A RESOLUTION BY THE FORSYTH COUNTY BOARD OF COMMISSIONERS APPROVING STORMWATER MANAGEMENT ORDINANCE, ADDENDUM, AND OTHER RELATED DOCUMENTS

WHEREAS, the Constitution of the State of Georgia, approved by the voters of the State in November 1982, and effective July 1, 1983, provides in Article IX, Section 2, Paragraph 1 thereof, that the governing authority of the County may adopt clearly reasonable ordinances, resolutions, and regulations; and

WHEREAS, Forsyth County has conducted the requisite number of public hearings regarding the enumerated items below – as required by the County's enabling legislation.

NOW THEREFORE, the Board of Commissioners does hereby approve:

1. Amendments to Chapter 34, the Forsyth County Stormwater Management Ordinance,
2. The Forsyth County Stormwater Addendum,
3. The Forsyth County Policy on Practicability Analysis for Linear Transportation Projects,
4. Forsyth County Practicability Policy,
5. Forsyth County Model Stormwater Inspection and Maintenance Agreement

SO RESOLVED, the public health, safety, and welfare demanding it, this 2nd day of December, 2021.

FORSYTH COUNTY BOARD OF COMMISSIONERS

Cindy J. Mills, Chairman

Molly Cooper, Vice Chairman

Alfred John, Secretary

Todd Levent, Member

Laura Semanson, Member

Attest:

Clerk to the Board

Chapter 34 Article V. Stormwater Management*

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*Cross references: Utilities, ch. 82.

State law references: Authority to provide for stormwater and sewage collection and disposal systems, Ga. Const. art. IX, § II, ¶ III(a)(6).

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Sec. 34-181. Authority

The authority for this article is provided for by the Georgia Constitution, article IX, section II, paragraphs I and III and Official Code of Georgia Annotated (O.C.G.A.) § 36-1-20(a).

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-182. Findings

1) Uncontrolled stormwater runoff may have a significant, adverse impact on the health, safety, and welfare of Forsyth County and the quality of life of its citizens. More specifically, surface water runoff can carry pollutants and nutrients into receiving waters. The potential impacts of these pollutant and nutrient loadings include:
    a) Sediment can alter natural systems, scouring vital habitat and smothering stream life.
    b) Increased bacteria can pose a significant health risk.
    c) Excessive nutrients can accelerate algae growth and eutrophication of receiving waters, affecting adversely flora and fauna.
    d) Pollutants and nutrients can negatively affect vital habitat for fish, birds, wildlife and native plant communities.
    e) Metals can be toxic to aquatic life.
    f) Oil and grease can reduce oxygen levels.
    g) The temperature of receiving waters can increase, affecting animal and plant habitat adversely.
2) Uncontrolled stormwater drainage can increase the incidence of flooding and the level of floods which occur, endangering roads, other public and private property and human life.
3) Altered land surfaces can change the rate and volume of runoff. These changes may result in the following:
    a) Stream banks can erode and slump, resulting in widening of streams;
    b) Tree root systems can be undercut;
    c) Erosion rates can increase; or,
    d) Streambeds can become more uniform and shallower, providing less varied aquatic habitats.
4) Adverse water quality and quantity consequences described in subsections (a) through (c) of this section could result in substantial economic losses. Potential losses include, but are not limited to, increases in water treatment costs, as well as state and federal fines associated with water quality violations.
5) Many future problems can be avoided through proper stormwater management.

6) Every parcel of real property, both public and private, either uses or benefits from the maintenance of the County storm sewer system.

7) Current and anticipated growth will contribute to and increase the need for improvement and maintenance of the storm sewer system.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-183. Purpose and Intent

The purpose of this article includes the following:

1) Protect, maintain, and enhance the short term and long-term public health, safety, environment, and general welfare. This objective will be achieved by:

   a) Providing for regulation and management of the County's storm sewer system, including public and private stormwater management systems in the County's service area;

   b) Establishing minimum requirements and procedures to control the adverse effects of increased post-construction stormwater runoff and nonpoint source pollution associated with new development and redevelopment;

   c) Providing proper management of post-construction stormwater runoff to minimize damage to public and private property and infrastructure;

   d) Protecting, preserving, and enhancing water quality and fish and wildlife habitat within the County and in downstream receiving waters; and,

   e) Protecting those downstream from water quality and quantity impacts.

2) Comply with regional (Metropolitan North Georgia Water Planning District), state (Department of Natural Resources), and federal (U.S. Environmental Protection Agency) stormwater regulations developed pursuant to the Clean Water Act. These requirements include:

   a) Manage the water quantity, velocity, and quality of post-construction stormwater runoff;

   b) Prohibit illicit connections to the County's separate storm sewers;

   c) Control discharges of spills, dumping, or disposal of materials other than stormwater to the County's municipal separate storm sewer system; and,

   d) Control, through intergovernmental agreements, contribution of pollutants from one municipal/county system to another.

3) Require that new development and redevelopments maintain the predevelopment hydrologic response in their post-development state as nearly as practicable in order to reduce streambank erosion, nonpoint source pollution, and increases in stream temperature.

4) Establish procedures that minimize damage from flooding caused by development while recognizing that natural fluctuations in water levels are beneficial.

5) Require construction of stormwater systems that aesthetically and functionally approximate natural systems.

6) Establish provisions for the long-term responsibility for and maintenance of stormwater management systems to ensure they continue to function as designed, are maintained, and pose no threat to public safety.

7) Establish administrative procedures for the submission, review, approval and disapproval of stormwater management plans, and for the inspection of approved active projects, and long-term follow-up.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-184. Definitions

For this Article, the terms below shall have the following meanings:

“Accidental Discharge” means a discharge prohibited by this Article into the County's municipal separate storm sewer system, which occurs by chance and without planning or consideration prior to occurrence.

“Addendum” means the Forsyth County Addendum to the Georgia Stormwater Management Manual (“GSMM”), which has been prepared to provide County-specific clarification to the GSMM.

“Administrator” means the person appointed to administer and implement this Article in accordance with Section 34-186.

“Applicant” means a person submitting a land development application for approval.

“BMP” or “Best Management Practice” means both stormwater management facilities\structural devices to store or treat stormwater runoff and non-structural programs or practices which are designed to manage stormwater quantity and prevent or reduce the pollution of the waters of the State of Georgia.

“BMP landscaping plan” means a design for vegetation and landscaping that is critical to the performance and function of the BMP including how the BMP will be stabilized and established with vegetation. It shall include a layout of plants and plant names (local and scientific).

“Channel” means a natural or artificial watercourse with a definite bed and banks that conveys continuously or periodically flowing water.

“Clean Water Act” means the Federal Water Pollution Control Act, (33 USC 1251 et seq.), and any subsequent amendments thereto.

“Construction Sequencing Plan” means a document noting the sequence of construction and identification of infiltration zones for protection during staged installation of permanent post-construction stormwater management facilities to ensure suitable site conditions such as avoiding soil compaction by heavy equipment in areas designated for infiltration-based stormwater management facilities.

“Conveyance” means stormwater features designed for the movement of stormwater through the stormwater system, such as concrete or metal pipes, ditches, depressions, swales, catch basins, curbs, gutters, storm drains, etc.

“County’s Municipal Separate Storm Sewer System” means Forsyth County’s municipal separate storm sewer system.

“Department” means the Forsyth County Department of Engineering.

“Department Director” means the Director of the Forsyth County Department of Engineering.

“Designated Hazardous Waste” means any solid waste identified as such in regulations promulgated by Georgia Department of Natural Resources Board. The Board may identify as designated hazardous waste any solid waste which the Board concludes is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed, based on the factors set forth in regulations promulgated by the administrator of the EPA pursuant to the federal act which are codified as 40 *Code of Federal Regulations* (C.F.R.) Section 261.11(a)(3), in force and effect on February 1, 1996, if such solid waste contains any substance which is listed on any one or more of the following lists:

1) List of Hazardous Constituents, codified as 40 C.F.R. Part 261, Appendix VIII, in force and effect on February 1, 1996
2) Ground-water Monitoring List, codified as 40 C.F.R. Part 264, Appendix IX, in force and effect on February 1, 1996
3) List of Hazardous Substances and Reportable Quantities, codified as 40 C.F.R. Table 302.4, and all appendices thereto, in force and effect on February 1, 1996
4) List of Regulated Pesticides, codified as 40 C.F.R. Part 180, in force and effect on February 1, 1996
5) List of Extremely Hazardous Substances and Their Threshold Planning Quantities, codified as 40 C.F.R. Part 355, Appendix A, in force and effect on February 1, 1996
6) List of Chemicals and Chemical Categories, codified as 40 C.F.R. Part 372.65 in force and effect on February 1, 1996

“Detention” means the temporary storage of stormwater runoff in a stormwater detention facility for the purpose of controlling the peak discharge.

“Detention Facility” means a stormwater management facility designed for the storage and gradual release of stormwater runoff at controlled rates.

“Development” means new development or redevelopment which include any land change, including, but not limited to, clearing, digging, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, construction, paving, and any other installation of impervious cover.

“Discharge” means the release of treated or untreated stormwater runoff or other material to the County’s municipal separate storm sewer system.

“Drainage Easement” means an easement appurtenant or attached to a tract or parcel of land allowing the owner of adjacent tracts or other persons to discharge stormwater runoff onto the tract or parcel of land subject to the drainage easement.

“Easement” means an acquired legal right for the specific use of land owned by others.

“Erosion and Sedimentation Control Plan” means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during land disturbance activities.

“Extended Detention” means the storage of stormwater runoff for an extended period of time.

“Extreme Flood Protection” means measures taken to prevent adverse impacts from large low-frequency storm events with a return frequency of 100 years or more.

“Flooding” means a volume of surface water that exceeds the banks or walls of a stormwater management facility or open channel and overflows onto adjacent lands.

“GSMM” means the latest edition of the Georgia Stormwater Management Manual and its appendices.

“Hotspot” means a land use or activity on a site that has the potential to produce higher than normally found levels of pollutants in stormwater runoff. As defined by the administrator, hotspot land use may include gasoline stations, vehicle service and maintenance areas, industrial facilities (both permitted under the Industrial Stormwater General Permit and others), material storage sites, loading and transfer facilities, landfills, construction sites, recycling and garbage facilities, and commercial parking lots with high-intensity use.

“Illegal Connection” means a connection to the County's municipal separate storm sewer system that allows for an illicit discharge, except as exempted in Section 34-187.

“Illicit Discharge” means any direct or indirect non-stormwater discharge to the County's municipal separate storm sewer system, except discharges pursuant to a National Pollutant Discharge Elimination System (NPDES) permit (other than the NPDES permit for discharges from the County's municipal separate storm sewer system).

“Impervious Surface” means a surface composed of any material that significantly impedes or prevents the natural infiltration of water into the soil.

“Industrial Stormwater General Permit” means the NPDES permit issued by Georgia Environmental Protection Division to an industry for stormwater discharges associated with industrial activity. The permit regulates pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies based on Standard Industrial Classification (SIC) Code.

“Infiltration” means the process of percolating stormwater runoff into the subsoil.

“Inspection and Maintenance Agreement” means a written agreement providing for the long-term inspection, operation, and maintenance of the stormwater management system and its components on a site.

“Land Development Application” means the application for a land development permit on a form provided by Forsyth County along with the supporting documentation required in the Addendum and this Article

“Land Development Permit” means the authorization necessary to begin construction-related, land-disturbing activity.

“Land Disturbing Activity” means any activity that may result in soil erosion from water or wind and the movement of sediments into state water or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, and filling of land. Land disturbing activity does not include agricultural practices as described O.C.G.A. Section 12-7-17(5) or silvicultural land management activities as described O.C.G.A. Section 12-7-17(6) within areas zoned for these activities.

“Linear Feasibility Program” means a feasibility program documented by the Linear Transportation Policy, which was developed by Forsyth County and submitted to the Georgia Environmental Protection Division. The feasibility program sets reasonable criteria for determining when implementation of stormwater management standards for linear transportation projects being constructed by Forsyth County is infeasible.

“Linear Transportation Policy” means the latest edition of Forsyth County’s Policy on Practicability Analysis for Linear Transportation Projects. This policy sets reasonable criteria for determining when implementation of stormwater management standards for linear transportation projects being constructed by Forsyth County Is infeasible.

“Linear Transportation Projects” means construction projects on traveled ways including but not limited to roads, sidewalks, multi-use paths and trails, and airport runways and taxiways.

“Maintenance” means any action necessary to preserve stormwater management systems in proper working condition, in order to serve the intended purposes set forth in this Article and the Addendum, or to prevent stormwater management system failures.

“Maximum Extent Practicable” or “MEP” means the controls necessary for the reduction of pollutants discharged from an MS4. These controls may consist of a combination of BMPs, control techniques, system design and engineering methods, and such other provisions for the reduction of pollutants discharged from an MS4 as described in Forsyth County’s Stormwater Management Plan.

"MS4 Permit" means the NPDES permit issued by Georgia Environmental Protection Division for discharges from the County's municipal separate storm sewer system.

"Municipal Separate Storm Sewer System" or "MS4" means a conveyance or system of conveyances including roads with drainage infrastructure, municipal streets, catch basins, curbs, gutters, ditches, manmade channels or storm drains, owned or operated by a municipality or other public body, designed or used for collecting or conveying stormwater runoff and is not a combined sewer or part of a publicly owned treatment works.

"New Development" means land disturbing activities, structural development (construction, installation or expansion of a building or other structure), and/or creation of impervious surfaces on a previously undeveloped site.

"Nonpoint Source Pollution" means a form of water pollution that does not originate from a discrete point such as a wastewater treatment facility or industrial discharge, but involves the transport of pollutants such as sediment, fertilizers, pesticides, heavy metals, oil, grease, bacteria, organic materials and other contaminants from land to surface water or groundwater via mechanisms such as precipitation, stormwater runoff, and leaching. Nonpoint source pollution is a by-product of land use practices such as agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

"Overbank Flood Protection" means measures taken to prevent an increase in the frequency and magnitude of out-of-bank flooding (i.e. flow events that exceed the capacity of the channel and enter the floodplain).

"Owner" means the legal or beneficial owner of a site, including but not limited to, a mortgagee or vendee in possession, receiver, executor, trustee, lessee or other person, firm or corporation in control of the site.

"Person" means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county or other political subdivision of the State, any interstate body or any other legal entity.

"Pollution" means the contamination or other significant alteration of any water's physical, chemical or biological properties, including change in temperature, taste, color, turbidity, or odor of such waters or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to render such waters harmful, detrimental or injurious to the public health, safety or welfare or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

"Post-construction Stormwater Management" means stormwater BMPs that are used on a permanent basis to provide stormwater management once construction has been completed in accordance with a stormwater management plan.

"Post-development" means the conditions anticipated to exist on site immediately after completion of the proposed development.

"Practicability Policy" means the latest edition of Forsyth County's Policy on Practicability Analysis for Runoff Reduction.

"Predevelopment" means the conditions that exist on a site immediately before the implementation of the proposed development. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time before the first item being approved or permitted shall establish pre-development conditions.

"Predevelopment Hydrology" means (a) for new development, the runoff curve number determined using natural conditions hydrologic analysis based on the natural, undisturbed condition of the site immediately before implementation of the proposed development; and (b) for redevelopment, the existing conditions hydrograph may

take into account the existing development when defining the runoff curve number and calculating existing runoff, unless the existing development causes a negative impact on downstream property.

“Previously Developed Site” means a site that has been altered by paving, construction, and/or land disturbing activity.

“Private” means property or facilities owned by individuals, corporations, and other organizations and not by city, county, state or federal government or any agency or subdivision thereof.

“Procedure” means a procedure adopted by Forsyth County, by and through the Department Director, to implement a regulation or regulations adopted under this Article, or to carry out other responsibilities as may be required by this Article or other codes, ordinances or resolutions of the County.

“Redevelopment” means structural development (construction, installation, or expansion of a building or other structure), creation or addition of impervious surfaces, replacement of impervious surfaces not as part of routine maintenance, and land disturbing activities associated with structural or impervious development on a previously developed site. Redevelopment does not include such activities as exterior remodeling.

“Regional Stormwater Management Facility” means a facility designed to manage stormwater runoff from multiple projects and/or properties.

“Routine Maintenance” means activities to keep an impervious surface as near as possible to its constructed condition. This includes ordinary maintenance activities, resurfacing paved areas, and exterior building changes or improvements which do not materially increase or concentrate stormwater runoff, or cause additional nonpoint source pollution.

“Runoff” means stormwater runoff.

“Sediment” means solid particulate matter, both mineral and organic, that has been or is being transported by water, air, ice or gravity from its site or origin.

“Site” means an area of land where development is planned, which may include all or portions of one or more parcels of land. For subdivisions and other common plans of development, the site includes all areas of land covered under an applicable land development permit.

“Stormwater” means stormwater runoff.

“Stormwater Concept Plan” means an initial plan for post-construction stormwater management at the site that provides the groundwork for the stormwater management plan including the natural resources inventory, site layout concept, initial runoff characterization, and first round stormwater management system design.

“Stormwater Management” means the collection, conveyance, storage, treatment and disposal of stormwater runoff.

“Stormwater Management Facility” means BMP structural devices constructed to provide stormwater management and which are designed to manage stormwater quantity and prevent or reduce the pollution of the waters of the State of Georgia.

“Stormwater Management Plan” means a comprehensive document prepared by a design professional registered in the State of Georgia that conveys the overall strategy for managing stormwater, such that runoff hazards are not created, existing runoff-related problems are not exacerbated, and stormwater quality is not adversely affected, either upstream or downstream from or within the boundaries of the property being developed.

“Stormwater Management Standards” means those standards set forth in Section 34-189.

“Stormwater Management System” means the entire set of preserved natural features, non-structural stormwater design features, structural stormwater design features, and stormwater management facilities for collection, conveyance, storage, infiltration, treatment, and disposal of stormwater runoff in a manner designed to prevent increased flood damage, streambank channel erosion, habitat degradation and water quality degradation, and to enhance and promote the public health, safety and general welfare.

“Stormwater Runoff” means the flow on the surface of the ground, resulting from precipitation.

“Subdivision” means the division of a tract or parcel of land resulting in one or more new lots or building sites for the purpose, whether immediately or in the future, of sale, other transfer of ownership or land development, and includes divisions of land resulting from or made in connection with the layout or development of a new street or roadway or a change in an existing street or roadway.

“Subdivision, major” means a subdivision of seven or more lots which may or may not involve the construction of a new public or private street; or any subdivision of less than seven lots that involves the construction of a new public or private street.

“Subdivision, minor” means a subdivision of six or fewer lots which does not involve the construction of a new public or private street.

“Trout Stream” means waters designated by the Wildlife Resources Division of the Georgia Department of Natural Resources as Primary Trout Waters or Secondary Trout Streams. Primary Trout Waters are waters supporting a self-sustaining population of Rainbow, Brown or Brook Trout. Secondary Trout Streams are those with no evidence of natural trout reproduction but are capable of supporting trout throughout the year.

“Water Quality” means those characteristics of stormwater runoff that relate to the physical, chemical, biological or radiological integrity of water.

“Water Quantity” means those characteristics of stormwater runoff that relate to the rate and volume of the stormwater runoff.

Other terms used but not defined in this Article shall be interpreted based on how such terms are defined and used in the GSMM and Forsyth County’s MS4 permit.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-185. Adoption and Implementation of this Article, GSMM and Addendum; Conflicts and Inconsistencies

1) The provisions of this Article shall apply throughout the unincorporated area of Forsyth County; specific applicability and exemptions information is defined in Section 1 of the Addendum.
2) The Department Director or his or her designee shall be responsible for the administration of the provisions of this Article, GSMM, and Addendum.
3) This Article is not intended to modify or repeal any other article, ordinance, rule, regulation or other provision of law, including but not limited to any applicable stream buffers under state and local laws, and the Georgia Safe Dams Act and Rules for Dam Safety. In the event of any conflict or inconsistency between any provision in Forsyth County’s MS4 permit and this Article, the provision from the MS4 permit shall control. In the event of any conflict or inconsistency between any provision of this Article and the GSMM, the provision from this Article shall control. In the event of any other conflict or inconsistency between any provision of this Article and any other ordinance, rule, regulation or other provision of law, the provision that is more restrictive or imposes higher protective standards for human health or the environment shall control.

4) This Article is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions.

5) If any provision of this Article is invalidated by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of this Article.

6) In implementing this Article, Forsyth County shall use and require compliance with all relevant design standards, calculations, formulas, methods, and other guidance from the GSMM as well as all related appendices.

7) The current version of the GSMM will provide the primary guidance for the design and evaluation of stormwater management systems unless otherwise noted in the Addendum.

8) An Addendum shall be developed and updated as needed by the Department to provide County-specific clarification to the GSMM. The provisions of the GSMM and the Addendum are incorporated by reference as a part of this Ordinance as fully and completely as if set forth verbatim herein. The Addendum will include, but not be limited to, the following information:

    a) Applicability Criteria for Stormwater Management Standards and Exemptions.

    b) Guidance and specifications for the preparation of stormwater management plans. Acceptable techniques for obtaining, calculating, and presenting the information required in the plans shall be described.

    c) Guidance in selecting environmentally sound practices for managing stormwater. Description of specific techniques and practices shall be included. Development and use of techniques emphasizing use of natural systems shall be encouraged.

    d) Minimum specifications for designing, constructing, and maintaining stormwater management facilities in Forsyth County. These specifications shall be established in accordance with current good engineering practices and will be consistent with the intent of the GSMM.

    e) Minimum easement requirements.

    f) More complete definitions of some concepts included in this Article.

    g) Development performance standards for stormwater management facilities and practices. Methodology/criteria for evaluation will include:

        i) Hydrologic and hydraulic evaluations

        ii) Evaluation of stormwater management facilities

        iii) Evaluation of downstream impacts

9) The Addendum is not designed to replace the need for engineering judgement. Rather, other accepted engineering procedures may be used to conduct hydrologic and hydraulic studies if approved by the Department Director.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-186. Designation of Administrator

1) The Department shall have the authority to administer and enforce all regulations and procedures adopted to implement this Article, including the right to maintain an action or procedure in any court of competent jurisdiction to compel compliance with or restrain any violation of this Article.

2) The Department can:

    a) Establish or oversee establishment of development standards and guidelines.

    b) Determine the way stormwater management facilities should be operated.

    c) Inspect private systems that discharge to the County’s municipal separate storm sewer system.

d) Advise other departments on issues related to stormwater.

e) Protect facilities and properties controlled by the Department and prescribe how they are used by others.

f) Develop programs or procedures to control the discharge of pollutants into the County's municipal separate storm sewer system.

g) Adopt and implement the stormwater management program for the County.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-187. Prohibition of Illicit Discharges

1) It is unlawful for any person to throw, drain, run or otherwise discharge to any component of the County's municipal separate storm sewer system or to cause, permit or suffer to be thrown, drained, run, or allow to seep or otherwise discharge into such system all matter of any nature excepting only such stormwater or surface water as authorized in this Article. It shall be the responsibility of the discharger to provide to the Department Director with the appropriate certifications that discharges to the County's municipal separate storm sewer system meet the requirements of this Article.

2) The Department Director may exempt the following discharges from the prohibition provision of subsection (1) of this section unless such discharges are identified by the Director as possible pollution sources.

   a) Water line flushing performed by a government agency, diverted stream flows, rising ground waters, and unpolluted ground water infiltration

   b) Unpolluted pumped ground water

   c) Discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, and street wash water

   d) Discharges or flows from firefighting

   e) Other unpolluted water

3) In the event of an accidental discharge or an unavoidable loss to the County's municipal separate storm sewer system of any designated hazardous waste material, the person concerned shall notify the fire and emergency management departments through the 911 system immediately after the event is discovered. If the material discharged is not considered a designated hazardous waste material but is other than unpolluted stormwater runoff, then it should be reported to the Department as soon as practicable. Notification shall include the nature, quantity and time of occurrence of the discharge. The person concerned shall take immediate steps to stop the discharge and contain, treat, or take other actions to minimize effects of the discharge on the County's municipal separate storm sewer system and receiving streams. The person shall also take immediate steps to ensure no recurrence of the discharge. A written report describing the occurrence, its impact on water quality and the cleanup, shall be prepared by the person concerned and submitted within fifteen (15) days of the occurrence to the Department.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-188. Prohibition of Illegal Connections

1) It is unlawful for any person, company, corporation, and/or entity to connect any pipe, open channel, any other conveyance system that discharges anything except stormwater runoff or unpolluted water which is approved by the Department Director, based on the exemptions listed in Section 34-187, Subsection (2), to the County's municipal separate storm sewer system.

2) Connections to the County's municipal separate storm sewer system which are in violation of this Article must be disconnected. The owner of the property where the connection originates shall be responsible for redirecting such connections to an approved location.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-189-1. Stormwater Management Standards

The design of the stormwater management system shall be in accordance with the stormwater management standards found in Section 2.2 of the Addendum and Section 2.2.2.2 of the GSMM.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-189-2. Compliance with the Approved Stormwater Management Plan

All development shall be:

1) Consistent with the approved stormwater management plan and all applicable land disturbance and building permits, and

2) Conducted only within the area specified in the approved stormwater management plan.

No changes may be made to an approved stormwater management plan without review and advanced written approval by the Administrator.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-190. Violations and Enforcement

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Article. Any person who has violated or continues to violate the provisions of this Article, may be subject to the enforcement actions outlined in this Section.

1) Any development-related (subdivision/utility/other) permit may be suspended or revoked if one or more of the following violations are committed:
    a) Violation of conditions of stormwater management plan approval
    b) Construction is not in strict accordance with the intent of approved plans
    c) Noncompliance with any correction notice or stop work order
    d) Existence of immediate danger in the downstream area, as judged by the Department Director
2) Verbal Warning – A notice consisting of a direct conversation or telephone call to notify the responsible person/property owner of a minor violation in order to seek an explanation, suggest corrective action or to notify the violator that subsequent violations of the same type will be dealt with more severely. Verbal warnings may be used to correct minor inadvertent noncompliance. A written record of the verbal warning shall be made in the form of a memorandum to the file, an on-site inspection form or a phone call log.
3) Notice of Violation – A written notice to the responsible person/property owner that the County has observed a violation of this Article. The written notice shall set forth measures necessary to achieve compliance with the plan, and correction of the violation must be started immediately, or the owner shall be deemed in violation of this Article. The notice of violation shall contain:
        i) Name and address of the owner or the applicant or the responsible person.

ii) Address or other description of the site upon which the violation is occurring.

iii) Statement specifying the nature of the violation.

iv) Description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the stormwater management plan or this Article and the date for the completion of such remedial action.

v) Statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed.

vi) Statement that the determination of violation may be appealed to the Department by filing a written notice of appeal within thirty (30) days after the notice of violation (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24-hour notice shall be sufficient). A violation of this Article, including any noncompliance for correction or alleviation of violations specified in the Department's first notice within the specified time for the alleviation in the notice, shall constitute a misdemeanor. In the absence of a time specified for the correction, all violations must be corrected or alleviated as specified in the first notice within thirty (30) days from the date of such notice. Failure to comply shall also constitute a misdemeanor and Forsyth County may impose a penalty not to exceed $1,000.00 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation. The maximum penalty and punishment for any single violation of this Article may not exceed that provided for in O.C.G.A. § 36-1-20(b) as that subsection now provides or as it may be hereafter amended. Each day the noncompliance or violation is not corrected constitutes a separate violation.

4) For flagrant violations of this Article, Forsyth County may issue a citation to the applicant or other responsible person, requiring such person to appear in Forsyth County Magistrate Court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not to exceed $1,000.00 or imprisonment for sixty (60) days, or both.

5) The County may institute appropriate action or proceedings at law or equity for the enforcement of this Article or to correct violations of this Article. Any court of competent jurisdiction may have the right to issue restraining orders, temporary or permanent injunctions, and other appropriate forms of remedy or relief. Each day of noncompliance is considered a separate offense. Nothing contained in this Article shall prevent the County from taking such other lawful action as is necessary to prevent or remedy any violation, including application for injunctive relief. Administration and enforcement of stormwater activities in Forsyth County are in accordance with the Executive Reorganization Act of 1972, O.C.G.A. 12-2-1 et seq., and the Georgia Administrative Procedure Act, O.C.G.A. 50-13-1 et seq., all as amended, but also includes the authority to require corrective action and/or remediation of conditions creating adverse water quality impacts, or otherwise in violation of these rules, regulations and authorizing statutes.

6) Upon notice from the issuing authority or its agent, work on any project that is being done contrary to the provisions of this Article or in a dangerous or unsafe manner shall be immediately stopped. Such notice shall be in writing and shall be given to the owner of the property, his authorized agent or the person or persons in charge of the activity on the property and shall state the conditions under which work may be resumed. Where an emergency exists, no written notice shall be required.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-191. Right of Entry for Maintenance Inspections

The terms of the inspection and maintenance agreement shall provide for Forsyth County’s right of entry for maintenance inspections and other specified purposes. If a site was developed before the requirement to have an inspection and maintenance agreement or an inspection and maintenance agreement was for any reason not entered into, recorded, or has otherwise been invalidated or deemed insufficient, then Forsyth County shall have the right to enter the property and make inspections.

1) The Department Director or their designee, bearing proper credentials and identifications shall be permitted to enter, in accordance with state and federal law, all properties for regular inspections, periodic investigations, observation, measurement, enforcement, and sampling and testing, in accordance with provisions of this Article. The Director or their designee shall duly notify the owner of such property or the representative on site, except in the case of an emergency.

2) Measurements, tests, and analyses performed by the Department or required of discharger to the County's municipal separate storm sewer system shall be in accordance with 40 CFR 136, unless another method is approved by the Department.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-192. Maintenance

Stormwater management systems shall be maintained by the owner so that the stormwater management systems perform as they were originally designed as required by Section 7 (Inspection and Maintenance) of the Addendum which outlines inspection and maintenance obligations of existing and new stormwater management systems.

Inspection and maintenance agreements shall provide terms for what constitutes a failure to maintain a stormwater management system and the enforcement options available to Forsyth County. If a site was developed before the requirement to have an inspection and maintenance agreement or an inspection and maintenance agreement was for any reason not entered into, recorded, or has otherwise been invalidated or deemed insufficient, then:

1) An owner's failure to maintain the stormwater management system so that it performs as it was originally designed shall constitute and be addressed as a violation of, or failure to comply with, owner's property maintenance obligations.

2) To address such a failure to maintain the stormwater management system, Forsyth County shall have all the powers and remedies that are available to it for other violations of an owner's property maintenance obligations, including without limitation prosecution, penalties, abatement, and emergency measures.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-193. Variances from requirements

1) The Department Director may grant a variance from the requirements of this Article if exceptional circumstances applicable to a site exist such that strict adherence to the provisions of this Article will result in unnecessary hardship and will not fulfill the intent of this Article.

2) A written request for a variance shall be required and shall state the specific variance sought and the reasons, with supporting data, including why a variance should be granted. The request shall include all information necessary to evaluate the proposed variance. The Department Director may ask for any additional documents or information from the applicant. Failure to provide requested documents or information shall result in an automatic denial.

3) The Department Director will conduct a review of the request for a variance and may approve, deny, or request additional information for the variance.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-194. Appeals

1) Any person aggrieved by a decision of the Department Director, including any decision with reference to the granting or denial of a variance from the terms of this Article, may appeal the decision by filing a written

notice of appeal with the Department Director within seven (7) days of the issuance of such decision. A notice of appeal shall state the specific reason why the decision of the Department Director is alleged to be in error.

2) If the Department Director does not reverse his or her decision, then the person may file an appeal in the Planning and Development Department to be heard by the Zoning Board of Appeals.

3) If the Zoning Board of Appeals does not reverse the decision, then the person may appeal to the Forsyth County Board of Commissioners. The hearing shall be held within the next two meetings of the Board of Commissioners or a date mutually agreed upon in writing by the appellant and the Chair of the County Board of Commissioners. The County Board of Commissioners shall then make its findings within thirty (30) days of the appeal hearing. The appellant shall not be relieved of his obligations during the appeal process.

4) If the appellant is dissatisfied with the Board of Commissioners decision, the decision may then be appealed to the County Superior Court.

(Ord. No. 75, amended, 12-2-2021)

Sec. 34-195. Property Owner Liability; Supplemental Charges

Any person in violation of any portion of this Article shall pay for all costs associated with the violation, including, but not limited to, sampling, testing, containment, cleanup, injury, legal and other costs.

(Ord. No. 75, amended, 12-2-2021), Secs. 34-196--34-220. Reserved

Forsyth County Addendum to the Georgia Stormwater Management Manual

November 2021

Forsyth County Department of Engineering

Contents

1. Introduction

1.1 Legal Authority

The Forsyth County Department of Engineering (Department) has regulated stormwater design in Forsyth County (County) since 1997, when the County's first stormwater design manual became effective. On June 21, 2004, the Forsyth County Board of Commissioners approved the adoption of the Georgia Stormwater Management Manual (GSMM; Atlanta Regional Commission et al., 2001; updated 2016) and the Forsyth County Addendum to the Georgia Stormwater Management Manual (Addendum; Forsyth County Department of Engineering, 2004). The Forsyth County Board of Commissioners approved revisions to the Addendum on January 2, 2014, and again on December 2, 2021. The GSMM and the Addendum serve as the basis for the design and review of stormwater management facilities and practices in Forsyth County, including specific guidance for stormwater management standards and for methods of estimating stormwater runoff.

In addition, Chapter 34, Article V Stormwater Management, of the Forsyth County Code of Ordinance (Ordinance) provides the Department with the legal authority to manage stormwater based on the scope of responsibilities defined in the Ordinance. The Ordinance also includes a description of the violations, enforcement, and appeals processes.

1.2 Purpose of the Addendum

The Addendum is not intended to repeal nor override the GSMM, any other ordinance, rule, regulation, or other provision of law. The Addendum is not designed to replace the need for judgement by the design professional; rather, other accepted engineering procedures may be used to conduct hydrologic and hydraulic studies if approved by the Department.

The purpose of the Addendum is to provide additional County-specific criteria beyond those stated in the GSMM, which will be met to comply with County stormwater requirements. The Addendum shall be developed and updated by the Department as needed to provide County-specific clarification to the GSMM.

1.3 How to Use the Addendum

This Addendum is organized to follow the stormwater plan review process, which is one of multiple department reviews incorporated into the County's Land/Site Development Permit. The current version of the GSMM will provide the primary guidance for the design and evaluation of stormwater management facilities unless otherwise noted in the Addendum. To avoid redundancies, the Addendum references guidance from the GSMM when applicable.

As an overview, a brief annotation of each Addendum section is provided below:

1) Section 1: Introduction – provides guidance on the application and exemption of these regulations for new developments, redevelopment projects, and existing stormwater management facilities.
2) Section 2: Planning and Design of Stormwater Management Systems – specifies the review process to obtain stormwater approval for development permits and provides guidance on the stormwater management standards and other design requirements.
3) Section 3: Hydrology – specifies the hydrology calculations required to meet the stormwater management standards.
4) Section 4: Stormwater Management Facilities – provides an overview of the design criteria and selection of stormwater management facilities, as well as specific requirements for select facilities.
5) Section 5: Stormwater Conveyance and Piping – provides an overview of the design criteria and procedures for stormwater systems, culverts, open channels, and outlet protection.

6) Section 6: Review Requirements – provides guidance on the documentation requirements for the stormwater management review process.

7) Section 7: Inspection and Maintenance – establishes the maintenance responsibilities for existing and new stormwater management facilities and systems.

1.4 Applicability

The provisions of this Addendum shall apply throughout the unincorporated area of Forsyth County. The provisions of the GSMM and the Addendum are incorporated by reference as a part of the Forsyth County Stormwater Management ordinance as fully and completely as if set forth verbatim therein. The applicability and exemption information for specific stormwater standards and requirements is defined in this Section and Section 1.5 of the Addendum.

The stormwater management standards are applicable to the following:

1) New development that creates or adds 5,000 square feet or greater of new impervious surface area or that involves land disturbing activity of 1 acre of land or greater.

2) Redevelopment (excluding routine maintenance and exterior remodeling) that creates, adds, or replaces 5,000 square feet or greater of new impervious surface area or that involves land disturbing activity of 1 acre or more.

3) New development and redevelopment if:

    a) Such new subdivision development or redevelopment is part of a major subdivision. The sum of all associated impervious surface area or land disturbing activities that are being developed as part of such subdivision meets or exceeds the threshold in (1) and (2) above.

    b) Such new subdivision development or redevelopment is part of a minor subdivision that creates or adds impervious surface area equal to or greater than 5,000 square feet or 10 percent on any individual lot or that involves land disturbing activity of 1 acre of land or greater on any individual lot

4) Any commercial or industrial new development or redevelopment, regardless of size, that is a hotspot land use as defined in Ordinance Section 34-184 (Definitions).

5) Linear transportation projects that exceed the threshold in (1) or (2) above.

All new development, redevelopment, and previously developed sites will comply with the maintenance requirements outlined in Section 7 (Inspection and Maintenance) of the Addendum.

1.5 Exemptions

The development activities listed below are exempt from the stormwater management standards. These exemptions do not apply to the maintenance obligations established in Section 7 of the Addendum. The maintenance obligations in Section 7 shall be fulfilled irrespective of the exemptions listed below:

1) Land disturbing activity conducted by local, state, authority, or federal agencies, solely to conduct emergency repairs or respond to an emergency need to protect life, limb, or property.

2) Land disturbing activity that consists solely of cutting a trench for utility work and related pavement replacement, while maintaining the original grade.

3) Land disturbing activity conducted by local, state, authority, or federal agencies, whose sole purpose is to implement stormwater management or environmental restoration.

4) Agricultural practices as described in Official Code of Georgia Annotated (O.C.G.A.) Section 12-7-17(5) within areas zoned for these activities except for buildings or permanent structures that exceed the threshold in Section 1.4(3)(a) or (b).

5) Silvicultural land management activities as described in O.C.G.A. Section 12-7-17(6) within areas zoned for these activities except for buildings or permanent structures that exceed the threshold in Section 1.4(3)(a) or (b)

6) Installations or modifications to existing structures solely to implement Americans with Disability Act requirements, including but not limited to elevator shafts, handicapped access ramps and parking, and enlarged entrances or exits.

7) Linear transportation projects being constructed by Forsyth County to the extent the Department determines that the stormwater management standards may be infeasible to apply, all or in part, for any portion of the linear transportation project. For this exemption to apply, a linear infeasibility report that is compliant with Forsyth County linear feasibility program shall first be submitted to the Department. The linear infeasibility report must contain adequate documentation to support the evaluation for the applicable portion(s) and any resulting infeasibility determination, if any, by the Department.

8) Repairs to any stormwater management system deemed necessary by the Department.

1.6 Resources

The resources listed below form the primary guidance needed to adhere to Forsyth County stormwater regulations.

1) The following documents are made publicly available by the Department's Stormwater Division and may be accessed from the County's Stormwater Division webpage at https://www.forsythco.com/Departments-Offices/Engineering/Stormwater-Division.

   a) Forsyth County Addendum to the Georgia Stormwater Management Manual, Forsyth County Department of Engineering, Stormwater Division.

   b) Georgia Stormwater Management Manual, Atlanta Regional Commission.

   c) Stormwater Quality Site Development Review Tool v2.2, Forsyth County Department of Engineering, Stormwater Division.

   d) Stormwater Management Plan Checklist (Checklist), Forsyth County Department of Engineering, Stormwater Division.

   e) Inspection and Maintenance Agreement, Forsyth County Department of Engineering, Stormwater Division.

   f) Facility As-built Verification Form, Forsyth County Department of Engineering, Stormwater Division.

   g) Policy on Practicability Analysis for Runoff Reduction (Practicability Policy).

   h) Policy on Practicability Analysis for Linear Transportation Projects (Linear Transportation Policy).

2) Forsyth County Construction Standards and Specifications for permitted pipe materials and dimensions https://www.forsythco.com/Departments-Offices/Engineering/Construction

Additional checklists and references are made available by the Planning & Community Development Department and may be accessed from the County's Planning & Community Development Department webpage at https://www.forsythco.com/Departments-Offices/Planning-Community-Development/Checklists.

2. Planning and Design of Stormwater Management Systems

In addition to the design guidance presented in the GSMM, adherence to Forsyth County design requirements as defined in this Section shall be demonstrated for all stormwater management system designs. The design professional shall follow the review process outlined in Section 2.1.

2.1 Review Process for Stormwater Management

The stormwater management review process consists of a pre-submittal meeting with the Department, preparation and submittal of the stormwater management plan, and completion of the as-built certification for stormwater management systems. An overview of the process is described in Sections 2.1.1 through 2.1.3 and presented in further detail in Section 6 (Review Requirements).

2.1.1 Step 1: Pre-submittal Meeting

The design professional is required to arrange a pre-submittal meeting with the Department. The purpose of this meeting is to obtain early feedback from the County on the proposed project. During this meeting, the design professional may present a stormwater concept plan that includes a preliminary site layout and stormwater management facility selection and siting to demonstrate how the stormwater management standards in Section 2.2 will be addressed.

2.1.2 Step 2: Stormwater Management Plan

For every land disturbing project, a stormwater management plan (Plan) shall be prepared and submitted to the County by a design professional registered in the State of Georgia. The Plan is a comprehensive document that that conveys the overall strategy for managing stormwater, such that runoff hazards are not created, existing runoff-related problems are not exacerbated, and stormwater quality is not adversely affected, either upstream or downstream from or within the boundaries of the property being developed. It summarizes the required stormwater technical information and analyses through a report, annotated copies of applicable County checklists, and associated construction drawings, as detailed in Section 6.2. The Plan shall clearly document the proposed stormwater management approach and all necessary computations.

The County will review each Plan submittal and provide comments. The design professional may schedule additional meetings or teleconferences with the County to review the provided comments. If necessary, the design professional shall address the County's comments and re-submit the revised Plan with an annotated checklist and any applicable sheets of the construction drawings. The County will review each re-submittal and provide comments as necessary. Once all comments from the County have been satisfactorily addressed, the Department will approve the Plan.

> *Issuance of the Land Disturbance Permit is contingent upon approval from multiple departments within the County, as outlined in the Unified Development Code (UDC).*

2.1.3 Step 3: As-built Certification of Stormwater Management Systems

Upon completion of the development, the design professional is responsible for submitting an as-built report showing the as-built specifications for all components of the stormwater management system. The report must include certification that the stormwater management system is functioning properly and was constructed in conformance with the approved stormwater management plan and that the landscaping is established and installed in conformance with the landscaping plan. An inspection and maintenance agreement form (Inspection

and Maintenance Agreement), signed by the property owner or organization and notarized, is required prior to approval of the as-built plat or final plat.

2.2 Stormwater Management Standards

Subject to the applicability criteria in Section 1.4 and exemptions in Section 1.5, the following stormwater management standards apply. Additional details for the standards are found in Section 2.2.2.2 of the GSMM:

1) Natural Resources Inventory: Site reconnaissance and surveying techniques shall be used to complete a thorough assessment of existing natural resources, both terrestrial and aquatic, found on the site. At a minimum, the following resources are to be identified, mapped, and shown on the stormwater management plan (as applicable):

    i) Topography (minimum of 2-foot contours) and steep slope areas (defined by slopes greater than 15 percent)

    j) Natural drainage divides and patterns

    k) Natural drainage features (e.g., swales, basins, depressional areas)

    l) Natural feature protection and conservation areas such as wetlands, lakes, ponds, floodplains, stream buffers, drinking water wellhead protection areas, and river corridors

    m) Predominant soils (including erodible soils and karst areas)

    n) Existing predominant vegetation including trees, tree canopy, high quality habitats, and other existing vegetation

2) Better Site Design Practices for Stormwater Management: Design practices shall be used to preserve the natural drainage patterns and natural treatment systems, while reducing the generation of additional stormwater runoff and pollutants to the maximum extent practicable. Additional details are found in Section 2.3 of the GSMM.

    Forsyth County encourages the protection and enhancement of existing wetlands and floodplains, which are protected from dredging and filling by 33 CFR Part 330 of the Federal Register and Section 404 of the Clean Water Act.

3) Downstream Analysis: Due to peak flow timing and runoff volume effects, components of the stormwater management system may fail to reduce peak discharges to predevelopment levels downstream from the site. A downstream peak flow analysis shall be provided to the point in the watershed downstream of the site where the area of the site comprises 10 percent of the total drainage area in accordance with Section 3.1.9.2 of the GSMM. This standard helps minimize downstream impacts from the development and may result in the designer resizing components of the stormwater management system.

4) Stormwater Management System Inspection and Maintenance: The components of the stormwater management system that will not be dedicated to and accepted by Forsyth County, including all drainage facilities, best management practices, credited conservation spaces, and conveyance systems, shall have an inspection and maintenance agreement to ensure that they continue to function as designed (Section 7.1). All new development and redevelopment sites are to prepare an Inspection and Maintenance Agreement for the onsite stormwater management system.

5) Trout Stream Protection: Trout stream protection shall be provided by controlling temperature for receiving waters with trout stream designation. In streams designated as primary trout waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2 degrees Fahrenheit of natural stream temperatures.

2.2.1 Unified Stormwater Sizing Criteria

The unified stormwater sizing criteria is an integrated set of engineering criteria (Runoff Reduction, Water Quality, Stream Channel Protection, Overbank Flood Protection, and Extreme Flood Protection), which have been developed for use in sizing stormwater management facilities.

1) Runoff Reduction and Water Quality: Stormwater Runoff Reduction/Quality shall be provided by using the following:

   a) Development with a stormwater management plan submitted before April 12, 2020, the applicant may choose either (b.i) Runoff Reduction or (b.ii) Water Quality.

   b) Development with a stormwater management plan submitted on or after April 12, 2020, the applicant shall choose (i) Runoff Reduction and additional water quality shall not be required. To the extent runoff reduction has been determined to be infeasible for all or a portion of the site using the Practicability Policy, then (ii) water quality shall apply for the remaining runoff from a 1.2-inch rainfall event and must be treated to remove at least 80 percent of the calculated average annual post-development total suspended solids load or equivalent as defined in the GSMM.

      i) Runoff Reduction – The stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site using runoff reduction methods, to the maximum extent practicable.

      ii) Water Quality – The stormwater management system shall be designed to remove at least 80% of the calculated average annual post-development total suspended solids load or equivalent as defined in the GSMM for runoff from a 1.2-inch rainfall event.

   c) If a site is determined to be a hotspot, as detailed in Section 1.4, Forsyth County may require the use of specific or additional components for the stormwater management system to address pollutants of concern generated by that site.

2) Stream Channel Protection: Stream channel protection shall be provided by using all of the following three approaches:

   a) 24-hour extended detention storage of the 1-year, 24-hour return frequency storm event

   b) Erosion prevention measures, such as energy dissipation and velocity control

   c) Preservation of any applicable stream buffer

Flood Protection

Forsyth County requirements for overbank and extreme flood protection are dependent on the stormwater management facility type being designed for the site, as described below.

- *Stormwater Management Facilities with Detention*

Forsyth County requires that all sites utilizing stormwater management facilities with detention shall discharge at a rate equal to or less than 90 percent of the predeveloped rate of release for the 2-year, 10-year, 25-year, 50-year, and 100-year design storm.

- *Regional Stormwater Management Facilities*

Forsyth County requires that all sites utilizing regional stormwater management facilities shall discharge at a rate equal to or less than 100 percent of the predeveloped rate of release for the 2-year, 10-year, 25-year, 50-year, and 100-year design storm.

2.3 Site Planning

In addition to the design guidance presented in the GSMM, adherence to Forsyth County design requirements as defined in this Section shall be demonstrated for all stormwater management system designs.

2.3.1 Criteria for Requiring Stormwater Management

1) The following criteria shall be evaluated by the design professional preparing the Plan and used to determine what type stormwater management facilities should be required for any portion of any site:
   a) Existing land uses downstream
   b) Anticipated future land uses downstream
   c) Magnitude of increase in peak flows due to development
   d) Presence of existing drainage problems
   e) Capacity of existing and anticipated stormwater systems
   f) Creation of concentrated flows where none had occurred previously
   g) Existing flows generated offsite that pass through the project site
   h) The nature of the receiving watercourse
2) Stormwater management shall be required for all development activities not meeting the stormwater management standards. Flood protection standards may not be required when one or more of the following conditions is true and the design professional certifies the supporting documentation provided to the Department:
   a) The uncontrolled, post-development runoff will leave the project site as sheet flow and will not have an adverse impact upon downstream properties due to dispersal of stormwater.
   b) The effect of stormwater management will be to concentrate flows where sheet flow had occurred under predeveloped conditions, and any impact of increased sheet flows upon downstream properties would be less adverse than that which would result from the concentrated flow from a stormwater detention facility, even if energy dissipation devices were employed.
   c) The runoff will flow directly into the 100-year floodplain without crossing off-site properties, and the post-development runoff will constitute less than 5 percent of the total peak flow in the watercourse, at the point where the watercourse crosses the project site's downstream property line. This condition will be referred to hereafter as the "5% rule."

      Reporting requirements when 5% Rule is applicable:

      1) *A studied Federal Emergency Management Agency floodplain or the 100-year floodplain for ultimate build-out conditions, as determined by the design professional, shall be present on the property of the proposed development.*
      2) *The 5 percent study point must be located at the downstream property line of the proposed development.*
      3) *The 5 percent study will compare post-development peak flows originating onsite against post-development peak flows of the receiving watercourse at the downstream property line of the proposed development. Comparison of the peak flows shall include the timing of the peak flows.*

   d) The runoff will flow directly into the 1085.00 flood elevation of Lake Lanier, provided that runoff reduction or water quality standards are met prior to discharging into the lake.

e) The uncontrolled flow will pass through downstream properties, in drainage easements obtained by the design professional, to existing stormwater management facilities that have been designed to manage the upstream property's runoff, and the flow through downstream properties is shown to not produce adverse impacts.

3) Should flood protection standard not be required based on presence of any of the conditions (2)(a) through (2)(e) above, the design professional must rigidly comply with the following requirements:

a) A Plan shall be required, regardless of whether stormwater management facilities are required for the development.

b) At the pre-submittal meeting, the design professional shall be prepared to discuss which of the above conditions (2)(a) through (2)(e) are applicable to the development. The outcome of the downstream analysis shall also be presented, see Section 3.1.9 of the GSMM for guidance performing the analysis.

2.3.2 Stormwater Systems Permanent Easements

Permanent easements shall be provided that are suitable for detained flooding and stormwater conveyance in accordance with the design, construction activity, and long-term maintenance of the stormwater systems, as follows:

1) All stormwater management facilities shall include a minimum 20-foot-wide permanent access easement. Stormwater management facilities shall have a minimum 20-foot-wide vehicular access of appropriate width, slope, and surface stabilization to support maintenance equipment that extends from a public street to the stormwater management facility. No fences or shrub plantings shall be allowed within a permanent access easement.

2) For stormwater management facilities intended to detain the design storm events, a minimum 20-foot-wide drainage easement shall extend horizontally from the outer extent of the proposed 100-year peak stage within the facility.

3) For any drainage pipe, ditch, stream or other area that is designated for stormwater conveyance, a minimum of 20-foot-wide drainage easement shall be required. This requirement also includes conveyance associated with retaining walls that span multiple parcels. No obstruction shall be placed, built, constructed, or planted that would inhibit proper function of the stormwater system. Fences or shrub plantings may be placed within a piped drainage easement, if an indemnification agreement is provided to the property owner responsible for maintenance.

3. Hydrology

Stormwater management facilities must be designed to meet the stormwater management standards in Section 2.2 using the following hydrology steps and calculations:

1) Calculate stormwater runoff to the proposed stormwater management facility using the appropriate runoff calculation methods described in Section 3.1 of the GSMM.

2) Calculate the runoff reduction and/or stormwater volume storage required to meet the stormwater management standards as presented in Section 2.2, using the appropriate methods described in Sections 3.2 and 3.3 of the GSMM.

3) Design appropriate stormwater management facilities to achieve the volume reduction and/or stormwater volume storage required to meet the stormwater management standards as presented in Section 2.2, using the appropriate design methods described in Section 4 of the GSMM.

4) Design the runoff collection and conveyance portion of the stormwater system to meet the goals of the stormwater system in accordance with Section 5 of the GSMM.

As a basis for the design of stormwater systems, Forsyth County requires analysis of predeveloped and developed conditions for all of the following 24-hour design storm events:

- *1-year*
- *2-year*
- *10-year*
- *25-year*
- *50-year*
- *100-year*

4. Stormwater Management Facilities

Stormwater management facilities are engineered facilities designed to reduce and/ or treat stormwater runoff, which mitigate the effects of increased stormwater runoff peak rate, volume, and velocity due to urbanization. Section 4 of the GSMM provides a comprehensive overview, specific design criteria, and examples of stormwater management facilities. Descriptions of each facility are provided in Table 4.1.1-1 of the GSMM. Design removal efficiencies, site applicability, and relative construction and maintenance costs for each stormwater management facility are provided in Table 4.1.3-1 of the GSMM. A detailed discussion of each facility, as well as design criteria and procedures for each, is found in Sections 4.2 through 4.29 of the GSMM.

Other stormwater management facilities, including proprietary systems, may be chosen or designed for sites with specific stormwater runoff characteristics, design constraints, or as a minor component of a larger stormwater management system. These stormwater management facilities will be accepted only as part of the stormwater management system design where deemed appropriate by the Department.

4.1 Additional Requirements for Select Facilities

Additional County requirements for select stormwater management facilities are provided in this Section.

4.1.1 Oil/Grit Separator Requirement for Hot Spot Land Uses

Forsyth County requires proposed hotspot facilities with commercial fueling areas to be designed with an oil/grit separator for water quality management. Additional information on design considerations related to a gravity (oil-grit) separator is found in Section 4.10 of the GSMM.

4.1.2 Collocation with Erosion and Sedimentation Controls

Some stormwater management facilities may be installed during construction for erosion, sedimentation and pollution control, then are modified to provide post-construction stormwater management prior to project completion. If a stormwater management facility is used for sediment storage during construction, then the facility shall be designed to provide sediment filtration (see Forsyth County's Ordinance 73 for Erosion and Sedimentation Control) for peak stages up to the 25-year design storm.

> *Stormwater management facilities that provide runoff reduction and rely on stormwater infiltration to meet stormwater management standards may not be collocated in areas used for sediment storage during construction.*

4.1.3 Stormwater Pond Fencing

When a stormwater pond is over 4 feet deep based on the depth of the 100-year water surface above the pond invert and is located in an area that constitutes a public safety hazard, access shall be restricted by a permanent fence or comparable barrier. Fences shall be chain link or other approved material by the Department. Fence height should be a minimum of 5 feet, installed flush with the surrounding grade. Vehicular access to the stormwater management facility for maintenance and emergency services shall be provided by at least one 10-foot-wide swing gate. Fences and gates shall be located along the outside edge of the minimum 20-foot-wide permanent perimeter easement, when possible (see Section 2.3.3).

4.1.4 Silt Gauge

For stormwater management facilities including a sediment forebay as a pretreatment facility, a silt gauge shall be installed in the sediment forebay. The silt gauge shall consist of a durable weather resistant post embedded a minimum of 2 feet and extend a minimum of 5 feet above grade. Numbers and adjacent tick marks must be indicated on the post beginning with the label "1 FT" at 1 foot above the ground elevation and thereafter a number and tick mark for each corresponding foot. Labels and tick marks must be clearly legible, durable to wear, and weather resistant. A comparable alternative may be accepted following review by the Department.

4.1.5 Dual Purpose Stormwater & Landscape Design

Select stormwater management facilities that provide runoff reduction may be considered by the County for approval to be installed within required landscape areas. This provision is applicable to private property, private drives, and parking lot accommodations where runoff reduction measures and enhanced landscape design for aesthetic purposes are both provided.

4.1.6 Multifunctional Stormwater Management Facilities as Community Open Space

Select stormwater management facilities may be considered by the County for approval to be collocated with accessible community amenity space. This provision would allow aesthetically-enhanced, natural looking stormwater management facilities to be designed to function as accessible community amenities. Approved design features may be applied towards minimum open space requirements at two times the amount of square footage for non-residential zoning districts to include the Master Planned District (MPD) and one and a half times the amount of square footage for residential districts. To qualify for open space credit as outlined in Chapter 18, Article XIII of the UDC, the multifunctional stormwater management facility must meet the following requirements:

- Stormwater management facility meets all required stormwater management standards.
- Community amenities located in a prominent and easily accessible location and/or other amenities in direct proximity and integrated with adjacent open space.
- Community amenities include a publicly-accessible pedestrian path that follows the stormwater management facility perimeter and connects to an adjacent street.
- Passive and/or active recreational user amenities (e.g. bench/picnic area/community green/bike racks) are provided.

5. Stormwater Conveyance and Piping

Stormwater conveyance design is an important balance between design of stormwater systems that meet stormwater management standards and providing adequate surface drainage to control flooding.

5.1 Storm Drainage Design

Technical guidance on design criteria and procedures is provided in Sections 5.2 through 5.5 of the GSMM. Additional Forsyth County design criteria for storm drainage structures are as follows:

1) Drainage criteria are as listed in the Forsyth County Preliminary Subdivision Checklist or the Forsyth County Commercial Site Plan Checklist.
2) Street catch basin spacing are as referenced in Section 5.2.1.2 of the GSMM.
3) Cross drains serving basins of 20 acres or less and longitudinal piping shall be designed for the 25-year storm and shall have a minimum diameter of 18 inches.
4) Cross drains serving basins of 20 acres or larger, live streams, and any other stormwater system receiving or transferring offsite drainage flow shall be designed for the 100-year storm.
5) Inlet and outlet headwalls are required to stabilize the ends of all storm drains.
6) Refer to Section 5.4.3.2 of the GSMM for storm drain velocities. If outlet velocities exceed 5 feet per second, then energy dissipation devices and/or downstream channel protection measures must be provided.
7) The downstream end of all storm drains shall be located a minimum of 50 feet past the building line, unless the storm drain conveys a live stream.
8) For all storm drain design, the design professional shall provide documentation of the 100-year hydraulic grade line profile to demonstrate that inlet structures will not be flooded and that their collection capacity will not be compromised by the 100-year peak stage.

Forsyth County Construction Standards and Specifications for permitted storm drain materials and dimensions may be obtained from the Department.

Reinforced concrete pipe or reinforced concrete box will be required for storm drains under the following conditions:

- *When the storm drain will convey a live stream and a more economical solution is not viable, as determined by the Department Director.*
- *When the storm drain will be installed with more than 15 feet of cover.*

6. Review Requirements

Refer to the UDC for a description of procedures and requirements for permitting activities associated with land development in the County. As part of the permitting process, the Department shall review and approve all applications that include stormwater systems prior to the County issuing a land development permit.

This section provides guidance on the documentation for the three primary steps of the stormwater review process:

- Step 1: Pre-submittal Meeting (see Section 6.1)
- Step 2: Stormwater Management Plan (see Section 6.2)
- Step 3: As-Built Certification of Stormwater Management Systems (see Section 6.3)

6.1 Pre-submittal Meeting

Before a land development permit application is submitted, the applicant shall request a pre-submittal meeting with the Department. The purpose of the pre-submittal meeting is to discuss opportunities, constraints, and ideas for the stormwater system before formal site design. As relevant, local and regional watershed plans, greenspace plans, trails and greenway plans, and other resource protection plans should be consulted prior to the pre-submittal meeting. The pre-submittal meeting also provides an opportunity for the applicant and the Department to identify preliminary waiver requests using the guidance in the Forsyth County Policy on Practicability Analysis for Runoff Reduction.

Prior to the pre-submittal meeting, it is helpful for the design professional to prepare the following information for discussion:

1) Existing site plan (boundary information, topography, site features and constraints, etc.)
2) Proposed site plan (conceptual site features)
3) Natural resources inventory including soil characteristics and infiltration rates
4) Stormwater concept plan (refer to Section 2.4.2.5 of the GSMM)

6.2 Stormwater Management Plan

The Plan is a comprehensive document prepared by a design professional registered in the State of Georgia that conveys the overall strategy for managing stormwater, such that runoff hazards are not created, existing runoff-related problems are not exacerbated, and stormwater quality is not adversely affected. Plan documentation must be appropriate for the Department's use in reviewing if a proposed project meets the local stormwater regulatory requirements and standards. The Plan summarizes the required stormwater technical information and analyses through a report, annotated copies of applicable County checklists, and associated construction drawings. The Plan's report shall include the items listed in the Checklist, including the following content:

1) Cover sheet bearing the original seal and signature of the Georgia Professional Engineer that prepared the Plan.
2) Introduction section with the following content:
    a) Detailed narrative project description including site location, acreage, and current and proposed land use; offsite drainage areas; and project methodology, including stormwater management measures proposed.
    b) Summary tables for each study point including the design storm events, pre-developed flow rates, developed flow rates, allowable flow rates, peak elevation in the stormwater management facility, and developed velocities.
    c) Copy of the applicable County checklists with project-specific annotations to assist the Department with reviewing the Plan.

3) Natural resources inventory section with existing site plans, utilities information, and geotechnical investigation, as applicable.

4) Pre-developed hydrologic analysis section with drainage maps, hydrologic computations, and a summary of pre-developed flow rates.

> *Rational method is only acceptable for drainage basins with less than 5 acres of contributing runoff.*

5) Developed hydrologic analysis section with drainage maps, hydrologic computations, unified stormwater sizing criteria calculations per drainage basin, calculation of site design credits, a summary of developed flow rates, and expected stormwater performance.

6) Stormwater management facilities section with details of the stormwater management system showing both existing and proposed stormwater practices. Stormwater management facility details should be provided with:

   a) Cross-section and profile views.

   b) Large-scale grading plan.

   c) Outlet control structure details.

   d) Stage/storage/discharge relationships.

   e) Details of trash rack or other anti-clogging measures.

   f) Completed Stormwater Quality Site Development Review Tool v2.2.

   g) Supporting calculations to show unified stormwater sizing criteria are adequately met with the proposed stormwater system.

7) Downstream analysis section including analysis of the capacity of downstream structure(s), indication of the adequacy of the receiving waters for rate and velocity of flows and supporting calculations for a downstream peak flow analysis using the 10 percent rule.

8) Stormwater management facility landscaping plan section with construction drawings that detail the plan view arrangement, table of materials, installation methods, and any other supporting information necessary to the installation and establishment of vegetation. Where landscaping is used as a temporary or permanent erosion and sedimentation control best management practice, the designer shall include provisions for landscaping maintenance and replacement to meet regulatory requirements.

9) Evidence of acquisition of all other required local, state, and federal permits.

10) Documentation for Determination of Infeasibility for runoff reduction standard, if applicable.

11) Identify and summarize the applicable sheets found within the construction drawings that meet the following Plan requirements:

   a) Stormwater conveyance section with plan and profile drawings, design calculations, and detailed summary chart for all existing and proposed stormwater drains, pipes, culverts, catch basins, channels, swales, and areas of overland flow.

   b) Erosion and sedimentation control plan section containing all required elements in accordance with Ordinance No. 73, showing phasing of construction and temporary measures with details for practices proposed to be converted to or collocated with stormwater management facilities. Include a spill prevention and containment plan, where applicable.

   c) Easement plan including construction drawings that clearly document 100-year flooding extents, existing and proposed easements, and access easements with detail for grade and surface protection to support vehicular traffic.

For redevelopment and to the extent existing stormwater management facilities are being used to meet applicable stormwater management standards, the following must also be included in the Plan for existing stormwater management facilities:

- As-built drawings
- Current inspection report for the existing stormwater management facilities with deficiencies noted
- Stormwater management facility landscaping plans

6.3 As-built Certification of Stormwater Management Systems

Following final site stabilization, a Georgia Professional Engineer shall submit the as-built report certifying the installed stormwater management system. The Department shall perform a final inspection with the applicant to confirm applicant has fulfilled these responsibilities prior to as-built approval. The as-built report shall include the following documentation.

1) Stormwater management facility as-built section including:
    a) Introduction section with a summary of the findings included in the as-built report, detailed as-built project narrative, summary of design data, and a reference to the approved stormwater management plan.
    b) As-built flow summary table with predeveloped, design, and as-built flow rates.
    c) As-built volume summary with a comparison of unified stormwater sizing criteria volumes with as-built volumes to demonstrate volumes are not deficient.
    d) Hydrologic and hydraulic computations section with comparison of design and as-built conditions.
    e) Field-run topographic survey drawing prepared by a Georgia Professional Land Surveyor and summary of stage/storage relationship for the stormwater management facility.
    f) Field-run stormwater survey and summary table documenting dimensions and elevations for all controls in the stormwater management systems.
    g) Signed and sealed certifications by a Professional Engineer, stating:
        i) “The stormwater system as-built conditions meet Forsyth County requirements.”
        ii) “The stormwater conveyance system as-built conditions function as designed and engineered in the approved construction drawings.”
        iii) “The stormwater management facilities as-built conditions provide the storage volumes and outflow rates as required by the approved stormwater management plan.”
        iv) “The stormwater management facilities landscaping is installed and maintained in conformance with the approved stormwater management plan and the established vegetation meets applicable vegetative cover requirements.”
2) Stormwater Conveyances section with as-built plan and profile views of all stormwater conveyances, accompanied by surveyed sections detailing representative cross sections.
3) Inspection and Maintenance Agreement Form signed by the property owner or organization and notarized; form is considered incomplete without all required attachments.

Forsyth County requires performance bonds for all stormwater management facilities on residential projects. Following final site stabilization, the Forsyth County As-built Verification Form is required prior to release of the performance bond.

6.4 Spill Prevention and Containment Plan

All proposed commercial, industrial, and construction sites that store designated hazardous waste, as defined in Ordinance Section 34-184 (Definitions) are required to submit a spill prevention and containment plan for the proposed site. The spill prevention and containment plan must be submitted to the Department Director prior to the approval of the final plat or as-built.

Spill prevention and containment plan must address the following issues at a minimum:

1) Proposed storage areas must contain signs with phone numbers for reporting spills to Forsyth County and the Georgia Department of Natural Resources Environmental Protection Division.
2) Description of the types and quantities of designated hazardous waste materials to be stored at the proposed site.
3) Spill prevention measures will be taken for:
    a) Fuel storage/ fueling facilities.
    b) Chemical/ raw material storage methods (must occur under covered portion of site).
    c) Other designated hazardous waste storage methods.
    d) Loading/ unloading instructions.
4) Spill containment measures
    a) Methods for spill capture and location of materials and equipment to implement these methods.
    b) Provide a permanent physical barrier around large storage areas for containment of spills. The storage inside the berm shall be at least 110 percent of the volume of the largest tank plus the volume of rainfall associated with the 100-year, 24-hour storm event across the containment area. The containment area should be properly lined to prevent infiltration of the designated hazardous waste into the ground.
    c) Fuel storage/ fueling facilities, chemical/ raw material storage, and any other designated hazardous waste storage must be covered.
5) Spill collection plan documenting procedures for collecting spilled materials and preventing the spilled materials from entering the Forsyth County separate storm sewer system.

In the event of a known or suspected release of designated hazardous waste or non-stormwater discharges from a facility or operation into stormwater, the Forsyth County separate storm sewer system, State Waters, or Waters of the U.S., then the person responsible for the facility or operation shall take all necessary steps to ensure the discovery, containment, and collection of such release to minimize the effects of the discharge.

The person responsible for a facility, activity or operation, or responsible for emergency response for a facility shall:

- Notify the Department in person, by phone, by email, or by facsimile no later than 24 hours following discovery of the spill of the nature, quantity and time of occurrence of the discharge. Notifications in person or by phone shall be confirmed by written notice mailed to the Department within three business days of the initial notification.
- If the discharge of non-stormwater emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an onsite written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least 3 years. The owner or operator shall also take immediate steps to ensure no recurrence of the discharge or spill.
- In the event of such a release of designated hazardous waste, emergency response agencies and/or other appropriate agencies shall be immediately notified.

Failure to provide notification of a non-stormwater discharge, as provided above, is a violation of the Ordinance Sec. 34-190 (Violations and Enforcement).

7. Inspection and Maintenance

This Section establishes obligations for inspection and maintenance of existing and new stormwater management facilities and stormwater systems. Refer to Appendix E of the GSMM for guidance on inspections and maintenance procedures, including maintenance checklists for stormwater management facilities.

7.1 Executing an Inspection and Maintenance Agreement

Prior to the approval of the final plat, as-built, or issuance of the certificate of occupancy, the owner shall execute an inspection and maintenance agreement obligating the owner to inspect, clean, maintain, and repair the stormwater management system, including establishing, maintaining, and repairing the vegetation in accordance with the stormwater management facility landscaping plan. Forsyth County requires inspection and maintenance agreements to be recorded using Forsyth County's Inspection and Maintenance Agreement form.

The Inspection and Maintenance Agreement shall identify by name or official title the person(s) serving as the point of contact for carrying out the owner's obligations under the inspection and maintenance agreement. The owner shall update the point of contact information within 90 days of a change to the point of contact or as requested by Forsyth County. Upon any sale or transfer of the site, the new owner shall notify Forsyth County in writing within 30 days of the name or official title of new person(s) serving as the point of contact for the new owner. Any failure of an owner to keep the point of contact up to date shall, following a 30 days' notice, constitute a failure to maintain the stormwater system.

The inspection and maintenance agreement shall run with the land and bind all future successors-in-title of the site. If there is a future sale or transfer of only a portion of the site, then:

1) The parties to such sale or transfer may enter into and record an assignment agreement designating the owner responsible for each portion of the site and associated obligations under the inspection and maintenance agreement. The parties shall record and provide written notice and a copy of such assignment agreement to Forsyth County.
2) In the absence of a recorded assignment agreement, all owners of the site shall be jointly and severally liable for all obligations under the inspection and maintenance agreement regardless of what portion of the site they own.

For any stormwater management systems approved and built based on requirements predating the current GSMM and that is not otherwise subject to an inspection and maintenance agreement, such stormwater management systems shall be maintained by the owner in a manner that ensures the stormwater management systems perform as they were originally designed.

As part of the inspection and maintenance agreement, an operations and maintenance plan shall be included to ensure proper function of the stormwater management system. The plan shall include a schedule for inspections and required maintenance. Inspection and maintenance requirements for BMPs are found in Section 4 and Appendix E of the current GSMM.

7.1.1 Maintenance by Private Parties

On all commercial sites and on residential property where stormwater management systems exist, the maintenance of new and existing systems is the responsibility of the owner or operator of the property. The Department's Stormwater Division personnel may perform periodic inspections of existing and new private stormwater systems to determine if they are maintained properly. Deficiencies will be noted to the owner or operator in writing. It shall be the responsibility of the owner or operator to repair deficiencies in a timely manner. Failure on the part of the owner or operator to repair deficient stormwater systems will be a violation of Ordinance Section 34-190 (Violations and Enforcement).

7.1.2 Maintenance by Property or Homeowner Associations

When any residential, industrial, or commercial subdivision, whether new or existing, has a legally created property or homeowners' association, the association will be responsible for maintenance of all drainage easements and all stormwater systems within the entire development. The association is responsible for providing updated contact information to the Department.

The association may be required to apply larvicides, stock mosquito fish, or take other measures, as required by the Department, to protect the health, safety, and welfare of the public. Any emergency maintenance required by Forsyth County will be performed by the County or their agent, and the cost of performing the emergency maintenance will be assessed to the association.

The Department's Stormwater Division personnel may perform periodic inspections of existing and new private stormwater systems to determine if they are maintained properly. Deficiencies will be noted to the association in writing. It shall be the responsibility of the association to repair deficiencies in a timely manner. Failure on the part of the association to repair deficient stormwater systems will be a violation of Ordinance Section 34-190 (Violations and Enforcement).

7.2 Inspections to Ensure Plan Compliance During Construction

Periodic inspections of the stormwater system during construction shall be conducted by County staff. The Department Director shall determine the inspection schedule necessary to ensure Plan compliance. Inspections shall use the approved Plan and the construction sequencing plan for establishing compliance. Inspections may include, but are not limited to, the following:

1) Initial inspection prior to Plan approval.
2) Bury inspection prior to burial of any underground drainage structures.
3) Erosion control inspections as necessary to ensure effective control of erosion and sedimentation.
4) Final inspection when all work, including installation of drainage facilities, has been completed; work must be approved prior to a final plat approval.

The Department Director, or their designee, bearing proper credentials and identifications shall be permitted to enter, in accordance with state and federal law, all properties for regular inspections, periodic investigations, observation, measurement, enforcement, or sampling and testing, in accordance with provisions of this Section. The Director, or their designee, shall duly notify the owner of such property or the representative onsite, except in the case of an emergency. All inspections shall be documented with written reports that contain the following information:

- Date and location of the inspection.
- Status of the stormwater system's compliance with the approved Plan.
- Variations from the approved Plan.
- Any other variations or violations of the conditions of the approved Plan.

8. References

Forsyth County Department of Engineering. *Forsyth County Addendum to the Georgia Stormwater Management Manual*. Revised January 2, 2014.

Atlanta Regional Commission, AMEC Earth and Environmental, Center for Watershed Protection, Debo and Associates, and Jordan Jones and Goulding. *Georgia Stormwater Management Manual*. First Edition. August 2001.

Atlanta Regional Commission, AECOM, Atlanta Regional Commission Center for Watershed Protection, Center Forward, Georgia Environmental Protection Division, and Mandel Design. *Georgia Stormwater Management Manual*. 2016 Edition.

Policy on Practicability Analysis for Linear Transportation Projects
Forsyth County Department of Engineering

Introduction

The Forsyth County Policy on Practicability Analysis for Linear Transportation Projects (Linear Transportation Policy) sets reasonable criteria for determining when implementation of post-construction stormwater management standards for linear transportation projects being constructed by Forsyth County is infeasible. Linear transportation projects are defined as construction projects on travel corridors including but not limited to roads, sidewalks, multi-use paths and trails, and airport runways and taxiways. The Linear Transportation Policy defines the conditions and documentation to support the determination that the post-construction stormwater management standards may be infeasible to apply for entirety or any portion of a linear transportation project.

The Linear Transportation Policy recognizes that linear developments differ from other land development applications and that it may be challenging to implement post-construction stormwater management standards on linear projects because linear developments may include several drainage areas and are often constructed in narrow travel corridors, inhibiting the use of land-intensive stormwater management practices.

The Linear Transportation Policy outlines a tiered screening process to determine the exclusion or infeasibility of stormwater management facilities. The linear development is first evaluated at the project scale to determine if a Project Level Exclusion (PLE), which exempts the entire project from complying with MS4-related post-construction stormwater requirements, is applicable to the linear development. If a PLE does not apply, the development may be investigated further at the outfall or drainage basin level to determine if Outfall Level Exclusions (OLEs) are applicable. OLEs exempt the outfall's drainage area from MS4-related post-construction stormwater requirements through separate application to each of the major post-construction stormwater management requirements: runoff reduction, water quality, channel protection volume, overbank flood protection, and extreme flood protection. If OLEs do not apply, the development may be investigated further at each outfall drainage basin individually to determine if implementation of post-construction stormwater management facilities would be infeasible due to site constraints and other factors. The determination of exclusion or infeasibility does not remove the requirement for a downstream hydrologic assessment to check for adverse impacts downstream of the project.

For any exclusion or determination of infeasibility to apply, documentation compliant with the Linear Transportation Policy shall be submitted to the Forsyth County Department of Engineering (Department) for consideration.

Conditions and Documentation for Project Level Exclusion

PLEs exempt the entire project from post-construction stormwater treatment requirements. The following conditions and documentation may warrant a PLE. PLEs will be documented in Attachment 1 and include the following required documentation:

1) **The roadway is not owned or operated (maintained) by Forsyth County.** This Project Level Exclusion should not be marked unless it is applicable for the entire project. If the Forsyth County MS4 Permit requirements apply to a portion of the project, do not mark the Project Level Exclusion.

   Required Documentation:

   - *Identify the local entity that owns and operates the roadway.*
   - *Provide a location map with the beginning/end of project demonstrating that it is not a County roadway.*

2) **The project is a maintenance or safety improvement project whereby the sites are not connected and the individual site disturbs less than 1 acre.** This includes repaving, bridge maintenance, maintenance projects that do not add impervious surface area, driveway access paving, shoulder paving and building, fiber optic line installation, sign addition, safety barrier installation, and sound barrier installation. There can be multiple non-connected projects or sites in the same plan set that each disturb less than 1 acre, and the project would still be exempt from MS4 requirements. If a NOI will be filed and a full multistage set of erosion control plans will be produced then this exclusion does not apply to the project.

   Required Documentation:

   - *Provide a brief narrative indicating the type of project and the proposed disturbed area.*
   - *Provide project plan sheets with disturbed area clearly delineated/hatched.*

3) **The project is a roadway project that disturbs less than 1 acre or a site project that adds less than 5,000 square feet of impervious area.** The site project exclusion would most likely apply to expansions of existing facilities. There can be multiple non-connected projects or sites in the same plan set that each disturb less than 1 acre and the project would still be exempt from MS4 requirements. If a NOI will be filed and a full multistage set of erosion control plans will be produced then this exclusion does not apply to the project.

   Required Documentation:

   - *Provide a brief narrative indicating the type of project and the proposed disturbed area or impervious area documented.*
   - *Provide project plan sheets with disturbed area and/or impervious area clearly delineated/hatched.*

Conditions and Documentation for Outfall Level Exclusion

OLEs exempt the outfall's drainage area from MS4-related post-construction stormwater requirements through separate application to each of the major post-construction stormwater management requirements: runoff reduction, water quality, channel protection volume, overbank flood protection, and extreme flood protection. Project outfalls are defined as the point where concentrated flows from the road drainage system leaves the right-of-way. Each outfall drainage area should not be confused with each receiving water's drainage area. The following conditions and documentation may warrant an OLE. OLEs will be documented in Attachment 2 and include the following required documentation:

1) **Installation of a stormwater management facility is the sole reason why a change to the existing roadway alignment that would create a safety concern is required.**

   Required Documentation:

   - *Provide a written explanation detailing all safety concerns as well as demonstrating how any appropriate stormwater management facility design necessitated the roadway alignment change*

2) **Installation of a stormwater management facility is the sole reason why realignment and/or piping of a stream is required.**

   Required Documentation:

   - *Provide a written explanation detailing the stream impact as well as demonstrating how any appropriate stormwater management facility design necessitated the impact*
   - *Provide roadway exhibit that clearly shows stormwater management facility causing OLE.*

3) **Installation of stormwater management facility is the sole reason why an existing vegetated stream buffer or wetland is impacted.**

   Required Documentation:

   - *Provide a copy of the Natural Resource Inventory showing buffers and wetland areas.*
   - *Provide exhibit showing roadway alignment and all topo features clearly demonstrating that any appropriate stormwater management facility would require an impact to environmentally sensitive areas*

4) **Stormwater discharges from the project site are designed to exit the right-of-way as sheet flow (non-point source discharges).** Department approval is required to claim this exclusion for instances where stormwater discharges leave the right-of-way as sheet flow but channelize prior to discharging to a receiving stream or waterbody. If a ditch is visible in the cross-section, it is likely that this outfall level exclusion is not applicable. The designer should assess (and will be responsible for) sheet flow design in relation to causing instability, erosion, and flooding by visiting the site prior to design, and provide a written explanation with supporting evidence for the drainage area. Level spreaders for MS4 applications are appropriate to return concentrated flows to sheet flow conditions where the 10-year storm flow is less than 5 cubic feet per second.

   Required Documentation:

   - *Provide calculations and an exhibit with the drainage basin delineation and roadway alignment showing all topo features indicating stormwater leaving the project as sheet flow.*

- *Note: The designer must prove that the sheet flow will not cause instability, erosion, or flooding downstream of the project. Determine the velocities and existing ground cover and compare to the velocity limitations associated with channel linings in Section 5.4.3 of the 2016 edition of the Georgia Stormwater Management Manual, Volume 2. A separate analysis must be completed to prove no downstream flooding.*

5) **Stormwater flows originate outside Forsyth County's right-of-way or are diverted flows from undisturbed areas.** This outfall level exclusion is most applicable to projects that only have a portion of the project subject to Forsyth County's MS4 Permit. For example, if only a portion of a project is located on Forsyth County right-of-way, then the drainage areas located outside Forsyth County right-of-way could claim this OLE.

   Required Documentation:

   - *Provide an exhibit with the drainage basin delineation and roadway alignment clearly indicating that flows originate off Forsyth County* right-of-way.

6) **Net impervious surface area within the outfall's drainage area has been reduced or remains the same as pre-developed conditions.** Special consideration may be given to an outfall's drainage area with a minimal increase in impervious area. Each minimal increase in impervious area claim at each outfall basin should be supported by calculations illustrating a negligible increase in post-condition flow rates. "Negligible" increases must be supported by reasons why the designer makes this claim and must also be agreed upon by the Department. As general rule increases over one tenth of an acre in impervious surface per basin are not considered negligible.

   Required Documentation:

   - *Provide pre-and post-development roadway plans showing the project footprint with limits of impervious areas delineated and labeled.*
   - *In the case of a negligible increase, provide a pre- and post- analysis comparing percent increases in discharge, velocity, depth, and required water quality volume. Use engineering judgement to determine if the increases are negligible and create no adverse impact.*
   - *Note: For cases where the designer determines the increase in stormwater runoff and/or volume is negligible, the Department will review the assessment and determine if it is acceptable.*

Conditions and Documentation for Stormwater Management Standard Infeasibility

Infeasibility criteria make compliance with post-construction requirements for a specific outfall's drainage area infeasible. The following conditions and documentation may warrant outfall post-construction stormwater management standards infeasible. Infeasibilities will be documented in Attachment 2.

1) **Stormwater management facility cost equals or exceeds 10% of the project costs for the drainage basin.** Stormwater management facility costs should only be compared to the portion of the project within the stormwater management facility's associated drainage basin. The stormwater management facility costs should include: additional right-of-way requirements and stormwater management facility construction/other related design elements. Stormwater management facility construction costs include the stormwater management facility and all associated elements (for instance, the costs to construct a maintenance access drive to the stormwater management facility). Design costs should not be included in the estimate. The project cost should include: right-of-way acquisition, roadway construction, utility relocation, and mitigation costs. The project cost should be a quantified estimate within the associated drainage basin. Cost per linear foot or percent estimates are not allowed.

   Required Documentation:

   - *For both the roadway and stormwater management facility cost estimate, combine pay items into categories. Use GDOT pay item index or other source to obtain unit costs for each item or category. Estimate the quantity of each item needed to prepare a comparison of proposed roadway costs to additional stormwater management facility cost of the basin.*
   - *Provide source of cost information and any assumptions made.*
   - *If stormwater management facility cost is slightly above 10% of roadway cost, investigate cost saving measures to bring stormwater management facility within 10%.*

2) **Implementation of the stormwater management facility/facilities will cause 90 days or greater of delays to the project.**

   Required Documentation:

   - *Describe how the inclusion of the stormwater management facility would increase the schedule.*
   - *Clearly indicate the delay is solely due to the stormwater management facility.*
   - *Note: This infeasibility cannot be used for design delays; it is only applicable for exceptional impacts or new right-of-way phases.*

3) **Implementation of the stormwater management facility/facilities will cause loss of habitat for threatened and endangered (T&E) species.** For endangered or threatened bat areas, loss of habitat only applies inside the tree line. Roadways and associated stormwater management facilities installed in flyways do not constitute a loss of habitat.

   Required Documentation:

   - *Provide the relevant parts of the Protected Species Survey Report to establish T&E habitat locations.*
   - *Provide a basin exhibit or plan sheets with roadway alignment and labeled T&E habitat delineations clearly demonstrating that any appropriate stormwater management facility would impact habitat areas.*

4) **Implementation of the stormwater management facility/facilities will cause significant damage to a cultural or community resource.** This can include a historical site, archeological site, cemetery, park, wildlife refuge, nature trail, or school facilities.

   Required Documentation:

- *Provide the relevant parts of both the Historical and Archeological Resources Survey Reports showing all resource locations.*
- *Provide a basin exhibit with roadway alignment and cultural resource delineations clearly demonstrating that any appropriate stormwater management facility would impact resource areas. Include plan sheets with labeled resource areas shown.*
- *Note: Resource impacts must be from the stormwater management facility only and not the other project elements.*

5) Implementation of the stormwater management facility/facilities would result in the displacement of a residence or business.

Required Documentation:

- *Provide an exhibit with roadway alignment and project features including home and business locations clearly demonstrating that any appropriate stormwater management facility would impact a residence or business.*
- *Include cross sections and construction limits from the construction of the stormwater management facility.*
- *Note: Displacements must be from the stormwater management facility only and not the other project elements.*

6) Implementation of the stormwater management facility/facilities would result in a violation of state or federal law or regulation.

Required Documentation:

- *Provide the particular statute or regulation that would be violated in order to construct a stormwater management facility.*

7) Site limitations. This includes: shallow bedrock, contaminated soils, high groundwater, utilities, or underground facilities if avoidance or relocation is infeasible (cost of the relocation equals or exceeds the cost of the stormwater management facility).

Required Documentation:

- *Provide the pertinent geotechnical report to show bedrock and groundwater table data.*
- *Utilize the Web Soil Survey website or other available resources to give approximate data for bedrock and groundwater depths at the concept level phase.*
- *Provide above ground utility location survey data on roadway plans as part of stormwater management facility infeasibility exhibit.*
- *Use GPR or other subsurface utility surveys to locate underground facilities to determine stormwater management facility infeasibility.*
- *Provide the cost to relocate utilities and the estimated cost of the stormwater management facility.*
- *Note: Only the documentation listed above relevant to the specific site limitation is needed.*

8) **Soil infiltration capacity is limited, where the soil hydraulic conductivity (K) is less than 0.5 inches/hour (3.5 × 10^{-4} cm/second)**.

Required Documentation:

- *Provide calculations and exhibits with roadway alignment and surveyed features along with alternatives analysis demonstrating that only infiltrating stormwater management facilities would be feasible for the basin.*
- *Utilize Web Soil Survey or other available resources at the concept level phase to determine soil data and infiltration stormwater management facility feasibility.*
- *Provide the Stormwater Management Facility Infiltration Report (if needed) or other geotechnical report to show bedrock, soils, and groundwater depth data.*

9) **Site is too small to infiltrate a significant volume**.

Required Documentation:

- *Provide a basin exhibit with roadway alignment and all topo features along with basin delineation demonstrating that only infiltrating stormwater management facilities would be feasible for the basin and that the available area is too small to infiltrate the needed volume.*
- *Utilize Web Soil Survey or other available resources at the concept level phase to determine soil data and infiltration stormwater management facility feasibility.*
- *Provide the Stormwater Management Facility Infiltration Report (if needed) or other geotechnical report to show bedrock, soils, and groundwater depth data.*

10) **Site does not allow for gravity flow to the appropriate stormwater management facility**.

Required Documentation:

- *Provide a basin exhibit with roadway alignment, survey features and contours demonstrating that topography does not provide adequate fall for flow into or out of the stormwater management facility.*

Attachment 1
MS4 Project Level Exclusions Checklist

MS4 PROJECT LEVEL EXCLUSION CHECKLIST			
Specify whether a Project Level Exclusion (PLE) is applicable for the project. If a PLE is applicable, mark the applicable exclusion below and provide required documentation.			
	Included?		**Conditions**
	□ Yes	PLE 1	The roadway is not owned or operated (maintained) by Forsyth County
	□ Yes	PLE 2	The project is a maintenance or safety improvement project whereby the sites are not connected and the individual site disturbs less than 1 acre.
	□ Yes	PLE 3	The project is a roadway project that disturbs less than 1 acre or a site project that adds less than 5,000 square feet of impervious area.

Attachment 2
MS4 Outfall Level Exclusions Checklist and MS4 Infeasibilities Checklist

MS4 OUTFALL LEVEL EXCLUSION CHECKLIST

Specify whether an Outfall Level Exclusion (OLE) is applicable for the project. If any of the project outfalls have an OLE, mark "Yes" and provide required documentation.

	Included?		Conditions
	□ Yes	OLE 1	Installation of a stormwater management facility is the sole reason why a change to the existing roadway alignment that would create a safety concern is required.
	□ Yes	OLE 2	Installation of a stormwater management facility is the sole reason why realignment and/or piping of a stream is required.
	□ Yes	OLE 3	Installation of stormwater management facility is the sole reason why an existing vegetated stream buffer or wetland is impacted.
	□ Yes	OLE 4	Stormwater discharges from the project site are designed to exit the right-of-way as sheet flow (non-point source discharges).
	□ Yes	OLE 5	Stormwater flows originate outside Forsyth County’s right-of-way or are diverted flows from undisturbed areas.
	□ Yes	OLE 6	Net impervious surface area within the outfall’s drainage area has been reduced or remains the same as pre-developed conditions.

MS4 INFEASIBILITY CHECKLIST

Specify whether any stormwater management facilities on the project were found to be infeasible based on the ten Infeasibility Criteria. If an Infeasibility Criterion is claimed, mark "Yes" and provide required documentation.

	Included?		Conditions
	□ Yes	INF 1	Stormwater management facility cost equals or exceeds 10% of the project costs for the drainage basin.
	□ Yes	INF 2	Implementation of the stormwater management facility/facilities will cause 90 days or greater of delays to the project.
	□ Yes	INF 3	Implementation of the stormwater management facility/facilities will cause loss of habitat for threatened and endangered (T&E) species.
	□ Yes	INF 4	Implementation of the stormwater management facility/facilities will cause significant damage to a cultural or community resource.
	□ Yes	INF 5	Implementation of the stormwater management facility/facilities would result in the displacement of a residence or business.
	□ Yes	INF 6	Implementation of the stormwater management facility/facilities would result in a violation of state or federal law or regulation.
	□ Yes	INF 7	Site limitations.
	□ Yes	INF 8	Soil infiltration capacity is limited, where the soil hydraulic conductivity (K) is less than 0.5 inches/hour (3.5 × 10-4 cm/second).
	□ Yes	INF 9	Site is too small to infiltrate a significant volume.
	□ Yes	INF 10	Site does not allow for gravity flow to the appropriate stormwater management facility.

Policy on Practicability Analysis for Runoff Reduction
Forsyth County Department of Engineering

Introduction

Runoff reduction practices are stormwater best management practices (BMPs) used to disconnect impervious and disturbed pervious surfaces from the storm drainage system. The purpose is to reduce post-construction stormwater runoff rates, volumes, and pollutant loads. Runoff reduction is more than simple infiltration; the runoff reduction volume (RR_V) is the retention volume calculated to infiltrate, evapotranspirate, harvest and use, or otherwise remove runoff from a post-developed condition to more closely mimic natural hydrologic conditions.

Certain conditions, such as soils with very low infiltration rates, high groundwater, or shallow bedrock, may lead the Forsyth County Department of Engineering (Department) to waive or reduce the runoff reduction requirement for proposed site development on a case-by-case basis. If any of the stormwater runoff volume generated by the first 1.0 inches of rainfall cannot be reduced or retained on the site because of site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more BMPs that provide at least an 80 percent reduction in total suspended solids.

The Forsyth County Policy on Practicability Analysis for Runoff Reduction (practicability policy) was developed to provide guidance about the site conditions and supporting documentation that could justify a "Determination of Infeasibility" for the runoff reduction stormwater management standard. This policy does not address stormwater management standards infeasibility for linear transportation projects; refer to the Forsyth County Policy on Practicability Analysis for Linear Transportation Projects for additional information.

The practicability policy is based on the following principles:

- Designed to help County administrators implement a process for granting a Determination of Infeasibility that supports review of land development applications.
- Applies to new development and redevelopment projects for public and private post-construction stormwater BMPs. It is referenced in the Forsyth County Stormwater Management Ordinance and Forsyth County Addendum to the Georgia Stormwater Management Manual.
- Aligns with requirements for runoff reduction in the Georgia Environmental Protection Division's permit to discharge from the municipal separate storm sewer system (MS4) permit. The MS4 permit states that the stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site to the maximum extent practicable. Many Georgia Stormwater Management Manual (GSMM) BMPs include a runoff reduction component.
- Focused on the site conditions and regulatory environment in the Metro Water District.
- Requires ensuring all attempts to provide 100 percent RRv onsite have been exhausted when pursuing a Determination of Infeasibility.

Conditions that may Warrant a Determination of Infeasibility

The GSMM and the Forsyth County Addendum to the GSMM provide broad guidance about conditions that may lead the Department to waive or reduce the runoff reduction stormwater management standard. The following conditions may warrant a Determination of Infeasibility.

- **Soil Infiltration Rate:** The soil infiltration rate is less than 0.5 inch per hour as measured over a meaningful portion of the site. Consideration should be given to infiltration rates throughout the soil profile.
- **Water Table:** The water table seasonal high elevation is measured less than 2 feet from the subgrade of a proposed infiltration practice.

- **Shallow Bedrock:** Bedrock that cannot be excavated by mechanical means AND is less than 2 feet from the subgrade of an infiltration practice.
- **Extreme Topography:** Proposed conditions reflect surface grades steeper than 3:1 (H:V) slope for more than 50 percent of the contributing drainage area.
- **Karst Topography:** Any of the existing conditions onsite exhibit karst topography.
- **Hotspots/ Contamination:** Reasonable suspicion that previous land uses have resulted in soil contamination onsite.
- **Historic Resources:** Buildings, structures, or historic sites included in the Georgia Historic Preservation Division's Historic Resources Survey or listed in the National Register of Historic Places or that has been recommended as a historic resource by a Preservation Professional.
- **Site Constraints:** Sites where the density or nature of the proposed redevelopment would create irreconcilable conflicts for compliance between the runoff reduction stormwater management standard and other requirements such as zoning, floodplains, stream buffers, or septic fields.
- **Economic Hardship:** The cost of retaining the first 1.0 inch of rainfall onsite using runoff reduction practices is equal to or greater than three times the cost of providing water quality practices to meet the stormwater management standards. This condition must be present with at least one other condition to warrant a Determination of Infeasibility. Additionally, a Determination of Infeasibility for economic hardship is applicable to a maximum 50 percent of the volume required for meeting the runoff reduction stormwater management standard.

Appendix A
Runoff Reduction Infeasibility (RRI) Form for Determination of Infeasibility

Date Submitted:_____

Forsyth County

Runoff Reduction Infeasibility (RRI) Form for Determination of Infeasibility

DESIGN PROFESSIONAL CONTACT INFORMATION

Name: _____

Email: _____

Phone: _____

DESCRIPTION OF SITE

Land Development Application Number: _____

Site Address: _____

PROPOSED CONDITIONS OF SITE

Disturbed Area (acres): _____

Impervious Area (acres): _____

RUNOFF REDUCTION AND WATER QUALITY VOLUME SUMMARY

Maximum Practicable Runoff Reduction Volume* (cubic feet):

Volume for Water Quality Treatment* (cubic feet):

**If any of the stormwater runoff volume generated by the first 1.0 inches of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.*

GENERAL SUPPORTING DOCUMENTATION

All General Supporting Documentation must be included with this RRI Form for the submittal for a Determination of Infeasibility to be considered complete. Please check each item below to confirm it has been included in the submittal package.

- ☐ Stormwater Management Plan
- ☐ Forsyth County Stormwater Quality Site Development Review Tool v2.2
- ☐ Written justification that the site cannot accommodate runoff reduction practices that rely on evapotranspiration and reuse such as rainwater harvesting or green roofs

SITE CONDITION APPLICABILITY

(descriptions are in the *Forsyth County Policy on Practicability Analysis for Runoff Reduction*)

Please check each applicable item below and confirm the supporting documentation has been included in the submittal for a Determination of Infeasibility.

Site Condition	Supporting Documentation
☐ Soil Infiltration Rate	Infiltration test(s), soil boring log(s), and report of results as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
☐ Water Table	Soil boring log(s) and report with results of the seasonal highwater table assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
☐ Bedrock	Soil boring log(s) and report with results of the shallow bedrock assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
☐ Extreme Topography	Site survey showing 50 percent of the contributing drainage area is steeper than 3:1 (H:V) slopes as interpreted by a Professional Engineer or Land Surveyor licensed in Georgia AND Stormwater Management Plan showing the post-development surface grades will reflect the same condition as the site survey
☐ Karst Topography	Report developed by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
☐ Hotspots/ Contamination	Phase I Environmental Assessment Report
☐ Historic Resources	Documentation of the Georgia's Natural, Archaeological, and Historic Resources GIS listing OR Report of assessment from a Preservation Professional (including Archaeologist, Architectural Historian, Historian, Historic Preservationist, or Historic Preservation Planner)
☐ Site Constraints	Site plan identifying all development requirements (zoning side/front setbacks, build-to-lines, stream buffers, floodplains, septic fields, etc.) that are creating irreconcilable conflicts with onsite runoff reduction
☐ Economic Hardship*	An estimated construction cost comparison of proposed runoff reduction practices compared to proposed water quality practices must be included to show the cost of runoff reduction practices is equal to or greater than three times the cost of providing water quality practices

** Note: Economic Hardship must be present with at least one other condition to warrant a Determination of Infeasibility. Additionally, a Determination of Infeasibility for economic hardship is applicable to a maximum 50 percent of the volume required for meeting the runoff reduction stormwater management standard.*

GEORGIA PROFESSIONAL ENGINEER CERTIFICATION

Printed Name: _____

Signature: _____

Date: _____

FOR FORSYTH COUNTY INTERNAL USE ONLY

☐ APPROVED

☐ APPROVED with the following requirements:

☐ DENIED

INSPECTION AND MAINTENANCE AGREEMENT

Forsyth County, Georgia

Department of Engineering

(770) 781-2165

THIS Agreement made and entered into this _____ of _____, 20_____,
by and between (Insert Full Name of Owner)_____
hereinafter called the "Landowner", and Forsyth County, Georgia hereinafter called the "County."

WHEREAS, the Landowner is the owner of certain real property described as (Forsyth County Tax Map/Parcel Identification Number) _____ as recorded by deed in the land records of Forsyth County, Georgia at Deed Book _____Page_____,
hereinafter called the "Property;" and

WHEREAS, the Landowner is proceeding to, or has, made improvements on the Property; and

WHEREAS, the Site Plan/Subdivision Plan known as_____
(Name of Plan/Development) hereinafter called the "Plan," which is expressly incorporated herein by reference, as approved, or to be approved, by the County, provides for detention of stormwater within the confines of the Property; and

WHEREAS, the County requires that onsite stormwater management facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns, including any homeowners association;

WHEREAS, the Georgia Stormwater Management Manual (2016 Edition, Volume 2) addresses issues relating to the operation and/or maintenance of stormwater systems; and

WHEREAS, the Landowner, its successors and assigns, understands that the execution and adherence to the provisions of this Agreement is a condition precedent to the County's permitting, and/or approving the final plat for the Property and subdivision located thereon;

NOW, THEREFORE, in consideration of the foregoing premises and mutual covenants the parties herby agree as follows:

1. The on-site stormwater management facilities shall be constructed, operated, and maintained by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the Plan, as well as in accordance with State and Federal law, the Georgia Stormwater Management Manual, and any and all applicable County ordinances.

2. The Landowner, its successors and assigns, including any homeowners' association, shall adequately maintain the stormwater management facilities and improvements on the Property. Adequate Maintenance required by this Agreement shall include, but is not limited to, scheduled and corrective maintenance of all facilities and improvements intended to manage and/or control stormwater on the Property, with such facilities and improvements to expressly include, but not be limited to pipes, channels structures, vegetation, berms, outlet structures, pond areas, access roads, or any other improvement relating to stormwater on the Property but excluding any such improvements located on, under, or within any publicly owned rights of way (the "Stormwater Facilities and Improvements"). Adequate maintenance is herein defined as keeping such Stormwater Facilities and Improvements in good working condition such that they satisfactorily perform their intended design functions.

3. The Landowner, its successors and assigns, shall inspect the Stormwater Management Facilities and Improvements and submit an inspection report to the County on an annual basis. The purpose of the inspection is to assure safe and proper functioning of the Stormwater Management Facilities and Improvements located on the Property. Each annual inspection shall include a full and complete inspection of all Stormwater Facilities and Improvements located on the Property. Any and all deficiencies identified during such inspections shall be noted in the inspection report submitted to the County. The inspection report shall also include a detailed plan for any and all repairs to the Stormwater Management Facilities and Improvements necessary to correct any deficiencies identified during the inspection, with the repair plan to be prepared by a professional engineer, or some other duly qualified professional, licensed in the State of Georgia.

4. The Landowner, its successors and assigns, hereby grants permission to the County, its authorized agents and employees, to enter upon the Property and to inspect the Stormwater Management Facilities and Improvements as deemed necessary by the County for purposes of protecting the public health, safety or welfare, for purposes of investigating or inspecting any reported or suspected deficiencies in the Stormwater Management Facilities and Improvements on the Property, for purposes of responding to or investigating citizens' complaints relating to the management or control of stormwater on the Property, or for any other purpose deemed necessary by the County. The County shall provide the Landowner, its successors and assigns, with a copy of any inspection findings, as well as a directive to commence with any required repairs. To the extent that the County does not agree with or to the contemplated repairs proposed by the Landowner, the County may submit an alternate repair plan to the Landowner.

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5. In the event the Landowner, its successors and assigns, fails to maintain the Stormwater Management Facilities and Improvements on the Property in good working condition acceptable to the County, or fails to make repairs as specified in the inspection report within a reasonable time frame as established by the County, with such time frame not to be shorter than thirty (30) days, the County may enter upon the Property and take any and all action necessary to correct deficiencies identified in the inspection report. The Landowner, its successors and assigns, shall be responsible for any and all fees and expenses incurred by the County in taking such corrective action. This provision shall not be construed to allow the County to erect any structure of a permanent nature on the land of the Landowner outside the easement for the stormwater management facilities. It is expressly understood and agreed that this Agreement imposes no obligation or responsibility on the County to routinely maintain or repair any Stormwater Management Facilities and Improvements located on the property.

6. The Landowner, its successors and assigns, will perform all work necessary to keep the Stormwater Management Facilities and Improvements in good working condition as required by the approved Plan, as well as by State and federal law, the Georgia Stormwater Management Manual, and any and all applicable County ordinances.

7. In the event that the County performs or undertakes work of any kind pursuant to this Agreement or expends any funds or resources in performance of said work for labor, use of equipment, supplies, material, and the like, the Landowner, its successors and assigns, shall reimburse the County upon demand, within thirty (30) days of receipt of same.

8. This Agreement shall impose no liability on the County with respect to the maintenance or repair of any Stormwater Management Facilities and Improvements on the Property, nor does the County assume any obligation or duty to undertake or perform any action allowed for, or permitted by, this Agreement. The Landowner, its successors and assigns, further agrees to indemnify and hold the County harmless from any liability arising out of the management, operation, maintenance, or failure of any Stormwater Management Facilities and Improvement subject to this Agreement.

9. Notwithstanding any right extended to the County pursuant to this Agreement, it is expressly recognized and acknowledged that the County retains all prosecutorial rights and remedies available to it, including the enforcement of any and all applicable County ordinances, against the Landowner, its successors and assigns, relating to the operation, maintenance, and/or repair of Stormwater Management Facilities and Improvements located on the Property.

10. This Agreement shall be recorded among the land records of Forsyth County, Georgia, and shall constitute running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including homeowners' association.

WITNESS the following signatures and seal

_____
(SEAL)
Company/Corporation/Partnership Name

By: _____
(Signature)

_____
(Type/Print Name)

STATE OF _____

COUNTY OF _____

The foregoing Instrument was acknowledged before me this _____ day of _____, 20_____, by

_____ .

_____
NOTARY PUBLIC
(SEAL)

My Commission Expires:_____

Attachment A
Responsible Person

The Landowner hereby identifies the responsible person or position responsible for ensuring that the inspection and maintenance of the Stormwater Management Facilities and Improvements is accomplished according to the inspection and maintenance schedule prepared by the engineer of record for this
Property

_____

(Address or Name of the Property) as

_____

(Name and Title of person so identified).

Results of the inspections shall be submitted annually to Forsyth County.
Inspection reports shall be submitted to:

Forsyth County
Department of Engineering
110 East Main Street
Suite 120
Cumming, Georgia 30040

If the responsible entity or contact person changes Forsyth County shall be notified in writing of the change not later than thirty (30) days from the effective date of such change.

_____

Responsible Entity

_____

Contact Person's Name

_____

Signature

_____

Address

_____

City, State, Zip Code

_____

Phone Number

Attachment B

Provide a required *Inspection and Maintenance Schedule* labeled as "Attachment B"

Refer to the Georgia Stormwater Management Manual, ***Appendix E, Best Management Practice Operations & Maintenance Guidance Document****, for minimum recommended inspection and maintenance requirements for the applicable stormwater management structure.*

ALSO INCLUDE AN 8 ½" X 11" SIZE COPY OF THE SITE PLAN NOTING THE LOCATION OF THE APPLICABLE STORMWATER STRUCTURES INCLUDED IN THE INSPECTION AND MAINTENANCE SCHEDULE.