



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)

Division of Water Resources
312 Rosa L. Parks Avenue, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

Application for a Qualifying Local Program (QLP) for Construction Site Stormwater Runoff

This form is required to be submitted when an operator of a Tennessee NPDES Municipal Separate Storm Sewer System (MS4) is applying for approval as a QLP related to stormwater discharges associated with construction activity.

PART I - ADMINISTRATIVE INFORMATION

Form section for administrative information including City of Cleveland, Name of MS4 (Municipality) Mayor Kevin Brooks, Name of Municipal Principal Executive Officer or Ranking Elected Official, Telephone, Mailing Address, Name of MS4 QLP Program Contact Person, and various checkboxes.

PART II - ATTACHMENT CHECKLIST

Attachment checklist table with four rows of items and checkboxes, such as 'Construction stormwater ordinance or regulatory mechanism for violations' and 'Construction site compliance inspection and documentation procedures'.

PART III - CERTIFICATION AND SIGNATURE OF RESPONSIBLE CORPORATE OFFICER

Certification and signature section including a statement of truth and accuracy, and three lines for Signature, Title (Mayor), and Date (10/26/2022).

## **List of Appendixes**

**Cleveland Stormwater Ordinance                      Appendix A**

**Cleveland Stormwater Management Plan      Appendix B**

**Level I and II Certifications                      Appendix C**

**Public Information/ Public Input Process      Appendix D**

**APPENDIX A**  
**Cleveland Stormwater Ordinance**

1st READING 6-26-17 pg. 434  
FINAL READING 7-10-17 pg. 543  
MINUTE BOOK # 28

**ORDINANCE NO: 2017-20**

**AN ORDINANCE OF THE CITY OF CLEVELAND AMENDING TITLE 18, CHAPTER 3, SECTIONS 18-301 THROUGH 18-314 OF THE CLEVELAND MUNICIPAL CODE PERTAINING TO THE CITY'S MS4 PHASE II STORMWATER MANAGEMENT PROGRAM**

**WHEREAS**, City development and engineering staff are recommending to the City Council that the City amend the City's MS4 Phase II Stormwater Management Program; and

**WHEREAS**, the City Council desires to amend the Program as recommended by City staff.

**NOW, THEREFORE BE IT ORDAINED** by the City Council of the City of Cleveland, Tennessee, in regular session assembled:

**Section 1:** Title 18, Chapter 1, Sections 18-301 through 18-314 of the Cleveland Municipal Code is hereby amended to read as follows:

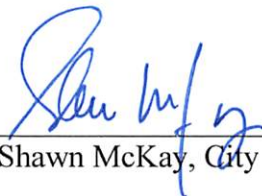
**THE TEXT OF SECTIONS 18-301 THROUGH THE APPENDIX BEGIN ON PAGE 2.**

**Section 2.** This ordinance shall take effect from and after its final passage, the public welfare requiring it.

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
John F. Kimball, City Attorney

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

  
\_\_\_\_\_  
Shawn McKay, City Clerk

# **MS4 PHASE II STORMWATER MANGEMENT PROGRAM**

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**18-301**            **CREATION, TITLE & SHORT TITLE**

The City of Cleveland, Tennessee created by Ordinance 2004-11 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, and is amended from time-to-time, particularly as necessary due to changes in NPDES requirements. This section may be referred to by its short title, the “Stormwater Ordinance”. (as added by Ord. #2004-41, Nov. 2004, and amended by Ord. #2015-06, March 2015).

**18-302**            **GENERAL PROVISIONS**

(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 development/redevelopment plans that will result in land disturbing activity.
  - (v)    Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities; and collect any fees approved by the City Council for permits or plans review pursuant to the stormwater

ordinance.

- (vi) Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit; and assess and collect administrative or civil penalties for violations of the stormwater ordinance.
- (vii) Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated.
- (viii) Enter contracts, expend funds, or otherwise employ available resources to remediate or mitigate the detrimental effects of contaminated land or other sources of stormwater contamination, whether public or private, or to carry out other responsibilities under the stormwater ordinance.

(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 Development and Engineering Services Department shall administer the provisions of this chapter;
- (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**

**(1) "Administrative of civil penalties" As defined in T.C.A. 69-3-103. Currently this means those penalties authorized by Tennessee Code Annotated, § 68-221-1106 for violations of the stormwater ordinance. The authorized penalty is not less than fifty dollars (\$50.00) and not more than five-thousand dollars (\$5000.00) per day for each day of violation.**

**(2) "As built plans" As defined in T.C.A. 69-3-103. Currently this means drawings developed from field survey data depicting conditions as they are actually constructed.**

**(3) "Best management practices" or "BMP's" As defined in T.C.A. 69-3-103. Currently this means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the state. BMP's also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material**

storage. To be considered as BMPs, the foregoing types of practices, procedures, prohibitions, requirements, etc., are to be those approved by the City of Cleveland and incorporated in the stormwater ordinance, whether fully set out herein or incorporated by reference.

(4) "Board" As defined in T.C.A. 69-3-103. Currently this means stormwater regulations board.

(5) "Borrow pit" As defined in T.C.A. 69-3-103. Currently this is an excavation from which erodible material (typically soil) is removed to be fill for another site. There is typically no processing or separation of erodible material conducted at the site. Given the nature of activity and pollutants present at such excavation, a borrow pit is considered a construction activity for the purposes of the application of the stormwater ordinance.

(6) "Buffer Zone" As defined in T.C.A. 69-3-103. Currently this means a setback from the top of water body's bank of undisturbed vegetation, including trees, shrubs and herbaceous vegetation; enhanced or restored vegetation; or the re-establishment of native vegetation bordering streams, ponds, wetlands, springs, reservoirs or lakes, which exists or is established to protect those water bodies. The goal of the water quality buffer is to preserve undisturbed vegetation that is native to the streamside habitat in the area of the project. Vegetated, preferably native, water quality buffers protect water bodies by providing structural integrity and canopy cover, as well as stormwater infiltration, filtration and evapotranspiration. Buffer width depends on the size of a drainage area. Streams or other waters with drainage areas less than 1 square mile will require buffer widths of 30 feet minimum. Streams or other waters with drainage areas greater than 1 square mile will require buffer widths of 60 feet minimum. The 60-foot criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location.

(7) "Building permit" As defined in T.C.A. 69-3-103. Currently this means written authorization issued by the City of Cleveland Development and Engineering Services Department for construction that pertains to building activities associated with a structure.

(8) "Building official" As defined in T.C.A. 69-3-103. Currently this 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.

(9) "Channel" As defined in T.C.A. 69-3-103. Currently this means a natural or artificial watercourse with a definite bed and banks that conveys water continuously or periodically.

(10) "City" As defined in T.C.A. 69-3-103. Currently this means the City of Cleveland, Tennessee.

(11) "City Engineer" As defined in T.C.A. 69-3-103. Currently this means a person employed by the City of Cleveland whose position title is "city engineer", "assistant city engineer", or some similar title, and who is licensed by the State of Tennessee as a professional engineer.



(12) "Common plan of development or sale" As defined in T.C.A. 69-3-103. Currently this is broadly defined as any announcement or documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may take occur on a specific plot. A common plan of development or sale identifies a situation in which multiple areas of disturbance are occurring in contiguous areas. This applies because the activities may take place at different times, on different schedules, by different operators.

(13) "Community water" As defined in T.C.A. 69-3-103. Currently this 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.

(14) "Contaminant" As defined in T.C.A. 69-3-103. Currently this means any physical, chemical, biological, or radiological substance or matter in water.

(15) "Design storm event" As defined in T.C.A. 69-3-103. Currently this means a hypothetical storm event, of a given frequency interval and duration, used in the analysis and design of a stormwater facility. The estimated design rainfall amounts, for any return period interval (i.e., 2-yr, 5-yr, 25-yr, etc.) in terms of either 24-hour depths or intensities for any duration, can be found by accessing the following NOAA National Weather Service Atlas 14 data for Tennessee: [http://hdsc.nws.noaa.gov/hdsc/pfds/pfds\\_map\\_cont.html?bkmrk=tn](http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=tn). Other data sources may be acceptable with prior written approval by TDEC Water Pollution Control.

(16) "Detention" As defined in T.C.A. 69-3-103. Currently this means the temporary delay of storm runoff prior to discharge into the natural receiving waters.

(17) "Developer" As defined in T.C.A. 69-3-103. Currently this 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.

(18) "Development" As defined in T.C.A. 69-3-103. Currently this means any alteration or modification to land improved or unimproved, including but not limited to, building construction, demolition, 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).

(19) "Development/Redevelopment plans" As defined in T.C.A. 69-3-103. Currently this means any drawing, sketch, or other document intended as the basis for a land disturbing permit or as a description of the work to be carried out as part of any development or land disturbing activity, or any plat or similar surveyor's drawing reflecting a subdivision or other dividing of land.

**(20) "Discharge"** As defined in T.C.A. 69-3-103. Currently this 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.

**(21) "Easement"** Currently this 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.

**(22) "Easement interest"** As defined in T.C.A. 69-3-103. Currently this 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.

**(23) "Engineer" or "professional engineer"** As defined in T.C.A. 69-3-103. Currently this means a person licensed by the State of Tennessee as a professional engineer.

**(24) "Erosion"** As defined in T.C.A. 69-3-103. Currently this 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 human activities or effects.

**(25) "Erosion prevention and sediment control plan (EPSCP)"** As defined in T.C.A. 69-3-103. Currently this means a written plan (including drawings or other graphic representations) that is designed to minimize the erosion and sediment runoff at a site during construction activities.

**(26) "Hotspot"** As defined in T.C.A. 69-3-103. Currently this means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. The following land uses and activities are deemed stormwater hot spots, but that term is not limited to only these land uses:

- (a) vehicle salvage yards and recycling facilities**
- (b) vehicle service and maintenance facilities**
- (c) vehicle and equipment cleaning facilities**
- (d) fleet storage areas (bus, truck, etc.)**
- (e) industrial sites (included on Standard Industrial Classification code list)**
- (f) marinas (service and maintenance)**
- (g) public works storage areas**
- (h) facilities that generate or store hazardous waste materials**

**(i) commercial container nursery**

**(j) restaurants and food service facilities other land uses and activities as designated by an appropriate review authority.**

**(k) ready mix facilities (concrete manufacturers)**

**(27) "Illicit connections" As defined in T.C.A. 69-3-103. Currently this means illegal and/or unauthorized connections to the municipal separate stormwater system whether or not such connections result in discharges into that system.**

**(28) " Illicit discharge" As defined in T.C.A. 69-3-103. Currently this means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater and not specifically exempted under §18-310(2).**

**(29) "Impaired waters" As defined in T.C.A. 69-3-103. Currently this 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.**

**(30) "Improved sinkhole" As defined in T.C.A. 69-3-103. Currently this is a natural surface depression that has been altered in order to direct fluids into the hole opening. Improved sinkhole is a type of injection well regulated under TDEC's Underground Injection Control (UIC) program. Underground injection constitutes an intentional disposal of waste waters in natural depressions, open fractures, and crevices (such as those commonly associated with weathering of limestone).**

**(31) "Inspector" As defined in T.C.A. 69-3-103. Currently this is an inspector is a person that has successfully completed (has a valid certification from) the "Fundamentals of Erosion Prevention and Sediment Control Level I" course or equivalent course. An inspector performs and documents the required inspections, paying particular attention to time-sensitive permit requirements such as stabilization and maintenance activities. An inspector may also have the following responsibilities:**

- (a) oversee the requirements of other construction-related permits, such as Aquatic Resources Alteration Permit (ARAP) or Corps of Engineers permit for construction activities in or around waters of the state;**
- (b) update field SWPPP's;**
- (c) conduct pre-construction inspection to verify that undisturbed areas have been properly marked and initial measures have been installed; and**
- (d) inform the permit holder of activities that may be necessary to gain or remain in**

compliance with the Construction General Permit (CGP) and other environmental permits.

(32) "Land disturbing activity" As defined in T.C.A. 69-3-103. Currently this 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.

(33) "Land disturbance permit" As defined in T.C.A. 69-3-103. Currently this means written authorization issued to an applicant to proceed with or conduct "land disturbing activity" with specific terms and conditions.

(34) "Maintenance" As defined in T.C.A. 69-3-103. Currently this 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.

(35) "Memorial tree fund" As defined in T.C.A. 69-3-103. Currently this 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.

(36) "Municipal separate storm sewer system " (MS4) As defined in T.C.A. 69-3-103. Currently this 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, and where the context indicates, it means the municipality that owns the separate storm sewer system.

(37) "National Pollutant Discharge Elimination System permit" or "NPDES permit" As defined in T.C.A. 69-3-103. Currently this means a permit issued pursuant to 33 U.S.C. 1342.

(38) "Off-site facility" As defined in T.C.A. 69-3-103. Currently this means a structural BMP located outside the subject property boundary described in the permit application for land development activity.

(39) "On-site facility" As defined in T.C.A. 69-3-103. Currently this means a structural BMP located within the subject property boundary described in the permit application for land development activity.

(40) "Peak flow" As defined in T.C.A. 69-3-103. Currently this means the maximum instantaneous rate of flow of water at a particular point resulting from a storm event.

(41) "Person" As defined in T.C.A. 69-3-103. Currently this 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 country.

(42) "Phasing" As defined in T.C.A. 69-3-103. Currently this 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.

(43) "Priority area" means "hot spot" As defined in T.C.A. 69-3-103.

(44) "Priority construction activity" As defined in T.C.A. 69-3-103. Currently this means those construction activities discharging directly into, or immediately upstream of, water the state recognizes as impaired (for siltation or habitat alteration) or Exceptional Tennessee Waters.

(45) "Private stormwater facilities" As defined in T.C.A. 69-3-103. Currently this 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 stormwater treatment, and conveyance systems.

(46) "Qualified contractor" As defined in T.C.A. 69-3-103. Currently this 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.

(47) "Redevelopment" As defined in T.C.A. 69-3-103. Currently this means the alteration of developed land that disturbs one acre or more, or less than an acre if part of a larger common plan of development, and increases the site or building impervious footprint, or offers a new opportunity for stormwater controls. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts.

(48) "Regional detention or retention facility" As defined in T.C.A. 69-3-103. Currently this 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.

(49) "Regional detention or retention banking" As defined in T.C.A. 69-3-103. Currently this 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.

(50) "Retention pond" As defined in T.C.A. 69-3-103. Currently this means artificial pond used to store or detain stormwater runoff to allow for settlement of suspended solids and

**biological treatment.**

**(51) "Runoff" As defined in T.C.A. 69-3-103. Currently this means that portion of the precipitation on a drainage area that is discharged from the area into the municipal separate stormwater system.**

**(52) "Sediment" As defined in T.C.A. 69-3-103. Currently this 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.**

**(53) "Sedimentation" As defined in T.C.A. 69-3-103. Currently this means soil particles suspended in stormwater that can settle in streambeds. Where sedimentation occurs to a sufficient extent it can disrupt the natural flow of the stream.**

**(54) "Soils Report" As defined in T.C.A. 69-3-103. Currently this means a study of soils on a subject property with the primary purpose of characterizing and describing the soils. The soils report shall be prepared by a qualified soils engineer, who shall be directly involved in the soil characterization either by performing the investigation or by directly supervising employees conducting the investigation.**

**(55) "Stabilization" As defined in T.C.A. 69-3-103. Currently this means providing adequate erosion control measures, vegetative and/or structural, such that erosion is prevented from occurring.**

**(56) "Start of construction" As defined in T.C.A. 69-3-103. Currently this means the first date that mechanized land disturbance is authorized to proceed under a land disturbance permit.**

**(57) "Stormwater" means stormwater runoff, snow melt runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration and drainage.**

**(58) "Stormwater program manager" or "Stormwater Coordinator" As defined in T.C.A. 69-3-103. Currently this means an employee of the City of Cleveland charged with the responsibility of implementing and enforcing the provisions of this ordinance.**

**(59) "Stormwater management" As defined in T.C.A. 69-3-103. Currently this means a program to maintain quality and quantity of stormwater runoff to pre-development levels.**

**(60) "Stormwater management facilities" As defined in T.C.A. 69-3-103. Currently this 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.**

**(61) "Stormwater management plan" As defined in T.C.A. 69-3-103. Currently this 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 predevelopment levels.

(62) "Stormwater Pollution Prevention Plan (SWPPP)" As defined in T.C.A. 69-3-103. Currently this means a written plan that includes site map(s), an identification of construction/contractor activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants. It must be prepared and approved before construction begins. In order to effectively reduce erosion and sedimentation impacts, Best Management Practices (BMP's) must be designed, installed, and maintained during land disturbing activities. The SWPPP should be prepared in accordance with the current Tennessee Erosion and Sediment Control Handbook. The handbook is intended for use during the design and construction of projects that require erosion and sediment controls to protect waters of the state. It also aids in the development of SWPPPs and other reports, plans, or specifications required when participating in Tennessee's water quality regulations. All SWPPP's shall be prepared and updated in accordance with Section 3 of the General NPDES Permit for Discharges of Stormwater Associated with Construction Activities.

(63) "Stormwater regulations board" As defined in T.C.A. 69-3-103. Currently this means a five (5)-member board appointed by the Cleveland City Council to serve in accordance with the terms of § 18-313.

(64) "Stormwater runoff" As defined in T.C.A. 69-3-103. Currently this means flow on the surface of the ground, resulting from precipitation.

(65) "Stream" As defined in T.C.A. 69-3-103. Currently this means a surface water that is not a wet weather conveyance.

(66) "Structural Best Management Practices (BMP's)" As defined in T.C.A. 69-3-103. Currently this means devices or facilities that are constructed to provide control of stormwater runoff.

(67) "Surface water" As defined in T.C.A. 69-3-103. Currently this includes waters upon the surface of the earth inbounds created naturally or artificially including, but not limited to, streams, other watercourses, lakes and reservoirs.

(68) "Urban forester" As defined in T.C.A. 69-3-103. Currently this means an employee of the City of Cleveland whose position title is "urban forester."

(69) "Watercourse" As defined in T.C.A. 69-3-103. Currently this means a manmade or natural hydrologic feature with a defined linear channel that discretely conveys flowing water, as opposed to sheet flow.

(70) "Watershed" means all the land area that contributes runoff to a particular point along a waterway. (as added by Ord. #2004-41, Nov. 2004, and amended by Ord. #2005-38, Oct. 2005)

**(71) “Waters of the state” or simply “Waters” As defined in T.C.A. 69-3-103. Currently this means any and all water, public or private, on or beneath the surface of the ground, that are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership that do not combine or effect a junction with natural surface or underground waters.**

**(72) “Wetland(s)” As defined in T.C.A. 69-3-103. Currently this means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.**

**(73) “Wet weather conveyances” As defined in T.C.A. 69-3-103. Currently these are man-made or natural watercourses, including natural watercourses that have been modified by channelization, that flow only in direct response to precipitation runoff in their immediate locality and whose channels are above the groundwater table and are not suitable for drinking water supplies; and in which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow, there is not sufficient water to support fish or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months. (Rules and Regulations of the State of Tennessee, Chapter 1200-4-3-.04(3)).**

#### **18-304      WAIVERS & ALTERNATIVES FOR COMPLIANCE**

- (1) General. No waivers will be granted for any new development or redevelopment subject to this ordinance. All new development construction and site work shall provide for stormwater management as required by this ordinance. However, alternatives to the 2010 NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems primary requirement for on-site permanent stormwater management may be considered, if:
  - (a) Management measures cannot be designed, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the first inch of every rainfall event preceded by 72 hours of no measurable precipitation. This first inch of rainfall must be 100% managed with no discharge to surface waters.
  - (b) It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this chapter. Alternative minimum requirements for on-site management of stormwater discharges have been established in a SWPPP that has been approved by the city.
- (2) Downstream damage, etc. prohibited. In order to receive consideration, the applicant must demonstrate to the satisfaction of the City of Cleveland Development and Engineering Services Department that the proposed alternative will not lead to any of the following conditions downstream:
  - (a) Deterioration of existing culverts, bridges, dams, and other structures;



- (b) Degradation of biological functions or habitat;
  - (c) Accelerated streambank or streambed erosion or siltation;
  - (d) Increased threat of flood damage to public health, life or property.
- (3) Grading permit not to be issued where alternatives requested. No grading permit shall be issued where an alternative has been requested until the alternative is approved. If no alternative is approved, the plans must be resubmitted with a SWPPP and/or stormwater management plan, which meets the primary requirement for on-site stormwater management.
- (4) Existing development to comply. All existing development shall comply with the stormwater management requirements of this ordinance that are applicable to such existing development.

**18-305      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 Pollution Prevention Plan approval from the City of Cleveland Development and Engineering Services Department. These requirements apply to all land development activities and the associated plan and permit review and approval processes including, but not limited to, site plan applications, subdivision applications, land disturbance applications and grading applications. Land disturbance permit coverage and SWPPP approval shall be obtained prior to conducting any land disturbing activity for which such permit coverage or SWPPP approval is required. These requirements apply to any new development or redevelopment site that meets one or more of the following criteria:

- (a) New development that involves any land development activity on any tract, lot, or parcel of land that is either of one (1) acre or more; or
- (b) Redevelopment that involves other land development activity of one (1) acre or more; or
- (c) New development or redevelopment that is part of a larger common plan of development encompassing one (1) acre or more. The larger common plan of development may or may not involve properties that are individually less than one acre and may involve multiple land disturbing activities carried out at different times on different schedules; or
- (d) Projects or developments of less than one acre of total land disturbance may also be required to obtain authorization under this ordinance if:
  - (i) the City of Cleveland Development and Engineering Services Department has determined that the stormwater discharge from a site is causing, contributing to, or is likely to contribute to a violation of a state water quality standard;
  - (ii) the City of Cleveland Development and Engineering Services Department has determined that the stormwater discharge is, or is likely to be a significant

contributor of pollutants to waters of the state; or

- (e) changes in state or federal rules require sites of less than one acre that are not part of a larger common plan of development or sale to obtain a stormwater permit; or
- (f) Any new development or redevelopment, regardless of size, that is defined by City of Cleveland Development and Engineering Services Department to be a hotspot land use; or
- (g) Land disturbing activity on a site of any size, if such activity is adjacent to an impaired stream appearing on the 303d list of the Tennessee Department of Environment and Conservation; or
- (h) 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.

Note: Any discharge of stormwater or other fluid to an improved sinkhole or other injection well, as defined, must be authorized by permit or rule as a Class V underground injection well under the provisions of Tennessee Department of Environment and Conservation (TDEC) Rules, Chapter 1200-4-6.

(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 in abeyance.

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 for a land disturbance permit:

- (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 City of Cleveland Development and Engineering Services Department authorizing the applicant to discharge stormwater associated with construction activity, if applicable;
  - (c) Approval of a SWPPP and post construction components from the City of Cleveland Development and Engineering Services Department consistent with *Sections 18-304 through 18-309* of this Ordinance;
  - (d) Attended a pre-construction conference with the City of Cleveland Development and Engineering Services Department to review implementation of an approved SWPPP in accordance with *Sections 18-304 through 18-309* 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 City of Cleveland Development and Engineering Services Department is 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 City of Cleveland Development and Engineering Services Department 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 18-305 Subsection (9)*;
- (ii) A SWPPP satisfying the provisions of *Section 18-306*;
- (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 18-307*;
- (iv) A post construction-landscape plan satisfying the provisions of *Section 18-308*, if applicable.

(5) Land Disturbance Permit application review procedures.

- (a) The City of Cleveland Development and Engineering Services Department 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 18-305, Subsection 4. Within 10 (ten) standard working days after receiving a completed land disturbance permit application and the plans required by Section 18-305, Subsection 4, the Engineering Division of the City of Cleveland Development and Engineering Services Department 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 City of Cleveland Development and Engineering Services Department has granted conditional approval of the permit, the applicant shall submit a revised SWPPP 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 Development and Engineering Services 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 18-313.

(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 SWPPP.

(7) Notice of construction and permit monitoring requirements.

The applicant shall notify the City of Cleveland Development and Engineering Services Department -Stormwater Coordinator ten (10) standard working days prior to the commencement of land disturbance activity approved in conjunction with a land disturbance permit and an approved stormwater pollution prevention plan. Quality assurance of erosion prevention and sediment controls shall be done by performing site assessment at a construction site. The site assessment shall be conducted at each outfall involving drainage totaling 10 or more acres or 5 or more acres if draining to an impaired or exceptional quality waters, within a month of construction commencing at each portion of the site that drains the qualifying acreage of such portion of the site. Site assessments must be performed in accordance with the current Construction General Permit (CGP). The applicant for a land disturbance permit shall provide erosion and sediment control site inspections on a frequency of two inspections per week and following each rain event of one-half (1/2) inch or greater in accordance with an approved stormwater pollution prevention plan and with the current CGP. 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 City of Cleveland Development and Engineering Services Department -Stormwater Coordinator shall make available to the applicant inspection reporting forms that shall be submitted by the applicant monthly to the Stormwater Coordinator, 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:

- (a) The date and location of the inspection;
- (b) Indicate if the land disturbance activity is being conducted in accordance with the approved stormwater pollution prevention plan;
- (c) Variations from the approved construction specifications;
- (d) 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 18-305 Subsection (1)*:

Land Disturbance Permit Fees

Residential Lot-Single Family Residence (less than one acre)	\$20
Multi-unit Residential, Commercial, and Industrial Development:	
Less than 1 acre	\$50
Equal to or greater than 1 acre and less than 5 acres	\$250
Equal to or greater than 5 acres and less than 20 acres	\$1,000
Equal to or greater than 20 acres and less than 50 acres	\$3,000
Equal to or greater than 50 acres and less than 150 acres	\$6,000
Equal to or greater than 150 acres	\$10,000

*Note: All Primary Operators must submit an NOI for CGP coverage. There are two types of Primary Operators (Initial and Subsequent). Initial Primary Operators are those that submit a SWPPP for the entire proposed larger common plan of development or sale. Their fee is determined by the acreage of the site. The \$100 fee category applies to subsequent Primary Operators. This fee is to cover administrative costs associated with updating and tracking permit coverage for subsequent Primary Operators.*

For Construction General Permit (CGP) Activities that exceed one year under general permit coverage the following fees will be applied

Equal to or greater than 1 acre and less than 5 acres	\$125
Equal to or greater than 5 acres and less than 20 acres	\$500
Equal to or greater than 20 acres and less than 50 acres	\$1,000
Equal to or greater than 50 acres and less than 150 acres	\$2,000
Equal to or greater than 150 acres	\$3,750

For sites that require an Inspection and Maintenance agreement the registration fee is \$12.00 for the first two sheets and \$5.00 for each additional sheet.

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 SWPPP 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 18-307*.
- (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 18-307, 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 SWPPP satisfying *Section 18-306*, 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.

**18-306      STORMWATER POLLUTION PREVENTION PLAN DESIGN STANDARDS**

(1) Stormwater quality best management practices manual.

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:

- (a) “Tennessee Department of Environment and Conservation Sediment and Erosion Control Handbook”; or
- (b) “Tennessee Permanent Stormwater Management and Design Guidance Manual”, or
- (c) The Nashville-Davidson County Metro Stormwater Management Manual (BEST MANAGEMENT PRACTICES (BMP) MANUAL - Volume 4) also known as the MS4 BMP Manual; most current edition.

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

(2) Land development.

This section shall be applicable to all land development, including, but not limited to, site plan applications, subdivision applications, land disturbance applications and grading applications. These standards apply to any new development or redevelopment site that meets one or more of the following criteria:

- (a) New development or redevelopment that involves land development activities of one (1) acre or more;
- (b) Projects or developments of less than one acre of total land disturbance may also be required to obtain authorization under this ordinance if:
  - (i) the City of Cleveland Development and Engineering Services Department has determined that the stormwater discharge from a site is causing, contributing to, or is likely to contribute to a violation of a state water quality standard;
  - (ii) the City of Cleveland Development and Engineering Services Department has determined that the stormwater discharge is, or is likely to be a significant contributor of pollutants to waters of the state;
  - (iii) changes in state or federal rules require sites of less than one acre that are not part of a larger common plan of development or sale to obtain a stormwater permit;
  - (iv) Any new development or redevelopment, regardless of size, that is defined by the City of Cleveland Development and Engineering Services Department to be a hotspot land use; or
  - (v) Minimum applicability criteria set forth in item (a) above if such activities are part of a larger common plan of development, even multiple, that is part of a separate and distinct land development activity that may take place at different times on different schedules.

Note: Any discharge of stormwater or other fluid to an improved sinkhole or other injection well, as defined, must be authorized by permit or rule as a Class V underground injection well under the provisions of Tennessee Department of Environment and Conservation (TDEC) Rules, Chapter 1200-4-6.

(3) Submittal of a copy of the NOC, SWPPP and NOT to the local MS4

Permittees who discharge stormwater through an NPDES-permitted municipal separate storm sewer system (MS4) who are not exempted in section 1.4.5 (Permit Coverage through Qualifying Local Program) of the Construction General Permit (CGP) must provide proof of coverage under the Construction General Permit (CGP); submit a copy of the Stormwater



Pollution Prevention Plan (SWPPP); and at project completion, a copy of the signed Notice of Termination (NOT) to the City of Cleveland Development and Engineering Services Department. Permitting status of all permittees covered (or previously covered) under this general permit as well as the most current list of all MS4 permits is available at the TDEC's Data Viewer web site.

Copies of additional applicable local, state or federal permits (i.e.: ARAP, etc.) must also be provided upon request. If requested, these permits must be provided before the issuance of any land disturbance permit or the equivalent.

In the event the City of Cleveland becomes a Qualified Local Program (QLP) the following will apply:

- a. The SWPPP is required for obtaining QLP Permit coverage for sites with a disturbed area greater than one acre. A SWPPP shall present in detail the best management practices that will be employed to minimize erosion and control sedimentation.
- b. The plan shall be sealed in accordance with the Tennessee Construction General Permit.
- c. Best management practices presented in the plan shall conform to the requirements found in the Tennessee Erosion & Sediment Control Handbook, and shall meet or exceed the requirements of the Tennessee Construction General Permit.
- d. The plan shall include measures to protect legally protected state or federally listed threatened or endangered aquatic fauna or flora or critical habitat (if applicable).
- e. The plan submitted shall be subject to any additional requirements set forth in the city's subdivision regulations, zoning ordinance, erosion and sediment control policy and any other applicable city regulations.
- f. Riparian buffer zones shall meet the requirements both in accordance with the Tennessee Construction General Permit and with the Buffer Zone requirements of this ordinance.
- g. Construction of the site in accordance with the approved plan must commence within one year from the approval date of the stormwater pollution prevention plan, or the stormwater pollution prevention plan will become null and void and the plan must be resubmitted for approval.
- h. Stormwater pollution prevention plans shall include the components required by the Tennessee Construction General Permit and any other information

deemed necessary by the Stormwater Coordinator.

(4) Stormwater Pollution Prevention Plan (SWPPP) for Construction Stormwater Management:

The applicant must prepare a stormwater pollution prevention plan for all construction activities that complies with subsections (5-7) below and with the SWPPP requirements in the construction general permit (CGP). The purpose of this plan is to identify construction/contractor activities that could cause pollutants in the stormwater, and to describe measures or practices to control these pollutants during project construction. Additional requirements for discharges into impaired or exceptional Tennessee waters that are set forth in the Tennessee Construction General Permit shall be implemented for all priority construction activities. The Stormwater Coordinator, at his or her discretion, may require BMPs that conform to a higher than minimum standard for priority construction activities, or for exceptional Tennessee waters or where deemed necessary.

(5) Stormwater Pollution Prevention Plan requirements.

- (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.
  - (i) Design location of proposed stormwater storage facilities or conveyances including drainage channels, including sumps, basins, channels, culverts, ponds, storm, drains, and drop inlets;
  - (ii) Current land use including all existing structures, locations of utilities, roads, and easements;
  - (iii) 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 18-306 subsection (1);
  - (ix) Documentation of sources for all computation methods and field test results.
  - (x) Stormwater discharges from new development and redevelopment sites must be managed such that post development hydrology does not exceed the pre development hydrology at the site.
- (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 Coordinator 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) Buffer Zone (*Section 18-303 Subsection (6)*). 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 SWPPP's. 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 intact, 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 SWPPP or subdivision plat. The stream buffer zone will be segregated land disturbance activities conducted in accordance with an approved SWPPP. The identification of streams and wetlands shall be included in the SWPPP and determinations shall be performed by a Qualified Hydrologic Professional.

#### Buffer Zone Requirements

- (i) "Construction" applies to all streams adjacent to construction sites, with an exception for streams designated as impaired or Exceptional Tennessee waters, as designated by the Tennessee Department of Environment and Conservation. A 30-foot natural riparian buffer zone adjacent to all streams at the construction site shall be preserved, to the maximum extent practicable, during construction activities at the site. The water quality buffer zone is required to protect waters of the state located within or immediately adjacent to the boundaries of the project, as identified using methodology from Standard Operating Procedures for Hydrologic Determinations (see rules to implement a certification program for Qualified Hydrologic Professionals, TN Rules Chapter 0400-40-17). Buffer zones are not primary sediment control measures and should not be relied on as such. Rehabilitation and enhancement of a natural buffer zone is allowed, if necessary, for improvement of its effectiveness of protection of the waters of the state. The zone requirement only applies to new construction sites. The riparian buffer zone should be preserved between the top of stream bank and the disturbed construction area. The 30-foot criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum

width of the buffer zone is more than 15 feet at any measured location.

Buffer zone requirements for discharges into impaired or Exceptional Tennessee waters

A 60-foot natural riparian buffer zone adjacent to the receiving stream designated as impaired or Exceptional Tennessee waters shall be preserved, to the maximum extent practicable, during construction activities at the site. The water quality buffer zone is required to protect waters of the state (e.g., perennial and intermittent streams, rivers, lakes, wetlands) located within or immediately adjacent to the boundaries of the project, as identified on a 7.5-minute USGS quadrangle map, or as determined by the director. Buffer zones are not sediment control measures and should not be relied upon as primary sediment control measures. Rehabilitation and enhancement of a natural buffer zone is allowed, if necessary, for improvement of its effectiveness of protection of the waters of the state. The buffer zone requirement only applies to new construction sites. The riparian buffer zone should be established between the top of stream bank and the disturbed construction area. The 60-foot criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location.

- (ii) “Permanent” new development and significant redevelopment sites are required to preserve water quality buffers along waters within the MS4. Buffers shall be clearly marked on site development plans, Land Disturbance Permit applications, and/or concept plans. Buffer width depends on the size of a drainage area. Streams or other waters with drainage areas less than 1 square mile will require buffer widths of 30 feet minimum. Streams or other waters with drainage areas greater than 1 square mile will require buffer widths of 60 feet minimum. The 60-foot criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location.
  
- (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 18-307 and 18-308*, 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 18-306 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 18-306 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;

- r. Specific remediation measures of how litter, construction debris, concrete truck washout, and construction chemicals exposed to stormwater shall be picked up prior to anticipated storm events or before being carried off of the site by wind (e.g., forecasted by local weather reports), or otherwise prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, daily pick-up, etc.). After use, materials used for erosion prevention and sediment control (such as silt fence) should be removed or otherwise prevented from becoming a pollutant source for stormwater discharges.

(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.

(9) General design performance criteria for permanent stormwater management:

The provisions of this subsection, section 18-306 (9) shall become effective from and after January 1, 2020.

The following performance criteria shall be addressed for permanent stormwater management at all development sites:

- a. Site design standards for all new and redevelopment require, in combination or alone, management measures shall be designed in accordance with the Tennessee Permanent Stormwater Management and Design Guidance Manual, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the first inch, or known as the first flush, of every rainfall event preceded by 72 hours of no measurable precipitation. This first inch of rainfall must be 100% managed with no discharge to surface waters.
- b. Limitations to the application of runoff reduction requirements include, but are not limited to:
  - i. Where a potential for introducing pollutants into the groundwater exists, unless pretreatment is provided;
  - ii. Where pre-existing soil contamination is present in areas subject to contact with infiltrated runoff;
  - iii. Presence of sinkholes or other karst features.
- c. Pre-development infiltrative capacity of soils at the site must be taken into account in selection of runoff reduction management measures.
- d. Incentive Standards for re-developed sites: a 10% reduction in the volume of rainfall to be managed for any of the following types of development. Such credits are additive such that a maximum reduction of 50% of the standard in the paragraph above is possible for a project that meets all 5 criteria:

- i. Redevelopment;
  - ii. Brownfield redevelopment;
  - iii. High density (>7 units per acre);
  - iv. Vertical Density, (Floor to Area Ratio (FAR) of 2 or >18 units per acre); and
  - v. Mixed use and Transit Oriented Development (within ½ mile of transit).
- e. For projects that cannot meet 100% of the runoff reduction requirement unless subject to the incentive standards, the remainder of the stipulated first flush amount of rainfall must be treated prior to discharge with a technology documented to remove 80% total suspended solids (TSS) unless an alternative provided under this ordinance is approved. The treatment technology must be designed, installed and maintained to continue to meet this performance standard.
  - f. For projects that cannot meet 100% of the runoff reduction requirements, the City of Cleveland Development and Engineering Services Department may allow runoff reduction measures to be implemented at another location within the same USGS 12-digit hydrologic unit code (HUC) as the original project. Off-site mitigation must be a minimum of 1.5 times the amount of water not managed on site. The off-site mitigation location (or alternative location outside the 12-digit HUC) and runoff reduction measures must be approved by the City of Cleveland Development and Engineering Services Department. The City of Cleveland Development and Engineering Services Department shall identify priority areas within the watershed in which mitigation projects can be completed. The City of Cleveland Development and Engineering Services Department must create an inventory of appropriate mitigation projects, and develop appropriate institutional standards and management systems to value, evaluate and track transactions. Mitigation can be used for retrofit or redevelopment projects, but should be avoided in areas of new development.
  - g. To protect stream channels from degradation, specific channel protection criteria shall be provided as prescribed in the MS4 BMP manual.
  - h. Stormwater discharges to critical areas with sensitive resources (i.e., cold water fisheries, shellfish beds, swimming beaches, recharge areas, water supply reservoirs) may be subject to additional performance criteria, or may need to utilize or restrict certain stormwater management practices.
  - i. Stormwater discharges from hot spots may require the application of specific structural BMP's and pollution prevention practices. In addition, stormwater from a hot spot land use may not be infiltrated.

- j. Prior to or during the site design process, applicants for land disturbance permits shall consult with the City of Cleveland Development and Engineering Services Department to determine if they are subject to additional stormwater design requirements.
- k. The calculations for determining peak flows as found in section 18-306, subsection 12 shall be used for sizing all stormwater facilities.

(10) Permanent Stormwater management plan requirements.

The stormwater management plan shall include sufficient information to allow the City of Cleveland Development and Engineering Services Department to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater generated at the project site. To accomplish this goal the stormwater management plan shall include the following:

- (a) Topographic base map: Topographic base map of the site which extends a minimum of 100 feet beyond the limits of the proposed development and indicates:
  - (i) Existing surface water drainage including streams, ponds, culverts, ditches, sink holes, wetlands; and the type, size, elevation, etc., of nearest upstream and downstream drainage structures;
  - (ii) Current land use including all existing structures, locations of utilities, roads, and easements;
  - (iii) All other existing significant natural and artificial features;
  - (iv) Proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the limits of clearing and grading.
- (b) Proposed structural and non-structural BMP's;
- (c) A written description of the site plan and justification of proposed changes in natural conditions may also be required;
- (d) Calculations: Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in the MS4 BMP manual. These calculations must show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this chapter and the guidelines of the MS4 BMP manual. 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. Culvert, stormwater sewer, ditch and/or other stormwater conveyance capacities;

- vii. Flow velocities;
- viii. Data on the increase in rate and volume of runoff for the design storms referenced in the MS4 BMP manual; and
- ix. Documentation of sources for all computation methods and field test results.

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

(11) Maintenance and repair plan:

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

(12) 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 SWPPP 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 SWPPP 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 SWPPP 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 18-306, Subsection (12)(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 SWPPP shall include stabilization in accordance with *Section 18-306 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 SWPPP. Retaining walls shall meet the requirements specified in *section 18-306 subsection (8)* of this ordinance.



(13) Stormwater detention design- minimum standards.

In the interest of public safety and stormwater quality, stormwater detention or retention shall be integrated into the SWPPP's to abate increased peak stormwater runoff. The primary criteria in evaluating SWPPP's 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 SWPPP shall utilize pervious areas for detention, stormwater treatment, allow infiltration of stormwater runoff, and comply with the following criteria:

- (a) Stormwater storage facilities with 1" 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) The 1" first flush amount of rainfall must be treated prior to discharge with a technology documented to remove 80% total suspended solids (TSS) unless an alternative provided under this ordinance is approved. The treatment technology must be designed, installed and maintained to continue to meet this performance standard.
- (c) When a proposed development or re-development does not exceed the criteria listed in *Section 18-306 Subsection (13)(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.
- (d) All development or re-development meeting the criteria listed in *Section 18-306, Subsection (13)(a)* shall control the peak stormwater flow rates of the site stormwater discharges associated with design storms specified in *Section 18-306, Subsection (13)(f)(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.
- (e) 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 18-306 Subsection 13(f)(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.
  
- (f) 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.
  - (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 SWPPP 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.

**18-307            PERMANENT STORMWATER MANAGEMENT: OPERATION, MAINTENANCE, AND INSPECTION.**

- (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 management facilities, 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 City of Cleveland Development and Engineering Services Department 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 City of Cleveland Development and Engineering Services Department 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. In addition, occupation permits shall not be granted until corrections to all BMP's have been made and accepted by the city.

(2) Landscaping and stabilization requirements.

- a) Any area of land from which the natural vegetative cover has been either partially or wholly cleared by development activities shall stabilize. Stabilization measures shall be initiated as soon as possible in portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed not later than 15 days after the construction activity in that portion of the site has temporarily or permanently ceased. In the following situations, temporary stabilization measures are not required:
  - (i) where the initiation of stabilization measures is precluded by snow cover or frozen ground conditions or adverse soggy ground conditions, stabilization measures shall be initiated as soon as practicable; or
  - (ii) where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 15 days.
- b) Permanent stabilization with perennial vegetation (using native herbaceous and woody plants where practicable) or other permanently stable, non-eroding surface shall replace any temporary measures as soon as practicable. Unpacked gravel containing fines (silt and clay sized particles) or crusher runs will not be considered a non-eroding surface.
- c) The following criteria shall apply to revegetation efforts:
  - (i) Reseeding must be done with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until such time as the cover crop is established over ninety percent (90%) of the seeded area.
  - (ii) Replanting with native woody and herbaceous vegetation must be accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.
  - (iii) Any area of revegetation must exhibit survival of a minimum of seventy-five percent (75%) of the cover crop throughout the year immediately following revegetation. Revegetation must be repeated in successive years until the minimum seventy-five percent (75%) survival for one (1) year is achieved.
  - (iv) In addition to the above requirements, a landscaping plan must be submitted with the final design describing the vegetative stabilization and management techniques to be used at a site after construction is completed. This plan will explain not only how the site will be stabilized after construction, but who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved.

- (3) Inspection of stormwater management facilities. Periodic inspections of facilities shall be performed, documented, and reported in accordance with this chapter, as detailed in section 18-309.
- (4) Records of installation and maintenance activities. Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation of the stormwater facility, and of all maintenance and repairs to the facility, and shall retain the records for at least three (3) years. These records shall be made available to the city during inspection of the facility and at other reasonable times upon request.
- (5) Failure to meet or maintain design or maintenance standards. If a responsible party fails or refuses to meet the design or maintenance standards required for stormwater facilities under this chapter, the city, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the city shall notify in writing the party responsible for maintenance of the stormwater management facility. Upon receipt of that notice, the responsible person shall have thirty (30) days to effect maintenance and repair of the facility in an approved manner. In the event that corrective action is not undertaken within that time, the city may take necessary corrective action. The cost of any action by the city under this section shall be charged to the responsible party.

**18-308            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 18-305, 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 18-308*. An exemption of the post construction landscape provisions of *Section 18-308* 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 18-305, 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 18-308*:

- (i) Exempt from obtaining a land disturbance permit under the provisions of *Section 18-305, 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 18-305, 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 18-308, 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 18-305, 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 18-308 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.

**18-309            EXISTING LOCATIONS AND ONGOING DEVELOPMENTS**

(1) On-site stormwater management facilities maintenance agreement:

(a) Where the stormwater facility is located on property that is subject to a development agreement, and the development agreement provides for a permanent stormwater maintenance agreement that runs with the land, the owners of property must execute an inspection and maintenance agreement that shall operate as a deed restriction binding on the current property owners and all subsequent property owners and their lessees and assigns, including but not limited to, homeowner associations or other groups or entities.

(b) The maintenance agreement shall:

(1) Assign responsibility for the maintenance and repair of the stormwater facility to the owners of the property upon which the facility is located and be recorded as such on the plat for the property by appropriate notation.

(2) Provide for a periodic inspection by the property owners in accordance with the requirements of subsection (5) below for the purpose of documenting maintenance and repair needs and to ensure compliance with the requirements of this ordinance. The property owners will arrange for this inspection to be conducted by a registered professional engineer licensed to practice in the State of Tennessee, who will submit a signed written report of the inspection to the City of Cleveland Development and Engineering Services Department. It shall also grant permission to the city to enter the property at reasonable times and to inspect the stormwater facility to ensure that it is being properly maintained.

(3) Provide that the minimum maintenance and repair needs include, but are not limited to: the removal of silt, litter and other debris, the cutting of grass, cutting and vegetation removal, and the replacement of landscape vegetation, in detention and retention basins, and inlets and drainage pipes and any other stormwater facilities. It shall also provide that the property owners shall be responsible for additional maintenance and repair needs consistent with the needs and standards outlined in the MS4 BMP manual.

(4) Provide that maintenance needs must be addressed in a timely manner, on a schedule to be determined by the City of Cleveland Development and Engineering Services Department.

(5) Provide that if the property is not maintained or repaired within the prescribed schedule, the City of Cleveland Development and Engineering Services Department shall perform the maintenance and repair at its expense, and bill the same to the property owner. The maintenance agreement shall also provide that the City of Cleveland Development and Engineering Services Department's cost of performing the maintenance shall be a lien against the property.

(2) Existing problem locations – no maintenance agreement.

(a) The City of Cleveland Development and Engineering Services Department shall in writing notify the owners of existing locations and developments of specific drainage, erosion or sediment problems affecting or caused by such locations and developments, and the specific actions required to correct those problems. The notice shall also specify a reasonable time for compliance. Discharges from existing BMP's that have not been maintained and/or inspected in accordance with this ordinance shall be regarded as illicit.

(b) Inspection of existing facilities. The city may, to the extent authorized by state and federal law, enter and inspect private property for the purpose of determining if there are illicit non-stormwater discharges, and to establish inspection programs to verify that all stormwater management facilities are functioning within design limits. These inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type 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 city'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 other BMP's.

(3) Owner/Operator Inspections - generally. The owners and/or the operators of stormwater management practices shall:

(a) Perform routine inspections to ensure that the BMP's are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at a site. Owners or operators shall maintain documentation of these inspections. The City of Cleveland Development and Engineering Services Department may require submittal of this documentation.

(b) Perform comprehensive inspection of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect, licensed in the State of Tennessee. Complete inspection reports for these five year inspections shall include:

- (i) Facility type,
- (ii) Inspection date,
- (iii) Latitude and longitude and nearest street address,
- (iv) BMP owner information (e.g. name, address, phone number, fax, and email),
- (v) A description of BMP condition including: vegetation and soils; inlet and outlet channels and structures; embankments, slopes, and safety benches; spillways, weirs, and other control structures; and any sediment and debris accumulation,
- (vi) Photographic documentation of BMP's, and
- (vii) Specific maintenance items or violations that need to be corrected by the BMP owner along with deadlines and reinspection dates.

(c) Owners or operators shall maintain documentation of these inspections. The City of Cleveland Development and Engineering Services Department may require submittal of this documentation.

(4) Requirements for all existing locations and ongoing developments. The following requirements shall apply to all locations and development at which land disturbing activities have occurred previous to the enactment of this ordinance:

(a) Denuded areas must be vegetated or covered under the standards and guidelines specified in 18-307 (2)(c)(i), (ii), (iii) and on a schedule acceptable to the City of Cleveland Development and Engineering Services Department.

(b) Cuts and slopes must be properly covered with appropriate vegetation and/or retaining walls constructed.

(c) Drainage ways shall be properly covered in vegetation or secured with rip-rap, channel lining, etc., to prevent erosion.

(d) Trash, junk, rubbish, etc. shall be cleared from drainage ways.

(e) Stormwater runoff shall, at the discretion of the City of Cleveland Development and Engineering Services Department be controlled to the maximum extent practicable to prevent its pollution. Such control measures may include, but are not limited to, the following:

- (i) Ponds
    - (1) Detention pond
    - (2) Extended detention pond
    - (3) Wet pond
    - (4) Alternative storage measures
  - (ii) Constructed wetlands
  - (iii) Infiltration systems
    - (1) Infiltration/percolation trench
    - (2) Infiltration basin
    - (3) Drainage (recharge) well
    - (4) Porous pavement
  - (iv) Filtering systems
    - (1) Catch basin inserts/media filter
    - (2) Sand filter
    - (3) Filter/absorption bed
    - (4) Filter and buffer strips
  - (v) Open channel
    - (1) Swale
- (5) Corrections of problems subject to appeal. Corrective measures imposed by the Stormwater Coordinator under this section are subject to appeals process under section 18-313.

**18-310      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 City of Cleveland Development and Engineering Services Department Stormwater Division 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 City of Cleveland Development and Engineering Services Department Stormwater Division. 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.

**18-311**            **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. City of Cleveland Development and Engineering Services Department 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 Coordinator 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 Coordinator 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 Coordinator. 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 Coordinator with approval or concurrence of the Development and Engineering Services 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 Coordinator 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 Coordinator 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 Coordinator 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.

### **18-312      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 Coordinator 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 Development and Engineering Services 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 Development and Engineering Services Director with recommendations from the Stormwater Coordinator 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 Development and Engineering Services 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 18-312, 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 Development and Engineering Services Director, the Stormwater Coordinator, 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*.

### **18-313     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 Coordinator, the Development and Engineering Services 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 18-313 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 SWPPP 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 Coordinator.
  - (ii) The Stormwater Coordinator 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 Coordinator objects to the variance, the Stormwater Coordinator shall state the reasons.
  - (iii) Once the Stormwater Coordinator'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 Coordinator 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*.

**18-314**    **APPENDIX**

- (1) As-built agreement form.



Project Title: \_\_\_\_\_

Tax Map-Group-Parcel \_\_\_\_\_

### Agreement

This agreement is entered into in accordance with the provisions of the City of Cleveland's Stormwater Management Program codified as Sections 18-301 through 18-313 of the City of Cleveland's Municipal Code.

The undersigned \_\_\_\_\_ is the Developer of a Tract of land as shown and described on the attached Exhibit A. The property shall be referred to herein as "the Property."

Developer agrees that this agreement shall be and is binding upon the undersigned developer, his or her heirs, assigns and successors in interest. Developer, his or her heirs, assigns and successors in interest are collectively referred to herein as "Developer".

**As Built Drawings.** In compliance with Section 18-306 of the Cleveland Municipal Code, Developer agrees to provide as built drawings of the stormwater infrastructure associated with the proposed development on the Property. Developer understands and agrees that Developer is responsible to provide a cost estimate for the cost of these as built drawings. This cost estimate must be provided at the time this agreement is executed. Developer will not be able to obtain a land disturbance permit until this cost estimate has been provided to the City. Developer understands and agrees that this written estimate must bear the seal of a licensed Tennessee Civil Engineer or the seal of a licensed Tennessee surveyor.

The as built drawings shall be provided to the City of Cleveland by Developer upon completion of post construction site stabilization as defined in Section 18-306 of the Cleveland Municipal Code. If Developer fails to provide the as built drawings to the City within 30 days after completion of post construction site stabilization as defined in Section 18-306 of the Cleveland Municipal Code, then Developer is in default under this agreement. The City will notify the Developer of this Default and give Developer 30 days to cure the Default. If the Default is not cured within 30 days after notice to the Developer, then the City will have the right to hire a licensed Tennessee Surveyor to provide the as built drawings to the City. If the City is forced to hire a surveyor to provide the as built drawings due to the Developer's default, Developer will be obligated to pay the City an amount equal to twice the City's cost in obtaining the as built drawings. In addition, the Developer will be responsible for the City's attorneys fees and litigation expenses should the City be required to hire an attorney to enforce the City's rights under this agreement.





**Post Construction Site Stabilization.** In compliance with Section 18-306 of the Cleveland Municipal Code, the Developer further agrees to complete post construction site stabilization on the Property. If the Developer fails to comply with this provision, the Developer will be subject to enforcement action under Section 18-310 of the Cleveland Municipal Code.

**Post Construction Landscape Plan.** If applicable, Developer further agrees to provide a post construction landscape plan in accordance with the provisions of Section 18-307 of the Cleveland Municipal Code. If the Developer fails to comply with this provision, the Developer will be subject to enforcement action under Section 18-310 of the Cleveland Municipal Code.

The undersigned understands and agrees that this Agreement and ultimately the overall Application for a Land Disturbance permit shall be subject to the acceptance, amendment and/or rejection by the City Engineer.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

DEVELOPER

By: \_\_\_\_\_

Title: \_\_\_\_\_

STATE OF TENNESSEE)  
COUNTY OF BRADLEY)

Before me personally appeared \_\_\_\_\_, to me known to be the person(s) described herein (or proved to me on the basis of satisfactory evidence) and who executed the foregoing instrument, and acknowledge the execution of the same as his/ her free act and deed.

WITNESSED by me this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_\_\_\_.

\_\_\_\_\_  
*NOTARY PUBLIC*

My commission expires: \_\_\_\_\_.

## **APPENDIX B**

### **Cleveland Stormwater Management Plan**

**City of Cleveland  
Stormwater Management Plan  
October 2012**

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## **Introduction**

The purpose of the following sections outlines the City of Cleveland's plan to meet the requirements of the TDEC Phase 2 MS4 permit, effective April 19, 2011. This is the City of Cleveland's comprehensive stormwater management plan (SWMP) to meet the Stormwater Management Plan required by Section 4.1 of the MS4 permit.

### **The City of Cleveland MS4 Phase II Permit**

In 1999, the Environmental Protection Agency (EPA) adopted regulations for phase II urban areas having a total population of at least 50,000 and a density of 1,000 people per square mile. The City of Cleveland prepared the required Tennessee Department of Environment and Conservation (TDEC) notice of intent to obtain coverage under a general National Pollutant Discharge Elimination System (NPDES) permit for Municipal Separate Storm Sewer System (MS4) discharges. In February 2003, TDEC issued a general NPDES permit for 84 municipalities in Tennessee required to operate MS4 Phase II programs which included the City of Cleveland.

The original NPDES permit governing the stormwater program operations of Cleveland had a definitive beginning date of February 2003 and expiration date of February 2008. The first permit term for MS4 Phase II municipalities was dedicated to phasing in or starting the local stormwater programs. Upon expiration of the NPDES permit, TDEC revised and modified the permit conditions to satisfy the Clean Water Act (CWA) requirements, and from 2008 to 2010 the City of Cleveland operated under the original permit. The second permit started in spring 2011 and will expire fall 2015.

The NPDES permit for each entity has six program areas and, each area has approximately four tasks. The City of Cleveland combined the first two program areas into the Public Education and Public Participation Program to reduce the amount of duplicated reports. In addition to the permit tasks, there are also requirements related to the presence of 303d streams that require mandated inspections of all construction activity on a once per month frequency. The permit tasks were phased in annually through 2007 and became a permanent or reoccurring part of the MS4 Phase II program. Below are the five program areas listed in the City's permit:

1. Public Education and Public Participation
2. Illicit Discharge Detection and Elimination
3. Construction Site Runoff Program
4. Permanent (Post-Construction) Stormwater Management Program
5. Municipal Pollution Prevention and Good Housekeeping

The following is a description of each of the five program areas and their task.

## **BMP 1: Public Education and Public Participation**

The new permit requires the MS4 to implement a Public Education and Outreach Program along with a Public Involvement/ Participation Program. The City of Cleveland combined these programs into the Public Education and Public Participation Program to reduce the amount of duplicated reports. Along with the below BMP's the City has developed a Public Information and Education (PIE) Plan can is attached as an appendix. The Public Education part of the program will focus on impacts of the stormwater discharges to water bodies and the steps that the public (along with the commercial, industrial, or institutional entities) can take to reduce pollutants in stormwater runoff. The program must target specific pollutants and sources that may cause or contribute to impairment. For example, in certain areas known as hot spots, the MS4 must focus education and outreach on those particular pollutants of concern. Some educational programs can lend themselves to water quality improvements. MS4's are encouraged to pursue those programs and document related or expected water quality improvements.

The Public Participation part of the program shall comply with all applicable state and local public notice requirements. Elements of the program may include participation in local stormwater management work groups, public notices of MS4 meetings and public hearings, recruiting education volunteers, and involving the public with program coordination, detection of illicit discharges and monitoring efforts. The program shall encourage and promote citizen reporting of illegal spillage, dumping, or otherwise illicit disposal of materials into the MS4 system.

### **1A: Update and Recreate the City of Cleveland Stormwater Website**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

During the first year the goal will be to develop a new stormwater website that is up to date and contains current ordinances and events for the month. It will be the responsibility of the stormwater staff to update the website as needed throughout the permit year. The second goal is to develop a City of Cleveland Stormwater logo and graphic design for the website and to be use on other outreach materials. Adding a complaint tracking feature to the website will be the goal of the third year. The stormwater staff will continue to evaluate and update the site format as needed during the last two years of the permit.

### **1B: Stormwater Education in Public Schools/ Project WET of Tennessee**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The City of Cleveland stormwater staff will partner with Bradley County Water Quality and Hamilton County Water Quality to hold two training classes a year. City staff will promote and help host these two events each year of the permit. The Project WET curriculum has been approved by the City of Cleveland Schools and will be the bases of the training classes. The goal for attendance will be forty teachers total for each class.

**1C: Stormwater Education Materials**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal of the stormwater staff will be to develop and distribute stormwater education materials such as construction guidance documents, brochures, flyers, press releases, and to continue to participate in Waterworks for state wide stormwater education campaign. During the first year of the permit the goal will be to have four distributions. During the remaining four years of the permit the goal will be to have six distributions. The stormwater staff will continue to evaluate and update all documents, brochures, and flyers as to their effectiveness and make changes as necessary.

**1D: Promote Hazardous Waste Collection Day**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal of the stormwater staff is to partner with Keep America Beautiful of Cleveland/ Bradley County to provide public outreach for Hazardous Waste Collection Day and the connection of water quality and inappropriate waste disposal. City of Cleveland stormwater staff will evaluate and continue the outreach for each of the five permit years.

**BMP 2: Illicit Discharge Detection and Elimination**

The goal of these minimum control measures is to raise awareness of the citizens and the staff of the City of Cleveland that the storm sewer system is not a treated sewer and drains to the creeks and rivers and the need to eliminate illicit discharges. Along with public awareness the stormwater staff will track and inspect any reports of illicit discharges.

**2A: Conduct Stormwater Board Public Meetings**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The Stormwater Board will meet as needed to hear appeals and /or variance requests. These board meetings will continue for each of the five permit years.

**2B: Hold Community Activity Day**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal of the stormwater staff is to partner with Cleveland CDBG to hold a community activity day and to educate the community about the forms of illicit discharge and who to report it to. During the first year stormwater staff is to partner with Cleveland CDBG to

plan booths for the event. The second permit year will be for building the booths and games for the fair. The goal for the third year will be to secure sponsors from the community for door prizes and booth giveaways. The fourth year would be to finalize the preparations. The goal for the fifth year will be to hold the fair.

**2C: Stormwater Quality Complaints & Referrals**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The stormwater staff is to track and inspect complaints and referrals as stated in "Guidelines and Standard Operating Procedures for the City of Cleveland" section 1.1 through 1.8 along with the City of Cleveland Stormwater Management Enforcement Response Plan (ERP). The permit goal for years one and two is a continuation. In year three the goal is to add a complaint tracking feature to the City of Cleveland Stormwater website. The goals for the last two years of the permit are to continue with tracking and inspections and to evaluate the website tracking feature.

**2D: Stream Cleanups**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal of the stormwater staff is to partner with Cleveland High School, Bradley County High School, Bradley County Water Quality, Keep America Beautiful, and others to host two stream cleanups along Mouse Creek during low flow times. The first will be in the spring in conjunction with Earth Day and the second will be in the fall as part of the Tennessee River Rescue. City staff will provide trash removal services, refreshments, and promote the event.

**BMP 3: Construction Site Runoff Program**

The goal of the Construction Site Runoff Program is to reduce the impact construction site runoff has on nearby streams. This program has four areas to help meet this goal and they are as follows; Erosion and Sediment Control Training, Illicit Discharge Identification, Review MS4 Outfalls, and Illicit Discharge Prevention Storm Drain Markers.

**3A: Erosion and Sediment Control Training**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The City of Cleveland staff will co-sponsor the University of Tennessee Erosion and Sediment Control Certification class for local construction industry by partnering with Bradley County Water Quality and the University of Tennessee. During the first and second years staff will hold one level one class. For year three the stormwater staff will hold one



level two class. Year four staff will host two level one training classes. On the final year of the permit city staff will host one level one and one level two class.

**3B: Illicit Discharge Identification**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal of city staff in year one is to track and log complaints into Call Link software. During year two once the complaint has been logged staff is to perform a site inspection by following the procedures in "Guidelines and Standard Operating Procedures for the City of Cleveland" section 1.1 through 1.8 along with the City of Cleveland Stormwater Management Enforcement Response Plan (ERP).. By year three staff will locate the complaint on the city's GIS database. The City of Cleveland website will have a complaint tracking feature allowing citizens to enter complaints via the web. Staff will evaluate and continue during year five.

**3C: Review MS4 Outfalls**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

During the last permit cycle the City of Cleveland Stormwater staff mapped all MS4 outfalls onto the GIS database. For each year of this permit cycle staff will inspect each outfall and update the GIS database as needed while also checking for any illicit discharges.

**3D: Illicit Discharge Prevention**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

For each year of the permit the City of Cleveland Stormwater staff will purchase and install 150 Lexan drain markers along with one dog walk waste station to be installed along the greenway. Staff will also be required to revisit locations of the older markers and replace as needed.

**BMP 4: Permanent (Post-Construction) Stormwater Management Program**

The City of Cleveland is required to develop, implement, and enforce a program to address permanent (post-construction) stormwater runoff management from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the City of Cleveland MS4. This program must ensure that controls are in place that would prevent or minimize water quality impacts.

**4A: Post Construction Tracking**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

During the first year of the permit the stormwater staff will develop a program for tracking post construction BMP's using the city's GIS database. The second year will spent testing and refining the procedures. By year three the post construction program will be live and will continued through years four and five of the permit.

**4B: Regional Detention Pond**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal for the stormwater staff is to construct a series of three detention ponds in the Fillauer Branch watershed to help with water quality and quantity. During year one staff hopes to secure funding for construction. Year two would be for developing a scope of design for engineering services, and to proceed with the environmental assessment. Year three would be set aside for developing the bid specifications. The city would advertise for bids and proceeding with construction during year four. By the end of the permit year five the project should be completed.

**4C: Inspection of Post Construction BMP's**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

For each of the first four years of the permit the stormwater staff will inspect and map on the city's GIS database twenty five percent of post construction ponds in the city's MS4. During year five of the permit the stormwater staff will inspect and map other post construction BMP's.

**4D: Ordinance Review and Addition of Green Infrastructure Requirements**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

During the first year of the permit the stormwater staff will review and complete the EPA Scorecard along with reviewing the existing stormwater ordinance. Year two will be used to present any changes to the Planning Commission, City Council, and TDEC for comments and approval. During year three staff will hold an informal information session for the construction industry on green infrastructure requirements. By year four staff will present the addition of the green infrastructure section to the Planning Commission, City Council, and TDEC for approval. Implement the new ordinance by year five.

**BMP 5: Municipal Pollution Prevention and Good Housekeeping**

The permit requires the City of Cleveland to develop and implement an operation and maintenance program that has the ultimate goal of preventing or reducing pollutant from municipal operations. This program must include employee training to prevent and reduce stormwater pollution from activities such as park and open spaces maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

**5A: Employee Pollution Prevention Plan**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

During the first year all engineering staff, building inspectors, public works supervisors will obtain or refresh the level one certification. Stormwater staff will hold an in house good housekeeping training for the Parks and Recreation Department. The Public Works Department will attend an in house good housekeeping training class during year three. For years four and five the staff will continue to present the good housekeeping training and seeing that new employees have the level one certification.

**5B: Floatables Reduction**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The goal for stormwater staff is to intercept floatables on municipal roadways and right of ways prior to discharge to the MS4 by utilizing municipal operations and public recognition of the problem through partnerships with Keep America Beautiful. The stormwater staff will also reduce floatables on public right of way prior to discharge to the MS4 and State Waters through municipal street sweeping and debris collection operations, and Community/ Bradley Courts Community Service and Keep America Beautiful for right of way trash and litter reduction efforts. This will continue all five years of the permit.

**5C: Floatables- Trash and Litter Reduction**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

City stormwater staff will continue to purchase and provide public trash and litter containers as part of the plan to reduce waste discharging into the MS4 and State Waters and partner with Keep America Beautiful of Cleveland to promote litter reduction. As part of the plan each of the five years the stormwater staff will purchase and install ten trash containers along the greenway and public areas.

**5D: Facility Inspections**

**Person Responsible:** Stormwater Coordinator

**Schedule:** Year 1 and ongoing implementation

**Measurable Goals and Milestones:**

The stormwater staff will inspect each of the City's facilities once a month for each of the permit years for stormwater violations. For additional information concerning good housekeeping please refer to the "Pollution Prevention and Good Housekeeping" section of "Guidelines and Standard Operating Procedures for the City of Cleveland, Tennessee"

## **Appendix A**

### **Public Information and Education Plan**

**City of Cleveland, TN**  
**Public Information and Education (PIE) Plan**

**October 2012**

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# INTRODUCTION

The Public Information and Education (PIE) Plan is a requirement in the State of Tennessee's Small Municipal Separate Storm Sewer System (MS4) General National Pollution Discharge Elimination System Permit (hereafter referred to as the "NPDES permit"). Coverage under this permit was granted to the City of Cleveland on April 19, 2011 under Permit Tracking Number TNS075213. The requirements of the PIE plan are listed in section 4.2.1 of the NPDES permit. Under this section, the City of Cleveland must provide for the following:

- Detail specific goals and public information events/activities that will occur over the remainder of the permit cycle;
- Incorporate components from outreach campaigns and one-on-one communications;
- Incorporate a mode to evaluate the plan's effectiveness so adjustments can be made (if necessary); and,
- Include targeted educational campaigns addressing the following issues:
  - a) General public awareness on the impacts on water quality from general housekeeping maintenance/activities;
  - b) Homeowner associations and other operators of permanent BMPs awareness of the importance of maintenance activities;
  - c) Local engineering and development community awareness of the stormwater ordinance, regulations and guidance materials related to long-term water quality impacts;
  - d) General public and professional chemical applicators awareness on the proper storage, use, and disposal of pesticides, herbicides and fertilizers use;
  - e) General public and professional chemical applicators awareness on the proper storage, use and disposal of oil and other automotive-related fluids;
  - f) General public and municipal employees on the awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.;
  - g) Local engineering, development and construction community awareness of stormwater ordinances, regulations and guidance materials related to construction phase water quality impacts; and
  - h) Municipal employee/contractor awareness of water quality impacts from daily operations.



The objective of this PIE Plan is to document the City's plan for compliance with these requirements.

The PIE Plan shows that the City's PIE program provides both general information on impacts of stormwater discharges to water bodies and the steps that the public can take to reduce pollutants in stormwater runoff, and more targeted information for specific water resources, audiences, and/or pollutants located within the MS4. In other parts of the Small MS4 Permit, the City, as the MS4 operator, is required to serve as regulator or maintenance provider. The public education requirement engages the City in the more subtle role of educator, and invokes the use of marketing strategies, rather than citations, inspections or physical maintenance activities. The public education requirement is predicated on the idea that awareness of positive and negative behaviors can empower residents within an MS4 to have a positive impact on stormwater quality in their daily activities. Thus, if the MS4 can demonstrate it is promoting awareness, in tandem with its other responsibilities, then it has positioned itself to implement its stormwater management program to the maximum extent practicable standard, as required by law. In addition to meeting the legal requirement, implementing a stormwater information and education program pays credence to the adage, "an ounce of prevention is worth a pound of cure". Though results can be difficult to measure, implementing an education program is generally considered more cost-effective than enforcement and/or physical corrective actions.

Most of the public information and education measures documented in this PIE Plan are already in place as part of the City's on-going Small MS4 Permit compliance program. The PIE Plan incorporates these existing activities and provides for new measures that address targeted geographic areas, people, or pollutants to meet the requirements of the current effective Small MS4 Permit. The plan provides a mode for evaluating effectiveness by establishing a method to record metrics for each educational activity, keeping in mind that the goal is to impress upon, or "touch" people and/or groups. By observing the number of impressions made from year to year, the City can evaluate the extent of its effort and decide whether it is properly allocating its resources, or if changes are needed. The metrics are also useful for the reporting requirement for the small MS4 permit.

## **Diagnosing Potential Stormwater Problems to Identify Targets**

One way to identify specific streams and/or pollutants is to use information prepared by the State of Tennessee in the published 303(d) List of impaired streams. It is important to understand that the 303(d) List is prepared for watershed planning purposes, and small MS4s represent one of many watershed stakeholders in the overall process of addressing water quality issues. The City may choose to supplement information gathered from the 303(d) list with information it collected on its own, including, but not limited to visual observations in the field, information obtained from complaints, enforcement activities, or highly effective programs. Through examination of the 303(d) list, the City can determine which local water resources are exhibiting negative impacts, in the form of pollutants, which may be attributed to stormwater runoff from the small MS4. The next step is to consider the individuals or groups whose behaviors may affect the introduction of those pollutants to the MS4, thus identifying the target audience(s). Information and education on how their activities can have an impact on water quality can then be provided by the MS4,

with the intent that the target audience will be inclined to change their approach to those activities. Target audiences are selected through a process of determining whose behaviors have the most potential to contribute pollutants to streams. This PIE Plan outlines activities that will be directed toward these targets. This PIE Plan outlines activities that will be directed toward these targets, which are identified in Table 1 below.

**Table 1. PIE Plan Targets for the City of Cleveland, TN**

Target Streams	Target Pollutants	Target Audience
South Mouse Creek	Siltation/ Habitat Alterations/ Escherichia Coli	<ul style="list-style-type: none"> <li>• Land Developers</li> <li>• Engineers</li> <li>• Construction Workers</li> <li>• General Public</li> <li>• Municipal Employees</li> <li>• Chemical Applicators</li> <li>• To be determined based on information collected through the city's MS4</li> </ul>
Candies Creek	Siltation/ Substrate Habitat Alterations	
Woolen Mill Branch	Alteration in Stream-side Cover/ Organic Enrichment/ Escherichia Coli	
Little Chatata Creek	Siltation Alteration in Stream-side Vegetation/ Escherichia Coli	
Fillauer Branch	Siltation Alteration in Stream-side Cover/ Escherichia Coli	

In addition to targeted information, broad-spectrum information provided to the general public has a place in stormwater information and education programs because it offers opportunities to introduce the concept of stormwater systems and their impacts on receiving waters. People can relate to places where they derive drinking water or recreate. More importantly, they can see the value in protecting those resources, which could result in positive behavioral changes. An advantage of incorporating general information for a general audience is that materials are typically already developed and available, relieving the City of the burden to develop new ones. Partnerships are often formed for the purpose of delivering stormwater messages to the general public, which also effectively leverages the city's resources. For these reasons, the City has chosen to implement a number of activities that address general information to the general public.

**Public Information and Education Activities and Goals**

A number of public information and education activities are currently being implemented by the City as a result of permit requirements that exist outside of public education and public outreach minimum control measures. New educational activities were added as a result of the issuance of the 2010 Small MS4 Permit. The total of these activities comprise the PIE Plan, which is presented in Table 2. The activities and goals are set to meet targets or provide general information with the resources that are available to the City. Each activity is associated with one or more message delivery methods or activity types. The chosen activities correspond with permit requirements.

**Table 2. PIE Plan Activities and Goals**

Description	Goal	Type	Target Groups	Target Pollutants	MS4 Permit Citation
Brochure Distribution	To broaden public understanding of the storm drainage system and how behaviors contribute to water quality	Publications	Homeowners, Engineers, Developers, Construction Workers, Public	All	4.2.1a,b,c,f,g &h
Website	<ul style="list-style-type: none"> <li>• To provide manuals, policies and information regarding construction--- phase and long term stormwater management.</li> <li>• To educate the public on how to prevent stormwater pollution and become involved with County programs</li> <li>• To educate the public on illicit discharge detection and reporting</li> </ul>	Internet	Engineers, Developers, Construction Workers, Public	All	4.2.1a-h
Public Service Announcements	To broaden the public understanding of the storm sewer system and how behaviors contribute to water quality.	Radio/TV	Public	All	4.2.1.a, d, e, f
Public School Outreach	To engage youth by empowering students to make or influence informed choices on behaviors that affect stormwater by offering Project	Events, Printed Materials, Training	School Children, School Teachers, Public	All	4.2.1

	WET training classes twice a year.				
<b>Description</b>	<b>Goal</b>	<b>Type</b>	<b>Target Groups</b>	<b>Target Pollutants</b>	<b>MS4 Permit Citation</b>
Watershed Groups	To provide resources and staff support to groups which encourage citizens to take ownership of their water resources.	Events	Public	Solid Waste/Litter	4.2.2
Public Notices	To comply with applicable state and local laws governing this activity.	Publications, Internet	Public	N/A	4.2.2
Hazardous Waste Collection Event	To promote awareness that the improper disposal of these items has an impact on water quality.	Internet Pamphlets	Public	Household Hazardous Waste	4.2.1
Outreach to Professional Chemical Applicators	To limit the improper storage, use and disposal of pesticides, herbicides and fertilizers.	Internet, Radio/TV	Landscapers, Automotive	PHFs, Automotive Waste	4.2.1.b
Exhibitions/ Speaking Engagements	To provide requested stormwater pollution prevention awareness to public and private groups.	Training/ Educational Event	Public	All	4.2.1
Contractor Education	To make construction workers and sub-contractors aware of water quality impacts from daily operations.	Training Event	Construction Workers	Siltation	4.2.1c & g
Pre-Construction Meetings	To make development community aware of regulations, guidance	Event	Engineers, Developers, Construction Workers	All	4.2.1c & g

	materials and long-term water quality impacts from development activities				
<b>Description</b>	<b>Goal</b>	<b>Type</b>	<b>Target Groups</b>	<b>Target Pollutants</b>	<b>MS4 Permit Citation</b>
Municipal Employee Training	To make municipal employees aware of water quality impacts from daily operations, and to educate staff on how to identify and report illicit discharges.	Training Event/Publication	Training Event/Publication	All	4.2h

## Public Information and Education Implementation and Metrics

Under section 4.2.1 of the Small MS4 Permit, the PIE Plan must include a mode for evaluating effectiveness. The City must also track and maintain records and report education and outreach activities in the annual report for the small MS4 permit. The City will accomplish these requirements by providing a specific implementation schedule, with interim goals, and a way to record metrics for activities as they are performed. The annual entry of results verifies that the intended audience is being reached according to the plan. If any results are insufficient, reduced or missing, the City can seek adjustments to properly address inadequacies. Table 3 below outlines the implementation schedule and corresponding metric(s) for each PIE Activity, along with a place to enter results annually.

**Table 3. Public Information and Education Implementation and Metrics**

Activity	Supporting Documentation	Metric	Results	
			Permit Year	
Brochure Distribution	Copies of brochures, list of placements and number of each type placed in each location.	Number of distributed brochures	2	
			3	
			4	
			5	
Website	Web hit counter that can be reset or account for annual hits from a running total.	Number of hits	2	
			3	
			4	
			5	
Public Service Announcements	Receipt of payment, summary of statistics showing which stations and number of times per day/month/year.	Approx. Number of Listeners and Broadcasts	2	
			3	
			4	
			5	

<b>Activity</b>	<b>Supporting Documentation</b>	<b>Metric</b>	<b>Results</b>	
Public School Outreach	Note information on number of students from correspondence with teachers.	Est. Number of Students/Teachers	2	
			3	
			4	
			5	
Public Notices	Web hit counter, newspaper circulation information, number of posted notices and list of locations where they are placed.	Number of Notices/Number of People in Attendance at Hearings and/or Comments Received	2	
			3	
			4	
			5	
Hazardous Waste Collection Event Advertisement	Web hit counter and /or Number of pamphlets distributed	Number of Web Hits and / or Pamphlets Distributed	2	
			3	
			4	
			5	
Outreach to Professional Chemical Applicators	Number of pamphlets distributed	Number of Web Hits and / or Pamphlets Distributed	2	
			3	
			4	
			5	
Exhibitions/ Speaking Engagements	List of engagements (date and location) and topics discussed will be kept on file	Number of participants for each event	2	
			3	
			4	
			5	
Contractor Education	List of engagements (date and location) and topics discussed will be kept on file	Number of participants attending workshops	2	
			3	
			4	
			5	



Activity	Supporting Documentation	Metric	Results	
Pre-Construction Meetings	Copies of signed pre-construction forms kept on file	Number of pre-construction conferences held for reporting period	2	
			3	
			4	
			5	
Municipal Employee Training	Sign-in sheets with name, date and topic covered	Number of staff trained	2	
			3	
			4	
			5	

**Appendix B**

**Enforcement Response Plan**

## **City of Cleveland Stormwater Management Enforcement Response Plan**

National Pollutant Discharge Elimination System Permit Number TNS075213 authorizes the City of Cleveland to discharge stormwater runoff in accordance with certain water quality management programs and provisions as set forth in the permit.

Section 4.2.4.1 titled "Permit Requirement" provides that the City of Cleveland must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to Cleveland's MS4.

The City of Cleveland passed Ordinance Number 2004-41 establishing city regulation and enforcement oversight regarding stormwater management. This Ordinance, as amended by Ordinance Number 2005-38, is codified in the Cleveland Municipal Code in Sections 18-301 through 18-313.

Section 18-310 of the Cleveland Municipal Code outlines the administrative enforcement remedies available to the Stormwater Program Manager and other City staff to assure compliance with the City's stormwater ordinance. Penalties for violations are prescribed by Section 18-311, and Section 18-311(4) authorizes the Stormwater Regulations Board to adopt an enforcement protocol to aid City staff in enforcing the provisions of the City's Stormwater Ordinance.

Under Sections 8-310 and 8-311 of the Cleveland Municipal Code, enforcement mechanisms include,

- (a) Verbal Warnings;
- (b) Notification of Violation;
- (c) Consent Orders;
- (d) Show Cause Hearings;
- (e) Compliance Orders;
- (f) Cease and Desist Orders;
- (g) Civil Penalties;
- (h) Recovery of Damages and Costs.

In order to assure fair and just enforcement to all parties involved and to provide adequate guidance to City stormwater field personnel, the following protocol shall be employed in enforcement of the City's stormwater ordinance.

### **1. Land Disturbing Activities without Obtaining Necessary Land Disturbing Permit**

- (a) First Offense (Property Owner and Contractor): Cease and Desist Order; Notice of Violation; Civil Penalty equal to Cost of Permit. The Penalty shall be in addition to the land disturbance permit fee.

- (b) Second Offense (Property Owner and/or Contractor): Cease and Desist Order, Issuance of Civil Penalty of \$500.00 plus damages consisting of cost of permit and salary costs of enforcement of article.
- (c) Third or Subsequent Offense (Property owner and/or Contractor): Cease and Desist Order; Issuance of Civil Penalty of up to \$5,000.00 a day plus damages consisting of cost of permit and salary costs of enforcement of article.
- (d) Failure to Properly Transfer Land Disturbing Permit: Issuance of Civil penalty equal to the cost of new permit. The Penalty shall be in addition to the land disturbance permit fee.
- (e) Failure to Request Extension of Permit: Issuance of Civil Penalty equal to the cost of new permit. The Penalty shall be in addition to the land disturbance permit fee.
- (f) Note: Enforcement under this subsection is contractor and property owner specific, not site specific. Therefore, if a contractor receives a Notice of Violation for a first offense, the civil penalty for a second offense is to be issued against the Contractor for the second offense, regardless of the property owner or location of the property.

**2. Failure to Install, Maintain or Use Proper Construction Entrance (Tracking Mud on Street)**

- (a) First Offense: Written Warning Issued to Land Disturbing Permit Applicant. Copies sent to General Contractor and Property Owner.
- (b) Second Offense: Notice of Violation issued to Land Disturbing Permit Applicant.
- (c) Third or Subsequent Offense: Issuance of Civil Penalty against Land Disturbing Permit Applicant of \$250.00 per day, plus salary costs of enforcement of article.
- (d) Note: Failure of a Land Disturbance Permit applicant to aggressively remove any mud, debris or construction material that is deposited in a public roadway after receiving a Written Warning or a Notice of Violation will result in an additional civil penalty of \$250.00 per incident, plus the salary costs of enforcement of article, plus the cost of the city's expenses if city crews are required to remove mud, debris or construction material to protect the safety of the public.

**3. Failure to Install, Maintain or Use Proper Structural Erosion or Sediment Controls (Sediment Discharge)**

- (a) First Project Offense: Written Warning issued to Land Disturbing Permit Applicant. Copies sent to Property Owner if different than applicant. If project is exempt from obtaining a land disturbing permit, written warning is given to the property owner. Issuance of Civil Penalty for cost of damages for city expenses if City crews are

required to clean up sediment discharged into City Streets, right of-way or stormwater structures.

- (b) Second Offense: Notice of Violation issued to Land Disturbing Permit Applicant or Property Owner; Cease and Desist Order until necessary erosion and sedimentation controls are installed or maintained; Compliance Order to Submit Self-Inspection Documentation on Monthly Basis; Permit Exempt projects required to obtain Land Disturbing Permit. Issuance of Civil Penalty for cost of city expenses if City crews are required to clean up sediment discharged into City Streets, right-of-way or stormwater structures.
- (c) Third Offense: Issuance of Civil Penalty of \$100.00 per discharge point per discharge plus salary costs of enforcement of article to land disturbance permit applicant plus damages equal to the cost of city expenses if City crews are required to clean up sediment discharged into City Streets, right-of-way or stormwater structures. Cease and Desist Order until necessary erosion and sedimentation controls are installed or maintained.
- (d) Fourth or Subsequent Offense: Issuance of Civil Penalty of \$500.00 per discharge point per discharge to land disturbance permit applicant. Damages for the cost of city expenses if City crews are required to clean up sediment discharged into City Streets, right-of-way or stormwater structures. Cease and Desist Order until necessary erosion and sedimentation controls are installed or maintained.
- (e) Failure to Properly Maintain Erosion Control Self Inspection Sheets and On-Site Erosion Control Plan: Issuance of Civil Penalty of \$100.00 per inspection in which self-inspection sheets or up-to-date erosion control plans cannot be provided when asked by inspector.
- (f) Failure to Provide Proper Final Stabilization: Issuance of Civil Penalty of \$250.00 per day issued against Property Owner for each day past issuance date of final certificate of occupancy.

#### **4. Failure to Comply with Approved Stormwater Design Plans**

- (a) Upon Notice of Variation of Approved Plans: Written notification to Property Owner, Design Engineer, General Contractor and Land Disturbing Permit Applicant that construction does not match approved plans and that if modifications are to be made, revised plans must be submitted for review and approval.
- (b) Failure to Submit Revised Plans: Stormwater Management Inspectors cannot authorize approval for certificate of occupancy until modifications have been submitted and approved.
- (c) Failure to Implement Approved Stormwater Design Plan (Previously Occupied)

- i. Notice of Violation and Compliance Order: A Notice of Violation and Compliance Order shall be issued to the property owner giving a maximum of thirty days to install all required stormwater infrastructure.

Note: This protocol does not in any way deter the Stormwater Manager from entering into a Consent Order to eliminate illicit discharges in lieu of other enforcement actions.

- ii. Failure to Meet Compliance Order Deadline: Issuance of Civil Penalty of up to \$5,000.00 per day for each day approved plans is not met.

#### **5. Illicit Discharges (Non-residential, Non-accidental)**

*City staff must investigate complaint as soon as possible and follow the City of Cleveland Standard Operating Procedures for Illicit Discharge Detection and Elimination.*

- (a) First Offense: Notice of Violation issued to responsible party for non-stormwater discharge. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up illicit discharge will be assessed to the responsible party. Additional damages may include other items such as loss of income for not properly using sanitary sewer system.
- (b) Second Offense: Issuance of Civil Penalty against responsible party of up to \$5,000.00. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up illicit discharge will be assessed to the responsible party. Additional damages may include other items such as loss of income for not properly using sanitary sewer system.
- (c) Third or Subsequent Offense: Issuance of Civil Penalty against responsible party of up to \$5,000.00.
- (d) Note: An Illicit discharge properly reported as an accidental discharge as will be reclassified as Accidental Releases and not subject to a Civil Penalty as an illicit discharge. However, the responsible party may still be held liable to damages to the City. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up accidental release will be assessed to the responsible party.

#### **6. Illicit Discharges (Residential Wastewater Discharge)**

*City staff must investigate complaint as soon as possible and follow the City of Cleveland Standard Operating Procedures for Illicit Discharge Detection and Elimination.*

- (a) First Offense: Issuance of Notice of Violation and Compliance Order to stop illicit discharge within 10-days.
- (b) Failure to comply with Compliance Order: Enforcement action based on individual action. Enforcement may include investigation by City Code enforcement seeking input on condemnation of the residential unit for noncompliance with Order.

- (c) Note: An Illicit discharge properly reported as an accidental discharge as will be reclassified as Accidental Releases and not subject to a Civil Penalty as an illicit discharge. However, the responsible party may still be held liable to damages to the City. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up accidental release will be assessed to the responsible party.

**7. Illicit Discharges (Residential Other than Wastewater Discharge)**

*City staff must investigate complaint as soon as possible and follow the City of Cleveland Standard Operating Procedures for Illicit Discharge Detection and Elimination.*

- (a) First Offense: Enforcement action based on individual action. More serious violations, such as deliberate dumping of pesticide, used motor oil or other hazardous or dangerous chemical into a storm drainage system, would result in Issuance of Civil Penalty plus recovery of actual costs of enforcement and/or damages. A less serious violation, such as raking leaves into drainage system, may result in written or verbal warning.
- (b) Note: An Illicit discharge properly reported as an accidental discharge as will be reclassified as Accidental Releases and not subject to a Civil Penalty as an illicit discharge. However, the responsible party may still be held liable to damages to the City. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up accidental release will be assessed to the responsible party.

**8. Issuance of Show Cause Order:**

Pursuant to Cleveland Municipal Code Section 18-310, a Show Cause Hearing may be ordered if this protocol is unclear or inadequate to address any violation of the City's Stormwater Ordinance as codified in the Cleveland Municipal Code, Sections 18-301 through 18-313.

## **Appendix C**

### **Standard Operating Procedures and Forms**



GUIDELINES AND STANDARD  
OPERATING PROCEDURES

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For the City of Cleveland, Tennessee

Revised June 2018



# Standard Operating Procedures and Forms



- 1.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION**
- 2.0 POLLUTION PREVENTION & GOOD HOUSEKEEPING**
- 3.0 EDUCATION**
- 4.0 SITE PLAN REVIEW**
- 5.0 CONSTRUCTION SITE INSPECTIONS**
- 6.0 ENFORCEMENT**



# **ILLICIT DISCHARGE DETECTION AND ELIMINATION SOP LIST**

Standard Operating Procedure For:



# 1.1 Inspections During Mapping

**Purpose of SOP**

To record basic characteristics of individual storm sewer outfalls, and evaluate suspect outfalls for illicit discharges.

## Always:

Conduct inspections during dry weather periods

Characterize and record the outfall's dimensions, shape, and record observations on basic sensory and physical indicators (odor, color, oil sheen).

Follow procedure below if an obvious illicit discharge is encountered (raw sewage, paint, and/or oil).

## Dry Weather Discharge

The Center for Watershed Protection defines dry weather as a 48-hour period with no runoff-producing rainfall

## Whenever Possible:

Photograph the outfall with a digital camera

Identify and label the outfall with a unique identifier and enter into GPS data collector.

If dry weather flow is present at the outfall, and the flow does not appear to be an obvious illicit discharge attempt to identify the source of the flow then document the discharge for future

## Equipment list for mapping:

1. Existing paper maps
2. Field sheets
3. Digital Camera
4. GPS Unit
5. Spray Paint
6. Cell Phone
7. Clip boards and pen
8. First aid kit
9. Flash light
10. Gloves
11. Tape Measure
12. Temperature probe
13. Waders

## Never:

Never put yourself in danger

Never enter private property without permission

## Procedure to follow if illicit discharge is detected:

Call Supervisor

Trace Upstream to locate the source

Take photographs

If deemed hazardous contact hazmat team

Standard Operating Procedure For:

## 1.2 Long– Term Inspections



**Purpose of SOP**

Long-term dry weather inspections of outfalls are a primary means of detecting illicit discharges and identifying any necessary maintenance or repairs.

### **Always:**

Perform more frequent inspections on outfalls with suspected illicit discharges and/or high priority areas.

Conduct inspections during dry weather periods.

Check the outfall's dimensions, shape, and component material.

Characterize and record observations on basic sensory and physical indicators (e.g., odor, color, oil sheen).

If an obvious illicit discharge is encountered (such as raw sewage, paint, etc.), follow the procedure below.

Analyze inspection results for trends and evaluate the effectiveness of the IDDE Program

### **Whenever Possible:**

Perform inspections of all the outfalls at least once per permit cycle (long term).

Photograph the outfall with a digital camera.

Identify and label the outfall with a unique identifier.

If dry weather flow is present at the outfall, and the flow does not appear to be an obvious illicit discharge (e.g., flow is clear, odorless, etc.), attempt to identify the source of the flow (intermittent stream, etc.) then document the discharge for future comparison.

Identify the source of the discharge.

### **Never:**

Never put yourself in danger

Never enter private property without permission

### **Procedure to follow if illicit discharge is detected:**

Call Supervisor

Trace Upstream to locate the source

Take photographs

If deemed hazardous contact hazmat team

Standard Operating Procedure For:

## 1.3 Opportunistic Inspections



**Purpose of SOP**

To ensure personnel follow proper procedures if they observe illicit discharges while conducting their regular duties

### **Always:**

Call dispatcher, supervisor, or code enforcement if you see evidence of an illicit discharge.

Assess the general area of the illicit discharge to see if you can identify its source.

### **Whenever Possible:**

Use the MS4 Web Permit Manager Program to document observations.

Take photographs of the illicit discharge.

Complete Dry Weather Outfall Inspection Form in MS4 Web Permit Manager Program.

### **Never:**

Never put yourself in danger

Never enter private property without permission

### **Procedure to follow if illicit discharge is detected:**

Call Supervisor

Trace Upstream to locate the source

Take photographs

If deemed hazardous contact hazmat team

Standard Operating Procedure For:

## 1.4 Citizen Call-in Inspections



**Purpose of SOP**

To collect appropriate information from a citizen reporting a potential illicit discharge to increase the chances of identifying and removing its source.

### **Always:**

Enter the citizen's information and what was observed into MS4 Web Permit Manager and/or QAlert programs.

Perform a site inspection as soon as possible or within **7 days** of receiving notification.

Enter inspection findings into MS4 Web Permit Manager and QAlert programs (including pictures).

Perform a follow-up inspection if needed.

### **Whenever Possible:**

Take photographs of the area in question.

Document and review incidents reported by citizens on an annual basis to look for patterns of illicit discharges.

### **Never:**

Never put yourself in danger

Never enter private property without permission

### **Procedure to follow if illicit discharge is detected:**

Call Supervisor

Trace Upstream to locate the source

Take photographs

If deemed hazardous contact hazmat team

Standard Operating Procedure For:

## 1.5 Septic System Inspections



**Purpose of SOP**

Failed septic systems can adversely impact water quality. Completing septic system inspections in suspect areas can assist in timely correction.

### **Always:**

Use a certified inspector or a licensed site evaluator.

Survey high risk areas (older areas or areas near lakes or impaired waterbodies).

### **Whenever Possible:**

Document septic system inspections in a summary report for future reference.

### **Never:**

Never put yourself in danger

Never enter private property without permission



Standard Operating Procedure For:

## 1.6 Tracing Illicit Discharges



**Purpose of SOP**

To efficiently and systematically identify the source of an illicit discharge.

### **Always:**

Review / consider information collected when illicit discharge was initially identified (MS4 Web Permit Manager and QAlert programs).

Survey the general area / surrounding properties to identify potential sources of the illicit discharge as a first step.

Trace illicit discharges using the procedures below.

### **Whenever Possible:**

Use weirs, sandbags, or dams to trap intermittent discharges during dry weather.

Smoke test or televise the storm drain system to trace high priority, difficult to detect illicit discharges.

### **Never:**

Never put yourself in danger

Never enter private property without permission

### **Tracing Procedures**

Flowing discharges– use visual tracing and/or dye testing

Non-flowing discharges– inspect storm drain access points for staining/ residual evidence and/or use dye testing.

Standard Operating Procedure For:

## 1.7 Removing Illicit Discharges



Purpose of SOP

Proper removal of an illicit discharge will ensure it does not recur. Using legal methods for the removal will minimize the municipality's liability.

### Always:

Determine who is financially responsible:

- Municipality
- Private property owner
- Exempt person

Suspend access to storm drain if an "imminent and substantial danger" exists.

If the discharge is from an exempt facility notify the facility operator and the appropriate enforcement authority.

Repair/correct cause of discharge if municipality is responsible.

Elimination of illicit discharges must be completed within **90 days**.

### Never:

Never repair/correct cause of discharge on private property until directed to do so by the appropriate municipal authority (stormwater program manager, etc.)

Standard Operating Procedure For:

## 1.8 Tracking / Evaluating Illicit Discharges



**Purpose of SOP**

Taking time to track and evaluate illicit discharge locations and types is necessary for an effective IDDE program.

### **Always:**


Review illicit discharge activities annually to identify patterns, trends, areas of high or low illicit discharge activity and revise inspection procedures accordingly.

All illicit discharge activities shall be logged into MS4 Web Permit Manager and QAlert programs.

An illicit discharge report shall be produced annually.

### **Whenever Possible:**

Illicit discharge sites shall be linked to the City of Cleveland G.I.S.

Standard Operating Procedure For:		
<b>1.9 Hazardous Waste or Material Spill/ Illicit Discharges</b>		
Purpose of SOP	General guidance for City staff who respond to hazardous waste or material spill.	

**Always:**

**NEVER** put yourself at risk or in danger.

Safety of the employees and public shall be the primary objective.

Keep the public out of the area.

Call **911** if the spill is an emergency.

For non emergency contact **423-728-7311** and request that the Cleveland Fire Department and Cleveland and Bradley County Emergency Management Agency (EMA) be notified.

Notify the Tennessee Department of Environment & Conservation Chattanooga field office at 423-634-5702.


**Whenever Possible:**

Log the spill into MS4 Web Permit Manager and QAlert programs and attach the incident report.

The roll of the City Stormwater Staff is to notify the proper authorities not to clean up the spill.



# **POLLUTION PREVENTION AND GOOD HOUSEKEEPING SOPs**

<b>Standard Operating Procedure For:</b>		
<b>2.1 Catch Basin Cleaning</b>		
<b>Purpose of SOP</b>	To protect stormwater by maintaining the ability of catch basins to trap sediments, organic matter, and litter. This reduces clogging in the storm drain system as well as the transport of sediments and pollutants into receiving waterbodies.	

**Always:**

Inspect catch basins for structural integrity and evidence of illicit discharges during cleaning.

Conduct a chemical analysis if sediment is suspected of contamination to determine if the recovered materials meet the EPA criteria for hazardous waste.

Dispose of catch basin residues properly (Construction Demolition Debris [CDD] Landfill or secure municipal solid waste or special waste landfill). Beneficial use must be licensed by the MDEP unless Total Petroleum Hydrocarbon Analysis is less than 1,000 mg/kg.

**Whenever Possible:**

Inspect each catch basin at least annually, during catch basin cleaning.

Create a checklist for catch basins to help classify which catch basins require maintenance and how often.

Perform street sweeping on an appropriate schedule to reduce the amount of sediment, debris and organic matter entering the catch basins, which in turn reduces the frequency with which they will need to be cleaned.

Discharge fluids collected during catch basin cleaning to a sanitary WWTP.

<p><b>Other Related SOPs:</b></p> <ul style="list-style-type: none"> <li>- General Facility Housekeeping</li> <li>- Street Sweeping</li> <li>- SOP for Opportunistic Inspections</li> </ul>
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Standard Operating Procedure For:

## 2.2 Catch Basin Repair



**Purpose of SOP**

To protect stormwater by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of stormwater structures.

### **Always:**

Practice preventive maintenance and inspect on a regular schedule for cracks, leaks, and other conditions that could cause breakdowns in the system (this can be done during the cleaning process).

Repair defective equipment or structures identified during an inspection as soon as possible.

Document inspections and repairs and maintain complete records in a record -keeping system.

Educate personnel on preventive maintenance inspections.

### **Whenever Possible:**


Research and implement new technology that will improve the overall performance of the catch basin.

### **Never:**

Never allow defective equipment or structures to go without repair.

#### **Other Related SOPs:**

- Outfall Repair
- Storm Drain System Repair

Standard Operating Procedure For:		
<b>2.3 Outfall Repair</b>		
Purpose of SOP	To protect stormwater by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of stormwater structures.	

**Always:**

Locate all outfalls in the municipality and create an inspection schedule.

Practice preventive maintenance and inspect at least one time per year for cracks, leaks, and other conditions that could cause breakdowns in the system.

Repair defective structures or equipment identified during an inspection as soon as possible.

Document inspections and repairs and maintain complete records in a record -keeping system.

Educate personnel on preventive maintenance inspections.

**Whenever Possible:**

Research and implement new technology that will improve the overall performance of the outfall.

**Never:**

Never allow defective equipment or structures to go without repair.

<p><b>Other Related SOPs:</b></p> <ul style="list-style-type: none"> <li>- Catch Basin Repair</li> <li>- Storm Drain System Repair</li> </ul>
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Standard Operating Procedure For:

## 2.4 Storm Drain System Repair



**Purpose of SOP**

To protect stormwater by inspecting, testing, and replacing or repairing equipment on a regular basis to prevent a failure of the storm drain system.

### **Always:**

Create an inspection and cleaning schedule for the municipal storm drain system, including stormwater detention ponds, energy dissipaters and associated structures.

Practice preventive maintenance and inspect at least one time per year for cracks, leaks, and other conditions that could cause breakdowns in the system.

Repair defective structures or equipment identified during an inspection as soon as possible.

Dispose of collected materials according to state, regional and local regulations to avoid negative environmental impacts.

Document inspections, cleanings and repairs and maintain complete records in a recordkeeping system.

Use appropriate erosion and sediment control practices when performing repairs.

### **Whenever Possible:**

Research and implement new technology that will improve the overall performance of the storm drain system.

Perform street sweeping on a regular basis to reduce the amount of sediment, debris and organic matter entering the storm drain system, which in turn reduces the frequency with which the system will need to be cleaned.

### **Never:**

Never allow defective equipment or structures to go without repair.

#### **Other Related SOPs:**

- Street Sweeping
- Catch Basin Repair
- Outfall Repair

Standard Operating Procedure For:

## 2.5 Erosion and Sediment Control



**Purpose of SOP**

To protect stormwater from pollution by reducing or eliminating pollutant loading from land disturbing activities.

### **Always:**

Use erosion control techniques or devices to stabilize disturbed areas.

Use effective site planning to avoid sensitive areas.

Keep land disturbance to a minimum.

Inspect and maintain erosion control devices.

Install erosion control devices properly.

Install erosion control blankets when seeding drainage ways.

### **Whenever Possible:**

Protect disturbed areas from stormwater runoff by using stabilizers such as mulch.

Limit construction activities during months with higher runoff rates.

Assign responsibility for maintaining erosion control devices.

Reduce the velocity of stormwater runoff.

Divert clean water away from the disturbed area during construction activities.

Protect vegetative buffers or create new ones.

Stabilize soils by mulching and/or seeding when soils are exposed for more than one week during the dry season, and two days during the rainy season.

### **Never:**

Never divert runoff into a sensitive area.

#### **Other Related SOPs:**

- General Facility Housekeeping
- Landscaping

Standard Operating Procedure For:

## 2.6 Landscape Design and Management



**Purpose of SOP**

To protect stormwater by designing and managing landscaping in ways that minimize polluted runoff.

### **Always:**

Design landscaping by taking into account soil types, light, drainage, desired maintenance level and budget.

### **Whenever Possible:**

Minimize erosion prone steep slopes by using techniques such as terracing.

Use native plants that are pest resistant. Plant the right plant in the right area.

Manage water runoff by rerouting gutters away from storm drains and maintaining groundcovers between developed areas and waterways (ditches, swales, shorelines).

Reduce or eliminate mown lawn in unused areas.

Convert unused turf to meadow or forest.

Establish set back distances from pavement, storm drains, and waterbodies. Allow these areas to serve as buffers with disease-resistant plants and minimal mowing.

### **Never:**

Never develop a landscape design without assessing its impact on water quality.

#### **Other Related SOPs:**

- General Facility Housekeeping
- Lawn Care –Fertilizing
- Lawn Care – Weed and Pest Control
- Lawn Care – Mowing and Watering
- Alternative Products Use/Storage/Disposal

Standard Operating Procedure For:

## 2.7 Lawn Care: Fertilizer and Pesticide Storage and Disposal



**Purpose of SOP**

To protect stormwater by properly storing and disposing of fertilizers and pesticides. Because storm drain water is not part of a wastewater treatment system, discharge of these chemicals flows untreated into ponds, lakes, rivers, streams, estuaries and bays.

**Always:**

Store fertilizers and pesticides in high, dry locations, according to manufacturer's specifications and applicable regulations.

Cleanup spills and leaks of pesticides and fertilizers to prevent the chemicals from reaching the storm drain system.

Clearly label secondary containers.

Properly dispose of fertilizers and pesticides according to manufacturer's specifications and applicable regulations.

Regularly inspect fertilizer and pesticide storage areas for leaks or spills.

**Whenever Possible:**

Store pesticides in enclosed areas or in covered impervious containment, preferably in a locked cabinet.

Order fertilizers and pesticides for delivery as close to time of use as possible to reduce amount stored at facility.

Order only the amount needed to minimize excess or obsolete materials requiring storage and disposal.

Use ALL herbicides or pesticides appropriately to minimize the amount of chemicals requiring disposal.

Dispose of old, unusable or "obsolete" pesticides as in accordance with applicable regulations.

**Never:**

Never dispose of fertilizers or pesticides in storm drains.

Never leave unlabeled or unstable chemicals in uncontrolled locations.

**Other Related SOPs:**

- General Facility Housekeeping
- Landscaping
- Alternative Products Use/Storage/Disposal

Standard Operating Procedure For:

## 2.8 Lawn Care – Fertilizing and Turf Health



**Purpose of SOP**

To protect stormwater by properly storing, applying, and disposing of fertilizers and by maintaining turf health to reduce diseases.

### Always:

Apply fertilizers based on a soil testing program, soil type, turf function, and assessment by qualified personnel.

Store, use, and dispose of all fertilizers and contaminated wastes according to manufacturer's specifications and applicable regulations.

Choose seed based on soil types, intended use of area, latest variety research, and assessment of past site performance.

### Whenever Possible:

Avoid fertilizing during a drought or when the soil is dry.

Apply fertilizers during periods of maximum plant uptake (usually fall and spring).

Avoid combined products such as weed and feed, which do not necessarily target specific problems at the appropriate time.

Calibrate application equipment to ensure proper application.

If phosphorus fertilizer is used when re-seeding, mix phosphorus into rootzone.

Use natural compost and organic fertilizers instead of synthetic fertilizers.

Aerate grassed areas to improve drainage and bring more oxygen to the soil.

### Never:

Never fertilize before a heavy rainfall.

Never apply phosphorus fertilizer on soil surface.

Never deposit fertilizer in the water, onto the street or into storm drains.

Never apply fertilizer to frozen ground.

### Other Related SOPs:

- General Facility Housekeeping
- Landscaping
- Alternative Products Use/Storage/Disposal

Standard Operating Procedure For:

## 2.9 Lawn Care – Weed and Pest Control



Purpose of SOP

To protect stormwater by properly storing, applying and disposing of herbicides and pesticides.

### Always:

Ensure that pesticides are only applied by personnel certified to do so.

Use, store, and dispose of all chemicals and waste products according to manufacturer's specifications, the Maine Pesticides Control Board and any local requirements.

Clean up any spilled chemicals.

Store pesticide and herbicide-contaminated waste materials in a labeled, designated, covered, and contained area.

Use pesticides and herbicides only when necessary.

Rinse equipment only when necessary and use rinse water to dilute next mix as long as application rates are not exceeded.

### Whenever Possible:

Use alternative methods to control weeds and pests such as Integrated Pest Management strategies, biorational insecticides (natural soaps and oils) or biological controls.

Mix/load pesticides in an area where spills can be contained.

Pull weeds by hand or mechanically.

Spot treat affected areas only instead of entire location.

Apply pest control at the life stage when the pest is most vulnerable.

Choose the least toxic pesticides and herbicides that still achieve results.

Tolerate low levels of weeds.

Allow grass to grow 2.5 to 3 inches high, reduce thatch build up and aerate soils.

Reduce seed release of weeds by timing cutting at seed set.

Establish setback distances from pavement, storm drains, and waterbodies; allow these areas to serve as buffers with disease-resistant plants and minimal mowing.

### Never:

Never mix or prepare pesticides or herbicides near storm drains.

Never apply controlled pesticides or herbicides unless certified to do so.

Never apply herbicides or pesticides before a heavy rainfall.

Never discharge rinse water or excess chemicals to storm drain, sewer, or ground surface in excess of labeled rates.

### Other Related SOPs:

- General Facility Housekeeping
- Alternative Products Use/Storage Disposal

Standard Operating Procedure For:

## 2.10 Lawn Care – Mowing and Irrigation



**Purpose of SOP**

To protect stormwater by using proper mowing and watering techniques. Proper mowing and irrigation techniques will reduce organic matter and other pollutants from entering the storm drain system and waterbodies.

**Always:**

- Mow only as low as needed for the area's intended use.
- Vary mowing pattern.
- Base irrigation amounts on monitoring for moisture content.
- Water at appropriate times (when no rain is forecasted).
- Manage leaves, clippings, and compost so that runoff does not enter storm drain system or waterbodies.

**Whenever Possible:**

- Allow areas to go to meadow or field and mow once or twice per year rather than every week.
- Keep mower blades sharpened to avoid damaging grass leaf tissue.
- Mow when the grass is dry to prevent spread of turf diseases.
- Sweep lawn clippings and debris instead of using water.
- Mulch grass clippings using a mulching mower.
- Fill gas tanks in a controlled location.

**Never:**

- Mow an area just because it always has been mowed.
- Irrigate based on timers/schedules instead of monitoring for moisture content.
- Never dump gas, wastes or contaminated water down storm drains.
- Never refuel or change the mower oil near storm drains.
- Leave mower running in one location.

**Other Related SOPs:**

- General Facility Housekeeping
- Landscaping

Standard Operating Procedure For:

## 2.11 Vehicle and Equipment Storage



**Purpose of SOP**

To protect stormwater from petroleum products that may drip or leak from vehicles and equipment being stored or from dirt and sediment that accumulate in the storage areas.

**Always:**

Inspect parking areas for staining/leaks on a schedule established by the appropriate personnel.

Use drip pans for vehicles that drip a lot (provide a labeled location to empty and store drip pans).

Address a known leak or drip as soon as possible.

**Whenever Possible:**

Store vehicles inside.

Store vehicles on paved areas if you can street sweep regularly to remove drips/leaks/dirt.

Perform street sweeping of paved areas on a schedule established by the appropriate personnel, and dispose of street sweepings properly.

Maintain vehicles to prevent leaks from occurring.

Perform a pre -trip inspection of vehicle.

**Never:**

Never store leaking vehicles over a storm drain.

**Other Related SOPs:**

- Street Sweeping
- Spill Cleanup
- Petroleum and Chemical Disposal
- General Facility Housekeeping



Standard Operating Procedure For:

## 2.12 Vehicle and Equipment Washing



**Purpose of SOP**

To protect stormwater using proper vehicle and equipment washing techniques, proper washing locations, and proper disposal of wash water.

### **Always:**

Wash vehicles and equipment in a designated area.

Discharge all wash water containing degreasers, acids, bases, and/or metal brighteners to an on-site treatment facility, the sanitary sewer in accordance with the treatment plant standards, or an approved holding tank. If these are not available, discharge to a vegetated buffer.

### **Whenever Possible:**

Use a biodegradable, phosphate free soap.

Use a commercial car wash for light duty vehicles.

Wash cars on gravel, grass, or other permeable surfaces.

Educate personnel on proper washing practices.

Maintain vehicles and equipment to prevent leaks/drips, which would more easily enter wash water.

Obtain and use drain guards (filter inserts) to catch sediments, petroleum products, etc. that might enter the storm drains as a result of vehicle washing.

Minimize water and soap use when rinsing or washing vehicles.

### **Never:**

Never perform engine washing outside or over a storm drain.

Never wash vehicles over a storm drain or near drinking water wells.

### **Other Related SOPs:**

- Alternative Products Use/Storage/Disposal
- General Facility Housekeeping

Standard Operating Procedure For:

## 2.13 Vehicle and Equipment Fueling



Purpose of SOP

To prevent stormwater contamination originating from vehicle and equipment fueling.

### Always:

- Fuel carefully to minimize drips to the ground surface.
- Maintain clean fuel dispensing areas using dry cleanup methods.
- Utilize fueling safeguards. Clearly label and tag all valves to reduce human error.
- Train employees and subcontractors on proper fueling methods and spill cleanup techniques.
- Maintain fuel storage tanks in accordance with local, state and federal laws.
- Have absorbent spill cleanup kits and materials available at fueling areas.
- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

### Whenever Possible:

- Install a canopy or roof over aboveground storage tanks.
- Regularly inspect fueling equipment for corrosion and structural failure, cracks in foundations, and physical damage to container systems.
- Use designated fueling areas built upon a level impervious surface (hard cement is best). If paved with asphalt, add a protective coating to create an impervious surface.
- Design fueling areas to minimize stormwater exposure. Prevent run-on and ponding of water, and use secondary containment systems.
- Protect storm drains from fueling areas using berms and dikes.
- Use drip pans or absorbent pads during fueling to collect leaks.
- Add automatic shutoff mechanisms and vapor recovery nozzles to fueling equipment.
- Install protective guards around fueling equipment, tanks, and piping to prevent collisions.

### Never:

- "Top off" fuel tanks. Post signs to remind employees.
- Hose down or bury a fuel spill.

#### Other Related SOPs:

- Alternative Products Use/Storage/Disposal
- General Facility Housekeeping
- Vehicle Maintenance

Standard Operating Procedure For:

## 2.14 Spill Cleanup



Purpose of SOP

To protect stormwater by educating employees on proper spill cleanup procedures, state reporting requirements and preventative actions.

### Always:

Stop the source of the spill.

Contain any liquids.

To report any size spill contact the Chattanooga TDEC field office at **423-634-5745**.

Cover the spill with absorbent material such as kitty litter, sawdust, or oil absorbent pads. Do not use straw. Dispose of used absorbent material properly.

Use water only when necessary and minimize use.

Contact the Cleveland and Bradley County EMA director at 423-728-7289.

Develop and maintain a Spill Prevention, Control, and Countermeasure (SPCC) Plan if the facility stores more than 1,320-gallons of petroleum.

Fit petroleum and chemical storage containers with secondary containment structures.

Keep a spill kit in areas where petroleum or hazardous materials are stored.

Train employees in spill response procedures and equipment.

Deploy containment booms if spill could potentially reach a storm drain or waterbody.

Position mats to contain drips from equipment or vehicles until they can be repaired.

### Whenever Possible:

Seal the floor with paint to prevent absorption of fluids into concrete.

Install low-level or low-pressure alarms and/or cut-off systems on hydraulic equipment.

### Never:

Never wash a spill into the storm drain or a water body.

Never leave a spill without cleaning it up.

#### Other Related SOPs:

- Petroleum and Chemical Handling
- Petroleum and Chemical Storage
- General Facility Housekeeping
- Fertilizer and Pesticide Storage and Disposal

Standard Operating Procedure For:

## 2.15 Parts Cleaning



**Purpose of SOP**

To protect stormwater by practicing proper parts cleaning techniques and disposing of waste cleaners properly.

### **Always:**

Perform all cleaning in a designated area to minimize the potential for spills.

Store waste cleaners in properly labeled containers in accordance with regulations.

Dispose of all waste cleaners properly with a licensed contractor.

### **Whenever Possible:**

The variety of cleaners should be minimized to make recycling and disposal simpler.

Use citrus-based cleaners and dispose of properly.

Use steam cleaning and pressure washing instead of solvents; however wastewater must be discharged to an oil/water separator and the waste water treatment plant notified.

### **Never:**

Never dispose of spent cleaners down the floor drains, sinks or storm drain inlets.

### **Other Related SOPs:**

- Spill Cleanup
- Alternative Product Use/Storage/Disposal
- Petroleum and Chemical Handling
- Petroleum and Chemical Disposal
- Petroleum and Chemical Storage

Standard Operating Procedure For:

## 2.16 Spare Parts Storage



**Purpose of SOP**

To protect stormwater by properly storing spare parts. Improper storage of materials can result in pollutants and toxic materials entering ground and surface water supplies.

**Always:**

Store spare parts in a designated area.

Use drip pans for any parts that are dripping.

**Whenever Possible:**

Store spare parts inside or under cover.

Monitor storage areas for staining/leaks on a schedule decided on by the appropriate personnel.

Clean the majority of petroleum products from the parts that are to be stored.

**Other Related SOPs:**

- Street Sweeping
- Spill Cleanup
- Vehicle and Equipment Storage

Standard Operating Procedure For:

## 2.17 Alternative Products Use/Storage/ Disposal



**Purpose of SOP**

To protect stormwater by using alternative products in an effort to decrease the presence of more toxic products in stormwater.

### **Always:**

Use, store, and dispose of alternative products according to manufacturer's specifications.

### **Whenever Possible:**

Use alternative products when deemed appropriate:

- Instead of solvent-based parts cleaners use citrus-based cleaners or steam/pressure wash to an oil/water separator.
- Instead of herbicides use bark mulch.
- Instead of fertilizer use compost or manure.
- Instead of pesticides plant marigolds, onion, or garlic as deterrents; release or attract beneficial insects.

Train employees on the benefits of using alternative products.

Minimize waste by purchasing recyclable products that have minimal packaging.

Use less harmful deicers such as calcium magnesium acetate, potassium acetate, or organic deicers such as Magic Salt™.

Use a "pre-mix" of 4 to 1 sodium chloride and calcium chloride, which is the most cost effective alternative to straight salt.

Substitute synthetic fertilizers with natural compost and organic fertilizers to improve soil pH, texture and fertility, and cause less leaching to groundwater.

- Use no -phosphorus lawn fertilizer (phosphorus is rarely lacking in Tennessee soils).
- Use natural or certified organic fertilizers with low phosphorus levels (8-2-4, 6-2-4, 9-1-1, 6-1-1).

Use slow-release nitrogen fertilizers.

Reduce or eliminate mown lawn in areas that are not actively used.

Consider converting unused turf to meadow or forest.

### **Other Related SOPs:**

- General Facility Housekeeping
- Lawn Care - Fertilizing
- Lawn Care – Weed and Pest Control
- Lawn Care – Mowing and Watering
- Vehicle and Equipment Washing
- Parts Cleaning
- Salt Application
- Petroleum and Chemical Storage
- Petroleum and Chemical Handling

Standard Operating Procedure For:

## 2.18 Petroleum and Chemical Disposal



**Purpose of SOP**

To protect stormwater from petroleum and chemical products due to improper disposal practices.

### **Always:**

Dispose of petroleum/chemicals according to manufacturer's specifications and state and federal regulations.

Maintain tracking of chemicals and petroleum products being disposed off-site.

Store waste petroleum/chemical products in a designated area labeled as such.

Label each waste container with its contents.

Transport used petroleum and chemical products with a licensed transporter and maintain records for three years.

Train employees on proper disposal practices.

Drain used oil filters for 24-hours before disposal (disposal in regular trash allowed).

Inspect waste storage areas for staining/leaks on a regular basis.

### **Whenever Possible:**

Minimize the number of solvents used to reduce the variety of waste generated and to make recycling easier.

Use safer alternatives. (see Alternative Products SOP)

If burning used oil for on-site heat, analyze for Maine Waste Oil parameters (Arsenic, Lead, Cadmium, Chromium, F- listed Halogens, Flashpoint, PCBs) approximately once every 1,000 gallons.

### **Never:**

Never place hazardous waste in solid waste dumpsters.

Never pour liquid waste down floor drains, sinks or outdoor storm drain inlets.

Never mix petroleum waste and chemical waste.

Never dispose of any gasoline-contaminated waste in the regular trash. Dispose of it only as a hazardous waste.

### **Other Related SOPs:**

- General Facility Housekeeping
- Spill Cleanup
- Alternative Products Use/Storage/ Disposal

Standard Operating Procedure For:

## 2.19 Petroleum and Chemical Handling



**Purpose of SOP**

To protect stormwater by properly managing petroleum products and chemicals used by municipalities.

### **Always:**

Train employees in hazardous material handling, safety, spill cleanup and reporting on an annual basis.

Handle petroleum products and chemicals according to manufacturer's specifications.

Conduct oil changes indoors for equipment that fits indoors.

Use proper protective equipment.

Maintain Material Safety Data Sheets (MSDS) for all chemicals used.

Make MSDS sheets available on materials that require special handling, storage and/or disposal.

Create a sign-off sheet for employees stating that they know the location of the MSDS(s).

### **Whenever Possible:**

Assess hazardous material needs to minimize the amount and variety of hazardous material in storage.

Transfer materials from one container to another indoors in a well ventilated area. Properly label containers.

Train new employees within six months of hire.

### **Never:**

Never treat or dispose of hazardous materials unless licensed to do so.

Never mix petroleum or chemicals unless directed by manufacturer's instructions.

#### **Other Related SOPs:**

- Parts Cleaning
- Spill Cleanup
- General Facility Housekeeping
- Alternative Products Use/Storage/Disposal
- Mowing/Trimming



Standard Operating Procedure For:

## 2.20 Petroleum and Chemical Storage - Bulk



**Purpose of SOP**

To protect stormwater by properly storing bulk petroleum products and chemicals (containers larger than 55 gallons).

### **Always:**

- Store materials away from high traffic areas, posted with appropriate signage.
- Store materials according to manufacturer's specifications in approved containers and conditions.
- Be prepared for possible spills by having a spill kit nearby.
- Develop and use a Spill Prevention Control and Countermeasure (SPCC) plan if storing more than 1,320 gallons of petroleum (required).
- Store incompatible hazardous materials in separate areas.
- Inspect storage areas for leaks or drips frequently.
- Store bulk items within secondary containment areas if bulk items are stored outside.
- Conduct annual employee training to reinforce proper storage techniques for petroleum and chemical products.

### **Whenever Possible:**

- Store bulk chemicals and petroleum products inside or under cover.
- Provide secondary containment for interior storage.

### **Never:**

- Never store bulk chemicals or petroleum products near a storm drain.

### **Other Related SOPs:**

- Chemical Handling
- Spill Cleanup
- General Facility Housekeeping

Standard Operating Procedure For:

## 2.21 Petroleum and Chemical Storage - Small Quantity



Purpose of SOP

To protect stormwater from pollution by properly storing petroleum products or chemicals (containers smaller than 55-gallons).

### Always:

- Store materials away from high traffic areas.
- Store materials according to manufacturer's specifications (e.g. in a flammable materials storage cabinet).
- Dispose of unused or waste materials properly.
- Train employees on proper storage procedures for petroleum and chemical products.
- Store materials in their original containers to maintain appropriate labeling.
- Be prepared for spills by having a spill kit nearby.
- Frequently inspect the storage areas for leaks or spills.
- Conduct annual employee training to reinforce proper storage techniques for petroleum and chemical products.

### Never:

- Never store bulk chemicals or petroleum products near a storm drain.

### Other Related SOPs:

- Spill Cleanup
- General Facility Housekeeping

Standard Operating Procedure For:

## 2.22 Garbage Storage



**Purpose of SOP**

To protect stormwater from contamination by properly storing garbage. Garbage and leachate can be transported by stormwater and enter the storm drain system and receiving waterbodies.

**Always:**

Dispose of hazardous materials according to manufacturer's specifications and applicable regulations.

Cover rubbish bins to keep rubbish and leachate in and wind and rain out.

**Whenever Possible:**

Store garbage containers beneath a covered structure or inside to prevent contact with stormwater.

Install berms, curbing or vegetation strips around storage areas to control water entering/leaving storage areas.

Locate dumpsters on a flat, concrete surface that does not slope or drain directly into the storm drain system.

Locate dumpsters and trash cans in convenient, easily observable areas.

Provide properly-labeled recycling bins to reduce the amount of garbage disposed.

Inspect garbage bins for leaks regularly, and have repairs made immediately by responsible party.

Keep bins free of improperly discarded trash.

Provide training to employees to prevent improper disposal of general trash.

Minimize waste by purchasing recyclable products that have minimal packaging.

Request/use dumpsters without drain holes.

**Never:**

Never place hazardous wastes in a dumpster or trash bin.

**Other Related SOPs:**

- General Facility Housekeeping

Standard Operating Procedure For:

## 2.23 General Facility Housekeeping



Purpose of SOP

To protect stormwater by maintaining a clean, organized facility.

### Always:

Keep a tidy facility.

Store hazardous materials as specified by the manufacturer.

### Whenever Possible:

Store materials and wastes inside or under cover if outside.

Substitute less or non-toxic materials for toxic ones.

Perform a routine cleaning of the facility.

Inspect facility (interiors, exterior, parking areas, etc.) for stains.

Conduct regular employee training and public education to reinforce proper housekeeping.

### Other Related SOPs:

- Spill Cleanup
- Street Sweeping
- Alternative Product Use/Storage/Disposal

Standard Operating Procedure For:

## 2.24 Floor Drains



**Purpose of SOP**

To protect stormwater from pollution caused by discharges of hazardous materials to the subsurface, ground surface, waterway or storm sewer through floor drains.

### **Always:**

Keep a spill kit in the vicinity of the floor drains.

Obtain and use drain mats to cover floor drains in the event of spills.

Use floor drains that are connected to a holding tank or to the sanitary sewer via an oil/water separator.

### **Whenever Possible:**

Minimize water use or run a dry shop.

### **Never:**

Never dump hazardous materials down the floor drains.


Never store leaking vehicles over floor drains.

Never store hazardous or petroleum products in the vicinity of floor drains.

Never use floor drains if you are unsure of their discharge location.

### **Other Related SOPs:**

- Spill Cleanup
- Fertilizer and Pesticide Storage and Disposal
- Petroleum and Chemical Handling
- Petroleum and Chemical Storage
- Petroleum and Chemical Disposal

<b>Standard Operating Procedure For:</b>		
<b>2.25 Painting</b>		
<b>Purpose of SOP</b>	To protect stormwater by properly storing, using and disposing of paint and preparation materials.	

**Always:**

- Store waste paints, solvent, and rags in covered containers.
- Contact the TDEC to determine if air emission permits are required.
- Perform abrasive blasting and spray painting in accordance with regulations.
- Properly clean, store, and dispose of paint and associated waste materials.
- Train employees on Best Management Practices concerning painting activities, cleanup and disposal.

**Whenever Possible:**

- Use less toxic paints such as latex or water-based paints.
- Use drop cloths under any painting or preparation activity such as scraping or sandblasting.
- Use techniques such as brushing and rolling to avoid overspray.
- Use vacuum sanders to collect paint dust.
- Perform abrasive blasting and spray painting in an enclosed or covered area that is safe for personnel.

**Never:**

- Never dispose of paint or waste paint products into the storm drain system, a waterbody, or onto the ground.

<p><b>Other Related SOPs:</b></p> <ul style="list-style-type: none"> <li>- General Facility Housekeeping</li> <li>- Petroleum and Chemical Storage, Small Quantity</li> <li>- Alternative Products Use/Storage/Disposal</li> </ul>
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Standard Operating Procedure For:

## 2.26 Street Sweeping



**Purpose of SOP**

To remove sediment, debris and other pollutants from streets, parking areas, and paved surfaces through regular, properly timed sweeping schedules.

### **Always:**

Dispose of sweeping residual properly (reuse is unrestricted if evidence of litter and visual petroleum contamination is absent).

Sweep in a pattern that prevents materials from being pushed into storm drains/catch basin inlets.

Sweep all publicly accepted paved streets and parking lots at least once per year as soon as possible after snowmelt.

### **Whenever Possible:**

Perform additional sweeping on a seasonal schedule.

Sweep in locations that generate debris, such as construction entrances, sand/salt loading areas, vehicle fueling areas, vehicle equipment, and storage areas or on an as needed basis.

Street sweep before a major rain event.

Use dry vacuum assisted street sweepers (the most effective).

Maintain street sweeping equipment for maximum effectiveness.

Locate storage and disposal areas and manage street sweeping waste so that wastes cannot be transported into storm drain systems, waterbodies or wetlands.

### **Never:**

Never store street sweeping residuals in areas where stormwater could transport fines to the storm drain system or a waterbody.

#### **Other Related SOPs:**

- Vehicle and Equipment Storage
- Sand and Salt Storage

Standard Operating Procedure For:

## 2.27 Road Maintenance – Snow Disposal



**Purpose of SOP**

To protect stormwater by minimizing the impact of snow piles which contain sand, salt, and trash and which generate concentrated releases of pollutants during spring snowmelt conditions.

**Always:**

Identify sensitive ecosystems prior to disposal and avoid snow disposal in these areas.

Obtain a Waste Discharge License from TDEC if snow storage is near wetlands, aquifer recharge areas, ponds, streams, or tidal and river areas.

Remove trash/waste from snow dump areas as soon as possible after snow melt.

**Whenever Possible:**

Select storage locations that do not drain into surface waters and where environmental impacts of spring melt are minimal.

Store snow on areas that are well above the groundwater table on a flat, vegetated slope.

Avoid disposal on pavement, concrete, and other impervious surfaces.

Do not pile snow in wooded areas, around trees or in vegetative buffers.

Divert run-on of water from areas outside the snow piles.

Manage remaining materials after snowmelt by containing and cleaning up the sediment, sand, and debris.

Have the TDEC review your snow storage/disposal location(s).


**Never:**

Never dispose of snow in wetlands, lakes, streams, rivers, shellfish beds, mudflats, or near drinking water sources.

**Other Related SOPs:**

- General Facility Housekeeping
- Sand and Salt Storage



Standard Operating Procedure For:		
<b>2.28 Road Maintenance – Sand and Salt Storage</b>		
Purpose of SOP	To protect stormwater by properly storing deicing materials. Sand, salt and other deicing materials used during winter can be transported by runoff into the storm drain system and eventually into waterbodies if not stored properly.	

**Always:**

- Cover sand/salt and salt piles that are situated on impervious surfaces.
- Register all new sand/salt storage areas with the TDEC.

**Whenever Possible:**

- Contain wash water from trucks used for salting and sanding in a holding tank for disposal or discharge into sanitary sewers.
- Place salt piles in areas not subject to flooding.
- Cover sand/salt and salt piles with a tarp (polyethylene) during non-freezing spring and summer months when storage facilities are not available.
- Contain stormwater runoff from areas where salt is stored by using buffers to diffuse runoff before entering waterbodies.
- Use diversion berms to minimize run-on to storage areas.
- Cleanup “track out” after storm events.
- Have the TDEC review your snow storage/disposal location(s).

**Never:**

- Never dispose of wash water from sanding and salting trucks into the storm drain system, a waterbody or septic system drain fields.

<p><b>Other Related SOPs:</b></p> <ul style="list-style-type: none"> <li>- General Facility Housekeeping</li> <li>- Street Sweeping</li> <li>- Alternative Products Use/Storage/Disposal</li> </ul>
---

Standard Operating Procedure For:

## 2.29 Road Maintenance – Salt Application



Purpose of SOP

To protect stormwater by improving application techniques of salt, sand, and other deicing materials.

### Always:

Calibrate sand/salt trucks in accordance with Tennessee DOT recommendations.

### Whenever Possible:

Use the minimum amount of salt and sand needed to get the job done.

Use coarse, clean sand, which is free of fine particles and dust and easier to clean in the spring.

Train drivers to improve application techniques and reduce losses.

Establish "low salt and/or sand areas" near sensitive environments. Sand may be detrimental in areas sensitive to sedimentation, such as streams, and salt can impact water supply wells.

Remove snow manually from driveways and sidewalks.

Limit toxic metals in specifications for deicers.

Cleanup road grit as soon as possible.

Use less harmful deicers such as calcium magnesium acetate, potassium acetate, or organic deicers such as Magic Salt™.

Consider road temperatures when determining volume of salt to apply.

Control the rate of spreading by equipping trucks with ground-speed sensors.

### Other Related SOPs:

- General Facility Housekeeping
- Alternative Products Use/Storage/Disposal

Standard Operating Procedure For:

## 2.30 Parks and Open Space Inspections



Purpose of SOP

To insure that parks and open spaces are maintained and free from debris.

### Always:

Conduct inspections during dry weather periods.

Conduct inspections yearly.

### Whenever Possible:

Use the Parks and Open Spaces Inspection Form to document observations.

Take photographs of the as needed.

Examine city owned facilities for the possibility of incorporating additional water quality protection devices or practices.

### Other Related SOPs:

- General Facility Housekeeping
- Parks and Open Space Inspection From

# Parks and Open Space Inspection Form



Location:

Date: \_\_\_\_\_ Time: \_\_\_\_\_

<b>A. Facility Operation and Maintenance</b>	Yes	No	N/A
1. Are trash and litter removed from catch basins and other portions of the stormwater drainage system on a regular basis?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Are areas subject to erosion stabilized with grass, mulch, or other appropriate sediment control measures?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Is the parking lot regularly swept or vacuumed to clean up sediment and trash?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Are there timely inspections and maintenance of stormwater management devices (e.g. cleaning catch basins and clogged inlets)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Are sediment traps installed in storm drains or sewer systems operating and being maintained properly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>B. Solid Waste Management</b>			
1. Are loose garbage and waste materials picked up and disposed regularly?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Are trash and litter removed from catch basins and other portions of the stormwater drainage system on a regular basis?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Are garbage lids closed to prevent rainwater from entering refuse?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Are container overflows monitored and corrected periodically?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>C. Vehicle and Equipment Maintenance</b>			
1. Are there regularly scheduled inspections of equipment?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Is all equipment free of leaks and drips?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Are non toxic or low toxicity cleaning compounds used?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Are maintenance activities performed indoors where practical?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Is wash water contained or otherwise kept out of the storm drain?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Is a list of names and telephone numbers of appropriate responders kept with procedures for notifying personnel in case of a leak or spill?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments:

Compliance
  Non- Compliance
  Not Applicable

\_\_\_\_\_  
 Stormwater Program Representative



## EDUCATION SOP LIST

### Description

Education is a key nonstructural BMP that supports both structural and nonstructural practices. Education programs are the first step in achieving proper operational procedures and incorporating practices into daily activities to minimize the potential for pollutants to become incorporated into stormwater runoff. Nonstructural practices such as this can cost-effectively compliment other BMPs and reduce pollutant loads that contribute to stormwater pollution.

A stormwater education program can have a wide range of applications and audiences. Any homeowner or municipal, commercial or industrial facility that impacts stormwater could benefit from practices achieved by this BMP. Examples of suitable applications include the following:

- Schools
- Employees
- Commercial or Industrial businesses
- General Public

Standard Operating Procedure For:

## 3.1 Schools — Project WET



Purpose of SOP

To insure that local teachers are equipped to teach proper stormwater practices.

### Needed:

Work with local school boards to schedule event and have it included in official school calendar


Book meeting and classroom: Ocoee Whitewater Center  
4400 Highway 64  
Copperhill, TN 37317  
423-496-0100

Book certified Project Wet Teacher: Mr. George Bartnik  
Tennessee Aquarium  
201 Broad Street, Suite 200  
Chattanooga, TN 37402  
423-785-4049

Schedule Transportation: Mr. Lamar Davis  
Outland Expeditions  
423-478-1442

Send promotional flyer ( attachment 1) to all teachers.

Book caterer for supplied Lunch

<b>Standard Operating Procedure For:</b>		
<b>3.2 Public Works Employees</b>		
<b>Purpose of SOP</b>	To insure that all public works employees are equipped to spot stormwater problems and use proper stormwater practices on a daily basis.	

The Public Works Department performs highly visible activities in the community such as maintaining roadways, storm sewers, and sinkholes. If municipal departments such as this take on a leadership role, it can improve the community-wide acceptance of adopting and implementing educational programs.

**Required:**

All supervisors are required to be TDEC Level I certified.

All personnel are required to attend one of two annual internal stormwater classes.

All personnel are required to be familiar with all other stormwater SOP's.

**Desired Results:**

Educational programs can facilitate employee awareness of stormwater pollutants, runoff flow characteristics, spill prevention and control measures and proper operation and maintenance practices. Education is generally most effective when a target audience can clearly see the relationship between their daily activities and the associated stormwater quality impacts. Making this connection can result in changed habits and behaviors that can improve water quality in and outside of the workplace. Employee education programs will not only focus on workplace activities, but will also include ways that employees can reduce the potential water quality impacts in their homes and communities.

Standard Operating Procedure For:

## 3.3 Commercial or Industrial Business



**Purpose of SOP**

To insure that all businesses are aware of stormwater issues and how they can do their part to maintain stormwater quality.

### Measurable Goals:

Hold an annual Land Development Forum


Give one stormwater presentation a year tailored toward commercial businesses ( Rotary Club )

Give one stormwater presentation a year tailored toward Industrial runoff and other industrial stormwater issues ( LEPC )

### Desired Results:

Educational programs can facilitate employee awareness of stormwater pollutants, runoff flow characteristics, spill prevention and control measures and proper operation and maintenance practices. Education is generally most effective when a target audience can clearly see the relationship between their daily activities and the associated stormwater quality impacts. Making this connection can result in changed habits and behaviors that can improve water quality in and outside of the workplace. Employee education programs will not only focus on workplace activities, but will also include ways that employees can reduce the potential water quality impacts in their homes and communities.



Standard Operating Procedure For:		
<b>3.4 General Public</b>		
Purpose of SOP	To insure that the general public is aware of stormwater issues and how they can do their part to maintain stormwater quality.	

**Measurable Goals:**

Hold two stream cleanups a year. One is on or near Earth Day and we partner with Tennessee River Rescue.

Give out stormwater coloring books, pencils, pen, notebooks, and small toys with our contact information on them.

Give out Tennessee Farmers' Guide to Cleaner Water, and Tennessee Homeowners' Guide to Cleaner Water

Partner with other local stormwater agencies on Public Service Announcements produced by water works.

**Desired Results:**

Public education programs will enhance community responsiveness, which may increase inquiries or reporting when spills or illicit discharges occur.



# **SITE PLAN REVIEW SOPs**

Standard Operating Procedure For:

## 4.1 Small Site Plan Review– Land Disturbance



**Purpose of SOP**

To insure that site plans ( under 5000 sq feet) comply with all stormwater regulations.

### **Plan Requirements:**

All plans will follow the approved Site Plan/Plat Review Committee Bylaws.

All plans must comply with City of Cleveland Ordinances No: 2004-41 & 2005-38

### **Submit:**

Submit a site sketch including all soil erosion controls, parking, and landscaping details to the Community Development Department. If the site is located in a FEMA delineated flood zone, then flood elevations will need to be submitted by a TN licensed surveyor. The flood zone will need to be delineated on the site layout drawing. Delineate any "blue line" streams on the site plan layout and show proper required buffers (refer to stormwater ordinance for buffer requirements). All erosion and sediment controls must comply with the "Tennessee Erosion & Sediment Control Handbook."

### **Reviewer:**

Will determine receiving stream.

Will review the site sketch

Will review stormwater checklist

Will conduct Pre-Construction Meeting with site Contractor

Will give Land Disturbance Application Form (attachment 1) to Contractor

Standard Operating Procedure For:

## 4.2 Site Plan Review– Land Disturbance



Purpose of SOP

To insure that site plans ( over 5000 sq feet) comply with all stormwater regulations.

### Plan Requirements:

All plans will follow the approved Site Plan/Plat Review Committee Bylaws.

All plans must comply with current City of Cleveland Ordinances

Any site over one acre will require a TDEC Notice of Coverage.

A signed As-Built Agreement and Inspection and Maintenance Agreement required for all drainage features and post construction BMP's on site.

### Submit:

Submit a Stormwater Pollution Prevention Plan drawing with parking and landscaping details to the Development and Engineering Services Department. If the site is located in a FEMA delineated flood zone, then flood elevations will need to be submitted by a TN licensed surveyor. The flood zone will need to be delineated on the site layout drawing. Delineate any "blue line" streams on the site plan layout and show proper required buffers (refer to stormwater ordinance for buffer requirements)

All erosion and sediment controls must comply with the current "Tennessee Erosion & Sediment Control Handbook."

### Reviewer:

Will be TN EPSC level 2 certified

Will use the current "QLP NOI/SWPPP Checklist" (attachment 1) and keep on file

Will determine receiving stream

Will review the Soil Erosion & Sedimentation Plan

Will review NOI and Stormwater Pollution Prevention Plan (SWPPP) for all sites over one acre or part of a larger common plan of development, or as required by the stormwater ordinance.

Will note any comments and relay those to the Owner/Developer.

Will make sure as-built agreement and inspection and maintenance agreement are signed

Will conduct Pre-Construction Meeting (attachment 2) with site Contractor

Will give Land Disturbance Form (attachment 3) to Contractor



## Notice of Intent (NOI) & Stormwater Pollution Prevention Plan (SWPPP) Checklist for Construction Activities (TNR100000) Located within a Qualifying Local Program (QLP)

**Date Received:** \_\_\_\_\_ **Staff Review Completion Date:** \_\_\_\_\_ **New NPDES Tracking Number:** \_\_\_\_\_ **MS4 Jurisdiction:** \_\_\_\_\_  
**Reviewer:** \_\_\_\_\_ **# of Disturbed Acres:** \_\_\_\_\_ **Site/Project Name:** \_\_\_\_\_  
**Unavailable Waters: Yes No**    **Exceptional Waters: Yes No**    **T & E Species: Yes No**    **Fee Collected: Yes No**

This checklist pertains to the current CGP and is used during the NOI review process to help determine whether the submittal provides enough information to grant a Notice of Coverage under the permit. This checklist does not specifically address every condition of the permit or preclude the Division or QLP from asking for additional information.

Yes	No		Yes	No		
		Correct site-wide permittee (Owner/Developer) entity name included			Start/End dates listed	
		Proper signature for the owner/developer provided			Disturbed acreage given	
		Receiving waters listed			Latitude/Longitude given and is correct	
		ARAP Required?    ARAP #(s):			Secretary of State Control # (if applicable)	
		Appropriate portion of USGS topo map provided showing the boundaries of the construction	County(ies):			
Yes	No	N/A	SWPPP Requirements			CGP pg #
			For comprehensive SWPPPs - All foreseeable construction-related activities are addressed [1.4.2]			1
			Plans and specs for structural control measures have been prepared and stamped by Professional Engineer or Landscape Architect [3.1.1]			14
			Includes engineering design of sediment basin/controls for projects 10 acres or greater (5 acres if impaired/exceptional waters) [3.1.1]			14
			Includes Quality Assurance Site Assessment requirement criteria if applicable [3.1.2]			14
			Signed by the operator(s) [3.3.1]			15
			Includes multi-phase sheets: <5 ac. – 2-phase plan min.; ≥5 ac. – 3-phase plan min. [3.5.2]			18
			Depicts disturbance limits, buffer zones, watershed drainage patterns, and drainage area serving each outfall [3.5.1; 4.1.1]			17, 26
			Includes a description of all construction activities (not just grading and street construction) [3.5.1.a]			17
			Includes a description sequence of major activities (e.g., grubbing, excavation, grading, utilities, and infrastructure installation, etc.) [3.5.1.b]			17
			Includes estimates of the total site area versus the total area of the site to be disturbed [3.5.1.c]			17
			Includes a complete inventory of aquatic resources (including any stream, sinkhole or wetland) on or adjacent to the project [3.5.1.i]			17
			Includes a description of appropriate erosion prevention and sediment controls (EPSCs) and the general timing of implementation [3.5.2]			18
			Specifies which permittee is responsible for implementation of which EPSC [3.5.2]			18
			Specifies removal of trapped sediment from sediment controls at or before 50% design capacity [3.5.3.1.e]			19
			Specifies EPSCs will be implemented before earth-moving begins [3.5.3.1.f]			20
			Specifies stabilization within 14 days (7 days for ≥35% slopes) on site areas where construction has temporarily/permanently ceased [3.5.3.2]			21
			Specifies inspections of outfalls/EPSC measures at least twice weekly and at least 72 hours apart [3.5.8.2.a]			24
			Specifies that vegetation, EPSCs & other protective measures are repaired, replaced, or modified within 7 days [3.5.7; 3.5.8.2.f]			24, 25
			Depicts the proposed location of all major structural/nonstructural controls and all proposed stabilization practices [3.5.1.g; 3.5.3.3]			18
			Identifies all outfall locations intended for coverage under the CGP [3.5.1.g]			17
			Includes the name of the receiving water(s), and approximate size and location of affected wetland acreage at the site [3.5.1.j]			17
			Identifies construction phasing for activities that will disturb >50 acres [3.5.1.m & 3.5.3.1.k]			17, 20
			EPSCs have been designed to control the rainfall and runoff from a 2-year, 24-hour return interval storm [3.5.3.3]			21
			Specifies sediment basins for construction sites with drainage areas >10 acres [3.5.3.3]			21
			Specifies a 30' natural riparian buffer zone adjacent to all streams, lakes, wetlands on/adjacent to the construction site [4.1.2]			26

**Notice of Intent (NOI) & Stormwater Pollution Prevention Plan (SWPPP) Checklist for Construction Activities (TNR100000) Located within a Qualifying Local Program (QLP)**

Yes	No	N/A	<b>Additional SWPPP Requirements for Discharges into Impaired or Exceptional TN Waters</b>	CGP pg #
			Specifies that EPSCs proposed for the site have been designed to control storm runoff generated by a 5-year, 24-hour storm event [5.4.1.a]	30
			Specifies sediment basins for construction sites with drainage areas >5 acres that discharge to impaired or exceptional waters [3.5.3.3] [5.4.1.f]	31
			Specifies a 60' natural riparian buffer zone adjacent to all impaired or exceptional waters on/adjacent to the construction site [4.1.2] [5.4.2]	31
			<b>SWPPP Requirements for Permanent (Post-Development) Stormwater Management</b>	CGP pg #
			Specifies velocity dissipation devices at discharge locations and along the length of any outfall channel [3.5.4]	22
			Includes technical basis used to select velocity dissipation devices where flows exceed predevelopment levels [3.5.4]	23

Identification indicators of possible streams or wetlands utilizing site information and resources include:

1. Contour and stream indicators on USGS TOPO maps
2. Drainage area to a defined conveyance (20 acres east TN/40 middle TN/ 75 west TN),
3. Aerial photography identifying a sinuous tree line or grouping of remaining forest in an agricultural setting
4. Springhouse/box
5. Comparable nearby drainage that has previously been determined to have a stream
6. Onsite or adjacent ponds or impoundments
7. Check EFO HD GIS for previous determinations
8. NRCS soil maps or Web Soil Survey: (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>)
9. Wetlands on National Wetlands Inventory: (<http://www.fws.gov/wetlands/data/mapper.HTML>)

If sufficient indicators exist, a stream determination may need to be performed. Stream determinations must be performed by a Qualified Hydrologic Professional: (<http://tnhdt.org/>).

Comments

# Pre-Construction Meeting

LD Permit # \_\_\_\_\_

Project Name: \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Attendees:**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

This form is for land disturbance activities **less than 1 acre** inside the city limits of Cleveland. When dealing with development of less than 1 acre, there is no requirement for a Stormwater Pollution Prevention Plan (SWPPP) or Notice of Coverage (NOC) from the Chattanooga Environmental Field Office of the Tennessee Department of Environment and Conservation (TDEC).

## Before Permits are issued:

- If you are adding permanent Stormwater structures to your development, the City of Cleveland requires the responsible party to sign a City of Cleveland As-Built Agreement prior to receiving your Land Disturbance Permit
- After signing the As-Built Agreement, a Pre-Construction Meeting is required with the City of Cleveland Stormwater Department. Once this meeting is complete, The City of Cleveland will issue the Land Disturbance Permit for the development. After you receive the land disturbance permit, you are authorized to proceed with land disturbance activities
- Go to [www.clevelandtn.gov/stormwater](http://www.clevelandtn.gov/stormwater) and click on Stormwater Resources for links to all the above forms and ordinances

## Before Land Disturbance Activities Begin:

- All necessary Erosion Prevention and Sediment Control measures (EPSC) shall be installed in accordance with the installation guidelines provided in the current edition of the TDEC Erosion and Sediment Control Handbook.
- EPSC measures could be any combination of the following: Silt fencing, wattles, eels, straw logs, check dams, construction exits, sediment basins, sediment ponds, sediment traps, dewatering devices, diversion ditches, filter rings, baffles etc.
- When working with Sediment basins, sediment ponds, and/or sediment traps, the contractor must construct these structures before the land draining to them is disturbed.
- If detention basins are to be used as sediment basins during construction, they should be over excavated. The low level outlets should be blocked until all of the areas flowing to the pond are stabilized

## During Construction:

- Sediment must be removed from ponds, checks and barriers when the capacity has been reduced by 50%
- The EPSC's must be maintained to function properly during the duration of construction activity. Any inadequate control measures or control measures found in disrepair shall be replaced or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified.
- Excavated topsoil to be reused must be stockpiled, seeded and encircled with properly installed EPSC's.
- Outfall points (where discharge waters leave the site) shall be inspected to determine whether EPSC measures are effective in preventing significant impacts to receiving waters



## **During Construction cont'd:**

- Litter, construction debris, and construction chemicals exposed to Stormwater must be picked up prior to an anticipated storm or otherwise prevented from becoming a pollutant source for Stormwater discharges
- All pipes should have some form of sediment barriers at the inlet and riprap at the outlet
- Stabilization should be accomplished as soon as practicable after attaining final grade and no later than 7 days after attaining final grade. When earthmoving activity is to be stopped for 15 days or more before final grade is attained, temporary stabilization must be applied with 7 days

## **Post Construction:**

- Remove all temporary EPSC measures
- Check all permanent Stormwater structures on site for sediment and flush out as needed prior to completing the project
- It is the developer's responsibility to have all structures checked to verify that minimum designed storage capacity for Stormwater collection still exists in the detention basin. This check should be part of the As-Built Survey
- All pond structures previously used as sediment basins will need to be modified to function as designed as a detention structure
- An As-Built Survey shall be created per the As-Built Agreement signed prior to the beginning of construction. This survey shall be submitted in CAD format to the City of Cleveland Development and Engineering Services Department for review

**\*\*\*Please note that any changes made to the construction plans must be submitted to the Development and Engineering Services Department\*\*\***

## Contacts

### Stormwater:

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Stormwater Coordinator  
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Email: cbroom@clevelandtn.gov

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### City Engineering:

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# Pre-Construction Meeting

LD Permit # \_\_\_\_\_

Project Name: \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Attendees:**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

## **Before Permits are issued:**

- If the job site is 1 acre or greater, the Tennessee Department of Environment and Conservation (TDEC) requires the developer to submit a Stormwater Pollution Prevention Plan (SWPPP) along with a Notice of Intent (NOI) and applicable fees to the City of Cleveland for review. Once reviews are complete, the City will issue to the developer a Notice of Coverage (NOC) document which includes the TNQ Master Tracking Number assigned to the development
- After obtaining your NOC from the City, you will be required to sign a City of Cleveland As-Built Agreement prior to receiving your Land Disturbance Permit
- After signing the As-Built Agreement, a Pre-Construction Meeting is required with the City of Cleveland Stormwater Department. Once this meeting is complete, The City of Cleveland will then issue a Land Disturbance Permit for the development. After you receive the land disturbance permit, you are then authorized to proceed with land disturbance activities
- Go to [www.clevelandtn.gov/stormwater](http://www.clevelandtn.gov/stormwater) and click on Stormwater Resources for links to all the above forms and ordinances

## **Before Land Disturbance Activities Begin:**

- Prior to beginning any land disturbance activity, the Erosion Prevention and Sediment Control (EPSC) measures called out in the SWPPP shall be installed in accordance with the installation guidelines provided in the current edition of the TDEC Erosion and Sediment Control Handbook. (E&S Handbook) These measures include, but are not limited to, the public display board with all required documentation posted, preservation areas and non-disturbed areas cordoned off per drawing(s), the complete installation of all silt fence, wattles, check dams, construction exits, sediment basins, sediment ponds, sediment traps, dewatering devices, diversion ditches, filter rings, baffles and any other erosion control measure called out in the SWPPP. If the project is phased, then install all erosion controls measures per the phasing schedule
- Sediment basins, sediment ponds, and/or sediment traps must be constructed before the land draining to them is disturbed. If detention basins are to be used as sediment basins during construction, they should be over excavated. The low level outlets should be blocked until all of the areas flowing to the pond are stabilized

## **During Construction:**

- Inspection of EPSC measures shall be performed at least twice every calendar week and documented on the City of Cleveland Construction Stormwater Inspection Form provided (Twice weekly inspection form). Inspections shall be performed at least 72 hours apart. In the event of a rain of 0.5 inches or greater, an inspection is required within 24 hours after the end of rain. This post rain inspection can count as one of the twice weekly inspections. All completed forms are to be kept with the SWPPP on site at all times during the project
- Where sites or portions of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions, (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes

## **During Construction cont'd:**

- Sediment must be removed from ponds, checks and barriers when the capacity has been reduced by 50%
- During the EPSC inspections, any inadequate control measures or control measures found in disrepair shall be replaced or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified. If this time schedule cannot be met, please contact the City of Cleveland Stormwater Department. The inspector shall document all issues with the EPSC measures on the twice weekly inspection form
- Excavated topsoil to be reused must be stockpiled, seeded and encircled with properly installed erosion control measures
- Outfall points (where discharges leave the site) shall be inspected to determine whether EPSC measures are effective in preventing significant impacts to receiving waters
- Litter, construction debris, and construction chemicals exposed to Stormwater must be picked up prior to an anticipated storm or otherwise prevented from becoming a pollutant source for Stormwater discharges
- All pipes should have some form of sediment barriers at the inlet and riprap at the outlet
- Stabilization should be accomplished as soon as practicable after attaining final grade and no later than 7 days after attaining final grade. When earthmoving activity is to be stopped for 14 days or more before final grade is attained, temporary stabilization must be applied with 7 days

## **Post Construction:**

- Remove all temporary EPSC measures
- Check all permanent Stormwater structures on site for sediment and flush out as needed prior to completing the project
- It is the developer's responsibility to have all structures checked to verify that minimum designed storage capacity for Stormwater collection still exists in the detention basin. This check should be part of the As-Built Survey
- All pond structures previously used as sediment basins will need to be modified to function as designed as a detention structure
- An As-Built Survey shall be created per the As-Built Agreement signed prior to the beginning of construction. This survey shall be submitted in CAD format to the City of Cleveland Development and Engineering Services Department for review
- Submit a Notice of Termination (NOT) to the City of Cleveland once the construction site is stabilized to close the permit.

## **Required documentation for on-site display board that is visible to the public:**

- ➔ A copy of the Notice of Coverage (NOC) issued by The City of Cleveland
- ➔ A site contact information sheet with names and numbers of those responsible for the site
- ➔ A copy of the City of Cleveland issued Land Disturbance Permit
- ➔ A copy of the Erosion Control Plan and your SWPPP Plan (or in job trailer) **(see below)**
- ➔ A copy of each twice weekly inspection form that has been completed throughout the length of project (or in job trailer) **(see below)**
- ➔ A copy of your rain collection data sheet (or in job trailer) **(see below)**

### **Erosion Control Plan (ECP)**

- This required document is what you send to the City of Cleveland for review as part of the Stormwater Pollution Prevention Plan (SWPPP). Depending on the scope of work, this could be a one sheet drawing or several sheets. Once the NOC is issued which gives you approval to proceed from the City, you will need to post the ECP documents onsite. The ECP is a somewhat fluid document that can be modified as needed in the event that some Stormwater control measures called out in the plan are not adequate. This item is typically best kept in a mailbox or in a PVC tube with removable ends attached to or adjacent to the display board. If using a job trailer, these items are typically kept there

### **Twice Weekly inspection forms**

- Inspections shall begin when erosion control measures are installed before land disturbance begins. The forms generated from each inspection shall be available for inspection by the City of Cleveland Stormwater Department. Twice weekly Inspections can only be completed by a TDEC Level 1 or level 2 Certified Stormwater Inspector. The inspection form needs to be filled out completely every time. These forms serve as your documented proof that you are checking and maintaining the erosion control measures as required by the SWPPP until final stabilization occurs

### **Rain Gage**

- The rain collection data should be taken onsite using a reliable manual device, or a digital unit. An offsite location is allowed for referencing rain collection, but it is ideal to have your own that you maintain during the land disturbance activities. Rain collections shall be documented daily on a rain data long sheet as well as on the twice weekly inspection forms



CITY OF CLEVELAND DEVELOPMENT AND ENGINEERING SERVICES DEPARTMENT

Stormwater Division
185 2nd Street NE, Cleveland, Tennessee 37311
(423) 479-1913

General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)

Construction Stormwater Inspection Certification (Twice-Weekly Inspections)



Table with 2 columns: Site or Project Name, NPDES Tracking Number: TNQ. Rows include Primary Permittee Name, Date of Inspection, Current approximate disturbed acreage, Has rainfall been checked/documented daily?, Name of Inspector, Current weather conditions, Inspector's Training Certification Number.

Please check the box if the following items are on-site:

- Notice of Coverage (NOC) Stormwater Pollution Prevention Plan (SWPPP) Twice-weekly inspection documentation
Site contact information Rain Gage Off-site Reference Rain Gage Location:

Best Management Practices (BMPs):

Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly: If "No," describe below in Comment Section

Table with 4 columns: Question, Yes, No. Contains 9 questions regarding EPSCs, dewatering, stabilization, and pollution prevention measures.

Comment Section. If the answer is "No" for any of the above, please describe the problem and corrective actions to be taken. Otherwise, describe any pertinent observations:

Certification and Signature (must be signed by the certified inspector and the permittee per Sections 3.5.8.2 (g) and 7.7.2 of the CGP)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Table with 3 columns: Name and Title, Signature, Date. Rows for Inspector and Primary Permittee.

## Construction Stormwater Inspection Certification Form (Twice-Weekly Inspections)

### **Purpose of this form/ Instructions**

An inspection, as described in section 3.5.8.2. of the General Permit for Stormwater Discharges from Construction Activities ("Permit"), shall be performed at least twice every calendar week and documented on this form. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes.

As described in section 3.5.8.1 of the Permit, inspectors performing the required twice weekly inspections must have an active certification by completing the "Fundamentals of Erosion Prevention and Sediment Control Level I" course (<http://www.tnepsc.org/>). Twice weekly inspections can also be performed by: a licensed professional engineer or landscape architect; a Certified Professional in Erosion and Sediment Control (CPESC) or a person who has successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course. A copy of the certification or training record for inspector certification should be kept on site.

Qualified personnel, (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the site's drainage system. Erosion prevention and sediment control measures shall be observed to ensure that they are operating correctly.

Outfall points (where discharges leave the site and/or enter waters of the state) shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified.

Based on the results of the inspection, the site description identified in the SWPPP in accordance with section 3.5.1 of the Permit and pollution prevention measures identified in the SWPPP in accordance with section 3.5.2 of the Permit, shall be revised as appropriate, but in no case later than 7 days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 days following the inspection.

All inspections shall be documented on this Construction Stormwater Inspection Certification form. Alternative inspection forms may be used as long as the form contents and the inspection certification language are, at a minimum, equivalent to the city's form and the permittee has obtained a written approval from the city to use the alternative form. Inspection documentation will be maintained on site and made available to the city upon request. Inspection reports must be submitted to the city within 10 days of the request.

Trained certified inspectors shall complete inspection documentation to the best of their ability. Falsifying inspection records or other documentation or failure to complete inspection documentation shall result in a violation of this permit and any other applicable acts or rules.





## TDEC EPSC Inspection Monthly Rainfall Data Log

Month \_\_\_\_\_ Year \_\_\_\_\_

Date	Day of Week <sup>1</sup>	Predicted Precipitation (%) <sup>2</sup>	Rainfall Gage 1 (in)	Rainfall Gage 2 (in)	Rainfall Gage 3 (in)	Rainfall Gage 4 (in)	Rainfall Gage 5 (in)	Duration (hr)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								

<sup>1</sup> Day of Week= Su,M,Tu,W,Th,F,Sa

<sup>2</sup> Predicted Precipitation Source: \_\_\_\_\_

## **Contacts**

### **Stormwater:**

Christopher Broom  
Stormwater Coordinator  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: cbroom@clevelandtn.gov

Ryan Stephens  
Stormwater Technician  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: rstephens@clevelandtn.gov

### **City Engineering:**

Brian Beck  
City Engineer  
Office: 423-479-1913  
Fax: 423-559-3373

Brian Gilbert  
Staff Engineer  
Office: 423-479-1913  
Email: bgilbert@clevelandtn.gov

Tonya Young  
Engineering Technician (GIS and Addressing)  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: tyoung@clevelandtn.gov

David Sheely  
Transportation Project Manager  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: dsheely@clevelandtn.gov

### **Building Department:**

Bryan Turner  
Building Official  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: bturner@clevelandtn.gov

Tina Rymer  
Building Inspector  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: trymer@clevelandtn.gov

Josh Holder  
Building Inspector  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: jholder@clevelandtn.gov

Adam Donegan  
Building Inspector  
Office: 423-479-1913  
Fax: 423-559-3373  
Email: adonegan@clevelandtn.gov

# Stormwater Program



## Land Disturbance Permit Application

COMMERCIAL

Project Title: \_\_\_\_\_  
Applicant: \_\_\_\_\_  
Phone #: \_\_\_\_\_  
Map-Grp-Parcel: \_\_\_\_\_  
Site Address: \_\_\_\_\_  
Watershed: \_\_\_\_\_

### Permit is required if any one of the following conditions exists:

- Parcel is part of a larger common plan of development (subdivision).
- Parcel is one acre or greater.
- Parcel is adjacent to a blue line stream or tributary, as indicated on a USGS map or City GIS system.
- Exempt from Site Plan Review but stormwater management plans required.

### Required submittals:

- Copy of TDEC Notice of Coverage and SWPPP.
- Site plan approval pursuant to Title 14, Chapter 2, Subsection 6.2 of the Zoning Ordinance must be obtained prior to issuance of a land disturbance permit.
- Planning Commission approval.
- Stormwater management plan, including post construction stabilization meeting the specification of Ordinance 2004-41 Sections 18-304 through 18-307.
- Landscape plan consistent with Ordinance 2004-41 Section 18-304.

### Required fees:

- Multi-Unit Residential- \$50.00 per acre. Additional Water Quality fee of \$85.00 will be added to permit fee for 303d mandate.
- Multi-Unit Commercial and Industrial- \$50.00 per acre. Additional Water Quality fee of \$85.00 will be added to permit fee for 303d mandate.
- Residential Subdivision- \$20.00 per each planned lot.

### Special Provisions:

Approved for Issuance: \_\_\_\_\_ Date: \_\_\_\_\_

Land Disturbance Permit Fee: \$

In accordance with Stormwater MS4 provisions, I attest that a preconstruction meeting was held and erosion and sediment controls identified on the approved plan will be installed prior to site grading or land disturbance as defined in Stormwater MS4 Ordinance 2004-41.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date



# **CONSTRUCTION SITE INSPECTIONS SOPs**

Standard Operating Procedure For:

## 5.1 Construction Site Inspections



**Purpose of SOP**

To protect stormwater quality by insuring construction site BMPs are installed correctly and maintained.

### **Always:**

Verify that BMPs are installed per the approved Storm Water Pollution Prevention Plan (SWPPP) for the site.

Verify that BMPs are being maintained.

Verify that all permits posted are posted on site.

Complete the MS4 Web Permit Manager program inspection report form.

If site is found to not be in compliance follow the "City of Cleveland Stormwater MS4 Phase II Management Enforcement Protocol."

Perform follow up inspections till the site has been stabilized.

### **Whenever Possible:**

Take pictures of any areas of concern.

Perform site inspections with the site superintendent or person responsible for maintaining erosion controls.

### **Equipment List For Inspections:**

I.D. Badge

Boots

Rain Gear

Hat

Digital Camera

Laptop / Tablet

SWPPP for Site (Digital)

Stormwater Program Construction Inspection Report (Digital)

### **Never:**

Never put yourself in danger.

### **Other Related SOPs:**

- Stormwater Program Construction Inspection Report form



CITY OF CLEVELAND DEVELOPMENT AND ENGINEERING SERVICES DEPARTMENT

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Construction Stormwater Inspection Certification (Twice-Weekly Inspections)



Table with 2 columns: Site or Project Name, NPDES Tracking Number: TNQ. Rows include Primary Permittee Name, Date of Inspection, Current approximate disturbed acreage, Has rainfall been checked/documented daily?, Name of Inspector, Current weather conditions, Inspector's Training Certification Number.

Please check the box if the following items are on-site:

- Notice of Coverage (NOC) Stormwater Pollution Prevention Plan (SWPPP) Twice-weekly inspection documentation
Site contact information Rain Gage Off-site Reference Rain Gage Location:

Best Management Practices (BMPs):

Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly: If "No," describe below in Comment Section

Table with 4 columns: Question, Yes, No. Contains 9 questions regarding EPSCs, dewatering, stabilization, and pollution prevention.

Comment Section. If the answer is "No" for any of the above, please describe the problem and corrective actions to be taken. Otherwise, describe any pertinent observations:

Certification and Signature (must be signed by the certified inspector and the permittee per Sections 3.5.8.2 (g) and 7.7.2 of the CGP)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Inspector Name and Title, Signature, Date, Primary Permittee Name and Title, Signature, Date

## Construction Stormwater Inspection Certification Form (Twice-Weekly Inspections)

### Purpose of this form/ Instructions

An inspection, as described in section 3.5.8.2. of the General Permit for Stormwater Discharges from Construction Activities ("Permit"), shall be performed at least twice every calendar week and documented on this form. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes.

As described in section 3.5.8.1 of the Permit, inspectors performing the required twice weekly inspections must have an active certification by completing the "Fundamentals of Erosion Prevention and Sediment Control Level I" course (<http://www.tnepsc.org/>). Twice weekly inspections can also be performed by: a licensed professional engineer or landscape architect; a Certified Professional in Erosion and Sediment Control (CPESC) or a person who has successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course. A copy of the certification or training record for inspector certification should be kept on site.

Qualified personnel, (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the site's drainage system. Erosion prevention and sediment control measures shall be observed to ensure that they are operating correctly.

Outfall points (where discharges leave the site and/or enter waters of the state) shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified.

Based on the results of the inspection, the site description identified in the SWPPP in accordance with section 3.5.1 of the Permit and pollution prevention measures identified in the SWPPP in accordance with section 3.5.2 of the Permit, shall be revised as appropriate, but in no case later than 7 days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 days following the inspection.

All inspections shall be documented on this Construction Stormwater Inspection Certification form. Alternative inspection forms may be used as long as the form contents and the inspection certification language are, at a minimum, equivalent to the city's form and the permittee has obtained a written approval from the city to use the alternative form. Inspection documentation will be maintained on site and made available to the city upon request. Inspection reports must be submitted to the city within 10 days of the request.

Trained certified inspectors shall complete inspection documentation to the best of their ability. Falsifying inspection records or other documentation or failure to complete inspection documentation shall result in a violation of this permit and any other applicable acts or rules.



# **COMPLIANCE AND ENFORCEMENT SOPs**



Standard Operating Procedure For:

## 6.1 Compliance and Enforcement



**Purpose of SOP**

To protect stormwater quality by insuring construction site violations are corrected and BMPs are installed correctly and maintained.

### **Always:**

Call supervisor if you see evidence of violation.

When a violation is found contact the site superintendent or person responsible for maintaining erosion controls to resolve the issue.

If the violation continues proceed with the "City of Cleveland Stormwater MS4 Phase II Management Enforcement Protocol."

### **Whenever Possible:**

Take pictures of any areas of concern.

Perform site inspections with the site superintendent or person responsible for maintaining erosion controls.

### **Never:**

Never put yourself in danger.

### **Other Related SOPs:**

- City of Cleveland Stormwater MS4 Phase II Management Enforcement Protocol

## **City of Cleveland Stormwater Management Enforcement Response Plan**

National Pollutant Discharge Elimination System Permit Number TNS075213 authorizes the City of Cleveland to discharge stormwater runoff in accordance with certain water quality management programs and provisions as set forth in the permit.

Section 4.2.4.1 titled "Permit Requirement" provides that the City of Cleveland must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to Cleveland's MS4.

The City of Cleveland passed Ordinance Number 2004-41 establishing city regulation and enforcement oversight regarding stormwater management. This Ordinance, as amended by Ordinance Number 2005-38, is codified in the Cleveland Municipal Code in Sections 18-301 through 18-313.

Section 18-310 of the Cleveland Municipal Code outlines the administrative enforcement remedies available to the Stormwater Program Manager and other City staff to assure compliance with the City's stormwater ordinance. Penalties for violations are prescribed by Section 18-311, and Section 18-311(4) authorizes the Stormwater Regulations Board to adopt an enforcement protocol to aid City staff in enforcing the provisions of the City's Stormwater Ordinance.

Under Sections 8-310 and 8-311 of the Cleveland Municipal Code, enforcement mechanisms include,

- (a) Verbal Warnings;
- (b) Notification of Violation;
- (c) Consent Orders;
- (d) Show Cause Hearings;
- (e) Compliance Orders;
- (f) Cease and Desist Orders;
- (g) Civil Penalties;
- (h) Recovery of Damages and Costs.

In order to assure fair and just enforcement to all parties involved and to provide adequate guidance to City stormwater field personnel, the following protocol shall be employed in enforcement of the City's stormwater ordinance.

### **1. Land Disturbing Activities without Obtaining Necessary Land Disturbing Permit**

- (a) First Offense (Property Owner and Contractor): Cease and Desist Order; Notice of Violation; Civil Penalty equal to Cost of Permit. The Penalty shall be in addition to the land disturbance permit fee.



- (b) Second Offense (Property Owner and/or Contractor): Cease and Desist Order, Issuance of Civil Penalty of \$500.00 plus damages consisting of cost of permit and salary costs of enforcement of article.
- (c) Third or Subsequent Offense (Property owner and/or Contractor): Cease and Desist Order; Issuance of Civil Penalty of up to \$5,000.00 a day plus damages consisting of cost of permit and salary costs of enforcement of article.
- (d) Failure to Properly Transfer Land Disturbing Permit: Issuance of Civil penalty equal to the cost of new permit. The Penalty shall be in addition to the land disturbance permit fee.
- (e) Failure to Request Extension of Permit: Issuance of Civil Penalty equal to the cost of new permit. The Penalty shall be in addition to the land disturbance permit fee.
- (f) Note: Enforcement under this subsection is contractor and property owner specific, not site specific. Therefore, if a contractor receives a Notice of Violation for a first offense, the civil penalty for a second offense is to be issued against the Contractor for the second offense, regardless of the property owner or location of the property.

**2. Failure to Install, Maintain or Use Proper Construction Entrance (Tracking Mud on Street)**

- (a) First Offense: Written Warning Issued to Land Disturbing Permit Applicant. Copies sent to General Contractor and Property Owner.
- (b) Second Offense: Notice of Violation issued to Land Disturbing Permit Applicant.
- (c) Third or Subsequent Offense: Issuance of Civil Penalty against Land Disturbing Permit Applicant of \$250.00 per day, plus salary costs of enforcement of article.
- (d) Note: Failure of a Land Disturbance Permit applicant to aggressively remove any mud, debris or construction material that is deposited in a public roadway after receiving a Written Warning or a Notice of Violation will result in an additional civil penalty of \$250.00 per incident, plus the salary costs of enforcement of article, plus the cost of the city's expenses if city crews are required to remove mud, debris or construction material to protect the safety of the public.

**3. Failure to Install, Maintain or Use Proper Structural Erosion or Sediment Controls (Sediment Discharge)**

- (a) First Project Offense: Written Warning issued to Land Disturbing Permit Applicant. Copies sent to Property Owner if different than applicant. If project is exempt from obtaining a land disturbing permit, written warning is given to the property owner. Issuance of Civil Penalty for cost of damages for city expenses if



City crews are required to clean up sediment discharged into City Streets, right of-way or stormwater structures.

- (b) Second Offense: Notice of Violation issued to Land Disturbing Permit Applicant or Property Owner; Cease and Desist Order until necessary erosion and sedimentation controls are installed or maintained; Compliance Order to Submit Self-Inspection Documentation on Monthly Basis; Permit Exempt projects required to obtain Land Disturbing Permit. Issuance of Civil Penalty for cost of city expenses if City crews are required to clean up sediment discharged into City Streets, right-of-way or stormwater structures.
- (c) Third Offense: Issuance of Civil Penalty of \$100.00 per discharge point per discharge plus salary costs of enforcement of article to land disturbance permit applicant plus damages equal to the cost of city expenses if City crews are required to clean up sediment discharged into City Streets, right-of-way or stormwater structures. Cease and Desist Order until necessary erosion and sedimentation controls are installed or maintained.
- (d) Fourth or Subsequent Offense: Issuance of Civil Penalty of \$500.00 per discharge point per discharge to land disturbance permit applicant. Damages for the cost of city expenses if City crews are required to clean up sediment discharged into City Streets, right-of-way or stormwater structures. Cease and Desist Order until necessary erosion and sedimentation controls are installed or maintained.
- (e) Failure to Properly Maintain Erosion Control Self Inspection Sheets and On-Site Erosion Control Plan: Issuance of Civil Penalty of \$100.00 per inspection in which self-inspection sheets or up-to-date erosion control plans cannot be provided when asked by inspector.
- (f) Failure to Provide Proper Final Stabilization: Issuance of Civil Penalty of \$250.00 per day issued against Property Owner for each day past issuance date of final certificate of occupancy.

#### **4. Failure to Comply with Approved Stormwater Design Plans**

- (a) Upon Notice of Variation of Approved Plans: Written notification to Property Owner, Design Engineer, General Contractor and Land Disturbing Permit Applicant that construction does not match approved plans and that if modifications are to be made, revised plans must be submitted for review and approval.
- (b) Failure to Submit Revised Plans: Stormwater Management Inspectors cannot authorize approval for certificate of occupancy until modifications have been submitted and approved.
- (c) Failure to Implement Approved Stormwater Design Plan (Previously Occupied)



- i. Notice of Violation and Compliance Order: A Notice of Violation and Compliance Order shall be issued to the property owner giving a maximum of thirty days to install all required stormwater infrastructure.

Note: This protocol does not in any way deter the Stormwater Manager from entering into a Consent Order to eliminate illicit discharges in lieu of other enforcement actions.

- ii. Failure to Meet Compliance Order Deadline: Issuance of Civil Penalty of up to \$5,000.00 per day for each day approved plans is not met.

#### **5. Illicit Discharges (Non-residential, Non-accidental)**

*City staff must investigate complaint as soon as possible and follow the City of Cleveland Standard Operating Procedures for Illicit Discharge Detection and Elimination.*

- (a) First Offense: Notice of Violation issued to responsible party for non-stormwater discharge. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up illicit discharge will be assessed to the responsible party. Additional damages may include other items such as loss of income for not properly using sanitary sewer system.
- (b) Second Offense: Issuance of Civil Penalty against responsible party of up to \$5,000.00. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up illicit discharge will be assessed to the responsible party. Additional damages may include other items such as loss of income for not properly using sanitary sewer system.
- (c) Third or Subsequent Offense: Issuance of Civil Penalty against responsible party of up to \$5,000.00.
- (d) Note: An Illicit discharge properly reported as an accidental discharge as will be reclassified as Accidental Releases and not subject to a Civil Penalty as an illicit discharge. However, the responsible party may still be held liable to damages to the City. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up accidental release will be assessed to the responsible party.

#### **6. Illicit Discharges (Residential Wastewater Discharge)**

*City staff must investigate complaint as soon as possible and follow the City of Cleveland Standard Operating Procedures for Illicit Discharge Detection and Elimination.*

- (a) First Offense: Issuance of Notice of Violation and Compliance Order to stop illicit discharge within 10-days.
- (b) Failure to comply with Compliance Order: Enforcement action based on individual action. Enforcement may include investigation by City Code enforcement seeking input on condemnation of the residential unit for noncompliance with Order.



- (c) Note: An Illicit discharge properly reported as an accidental discharge as will be reclassified as Accidental Releases and not subject to a Civil Penalty as an illicit discharge. However, the responsible party may still be held liable to damages to the City. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up accidental release will be assessed to the responsible party.

### **7. Illicit Discharges (Residential Other than Wastewater Discharge)**

*City staff must investigate complaint as soon as possible and follow the City of Cleveland Standard Operating Procedures for Illicit Discharge Detection and Elimination.*

- (a) First Offense: Enforcement action based on individual action. More serious violations, such as deliberate dumping of pesticide, used motor oil or other hazardous or dangerous chemical into a storm drainage system, would result in Issuance of Civil Penalty plus recovery of actual costs of enforcement and/or damages. A less serious violation, such as raking leaves into drainage system, may result in written or verbal warning.
- (b) Note: An Illicit discharge properly reported as an accidental discharge as will be reclassified as Accidental Releases and not subject to a Civil Penalty as an illicit discharge. However, the responsible party may still be held liable to damages to the City. Additional damages consisting of salaries and the cost of all city crew or contracted services to clean up accidental release will be assessed to the responsible party.

### **8. Issuance of Show Cause Order:**

Pursuant to Cleveland Municipal Code Section 18-310, a Show Cause Hearing may be ordered if this protocol is unclear or inadequate to address any violation of the City's Stormwater Ordinance as codified in the Cleveland Municipal Code, Sections 18-301 through 18-313.

**APPENDIX C**  
**Level I and II Certifications**

# City of Cleveland Staff with TNEPSC Level 1 Certification



Home   Level 1   Level 1 Recertification   Level 2   Level 2 Recertification   Locations   Certification List   Info   CGP   TDEC Handbook

Level 1 Certified - Click Column Heading to Sort

Quick Search  Organization  Search

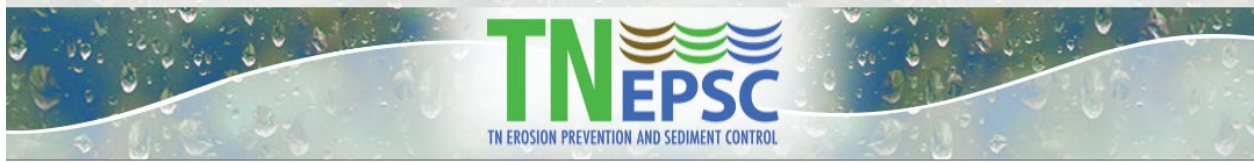
50 Page 1 of 1 Displaying 1 to 17 of 17 items

First Name	Last Name	Organization	City	Exp Date	Cert No
Erica	Bevis	City of Cleveland	Cleveland	12/31/2023	138077
Christopher	Broom	City of Cleveland	Cleveland	12/31/2023	130090
Summer	Cutshaw	City of Cleveland	Cleveland	12/31/2022	142624
Brian	Gilbert	City of Cleveland	Cleveland	12/31/2024	134073
Dan	Hartman	City of Cleveland	Cleveland	12/31/2024	120317
Shane	Hayes	City of Cleveland	Cleveland	12/31/2023	130102
Joshua	Holder	City of Cleveland	Cleveland	12/31/2023	131675
Paul	Montgomery	City of Cleveland Stormwater I	Cleveland	12/31/2024	145112
Jennifer	Moore	City of Cleveland	Cleveland	12/31/2022	142642
Marcus	Morris	City of Cleveland	Cleveland	12/31/2022	142643
Billy	Myers	City of Cleveland	Cleveland	12/31/2023	130116
Jan	Parks	City of Cleveland	Cleveland	12/31/2023	117280
Timothy	Presley	City of Cleveland	Cleveland	12/31/2024	132174
David	Sheely	City of Cleveland, TN	Cleveland	12/31/2023	130129
Ryan	Stephens	City of Cleveland	Cleveland	12/31/2023	130198
Jeff	Tilley	City of Cleveland	Cleveland	12/31/2023	130130
Bryan	Turner	City of Cleveland	Cleveland	12/31/2023	130132





# City of Cleveland Staff with TNEPSC Level 2 Certification



[Home](#) [Level 1](#) [Level 1 Recertification](#) [Level 2](#) [Level 2 Recertification](#) [Locations](#) [Certification List](#) [Info](#) [CGP](#) [TDEC Handbook](#)

## Level 2 Certified

Records 1 to 4 of 4

Enter First few Letters of Organization to search   [Search by Name](#) [Search by City](#)

First Name	Last Name	Organization (sort)	City (sort)	Cert. No.	Exp. Date
Erica	Bevis	City of Cleveland	Cleveland	138077-D2	12/31/2022
Christopher	Broom	City of Cleveland	Cleveland	130090-D2	12/31/2023
Brian	Gilbert	City of Cleveland	Cleveland	134073-D2	12/31/2024
Ryan	Stephens	City of Cleveland	Cleveland	130198-D2	12/31/2023

## **APPENDIX D**

### **Public Information/ Public Input Process**



# City of Cleveland Development and Engineering Services



**185 2<sup>nd</sup> Street NE  
Cleveland, TN 37311**

**Phone: (423) 479-1913  
Fax: (423) 559-3373**

April 24, 2017

Mr. Robert Karesh  
Statewide Stormwater Program  
Division of Water Resources

## **RE: Qualifying Local Program (QLP) Education and Outreach Plan**

The City of Cleveland's plan for Education and Outreach consists of the following components:

- We will have the newspaper print an article explaining the new program and the new requirements that we will be following to assume the responsibility of providing the Construction General Permit (CGP). The Cleveland Daily Banner has worked well with the Stormwater Division when it comes to reaching out to the public. The goal would be to run one or more articles.
- We will post information on the QLP on the Stormwater Division's page of the City of Cleveland website. Links to this information will also be posted on the Cleveland homepage.
- We will create brochures/handouts for the QLP for distribution in City departments, at public events, at presentations on the QLP and email directly to the development community.
- We will develop a Power Point presentation that we will present on the QLP. Target groups would include our local home builders' association, engineers, surveyors, contractors, and developers.
- We are discussing with the local Home Builders Association about having an article in their newsletter explaining the QLP and the new source of CGP's.
- We will email engineers, surveyors, contractors, and developers to provide them with information on the QLP.

These are the methods we plan to use as outreach, but they may not be the only methods we use. We plan to keep our options open so that, should we learn or think of another method of educating the public and the development community, we may alter our plan to make use of other methods.