

**HAMBLEN COUNTY, TENNESSEE
BOARD OF COUNTY COMMISSIONERS**

**Resolution adopting regulations to Reduce Pollution by Establishing Control of
Post Construction Storm Water Runoff**

Whereas, uncontrolled storm water drainage and discharge have a significant, adverse impact on the health, safety, and general welfare of the residents of Hamblen County and an adverse impact on the natural environment by carrying pollutants into the receiving waters within the community; and

Whereas, Hamblen County is required by federal law, particularly 33 U.S.C 1342(p) and 40 CFR 1.22.26, to obtain a National Pollutant Discharge Elimination System (NPDES) permit through the Tennessee Department of Environment and Conservation (TDEC) to reduce storm water flows and associated pollutants discharge into waterways through Hamblen County’s storm water system and drainage ways; and

Whereas, the NPDES permit requires Hamblen County it impose controls on future and existing development necessary to reduce the discharge of pollutants in storm water to the maximum reasonable extent using management practices, control techniques and systems design and engineering methods, and such other provides which are determined to be appropriate for the control of such pollutants; now therefore

Be is resolved by the Board of County Commissioners of Hamblen County, Tennessee that the Resolution for the Control of Post Construction Storm Water Runoff be read as follows:

**Resolution for the Control of
Post Construction Storm Water Runoff**

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Section 1 General Provisions

1.1. Findings of Fact

It is hereby determined that:

Land development projects and other associated construction activities increase impervious cover which alters the hydrologic response of local watersheds and increase storm water runoff rates and volumes, flooding, stream channel erosions, and sediment transport and deposition;

This storm water runoff contributes to increase quantities of water-borne pollutants, and; Storm Water runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of storm water runoff from development sites.

Therefore, the **Hamblen County Planning Commission and its Director** established this set of water quality and quantity policies applicable to all surface waters to provide reasonable guidance for the regulation of storm water runoff for the purpose of protecting local water resources from degradation. It is determined that the regulation of storm water discharge from land development projects and other construction activities in order to control and minimize increases in storm water runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with storm water runoff is in the public interest and will prevent threats to public health and safety.

1.2 Purpose

The purpose of this resolution is to establish minimum storm water management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. This resolution seeks to meet that purpose through the following objectives:

- (1) minimize increases in storm water runoff from any development in order to reduce flooding, siltation, increased in stream temperature, and streambank erosion and maintain the integrity of stream channels;
- (2) minimize increased in nonpoint source pollution caused by storm water runoff from development which would otherwise degrade local water quality;
- (3) minimize the total annual volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable; and,
- (4) reduce storm water runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through storm water management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

1.3 Applicability

This resolution shall be applicable to all subdivision or site plan applications, unless eligible for an exemption or granted a waiver by the **Hamblen County Planning Commission and its Director** under the specifications of Section 4 of this resolution. The resolution also applies to and development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of developments that meets the following applicability criteria, even though multiple separate and distinct land development activities may take place at different time on different schedules. In addition, all plans may also be reviewed by local, state or federal environment protection officials to ensure that established water quality standards will be maintained during and after development of the site and that post construction runoff levels are consistent with any local and regional watershed plans.

To prevent the adverse impacts of storm water runoff, the **Hamblen County Planning Commission and its Director** have developed a set of performance standards that must be met at new development sites. These standards apply to any construction activity disturbing 10,000 square feet or more of land area. The following activities may be exempt from these storm water performance criteria:

1. Any logging and agricultural activity which is consistent with an approval soil conservation plan or timber management plan prepared or approved by the Forestry Service Department or other state or federal agency regulating such activity, as applicable.
2. Placement of a mobile homes and additions or modifications to existing single family structures that is not likely to cause significant runoff problems.
3. Developments that disturb less than 10,000 square feet of land area provided they are not part of larger common development plan.
4. Repairs to any storm water treatment practices deemed necessary by **Hamblen County Planning Commission and its Director**.
5. Other minor land disturbance activity that will not violate the provisions of this resolution due to the nature and size of the individual activity.

When a site development plan is submitted that qualifies as a redevelopment project as defined in Section 2 of this resolution, decisions on permitting and on-site storm water requirements shall be governed by special storm water sizing criteria found in the current Storm Water Design Manual. This criteria is dependent on the amount of impervious area created by the redevelopment and its impact on water quality. Final authorization of all redevelopment projects will be determined after a review by **Hamblen County Planning Commission and its Director**.

1.4 Compatibility with Other Permit and Resolution Requirements

This resolution is not intended to interfere with, abrogate, or annul any other resolution, rule or regulation, statute, or other provision of law. The requirement of this resolution should be considered minimum requirements, and where any provision of this resolution imposes restrictions different from those imposed by any other resolution, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health, or the environment shall be considered to take precedence.

1.5 Severability

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this resolution shall be judged invalid by a court of competent jurisdiction, such order of judgement shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this resolution.

1.6 Development of a Storm Water Design Manual

The Hamblen County Planning Commission and its Director may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this resolution and may provide such information in the form of a local Storm Water Design Manual. For purposes of this resolution, or until further amended, this manual shall be the edition of the **Tennessee Erosion and Sediment Control Handbook** as written by the TDEC (herein called the Storm Water Design Manual).

Once a local design manual is developed, and adopted, it will include a list of acceptable storm water treatment practices, including the specific design criteria and operation and maintenance requirements for each storm water practice. The manual may be updated and expanded from time to time, at the discretion of the local review authority, based on improvements in engineering, science, monitoring and local maintenance experience. Storm Water treatment practices that are designed and constructed in accordance with the design and sizing criteria of the appropriate Storm Water Design Manual will be presumed to meet the minimum water quality performance standards.

Section 2 Definitions

“Accelerated Erosion” means erosion caused by development activities that exceeds the natural processes by which the surface of the land is worn away by the action of water, wind, or chemical action.

“Applicant” means a property owner or agent of a property owner who has filed an application for a storm water management permit.

“Building” means any structure, either temporary or permanent, having walls and a roof, designed for a shelter of any person, animal, or property, and occupying more than 120 square feet of area.

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

“Dedication” means the deliberate appropriation of property by its owner for general public use.

“Detention” means the temporary storage of storm runoff in a storm water management practice with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

“Detention Facility” means a detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

“Developer” means a person who undertakes land disturbance activities.

“Drainage Easement” means a legal right granted by a landowner to a grantee allowing the use of private land for storm water management purposes.

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

“Fee in Lieu” means a payment of money in place of meeting all or part of the storm water performance standards required by this resolution.

“Hotspot” means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in storm water.

“Hydrologic Soil Group (HSG)” means a Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

“Impervious Cover” means those surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc.)

“Industrial Storm Water Permit” means a National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial storm water discharges or specifies on-site pollutant control strategies.

“Infiltration” means the process of percolating storm water into the subsoil

“Infiltration Facility” means any structure or device designed to infiltrate retained water on the subsurface. These facilities may be above grade or below grade.

“Jurisdictional Wetland” means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

“Land Disturbance Activity” means any activity which changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill material, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

“Landowner” means the legal or beneficial owner of land, including those holding the right to purchase or land the land, or any other person holding proprietary rights in the land.

“Maintenance Agreement” means a legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

“Nonpoint Source Pollution” means pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

“Offset Fee” means a monetary compensation paid to a local government for failure to meet pollutant load reduction targets.

“Off-site Facility” means a storm water management measure located within the subject property boundary described in the permit application for land development activity.

“Recharge” means the replenishment of underground water reserves.

“Redevelopment” means any construction, alteration or improvement exceeding 10,000 square feet in areas where existing land use is high density commercial, industrial, institutional or multifamily residential.

“Stop Work Order” means an order issued which requires that all construction activity on a site be stopped.

“Storm Water Management” means the use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, discharges volumes, peak flow discharge rates and detrimental changes in stream temperature that affect water quality and habitat.

“Storm Water Retrofit” means a storm water management practice designed for an existing development site that previously had either no storm water management practice in place or a practice inadequate to meet the storm water management requirements of the site.

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

“Storm Water Treatment Practices (STPs)” means measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing or reducing point source or nonpoint source pollution inputs to storm water runoff and water bodies.

“Water Quality Volume (WQv)” means the storage needed to capture and treat 90% of the average annual storm water runoff volume. Numerically (WQv) will vary as a function of long term rainfall statistical data.

“Watercourse” means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

Section 3 Permit Procedures and Requirements

3.1 Permit Required

No builder, land owner or land developer shall receive any of the building, grading, construction or land development permits required for land disturbance activities without first meeting the requirements of this resolution prior to commencing the proposed activity.

3.2 Application Requirement

Unless specifically excluded by this resolution, any builder, land owner or developer desiring a permit for a land disturbance activity shall submit to the Hamblen County Planning Commission and/or its Director a permit application on a form provided for that purpose.

Unless otherwise excepted by this resolution, a permit application must be accompanied by the following in order that the permit application be considered: a storm water management concept plan; a maintenance agreement; and a non-refundable permit review fee.

The storm water management plan shall be prepared, by a qualified individual, and shall meet the requirements of Section 5 of this resolution, the maintenance agreement shall be likewise prepared to meet the of Section 9 of this resolution, and fees shall be those established by the **Hamblen County Planning Commission and its Director**.

3.3 Application Review Fees

The fee for review of any land development application shall be based on the amount of land to be disturbed at the site (e.g. number of lots, acreage, square footage, etc.) and the fee structure shall be established by **Hamblen County Planning Commission and its Director**. All fees shall be made prior to the issuance of any permits for the intended construction or development project.

3.4 Application Procedure

1. Application for land disturbance activity permits (i.e. construction and development) must be filed with the **Hamblen County Planning Commission and its Director** on any regular business day for review, except that; development permit applications that require a financial security instrument to be posted with the Planning Commission must be filed fifteen (15) business days prior to the next scheduled planning commission meeting.

2. A copy of the development permit application shall be forwarded to the **Hamblen County Planning Commission** for review and approval at their next meeting. Construction permit applications that do not require a financial security instrument to be posted may be reviewed and approved by the **Director**.

3. Construction permit applicants submitted for review and approval by the **Director** shall be completed and be accompanied by the required fee. Once approved by the **Director** all appropriate permits may then be issued.

4. Development permit applications submitted for review and approval by the **Planning Commission** shall include the following items: twelve (12) copies of the storm water management concept plan, twelve (12) copies of the maintenance agreement, twelve (12) copies of an acceptable cost estimate for the installation of all proposed storm water treatment practices, and be accompanied by any required applicable fees.

5. At the next scheduled planning commission meeting after receipt of a complete development permit application, including all documents as required by this resolution, the **Hamblen County Planning Commission and its Director** shall review and inform the applicant whether the application, plan, maintenance agreement and cost estimate are approved or disapproved.

6. If the development permit application, storm water management plan, maintenance agreement or installation cost estimate are disapproved, the applicant may revise the management plan, agreement or estimate. If additional information is submitted, the **Hamblen County Planning Commission and/or its Director** shall review the additional information and inform the applicant that the plan, maintenance agreement or estimate are either approved or disapproved.

7. If the development permits application, final storm water management plan, maintenance agreement and cost estimate are approved by **the Hamblen County Planning Commission and its Director**; all appropriate land disturbance activity permits may then be issued after the financial security instrument is posted.

3.5 Permit Duration

Permits issued under this section shall be valid from the date of issuance through the date the **Hamblen County Planning Commission and its Director** notifies the permit holder that all storm water management practices have passed the final inspection, including permanent stabilization of the site, as required under permit condition.

Section 4 Waivers to Storm Water Management

4.1 Waivers for Providing Storm Water Management

Every applicant shall provide for storm water management as required by this resolution, unless a written request is filed to waive this requirement. Requests to waive the storm water management plan requirements shall be submitted to the **Hamblen County Planning Commission and its Director** for approval.

The minimum requirements for storm water management may be waived in whole or in part upon written request of the applicant, provided that at least one of the following conditions applies:

1. It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this resolution.
2. Alternative minimum requirements for on-site management of storm water discharges have been established in a storm water management plan that has been approved by the **Hamblen County Planning Commission and its Director** and the implementation of the plan is required by local resolution.
3. Provisions are made to manage storm water by an off-site facility. The off-site facility is required to be in place, to be designed and adequately sized to provide a level of storm

water control that is equal to or greater than that which would be afforded by on-site practices and there is a legally obligated entity responsible for long-term operation and maintenance of the storm water practices.

4. **The Hamblen County Planning Commission and its Director** finds that meeting the minimum on-site management requirements it not feasible due to the natural or existing physical characteristics of a site.
5. Non-structural practices will be used on the site that will reduce; a) the generation of storm water from the site, b) the size and cost of storm water storage, and c) the pollutants generated at the site. These non-structural practices are explained in detail in the current designed manual and the amount of credit available for using such practices shall be determined by the **Hamblen County Planning Commission and its Director**.

In instances where one of the conditions above applies, the **Hamblen County Planning Commission and its Director** may grant a waiver from strict compliance with these storm water management provisions, as long as acceptable mitigation measures are provided. However, to be eligible for a variance, the applicants must demonstrate to the satisfaction of the **Hamblen County Planning Commission and its Director** that the variance will not result in the following impacts to downstream waterways:

Deterioration of existing culverts, bridges, dams, or other structures;
Degradation of biological functions or habitat;
Accelerated streambank or streambed erosions or siltation
Increased threat of flood damage to public health, life or property

Furthermore, where compliance with minimum requirements for storm water managements waived, the applicant will satisfy the minimum requirements by meeting one of the mitigation measures selected by the jurisdictional storm water authority. Mitigation measures may include, but are not limited to, the following:

- The purchase and donation of privately owned lands, or the grant of an easement to be dedicated for preservation and/or reforestation. These lands should be located adjacent to the stream corridor in order to provide permanent buffer areas to protect water quality and aquatic habitat,
- The creation of a storm water management facility or other drainage improvements on previously developed properties, public or private, that currently lack storm water management facilities designed and constructed in accordance with the purpose and standards of this resolution,
- Monetary contributions (Fee –in-Lieu) to fund storm water management activities such as research and studies (e.g. regional wetland delineation studies, stream monitoring studies for water quality and macroinvertebrates, stream flow monitoring, threatened

and endangered species studies, hydrologic studies, and monitoring of storm water management practices).

4.2 Fee in Lieu of Storm Water Management Practices

Where the **Hamblen County Planning Commission and its Director** waive all part of the minimum storm water management requirements, or where the waiver is based on the provisions of adequate storm water facilities provided downstream of the proposed development, the applicant shall be required to pay a fee in amount as determined by the **Hamblen County Planning Commission and its Director**.

When an applicant obtains a waiver of the required storm water management, the monetary contribution required shall be in accordance with a fee schedule (unless the developer and the storm water authority agree on a greater alternate contribution) established by the **Hamblen County Planning Commission and its Director**, and shall be based on the cubic feet of storage required for storm water management of the development in question. All of the monetary contributions shall be credited to an existing or future appropriate capital improvements or other designated storm water related program project, and shall be made by the developer prior to the issuance of any permits for the development.

4.3 Dedication of Land

In lieu of a monetary contribution, an applicant may obtain a waiver of the required storm water management by entering into an agreement with the **Hamblen County Planning Commission and its Director** for the granting of an easement or the dedication of land by the applicant, to be used for the construction of an off-site storm water management facility. The agreement shall be entered into by the applicant and the **Hamblen County Planning Commission and its Director** prior to the recording of plats or, if no recorded plat is required, prior to the issuance of the permits.

Section 5 General Performance Criteria for Storm Water Management

Unless judged by the **Hamblen County Planning Commission and its Director** to be exempt or granted a waiver, the following performance criteria shall be addressed for storm water management at all sites:

- (A) All sites designed shall established storm water management practices to control the peak rates of storm water discharge associated with specified design storm seeking to maintain post-construction flow rates to that of pre-development site conditions and reduce the generation of storm water to the maximum extent practical. These practices should utilize pervious areas for storm water treatment and to infiltrate storm water runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas to the maximum extent practical to provide treatment for both water quality and quantity.

- (B) All storm water runoff generated from new development shall not discharge untreated storm water directly into a jurisdictional wetland or local water body without adequate treatment. Where such discharges are proposed, the impact of the proposal on wetland functional values shall be assessed using a method acceptable to the **Hamblen County Planning Commission and its Director**. In no case shall the impact on functional values be any less than allowed by the Army Corp of Engineers (ACE) or other appropriate federal or state agency responsible for natural resources and/or water quality.
- (C) Annual groundwater recharge rates shall be maintained, by promoting infiltration through the use of structural and non-structural methods. At a minimum, annual recharge from the post development site shall mimic the annual recharge from pre-development site conditions.
- (D) For new development, structural storm water treatment practices shall be designed to remove a specified percentage of the average annual post development total suspended solids load as found in the Storm Water Design Manual. It is presumed that a storm water treatment practice complies with this performance standard if it is:
- Sized to capture the prescribed water quality volume (WQv),
 - Designed according to the specific performance criteria outlined in the local Storm water design manual,
 - Constructed properly, and
 - Maintained regularly
- (E) Storm water discharges to critical areas with sensitive resources (i.e., cold water fisheries, shellfish beds, swimming beaches, recharge areas, water supply reservoirs, 303d listed streams, etc.) may be subject to additional performance criteria, or may need to utilize or restrict certain storm water management practices.
- (F) Certain industrial sites and all land development projects disturbing one (1) acre or more are required to prepare and implement a storm water pollution prevention plan, and shall file a notice of intent (NOI) under the provisions of the National Pollutant Discharge Elimination System (NPDES) general permit. The storm water pollution prevention plan requirement applies to both existing and new industrial sites and land development sites disturbing one (1) acre or more.
- (G) Storm water discharges from land uses or activities with higher potential pollutant loadings, known as “hotspots”, may require the use of specific structural storm water treatment practices and pollution prevention practices.
- (H) Prior to design, applicants are required to consult with the **Hamblen County Planning Commission and its Director** to determine if they are subject to additional storm water design requirements.
- (I) The calculations for determining peak flows as found in the Storm water Design Manual shall be used for sizing all storm water management practices.

Section 6 Basic Storm Water Management Design Criteria

6.1 Minimum Control Requirements

All storm water management practices will be designed so that the specific storm frequency storage volumes (e.g., recharge, water quality, channel protection, 2, 10, 25 and 100 year event) as identified in the current Storm Water Design Manual are met, unless the **Hamblen County Planning Commission and its Director** grants the applicant a waiver or the applicant is exempt from such requirements.

In addition, if hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the **Hamblen County Planning Commission and its Director** reserves the right to impose any and all additional requirements deemed necessary to control the volume, timing, and rate of runoff.

6.2 Site Design Feasibility

Storm Water management practices for a site shall be chosen based on the physical conditions of the site. Among the factors that should be considered include, but are not limited to:

1. Topography
2. Maximum Drainage Area
3. Depth of Water Table
4. Soils
5. Slopes
6. Terrain
7. Head
8. Location of relation to environmentally sensitive features or ultra-urban areas.

Applicants shall consult the Storm Water Design Manual for guidance on the factors that determine site design feasibility when selecting a storm water management practice.

6.3 Conveyance Issues

All storm water management practices shall be designed to convey storm water to allow for the maximum removal of pollutants and reduction in flow velocities. This shall include, but not be limited to:

1. Maximizing of flow paths from inflow points to outflow points
2. Protection of inlet and outfall structures
3. Elimination of erosive storm water flow velocities
4. Providing of underdrain systems, where applicable

The Storm Water Design Manual shall provide detailed guidance on the requirements for conveyance for each of the approved storm water management practices.

6.4 Pretreatment Requirements

Every storm water treatment practice shall have an acceptable form of water quality pretreatment, in accordance with the pretreatment requirements found in the current Storm Water Design Manual. Certain storm water treatment practices, as specified in the Storm Water Design Manual, are prohibited even with pretreatment in the following circumstances:

- A. Storm water is generated from highly contaminated source areas known as “hotspots”
- B. Storm water is carried in a conveyance system that also carries contaminated, non-storm water discharges.
- C. Storm water is being managed in a designated groundwater recharge areas.
- D. Certain geologic conditions exist (e.g., karst) that prohibit the proper pretreatment of storm water.

6.5 Treatment/Geometry Conditions

All storm water management practices shall be designed to capture and treat storm water runoff according to the specifications outlined in the Storm Water Design Manual. These specifications will designate the water quantity and quality treatment criteria that apply to an approved storm water management practice.

6.6 Landscaping Plans Required

All storm water management practices must have a landscaping plan detailing both the vegetation to be in the practice and how and who will manage and maintain this vegetation. This plan must be prepared by a registered landscape architect or soil conservation district.

6.7 Maintenance Agreements

All storm water treatment practices shall have an enforcement operation and maintenance agreement to ensure the system functions as designed. This agreement will include any and all maintenance easements required to access and inspect the storm water treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the storm water treatment practice. In addition, a legally binding covenant specifying the parties responsible for the proper maintenance of all storm water treatment practices shall be secured prior to issuance of any permits for land disturbance activities.

6.8 Non-Structural Storm Water Practices

The use of non-structural storm water treatment practices is encouraged in order to minimize the reliance on structural practices. Credit in the form of reductions in the amount of storm water that must be managed can be earned through the use of non-structural practices that reduce the generation of storm water from the site. These non-structural practices are explained in detail in the current design manual and applicants wishing to obtain credit for use of non-structural practices must ensure that these practices are documented and remain unaltered by subsequent property owners.

Section 7 Requirements for Storm Water Management Plan Approval

7.1 Storm Water Management Plan Required for All Developments

No applicant for development will be approved unless it includes a storm water management plan detailing in concept how runoff and associated water quality impacts resulting from the development will be controlled or managed. This plan must be prepared by an individual approved by the **Hamblen County Planning Commission and its Director** and must indicate whether storm water will be managed on-site or off-site and, if on-site, the general location and type of practices.

The concept storm water management plan may be referred for comment to all other interested agencies, and any comments must be addressed in a final storm water management plan. This final plan must be signed by a licensed professional engineer (PE), who will verify that the design of all storm water management practices meet the submittal requirements outlined in the Submittal Checklist found in the Storm Water Design Manual. No building, grading, or sediment control permit shall be issued until a satisfactory final storm water management plan, or a waiver thereof, shall have undergone a review and been approved by the **Hamblen County Planning Commission and its Director** after determining that the plan or waiver is consistent with the requirements of this resolution.

7.2 Storm Water Management Concept Plan Requirements

A storm water management concept plan shall be required with all development permit application and will include sufficient information (e.g. maps, hydrologic calculations, etc.) to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing storm water generated at the project site. The intent of this conceptual planning process is to determine the type of storm water management measures necessary for the proposed project, and ensure adequate planning for management of storm water runoff from future development. To accomplish this goal the following information shall be included in the concept plan:

1. A map (or maps) indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural storm water management and sediment control facilities. The map(s) will also clearly show proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; location of utilities, roads and easements; the limits of clearing and grading; a written description of the site plan and justification of proposed changes in natural conditions may also be required.

2. Sufficient engineering analysis to show that the proposed storm water management measures are capable of controlling runoff from the site in compliance with this resolution and the specifications of the Storm Water Design Manual.
3. A written or graphic inventory of the natural resources at the site and surrounding area as it exists prior to the commencement of the project and a description of the watershed and its relation to the project site. This description should include a discussion of both upstream and downstream drainage areas including flow patterns and conduit sizes, soil conditions, forest cover, topography, wetlands, and other native vegetative areas on the site. Particular attention should be paid to environmentally sensitive features that provide particular opportunities or constraints for development.
4. A written description of the required maintenance burden for any proposed storm water management facility.
5. **The Hamblen County Planning Commission and its Director** may also require a concept plan to consider the maximum development potential of a site under existing zoning, regardless of whether the applicant presently intends to develop the site to its maximum potential.

For development or redevelopment occurring on a previously developed site, an applicant shall be required to include within the storm water concept plan measures for controlling existing storm water runoff discharges from the site in accordance with the standards of this resolution to the maximum extent practicable.

7.3 Final Storm Water Management Plan Requirements

After review of the storm water management concept plan, and modifications to that plan as deemed necessary by the **Hamblen County Planning Commission and its Director**, a final storm water management plan must be submitted for approval. The final storm water management plan, in addition to the information from the concept plan, shall include all of the information required in the Final Storm Water Management Plan Checklist found in the Storm Water Design Manual. This includes the following information.

1. Contact Information
The name, address, and telephone number of all persons having legal interest in the property and the tax reference number and parcel number of the property or properties affected.
2. Topographic Base Map
A 1"=200' topographic base map of the site which extends a minimum of two hundred fifty (250) feet beyond the limits of the proposed development and indicates contours at vertical intervals of not more than two (2) feet, existing surface water drainage including streams, ponds, culverts, ditches, and wetlands; current land use including all existing structures; locations of utilities, roads, and easements; and significant natural and manmade features not otherwise shown.

3. Calculations:

Hydrologic and hydraulic design calculations for the pre-development and post development conditions for the design storms specified in this resolution. Such calculations shall include (i) description of the design storm frequency, intensity and duration, (ii) time of concentration, (iii) Soil Curve Numbers or runoff coefficients, (iv) peak runoff rates and total runoff volumes for each watershed area, (v) infiltration rates, where applicable, (vi) culvert capacities, (vii) flow velocities, (viii) data on the increase in rate and volume of runoff for the design storms referenced in the Storm Water Design Manual, and (ix) documentation of sources for all computation methods and field test results.
4. Soils Information:

If a storm water management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.
5. Maintenance and Repair Plan:

The design and planning of all storm water management facilities shall include detailed maintenance and repair procedures to ensure their continued function. These plans will identify the parts or components of a storm water management facility that need to be maintained and the equipment and skills or training necessary. Provisions for the periodic review and evaluation of the effectiveness of the maintenance program and the need for revisions or additional maintenance procedures shall be included in the plan.
6. Landscaping plan:

The applicant must present a detailed plan for management of vegetation at the site after construction is finished, including who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a registered landscape architect or by the soil conservation district.
7. Maintenance Easements:

The applicant must ensure access to all storm water treatment practices at the site for the purpose of inspection and repair by securing all the maintenance easements needed on a permanent basis. These easements are to be of adequate size and shown on the plan and shall be recorded on the final subdivision plat to ensure that they shall remain in effect even with transfer of title to the property.
8. Maintenance Agreement

The applicant must execute an acceptable maintenance agreement binding on all subsequent owners of land served by an on-site storm water management measure in accordance with the specifications of this resolution.

9. Erosion and Sediment Control Plan for Storm Water Management Measures:
The applicant must prepare an erosion and sediment control plan for all construction activities related to implementing any on-site storm water management practices.
10. Other Environmental Permits:
The applicant shall assure that all other applicable environmental permits have been acquired for the site prior to approval of the final storm water design plan.

7.4 Performance Bond/Security

The Hamblen County Planning Commission and its Director shall require the submittal of a performance bond or other form of security prior to the issuance of a development permit in order to insure that the storm water practices are installed by the permit holder as required by the approved storm water management plan. The amount of the installation performance bond/security shall be the total estimated construction cost of the storm water management practices approved under the final permit application, plus fifty percent (50%). The performance bond/security shall contain forfeiture provisions for failure to complete work specified in the storm water management plan.

Unless specified otherwise the installation performance bond/security shall be held for a minimum of one (1) year following the final subdivision plat approval before being considered for release in full. Upon submission of "as-built" plans and written certification by a registered professional engineer that the storm water practice has been installed in accordance with the approved plan, and other applicable provisions of this resolution, the site shall be inspected for compliance. The **Hamblen County Planning Commission and its Director**, after receipt of the "as-built" plans, will make an inspection of the storm water practices to ensure that it is in compliance with the approved plan and the provisions of this resolution. After this inspection is approved the performance bond/security shall continue to be held to ensure that maintenance and repairs of the storm water practices are insured for one (1) year following the final plat approval or until the site is permanently stabilized, whichever is longer. Provisions for a partial pro-rated release of the performance bond/security based on the completion of various development stages may be done at the discretion of the **Hamblen County Planning Commission and its Director**. However, in no case shall more than one-half (1/2) of the face amount of the original performance bond/security be released until one (1) year after final plat approval or until subsequent field inspections verify that compliance with permanent stabilization requirements of the site have been achieved, whichever is longer.

Section 8 Construction Inspections

8.1 Notice of Construction Commencement

The applicant must notify the **Hamblen County Planning Commission through its Director** at least five (5) working days in advance of the commencement of construction. Random inspection of the storm water management system construction shall be conducted by the staff of the **Hamblen County Planning Commission and its Director**. Other regular inspections shall be conducted by a certified professional engineer or other qualified designee that has been approved by the jurisdiction who has been certified by the State of Tennessee through its Erosion Prevention and Sediment Control Program (Level 1). All inspections shall be documented and written reports prepared that contain the following information, at a minimum:

1. The name and title of the inspector, time, date and location of the inspection(s);
2. Whether construction is in compliance with the approved storm water management plan;
3. Variation from the approved construction specifications;
4. Any violations that exist must be identified and corrective measures taken listed; and,
5. Note any relevant event or circumstance (i.e., weather conditions, work stoppage, etc.)

When violations are found, the property owner, builder or developer shall either be notified orally at the time of the inspection, or in writing afterwards, of the nature of the violation and the required corrective actions. No additional work shall proceed until any violations are corrected in a timely manner and all work previously completed has received approval by the **Hamblen County Planning Commission and its Director**.

8.2 “As Built” Plans

All applicants are required to submit actual “as-built” plans for any storm water management practices located on-site after final construction is completed. The plan must show the final design specifications for all storm water management facilities and must be certified by a professional engineer. A final inspection by the **Hamblen County Planning Commission and its Director** is required before the release of any performance securities can occur. The security may be partially released at this time but, in no case shall more than fifty percent (50%) of the original amount be released until one (1) following the final plat approval and field inspections verify that the stabilization requirements are complied with, whichever is longer.

8.3 Landscaping and Stabilization Requirements

Any area of land from which the natural vegetative cover has been either partially or wholly cleared or removed by development activities shall be revegetated with ten (10) working days from the substantial completion of such clearing and construction. The following criteria shall apply to revegetation efforts:

Reseeding must be done with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until such time as the cover crop is established over ninety percent (90%) of the seeded area.

Replanting with native woody and herbaceous vegetation must be accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.

Any area of revegetation must exhibit survival of a minimum of seventy-five percent (75 %) of the cover crop throughout the year immediately following revegetation.

Revegetation must be repeated in successive years until the minimum seventy-five percent (75%) survival for one (1) year is achieved.

In addition to the above requirements, a landscaping plan must be submitted with the final design describing the vegetative stabilization and management techniques to be used at a site after construction is completed. This plan will explain not only how the site will be stabilized after construction, but who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a registered landscaping architect or by the soil conservation district, and must be approved prior to receiving a permit.

Section 9 Maintenance and Repair of Storm Water Facilities

9.1 Maintenance Easement

Prior to the issuance of any permit that has a storm water management facility as one of the requirements of the permit, the applicant or owner of the site must execute a maintenance easement agreement that shall be set out on the recorded plat and shall be binding on all subsequent owners of land served by the storm water management facility. The agreement shall provide for access to the facility at reasonable times for periodic inspection by the **Hamblen County Planning Commission and its Director**, or their contractor or agent, and for regular or special assessments of property owners to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this resolution. The easement agreement shall be recorded by the **Hamblen County Planning Commission and its Director** in the land records office.

9.2 Maintenance Agreement Covenants

Maintenance of all storm water management facilities shall be ensured through the creation of a formal maintenance agreement covenant that must be approved by the **Hamblen County Planning Commission and its Director** and recorded into the land record office prior to final plan approval. As part of the covenant, a schedule shall be developed for when and how often maintenance will occur to ensure proper function of the storm water management facility. The

covenant shall also include plans for periodic inspections, by qualified individuals, to ensure proper performance of the facility between scheduled cleanouts.

The Hamblen County Planning Commission and its Director, in lieu of a maintenance agreement covenant, may accept dedication of any existing or future storm water management facility for maintenance, provided such facility meets all the requirements of this resolution and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

9.3 Requirements for Maintenance Agreement Covenants

All storm water management facilities must undergo, at the minimum, an annual inspection, by a qualified individual, to document maintenance and repair needs and ensure compliance with the requirements of this resolution and accomplishment of its purposes. These needs may include; removal of silt, litter and other debris from all catch basins, inlets and drainage pipes, grass cutting and vegetation removal, and necessary replacement of landscaping vegetation. Any maintenance needs found must be addressed in a timely manner, as determined by the **Hamblen County Planning Commission and its Director**, and the inspection and maintenance requirement may be increased as deemed necessary to ensure proper functioning of the storm water management facility.

9.4 Inspection of Storm Water Facilities by the County

Inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type of associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the NPDES storm water permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and materials or water in drainage control facilities; and evaluating the condition of drainage control facilities and other storm water treatment practices.

9.5 Right-of-Entry for Inspection

When any new drainage control facility is installed on private property, or when any new connection is made between private property and a public drainage control system, or sewers, the property owner shall grant to the **Hamblen County Planning Commission and its Director** the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when it has a reasonable basis to believe that a violation of this resolution is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this resolution.

9.6 Records of Inspections, Installment and Maintenance Activities

Parties responsible for conducting inspection activities and the operation and maintenance of a stormwater management facility shall make records of the installation and of all inspections conducted; maintenance and repairs completed, and shall retain the records for at least five (5) years. These records shall be made available to the **Hamblen County Planning Commission and its Director** during their inspection of the facility and at other reasonable times upon request.

9.7 Failure to Maintain Practices

If a responsible party fails or refuses to meet the requirements of the maintenance agreement covenant, the **Hamblen County Planning Commission and its Director**, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in property working conditions. In the event that the storm water management facility becomes a danger to public safety or public health, the **Hamblen County Planning Commission and its Director** shall notify the party responsible for maintenance of the storm water management facility in writing. Upon receipt of notice, the responsible party shall have thirty (30) calendar days to affect maintenance and repair of the facility in an approved manner. Failure to meet this requirement subjects the responsible party to the **Hamblen County Planning Commission and its Director** assessing the owner(s) of the facility for the cost of any repair work plus any penalties; and these costs, if not paid in a timely manner, shall be a lien on the property, or prorated against the beneficial users of the property, and may be placed on the tax bill and collected as ordinary taxes by the county.

Section 10 Enforcement and Penalties

10.1 Violations

Any development activity that is commenced or is conducted contrary to this resolution may be restrained by injunction or otherwise abated in a manner provided by law.

10.2 Notice of Violation

When the **Hamblen County Planning Commission and its Director** determined that an activity is not being carried out in accordance with the requirements of this resolution, it shall issue a written notice of violation (NOV) to the owner of the property or other responsible party. The notice of violation shall contain:

1. The name and address of the owner, applicant or other responsible party;
2. The address when available or a description of the building, structure or land upon which the violation is occurring;
3. A statement specifying the nature of the violation;
4. A description of the remedial measures necessary to bring the development activity into compliance with this resolution and a time schedule for the completion of such remedial action;

5. A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and
6. A statement that the determination of violation may be appealed to the **Board of Zoning Appeals (BZA)** by filing a written notice of appeal within fifteen (15) business days of service of notice violation.

10.3 Stop Work Orders

Persons receiving a NOV involving a stop work order will be required to halt all construction activities. This “stop work order” will be in effect until the **Hamblen County Planning Commission and its Director** confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a NOV involving a stop work order in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this resolution.

10.4 Civil and Criminal Penalties

The Hamblen County Planning Commission and its Director are authorized and empowered to enforce the requirements of this resolution in accordance with the procedures set out in Tennessee Code Annotated 68-221-1106 or T.C.A. 5-1-121, the terms of which are incorporated herein by reference. Any person who violates the provisions of this resolution regulating storm water discharges or facilities shall be subject to a civil penalty of not less than fifty dollars (\$50.00) nor more than five thousand dollars (\$5,000.00) per day for each day of violations. Such person shall be guilty of a separate violation for each day during which the violation occurs or continues.

10.5 Restoration of Lands

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the **Hamblen County Planning Commission and its Director** may take necessary corrective action, the cost of such action shall be covered by the posted performance bond/security, when available. Should the amount of the performance bond/security being held by the Planning Commission be insufficient, or not available, the cost shall become a lien upon the property until paid.

10.6 Holds of Occupation Permits

Occupation permits will not be granted until corrections to all storm water practices have been made and accepted by the **Hamblen County Planning Commission and its Director**.

Section 11 Approvals

11.1 Remedies Not Exclusive

The remedies listed in this resolution are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

11.2 Conflict with Other Regulations

Where standards and management requirements of this resolution are in conflict with other laws, regulations and policies regarding buffer zones, streams, steep slopes, eroding soils, wetlands, floodplains, timber harvesting, agriculture, land disturbance activities, or other environmental protective measures, the more restrictive shall apply.

11.3 Separability

The provisions and sections of this resolution shall be deemed to be separable, and the invalidity of any portion of this resolution shall not affect the validity of the remainder.

11.4 Adoption of Resolution

This resolution shall be in full force and effect thirty (30) days after its final passage and adoption by the Hamblen County Board of Commissioners. All prior resolutions and parts of resolutions in conflict with this resolution are hereby repealed.

WHEREFORE, it is moved by Herbert Harville and seconded by Larry Baker that this Resolution be adopted.

The Chair declared the resolution adopted this 22 day of May 2008.

By: Stancil Ford

Attest:

Approved

Linda Wilder
County Clerk

David W. Purkey
County Mayor