City of Berea
Stormwater Manual

February 2020

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1 Chapter 1 – Stormwater Management

1.1 Introduction

The National Pollutant Discharge Elimination System (NPDES) was created as part of the amendments to the Clean Water Act (CWA) in 1972. This program controls water pollution by regulating point sources that discharge pollutants into our Nation's streams, rivers and lakes.

Under the program, states that meet certain criteria have the authority and responsibility to regulate discharges into these waters. In Kentucky, this authority and responsibility lies with the Division of Water (DOW) in the Energy and Environment Cabinet, Department for Environmental Protection. The DOW regulates these discharges under Kentucky's version of the NPDES, the Kentucky Pollution Discharge Elimination System (KPDES).

The City of Berea was designated as a Phase II stormwater community. The City operates under the requirements of the KPDES general stormwater permit for small municipal separate storm sewer systems (MS4), issued to Berea in 2012. The City has six (6) minimum control measures that are required for implementation in order to be compliant with the MS4 stormwater permit and a five-year plan for addressing the requirements from DOW. The thought behind the Phase II program is that urban runoff is a chief cause of stream impairment, and that urban runoff can be managed, in large part, by effectively addressing a few key areas: educating and involving the public on the impacts of urban runoff and how the public can help, managing the storm sewer infrastructure and addressing illicit discharges (discharge of pollution/polluted runoff), implementation of local regulatory authority, development of best management practices (BMPs) for construction and postconstruction, and environmentally sensitive and responsible municipal operations.

Design and construction of stormwater conveyance systems shall be in conformance with accepted engineering practices in the Commonwealth of Kentucky.

1.2 Purpose

This manual is a compilation of stormwater and floodplain management resources for design and construction of stormwater facilities in the City of Berea.

The City of Berea Stormwater Control Ordinance and the Land Management and Development Ordinance establish the legal framework for reviewing construction plans for stormwater management provisions and for requiring grading permits to control erosion and sedimentation. This manual provides stormwater management regulations and technical guidelines for developments built within the City of Berea to prevent excessive erosion, to control stormwater runoff quantity, and to reduce pollutants in stormwater runoff to the maximum extent practicable.

1.3 Compliance with Other Regulations

1.3.1 KYR10 – Construction General Permit

The Kentucky Division of Water issued a statewide construction stormwater general permit, KYR10. This permit regulates stormwater discharges from construction sites that disturb an acre or more or less than

an acre, if part of a larger common plan of development. The intent of this manual is to provide guidance on BMP selection, design, and implementation to plan submitters, reviewers, construction site operators, and site inspectors.

1.4 Authorization and Title

As authorized by the current version of the City of Berea Stormwater Control Ordinance and adopted by reference by the City Council, the provisions of this document establish the regulations and technical guideline developed by the Codes and Planning Department to enforce the terms of the Land Management Development Ordinance.

In accordance with the Stormwater Control Ordinance and Land Management Development Ordinance, the provisions of this manual shall replace any previous regulations and shall apply to all land alteration and construction within the City of Berea.

This manual, upon approval, is certified by the City of Berea Public Works Committee for the requirements of the aforementioned Clean Water Act. Modifications and amendments to this manual shall be brought before the Public Works Committee for approval, unless superseded by state or federal law.

1.5 Legal Considerations

1.5.1 Caveat

This manual neither replaces the need for professional engineering judgement nor precludes the use of information not presented in this manual. The user assumes full responsibility for determining the appropriateness of applying the information presented herein. Careful consideration should be given to site specific conditions, project requirements and engineering experience to ensure that criteria and procedures are properly applied and adapted.

1.5.2 Disclaimer of Liability

The degree of flood protection intended to be provided by this manual is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on occasion, or the flood height may be increased by man-made or natural causes. This manual does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damage. This manual and associated ordinances shall not create a liability on the part of, or a cause of action against, the City of Berea or any duly designated representative for any flood damages that result from reliance on this manual or any administrative decision lawfully made thereunder.

The City of Berea is required under the NPDES Phase II regulations to develop a stormwater quality program that reduces stormwater pollutants in runoff from new development and redevelopment to the maximum extent practicable. The Stormwater Control Ordinance and this manual outline an approach to stormwater quality management that is reasonable and meets the maximum extent practicable, based upon the most current stormwater quality research. This manual shall not create a liability on the part of, or cause of action against, the City of Berea or any duly designated representative, for damages that result from reliance on this manual or any administrative decision lawfully made thereunder.

1.5.3 Severability

If any section, subsection, sentence, clause, phrase or portion of this manual is for any reason held invalid or unconstitutional by an court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions of this manual.

1.5.4 Compatibility

If any provisions of these regulations and any provisions of law impose overlapping or contradictory requirements, or contain any restrictions covering any of the same subject matter, that provision which is more restrictive or imposes higher standards or requirements shall govern. These regulations do not relieve the applicant from provisions of any other applicable codes, ordinances or regulations not explicitly repealed by these regulations.

1.5.5 Saving Provision

These regulations do not abate any enforcement actions in progress pursuant to violations committed under existing stormwater management regulations unless as expressly provided herein.

1.6 Definitions

Definitions related to this manual and stormwater management can be found in the City of Berea Stormwater Control Ordinance, Section 34.005 Definitions.

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2 Chapter 2 – Policy & Permitting

2.1 Plan Review Process

The plan review process shall be completed as outlined in the City of Berea Land Management and Development Ordinance (LMDO) and applicable appendices, subject to the latest revision.

2.1.1 Re-Approval Process

Changes made to any approved plans that directly affect the transgress of stormwater and the intended water quality and quantity function, shall be subject to a re-approval process at the requirements of current standards. Re-approval shall follow the plan review process as outlined in the City of Berea LMDO.

2.2 Land Disturbance Permit

A land disturbance permit is required for all land disturbing activities, as provided in the Berea Stormwater Control Ordinance. This manual section shall not preclude any provisions as provided in the ordinance.

2.2.1 Applicability

All land disturbing activity, regardless of size, shall be subject to a Land Disturbance Permit as outlined in the Stormwater Control Ordinance Section 34.203 Land Disturbance Activity, unless otherwise exempt.

2.2.1.1 Exemptions

The following activities are exempt from these regulations as outlined in the Stormwater Control Ordinance:

- Clearing or grading activities that are subject exclusively to State approval and enforcement under State law and regulations;
- Emergencies posing an immediate danger to life or property, substantial flood or fire hazards, or natural resources;
- Underground utility repairs in paved areas, home gardens, minor repairs, maintenance work, sign, telephone, and electric poles and other kinds of posts or poles;
- Agricultural operations required to adopt and implement an individual water quality plan pursuant to the requirements set forth in the Kentucky Agriculture Water Quality Act (KRS 224);
- Usual operations required to adopt and implement an individual agricultural quality plan pursuant to the requirements set forth in the Kentucky Agriculture Water Quality Act (KRS 224);
- Building improvements on existing residential dwellings (garages, additions, porches, etc.); or,
- Any other minor land disturbance activity determined on a case-by-case basis by the City of Berea that does not meet the specifications above.

2.2.2 Approval Process – Sites Over One Acre or Under One Acre and Part of a Common Plan of Development

A Land Disturbance Permit must be submitted to the city with the following:

- Completed application request;
- Notice of Intent (NOI), with proof of public notice;
- A perimeter control plan (PCP) and Erosion Prevention and Sediment Control Plan (EPSC);
- Stormwater Pollution Prevention Plan (SWPPP);

- Post-Construction Stormwater Pollution Prevention Plan;
- Any required maintenance agreement;
- Any necessary information or documentation as requested by the City; and
- All fees paid according to the established Permitting Fee Schedule.

The City has the authority to reject a land disturbance permit, should any of the items above be incomplete.

2.2.3 Approval Process – Sites Under One Acre and Not Part of Common Plan of Development

A Land Disturbance Permit must be submitted to the city with the following:

- Completed application request;
- EPSC Land Disturbance form; and
- All fees paid according to the established Permitting Fee Schedule.

2.2.4 Non-compliance

Instances of non-compliance shall be enforced by the authority provided by the City of Berea in the stormwater quality management ordinance. More information shall be found in Chapter 6: Enforcement of this manual.

2.2.5 Surety

The permittee shall be responsible for the installation, good repair and maintenance of all temporary and permanent EPSC BMPs, and ultimate removal of all temporary EPSC measures. Details related to the compliance with the section can be found in the Stormwater Control Ordinance section 34.204 Fiscal Surety.

2.3 Digital Submittal Requirements

Digital submittal of documents must follow the regulations of the City of Berea Land Management Development Ordinance, Appendix H.

2.4 State and Federal Requirements

Compliance with this manual does not preclude the issuance of any applicable permits issued by the Kentucky Division of Water, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers or any other regulatory authority.

The City of Berea may suspend or revoke a land disturbance permit immediately upon the notification that state or federal permits were denied or applicable permit applications were not made.

2.4.1 Compliance with Kentucky Division of Water KYR10 – General Construction Requirements

Complying with the requirements for a land disturbance permit, does not exempt the permittee from obtaining coverage from the Kentucky Division of Water (KDOW) for construction activities that disturb sites over one acre. A Notice of Intent (NOI) must be obtained prior to land disturbance activities. A Stormwater Pollution Prevention Plan (SWPPP) shall be submitted with sites that are required to provide stormwater quality as defined in the next section. Requirements for SWPPPs can be found in the Stormwater Control Ordinance, Section 34.303. An example can be found in the latest edition of Best Management Practices (BMPs) for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites manual published by the Kentucky Transportation Center Technology Transfer

Program, Kentucky Department for Environmental Protection Division of Compliance Assistance, and Kentucky Department for environmental Protection Division of Water. The most restrictive requirements shall govern.

2.4.2 Compliance with Kentucky Division of Water for Floodplain Permitting

For sites or developments that are in the floodplain, permitting processes must be completed with Kentucky Division of Water (KDOW). Applicable permits and regulations must be followed prior to land disturbance activities.

2.5 Plan Requirements

The following items shall be required in addition to any requirements as set forth in the Land Management Development Ordinance.

- Stormwater Pollution Prevention Plan (SWPPP)
- Construction Erosion Prevention Sediment Control (EPSC) Plan
- Post-construction Stormwater Quality Management Plan

For further detailed information related the abovementioned items, please consult the Stormwater Control Ordinance Section 34.206 Plan Requirements.

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3 Chapter 3 – Water Quality & Quantity Design and Objectives

Land development projects and increases in impervious surface alter the hydrologic response of local watersheds, thus, increasing stormwater runoff rates and volume, flooding, stream channel erosion, and sediment transport and deposition. Stormwater runoff can contribute to increased quantities of water-borne pollutants. Stormwater runoff, soil erosion, and nonpoint source pollution can be controlled and minimized through the regulations of stormwater runoff from development sites. Through these regulations, it is the intent to maintain or improve the quality of all streams within the MS4 boundaries and incorporated limits.

3.1 Design Criteria

The intent of this section is to provide baseline standards for meeting water quality and water quantity standards. The following statements should be taken into consideration:

- The intent of this manual is to establish minimum requirements and procedures to control adverse effects of stormwater runoff and erosion associate with new development and redevelopment.
- Natural and aesthetically pleasing design practices are encouraged.
- Reduction of pollutants in stormwater runoff should be obtained to the maximum extent practicable.
- Improvements should be made on peak and volume controls for urban sources. Inadequate road culverts should be retrofitted.
- It is discouraged to intrude or develop in the floodplain, as to minimize property damage.
- Functional stormwater management systems should be designed to not result in excessive maintenance costs.

3.2 Applicability

All development in the City of Berea that is over one acre, or under one acre but part of a common plan of development, shall meet the requirements of water quality as follows, unless otherwise exempt.

All development in the City of Berea shall meet the requirements of water quantity as follows, unless otherwise exempt.

3.2.1 Water Quality

Development within the City of Berea shall be conducted in a manner that minimizes stormwater pollution to the maximum extent practicable. Both structural and non-structural measure shall be used at sites to reduce the potential for stormwater pollution. Measures shall also be used long-term, after development ceases, to reduce the potential for stormwater pollution.

3.2.1.1 Water Quality Treatment Standards

In urban areas, the first flush of runoff pollutants carries a heavy load of pollutants from impervious areas such as streets and parking areas that can negatively impact receiving streams by altering the water chemistry and water quality. Capturing the ‘first flush’ of pollutants is one way to improve water quality leaving the MS4. The goal of this stormwater runoff quality treatment standard is to establish the water quality volume (WQV) metric and provide treatment for the WQV.

The term water quality volume is generally used to define the amount of storm water runoff from any given storm that should be captured and treated in order to remove a majority of storm water pollutants on an average annual basis. Therefore, daily precipitation records were retrieved from the UK Ag Weather Station between 1971 and 2010 for the Lexington Climatology station. The data was sorted by depth with zero or trace amounts removed, and the total number of rainfall events was multiplied by 0.8 to determine the event depth at which 80% of the total number of events were equal to or less than. **The resulting depth was 0.6 inches.**

The water quality volume (WQV) can then be calculated using the formula below:

$$WQ_v = \left| \frac{(A*d)}{43560\ ft^2 * 12\ in} \right|$$

Where:

WQ_v = water quality volume (in acre-feet)
A = impervious area (ft^2)
d = 0.6 (in)

The calculated WQV shall be treated in combination or alone, by management measure that are designed, built, and maintained to treat, filter, flocculate, infiltrate, screen, evapotranspire, harvest and reuse stormwater runoff, or otherwise manage the stormwater runoff quality.

3.2.1.2 Redevelopment Standards

Construction of water quality best management practices (BMPs) on redevelopment sites requires thoughtful and creative engineering.

Water quality shall aim to achieve the same treatment standard as new development.

In areas where the design engineer can demonstrate site limitations that do not provide for the aforementioned treatment standard, water quality standards may be:

- A reduction in site impervious area, of no less than 20%. This information may be based on historical maps or other documentation to be provided by the design engineer or developer. Or,
- Implementation of stormwater quality BMPs for 20% of the site's impervious area, or
- A combination thereof.

The aim is not to achieve the lowest standard, but those of maximum ability. The designation of a lower standard aims to encourage development and allows discretion in approval of redevelopment projects.

3.2.1.3 Exemptions

Development plans that are part of a regional stormwater plan, may be exempt from quality standards.

Water quality best management practices (BMPs) are not required for sites with less than 10 percent of imperviousness.

Exemptions shall be handled on a case-by-case basis by the City Engineer or duly authorized representative for off-site mitigation applicability for sites that are unable to meet water quality standards as previously defined.

3.2.2 Water Quantity

Determinations of stormwater quantity are primarily useful for evaluating and mitigating the impact of a project from a flooding perspective. Land development can increase peak runoff rates and volumes from storm events which can lead to higher flood elevations in the absence of stormwater management methods. Appropriate measures should be made to ensure impacts are mitigated from flooding.

3.2.2.1 Water Quantity Standards

Stormwater BMPs shall be designed and constructed to maintain existing peak flows from new development projects. Stormwater facilities for future development shall be designed so the capacity of the existing and proposed pipes, culverts, channels, and other components of the drainage system are not exceeded. The design engineer shall determine the existing flow capacity of the downstream drainage system impacted by the proposed development, if the City of Berea has not conducted such a study.

3.2.2.2 Redevelopment Standards

Construction of water quantity best management practices (BMPs) on redevelopment sites requires thoughtful and creative engineering.

Water quantity BMPs are not required if the impervious area is not increased.

If the impervious area is increased less than one acre, water quantity BMPs are not required if the downstream drainage facilities (to a blue-line stream) have sufficient capacity to carry the 2-year/1 hour, 10-year/24 hour, and 100-year/1 hour storms. Sufficient capacity for a pipe system shall be defined as no overflows at inlets or manholes. Sufficient capacity for an open channel system shall be defined as maintaining flow within the defined channel banks, upon the discretion of the City Engineer or duly authorized representative.

3.2.2.3 Exemptions

Development sites that are part of a regional stormwater plan may be exempt from quantity standards upon approval of the City.

Runoff controls may not be required if it can be shown in a detailed watershed study that any of the following exist:

- The construction of detention ponds would not increase downstream flood levels; and
- The City of Berea determines that detention ponds are not needed to control runoff and installing such facilities would not be in the best interest of the City.

3.2.2.4 Watershed Study Requirements for Exemptions

To evaluate the effect on the receiving stream, the design engineer shall conduct a watershed study to determine the flood levels using the 2-year/1 hour, 10-year/24 hour, and 100-year/1 hour storms storm model. The study area of the receiving stream shall extend downstream to, but no more than, ten times the area of the proposed development.

3.3 Design Caveat

If a new development or redevelopment project contributes runoff to downstream receiving waters that are impaired or infrastructure that does not have sufficient capacity, the City may, at its discretion,

require stormwater management controls greater than the minimum required by this Manual, the Stormwater Control Ordinance, and the Land Management Development Ordinance.

3.4 Floodplain Design

Floodplain design shall be determined by the applicable Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) regulations. The City of Berea has enacted the Flood Damage Prevention Ordinance for design and permitting standards.

3.5 Design Standards

Design standards shall be based on Kentucky Department of Highways Manual of Instructions for Drainage Design as authorized in the City of Berea Land Management Development Ordinance, Appendix D: Storm Water Drainage System or as authorized by the City Engineer or duly authorized representative.

3.6 Green Infrastructure

Green infrastructure is an integrated systems approach to stormwater management that mimics natural processes that capture, infiltrate, evaporate, and/or reuse stormwater. It is an innovative approach to urban stormwater management that integrates stormwater controls throughout the urban landscape. The aim of green infrastructure is to design an urban environment that remains a functioning part of an ecosystem. Green infrastructure has the potential to impact stormwater by reducing volume runoff, reducing peaking discharge, and improving water quality for a variety of projects. A systems approach is taken, and multiple green infrastructure practices are often used in multiple ways on a development.

3.6.1 Common Practices and Methods

Common practices and methods of green infrastructure include:

- Permeable Pavement
- Vegetative Roofs/Walls
- Rain Barrels/Cisterns
- Tree Box Filters
- Vegetative Swales
- Rain Gardens
- Reduced Development Footprint
- Increased Site Landscaping

3.6.2 Implementation

Each practice has its own advantages and appropriate applications. When designing and planning these practices it is important to use site data to make the appropriate selection based on suitability, limitations, land area demands, relative costs, and maintenance. The Environmental Protection Agency provides research and guidance for green infrastructure methods related to design, implementation, and operations and maintenance.

4 Chapter 4 – Erosion Prevention Sediment Control

All development shall be conducted in a manner that minimizes soil erosion and resulting sedimentation. No sediment shall leave a construction site, under any circumstances, due to inadequately installed or maintained erosion control features. Site-specific variables such as topography, soil erodibility, stormwater management features, and vegetation shall be considered when developing a grading, drainage and erosion control plan. The exposed area of any disturbed land shall be limited to the smallest practical area for the shortest period of time.

4.1 Applicability

All development or land disturbing activities in the City of Berea shall use erosion prevention sediment control (EPSC) practices.

4.2 Standards

Standards shall be compliant with the Kentucky Division of Water KYR10 General Construction permit.

4.3 Approved Methods

Approved methods of erosion control can be found in the latest edition of Best Management Practices (BMPs) for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites Manual published by the Kentucky Transportation Center Technology Transfer Program, Kentucky Department for Environmental Protection Division of Compliance Assistance, and Kentucky Department for Environmental Protection Division of Water.

4.4 Required Items

The following notes shall be required on all EPSC plans:

- As a minimum, all erosion prevention and sediment control practices will be constructed and maintained according to this manual, applicable ordinances, and as required by state and federal law.
- A copy of the approved EPSC plan shall be maintained at the project site at all times.
- Prior to commencing land-disturbing activities in any area not on the approved ESPC plan, the contractor shall submit a supplementary EPSC plan to the City of Berea for review and approval.
- All EPSC measures are to be installed prior to the first step in clearing and grading. The contractor is responsible for any additional erosion control measures necessary to prevent erosion and sedimentation on the site.
- The contractor shall inspect all erosion and sediment control devices at least once a week. The contractor shall perform any repairs or maintenance prior to the next storm event or as soon as practicable in order to ensure effective erosion and sediment control. Use of the Kentucky Construction Site Stormwater Inspection Report from the Kentucky Best Management Practices Manual is encouraged.
- The contractor shall maintain a record of all inspections and maintenance activities. This record shall be made available to the City of Berea upon request.

4.5 Inspection of Sites

Inspection of sites are vital to the construction process to ensure compliance with federal, state and local regulations.

At a minimum, the permittee shall conduct a self-inspection at the following stages:

- Completion of perimeter erosion and sediment controls;
- Completion of clearing and grubbing;
- Installation of temporary erosion controls;
- Completion of final grading and ground stabilization;
- Prior to fiscal security release;
- Monthly, after areas have been temporarily or permanently stabilized;
- Every 7 days, or every 14 days and after each rainfall event that exceeds 0.5 inches.

The City of Berea may increase or decrease the number of required inspections, as deemed necessary to ensure an effective SWPPP and shall have the right to enter the property of the permittee without notice.

The permittee shall prepare an inspection report after each self-inspection and shall keep copies at the job site at all times and may be required to fax or email the inspection report to the City of Berea, if deemed necessary. At a minimum, the inspection report shall include:

- The date,
- Time of day,
- Name of the person conducting the inspection,
- Company represented,
- Scope of the inspection,
- Major observations relating to the SWPPP and BMPs installed,
- Appropriate photographs, and
- Subsequent changes.

The City of Berea has the right to make regular inspections to ensure the validity of the inspection reports.

All inspections shall be provided to the City of Berea in a digital format before a Certificate of Occupancy or fiscal surety is released.

The permittee shall be self-policing and shall correct or remedy any EPSC measures that are not effective or functioning properly at all times during various phases of construction. All updates to EPSC measures shall be accurately noted in the SWPPP.

The SWPPP must be updated throughout the construction project and available for on-site review.

The permittee shall maintain a set of as-built drawings for all newly installed stormwater facilities.

4.6 Surety

The permittee shall be responsible for the installation, good repair and maintenance of all temporary and permanent EPSC BMPs, and ultimate removal of all temporary EPSC measures. Details related to the compliance with the section can be found in the Stormwater Control Ordinance section 34.204 Fiscal Surety.

4.7 Non-compliance

Instances of non-compliance shall be enforced by the authority provided by the City of Berea in the Stormwater Control Ordinance. More information shall be found in Chapter 6: Enforcement of this manual.

4.8 Contractor Training

A construction-site operator training program is required by the KPDES permit. As so, the City of Berea uses a one-on-one training model. Prior to any land disturbance activity, site operators shall be provided training related to the requirements of erosion control and development in an MS4 community. For commercial sites, training shall be provided during the Development Review Team (DRT) meeting. For more information related to the DRT meeting see the City of Berea Land Management and Development Ordinance, Sections 401.3 Development Plan Requirements and 502.4.4.3 Plat Review. Residential sites shall be provided training on site or in-office. All training will be completed in the manner that is best fit for each site.

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5 Chapter 5 – Post-Construction Best Management Practices

The term post-construction best management practice (BMP) is a term used to define a group of design and construction techniques that are intended to address water quality and quantity issues after the construction of a project. Maintenance of post-construction BMPs is a significant issue.

5.1 Post-Construction Inspection

All storm sewer lines as installed or improved by new development and redevelopment shall be camera inspected at the Developer's expense and certified by the Design Engineer prior to acceptance by the City.

5.2 Maintenance Agreements

Any stormwater management facility or BMP that is not owned by the City of Berea will be required to have a maintenance agreement.

Facility types and ownerships can be found in the Stormwater Control Ordinance, Section 34.304 Maintenance Agreements.

The maintenance and proper operation of all privately owned stormwater management facilities, including nonstructural practices, shall be ensured through the creation of a formal and enforceable Maintenance Agreement, that must be approved by the City and recorded in the Office of the County Clerk as a deed restriction on the property, prior to final plan approval. This agreement will include any and all maintenance easements required to access and inspect the stormwater management practices and will outline the procedures and schedule to be followed to perform routine maintenance as necessary to ensure proper functioning of the stormwater management practice. Maintenance may include any vegetation clearing, mowing, and removing accumulated trash, debris, sediment pollutants and other forms of pollution. In addition, the legally binding agreement shall identify the parties responsible for the proper maintenance of all stormwater treatment practices and include plans for periodic inspections by the owners, or their designated agent, to ensure proper performance of the facility. The maintenance agreement shall be consistent with the terms and conditions of the "Stormwater Control Facility Maintenance Agreement".

5.2.1 Applicability

The applicant or owner of the site must execute a maintenance agreement that shall be binding on the owner, its administrators, executors, assigns, heirs, and any other successors in interest of land served by the stormwater management facility.

5.2.2 Requirements

Requirements for maintenance agreements shall be compliant with the Stormwater Control Ordinance Section 34.304, Item C: Requirements of Maintenance Agreements.

5.2.3 Authority to Inspect

The agreement shall provide for access to the facility at reasonable times for periodic inspection by the City of Berea, or their contractor or agent, to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by the Stormwater Control Ordinance and to, if necessary, implement emergency repairs to protect the health, safety and welfare of the public.

5.2.4 Guarantee of Maintenance

Maintenance guarantees of privately-owned facilities shall be found in the Stormwater Control Ordinance Section 34.304, Item E, Maintenance Guarantees for Privately Owned Stormwater Facilities.

5.3 Non-compliance

Instances of non-compliance shall be enforced by the authority provided by the City of Berea in the Stormwater Control Ordinance. More information shall be found in Chapter 6: Enforcement of this manual.

A fee for BMP inspections may be assessed to an owner for a structural BMP which is not owner inspected, owner maintained, or where the owner has not maintained written records of inspection of the BMPs on the property. Unlawful acts can be read in entirety in the Stormwater Control Ordinance 34.304, Item G Unlawful Acts.

6 Chapter 6 - Enforcement

Enforcement for non-compliance with any section of this manual shall be authorized for enforcement per the requirement of the Stormwater Control Ordinance, Section 34.400 Enforcement. These actions shall be carried out by the City of Berea or duly authorized representative.

6.1 Right-of-Entry

The City of Berea is granted right-of-entry to private property per the Stormwater Control Ordinance, Section 34.008 Authority and Right of Entry.

The City has the right to determine and impose inspection schedules necessary to enforce stormwater management. Inspections may include, but are not limited to, the following:

- Initial inspection prior to stormwater management plan approval;
- Inspection prior to burial of any underground drainage structure;
- Erosion control inspections as necessary to ensure effective control of sediment prior to discharge to the municipal separate storm sewer system;
- Final inspection when all work, including installation of storm management facilities, has been completed; and
- Inspection to determine the effectiveness or operational viability of a permanent or long-term stormwater quality management practice.

6.2 Remediation Measures

Remedies available may include:

- Verbal warning;
- Written warning;
- Notice of Violation (NOV);
- Stop Work Order;
- Injunctive relief;
- Civil and criminal penalties.

Enforcement measures shall be tiered, unless the violation is that of a public nuisance or immediate danger. See the Stormwater Control Ordinance, Sections 34.401 through 34.407.

6.3 Penalties

Violations of the provisions or failure of compliance with this manual shall constitute unlawful activity. Each day of non-compliance shall constitute a separate offense. See Stormwater Control Ordinance 34.403 Penalties for detailed measures.

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