CITY OF MANCHESTER
STORMWATER ORDINANCE

Section 1. General provisions.

(1) Purpose

It is the purpose of this ordinance to:

(a) Protect, maintain, and enhance the environment of the City of Manchester 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 of the receiving waters into which the stormwater outfalls flow, including, without limitation, lakes, rivers, streams, ponds, wetlands, and groundwater of the city.

(b) Enable the City of Manchester to comply with the National Pollution Discharge Elimination System permit (NPDES) and applicable regulations, 40 CFR §122.26 for stormwater discharges.

(c) Allow the City of Manchester to exercise the powers granted in Tennessee Code Annotated §68-221-1105, which provides that, among other powers municipalities have with respect to stormwater facilities, is the power by ordinance to:

(1) 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;

(2) Adopt any rules and regulations deemed necessary to accomplish the purposes of this statute, including the adoption of a system of fees for services and permits;

(3) Establish standards to regulate the quantity of stormwater discharged and to regulate stormwater contaminants as may be necessary to protect water quality;

(4) Review and approve plans and plats for stormwater management in proposed subdivisions or commercial developments;

(5) Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities;

(6) Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit;

(7) Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated; and

(8) Expend funds to remediate or mitigate the detrimental effects of contaminated land or other sources of stormwater contamination, whether public or private.

(2) Administering Entity

The City of Manchester Codes Department shall administer the provisions of this ordinance.

(3) Right of Entry

The City of Manchester Codes Department, and it's designees, shall have the lawful right of entry onto any piece of property within the City of Manchester for the purpose of determining compliance with the provisions of this ordinance. Determining compliance with the provisions of this ordinance may include inspection of construction, commercial, industrial, and municipal facilities, inspection of post construction stormwater controls or other stormwater control structures, investigation of stormwater related complaints, investigation of potential illicit discharges, or any other reasonable purpose that is deemed necessary for the enforcement of this ordinance. Right of entry shall not include entry into any buildings on a property without the notification and acceptance of the building's owner or occupants.

(4) Right to Correct Violations

It is imperative to the stormwater system and to the quality of the receiving streams that illicit discharges, unacceptable non-stormwater discharges, and other stormwater quality violations be eliminated in a timely manner. If after ample notice from the Codes Department, a violation has not been corrected by the owner of the property or facility from which the violation is originating, then the Codes Department may take the necessary measures to have the violation eliminated. All costs associated with the elimination of the violation will be billed back to the owner of the violating property or facility. These costs shall include direct and indirect costs associated with the corrective work.

Section 2. Definitions.

For the purpose of this chapter, the following definitions shall apply: Words used in the singular shall include the plural, and the plural shall include the singular; Words used in the present tense shall include the future tense. The word “shall” is mandatory and not discretionary. The word “may” is permissive. Words not defined in this section shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster’s Dictionary.

(1) "*As built plans"* means drawings depicting conditions as they were actually constructed.

(2) *"Best management practices"* or “BMPs” are physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollution of water, that have been approved by the City of Manchester, and that have been incorporated by reference into this ordinance as if fully set out therein.

(3) "*Channel"* means a natural or artificial watercourse with a definite bed and banks that conducts flowing water continuously or periodically.

(4) *"Chronic Violator"* means any person that repeats violations of the Stormwater Management Ordinance at least three times in a one year period. The violations do not have to appear on the same project but do have to be of a similar nature.

(5) "*Community water"* means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wetlands, wells and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the City of Manchester.

(6) "*Contaminant"* means any physical, chemical, biological, or radiological substance or matter in water.

(7) "*Design storm event"* means a hypothetical storm event, of a given frequency interval and duration, used in the analysis and design of a stormwater facility.

(8) "*Discharge"* means dispose, deposit, spill, pour, inject, seep, dump, leak or place by any means, or that which is disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or placed by any means including any direct or indirect entry of any solid or liquid matter into the municipal separate storm sewer system.

(9) "*Easement"* means an acquired privilege or right of use or enjoyment that a person, party, firm, corporation, municipality or other legal entity has in the land of another.

(10) "*Erosion"* means the removal of soil particles by the action of water, wind, ice or other geological agents, whether naturally occurring or acting in conjunction with or promoted by anthropogenic activities or effects.

(11) "*Erosion and sediment control plan"* means a written plan (including drawings or other graphic representations) that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.

(12) "*Governing Body"* means the Manchester Board of Mayor and Aldermen

(13) "*Illicit connections"* means illegal and/or unauthorized connections to the municipal separate stormwater system whether or not such connections result in discharges into that system.

(14) "*Illicit discharge"* means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater and not specifically exempted under §3(3) or §7(2).

(15) "*Land disturbing activity"* means any activity on property that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land-disturbing activities include, but not limited to, development, re-development, demolition, construction, reconstruction, clearing, grading, filling, and excavation.

(16) *"Maintenance"* means any activity that is necessary to keep a stormwater facility in good working order so as to function as designed. 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 problem on the site property that may directly impair the functions of the stormwater facility.

(17) *"Maintenance agreement"* means a document recorded in the land records that acts as a property deed restriction, and which provides for long-term maintenance of stormwater management practices.

(18) *"Municipal separate storm sewer system (MS4)"* means the conveyances owned or operated by the municipality for the collection and transportation of stormwater, including the roads and streets and their drainage system, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

(19) *"National Pollutant Discharge Elimination System permit" or "NPDES permit"* means a permit issued pursuant to 33 U.S.C. 1342.

(20) *"Off-site facility"* means a structural BMP located outside the subject property boundary described in the permit application for land development activity.

(21) *"On-site facility"* means a structural BMP located within the subject property boundary described in the permit application for land development activity.

(22) *"Peak-flow"* means the maximum instantaneous rate of flow of water at a particular point resulting from a storm event.

(23) *"Person"* means any and all persons, natural or artificial, including any individual, firm or association and any municipal or private corporation organized or existing under the laws of this or any other state or country.

(24) *"Priority area"* means an area where land use or activities have the potential to generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

(25) *"Runoff"* means that portion of the precipitation on a drainage area that is discharged from the area into the municipal separate stormwater system.

(26) *"Sediment"* means solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

(27) *"Sedimentation"* means soil particles suspended in stormwater that can settle in stream beds and disrupt the natural flow of the stream.

(28) *"Soils Report"* 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.

(29) *"Stabilization"* means providing adequate measures, vegetative and/or structural, that will prevent erosion from occurring.

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

(31) *"Stormwater management"* means the programs to maintain quality and quantity of stormwater runoff to pre-development levels.

(32) *"Stormwater management facilities"* means the drainage structures, conduits, ditches combined sewers, sewers, and all device appurtenances by means of which stormwater is collected, transported, pumped, treated or disposed of.

(33) *"Stormwater management plan"* means the set of drawing and other documents that comprise all the information and specifications for the programs, drainage systems, structures, BMPs, concepts and techniques intended to maintain or restore quality and quantity of stormwater runoff to pre-development levels.

(34) "*Stormwater runoff"* means flow on the surface of the ground, resulting from precipitation.

(35) *"Stormwater utility"* means the stormwater utility created by ordinance of the city to administer the stormwater management ordinance, and other stormwater rules and regulations adopted by the municipality.

(36) *"Structural BMPs"* means devices that are constructed to provide control of stormwater runoff.

(37) *"Surface water"* includes waters upon the surface of the earth in bounds created naturally or artificially including, but not limited to, streams, other water courses, lakes and reservoirs.

(38) *"TDEC"* means the Tennessee Department of Environment and Conservation, Division of Water Resources.

(39) *"Watercourse"* means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

(40) "Watershed" means all the land area that contributes runoff to a particular point along a waterway.

Section 3. Land disturbance permits.

(1) When Required

(a) Every person will be required to obtain a land disturbance permit from the City of Manchester in the following cases:

(1) Land disturbing activity disturbs one (1) or more acres (acre = 43,560 sq. ft.) of land;

(2) Land disturbing activity of less than one (1) acre of land if such Activity is part of a larger common plan of development that affects one (1) or more acre of land; such as a lot in a subdivision

(3) Land disturbing activity of less than one (1) acre of land, if the activity requires a building permit to be completed (unless otherwise determined by the Codes Department)

(4) Land disturbing activity of less than one (1) acre of land, if in the discretion of the Codes Department such activity poses a potential threat to the MS4 or Waters of the State.

Anyone that is planning to conduct Land Disturbing Activity of less than one (1) acre shall contact the Codes Department to determine whether or not a permit will be required for the specific project.

(2) Building Permit

No building permit shall be issued until the applicant has obtained a land disturbance permit where the same is required by this ordinance.

(3) Exemptions

The following activities are exempt from the permit requirement:

(a) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.

(b) Existing nursery and agricultural operations conducted as a permitted main or accessory use.

(c) Any logging or agricultural activity that is consistent with an approved farm conservation plan or a timber management plan prepared or approved by state or federal agency.

(4) Application for a Land Disturbance Permit

(a) Each application shall include the following:

(1) Name of applicant; The applicant shall be the owner of the property on which the project is located. The Permit may be issued to a designated agent of the property owner, but the designated agent must submit a statement from the property owner stating that the Department may issue permits to the agent on the owner's behalf.

(2) Business or residence address of applicant;

(3) Name, address and telephone number of the owner of the property of record in the office of the assessor of property;

(4) Address and legal description of subject property including the tax reference number and parcel number of the subject property;

(5) 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;

(6) A 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 the starting and completion dates of the land disturbing activity.

(7) Where the property includes a sinkhole, the applicant shall obtain from the Tennessee Department of Environment and Conservation appropriate permits.

(8) The applicant shall obtain from any other state or federal agency any other appropriate environmental permits that pertain to the property. However, the inclusion of those permits in the application shall not foreclose the City of Manchester from imposing additional development requirements and conditions, commensurate with this ordinance, on the development of property covered by those permits.

(b) Each application shall be accompanied by:

(1) a sediment and erosion control plan as described in §4(5).

(2) a stormwater management plan as described in §4(4), providing for stormwater management during the land disturbing activity and after the activity has been completed. Small residential permits will not require a stormwater management plan.

(3) Each application for a land disturbance permits shall be accompanied by payment of land disturbance permit and other stormwater management fees, which shall be set by resolution or ordinance.

(5) Review and Approval of Application.

(a) The City of Manchester Codes Department will review each application for a land disturbance permit to determine its conformance with the provisions of this ordinance. Within thirty (30) days after receiving an application, the City of Manchester shall provide one of the following responses in writing:

(1) Approval of the permit application;

(2) Approval of the permit application, subject to such reasonable conditions as may be necessary to secure substantially the objectives of this ordinance, and issue the permit subject to these conditions; or

(3) Denial of the permit application, indicating the reason(s) for the denial.

(b) If the City of Manchester has granted conditional approval of the permit, the applicant shall submit a revised plan that conforms to the conditions established by the Codes Department, within seven (7) days of receipt of the conditional approval. However, the applicant shall be allowed to proceed with his land disturbing activity so long as it conforms to conditions established by the Codes Department.

(c) No development plans will be released until the land disturbance permit has been approved.

(6) Permit Duration

Every land disturbance permit 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. The work authorized by such permit shall not be suspended or abandoned at any time after the work is commenced but shall be carried through to completion. A suspension of work for one hundred eighty (180) calendar days, without prior notification and approval, shall result in the nullification of the permit and potential forfeiture of bonds. The permittee is still responsible for stabilization of any land disturbance activities if the permit is nullified due to extended suspension of work. Once the permit is nullified, the permittee will be required to submit a new application to be able to complete the project, and may be subject to additional permit application fees.

(7) Pre-Construction Conference

A pre-construction conference will be mandatory for all priority construction activities. Priority construction activities will include the following:

(a) Construction activities discharging directly into, or immediately upstream of, waters the state recognizes as impaired (for siltation) or high quality

(b) Construction activities that will result in the disturbance of five (5) acres or more of property

(c) All non-residential construction activities

(d) Any other construction activities that the Codes Department deems should be considered a priority construction activity

The Codes Department may, at its discretion, require a pre-construction conference for any construction activity, regardless of whether or not the activity is classified as a priority construction activity.

(8) Notice of Construction.

The applicant must notify the City of Manchester Codes Department ten (10) working days in advance of the commencement of construction. Regular inspections of the stormwater management system shall be conducted by the Codes Department. All inspections shall be documented and written reports prepared that contain the following information:

(1) The date and location of the inspection;

(2) Whether construction is in compliance with the approved Stormwater management plan;

(3) Variations from the approved construction specifications;

(4) Any violations that exist.

Copies of the inspection reports will be maintained at the Manchester Codes Department.

(9) Performance Bonds.

(a) The City of Manchester may, at its discretion, require the submittal of a performance security or performance bond prior to issuance of a permit in order to ensure that the stormwater practices are installed by the permit holder as required by the approved stormwater management plan. The amount of the installation performance security or performance bond shall be the total estimated construction cost of the structural BMPs approved under the permit plus any reasonably

foreseeable additional related costs, e.g., for damages or enforcement. The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan. The applicant shall provide an itemized construction cost estimate complete with unit prices which shall be subject to acceptance, amendment or rejection by the Codes Department. Alternatively the City of Manchester shall have the right to calculate the cost of construction estimates.

(b) The performance security or performance bond shall be released in full only upon submission of as-built plans and written certification by a registered professional engineer licensed to practice in Tennessee that the structural BMP has been installed in accordance with the approved plan and other applicable provisions of this ordinance. The City of Manchester will make a final inspection of the structural BMP to ensure that it is in compliance with the approved plan and the provisions of this ordinance. Provisions for a partial pro-rata release of the performance security or performance bond based on the completion of various development stages can be made at the discretion of the Codes Department.

Section 4. Stormwater System Design and Management Standards

(1) Construction Phase Standards

(a) Design Criteria – The City of Manchester adopts all design storm and special conditions as referenced in the current TN Construction General Permit (CGP) for Stormwater Discharges from construction activities. All criteria and requirements of the Tennessee General Permit for Stormwater Discharges from construction activities not specifically addressed in this ordinance shall be required by this ordinance. If a requirement of this ordinance conflicts with a requirement of the Tennessee General Permit, the more stringent of the two requirements shall apply.

(b) The City of Manchester adopts as its stormwater design and best management practices (BMP) manual the following publications, which are incorporated by reference in this ordinance as if fully set out herein:

(1) TDEC Sediment and Erosion Control Manual, latest edition

(2) TN Permanent Stormwater Management & Design Guidance Manual, latest edition

These manuals include a list of acceptable BMPs including the specific design performance criteria and operation and maintenance requirements for each stormwater practice. The manual may be updated and expanded from time to time, at the discretion of the governing body of the municipality, upon the recommendation of the Codes Department, based on improvements in engineering, science, monitory and local maintenance experience. Stormwater facilities that are designed, constructed and maintained in accordance with these BMP criteria will be presumed to meet the minimum water quality performance standards.

(c) If sediment escapes the construction site, off-site accumulations of sediment that have not reached a stream must be removed at a frequency sufficient to minimize offsite impacts (e.g., fugitive sediment that has escaped the construction site and has collected in street must be removed so that it is not subsequently washed into storm sewers and streams by the next rain and/or so that it does not pose a safety hazard to users of public streets). Sediment that has reached a stream shall be reported to the Codes Department as soon as it is discovered. No attempts to remove sediment from a stream shall be made without prior approval. Appropriate arrangements will need to be made to enter private property for the purpose of removing sediment accumulations.

(d) Sediment should be removed from sediment traps, silt fences, sedimentation ponds, and other sediment controls as necessary, and must be removed when design capacity has been reduced by fifty percent (50%)

(e) Offsite material storage areas (including overburden and stockpiles of dirt) used solely by the permitted project are considered a part of the project and shall be addressed in the Stormwater Management Plan.

(f) Pre-construction vegetative ground cover shall not be destroyed, removed, or disturbed more than ten (10) calendar days prior to grading or earth moving unless the area is seeded and/or mulched or other temporary cover is installed.

(g) Clearing and grubbing must be held to a minimum necessary for grading and equipment operation.

(h) Erosion and sediment control measures must be in place and functional before earth moving operations begin and must be constructed and maintained throughout the construction period. Temporary measures that may hamper construction activity may be removed at the beginning of the work day, but must be replaced at the end of the work day.

(i) Construction erosion control calculations for slopes having a grade of twenty percent (20%) or greater and a length longer than twenty (20) feet for the applicable design storm event.

(2) Permanent Stormwater Quantity Standards

Unless granted a waiver or judged by the Codes Department to be exempt, the following performance criteria shall be addressed for stormwater management at all commercial, industrial, and residential subdivision sites:

(a) Hydraulic capacity of existing and proposed storm water conveyance structures, culverts, and channels located on the site and off-site (two structures downstream) shall be capable of conveying the peak flow rate calculated from the design storm event referenced below:

(1) Twenty-five (25) year design storm – Residential areas, minor street cross-culverts.

(2) Fifty (50) year design storm - Major drainage channels (existing "blue-line" or intermittent streams), collector and minor arterial street culverts.

(3) One hundred (100) year design storm – Major arterial street culverts

(4) One hundred (100) year design storm – Any drainage infrastructure required to prevent flooding of an insurable structure and/or other personal property

(5) One hundred (100) year design storm – Any drainage infrastructure required to prevent exacerbation of an existing flooding issue

(b) Hydraulic capacity of proposed storm sewer systems shall be capable of conveying the peak flow rate calculated from the design storm event referenced below:

(1) Ten (10) year design storm – Conduits upstream of roadway sags

(2) Twenty-five (25) year design storm – Conduits at roadway sags or downstream of roadway sags

(4) One hundred (100) year design storm – Any storm sewer system required to prevent flooding of an insurable structure and/or other personal property

(5) One hundred (100) year design storm – Any storm sewer system required to prevent exacerbation of an existing flooding issue

(c) Stormwater spread in public roadways shall be limited to a maximum of eight (8) feet when evaluated at the peak flow rate calculated from the ten (10) year design storm event.

(d) Hydrologic Procedure Selection shall be in accordance with the following methods and associated limitations:

(1) The **Rational Method** is the preferred method for peak design flow calculations and is subject to the following limitations:

a. Only peak design flows can be estimated;

b. Time of concentration, t_c, is greater than or equal to 5 minutes and less than or equal to 30 minutes ($5 \text{ minutes} \leq t_c \leq 30 \text{ minutes}$);

c. Drainage area, DA ≤ 100 acres; and,

d. The most recent Intensity-Duration-Frequency (IDF) data for the City of Manchester as listed in the National Weather Service's NOAA Atlas 14 database shall be used.

(2) The **NRCS TR-55 Method** may be used for peak design flow calculations and is the only method allowable for the development of drainage area hydrographs, detention routing calculations, and other time-volume dependent calculations. This method is subject to the following limitations:

a. Design storm = NRCS Type II 24-hour distribution;

b. Time of concentration, t_c, of 0.1 hour ≤ t_c ≤ 2 hours;

c. Drainage area, DA ≤ 640 acres (1 square mile);

d. Unit hydrograph shape factor of 484;

e. Use of the 1986 version of TR-55 in place of the 1975 procedures; and,

f. The most recent rainfall data for the City of Manchester as listed in the National Weather Service's NOAA Atlas 14 database shall be used.

(3) The **U.S. Geological Survey (USGS) regional regression equations** may be used for peak design flow calculations and are subject to the limitations published by the USGS and shown in the Tennessee Department of Transportation (TDOT) Drainage Manual.

(4) If special circumstances arise where the methods described above are not appropriate for design and/or analysis, alternate method(s) may be allowed and are subject to approval by the City Engineer.

(e) All components of proposed and existing stormwater conveyance infrastructure shall be designed and analyzed in accordance with the following requirements:

(1) Channels and pipes shall be designed and analyzed using the Mannings Formula. Roadway and/or gutter spread shall also be analyzed using the Mannings Formula. Appropriate Mannings values shall be utilized and are subject to approval by the City Engineer.

(2) Curb inlets and area drains shall be designed and analyzed in accordance with the procedures outlined in the Hydraulic Engineering Circular No. 22 (HEC-22) – Urban Drainage Design Manual, latest edition, as published by the U.S. Department of Transportation Federal Highway Administration.

Bypass flow from upstream inlets shall be considered in the design and analysis of downstream inlets.

(3) Storm sewer systems shall be designed so that the structures do not surcharge and open channel flow conditions are maintained in all conduits when conveying the design peak flow rate.

(4) The design and analysis of culverts and conduits shall consider inlet and outlet conditions.

(5) The headwater depth shall be evaluated at the inlet end of all conduits and culverts. Conduits and culverts shall be sized to maintain a maximum headwater elevation of one (1) foot below the roadway edge of pavement at the peak flow rate for the design storm event and one (1) foot below the finished grade elevation at the exterior of buildings and other structures during the peak flow rate calculated from the one hundred (100) year storm event.

(6) Conduits and culverts shall be designed to maintain a minimum velocity of 2 feet per second at the peak design flow rate.

(f) Drainage sub-areas shall be delineated and shown for each drainage structure, culvert, inlet, area drain, site discharge point, detention pond, etc. for which drainage calculations must be performed. The permanent hydrologic data shall be documented for each sub-area including total land area, appropriate curve number or runoff co-efficient, time of concentration as calculated using the NRCS TR-55 method, and total runoff for the two (2), five (5), ten (10), twenty-five (25), and one-hundred (100) year storm events using an appropriate method. Appropriate runoff coefficients, curve numbers, and Mannings coefficients for time of concentration calculations shall be used and are subject to approval by the City Engineer.

(g) Detention pond inflow/outflow calculations and hydrographs for the two (2), five (5), ten (10), twenty-five (25), and one hundred (100) years storm events shall be performed and documented. Detention calculations shall include stage-storage calculations, elevation-discharge calculations, inflow and outflow hydrograph development, routing calculations, and discharge calculations. A one (1) foot minimum freeboard shall be maintained for the two (2), five (5), ten (10), twenty-five (25) design storm events in the detention basin design. The design shall ensure post-development discharge rates do not exceed pre-development discharge rates for the two (2), five (5), ten (10), and twenty-five (25) year storm events. The maximum design storm for which detention is required is the twenty-five (25) year storm. The design shall ensure that the post-development discharge for the one hundred (100) year design storm can be managed safely by the detention facility, incorporating spillways as necessary, but not necessarily equaling pre-development discharge rates.

(h) Net pre-construction and post construction runoff at all site discharge points resulting from the two (2), five (5), ten (10), twenty-five (25), and one-hundred (100) year storm events shall be determined using an appropriate method. Runoff velocities shall also be determined.

(i) Stormwater discharges to critical areas with sensitive resources (i.e., shellfish beds, endangered species, swimming areas, water supply reservoirs) may be subject to additional

performance criteria, or may need to utilize or restrict certain stormwater management practices, at the discretion of the Codes Department.

(j) To protect stream channels from the degradation, specific channel protection criteria shall be provided as prescribed in the BMP manual and/or the Manchester Subdivision Regulations.

(k) Stormwater discharges from priority areas may require the application of specific structural BMPs and pollution prevention practices. In addition, stormwater from a priority area land use may not be infiltrated unless some type of pretreatment is implemented.

(l) Prior to or during the site design process, applicants for land disturbance permits shall consult with the Codes Department to determine if they are subject to additional stormwater design requirements.

(3) Permanent Stormwater Quality Standards

Generally, any development that is required to comply with the Stormwater Quantity Standards listed above will also be required to comply with the Stormwater Quality Standards listed below:

(a) New development and redevelopment projects must be designed to reduce pollutants to the Maximum Extent Practicable (MEP), as set forth herein. For design purposes, total suspended solids (TSS) may be used as the indicator for the reduction of pollutants.

(b) Stormwater Control Measures (SCMs) must be designed to provide full treatment capacity within seventy-two (72) hours following the end of the preceding rain event for the life of the new development or redevelopment project. SCMs shall generally be as described in the TN Permanent Stormwater Management & Design Guidance Manual. However, other SCMs will be considered if their successful implementation in other jurisdictions can be demonstrated to the satisfaction of the Department.

(c) The water quality treatment design storm is the 1-year, 24-hour storm event, as defined by Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent. The water quality treatment volume (WQTV) is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm, as set forth below. Uncontaminated roof runoff may be excluded from the WQTV if it can be demonstrated to the satisfaction of the Department that the roof runoff will be uncontaminated. Barring proof, roof runoff shall be assumed to be contaminated. SCMs must be designed, at a minimum, to achieve an overall treatment efficiency of eighty percent (80%) TSS removal from the WQTV. The quantity of the WQTV depends on the type of treatment provided, as established in the following table:

Water Quality Treatment Volume and the Corresponding SCM Treatment Type for the 1-year, 24-hour design storm		
SCM Treatment Type	WQTV	Notes
Infiltration, evaporation, transpiration, and/or reuse	Runoff generated from the first inch of the design storm	Examples include, but are not limited to, bioretention, stormwater wetlands, and infiltration systems.
Biologically active filtration, with an underdrain	Runoff generated from the first 1.25 inches of the design storm	To achieve biologically active filtration, SCMs must provide minimum of 12 inches of internal water storage e.g. GAC (granular activated carbon), slow sand filtration
Sand or gravel filtration, settling ponds, extended detention ponds, and wet ponds	Runoff generated from the first 2.5 inches of the design storm or the first 75% of the design storm, whichever is less	Examples include, but are not limited to, sand filters, permeable pavers, and underground gravel detention systems. Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing regional detention ponds are not subject to the forebay requirement.
Hydrodynamic separation, baffle box settling, other flow-through manufactured treatment devices (MTDs), and treatment trains using MTDs	Maximum runoff generated from the entire design storm	Flow-through MTDs must provide an overall treatment efficiency of at least 80% TSS reduction.

Treatment Train Calculations

1. Treatment Train Using MTDs

Treatment trains using MTDs must provide an overall treatment efficiency of at least eighty percent (80%) TSS reduction utilizing the following formula:

$R = A + B – (A \times B) / 100$ Where:

R = total TSS percent removal from application of both SCMs,

A = the TSS percent removal rate applicable to the first SCM, and
B = the TSS percent removal rate applicable to the second SCM.

TSS removal rates for MTD must be evaluated using industry-wide standards. TSS removal rates for other SCMs must be from published reference literature.

2. Treatment Trains Not Using MTDs

Treatment trains using infiltration, evaporation, transpiration, reuse, or biologically active filtration followed by sand or gravel filtration, settling ponds, extended detention ponds or wet ponds may subtract the treated WQTV of the upstream SCMs from the WQTV of the downstream SCMs.

The WQTV may be reduced by twenty percent (20%) for a new development or redevelopment project that meets either of the following conditions and by fifty percent (50%) for a project that meets both conditions:

1. Redevelopment projects (including, but not limited to, brownfield redevelopment);
2. Vertical density (floor to area ratio of at least 2, or at least 18 units per acre).

(d) Stormwater Mitigation

In a case where the entire WQTV cannot be treated on site to the MEP, then an off-site stormwater mitigation site may be proposed. The mitigation site must be located within the same USGS 12-digit hydrologic unit code watershed as the new development or redevelopment project. The mitigation site must treat a minimum of 1.5 times the portion of the WQTV not treated on the development site. The City of Manchester maintains the right to determine on a case-by-case basis whether or not a proposed mitigation site and measures serve as a benefit to both the development and the city. Therefore, proposed mitigation plans should be brought to the attention of the city review staff at the earliest point possible in the development planning process.

(4) Stormwater Management Plan Requirements

The stormwater management plan shall include sufficient information to allow the Codes 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. In most cases, the Storm Water Pollution Prevention Plan (SWPPP) prepared in compliance with the TNCGP will suffice as the Stormwater Management Plan. To accomplish this goal the stormwater management plan shall include the following:

(a) Topographic Base Map: A 1" = 100' topographic base map of the site. Topography shall extends a minimum of 100 feet beyond the limits of the proposed development, if specifically required. Base map shall indicate:

(1) 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;

(2) Current land use including all existing structures, location of utilities, Roads, and easements;

(3) All other existing significant natural and artificial features;

(4) 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;

(5) Proposed structural BMPs;

(6) A written description of the site plan and justification of proposed changes in natural conditions may also be required.

(b) Calculations: As described above for stormwater quantity and quality standards.

(c) 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. If stormwater control measures are not dependent on soils characteristics then only the soils data used to determine runoff characteristics of the property shall be submitted.

(d) Long-Term Maintenance Plan: The design and planning of all stormwater management facilities shall include detailed maintenance and repair procedures to ensure their continued performance. As such, a Long-Term Maintenance Plan shall be prepared and submitted for a post-construction permanent stormwater quantity and quality control measures to be implemented on a project. The Long-Term Maintenance Plan shall include specific details about the necessary maintenance and necessary inspections of the facility. An inspection checklist and frequency shall be made part of the Plan. The Plan shall be written as a guidance document for owners that may not be familiar with the specific workings of the control structure. 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. A permanent elevation

benchmark shall be identified in the plans to assist in the periodic inspection of the facility, if appropriate.

(e) Landscaping Plan: The applicant must present a detailed plan for management of vegetation at the site after construction is finished, including who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. Where it is required by the BMP, this plan must be prepared by a registered landscape architect licensed in Tennessee.

(f) Maintenance Easements: The applicant must ensure access to the site for the purpose of inspection and repair by securing all the maintenance easements needed. These easements must be binding on the current property owner and all subsequent owners of the property and must be properly recorded in the land record.

(g) Maintenance Agreement:

(1) The owner of property to be served by an on-site stormwater management facility must execute an inspection and maintenance agreement that shall operate as a deed restriction binding on the current property owner and all subsequent property owners.

(2) The maintenance agreement shall:

(a) Assign responsibility for the maintenance and repair of the stormwater facility to the owner of the property upon which the facility is located and be recorded as such on the plat for the property by appropriate notation. For this reason, the facility shall be located on one property and not on multiple lots.

(b) 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. 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, grass cuttings 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 owner shall be responsible for additional maintenance and repair needs consistent with the needs and standards outlined in the BMP manual.

(c) Provide that maintenance needs must be addressed in a timely manner, on a schedule to be approved by the Codes Department.

(d) Provide that if the property is not maintained or repaired within the prescribed schedule, the Codes 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 Manchester cost of performing the maintenance shall be a lien against the property.

(h) Sediment and Erosion Control Plans: The applicant must prepare a sediment and erosion control plan for all construction activities that complies with §4(5) below.

(i) Drainage Easements: Drainage easements are required for all stormwater structures and all storm drainage conveyances. Drainage easements are meant to ensure conveyance of stormwater from one property to the next. Drainage structures such as pipes that are placed on private property shall be placed on one property rather than directly on a property line. The drainage easement containing the pipe may cross the property line. Maintenance of structures or conveyances within drainage easements is the responsibility of the property owner.

(5) Sediment and Erosion Control Plan Requirements

The sediment and erosion control plan shall accurately describe the potential for soil erosion and sedimentation problems resulting from land disturbing activity and shall explain and illustrate the measures that are to be taken to control these problems. The length and complexity of the plan is to be commensurate with the size of the project, severity of the site condition, and potential for off-site damage. The plan shall also conform to the requirements found in the BMP manual, and shall include at least the following:

(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 no more than five (5) feet 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 measure. 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, etc., 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 BMP's.

(n) Specific remediation measures to prevent erosion and sedimentation run-off. Plans shall include detailed drawing 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 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 to the Codes Department. 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 to the satisfaction of the Codes Department. 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) The erosion control plan shall identify water quality buffer zones that must be established adjacent to all streams, including intermittent streams. The water quality buffer zone shall consist of a setback from the top of the 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. Stormwater discharges should enter the buffer zone as sheet flow, not as concentrated flow, where site conditions allow.

Water quality riparian buffers must have the following minimum widths:

	Average buffer width (feet)	Minimum buffer width (feet)	Notes
Waters with available parameters for siltation and habitat alteration or unassessed waters	30	15	The criteria for the width of the buffer zone can be established on average width basis at a project, as long as the minimum width of the buffer zone is more than the required minimum width at any measured location. If the development site encompasses both sides of a stream, buffer averaging can be applied to both sides, but must be applied independently.
Exceptional Tennessee Waters or waters with unavailable parameters for siltation or habitat alteration	60	30	

The predominant vegetation within the minimum buffer width area should be trees. The remaining riparian buffers may be composed of herbaceous cover or infiltration based SCMs. If the buffer zone is not composed of primarily trees at the time of development, the buffer zone may be allowed to establish tree cover naturally or trees may be planted to allow better control of the type and timing of tree establishment.

In subdivision developments, buffer zones shall be designated as open space and shall not be considered a part of any individual residential lots. For non-subdivision developments, such as commercial developments, a drainage easement shall be established for the buffer zone. The easement will stipulate that no disturbance can take place without applying for and receiving written approval from the Codes Department.

(6) Changes to the Stormwater Management Plan and/or Erosion and Sedimentation Control Plan

Any significant changes to the Stormwater Management Plan and/or Erosion and Sedimentation Control Plan after approval of the same shall require resubmittal of plans to the Codes Department for subsequent approval. Work shall not continue on any portion of the plan requiring modification or on areas of the plan that are dependent upon the modifications until the

modifications have been approved. Work that is not related to the modifications being made may continue during the re-approval process. Any work performed that is not in strict accordance with the approved plans is performed at the contractor's risk. It shall not be assumed that changes to the plans will automatically be approved even if they have already been constructed.

Significant plan changes do not include the location of temporary sedimentation controls. Adjustment to the exact location of temporary sedimentation controls, to better comply with the intent of the erosion and sedimentation control plan, does not require prior approval or resubmittal of plans. Significant changes include, but are not limited to, those that would change the runoff calculations, those that would require changes to the permanent stormwater structures or controls, and those that would require additional permanent stormwater structures or controls.

Section 5. Post Construction.

(1) As Built Plans.

All applicants are required to submit actual as built plans for any structures located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be sealed by a registered professional engineer licensed to practice in Tennessee. A final inspection by the Codes Department is required before any performance security or performance bond will be released. The Codes Department shall have the discretion to adopt provisions for a partial pro-rata release of the performance security or performance bond on the completion of various stages of development. In addition, occupation permits shall not be granted until corrections to all BMP's have been made and accepted by the Codes Department.

(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 be revegetated according to a schedule approved by the Codes Department. The following criteria shall apply to revegetation effort:

(1) 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.

(2) 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.

(3) 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.

(4) Approved sedimentation controls must be maintained until stabilization efforts have been completed (seeding and mulching, sodding, paving, or gravelling). Where sedimentation controls are in the way of stabilization efforts, they may be removed, but they must be reinstalled at the end of the day if the stabilization efforts are not completed by the end of the day. Where a bond is issued for stabilization efforts, sedimentation controls must be maintained until the stabilization efforts are completed.

(b) 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 as provided for in §6(3).

(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 five (5) years. These records shall be made available to the Codes Department 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 ordinance, the City of Manchester, 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 of Manchester shall notify in writing the party responsible for maintenance of the stormwater management facility. Upon receipt of that notice, the responsible person shall have fourteen (14) 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 Codes Department may take necessary corrective action. The cost of any action by the City of Manchester under this section shall be charged to the responsible party.

Section 6. Existing Locations and Developments

(1) Requirements for all Existing Locations and Developments

Adoption of this ordinance shall in no way relieve the owners of existing stormwater structures of their responsibilities under previous grading or stormwater ordinances. Existing locations and developments shall comply with the provisions of this ordinance to the extent necessary to protect the existing stormwater system and Waters of the State. The Codes Department shall have the right to require owners of existing stormwater structures to comply with the post construction maintenance and repair provisions of this ordinance, or any other provisions as may be deemed necessary to maintain the integrity of the stormwater system.

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 the BMP manual and on a schedule acceptable to the Codes 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.

(2) Requirements for Existing Problem Locations

The City of Manchester shall in writing notify the owners of existing locations and developments of specific drainage, erosion or sediment problem affecting such locations and developments, and the specific actions required to correct those problems. The notice shall also specify a reasonable time for compliance.

(3) Inspection of Existing Facilities

The City of Manchester may, to the extent authorized by state and federal law, establish inspection programs to verify that all stormwater management facilities, including those built before as well as after the adoption of this ordinance, are functioning within design limits. These inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspection; 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 of pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of the municipality's NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other BMPs.

(4) Corrections of Problems Subject to Appeal

Corrective measures imposed by the stormwater utility under this section are subject to appeal under §12 of this ordinance.

Section 7. Illicit Discharges

(1) Scope

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:

(a) Uncontaminated discharges from the following sources:
  (1) Water line flushing or other potable water sources,
  (2) Landscape irrigation or lawn watering with potable water,
  (3) Diverted stream flows,
  (4) Rising ground water,
  (5) Groundwater infiltration to storm drains,
  (6) Pumped groundwater,
  (7) Foundation or footing drains,
  (8) Crawl space pumps,
  (9) Air conditioning condensation,
  (10) Springs,
  (11) Non-commercial washing of vehicles,
  (12) Natural riparian habitat or wet-land flows,
  (13) Swimming pools (if dechlorinated to less than one PPM chlorine),
  (14) Fire fighting activities, and
  (15) Any other uncontaminated water source.

(b) Discharges specified in writing by the Codes Department as being necessary to protect public health and safety.

(c) Dye testing is an allowable discharge if the Codes Department has so specified in writing.

(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 by the Use of Best Management Practices

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, 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 Codes Department in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the Codes Department within three (3) business days of the telephone notice. 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 for at least 5 years.

Section 8. Priority Areas

Priority Areas are those areas where land use or activities have the potential to generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. It shall be a violation of this Ordinance for priority areas to contaminate stormwater runoff in any manner that would violate any water quality standards existing within this Ordinance or within any State and/or Federal documents or regulations. Priority areas may include industrial facilities, certain commercial facilities, large commercial parking areas, and other facilities designated by the Codes Department as having the potential to contaminate stormwater runoff from their ongoing activities. Certain priority areas will be regulated by the Manchester Codes Department as follows:

(1) Industrial and Commercial Properties

All industrial and commercial properties within Manchester shall be prohibited from introducing contaminants into the stormwater system or into waters of the state. To achieve compliance with this requirement, industrial and commercial properties must comply with all applicable local, state, and federal stormwater permitting requirements. For industrial activities this means compliance with the Tennessee Multi Sector Industrial Permit and all of its provisions, including the development and maintenance of a site specific Stormwater Pollution Prevention Plan (SWPPP) and all monitoring requirements. If the industrial activity is eligible for the No-Exposure Certification rather than permit coverage, due to not having any industrial activities exposed to stormwater, then that certification must be obtained and kept current.

(2) Auto Repair and Supply Shop Requirements

(a) Written Management Plan

Auto repair shops, auto supply shops, and other auto related facilities that use or collect oils or other automobile fluids shall prepare a written plan outlining the best management practices that will be utilized to minimize impacts from their establishment to the quality or quantity of waters discharged to the Manchester MS4. The written plan shall be submitted to the Codes Department within ninety (90) days of notification by the Department of the necessity of the Plan. The plan shall be maintained on file at the establishment.

At a minimum, the plan shall address the following topics:

(1) Methods used to minimize the amount of liquids and greases placed in dumpsters or compactors

(2) Methods used to keep rain water out of dumpsters

(3) Methods used to keep leaks and other wastewaters from dumpsters and compactors from entering the storm sewer system

(4) Procedures used to contain all automotive fluids prior to use or disposal

(5) Schedule for inspection of dumpsters, compactors, and oil/fluid storage areas for leaks or stains and inspection of dumpster and compactor area for litter

(6) Provisions for the immediate replacement of leaking dumpsters, compactors, or fluid storage containers.

(7) Details of contracts or arrangements with outside vendors who collect waste oils or other fluids for disposal. Details shall include the name of the vendor, the final disposal or treatment location for the fluids, the method of disposal or treatment of the fluids, and the frequency of pick-up from the facility.

(b) Best Management Plan Implementation

Within 180 days of the completion of the written plan, all best management practices required to eliminate impacts to the stormwater system shall be in place and fully implemented.

(c) Training

Within sixty (60) days of the completion of the written plan, all employees shall be trained on the requirements of the plan and the proper procedures for complying with the plan. Training shall be repeated at least annually or anytime significant changes are made to the plan. Training records that indicate the topics covered and the individuals who were trained shall be maintained at the facility as a part of the written plan.

(d) Sanitary Sewer Connections

New or additional sanitary sewer connections that are needed to comply with the requirements of this ordinance shall be installed under the approval and direction of the Manchester Water and Sewer Department.

(3) Restaurant and Grocery Store Requirements

(a) Written Management Plan

Restaurants, grocery stores, and other food preparation facilities shall prepare a written plan outlining the best management practices that will be utilized to minimize impacts from their establishment to the quality or quantity of waters discharged to the Manchester MS4. For existing facilities, the written plan shall be submitted to the Codes Department within ninety (90) days of notification by the Department of the necessity of the Plan. For new facilities, the plan shall be submitted to the Codes Department as part of the initial Stormwater Management Plan. The plan shall be maintained on file at the establishment.

At a minimum, the plan shall address the following topics:

(1) Methods used to minimize the amount of liquid placed in dumpsters or compactors

(2) Methods used to keep rain water out of dumpsters

(3) Methods used to keep leaks and other wastewaters from dumpsters and compactors from entering the storm sewer system

(4) Procedure used to make sure all waste is contained in dumpsters and compactors

(5) Schedule for inspection of dumpsters and compactors for leaks or stains and inspection of dumpster and compactor area for litter

(6) Provisions for the immediate replacement of leaking dumpsters and compactors

(7) Methods used to keep all washwaters from equipment cleaning areas from entering the storm sewer system

(b) Best Management Plan Implementation

Within one hundred eighty (180) days of the completion of the written plan, all best management practices required to eliminate impacts to the stormwater system shall be in place and fully implemented.

(c) Training

Within sixty (60) days of the completion of the written plan, all employees shall be trained on the requirements of the plan and the proper procedures for complying with the plan. Training shall be repeated at least annually or anytime significant changes are made to the plan. Training records that indicate the topics covered and the individuals who were trained shall be maintained at the facility as a part of the written plan.

(d) Sanitary Sewer Connections

New or additional sanitary sewer connections that are needed to comply with the requirements of this ordinance shall be installed under the approval and direction of the Manchester Water and Sewer Department.

Section 9. General Prohibitions

(1) Blockage of Watercourses or Drains

It shall be unlawful for any person to dump refuse or solid waste of any nature (including grass clippings, leaves, brush, garbage, scrap, or any other refuse) into a stream, ditch, storm sewer, or any other drain within the city or to place such refuse or solid waste or cause such refuse or solid waste to be placed in a manner in which it is likely to enter into any stream, ditch, storm sewer, or other drain either by natural or other means. It shall further be unlawful for any person to cause or allow any obstruction of any nature whatsoever (landscaping, driveways, fill, etc.) of any watercourse or flow of water either by natural or manmade means. It shall be unlawful to block a watercourse or drain by constructing a fence over the drain in any manner that restricts flow or that can catch debris, thus restricting flow.

(2) Dumping

It shall be unlawful for any person to dump any liquid waste into any stream, ditch, storm sewer, or any other drain or in any location where it is likely to enter any stream, ditch, storm sewer, or other drain either by natural or other means. Liquid waste may include automotive fluids, wash waters, cleaning fluids, solvents, or any other liquids that could be toxic or otherwise detrimental to the receiving stream or storm sewer system.

(3) Alteration of Watercourses of Drains

It shall be unlawful for any person to cause, permit, or allow the alteration of any stream, ditch, storm sewer or any other drain without written approval from the Public Works Department and the acquisition of any State Permits that may be necessary for the performance of the alterations. Alterations may include, but are not limited to, a change in direction of flow, the addition of a structure such as a culvert or a bridge, or a change in size of a channel or pipe.

(4) Unpermitted Discharge

It shall be unlawful for any person to discharge stormwater to any stream, ditch, storm sewer or any other storm drain within the city without first obtaining the required State Permit coverage as described below:

(a) Construction sites that disturb one acre of land or more or are part of a larger common plan of development must apply for coverage under the Tennessee General Permit for Stormwater Discharges from Construction Activity.

(b) Industrial facilities must apply for coverage under the Tennessee Stormwater Multi-Sector General Permit for Industrial Activities or the Certificate of No Exposure, if applicable.

(5) Contamination of Stormwater

It shall be unlawful for any industrial, commercial, or residential properties, including but not limited to restaurants, auto repair shops, auto supply shops, and large commercial parking areas, to contaminate stormwater runoff. All numerical or visual effluent limitations set by State permits or regulations shall apply under the provisions of this ordinance.

(6) Construction Site Waste

It shall be unlawful for construction site operators to discard waste, including building materials, concrete truck washout, chemicals, litter, sanitary waste, or any other potential pollutants in a manner that may cause adverse impacts to water quality. This requirement applies to all construction site operators, regardless of whether or not the site was required to obtain a Land Disturbance Permit for the construction activity.

Section 10. Enforcement

(1) Enforcement Authority

The Codes Department shall have the authority to issue notices of violation and citations, and to impose the civil penalties provided in this section.

(2) Notification of Violation

(a) Written Notice of Violation

Whenever the Codes Department finds that any permittee or any other person discharging stormwater has violated or is violating this ordinance or a permit or order issued hereunder, the Department may serve upon such person written notice of the violation. Within a time specified in the 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 Department. 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) Show Cause Hearing

The Department may order any person who violates this ordinance or permit or order issued hereunder, to show cause why 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 ten (10) days prior to the hearing.

(c) Administrative Order

When the Department finds that any person has violated or continues to violate this ordinance or a permit or order issued thereunder, he 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 requirements as might be reasonably necessary and appropriate to address the noncompliance, including the construction of appropriate structures, installation of devices, self-monitoring, and management practice.

(d) Stop Work Orders

When the Department finds that any person has violated or continues to violate this ordinance or any permit or order issued hereunder, the Department may issue an order to stop all work on the project until all such violations have been corrected and the Department has approved the corrections, thus allowing work to proceed on the project.

Section 11. 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 City of Manchester 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 the City of Manchester 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 Codes Department will follow the provisions of the Enforcement Response Plan (ERP) and will utilize the scoring system outlined in the ERP to set the dollar amount of the penalty. As outlined in the ERP, the Department may consider the following factors when determining the amount of the penalty:

(a) The harm done to the public health or the environment;

(b) Whether the civil penalty imposed will be substantial economic deterrent to the illegal activity;

(c) The economic benefit gained by the violator;

(d) The amount of effort put forth by the violator to remedy this violation;

(e) Any unusual or extraordinary enforcement costs incurred by the municipality;

(f) The amount of penalty established by ordinance or resolution for specific categories of violations; and

(g) Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.

(4) Recovery of Damages and Costs

In addition to the civil penalty in subsection (2) above, the municipality 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 enforcing compliance 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.

(5) Other Remedies

The municipality may bring legal action to enjoin the continuing violation of this ordinance, and the existence of any other remedy, at law or equity, shall be no defense to any such actions.

(6) Remedies Cumulative

The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth herein has been sought or granted.

(7) Chronic Violators

The Codes Department must enforce at a higher level against chronic violators. This higher level of enforcement shall include increased penalty amounts and more frequent inspections, as specified in the Enforcement Response Plan. The Department shall also have the ability to enforce other disincentives against chronic violators, such as the refusal to issue additional permits when the violator has unresolved enforcement issues with the Department.

Section 12. Appeals

Pursuant to Tennessee Code Annotated §68-221-1106(d), any person aggrieved by the imposition of a civil penalty or damage assessment as provided by this ordinance may appeal said penalty or damage assessment to the stormwater board of appeals.

(1) Stormwater Board of Appeals

The Stormwater Board of Appeals shall consist of three (3) members, to be recommended by the Codes Department and appointed by the Governing Body. Each member must be a resident of the City of Manchester. Each member shall be appointed to a term of three years, with the first terms to be staggered as follows: one (1) member appointed to a one (1) year term, two (2) members appointed to two (2) year terms, and two (2) members appointed to three (3) year terms. The Stormwater Board of Appeals shall meet as needed. Members of the Board may serve additional terms as appointed by the Governing Body.

The Stormwater Board of Appeals is hereby authorized to hear and decide appeals of any order, decision or ruling of the Codes Department or it's designee issued pursuant to these regulations. Following the hearing on an application for appeal, the Stormwater Board of Appeals may affirm, reverse, modify, or remand for more information, the order, decision or ruling of the Codes Department or it's designee. In no event shall the Stormwater Board of Appeals issue a decision that in any way conflicts or contradicts these regulations or any other federal, state, or local laws or regulations relating to stormwater, wastewater, zoning, or planning. The Stormwater Board of Appeals may not modify the amount of civil penalties, as set by the Enforcement Response Plan.

(2) Appeals to be in Writing

The appeal shall be in writing and filed with the municipal recorder or clerk within fifteen (15) days after civil penalty and/or damage assessment is served in any manner authorized by law.

(3) Public Hearing

Upon receipt of an appeal, the stormwater board of appeals shall hold a public hearing within thirty (30) Days. Ten (10) 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 shall also be provided to the aggrieved party, such notice to be sent to the address provided by the aggrieved party at the time of appeal. The decision of the municipality's stormwater board of appeals shall be final.

(3) Appealing Decisions of the Municipality's Stormwater Board of Appeals

Any alleged violator may appeal a decision of the municipality's governing body pursuant to the provisions of Tennessee Code Annotated, title 27, chapter 8.

Section 13. Fee Schedule

(1) Permit Review and Inspection Fees

A fee shall be assessed for each Land Disturbance and Stormwater Protection Permit as set forth in the following table:

DISTURBED ACREAGE	RESIDENTIAL	COMMERCIAL/INDUSTRIAL
0.01 - 0.99	$200	$500
1.00 – 4.99	$300	$700
5.00 – 14.99	$500	$1,000
15.00 – 29.99	$800	$1,600
30.00 or more	$1,500	$3,000

The review and inspection fees are based on acreage to be disturbed during the construction of the project. If a proposed acreage of disturbance is not provided, the fee will be based on the total project acreage.

(2) Stormwater User's Fee

The Governing Body shall have the authority to impose, by resolution, on each and every developed property in the city a stormwater user's fee. Prior to establishing or amending user's fees, the municipality shall advertise its intent to do so by publishing notice in a newspaper of general circulation in the city at least thirty (30) days in advance of the meeting of the municipality's governing body which shall consider the adoption of the fee or its amendment.

If the Governing Body chooses to impose a stormwater user's fee, it shall be based on the establishment of an Equivalent Residential Unit (ERU). The ERU shall be the average square footage of a detached single-family residential property. The City Board shall have the discretion to determine the source of the data from which the ERU is established.

(a) Property Classifications

For purposes of determining the stormwater user's fee, all properties in the city are classified into one of the following classes:

(1) Single-family residential property;

(2) Other developed property;

(b) Single Family Residential Fee

The municipality's governing body finds that the intensity of development of most parcels of real property in the municipality classified as single family residential is similar and that it would be excessively and unnecessarily expensive to determine precisely the square footage of the improvements (such as buildings, structures, and other impervious areas) on each such parcel. Therefore, all single family residential properties in the city shall be charged a flat stormwater management fee, equal the base rate, regardless of the size of the parcel or the improvements.

(c) Other Developed Property Fee

The fee for other developed property (non-single family residential property) in the municipality shall be set by dividing the total square footage of impervious area of the property by one ERU and then multiplying that factor by the base rate for one ERU. The impervious surface area for other developed property is the square footage for the buildings and other improvements on the property. The minimum stormwater management fee for other developed property shall equal the base rate for single-family residential property.

(d) Base Rate

The governing body of the municipality shall establish the base rate for one ERU. The base rate shall be calculated to insure adequate revenues to fund the costs of stormwater management and to provide for the operation, maintenance, and capital improvements of the stormwater system in the city. The base rate will be calculated by dividing the necessary annual revenues for funding the program by the total number of ERUs, as determined by the Codes Department, and then dividing by twelve (12) months to make the base rate a monthly value.

(e) Adjustments to Stormwater User's Fee

The Department shall have the right on its own initiative to adjust upward or downward the stormwater user's fee with respect to any property, based on the approximate percentage on any significant variation in the volume or rate of stormwater, or any significant variation in the quality of stormwater, emanating from the property, compared to other similar properties. In making determinations of the similarity of property, the Department shall take into consideration the location, geography, size, use, impervious area, stormwater facilities on the property, and any other factors that have a bearing on the variation. Under no circumstances shall a stormwater fee be adjusted to the point that it is below the base rate for one ERU unless the person requesting the adjustment can demonstrate that they do not discharge any stormwater to the MS4 system, in which case the stormwater fee shall be waived.

(f) Property Owner to Pay Stormwater User's Fee

For each property for which a stormwater fee is assessed, the stormwater fee shall be paid by the owner of the property. This person shall be designated as the user of the stormwater system.

(g) Stormwater User's Fee Payment

Payment of the stormwater user's fee shall be made in person or by mail along with the bill to which it is attached. The due date of the stormwater fee shall be as indicated on the bill. The municipality shall be entitled to recover legal fees incurred in collecting delinquent stormwater fees.

(h) Appeal of Fees

Any person who disagrees with the calculation of the stormwater user's fee, as provided in this ordinance, or who seeks a stormwater user's fee adjustment based upon stormwater management practices, may appeal such fee determination to the Codes Department. The appeal shall be filed in writing and shall state the grounds for the appeal. The Department may request additional information from the appealing party. Based upon the information provided by the Department and the appealing party, the Department shall make a final calculation of the stormwater user's fee. The Department shall notify the appealing party, in writing, of its decision.