelopment within watersheds with impaired waters?
9. Does the ordinance (or other) provide a mechanism that allows for new and/or innovative stormwater control measures that would be applicable for the local/regional community context?
10. Are any incentives established by the LOCAL GOVERNMENT, by ordinance or other approved mechanism, to encourage/allow higher levels of stormwater management control (beyond regulatory baselines) that would help in advancing towards water quality goals? Examples may include but are not limited to stormwater utility user fee credits, nutrient trading, stormwater cost share programs, etc.
11. Has the LOCAL GOVERNMENT reviewed and/or benchmarked post-construction ordinances or other regulatory mechanisms including approaches for bonds and securities that have been developed and implemented by other government entities within the same region/watershed/river basin?
BMP: Stormwater Control Measures (SCMs)

Measurable Goal: The LOCAL GOVERNMENT shall adopt the State of North Carolina DEQ Stormwater Control Measure Design Manual or certify that the local Design Manual meets or exceeds the requirements in the State’s Design Manual.

Minimum Control Measures (MCMs)

1. Do Stormwater Control Measures (SCMs) for the LOCAL GOVERNMENT Post-Construction Stormwater Management Program satisfy State requirements?

Sustainability Measures

2. Has the LOCAL GOVERNMENT developed a local Design Manual for SCMs to best fit specific local needs and conditions for water quality protection and improvement?
   a. If YES, is the local Design Manual regularly reviewed and updated?
   b. If NO, is the LOCAL GOVERNMENT considering development of a local Design Manual or other?
3. Has the LOCAL GOVERNMENT considered or developed a local watershed management plan to help guide local stormwater management including post-construction SCMs?
4. Have approved SCMs been reviewed, modeled, and/or monitored by the LOCAL GOVERNMENT for effectiveness and efficiency for meeting specific local pollutants of concern and needs and conditions for surface water quality protection and improvement?
5. Has the LOCAL GOVERNMENT reviewed or monitored SCMs associated with public transportation and other local public projects?
6. Has the LOCAL GOVERNMENT developed strategies for implementing both structural and non-structural SCMs?
7. Has the LOCAL GOVERNMENT developed processes, procedures, and recordkeeping to ensure effective long-term operation and maintenance of permanent, structural SCMs within the community?
8. Does the LOCAL GOVERNMENT have a process to allow for new and/or innovative stormwater control measures that would be applicable for the local/regional community context?
9. Are any incentives established by the LOCAL GOVERNMENT, by ordinance or other approved mechanism, to encourage higher levels of performance from SCMs (beyond regulatory baselines) that would further help in advancing towards water quality goals?
10. Has the LOCAL GOVERNMENT developed and maintained a website for its local stormwater program that includes information on post-construction program requirements and SCMs?
POST-CONSTRUCTION SITE RUNOFF CONTROLS

BMP: Plan Reviews

Measurable Goal: The LOCAL GOVERNMENT shall conduct site plan reviews of all new development and redevelopment sites that disturb greater than or equal to one acre (including sites that disturb less than one acre that are part of a larger common plan of development or sale).

Minimum Control Measures (MCMs)

1. Does the LOCAL GOVERNMENT conduct site plan reviews of new development and redevelopment sites and issue local stormwater management permits or approvals in accordance with post-construction site runoff controls requirements?

Sustainability Measures

2. Has the LOCAL GOVERNMENT identified staff training/experience requirements for implementation of the plan review and approval process?
   a. If YES, does the LOCAL GOVERNMENT require staff to be certificated through the NC DEQ Stormwater Reviewer Certification program?
   b. If NO, seek to identify and update staff training/experience requirements for heightened program sustainability.

3. Are in-house projects by the LOCAL GOVERNMENT designed in accordance with applicable post-construction requirements?
   a. If YES, are designers trained in post-construction stormwater control requirements and measures?

4. Does the LOCAL GOVERNMENT utilize qualified professional consultants for project planning/engineering/design work and/or support for plan reviews?
   a. If professional consultants are utilized for design of projects led by the LOCAL GOVERNMENT, are professional consultants for design selected based upon qualifications? Do contracts specify that post-construction stormwater control measures be incorporated into the design?
   b. If professional consultants are utilized to assist with plan reviews for the LOCAL GOVERNMENT, are professional consultants for technical assistance and plan review support selected based upon qualifications?

5. Has the LOCAL GOVERNMENT developed local checklists for use during the design of post-construction stormwater control measures?
   a. If YES, does the LOCAL GOVERNMENT require the designer to submit the checklists?

6. Does the LOCAL GOVERNMENT use a checklist/SOP for conducting reviews of submitted plans?

7. Does the LOCAL GOVERNMENT encourage a concept plan / pre-application meetings?
   a. If YES, does the LOCAL GOVERNMENT encourage that the meeting be held prior to the preliminary plan submittal?

8. Does the LOCAL GOVERNMENT require a performance security / bond, letter of credit or other acceptable legal arrangement prior to issuance of permit?

9. Has the LOCAL GOVERNMENT developed a written procedure for being notified by construction operators/owners of the completion of the installation of the stormwater control measures so that the post-construction inspection may be conducted?

10. Does the LOCAL GOVERNMENT require “as-built” certifications to ensure that all stormwater control measures for the site conform to applicable and permitted performance standards?
    a. If YES, does the LOCAL GOVERNMENT require formal certification from the design professional that the stormwater control measures were constructed in accordance with the approved plan?
    b. If YES, does the LOCAL GOVERNMENT receive electronic copies of “as-built” information upon completion of new development and redevelopment sites? Is electronic “as-built” data for new development and redevelopment sites available in GIS?
BMP: Inventory of projects with permanent, post-construction structural Stormwater Control Measures (SCMs)

Measurable Goal: The LOCAL GOVERNMENT shall maintain an inventory of projects with post-construction structural SCMs installed and implemented at new development and redevelopment sites, including both public and private sector sites, located within the permittee’s jurisdictional authority.

MCM

1. Does the LOCAL GOVERNMENT maintain an inventory of privately and municipally-owned or maintained structural SCMs?

Sustainability

2. Does the Post-Construction SCM inventory include basic information on each project, such as project name, owner’s name and contact information, location, start and end dates associated with permitting and construction, a short description of each SCM (type, number, design or performance specifications), latitude and longitude or state plane coordinates of each stormwater control measure, a short description of maintenance requirements (frequency of required maintenance and inspections); and inspection information (date, findings, follow up activities, prioritization of follow-up activities, compliance status).

3. Is the Post-Construction SCM inventory data editable and updated when necessary? Are staff and resources available to maintain the inventory?

4. Is electronic inventory data on post-construction structural SCMs for new development and redevelopment sites georeferenced or available in GIS?

5. Does the Post-Construction SCM inventory include the drainage area associated with each SCM and/or is it available in GIS?

6. Does the Post-Construction SCM inventory include the project nutrient info, amount of nutrients the SCM removes, and nutrient offset purchases, if and as applicable? Does the inventory include other information for special permitting conditions, such as trout or other high quality waters?

7. Does the Post-Construction SCM inventory list/note actual regulatory requirements that SCM was designed to meet at approval?

8. Does the Post-Construction SCM Inventory include links to design calculations, construction drawings, and/or as-built drawings/certifications?

9. Does the Post-Construction SCM inventory include information for the securities/sureties associated with the permitted SCMs?
BMP: Deed Restrictions and Protective Covenants

**Measurable Goal:** The LOCAL GOVERNMENT shall provide mechanism such as recorded deed restrictions and protective covenants that ensure development activities will maintain the project SCMs in perpetuity consistent with approved plans.

**MCM**

1. Does the LOCAL GOVERNMENT provide and require mechanisms such as recorded deed restrictions and protective covenants to ensure that new development and redevelopment activities will maintain project sites consistent with approved plans?

**Sustainability**

2. Does the LOCAL GOVERNMENT provide information on required deed restrictions and protective covenants on its web site?
3. Has the LOCAL GOVERNMENT developed and/or updated its local deed restrictions and protective covenant mechanisms through review of accepted best practices?
BMP: Provide a mechanism to require long-term operation and maintenance of structural SCMs.

Measurable Goal: The LOCAL GOVERNMENT shall implement or require an operation and maintenance plan for the long-term operation of structural SCMs required by the program.

MCM

1. Does the LOCAL GOVERNMENT have a program for the long-term operation and maintenance (O&M) of stormwater control measures (SCM)?
2. Does the LOCAL GOVERNMENT program provide a mechanism to ensure that subsequent development activities maintain the new development (or redevelopment) consistent with the approved plans?
3. Does the LOCAL GOVERNMENT program require the owner of each structural SCM to conduct and document inspections of structural SCMs?
4. Has the LOCAL GOVERNMENT developed a written O&M program for municipally-owned or maintained structural stormwater control devices?
5. Are annual inspection reports of structural stormwater control measures (SCMs) performed by a qualified professional?

Sustainability

6. Does the LOCAL GOVERNMENT conduct QA/QC inspections of randomly selected privately-owned or maintained structural stormwater control devices?
   a. If NO, does the LOCAL GOVERNMENT perform all required inspections? If LOCAL GOVERNMENT performs required inspections then what QA/QC mechanisms have been established?
7. Does the LOCAL GOVERNMENT’s O&M program specify the frequency of inspections and routine and remedial maintenance requirements for varying types of SCMs?
   a. If NO, have consequences been established if the annual inspection is not completed?
8. Does the LOCAL GOVERNMENT’s O&M program describe the basis and requirements for major rehabilitation and/or replacement of SCMs? For both privately-owned and municipally-owned SCMs?
   a. If YES, does the LOCAL GOVERNMENT maintain an account or require the property owner to maintain an account to fund maintenance?
9. Has the LOCAL GOVERNMENT developed an Asset Management Program?
   a. If YES, have municipally-owned and operated structural SCMs been integrated within the Asset Management Program to assure long-term effective operation and maintenance?
   b. If NO, has the LOCAL GOVERNMENT developed procedures to assure long-term effective operation and maintenance of municipally-owned and operated structural SCMs?
POST-CONSTRUCTION SITE RUNOFF CONTROLS

NPDES PERMIT – PART II SECTION F (2)(g)

BMP: Inspections

**Measurable Goals:** Verify that the LOCAL GOVERNMENT performance standards have been met or surety/security is in place to guarantee completion in accordance with written standards. Ensure that all stormwater control measures are being maintained. Document and maintain records of inspection findings and enforcement actions

**MCM**

1. Does the LOCAL GOVERNMENT require of itself or the owner of each Stormwater Control Measure (SCM) to conduct and document required inspections of each SCM?
2. Does the LOCAL GOVERNMENT conduct inspections of SCMs owned or operated by the LOCAL GOVERNMENT?
3. Does the LOCAL GOVERNMENT document inspection findings or require documentation of inspection findings in an inspection report?
4. Does the LOCAL GOVERNMENT require operation and maintenance agreements or have alternative approved means to ensure perpetual maintenance of SCMs by the responsible owner?
5. Does the LOCAL GOVERNMENT have the authority to require SCM owners/operators to perform necessary and prescribed maintenance or other corrective actions?

**Sustainability**

6. Does the LOCAL GOVERNMENT have the authority to perform maintenance or other corrective actions neglected by the property owner/operator, and bill or recoup costs from the property owner/operator when the owner/operator has not performed the necessary maintenance and progressive enforcement procedures have not resulted in compliance?
7. Does the LOCAL GOVERNMENT conduct quality assurance/quality control inspections of private SCMs?
8. Does the LOCAL GOVERNMENT include the following (representative examples only, not intended to be exhaustive) in required inspections reports?
   a. Does the inspection report include the name and signature of inspector, professional/certification status, seal, contact information and inspection date?
   b. Does the inspection report include the project location (street address, etc.) and inventory reference number(s)?
   c. Does the inspection report include the current ownership information (for example, name, address, phone number, fax, and email)?
   d. Does the inspection report include photographic documentation of the overall facility and critical structural stormwater control measure components which can be viewed?
   e. Does the inspection report include specific maintenance issues or violations found that need to be corrected by the property owner or operator along with deadlines and re-inspection dates?
9. Does the LOCAL GOVERNMENT have standard procedures and inspection checklists for each type of approved structural stormwater control device?
10. Do standard procedures or checklist identify who does the inspections, what they are inspecting or looking for, how often inspections are conducted and who the findings are to be reported to?
11. Does the LOCAL GOVERNMENT provide SCM educational materials/support for owners (examples may include but are not limited to - SCM handoff meetings, bulletins, guidance documents)?
12. Does the LOCAL GOVERNMENT provide self-reporting?
BMP: Educational materials and training for developers

Measurable Goal: The LOCAL GOVERNMENT shall make available through paper or electronic means, ordinances, post-construction requirements, design standards checklist, and other materials appropriate for developers.

MCM

1. Does the LOCAL GOVERNMENT make available through paper or electronic means, ordinances, post-construction requirements, design standards checklist, and other materials appropriate for developers?

Sustainability

2. Does the LOCAL GOVERNMENT provide and document training for developers, builders, and stakeholders?
   a. If YES, does the LOCAL GOVERNMENT have a process to survey developers, builders, and stakeholders to gage the effectiveness of training programs and materials and to help reduce calls or complaints?
3. Does the LOCAL GOVERNMENT conduct a pre-submittal meeting with the developer to discuss the concept plan and relate the project back to NPDES program requirements?
4. Does the LOCAL GOVERNMENT form partnerships with industry groups and/or other local governments to provide education, training, and to disperse information about the NPDES program?
NPDES PERMIT – PART II SECTION F (2)(i)

BMP: Enforcement Actions / Compliance Tracking

Measurable Goal: The LOCAL GOVERNMENT shall track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.

MCM

1. Does the LOCAL GOVERNMENT document and maintain records of inspections, findings, notices, and enforcement actions?
2. Does the LOCAL GOVERNMENT track post-construction compliances, issuance of notices, and enforcement actions?
3. Has the LOCAL GOVERNMENT taken enforcement action in instances where the responsible party is not maintaining and/or inspecting stormwater management structures as required?
4. Can delegated LOCAL GOVERNMENT staff administer enforcement actions?
5. Does the LOCAL GOVERNMENT follow up on enforcement actions?
6. Does the LOCAL GOVERNMENT track compliance issues over time, to identify chronic violators for initiation of actions to reduce noncompliance (utilize progressive enforcement based upon specific merits of each case)?

Sustainability

7. Does the LOCAL GOVERNMENT use an electronic database, spreadsheets, or other technological means to track compliance/enforcement?
8. Does the LOCAL GOVERNMENT’s compliance/enforcement protocols provide due process for potential violators?
9. Does the LOCAL GOVERNMENT program encourage compliance over enforcement?
10. Does the LOCAL GOVERNMENT have a progressive enforcement strategy (e.g., ranging from education and support to more stringent requirements if and as needed) that ultimately leads to sustainable compliance?
Requirement: The LOCAL GOVERNMENT shall meet the requirements of the post-construction program for construction projects that are performed by, or under contract for, the permittee.

Measurable Goal: Written procedures for post-construction controls that pertain to the LOCAL GOVERNMENT projects.

MCM

1. Does the LOCAL GOVERNMENT have written procedures for post-construction controls that will pertain to their own projects?

Sustainability

2. Does the LOCAL GOVERNMENT maintain a written set of standard operating procedures, policies, and programs? Does the list identify when the written set was last updated?
3. Do the standard operating procedures, policies, and programs describe the specific procedures and activities that need to be implemented, who (person and/or position) is responsible to implement them, and the specific time frame for implementation? Is there a procedure to record the implementation of the above?
4. Has the LOCAL GOVERNMENT maintained up to date records that it has properly implemented standard operating procedures, written programs, checklist, policies, etc.?
5. Are annual reviews of standard operating procedures, policies, and written programs conducted and documented?
6. Is there documentation that standard operating procedures, policies, and written programs are revised as needed?
ORGANIZATIONAL SUSTAINABILITY QUESTIONS APPLICABLE TO THE POST-CONSTRUCTION PROGRAM

1. Is the organization committed to the Stormwater Program, i.e., provided adequate resources and support to meet the requirements of the post-construction program?

2. Has the LOCAL GOVERNMENT engaged and collaborated with stakeholders?
   a. Does the LOCAL GOVERNMENT coordinate with other local governments departments and staff, State, or County organizations?
   b. Does the LOCAL GOVERNMENT collaborate with organizations such as APWA, SWANC, etc. as well as other LOCAL GOVERNMENTS, and other stakeholders to strengthen their program?
   c. Does the LOCAL GOVERNMENT collaborate with home builders and developers to strengthen their program?

3. Does the LOCAL GOVERNMENT have standard operating procedures, policies, and written programs for evaluating program compliance, the appropriateness of best management practices, and progress towards achieving measurable goals?
   a. If yes, does the LOCAL GOVERNMENT maintain a list of standard operating procedures, policies, and written programs and does the list identify when it was last updated?
   b. If yes, do the standard operating procedures, policies, and written programs specify what needs to happen, who needs to do it, when it needs to get done? Are responsibilities and assignments documented?
   c. If yes, has the LOCAL GOVERNMENT properly implemented standard operating procedures, written programs, checklist, policies, etc.?
   d. If yes, does the local government maintain a table that identifies what best management practices will be used, their frequency, measurable goals, implementation schedule, and the responsible person or position for implementation?
   e. If yes, are annually reviews of standard operating procedures, policies, and written programs conducted and documented?
   f. If yes, are standard operating procedures, policies, and written programs revised as needed?

4. Has the LOCAL GOVERNMENT completed an assessment of their Program?
   a. Has the LOCAL GOVERNMENT conducted and documented annual reviews of their programs, any SOPs, policies and/or written plans?
   b. Does the LOCAL GOVERNMENT maintain a written explanation of how the LOCAL GOVERNMENT will evaluate the success of their programs?
   c. Has the LOCAL GOVERNMENT identified recommendations to strengthen their program?

5. Has the LOCAL GOVERNMENT developed and implemented an action plan with deadlines to address the areas that need to be strengthened?
   a. If yes, has the LOCAL GOVERNMENT identified the root causes of any findings and/or recommendations?
   b. If yes, has the LOCAL GOVERNMENT developed and implement a plan and schedule to address the identified modifications and improvements?
   c. If yes, has the LOCAL GOVERNMENT documented changes to programs or practices?
   d. If yes, has the LOCAL GOVERNMENT identified deadlines to implement changes to the programs or practices?
   e. If yes, has the LOCAL GOVERNMENT trained Staff on the changes and/or revised SOPs?