

**Henderson County Engineering Department
Stormwater Management**

STORMWATER MANAGEMENT PLAN REVIEW CHECKLIST

The following items shall be incorporated with respect to specific site conditions, in a stormwater management plan:
(2 Copies of plans and specifications should be submitted)

APPLICATION FOR STORMWATER PERMIT FORM

- _____ Completed, signed & notarized application
- _____ Accurate application fee (\$505.00 per project)
- _____ Drawings and specifications sealed, signed and dated by a Licensed North Carolina Professional Engineer or Licensed North Carolina Landscape Architect

LOCATION INFORMATION

- _____ Project location (roads, streets, landmarks)
- _____ North arrow and scale
- _____ Property Identification Number (PIN)
- _____ Latitude/Longitude (Decimal Degrees)

GENERAL SITE FEATURES (Plan elements)

- _____ Legend, North arrow & scale, etc. (1 inch=50 feet minimum scale)
- _____ Property lines
- _____ Existing contours (topographic lines)
- _____ Proposed contours
- _____ Limits of disturbed area (provide acreage total, delineate limits, and label)
- _____ Planned and existing building locations and elevations (Total Buildout Potential)
- _____ Planned & existing road locations & elevations
- _____ Lot and/or building numbers
- _____ Geologic features: rock outcrops, seeps, springs, wetland and their limits, streams, lakes, ponds, dams, etc.
- _____ Easements and drainage ways
- _____ Profiles of streets, utilities, ditch lines, etc.
- _____ Required Army Corps 404 permit and Water Quality 401 certification (e.g. stream disturbances over 150 linear feet)

PERMANENT STORMWATER CONTROL MEASURES (on plan)

- _____ Location of deeded easements to all measures for maintenance
- _____ Location of Permanent Stormwater measures
- _____ Construction drawings and details for Permanent measures
- _____ Size and location of culverts
- _____ Size and location of subsurface drainage conveyances

SITE DRAINAGE FEATURES

- _____ Existing and planned drainage patterns (include off-site areas that drain through project)
- _____ Sub-watershed delineation
- _____ Soil information: type, special characteristics
- _____ Soil information below culvert storm outlets

- _____ Name and classification of receiving water course or name of municipal operator (only where stormwater discharges are to occur)

STORMWATER CALCULATIONS

- _____ Percentage of Impervious area for project
- _____ Pre-construction and post construction runoff calculations for each outlet from the site (at peak discharge points)
- _____ Pre-construction and post-construction hydrographs
- _____ Design calcs of culverts and storm sewers
- _____ Discharge and velocity calculations for open channel and ditch flows (easement & right-of-ways)
- _____ Design calcs of cross sections and method of stabilization of existing and planned channels (include temporary linings)
- _____ Design calcs and construction details of energy dissipators below culvert and storm sewer outlets (diameters & apron dimensions)
- _____ Design calculations and hydrographs of pond routing through detention basins

STABILIZATION

- _____ Types and locations of vegetative cover applied to disturbed areas
- _____ Pavement types applied to roadways

NARRATIVE AND CONSTRUCTION SEQUENCE

- _____ Narrative describing the nature & purpose of the construction activity
- _____ Construction sequence related to permanent stormwater management measures on site
- _____ Estimated cost of permanent stormwater measures.
- _____ Contact information of end user responsible for annual inspection, maintenance and repair of stormwater management system. (ie. Homeowners Association, property manager, etc..)

OPERATION & MAINTENANCE AGREEMENT

- _____ Agreement

DEED RESTRICTIONS/COVENANTS

- _____ Proposed covenants
- _____ Proposed deed restrictions

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**PERFORMANCE SECURITY FOR INSTALLATION
AND MAINTENANCE**

N/A Performance Surety Bond, Letter of Irrevocable Credit, Cash, Certificate of Deposit assigned to the County or official bank check deposited with the county. (Amount is 125% of estimated cost of materials and installation of the stormwater system.

OPERATION AND MAINTENANCE MANUAL

- _____ Narrative describing each measure and its design specifications
- _____ Annual inspection requirements
- _____ Operation and maintenance required for each measure
- _____ Outline steps needed to restore measures in the event of a failure
- _____ Proposed Operation & Maintenance Agreement (To be recorded)