Chapter

5.0

Storm Water Implementation

5.1 Storm Water Management Plans

For all new and redevelopment projects, the applicant is responsible for submitting a storm water management plan which meets the design requirements provided by the District of Columbia Storm Water Management Regulations (District of Columbia Municipal Regulations (DCMR) Title 21, Chapter 5), and the detailed requirements of this guidebook. Each plan submitted should be signed by a professional engineer, licensed in the District of Columbia. A flow chart depicting the permitting process for the Watershed Protection Division is provided in Appendix G.

5.1.1 Submitting, Review and Approval of Storm Water Management Plans

- The plan should contain supporting computations, drawings, and sufficient information to evaluate the environmental characteristics of the effected areas, the potential impacts of the proposed development on water resources, the effectiveness and acceptability of storm water control facilities for managing storm water runoff, and maintenance and construction schedules. The applicant/contractor should certify on the drawings that all clearing, grading, drainage construction, and development is accomplished in strict accordance with the approved plan.

- The applicant should submit the storm water management plan, including all documentation, to the "One Stop Permit and Business Center." Projects that require immediate approval will be handled here. All other projects will be submitted to the Sediment and Storm Water Technical Services Branch of the Department for review. For each project, four sets of project plans shall be submitted for distribution to various review agencies. The Sediment and Storm Water Technical Services Branch will review the plan to determine compliance with the requirements of 21 DCMR, Chapter 5.

- Within 10 to 30 working days of the submission date of a plan, the Technical Review Staff of the Department shall review the plan and make a determination to approve or disapprove the plan.

- If it is determined that more information is needed or that a significant number of changes must be made before the plan can be approved, the applicant may withdraw the plan, make the necessary changes, and re-submit the plan. All re-submissions shall contain a list of the changes made. A new 10 to 30 day review period begins on the date of submission.

- If plan approval is denied, the reasons for the action shall be communicated to the applicant in writing.

The minimum information submitted for support of a storm water management plan or application for a waiver shall include:

- Site Development Submittal Information Sheet
- Site Plan
- Pre/Post-Development Hydrologic Computations
- Hydraulic Computations

Site Development Submittal Information Sheet

Applicants shall complete a copy of the Site Development Submittal Information Sheet as part of their submission package. A copy of the Site Development Submittal Information Sheet is provided in Appendix G and may be obtained from Department of Health technical staff at the "One Stop Permit and Business Center."

Site Plan

The following information shall be submitted on a site drawing of existing and proposed conditions:

(a) A plan showing property boundaries and the complete address of the property.
(b) Lot number, square number or parcel number designation (if applicable).
(c) North arrow, scale, date.
(d) Property lines (include longitude and latitude).
(e) Location of easements (if applicable).
(f) Existing and proposed structures, utilities, roads and other paved areas.
(g) Existing and proposed topographic contours.
(h) Soil information for design purposes.
(i) Area(s) of soil disturbance.
(j) Location of existing stream(s), wetlands, or other natural features within the project area.
(k) All plans and profiles must be drawn at a scale of 1" = 10', 1" = 20', 1" = 30', 1" = 40', 1" = 50', or 1" = 80', although 1" = 10', 1" = 20' and 1" = 30', are the most commonly used scales. Vertical scale for profiles shall be 1" = 2', 1" = 4', 1" = 5', or 1" = 10'.
(l) Location and size of existing utility lines including gas lines, sanitary lines, telephone lines or poles, and water mains.
(m) A legend identifying all symbols used on the plan.
(n) Applicable flood boundaries for sites lying wholly or partially within the 100-year floodplain.
(o) Information regarding the mitigation of any off-site impacts anticipated as a result of the proposed development.
(p) Construction specifications.
(q) Design and "As-Built" Certification.
    i. Certification by a Professional Engineer registered in the District of Columbia that the design of the storm water management facility conforms to engineering principles applicable to the treatment and disposal of storm water pollutants. The As-Built Storm Water Management Plan Guidelines are provided in Appendix G.

ii. Certification and submission of the As-Built Certification by Professional Engineer form (provided in Appendix G) and one set of the "As-Built" plans within 21 days after completion of construction of the storm water management facility.

(r) Maintenance of Storm Water Management Facilities

i. A maintenance agreement and a maintenance schedule must be submitted as part of the storm water management plan.

A covenant stating the property owner's specific maintenance responsibilities must be recorded with the owner's deed, at the Record of Deeds. The Declaration of Covenants for a Storm Water Management Facility is provided in Appendix G.

Pre/Post-Development Hydrologic Computations

The pre/post-runoff analysis shall include:

(a) A summary of soil conditions and field data.
(b) Pre/post-project curve number computation.
(c) Time of concentration calculation.
(d) Travel time calculation.
(e) Peak discharge computation for each subwatershed for the 24-hour storms of 2-year and 15-year frequencies. All hydrologic computations shall be included on the plan.

Hydraulic Computations

Hydraulic computations for the final design of water quality and quantity control structures may be accomplished by hand or through the use of software using equations/formulae generally accepted in the water resources industry. The summary of collection or management systems should include the following:

(a) Existing and proposed drainage area must be delineated on separate plans with the flow paths used for calculation of the times of concentration.
(b) Hydraulic capacity and flow velocity for drainage conveyance, including ditch, swales, pipes, inlets, and gutter. Plan profiles for all open conveyance and pipelines, with energy and hydraulic gradients shown thereon.
(c) The proposed development layout including:
    i. Storm water lines and inlets.
    ii. Location and design of BMP on site.
    iii. A list of design assumptions (e.g. design basis, 15-year return period, etc.).
    iv. The boundary of the contributing drainage area to the BMP.
    v. Schedule of structures (a listing of the structures, details, elevations including inverts, etc.).

vi. Manhole to manhole listing of pipe size, pipe type, slope, computed velocity, and computed flow rate (i.e., a storm drain pipe schedule).

5.2 Permits

5.2.1 Permit Requirements

A nonpoint source (storm water discharge) permit shall not be issued for any project unless a storm water management exemption or waiver is granted, or a storm water management plan meeting the requirements of 21 DCMR, Chapter 5 has been approved by the Department. Where applicable, a storm water management permit will not be issued until it is certified that the following have been properly executed:

- Recorded easements for the storm water management facility
- Easements to provide adequate access for inspection and maintenance to a public right-of-way

5.2.2 Permit Fee

A non-refundable permit fee will be collected at the time the permit is issued. The permit fee will provide for the cost of storm water management plan review, administration, management of the storm water permitting process, and inspection of all projects subject to the requirements of Section 526 through 535.

Waivers will be subjected to the permit and waiver fees.

5.2.3 Permit Suspension And Revocation

Any nonpoint source permit issued may be suspended or revoked after written notice is given to the permittee for any of the following reasons:

- Violation(s) of the conditions of the storm water management plan approval
- Changes in site runoff characteristics upon which a waiver was granted
- Construction which is not in accordance with the approved plans
- Noncompliance with correction notices(s) or stop work order(s)
- The existence of an immediate danger in a downstream area or adjacent properties in the opinion of the Department.

5.3 Inspection Requirements

5.3.1 Inspection Schedule and Reports

Prior to the approval of a storm water management plan, the applicant/contractor will submit a proposed construction and inspection control schedule. The proposed construction and inspection schedule should be included in the storm water management plan. The Department of Health will conduct inspections at the construction stages specified in the provisions, and file reports of inspections during construction of storm water management systems to ensure compliance with the approved plans.

No scheduled storm water management work will proceed until the Department's authorized representative, accompanied by the professional engineer responsible for certifying the "As-Built" plans, inspects and approves the work previously completed and the Department furnishes the applicant with results of the inspection soon after completion of each required inspection.

After receiving written notice from the Department, the applicant shall promptly correct any portion of the work which does not comply with the approved plans. The notice will set forth the nature of corrections required and the time frame within which corrections shall be made.

5.3.2 Inspection Requirements During Construction

- The Department, through its authorized representative, shall conduct on-site inspections at stages of construction as determined by the Department. Inspection report forms for sand filters and for infiltration devices are provided in Appendix G.

- All specifications for inspections at the various stages of construction should be incorporated into the storm water management plans.

- The developer shall notify the Department 24 hours prior to beginning the construction of any on-site or off-site storm water management facility subject to these regulations.

- The professional engineer for the project shall accompany the Department representative on all on-site inspections.

- A final inspection shall be conducted by the Department upon completion of the storm water management facility to determine if the completed work is constructed in accordance with approved plans.

After starting initial site operations, regular inspections will be made at the following specified states of construction:

- Infiltration systems shall be constructed at the following stages so as to ensure proper placement and allow for infiltration into the subgrade:

  (a) During on-site/off-site percolation/infiltration test
  (b) Upon completion of stripping, stockpiling, construction of temporary sediment control and drainage facilities
  (c) Upon completion of excavation to subgrade
  (d) Throughout the placement of perforated PVC/HDPE standpipes (for observation wells) including bypass pipes (where applicable), geotextile materials, gravel, or crushed stone course and backfill
  (e) Upon completion of final grading and establishment of permanent stabilization

- Flow attenuation devices, such as open vegetated swales upon completion of construction

- Retention and detention structures, at the following stages:

  (a) Upon completion of excavation to sub-foundation and where required, installation of structural supports or reinforcement for structures, including but not limited to the following.
    - Core trenches for structural embankments
    - Inlet-outlet structures and anti-seep structures
    - Watertight connectors on pipes
    - Trenches for enclosed storm water drainage facilities

  (b) During testing of the structure watertightness
  (c) During placement of structural fill, concrete and installation of piping and catch basins
  (d) During backfill of foundations and trenches
  (e) During embankment construction
  (f) Upon completion of final grading and establishment of permanent stabilization

- Storm water filtering systems, at the following stages:

  (a) Upon completion of excavation to sub-foundation and installation of structural supports or reinforcement for the structure;
  (b) During testing of the structure watertightness;
  (c) During placement of concrete and installation of piping and catch basins;
  (d) During backfill around the structure;
  (e) During pre-fabrication of structure at manufacturing plant;
  (f) During pouring of floors, walls and top slab;
  (g) During installation of manholes/trap doors, steps, orifices/weirs, bypass pipes, and

sump pit (when applicable);

(h) During placement of filter bed; and

(i) Upon completion of final grading and establishment of permanent stabilization.

5.3.3 Final Inspection Reports

A final inspection will be conducted by the Department to determine if the completed work is constructed in accordance with approved plans and the intent of 21 DCMR, Chapter 5, a registered professional engineer licensed in the District of Columbia is required to certify "As-Built" plans that the storm water management facility has been constructed in accordance with the approved plans and specifications (the As-Built Certification by Professional Engineer form is provided in Appendix G. The "As-Built" certification shall be on the original storm water management plan. Upon completion, these plans will be submitted to the Department for processing. The estimated time for processing will be two weeks (ten working days), after which the plans will be returned to the engineer. The applicant shall receive written notification of the final inspection results. The Department will maintain a permanent file of inspection reports.

5.3.4 Inspection for Preventive Maintenance

Preventive maintenance will be ensured through inspection of all infiltration systems, swales, retention, or detention structures by the Department. The inspection will occur twice every year during the first five years of operation and at least once every two years thereafter. Maintenance inspection forms are provided in Appendix G.

Preventive maintenance inspection reports will be maintained by the Department on all storm water management structures. The reports shall conform to the detailed requirement of the Department.

If, after an inspection by the Department, the condition of a storm water management facility presents an immediate danger to the public safety or health because of an unsafe condition or improper maintenance, the Department will take such action as may be necessary to protect the public and make the facility safe. Any costs incurred by the Department will be assessed against the owner(s).

5.4 Maintenance

5.4.1 Maintenance Responsibility

The owner of the property on which work has been done pursuant to 21 DCMR, Chapter 5 for private storm water management facilities, or any other persons or agent in control of such property, shall maintain in good condition and promptly repair and restore all grade surfaces, walls, drains, structures, vegetation, erosion and sediment control measures, and other protective devices. Such

repairs or restorations will be in accordance with approved plans.

A maintenance agreement and a maintenance schedule must be submitted as part of the storm water management plan. A covenant stating the property owner's specific maintenance responsibilities must be recorded with the owner's deed, at the Record of Deeds. A maintenance schedule for any storm water management facility will be developed for the life of the project and shall state the maintenance to be completed, the time for completion, and who will perform the maintenance including provisions for normal and abnormal maintenance. The maintenance schedule will be printed on the storm water management plan.

5.4.2 Maintenance Agreement

The Department will not issue any nonpoint source permit for which storm water management is required until the Department certifies that the applicant or owner has executed an inspection and maintenance agreement binding on all subsequent owners of land served by the private storm water management facility. Such agreement should provide for access to the facility at reasonable times, and for regular inspection by the Department or its authorized representative, and for regular or special assessments of property owners to ensure that the facility is maintained in proper working condition. The Declaration of Covenants for a Storm Water Management Facility is provided in Appendix G.

The Agreement should be recorded in the land records of the District of Columbia by the applicant and/or owner. The agreement should also provide that, if after written notice by the Department to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) of the land served by the facility within a reasonable period of time, not to exceed 45-60 days unless extended for good cause shown, the Department may perform all necessary work to place the facility in proper working condition. The owner(s) of property served by the facility will be assessed the cost of the work and any penalties and there will be a lien on any property served by the facility, which may be placed on the tax bill and collected as ordinary taxes by the District of Columbia.

5.5 Penalties

Any person convicted of violating the storm water provisions of 21 DCMR, Chapter 5 will be guilty of a misdemeanor, and upon conviction thereof, will be subject to a fine of at least two thousand five hundred dollars ($2,500) and no more than twenty-five thousand dollars ($25,000) or imprisonment not exceed to exceed one year or both. Each day that a violation continues will be deemed a separate offense. In addition penalties for failure to comply with a final compliance order, a final cease and desist order or a final suspension, revocation or denial order shall be in accordance with Section 17 of the Water Pollution Control Act of 1984, as amended.

In any instance where a civil fine, penalty or fee has been established pursuant to the Civil

Infractions Act and the Civil Infractions Regulations found in 21 DCMR, Chapter 32, the civil fine, penalty or fee may be imposed as an alternative sanction to the penalties set forth in the Water Pollution Control Act.

Enforcement procedures for the storm water management regulations are outlined in 21 DCMR, Chapter 22.

Any court of competent jurisdiction will have the right to issue restraining orders, temporary or permanent injunctions, or mandamuses or other appropriate forms of remedy or relief.

5.6 Appeals

Any person aggrieved by the action of any official charged with the enforcement of the storm water management provisions of 21 DCMR, Chapter 5 as a result of the disapproval of an (properly filed) application for a permit, issuance of a written notice of violation, or an alleged failure to properly enforce 21 DCMR, Chapter 5 in regard to a specific application, will have the right to appeal the action to the Director of the Department.

The appeal should be filed in writing 15 days of the date from the official transmittal of the final decision, or determination of the applicant, should state clearly the grounds on which the appeal is based, and should be processed in the manner prescribed for hearing administrative appeals under the Civil Infraction Act of 1985, as amended.

In addition, any person adversely affected or aggrieved by a final compliance order, cease and desist order or other administrative order issued pursuant to the provisions of 21 DCMR, Chapter 22, may appeal the action by filing a petition for review in the District of Columbia Court of Appeals within thirty (30) days of the date of service of the final order upon the party making the appeal.

5.7 Exemptions

The following development activities shall be exempt from the provisions of the storm water management requirements of 21 DCMR, Chapter 5:

- Minor land disturbing activities such as home gardening and individual home landscaping repairs and maintenance work

- Single family dwelling utility service connections and construction or utility construction where the excavated material is removed from the job site

- Tilling, planting or harvesting of agricultural or horticultural crops

- Installation of fence and sign posts or poles

- Emergency work to protect a life, list or property, and emergency repairs, provided that if the land disturbing activity would have required an approved erosion and sedimentation control plan if the activity were not an emergency, then the land disturbed shall be shaped and stabilized in accordance with the requirements of the Department

- Additions or modifications to existing single family residential structures, detached garages, sheds, swimming pools or similar improvement

- Construction or grading operations, or both, that do not disturb more than five thousand square feet of land area, unless such construction or grading operations shall be part of an approved subdivision plan which contains provisions for storm water management; or

- Residential development consisting of single family dwellings each of which shall be situated on lots of two or more acres.

5.8 Waivers and Variances

The Director, or his or her designee, may waive the storm water management requirements for individual developments, provided, that the applicant first submits to the Department, a written request containing descriptions, drawings, and any other information that shall be necessary to evaluate the proposed development. Separate written requests for waivers shall be submitted for each addition, extension or modification to a development.

In order to be eligible for a waiver, an applicant shall demonstrate that storm water runoff from the subject property will not adversely impact the receiving wetlands, water course or waterway because:

- The proposed development will not generate more than a ten percent (10%) increase in the two-year pre-development peak discharge rate.

- The site is surrounded by developed areas which are served by an existing network of public storm drainage systems of adequate capacity to accommodate the runoff from the proposed development, except for the following:

    1) shopping centers
    2) industrial or commercial developments
    3) subdivision
    4) roads
    5) parking lots

- Provisions that control the direct outfall to tidewater, when the first one-half inch (0.5") is treated in a water quality structure meeting standards and specifications.

The Director may grant a variance from any of the provisions in 526 through 535 of this chapter if there are exceptional circumstances applicable to the site, and where such strict adherence to these provisions will result in unnecessary hardship or practical difficulty.

A written request for variance shall be submitted to the Branch Chief, stating the specific variance sought and the reason.