

**ORDINANCE NO: 2004-41**

**AN ORDINANCE TO ESTABLISH THE CITY OF CLEVELAND'S  
MS4 PHASE II STORMWATER MANAGEMENT PROGRAM**

WHEREAS, the City of Cleveland is mandated to comply with the National Pollutant Discharge Elimination System Permit (NPDES) and establish an MS4 Phase II Stormwater Management Program pursuant to the provisions of *40 CFR 122.2* , and

WHEREAS, the City of Cleveland to ensure compliance with *40 CFR 122.26*, will delete and repeal in its entirety the "Erosion and Sediment Control Ordinance" adopted July 13, 1998 and codified in Title 12, Chapter 7, Sections 12-701 through 12-704, and

WHEREAS, the City of Cleveland, upon approval by Council, will adopt the provisions of this Ordinance and to be codified in Cleveland Municipal Code Title 18, Chapter 3, Sections 18-301 through 18-312.

**SECTION 1:**

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Cleveland that Title 12 Chapter 7, Sections 12-701 through 12-704 of the Cleveland Municipal Code are hereby deleted in their entirety and replaced with the attached section to be codified under Title 18, Chapter 3, Sections 18-301 through 18-312 of the Cleveland Municipal Code.

**SECTION 2:**

**SEVERABILITY:**

BE IT FURTHER ORDAINED that if any section, subsection, sentence, clause, phrase, or portion of the Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed separate, distinct, and an independent provision, and such hold shall not affect the validity of the remaining portions hereof.

**SECTION 3:**

BE IT FURTHER ORDAINED THAT THIS Ordinance shall take effect on January 1, 2005, and hereby deletes in its entirety the "Erosion and Sediment Control Ordinance" adopted July 13, 1998, and codified in Title 12, Chapter 7, Section 12-701 through 12-704, said repeal to become effective on the same day of January 1, 2005, with the public welfare requiring such.

APPROVED AS TO FORM;

\_\_\_\_\_  
L. Harlen Painter, City Attorney

\_\_\_\_\_  
Tom Rowland, Mayor

\_\_\_\_\_  
Janice Casteel, City Clerk

**MS4 PHASE II STORMWATER MANGEMENT PROGRAM**

**TABLE OF CONTENTS**

<b>SECTION</b>	
<b>18-301</b>	<b>CREATION AND TITLE.....1</b>
<b>18-302</b>	<b>PURPOSE AND JURISDICTION.....1</b>
<b>18-303</b>	<b>DEFINITIONS.....2</b>
<b>18-304</b>	<b>LAND DISTURBANCE PERMITS.....6</b>
<b>18-305</b>	<b>STORMWATER MANAGEMENT PLAN DESIGN STANDARDS.....11</b>
<b>18-306</b>	<b>POST CONSTRUCTION-AS BUILT PLANS AND SITE STABILITZATION .....25</b>
<b>18-307</b>	<b>POST CONSTRUCTION-LANDSCAPING.....26</b>
<b>18-308</b>	<b>EXISTING LOCATIONS AND DEVELOPMENT.....31</b>
<b>18-309</b>	<b>ILLICIT DISCHARGES.....32</b>
<b>18-310</b>	<b>ENFORCEMENT AND COMPLIANCE.....34</b>
<b>18-311</b>	<b>PENALTIES.....35</b>
<b>18-312</b>	<b>STORMWATER REGULATIONS BOARD AND ADMINISTRATIVE APPEALS.....37</b>

**18-301            CREATION AND TITLE**

There is hereby created a MS4 Phase II Stormwater Management Program for the City of Cleveland as mandated by the *National Pollutant Discharge Elimination System Permit* (NPDES) pursuant to *40 CFR 122.26*. This section shall provide authority for establishing and administering the MS4 Phase II Stormwater Management Program.

**18-302            PURPOSE AND JURISDICTION**

(1)    Purpose    The purpose of this ordinance is to:

- (a)    Protect, maintain, and enhance the environment of the City of Cleveland and the public health, safety and the general welfare of the citizens of the city, by controlling discharges of pollutants to the city’s stormwater system and to maintain and improve the quality and quantity of stormwater discharges to the receiving waters into which the stormwater outfalls flow, including, without limitation, lakes, rivers, streams, ponds, wetlands, and groundwater.
  
- (b)    Enable the City of Cleveland to comply with the National Pollutant Discharge Elimination System permit (NPDES) and applicable regulations, *40 CFR 122.26* for stormwater discharges.
  
- (c)    Allow the City of Cleveland to exercise the powers granted in *Tennessee Code Annotated Section 68-221-1105*, which provides that among other powers municipalities have with respect to stormwater facilities, is the power by ordinance or resolution to:
  - (i)    Exercise general regulation over the planning, location, construction, and operation and maintenance of stormwater facilities in the municipality, whether or not owned and operated by the municipality;
  - (ii)    Adopt any rules and regulations deemed necessary to accomplish the purposes of this ordinance, including the adoption of a system of stormwater construction inspection fees and permits;
  - (iii)    Establish standards to regulate the quantity of stormwater discharged and to regulate stormwater contaminants as may be necessary to protect water quality;
  - (iv)    Review and approve plans and plats for stormwater management in proposed subdivisions, commercial developments, and excavation resulting in land disturbance;
  - (v)    Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities;
  - (vi)    Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit;
  - (vii)    Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been

contaminated.

(2) Jurisdiction and Administering Entity.

- (a) The “MS4 Phase II Stormwater Management Program” shall govern all properties within the municipal boundary or corporate limits of the City of Cleveland, Tennessee;
- (b) The City of Cleveland Engineering Division of the Department of Public Works in conjunction with the Department of Community Development shall administer the provisions of this ordinance;
- (c) The City of Cleveland may enter into interlocal agreements to administer stormwater MS4 permit programs located outside the municipal boundary or corporate limits of the City of Cleveland, Tennessee, subject to enabling provisions in *Tennessee Code Annotated 69-3-101* and approval by the City Council.

**18-303        DEFINITIONS**

For the purpose of this chapter, the following definitions shall apply:

Words used in the singular shall include the plural, and the plural shall include the singular; words used in the present tense shall include the future tense. The word "shall" is mandatory and not discretionary. The word "may" is permissive. Words not defined in this section shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster's Dictionary.

- (1) “*As built plans*” means drawings developed from field survey data depicting conditions as they are actually constructed.
- (2) “*Best management practices*” or “*BMP’s*” are physical, structural, and/or managerial practices that when used singly or in combination, prevent or reduce pollution of water, that have been approved by the City of Cleveland, and that have been incorporated by reference into this ordinance as if fully set out herein.
- (3) “*Board*” means Stormwater Regulations Board.
- (4) “*Building Permit*” means written authorization issued by the City of Cleveland Department of Community Development for construction that pertains to building activities associated with a structure.
- (5) “*Building Official*” means an employee of the City of Cleveland who is a managing inspector certified by the State of Tennessee to inspect structures under specific code requirements.
- (6) “*Channel*” means a natural or artificial watercourse with a defined bed and banks that conveys water continuously or periodically.
- (7) “*City*” means the City of Cleveland, Tennessee.
- (8) “*City Engineer*” means an employee of the City of Cleveland whose position title is “*City Engineer*” and is licensed by the State of Tennessee as a professional engineer.
- (9) “*Community water*” means any and all rivers, streams, creeks, branches, lakes, reservoirs,

- ponds, drainage systems, springs, wetlands, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the City of Cleveland.
- (10) “*Contaminant*” means any substance that alters the physical, chemical, biological, or radiological properties of community waters.
  - (11) “*Design storm event*” means a hypothetical storm event, of a given frequency interval and duration, used in the analysis and design of a stormwater facility.
  - (12) “*Detention*” means the temporary delay of storm runoff prior to discharge into the natural receiving waters.
  - (13) “*Developer*” means any individual, firm, corporation, association, partnership, or trust authorized as an owner or corporate officer to obtain permits, whether federal, state, or local and whose plan or intent is to alter or modify land characteristic or attributes.
  - (14) “*Development*” means any alteration or modification to land, improved or unimproved, including but not limited to, building construction, mining, excavation, dredging, filling, grading, paving, excavating, drilling operation, or permanent storage of materials (“materials” of like nature stored in whole or in part for more than a period of 30 days).
  - (15) “*Discharge*” means dispose, deposit, spill, pour, inject, seep, dump, leak or place by any means, or that which is disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or placed by any means including any direct or indirect entry of any solid or liquid matter into the municipal separate storm sewer system.
  - (16) “*Easement*” means an acquired privilege or right of use or enjoyment that a person, party, firm, corporation, municipality or other legal entity has in the land of another.
  - (17) “*Easement Interest*” means the acquired privilege or the right of use or enjoyment that any lot owner in a platted subdivision has in the private stormwater facilities for the storage and conveyance of all stormwater runoff from the individual lot owners’ lot and/ or any other lot in a platted subdivision.
  - (18) “*Engineer*” or “*Professional Engineer*” means a person licensed by the State of Tennessee as a professional engineer.
  - (19) “*Erosion*” means the removal of soil particles by the action of water, wind, ice or other geological agents, whether naturally occurring or acting in conjunction with or promoted by anthropogenic activities or effects.
  - (20) “*Erosion and sediment control plan*” means a written plan (including drawings or other graphic representations) that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities prepared by a professional licensed in the State of Tennessee as a professional civil engineer and certified by the Tennessee Department of Environment and Conservation in Level one and two erosion and sediment control.
  - (21) “*Hotspot*” (“*priority area*”) means an area where land use or activities generate highly contaminated runoff with concentrations of pollutants in excess of those typically found in stormwater.
  - (22) “*Illicit connections*” means illegal and/or unauthorized connections to the municipal separate stormwater system whether or not such connections result in discharges into that system.
  - (23) “*Illicit discharge*” means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater.
  - (24) “*Impaired Waters*” means a watercourse, stream, creek, river, or wetland delineated by the Tennessee Department of Environment and Conservation which is listed on the “303d” list as degraded or non-supportive of specific classified uses, including but not limited, to

- recreation, drinking water, agricultural, irrigation, fish and aquatic life.
- (25) “*Land disturbing activity*” means any activity on property that results in an alteration of the existing soil cover both vegetative and non-vegetative and/or the existing soil topography. Land-disturbing activities include development, re-development, demolition, construction, reconstruction, clearing vegetation, grading, filling, and excavation.
- (26) “*Land disturbing permit*” means written authorization issued to an applicant to proceed with or conduct “land distributing activity” with specific terms and conditions.
- (27) “*Maintenance*” means any activity that is necessary to keep a stormwater facility functional and in conformance with an approved “erosion and sediment control plan.” Maintenance shall include complete reconstruction of a stormwater facility if reconstruction is needed in order to restore the facility to its original operational design parameters. Maintenance shall also include the correction of any condition on the site property that may directly impair the functions of the stormwater facility.
- (28) “*Memorial Tree Fund*” means a distinct separate fund or account maintained by the City of Cleveland that is solely dedicated to receive and expend funds to landscape public properties and right-of-ways.
- (29) “*Municipal separate storm sewer system*” (*MS4*) means the conveyances owned or operated by the municipality for the collection and transportation of stormwater, including the roads and streets and their drainage systems, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.
- (30) “*National Pollutant Discharge Elimination System permit*” or “*NPDES permit*” means a permit issued pursuant to 33 U.S.C. 1342.
- (31) “*Off-site facility*” means a structural BMP located outside the subject property boundary described in the permit application for land development activity.
- (32) “*On-site facility*” means a structural BMP located within the subject property boundary described in the permit application for land development activity.
- (33) “*Peak flow*” means the maximum instantaneous rate of flow of water at a particular point resulting from a storm event.
- (34) “*Person*” means any and all persons, natural or artificial, including any individual, firm or association and any municipal or private corporation organized or existing under the laws of Tennessee or any other state or county.
- (35) “*Phasing*” means planning land disturbance activities in segments or increments to result in the permanent stabilization of one segment prior to the land disturbance of the next segment.
- (36) “*Priority area*” means “hot spot” as defined in Section 18-303.
- (37) “*Priority construction activity*” means land disturbance activity in the drainage basin or watershed of an impaired stream listed on the 303d list published by the Tennessee Department of Environment and Conservation.
- (38) “*Private Stormwater Facilities*” means stormwater storage, conveyance, or treatment facilities that are not located within public right-of-way and shall include but are not limited to detention and retention ponds, structural and non-structural storm water treatment, and conveyance systems.
- (39) “*Qualified Contractor*” means a person who holds certification in the UT/TDEC Level 1 course provided by the Tennessee Department of Environment and Conservation, or has satisfactorily completed equivalent training provided by the City of Cleveland.
- (40) “*Regional Detention or Retention facility*” means a stormwater facility constructed with public or private funds in the interest of public safety to abate or reduce the potential of

localized flooding and adverse impacts to established flood hazard districts. A regional detention or retention facility is an offsite stormwater facility maintained by the City of Cleveland serving two or more separate property owners in the same watershed or sub watershed.

- (41) *“Regional Detention or Retention Banking”* means a private capital cash or real property investment by a person or a corporate entity for the purpose of building or causing to be built a regional off-site detention or retention stormwater facility to serve existing properties in the same watershed in lieu of on-site detention or retention.
- (42) *“Retention Pond”* means artificial pond used to store or detain stormwater runoff to allow for settlement of suspended solids and biological treatment.
- (43) *“Runoff”* means that portion of the precipitation on a drainage area that is discharged from the area into the municipal separate stormwater system.
- (44) *“Sediment”* means solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
- (45) *“Sedimentation”* means soil particles suspended in stormwater that can settle in streambeds and disrupt the natural flow of the stream.
- (46) *“Soils Report”* means a study of soils on a subject property with the primary purpose of characterizing and describing the soils. A qualified soils scientist shall prepare a soils report.
- (47) *“Stabilization”* means providing adequate measures of vegetative and/or structural controls that will prevent erosion from occurring.
- (48) *“Start of Construction”* means the first date that mechanized land disturbance is authorized to proceed under a land disturbance permit.
- (49) *“Stormwater”* means stormwater runoff, snow melt runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration and drainage.
- (50) *“Stormwater Engineer”* means an employee of the City of Cleveland charged with the responsibility of implementing and enforcing the provisions of this ordinance.
- (51) *“Stormwater management”* means a program to maintain quality and quantity of stormwater runoff to pre-development levels.
- (52) *“Stormwater management facilities”* means the drainage structures, conduits, ditches, combined sewers, sewers, and all device appurtenances by means of which stormwater is collected, transported, pumped, treated, or disposed of.
- (53) *“Stormwater management plan”* means the set of drawings and other documents prepared by a civil engineer licensed in the State of Tennessee and comprised of information and specifications pertaining to site specific drainage systems, structures, BMP's, concepts and techniques intended to maintain or restore quality and quantity of stormwater runoff to pre-development levels.
- (54) *“Stormwater Regulations Board”* means a five (5)-member board appointed by the Cleveland City Council to serve in accordance with the terms of Section 18-312.
- (55) *“Stormwater runoff”* means flow on the surface of the ground, resulting from precipitation.
- (56) *“Structural Best Management Practices (BMP's)”* means devices that are constructed to provide control of stormwater runoff.
- (57) *“Surface water”* includes waters upon the surface of the earth in bounds created naturally or artificially including, but not limited to, streams, other watercourses, lakes and reservoirs.
- (58) *“Urban Forester”* means an employee of the City of Cleveland whose position title is *“Urban Forester.”*

- (59) “*Watercourse*” means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.
- (60) “*Watershed*” means all the land area that contributes runoff to a particular point along a waterway.

**18-304        LAND DISTURBANCE PERMITS**

(1)    When required.

Every person conducting the following “*land disturbance activity*” is required to obtain land disturbance permit coverage pursuant to the provisions of this ordinance, and stormwater management plan approval from the Engineering Division of the Department of Public Works:

- (a)    Land disturbing activity that disturbs one (1) or more acres of land;
- (b)    Land disturbing activity of less than one (1) acre of land if such activity is part of a larger common plan of development, including but not limited to, residential, commercial, and industrial major and minor subdivisions (tract of land divided into parcels with a larger common plan);
- (c)    Land disturbing activity of less than one (1) acre of land, if such activity is adjacent to an impaired stream appearing on the 303d list of the Tennessee Department of Environment and Conservation;
- (d)    The creation and operation of borrow pits where material is excavated and relocated offsite, and fill sites where materials or earth is deposited by mechanized methods resulting in an increase elevation or grade.

(2)    Exemptions.

The following activities are exempt from obtaining a land disturbance permit:

- (a)    Any emergency activity that is immediately necessary for the protection of life, property, or natural resources, or for the health and safety of the community, or for the continuation of essential services;
- (b)    Existing nursery and agricultural operations conducted as a permitted main or accessory use;
- (c)    Logging or agricultural activity that is consistent with an approved farm conservation plan or a timber management plan approved by the Tennessee Department of Environment and Conservation Surface Mining Division, the Tennessee Department of Agriculture, or the Natural Resource Conservation Service;

(3)    Building permits.

Building permits issued under the authority of the Building Official, or a designee of, shall be held in abeyance until the applicant, owner, or designated representative has fully

satisfied the following requirements:

- (a) Site plan approval pursuant to *Title 14, Chapter 2, Subsection 6.2 of the Zoning Ordinance* of the City of Cleveland;
  - (b) Submittal of a “Notice of Coverage” issued by the Tennessee Department of Environment and Conservation and provided to the Department of Community Development authorizing the applicant to discharge stormwater associated with construction activity, if applicable;
  - (c) Approval of a stormwater management plan and post construction components from the Engineering Division of the Department of Public Works consistent with *Sections 18-304 through 18-307* of this Ordinance;
  - (d) Attended a pre-construction conference with the Division of Engineering of the Department of Public Works to review implementation of an approved stormwater management plan in accordance with *Sections 18-304 through 18-307* for land. A pre-construction conference shall be conducted for all proposed land disturbance activities of one (1) acre or more located in the watershed of an impaired stream as determined by the 303d classification list of the Tennessee Department of Environment and Conservation.
- (4) Application for a land disturbance permit.
- (a) Authorization to implement land disturbance permit program. The Engineering Division of the Department of Public Works and the Department of Community Development are authorized to develop and implement a land disturbance permit program and associated policies that are consistent with this ordinance. A land disturbance permit application shall include the following:
    - (i) Name of applicant;
    - (ii) Address of applicant;
    - (iii) Name, address, and telephone number of the current property owner of record listed in the office of the assessor of property;
    - (iv) Address and legal description of subject property including the tax map reference number and parcel number of the subject property;
    - (v) Name, address and telephone number of the contractor and any subcontractor(s) who shall perform the land disturbing activity and who shall implement the erosion and sediment control plan;
    - (vi) A narrative statement indicating the nature, extent and purpose of the land disturbing activity, including the size of the area for which the permit shall be applicable and a schedule for completion of the land disturbing activity;
    - (vii) The estimated cost of stormwater infrastructure to accommodate the proposed development;
    - (viii) The watershed location and receiving waters for the proposed development;
    - (ix) Where the property includes a sinkhole and/or waters defined as natural

resource or wetland and the proposed land disturbance activity will encroach, potentially impact, or alter state waters, the applicant shall obtain from the Tennessee Department of Environment and Conservation, or appropriate regulatory permits. The issuance of a land disturbing permit under the authority of this ordinance will be in abeyance until state and federal permits, if applicable, are obtained;

- (x) The inclusion of state or federal permits in the application shall not foreclose the Engineering Division of the Department of Public Works or the Department of Community Development from imposing additional development requirements and conditions commensurate with this ordinance.
- (xi) The owner of record of the proposed development shall sign the application, or the applicant must provide certification from the owner of record providing authorization to act as the owner's agent.

(b) Each application shall be accompanied by;

- (i) A performance bond in the form of a letter of credit, performance surety, or performance bond valued at the cost of providing as-built drawings in conformance with *Section 18-304 Subsection (9)*;
- (ii) A stormwater management plan satisfying the provisions of *Section 18-305*;
- (iii) A fully executed agreement to provide "as-built drawings" of the stormwater infrastructure associated with the proposed development and permanent site stabilization in post construction pursuant to the requirements of *Section 18-306*;
- (iv) A post construction-landscape plan satisfying the provisions of *Section 18-307*, if applicable.

(5) Application review procedures.

(a) The Engineering Division of the Department of Public Works and the Department of Community Development shall review each application for a land disturbance permit to determine conformance with the provisions of this Ordinance upon submittal of all documents and plans required under Section 18-304, Subsection 4. Within 10 (ten) standard working days after receiving a completed land disturbance permit application and the plans required by Section 18-304, Subsection 4, the Engineering Division of the Department of Public Works shall provide one of the following responses in written form:

- (i) Approval of the permit application;
- (ii) Approval of the permit application, subject to such reasonable conditions as may be necessary to secure the objectives of this ordinance, and issue the permit subject to these conditions; or
- (iii) Denial of the permit application, indicating the reason(s) for the denial.

(b) If the Engineering Division of the Department of Public Works has granted conditional approval of the permit, the applicant shall submit a revised stormwater

management plan reflecting the revisions associated with conditional approval prior to the issuance of a land disturbance permit.

- (c) If the application for the land disturbance permit is denied, the applicant may request a meeting with the Director of Public Works in an effort to resolve issues pertaining to the permit denial. If issues related to the land disturbance permit denial cannot be resolved, the applicant may appeal the matter to the Stormwater Regulations Board pursuant to the procedures of Section 18-312.

(6) Permit duration.

Land disturbance permits shall expire and become null and void if substantial work authorized by such permit has not commenced within one hundred eighty (180) calendar days of issuance, and conducted in accordance with an approved stormwater management plan.

(7) Notice of construction and permit monitoring requirements.

The applicant shall notify the Engineering Division of the Department of Public Works-Stormwater Engineer ten (10) standard working days prior to the of the commencement of land disturbance activity approved in conjunction with a land disturbance permit and an approved stormwater management plan. The applicant for a land disturbance permit shall provide erosion and sediment control site inspections on a frequency of one inspection per week and following each rain event of one-half (1/2) inch or greater in accordance with an approved stormwater management plan. The applicant shall provide qualified contractors to perform such inspections in accordance with the MS4 Phase II NPDES program of the Tennessee Department of Environment and Conservation. The Engineering Division of Public Works-Stormwater Engineer shall make available to the applicant inspection reporting forms that shall be submitted by the applicant monthly to the Stormwater Engineer, and received no later than the tenth (10th) day of each month. The inspection forms shall include, but not be limited to, the following information:

- (i) The date and location of the inspection;
- (ii) Indicate if the land disturbance activity is being conducted in accordance with the approved stormwater management plan;
- (iii) Variations from the approved construction specifications;
- (iv) Observed violations that existed and remedial action taken.

(8) Land disturbance permit fees and inspections.

Each application for a land disturbance permit shall be accompanied by payment of land disturbance permit fees. The following fees shall apply to the issuance of a land disturbance permit that qualifies as a land disturbance activity regulated in accordance with *40CFR 122.26* and pursuant to *Section 18-304 Subsection (1)*:

Land Disturbance Permit Fees

Residential Lot-Single Family Residence	\$20.00-one (1) acre or greater
Residential Subdivision	\$20.00 per planned lot
Multi-unit Residential	\$50.00 per acre

Commercial and Industrial Development      \$50.00 per acre

Water Quality Fee-303d Watershed

In addition to the land disturbance permit fee, a water quality impact fee of eighty-five dollars (\$85.00) shall apply to the applicants of a land disturbance permit subject to MS4 Phase II 303d oversight mandated by the City of Cleveland NPDES Permit issued by the Tennessee Department of Environment and Conservation including, pre-construction conferences, monthly inspections, and associated administrative reporting. Land disturbance activity associated with the development of individual parcels to accommodate a single-family residential structure that is part of a larger common plan of development (residential subdivision), which was constructed in accordance with an approved stormwater management plan shall be exempt from the water quality impact fee associated with development in a 303d watershed.

(9) Performance bonds.

The applicant for a land disturbance permit shall submit:

- (a) Performance Bond. A performance bond shall be submitted prior to the issuance of a land disturbance permit, which may be in the form of an irrevocable letter of credit, performance security, with a value consisting of the total estimated cost of providing as-built drawings and post construction stabilization in accordance with Sections 18-306. The applicant shall provide a cost estimate to provide the as-built drawing and landscape components of post construction. The written estimate must bear the seal of a civil engineer licensed in the State of Tennessee, which shall be subject to acceptance, amendment or rejection by the City Engineer. Alternatively, the City Engineer shall reserve the right to calculate the cost of providing the post construction elements of *Sections 18-306*.
- (b) Release of Bond. The performance bond shall be released upon satisfactory submission of as-built plans and post construction stabilization of the development in accordance with Sections 18-306, upon written certification by a civil engineer stipulating that the private stormwater facilities and infrastructure associated with the development was built in accordance with the approved stormwater management plan satisfying *Section 18-305*, and the approved site plan pursuant to *Title 14, Chapter 2, Subsection 6.2 of the Zoning Ordinance* of the City of Cleveland. Provisions for a partial pro-rata release of the performance security or bond will be subject to review based upon satisfactory completion at various stages of development, subject to approval by the City Engineer.

**18-305      STORMWATER MANAGEMENT PLAN DESIGN STANDARDS**

(1) Stormwater quality best management practices manual.

- (a) Adoption. The City of Cleveland adopts as its stormwater quality best management practices (BMP) manual the following publications, which are incorporated by reference in this ordinance as fully set out herein verbatim:

- (i) “Tennessee Department of Environment and Conservation Sediment and Erosion Control Manual”; or
- (ii) “Designing for Effective Sediment and Erosion Control on Construction Sites” (Fifield 2001, Forester Press).

Alternative specifications may be utilized upon review and approval by the City Engineer.

(2) Stormwater management plans.

- (a) When Required. A stormwater management plan shall be submitted for development requiring a land disturbance permit under the provisions of *Section 18-304, Subsection (1)*. Individual residential parcels developed as a part of a larger common plan of development (residential subdivision) in conjunction with an approved stormwater management plan and land disturbance permit are exempt from the stormwater management plan submittal, but are required to implement best management practice in accordance with *Section 18-305 Subsection (1)(a) and rules promulgated by the Tennessee Department of Environment and Conservation*.
- (b) Stormwater management plan must be prepared by a Civil Engineer licensed to practice engineering in the State of Tennessee;
- (c) Control the peak flow rates of stormwater discharges associated with design storm events to reduce the post development stormwater runoff to the pre-development stormwater runoff rate and provide first flush water quality treatment for development, *Section 18-3, Subsection (4)*;
- (d) Utilize pervious areas for stormwater treatment and to infiltrate stormwater runoff from impervious areas including, but not limited to, driveways, sidewalks, rooftops, and parking lots to the maximum extent practicable;
- (e) Protect surface water conveyances and natural resource channels from degradation to the maximum extent practical. Stormwater discharges to critical areas with sensitive resources (i.e., wetlands, water supply reservoirs) may be subject to additional performance criteria;
- (f) Stormwater discharges from designated “hot spot” areas may require the application of additional measures including, structural best management and pollution prevention practices;
- (g) Land disturbance activity, construction, and the creation of impervious areas, whether by private or public action, shall be performed in a manner that will minimize to the maximum extent practicable adverse impacts to stormwater runoff quantity and quality;

- (h) Land disturbance activity, construction, and the creation of impervious areas shall not adversely impact existing private or public infrastructure, whether upstream or downstream. Existing stormwater conditions of adjacent areas shall be assessed in the stormwater management plan prior to the issuance of a land disturbance permit. The applicant or developer shall provide adequate stormwater infrastructure, stormwater storage facilities, and contribute a pro-rata share to mitigate down stream impacts associated with the proposed development;
  - (i) When an adverse existing or documented flood condition exists and a proposed development could potentially cause further adverse impacts to adjoining property owner(s), the City Engineer has the authority to condition approval of a land disturbance permit upon abatement of existing adverse conditions in the interest of public health and safety, including but not limited to, additional stormwater storage facilities.
- (3) Minimum design standards - Stormwater conveyance system.
- Stormwater conveyance systems including, but not limited to, open ditches, pipes, culverts, catch basins, drop inlets, and bridges shall be incorporated in the stormwater management plan in conjunction with minimum standards prescribed in this ordinance, and shall be designed by a civil engineer licensed in the State of Tennessee. Stormwater facilities constructed in conjunction with a proposed development or property improvements shall be an integral component of a stormwater management plan that shall be reviewed and approved by the City Engineer prior to issuance of a land disturbance permit. Stormwater hydrology and hydraulic calculations shall accompany the stormwater management plan and site plan.

The stormwater conveyance system design shall satisfy the minimum design standards:

- (a) Erosion, sedimentation, and stormwater control measures, pipes, structures, and devices shall be planned, designed, constructed, operated and maintained so as to provide effective soil erosion and stormwater control from the peak runoff rates. The stormwater system, excluding stormwater detention ponds, water quality control facilities and sinkholes, shall be designed to accommodate a ten (10) year return frequency twenty-four (24) hour duration storm, except for those facilities which would flood public roadway classified by the Tennessee Department of Transportation as a collector or arterials. Where warranted by local controlling factors, an alternative storm frequency shall be required;
- (b) In conjunction with Federal Emergency Management Agency (FEMA) requirements, stormwater receiving inlets shall not restrict the flow of floodwaters or increase flood heights. Stormwater culverts shall be designed for a one hundred (100) year flood frequency, when such culvert is located in a one hundred (100) year floodplain. Transportation facilities classified as a collector or arterial by the Tennessee Department of Transportation facility inventory shall utilize a fifty (50) year flood frequency for stormwater culvert design, and a ten (10) year flood frequency shall be

utilized for local transportation facilities. Although roadway overtopping will be allowed for 10 year and 50 year floods, the design shall be such that damage will not occur to the roadway or adjacent properties during a 100 year flood;

- (c) Stormwater swales shall be designed utilizing acceptable engineering principles and practices to accommodate a one hundred (100) year storm event and the design shall demonstrate that the stormwater swale at full capacity will not result in structural flooding of adjacent buildings and structures;
- (d) Stormwater site runoff calculations shall be developed utilizing the Rational Formula or the Natural Resource Conservation Service (NRCS, formerly the Soil Conservation Service) TR-55 method for watersheds of fifty (50) acres or less. For watersheds greater than fifty (50) acres, but less than two thousand (2000) acres, the NRCS TR-55 method shall be utilized. For watersheds greater than two-thousand (2000) acres, the flood frequency methodology utilized by the US Army Corps of Engineers shall be employed in the stormwater runoff calculations;
- (e) The minimum culvert size shall be fifteen (15) inch inside diameter with a maximum velocity not to exceed fifteen (15) feet per second. The maximum allowable slope of a culvert shall be fifteen (15) percent without pipe restraining methods utilized in the design and construction. Energy dissipaters shall be provided at the outlet end of all culverts;
- (f) Stormwater discharges and conveyances originating from storage facilities including, but not limited to, detention basin(s) must be routed to an existing natural or manmade stormwater channel. Hydraulic calculations utilizing the methodology of *Section 18-305, Subsection (3)(d)* shall demonstrate that the capacity of the receiving stormwater channel will accommodate a two (2) year and ten (10) year design flood event. The hydraulic calculations and stormwater runoff computations must extend at a minimum to the second downstream roadway crossing, or to a blue-line stream appearing on a United States Geological Society (USGS) map. Routing calculations must be extended further downstream, if the City Engineer or his representative has reasonable concern of adverse downstream impacts to public infrastructure or property;
- (g) Stormwater drainage culverts shall be installed on a uniform grade and with a compacted base. In the event rock is encountered in the culvert trench, the rock shall be removed four (4) inches below the site plan grade. Stormwater culverts shall be installed with the spigot end directed as the flow inlet with joints established utilizing manufacture's specifications, at a sufficient depth below the surface to ensure the culvert will not collapse, and in conjunction with specifications applicable to the product. The minimum depth of a culvert below a roadbed surface shall be one (1) foot. Roadway cross drains shall be of a minimum length to collect stormwater from the full roadway width, including shoulders and side slopes;

- (h) All stormwater conveyance structures, pipes, or culverts, located under roadways shall incorporate end walls, headwalls, concrete aprons, concrete wing walls, and/ or rip-rap rock as end treatment, as necessary, to prevent erosion;
  - (i) The designer shall incorporate stormwater collection structures to capture runoff from paved surfaces in all sag locations and other depressed areas to ensure positive drainage. Collection structures should be spaced so that the spread (width of stormwater) in roadway areas to collect the design flow shall not exceed six (6) feet;
  - (j) Inlet capacity at sags shall include provisions for debris blockage by providing twice the required operational flow. Where inlet conditions control the amount of flow that can pass through the culvert, improved inlets can greatly increase the hydraulic performance of a culvert and shall be required at the discretion of the City Engineer;
  - (k) Stormwater collection structures, manholes, and junction boxes shall consist of prefabricated reinforced concrete structures, cast in-place, or an approved equivalent. Stormwater collection or inlet structures shall conform to Tennessee Department of Transportation standards;
  - (l) Open stormwater conveyance channels, trenches, or ditches incorporated in the stormwater management plan shall include stabilization in accordance with *Section 18-305 Subsection (1)* to abate erosion within the channel;
  - (m) When necessary for proper stormwater conveyance, inlet and outlet ditches shall be provided at drainage structures. Minimum drainage easements shall be provided for residential subdivision developments in accordance with the *Cleveland Subdivision Regulations, Section 4.08B*, and incorporated on side and rear parcel lines. Where at all possible, primary stormwater conveyances shall be incorporated at the rear of the lot lines and not parallel to the roadway to avoid having oversized stormwater structures under driveway;.
  - (n) Plans and specifications for all retaining walls, cribbing, planting, anti-erosion devices, or other protective devices, whether temporary or permanent, to be constructed in conjunction with or as a part of the proposed development shall be included in the stormwater management plan. Retaining walls shall meet the requirements specified in section *18-305 subsection (8)* of this ordinance.
- (4) Stormwater detention design- minimum standards.  
 In the interest of public safety and stormwater quality, stormwater detention or retention shall be integrated into the stormwater management plans to abate increased peak stormwater runoff. The primary criteria in evaluating stormwater management plans and site designs shall be the comparison of pre-development site runoff and post-development site runoff. Other evaluation processes shall include an assessment of potential increase in stormwater flood height, the frequency of flooding, and the proximity to any structures. The

stormwater management plan shall utilize pervious areas for detention, stormwater treatment, allow infiltration of stormwater runoff, and comply with the following criteria:

- (a) Stormwater storage facilities with first flush water quality treatment shall be required for development meeting the following conditions:
  - (i) Commercial, industrial, educational, institutional and recreational developments consisting of one (1) acre or more of disturbed area;
  - (ii) Commercial, industrial, educational, institutional and recreational developments consisting of less than one (1) acre, that is part of a larger common plan of development;
  - (iii) Any project such as new development, re-development or property improvements which includes the addition of one-half (1/2) acre or greater of impervious area;
  - (iv) Residential development of four (4) acres or greater being developed.
- (b) When a proposed development or re-development does not exceed the criteria listed in *Section 18-305 Subsection (4)(a)*, the City Engineer shall have the authority to require stormwater storage detention or retention with first flush water quality treatment to prevent downstream flooding and damage.
- (c) All development or re-development meeting the criteria listed in *Section 18-305, Subsection (4)(a)* shall control the peak stormwater flow rates of the site stormwater discharges associated with design storms specified in *Section 18-305, Subsection (4)(e)(i)* and reduce the post construction stormwater runoff to pre-construction levels. All site development or re-development shall provide first flush discharge treatment or an acceptable alternative in accordance with stormwater quality standards.
- (d) The stormwater detention or retention storage requirements may be waived or modified if the following occurs:
  - (i) The peak runoff discharge from the site is mitigated by a regional detention stormwater facility or by off-site detention banking.
  - (ii) The applicant(s) licensed civil engineer shall demonstrate that installing the required on-site stormwater storage facility(s) is unwarranted, would not increase the potential for flooding hazards, and would not be in the best interest of the City of Cleveland. Hydrologic and hydraulic computations shall be submitted that utilizes accepted engineering practices to support such a conclusion. The primary occurrence of such conditions typically involves direct stormwater discharges into a main stream such as South Mouse Creek, Little Chatata, Candies Creek, and Fillauer Branch without flowing through a named creek or stream, through a public drainage system, or across a downstream property boundary, and is located in the very lowest downstream reaches of that watershed. It shall be determined by acceptable engineering principles and practices that post development stormwater should be released quickly to avoid the peak discharge timing for the entire watershed and not

increase the peak runoff rate for storm events identified in the design standards for storage in *Section 18-305 Subsection 4(e)(i)* of this ordinance. The hydrologic analysis for such demonstration shall include more than one representative downstream location for comparing hydrographs. Even if stormwater detention is waived for the above situation, the site development must provide first flush treatment or an acceptable alternative in order to protect water quality.

- (e) Detention structure design criteria. Standards governing drainage detention control shall comply with the following standards and specifications:
  - (i) All stormwater detention structures must detain the post development peak flow rates for two (2) year, five (5) year, ten (10) year, and twenty-five (25) year within a twenty-four (24) hour design storm frequency to discharge at or below pre-development peak flow rates and pass a one-hundred (100) year storm without damage to the facility or adjacent property. The first flush volume shall be sized to capture and slowly release the “first flush” of stormwater runoff, or the volume most likely to contain contaminants and particulate matter. The outlet structure design criteria shall include slow release of the first one-inch of runoff over a twenty-four (24) to seventy-two (72) hour period;
  - (ii) The required hydrologic and hydraulic computations shall be in accordance with Natural Resource Conservation Service (NRCS), formerly the Soil Conservation Service; unit hydrograph procedures using Antecedent Moisture Condition (AMC) II curve numbers and Type II rainfall distribution. All post development conditions must be routed to the maximum extent possible at time intervals of one-tenth (0.1 hour) through the detention pond utilizing hand calculations or computer models;
  - (iii) If hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the City Engineer shall impose any requirements deemed necessary to control the volume, timing, and rate of runoff in the interest of public safety;
  - (iv) The civil engineer representing the owner or developer is charged with determining the predevelopment conditions, including the curve number. If the engineer cannot determine the predevelopment conditions, then a maximum pre-development curve number of seventy (70) may be used to compute the predevelopment flow and satisfy the requirement. If the downstream system extending from the site to the second existing road crossing or blue line stream is examined and found to be adequate to carry the two (2) and ten (10) year storm events for a twenty-four (24) hour storm event, the requirement for detention for areas of redevelopment may be waived;
  - (v) Typical stormwater detention or storage facilities are dry detention basins, wet detention basins, retention basins, and constructed wetlands. All detention computations must use NRCS design methods with Type II twenty-four (24) hour storm and average antecedent moisture conditions;

- (vi) Detention facilities shall be designed and graded to allow access for maintenance personnel, maintenance vehicles, and equipment. The stormwater management plan shall incorporate a permanent drainage easement to provide access for future maintenance or repair, which shall be designated on the final recorded plat.
- (vii) The detention pond design shall incorporate a trash rack or trash collection appurtenance.

(5) Stormwater management plan requirements.

The stormwater management plan shall include site attributes to evaluate potential impacts of proposed developments and re-developments, both present and future, and the effectiveness of best management practices proposed for managing stormwater generated at the project site. To accomplish this goal the stormwater management plan shall include the following:

- (a) Topographic Base Map: A topographic base is required with a scale of not less than 1" = 100' that extends a minimum of one-hundred (100) feet beyond the limits of the proposed development and shall include:
  - (i) Existing surface water including, but not limited to, streams, ponds, culverts, ditches, sink holes, spring heads, wetlands;
  - (ii) Nearest existing upstream and downstream drainage structures with the information such as type, size, and invert elevations of the structures;
  - (iii) Existing and proposed contours at two (2) foot intervals with reference datum mean sea level;
  - (iv) Proposed stormwater conveyance systems, pipes, culverts, drainage channels, detention facilities, drainage swales, wetlands, berms, drainage structures, inlets, and manholes. Provide, as applicable, the invert elevations, top of structure elevations for structures, spot elevations, and percent grade for the drainage system.
  - (v) Design location of proposed stormwater storage facilities or conveyances including drainage channels, including sumps, basins, channels, culverts, ponds, storm, drains, and drop inlets;
  - (vi) Current land use including all existing structures, locations of utilities, roads, and easements;
  - (vii) Existing natural and artificial features;
  - (viii) Proposed land use with a tabulation of the percentage of surface area utilized for each ancillary use, show drainage patterns, locations of utilities, locations of roads and easements, and provide the limits of clearing and grading;
  - (ix) Proposed structural and non-structural best management practices;
  - (x) Existing and proposed building pad elevation(s) and roadway elevations if building construction is proposed;
  - (xi) A written description of the site plan and justification of proposed changes in natural conditions may also be required;
  - (xii) Plans and specifications for the proposed stormwater system, retaining walls, cribbing, planting, erosion control devices, whether temporary or permanent, to be constructed in conjunction with, or as a part of the proposed work shall

be required, with a map delineating the watershed and a statement explaining the amount of estimated runoff used to determine the design characteristics of any drainage device. The upstream watershed shall be considered in design calculations. If warranted, downstream stormwater system improvements may also be required to abate adverse impacts to existing infrastructure or structures.

- (xiii) Upon request a no-rise certificate shall be required by the City Engineer that is prepared in accordance with FEMA standards. The city of Cleveland has defined the one-hundred (100) year flood event as the base flood.
  
- (b) Calculations. Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms utilizing accepted engineering principles and practices. These calculations must show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this ordinance and meet the requirements of the City Engineer. Such calculations shall include:
  - (i) A description of the design storm frequency, duration, and intensity where applicable;
  - (ii) Time of concentration;
  - (iii) Soil curve numbers or runoff coefficients including assumed soil moisture conditions;
  - (iv) Peak runoff rates and total runoff volumes for each watershed area;
  - (v) Infiltration rates, where applicable;
  - (vi) Stormwater conveyance system capacities;
  - (vii) Flow velocities;
  - (xiii) Rate and volume of runoff data for the design storms events referenced in the best managements practices manual Section 18-305 subsection (1);
  - (ix) Documentation of sources for all computation methods and field test results.
  
- (c) Affidavit. When fragile, complex, or hazardous areas are present, including but not limited to, unstable slopes, uncontrolled fill, federal jurisdictional wetlands, or sinkholes, the City Engineer or Stormwater Engineer may require an affidavit executed by the owner and engineering representative that may include:
  - (i) Compaction report where a site is proposed to be filled and used for a building pad or roadway;
  - (ii) Soil engineering report, including data regarding the nature, distribution, strength of existing soils, conclusions, and recommendations for earthwork procedures;
  - (iii) Geology report, including a description of site geology, conclusions, and recommendations regarding the effect of geologic conditions on the proposed development.
  
- (d) Soils Information. If a stormwater best management practice is dependent on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles and soil survey reports.

- (e) Stream buffer zone. A water quality buffer zone is required along all perennial and intermittent streams, and wetlands. The stream buffer zone will be clearly identified on proposed site plans and stormwater management plans. A stream buffer area will be delineated on a proposed development with field stakes established at fifty (50) foot intervals on each side of the stream, channel or wetland. The stream buffer area metes and bounds shall be shown on the submitted plan. The stream buffer zone area will remain in tact, with no removal of vegetation, including upper and lower story vegetative canopy, during all phases of construction, unless otherwise approved in conjunction with recreational uses identified in the stormwater management plan or subdivision plat. The stream buffer zone will be segregated land disturbance activities conducted in accordance with an approved stormwater management plan. The identification of streams and wetlands shall be included in the stormwater management plan and determinations shall be determined by the Tennessee Department of Environment and Conservation.

The following standards shall apply to the development of stream buffer zones:

- (i) In areas where a floodway profile has been compiled and approved by the Federal Emergency Management Agency (FEMA) and reflected on flood insurance maps, the stream buffer zone shall be the width of the floodway plus a minimum of twenty (20) feet measured perpendicular from the floodway;
- (ii) In areas where a floodway profile has not been computed as part of the FEMA flood insurance program and the watershed above the proposed development is two-hundred (200) acres or less, the stream buffer zone shall be a minimum width of fifty (50) feet measured from the top of the bank on each side of the stream for all proposed development;
- (iii) In areas where a floodway profile has not been computed as part of the FEMA flood insurance program and the watershed above the proposed development is two-hundred (200) acres or greater, the owner or developer shall establish base flood elevations in accordance with FEMA standards that shall be developed by a Civil Engineer licensed in the State of Tennessee. The minimum elevation and setback of proposed structures located adjacent to unmapped watercourses shall be identified on the proposed subdivision plat or site plan and include the following certification by a Civil Engineer licensed in the State of Tennessee:

I \_\_\_\_\_ have made a flood hazard study of the proposed subdivision \_\_\_\_\_ and the watershed area above it and all affected lots within this subdivision area marked with a minimum building elevation. A benchmark of public record for a reference is noted on the plat, and established on the subdivision. Unmarked lots have been determined to not require a minimum building elevation due to their location and the existing structure design.

Seal:  
Name \_\_\_\_\_ P.E.# \_\_\_\_\_

The developer shall use the larger stream buffer width derived from the two methods stated above for a proposed development adjacent to watercourse or streams.

- (f) Maintenance Agreement Stormwater Storage Facilities. The developer or owner of real property that is served by an on-site or off-site storm water management facility, including stormwater storage facilities, shall be responsible for maintenance, repair, and operation during site development. The developer's responsibility will terminate after a two-year period from the issuance of a land disturbance permit upon satisfying two conditions: 1) successful completion of post construction in accordance with *Sections 18-306 and 18-307*, and 2) the sale or transfer of ownership of fifty-one percent (51%) of all parcels in the platted subdivision. As a precondition to any plat approval by the Planning Commission, all subdivision plats shall contain a "Stormwater Facility Maintenance Agreement", which shall include the provisions for future maintenance of the stormwater storage facility. As a general rule, this verbiage contained on the plat shall designate that all lot owners in the platted subdivision shall have an easement interest in the stormwater storage facilities for water runoff from all lots in the subdivision. This easement interest shall be designated upon the recorded plat. Private stormwater storage facilities shall be shown on the final recorded plat. Private storm water facilities shall include but are not limited to stormwater storage facilities, such as detention and retention ponds, structural and non-structural storm water treatment facilities and open channel conveyances that are not located within public right of ways.

The future maintenance, repair and operation of the private storm water facilities shall be the responsibility of all subdivision lot owners of record of those lots shown on the recorded plat. In the event, a subdivision is developed in phases then all subsequently developed lots in the subdivision shall share the same easement as those lot owners shown on the initial plat and/ or plats. It being the intent that all lot owners in any particular subdivision; whether in the initial or any later phase shall share equally in the easement rights in and to the stormwater storage facilities as well as sharing equally in the future maintenance and upkeep of the stormwater storage facilities. As an additional requirement to the approval of any plat, there shall be a stormwater storage basin easement shown on any recorded plat that contains a storm water detention basin. This stormwater detention basin easement shall be a twenty (20) foot access easement. This easement is for the purpose of allowing city engineering personnel, storm water inspectors, grading equipment operators, storm water monitoring personnel and/ or other necessary personnel to investigate, inspect, repair and/ or maintain the detention basin or storm water quality structure as needed to determine proper functioning, need for maintenance, maintenance and/ or other necessary repairs and/ or situations that may occur in times of emergency or urgent conditions. This twenty (20) foot access easement shall be shown on the recorded plat and shall be provided to and from storm water detention basins and shall abut on

a public right of way for at least twenty (20) feet and must be easily traversable by potential grading equipment (bulldozers and/ or back hoes) as well as those individuals noted above. This twenty (20) foot stormwater detention basin access easement area shall not contain any buildings or structures, large trees or heavy shrubbery, utility poles, manholes, overhead utility lines without adequate clearance, deep ditches or channels and/ or any other structures or items causing the storm water detention basin to be inaccessible. However, the property owner may plant small shrubs of little or no value that can be easily removed or cleared. The property owner may also place small fences in the area that can be easily removed; ideally any fence contained in this easement area shall contain a gate through the fence. Any structure located upon the stormwater detention basin access easement area must be portable and quickly and easily removable. The City of Cleveland shall not be responsible for damage to any structure, utilities or vegetation located within this storm water detention basin access easement area. The City of Cleveland and/ or its designated officials shall have access over and across this storm water detention basin easement as they deem the same necessary to inspect and /or maintain the storm water detention facility. The City of Cleveland shall not be responsible for the repair or replacement of structures, utilities and/ or vegetation located upon the storm water detention basin access easement area. This storm water detention basin easement area is normally intended for heavy equipment access rather than ordinary passenger vehicle access. A city stormwater inspector will normally gain access to the detention basin or water quality facility while parking nearby.

- (i) Division of tract into parcels for resale. For larger common plans of development, each parcel or lot served by a private stormwater storage facility shall have equivalent or proportioned easement ownership in stormwater facilities. This ownership of each private stormwater facility shall be equally appropriated by the recorded plat to each parcel of the larger common plan of development. Maintenance of private stormwater facilities serving multiple parcels shall be the cumulative responsibility of each parcel owner of record of any platted tract or lot in the subdivision. The final recorded subdivision plat shall reflect the easement ownership for each parcel in a larger common plan of development, whether residential, commercial, or industrial. The applicant for a land disturbance permit or owner of record shall present a final plat prior to recording as a final document that designates easement ownership of stormwater facilities to each parcel prior to recording as an official recorded Plat in the Bradley County Register of Deeds.
- (ii) Single tract of land. The maintenance of private stormwater facilities constructed in conjunction with development on a single tract shall be the responsibility of the owner by record. The final recorded plat shall identify all private stormwater storage facilities on the same parcel as the associated structure.
- (iii) The maintenance agreement shall:
  - (a) Provide for maintenance of stormwater facilities in accordance with

*Section 18-305 subsection (1);*

- (b) If private stormwater facilities are not properly maintained as set out herein, then the City of Cleveland shall require the subdivision parcel owners of record served to perform the maintenance and repair at the expense of parcel owners served by said facilities. The City reserves the right to conduct repair(s) of stormwater storage facilities, or may cause to be repaired, and to assess a lien on each individual subdivision parcel owners of record served by the private stormwater facilities. The maintenance agreement shall also provide that the City of Cleveland will be compensated for all expenses associated with performing the maintenance and repair of private stormwater storage facilities, including legal expenses, court costs and/or other expenses incurred in the repair and any associated legal action associated therewith. In the event legal action is deemed necessary by the City of Cleveland and in the event a judgment is rendered on behalf of the City of Cleveland, then the City shall be authorized to issue a lien against each subdivision parcel owner of record, which lien shall be a lien on their respected properties and/ or interests in the property.

(6) Sediment and Erosion Control Plan.

The sediment and erosion control plan shall satisfy best management practices adopted in *Section 18-305 subsection (1), and NPDES rules promulgated by the Tennessee Department of Environment and Conservation.*

(7) Sediment and erosion control plan requirements.

The applicant must prepare a sediment and erosion control plan for all land disturbance activities regulated in accordance with *Section 18-304, subsection (1)*. The sediment and erosion control plan shall accurately describe the potential for soil erosion and sedimentation resulting from land disturbing activity and incorporate BMP's appropriate to site conditions.

The length and complexity of the plan is to be commensurate with the land disturbance area, topography, and potential for off-site damage. The plan shall bear the seal of a registered professional engineer licensed in the State of Tennessee, and conform to standard adopted in *Section 18-305 subsection (1), and NPDES rules promulgated by the Tennessee Department of Environment and Conservation:*

- (a) Project Description - Briefly describe the intended project and proposed land disturbing activity including number of units and structures to be constructed and infrastructure required;
- (b) A topographic map with contour intervals of two (2) feet or less showing present conditions and proposed contours resulting from land disturbing activity;
- (c) All existing drainage ways, including intermittent and wet-weather. Include any designated floodways or flood plains;
- (d) A general description of existing land cover. Individual trees and shrubs do not need

to be identified;

- (e) Stands of existing trees as they are to be preserved upon project completion, specifying their general location on the property. Differentiation shall be made between existing trees to be preserved, trees to be removed and proposed planted trees. Tree protection measures must be identified, and the diameter of the area involved must also be identified on the plan and shown to scale. Information shall be supplied concerning the proposed destruction of exceptional and historic trees in setbacks and buffer strips, where they exist. Complete landscape plans may be submitted separately. The plan must include the sequence of implementation for tree protection measures;
- (f) Approximate limits of proposed clearing, grading, and filling;
- (g) Approximate flows of existing stormwater leaving any portion of the site;
- (h) A general description of existing soil types and characteristics and any anticipated soil erosion and sedimentation problems resulting from existing characteristics;
- (i) Location, size and layout of proposed stormwater and sedimentation control improvements;
- (j) Proposed drainage network;
- (k) Proposed drain tile or waterway sizes;
- (l) Approximate flows leaving site after construction and incorporating water run-off mitigation measures. The evaluation must include projected effects on property adjoining the site and on existing drainage facilities and systems. The plan must address the adequacy of outfalls from the development, when water is concentrated, what is the capacity of waterways, if any, accepting stormwater off-site; and what measures, including infiltration, sheeting into buffers, that are going to be used to prevent the scouring of waterways and drainage areas off-site, etc;
- (m) The projected sequence of work represented by the grading, drainage and sedimentation and erosion control plans as related to other major items of construction, beginning with the initiation of excavation and including the construction of any sediment basins or retention facilities or any other structural BMPs;
- (n) Specific remediation measures to prevent erosion and sedimentation run-off. Plans shall include detailed drawings of all control measures used, stabilization measures including vegetation and non-vegetation measures, both temporary and permanent, will be detailed. Detailed construction notes and a maintenance schedule shall be included for all control measures in the plan;

- (o) Specific details shall be provided for the construction of rock pads, wash down pads, and settling basins for controlling erosion; road access points, eliminating or keeping soil, sediment, and debris on streets and public ways at a level acceptable. Soil, sediment, and debris brought onto streets and public ways must be removed by the end of the work day by machine, broom or shovel. Failure to remove the sediment, soil or debris shall be deemed a violation of this ordinance;
  - (p) Proposed structures; location (to the extent possible) and identification of any proposed additional buildings, structures or development on the site;
  - (q) A description of on-site measures to be taken to recharge surface water into the ground water system through infiltration;
- (8) Retaining wall requirements.
- (a) Retaining walls located on private property shall be the responsibility of the applicant(s). The applicant(s) shall ensure that the retaining wall is properly constructed. The applicant(s) shall be responsible for maintenance and repairs of all retaining walls on their property. Applicants are not allowed to construct retaining walls of any size within public right-of-way or in areas that will be dedicated for public right-of-way.

To obtain a land disturbance permit for construction of retaining walls 4 feet or taller on private property, the following information must be submitted to the Engineering Division:

- (i) A plan sheet that includes existing and proposed contours of the wall, top elevation of the wall, drainage features, buildings, property lines, proposed wall locations, any public easements, parking facilities and streets.
- (ii) A typical wall section showing wall and footing dimensions, backfill slopes, finished grade elevations, steel reinforcement details, weephole locations, and subsurface drainage systems.
- (iii) Engineering calculations for the design of the wall, noting all assumptions such as concrete and steel reinforcement strengths, soil parameters, surcharges, bearing pressures, safety factors for bearing capacity, overturning and sliding. The minimum required factors of safety are: Bearing Capacity = 3.0, Overturning = 2.0, & Sliding = 1.5.
- (iv) All retaining wall plans, profiles, cross sections and calculations shall be prepared and sealed by a registered professional engineer licensed to practice in the state of Tennessee. The professional engineer must have sufficient education and experience to design a retaining wall that ensures the safety of the general public. The professional engineer shall also have complete control of all aspects of the design and preparation of plans and calculations. Approval of necessary plans and calculations will not transfer responsibility of the retaining wall design to the City of Cleveland.

The professional engineer shall be responsible for all aspects of the retaining wall

design. The use of standard designs from reputable manufacturers or from TDOT standard details are allowable and encouraged, but the professional engineer that stamps the drawings and computations are responsible for the retaining wall design. Inadequate information from geotechnical investigations and reports will not excuse the engineer's responsibility or liability.

**18-306            POST CONSTRUCTION-AS BUILT PLANS AND SITE STABILITZATION**

(1)    As built plans.

All persons or entities designated as having a valid land disturbance permit are required to submit actual as-built plans developed from field survey data at the post construction phase.

Two benchmarks of public record referenced to Tennessee State Plane Coordinates shall be identified on the as-built plans. The as-built plans shall include all stormwater structures and conveyances, roadways, and private stormwater storage facilities located on-site. The plan must show the final (actual) design specifications for all stormwater structures and roadway gutters and shall include a description of: 1) structure materials, 2) invert elevations, 3) structure dimensions shall include inside pipe diameter(s), 4) slope of stormwater conveyances and pipes, and the stream buffer metes and bounds. The stream buffer zone area will remain in tact, with no removal of vegetation, including upper and lower story vegetative canopy, during all phases of construction,. The as-built drawings must also include infrastructure to be accepted by the City of Cleveland and constructed as part of the development and/or redevelopment, including but not limited to curb and gutters, edge of pavement, and stormwater facilities. The as-built drawings must bear the seal by a Civil Engineer or registered licensed Surveyor in the State of Tennessee and submitted to the Engineering Division of the Department of Public Works in hard copy and electronic format compatible with AutoCAD or Micro station. A final post inspection will be conducted by the Engineering Division of the Department of Public Works prior to the release of the performance security or performance bond. The Engineering Division shall have the discretion to adopt provisions for a partial pro-rata release of the performance surety or performance bond on the completion of various stages of development. The performance value of mapping shall be held in abeyance until as-built drawings required under this provision are submitted and approved by the Engineering Division.

(2)    Post construction stabilization requirements.

(a)    Any area of land from which the natural vegetative cover has been either partially or wholly cleared by development activities shall be revegetated according to a the stormwater management plan approved by the Engineering Division of the Department of Public Works. Reseeding must be accomplished with an annual or perennial cover accompanied by placement of straw mulch or its equivalent to control erosion until such time as a vegetative cover is established over ninety percent (90%) of the seeded area.

(b)    The stormwater management plan shall include permanent stabilization in accordance with *Section 18-307*. In any event, establishing a vegetative cover on

denuded areas is a mandatory provision.

- (3) Records of installation and maintenance activities.  
The applicant for a land disturbance permit is responsible for the operation and maintenance of the stormwater facilities, and shall maintain records including the date(s) of installation, maintenance, and repairs to stormwater facilities.

## **18-307      POST CONSTRUCTION LANDSCAPING**

- (1) When required.  
A post construction stabilization and landscape plan shall be required for;
- (a) Proposed development requiring a land disturbance permit under the provisions of *Section 18-304, subsection (1)* with a land use designation or proposed land use of industrial, commercial, or multi-unit residential structures with a cumulative living area of five-thousand (5,000) square feet, or greater.
  - (b) Redevelopment and property improvements.
    - (i) Existing industrial, commercial, or multi-unit residential structures that are expanded by fifty-percent (50%), or greater;
    - (ii) The addition of parking spaces to serve an existing industrial, commercial, or multi-unit residential structure where the existing parking area is increased by twenty-five percent (25%), or greater.
- (2) Exemptions.  
The following land disturbance activity or development is exempt from the post construction landscape plan requirement of *Section 18-307*. An exemption of the post construction landscape provisions of *Section 18-307* does not constitute an exemption from the remaining provisions of this ordinance; such remaining provisions shall apply to all land disturbance activity identified in *Section 18-304, Subsection (1)* in accordance with the State of Tennessee NPDES MS4 Phase II Stormwater Permit issued to the City of Cleveland.

The following land disturbance activities are exempt from the provisions of *Section 18-307*:

- (i) Exempt from obtaining a land disturbance permit under the provisions of *Section 18-304, Subsection (2)*;
  - (ii) Single family residential parcels that are a part of a larger common plan of development (larger tract divided into parcels). Land disturbance permits in accordance with *Section 18-304, Subsection (1)* shall be required for parcels of a larger common plan of development in accordance with NPDES MS4 Phase II requirements;
  - (iii) Development in the Central Business District (CBD) zoning district.
- (3) Landscape plan requirements.  
The applicant for a land disturbance permit shall submit a post construction landscape plan in accordance with *Section 18-307, Subsection (1)*. The landscape plan shall be developed by a professional in accordance with rules promulgated by the State of Tennessee Board of

Architectural and Engineering Examiners, the landscape plan shall be prepared by a qualified registrant.

The landscape plan shall contain the following:

- (a) Plant Schedule. The plant schedule shall contain:
  - (i) Quantity of plant material;
  - (ii) Common and botanical name of plant material;
  - (iii) Size and spacing of landscape materials at time of planting;
  - (iv) General plant comments;
  - (v) Plant materials located in the public right-of-way;
  - (vi) Location and description of landscape improvements, including perimeter landscaping, landscaping within parking lots, and buffer zones if the parking area is two (2) or more acres, (the description shall include the size of the parking area and the actual percentage of the parking area used for landscaping);
  - (vii) Planting and installation details to ensure conformance with all required standards; and
  - (viii) Irrigation system details.
  
- (4) Landscape plan review procedures.
  - (a) The landscape plan will be reviewed by the Urban Forester in accordance with the provisions of *Section 18-304, Subsection (5)* of this ordinance.
  - (b) Alternative Landscaping Plan. Recognizing the need for diversified methods of landscaping, the applicant for a land disturbance permit may submit an alternative methods or materials to the Urban Forester to determine if the proposed alternative satisfies the provisions of this ordinance;
  - (c) Memorial Tree Fund. If an alternative landscape plan is not feasible as determined by the Urban Forester, and the applicant for a land disturbance permit is unable to achieve the intent of the landscape plan, the applicant may achieve the necessary equivalency in off-site landscaping in conjunction with the Memorial Tree Fund. The mitigation or exchange ratio shall be 2:1 calculated at the current fair market value to purchase plant materials, planting, and maintenance. Payments received for mitigation or off-site landscaping shall be deposited in the Memorial Tree Fund and shall be expended solely to landscape public properties and right-of-ways.
  
- (5) Landscape plan standards.
  - (a) A landscape plan shall include at a minimum:
    - (i) Plant materials approved by the Urban Forester;
    - (ii) Shade trees shall be a minimum of one and one-half (1 ½) inches in caliper, ornamental trees be a minimum of one and one-half (1 ½) inches in caliper,

- and evergreen trees shall be a minimum of six (6) feet in height;
- (iv) The owner shall ensure that planting areas, i.e., tree pits, hedge trenches, and shrub beds are excavated appropriately. Soil within the planting areas should be reasonably free of rock, debris, inorganic compositions and chemical residues. Plants shall rest on a well compacted surface;
- (v) Existing trees shall be preserved whenever feasible.
- (vi) Planting Areas shall be mulched to a thickness of three (3) to four (4) inch in depth and consist of bark, pine needles, or other suitable materials to cover the planting areas, remaining landscape areas shall be in grass or ground cover;
- (vii) Trees and shrubs shall not be located within a dedicated utility easement, whether private or public utilities.
- (viii) Landscape plans shall not include plant materials on the undesirable plant list. The Urban Forester and/or the Department of Community Development shall provide the undesirable plant list.

(b) Perimeter Landscaping.

- (i) Planting yards are required around the perimeter or an equivalent area of a development, with the exclusion egress for vehicles or pedestrians. Traffic considerations shall be paramount in perimeter landscaping.  
A Planting Yard shall be a minimum width of:  
five (5) feet for a parcel with a total area of two (2) acres or less,  
eight (8) feet for a parcel with a total area of two (2) acres, or greater.  
The width of perimeter planting yard may range from zero percent (0%) to two-hundred (200%) percent of the required minimum width along the perimeter, but the average width of the perimeter planting yard shall be at least the required minimum.
- (ii) Plantings yards shall be placed along the front, side and rear property lines, with traffic and safety considerations being paramount. A property bounded by two or more public right-of-ways has two or more front yards;
- (iii) Planting yards shall contain a number of shade trees equivalent to one (1) shade tree for each forty (40) linear feet of perimeter, excluding any vehicular access way. Ornamental trees may be substituted for up to forty percent (40%) of otherwise required shade trees. Shade trees shall not be planted under overhead utility lines. Landscaping trees shall be distributed along property lines; however, distribution is to be in accordance with design considerations particular to the site, such as screening, traffic site distance, safety, and aesthetics. In order to achieve equity in the number of shade trees required for development occurring on sites with equivalent areas, but with different perimeter lengths, the number of shade trees required for each forty feet of perimeter shall not exceed what would have been required had the site been a perfect square.
- (iv) Planting yards shall consist of diverse species of trees satisfying spacing criteria cited in this part, and shall incorporate shrubs at equal intervals planted between perimeter trees, subject to approval of the Urban Forester.

One tree species shall not comprise more than sixty percent (60%) of the total number of trees provided;

- (v) In the case of a larger common plan of industrial, commercial, or multi-unit residential structures resulting in multiple parcel of the same zoning classification, perimeter landscaping shall be limited to the larger tract prior to dividing into parcels.

(c) Landscaping parking areas – proposed development.

Proposed parking areas shall be effectively landscape islands with trees and shrubs to reduce adverse impacts of peak stormwater runoff from impervious areas. Development of lots of record in existence prior to the effective date of this ordinance which are being developed so as to be required to provide twenty (20) or fewer parking spaces, and which are not otherwise part of a larger common plan of development, are exempt from the parking area landscaping requirements of this subsection.

- (i) Proposed parking areas shall incorporate landscape islands to consist of a minimum of four percent (4%) of the total impervious area, exclusive of the building footprint area.
- (ii) Proposed parking areas with a single access aisle shall be designed and constructed with landscape islands dividing rows of parking spaces at increments of twenty (20) spaces. Off-street parking areas with multiple access aisles shall be designed and constructed with landscape islands dividing at least every twelve (12) parking spaces in a row. Landscape islands shall have a minimum width of eight (8) feet and shall have a minimum depth equal to the depth of the adjacent parking stall(s). Landscape island spacing criteria notwithstanding, the greater of five (5) or 20% of the required landscape islands may be combined with other islands or otherwise located around the parking lot or on its perimeter when necessary to accommodate other design considerations including, but not limited to, the location of handicapped parking, fire lanes, loading zones, and other site features. Each landscape island shall have at least one shade tree, except that an ornamental tree is to be substituted for the shade tree underneath an overhead power line, and three shrubs.
- (iii) Landscape islands shall be constructed to include a continuous curbing perimeter, and shall be back-filled with topsoil to a depth of eighteen (18) inches and shall be free of rock, debris, inorganic compositions, and chemical residues detrimental to plant life.
- (iv) The landscape requirements for parking lots are in addition to the requirements for buffer zones and perimeter landscaping.

(d) Landscape requirements for existing parking areas:

- (i) In parking areas subject to *Section 18-307 Subsection (1)(b)* trees shall be planted at the rate of one (1) shade tree per twelve (12) parking spaces;

- (ii) Trees shall be located within or adjacent to parking areas as tree islands, medians, at the end of parking bays, traffic delineators, or between rows or parking spaces in a manner;
- (iii) The landscape requirements for parking lots are in addition to the requirements for buffer zones and perimeter landscaping.

(6) Irrigation Requirement.

The post construction landscape plan shall identify irrigation measures to satisfy survival rate requirements.

- (a) Landscaping materials installed in accordance with an approved landscape plan shall be watered by one of the following methods:
  - (i) An above ground or under ground irrigation system; or
  - (ii) A hose attachment, within one-hundred (100) feet of all landscaping.
- (b) Landscape irrigation water shall supplement rainfall at a rate of one (1) inch per week during the growing seasons. Slow release (i.e. “treegators”) bags are recommended for supplemental watering.

(7) Landscape Installation.

Landscaping materials shall be installed in accordance with widely accepted professional planting procedures. Landscape materials, which fail to satisfy the minimum requirements or standards of this ordinance at the time of installation, shall be removed and replaced with acceptable materials.

(8) Maintenance Requirements-Warranty.

The applicant shall warranty plant material survival of ninety-percent (90%) for a two (2) year period consistent with an approved landscape plan.

**18-308            EXISTING LOCATIONS AND DEVELOPMENT**

(1) Requirements for existing locations and developments.

The following requirements shall apply to all locations and development at which land disturbing activities occurred previous to the enactment of this ordinance:

- (a) Denuded areas shall be vegetated or covered under the standards and best management provisions of *Section 18-305, Subsection (1)*, and in accordance with rules promulgated by the Tennessee Department of Environment and Conservation;
- (b) Cuts and slopes must be properly covered with appropriate vegetation, stabilization matting, or a retaining wall;
- (c) Stormwater conveyances shall be properly covered in vegetation or secured with stabilization matting to prevent erosion;

- (d) Trash, junk, rubbish, etc. shall be removed from stormwater conveyances;
- (e) Stormwater runoff shall be controlled to the maximum extent feasible to prevent pollution of surface waters. Such control measures may include, but are not limited to, the following:
  - (i) Ponds
    - (a) Detention pond
    - (b) Extended detention pond
    - (c) Wet pond
    - (d) Alternative storage measures
  - (ii) Constructed wetlands
  - (iii) Infiltration systems
    - (a) Infiltration/percolation trench
    - (b) Infiltration basin
    - (c) Drainage (recharge) well
    - (d) Porous pavement
  - (iv) Filtering systems
    - (a) Catch basin inserts/media filter
    - (b) Sand filter
    - (c) Filter/absorption bed
    - (d) Filter and buffer strips
  - (v) Open channel
    - (a) swale

(2) Requirements for existing locations.

The Stormwater Engineer, or designee of, shall notify in writing the owner(s) of record of existing locations of specific stormwater erosion, or sediment conditions, and provide specific actions required to correct those problems. The notice shall also specify a reasonable period of time to attain compliance, which shall not exceed twelve (12) months. Under conditions compromising public health or safety immediate mitigation of the existing locations shall occur.

(3) Inspection of existing facilities.

The Stormwater Engineer, or designee of, may to the extent mandated by state and federal law establish inspection programs to verify that stormwater management facilities, including those built before, as well as, after the adoption of this ordinance are functioning within design limits. The inspection programs may be established to meet at minimum the State requirements of the MS4 Phase II stormwater program requirements including: 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 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 the municipality's NPDES stormwater 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 material or water in drainage control facilities; and evaluating the condition of drainage control facilities and alternative best management practices.

- (4) Corrections of problems subject to appeal.  
Corrective measures imposed by the Stormwater Engineer under this section are subject to the appeals process contained in *Section 18-312*.

## **18-309      ILLICIT DISCHARGES**

- (1) General.  
This section shall apply to all water generated on developed or undeveloped land entering the municipality's separate storm sewer system.
- (2) Prohibition of illicit discharges.  
No person shall introduce or cause to be introduced into the municipal separate storm sewer system any discharge that is not composed entirely of stormwater. The commencement, conduct or continuance of any non-stormwater discharge to the municipal separate storm sewer system is prohibited except as described as follows:

Uncontaminated discharges from the following sources:

- (i) Water line flushing or other potable water sources,
- (ii) Landscape irrigation or lawn watering with potable water,
- (iii) Diverted stream flows,
- (iv) Rising ground water,
- (v) Groundwater infiltration to storm drains,
- (vi) Pumped groundwater,
- (vii) Foundation or footing drains,
- (viii) Crawl space pumps,
- (xi) Air conditioning condensation,
- (xii) Springs,
- (xiii) Non-commercial washing of vehicles,
- (xiv) Natural riparian habitat or wetland flows,
- (xv) Swimming pools (if dechlorinated-typically less than one PPM chlorine),
- (xvi) Fire fighting activities, and
- (xvi) Dye testing conducted in conjunction with the operation of water distribution and wastewater utilities.

- (3) Prohibition of illicit connections.
- (a) The construction, use, maintenance or continued existence of illicit connections to the separate municipal storm sewer system is prohibited.
  - (b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices

applicable or prevailing at the time of connection.

(4) Reduction of stormwater pollutants.

Any person responsible for a property or premises, which is, or may be, the source of an illicit discharge, may be required to implement, at the person's expense, the BMP's necessary to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section.

(5) Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting in, or may result in, illicit discharges or pollutants discharging into stormwater, or the municipal separate storm sewer system, the person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials the person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, the person shall notify the Department of Public Works Engineering Division Stormwater Office in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be entered in a telephone log maintained by the Engineering Division of the Department of Public Works-Stormwater Engineer. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained in accordance with NPDES requirements for the facility, or in accordance with the *Tennessee Water Quality Control Act* and/or any subsequent revisions as a matter of law.

**18-310            ENFORCEMENT AND COMPLIANCE**

(1) Enforcement authority.

It shall be unlawful for any person to violate the provisions of this ordinance or conduct operations that violate the terms of the *Tennessee Water Quality Control Act 69-3-101*. Under the provisions of *Tennessee Code Annotated 68-221-1106*, violations will be subject to enforcement action. The Engineering Division of the Department of Public Works-Stormwater Engineer and the Department of Community Development are authorized under the provisions of *Tennessee Code Annotated 68-221-1106* to conduct administrative enforcement and shall have the authority to issue notices of violation and citations.

(2) Notification of violation.

(a) **Written Notice.** Whenever the Stormwater Engineer or the Building Official, or designees of, determines that any permittee or any other person discharging stormwater has violated or is violating a provision of this ordinance, a permit, or

order issued hereunder, the Stormwater Engineer or the Building Official, or designees of, may serve upon such person written notice of the violation. Within ten (10) days of this notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted to the Stormwater Engineer. Submission of this plan in no way relieves the discharger of liability for any violations occurring before or after receipt of the notice of violation.

- (b) **Consent Orders.** The Stormwater Engineer with approval or concurrence of the Public Works Director is empowered to execute consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with the person responsible for the noncompliance. Such orders will include specific action to be taken by the person to correct the noncompliance within a time period also specified by the order. Consent orders shall have the same force and effect as administrative orders issued pursuant to paragraphs (d) and (e) below.
- (c) **Show Cause Hearing.** The Stormwater Engineer may order any person who violates this ordinance or permit or order issued hereunder, to show cause why a proposed enforcement action should not be taken. Notice shall be served on the person specifying the time and place for the meeting, the proposed enforcement action and the reasons for such action, and a request that the violator show cause why this proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least five (5) days prior to the hearing.
- (d) **Compliance Order.** When the Stormwater Engineer finds that any person has violated or continues to violate this ordinance or a permit or order issued hereunder, the Stormwater engineer may issue an order to the violator directing that, following a specific time period, adequate structures, devices, be installed or procedures implemented and properly operated. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the installation of structures and devices, self-monitoring, and management practices.
- (e) **Cease and Desist Orders.** When the Stormwater Engineer finds that any person has violated or continues to violate this ordinance or any permit or order issued hereunder, the Stormwater engineer may issue an order to cease and desist all such violations and direct those persons in noncompliance to:
  - (i) Comply forthwith; or
  - (ii) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations and terminating the discharge.

**18-311**      **PENALTIES**

- (1)      Violations.

Any person who shall commit any act declared unlawful under this ordinance, who violates any provision of this ordinance, who violates the provisions of any permit issued pursuant to this ordinance, or who fails or refuses to comply with any lawful communication or notice to abate or take corrective action by the Stormwater Engineer shall be guilty of a civil offense.

(2) Penalties .

Under the authority provided in *Tennessee Code Annotated 68-221-1106*, the municipality declares that any person violating the provisions of this ordinance may be assessed a civil penalty by administrative order signed by the Public Works director of not less than fifty dollars (\$50.00) and not more than five thousand dollars (\$5,000.00) per day for each day of violation. Each day of violation shall constitute a separate violation

(3) Measuring civil penalties.

In assessing a civil penalty, the Public Works Director with recommendations from the Stormwater Engineer shall consider:

- (a) The harm done to the public health or the environment, including the severity of the discharge and its effect upon public stormwater facilities and upon the quality and quantity of the receiving waters;
- (b) Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;
- (a) The economic benefit gained by the violator;
- (d) The amount of effort put forth by the violator to remedy this violation and the effectiveness of action taken by the violator to cease the violation;
- (e) Damages to the City, including compensation for the damage or destruction of public storm water facilities, and also including any penalties, costs and attorneys' fees incurred by the city as a result of the illegal activity, as well as the expenses involved in enforcing this ordinance and the costs involved in rectifying any damages;
- (f) The amount of penalty established by ordinance or resolution for specific categories of violations, if any;
- (g) The technical and economic reasonableness of reducing or eliminating the discharge;
- (h) The cause of the discharge or violation;
- (i) Any equities of the situation, which outweigh the benefit of imposing any penalty or damage assessment.

(4) Schedule of Civil Penalties and Enforcement protocol.

The Stormwater Regulations Board may establish by regulation a schedule of the amount of civil penalties which can be assessed by the Public Works director for certain specific violations or categories of violations. The Stormwater Regulations Board may also establish by regulation an enforcement protocol in order to assure fair and just enforcement to all parties involved and to provide adequate guidance to stormwater field personnel.

(5) Recovery of damages and costs.

In addition to the civil penalty in *Section 18-311, subsection (2)* above, the City of Cleveland may recover;

- (a) All damages proximately caused by the violator to the municipality, which may include any reasonable expenses incurred in investigating violations of, and attorney's fees and expenses in enforcement procedures associated with this ordinance, or any other actual damages caused by the violation.
  - (b) The costs of the municipality's maintenance of stormwater facilities when the user of such facilities fails to maintain them as required by this ordinance.
- (6) Other remedies.  
The City of Cleveland may institute civil proceedings in any court of competent jurisdiction seeking monetary damages for any damages caused to publicly owned stormwater facilities by any person, or to seek injunctive or other equitable relief to enforce compliance with the provisions of this ordinance or to enforce compliance with any consent order of the Public Works Director, the Stormwater Engineer, or the Stormwater Regulations Board.
- (7) Remedies cumulative.  
The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action that one (1) or more of the remedies set forth herein has been sought or granted.
- (8) Failure to appeal civil penalties or damage assessments.  
If an appeal to the stormwater regulations board is not filed within thirty (30) days after the date that a civil penalty or damage assessment has been served in any manner allowed by law, the violator shall be deemed to have consented to the civil penalty or damage assessment, and it shall become final. Whenever a damage assessment or civil penalty has become final because of a failure to appeal, and it has not been paid, the City may apply to the appropriate Chancery court for a judgment and seek execution of the judgment in any manner allowed by law. The Chancery Court, in such proceeding, shall treat the failure to appeal such damage assessment or civil penalty as a confession of judgment as provided in *Tennessee Code Annotated-68-221-1106*.

**18-312 STORMWATER REGULATIONS BOARD AND ADMINISTRATIVE APPEALS**

- (1) Board Established.  
There is hereby established a Board of five (5) members to be known as the "Stormwater Regulations Board."
- (2) Composition; terms; filling vacancies.  
The five (5) members of this board shall be appointed by the City Council. The City Council shall appoint members with the following qualifications: one (1) environmental engineer, environmental scientist, or environmental technician, one (1) attorney, one (1) person employed or retired from an industrial or commercial establishment regulated by this article, and two (2) persons that shall not have any particular qualifications, but to the extent practical shall be selected to maintain diversity on the board. Initial appointments are to be made for staggered terms as follows: two (2) seats for a term of one (1) year; two seats for a term of two (2) years; and one seat for a term of three (3) years. Subsequent appointments to

each seat are to be for terms of four (4) years. All members shall serve until their successor is appointed and all members shall serve at the pleasure of the City council. A member of the Stormwater Regulations Board may be removed from the board at any time by a majority vote of the City Council when it is demonstrated that such board member has a pattern of repeated absences from board meetings, or when such board member exhibits disregard for controlling state and federal laws and local ordinances, or when such board member fails to declare a conflict of interest in a given case and votes on the case. In the event of a vacancy, the City Council shall appoint a member to fill the unexpired term. The board members shall serve without compensation, but shall receive actual expenses incurred in attending meetings of the board and the performance of any duties as members of the board.

(3) General duties of the board.

The Board shall have the following duties and powers in addition to any other duties or responsibilities conferred upon the Board by this Ordinance.

- (a) To recommend from time to time to the City Council that it amend or modify the provisions of this Ordinance;
- (b) To hold hearings upon appeals from orders or actions of the Stormwater Engineer, the Public Works Director, or Building Official as may be provided under any provision of this Ordinance;
- (c) To hold hearings relating to the suspension, revocation, or modification of a stormwater discharge permit and issue appropriate orders relating thereto;
- (b) To hold hearings relating to an appeal concerning any civil penalty imposed under this Ordinance;
- (c) To hold such other hearings as may be required in the administration of this Ordinance and to make such determinations and issue such orders as may be necessary to effectuate the purposes of this Ordinance;
- (d) To request assistance from any officer, agent, or employee of the city and to obtain such information or other assistance as the board might need;
- (e) The board acting through its chairperson shall have the power to issue subpoenas requiring attendance and testimony of witnesses and the production of documentary evidence relevant to any matter properly heard by the board; and
- (f) The chairperson or vice chairperson shall be authorized to administer oaths to those persons giving testimony before the board.

(4) Election of Officers; Meetings; and Quorum.

The following constitutes rules and procedure for the Stormwater Regulations Board. The board may adopt such other rules and procedures as the board deems appropriate provided that such rules are consistent with procedures described herein.

- (a) Election of Officers. The board shall elect from among its own members a chairperson, and a vice-chairperson. Secretarial services shall be provided by the City of Cleveland in a manner to be prescribed by the City Manager.
  - (b) Initial meeting. Within thirty (30) days of the initial appointment of the board members, the board shall hold an initial meeting. At the initial meeting the board will elect officers as provided by this ordinance and review the general duties of the board identified in *Section 18-312 subsection 3*.
  - (c) Regular meetings. Regular meetings shall be held at a time and place chosen by the Stormwater Regulations Board. The board shall hold regular semiannual meetings and called meetings as the board may find necessary.
  - (d) Called Meetings. The chairperson or vice-chairperson or any two members may schedule a called meeting of the Stormwater Regulations Board as deemed necessary provided that advance notice is given to each board member at least forty-eight (48) hours prior to the commencement of the called meeting.
  - (e) Public Notice of Regular Meetings. Public notice of regular meetings shall be by publication in a newspaper of general circulation at least five (5) days in advance of the meeting with a general description of the agenda.
  - (f) Open Meetings. All meeting of the board shall be open to the public.
  - (g) Conduct of Meetings. The board shall generally conduct meetings in accordance with Robert's Rules of Order.
  - (h) Quorum and Voting. The presence of three (3) members of the Stormwater Regulations Board shall constitute a quorum. If the chairperson and vice-chairperson are absent from the meeting in which there is a quorum, the members present shall elect from among the board members present a chairperson of the meeting. If only three members are present and one cannot vote due to a conflict of interest on a particular item, the remaining two members shall constitute a quorum for the purpose of that item. In the event of a tie vote on any motion, the motion shall fail. A motion shall have passed upon the affirmative vote of a majority of the quorum of board members present and voting.
- (5) Variances.
- (a) General. The Stormwater Regulations Board may grant a variance from the requirements of this ordinance which would not result in the violation of any state or federal law or stormwater regulation consistent with the NPDES permit issued to the City of Cleveland, and if exceptional circumstances applicable to the site exist such that strict adherence to the provisions of this Ordinance will result in unnecessary hardship and will not result in a condition contrary to the intent of the ordinance.

- (b) Conditions for a variance. The minimum requirements for stormwater 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 and the applicant can satisfy *Section 18-312, Subsection (5) (c)*:
  - (i) It can be demonstrated that the proposed variance is not likely to impair attainment of the objectives of this ordinance.
  - (ii) Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the City Engineer.
  - (iii) Provisions are established to manage stormwater by an off-site facility. The off-site facility must be in place and designed to provide the level of stormwater control that is equal to or greater than that which would be afforded by on-site practices. Further, the facility must be operated and maintained by an entity that is legally obligated to continue the operation and maintenance of the facility.
  
- (c) Downstream damage and adverse impact prohibited. In order to receive a variance, the applicant must demonstrate utilizing sound engineering principals that the issuance of a variance will not lead to any of the following conditions downstream:
  - (i) Deterioration of existing culverts, bridges, dams, and other structures;
  - (ii) Degradation of biological functions or habitat;
  - (iii) Accelerated stream bank or streambed erosion or siltation;
  - (iv) Increased threat of flood damage to public health, life or property.
  
- (d) Variance request. The following procedures and information will be required prior to the Stormwater Regulations Boards consideration of a variance.
  - (i) A written petition for a variance shall be required and shall state the specific variance sought and the reasons, with supporting data, and provide specifics regarding valid reasons a variance should be granted. The petition shall include all information necessary to evaluate the proposed variance and shall be filed with the Stormwater Engineer.
  - (ii) The Stormwater Engineer shall conduct a review of the request for a variance within ten (10) working days after receipt and may either support the petition or may object to the petition. If the Stormwater engineer objects to the variance, the Stormwater engineer shall state the reasons.
  - (iii) Once the Stormwater Engineer’s review is complete or the ten (10) days for review have expired, the petition shall be subject to board action at the next regularly scheduled meeting or at a called meeting.
  
- (6) Administrative Appeals.  
 Pursuant to *Tennessee Code Annotated 68-221-1106, subsection (d)*, any person aggrieved by the imposition of an administrative civil penalty or damage assessment as provided by this

ordinance may appeal said administrative civil penalty or damage assessment to the Stormwater Regulations Board. Any person or entity aggrieved by any order or determination issued under this ordinance may appeal said order or determination to the Stormwater Regulations Board who shall review the order or determination reviewed under the provisions of this section.

- (a) Appeals must be in writing. All appeals must be in writing and filed with the Stormwater engineer and with the board chairperson. The appeal shall set forth with particularity the action or inaction complained of and the relief sought by the person filing said appeal. The chairperson may call a special board meeting upon the filing of such appeal. As such special meeting, the board may in its discretion suspend or stay the operation of any civil penalty, damage assessment, order or determination until such time as the board has conducted a public hearing on the appeal.
- (b) Deadline for appeal. All appeals must be filed within thirty (30) days after the civil penalty or damage assessment is served in any manner authorized by law. An appeal of any other order or determination issued under this ordinance shall be filed within thirty (30) days from the effective date of the order or determination.
- (c) Public hearing. Upon the receipt of an appeal to the Stormwater Regulations Board, the Board shall hold a public hearing within thirty (30) days. Five (5) days prior notice of the time, date, and location of said hearing shall be published in a daily newspaper of general circulation. Ten (10) days notice by registered mail or certified mail (return receipt requested) shall also be provided to the appealing party. This notice of hearing shall be sent to the address provided by the appealing party at the time of the filing of the appeal.
- (d) Record of appeal hearing. At any such hearing, all testimony presented shall be under oath or upon solemn affirmation in lieu of oath. The board shall make a record of such hearing, but the same need not be a verbatim record. Any party coming before the board shall have the right to have such hearing recorded stenographically at their expense, but in such event the record need not be transcribed unless any party seeks judicial review of the order or action of the board by common law writ of certiorari, and in such event the party seeking such judicial review shall pay for the transcript and provide the board with the original of the transcript so that it may be certified to the court.
- (e) Subpoenas. The chairperson may issue subpoenas requiring attendance and testimony of witnesses or the production of evidence, or both. A written request for the issuance of a subpoena must be filed with the chairperson by no later than seven (7) days prior to the scheduled hearing date. The written request for a subpoena must set forth the name and address of the party to be subpoenaed and it must identify with particularity any evidence to be produced by the witness. If a request for the issuance of a subpoena is timely, the chairperson shall issue the subpoena if the witness is a city resident. If the chairperson issues a subpoena, the same shall be delivered to the chief of police for service by any police officer of the city. If the

witness does not reside in the city, the chairperson shall mail a written notice to the witness requesting that the witness attend the hearing.

- (f) Depositions. Upon agreement of all parties, the testimony of any person may be taken by deposition or written interrogatories. Unless otherwise agreed, the deposition shall be taken in a manner consistent with Rules 26 through 33 of the Tennessee Rules of Civil Procedure, with the chairperson to rule on such matters as would require a ruling by the court under such rules.
- (g) Hearing procedure. The appealing party at a public hearing shall first call that party's witnesses; to be followed by witnesses called by other parties, to be followed by any witnesses that the board may desire to call. Rebuttal witnesses shall be called in the same order. The chairman shall rule on any evidentiary questions arising during such hearing and shall make such other rulings as may be necessary or advisable to facilitate an orderly hearing subject to approval of the board. The board, the Stormwater engineer, his or her representative, and all parties shall have the right to examine any witness. The board shall not be bound by the rules of evidence applicable to legal proceedings.
- (h) Appeals from a decision of the Stormwater Regulations Board. If a party is not satisfied with the decision of the Stormwater Regulations Board, they may appeal the decision of the Stormwater Regulations Board pursuant to the provisions of *Tennessee Code Annotated, Title 27, Chapter 8*. If an appeal of the decision of the Stormwater Regulations Board is not filed within the time allowed by law, the party shall be deemed to have consented to the decision of the Stormwater Regulations Board, and it shall become final. Whenever a damage assessment or civil penalty has become final because of a failure to appeal and it remains unpaid, the City may apply to the appropriate Chancery Court for a judgment and seek execution of the judgment in any manner allowed by law. The Chancery Court, in such proceeding, shall treat the failure to appeal such damage assessment or civil penalty as a confession of judgment as provided in *Tennessee Code Annotated 68-221-1106*.